ISSN 0020-8671

ACKNOWLEDGEMENTS

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

MEMBERS

The National Science Foundation of the United States. (Grant No. EAR-0548649).
The Royal Society of London.
The Geological Survey of Canada, Dept. of Natural Resources.
The University of Bergen, Norway.
National Defence Research Establishment, Sweden.
The Royal Netherlands Meteorological Institute.
The Seismological Institute, National Observatory of Athens, Greece.
Russian Academy of Sciences.
Institute of Geological and Nuclear Sciences Ltd., New Zealand.
Geological Survey of Denmark and Greenland (GEUS)
India Meteorological Department.
Geophysical Institute of Israel.
The Institute for Meteorology, Portugal.
The Swiss Academy of Sciences.
GeoForschungsZentrum Potsdam, Germany.
The Japan Meteorological Agency.
Institut National des Sciences de l'Univers, France.
Geoscience Australia.
Bundesanstalt fur Geowissenschaften und Rohstoffe, Germany.
The University of Helsinki, Finland.
Academy of Sciences of the Czech Republic.
Bundesministerium fur Bildung, Wissenschaft und Kultur, Austria.
The Hungarian Academy of Sciences.
Council for Geoscience, South Africa.
Instituto Geografico Nacional, Spain.
The Icelandic Meteorological Office.
China Earthquake Administration.
NTNF/NORSAR, Norway.
Dublin Institute for Advanced Studies, Ireland.
Environmental Agency of Slovenia.
Observatoire Royal de Belgique.
Natural Resources Authority, Jordan.
Incorporated Research Institutions for Seismology, U.S.A.
Institute of Geophysics, National University of Mexico.
National Earthquake Information Center, U.S. Geological Survey, U.S.A.
Geological Survey Department, Cyprus.
National Institute for Earth Physics, Romania.
Istituto Nazionale di Geofisica e Vulcanologia, Italy.
Seismology Research Centre, Australia.
British Geological Survey, U.K.
University of Texas at Austin, U.S.A.
LDG, Bruyeres-le-Chatel, France.
Kuwait Institute for Scientific Research.
California Institute of Technology, U.S.A.
Korea Meteorological Administration.
Institute of Earth Sciences, Academia Sinica, Chinese Taipei.
Kandilli Observatory and Earthquake Research Institute, Turkey.
OGS, Trieste, Italy.
NRIAG, Cairo, Egypt.
University of the West Indies, Jamaica.
Institute of Geophysics, Polish Academy of Sciences.
Uppsala Universitet, Sweden.
Geological Research Authority of Sudan.
AWE Blacknest
University of West Indies, Trinidad and Tobago
Iraqi Meteorological Organization and Seismology

SPONSORS

Munich Reinsurance Company

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

©2008 INTERNATIONAL SEISMOLOGICAL CENTRE
Pipers Lane, Thatcham, Berkshire, RG19 4NS, United Kingdom

Printed in Wales by Cambrian Printers, Aberystwyth

Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,2170S×17955W,h600km,mb4.6/6,Error ellipse: s-maj=75.5km s-min=25.7km az=151.0*
*IDC **01** 18:45:46.3±2.6,2176S×17970W,h627km±37km,mb3.5/4, mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km s-min=20.6km az=159.0*
ISC 01 18:45:43.1±2.7,223S±02×1796W±03,h613km±42km,n22, σ1§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

*ISCJB **01** 00:26:15.9±0.3, 3499N±003×2923E±006, h62km±27km, Error ellipse: s-maj=7.8km s-min=5.5km az=28.5*
*ISK **01** 00:26:16.8, 3501N×2938E, h34km, MD3.6*
*CSEM **01** 00:26:16.4±0.3, 3501N×2937E, h30km, MD3.6, Error ellipse: s-maj=6.6km s-min=3.0km az=11.0*
*NEIC **01** 00:26:17.6, 3521N×2902E, h43km, MD3.3(ATH), After ATH.*
*ATH **01** 00:26:17.6, 3521N×2902E, h43km, MD3.3/4*
*HLW **01** 00:26:21.8, 3459N×2913E, h33km, Mb3.8*
ISC 01 00:26:14.7±1.2, **3503N**±002×**2922E**±005, **h9**km±9km, **n42**, σ**1.03**/51, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.16**	**15**	*e*P	**Pg**	**00 26 37.0**	**0.0**
AKAS	**Kas**	**1.24**	**14**	*i* P	**Pn**	**00 26 38.2**	**-0.2**
AKAS				*i* S	**Sg**	**00 26 52.0**	**-2.8**
ARG	**Arkhangelos**	**1.48**	**323**	*e*P	**Pn**	**00 26 40.1**	**-1.6**
FETY	**Fethiye**	**1.61**	**356**	*e*PN	**Pn**	**00 26 43.9**	**+0.5**
KARP	**Karpathos**	**1.77**	**288**	*e*P	**Pn**	**00 26 43.7**	**-1.8**
DALT	**Dalyan (Mudla)**	**1.80**	**345**	*e*PN	**Pn**	**00 26 47.7**	**+1.7**
ELL	**Elmali**	**1.81**	**18**	*e*PN	**Pn**	**00 26 46.3**	**+0.3**
DAT	**Datca**	**2.16**	**322**	*e*PN	**Pn**	**00 26 52.5**	**+1.6**
GOLH	**Golhisar**	**2.22**	**7**	*i* P	**Pn**	**00 26 52.5**	**+0.7**
GOLH				*i* S	**Sn**	**00 27 18.6**	**-0.8**
YER	**Yerkesik**	**2.24**	**340**	*e*PN	**Pn**	**00 26 53.5**	**+1.6**
BDRM	**Kayabasi**	**2.49**	**325**	*i* P	**Pn**	**00 26 56.7**	**+1.1**
BDRM				*i* S	**Sn**	**00 27 20.2**	**-5.9**
MLSB	**Milas**	**2.55**	**333**	*e*PN	**Pn**	**00 26 58.0**	**+1.8**
BODT	**Bodrum**	**2.56**	**323**	*e*PN	**Pn**	**00 26 58.4**	**+2.0**
DNZL	**Cakiroluk**	**2.66**	**357**	*i* P	**Pn**	**00 26 56.9**	**-0.9**
DNZL				*i* S	**Sn**	**00 27 27.5**	**-2.7**
BCK	**Bucak**	**2.67**	**24**	*e*PN	**Pn**	**00 26 58.8**	**+0.8**
AYDN	**Tasoluk**	**2.84**	**338**	*i* P	**Pn**	**00 26 59.9**	**-0.5**
AYDN				*i* S	**Sn**	**00 27 29.1**	**-5.6**
AYDN	**Tasoluk**	**2.84**	**338**	*i* P	**Pn**	**00 26 59.9**	**-0.4**
AYDN				*i* S	**Sn**	**00 27 29.1**	**-5.6**
NPS	**Neapolis**	**2.97**	**276**	*e*P	**Pn**	**00 27 01.5**	**-0.6**
TKTP	**Tekketepe**	**3.13**	**16**	*i* P	**Pn**	**00 27 03.5**	**-0.8**
TKTP				*i* S	**Sn**	**00 27 41.8**	**0.0**
CSS	**Prodhromos**	**3.37**	**90**	*e*PN	**Pn**	**00 27 07.0**	**-0.6**
IKL	**Isikli**	**3.83**	**70**	*e*PN	**Pn**	**00 27 13.3**	**-0.6**
KIZT	**Kizilcal**	**4.39**	**28**	*e*PN	**Pn**	**00 27 22.3**	**+0.6**
HBRG	**Burj al ‘Arab**	**4.47**	**173**	P	**Pn**	**00 27 21.7**	**-1.0**
MERS	**Mersin**	**4.67**	**65**	*e*PN	**Pn**	**00 27 26.1**	**+0.6**
HNAT	**Natroun**	**5.51**	**167**	P	**Pn**	**00 27 36.3**	**-0.6**
AMAG	**Maghara**	**5.51**	**141**	P	**Pn**	**00 27 37.8**	**+0.8**
KOT	**Kottamia**	**5.54**	**156**	P	**Pn**	**00 27 37.5**	**+0.1**
HHAG	**Hagoal**	**5.61**	**154**	P	**Pn**	**00 27 38.5**	**+0.1**
KAMT	**Kaman**	**5.62**	**38**	*e*PN	**Pn**	**00 27 39.2**	**+0.7**
HSAF	**As Saff**	**5.74**	**159**	P	**Pn**	**00 27 39.9**	**-0.3**
GLL	**Jalalah**	**5.83**	**158**	P	**Pn**	**00 27 41.3**	**-0.1**
BR131	**Keskin Array S**	**5.86**	**36**	*e*Pn	**Pn**	**00 27 42.5**	**+0.7**
	1.3nm,0.4s						
BR131				*e*Sn	**Sn**	**00 28 46.4**	**-2.7**
BR131	**Keskin Array S**	**5.86**	**36**	*e*Pn	**Pn**	**00 27 42.5**	**+0.7**
	1.3nm,0.4s						
BR131				*e*Sn	**Sn**	**00 28 46.4**	**-2.7**
SUZ		**6.00**	**148**	P	**Pn**	**00 27 44.5**	**+0.8**
SWA1		**6.47**	**208**	P	**Pn**	**00 27 49.3**	**-0.9**
HNKL	**Nakhl**	**6.48**	**140**	P	**Pn**	**00 27 51.1**	**+0.8**
SWA2		**6.59**	**210**	P	**Pn**	**00 27 51.3**	**-0.6**
AWBH		**6.69**	**182**	P	**Pn**	**00 27 52.1**	**-1.1**
HKAT	**Jabal Katrina**	**7.65**	**147**	P	**Pn**	**00 28 06.9**	**+0.6**
TR2		**7.65**	**149**	P	**Pn**	**00 28 06.7**	**+0.3**
HFRF	**Wahat Farafira**	**7.89**	**186**	P	**Pn**	**00 28 08.9**	**-0.8**
TR1		**8.08**	**149**	P	**Pn**	**00 28 12.7**	**+0.4**

---

*IDC **01** 00:31:12.5±0.9, 3167N×14197E, h0km, mb4.0/10, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML3.8/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=36.2km s-min=16.2km az=71.0*
*ISCJB **01** 00:31:15.6±0.5, 3180N±004×14193E±009, h33km, mb4.0/14, Error ellipse: s-maj=11.1km s-min=4.9km az=132.9*
*MOS **01** 00:31:15.5±0.9, 3160N×14174E, h30km, mb4.3/12, Error ellipse: s-maj=32.6km s-min=12.1km az=117.8*
*JMA **01** 00:31:15.6±0.4, 3206N×14184E, h0km, M3.7*
*NEIC **01** 00:31:17.6±0.6, 3173N×14210E, h35km, mb4.1/4, Error ellipse: s-maj=20.8km s-min=9.5km az=74.0*
ISC 01 00:31:18.0±0.5, **3181N**±004×**14191E**±008, **h35**km, **n53**, σ**1.18**/60, **mb4.0**/14, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.19**	**307**	P	**Pn**	**00 31 51.5**	**-0.4**
JHJ2				*e*S	**Sn**	**00 32 17.6**	**-0.2**
JHJ	**Hachijo jima 2**	**2.22**	**307**	Pn	**Pn**	**00 31 50.8**	**-1.5**
	22nm,0.3s,baz=69,slow=21,SNR=6.8						
JHJ				Sn	**Sn**	**00 32 17.2**	**-1.3**
	27nm,0.3s,baz=238,slow=21,SNR=4.5						
BSO1	**Boso 1**	**2.94**	**345**	P	**Pn**	**00 32 01.8**	**-0.4**
BSO1				*e*S	**Sn**	**00 32 34.1**	**-2.2**
BSO4	**Boso 4**	**3.43**	**338**	P	**Pn**	**00 32 08.9**	**0.0**
JHU	**Hanno**	**4.58**	**332**	P	**Pn**	**00 32 26.7**	**+1.9**
JHU				*e*S	**Sn**	**00 33 15.7**	**-1.1**
CBIJ	**Chichi jima**	**4.71**	**177**	Pn	**Pn**	**00 32 22.8**	**-3.7**
	20nm,0.3s,baz=297,slow=18,SNR=17						
CBIJ				Sn	**Sn**	**00 33 13.5**	**-6.3**
	8.3nm,0.3s,baz=292,slow=18,SNR=2.6						
CBIJ				LR	LR	00 34 00.2	
	comp=Z,140nm,18.3s,baz=6.9,slow=37						
JRY	**Ryogami san**	**4.88**	**330**	P	**Pn**	**00 32 30.0**	**+1.1**
JRY				*e*S	**Sn**	**00 33 26.2**	**+2.0**
JHO	**Hitachi**	**4.92**	**347**	P	**Pn**	**00 32 28.8**	**-0.5**
JFK	**Kawauchi**	**5.61**	**352**	P	**Pn**	**00 32 37.2**	**-1.6**
MJAR	**Matsushiro Arr**	**5.63**	**328**	Pn	**Pn**	**00 32 40.2**	**+1.1**
	1.5nm,0.3s,baz=141,slow=11,SNR=9.7						
MJAR	**Matsushiro Arr**	**5.63**	**328**	P	**Pn**	**00 32 40.2**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR	**Matsushiro Arr**	**5.63**	**328**	Pn	**Pn**	**00 32 40.2**	**+1.1**
MAJO	**Matsushiro**	**5.63**	**328**	*e*P	**Pn**	**00 32 37.0**	**-2.1**
MAT	**Matsushiro**	**5.63**	**328**	P	**Pn**	**00 32 40.3**	**+1.2**
MAT				S	**Sn**	**00 33 42.6**	**+0.1**
JHK	**Hiroka**	**5.93**	**337**	P	**Pn**	**00 32 43.0**	**-0.2**
JMM	**Marumori**	**6.11**	**352**	P	**Pn**	**00 32 44.4**	**-1.3**
JMM				*e*S	**Sn**	**00 33 50.2**	**-4.2**
JYS	**Shirataka**	**6.57**	**347**	P	**Pn**	**00 32 51.7**	**-0.4**
JOW	**Kunigami**	**12.89**	**251**	LR	LR	00 38 23.7	
	comp=Z,146nm,20.7s,baz=40,slow=34						
TATO	**Taipei**	**19.20**	**254**	P	**Pn**	**00 35 42.2**	**+2.4**
ULN	**Ulaanbaatar**	**30.88**	**311**	*e*P	**P**	**00 37 31.7**	**+0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**30.88**	**311**	*e*P	**P**	**00 37 31.7**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.9						
SONM	**Songino Array**	**31.29**	**311**	P	**P**	**00 37 36.3**	**+1.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=122,slow=8.0,SNR=11						
SONM	**Songino Array**	**31.29**	**311**	P	**P**	**00 37 36.3**	**+1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**45.86**	**316**	P	**P**	**00 39 38.9**	**+2.2**
	comp=Z,1.0nm,0.3s,mb4.2,baz=310,slow=2.7,SNR=4.8						
ZAL	**Zalesovo**	**45.86**	**316**	P	**P**	**00 39 38.9**	**+2.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.39**	**306**	P	**P**	**00 39 49.1**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=78,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**47.39**	**306**	P	**P**	**00 39 49.2**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**51.96**	**189**	*e*P	**P**	**00 40 22.3**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**51.96**	**189**	*e*P	**P**	**00 40 22.3**	**-1.2**
	comp=Z,5.6nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**51.97**	**189**	*e*P	**P**	**00 40 22.3**	**-1.3**
WRA	**Warramunga Arr**	**51.97**	**189**	P	**P**	**00 40 22.2**	**-1.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=7.0,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**51.97**	**189**	P	**P**	**00 40 22.2**	**-1.3**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHKZ	**Chkalovo**	**54.26**	**316**	*e*P	**P**	**00 40 40.8**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**54.26**	**316**	*e*P	**P**	**00 40 40.8**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0						
BRVK	**Borovoye**	**54.53**	**315**	P	**P**	**00 40 43.3**	**+0.9**
ZRNK	**Zerenda**	**55.31**	**315**	*e*P	**P**	**00 40 48.3**	**+0.2**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**55.31**	**315**	*e*P	**P**	**00 40 48.3**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.2						
AS31	**Alice Springs**	**55.69**	**189**	*e*P	**P**	**00 40 50.5**	**-0.3**
ASAR	**Alice Springs**	**55.69**	**189**	P	**P**	**00 40 50.0**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=0.5,slow=5.8,SNR=14						
ASAR	**Alice Springs**	**55.69**	**189**	P	**P**	**00 40 50.0**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**63.34**	**180**	P	**P**	**00 41 48.0**	**+4.4**
FINES	**FINESS Array B**	**73.63**	**333**	P	**P**	**00 42 47.8**	**0.0**
	comp=Z,1.8nm,0.9s,mb4.0,baz=60,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**73.63**	**333**	P	**P**	**00 42 47.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BOZ	**Bozeman (W)**	**78.19**	**43**	*e*P	**P**	**00 43 15.6**	**+1.8**
AKASG	**Malin Array Be**	**78.69**	**323**	P	**P**	**00 43 16.3**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=53,slow=6.1,SNR=6.2						
AKASG	**Malin Array Be**	**78.69**	**323**	P	**P**	**00 43 16.3**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**78.69**	**323**	P	**P**	**00 43 16.3**	**-0.3**
NB2	**NORSAR Subarra**	**79.16**	**338**	P	**P**	**00 43 19.3**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.16**	**338**	P	**P**	**00 43 19.4**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=40,slow=5.4,SNR=5.0						
NOA	**NORSAR Array B**	**79.16**	**338**	P	**P**	**00 43 19.4**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**81.05**	**45**	P	**P**	**00 43 30.4**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=285,slow=2.3,SNR=6.4						
BRTR	**Keskin Array B**	**82.64**	**312**	P	**P**	**00 43 38.2**	**+0.5**
	comp=Z,0.7nm,0.9s,mb3.7,baz=70,slow=11,SNR=3.9						
BRTR	**Keskin Array B**	**82.64**	**312**	P	**P**	**00 43 38.2**	**+0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

WEL 01 00:57:24.8±0.3, **3782S**×**17678E**, **h141**km±2km, **ML3.5**/11, **Error ellipse: s-maj=2.4km s-min=2.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.51**	**149**	PN	Pn	00 57 45.1	+0.1
URZ				SN	Sn	00 58 00.2	-0.3
MWZ	**Matawai**	**0.78**	**131**	PN	Pn	00 57 46.9	+0.1
MWZ				SN	Sn	00 58 04.0	+0.3
TOZ	**Tahuroa Road**	**1.02**	**275**	PN	Pn	00 57 49.1	+0.3
PUZ	**Puketiti**	**1.19**	**102**	PN	Pn	00 57 50.1	-0.4
PUZ				SN	Sn	00 58 09.0	-1.1
MXZ	**Matakaoa Point**	**1.24**	**78**	PN	Pn	00 57 50.8	-0.1
MXZ				SN	Sn	00 58 11.9	+1.1
BKZ	**Black Stump Fm**	**1.36**	**189**	PN	Pn	00 57 52.1	0.0
BKZ				SN	Sn	00 58 13.1	0.0
KNZ	**Kokohu**	**1.39**	**150**	PN	Pn	00 57 52.7	+0.3
KNZ				SN	Sn	00 58 12.9	-0.6
WNVZ	**Wahianoa**	**1.77**	**211**	PN	Pn	00 57 56.7	+0.1
MOVZ	**Moawhango**	**1.77**	**207**	PN	Pn	00 57 56.2	-0.5
BFZ	**Birch Farm**	**2.88**	**188**	PN	Pn	00 58 08.5	-1.8
MRZ	**Mangatainoka R**	**2.98**	**198**	PN	Pn	00 58 09.5	-2.1
TIWZ	**Tintock**	**3.03**	**193**	PN	Pn	00 58 10.3	-1.8
MTW	**Mount Morrison**	**3.48**	**196**	PN	Pn	00 58 15.0	-2.9
MRW	**Makara Radio**	**3.76**	**205**	PN	Pn	00 58 18.6	-3.0
TCW	**Tory Channel**	**3.90**	**209**	PN	Pn	00 58 20.0	-3.4

---

*ISCJB **01** 01:01:34.5±3.4, 30S±02×1295E±02, h65km±32km, mb3.9/3, Error ellipse: s-maj=47.1km s-min=12.6km az=118.6*
*IDC **01** 01:01:35.1±5.6, 294S×12946E, h52km±48km, mb3.7/2, mb1 4.0/4, mb1mx3.5/16, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=135.8km s-min=17.4km az=73.0*
*NEIC **01** 01:01:36.3±2.0, 300S×12938E, h64km±20km, mb3.6/4, Error ellipse: s-maj=28.3km s-min=9.4km az=59.0*
ISC 01 01:01:35.2±2.1, **30S**±01×**1295E**±02, **h49**km±19km, **n14**, σ**0.88**/16, **mb3.9**/3, **1D**, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.14**	**163**	*e*P	**Pn**	**01 03 57.9**	**-0.1**
	4.3nm,0.6s						
KAKA				*e*S	**Sn**	**01 05 49.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**15.52**	**194**	*e*P	**Pn**	**01 05 11.1**	**+0.4**
	2.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.52**	**194**	P	**Pn**	**01 05 11.9**	**+1.2**
	0.2nm,0.3s,baz=17,slow=9.7,SNR=6.9						
KKM	**Kota Kinabalu**	**15.96**	**304**	Pn	**Pn**	**01 05 17.1**	**+0.7**
WRAB	**Tennant Creek**	**17.54**	**165**	*e*Pn	**Pn**	**01 05 37.2**	**+1.0**
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**17.55**	**165**	P	**Pn**	**01 05 35.1**	**-1.1**
	0.7nm,0.3s,baz=334,slow=13,SNR=5.7						
WB2	**Warramunga Arr**	**17.55**	**165**	⇓*i*P	**Pn**	**01 05 36.8**	**+0.6**
MBWA	**Marble Bar**	**20.43**	**207**	*e*P	**P**	**01 06 06.6**	**-1.7**
	0.8nm,0.4s						
AS31	**Alice Springs**	**21.04**	**169**	*e*P	**P**	**01 06 15.6**	**+0.8**
ASAR	**Alice Springs**	**21.04**	**169**	P	**P**	**01 06 15.2**	**+0.4**
	7.4nm,0.7s,mb4.1,baz=343,slow=9.3,SNR=69						
ASAR				S	**S**	**01 10 07.3**	**+1.0**
	0.3nm,0.6s,baz=349,slow=22,SNR=3.5						
ASPA	**Alice Springs**	**21.04**	**169**	*e*P	**P**	**01 06 15.6**	**+0.8**
STKA	**Stephens Creek**	**30.96**	**160**	P	**P**	**01 07 47.4**	**-0.2**
MKAR	**Makanchi Array**	**64.57**	**326**	P	**P**	**01 12 07.0**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=126,slow=7.6,SNR=5.9						
CHKZ	**Chkalovo**	**74.56**	**328**	*e*P	**P**	**01 13 07.8**	**-1.0**
	0.3nm,0.4s,mb3.6						

---

*CSEM **01** 01:06:51.3±0.2, 6727N×2075E, h2km, ML2.8, Error ellipse: s-maj=8.2km s-min=3.6km az=86.0, Suspected Mining explosion.*
*ISCJB **01** 01:06:51.8±0.5, 6721N±002×2072E±0.10, h0km, Error ellipse: s-maj=5.5km s-min=3.2km az=165.7*
*UPP **01** 01:06:52.4, 67.18N×2065E, h0km, ML2.8, Suspected Mining explosion.*
*NAO **01** 01:06:52.8±1.4, 67.11N×2108E, ML2.1*
*HEL **01** 01:06:53.1±0.1, 67.19N×2068E, h0km, ML2.1(BER), ML2.1(NAO), ML2.8(UPP), Explosion*
*BER **01** 01:06:54.4±4.5, 67.16N×2077E, h0km, ML2.1, ML2.1(NAO), Suspected explosion*
ISC 01 01:06:52.1±0.4, **6718N**±002×**2063E**±009, **h0**km, **n25**, σ**1.12**/30, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**201**	*i* P	**Pg**	**01 06 54.0**	**+0.6**
KUA	**Kurravaara**	**0.78**	**352**	*i* P	**Pg**	**01 07 07.2**	**+0.1**
KUA				*i* S	**Sg**	**01 07 17.8**	**+0.5**
ERTU	**Ertsjaerv**	**0.88**	**135**	*i* P	**Pg**	**01 07 09.0**	**0.0**
ERTU				*i* S	**Sg**	**01 07 20.7**	**+0.2**
NIKU	**Nikkaluokta**	**0.92**	**319**	*e*P	**Pg**	**01 07 09.8**	**0.0**
LANU	**Lannavaara**	**1.01**	**30**	*e*P	**Pg**	**01 07 10.6**	**-0.9**
SJUU	**Sjulsmark**	**1.73**	**166**	*e*P	**Pn**	**01 07 23.6**	**+0.2**
SJUU				*e*S	**Sn**	**01 07 46.6**	**+0.4**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pn**	**01 07 24.9**	**+0.1**
KIF				*e*S	**Sn**	**01 07 49.0**	**+0.3**
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	**Pn**	**01 07 27.3**	**+1.1**
LILU				*e*S	**Sn**	**01 07 52.8**	**+1.6**
KTK1	**Kautokeino**	**2.08**	**27**	*e*SG	**Sg**	**01 07 58.7**	**-0.3**
KTK1				AML	AML	01 07 60.0	
	comp=Z,22nm,0.4s						
TRO	**Tromso**	**2.54**	**346**	*e*SG	**Sg**	**01 08 12.7**	**-1.0**
TRO				AML	AML	01 08 13.0	
	comp=Z,10nm,0.5s						
BURU	**Burvik**	**2.63**	**173**	*e*P	**Pn**	**01 07 36.8**	**+1.0**
MOR8	**Moi Rana**	**2.66**	**250**	*e*SG	**Sg**	**01 08 11.9**	**-5.8**
LOF	**Lofoten**	**2.87**	**293**	*e*	**Sg**	**01 08 27.7**	**+3.4**
LOF	**Lofoten**	**2.87**	**293**	*e*Sg	**Sg**	**01 08 27.7**	**+3.4**
ARA0	**ARCESS Array S**	**2.97**	**35**	Pn	**Pn**	**01 07 40.9**	**+0.4**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**01 08 17.6**	**+0.7**
	baz=213,slow=28						
ARA0	**ARCESS Array S**	**2.97**	**35**	*e*P	**Pn**	**01 07 40.9**	**+0.4**
ARA0				*e*S	**Sn**	**01 08 17.6**	**+0.7**
STOK	**Stokkvaagen**	**3.14**	**258**	AML	AML	01 08 41.6	
	comp=Z,14nm,0.5s						
STOK	**Stokkvaagen**	**3.14**	**258**	AML	AML	01 08 41.6	
	comp=Z,14nm,0.5s						
NSS	**Namsos**	**4.44**	**237**	*e*SG	**Sg**	**01 09 12.9**	**-1.9**
NSS				AML	AML	01 09 14.3	
	comp=Z,12nm,0.5s						
APA0	**Apatity Array**	**4.79**	**79**	*e*S	**Sn**	**01 08 58.4**	**-3.3**
APA0				*e*SG		01 09 18.0	
APA0	**Apatity Array**	**4.79**	**79**	Sn	**Sn**	**01 08 58.4**	**-3.3**
APA0				Lg		01 09 18.0	
	baz=278,slow=28						
FIA0	**FINESS Array S**	**6.23**	**155**	*e*S	**Sn**	**01 09 34.5**	**-2.7**
FIA0				*e*SG		01 10 04.2	
FIA0	**FINESS Array S**	**6.23**	**155**	Sn	**Sn**	**01 09 34.5**	**-2.7**
	baz=353,slow=28						
FIA0				Lg		01 10 04.2	
	baz=333,slow=28						
HFS	**Hagfors**	**7.71**	**207**	*e*S	**Sn**	**01 10 10.8**	**-2.9**
HFS				*e*SG		01 10 51.3	
HFS	**Hagfors**	**7.71**	**207**	Sn	**Sn**	**01 10 10.8**	**-2.9**
	baz=24,slow=28						
HFS				Lg		01 10 51.3	
	baz=36,slow=28						

---

*CSEM **01** 01:43:18.8±0.1, 4374N×12.15E, h12km, ML2.7/11, Error ellipse: s-maj=1.3km s-min=1.1km az=106.0*
*ROM **01** 01:43:18.5±0.1, 4376N×12.14E, h5km±1km, Md2.8/19, Ml2.4/10, Error ellipse: s-maj=1.7km s-min=1.3km az=143.0*
*VIE **01** 01:43:18.4±0.8, 4367N×1243E, h8km, mb2.4/2, ML2.7/3, Error ellipse: s-maj=6.8km s-min=3.3km az=157.0 27 km S of San Marino*
*ISCJB **01** 01:43:19.2±0.3, 4375N±003×12.10E±003, h20km±3km, Error ellipse: s-maj=4.4km s-min=3.0km az=29.9*
*NEIC **01** 01:43:22.4, 4362N×1204E, h10km, ML2.7(LDG), After LDG.*
*LDG **01** 01:43:22.4±0.2, 4362N×1204E, h10km, Ml2.7/13, Error ellipse: s-maj=3.6km s-min=3.2km az=134.0*
ISC 01 01:43:19.6±0.3, **4374N**±002×**1212E**±002, **h16**km±2km, **n47**, σ**1.25**/85, **13C-7D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRE	**Caprese Michel**	**0.17**	**224**	⇑*i*Pg	**Pg**	**01 43 23.5**	**-0.3**
CRE				Sg	**Sg**	**01 43 26.5**	**-0.2**
	372nm,0.4s						
BADI	**Badiali**	**0.25**	**158**	⇑*i*Pg	**Pg**	**01 43 24.4**	**-0.7**
BADI				Sg	**Sg**	**01 43 29.1**	**+0.2**
SFI	**Santa Sofia**	**0.25**	**310**	⇓*i*Pg	**Pg**	**01 43 24.1**	**-1.0**
SFI				Sg	**Sg**	**01 43 28.5**	**-0.4**
CDCA	**Citt‘ di Caste**	**0.30**	**163**	⇑*e*Pg	**Pg**	**01 43 25.1**	**-0.8**
CDCA				Sg	**Sg**	**01 43 30.7**	**+0.5**
	698nm,0.2s						
RSM	**Repubblica di**	**0.30**	**52**	⇓*e*Pg	**Pg**	**01 43 25.3**	**-0.7**
RSM				Sg	**Sg**	**01 43 29.9**	**-0.5**
	794nm,1.0s						
PESA	**Pesaro**	**0.56**	**69**	⇑*e*Pg	**Pg**	**01 43 29.3**	**-1.3**
PESA				Sg	**Sg**	**01 43 38.4**	**+0.3**
	578nm,0.2s						
SEI	**Scarperia**	**0.63**	**300**	⇓*e*Pg	**Pg**	**01 43 31.0**	**-0.9**
SEI				Sg	**Sg**	**01 43 41.9**	**+1.6**
	320nm,0.3s						
CSNT	**Castellina Chi**	**0.66**	**246**	⇑*e*Pg	**Pg**	**01 43 32.8**	**+0.3**
CSNT				Sg	**Sg**	**01 43 42.5**	**+1.3**
	188nm,0.4s						
ASS	**Assisi**	**0.79**	**150**	⇓*e*Pn	**Pg**	**01 43 33.5**	**-1.4**
	3.0nm,0.3s						
FNVD	**Fontana Vidola**	**0.83**	**301**	⇑*e*Pn	**Pg**	**01 43 34.8**	**-1.0**
FNVD				Sg	**Sg**	**01 43 46.6**	**-0.1**
	228nm,1.1s						
CING	**Cingoli**	**0.87**	**115**	⇑*e*Pn	**Pn**	**01 43 35.2**	**-2.0**
CING				Sn	**Sn**	**01 43 48.8**	**-0.7**
	99nm,0.6s						
PZZT	**Monte Pizzetto**	**0.98**	**294**	⇑*e*Pn	**Pn**	**01 43 37.7**	**-1.1**
	61nm,0.4s						
ARCI	**Arcidosso**	**1.01**	**208**	⇓*e*Pn	**Pn**	**01 43 38.7**	**-0.4**
	65nm,0.8s						
AOI	**Ancona**	**1.10**	**100**	Pn	**Pn**	**01 43 40.7**	**+0.4**
	50nm,0.5s						
BDI	**Bagni Di Lucca**	**1.14**	**287**	Pn	**Pn**	**01 43 40.6**	**-0.3**
PII	**Pisa**	**1.15**	**269**	Pn	**Pn**	**01 43 40.8**	**-0.3**
	42nm,0.3s						
VLC	**Villacollemand**	**1.32**	**289**	*e*Pn	**Pg**	**01 43 47.5**	**+2.6**
VLC				*e*Sn	**Sg**	**01 44 08.0**	**+5.9**
MNS	**Montasola**	**1.42**	**163**	Pn	**Pn**	**01 43 44.5**	**-0.3**
	46nm,0.7s						
TERO	**Teramo**	**1.56**	**135**	Pn	**Pn**	**01 43 49.2**	**+2.5**
	49nm,0.6s						
FIAM	**Fiamignano**	**1.65**	**153**	Pn	**Pn**	**01 43 48.6**	**+0.7**
	52nm,0.8s						
NVLJ	**Novalja**	**2.15**	**67**	*i* Pn	**Pn**	**01 43 55.0**	**+0.3**
NVLJ				*i* Sn	**Sn**	**01 44 21.2**	**+0.2**
VOY	**Vojsko**	**2.61**	**28**	*e*	**Pn**	**01 44 05.3**	**+4.1**
VOY				*e*(Sg)	**Sg**	**01 44 42.9**	**-0.7**
VOY	**Vojsko**	**2.61**	**28**	*e*Sg	**Sg**	**01 44 42.9**	**-0.7**
OBKA	**Obir**	**3.26**	**31**	⇓*i*Pn	**Pn**	**01 44 09.1**	**-1.0**
OBKA				⇑*i*Sn	**Sn**	**01 44 49.2**	**+0.8**
OBKA				⇑*i*Sg	**Sg**	**01 45 03.3**	**-0.9**
	22nm,0.7s						
SBF	**Sospel**	**3.39**	**274**	*e*Pn	**Pn**	**01 44 13.2**	**+1.4**
SBF				*e*Sn	**Sn**	**01 44 49.9**	**-1.9**
	10nm,0.5s						
SBF	**Sospel**	**3.39**	**274**	*e*Pn	**Pn**	**01 44 13.2**	**+1.4**
SBF				*e*Sn	**Sn**	**01 44 49.9**	**-1.9**
	5.2nm,0.5s						
SQTA	**Sankt Quirin**	**3.54**	**350**	⇓*i*Pn	**Pn**	**01 44 15.3**	**+1.5**
SQTA				⇑*i*Sn	**Sn**	**01 45 00.5**	**+5.2**
DAVA	**Damuels**	**3.88**	**337**	⇑*i*Pn	**Pn**	**01 44 20.7**	**+2.2**
DAVA				⇑*i*Sn	**Sn**	**01 45 09.0**	**+5.3**
MBDF	**Montbardon**	**3.96**	**286**	*e*Pn	**Pn**	**01 44 21.4**	**+1.7**
MBDF				*e*Sn	**Sn**	**01 45 04.9**	**-1.0**
	7.9nm,0.8s						
MBDF	**Montbardon**	**3.96**	**286**	*e*Pn	**Pn**	**01 44 21.4**	**+1.7**
MBDF				*e*Sn	**Sn**	**01 45 04.9**	**-1.0**
	4.0nm,0.8s						
FRF	**La Foret Royal**	**3.97**	**269**	*e*Pn	**Pn**	**01 44 20.7**	**+0.8**
FRF				*e*Sn	**Sn**	**01 45 04.1**	**-2.0**
	3.0nm,0.4s						
FRF	**La Foret Royal**	**3.97**	**269**	*e*Pn	**Pn**	**01 44 20.7**	**+0.8**
FRF				*e*Sn	**Sn**	**01 45 04.1**	**-2.0**
	1.5nm,0.4s						
LMR	**La Mourre**	**4.10**	**266**	*e*Pn	**Pn**	**01 44 22.4**	**+0.8**
LMR				*e*Sn	**Sn**	**01 45 06.4**	**-2.8**
	1.7nm,0.4s						
LMR	**La Mourre**	**4.10**	**266**	*e*Pn	**Pn**	**01 44 22.4**	**+0.8**
LMR				*e*Sn	**Sn**	**01 45 06.4**	**-2.8**
	0.9nm,0.4s						
LPG	**La Plagne**	**4.21**	**296**	*e*Pn	**Pn**	**01 44 24.7**	**+1.6**
LPG				*e*Sn	**Sn**	**01 45 11.6**	**-0.4**
	7.0nm,0.8s						
LPG	**La Plagne**	**4.21**	**296**	*e*Pn	**Pn**	**01 44 24.7**	**+1.6**
LPG				*e*Sn	**Sn**	**01 45 11.6**	**-0.4**
	3.5nm,0.8s						
LPL	**La Plagne**	**4.23**	**297**	*e*Pn	**Pn**	**01 44 25.6**	**+2.2**
LPL				*e*Sn	**Sn**	**01 45 12.0**	**-0.5**
	4.5nm,0.5s						
LPL	**La Plagne**	**4.23**	**297**	*e*Pn	**Pn**	**01 44 25.6**	**+2.2**
LPL				*e*Sn	**Sn**	**01 45 12.0**	**-0.5**
	2.2nm,0.5s						
ORIF	**Oris-en-Rattie**	**4.62**	**287**	*e*Pn	**Pn**	**01 44 30.3**	**+1.5**
ORIF				*e*Sn	**Sn**	**01 45 20.8**	**-1.4**
	4.7nm,0.7s						
ORIF	**Oris-en-Rattie**	**4.62**	**287**	*e*Pn	**Pn**	**01 44 30.3**	**+1.5**
ORIF				*e*Sn	**Sn**	**01 45 20.8**	**-1.4**
	2.3nm,0.7s						
SMRF	**Simiane la Rot**	**4.74**	**275**	*e*Pn	**Pn**	**01 44 31.1**	**+0.8**
SMRF				*e*Sn	**Sn**	**01 45 22.2**	**-2.7**
	1.0nm,0.5s						
SMRF	**Simiane la Rot**	**4.74**	**275**	*e*Pn	**Pn**	**01 44 31.1**	**+0.8**
SMRF				*e*Sn	**Sn**	**01 45 22.2**	**-2.7**
	0.5nm,0.5s						
VIVF	**Saint-Julien-l**	**5.46**	**284**	*e*Pn	**Pn**	**01 44 41.4**	**+1.1**
VIVF				*e*Sn	**Sn**	**01 45 40.0**	**-2.7**
	1.1nm,0.4s						
CDF	**Champ du Feu**	**5.75**	**326**	*e*Pn	**Pn**	**01 44 45.9**	**+1.5**
CDF				*e*Sn	**Sn**	**01 45 50.1**	**0.0**
	3.0nm,0.5s						
LOR	**Lormes**	**6.79**	**304**	*e*Pn	**Pn**	**01 45 00.2**	**+1.7**
LOR				*e*Sn	**Sn**	**01 46 13.7**	**-1.8**
	3.5nm,0.6s						
AVF	**Avril sur Loir**	**6.89**	**299**	*e*Pn	**Pn**	**01 45 01.4**	**+1.4**
AVF				*e*Sn	**Sn**	**01 46 15.0**	**-3.1**
	0.9nm,0.2s						
FLN	**La Foliniere**	**10.06**	**304**	*e*Pn	**Pn**	**01 45 45.2**	**+1.8**
FLN				*e*Sn	**Sn**	**01 47 31.7**	**-4.3**
	3.0nm,0.5s						

*ISCJB **01** 01:48:07.8±2.5, 63N±0.1×1262E±0.1, h59km±25km, Error ellipse: s-maj=25.1km s-min=20.7km az=80.5*
*MAN **01** 01:48:11.5, 659N×12615E, h38km, mb3.6, ML4.7, MS3.3*
ISC 01 01:48:08.5±2.3**, 63N**±02×**1262E**±01**, h48**km±46km**, n9,** σ0^{s}44/14**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.68	6	eP	Pn	01 48 22.0	+0.1
MATI				eS	Sn	01 48 31.4	-0.1
MATI	Mati	0.68	6	eP	Pn	01 48 21.9	+0.1
MATI				eS	Sn	01 48 31.3	-0.1
DAV	Davao City (W)	1.00	323	eP	Pn	01 48 26.0	-0.1
KCP	Kidapawan	1.31	304⇑	iP	Pn	01 48 31.4	+1.0
KCP				iS	Sn	01 48 46.6	-0.1
BUKP	Musuan	1.95	325	eP	Pn	01 48 38.6	-0.5
BUKP	Musuan	1.95	325	eP	Pn	01 48 38.6	-0.5
BUKP				eS	Sn	01 49 02.4	0.0
CGP	Cagayan de Oro	2.63	326⇓	eP	Pn	01 48 48.8	+0.4
CGP				iS	Sn	01 49 19.2	+0.2
PAGZ	Pagadian	3.19	300	eP	Pn	01 48 55.5	-0.7
PAGZ	Pagadian	3.19	300	eP	Pn	01 48 55.4	-0.8

*SKO **01** 02:08:54.9, 4099N×1990E, h2km, M1.4, ML2.4*
*CSEM **01** 02:08:55.2±0.2, 4107N×2002E, h5km, ML2.8, Error ellipse: s-maj=3.5km s-min=2.6km az=66.0*
*ISCJB **01** 02:08:56.3±0.3, 4106N±002×1997E±003, h11km, Error ellipse: s-maj=3.6km s-min=2.2km az=118.2*
*THE **01** 02:08:56.4, 41.11N×1995E, h10km, ML2.8*
*NEIC **01** 02:08:56.5, 41.10N×1995E, h11km, MD2.7(PDG), After PDG.*
*PDG **01** 02:08:56.5±0.2, 41.10N×1995E, h11km*
ISC 01 02:08:56.0±0.5**, 4105N**±002×**1997E**±003**, h0**km±3km**, n31,** σ**1^{s}03**/63**, 6C-5D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.30	345	ePg	Pg	02 09 00.9	-0.9
TIR				eSg	Sg	02 09 06.2	+0.5
TIR	Tirane	0.30	345	ePg	Pg	02 09 00.9	-0.9
TIR				eSg	Sg	02 09 06.2	+0.4
OHR	Ohrid	0.63	84	iPg	Pg	02 09 07.0	-1.1
OHR				iSg	Sg	02 09 17.1	+0.9
OHR				eLg		02 09 19.3	
	comp=N,133nm,0.6s						
OHR				eLg		02 09 19.4	
	comp=E,111nm,0.7s						
OHR	Ohrid	0.63	84	ePg	Pg	02 09 07.1	-1.0
OHR				eSg	Sg	02 09 17.2	+0.9
TPE	Tepelena	0.76	178	iPg	Pg	02 09 09.7	-0.8
TPE				iSg	Sg	02 09 23.7	+3.3
LSK	Leskovik	1.02	152	iPg	Pg	02 09 14.1	-1.5
LSK				iSg	Sg	02 09 31.6	+2.7
BIA	Bitola	1.03	91	iPg	Pg	02 09 14.5	-1.2
BIA				iSg	Sg	02 09 29.2	+0.2
BIA	Bitola	1.03	91	iPg	Pg	02 09 14.4	-1.3
BIA				iSg	Sg	02 09 29.1	+0.1
ULC	Ulcinj	1.06	330⇓	iPg	Pg	02 09 15.0	-1.2
ULC				eSg	Sg	02 09 30.6	+0.7
FNA	Florina	1.10	104	ePg	Pg	02 09 16.5	-0.6
FNA				eSg	Sg	02 09 36.1	+4.8
SRN	Sarande	1.17	179	iPn	Pn	02 09 19.3	-0.3
SRN				iSn	Sn	02 09 37.3	+1.0
SKO	Skopje	1.44	50	ePg	Pg	02 09 21.5	-2.0
SKO				eSg	Sg	02 09 44.1	+1.9
SKO	Skopje	1.44	50	iPn	Pn	02 09 22.4	-0.8
SKO				eSn	Sn	02 09 43.5	+0.7
SKO				eLg		02 09 44.6	
	comp=N,80nm,0.7s						
SKO				eLg		02 09 45.0	
	comp=E,52nm,0.4s						
SKO	Skopje	1.44	50	iPn	Pn	02 09 22.4	-0.8
SKO				eSn	Sn	02 09 43.4	+0.6
SKO				eSg	Sg	02 09 44.1	+1.9
TTG	Podgorica	1.47	339⇑	iPg	Pn	02 09 23.1	-0.7
TTG				eSg	Sg	02 09 44.5	+1.2
TTG	Podgorica	1.47	339⇑	iPg	Pn	02 09 23.1	-0.6
TTG				eSg	Sg	02 09 44.5	+1.2
BUM	Brajici-Budva	1.48	328⇓	iPg	Pn	02 09 22.9	-0.9
BUM				eSg	Sg	02 09 44.8	+1.2
PVY	Plav	1.54	0⇑	iPg	Pn	02 09 24.2	-0.4
PVY				eSg	Sg	02 09 46.3	+0.9
IGT	Igoumenitsa	1.54	169	ePg	Pg	02 09 25.6	0.0
IGT				eSg	Sg	02 09 47.9	+2.2
HCY	Herceg Novi	1.77	322⇑	iPn	Pn	02 09 27.3	-0.6
HCY				eSn	Sn	02 09 51.9	+0.7
STIP	Stip	1.79	68	ePb	Pb	02 09 28.3	-1.3
STIP				eSb	Sb	02 09 53.9	+1.4
STIP	Stip	1.79	68	iPn	Pn	02 09 28.3	+0.2
STIP				eSn	Sn	02 09 51.7	+0.2
IVA	Berane	1.82	358⇑	iPn	Pn	02 09 28.4	-0.1
IVA				eSn	Sn	02 09 53.4	+1.2
NKY	Niksic	1.90	338⇓	iPn	Pn	02 09 29.2	-0.5
NKY				eSn	Sn	02 09 54.9	+0.7
VAY	Valandovo	1.98	81	ePn	Pn	02 09 29.8	-0.9
VAY				eSn	Sn	02 09 55.6	-0.7
BRY	Bratogost	2.13	331⇓	iPn	Pn	02 09 32.6	-0.1
BRY				eSn	Sn	02 09 60.0	+0.1
UPM	Unac-Piva	2.29	340⇓	iPn	Pn	02 09 35.3	+0.4
UPM				eSn	Sn	02 10 04.0	+0.2
PLE	Pljevlja	2.31	350⇑	iPn	Pn	02 09 35.3	0.0
PLE				eSn	Sn	02 10 05.0	+0.5
DIVS	Divcibare	3.04	0	iPn	Pn	02 09 44.2	-1.1
DIVS				Sg	Sn	02 10 22.2	-0.2
NVLJ	Novalja	5.13	315	iPn	Pn	02 10 12.2	-1.9
NVLJ				iSn	Sn	02 11 08.6	-5.4
NVLJ	Novalja	5.13	315	iPn	Pn	02 10 12.1	-2.0
NVLJ				iSn	Sn	02 11 08.6	-5.4

*ISCJB **01** 02:21:23.2±0.5, 1766S±0.10×4167E±007, h10km, mb4.0/15, MS3.8/5, Error ellipse: s-maj=14.2km s-min=9.2km az=147.9*
*IDC **01** 02:21:23.6±0.8, 1762S×4177E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.8/24, mbtmp3.9/12, ML4.2/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/30, Error ellipse: s-maj=24.4km s-min=19.9km az=159.0*
*BJI **01** 02:21:23.3, 1756S×4125E, h12km, mB4.9, mb4.8, Ms4.6, Msz4.2*
*NEIC **01** 02:21:25.1±0.3, 1770S×4172E, h10km, mb4.2/7, Error ellipse: s-maj=12.2km s-min=8.3km az=163.0*
ISC 01 02:21:25.1±0.5**, 1768S**±009×**4168E**±007**, h10**km**, n50,** σ**1^{s}15**/30**, mb4.0**/15**, MS3.8**/5**, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.31	100	Pn	Pn	02 22 43.1	-1.4
	15nm,0.3s,baz=274,slow=13,SNR=181						
OPO				Sn	Sn	02 23 37.5	-8.2
	21nm,0.3s,baz=221,slow=12,SNR=5.6						
LSZ	Lusaka	13.16	278	Pn	Pn	02 24 31.3	-0.7
	0.7nm,0.3s,baz=122,slow=13,SNR=14						
LSZ				Sn	Sn	02 26 50.1	-8.3
	0.4nm,0.3s,baz=48,slow=13,SNR=3.1						
LSZ				LR	LR	02 29 24.2	
	comp=Z,164nm,21.2s,baz=122,slow=36						
LSZ	Lusaka	13.16	278	ePn	Pn	02 24 31.1	-0.9
	17nm,1.2s						
LBTB	Lobatse	16.66	241	Pn	Pn	02 25 17.1	-1.5
	0.3nm,0.3s,baz=49,slow=12,SNR=7.4						
LBTB				Sn	Sn	02 28 08.8	-15
	0.3nm,0.3s,baz=23,slow=22,SNR=3.7						
LBTB				LR	LR	02 31 06.6	
	comp=Z,142nm,20.2s,baz=77,slow=35						
LBTB	Lobatse	16.66	241	eP	Pn	02 25 18.0	-0.5
BOSA	Boshof	18.59	231	P	Pn	02 25 42.3	-0.3
	0.4nm,0.3s,baz=50,slow=12,SNR=10						
BOSA				LR	LR	02 32 51.1	
	comp=Z,120nm,19.0s,baz=208,slow=37						
BOSA	Boshof	18.59	231	eP	Pn	02 25 43.6	+1.0
	7.1nm,0.9s						
TSUM	Tsumeb	22.91	262	LR	LR	02 36 59.7	
	comp=Z,98nm,18.8s,MS3.3,baz=341,slow=41						
TSUM	Tsumeb	22.91	262	eP	P	02 26 28.0	-1.0
	9.5nm,1.2s,mb4.1						
SUR	Sutherland	23.85	228	P	P	02 26 40.4	+1.9
	9.4nm,0.7s,mb4.3,baz=67,slow=9.1,SNR=11						
SUR	Sutherland	23.85	228	eP	P	02 26 39.9	+1.4
	15nm,0.7s,mb4.5						
TORD	Torodi Ar. Bea	49.96	305	P	P	02 30 20.2	+1.1
	0.2nm,0.3s,mb3.6,baz=127,slow=7.0,SNR=13						
TORD				LR	LR	02 51 29.5	
	comp=Z,75nm,19.0s,MS3.7,baz=165,slow=36						
DBIC	Dimbokro	51.93	294	P	P	02 30 35.2	+1.2
	1.4nm,0.4s,mb4.3,baz=243,slow=12,SNR=14						
DBIC				LR	LR	02 50 46.2	
	comp=Z,68nm,19.5s,MS3.7,baz=109,slow=34						
DBIC	Dimbokro	51.93	294	eP	P	02 30 35.0	+1.0
	2.3nm,0.4s,mb4.5						
MALT	Malatya	55.78	357	eP	P	02 31 00.9	-1.3
	1.8nm,0.9s,mb4.1						
BRTR	Keskin Array B	57.59	353	P	P	02 31 16.0	+0.9
	0.5nm,0.6s,mb3.7,baz=158,slow=9.2,SNR=3.5						
AKASG	Malin Array Be	68.96	352	P	P	02 32 29.1	-1.3
	0.4nm,0.5s,mb3.6,baz=180,slow=5.9,SNR=4.2						
MORC	Moravsky Berou	70.47	344	eP	P	02 32 40.1	+0.3
	1.9nm,0.8s,mb4.1						
GERES	GERESS Array B	70.75	341	P	P	02 32 40.1	-1.4
	0.8nm,0.7s,mb3.8,baz=150,slow=6.2,SNR=7.6						
KMI	Kunming	73.10	56	P	P	02 32 57.7	+2.2
KMI				AP	pP	02 33 00.8	+2.0
KMI				XP	sP	02 33 02.8	+2.8
KMI				S	S	02 42 23.5	+0.5
KMI				SS	SS	02 47 04.3	+0.3
KMI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,71nm,4.9s						
KMI				LR	LR		
	comp=N,80nm,15.6s,MS4.4						
KMI				LR	LR		
	comp=E,132nm,16.6s,MS4.4						
KMI				LR	LR		
	comp=Z,103nm,17.3s,MS4.2						
MKAR	Makanchi Array	73.86	28	P	P	02 32 59.8	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=219,slow=6.3,SNR=6.3						
CHKZ	Chkalovo	75.30	17	eP	P	02 33 07.5	-0.9
	comp=Z,1.0nm,0.8s,mb3.8						
ZAL	Zalesovo	80.33	24	P	P	02 33 35.8	-0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=207,slow=22,SNR=4.3						
NOA	NORSAR Array B	82.17	346	P	P	02 33 46.9	+0.8
	comp=Z,0.7nm,0.8s,mb3.6,baz=123,slow=6.9,SNR=3.4						
ASAR	Alice Springs	85.04	113	P	P	02 34 01.2	+0.3
	comp=Z,1.1nm,1.0s,mb4.0,baz=253,slow=4.2,SNR=6.5						
AS31	Alice Springs	85.04	113	eP	P	02 33 59.9	-1.0
HHC	Hu-ho-hao-te	87.02	46	eP	P	02 34 13.3	+2.6
HHC				AP	pP	02 34 18.2	+4.2
HHC				XP	sP	02 34 20.3	+5.1
HHC				PP	PP	02 37 39.7	+5.9
HHC				SKS		02 44 37.6	
HHC				S	S	02 44 50.8	+1.3
HHC				XS	sS	02 44 58.8	+3.8
HHC				SS	SS	02 50 37.8	+5.6
HHC				AMB	AMB		
	comp=Z,48nm,5.5s						
HHC				LR	LR		
	comp=N,66nm,6.1s						
HHC				LR	LR		
	comp=E,92nm,4.1s						
HHC				LR	LR		
	comp=Z,116nm,6.5s						
CPUP	Villa Florida	90.05	242	LR	LR	03 14 50.9	
	comp=Z,75nm,19.5s,MS4.1,baz=278,slow=36						
CN2	Changchun	97.66	47	eP	P	02 35 01.0	+1.0
BOZ	Bozeman (W)	144.35	327	ePKPdf	PKPdf	02 41 01.8	+0.4
SDCO	Great Sand Dun	145.00	311	ePKPbc	PKPdf	02 41 04.1	+1.5
DLMT	Dillon	145.04	328	ePKPbc	PKPbc	02 41 03.7	+1.7
BW06	Boulder Array	145.05	322	ePKPbc	PKPbc	02 41 02.7	+0.7
PDAR	Pinedale Array	145.05	322	PKPbc	PKPbc	02 41 03.3	+1.2
	comp=Z,1.4nm,0.8s,baz=79,slow=5.2,SNR=13						
LOHW	Long Hollow	145.13	324	ePKPbc	PKPbc	02 41 03.2	+0.9
IMW	Indian Meadow	145.14	324	ePKPbc	PKPbc	02 41 03.6	+1.2
SMCO	Snowmass	145.36	315	ePKPbc	PKPbc	02 41 04.6	+1.6
TPAW	Teton Pass	145.40	324	ePKPbc	PKPbc	02 41 04.9	+1.7
MCMT	McKenzie Canyo	145.54	327	ePKPbc	PKPbc	02 41 05.3	+1.7
RRI2	Red Ridge	145.70	324	ePKPbc	PKPbc	02 41 05.5	+1.4
ANMO	Albuquerque	146.85	308	ePKPbc	PKPbc	02 41 09.6	+2.0
HWUT	Hardware Ranch	146.94	322	ePKPbc	PKPbc	02 41 08.5	+0.7
PV01	Paradox Valley	146.96	314	ePKPbc	PKPbc	02 41 09.1	+1.2
MNTX	Cornudas Mount	147.12	301	ePKPbc	PKPbc	02 41 09.2	+0.9
PV10	Paradox Valley	147.16	315	ePKPbc	PKPbc	02 41 10.1	+1.7
SRU	San Rafael	147.75	317	ePKPbc	PKPbc	02 41 10.7	+0.6
DUG	Dugway	148.55	321	ePKPbc	PKPbc	02 41 11.1	-1.0
MSU	Marysvale	149.16	318	ePKPbc	PKPbc	02 41 15.8	+2.1
TUC	Tucson	151.21	306	ePKPdf	PKPdf	02 41 13.1	+0.4
TUC				ePKPbc	PKPbc	02 41 19.9	+1.2
NVAR	Mina Array Bea	152.92	324	PKPbc	PKPbc	02 41 24.1	+1.6
	comp=Z,0.7nm,0.8s,baz=80,slow=3.2,SNR=5.8						

IDC 01 02:56:01.7±69.0**, 2126S**×**17863W, h0**km**, mb4.1**/3**, mb1 4.2**/3**, mb1mx3.8**/12**, mbtmp4.1**/3**, Error ellipse: s-maj=1261.0km s-min=163.1km az=84.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	32.84	266	eP	P	03 02 42.9	+5.9
	6.1nm,0.4s						
STKA	Stephens Creek	36.93	245	P	P	03 03 11.2	-1.1
	0.8nm,0.5s,baz=100,slow=12,SNR=4.1						
ASAR	Alice Springs	43.78	258	P	P	03 04 09.4	+0.4
	1.3nm,0.5s,baz=100,slow=7.0,SNR=20						
ASPA	Alice Springs	43.78	258	eP	P	03 04 09.4	+0.4
WB2	Warramunga Arr	43.91	263	eP	P	03 04 11.4	+1.3
WRA	Warramunga Arr	43.92	263	P	P	03 04 11.3	+1.1
	1.2nm,0.3s,baz=94,slow=8.3,SNR=61						

CASC 01 03:02:23.8±2.6**, 1261N**×**8788W, h80**km±34km**, MD3.7, ML3.4, 3C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	Conchagua	0.66	4⇓	eP	x	03 03 01.7	
CNCH				eS	x	03 03 15.2	
BLLM	Bellamira	0.89	337	eP	x	03 03 04.7	
BLLM				eS	x	03 03 18.5	
VSM	San Miguel	0.89	335⇓	eP	x	03 03 05.3	
VSM				eS	x	03 03 19.5	
CNGN	Cerro Negro	1.16	95	eP	Pn	03 02 44.7	-0.1
CNGN				eS	Sn	03 03 01.7	+1.2
CNGN				i		03 03 08.1	
	comp=N,2μm,0.2s						
LCBS	La Ceiba	1.49	314⇑	eP	x	03 03 12.6	
LCBS				eS	x	03 03 32.1	
LFRS	El Faro	1.52	311⇑	eP	x	03 03 13.0	
LFRS				eS	x	03 03 32.9	
LBRS	Las Brisas	1.59	315⇑	eP	x	03 03 14.5	
LBRS				eS	x	03 03 34.8	
LFU	La Fuente	1.65	313	eP	x	03 03 15.5	
LFU				eS	x	03 03 36.3	
SNET	Serv Nac Est T	1.69	309	eP	x	03 02 55.4	
SNET				eS	x	03 03 16.2	
BOQS	Boqueron	1.76	309	eP	x	03 03 16.1	
BOQS				eS	x	03 03 40.2	
BOA	Boaco	2.12	93	eP	Pn	03 02 58.0	+0.8
BOA				eS	Sn	03 03 22.8	+0.1
RTR	El Retiro	2.14	307	eP	x	03 03 21.9	
RTR				eS	x	03 03 48.7	

*ISCJB **01** 03:17:45.7±0.7, 24.17S±005×6700W±008, h173km±7km, mb3.8/14, Error ellipse: s-maj=12.5km s-min=8.2km az=147.6*
*IDC **01** 03:17:45.7±1.0, 2421S×6701W, h160km±10km, mb3.5/4, mb1 3.7/10, mb1mx3.5/20, mbtmp4.0/10, Error ellipse: s-maj=15.5km s-min=11.9km az=80.0*
*NEIC **01** 03:17:46.8±0.5, 24.18S×6699W, h169km±5km, mb3.9/15, Error ellipse: s-maj=8.2km s-min=5.6km az=79.0*
ISC 01 03:17:46.7±0.7**, 2420S**±005×**6701W**±008**, h167**km±7km**, n35,** σ**0^{s}76**/35**, mb3.8**/14**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.36	312	P	Pn	03 18 28.0	+1.0
	25nm,0.3s,SNR=747						
LVC				S	Sn	03 18 57.5	-0.6
	48nm,0.3s,SNR=13						
LVC	Limon Verde	2.36	312	ePn	Pn	03 18 27.6	+0.6
LVC				eSn	Sn	03 18 53.2	-4.9
CFAA	Coronel Fontan	7.45	188	P	Pn	03 19 32.0	-0.7
	0.1nm,0.3s,baz=356,slow=10,SNR=7.1						
CFAA				S	Sn	03 20 51.0	-5.3
	0.2nm,0.3s,baz=245,slow=19,SNR=7.5						
LPAZ	La Paz	7.95	352	P	Pn	03 19 40.2	+0.9
	2.9nm,0.3s,baz=148,slow=6.2,SNR=70						
LPAZ				S	Sn	03 21 04.0	-4.1
	0.1nm,0.3s,baz=205,slow=14,SNR=2.6						
LPAZ	La Paz	7.95	352	ePn	Pn	03 19 40.3	+1.0
	7.0nm,0.3s						
CPUP	Villa Florida	9.02	106	P	Pn	03 19 53.6	+0.2
	0.3nm,0.3s,baz=270,slow=14,SNR=5.2						
CPUP	Villa Florida	9.02	106	ePn	Pn	03 19 53.6	+0.2
	14nm,0.6s						
SIV	San Ignacio	9.89	35	P	Pn	03 20 04.6	-0.3
	0.4nm,0.3s,baz=227,slow=14,SNR=12						
SIV				S	Sn	03 21 42.0	-13
	0.1nm,0.3s,baz=243,slow=16,SNR=2.8						
TRQA	Tornquist	14.46	164	ePn	Pn	03 21 03.8	+0.1
	5.5nm,0.6s						
TRQA				eP		03 21 06.0	
SAML	Samuel	15.60	14	eP	Pn	03 21 17.1	-0.6
	0.9nm,0.6s						
PLCA	Paso Flores	16.75	189	P	Pn	03 21 30.7	-0.9
	0.2nm,0.3s,baz=20,slow=13,SNR=5.3						
PLCA	Paso Flores	16.75	189	eP	Pn	03 21 32.0	+0.4
	3.8nm,0.7s						
BDFB	Brasilia	19.77	68	P	P	03 22 05.1	+1.2
	1.8nm,0.3s,baz=247,slow=10,SNR=29						
SNAA	Sanae	59.16	161	eP	P	03 27 29.6	-0.3
	1.2nm,0.6s,mb3.9						
HKT	Hockley	60.54	331	eP	P	03 27 38.4	-0.9
	0.9nm,0.6s,mb3.8						
MNTX	Cornudas Mount	66.61	325	eP	P	03 28 18.0	-1.1
	0.9nm,0.7s,mb3.7						
DBIC	Dimbokro	67.88	71	P	P	03 28 25.4	-1.6
	4.6nm,1.0s,mb4.2,baz=216,slow=8.7,SNR=2.9						
ANMO	Albuquerque	69.71	326	eP	P	03 28 38.7	+0.3
	1.7nm,0.9s,mb3.8						
SMCO	Snowmass	73.29	329	eP	P	03 29 00.9	+1.1
	2.3nm,0.8s,mb4.0						
VNDA	Vanda	74.50	190	P	P	03 29 07.6	+0.8
	0.6nm,0.7s,mb3.4,baz=113,slow=4.3,SNR=3.7						
CCUT	Cedar City	75.31	324	eP	P	03 29 12.4	+0.9
MSU	Marysvale	75.39	325	eP	P	03 29 12.6	+0.6
TOA0	Torodi Ar. Sit	76.65	69	eP	P	03 29 19.1	0.0
TORD	Torodi Ar. Bea	76.65	69	P	P	03 29 19.2	+0.2
	0.7nm,0.3s,mb3.7,baz=260,slow=5.6,SNR=30						
DUG	Dugway	76.97	326	eP	P	03 29 20.7	-0.1
	3.0nm,1.2s,mb3.8						
PDAR	Pinedale Array	77.32	329	P	P	03 29 22.5	-0.2
	0.3nm,0.6s,mb3.1,baz=135,slow=10,SNR=3.6						
HWUT	Hardware Ranch	77.39	327	eP	P	03 29 22.4	-0.8
	2.5nm,0.8s,mb3.9						
LOHW	Long Hollow	78.46	329	eP	P	03 29 28.8	-0.2
	1.0nm,0.7s,mb3.5						
HLID	Hailey	80.25	327	eP	P	03 29 39.2	+0.4
	2.2nm,0.9s,mb3.8						
CASY	Casey	89.78	179	eP	P	03 30 26.6	+0.4
	3.5nm,0.8s,mb4.3						
ASAR	Alice Springs	128.27	205	PKP	PKPdf	03 36 33.2	0.0
	0.8nm,0.7s,baz=145,slow=1.9,SNR=9.5						
WRA	Warramunga Arr	131.44	207	PKP	PKPdf	03 36 39.3	+0.1
	0.6nm,0.5s,baz=163,slow=1.6,SNR=15						
WRAB	Tennant Creek	131.45	207	ePKPdf	PKPdf	03 36 39.5	+0.3
BRVK	Borovoye	136.89	37	ePKPdf	PKPdf	03 36 49.3	-0.1
MKAR	Makanchi Array	146.69	40	PKPbc	PKPbc	03 37 08.8	0.0
	1.4nm,0.6s,baz=294,slow=2.8,SNR=13						

*ISCJB **01** 03:50:37.0±0.4, 1935N±004×10895W±004, h10km, mb4.5/45, MS4.0/21, Error ellipse: s-maj=7.5km s-min=4.0km az=77.2*
*IDC **01** 03:50:37.2±0.5, 1962N×10929W, h0km, mb4.5/15, mb1 4.6/16, mb1mx4.4/24, mbtmp4.5/16, ML4.0/1, MS3.9/20, Ms1 3.9/20, ms1mx3.7/32, Error ellipse: s-maj=15.1km s-min=13.2km az=58.0*
*BJI **01** 03:50:37.7, 1950N×10900W, h10km, mB5.4, mb5.1, Ms4.8, Msz4.5*
*NEIC **01** 03:50:39.7±0.5, 1945N×10897W, h10km, mb4.6/43, Error ellipse: s-maj=9.7km s-min=5.0km az=48.0*
*MEX **01** 03:50:43.1±3.8, 1957N×10868W, h10km, MD4.8*
ISC 01 03:50:39.9±0.5**, 1946N**±005×**10894W**±005**, h10**km**, n174,** σ**1^{s}11**/154**, mb4.5**/44**, MS4.0**/21**, 1C, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CJM	Chamela	3.68	89	iP	Pn	03 51 33.1	-3.7
CJM				iS	Sn	03 52 13.4	-6.8
MAIG	Mazatlaan	4.39	32	iP	Pn	03 51 43.3	-3.3
LPIG	La Paz	4.79	345	Pn	Pn	03 51 46.9	-5.2
	6.4nm,0.3s,baz=52,slow=7.5,SNR=4.8						
LPIG	La Paz	4.79	345	Pn	Pn	03 51 46.9	-5.2
ZAIG	Zacatecas	6.80	60	iP	Pn	03 52 19.5	-0.2
CAIG	El Cayaco	8.58	105	iP	Pn	03 52 42.8	-1.4
ACX	Acapulco	8.96	105	iP	Pn	03 52 53.0	+3.7
PLIG	Platanillo	8.99	95	iP	Pn	03 52 49.7	-0.2
PPM	Popocatepetl	9.75	91	iP	Pn	03 52 59.8	-0.4
UTMO	Huajuapan	10.68	97	iP	Pn	03 53 14.0	+1.1
TPIG	Tehuac#an	11.01	94	iP	Pn	03 53 18.1	+0.7
VHO	Vista Hermosa	11.84	100	iP	Pn	03 53 28.4	-0.4
MNTX	Cornudas Mount	12.60	14	ePn	Pn	03 53 41.1	+1.9
TUC	Tucson	12.90	353	ePn	Pn	03 53 44.4	+1.0
TUC				e		03 53 52.8	
CMIG	Matias Romero	13.56	98	Pn	Pn	03 53 52.9	+0.6
	0.9nm,0.3s,baz=283,slow=11,SNR=22						
CMIG				LR	LR	03 58 43.2	
	comp=Z,1μm,21.2s,baz=268,slow=35						
CMIG	Matias Romero	13.56	98	Pn	Pn	03 53 52.9	+0.6
CMIG				LR	LR	03 58 43.2	
JCT	Junction City	13.74	35	ePn	Pn	03 53 57.0	+2.2
JCT				e		03 54 05.2	
GLA	Glamis	14.52	340	ePn	Pn	03 54 05.7	+0.2
BAR	Barrett	14.88	334	ePn	Pn	03 54 10.7	+0.4
ANMO	Albuquerque	15.58	8	Pn	Pn	03 54 20.7	+1.0
	0.1nm,0.3s,baz=198,slow=11,SNR=8.6						
ANMO				LR	LR	04 00 35.0	
	comp=Z,39nm,19.6s,baz=325,slow=39						
ANMO	Albuquerque	15.58	8	ePn	Pn	03 54 20.9	+1.3
PFO	Pinyon Flat Ob	15.60	336	ePn	Pn	03 54 20.4	+0.5
	36nm,1.4s						
HKT	Hockley	15.82	46	ePn	Pn	03 54 23.1	+0.3
	49nm,1.6s						
WUAZ	Wupatki	16.14	353	ePn	Pn	03 54 28.1	+1.3
	42nm,1.3s						
CCIG	Comitan	16.30	99	iP	Pn	03 54 27.4	-1.5
MWC	Mount Wilson	16.79	333	ePn	Pn	03 54 37.0	+1.8
GSC	Goldstone	17.24	338	ePn	Pn	03 54 41.9	+1.1
WMOK	Wichita Mounta	17.68	29	ePn	Pn	03 54 45.5	-0.8
SHPR	Sheep Range	17.84	343	ePn	Pn	03 54 49.5	+1.3
ISA	Isabella	18.20	334	ePn	Pn	03 54 53.3	+0.6
ISA				e		03 55 01.5	
DAC	Darwin (Calif)	18.40	337	eP	Pn	03 54 55.2	+0.1
	12nm,1.2s						
CCUT	Cedar City	18.43	349	eP	Pn	03 54 56.4	+0.9
PV01	Paradox Valley	18.61	1	eP	Pn	03 54 58.1	+0.5
ARUT	Antelope Range	18.68	349	eP	Pn	03 54 59.3	+0.8
PV10	Paradox Valley	18.85	360	eP	Pn	03 54 58.1	-2.4
PTRM	Twissleman Ran	18.95	331	eP	Pn	03 55 01.7	-0.1
MSU	Marysvale	19.19	352	eP	Pn	03 55 05.0	+0.3
SRU	San Rafael	19.63	356	eP	Pn	03 55 09.3	-0.6
	14nm,1.0s						
TRCR	Troy Canyon	19.69	344	eP	Pn	03 55 09.9	-0.8
MTUM	Tungsten Hills	19.71	337	eP	Pn	03 55 10.4	-0.5
SMCO	Snowmass	19.72	5	eP	Pn	03 55 10.3	-0.8
	43nm,1.1s						
TMUT	Trail Mountain	19.86	355	eP	Pn	03 55 15.3	+2.6
LRV	Little Rabbit	19.95	330	eP	Pn	03 55 12.3	-1.5
MIAR	Mount Ida	20.29	39	eP	P	03 55 14.5	-1.3
	27nm,1.5s						
MIAR				e		03 55 23.4	
ISCO	Idaho Springs	20.47	7	eP	P	03 55 18.5	+0.8
	21nm,1.1s						
NVAR	Mina Array Bea	20.58	339	P	P	03 55 18.7	-0.2
	14nm,1.0s,baz=157,slow=12,SNR=33						
NLU	North Lily Min	20.60	353	eP	P	03 55 20.9	+1.7
MPU	Maple Canyon	20.62	354	eP	P	03 55 20.0	+0.7
	21nm,1.2s						
DUG	Dugway	20.93	352	eP	P	03 55 23.4	+0.7
	27nm,1.1s						
CMB	Columbia Colle	21.02	334	eP	P	03 55 23.6	-0.1
WAKR	Walker	21.05	337	eP	P	03 55 24.9	+0.9
UALR	University of	21.19	41	eP	P	03 55 28.0	+2.5
	17nm,0.8s,mb4.4						
CTU	Camp Tracy	21.30	354	eP	P	03 55 27.5	+0.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGU	**Big Grassy Mou**	**21.68**	**352**	*e*P	**P**	**03 55 30.8**	**+0.1**
TCUT	**Toone Canyon**	**21.69**	**355**	*e*P	**P**	**03 55 31.8**	**+0.9**
ELK	**Elko**	**21.89**	**347**	*e*P	**P**	**03 55 35.7**	**+2.7**
	19nm,1.1s,mb4.4						
PHWY	**Pilot Hill**	**21.97**	**7**	*e*P	**P**	**03 55 34.4**	**+0.5**
SPUT	**South Promonto**	**21.98**	**353**	*e*P	**P**	**03 55 33.9**	**-0.1**
BMN	**Battle Mountai**	**22.08**	**343**	*e*P	**P**	**03 55 35.7**	**+0.7**
	33nm,1.5s,mb4.5						
PAHR	**Pah Rah Range**	**22.09**	**338**	*e*P	**P**	**03 55 36.4**	**+1.2**
	22nm,1.3s,mb4.4						
HWUT	**Hardware Ranch**	**22.19**	**355**	*e*P	**P**	**03 55 36.3**	**+0.1**
	29nm,1.1s,mb4.6						
RWWY	**Rawlins**	**22.21**	**3**	*e*P	**P**	**03 55 36.5**	**+0.1**
HVU	**Hansel Valley**	**22.49**	**352**	*e*P	**P**	**03 55 42.0**	**+2.6**
OHCM	**Honcut**	**22.57**	**334**	*e*P	**P**	**03 55 41.5**	**+1.1**
BW06	**Boulder Array**	**23.24**	**359**	*e*P	**P**	**03 55 46.4**	**-0.9**
PDAR	**Pinedale Array**	**23.24**	**359**	P	**P**	**03 55 46.4**	**-1.0**
	5.3nm,0.8s,mb4.0,baz=165,slow=9.1,SNR=36						
PDAR				PcP	PcP	03 59 33.7	-1.3
	0.3nm,0.3s,baz=141,slow=0.6,SNR=6.0						
REDW	**Red Top Meadow**	**23.88**	**357**	*e*P	**P**	**03 55 53.3**	**-0.3**
RRI2	**Red Ridge**	**23.90**	**356**	*e*P	**P**	**03 55 53.4**	**-0.5**
SNOW	**Snow King Moun**	**23.98**	**357**	*e*P	**P**	**03 55 54.5**	**-0.1**
TPAW	**Teton Pass**	**24.02**	**356**	*e*P	**P**	**03 55 53.8**	**-1.1**
PLAL	**Pickwick Lake**	**24.08**	**46**	*e*P	**P**	**03 55 54.5**	**-0.9**
	13nm,0.8s,mb4.4						
LOHW	**Long Hollow**	**24.12**	**357**	*e*P	**P**	**03 55 55.4**	**-0.4**
	24nm,1.0s,mb4.6						
DCID1	**Drake Creek**	**24.14**	**356**	*e*P	**P**	**03 55 56.1**	**+0.2**
MOOW	**Moose Ponds**	**24.26**	**357**	*e*P	**P**	**03 55 55.2**	**-1.9**
	22nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**24.33**	**342**	*e*P	**P**	**03 55 57.1**	**-0.6**
	15nm,1.0s,mb4.4						
IMW	**Indian Meadow**	**24.42**	**357**	*e*P	**P**	**03 55 58.2**	**-0.4**
HLID	**Hailey**	**24.47**	**350**	*e*P	**P**	**03 55 59.2**	**+0.2**
	15nm,1.0s,mb4.4						
FVM	**French Village**	**24.50**	**37**	*e*P	**P**	**03 55 58.7**	**-0.6**
FLWY	**Flagg Ranch**	**24.59**	**357**	*e*P	**P**	**03 55 59.9**	**-0.2**
	22nm,1.1s,mb4.6						
JTS	**JuntasAbangare**	**24.88**	**108**	P	**P**	**03 56 06.1**	**+3.3**
	3.3nm,0.5s,mb4.1,baz=340,slow=21,SNR=2.5						
JTS	**JuntasAbangare**	**24.88**	**108**	P	**P**	**03 56 06.0**	**+3.3**
WVT	**Waverly**	**24.90**	**44**	*e*P	**P**	**03 56 02.9**	**-0.1**
	5.8nm,0.8s,mb4.2						
RSSD	**Black Hills**	**24.93**	**8**	*e*P	**P**	**03 56 03.2**	**0.0**
	14nm,1.1s,mb4.4						
YFT	**Old Faithful**	**24.97**	**357**	*e*P	**P**	**03 56 05.3**	**+1.8**
SIUC	**Southern Illin**	**25.02**	**39**	*e*P	**P**	**03 56 03.5**	**-0.5**
	14nm,0.9s,mb4.5						
LKWY	**Lake**	**25.06**	**358**	*e*P	**P**	**03 56 05.3**	**+0.9**
	16nm,0.8s,mb4.6						
YBH	**Yreka Blue Hor**	**25.10**	**335**	LR	LR	04 05 48.9	
	comp=Z,206nm,18.7s,MS3.7,baz=156,slow=37						
YNR	**Norris Junctio**	**25.22**	**357**	*e*P	**P**	**03 56 06.5**	**+0.6**
QLMT	**Earthquake Lak**	**25.38**	**356**	*e*P	**P**	**03 56 08.2**	**+0.9**
MCMT	**McKenzie Canyo**	**25.50**	**354**	*e*P	**P**	**03 56 08.8**	**+0.4**
MCMT				*e*		03 56 20.9	
DLMT	**Dillon**	**26.01**	**354**	*e*P	**P**	**03 56 13.3**	**+0.4**
	13nm,1.2s,mb4.3						
BOZ	**Bozeman (W)**	**26.21**	**356**	*e*P	**P**	**03 56 14.3**	**-0.5**
	7.0nm,1.0s,mb4.2						
BMO	**Blue Mountains**	**26.26**	**346**	*e*P	**P**	**03 56 14.3**	**-1.0**
	20nm,1.6s,mb4.4						
GCMT	**Greycliff**	**26.27**	**359**	*e*P	**P**	**03 56 14.6**	**-0.7**
LCCM	**Lewis and Clar**	**26.42**	**355**	P	**P**	**03 56 16.7**	**0.0**
LRM	**Limekiln Ridge**	**26.45**	**354**	*e*P	**P**	**03 56 17.0**	**0.0**
WCI	**Wyandotte Cave**	**27.14**	**42**	*e*P	**P**	**03 56 22.2**	**-1.0**
	11nm,0.9s,mb4.4						
LAO	**LASA Array**	**27.25**	**4**	*e*P	**P**	**03 56 23.4**	**-0.8**
	24nm,1.2s,mb4.6						
HRY	**Holter Researc**	**27.28**	**356**	*e*P	**P**	**03 56 24.1**	**-0.4**
MSO	**Missoula**	**27.60**	**353**	*e*P	**P**	**03 56 27.2**	**-0.2**
	20nm,1.5s,mb4.5						
CHMT	**Chamberlain Mo**	**27.61**	**354**	P	**P**	**03 56 27.1**	**-0.4**
HOOD	**Mount Hood Mea**	**27.86**	**341**	*e*P	**P**	**03 56 29.2**	**-0.5**
EGMT	**Eagleton**	**28.50**	**359**	*e*P	**P**	**03 56 34.1**	**-1.2**
MDW	**Midway**	**28.50**	**344**	P	**P**	**03 56 35.4**	**0.0**
OD2	**Odessa Site #2**	**28.98**	**346**	P	**P**	**03 56 39.7**	**+0.1**
EBG	**Ellensburg**	**28.99**	**343**	P	**P**	**03 56 40.3**	**+0.6**
EPH	**Ephrata**	**29.15**	**345**	P	**P**	**03 56 40.9**	**-0.3**
LON	**Longmire**	**29.19**	**342**	*e*P	**P**	**03 56 41.9**	**+0.4**
FMW	**Mount Fremont**	**29.32**	**342**	P	**P**	**03 56 43.1**	**+0.5**
SAW	**Saint Andrews**	**29.43**	**346**	P	**P**	**03 56 43.6**	**0.0**
NEW	**Newport**	**29.49**	**349**	P	**P**	**03 56 42.4**	**-1.7**
	4.2nm,0.9s,mb4.2,baz=157,slow=7.3,SNR=6.5						
NEW				PcP	PcP	03 59 46.6	-2.9
	1.4nm,0.5s,baz=356,slow=0.3,SNR=3.5						
NEW				LR	LR	04 08 41.8	
	comp=Z,140nm,18.7s,MS3.6,baz=177,slow=37						
NEW	**Newport**	**29.49**	**349**	P	**P**	**03 56 42.4**	**-1.7**
NEW				PcP	PcP	03 59 46.6	-2.9
NEW				LR	LR	04 08 41.8	
WTV	**Waterville**	**29.56**	**345**	P	**P**	**03 56 45.0**	**+0.2**
ETW	**Entiat**	**29.57**	**344**	P	**P**	**03 56 45.0**	**+0.1**
CBSW	**Chelan Butte S**	**29.68**	**345**	P	**P**	**03 56 45.6**	**-0.2**
WALA	**Waterton Lakes**	**29.80**	**353**	*e*P	**P**	**03 56 45.8**	**-1.1**
	8.5nm,1.0s,mb4.4						
WRW	**Wenatchee Ridg**	**29.94**	**344**	P	**P**	**03 56 48.4**	**+0.2**
NLW	**Nelson Butte**	**30.01**	**345**	P	**P**	**03 56 48.6**	**-0.1**
GNW	**Green Mountain**	**30.23**	**341**	*e*P	**P**	**03 56 50.7**	**0.0**
JCW	**Jim Creek**	**30.54**	**343**	P	**P**	**03 56 52.4**	**-1.0**
RPW	**Rockport**	**30.65**	**343**	P	**P**	**03 56 53.6**	**-0.9**
VDB	**Vedder Mountai**	**31.34**	**343**	P	**P**	**03 56 59.7**	**-0.8**
ULM	**Lac du Bonnet**	**32.44**	**16**	P	**P**	**03 57 08.2**	**-2.0**
	13nm,1.1s,mb4.7,baz=208,slow=8.3,SNR=8.6						
ULM				LR	LR	04 09 35.7	
	comp=Z,146nm,19.6s,MS3.7,baz=215,slow=35						
ULM	**Lac du Bonnet**	**32.44**	**16**	*e*P	**P**	**03 57 08.0**	**-2.1**
	26nm,1.2s,mb4.9						
FFC	**Flin Flon**	**35.60**	**7**	*e*P	**P**	**03 57 36.2**	**-1.4**
SDV	**Santo Domingo**	**38.51**	**100**	P	**P**	**03 58 04.6**	**+2.2**
	2.0nm,0.3s,mb4.3,baz=327,slow=7.2,SNR=4.6						
SDV	**Santo Domingo**	**38.51**	**100**	*e*P	**P**	**03 58 04.9**	**+2.5**
	6.0nm,0.8s,mb4.4						
ATAH	**Atahualpa**	**39.95**	**128**	P	**P**	**03 58 18.8**	**+4.4**
	8.4nm,0.9s,mb4.5,baz=259,slow=4.0,SNR=4.2						
SJG	**San Juan**	**40.46**	**85**	P	**P**	**03 58 20.0**	**+1.4**
	2.8nm,0.3s,mb4.5,baz=113,slow=2.8,SNR=4.1						
SJG	**San Juan**	**40.46**	**85**	*e*P	**P**	**03 58 19.4**	**+0.8**
	18nm,1.0s,mb4.8						
FCC	**Fort Churchill**	**40.72**	**12**	*e*P	**P**	**03 58 18.5**	**-2.2**
	35nm,1.0s,mb4.9						
MTP	**Monte Pirata**	**41.02**	**85**	*e*P	**P**	**03 58 25.6**	**+2.4**
TAOE	**Nuku Hiva Isla**	**41.68**	**230**	*e*LR	LR	04 09 52.7	
	1μm,26.8s						
YKA	**Yellowknife Ar**	**43.17**	**356**	P	**P**	**03 58 38.5**	**-2.3**
	4.1nm,0.8s,mb4.2,baz=172,slow=7.8,SNR=15						
YKA				PcP	PcP	04 00 25.7	-4.6
	2.0nm,1.1s,baz=183,slow=1.9,SNR=4.1						
YKA				LR	LR	04 16 52.9	
	comp=Z,284nm,18.2s,MS4.2,baz=170,slow=37						
YKA	**Yellowknife Ar**	**43.17**	**356**	P	**P**	**03 58 38.5**	**-2.3**
YKA				PcP	PcP	04 00 25.7	-4.6
YKA				LR	LR	04 16 52.9	
SCHQ	**Schefferville**	**47.53**	**32**	P	**P**	**03 59 13.8**	**-1.6**
	5.4nm,1.0s,mb4.5,baz=244,slow=6.1,SNR=3.6						
SCHQ				LR	LR	04 18 49.4	
	comp=Z,89nm,21.1s,MS3.7,baz=66,slow=36						
SCHQ	**Schefferville**	**47.53**	**32**	P	**P**	**03 59 13.8**	**-1.6**
SCHQ				LR	LR	04 18 49.4	
RKT	**Rikitea**	**49.36**	**212**	*e*S	**S**	**04 06 31.7**	**-4.5**
	58nm,35.0s						
RKT				*e*LR	LR	04 13 25.5	
	245nm,26.0s						
INK	**Inuvik**	**51.21**	**349**	*e*P	**P**	**03 59 41.9**	**-1.6**
	12nm,1.0s,mb4.8						
INK				*e*		03 59 52.1	
MCK	**McKinley**	**51.81**	**339**	*e*P	**P**	**03 59 47.0**	**-1.0**
	3.3nm,0.9s,mb4.3						
SAML	**Samuel**	**53.18**	**118**	*e*P	**P**	**03 59 57.2**	**-0.9**
	5.7nm,0.9s,mb4.5						
LPAZ	**La Paz**	**53.59**	**129**	P	**P**	**04 00 03.4**	**+2.3**
	3.7nm,1.0s,mb4.3,baz=350,slow=11,SNR=15						
LPAZ				LR	LR	04 20 10.1	
	comp=Z,98nm,18.4s,MS3.9,baz=305,slow=33						
LPAZ	**La Paz**	**53.59**	**129**	*e*P	**P**	**04 00 03.3**	**+2.2**
	8.8nm,1.2s,mb4.6						
LPAZ				*e*PcP	PcP	04 01 07.8	+0.1
PPT	**Papeete**	**54.29**	**230**	*e*S	**S**	**04 07 40.4**	**-3.5**
	96nm,28.5s						
PPT				*e*SS	SS	04 11 22.9	-2.9
	46nm,25.0s						
PPT				*e*LR	LR	04 15 42.7	
	430nm,26.8s,baz=37						
PPT	**Papeete**	**54.29**	**230**	LR	LR	04 19 07.3	
	comp=Z,201nm,18.4s,MS4.2,baz=9.8,slow=32						
LVC	**Limon Verde**	**57.25**	**135**	LR	LR	04 19 22.2	
	comp=Z,90nm,21.2s,MS3.8,baz=135,slow=30						
TBI	**Tubuai**	**58.08**	**225**	*e*S	**S**	**04 08 30.1**	**-4.2**
	78nm,35.5s						
TBI				*e*LR	LR	04 17 24.4	
	256nm,27.5s,baz=36						
SIV	**San Ignacio**	**58.79**	**123**	P	**P**	**04 00 38.7**	**+0.3**
	7.4nm,1.0s,mb4.7,baz=309,slow=7.1,SNR=27						
SUMG	**Summit**	**65.75**	**18**	*e*P	**P**	**04 01 23.0**	**-1.9**
	8.6nm,1.1s,mb4.7						
CPUP	**Villa Florida**	**67.68**	**131**	P	**P**	**04 01 38.5**	**+1.3**
	7.1nm,0.9s,mb4.7,baz=302,slow=6.0,SNR=12						
CPUP				LR	LR	04 29 41.9	
	comp=Z,88nm,20.0s,MS4.0,baz=106,slow=34						
CPUP	**Villa Florida**	**67.68**	**131**	*e*P	**P**	**04 01 38.3**	**+1.0**
	27nm,0.9s,mb5.3						
CPUP				*e*		04 01 46.9	
BDFB	**Brasilia**	**69.33**	**116**	P	**P**	**04 01 49.4**	**+1.8**
	4.7nm,1.1s,mb4.3,baz=168,slow=7.9,SNR=4.4						
PLCA	**Paso Flores**	**69.71**	**150**	P	**P**	**04 01 52.8**	**+2.9**
	5.0nm,1.2s,mb4.3,baz=282,slow=11,SNR=2.5						
PLCA				LR	LR	04 25 46.5	
	comp=Z,172nm,19.4s,MS4.3,baz=103,slow=30						
DAG	**Danmarks Havn**	**71.27**	**14**	⇑*i*P	**P**	**04 01 57.2**	**-2.2**
	5.2nm,0.8s,mb4.5						
BORG	**Borgarnes**	**71.58**	**27**	LR	LR	04 36 34.6	
	comp=Z,109nm,18.1s,MS4.2,baz=321,slow=38						
JMIC	**Jan Mayen**	**75.11**	**19**	LR	LR	04 36 33.3	
	comp=Z,55nm,21.8s,MS3.8,baz=123,slow=37						
ARCES	**ARCESS Array B**	**85.55**	**15**	P	**P**	**04 03 16.0**	**-2.3**
	5.0nm,0.8s,mb4.8,baz=322,slow=5.1,SNR=11						
ARCES				LR	LR	04 41 46.5	
	comp=Z,127nm,20.8s,MS4.3,baz=318,slow=36						
ARCES	**ARCESS Array B**	**85.55**	**15**	P	**P**	**04 03 16.0**	**-2.3**
ARCES				LR	LR	04 41 46.5	
NOA	**NORSAR Array B**	**86.64**	**25**	LR	LR	04 42 04.8	
	comp=Z,49nm,18.7s,MS3.9,baz=305,slow=36						
ESDC	**Sonseca Array**	**88.72**	**48**	LR	LR	04 47 17.4	
	comp=Z,56nm,18.2s,MS4.0,baz=65,slow=38						
FINES	**FINESS Array B**	**91.73**	**20**	LR	LR	04 44 14.1	
	comp=Z,103nm,20.3s,MS4.3,baz=170,slow=35						
GERES	**GERESS Array B**	**95.03**	**34**	LR	LR	04 45 31.6	
	comp=Z,97nm,19.4s,MS4.3,baz=96,slow=35						
VRAC	**Vranov**	**96.23**	**32**	LR	LR	04 44 20.5	
	comp=Z,25nm,18.6s,MS3.7,baz=193,slow=34						
MDJ	**Mudanjiang**	**96.89**	**322**	P	**P**	**04 04 10.3**	**-1.1**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,34nm,3.8s						
CN2	**Changchun**	**99.75**	**323**	*e*P	Pdif	04 04 21.7	-2.5
KEST	**Kesra**	**99.86**	**47**	LR	LR	04 49 18.8	
	comp=Z,25nm,18.8s,MS3.7,baz=333,slow=35						
HHC	**Hu-ho-hao-te**	**109.18**	**329**	*e*PDIF	Pdif	04 05 05.0	-1.1
HHC				PP	PP	04 09 41.1	+2.6
HHC				S	Sdif	04 17 11.7	-4.8
HHC				SS	SS	04 24 55.1	-3.5
HHC				LR	LR		
	comp=N,63nm,4.9s						
HHC				LR	LR		
	comp=E,77nm,4.3s						
HHC				LR	LR		
	comp=Z,125nm,6.9s						
NJ2	**Nanjing**	**111.31**	**318**	*e*PKP	PKiKP	04 09 10.5	-3.6
WMQ	**Urumqi**	**115.21**	**347**	*e*PKP	PKiKP	04 09 17.2	-4.3
WMQ				LR	LR		
	comp=Z,66nm,21.0s,MS4.2						
LZH	**Lanzhou**	**116.64**	**331**	*e*PKP	PKPdf	04 09 20.0	-4.3
LZH				XPKP		04 09 27.5	
LZH				LR	LR		
	comp=N,123nm,19.5s						
LZH				LR	LR		
	comp=Z,245nm,20.4s,MS4.8						
WRA	**Warramunga Arr**	**120.76**	**258**	PKP	PKPdf	04 09 31.0	-1.2
	comp=Z,0.2nm,0.5s,baz=81,slow=2.6,SNR=6.9						
CD2	**Chengdu**	**120.88**	**327**	*e*PKP	PKPdf	04 09 29.2	-3.2
ASAR	**Alice Springs**	**121.81**	**254**	PKP	PKPdf	04 09 32.7	-1.6
	comp=Z,0.1nm,0.4s,baz=165,slow=5.2,SNR=4.0						
KMI	**Kunming**	**126.02**	**324**	PKP	PKPdf	04 09 42.3	0.0

ISCJB ***01*** *03:58:24.0±0.5,5154N±003×1610E±005,h0km,Error ellipse: s-maj=4.2km s-min=3.6km az=133.5*
IDC ***01*** *03:58:27.4±0.9,5142N×1617E,h0km,mb1 3.3/4, mb1mx3.2/20,mbtmp3.2/4,ML2.5/4,Error ellipse: s-maj=19.1km s-min=7.2km az=98.0*
PRU ***01*** *03:58:28.4,5142N×1606E,h0km*
VIE ***01*** *03:58:30.1±0.6,5126N×1618E,h0km,mb1.9/2,ML2.3/4, Error ellipse: s-maj=4.0km s-min=3.4km az=97.0 61 km WNW of Breslau Suspected Mining induced.*
ISC 01 03:58:25.7±0.5,**5152N**±002×**1612E**±004,**h0**km,**n20,** σ**1§06**/38,**1C-3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**171**	*i* Pgd	**Pg**	**03 58 40.2**	**+1.4**
KSP				e		03 58 41.0	
KSP				*e*Sg	**Sg**	**03 58 48.6**	**+1.0**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**03 58 45.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**03 58 49.0**	**+0.8**
DPC				*e*SG	**Sg**	**03 59 03.7**	**+0.3**
	14nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG	**Pg**	**03 58 52.8**	**+0.4**
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**03 58 54.2**	**+0.2**
BRG				PG	**Pg**	**03 58 55.0**	**+0.2**
BRG				SG	**Sg**	**03 59 14.8**	**+0.5**
	13nm,0.4s						
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**03 58 58.8**	**+0.4**
PRU				*e*PG	**Pg**	**03 59 00.1**	**-0.7**
PRU				*e*SG	**Sg**	**03 59 22.1**	**-2.4**
	6.4nm,0.4s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**03 59 00.0**	**-0.2**
CLL				*e*Pg	**Pg**	**03 59 03.0**	**-0.3**
CLL				*e*Sg	**Sg**	**03 59 29.0**	**+0.2**
	comp=Z,9.0nm,0.7s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	**Pg**	**03 59 07.0**	**+0.7**
OKC				*e*SG	**Sg**	**03 59 32.7**	**-1.1**
VRAC	**Vranov**	**2.23**	**172**	Pg	**Pg**	**03 59 05.9**	**-2.5**
	comp=Z,1.3nm,0.3s,baz=344,slow=18,SNR=7.5						
VRAC				Lg		03 59 36.9	
	comp=Z,1.8nm,0.3s,baz=82,slow=16,SNR=5.8						
TREC	**Trest**	**2.26**	**191**	*e*PN	**Pn**	**03 59 05.9**	**+1.6**
TREC				*e*PG	**Pg**	**03 59 08.0**	**-1.0**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**03 59 10.8**	**+1.0**
NKC				*e*PG	**Pg**	**03 59 16.5**	**-0.1**
NKC				*e*SG	**Sg**	**03 59 51.5**	**+0.4**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PG	**Pg**	**03 59 19.2**	**-1.9**
KHC				*e*SG	**Sg**	**03 59 56.5**	**-2.1**
MOX	**Moxa**	**2.97**	**255**	*e*PG	**Pg**	**03 59 22.2**	**-0.5**
MOX				*e*SG	**Sg**	**04 00 02.5**	**+1.3**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**03 59 16.8**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=34,slow=12,SNR=12						
GERES				Pg	**Pg**	**03 59 23.0**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=31,slow=17,SNR=25						
GERES				Lg		04 00 03.1	
	comp=Z,1.4nm,0.3s,baz=28,slow=29,SNR=7.3						
CONA	**Conrad Observa**	**3.59**	**183**	⇓*i*Pn	**Pn**	**03 59 23.8**	**+1.2**
CONA				⇑*i*Sg	**Sg**	**04 00 19.9**	**-1.3**
	comp=Z,3.2nm,0.4s						
BSD	**Bornholm Skovb**	**3.68**	**349**	*i* P	**Pn**	**03 59 24.3**	**+0.5**
BSD				*i* S	**Sn**	**04 00 06.3**	**-1.5**
MOA	**Molln**	**3.86**	**199**	⇓*i*Pn	**Pn**	**03 59 27.6**	**+1.2**
MOA				⇓*i*Sg	**Sg**	**04 00 30.7**	**+0.9**
	comp=Z,3.3nm,0.5s						
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**04 00 33.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=4.5						
NOA	**NORSAR Array B**	**9.93**	**346**	Pn	**Pn**	**04 00 49.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**04 01 08.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=211,slow=12,SNR=5.3						

ISCJB ***01*** *04:37:07.2±2.2,329S±02×1786W±03,h44km±27km, mb4.7/7,Error ellipse: s-maj=41.0km s-min=18.9km az=66.6*
IDC ***01*** *04:37:12.1±9.6,3320S×17839W,h87km±86km,mb4.3/5, mb1 4.4/7,mb1mx4.0/16,mbtmp4.6/7,ML4.4/2,MS4.0/3, Ms1 4.0/3,ms1mx3.6/7,Error ellipse: s-maj=94.9km s-min=35.1km az=10.0*
ISC 01 04:37:08.9±1.5,**329S**±02×**1785W**±03,**h47**km±22km,**n36,** σ**0§81**/26,**mb4.7**/7,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.67**	**8**	LR	LR	04 39 14.7	
	comp=Z,1μm,20.8s,baz=205,slow=31						
MXZ	**Matakaoa Point**	**5.34**	**209**	PN	**Pn**	**04 38 26.1**	**+0.1**
PUZ	**Puketiti**	**5.81**	**206**	PN	**Pn**	**04 38 30.9**	**-1.5**
MWZ	**Matawai**	**6.32**	**210**	PN	**Pn**	**04 38 38.4**	**-1.0**
URZ	**Urewera**	**6.44**	**213**	P	**Pn**	**04 38 41.0**	**-0.1**
	6.1nm,0.3s,baz=13,slow=1.4,SNR=24						
URZ	**Urewera**	**6.44**	**213**	PN	**Pn**	**04 38 40.5**	**-0.6**
KNZ	**Kokohu**	**6.86**	**206**	PN	**Pn**	**04 38 47.7**	**+0.9**
BKZ	**Black Stump Fm**	**7.46**	**212**	PN	**Pn**	**04 38 56.9**	**+1.8**
RPZ	**Rata Peaks**	**13.56**	**214**	P	**Pn**	**04 40 18.5**	**+0.1**
	3.2nm,0.3s,baz=44,slow=5.2,SNR=7.6						
RPZ	**Rata Peaks**	**13.56**	**214**	Sn	**Sn**	**04 42 40.5**	**-7.0**
	3.6nm,0.3s,baz=355,slow=14,SNR=8.3						
RPZ	**Rata Peaks**	**13.56**	**214**	Sn	**Sn**	**04 42 40.5**	**-7.0**
AFI	**Afiamalu**	**19.87**	**19**	P	**Pn**	**04 41 37.9**	**0.0**
	3.7nm,0.3s,baz=220,slow=7.9,SNR=4.6						
AFI	**Afiamalu**	**19.87**	**19**	P	**Pn**	**04 41 37.9**	**0.0**
AFI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
STKA	**Stephens Creek**	**33.60**	**261**	P	**P**	**04 43 45.4**	**+0.8**
	comp=Z,2.7nm,1.0s,mb4.1,baz=123,slow=6.3,SNR=3.7						
CTA	**Charters Tower**	**33.89**	**283**	P	**P**	**04 43 48.4**	**+1.4**
	comp=Z,45nm,0.6s,mb5.5,baz=109,slow=10,SNR=6.8						
CTA	**Charters Tower**	**33.89**	**283**	*e*P	**P**	**04 43 48.2**	**+1.2**
	comp=Z,3.2nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**42.64**	**270**	P	**P**	**04 45 00.5**	**0.0**
	comp=Z,7.1nm,0.8s,mb4.4,baz=111,slow=7.7,SNR=45						
ASPA	**Alice Springs**	**42.64**	**270**	*e*P	**P**	**04 45 00.5**	**-0.1**
WB2	**Warramunga Arr**	**43.84**	**275**	*e*P	**P**	**04 45 09.9**	**-0.4**
WRAB	**Tennant Creek**	**43.85**	**275**	P	**P**	**04 45 10.3**	**0.0**
	comp=Z,521nm,1.2s,SNR=13						
WRAB	**Tennant Creek**	**43.85**	**275**	P	**P**	**04 45 10.1**	**-0.2**
WRA	**Warramunga Arr**	**43.85**	**275**	P	**P**	**04 45 10.1**	**-0.2**
	comp=Z,25nm,1.1s,mb4.8,baz=115,slow=8.1,SNR=43						
FORT	**Forrest**	**45.07**	**258**	*e*P	**P**	**04 45 18.8**	**-1.3**
	comp=Z,8.9nm,0.9s,mb4.6						
KAKA	**Kakadu**	**49.02**	**282**	*e*P	**P**	**04 45 51.1**	**+0.2**
	comp=Z,7.5nm,0.4s,mb5.1						
FITZ	**Fitzroy Crossi**	**52.00**	**272**	P	**P**	**04 46 12.4**	**-1.0**
	comp=Z,13nm,0.9s,mb4.9,baz=167,slow=5.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**52.00**	**272**	*e*P	**P**	**04 46 12.7**	**-0.6**
	comp=Z,10.0nm,1.2s,mb4.6						
CASY	**Casey**	**52.75**	**209**	*e*P	**P**	**04 46 19.5**	**+0.6**
JOF	**Joensuu**	**144.57**	**337**	*e*pkp	PKPdf	04 56 37.2	-2.8
STOK	**Stokkvaagen**	**145.84**	**352**	*e*P	PKPdf	04 56 41.6	-0.6
KAF	**Kangasniemi**	**146.75**	**339**	*e*pkp	PKPdf	04 56 40.8	-3.0
FINES	**FINESS Array B**	**147.34**	**338**	PKPbc	PKPbc	04 56 45.7	-1.5
	comp=Z,6.1nm,0.6s,baz=51,slow=4.0,SNR=35						
NSS	**Namsos**	**147.70**	**352**	*e*P	PKPdf	04 56 46.3	+0.9
NB2	**NORSAR Subarra**	**151.15**	**350**	PKPa	PKPbc	04 56 55.3	-1.5
	comp=Z,0.4nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.15**	**350**	PKPbc	PKPbc	04 56 54.8	-2.0
	comp=Z,1.0nm,0.5s,baz=231,slow=21,SNR=3.8						
AKASG	**Malin Array Be**	**152.99**	**319**	PKPbc	PKPbc	04 56 59.0	-1.9
	comp=Z,4.4nm,0.9s,baz=64,slow=1.7,SNR=7.9						
BRTR	**Keskin Array B**	**153.34**	**294**	PKPbc	PKPbc	04 57 00.7	-1.0
	comp=Z,1.2nm,0.8s,baz=68,slow=1.5,SNR=4.6						

ISCJB ***01*** *04:37:12.7±0.3,3278S±004×17877W±005,h38km, mb5.0/41,MS4.5/11,Error ellipse: s-maj=6.9km s-min=4.2km az=61.3*
MOS ***01*** *04:37:12.4±1.3,3255S×17867W,h33km,mb5.1/24,Error ellipse: s-maj=15.5km s-min=10.5km az=77.9*
IDC ***01*** *04:37:12.2±1.6,3257S×17876W,h28km±9km,mb4.5/11, mb1 4.7/14,mb1mx4.6/16,mbtmp4.7/14,ML5.1/3,MS4.4/1, Ms1 4.4/1,ms1mx3.5/7,Error ellipse: s-maj=15.2km s-min=12.8km az=152.0*
BJI ***01*** *04:37:13.2,3245S×17834W,h47km,mB5.4,mb5.1,Ms5.2, Msz4.8*
NEIC ***01*** *04:37:13.9±0.2,3253S×17883W,mb5.0/24,Error ellipse: s-maj=10.0km s-min=7.0km az=143.0*
GCMT ***01*** *04:37:13.9±0.3,3286S×178.17W,h33km±1km,MW5.0/55, Moment Tensor Solution. s36,c46; s55,c81; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.17±.22; Mθθ0.25±.16; Mφφ-3.42±.15; Mrθ0.58±.21; Mθφ-1.22±.15; Mφr2.78±.17; Best double couple: Mo4.49200×10^16 NP1:φs13.00000°,δ65.00000°,λ86.00000°. NP2: φs202.00000°,δ26.00000°,λ98.00000°. Principal axes: T 4.1900, Plg70.0000°, Azm276.0000°; N 0.6050, Plg3.0000°, Azm15.0000°; P -4.7940, Plg20.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 04:37:14.4±0.3,**3273S**±004×**17872W**±005,**h40**km, **h40**km±1.1km**:pP-P,n207,**σ**1§04**/122,**mb5.0**/41,**MS4.5**/11, **10C-7D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.54**	**11**	Pn	**Pn**	**04 38 02.9**	**-3.9**
	312nm,0.3s,baz=305,slow=22,SNR=13						
RAO				Sn	**Sn**	**04 38 43.7**	**-3.7**
	462nm,0.3s,baz=234,slow=23,SNR=5.6						
RAO	**Raoul Island**	**3.54**	**11**	P	**Pn**	**04 38 02.9**	**-3.9**
RAO						04 38 43.7	
RAO				pmax	pmax		
	comp=Z,313nm,0.3s						
RAO				smax			
	comp=N,462nm,0.3s						
RAO	**Raoul Island**	**3.54**	**11**	*e*Pn	**Pn**	**04 38 02.7**	**-4.1**
MXZ	**Matakaoa Point**	**5.40**	**206**	SN	**Sn**	**04 39 33.7**	**+0.5**
PUZ	**Puketiti**	**5.87**	**204**	SN	**Sn**	**04 39 42.9**	**-2.0**
MYRZ	**Mayor Island**	**6.14**	**221**	PN	**Pn**	**04 38 42.3**	**-0.2**
MWZ	**Matawai**	**6.37**	**208**	SN	**Sn**	**04 39 58.2**	**+1.0**
URZ	**Urewera**	**6.48**	**211**	Pn	**Pn**	**04 38 46.6**	**-0.6**
	comp=N,45nm,0.3s,baz=2.8,slow=1.3,SNR=74						
URZ				Sn	**Sn**	**04 39 59.4**	**-0.4**
	comp=N,52nm,0.3s,baz=188,slow=17,SNR=7.7						
URZ				LR	LR	04 41 32.0	
	comp=N,3μm,18.7s,baz=218,slow=39						
URZ	**Urewera**	**6.48**	**211**	Pn	**Pn**	**04 38 46.6**	**-0.6**
URZ				Sn	**Sn**	**04 39 59.4**	**-0.4**
URZ				LR	LR	04 41 32.0	
URZ	**Urewera**	**6.48**	**211**	SN	**Sn**	**04 39 59.8**	**-0.1**
WCZ	**Waipu Caves**	**6.57**	**239**	PN	**Pn**	**04 38 52.4**	**+4.0**
OUZ	**Omahuta**	**6.85**	**247**	PN	**Pn**	**04 38 51.3**	**-1.0**
WNVZ	**Wahianoa**	**8.03**	**213**	PN	**Pn**	**04 39 08.1**	**-0.3**
PXZ	**Pawanui**	**8.11**	**205**	PN	**Pn**	**04 39 07.9**	**-1.6**
RPZ	**Rata Peaks**	**13.58**	**213**	Pn	**Pn**	**04 40 25.5**	**+1.1**
	comp=N,4.3nm,0.3s,baz=83,slow=3.2,SNR=7.6						
RPZ	**Rata Peaks**	**13.58**	**213**	Pn	**Pn**	**04 40 25.5**	**+1.1**
DZM	**Mont Dzumac**	**16.90**	**305**	*e*P	**Pn**	**04 41 08.0**	**+0.1**
DZM	**Mont Dzumac**	**16.90**	**305**	Pn	**Pn**	**04 41 07.9**	**0.0**
	comp=N,0.1nm,0.3s,baz=24,slow=22,SNR=2.1						
ARMA	**Armidale**	**25.33**	**267**	*e*P	**P**	**04 42 39.2**	**+1.8**
CNB	**Canberra Magne**	**26.52**	**256**	*e*P	**P**	**04 42 48.7**	**+0.5**
	comp=N,70nm,1.6s,mb4.9						
TBI	**Tubuai**	**27.39**	**78**	*e*LQ		04 48 12.7	
	comp=N,696nm,27.0s						
TBI				*e*LR	LR	04 49 45.5	
	comp=N,1μm,27.8s,baz=242						
TOO	**Toolangi**	**29.55**	**250**	*e*P	**P**	**04 43 16.8**	**+1.6**
	comp=N,6.3nm,0.6s,mb4.5						
TOO	**Toolangi**	**29.55**	**250**	*e*P	**P**	**04 43 16.8**	**+1.6**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
PPT	**Papeete**	**30.27**	**67**	*e*LQ		04 49 18.5	
	comp=Z,536nm,23.8s						
PPT				*e*LR	LR	04 51 01.4	
	comp=Z,1μm,26.2s,baz=233						
HNR	**Honiara**	**30.43**	**315**	LR	LR	04 52 40.8	
	comp=Z,248nm,21.3s,MS3.8,baz=179,slow=30						
STKA	**Stephens Creek**	**33.42**	**261**	*e*P	**P**	**04 43 50.8**	**+1.5**
	comp=Z,11nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**33.42**	**261**	P	**P**	**04 43 50.0**	**+0.8**
	comp=Z,16nm,1.0s,mb4.9,baz=129,slow=7.1,SNR=3.7						
STKA				ScP	ScP	04 50 11.1	-0.1
	comp=Z,2.7nm,1.0s,baz=7.0,slow=4.0,SNR=4.3						
CTA	**Charters Tower**	**33.65**	**283**	*e*	**P**	**04 43 53.3**	**+2.1**
CTA				*e*S	**S**	**04 49 15.7**	**+4.4**
CTA	**Charters Tower**	**33.65**	**283**	P	**P**	**04 43 53.1**	**+1.9**
	comp=Z,45nm,0.6s,mb5.5,baz=115,slow=11,SNR=39						
CTA	**Charters Tower**	**33.65**	**283**	*e*	**P**	**04 43 53.3**	**+2.1**
CTA				*e*S	**S**	**04 49 15.7**	**+4.4**
CTAO	**Charters Tower**	**33.65**	**283**	*e*P	**P**	**04 43 53.4**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,53nm,0.7s,mb5.6						
CTAO	**Charters Tower**	**33.65**	**283**	*e*P	**P**	**04 43 53.4**	**+2.2**
	comp=Z,53nm,0.7s,mb5.6						

PMG Port Moresby 39.12 299⇑eP P 04 44 39.7 +1.8
RKT Rikitea 39.58 87 eLR LR 04 55 27.7
comp=Z,1µm,28.5s
AS31 Alice Springs 42.43 270 eP P 04 45 05.5 +0.3
AS31 e 04 45 05.7
AS31 eS S 04 51 24.9 +0.8
ASAR Alice Springs 42.43 270 P P 04 45 05.7 +0.5
comp=Z,63nm,0.8s,mb5.3,baz=111,slow=8.2,SNR=151
ASAR ScP ScP 04 50 45.2 0.0
comp=Z,0.9nm,0.6s,baz=125,slow=3.2,SNR=4.4
ASAR S S 04 51 24.2 +0.1
comp=Z,5.3nm,1.0s,baz=108,slow=15,SNR=15
ASAR Alice Springs 42.43 270 P P 04 45 05.7 +0.5
ASAR S S 04 51 24.2 +0.1
ASAR pmax pmax
comp=Z,63nm,0.8s
ASAR pmax pmax
comp=N,1.0nm,0.6s
ASAR smax
comp=N,5.0nm,1.0s
ASPA Alice Springs 42.43 270 e P 04 45 05.7 +0.5
ASPA eS S 04 51 24.9 +0.7
TAOE Nuku Hiva Isla 42.82 65 eLR LR 04 56 48.6
comp=N,2µm,26.4s
WB2 Warramunga Arr 43.62 275 e P 04 45 15.4 +0.6
WB2 eSCP ScP 04 50 49.5 -0.5
WB2 eS S 04 51 39.8 -1.8
WB2 Warramunga Arr 43.62 275 eP P 04 45 15.1 +0.3
WB2 e 04 45 15.4
WB2 eScP ScP 04 50 49.5 -0.5
WB2 eS S 04 51 39.8 -1.8
WRAB Tennant Creek 43.63 275 eP P 04 45 14.9 0.0
WRA Warramunga Arr 43.63 275 P P 04 45 15.1 +0.2
comp=N,74nm,0.8s,mb5.5,baz=114,slow=8.1,SNR=114
WRA ScP ScP 04 50 49.9 -0.2
comp=N,2.3nm,0.7s,baz=118,slow=4.0,SNR=7.3
WRA S S 04 51 40.4 -1.3
comp=N,1.9nm,1.0s,baz=115,slow=12,SNR=5.3
WRA Warramunga Arr 43.63 275 P P 04 45 15.1 +0.2
WRA S S 04 51 40.4 -1.3
WRA pmax pmax
comp=Z,74nm,0.8s
WRA pmax pmax
comp=N,2.0nm,0.7s
WRA smax
comp=N,2.0nm,1.0s
WRA Warramunga Arr 43.63 275 P P 04 45 15.1 +0.2
WRA ScP ScP 04 50 49.9 -0.2
WRA S S 04 51 40.4 -1.3
FORT Forrest 44.90 258 e P 04 45 24.3 -0.8
SBA Scott Base 45.67 184 eP P 04 45 33.5 +2.3
SBA pmax pmax
comp=Z,16nm,1.0s,mb4.9
SBA Scott Base 45.67 184 eP P 04 45 33.5 +2.3
comp=Z,16nm,1.0s,mb4.9
VNDA Vanda 45.72 186 P P 04 45 32.6 +1.1
comp=Z,1.7nm,0.7s,mb4.1,baz=7.3,slow=7.6,SNR=11
VNDA Vanda 45.72 186 eP P 04 45 32.5 +1.0
VNDA pmax pmax
comp=Z,10.0nm,1.3s
VNDA Vanda 45.72 186 eP P 04 45 32.5 +1.0
comp=Z,10nm,1.3s,mb4.6
KAKA Kakadu 48.78 282 e P 04 45 56.1 +0.7
FITZ Fitzroy Crossi 51.79 272 e P 04 46 18.1 0.0
FITZ Fitzroy Crossi 51.79 272 P P 04 46 18.0 -0.1
comp=Z,15nm,0.7s,mb5.1,baz=158,slow=8.3,SNR=47
CASY Casey 52.80 209 e P 04 46 24.7 -0.9
CASY Casey 52.80 209 eP P 04 46 24.4 -1.3
comp=Z,26nm,0.8s,mb5.2
CASY e 04 46 24.7
NWAO Narrogin (SRO) 53.03 251 P P 04 46 25.8 -1.6
comp=Z,4.6nm,0.6s,mb4.6,baz=298,slow=16,SNR=5.7
NWAO Narrogin (SRO) 53.03 251 P P 04 46 25.8 -1.6
NWAO pmax pmax
comp=Z,5.0nm,0.6s
KLBR Kellerberrin 53.05 253 eP P 04 46 25.4 -2.0
comp=Z,28nm,1.1s,mb5.1
MBWA Marble Bar 55.40 266 eP P 04 46 42.6 -1.9
comp=Z,19nm,1.1s,mb5.0
QSPA South Pole Qui 57.38 180 eP P 04 46 59.8 +1.1
comp=Z,48nm,1.0s,mb5.5
MIR Mirnyy 59.78 208d iP P 04 47 16.0 +0.6
MIR pmax pmax
comp=Z,280nm,1.3s,mb6.1
MAW Mawson 69.92 201 eP P 04 48 20.6 -0.7
comp=Z,6.0nm,0.6s,mb4.7
MAW Mawson 69.92 201 P P 04 48 20.6 -0.7
comp=Z,5.6nm,0.8s,mb4.5,baz=124,slow=6.8,SNR=9.9
MAW Mawson 69.92 201 P P 04 48 20.6 -0.7
MAW pmax pmax
comp=Z,6.0nm,0.9s
SYO Syowa Base 74.71 193⇓iP P 04 48 48.4 -1.5
SYO Syowa Base 74.71 193⇑iPcP PcP 04 49 03.2 -0.8
KSM Kuching 74.88 282 eP P 04 48 50.6 -0.2
SNAA Sanae 75.85 179 eP P 04 48 55.0 -1.5
SNAA e 04 48 59.6
SNAA e 04 49 02.6
SNAA e 04 49 12.4
SNAA e 04 49 17.1
SNAA e 04 49 30.6
SNAA e 04 49 39.9
SNAA e 04 49 46.8
SNAA Sanae 75.85 179⇑iP P 04 48 54.6 -1.9
SNAA Sanae 75.85 179 eP P 04 48 56.2 -0.3
comp=Z,28nm,1.0s,mb5.2
NVL N'lazarevskaya 76.52 184⇑iP P 04 49 05.4 +5.1
NVL pmax pmax
comp=Z,18nm,1.2s,mb4.9
NVL pmax pmax
comp=Z,334nm,19.0s
VNA1 Neumayer--Stat 76.69 177 eP P 04 49 01.4 +0.2
VNA1 e 04 49 05.6
VNA1 e 04 49 08.5
VNA1 e 04 49 23.2
VNA1 e 04 49 36.0
VNA1 e 04 49 44.7
VNA1 e 04 49 55.0
MJAR Matsushiro Arr 79.82 326 LR LR 05 22 33.9
comp=Z,167nm,19.0s,MS4.4,baz=115,slow=34
MJAR Matsushiro Arr 79.82 326 P P 04 49 16.4 -2.1
comp=Z,1.5nm,0.6s,mb4.1,baz=156,slow=3.6,SNR=4.6
MJAR Matsushiro Arr 79.82 326 P P 04 49 16.5 -2.0
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MAT Matsushiro 79.82 326 P P 04 49 18.3 -0.3
PLCA Paso Flores 81.37 133 P P 04 49 26.8 -0.1
comp=Z,6.1nm,1.1s,mb4.5,baz=199,slow=5.2,SNR=6.9
PLCA Paso Flores 81.37 133 P P 04 49 26.8 -0.1
PLCA pmax pmax
comp=Z,6.0nm,1.1s
SSE Sheshan 85.19 312 P P 04 49 48.0 +1.5
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,120nm,3.8s
YSS Yuzh-Sakhalins 86.58 335⇑eP P 04 49 51.0 -2.4
YSS pmax pmax
comp=Z,40nm,1.7s,mb5.4
NJ2 Nanjing 87.30 311 eP P 04 49 57.0 +0.1
NJ2 AP pP 04 50 07.5 -1.6
NJ2 XP sP 04 50 11.3 -2.3
NJ2 SKS 05 00 19.0
NJ2 S S 05 00 31.0 -3.2
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.7
NJ2 AMB AMB
comp=Z,220nm,6.4s
NJ2 LR LR
comp=N,310nm,23.1s,MS4.8
NJ2 LR LR
comp=E,280nm,22.9s,MS4.8
NJ2 LR LR
comp=Z,310nm,22.4s,MS4.7
PFO Pinyon Flat Ob 88.23 48 eP P 04 50 01.2 -0.2
PFO e*PP pP 04 50 14.0 +0.4
PFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
PFO Pinyon Flat Ob 88.23 48 eP P 04 50 01.2 -0.2
comp=Z,5.8nm,0.9s,mb4.8
PFO epP pP 04 50 14.0 +0.4
ISA Isabella 88.38 45 eP P 04 50 02.9 +0.8
ISA e*PP pP 04 50 14.7 +0.4
GLA Glamis 88.89 49 eP P 04 50 05.5 +1.0
CMB Columbia Colle 88.90 42 eP P 04 50 04.1 -0.4
CMB e*PP pP 04 50 15.9 -0.8
CMB pmax pmax
comp=Z,13nm,1.1s,mb5.2
CMB Columbia Colle 88.90 42 eP P 04 50 04.1 -0.4
comp=Z,14nm,1.1s,mb5.2
CMB epP pP 04 50 15.9 -0.8
GSC Goldstone 89.14 46 eP P 04 50 05.9 +0.3
GSC e*PP pP 04 50 17.7 -0.2
OHCM Honcut 89.19 41 eP P 04 50 05.5 -0.4
DAC Darwin (Calif) 89.32 45 eP P 04 50 06.7 +0.2
DAC e*PP pP 04 50 18.3 -0.4
DAC pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
DAC Darwin (Calif) 89.32 45 eP P 04 50 06.7 +0.2
comp=Z,4.5nm,1.1s,mb4.7
DAC epP pP 04 50 18.3 -0.4
MTUM Tungsten Hills 89.47 44 eP P 04 50 07.8 +0.6
MTUM epP pP 04 50 19.9 +0.4
WAKR Walker 89.76 42 eP P 04 50 09.4 +0.9
WAKR epP pP 04 50 18.8 -1.9
MDJ Mudanjiang 90.20 326 P P 04 50 10.3 -0.3
MDJ AP pP 04 50 21.2 -1.6
MDJ XP sP 04 50 25.0 -2.3
MDJ PP PP 04 53 44.6 +0.1
MDJ S S 05 01 04.1 +2.6
MDJ PS PS 05 02 15.2 +2.5
MDJ SS SS 05 06 56.9 -4.2
MDJ AMB AMB
comp=Z,4.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,52nm,5.3s
MDJ LR LR
comp=N,74nm,21.7s,MS4.1
MDJ LR LR
comp=E,40nm,22.6s,MS4.1
MDJ LR LR
comp=Z,115nm,22.6s,MS4.2
NVAR Mina Array Bea 90.36 43 P P 04 50 10.7 -0.7
comp=Z,3.0nm,0.8s,mb4.7,baz=210,slow=6.9,SNR=14
PAHR Pah Rah Range 90.62 42 eP P 04 50 17.1 +4.5
SHPR Sheep Range 90.94 46 eP P 04 50 14.1 0.0
SHPR epP pP 04 50 26.8 +0.5
TUC Tucson 91.04 52 eP P 04 50 15.3 +0.8
TUC e*PP pP 04 50 28.1 +1.4
TUC pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
TUC Tucson 91.04 52 eP P 04 50 15.3 +0.8
comp=Z,5.5nm,0.9s,mb4.9
TUC epP pP 04 50 28.1 +1.3
SNY Shenyang 91.20 321 ⇓P P 04 50 13.9 -1.4
SNY AMB AMB
comp=Z,15nm,2.4s,mb4.9
CN2 Changchun 91.63 323 eP P 04 50 17.0 -0.2
CN2 eXP sP 04 50 32.6 -1.3
CN2 eS S 05 01 13.0 -1.5
CN2 LR LR
comp=N,300nm,23.0s,MS4.8
CN2 LR LR
comp=E,200nm,23.0s,MS4.8
CN2 LR LR
comp=Z,200nm,25.0s,MS4.5
WUAZ Wupatki 92.66 49 eP P 04 50 21.4 -0.5
comp=Z,6.5nm,0.9s,mb5.1
WUAZ epP pP 04 50 34.8 +0.6
WVOR Wild Horse Val 92.90 40 eP P 04 50 22.5 -0.6
WVOR e*PP pP 04 50 33.1 -2.2
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
WVOR Wild Horse Val 92.90 40 eP P 04 50 22.5 -0.6
comp=Z,10nm,1.2s,mb5.1
WVOR epP pP 04 50 33.1 -2.3
LVC Limon Verde 93.33 119 eP P 04 50 26.2 +1.1
comp=Z,13nm,0.9s,mb5.4
BJI Beijing 94.16 316 eP P 04 50 29.0 +0.1
BJI SKS 05 00 55.5
BJI AMB AMB
comp=Z,50nm,0.8s,mb6.0
BJI LR LR
comp=N,125nm,26.7s,MS4.4
BJI LR LR
comp=E,127nm,23.1s,MS4.4
BJI LR LR
comp=Z,175nm,26.6s,MS4.4
KMI Kunming 94.33 297 P P 04 50 30.9 +1.2
KMI S S 05 01 38.8 +0.4
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb5.1
KMI LR LR
comp=Z,93nm,31.2s,MS4.0
HLID Hailey 95.96 41 eP P 04 50 37.1 0.0
comp=Z,2.3nm,1.1s,mb4.5
HLID epP pP 04 50 49.5 +0.1
CD2 Chengdu 96.81 302 eP P 04 50 40.7 -0.3
CD2 AP pP 04 50 52.2 -1.0
CD2 PP PP 04 54 39.4 +3.1
CD2 SKS 05 01 13.2
CD2 S S 05 01 56.7 -3.2
CD2 XS sS 05 02 17.2 -3.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,40nm,9.2s
CD2 LR LR
comp=E,120nm,16.8s
CD2 LR LR
comp=Z,80nm,14.4s,MS4.3
HHC Hu-ho-hao-te 97.41 314 eP P 04 50 44.5 +0.8
HHC AP pP 04 50 56.2 +0.2
HHC XP sP 04 51 00.5 +0.1
HHC PP PP 04 54 44.5 +3.6
HHC SKS 05 01 17.7
HHC S S 05 02 02.6 -2.5
HHC XS sS 05 02 22.5 -3.1
HHC PS PS 05 03 35.7 +3.6
HHC SS SS 05 08 45.6 +1.5
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,48nm,4.3s
HHC LR LR
comp=N,75nm,5.9s
HHC LR LR
comp=E,109nm,5.5s
HHC LR LR
comp=Z,131nm,19.6s,MS4.4
LPAZ La Paz 97.74 115 P P 04 50 45.8 +0.6
comp=Z,1.2nm,0.9s,mb4.4,baz=212,slow=4.7,SNR=5.3
LPAZ La Paz 97.74 115 P P 04 50 45.8 +0.6
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
SEY Seymchan 98.10 347⇓iP P 04 50 45.3 -1.5
PDAR Pinedale Array 98.24 44 P P 04 50 46.9 -0.6
comp=Z,0.5nm,0.9s,mb4.0,baz=251,slow=4.5,SNR=3.9
LZH Lanzhou 99.62 307 eP Pdif 04 50 52.0 -1.6
LZH AP pP 04 51 04.0 -1.9
LZH XP sP 04 51 10.0 -0.3
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.5
COLA College 100.24 13⇑eP Pdif 04 50 52.5 -3.8
WMQ Urumqi 114.17 308 ePKP PKiKP 04 55 49.5 +0.1
WMQ XPKP 04 56 04.0
WMQ PP PP 04 56 49.0 +4.4
WMQ PKS 04 59 25.0
WMQ SKS SKSdf 05 02 57.0 -1.4
WMQ PP PP
comp=Z,144nm,6.0s
WMQ LR LR
comp=N,342nm,18.0s,MS5.2
WMQ LR LR
comp=E,384nm,20.2s,MS5.2
WMQ LR LR
comp=Z,356nm,23.8s,MS4.9
MK31 Makanchi Array 118.78 309 PKIKP PKPdf 04 55 56.2 -2.1
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 118.78 309 PKP PKPdf 04 55 56.2 -2.1
comp=Z,2.7nm,0.6s,baz=80,slow=1.5,SNR=20
MKAR SKP 04 59 30.9
comp=Z,1.5nm,0.9s,baz=62,slow=3.9,SNR=4.7
MKAR Makanchi Array 118.78 309 PKIKP PKPdf 04 55 56.2 -2.1
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR pmax pmax
comp=N,2.0nm,1.0s
MKAR Makanchi Array 118.78 309 PKP PKPdf 04 55 56.2 -2.1
MKAR SKP 04 59 30.9
NVS Novosibirsk 120.48 318 ePKIKP PKPdf 04 55 57.8 -3.7
KSH Kashi 120.88 300 ePKP PKPdf 04 56 03.0 +0.7
KSH eXPKP 04 56 17.3
KSH ePKS 04 59 38.3
KSH ePPP 05 00 11.3
KSH eSKS SKSdf 05 03 10.2 -1.0
KSH eSKKS SKKSac 05 04 24.0 -3.7
KSH eSS SS 05 14 03.5 +3.8
KSH PP PP
comp=Z,333nm,3.9s
KSH LR LR
comp=N,282nm,4.6s
KSH LR LR
comp=E,390nm,5.1s
KSH LR LR
comp=Z,306nm,4.6s
TKM2 Tokmak 2 122.18 303 PKIKP PKPdf 04 56 03.4 -1.4
TKM2 pmax pmax
comp=Z,16nm,1.3s
LSZ Lusaka 125.77 213 ePKIKP PKPdf 04 56 13.1 +1.4
KKAR Karatay Array 125.83 302 i PKIKP PKPdf 04 56 10.5 -1.3
KKAR pmax pmax
comp=Z,8.0nm,0.8s
VOSK Vostochnaya 127.23 314 PKIKP PKPdf 04 56 12.4 -2.1
VOSK pmax pmax
comp=Z,10.0nm,0.9s
CHKZ Chkalovo 127.56 315 PKIKP PKPdf 04 56 13.2 -1.9
CHKZ pmax pmax
comp=Z,13nm,1.2s
CHKZ Chkalovo 127.56 315 ePKPdf PKPdf 04 56 13.2 -1.9
BRVK Borovoye 127.69 315 ePKIKP PKPdf 04 56 13.7 -1.6
ZRNK Zerenda 128.45 314 ePKIKP PKPdf 04 56 15.1 -1.7
KMBO Kilima Mbogo 132.18 232 PKP PKPdf 04 56 25.4 +1.5
comp=Z,1.6nm,0.8s,baz=228,slow=21,SNR=2.2
KMBO SKPbc SKPbc 04 59 49.4 +2.2
comp=Z,24nm,1.1s,baz=82,slow=3.0,SNR=21
KMBO Kilima Mbogo 132.18 232 PKIKP PKPdf 04 56 25.4 +1.5
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO pmax pmax
comp=N,24nm,1.1s
AB31 Akbulak array 133.93 309 i PKIKP PKPdf 04 56 25.8 -1.4
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ARU Arti 134.47 319 i PKIKP PKPdf 04 56 26.8 -1.4
ARU Arti 134.47 319 ePKPdf PKPdf 04 56 27.5 -0.7
SOKR Solikamsk 134.92 324⇑iPKIKP PKPdf 04 56 28.7 -0.3
SOKR pmax pmax
comp=Z,10.0nm,1.1s
AKTO Aktyubinsk 135.19 311 PKIKP PKPdf 04 56 28.2 -1.3
AKTO pmax pmax
comp=Z,1.0nm,0.9s
KEV Kevo 140.25 346 epkp PKPdf 04 56 34.9 -3.9
ARCES ARCESS Array B 140.72 347 PKhKP 04 56 32.1
comp=Z,2.2nm,0.5s,baz=79,slow=1.9,SNR=26
ARCES PKP PKPdf 04 56 38.1 -1.6
comp=Z,1.8nm,0.5s,baz=56,slow=2.3,SNR=16
ARCES SKPbc SKPbc 05 00 12.6 -0.4
comp=Z,3.9nm,0.7s,baz=29,slow=2.8,SNR=4.9
ARCES ARCESS Array B 140.72 347 PKIKP PKPdf 04 56 38.2 -1.5
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES pmax pmax
comp=N,4.0nm,0.7s
LOF Lofoten 143.85 352 eP PKPdf 04 56 43.4 -1.8
LOF Lofoten 143.85 352 eP PKPdf 04 56 43.3 -2.0
GNI Garni 144.54 295⇑iPKIKP PKPdf 04 56 46.7 +0.2
ZEI Tsey 145.17 299 ePKP2 PKPab 04 56 45.4 -1.9
VRHR Novokhopersk 145.36 314 ePKIKP PKPdf 04 56 46.2 -1.7
VRHR pmax pmax
comp=Z,6.0nm,0.3s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
MSL Mosul 145.56 288 ex x 04 56 49.0
MOR8 Moi Rana 145.61 351 eP PKPdf 04 56 45.4 -3.0
MOR8 AMb AMB 04 56 47.5
comp=Z,69nm,0.9s
STOK Stokkvaagen 145.64 352 eP PKPdf 04 56 46.5 -1.8
STOK AMb AMB 04 56 48.6
comp=Z,194nm,1.0s
MOS Moscow 145.87 323⇓iPKIKP PKPdf 04 56 46.8 -2.0
MOS e 04 56 57.3
MOS pmax pmax
comp=Z,123nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.0s
KIV Kislovodsk 145.98 301⇓iPKP2 PKPab 04 56 49.9 -0.4
OBN Obninsk 146.69 323 i PKIKP PKPdf 04 56 48.7 -1.4
OBN pmax pmax
comp=Z,73nm,1.2s
OBN Obninsk 146.69 323 ePKPbc PKPbc 04 56 50.0 -1.8
VRSR Storozhevoye 146.79 315c iPKP2 PKPbc 04 56 50.3 -1.8
VRSR pmax pmax
comp=Z,40nm,0.9s
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,0.8s
FIA1 FINESS Array S 147.10 338 ePKPbc PKPbc 04 56 50.7 -2.3
FINES FINESS Array B 147.10 338 PKPbc PKPbc 04 56 50.9 -2.1
comp=E,51nm,0.7s,baz=52,slow=3.9,SNR=113
FINES FINESS Array B 147.10 338 PKP2 PKPbc 04 56 50.9 -2.1
FINES pmax pmax
comp=Z,51nm,0.7s
NSS Namsos 147.50 351 eP PKPdf 04 56 50.9 -0.6
MARD Mardin 147.50 289 i P PKPbc 04 56 53.7 -0.4
KELT Kelkit 148.75 295 i P PKPbc 04 56 56.3 -1.1
ELZG Elazig 148.97 291 i P PKPbc 04 56 58.2 +0.3
VSU Vasula 149.07 334c iPKP2 PKPbc 04 56 56.4 -1.8
MALT Malatya 149.40 291 ePKPdf PKPdf 04 56 54.2 -0.4
MALT ePKPbc PKPbc 04 56 58.5 -0.5
ANN Anapa 149.59 304 i PKHKP 04 56 55.2
ANN pmax pmax
comp=Z,90nm,1.6s
GZT Gaziantep 150.06 289 i P PKPbc 04 56 59.4 -1.2
NB2 NORSAR Subarra150.95 350 PKPa PKPbc 04 57 00.9 -1.9
comp=Z,37nm,1.2s,baz=17,slow=2.6
NB2 NORSAR Subarra150.95 350 PKPa PKPbc 04 57 00.9 -1.9
baz=17,slow=2.6
NOA NORSAR Array B 150.95 350 PKPbc PKPbc 04 57 00.9 -1.9
comp=Z,9.0nm,0.8s,baz=15,slow=4.1,SNR=28
NOA NORSAR Array B 150.95 350 PKIKP PKPbc 04 57 00.9 -1.9
NOA pmax pmax
comp=Z,9.0nm,0.8s
NOA NORSAR Array B 150.95 350 PKPbc PKPbc 04 57 00.9 -1.9
EIL Elat 151.11 273 ePKPdf PKPdf 04 56 57.4 +0.1
EIL ePKPbc PKPbc 04 57 02.8 -0.3
NAO01 NORSAR Array S 151.18 350 ePKPbc PKPbc 04 57 01.7 -1.6
NAO01 ePKPab PKPab 04 57 09.1 -2.1
MNK Minsk 151.27 327 ePKIKP PKPdf 04 56 58.0 +0.5
BOYT Boyabat 151.95 298 i P PKPbc 04 57 04.3 -0.8
AVNT Avonos 152.20 292 i P PKPbc 04 57 03.8 -1.8
AKASG Malin Array Be 152.73 319 PKPbc PKPbc 04 57 05.1 -1.7
comp=Z,8.5nm,0.6s,baz=60,slow=2.2,SNR=34
AKASG PKPab PKPab 04 57 15.0 -2.7
comp=Z,7.2nm,0.7s,baz=59,slow=2.5,SNR=9.4
AKASG Malin Array Be 152.73 319 PKIKP PKPbc 04 57 05.1 -1.7
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 152.73 319 PKPbc PKPbc 04 57 05.1 -1.7
AKASG PKPab PKPab 04 57 15.0 -2.7
AKBB Malin Array Si 152.73 319 ePKIKP PKPbc 04 57 04.9 -1.9
MEST Erdemli 152.77 287 i P PKPbc 04 57 05.7 -1.2
KAMT Kaman 153.06 293 i P PKPbc 04 57 06.6 -0.9
BR131 Keskin Array S 153.08 294 ePKPbc PKPbc 04 57 06.2 -1.4
BRTR Keskin Array B 153.08 294 PKPbc PKPbc 04 57 06.3 -1.3
comp=Z,10.0nm,0.8s,baz=136,slow=3.4,SNR=26
BRTR PKPab PKPab 04 57 17.2 -1.9
comp=Z,4.6nm,0.7s,baz=155,slow=6.1,SNR=6.8
BRTR Keskin Array B 153.08 294 PKIKP PKPab 04 57 17.2 -2.0
BRTR pmax pmax
comp=Z,5.0nm,0.7s
BRTR Keskin Array B 153.08 294 PKPbc PKPbc 04 57 06.3 -1.3
BRTR PKPab PKPab 04 57 17.2 -1.9
ELDT Eldivan 153.17 296 i P PKPbc 04 57 06.1 -1.7
DBIC Dimbokro 153.45 166 PKPbc PKPbc 04 57 08.1 -0.3
comp=Z,3.9nm,0.8s,baz=100,slow=4.5,SNR=5.3
DBIC PKPab PKPab 04 57 18.9 -1.8
comp=Z,2.2nm,0.4s,baz=123,slow=1.6,SNR=5.7
DBIC Dimbokro 153.45 166 ePKPdf PKPdf 04 57 01.3 +0.6
DBIC PKPbc PKPbc 04 57 08.1 -0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DBIC				PKPab	PKPab	04 57 18.9	-1.8
SUW	Suwalki	153.63	330	ePKP	PKPbc	04 57 07.8	-1.0
KIS	Kishinev	154.68	312	ePKIKP	PKPdf	04 57 08.0	+5.5
CLL	Collm	159.55	339	⇓iPKPab	PKPab	04 57 44.0	-2.9
	comp=Z,8.0nm,0.6s						
CLL				i x	x	04 57 48.9	
CLL				i pPKPab	pPKPab	04 57 57.5	-1.7
CLL				i sPKPab		04 58 01.3	
CLL				i PP	PP	05 01 27.3	-1.0
	comp=Z,5.0nm,0.6s						
BRG	Berggiesshubel	159.62	337	eP	PKPab	04 57 45.3	-1.9
	comp=Z,5.4nm,1.3s						
BRG				e		04 58 02.5	
	comp=Z,5.0nm,1.1s						
BRG							
	comp=N,192nm,17.7s						
BRG							
	comp=E,135nm,22.5s						
BRG							
	comp=Z,189nm,18.0s						
BRG	Berggiesshubel	159.62	337	ePKP2	PKPab	04 57 45.3	-1.9
BRG				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRG				MLR	MLR		
	comp=N,192nm,17.7s,MS5.0						
BRG				MLR	MLR		
	comp=E,135nm,22.5s,MS5.0						
BRG				MLR	MLR		
	comp=Z,189nm,18.0s,MS5.0						
TORD	Torodi Ar. Bea	160.50	181	PKP	PKPdf	04 57 09.4	-0.3
	comp=Z,1.1nm,1.0s,baz=44,slow=0.3,SNR=4.0						
TORD				PKPab	PKPab	04 57 50.4	-0.7
	comp=Z,3.2nm,0.8s,baz=163,slow=3.3,SNR=7.8						
GERES	GERESS Array B	161.40	334	PKP	PKPdf	04 57 09.4	-1.3
	comp=Z,0.2nm,0.2s,baz=204,slow=2.2,SNR=2.9						
GERES				PKPab	PKPab	04 57 52.4	-2.7
	comp=Z,0.9nm,0.6s,baz=67,slow=4.5,SNR=6.1						
BAIF	Baives	162.55	354	ePKP2	PKPab	04 57 58.0	-2.1
CDF	Champ du Feu	163.70	346	ePKP2	PKPab	04 58 04.0	-1.1
LOR	Lormes	165.35	353	ePKP2	PKPab	04 58 10.2	-2.2
	comp=Z,7.2nm,0.9s						
CABF	La Chapelle	165.66	347	ePKP2	PKPab	04 58 11.8	-1.9
AVF	Avril sur Loir	165.87	354	ePKP2	PKPab	04 58 12.4	-2.3
	comp=Z,17nm,1.1s						
SMF	Signal de Mont	165.97	353	ePKP2	PKPab	04 58 12.9	-2.2
	comp=Z,32nm,1.0s						
TCF	Toulx Ste Croi	166.44	357	ePKP2	PKPab	04 58 15.1	-2.1
	comp=Z,13nm,1.2s						
LPL	La Plagne	166.56	343	ePKP2	PKPab	04 58 16.5	-1.2
	comp=Z,9.7nm,1.0s						
LPG	La Plagne	166.57	343	ePKP2	PKPab	04 58 16.7	-1.0
	comp=Z,20nm,1.2s						
ORIF	Oris-en-Rattie	167.32	345	ePKP2	PKPab	04 58 19.5	-1.6
ESDC	Sonseca Array	171.88	30	PKP	PKPdf	04 57 17.5	-1.2
	comp=Z,0.1nm,0.3s,baz=258,slow=4.9,SNR=3.1						

---

*NEIC **01** 05:01:57.6, 31.16S×68.88W, h157^{km}, MG3.5(GUC), After GUC.*

GUC 01 05:01:57.6±0.8**, 31.16S×68.88W, h157**^{km}±30^{km}**, ML3.5, 3C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.82	269	⇓iP	Pn	05 02 31.9	+0.8
CMCH				i S	Sn	05 02 57.4	+0.5
CMCH				AML	AML	05 02 58.9	
	comp=N,924nm,0.9s						
CMCH	Combarbala	1.82	269	⇓iP	Pn	05 02 31.9	+0.8
CMCH				i S	Sn	05 02 57.4	+0.5
TLL	Tololo Astrono	1.93	300	eP	Pn	05 02 33.7	+1.3
TLL				i S	Sn	05 03 00.3	+1.2
TLL				AML	AML	05 03 02.7	
	comp=N,136nm,0.4s						
TLL	Tololo Astrono	1.93	300	eP	Pn	05 02 33.7	+1.3
TLL				i S	Sn	05 03 00.3	+1.2
PTCH	Petorca	2.06	237	eP	Pn	05 02 34.0	+0.2
PTCH				i S	Sn	05 03 02.3	+0.5
PTCH				AML	AML	05 03 05.0	
	comp=E,362nm,0.2s						
PTCH	Petorca	2.06	237	eP	Pn	05 02 34.0	+0.2
PTCH				i S	Sn	05 03 02.3	+0.5
JACH	Jahuel	2.10	223	⇓iP	Pn	05 02 35.0	+0.7
FCH	Farellones	2.47	209	⇓eP	Pn	05 02 39.9	+1.3
FCH				i S	Sn	05 03 12.1	+1.8
FCH				AML	AML	05 03 21.0	
	comp=E,64nm,0.2s						
PEL	Peldehue	2.50	217	eP	Pn	05 02 39.1	+0.1
PEL				i S	Sn	05 03 11.5	+0.5
ROCH	El Roble	2.56	224	i P	Pn	05 02 40.1	+0.4
PCH	Pirque	2.82	209	⇑iP	Pn	05 02 43.9	+1.0
RCDM	Rinconada Maip	2.84	215	eP	Pn	05 02 43.5	+0.3
RCDM				i S	Sn	05 03 18.6	+0.1
RCDM				AML	AML	05 03 21.0	
	comp=E,111nm,0.1s						
RCDM	Rinconada Maip	2.84	215	eP	Pn	05 02 43.5	+0.3
RCDM				i S	Sn	05 03 18.6	+0.1
TACH	Talagante	3.04	214	eP	Pn	05 02 45.5	-0.1
CHCH	Chadas Angostu	3.14	208	⇑iP	Pn	05 02 47.5	+0.5
LCCH	Las Cruces	3.24	224	i P	Pn	05 02 48.1	-0.1
CICH	Cipreses	3.41	202	⇑iP	Pn	05 02 51.4	+1.0

---

*SOF **01** 06:14:52.6, 40.78N×23.84E, h8^{km}, MD3.6*
*IDC **01** 06:14:53.4±1.2, 40.93N×23.53E, h0^{km}, mb3.4/4, mb1 3.6/7, mb1mx3.4/23, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=28.7km s-min=15.1km az=108.0*
*ISCJB **01** 06:14:53.8±0.3, 40.87N±0.01×23.85E±0.02, h1^{km}±3^{km}, mb3.6/3, Error ellipse: s-maj=2.5km s-min=2.3km az=95.3*
*NEIC **01** 06:14:55.0, 40.86N×23.83E, h4^{km}, MD3.9(ATH), ML3.5(ISK), ML3.6(CSEM), ML3.6(THE), After THE.*
*ATH **01** 06:14:54.6, 40.87N×23.89E, h20^{km}±1^{km}, MD3.9/6*
*THE **01** 06:14:55.0, 40.86N×23.83E, h4^{km}, ML3.7*
*SKO **01** 06:14:55.4, 40.85N×23.89E, h0^{km}*
*CSEM **01** 06:14:55.5±0.1, 40.88N×23.78E, h20^{km}, ML3.7, Error ellipse: s-maj=1.2km s-min=1.0km az=118.0*

ISC 01 06:14:54.8±0.3**, 40.86N**±0.01×**23.84E**±0.02**, h1**^{km}±3^{km}**, n81, σ1^{s}19**/121**, mb3.6**/3**, 9C-10D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.32	323	ePg	Pg	06 15 01.6	+0.7
SRS				eSg	Sg	06 15 05.8	+0.8
SOH	Sokhos	0.37	264	ePg	Pg	06 15 02.6	+0.7
SOH				eSg	Sg	06 15 07.5	+0.7
SOH	Sokhos	0.37	264	ePg	Pg	06 15 02.6	+0.7
SOH				eSg	Sg	06 15 07.4	+0.6
NVR	Nevrokopi	0.48	2	⇑iPB	Pg	06 15 04.5	+0.4
NVR				eSB	Sg	06 15 11.6	+1.2
OUR	Ouranopolis	0.54	169	ePg	Pg	06 15 05.8	+0.7
PLG	Polygyros	0.58	212	⇑iPN	Pg	06 15 06.1	+0.3
PLG				eSN	Sg	06 15 14.1	+0.8
HORT	Hortiatis	0.62	245	ePg	Pg	06 15 07.0	+0.2
HORT				eSg	Sg	06 15 15.2	+0.4
HORT	Hortiatis	0.62	245	ePg	Pg	06 15 06.9	+0.1
HORT				eSg	Sg	06 15 15.2	+0.4
THE	Thessaloniki	0.71	251	ePg	Pg	06 15 08.6	+0.3
THE				eSg	Sg	06 15 17.4	-0.1
MMB	Musomiste	0.73	353	ePg	Pg	06 15 08.3	-0.4
MMB				eSg	Sg	06 15 18.4	+0.2
MMB	Musomiste	0.73	353	i Pg	Pg	06 15 08.4	-0.4
MMB				Sg	Sg	06 15 18.2	0.0
KNT	Kendrikon	0.77	293	ePg	Pg	06 15 09.5	-0.1
KNT				eSg	Sg	06 15 20.1	+0.4
PAIG	Paliouri	0.94	188	ePg	Pg	06 15 12.9	0.0
PAIG				eSg	Sg	06 15 25.6	+0.5
RZN	Rozhen	1.05	38	Pg	Pg	06 15 15.9	+0.9
VAY	Valandovo	1.06	296	i Pg	Pg	06 15 15.3	+0.1
VAY				i Sg	Sg	06 15 30.7	+1.7
VAY	Valandovo	1.06	296	i Pg	Pg	06 15 15.2	0.0
VAY				i Sg	Sg	06 15 30.6	+1.6
GRG	Griva	1.10	275	ePg	Pg	06 15 15.8	0.0
GRG				eSg	Sg	06 15 31.0	+0.9
KKB	Krupnik	1.15	331	Pg	Pg	06 15 16.3	-0.6
KKB				Sg	Sg	06 15 31.1	-0.7
LIT	Litokhoron	1.28	234	ePg	Pg	06 15 17.7	-1.7
LIT				eSg	Sg	06 15 36.8	+0.8
RDO	Rodhopi	1.31	77	ePN	Pn	06 15 18.3	-1.9
RDO				eSN	Sn	06 15 36.8	-1.6
LOS	Limnos	1.33	134	ePg	Pg	06 15 17.7	-2.5
LOS				eSg	Sg	06 15 37.3	-0.1
PLD	Plovdiv	1.40	27	ePg	Pg	06 15 21.1	-0.5
PLD				eSg	Sg	06 15 40.1	+0.3
PLD	Plovdiv	1.40	27	P	Pn	06 15 21.9	+0.5
PLD				Sg	Sg	06 15 42.4	+2.7
PLD	Plovdiv	1.40	27	P	Pn	06 15 21.9	+0.5
PLD				eSg	Sg	06 15 40.1	+0.4
LIA	Limnos Island	1.41	133	ePN	Pn	06 15 20.4	-1.1
LIA				eSN	Sn	06 15 40.4	-0.3
KDZ	Kurdzhali	1.42	56	Pg	Pg	06 15 20.4	-1.7
KDZ				Sg	Sg	06 15 39.2	-1.3
STIP	Stip	1.50	304	ePg	Pg	06 15 22.6	-1.0
STIP				eSg	Sg	06 15 42.5	-0.4
STIP	Stip	1.50	304	ePn	Pn	06 15 24.1	+1.3
XOR	Xorichti	1.58	199	ePg	Pn	06 15 22.1	-1.8
XOR	Xorichti	1.58	199	ePg	Pn	06 15 22.0	-1.9
KZN	Kozani	1.67	251	ePN	Pn	06 15 24.9	-0.3
KZN				eSN	Sn	06 15 48.6	+1.3
AOS	Alonnisos	1.69	179	ePb	Pn	06 15 23.3	-2.2
PGB	Panagyurishte	1.70	8	P	Pn	06 15 26.0	+0.4
PGB				S	Sn	06 15 50.3	+2.3
GADA	Gvkgeada	1.71	113	PN	Pn	06 15 27.5	+1.9
GADA				SN	Sn	06 15 47.8	-0.3
DIM	Dimitrovgrad	1.74	46	P	Pn	06 15 28.2	+2.1
DIM				Sg	Sg	06 15 51.5	+0.9
ENEZ	Enez	1.76	93	PN	Pn	06 15 27.7	+1.3
ENEZ				SN	Sn	06 15 49.8	+0.4
VTS	Vitosha	1.79	345	ePb	Pb	06 15 26.7	-1.7
VTS				eSb	Sb	06 15 50.4	-0.9
VTS	Vitosha	1.79	345	⇑iP	Pn	06 15 26.7	-0.1
VTS				S	Sn	06 15 50.6	+0.4
VTS	Vitosha	1.79	345	P	Pn	06 15 26.0	-0.8
FNA	Florina	1.87	268	ePb	Pb	06 15 27.1	-2.7
FNA				eSb	Sb	06 15 51.0	-2.7
BIA	Bitola	1.91	275	ePn	Pn	06 15 28.1	-0.4
AGG	Agios Georgios	2.18	213	ePn	Pn	06 15 30.9	-1.2
AGG				eSn	Sn	06 16 00.3	+0.6
LKR	Lokris	2.31	197	ePB	Pn	06 15 34.1	+0.2
EDRB	Edirne	2.40	65	PN	Pn	06 15 38.1	+3.0
EDRB				SN	Sn	06 16 07.8	+2.7
BARS	Barje	2.47	323	i Pn	Pn	06 15 28.1	-8.1
BARS				Sg	Sn	06 16 06.0	-0.9
PRK	Paraskevi	2.47	130	⇑iPN	Pn	06 15 35.9	-0.2
EVR	Evrytania	2.50	219	⇑iPN	Pn	06 15 36.1	-0.4
RKY	Sarkoy-Tekirda	2.54	93	ePN	Pn	06 15 39.3	+2.2
JAN	Janina	2.59	243	ePB	Pn	06 15 38.8	+1.0
CANB	Canakkale	2.60	108	ePN	Pn	06 15 39.2	+1.3
PVL	Pavlikeni	2.60	25	P	Pn	06 15 36.0	-1.9
JMB	Yambol	2.60	51	ePn	Pn	06 15 38.7	+0.7
LKD	Levkas	3.27	230	ePn	Pn	06 15 47.3	+0.2
LKD				eSn	Sn	06 16 26.9	+0.3
PSN	Preselentsi	4.28	47	eP	Pn	06 16 00.0	-1.0
DIVS	Divcibare	4.31	320	i Pn	Pn	06 16 00.1	-1.3
DIVS				Sn	Sn	06 16 48.6	-3.7
DIVS	Divcibare	4.31	320	ePn	Pn	06 16 00.3	-1.1
DIVS				Sn	Sn	06 16 48.6	-3.7
GZR	Gura Zlata	4.59	351	⇓iP	Pn	06 16 05.3	-0.1
GZR	Gura Zlata	4.59	351	⇓P	Pn	06 16 05.3	-0.1
VOIR		4.66	11	⇓iP	Pn	06 16 06.5	+0.3
HARR	Harsova	4.87	37	⇑iP	Pg	06 16 26.3	-1.7
MLR	Muntele Rosu	4.87	18	Pn	Pn	06 16 10.1	+0.9
	1.5nm,0.3s,baz=173,slow=13,SNR=13						
MLR				Lg		06 17 32.3	
	2.0nm,0.3s,baz=123,slow=22,SNR=4.8						
MLR	Muntele Rosu	4.87	18	⇓iP	Pn	06 16 10.1	+0.9
BZS	Buzias	5.02	342	⇑iP	Pn	06 16 09.7	-1.5
BZS	Buzias	5.02	342	⇑P	Pn	06 16 09.7	-1.5
CFR	Carcaliu	5.34	35	⇓iP	Pn	06 16 14.1	-1.5
CFR	Carcaliu	5.34	35	⇓P	Pn	06 16 14.1	-1.5
PLOR	Plostina	5.39	21	⇓iP	Pn	06 16 18.2	+1.9
VRI	Vrincioaia	5.42	22	⇑iP	Pn	06 16 17.9	+1.1
IDI	Anoyia	5.63	171	Pn	Pn	06 16 19.8	+0.2
	0.9nm,0.3s,baz=357,slow=13,SNR=3.6						
PKSM	Moragy	6.54	326	⇓iP	Pn	06 16 31.1	-1.1
BURAR	Bucovina Array	6.82	8	⇓iP	Pn	06 16 36.8	+0.9
BURAR	Bucovina Array	6.82	8	⇓P	Pn	06 16 36.8	+0.9
BRTR	Keskin Array B	7.58	95	Pn	Pn	06 16 47.8	+1.5
	0.2nm,0.3s,baz=277,slow=15,SNR=3.5						
KECS	Kecovo	7.98	344	eP	Pn	06 16 54.7	+2.8
KECS				eSg	Sg	06 19 13.6	+2.5
KOLS	Kolonicke sedl	8.14	353	eSG	Sg	06 19 15.0	-1.3
CRVS	Cervenica-Dubn	8.21	349	eSG	Sg	06 19 16.6	-1.9
STHS	Stebnicka Huta	8.75	349	e	Pn	06 17 09.0	+6.6
HFS	Hagfors	20.30	345	P	P	06 19 27.7	-4.3
	0.7nm,0.6s,baz=161,slow=14,SNR=2.4						
NOA	NORSAR Array B	21.64	343	P	P	06 19 42.7	-3.8
	0.9nm,0.8s,mb3.2,baz=151,slow=10,SNR=2.8						
TORD	Torodi Ar. Bea	33.74	221	P	P	06 21 36.6	-1.2
	2.0nm,0.6s,mb4.2,baz=31,slow=9.3,SNR=22						
MKAR	Makanchi Array	41.73	62	P	P	06 22 45.0	-0.3
	0.6nm,0.7s,mb3.5,baz=292,slow=6.4,SNR=6.0						

---

*MOS **01** 06:17:34.9±1.0, 51.46N×179.02W, h33^{km}, mb4.5/13, Error ellipse: s-maj=18.9km s-min=10.6km az=68.1*
*ISCJB **01** 06:17:35.7±0.4, 51.46N±0.08×178.98W±0.05, h35^{km}, mb4.3/48, MS3.6/9, Error ellipse: s-maj=12.1km s-min=4.4km az=168.1*
*BJI **01** 06:17:35.3, 51.50N×179.00W, h36^{km}, mB4.8, mb4.7, Ms4.4, Msz4.1*
*NEIC **01** 06:17:37.3±0.4, 51.50N×179.04W, mb4.4/14, ML4.1(AEIC), Error ellipse: s-maj=11.1km s-min=5.2km az=182.0*
*IDC **01** 06:17:38.4±5.6, 51.39N×178.97W, h51^{km}±49^{km}, mb3.9/19, mb1 4.0/20, mb1mx4.0/28, mbtmp4.2/20, ML4.4/1, MS3.5/8, Ms1 3.5/8, ms1mx3.2/46, Error ellipse: s-maj=19.4km s-min=15.4km az=166.0*

ISC 01 06:17:37.3±0.4**, 51.51N**±0.08×**179.03W**±0.05**, h37**^{km}**, h37**^{km}±4.6^{km}**:pP-P, n107, σ0^{s}75**/101**, mb4.3**/48**, MS3.6**/9**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.05	263	P	Pn	06 17 54.8	-0.8
AMKA				S	Sn	06 18 10.1	+1.1
ATKA	Atka Island	3.08	75	P	Pn	06 18 24.3	+0.9
ATKA				S	Sn	06 19 00.6	+1.7
KDAK	Kodiak Island	16.47	57	P	Pn	06 21 24.5	-1.1
	1.4nm,0.3s,baz=299,slow=13,SNR=7.8						
TTA	Tatalina	16.80	38	eP	Pn	06 21 29.9	+0.2
SLKM	Skilak Lake	18.31	49	eP	Pn	06 21 49.8	+1.4
COLA	College	20.90	38	eP	P	06 22 15.2	-1.2
COLA				e*PP		06 22 25.4	
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
COLA	College	20.90	38	eP	P	06 22 15.2	-1.2
	comp=Z,9.2nm,1.0s						
COLA				epP		06 22 25.4	
EGAK	Eagle	23.54	41	eP	P	06 22 43.9	-0.4
DAWY	Dawson	24.11	43	eP	P	06 22 48.1	-1.4
DAWY				epP		06 22 58.4	
ASAJ	Asahikawa	26.56	269	P	P	06 23 12.5	+0.8
	comp=Z,14nm,0.9s,mb4.5,baz=285,slow=16,SNR=3.8						
ASAJ				LR	LR	06 33 33.0	
	comp=Z,42nm,18.6s,MS3.0,baz=316,slow=36						
ASAJ	Asahikawa	26.56	269	P	P	06 23 12.5	+0.8
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,42nm,18.6s						
INK	Inuvik	27.43	35	P	P	06 23 19.3	-0.2
	comp=Z,1.8nm,0.8s,mb3.7,baz=270,slow=6.1,SNR=5.6						
INK				PcP	PcP	06 26 36.5	-1.0
	comp=Z,2.5nm,1.0s,baz=216,slow=1.6,SNR=4.2						
INK				LR	LR	06 33 54.1	
	comp=Z,75nm,19.8s,MS3.3,baz=266,slow=36						
INK	Inuvik	27.43	35	P	P	06 23 19.3	-0.3
INK						06 26 36.5	
DLBC	Dease Lake	28.41	57	LR	LR	06 33 35.2	
	comp=Z,70nm,20.6s,MS3.2,baz=263,slow=34						
KLR	Kul'dur	31.01	286	eP	P	06 23 48.2	-3.1
YKA	Yellowknife Ar	35.25	47	P	P	06 24 27.6	-0.6
	comp=Z,0.4nm,0.3s,mb3.8,baz=276,slow=9.5,SNR=10						
YKA				PcP	PcP	06 26 57.8	-0.6
	comp=Z,0.3nm,0.6s,baz=277,slow=2.9,SNR=5.1						
YKA				LR	LR	06 38 41.6	
	comp=Z,50nm,18.2s,MS3.3,baz=270,slow=36						
YKA	Yellowknife Ar	35.25	47	P	P	06 24 27.6	-0.6
YKA						06 26 57.8	
YKA	Yellowknife Ar	35.25	47	P	P	06 24 27.6	-0.6
YKA				PcP	PcP	06 26 57.8	-0.7
YKA				LR	LR	06 38 41.6	
HAWA	Hanford	38.46	73	eP	P	06 24 55.9	+0.3
	comp=Z,0.3nm,0.4s,mb3.4						
HAWA				epP	pP	06 25 06.7	+0.5
NEW	Newport	38.97	70	P	P	06 24 59.8	-0.1
	comp=Z,4.5nm,0.6s,mb4.4,baz=305,slow=7.4,SNR=10						
BSMT	Bassoo Peak	40.54	69	eP	P	06 25 12.9	0.0
BMO	Blue Mountains	40.60	74	eP	P	06 25 13.6	+0.2
	comp=Z,1.3nm,0.7s,mb3.7						
MSO	Missoula	41.56	70	eP	P	06 25 20.9	-0.3
	comp=Z,4.1nm,1.2s,mb3.9						
HRY	Holter Researc	42.85	69	eP	P	06 25 31.6	-0.2
HLID	Hailey	43.04	74	eP	P	06 25 33.5	+0.2
	comp=Z,2.7nm,1.0s,mb3.9						
MCMT	McKenzie Canyo	43.27	72	eP	P	06 25 35.0	-0.2
BOZ	Bozeman (W)	43.54	70	eP	P	06 25 37.4	0.0
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
BOZ	Bozeman (W)	43.54	70	eP	P	06 25 37.4	0.0
	comp=Z,5.4nm,0.9s,mb4.3						
NVAR	Mina Array Bea	43.68	83	P	P	06 25 38.8	+0.3
	comp=Z,0.6nm,0.6s,mb3.5,baz=300,slow=9.1,SNR=4.4						
YNR	Norris Junctio	44.62	71	eP	P	06 25 47.6	+1.5
IMW	Indian Meadow	44.93	72	eP	P	06 25 48.7	+0.2
	comp=Z,7.2nm,1.3s,mb4.3						
FLWY	Flagg Ranch	44.97	71	eP	P	06 25 49.4	+0.6
	comp=Z,7.1nm,0.9s,mb4.5						
RRI2	Red Ridge	45.02	73	eP	P	06 25 49.5	+0.4
	comp=Z,7.0nm,1.0s,mb4.5						
RRI2				epP	pP	06 25 58.9	-1.1
AHID	Auburn Hatcher	45.49	73	eP	P	06 25 53.4	+0.5
AHID				epP	pP	06 26 03.9	+0.2
DUG	Dugway	45.98	77	eP	P	06 25 57.2	+0.4
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
DUG	Dugway	45.98	77	eP	P	06 25 57.2	+0.4
	comp=Z,6.6nm,1.1s,mb4.5						
LAO	LASA Array	46.10	66	eP	P	06 25 57.9	+0.1
BW06	Boulder Array	46.41	72	eP	P	06 25 59.9	-0.3
	comp=Z,2.7nm,0.5s,mb4.4						
PDAR	Pinedale Array	46.41	72	P	P	06 26 00.0	-0.1
	comp=Z,3.6nm,0.5s,mb4.6,baz=309,slow=3.9,SNR=57						
SONM	Songino Array	46.46	296	P	P	06 26 01.8	+1.3
	comp=Z,2.3nm,0.9s,mb4.1,baz=64,slow=7.1,SNR=13						
SONM				LR	LR	06 46 30.1	
	comp=Z,112nm,20.8s,MS3.8,baz=74,slow=37						
MSU	Marysvale	47.40	78	eP	P	06 26 08.2	+0.3
TMUT	Trail Mountain	47.51	77	eP	P	06 26 09.3	+0.5
SRU	San Rafael	48.04	77	eP	P	06 26 13.1	+0.2
SRU				e*PP	pP	06 26 23.2	-0.6
SRU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
SRU	San Rafael	48.04	77	eP	P	06 26 13.1	+0.2
	comp=Z,4.2nm,0.5s,mb4.7						
SRU				epP	pP	06 26 23.1	-0.6
RSSD	Black Hills	48.84	68	eP	P	06 26 18.7	-0.4
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
RSSD	Black Hills	48.84	68	eP	P	06 26 18.7	-0.4
	comp=Z,2.9nm,0.6s,mb4.5						
PV10	Paradox Valley	49.40	77	eP	P	06 26 23.3	0.0
PV01	Paradox Valley	49.84	77	eP	P	06 26 27.0	+0.3
PV01				ePP	PP	06 28 23.9	+2.3
ANMO	Albuquerque	53.20	78	eP	P	06 26 50.3	-1.5
ZAL	Zalesovo	53.85	313	LR	LR	06 52 03.0	
	comp=Z,74nm,19.6s,MS3.8,baz=84,slow=38						
GTA	Gaotai	55.38	292	eP	P	06 27 08.3	+0.6
GTA				AP	pP	06 27 16.8	-1.9
GTA				XP	sP	06 27 21.8	-1.3
GTA				PP	PP	06 29 15.9	+4.3
GTA				S	S	06 34 56.2	+6.6
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,54nm,5.3s						
GTA				LR	LR		
	comp=N,120nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=E,125nm,16.7s,MS4.2						
GTA				LR	LR		
	comp=Z,116nm,15.6s,MS4.1						
ARCES	ARCESS Array B	57.94	350	P	P	06 27 26.1	+0.3
	comp=Z,2.5nm,0.8s,mb4.3,baz=26,slow=7.3,SNR=7.0						
WMOK	Wichita Mounta	57.99	73	eP	P	06 27 25.4	-0.8
WMOK				e*PP	pP	06 27 40.2	+2.9
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WMOK	Wichita Mounta	57.99	73	eP	P	06 27 25.4	-0.8
	comp=Z,3.2nm,0.8s,mb4.4						
WMOK				epP	pP	06 27 40.2	+2.9
MKAR	Makanchi Array	59.84	308	P	P	06 27 39.0	-0.1
	comp=Z,1.1nm,0.7s,mb4.0,baz=47,slow=8.9,SNR=8.9						
MKAR				PcP	PcP	06 28 24.9	-0.3
	comp=Z,0.5nm,0.5s,baz=32,slow=5.1,SNR=3.6						
BVAR	Borovoye Array	60.70	320	LR	LR	06 55 53.2	
	comp=Z,66nm,19.6s,MS3.8,baz=320,slow=38						
JOF	Joensuu	63.43	345	ep	P	06 28 02.3	-0.9
	comp=Z,2.6nm,0.5s,mb4.6						
PLAL	Pickwick Lake	64.09	66	eP	P	06 28 06.5	-1.1
KAF	Kangasniemi	64.95	347	ep	P	06 28 12.2	-1.0
	comp=Z,2.2nm,0.5s,mb4.4,baz=14,slow=5.7						
KAF	Kangasniemi	64.95	347	eP	P	06 28 12.2	-1.0
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
FINES	FINESS Array B	65.62	347	P	P	06 28 17.1	-0.4
	comp=Z,2.1nm,0.5s,mb4.4,baz=24,slow=6.3,SNR=12						
AKTO	Aktyubinsk	67.50	324	LR	LR	07 00 27.6	
	comp=Z,55nm,19.1s,MS3.8,baz=202,slow=38						
NB2	NORSAR Subarra	67.50	355	P	P	06 28 30.0	+0.5
	comp=Z,0.8nm,0.7s,mb3.9,baz=6.4,slow=6.2						
NOA	NORSAR Array B	67.50	355	P	P	06 28 30.1	+0.6
	comp=Z,0.7nm,0.6s,mb3.9,baz=6.2,slow=6.1,SNR=4.2						
HFS	Hagfors	68.24	353	P	P	06 28 32.9	-1.3
	comp=Z,1.4nm,0.7s,mb4.1,baz=91,slow=7.2,SNR=4.5						
GUN	Gumba	71.67	292	eP	P	06 28 56.5	+1.2
	comp=Z,48nm,0.7s						
KKN	Kakani	72.11	292	eP	P	06 28 59.2	+1.3
	comp=Z,6.2nm,0.2s,mb5.2						
PKI	Pulchoki	72.20	292	eP	P	06 28 59.1	+0.7
	comp=Z,15nm,0.6s,mb5.1						
GKN	Gorkha	72.32	293	eP	P	06 29 00.0	+0.9
	comp=Z,17nm,0.6s,mb5.1						
DMN	Daman	72.35	292	eP	P	06 29 00.3	+1.0
	comp=Z,15nm,0.8s,mb5.0						
KOLN	Koldanda	73.10	293	eP	P	06 29 04.6	+0.9
	comp=Z,19nm,1.0s,mb5.0						
EKA	Eskdalemuir Ar	73.47	2	P	P	06 29 05.8	-0.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=345,slow=5.2,SNR=5.0						
EKA	Eskdalemuir Ar	73.47	2	P	P	06 29 05.8	-0.1
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	75.38	342	P	P	06 29 16.2	-0.9
	comp=Z,1.3nm,0.4s,mb4.2,baz=18,slow=5.6,SNR=14						
AKASG	Malin Array Be	75.38	342	P	P	06 29 16.2	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BAIF	Baives	78.77	358	eP	P	06 29 36.2	+0.1
GERES	GERESS Array B	79.43	351	P	P	06 29 39.9	+0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=12,slow=5.0,SNR=4.4						
FLN	La Foliniere	80.10	1	eP	P	06 29 42.7	-0.6
LDF	La Druitiere	80.27	1	eP	P	06 29 43.6	-0.6
	comp=Z,8.7nm,0.6s,mb4.6						
CDF	Champ du Feu	80.31	356	eP	P	06 29 44.3	-0.2
ROSF	Rostrenen	80.47	3	eP	P	06 29 44.9	-0.4
GRR	Gorron	80.47	1	eP	P	06 29 45.8	+0.5
SGMF	Saint Gilles	80.57	2	eP	P	06 29 45.7	-0.1
	comp=Z,12nm,0.7s,mb4.6						
LOR	Lormes	81.57	358	eP	P	06 29 51.0	-0.2
WRA	Warramunga Arr	82.01	224	P	P	06 29 51.3	-2.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=31,slow=5.7,SNR=14						
SMF	Signal de Mont	82.19	358	eP	P	06 29 54.1	-0.4
RJF	Les Rejaudoux	83.57	360	eP	P	06 30 01.4	-0.2
ORIF	Oris-en-Rattie	83.86	356	eP	P	06 30 03.6	+0.5
LFF	La Frestale	83.93	0	eP	P	06 30 03.3	-0.1
	comp=Z,4.9nm,0.3s,mb4.8						
MBDF	Montbardon	84.01	356	eP	P	06 30 04.3	+0.5
	comp=Z,5.8nm,0.7s,mb4.5						
BRTR	Keskin Array B	84.77	335	P	P	06 30 07.6	-0.1
	comp=Z,3.2nm,0.8s,mb4.5,baz=34,slow=3.4,SNR=12						
BRTR	Keskin Array B	84.77	335	P	P	06 30 07.6	-0.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SMRF	Simiane la Rot	84.81	357	eP	P	06 30 08.5	+0.6
	comp=Z,11nm,0.9s,mb4.7						
SBF	Sospel	84.84	355	eP	P	06 30 07.7	-0.3
FRF	La Foret Royal	85.18	356	eP	P	06 30 10.1	+0.4
	comp=Z,7.0nm,0.8s,mb4.5						

LMR	La Mourre	85.42	356	eP	P	06 30 10.7	-0.2
	comp=Z,6.0nm,0.6s,mb4.6						
ASAR	Alice Springs	85.49	222	P	P	06 30 09.7	-1.6
	comp=Z,1.0nm,0.8s,mb4.0,baz=23,slow=5.7,SNR=10						
ASAR	Alice Springs	85.49	222	P	P	06 30 09.7	-1.6
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MTLF	Montolieu	85.52	359	eP	P	06 30 11.5	0.0
SJPF	Ste Jean	85.74	2	eP	P	06 30 12.8	+0.3
ETSF	Etsaut	85.96	1	eP	P	06 30 13.9	+0.3
	comp=Z,5.5nm,0.7s,mb4.6						
STKA	Stephens Creek	89.96	213	P	P	06 30 31.9	-0.9
	comp=Z,2.1nm,0.7s,mb4.6,baz=330,slow=7.5,SNR=4.9						
TORD	Torodi Ar. Bea	115.61	359	PKP	PKPdf	06 36 14.5	-1.0
	comp=Z,0.3nm,0.5s,baz=6.6,slow=2.4,SNR=5.6						
MAW	Mawson	146.50	218	PKPbc	PKPdf	06 37 12.0	-1.1
	comp=Z,1.6nm,0.5s,baz=87,slow=4.5,SNR=5.6						
MAW	Mawson	146.50	218	PKP2	PKPdf	06 37 12.0	-1.1
MAW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOSA	Boshof	150.78	312	PKPbc	PKPbc	06 37 24.9	-0.7
	comp=Z,2.1nm,0.6s,baz=10,slow=2.7,SNR=8.1						
BOSA	Boshof	150.78	312	PKIKP	PKPbc	06 37 24.9	-0.7
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s						

*SZGRF **01** 06:34:54.6, 33.73S×178.13W, h33km, South of Kermadec Islands*

*BJI **01** 06:34:58.2, 32.64S×178.59W, h36km, mB5.6, mb5.4, Ms5.2, Msz4.8*

*MOS **01** 06:34:59.2±1.1, 32.59S×178.77W, h33km, mb5.5/30, MS4.8/6, Error ellipse: s-maj=12.6km s-min=9.5km az=76.7*

*ISCJB **01** 06:34:59.7±0.2, 32.87S±0.03×178.79W±0.05, h42km, mb5.2/54, MS4.6/26, Error ellipse: s-maj=6.5km s-min=3.3km az=65.7*

*IDC **01** 06:34:59.3±1.7, 32.55S×178.74W, h29km±10km, mb4.6/8, mb1 4.8/9, mb1mx4.8/10, mbtmp4.8/9, ML4.5/2, MS4.6/15, Ms1 4.6/15, ms1mx4.3/26, Error ellipse: s-maj=15.4km s-min=13.2km az=169.0*

*GCMT **01** 06:35:00.5±0.2, 32.73S×178.25W, h28km, MW5.2/67, Moment Tensor Solution. s48,c82; s67,c102; Duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.56±.02; $M_{\theta\theta}$-0.03±.02; $M_{\phi\phi}$-0.52±.02; $M_{r\theta}$0.23±.03; $M_{\theta\phi}$-0.28±.01; $M_{\phi r}$0.58±.03; Best double couple: $M_0$0.86700×10^{17} NP1:ϕ_s207.00000°,δ22.00000°,λ95.00000°. NP2: ϕ_s22.00000°,δ68.00000°,λ88.00000°. Principal axes: T 0.8180, Plg67.0000°, Azm289.0000°; N 0.0980, Plg2.0000°, Azm23.0000°; P -0.9160, Plg23.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **01** 06:35:00.5±0.2, 33.03S×178.66W, mb5.2/41 Error ellipse: s-maj=8.1km s-min=4.0km az=128.0*

ISC 01 06:35:01.3±0.2, **32.83S**±0.03×**178.73W**±0.05, **h44km**, **h44km**±.9km**:pP-P, n449,** σ**1.20**/200, **mb5.2**/54, **MS4.6**/26, **38C-14D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.64	11	Pn	Pn	06 35 49.6	-5.5
	446nm,0.3s,baz=158,slow=17,SNR=24						
RAO				Sn	Sn	06 36 32.5	-4.2
	666nm,0.3s,baz=74,slow=24,SNR=5.7						
RAO	Raoul Island	3.64	11	ePn	Pn	06 35 49.7	-5.4
RAO				eSn	Sn	06 36 30.5	-6.2
MXZ	Matakaoa Point	5.31	206	P	Pn	06 36 16.1	-1.9
MXZ				S	Sn	06 37 19.7	+1.8
MXZ	Matakaoa Point	5.31	206	PN	Pn	06 36 16.1	-2.0
MXZ				SN	Sn	06 37 18.7	+0.8
MXZ				T		06 40 47.9	
PUZ	Puketiti	5.78	204	P	Pn	06 36 22.4	-2.1
PUZ				S	Sn	06 37 29.6	+0.1
PUZ	Puketiti	5.78	204	PN	Pn	06 36 22.4	-2.1
PUZ				SN	Sn	06 37 29.6	+0.2
KUZ	Kuaotunu	6.01	228	eP	Pn	06 36 30.0	+2.4
KUZ	Kuaotunu	6.01	228	PN	Pn	06 36 30.3	+2.7
MYRZ	Mayor Island	6.06	221	PN	Pn	06 36 30.5	+2.2
MWZ	Matawai	6.28	208	P	Pn	06 36 29.6	-1.8
MWZ				S	Sn	06 37 43.7	+1.9
MWZ	Matawai	6.28	208	PN	Pn	06 36 29.6	-1.8
MWZ				SN	Sn	06 37 43.5	+1.7
URZ	Urewera	6.39	211	Pn	Pn	06 36 31.3	-1.5
	72nm,0.3s,baz=29,slow=3.2,SNR=102						
URZ				Sn	Sn	06 37 46.3	+1.8
	90nm,0.3s,baz=189,slow=16,SNR=6.9						
URZ				LR	LR	06 39 18.3	
	comp=Z,6μm,19.3s,baz=183,slow=39						
URZ	Urewera	6.39	211	eP	Pn	06 36 31.4	-1.5
URZ	Urewera	6.39	211	PN	Pn	06 36 31.4	-1.5
URZ				SN	Sn	06 37 44.8	+0.3
WCZ	Waipu Caves	6.51	240	eP	Pn	06 36 38.3	+3.8
WCZ	Waipu Caves	6.51	240	PN	Pn	06 36 38.3	+3.8
OUZ	Omahuta	6.80	247	eP	Pn	06 36 43.3	+4.8
OUZ	Omahuta	6.80	247	PN	Pn	06 36 43.3	+4.8
KNZ	Kokohu	6.83	204	eP	Pn	06 36 35.4	-3.5
KNZ				S	Sn	06 37 55.1	-0.2
KNZ	Kokohu	6.83	204	PN	Pn	06 36 36.0	-2.9
KNZ				SN	Sn	06 37 55.6	+0.3
BKZ	Black Stump Fm	7.41	210	eP	Pn	06 36 44.5	-2.4
BKZ	Black Stump Fm	7.41	210	PN	Pn	06 36 44.5	-2.4
KRVZ	Karewarewa	7.74	215	PN	Pn	06 36 51.6	+0.2
OTVZ	Oturere	7.78	214	PN	Pn	06 36 51.8	-0.1
MOVZ	Moawhango	7.93	213	P	Pn	06 36 52.0	-2.1
MOVZ	Moawhango	7.93	213	PN	Pn	06 36 52.5	-1.6
WNVZ	Wahianoa	7.94	214	P	Pn	06 36 53.7	-0.5
WNVZ	Wahianoa	7.94	214	PN	Pn	06 36 53.7	-0.4
PXZ	Pawanui	8.01	205	PN	Pn	06 36 51.8	-3.3
BFZ	Birch Farm	8.81	206	eP	Pn	06 37 01.5	-4.5
BFZ	Birch Farm	8.81	206	PN	Pn	06 37 01.5	-4.5
MRZ	Mangatainoka R	9.05	209	eP	Pn	06 37 05.0	-4.3
MRZ	Mangatainoka R	9.05	209	PN	Pn	06 37 05.0	-4.3
KIW	Kapiti Island	9.49	211	PN	Pn	06 37 12.5	-2.9
MTW	Mount Morrison	9.50	207	P	Pn	06 37 10.6	-4.9
MTW	Mount Morrison	9.50	207	PN	Pn	06 37 10.6	-5.0
SNZO	South Karori	9.95	210	ePn	Pn	06 37 17.6	-4.1
TCW	Tory Channel	10.06	212	P	Pn	06 37 18.2	-4.9
TCW	Tory Channel	10.06	212	PN	Pn	06 37 18.2	-4.9
NNZ	Nelson	10.47	215	eP	Pn	06 37 24.4	-4.5
QRZ	Quartz Range	10.61	219	eP	Pn	06 37 26.9	-3.8
THZ	Tophouse	11.12	214	eP	Pn	06 37 32.4	-5.3
KHZ	Kahutara	11.36	210	eP	Pn	06 37 35.8	-5.1
MQZ	McQueen's Vall	12.79	209	eP	Pn	06 37 54.9	-5.5
RPZ	Rata Peaks	13.49	213	Pn	Pn	06 38 07.9	-2.2
	7.1nm,0.3s,baz=51,slow=4.8,SNR=12						
RPZ				Sn	Sn	06 40 26.6	-12
	5.5nm,0.3s,baz=0.7,slow=21,SNR=8.4						
ODZ	Otahua Downs	14.71	211	eP	Pn	06 38 20.3	-6.3
DZM	Mont Dzumac	16.95	306	eP	Pn	06 38 56.1	+0.9
DZM	Mont Dzumac	16.95	306	Pn	Pn	06 38 59.7	+4.5
	1.0nm,0.3s,baz=104,slow=15,SNR=15						
DZM				LR	LR	06 44 05.6	
	comp=Z,6μm,20.4s,baz=204,slow=32						
AFI	Afiamalu	19.88	20	P	Pn	06 39 24.6	-6.1
	8.8nm,0.3s,baz=217,slow=16,SNR=10						
AFI				S	S	06 42 47.6	-23
	1.3nm,0.3s,baz=238,slow=18,SNR=3.2						
AFI	Afiamalu	19.88	20	eP	Pn	06 39 21.8	-8.9
	167nm,1.0s						
RAR	Rarotonga	20.44	60	LR	LR	06 45 07.5	
	comp=Z,933nm,21.1s,MS4.1,baz=253,slow=30						
ARMA	Armidale	25.32	267	⇑iP	P	06 40 27.5	+3.7
CNB	Canberra Magne	26.48	256	eP	P	06 40 37.0	+2.6
	37nm,0.9s,mb4.9						
CNB				ePCP	PcP	06 43 58.2	-0.3
CNB				eSCP	ScP	06 47 38.7	+4.0
TBI	Tubuai	27.42	77	eLQ		06 45 58.0	
	2μm,25.8s						
TBI				eLR	LR	06 47 32.1	
	2μm,28.0s,baz=244						
TOO	Toolangi	29.50	251	⇑iP	P	06 41 03.3	+2.0
	13nm,0.6s,mb4.8						
TOO				ePCP	PcP	06 44 05.6	-0.2
TOO				eSCP	ScP	06 47 46.2	+2.2
TOO	Toolangi	29.50	251	⇑iP	P	06 41 03.3	+2.0
TOO				e		06 44 05.6	
TOO				e		06 47 46.2	
TOO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
PPT	Papeete	30.32	67	eLQ		06 47 03.6	
	comp=Z,1μm,24.0s						
PPT				eLR	LR	06 48 48.8	
	comp=Z,2μm,26.5s,baz=236						
PPT	Papeete	30.32	67	LR	LR	06 49 51.7	
	comp=Z,641nm,20.2s,MS4.3,baz=247,slow=30						
STKA	Stephens Creek	33.39	261	eP	P	06 41 37.0	+1.5
	comp=Z,26nm,0.9s,mb5.2						
STKA				esP	sP	06 41 53.1	+0.5
STKA				ePCP	PcP	06 44 15.4	-0.9
STKA				eSCP	ScP	06 47 58.8	+1.7
STKA	Stephens Creek	33.39	261	P	P	06 41 37.5	+2.0
	comp=Z,33nm,0.9s,mb5.2,baz=93,slow=9.6,SNR=36						
STKA				ScP	ScP	06 47 57.6	+0.5
	comp=Z,6.5nm,0.9s,baz=48,slow=5.0,SNR=5.0						
STKA				LR	LR	06 55 00.7	
	comp=Z,3μm,18.1s,MS5.0,baz=90,slow=36						
CTA	Charters Tower	33.66	283	⇑iP	P	06 41 39.9	+2.1
	comp=Z,114nm,1.0s,mb5.8						
CTA				eS	S	06 47 03.3	+5.6
CTA				eSCP	ScP	06 47 59.8	+1.8
CTA	Charters Tower	33.66	283	P	P	06 41 40.2	+2.4
	comp=Z,153nm,0.9s,mb5.9,baz=110,slow=10,SNR=91						
CTA				LR	LR	06 53 37.8	
	comp=Z,939nm,18.5s,MS4.5,baz=50,slow=33						
CTA	Charters Tower	33.66	283	⇑iP	P	06 41 39.9	+2.1
CTA				eS	S	06 47 03.3	+5.6
CTA				pmax	pmax		
	comp=Z,114nm,1.0s						
CTAO	Charters Tower	33.66	283	eP	P	06 41 40.2	+2.4
CTAO				e*PP	pP	06 41 52.3	+2.6
CTAO				pmax	pmax		
	comp=Z,175nm,0.9s,mb6.0						
CTAO	Charters Tower	33.66	283	eP	P	06 41 40.2	+2.4
	comp=Z,176nm,0.9s,mb6.0						
CTAO				epP	pP	06 41 52.3	+2.6
PMG	Port Moresby	39.15	299	P	P	06 42 26.1	+1.5
	comp=Z,42nm,0.9s,mb5.2,baz=119,slow=6.4,SNR=7.4						
PMG				LR	LR	06 56 04.1	
	comp=Z,898nm,18.3s,MS4.6,baz=98,slow=32						
PMG	Port Moresby	39.15	299	⇑eP	P	06 42 25.6	+0.9
PMG	Port Moresby	39.15	299	eP	P	06 42 26.2	+1.5
	comp=Z,36nm,0.8s,mb5.2						
RKT	Rikitea	39.60	87	eLR	LR	06 53 13.8	
	comp=Z,2μm,28.2s,baz=244						
AS31	Alice Springs	42.42	270	eP	P	06 42 52.1	+0.5
AS31				eS	S	06 49 10.9	+0.8
ASAR	Alice Springs	42.42	270	P	P	06 42 52.1	+0.5
	comp=Z,173nm,0.9s,mb5.7,baz=112,slow=7.7,SNR=801						
ASAR				S	S	06 49 11.3	+1.3
	comp=Z,8.0nm,1.0s,baz=108,slow=15,SNR=12						
ASAR				PKiKP	PKiKP	06 51 47.6	-1.4
	comp=Z,1.2nm,0.9s,baz=117,slow=1.4,SNR=5.5						
ASAR				LR	LR	07 00 56.9	
	comp=Z,709nm,18.6s,MS4.6,baz=131,slow=37						
ASPA	Alice Springs	42.42	270	eP	P	06 42 52.1	+0.5
ASPA				eS	S	06 49 10.9	+0.8
TAOE	Nuku Hiva Isla	42.87	65	eLR	LR	06 54 37.3	
	comp=Z,2μm,27.2s						
WB2	Warramunga Arr	43.62	275	⇑iP	P	06 43 01.3	0.0
WB2				esP	sP	06 43 16.8	-1.8
WB2				ePCP	PcP	06 44 57.3	+9.2
WB2				eSCP	ScP	06 48 38.3	+2.3
WB2				eS	S	06 49 27.3	-0.4
WRAB	Tennant Creek	43.62	275	P	P	06 43 01.6	+0.3
	comp=Z,1μm,1.0s						
WRAB	Tennant Creek	43.62	275	c iP	P	06 43 01.4	+0.1
WRAB	Tennant Creek	43.62	275	eP	P	06 43 01.3	0.0
	comp=Z,210nm,0.8s,mb5.9						
WRA	Warramunga Arr	43.63	275	P	P	06 43 01.6	+0.2
	comp=Z,79nm,0.4s,mb5.8,baz=113,slow=8.1,SNR=991						
WRA				ScP	ScP	06 48 36.5	+0.4
	comp=Z,6.8nm,0.8s,baz=118,slow=4.1,SNR=11						
WRA				S	S	06 49 27.6	-0.2
	comp=Z,3.0nm,0.9s,baz=112,slow=13,SNR=5.3						
WRA				PKiKP	PKiKP	06 51 49.3	-0.8
	comp=Z,0.9nm,0.5s,baz=99,slow=0.3,SNR=14						
WRA				LR	LR	06 59 55.5	
	comp=Z,853nm,21.5s,MS4.6,baz=145,slow=34						
WRA	Warramunga Arr	43.63	275	P	P	06 43 01.6	+0.2
WRA				S	S	06 49 27.6	-0.2
WRA				pmax	pmax		
	comp=Z,79nm,0.4s						
WRA				pmax	pmax		
	comp=N,7.0nm,0.8s						
WRA				smax			
	comp=N,3.0nm,0.9s						
WRA	Warramunga Arr	43.63	275	P	P	06 43 01.6	+0.2
WRA				ScP	ScP	06 48 36.5	+0.4
WRA				S	S	06 49 27.6	-0.2
FORT	Forrest	44.87	258	⇑iP	P	06 43 10.5	-0.8
	comp=N,116nm,0.7s,mb5.8						
FORT				ePCP	PcP	06 44 51.5	-0.9
SBA	Scott Base	45.57	184	eP	P	06 43 19.6	+2.7
SBA				e		06 45 02.3	
SBA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
SBA	Scott Base	45.57	184	eP	P	06 43 19.6	+2.7
	comp=Z,14nm,0.8s,mb4.9						
SBA				e		06 45 02.3	
VNDA	Vanda	45.62	186	P	P	06 43 20.0	+2.7
	comp=Z,3.2nm,0.7s,mb4.3,baz=8.4,slow=7.2,SNR=17						
VNDA				LR	LR	06 58 43.4	
	comp=Z,373nm,20.8s,MS4.3,baz=52,slow=31						
VNDA	Vanda	45.62	186	eP	P	06 43 19.0	+1.7
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	45.62	186	eP	P	06 43 19.0	+1.8
	comp=Z,3.8nm,0.8s,mb4.4						
KAKA	Kakadu	48.79	282	eP	P	06 43 41.4	-0.5
	comp=Z,64nm,0.7s,mb5.8						
KAKA				ePCP	PcP	06 45 03.1	-3.1
FITZ	Fitzroy Crossi	51.78	272	eP	P	06 44 04.3	-0.2
	comp=Z,75nm,0.6s,mb5.8						
FITZ				ePCP	PcP	06 45 16.6	-0.6
FITZ	Fitzroy Crossi	51.78	272	LR	LR	07 05 51.6	
	comp=Z,1μm,18.1s,MS5.0,baz=110,slow=36						
CASY	Casey	52.71	209	eP	P	06 44 11.1	-0.3
CASY				eSCP	ScP	06 49 05.1	-9.3
NWAO	Narrogin (SRO)	52.99	251	LR	LR	07 05 41.5	
	comp=Z,972nm,19.8s,MS4.8,baz=86,slow=35						
KLBR	Kellerberrin	53.01	253	eP	P	06 44 12.3	-1.3
	comp=Z,68nm,1.2s,mb5.5						
MUN	Mundaring	54.12	252	⇑iP	P	06 44 20.5	-1.3
MBWA	Marble Bar	55.38	266	eP	P	06 44 29.7	-1.2
	comp=Z,40nm,1.0s,mb5.4						
MBWA				epP	pP	06 44 42.0	-1.4
QSPA	South Pole Qui	57.29	180	eP	P	06 44 47.1	+2.6
	comp=Z,100nm,0.9s,mb5.8						
MIR	Mirnyy	59.68	208	c iP	P	06 45 02.0	+0.8
MIR				pmax	pmax		
	comp=Z,500nm,1.5s						
MAW	Mawson	69.82	201	⇑iP	P	06 46 07.3	+0.1
	comp=Z,15nm,1.0s,mb4.9						
MAW	Mawson	69.82	201	P	P	06 46 07.6	+0.4
	comp=Z,24nm,1.1s,mb5.1,baz=128,slow=7.6,SNR=18						
MAW	Mawson	69.82	201	⇑iP	P	06 46 07.3	+0.1
MAW				pmax	pmax		
	comp=Z,15nm,1.0s						
CBIJ	Chichi jima	70.23	323	LR	LR	07 09 44.5	
	comp=Z,226nm,19.9s,MS4.4,baz=133,slow=30						
PMSA	Palmer Station	70.31	156	eP	P	06 46 11.3	+1.1
	comp=Z,7.8nm,0.9s,mb4.6						
SYO	Syowa Base	74.61	193	⇓eP	P	06 46 35.0	-0.8
SNAA	Sanae	75.75	179	eP	P	06 46 42.9	+0.5
SNAA				e		06 46 48.7	
SNAA				e	pP	06 46 53.1	-2.2
SNAA				e	pP	06 46 58.1	+2.8
SNAA	Sanae	75.75	179	eP	P	06 46 42.7	+0.3
	comp=Z,69nm,1.1s,mb5.5						
MAIT	Maitri	76.42	184	eP	P	06 46 49.5	+3.3
NVL	N'lazarevskaya	76.42	184	⇑iP	P	06 46 47.2	+1.0
NVL				e		06 56 34.4	
NVL				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.1						
NVL				pmax	pmax		
	comp=Z,930nm,18.5s						
VNA1	Neumayer--Stat	76.59	177	eP	P	06 46 48.2	+1.1
VNA1				e		06 46 54.8	
VNA1				e	pP	06 46 59.5	-0.6
VNA1				e	pP	06 47 03.5	+3.4
MJAR	Matsushiro Arr	79.89	326	P	P	06 47 02.7	-2.7
	comp=Z,5.3nm,0.8s,mb4.5,baz=164,slow=5.2,SNR=13						
MJAR				LR	LR	07 21 45.1	
	comp=Z,182nm,18.2s,MS4.5,baz=125,slow=35						
MJAR	Matsushiro Arr	79.89	326	P	P	06 47 02.7	-2.7
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,182nm,18.2s						
MAJO	Matsushiro	79.89	326	eP	P	06 47 02.7	-2.7
MAJO				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.0						
MAJO	Matsushiro	79.89	326	eP	P	06 47 02.7	-2.7
	comp=Z,25nm,1.3s,mb5.0						
MAT	Matsushiro	79.89	326	P	P	06 47 03.8	-1.6
SSE	Sheshan	85.24	312	P	P	06 47 34.7	+1.4
SSE				AP	pP	06 47 47.0	+0.6
SSE				XP	sP	06 47 51.6	+0.2
SSE				S	S	06 58 02.1	+1.9
SSE				SS	SS	07 03 36.5	+1.6
SSE				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,109nm,3.8s						
SSE				LR	LR		
	comp=N,65nm,24.4s,MS4.2						
SSE				LR	LR		
	comp=E,101nm,24.4s,MS4.2						
SSE				LR	LR		
	comp=Z,145nm,21.8s,MS4.3						
SMY	Shemya	85.43	356	eP	P	06 47 32.3	-1.9
YSS	Yuzh-Sakhalins	86.66	335	⇑iP	P	06 47 39.0	-1.3
YSS				e	pP	06 47 52.8	-0.7
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.8						
YSS				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
YSS	Yuzh-Sakhalins	86.66	335	eP	P	06 47 40.1	-0.2
	comp=Z,32nm,0.7s,mb5.7						
NJ2	Nanjing	87.36	311	eP	P	06 47 44.0	+0.4
NJ2				AP	pP	06 47 57.4	+0.5
NJ2				XP	sP	06 48 02.5	+0.7
NJ2				SKS		06 58 00.0	
NJ2				S	S	06 58 14.0	-6.8
NJ2				XS	sS	06 58 37.0	-5.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,220nm,5.4s						
NJ2				LR	LR		
	comp=N,460nm,23.1s,MS5.0						
NJ2				LR	LR		
	comp=E,440nm,22.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,510nm,22.4s,MS4.9						
PTRM	Twissleman Ran	87.43	44	eP	P	06 47 44.7	+0.7
PTRM				epP	pP	06 47 56.9	-0.3
SAO	San Andreas Ge	87.49	43	eP	P	06 47 44.4	+0.1
SAO				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.2						
SAO	San Andreas Ge	87.49	43	eP	P	06 47 44.4	+0.2
	comp=Z,17nm,1.2s,mb5.1						
LRV	Little Rabbit	87.49	43	eP	P	06 47 44.9	+0.6
LRV				epP	pP	06 47 57.5	0.0
BAR	Barrett	87.55	48	eP	P	06 47 44.9	+0.3
MWC	Mount Wilson	87.73	46	eP	P	06 47 45.8	+0.4
PET	Petropavlovsk	87.74	347	eP	P	06 47 48.6	+3.1
PET				eS	S	06 58 24.9	+0.5
PET				pmax	pmax		
	comp=Z,100nm,14.3s						
PET				smax			
	comp=N,100nm,20.4s						
TRQA	Tornquist	88.16	135	eP	P	06 47 47.8	+0.3
	comp=N,6.6nm,1.0s,mb4.8						
TRQA				epP	pP	06 48 01.0	+0.3
CFAA	Coronel Fontan	88.29	127	P	P	06 47 48.0	0.0
	comp=N,0.6nm,0.8s,baz=254,slow=3.0,SNR=9.7						
CFAA				LR	LR	07 19 18.1	
	comp=N,47nm,20.6s,MS3.9,baz=45,slow=30						
PFO	Pinyon Flat Ob	88.31	48	eP	P	06 47 47.5	-0.7
PFO				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1						
PFO	Pinyon Flat Ob	88.31	48	eP	P	06 47 47.5	-0.7
	comp=Z,13nm,1.0s,mb5.1						
ISA	Isabella	88.46	45	eP	P	06 47 48.9	0.0
	comp=Z,0.1nm,1.3s						
ISA				epP	pP	06 48 01.6	-0.6
GLA	Glamis	88.96	49	eP	P	06 47 52.2	+0.9
CMB	Columbia Colle	88.98	42	eP	P	06 47 51.2	-0.1
CMB				e*PP	pP	06 48 03.2	-1.4
CMB				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.3						
CMB	Columbia Colle	88.98	42	eP	P	06 47 51.2	-0.2
	comp=Z,19nm,1.2s,mb5.3						
CMB				epP	pP	06 48 03.2	-1.4
GSC	Goldstone	89.22	46	eP	P	06 47 53.0	+0.5
GSC				e*PP	pP	06 48 05.0	-0.7
OHCM	Honcut	89.28	41	eP	P	06 47 52.0	-0.7
DAC	Darwin (Calif)	89.40	45	eP	P	06 47 53.0	-0.3
DAC				e*PP	pP	06 48 05.2	-1.3
MTUM	Tungsten Hills	89.56	44	eP	P	06 47 54.7	+0.6
MTUM				epP	pP	06 48 06.8	-0.5
WDC	Whiskeytown Da	89.59	39	eP	P	06 47 53.8	-0.4
WDC				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.4						
WDC	Whiskeytown Da	89.59	39	eP	P	06 47 53.8	-0.4
	comp=Z,20nm,1.1s,mb5.4						
WAKR	Walker	89.84	42	eP	P	06 47 55.7	+0.3
MDJ	Mudanjiang	90.28	326	P	P	06 47 57.0	-0.4
MDJ				AP	pP	06 48 10.1	-0.5
MDJ				XP	sP	06 48 14.9	-0.7
MDJ				PP	PP	06 51 32.5	+0.9
MDJ				S	S	06 58 45.5	-2.7
MDJ				SS	SS	07 04 51.8	+3.4
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,85nm,4.4s						
MDJ				LR	LR		
	comp=N,174nm,23.3s,MS4.5						
MDJ				LR	LR		
	comp=E,107nm,22.6s,MS4.5						
MDJ				LR	LR		
	comp=Z,251nm,23.3s,MS4.6						
MDJ	Mudanjiang	90.28	326	eP	P	06 47 56.9	-0.5
	comp=Z,8.2nm,0.7s,mb5.2						
DL2	Dalian	90.31	318	P	P	06 47 57.7	+0.1
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.5						
YBH	Yreka Blue Hor	90.32	38	eP	P	06 47 57.8	+0.2
YBH				e*PP	pP	06 48 09.9	-1.0
NVAR	Mina Array Bea	90.44	43	P	P	06 47 58.1	-0.1
	comp=Z,6.1nm,1.0s,mb4.9,baz=207,slow=6.2,SNR=34						
NVAR				PKKPbc	PKKPbc	07 05 26.8	+1.0
	comp=Z,0.2nm,0.4s,baz=51,slow=5.4,SNR=3.8						
NVAR	Mina Array Bea	90.44	43	P	P	06 47 58.1	-0.1
NVAR				PKKPbc	PKKPbc	07 05 26.8	+1.0
PAHR	Pah Rah Range	90.70	42	eP	P	06 47 59.0	-0.4
	comp=Z,18nm,1.4s,mb5.2						
PAHR				epP	pP	06 48 11.7	-0.9
TPH	Tonopah	90.83	44	eP	P	06 48 00.0	0.0
TPH				e*PP	pP	06 48 12.8	-0.4
TPH				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.3						
TPH	Tonopah	90.83	44	eP	P	06 47 60.0	0.0
	comp=Z,17nm,1.0s,mb5.3						
TPH				epP	pP	06 48 12.8	-0.4
HABR	Khabarovsk	90.86	331	eP	P	06 47 59.0	-1.1
HABR				eS	SKSac	06 58 27.6	-0.8
SHPR	Sheep Range	91.01	46	eP	P	06 48 01.6	+0.8
TUC	Tucson	91.11	52	eP	P	06 48 01.8	+0.5
TUC				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.2						
TUC	Tucson	91.11	52	eP	P	06 48 01.8	+0.5
	comp=Z,15nm,1.1s,mb5.2						
CN2	Changchun	91.70	323	eP	P	06 48 03.0	-1.0
CN2				eXP	sP	06 48 18.4	-3.8
CN2				eS	S	06 58 58.0	-3.2
CN2				eSS	SS	07 05 11.1	+2.2
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,23.0s,MS4.5						
GYA	Guiyang	92.22	300	P	P	06 48 05.8	-0.6

GYA AP pP 06 48 19.3 -0.4
GYA XP sP 06 48 24.6 0.0
GYA PP PP 06 51 47.6 +0.6
GYA SKS 06 58 33.0
GYA S S 06 59 02.4 -3.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,110nm,4.9s
GYA LR LR
comp=N,480nm,20.4s,MS5.0
GYA LR LR
comp=E,340nm,21.0s,MS5.0
GYA LR LR
comp=Z,390nm,20.8s,MS4.8
BMN Battle Mountai 92.41 42 *e*P **P 06 48 06.8 -0.5**
BMN *e**PP pP 06 48 19.7 -0.8
BMN pmax pmax
comp=Z,16nm,1.2s,mb5.2
BMN Battle Mountai 92.41 42 *e*P **P 06 48 06.8 -0.5**
comp=Z,16nm,1.2s,mb5.2
BMN *e*pP pP 06 48 19.7 -0.9
WUAZ Wupatki 92.73 49 *e*P **P 06 48 09.4 +0.6**
comp=Z,16nm,1.2s,mb5.3
KLR Kul'dur 92.82 330 *e*P **P 06 48 05.0 -4.2**
WVOR Wild Horse Val 92.98 40 *e*P **P 06 48 09.5 -0.4**
WVOR *e**PP pP 06 48 22.2 -1.0
WVOR pmax pmax
comp=Z,16nm,1.1s,mb5.4
WVOR Wild Horse Val 92.98 40 *e*P **P 06 48 09.5 -0.5**
comp=Z,16nm,1.1s,mb5.4
WVOR *e*pP pP 06 48 22.1 -1.0
MSU Marysvale 94.12 46 *e*P **P 06 48 16.5 +1.3**
MSU *e**PP pP 06 48 28.2 -0.2
BJI Beijing 94.22 316 *e*P **P 06 48 13.4 -2.2**
BJI AMB AMB
comp=Z,13nm,0.8s,mb5.4
BJI AMB AMB
comp=Z,135nm,4.0s
BJI LR LR
comp=N,165nm,27.3s,MS4.5
BJI LR LR
comp=E,162nm,27.3s,MS4.5
BJI LR LR
comp=Z,360nm,26.7s,MS4.7
KMI Kunming 94.36 297 P **P 06 48 17.2 +0.9**
KMI S S 06 59 24.4 -0.4
KMI AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
KMI LR LR
comp=N,206nm,18.0s,MS4.8
KMI LR LR
comp=E,202nm,18.8s,MS4.8
KMI LR LR
comp=Z,192nm,42.1s
MNTX Cornudas Mount 94.39 55 *e*P **P 06 48 16.0 -0.4**
GNW Green Mountain 94.44 34 *e*P **P 06 48 16.7 +0.1**
HAWA Hanford 95.22 37 *e*P **P 06 48 19.8 -0.4**
BMO Blue Mountains 95.33 39 *e*P **P 06 48 19.7 -1.0**
SRU San Rafael 95.50 47 *e*P **P 06 48 21.1 -0.4**
SRU pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SRU San Rafael 95.50 47 *e*P **P 06 48 21.1 -0.3**
comp=Z,3.9nm,0.9s,mb4.8
ANMO Albuquerque 95.57 52 *e*P **P 06 48 22.5 +0.7**
ANMO *e**PP pP 06 48 35.7 +0.6
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ANMO Albuquerque 95.57 52 *e*P **P 06 48 22.5 +0.7**
comp=Z,1.4nm,1.0s,mb4.3
ANMO *e*pP pP 06 48 35.7 +0.6
PV10 Paradox Valley 95.97 48 *e*P **P 06 48 23.6 0.0**
HLID Hailey 96.05 41 *e*P **P 06 48 23.9 0.0**
comp=Z,5.0nm,1.1s,mb4.9
PV01 Paradox Valley 96.11 48 *e*P **P 06 48 25.2 +0.9**
CD2 Chengdu 96.85 302 *e*P **P 06 48 27.1 -0.5**
CD2 AP pP 06 48 40.8 -0.1
CD2 XP sP 06 48 45.9 +0.1
CD2 PP PP 06 52 25.7 +2.6
CD2 SKS 06 58 59.1
CD2 S S 06 59 42.6 -3.7
CD2 XS sS 07 00 05.3 -3.4
CD2 PS PS 07 01 15.7 +3.1
CD2 SS SS 07 06 23.8 +1.4
CD2 AMB AMB
comp=Z,30nm,8.4s
CD2 LR LR
comp=E,120nm,18.5s
CD2 LR LR
comp=Z,80nm,16.2s,MS4.3
HHC Hu-ho-hao-te 97.47 314 *e*P **P 06 48 32.1 +1.7**
HHC AP pP 06 48 45.6 +1.9
HHC PP PP 06 52 32.2 +4.3
HHC SKS 06 59 04.3
HHC S S 06 59 50.1 -1.5
HHC XS sS 07 00 13.3 -0.7
HHC PS PS 07 01 23.9 +4.5
HHC SS SS 07 06 32.3 +1.2
HHC AMB AMB
comp=Z,8.0nm,0.3s,mb5.6
HHC AMB AMB
comp=Z,105nm,4.6s
HHC LR LR
comp=N,189nm,8.8s
HHC LR LR
comp=E,200nm,9.8s
HHC LR LR
comp=Z,255nm,25.5s,MS4.6
LPAZ La Paz 97.71 115 P **P 06 48 32.5 +1.1**
comp=Z,0.9nm,1.0s,mb4.2,baz=320,slow=5.6,SNR=4.0
LPAZ La Paz 97.71 115 P **P 06 48 32.6 +1.1**
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
REDW Red Top Meadow 97.93 43 *e*P **P 06 48 33.4 +0.9**
comp=Z,11nm,1.4s,mb5.2
DLMT Dillon 98.19 41 *e*P **P 06 48 33.1 -0.6**
comp=Z,3.1nm,0.9s,mb4.8
SEY Seymchan 98.20 347⇑ *e*P **P 06 48 31.0 -2.7**
IMW Indian Meadow 98.21 43 *e*P **P 06 48 34.2 +0.5**
comp=Z,11nm,1.5s,mb5.2
PDAR Pinedale Array 98.32 44 P **P 06 48 32.6 -1.6**
comp=Z,0.4nm,1.0s,baz=191,slow=3.7,SNR=2.4
PDAR PKKPbc PKKPbc 07 05 02.2 -2.8
comp=Z,0.5nm,0.8s,baz=52,slow=5.8,SNR=3.9
BOZ Bozeman (W) 98.90 41 *e*P **P 06 48 36.4 -0.5**
BOZ pmax pmax
comp=Z,11nm,1.6s,mb5.1
BOZ Bozeman (W) 98.90 41 *e*P **P 06 48 36.4 -0.5**
comp=Z,11nm,1.6s,mb5.2
CPUP Villa Florida 98.95 129 P **P 06 48 36.8 -0.3**
comp=Z,1.5nm,0.8s,mb4.6,baz=212,slow=9.5,SNR=3.6
CPUP PKKPbc PKKPbc 07 05 02.3 -0.9
comp=Z,2.5nm,0.7s,baz=26,slow=5.5,SNR=7.7
CPUP Villa Florida 98.95 129 P **P 06 48 36.8 -0.3**
CPUP pmax pmax
comp=Z,2.0nm,0.8s
CPUP pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 99.67 307 *e*P Pdif P 06 48 41.0 +0.7
LZH AP pP 06 48 54.5 +0.9
LZH AMB AMB
comp=Z,6.0nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,82nm,4.9s
COLA College 100.34 13 *e*P Pdif 06 48 42.4 -0.8
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 100.34 13 *e*Pdif Pdif 06 48 42.4 -0.8
comp=Z,5.6nm,0.9s
BILL Bilibino 101.19 354 *e*P Pdif 06 48 46.6 -0.4
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL MLR MLR
comp=Z,400nm,24.0s,MS4.8
SONM Songino Array 104.52 318 Pdiff Pdif 06 49 01.0 -0.8
comp=Z,0.4nm,0.6s,baz=134,slow=6.2,SNR=3.1
SONM PKiKP PKiKP 06 53 17.8 +0.1
comp=Z,1.4nm,1.1s,baz=129,slow=0.9,SNR=4.0
SONM PKKPbc PKKPbc 07 04 59.0 +12
comp=Z,0.4nm,0.3s,baz=303,slow=2.7,SNR=5.0
INK Inuvik 105.28 16 *e*PKPdf PKiKP 06 53 20.2 -0.7
YKA Yellowknife Ar 107.90 26 PKiKP PKiKP 06 53 24.3 +0.3
comp=Z,0.5nm,0.6s,baz=240,slow=1.6,SNR=5.5
YKA PKKPbc PKKPbc 07 04 36.4 -0.3
comp=Z,1.3nm,0.8s,baz=40,slow=2.6,SNR=7.0

ULM Lac du Bonnet 110.27 43 PKKPbc PKKPbc 07 04 35.6 +6.5
comp=Z,4.6nm,0.9s,baz=27,slow=3.1,SNR=5.1
OPO Ambohidratompo112.63 228 PKiKP PKiKP 06 53 33.2 +0.3
comp=Z,2.2nm,0.7s,baz=247,slow=20,SNR=4.8
WMQ Urumqi 114.22 308 *e*PKP PKiKP 06 53 37.0 +1.1
WMQ XPKP 06 53 51.5
WMQ PP PP 06 54 36.8 +5.3
WMQ PKS 06 57 12.0
WMQ SKS SKSdf 07 00 44.0 -0.4
WMQ SKKS SKKSac 07 01 27.0 -2.6
WMQ PP PP
comp=Z,42nm,4.6s
WMQ LR LR
comp=N,416nm,24.8s,MS5.0
WMQ LR LR
comp=E,192nm,27.2s,MS5.0
WMQ LR LR
comp=Z,252nm,26.4s,MS4.7
BOSA Boshof 114.79 203 PKP PKiKP 06 53 39.4 +2.4
comp=Z,2.2nm,0.8s,baz=184,slow=9.0,SNR=3.9
BOSA PKKP PKKPbc 07 04 33.5 +19
comp=Z,2.7nm,0.8s,baz=58,slow=2.1,SNR=3.8
BOSA Boshof 114.79 203 PKIKP PKiKP 06 53 39.4 +2.4
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA Boshof 114.79 203 PKP PKiKP 06 53 39.4 +2.4
BOSA PKKP PKKPbc 07 04 33.5 +19
LBTB Lobatse 117.98 205 PKP PKPdf 06 53 45.4 +2.3
comp=Z,3.0nm,0.8s,baz=197,slow=5.1,SNR=4.2
LBTB Lobatse 117.98 205 PKIKP PKPdf 06 53 45.4 +2.3
LBTB pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 117.98 205 PKP PKPdf 06 53 45.4 +2.3
MK31 Makanchi Array 118.84 309 PKIKP PKPdf 06 53 42.5 -2.3
MK31 pmax pmax
comp=Z,43nm,1.2s
MKAR Makanchi Array 118.84 309 PKP PKPdf 06 53 43.0 -1.7
comp=Z,13nm,0.9s,baz=54,slow=2.1,SNR=70
MKAR PKKPbc PKKPbc 07 03 59.6 -0.1
comp=Z,0.3nm,0.4s,baz=271,slow=2.5,SNR=5.1
ZAL Zalesovo 119.42 318 PKP PKPdf 06 53 43.6 -2.3
comp=Z,3.3nm,0.4s,baz=358,slow=1.8,SNR=15
ZAL PKKP PKKPbc 07 04 32.5 +35
comp=Z,1.4nm,0.4s,baz=46,slow=7.6,SNR=3.1
ZAL Zalesovo 119.42 318 PKIKP PKPdf 06 53 43.6 -2.3
ZAL pmax pmax
comp=Z,3.0nm,0.4s
ZAL pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 120.54 318 *e*PKIKP PKPdf 06 53 45.5 -2.6
NVS pmax pmax
comp=Z,21nm,1.1s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,1.3s
KSH Kashi 120.91 300 *e*PKP PKPdf 06 53 49.0 +0.2
KSH *e*XPKP 06 54 03.0
KSH *e*PKS 06 57 24.0
KSH *e*PPP 06 57 57.1
KSH *e*SKS SKSdf 07 00 56.1 -1.1
KSH *e*SKKS SKKSac 07 02 10.2 -3.8
KSH *e*SS SS 07 11 49.1 +2.8
KSH PP PP
comp=Z,152nm,4.4s
KSH LR LR
comp=N,369nm,4.3s
KSH LR LR
comp=E,495nm,5.8s
KSH LR LR
comp=Z,321nm,6.6s
TKM2 Tokmak 2 122.22 303 P PKPdf 06 53 50.5 -0.8
SNR=14
KZA Kyzart 122.22 302 P PKPdf 06 53 51.5 +0.2
SNR=8.3
KBK Karagaybulak 122.60 303 P PKPdf 06 53 51.5 -0.5
SNR=7.5
CHMS Chumysh 122.84 303 P PKPdf 06 53 51.5 -1.0
SNR=15
AAK Ala-Archa 122.92 303 P PKPdf 06 53 52.0 -0.6
SNR=8.1
AAK Ala-Archa 122.92 303⇑ *i*PKIKP PKPdf 06 53 51.1 -1.5
AAK Ala-Archa 122.92 303 *e*PKPdf PKPdf 06 53 51.0 -1.6
USP Ospenovka 123.09 303 P PKPdf 06 53 51.8 -1.1
SNR=10
AML Almayashu 123.35 302 P PKPdf 06 53 53.5 0.0
SNR=22
EKS2 Erkin-Say 123.43 303 P PKPdf 06 53 52.6 -1.0
SNR=12
LSZ Lusaka 125.68 213 PKP PKPdf 06 53 58.8 +0.9
comp=Z,4.3nm,0.7s,baz=160,slow=6.4,SNR=7.0
LSZ Lusaka 125.68 213 PKIKP PKPdf 06 53 58.8 +0.9
LSZ pmax pmax
comp=Z,4.0nm,0.7s
LSZ Lusaka 125.68 213 PKP PKPdf 06 53 58.8 +0.9
KKAR Karatay Array 125.87 302 *i* PKIKP PKPdf 06 53 56.8 -1.5
KKAR pmax pmax
comp=Z,18nm,0.8s
TSUM Tsumeb 125.96 199 PKP PKPdf 06 53 59.8 +1.3
comp=Z,0.8nm,0.4s,baz=121,slow=5.9,SNR=3.8
VOSK Vostochnaya 127.29 314 PKIKP PKPdf 06 53 58.9 -2.1
VOSK pmax pmax
comp=Z,39nm,1.0s
CHKZ Chkalovo 127.62 315 *e*PKIKP PKPdf 06 53 59.7 -1.9
BVAR Borovoye Array 127.68 315 PKP PKPdf 06 54 00.4 -1.3
comp=Z,18nm,0.5s,baz=106,slow=2.2,SNR=94
BVAR Borovoye Array 127.68 315 PKIKP PKPdf 06 54 00.4 -1.4
BVAR pmax pmax
comp=Z,18nm,0.5s
BRVK Borovoye 127.75 315⇑P PKPdf 06 54 01.1 -0.8
SNR=12
BRVK Borovoye 127.75 315 *e*PKPdf PKPdf 06 54 00.6 -1.3
SCHQ Schefferville 128.45 43 PKP PKPdf 06 54 01.5 -1.7
comp=Z,5.3nm,1.0s,baz=221,slow=2.2,SNR=3.2
ZRNK Zerenda 128.51 314 *e*PKIKP PKPdf 06 54 01.8 -1.5
KMBO Kilima Mbogo 132.11 232 PKP PKPdf 06 54 12.2 +2.0
comp=Z,3.9nm,0.9s,baz=350,slow=0.6,SNR=5.5
KMBO SKPbc SKPbc 06 57 36.7 +3.8
comp=Z,32nm,1.1s,baz=109,slow=3.6,SNR=29
KMBO Kilima Mbogo 132.11 232 PKIKP PKPdf 06 54 12.2 +2.0
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO pmax pmax
comp=N,32nm,1.1s
KBS Kingsbay 133.58 357⇑ *i*PKIKP PKPdf 06 54 10.8 -2.1
AB31 Akbulak array 133.98 309 PKIKP PKPdf 06 54 12.0 -1.7
AB31 pmax pmax
comp=Z,10.0nm,0.8s
SPB4 Spitsbergen Ar 134.08 356 *e*PKPdf PKPdf 06 54 11.8 -2.1
ARU Arti 134.54 319 *i* PKIKP PKPdf 06 54 12.7 -2.0
SOKR Solikamsk 135.00 324⇑ *i*PKIKP PKPdf 06 54 13.1 -2.5
SOKR pmax pmax
comp=Z,30nm,1.2s
AKTK Aktyubinsk 135.24 311 PKP PKPdf 06 54 15.0 -1.0
AKTK SKPbc SKPbc 06 57 44.3 +1.0
AKTO Aktyubinsk 135.24 311 PKP PKPdf 06 54 15.0 -1.0
comp=Z,19nm,0.8s,baz=104,slow=2.4,SNR=39
AKTO SKPbc SKPbc 06 57 44.3 +1.0
comp=Z,4.2nm,0.9s,baz=138,slow=1.9,SNR=4.4
AKTO Aktyubinsk 135.24 311 PKIKP PKPdf 06 54 15.0 -1.0
AKTO pmax pmax
comp=Z,19nm,0.8s
AKTO pmax pmax
comp=N,4.0nm,1.0s
RDF Al-Radifah 140.33 277 *e*P PKPdf 06 54 23.4 -2.0
RDF AMb AMB 06 54 26.7
comp=Z,86nm,0.9s
KEV Kevo 140.34 346 *e*pkp PKPdf 06 54 17.8 -7.6
UMR Umm Al-Rimmam140.37 278 *e*P PKPdf 06 54 23.8 -1.7
UMR AMb AMB 06 54 28.9
comp=Z,92nm,0.9s
APA Apatity 140.52 341⇓ *i*PKIKP PKPdf 06 54 26.4 +0.6
APA pmax pmax
comp=Z,16nm,1.0s
NAY Al-Naaiem 140.68 277 *e*P PKPdf 06 54 24.3 -1.8
NAY AMb AMB 06 54 29.1
comp=Z,22nm,1.0s
ARCES ARCESS Array B 140.82 347 PKhKP 06 54 17.9
comp=Z,8.1nm,0.7s,baz=57,slow=3.3,SNR=38
ARCES PKP PKPdf 06 54 24.6 -1.7
comp=Z,9.1nm,0.6s,baz=29,slow=2.1,SNR=12
ARCES SKPbc SKPbc 06 57 57.9 -1.4
comp=Z,5.9nm,0.9s,baz=25,slow=2.6,SNR=4.6
ARCES ARCESS Array B 140.82 347 PKIKP PKPdf 06 54 24.6 -1.7
ARCES pmax pmax
comp=Z,9.0nm,0.6s
ARCES pmax pmax
comp=N,6.0nm,0.9s
ARCES ARCESS Array B 140.82 347 PKP PKPdf 06 54 24.6 -1.7
ARCES SKPbc SKPbc 06 57 57.9 -1.4
RST Umm Al-Ruwaisa 140.96 278 *e*P PKPdf 06 54 24.4 -2.1
RST AMb AMB 06 54 29.7
comp=Z,71nm,0.8s
KTK1 Kautokeino 141.69 347 *e* PKPdf 06 54 21.6 -6.2
TRO Tromso 141.84 350 *e* PKPdf 06 54 21.6 -6.5
BHD Baghdad 144.05 283 *ex* x 06 54 22.0
JOF Joensuu 144.42 337 *e*pkp PKPdf 06 54 28.5 -4.2
GNI Garni 144.57 295 PKP PKPdf 06 54 33.2 +0.3
comp=Z,4.5nm,0.3s,baz=54,slow=2.4,SNR=8.6
GNI Garni 144.57 295⇓P PKPdf 06 54 33.5 +0.5
SNR=6.7
GNI Garni 144.57 295⇑ *i*PKIKP PKPdf 06 54 31.3 -1.6
GNI MLR MLR
comp=Z,200nm,26.0s
GNI Garni 144.57 295 *e*PKPdf PKPdf 06 54 32.5 -0.4
BORG Borgarnes 145.17 17 PKP PKPdf 06 54 32.8 -1.2
comp=Z,53nm,1.2s,baz=318,slow=1.7,SNR=2.6
HKR Hakkari 145.19 290 *e*P PKPbc 06 54 32.8 -0.9
ZEI Tsey 145.21 299 *e*PKP2 PKPab 06 54 32.7 -1.1
CUKT Cukurca 145.26 289 *e*P PKPbc 06 54 32.0 -1.9
VRHR Novokhopersk 145.42 314 *e*PKIKP PKPdf 06 54 33.1 -1.3
VRHR pmax pmax
comp=Z,60nm,0.4s
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.3s
MSL Mosul 145.58 288 *ex* x 06 54 38.0
GOF Gofitskoye 145.66 303 *e*PKHKP 06 54 20.0
GOF pmax pmax
comp=Z,69nm,0.7s
MOR8 Moi Rana 145.70 351⇑ *i*P PKPdf 06 54 32.2 -2.6
MOR8 AMb AMB 06 54 34.3
comp=Z,208nm,1.6s
STOK Stokkvaagen 145.73 352⇑ *i*P PKPdf 06 54 33.5 -1.4
STOK AMb AMB 06 54 35.4
comp=Z,656nm,1.0s
MOS Moscow 145.94 323⇓ *i*PKIKP PKPdf 06 54 33.8 -1.5
MOS *e* 06 54 47.6
MOS pmax pmax
comp=Z,500nm,0.9s
MOS pmax pmax
comp=Z,491nm,0.9s
KIV Kislovodsk 146.02 301⇓P PKPdf 06 54 36.1 +0.7
SNR=5.7
KIV Kislovodsk 146.02 301⇑ *i*PKP2 PKPab 06 54 35.4 -1.5
KIV Kislovodsk 146.02 301 *e*PKPdf PKPdf 06 54 35.8 +0.3
KAF Kangasniemi 146.60 339 *e*pkp PKPdf 06 54 34.3 -2.1
VOR Voronezh 146.67 316 PKIKP PKPdf 06 54 35.0 -1.5
VOR pmax pmax
comp=Z,220nm,1.4s
OBN Obninsk 146.76 323⇑ *i*PKP2 PKPbc 06 54 37.0 -1.5
OBN pmax pmax
comp=Z,228nm,1.2s
OBN Obninsk 146.76 323 *e*PKPbc PKPbc 06 54 37.1 -1.3
VRSR Storozhevoye 146.85 315 *e*PKP2 PKPbc 06 54 37.0 -1.7
VRSR pmax pmax
comp=Z,150nm,0.9s
VRSR pmax pmax
comp=N,30nm,0.8s
VRSR pmax pmax
comp=E,100nm,0.9s
ERZM Erzurum 147.16 294 *i* P PKPbc 06 54 39.5 -0.1
EZM Erzurum 147.16 294 *e*P PKPbc 06 54 39.8 +0.2
BEST Besiri 147.17 290 *i* P PKPdf 06 54 38.7 +1.4
FIA1 FINESS Array S 147.19 338 *e*PKPbc PKPbc 06 54 38.0 -1.6
FINES FINESS Array B 147.19 338 PKPbc PKPbc 06 54 38.0 -1.6
comp=E,222nm,0.8s,baz=50,slow=3.8,SNR=525
FINES SKPbc SKPbc 06 58 16.6 +2.2
comp=E,3.6nm,0.8s,baz=162,slow=0.9,SNR=4.7
FINES FINESS Array B 147.19 338 PKP2 PKPbc 06 54 38.0 -1.7
FINES pmax pmax
comp=Z,223nm,0.8s
FINES pmax pmax
comp=N,4.0nm,0.8s
MARD Mardin 147.52 289 *i* P PKPdf 06 54 38.5 +0.6
NSS Namsos 147.59 351⇑ *i*P PKPdf 06 54 37.5 -0.6
NSS AMb AMB 06 54 39.5
comp=Z,212nm,1.0s
SOC Sochi 148.19 301 *i* PKP2 PKPbc 06 54 41.0 -1.4
SOC *e* 06 58 06.0
SOC *e*PPP 07 01 31.7
SOC pmax pmax
comp=Z,71nm,1.0s
EZC Erzincan 148.35 294 *e*P PKPbc 06 54 43.3 +0.5
PTK Pertek 148.68 292 *e*P PKPdf 06 54 41.2 +1.3
KELT Kelkit 148.78 294 *i* P PKPbc 06 54 43.6 -0.3
ELZG Elazig 148.99 291 *i* P PKPbc 06 54 44.4 0.0
MALT Malatya 149.43 291⇓ *i*P PKPbc 06 54 45.2 -0.3
MALT Malatya 149.43 291 *e*PKPdf PKPdf 06 54 40.6 -0.4
MALT *e*PKPbc PKPbc 06 54 45.6 +0.1
ANN Anapa 149.64 304 *i* PKHKP PKPbc 06 54 44.4 -1.6
ANN pmax pmax
comp=Z,206nm,0.9s
ASF Jabal al Asfar 150.03 279 PKP PKPdf 06 54 42.1 +0.1
comp=Z,11nm,1.2s,baz=146,slow=3.6,SNR=3.9
ASF PKPbc PKPbc 06 54 47.1 +0.1
comp=Z,31nm,0.9s,baz=186,slow=1.1,SNR=23
GZT Gaziantep 150.08 289 *i* P PKPbc 06 54 46.5 -0.7
DOMB Dombas 150.35 353 *e*P PKPbc 06 54 46.4 -1.3
DOMB AMb AMB 06 54 48.3
comp=Z,79nm,1.2s
GAZ Gaziantep 150.35 289 *e*P PKPbc 06 54 47.4 -0.4
SVSK Karacayir 150.52 294 *e*P PKPdf 06 54 42.8 0.0
SVST Sivas 150.56 294 *i* P PKPbc 06 54 48.5 +0.2
KMRS Kahramanmaras 150.61 289 *e*P PKPbc 06 54 47.9 -0.5
NB2 NORSAR Subarra151.04 350 PKPa PKPbc 06 54 47.3 -2.1
comp=Z,30nm,1.0s,baz=17,slow=2.6
NB2 NORSAR Subarra151.04 350 PKPa PKPbc 06 54 47.3 -2.1
baz=17,slow=2.6
NOA NORSAR Array B151.04 350 PKP PKPdf 06 54 41.6 -1.9
comp=Z,2.1nm,0.4s,baz=223,slow=24,SNR=16
NOA PKPbc PKPbc 06 54 48.0 -1.4
comp=Z,27nm,0.7s,baz=14,slow=4.1,SNR=73
EIL Elat 151.10 273 *e*PKPbc PKPbc 06 54 49.9 +0.3
RCY Rachaya 151.14 281 *e*P PKPbc 06 54 49.9 +0.3
HTY Hatay 151.16 286 *e*P PKPbc 06 54 48.0 -1.6
KVT Kavak 151.16 297 *e*P PKPbc 06 54 49.4 -0.3
NAO01 NORSAR Array S 151.28 350 *e*PKPdf PKPdf 06 54 43.2 -0.8
NAO01 *e*PKPbc PKPbc 06 54 48.7 -1.2
BHL Bhannes 151.34 282 *e*P PKPbc 06 54 49.8 -0.3
MNK Minsk 151.35 327 *e*PKIKP PKPab 06 54 55.0 -3.3
MNK pmax pmax
comp=Z,500nm,1.0s
BNN Bunyan 151.45 292 *e*P PKPbc 06 54 49.6 -0.8
KOZT Kozan 151.47 289 *e*P PKPbc 06 54 48.2 -2.1
CEYT Ceyhan 151.52 288 *e*P PKPbc 06 54 49.4 -1.1
SIM Simferopol' 151.91 305⇓ *i*PKIKP PKPbc 06 54 50.6 -0.8
SIM pmax pmax
comp=Z,87nm,0.8s
BOYT Boyabat 151.98 298 *i* P PKPbc 06 54 50.4 -1.2
KARA Karaisali 152.08 289 *e*P PKPbc 06 54 49.4 -2.4
CORM Corum 152.31 295 *e*P PKPbc 06 54 50.6 -1.7
MERS Mersin 152.49 288 *e*P PKPbc 06 54 50.9 -1.5
CDAG Cicekdag 152.56 294 *i* P PKPbc 06 54 51.4 -1.5
BZK Bozkurt 152.58 299 *e*P PKPbc 06 54 50.4 -2.5
KONO Kongsberg 152.61 351 *e*PKIKP PKPbc 06 54 51.6 -1.4
KONO *e* 06 55 01.7
TOS Tosya 152.69 297 *e*P PKPdf 06 54 42.3 -3.7
MEST Erdemli 152.79 287 *i* P PKPbc 06 54 52.6 -0.8
AKASG Malin Array Be 152.79 319 PKP PKPdf 06 54 45.1 -1.1
comp=Z,2.8nm,0.7s,baz=62,slow=1.2,SNR=8.8
AKASG PKPbc PKPbc 06 54 52.2 -1.2
comp=Z,44nm,0.7s,baz=65,slow=2.4,SNR=93
AKBB Malin Array Si 152.79 319 *e*PKIKP PKPdf 06 54 45.1 -1.1
AKBB *e* 06 54 52.3
CANT Cankiri 153.04 296 *e*P PKPdf 06 54 49.9 +3.3
KAMT Kaman 153.08 293 *e*P PKPbc 06 54 52.8 -1.2
BALT Daday 153.10 298 *i* P PKPbc 06 54 53.5 -0.5
BR131 Keskin Array S 153.11 294 *e*PKPbc PKPbc 06 54 52.9 -1.2
BRTR Keskin Array B 153.11 294 PKP PKPdf 06 54 47.1 +0.5
comp=Z,1.6nm,0.9s,baz=120,slow=1.7,SNR=5.7
BRTR PKPbc PKPbc 06 54 52.9 -1.2
comp=Z,28nm,0.8s,baz=135,slow=3.6,SNR=73
BRTR PKPab PKPab 06 55 04.1 -1.6
comp=Z,6.3nm,0.8s,baz=201,slow=2.4,SNR=6.3
IKL Isikli 153.15 286 *e*P PKPbc 06 54 52.3 -1.9
BLS5 Blasjo 153.18 354 *e*P PKPbc 06 54 54.1 -0.1

BLS5				AMb	AMB	06 55 00.2	
	comp=Z,42nm,2.2s						
ELDT	**Eldivan**	**153.20**	**296**	*i* P	PKPbc	06 54 53.3	-1.0
DBIC	**Dimbokro**	**153.35**	**166**	PKP	PKPdf	06 54 48.0	+0.9
	comp=Z,6.5nm,1.0s,baz=178,slow=4.6,SNR=3.7						
DBIC				PKPbc	PKPbc	06 54 54.8	+0.2
	comp=Z,12nm,0.8s,baz=199,slow=3.8,SNR=9.5						
DBIC				PKPab	PKPab	06 55 06.1	-0.7
	comp=Z,7.8nm,0.6s,baz=185,slow=4.3,SNR=6.7						
DBIC	**Dimbokro**	**153.35**	**166**	PKP	PKPdf	06 54 48.0	+0.9
DBIC				PKPbc	PKPbc	06 54 54.8	+0.2
DBIC				PKPab	PKPab	06 55 06.1	-0.7
CSS	**Prodhromos**	**153.36**	**284**	*e*PKPdf	PKPdf	06 54 47.2	+0.2
CSS				*e*PKPbc	PKPbc	06 54 54.1	-0.5
SUW	**Suwalki**	**153.71**	**330**	*e*PKP	PKPbc	06 54 54.0	-1.4
SUW	**Suwalki**	**153.71**	**330**	*e*PKPdf	PKPdf	06 54 46.9	-0.6
SUW				*e*PKPbc	PKPbc	06 54 54.1	-1.3
SUW				*e*PKPab	PKPab	06 55 06.4	-1.9
ANTO	**Ankara**	**153.75**	**295**	*e*P	PKPdf	06 54 49.0	+1.4
ANTO	**Ankara**	**153.75**	**295**	⇑*i*P	PKPbc	06 54 54.7	-0.8
ANTO	**Ankara**	**153.75**	**295**	*e*PKPbc	PKPbc	06 54 54.9	-0.5
KIZT	**Kizilcal**	**154.54**	**292**	*e*P	PKPbc	06 54 55.6	-1.5
MDU	**Mudurnu**	**154.88**	**296**	*e*P	PKPbc	06 54 56.5	-1.4
LVV	**L'vov**	**156.06**	**322**	*e*PKIKP	PKPdf	06 54 58.9	+8.1
BURAR	**Bucovina Array**	**156.62**	**316**	⇑*i*P	pPKPdf	06 55 03.6	-1.6
KWP	**Kalwaria**	**156.85**	**323**	*e*PKP2	PKPab	06 55 20.8	-0.9
DST	**Dursunbey**	**156.97**	**295**	*e*P	PKPab	06 55 27.2	+5.0
MLR	**Muntele Rosu**	**157.17**	**311**	PKPbc	PKPdf	06 55 02.1	+10
	comp=Z,7.4nm,0.9s,baz=139,slow=2.1,SNR=6.2						
MLR				PKPab	PKPab	06 55 22.1	-1.0
	comp=Z,9.7nm,0.9s,baz=347,slow=7.0,SNR=5.4						
MLR	**Muntele Rosu**	**157.17**	**311**	⇑*i*P	PKPdf	06 55 02.4	+10
MLR	**Muntele Rosu**	**157.17**	**311**	PKP2	PKPab	06 55 22.1	-1.0
MLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**157.29**	**7**	PKPab	PKPab	06 55 21.5	-2.1
	comp=Z,4.9nm,0.7s,baz=337,slow=2.4,SNR=11						
EKA	**Eskdalemuir Ar**	**157.29**	**7**	PKP2	PKPab	06 55 21.5	-2.1
EKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KOLS	**Kolonicke sedl**	**157.51**	**322**	*e*PKP	PKPdf	06 54 51.7	-0.9
UZH	**Uzhgorod**	**157.69**	**321**	⇓*i*PKIKP	PKPdf	06 55 02.5	+10
UZH				pmax	pmax		
	comp=Z,20nm,1.0s						
STHS	**Stebnicka Huta**	**157.73**	**324**	*e*PKP	PKPdf	06 54 50.9	-2.0
STHS				*e*		06 55 21.8	
STHS	**Stebnicka Huta**	**157.73**	**324**	*e*PKIKP	PKPdf	06 54 50.9	-2.0
STHS				*e*		06 55 21.8	
STHS				pmax	pmax		
	comp=N,6.0nm,0.5s						
OJC	**Ojcow**	**157.87**	**327**	*e*PKPab	PKPab	06 55 24.8	-1.3
OJC	**Ojcow**	**157.87**	**327**	*e*PKPab	PKPab	06 55 24.8	-1.3
CRVS	**Cervenica-Dubn**	**157.95**	**323**	*e*PKP	PKPdf	06 54 52.8	-0.4
KECS	**Kecovo**	**158.71**	**323**	*e*PKP	PKPdf	06 54 52.7	-1.4
KECS				*e*		06 55 27.2	
KECS	**Kecovo**	**158.71**	**323**	*e*PKP	PKPdf	06 54 52.7	-1.4
KECS				*e*		06 55 27.3	
OKC	**Ostrava-Krasne**	**158.89**	**329**	*e*PKPAB	PKPab	06 55 29.4	-1.1
UPC	**Upice**	**159.25**	**333**	*e*PKPAB	PKPab	06 55 30.6	-1.5
DPC	**Dobruska-Polom**	**159.26**	**332**	*e*PKPDF	PKPdf	06 54 55.6	+0.9
DPC				*e*PKPAB	PKPab	06 55 30.4	-1.7
VYHS	**Vyhne**	**159.52**	**325**	*e*PKP	PKPab	06 55 32.5	-0.8
CLL	**Collm**	**159.63**	**338**	*e*PKPab	PKPab	06 55 31.8	-1.9
CLL				*e*		06 55 48.2	
CLL	**Collm**	**159.63**	**338**	*e*PKPdiff	PKPdf	06 55 07.0	+12
	comp=Z,11nm,1.1s						
CLL				⇓*i*PKPab	PKPab	06 55 31.8	-1.9
	comp=Z,26nm,0.7s						
CLL				*e*pPKPab	pPKPab	06 55 48.0	+0.9
CLL				LmV		08 21 00.0	
	comp=Z,300nm,19.7s						
CLL	**Collm**	**159.63**	**338**	⇓*e*PKIKP	PKPdf	06 55 07.0	+12
CLL				*i*		06 55 31.8	
CLL				pmax	pmax		
	comp=Z,11nm,1.1s						
CLL				pmax	pmax		
	comp=Z,26nm,0.7s						
CLL				MLR	MLR		
	comp=Z,300nm,19.7s,MS5.1						
BRG	**Berggiesshubel**	**159.70**	**336**	*e*PKPab	PKPab	06 55 32.5	-1.5
BRG	**Berggiesshubel**	**159.70**	**336**	*i* PKP	PKPab	06 55 32.5	-1.6
	comp=Z,11nm,0.9s						
BRG	**Berggiesshubel**	**159.70**	**336**	*i* PKP2	PKPab	06 55 32.5	-1.5
BRG				pmax	pmax		
	comp=Z,11nm,1.0s						
PVCC	**Panska Ves**	**159.77**	**335**	*e*PKPAB	PKPab	06 55 32.8	-1.6
FBE	**Freiberg**	**159.86**	**337**	*e*PKPab	PKPab	06 55 33.2	-1.5
FBE				*e*		06 55 49.7	
VRAC	**Vranov**	**159.95**	**330**	PKPab	PKPab	06 55 34.4	-0.7
	comp=Z,4.5nm,0.4s,baz=20,slow=3.5,SNR=6.8						
VRAC	**Vranov**	**159.95**	**330**	PKP2	PKPab	06 55 34.4	-0.7
VRAC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
SMOL	**Smolenice**	**160.17**	**327**	*e*PKP	PKPab	06 55 35.5	-0.6
PRU	**Pruhonice**	**160.23**	**334**	*e*PKPAB	PKPab	06 55 34.5	-1.8
PRU				AMS	AMS	08 02 10.0	
	comp=Z,300nm,22.2s						
GTTG	**Gvttingen**	**160.25**	**344**	*e*PKPab	PKPab	06 55 35.0	-1.4
GTTG				*e*		06 55 50.2	
TORD	**Torodi Ar. Bea**	**160.40**	**181**	PKP	PKPdf	06 54 56.2	+0.1
	comp=Z,3.4nm,0.9s,baz=279,slow=1.1,SNR=12						
TORD				PKPab	PKPab	06 55 37.1	0.0
	comp=Z,5.8nm,0.8s,baz=165,slow=3.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**160.40**	**181**	PKP	PKPdf	06 54 56.2	+0.1
TORD				PKPab	PKPab	06 55 37.1	0.0
WTSB	**Winterswijk**	**160.46**	**350**	*e*PKP	PKPab	06 55 35.1	-2.2
	comp=Z,25nm,0.5s						
TANN	**Tannenbergstha**	**160.58**	**338**	*e*PKPab	PKPab	06 55 36.3	-1.6
WERD	**Werda**	**160.60**	**338**	*e*PKPab	PKPab	06 55 36.5	-1.5
MOX	**Moxa**	**160.63**	**340**	*e*PKPab	PKPab	06 55 36.3	-1.8
MOX				*e*		06 55 52.9	
GUNZ	**Gunzen**	**160.66**	**338**	*e*PKPdf	PKPdf	06 54 54.6	-1.7
GUNZ				*e*PKPab	PKPab	06 55 36.9	-1.3
WERN	**Wernitzgruen**	**160.72**	**338**	*e*PKPab	PKPab	06 55 37.2	-1.3
WERN				*e*		06 55 53.7	
MANZ	**Manzenberg**	**161.06**	**338**	*e*PKPab	PKPab	06 55 38.7	-1.3
ROTZ	**Rotzenmuhle**	**161.22**	**338**	*e*PKPdf	PKPdf	06 54 55.0	-1.9
ROTZ				*e*PKPab	PKPab	06 55 39.6	-1.1
KHC	**Kasperske Hory**	**161.29**	**334**	*e*PKPDF	PKPdf	06 54 56.0	-1.0
KHC				*e*PKPAB	PKPab	06 55 39.5	-1.5
KHC				AMS	AMS	08 11 10.0	
	comp=Z,300nm,16.7s						
CONA	**Conrad Observa**	**161.31**	**328**	⇑*i*PKPdf	PKPdf	06 54 55.2	-1.8
	comp=Z,2.5nm,1.0s						
CONA				⇓*i*PKPab	PKPab	06 55 39.6	-1.5
	comp=Z,12nm,1.0s						
GEC2	**GERESS Array S**	**161.48**	**333**	*e*PKPdf	PKPdf	06 54 55.0	-2.2
GEC2				*e*PKPab	PKPab	06 55 39.9	-1.9
GEC2	**GERESS Array S**	**161.48**	**333**	*e*PKP2	PKPab	06 55 39.9	-1.9
GERES	**GERESS Array B**	**161.48**	**333**	PKP	PKPdf	06 54 56.3	-0.9
	comp=Z,1.6nm,0.8s,baz=149,slow=0.8,SNR=8.9						
GERES				PKPab	PKPab	06 55 40.4	-1.4
	comp=Z,5.8nm,0.9s,baz=41,slow=4.3,SNR=11						
WET	**Wettzell**	**161.53**	**335**	*e*PKPdf	PKPdf	06 54 55.0	-2.2
WET				*e*PKPab	PKPab	06 55 41.0	-1.0
GRF	**Grafenberg Arr**	**161.60**	**339**	*e*PKPab	PKPab	06 55 41.1	-1.2
GRF				*e*		06 55 57.2	
HGN	**Heimansgroeve**	**161.75**	**351**	*e*PKP	PKPab	06 55 41.1	-1.9
	comp=Z,4.4nm,1.0s						
HGN				*e*x	x	06 55 54.1	
TNS	**Taunus Mts**	**161.83**	**345**	*e*PKPab	PKPab	06 55 41.2	-2.1
MEM	**Membach**	**161.90**	**350**	PKPab	PKPab	06 55 41.5	-2.1
BCLA	**Clavier**	**162.17**	**352**	PKPab	PKPab	06 55 42.4	-2.5
SNF	**Seneffe**	**162.20**	**354**	PKPab	PKPab	06 55 42.5	-2.5
GIVF	**Givet**	**162.54**	**352**	*e*PKP2	PKPab	06 55 44.1	-2.4
DOU	**Dourbes**	**162.57**	**353**	PKPab	PKPab	06 55 44.7	-1.9
BAIF	**Baives**	**162.65**	**354**	*e*PKP2	PKPab	06 55 45.1	-1.8
	comp=Z,44nm,1.0s						
WLF	**Walferdange**	**162.79**	**349**	*e*PKPab	PKPab	06 55 46.5	-1.1
WLF	**Walferdange**	**162.79**	**349**	PKPab	PKPab	06 55 46.6	-0.9
FUR	**Furstenfeldbru**	**162.92**	**337**	*e*PKPab	PKPab	06 55 47.4	-0.7
KBA	**Koelnbreinsper**	**163.05**	**331**	⇓*i*	PKPab	06 55 45.4	-3.3
	comp=Z,6.8nm,1.0s						
KBA	**Koelnbreinsper**	**163.05**	**331**	⇑*i*PKPdf	PKPdf	06 54 55.2	-3.5
	comp=Z,4.9nm,1.1s						
KBA				⇓*i*PKPab	PKPab	06 55 46.4	-2.3
	comp=Z,6.8nm,1.0s						
KBA	**Koelnbreinsper**	**163.05**	**331**	⇑*i*P	PKPdf	06 54 55.2	-3.5
KBA				*i*		06 55 45.4	
BFO	**Black Forest**	**163.63**	**343**	*e*PKPab	PKPab	06 55 49.3	-1.9
MOTA	**Moosalm**	**163.69**	**336**	⇑*i*PKPdf	PKPdf	06 54 59.7	+0.3
	comp=Z,2.1nm,0.8s						
MOTA				⇑*i*PKPab	PKPab	06 55 50.0	-1.5
	comp=Z,23nm,1.3s						
MOTA	**Moosalm**	**163.69**	**336**	⇑*i*P	PKPdf	06 54 59.6	+0.3
MOTA				*i*		06 55 50.0	
CDF	**Champ du Feu**	**163.79**	**346**	*e*PKP2	PKPab	06 55 50.0	-1.9
	comp=Z,27nm,1.0s						
FLN	**La Foliniere**	**164.03**	**4**	*e*PKP2	PKPab	06 55 51.2	-1.8
	comp=Z,26nm,0.9s						
MEZF	**Maizieres J'vi**	**164.09**	**351**	*e*PKP2	PKPab	06 55 51.5	-1.7
	comp=Z,45nm,0.9s						
ROSF	**Rostrenen**	**164.14**	**11**	*e*PKP2	PKPab	06 55 52.2	-1.3
DAVA	**Damuels**	**164.14**	**338**	⇑*i*	PKPab	06 55 46.8	-6.7
	comp=Z,27nm,1.1s						
DAVA	**Damuels**	**164.14**	**338**	⇑*i*PKPdf	PKPdf	06 54 56.9	-2.9
	comp=Z,3.5nm,1.0s						
DAVA				⇓*i*PKPab	PKPab	06 55 52.3	-1.2
	comp=Z,27nm,1.1s						
DAVA	**Damuels**	**164.14**	**338**	⇑*i*P	PKPdf	06 54 56.9	-2.9
DAVA				*i*		06 55 46.8	
LDF	**La Druitiere**	**164.22**	**3**	*e*PKP2	PKPab	06 55 52.1	-1.7
SGMF	**Saint Gilles**	**164.33**	**9**	*e*PKP2	PKPab	06 55 52.6	-1.7
	comp=Z,54nm,1.0s						
HAU	**Haudompre**	**164.36**	**347**	*e*PKP2	PKPab	06 55 52.4	-2.1
	comp=Z,22nm,0.8s						
HAU				*e*R			
	comp=Z,273nm,20.5s						
GRR	**Gorron**	**164.38**	**5**	*e*PKP2	PKPab	06 55 52.8	-1.7
HINF	**Hinteralfeld**	**164.44**	**346**	*e*PKP2	PKPab	06 55 52.6	-2.2
	comp=Z,16nm,1.0s						
LOR	**Lormes**	**165.45**	**353**	*e*PKP2	PKPab	06 55 57.3	-1.9
	comp=Z,16nm,0.8s						
LOR				*e*R			
	comp=Z,323nm,21.2s						
CABF	**La Chapelle**	**165.75**	**346**	*e*PKP2	PKPab	06 55 58.9	-1.7
AVF	**Avril sur Loir**	**165.97**	**354**	*e*PKP2	PKPab	06 55 59.5	-2.0
	comp=Z,42nm,1.0s						
SMF	**Signal de Mont**	**166.06**	**353**	*e*PKP2	PKPab	06 56 00.1	-1.9
	comp=Z,95nm,1.0s						
BGF	**Bois d'Agland**	**166.24**	**355**	*e*PKP2	PKPab	06 56 00.8	-1.9
TCF	**Toulx Ste Croi**	**166.54**	**357**	*e*PKP2	PKPab	06 56 02.1	-2.0
	comp=Z,30nm,1.1s						
LPL	**La Plagne**	**166.65**	**343**	*e*PKP2	PKPab	06 56 03.6	-0.9
	comp=Z,32nm,1.0s						
LPG	**La Plagne**	**166.66**	**343**	*e*PKP2	PKPab	06 56 03.9	-0.7
	comp=Z,36nm,0.9s						
MBDF	**Montbardon**	**167.38**	**342**	*e*PKP2	PKPab	06 56 06.1	-1.6
	comp=Z,20nm,1.0s						
ORIF	**Oris-en-Rattie**	**167.41**	**345**	*e*PKP2	PKPab	06 56 06.7	-1.2
	comp=Z,29nm,0.9s						
ORIF				*e*R			
	comp=Z,408nm,21.0s						
RJF	**Les Rejaudoux**	**167.54**	**359**	*e*PKP2	PKPab	06 56 06.5	-2.0
RJF				*e*R			
	comp=Z,398nm,20.5s						
VIVF	**Saint-Julien-l**	**167.71**	**349**	*e*PKP2	PKPab	06 56 07.7	-1.5
	comp=Z,34nm,1.2s						
LFF	**La Frestale**	**167.90**	**2**	*e*PKP2	PKPab	06 56 08.2	-1.9
CAF	**Calviac**	**167.91**	**357**	*e*PKP2	PKPab	06 56 08.6	-1.5
SBF	**Sospel**	**167.97**	**338**	*e*PKP2	PKPab	06 56 09.4	-1.0
SMRF	**Simiane la Rot**	**168.37**	**344**	*e*PKP2	PKPab	06 56 11.0	-1.2
	comp=Z,33nm,1.2s						
FRF	**La Foret Royal**	**168.49**	**340**	*e*PKP2	PKPab	06 56 10.7	-2.0
	comp=Z,20nm,0.9s						
LMR	**La Mourre**	**168.74**	**340**	*e*PKP2	PKPab	06 56 12.0	-1.8
	comp=Z,50nm,1.1s						
MTLF	**Montolieu**	**169.48**	**356**	*e*PKP2	PKPab	06 56 15.7	-1.4
	comp=Z,13nm,0.9s						
SJPF	**Ste Jean**	**169.55**	**10**	*e*PKP2	PKPab	06 56 16.1	-1.3
EPF	**Esparros**	**169.79**	**4**	*e*PKP2	PKPab	06 56 16.5	-1.9
ETSF	**Etsaut**	**169.85**	**8**	*e*PKP2	PKPab	06 56 17.5	-1.2
	comp=Z,13nm,1.0s						
ESDC	**Sonseca Array**	**171.97**	**30**	PKP	PKPdf	06 55 05.5	+0.3
	comp=Z,0.7nm,0.5s,baz=347,slow=3.3,SNR=4.7						
ESDC				PKPab	PKPab	06 56 26.6	-1.5
	comp=Z,1.0nm,0.6s,baz=330,slow=5.6,SNR=5.6						
KEST	**Kesra**	**172.72**	**296**	PKP	PKPdf	06 55 06.0	+0.5
	comp=Z,1.6nm,0.9s,baz=227,slow=7.8,SNR=3.1						
MDT	**Midelt**	**175.05**	**89**	PKP	PKPdf	06 55 07.5	+1.2
	comp=Z,3.9nm,0.8s,baz=90,slow=1.4,SNR=8.8						

ISCJB ***01*** *06:41:08.2±0.4, 51.45N±0.02×16.09E±0.02, h0km, Error ellipse: s-maj=3.5km s-min=2.0km az=24.8*
IPEC ***01*** *06:41:08.8±0.3, 51.57N×16.22E, h0km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
NEIC ***01*** *06:41:09.3±0.4, 51.55N×16.13E, h5km, ML2.9(CSEM), ML3.0(SZGRF), Error ellipse: s-maj=5.0km s-min=4.3km az=64.0*
IDC ***01*** *06:41:10.7±0.7, 51.51N×15.90E, h0km, mb1 3.3/7, mb1mx3.2/23, mbtmp3.2/7, ML3.0/6, Error ellipse: s-maj=13.5km s-min=6.9km az=101.0*
WAR ***01*** *06:41:10.8, 51.49N×16.10E, ML2.7, Mining Induced*
PRU ***01*** *06:41:11.1, 51.44N×16.08E, h0km*
VIE ***01*** *06:41:11.6±0.4, 51.33N×16.13E, h0km, mb2.5/4, ML2.9/4, Error ellipse: s-maj=2.3km s-min=2.2km az=170.0 67 km WNW of Breslau Suspected Mining induced.*
CSEM ***01*** *06:41:11.4±0.2, 51.45N×16.06E, h0km, ML3.3/8, Error ellipse: s-maj=3.3km s-min=2.2km az=10.0*
BGR ***01*** *06:41:11.5±0.6, 51.50N×16.00E, h1km, ML3.0, Error ellipse: s-maj=8.9km s-min=5.6km az=163.0*
ISC 01 06:41:09.0±0.4**, 51.52N**±0.02×**16.11E**±0.02**, h0**km**, n53,** σ**0.94**/102**, 3C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**170**	*i* Pgd	**Pg**	**06 41 22.8**	**+0.7**
KSP				i		06 41 23.5	
KSP				*e*Sg	**Sg**	**06 41 31.5**	**+0.5**
KSP				*e*L		06 41 35.0	
KSP	**Ksiaz**	**0.69**	**170**	⇓*i*Pg	**Pg**	**06 41 22.8**	**+0.7**
KSP				*e*Sg	**Sg**	**06 41 31.5**	**+0.5**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**06 41 28.9**	**+0.5**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG	**Pg**	**06 41 31.7**	**+0.1**
DPC				*e*SG	**Sg**	**06 41 46.0**	**-0.8**
	48nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*Pg	**Pg**	**06 41 31.7**	**+0.1**
DPC				*e*Sg	**Sg**	**06 41 47.1**	**+0.3**
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pg	**Pg**	**06 41 35.7**	**+0.1**
PVCC				*e*Sg	**Sg**	**06 41 55.3**	**+1.6**
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pg	**Pg**	**06 41 38.2**	**+0.3**
BRG				*e*Sg	**Sg**	**06 41 58.8**	**+1.3**
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**06 41 37.4**	**+0.2**
BRG				PG	**Pg**	**06 41 38.3**	**+0.4**
BRG				SG	**Sg**	**06 41 58.5**	**+1.0**
	69nm,0.4s						
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**06 41 41.2**	**-0.4**
PRU				*e*PG	**Pg**	**06 41 43.2**	**-0.8**
PRU				*e*SG	**Sg**	**06 42 06.4**	**-1.3**
	38nm,0.6s						
FBE	**Freiberg**	**1.83**	**252**	*e*Pn	**Pn**	**06 41 41.8**	**0.0**
FBE				*e*Sg	**Sg**	**06 42 08.7**	**+0.8**
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**06 41 43.1**	**-0.3**
CLL				*e*Pg	**Pg**	**06 41 46.0**	**-0.5**
CLL				*e*Sg	**Sg**	**06 42 11.8**	**-0.1**
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**06 41 43.0**	**-0.4**
CLL				*e*Pg	**Pg**	**06 41 46.0**	**-0.5**
CLL				*i* x	x	06 41 50.4	
CLL				*i* Sg	**Sg**	**06 42 12.2**	**+0.3**
	comp=Z,26nm,0.8s						
CLL				*i* x	x	06 42 21.3	
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**06 41 43.0**	**-0.4**
CLL				*e*Pg	**Pg**	**06 41 46.0**	**-0.5**
CLL				*i* Sg	**Sg**	**06 42 12.2**	**+0.3**
CLL	**Collm**	**1.96**	**265**	Pg	**Pg**	**06 41 46.0**	**-0.5**
CLL				Sg	**Sg**	**06 42 11.8**	**-0.1**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**06 41 43.3**	**-0.2**
MORC				*e*Sn	**Sn**	**06 42 08.5**	**-0.4**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn	**Pn**	**06 41 43.4**	**-0.2**
MORC				*e*Sn	**Sn**	**06 42 08.5**	**-0.4**
MORC				*e*Sg	**Sg**	**06 42 10.8**	**-1.4**
	comp=Z,21nm,0.3s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG	**Pg**	**06 41 49.2**	**-0.5**
OKC				*e*SG	**Sg**	**06 42 15.7**	**-1.5**
	comp=Z,34nm,0.7s						
VRAC	**Vranov**	**2.23**	**172**	Pn	**Pn**	**06 41 48.5**	**+1.2**
	comp=Z,3.6nm,0.3s,baz=351,slow=16,SNR=10						
VRAC				Lg		06 42 20.0	
	comp=Z,6.2nm,0.3s,baz=83,slow=19,SNR=7.8						
VRAC	**Vranov**	**2.23**	**172**	*e*Pn	**Pn**	**06 41 48.4**	**+1.2**
VRAC				*e*Sg	**Sg**	**06 42 19.8**	**-1.0**
	comp=Z,18nm,0.3s						
TREC	**Trest**	**2.26**	**190**	*e*PG	**Pg**	**06 41 51.7**	**-0.6**
KRUC	**Moravsky**	**2.47**	**176**	*e*Pn	**Pn**	**06 41 51.8**	**+1.4**
KRUC				*e*Sg	**Sg**	**06 42 27.9**	**-0.3**
	comp=Z,15nm,0.3s						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**06 41 52.4**	**+0.7**
TANN				*e*Sg	**Sg**	**06 42 29.9**	**-1.3**
WERD	**Werda**	**2.63**	**247**	*e*Sg	**Sg**	**06 42 32.6**	**-1.1**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**06 41 53.8**	**+0.8**
NKC				*e*SG	**Sg**	**06 42 34.9**	**+0.6**
	comp=Z,56nm,0.3s						
GUNZ	**Gunzen**	**2.66**	**246**	*e*Pn	**Pn**	**06 41 54.1**	**+1.0**
GUNZ				*e*Sg	**Sg**	**06 42 34.9**	**+0.6**
WERN	**Wernitzgruen**	**2.67**	**244**	*e*Pn	**Pn**	**06 41 53.8**	**+0.6**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**06 42 00.6**	**+0.4**
OJC				*e*Sg	**Sg**	**06 42 36.7**	**+1.8**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**06 42 00.6**	**+0.4**
OJC				*e*Sg	**Sg**	**06 42 36.7**	**+1.8**
JAVC	**Velka Javorina**	**2.84**	**159**	*e*Sg	**Sg**	**06 42 40.9**	**+0.5**
	comp=Z,24nm,0.7s						
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**06 41 56.5**	**+0.3**
KHC				*e*PG	**Pg**	**06 42 02.5**	**-1.9**
KHC				*e*SN	**Sn**	**06 42 31.0**	**-0.7**
KHC				*e*SG	**Sg**	**06 42 40.9**	**-0.9**
	comp=Z,26nm,0.8s						
MOX	**Moxa**	**2.97**	**255**	*e*Pn	**Pn**	**06 41 57.8**	**+0.4**
MOX				*i* Pg	**Pg**	**06 42 05.3**	**-0.6**
MOX				*e*Sg	**Sg**	**06 42 44.5**	**+0.2**
MOX	**Moxa**	**2.97**	**255**	*e*PN	**Pn**	**06 41 57.8**	**+0.5**
MOX				*i* PG	**Pg**	**06 42 05.3**	**-0.6**
MOX				*i* SG	**Sg**	**06 42 45.4**	**+1.0**
MANZ	**Manzenberg**	**2.97**	**240**	*e*Pn	**Pn**	**06 41 58.3**	**+1.0**
MANZ				*e*Sg	**Sg**	**06 42 45.2**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn	**Pn**	**06 41 59.2**	**+0.8**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**06 42 00.1**	**+1.1**
GEC2				*e*Sg	**Sg**	**06 42 47.4**	**-1.0**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**06 42 00.1**	**+1.1**
GEC2				*e*Sg	**Sg**	**06 42 47.4**	**-1.0**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**06 42 00.1**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=27,slow=12,SNR=23						
GERES				Pg	**Pg**	**06 42 05.9**	**-2.4**
	comp=Z,5.0nm,0.3s,baz=30,slow=20,SNR=50						
GERES				Lg		06 42 45.8	
	comp=Z,3.9nm,0.3s,baz=30,slow=27,SNR=5.7						
GERES	**GERESS Array B**	**3.09**	**211**	Pg	**Pg**	**06 42 05.9**	**-2.4**
ZST	**Bratislava**	**3.39**	**169**	*e*SG	**Sg**	**06 42 55.3**	**-2.5**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**06 42 13.9**	**-0.4**
NIE				*e*S	**Sg**	**06 42 59.3**	**+0.8**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**06 42 05.0**	**+0.4**
VYHS				*e*PG	**Pg**	**06 42 15.9**	**-0.2**
VYHS				*e*SG	**Sg**	**06 43 03.4**	**+1.9**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn	**Pn**	**06 42 06.1**	**+0.2**
CONA				⇓*i*Sg	**Sg**	**06 43 04.7**	**+0.1**
	comp=Z,13nm,0.4s						
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*Sg	**Sg**	**06 43 05.3**	**+0.3**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**06 42 06.7**	**-0.3**
BSD				*i* S	**Sn**	**06 42 47.1**	**-3.9**
BSD				*i* S	**Sn**	**06 42 49.9**	**-1.1**
MOA	**Molln**	**3.86**	**199**	⇑*i*Pn	**Pn**	**06 42 10.3**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**06 43 13.4**	**+0.3**
	comp=Z,15nm,0.5s						
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PG	**Pg**	**06 42 24.9**	**+1.3**
STHS				*e*SG	**Sg**	**06 43 18.4**	**+4.3**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*	**Pn**	**06 42 10.8**	**+0.7**
KECS	**Kecovo**	**4.15**	**135**	*e*PG	**Pg**	**06 42 28.1**	**-0.3**
KECS				*e*SG	**Sg**	**06 43 21.4**	**-0.8**
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**06 43 11.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=280,slow=12,SNR=4.4						
HFS	**Hagfors**	**8.74**	**352**	Pn	**Pn**	**06 43 15.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=152,slow=16,SNR=2.6						
NOA	**NORSAR Array B**	**9.92**	**346**	Pn	**Pn**	**06 43 30.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=164,slow=13,SNR=2.3						
FINES	**FINESS Array B**	**11.35**	**25**	Pn	**Pn**	**06 43 51.0**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=3.6						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**Pn**	**06 45 24.0**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=198,slow=11,SNR=3.7						

ISCJB ***01*** *07:09:48.6±0.4, 54.86S±0.07×128.5W±0.1, h10km, mb4.4/18, MS4.9/14, Error ellipse: s-maj=11.5km s-min=10.2km az=149.5*
IDC ***01*** *07:09:48.9±0.7, 54.91S×128.60W, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.4/12, mbtmp4.3/8, MS4.8/13, Ms1 4.8/13, ms1mx4.7/15, Error ellipse: s-maj=37.2km s-min=16.1km az=166.0*
NEIC ***01*** *07:09:50.5±0.5, 54.68S×128.54W, h10km, mb4.8/11, Error ellipse: s-maj=21.8km s-min=11.5km az=156.0*
GCMT ***01*** *07:09:50.5±0.1, 55.35S×128.67W, h19km±1km, MW5.5/91, Moment Tensor Solution. s78,c137; s91,c157; Duration: 1.3s Moment tensor: Scale 10^17 Nm; Mrr-0.29±.03; Mθθ1.22±.04; Mφφ-0.93±.03; Mrθ0.10±.06; Mθφ1.58±.03; Mφr0.34±.06; Best double couple: M0 1.94900×10^17 NP1:φs107.00000°, δ79.00000°, λ-3.00000°. NP2:φs198.00000°, δ88.00000°, λ-169.00000°. Principal axes: T 2.0810, Plg6.0000°, Azm332.0000°; N -0.2690, Plg79.0000°, Azm210.0000°; P -1.8160, Plg10.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***01*** *07:09:50.4, 54.70S×128.50W, h10km, mB5.2, Ms5.2, Msz4.7*
ISC 01 07:09:49.1±6.0**, 54.8S**±0.2×**128.6W**±0.2**, h4**km±34km**, n69,** σ**1.09**/34**, mb4.4**/18**, MS4.9**/14**, 1C, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.86**	**201**	*e*P	**P**	**07 16 15.8**	**+0.7**
	21nm,1.4s,mb4.8						
RKT	**Rikitea**	**32.01**	**349**	*e*S	**S**	**07 21 28.7**	**-0.1**
	473nm,29.8s						
RKT				*e*LQ		07 23 23.3	
	1μm,35.2s						
RKT				*e*LR	LR	07 24 49.3	
	5μm,29.0s,baz=173						
PMSA	**Palmer Station**	**32.49**	**134**	LR	LR	07 25 35.0	
	comp=Z,3μm,21.4s,MS4.9,baz=256,slow=29						
VNDA	**Vanda**	**32.88**	**202**	P	**P**	**07 16 23.2**	**-0.9**
	2.8nm,0.8s,mb4.2,baz=99,slow=9.7,SNR=7.8						
VNDA	**Vanda**	**32.88**	**202**	*e*P	**P**	**07 16 25.0**	**+0.8**
	8.7nm,1.4s,mb4.5						
USHA	**Ushuaia**	**33.70**	**115**	LR	LR	07 26 37.8	
	comp=Z,1μm,18.9s,MS4.7,baz=231,slow=30						
TBI	**Tubuai**	**35.08**	**325**	*e*S	**S**	**07 22 16.5**	**+0.1**
	417nm,31.0s						
TBI				*e*LR	LR	07 26 01.2	
	4μm,29.8s,baz=163						
PPT	**Papeete**	**40.53**	**328**	*e*S	**S**	**07 23 39.4**	**+0.4**
	641nm,25.8s						
PPT				*e*LQ		07 26 48.9	
	899nm,23.5s						
PPT				*e*LR	LR	07 28 48.5	
	6μm,26.8s,baz=170						
PPT	**Papeete**	**40.53**	**328**	LR	LR	07 29 52.8	
	comp=Z,2μm,20.2s,MS4.9,baz=132,slow=30						
TAOE	**Nuku Hiva Isla**	**46.76**	**344**	*e*S	**S**	**07 25 09.9**	**-0.2**
	2μm,25.4s						
TAOE				*e*LR	LR	07 31 39.1	
	9μm,25.7s,baz=184						
VNA1	**Neumayer--Stat**	**47.82**	**157**	*e*	**P**	**07 18 27.4**	**-0.4**
VNA1				*e*	pP	07 18 30.4	+1.5
VNA1				*e*		07 18 34.2	
CFAA	**Coronel Fontan**	**47.95**	**87**	P	**P**	**07 18 27.6**	**-1.2**
	0.2nm,1.0s,mb3.1,baz=203,slow=7.7,SNR=2.8						
SNAA	**Sanae**	**48.19**	**160**	*e*	**P**	**07 18 30.2**	**-0.5**
SNAA				*e*		07 18 34.7	
SNAA				*e*		07 18 38.6	
SNAA				*e*		07 18 45.3	
SNAA	**Sanae**	**48.19**	**160**	*e*P	**P**	**07 18 26.6**	**-4.1**
	5.0nm,0.9s,mb4.5						
CASY	**Casey**	**51.28**	**206**	*e*P	**P**	**07 18 57.4**	**+3.2**
SYO	**Syowa Base**	**56.18**	**175**	⇑*e*P	**P**	**07 19 43.0**	**+13**
MAW	**Mawson**	**57.60**	**185**	*e*P	**P**	**07 19 40.1**	**-0.1**
	2.8nm,0.9s,mb4.3						
MAW	**Mawson**	**57.60**	**185**	P	**P**	**07 19 39.6**	**-0.6**
	1.3nm,0.6s,mb4.1,baz=174,slow=8.4,SNR=5.5						
MAW				LR	LR	07 42 09.9	
	comp=Z,517nm,18.8s,MS4.7,baz=165,slow=34						
CPUP	**Villa Florida**	**58.20**	**91**	P	**P**	**07 19 43.7**	**-0.7**
	5.7nm,1.1s,mb4.5,baz=182,slow=6.1,SNR=5.1						
CPUP				LR	LR	07 41 35.2	
	comp=Z,1μm,18.2s,MS5.0,baz=208,slow=33						
CPUP	**Villa Florida**	**58.20**	**91**	P	**P**	**07 19 43.7**	**-0.7**
CPUP				LR	LR	07 41 35.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPAZ	La Paz	59.89	75	P	P	07 19 58.0	+1.9
	9.6nm,1.2s,mb4.7,baz=196,slow=4.8,SNR=14						
LPAZ				LR	LR	07 38 39.4	
	comp=Z,254nm,21.4s,MS4.3,baz=24,slow=29						
LPAZ	La Paz	59.89	75	eP	P	07 19 58.2	+2.1
	16nm,1.3s,mb4.9						
STKA	Stephens Creek	64.54	250	P	P	07 20 26.8	-0.5
	1.6nm,0.7s,mb4.2,baz=160,slow=5.1,SNR=3.0						
STKA				LR	LR	07 42 39.7	
	comp=Z,962nm,21.4s,MS5.0,baz=89,slow=31						
STKA	Stephens Creek	64.54	250	P	P	07 20 28.2	+0.9
SAML	Samuel	68.64	75	eP	P	07 20 53.0	-0.5
	7.1nm,1.1s,mb4.5						
CTA	Charters Tower	71.09	262	eP	P	07 21 09.6	+1.0
	6.1nm,0.9s,mb4.5						
BDFB	Brasilia	71.94	92	P	P	07 21 14.8	+1.2
	3.4nm,1.0s,mb4.2,baz=191,slow=5.2,SNR=2.9						
BDFB				LR	LR	07 48 57.7	
	comp=Z,975nm,20.2s,MS5.1,baz=212,slow=33						
FORT	Forrest	72.55	241	eP	P	07 21 19.1	+1.8
	9.7nm,0.8s,mb4.8						
ROSC	El Rosal	74.42	57	LR	LR	07 48 35.7	
	comp=Z,332nm,19.5s,MS4.6,baz=206,slow=31						
ASAR	Alice Springs	75.17	250	P	P	07 21 32.3	-0.4
	6.0nm,0.8s,mb4.6,baz=138,slow=5.7,SNR=22						
ASAR				LR	LR	07 50 15.0	
	comp=Z,1µm,18.2s,MS5.2,baz=164,slow=32						
AS31	Alice Springs	75.17	250	eP	P	07 21 30.0	-2.7
ASPA	Alice Springs	75.18	250	eP	P	07 21 30.0	-2.7
WB2	Warramunga Arr	77.92	253	eP	P	07 21 48.5	+0.2
WRA	Warramunga Arr	77.93	253	P	P	07 21 47.6	-0.7
	4.3nm,0.9s,mb4.4,baz=143,slow=5.0,SNR=22						
WRA				LR	LR	07 52 31.1	
	comp=Z,589nm,18.4s,MS5.0,baz=130,slow=33						
WRAB	Tennant Creek	77.93	253	eP	P	07 21 48.3	0.0
	10.0nm,0.9s,mb4.8						
FITZ	Fitzroy Crossi	84.15	247	eP	P	07 22 21.1	-0.4
	21nm,0.9s,mb5.3						
ANMO	Albuquerque	91.40	18	eP	P	07 22 56.6	+0.2
	3.8nm,1.3s,mb4.6						
NVAR	Mina Array Bea	93.29	8	P	P	07 23 11.4	+6.2
	0.1nm,0.3s,mb3.7,baz=194,slow=7.3,SNR=2.7						
BOSA	Boshof	93.91	157	LR	LR	08 02 25.9	
	comp=Z,684nm,18.8s,MS5.1,baz=193,slow=34						
PDAR	Pinedale Array	98.55	14	LR	LR	07 59 59.2	
	comp=Z,418nm,19.5s,MS4.9,baz=207,slow=30						
NJ2	Nanjing	128.28	273	ePKP	PKPdf	07 28 54.4	-2.5
CN2	Changchun	132.68	289	ePKP	PKPdf	07 29 08.3	+3.1
BJT	Baijiatuau	135.40	278	ePKPdf	PKPdf	07 29 11.0	+0.7
CD2	Chengdu	136.13	259	ePKP	PKPdf	07 29 09.8	-1.9
HHC	Hu-ho-hao-te	138.59	276	ePKP	PKPdf	07 29 16.0	-0.2
HHC				PP	PP	07 32 11.3	+4.7
HHC				PKS		07 32 50.5	
HHC				SKS	SKSdf	07 36 22.7	-4.9
HHC				SKKS	SKKSac	07 38 58.9	-3.0
HHC				SS	SS	07 50 20.1	-1.2
HHC				LR	LR		
	comp=N,108nm,10.8s						
HHC				LR	LR		
	comp=E,180nm,8.8s						
HHC				LR	LR		
	comp=Z,161nm,17.7s						
SJPF	Ste Jean	144.33	87	ePKP1	PKPdf	07 29 26.0	-0.5
	comp=Z,68nm,1.5s						
GTA	Gaotai	144.44	265	ePKP	PKPdf	07 29 25.2	-1.5
GTA				APKP		07 29 30.9	
GTA				XPKP		07 29 34.0	
GTA				LR	LR		
	comp=N,45nm,19.0s,MS4.7						
GTA				LR	LR		
	comp=E,113nm,19.0s,MS4.7						
GTA				LR	LR		
	comp=Z,97nm,17.5s,MS4.6						
ETSF	Etsaut	144.58	88	ePKP1	PKPdf	07 29 28.0	+1.1
	comp=Z,47nm,1.5s						
EPF	Esparros	145.18	88	ePKP1	PKPbc	07 29 29.9	+2.3
	comp=Z,21nm,0.9s						
ULN	Ulaanbaatar	145.39	282	ePKPdf	PKPdf	07 29 27.3	-1.0
KEST	Kesra	145.44	106	PKPbc	PKPbc	07 29 29.2	+0.8
	comp=Z,2.3nm,0.9s,baz=244,slow=4.9,SNR=5.1						
SONM	Songino Array	145.74	282	PKPbc	PKPbc	07 29 28.7	-0.6
	comp=Z,5.9nm,0.8s,baz=131,slow=3.3,SNR=23						
QUIF	Quistinic	145.99	79	ePKP1	PKPbc	07 29 29.2	-0.9
ROSF	Rostrenen	146.15	78	ePKP1	PKPbc	07 29 29.7	-0.9
	comp=Z,30nm,1.0s						
MTLF	Montolieu	146.46	89	ePKP1	PKPbc	07 29 32.0	+0.5
	comp=Z,18nm,1.1s						
SGMF	Saint Gilles	146.51	78	ePKP1	PKPbc	07 29 30.3	-1.4
FLN	La Foliniere	147.95	79	ePKP1	PKPbc	07 29 34.5	-1.2
FLN				eR			
	comp=Z,282nm,20.5s						
SMRF	Simiane la Rot	148.78	91	ePKP1	PKPbc	07 29 37.2	-0.7
	comp=Z,20nm,1.2s						
LMR	La Mourre	148.94	93	ePKP1	PKPbc	07 29 37.2	-1.0
AVF	Avril sur Loir	149.11	85	ePKP1	PKPbc	07 29 38.7	0.0
	comp=Z,19nm,1.2s						
FRF	La Foret Royal	149.16	93	ePKP1	PKPbc	07 29 40.4	+1.6
SMF	Signal de Mont	149.31	85	ePKP1	PKPbc	07 29 39.8	+0.6
	comp=Z,25nm,1.2s						
ORIF	Oris-en-Rattie	149.52	90	ePKP1	PKPbc	07 29 41.4	+1.7
ORIF				eR			
	comp=Z,286nm,21.0s						
LOR	Lormes	149.66	84	ePKP1	PKPbc	07 29 41.5	+1.5
	comp=Z,9.0nm,0.8s						
LOR				eR			
	comp=Z,236nm,22.8s						
WMQ	Urumqi	154.22	260	ePKP	PKPdf	07 29 38.3	-4.0
GERES	GERESS Array B	156.15	89	PKP	PKPdf	07 29 44.0	-0.9
	comp=Z,0.3nm,0.2s,baz=217,slow=1.3,SNR=3.5						
GERES				PKPbc	PKPdf	07 29 55.7	+11
	comp=Z,1.4nm,0.7s,baz=236,slow=0.7,SNR=7.4						
CLL	Collm	156.84	83	i PKPab	PKPab	07 30 18.3	+2.9
MKAR	Makanchi Array	159.06	260	PKPab	PKPab	07 30 24.9	-0.1
	comp=Z,0.6nm,0.7s,baz=98,slow=5.1,SNR=4.6						
ZAL	Zalesovo	160.65	281	PKPab	PKPab	07 30 32.1	+0.1
	comp=Z,1.5nm,0.7s,baz=277,slow=4.4,SNR=5.6						

---

*IDC **01** 08:14:28.4±4.4, 39.49N×19.01E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/22, mbtmp3.8/6, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/33, Error ellipse: s-maj=62.9km s-min=26.9km az=22.0*
*THE **01** 08:14:35.1, 40.08N×19.41E, h10km, ML3.7*
*NEIC **01** 08:14:36.2, 40.13N×19.57E, h5km, MD3.8(ATH), ML3.4(CSEM), ML3.4(PDG), After CSEM.*
*ISCJB **01** 08:14:36.0±0.5, 40.10N±0.02×19.56E±0.03, h4km±3km, mb3.7/4, Error ellipse: s-maj=3.8km s-min=2.6km az=118.2*
*TIR **01** 08:14:36.2, 40.12N×19.76E, h17km, Ml3.6*
*PDG **01** 08:14:36.9±0.4, 40.16N×19.50E, h11km±1km*
*CSEM **01** 08:14:37.6±0.1, 40.06N×19.62E, h2km, MD3.8, Error ellipse: s-maj=3.6km s-min=2.2km az=46.0*
*ATH **01** 08:14:38.9, 39.95N×19.58E, h29km±1km, MD3.8/9*
*NAO **01** 08:15:03.6, 42.22N×18.97E, h33km, mb3.3*

ISC 01 08:14:36.6±0.5**, 40.12N**±0.02×**19.59E**±0.03**, h0**km±4km**, n83, σ1.22**/117**, mb3.8**/4**, 11C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.36	348	i Pg	Pg	08 14 45.1	+1.7
VLO				i Sg	Sg	08 14 51.4	+3.3
TPE	Tepelena	0.37	61	i Pg	Pg	08 14 41.1	-2.5
TPE				i Sg	Sg	08 14 45.4	-3.0
SRN	Sarande	0.40	127	i Pg	Pg	08 14 43.0	-1.2
SRN				i Sg	Sg	08 14 48.9	-0.4
KEK	Kerkira	0.43	158	ePB	Pg	08 14 46.0	+1.1
KEK				eSB	Sg	08 14 51.8	+1.2
LSK	Leskovik	0.78	87	i Pg	Pg	08 14 49.4	-2.0
LSK				i Sg	Sg	08 14 59.0	-2.5
IGT	Igoumenitsa	0.82	135	ePg	Pg	08 14 52.1	-0.1
IGT				eSg	Sg	08 15 04.8	+1.9
KBN	Korca	1.05	61	i Pg	Pg	08 14 56.3	-0.3
KBN				i Sg	Sg	08 15 09.6	-0.6
JAN	Janina	1.07	115	ePB	Pb	08 14 57.4	-0.6
JAN				eSN	Sn	08 15 12.5	-2.0
LCI	Lecce	1.15	281	Pn	Pn	08 15 00.8	+0.9
TIR	Tirane	1.25	10	ePg	Pg	08 15 00.6	+0.1
MEV	Metsovon	1.30	104	ePg	Pg	08 15 00.7	-0.9
PRZA	Preza	1.31	3	i pn?	Pn	08 15 06.0	+3.9
PRZA				i Sn	Sn	08 15 28.0	+7.7
OHR	Ohrid	1.35	42	ePg	Pg	08 15 02.6	0.0
OHR				eSg	Sg	08 15 22.8	+2.7
OHR	Ohrid	1.35	42	i Pn	Pn	08 15 01.5	-1.2
OHR	Ohrid	1.35	42	ePg	Pg	08 15 02.6	+0.1
OHR				eSg	Sg	08 15 22.8	+2.7
FNA	Florina	1.52	63	ePb	Pn	08 15 03.1	-1.8
FNA				eSb	Sb	08 15 26.6	+1.2
BIA	Bitola	1.60	55	ePb	Pb	08 15 05.1	-1.9
BIA				eSb	Sb	08 15 30.4	+2.7
BIA	Bitola	1.60	55	i Pn	Pn	08 15 05.4	-0.7
LKD	Levkas	1.63	149	ePb	Pn	08 15 05.8	-0.7
LKD				eSb	Sb	08 15 29.1	+0.5
KZN	Kozani	1.68	83	ePB	Pb	08 15 08.6	+0.2
KZN				eSN	Sn	08 15 31.1	+1.7
ULC	Ulcinj	1.86	352	⇑iPn	Pn	08 15 09.4	-0.3
ULC				eSn	Sn	08 15 34.7	+0.8
VLS	Valsamata	2.09	158	ePN	Pn	08 15 12.8	0.0
VLS				eSN	Sn	08 15 35.9	-3.6
EVR	Evrytania	2.09	124	ePB	Pb	08 15 13.5	-1.9
LIT	Litokhoron	2.23	90	ePn	Pn	08 15 14.3	-0.4
LIT				eSn	Sn	08 15 46.1	+3.2
BUM	Brajici-Budva	2.24	347	⇑iPn	Pn	08 15 14.3	-0.7
BUM				eSn	Sn	08 15 43.8	+0.5
GRG	Griva	2.30	68	ePn	Pn	08 15 15.4	-0.3
SKO	Skopje	2.32	36	ePn	Pn	08 15 16.1	+0.1
SKO				eSn	Sb	08 15 49.3	+0.8
TTG	Podgorica	2.32	354	⇑iPn	Pn	08 15 15.7	-0.3
TTG				eSn	Sn	08 15 45.2	-0.1
SG1	Sgolgore (BA)	2.33	289	ePn	Pn	08 15 16.7	+0.5
AGG	Agios Georgios	2.38	116	ePn	Pn	08 15 17.2	+0.3
HCY	Herceg Novi	2.47	341	⇑iPn	Pn	08 15 17.2	-0.8
HCY				eSn	Sn	08 15 49.0	+0.1
PVY	Plav	2.49	7	⇑iPn	Pn	08 15 18.6	+0.3
PVY				eSn	Sn	08 15 49.8	+0.4
PVY	Plav	2.49	7	⇑iPn	Pn	08 15 18.6	+0.2
PVY				eSn	Sn	08 15 49.8	+0.4
STIP	Stip	2.52	50	ePn	Pn	08 15 18.1	-0.6
STIP				eSn	Sb	08 15 54.1	-0.1
STIP	Stip	2.52	50	i Pn	Pn	08 15 19.5	+0.7
STIP	Stip	2.52	50	i Pn	Pn	08 15 19.4	+0.6
STIP				eSn	Sb	08 15 54.1	-0.1
RLS	Riolos of Patr	2.52	144	ePN	Pn	08 15 18.5	-0.3
VAY	Valandovo	2.56	61	i Pn	Pn	08 15 20.6	+1.2
VAY	Valandovo	2.56	61	i Pn	Pn	08 15 20.5	+1.1
THE	Thessaloniki	2.63	78	ePn	Pn	08 15 21.7	+1.4
HORT	Hortiatis	2.73	79	ePn	Pn	08 15 21.8	+0.3
KNT	Kendrikon	2.73	66	ePn	Pn	08 15 20.8	-0.8
NKY	Niksic	2.73	351	⇑iPn	Pn	08 15 21.1	-0.5
NKY				eSn	Sn	08 15 55.5	+0.2
TREB	Trebinje	2.76	341	P	Pn	08 15 20.8	-1.2
TREB				S	Sn	08 15 56.0	0.0
IVA	Berane	2.76	5	ePn	Pn	08 15 22.1	0.0
IVA				eSn	Sn	08 15 56.3	+0.2
XOR	Xorichti	2.88	104	ePn	Pn	08 15 23.6	-0.1
BRY	Bratogost	2.89	345	⇑iPn	Pn	08 15 23.1	-0.7
BRY				eSn	Sn	08 15 59.5	+0.2
BRY	Bratogost	2.89	345	⇑iPn	Pn	08 15 23.1	-0.7
BRY				eSn	Sn	08 15 59.5	+0.2
SOH	Sokhos	2.96	75	ePn	Pn	08 15 25.1	+0.4
PLG	Polygyros	2.96	84	ePN	Pn	08 15 25.9	+1.1
LKR	Lokris	3.02	118	ePN	Pn	08 15 26.5	+0.9
SLCN	Sala Consilina	3.04	276	Pn	Pn	08 15 29.2	+3.3
UPM	Unac-Piva	3.12	351	⇑iPn	Pn	08 15 26.5	-0.5
UPM				eSn	Sn	08 16 04.9	-0.2
KKB	Krupnik	3.17	55	P	Pn	08 15 30.1	+2.4
BARS	Barje	3.18	31	i Pg	Pn	08 15 27.6	-0.2
SRS	Serrai	3.21	71	ePn	Pn	08 15 29.1	+1.0
SRS	Serrai	3.21	71	ePn	Pn	08 15 29.1	+0.9
PLE	Pljevlja	3.21	357	⇑iPn	Pn	08 15 28.2	0.0
PLE				eSn	Sn	08 16 07.2	0.0
OUR	Ouranopolis	3.37	85	ePn	Pn	08 15 29.9	-0.6
RGNG	Rignano Grg	3.41	298	Pn	Pn	08 15 32.1	+1.1
SOI	Samo	3.42	235	Pn	Pn	08 15 30.2	-1.0
MMB	Musomiste	3.47	64	ePn	Pn	08 15 31.4	-0.3
MMB	Musomiste	3.47	64	P	Pn	08 15 32.0	+0.3
NVR	Nevrokopi	3.47	68	ePN	Pn	08 15 35.0	+3.2
VTS	Vitosha	3.68	47	ePn	Pn	08 15 34.2	-0.5
MTTG	Motta San Giov	3.70	236	Pn	Pn	08 15 35.7	+0.8
DIVS	Divcibare	3.99	4	i Pn	Pn	08 15 39.3	+0.4
RZN	Rozhen	4.19	66	eP	Pn	08 15 44.3	+2.6
KDZ	Kurdzhali	4.67	69	eP	Pn	08 15 50.0	+1.6
INTR	Introdacqua	4.70	296	Pn	Pn	08 15 49.7	+1.1
VAE	Valguarnera	4.83	239	LR	LR	08 16 46.7	
	comp=Z,121nm,20.8s,baz=276,slow=33						
VVLD	Villa Vallelon	4.84	293	Pn	Pn	08 15 52.9	+2.2
FIAM	Fiamignano	5.33	296	Pn	Pn	08 16 00.0	+2.6
NVLJ	Novalja	5.65	323	i Pn	Pn	08 16 01.4	-0.4
NVLJ				i Sn	Sn	08 17 04.7	-2.7
CING	Cingoli	5.78	306	Pn	Pn	08 16 03.9	+0.3
MLR	Muntele Rosu	7.12	39	Pn	Pn	08 16 26.0	+4.0
	0.3nm,0.3s,baz=200,slow=6.9,SNR=5.6						
VOY	Vojsko	7.23	327	ePn	Pn	08 16 13.8	-10
VOY				eSn	Sn	08 17 43.7	-2.6
GERES	GERESS Array B	9.68	336	Pn	Pn	08 16 55.7	-1.4
	0.2nm,0.3s,baz=157,slow=12,SNR=5.7						
NB2	NORSAR Subarra	21.58	349	P	P	08 19 26.6	-1.1
	comp=Z,1.3nm,0.7s,mb3.5,baz=162,slow=12						
NOA	NORSAR Array B	21.58	349	P	P	08 19 26.3	-1.4
	comp=Z,1.4nm,0.7s,mb3.5,baz=161,slow=9.8,SNR=5.1						
FINES	FINESS Array B	21.72	8	P	P	08 19 26.8	-2.5
	comp=Z,1.6nm,0.6s,mb3.6,baz=157,slow=10,SNR=6.0						
ARCES	ARCESS Array B	29.65	4	P	P	08 20 40.8	-2.9
	comp=Z,2.7nm,0.8s,mb4.1,baz=184,slow=12,SNR=3.3						
MKAR	Makanchi Array	44.93	60	P	P	08 22 50.3	-2.8
	comp=Z,0.8nm,0.5s,mb4.0,baz=284,slow=7.8,SNR=7.8						

---

*NEIC **01** 08:26:24.3, 30.83S×71.31W, h47km, MG3.4(GUC), After GUC.*

GUC 01 08:26:24.4±0.6**, 30.83S**×**71.30W, h48**km±3km**, MD3.6, ML3.4, 7C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.24	21	i P	Pn	08 26 33.4	+0.5
OVCH				i S	Sn	08 26 39.5	+0.7
CMCH	Combarbala	0.42	143	⇑iP	Pn	08 26 35.0	+0.3
CMCH				i S	Sn	08 26 43.0	+1.0
CMCH				AML	AML	08 26 43.7	
	comp=E,8µm,0.5s						
CMCH	Combarbala	0.42	143	⇑iP	Pn	08 26 35.0	+0.3
CMCH				i S	Sn	08 26 43.0	+1.0
TLL	Tololo Astrono	0.79	33	⇑iP	Pn	08 26 40.4	+1.2
TLL				i S	Sn	08 26 52.1	+2.1
TLL				AML	AML	08 26 53.2	
	comp=N,789nm,0.5s						
TLL	Tololo Astrono	0.79	33	⇑iP	Pn	08 26 40.4	+1.2
TLL				i S	Sn	08 26 52.1	+2.1
LSCH	La Serena	0.92	3	⇑iP	Pn	08 26 41.4	+0.3
LSCH				i S	Sn	08 26 54.0	+0.8
CHNG	Los Chungos	1.06	189	⇓iP	Pn	08 26 43.1	+0.2
CHNG				i S	Sn	08 26 57.4	+0.9
PTCH	Petorca	1.46	168	⇑iP	Pn	08 26 49.0	+0.6
PTCH				i S	Sn	08 27 07.2	+0.9
PTCH				AML	AML	08 27 09.6	
	comp=E,2µm,0.1s						
PTCH	Petorca	1.46	168	⇑iP	Pn	08 26 49.0	+0.6
PTCH				i S	Sn	08 27 07.2	+0.9

---

*IDC **01** 09:15:59.5±0.9, 21.38N×121.31E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=70.7km s-min=18.1km az=68.0*
*NIED **01** 09:16:00, 21.40N×121.00E, h17km, Mw3.7 Best double couple: $M_0$4.66000×10^14 NP1:ϕ_s313.00000°, δ80.00000°, λ-87.00000°. NP2:ϕ_s115.00000°, δ10.00000°, λ-107.00000°.*
*ISCJB **01** 09:16:02.7±0.6, 21.27N±0.04×120.98E±0.07, h33km, mb3.7/7, Error ellipse: s-maj=10.3km s-min=4.8km az=48.6*
*NEIC **01** 09:16:04.0±6.6, 21.33N×121.25E, h31km±49km, mb4.3/1, Error ellipse: s-maj=43.6km s-min=11.5km az=70.0*
*JMA **01** 09:16:04.8±0.5, 21.38N×120.97E, h102km, M4.2*

ISC 01 09:16:04.8±0.6**, 21.28N**±0.04×**120.95E**±0.07**, h35**km**, n19, σ0.68**/27**, mb3.7**/7**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	2.94	12	ePn	Pn	09 16 45.8	-3.2
NACB				eSn	Sn	09 17 23.0	-0.1
YHNB	Yeheng	3.40	7	ePn	Pn	09 16 55.6	+0.4
YHNB				eSn	Sn	09 17 33.5	-0.9
YOJ	Yonaguni jima	3.69	31	P	Pn	09 16 59.5	+0.2
YOJ				eS	Sn	09 17 41.3	-0.3
HATJ	Hateruma jima	3.82	43	P	Pn	09 17 01.3	+0.2
HATJ				eS	Sn	09 17 44.3	-0.5
IRIF	Iriomote-Funau	3.98	40	P	Pn	09 17 03.7	+0.4
IRIF				eS	Sn	09 17 49.4	+0.7
JKRS	Kuro-shima	4.08	43	P	Pn	09 17 05.2	+0.6
JKRS				eS	Sn	09 17 51.8	+0.6
JIJ	Ishigaki jima	4.25	43	P	Pn	09 17 07.3	+0.3
JIJ				eS	Sn	09 17 54.7	-0.8
JTJ	Tarama	4.81	45	P	Pn	09 17 15.3	+0.6
JTJ				eS	Sn	09 18 09.2	0.0
SONM	Songino Array	28.98	340	P	P	09 22 00.8	-0.1
	0.3nm,0.4s,mb3.4,baz=164,slow=9.8,SNR=4.2						
MKAR	Makanchi Array	40.31	318	P	P	09 23 39.7	+1.1
	0.2nm,0.2s,mb3.4,baz=99,slow=8.9,SNR=3.0						
ZAL	Zalesovo	42.59	329	P	P	09 23 57.9	+0.5
	1.3nm,0.4s,mb4.0,baz=155,slow=3.4,SNR=3.4						
WRAB	Tennant Creek	43.01	161	eP	P	09 24 00.5	-0.2
	7.5nm,1.2s,mb4.3						
WRA	Warramunga Arr	43.01	161	P	P	09 24 00.2	-0.5
	0.9nm,0.6s,mb3.7,baz=343,slow=9.1,SNR=19						
WRA				PcP	PcP	09 25 50.7	+0.1
	0.5nm,0.6s,baz=342,slow=3.4,SNR=7.7						
WB2	Warramunga Arr	43.01	161	eP	P	09 23 59.6	-1.2
AS31	Alice Springs	46.42	164	eP	P	09 24 27.8	-0.1
ASAR	Alice Springs	46.42	164	P	P	09 24 28.9	+0.9
	0.4nm,0.5s,mb3.6,baz=354,slow=14,SNR=16						
ASAR				PcP	PcP	09 26 02.1	-0.2
	0.3nm,0.5s,baz=339,slow=3.3,SNR=5.5						
ASPA	Alice Springs	46.42	164	eP	P	09 24 27.9	0.0
YKA	Yellowknife Ar	85.72	23	P	P	09 28 39.2	-0.9
	0.3nm,0.5s,mb3.8,baz=311,slow=4.6,SNR=7.0						
YKA	Yellowknife Ar	85.72	23	P	P	09 28 39.2	-0.9

---

*ISCJB **01** 09:22:58.3±0.5, 43.20N±0.03×0.21W±0.04, h2km±12km, Error ellipse: s-maj=5.4km s-min=4.1km az=120.3*
*STR **01** 09:22:58.9±0.3, 43.11N×0.23W, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **01** 09:22:59.9±0.5, 43.12N×0.22W, h0km, mbLg0.9/6, Error ellipse: s-maj=4.2km s-min=2.5km az=175.0, PRXIMO*
*LDG **01** 09:22:59.8±0.1, 43.12N×0.22W, h2km, Md1.9/3, Ml2.0/3, Error ellipse: s-maj=1.2km s-min=0.8km az=163.0*

ISC 01 09:22:59.2±0.5**, 43.15N**±0.04×**0.22W**±0.04**, h11**km±8km**, n16, σ0.26**/24**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.15	238	Pg	Pg	09 23 02.7	0.0
REYF				Sg	Sg	09 23 05.4	+0.3
LABF	Labassere	0.24	116	Pg	Pg	09 23 04.1	0.0
VIEF	Viey	0.32	146	Pg	Pg	09 23 05.7	+0.1
VIEF				Sg	Sg	09 23 09.9	0.0
ETSF	Etsaut	0.35	225	ePg	Pg	09 23 06.2	0.0
ETSF				eSg	Sg	09 23 10.5	-0.5
	4.1nm,0.2s						
ETSF	Etsaut	0.35	225	Pg	Pg	09 23 06.2	0.0
ETSF				Lg		09 23 10.5	
	2.0nm,0.2s						
EPF	Esparros	0.43	106	ePg	Pg	09 23 08.0	+0.4
EPF				eSg	Sg	09 23 13.4	+0.2
	3.3nm,0.2s						
EPF	Esparros	0.43	106	Pg	Pg	09 23 08.0	+0.4
EPF				Lg		09 23 13.4	
	1.6nm,0.2s						
EBIE	Bielsa	0.53	150	Pg	Pg	09 23 09.5	-0.1
	0.5nm,0.1s,SNR=7.9						
EBIE				Lg		09 23 15.8	
	1.5nm,0.1s,SNR=8.7						
SJPF	Ste Jean	0.74	267	ePg	Pg	09 23 13.7	+0.2
SJPF				eSg	Sg	09 23 23.0	-0.1
	2.4nm,0.4s						
SJPF	Ste Jean	0.74	267	Pg	Pg	09 23 13.7	+0.2
SJPF				Lg		09 23 23.0	
	1.2nm,0.4s						
MTLF	Montolieu	1.79	83	ePn	Pn	09 23 30.0	0.0
MTLF				eSg	Sg	09 23 56.3	-0.4
	2.0nm,0.5s						
MTLF	Montolieu	1.79	83	Pn	Pn	09 23 30.0	0.0
MTLF				Lg		09 23 56.3	
	1.0nm,0.5s						
LFF	La Frestale	1.92	21	ePn	Pn	09 23 32.1	+0.4
LFF				eSg	Sg	09 24 01.0	+0.2
	5.7nm,0.2s						
LFF	La Frestale	1.92	21	Pn	Pn	09 23 32.1	+0.4
LFF				Lg		09 24 01.0	
	2.8nm,0.2s						
RJF	Les Rejaudoux	2.49	29	ePg	Pg	09 23 46.5	-0.4
RJF				eSg	Sg	09 24 18.9	-0.2
	1.7nm,0.3s						
RJF	Les Rejaudoux	2.49	29	Pg	Pg	09 23 46.5	-0.4
RJF				Lg		09 24 18.9	
	0.9nm,0.3s						

---

*IDC **01** 09:49:06.2±1.6, 2.16N×126.52E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, MS3.6/1, Ms1 3.5/1, ms1mx2.5/37, Error ellipse: s-maj=104.2km s-min=23.3km az=67.0*
*ISCJB **01** 09:49:16.5±3.4, 2.1N±0.2×126.5E±0.2, h99km±30km, mb3.9/8, Error ellipse: s-maj=47.1km s-min=13.1km az=101.9*
*NEIC **01** 09:49:17.7±3.2, 2.10N×126.52E, h96km±27km, mb4.0/5, Error ellipse: s-maj=47.9km s-min=13.5km az=52.0*

ISC 01 09:49:18.0±2.9**, 2.1N**±0.2×**126.5E**±0.2**, h96**km±24km**, n16, σ1.28**/16**, mb3.9**/8**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	10.99	291	ePn	Pn	09 51 52.0	-0.1
KAKA	Kakadu	15.86	158	eP	Pn	09 52 56.0	+0.4
	6.4nm,0.6s						
FITZ	Fitzroy Crossi	20.10	182	eP	P	09 53 42.9	-1.0
	2.2nm,0.5s						
FITZ	Fitzroy Crossi	20.10	182	P	P	09 53 42.6	-1.3
	0.9nm,0.5s,baz=15,slow=9.9,SNR=8.1						
WRAB	Tennant Creek	23.21	161	eP	P	09 54 15.4	-1.1
	9.5nm,0.8s,mb4.2						
WRA	Warramunga Arr	23.22	161	P	P	09 54 14.3	-2.2
	1.7nm,0.5s,mb3.6,baz=340,slow=11,SNR=23						
WB2	Warramunga Arr	23.22	161	eP	P	09 54 14.1	-2.5
MBWA	Marble Bar	24.05	196	eP	P	09 54 24.1	-0.1
	3.6nm,1.0s,mb3.7						
KULM	Kulim	25.99	278	eP	P	09 54 41.9	+0.2
AS31	Alice Springs	26.61	165	eP	P	09 54 49.7	+2.4
ASAR	Alice Springs	26.61	165	P	P	09 54 48.9	+1.6
	1.1nm,0.5s,mb3.6,baz=339,slow=7.4,SNR=12						
ASPA	Alice Springs	26.61	165	eP	P	09 54 49.7	+2.4
FORT	Forrest	32.73	178	eP	P	09 55 42.3	+0.8
	7.5nm,0.7s,mb4.6						
STKA	Stephens Creek	36.70	158	P	P	09 56 15.7	+0.1
	2.0nm,0.8s,mb4.1,baz=337,slow=7.7,SNR=5.6						
STKA				LR	LR	10 12 54.6	
	comp=Z,99nm,21.3s,baz=40,slow=39						
MKAR	Makanchi Array	58.76	326	P	P	09 59 05.9	0.0
	0.5nm,0.4s,mb3.9,baz=117,slow=7.9,SNR=5.7						
VNDA	Vanda	81.85	173	P	P	10 01 25.9	-0.7
	0.8nm,0.9s,mb3.5,baz=330,slow=6.1,SNR=3.5						

CASC 01 09:50:15.7±2.4**, 11.17N**×**87.64W, h36**km±999km**, MD3.7, ML3.3, 7C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.43	46	⇓eP	Pn	09 50 39.1	-0.1
COPN				eS	Sn	09 50 57.3	+0.5
LEON	Leon	1.44	31	⇑eP	Pn	09 50 38.4	-0.8
LEON				eS	Sn	09 50 59.2	+2.4
MIRN	Miramar	1.55	36	⇑eP	Pn	09 50 40.1	-0.7
CNGN	Cerro Negro	1.61	35	⇑eP	Pn	09 50 41.1	-0.4
XAVN	Gruta Xavier	1.61	53	eP	Pn	09 50 41.8	+0.2
XAVN				eS	Sn	09 51 02.4	+1.2
TICN	Ticuantepe	1.62	58	eP	Pn	09 50 42.0	+0.2
TICN				eS	Sn	09 51 03.3	+1.9
TELN	Telica	1.63	29	eP	Pn	09 50 41.6	-0.2
TELN				eS	Sn	09 51 01.3	-0.3
MOMJ	Momotombo	1.63	41	⇑eP	Pn	09 50 41.8	-0.1
MOMJ				eS	Sn	09 51 02.5	+0.8
APYN	Apoyeque	1.65	50	eP	Pn	09 50 42.2	+0.1
APYN				eS	Sn	09 51 02.8	+0.8
TISN	Laguna Tiscapa	1.65	54	eP	Pn	09 50 42.3	+0.1
TISN				eS	Sn	09 51 03.3	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MGAN	Managua	1.67	54	⇑eP	Pn	09 50 42.7	+0.3
MGAN				eS	Sn	09 51 04.6	+2.0
MGAN				i		09 51 04.8	
	comp=N,390nm,0.2s						
SSNN	San Juan del S	1.76	86	eP	Pn	09 50 42.1	-1.6
SSNN				eS	Sn	09 51 04.8	0.0
JCR	Jicaral	2.81	118	eP	Pn	09 50 58.5	+0.4
JCR				eS	Sn	09 51 30.9	+0.1
PRS1	Puriscal	3.48	110	eP	Pn	09 51 10.0	+2.7
PRS1				eS	Sn	09 51 47.8	+0.6
LCR2	La Lucha 2	3.85	111	⇑eP	Pn	09 51 14.7	+2.3
BUS	Buena Vista	4.14	112	⇑eP	Pn	09 51 18.9	+2.4
BUS				eS	Sn	09 52 05.2	+1.6

BJI ***01*** *10:18:49.3, 6.78S×155.87E, h51km, mB6.6, mb6.1, Ms6.6, Msz6.5*

MOS ***01*** *10:18:50.2±0.9, 6.69S×155.48E, h33km, mb6.4/63, MS6.7/57, Error ellipse: s-maj=6.1km s-min=5.3km az=85.4*

ISCJB ***01*** *10:18:51.2±0.1, 6.78S±0.02×155.49E±0.02, h47km, mb6.2/141, MS6.6/195, Error ellipse: s-maj=3.1km s-min=2.6km az=28.7*

NEIC ***01*** *10:18:51.6±0.1, 6.76S×155.51E, h38km, mb6.3/59, ME6.3, MS6.7/124, MW6.8, Error ellipse: s-maj=2.8km s-min=2.6km az=122.0, Moment Tensor Solution. s56 Moment tensor: Scale 10^{19}Nm; M_{rr}1.65; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-1.08; $M_{r\theta}$-0.26; $M_{\theta\phi}$0.81; $M_{\phi r}$-0.23; Best double couple: $M_0$1.70000×10^{19} NP1:ϕ_s155.00000°,δ47.00000°, λ106.00000°. NP2:ϕ_s312.00000°,δ46.00000°,λ74.00000°. Principal axes: T 1.7200, Plg79.0000°, Azm141.0000°; N -0.0500, Plg11.0000°, Azm324.0000°; P -1.6800, Plg1.0000°, Azm234.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s325.00000°,δ45.00000°, λ90.00000°. NP2:ϕ_s145.00000°,δ45.00000°,λ90.00000°. Principal axes: T Plg90.0000°, Azm0.0000°; N Plg0.0000°, Azm0.0000°; P Plg0.0000°, Azm55.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Items knocked from shelves and roads cracked at Buin.

BGS ***01*** *10:18:51.8±1.2, 6.76S×155.51E, h40km, MS6.2*

GCMT ***01*** *10:18:51.6±0.1, 7.01S×155.42E, h46km, MW6.8/117, Moment Tensor Solution. s112,c284; s117,c522; Duration: 5.7s Moment tensor: Scale 10^{19}Nm; M_{rr}1.52±.01; $M_{\theta\theta}$-0.95±.01; $M_{\phi\phi}$-0.57±.01; $M_{r\theta}$0.03±.01; $M_{\theta\phi}$0.87±.00; $M_{\phi r}$-0.28±.01; Best double couple: $M_0$1.61300×10^{19} NP1:ϕ_s301.00000°,δ42.00000°, λ78.00000°. NP2:ϕ_s137.00000°,δ49.00000°,λ101.00000°. Principal axes: T 1.5620, Plg81.0000°, Azm106.0000°; N 0.1050, Plg8.0000°, Azm310.0000°; P -1.6640, Plg4.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

CRAAG ***01*** *10:18:53.1, 6.80S×155.45E, Mw6.8*

IGIL ***01*** *10:18:54.1, 6.77S×155.47E, h54km, MS6.8*

IDC ***01*** *10:18:55.2±1.2, 6.78S×155.45E, h70km±10km, mb5.7/32, mb1 5.8/36, mb1mx5.8/36, mbtmp6.0/36, MS6.5/22, Ms1 6.5/22, ms1mx6.2/29, Error ellipse: s-maj=7.9km s-min=6.9km az=73.0*

ISC 01 10:18:53.3±0.1**, 6.78S**±0.02×**155.54E**±0.02**, h49**km**, h49**km±1.1km**: pP-P, n1213,** σ0.88s/595**, mb6.2**/140**, MS6.6**/195**, 269C-19D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.10	121	P	Pn	10 20 08.9	+1.8
	380nm,0.3s,baz=243,slow=0.7,SNR=64						
HNR				S	Sn	10 21 13.7	+8.9
	1μm,0.3s,baz=55,slow=1.9,SNR=6.8						
HNR				LR	LR	10 21 55.8	
	comp=Z,360μm,21.1s,baz=349,slow=35						
HNR	Honiara	5.10	121	P	Pn	10 20 08.9	+1.7
HNR				S	Sn	10 21 13.7	+8.9
HNR				pmax	pmax		
	comp=Z,380nm,0.3s						
HNR				MLR	MLR		
	comp=Z,360μm,21.2s						
HNR	Honiara	5.10	121	ePn	Pn	10 20 05.9	-1.3
	comp=Z,36μm,0.9s						
HNR				S	Sn	10 21 13.7	+8.9
HNR				LR	LR	10 21 55.8	
PMG	Port Moresby	8.70	252	P	Pn	10 20 57.9	+1.5
	comp=Z,30nm,0.3s,baz=75,slow=8.1,SNR=67						
PMG				S	Sn	10 22 35.5	+2.5
	comp=Z,69nm,0.3s,baz=18,slow=14,SNR=6.0						
PMG				LR	LR	10 24 10.3	
	comp=Z,774μm,21.2s,baz=52,slow=36						
PMG	Port Moresby	8.70	252	P	Pn	10 20 57.9	+1.5
PMG				S	Sn	10 22 35.5	+2.4
PMG				pmax	pmax		
	comp=Z,30nm,0.3s						
PMG				smax			
	comp=N,69nm,0.3s						
PMG				MLR	MLR		
	comp=Z,774μm,21.2s						
PMG	Port Moresby	8.70	252	ePn	Pn	10 20 57.9	+1.5
COEN	Coen	14.09	239	P	Pn	10 22 09.7	-0.4
MMPI	Merauke	15.11	263	P	Pn	10 22 25.7	+2.1
CTA	Charters Tower	16.01	213	⇓iP	Pn	10 22 36.8	+1.7
	comp=Z,550nm,0.9s						
CTA				eS	S	10 25 44.8	+1.6
CTA	Charters Tower	16.01	213	P	Pn	10 22 36.9	+1.8
	comp=Z,5.3nm,0.3s,baz=36,slow=14,SNR=71						
CTA				S	S	10 25 40.6	-2.6
	baz=7.0,slow=13,SNR=1.3						
CTA				LR	LR	10 27 53.3	
	comp=Z,431μm,21.8s,baz=32,slow=34						
CTA	Charters Tower	16.01	213	P	Pn	10 22 36.9	+1.8
CTA				S	S	10 25 40.6	-2.6
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,431μm,21.8s						
CTAO	Charters Tower	16.01	213	⇓eP	Pn	10 22 36.7	+1.6
CTAO				pmax	pmax		
	comp=Z,4μm,1.7s						
CTAO	Charters Tower	16.01	213	⇓ePn	Pn	10 22 36.7	+1.6
	comp=Z,4μm,1.7s						
DZM	Mont Dzumac	18.50	146	eP	Pn	10 23 06.5	+0.6
DZM	Mont Dzumac	18.50	146	P	Pn	10 23 06.5	+0.6
	comp=Z,31nm,0.3s,baz=340,slow=10,SNR=184						
DZM				S	S	10 26 36.3	+3.4
	baz=111,slow=22,SNR=1.1						
BAKI	Biak	20.15	285	P	P	10 23 23.6	+0.2
GUMO	Guam	22.84	332	P	P	10 23 51.6	-0.6
	comp=Z,132nm,0.5s,mb5.6,baz=162,slow=8.1,SNR=16						
GUMO				S	S	10 27 59.1	+1.0
	comp=Z,82nm,0.8s,baz=212,slow=20,SNR=1.9						
GUMO				LR	LR	10 31 41.5	
	comp=Z,83μm,21.0s,MS6.2,baz=149,slow=34						
GUMO	Guam	22.84	332	P	P	10 23 51.6	-0.5
GUMO				S	S	10 27 59.1	+1.1
GUMO				pmax	pmax		
	comp=Z,132nm,0.5s,mb5.6						
GUMO				smax			
	comp=N,82nm,0.8s						
GUMO				MLR	MLR		
	comp=Z,83μm,21.0s,MS6.2						
KAKA	Kakadu	23.50	254	⇑iP	P	10 23 58.7	-0.1
	comp=Z,944nm,0.6s,mb6.4						
FUNA	Funafuti	23.51	96	eP	P	10 23 58.8	-0.1
FUNA				LR	LR		
	comp=Z,108μm,20.0s,MS6.3						
ARMA	Armidale	23.80	188	⇑iP	P	10 24 02.0	+0.4
ARMA				eS	S	10 28 16.3	+2.5
WRAB	Tennant Creek	24.37	235	P	P	10 24 07.7	+1.0
	comp=Z,8μm,1.1s,mb7.1						
WRAB	Tennant Creek	24.37	235	c iP	P	10 24 06.3	-0.4
WRAB	Tennant Creek	24.37	235	eP	P	10 24 07.3	+0.6
WB2	Warramunga Arr	24.37	235	⇑iP	P	10 24 07.4	+0.7
WB2				eS	S	10 28 23.8	+0.9
WB2				ePCS	PcS	10 31 25.4	+0.5
WRA	Warramunga Arr	24.38	235	P	P	10 24 07.3	+0.5
	comp=Z,521nm,1.0s,mb5.9,baz=61,slow=9.2,SNR=374						
WRA				S	S	10 28 22.4	-0.7
	comp=Z,45nm,1.1s,baz=11,slow=30,SNR=2.1						
WRA				LR	LR	10 33 33.7	
	comp=Z,193μm,19.6s,MS6.6,baz=60,slow=36						
WRA				PKiKP	PKiKP	10 35 26.2	-1.1
	comp=Z,13nm,1.0s,baz=320,slow=1.1,SNR=17						
WRA				PKKP		10 50 38.5	
	comp=Z,1.6nm,0.7s,baz=177,slow=2.9,SNR=5.2						
WRA				P3KPbc		10 57 21.1	
	comp=Z,1.0nm,0.7s,baz=244,slow=2.1,SNR=5.3						
WRA				P3KP		10 58 16.4	
	comp=Z,4.4nm,0.8s,baz=184,slow=2.2,SNR=8.4						
WRA	Warramunga Arr	24.38	235	P	P	10 24 07.3	+0.5
WRA				S	S	10 28 22.4	-0.7
WRA				pmax	pmax		
	comp=Z,521nm,1.0s						
WRA				smax			
	comp=N,45nm,1.1s						
WRA				MLR	MLR		
	comp=Z,193μm,19.6s						
WRA	Warramunga Arr	24.38	235	P	P	10 24 07.3	+0.5
WRA				S	S	10 28 22.4	-0.7
WRA				LR	LR	10 33 33.8	
AS31	Alice Springs	26.72	229	⇑iP	P	10 24 27.8	-0.2
ASAR	Alice Springs	26.72	229	P	P	10 24 27.9	-0.2
	comp=Z,112nm,0.7s,mb5.5,baz=63,slow=9.0,SNR=1418						
ASAR				S	S	10 29 00.1	-0.1
	comp=Z,23nm,0.9s,baz=45,slow=34,SNR=2.2						
ASAR				ScP	ScP	10 31 29.2	+2.8
	comp=Z,21nm,0.9s,baz=63,slow=2.6,SNR=4.3						
ASAR				LR	LR	10 34 54.9	
	comp=Z,195μm,18.8s,MS6.7,baz=149,slow=36						
ASAR				P3KPbc		10 57 09.9	
	comp=Z,2.3nm,0.7s,baz=241,slow=2.3,SNR=7.3						
ASAR				P3KP		10 58 07.7	
	comp=Z,4.6nm,1.1s,baz=270,slow=1.1,SNR=4.4						
ASAR	Alice Springs	26.72	229	P	P	10 24 27.9	-0.1
ASAR				S	S	10 29 00.1	-0.1
ASAR				pmax	pmax		
	comp=Z,112nm,0.7s						
ASAR				smax			
	comp=N,23nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,195μm,18.8s						
ASAR	Alice Springs	26.72	229	P	P	10 24 27.9	-0.2
ASAR				S	S	10 29 00.1	-0.1
ASAR				ScP	ScP	10 31 29.2	+2.8
ASAR				LR	LR	10 34 54.9	
ASAR				e		10 57 09.9	
ASPA	Alice Springs	26.72	229	⇑iP	P	10 24 27.8	-0.2
RIV	Riverview	27.23	188	⇑iP	P	10 24 32.7	+0.1
RIV				epP	pP	10 24 44.3	-0.8
AAI	Ambon	27.40	275	P	P	10 24 33.5	-0.6
KNA	Kununurra	27.70	249	P	P	10 24 36.5	-0.3
STKA	Stephens Creek	28.16	206	⇑iP	P	10 24 40.2	-0.7
	comp=Z,226nm,1.1s,mb5.7						
STKA				epP	pP	10 24 52.8	-0.8
STKA				ePCP	PcP	10 27 53.5	-0.4
STKA				eS	S	10 29 21.5	-1.4
STKA	Stephens Creek	28.16	206	P	P	10 24 40.3	-0.6
	comp=Z,211nm,0.9s,mb5.8,baz=9.4,slow=8.5,SNR=143						
STKA				S	S	10 29 18.4	-4.5
	comp=Z,43nm,1.0s,baz=271,slow=12,SNR=1.7						
STKA				ScP	ScP	10 31 32.6	+1.9
	comp=Z,72nm,1.1s,baz=220,slow=3.7,SNR=4.4						
STKA				PKiKP	PKiKP	10 35 28.9	-0.5
	comp=Z,12nm,0.9s,baz=205,slow=2.5,SNR=4.0						
STKA				LR	LR	10 35 57.2	
	comp=Z,288μm,19.6s,MS6.9,baz=25,slow=36						
STKA				P3KPbc		10 57 03.4	
	comp=Z,9.2nm,0.8s,baz=219,slow=2.5,SNR=12						
CNB	Canberra Magne	28.97	190	⇑iP	P	10 24 48.4	+0.3
	comp=Z,111nm,0.8s,mb5.6						
CNB				epP	pP	10 25 00.0	-0.7
FITZ	Fitzroy Crossi	31.23	246	⇑iP	P	10 25 08.0	-0.1
	comp=Z,1μm,0.8s,mb6.8						
FITZ				ePCP	PcP	10 28 02.6	+0.9
FITZ	Fitzroy Crossi	31.23	246	P	P	10 25 07.9	-0.2
	comp=Z,789nm,0.9s,mb6.6,baz=78,slow=9.3,SNR=918						
FITZ				S	S	10 30 10.7	-0.4
	comp=Z,59nm,1.1s,baz=319,slow=23,SNR=1.6						
FITZ				LR	LR	10 37 31.9	
	comp=Z,173μm,21.4s,MS6.7,baz=75,slow=36						
TOO	Toolangi	31.99	195	⇑iP	P	10 25 15.0	+0.3
	comp=Z,61nm,0.9s,mb5.4						
TOO				epP	pP	10 25 26.4	-1.1
TOO				eS	S	10 30 29.6	+6.7
TOO	Toolangi	31.99	195	⇑iP	P	10 25 15.0	+0.3
TOO				e*PP	pP	10 25 26.4	-1.1
TOO				eS	S	10 30 29.6	+6.7
TOO				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.4						
MATI	Mati	32.23	294	eP	P	10 25 16.3	-0.6
DAV	Davao City (W)	32.90	294	eP	P	10 25 24.0	+1.3
DAV	Davao City (W)	32.90	294	P	P	10 25 25.9	+3.2
	SNR=5.1						
DAV	Davao City (W)	32.90	294	eP	P	10 25 25.4	+2.7
	comp=Z,898nm,0.8s,mb6.8						
DAV				LR	LR		
	comp=Z,63μm,20.0s,MS6.3						
AFI	Afiamalu	32.90	105	P	P	10 25 22.6	-0.1
	comp=Z,314nm,0.9s,mb6.3,baz=179,slow=0.9,SNR=31						
AFI	Afiamalu	32.90	105	eP	P	10 25 22.1	-0.6
AFI				e	pP	10 25 36.1	+0.7
AFI				pmax	pmax		
	comp=Z,1μm,0.9s,mb6.9						
AFI				MLR	MLR		
	comp=Z,62μm,21.0s,MS6.3						
AFI	Afiamalu	32.90	105	eP	P	10 25 22.1	-0.6
	comp=Z,1μm,0.9s,mb6.9						
AFI				e	pP	10 25 36.1	+0.6
AFI				LR	LR		
	comp=Z,62μm,21.0s,MS6.3						
RAO	Raoul Island	33.56	135	P	P	10 25 27.2	-1.3
	comp=Z,2μm,0.8s,mb7.1,baz=82,slow=7.8,SNR=20						
RAO	Raoul Island	33.56	135	eP	P	10 25 27.2	-1.2
	comp=Z,3μm,0.9s,mb7.2						
RAO				LR	LR		
	comp=Z,54μm,20.0s,MS6.3						
BUKP	Musuan	33.70	295	eP	P	10 25 30.0	+0.4
WCZ	Waipu Caves	33.76	152	PcP	PcP	10 28 09.5	+0.7
SCPH	Surigao	34.15	298	⇑eP	P	10 25 33.7	0.0
CTBH	Cotabato--PC H	34.17	293	⇑eP	P	10 25 34.2	+0.5
CGP	Cagayan de Oro	34.27	296	⇑iP	P	10 25 33.9	-0.8
CGP				iS	PP	10 26 58.6	+5.7
MSLP	Maasin	34.87	299	eP	P	10 25 39.7	-0.1
WSI	Waingapu	34.98	263	P	P	10 25 40.5	-0.3
KUZ	Kuaotunu	35.06	151	eP	P	10 25 41.8	+0.3
KUZ	Kuaotunu	35.06	151	PN	P	10 25 41.8	+0.3
KUZ				PcP	PcP	10 28 12.3	-0.2
FORT	Forrest	35.12	224	⇑iP	P	10 25 41.5	-0.5
	comp=Z,459nm,0.7s,mb6.5						
PAGZ	Pagadian	35.20	294	eP	P	10 25 43.6	+0.9
PLP	Palo	35.25	300	eP	P	10 25 42.4	-0.7
OCLP	Ormoc	35.51	300	eP	P	10 25 45.4	+0.1
DCPH	Dipolog City	35.53	295	eP	P	10 25 46.0	+0.5
TBP	Tagbilaran	35.54	297	eP	P	10 25 45.6	0.0
KAPI	Kappang	35.63	271	P	P	10 25 46.8	+0.4
	comp=Z,3μm,1.1s,mb7.2,SNR=52						
LLP	Lapu-Lapu	35.73	298	⇑eP	P	10 25 47.6	+0.4
IPIL	Ipil	35.92	293	⇑iP	P	10 25 49.7	+0.8
	comp=Z,175μm,79.0s						
IPIL				iS	pP	10 26 01.3	-0.3
SNPH	Sibulan	35.95	296	⇑eP	P	10 25 49.5	+0.4
CBIJ	Chichi jima	36.07	340	P	P	10 25 48.2	-1.9
	comp=Z,90nm,0.5s,mb5.9,baz=190,slow=2.9,SNR=5.8						
CBIJ				LR	LR	10 39 09.9	
	comp=Z,19μm,21.4s,MS5.8,baz=319,slow=34						
PCI	Palu	36.08	278	P	P	10 25 51.1	+0.9
HIZ	Hauiti	36.11	154	eP	P	10 25 48.2	-2.3
HIZ	Hauiti	36.11	154	PN	P	10 25 51.6	+1.1
HIZ				PcP	PcP	10 28 15.5	0.0
TAU	Tasmania Unive	36.71	190	P	P	10 25 56.9	+1.3
	comp=Z,4μm,1.6s,mb7.0,SNR=24						
TAU	Tasmania Unive	36.71	190	P	P	10 25 56.6	+1.0
URZ	Urewera	36.94	151	P	P	10 25 57.4	-0.1
	comp=Z,140nm,0.7s,mb5.9,baz=343,slow=3.2,SNR=32						
URZ	Urewera	36.94	151	eP	P	10 25 57.4	-0.1
URZ	Urewera	36.94	151	PN	P	10 25 57.4	-0.1
MXZ	Matakaoa Point	36.98	149	eP	P	10 25 57.8	-0.1
MXZ	Matakaoa Point	36.98	149	PN	P	10 25 58.1	+0.2
OTVZ	Oturere	37.00	154	PN	P	10 25 59.3	+1.3
FWVZ	Far West T-bar	37.03	154	eP	P	10 25 59.3	+1.0
FWVZ	Far West T-bar	37.03	154	PN	P	10 25 59.7	+1.4
GUIM	Jordan	37.08	298	eP	P	10 25 58.6	-0.1
WNVZ	Wahianoa	37.11	154	eP	P	10 25 59.7	+0.7
WNVZ	Wahianoa	37.11	154	PN	P	10 26 00.6	+1.7
QRZ	Quartz Range	37.15	158	eP	P	10 26 00.2	+0.9
QRZ	Quartz Range	37.15	158	PN	P	10 26 00.4	+1.0
PVCP	Virac	37.16	303	⇑iP	P	10 25 59.7	+0.3
PVCP	Virac	37.16	303	eP	P	10 25 59.6	+0.2
MWZ	Matawai	37.20	151	eP	P	10 25 59.3	-0.4
MWZ	Matawai	37.20	151	PN	P	10 26 01.0	+1.3
PUZ	Puketiti	37.35	150	eP	P	10 26 00.8	-0.2
PUZ	Puketiti	37.35	150	PN	P	10 26 00.6	-0.4
RCP	Roxas	37.36	299	eP	P	10 26 01.9	+0.8
BKZ	Black Stump Fm	37.38	153	eP	P	10 26 01.0	-0.2
BKZ	Black Stump Fm	37.38	153	PN	P	10 26 00.9	-0.3
MBWA	Marble Bar	37.45	244	eP	P	10 26 01.8	-0.1
	comp=Z,623nm,0.8s,mb6.5						
MBWA				LR	LR		
	comp=Z,132μm,20.0s,MS6.7						
DSZ	Denniston Nort	37.71	160	eP	P	10 26 04.3	+0.3
DSZ	Denniston Nort	37.71	160	PN	P	10 26 04.0	0.0
DSZ				PcP	PcP	10 28 19.1	-1.3
KALP	Kalibo	37.77	299	⇓eP	P	10 26 03.6	-0.9
NNZ	Nelson	37.81	158	eP	P	10 26 04.7	-0.2
NNZ	Nelson	37.81	158	PN	P	10 26 04.5	-0.4
KNZ	Kokohu	37.81	151	eP	P	10 26 04.5	-0.4
KNZ	Kokohu	37.81	151	PN	P	10 26 04.4	-0.5
TSZ	Takapari Road	37.87	154	eP	P	10 26 05.3	-0.1
TSZ	Takapari Road	37.87	154	PN	P	10 26 05.6	+0.1
THZ	Tophouse	38.11	159	eP	P	10 26 07.1	-0.3
TCW	Tory Channel	38.15	157	eP	P	10 26 07.9	+0.2
TCW	Tory Channel	38.15	157	PN	P	10 26 07.8	0.0
TUWZ	Tuamarina	38.20	157	⇑PN	P	10 26 08.2	0.0
MRZ	Mangatainoka R	38.21	155	eP	P	10 26 07.5	-0.7
MRZ	Mangatainoka R	38.21	155	PN	P	10 26 07.7	-0.6
MRZ				PN	P	10 26 07.7	-0.5
OTRP	Odiongan	38.36	300	eP	P	10 26 09.6	+0.1
SNZO	South Karori	38.40	157	eP	P	10 26 09.3	-0.6
CUYO	Cuyo Island	38.56	297	eP	P	10 26 12.1	+0.8
MTW	Mount Morrison	38.59	156	eP	P	10 26 10.7	-0.8
MTW	Mount Morrison	38.59	156	PN	P	10 26 10.9	-0.6
GQP	Guinayangan	38.74	302	⇑iP	P	10 26 12.8	+0.1
KHZ	Kahutara	38.91	159	eP	P	10 26 13.2	-0.9
KHZ	Kahutara	38.91	159	PN	P	10 26 13.6	-0.6
BOAC	Boac	39.03	301	eP	P	10 26 14.6	-0.6
TSM	Tawau	39.17	285	P	P	10 26 16.9	+0.6
RPZ	Rata Peaks	39.24	162	P	P	10 26 16.4	-0.5
	comp=Z,354nm,0.9s,mb6.1,baz=342,slow=1.5,SNR=67						
RPZ	Rata Peaks	39.24	162	eP	P	10 26 16.1	-0.8
POLP	Polilio Island	39.58	303	eP	P	10 26 19.8	+0.1
LBZ	Lake Benmore	39.59	163	eP	P	10 26 18.6	-1.2
LBZ	Lake Benmore	39.59	163	PcP	PcP	10 28 26.1	-0.2
LQP	Lukban	39.61	302	eP	P	10 26 17.4	-2.6
MQZ	McQueen's Vall	39.74	160	eP	P	10 26 20.5	-0.5
MQZ	McQueen's Vall	39.74	160	PN	P	10 26 20.4	-0.6
BUSP	Coron	39.79	298	eP	P	10 26 21.7	+0.3
DNP	Denpasar	39.99	265	P	P	10 26 22.2	-1.0
TGY	Tagaytay City	40.11	301	⇑eP	P	10 26 25.1	+0.9
TGY	Tagaytay City	40.11	301	P	P	10 26 24.9	+0.7
	comp=Z,2μm,1.0s,baz=173,slow=4.2,SNR=20						
TGY				LR	LR	10 40 12.8	
	comp=Z,300nm,19.9s,baz=120,slow=32						
TGY	Tagaytay City	40.11	301	P	P	10 26 24.9	+0.7
TGY				LR	LR	10 40 12.8	
ENPP	El Nido	40.13	296	eP	P	10 26 25.1	+0.8
PPR	Puerto Princes	40.18	294	⇑iP	P	10 26 26.1	+1.3
ODZ	Otahua Downs	40.33	163	PcP	PcP	10 28 28.9	+0.3
BALP	Baler	40.39	304	eP	P	10 26 26.4	-0.1
PALP	Palanan	40.40	306	⇑iP	P	10 26 26.7	+0.1
PALP				iS	pP	10 26 47.8	+8.2
PALP	Palanan	40.40	306	eP	P	10 26 26.9	+0.3
LUBP	Lubang	40.53	300	eP	P	10 26 25.6	-2.0
NBBI	Negara	40.58	265	P	P	10 26 26.3	-1.7
BATP	Bataraza	40.67	292	eP	P	10 26 29.1	+0.4
PCPH	Palayan	40.70	303	⇑iP	P	10 26 29.0	0.0
CAUP	Cauayan	40.82	306	eP	P	10 26 30.6	+0.6
TUZ	Tuapeka	40.89	165	eP	P	10 26 30.0	-0.6
TUZ	Tuapeka	40.89	165	⇑PN	P	10 26 29.9	-0.7
CVP	Callao Caves	41.23	307	⇑eP	P	10 26 34.0	+0.6
KKM	Kota Kinabalu	41.25	287	P	P	10 26 34.4	+0.8
KKM	Kota Kinabalu	41.25	287	⇑iP	P	10 26 34.1	+0.5
SGCP	Mt. Cagua	41.35	307	eP	P	10 26 35.0	+0.6
BCPH	Baguio City Da	41.54	304	⇑eP	P	10 26 36.1	+0.2
SCZP	Santa Cruz	41.79	303	eP	P	10 26 36.8	-1.2
BOLP	Bolinao	42.09	303	eP	P	10 26 37.6	-2.8
ABRA	Dolores	42.09	306	eP	P	10 26 40.1	-0.3
JHJ	Hachijo jima 2	42.40	340	P	P	10 26 41.9	-1.1
	comp=Z,180nm,0.8s,mb5.8,baz=150,slow=8.4,SNR=4.3						
JOW	Kunigami	42.59	323	P	P	10 26 45.2	+0.7
	comp=Z,244nm,1.0s,mb5.9,baz=144,slow=9.7,SNR=26						
JOW				S	S	10 32 53.9	-10
	comp=Z,25nm,0.5s,baz=135,slow=27,SNR=1.6						
JOW				LR	LR	10 41 03.4	
	comp=Z,48μm,21.3s,MS6.3,baz=163,slow=31						
KLBR	Kellerberrin	43.04	230	⇑iP	P	10 26 47.3	-0.8
	comp=Z,537nm,0.8s,mb6.3						
KLBR				epP	pP	10 26 58.6	-2.6
KLBR				eS	S	10 33 07.8	-2.5
NWAO	Narrogin (SRO)	44.04	229	P	P	10 26 55.8	-0.4
	comp=Z,224nm,0.8s,mb5.9,baz=61,slow=7.7,SNR=104						
NWAO				S	S	10 33 12.8	-12
	comp=Z,34nm,1.1s,baz=305,slow=23,SNR=1.4						
NWAO	Narrogin (SRO)	44.04	229	eP	P	10 26 55.9	-0.3
	comp=Z,290nm,1.0s,mb6.0						
NWAO				LR	LR		
	comp=Z,128μm,21.0s,MS6.8						
MUN	Mundaring	44.39	230	⇑iP	P	10 26 58.7	-0.3
NACB	Ninganchiao	45.19	314	⇑iP	P	10 27 05.4	+0.1
RAR	Rarotonga	45.50	113	P	P	10 27 08.5	+0.7
	comp=Z,174nm,0.9s,mb5.9,baz=246,slow=7.6,SNR=9.4						
RAR	Rarotonga	45.50	113	P	P	10 27 08.5	+0.7
RAR				pmax	pmax		
	comp=Z,174nm,1.0s						
YHNB	Yeheng	45.65	314	eP	P	10 27 09.7	+0.7
TATO	Taipei	45.77	315	P	P	10 27 10.6	+0.7
	SNR=9.3						
TATO	Taipei	45.77	315	eP	P	10 27 10.2	+0.3
	comp=Z,305nm,0.8s,mb6.3						
KSM	Kuching	45.88	279	⇑iP	P	10 27 11.2	+0.4
MJAR	Matsushiro Arr	46.05	341	P	P	10 27 11.2	-1.0
	comp=Z,90nm,0.7s,mb5.8,baz=161,slow=6.9,SNR=174						
MJAR				PcP	PcP	10 28 48.0	+0.2
	comp=Z,137nm,0.9s,baz=159,slow=3.6,SNR=9.0						
MJAR				LR	LR	10 46 44.5	
	comp=Z,7μm,18.3s,MS5.7,baz=145,slow=36						
MJAR				PKPPKP		10 58 35.4	
	comp=Z,2.3nm,1.0s,baz=286,slow=1.7,SNR=4.1						
MAJO	Matsushiro	46.05	341	eP	P	10 27 11.6	-0.5
MAJO				pmax	pmax		
	comp=Z,132nm,0.6s,mb6.0						
MAJO				MLR	MLR		
	comp=Z,21μm,19.0s,MS6.1						
MAJO	Matsushiro	46.05	341	eP	P	10 27 11.6	-0.6
	comp=Z,132nm,0.6s,mb6.0						
MAJO				LR	LR		
	comp=Z,21μm,19.0s,MS6.1						
MAT	Matsushiro	46.05	341	P	P	10 27 11.3	-0.8
MAT				S	S	10 33 45.0	-9.0
MCQ	Macquarie Isla	47.67	177	eP	P	10 27 25.1	+0.4
QZH	Quanzhou	47.83	313	⇑iP	P	10 27 26.6	+0.6
QZH				PCS	PcS	10 32 47.0	-2.8
QZH				S	S	10 34 12.0	-7.3
QZH				XS	sS	10 34 46.5	+5.0
QZH				AMB	AMB		
	comp=Z,1μm,1.0s,mb6.9						
QZH				AMB	AMB		
	comp=Z,9μm,5.4s						
QZH				LR	LR		
	comp=Z,146μm,29.3s,MS6.8						
HKC	Hong Kong	49.76	307	⇑iP	P	10 27 42.0	+1.2
HKC				iS	S	10 34 44.0	-2.5
ERM	Erimo	49.85	348	P	P	10 27 42.0	+0.5
	comp=Z,854nm,0.8s,mb6.8,SNR=8.0						
ERM	Erimo	49.85	348	d iP	P	10 27 42.2	+0.7
ERM	Erimo	49.85	348	eP	P	10 27 42.4	+0.8
	comp=Z,159nm,1.0s,mb6.0						
ERM				LR	LR		
	comp=Z,13μm,22.0s,MS5.9						
SSE	Sheshan	49.97	321	P	P	10 27 42.4	0.0
SSE				AP	pP	10 27 55.9	+0.2
SSE				S	S	10 34 50.6	+1.1
SSE				XS	sS	10 35 14.3	+2.5
SSE				SCS	ScS	10 37 28.5	-1.0
SSE				AMB	AMB		
	comp=Z,88nm,1.0s,mb5.7						
SSE				AMB	AMB		
	comp=Z,10μm,12.0s						
SSE				LR	LR		

comp=N,18μm,25.0s,MS6.2
SSE LR LR
comp=E,21μm,25.0s,MS6.2
SSE LR LR
comp=E,37μm,20.8s,MS6.4
GZH Guangzhou 50.81 307 P **P** **10 27 49.2 +0.4**
GZH S **S** **10 35 02.9 +1.7**
GZH AMB AMB
comp=Z,187nm,1.0s,mb6.0
GZH LR LR
comp=N,13μm,20.5s,MS6.2
GZH LR LR
comp=E,15μm,17.4s,MS6.2
GZH LR LR
comp=Z,79μm,24.6s
YUK Yuzh-Kuril'sk 51.32 351⇑ *i*P **P** **10 27 55.5 +2.9**
YUK *i* pP 10 28 10.0 +4.1
YUK *i* S **S** **10 35 11.0 +2.8**
YUK pmax pmax
comp=Z,520nm,1.0s,mb6.4
YUK pmax pmax
comp=N,7μm,4.0s
YUK pmax pmax
comp=Z,8μm,4.0s
YUK pmax pmax
comp=E,3μm,3.0s
YUK smax
comp=N,10μm,12.0s
YUK smax
comp=E,3μm,12.0s
YUK MLR MLR
comp=N,56μm,20.0s,MS6.7
YUK MLR MLR
comp=Z,54μm,20.0s,MS6.6
YUK MLR MLR
comp=E,8μm,15.0s,MS6.7
INCN Inchon 51.64 331 P **P** **10 27 55.7 +0.8**
SNR=28
INCN Inchon 51.64 331 *e*P **P** **10 27 55.4 +0.4**
QIZ Qiongzhong 51.81 301 P **P** **10 27 57.6 +1.4**
QIZ AP pP 10 28 10.4 +0.8
QIZ XP sP 10 28 15.4 +0.2
QIZ AMB AMB
comp=Z,390nm,1.0s,mb6.3
QIZ LR LR
comp=E,31μm,27.1s
QIZ LR LR
comp=Z,77μm,27.3s,MS6.6
QIZ Qiongzhong 51.81 301 *e*P **P** **10 27 57.4 +1.2**
comp=Z,420nm,1.0s,mb6.3
QIZ LR LR
comp=Z,43μm,22.0s,MS6.4
ASAJ Asahikawa 51.99 348 P **P** **10 27 58.5 +1.0**
comp=Z,356nm,0.9s,mb6.3,baz=238,slow=16,SNR=80
ASAJ LR LR 10 45 55.3
comp=Z,42μm,21.2s,MS6.5,baz=173,slow=31
NJ2 Nanjing 52.09 320 *e*P **P** **10 27 59.7 +1.4**
NJ2 AP pP 10 28 12.3 +0.6
NJ2 XP sP 10 28 17.6 +0.3
NJ2 AMB AMB
comp=Z,820nm,1.0s,mb6.6
NJ2 AMB AMB
comp=Z,16μm,10.6s
NJ2 LR LR
comp=N,66μm,23.2s,MS6.9
NJ2 LR LR
comp=E,117μm,24.2s,MS6.9
NJ2 LR LR
comp=Z,117μm,24.1s,MS6.8
KGM Kluang 52.84 278 P **P** **10 28 04.6 +0.7**
HON Honolulu 53.45 57 *e*P **P** **10 28 09.8 +1.4**
KIP Kipapa 53.49 57*c i*P **P** **10 28 08.3 -0.3**
KIP Kipapa 53.49 57 *e*P **P** **10 28 09.8 +1.2**
KIP LR LR
comp=Z,47μm,22.0s,MS6.5
VLA Vladivostok 54.10 339*d i*P **P** **10 28 13.2 +0.1**
VLA *i* *PP pP 10 28 23.8 -2.8
VLA *i* *SP sP 10 28 28.6 -3.6
VLA *e*S **S** **10 35 42.5 -3.6**
VLA *i* 10 36 09.7
VLA pmax pmax
comp=Z,599nm,1.2s,mb6.4
VLA Vladivostok 54.10 339 *i* Pr **P** **10 28 13.3 +0.2**
WHN Wuhan 54.16 316 *e*P **P** **10 28 14.0 +0.5**
WHN AMB AMB
comp=Z,440nm,1.0s,mb6.3
WHN LR LR
comp=Z,118μm,24.1s,MS6.9
KKH Kailua Kona 54.43 60 *e*P **P** **10 28 16.9 +1.4**
PPT Papeete 54.55 107 *e*P **P** **10 28 15.8 -0.5**
comp=Z,82nm,1.1s,mb5.7
PPT *e*sP sP 10 28 31.2 -4.2
comp=Z,816nm,1.6s
PPT Papeete 54.55 107 *e*S **S** **10 35 51.2 -0.9**
comp=Z,38μm,26.0s
PPT *e*SS SS 10 39 34.7 -0.4
comp=Z,19μm,26.0s
PPT *e*LQ 10 41 52.6
comp=Z,84μm,27.8s
PPT *e*LR LR 10 44 27.1
comp=Z,47μm,22.5s,baz=280
PPT Papeete 54.55 107 P **P** **10 28 18.3 +2.0**
comp=Z,61nm,0.8s,mb5.7,baz=236,slow=7.1,SNR=12
PPT LR LR 10 47 17.9
comp=Z,21μm,21.1s,MS6.2,baz=276,slow=31
PAE Paea 54.55 107 *e*P **P** **10 28 15.6 -0.8**
comp=Z,406nm,1.1s,mb6.3
PAE *e*sP sP 10 28 31.0 -4.4
comp=Z,2μm,1.2s
HPO Honuapo 54.61 61 *e*P **P** **10 28 17.8 +1.0**
YSS Yuzh-Sakhalins 54.68 349⇑ *e*P **P** **10 28 18.1 +0.8**
YSS pmax pmax
comp=Z,744nm,1.4s,mb6.5
MAUI Maui 54.70 59*c i*P **P** **10 28 16.2 -1.2**
TVO Taravao 54.87 107 *e*P **P** **10 28 18.3 -0.4**
comp=Z,340nm,0.8s,mb6.4
TVO *e*sP sP 10 28 33.8 -4.0
comp=Z,2μm,1.2s
POHA Pohakuloa 54.89 60 PFAKE 10 28 30.0 +11
POHA LR LR
comp=Z,45μm,22.0s,MS6.5
DL2 Dalian 55.27 328⇑ *i*P **P** **10 28 21.6 +0.1**
DL2 AP pP 10 28 34.3 -0.7
DL2 PP PP 10 30 23.1 -2.3
DL2 S **S** **10 36 00.3 -1.4**
DL2 XS sS 10 36 24.6 +0.3
DL2 SS SS 10 39 50.0 +3.6
DL2 AMB AMB
comp=Z,270nm,0.9s,mb6.3
DL2 AMB AMB
comp=Z,3μm,9.6s
DL2 LR LR
comp=N,12μm,26.7s,MS6.1
DL2 LR LR
comp=E,18μm,22.8s,MS6.1
DL2 LR LR
comp=Z,34μm,25.6s,MS6.3
TBI Tubuai 55.27 114 *e*LQ 10 42 02.3
comp=Z,81μm,39.2s
TBI Tubuai 55.27 114 *e*P **P** **10 28 20.4 -1.2**
comp=Z,560nm,1.0s,mb6.5
TBI Tubuai 55.27 114 *e*sP sP 10 28 35.8 -4.9
comp=Z,2μm,1.5s
TBI *e*S **S** **10 36 01.2 -0.6**
comp=Z,32μm,29.2s
TBI *e*LR LR 10 44 31.8
comp=Z,172μm,29.8s,baz=282
IPM Ipoh 55.55 280 P **P** **10 28 24.2 +0.6**
TIA Tai'an 55.92 323⇑⇑ P **P** **10 28 25.8 -0.4**
TIA AMB AMB
comp=Z,194nm,1.0s,mb6.1
TIA AMB AMB
comp=Z,2μm,7.0s
TIA LR LR
comp=N,7μm,15.0s,MS6.0
TIA LR LR
comp=E,6μm,15.0s,MS6.0
PMOR Pomariorio Ree 56.02 103 *e*P **P** **10 28 26.6 -0.4**
comp=E,284nm,1.1s,mb6.2
PMOR *e*sP sP 10 28 42.1 -4.0
comp=E,2μm,1.2s
KULM Kulim 56.08 281⇑ *i*P **P** **10 28 27.1 -0.3**
KULM Kulim 56.08 281 *e*S **S** **10 36 06.7 -5.8**
MDJ Mudanjiang 56.24 338 P **P** **10 28 29.0 +0.5**
MDJ AP pP 10 28 41.4 -0.6
MDJ XP sP 10 28 46.6 -1.0
MDJ AMB AMB
comp=Z,243nm,1.0s,mb6.2
MDJ AMB AMB
comp=Z,6μm,10.2s
MDJ LR LR
comp=N,19μm,24.8s
MDJ LR LR
comp=E,25μm,31.9s
MDJ LR LR
comp=Z,25μm,23.0s,MS6.2
MDJ Mudanjiang 56.24 338⇑ *i*P **P** **10 28 28.6 0.0**
comp=Z,296nm,1.1s,mb6.2
MDJ LR LR
comp=Z,21μm,20.0s,MS6.2
VAH Vaihoa 56.29 104 *e*P **P** **10 28 28.3 -0.6**
comp=Z,126nm,0.9s,mb5.9
VAH *e*sP sP 10 28 43.7 -4.3
comp=Z,1μm,1.2s
SNY Shenyang 56.50 332⇑⇑ P **P** **10 28 30.1 -0.3**
SNY AP pP 10 28 45.9 +2.0
SNY XP sP 10 28 53.7 +4.2
SNY PP PP 10 30 33.6 -2.9
SNY S **S** **10 36 17.6 -0.6**
SNY XS sS 10 36 38.3 -2.5
SNY AMB AMB
comp=Z,113nm,1.2s,mb5.8
SNY AMB AMB
comp=Z,9μm,12.0s
SNY LR LR
comp=N,29μm,26.4s,MS6.4
SNY LR LR
comp=E,18μm,22.2s,MS6.4
SNY LR LR
comp=Z,52μm,28.8s
CN2 Changchun 57.22 334 *e*P **P** **10 28 35.1 -0.4**
CN2 *e*PP PP 10 30 43.4 +0.5
CN2 PPP 10 32 06.6
CN2 PCS PcS 10 33 27.5 -3.0
CN2 *e*S **S** **10 36 26.6 -1.1**
CN2 *e*SS SS 10 40 18.4 +1.1
CN2 AMB AMB
comp=Z,240nm,1.0s,mb6.2
CN2 AMB AMB
comp=Z,6μm,10.0s
CN2 LR LR
comp=N,27μm,23.0s,MS6.4
CN2 LR LR
comp=E,22μm,23.0s,MS6.4
CN2 LR LR
comp=Z,51μm,25.0s,MS6.5
PSI Prapat 57.30 278 P **P** **10 28 34.8 -1.3**
comp=Z,31nm,0.6s,mb5.5,baz=126,slow=3.9,SNR=52
PSI S **S** **10 36 22.1 -6.7**
comp=Z,9.4nm,1.0s,baz=333,slow=20,SNR=4.7
PSI PKP2bc 10 58 30.9
comp=Z,14nm,1.2s,baz=286,slow=2.9,SNR=3.6
PSI Prapat 57.30 278 P **P** **10 28 34.8 -1.3**
PSI S **S** **10 36 22.1 -6.7**
PSI pmax pmax
comp=Z,31nm,0.6s,mb5.5
PSI smax
comp=N,9.0nm,1.0s
PSI Prapat 57.30 278 P **P** **10 28 34.8 -1.3**
PSI S **S** **10 36 22.1 -6.7**
PSI ⇑ *e* 10 58 30.9
GYA Guiyang 57.75 307⇑ *i*P **P** **10 28 38.8 -0.4**
GYA AP pP 10 28 51.5 -1.3
GYA PP PP 10 30 48.0 +0.5
GYA SCP ScP 10 33 26.7 -0.8
GYA S **S** **10 36 35.4 +0.8**
GYA XS sS 10 36 53.2 -4.1
GYA AMB AMB
comp=Z,210nm,0.9s,mb6.2
GYA AMB AMB
comp=Z,7μm,10.5s
GYA LR LR
comp=N,18μm,23.7s,MS6.4
GYA LR LR
comp=E,27μm,20.1s,MS6.4
GYA LR LR
comp=Z,36μm,21.3s,MS6.5
HABR Khabarovsk 57.88 344⇑ *i*P **P** **10 28 41.3 +1.1**
HABR pmax pmax
comp=Z,396nm,0.9s,mb6.4
COCO West Island 58.06 260 P **P** **10 28 42.2 +0.8**
comp=Z,3μm,1.0s,SNR=5.0
COCO West Island 58.06 260 P **P** **10 28 43.1 +1.7**
SNR=7.4
COCO West Island 58.06 260 *e*P **P** **10 28 42.5 +1.1**
COCO LR LR
comp=Z,9μm,21.0s,MS5.9
NNT Nongplab 58.70 289 P **P** **10 28 47.5 +1.7**
BJT Baijiatuau 59.03 325 *e*P **P** **10 28 47.7 -0.4**
BJT pmax pmax
comp=Z,110nm,0.8s
BJT MLR MLR
comp=Z,54μm,22.0s
BJT Baijiatuau 59.03 325 *e*P **P** **10 28 47.7 -0.4**
comp=Z,110nm,0.8s,mb5.9
BJT LR LR
comp=Z,54μm,22.0s,MS6.6
BJI Beijing 59.04 325 P **P** **10 28 47.7 -0.5**
BJI AP pP 10 29 01.5 -0.3
BJI PCP PcP 10 29 31.6 -5.1
BJI PP PP 10 31 01.3 +2.3
BJI S **S** **10 36 49.1 -2.3**
BJI AMB AMB
comp=Z,67nm,1.0s,mb5.6
BJI AMB AMB
comp=Z,7μm,8.2s
BJI LR LR
comp=N,19μm,18.7s,MS6.5
BJI LR LR
comp=E,28μm,19.3s,MS6.5
BJI LR LR
comp=Z,44μm,30.4s
KLR Kul'dur 59.52 342⇓ *i*P **P** **10 28 49.0 -2.5**
KLR *e*S **S** **10 36 54.0 -3.6**
KLR *e* 10 37 24.6
KLR *e* 10 41 00.0
KLR pmax pmax
comp=E,530nm,2.4s
KLR pmax pmax
comp=Z,2μm,2.4s,mb6.6
KLR pmax pmax
comp=N,4μm,10.0s
KLR pmax pmax
comp=E,2μm,10.0s
KLR pmax pmax
comp=Z,6μm,10.0s
KLR MLR MLR
comp=E,15μm,18.0s
PET Petropavlovsk 59.63 2 *e*P **P** **10 28 52.3 0.0**
PET pmax pmax
comp=Z,1μm,1.3s,mb6.7
NANT Nan 59.72 296 PG **P** **10 28 50.5 -2.4**
XAN Xi'an 59.92 316 P **P** **10 28 53.8 -0.5**
XAN AP pP 10 29 06.1 -1.8
XAN S **S** **10 36 53.4 -9.4**
XAN AMB AMB
comp=Z,217nm,1.0s,mb6.1
XAN LR LR
comp=N,12μm,22.0s,MS6.3
XAN LR LR
comp=E,21μm,22.8s,MS6.3
XAN LR LR
comp=Z,45μm,30.6s
KMI Kunming 60.34 304⇑⇑ P **P** **10 28 58.2 +1.1**
KMI AP pP 10 29 12.2 +1.4
KMI XP sP 10 29 18.5 +2.2
KMI PCP PcP 10 29 43.0 +1.1
KMI PP PP 10 31 13.3 +2.8
KMI PPP 10 32 42.9
KMI AMB AMB
comp=Z,95nm,1.7s,mb5.5
KMI LR LR
comp=N,17μm,21.0s,MS6.5
KMI LR LR
comp=E,37μm,22.4s,MS6.5
KMI LR LR
comp=Z,60μm,23.7s,MS6.7
DRV Dumont d'Urvil 60.75 187 P **P** **10 28 57.0 -2.9**
DRV Dumont d'Urvil 60.75 187 PP PP 10 31 07.0 -7.1
DRV S **S** **10 37 08.0 -5.3**
DRV SS SS 10 41 11.0 -1.6
DRV L 10 44 00.0
DRV R 10 48 00.0
CHRT Chiangrai 60.90 297⇑⇑ P **P** **10 29 02.0 +1.1**
comp=Z,3μm,0.7s
CM31 Chiang Mai Arr 61.18 295 *e*P **P** **10 29 04.1 +1.3**
CM31 LR LR
comp=Z,18μm,21.0s,MS6.2
CHG Chiang Mai 61.29 296⇑⇑ P **P** **10 29 04.8 +1.2**
comp=Z,150nm,1.1s,mb6.0
CHTO Chiang Mai 61.29 296 P **P** **10 29 04.7 +1.1**
SNR=228
CHTO Chiang Mai 61.29 296⇑ *i*P **P** **10 29 04.5 +0.9**
CHTO *e**PP pP 10 29 16.4 -0.9
CHTO pmax pmax
comp=Z,925nm,1.1s,mb6.8
CHTO MLR MLR
comp=Z,17μm,22.0s,MS6.2
CHTO Chiang Mai 61.29 296⇑ *i*P **P** **10 29 04.5 +0.9**
comp=Z,925nm,1.1s,mb6.8
CHTO *e*pP pP 10 29 16.4 -0.8
CHTO LR LR
comp=Z,17μm,22.0s,MS6.2
SMY Shemya 61.34 13 *e*P **P** **10 29 05.0 +1.0**
SMY pmax pmax
comp=Z,350nm,0.6s,mb6.7
SMY MLR MLR
comp=Z,129μm,22.0s,MS7.0
SMY Shemya 61.34 13 *e*P **P** **10 29 05.0 +1.0**
comp=Z,350nm,0.6s,mb6.7
SMY LR LR
comp=Z,129μm,22.0s,MS7.0
CD2 Chengdu 62.08 310⇑ *i*P **P** **10 29 09.0 +0.1**
CD2 AP pP 10 29 21.9 -0.7
CD2 XP sP 10 29 30.9 +2.7
CD2 PCP PcP 10 29 48.9 0.0
CD2 PP PP 10 31 31.7 +5.8
CD2 AMB AMB
comp=Z,200nm,0.7s,mb6.4
CD2 AMB AMB
comp=Z,6μm,8.4s
CD2 LR LR
comp=N,21μm,23.4s
CD2 LR LR
comp=Z,29μm,25.8s,MS6.3
HHC Hu-ho-hao-te 62.23 323⇑ *i*P **P** **10 29 10.3 +0.3**
HHC AP pP 10 29 24.8 +1.2
HHC XP sP 10 29 31.7 +2.5
HHC PCP PcP 10 29 49.3 -0.2
HHC PP PP 10 31 29.4 +2.2
HHC AMB AMB
comp=Z,146nm,0.9s,mb6.1
HHC AMB AMB
comp=Z,6μm,10.3s
HHC LR LR
comp=N,24μm,21.6s,MS6.5
HHC LR LR
comp=E,22μm,21.6s,MS6.5
HHC LR LR
comp=Z,41μm,21.4s,MS6.6
BTO Baotou 63.01 322 *e*P **P** **10 29 14.7 -0.4**
TAOE Nuku Hiva Isla 63.69 97 *e*LQ 10 45 17.7
comp=Z,83μm,26.9s
TAOE Nuku Hiva Isla 63.69 97 *e*PP PP 10 31 36.8 -3.2
comp=Z,10μm,26.6s
TAOE Nuku Hiva Isla 63.69 97 *e*S **S** **10 37 49.8 -0.5**
comp=Z,81μm,26.7s
TAOE *e*SS SS 10 41 59.8 +1.2
comp=Z,37μm,31.2s
TAOE *e*LR LR 10 48 14.6
comp=Z,97μm,22.4s,baz=272
HIA Hailar 63.95 335⇑ *i*P **P** **10 29 21.5 +0.2**
HIA pmax pmax
comp=Z,338nm,0.9s
HIA MLR MLR
comp=Z,29μm,21.0s
HIA Hailar 63.95 335⇑ *i*P **P** **10 29 21.5 +0.1**
comp=Z,338nm,0.9s,mb6.4
HIA LR LR
comp=Z,29μm,21.0s,MS6.4
LZH Lanzhou 64.54 315⇑⇑ P **P** **10 29 26.3 +1.1**
LZH AP pP 10 29 40.7 +1.8
LZH XP sP 10 29 46.9 +2.5
LZH PCP PcP 10 29 57.1 -1.8
LZH PP PP 10 31 49.4 +1.9
LZH S **S** **10 37 59.2 -1.7**
LZH XS sS 10 38 23.0 -0.9
LZH SCS ScS 10 39 16.0 +0.6
LZH AMB AMB
comp=Z,417nm,1.1s,mb6.4
LZH AMB AMB
comp=Z,2μm,4.4s
LZH LR LR
comp=E,38μm,16.4s
LZH LR LR
comp=Z,45μm,17.1s,MS6.7
PBA Port Blair 65.08 286 *ex* x 10 29 12.1
PBA *ex* x 10 36 26.8
PBA Port Blair 65.08 286 *e*P x 10 29 12.2
PBA *ex* x 10 29 16.1
comp=Z,300nm,1.0s
PBA *e*S x 10 36 26.8
MA2 Magadan 66.25 357*c i*P **P** **10 29 34.4 -1.8**
MA2 pmax pmax
comp=Z,237nm,1.0s,mb6.2
MA2 Magadan 66.25 357 *i*P **P** **10 29 34.5 -1.7**
MA2 LR LR
comp=Z,18μm,19.0s,MS6.3
CASY Casey 66.97 198 *e*P **P** **10 29 39.9 -0.9**
CASY *e*pP pP 10 29 53.2 -1.4
CASY *e*S S 10 38 27.6 -2.9
CASY Casey 66.97 198 *e*P **P** **10 29 39.9 -0.9**
CASY *e*pP pP 10 29 53.2 -1.4
CASY *e*S S 10 38 27.6 -2.9
CASY LR LR
comp=Z,67μm,20.0s,MS6.9
CLNS Chul'man 68.18 342 *e*P **P** **10 29 49.6 +1.1**
CLNS *e* 10 30 13.6
CLNS *e* 10 32 15.8
CLNS *e*PPP 10 33 53.4
CLNS *e*S S 10 38 46.4 +1.4
CLNS pmax pmax
comp=Z,329nm,0.7s,mb6.5
CLNS pmax pmax
comp=N,206nm,1.1s
CLNS pmax pmax
comp=E,163nm,0.8s
CLNS pmax pmax
comp=Z,62nm,1.2s,mb5.5
CLNS pmax pmax
comp=N,151nm,0.9s
CLNS pmax pmax
comp=E,79nm,0.8s
CLNS smax
comp=N,3μm,11.4s
CLNS smax
comp=Z,3μm,12.4s
CLNS smax
comp=E,4μm,10.9s
CLNS MLR MLR
comp=Z,11μm,19.0s,MS6.1
CLNS MLR MLR
comp=N,3μm,17.0s,MS5.9
CLNS MLR MLR
comp=E,6μm,16.0s,MS5.9
RKT Rikitea 68.53 112 *e*P **P** **10 29 49.0 -1.6**
comp=E,94nm,1.0s,mb5.7
RKT *e*sP sP 10 30 04.4 -5.6
comp=E,580nm,1.2s
RKT Rikitea 68.53 112 *e*LQ 10 47 47.6
comp=E,46μm,35.2s
RKT Rikitea 68.53 112 *e*PP PP 10 32 20.3 -2.0
comp=E,5μm,29.0s
RKT Rikitea 68.53 112 *e*S S 10 38 48.5 -0.6
comp=E,14μm,29.0s
RKT *e*SS SS 10 43 14.3 +0.6
comp=E,21μm,33.5s
RKT *e*LR LR 10 50 36.0
comp=E,135μm,29.5s,baz=276
CIT Chita 68.65 334 *e*P **P** **10 29 52.0 +0.6**
CIT *e* 10 29 59.6
AKUT Akutan 68.81 23 *e*P **P** **10 29 48.7 -3.7**
GTA Gaotai 68.95 317⇑⇑ *i*P **P** **10 29 53.7 +0.4**
GTA AP pP 10 30 07.6 +0.5
GTA XP sP 10 30 16.0 +3.4
GTA PP PP 10 32 29.6 +3.7

GTA AMB AMB
comp=Z,176nm,1.2s,mb5.9
GTA AMB AMB
comp=Z,7μm,9.9s
GTA LR LR
comp=N,13μm,20.5s,MS6.4
GTA LR LR
comp=E,24μm,24.3s,MS6.4
GTA LR LR
comp=Z,42μm,25.9s,MS6.6
ULN Ulaanbaatar 69.11 327 P **P** **10 29 55.2 +1.0**
SNR=196
SONM Songino Array 69.44 327 P **P** **10 29 57.0 +0.7**
comp=Z,408nm,1.0s,mb6.3,baz=134,slow=4.3,SNR=708
SONM PcP PcP 10 30 19.2 -0.2
comp=Z,160nm,0.9s,baz=143,slow=4.3,SNR=6.3
SONM PKP2bc 10 58 02.2
comp=Z,27nm,1.1s,baz=277,slow=3.0,SNR=20
SONM LR LR 11 00 14.3
comp=Z,31μm,21.3s,MS6.5,baz=141,slow=36
SONM Songino Array 69.44 327 P **P** **10 29 57.0 +0.7**
SONM 10 30 19.2
SONM pmax pmax
comp=Z,408nm,1.0s
SONM Songino Array 69.44 327 P **P** **10 29 57.0 +0.7**
SONM PcP PcP 10 30 19.2 -0.2
SONM ⇑*e* 10 58 02.2
SONM LR LR 11 00 14.2
SEY Seymchan 69.55 358 *e*P **P** **10 29 57.4 +0.4**
SHL Shillong 69.65 300 *e*x x 10 30 03.9
SHL Shillong 69.65 300 *i* P **P** **10 29 58.0 +0.4**
SHL *e*S S 10 39 00.0 -2.4
AGT Agartala 69.68 298 *i* P **P** **10 30 00.0 +2.2**
AGT *i* x x 10 30 15.0
VNDA Vanda 70.78 179 P **P** **10 30 04.1 -0.4**
comp=Z,134nm,1.0s,mb5.8,baz=336,slow=6.6,SNR=251
VNDA S S 10 39 14.0 -1.7
comp=Z,5.0nm,1.2s,baz=212,slow=7.2,SNR=1.6
VNDA LR LR 10 55 33.5
comp=Z,38μm,21.0s,MS6.6,baz=360,slow=31
VNDA PKP2bc 10 58 00.2
comp=Z,6.6nm,1.0s,baz=206,slow=3.1,SNR=7.5
VNDA Vanda 70.78 179⇑*i* P **P** **10 30 04.0 -0.5**
comp=Z,353nm,1.1s,mb6.2
SBA Scott Base 71.28 178⇑*i* P **P** **10 30 08.1 +0.5**
SBA pmax pmax
comp=Z,687nm,1.4s,mb6.4
SBA MLR MLR
comp=Z,38μm,19.0s,MS6.7
SBA Scott Base 71.28 178⇑*i* P **P** **10 30 08.1 +0.6**
comp=Z,687nm,1.4s,mb6.4
SBA LR LR
comp=Z,38μm,19.0s,MS6.7
YAK Yakutsk 71.46 347⇑*e* P **P** **10 30 08.8 +0.2**
YAK pmax pmax
comp=Z,938nm,1.4s,mb6.5
LSA Lhasa 71.59 304 P **P** **10 30 10.3 +0.9**
LSA AP pP 10 30 21.0 -2.4
LSA PP PP 10 32 46.0 -2.7
LSA SS SS 10 44 03.0 +2.1
LSA AMB AMB
comp=Z,90nm,1.3s,mb5.5
LSA LR LR
comp=N,6μm,22.5s,MS6.5
LSA LR LR
comp=E,30μm,26.9s,MS6.5
LSA LR LR
comp=Z,37μm,25.4s,MS6.5
LSA Lhasa 71.59 304⇑*i* P **P** **10 30 10.3 +0.9**
LSA pmax pmax
comp=Z,260nm,0.9s,mb6.2
LSA MLR MLR
comp=Z,12μm,20.0s,MS6.2
LSA Lhasa 71.59 304⇑*i* P **P** **10 30 10.3 +0.9**
comp=Z,260nm,0.9s,mb6.2
LSA LR LR
comp=Z,12μm,20.0s,MS6.2
SDPT Sand Point 71.82 25 *e*P **P** **10 30 09.7 -1.1**
CAL Calcutta 71.88 296⇑*i* P **P** **10 30 12.6 +1.5**
CAL *e*S S 10 39 30.0 +1.7
CAL AMP 10 59 21.1
comp=Z,24μm,24.1s
ZAK Zakamensk 72.59 328⇓*i* P **P** **10 30 15.3 -0.1**
ZAK *e* 10 34 46.5
ZAK pmax pmax
comp=Z,61nm,1.1s,mb5.4
BOD Bodaibo 72.61 338 *e*P **P** **10 30 14.7 -0.8**
BOD pmax pmax
comp=Z,164nm,1.2s,mb5.8
PTCN Pitcairn Islan 73.02 114 PFAKE 10 30 30.0 +12
PTCN LR LR
comp=Z,28μm,22.0s,MS6.5
MIR Mirnyy 73.09 202*c i*P **P** **10 30 19.0 +0.6**
MIR *e* 10 40 09.0
TLY Talaya 73.15 329 P **P** **10 30 18.3 -0.4**
comp=Z,739nm,1.1s,mb6.5,SNR=20
TLY Talaya 73.15 329 P **P** **10 30 19.0 +0.3**
SNR=29
TLY P 10 30 19.2
SNR=18
TLY Talaya 73.15 329*c i*P **P** **10 30 18.2 -0.5**
TLY *e* pP 10 30 36.5 +3.8
TLY *e* 10 32 56.3
TLY *e*S S 10 39 40.5 -2.3
TLY *e* 10 40 18.7
TLY pmax pmax
comp=Z,148nm,1.0s,mb5.9
TLY MLR MLR
comp=Z,22μm,21.0s,MS6.4
TLY Talaya 73.15 329⇑*i* P **P** **10 30 18.5 -0.2**
TLY LR LR
comp=Z,5μm,20.0s,MS5.8
IRK Irkutsk 73.16 330 *e*P **P** **10 30 17.5 -1.3**
IRK pmax pmax
comp=Z,393nm,1.0s,mb6.3
CHGN Chignik 73.33 25 *e*P **P** **10 30 19.1 -0.6**
BOK Bokaro 74.38 297 *e*P **P** **10 30 26.1 +0.2**
BOK AMb AMB 10 30 41.6
comp=Z,640nm,1.3s,mb6.4
MOY Mondy 74.51 328 *e*P **P** **10 30 26.8 +0.2**
MOY pmax pmax
comp=Z,524nm,4.6s
BILL Bilibino 75.02 4*c i*P **P** **10 30 29.7 +0.1**
BILL pmax pmax
comp=Z,600nm,1.3s,mb6.4
BILL Bilibino 75.02 4⇑*i* P **P** **10 30 29.8 +0.2**
BILL LR LR
comp=Z,24μm,19.0s,MS6.5
JIRN Jiri 75.13 301 *e*P **P** **10 30 31.0 +0.7**
comp=Z,197nm,0.7s,mb6.2
VIS Vishakhapatnam 75.30 290 *e*P **P** **10 30 31.2 0.0**
VIS AMb AMB 10 30 46.6
comp=Z,1μm,1.8s,mb6.5
VIS *e*S S 10 40 07.4 +0.5
GUN Gumba 75.47 301 *e*P **P** **10 30 32.8 +0.6**
comp=Z,737nm,0.8s,mb6.7
PKI Pulchoki 75.78 301 *e*P **P** **10 30 34.2 +0.3**
comp=Z,235nm,0.8s,mb6.2
PKI Pulchoki 75.78 301 *e*P **P** **10 30 34.2 +0.3**
PKI pmax pmax
comp=Z,235nm,0.8s,mb6.2
PALK Pallekele 75.94 279 P **P** **10 30 36.4 +1.5**
comp=Z,3μm,1.0s,mb7.2,SNR=43
PALK Pallekele 75.94 279 P **P** **10 30 36.4 +1.5**
SNR=21
PALK Pallekele 75.94 279⇑*i* P **P** **10 30 35.6 +0.7**
comp=Z,1μm,1.3s,mb6.6
PALK *e*pP pP 10 30 47.9 -1.0
PALK LR LR
comp=Z,4μm,22.0s,MS5.7
KKN Kakani 75.94 301 *e*P **P** **10 30 35.2 +0.3**
comp=Z,357nm,0.7s,mb6.4
KKN Kakani 75.94 301 *e*P **P** **10 30 35.2 +0.3**
KKN pmax pmax
comp=Z,357nm,0.7s,mb6.4
DMN Daman 76.04 301 *e*P **P** **10 30 36.1 +0.6**
comp=Z,539nm,0.9s,mb6.5
GKN Gorkha 76.55 301 *e*P **P** **10 30 38.4 +0.1**
comp=Z,689nm,0.9s,mb6.6
KDAK Kodiak Island 76.73 26 P **P** **10 30 39.2 -0.2**
comp=Z,83nm,0.7s,mb5.8,baz=201,slow=2.8,SNR=29
KDAK LR LR 11 02 51.4
comp=Z,23μm,18.6s,MS6.5,baz=236,slow=34
KDAK Kodiak Island 76.73 26 *e*P **P** **10 30 39.4 +0.1**
KDAK LR LR
comp=Z,7μm,19.0s,MS6.0

VLK Valmikinagar 77.03 300 *i* x x 10 30 48.0
VLK *i* x x 10 30 58.0
MDRS Chennai 77.33 285 *e*P **P** **10 30 40.9 -1.8**
KOLN Koldanda 77.38 300 *e*P **P** **10 30 42.9 -0.1**
comp=Z,360nm,0.7s,mb6.4
SVW2 Sparrevohn 77.59 22 *e*P **P** **10 30 45.0 +0.8**
ALBI Allahabad 78.34 297 *e*P **P** **10 30 46.0 -2.4**
ALBI *ex* x 10 31 02.0
WMQ Urumqi 79.03 317⇑*i* P **P** **10 30 52.3 +0.2**
WMQ PCP PcP 10 31 01.0 +0.5
WMQ AP pP 10 31 08.0 +1.7
WMQ XP sP 10 31 14.5 +2.8
WMQ AMB AMB
comp=Z,187nm,1.4s,mb5.8
WMQ AMB AMB
comp=Z,5μm,6.0s
WMQ LR LR
comp=N,26μm,22.5s,MS6.7
WMQ LR LR
comp=E,29μm,25.8s,MS6.7
WMQ LR LR
comp=Z,37μm,25.8s,MS6.6
SLKM Skilak Lake 79.32 24 *e*P **P** **10 30 53.0 -0.7**
JBP Jabalpur 79.50 295⇑*e*P **P** **10 30 55.0 +0.3**
JBP *ex* x 10 31 10.1
comp=Z,616nm,1.3s
JBP *ex* x 10 40 51.4
HYB Hyderabad 79.71 289⇑*i* P **P** **10 30 55.5 -0.3**
comp=Z,500nm,1.0s,mb6.4
HYB *es*P sP 10 31 09.5 -5.9
HYB *e*PP PP 10 33 58.0 +0.8
HYB *e* 10 35 30.0
HYB *e*S S 10 40 52.0 -2.6
HYB *e*ScS ScS 10 41 14.0 -1.9
HYB *e*SS SS 10 46 06.0 +2.1
HYB LR LR 10 59 44.0
comp=Z,30nm,30.0s
HYB Hyderabad 79.71 289⇑*e*P **P** **10 30 55.5 -0.3**
HYB *e* pP 10 31 09.0 -0.9
HYB *e*S S 10 40 52.0 -2.6
HYB pmax pmax
comp=Z,500nm,1.0s,mb6.4
HYB Hyderabad 79.71 289⇑*e*P **P** **10 30 55.5 -0.3**
comp=Z,500nm,1.0s,mb6.4
HYB *e* pP 10 31 09.0 -0.9
HYB *e*S S 10 40 52.0 -2.6
TRD Trivandrum 79.79 280 *e*P **P** **10 30 57.0 +0.7**
TRD AMb AMB 10 30 58.0
comp=Z,877nm,1.9s,mb6.3
NGP Nagpur 79.94 293 *e*P **P** **10 30 55.0 -2.1**
comp=Z,685nm,1.4s,mb6.4
NGP *ex* x 10 40 50.7
TIXI Tiksi 80.22 352 *e*P **P** **10 31 00.1 +1.5**
TIXI *e* 10 34 07.5
TIXI *e*S S 10 40 54.0 -6.0
TIXI pmax pmax
comp=E,81nm,0.9s
TIXI pmax pmax
comp=Z,142nm,0.9s,mb5.9
TIXI pmax pmax
comp=N,38nm,1.9s
TIXI pmax pmax
comp=Z,8μm,10.9s
TIXI MLR MLR
comp=E,2μm,18.0s,MS6.2
TIXI MLR MLR
comp=Z,14μm,18.0s,MS6.3
TIXI MLR MLR
comp=N,11μm,19.0s,MS6.2
TIXI Tiksi 80.22 352⇑*i* P **P** **10 30 57.9 -0.7**
PMR Palmer 80.37 24 *e*P **P** **10 30 58.8 -0.6**
PMR pmax pmax
comp=Z,302nm,1.1s,mb6.1
PMR MLR MLR
comp=Z,46μm,21.0s,MS6.8
PMR Palmer 80.37 24 *e*P **P** **10 30 58.8 -0.6**
comp=Z,302nm,1.1s,mb6.1
PMR LR LR
comp=Z,46μm,21.0s,MS6.8
LGTI Lohaghat 80.64 301 *i* P **P** **10 31 01.5 +0.6**
PTH Pithoragarh 80.69 301 *e*P **P** **10 31 00.6 -0.5**
EYAK Cordova Ski Ar 81.20 25 *e*P **P** **10 31 03.6 -0.2**
DIV Divide 81.49 25 *e*P **P** **10 31 05.3 0.0**
DIV LR LR
comp=Z,89μm,22.0s,MS7.1
MCK McKinley 81.65 22 *e*P **P** **10 31 05.3 -1.0**
MCK LR LR
comp=Z,62μm,21.0s,MS6.9
AKL Akola 81.73 292 *e*P **P** **10 31 06.3 -0.3**
AKL *i* x x 10 41 10.5
LATR Latur 81.75 290 *e*P **P** **10 31 06.6 -0.1**
BHPL Bhopal 81.83 295 *e*P **P** **10 31 05.9 -1.3**
BHPL AMb AMB 10 31 21.8
comp=Z,522nm,1.2s,mb6.3
BHPL *e*S S 10 41 17.6 +0.8
BHPL AMS AMS 10 43 09.1
comp=Z,4μm,18.6s,MS5.8
DGAR Diego Garcia 82.32 263 *e*P **P** **10 31 09.4 -0.3**
DGAR pmax pmax
comp=Z,601nm,1.2s,mb6.4
DGAR MLR MLR
comp=Z,9μm,22.0s,MS6.1
DGAR Diego Garcia 82.32 263 *e*P **P** **10 31 09.4 -0.3**
comp=Z,601nm,1.2s,mb6.4
DGAR LR LR
comp=Z,9μm,22.0s,MS6.1
MNGI Mangalore 82.52 284 *i* P **P** **10 31 01.7 -9.1**
MNGI *i* S S 10 41 14.2 -10
MNGI *ex* x 11 11 51.7
comp=Z,12μm,20.2s
COLA College 82.68 21 *e*P **P** **10 31 10.3 -1.3**
COLA MLR MLR
comp=Z,82μm,22.0s,MS7.1
NDI New Delhi 83.07 300 *e*P **P** **10 31 12.4 -1.2**
NDI AMb AMB 10 31 20.4
comp=Z,313nm,1.3s,mb6.2
NDI *ex* x 10 41 15.0
QSPA South Pole Qui 83.20 180⇑*i* P **P** **10 31 14.2 -0.1**
comp=Z,1μm,1.1s,mb6.8
QSPA LR LR
comp=Z,3.0nm,20.0s
MENT Mentasta 83.24 24 *e*P **P** **10 31 14.7 +0.2**
MKAR Makanchi Array 83.59 319 P **P** **10 31 15.6 -0.8**
comp=Z,179nm,0.9s,mb6.2,baz=96,slow=6.1,SNR=8.4
MKAR PKKPbc PKKPbc 10 49 33.4 -0.2
comp=Z,5.2nm,0.7s,baz=298,slow=2.6,SNR=9.7
MKAR PKP2bc 10 57 23.2
comp=Z,0.4nm,0.5s,baz=259,slow=1.2,SNR=4.2
MKAR PKPPKP 10 57 35.9
comp=Z,4.5nm,0.9s,baz=340,slow=3.2,SNR=8.5
MKAR Makanchi Array 83.59 319 P **P** **10 31 15.6 -0.8**
MKAR PKKPbc PKKPbc 10 49 33.4 -0.2
MKAR ⇑*e* 10 57 23.2
MKAR P'P' 10 57 35.9
SMLA Simla 83.60 302 *e*P **P** **10 31 15.9 -0.4**
SMLA AMb AMB 10 31 18.1
comp=Z,305nm,0.8s,mb6.5
KAD Karad 83.80 288 *e*P **P** **10 31 16.3 -1.1**
KAD AMb AMB 10 31 17.9
comp=Z,1μm,1.0s,mb7.1
SDNR Sundarnagar 83.84 303 *e*P **P** **10 31 17.2 -0.4**
SDNR *ex* x 10 41 30.4
BHK Bhakra 84.29 302 *e*P **P** **10 31 21.0 +1.1**
POO Poona 84.31 289⇑*i* x x 10 31 16.0
comp=Z,844nm,1.1s
POO *i* x x 10 34 28.0
POO *i* x x 10 41 35.0
ZAL Zalesovo 84.31 326 P **P** **10 31 17.8 -2.2**
comp=Z,82nm,1.1s,mb5.8,baz=4.7,slow=6.1,SNR=112
ZAL PKKPbc PKKPbc 10 49 30.9 -1.1
comp=Z,3.2nm,0.5s,baz=136,slow=3.2,SNR=8.2
ZAL PKPPKP 10 57 37.0
comp=Z,5.4nm,0.9s,baz=207,slow=3.3,SNR=6.3
ZAL LR LR 11 11 10.4
comp=Z,18μm,20.3s,MS6.4,baz=1.8,slow=37
SIT Sitka 84.54 31 *e*P **P** **10 31 21.6 +0.5**
SIT pmax pmax
comp=Z,502nm,1.5s,mb6.4
SIT MLR MLR
comp=Z,52μm,19.0s,MS6.9
SIT Sitka 84.54 31 *e*P **P** **10 31 21.6 +0.5**
comp=Z,502nm,1.5s,mb6.4
SIT LR LR
comp=Z,52μm,19.0s,MS6.9
MAW Mawson 84.81 203 *e*P **P** **10 31 22.0 -0.5**
comp=Z,246nm,0.8s,mb6.4
MAW *ep*P pP 10 31 35.2 -1.5
MAW Mawson 84.81 203 *e*S S 10 41 39.0 -7.9
MAW Mawson 84.81 203 P **P** **10 31 22.1 -0.4**
comp=Z,318nm,0.9s,mb6.4,baz=90,slow=6.3,SNR=467
MAW S S 10 41 40.2 -6.7
comp=Z,2.5nm,0.8s,baz=279,slow=19,SNR=2.4
MAW PKKPbc PKKPbc 10 49 29.9 -0.8
comp=Z,3.7nm,0.7s,baz=330,slow=2.0,SNR=6.3
MAW PKPPKP 10 57 37.1
comp=Z,5.6nm,1.0s,baz=283,slow=6.0,SNR=5.0
MAW LR LR 11 06 51.7
comp=Z,25μm,20.7s,MS6.6,baz=90,slow=34
MAW Mawson 84.81 203 *e*P **P** **10 31 22.0 -0.5**
MAW *e**PP pP 10 31 35.2 -1.5
MAW *e*S S 10 41 39.0 -7.9
MAW pmax pmax
comp=Z,246nm,0.8s
MAW MLR MLR
comp=Z,43μm,21.0s
MAW Mawson 84.81 203 *e*P **P** **10 31 22.0 -0.5**
comp=Z,246nm,0.8s,mb6.4
MAW *ep*P pP 10 31 35.2 -1.5
MAW *e*S S 10 41 39.0 -7.9
MAW LR LR
comp=Z,43μm,21.0s,MS6.8
DLH Dalhousie 84.89 303 *e*P **P** **10 31 24.0 +1.1**
DLH *ex* x 10 31 40.0
AJM Ajmer 84.90 297 *e*P **P** **10 31 21.6 -1.3**
AJM AMb AMB 10 31 41.7
comp=Z,1μm,1.4s,mb6.8
AJM *e*S S 10 41 42.2 -5.6
THN Thein Dam 85.07 303 *e*P **P** **10 31 22.2 -1.6**
THN *ex* x 10 41 33.8
EGAK Eagle 85.11 23⇑*i* P **P** **10 31 23.9 -0.1**
CRAG Craig 85.15 33 *e*P **P** **10 31 23.5 -0.7**
CRAG *ep*P pP 10 31 37.2 -1.2
SKAG Skagway 85.42 29 *e*P **P** **10 31 25.6 +0.1**
comp=Z,218nm,1.6s,mb6.0
NVS Novosibirsk 85.47 326⇑*i* P **P** **10 31 24.3 -1.5**
NVS *e*S S 10 41 40.4 -13
NVS pmax pmax
comp=Z,260nm,1.6s,mb6.1
NVS pmax pmax
comp=E,140nm,1.5s
DAWY Dawson 85.48 24⇑*i* P **P** **10 31 26.3 +0.5**
WRAK Wrangell Islan 85.87 32 *e*P **P** **10 31 28.0 +0.2**
WRAK *ep*P pP 10 31 41.3 -0.7
KSH Kashi 86.28 310⇑*i* P **P** **10 31 31.1 +1.3**
KSH AP pP 10 31 48.0 +3.9
KSH XP sP 10 31 54.1 +4.6
KSH PP PP 10 34 56.0 +4.9
KSH PPP 10 36 53.1
KSH SKS 10 41 49.0
KSH S S 10 41 57.8 -3.5
KSH SS SS 10 47 48.0 +6.7
KSH AMB AMB
comp=Z,465nm,1.0s,mb6.7
KSH AMB AMB
comp=Z,11μm,4.4s
KSH LR LR
comp=N,11μm,14.9s,MS6.8
KSH LR LR
comp=E,32μm,18.6s,MS6.8
KSH LR LR
comp=Z,37μm,24.4s
KURK Kurchatov 86.99 322 P **P** **10 31 31.5 -1.8**
comp=Z,233nm,0.7s,mb6.5,SNR=31
TKM2 Tokmak 2 87.25 314 P **P** **10 31 34.4 -0.2**
SNR=17
TKM2 Tokmak 2 87.25 314 *i* P **P** **10 31 34.1 -0.4**
TKM2 pmax pmax
comp=Z,132nm,1.4s,mb6.0
TKM2 Tokmak 2 87.25 314 *i* P **P** **10 31 34.2 -0.3**
NIL Nilore 87.33 304 P **P** **10 31 35.9 +1.0**
comp=Z,270nm,1.0s,mb6.4,SNR=5.2
NIL Nilore 87.33 304 P **P** **10 31 35.0 +0.1**
KZA Kyzart 87.33 313 P **P** **10 31 35.9 +1.0**
SNR=15
KIPM Iron Peak 87.41 50 *e*P **P** **10 31 35.9 +0.6**
KRMB Red Mountain 87.42 48 *e*P **P** **10 31 36.2 +0.8**
KRMB *ep*P pP 10 31 49.8 +0.2
KHMM Horse Mountain 87.43 49 *e*P **P** **10 31 36.6 +1.3**
HOPS Hopland 87.57 50 *e*P **P** **10 31 36.6 +0.6**
comp=Z,251nm,1.7s,mb6.2
HOPS LR LR
comp=Z,40μm,20.0s,MS6.8
KBK Karagaybulak 87.67 313 P **P** **10 31 36.4 -0.2**
SNR=7.4
DLBC Dease Lake 87.68 30 P **P** **10 31 37.1 +0.6**
comp=Z,178nm,1.1s,mb6.2,baz=252,slow=3.7,SNR=60
DLBC S S 10 41 58.2 -17
comp=Z,3.1nm,0.9s,baz=282,slow=23,SNR=2.0
DLBC Dease Lake 87.68 30 P **P** **10 31 37.1 +0.6**
DLBC S S 10 41 58.2 -17
NSHM Saint Helena R 87.84 51 *e*P **P** **10 31 37.3 -0.1**
OZB Mount Ozzard 87.87 40 P **P** **10 31 37.1 -0.4**
CHMS Chumysh 87.88 314 P **P** **10 31 37.0 -0.5**
SNR=13
FRU Bishkek 87.94 313*α i*P **P** **10 31 37.0 -0.8**
FRU *e* 10 35 04.0
FRU *e* 10 42 05.0
FRU *e*S S 10 42 16.0 -1.4
FRU *e* 10 43 40.0
FRU *e*SS SS 10 48 10.0 +4.4
AAK Ala-Archa 87.99 313 P **P** **10 31 38.0 0.0**
SNR=12
AAK Ala-Archa 87.99 313 P **P** **10 31 36.5 -1.6**
comp=Z,241nm,1.0s,mb6.4,SNR=27
AAK Ala-Archa 87.99 313 P **P** **10 31 37.3 -0.8**
SNR=16
AAK Ala-Archa 87.99 313*c i*P **P** **10 31 37.0 -1.1**
AAK pmax pmax
comp=Z,300nm,5.0s
AAK Ala-Archa 87.99 313⇑*i* P **P** **10 31 36.7 -1.4**
AAK LR LR
comp=Z,3μm,20.0s,MS5.7
USP Ospenovka 88.11 314 P **P** **10 31 38.1 -0.5**
SNR=23
DBO Dodson Butte 88.21 46 P **P** **10 31 39.5 +0.3**
WDC Whiskeytown Da 88.26 49 *e*P **P** **10 31 39.9 +0.5**
YBH Yreka Blue Hor 88.34 48 PKPPKP 10 57 29.9
comp=Z,2.7nm,0.9s,baz=98,slow=7.0,SNR=3.1
YBH LR LR 11 07 51.3
comp=Z,54μm,19.2s,MS7.0,baz=350,slow=33
YBH Yreka Blue Hor 88.34 48⇑*i* P **P** **10 31 40.2 +0.5**
SAO San Andreas Ge 88.44 53 *e*P **P** **10 31 41.0 +0.8**
SAO MLR MLR
comp=Z,26μm,20.0s,MS6.7
COR Corvallis 88.45 45 P **P** **10 31 40.4 +0.2**
COR MLR MLR
comp=Z,66μm,22.0s,MS7.0
OOW Octopus West 88.47 42 P **P** **10 31 40.9 +0.6**
AML Almayashu 88.48 313 P **P** **10 31 40.8 +0.4**
SNR=50
EUO Eugene 88.51 46 P **P** **10 31 41.2 +0.7**
EKS2 Erkin-Say 88.52 313 P **P** **10 31 40.6 0.0**
SNR=20
OSR Olympics--Salm 88.57 42 P **P** **10 31 41.1 +0.3**
OBC Olympics--Boni 88.60 41 P **P** **10 31 40.2 -0.7**
LHEM Herd Peak 88.69 48 P **P** **10 31 41.9 +0.5**
LRV Little Rabbit 88.73 53 *e*P **P** **10 31 42.7 +1.2**
BUOR Burton Butte 88.78 47 P **P** **10 31 42.3 +0.5**
OHCM Honcut 88.84 50 *e*P **P** **10 31 42.1 0.0**
IRO Indian Ridge 89.08 46 P **P** **10 31 43.0 -0.3**
LASM Arnica Sink 89.16 48 P **P** **10 31 44.2 +0.7**
VGZ Gonzales 89.17 41 P **P** **10 31 42.8 -0.9**
HDW Woodsport 89.20 42 P **P** **10 31 43.8 0.0**
PTRM Twissleman Ran 89.26 54 *e*P **P** **10 31 45.1 +1.1**
INK Inuvik 89.33 21 P **P** **10 31 43.4 -0.9**
comp=Z,230nm,1.0s,mb6.5,baz=250,slow=4.2,SNR=248
INK S S 10 42 13.7 -17
comp=Z,5.3nm,1.0s,baz=70,slow=28,SNR=5.1
INK Inuvik 89.33 21 P **P** **10 31 43.4 -1.0**
INK S S 10 42 13.7 -17
INK pmax pmax
comp=Z,230nm,1.0s
INK Inuvik 89.33 21⇑*i* P **P** **10 31 43.7 -0.6**
GNW Green Mountain 89.34 42 P **P** **10 31 44.1 -0.3**
SNB Saturna Island 89.34 41 P **P** **10 31 44.3 -0.1**
GMW Gold Mountain 89.36 42 P **P** **10 31 44.3 -0.2**
SNCC San Nicolas Is 89.46 57 *e*P **P** **10 31 46.4 +1.4**
comp=Z,0.4nm,1.1s
SNCC LR LR

comp=Z,32µm,20.0s,MS6.7
CMB Columbia Colle 89.48 52 *e*P **P 10 31 45.3 +0.2**
CMB pmax pmax
comp=Z,223nm,1.8s,mb6.2
CMB MLR MLR
comp=Z,35µm,20.0s,MS6.8
CMB Columbia Colle 89.48 52 *e*P **P 10 31 45.3 +0.2**
comp=Z,223nm,1.8s,mb6.2
CMB LR LR
comp=Z,35µm,20.0s,MS6.8
STD Studebaker Rid 89.50 43 P **P 10 31 45.2 +0.1**
TDL Tradedollar La 89.53 43 P **P 10 31 45.5 +0.2**
BKCOR Black Crater 89.53 45 P **P 10 31 45.1 -0.2**
MCW Mount Constitu 89.54 41 P **P 10 31 45.2 -0.1**
HOOD Mount Hood Mea 89.73 44 P **P 10 31 45.9 -0.4**
BEND Bend 89.75 46 P **P 10 31 46.6 +0.3**
NCOR Newberry Crate 89.83 46 P **P 10 31 47.1 +0.4**
VFP Flag Point 89.86 44 P **P 10 31 46.8 -0.1**
ASR Mount Adams--S 89.92 44 P **P 10 31 46.9 -0.2**
CMW Cultus Mountai 89.96 41 P **P 10 31 47.2 -0.1**
ELW Echo Lake 89.96 42 P **P 10 31 47.1 -0.3**
PINOR Pine Mountain 90.03 46 P **P 10 31 47.9 +0.2**
WPW White Pass 90.04 43 P **P 10 31 47.4 -0.4**
JCW Jim Creek 90.04 42 P **P 10 31 47.4 -0.3**
GMO Grizzlie Mount 90.08 45 P **P 10 31 47.9 0.0**
HTW Haystack Looko 90.08 42 P **P 10 31 47.4 -0.5**
WAKR Walker 90.29 51 *e*P **P 10 31 49.8 +0.9**
PAHR Pah Rah Range 90.51 50 *e*P **P 10 31 50.6 +0.7**
NAC Naches 90.54 43 P **P 10 31 49.9 -0.1**
TWW Teanaway 90.57 43 P **P 10 31 50.3 +0.1**
ISA Isabella 90.66 54 *e*P **P 10 31 51.2 +0.6**
ISA LR LR
comp=Z,9µm,21.0s,MS6.2
WRW Wenatchee Ridg 90.68 42 P **P 10 31 50.2 -0.5**
LTY Liberty 90.72 43 P **P 10 31 50.2 -0.7**
EBG Ellensburg 90.74 43 P **P 10 31 51.0 0.0**
TBM Table Mountain 90.76 43 P **P 10 31 50.9 -0.1**
MWC Mount Wilson 90.80 56 *e*P **P 10 31 52.5 +1.2**
MTUM Tungsten Hills 90.81 53 *e*P **P 10 31 52.0 +0.7**
SLFW Sugar Loaf 90.90 42 P **P 10 31 51.4 -0.3**
KK31 Karatay Array 90.96 313 *i* P **P 10 31 50.7 -1.3**
KK31 pmax pmax
comp=Z,16nm,0.7s,mb5.5
KKAR Karatay Array 90.96 313 P **P 10 31 50.7 -1.3**
KKAR pmax pmax
comp=Z,11nm,0.7s,mb5.3
ETW Entiat 91.01 42 P **P 10 31 51.8 -0.4**
NVAR Mina Array Bea 91.16 52 P **P 10 31 53.8 +0.8**
comp=Z,46nm,1.0s,mb5.8,baz=254,slow=3.5,SNR=134
NVAR PP PP 10 35 12.9 -17
comp=Z,16nm,0.6s,baz=287,slow=7.8,SNR=10
NVAR PKKPbc PKKPbc 10 49 18.3 +3.0
comp=Z,1.8nm,0.7s,baz=80,slow=4.0,SNR=5.2
NVAR PKPPKP 10 57 23.4
comp=Z,6.3nm,1.1s,baz=240,slow=1.5,SNR=9.6
BVW Beverly 91.19 43 P **P 10 31 52.9 -0.1**
CBSW Chelan Butte S 91.23 42 P **P 10 31 52.5 -0.8**
MDW Midway 91.24 43 P **P 10 31 53.1 -0.2**
WTV Waterville 91.27 42 P **P 10 31 52.8 -0.7**
SNIWA Snively Ranch 91.29 44 P **P 10 31 53.3 -0.2**
GBB Gable Butte 91.33 43 P **P 10 31 53.3 -0.4**
HAWA Hanford 91.37 44 *e*P **P 10 31 53.6 -0.3**
HAWA *e*pP pP 10 32 07.0 -1.2
HAWA LR LR
comp=Z,5µm,21.0s,MS5.9
REDWA Red Mountain 91.42 44 P **P 10 31 54.1 0.0**
H2OWA Water 91.44 44 P **P 10 31 54.0 -0.2**
DAC Darwin (Calif) 91.44 54 *e*P **P 10 31 55.2 +1.0**
DAC MLR MLR
comp=Z,52µm,21.0s,MS7.0
GBL Gable Mountain 91.45 43 P **P 10 31 54.0 -0.2**
WVOR Wild Horse Val 91.45 48 *e*P **P 10 31 54.4 +0.2**
WVOR pmax pmax
comp=Z,202nm,1.5s,mb6.2
WVOR Wild Horse Val 91.45 48 *e*P **P 10 31 54.4 +0.2**
comp=Z,202nm,1.5s,mb6.2
EPH Ephrata 91.46 43 P **P 10 31 53.8 -0.5**
RPN Rapa Nui 91.49 117 PFAKE 10 32 10.0 +16
RPN LR LR
comp=Z,6µm,22.0s,MS6.0
CRF Corfu 91.53 43 P **P 10 31 54.1 -0.5**
WIW Wooded Island 91.54 44 P **P 10 31 54.6 -0.1**
SAW Saint Andrews 91.64 42 P **P 10 31 54.4 -0.8**
PNT Penticton 91.73 41 P **P 10 31 55.0 -0.6**
BAR Barrett 91.76 57 *e*P **P 10 31 56.6 +0.9**
GSC Goldstone 91.96 55 *e*P **P 10 31 57.6 +1.0**
TPH Tonopah 91.96 52 *e*P **P 10 31 57.5 +0.9**
TPH pmax pmax
comp=Z,99nm,1.1s,mb6.0
TPH MLR MLR
comp=Z,28µm,20.0s,MS6.7
TPH Tonopah 91.96 52 *e*P **P 10 31 57.5 +0.9**
comp=Z,99nm,1.1s,mb6.0
TPH LR LR
comp=Z,28µm,20.0s,MS6.7
VOSK Vostochnaya 92.05 323 P **P 10 31 54.6 -2.4**
VOSK pmax pmax
comp=Z,77nm,1.3s,mb5.9
PFO Pinyon Flat Ob 92.05 57 P **P 10 31 57.6 +0.6**
comp=Z,225nm,0.7s,mb6.6,SNR=12
PFO Pinyon Flat Ob 92.05 57 *e*P **P 10 31 57.9 +0.8**
PFO LR LR
comp=Z,8µm,21.0s,MS6.2
BMN Battle Mountai 92.25 50⇑ *i*P **P 10 31 58.6 +0.7**
BMN pmax pmax
comp=Z,84nm,1.0s,mb6.0
BMN MLR MLR
comp=Z,29µm,22.0s,MS6.7
BMN Battle Mountai 92.25 50⇑ *i*P **P 10 31 58.6 +0.7**
comp=Z,84nm,1.0s,mb6.0
BMN LR LR
comp=Z,29µm,22.0s,MS6.7
CHKZ Chkalovo 92.40 324 *i* P **P 10 31 56.3 -2.4**
CHKZ pmax pmax
comp=Z,72nm,1.2s,mb5.9
CHKZ Chkalovo 92.40 324 *e*P **P 10 31 56.3 -2.3**
CHKZ *e*PKKP PKKPbc 10 49 10.6 -1.5
BVAR Borovoye Array 92.44 323 P **P 10 31 57.0 -1.9**
comp=Z,28nm,0.8s,mb5.7,baz=106,slow=5.3,SNR=113
BVAR PP PP 10 35 37.1 -3.1
comp=Z,30nm,0.8s,baz=84,slow=6.1,SNR=4.9
BVAR Borovoye Array 92.44 323 P **P 10 31 57.0 -1.9**
BVAR 10 35 37.1
BVAR pmax pmax
comp=Z,29nm,0.8s
BVAR pmax pmax
comp=Z,30nm,0.8s
DPW Davenport 92.47 42 P **P 10 31 58.4 -0.6**
BRVK Borovoye 92.51 323 P **P 10 31 57.6 -1.6**
comp=Z,223nm,1.2s,mb6.5,SNR=20
BRVK Borovoye 92.51 323 P **P 10 31 57.4 -1.8**
SNR=27
BRVK P 10 31 57.6
SNR=24
BRVK Borovoye 92.51 323 P **P 10 31 56.9 -2.3**
BRVK pmax pmax
comp=Z,36nm,1.2s,mb5.7
BRVK Borovoye 92.51 323 *e*P **P 10 31 57.0 -2.2**
comp=Z,65nm,1.1s,mb6.0
BRVK LR LR
comp=Z,3µm,21.0s,MS5.7
SYO Syowa Base 92.71 199⇓ *i*P **P 10 31 58.6 -1.5**
SYO Syowa Base 92.71 199⇑ *i*pP pP 10 32 11.2 -3.2
BMO Blue Mountains 92.71 45 *e*P **P 10 31 59.6 -0.5**
BMO MLR MLR
comp=Z,48µm,22.0s,MS6.9
NEW Newport 93.23 42 P **P 10 32 01.7 -0.8**
comp=Z,38nm,0.9s,mb5.8,baz=245,slow=3.4,SNR=54
NEW Newport 93.23 42 P **P 10 32 01.7 -0.8**
NEW pmax pmax
comp=Z,38nm,0.9s
ZRNK Zerenda 93.27 323 *i* P **P 10 31 58.9 -3.7**
ZRNK pmax pmax
comp=Z,49nm,1.1s,mb5.8
ZRNK Zerenda 93.27 323 *e*P **P 10 32 00.2 -2.5**
comp=Z,191nm,0.3s,mb7.0
ZRNK *e*PKKPdf PKKPdf 10 49 09.2 +1.0
TRCR Troy Canyon 93.28 52 *e*P **P 10 32 03.5 +0.8**
GLA Glamis 93.34 57 *e*P **P 10 32 04.2 +1.2**
SHPR Sheep Range 93.42 54 *e*P **P 10 32 04.5 +1.2**
ELK Elko 93.78 50 *e*P **P 10 32 05.9 +0.9**
ELK pmax pmax
comp=Z,95nm,1.2s
ELK MLR MLR
comp=Z,34µm,22.0s
ELK Elko 93.78 50 *e*P **P 10 32 05.8 +0.8**
comp=Z,95nm,1.2s,mb6.1
ELK LR LR
comp=Z,34µm,22.0s,MS6.8
HLID Hailey 94.65 47 *e*P **P 10 32 09.1 +0.1**
comp=Z,172nm,0.5s,mb6.7
HLID LR LR
comp=Z,49µm,20.0s,MS7.0
BSMT Bassoo Peak 94.75 43 *e*P **P 10 32 09.5 0.0**
ARUT Antelope Range 94.91 53 *e*P **P 10 32 11.2 +1.0**
CCUT Cedar City 94.95 53 *e*P **P 10 32 11.7 +1.3**
MSO Missoula 95.25 44 *e*P **P 10 32 12.2 +0.5**
comp=Z,12nm,1.2s,mb5.2
MSO LR LR
comp=Z,50µm,21.0s,MS7.0
WALA Waterton Lakes 95.42 41 *e*P **P 10 32 12.3 -0.3**
comp=Z,76nm,1.2s,mb6.0
BGU Big Grassy Mou 95.47 50 *e*P **P 10 32 12.8 +0.1**
DUG Dugway 95.58 50 *e*P **P 10 32 13.6 +0.3**
DUG MLR MLR
comp=Z,29µm,22.0s,MS6.7
HVU Hansel Valley 95.72 49 *e*P **P 10 32 14.3 +0.4**
CHMT Chamberlain Mo 95.72 44 *e*P **P 10 32 12.8 -1.1**
MCMT McKenzie Canyo 95.87 46 *e*P **P 10 32 14.3 -0.3**
YKW3 Yellowknife Ar 95.89 28 *e*P **P 10 32 14.4 -0.3**
YKA Yellowknife Ar 95.89 28 P **P 10 32 14.3 -0.4**
comp=Z,44nm,0.7s,mb6.0,baz=266,slow=4.4,SNR=289
YKA PKKPbc PKKPbc 10 49 00.7 -2.3
comp=Z,5.5nm,0.5s,baz=79,slow=2.5,SNR=51
YKA PKPPKP 10 57 08.1
comp=Z,1.4nm,0.9s,baz=62,slow=1.9,SNR=4.3
YKA LR LR 11 11 46.9
comp=Z,35µm,21.8s,MS6.8,baz=270,slow=33
MSU Marysvale 95.95 52 *e*P **P 10 32 16.4 +1.4**
EDM Edmonton 96.04 37 *e*P **P 10 32 14.6 -0.8**
DLMT Dillon 96.08 45 *e*P **P 10 32 14.9 -0.6**
NLU North Lily Min 96.13 51 *e*P **P 10 32 16.6 +0.9**
LRM Limekiln Ridge 96.21 45 *e*P **P 10 32 16.8 +0.7**
WUAZ Wupatki 96.40 55 *e*P **P 10 32 17.9 +0.9**
WUAZ *e*PKKPbc PKKPbc 10 49 03.5 +1.9
CTU Camp Tracy 96.42 50 *e*P **P 10 32 17.3 +0.2**
MPU Maple Canyon 96.47 51 *e*P **P 10 32 18.2 +0.9**
MPU LR LR
comp=Z,42µm,22.0s,MS6.9
LPIG La Paz 96.51 67 LR LR 11 07 05.2
comp=Z,48µm,21.9s,MS6.9,baz=332,slow=30
HWUT Hardware Ranch 96.61 49 *e*P **P 10 32 17.8 -0.1**
HWUT LR LR
comp=Z,35µm,20.0s,MS6.8
TUC Tucson 96.68 58 *e*P **P 10 32 19.5 +1.3**
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC Tucson 96.68 58 *e*P **P 10 32 19.5 +1.3**
comp=Z,5.4nm,0.9s
HRY Holter Researc 96.69 44 *e*P **P 10 32 17.1 -1.1**
TCUT Toone Canyon 96.70 49 *e*P **P 10 32 18.5 +0.2**
TMUT Trail Mountain 96.76 51 *e*P **P 10 32 19.9 +1.3**
BOZ Bozeman (W) 96.77 45 *e*P **P 10 32 18.3 -0.4**
BOZ MLR MLR
comp=Z,60µm,22.0s,MS7.0
QLMT Earthquake Lak 96.88 46 *e*P **P 10 32 19.6 +0.5**
RRI2 Red Ridge 96.89 47 *e*P **P 10 32 18.6 -0.6**
DCID1 Drake Creek 97.00 47 *e*P **P 10 32 19.9 +0.3**
AHID Auburn Hatcher 97.02 48 *e*P **P 10 32 19.8 0.0**
AHID LR LR
comp=Z,38µm,20.0s,MS6.9
TPAW Teton Pass 97.16 47 *e*P **P 10 32 19.6 -0.9**
IMW Indian Meadow 97.19 47 *e*P **P 10 32 20.6 +0.1**
YMR Madison River 97.20 46 *e*P **P 10 32 20.5 -0.1**
comp=Z,30nm,1.0s,mb5.7
REDW Red Top Meadow 97.23 47 *e*P **P 10 32 19.1 -1.6**
SRU San Rafael 97.28 51 *e*P **P 10 32 21.2 +0.2**
YFT Old Faithful 97.28 46 *e*P **P 10 32 22.5 +1.6**
SNOW Snow King Moun 97.30 47 *e*P **P 10 32 21.2 +0.2**
FLWY Flagg Ranch 97.37 46 *e*P **P 10 32 21.8 +0.4**
YNR Norris Junctio 97.41 46 *e*P **P 10 32 22.6 +1.1**
LOHW Long Hollow 97.42 47 *e*P **P 10 32 21.2 -0.3**
LKWY Lake 97.60 46 PFAKE 10 32 30.0 +7.6
LKWY LR LR
comp=Z,59µm,22.0s,MS7.0
EGMT Eagleton 98.14 43 *e*P **P 10 32 24.0 -0.8**
EGMT LR LR
comp=Z,27µm,20.0s,MS6.7
BW06 Boulder Array 98.15 48 *e*P **P 10 32 24.3 -0.6**
BW06 LR LR
comp=Z,49µm,20.0s,MS7.0
GCMT Greycliff 98.15 45 *e*P **P 10 32 24.7 -0.2**
PDAR Pinedale Array 98.15 48 P **P 10 32 24.4 -0.4**
comp=Z,23nm,0.8s,mb5.8,baz=241,slow=2.4,SNR=152
PDAR PKKPbc PKKPbc 10 48 56.4 -0.5
comp=Z,3.8nm,0.8s,baz=85,slow=4.2,SNR=7.1
PDAR PKPPKP 10 57 09.8
comp=Z,6.6nm,1.1s,baz=93,slow=3.3,SNR=11
PDAR LR LR 11 13 21.3
comp=Z,41µm,19.9s,MS6.9,baz=297,slow=33
SVE Sverdlovsk 98.31 326⇑ *e*P **P 10 32 22.0 -3.6**
SVE *e*PPP 10 38 36.0
SVE *e*S SKSac 10 43 04.0 +4.6
SVE *e* 10 45 24.0
SVE pmax pmax
comp=Z,356nm,3.4s
PV10 Paradox Valley 98.41 52 *e*P **P 10 32 26.6 +0.5**
WBK Wadi Bani Khal 98.61 292⇓ P **P 10 32 26.8 -0.1**
SNR=11
AB31 Akbulak array 98.74 319 *i* P **P 10 32 24.8 -2.7**
AB31 pmax pmax
comp=Z,13nm,0.9s,mb5.5
AB31 Akbulak array 98.74 319 *i* P **P 10 32 24.9 -2.6**
PV01 Paradox Valley 98.77 53 *e*Pdif **P 10 32 28.2 +0.5**
NVL N'lazarevskaya 98.90 191*c i*P **P 10 32 26.2 -2.0**
NVL *e**PP pP 10 32 40.0 -2.6
NVL *e*PPP 10 38 44.1
NVL *i* S SKSac 10 42 59.6 -2.7
NVL *i* SP SP 10 45 19.8 -0.5
NVL pmax pmax
comp=Z,57nm,1.6s,mb5.8
MAIT Maitri 98.91 191 *e*P **P 10 32 28.1 -0.2**
JMDO Jabal Madar 99.40 292⇑ P **P 10 32 29.7 -0.7**
BIDO Bidbid 99.44 293 P **P 10 32 30.8 +0.2**
SNR=8.6
ARU Arti 99.46 326 *e*P **P 10 32 28.2 -2.5**
ARU *e* 10 36 32.6
ARU *e*S SKSac 10 43 00.8 -4.4
ARU *e*SP SP 10 45 25.6 -0.8
ARU *e*PS PS 10 45 38.1 +5.6
ARU *e*SS SS 10 50 48.4 -1.7
ARU MLR MLR
comp=E,14µm,19.0s,MS6.5
ARU MLR MLR
comp=Z,18µm,19.0s,MS6.6
ARU MLR MLR
comp=N,6µm,21.0s,MS6.5
ARU Arti 99.46 326 *e*P **P 10 32 28.1 -2.7**
comp=N,47nm,1.2s,mb5.9
ARU LR LR
comp=Z,5µm,20.0s,MS6.0
SMDO Samad 99.49 292⇓ P **P 10 32 30.1 -0.8**
SNR=6.0
RWWY Rawlins 99.88 49 *e*Pdif Pdif 10 32 32.4 -0.2
AKTK Aktyubinsk 99.97 320 P Pdif 10 32 30.3 -2.7
AKTK PKKPbc PKKPbc 10 48 51.1 -0.6
AKTK P'P' 10 57 06.7
AKTO Aktyubinsk 99.97 320 P Pdif 10 32 30.3 -2.7
comp=Z,3.3nm,0.9s,baz=121,slow=4.5,SNR=9.4
AKTO PKKPbc PKKPbc 10 48 51.1 -0.6
comp=Z,4.9nm,0.7s,baz=279,slow=2.6,SNR=6.5
AKTO PKPPKP 10 57 06.7
comp=Z,4.8nm,1.1s,baz=195,slow=2.5,SNR=6.6
SMCO Snowmass 100.04 52 *e*Pdif Pdif 10 32 34.5 +1.1
HOQ Hoqain 100.19 293⇑ P Pdif 10 32 32.9 -1.1
SNR=7.5
SOKR Solikamsk 100.24 329*c i*P Pdif 10 32 31.2 -3.0
SOKR 10 36 39.9
SOKR PPP 10 38 57.8
SOKR *i* S SKSac 10 43 04.5 -4.5
SOKR PS PS 10 45 37.4 -3.4
SOKR SS SS 10 50 54.9 -6.0
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,36µm,23.0s,MS6.8
ANMO Albuquerque 100.39 56 PKPPKP 10 57 08.4
comp=Z,1.1nm,0.8s,baz=114,slow=6.2,SNR=3.9
ANMO Albuquerque 100.39 56*c i*P Pdif 10 32 35.1 +0.2
ANMO Albuquerque 100.39 56 *e*Pdif Pdif 10 32 35.5 +0.6
comp=Z,6.6nm,0.9s
ANMO LR LR
comp=Z,19µm,21.0s,MS6.6
SNAA Sanae 100.42 187⇑ *i*Pdiff Pdif 10 32 33.5 -1.5
SNAA *e* 10 32 48.9
SNAA *e* 10 32 55.2
SNAA *e* 10 36 35.4
SNAA *e* 10 36 41.4
SNAA *e* 10 36 46.7
SNAA *e* 10 37 02.0
SNAA Sanae 100.42 187*c i*P Pdif 10 32 33.6 -1.4
SNAA Sanae 100.42 187 *e*Pdif Pdif 10 32 32.9 -2.1
comp=Z,38nm,1.0s
LAO LASA Array 100.54 44 *e*Pdif Pdif 10 32 35.5 0.0
LAO LR LR
comp=Z,50µm,21.0s,MS7.0
ARQ Araqi 100.91 292⇓ P Pdif 10 32 36.5 -0.6
SNR=12
ISCO Idaho Springs 101.09 51 *e*P Pdif 10 32 38.9 +0.9
ISCO pmax pmax
comp=Z,31nm,1.4s
ISCO MLR MLR
comp=Z,26µm,21.0s,MS6.7
ISCO Idaho Springs 101.09 51 *e*Pdif Pdif 10 32 38.9 +0.9
comp=Z,31nm,1.4s
ISCO LR LR
comp=Z,26µm,21.0s,MS6.7
SDCO Great Sand Dun 101.19 53 PFAKE 10 32 50.0 +12
SDCO LR LR
comp=Z,49µm,20.0s,MS7.0
PHWY Pilot Hill 101.20 49 *e*Pdif Pdif 10 32 39.2 +0.7
MNTX Cornudas Mount 101.24 59 *e*Pdif Pdif 10 32 39.8 +1.2
comp=Z,4.8nm,0.9s
MNTX *e*PKKP PKKPbc 10 48 42.6 -5.5
MNTX LR LR
comp=Z,51µm,22.0s,MS7.0
ASHO Ashiyiah 101.39 294⇑ P Pdif 10 32 38.3 -1.0
SNR=9.8
VNA1 Neumayer--Stat 101.97 185⇑ *i*Pdiff Pdif 10 32 40.9 -1.0
VNA1 *e* 10 32 56.6
VNA1 *e* 10 33 02.9
VNA1 *e* 10 36 47.9
VNA1 *e* 10 37 04.7
RSSD Black Hills 102.17 46 *e*P Pdif 10 32 42.0 -0.8
RSSD pmax pmax
comp=Z,10.0nm,0.6s
RSSD MLR MLR
comp=Z,46µm,22.0s,MS7.0
RSSD Black Hills 102.17 46 *e*Pdif Pdif 10 32 42.0 -0.7
comp=Z,10.0nm,0.6s
RSSD LR LR
comp=Z,46µm,22.0s,MS7.0
FFC Flin Flon 102.71 35 PFAKE 10 33 00.0 +15
FFC LR LR
comp=Z,11µm,22.0s,MS6.3
RBK Rabkut 102.78 286⇓ P Pdif 10 32 44.1 -1.4
PMSA Palmer Station 102.83 164 *e*Pdif Pdif 10 32 45.0 -0.8
comp=Z,100nm,1.4s
PMSA LR LR
comp=Z,32µm,21.0s,MS6.8
WHFO Wadi Hawf 103.22 287⇑ P Pdif 10 32 46.2 -1.2
ABTO Aybut 103.64 286⇓ P Pdif 10 32 48.7 -0.7
OPO Ambohidratompo 105.04 249 Pdiff Pdif 10 32 54.6 -1.0
comp=Z,28nm,1.0s,baz=106,slow=5.1,SNR=13
OPO PKiKP PKiKP 10 37 11.0 +1.0
comp=Z,9.8nm,0.8s,baz=82,slow=3.5,SNR=7.9
OPO PKKPbc PKKPbc 10 48 37.2 +0.4
comp=Z,3.5nm,0.7s,baz=242,slow=1.5,SNR=3.9
KBS Kingsbay 105.64 353 *e*PP PP 10 37 18.4 -2.4
KBS *e*SKSa SKSac 10 43 32.1 -2.0
KBS *e*SS SS 10 52 18.8 +3.4
KBS Kingsbay 105.64 353 *e*P Pdif 10 32 54.5 -3.7
KBS *e* 10 48 34.8
KBS *e* 10 48 47.3
JCT Junction City 106.03 60 P Pdif 10 33 00.2 +0.3
JCT pmax pmax
comp=Z,10.0nm,1.0s
JCT MLR MLR
comp=Z,32µm,20.0s,MS6.9
JCT Junction City 106.03 60 Pdif Pdif 10 33 00.2 +0.3
comp=Z,9.9nm,1.0s
JCT *e*pP 10 36 49.6
JCT LR LR
comp=Z,32µm,20.0s,MS6.9
WMOK Wichita Mounta 106.71 56 *e*PKKP PKKPbc 10 48 26.1 -5.7
ULM Lac du Bonnet 107.04 40 Pdiff Pdif 10 33 03.2 -1.2
comp=Z,3.8nm,0.8s,baz=308,slow=4.5,SNR=4.4
ULM PKKPbc PKKPbc 10 48 29.9 -0.8
comp=Z,2.9nm,0.6s,baz=106,slow=4.3,SNR=7.8
ULM Lac du Bonnet 107.04 40 Pdif Pdif 10 33 03.2 -1.2
ULM PKKPbc PKKPbc 10 48 29.9 -0.8
PECR Pechory 107.44 327 *e*P Pdif 10 33 03.4 -2.8
PECR *i* 10 37 35.0
PECR *e* 10 43 39.6
PECR *e*SS SS 10 53 01.0 +21
PECR pmax pmax
comp=Z,4µm,20.0s
PECR pmax pmax
comp=N,2µm,18.0s
PECR pmax pmax
comp=E,2µm,18.0s
PECR MLR MLR
comp=E,4µm,20.0s,MS6.1
PECR MLR MLR
comp=Z,16µm,20.0s,MS6.6
PECR MLR MLR
comp=N,3µm,19.0s,MS6.1
ECSD EROS,Sioux Fal 107.54 46 *e*Pdif Pdif 10 33 05.5 -1.2
ECSD *e*PKKPbc PKKPbc 10 48 28.2 -0.9
MAK Makhachkala 107.77 313 *e*P Pdif 10 33 06.7 -1.0
MAK *i* 10 37 36.0
MAK *i* PPP 10 39 53.7
MAK *i* 10 43 43.3
MAK *i* SP SP 10 46 52.4 -1.2
MAK *i* PS PS 10 46 59.9 +0.3
MAK *i* SSS 10 56 49.1
MAK MLR MLR
comp=Z,27µm,22.0s,MS6.8
MAK MLR MLR
comp=N,9µm,23.0s,MS6.8
MAK MLR MLR
comp=E,26µm,19.0s,MS6.8
BJO Bjornoya 107.82 349 *e*PP PP 10 37 39.3 +2.4
BJO *e*SKSa SKSac 10 43 43.8 0.0
BJO AMS AMS 11 16 41.3
comp=Z,12µm,26.9s,MS6.3
BJO1 Bjornoya 107.86 349 *e*P Pdif 10 33 09.3 +1.3
BJO1 LR LR
comp=Z,12µm,26.9s,MS6.3
KSU1 Kansas State U 108.09 51 *e*PKKPab PKKPab 10 48 40.0 -1.3
KEV Kevo 108.98 343 *e*P Pdif 10 33 10.5 -2.5
comp=Z,3.8nm,0.7s
KEV *e*PKP PKiKP 10 37 13.1 -4.2
KEV LR LR
comp=Z,12µm,19.0s,MS6.5
RDF Al-Radifah 108.98 298 *e*P Pdif 10 33 11.9 -1.2
MIB Mutribah 109.12 299 *e*P Pdif 10 33 12.6 -1.0
MIB AMb AMB 10 33 29.8
comp=Z,36nm,0.9s
NAY Al-Naaiem 109.23 299 *e*P Pdif 10 33 12.8 -1.4
NAY AMb AMB 10 33 28.9
comp=Z,21nm,0.9s
RST Umm Al-Ruwaisa 109.43 299 *e*P Pdif 10 33 13.4 -1.7
RST AMb AMB 10 33 28.9
comp=Z,23nm,0.7s
HKT Hockley 109.48 61 PFAKE 10 37 30.0 +12
HKT LR LR
comp=Z,22µm,22.0s,MS6.7
ARCES ARCESS Array B 109.53 343 Pdiff Pdif 10 33 13.7 -1.8
comp=Z,8.8nm,0.8s,baz=53,slow=8.1,SNR=10
ARCES PKiKP PKiKP 10 37 17.2 -1.2
comp=Z,26nm,0.6s,baz=95,slow=1.4,SNR=30
ARCES PKKPbc PKKPbc 10 48 21.5 -1.4
comp=Z,16nm,0.7s,baz=228,slow=1.5,SNR=16
DGRG David-gareji 109.55 312 P PP 10 37 53.5 +4.0
DGRG S PS 10 47 23.9 +6.2
MTA Mtatsminda 109.94 312 P PP 10 37 55.4 +3.1
MTA S PS 10 47 19.1 -2.5
DAG Danmarks Havn 109.97 359⇓ *i*P Pdif 10 33 15.9 -1.6
comp=Z,6.7nm,0.9s
DAG Danmarks Havn 109.97 359⇓ *i*P Pdif 10 33 15.9 -1.6
DAG pmax pmax
comp=Z,7.0nm,0.9s

VRHR Novokhopersk 110.17 322 *e*P Pdif 10 33 17.8 -0.5
VRHR *e* 10 37 50.5
VRHR *e*SP SP 10 47 10.4 -7.4
VRHR *e*PS PS 10 47 18.8 -4.8
VRHR pmax pmax
comp=Z,460nm,10.4s
VRHR pmax pmax
comp=N,130nm,17.7s
VRHR pmax pmax
comp=E,150nm,10.6s
GNI Garni 110.21 310 PFAKE 10 37 30.0 +10
GNI LR LR
comp=Z,8µm,22.0s,MS6.2
SCIA State Center 110.28 48 *e*PKKPab PKKPab 10 48 30.2 -1.4
NATX Nacogdoches 110.36 59 PFAKE 10 37 30.0 +10
NATX LR LR
comp=Z,33µm,20.0s,MS6.9
KTK1 Kautokeino 110.50 343 *e* PKiKP 10 37 19.8 -0.4
CMIG Matias Romero 110.64 74 PKKPbc PKKPbc 10 48 21.1 +1.8
comp=Z,9.0nm,0.7s,baz=80,slow=4.0,SNR=12
ONI Oni 110.78 313 P PP 10 38 00.7 +2.3
ONI S SP 10 47 25.9 +2.4
MIAR Mount Ida 111.01 56 *e*PKKP PKKPbc 10 48 09.6 -8.5
MIAR LR LR
comp=Z,30µm,22.0s,MS6.8
KIV Kislovodsk 111.07 315 PFAKE 10 37 30.0 +8.7
KIV LR LR
comp=Z,3µm,20.0s,MS5.9
JOF Joensuu 111.09 336 *e*pkp 10 37 34.3
JOF Joensuu 111.09 336 *e*P Pdif 10 33 18.9 -3.5
JOF *e*PKP PKiKP 10 37 17.3 -4.0
TRO Tromso 111.25 345 *e* PKiKP 10 37 19.1 -2.5
TRO *e*PP PP 10 37 59.4 -2.3
TRO *e* 10 53 40.9
TRO AMS AMS 11 23 45.0
comp=Z,16µm,23.5s,MS6.5
BHD Baghdad 111.36 303 *ex* x 10 33 14.0
BHD Baghdad 111.36 303 *ex* x 10 43 45.0
BHD Baghdad 111.36 303 *ex* x 10 37 13.0
VOR Voronezh 111.45 323 PKiKP PKiKP 10 37 20.0 -2.0
VOR pmax pmax
comp=Z,180nm,1.7s
VRSR Storozhevoye 111.61 323 *i* PKiKP PKiKP 10 37 19.0 -3.3
VRSR *e* 10 38 00.1
VRSR *e*SP SP 10 47 28.8 -2.3
VRSR *e*SS SS 10 53 57.0 +21
VRSR pmax pmax
comp=Z,50nm,0.9s
VRSR pmax pmax
comp=N,40nm,1.1s
VRSR pmax pmax
comp=E,60nm,1.0s
OBN Obninsk 111.86 327 *e*P Pdif 10 33 23.5 -2.3
OBN pmax pmax
comp=Z,28nm,1.7s
OBN Obninsk 111.86 327 PFAKE 10 37 30.0 +7.2
OBN LR LR
comp=Z,8µm,22.0s,MS6.3
UALR University of 111.99 55 *e*PKKPbc PKKPbc 10 48 15.2 +0.3
UALR *e*PKKPab PKKPab 10 48 23.3 -0.7
MSL Mosul 112.05 306 *ex* x 10 33 23.0
MSL *ex* x 10 40 53.0
MSL *ex* x 10 43 53.0
JFWS Jewell Farm 112.26 46 *e*PKKPab PKKPab 10 48 21.6 -1.2
JFWS LR LR
comp=Z,31µm,21.0s,MS6.9
PUL Pulkovo 113.01 333 *i* P Pdif 10 33 24.2 -6.8
PUL *i* 10 37 23.0
PUL *e*PS PS 10 47 43.6 -6.2
PUL *e*SS SS 10 53 49.2 -5.3
PUL pmax pmax
comp=N,135nm,0.6s
PUL pmax pmax
comp=Z,109nm,0.6s
PUL pmax pmax
comp=E,145nm,0.9s
FVM French Village 113.05 52 *e*PKKP PKKPbc 10 48 11.4 0.0
SOC Sochi 113.25 315*c i*P Pdif 10 33 27.6 -4.5
SOC *i* 10 38 14.0
SOC *e*PPP 10 40 46.9
SOC *i* PS PS 10 47 46.4 -5.6
SOC *e*SSS 10 58 14.2
SOC pmax pmax
comp=Z,21nm,0.7s
SOC MLR MLR
comp=Z,17µm,20.0s,MS6.6
ATD Arta Tunnel 113.50 280 PKiKP PKiKP 10 37 27.7 +1.8
comp=Z,27nm,0.9s,baz=88,slow=24,SNR=6.5
KAF Kangasniemi 113.50 337 *e*pkp 10 37 37.8
KAF Kangasniemi 113.50 337 *e*P Pdif 10 33 29.4 -3.7
KAF *e*PKP PKiKP 10 37 23.5 -2.4
LOF Lofoten 113.69 345 *e*PKPd PKiKP 10 37 25.2 -1.1
LOF AMb AMB 10 37 32.1
comp=Z,102nm,1.2s
LOF *e* 10 38 18.2
LOF Lofoten 113.69 345 *e*P PKiKP 10 37 26.7 +0.4
SUMG Summit 113.71 5 *e*PKiKP PKiKP 10 37 25.7 -0.6
PAYG Puerto Ayora 113.91 94 PFAKE 10 37 40.0 +13
PAYG LR LR
comp=Z,17µm,20.0s,MS6.6
FINES FINESS Array B 113.96 336 Pdiff Pdif 10 33 34.0 -1.1
comp=Z,2.7nm,0.8s,baz=64,slow=4.4,SNR=7.8
FINES PKiKP PKiKP 10 37 25.7 -1.1
comp=Z,38nm,0.8s,baz=94,slow=2.6,SNR=15
FINES PKKPbc PKKPbc 10 48 07.2 -1.0
comp=Z,18nm,0.8s,baz=132,slow=2.8,SNR=28
FINES FINESS Array B 113.96 336 *i* PKiKP PKiKP 10 37 25.7 -1.1
FINES pmax pmax
comp=Z,39nm,0.8s
FINES FINESS Array B 113.96 336 Pdif Pdif 10 33 34.0 -1.1
FINES PKPdf PKiKP 10 37 25.7 -1.1
FINES PKKPbc PKKPbc 10 48 07.2 -1.0
ANN Anapa 114.54 316 *i* P Pdif 10 33 35.4 -2.4
ANN *e* 10 38 23.7
ANN *e*PS PS 10 47 58.5 -5.3
ANN *e*SS SS 10 54 13.3 -1.4
ANN pmax pmax
comp=Z,41nm,1.1s
MOR8 Moi Rana 114.90 344 *e*PKPd PKiKP 10 37 26.0 -2.6
MOR8 AMb AMB 10 37 27.3
comp=Z,28nm,0.9s
MOR8 Moi Rana 114.90 344⇑ *i*P PKiKP 10 37 26.5 -2.1
EFI East Falkland 115.05 158 PFAKE 10 37 40.0 +11
EFI LR LR
comp=Z,2µm,20.0s,MS5.7
JMIC Jan Mayen 115.07 354 *e*PP PP 10 38 27.9 -1.0
JMIC *e* 10 54 33.5
JMIC Jan Mayen 115.07 354 *e*P Pdif 10 33 43.6 +3.5
JMIC LR LR
comp=Z,7µm,25.5s,MS6.2
STOK Stokkvaagen 115.17 344 *e*PKPd PKiKP 10 37 27.5 -1.6
STOK AMb AMB 10 37 29.7
comp=Z,135nm,0.9s
STOK Stokkvaagen 115.17 344 *e*P PKiKP 10 37 27.9 -1.2
WVT Waverly 115.42 53 *e*PKKP PKKPbc 10 48 00.2 -3.0
PLAL Pickwick Lake 115.42 55 *e*PKKP PKKPbc 10 48 02.1 -1.1
PLAL LR LR
comp=Z,31µm,20.0s,MS6.9
ATAB Bozova 115.64 308 *i* P PP 10 38 26.3 -6.6
LRAL Lakeview Retre 116.64 56 *e*PKKP PKKPbc 10 47 58.0 -1.0
LRAL LR LR
comp=Z,41µm,22.0s,MS7.0
MNK Minsk 116.71 329 *e*PKIKP pPKPdf 10 37 50.0 +3.1
MNK *e* 10 44 16.0
MNK *e*PS PS 10 48 20.0 -3.5
MNK *e*SS SS 10 54 36.0 -7.1
MNK MLR MLR
comp=N,22µm,22.0s,MS6.9
MNK MLR MLR
comp=Z,41µm,22.0s,MS7.0
MNK MLR MLR
comp=E,23µm,18.0s,MS6.9
SIM Simferopol' 116.75 317*ce*P Pdif 10 33 47.1 -0.5
SIM *e* 10 38 37.9
SIM PS PS 10 48 13.9 -10
SIM SS SS 10 54 53.6 +10
SIM pmax pmax
comp=Z,430nm,14.0s
NSS Namsos 116.82 343 *e* PKPdf 10 37 29.9 -2.4
NSS *e*PP PP 10 38 38.5 -2.6
NSS *e*SKSa SKSdf 10 44 17.0 -23
NSS *e*SS SS 10 54 47.3 +2.8
NSS AMS AMS 11 27 05.4
comp=Z,25µm,22.2s,MS6.8

SWET Sewanee 117.11 54 *e*PKKP PKKPbc 10 47 56.5 -0.9
AAM Ann Arbor 117.12 46 PFAKE 10 37 40.0 +7.1
AAM LR LR
comp=Z,39µm,21.0s,MS7.0
BNN Bunyan 117.21 310 *e*P PKPdf 10 37 28.0 -5.1
SFJD Kangerlussuaq 117.27 11 PKKPbc PKKPbc 10 47 55.9 -0.8
comp=Z,20nm,0.8s,baz=158,slow=6.0,SNR=7.8
SFJD Kangerlussuaq 117.27 11 *i* P Pdif 10 33 53.8 +3.9
SFJD Kangerlussuaq 117.27 11 *e*P Pdif 10 33 53.8 +3.9
SFJD *e*PKPdf PKPdf 10 37 31.4 -1.7
SFJD *e*PKKP PKKPbc 10 47 55.4 -1.4
HTY Hatay 117.61 307 *e*P PKPdf 10 37 28.6 -5.2
AKASG Malin Array Be 117.67 325 Pdiff Pdif 10 33 55.6 +3.9
comp=Z,0.1nm,0.3s,baz=54,slow=3.3,SNR=4.2
AKASG PKP PKPdf 10 37 33.0 -1.0
comp=Z,60nm,0.7s,baz=60,slow=2.4,SNR=41
AKASG PKKPbc PKKPbc 10 47 54.5 -0.8
comp=Z,3.4nm,0.4s,baz=257,slow=4.1,SNR=30
AKASG SKKP 10 51 57.1
comp=Z,0.3nm,0.3s,baz=245,slow=5.1,SNR=6.2
AKASG Malin Array Be 117.67 325 PKIKP PKPdf 10 37 33.0 -0.9
AKASG pmax pmax
comp=Z,60nm,0.7s
BZK Bozkurt 117.74 314 *e*P PKPdf 10 37 30.7 -3.3
ASF Jabal al Asfar 117.76 303 PKKPbc PKKPbc 10 47 57.0 +2.0
comp=Z,1.8nm,0.4s,baz=97,slow=1.7,SNR=4.2
KMBO Kilima Mbogo 117.92 265 PKP PKPdf 10 37 35.6 +1.2
comp=Z,21nm,1.0s,baz=57,slow=4.8,SNR=26
KMBO PKKPbc PKKPbc 10 47 57.3 +2.9
comp=Z,4.4nm,0.8s,baz=260,slow=5.5,SNR=7.4
ACSO Alum Creek Sta 118.19 48 *e*PKPdf PKPdf 10 37 33.6 -1.4
ACSO LR LR
comp=Z,13µm,19.0s,MS6.6
CANT Cankiri 118.41 313 *e*PP PKPdf 10 37 34.9 -0.4
MYNC Murphy 118.58 54 PFAKE 10 37 50.0 +14
MYNC LR LR
comp=Z,24µm,20.0s,MS6.8
BR131 Keskin Array S 118.64 312 PFAKE 10 37 50.0 +14
BR131 LR LR
comp=Z,5µm,21.0s,MS6.1
BRTR Keskin Array B 118.64 312 PKP PKPdf 10 37 35.3 -0.5
comp=Z,80nm,1.1s,baz=113,slow=2.8,SNR=15
BRTR PKKPbc PKKPbc 10 47 52.6 +0.8
comp=Z,9.7nm,0.7s,baz=225,slow=3.6,SNR=17
BRTR SKKPbc 10 51 29.7
comp=Z,5.5nm,1.1s,baz=190,slow=3.8,SNR=4.6
KAMT Kaman 118.68 311 *e*P PKPdf 10 37 35.2 -0.7
ANTO Ankara 119.22 312 *e*P PKPdf 10 37 33.7 -3.3
ANTO Ankara 119.22 312 P PKPdf 10 37 37.2 +0.3
SNR=8.6
ANTO P 10 37 37.4
SNR=11
ANTO Ankara 119.22 312 *e*PKPdf PKPdf 10 37 36.4 -0.5
ANTO LR LR
comp=Z,7µm,20.0s,MS6.3
SUW Suwalki 119.31 330 *e*PKIKP PKPdf 10 37 36.4 -0.7
SUW *e* 10 37 49.3
SUW *e* 10 38 56.6
SUW *e* 10 44 25.0
SUW *e*PS PS 10 48 34.0 -13
SUW MLR MLR
comp=Z,33µm,24.4s,MS6.9
SUW Suwalki 119.31 330 *e*PKP PKPdf 10 37 36.4 -0.7
SUW *e*pPKP pPKPdf 10 37 49.3 -2.6
SUW *e*PP PP 10 38 56.6 -1.8
SUW *e*SKS SKSdf 10 44 25.0 -20
SUW *e*PS PS 10 48 34.0 -13
SUW *e*pPKP pPKPdf 10 37 49.3 -2.6
SUW *e*PP PP 10 38 56.6 -1.8
SUW *e*SKS SKSdf 10 44 25.0 -20
SUW *e*PS PS 10 48 34.0 -13
SUW L 11 27 41.2
comp=Z,33nm,24.4s
SUW Suwalki 119.31 330 *e*PKP PKPdf 10 37 36.4 -0.7
KIS Kishinev 119.46 321 *e*P Pdif 10 34 00.0 +0.3
KIS *e* 10 38 56.0
KIS *e*PPP 10 41 34.0
KIS *i* PS PS 10 48 45.0 -3.4
KIS *i* SS SS 10 55 24.0 +5.3
KIS MLR MLR
comp=N,13µm,22.0s,MS6.8
KIS MLR MLR
comp=E,24µm,22.0s,MS6.8
KIS MLR MLR
comp=Z,20µm,22.0s,MS6.7
IKL Isikli 119.52 308 *e*P PKPdf 10 37 34.3 -3.2
DOMB Dombas 119.57 343 *e*PKPd PKPdf 10 37 36.1 -1.5
DOMB AMb AMB 10 37 38.7
comp=Z,113nm,1.4s
DOMB Dombas 119.57 343⇑ *i*P PKPdf 10 37 36.8 -0.8
NB2 NORSAR Subarra119.67 341 PKPd PKPdf 10 37 36.5 -1.3
comp=Z,54nm,0.7s,baz=42,slow=2.0
NB2 NORSAR Subarra119.67 341 PKPd PKPdf 10 37 36.5 -1.3
baz=42,slow=2.0
NB2 PKPd PKPdf 10 37 36.5 -1.3
baz=42,slow=2.0
NB2 NORSAR Subarra119.67 341 PKPdf PKPdf 10 37 36.3 -1.5
NOA NORSAR Array B119.67 341 PKP PKPdf 10 37 36.5 -1.2
comp=Z,46nm,0.8s,baz=45,slow=2.0,SNR=31
NOA PKKPbc PKKPbc 10 47 48.1 0.0
comp=Z,23nm,0.8s,baz=42,slow=3.6,SNR=56
ERPA Erie 119.77 45 PFAKE 10 37 50.0 +12
ERPA LR LR
comp=Z,47µm,20.0s,MS7.1
EIL Elat 119.83 300 *e*P PKPdf 10 37 37.6 -0.5
ERMK Ermenek 120.02 309 *i* P PKPdf 10 37 28.8 -10
CSS Prodhromos 120.10 307 *e*PKPdf PKPdf 10 37 37.6 -1.0
KDHN Kadinhani 120.11 311 *i* P PKPdf 10 37 38.3 -0.3
MDU Mudurnu 120.20 313 *e*P PKPdf 10 37 37.7 -1.1
HENT Hendek 120.31 314 *i* P PKPdf 10 37 38.7 -0.3
BOSA Boshof 120.58 231 PKP PKPdf 10 37 39.9 +0.4
comp=Z,79nm,0.7s,baz=118,slow=1.8,SNR=139
BOSA PKKPbc PKKPbc 10 47 44.1 -0.7
comp=Z,11nm,0.7s,baz=289,slow=3.4,SNR=10
BOSA Boshof 120.58 231 *e*PKPdf PKPdf 10 37 39.8 +0.3
BOSA LR LR
comp=Z,30µm,22.0s,MS6.9
CFR Carcaliu 120.63 319 PKIKP PKPdf 10 37 39.7 +0.1
MCWV Mont Chateau 120.67 48 PFAKE 10 37 50.0 +10
MCWV LR LR
comp=Z,34µm,21.0s,MS7.0
GPA Golpazari 120.91 313 *e*P PKPdf 10 37 38.9 -1.2
BLA Blacksburg 120.96 50 *e*PKIKP PKPdf 10 37 39.1 -1.1
BLA MLR MLR
comp=Z,3µm,22.0s,MS6.0
FCH Farellones 121.02 136⇑ *e*P PKPdf 10 37 40.3 -0.1
LVV L'vov 121.04 326 *i* PKIKP PKPdf 10 37 39.7 -0.7
LVV *e* 10 37 55.5
LVV MLR MLR
comp=Z,2µm,22.0s,MS5.7
HRT Hereke 121.19 314 *e*P PKPdf 10 37 38.1 -2.6
KONO Kongsberg 121.25 341 *e*PP PP 10 39 10.2 -1.5
KONO *i* 10 49 04.1
KONO *e*SS SS 10 55 41.7 0.0
KONO Kongsberg 121.25 341 *e*P Pdif 10 34 07.5 -0.1
KONO *e* 10 37 39.4
KONO MLR MLR
comp=Z,22µm,20.0s,MS6.8
ADVT Abdulvahap 121.27 314 *e*P PKPdf 10 37 40.0 -0.9
SCHQ Schefferville 121.34 27 PKP PKPdf 10 37 40.0 -1.0
comp=Z,18nm,0.6s,baz=325,slow=3.2,SNR=7.3
SCHQ PKKPab PKKPab 10 47 41.2 -1.7
comp=Z,21nm,0.9s,baz=125,slow=5.3,SNR=11
SCHQ Schefferville 121.34 27 *e*PKPdf PKPdf 10 37 39.6 -1.4
SCHQ LR LR
comp=Z,45µm,21.0s,MS7.1
WAR Warsaw 121.37 329 *e*PKP PKPdf 10 37 41.4 +0.4
WAR *e*pPKP pPKPdf 10 37 54.0 -1.9
WAR *e*PP PP 10 39 08.9 -3.6
WAR Warsaw 121.37 329 *e*PS PS 10 49 01.6 -3.8
WAR L 11 32 05.9
comp=Z,26nm,23.0s
WAR Warsaw 121.37 329 *e*PKP PKPdf 10 37 41.4 +0.4
WAR *e*pPKP pPKPdf 10 37 54.0 -1.9
WAR *e*PP PP 10 39 08.9 -3.6
WAR *e*PS PS 10 49 01.6 -3.8
WAR LR LR
comp=Z,26µm,23.0s,MS6.8
ISP Isparta 121.52 310⇑ *i*P PKPdf 10 37 40.8 -0.5
ISP Isparta 121.52 310 P PKPdf 10 37 40.8 -0.6
KWP Kalwaria 121.87 326 *e*PS PS 10 49 00.9 -9.0
KWP L 11 29 44.5
comp=Z,26nm,23.7s
KWP Kalwaria 121.87 326 *e*PKIKP PKPdf 10 37 41.9 -0.1
KWP *e* 10 37 54.7
KWP *e* 10 39 16.0
KWP *e*PS PS 10 49 00.9 -9.0
KWP MLR MLR
comp=Z,26µm,23.7s,MS6.8
KWP Kalwaria 121.87 326 *e*PKP PKPdf 10 37 41.9 -0.1
KWP *e*pPKP pPKPdf 10 37 54.7 -2.1
KWP *e*PP PP 10 39 16.0 +0.1
KWP *e*PS PS 10 49 00.9 -9.0
KWP *e*pPKP pPKPdf 10 37 54.7 -2.1
KWP *e*PP PP 10 39 16.0 +0.1
KWP Kalwaria 121.87 326 *e*PKP PKPdf 10 37 41.9 -0.1
MLR Muntele Rosu 121.90 320 PKP PKPdf 10 37 41.6 -0.5
comp=Z,92nm,1.0s,baz=34,slow=3.4,SNR=13
MLR PKKPbc PKKPbc 10 47 40.1 +0.3
comp=Z,15nm,0.7s,baz=171,slow=11,SNR=13
MLR Muntele Rosu 121.90 320 P PKPdf 10 37 42.2 +0.1
SUR Sutherland 121.93 225 P PKPdf 10 37 43.3 +1.2
SNR=20
SUR P 10 37 43.5
SNR=36
SUR Sutherland 121.93 225 *e*PKPdf PKPdf 10 37 42.5 +0.3
SUR LR LR
comp=Z,8µm,20.0s,MS6.4
LBTB Lobatse 121.95 235 PKKPbc PKKPbc 10 47 40.5 +0.9
comp=Z,11nm,0.7s,baz=284,slow=4.4,SNR=9.8
LBTB Lobatse 121.95 235 *e*PKIKP PKPdf 10 37 42.5 +0.3
LBTB MLR MLR
comp=Z,28µm,20.0s,MS6.9
RUND Rundenannen 121.96 343 *e*PKPd PKPdf 10 37 41.5 -0.7
RUND AMb AMB 10 37 43.8
comp=Z,262nm,1.4s
RUND Rundenannen 121.96 343 *e*P PKPdf 10 37 41.8 -0.4
BER Bergen 121.99 343 *e*PP PP 10 39 15.0 -1.7
BER *e*SS SS 10 55 52.5 +1.4
BER Bergen 121.99 343 *e*P Pdif 10 34 11.9 +1.0
BER LR LR
comp=Z,12µm,27.6s,MS6.4
BORG Borgarnes 122.09 358 PFAKE 10 37 50.0 +7.6
BORG LR LR
comp=Z,5µm,22.0s,MS6.1
DWPF Disney 122.22 61 *e*PKPdf PKPdf 10 37 38.2 -4.5
DWPF LR LR
comp=Z,26µm,22.0s,MS6.8
ELL Elmali 122.31 309 *e*P PKPdf 10 37 41.2 -1.6
TLL Tololo Astrono 122.36 132⇑ *e*P PKPdf 10 37 42.7 -0.2
TLL Tololo Astrono 122.36 132⇓ *e*P PKPdf 10 37 43.0 +0.1
BLS5 Blasjo 122.43 342 *e*PKPd PKPdf 10 37 42.0 -1.1
BLS5 AMb AMB 10 37 45.7
comp=Z,168nm,1.3s
BLS5 Blasjo 122.43 342⇑ *i*P PKPdf 10 37 43.5 +0.5
LONY Lake Ozonia 122.47 41 *e*PKPdf PKPdf 10 37 41.9 -1.2
KOLS Kolonicke sedl 122.47 325 *e*PKP PKPdf 10 37 43.5 +0.3
KOLS *e*PP PP 10 39 18.6 -1.4
BSD Bornholm Skovb 122.48 334 *i* P Pdif 10 34 09.9 -3.2
BSD *i* 10 36 11.7
BSD *i* 10 36 27.3
BSD Bornholm Skovb 122.48 334⇑ *i*P PKPdf 10 37 42.6 -0.6
comp=Z,99nm,0.8s
BSD *i* 10 39 19.1
BSD *i* 10 49 06.9
BSD pmax pmax
comp=Z,14µm,20.0s
BSD Bornholm Skovb 122.48 334⇑ *i*PKIKP PKPdf 10 37 42.6 -0.6
BSD *i* 10 39 19.1
BSD *i* 10 49 06.9
BSD pmax pmax
comp=Z,99nm,0.8s
BSD MLR MLR
comp=Z,14µm,20.0s,MS6.6
BSD Bornholm Skovb 122.48 334⇑ *i*P PKPdf 10 37 42.6 -0.6
BSD *i* 10 39 19.1
BSD *i* 10 49 06.9
BINY Binghamton 122.52 44 *e*PKPdf PKPdf 10 37 41.9 -1.3
BINY LR LR
comp=Z,63µm,22.0s,MS7.2
UZH Uzhgorod 122.62 325 *e*PKIKP PKPdf 10 37 43.0 -0.4
UZH *i* 10 37 58.6
UZH *i* 10 39 25.0
UZH *i* SS SS 10 56 00.0 +0.9
UZH MLR MLR
comp=Z,9µm,21.0s,MS6.4
GKP Gorka Klasztor 122.62 332 *e*PS PS 10 49 16.4 -0.1
GKP L 11 31 30.8
comp=Z,42nm,22.9s
GKP Gorka Klasztor 122.62 332 *e*PKIKP PKPdf 10 37 43.4 0.0
GKP *e* 10 37 57.3
GKP *e* 10 39 18.9
GKP *e*PS PS 10 49 16.4 -0.1
GKP MLR MLR
comp=Z,42µm,22.9s,MS7.0
GKP *e*pPKP pPKPdf 10 37 57.3 -1.0
GKP *e*PP PP 10 39 18.9 -2.1
GKP Gorka Klasztor 122.62 332 *e*PKP PKPdf 10 37 43.4 0.0
STHS Stebnicka Huta 122.80 326 *e*PKP PKPdf 10 37 44.1 +0.3
STHS *e* 10 37 50.9
CRVS Cervenica-Dubn 122.95 326 *e*PKP PKPdf 10 37 44.0 -0.1
CRVS *e*PP PP 10 39 23.2 0.0
CBN Corbin 122.96 49 *e*PKPdf PKPdf 10 37 43.1 -1.0
CBN LR LR
comp=Z,36µm,22.0s,MS7.0
FETY Fethiye 122.97 310 *e*P PKPdf 10 37 42.5 -1.6
NCB Newcomb 122.98 41 *e*PKPdf PKPdf 10 37 43.1 -1.1
NCB LR LR
comp=Z,106µm,22.0s,MS7.5
FRNY Flat Rock 123.01 40 *e*PKPdf PKPdf 10 37 42.7 -1.5
COP Copenhagen 123.12 336 *i* P Pdif 10 34 15.9 0.0
COP Copenhagen 123.12 336⇑ *i*P PKPdf 10 37 44.0 -0.4
comp=Z,92nm,0.8s
COP *i* 10 39 18.7
COP
comp=Z,7µm,20.0s
COP Copenhagen 123.12 336⇑ *i*PKIKP PKPdf 10 37 44.0 -0.4
COP pmax pmax
comp=Z,92nm,0.8s
COP MLR MLR
comp=Z,6µm,20.0s,MS6.3
OJC Ojcow 123.14 328 *e*Pdiff Pdif 10 34 15.5 -0.5
OJC *e*PKPdf PKPdf 10 37 44.2 -0.2
OJC *e*PP PP 10 39 23.1 -1.4
OJC *e*SKSac SKSac 10 44 39.7 -2.1
OJC *e*SKKSac SKKSac 10 46 16.4 -3.0
OJC *e*PS PS 10 49 17.3 -3.8
OJC L 11 37 03.8
comp=Z,90nm,17.4s
OJC Ojcow 123.14 328 *e*PKIKP PKPdf 10 37 44.2 -0.2
OJC *e* 10 39 23.1
OJC *e* 10 44 39.7
OJC *e*PS PS 10 49 17.3 -3.8
AKS Akhisar 123.20 312 *e*P PKPdf 10 37 42.5 -2.0
DALT Dalyan (Mudla) 123.27 310 *e*P PKPdf 10 37 37.7 -7.0
NIE Niedzica 123.31 327 *i* PKPdf PKPdf 10 37 45.4 +0.6
CANB Canakkale 123.34 314 *e*P PKPdf 10 37 42.9 -1.9
TRQA Tornquist 123.36 145 PKPdf PKPdf 10 37 44.2 -0.7
TRQA Tornquist 123.36 145 *e*PKPdf PKPdf 10 37 44.1 -0.8
LSZ Lusaka 123.42 247 PKP PKPdf 10 37 45.9 +0.9
comp=Z,73nm,1.0s,baz=130,slow=1.6,SNR=42
LSZ PKKPbc PKKPbc 10 47 35.1 +1.3
comp=Z,4.6nm,0.7s,baz=325,slow=7.8,SNR=4.5
LSZ Lusaka 123.42 247 P PKPdf 10 37 45.5 +0.5
SNR=15
LSZ P 10 37 45.7
SNR=31
LSZ Lusaka 123.42 247 *e*PKPdf PKPdf 10 37 45.5 +0.5
LSZ LR LR
comp=Z,34µm,20.0s,MS7.0
KECS Kecovo 123.72 326 *e*PKP PKPdf 10 37 45.1 -0.4
KECS *e* 10 38 01.6
MLSB Milas 123.76 311 *e*P PKPdf 10 37 44.7 -0.9
IZM Izmir 123.77 312 *e*P PKPdf 10 37 44.4 -1.2
MUD Monsted U'grnd 123.81 338 *i* P Pdif 10 34 18.3 -0.7
MUD Monsted U'grnd 123.81 338⇑ *i*P PKPdf 10 37 45.2 -0.5
comp=Z,103nm,0.9s
MUD *e* 10 37 58.3
MUD *i* 10 39 20.2
MUD *i* S SP 10 49 05.3 -16
MUD
comp=Z,14µm,20.0s
MUD Monsted U'grnd 123.81 338⇑ *i*PKIKP PKPdf 10 37 45.2 -0.5
MUD *e* 10 37 58.3
MUD pmax pmax
comp=Z,100nm,0.9s
MUD MLR MLR

comp=Z,14µm,20.0s,MS6.6
MUD Monsted U'grnd 123.81 338⇑ *i*P PKPdf 10 37 45.2 -0.5
MUD *e* 10 37 58.3
MUD *i* 10 39 20.2
MUD *i*S SP 10 49 05.3 -16
WAL1 Walls 123.91 347⇑ *i*P PKPdf 10 37 45.0 -0.9
WAL1 Walls 123.91 347⇑ *i*P PKPdf 10 37 45.0 -0.9
LRW Lerwick 123.92 346⇑ *i*P PKPdf 10 37 45.1 -0.8
LRW *e*P 10 37 45.1
LRW AMS AMS 11 32 15.7
comp=Z,4µm,25.2s,MS6.0
LRW Lerwick 123.92 346⇑ *i*P PKPdf 10 37 45.1 -0.8
LRW *e*P 10 37 45.1
LRW AMS AMS 11 32 15.7
comp=Z,4µm,25.2s,MS6.0
EZN Ezine 123.94 314 *e*P PKPdf 10 37 45.6 -0.3
GZR Gura Zlata 123.94 321⇑ *i*P PKPdf 10 37 46.0 0.0
GZR Gura Zlata 123.94 321 P PKPdf 10 37 46.0 0.0
RAC Raciborz 124.06 328 *e*PKIKP PKPdf 10 37 46.4 +0.2
RAC *e* 10 39 32.7
RAC Raciborz 124.06 328 *e*PKPdf PKPdf 10 37 46.4 +0.2
RAC *e*PP PP 10 39 32.7 +2.0
RAC LR LR
comp=Z,14µm,18.7s,MS6.7
BRNJ Basking Ridge 124.09 45 *e*PKPdf PKPdf 10 37 45.9 -0.4
DAT Datca 124.09 310 *e*P PKPdf 10 37 41.3 -5.0
BOZC Bozcaada 124.12 314 *i*P PKPdf 10 37 43.2 -3.1
LIKS Likavka 124.17 327 *e*PKP PKPdf 10 37 47.6 +1.2
BODT Bodrum 124.19 311 *e*P PKPdf 10 37 37.3 -9.2
OKC Ostrava-Krasne 124.23 328 *e*PKPdf PKPdf 10 37 46.2 -0.3
OKC *ep*PKP pPKPdf 10 38 00.7 -0.7
OKC *e*PP PP 10 39 28.9 -3.0
OKC *e*SP SP 10 49 26.7 +1.7
OKC AMS AMS 11 37 00.0
comp=Z,12µm,19.9s
OKC Ostrava-Krasne 124.23 328 *e*PKP PKPdf 10 37 46.2 -0.3
OKC *e* 10 38 00.7
OKC *e* 10 39 28.9
OKC *e* 10 49 26.7
URLA Izmir 124.27 312 *i*P PKPdf 10 37 46.9 +0.3
LBNH Lisbon 124.34 40 *e*PKIKP PKPdf 10 37 46.0 -0.7
LBNH MLR MLR
comp=Z,99µm,21.0s,MS7.5
HNH Hanover 124.35 41 *e*PKPdf PKPdf 10 37 46.4 -0.3
PSZ Piszkesteto 124.36 325⇑ *i*PKP/D PKPdf 10 37 46.7 -0.1
PSZ Piszkesteto 124.36 325 P PKPdf 10 37 47.2 +0.4
MGV Manicaragua 124.42 68 *e*P PKPdf 10 37 47.9 +1.0
PAL Palisades 124.42 44 *e*PKIKP PKPdf 10 37 45.8 -1.1
CPNY Central Park 124.47 44 *e*PKPdf PKPdf 10 37 45.6 -1.4
ATAH Atahualpa 124.49 103 PKP PKPdf 10 37 48.8 +1.8
comp=Z,57nm,0.9s,baz=341,slow=0.9,SNR=29
ATAH SKKPbc 10 51 15.8
comp=Z,17nm,1.1s,baz=90,slow=4.0,SNR=3.8
BZS Buzias 124.54 322 PKIKP PKPdf 10 37 47.0 -0.1
KSP Ksiaz 124.58 330 *e*PS PS 10 49 28.0 -5.8
KSP L 11 32 31.4
comp=Z,79nm,23.2s
KSP Ksiaz 124.58 330 *e*PKIKP PKPdf 10 37 47.1 -0.1
KSP *e* 10 38 00.6
KSP *e*SP SP 10 49 23.0 -5.0
KSP *e*SSS 11 01 04.0
KSP MLR MLR
comp=Z,91µm,23.2s,MS7.4
KSP Ksiaz 124.58 330 *e*Pdif Pdif 10 34 21.8 -0.6
KSP *e*PKP PKPdf 10 37 47.1 -0.1
KSP *ep*PKP pPKPdf 10 38 00.6 -1.4
KSP *e*PP PP 10 39 28.0 -6.2
KSP *e*SP SP 10 49 23.0 -5.0
KSP *e*PPS 10 50 48.0
KSP *e*SS SS 10 56 05.0 -19
KSP *e*SSS 11 01 04.0
KSP LR LR
comp=Z,91µm,23.2s,MS7.4
KSP *ep*PKP pPKPdf 10 38 00.3 -1.7
KSP *e*PP PP 10 39 29.5 -4.7
KSP Ksiaz 124.58 330 *e*PKP PKPdf 10 37 47.2 0.0
MORC Moravsky Berou 124.59 328 PKIKP PKPdf 10 37 47.5 +0.3
VYHS Vyhne 124.63 326 *i*PKP PKPdf 10 37 47.3 0.0
VYHS *e* 10 38 01.1
VYHS *e*PP PP 10 39 36.8 +2.3
VYHS Vyhne 124.63 326 *i*PKP PKPdf 10 37 47.3 0.0
VYHS *e* 10 38 01.1
VYHS *e*PP PP 10 39 36.8 +2.3
VYHS LR LR
comp=Z,12µm,23.0s,MS6.5
NNA Nana 124.68 110 PKP PKPdf 10 37 46.5 -0.9
comp=Z,58nm,1.0s,baz=294,slow=3.9,SNR=12
NNA Nana 124.68 110 *e*PKPdf PKPdf 10 37 46.3 -1.1
NNA LR LR
comp=Z,3µm,22.0s,MS6.0
RUE Ruedersdorf 124.73 333 *e*PKPdf PKPdf 10 37 47.4 -0.1
RUE *e*PP PP 10 39 27.9 -7.3
RUE Ruedersdorf 124.73 333 *e*PKPdf PKPdf 10 37 47.8 +0.3
KARP Karpathos 124.79 309 *e*P PKPdf 10 37 48.9 +0.4
FFD Franklin Falls 124.87 41 PKPdf PKPdf 10 37 46.2 -1.5
DPC Dobruska-Polom 124.87 329 *e*PKPdf PKPdf 10 37 48.1 +0.3
DPC *ep*PKP pPKPdf 10 38 02.1 -0.5
DPC *e*PP PP 10 39 34.6 -1.5
DPC *e*SP SP 10 49 22.8 -7.8
DPC AMS AMS 11 31 20.0
comp=Z,39µm,23.4s
UPC Upice 124.93 330 *e*PKPdf PKPdf 10 37 47.4 -0.5
UPC *ep*PKP pPKPdf 10 38 02.5 -0.2
QUA2 Belchertown 124.94 42 *e*PKPdf PKPdf 10 37 47.4 -0.5
VTS Vitosha 124.95 318 *e*P PKPdf 10 37 48.7 +0.8
VTS Vitosha 124.95 318 P PKPdf 10 37 48.3 +0.4
MMB Musomiste 125.04 317 *e*S PKPdf 10 37 47.8 -0.3
BUD Budapest 125.09 325⇑ *i*PKP/D PKPdf 10 37 47.9 -0.3
BSEG Bad Segeberg 125.23 336 *e*PKPdf PKPdf 10 37 48.5 +0.1
VRAC Vranov 125.36 328 PKP PKPdf 10 37 48.2 -0.5
comp=Z,83nm,1.0s,baz=58,slow=1.4,SNR=17
VRAC SKKPbc 10 51 12.2
comp=Z,3.3nm,0.5s,baz=258,slow=7.5,SNR=3.3
VRAC Vranov 125.36 328 PKIKP PKPdf 10 37 48.2 -0.5
VRAC 10 51 12.2
VRAC pmax pmax
comp=Z,83nm,1.0s
VRAC Vranov 125.36 328 P PKPdf 10 37 49.3 +0.6
HRV Harvard--Oak R 125.37 42 *e*PKIKP PKPdf 10 37 46.9 -1.8
HRV MLR MLR
comp=Z,75µm,22.0s,MS7.3
SMOL Smolenice 125.39 327 *i*PKP PKPdf 10 37 49.5 +0.8
SMOL *e* 10 38 03.0
OUR Ouranopolis 125.39 315 *e*P PKPdf 10 37 50.7 +2.0
WES Weston 125.58 42 *e*PKIKP PKPdf 10 37 46.7 -2.4
WES MLR MLR
comp=Z,49µm,22.0s,MS7.1
PVCC Panska Ves 125.63 330 *e*PKPdf PKPdf 10 37 49.2 0.0
PVCC *ep*PKP pPKPdf 10 38 03.7 -0.3
BRG Berggiesshubel 125.71 331 *e*PKPdf PKPdf 10 37 49.4 0.0
BRG *e*PP PP 10 39 35.4 -6.4
BRG Berggiesshubel 125.71 331 PDIF Pdif 10 34 28.0 +0.5
BRG *i* 10 37 49.6
comp=Z,164nm,1.2s
BRG *i* 10 38 04.1
comp=Z,230nm,1.3s
BRG PP PP 10 39 35.0 -6.8
BRG *i* 10 41 02.0
BRG *i* 10 42 24.0
BRG *i* 10 49 33.0
BRG *i* 10 51 05.0
BRG *i*SKKP 10 51 29.8
comp=Z,16nm,1.3s
BRG SS SS 10 56 30.0 -8.2
BRG
comp=N,8µm,27.5s
BRG
comp=E,15µm,27.5s
BRG
comp=Z,17µm,27.5s
BRG *i* 10 38 04.1
BRG PP PP 10 39 35.0 -6.8
BRG *i* 10 41 02.0
BRG *i* 10 42 24.0
BRG *i* 10 49 33.0
BRG *i* 10 51 05.0
BRG *i*SKKP 10 51 29.8
BRG SS SS 10 56 30.0 -8.2
BRG LR LR
comp=Z,17µm,27.5s,MS6.6
BRG Berggiesshubel 125.71 331 *i* PKPdf 10 37 49.6 +0.3
OBR Brabster 125.74 346⇑ *i*P PKPdf 10 37 48.4 -1.0
OBR Brabster 125.74 346⇑ *i*P PKPdf 10 37 48.4 -1.0
ZST Bratislava 125.75 327 *i*PKP PKPdf 10 37 49.6 +0.2
ZST *e* 10 38 02.7
ZST *e*PP PP 10 39 42.9 +0.9
ZST Bratislava 125.75 327 *i*PKP PKPdf 10 37 49.6 +0.2
ZST *e* 10 38 02.7
ZST *e*PP PP 10 39 42.9 +0.9
ZST LR LR
comp=Z,18µm,21.8s,MS6.7
CLL Collm 125.87 332 *e*Pdiff Pdif 10 34 29.4 +1.2
CLL ⇑*i*PKPdf PKPdf 10 37 49.5 -0.2
comp=Z,230nm,0.9s
CLL *ep*PKPdf pPKPdf 10 38 03.7 -0.8
CLL *e*PP PP 10 39 45.5 +2.7
CLL *e*PKSdf 10 41 20.0
CLL *e*PPP 10 42 29.3
CLL *e*SKKSac SKKSac 10 46 32.9 -3.9
CLL *e*SKSP 10 49 34.5
CLL *e*PPS 10 51 13.2
CLL *e*PPPr 10 54 47.3
CLL *e*SS SS 10 56 39.0 -1.2
CLL *e*SSS 11 01 20.6
CLL *e*LQ 11 11 38.1
CLL *e*L 11 35 20.5
comp=Z,25µm,20.0s
CLL Collm 125.87 332 *e*Pdif Pdif 10 34 29.0 +0.8
CLL ⇑*i*PKPdf PKPdf 10 37 49.6 -0.1
comp=Z,228nm,0.9s
CLL *i* sPKPdf 10 38 04.1
CLL *e*PP PP 10 39 42.0 -0.8
CLL *e*PPIp 10 39 46.0
comp=Z,7µm,27.2s
CLL *ex* x 10 41 04.0
CLL *e*PKSdf 10 41 25.0
CLL *ep*PPP 10 42 36.0
CLL *e*SKSdf SKSdf 10 45 02.0 +4.6
CLL *e*SKSP 10 49 36.0
CLL *i* PKKSbc 10 51 15.5
comp=Z,42nm,1.5s
CLL *e*PPS 10 51 16.0
CLL *ep*PKKSbc 10 51 27.0
CLL *e*PPPrev 10 54 49.0
CLL *e*SS SS 10 56 42.0 +1.8
CLL *ex* x 10 57 50.0
CLL *e*SSS 11 01 42.0
CLL LmV 11 34 00.0
comp=Z,22µm,21.1s
CLL Collm 125.87 332⇑ *e*P Pdif 10 34 29.0 +0.8
CLL *i* 10 37 49.6
CLL *i* 10 38 04.1
CLL *e* 10 45 02.0
CLL pmax pmax
comp=Z,228nm,0.9s
CLL MLR MLR
comp=Z,22µm,21.1s,MS6.8
CLL Collm 125.87 332 *e*Pdif Pdif 10 34 29.0 +0.8
CLL ⇑*i*PKP PKPdf 10 37 49.6 -0.1
CLL *i* pPKP pPKPdf 10 38 04.1 -0.4
CLL *e*PKS 10 41 25.0
CLL *e*SKS SKSdf 10 45 02.0 +4.6
CLL LR LR
comp=Z,22µm,21.1s,MS6.8
HORT Hortiatis 125.89 316 *e*P PKPdf 10 37 48.4 -1.4
ORE Reay 125.94 347⇑ *i*P PKPdf 10 37 49.2 -0.6
ORE Reay 125.94 347⇑ *i*P PKPdf 10 37 49.2 -0.6
TREC Trest 125.94 329 *e*PKP PKPdf 10 37 49.6 -0.2
TREC *ep*PKP pPKPdf 10 38 03.8 -0.8
TREC *e*PP PP 10 39 42.8 -0.5
TREC AMS AMS 11 32 30.0
comp=Z,31µm,24.1s
FBE Freiberg 125.97 331 *e*PKPdf PKPdf 10 37 50.0 +0.2
FBE *ep*PKP pPKPdf 10 38 04.1 -0.6
PRU Pruhonice 125.99 330 *e*PKPdf PKPdf 10 37 50.0 +0.1
PRU *ep*PKP pPKPdf 10 38 03.6 -1.1
PRU *e*PP PP 10 39 42.3 -1.3
PRU *e*SP SP 10 49 38.0 -2.4
PRU AMS AMS 11 32 50.0
comp=Z,23µm,22.7s
PRA Prague 125.99 330 PKPdf PKPdf 10 37 50.0 +0.1
PRA pPKP pPKPdf 10 38 02.0 -2.7
PKSM Moragy 126.00 324 PKIKP PKPdf 10 37 50.0 +0.1
DIVS Divcibare 126.30 321 *e*P PKPdf 10 37 51.4 +0.9
SOP Sopron 126.35 327⇑ *i*PKP/D PKPdf 10 37 50.4 -0.2
SKO Skopje 126.40 318 *e*P PKPdf 10 37 52.9 +2.2
LIT Litokhoron 126.52 316 *e*P PKPdf 10 37 50.0 -0.9
CONA Conrad Observa 126.58 327⇓ *i*PKPdf PKPdf 10 37 50.4 -0.6
comp=Z,187nm,1.9s
MVH1 Achvaich 126.60 347⇑ *i*P PKPdf 10 37 50.1 -0.9
MVH1 Achvaich 126.60 347⇑ *i*P PKPdf 10 37 50.1 -0.9
IDI Anoyia 126.63 309 PKP PKPdf 10 37 51.7 +0.6
comp=Z,288nm,1.0s,baz=99,slow=3.9,SNR=28
MCD Coleburn Disti 126.69 346⇑ *i*P PKPdf 10 37 50.0 -1.2
MCD Coleburn Disti 126.69 346⇑ *i*P PKPdf 10 37 50.0 -1.2
TANN Tannenbergstha 126.73 331 *e*PKPdf PKPdf 10 37 51.4 +0.1
TANN *ep*PKP pPKPdf 10 38 03.3 -0.8
TANN *e*PP PP 10 39 44.8 -3.7
WERD Werda 126.78 331 *e*PKPdf PKPdf 10 37 51.2 -0.2
SIVA Sivas 126.78 309 *e*P PKPdf 10 37 53.7 +2.3
GUNZ Gunzen 126.82 331 *e*PKPdf PKPdf 10 37 51.7 +0.2
WERN Wernitzgruen 126.85 331 *e*PKPdf PKPdf 10 37 51.6 +0.1
WERN *ep*PKPdf pPKPdf 10 38 06.0 -0.4
NKC Novy Kostel 126.85 331 *e*PKPdf PKPdf 10 37 51.5 0.0
NKC *ep*PKP pPKPdf 10 38 05.6 -0.8
NKC *e*PP PP 10 39 49.2 -0.1
NKC *e*SP SP 10 49 45.6 -2.4
NKC AMS AMS 11 28 10.0
comp=Z,23µm,26.6s
NKC Novy Kostel 126.85 331 *e*PKP PKPdf 10 37 51.5 0.0
NKC *e* 10 38 05.6
NKC *e* 10 39 49.2
NKC *e* 10 49 45.6
MOX Moxa 126.97 332 *e*Pdiff Pdif 10 34 33.1 +0.1
MOX *e*PKPdf PKPdf 10 37 51.7 -0.1
MOX Moxa 126.97 332⇑ *e*P Pdif 10 34 36.0 +3.0
MOX *e* 10 37 51.9
MOX pmax pmax
comp=Z,330nm,1.6s
MOX MLR MLR
comp=Z,85µm,22.0s,MS7.4
MOX Moxa 126.97 332 *e*Pdif Pdif 10 34 36.0 +3.0
MOX *e*PKP PKPdf 10 37 51.9 +0.1
MOX *e*PP PP 10 39 57.0 +6.9
MOX *e*PKS 10 41 15.0
MOX *e*SKSP 10 49 42.0
MOX *e*PPS 10 51 06.0
MOX Moxa 126.97 332 *e* PKPdf 10 37 51.9 +0.1
KHC Kasperske Hory 127.02 330 *e*PKPdf PKPdf 10 37 52.2 +0.3
KHC *ep*PKP pPKPdf 10 38 06.4 -0.3
KHC *e*PP PP 10 39 50.4 0.0
KHC AMS AMS 11 33 40.0
comp=Z,35µm,22.7s
GTTG Gvttingen 127.09 334 *e*PKPdf PKPdf 10 37 52.1 +0.1
GTTG *e*PP PP 10 39 50.8 -0.1
AGG Agios Georgios 127.09 315 *e*P PKPdf 10 37 51.6 -0.4
GEC2 GERESS Array S 127.14 329 *e*Pdiff Pdif 10 34 34.2 +0.4
GEC2 *e*PKPdf PKPdf 10 37 52.1 0.0
GEC2 GERESS Array S 127.14 329 *e*PKIKP PKPdf 10 37 52.1 0.0
GERES GERESS Array B 127.14 329 PKP PKPdf 10 37 51.8 -0.3
comp=Z,168nm,1.0s,baz=72,slow=1.4,SNR=54
GERES PKKP 10 48 04.8
comp=Z,2.9nm,0.8s,baz=196,slow=2.5,SNR=4.7
GERES SKKPbc 10 51 08.3
comp=Z,6.0nm,1.0s,baz=222,slow=1.8,SNR=4.2
ARSA Arzberg 127.17 327⇑ *i*P PKPdf 10 37 50.0 -2.1
comp=Z,793nm,4.7s
MANZ Manzenberg 127.18 331 *e*PKPdf PKPdf 10 37 52.4 +0.2
MANZ *e*PP PP 10 39 48.5 -3.0
OHR Ohrid 127.22 318 *e*P PKPdf 10 37 53.1 +0.8
KAC Achnashellach 127.23 347⇑ *i*P PKPdf 10 37 51.4 -0.9
KAC Achnashellach 127.23 347⇑ *i*P PKPdf 10 37 51.4 -0.9
ROTZ Rotzenmuhle 127.28 331 *e*Pdiff Pdif 10 34 33.6 -0.8
ROTZ *e*PKPdf PKPdf 10 37 52.5 +0.1
ROTZ *e*PP PP 10 39 49.1 -3.1
WET Wettzell 127.36 330 *e*PKPdf PKPdf 10 37 52.6 +0.1
GVD Gavdhos 127.40 309 *e*PKPdf PKPdf 10 37 52.2 -0.3
LMGC Las Mercedes 127.43 70 *e*P PKPdf 10 37 53.1 +0.5
KPL Plockton 127.46 347⇑ *e*P PKPdf 10 37 51.8 -0.9
KPL AMS AMS 11 30 44.7
comp=Z,9µm,23.4s,MS6.4
KPL Plockton 127.46 347⇑ *e*P PKPdf 10 37 51.8 -0.9
KPL AMS AMS 11 30 44.7
comp=Z,9µm,23.4s,MS6.4
MOA Molln 127.48 328⇑ *i*P PKPdf 10 37 52.2 -0.6
comp=Z,520nm,3.5s
EVR Evrytania 127.51 315 *e*P PKPdf 10 37 53.0 +0.2
KSB Sheil Bridge 127.53 347⇑ *i*P PKPdf 10 37 51.7 -1.1
KSB Sheil Bridge 127.53 347⇑ *i*P PKPdf 10 37 51.7 -1.1
UBBA Unterbreizbach 127.59 333 *e*Pdiff Pdif 10 34 34.9 -0.9
UBBA *e*PKPdf PKPdf 10 37 52.9 0.0
UBBA *e*PP PP 10 39 54.1 -0.1
SISC Sisak 127.73 324 iP PKPdf 10 37 53.5 +0.3
PERS Pernice 127.76 326 *e*PKPdf PKPdf 10 37 52.6 -0.7
GRA1 Grafenberg Arr 127.80 331 *e*Pdif Pdif 10 34 35.8 -0.9
GRA1 *e*PKP PKPdf 10 37 53.3 -0.1
GRA1 *ep*PKP pPKPdf 10 38 07.5 -0.7
GRF Grafenberg Arr 127.80 331 *e*Pdiff Pdif 10 34 35.8 -0.9
GRF *e*PKPdf PKPdf 10 37 53.3 -0.1
GRF *ep*PKPdf pPKPdf 10 38 07.5 -0.7
GRF Grafenberg Arr 127.80 331 *e*PKIKP PKPdf 10 37 53.3 -0.1
GRF *e* 10 38 07.5
KAR1 Arisaig 127.89 347⇑ *e*P PKPdf 10 37 52.5 -1.0
KAR1 Arisaig 127.89 347⇑ *e*P PKPdf 10 37 52.5 -1.0
ESY Stoneypath 128.01 345⇑ *i*P PKPdf 10 37 52.9 -0.9
ESY Stoneypath 128.01 345⇑ *i*P PKPdf 10 37 52.9 -0.9
CRES Cresnjev 128.05 325 *e*PKPdf PKPdf 10 37 53.6 -0.2
OBKA Obir 128.15 326⇑ *i*P PKPdf 10 37 52.8 -1.2
comp=Z,356nm,3.0s
EDI Edinburgh 128.15 345 *e*P PKPdf 10 37 52.4 -1.7
EDI AMS AMS 11 31 16.3
comp=Z,6µm,21.9s,MS6.2
EDI Edinburgh 128.15 345 *e*P PKPdf 10 37 52.4 -1.7
EDI AMS AMS 11 31 16.3
comp=Z,6µm,21.9s,MS6.2
EAB Aberfoyle 128.21 346⇑ *i*P PKPdf 10 37 53.4 -0.7
EAB Aberfoyle 128.21 346⇑ *i*P PKPdf 10 37 53.4 -0.7
EBL Broad Law 128.25 345⇑ *i*P PKPdf 10 37 53.4 -0.8
EBL Broad Law 128.25 345⇑ *i*P PKPdf 10 37 53.4 -0.8
XSO Sourhope Farm 128.29 344⇑ *i*P PKPdf 10 37 53.4 -0.9
XSO AMb AMB 10 37 55.4
comp=Z,254nm,1.2s
XSO Sourhope Farm 128.29 344⇑ *i*P PKPdf 10 37 53.4 -0.9
XSO AMb AMB 10 37 55.4
comp=Z,254nm,1.2s
BUG Bochum--Univer 128.32 335 *e*PKPdf PKPdf 10 37 54.2 -0.1
BUG *e*PP PP 10 39 54.2 -4.8
PCOU Corrie 128.33 346⇑ *e*P PKPdf 10 37 53.5 -0.9
PCOU Corrie 128.33 346⇑ *e*P PKPdf 10 37 53.5 -0.9
BOJS Bojanci 128.36 325 *e*Pdiff Pdif 10 34 39.6 +0.4
BOJS *e*PKPdf PKPdf 10 37 54.6 +0.2
BOJS *e* 10 38 08.0
BOJS *e* 10 41 13.3
LKD Levkas 128.41 315 *e*P PKPdf 10 37 54.7 +0.2
LJU Ljubljana 128.44 326 *e*Pdiff Pdif 10 34 39.9 +0.3
LJU *i* PKPdf PKPdf 10 37 54.5 -0.1
LJU *e* 10 38 07.9
LJU *e*PP PP 10 39 58.7 -1.1
LJU *e* 10 41 13.0
LJU *e* 10 50 05.6
LJU Ljubljana 128.44 326 *e*P Pdif 10 34 39.9 +0.3
LJU *i* 10 37 54.5
LJU *e* 10 38 07.9
LJU *e* 10 39 58.7
LJU *e* 10 50 05.6
KBA Koelnbreinsper 128.45 328⇑ *i*P PKPdf 10 37 53.8 -0.8
comp=Z,267nm,1.9s
RCC Rio Carpintero 128.66 70 *e*P PKPdf 10 37 53.1 -1.9
ESK Eskdalemuir 128.70 345 *e*P PKPdf 10 37 53.5 -1.5
ESK AMS AMS 11 31 22.6
comp=Z,5µm,20.4s,MS6.2
ESK Eskdalemuir 128.70 345 *e*P PKPdf 10 37 53.5 -1.5
ESK AMS AMS 11 31 22.6
comp=Z,5µm,20.4s,MS6.2
ESK Eskdalemuir 128.70 345 *e*PKPdf PKPdf 10 37 54.5 -0.6
ESK LR LR
comp=Z,3µm,21.0s,MS5.9
CADS Cadrg 128.77 327 *i*PKPdf PKPdf 10 37 54.5 -0.7
CADS *e* 10 38 08.0
ECK Cauldkaine Hil 128.80 344⇑ *e*P PKPdf 10 37 54.2 -1.1
ECK AMb AMB 10 37 57.0
comp=Z,110nm,1.4s
ECK Cauldkaine Hil 128.80 344⇑ *e*P PKPdf 10 37 54.2 -1.1
ECK AMb AMB 10 37 57.0
comp=Z,110nm,1.4s
VOY Vojsko 128.80 326 *e*PKPdf PKPdf 10 37 54.7 -0.6
VOY *e* 10 38 08.7
FUR Furstenfeldbru 128.81 330 *e*PKPdf PKPdf 10 37 55.3 0.0
FUR *ep*PKPdf pPKPdf 10 38 09.3 -0.8
FUR *e*PP PP 10 39 58.5 -3.7
XAL Allendale 128.83 344⇑ *i*P PKPdf 10 37 54.6 -0.7
XAL AMb AMB 10 37 56.2
comp=Z,311nm,1.1s
XAL Allendale 128.83 344⇑ *i*P PKPdf 10 37 54.6 -0.7
XAL AMb AMB 10 37 56.2
comp=Z,311nm,1.1s
BHH Howats Hill 128.90 344⇑ *e*P PKPdf 10 37 54.3 -1.1
BHH Howats Hill 128.90 344⇑ *e*P PKPdf 10 37 54.3 -1.1
BWH Wardlaw 128.94 345⇑ *i*P PKPdf 10 37 55.0 -0.6
BWH Wardlaw 128.94 345⇑ *i*P PKPdf 10 37 55.0 -0.6
WATA Walderalm 129.21 329⇑ *i*P PKPdf 10 37 55.6 -0.4
comp=Z,224nm,1.3s
WTTA Wattenberg 129.22 329⇓ *i*P PKPdf 10 37 56.1 0.0
comp=Z,766nm,1.7s
BBO1 Bothel 129.22 344⇑ *e*P PKPdf 10 37 55.6 -0.5
BBO1 Bothel 129.22 344⇑ *e*P PKPdf 10 37 55.6 -0.5
GMK Mull of Kintyr 129.27 346⇑ *e*P PKPdf 10 37 55.3 -0.8
GMK Mull of Kintyr 129.27 346⇑ *e*P PKPdf 10 37 55.3 -0.8
GCD Castle Douglas 129.29 345⇑ *e*P PKPdf 10 37 55.4 -0.8
GCD Castle Douglas 129.29 345⇑ *e*P PKPdf 10 37 55.4 -0.8
CKE Keswick 129.32 344⇑ *e*P PKPdf 10 37 55.8 -0.5
CKE Keswick 129.32 344⇑ *e*P PKPdf 10 37 55.8 -0.5
STU Stuttgart 129.40 332 *e*PKPdf PKPdf 10 37 56.5 +0.1
STU Stuttgart 129.40 332 *e*PKPdf PKPdf 10 37 54.3 -2.1
MOTA Moosalm 129.44 329⇑ *i*P PKPdf 10 37 56.2 -0.3
comp=Z,272nm,1.3s
BEBN Eben Emael 129.47 336 PKP PKPdf 10 37 56.4 -0.1
BEBN APKP 10 38 10.1
SQTA Sankt Quirin 129.47 329⇑ *i*P PKPdf 10 37 56.6 +0.1
comp=Z,329nm,1.5s
MEM Membach 129.47 335 PKP PKPdf 10 37 55.8 -0.8
MEM APKP 10 38 10.4
GAL1 Galloway 129.49 345 *e*P PKPdf 10 37 55.6 -0.9
GAL1 ⇑*e*P 10 37 55.6
GAL1 AMS AMS 11 28 31.4
comp=Z,7µm,23.0s,MS6.3
GAL1 Galloway 129.49 345 *e*P PKPdf 10 37 55.6 -0.9
GAL1 ⇑*e*P 10 37 55.6
GAL1 AMS AMS 11 28 31.4
comp=Z,7µm,23.0s,MS6.3
XDE Dent Fell 129.50 344⇑ *e*P PKPdf 10 37 55.9 -0.7
XDE Dent Fell 129.50 344⇑ *e*P PKPdf 10 37 55.9 -0.7
GCL Cushendall 129.64 346⇑ *e*P PKPdf 10 37 56.2 -0.6
GCL Cushendall 129.64 346⇑ *e*P PKPdf 10 37 56.2 -0.6
AEU East Anglia Un 129.68 340 *e*P PKPdf 10 37 56.2 -0.7
AEU East Anglia Un 129.68 340 *e*P PKPdf 10 37 56.2 -0.7
LHO Holmfirth 129.88 343⇑ *i*P PKPdf 10 37 56.7 -0.6
LHO Holmfirth 129.88 343⇑ *i*P PKPdf 10 37 56.7 -0.6
BCLA Clavier 129.91 336 PKP PKPdf 10 37 57.2 -0.2
BCLA APKP 10 38 10.7
GIM North Isle of 129.94 345 *e*P PKPdf 10 37 56.2 -1.3
GIM North Isle of 129.94 345 *e*P PKPdf 10 37 56.2 -1.3
UCC Uccle 130.00 336 PKP PKPdf 10 37 57.4 -0.2
UCC APKP 10 38 10.4
MASC Masc 130.00 69 *e*P PKPdf 10 37 57.9 +0.4
KBI1 Birley Grange 130.03 342⇑ *e*P PKPdf 10 37 57.5 -0.1
KBI1 Birley Grange 130.03 342⇑ *e*P PKPdf 10 37 57.5 -0.1
DAVA Damuels 130.10 330⇑ *i*P PKPdf 10 37 57.8 0.0
comp=Z,540nm,3.1s
BFO Black Forest 130.12 332 *e*PKPdf PKPdf 10 37 57.5 -0.3
BFO *e*PP PP 10 40 06.0 -4.7
WLF Walferdange 130.12 334 *e*PKPdf PKPdf 10 37 58.4 +0.6
WLF Walferdange 130.12 334 PKP PKPdf 10 37 58.9 +1.1
WLF APKP 10 38 13.1
WIM Isle of Man 130.13 345⇑ *e*P PKPdf 10 37 57.1 -0.7
WIM AMb AMB 10 37 59.6
comp=Z,254nm,1.2s
WIM Isle of Man 130.13 345⇑ *e*P PKPdf 10 37 57.1 -0.7
WIM AMb AMB 10 37 59.6
comp=Z,254nm,1.2s
SNF Seneffe 130.25 336 PKP PKPdf 10 37 58.1 +0.1
SNF APKP 10 38 12.9
KWE Weaver Farm 130.33 342⇑ *e*P PKPdf 10 37 57.7 -0.5
KWE Weaver Farm 130.33 342⇑ *e*P PKPdf 10 37 57.7 -0.5
GIVF Givet 130.35 336⇑ *i*PKIKP PKPdf 10 37 58.2 0.0
comp=Z,299nm,1.0s

GMM Mts of Mourne 130.37 346⇑ *eP* PKPdf 10 37 57.4 -0.8
GMM Mts of Mourne 130.37 346⇑ *eP* PKPdf 10 37 57.4 -0.8
ROSC El Rosal 130.37 89 PKP PKPdf 10 37 57.8 -0.4
comp=Z,60nm,0.9s,baz=90,slow=5.1,SNR=5.3
ROSC El Rosal 130.37 89 *ePKPdf* PKPdf 10 37 58.8 +0.5
DOU Dourbes 130.45 336 PKP PKPdf 10 37 58.5 +0.1
DOU APKP 10 38 12.3
CDF Champ du Feu 130.55 333⇑ *iPKIKP* PKPdf 10 37 58.2 -0.4
comp=Z,201nm,1.1s
BAIF Baives 130.63 336⇑ *iPKIKP* PKPdf 10 37 58.8 +0.1
comp=Z,153nm,0.9s
WPM1 Penmaenmawr 130.72 344⇑ *eP* PKPdf 10 37 58.3 -0.6
WPM1 AMb AMB 10 38 00.1
comp=Z,48nm,1.2s
WPM1 Penmaenmawr 130.72 344⇑ *eP* PKPdf 10 37 58.3 -0.6
WPM1 AMb AMB 10 38 00.1
comp=Z,48nm,1.2s
WCB1 Church Bay 130.79 344⇑ *eP* PKPdf 10 37 57.8 -1.2
WCB1 AMb AMB 10 38 00.6
comp=Z,174nm,1.2s
WCB1 Church Bay 130.79 344⇑ *eP* PKPdf 10 37 57.8 -1.2
WCB1 AMb AMB 10 38 00.6
comp=Z,174nm,1.2s
SBD1 Bryn Du 130.85 343⇑ *eP* PKPdf 10 37 58.8 -0.3
SBD1 Bryn Du 130.85 343⇑ *eP* PKPdf 10 37 58.8 -0.3
YLL Llanberis 130.90 344⇑ *eP* PKPdf 10 37 58.5 -0.7
YLL AMb AMB 10 38 00.9
comp=Z,228nm,1.3s
YLL Llanberis 130.90 344⇑ *eP* PKPdf 10 37 58.5 -0.7
YLL AMb AMB 10 38 00.9
comp=Z,228nm,1.3s
YRC Rhoscolyn 130.91 344⇑ *eP* PKPdf 10 37 58.5 -0.7
YRC AMb AMB 10 38 00.9
comp=Z,161nm,1.3s
YRC Rhoscolyn 130.91 344⇑ *eP* PKPdf 10 37 58.5 -0.7
YRC AMb AMB 10 38 00.9
comp=Z,161nm,1.3s
HLM1 Long Mynd 131.08 343⇑ *eP* PKPdf 10 37 59.1 -0.4
HLM1 AMb AMB 10 38 01.7
comp=Z,150nm,1.2s
HLM1 Long Mynd 131.08 343⇑ *eP* PKPdf 10 37 59.1 -0.4
HLM1 AMb AMB 10 38 01.7
comp=Z,150nm,1.2s
LPAZ La Paz 131.09 118 PKhKP 10 37 49.1
comp=Z,2.6nm,0.7s,baz=266,slow=1.7,SNR=8.8
LPAZ PKP PKPdf 10 38 00.8 +1.1
comp=Z,68nm,1.0s,baz=8.0,slow=2.4,SNR=54
LPAZ SKiKP 10 41 27.1
comp=Z,20nm,0.9s,baz=270,slow=1.0,SNR=3.7
LPAZ La Paz 131.09 118 PKIKP PKPdf 10 38 00.8 +1.2
LPAZ pmax pmax
comp=Z,68nm,1.0s
LPAZ pmax pmax
comp=N,20nm,0.9s
LPAZ La Paz 131.09 118 *ePKPdf* PKPdf 10 38 00.7 +1.1
LPAZ LR LR
comp=Z,12μm,22.0s,MS6.6
YRE Yr Eifl 131.11 344⇑ *eP* PKPdf 10 37 59.6 -0.1
YRE AMb AMB 10 38 01.3
comp=Z,128nm,1.4s
YRE Yr Eifl 131.11 344⇑ *eP* PKPdf 10 37 59.6 -0.1
YRE AMb AMB 10 38 01.3
comp=Z,128nm,1.4s
HINF Hinteralfeld 131.18 332⇑ *iPKIKP* PKPdf 10 37 59.4 -0.4
comp=Z,334nm,1.1s
TSUM Tsumeb 131.20 237 *ePKPpre* 10 37 44.2
TSUM *ePKPdf* PKPdf 10 37 59.7 -0.1
TSUM LR LR
comp=Z,46μm,20.0s,MS7.2
TSA1 Sevenoaks 131.20 340⇑ *eP* PKPdf 10 37 59.9 +0.1
TSA1 Sevenoaks 131.20 340⇑ *eP* PKPdf 10 37 59.9 +0.1
SSW Stow on the Wo 131.24 342⇑ *eP* PKPdf 10 37 59.7 -0.2
SSW Stow on the Wo 131.24 342⇑ *eP* PKPdf 10 37 59.7 -0.2
HAU Haudompre 131.27 333⇑ *iPKIKP* PKPdf 10 37 59.8 -0.1
comp=Z,297nm,0.9s
HAU *eR* 10 38 00.2
comp=Z,29μm,22.0s
HAU Haudompre 131.27 333⇑ *iPKPdf* PKPdf 10 37 59.8 -0.1
HAU LR LR
comp=Z,29μm,22.0s,MS6.9
DLF Lyons Farm 131.37 346⇑ *iP* PKPdf 10 37 59.6 -0.5
MEZF Maizieres J'vi 131.48 334⇑ *iPKIKP* PKPdf 10 38 00.6 +0.3
comp=Z,380nm,1.0s
DCN Croghan 131.50 346⇑ *iP* PKPdf 10 37 59.9 -0.5
MCH1 Michaelchurch 131.57 342 *eP* PKPdf 10 37 59.9 -0.7
MCH1 ⇑*eP* 10 37 59.9
MCH1 AMS AMS 11 29 42.0
comp=Z,4μm,24.3s,MS6.0
MCH1 Michaelchurch 131.57 342 *eP* PKPdf 10 37 59.9 -0.7
MCH1 ⇑*eP* 10 37 59.9
MCH1 AMS AMS 11 29 42.0
comp=Z,4μm,24.3s,MS6.0
HTR Trewern Hill 131.58 343⇑ *eP* PKPdf 10 37 59.8 -0.7
HTR AMb AMB 10 38 01.8
comp=Z,101nm,1.0s
HTR Trewern Hill 131.58 343⇑ *eP* PKPdf 10 37 59.8 -0.7
HTR AMb AMB 10 38 01.8
comp=Z,101nm,1.0s
SWN1 Swindon 131.62 341⇑ *eP* PKPdf 10 37 59.6 -1.0
SWN1 Swindon 131.62 341⇑ *eP* PKPdf 10 37 59.6 -1.0
HGH Gray Hill 131.82 342⇑ *eP* PKPdf 10 37 59.8 -1.2
HGH AMb AMB 10 38 03.6
comp=Z,287nm,1.3s
HGH Gray Hill 131.82 342⇑ *eP* PKPdf 10 37 59.8 -1.2
HGH AMb AMB 10 38 03.6
comp=Z,287nm,1.3s
SWK Warminster 132.08 341⇑ *eP* PKPdf 10 38 00.3 -1.1
SWK Warminster 132.08 341⇑ *eP* PKPdf 10 38 00.3 -1.1
CABF La Chapelle 132.41 332 *ePKIKP* PKPdf 10 38 01.6 -0.5
comp=Z,335nm,1.1s
HEX Exmoor 132.63 342⇑ *eP* PKPdf 10 38 01.8 -0.7
HEX Exmoor 132.63 342⇑ *eP* PKPdf 10 38 01.8 -0.7
LPL La Plagne 132.89 330 *ePKIKP* PKPdf 10 38 03.8 +0.8
comp=Z,272nm,1.1s
HTL Hartland 132.90 343⇑ *eP* PKPdf 10 38 02.6 -0.4
HTL Hartland 132.90 343⇑ *eP* PKPdf 10 38 02.6 -0.4
LPG La Plagne 132.90 330 *ePKIKP* PKPdf 10 38 03.9 +0.9
comp=Z,168nm,0.8s
LOR Lormes 132.94 334 *ePKIKP* PKPdf 10 38 03.1 0.0
comp=Z,161nm,1.0s
LOR *eR* 10 38 03.4
comp=Z,19μm,23.0s
LOR Lormes 132.94 334 *ePKPdf* PKPdf 10 38 03.1 0.0
LOR LR LR
comp=Z,19μm,23.0s,MS6.7
DYA Yadsworthy 133.22 342⇑ *eP* PKPdf 10 38 02.8 -0.8
DYA Yadsworthy 133.22 342⇑ *eP* PKPdf 10 38 02.8 -0.8
VAE Valguarnera 133.32 317 PKP PKPdf 10 38 04.9 +1.1
comp=Z,40nm,0.9s,baz=352,slow=12,SNR=5.0
VAE Valguarnera 133.32 317 PKP PKPdf 10 38 04.9 +1.1
SMF Signal de Mont 133.42 333⇑ *iPKIKP* PKPdf 10 38 03.7 -0.3
comp=Z,137nm,0.9s
HYF Humbligny 133.46 335 *ePKIKP* PKPdf 10 38 04.4 +0.3
VAL Valentia 133.47 348 *eP* PKPdf 10 37 55.5 -8.6
FLN La Foliniere 133.49 338⇑ *iPKIKP* PKPdf 10 38 03.8 -0.3
comp=Z,268nm,0.9s
FLN *eR* 10 38 04.2
comp=Z,20μm,20.8s
FLN La Foliniere 133.49 338⇑ *iPKPdf* PKPdf 10 38 03.8 -0.3
FLN LR LR
comp=Z,20μm,20.8s,MS6.8
LDF La Druitiere 133.50 338⇑ *iPKIKP* PKPdf 10 38 03.8 -0.4
comp=Z,157nm,1.0s
AVF Avril sur Loir 133.53 334 *ePKIKP* PKPdf 10 38 04.3 +0.1
comp=Z,93nm,1.0s
ORIF Oris-en-Rattie 133.74 330 *ePKIKP* PKPdf 10 38 05.0 +0.4
comp=Z,220nm,0.8s
ORIF *eR* 10 38 04.5
comp=Z,25μm,21.8s
CRQ2 Rosemanowes 2 133.83 343⇑ *eP* PKPdf 10 38 04.3 -0.4
CRQ2 AMb AMB 10 38 09.3
comp=Z,182nm,1.0s
CRQ2 Rosemanowes 2 133.83 343⇑ *eP* PKPdf 10 38 04.3 -0.4
CRQ2 AMb AMB 10 38 09.3
comp=Z,182nm,1.0s
CGW Gweek 133.91 343⇑ *eP* PKPdf 10 38 04.6 -0.3
CGW Gweek 133.91 343⇑ *eP* PKPdf 10 38 04.6 -0.3
BGF Bois d'Agland 133.93 334 *ePKIKP* PKPdf 10 38 05.5 +0.5
comp=Z,189nm,0.8s
CGH1 Goonhilly 133.93 343⇑ *eP* PKPdf 10 38 04.3 -0.7
CGH1 Goonhilly 133.93 343⇑ *eP* PKPdf 10 38 04.3 -0.7
GRR Gorron 133.94 338⇑ *iPKIKP* PKPdf 10 38 04.9 -0.1
comp=Z,201nm,0.8s
CPUP Villa Florida 134.18 137 PKhKP 10 37 49.5
comp=Z,4.1nm,0.7s,baz=224,slow=1.9,SNR=7.3
CPUP PKP PKPdf 10 38 04.5 -0.9
comp=Z,31nm,0.8s,baz=269,slow=1.6,SNR=23
CPUP Villa Florida 134.18 137 *ePKPpre* 10 37 50.8
CPUP PKP PKPdf 10 38 04.5 -0.9
CPUP *ePKPdf* PKPdf 10 38 05.4 0.0
CPUP LR LR
comp=Z,2μm,20.0s,MS5.7
SDV Santo Domingo 134.23 84 PKhKP
comp=Z,12nm,0.7s,baz=263,slow=5.1,SNR=5.8
SDV PKP PKPdf 10 38 05.9 +0.4
comp=Z,108nm,1.1s,baz=297,slow=4.7,SNR=36
SDV Santo Domingo 134.23 84 *ePKPpre* 10 37 49.7
SDV *ePKPdf* PKPdf 10 38 04.7 -0.9
SDV PKP PKPdf 10 38 05.9 +0.4
SDV LR LR
comp=Z,3μm,20.0s,MS6.0
FRF La Foret Royal 134.31 328⇑ *iPKIKP* PKPdf 10 38 05.3 -0.4
comp=Z,238nm,1.0s
VIVF Saint-Julien-l 134.38 331⇑ *iPKIKP* PKPdf 10 38 05.8 0.0
comp=Z,358nm,1.1s
TCF Toulx Ste Croi 134.41 334⇑ *iPKIKP* PKPdf 10 38 05.9 0.0
comp=Z,388nm,0.9s
LMR La Mourre 134.54 328⇑ *iPKIKP* PKPdf 10 38 05.9 -0.2
comp=Z,308nm,1.0s
SMRF Simiane la Rot 134.57 330⇑ *iPKIKP* PKPdf 10 38 06.5 +0.3
comp=Z,431nm,1.1s
SGMF Saint Gilles 134.66 339⇑ *iPKIKP* PKPdf 10 38 06.0 -0.3
comp=Z,161nm,0.8s
BBSR BB Station 134.75 50 PFAKE 10 38 20.0 +14
BBSR LR LR
comp=Z,17μm,19.0s,MS6.8
ROSF Rostrenen 134.84 340 *ePKIKP* PKPdf 10 38 06.2 -0.5
comp=Z,191nm,1.1s
TRIS Tristan da Cun 134.93 194 *ePKPdf* PKPdf 10 38 06.9 +0.1
TRIS LR LR
comp=Z,14μm,21.0s,MS6.7
QUIF Quistinic 135.16 340 *ePKIKP* PKPdf 10 38 06.8 -0.5
comp=Z,71nm,0.8s
RJF Les Rejaudoux 135.49 334 *ePKIKP* PKPdf 10 38 08.7 +0.8
comp=Z,187nm,1.2s
RJF *eR* 10 38 08.9
comp=Z,20μm,20.8s
RJF Les Rejaudoux 135.49 334 *ePKPdf* PKPdf 10 38 08.7 +0.8
RJF LR LR
comp=Z,20μm,20.8s,MS6.8
CAF Calviac 135.54 333 *ePKIKP* PKPdf 10 38 08.3 +0.3
comp=Z,201nm,1.2s
LFF La Frestale 136.11 334 *ePKIKP* PKPdf 10 38 09.3 +0.3
comp=Z,150nm,0.8s
MTLF Montolieu 136.68 331 *ePKIKP* PKPdf 10 38 11.1 +1.0
comp=Z,302nm,1.2s
KEST Kesra 137.69 318 PKP PKPdf 10 38 11.3 -0.7
comp=Z,27nm,0.8s,baz=107,slow=3.4,SNR=15
KEST SKKPbc 10 50 26.3
comp=Z,5.4nm,1.0s,baz=117,slow=5.3,SNR=4.4
EPF Esparros 137.79 333 *ePKIKP* PKPdf 10 38 12.5 +0.4
comp=Z,249nm,1.3s
SJG San Juan 137.87 71 PKhKP 10 38 00.7
comp=Z,43nm,0.5s,baz=355,slow=6.9,SNR=11
SJG PKP PKPdf 10 38 12.3 0.0
comp=Z,91nm,1.0s,baz=25,slow=5.0,SNR=12
SJG San Juan 137.87 71 *ePKPpre* 10 38 00.2
SJG PKP PKPdf 10 38 12.3 0.0
SJG LR LR
comp=Z,15μm,22.0s,MS6.7
ETSF Etsaut 138.30 333 *ePKIKP* PKPdf 10 38 15.2 +2.1
comp=Z,270nm,0.8s
CMAH Djebel Manchou 138.42 320 P PKPdf 10 38 13.5 +0.2
MTP Monte Pirata 138.43 70 *ePKPpre* 10 38 01.4
ABSA Djebel Ababsia 138.59 320 P PKPdf 10 38 12.5 -1.1
CAEH 'Ain El Ouahch 138.68 321 P PKPdf 10 38 14.0 +0.2
CASM Ain Smara 139.23 320 P PKPdf 10 38 09.0 -5.8
CTEI Djebel Teioual 139.41 320 P PKPdf 10 38 10.0 -5.1
DFRA Djebel Bou Aff 139.44 321 P PKPdf 10 38 08.0 -7.2
SET Setif 139.95 321 P 10 38 02.0
CKHR Kef el Ahmar 140.00 321 P PKPdf 10 38 15.0 -1.2
PCRV Puerto La Cruz 140.14 82 PKhKP 10 38 06.3
comp=Z,12nm,0.5s,baz=358,slow=4.1,SNR=9.2
PCRV PKP PKPdf 10 38 15.2 -1.2
comp=Z,20nm,0.5s,baz=351,slow=7.2,SNR=6.3
PCRV Puerto La Cruz 140.14 82 PKP PKPdf 10 38 15.2 -1.2
ATAF Djebel Tarf 140.86 322 P PKPdf 10 38 11.8 -5.9
ABJO Alger-Bouzarea 140.98 324 P PKPdf 10 38 10.8 -7.2
AKET Djebel Ketaf 140.99 322 P PKPdf 10 38 09.5 -8.5
ADJB Djebel Djouab 141.18 323 P PKPdf 10 38 13.2 -5.1
EMHD Djebel Mahouad 141.44 323 P PKPdf 10 38 13.0 -5.8
CPB Codrington 142.00 70 *eP* PKPdf 10 38 14.3 -5.4
BPA Boggy Peak 142.09 71 *eP* PKPdf 10 38 13.1 -6.8
BPA Boggy Peak 142.09 71 *eP* PKPdf 10 38 15.2 -4.7
EBNR Beni Rached 142.21 325 P PKPdf 10 38 16.0 -4.2
LZG Guadaloupe-1 142.33 72 *eP* PKPdf 10 38 14.7 -5.6
ECHA Ech Chlef 142.40 325 P PKPdf 10 38 16.5 -4.0
ESDC Sonseca Array 142.41 334 PKhKP 10 38 15.0
comp=Z,33nm,0.7s,baz=5.9,slow=4.8,SNR=11
ESDC SKKPbc 10 50 07.2
comp=Z,9.2nm,1.1s,baz=203,slow=4.4,SNR=5.1
ESDC SKKPbc 10 50 07.2
ESDC Sonseca Array 142.41 334 PKP PKPdf 10 38 15.0 -5.5
ESLA Sonseca Array 142.41 334 PFAKE 10 38 30.0 +9.5
ESLA LR LR
comp=Z,85μm,22.0s,MS7.5
TBG Guadaloupe-3 142.50 73 *eP* PKPdf 10 38 15.5 -5.2
PVRL Vila Real 142.54 339 *ePKPdf* PKPdf 10 38 17.0 -3.7
CART Cartagena 142.64 329 *ePKPpre* 10 38 15.5
EANR 'Ain N'Sour 142.69 325 P PKPdf 10 38 17.0 -4.0
MDN Morne-Daniel 142.82 74 *eP* PKPdf 10 38 15.2 -6.0
MDN Morne-Daniel 142.82 74 *eP* PKPdf 10 38 17.5 -3.8
DSHT Scott's Head 142.86 74 *eP* PKPdf 10 38 16.4 -4.9
DSHT Scott's Head 142.86 74 *eP* PKPdf 10 38 16.6 -4.7
TCE Chacachacare 142.96 81 *eP* PKPdf 10 38 16.3 -5.2
ETRT Tiaret 142.97 324 P PKPdf 10 38 18.0 -3.5
PTO Porto 142.97 340 *ePKPdf* PKPdf 10 38 18.9 -2.6
PVIS Viseu 143.10 339 *ePKPdf* PKPdf 10 38 18.8 -2.9
VAO Valinhos 143.12 144⇑ *eP* PKPdf 10 38 18.5 -3.3
VAO *i* 10 38 19.7
VAO *i* 10 38 22.9
VAO *i* 10 38 36.0
VAO *i* 10 38 50.8
FDF Fort de France 143.15 75 *eP* PKPdf 10 38 18.3 -3.5
TPP Pointe-a-Pierr 143.27 82 *eP* PKPdf 10 38 15.8 -6.3
TRN Trinidad (W) 143.30 81 *eP* PKPdf 10 38 18.2 -3.9
TBH Brigand Hill 143.64 82 *eP* PKPdf 10 38 18.9 -3.8
PCBR Castelo Branco 143.71 338 *ePKPdf* PKPdf 10 38 20.4 -2.4
USTO Oran 143.78 326 P PKPdf 10 38 21.0 -1.9
ODJA Bouhanifia 143.85 325 P PKPdf 10 38 22.0 -1.1
TPR Prospect 143.88 80 *eP* PKPdf 10 38 20.1 -3.0
EBER Berja 144.13 330⇑ P PKPdf 10 38 20.3 -3.3
OTSS Djebel Tessala 144.25 326 P PKPdf 10 38 23.0 -0.7
PTOM Tomar 144.25 339 *ePKPdf* PKPdf 10 38 22.6 -1.2
ELUQ Luque 144.27 332 *ePKIKP* PKPdf 10 38 22.0 -1.8
ODZI Dzuzuia 144.48 326 P PKPdf 10 38 25.0 +0.8
PESTR Estremoz 144.60 337 *ePKPdf* PKPdf 10 38 23.2 -1.2
PESTR Estremoz 144.60 337 *ePKPdf* PKPdf 10 38 23.9 -0.5
PESTR Estremoz 144.60 337 *eLQ* 11 19 01.3
PESTR Estremoz 144.60 337 *eLR* LR 11 29 40.1
ALMR Almeirim 144.72 338 *eP* PKPdf 10 38 24.0 -0.5
EALB Alboran 144.95 329 *⇑P* PKPdf 10 38 23.0 -2.0
PMAFR Mafra 145.15 339 *ePKPdf* PKPdf 10 38 25.4 +0.1
PMAFR Mafra 145.15 339 *ePKPdf* PKPdf 10 38 25.6 +0.3
PMAFR Mafra 145.15 339 *eLQ* 11 18 54.0
PMAFR Mafra 145.15 339 *eLR* LR 11 29 38.7
PLOU Loures 145.17 339 *ePKPdf* PKPdf 10 38 25.8 +0.5
EMIJ Mijas 145.32 332 *⇑P* PKPbc 10 38 22.5 -3.0
LIS Lisbon 145.32 339 *eP* PKPbc 10 38 26.2 +0.7
LIS AMS AMS 11 46 19.5
comp=Z,23μm,18.8s,MS7.0
PLML Palmela 145.37 338 *ePKPdf* PKPdf 10 38 27.0 +1.3
PBEJ Beja 145.44 337 *ePKPdf* PKPdf 10 38 26.8 +1.0
CAM4 Nova Friburgo 146.05 149⇑ *iP* PKPdf 10 38 28.4 +1.5
CAM4 *i* 10 38 33.1
CAM4 *i* 10 38 42.4
CAM4 *i* 10 38 47.0
CAM4 *i* 10 44 47.1
CAM4 *i* 10 45 02.4
SFS San Fernando 146.06 333 *ePKP2* PKPab 10 38 28.9 +0.5
PTEO Sao Teotonio 146.19 337 *ePKPdf* PKPdf 10 38 27.9 +0.8
MORF Marmelete 146.37 337 *eP* PKPdf 10 38 27.0 -0.4
MORF *eSS* SS 11 00 44.8 -0.1
MORF *eSS* SS 11 00 44.8 -0.1
MORF AMS AMS 11 43 25.6
comp=Z,15μm,25.5s,MS6.7
PLUZ Luz 147.64 7 *eP* PKPdf 10 38 31.2 +1.7
comp=Z,114nm,1.0s
STGR Santa Cruz 147.68 5 *eP* PKPdf 10 38 31.3 +1.7
comp=Z,97nm,1.0s
PVIA Vitoria 147.69 5 *eP* PKPdf 10 38 31.9 +2.3
comp=Z,113nm,1.2s
SRBC Serra Branca 147.72 5 *eP* PKPbc 10 38 33.8 +1.3
BDFB Brasilia 147.75 134 PKPbc PKPbc 10 38 30.6 -2.0
comp=Z,510nm,0.7s,baz=260,slow=1.2,SNR=218
BDFB Brasilia 147.75 134 PKIKP PKPdf 10 38 30.6 +0.9
BDFB pmax pmax
comp=Z,510nm,0.7s
BDFB Brasilia 147.75 134 PFAKE 10 38 40.0 +10
BDFB LR LR
comp=Z,39μm,20.0s,MS7.2
ROSA Rosais 148.01 6 *eP* PKPbc 10 38 34.1 +0.8
PBIS Biscoitos 148.06 4 *eP* PKPdf 10 38 31.8 +1.6
comp=Z,84nm,0.9s
PAMA Santo Amaro 148.06 6 *eP* PKPdf 10 38 32.3 +2.1
comp=Z,57nm,0.6s
PVNV Vila Nova 148.06 4 *eP* PKPdf 10 38 31.4 +1.2
comp=Z,69nm,1.1s
ASBA Santa Barbara 148.09 4 *eP* PKPdf 10 38 32.7 +2.4
comp=Z,221nm,1.3s
CALA Caldeira 148.10 6 *eP* PKPbc 10 38 34.3 +0.8
PPAD Pico dos Padre 148.12 4 *eP* PKPdf 10 38 32.3 +2.0
comp=Z,107nm,1.3s
PFAV Pico das Favas 148.12 4 *eP* PKPdf 10 38 32.2 +1.9
comp=Z,89nm,1.2s
RIB2 Ribeirinha 148.15 4 *eP* PKPdf 10 38 31.6 +1.2
comp=Z,150nm,1.2s
ADH Angra Heroismo 148.16 4 *i P* PKPdf 10 38 42.5 +12
PICO Pico 148.21 6 *eP* PKPdf 10 38 31.7 +1.2
PTEI Pico do Teixo 148.23 6 *eP* PKPbc 10 38 34.7 +0.8
comp=Z,131nm,1.2s
PCND Candelaria 148.24 6 *eP* PKPbc 10 38 34.9 +1.0
comp=Z,196nm,0.9s
PBOI Pico dos Bois 148.28 6 *eP* PKPbc 10 38 35.0 +1.0
comp=Z,194nm,1.1s
PID Ribeirinha 148.30 5 *eP* PKPbc 10 38 34.7 +0.7
CAM3 Guarapari 148.44 150⇑ *iP* PKPdf 10 38 31.5 +0.6
CAM3 *i* 10 38 35.0
CAM3 *i* 10 38 42.3
CAM3 *i* 10 38 48.5
CAM3 *i* 10 38 51.9
CAM3 *i* 10 39 01.3
PFAD Fenais da Ajud 149.07 1 *eP* PKPbc 10 38 37.4 +1.4
PSET Sete Cidades 149.07 2 *eP* PKPbc 10 38 36.2 +0.2
PMAT Coroa da Mata 149.09 2 *eP* PKPdf 10 38 34.2 +2.3
comp=Z,80nm,0.4s
PVER Pico Vermelho 149.10 2 *e-* PKPbc 10 38 35.7 -0.4
MESC Monte Escuro 149.11 2 *eP* PKPbc 10 38 39.0 +2.9
MIRA Miradouro 149.12 1 *eP* PKPbc 10 38 37.1 +1.0
CML Cha da Macela 149.13 2 *eP* PKPdf 10 38 34.8 +2.8
LFA Lagoa do Fogo 149.13 2 *eP* PKPbc 10 38 38.2 +2.0
CMLA Cha da Macela 149.14 2 *eP* PKPdf 10 38 34.7 +2.7
CMLA Cha da Macela 149.14 2 *ePKPbc* PKPbc 10 38 38.2 +2.1
CMLA LR LR
comp=Z,5μm,22.0s,MS6.2
PCNG Congro 149.14 1 *eP* PKPbc 10 38 37.6 +1.4
comp=Z,196nm,1.3s
PDA Ponta Delgada 149.15 2 *i P* PKPbc 10 38 39.0 +2.8
VIF Vila Franca 149.16 2 *eP* PKPbc 10 38 36.9 +0.7
comp=Z,112nm,1.6s
PRCH Ribeira Ch 149.18 2 *eP* PKPbc 10 38 38.2 +1.9
comp=Z,356nm,1.2s
PSMN Pico do Norte, 149.91 1 *eP* PKPdf 10 38 34.5 +1.3
PMPS Porto Santo 152.78 345 *ePKPdf* PKPdf 10 38 38.2 +0.6
TOA0 Torodi Ar. Sit 153.49 286 *ePKPdf* PKPdf 10 38 38.1 -0.5
TORD Torodi Ar. Bea 153.49 286 PKP PKPdf 10 38 38.2 -0.4
comp=Z,44nm,1.1s,baz=30,slow=1.2,SNR=86
TORD PKPbc PKPbc 10 38 46.3 0.0
comp=Z,108nm,0.8s,baz=63,slow=1.7,SNR=168
TORD Torodi Ar. Bea 153.49 286 PKP PKPdf 10 38 38.2 -0.4
TORD PKPbc PKPbc 10 38 46.3 0.0
EFAM Famara 155.49 336 P PKPdf 10 38 40.5 -0.9
CFTV Fuerteventura 156.34 337 ⇑P PKPdf 10 38 42.6 +0.1
EOSO Osorio 157.20 339 P PKPdf 10 38 42.1 -1.5
CCAN Las Canadas 157.41 342 P PKPdf 10 38 43.0 -0.9
EHIG Higuera 157.44 345 ⇑P PKPdf 10 38 44.9 +1.0
EGOM La Gomera 157.65 343 P PKPdf 10 38 43.3 -0.8
DBIC Dimbokro 160.53 271 PKP PKPdf 10 38 47.5 0.0
comp=Z,54nm,1.0s,baz=105,slow=1.4,SNR=25
DBIC Dimbokro 160.53 271 PKIKP PKPdf 10 38 47.5 0.0
DBIC pmax pmax
comp=Z,55nm,1.0s
DBIC Dimbokro 160.53 271 *ePKPdf* PKPdf 10 38 47.3 -0.3
DBIC LR LR
comp=Z,30μm,22.0s
RCBR Riachuelo 163.06 137 *ePKPdf* PKPdf 10 38 50.5 +0.4
RCBR LR LR
comp=Z,31μm,20.0s

ISCJB ***01*** *10:25:15.5±0.1,5323N±003×15977E±003,h52km, mb5.6/245,MS6.0/10,Error ellipse: s-maj=4.0km s-min=2.7km az=155.5*
MOS ***01*** *10:25:15.9±1.0,5330N×15969E,h53km,mb5.8/79, MS6.2/4,Error ellipse: s-maj=8.2km s-min=3.8km az=92.1*
MOS Felt (IV-V) at Petropavlovsk-Kamchatskiy.
KRSC ***01*** *10:25:16,53.18N×15997E,h52km,ML5.8*
SZGRF ***01*** *10:25:17.0,53.19N×15922E,h50km,mb5.5,Near east coast of Kamchatka Peninsula, Russia*
BJI ***01*** *10:25:17.1,5330N×15970E,h51km,mB5.9,mb5.3,Ms5.9, Msz5.6*
NEIC ***01*** *10:25:17.1±0.1,5326N×15970E,mb5.7/149,Error ellipse: s-maj=4.0km s-min=2.7km az=184.0*
NEIC Felt [V] at Petropavlovsk-Kamchatskiy.
IDC ***01*** *10:25:17.3±0.3,5328N×15965E,h53km±3km,mb4.9/32, mb1 5.1/33,mb1mx5.0/35,mbtmp5.2/33,MS5.9/2, Ms1 5.9/2,ms1mx4.1/41,Error ellipse: s-maj=11.0km s-min=8.5km az=113.0*
ISC 01 10:25:17.3±0.1,5332N±003×15970E±003,h54km, h54km±.5km:pP-P,n843,σ0:98/809,mb5.6/245,MS6.0/10, 187C-21D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLC	**Nalytchevo**	**0.26**	**235**	*i* P	**Pn**	**10 25 28.2**	**+1.7**
SPN	**Mys Shipunski**	**0.30**	**138**	*i* P	**Pn**	**10 25 26.0**	**-0.8**
AVH	**Avacha**	**0.58**	**265**	*i* P	**Pn**	**10 25 33.0**	**+3.3**
PET	**Petropavlovsk**	**0.69**	**245**	*i* PN	**Pn**	**10 25 32.9**	**+1.7**
PET				*eS*	**Sn**	**10 25 44.4**	**+3.2**
PET				pmax	pmax		
	comp=Z,55μm,1.5s						
PET				pmax	pmax		
	comp=N,17μm,2.4s						
PET				pmax	pmax		
	comp=E,43μm,2.3s						
PET				pmax	pmax		
	comp=Z,33μm,0.9s						
PET				pmax	pmax		
	comp=N,13μm,1.0s						
PET				pmax	pmax		
	comp=E,15μm,1.4s						
PET				smax			
	comp=E,336μm,2.3s						
PET				smax			
	comp=N,269μm,2.4s						
PET				smax			
	comp=E,131μm,0.7s						
PET				smax			
	comp=N,147μm,0.5s						
PET	**Petropavlovsk**	**0.69**	**245**	*i* P	**Pn**	**10 25 33.2**	**+2.0**
PET				*i* S	**Sn**	**10 25 45.7**	**+4.5**
INSR	**Institute**	**0.70**	**249**	*i* P	**Pn**	**10 25 33.3**	**+2.0**
INSR				*i* S	**Sn**	**10 25 45.7**	**+4.3**
KII	**Karymskiy**	**0.73**	**348**	*i* P	**Pn**	**10 25 35.0**	**+3.3**
GNL	**Ganaly**	**1.11**	**290**	*eP*	**Pn**	**10 25 40.5**	**+3.8**
RUS	**Russkaya**	**1.14**	**219**	*i* P	**Pn**	**10 25 37.4**	**+0.4**
GRL	**Gorelyy**	**1.25**	**233**	*i* P	**Pn**	**10 25 40.6**	**+2.1**
MKZ	**Mys Kozlova**	**1.73**	**43**	*eP*	**Pn**	**10 25 44.9**	**-0.1**
TUMR	**Tumrok**	**1.99**	**7**	*i* P	**Pn**	**10 25 52.2**	**+3.7**
MIPR	**Malaya Ipel'ka**	**2.07**	**241**	*eP*	**Pn**	**10 25 52.7**	**+3.1**
KMNR	**Kamenistaya**	**2.46**	**7**	*eP*	**Pn**	**10 25 59.1**	**+4.1**
KPT	**Kopyto**	**2.67**	**6**	*eP*	**Pn**	**10 26 01.7**	**+3.8**
KOZ	**Kozyrevsk**	**2.75**	**2**	*eP*	**Pn**	**10 26 02.8**	**+3.9**
KOZR	**Kozyr**	**2.76**	**2**	PN	**Pn**	**10 26 02.8**	**+3.8**
ZLN	**Zelenaya**	**2.78**	**13**	*eP*	**Pn**	**10 26 03.5**	**+4.1**
CIRR	**Tsirk**	**2.87**	**12**	*eP*	**Pn**	**10 26 04.8**	**+4.2**
KRSR	**Krestovskiy**	**2.95**	**9**	*eP*	**Pn**	**10 26 05.2**	**+3.5**
SRDR	**Sredinnyy**	**3.00**	**0**	*eP*	**Pn**	**10 26 05.9**	**+3.5**
KLY	**Klyuchi**	**3.05**	**10**	*eP*	**Pn**	**10 26 07.0**	**+3.9**
BDR	**Baidarnaya**	**3.37**	**14**	*eP*	**Pn**	**10 26 11.4**	**+3.9**

KBTR Krutoberegovo 3.41 31 *e*P **Pn** **10 26 11.1 +3.1**
KBTR *i* S **Sn** **10 26 50.8 +3.5**
SMKR Semkarok 3.43 17 *e*P **Pn** **10 26 11.9 +3.7**
SKR Severo-Kuril's 3.44 221 *e*PN **Pn** **10 26 06.1 -2.4**
SKR pmax pmax
comp=N,180nm,0.5s
SKR pmax pmax
comp=E,370nm,0.5s
SKR pmax pmax
comp=Z,620nm,0.5s
SKR pmax pmax
comp=Z,1μm,2.0s
SRKR Sorokina 3.45 14 *e*P **Pn** **10 26 12.6 +4.1**
ALID Alaid 3.54 228 *e*P **Pn** **10 26 12.5 +2.7**
MA2 Magadan 7.98 325⇑ *e*PN **Pn** **10 27 13.5 +2.9**
MA2 Magadan 7.98 325 *e*P **Pn** **10 27 14.8 +4.2**
comp=Z,422nm,1.3s
SMY Shemya 8.71 88 *e*PN **Pn** **10 27 18.5 -2.1**
SEY Seymchan 10.38 341 *e*PN **Pn** **10 27 43.6 +0.2**
AMKA Amchitka 12.14 91 *e*Pn **Pn** **10 28 06.3 -1.2**
YSS Yuzh-Sakhalins 12.58 246α *i*PN **Pn** **10 28 18.0 +4.5**
YSS *e* 10 30 36.0
YSS pmax pmax
comp=E,400nm,1.1s
YSS pmax pmax
comp=Z,640nm,1.1s
YSS pmax pmax
comp=N,320nm,1.2s
YSS pmax pmax
comp=N,5μm,17.0s
YSS pmax pmax
comp=E,3μm,17.0s
YSS pmax pmax
comp=Z,9μm,17.0s
YSS smax
comp=N,6μm,12.0s
YUK Yuzh-Kuril'sk 13.01 230 PN **Pn** **10 28 20.4 +1.0**
YUK pmax pmax
comp=Z,710nm,0.4s
ASAJ Asahikawa 14.53 238 P **Pn** **10 28 40.6 +0.8**
comp=Z,4.4nm,0.3s,baz=69,slow=14,SNR=4.4
ASAJ Asahikawa 14.53 238 P **Pn** **10 28 40.7 +0.9**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
BILL Bilibino 15.10 10 *e*P **Pn** **10 28 47.6 +0.3**
BILL pmax pmax
comp=Z,34nm,1.7s
BILL Bilibino 15.10 10 *e*Pn **Pn** **10 28 49.3 +2.1**
comp=Z,1μm,4.5s
HABR Khabarovsk 16.25 263 *e*P **Pn** **10 29 01.8 -0.2**
HABR *e*S **S** **10 32 02.9 -8.7**
SPIA Saint Paul Isl 17.49 65 *e*Pn **Pn** **10 29 17.1 -0.2**
YAK Yakutsk 18.11 311 *e*P **Pn** **10 29 24.8 -0.2**
YAK pmax pmax
comp=Z,100nm,0.9s
YAK pmax pmax
comp=N,32nm,1.1s
YAK pmax pmax
comp=E,64nm,1.0s
YAK Yakutsk 18.11 311 *e*P **Pn** **10 29 25.2 +0.3**
comp=E,756nm,0.8s
NIKO Nikolski 18.79 78 *e*P **Pn** **10 29 33.3 +0.1**
TNA Tin City 20.23 40 *e*P **P** **10 29 48.7 +0.8**
MDJ Mudanjiang 21.46 258 P **P** **10 29 58.7 -2.5**
MDJ AMB AMB
comp=Z,800nm,3.7s
MAT Matsushiro 22.50 230 P **P** **10 30 12.7 +0.4**
MJAR Matsushiro Arr 22.50 230 P **P** **10 30 12.8 +0.5**
comp=Z,216nm,0.9s,mb5.6,baz=12,slow=13,SNR=46
MJAR PcP PcP 10 34 04.7 +0.1
comp=Z,3.2nm,0.7s,baz=75,slow=0.8,SNR=3.8
MJAR pPcP 10 34 19.6
comp=Z,18nm,1.0s,baz=19,slow=1.0,SNR=5.7
MJAR Matsushiro Arr 22.50 230 P **P** **10 30 12.8 +0.5**
MJAR 10 34 04.7
MJAR 10 34 19.6
MJAR pmax pmax
comp=Z,216nm,0.9s
MJAR Matsushiro Arr 22.50 230 P **P** **10 30 12.8 +0.5**
TIXI Tiksi 22.78 335 *e*P **P** **10 30 10.5 -4.7**
TIXI *e* 10 30 32.9
TIXI *e*S **S** **10 34 09.2 -11**
TIXI pmax pmax
comp=Z,35nm,1.1s,mb4.7
TIXI Tiksi 22.78 335 *e*P **P** **10 30 15.1 -0.1**
TTA Tatalina 24.79 50 *e*P **P** **10 30 33.5 -0.6**
SVW2 Sparrevohn 24.99 54 *e*P **P** **10 30 36.1 +0.1**
MCK McKinley 27.98 48 *e*P **P** **10 31 01.9 -0.9**
COLA College 28.41 45c *i*P **P** **10 31 06.3 -0.4**
COLA College 28.41 45 *e*P **P** **10 31 06.1 -0.6**
comp=Z,259nm,0.9s,mb5.9
STDB Stepnoy Dvoret 31.68 290 P **P** **10 31 45.2 +10**
TLY Talaya 33.42 290 *e*P **P** **10 31 50.8 -0.1**
TLY pmax pmax
comp=Z,30nm,0.8s,mb5.3
SONM Songino Array 33.62 283 PcP PcP 10 34 33.4 +1.6
comp=Z,7.8nm,0.7s,baz=65,slow=1.6,SNR=4.0
SONM pPcP 10 34 47.3
comp=Z,27nm,0.6s,baz=60,slow=1.6,SNR=12
HHC Hu-ho-hao-te 34.41 269 *e*P **P** **10 31 59.6 +0.2**
HHC AP pP 10 32 12.9 -0.3
HHC XP sP 10 32 17.8 -1.7
HHC PP PP 10 33 16.1 -2.0
HHC PCP PcP 10 34 35.5 +1.5
HHC S **S** **10 37 22.4 -1.2**
HHC XS sS 10 37 43.5 -3.3
HHC SCP ScP 10 38 15.2 +0.6
HHC PCS PcS 10 38 20.7 +0.3
HHC SS SS 10 39 35.0 -19
HHC SCS ScS 10 42 16.2 -1.1
HHC AMB AMB
comp=Z,35nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,564nm,3.5s
HHC LR LR
comp=N,22μm,21.1s,MS6.0
HHC LR LR
comp=E,12μm,18.6s,MS6.0
HHC LR LR
comp=Z,36μm,22.6s,MS6.1
JOW Kunigami 35.25 234 P **P** **10 32 08.0 +1.3**
comp=Z,81nm,0.5s,mb5.9,baz=354,slow=11,SNR=38
NJ2 Nanjing 36.11 250 *e*P **P** **10 32 15.6 +1.6**
NJ2 AP pP 10 32 27.7 -0.1
NJ2 XP sP 10 32 33.1 -1.0
NJ2 S **S** **10 37 51.0 +1.3**
NJ2 AMB AMB
comp=Z,140nm,1.1s,mb5.8
NJ2 AMB AMB
comp=Z,4μm,7.5s
NJ2 LR LR
comp=N,28μm,19.9s,MS6.5
NJ2 LR LR
comp=E,70μm,16.3s,MS6.5
NJ2 LR LR
comp=Z,77μm,19.7s,MS6.5
GUMO Guam 41.35 202 LR LR 10 47 05.4
comp=Z,9μm,20.9s,MS5.6,baz=72,slow=32
GTA Gaotai 42.35 276 *e*P **P** **10 33 06.6 +0.6**
GTA AP pP 10 33 21.1 +1.0
GTA XP sP 10 33 28.8 +2.5
GTA PP PP 10 34 48.8 +3.9
GTA PPP 10 35 24.2
GTA S **S** **10 39 25.2 +1.9**
GTA XS sS 10 39 51.1 +4.2
GTA SS SS 10 42 29.6 -4.0
GTA AMB AMB
comp=Z,63nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,2μm,6.5s
GTA LR LR
comp=N,10μm,18.3s,MS5.8
GTA LR LR
comp=E,5μm,20.1s,MS5.8
GTA LR LR
comp=Z,7μm,20.5s,MS5.5
YKA Yellowknife Ar 43.16 43 P **P** **10 33 12.2 -0.4**
comp=Z,30nm,0.8s,mb5.1,baz=299,slow=8.2,SNR=6.7
YKA pP pP 10 33 27.0 +0.3
comp=Z,20nm,0.6s,baz=296,slow=7.8,SNR=4.0
YKA Yellowknife Ar 43.16 43 P **P** **10 33 12.2 -0.4**
YKA *PP pP 10 33 27.0 +0.3
YKA pmax pmax
comp=Z,30nm,0.8s
YKA Yellowknife Ar 43.16 43 P **P** **10 33 12.2 -0.4**
YKA pP pP 10 33 27.0 +0.3
CD2 Chengdu 45.75 264 *e*P **P** **10 33 33.0 -0.3**
CD2 AP pP 10 33 45.4 -2.1
CD2 XP sP 10 33 50.4 -3.3
CD2 PP PP 10 35 20.9 -0.4
CD2 S **S** **10 40 12.8 -0.1**
CD2 XS sS 10 40 33.7 -3.1
CD2 SS SS 10 43 29.3 -8.5
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,140nm,6.2s
KBS Kingsbay 46.62 352c *i*P **P** **10 33 39.4 -0.7**
KBS Kingsbay 46.62 352 *e*P **P** **10 33 41.2 +1.1**
WMQ Urumqi 46.67 289 *e*P **P** **10 33 43.0 +2.5**
WMQ AP pP 10 33 56.0 +1.3
WMQ XP sP 10 34 02.7 +1.8
WMQ PP PP 10 35 34.0 +3.1
WMQ PPP 10 36 19.0
WMQ SCP ScP 10 39 04.0 +1.5
WMQ S **S** **10 40 28.0 +1.9**
WMQ XS sS 10 40 51.0 +1.0
WMQ AMB AMB
comp=Z,47nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,1μm,6.2s
WMQ LR LR
comp=N,7μm,21.6s,MS5.7
WMQ LR LR
comp=E,7μm,26.2s,MS5.7
WMQ LR LR
comp=Z,6μm,24.7s,MS5.5
MKAR Makanchi Array 47.84 295 P **P** **10 33 49.0 -0.7**
comp=Z,10nm,0.8s,mb4.9,baz=46,slow=6.2,SNR=4.1
MKAR pP 10 34 03.9 0.0
comp=Z,15nm,0.5s,baz=48,slow=6.7,SNR=3.5
MKAR Makanchi Array 47.84 295 P **P** **10 33 49.0 -0.7**
MKAR *PP pP 10 34 03.9 0.0
MKAR pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 47.84 295 P **P** **10 33 49.0 -0.7**
MKAR pP pP 10 34 03.9 0.0
COR Corvallis 49.00 67 *e*P **P** **10 33 58.8 +0.3**
COR *e*PP pP 10 34 13.4 +0.6
COR pmax pmax
comp=Z,70nm,0.8s,mb5.7
COR Corvallis 49.00 67 *e*P **P** **10 33 58.8 +0.3**
comp=Z,70nm,0.8s,mb5.7
COR epP pP 10 34 13.4 +0.5
NEW Newport 50.00 60 P **P** **10 34 06.3 +0.1**
comp=Z,27nm,0.9s,mb5.3,baz=321,slow=6.5,SNR=4.3
NEW pP pP 10 34 19.7 -0.8
comp=Z,65nm,0.9s,baz=314,slow=6.6,SNR=9.2
NEW Newport 50.00 60 P **P** **10 34 06.3 +0.1**
NEW *PP pP 10 34 19.7 -0.8
NEW pmax pmax
comp=Z,27nm,0.9s
BVAR Borovoye Array 50.06 308 P **P** **10 34 05.7 -1.0**
comp=Z,7.1nm,0.5s,mb5.0,baz=50,slow=8.0,SNR=13
BVAR pP pP 10 34 19.4 -1.6
comp=Z,20nm,0.7s,baz=51,slow=6.9,SNR=3.5
BVAR Borovoye Array 50.06 308 P **P** **10 34 05.7 -0.9**
BVAR *PP pP 10 34 19.4 -1.6
BVAR pmax pmax
comp=Z,7.0nm,0.5s
DAG Danmarks Havn 50.18 360⇓ *i*P **P** **10 34 06.7 -0.8**
comp=Z,121nm,1.2s,mb5.8
DAG Danmarks Havn 50.18 360⇓ *i*P **P** **10 34 06.7 -0.8**
DAG pmax pmax
comp=Z,120nm,1.2s,mb5.8
KMI Kunming 50.63 259 P **P** **10 34 12.9 +2.0**
KMI AP pP 10 34 24.4 -0.9
KMI S **S** **10 41 21.1 -0.7**
KMI LR LR
comp=N,7μm,18.3s,MS6.0
KMI LR LR
comp=E,12μm,16.6s,MS6.0
KMI LR LR
comp=Z,17μm,18.3s,MS6.1
QIZ Qiongzhong 51.30 248 P **P** **10 34 17.0 +1.0**
QIZ AP pP 10 34 31.4 +1.0
QIZ S **S** **10 41 30.9 -0.2**
QIZ AMB AMB
comp=Z,40nm,1.4s,mb5.2
QIZ Qiongzhong 51.30 248 *e*P **P** **10 34 16.5 +0.5**
KEV Kevo 52.53 341 *e*p **P** **10 34 23.2 -1.9**
comp=Z,1.4nm,0.4s
MSO Missoula 52.57 60 *e*P **P** **10 34 25.2 -0.2**
comp=Z,76nm,1.2s,mb5.5
MSO epP pP 10 34 37.3 -2.5
APA Apatity 52.95 337⇑ *e*P pP 10 34 42.0 -0.7
APA *i* 10 34 56.5
APA *i* 10 35 44.6
APA pmax pmax
comp=Z,43nm,1.4s,mb5.2
ARCES ARCESS Array B 53.00 342 P **P** **10 34 26.1 -2.5**
comp=Z,14nm,0.8s,mb4.9,baz=31,slow=8.1,SNR=14
ARCES pP pP 10 34 44.0 +1.0
comp=Z,13nm,0.8s,baz=40,slow=8.6,SNR=4.0
ARCES PcP PcP 10 35 36.5 -0.2
comp=Z,11nm,0.7s,baz=24,slow=3.6,SNR=5.8
ARCES pPcP 10 35 51.8
comp=Z,11nm,0.5s,baz=37,slow=4.2,SNR=9.3
FFC Flin Flon 53.04 46 P **P** **10 34 29.3 +0.4**
comp=Z,336nm,0.9s,mb6.3,SNR=10
FFC Flin Flon 53.04 46 *e*P **P** **10 34 29.1 +0.2**
FFC pmax pmax
comp=Z,70nm,1.1s,mb5.5
FFC Flin Flon 53.04 46 *e*P **P** **10 34 29.1 +0.2**
comp=Z,70nm,1.1s,mb5.5
ARU Arti 53.07 317⇓ *i*P **P** **10 34 27.3 -1.8**
ARU *e* pP 10 34 42.0 -1.5
ARU *e* 10 35 33.2
ARU *e*PPP 10 37 31.5
ARU *e*S **S** **10 41 54.6 -0.7**
ARU pmax pmax
comp=Z,50nm,1.1s,mb5.4
ARU Arti 53.07 317 *e*P **P** **10 34 29.6 +0.5**
ARU epP pP 10 34 42.5 -1.0
FCC Fort Churchill 53.45 39 *e*P **P** **10 34 31.1 -0.8**
FCC pmax pmax
comp=Z,50nm,0.7s,mb5.5
FCC Fort Churchill 53.45 39 *e*P **P** **10 34 31.1 -0.8**
comp=Z,50nm,0.7s,mb5.6
SUMG Summit 53.77 7 *e*P **P** **10 34 34.8 +0.6**
KTK1 Kautokeino 53.87 342 *e*P **P** **10 34 35.9 +0.9**
KTK1 epP pP 10 34 49.2 -0.2
EGMT Eagleton 53.91 56 *e*P **P** **10 34 34.7 -0.5**
EGMT epP pP 10 34 49.1 -0.6
LRM Limekiln Ridge 54.01 60 *e*P **P** **10 34 36.6 +0.6**
LRM epP pP 10 34 50.0 -0.4
TRO Tromso 54.08 344 *e*P **P** **10 34 38.2 +1.7**
SAC San Andreas 54.13 73 *e*P **P** **10 34 37.3 +0.4**
SAC *e*PP pP 10 34 51.3 -0.1
BOZ Bozeman (W) 54.55 59 *e*P **P** **10 34 40.3 +0.3**
BOZ *e* pP 10 34 54.3 -0.1
CMB Columbia Colle 54.98 72 *e*P **P** **10 34 43.9 +0.9**
CMB *e*PP pP 10 34 57.8 +0.2
CMB pmax pmax
comp=Z,112nm,1.3s,mb5.7
CMB Columbia Colle 54.98 72 *e*P **P** **10 34 43.9 +0.8**
comp=Z,112nm,1.3s,mb5.7
CMB epP pP 10 34 57.8 +0.3
BMN Battle Mountai 55.11 67 *e*P **P** **10 34 45.1 +1.1**
BMN *e* pP 10 34 58.6 +0.1
BMN pmax pmax
comp=Z,104nm,0.8s,mb5.9
BMN Battle Mountai 55.11 67 *e*P **P** **10 34 45.1 +1.1**
comp=Z,104nm,0.8s,mb5.9
BMN *e* pP 10 34 58.6 +0.1
QLMT Earthquake Lak 55.21 60 *e*P **P** **10 34 45.8 +1.1**
QLMT epP pP 10 34 59.3 +0.1
SAO San Andreas Ge 55.26 74 *e*P **P** **10 34 44.4 -0.6**
SAO pmax pmax
comp=Z,54nm,1.0s,mb5.5
SAO San Andreas Ge 55.26 74 *e*P **P** **10 34 44.4 -0.6**
comp=Z,54nm,1.0s,mb5.5
GCMT Greycliff 55.46 58 *e*P **P** **10 34 47.0 +0.5**
GCMT epP pP 10 35 00.9 -0.1
YMR Madison River 55.57 60 *e*P **P** **10 34 48.2 +1.0**
comp=Z,126nm,0.9s,mb6.0
YMR epP pP 10 35 02.3 +0.6
YNR Norris Junctio 55.68 60 *e*P **P** **10 34 49.4 +1.3**
YNR epP pP 10 35 03.6 +1.0
LRV Little Rabbit 55.74 74 *e*P **P** **10 34 48.4 -0.1**
YFT Old Faithful 55.78 60 *e*P **P** **10 34 51.3 +2.5**
YFT epP pP 10 35 04.4 +1.0
NVAR Mina Array Bea 55.89 70 P **P** **10 34 51.0 +1.5**
comp=Z,12nm,0.6s,mb5.1,baz=50,slow=22,SNR=17
NVAR pP pP 10 35 05.1 +1.0
comp=Z,50nm,0.7s,baz=300,slow=7.2,SNR=21
NVAR PKPPKP 11 04 57.5
comp=Z,0.5nm,0.8s,baz=131,slow=2.5,SNR=4.3
LKWY Lake 55.93 60 *e*P **P** **10 34 52.4 +2.6**
LKWY pmax pmax
comp=Z,107nm,0.9s,mb5.9
LKWY Lake 55.93 60 *e*P **P** **10 34 52.4 +2.6**
comp=Z,108nm,0.9s,mb5.9
ELK Elko 55.99 66 *e*P **P** **10 34 51.9 +1.6**
ELK *e*PP pP 10 35 05.5 +0.7
ELK pmax pmax
comp=Z,82nm,0.9s
ELK Elko 55.99 66 *e*P **P** **10 34 51.9 +1.6**
comp=Z,82nm,0.9s,mb5.8
ELK epP pP 10 35 05.5 +0.7
FLWY Flagg Ranch 56.11 60 *e*P **P** **10 34 52.4 +1.3**
FLWY epP pP 10 35 06.3 +0.6
IMW Indian Meadow 56.11 61 *e*P **P** **10 34 52.2 +1.0**
IMW *e* pP 10 35 06.2 +0.5
DCID1 Drake Creek 56.19 61 *e*P **P** **10 34 52.6 +0.9**
LOF Lofoten 56.28 345 *e*P **P** **10 34 53.7 +1.3**
LOF AMb AMB 10 34 55.9
comp=Z,87nm,1.2s,mb5.7
LOF Lofoten 56.28 345 *e*P **P** **10 34 53.7 +1.3**
comp=Z,87nm,1.2s,mb5.7
RRI2 Red Ridge 56.29 61 *e*P **P** **10 34 53.6 +1.1**
RRI2 *e* pP 10 35 07.7 +0.7
MOOW Moose Ponds 56.31 61 *e*P **P** **10 34 55.4 +2.8**
comp=Z,61nm,0.9s,mb5.6
TPAW Teton Pass 56.39 61 *e*P **P** **10 34 53.4 +0.3**
TPAW *e* pP 10 35 08.7 +1.0
LOHW Long Hollow 56.48 61 *e*P **P** **10 34 54.7 +0.9**
LOHW epP pP 10 35 08.6 +0.3
MTUM Tungsten Hills 56.49 71 *e*P **P** **10 34 54.8 +0.9**
MTUM epP pP 10 35 09.2 +0.8
SNOW Snow King Moun 56.51 61 *e*P **P** **10 34 55.0 +1.0**
SNOW epP pP 10 35 09.5 +1.0
REDW Red Top Meadow 56.53 61 *e*P **P** **10 34 55.3 +1.2**
REDW *e* pP 10 35 09.3 +0.6
LAO LASA Array 56.57 55 *e*P **P** **10 34 55.5 +1.1**
LAO epP pP 10 35 08.9 -0.1
HVU Hansel Valley 56.61 64 *e*P **P** **10 34 54.5 -0.2**
HVU *e*PP pP 10 35 09.5 +0.3
HVU pmax pmax
comp=Z,109nm,1.1s,mb5.8
HVU Hansel Valley 56.61 64 *e*P **P** **10 34 54.5 -0.2**
comp=Z,109nm,1.1s,mb5.8
HVU epP pP 10 35 09.5 +0.3
OUL Oulu 56.72 339 P **P** **10 34 54.3 -1.1**
TPH Tonopah 56.75 70 *e*P **P** **10 34 57.0 +1.3**
TPH *e*PP pP 10 35 10.9 +0.7
TPH pmax pmax
comp=Z,92nm,0.9s,mb5.8
TPH Tonopah 56.75 70 *e*P **P** **10 34 57.0 +1.3**
comp=Z,92nm,0.9s,mb5.8
TPH epP pP 10 35 10.9 +0.7
AHID Auburn Hatcher 56.81 62 *e*P **P** **10 34 57.5 +1.3**
comp=Z,104nm,0.9s,mb5.9
AHID epP pP 10 35 11.5 +0.8
BGU Big Grassy Mou 57.06 64 *e*pP pP 10 35 13.0 +0.5
SPUT South Promonto 57.11 64 *e*P **P** **10 34 58.7 +0.4**
SPUT epP pP 10 35 12.7 -0.1
JOF Joensuu 57.26 335 *e*p **P** **10 34 57.5 -1.8**
HWUT Hardware Ranch 57.38 63 *e*P **P** **10 35 01.2 +1.1**
HWUT *e* pP 10 35 15.5 +0.8
TRCR Troy Canyon 57.47 68 *e*P **P** **10 35 01.1 +0.4**
TRCR epP pP 10 35 15.4 +0.1
AKTK Aktyubinsk 57.49 312 P **P** **10 35 01.0 +0.1**
AKTK pP pP 10 35 15.6 0.0
AKTO Aktyubinsk 57.49 312 P **P** **10 35 01.0 +0.1**
comp=Z,6.2nm,0.5s,mb4.9,baz=72,slow=9.6,SNR=8.8
AKTO pP pP 10 35 15.6 0.0
comp=Z,25nm,0.9s,baz=62,slow=4.8,SNR=5.7
AKTO Aktyubinsk 57.49 312 P **P** **10 35 01.0 +0.1**
AKTO *PP pP 10 35 15.6 +0.1
AKTO pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BW06 Boulder Array 57.62 61 *e*P **P** **10 35 01.9 0.0**
comp=Z,125nm,0.9s,mb5.9
BW06 epP pP 10 35 16.3 -0.2
PDAR Pinedale Array 57.62 61 P **P** **10 35 02.5 +0.7**
comp=Z,57nm,0.9s,mb5.6,baz=313,slow=2.9,SNR=25
PDAR pP pP 10 35 16.8 +0.3
comp=Z,109nm,1.0s,baz=313,slow=3.0,SNR=25
PDAR PKPPKP 11 04 53.4
comp=Z,2.0nm,1.1s,baz=87,slow=4.6,SNR=6.5
DUG Dugway 57.70 65 *e*P **P** **10 35 03.4 +1.0**
CHTO Chiang Mai 57.72 258 *e*P **P** **10 35 02.5 0.0**
CHTO *e* pP 10 35 17.2 +0.1
BAKI Biak 57.78 208 P **P** **10 35 00.6 -2.3**
TCUT Toone Canyon 57.80 63 *e*P **P** **10 35 04.2 +1.1**
TCUT epP pP 10 35 17.3 -0.4
SFJD Kangerlussuaq 57.85 14⇑ *i*P **P** **10 35 02.0 -1.5**
comp=Z,51nm,0.8s,mb5.6
SFJD *i* 10 37 28.0
SFJD *e* 10 48 22.1
SFJD
comp=Z,25μm,21.0s
SFJD Kangerlussuaq 57.85 14⇑ *i*P **P** **10 35 02.0 -1.5**
SFJD pmax pmax
comp=Z,51nm,0.8s,mb5.6
SFJD MLR MLR
comp=Z,25μm,21.0s,MS6.3
CTU Camp Tracy 57.92 64 *e*P **P** **10 35 05.1 +1.2**
MOR8 Moi Rana 57.95 344 *e*P **P** **10 35 01.8 -2.4**
MOR8 AMb AMB 10 35 04.8
comp=Z,31nm,1.3s,mb5.2
MOR8 Moi Rana 57.95 344 *e*P **P** **10 35 01.8 -2.4**
comp=Z,31nm,1.3s,mb5.2
NLU North Lily Min 58.27 65 *e*P **P** **10 35 07.7 +1.4**
MPU Maple Canyon 58.46 64 *e*P **P** **10 35 09.1 +1.4**
MPU epP pP 10 35 23.1 +0.7
ULM Lac du Bonnet 58.84 47 P **P** **10 35 10.0 -0.3**
comp=Z,47nm,0.9s,mb5.5,baz=314,slow=7.2,SNR=30
ULM Lac du Bonnet 58.84 47 *e*P **P** **10 35 09.8 -0.5**
comp=Z,111nm,1.2s,mb5.8
ULM epP pP 10 35 23.5 -1.5
GSC Goldstone 58.95 72 *e*P **P** **10 35 11.6 +0.5**
GSC *e*PP pP 10 35 24.9 -0.8
SWI Sorong 58.97 214 P **P** **10 35 11.1 -0.1**
MWC Mount Wilson 59.01 73 *e*P **P** **10 35 12.3 +0.8**
MWC *e*PP pP 10 35 26.2 +0.1
KAF Kangasniemi 59.18 337 *e*p **P** **10 35 11.1 -1.6**
comp=Z,7.1nm,0.4s,mb5.0,baz=31,slow=6.3
KAF Kangasniemi 59.18 337 *e*P **P** **10 35 11.1 -1.6**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
TMUT Trail Mountain 59.20 65 *e*P **P** **10 35 13.8 +0.9**
TMUT *e* pP 10 35 28.3 +0.7
RSSD Black Hills 59.48 56 *e*P **P** **10 35 15.3 +0.5**
RSSD *e*PP pP 10 35 29.1 -0.3
RWWY Rawlins 59.61 60 *e*pP pP 10 35 30.6 +0.3
SRU San Rafael 59.71 64 *e*P **P** **10 35 16.8 +0.5**
SRU *e*PP pP 10 35 31.5 +0.5
FINES FINESS Array B 59.82 336 P **P** **10 35 16.1 -1.0**
comp=Z,10nm,0.8s,mb4.9,baz=38,slow=7.4,SNR=16
FINES FINESS Array B 59.82 336 P **P** **10 35 16.1 -1.0**
FINES pmax pmax
comp=Z,10.0nm,0.8s
NSS Namsos 59.87 345 *e*P **P** **10 35 14.9 -2.5**
NSS LR LR
comp=Z,25μm,22.2s,MS6.3
PFO Pinyon Flat Ob 60.37 73 *e*P **P** **10 35 20.6 -0.3**
PFO *e*PP pP 10 35 35.0 -0.6
PFO pmax pmax
comp=Z,14nm,0.6s,mb5.2
PFO Pinyon Flat Ob 60.37 73 *e*P **P** **10 35 20.6 -0.2**
comp=Z,14nm,0.6s,mb5.2
PFO epP pP 10 35 35.0 -0.5
PHWY Pilot Hill 60.80 59 *e*P **P** **10 35 24.3 +0.5**
PHWY epP pP 10 35 38.5 0.0
PV10 Paradox Valley 61.04 64 *e*P **P** **10 35 26.3 +0.9**
MEF Metsahovi 61.30 336 P **P** **10 35 26.0 -1.2**
MOS Moscow 61.34 327 *e*P **P** **10 35 25.8 -1.7**
MOS *e* 10 35 46.3
MOS pmax pmax
comp=Z,76nm,1.2s,mb5.7

PV01 Paradox Valley 61.47 64 *e*P **P** **10 35 28.3 0.0**
PV01 *ep*P pP 10 35 43.0 -0.1
SMCO Snowmass 61.56 62 *e*P **P** **10 35 29.1 +0.2**
SMCO *ep*P pP 10 35 44.1 +0.5
ISCO Idaho Springs 61.82 61 *e*P **P** **10 35 31.9 +1.2**
ISCO *e**PP pP 10 35 46.4 +1.0
WUAZ Wupatki 61.85 68 *e*P **P** **10 35 31.4 +0.5**
WUAZ *e* pP 10 35 46.1 +0.5
OBN Obninsk 62.20 327 *i* P **P** **10 35 32.0 -1.2**
OBN *i* 10 35 51.6
OBN *i* 10 36 10.3
OBN *e*S **S** **10 43 56.9 +2.1**
OBN pmax pmax
comp=Z,77nm,1.6s,mb5.6
OBN Obninsk 62.20 327 *e*P **P** **10 35 33.6 +0.4**
comp=Z,107nm,1.3s,mb5.8
OBN *ep*P pP 10 35 52.6 +4.6
VSU Vasula 62.25 334 P **P** **10 35 32.4 -1.1**
BORG Borgarnes 62.27 0 P **P** **10 35 35.6 +1.9**
AAI Ambon 62.65 216 P **P** **10 35 36.2 -0.1**
DOMB Dombas 62.66 345 *e*P **P** **10 35 36.2 -0.1**
DOMB AMb AMB 10 35 38.2
comp=Z,34nm,1.0s,mb5.4
DOMB *ep*P pP 10 35 51.5 +0.4
DOMB Dombas 62.66 345 *e*P **P** **10 35 36.2 -0.1**
comp=Z,34nm,1.0s,mb5.4
NB2 NORSAR Subarra 63.26 343 P **P** **10 35 39.7 -0.6**
comp=Z,27nm,0.8s,mb5.4,baz=20,slow=6.9
NB2 NORSAR Subarra 63.26 343 P **P** **10 35 39.6 -0.7**
NOA NORSAR Array B 63.26 343 P **P** **10 35 39.4 -0.9**
comp=Z,27nm,1.0s,mb5.3,baz=22,slow=6.6,SNR=36
NOA PKPPKP 11 04 43.9
comp=Z,0.8nm,0.8s,baz=205,slow=4.6,SNR=3.4
ECSD EROS,Sioux Fal 63.37 52 *e*P **P** **10 35 40.3 -0.8**
ECSD *ep*P pP 10 35 53.9 -1.9
PCI Palu 63.39 226 P **P** **10 35 40.6 -0.6**
HFA0 Hagfors New Ar 63.66 342 P **P** **10 35 41.0 -1.9**
HFS Hagfors 63.66 342 P **P** **10 35 41.7 -1.2**
comp=Z,6.7nm,0.3s,mb5.1,baz=42,slow=4.6,SNR=30
HFS Hagfors 63.66 342 P **P** **10 35 41.7 -1.2**
HFS pmax pmax
comp=Z,7.0nm,0.4s
VRSR Storozhevoye 64.51 323 *e*P **P** **10 35 47.0 -1.5**
VRSR pmax pmax
comp=N,40nm,1.0s
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VRSR pmax pmax
comp=E,30nm,0.9s
TUC Tucson 64.54 70 *e*P **P** **10 35 48.9 +0.2**
TUC *e* pP 10 36 03.6 0.0
KONO Kongsberg 64.84 344⇑ *e*P **P** **10 35 50.4 -0.3**
KONO Kongsberg 64.84 344 *e*P **P** **10 35 50.5 -0.2**
ANMO Albuquerque 64.96 65 *e*P **P** **10 35 52.1 +0.6**
ANMO *e**PP pP 10 36 06.1 -0.2
ANMO pmax pmax
comp=Z,52nm,0.9s
ANMO Albuquerque 64.96 65 *e*P **P** **10 35 52.1 +0.6**
comp=Z,52nm,0.9s,mb5.6
ANMO *ep*P pP 10 36 06.0 -0.2
MNK Minsk 65.40 331 *e*P **P** **10 35 50.0 -4.3**
SCHQ Schefferville 65.56 27 P **P** **10 35 54.2 -1.1**
comp=Z,16nm,0.7s,mb5.1,baz=348,slow=7.0,SNR=20
SCHQ Schefferville 65.56 27 *e*P **P** **10 35 54.0 -1.4**
comp=Z,32nm,0.7s,mb5.5
BLS5 Blasjo 65.56 345 *e*P **P** **10 35 55.8 +0.4**
KSM Kuching 65.74 236 *e*P **P** **10 35 56.4 -0.1**
SCIA State Center 66.37 51 *e*P **P** **10 36 00.1 -0.4**
SCIA *ep*P pP 10 36 13.9 -1.5
KSU1 Kansas State U 66.92 55 *e*P **P** **10 36 02.4 -1.6**
KSU1 *ep*P pP 10 36 17.2 -1.7
JFWS Jewell Farm 66.94 49 *e*P **P** **10 36 03.1 -1.1**
SUW Suwalki 67.11 334 *e*P **P** **10 36 05.0 -0.3**
AKASG Malin Array Be 68.30 329 P **P** **10 36 11.6 -1.1**
comp=Z,3.4nm,0.3s,mb4.8,baz=30,slow=6.2,SNR=25
AKASG Malin Array Be 68.30 329 P **P** **10 36 11.6 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 68.30 329 *e*P **P** **10 36 10.8 -1.9**
KIV Kislovodsk 69.11 316 *e*P **P** **10 36 17.6 -0.2**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.0
KIV Kislovodsk 69.11 316 *e*P **P** **10 36 18.3 +0.5**
KIV *ep*P pP 10 36 34.8 +2.1
WMOK Wichita Mounta 69.20 60 *e*P **P** **10 36 18.0 -0.3**
GKP Gorka Klasztor 69.27 337 *e*P **P** **10 36 19.5 +0.7**
ZEI Tsey 69.57 315 *e*P **P** **10 36 19.1 -1.5**
ZEI *e**PP pP 10 36 33.7 -1.9
ZEI *e* 10 36 40.3
ZEI *e* 10 38 58.0
ZEI pmax pmax
comp=Z,20nm,0.6s,mb5.2
KAKA Kakadu 69.79 208 *e*P **P** **10 36 21.5 -0.4**
comp=Z,50nm,0.9s,mb5.4
KAKA *e*PCP PcP 10 36 35.9 -8.4
BSEG Bad Segeberg 70.13 341 *e*P **P** **10 36 24.2 +0.2**
comp=Z,45nm,1.0s,mb5.3
BSEG Bad Segeberg 70.13 341 *e*P **P** **10 36 24.2 +0.2**
BSEG pmax pmax
comp=Z,45nm,1.0s,mb5.3
TSI Tuntungan 70.27 248 P **P** **10 36 24.5 -0.4**
AAM Ann Arbor 70.31 45 *e*P **P** **10 36 24.8 -0.4**
AAM *e**PP pP 10 36 39.4 -0.8
SLM Saint Louis 70.35 51 *e*P **P** **10 36 25.1 -0.3**
ANN Anapa 70.50 320 *e*P **P** **10 36 24.2 -2.1**
LVV L'vov 70.64 331 *e*P **P** **10 36 27.8 +0.7**
LVV *i* pP 10 36 47.2 +5.0
LVV *e* 10 39 08.7
PSI Prapat 70.64 248 P **P** **10 36 27.9 +0.7**
comp=Z,12nm,0.6s,mb5.0,baz=188,slow=21,SNR=9.8
PSI Prapat 70.64 248 P **P** **10 36 27.9 +0.7**
PSI pmax pmax
comp=Z,12nm,0.6s,mb5.0
FVM French Village 70.78 52 *e*P **P** **10 36 27.3 -0.7**
FVM pmax pmax
comp=Z,185nm,1.2s,mb5.9
FVM French Village 70.78 52 *e*P **P** **10 36 27.2 -0.8**
comp=Z,185nm,1.2s,mb5.9
RUE Ruedersdorf 70.79 339 *e*P **P** **10 36 29.1 +1.0**
comp=Z,93nm,1.1s,mb5.6
RUE Ruedersdorf 70.79 339 *e*P **P** **10 36 29.6 +1.5**
comp=Z,97nm,0.9s,mb5.7
RUE *ep*P pP 10 36 44.1 +1.0
ESK Eskdalemuir 70.81 350 *e*P **P** **10 36 27.7 -0.5**
KWP Kalwaria 71.18 332 *e*P **P** **10 36 30.0 -0.5**
GNI Garni 71.35 313 P **P** **10 36 32.3 +0.9**
comp=Z,4.5nm,0.5s,mb4.7,baz=358,slow=14,SNR=5.1
GNI Garni 71.35 313*c* *i*P **P** **10 36 31.3 -0.2**
GNI pmax pmax
comp=Z,37nm,1.3s
GNI Garni 71.35 313 *e*P **P** **10 36 32.5 +1.1**
comp=Z,89nm,1.2s,mb5.6
GNI *ep*P pP 10 36 51.0 +4.5
OJC Ojcow 71.44 334 *e*P **P** **10 36 31.3 -0.7**
KMMI Kalianget 71.45 229 P **P** **10 36 33.6 +1.5**
MSNY Massena 71.52 38 *e*P **P** **10 36 30.6 -1.9**
NRDL Niedersach Rie 71.54 341 *e*P **P** **10 36 33.3 +0.7**
comp=Z,23nm,1.2s,mb5.0
SIUC Southern Illin 71.57 51 *e*P **P** **10 36 32.1 -0.6**
BLO Bloomington 71.62 49 *e*P **P** **10 36 32.2 -0.9**
BLO pmax pmax
comp=Z,54nm,0.8s,mb5.5
BLO Bloomington 71.62 49 *e*P **P** **10 36 32.2 -0.9**
comp=Z,54nm,0.8s,mb5.5
KIS Kishinev 71.67 327 *e*P **P** **10 36 36.0 +2.6**
KIS *i* *PP pP 10 36 50.0 +1.6
KIS *e* 10 39 20.0
KSP Ksiaz 71.74 337 *e*P **P** **10 36 34.3 +0.5**
KSP Ksiaz 71.74 337 *e*P **P** **10 36 33.5 -0.3**
KSP *ep*P pP 10 36 48.1 -0.8
KSP *e*PcP PcP 10 36 54.1 +1.5
STHS Stebnicka Huta 71.78 333 *e*P **P** **10 36 34.8 +0.7**
STHS pmax pmax
comp=Z,37nm,0.8s,mb5.4
STHS Stebnicka Huta 71.78 333 *e*P **P** **10 36 34.8 +0.7**
comp=Z,37nm,0.8s,mb5.4
STHS *e* 10 47 51.5
KOLS Kolonicke sedl 71.94 332 *e*P **P** **10 36 35.1 +0.1**
KOLS *e* 10 47 46.2
KOLS *e* 10 51 29.5
KOLS Kolonicke sedl 71.94 332 *e*P **P** **10 36 35.2 +0.2**
KOLS pmax pmax
comp=Z,19nm,0.8s,mb5.1
KOLS Kolonicke sedl 71.94 332 *e*P **P** **10 36 35.2 +0.2**
comp=Z,19nm,0.8s,mb5.1
KOLS *e* 10 47 46.2
KOLS *e* 10 51 29.6
LONY Lake Ozonia 71.95 38 *e*P **P** **10 36 33.0 -2.0**
JCT Junction City 71.98 63 *e*P **P** **10 36 35.0 -0.2**
JCT pmax pmax
comp=Z,134nm,1.1s,mb5.8
JCT Junction City 71.98 63 *e*P **P** **10 36 35.0 -0.3**
comp=Z,134nm,1.1s,mb5.8
ERPA Erie 71.99 42 *e*P **P** **10 36 34.2 -1.1**
comp=Z,117nm,1.0s,mb5.8
ERPA *e* pP 10 36 49.1 -1.3
MIAR Mount Ida 72.00 56 *e*P **P** **10 36 34.7 -0.7**
MIAR pmax pmax
comp=Z,97nm,0.9s,mb5.7
MIAR Mount Ida 72.00 56 *e*P **P** **10 36 34.7 -0.6**
comp=Z,97nm,0.9s,mb5.7
NIE Niedzica 72.03 333 P **P** **10 36 37.1 +1.5**
CLL Collm 72.06 339 *e*P **P** **10 36 35.1 -0.6**
comp=Z,83nm,1.1s,mb5.6
CLL Collm 72.06 339 *i* P **P** **10 36 35.0 -0.7**
comp=Z,83nm,1.1s,mb5.6
CLL *ep*P pP 10 36 50.0 -0.8
CLL *i* sP sP 10 36 55.7 -1.1
comp=Z,126nm,1.2s
CLL Collm 72.06 339 *i* P **P** **10 36 35.0 -0.7**
CLL *e**PP pP 10 36 50.0 -0.8
CLL *i* *SP sP 10 36 55.7 -1.1
CLL pmax pmax
comp=Z,83nm,1.1s,mb5.6
USIN University of 72.09 50 *e*P **P** **10 36 35.3 -0.6**
USIN *ep*P pP 10 36 49.6 -1.3
UPC Upice 72.12 337 *e*P **P** **10 36 36.1 0.0**
UPC *ep*P pP 10 36 47.1 -4.0
FRNY Flat Rock 72.12 37 *e*P **P** **10 36 34.7 -1.4**
PARMO Parma 72.16 52 *e*P **P** **10 36 35.8 -0.5**
PARMO *ep*P pP 10 36 50.0 -1.4
CRVS Cervenica-Dubn 72.19 333 *e*P **P** **10 36 36.8 +0.3**
CRVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CRVS Cervenica-Dubn 72.19 333 *e*P **P** **10 36 36.8 +0.3**
comp=Z,10nm,1.0s,mb4.7
CRVS *e* 10 47 35.4
CRVS *e* 10 47 50.0
DPC Dobruska-Polom 72.19 336 *e*P **P** **10 36 36.9 +0.4**
DPC *ep*P pP 10 36 49.4 -2.2
UZH Uzhgorod 72.20 332 *e*P **P** **10 36 37.0 +0.4**
UZH *e* 10 39 18.0
UZH *e*S S 10 45 58.0 +2.9
OKC Ostrava-Krasne 72.21 335 *e*P **P** **10 36 36.4 -0.3**
OKC *ep*P pP 10 36 49.8 -1.9
BRG Berggiesshubel 72.26 338 *e*P **P** **10 36 36.5 -0.4**
comp=Z,35nm,1.2s,mb5.2
BRG Berggiesshubel 72.26 338 *i* PKPdf **P** **10 36 36.4 -0.5**
comp=Z,19nm,1.7s,mb4.8
BRG *i* pP 10 36 50.8 -1.2
BRG *i* pP 10 36 50.8 -1.2
comp=Z,12nm,1.1s
BRG Berggiesshubel 72.26 338 *i* PKPDF **P** **10 36 36.4 -0.5**
comp=Z,19nm,1.7s,mb4.8
BURAR Bucovina Array 72.26 330⇓ *i*P **P** **10 36 36.9 0.0**
BURAR Bucovina Array 72.26 330⇓ P **P** **10 36 36.9 0.0**
ACSO Alum Creek Sta 72.31 46 *e*P **P** **10 36 36.1 -1.1**
comp=Z,83nm,1.0s,mb5.6
ACSO *e* pP 10 36 47.9 -4.4
ALLY Alegheny Colle 72.31 43 *e*P **P** **10 36 36.9 -0.4**
ALLY *ep*P pP 10 36 51.2 -1.1
FBE Freiberg 72.34 338 *e*P **P** **10 36 37.6 +0.2**
comp=Z,82nm,1.2s,mb5.4
MORC Moravsky Berou 72.42 335⇓ *i*P **P** **10 36 38.1 +0.2**
MORC Moravsky Berou 72.42 335 *e*P **P** **10 36 38.2 +0.4**
UALR University of 72.43 55 *e*P **P** **10 36 37.5 -0.4**
PVCC Panska Ves 72.44 337 *e*P **P** **10 36 38.4 +0.4**
PVCC *ep*P pP 10 36 54.2 +1.2
GTTG Gvttingen 72.47 341 *e*P **P** **10 36 38.6 +0.5**
comp=Z,35nm,1.2s,mb5.2
WCI Wyandotte Cave 72.50 49 *e*P **P** **10 36 37.3 -1.0**
WCI pmax pmax
comp=Z,91nm,0.8s,mb5.8
WCI Wyandotte Cave 72.50 49 *e*P **P** **10 36 37.3 -1.0**
comp=Z,91nm,0.8s,mb5.8
HBAR Harrisburg 72.62 54 *e*P **P** **10 36 38.8 -0.3**
HBAR *ep*P pP 10 36 53.8 -0.4
NCB Newcomb 72.64 38 *e*P **P** **10 36 37.8 -1.4**
WTSB Winterswijk 72.66 343 *e*PKP **P** **10 36 39.0 -0.3**
comp=Z,59nm,1.7s,mb5.2
WTSB *ep*PKP 10 36 53.4
WTSB *ep*PP 10 38 07.0
GLAT Glass 72.70 52 *e*P **P** **10 36 40.1 +0.5**
GLAT *ep*P pP 10 36 53.3 -1.3
KECS Kecovo 72.84 333 *e*P **P** **10 36 40.2 -0.2**
KECS *e* pP 10 36 53.9 -1.5
KECS *e*sP sP 10 37 00.4 -1.0
KECS *e* 10 47 31.4
KECS *e* 10 47 46.8
KECS *e* 10 51 33.6
KECS Kecovo 72.84 333 *e*P **P** **10 36 40.3 -0.1**
KECS *e* pP 10 36 53.9 -1.5
KECS *e* 10 37 00.4
KECS pmax pmax
comp=Z,13nm,1.0s,mb4.8
KECS Kecovo 72.84 333 *e*P **P** **10 36 40.3 -0.1**
comp=Z,13nm,1.0s,mb4.8
KECS *e* pP 10 36 53.9 -1.5
KECS *e* 10 37 00.4
KECS *e* 10 47 31.4
KECS *e* 10 47 46.8
KECS *e* 10 51 33.6
PRA Prague 72.90 337 P **P** **10 36 41.0 +0.3**
PRA *ep*P pP 10 36 58.0 +2.2
PRU Pruhonice 72.95 337 *e*P **P** **10 36 41.0 0.0**
PRU *ep*P pP 10 36 55.6 -0.5
HALT Halls 72.97 52 *e*P **P** **10 36 40.6 -0.5**
HALT *ep*P pP 10 36 54.9 -1.4
MOX Moxa 72.98 339 *e*P **P** **10 36 41.1 -0.1**
comp=Z,35nm,1.1s,mb5.2
MOX Moxa 72.98 339⇑ *e*P **P** **10 36 42.3 +1.1**
comp=Z,85nm,1.6s,mb5.4
MOX *e* pP 10 36 58.3 +2.0
MOX
comp=Z,18μm,22.0s
MOX Moxa 72.98 339⇑ *e*P **P** **10 36 42.3 +1.1**
MOX *e* pP 10 36 58.3 +2.0
MOX pmax pmax
comp=Z,85nm,1.6s,mb5.4
MOX MLR MLR
comp=Z,18μm,22.0s,MS6.3
ERZM Erzurum 73.01 315 *i* P **P** **10 36 44.0 +2.6**
EZM Erzurum 73.01 315 *e*P pP 10 36 56.5 +0.1
TANN Tannenbergstha 73.02 339 *e*P **P** **10 36 41.4 0.0**
WERD Werda 73.02 339 *e*P **P** **10 36 41.3 -0.1**
comp=Z,45nm,1.2s,mb5.3
BUG Bochum--Univer 73.08 342 *e*P **P** **10 36 41.7 -0.1**
comp=Z,30nm,0.8s,mb5.3
BUG Bochum--Univer 73.08 342 P **P** **10 36 40.7 -1.1**
GUNZ Gunzen 73.09 339 *e*P **P** **10 36 42.1 +0.2**
comp=Z,64nm,1.4s,mb5.4
VRAC Vranov 73.09 336 P **P** **10 36 42.6 +0.7**
comp=Z,25nm,0.9s,mb5.1,baz=25,slow=6.4,SNR=26
VRAC Vranov 73.09 336⇑ *i*P **P** **10 36 42.5 +0.6**
VRAC Vranov 73.09 336 P **P** **10 36 42.6 +0.7**
VRAC pmax pmax
comp=Z,25nm,0.9s
VRAC Vranov 73.09 336⇑ P **P** **10 36 42.5 +0.7**
DLF Lyons Farm 73.14 351 *e*P **P** **10 36 39.3 -2.8**
UBBA Unterbreizbach 73.15 340 *e*P **P** **10 36 42.0 -0.2**
comp=Z,69nm,1.5s,mb5.4
WERN Wernitzgruen 73.15 339 *e*P **P** **10 36 42.0 -0.2**
comp=Z,49nm,1.1s,mb5.3
DCN Croghan 73.16 352 *e*P **P** **10 36 39.5 -2.7**
NKC Novy Kostel 73.19 339 P **P** **10 36 44.2 +1.8**
LBNH Lisbon 73.23 36 *e*P **P** **10 36 42.5 -0.2**
LBNH *e**PP pP 10 36 57.7 -0.1
JAVC Velka Javorina 73.24 335 P **P** **10 36 44.7 +2.0**
VYHS Vyhne 73.27 334 *e*P **P** **10 36 43.5 +0.6**
VYHS *e* 10 37 03.6
VYHS pmax pmax
comp=Z,21nm,1.2s,mb4.9
VYHS Vyhne 73.27 334 *e*P **P** **10 36 43.5 +0.6**
comp=Z,21nm,1.2s,mb4.9
VYHS *e* 10 36 51.6
VYHS *e* 10 37 03.6
VYHS *e* 10 47 28.4
VYHS *e* 10 47 42.2
VYHS *e* 10 48 23.2
VYHS *e* 10 51 30.7
MET Memphis--Engin 73.32 53 *e*P **P** **10 36 43.3 +0.1**
MET *ep*P pP 10 36 57.4 -0.9
VRI Vrincioaia 73.35 328⇓ *i*P **P** **10 36 47.4 +4.0**
VRI Vrincioaia 73.35 328⇓ P **P** **10 36 47.4 +4.1**
ACCN Adirondack Com 73.35 38 *e*P **P** **10 36 42.5 -0.9**
ACCN *ep*P pP 10 36 57.5 -0.9
KRUC Moravsky 73.37 336 P **P** **10 36 44.4 +0.9**
TREC Trest 73.37 336 *e*P **P** **10 36 43.8 +0.3**
TREC *ep*P pP 10 36 57.1 -1.5
MANZ Manzenberg 73.50 339 *e*P **P** **10 36 44.5 +0.3**
comp=Z,17nm,1.1s,mb4.9
BINY Binghamton 73.50 40 *e*P **P** **10 36 42.8 -1.4**
comp=Z,78nm,1.0s,mb5.6
CFR Carcaliu 73.50 326⇑ *i*P **P** **10 36 43.9 -0.4**
CFR Carcaliu 73.50 326⇑ P **P** **10 36 43.9 -0.4**
WVT Waverly 73.50 51 *e*P **P** **10 36 43.6 -0.6**
comp=Z,56nm,0.6s,mb5.7
WVT *ep*P pP 10 36 57.8 -1.6
PSZ Piszkesteto 73.52 333 *e*P **P** **10 36 45.1 +0.7**
HNH Hanover 73.57 37 *e*P **P** **10 36 43.6 -1.1**
HNH *ep*P pP 10 36 59.5 -0.2
SMOL Smolenice 73.62 335 *e*P **P** **10 36 46.6 +1.6**
SMOL *e* 10 36 56.2
SMOL *es*P sP 10 37 06.2 +0.1
NATX Nacogdoches 73.67 59 *e*P **P** **10 36 45.6 +0.4**
NATX *ep*P pP 10 37 00.2 -0.1
ROTZ Rotzenmuhle 73.68 339 *e*P **P** **10 36 45.4 +0.1**
comp=Z,67nm,1.5s,mb5.3
WVL Waterville 73.73 34 *e*P **P** **10 36 45.5 -0.2**
DRGR 73.75 331⇑ *i*P **P** **10 36 46.1 +0.4**
DRGR 73.75 331⇑ P **P** **10 36 46.1 +0.4**
MLR Muntele Rosu 73.93 328 P **P** **10 36 47.5 +0.7**
comp=Z,12nm,0.5s,mb5.1,baz=335,slow=5.6,SNR=11
MLR Muntele Rosu 73.93 328⇓ *i*P **P** **10 36 49.6 +2.8**
MLR Muntele Rosu 73.93 328⇓ P **P** **10 36 49.6 +2.8**
GRA1 Grafenberg Arr 73.96 339 *e*P **P** **10 36 47.8 +0.8**
comp=Z,119nm,1.5s,mb5.6
GRA1 *ep*P pP 10 37 01.6 -0.5
GRF Grafenberg Arr 73.96 339 *e*P **P** **10 36 47.8 +0.8**
comp=Z,119nm,1.5s,mb5.6
GRF *ep*P pP 10 37 01.6 -0.5
HGN Heimansgroeve 73.97 343 *e*PKP **P** **10 36 45.0 -2.0**
comp=Z,84nm,1.4s,mb5.5
HGN *ep*PKP 10 37 06.7
HGN *ep*PP 10 38 10.3
KHC Kasperske Hory 73.97 338 *e*P **P** **10 36 47.2 +0.2**
KHC *ep*P pP 10 37 02.3 +0.2
BEBN Eben Emael 73.98 343 P **P** **10 36 46.8 -0.2**
ZST Bratislava 74.00 335 *e*P **P** **10 36 48.1 +0.9**
comp=Z,40nm,1.2s,mb5.2
ZST *e* pP 10 37 01.5 -0.8
ZST *e* 10 37 08.3
FFD Franklin Falls 74.00 36 *e*P **P** **10 36 46.7 -0.5**
comp=Z,37nm,0.9s,mb5.3
DIKM Dikmen 74.01 320 *e*P pP 10 37 02.0 -0.3
CTA Charters Tower 74.02 193 *e*P **P** **10 36 46.4 -0.9**
comp=Z,19nm,0.8s,mb5.1
CTA *e*PCP PcP 10 37 00.9 -1.4
CTA Charters Tower 74.02 193 P **P** **10 36 45.9 -1.4**
comp=Z,20nm,0.8s,mb5.1,baz=3.7,slow=5.9,SNR=9.9
CTA pP pP 10 37 00.9 -1.5
comp=Z,40nm,0.7s,baz=11,slow=7.0,SNR=10.0
TNS Taunus Mts 74.02 341 *e*P **P** **10 36 47.1 -0.2**
comp=Z,51nm,1.4s,mb5.3
TIRR Tirgusor 74.04 326 *e*P **P** **10 36 46.4 -1.0**
SSPA Standing Stone 74.08 42 *e*P **P** **10 36 46.7 -1.0**
MEM Membach 74.10 343 P **P** **10 36 46.6 -1.1**
MCWV Mont Chateau 74.11 44 *e*P **P** **10 36 47.4 -0.4**
comp=Z,107nm,0.9s,mb5.8
WET Wettzell 74.12 338 *e*P **P** **10 36 48.0 +0.1**
comp=Z,59nm,1.4s,mb5.3
KVT Kavak 74.19 319 *e*P pP 10 37 01.4 -2.0
GEC2 GERESS Array S 74.21 337 *e*P **P** **10 36 48.5 +0.1**
comp=Z,44nm,1.5s,mb5.2
GERES GERESS Array B 74.21 337 P **P** **10 36 48.6 +0.2**
comp=Z,7.4nm,0.7s,mb4.7,baz=29,slow=3.0,SNR=34
CUKT Cukurca 74.24 312 *e*P **P** **10 36 54.9 +6.3**
VOIR 74.26 329⇓ *i*P **P** **10 36 48.6 -0.1**
PLAL Pickwick Lake 74.32 52 *e*P **P** **10 36 48.1 -1.0**
EMMW East Machias 74.33 33 *e*P **P** **10 36 48.8 -0.3**
BCLA Clavier 74.41 343 P **P** **10 36 48.9 -0.6**
SNF Seneffe 74.49 344 P **P** **10 36 50.4 +0.4**
HKT Hockley 74.50 61 *e*P **P** **10 36 49.7 -0.3**
HKT *ep*P pP 10 37 03.5 -1.7
ABH Alteburg 74.52 342 *e*P **P** **10 36 50.1 -0.1**
TOD Tromm 74.54 341 P **P** **10 36 52.4 +2.1**
CONA Conrad Observa 74.56 336⇑ *i*P **P** **10 36 50.9 +0.5**
comp=Z,32nm,1.3s,mb5.1,SNR=11
SIND Sindeldorf 74.62 340 P **P** **10 36 51.1 +0.3**
PTK Pertek 74.69 316 *e*P **P** **10 36 50.0 -1.2**
BEST Besiri 74.73 314 *i*P **P** **10 36 52.0 +0.5**
RUP Ruppelstein 74.78 342 *e*P **P** **10 36 50.5 -1.2**
QUA2 Belchertown 74.79 37 *e*P **P** **10 36 50.4 -1.4**
comp=Z,18nm,1.0s,mb5.0
GIVF Givet 74.79 344⇑ *i*P **P** **10 36 51.4 -0.4**
comp=Z,147nm,1.4s,mb5.4
GIVF Givet 74.79 344⇑ *i*P **P** **10 36 51.4 -0.4**
comp=Z,74nm,1.4s,mb5.4
DOU Dourbes 74.84 344 P **P** **10 36 51.6 -0.5**
HRV Harvard--Oak R 74.88 37 *e*P **P** **10 36 52.0 -0.3**
comp=Z,54nm,0.8s,mb5.5
BAIF Baives 74.94 344⇑ *i*P **P** **10 36 52.4 -0.2**
comp=Z,62nm,1.0s,mb5.2
BAIF Baives 74.94 344⇑ *i*P **P** **10 36 52.4 -0.2**
comp=Z,31nm,1.0s,mb5.2
SVST Sivas 74.95 318 *i*P pP 10 37 08.0 +0.2
WLF Walferdange 74.98 343 *e*P **P** **10 36 53.3 +0.4**
comp=Z,28nm,0.8s,mb5.2
WLF Walferdange 74.98 343 P **P** **10 36 53.5 +0.6**
WLF Walferdange 74.98 343 *e*P **P** **10 36 53.6 +0.7**
GZR Gura Zlata 75.00 330⇓ *i*P **P** **10 36 53.9 +0.9**
MOA Molln 75.02 337⇑ *i*P **P** **10 36 53.2 +0.2**
comp=Z,52nm,2.2s,mb5.1,SNR=13
TOS Tosya 75.02 320 *e*P pP 10 37 05.8 -2.4
WES Weston 75.07 37 *e*P **P** **10 36 53.1 -0.2**
comp=Z,100nm,1.0s,mb5.7
WES *ep*P pP 10 37 08.2 -0.3
CTKT Corum 75.08 320 *i*P **P** **10 36 53.4 0.0**
TZTN Tazewell 75.12 48 *e*P **P** **10 36 53.6 -0.1**
BZS Buzias 75.13 331⇓ *i*P **P** **10 36 55.0 +1.2**
BZS Buzias 75.13 331⇓ P **P** **10 36 55.0 +1.3**
SWET Sewanee 75.13 51 *e*P **P** **10 36 53.2 -0.6**
ELZG Elazig 75.20 316 *i*P **P** **10 36 54.9 +0.8**
MVL Millersville 75.24 41 *e*P **P** **10 36 53.5 -0.8**
STU Stuttgart 75.26 340 *e*P **P** **10 36 55.6 +1.1**
comp=Z,21nm,0.7s,mb5.2
STU Stuttgart 75.26 340 *e*P **P** **10 36 55.2 +0.7**
STU *ep*P pP 10 37 14.0 +4.3
MSL Mosul 75.27 312 *ex* x 10 36 58.0
MSL *ex* x 10 46 23.0
ARSA Arzberg 75.27 336⇑ *i*P **P** **10 36 55.0 +0.4**
comp=Z,112nm,2.5s,mb5.3,SNR=14
DZM Mont Dzumac 75.30 174 P **P** **10 36 54.2 -0.5**
comp=Z,119nm,1.2s,mb5.7,baz=50,slow=7.5,SNR=9.3
DZM pP pP 10 37 09.9 0.0
comp=Z,90nm,1.0s,baz=43,slow=7.3,SNR=9.0
PAL Palisades 75.32 39 *e*P **P** **10 36 54.1 -0.7**
comp=Z,86nm,0.7s,mb5.8
PAL *ep*P pP 10 37 09.2 -0.7
LANF Langenberg 75.33 341 *e*P **P** **10 36 54.4 -0.5**
FUR Furstenfeldbru 75.40 339 *e*P **P** **10 36 55.9 +0.6**
comp=Z,57nm,1.1s,mb5.4
PKSM Moragy 75.42 333⇓ *i*P **P** **10 36 56.4 +1.0**
PKSM Moragy 75.42 333⇓ P **P** **10 36 56.4 +1.0**
MARD Mardin 75.43 314 *i*P **P** **10 36 53.1 -2.4**
LBG Lerchenberg 75.44 341 P **P** **10 36 57.3 +1.8**
FWV Forest Hill 75.45 46 *e*P **P** **10 36 54.8 -0.8**
CPNY Central Park 75.48 39 *e*P **P** **10 36 54.7 -1.0**
CORM Corum 75.52 320 *e*P pP 10 37 10.3 -0.9
SDMD Soldier's Deli 75.55 42 *e*P **P** **10 36 56.2 0.0**
MALT Malatya 75.58 316 *e*P **P** **10 36 56.5 +0.2**
comp=Z,84nm,1.0s,mb5.6
CPCT Cooper Cave 75.59 49 *e*P **P** **10 36 55.9 -0.5**
ELDT Eldivan 75.72 321 *i*P **P** **10 36 57.1 0.0**
ELN Prospectdale 75.77 46 *e*P **P** **10 36 56.2 -1.3**
ELN *ep*P pP 10 37 11.3 -1.3
KOGS Kog 75.83 335 *e*P **P** **10 36 57.2 -0.5**
BFO Black Forest 75.85 341 *e*P **P** **10 36 57.5 -0.4**
comp=Z,34nm,1.3s,mb5.1

BLA **Blacksburg** 75.93 46 *eP* P 10 36 57.2 -1.1
comp=Z,5.0nm,1.1s
GUT **Gutenstein** 75.94 340 P P 10 37 00.0 +1.6
PERS **Pernice** 75.94 336 *eP* P 10 36 58.6 +0.2
KBA **Koelnbreinsper** 75.96 337⇑*iP* P 10 36 59.1 +0.7
comp=Z,193nm,2.6s,mb5.6,SNR=60
WLS **Welschbruch** 75.96 341 *eP* P 10 36 58.4 -0.1
CDF **Champ du Feu** 75.98 341⇑*iP* P 10 36 58.5 -0.1
comp=Z,207nm,1.5s,mb5.5
CDF **Champ du Feu** 75.98 341⇑*iP* P 10 36 58.5 -0.1
comp=Z,103nm,1.5s,mb5.5
MYNC **Murphy** 76.08 49 *eP* P 10 36 58.5 -0.7
comp=Z,154nm,1.1s,mb5.8
UBR **Ueberruh** 76.11 339 P P 10 37 01.2 +1.9
WATA **Walderalm** 76.12 338⇓*iP* P 10 36 59.9 +0.6
comp=Z,57nm,1.3s,mb5.3
URFA **Urfa** 76.16 315 *eP* pP 10 37 12.5 -2.2
SGKT **Sivrigoynuk** 76.16 322 *iP* P 10 37 00.7 +1.1
WTTA **Wattenberg** 76.17 338⇑*iP* P 10 37 00.4 +0.7
comp=Z,245nm,1.8s,mb5.6,SNR=25
WTTA **Wattenberg** 76.17 338⇑*iP* P 10 37 00.4 +0.7
WTTA pmax pmax
comp=Z,245nm,1.8s,mb5.8
WB2 **Warramunga Arr** 76.18 205 *eP* P 10 36 58.6 -1.2
WB2 *e*PCP PcP 10 37 13.6 +2.0
WRA **Warramunga Arr** 76.19 205 P P 10 36 58.7 -1.1
comp=Z,65nm,1.1s,mb5.5,baz=16,slow=6.1,SNR=21
WRA pP pP 10 37 13.4 -1.5
comp=Z,50nm,1.1s,baz=22,slow=6.3,SNR=8.1
ECH **Echery** 76.19 341 *eP* P 10 36 59.6 -0.2
ECH **Echery** 76.19 341 *eP* P 10 36 59.2 -0.6
BEO **Belgrade** 76.20 331 *i* PKP P 10 36 58.2 -1.6
OBKA **Obir** 76.20 336⇑*iP* P 10 37 00.1 +0.2
comp=Z,310nm,2.1s,mb5.9,SNR=9.5
MOTA **Moosalm** 76.21 339⇑*iP* P 10 37 00.1 +0.1
comp=Z,78nm,1.4s,mb5.5,SNR=17
MOTA **Moosalm** 76.21 339⇑*iP* P 10 37 00.1 +0.2
MOTA pmax pmax
comp=Z,78nm,1.4s,mb5.5
KIZ **Kirchzarten** 76.29 341 P P 10 37 00.7 +0.3
BR131 **Keskin Array S** 76.30 320 *eP* P 10 37 00.1 -0.3
comp=Z,45nm,0.9s,mb5.4
BRTR **Keskin Array B** 76.30 320 P P 10 36 59.9 -0.5
comp=Z,4.4nm,0.8s,baz=37,slow=3.1,SNR=8.6
MEZF **Maizieres J'vi** 76.30 343⇑*iP* P 10 37 00.5 +0.1
comp=Z,228nm,1.3s,mb5.6
MEZF **Maizieres J'vi** 76.30 343⇑*iP* P 10 37 00.5 +0.1
comp=Z,228nm,1.3s,mb5.9
SQTA **Sankt Quirin** 76.31 338⇑*iP* P 10 37 01.1 +0.6
comp=Z,110nm,1.5s,mb5.6,SNR=15
SQTA **Sankt Quirin** 76.31 338⇑*iP* P 10 37 01.1 +0.6
SQTA pmax pmax
comp=Z,110nm,1.5s,mb5.6
SISB **Singen-Schiene** 76.34 340 P P 10 37 02.6 +2.0
FELD **Feldberg im Sc** 76.35 341 *eP* P 10 37 00.6 -0.1
SLE **Schleitheim** 76.36 340⇑*iP* P 10 37 00.3 -0.5
comp=Z,59nm,1.7s,mb5.2
THEF **They Montfort** 76.40 342 *eP* P 10 37 00.8 -0.2
JMB **Yambol** 76.42 326 P P 10 37 02.9 +1.8
LRAL **Lakeview Retre** 76.43 53 *eP* P 10 36 59.9 -1.3
comp=Z,34nm,0.6s,mb5.5
SVIS **Svilajnac** 76.45 331 *i* PKP P 10 37 00.3 -1.0
WEIN **Weingarten** 76.49 340⇑*iP* P 10 37 00.4 -1.1
comp=Z,162nm,1.4s,mb5.8
WEIN **Weingarten** 76.49 340⇑*iP* P 10 37 01.6 +0.1
ANTO **Ankara** 76.49 321 *eP* P 10 37 01.3 -0.2
ANTO pmax pmax
comp=Z,29nm,1.3s,mb5.0
ANTO **Ankara** 76.49 321 *eP* P 10 37 01.3 -0.2
comp=Z,29nm,1.3s,mb5.0
DAVA **Damuels** 76.53 339⇑*iP* P 10 37 02.2 +0.4
comp=Z,94nm,1.8s,mb5.4,SNR=12
MOF **Molkenrain** 76.54 341 *eP* P 10 37 01.7 -0.1
HAU **Haudompre** 76.54 342 *eP* P 10 37 01.6 -0.2
LIENZ **Alp Oberkamor** 76.60 340⇑*iP* P 10 37 01.6 -0.5
comp=Z,87nm,1.5s,mb5.5
LIENZ **Alp Oberkamor** 76.60 340⇑*iP* P 10 37 02.4 +0.3
WILA **Wila** 76.61 340⇑*iP* P 10 37 02.1 -0.1
comp=Z,148nm,1.7s,mb5.7
WILA **Wila** 76.61 340⇑*iP* P 10 37 02.2 0.0
CRES **Cresnjev** 76.61 335 *eP* P 10 37 01.7 -0.5
HINF **Hinteralfeld** 76.63 342⇑*iP* P 10 37 01.9 -0.4
comp=Z,210nm,1.8s,mb5.5
HINF **Hinteralfeld** 76.63 342⇑*iP* P 10 37 01.9 -0.4
HINF pmax pmax
comp=Z,105nm,1.8s,mb5.5
HINF **Hinteralfeld** 76.63 342⇑*iP* P 10 37 01.9 -0.4
comp=Z,105nm,1.8s,mb5.5
LJU **Ljubljana** 76.64 336 *eP* P 10 37 01.7 -0.7
LJU *e* 10 37 22.3
LJU *e*SS SS 10 51 44.0 +3.0
SULZ **Sulz-Cheisache** 76.66 341⇑*iP* P 10 37 02.2 -0.3
comp=Z,140nm,1.6s,mb5.7
SULZ **Sulz-Cheisache** 76.66 341⇑*iP* P 10 37 02.3 -0.2
GZT **Gaziantep** 76.76 316 *iP* P 10 37 03.6 +0.6
VOY **Vojsko** 76.81 336 *eP* P 10 37 04.0 +0.7
VOY *e* 10 37 24.1
BBS **Basel-Blauen** 76.84 341 *eP* P 10 37 03.6 +0.1
PLONS **Plons** 76.86 340⇑*iP* P 10 37 02.3 -1.3
comp=Z,80nm,1.4s,mb5.5
PLONS **Plons** 76.86 340⇑*iP* P 10 37 03.7 +0.1
FLN **La Foliniere** 76.92 347⇑*iP* P 10 37 03.2 -0.7
comp=Z,114nm,1.0s,mb5.5
FLN **La Foliniere** 76.92 347⇑*iP* P 10 37 03.2 -0.7
FLN pmax pmax
comp=Z,57nm,1.0s,mb5.5
FLN **La Foliniere** 76.92 347⇑*iP* P 10 37 03.2 -0.7
comp=Z,57nm,1.0s,mb5.5
BALST **Balsthal** 76.93 341⇑*iP* P 10 37 02.4 -1.6
comp=Z,217nm,1.7s,mb5.8
BALST **Balsthal** 76.93 341⇑*iP* P 10 37 04.0 0.0
CEY **Cerknica** 76.95 336 P P 10 37 04.9 +0.8
FITZ **Fitzroy Crossi** 76.96 213 *eP* P 10 37 03.8 -0.3
comp=Z,56nm,0.8s,mb5.5
FITZ *e*PCP PcP 10 37 18.8 +3.8
FITZ **Fitzroy Crossi** 76.96 213 P P 10 37 03.8 -0.4
comp=Z,34nm,0.8s,mb5.3,baz=358,slow=7.6,SNR=9.0
FITZ pP pP 10 37 18.6 -0.7
comp=Z,31nm,0.9s,baz=13,slow=5.6,SNR=5.3
BOJS **Bojanci** 76.97 335 *eP* P 10 37 03.7 -0.5
BOJS *e*SS SS 10 51 46.4 +0.5
GRUS **Gruza** 76.97 331 *i* PKP P 10 37 03.2 -1.1
DIVS **Divcibare** 76.99 331 *i* PKP P 10 37 03.9 -0.4
DAVOX **Davos** 77.01 339⇑*iP* P 10 37 03.7 -0.7
comp=Z,91nm,1.4s,mb5.5
DAVOX **Davos** 77.01 339⇑*iP* P 10 37 05.1 +0.7
LDF **La Druitiere** 77.03 346 *eP* P 10 37 03.8 -0.7
comp=Z,184nm,1.4s,mb5.5
LDF **La Druitiere** 77.03 346 *eP* P 10 37 03.8 -0.7
LDF pmax pmax
comp=Z,92nm,1.4s,mb5.5
LDF **La Druitiere** 77.03 346 *eP* P 10 37 03.8 -0.7
comp=Z,92nm,1.4s,mb5.5
FUORN **Ofenpass** 77.08 339⇑*iP* P 10 37 04.4 -0.4
comp=Z,131nm,1.7s,mb5.6
FUORN **Ofenpass** 77.08 339⇑*iP* P 10 37 05.7 +0.9
LOMF **Lomont** 77.08 341 *eP* P 10 37 05.0 +0.2
MUO **Muotathal** 77.09 340⇑*iP* P 10 37 05.8 +0.9
comp=Z,80nm,0.7s,mb5.7
MUO **Muotathal** 77.09 340⇑*iP* P 10 37 05.2 +0.3
LLS **Linth-Limmern** 77.13 340⇑*iP* P 10 37 05.2 +0.1
comp=Z,75nm,1.7s,mb5.3
LLS **Linth-Limmern** 77.13 340⇑*iP* P 10 37 05.4 +0.3
DIM **Dimitrovgrad** 77.14 327 *eP* P 10 37 05.8 +0.6
KNDS **Knezji Dol** 77.16 336 *eP* P 10 37 04.8 -0.4
BHD **Baghdad** 77.18 309 *ex* x 10 47 29.0
BRMO **Bormio** 77.19 339 P P 10 37 05.7 +0.2
BNALP **Bannalp** 77.23 340⇑*iP* P 10 37 05.4 -0.3
comp=Z,80nm,1.6s,mb5.4
BNALP **Bannalp** 77.23 340⇑*iP* P 10 37 05.8 +0.1
BERNI **Berninapass** 77.33 339⇑*iP* P 10 37 05.7 -0.5
comp=Z,90nm,1.4s,mb5.5
BERNI **Berninapass** 77.33 339⇑*iP* P 10 37 07.0 +0.8
GRR **Gorron** 77.33 347⇑*iP* P 10 37 05.8 -0.4
comp=Z,183nm,1.0s,mb5.7
GRR **Gorron** 77.33 347⇑*iP* P 10 37 05.8 -0.4
GRR pmax pmax
comp=Z,92nm,1.0s,mb5.7
GRR **Gorron** 77.33 347⇑*iP* P 10 37 05.8 -0.4
comp=Z,92nm,1.0s,mb5.7
KOZT **Kozan** 77.36 317 *eP* P 10 37 06.5 +0.1
PLD **Plovdiv** 77.36 327 P P 10 37 07.5 +1.1
BBLS **Bajina Basta -** 77.37 332 *i* PKP P 10 37 07.0 +0.5
VDL **Val di Lei** 77.38 339⇑*iP* P 10 37 05.8 -0.7
comp=Z,103nm,1.7s,mb5.5
VDL **Val di Lei** 77.38 339⇑*iP* P 10 37 07.2 +0.7
HASLI **Hasliberg** 77.39 340⇑*iP* P 10 37 06.7 +0.1
comp=Z,94nm,1.3s,mb5.5
VTS **Vitosha** 77.40 329⇑*iP* P 10 37 06.2 -0.4
VTS **Vitosha** 77.40 329 P P 10 37 05.7 -0.9
ESKT **Eskisehir** 77.53 322 *eP* P 10 37 07.4 +0.1
ESKT **Eskisehir** 77.53 322 *iP* P 10 37 07.4 +0.1
KDZ **Kurdzhali** 77.54 327 *eP* P 10 37 08.0 +0.6
BRANT **Les Verrieres** 77.55 342⇑*iP* P 10 37 07.4 0.0
comp=Z,144nm,1.6s,mb5.7
BRANT **Les Verrieres** 77.55 342⇑*iP* P 10 37 07.7 +0.3
FUSIO **Fusio** 77.58 340⇑*iP* P 10 37 07.2 -0.4
comp=Z,148nm,1.3s,mb5.8
FUSIO **Fusio** 77.58 340⇑*iP* P 10 37 08.1 +0.5
WIMIS **Wimmis** 77.58 341⇑*iP* P 10 37 07.6 0.0
comp=Z,60nm,1.4s,mb5.3
TORNY **Torny** 77.61 341⇑*iP* P 10 37 07.7 -0.1
comp=Z,170nm,1.4s,mb5.8
TORNY **Torny** 77.61 341⇑*iP* P 10 37 08.1 +0.3
PALK **Pallekele** 77.63 266 *eP* P 10 37 07.4 -0.5
PALK *e*pP pP 10 37 22.5 -0.6
SGMF **Saint Gilles** 77.69 348⇑*iP* P 10 37 07.7 -0.5
comp=Z,139nm,0.9s,mb5.6
SGMF **Saint Gilles** 77.69 348⇑*iP* P 10 37 07.7 -0.5
SGMF pmax pmax
comp=Z,70nm,0.9s,mb5.6
SGMF **Saint Gilles** 77.69 348⇑*iP* P 10 37 07.7 -0.5
comp=Z,70nm,0.9s,mb5.6
ROSF **Rostrenen** 77.69 348⇑*iP* P 10 37 07.9 -0.4
comp=Z,213nm,1.1s,mb5.7
ROSF **Rostrenen** 77.69 348⇑*iP* P 10 37 07.9 -0.4
ROSF pmax pmax
comp=Z,107nm,1.1s,mb5.7
ROSF **Rostrenen** 77.69 348⇑*iP* P 10 37 07.9 -0.4
comp=Z,107nm,1.1s,mb5.7
LOR **Lormes** 77.70 343⇑*iP* P 10 37 08.0 -0.3
comp=Z,157nm,1.3s,mb5.5
LOR **Lormes** 77.70 343⇑*iP* P 10 37 08.0 -0.3
LOR pmax pmax
comp=Z,78nm,1.3s,mb5.5
LOR **Lormes** 77.70 343⇑*iP* P 10 37 08.0 -0.3
comp=Z,78nm,1.3s,mb5.5
KIZT **Kizilcal** 77.70 321 *eP* P 10 37 07.7 -0.6
CEYT **Ceyhan** 77.80 317 *eP* pP 10 37 19.1 -5.0
MAGA **Magasa** 77.81 338 P P 10 37 08.7 -0.2
KARA **Karaisali** 77.87 318 *eP* P 10 37 10.3 +1.1
PLE **Pljevlja** 77.87 332⇑*iP* P 10 37 10.3 +1.1
CABF **La Chapelle** 77.93 342⇑*iP* P 10 37 09.9 +0.3
comp=Z,224nm,1.6s,mb5.6
CABF **La Chapelle** 77.93 342⇑*iP* P 10 37 09.9 +0.3
CABF pmax pmax
comp=Z,112nm,1.6s,mb5.5
CABF **La Chapelle** 77.93 342⇑*iP* P 10 37 09.9 +0.3
comp=Z,112nm,1.6s,mb5.5
SENIN **Lac Senin** 77.94 341⇑*iP* P 10 37 09.0 -0.6
comp=Z,75nm,2.1s,mb5.3
SENIN **Lac Senin** 77.94 341⇑*iP* P 10 37 10.1 +0.5
NVLJ **Novalja** 77.94 335 *iP* P 10 37 08.4 -1.2
RDO **Rodhopi** 77.95 326 *eP* P 10 37 10.0 +0.3
GIMEL **Gimel** 77.97 342⇑*iP* P 10 37 08.1 -1.7
comp=Z,69nm,1.6s,mb5.3
GIMEL **Gimel** 77.97 342⇑*iP* P 10 37 10.0 +0.2
ALN **Alexandroupoli** 78.00 326 *eP* P 10 37 09.3 -0.7
ALN **Alexandroupoli** 78.00 326 P P 10 37 11.2 +1.2
MUGIO **Muggio** 78.01 340⇑*iP* P 10 37 09.3 -0.7
comp=Z,165nm,1.7s,mb5.7
MUGIO **Muggio** 78.01 340⇑*iP* P 10 37 09.7 -0.3
COBT **Iskenderun** 78.01 317 *iP* P 10 37 10.3 +0.3
AIGLE **Aigle** 78.03 341⇑*iP* P 10 37 09.7 -0.4
comp=Z,82nm,1.6s,mb5.4
AIGLE **Aigle** 78.03 341⇑*iP* P 10 37 10.1 0.0
JSC **Jenkinsville** 78.03 48 *eP* P 10 37 09.9 -0.2
GRYON **Gryon** 78.08 341⇑*iP* P 10 37 10.4 0.0
comp=Z,52nm,1.3s,mb5.3
GRYON **Gryon** 78.08 341⇑*iP* P 10 37 10.7 +0.3
QUIF **Quistinic** 78.09 348⇑*iP* P 10 37 09.9 -0.6
comp=Z,171nm,1.2s,mb5.5
QUIF **Quistinic** 78.09 348⇑*iP* P 10 37 09.9 -0.6
QUIF pmax pmax
comp=Z,86nm,1.2s,mb5.6
QUIF **Quistinic** 78.09 348⇑*iP* P 10 37 09.9 -0.6
comp=Z,86nm,1.2s,mb5.5
MMK **Mattmark** 78.11 340⇑*iP* P 10 37 10.7 +0.2
comp=Z,107nm,1.3s,mb5.6
MMK **Mattmark** 78.11 340⇑*iP* P 10 37 11.3 +0.8
ENEZ **Enez** 78.11 326 *eP* pP 10 37 21.4 -4.4
UPM **Unac-Piva** 78.12 332⇑*iP* P 10 37 10.3 -0.4
MMB **Musomiste** 78.14 328 *eP* P 10 37 11.1 +0.4
MMB **Musomiste** 78.14 328 P P 10 37 11.0 +0.3
IVA **Berane** 78.14 331⇑*iP* P 10 37 11.5 +0.8
DIX **Grande Dixence** 78.19 341⇑*iP* P 10 37 10.8 -0.2
comp=Z,126nm,1.4s,mb5.7
DIX **Grande Dixence** 78.19 341⇑*iP* P 10 37 11.8 +0.8
SALAN **Lac Salanfe** 78.21 341⇑*iP* P 10 37 10.7 -0.4
comp=Z,91nm,2.0s,mb5.4
SALAN **Lac Salanfe** 78.21 341⇑*iP* P 10 37 11.5 +0.4
AVF **Avril sur Loir** 78.25 344⇑*iP* P 10 37 11.2 -0.1
comp=Z,177nm,1.2s,mb5.6
AVF **Avril sur Loir** 78.25 344⇑*iP* P 10 37 11.2 -0.1
AVF pmax pmax
comp=Z,88nm,1.2s,mb5.6
AVF **Avril sur Loir** 78.25 344⇑*iP* P 10 37 11.2 -0.1
comp=Z,88nm,1.2s,mb5.6
EMV **Vieux Emosson** 78.31 341⇑*iP* P 10 37 11.3 -0.3
comp=Z,111nm,1.6s,mb5.5
EMV **Vieux Emosson** 78.31 341⇑*iP* P 10 37 12.2 +0.6
SMF **Signal de Mont** 78.31 343⇑*iP* P 10 37 11.5 -0.1
comp=Z,137nm,1.2s,mb5.4
SMF **Signal de Mont** 78.31 343⇑*iP* P 10 37 11.5 -0.1
SMF pmax pmax
comp=Z,68nm,1.2s,mb5.5
SMF **Signal de Mont** 78.31 343⇑*iP* P 10 37 11.5 -0.1
comp=Z,68nm,1.2s,mb5.5
KONT **Konya--Tatoy** 78.33 320 *eP* P 10 37 10.7 -1.1
PVY **Plav** 78.38 331⇑*iP* P 10 37 12.4 +0.3
GDZ **Gediz** 78.41 323 *iP* P 10 37 07.5 -4.7
MERS **Mersin** 78.42 318 *eP* P 10 37 11.6 -0.7
NKY **Niksic** 78.46 332⇑*iP* P 10 37 11.4 -1.1
BRY **Bratogost** 78.50 332⇑*iP* P 10 37 11.4 -1.3
SKO **Skopje** 78.51 330 *iP* P 10 37 12.9 +0.1
STIP **Stip** 78.53 329 *iP* P 10 37 13.0 +0.1
BGF **Bois d'Agland** 78.56 344⇑*iP* P 10 37 13.0 0.0
comp=Z,69nm,1.1s,mb5.2
BGF **Bois d'Agland** 78.56 344⇑*iP* P 10 37 13.0 0.0
BGF pmax pmax
comp=Z,35nm,1.1s,mb5.2
BGF **Bois d'Agland** 78.56 344⇑*iP* P 10 37 13.0 0.0
comp=Z,35nm,1.1s,mb5.2
SRS **Serrai** 78.61 328 P P 10 37 14.2 +0.9
MIB **Mutribah** 78.62 305 *eP* P 10 37 12.2 -1.2
MIB AMb AMB 10 37 14.3
comp=Z,68nm,0.9s,mb5.6
MIB **Mutribah** 78.62 305 *eP* P 10 37 12.3 -1.1
MIB AMb AMB 10 37 14.2
comp=Z,99nm,1.2s,mb5.6
UMR **Umm Al-Rimmam** 78.64 304 *eP* P 10 37 11.9 -1.6
TTG **Podgorica** 78.73 331⇑*iP* P 10 37 13.2 -0.8
VAY **Valandovo** 78.75 328 *iP* P 10 37 13.0 -1.1
KNT **Kendrikon** 78.79 328 *eP* P 10 37 14.8 +0.5
KNT **Kendrikon** 78.79 328 P P 10 37 15.2 +0.9
MEST **Erdemli** 78.81 318 *iP* P 10 37 13.8 -0.6
LPL **La Plagne** 78.86 341⇑*iP* P 10 37 15.8 +1.1
comp=Z,252nm,1.3s,mb5.7
LPL **La Plagne** 78.86 341⇑*iP* P 10 37 15.8 +1.1
LPL pmax pmax
comp=Z,126nm,1.3s,mb5.7
LPL **La Plagne** 78.86 341⇑*iP* P 10 37 15.8 +1.1
comp=Z,126nm,1.3s,mb5.7
LPG **La Plagne** 78.88 341⇑*iP* P 10 37 16.0 +1.2
comp=Z,384nm,1.4s,mb5.8
LPG **La Plagne** 78.88 341⇑*iP* P 10 37 16.0 +1.2
LPG pmax pmax
comp=Z,192nm,1.4s,mb5.8
LPG **La Plagne** 78.88 341⇑*iP* P 10 37 16.0 +1.2
comp=Z,192nm,1.4s,mb5.8
TCF **Toulx Ste Croi** 78.93 344⇑*iP* P 10 37 15.0 -0.1
comp=Z,81nm,1.1s,mb5.3
TCF **Toulx Ste Croi** 78.93 344⇑*iP* P 10 37 15.0 -0.1
TCF pmax pmax
comp=Z,41nm,1.1s,mb5.3
TCF **Toulx Ste Croi** 78.93 344⇑*iP* P 10 37 15.0 -0.1
comp=Z,40nm,1.1s,mb5.3
HCY **Herceg Novi** 78.94 332⇑*iP* P 10 37 15.2 +0.1
BUM **Brajici-Budva** 78.96 331⇑*iP* P 10 37 14.6 -0.6
SOH **Sokhos** 78.96 328 P P 10 37 16.3 +1.1
KBD **Kabd** 78.96 304 *eP* P 10 37 13.0 -2.2
KBD AMb AMB 10 37 22.9
comp=Z,76nm,0.7s,mb5.8
PLDF **La Plantade** 79.00 343 *eP* P 10 37 15.9 +0.4
LCHF **La Chataignera** 79.00 346 *eP* P 10 37 16.5 +1.0
AGO **Saint Agoulin** 79.00 344 *eP* P 10 37 16.1 +0.6
TKTP **Tekketepe** 79.02 322 *iP* P 10 37 15.3 -0.3
RST **Umm Al-Ruwaisa** 79.04 305 *eP* P 10 37 13.5 -2.2
RST AMb AMB 10 37 16.4
comp=Z,115nm,1.0s,mb5.8
RST **Umm Al-Ruwaisa** 79.04 305 *eP* P 10 37 13.4 -2.2
RST AMb AMB 10 37 16.4
comp=Z,116nm,1.0s,mb5.8
RSP **Reno Superiore** 79.11 341 P P 10 37 16.2 +0.1
ISP **Isparta** 79.13 321 *eP* P 10 37 16.3 +0.1
ISP *e**PP pP 10 37 36.6 +5.2
ISP pmax pmax
comp=Z,99nm,1.0s,mb5.7
ISP **Isparta** 79.13 321 *eP* P 10 37 16.3 +0.1
comp=Z,98nm,1.0s,mb5.7
ISP *e*pP pP 10 37 36.6 +5.2
NAY **Al-Naaiem** 79.13 305 *eP* P 10 37 13.2 -3.0
NAY AMb AMB 10 37 17.1
comp=Z,56nm,1.1s,mb5.4
NAY **Al-Naaiem** 79.13 305 *eP* P 10 37 13.8 -2.3
NAY AMb AMB 10 37 17.1
comp=Z,56nm,1.1s,mb5.4
HDMB **Hadim** 79.14 319 *eP* P 10 37 10.9 -5.3
ULC **Ulcinj** 79.17 331⇑*iP* P 10 37 15.8 -0.5
LOS **Limnos** 79.19 326 P P 10 37 17.5 +1.0
AKHS **Akhisar** 79.19 324 *iP* P 10 37 15.2 -1.4
QRN **Al-Qurain** 79.21 304 *eP* P 10 37 14.9 -1.7
QRN AMb AMB 10 37 17.5
comp=Z,96nm,0.8s,mb5.8
QRN **Al-Qurain** 79.21 304 *eP* P 10 37 15.2 -1.4
QRN AMb AMB 10 37 17.5
comp=Z,107nm,0.8s,mb5.8
RDF **Al-Radifah** 79.24 304 *eP* P 10 37 15.0 -1.7
RDF AMb AMB 10 37 18.0
comp=Z,165nm,1.0s,mb5.9
RDF **Al-Radifah** 79.24 304 *eP* P 10 37 15.8 -0.9
RDF AMb AMB 10 37 18.0
comp=Z,169nm,1.1s,mb5.9
PYM **Petit Puy Mans** 79.32 344 *eP* P 10 37 17.5 +0.3
BNI **Bardonecchia** 79.32 341 *eP* P 10 37 18.1 +0.9
BNI pmax pmax
comp=Z,136nm,0.9s,mb5.9
BNI **Bardonecchia** 79.32 341 *eP* P 10 37 18.1 +0.9
comp=Z,136nm,0.9s,mb5.9
VLC **Villacollemand** 79.39 338 *eP* P 10 37 18.7 +1.1
comp=Z,182nm,1.3s,mb5.8
BIA **Bitola** 79.41 329 *iP* P 10 37 17.3 -0.4
OHR **Ohrid** 79.49 330 *iP* P 10 37 17.4 -0.7
ORIF **Oris-en-Rattie** 79.60 341⇑*iP* P 10 37 19.7 +1.0
comp=Z,228nm,1.3s,mb5.6
ORIF **Oris-en-Rattie** 79.60 341⇑*iP* P 10 37 19.7 +1.0
ORIF pmax pmax
comp=Z,114nm,1.3s,mb5.6
ORIF **Oris-en-Rattie** 79.60 341⇑*iP* P 10 37 19.7 +1.0
comp=Z,114nm,1.3s,mb5.6
FNA **Florina** 79.61 329 *eP* P 10 37 18.4 -0.4
FNA **Florina** 79.61 329 P P 10 37 19.8 +1.0
MBDF **Montbardon** 79.61 341 *eP* P 10 37 19.4 +0.6
comp=Z,104nm,1.3s,mb5.3
MBDF **Montbardon** 79.61 341 *eP* P 10 37 19.4 +0.6
MBDF pmax pmax
comp=Z,52nm,1.3s,mb5.3
MBDF **Montbardon** 79.61 341 *eP* P 10 37 19.4 +0.6
comp=Z,52nm,1.3s,mb5.3
MRX **Morelia** 79.71 71 *eP* P 10 37 21.0 +1.7
MOIG **Morelia** 79.73 71 *iP* P 10 37 20.4 +0.9
FRNF **Fournols** 79.74 344 *eP* P 10 37 20.1 +0.6
LBL **Lubilhac** 79.78 343 *eP* P 10 37 20.8 +1.1
DNZL **Cakiroluk** 79.81 322 *iP* P 10 37 16.8 -3.1
KDAG **Bornova** 79.81 324 *iP* P 10 37 19.0 -0.9
AS31 **Alice Springs** 79.86 204 *eP* P 10 37 20.2 0.0
AS31 *e*PcP PcP 10 37 34.7 +7.1
ASAR **Alice Springs** 79.87 204 P P 10 37 19.7 -0.5
comp=Z,25nm,0.8s,mb5.2,baz=16,slow=4.9,SNR=34
ASAR pP pP 10 37 34.9 -0.5
comp=Z,27nm,0.6s,baz=16,slow=5.6,SNR=14
ASAR PKKP PKKPdf 10 55 50.0 -4.4
comp=Z,0.5nm,0.7s,baz=179,slow=1.6,SNR=4.7
ASAR **Alice Springs** 79.87 204 P P 10 37 19.7 -0.5
ASAR *PP pP 10 37 34.9 -0.5
ASAR 10 55 50.0
ASAR pmax pmax
comp=Z,25nm,0.9s
ASPA **Alice Springs** 79.87 204 *eP* P 10 37 20.2 0.0
ASPA *e*PCP PcP 10 37 34.7 +7.1
VIVF **Saint-Julien-l** 79.89 342⇑*iP* P 10 37 20.9 +0.6
comp=Z,279nm,1.4s,mb5.7
VIVF **Saint-Julien-l** 79.89 342⇑*iP* P 10 37 20.9 +0.6
VIVF pmax pmax
comp=Z,140nm,1.4s,mb5.7
VIVF **Saint-Julien-l** 79.89 342⇑*iP* P 10 37 20.9 +0.6
comp=Z,140nm,1.4s,mb5.7
RJF **Les Rejaudoux** 80.00 345⇑*iP* P 10 37 21.0 +0.1
comp=Z,70nm,1.0s,mb5.2
RJF **Les Rejaudoux** 80.00 345⇑*iP* P 10 37 21.0 +0.1
RJF pmax pmax
comp=Z,35nm,1.0s,mb5.2
RJF **Les Rejaudoux** 80.00 345⇑*iP* P 10 37 21.0 +0.1
comp=Z,35nm,1.0s,mb5.2
OCF **Saint Nazaire** 80.04 342 *eP* P 10 37 22.0 +0.9
OG26 **St.-Nazaire-De** 80.04 342 *eP* P 10 37 22.0 +0.9
SAOF **Saorge** 80.17 340 *eP* P 10 37 21.7 -0.1
AUTN **L'Aution** 80.18 340 *eP* P 10 37 20.7 -1.2
TOUF **Mont Tournerai** 80.20 340 *eP* P 10 37 22.2 +0.2
CAF **Calviac** 80.28 344⇑*iP* P 10 37 23.1 +0.7
comp=Z,142nm,1.2s,mb5.5
CAF **Calviac** 80.28 344⇑*iP* P 10 37 23.1 +0.7
CAF pmax pmax
comp=Z,71nm,1.2s,mb5.5
CAF **Calviac** 80.28 344⇑*iP* P 10 37 23.1 +0.7
comp=Z,71nm,1.2s,mb5.5
LUCF **Luceram** 80.30 340 *eP* P 10 37 22.4 -0.1
SBF **Sospel** 80.31 340⇑*iP* P 10 37 22.4 -0.2
comp=Z,278nm,1.4s,mb5.7
SBF **Sospel** 80.31 340⇑*iP* P 10 37 22.4 -0.2
SBF pmax pmax
comp=Z,139nm,1.4s,mb5.7
SBF **Sospel** 80.31 340⇑*iP* P 10 37 22.4 -0.2
comp=Z,139nm,1.4s,mb5.7
XOR **Xorichti** 80.33 327 P P 10 37 22.9 +0.2
MVIF **Mont Vial** 80.33 340 *eP* P 10 37 23.2 +0.5
REVF **Revere** 80.44 340 *eP* P 10 37 23.3 0.0
LFF **La Frestale** 80.47 345⇑*iP* P 10 37 23.9 +0.5
comp=Z,171nm,1.2s,mb5.6
LFF **La Frestale** 80.47 345⇑*iP* P 10 37 23.9 +0.5
LFF pmax pmax
comp=Z,86nm,1.2s,mb5.6
LFF **La Frestale** 80.47 345⇑*iP* P 10 37 23.9 +0.5
comp=Z,86nm,1.2s,mb5.5
CSS **Prodhromos** 80.55 318 *eP* P 10 37 23.2 -0.7
comp=Z,163nm,1.6s,mb5.7
SMRF **Simiane la Rot** 80.57 341⇑*iP* P 10 37 24.9 +0.9
comp=Z,114nm,1.2s,mb5.4
SMRF **Simiane la Rot** 80.57 341⇑*iP* P 10 37 24.9 +0.9
comp=Z,114nm,1.2s,mb5.7
MEV **Metsovon** 80.57 329 *eP* P 10 37 25.7 +1.7
MEV **Metsovon** 80.57 329 P P 10 37 26.2 +2.2
FRF **La Foret Royal** 80.76 341⇑*iP* P 10 37 24.9 -0.1
comp=Z,161nm,1.4s,mb5.5
FRF **La Foret Royal** 80.76 341⇑*iP* P 10 37 24.9 -0.1
FRF pmax pmax
comp=Z,80nm,1.4s,mb5.5
FRF **La Foret Royal** 80.76 341⇑*iP* P 10 37 24.9 -0.1
comp=Z,80nm,1.4s,mb5.5
JAN **Janina** 80.81 329 *eP* P 10 37 26.0 +0.8
LMR **La Mourre** 81.00 341⇑*iP* P 10 37 26.4 +0.1
comp=Z,257nm,1.3s,mb5.7
LMR **La Mourre** 81.00 341⇑*iP* P 10 37 26.4 +0.1
LMR pmax pmax
comp=Z,129nm,1.3s,mb5.7
LMR **La Mourre** 81.00 341⇑*iP* P 10 37 26.4 +0.1
comp=Z,129nm,1.3s,mb5.7
KEK **Kerkira** 81.07 330 *eP* P 10 37 26.5 -0.2
UNM **Universidad Na** 81.15 70 *eP* P 10 37 24.0 -3.0
ASF **Jabal al Asfar** 81.47 314 P P 10 37 29.0 +0.3
comp=Z,56nm,1.2s,mb5.4,baz=247,slow=1.4,SNR=27
ASF **Jabal al Asfar** 81.47 314 P P 10 37 29.0 +0.2
ASF pmax pmax
comp=Z,56nm,1.2s
PPM **Popocatepetl** 81.67 69 *iP* P 10 37 31.5 +1.7

PLIG	Platanillo	81.71	70	iP	P	10 37 30.1	0.0
ORI	Oriolo Calabro	81.72	332	P	P	10 37 31.0	+0.9
MTLF	Montolieu	81.79	344	⇑iP	P	10 37 31.3	+0.9
	comp=Z,212nm,1.3s,mb5.6						
MTLF	Montolieu	81.79	344	⇑iP	P	10 37 31.3	+0.9
MTLF				pmax	pmax		
	comp=Z,106nm,1.3s,mb5.6						
MTLF	Montolieu	81.79	344	⇑iP	P	10 37 31.3	+0.9
	comp=Z,106nm,1.3s,mb5.6						
MBWA	Marble Bar	81.83	217	eP	P	10 37 29.7	-0.9
	comp=Z,159nm,1.6s,mb5.7						
MBWA				epP	pP	10 37 47.2	+1.3
LRDF	Laroque-de-Fa	82.13	343	eP	P	10 37 34.3	+2.1
LRDF	Laroque-de-Fa	82.13	343	eP	P	10 37 33.5	+1.3
LRDF	Laroque-de-Fa	82.13	343	eP	P	10 37 33.5	+1.3
VLS	Valsamata	82.24	329	eP	P	10 37 32.0	-0.8
SANT	Santorini	82.27	324	eP	P	10 37 33.0	+0.1
SANT				epP	pP	10 37 48.1	-0.1
MLS	Moulis	82.35	344	eP	P	10 37 34.3	+0.9
LVIG	Laguna Verde	82.37	67	iP	pP	10 37 48.6	-0.2
EPF	Esparros	82.40	345	⇑iP	P	10 37 33.8	+0.2
	comp=Z,247nm,1.4s,mb5.6						
EPF	Esparros	82.40	345	⇑iP	P	10 37 33.8	+0.2
EPF				pmax	pmax		
	comp=Z,123nm,1.4s,mb5.6						
EPF	Esparros	82.40	345	⇑iP	P	10 37 33.8	+0.2
	comp=Z,123nm,1.4s,mb5.6						
CARF	Carcanieres	82.42	344	eP	P	10 37 34.5	+0.8
EALK	Alkurruntz	82.49	346	P	P	10 37 33.8	-0.3
	comp=Z,358nm,1.7s,mb6.0						
FILF	Fillols	82.49	343	eP	P	10 37 34.9	+0.8
SJAF	Saint Jean de	82.51	343	eP	P	10 37 34.8	+0.6
EJON	La Jonquera	82.54	343	P	P	10 37 34.5	+0.1
	comp=Z,238nm,1.5s,mb6.0						
ELIZ	Elizondo	82.55	346	P	P	10 37 34.7	+0.3
ELIZ				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.6						
ELIZ	Elizondo	82.55	346	P	P	10 37 34.7	+0.3
	comp=Z,64nm,1.1s,mb5.6						
SJPF	Ste Jean	82.55	346	eP	P	10 37 35.3	+0.9
	comp=Z,127nm,1.3s,mb5.5						
SJPF	Ste Jean	82.55	346	eP	P	10 37 35.3	+0.9
SJPF				pmax	pmax		
	comp=Z,63nm,1.3s,mb5.5						
SJPF	Ste Jean	82.55	346	eP	P	10 37 35.3	+0.9
	comp=Z,63nm,1.3s,mb5.5						
VIEF	Viey	82.59	345	eP	P	10 37 36.0	+1.4
LARF	Larrau	82.59	346	eP	P	10 37 35.9	+1.3
RESF	Ens	82.62	345	eP	P	10 37 36.3	+1.5
ETSF	Etsaut	82.67	346	⇑iP	P	10 37 36.0	+1.0
	comp=Z,200nm,1.2s,mb5.7						
ETSF	Etsaut	82.67	346	⇑iP	P	10 37 36.0	+1.0
ETSF				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
ETSF	Etsaut	82.67	346	⇑iP	P	10 37 36.0	+1.0
	comp=Z,100nm,1.2s,mb5.7						
ACX	Acapulco	82.70	72	eP	pP	10 37 51.0	+0.5
VALF	Valcebollere	82.74	344	eP	P	10 37 36.7	+1.3
ELAN	Lanestosa	82.74	348	P	P	10 37 34.5	-0.9
	comp=Z,476nm,2.5s,mb6.1						
VLI	Veliai	82.81	326	eP	P	10 37 33.0	-2.8
EARI	Arriondas	82.89	349	P	P	10 37 35.8	-0.4
	comp=Z,525nm,2.7s,mb6.1						
EPON	Pontenova	83.07	350	⇑P	P	10 37 36.1	-1.0
	comp=Z,453nm,2.2s,mb6.1						
IDI	Anoyia	83.44	324	P	P	10 37 38.2	-0.9
	comp=Z,17nm,0.7s,mb5.2,baz=22,slow=12,SNR=9.5						
EMAZ	Mazaricos	83.62	352	P	P	10 37 38.6	-1.3
	comp=Z,1μm,2.9s,mb6.5						
STS	Santiago	83.64	351	P	P	10 37 39.0	-1.0
STS				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.7						
STS	Santiago	83.64	351	P	P	10 37 39.0	-1.0
	comp=Z,74nm,1.2s,mb5.7						
KARN	Karanos	83.68	325	eP	P	10 37 39.3	-0.9
ESAC	San Caprasio	83.80	345	P	P	10 37 40.4	-0.5
	comp=Z,683nm,1.6s,mb6.5						
EPOB	Poblet	83.92	344	P	P	10 37 40.3	-1.2
	comp=Z,260nm,1.3s,mb6.2						
VSL	Villasalto	84.06	337	eP	P	10 37 42.2	+0.1
VSL				epP	pP	10 38 01.2	+3.6
OXX	Oaxaca	84.33	69	eP	P	10 37 45.5	+2.0
VHO	Vista Hermosa	84.33	69	iP	P	10 37 45.4	+1.8
EZAM	Zamans	84.39	351	P	P	10 37 43.7	-0.1
EZAM				pmax	pmax		
	comp=Z,193nm,1.1s,mb6.1						
EZAM	Zamans	84.39	351	P	P	10 37 43.7	-0.1
	comp=Z,193nm,1.1s,mb6.1						
ECAL	Calabor	84.40	350	⇑P	P	10 37 43.3	-0.6
	comp=Z,886nm,3.0s						
ERTA	Horta de San J	84.42	344	⇑P	P	10 37 43.5	-0.6
	comp=Z,466nm,1.5s,mb6.4						
PBRG	Braganca	84.53	350	eP	P	10 37 44.9	+0.3
	comp=Z,175nm,1.5s,mb6.0						
ELOB	Lobios	84.61	351	⇑P	P	10 37 44.3	-0.6
	comp=Z,341nm,2.1s,mb6.1						
PCAB	Cabril	84.76	351	eP	P	10 37 45.8	+0.1
	comp=Z,159nm,1.7s,mb5.9						
EMOS	Mosqueruela	85.13	345	⇑P	P	10 37 47.9	+0.3
	comp=Z,551nm,2.2s,mb6.3						
ETOS	Mallorca	85.16	342	P	P	10 37 44.3	-3.4
	comp=Z,271nm,1.6s,mb6.1						
PVRL	Vila Real	85.16	351	eP	P	10 37 48.1	+0.4
	comp=Z,252nm,1.3s,mb6.2						
GUD	Guadarrama	85.38	348	⇓P	P	10 37 49.5	+0.7
GUD				pmax	pmax		
	comp=Z,265nm,0.9s,mb6.4						
GUD	Guadarrama	85.38	348	⇓P	P	10 37 49.5	+0.7
	comp=Z,265nm,0.9s,mb6.4						
PVIS	Viseu	85.73	351	eP	P	10 37 50.6	0.0
	comp=Z,114nm,1.6s,mb5.8						
ECHE	Chera	85.97	345	P	P	10 37 52.1	+0.4
ECHE				pmax	pmax		
	comp=Z,117nm,0.9s,mb6.1						
ECHE	Chera	85.97	345	P	P	10 37 52.1	+0.3
	comp=Z,117nm,0.9s,mb6.1						
MTE	Manteigas	86.01	350	eP	P	10 37 54.1	+2.1
	comp=Z,123nm,0.9s,mb6.1						
EIBI	Ibiza	86.14	343	P	P	10 37 51.4	-1.2
	comp=Z,282nm,1.8s,mb6.2						
STKA	Stephens Creek	86.29	195	eP	P	10 37 52.8	-0.5
	comp=Z,17nm,1.0s,mb5.2						
STKA				ePCP	PcP	10 38 07.0	+11
STKA	Stephens Creek	86.29	195	P	P	10 37 52.5	-0.9
	comp=Z,26nm,1.1s,mb5.4,baz=7.0,slow=5.0,SNR=4.8						
STKA				pP	pP	10 38 07.2	-1.5
	comp=Z,36nm,0.8s,baz=336,slow=7.9,SNR=10						
ESBB	Sonseca Array	86.31	347	P	P	10 37 50.7	-2.7
	comp=Z,841nm,3.1s						
ESDC	Sonseca Array	86.31	347	P	P	10 37 53.3	-0.1
	comp=Z,37nm,0.8s,mb5.7,baz=4.3,slow=4.9,SNR=76						
ESDC				pP	pP	10 38 08.6	-0.2
	comp=Z,24nm,0.7s,baz=2.7,slow=4.5,SNR=12						
ESDC	Sonseca Array	86.31	347	P	P	10 37 52.2	-1.3
	comp=Z,49nm,0.9s,mb5.7						
ESLA	Sonseca Array	86.31	347	eP	P	10 37 53.0	-0.4
BBSR	BB Station	86.36	36	eP	P	10 37 53.6	-0.1
	comp=Z,76nm,1.3s,mb5.8						
PCBR	Castelo Branco	86.56	350	eP	P	10 37 54.8	+0.2
	comp=Z,71nm,1.3s,mb5.7						
EBEN	Beniarda	86.72	344	P	P	10 37 54.8	-0.6
	comp=Z,213nm,1.3s,mb6.2						
PTOM	Tomar	86.87	351	eP	P	10 37 56.4	+0.2
	comp=Z,54nm,1.1s,mb5.7						
ETOB	Tobarra	86.98	345	⇑P	P	10 37 56.3	-0.4
	comp=Z,1μm,3.9s						
EVIA	Vianos	87.13	346	P	P	10 37 57.4	0.0
EVIA				pmax	pmax		
	comp=Z,95nm,0.8s,mb6.1						
EVIA	Vianos	87.13	346	P	P	10 37 57.4	-0.1
	comp=Z,95nm,0.8s,mb6.1						
PESTR	Estremoz	87.53	350	eP	P	10 37 58.6	-0.8
	comp=Z,64nm,1.2s,mb5.7						
EBAD	Badajoz	87.58	350	⇑P	P	10 37 59.0	-0.6
	comp=Z,1μm,2.0s,mb6.9						
PMAFR	Mafra	87.61	351	eP	P	10 37 58.9	-0.8
KEST	Kesra	87.66	336	P	P	10 37 59.8	-0.2
	comp=Z,21nm,0.9s,mb5.4,baz=291,slow=2.0,SNR=40						
EMUR	La Murta	87.72	345	P	P	10 37 57.6	-2.7
	comp=Z,435nm,1.9s,mb6.4						
EBAN	Banos Encina	87.77	347	P	P	10 38 00.2	-0.3
EBAN				pmax	pmax		
	comp=Z,204nm,0.9s,mb6.4						
EBAN	Banos Encina	87.77	347	P	P	10 38 00.2	-0.3
	comp=Z,204nm,0.9s,mb6.4						
EADA	Adamuz	87.87	348	P	P	10 37 59.7	-1.3
	comp=Z,3μm,3.2s						
EQES	Quesada	88.03	346	P	P	10 38 00.7	-1.0
	comp=Z,2μm,2.7s						
FORT	Forrest	88.15	207	eP	P	10 38 01.5	-0.8
	comp=Z,40nm,0.7s,mb5.8						
FORT				ePCP	PcP	10 38 16.3	+12
ADH	Angra Heroismo	88.20	5	ePP	PP	10 42 17.5	+47
ADH	Angra Heroismo	88.20	5	eSS	SS	10 55 15.0	+42
ADH	Angra Heroismo	88.20	5	iLR	LR	11 06 12.0	
PBEJ	Beja	88.39	350	eP	P	10 38 03.9	+0.5
	comp=Z,48nm,1.3s,mb5.6						
EMIN	Mina Concepcio	88.52	349	P	P	10 38 03.6	-0.5
	comp=Z,4μm,1.7s						
ECOG	Cogollos-Vega	88.61	347	P	P	10 38 03.6	-0.9
ECOG				pmax	pmax		
	comp=Z,236nm,1.0s,mb6.5						
ECOG	Cogollos-Vega	88.61	347	P	P	10 38 03.6	-0.9
	comp=Z,236nm,1.0s,mb6.5						
ENIJ	Nijar	88.72	346	P	P	10 38 03.4	-1.6
ENIJ				pmax	pmax		
	comp=Z,291nm,1.2s,mb6.5						
ENIJ	Nijar	88.72	346	P	P	10 38 03.4	-1.6
	comp=Z,291nm,1.2s,mb6.5						
CNB	Canberra Magne	88.72	188	eP	P	10 38 05.0	0.0
	comp=Z,40nm,1.1s,mb5.7						
CNB				ePCP	PcP	10 38 19.6	+13
ELOJ	Sierra Loja	88.82	347	P	P	10 38 05.2	-0.3
ELOJ				pmax	pmax		
	comp=Z,396nm,1.0s,mb6.7						
ELOJ	Sierra Loja	88.82	347	P	P	10 38 05.2	-0.3
	comp=Z,396nm,1.0s,mb6.7						
EGRO	El Granado	88.84	350	⇑P	P	10 38 04.8	-0.8
	comp=Z,3μm,1.8s						
ERON	Agron	88.90	347	P	P	10 38 04.6	-1.3
	comp=Z,278nm,0.6s,mb6.8						
EGUA	Guajares	89.05	347	P	P	10 38 05.4	-1.1
EGUA				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.8						
EGUA	Guajares	89.05	347	P	P	10 38 05.4	-1.1
	comp=Z,33nm,0.6s,mb5.8						
PDA	Ponta Delgada	89.19	4	ePP	PP	10 41 39.0	+1.0
PDA				i -		10 43 34.0	
PDA	Ponta Delgada	89.19	4	iSS	SS	10 55 10.0	+23
PDA	Ponta Delgada	89.19	4	iLR	LR	11 07 53.0	
ESPR	Espera	89.31	348	P	P	10 38 06.2	-1.6
	comp=Z,7μm,2.4s						
EJIF	Jimena Fronter	89.68	348	P	P	10 38 06.9	-2.6
EJIF				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.4						
EJIF	Jimena Fronter	89.68	348	P	P	10 38 06.9	-2.6
	comp=Z,11nm,0.6s,mb5.3						
KLBR	Kellerberrin	92.08	215	eP	P	10 38 17.5	-3.1
	comp=Z,22nm,0.9s,mb5.5						
KLBR				ePCP	PcP	10 38 33.8	+12
JTS	JuntasAbangare	96.36	63	LR	LR	11 26 28.8	
	comp=Z,8μm,18.3s,MS6.2,baz=312,slow=38						
TORD	Torodi Ar. Bea	111.17	337	PKKPbc	PKKPbc	10 54 38.8	-2.3
	comp=Z,0.9nm,0.6s,baz=193,slow=2.4,SNR=6.8						
CASY	Casey	124.95	202	eP	PKPdf	10 44 08.9	-2.5
CASY				ePCP		10 44 24.4	
LSZ	Lusaka	126.39	296	pPKP	pPKPdf	10 44 30.4	+0.2
	comp=Z,22nm,0.9s,baz=72,slow=3.6,SNR=7.2						
LPAZ	La Paz	127.58	64	pPKP	pPKPdf	10 44 32.5	+0.1
	comp=Z,7.4nm,0.7s,baz=34,slow=7.4,SNR=4.0						
VNDA	Vanda	130.58	179	PKP	PKPdf	10 44 19.9	-2.2
	comp=Z,2.6nm,0.8s,baz=296,slow=3.9,SNR=8.5						
VNDA	Vanda	130.58	179	PKIKP	PKPdf	10 44 19.9	-2.2
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNDA	Vanda	130.58	179	PKP	PKPdf	10 44 19.9	-2.2
LBTB	Lobatse	135.66	291	PKP	PKPdf	10 44 31.7	0.0
	comp=Z,13nm,0.8s,baz=35,slow=1.7,SNR=7.9						
LBTB				pPKP	pPKPdf	10 44 48.0	+0.3
	comp=Z,35nm,0.7s,baz=46,slow=2.0,SNR=15						
LBTB	Lobatse	135.66	291	PKIKP	PKPdf	10 44 31.7	+0.1
LBTB						10 44 48.0	
LBTB				pmax	pmax		
	comp=Z,13nm,0.8s						
LBTB	Lobatse	135.66	291	ePKPdf	PKPdf	10 44 32.0	+0.4
LBTB				epPKPdf	pPKPdf	10 44 47.3	-0.4
BOSA	Boshof	138.63	288	PKP	PKPdf	10 44 37.9	+0.8
	comp=Z,7.4nm,0.9s,baz=318,slow=1.7,SNR=5.4						
BOSA	Boshof	138.63	288	PKIKP	PKPdf	10 44 37.9	+0.8
BOSA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CFAA	Coronel Fontan	139.48	77	PKP	PKPdf	10 44 38.5	-0.1
	comp=Z,0.7nm,0.7s,baz=304,slow=3.7,SNR=3.0						
MAW	Mawson	140.02	216	eP	PKPdf	10 44 37.8	-1.9
	comp=Z,11nm,1.1s						
MAW	Mawson	140.02	216	PKP	PKPdf	10 44 38.0	-1.7
	comp=Z,6.8nm,1.0s,baz=66,slow=5.0,SNR=5.3						
MAW	Mawson	140.02	216	PKIKP	PKPdf	10 44 38.0	-1.7
MAW				pmax	pmax		
	comp=Z,7.0nm,1.0s						
QSPA	South Pole Qui	143.06	180	eP	PKPdf	10 44 38.6	-6.5
SUR	Sutherland	143.98	289	PKP	PKPdf	10 44 47.1	+0.3
	comp=Z,12nm,0.8s,baz=330,slow=2.2,SNR=9.1						
TRQA	Tornquist	147.66	79	ePKPdf	PKPdf	10 44 52.8	-0.2
USHA	Ushuaia	152.15	113	PKPbc	PKPbc	10 45 05.3	-1.5
	comp=Z,10nm,0.8s,baz=207,slow=7.0,SNR=3.9						
USHA				pPKPbc	pPKPbc	10 45 20.8	-2.0
	comp=Z,18nm,0.6s,baz=293,slow=2.1,SNR=4.2						
SNAA	Sanae	160.05	196	PKPab	PKPab	10 45 47.6	-2.8
	comp=Z,3.4nm,0.8s,baz=150,slow=3.1,SNR=7.3						
SNAA				pPKPab	pPKPab	10 46 02.5	-3.5
	comp=Z,4.4nm,0.7s,baz=158,slow=4.3,SNR=14						
SNAA	Sanae	160.05	196	ePKPdf	PKPab	10 45 47.1	-3.3
SNAA				e		10 46 02.6	
SNAA				e		10 46 08.4	
SNAA	Sanae	160.05	196	PKP2	PKPab	10 45 47.6	-2.8
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SNAA				pmax	pmax		
	comp=N,4.0nm,0.7s						
VNA1	Neumayer--Stat	161.78	193	ePKPdf	PKPab	10 45 54.7	-3.3
VNA1				e		10 46 10.3	
VNA1				e		10 46 16.3	
VNA1				e		10 47 39.3	

ISCJB ***01*** *11:05:48.7±0.5, 15.12N±004×9422W±003, h42km±5km, mb4.3/18, Error ellipse: s-maj=7.6km s-min=3.1km az=46.9*

IDC ***01*** *11:05:50.4±2.6, 1530N×9388W, h41km±21km, mb4.0/13, mb1 4.2/15, mb1mx4.0/25, mbtmp4.3/15, ML4.4/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/37, Error ellipse: s-maj=38.3km s-min=12.5km az=48.0*

MEX ***01*** *11:05:51.4±0.7, 1511N×9425W, h32km±35km, MD4.8*

BJI ***01*** *11:05:51.0, 15.10N×94.10W, h50km, mB4.7, Ms4.8, Msz4.5*

NEIC ***01*** *11:05:51.1±0.6, 15.12N×9409W, mb4.3/8, MD4.8(MEX), Error ellipse: s-maj=13.9km s-min=7.3km az=208.0*

CASC ***01*** *11:05:53.2±2.8, 1502N×9372W, h0km±192km, MD4.5, ML4.1, mb4.3(NEIC)*

ISC 01 11:05:50.7±0.4**, 1515N**±004×**9422W**±003**, h39**km±5km**, h51**km±2.1km**: pP-P, n94,** σ**1.35**/112**, mb4.3**/18**, 3D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	1.93	289	iP	Pn	11 06 20.4	-0.5
HUIG				iS	Sn	11 06 41.5	-2.4
CMIG	Matias Romero	2.04	342	P	Pn	11 06 22.2	-0.1
	154nm,0.3s,baz=142,slow=9.2,SNR=1472						
CMIG				S	Sn	11 06 46.2	-0.4
	351nm,0.3s,baz=123,slow=21,SNR=14						
CMIG				LR	LR	11 07 01.8	
	comp=Z,2μm,21.7s,baz=228,slow=35						
CMIG	Matias Romero	2.04	342	iP	Pn	11 06 22.2	-0.2
CMIG				iS	Sn	11 06 46.5	-0.1
CMIG	Matias Romero	2.04	342	P	Pn	11 06 22.2	-0.1
CMIG				S	Sn	11 06 46.2	-0.4
CMIG				iS	Sn	11 06 46.5	-0.1
CMIG				LR	LR	11 07 01.8	
SCX	San Cristobal	2.19	44	iP	Pn	11 06 25.0	+0.5
SCX				iS	Sn	11 06 54.5	+4.1
CCIG	Comitan	2.30	60	iP	Pn	11 06 25.9	-0.1
CCIG				iS	Sn	11 06 53.1	+0.1
JAT	Jato	2.63	108	⇓eP	Pn	11 06 30.6	0.0
OXX	Oaxaca	3.08	309	iP	Pn	11 06 39.5	+2.7
OXX				iS	Sn	11 07 13.0	+0.6
OXX	Oaxaca	3.08	309	iP	Pn	11 06 39.5	+2.7
OXX				iS	Sn	11 07 19.0	+6.6
VHO	Vista Hermosa	3.08	309	eP	Pn	11 06 37.3	+0.5
VHO				iS	Sn	11 07 11.9	-0.5
VHO	Vista Hermosa	3.08	309	iP	Pn	11 06 38.9	+2.1
VHO				iS	Sn	11 07 13.7	+1.3
FUG	Fuego 3	3.34	102	⇓eP	Pn	11 06 39.9	-0.4
TER	Terranova	3.52	103	eP	Pn	11 06 42.2	-0.6
PCG	Pacaya	3.57	102	eP	Pn	11 06 44.9	+1.4
PCG				eS	Sn	11 07 23.9	-0.5
PNIG	Pinotepa	3.96	289	iP	Pn	11 06 48.9	0.0
PNIG				iS	Sn	11 07 32.9	-1.2
UTMO	Huajuapan	4.35	308	iP	Pn	11 06 56.3	+2.0
UTMO				iS	Sn	11 07 43.0	-0.7
TPIG	Tehuac#an	4.43	318	iP	Pn	11 06 55.2	-0.2
TPIG				iS	Sn	11 07 44.3	-1.4
RBDL	Robledal	4.50	103	eP	x	11 07 19.8	
RBDL				eS	x	11 08 10.3	
SNJE	San Jose	4.64	105	⇓eP	x	11 07 21.9	
SNJE				eS	x	11 08 12.6	
SCIG	Sabancuy, Camp	4.78	37	iP	Pn	11 06 59.4	-0.7
SCIG				iS	Sn	11 07 54.6	+0.5
LVIG	Laguna Verde	5.01	336	iP	Pn	11 07 02.3	-1.0
LVIG				iS	Sn	11 08 02.2	+2.3
LVIG	Laguna Verde	5.01	336	iP	Pn	11 07 01.4	-1.9
LVIG				iS	Sn	11 07 58.1	-1.8
SNET	Serv Nac Est T	5.04	106	eP	x	11 07 02.5	
SNET				eS	x	11 07 56.3	
LBRS	Las Brisas	5.20	105	eP	x	11 07 30.7	
LBRS				eS	x	11 08 25.6	
LFRS	El Faro	5.22	106	eP	x	11 07 29.3	
LFRS				eS	x	11 08 25.5	
LCBS	La Ceiba	5.29	106	eP	x	11 07 30.9	
LCBS				eS	x	11 08 28.5	
PPM	Popocatepetl	5.74	313	iP	Pn	11 07 13.1	-0.3
PPM				iS	Sn	11 08 15.5	-2.4
PPM	Popocatepetl	5.74	313	iP	Pn	11 07 17.7	+4.4
PPM				eP		11 07 19.0	
PPM				iS	Sn	11 08 33.1	+15
ACX	Acapulco	5.74	288	iP	Pn	11 07 14.0	+0.7
MEIG	Mezcala	5.87	299	iP	Pn	11 07 17.8	+2.7
MEIG				iS	Sn	11 08 21.6	+0.4
YAIG	Yautepec	5.93	309	iP	Pn	11 07 15.4	-0.5
YAIG				iS	Sn	11 08 18.5	-4.1
YAIG	Yautepec	5.93	309	iP	Pn	11 07 15.4	-0.5
YAIG				iS	Sn	11 08 12.8	-10
PLIG	Platanillo	6.00	303	eP	Pn	11 07 16.8	-0.1
PLIG				iS	Sn	11 08 22.3	-2.1
PLIG	Platanillo	6.00	303	iP	Pn	11 07 20.3	+3.4
PLIG				iS	Sn	11 08 22.3	-2.1
VSM	San Miguel	6.01	106	eP	x	11 07 42.7	
VSM				eS	x	11 08 50.0	
BLLM	Bellamira	6.04	106	eP	x	11 07 44.0	
BLLM				eS	x	11 08 51.9	
CAIG	El Cayaco	6.12	289	eP	Pn	11 07 17.9	-0.6
CAIG				iS	Sn	11 08 22.1	-5.1
CAIG	El Cayaco	6.12	289	iP	Pn	11 07 19.4	+0.9
CAIG				iS	Sn	11 08 22.1	-5.1
IIZ	Mezontepec	6.26	311	iP	Pn	11 07 18.0	-2.5
IIZ				iS	Sn	11 08 27.1	-3.6
UNM	Universidad Na	6.30	312	eP	Pn	11 07 22.0	+0.9
SZVM	Salazar	6.45	311	iP	Pn	11 07 23.1	+0.1
SZVM				iS	Sn	11 08 35.2	-0.1
CNCH	Conchagua	6.46	106	eP	x	11 07 47.2	
CNCH				eS	x	11 08 56.6	
CNGN	Cerro Negro	7.76	109	eS	Sn	11 09 05.7	-2.0
MOIG	Morelia	8.04	305	eP	Pn	11 07 42.1	-2.7
MOIG	Morelia	8.04	305	iP	Pn	11 07 49.5	+4.7
MRX	Morelia	8.05	305	iP	Pn	11 07 50.5	+5.5
BOA	Boaco	8.67	107	eP	Pn	11 07 54.8	+1.3
BOA				eS	Sn	11 09 29.8	-0.1
JTS	JuntasAbangare	10.24	117	P	Pn	11 08 16.0	+0.9
	2.5nm,0.3s,baz=333,slow=16,SNR=12						
JTS				S	Sn	11 10 10.2	+1.6
	1.2nm,0.3s,baz=260,slow=18,SNR=3.1						
LNIG	Linares	10.88	334	iP	Pn	11 08 23.6	-0.2
ZAIG	Zacatecas	10.95	315	eP	Pn	11 08 21.8	-2.9
ZAIG	Zacatecas	10.95	315	eP	Pn	11 08 28.8	+4.2
HKT	Hockley	14.81	354	eP	Pn	11 09 18.3	+1.0
	44nm,1.8s						
JCT	Junction City	16.10	342	eP	Pn	11 09 34.9	+0.8
	32nm,0.7s						
LPIG	La Paz	17.57	303	P	Pn	11 09 54.3	+1.8
	0.9nm,0.3s,baz=257,slow=3.6,SNR=3.7						
MIAR	Mount Ida	19.32	2	eP	Pn	11 10 11.2	-2.6
	9.5nm,0.7s						
MNTX	Cornudas Mount	19.38	330	eP	Pn	11 10 14.2	-0.2
	2μm,0.7s						
ROSC	El Rosal	22.07	116	P	P	11 10 41.3	-0.9
	4.6nm,0.4s,mb4.3,baz=99,slow=23,SNR=4.9						
ROSC	El Rosal	22.07	116	eP	P	11 10 42.3	+0.2
ROSC				epP		11 10 55.6	
ANMO	Albuquerque	22.58	333	P	P	11 10 49.1	+1.5
	4.2nm,0.8s,mb4.0,baz=148,slow=11,SNR=22						
TUC	Tucson	22.79	321	eP	P	11 10 51.4	+1.6
	10nm,0.9s,mb4.3						
SDV	Santo Domingo	23.88	102	P	P	11 10 58.0	-2.5
	4.5nm,0.4s,mb4.2,baz=316,slow=6.9,SNR=7.8						
SDV	Santo Domingo	23.88	102	eP	P	11 10 58.3	-2.3
	6.9nm,0.7s,mb4.2						
KSU1	Kansas State U	23.95	355	eP	P	11 11 00.5	-0.7
WUAZ	Wupatki	25.45	326	eP	P	11 11 16.4	+1.5
	25nm,0.8s,mb4.8						
PV01	Paradox Valley	26.18	334	eP	P	11 11 23.2	+1.8
ISCO	Idaho Springs	26.51	340	eP	P	11 11 25.6	+1.1
	3.4nm,0.8s,mb3.9						
PV10	Paradox Valley	26.58	333	eP	P	11 11 25.6	+0.6
SCIA	State Center	26.68	2	eP	P	11 11 23.5	-2.5
MSU	Marysvale	28.15	329	eP	P	11 11 41.0	+1.8
ARUT	Antelope Range	28.25	327	eP	P	11 11 42.2	+2.2
PDAR	Pinedale Array	30.52	337	P	P	11 12 00.4	+0.3
	1.0nm,0.8s,mb3.7,baz=146,slow=8.9,SNR=7.3						
NVAR	Mina Array Bea	31.44	322	P	P	11 12 10.6	+2.3
	8.9nm,0.8s,mb4.6,baz=131,slow=9.5,SNR=66						
NVAR	Mina Array Bea	31.44	322	P	P	11 12 10.6	+2.3
HLID	Hailey	33.16	333	eP	P	11 12 23.9	+0.6
	2.3nm,0.8s,mb4.2						
MCMT	McKenzie Canyo	33.53	336	eP	P	11 12 28.6	+2.1
MCMT				epP	pP	11 12 41.0	+3.7
WVOR	Wild Horse Val	34.36	327	eP	P	11 12 35.1	+1.4
	16nm,1.1s,mb4.9						
HRY	Holter Researc	34.74	339	eP	P	11 12 37.6	+0.6
HRY				epP	pP	11 12 49.8	+1.9
ULM	Lac du Bonnet	35.03	358	P	P	11 12 36.4	-3.2
	3.3nm,0.7s,mb4.4,baz=200,slow=7.6,SNR=6.1						
ULM	Lac du Bonnet	35.03	358	P	P	11 12 36.4	-3.2
CHMT	Chamberlain Mo	35.42	337	eP	P	11 12 42.1	-0.8
CHMT				epP	pP	11 12 56.4	+2.7
YBH	Yreka Blue Hor	36.15	323	P	P	11 12 48.9	-0.2
	3.7nm,0.6s,mb4.5,baz=109,slow=2.9,SNR=12						
EDM	Edmonton	40.88	342	eP	P	11 13 27.8	-1.0
EDM				epP	pP	11 13 41.2	+1.4
SIV	San Ignacio	45.04	132	P	P	11 14 00.2	-2.4
	1.5nm,0.6s,mb4.0,baz=310,slow=13,SNR=7.9						
YKA	Yellowknife Ar	49.44	348	P	P	11 14 35.4	-1.3
	3.2nm,0.7s,mb4.4,baz=154,slow=7.3,SNR=16						
YKA	Yellowknife Ar	49.44	348	P	P	11 14 35.4	-1.3
BDFB	Brasilia	54.95	122	P	P	11 15 16.7	-0.9
	2.9nm,0.4s,mb4.7,baz=291,slow=5.1,SNR=7.4						
NB2	NORSAR Subarra	84.16	28	P	P	11 18 16.8	-0.9
	comp=Z,0.8nm,0.5s,mb4.1,baz=291,slow=5.3						
NOA	NORSAR Array B	84.16	28	P	P	11 18 16.7	-1.0
	comp=Z,1.9nm,0.8s,mb4.2,baz=291,slow=5.1,SNR=5.9						
ARCES	ARCESS Array B	85.72	18	P	P	11 18 22.6	-3.0
	comp=Z,1.5nm,0.6s,mb4.4,baz=305,slow=4.3,SNR=7.9						
FINES	FINESS Array B	90.36	25	P	P	11 18 45.6	-2.2
	comp=Z,1.4nm,0.9s,mb4.3,baz=0.0,slow=0.8,SNR=4.6						
HHC	Hu-ho-hao-te	119.37	338	ePKP	PKPdf	11 24 34.0	-1.8
HHC				PP	PP	11 25 59.9	+2.6
HHC				PKS		11 28 09.4	
HHC				SKS	SKSdf	11 31 38.1	-6.7
HHC				SKKS	SKKSac	11 32 44.1	-10
LZH	Lanzhou	126.26	342	ePKP	PKPdf	11 24 51.5	+2.5
LZH				XPKP		11 25 10.0	
LZH				LR	LR		
	comp=N,156nm,19.4s						
LZH				LR	LR		
	comp=Z,275nm,20.5s						
WRA	Warramunga Arr	133.58	257	PKP	PKPdf	11 25 02.2	-0.7
	comp=Z,0.3nm,0.5s,baz=77,slow=2.0,SNR=7.4						
ASAR	Alice Springs	134.01	252	PKP	PKPdf	11 25 03.1	-0.6
	comp=Z,0.3nm,0.7s,baz=59,slow=1.7,SNR=5.1						

MAN 01 11:25:19.3, 1333N×12043E, h1km, mb2.1, MS4.1,

Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	Baler	2.64	25	*e*P	Pn	11 26 01.5	-1.6

*IDC **01** 11:29:50.9±1.0, 4.13S×104.48W, h0^{km}, mb4.2/12, mb1 4.4/12, mb1mx4.3/16, mbtmp4.2/12, MS5.4/4, Ms1 5.4/4, ms1mx4.6/25, Error ellipse: s-maj=30.3km s-min=16.0km az=56.0*
*ISCJB **01** 11:29:51.3±1.0, 4.2S±0.1×104.4W±0.2, h10^{km}, mb4.3/19, MS5.3/4, Error ellipse: s-maj=29.3km s-min=10.6km az=103.8*
*NEIC **01** 11:29:52.8±0.8, 4.19S×104.35W, h10^{km}, mb4.6/10, Error ellipse: s-maj=25.2km s-min=12.1km az=57.0*
ISC 01 11:29:53.8±1.0, **4.1S**±0.1×**104.3W**±0.2, **h10**^{km}, **n41**, σ**1^{s}42**/34, **mb4.3**/19, **MS5.3**/4, **Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	23.02	24	P	P	11 34 58.7	-0.2
	3.2nm,0.8s,mb3.8,baz=191,slow=10,SNR=4.0						
CMIG				LR	LR	11 42 03.4	
	comp=Z,12μm,18.5s,MS5.4,baz=200,slow=32						
JTS	JuntasAbangare	24.00	53	P	P	11 35 09.5	+0.8
	3.5nm,0.8s,mb3.9,baz=283,slow=7.5,SNR=3.5						
JTS				LR	LR	11 41 58.7	
	comp=Z,12μm,20.9s,MS5.4,baz=92,slow=30						
JTS	JuntasAbangare	24.00	53	P	P	11 35 09.4	+0.8
JTS				LR	LR	11 41 58.8	
NNA	Nana	28.29	108	LR	LR	11 44 00.5	
	comp=Z,8μm,21.3s,MS5.3,baz=2.4,slow=30						
JCT	Junction City	34.65	7	*e*P	P	11 36 43.9	+0.6
	4.2nm,0.3s,mb4.8						
RKT	Rikitea	35.15	235	*e*LR	LR	11 46 11.3	
	9μm,26.8s,baz=55						
MNTX	Cornudas Mount	35.61	358	*e*P	P	11 36 48.4	-3.2
	4.6nm,1.0s,mb4.4						
SDV	Santo Domingo	35.97	69	P	P	11 36 54.7	0.0
	7.9nm,0.7s,mb4.8,baz=240,slow=4.3,SNR=7.9						
SDV	Santo Domingo	35.97	69	*e*P	P	11 36 53.0	-1.6
	8.6nm,0.8s,mb4.7						
LPAZ	La Paz	37.54	111	P	P	11 37 10.3	+2.3
	1.4nm,0.9s,mb3.7,baz=291,slow=10,SNR=5.6						
LPAZ	La Paz	37.54	111	*e*P	P	11 37 08.8	+0.7
	14nm,1.5s,mb4.5						
MIAR	Mount Ida	39.74	14	*e*P	P	11 37 25.2	-1.3
	38nm,1.5s,mb4.9						
WUAZ	Wupatki	39.95	351	*e*P	P	11 37 26.7	-1.6
	37nm,1.8s,mb4.8						
PV01	Paradox Valley	42.20	355	*e*P	P	11 37 48.8	+2.0
CCUT	Cedar City	42.28	349	*e*P	P	11 37 45.1	-2.3
PV10	Paradox Valley	42.48	354	P	P	11 37 47.0	-2.1
ARUT	Antelope Range	42.52	349	*e*P	P	11 37 48.9	-0.5
MSU	Marysvale	43.01	351	*e*P	P	11 37 53.3	-0.1
MTUM	Tungsten Hills	43.32	343	*e*P	P	11 37 58.5	+2.7
CFAA	Coronel Fontan	43.54	133	P	P	11 37 56.7	-1.0
	0.7nm,0.8s,mb3.5,baz=312,slow=7.7,SNR=8.1						
CFAA	Coronel Fontan	43.54	133	P	P	11 37 56.7	-1.0
ISCO	Idaho Springs	43.69	359	*e*P	P	11 38 01.1	+2.3
	8.8nm,1.4s,mb4.3						
NVAR	Mina Array Bea	44.25	344	P	P	11 38 02.2	-1.2
	2.1nm,0.9s,mb3.9,baz=159,slow=9.0,SNR=11						
NVAR	Mina Array Bea	44.25	344	P	P	11 38 02.2	-1.2
DUG	Dugway	44.76	351	*e*P	P	11 38 09.5	+2.1
	4.0nm,0.9s,mb4.2						
PPT	Papeete	46.29	250	*e*LR	LR	11 51 18.2	
	6μm,28.5s,baz=82						
PPT	Papeete	46.29	250	LR	LR	11 53 09.2	
	comp=Z,2μm,18.0s,MS5.1,baz=279,slow=30						
PDAR	Pinedale Array	46.88	355	P	P	11 38 23.4	-0.8
	2.4nm,0.9s,mb4.1,baz=165,slow=6.2,SNR=19						
TBI	Tubuai	47.58	242	*e*LQ		11 49 56.8	
	4μm,27.9s						
TBI				*e*LR	LR	11 51 55.4	
	4μm,28.5s,baz=61						
HLID	Hailey	48.30	350	*e*P	P	11 38 37.0	+1.7
	5.2nm,1.1s,mb4.5						
YBH	Yreka Blue Hor	48.59	342	P	P	11 38 36.9	-0.6
	2.9nm,0.8s,mb4.4,baz=128,slow=3.7,SNR=5.7						
QLMT	Earthquake Lak	49.12	353	*e*P	P	11 38 43.4	+1.9
MCMT	McKenzie Canyo	49.30	352	*e*P	P	11 38 44.7	+1.8
CPUP	Villa Florida	50.06	121	P	P	11 38 49.1	+0.4
	6.5nm,0.8s,mb4.7,baz=274,slow=8.4,SNR=13						
CPUP	Villa Florida	50.06	121	*e*P	P	11 38 48.5	-0.2
	29nm,0.7s,mb5.4						
ULM	Lac du Bonnet	54.61	7	P	P	11 39 21.3	-1.2
	9.2nm,0.8s,mb4.9,baz=201,slow=8.1,SNR=13						
BDFB	Brasilia	56.48	106	P	P	11 39 35.9	0.0
	4.1nm,0.7s,mb4.5,baz=288,slow=3.7,SNR=4.0						
EDM	Edmonton	57.61	354	*e*P	P	11 39 44.7	+0.8
YKA	Yellowknife Ar	66.86	355	P	P	11 40 44.6	-1.4
	1.5nm,0.8s,mb4.1,baz=164,slow=6.0,SNR=8.9						
ASAR	Alice Springs	116.96	241	PKP	PKPdf	11 48 37.8	-1.0
	0.2nm,0.7s,baz=114,slow=1.9,SNR=4.4						
WRA	Warramunga Arr	117.66	245	PKP	PKPdf	11 48 39.7	-0.5
	0.2nm,0.6s,baz=101,slow=2.1,SNR=7.0						

*MDD **01** 11:48:30.9±1.0, 36.58N×7.53W, h10^{km}±1^{km}, mbLg2.1/9, Error ellipse: s-maj=11.1km s-min=5.2km az=29.0, PRXIMO*
*IGIL **01** 11:48:30.6, 36.68N×7.45W, h2^{km}, ML1.7*
*ISCJB **01** 11:48:31.6±0.9, 36.68N±0.05×7.46W±0.04, h77^{km}±10^{km}, Error ellipse: s-maj=9.4km s-min=4.3km az=52.0*
*INMG **01** 11:48:32.2±0.9, 36.60N×7.54W, h17^{km}±3^{km}, ML2.0, Error ellipse: s-maj=3.8km s-min=2.0km az=39.0*
ISC 01 11:48:32.6±0.9, **36.65N**±0.05×**7.48W**±0.04, **h60**^{km}±16^{km}, **n19**, σ**0^{s}72**/38, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.89	360	P	Pn	11 48 49.2	0.0
	4.8nm,0.1s,SNR=27						
EGRO				S	Sn	11 49 01.5	+0.1
	23nm,0.1s,SNR=21						
MORF	Marmelete	1.15	305	*e*P	Pn	11 48 51.0	-1.6
MORF				AML	AML	11 48 57.0	
	comp=E,11nm,0.2s						
MORF				*e*S	Sn	11 49 06.2	-1.1
MORF				*e*S	Sn	11 49 06.3	-1.1
EMIN	Mina Concepcio	1.29	30	P	Pn	11 48 55.0	+0.5
	comp=E,0.6nm,0.1s,SNR=8.6						
EMIN				S	Sn	11 49 10.9	0.0
	comp=E,2.9nm,0.1s,SNR=6.7						
ESPR	Espera	1.32	80	P	Pn	11 48 54.9	0.0
	comp=E,4.2nm,0.1s,SNR=6.2						
ESPR				S	Sn	11 49 11.6	0.0
	comp=E,32nm,0.3s,SNR=5.0						
PBEJ	Beja	1.41	348	*e*P	Pn	11 48 56.1	0.0
PBEJ				*e*S	Sn	11 49 14.2	+0.5
PBEJ							
	comp=E,7.2nm,0.1s						
EJIF	Jimena Fronter	1.63	96	P	Pn	11 48 59.3	+0.2
	comp=E,1.3nm,0.2s,SNR=7.9						
EJIF				S	Sn	11 49 19.4	+0.4
	comp=E,1.1nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.14	10	P	Pn	11 49 06.2	+0.2
	comp=E,1.0nm,0.1s,SNR=7.8						
EBAD				S	Sn	11 49 33.4	+2.0
	comp=E,0.4nm,0.1s,SNR=5.7						
PESTR	Estremoz	2.22	358	*e*Pn	Pn	11 49 07.2	+0.2
PESTR				*e*Sn	Sn	11 49 33.7	+0.4
PESTR							
	comp=E,1.9nm,0.1s						
PLOU	Loures	2.60	330	*e*Pn	Pn	11 49 12.6	+0.4
PLOU				*e*Sn	Sn	11 49 41.8	-0.8
PLOU							
	comp=E,8.1nm,0.2s						
PMAFR	Mafra	2.71	329	*e*Pn	Pn	11 49 13.8	0.0
PMAFR				*e*Sn	Sn	11 49 45.9	+0.5
EADA	Adamuz	2.77	56	P	Pn	11 49 15.3	+0.8
	comp=E,0.3nm,0.1s,SNR=5.7						
EADA				S	Sn	11 49 46.6	-0.1
	comp=E,0.9nm,0.2s,SNR=7.1						
PTOM	Tomar	3.06	346	*e*Sn	Sn	11 49 53.1	-0.7
PCBR	Castelo Branco	3.19	0	*e*Pn	Pn	11 49 20.7	+0.4
PCBR				*e*Sn	Sn	11 49 57.0	-0.1
PCBR							
	comp=E,2.4nm,0.1s						
EQUE	Quentar	3.29	79	P	Pn	11 49 22.5	+0.9
	comp=E,0.3nm,0.1s,SNR=7.9						
EQUE				S	Sn	11 49 58.8	-0.6
	comp=E,0.9nm,0.2s,SNR=7.9						
EBAN	Banos Encina	3.31	62	P	Pn	11 49 22.2	+0.3
	comp=E,1.3nm,0.1s,SNR=7.9						
EBAN				S	Sn	11 49 58.3	-1.8
	comp=E,2.4nm,0.1s,SNR=7.9						
EQES	Quesada	3.70	71	P	Pn	11 49 28.6	+1.3
	comp=E,1.0nm,0.1s,SNR=7.9						
EQES				S	Sn	11 50 09.7	0.0
	comp=E,0.4nm,0.1s,SNR=7.9						
EVIA	Vianos	4.42	62	P	Pn	11 49 36.8	-0.4
	SNR=7.9						
EVIA				S	Sn	11 50 26.6	-0.7
	SNR=7.9						
ETOB	Tobarra	5.11	65	P	Pn	11 49 46.4	-0.2
	comp=E,0.8nm,0.1s,SNR=7.9						
ETOB				S	Sn	11 50 42.9	-1.4
	comp=E,1.3nm,0.2s,SNR=5.0						
ECAL	Calabor	5.32	6	P	Pn	11 49 50.1	+0.6
	comp=E,1.0nm,0.2s,SNR=7.9						
ECAL				S	Sn	11 50 48.9	-0.5
	comp=E,0.5nm,0.2s,SNR=7.9						
ECAL				Lg		11 51 23.3	
	comp=E,1.8nm,0.3s,SNR=4.0						

*HLW **01** 11:55:59.7, 34.41N×21.89E, h33^{km}, Mb3.7*
*ISCJB **01** 11:56:00.7±0.6, 35.89N±0.04×21.88E±0.06, h10^{km}, mb3.7/6, Error ellipse: s-maj=7.3km s-min=4.5km az=132.4*
*NEIC **01** 11:56:02.1, 35.99N×21.95E, h11^{km}, MD3.9(ATH), After ATH.*
*ATH **01** 11:56:02.1, 35.99N×21.95E, h11^{km}±2^{km}, MD3.9/13*
*CSEM **01** 11:56:02.7±0.2, 35.96N×21.97E, h2^{km}, MD3.9, Error ellipse: s-maj=4.3km s-min=2.3km az=33.0*
*IDC **01** 11:56:08.1±3.4, 36.04N×22.09E, h69^{km}±40^{km}, mb3.6/6, mb1 3.6/8, mb1mx3.4/24, mbtmp3.8/8, ML3.0/2, MS4.0/1, Ms1 4.0/1, ms1mx3.5/42, Error ellipse: s-maj=34.1km s-min=21.8km az=115.0*
ISC 01 11:56:02.4±0.6, **35.96N**±0.03×**21.92E**±0.06, **h10**^{km}, **n26**, σ**1^{s}51**/30, **mb3.7**/6, **2C-4D**, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.96	70	*e*PB	Pg	11 56 20.0	-0.8
VLI	Veliai	1.11	47	⇓*i*PG	Pg	11 56 22.0	-1.8
VLI				*e*SB	Sg	11 56 37.6	-0.7
ITM	Ithomi	1.22	0	⇓*i*PN	Pb	11 56 23.6	-1.9
ITM				*e*SB	Sb	11 56 40.5	-0.7
VAM	Vamos	1.93	106	*e*PN	Pb	11 56 36.8	-0.9
VAM				*e*SG	Sb	11 57 02.2	+0.3
GVD	Gavdhos	2.09	122	*e*PN	Pn	11 56 40.0	+2.5
RLS	Riolos of Patr	2.12	350	*e*PN	Pb	11 56 39.5	-1.4
RLS				*e*SG	Sb	11 57 07.3	-0.1
NAIG	Nisos Aigina	2.19	35	*e*PN	Pn	11 56 40.0	+1.2
MGER	Gerania Oros	2.29	28	*e*PN	Pn	11 56 42.0	+1.9
KVR	Kavouri	2.38	38	*e*PN	Pn	11 56 43.5	+2.1
VLS	Valsamata	2.46	335	*e*PN	Pn	11 56 44.1	+1.6
IDI	Anoyia	2.51	105	P	Pn	11 56 44.5	+1.4
	3.2nm,0.3s,baz=302,slow=16,SNR=10						
IDI				LR	LR	11 57 59.6	
	comp=Z,3μm,21.9s,baz=269,slow=46						
LKR	Lokris	2.82	17	*e*PN	Pn	11 56 49.4	+2.0
EVR	Evrytania	2.95	358	*e*PN	Pn	11 56 50.8	+1.5
KEK	Kerkira	4.11	336	*e*PN	Pn	11 57 06.8	+1.7
HMAT	Matruh	6.50	137	⇑P	Pn	11 57 39.0	+1.0
SWA2		7.33	155	⇑P	Pn	11 57 47.7	-1.8
SWA1		7.40	153	⇓P	Pn	11 57 49.2	-1.2
BRTR	Keskin Array B	10.00	64	P	Pn	11 58 28.6	+2.6
	0.2nm,0.3s,baz=242,slow=15,SNR=3.4						
HFRF	Wahat Farafira	10.33	146	⇓P	Pn	11 58 29.6	-1.0
HFS	Hagfors	24.77	350	P	P	12 01 22.7	-1.4
	0.6nm,0.4s,mb3.4,baz=157,slow=12,SNR=4.3						
FINES	FINESS Array B	25.64	5	P	P	12 01 28.4	-3.7
	0.8nm,0.6s,mb3.4,baz=170,slow=14,SNR=3.9						
NOA	NORSAR Array B	26.01	348	P	P	12 01 34.8	-0.6
	1.3nm,0.9s,mb3.4,baz=160,slow=9.6,SNR=2.8						
NOA	NORSAR Array B	26.01	348	P	P	12 01 34.8	-0.7
TORD	Torodi Ar. Bea	29.11	224	P	P	12 02 03.9	+0.7
	1.4nm,0.8s,mb3.8,baz=33,slow=9.0,SNR=7.4						
ARCES	ARCESS Array B	33.69	2	P	P	12 02 41.0	-2.5
	1.9nm,0.7s,mb4.1,baz=186,slow=11,SNR=9.9						
MKAR	Makanchi Array	45.54	57	P	P	12 04 19.8	-2.4
	1.1nm,0.4s,mb4.2,baz=279,slow=6.7,SNR=10						

*MOS **01** 12:04:15.7±0.9, 53.95N×166.44W, h33^{km}, mb6.0/146, MS5.2/15, Error ellipse: s-maj=6.6km s-min=3.3km az=89.2*
*BJI **01** 12:04:19.4, 54.13N×166.63W, h66^{km}, mB5.6, mb5.3, Ms5.5, Msz5.3*
*ISCJB **01** 12:04:20.6±0.1, 53.96N±0.02×166.36W±0.02, h76^{km}, mb5.7/363, Error ellipse: s-maj=3.1km s-min=1.7km az=14.3*
*CRAAG **01** 12:04:21.0, 65.03N×166.29W, Mb5.9*
*IDC **01** 12:04:21.8±0.3, 53.93N×166.39W, h74^{km}±2^{km}, mb5.4/40, mb1 5.4/41, mb1mx5.4/41, mbtmp5.7/41, MS5.2/16, Ms1 5.2/16, ms1mx4.8/42, Error ellipse: s-maj=9.2km s-min=6.4km az=151.0*
*SZGRF **01** 12:04:21.8, 54.05N×166.22W, h73^{km}, mb5.8, Fox Islands, Aleutian Islands, United States*
*BGS **01** 12:04:22.8±1.1, 54.05N×166.06W, h76^{km}, mb5.7, MS5.6*
*NEIC **01** 12:04:22.2±0.1, 53.97N×166.39W, mb5.8/185, Error ellipse: s-maj=2.8km s-min=1.6km az=16.0*
NEIC Felt [V] at Unalaska and [IV] at Dutch Harbor. Felt at Akutan and False Pass.
*GCMT **01** 12:04:22.2±0.2, 53.88N×166.16W, h76^{km}±2^{km}, MW5.9/99, Moment Tensor Solution. s49,c61; s99,c199; Duration: 2^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}2.01±.28; $M_{\theta\theta}$-4.48±.22; $M_{\phi\phi}$2.46±.20; $M_{r\theta}$-6.61±.15; $M_{\theta\phi}$2.88±.15; $M_{\phi r}$-1.80±.14; Best double couple: $M_0$8.34800×10^{17} NP1:ϕ_s151.00000°,δ31.00000°,λ163.00000°. NP2: ϕ_s255.00000°,δ81.00000°,λ60.00000°. Principal axes: T 7.8870, Plg45.0000°, Azm135.0000°; N 0.9110, Plg30.0000°, Azm260.0000°; P -8.8080, Plg30.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 01 12:04:22.3±0.1, **54.04N**±0.02×**166.39W**±0.02, **h78**^{km}±.6^{km}**:pP-P**, **n1332**, σ**0^{s}84**/1300, **mb5.7**/362, **33C-281D**, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKLV	Akutan Long Va	0.28	65	P	Pn	12 04 34.8	+0.6
AKLV				S	Sn	12 04 44.5	+1.5
AKUT	Akutan	0.38	75	P	Pn	12 04 35.0	+0.2
AKUT				S	Sn	12 04 45.0	+1.0
OKCD	Okmok Cone D	1.19	240	P	Pn	12 04 44.0	+0.4
OKCE	Okmok Cone E	1.22	240	P	Pn	12 04 44.9	+1.0
OKCE				S	Sn	12 05 02.1	+2.0
NIKO	Nikolski	1.82	235	P	Pn	12 04 51.7	0.0
NIKO				S	Sn	12 05 14.2	+0.2
SDPT	Sand Point	3.67	67	P	Pn	12 05 16.8	+0.1
SDPT				S	Sn	12 05 56.7	-2.2
SPIA	Saint Paul Isl	3.83	327	P	Pn	12 05 24.5	+5.7
ATKA	Atka Island	5.05	252	P	Pn	12 05 37.3	+1.8
CHGN	Chignik	5.10	60	P	Pn	12 05 37.3	+1.1
KDAK	Kodiak Island	8.61	59	Pn	Pn	12 06 22.0	-2.1
	11μm,0.7s						
KDAK	Kodiak Island	8.61	59	P	Pn	12 06 22.5	-1.6
	158nm,0.3s,baz=247,slow=6.9,SNR=257						
KDAK				S	Sn	12 07 53.7	-5.9
	72nm,0.3s,baz=116,slow=23,SNR=7.0						
KDAK				ScP	ScP	12 16 10.9	-0.5
	0.7nm,0.3s,baz=143,slow=2.1,SNR=4.4						
KDAK	Kodiak Island	8.61	59	P	Pn	12 06 22.4	-1.7
AMKA	Amchitka	9.09	259	P	Pn	12 06 31.8	+1.2
SVW2	Sparrevohn	9.14	35	P	Pn	12 06 34.0	+2.6
TTA	Tatalina	10.42	27	*e*P	Pn	12 06 52.0	+3.2
SLKM	Skilak Lake	10.87	47	*e*P	Pn	12 06 54.1	-0.8
TNA	Tin City	11.58	357	*e*Pn	Pn	12 07 10.0	+5.4
SMY	Shemya	11.72	271	*e*P	Pn	12 07 08.9	+2.4
SMY				pmax	pmax		
	comp=Z,910nm,1.1s						
SMY	Shemya	11.72	271	*e*P	Pn	12 07 08.9	+2.4
	comp=Z,910nm,1.1s						
PMR	Palmer	11.88	44	*e*P	Pn	12 07 08.4	-0.3
PMR				pmax	pmax		
	comp=Z,44nm,0.5s						
PMR	Palmer	11.88	44	*e*P	Pn	12 07 08.4	-0.3
	comp=Z,44nm,0.5s						
MID	Middleton Isla	12.24	56	*e*P	Pn	12 07 11.0	-2.5
EYAK	Cordova Ski Ar	12.89	51	*e*P	Pn	12 07 19.1	-3.3
DIV	Divide	13.10	49	*e*Pn	Pn	12 07 22.4	-2.7
MCK	McKinley	13.21	36	*e*P	Pn	12 07 28.6	+2.0
COLA	College	14.30	33	*e*P	Pn	12 07 38.9	-2.1
COLA				pmax	pmax		
	comp=Z,1μm,1.3s						
COLA	College	14.30	33	*e*P	Pn	12 07 38.9	-2.1
	comp=Z,1μm,1.3s						
MENT	Mentasta	14.75	44	*e*P	Pn	12 07 45.3	-1.4
YKU2	Yakutat	15.57	59	*e*P	Pn	12 08 00.7	+3.5
EGAK	Eagle	16.61	40	*e*P	Pn	12 08 07.3	-3.0
DAWY	Dawson	16.99	43	*e*Pn	Pn	12 08 13.3	-1.6
SIT	Sitka	17.75	68	*e*P	Pn	12 08 23.5	-0.7
SIT				pmax	pmax		
	comp=Z,3μm,1.5s						
SIT	Sitka	17.75	68	*e*P	Pn	12 08 23.5	-0.7
	comp=Z,3μm,1.5s						
SKAG	Skagway	17.77	60	*e*P	Pn	12 08 24.3	-0.1
	comp=Z,3μm,1.8s						
BILL	Bilibino	19.04	328	*d i*P	Pn	12 08 40.5	+0.9
BILL	Bilibino	19.04	328	*i* Pr	Pn	12 08 40.6	+1.0
CRAG	Craig	19.15	72	*e*P	Pn	12 08 40.8	-0.2
	comp=Z,1μm,1.7s						
WRAK	Wrangell Islan	19.45	69	*e*P	Pn	12 08 44.5	0.0
DLBC	Dease Lake	20.51	63	P	P	12 08 55.3	+1.2
	comp=Z,743nm,1.1s,baz=272,slow=11,SNR=101						
DLBC				S	S	12 12 41.0	+1.7
	comp=Z,62nm,1.2s,baz=144,slow=27,SNR=3.0						
DLBC				ScP	ScP	12 16 32.4	+0.1
	comp=Z,40nm,1.0s,baz=276,slow=5.3,SNR=6.9						
DLBC	Dease Lake	20.51	63	P	P	12 08 55.3	+1.2
DLBC				S	S	12 12 41.0	+1.7
DLBC				ScP	ScP	12 16 32.4	+0.1
PET	Petropavlovsk	20.68	281	*e*P	P	12 09 01.2	+5.3
PET				*e*S	S	12 12 43.2	+0.6
PET				pmax	pmax		
	comp=Z,1μm,20.4s						
PET				pmax	pmax		
	comp=Z,2μm,2.9s						
PET				pmax	pmax		
	comp=Z,290nm,1.0s						
PET				smax			
	comp=N,2μm,12.8s						
PET				smax			
	comp=N,4μm,23.8s						
PET				MLR	MLR		
	comp=Z,7μm,21.0s						
PET				MLR	MLR		
	comp=Z,5μm,21.0s						
PET	Petropavlovsk	20.68	281	*e*P	P	12 08 56.1	+0.2
INK	Inuvik	20.96	34	P	P	12 08 57.5	-1.4
	comp=Z,247nm,1.0s,baz=234,slow=12,SNR=217						
INK				S	S	12 12 49.1	+1.0
	comp=Z,56nm,1.1s,baz=25,slow=20,SNR=4.4						
INK				ScP	ScP	12 16 33.2	-0.2
	comp=Z,54nm,0.8s,baz=241,slow=3.4,SNR=12						
INK				LR	LR	12 17 59.4	
	comp=Z,7μm,18.4s,baz=229,slow=39						
INK	Inuvik	20.96	34	P	P	12 08 57.5	-1.4
INK				S	S	12 12 49.1	+1.0
INK				pmax	pmax		
	comp=Z,247nm,1.0s						
INK				smax			
	comp=N,56nm,1.1s						
INK				pmax	pmax		
	comp=N,54nm,0.8s						
INK				MLR	MLR		
	comp=Z,7μm,18.4s						
INK	Inuvik	20.96	34	*e*P	P	12 08 57.1	-1.8
	comp=Z,638nm,1.1s						
BBB	Bella Bella	22.87	79	P	P	12 09 18.6	-0.5
	comp=Z,55nm,1.0s,mb4.8,baz=301,slow=12,SNR=20						
BBB				S	S	12 13 25.4	+2.6
	comp=Z,18nm,0.9s,baz=207,slow=15,SNR=2.6						
BBB				LR	LR	12 16 03.8	
	comp=Z,3μm,21.6s,baz=273,slow=31						
BBB				ScP	ScP	12 16 38.0	-0.2
	comp=Z,26nm,1.0s,baz=241,slow=2.1,SNR=5.7						
SEY	Seymchan	22.92	309	*d i*P	P	12 09 20.2	+0.4
SEY	Seymchan	22.92	309	*i* Pr	P	12 09 20.3	+0.5
SKR	Severo-Kuril's	22.96	277	*e*P	pP	12 09 34.0	-2.3
SKR				pmax	pmax		
	comp=N,640nm,1.4s						
SKR				pmax	pmax		
	comp=Z,2μm,1.4s,mb6.1						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,3μm,4.0s						
SKR				pmax	pmax		
	comp=Z,3μm,4.0s						
MA2	Magadan	23.76	301	*d i*P	P	12 09 28.6	+1.1
MA2				pmax	pmax		
	comp=Z,208nm,2.5s,mb5.0						
MA2	Magadan	23.76	301	*e*P	P	12 09 28.5	+1.0
	comp=Z,818nm,1.0s,mb6.0						
MA2				*e*		12 09 48.0	
OZB	Mount Ozzard	25.69	85	P	P	12 09 45.9	+0.8
PFB	Port Renfrew	26.49	85	P	P	12 09 52.7	+0.4
OBC	Olympics--Boni	26.95	85	P	P	12 09 57.6	+1.1
OBC				P	ScP	12 16 49.6	-0.1
OOW	Octopus West	27.04	86	P	P	12 09 58.5	+1.3
OOW				P	ScP	12 16 50.0	+0.1
SNB	Saturna Island	27.14	83	P	P	12 09 58.9	+0.8
VGZ	Gonzales	27.22	84	P	P	12 09 58.9	+0.1
OSD	Olympics--Snow	27.28	86	P	P	12 10 00.3	+1.0
OSD				P	ScP	12 16 50.5	-0.2
OSR	Olympics--Salm	27.28	86	P	P	12 10 00.5	+1.1
MCW	Mount Constitu	27.38	83	P	P	12 10 01.0	+0.7
SQM	Sequim	27.54	85	P	P	12 10 02.5	+0.8
SQM				P	ScP	12 16 52.0	+0.5
WISH	Wishkah	27.59	87	P	P	12 10 03.1	+0.9
VDB	Vedder Mountai	27.64	82	P	P	12 10 03.2	+0.6
ON2	Olympics--Nort	27.70	87	P	ScP	12 16 51.5	-0.5
HDW	Hoodsport	27.75	85	P	P	12 10 04.2	+0.7
YKW3	Yellowknife Ar	27.78	51	*e*P	P	12 10 04.3	+0.5
YKA	Yellowknife Ar	27.80	51	P	P	12 10 04.1	+0.1
	comp=Z,98nm,0.5s,mb5.6,baz=274,slow=8.0,SNR=772						
YKA				pP	pP	12 10 22.9	+0.9
	comp=Z,71nm,0.9s,baz=276,slow=11,SNR=3.0						
YKA				PcP	PcP	12 13 18.3	-0.2
	comp=Z,15nm,0.7s,baz=290,slow=2.4,SNR=5.5						
YKA				ScP	ScP	12 16 51.8	-0.5
	comp=Z,13nm,0.7s,baz=286,slow=3.2,SNR=11						
YKA				LR	LR	12 22 28.9	
	comp=Z,6μm,20.3s,baz=180,slow=39						
YKA				P3KPbc		12 42 27.2	
	comp=Z,3.3nm,0.7s,baz=96,slow=5.2,SNR=17						
YKA	Yellowknife Ar	27.80	51	P	P	12 10 04.1	+0.1
YKA						12 13 18.3	
YKA				pmax	pmax		
	comp=Z,98nm,0.5s						
YKA				pmax	pmax		
	comp=N,71nm,1.0s						
YKA				pmax	pmax		
	comp=Z,15nm,0.7s						
YKA				pmax	pmax		
	comp=N,13nm,0.7s						
YKA				MLR	MLR		
	comp=Z,6μm,20.3s						
YKA	Yellowknife Ar	27.80	51	P	P	12 10 04.1	+0.1
YKA				pP	pP	12 10 22.9	+0.9
YKA				PcP	PcP	12 13 18.3	-0.2
YKA				ScP	ScP	12 16 51.8	-0.5
YKA				LR	LR	12 22 28.9	
YKA				*e*		12 42 27.2	
MBW	Mount Baker	27.88	82	P	P	12 10 05.6	+0.9
CMW	Cultus Mountai	27.92	83	P	P	12 10 06.5	+1.4
GNW	Green Mountain	27.92	85	P	P	12 10 05.8	+0.7
JCW	Jim Creek	28.14	84	P	P	12 10 07.7	+0.6
JCW				P	ScP	12 16 53.3	0.0
RPW	Rockport	28.26	83	P	P	12 10 08.6	+0.5
NLO	Nicolai Mounta	28.31	89	P	P	12 10 09.0	+0.4
HTW	Haystack Looko	28.42	84	P	P	12 10 10.2	+0.7
TDL	Tradedollar La	28.90	87	P	P	12 10 14.7	+0.9
FL2	Flat Top 2	28.90	88	P	P	12 10 14.5	+0.7
RCS	Mount Rainier-	28.92	86	P	P	12 10 15.2	+1.3
WRW	Wenatchee Ridg	28.92	83	P	P	12 10 14.8	+0.8
LON	Longmire	28.93	86	P	P	12 10 14.3	+0.2
LON					ScP	12 16 53.7	-2.1
LON	Longmire	28.93	86	P	P	12 10 14.3	+0.3
LON				P	ScP	12 16 53.7	-2.1
LON				P	ScP	12 16 55.2	-0.6

LVP	Lakeview Peak	28.94	88	P	P	12 10 14.9	+0.8
ESD	East Dome	29.02	87	P	P	12 10 16.6	+1.8
WPW	White Pass	29.11	86	P	P	12 10 16.5	+0.8
MPOR	Mary's Peak	29.12	91	P	P	12 10 16.7	+1.0
NLW	Nelson Butte	29.13	83	P	P	12 10 16.7	+0.9
SLFW	Sugar Loaf	29.17	83	P	P	12 10 17.1	+0.9
COR	Corvallis	29.22	91	*e*P	P	12 10 17.8	+1.1
TWW	Teanaway	29.29	85	P	P	12 10 18.4	+1.2
LTY	Liberty	29.34	84	P	P	12 10 17.9	+0.2
RNO	Roman Nose	29.35	93	P	P	12 10 18.9	+1.2
ETW	Entiat	29.37	84	P	P	12 10 18.6	+0.6
ASR	Mount Adams--S	29.38	87	P	P	12 10 18.5	+0.5
TBM	Table Mountain	29.43	85	P	P	12 10 19.0	+0.5
TBM				P	ScP	12 16 57.4	0.0
NAC	Naches	29.52	85	P	P	12 10 20.0	+0.7
NAC				P	ScP	12 16 57.6	-0.1
WTV	Waterville	29.54	83	P	P	12 10 19.7	+0.3
WTV				P	ScP	12 16 57.7	-0.1
SSOR	Sweet Springs	29.57	90	P	P	12 10 20.5	+0.8
EBG	Ellensburg	29.58	85	P	P	12 10 20.7	+0.9
EBG				P	ScP	12 16 58.0	+0.1
KEBM	Edson Butte	29.61	95	*e*P	P	12 10 21.1	+1.0
EUO	Eugene	29.68	92	P	P	12 10 21.6	+0.9
HOOD	Mount Hood Mea	29.79	88	P	P	12 10 22.2	+0.6
SAW	Saint Andrews	29.86	83	P	P	12 10 22.5	+0.2
MXC	Moxie City	29.91	85	P	ScP	12 16 58.6	-0.3
EPH	Ephrata	29.92	83	P	P	12 10 23.0	+0.2
KBO	Bosley Butte	30.08	96	*e*P	P	12 10 25.4	+1.2
BPO	Bald Peter	30.14	90	P	P	12 10 25.6	+0.9
MDW	Midway	30.21	85	P	P	12 10 25.9	+0.5
WAH2	Wahluke Slope	30.25	84	P	P	12 10 26.1	+0.4
GBB	Gable Butte	30.29	85	P	P	12 10 26.4	+0.4
CRF	Corfu	30.32	84	P	P	12 10 26.6	+0.3
GBL	Gable Mountain	30.39	85	P	P	12 10 27.4	+0.4
OD2	Odessa Site #2	30.42	83	P	P	12 10 27.4	+0.2
HAWA	Hanford	30.46	85	*e*P	P	12 10 28.0	+0.4
WRD	Warden	30.47	84	P	P	12 10 26.9	-0.7
OT3	Othello 3	30.49	84	P	P	12 10 28.1	+0.3
KRMB	Red Mountain	30.69	96	*e*P	P	12 10 30.5	+0.9
KRMB				*e*	pP	12 10 48.9	+1.2
KTRM	Thompson Ridge	30.77	95	P	P	12 10 31.5	+1.2
EDM	Edmonton	30.86	70	*e*P	P	12 10 31.4	+0.3
KHMM	Horse Mountain	31.20	97	*e*P	P	12 10 35.4	+1.3
YBH	Yreka Blue Hor	31.27	95	*e*P	P	12 10 35.9	+1.2
YBH				pmax	pmax		
	comp=Z,227nm,0.9s						
YBH	Yreka Blue Hor	31.27	95	*e*P	P	12 10 35.9	+1.3
	comp=Z,227nm,0.9s,mb5.9						
KIPM	Iron Peak	32.04	99	*e*P	P	12 10 42.2	+0.7
KIPM				*e*	pP	12 11 01.0	+1.4
WDC	Whiskeytown Da	32.09	97	*e*P	P	12 10 42.3	+0.4
WDC				pmax	pmax		
	comp=Z,215nm,0.9s,mb5.9						
WDC	Whiskeytown Da	32.09	97	*e*P	P	12 10 42.3	+0.4
	comp=Z,215nm,0.9s,mb5.9						
TIXI	Tiksi	32.25	328	*e*P	P	12 10 42.8	-0.6
TIXI				*e*	pP	12 11 00.4	-1.2
TIXI				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,3µm,15.0s						
TIXI	Tiksi	32.25	328	*i* Pr	P	12 10 43.8	+0.4
WALA	Waterton Lakes	32.38	77	*e*P	P	12 10 44.8	+0.4
BSMT	Bassoo Peak	32.48	79	*e*P	P	12 10 46.2	+0.9
YSS	Yuzh-Sakhalins	32.50	279⇑	*e*P	P	12 10 46.0	+0.5
YSS				*e*		12 11 51.1	
YSS				S	S	12 15 53.0	-1.9
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
YSS				MLR	MLR		
	comp=Z,2µm,19.0s						
YSS	Yuzh-Sakhalins	32.50	279	*e*P	P	12 10 45.3	-0.2
BMO	Blue Mountains	32.61	86	*e*P	P	12 10 46.5	0.0
HOPS	Hopland	32.81	99	*e*P	P	12 10 48.7	+0.5
KIP	Kipapa	33.18	166	*e*P	P	12 10 50.4	-1.1
KIP	Kipapa	33.18	166	*e*P	P	12 10 50.2	-1.3
WVOR	Wild Horse Val	33.23	91	*e*P	P	12 10 52.3	+0.4
WVOR				pmax	pmax		
	comp=Z,818nm,1.7s,mb6.3						
WVOR	Wild Horse Val	33.23	91	*e*P	P	12 10 52.2	+0.3
	comp=Z,818nm,1.7s,mb6.3						
HON	Honolulu	33.28	166	*e*P	P	12 10 51.5	-0.8
NSHM	Saint Helena R	33.40	100	*e*P	P	12 10 53.5	+0.1
NSHM				*e*	pP	12 11 12.5	+0.9
YAK	Yakutsk	33.45	310*d*	*i*P	P	12 10 53.7	-0.1
YAK				pmax	pmax		
	comp=Z,131nm,1.0s,mb5.7						
YAK	Yakutsk	33.45	310	*i* Pr	P	12 10 53.7	-0.1
MCCM	Marconi Confer	33.49	100	*e*P	P	12 10 53.4	-0.7
MCCM				*e*	pP	12 11 12.7	+0.3
MSO	Missoula	33.50	81	*e*P	P	12 10 54.3	+0.1
OHCM	Honcut	33.51	97	*e*P	P	12 10 53.9	-0.5
CHMT	Chamberlain Mo	33.85	80	*e*P	P	12 10 57.4	+0.1
RES	Resolute Bay	34.08	27	*e*P	P	12 10 59.0	-0.2
RES				pmax	pmax		
	comp=Z,167nm,1.3s,mb5.7						
RES	Resolute Bay	34.08	27	*e*P	P	12 10 59.0	-0.2
	comp=Z,167nm,1.3s,mb5.7						
SAC	San Andreas	34.14	101	*e*P	P	12 10 59.6	-0.2
ASAJ	Asahikawa	34.16	274	ScP	ScP	12 17 13.1	-0.3
	comp=Z,56nm,1.1s,baz=278,slow=6.0,SNR=9.2						
ASAJ				LR	LR	12 24 54.4	
	comp=Z,2µm,19.9s,baz=266,slow=36						
PAHR	Pah Rah Range	34.50	95	*e*P	P	12 11 05.1	+2.2
HRY	Holter Researc	34.79	79	*e*P	P	12 11 05.9	+0.5
LRM	Limekiln Ridge	34.91	81	*e*P	P	12 11 06.6	+0.1
CMB	Columbia Colle	35.02	98	*e*P	P	12 11 07.7	+0.4
CMB				pmax	pmax		
	comp=Z,217nm,1.0s,mb5.9						
CMB	Columbia Colle	35.02	98	*e*P	P	12 11 07.7	+0.3
	comp=Z,217nm,1.0s,mb5.9						
HLID	Hailey	35.05	86	*e*P	P	12 11 08.0	+0.4
DLMT	Dillon	35.08	82	*e*P	P	12 11 07.9	0.0
	comp=Z,142nm,1.0s,mb5.8						
KKH	Kailua Kona	35.23	163	*e*P	P	12 11 07.7	-1.5
MCMT	McKenzie Canyo	35.24	83	*e*P	P	12 11 09.3	+0.1
WAKR	Walker	35.26	97	*e*P	P	12 11 10.3	+0.9
SAO	San Andreas Ge	35.27	101	*e*P	P	12 11 09.2	-0.3
SAO				pmax	pmax		
	comp=Z,163nm,0.9s,mb5.9						
SAO	San Andreas Ge	35.27	101	*e*P	P	12 11 09.2	-0.3
	comp=Z,163nm,0.9s,mb5.9						
EGMT	Eagleton	35.29	76	*e*P	P	12 11 09.7	0.0
BMN	Battle Mountai	35.31	92	*e*P	P	12 11 10.2	+0.3
BMN				pmax	pmax		
	comp=Z,192nm,1.2s,mb5.8						
BMN	Battle Mountai	35.31	92	*e*P	P	12 11 10.2	+0.4
	comp=Z,192nm,1.2s,mb5.8						
BOZ	Bozeman (W)	35.49	81	*e*P	P	12 11 11.7	+0.3
BOZ				pmax	pmax		
	comp=Z,119nm,0.8s,mb5.8						
BOZ	Bozeman (W)	35.49	81	*e*P	P	12 11 11.7	+0.3
	comp=Z,119nm,0.8s,mb5.8						
LRV	Little Rabbit	35.75	101	*e*P	P	12 11 13.7	+0.1
LRV				*e*	pP	12 11 33.0	+1.0
NVAR	Mina Array Bea	35.97	96	P	P	12 11 15.9	+0.4
	comp=Z,58nm,0.8s,mb5.6,baz=313,slow=6.6,SNR=200						
NVAR				pP	pP	12 11 34.5	+0.6
	comp=Z,82nm,0.8s,baz=294,slow=9.7,SNR=12						
NVAR				PcP	PcP	12 13 41.1	+0.4
	comp=Z,21nm,0.8s,baz=304,slow=1.4,SNR=5.6						
NVAR				ScP	ScP	12 17 19.1	-0.8
	comp=Z,8.9nm,0.8s,baz=318,slow=2.2,SNR=8.0						
NVAR				P3KP		12 43 28.9	
	comp=Z,0.9nm,0.9s,baz=84,slow=4.3,SNR=4.6						
QLMT	Earthquake Lak	36.06	82	*e*P	P	12 11 16.6	+0.3
HABR	Khabarovsk	36.15	286⇓	*i*P	P	12 11 16.5	-0.5
HABR				*e*S	S	12 16 52.2	+1.1
HABR				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.6						
ELK	Elko	36.28	90	*e*P	P	12 11 18.6	+0.4
ELK				pmax	pmax		
	comp=Z,216nm,1.0s						
ELK	Elko	36.28	90	*e*P	P	12 11 18.6	+0.5
	comp=Z,216nm,1.0s,mb6.0						
FFC	Flin Flon	36.34	62	P	P	12 11 18.9	+0.3
	comp=Z,548nm,0.8s,mb6.5,SNR=25						
FFC	Flin Flon	36.34	62	*e*P	P	12 11 18.3	-0.3
YMR	Madison River	36.43	82	*e*P	P	12 11 19.7	+0.2
	comp=Z,547nm,0.9s,mb6.5						
MTUM	Tungsten Hills	36.54	97	*e*P	P	12 11 21.2	+0.8
GCMT	Greycliff	36.55	79	*e*P	P	12 11 21.1	+0.6
YNR	Norris Junctio	36.57	81	*e*P	P	12 11 21.7	+1.1
YFT	Old Faithful	36.63	82	*e*P	P	12 11 22.7	+1.6
PTRM	Twissleman Ran	36.76	101	*e*P	P	12 11 22.5	+0.3
PTRM				*e*	pP	12 11 41.6	+0.9
LKWY	Lake	36.82	81	*e*P	P	12 11 24.5	+1.8
TPH	Tonopah	36.84	95	*e*P	P	12 11 23.3	+0.4
TPH				pmax	pmax		
	comp=Z,324nm,1.2s,mb6.1						
TPH	Tonopah	36.84	95	*e*P	P	12 11 23.3	+0.4
	comp=Z,324nm,1.2s,mb6.1						
IMW	Indian Meadow	36.89	83	*e*P	P	12 11 24.2	+0.9
FLWY	Flagg Ranch	36.92	82	*e*P	P	12 11 24.5	+0.9
DCID1	Drake Creek	36.93	83	*e*P	P	12 11 24.6	+0.9
RRI2	Red Ridge	36.99	84	*e*P	P	12 11 24.9	+0.7
HVU	Hansel Valley	37.09	87	*e*P	P	12 11 25.4	+0.4
MOOW	Moose Ponds	37.09	83	*e*P	P	12 11 25.3	+0.3
TPAW	Teton Pass	37.13	83	*e*P	P	12 11 26.0	+0.6
	comp=Z,133nm,0.9s,mb5.9						
LOHW	Long Hollow	37.26	83	*e*P	P	12 11 27.0	+0.6
	comp=Z,119nm,0.9s,mb5.8						
SNOW	Snow King Moun	37.26	83	*e*P	P	12 11 27.3	+0.8
	comp=Z,158nm,1.1s,mb5.9						
REDW	Red Top Meadow	37.26	83	*e*P	P	12 11 28.4	+1.9
	comp=Z,203nm,1.1s,mb6.0						
BGU	Big Grassy Mou	37.47	88	*e*P	P	12 11 28.2	0.0
AHID	Auburn Hatcher	37.47	84	*e*P	P	12 11 29.8	+1.5
SPUT	South Promonto	37.57	87	*e*P	P	12 11 28.0	-1.1
CLNS	Chul'man	37.60	303	*e*P	P	12 11 29.3	0.0
CLNS				*e*	pP	12 11 48.3	+0.5
CLNS				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.3						
CLNS				pmax	pmax		
	comp=N,28nm,1.0s						
CLNS				pmax	pmax		
	comp=E,30nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,167nm,1.0s,mb5.8						
CLNS				pmax	pmax		
	comp=N,46nm,0.9s						
CLNS				pmax	pmax		
	comp=E,157nm,1.1s						
KLR	Kul'dur	37.61	289	*e*P	P	12 11 25.0	-4.4
KLR				*e*		12 13 19.5	
KLR				*e*		12 17 22.2	
TRCR	Troy Canyon	37.62	93	*e*P	P	12 11 29.4	-0.1
ISA	Isabella	37.76	99	*e*P	P	12 11 30.1	-0.5
	comp=E,0.5nm,1.3s						
DAC	Darwin (Calif)	37.85	98	*e*P	P	12 11 31.7	+0.3
HWUT	Hardware Ranch	37.91	86	*e*P	P	12 11 32.2	+0.2
	comp=E,157nm,1.0s,mb5.8						
LAO	LASA Array	38.03	76	*e*P	P	12 11 33.7	+0.7
DUG	Dugway	38.06	89	*e*P	P	12 11 33.5	+0.3
DUG				pmax	pmax		
	comp=Z,336nm,1.1s,mb6.1						
DUG	Dugway	38.06	89	*e*P	P	12 11 33.5	+0.3
	comp=Z,336nm,1.1s,mb6.1						
TCUT	Toone Canyon	38.30	87	*e*P	P	12 11 35.6	+0.4
CTU	Camp Tracy	38.37	87	*e*P	P	12 11 35.6	-0.2
BW06	Boulder Array	38.38	83	*e*P	P	12 11 35.8	-0.1
	comp=Z,238nm,1.0s,mb6.0						
PDAR	Pinedale Array	38.38	83	P	P	12 11 35.9	0.0
	comp=Z,125nm,0.8s,mb5.8,baz=306,slow=4.3,SNR=782						
PDAR				pP	pP	12 11 53.5	-0.9
	comp=Z,77nm,1.1s,baz=290,slow=4.3,SNR=2.9						
PDAR				ScP	ScP	12 17 26.9	-2.0
	comp=Z,8.3nm,0.9s,baz=97,slow=3.4,SNR=6.2						
PDAR				P3KPbc		12 41 43.0	
	comp=Z,0.9nm,0.8s,baz=121,slow=6.5,SNR=7.8						
PDAR				P3KP		12 43 20.1	
	comp=Z,0.4nm,0.6s,baz=219,slow=1.9,SNR=3.6						
PDAR	Pinedale Array	38.38	83	P	P	12 11 35.9	0.0
PDAR				pP	pP	12 11 53.5	-0.9
PDAR				ScP	ScP	12 17 26.9	-2.0
PDAR				*e*		12 41 43.0	
PDAR				PKKKP		12 43 20.1	
FCC	Fort Churchill	38.50	53	*e*P	P	12 11 37.2	+0.3
ALE	Alert	38.58	12	P	P	12 11 38.0	+0.4
	comp=Z,631nm,0.8s,mb6.5,SNR=47						
NLU	North Lily Min	38.65	89	*e*P	P	12 11 38.3	+0.1
SNCC	San Nicolas Is	38.87	103	*e*P	P	12 11 40.0	0.0
	comp=Z,0.8nm,1.4s						
SNCC				*e*pP	pP	12 11 59.4	+0.8
MPU	Maple Canyon	38.87	88	*e*P	P	12 11 40.1	+0.1
GSC	Goldstone	38.98	98	*e*P	P	12 11 40.9	-0.1
MWC	Mount Wilson	39.02	100	*e*P	P	12 11 41.1	-0.1
SHPR	Sheep Range	39.12	95	*e*P	P	12 11 41.8	-0.2
ARUT	Antelope Range	39.26	92	*e*P	P	12 11 43.0	-0.3
CCUT	Cedar City	39.47	93	*e*P	P	12 11 44.7	-0.2
MSU	Marysvale	39.53	90	*e*P	P	12 11 45.9	+0.4
TMUT	Trail Mountain	39.59	89	*e*P	P	12 11 46.6	+0.6
SRU	San Rafael	40.11	88	*e*P	P	12 11 50.8	+0.5
PFO	Pinyon Flat Ob	40.38	100	P	P	12 11 52.6	0.0
	comp=Z,476nm,1.3s,mb6.2,SNR=20						
PFO	Pinyon Flat Ob	40.38	100	*e*P	P	12 11 52.3	-0.3
PFO				pmax	pmax		
	comp=Z,177nm,1.3s,mb5.7						
PFO	Pinyon Flat Ob	40.38	100	*e*P	P	12 11 52.3	-0.3
	comp=Z,177nm,1.3s,mb5.7						
RWWY	Rawlins	40.41	83	*e*P	P	12 11 53.4	+0.6
RSSD	Black Hills	40.77	78	*e*P	P	12 11 56.0	+0.2
RSSD				pmax	pmax		
	comp=Z,166nm,1.0s,mb5.8						
RSSD	Black Hills	40.77	78	*e*P	P	12 11 56.0	+0.2
	comp=Z,166nm,1.0s,mb5.8						
BAR	Barrett	40.93	101	*e*P	P	12 11 57.0	-0.1
VLA	Vladivostok	41.01	281	*i* P	P	12 11 56.6	-1.1
VLA				*e*		12 13 54.3	
VLA				*e*S	S	12 18 01.3	-2.9
VLA				*i*		12 21 53.2	
VLA				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.2						
MDJ	Mudanjiang	41.43	284	P	P	12 11 59.1	-2.0
MDJ				AP	pP	12 12 17.7	-2.2
MDJ				XP	sP	12 12 26.2	-2.6
MDJ				PP	PP	12 13 36.2	-1.9
MDJ				S	S	12 18 07.9	-2.6
MDJ				XS	sS	12 18 39.9	-2.6
MDJ				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,192nm,4.2s						
MDJ				LR	LR		
	comp=N,2µm,18.2s						
MDJ				LR	LR		
	comp=E,2µm,20.3s						
MDJ				LR	LR		
	comp=Z,3µm,28.4s						
PV10	Paradox Valley	41.47	88	*e*P	P	12 12 01.2	-0.2
MJAR	Matsushiro Arr	41.54	268	P	P	12 12 01.9	-0.1
	comp=Z,6.4nm,0.8s,baz=357,slow=14,SNR=19						
MJAR				PcP	PcP	12 13 58.1	0.0
	comp=Z,9.6nm,0.9s,baz=34,slow=4.9,SNR=5.5						
MJAR				ScP	ScP	12 17 40.9	-0.4
	comp=Z,23nm,1.0s,baz=25,slow=3.6,SNR=18						
MJAR	Matsushiro Arr	41.54	268	P	P	12 12 01.9	-0.2
MJAR						12 13 58.1	
MJAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MJAR				pmax	pmax		
	comp=N,23nm,1.0s						
MAJO	Matsushiro	41.54	268	*e*P	P	12 12 02.1	0.0
MAT	Matsushiro	41.54	268	P	P	12 12 01.9	-0.2
MAT				S	S	12 18 08.0	-4.2
PHWY	Pilot Hill	41.68	82	*e*P	P	12 12 02.7	-0.5
GLA	Glamis	41.73	99	*e*P	P	12 12 03.4	-0.2
ULM	Lac du Bonnet	41.80	65	P	P	12 12 03.4	-0.8
	comp=N,70nm,1.0s,mb5.3,baz=303,slow=8.6,SNR=43						
ULM				PcP	PcP	12 13 58.6	-0.4
	comp=N,29nm,0.6s,baz=354,slow=3.9,SNR=5.5						
ULM				ScP	ScP	12 17 40.8	-1.5
	comp=N,9.8nm,0.6s,baz=30,slow=5.4,SNR=4.9						
ULM	Lac du Bonnet	41.80	65	*e*P	P	12 12 03.4	-0.8
	comp=N,126nm,1.1s,mb5.6						
PV01	Paradox Valley	41.90	88	*e*P	P	12 12 04.5	-0.5
WUAZ	Wupatki	42.02	93	*e*P	P	12 12 06.2	+0.2
	comp=N,300nm,1.0s,mb6.0						
SMCO	Snowmass	42.16	86	*e*P	P	12 12 06.5	-0.6
	comp=N,173nm,1.1s,mb5.7						
BOD	Bodaibo	42.34	309	*e*P	P	12 12 08.2	-0.4
BOD				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
BOD				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.0						
ISCO	Idaho Springs	42.55	84	*e*P	P	12 12 10.4	+0.1
SDCO	Great Sand Dun	43.97	86	*e*P	P	12 12 22.4	+0.7
	comp=Z,305nm,1.1s,mb5.9						
CN2	Changchun	44.29	286	*e*P	P	12 12 23.2	-1.1
CN2				SCP	ScP	12 17 51.8	-0.6
CN2				*e*S	S	12 18 49.7	-2.7
CN2				*e*SS	SS	12 21 59.1	-14
CN2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.6						
CN2				LR	LR		
	comp=N,2µm,18.0s						
CN2				LR	LR		
	comp=E,3µm,18.0s						
CN2				LR	LR		
	comp=Z,3µm,19.0s						
TUC	Tucson	44.63	96	*e*P	P	12 12 26.9	-0.1
ECSD	EROS,Sioux Fal	45.24	73	*e*P	P	12 12 30.3	-1.6
ANMO	Albuquerque	45.31	90*c*	*i*P	P	12 12 31.7	-0.7
ANMO	Albuquerque	45.31	90	*e*P	P	12 12 32.2	-0.2
CIT	Chita	45.74	302	*e*P	P	12 12 36.1	+0.3
CIT				*e*	pP	12 12 54.8	0.0
CIT				pmax	pmax		
	comp=Z,230nm,2.0s,mb5.6						
CBIJ	Chichi jima	46.07	255	P	P	12 12 39.0	+0.5
	comp=Z,545nm,0.9s,mb6.3,baz=40,slow=4.7,SNR=16						
CBIJ				pP	pP	12 12 56.1	-1.3
	comp=Z,627nm,0.8s,baz=44,slow=9.2,SNR=8.6						
SNY	Shenyang	46.60	285	⇓P	P	12 12 42.9	+0.4
SNY				AP	pP	12 13 01.8	+0.2
SNY				XP	sP	12 13 10.1	-0.3
SNY				PP	PP	12 14 35.4	+2.2
SNY				S	S	12 19 33.1	+7.4
SNY				SS	SS	12 22 48.3	-4.3
SNY				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.0						
SNY				AMB	AMB		
	comp=Z,878nm,12.0s						
SNY				LR	LR		
	comp=N,3µm,19.2s						
SNY				LR	LR		
	comp=E,2µm,17.4s						
SNY				LR	LR		
	comp=Z,3µm,20.4s						
KBS	Kingsbay	47.29	0⇓	*i*P	P	12 12 48.8	+1.0
KBS	Kingsbay	47.29	0⇓	*i*P	P	12 12 48.5	+0.6
KBS				*e*S	pP	12 13 07.3	+0.3
KBS				AML	AML	12 13 11.3	
	comp=Z,28nm,0.8s						
KBS	Kingsbay	47.29	0	*e*P	P	12 12 48.7	+0.8
KBS				pmax	pmax		
	comp=Z,162nm,0.9s,mb5.8						
KBS	Kingsbay	47.29	0	*e*P	P	12 12 48.7	+0.8
	comp=Z,162nm,0.9s,mb5.8						
KBS				*e*	pP	12 13 09.9	+2.9
INCN	Inchon	47.71	278	*e*P	P	12 12 51.7	+0.5
DAG	Danmarks Havn	47.86	10⇑	*i*P	P	12 12 52.4	+0.1
	comp=Z,336nm,0.9s,mb6.2						
DAG				*i* pP	pP	12 13 12.0	+0.6
DAG	Danmarks Havn	47.86	10⇑	*i*P	P	12 12 52.4	+0.1
DAG				pmax	pmax		
	comp=Z,340nm,0.9s,mb6.2						
MNTX	Cornudas Mount	48.25	92	*e*P	P	12 12 55.3	0.0
	comp=Z,196nm,0.9s,mb5.9						
KSU1	Kansas State U	48.25	78	*e*P	P	12 12 54.4	-0.9
SCIA	State Center	48.33	73	*e*P	P	12 12 55.2	-0.7
JFWS	Jewell Farm	49.34	70	*e*P	P	12 13 01.9	-1.7
DL2	Dalian	49.65	283	P	P	12 13 05.7	-0.3
DL2				SCP	ScP	12 18 14.0	-0.8
DL2				S	S	12 20 06.6	-2.1
DL2				SCS	ScS	12 22 46.5	-3.7
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
DL2				AMB	AMB		
	comp=Z,530nm,7.3s						
DL2				LR	LR		
	comp=N,920nm,20.1s						
DL2				LR	LR		
	comp=E,1µm,20.4s						
DL2				LR	LR		
	comp=Z,1µm,23.6s						
WMOK	Wichita Mounta	49.98	84	*e*P	P	12 13 07.8	-0.7
SFJD	Kangerlussuaq	50.08	27	P	P	12 13 09.4	+0.2
SFJD	Kangerlussuaq	50.08	27	P	P	12 13 09.5	+0.2
	comp=Z,108nm,0.8s,mb5.8,baz=306,slow=8.2,SNR=46						
SFJD				ScP	ScP	12 18 15.3	-1.3
	comp=Z,26nm,1.1s,baz=298,slow=4.8,SNR=5.3						
SFJD	Kangerlussuaq	50.08	27⇓	*i*P	P	12 13 09.5	+0.3
	comp=Z,124nm,0.8s,mb5.9						
SFJD							
	comp=Z,12µm,20.0s						
SFJD	Kangerlussuaq	50.08	27	P	P	12 13 09.5	+0.3
SFJD				pmax	pmax		
	comp=Z,108nm,0.8s,mb5.8						
SFJD				pmax	pmax		
	comp=N,26nm,1.1s						
IRK	Irkutsk	50.13	307	*e*P	P	12 13 07.2	-2.5
IRK				*e*		12 14 27.3	
IRK				pmax	pmax		
	comp=Z,339nm,2.3s,mb5.9						
TLY	Talaya	50.79	307	P	P	12 13 15.4	+0.8
	comp=Z,982nm,0.6s,SNR=18						
TLY	Talaya	50.79	307*d*	*i*P	P	12 13 15.4	+0.8
TLY				*e*		12 15 06.5	
TLY				*e*S	S	12 20 24.9	+0.3
TLY				*e*SS	ScS	12 22 58.0	0.0
TLY				pmax	pmax		
	comp=Z,102nm,0.7s,mb6.0						
TLY				MLR	MLR		
	comp=Z,1µm,18.0s						
TLY	Talaya	50.79	307	*e*P	P	12 13 15.7	+1.1
ULN	Ulaanbaatar	51.62	301	*e*P	P	12 13 21.5	+0.7
ULN				pmax	pmax		
	comp=Z,96nm,0.8s,mb5.9						
ULN	Ulaanbaatar	51.62	301	*e*P	P	12 13 21.5	+0.7
	comp=Z,96nm,0.8s,mb5.9						
ZAK	Zakamensk	51.81	305	*e*P	P	12 13 22.6	+0.3
ZAK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
ZAK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
SONM	Songino Array	51.97	301	P	P	12 13 24.2	+0.7
	comp=Z,44nm,0.8s,mb5.5,baz=44,slow=6.9,SNR=146						
SONM				pP	pP	12 13 43.8	+1.0
	comp=Z,22nm,0.9s,baz=47,slow=2.5,SNR=5.1						
SONM				PcP	PcP	12 14 35.6	+0.7
	comp=Z,121nm,0.8s,baz=70,slow=2.4,SNR=33						
SONM				ScP	ScP	12 18 24.5	-0.3
	comp=Z,65nm,0.9s,baz=44,slow=3.8,SNR=25						
SONM	Songino Array	51.97	301	P	P	12 13 24.2	+0.7
SONM						12 14 35.6	
SONM				pmax	pmax		
	comp=Z,44nm,0.8s						
SONM				pmax	pmax		
	comp=N,23nm,0.9s						
SONM				pmax	pmax		
	comp=Z,121nm,0.8s						
SONM				pmax	pmax		
	comp=N,65nm,0.9s						
BJI	Beijing	51.98	288	P	P	12 13 23.7	+0.2
BJI				AP	pP	12 13 43.4	+0.5
BJI				XP	sP	12 13 52.9	+1.3
BJI				S	S	12 20 42.9	+2.0
BJI				SCS	ScS	12 23 03.3	-2.9
BJI				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.3						
BJI				AMB	AMB		
	comp=Z,826nm,10.0s						
BJI				LR	LR		
	comp=N,2µm,22.5s						
BJI				LR	LR		
	comp=E,2µm,20.4s						
BJI				LR	LR		
	comp=Z,4µm,28.4s						
MOY	Mondy	52.04	308	*e*P	P	12 13 25.0	+1.0
MOY				pmax	pmax		
	comp=Z,121nm,2.2s,mb5.5						
SLM	Saint Louis	52.22	74	*e*P	P	12 13 24.2	-1.1
JCT	Junction City	52.42	89	*e*P	P	12 13 25.4	-1.4
FVM	French Village	52.56	75	*e*P	P	12 13 26.2	-1.6
FVM				pmax	pmax		
	comp=Z,156nm,0.9s,mb6.0						
FVM	French Village	52.56	75	*e*P	P	12 13 26.2	-1.6
	comp=Z,156nm,0.9s,mb6.0						
SCHQ	Schefferville	52.99	46	P	P	12 13 30.6	-0.3
	comp=Z,271nm,0.9s,mb6.3,baz=317,slow=7.6,SNR=183						
SCHQ				ScP	ScP	12 18 28.7	-0.6

comp=Z,29nm,0.9s,baz=302,slow=3.0,SNR=3.6
SCHQ Schefferville 52.99 46 *e*P **P 12 13 30.5 -0.5**
comp=Z,445nm,1.0s,mb6.5
MIAR Mount Ida 53.16 80 *e*P **P 12 13 30.8 -1.4**
MIAR pmax pmax
comp=Z,209nm,1.0s,mb6.1
MIAR Mount Ida 53.16 80 *e*P **P 12 13 30.8 -1.4**
comp=Z,209nm,1.0s,mb6.1
AAM Ann Arbor 53.36 67 *e*P **P 12 13 33.0 -0.7**
SIUC Southern Illin 53.43 74 *e*P **P 12 13 32.6 -1.6**
comp=Z,101nm,0.7s,mb6.0
UALR University of 53.71 79 *e*P **P 12 13 34.5 -1.7**
PARMO Parma 53.87 76 *e*P **P 12 13 36.0 -1.4**
BLO Bloomington 53.94 71 *e*P **P 12 13 36.4 -1.5**
BLO pmax pmax
comp=Z,251nm,1.3s,mb6.1
BLO Bloomington 53.94 71 *e*P **P 12 13 36.4 -1.5**
comp=Z,251nm,1.3s,mb6.1
HHC Hu-ho-hao-te 53.98 292 *e*P **P 12 13 39.0 +0.8**
HHC AP pP 12 13 58.3 +0.6
HHC XP sP 12 14 07.1 +0.7
HHC PCP PcP 12 14 43.8 +1.3
HHC PP PP 12 15 42.6 +2.4
HHC SCP ScP 12 18 33.6 0.0
HHC PCS PcS 12 18 41.7 -0.2
HHC S **S 12 21 06.4 -1.7**
HHC XS sS 12 21 39.6 -1.7
HHC SCS ScS 12 23 17.7 -2.5
HHC SS SS 12 24 47.3 -3.0
HHC AMB AMB
comp=Z,23nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,601nm,7.6s
HHC LR LR
comp=N,3μm,19.1s
HHC LR LR
comp=E,2μm,21.1s
HHC LR LR
comp=Z,3μm,20.8s
TIA Tai'an 54.09 284 ⇓*i*P **P 12 13 38.5 -0.6**
HBAR Harrisburg 54.13 77 *e*P **P 12 13 37.6 -1.7**
USIN University of 54.14 73 *e*P **P 12 13 38.0 -1.3**
JMIC Jan Mayen 54.27 9 P **P 12 13 38.5 -1.8**
comp=Z,52nm,0.7s,mb5.7,baz=315,slow=4.3,SNR=2.5
JMIC LR LR 12 38 34.8
comp=Z,3μm,19.0s,baz=76,slow=38
JOW Kunigami 54.37 267 ScP ScP 12 18 35.9 +0.5
comp=Z,28nm,0.7s,baz=130,slow=3.2,SNR=5.9
GLAT Glass 54.41 76 *e*P **P 12 13 40.8 -0.6**
NATX Nacogdoches 54.52 83 *e*P **P 12 13 41.0 -1.1**
comp=Z,194nm,0.8s,mb6.2
HALT Halls 54.63 76 *e*P **P 12 13 41.4 -1.6**
WCI Wyandotte Cave 54.72 72 *e*P **P 12 13 42.3 -1.3**
WCI pmax pmax
comp=Z,113nm,1.1s,mb5.8
WCI Wyandotte Cave 54.72 72 *e*P **P 12 13 42.3 -1.4**
comp=Z,113nm,1.1s,mb5.8
MET Memphis--Engin 54.85 77 *e*P **P 12 13 43.6 -1.0**
BTO Baotou 54.99 293 *e*P **P 12 13 45.7 +0.1**
HKT Hockley 55.15 86 *e*P **P 12 13 46.0 -0.7**
ACSO Alum Creek Sta 55.16 68 *e*P **P 12 13 45.5 -1.3**
WVT Waverly 55.34 75 *e*P **P 12 13 46.5 -1.5**
WVT pmax pmax
comp=Z,85nm,0.8s,mb5.8
WVT Waverly 55.34 75 *e*P **P 12 13 46.5 -1.6**
comp=Z,85nm,0.8s,mb5.8
SSE Sheshan 55.40 277 P **P 12 13 47.2 -1.3**
SSE AP pP 12 14 07.2 -0.9
SSE XP sP 12 14 16.5 -0.3
SSE S **S 12 21 24.7 -2.5**
SSE XS sS 12 21 59.8 -0.7
SSE SCS ScS 12 23 28.6 -1.8
SSE SS SS 12 25 11.5 -1.2
SSE AMB AMB
comp=Z,34nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,784nm,12.0s
SSE LR LR
comp=N,735nm,27.3s
SSE LR LR
comp=E,1μm,27.3s
SSE LR LR
comp=Z,2μm,25.0s
ERPA Erie 55.45 64 *e*P **P 12 13 48.5 -0.4**
comp=Z,293nm,1.2s,mb6.2
GUMO Guam 55.48 243 P **P 12 13 46.9 -2.2**
comp=Z,489nm,0.7s,mb6.6,baz=153,slow=6.4,SNR=44
GUMO LR LR 12 32 20.3
comp=Z,1μm,20.1s,baz=45,slow=30
ALLY Alegheny Colle 55.70 65 *e*P **P 12 13 49.9 -0.7**
KVTX Kingsville 55.71 89 *e*P **P 12 13 51.1 +0.4**
PLAL Pickwick Lake 56.02 76 *e*P **P 12 13 51.6 -1.3**
comp=Z,165nm,1.1s,mb6.0
NJ2 Nanjing 56.07 279 *e*P **P 12 13 56.6 +3.3**
NJ2 AP pP 12 14 15.9 +3.0
NJ2 PP PP 12 16 04.0 +5.1
NJ2 S **S 12 21 38.0 +1.9**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,890nm,6.4s
NJ2 LR LR
comp=N,3μm,17.3s
NJ2 LR LR
comp=E,4μm,23.0s
NJ2 LR LR
comp=Z,4μm,23.6s
MSNY Massena 56.09 59 *e*P **P 12 13 52.1 -1.3**
KEV Kevo 56.13 354 *e*p **P 12 13 51.8 -1.9**
comp=Z,66nm,0.8s,mb5.7
KEV Kevo 56.13 354 *e*P **P 12 13 51.8 -1.9**
KEV pmax pmax
comp=Z,66nm,0.8s,mb5.7
ARCES ARCESS Array B 56.43 355 P **P 12 13 55.2 -0.7**
comp=Z,52nm,0.8s,mb5.6,baz=10,slow=7.4,SNR=54
ARCES PcP PcP 12 14 51.0 -1.0
comp=Z,37nm,0.7s,baz=7.2,slow=5.6,SNR=6.7
ARCES ScP ScP 12 18 42.1 -2.2
comp=Z,14nm,0.8s,baz=15,slow=5.3,SNR=7.3
ARCES PKPPKP 12 43 55.0
comp=Z,5.6nm,0.8s,baz=183,slow=2.4,SNR=7.5
ARCES ARCESS Array B 56.43 355 P **P 12 13 55.2 -0.6**
ARCES 12 14 51.0
ARCES pmax pmax
comp=Z,52nm,0.8s
ARCES pmax pmax
comp=Z,37nm,0.7s
ARCES pmax pmax
comp=N,14nm,0.8s
ARCES ARCESS Array B 56.43 355 P **P 12 13 55.2 -0.7**
ARCES PcP PcP 12 14 51.0 -1.0
ARCES ScP ScP 12 18 42.1 -2.2
ARCES P'P' 12 43 55.0
LONY Lake Ozonia 56.50 59 *e*P **P 12 13 55.2 -1.1**
ZAIG Zacatecas 56.57 97 *i*P **P 12 13 56.1 -0.8**
TRO Tromso 56.58 358 *e*P **P 12 13 55.9 -1.0**
FRNY Flat Rock 56.84 58 *e*P **P 12 13 57.0 -1.7**
KTK1 Kautokeino 57.06 356 ⇓*i*P **P 12 14 00.6 +0.3**
KTK1 AMb AMB 12 14 03.9
comp=Z,83nm,1.8s,mb5.5
KTK1 *e*pP pP 12 14 20.6 +0.6
KTK1 Kautokeino 57.06 356 ⇓*i*P **P 12 14 00.6 +0.3**
comp=Z,83nm,1.8s,mb5.5
SWET Sewanee 57.07 74 *e*P **P 12 13 59.1 -1.3**
NCB Newcomb 57.14 59 *e*P **P 12 14 00.3 -0.6**
MCWV Mont Chateau 57.27 66 *e*P **P 12 14 00.4 -1.4**
comp=Z,267nm,1.3s,mb6.1
NVS Novosibirsk 57.32 320 ⇓*i*P **P 12 14 01.7 -0.4**
NVS *i* 12 14 54.6
NVS *e*S **S 12 21 47.2 -5.4**
NVS *e* 12 23 40.6
NVS pmax pmax
comp=Z,161nm,2.0s,mb5.7
NVS pmax pmax
comp=E,64nm,1.4s
NVS smax
comp=N,54nm,2.0s
LVZ Lovozero 57.37 351 P **P 12 14 02.2 -0.3**
comp=N,501nm,0.8s,mb6.6,SNR=5.2
LVZ Lovozero 57.37 351 P **P 12 14 02.4 -0.1**
LVZ Lovozero 57.37 351 P **P 12 14 02.4 -0.2**
ZAL Zalesovo 57.40 318 P **P 12 14 02.8 +0.1**
comp=N,30nm,0.7s,mb5.4,baz=68,slow=7.1,SNR=90
ZAL PcP PcP 12 14 55.6 -0.2
comp=N,48nm,0.7s,baz=68,slow=4.7,SNR=13
ZAL ScP ScP 12 18 48.0 -0.6
comp=N,12nm,0.3s,baz=77,slow=4.9,SNR=7.4
ZAL Zalesovo 57.40 318 P **P 12 14 02.8 +0.1**
ZAL 12 14 55.6
ZAL pmax pmax
comp=Z,30nm,0.7s
ZAL pmax pmax
comp=Z,48nm,0.7s
ZAL pmax pmax
comp=N,12nm,0.3s
TZTN Tazewell 57.46 71 *e*P **P 12 14 02.3 -0.8**
BINY Binghamton 57.50 62 *e*P **P 12 14 02.8 -0.6**
SSPA Standing Stone 57.62 64 *e*P **P 12 14 03.2 -1.1**
CPCT Cooper Cave 57.70 73 *e*P **P 12 14 03.4 -1.4**
APA Apatity 57.81 351 ⇑*i*P **P 12 14 07.0 +1.4**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.2
ACCN Adirondack Com 57.84 59 *e*P **P 12 14 04.8 -1.0**
LRAL Lakeview Retre 58.04 77 *e*P **P 12 14 04.9 -2.3**
comp=Z,84nm,0.8s,mb5.8
LBNH Lisbon 58.10 58 *e*P **P 12 14 06.6 -1.0**
LBNH pmax pmax
comp=Z,93nm,0.9s,mb5.8
LBNH Lisbon 58.10 58 *e*P **P 12 14 06.6 -1.0**
comp=Z,93nm,0.9s,mb5.8
LOF Lofoten 58.15 0 ⇓*i*P **P 12 14 08.9 +1.0**
LOF AMb AMB 12 14 10.2
comp=Z,53nm,1.0s,mb5.5
LOF Lofoten 58.15 0 ⇓*i*P **P 12 14 08.9 +1.0**
comp=Z,53nm,1.0s,mb5.5
MYNC Murphy 58.19 73 *e*P **P 12 14 06.8 -1.5**
MYNC pmax pmax
comp=Z,90nm,0.8s,mb5.8
MYNC Murphy 58.19 73 *e*P **P 12 14 06.8 -1.4**
comp=Z,90nm,0.8s,mb5.8
FWV Forest Hill 58.23 69 *e*P **P 12 14 07.5 -1.0**
HNH Hanover 58.31 58 *e*P **P 12 14 08.5 -0.5**
ELN Prospectdale 58.52 69 *e*P **P 12 14 09.1 -1.5**
BORG Borgarnes 58.53 17 P **P 12 14 11.9 +1.3**
comp=Z,745nm,1.4s,mb6.5,SNR=7.4
BORG Borgarnes 58.53 17 P **P 12 14 11.6 +1.0**
comp=Z,63nm,0.7s,mb5.7,baz=353,slow=2.4,SNR=14
BORG pP pP 12 14 30.4 0.0
comp=Z,61nm,0.9s,baz=341,slow=3.9,SNR=3.8
BORG Borgarnes 58.53 17 *e*P **P 12 14 10.0 -0.6**
comp=Z,209nm,1.3s,mb6.0
BLA Blacksburg 58.71 69 *e*P **P 12 14 11.1 -0.8**
BLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BLA Blacksburg 58.71 69 *e*P **P 12 14 11.1 -0.7**
comp=Z,7.7nm,0.8s,mb4.8
FFD Franklin Falls 58.79 58 *e*P **P 12 14 12.2 -0.3**
comp=Z,196nm,1.2s,mb6.0
MVL Millersville 58.89 64 *e*P **P 12 14 12.2 -0.9**
WVL Waterville 58.98 56 *e*P **P 12 14 12.7 -1.1**
comp=Z,123nm,1.1s,mb5.8
QUA2 Belchertown 59.31 59 *e*P **P 12 14 15.2 -0.8**
comp=Z,306nm,1.2s,mb6.2
BRNJ Basking Ridge 59.33 62 *e*P **P 12 14 16.5 +0.4**
PAL Palisades 59.44 61 *e*P **P 12 14 16.5 -0.4**
HRV Harvard--Oak R 59.54 59 *e*P **P 12 14 16.9 -0.7**
CPNY Central Park 59.57 62 *e*P **P 12 14 17.8 0.0**
CBN Corbin 59.65 66 P **P 12 14 19.9 +1.6**
comp=Z,117nm,1.0s,mb5.9
WES Weston 59.75 59 *e*P **P 12 14 18.6 -0.4**
MRX Morelia 59.75 98 *i*P **P 12 14 19.0 -0.1**
MOIG Morelia 59.77 98 *i*P **P 12 14 18.4 -0.8**
WHN Wuhan 59.79 281 ⇓P **P 12 14 20.0 +0.7**
EMMW East Machias 59.94 54 *e*P **P 12 14 19.9 -0.4**
comp=Z,180nm,1.0s,mb6.1
YHNB Yeheng 60.07 271 *e*P **P 12 14 20.9 -0.4**
MOR8 Moi Rana 60.11 360 ⇓*i*P **P 12 14 19.8 -1.8**
XAN Xi'an 60.31 288 P **P 12 14 22.5 -0.4**
XAN AP pP 12 14 35.5 -7.2
XAN AMB AMB
comp=Z,17nm,1.1s,mb5.0
NACB Ninganchiao 60.32 271 *e*P **P 12 14 21.8 -1.1**
JSC Jenkinsville 60.38 72 *e*P **P 12 14 22.2 -1.2**
TMCR Tamitsa 60.62 348 *e*P **P 12 14 22.3 -2.7**
TMCR pmax pmax
comp=Z,60nm,1.1s,mb5.5
UNM Universidad Na 61.22 97 *e*P **P 12 14 29.0 -0.1**
GTA Gaotai 61.29 298 ⇓*i*P **P 12 14 29.3 -0.2**
GTA AP pP 12 14 49.3 -0.1
GTA XP sP 12 14 57.5 -0.5
GTA PCP PcP 12 15 11.0 -0.3
GTA PP PP 12 16 47.3 +2.1
GTA PPP 12 18 17.0
GTA SCP ScP 12 19 04.9 -1.0
GTA PCS PcS 12 19 11.3 -2.9
GTA S **S 12 22 41.7 -2.1**
GTA XS sS 12 23 15.9 -1.7
GTA SCS ScS 12 24 10.0 -3.7
GTA SS SS 12 26 45.0 -0.2
GTA AMB AMB
comp=Z,37nm,0.7s,mb5.5
GTA AMB AMB
comp=Z,653nm,5.7s
GTA LR LR
comp=N,2μm,17.9s
GTA LR LR
comp=E,2μm,16.4s
GTA LR LR
comp=Z,2μm,18.3s
QZH Quanzhou 61.50 274 P **P 12 14 31.6 +0.7**
QZH S **S 12 22 41.0 -5.5**
QZH LR LR
comp=N,970nm,17.0s
QZH LR LR
comp=E,2μm,17.0s
QZH LR LR
comp=Z,2μm,16.5s
SOKR Solikamsk 61.56 337 *d*P **P 12 14 30.4 -1.0**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.5
SOKR MLR MLR
comp=Z,4μm,23.0s
LZH Lanzhou 61.61 293 ⇓P **P 12 14 32.3 +0.7**
LZH AP pP 12 14 52.0 +0.5
LZH XP sP 12 15 01.0 +0.8
LZH PCP PcP 12 15 13.8 +1.2
LZH *e*S **S 12 22 46.0 -1.8**
LZH XS sS 12 23 19.0 -2.7
LZH SCS ScS 12 24 17.0 +0.9
LZH SS SS 12 26 45.2 -5.0
LZH AMB AMB
comp=Z,44nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,686nm,11.4s
LZH LR LR
comp=N,3μm,16.6s
LZH LR LR
comp=Z,3μm,17.1s
PPM Popocatepetl 61.75 96 *i*P **P 12 14 31.6 -1.0**
NSS Namsos 61.76 1 *e*P **P 12 14 31.1 -1.5**
PLIG Platanillo 61.77 98 *i*P **P 12 14 30.3 -2.4**
KURK Kurchatov 62.29 319 P **P 12 14 36.7 +0.5**
comp=Z,472nm,0.8s,mb6.6,SNR=28
LVIG Laguna Verde 62.54 94 *i*P **P 12 14 35.6 -2.2**
JOF Joensuu 62.56 351 *e*p **P 12 14 36.2 -1.8**
comp=Z,16nm,0.5s,mb5.2
JOF Joensuu 62.56 351 *e*P **P 12 14 36.2 -1.8**
JOF pmax pmax
comp=Z,16nm,0.5s,mb5.2
ACX Acapulco 62.72 99 *e*P **P 12 14 38.0 -1.1**
CHKZ Chkalovo 62.74 326 *i*P **P 12 14 38.4 -0.8**
CHKZ pmax pmax
comp=Z,57nm,1.1s,mb5.4
CHKZ Chkalovo 62.74 326 *i*P **P 12 14 38.5 -0.7**
SVE Sverdlovsk 63.03 333 ⇓*e*P **P 12 14 41.8 +0.7**
SVE pmax pmax
comp=Z,275nm,2.4s,mb5.8
SVE MLR MLR
comp=N,1μm,18.0s
SVE MLR MLR
comp=E,700nm,18.0s
SVE MLR MLR
comp=Z,3μm,18.0s
BVAR Borovoye Array 63.36 326 P **P 12 14 43.6 +0.3**
comp=Z,40nm,0.6s,mb5.5,baz=52,slow=6.8,SNR=178
BVAR pP pP 12 15 03.9 +0.5
comp=Z,46nm,0.8s,baz=42,slow=6.9,SNR=8.5
BVAR PcP PcP 12 15 20.3 +0.6
comp=Z,69nm,0.8s,baz=40,slow=7.7,SNR=5.7
BVAR ScP ScP 12 19 15.2 +0.1
comp=Z,30nm,0.8s,baz=52,slow=3.4,SNR=10
BVAR PKPPKP 12 43 38.3
comp=Z,5.9nm,0.9s,baz=184,slow=3.1,SNR=7.7
BVAR LR LR 12 46 41.6
comp=Z,2μm,18.1s,baz=319,slow=40
BVAR Borovoye Array 63.36 326 P **P 12 14 43.6 +0.3**
BVAR 12 15 20.3
BVAR pmax pmax
comp=Z,40nm,0.6s
BVAR pmax pmax
comp=N,46nm,0.8s
BVAR pmax pmax
comp=Z,69nm,0.8s
BVAR pmax pmax
comp=N,30nm,0.8s
BRVK Borovoye 63.37 326 P **P 12 14 43.6 +0.2**
comp=N,337nm,0.7s,mb6.4,SNR=20
BRVK Borovoye 63.37 326 P **P 12 14 43.5 +0.1**
BRVK pmax pmax
comp=Z,41nm,1.2s,mb5.2
BRVK Borovoye 63.37 326 *e*P **P 12 14 43.3 0.0**
VOSK Vostochnaya 63.41 325 P **P 12 14 43.3 -0.4**
VOSK pmax pmax
comp=Z,69nm,1.0s,mb5.5
KAF Kangasniemi 63.76 353 *e*p **P 12 14 45.0 -0.9**
comp=Z,85nm,0.6s,mb5.8,baz=4.2,slow=6.2
KAF Kangasniemi 63.76 353 *e*P **P 12 14 45.0 -0.9**
KAF pmax pmax
comp=Z,85nm,0.6s,mb5.8
ZRNK Zerenda 63.88 326 *i*P **P 12 14 45.4 -1.3**
ZRNK pmax pmax
comp=Z,72nm,0.8s,mb5.5
WMQ Urumqi 63.89 309 ⇓*i*P **P 12 14 47.6 +0.8**
WMQ AP pP 12 15 08.0 +1.2
WMQ PP PP 12 17 10.0 +1.9
WMQ PPP 12 18 43.0
WMQ PCS 12 19 25.0
WMQ S **S 12 23 15.0 -1.3**
WMQ PS 12 23 46.0
WMQ AMB AMB
comp=Z,83nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,743nm,4.2s
WMQ LR LR
comp=N,1μm,15.2s
WMQ LR LR
comp=E,2μm,18.8s
WMQ LR LR
comp=Z,2μm,24.2s
ARU Arti 63.92 334 ⇓*i*P **P 12 14 40.6 -6.4**
ARU *e* 12 15 18.8
ARU *e* 12 17 05.5
ARU *e* 12 24 28.2
ARU *e*SSS 12 30 16.5
ARU pmax pmax
comp=Z,15nm,0.7s,mb4.9
ARU Arti 63.92 334 *e*P **P 12 14 47.2 +0.2**
ARU *e*pP pP 12 15 06.9 -0.2
MK31 Makanchi Array 63.93 315 P **P 12 14 46.5 -0.6**
MK31 pmax pmax
comp=Z,40nm,0.7s,mb5.4
MKAR Makanchi Array 63.93 315 P **P 12 14 46.6 -0.5**
comp=Z,46nm,0.6s,mb5.5,baz=46,slow=7.6,SNR=307
MKAR ScP 12 19 17.0
comp=Z,13nm,0.9s,baz=44,slow=5.4,SNR=4.9
MKAR PKPPKP 12 43 35.8
comp=Z,4.6nm,0.9s,baz=222,slow=3.3,SNR=4.6
MKAR Makanchi Array 63.93 315 P **P 12 14 46.6 -0.5**
MKAR ScP 12 19 17.0
MKAR P'P' 12 43 35.8
PNIG Pinotepa 64.14 98 *i*P **P 12 14 47.3 -1.1**
DOMB Dombas 64.20 2 ⇓*i*P **P 12 14 48.5 -0.4**
DOMB AMb AMB 12 14 49.6
comp=Z,175nm,0.6s,mb6.1
DOMB Dombas 64.20 2 ⇓*i*P **P 12 14 48.5 -0.4**
comp=Z,175nm,0.6s,mb6.1
OXX Oaxaca 64.42 96 *i*P **P 12 14 50.5 +0.2**
VHO Vista Hermosa 64.42 96 *i*P **P 12 14 50.0 -0.3**
FINES FINESS Array B 64.44 353 P **P 12 14 49.8 -0.7**
comp=Z,48nm,0.7s,mb5.4,baz=21,slow=8.1,SNR=148
FINES pP pP 12 15 09.5 -0.9
comp=Z,64nm,1.0s,baz=23,slow=10,SNR=10.0
FINES PKPPKP 12 43 33.7
comp=Z,5.6nm,0.7s,baz=116,slow=4.4,SNR=9.0
FINES FINESS Array B 64.44 353 P **P 12 14 49.8 -0.7**
FINES pP pP 12 15 09.5 -0.9
FINES P'P' 12 43 33.7
DWPF Disney 64.89 76 *e*P **P 12 14 50.1 -3.2**
comp=Z,158nm,0.9s,mb5.8
CVP Callao Caves 65.18 266 *e*P **P 12 14 56.0 +0.8**
NB2 NORSAR Subarra 65.25 1 P **P 12 14 55.1 -0.6**
comp=Z,78nm,0.8s,mb5.6,baz=358,slow=6.5
NB2 NORSAR Subarra 65.25 1 P'P' 12 43 30.6
comp=Z,21nm,1.0s,baz=178,slow=4.1
NB2 NORSAR Subarra 65.25 1 P'P' 12 43 30.6
baz=178,slow=4.1
NOA NORSAR Array B 65.25 1 P **P 12 14 55.2 -0.5**
comp=Z,51nm,0.8s,mb5.4,baz=0.6,slow=6.4,SNR=154
NOA ScP 12 19 21.8
comp=Z,2.5nm,0.8s,baz=359,slow=5.0,SNR=3.3
NOA LR LR 12 40 48.0
comp=Z,1μm,21.7s,baz=0.0,slow=33
NOA PKPPKP 12 43 31.6
comp=Z,10nm,0.9s,baz=162,slow=3.3,SNR=16
NOA NORSAR Array B 65.25 1 P **P 12 14 55.2 -0.5**
NOA ScP 12 19 21.8
NOA LR LR 12 40 48.0
NOA P'P' 12 43 31.6
WAL1 Walls 65.40 8 *e*P **P 12 14 56.0 -0.6**
WAL1 Walls 65.40 8 *e*P **P 12 14 56.0 -0.6**
CMIG Matias Romero 65.50 95 *i*P **P 12 14 55.7 -1.5**
CD2 Chengdu 65.54 289 P **P 12 14 58.2 +0.7**
CD2 AP pP 12 15 19.2 +1.6
CD2 XP sP 12 15 27.6 +1.4
CD2 PCP PcP 12 15 29.8 +1.1
CD2 PP PP 12 17 26.8 +4.3
CD2 SCP 12 19 24.2
CD2 PCS 12 19 32.8
CD2 S S 12 23 35.3 -1.3
CD2 XS sS 12 24 09.8 -1.0
CD2 SCS ScS 12 24 42.5 -3.6
CD2 SS SS 12 27 48.3 -3.2
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,910nm,18.6s
CD2 LR LR
comp=Z,1μm,18.6s
LRW Lerwick 65.56 8 *e*P **P 12 14 57.1 -0.6**
LRW *e*P 12 14 57.1
LRW AMS AMS 12 24 49.0
comp=Z,3μm,19.9s
LRW Lerwick 65.56 8 *e*P **P 12 14 57.1 -0.6**
LRW *e*P 12 14 57.1
LRW AMS AMS 12 24 49.0
comp=Z,3μm,19.9s
RUND Rundenannen 65.71 4 ⇓*i*P **P 12 14 58.3 -0.3**
RUND AMb AMB 12 14 59.9
comp=Z,247nm,1.7s,mb5.8
RUND Rundenannen 65.71 4 ⇓*i*P **P 12 14 58.3 -0.3**
comp=Z,247nm,1.7s,mb5.8
BER Bergen 65.73 4 *e*P **P 12 14 58.5 -0.3**
CAUP Cauayan 65.77 266 *e*P **P 12 14 60.0 +0.9**
ABRA Dolores 65.87 267 *e*P **P 12 14 60.0 +0.3**
GZH Guangzhou 66.00 277 P **P 12 14 56.7 -3.8**
GZH S S 12 23 35.9 -6.4
GZH LR LR
comp=N,629nm,18.0s
GZH LR LR
comp=E,652nm,23.0s
GZH LR LR
comp=Z,2μm,21.1s
HFS Hagfors 66.18 360 P **P 12 15 00.7 -1.0**
comp=Z,85nm,0.5s,mb5.8,baz=52,slow=5.7,SNR=389
HFS PKPPKP 12 43 29.1
comp=Z,3.6nm,0.7s,baz=164,slow=5.9,SNR=6.1
TAOE Nuku Hiva Isla 66.47 152 *e*P **P 12 15 01.2 -2.3**
comp=Z,1μm,0.7s
TAOE Nuku Hiva Isla 66.47 152 *e*LR LR 12 34 08.0
comp=Z,21μm,29.9s
KONO Kongsberg 66.62 2 ⇓*i*P **P 12 15 04.5 0.0**
KONO Kongsberg 66.62 2 *e*P **P 12 15 04.4 0.0**
BLS5 Blasjo 66.74 4 ⇓*i*P **P 12 15 05.9 +0.6**

BLS5 AMb AMB 12 15 07.3
comp=Z,104nm,1.1s,mb5.6
BLS5 Blasjo 66.74 4 ⇓ iP P 12 15 05.9 +0.6
comp=Z,104nm,1.1s,mb5.6
BALP Baler 66.86 265 eP P 12 15 06.3 +0.3
OBR Brabster 66.89 9 eP P 12 15 05.7 -0.5
OBR Brabster 66.89 9 eP P 12 15 05.7 -0.5
ORE Reay 66.89 10 eP P 12 15 06.0 -0.1
ORE Reay 66.89 10 eP P 12 15 06.0 -0.1
PVCP Virac 67.05 261 eP P 12 15 08.0 +0.8
MLA1 Latheron 67.17 10 eP P 12 15 07.5 -0.5
MLA1 Latheron 67.17 10 eP P 12 15 07.5 -0.5
PECR Pechory 67.21 342 eP P 12 15 06.8 -1.4
PECR *i* pP 12 15 22.4 -6.0
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.6
GYA Guiyang 67.29 284 ⇓ iP P 12 15 09.2 +0.5
GYA AP pP 12 15 28.9 0.0
GYA XP sP 12 15 37.5 +0.1
GYA PP PP 12 17 37.6 -0.2
GYA PPP 12 19 14.1
GYA S S 12 23 57.2 -0.6
GYA XS sS 12 24 23.3 -8.9
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,350nm,7.2s
GYA LR LR
comp=N,1μm,20.0s
GYA LR LR
comp=E,2μm,18.5s
GYA LR LR
comp=Z,1μm,20.0s
BOLP Bolinao 67.34 267 eP P 12 15 08.4 -0.6
POLP Polillo Island 67.45 264 eP pP 12 15 24.2 -5.7
MVH1 Achvaich 67.46 10 eP P 12 15 09.4 -0.4
MVH1 Achvaich 67.46 10 eP P 12 15 09.4 -0.4
KSK Scoval 67.63 12 eP P 12 15 10.8 -0.1
KSK Scoval 67.63 12 eP P 12 15 10.8 -0.1
KAC Achnashellach 67.76 11 eP P 12 15 11.3 -0.4
KAC Achnashellach 67.76 11 eP P 12 15 11.3 -0.4
SCZP Santa Cruz 67.81 266 eP P 12 15 11.3 -0.7
KPL Plockton 67.88 11 eP P 12 15 12.5 +0.1
KPL AMS AMS 12 27 57.5
comp=Z,6μm,18.1s
KPL Plockton 67.88 11 eP P 12 15 12.5 +0.1
KPL AMS AMS 12 27 57.5
comp=Z,6μm,18.1s
MCD Coleburn Disti 67.89 10 eP P 12 15 12.1 -0.4
MCD Coleburn Disti 67.89 10 eP P 12 15 12.1 -0.4
KSB Sheil Bridge 68.03 11 eP P 12 15 12.8 -0.6
KSB Sheil Bridge 68.03 11 eP P 12 15 12.8 -0.6
KAR1 Arisaig 68.27 11 eP P 12 15 14.0 -0.9
KAR1 Arisaig 68.27 11 eP P 12 15 14.0 -0.9
BOAC Boac 68.51 263 eP P 12 15 16.0 -0.4
PLP Palo 68.51 259 eP P 12 15 16.3 -0.1
MOS Moscow 68.82 346 eP P 12 15 15.9 -2.4
MOS *e* 12 19 37.2
MOS *e*S S 12 24 12.9 -3.1
MOS *i* 12 25 05.4
MOS pmax pmax
comp=Z,61nm,0.8s,mb5.5
MOS pmax pmax
comp=Z,300nm,1.9s,mb5.8
EAB Aberfoyle 69.15 11 eP P 12 15 20.0 -0.4
EAB Aberfoyle 69.15 11 eP P 12 15 20.0 -0.4
LUBP Lubang 69.23 265 eP P 12 15 18.9 -2.0
OTRP Odiongan 69.28 262 eP P 12 15 22.2 +1.0
SCPH Surigao 69.33 258 ⇓ eP P 12 15 21.4 0.0
HNR Honiara 69.34 216 P P 12 15 19.9 -1.6
comp=Z,115nm,0.8s,mb5.8,baz=269,slow=0.6,SNR=6.3
HNR Honiara 69.34 216 P P 12 15 19.9 -1.6
HNR pmax pmax
comp=Z,115nm,0.8s,mb5.8
PCOU Corrie 69.38 11 eP P 12 15 21.2 -0.6
PCOU Corrie 69.38 11 eP P 12 15 21.2 -0.6
MSLP Maasin 69.41 259 eP P 12 15 22.3 +0.4
AKTK Aktyubinsk 69.43 331 P P 12 15 22.2 +0.2
AKTK PcP PcP 12 15 44.7 -0.2
AKTK P'P' 12 43 23.1
AKTK LR LR 12 47 01.7
AKTO Aktyubinsk 69.43 331 P P 12 15 22.2 +0.2
comp=Z,34nm,0.7s,mb5.3,baz=31,slow=6.8,SNR=118
AKTO PcP PcP 12 15 44.7 -0.2
comp=Z,133nm,0.9s,baz=43,slow=5.6,SNR=11
AKTO PKPPKP 12 43 23.1
comp=Z,7.1nm,1.0s,baz=207,slow=5.1,SNR=14
AKTO LR LR 12 47 01.7
comp=Z,2μm,20.2s,baz=207,slow=37
AKTO Aktyubinsk 69.43 331 *i* **P P 12 15 22.0 -0.1**
AKTO pmax pmax
comp=Z,27nm,0.9s,mb5.1
PMSU Muirshiel 69.44 11 eP P 12 15 21.2 -1.0
PMSU Muirshiel 69.44 11 eP P 12 15 21.2 -1.0
RCP Roxas 69.50 261 ⇑ eP P 12 15 23.3 +0.8
PGBU Glenifferbraes 69.51 11 eP P 12 15 22.1 -0.5
PGBU AMS AMS 12 22 43.6
comp=Z,2μm,20.1s
PGBU Glenifferbraes 69.51 11 eP P 12 15 22.1 -0.5
PGBU AMS AMS 12 22 43.6
comp=Z,2μm,20.1s
EDI Edinburgh 69.53 10 eP P 12 15 23.2 +0.4
EDI AMS AMS 12 22 09.0
comp=Z,7μm,19.1s
EDI Edinburgh 69.53 10 eP P 12 15 23.2 +0.4
EDI AMS AMS 12 22 09.0
comp=Z,7μm,19.1s
OBN Obninsk 69.58 346 *d i* **P P 12 15 22.0 -1.0**
OBN *i* pP 12 15 43.5 +0.2
OBN pmax pmax
comp=Z,129nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 69.58 346 eP P 12 15 22.5 -0.5
OBN *e*pP pP 12 15 43.8 +0.5
EAU Auchinoon 69.58 10 eP P 12 15 23.0 0.0
EAU Auchinoon 69.58 10 eP P 12 15 23.0 0.0
ESY Stoneypath 69.60 10 eP P 12 15 22.4 -0.7
ESY Stoneypath 69.60 10 eP P 12 15 22.4 -0.7
EBL Broad Law 69.70 10 eP P 12 15 22.9 -0.8
EBL Broad Law 69.70 10 eP P 12 15 22.9 -0.8
MUD Monsted U'grnd 69.81 3 ⇓ iP P 12 15 24.6 +0.2
comp=Z,75nm,1.0s,mb5.5
MUD Monsted U'grnd 69.81 3 ⇓ iP P 12 15 24.6 +0.2
MUD pmax pmax
comp=Z,75nm,1.0s,mb5.5
GMK Mull of Kintyr 69.84 12 eP P 12 15 24.1 -0.4
GMK Mull of Kintyr 69.84 12 eP P 12 15 24.1 -0.4
TKM2 Tokmak 2 69.85 316 P P 12 15 25.7 +1.1
SNR=65
AB31 Akbulak array 69.92 330 P P 12 15 24.9 -0.2
AB31 pmax pmax
comp=Z,3.0nm,0.4s
AB31 Akbulak array 69.92 330 ⇑ eP P 12 15 25.0 -0.1
USP Ospenovka 70.00 317 P P 12 15 26.5 +0.9
SNR=58
GCL Cushendall 70.04 12 eP P 12 15 25.2 -0.6
GCL Cushendall 70.04 12 eP P 12 15 25.2 -0.6
XSO Sourhope Farm 70.05 10 eP P 12 15 25.4 -0.5
XSO AMb AMB 12 15 27.4
comp=Z,393nm,1.5s,mb6.0
XSO Sourhope Farm 70.05 10 eP P 12 15 25.4 -0.5
XSO AMb AMB 12 15 27.4
comp=Z,393nm,1.5s,mb6.0
EKA Eskdalemuir Ar 70.12 10 P P 12 15 26.4 +0.1
comp=Z,95nm,0.7s,mb5.7,baz=349,slow=4.8,SNR=167
EKA PKP2ab 12 43 21.1
comp=Z,11nm,0.9s,baz=158,slow=2.7,SNR=14
CHMS Chumysh 70.13 317 P P 12 15 27.3 +0.9
SNR=37
ESK Eskdalemuir 70.13 10 P P 12 15 26.8 +0.4
comp=Z,1μm,0.9s,mb6.7,SNR=16
ESK Eskdalemuir 70.13 10 eP P 12 15 26.1 -0.2
ESK AMS AMS 12 21 30.8
comp=Z,8μm,19.8s
ESK Eskdalemuir 70.13 10 eP P 12 15 26.1 -0.2
ESK AMS AMS 12 21 30.8
comp=Z,8μm,19.8s
ESK Eskdalemuir 70.13 10 eP P 12 15 25.9 -0.5
ESK pmax pmax
comp=Z,151nm,0.9s,mb5.8
ESK Eskdalemuir 70.13 10 eP P 12 15 25.9 -0.5
comp=Z,152nm,0.9s,mb5.8
ULHL Ulahol 70.15 315 P P 12 15 27.8 +1.3
SNR=12
BWH Wardlaw 70.22 10 eP P 12 15 26.9 -0.1
BWH Wardlaw 70.22 10 eP P 12 15 26.9 -0.1
ECK Cauldkaine Hil 70.27 10 eP P 12 15 26.8 -0.4
ECK AMb AMB 12 15 28.6
comp=Z,173nm,1.3s,mb5.7
ECK Cauldkaine Hil 70.27 10 eP P 12 15 26.8 -0.4
ECK AMb AMB 12 15 28.6
comp=Z,173nm,1.3s,mb5.7
FRU Bishkek 70.32 317 ⇓ iP P 12 15 29.0 +1.5
GUIM Jordan 70.33 261 eP P 12 15 25.7 -2.0
KBK Karagaybulak 70.33 317 P P 12 15 28.8 +1.1
SNR=52
MGV Manicaragua 70.34 79 eP P 12 15 28.1 +0.4
BHH Howats Hill 70.35 10 eP P 12 15 27.4 -0.3
BHH Howats Hill 70.35 10 eP P 12 15 27.4 -0.3
GAL1 Galloway 70.41 11 eP P 12 15 27.6 -0.5
GAL1 *e*P 12 15 27.6
GAL1 Galloway 70.41 11 eP P 12 15 27.6 -0.5
GAL1 *e*P 12 15 27.6
AAK Ala-Archa 70.54 317 P P 12 15 29.9 +1.0
SNR=66
AAK Ala-Archa 70.54 317 P P 12 15 28.7 -0.2
comp=Z,1μm,0.6s,SNR=44
AAK Ala-Archa 70.54 317 *d i* **P P 12 15 28.7 -0.2**
AAK pmax pmax
comp=Z,120nm,0.8s,mb5.8
KMI Kunming 70.56 286 P P 12 15 29.2 +0.2
KMI PCP PcP 12 15 51.4 +1.7
KMI AP pP 12 15 52.7 +3.4
KMI PP PP 12 18 08.9 +2.9
KMI PPP 12 19 49.9
KMI S S 12 24 37.8 +1.4
KMI XS sS 12 25 11.8 +0.8
KMI SKS 12 25 20.0
KMI SS SS 12 29 04.2 -4.8
KMI SSS 12 32 15.4
KMI AMB AMB
comp=Z,28nm,1.7s,mb4.8
KMI AMB AMB
comp=Z,861nm,11.3s
KMI LR LR
comp=N,1μm,22.4s
KMI LR LR
comp=E,1μm,23.6s
KMI LR LR
comp=Z,3μm,21.5s
PMOR Pomariorio Ree 70.56 161 eP P 12 15 26.8 -2.2
comp=Z,348nm,1.3s,mb6.0
BUSP Coron 70.63 264 eP P 12 15 29.8 +0.4
COP Copenhagen 70.63 1 *i* P P 12 15 29.4 0.0
comp=Z,53nm,1.0s,mb5.3
COP Copenhagen 70.63 1 *i* P **P 12 15 29.4 0.0**
COP pmax pmax
comp=Z,53nm,1.0s,mb5.3
XAL Allendale 70.68 10 eP P 12 15 29.2 -0.5
XAL AMb AMB 12 15 31.2
comp=Z,269nm,1.3s,mb5.9
XAL Allendale 70.68 10 eP P 12 15 29.2 -0.5
XAL AMb AMB 12 15 31.2
comp=Z,269nm,1.3s,mb5.9
KZA Kyzart 70.69 316 P P 12 15 31.4 +1.5
SNR=36
BBO1 Bothel 70.70 10 eP P 12 15 29.7 -0.2
BBO1 Bothel 70.70 10 eP P 12 15 29.7 -0.2
BBSR BB Station 70.78 61 eP P 12 15 29.4 -0.9
EKS2 Erkin-Say 70.80 317 P P 12 15 31.7 +1.2
SNR=59
VAH Vaihoa 70.84 161 eP P 12 15 28.3 -2.4
comp=Z,398nm,1.0s,mb6.2
CKE Keswick 70.86 10 eP P 12 15 30.7 -0.2
CKE AMb AMB 12 15 32.3
comp=Z,247nm,1.5s,mb5.8
CKE Keswick 70.86 10 eP P 12 15 30.7 -0.2
CKE AMb AMB 12 15 32.3
comp=Z,247nm,1.5s,mb5.8
GMM Mts of Mourne 70.88 12 eP P 12 15 30.5 -0.4
GMM Mts of Mourne 70.88 12 eP P 12 15 30.5 -0.4
XDE Dent Fell 70.90 10 eP P 12 15 30.6 -0.5
XDE AMb AMB 12 15 32.4
comp=Z,225nm,1.2s,mb5.9
XDE Dent Fell 70.90 10 eP P 12 15 30.6 -0.5
XDE AMb AMB 12 15 32.4
comp=Z,225nm,1.2s,mb5.9
SNPH Sibulan 70.99 259 eP P 12 15 32.0 +0.4
GIM North Isle of 71.00 11 eP P 12 15 31.2 -0.4
GIM North Isle of 71.00 11 eP P 12 15 31.2 -0.4
CUYO Cuyo Island 71.07 262 eP P 12 15 31.9 -0.2
CDU1 Dunnerdale 71.10 10 eP P 12 15 31.7 -0.6
CDU1 Dunnerdale 71.10 10 eP P 12 15 31.7 -0.6
BUKP Musuan 71.11 257 eP P 12 15 32.5 +0.2
WIM Isle of Man 71.12 11 eP P 12 15 31.9 -0.5
WIM AMb AMB 12 15 34.4
comp=Z,236nm,1.3s,mb5.8
WIM Isle of Man 71.12 11 eP P 12 15 31.9 -0.5
WIM AMb AMB 12 15 34.4
comp=Z,236nm,1.3s,mb5.8
QIZ Qiongzhong 71.20 277 P P 12 15 33.7 +0.9
QIZ *e*S S 12 24 44.1 +0.3
QIZ AMB AMB
comp=Z,63nm,1.0s,mb5.4
BSD Bornholm Skovb 71.20 359 ⇓ iP P 12 15 32.5 -0.4
comp=Z,38nm,0.5s,mb5.5
BSD Bornholm Skovb 71.20 359 ⇓ iP P 12 15 32.5 -0.4
BSD pmax pmax
comp=Z,38nm,0.5s,mb5.5
AML Almayashu 71.28 317 P P 12 15 35.2 +1.8
SNR=46
LWH Whinny Nab 71.35 9 eP P 12 15 33.4 -0.3
LWH Whinny Nab 71.35 9 eP P 12 15 33.4 -0.3
DCPH Dipolog City 71.53 259 ⇓ eP P 12 15 35.5 +0.6
DCN Croghan 71.59 13 eP P 12 15 33.9 -1.3
DCN Croghan 71.59 13 ⇓ iP P 12 15 35.2 0.0
DCN Croghan 71.59 13 ⇓ iP P 12 15 35.2 0.0
KK31 Karatay Array 71.70 320 *i* **P P 12 15 35.9 0.0**
KK31 pmax pmax
comp=Z,123nm,0.8s,mb5.8
KKAR Karatay Array 71.70 320 P P 12 15 35.9 0.0
KKAR pmax pmax
comp=Z,98nm,0.8s,mb5.7
ENPP El Nido 71.72 264 eP P 12 15 36.9 +0.9
DLF Lyons Farm 71.73 13 eP P 12 15 34.4 -1.7
DLF Lyons Farm 71.73 13 ⇓ iP P 12 15 35.9 -0.2
DLF Lyons Farm 71.73 13 ⇓ iP P 12 15 35.9 -0.2
WCB1 Church Bay 71.89 11 eP P 12 15 35.8 -1.3
WCB1 AMb AMB 12 15 38.1
comp=Z,147nm,1.3s,mb5.7
WCB1 Church Bay 71.89 11 eP P 12 15 35.8 -1.3
WCB1 AMb AMB 12 15 38.1
comp=Z,147nm,1.3s,mb5.7
YRC Rhoscolyn 72.02 11 eP P 12 15 36.3 -1.4
YRC AMb AMB 12 15 39.7
comp=Z,86nm,1.7s,mb5.3
YRC Rhoscolyn 72.02 11 eP P 12 15 36.3 -1.4
YRC AMb AMB 12 15 39.7
comp=Z,86nm,1.7s,mb5.3
LHO Holmfirth 72.02 10 eP P 12 15 37.4 -0.4
LHO AMb AMB 12 15 39.0
comp=Z,170nm,1.7s,mb5.6
LHO Holmfirth 72.02 10 eP P 12 15 37.4 -0.4
LHO AMb AMB 12 15 39.0
comp=Z,170nm,1.7s,mb5.6
SUW Suwalki 72.02 354 eP P 12 15 37.2 -0.6
PAGZ Pagadian 72.11 258 eP P 12 15 34.3 -4.0
YRE Yr Eifl 72.30 11 eP P 12 15 38.3 -1.1
YRE AMb AMB 12 15 41.5
comp=Z,210nm,1.7s,mb5.7
YRE Yr Eifl 72.30 11 eP P 12 15 38.3 -1.1
YRE AMb AMB 12 15 41.5
comp=Z,210nm,1.7s,mb5.7
KBI1 Birley Grange 72.34 9 eP P 12 15 39.5 -0.2
KBI1 Birley Grange 72.34 9 eP P 12 15 39.5 -0.2
BSEG Bad Segeberg 72.36 2 eP P 12 15 39.8 0.0
comp=Z,127nm,1.0s,mb5.7
BSEG Bad Segeberg 72.36 2 eP P 12 15 39.8 0.0
BSEG pmax pmax
comp=Z,127nm,1.0s,mb5.7
VOR Voronezh 72.45 344 eP P 12 15 39.0 -1.4
VOR S S 12 24 54.0 -4.2
VOR pmax pmax
comp=Z,150nm,2.0s,mb5.5
VOR smax
comp=N,120nm,2.0s
VOR smax
comp=E,130nm,2.0s
SBD1 Bryn Du 72.50 11 eP P 12 15 40.4 -0.2
SBD1 Bryn Du 72.50 11 eP P 12 15 40.4 -0.2
VAL Valentia 72.53 15 eP P 12 15 40.4 -0.4
KSH Kashi 72.53 314 P P 12 15 42.0 +1.2
KSH *e*PCP PcP 12 15 59.3 +1.2
KSH *e*AP pP 12 16 02.0 +0.7
KSH *e*XP sP 12 16 10.1 +0.3
KSH *e*PP PP 12 18 26.0 +3.0
KSH *e*PPP 12 20 09.1
KSH *e*S S 12 24 56.2 -2.9
KSH XS sS 12 25 33.3 -0.6
KSH *e*SKS 12 25 36.5
KSH *e*SCS ScS 12 25 38.0 -3.0
KSH *e*PS 12 25 41.2
KSH *e*SS SS 12 29 42.0 +2.7
KSH AMB AMB
comp=Z,1μm,4.6s
KSH LR LR
comp=N,2μm,14.2s
KSH LR LR
comp=E,4μm,11.0s
KSH LR LR
comp=Z,3μm,16.8s
KWE Weaver Farm 72.54 10 eP P 12 15 40.6 -0.3
KWE Weaver Farm 72.54 10 eP P 12 15 40.6 -0.3
PPT Papeete 72.76 163 eP P 12 15 40.1 -2.1
comp=Z,228nm,1.3s,mb5.8
PPT Papeete 72.76 163 *e* LR LR 12 37 01.8
comp=Z,13μm,30.0s,baz=353
PPT Papeete 72.76 163 P P 12 15 40.9 -1.3
comp=Z,90nm,0.8s,mb5.6,baz=334,slow=4.6,SNR=7.8
PPT LR LR 12 39 47.7
comp=Z,3μm,20.1s,baz=175,slow=29
PAE Paea 72.86 163 eP P 12 15 40.5 -2.3
comp=Z,327nm,1.1s,mb6.1
HLM1 Long Mynd 72.92 10 eP P 12 15 42.7 -0.5
HLM1 AMb AMB 12 15 45.6
comp=Z,212nm,1.8s,mb5.7
HLM1 Long Mynd 72.92 10 eP P 12 15 42.7 -0.5
HLM1 AMb AMB 12 15 45.6
comp=Z,212nm,1.8s,mb5.7
GKP Gorka Klasztor 73.02 358 eP P 12 15 43.5 -0.2
TVO Taravao 73.03 163 eP P 12 15 41.9 -1.9
comp=Z,760nm,1.2s,mb6.4
AEU East Anglia Un 73.21 8 eP P 12 15 44.3 -0.6
AEU East Anglia Un 73.21 8 eP P 12 15 44.3 -0.6
LSA Lhasa 73.30 298 P P 12 15 47.0 +1.6
LSA AMB AMB
comp=Z,70nm,1.1s,mb5.4
HTR Trewern Hill 73.32 11 eP P 12 15 45.2 -0.3
HTR AMb AMB 12 15 46.9
comp=Z,257nm,1.3s,mb5.9
HTR Trewern Hill 73.32 11 eP P 12 15 45.2 -0.3
HTR AMb AMB 12 15 46.9
comp=Z,257nm,1.3s,mb5.9
WIT Witteveen 73.36 4 eP P 12 15 46.6 +0.9
WIT *ex* x 12 16 08.5
MCH1 Michaelchurch 73.43 11 eP P 12 15 45.6 -0.5
MCH1 *e*P 12 15 45.6
MCH1 AMS AMS 12 22 49.8
comp=Z,3μm,18.7s
MCH1 Michaelchurch 73.43 11 eP P 12 15 45.6 -0.5
MCH1 *e*P 12 15 45.6
MCH1 AMS AMS 12 22 49.8
comp=Z,3μm,18.7s
HAE Alders End 73.44 10 eP P 12 15 46.0 -0.2
HAE AMb AMB 12 15 48.6
comp=Z,402nm,1.8s,mb6.0
HAE Alders End 73.44 10 eP P 12 15 46.0 -0.2
HAE AMb AMB 12 15 48.6
comp=Z,402nm,1.8s,mb6.0
HSA Swansea 73.54 11 eP P 12 15 46.6 -0.2
HSA Swansea 73.54 11 eP P 12 15 46.6 -0.2
LMGC Las Mercedes 73.66 78 eP P 12 15 48.7 +1.2
NRDL Niedersach Rie 73.80 2 eP P 12 15 49.0 +0.7
comp=Z,116nm,1.2s,mb5.5
HGH Gray Hill 73.80 11 eP P 12 15 48.0 -0.3
HGH AMb AMB 12 15 49.3
comp=Z,348nm,1.0s,mb6.0
HGH Gray Hill 73.80 11 eP P 12 15 48.0 -0.3
HGH AMb AMB 12 15 49.3
comp=Z,348nm,1.0s,mb6.0
RUE Ruedersdorf 73.85 360 eP P 12 15 48.5 -0.1
comp=Z,134nm,1.1s,mb5.6
WAR Warsaw 73.91 355 eP P 12 15 49.4 +0.5
SWN1 Swindon 74.03 10 eP P 12 15 49.8 +0.1
SWN1 Swindon 74.03 10 eP P 12 15 49.8 +0.1
WTSB Winterswijk 74.21 4 eP P 12 15 50.6 -0.1
comp=Z,142nm,1.1s,mb5.6
WTSB *ex* x 12 16 10.2
HTL Hartland 74.24 12 eP P 12 15 50.4 -0.5
HTL *e*P 12 15 50.4
HTL AMS AMS 12 19 44.5
comp=Z,2μm,18.9s
HTL Hartland 74.24 12 eP P 12 15 50.4 -0.5
HTL *e*P 12 15 50.4
HTL AMS AMS 12 19 44.5
comp=Z,2μm,18.9s
HEX Exmoor 74.25 11 eP P 12 15 50.7 -0.3
HEX Exmoor 74.25 11 eP P 12 15 50.7 -0.3
PMG Port Moresby 74.34 228 P P 12 15 50.6 -0.9
comp=Z,290nm,0.8s,mb6.1,baz=8.2,slow=6.8,SNR=68
PMG Port Moresby 74.34 228 P P **12 15 50.6 -0.9**
PMG pmax pmax
comp=Z,290nm,0.8s
PMG Port Moresby 74.34 228 eP P 12 15 50.9 -0.6
comp=Z,341nm,0.8s,mb6.1
SWK Warminster 74.34 10 eP P 12 15 51.5 0.0
SWK Warminster 74.34 10 eP P 12 15 51.5 0.0
RCC Rio Carpintero 74.47 77 eP P 12 15 51.0 -1.2
BATP Bataraza 74.60 264 eP P 12 15 53.9 +0.9
GTTG Gvttingen 74.74 2 eP P 12 15 53.7 -0.1
comp=Z,169nm,1.0s,mb5.7
BUG Bochum-Univer 74.76 4 eP P 12 15 53.4 -0.5
comp=Z,120nm,1.0s,mb5.6
AKASG Malin Array Be 74.81 350 P P 12 15 53.0 -1.1
comp=Z,54nm,0.6s,mb5.4,baz=11,slow=5.6,SNR=75
AKASG pP pP 12 16 12.3 -2.4
comp=Z,32nm,0.8s,baz=14,slow=5.4,SNR=3.5
AKASG LR LR 12 50 17.3
comp=Z,1μm,19.8s,baz=10.0,slow=37
AKASG Malin Array Be 74.81 350 P P 12 15 53.1 -1.1
AKASG *PP pP 12 16 12.3 -2.4
AKASG pmax pmax
comp=Z,54nm,0.6s
AKASG pmax pmax
comp=N,32nm,0.8s
AKASG MLR MLR
comp=Z,1μm,19.8s
AKBB Malin Array Si 74.81 350 eP P 12 15 53.0 -1.2
CSA1 St Austell 74.82 12 eP P 12 15 53.3 -0.9
CSA1 St Austell 74.82 12 eP P 12 15 53.3 -0.9
BBJ Bamboo Saint A 74.83 80 *i* **P P 12 15 54.6 +0.3**
DYA Yadsworthy 74.86 12 eP P 12 15 54.0 -0.5
DYA Yadsworthy 74.86 12 eP P 12 15 54.0 -0.5
CCA1 Carnmenellis 74.94 12 eP P 12 15 54.9 0.0
CCA1 Carnmenellis 74.94 12 eP P 12 15 54.9 0.0
CRQ2 Rosemanowes 2 74.97 12 eP P 12 15 54.9 -0.3
CRQ2 AMb AMB 12 15 56.0
comp=Z,243nm,0.8s,mb6.0
CRQ2 Rosemanowes 2 74.97 12 eP P 12 15 54.9 -0.3
CRQ2 AMb AMB 12 15 56.0
comp=Z,243nm,0.8s,mb6.0
CLL Collm 75.02 0 eP P 12 15 54.8 -0.6
comp=Z,76nm,0.9s,mb5.4
CLL Collm 75.02 0 ⇓ iP P 12 15 55.1 -0.3
comp=Z,76nm,1.0s,mb5.4
CLL *e*pP pP 12 16 15.0 -0.9
CLL *es*PcP 12 16 37.0
CLL Collm 75.02 0 ⇓ iP P 12 15 55.1 -0.3
CLL *e**PP pP 12 16 15.0 -0.9
CLL pmax pmax
comp=Z,76nm,1.0s,mb5.4
CLL MLR MLR
comp=Z,3μm,22.9s
CLL Collm 75.02 0 ⇓ iP P 12 15 55.1 -0.3
comp=Z,76nm,1.0s,mb5.4
CLL *e*pP pP 12 16 15.0 -0.9
CLL LR LR
comp=Z,3μm,22.9s
CGW Gweek 75.03 12 eP P 12 15 55.2 -0.3
CGW Gweek 75.03 12 eP P 12 15 55.2 -0.3
CGH1 Goonhilly 75.09 12 eP P 12 15 55.4 -0.4

CGH1 **Goonhilly** 75.09 12 *e*P P 12 15 55.4 -0.4
MASC **Masc** 75.17 76 *e*P P 12 15 57.0 +0.8
UCC **Uccle** 75.25 6 P P 12 15 56.5 -0.2
BEBN **Eben Emael** 75.32 5 P P 12 15 57.0 -0.1
MENF **Mencas** 75.33 8 *e*P P 12 15 56.9 -0.3
STH **Stony Hill** 75.34 80 *i* P P 12 15 57.4 +0.2
HGN **Heimansgroeve** 75.37 5 *e*P P 12 15 56.6 -0.8
HGN *ex* x 12 16 17.1
GWJ **Greenwich** 75.39 79⇑*i*P P 12 15 57.6 +0.1
FBE **Freiberg** 75.41 0 *e*P P 12 15 57.6 0.0
comp=Z,133nm,1.2s,mb5.5
BRG **Berggiesshubel** 75.46 360 *e*P P 12 15 57.2 -0.7
comp=Z,84nm,1.2s,mb5.3
BRG **Berggiesshubel** 75.46 360 *i* PKP P 12 15 57.9 0.0
comp=Z,50nm,1.2s,mb5.1
BRG **Berggiesshubel** 75.46 360 *i* P P 12 15 57.9 0.0
BRG pmax pmax
comp=Z,50nm,1.2s,mb5.1
KSP **Ksiaz** 75.47 358 *i* Pd P 12 15 58.0 +0.1
KSP **Ksiaz** 75.47 358⇓*e*P P 12 15 58.0 +0.1
KSP *e*PcP PcP 12 16 10.1 -0.6
KSP *e*pP pP 12 16 16.7 -1.8
UBBA **Unterbreizbach** 75.47 2 *e*P P 12 15 57.6 -0.4
comp=Z,87nm,1.6s,mb5.2
MEM **Membach** 75.53 5 P P 12 15 57.5 -0.8
SNF **Seneffe** 75.53 6 P P 12 15 58.2 -0.1
CMJ **Castle Mountai** 75.54 79⇑*i*P P 12 15 58.6 +0.2
MOX **Moxa** 75.67 1 *e*P P 12 15 59.0 -0.1
comp=Z,100nm,0.9s,mb5.5
MOX **Moxa** 75.67 1⇓*i*P P 12 15 59.2 +0.1
comp=Z,204nm,1.7s,mb5.6
MOX *e* pP 12 16 18.5 -1.2
MOX **Moxa** 75.67 1⇓*i*P P 12 15 59.2 +0.1
MOX *e* pP 12 16 18.5 -1.2
MOX pmax pmax
comp=Z,18nm,1.7s
BCLA **Clavier** 75.68 5 P P 12 15 59.1 -0.1
PVCC **Panska Ves** 75.80 359⇓*i*P P 12 16 00.0 +0.1
PVCC *e*pP pP 12 16 19.6 -0.8
UPC **Upice** 75.81 358⇓*i*P P 12 15 59.8 -0.1
WERD **Werda** 75.88 1 *e*P P 12 16 00.2 -0.1
comp=Z,59nm,1.3s,mb5.2
TANN **Tannenbergstha** 75.91 1 *e*P P 12 16 00.6 +0.1
comp=Z,73nm,1.3s,mb5.2
DPC **Dobruska-Polom** 75.96 358⇓*i*P P 12 16 00.9 +0.1
DPC *e*pP pP 12 16 20.9 -0.4
DOU **Dourbes** 75.96 6 P P 12 16 00.8 0.0
GUNZ **Gunzen** 75.96 1 *e*P P 12 16 00.9 +0.1
comp=Z,57nm,1.1s,mb5.2
GIVF **Givet** 75.97 6⇓*i*P P 12 16 00.6 -0.2
comp=Z,279nm,1.1s,mb5.6
GIVF **Givet** 75.97 6⇓*i*P P 12 16 00.6 -0.2
GIVF pmax pmax
comp=Z,140nm,1.1s,mb5.6
GIVF **Givet** 75.97 6⇓*i*P P 12 16 00.6 -0.2
comp=Z,140nm,1.1s,mb5.6
BAIF **Baives** 75.97 6⇓*i*P P 12 16 00.8 0.0
comp=Z,135nm,0.7s,mb5.5
BAIF **Baives** 75.97 6⇓*i*P P 12 16 00.8 0.0
BAIF pmax pmax
comp=Z,67nm,0.7s,mb5.5
BAIF **Baives** 75.97 6⇓*i*P P 12 16 00.8 0.0
comp=Z,67nm,0.7s,mb5.5
OJC **Ojcow** 75.98 356⇓*i*P P 12 16 00.8 -0.1
TNS **Taunus Mts** 76.02 3 *e*P P 12 16 01.0 -0.1
comp=Z,79nm,1.0s,mb5.4
TNS **Taunus Mts** 76.02 3 *e*P P 12 16 01.0 -0.1
TNS pmax pmax
comp=Z,79nm,1.0s,mb5.4
WERN **Wernitzgruen** 76.04 1 *e*P P 12 16 01.4 +0.2
comp=Z,85nm,1.1s,mb5.4
NKC **Novy Kostel** 76.09 1⇓*i*P P 12 16 01.7 +0.2
LVV **L'vov** 76.14 353 *e*P P 12 16 01.7 -0.1
LVV MLR MLR
comp=Z,880nm,18.0s
SHL **Shillong** 76.21 294 *i* P P 12 16 02.0 -0.2
SHL *ex* x 12 25 36.0
JVM **Valle D.L. Mar** 76.25 11 *e*P P 12 16 02.1 -0.3
JVM **Valle D.L. Mar** 76.25 11 *e*P P 12 16 02.1 -0.3
PRA **Prague** 76.26 359 ⇓P P 12 16 02.0 -0.5
PRA pP pP 12 16 21.0 -2.0
JRS **Jersey** 76.29 11 *e*P P 12 16 02.1 -0.5
JRS **Jersey** 76.29 11 *e*P P 12 16 02.1 -0.5
ABH **Alteburg** 76.33 4 *e*P P 12 16 02.9 +0.1
MANZ **Manzenberg** 76.34 1 *e*P P 12 16 03.0 +0.1
comp=Z,54nm,1.1s,mb5.2
PRU **Pruhonice** 76.34 359⇓*i*P P 12 16 02.9 0.0
PRU *e*pP pP 12 16 22.3 -1.2
PRU **Pruhonice** 76.34 359⇓*i*P P 12 16 02.9 0.0
comp=Z,8.3nm,0.9s
PRU *e*pP pP 12 16 22.3 -1.2
CHRT **Chiangrai** 76.36 285 P P 12 16 03.0 0.0
comp=Z,182nm,0.9s,mb5.8
KWP **Kalwaria** 76.42 354 *i* Pd P 12 16 03.8 +0.4
OKC **Ostrava-Krasne** 76.42 357⇓*i*P P 12 16 03.6 +0.2
WLF **Walferdange** 76.48 5 *e*P P 12 16 03.9 +0.2
comp=Z,115nm,1.0s,mb5.6
WLF **Walferdange** 76.48 5 P P 12 16 04.2 +0.5
MORC **Moravsky Berou** 76.50 357⇓*i*P P 12 16 04.1 +0.3
MORC **Moravsky Berou** 76.50 357 ⇓P P 12 16 04.0 +0.2
ROTZ **Rotzenmuhle** 76.56 1 *e*P P 12 16 04.4 +0.2
comp=Z,88nm,1.2s,mb5.4
GRA1 **Grafenberg Arr** 76.62 2 *e*P P 12 16 04.9 +0.4
comp=Z,127nm,0.9s,mb5.7
GRA1 *e*pP pP 12 16 24.4 -0.7
GRF **Grafenberg Arr** 76.62 2 *e*P P 12 16 04.9 +0.4
comp=Z,127nm,0.9s,mb5.7
GRF *e*pP pP 12 16 24.4 -0.7
GRF **Grafenberg Arr** 76.62 2 *e*P P 12 16 04.9 +0.4
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.7
GRF **Grafenberg Arr** 76.62 2 *e*P P 12 16 04.9 +0.4
GRF pmax pmax
comp=Z,127nm,0.9s,mb5.7
TOD **Tromm** 76.65 3 *e*P P 12 16 04.6 -0.1
NANT **Nan** 76.68 284 ⇓P P 12 16 02.0 -2.9
comp=Z,338nm,0.9s,mb6.1
STHS **Stebnicka Huta** 76.72 355 *i* P P 12 16 05.8 +0.8
STHS pmax pmax
comp=Z,88nm,0.7s,mb5.6
STHS **Stebnicka Huta** 76.72 355 *i* P P 12 16 05.8 +0.8
comp=Z,88nm,0.7s,mb5.6
NIE **Niedzica** 76.76 356⇓*i*P P 12 16 05.9 +0.6
FLN **La Foliniere** 76.88 10⇓*i*P P 12 16 05.5 -0.5
comp=Z,324nm,1.2s,mb5.6
FLN **La Foliniere** 76.88 10⇓*i*P P 12 16 05.5 -0.5
FLN pmax pmax
comp=Z,162nm,1.2s,mb5.6
FLN **La Foliniere** 76.88 10⇓*i*P P 12 16 05.5 -0.5
comp=Z,162nm,1.2s,mb5.6
KTD **Kalmit** 76.91 4 *e*P P 12 16 06.2 +0.1
VRAC **Vranov** 77.00 358 P P 12 16 06.8 +0.2
comp=Z,56nm,0.9s,mb5.3,baz=8.5,slow=5.1,SNR=62
VRAC LR LR 12 50 35.2
comp=Z,1μm,18.6s,baz=18,slow=36
VRAC **Vranov** 77.00 358⇑*i*P P 12 16 06.9 +0.3
VRAC **Vranov** 77.00 358 P P 12 16 06.8 +0.2
VRAC pmax pmax
comp=Z,56nm,0.9s
VRAC MLR MLR
comp=Z,1μm,18.6s
VRAC **Vranov** 77.00 358 ⇑P P 12 16 06.9 +0.3
ROSF **Rostrenen** 77.00 11⇓*i*P P 12 16 06.4 -0.3
comp=Z,92nm,0.7s,mb5.3
ROSF **Rostrenen** 77.00 11⇓*i*P P 12 16 06.4 -0.3
ROSF pmax pmax
comp=Z,46nm,0.7s,mb5.3
ROSF **Rostrenen** 77.00 11⇓*i*P P 12 16 06.4 -0.3
comp=Z,46nm,0.7s,mb5.3
LDF **La Druitiere** 77.08 9⇓*i*P P 12 16 06.6 -0.5
comp=Z,168nm,0.7s,mb5.5
LDF **La Druitiere** 77.08 9⇓*i*P P 12 16 06.6 -0.5
LDF pmax pmax
comp=Z,84nm,0.7s,mb5.6
LDF **La Druitiere** 77.08 9⇓*i*P P 12 16 06.6 -0.5
comp=Z,84nm,0.7s,mb5.6
KOLS **Kolonicke sedl** 77.14 354 *e*P P 12 16 07.5 +0.1
KOLS *es*P sP 12 16 38.0 +1.5
KOLS *es* S 12 25 50.6 +0.2
SGMF **Saint Gilles** 77.17 11⇓*i*P P 12 16 07.3 -0.3
comp=Z,181nm,1.0s,mb5.5
SGMF **Saint Gilles** 77.17 11⇓*i*P P 12 16 07.3 -0.3
SGMF pmax pmax
comp=Z,91nm,1.0s,mb5.5
SGMF **Saint Gilles** 77.17 11⇓*i*P P 12 16 07.3 -0.3
comp=Z,91nm,1.0s,mb5.5
LIKS **Likavka** 77.18 356 *e*P P 12 16 06.3 -1.3
LIKS pmax pmax
comp=Z,64nm,0.7s,mb5.5
LIKS **Likavka** 77.18 356 *e*P P 12 16 06.3 -1.3
comp=Z,64nm,0.7s,mb5.5
WET **Wettzell** 77.19 0 *e*P P 12 16 08.0 +0.3
comp=Z,79nm,1.3s,mb5.3
WET **Wettzell** 77.19 0 *e*P P 12 16 08.0 +0.3
WET pmax pmax
comp=Z,79nm,1.3s,mb5.3
KHC **Kasperske Hory** 77.20 0⇓*i*P P 12 16 08.2 +0.4
KHC *e*pP pP 12 16 27.9 -0.5
KHC **Kasperske Hory** 77.20 0⇑*e*P P 12 16 08.1 +0.3
KHC **Kasperske Hory** 77.20 0⇓*i*P P 12 16 08.2 +0.4
comp=Z,6.9nm,0.6s,mb4.6
KHC *e*pP pP 12 16 27.9 -0.5
GRR **Gorron** 77.22 10⇓*i*P P 12 16 07.5 -0.3
comp=Z,355nm,1.3s,mb5.6
GRR **Gorron** 77.22 10⇓*i*P P 12 16 07.5 -0.3
GRR pmax pmax
comp=Z,178nm,1.3s,mb5.6
GRR **Gorron** 77.22 10⇓*i*P P 12 16 07.5 -0.3
comp=Z,178nm,1.3s,mb5.6
CRVS **Cervenica-Dubn** 77.22 355 *e*P P 12 16 08.1 +0.2
CRVS *e*S S 12 25 52.2 +1.0
LANF **Langenberg** 77.24 4 *e*P P 12 16 08.1 +0.1
QUIF **Quistinic** 77.43 11⇓*i*P P 12 16 08.7 -0.3
comp=Z,70nm,0.8s,mb5.1
QUIF **Quistinic** 77.43 11⇓*i*P P 12 16 08.7 -0.3
QUIF pmax pmax
comp=Z,35nm,0.8s,mb5.1
QUIF **Quistinic** 77.43 11⇓*i*P P 12 16 08.7 -0.3
comp=Z,35nm,0.8s,mb5.1
UZH **Uzhgorod** 77.44 354⇓*i*P P 12 16 08.0 -1.1
UZH *i* S S 12 25 56.0 +2.4
UZH pmax pmax
comp=Z,67nm,1.2s,mb5.2
GUN **Gumba** 77.46 300 *e*P P 12 16 10.0 +0.8
GEC2 **GERESS Array S** 77.49 360 *e*P P 12 16 09.4 0.0
comp=Z,59nm,1.0s,mb5.3
GEC2 **GERESS Array S** 77.49 360 *e*P P 12 16 09.4 0.0
GEC2 pmax pmax
comp=Z,59nm,1.0s,mb5.3
GERES **GERESS Array B** 77.49 360 P P P 12 16 09.1 -0.3
comp=Z,21nm,0.8s,mb4.9,baz=358,slow=4.0,SNR=131
GERES pP pP 12 16 28.5 -1.5
comp=Z,6.5nm,0.7s,baz=356,slow=4.4,SNR=3.0
GERES LR LR 12 50 15.1
comp=Z,2μm,18.6s,baz=337,slow=36
GERES **GERESS Array B** 77.49 360 P P 12 16 09.1 -0.3
GERES pmax pmax
comp=Z,21nm,0.8s
GERES pmax pmax
comp=N,7.0nm,0.7s
GERES MLR MLR
comp=Z,2μm,18.6s
STU **Stuttgart** 77.50 3 *e*P P 12 16 09.2 -0.2
comp=Z,82nm,0.9s,mb5.5
JIRN **Jiri** 77.51 300 *e*P P 12 16 10.4 +0.9
comp=Z,97nm,0.4s,mb5.9
MEZF **Maizieres J'vi** 77.58 6⇓*i*P P 12 16 09.9 0.0
comp=Z,114nm,0.9s,mb5.3
MEZF **Maizieres J'vi** 77.58 6⇓*i*P P 12 16 09.9 0.0
comp=Z,114nm,0.9s,mb5.6
CHG **Chiang Mai** 77.68 285 ⇓P P 12 16 10.3 -0.1
comp=Z,28nm,0.8s,mb5.0
CHTO **Chiang Mai** 77.68 285 *e*P P 12 16 10.2 -0.2
CHTO pmax pmax
comp=Z,36nm,1.2s,mb5.0
CHTO **Chiang Mai** 77.68 285 *e*P P 12 16 10.2 -0.3
comp=Z,36nm,1.2s,mb5.0
KECS **Kecovo** 77.69 355 *i* P P 12 16 10.6 +0.1
KECS pmax pmax
comp=Z,37nm,0.7s,mb5.2
KECS **Kecovo** 77.69 355 *i* P P 12 16 10.6 +0.1
comp=Z,37nm,0.7s,mb5.2
KKM **Kota Kinabalu** 77.73 263 P P 12 16 11.7 +1.0
KKM **Kota Kinabalu** 77.73 263 *e*P P 12 16 11.3 +0.6
VYHS **Vyhne** 77.75 356 *i* P P 12 16 11.3 +0.5
VYHS pmax pmax
comp=Z,60nm,1.1s,mb5.2
VYHS **Vyhne** 77.75 356 *i* P P 12 16 11.3 +0.5
comp=Z,60nm,1.1s,mb5.2
VYHS *e* pP 12 16 30.9 -0.5
CDF **Champ du Feu** 77.78 4⇓*i*P P 12 16 10.9 -0.1
comp=Z,175nm,1.1s,mb5.4
CDF **Champ du Feu** 77.78 4⇓*i*P P 12 16 10.9 -0.1
CDF pmax pmax
comp=Z,87nm,1.1s,mb5.4
CDF **Champ du Feu** 77.78 4⇓*i*P P 12 16 10.9 -0.1
comp=Z,87nm,1.1s,mb5.4
WLS **Welschbruch** 77.78 4 *e*P P 12 16 11.2 +0.2
KKN **Kakani** 77.86 301 *e*P P 12 16 12.0 +0.5
comp=Z,272nm,1.2s,mb5.9
KKN **Kakani** 77.86 301 *e*P P 12 16 12.0 +0.5
KKN pmax pmax
comp=Z,272nm,1.2s,mb5.9
THEF **They Montfort** 77.90 5 *e*P P 12 16 11.6 -0.1
BFO **Black Forest** 77.91 4 P P 12 16 11.2 -0.5
comp=Z,294nm,1.0s,mb6.0,SNR=14
BFO **Black Forest** 77.91 4 *e*P P 12 16 11.5 -0.2
comp=Z,72nm,1.0s,mb5.4
BFO **Black Forest** 77.91 4 *e*P P 12 16 11.5 -0.2
BFO pmax pmax
comp=Z,72nm,1.0s,mb5.4
ECH **Echery** 77.97 4 *e*P P 12 16 12.2 +0.1
PKI **Pulchoki** 77.98 300 *e*P P 12 16 12.4 +0.3
comp=Z,102nm,0.7s,mb5.6
PKI **Pulchoki** 77.98 300 *e*P P 12 16 12.4 +0.3
PKI pmax pmax
comp=Z,102nm,0.7s,mb5.7
GKN **Gorkha** 78.02 301 *e*P P 12 16 12.6 +0.3
comp=Z,139nm,0.7s,mb5.8
ZST **Bratislava** 78.10 358 *i* P P 12 16 13.5 +0.8
ZST *e*pP pP 12 16 33.1 -0.3
ZST **Bratislava** 78.10 358⇑*e*SKSp 12 26 20.9
ZST **Bratislava** 78.10 358 *i* P P 12 16 13.5 +0.8
comp=Z,92nm,1.0s,mb5.5
ZST *e* pP 12 16 33.1 -0.3
ZST LR LR
comp=Z,1μm,11.7s
DMN **Daman** 78.10 301 *e*P P 12 16 13.3 +0.5
comp=Z,220nm,1.2s,mb5.8
HAU **Haudompre** 78.14 5⇓*i*P P 12 16 12.9 -0.1
comp=Z,128nm,0.7s,mb5.4
HAU **Haudompre** 78.14 5⇓*i*P P 12 16 12.9 -0.1
HAU pmax pmax
comp=Z,64nm,0.7s,mb5.5
HAU **Haudompre** 78.14 5⇓*i*P P 12 16 12.9 -0.1
comp=Z,64nm,0.7s,mb5.5
FUR **Furstenfeldbru** 78.15 2 *e*P P 12 16 13.2 +0.2
comp=Z,153nm,1.2s,mb5.6
FUR **Furstenfeldbru** 78.15 2 *e*P P 12 16 13.2 +0.2
FUR pmax pmax
comp=Z,153nm,1.2s,mb5.6
SPAK **Spaichingen-Ko** 78.15 3 *e*P P 12 16 13.1 +0.1
TSM **Tawau** 78.17 261 P P 12 16 13.8 +0.6
BURAR **Bucovina Array** 78.24 352⇓*i*P P 12 16 13.3 -0.3
BURAR **Bucovina Array** 78.24 352 ⇓P P 12 16 13.3 -0.3
PSZ **Piszkesteto** 78.28 356 *e*P P 12 16 14.7 +1.0
PSZ **Piszkesteto** 78.28 356⇓*i*P P 12 16 14.6 +0.9
PSZ **Piszkesteto** 78.28 356 ⇓P P 12 16 14.6 +0.9
MOF **Molkenrain** 78.33 4 *e*P P 12 16 13.9 -0.2
FELD **Feldberg im Sc** 78.35 4⇓*e*P P 12 16 14.1 0.0
HINF **Hinteralfeld** 78.36 5⇓*i*P P 12 16 13.9 -0.3
comp=Z,90nm,0.7s,mb5.3
HINF **Hinteralfeld** 78.36 5⇓*i*P P 12 16 13.9 -0.3
HINF pmax pmax
comp=Z,45nm,0.7s,mb5.3
HINF **Hinteralfeld** 78.36 5⇓*i*P P 12 16 13.9 -0.3
comp=Z,45nm,0.7s,mb5.3
CONA **Conrad Observa** 78.39 358 *i* P P 12 16 15.2 +0.8
comp=Z,74nm,1.4s,mb5.2,SNR=24
DLH **Dalhousie** 78.39 310 *e*P P 12 16 16.0 +1.6
TBI **Tubuai** 78.44 164 *e*P P 12 16 13.4 -1.3
comp=Z,327nm,1.1s,mb6.0
TBI **Tubuai** 78.44 164 *e*LR LR 12 39 41.4
comp=Z,7μm,30.5s,baz=342
SLE **Schleitheim** 78.48 4⇓*i*P P 12 16 14.7 -0.1
comp=Z,160nm,1.4s,mb5.6
MOA **Molln** 78.48 360 *i* P P 12 16 15.1 +0.3
comp=Z,418nm,4.0s,SNR=12
THN **Thein Dam** 78.60 310 *e*P P 12 16 14.9 -0.6
SOP **Sopron** 78.62 358 *e*P P 12 16 16.7 +1.1
HYF **Humbligny** 78.64 8⇓*i*P P 12 16 15.9 +0.2
NIL **Nilore** 78.65 313 P P 12 16 17.4 +1.6
comp=Z,587nm,0.8s,mb6.5,SNR=21
NIL **Nilore** 78.65 313 P P 12 16 17.1 +1.3
SULZ **Sulz-Cheisache** 78.70 4⇓*i*P P 12 16 16.1 0.0
comp=Z,510nm,2.6s,mb5.9
LOR **Lormes** 78.73 7⇓*i*P P 12 16 16.1 -0.1
comp=Z,220nm,0.9s,mb5.7
LOR **Lormes** 78.73 7⇓*i*P P 12 16 16.1 -0.1
LOR pmax pmax
comp=Z,110nm,0.9s,mb5.7
LOR **Lormes** 78.73 7⇓*i*P P 12 16 16.1 -0.1
comp=Z,110nm,0.9s,mb5.7
KOLN **Koldanda** 78.73 302 *e*P P 12 16 16.6 +0.4
comp=Z,287nm,1.0s,mb6.0
WEIN **Weingarten** 78.73 3⇓*i*P P 12 16 16.4 +0.2
comp=Z,251nm,1.1s,mb6.0
BBS **Basel-Blauen** 78.74 4 *e*P P 12 16 16.4 +0.1
BUD **Budapest** 78.75 356 *e*P P 12 16 17.2 +0.9
BOURR **Bourrignon** 78.80 4⇓*i*P P 12 16 16.9 +0.3
comp=Z,787nm,3.2s
SDNR **Sundarnagar** 78.81 309 *e*P P 12 16 16.8 +0.1
LOMF **Lomont** 78.82 5 *e*P P 12 16 16.9 +0.2
WILA **Wila** 78.84 3⇓*i*P P 12 16 17.2 +0.3
comp=Z,225nm,0.9s,mb6.0
BALST **Balsthal** 78.88 4⇓*i*P P 12 16 17.3 +0.3
comp=Z,293nm,1.4s,mb5.9
ZUR **Zurich** 78.88 3⇓*i*P P 12 16 17.3 +0.3
comp=Z,545nm,2.1s,mb6.0
LCHF **La Chataignera** 78.93 10 *e*P P 12 16 18.0 +0.7
LRYF **La Roche-sur-Y** 78.93 11 *e*P P 12 16 17.4 +0.1
MOTA **Moosalm** 78.97 2⇓*i*P P 12 16 18.0 +0.4
comp=Z,122nm,1.2s,mb5.6,SNR=44
MOTA **Moosalm** 78.97 2⇓*i*P P 12 16 18.0 +0.5
MOTA pmax pmax
comp=Z,122nm,1.2s,mb5.6
WATA **Walderalm** 78.98 1⇓*i*P P 12 16 18.1 +0.5
comp=Z,104nm,1.2s,mb5.5,SNR=8.9
WATA **Walderalm** 78.98 1⇓*i*P P 12 16 18.1 +0.5
WATA pmax pmax
comp=Z,104nm,1.2s,mb5.5
LGTI **Lohaghat** 78.99 305 *i* P P 12 16 18.7 +1.1
DAVA **Damuels** 79.00 3 *i* P P 12 16 18.1 +0.3
comp=Z,193nm,2.0s,mb5.6,SNR=12
SMLA **Simla** 79.04 309 *e*P P 12 16 17.9 0.0
WTTA **Wattenberg** 79.06 1 *i* P P 12 16 18.8 +0.8
comp=Z,583nm,2.5s,mb6.0,SNR=24
WTTA **Wattenberg** 79.06 1 *i* P P 12 16 18.8 +0.8
WTTA pmax pmax
comp=Z,583nm,2.5s,mb6.0
ARSA **Arzberg** 79.07 359 *i* P P 12 16 19.0 +0.9
comp=Z,362nm,2.7s,mb5.7,SNR=22
ARSA **Arzberg** 79.07 359 *i* P P 12 16 19.0 +0.9
comp=Z,362nm,2.7s,mb5.7
SQTA **Sankt Quirin** 79.09 2⇓*i*P P 12 16 19.0 +0.8
comp=Z,127nm,1.0s,mb5.7,SNR=27
SQTA **Sankt Quirin** 79.09 2⇓*i*P P 12 16 19.0 +0.8
SQTA pmax pmax
comp=Z,127nm,1.0s,mb5.7
AVF **Avril sur Loir** 79.17 7⇓*i*P P 12 16 18.4 -0.2
comp=Z,227nm,0.8s,mb5.8
AVF **Avril sur Loir** 79.17 7⇓*i*P P 12 16 18.4 -0.2
AVF pmax pmax
comp=Z,114nm,0.8s,mb5.8
AVF **Avril sur Loir** 79.17 7⇓*i*P P 12 16 18.4 -0.2
comp=Z,114nm,0.8s,mb5.8
BRANT **Les Verrieres** 79.22 5⇓*i*P P 12 16 18.6 -0.3
comp=Z,159nm,0.9s,mb5.8
BRANT **Les Verrieres** 79.22 5⇓*i*P P 12 16 19.4 +0.5
PLONS **Plons** 79.22 3⇓*i*P P 12 16 18.8 -0.1
comp=Z,347nm,2.1s,mb5.8
PLONS **Plons** 79.22 3⇓*i*P P 12 16 19.3 +0.4
DRGR 79.25 354⇓*i*P P 12 16 19.0 -0.1
DRGR 79.25 354 ⇓P P 12 16 19.2 +0.2
KBA **Koelnbreinsper** 79.26 0 *i* P P 12 16 20.2 +1.1
comp=Z,298nm,1.6s,mb5.9,SNR=75
KBA **Koelnbreinsper** 79.26 0 *i* P P 12 16 20.2 +1.1
KBA pmax pmax
comp=Z,298nm,1.5s,mb5.9
KIV **Kislovodsk** 79.26 339 P P 12 16 20.8 +1.6
comp=Z,559nm,0.7s,mb6.5,SNR=8.7
KIV **Kislovodsk** 79.26 339*d*iP P 12 16 19.8 +0.6
KIV pmax pmax
comp=Z,180nm,1.7s,mb5.6
KIV **Kislovodsk** 79.26 339 *e*P P 12 16 20.1 +0.9
comp=Z,69nm,0.8s,mb5.5
MUO **Muotathal** 79.28 3⇓*i*P P 12 16 19.3 +0.1
comp=Z,409nm,1.7s,mb6.0
MUO **Muotathal** 79.28 3⇓*i*P P 12 16 19.9 +0.7
DZM **Mont Dzumac** 79.33 206 *e*P P 12 16 18.8 -0.8
SMF **Signal de Mont** 79.35 7⇓*i*P P 12 16 19.4 -0.2
comp=Z,360nm,0.9s,mb5.9
SMF **Signal de Mont** 79.35 7⇓*i*P P 12 16 19.4 -0.2
SMF pmax pmax
comp=Z,180nm,0.9s,mb5.9
SMF **Signal de Mont** 79.35 7⇓*i*P P 12 16 19.4 -0.2
comp=Z,180nm,0.9s,mb5.9
BGF **Bois d'Agland** 79.36 8⇓*i*P P 12 16 19.5 -0.2
comp=Z,348nm,1.1s,mb5.8
BGF **Bois d'Agland** 79.36 8⇓*i*P P 12 16 19.5 -0.2
BGF pmax pmax
comp=Z,174nm,1.1s,mb5.8
BGF **Bois d'Agland** 79.36 8⇓*i*P P 12 16 19.5 -0.2
comp=Z,174nm,1.1s,mb5.8
BNALP **Bannalp** 79.37 4⇓*i*P P 12 16 19.4 -0.3
comp=Z,159nm,0.9s,mb5.8
BNALP **Bannalp** 79.37 4⇓*i*P P 12 16 20.4 +0.7
TORNY **Torny** 79.40 5⇓*i*P P 12 16 19.9 0.0
comp=Z,192nm,0.9s,mb5.9
TORNY **Torny** 79.40 5⇓*i*P P 12 16 20.4 +0.5
LLS **Linth-Limmern** 79.41 3⇓*i*P P 12 16 20.4 +0.4
comp=Z,385nm,2.9s,mb5.7
LLS **Linth-Limmern** 79.41 3⇓*i*P P 12 16 20.5 +0.5
ANN **Anapa** 79.46 343 *e*P P 12 16 16.6 -3.6
ANN *e*S S 12 26 11.6 -3.6
ANN pmax pmax
comp=Z,148nm,1.9s,mb5.5
ANN MLR MLR
comp=N,2μm,20.0s
ANN MLR MLR
comp=E,639nm,20.0s
ANN MLR MLR
comp=Z,2μm,20.0s
HASLI **Hasliberg** 79.47 4⇓*i*P P 12 16 20.4 +0.1
comp=Z,271nm,1.9s,mb5.8
HASLI **Hasliberg** 79.47 4⇓*i*P P 12 16 20.8 +0.5
DAVOX **Davos** 79.50 3⇓*i*P P 12 16 20.5 0.0
comp=Z,528nm,2.7s,mb5.9
DAVOX **Davos** 79.50 3⇓*i*P P 12 16 21.4 +0.9
CABF **La Chapelle** 79.52 5⇓*i*P P 12 16 21.0 +0.4
comp=Z,225nm,0.8s,mb5.8
CABF **La Chapelle** 79.52 5⇓*i*P P 12 16 21.0 +0.4
CABF pmax pmax
comp=Z,112nm,0.8s,mb5.8
CABF **La Chapelle** 79.52 5⇓*i*P P 12 16 21.0 +0.4
comp=Z,112nm,0.8s,mb5.8
WIMIS **Wimmis** 79.54 4⇓*i*P P 12 16 20.8 +0.1
comp=Z,235nm,2.4s,mb5.6
WIMIS **Wimmis** 79.54 4⇓*i*P P 12 16 21.1 +0.4
TCF **Toulx Ste Croi** 79.58 8⇓*i*P P 12 16 20.6 -0.3
comp=Z,130nm,0.8s,mb5.5
TCF **Toulx Ste Croi** 79.58 8⇓*i*P P 12 16 20.6 -0.3
TCF pmax pmax
comp=Z,65nm,0.8s,mb5.5
TCF **Toulx Ste Croi** 79.58 8⇓*i*P P 12 16 20.6 -0.3
comp=Z,65nm,0.8s,mb5.5
GIMEL **Gimel** 79.61 5⇓*i*P P 12 16 21.1 +0.1
comp=Z,385nm,1.8s,mb5.9
GIMEL **Gimel** 79.61 5⇓*i*P P 12 16 21.6 +0.6
FUORN **Ofenpass** 79.67 2⇓*i*P P 12 16 21.4 0.0
comp=Z,353nm,1.6s,mb5.9
FUORN **Ofenpass** 79.67 2⇓*i*P P 12 16 22.6 +1.2
PERS **Pernice** 79.69 359 *e* P 12 16 22.2 +0.7
PERS *ep*P pP 12 16 42.2 0.0
VDL **Val di Lei** 79.79 3⇓*i*P P 12 16 22.5 +0.5
comp=Z,359nm,2.2s,mb5.8
VDL **Val di Lei** 79.79 3⇓*i*P P 12 16 23.0 +1.0
FUSIO **Fusio** 79.79 3⇓*i*P P 12 16 21.6 -0.4
comp=Z,284nm,1.8s,mb5.8
FUSIO **Fusio** 79.79 3⇓*i*P P 12 16 22.9 +0.9
LKBD **Leukerbad** 79.82 4⇓*i*P P 12 16 22.6 +0.4
comp=Z,157nm,1.5s,mb5.6
LKBD **Leukerbad** 79.82 4⇓*i*P P 12 16 22.8 +0.6
BRMO **Bormio** 79.82 2 P P 12 16 23.2 +1.0
OBKA **Obir** 79.82 359 *i* P P 12 16 22.7 +0.5
comp=Z,266nm,1.6s,mb5.8,SNR=108

AIGLE **Aigle** 79.83 5⇓*iP* P 12 16 22.8 +0.6
comp=Z,279nm,2.2s,mb5.7
AIGLE **Aigle** 79.83 5⇓*iP* P 12 16 22.5 +0.3
APPI **Appiano** 79.84 2 P P 12 16 22.3 0.0
VRI **Vrincioaia** 79.84 351⇓*iP* P 12 16 22.1 -0.2
VRI **Vrincioaia** 79.84 351⇓P P 12 16 22.1 -0.2
SIM **Simferopol'** 79.84 345⇑*eP* P 12 16 22.9 +0.6
SIM pmax pmax
comp=Z,24nm,1.2s,mb4.9
KOGS **Kog** 79.86 358 *eP* P 12 16 22.8 +0.4
KOGS *epP* pP 12 16 42.9 -0.2
KOGS *e* 12 26 28.7
BERNI **Berninapass** 79.88 3⇓*iP* P 12 16 22.9 +0.4
comp=Z,270nm,1.8s,mb5.8
BERNI **Berninapass** 79.88 3⇓*iP* P 12 16 23.5 +1.0
AGO **Saint Agoulin** 79.89 7 *eP* P 12 16 23.3 +0.8
PTCC **Patocco-Chiusa** 79.93 0 P P 12 16 22.6 -0.2
GRYON **Gryon** 79.93 5⇓*iP* P 12 16 23.1 +0.3
comp=Z,157nm,2.1s,mb5.5
GRYON **Gryon** 79.93 5⇓*iP* P 12 16 23.2 +0.4
PLDF **La Plantade** 80.00 7 *eP* P 12 16 23.8 +0.6
PKSM **Moragy** 80.03 356⇓*iP* P 12 16 22.9 -0.4
PKSM **Moragy** 80.03 356⇓P P 12 16 22.9 -0.4
GMNA **Gemona** 80.06 0 P P 12 16 23.3 -0.2
CADS **Cadrg** 80.11 360 *eP* P 12 16 23.4 -0.4
EMV **Vieux Emosson** 80.11 5⇓*iP* P 12 16 23.2 -0.5
comp=Z,265nm,2.2s,mb5.7
EMV **Vieux Emosson** 80.11 5⇓*iP* P 12 16 24.5 +0.8
ZEI **Tsey** 80.13 338 *eP* P 12 16 24.3 +0.4
ZEI pmax pmax
comp=Z,24nm,0.4s,mb5.4
MMK **Mattmark** 80.17 4⇓*iP* P 12 16 23.5 -0.6
comp=Z,372nm,1.9s,mb5.9
MMK **Mattmark** 80.17 4⇓*iP* P 12 16 25.4 +1.3
PYM **Petit Puy Mans** 80.18 8 *eP* P 12 16 24.4 +0.3
SOC **Sochi** 80.22 341 *eP* P 12 16 23.8 -0.5
SOC pmax pmax
comp=Z,53nm,0.7s,mb5.5
SOC MLR MLR
comp=Z,3μm,21.0s
MABI **Malga Bissina** 80.25 2 P P 12 16 24.8 +0.3
CTI **Castel Tesino** 80.27 1 P P 12 16 24.6 0.0
LJU **Ljubljana** 80.29 359 *eP* P 12 16 24.6 -0.1
MLR **Muntele Rosu** 80.29 351 P P 12 16 25.3 +0.6
comp=Z,17nm,1.1s,mb4.8,baz=27,slow=2.8,SNR=12
MLR PKKPbc PKKPbc 12 35 03.1 -3.5
comp=Z,4.1nm,0.6s,baz=245,slow=2.0,SNR=5.7
MLR **Muntele Rosu** 80.29 351⇓*iP* P 12 16 25.7 +1.0
MLR **Muntele Rosu** 80.29 351⇓P P 12 16 25.7 +1.0
MUGIO **Muggio** 80.34 3⇓*iP* P 12 16 24.5 -0.5
comp=Z,435nm,2.1s,mb5.9
MUGIO **Muggio** 80.34 3⇓*iP* P 12 16 25.1 +0.1
CFR **Carcaliu** 80.38 350⇓P P 12 16 25.2 0.0
ONI **Oni** 80.41 338 P P 12 16 29.9 +4.5
VOIR 80.42 352⇑*iP* P 12 16 25.8 +0.4
VOIR 80.42 352⇑P P 12 16 25.8 +0.4
COLF **Collangettes** 80.46 7 *eP* P 12 16 26.1 +0.5
BZS **Buzias** 80.48 354⇑*iP* P 12 16 25.4 -0.3
BZS **Buzias** 80.48 354⇓P P 12 16 25.5 -0.2
RJF **Les Rejaudoux** 80.50 9⇓*iP* P 12 16 25.4 -0.4
comp=Z,179nm,1.0s,mb5.5
RJF **Les Rejaudoux** 80.50 9⇓*iP* P 12 16 25.4 -0.4
RJF pmax pmax
comp=Z,90nm,1.0s,mb5.5
RJF **Les Rejaudoux** 80.50 9⇓*iP* P 12 16 25.4 -0.4
comp=Z,90nm,1.0s,mb5.5
CRES **Cresnjev** 80.50 359 *eP* P 12 16 25.7 -0.2
ORO **Oropa** 80.59 4 P P 12 16 26.8 +0.5
CEY **Cerknica** 80.59 359 *eP* P 12 16 26.3 -0.1
GZR **Gura Zlata** 80.63 353⇑*iP* P 12 16 26.7 +0.2
GZR **Gura Zlata** 80.63 353⇑P P 12 16 26.7 +0.1
LPL **La Plagne** 80.65 5⇓*iP* P 12 16 27.8 +1.2
comp=Z,64nm,0.8s,mb5.2
LPL **La Plagne** 80.65 5⇓*iP* P 12 16 27.8 +1.2
LPL pmax pmax
comp=Z,32nm,0.8s,mb5.2
LPL **La Plagne** 80.65 5⇓*iP* P 12 16 27.8 +1.2
comp=Z,32nm,0.8s,mb5.2
LPG **La Plagne** 80.67 5⇓*iP* P 12 16 28.0 +1.3
comp=Z,127nm,0.9s,mb5.5
LPG **La Plagne** 80.67 5⇓*iP* P 12 16 28.0 +1.3
LPG pmax pmax
comp=Z,64nm,0.9s,mb5.5
LPG **La Plagne** 80.67 5⇓*iP* P 12 16 28.0 +1.3
comp=Z,64nm,0.9s,mb5.5
ABKT **Ailbek** 80.69 326 P P 12 16 27.1 +0.2
comp=Z,637nm,1.0s,mb6.4,SNR=15
ABKT **Ailbek** 80.69 326 P P 12 16 27.7 +0.8
LBL **Lubilhac** 80.71 7 *eP* P 12 16 27.5 +0.6
MPR **Mayaguez** 80.75 72 *eP* P 12 16 23.6 -3.6
LFF **La Frestale** 80.79 9⇓*iP* P 12 16 27.4 0.0
comp=Z,224nm,0.6s,mb5.9
LFF **La Frestale** 80.79 9⇓*iP* P 12 16 27.4 0.0
LFF pmax pmax
comp=Z,112nm,0.6s,mb5.9
LFF **La Frestale** 80.79 9⇓*iP* P 12 16 27.4 0.0
comp=Z,112nm,0.6s,mb5.9
KNDS **Knezji Dol** 80.81 359 *eP* P 12 16 27.5 0.0
BOK **Bokaro** 80.82 298 *eP* P 12 16 27.9 +0.4
BOK AMb AMB 12 16 29.7
comp=Z,104nm,0.9s,mb5.7
BOJS **Bojanci** 80.82 359 *iP* P 12 16 27.7 +0.2
BOJS *epP* pP 12 16 48.0 -0.3
BOJS *e* 12 26 35.4
SISC **Sisak** 80.84 358 iP P 12 16 28.0 +0.4
CAF **Calviac** 80.92 8⇓*iP* P 12 16 28.1 0.0
comp=Z,254nm,0.9s,mb5.7
CAF **Calviac** 80.92 8⇓*iP* P 12 16 28.1 0.0
CAF pmax pmax
comp=Z,127nm,0.9s,mb5.8
CAF **Calviac** 80.92 8⇓*iP* P 12 16 28.1 0.0
comp=Z,127nm,0.9s,mb5.8
TBLG **Delisi** 80.93 337 P P 12 16 29.3 +1.2
MTA **Mtatsminda** 80.95 337 P P 12 16 29.1 +0.9
TIRR **Tirgusor** 81.06 349⇑*iP* P 12 16 28.4 -0.4
NDI **New Delhi** 81.07 307 *eP* P 12 16 28.9 0.0
NDI AMb AMB 12 16 29.5
comp=Z,190nm,0.9s,mb5.9
BNI **Bardonecchia** 81.11 5 *eP* P 12 16 30.5 +1.4
BNI pmax pmax
comp=Z,153nm,1.0s,mb5.8
BNI **Bardonecchia** 81.11 5 *eP* P 12 16 30.5 +1.4
comp=Z,153nm,1.0s,mb5.8
VIVF **Saint-Julien-l** 81.19 6⇓*iP* P 12 16 29.8 +0.3
comp=Z,248nm,1.0s,mb5.7
VIVF **Saint-Julien-l** 81.19 6⇓*iP* P 12 16 29.8 +0.3
VIVF pmax pmax
comp=Z,124nm,1.0s,mb5.7
VIVF **Saint-Julien-l** 81.19 6⇓*iP* P 12 16 29.8 +0.3
comp=Z,124nm,1.0s,mb5.7
ORIF **Oris-en-Rattie** 81.20 6⇓*iP* P 12 16 30.2 +0.7
comp=Z,85nm,0.6s,mb5.5
ORIF **Oris-en-Rattie** 81.20 6⇓*iP* P 12 16 30.2 +0.7
ORIF pmax pmax
comp=Z,42nm,0.6s,mb5.5
ORIF **Oris-en-Rattie** 81.20 6⇓*iP* P 12 16 30.2 +0.7
comp=Z,42nm,0.6s,mb5.5
BEO **Belgrade** 81.34 355 *iP* P 12 16 29.6 -0.7
SJG **San Juan** 81.39 71 *eP* P 12 16 30.1 -0.4
SJG pmax pmax
comp=Z,143nm,0.8s
SJG **San Juan** 81.39 71 *eP* P 12 16 30.1 -0.4
comp=Z,143nm,0.8s,mb5.8
EPON **Pontenova** 81.39 15⇓P P 12 16 30.8 +0.2
comp=Z,84nm,0.6s,mb5.8
CBYP **Canovanas** 81.42 71 *eP* P 12 16 33.0 +2.2
MBDF **Montbardon** 81.44 5⇓*iP* P 12 16 32.1 +1.3
comp=Z,321nm,0.8s,mb5.9
MBDF **Montbardon** 81.44 5⇓*iP* P 12 16 32.1 +1.3
MBDF pmax pmax
comp=Z,161nm,0.8s,mb5.9
MBDF **Montbardon** 81.44 5⇓*iP* P 12 16 32.1 +1.3
comp=Z,161nm,0.8s,mb5.9
EMAZ **Mazaricos** 81.47 17⇓P P 12 16 31.2 +0.2
comp=Z,41nm,0.6s,mb5.4
RKT **Rikitea** 81.48 151 *eP* P 12 16 28.3 -2.8
comp=Z,523nm,1.0s,mb6.3
RKT **Rikitea** 81.48 151 *e*LR LR 12 41 04.8
comp=Z,7μm,31.8s,baz=339
OCF **Saint Nazaire** 81.50 6 *eP* P 12 16 32.2 +1.0
OG26 **St.-Nazaire-De** 81.50 6 *eP* P 12 16 32.2 +1.0
BOB **Bobbio (Coli)** 81.50 3 P P 12 16 32.3 +1.1
HUMP **Col San Antoni** 81.53 71 *eP* P 12 16 32.0 +0.7
CPD **Cerro la Pandu** 81.58 71 *eP* P 12 16 33.9 +2.3

STS **Santiago** 81.60 16⇓P P 12 16 32.0 +0.3
STS pmax pmax
comp=Z,20nm,0.6s,mb5.1
STS **Santiago** 81.60 16⇓P P 12 16 32.0 +0.4
comp=Z,20nm,0.6s,mb5.1
ALBI **Allahabad** 81.66 302 *ex* P 12 16 29.5 -2.5
DOI **San Damiano** 81.68 5 P P 12 16 31.8 -0.3
EARI **Arriondas** 81.70 14 P P 12 16 32.4 +0.1
comp=Z,148nm,1.0s,mb5.8
MTP **Monte Pirata** 81.73 71 *eP* P 12 16 34.2 +1.8
SVIS **Svilajnac** 81.82 354 *iP* P 12 16 32.0 -0.9
ELAN **Lanestosa** 82.01 12⇓P P 12 16 34.1 +0.3
comp=Z,176nm,0.7s,mb6.0
FIN **Finale Ligure** 82.02 4 P P 12 16 33.5 -0.4
DIVS **Divcibare** 82.08 355 *iP* P 12 16 33.6 -0.6
DIVS **Divcibare** 82.08 355 *eP* P 12 16 34.1 -0.1
STOF **St-Etienne Org** 82.12 6 *eP* P 12 16 35.4 +1.0
SMRF **Simiane la Rot** 82.12 6⇓*iP* P 12 16 35.4 +1.0
comp=Z,252nm,1.1s,mb5.7
SMRF **Simiane la Rot** 82.12 6⇓*iP* P 12 16 35.4 +1.0
comp=Z,252nm,1.1s,mb6.0
VLC **Villacollemand** 82.14 2 *eP* P 12 16 34.3 -0.2
comp=Z,74nm,0.7s,mb5.6
FNVD **Fontana Vidola** 82.14 2 P P 12 16 36.0 +1.5
ZIMR 82.16 351 P P 12 16 34.2 -0.4
TOUF **Mont Tournerai** 82.17 5 *eP* P 12 16 35.6 +0.9
NNT **Nongplab** 82.18 281 P P 12 16 35.0 +0.3
AUTN **L'Aution** 82.20 4 *eP* P 12 16 35.6 +0.8
SAOF **Saorge** 82.21 4 *eP* P 12 16 35.3 +0.4
VILF **Villemus** 82.25 6 *eP* P 12 16 36.1 +1.0
EALK **Alkurruntz** 82.25 11 P P 12 16 35.3 +0.2
comp=Z,39nm,0.8s,mb5.3
GRUS **Gruza** 82.26 355 *iP* P 12 16 34.1 -1.0
PRAF **Pradon** 82.26 6 *eP* P 12 16 36.3 +1.1
MVIF **Mont Vial** 82.28 5 *eP* P 12 16 35.8 +0.5
EZAM **Zamans** 82.29 17⇓P P 12 16 35.9 +0.6
EZAM pmax pmax
comp=Z,95nm,0.8s,mb5.7
EZAM **Zamans** 82.29 17⇓P P 12 16 35.9 +0.6
comp=Z,95nm,0.8s,mb5.7
LUCF **Luceram** 82.30 5 *eP* P 12 16 35.8 +0.5
ELIZ **Elizondo** 82.31 11⇑P P 12 16 35.6 +0.2
ELIZ pmax pmax
comp=Z,12nm,0.6s,mb4.9
ELIZ **Elizondo** 82.31 11⇑P P 12 16 35.6 +0.2
comp=Z,12nm,0.6s,mb4.9
SBF **Sospel** 82.33 5⇓*iP* P 12 16 35.7 +0.2
comp=Z,264nm,0.8s,mb5.8
SBF **Sospel** 82.33 5⇓*iP* P 12 16 35.7 +0.2
SBF pmax pmax
comp=Z,132nm,0.8s,mb5.8
SBF **Sospel** 82.33 5⇓*iP* P 12 16 35.7 +0.2
comp=Z,132nm,0.8s,mb5.8
BBLS **Bajina Basta -** 82.34 356 *iP* P 12 16 36.3 +0.8
SJPF **Ste Jean** 82.39 11⇓*iP* P 12 16 36.4 +0.6
comp=Z,64nm,0.8s,mb5.2
SJPF **Ste Jean** 82.39 11⇓*iP* P 12 16 36.4 +0.6
SJPF pmax pmax
comp=Z,32nm,0.8s,mb5.2
SJPF **Ste Jean** 82.39 11⇓*iP* P 12 16 36.4 +0.6
comp=Z,32nm,0.8s,mb5.2
GNI **Garni** 82.43 336 *eP* P 12 16 37.3 +1.3
GNI **Garni** 82.43 336 P P 12 16 37.7 +1.7
comp=Z,5.9nm,0.5s,mb4.7,baz=346,slow=2.4,SNR=12
GNI **Garni** 82.43 336*d iP* P 12 16 37.8 +1.8
GNI pmax pmax
comp=Z,153nm,2.5s
GNI **Garni** 82.43 336 *eP* P 12 16 37.8 +1.7
comp=Z,159nm,1.4s,mb5.7
REVF **Revere** 82.45 5 *eP* P 12 16 36.7 +0.6
TREF **Trevaresse** 82.46 6 *eP* P 12 16 37.3 +1.1
ATE **Arette** 82.48 11 *eP* P 12 16 36.0 -0.3
LARF **Larrau** 82.49 11 *eP* P 12 16 37.1 +0.8
TAVF **Tavernes** 82.50 6 *eP* P 12 16 37.0 +0.6
MTLF **Montolieu** 82.50 8⇓*iP* P 12 16 36.7 +0.3
comp=Z,176nm,0.7s,mb5.7
MTLF **Montolieu** 82.50 8⇓*iP* P 12 16 36.7 +0.3
MTLF pmax pmax
comp=Z,88nm,0.7s,mb5.7
MTLF **Montolieu** 82.50 8⇓*iP* P 12 16 36.7 +0.3
comp=Z,88nm,0.7s,mb5.7
PUYF **Puyloubier** 82.57 6 *eP* P 12 16 37.7 +1.0
FRF **La Foret Royal** 82.59 5⇓*iP* P 12 16 37.0 +0.1
comp=Z,121nm,0.7s,mb5.5
FRF **La Foret Royal** 82.59 5⇓*iP* P 12 16 37.0 +0.1
FRF pmax pmax
comp=Z,60nm,0.7s,mb5.5
FRF **La Foret Royal** 82.59 5⇓*iP* P 12 16 37.0 +0.1
comp=Z,60nm,0.7s,mb5.5
PVL **Pavlikeni** 82.60 351 *eP* P 12 16 37.0 +0.1
EPF **Esparros** 82.64 10⇓*iP* P 12 16 36.6 -0.5
comp=Z,101nm,0.8s,mb5.4
EPF **Esparros** 82.64 10⇓*iP* P 12 16 36.6 -0.5
EPF pmax pmax
comp=Z,50nm,0.8s,mb5.4
EPF **Esparros** 82.64 10⇓*iP* P 12 16 36.6 -0.5
comp=Z,50nm,0.8s,mb5.4
ETSF **Etsaut** 82.68 10⇓*iP* P 12 16 37.9 +0.6
comp=Z,174nm,0.7s,mb5.7
ETSF **Etsaut** 82.68 10⇓*iP* P 12 16 37.9 +0.6
ETSF pmax pmax
comp=Z,87nm,0.7s,mb5.7
ETSF **Etsaut** 82.68 10⇓*iP* P 12 16 37.9 +0.6
comp=Z,87nm,0.7s,mb5.7
GELF **Grande-Etoile** 82.70 6 *eP* P 12 16 38.2 +0.8
KTUT **Trabzon** 82.71 340 *eP* P 12 16 37.5 +0.1
VIEF **Viey** 82.75 10 *eP* P 12 16 38.6 +0.9
MLS **Moulis** 82.78 9 *eP* P 12 16 38.3 +0.4
BERF **Bertagne** 82.79 6 *eP* P 12 16 39.2 +1.3
ECAL **Calabor** 82.81 15 P P 12 16 38.4 +0.4
comp=Z,46nm,0.9s,mb5.3
LMR **La Mourre** 82.81 5⇓*iP* P 12 16 38.3 +0.3
comp=Z,228nm,1.2s,mb5.6
LMR **La Mourre** 82.81 5⇓*iP* P 12 16 38.3 +0.3
LMR pmax pmax
comp=Z,114nm,1.2s,mb5.6
LMR **La Mourre** 82.81 5⇓*iP* P 12 16 38.3 +0.3
comp=Z,114nm,1.2s,mb5.6
PCAB **Cabril** 82.83 16 *iP* P 12 16 38.5 +0.4
comp=Z,131nm,2.0s,mb5.4
CSNT **Castellina Chi** 82.84 2 P P 12 16 38.0 -0.2
RESF **Ens** 82.86 10 *eP* P 12 16 39.3 +1.1
PLE **Pljevlja** 82.88 356⇓*iP* P 12 16 39.2 +0.9
LRDF **Laroque-de-Fa** 82.93 8 *eP* P 12 16 39.4 +0.8
PBRG **Braganca** 82.94 15 *iP* P 12 16 39.0 +0.3
comp=Z,102nm,1.8s,mb5.3
CING **Cingoli** 82.96 0 P P 12 16 40.0 +1.2
UPM **Unac-Piva** 83.03 356⇓*iP* P 12 16 38.9 -0.2
CARF **Carcanieres** 83.12 9 *eP* P 12 16 40.0 +0.4
BOYT **Boyabat** 83.17 344 *iP* P 12 16 37.4 -2.4
BARS **Barje** 83.26 354 *iP* P 12 16 40.4 +0.1
ASS **Assisi** 83.27 1 P P 12 16 40.9 +0.5
PTO **Porto** 83.29 17 *eP* P 12 16 41.2 +0.7
comp=Z,224nm,1.6s,mb5.8
PVRL **Vila Real** 83.31 16 *eP* P 12 16 41.1 +0.6
comp=Z,153nm,1.9s,mb5.5
FILF **Fillols** 83.31 8 *eP* P 12 16 40.9 +0.3
KVT **Kavak** 83.31 343 *eP* P 12 16 42.1 +1.5
IVA **Berane** 83.31 355⇓*iP* P 12 16 40.5 -0.1
BRY **Bratogost** 83.34 356⇓*iP* P 12 16 40.2 -0.5
VTS **Vitosha** 83.39 353 *eP* P 12 16 40.6 -0.4
VTS **Vitosha** 83.39 353⇓*iP* P 12 16 40.5 -0.5
VTS **Vitosha** 83.39 353 *eP* P 12 16 40.0 -1.0
SJAF **Saint Jean de** 83.41 8 *eP* P 12 16 41.6 +0.5
NKY **Niksic** 83.41 356⇓*iP* P 12 16 40.4 -0.7
VALF **Valcebollere** 83.42 9 *eP* P 12 16 41.9 +0.8
EZM **Erzurum** 83.42 339 *eP* P 12 16 40.7 -0.4
EJON **La Jonquera** 83.45 8⇓P P 12 16 41.9 +0.7
comp=Z,253nm,2.0s,mb5.7
PVY **Piav** 83.58 355⇓*iP* P 12 16 41.6 -0.4
KELT **Kelkit** 83.62 340 *iP* P 12 16 33.7 -8.5
DIM **Dimitrovgrad** 83.74 351 *eP* P 12 16 43.5 +0.7
TTG **Podgorica** 83.78 356⇓*iP* P 12 16 41.4 -1.6
HCY **Herceg Novi** 83.80 356⇓*iP* P 12 16 42.4 -0.7
PVIS **Viseu** 83.82 16 *iP* P 12 16 43.6 +0.4
comp=Z,194nm,1.4s,mb5.7
ESAC **San Caprasio** 83.85 11⇓P P 12 16 44.0 +0.7
comp=Z,664nm,1.5s,mb6.2
BUM **Brajici-Budva** 83.93 356⇓*iP* P 12 16 43.2 -0.5
MNS **Montasola** 83.95 1 P P 12 16 43.7 -0.1
TOKT **Tokat** 83.96 343 *eP* P 12 16 44.1 +0.2
CTKT **Corum** 83.97 344 *iP* P 12 16 44.9 +0.9
SKO **Skopje** 84.13 354 *iP* P 12 16 45.2 +0.5
AJM **Ajmer** 84.14 308 *eP* P 12 16 44.6 -0.2

AJM AMb AMB 12 16 46.5
comp=Z,144nm,0.7s,mb5.9
KDZ **Kurdzhali** 84.15 351 *eP* P 12 16 45.0 +0.2
KAKA **Kakadu** 84.20 239 *eP* P 12 16 44.3 -0.8
comp=Z,69nm,0.9s,mb5.5
KAKA *epP* pP 12 17 03.7 -2.3
VANB **Van** 84.23 337 *eP* P 12 16 46.6 +1.4
ULC **Ulcinj** 84.25 356⇓*iP* P 12 16 44.8 -0.6
CTA **Charters Tower** 84.27 224 *eP* P 12 16 44.4 -1.1
comp=Z,54nm,0.6s,mb5.5
CTA *epP* pP 12 17 06.4 0.0
CTA **Charters Tower** 84.27 224 *eP* P 12 16 44.4 -1.1
CTA pmax pmax
comp=Z,54nm,0.6s
CTAO **Charters Tower** 84.27 224 *eP* P 12 16 44.5 -1.0
CTAO pmax pmax
comp=Z,149nm,1.0s,mb5.8
CTAO **Charters Tower** 84.27 224 *eP* P 12 16 44.5 -1.0
comp=Z,149nm,1.0s,mb5.8
CTAO *epP* pP 12 17 06.3 -0.1
SVSK **Karacayir** 84.27 342 *eP* P 12 16 45.6 +0.1
ELDT **Eldivan** 84.31 345 *iP* P 12 16 46.7 +1.0
HENT **Hendek** 84.35 347 *iP* P 12 16 38.8 -7.1
MMB **Musomiste** 84.35 352 *eP* P 12 16 45.5 -0.4
JBP **Jabalpur** 84.36 302⇓*eP* P 12 16 45.9 0.0
JBP *ex* x 12 16 46.8
comp=Z,232nm,0.7s
JBP *iP* x 12 17 02.5
STIP **Stip** 84.36 354 *iP* P 12 16 45.2 -0.7
EPOB **Poblet** 84.37 9⇓P P 12 16 46.6 +0.6
comp=Z,639nm,1.4s,mb6.3
CERT **Cerreto** 84.38 0 P P 12 16 46.3 +0.3
GUD **Guadarrama** 84.46 13 P P 12 16 46.3 -0.1
GUD pmax pmax
comp=Z,64nm,0.7s,mb5.6
GUD **Guadarrama** 84.46 13 P P 12 16 46.3 -0.2
comp=Z,64nm,0.7s,mb5.6
FGMS **Monte Sant'Ang** 84.61 358 P P 12 16 47.3 +0.1
KAPI **Kappang** 84.65 254 P P 12 16 46.3 -1.1
comp=Z,422nm,1.0s,mb6.3,SNR=5.6
ERTA **Horta de San J** 84.69 10 P P 12 16 47.6 0.0
comp=Z,32nm,0.8s,mb5.3
MIDA **Miranda** 84.69 360 P P 12 16 47.0 -0.6
VAY **Valandovo** 84.70 353 *iP* P 12 16 47.1 -0.6
PCBR **Castelo Branco** 84.75 16 *eP* P 12 16 47.7 -0.2
comp=Z,71nm,1.2s,mb5.5
PTOM **Tomar** 84.81 17 *eP* P 12 16 48.7 +0.5
comp=Z,173nm,1.1s,mb5.9
PTK **Pertek** 84.81 340 *eP* P 12 16 47.5 -0.7
KSM **Kuching** 84.87 265 *eP* P 12 16 49.4 +0.9
ANTO **Ankara** 85.02 345⇓*iP* P 12 16 50.2 +1.0
ANTO **Ankara** 85.02 345 *eP* P 12 16 50.1 +0.9
ANTO pmax pmax
comp=Z,89nm,1.1s,mb5.6
ANTO **Ankara** 85.02 345 *eP* P 12 16 50.1 +0.8
comp=Z,89nm,1.1s,mb5.6
ANTO *epP* pP 12 17 09.7 -0.5
OHR **Ohrid** 85.02 355 *iP* P 12 16 47.6 -1.7
BR131 **Keskin Array S** 85.03 345 *eP* P 12 16 49.8 +0.5
comp=Z,36nm,0.9s,mb5.3
BRTR **Keskin Array B** 85.03 345 P P 12 16 50.0 +0.7
comp=Z,43nm,0.9s,mb5.4,baz=45,slow=2.1,SNR=122
BRTR PKKPbc PKKPbc 12 34 53.0 -2.7
comp=Z,3.3nm,0.8s,baz=178,slow=5.3,SNR=9.3
BRTR PKPPKP 12 42 59.0
comp=Z,5.0nm,1.0s,baz=181,slow=5.8,SNR=7.3
BRTR LR LR 12 57 32.8
comp=Z,1μm,21.1s,baz=354,slow=38
RFI **Roccamonfina** 85.03 360 P P 12 16 50.0 +0.7
BTMT **Batman** 85.04 338 *eP* P 12 16 50.2 +0.9
BIA **Bitola** 85.08 354 *iP* P 12 16 48.7 -0.8
EMOS **Mosqueruela** 85.19 11⇓P P 12 16 50.8 +0.7
comp=Z,177nm,1.0s,mb6.0
ULDT **Uludag** 85.24 348 *iP* P 12 16 50.7 +0.3
ELZG **Elazig** 85.27 340 *iP* P 12 16 48.4 -2.1
PMAFR **Mafra** 85.30 18 *eP* P 12 16 50.5 -0.1
FNA **Florina** 85.31 354 *eP* P 12 16 50.3 -0.4
BEST **Besiri** 85.38 338 *iP* P 12 16 51.5 +0.5
PLOU **Loures** 85.39 18 *eP* P 12 16 51.9 +0.8
comp=Z,192nm,1.0s,mb6.0
LZG **Guadaloupe-1** 85.41 69 *eP* P 12 16 51.4 +0.2
ESDC **Sonseca Array** 85.44 14 P P 12 16 51.3 0.0
comp=Z,20nm,0.6s,mb5.2,baz=346,slow=4.6,SNR=63
ESDC pP pP 12 17 12.0 -0.3
comp=Z,15nm,1.0s,baz=352,slow=5.9,SNR=3.0
ESDC PP PP 12 20 11.6 +1.1
comp=Z,2.6nm,0.8s,baz=349,slow=8.8,SNR=4.4
ESDC PKKPbc PKKPbc 12 34 52.1 -2.7
comp=Z,3.0nm,0.7s,baz=172,slow=1.4,SNR=14
ESDC PKPPKP 12 42 56.5
comp=Z,0.9nm,0.7s,baz=186,slow=0.3,SNR=6.0
ESDC LR LR 12 54 05.8
comp=Z,1μm,20.1s,baz=245,slow=35
ESDC **Sonseca Array** 85.44 14 P P 12 16 51.3 -0.1
comp=Z,19nm,0.6s,mb5.2
ESLA **Sonseca Array** 85.44 14 *eP* P 12 16 51.1 -0.3
comp=Z,35nm,1.3s,mb5.1
MYA **Malataya** 85.55 341 *eP* P 12 16 51.9 0.0
BHPL **Bhopal** 85.56 304 *eP* P 12 16 51.5 -0.4
BHPL AMb AMB 12 16 53.4
comp=Z,235nm,1.1s,mb6.0
MALT **Malatya** 85.56 341⇓*iP* P 12 16 53.5 +1.6
MALT **Malatya** 85.56 341⇓P P 12 16 53.5 +1.6
OUR **Ouranopolis** 85.58 352 *eP* P 12 16 51.5 -0.5
DIY **Diyarbakir** 85.60 339 *eP* P 12 16 44.6 -7.5
ESKT **Eskisehir** 85.64 347 *iP* P 12 16 52.3 0.0
PESTR **Estremoz** 85.68 16 *eP* P 12 16 51.7 -0.8
comp=Z,65nm,1.9s,mb5.2
TBG **Guadaloupe-3** 85.72 69 *eP* P 12 16 53.0 +0.3
EBAD **Badajoz** 85.88 16 P P 12 16 53.3 -0.2
comp=Z,10nm,0.8s,mb4.8
ECHE **Chera** 85.90 11⇑P P 12 16 54.3 +0.7
DGI **Dorgali Grotta** 85.95 3 P P 12 16 54.1 +0.2
SNG **Songkhla** 86.00 277 P P 12 16 56.0 +1.9
comp=Z,670nm,1.0s,mb6.5
ETOS **Mallorca** 86.10 8⇓P P 12 16 55.1 +0.5
comp=Z,291nm,1.4s,mb6.0
SDV **Santo Domingo** 86.25 80 *eP* P 12 16 53.6 -1.7
comp=Z,35nm,0.8s,mb5.3
URFA **Urfa** 86.32 340 *eP* P 12 16 59.1 +3.4
PBEJ **Beja** 86.45 17 *eP* P 12 16 55.9 -0.4
comp=Z,34nm,1.6s,mb5.0
MSL **Mosul** 86.50 337 *ex* x 12 17 01.0
MSL *ex* x 12 17 20.5
MSL *ex* x 12 20 43.0
MSL *ex* x 12 27 19.5
MSL *ex* x 12 27 31.0
NGP **Nagpur** 86.51 302 *ex* P 12 16 52.4 -4.2
NGP AMb AMB 12 16 54.4
comp=Z,122nm,0.9s,mb5.8
KMRS **Kahramanmaras** 86.63 342 *eP* P 12 16 55.2 -2.0
EVIA **Vianos** 86.65 13⇓P P 12 16 57.5 +0.2
EVIA pmax pmax
comp=Z,26nm,0.8s,mb5.2
EVIA **Vianos** 86.65 13⇓P P 12 16 57.5 +0.1
comp=Z,26nm,0.8s,mb5.2
GZT **Gaziantep** 86.65 341 *iP* P 12 16 57.8 +0.5
EIBI **Ibiza** 86.70 10 P P 12 16 57.6 0.0
comp=Z,80nm,0.9s,mb5.7
ETOB **Tobarra** 86.77 12 P P 12 16 57.9 +0.1
comp=Z,18nm,0.6s,mb5.2
VSL **Villasalto** 86.77 3 *eP* P 12 16 57.5 -0.4
comp=Z,30nm,0.7s,mb5.3
PTEO **Sao Teotonio** 86.77 18 *eP* P 12 16 58.0 +0.1
comp=Z,87nm,1.0s,mb5.6
EADA **Adamuz** 86.83 14 P P 12 16 58.2 0.0
comp=Z,74nm,1.0s,mb5.6
KOZT **Kozan** 86.85 342 *eP* P 12 16 59.6 +1.3
EBEN **Beniarda** 86.86 11 P P 12 16 59.1 +0.8
comp=Z,30nm,0.8s,mb5.3
GAZ **Gaziantep** 86.90 341 *eP* P 12 16 56.7 -1.8
EMIN **Mina Concepcio** 86.90 16 P P 12 16 58.2 -0.4
comp=Z,48nm,1.0s,mb5.4
FDF **Fort de France** 86.90 69 *eP* P 12 16 58.3 -0.2
EBAN **Banos Encina** 86.95 14 P P 12 16 58.8 +0.1
EBAN pmax pmax
comp=Z,22nm,0.8s,mb5.1
EBAN **Banos Encina** 86.95 14 P P 12 16 58.8 +0.1
comp=Z,22nm,0.8s,mb5.1
EGRO **El Granado** 86.99 17 P P 12 16 58.8 -0.2
comp=Z,59nm,1.2s,mb5.4
AGG **Agios Georgios** 87.00 353 *eP* P 12 16 58.2 -0.8
BIM **Bigot** 87.12 69 *eP* P 12 17 01.0 +1.4
TKTP **Tekketepe** 87.16 347 *iP* P 12 16 57.9 -1.8
VIS **Vishakhapatnam** 87.17 296 *eP* P 12 16 59.7 -0.1

VIS				AMb	AMB	12 17 00.7	
	comp=Z,92nm,0.8s,mb5.7						
MVM	**Montagne Vaucl**	**87.19**	**69**	*e*P	**P**	**12 17 00.0**	**+0.1**
KARA	**Karaisali**	**87.20**	**343**	*e*P	**P**	**12 16 55.7**	**-4.2**
ROSC	**El Rosal**	**87.32**	**85**	P	**P**	**12 17 00.7**	**+0.2**
	comp=Z,19nm,0.8s,mb5.1,baz=116,slow=8.5,SNR=14						
ROSC	**El Rosal**	**87.32**	**85**	*e*P	**P**	**12 17 01.1**	**+0.5**
EQES	**Quesada**	**87.40**	**13**	P	**P**	**12 17 00.1**	**-0.9**
	comp=Z,19nm,0.9s,mb5.0						
ELUQ	**Luque**	**87.47**	**14**	P	**P**	**12 17 01.5**	**+0.2**
KULM	**Kulim**	**87.50**	**275**	*e*P	**P**	**12 17 01.9**	**+0.5**
EMUR	**La Murta**	**87.59**	**12**	P	**P**	**12 17 01.4**	**-0.5**
	comp=Z,12nm,0.7s,mb5.0						
COBT	**Iskenderun**	**87.71**	**342**	*i* P	**P**	**12 16 55.8**	**-6.6**
ECOG	**Cogollos-Vega**	**87.85**	**14**	⇓P	**P**	**12 17 03.5**	**+0.4**
ECOG				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
ECOG	**Cogollos-Vega**	**87.85**	**14**	⇓P	**P**	**12 17 03.5**	**+0.4**
	comp=Z,30nm,0.7s,mb5.4						
ELOJ	**Sierra Loja**	**87.89**	**14**	⇓P	**P**	**12 17 03.6**	**+0.3**
ELOJ				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
ELOJ	**Sierra Loja**	**87.89**	**14**	⇓P	**P**	**12 17 03.6**	**+0.3**
	comp=Z,19nm,0.7s,mb5.2						
AKL	**Akola**	**87.90**	**303**	*e*P	**P**	**12 17 03.4**	**+0.1**
AKL				AMb	AMB	12 17 05.0	
	comp=Z,127nm,0.8s,mb6.0						
ESPR	**Espera**	**87.91**	**16**	P	**P**	**12 17 03.4**	**0.0**
	comp=Z,41nm,1.0s,mb5.4						
IPM	**Ipoh**	**87.93**	**275**	P	**P**	**12 17 04.2**	**+0.7**
MEST	**Erdemli**	**88.01**	**344**	*i* P	**P**	**12 17 02.7**	**-1.2**
ERON	**Agron**	**88.07**	**14**	P	**P**	**12 17 03.1**	**-1.0**
	comp=Z,15nm,0.6s,mb5.2						
EGUA	**Guajares**	**88.28**	**14**	P	**P**	**12 17 05.1**	**0.0**
EBER	**Berja**	**88.31**	**13**	P	**P**	**12 17 04.6**	**-0.7**
	comp=Z,8.7nm,0.6s,mb5.0						
ENIJ	**Nijar**	**88.33**	**13**	P	**P**	**12 17 04.2**	**-1.2**
EMIJ	**Mijas**	**88.38**	**15**	P	**P**	**12 17 05.2**	**-0.4**
EJIF	**Jimena Fronter**	**88.38**	**15**	P	**P**	**12 17 06.0**	**+0.4**
KGM	**Kluang**	**88.55**	**271**	P	**P**	**12 17 07.8**	**+1.4**
BHD	**Baghdad**	**89.06**	**335**	*e*x	x	12 17 05.0	
ABA	**Alger-Bouzarea**	**89.07**	**8**	P	**P**	**12 17 07.6**	**-1.2**
WRAB	**Tennant Creek**	**89.43**	**234**	P	**P**	**12 17 09.0**	**-1.5**
	comp=Z,505nm,1.0s,mb6.5,SNR=34						
WRAB	**Tennant Creek**	**89.43**	**234**	*e*P	**P**	**12 17 09.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,176nm,1.1s,mb6.0						
WRAB	**Tennant Creek**	**89.43**	**234**	*e*P	**P**	**12 17 09.2**	**-1.3**
	comp=Z,176nm,1.1s,mb6.0						
WRAB				*e*pP	pP	12 17 29.3	-2.3
WB2	**Warramunga Arr**	**89.44**	**234**	⇑*i*P	**P**	**12 17 09.2**	**-1.3**
WB2				*e*pP	pP	12 17 30.8	-0.8
WRA	**Warramunga Arr**	**89.44**	**234**	P	**P**	**12 17 09.5**	**-1.1**
	comp=Z,46nm,0.7s,mb5.6,baz=35,slow=5.9,SNR=588						
WRA				pP	pP	12 17 30.1	-1.5
	comp=Z,59nm,1.0s,baz=38,slow=5.4,SNR=9.1						
WRA				PKiKP	PKiKP	12 22 06.8	-1.3
	comp=Z,1.8nm,0.6s,baz=17,slow=1.7,SNR=6.1						
WRA				PKKPbc	PKKPbc	12 34 44.2	-0.9
	comp=Z,0.7nm,0.6s,baz=216,slow=2.0,SNR=7.9						
WRA	**Warramunga Arr**	**89.44**	**234**	P	**P**	**12 17 09.5**	**-1.1**
WRA				pP	pP	12 17 30.1	-1.5
PMPS	**Porto Santo**	**89.47**	**25**	*e*P	**P**	**12 17 11.4**	**+0.7**
	comp=Z,165nm,0.7s,mb6.2						
DFRA	**Djebel Bou Aff**	**89.53**	**6**	P	**P**	**12 17 11.5**	**+0.5**
CMAH	**Djebel Manchou**	**89.54**	**5**	P	**P**	**12 17 10.5**	**-0.5**
CKFL	**Kef-Lekhel**	**89.73**	**6**	P	**P**	**12 17 12.0**	**+0.1**
ADJB	**Djebel Djouab**	**89.74**	**8**	P	**P**	**12 17 12.4**	**+0.4**
SET	**Setif**	**89.85**	**7**	P	**P**	**12 17 13.0**	**+0.5**
CASM	**Ain Smara**	**89.86**	**6**	P	**P**	**12 17 12.5**	**0.0**
AKET	**Djebel Ketaf**	**89.89**	**8**	P	**P**	**12 17 12.9**	**+0.3**
ABSA	**Djebel Ababsia**	**89.90**	**5**	P	**P**	**12 17 10.0**	**-2.7**
HYB	**Hyderabad**	**89.90**	**300**	⇓*i*P	**P**	**12 17 13.0**	**+0.3**
	comp=Z,330nm,1.0s,mb6.4						
HYB				*e*pP	pP	12 17 41.5	+7.7
HYB				*e*S	S	12 27 55.5	-3.3
HYB	**Hyderabad**	**89.90**	**300**	⇓*e*P	**P**	**12 17 13.0**	**+0.3**
HYB				pmax	pmax		
	comp=Z,330nm,1.0s,mb6.4						
HYB	**Hyderabad**	**89.90**	**300**	⇓*e*P	**P**	**12 17 13.0**	**+0.3**
	comp=Z,330nm,1.0s,mb6.4						
CKHR	**Kef el Ahmar**	**90.04**	**7**	P	**P**	**12 17 14.5**	**+1.2**
CTEI	**Djebel Teioual**	**90.05**	**6**	P	**P**	**12 17 13.5**	**+0.1**
LATR	**Latur**	**90.06**	**302**	*e*P	**P**	**12 17 14.0**	**+0.5**
IDI	**Anoyia**	**90.50**	**351**	LR	LR	13 01 20.6	
	comp=Z,1μm,21.1s,baz=158,slow=38						
KEST	**Kesra**	**90.52**	**3**	P	**P**	**12 17 15.9**	**+0.3**
	comp=Z,4.7nm,0.5s,mb4.8,baz=246,slow=1.3,SNR=25						
KEST				PKKPbc	PKKPbc	12 34 39.4	-3.0
	comp=Z,1.6nm,0.9s,baz=217,slow=12,SNR=4.5						
POO	**Poona**	**91.30**	**305**	⇓*i*x	**P**	**12 17 16.0**	**-3.2**
	comp=Z,100nm,1.0s,mb5.9						
MIB	**Mutribah**	**91.55**	**331**	*e*P	**P**	**12 17 19.8**	**-0.5**
MIB				AMb	AMB	12 17 21.4	
	comp=Z,264nm,0.9s,mb6.5						
ARMA	**Armidale**	**91.61**	**215**	⇑*i*P	**P**	**12 17 20.9**	**+0.3**
ARMA				*e*pP	pP	12 17 42.5	+0.8
UMR	**Umm Al-Rimmam**	**91.68**	**331**	*e*P	**P**	**12 17 20.4**	**-0.6**
UMR				AMb	AMB	12 17 21.8	
	comp=Z,96nm,1.3s,mb5.9						
ASF	**Jabal al Asfar**	**91.81**	**340**	P	**P**	**12 17 22.4**	**+0.9**
	comp=Z,20nm,1.0s,mb5.3,baz=244,slow=1.6,SNR=26						
ASF	**Jabal al Asfar**	**91.81**	**340**	P	**P**	**12 17 22.4**	**+0.8**
ASF				pmax	pmax		
	comp=Z,20nm,1.0s						
RST	**Umm Al-Ruwaisa**	**91.93**	**331**	*e*P	**P**	**12 17 21.3**	**-0.8**
RST				AMb	AMB	12 17 22.8	
	comp=Z,92nm,1.1s,mb5.9						
MDT	**Midelt**	**92.07**	**15**	P	**P**	**12 17 22.6**	**-0.2**
	comp=Z,25nm,1.0s,mb5.4,baz=355,slow=4.5,SNR=36						
MDT				pP	pP	12 17 43.2	-0.7
	comp=Z,8.6nm,0.9s,baz=7.1,slow=4.9,SNR=3.4						
NAY	**Al-Naaiem**	**92.10**	**331**	*e*P	**P**	**12 17 22.1**	**-0.8**
NAY				AMb	AMB	12 17 23.7	
	comp=Z,53nm,1.1s,mb5.7						
KAD	**Karad**	**92.18**	**304**	*e*P	**P**	**12 17 23.0**	**-0.3**
KAD				AMb	AMB	12 17 23.8	
	comp=Z,87nm,1.1s,mb5.9						
FITZ	**Fitzroy Crossi**	**92.23**	**242**	⇑*i*P	**P**	**12 17 23.2**	**-0.3**
	comp=Z,62nm,0.8s,mb5.9						
FITZ				*e*pP	pP	12 17 43.7	-0.9
FITZ	**Fitzroy Crossi**	**92.23**	**242**	P	**P**	**12 17 23.2**	**-0.3**
	comp=Z,34nm,0.8s,mb5.6,baz=28,slow=4.2,SNR=77						
FITZ				pP	pP	12 17 43.0	-1.6
	comp=Z,52nm,0.9s,baz=98,slow=2.7,SNR=12						
RDF	**Al-Radifah**	**92.31**	**331**	*e*P	**P**	**12 17 22.5**	**-1.4**
RDF				AMb	AMB	12 17 24.9	
	comp=Z,120nm,1.2s,mb6.0						
AS31	**Alice Springs**	**92.84**	**232**	*e*P	**P**	**12 17 25.5**	**-0.8**
AS31				*e*pP	pP	12 17 47.9	+0.5
AS31				*e*sP	sP	12 17 56.9	+1.1
ASAR	**Alice Springs**	**92.84**	**232**	P	**P**	**12 17 25.4**	**-0.9**
	comp=Z,25nm,0.8s,mb5.6,baz=30,slow=4.5,SNR=386						
ASAR				pP	pP	12 17 46.4	-1.0
	comp=Z,32nm,0.9s,baz=30,slow=5.4,SNR=8.3						
ASAR				PKKPbc	PKKPbc	12 34 36.2	-0.4
	comp=Z,0.9nm,0.5s,baz=199,slow=2.2,SNR=13						
ASAR	**Alice Springs**	**92.84**	**232**	P	**P**	**12 17 25.5**	**-0.8**
ASAR						12 34 36.2	
ASAR				pmax	pmax		
	comp=Z,25nm,0.8s						
ASAR				pmax	pmax		
	comp=N,32nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASPA	**Alice Springs**	**92.84**	**232**	*e*P	**P**	**12 17 25.5**	**-0.8**
ASPA				*e*pP	pP	12 17 47.9	+0.5
ASPA				*e*sP	sP	12 17 56.9	+1.1
ASHO	**Ashiyiah**	**93.47**	**322**	⇓P	**P**	**12 17 28.0**	**-1.2**
	SNR=8.8						
HOQ	**Hoqain**	**94.01**	**321**	⇑P	**P**	**12 17 30.7**	**-1.0**
	SNR=9.1						
SMDO	**Samad**	**94.21**	**320**	⇓P	**P**	**12 17 32.1**	**-0.5**
	SNR=16						
WBK	**Wadi Bani Khal**	**94.26**	**319**	⇑P	**P**	**12 17 32.7**	**-0.2**
	SNR=7.2						
ARQ	**Araqi**	**94.53**	**321**	⇓P	**P**	**12 17 33.6**	**-0.5**
	SNR=105						
JMDO	**Jabal Madar**	**94.81**	**319**	⇓P	**P**	**12 17 34.7**	**-0.7**
	SNR=9.7						
BSY	**Bisya**	**94.81**	**320**	⇓P	**P**	**12 17 34.8**	**-0.6**
	SNR=5.7						
STKA	**Stephens Creek**	**96.64**	**222**	⇑*i*P	**P**	**12 17 42.7**	**-1.0**
	comp=Z,13nm,0.6s,mb5.5						
STKA				*e*pP	pP	12 18 05.5	+0.7
STKA	**Stephens Creek**	**96.64**	**222**	P	**P**	**12 17 42.8**	**-0.9**
	comp=Z,15nm,0.6s,mb5.6,baz=356,slow=6.1,SNR=50						
STKA				pP	pP	12 18 04.1	-0.7
	comp=Z,9.9nm,0.8s,baz=52,slow=4.8,SNR=4.2						
CNB	**Canberra Magne**	**96.84**	**215**	*e*P	**P**	**12 17 44.3**	**-0.3**
	comp=Z,14nm,0.8s,mb5.5						
PALK	**Pallekele**	**97.25**	**293**	P	**P**	**12 17 47.1**	**+0.6**
	comp=Z,476nm,0.7s,SNR=5.8						
PALK	**Pallekele**	**97.25**	**293**	*e*P	**P**	**12 17 47.3**	**+0.8**
	comp=Z,68nm,1.0s,mb6.0						
TOO	**Toolangi**	**100.22**	**217**	*e*PDIF	Pdif	12 17 59.4	-0.4
	comp=Z,4.7nm,1.2s						
TOO	**Toolangi**	**100.22**	**217**	*e*P	Pdif	12 17 59.4	-0.4
TOO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WHFO	**Wadi Hawf**	**100.50**	**321**	⇑P	Pdif	12 17 59.8	-1.2
	SNR=6.3						
FORT	**Forrest**	**101.60**	**233**	*e*PDIF	Pdif	12 18 08.6	+2.7
	comp=Z,20nm,0.6s						
LPAZ	**La Paz**	**107.85**	**93**	Pdiff	Pdif	12 18 33.5	-0.2
	comp=Z,0.7nm,0.6s,baz=82,slow=4.1,SNR=3.9						
LPAZ	**La Paz**	**107.85**	**93**	P	Pdif	12 18 33.5	-0.2
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**107.85**	**93**	Pdif	Pdif	12 18 33.5	-0.2
SIV	**San Ignacio**	**111.78**	**87**	PKiKP	PKiKP	12 22 47.0	-1.1
	comp=Z,1.6nm,0.6s,baz=348,slow=4.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**112.31**	**13**	PKiKP	PKiKP	12 22 47.7	-1.4
	comp=Z,1.9nm,0.5s,baz=333,slow=2.7,SNR=22						
TORD				PKKPbc	PKKPbc	12 33 34.4	-5.0
	comp=Z,20nm,0.7s,baz=168,slow=1.5,SNR=64						
TORD				PKKPab	PKKPab	12 33 45.2	-2.9
	comp=Z,11nm,0.8s,baz=168,slow=3.7,SNR=10						
TORD				PKKP	PKKPdf	12 33 58.1	-0.7
	comp=Z,6.4nm,0.8s,baz=167,slow=2.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**112.31**	**13**	PKPdf	PKiKP	12 22 47.7	-1.5
TORD				PKKPbc	PKKPbc	12 33 34.4	-5.0
TORD				PKKPab	PKKPab	12 33 45.2	-2.9
TORD				PKKP	PKKPdf	12 33 58.1	-0.7
DBIC	**Dimbokro**	**117.55**	**21**	PKiKP	PKiKP	12 22 58.8	-0.4
	comp=Z,5.1nm,0.6s,baz=357,slow=3.6,SNR=10						
DBIC				PKKPbc	PKKPbc	12 33 19.0	-2.4
	comp=Z,12nm,0.7s,baz=154,slow=5.0,SNR=15						
DBIC	**Dimbokro**	**117.55**	**21**	*i* PKIKP	PKPdf	12 22 58.8	-0.4
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,12nm,0.7s						
BDFB	**Brasilia**	**119.11**	**76**	PKiKP	PKiKP	12 23 01.2	-1.0
	comp=Z,4.4nm,0.7s,baz=146,slow=4.5,SNR=5.3						
BDFB				pPKiKP		12 23 22.0	
	comp=Z,5.4nm,0.7s,baz=304,slow=6.6,SNR=3.5						
BDFB				PKKPab	PKKPab	12 33 19.0	+0.8
	comp=Z,1.9nm,0.5s,baz=82,slow=4.4,SNR=4.7						
BDFB	**Brasilia**	**119.11**	**76**	*i* PKIKP	PKPdf	12 23 01.2	-1.0
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CFAA	**Coronel Fontan**	**119.51**	**104**	PKiKP	PKiKP	12 23 01.4	-1.6
	comp=Z,0.7nm,0.6s,baz=312,slow=3.4,SNR=4.3						
CFAA				PKKP	PKKPdf	12 33 38.3	-6.9
	comp=Z,0.4nm,0.5s,baz=181,slow=2.2,SNR=5.8						
CPUP	**Villa Florida**	**121.95**	**92**	PKP	PKPdf	12 23 06.5	-1.2
	comp=Z,5.3nm,0.6s,baz=328,slow=2.9,SNR=19						
CPUP				pPKP	pPKPdf	12 23 26.4	-3.1
	comp=Z,7.1nm,0.8s,baz=268,slow=3.0,SNR=6.3						
CPUP				PKKPab	PKKPab	12 33 05.3	-0.6
	comp=Z,1.6nm,0.6s,baz=130,slow=6.2,SNR=7.4						
CPUP	**Villa Florida**	**121.95**	**92**	PKIKP	PKPdf	12 23 06.5	-1.1
CPUP				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CPUP				pmax	pmax		
	comp=N,7.0nm,0.8s						
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**121.95**	**92**	PKP	PKPdf	12 23 06.5	-1.2
CPUP				pPKP	pPKPdf	12 23 26.4	-3.1
CPUP				PKKPab	PKKPab	12 33 05.3	-0.6
KMBO	**Kilima Mbogo**	**123.78**	**331**	PKP	PKPdf	12 23 12.6	+1.4
	comp=Z,9.8nm,0.7s,baz=30,slow=3.3,SNR=18						
KMBO				pPKP	pPKPdf	12 23 33.6	+0.5
	comp=Z,13nm,0.8s,baz=8.5,slow=4.8,SNR=6.9						
KMBO	**Kilima Mbogo**	**123.78**	**331**	PKIKP	PKPdf	12 23 12.6	+1.5
KMBO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMBO				pmax	pmax		
	comp=N,13nm,0.8s						
TRQA	**Tornquist**	**127.71**	**105**	PKPdf	PKPdf	12 23 17.1	-1.5
VNDA	**Vanda**	**132.77**	**189**	PKP	PKPdf	12 23 26.6	-1.7
	comp=N,8.5nm,0.9s,baz=336,slow=2.6,SNR=15						
VNDA	**Vanda**	**132.77**	**189**	PKIKP	PKPdf	12 23 26.6	-1.7
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CASY	**Casey**	**135.21**	**215**	*e*PKP	PKPdf	12 23 31.5	-1.3
LSZ	**Lusaka**	**139.67**	**338**	PKhKP		12 23 32.9	
	comp=Z,14nm,0.7s,baz=25,slow=2.5,SNR=27						
LSZ				PKP	PKPdf	12 23 42.6	+1.6
	comp=Z,9.0nm,0.7s,baz=234,slow=0.7,SNR=6.5						
LSZ				SKiKP		12 27 10.4	
	comp=Z,30nm,0.9s,baz=42,slow=4.6,SNR=12						
LSZ	**Lusaka**	**139.67**	**338**	PKIKP	PKPdf	12 23 42.6	+1.5
LSZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LSZ				pmax	pmax		
	comp=N,30nm,0.9s						
LSZ	**Lusaka**	**139.67**	**338**	PKP	PKPdf	12 23 42.6	+1.6
MIR	**Mirnyy**	**141.58**	**219***c*	*i*PKIKP	PKPdf	12 23 38.0	-6.5
MIR				pmax	pmax		
	comp=Z,250nm,1.0s						
MIR				pmax	pmax		
	comp=Z,2μm,16.0s						
PMSA	**Palmer Station**	**141.60**	**138**	SKiKP		12 27 11.2	
	comp=Z,26nm,1.0s,baz=283,slow=2.6,SNR=4.9						
QSPA	**South Pole Qui**	**143.81**	**180**	*e*P	PKPdf	12 23 43.2	-5.3
TSUM	**Tsumeb**	**145.09**	**353**	PKPbc	PKPbc	12 23 50.2	-0.1
	comp=Z,212nm,0.7s,baz=350,slow=5.6,SNR=426						
TSUM				SKiKP		12 27 23.5	
	comp=Z,37nm,1.0s,baz=359,slow=2.5,SNR=6.9						
BOSA	**Boshof**	**153.20**	**337**	PKP	PKPdf	12 24 03.2	-0.4
	comp=Z,7.2nm,0.8s,baz=351,slow=0.8,SNR=11						
BOSA				PKPbc	PKPbc	12 24 11.2	+0.1
	comp=Z,32nm,0.5s,baz=19,slow=2.3,SNR=66						
BOSA				PKPab	PKPab	12 24 23.6	+0.5
	comp=Z,52nm,0.8s,baz=4.9,slow=4.7,SNR=8.4						
BOSA	**Boshof**	**153.20**	**337**	PKP	PKPdf	12 24 03.2	-0.4
BOSA				PKPbc	PKPbc	12 24 11.2	+0.1
BOSA				PKPab	PKPab	12 24 23.6	+0.5
MAW	**Mawson**	**153.30**	**220**	*e*PKP	PKPdf	12 24 01.3	-2.5
	comp=Z,12nm,0.8s						
MAW	**Mawson**	**153.30**	**220**	*e*PKP	PKPbc	12 24 09.2	-2.2
MAW	**Mawson**	**153.30**	**220**	*e*PKP	PKPab	12 24 22.2	-1.4
MAW	**Mawson**	**153.30**	**220**	PKP	PKPdf	12 24 01.5	-2.3
	comp=Z,13nm,0.8s,baz=301,slow=0.2,SNR=35						
MAW				PKPbc	PKPbc	12 24 09.5	-1.9
	comp=Z,66nm,0.8s,baz=88,slow=0.8,SNR=66						
MAW				PKPab	PKPab	12 24 22.3	-1.3
	comp=Z,96nm,0.7s,baz=78,slow=6.0,SNR=21						
VNA3	**Neumayer Olymp**	**159.95**	**158**	*e*PKPdf	PKPdf	12 24 07.3	-5.0
VNA3				*e*		12 24 10.5	
VNA3				*e*		12 24 21.7	
VNA3				*e*		12 24 28.7	
VNA3				*e*		12 24 36.6	
VNA3				*e*		12 24 48.3	
VNA3				*e*		12 25 09.8	
VNA3				*e*		12 25 17.7	
VNA3				*e*		12 25 23.3	
VNA3				*e*		12 28 28.7	
VNA1	**Neumayer--Stat**	**160.70**	**158**	*e*PKPdf	PKPdf	12 24 08.6	-4.6
VNA1				*e*		12 24 11.9	
VNA1				*e*		12 24 30.3	
VNA1				*e*		12 24 39.7	
VNA1				*e*		12 24 51.8	
VNA1				*e*		12 25 11.0	
VNA1				*e*		12 25 21.4	
VNA1				*e*		12 28 34.9	
SYO	**Syowa Base**	**160.79**	**209**	⇑*e*PKPdf	PKPdf	12 24 09.8	-3.5
SYO	**Syowa Base**	**160.79**	**209**	⇑*e*P	PKPab	12 24 51.8	-4.0
SNAA	**Sanae**	**160.92**	**164**	PKP	PKPdf	12 24 09.3	-4.1
	comp=Z,3.1nm,1.0s,baz=260,slow=0.5,SNR=17						
SNAA				PKPbc	PKPdf	12 24 24.0	+11
	comp=Z,3.1nm,0.9s,baz=128,slow=0.9,SNR=10.0						
SNAA				pPKP	pPKPdf	12 24 30.3	-5.1
	comp=Z,8.8nm,1.2s,baz=249,slow=4.3,SNR=6.1						
SNAA				PKPab	PKPab	12 24 52.6	-3.8
	comp=Z,18nm,0.6s,baz=221,slow=7.0,SNR=50						
SNAA	**Sanae**	**160.92**	**164**	*e*PKPdf	PKPdf	12 24 08.4	-5.0
SNAA				*e*		12 24 30.5	
SNAA				*e*		12 24 39.7	
SNAA				*e*		12 24 52.2	
SNAA				*e*		12 25 13.9	
SNAA				*e*		12 25 22.9	
SNAA				*e*		12 28 35.0	
SNAA	**Sanae**	**160.92**	**164**	PKP2	PKPab	12 24 52.6	-3.8
SNAA				pmax	pmax		
	comp=Z,18nm,0.6s						
MAIT	**Maitri**	**163.18**	**178**	*e*PKPdf	PKPdf	12 24 13.6	-2.1
NVL	**N'lazarevskaya**	**163.19**	**178**	*e*PKIKP	pPKPdf	12 24 32.3	-5.5
NVL				pmax	pmax		
	comp=Z,38nm,1.1s						
NVL				pmax	pmax		
	comp=Z,5μm,19.1s						

---

*IDC **01** 12:17:05.0±0.9, 3437N×14136E, h0km, mb4.2/10, mb1 4.3/13, mb1mx4.1/26, mbtmp4.3/13, ML4.7/3, Error ellipse: s-maj=24.5km s-min=14.2km az=88.0*
*MOS **01** 12:17:07.2±1.7, 3446N×14156E, h33km, mb4.4/11, Error ellipse: s-maj=17.6km s-min=9.1km az=109.0*
*ISCJB **01** 12:17:08.4±0.8, 3438N±003×14143E±006, h45km±6km, mb4.4/16, Error ellipse: s-maj=8.9km s-min=5.2km az=158.5*
*JMA **01** 12:17:08.3±0.3, 3436N×14142E, h45km±1km, M4.6*
*NEIC **01** 12:17:10.7±0.6, 3445N×14136E, h45km, mb4.9/5, Error ellipse: s-maj=17.6km s-min=9.6km az=83.0*
ISC 01 12:17:08.5±1.1, **3441N**±003×**14146E**±004, **h28**km±8km, **n68**, σ**0.86**/83, **mb4.4**/16, **2C-6D**, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.47**	**302**	⇓P	**Pb**	**12 17 18.7**	**+0.5**
BSO3	**Boso 3**	**0.87**	**297**	⇓P	**Pn**	**12 17 24.8**	**-0.1**
BSO4	**Boso 4**	**1.09**	**303**	⇓P	**Pn**	**12 17 28.3**	**+0.5**
BSO4				S	**Sn**	**12 17 42.8**	**+0.9**
KTR	**Katsuura**	**1.20**	**309**	⇓P	**Pn**	**12 17 29.3**	**0.0**
KTR				S	**Sn**	**12 17 44.6**	**+0.1**
CHOJ	**Chosi**	**1.38**	**339**	⇑P	**Pn**	**12 17 32.2**	**+0.4**
CHOJ				S	**Sn**	**12 17 48.9**	**-0.3**
TATJ	**Tateyama 2**	**1.43**	**296**	⇓P	**Pn**	**12 17 32.8**	**+0.3**
JCN	**Nagara**	**1.44**	**315**	S	**Sn**	**12 17 51.4**	**+0.7**
JMY	**Miyakejima3**	**1.64**	**259**	P	**Pn**	**12 17 34.7**	**-0.7**
JIM2	**Oshima 3**	**1.70**	**281**	P	**Pn**	**12 17 35.2**	**-1.0**
JHJ2	**Mitsune**	**1.88**	**227**	P	**Pn**	**12 17 38.7**	**0.0**
JHJ2				*e*S	**Sn**	**12 18 00.4**	**-1.1**
JHJ	**Hachijo jima 2**	**1.90**	**228**	Pn	**Pn**	**12 17 38.9**	**0.0**
	175nm,0.3s,baz=96,slow=5.8,SNR=44						
JHJ				Sn	**Sn**	**12 17 60.0**	**-1.9**
	1μm,0.3s,baz=276,slow=23,SNR=29						
JOD2	**Odawara 2**	**2.13**	**294**	P	**Pn**	**12 17 41.1**	**-1.0**
JOD2				S	**Sn**	**12 18 07.2**	**-0.3**
JIZS	**Izushimoda**	**2.15**	**279**	⇓P	**Pn**	**12 17 41.4**	**-1.0**
JAG	**Ashikaga**	**2.59**	**321**	⇑P	**Pn**	**12 17 49.3**	**+0.8**
JYN	**Shimob**	**2.63**	**295**	P	**Pn**	**12 17 48.8**	**-0.2**
JYN				S	**Sn**	**12 18 18.7**	**-1.2**
JRY	**Ryogami san**	**2.64**	**308**	P	**Pn**	**12 17 50.6**	**+1.5**
JRY				S	**Sn**	**12 18 20.7**	**+0.6**
SHZ3	**Shizuoka 3**	**2.75**	**285**	P	**Pn**	**12 17 51.6**	**+0.9**
SHZ3				S	**Sn**	**12 18 23.7**	**+0.7**
TK04	**Tokai 4**	**2.96**	**271**	P	**Pn**	**12 17 54.0**	**+0.4**
MJAR	**Matsushiro Arr**	**3.40**	**310**	Pn	**Pn**	**12 18 00.4**	**+0.8**
	49nm,0.3s,baz=154,slow=12,SNR=258						
MJAR				Sn	**Sn**	**12 18 38.8**	**-0.2**
	47nm,0.3s,baz=158,slow=32,SNR=12						
MJAR	**Matsushiro Arr**	**3.40**	**310**	P	**Pn**	**12 18 00.4**	**+0.8**
MJAR						12 18 38.8	
MJAR				pmax	pmax		
	comp=Z,49nm,0.3s						
MJAR				smax			
	comp=N,47nm,0.3s						
MAJO	**Matsushiro**	**3.40**	**310**	*e*P	**Pn**	**12 18 00.0**	**+0.4**
MAT	**Matsushiro**	**3.40**	**310**	P	**Pn**	**12 18 00.1**	**+0.5**
MAT				S	**Sn**	**12 18 39.7**	**+0.7**
CBIJ	**Chichi jima**	**7.32**	**175**	Pn	**Pn**	**12 18 53.9**	**+0.5**
	comp=N,67nm,0.3s,baz=312,slow=14,SNR=34						
CBIJ				Sn	**Sn**	**12 20 09.3**	**-6.1**
	comp=N,34nm,0.3s,baz=353,slow=21,SNR=3.4						
ERM	**Erimo**	**7.71**	**9**	*e*P	**Pn**	**12 18 57.1**	**-1.7**
ERM				*e*S	**Sn**	**12 20 23.0**	**-2.2**
ERM				pmax	pmax		
	comp=Z,46nm,0.6s						
ERM	**Erimo**	**7.71**	**9**	*e*P	**Pn**	**12 18 57.1**	**-1.7**
	comp=Z,46nm,0.6s						
ERM				*e*S	**Sn**	**12 20 22.9**	**-2.3**
ASAJ	**Asahikawa**	**9.74**	**5**	Pn	**Pn**	**12 19 25.4**	**-1.2**
	comp=Z,5.6nm,0.3s,baz=223,slow=11,SNR=48						
ASAJ				Sn	**Sn**	**12 21 08.2**	**-6.8**
	comp=Z,1.5nm,0.3s,baz=180,slow=12,SNR=3.3						
ASAJ	**Asahikawa**	**9.74**	**5**	P	**Pn**	**12 19 25.4**	**-1.2**
ASAJ						12 21 08.2	
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**12.57**	**4**	*e*P	**Pn**	**12 20 03.9**	**-1.5**
YSS				pmax	pmax		
	comp=Z,26nm,0.7s						
YSS	**Yuzh-Sakhalins**	**12.57**	**4**	*e*P	**Pn**	**12 20 03.9**	**-1.5**
	comp=Z,26nm,0.7s						
SONM	**Songino Array**	**29.35**	**308**	P	**P**	**12 23 09.1**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.1,baz=111,slow=8.1,SNR=7.9						
SONM	**Songino Array**	**29.35**	**308**	P	**P**	**12 23 09.1**	**+0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**45.58**	**304**	P	**P**	**12 25 25.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**45.58**	**304**	P	**P**	**12 25 25.9**	**-0.1**
	comp=Z,2.4nm,0.6s,mb4.3,baz=80,slow=8.8,SNR=9.7						
MKAR	**Makanchi Array**	**45.58**	**304**	P	**P**	**12 25 25.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
JIRN	**Jiri**	**47.34**	**278**	*e*P	**P**	**12 25 39.3**	**-0.4**
	comp=Z,26nm,0.6s,mb5.3						
KAKA	**Kakadu**	**47.63**	**192**	*e*P	**P**	**12 25 41.8**	**-0.2**
	comp=Z,9.9nm,1.1s,mb4.8						
PKI	**Pulchoki**	**48.02**	**278**	*e*P	**P**	**12 25 43.7**	**-1.3**
KKN	**Kakani**	**48.04**	**278**	*e*P	**P**	**12 25 44.5**	**-0.6**
	comp=Z,10.0nm,0.5s,mb5.1						
KKN	**Kakani**	**48.04**	**278**	*e*P	**P**	**12 25 44.5**	**-0.6**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.1						
GKN	**Gorkha**	**48.48**	**279**	*e*P	**P**	**12 25 47.9**	**-0.7**
KOLN	**Koldanda**	**49.42**	**279**	*e*P	**P**	**12 25 55.2**	**-0.6**
CHKZ	**Chkalovo**	**52.15**	**315**	*e*P	**P**	**12 26 19.9**	**+3.6**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CHKZ	**Chkalovo**	**52.15**	**315**	*e*P	**P**	**12 26 19.9**	**+3.6**
	comp=Z,14nm,0.9s,mb4.9						
BVAR	**Borovoye Array**	**52.39**	**314**	P	**P**	**12 26 18.3**	**+0.2**
	comp=Z,1.8nm,0.3s,mb4.5,baz=104,slow=7.1,SNR=6.7						
BVAR	**Borovoye Array**	**52.39**	**314**	P	**P**	**12 26 18.3**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.34**	**199**	*e*P	**P**	**12 26 33.2**	**+0.8**
	comp=Z,4.1nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**54.46**	**188**	*e*P	**P**	**12 26 34.6**	**+1.3**
WB2	**Warramunga Arr**	**54.47**	**188**	*e*P	**P**	**12 26 33.4**	**+0.1**
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**	**12 26 33.2**	**-0.2**
	comp=Z,1.6nm,0.3s,mb4.4,baz=1.1,slow=7.6,SNR=80						
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**	**12 26 33.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**12 26 50.7**	**+1.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=0.0,slow=2.0,SNR=3.4						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**12 26 50.7**	**+1.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**12 26 50.7**	**+1.2**
AS31	**Alice Springs**	**58.20**	**188**	*e*P	**P**	**12 27 00.5**	**+0.6**
ASAR	**Alice Springs**	**58.20**	**188**	P	**P**	**12 27 00.5**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=15,slow=11,SNR=18						
ASAR	**Alice Springs**	**58.20**	**188**	P	**P**	**12 27 00.5**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASPA	**Alice Springs**	**58.20**	**188**	*e*P	**P**	**12 27 00.5**	**+0.6**
MBWA	**Marble Bar**	**59.00**	**204**	*e*P	**P**	**12 27 05.4**	**-0.1**
AKTK	**Aktyubinsk**	**60.47**	**313**	P	**P**	**12 27 15.3**	**-0.4**
AKTO	**Aktyubinsk**	**60.47**	**313**	P	**P**	**12 27 15.3**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.5,baz=73,slow=12,SNR=7.2						
AKTO	**Aktyubinsk**	**60.47**	**313**	P	**P**	**12 27 15.3**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
FINES	FINESS Array B	71.16	333	P	P	12 28 26.2	+1.7
	comp=Z,0.7nm,0.6s,mb3.8,baz=93,slow=7.0,SNR=3.1						
FINES	FINESS Array B	71.16	333	P	P	12 28 26.2	+1.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	76.40	323	P	P	12 28 54.5	-0.7
	comp=Z,0.7nm,0.4s,mb4.0,baz=48,slow=6.2,SNR=4.3						
AKASG	Malin Array Be	76.40	323	P	P	12 28 54.5	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	76.62	338	P	P	12 28 58.6	+2.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=5.9						
NOA	NORSAR Array B	76.62	338	P	P	12 28 58.7	+2.3
	comp=Z,1.3nm,0.8s,mb3.9,baz=39,slow=5.7,SNR=3.3						
NOA	NORSAR Array B	76.62	338	P	P	12 28 58.7	+2.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

---

*PRU **01** 12:25:48.2, 5027N×1879E, h0km*

WAR 01 12:25:48.2, 5024N×1889E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.58	91	ePg	Pg	12 25 59.4	0.0
OJC				eSg	Sg	12 26 07.9	+1.0
OKC	Ostrava-Krasne	0.62	231	ePG	Pg	12 26 00.5	+0.3
LIKS	Likavka	1.20	173	eSN	Sn	12 26 28.8	-0.3
NIE	Niedzica	1.23	131	ePg	Pg	12 26 11.9	+0.1
NIE				eSg	Sg	12 26 29.2	+1.4
DPC	Dobruska-Polom	1.65	275	ePG	Pn	12 26 17.0	-1.5
DPC				eSG	Sn	12 26 38.9	-1.5
	23nm,0.5s						
STHS	Stebnicka Huta	1.73	117	ePG	Pg	12 26 20.8	-0.6
STHS				eSN	Sn	12 26 45.8	+3.5
VYHS	Vyhne	1.75	181	ePG	Pn	12 26 18.6	-1.1
VYHS				eSN	Sn	12 26 42.8	+0.1
KSP	Ksiaz	1.77	291	ePg	Pg	12 26 20.5	-1.6
KSP				eSg	Sg	12 26 43.6	-1.4
UPC	Upice	1.86	279	eSG	Sg	12 26 45.6	-2.5
UPC	Upice	1.86	279	eSg	Sn	12 26 45.6	0.0
KECS	Kecovo	2.04	149	eSN	Sn	12 26 52.1	+2.1
CRVS	Cervenica-Dubn	2.14	128	ePG	Pg	12 26 27.8	-1.4
CRVS				eSN	Sn	12 26 55.3	+2.9
PRU	Pruhonice	2.81	267	eSG	Sg	12 27 13.3	-5.3
	8.3nm,0.9s						
BRG	Berggiesshubel	3.22	283	SG	Sg	12 27 31.7	0.0
	1.4nm,0.4s						
KHC	Kasperske Hory	3.62	254	eSG	Sg	12 27 41.7	-3.0
	6.9nm,0.6s						
CLL	Collm	3.89	288	eSg	Sg	12 27 54.0	+0.8

IDC 01 12:45:08.2±52.0**, 2225S×17220W, h0km, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.9**/13**, mbtmp4.3**/3**, 3D, Error ellipse: s-maj=1010.0km s-min=172.6km az=88.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	38.72	265	⇓iP	P	12 52 34.9	+0.9
	4.3nm,0.3s						
STKA	Stephens Creek	41.99	247	⇓iP	P	12 52 59.9	-1.2
	1.5nm,0.4s						
STKA	Stephens Creek	41.99	247	P	P	12 53 00.1	-0.9
	2.2nm,0.5s,baz=112,slow=9.0,SNR=11						
ASAR	Alice Springs	49.40	257	P	P	12 54 00.3	+0.6
	1.0nm,0.3s,baz=90,slow=6.6,SNR=71						
ASPA	Alice Springs	49.41	257	eP	P	12 54 00.1	+0.4
WB2	Warramunga Arr	49.71	262	⇓iP	P	12 54 03.1	+1.0
WRA	Warramunga Arr	49.72	262	P	P	12 54 03.3	+1.1
	2.4nm,0.3s,baz=99,slow=6.9,SNR=165						
KAKA	Kakadu	53.41	270	eP	P	12 54 34.0	+4.3
	1.7nm,0.2s						
FORT	Forrest	53.60	247	eP	P	12 54 31.7	+0.6
	5.1nm,0.4s						
FITZ	Fitzroy Crossi	58.15	262	eP	P	12 55 07.4	+3.6
	2.9nm,0.6s						

GUC 01 13:39:31.4±0.5**, 3053S×7125W, h32km**±4km**, MD3.5, ML2.6, 3C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.09	154	⇑iP	Pb	13 39 39.4	+2.5
OVCH				iS	Sb	13 39 45.7	+5.0
TLL	Tololo Astrono	0.53	47	⇑iP	Pb	13 39 42.6	+0.2
TLL				iS	Sb	13 39 51.0	+1.2
TLL				AML	AML	13 39 53.9	
	comp=E,1μm,0.5s						
LSCH	La Serena	0.62	0	⇓iP	Pb	13 39 43.4	-0.5
LSCH				iS	Sb	13 39 52.6	+0.3
LSCH				AML	AML	13 39 52.9	
	comp=N,38nm,0.2s						
CMCH	Combarbala	0.68	162	⇑iP	Pn	13 39 44.5	-0.2
CMCH				iS	Sb	13 39 54.8	+0.9
CMCH				AML	AML	13 39 56.8	
	comp=E,1μm,0.7s						
CHNG	Los Chungos	1.37	189	⇓iP	Pn	13 39 55.0	+0.8
CHNG				iS	Sn	13 40 12.6	+1.4
CHNG				AML	AML	13 40 16.4	
	comp=E,197nm,0.8s						
PACH	Papudo	2.01	185	iS	Sn	13 40 29.7	+2.7
FCH	Farellones	2.91	164	eP	Pn	13 40 17.8	+2.4
FCH				AML	AML	13 40 59.1	
	comp=E,55nm,0.3s						

IDC 01 13:53:50.4±5.9**, 417S×15115E, h86km**±49km**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.3**/15**, mbtmp3.7**/4**, ML2.7**/1**, Error ellipse: s-maj=99.8km s-min=40.0km az=129.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.54	217	P	Pn	13 55 25.8	+2.0
	1.0nm,0.3s,baz=47,slow=13,SNR=4.5						
WRA	Warramunga Arr	22.67	225	P	P	13 58 45.1	+0.6
	1.0nm,0.5s,baz=52,slow=10,SNR=29						
ASAR	Alice Springs	25.55	219	P	P	13 59 10.8	-0.2
	0.3nm,0.4s,baz=55,slow=9.0,SNR=13						
FITZ	Fitzroy Crossi	28.54	239	eP	P	13 59 38.5	+0.7
	4.1nm,0.6s						
FITZ	Fitzroy Crossi	28.54	239	P	P	13 59 38.4	+0.6
	1.8nm,0.6s,baz=45,slow=8.6,SNR=9.5						
TORD	Torodi Ar. Bea	148.55	288	PKPbc	PKPbc	14 13 27.4	+0.1
	0.8nm,0.6s,baz=80,slow=2.1,SNR=6.2						

---

*IDC **01** 13:56:23.6±1.0, 420S×123.19E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=42.0km s-min=20.1km az=61.0*

*NEIC **01** 13:56:24.9±0.6, 432S×12301E, h10km, mb4.4/3, Error ellipse: s-maj=24.2km s-min=9.2km az=61.0*

*ISCJB **01** 13:56:28.0±4.4, 44S±0.1×123.1E±0.1, h52km±44km, mb4.1/9, Error ellipse: s-maj=27.0km s-min=16.7km az=110.6*

ISC 01 13:56:30.7±3.1**, 44S**±01×**1231E**±02**, h59km**±32km**, n17, σ1^{s}12**/17**, mb4.1**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.39	132	eP	Pn	13 59 25.4	+1.2
	9.5nm,0.6s						
MBWA	Marble Bar	16.96	191	P	Pn	14 00 22.3	-1.6
WRAB	Tennant Creek	18.94	145	eP	Pn	14 00 47.0	-1.0
	30nm,1.2s						
WRA	Warramunga Arr	18.94	146	P	Pn	14 00 47.2	-0.8
	0.4nm,0.3s,baz=316,slow=14,SNR=16						
WB2	Warramunga Arr	18.95	146	eP	Pn	14 00 46.3	-1.8
AS31	Alice Springs	21.81	152	eP	P	14 01 18.8	+1.0
ASPA	Alice Springs	21.81	152	eP	P	14 01 18.8	+1.0
ASAR	Alice Springs	21.81	152	P	P	14 01 19.3	+1.5
	13nm,0.8s,mb4.4,baz=344,slow=16,SNR=39						
PSI	Prapat	25.18	286	P	P	14 01 52.5	+2.0
	6.0nm,0.8s,mb4.2,baz=131,slow=7.3,SNR=5.0						
STKA	Stephens Creek	32.38	150	eP	P	14 02 55.0	+0.4
MJAR	Matsushiro Arr	43.12	18	P	P	14 04 24.7	-0.4
	0.7nm,0.6s,mb3.5,baz=196,slow=9.6,SNR=4.1						
SONM	Songino Array	54.05	346	P	P	14 05 49.3	+0.3
	0.8nm,0.6s,mb3.8,baz=166,slow=8.4,SNR=6.6						
MKAR	Makanchi Array	62.40	330	P	P	14 06 46.6	-0.8
	1.2nm,0.6s,mb4.2,baz=124,slow=6.6,SNR=13						
ZAL	Zalesovo	66.34	336	P	P	14 07 12.9	-0.1
	1.5nm,0.6s,mb4.2,baz=334,slow=3.4,SNR=8.4						
BVAR	Borovoye Array	72.29	330	P	P	14 07 50.0	+0.2
	1.5nm,0.7s,mb4.0,baz=120,slow=8.5,SNR=7.1						
CHKZ	Chkalovo	72.54	330	P	P	14 07 49.3	-2.0
	2.7nm,0.9s,mb4.2						
ZRNK	Zerenda	72.95	329	eP	P	14 07 54.6	+0.8
	3.1nm,0.8s,mb4.3						

---

*PRU **01** 14:04:24.4, 5151N×1604E, h0km*

WAR 01 14:04:24.4, 5154N×1606E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	168	ePg	Pg	14 04 37.4	-0.7
KSP				eSg	Sg	14 04 46.8	-0.5
UPC	Upice	1.03	182	ePG	Pg	14 04 43.0	-1.2
DPC	Dobruska-Polom	1.20	172	ePG	Pg	14 04 46.0	-1.5
DPC				eSG	Sg	14 05 01.3	-1.8
	47nm,0.3s						
PVCC	Panska Ves	1.38	223	ePG	Pg	14 04 50.0	-0.9
PRU	Pruhonice	1.83	212	ePN	Pn	14 04 55.6	-1.5
PRU				ePG	Pg	14 04 57.2	-2.2
PRU				eSG	Sg	14 05 21.3	-1.9
	28nm,0.3s						
CLL	Collm	1.93	264	ePn	Pn	14 04 57.0	-1.4
CLL				ePg	Pg	14 04 59.0	-2.4
CLL				ix	x	14 05 07.4	
CLL				iSg	Sg	14 05 25.8	-0.5
	comp=Z,19nm,0.6s						
OKC	Ostrava-Krasne	2.16	141	eSG	Sg	14 05 31.2	-2.6
	comp=Z,28nm,0.7s						
NKC	Novy Kostel	2.63	242	ePN	Pn	14 05 07.4	-0.8
NKC				ePG	Pg	14 05 13.4	-1.5
NKC				eSG	Sg	14 05 48.1	-1.0
OJC	Ojcow	2.71	118	ePg	Pg	14 05 14.9	-1.5
OJC				eSg	Sg	14 05 50.8	-0.8
KHC	Kasperske Hory	2.89	214	ePN	Pn	14 05 09.8	-1.8
KHC				ePG	Pg	14 05 16.4	-3.4
KHC				eSN	Sn	14 05 45.3	-1.8
KHC				eSG	Sg	14 05 54.7	-2.5
	comp=Z,9.7nm,0.3s						
MOX	Moxa	2.94	254	ePG	Pg	14 05 18.9	-1.9
MOX				iSG	Sg	14 05 58.5	-0.4
VYHS	Vyhne	3.54	148	eSG	Sg	14 06 19.8	+1.8
BSD	Bornholm Skovb	3.65	350	iP	Pn	14 05 19.8	-2.3
BSD				iS	Sn	14 05 59.7	-6.1

---

*ISCJB **01** 14:45:11.3±0.5, 4457N±002×676E±004, h8km±12km, Error ellipse: s-maj=5.1km s-min=3.2km az=140.8*

*STR **01** 14:45:12.9±0.3, 4457N×687E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **01** 14:45:12.4±0.1, 4458N×677E, h2km, Md2.0/3, Ml2.0/7, Error ellipse: s-maj=1.6km s-min=0.9km az=84.0*

ISC 01 14:45:12.0±0.5**, 4458N**±002×**678E**±004**, h10km**±9km**, n14, σ0^{s}55**/26**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.15	358	ePg	Pg	14 45 15.5	+0.1
MBDF				eSg	Sg	14 45 17.8	+0.1
	26nm,0.2s						
TOUF	Mont Tournerai	0.66	149	Pg	Pg	14 45 24.5	-0.3
ORIF	Oris-en-Rattie	0.72	298	ePg	Pg	14 45 26.1	+0.1
ORIF				eSg	Sg	14 45 35.3	-0.2
	2.8nm,0.2s						
AUTN	L'Aution	0.75	141	Pg	Pg	14 45 26.3	-0.2
AUTN				Sg	Sg	14 45 36.2	0.0
LUCF	Luceram	0.80	149	Pg	Pg	14 45 27.2	-0.2
LUCF				Sg	Sg	14 45 37.8	-0.1
SBF	Sospel	0.86	146	ePg	Pg	14 45 28.6	0.0
SBF				eSg	Sg	14 45 39.7	0.0
	7.1nm,0.3s						
LPG	La Plagne	0.92	359	ePg	Pg	14 45 30.3	+0.5
LPG				eSg	Sg	14 45 41.7	0.0
	3.9nm,0.2s						
LPL	La Plagne	0.94	358	ePg	Pg	14 45 30.3	+0.2
LPL				eSg	Sg	14 45 42.4	+0.1
	3.9nm,0.3s						
FRF	La Foret Royal	1.02	185	ePg	Pg	14 45 31.2	-0.5
FRF	La Foret Royal	1.02	185	ePn	Pn	14 45 32.5	+0.1
FRF				eSg	Sg	14 45 44.4	-0.6
	4.5nm,0.2s						
SMRF	Simiane la Rot	1.05	236	ePg	Pg	14 45 32.5	+0.2
SMRF				eSg	Sg	14 45 45.7	-0.3
	8.3nm,0.5s						
TAVF	Tavernes	1.09	209	Pg	Pg	14 45 34.2	+1.2
TAVF				Sg	Sg	14 45 49.6	+2.4
LMR	La Mourre	1.26	189	ePg	Pg	14 45 36.1	-0.1
LMR				eSg	Sg	14 45 52.1	-0.5
	2.7nm,0.2s						
VIVF	Saint-Julien-l	1.53	281	ePg	Pg	14 45 40.7	-0.6
VIVF				eSg	Sg	14 46 00.5	-0.6
	0.9nm,0.2s						

---

*ISCJB **01** 14:57:49.9±0.3, 3204S±002×7004W±005, h116km±2km, mb4.4/24, Error ellipse: s-maj=6.7km s-min=3.5km az=172.0*

*BJI **01** 14:57:49.6, 3151S×7001W, h103km, mB5.1*

*GUC **01** 14:57:49.9±0.8, 3206S×70.18W, h126km±5km, MD4.2, ML4.4*

*NEIC **01** 14:57:50.6±0.3, 3207S×6998W, h108km±3km, mb4.6/16, MD4.2(GUC), Error ellipse: s-maj=6.4km s-min=4.1km az=89.0*

NEIC Felt [III] at Catemu, La Ligua and Petorca; [II] at Panquehue and San Estaban, Chile.

*IDC **01** 14:57:51.4±0.8, 3200S×6994W, h116km±5km, mb4.1/10, mb1 4.0/12, mb1mx4.0/18, mbtmp4.4/12, Error ellipse: s-maj=15.3km s-min=10.4km az=147.0*

ISC 01 14:57:50.9±0.3**, 3204S**±002×**7004W**±005**, h111km**±3km**, n88, σ0^{s}82**/97**, mb4.4**/24**, 10C-16D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTCH	Petorca	0.79	254	⇓iP	Pn	14 58 09.8	-0.3
PTCH				iS	Sn	14 58 24.6	0.0
PTCH				AML	AML	14 58 26.3	
	comp=N,47μm,0.2s						
PTCH	Petorca	0.79	254	⇓iP	Pn	14 58 09.8	-0.3
PTCH				iS	Sn	14 58 24.6	0.0
JACH	Jahuel	0.79	216	⇓iP	Pn	14 58 10.3	+0.2
CMCH	Combarbala	1.19	316	⇓iP	Pn	14 58 14.4	+0.2
CMCH				iS	Sn	14 58 32.6	+0.7
CMCH				AML	AML	14 58 33.6	
	comp=N,81μm,0.3s						
PEL	Peldehue	1.23	206	⇓iP	Pn	14 58 14.4	-0.2
PEL				iS	Sn	14 58 33.0	+0.5
PEL				AML	AML	14 58 35.7	
	comp=N,13μm,0.3s						
ROCH	El Roble	1.24	221	⇓iP	Pn	14 58 14.5	-0.2
ROCH				iS	Sn	14 58 32.8	+0.1
CHNG	Los Chungos	1.25	277	⇑iP	Pn	14 58 14.3	-0.6
CHNG				iS	Sn	14 58 32.5	-0.6
CHNG				AML	AML	14 58 39.0	
	comp=E,8μm,0.3s						
PACH	Papudo	1.28	247	⇑iP	Pn	14 58 14.4	-0.8
PACH				⇓iS	Sn	14 58 33.0	-0.6
FCH	Farellones	1.30	189	⇑iP	Pn	14 58 16.5	+1.1
FCH				iS	Sn	14 58 36.3	+2.3
FCH				AML	AML	14 58 37.1	
	comp=E,7μm,0.2s						
CLCH	Cerro Calan	1.41	197	⇑iP	Pn	14 58 16.9	+0.2
CLCH				iS	Sn	14 58 37.2	+0.9
CLCH				AML	AML	14 58 40.5	
	comp=N,7μm,0.3s						
CLCH				AML	AML	14 58 41.1	
	comp=N,8μm,0.3s						
DSCH	Colegio Aleman	1.42	198	⇑iP	Pn	14 58 16.6	-0.3
DSCH				iS	Sn	14 58 37.0	+0.5
DSCH				AML	AML	14 58 37.5	
	comp=E,1μm,0.3s						
LACH	Colegio Las Am	1.46	196	⇑iP	Pn	14 58 17.2	-0.1
LACH				iS	Sn	14 58 38.1	+0.7
LACH				AML	AML	14 58 41.9	
	comp=E,3μm,0.3s						
STL	Santa Lucia	1.48	200	⇓iP	Pn	14 58 17.1	-0.4
STL				iS	Sn	14 58 38.0	+0.3
STL				AML	AML	14 58 39.5	
	comp=N,2μm,0.2s						
SAN	Santiago	1.50	200	iS	Sn	14 58 38.8	+0.6
SAN				AML	AML	14 58 41.3	
	comp=E,5μm,0.4s						
CFAA	Coronel Fontan	1.59	75	P	Pn	14 58 19.0	+0.1
	comp=E,28nm,0.3s,baz=242,slow=9.1,SNR=1778						
CFAA				S	Sn	14 58 39.4	-0.8
	comp=E,180nm,0.3s,baz=240,slow=18,SNR=107						
ANTU	Antumapu	1.60	198	eP	Pn	14 58 19.0	0.0
ANTU				iS	Sn	14 58 40.9	+0.6
ANTU				AML	AML	14 58 42.0	
	comp=E,9μm,0.4s						
ANTU	Antumapu	1.60	198	eP	Pn	14 58 19.0	0.0
ANTU				iS	Sn	14 58 40.9	+0.6
SJCH	San Jose de Ma	1.61	189	⇑iP	Pn	14 58 19.2	+0.1
SJCH				iS	Sn	14 58 41.8	+1.2
SJCH				AML	AML	14 58 45.4	
	comp=E,3μm,0.5s						
PCH	Pirque	1.62	194	⇓iP	Pn	14 58 19.3	+0.1
PCH				iS	Sn	14 58 42.1	+1.3
IHA	Instituto Hidr	1.67	234	⇓iP	Pn	14 58 18.8	-1.0
IHA				iS	Sn	14 58 40.8	-1.0
OVCH	Ovalle	1.74	325	⇓iP	Pn	14 58 20.7	0.0
OVCH				iS	Sn	14 58 43.1	-0.3
OVCH				AML	AML	14 58 45.8	
	comp=E,8μm,0.1s						
TACH	Talagante	1.77	205	⇑iP	Pn	14 58 20.5	-0.6
LCCH	Las Cruces	1.92	222	⇑iP	Pn	14 58 22.2	-0.8
CHCH	Chadas Angostu	1.95	195	⇑iP	Pn	14 58 23.1	-0.2
CHCH				iS	Sn	14 58 48.9	+0.7
CACH	El Canelo	2.12	193	eP	Pn	14 58 25.9	+0.4
LNV	Longovilo	2.23	211	⇓iP	Pn	14 58 25.4	-1.4
LNV				iS	Sn	14 58 52.1	-2.2
CICH	Cipreses	2.29	188	⇓iP	Pn	14 58 27.8	+0.1
LSCH	La Serena	2.37	334	eP	Pn	14 58 28.3	-0.3
LSCH				iS	Sn	14 58 56.6	-1.0
LSCH				AML	AML	14 58 59.6	
	comp=E,324nm,0.4s						
LSCH	La Serena	2.37	334	eP	Pn	14 58 28.3	-0.3
LSCH				iS	Sn	14 58 56.6	-1.0
SFDO	San Fernando	2.69	197	⇓iP	Pn	14 58 31.9	-0.9
NICH	Los Niches	3.11	198	⇓iP	Pn	14 58 37.3	-1.1
VACH	Vallenar	3.51	350	⇓iP	Pn	14 58 45.6	+1.8
VACH				iS	Sn	14 59 25.9	+1.4
TRQA	Tornquist	8.92	134	ePn	Pn	14 59 54.5	-2.4
	comp=E,68nm,0.7s						
TRQA				eSn	Sn	15 01 29.6	-5.9
CPUP	Villa Florida	12.47	66	P	Pn	15 00 40.5	-4.0
	comp=E,1.2nm,0.3s,baz=223,slow=12,SNR=11						
CPUP	Villa Florida	12.47	66	ePn	Pn	15 00 39.2	-5.3
	comp=E,25nm,0.4s						
LPAZ	La Paz	15.78	7	P	Pn	15 01 27.9	+1.0
	comp=E,0.1nm,0.3s,baz=171,slow=10,SNR=11						
LPAZ	La Paz	15.78	7	ePn	Pn	15 01 27.8	+1.0
	comp=E,10nm,1.0s						
LPAZ				eSn	Sn	15 04 16.2	-5.4
SIV	San Ignacio	17.94	29	P	Pn	15 01 51.2	-2.0
	comp=E,0.3nm,0.3s,baz=218,slow=14,SNR=8.9						
EFI	East Falkland	21.50	159	eP	P	15 02 28.8	-1.9
	comp=E,20nm,0.7s,mb4.5						
USHA	Ushuaia	22.81	178	P	P	15 02 44.1	-0.2
	comp=E,42nm,1.0s,mb4.7,baz=326,slow=4.7,SNR=9.9						
SAML	Samuel	23.84	17	eP	P	15 02 54.7	+0.8
	comp=E,1.1nm,0.6s,mb3.4						
SAML				e		15 03 18.1	
BDFB	Brasilia	25.85	56	P	P	15 03 11.2	-0.7
	comp=E,2.7nm,0.5s,mb3.9,baz=282,slow=8.0,SNR=4.7						
PMSA	Palmer Station	32.97	175	P	P	15 04 14.7	-0.3
	comp=E,6.8nm,0.8s,mb4.5,baz=59,slow=3.5,SNR=3.8						
VNA3	Neumayer Olymp	50.55	159	e	P	15 06 37.9	-0.1
VNA3				e		15 06 41.2	
SNAA	Sanae	52.77	159	P	P	15 06 54.3	-0.2
	comp=E,3.8nm,0.7s,mb4.6,baz=282,slow=6.9,SNR=88						
SNAA	Sanae	52.77	159	e	P	15 06 54.1	-0.4
SNAA				e		15 06 55.3	
QSPA	South Pole Qui	58.19	180	eP	P	15 07 33.6	+0.3
	comp=E,12nm,0.8s,mb5.0						
VNDA	Vanda	66.34	191	P	P	15 08 27.8	+0.2
	comp=E,0.9nm,0.7s,mb3.7,baz=136,slow=7.6,SNR=5.7						
JCT	Junction City	68.29	333	eP	P	15 08 39.8	-0.1
	comp=E,16nm,0.9s,mb4.9						
SWET	Sewanee	68.55	346	eP	P	15 08 41.2	-0.3
WVT	Waverly	69.84	345	eP	P	15 08 43.8	-5.7
	comp=E,30nm,0.8s,mb5.2						
WMOK	Wichita Mounta	71.72	335	eP	P	15 09 00.0	-0.8
	comp=E,10nm,1.4s,mb4.5						
ACSO	Alum Creek Sta	72.90	350	eP	P	15 09 07.3	-0.6
	comp=E,9.7nm,0.8s,mb4.7						
DBIC	Dimbokro	72.95	71	P	P	15 09 07.6	-0.6
	comp=E,3.3nm,1.0s,mb4.1,baz=186,slow=6.6,SNR=3.5						
DBIC	Dimbokro	72.95	71	P	P	15 09 07.6	-0.6
MAW	Mawson	74.57	163	P	P	15 09 17.7	+0.1
	comp=E,5.7nm,0.8s,mb4.4,baz=214,slow=8.0,SNR=11						
MAW	Mawson	74.57	163	eP	P	15 09 17.1	-0.5
MAW				ePcP	PcP	15 09 32.6	+1.1
ANMO	Albuquerque	74.91	330	eP	P	15 09 20.4	+0.8
	comp=E,3.6nm,0.9s,mb4.1						
PV01	Paradox Valley	78.51	330	eP	P	15 09 40.5	+0.6
BOSA	Boshof	79.48	117	P	P	15 09 45.4	+0.2
	comp=E,3.4nm,0.8s,mb4.2,baz=151,slow=6.1,SNR=5.2						
PHWY	Pilot Hill	79.96	334	eP	P	15 09 48.5	+0.7
MSU	Marysvale	80.41	328	eP	P	15 09 51.5	+1.3
LBTB	Lobatse	81.58	114	eP	P	15 09 56.2	-0.1
	comp=E,3.0nm,0.6s,mb4.3						
RSSD	Black Hills	81.91	336	eP	P	15 09 58.5	+0.5
	comp=E,5.8nm,0.7s,mb4.5						
TORD	Torodi Ar. Bea	81.95	69	P	P	15 09 58.5	+0.2
	comp=E,3.0nm,0.7s,mb4.2,baz=260,slow=4.7,SNR=15						
TORD				pP	pP	15 10 26.9	+0.2
	comp=E,4.8nm,1.0s,baz=262,slow=5.1,SNR=7.2						
CASY	Casey	81.99	180	eP	P	15 09 58.4	-0.1
	comp=E,11nm,0.9s,mb4.7						
HWUT	Hardware Ranch	82.67	330	eP	P	15 10 02.1	+0.1
	comp=E,5.2nm,0.7s,mb4.5						
PDAR	Pinedale Array	82.81	332	P	P	15 10 02.8	+0.1
	comp=E,1.4nm,0.7s,mb3.9,baz=133,slow=6.1,SNR=8.3						
HLID	Hailey	85.49	329	eP	P	15 10 17.1	+0.8
	comp=E,6.0nm,1.1s,mb4.4						
MCMT	McKenzie Canyo	85.85	331	eP	P	15 10 18.8	+0.7
LSZ	Lusaka	88.80	107	eP	P	15 10 33.9	+1.6
	comp=E,2.7nm,0.8s,mb4.3						
AKASG	Malin Array Be	119.63	46	PKP	PKPdf	15 16 25.8	-1.9
	comp=E,0.7nm,0.6s,baz=258,slow=3.0,SNR=6.9						
ASAR	Alice Springs	120.06	205	PKP	PKPdf	15 16 27.8	-0.8
	comp=E,0.8nm,0.8s,baz=136,slow=2.0,SNR=9.5						
ASAR				pPKP	pPKPdf	15 17 01.8	+3.1
	comp=E,0.2nm,0.5s,baz=146,slow=1.8,SNR=2.6						
FINES	FINESS Array B	120.43	34	PKP	PKPdf	15 16 27.6	-1.6
	comp=E,0.6nm,0.5s,baz=191,slow=1.4,SNR=4.5						
WRA	Warramunga Arr	123.28	208	PKP	PKPdf	15 16 34.4	-0.3
	comp=E,1.6nm,0.7s,baz=161,slow=1.8,SNR=39						
WRA				pPKP	pPKPdf	15 17 07.2	+2.4
	comp=E,0.3nm,0.4s,baz=156,slow=1.7,SNR=3.5						
ZRNK	Zerenda	143.94	42	eP	PKPdf	15 17 11.2	-2.0
CHKZ	Chkalovo	144.60	41	eP	PKPdf	15 17 13.1	-1.2
ZAL	Zalesovo	151.68	32	PKPbc	PKPbc	15 17 31.2	-1.1
	comp=E,11nm,0.6s,baz=158,slow=3.3,SNR=49						
MKAR	Makanchi Array	154.21	47	PKPbc	PKPbc	15 17 37.5	-0.4
	comp=E,2.0nm,0.7s,baz=306,slow=2.3,SNR=8.7						
MKAR				PKPab	PKPab	15 17 51.7	-0.4
	comp=E,0.8nm,0.5s,baz=312,slow=4.6,SNR=6.2						
MKAR				pPKPbc	pPKPbc	15 18 08.1	+0.2
	comp=E,0.4nm,0.2s,baz=29,slow=3.3,SNR=1.5						
MKAR				pPKPab	pPKPab	15 18 22.4	+1.2
	comp=E,0.5nm,0.3s,baz=299,slow=5.0,SNR=2.6						
MJAR	Matsushiro Arr	156.27	289	PKPab	PKPab	15 18 01.6	+0.7
	comp=E,3.5nm,1.1s,baz=61,slow=2.7,SNR=5.1						
WMQ	Urumqi	158.94	50	ePKP	PKPdf	15 17 36.0	+0.3
CN2	Changchun	163.09	318	ePKP	PKPdf	15 17 40.5	+0.4
SONM	Songino Array	164.00	9	PKPab	PKPab	15 18 34.8	+0.2
	comp=E,0.9nm,0.7s,baz=20,slow=4.7,SNR=4.1						
SONM				pPKPab	pPKPab	15 19 05.1	+1.5
	comp=E,0.7nm,0.8s,baz=145,slow=5.4,SNR=3.1						
GTA	Gaotai	168.96	45	ePKP	PKPdf	15 17 45.2	+0.4
KMI	Kunming	170.63	136	PKP	PKPdf	15 17 46.3	+0.6
HHC	Hu-ho-hao-te	171.12	352	ePKP	PKPdf	15 17 46.0	0.0
HHC				PKP2	PKPab	15 19 08.1	+2.1
HHC				PKS		15 21 17.4	
HHC				PP	PP	15 22 59.2	+2.5
HHC				LR	LR		
	comp=N,82nm,5.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC				LR	LR		
	comp=E,94nm,3.7s						
HHC				LR	LR		
	comp=Z,83nm,4.8s						
LZH	**Lanzhou**	**173.52**	**50**	*e*PKP	PKPdf	15 17 48.5	+1.4
LZH				LR	LR		
	comp=N,156nm,19.6s						
LZH				LR	LR		
	comp=Z,245nm,20.4s						
CD2	**Chengdu**	**174.58**	**100**	*e*PKP	PKPdf	15 17 45.8	-1.6

---

*ISCJB **01** 15:07:48.8±1.2, 1946N±004×7795W±006, h13km±8km, Error ellipse: s-maj=10.9km s-min=5.7km az=46.7*
*SSNC **01** 15:07:49.9, 1945N×78.11W, h26km, MD3.3, ML2.7*
*JSN **01** 15:07:51.4±1.1, 1941N×7787W, h7km±11km, MD3.7*
ISC 01 15:07:49.0±1.1**, 1942N**±004×**7796W**±007**, h9**km±6km**, n11,** σ**1§13**/19**, 4C-1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.01**	**175**	⇑*i*P	**Pg**	**15 08 08.6**	**+0.2**
MBJ				*i* S	**Sg**	**15 08 21.8**	**+0.2**
LMGC	**Las Mercedes**	**1.10**	**54**	*i* PG	**Pg**	**15 08 10.0**	**-0.2**
LMGC				*i* SG	**Sg**	**15 08 23.7**	**-0.9**
	comp=N,979nm,0.1s						
LMGC				*e*			
	comp=E,797nm,0.1s						
BBJ	**Bamboo Saint A**	**1.22**	**147**	⇑*e*P	**Pn**	**15 08 12.2**	**0.0**
BBJ				*e*S	**Sb**	**15 08 27.7**	**-0.3**
STH	**Stony Hill**	**1.72**	**141**	⇑*e*P	**Pn**	**15 08 19.2**	**+0.2**
STH				*e*S	**Sn**	**15 08 39.6**	**-1.5**
GWJ	**Greenwich**	**1.77**	**139**	*i* S	**Sn**	**15 08 41.0**	**-1.4**
PCJ	**Portland Cotta**	**1.83**	**155**	⇓*i*P	**Pn**	**15 08 21.5**	**+0.9**
PCJ				*i* S	**Sn**	**15 08 44.5**	**+0.6**
CMJ	**Castle Mountai**	**1.97**	**130**	⇑*e*P	**Pn**	**15 08 22.8**	**+0.3**
RCC	**Rio Carpintero**	**2.21**	**75**	*e*PG	**Pn**	**15 08 24.9**	**-0.9**
RCC				*e*SG	**Sn**	**15 08 50.5**	**-2.6**
	comp=N,38nm,0.5s						
RCC				*e*			
	comp=E,38nm,0.2s						
MOAC	**Moa**	**3.08**	**66**	*e*PG	**Pn**	**15 08 39.5**	**+1.8**
MOAC				*e*SG	**Sn**	**15 09 15.3**	**+0.7**
	comp=N,12nm,0.1s						
MOAC				*e*			
	comp=E,12nm,0.0s						
MGV	**Manicaragua**	**3.28**	**325**	*e*P	**Pn**	**15 08 39.1**	**-1.5**
MASC	**Masc**	**3.59**	**77**	*e*PG	**Pn**	**15 08 46.8**	**+2.0**
MASC				*e*SG	**Sn**	**15 09 29.0**	**+1.7**
	comp=N,1.1nm,0.3s						
MASC				*e*			
	comp=E,1.2nm,0.3s						

---

*CSEM **01** 15:12:38.6±0.1, 4245N×1327E, h12km, ML2.7/4, Error ellipse: s-maj=1.2km s-min=1.0km az=56.0*
*ROM **01** 15:12:38.8±0.1, 4244N×1325E, h2km, Md3.2/27, Ml3.1/25, Error ellipse: s-maj=1.6km s-min=1.4km az=35.0*
*ISCJB **01** 15:12:39.7±0.3, 4248N±002×13.19E±002, h19km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=36.8*
*NEIC **01** 15:12:41.0, 4224N×1329E, h10km, ML3.0(LDG), After LDG.*
*LDG **01** 15:12:41.0±0.2, 4224N×1329E, h10km, Ml3.0/15, Error ellipse: s-maj=5.4km s-min=3.6km az=60.0*
ISC 01 15:12:39.8±0.2**, 4244N**±002×**1323E**±002**, h11**km±2km**, n67,** σ**1§16**/107**, 18C-9D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIAM	**Fiamignano**	**0.19**	**207**	⇑*e*Pg	**Pg**	**15 12 44.1**	**+0.2**
FIAM				Sg	**Sg**	**15 12 46.4**	**-0.3**
	8μm,0.8s						
LNSS	**Leonessa**	**0.22**	**319**	⇑*e*Pg	**Pg**	**15 12 44.4**	**+0.1**
LNSS				Sg	**Sg**	**15 12 47.9**	**+0.5**
	17μm,0.6s						
FAGN	**Fagnano**	**0.31**	**124**	⇓*e*Pg	**Pg**	**15 12 46.0**	**-0.1**
FAGN				Sg	**Sg**	**15 12 50.4**	**+0.1**
	11μm,0.3s						
TERO	**Teramo**	**0.33**	**56**	⇑*e*Pg	**Pg**	**15 12 45.5**	**-0.8**
TERO				Sg	**Sg**	**15 12 50.2**	**-0.6**
	4μm,0.4s						
MNS	**Montasola**	**0.41**	**262**	⇑*e*Pg	**Pg**	**15 12 47.8**	**-0.1**
MNS				Sg	**Sg**	**15 12 55.3**	**+1.9**
	1μm,0.5s						
VCEL	**Villa Celiera**	**0.45**	**96**	⇓*e*Pg	**Pg**	**15 12 48.1**	**-0.5**
VCEL				Sg	**Sg**	**15 12 56.0**	**+1.4**
	5μm,0.3s						
CERT	**Cerreto**	**0.53**	**201**	⇑*e*Pg	**Pg**	**15 12 49.6**	**-0.4**
CERT				Sg	**Sg**	**15 12 57.6**	**+0.6**
	1μm,0.5s						
MTCE	**Montecelio**	**0.56**	**221**	⇑*e*Pg	**Pg**	**15 12 50.2**	**-0.4**
MTCE				Sg	**Sg**	**15 13 00.8**	**+2.9**
	805nm,0.6s						
VVLD	**Villa Vallelon**	**0.64**	**153**	⇑*e*Pg	**Pg**	**15 12 51.2**	**-1.0**
VVLD				Sg	**Sg**	**15 13 03.8**	**+3.3**
	2μm,0.5s						
GUAR	**Guarcino**	**0.65**	**175**	⇑*e*Pg	**Pg**	**15 12 52.6**	**+0.2**
GUAR				Sg	**Sg**	**15 13 03.6**	**+2.7**
	627nm,0.5s						
INTR	**Introdacqua**	**0.66**	**131**	Pg	**Pg**	**15 12 50.9**	**-1.6**
INTR				Sg	**Sg**	**15 13 03.9**	**+2.8**
	2μm,0.6s						
ASS	**Assisi**	**0.76**	**326**	⇑*e*Pg	**Pg**	**15 12 54.0**	**-0.4**
ASS				Sg	**Sg**	**15 13 06.0**	**+1.8**
	26nm,0.3s						
GIUL	**Giuliano Di Ro**	**0.88**	**179**	⇑*e*Pg	**Pg**	**15 12 56.6**	**-0.2**
	432nm,0.5s						
CING	**Cingoli**	**0.93**	**358**	⇑*e*Pg	**Pg**	**15 12 56.9**	**-0.9**
CING				Sg	**Sg**	**15 13 11.8**	**+1.8**
	851nm,0.4s						
TOLF	**Tolfa**	**0.99**	**248**	Pg	**Pg**	**15 12 57.9**	**-0.9**
	488nm,0.6s						
RNI2	**Rionero Sannit**	**1.01**	**137**	Pg	**Pg**	**15 12 59.2**	**+0.1**
	836nm,0.7s						
CERA	**Filignano**	**1.03**	**145**	Pg	**Pg**	**15 12 59.1**	**-0.4**
	677nm,0.6s						
SACS	**San Casciano d**	**1.06**	**293**	Pg	**Pg**	**15 12 59.9**	**-0.2**
	579nm,1.2s						
LATE	**Laterza**	**1.07**	**280**	Pg	**Pg**	**15 13 00.1**	**-0.3**
	58nm,0.6s						
MIDA	**Miranda**	**1.10**	**136**	Pg	**Pg**	**15 12 59.9**	**-1.1**
	351nm,0.6s						
AOI	**Ancona**	**1.14**	**14**	Pg	**Pg**	**15 13 00.5**	**-1.2**
	513nm,0.3s						
FRES	**Fresagrandinar**	**1.16**	**113**	Pg	**Pg**	**15 13 01.0**	**-1.2**
	630nm,1.0s						
VAGA	**Valle Agricola**	**1.27**	**144**	Pg	**Pg**	**15 13 04.4**	**+0.3**
	212nm,0.5s						
BADI	**Badiali**	**1.29**	**326**	Pg	**Pg**	**15 13 04.5**	**-0.1**
	466nm,0.7s						
ARCI	**Arcidosso**	**1.36**	**288**	Pg	**Pg**	**15 13 05.2**	**-0.7**
	71nm,0.8s						
CRE	**Caprese Michel**	**1.51**	**322**	Pg	**Pg**	**15 13 07.7**	**-1.0**
	45nm,0.3s						
MAON	**Monte Argentar**	**1.56**	**270**	Pg	**Pg**	**15 13 07.0**	**-2.7**
	126nm,0.8s						
RSM	**Repubblica di**	**1.59**	**339**	Pg	**Pg**	**15 13 10.8**	**+0.4**
CSNT	**Castellina Chi**	**1.76**	**307**	Pg	**Pg**	**15 13 11.7**	**-1.8**
	49nm,0.5s						
SFI	**Santa Sofia**	**1.78**	**326**	Pg	**Pg**	**15 13 10.8**	**-3.1**
	285nm,1.3s						
RGNG	**Rignano Grg**	**1.91**	**113**	Pg	**Pg**	**15 13 14.8**	**-1.6**
SGRT	**San Giovanni R**	**1.99**	**109**	Pg	**Pg**	**15 13 15.2**	**-2.7**
MSAG	**Monte S. Angel**	**2.12**	**109**	Pg	**Pg**	**15 13 17.5**	**-2.9**
NVLJ	**Novalja**	**2.43**	**29**	*i* Pn	**Pn**	**15 13 19.4**	**-0.1**
NVLJ				*i* Sn	**Sn**	**15 13 49.1**	**-0.1**
NVLJ	**Novalja**	**2.43**	**29**	*i* Pn	**Pn**	**15 13 19.3**	**-0.2**
NVLJ				*i* Sn	**Sn**	**15 13 49.1**	**-0.1**
VOY	**Vojsko**	**3.62**	**7**	*e*Pn	**Pn**	**15 13 35.8**	**0.0**
VOY				*e*Sn	**Sn**	**15 14 19.7**	**+1.2**
OBKA	**Obir**	**4.17**	**13**	⇑*i*Sn	**Sn**	**15 14 31.7**	**-0.5**
OBKA	**Obir**	**4.17**	**13**	⇓*i*Pn	**Pn**	**15 13 44.2**	**+0.8**
OBKA				⇑*i*Sn	**Sn**	**15 14 33.0**	**+0.9**
OBKA	**Obir**	**4.17**	**13**	⇓*i*Pn	**Pn**	**15 13 44.2**	**+0.8**
OBKA				*i* Sn	**Sn**	**15 14 31.7**	**-0.5**
SBF	**Sospel**	**4.47**	**290**	*e*Pn	**Pn**	**15 13 48.5**	**+1.0**
SBF				*e*Sn	**Sn**	**15 14 38.6**	**-1.0**
	4.1nm,0.3s						
SBF	**Sospel**	**4.47**	**290**	*e*Pn	**Pn**	**15 13 48.5**	**+1.0**
SBF				*e*Sn	**Sn**	**15 14 38.6**	**-1.0**
	2.0nm,0.3s						
KBA	**Koelnbreinsper**	**4.64**	**1**	⇓*i*Pn	**Pn**	**15 13 51.0**	**+1.2**
KBA				⇓*i*Sn	**Sn**	**15 14 43.9**	**+0.3**
WTTA	**Wattenberg**	**4.95**	**347**	⇑*i*Pn	**Pn**	**15 13 55.7**	**+1.6**
WTTA				⇓*i*Sn	**Sn**	**15 14 52.8**	**+1.4**
FRF	**La Foret Royal**	**4.96**	**285**	*e*Pn	**Pn**	**15 13 54.8**	**+0.6**
FRF				*e*Sn	**Sn**	**15 14 49.6**	**-1.9**
	2.1nm,0.4s						
FRF	**La Foret Royal**	**4.96**	**285**	*e*Pn	**Pn**	**15 13 54.8**	**+0.6**
FRF				*e*Sn	**Sn**	**15 14 49.6**	**-1.9**
	1.0nm,0.4s						
LMR	**La Mourre**	**5.02**	**283**	*e*Pn	**Pn**	**15 13 55.7**	**+0.7**
LMR				*e*Sn	**Sn**	**15 14 51.4**	**-1.7**
	2.9nm,0.4s						
LMR	**La Mourre**	**5.02**	**283**	*e*Pn	**Pn**	**15 13 55.7**	**+0.7**
LMR				*e*Sn	**Sn**	**15 14 51.4**	**-1.7**
	1.5nm,0.4s						
MBDF	**Montbardon**	**5.22**	**298**	*e*Pn	**Pn**	**15 13 59.3**	**+1.5**
MBDF				*e*Sn	**Sn**	**15 14 57.6**	**-0.4**
	1.9nm,0.3s						
MOA	**Molln**	**5.46**	**7**	⇓*i*Sn	**Sn**	**15 15 01.9**	**-1.9**
MOA	**Molln**	**5.46**	**7**	⇑*i*Pn	**Pn**	**15 14 01.8**	**+0.7**
MOA				⇑*i*Sn	**Sn**	**15 15 05.1**	**+1.3**
MOA	**Molln**	**5.46**	**7**	⇑*i*Pn	**Pn**	**15 14 01.8**	**+0.7**
MOA				*i* Sn	**Sn**	**15 15 01.9**	**-1.9**
LPG	**La Plagne**	**5.59**	**305**	*e*Pn	**Pn**	**15 14 04.6**	**+1.8**
LPG				*e*Sn	**Sn**	**15 15 06.5**	**-0.5**
	3.8nm,0.4s						
LPL	**La Plagne**	**5.61**	**305**	*e*Pn	**Pn**	**15 14 04.6**	**+1.5**
LPL				*e*Sn	**Sn**	**15 15 06.5**	**-1.0**
	4.5nm,0.4s						
CONA	**Conrad Observa**	**5.79**	**18**	⇓*i*Pn	**Pn**	**15 14 06.1**	**+0.4**
CONA				⇑*i*Sn	**Sn**	**15 15 11.0**	**-1.1**
SMRF	**Simiane la Rot**	**5.80**	**288**	*e*Pn	**Pn**	**15 14 06.6**	**+0.8**
SMRF				*e*Sn	**Sn**	**15 15 10.7**	**-1.7**
	2.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**5.88**	**297**	*e*Pn	**Pn**	**15 14 08.0**	**+1.2**
ORIF				*e*Sn	**Sn**	**15 15 13.3**	**-0.9**
	3.3nm,0.5s						
CABF	**La Chapelle**	**6.59**	**312**	*e*Pn	**Pn**	**15 14 17.9**	**+1.3**
VIVF	**Saint-Julien-l**	**6.66**	**294**	*e*Pn	**Pn**	**15 14 18.6**	**+1.0**
VIVF				*e*Sn	**Sn**	**15 15 31.9**	**-1.6**
	1.1nm,0.3s						
HINF	**Hinteralfeld**	**7.02**	**322**	*e*Pn	**Pn**	**15 14 24.0**	**+1.5**
HINF				*e*Sn	**Sn**	**15 15 41.0**	**-1.2**
	7.0nm,0.5s						
CDF	**Champ du Feu**	**7.29**	**327**	*e*Pn	**Pn**	**15 14 27.1**	**+0.8**
CDF				*e*Sn	**Sn**	**15 15 47.8**	**-1.2**
	3.7nm,0.4s						
HAU	**Haudompre**	**7.39**	**321**	*e*Pn	**Pn**	**15 14 28.8**	**+1.3**
HAU				*e*Sn	**Sn**	**15 15 49.9**	**-1.4**
	6.3nm,0.3s						
MTLF	**Montolieu**	**8.14**	**280**	*e*Pn	**Pn**	**15 14 37.3**	**-0.6**
MTLF				*e*Sn	**Sn**	**15 16 05.5**	**-4.4**
	0.6nm,0.3s						
LOR	**Lormes**	**8.22**	**309**	*e*Pn	**Pn**	**15 14 39.8**	**+0.8**
MEZF	**Maizieres J'vi**	**8.35**	**319**	*e*Pn	**Pn**	**15 14 41.8**	**+1.0**
LFF	**La Frestale**	**9.39**	**290**	*e*Pn	**Pn**	**15 14 55.5**	**+0.5**
LFF				*e*Sn	**Sn**	**15 16 35.9**	**-4.7**
	3.2nm,0.4s						
GIVF	**Givet**	**9.62**	**326**	*e*Pn	**Pn**	**15 14 59.2**	**+1.1**
BAIF	**Baives**	**9.85**	**324**	*e*Pn	**Pn**	**15 15 01.9**	**+0.6**

---

*IDC **01** 15:20:07.1±1.1, 8.11S×15435E, h0km, mb3.9/5, mb1 4.1/7, mb1mx4.0/15, mbtmp4.0/7, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx2.9/29, Error ellipse: s-maj=37.7km s-min=23.9km az=151.0*
*NEIC **01** 15:20:09.6±6.8, 8.19S×15440E, h18km±44km, mb4.3/4, Error ellipse: s-maj=28.9km s-min=12.2km az=167.0*
*ISCJB **01** 15:20:11.0±2.3, 8.1S±0.1×15423E±006, h33km±22km, mb4.0/8, MS4.0/1, Error ellipse: s-maj=24.0km s-min=10.6km az=169.8*
ISC 01 15:20:14.3±1.8**, 81S**±01×**15421E**±007**, h47**km±18km**, n20,** σ**0§94**/20**, mb4.0**/8**, MS4.0**/1**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.82**	**104**	Pn	**Pn**	**15 21 32.1**	**-5.9**
	12nm,0.3s,baz=58,slow=0.5,SNR=5.6						
HNR				Sn	**Sn**	**15 22 43.5**	**+0.2**
	16nm,0.3s,baz=279,slow=23,SNR=5.9						
HNR				LR	LR	15 23 21.2	
	comp=Z,372nm,19.6s,baz=1.4,slow=34						
HNR	**Honiara**	**5.82**	**104**	*e*Pn	**Pn**	**15 21 31.7**	**-6.3**
HNR				*e*Sn	**Sn**	**15 22 41.6**	**-1.8**
HNR				Sn	**Sn**	**15 22 43.5**	**+0.2**
PMG	**Port Moresby**	**7.09**	**259**	Pn	**Pn**	**15 21 56.2**	**+0.7**
	1.0nm,0.3s,baz=25,slow=6.8,SNR=4.4						
PMG				Sn	**Sn**	**15 23 25.4**	**+11**
	1.1nm,0.3s,baz=338,slow=22,SNR=1.8						
PMG				LR	LR	15 24 40.6	
	comp=Z,393nm,18.7s,baz=247,slow=38						
KAKA	**Kakadu**	**21.90**	**256**	*e*P	**P**	**15 25 01.7**	**-1.6**
	12nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**22.55**	**236**	*e*P	**P**	**15 25 10.5**	**+0.3**
	7.7nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**22.55**	**236**	*e*P	**P**	**15 25 10.7**	**+0.5**
WRA	**Warramunga Arr**	**22.56**	**236**	P	**P**	**15 25 10.9**	**+0.6**
	2.8nm,1.0s,mb3.6,baz=59,slow=9.6,SNR=13						
AS31	**Alice Springs**	**24.87**	**229**	*e*P	**P**	**15 25 31.4**	**-1.0**
ASAR	**Alice Springs**	**24.87**	**229**	P	**P**	**15 25 31.6**	**-0.8**
	1.0nm,0.8s,mb3.4,baz=60,slow=9.9,SNR=12						
ASPA	**Alice Springs**	**24.87**	**229**	*e*P	**P**	**15 25 31.6**	**-0.8**
STKA	**Stephens Creek**	**26.42**	**205**	*e*P	pP	15 25 54.1	-4.5
	3.5nm,1.0s						
STKA	**Stephens Creek**	**26.42**	**205**	*e*P	**P**	**15 25 48.2**	**+1.8**
FITZ	**Fitzroy Crossi**	**29.51**	**247**	*e*P	**P**	**15 26 20.2**	**+6.1**
	2.6nm,0.6s,mb4.1						
PPT	**Papeete**	**55.44**	**106**	LR	LR	15 49 36.5	
	comp=Z,118nm,18.9s,MS4.0,baz=220,slow=32						
ULN	**Ulaanbaatar**	**69.52**	**328**	P	pP	15 31 27.2	-4.2
	3.5nm,1.1s						
SONM	**Songino Array**	**69.84**	**328**	P	**P**	**15 31 19.6**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=142,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**83.72**	**319**	P	**P**	**15 32 38.2**	**0.0**
	0.4nm,0.2s,mb4.1,baz=90,slow=6.5,SNR=5.3						
MKAR	**Makanchi Array**	**83.72**	**319**	P	**P**	**15 32 38.2**	**0.0**
NVAR	**Mina Array Bea**	**93.01**	**52**	P	**P**	**15 33 23.9**	**+1.2**
	1.0nm,0.9s,mb4.2,baz=254,slow=4.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**152.54**	**283**	PKPbc	PKPbc	15 40 07.2	+1.8
	0.5nm,0.7s,baz=129,slow=3.9,SNR=3.4						

---

*IDC **01** 15:35:10.6±2.4, 1382N×14466E, h116km±6km, mb3.9/6, mb1 4.0/6, mb1mx3.6/21, mbtmp4.3/6, Error ellipse: s-maj=47.9km s-min=37.3km az=177.0*
*ISCJB **01** 15:35:11.2±3.3, 136N±06×1446E±03, h122km±19km, mb4.3/9, Error ellipse: s-maj=102.7km s-min=41.9km az=4.0*
*NEIC **01** 15:35:12.6±2.5, 1351N×14467E, h112km±26km, mb4.4/6, Error ellipse: s-maj=87.3km s-min=23.4km az=180.0*
ISC 01 15:35:12.3±3.9**, 136N**±07×**1447E**±03**, h118**km±18km**, n17,** σ**0§34**/19**, mb4.3**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.20**	**105**	P	**Pn**	**15 35 28.3**	**-0.4**
	2μm,0.3s,baz=38,slow=0.8,SNR=1152						
GUMO				S	**Sn**	**15 35 41.2**	**+0.3**
	776nm,0.3s,baz=340,slow=23,SNR=85						
GUMO	**Guam**	**0.20**	**105**	P	**Pn**	**15 35 28.3**	**-0.4**
GUMO				S	**Sn**	**15 35 41.2**	**+0.3**
PMG	**Port Moresby**	**23.03**	**174**	P	**P**	**15 40 06.6**	**-0.5**
	14nm,0.9s,mb4.3						
KAKA	**Kakadu**	**28.85**	**205**	*e*P	**P**	**15 40 59.2**	**-0.3**
	1.6nm,0.5s,mb3.9						
CTA	**Charters Tower**	**33.55**	**177**	P	**P**	**15 41 41.4**	**+0.5**
	2.7nm,0.4s,mb4.4,baz=348,slow=9.0,SNR=5.5						
CTAO	**Charters Tower**	**33.55**	**177**	P	**P**	**15 41 41.1**	**+0.3**
	3.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**34.88**	**197**	*e*P	**P**	**15 41 52.3**	**+0.1**
	4.8nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**34.88**	**197**	*e*P	**P**	**15 41 52.3**	**0.0**
WRA	**Warramunga Arr**	**34.89**	**197**	P	**P**	**15 41 52.4**	**+0.1**
	2.7nm,0.5s,mb4.3,baz=16,slow=9.1,SNR=47						
WRA				ScP	ScP	15 47 54.5	-2.6
	0.6nm,0.8s,baz=19,slow=3.9,SNR=5.7						
FITZ	**Fitzroy Crossi**	**36.71**	**211**	*e*P	**P**	**15 42 08.5**	**+0.7**
	4.2nm,1.2s,mb4.2						
FITZ	**Fitzroy Crossi**	**36.71**	**211**	P	**P**	**15 42 08.3**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=78,slow=15,SNR=9.3						
AS31	**Alice Springs**	**38.54**	**196**	*e*P	**P**	**15 42 23.3**	**0.0**
ASAR	**Alice Springs**	**38.55**	**196**	P	**P**	**15 42 23.4**	**0.0**
	0.6nm,0.4s,mb3.8,baz=19,slow=6.4,SNR=51						
ASPA	**Alice Springs**	**38.55**	**196**	*e*P	**P**	**15 42 23.3**	**0.0**
DZM	**Mont Dzumac**	**41.42**	**149**	P	**P**	**15 42 47.4**	**+0.3**
	9.7nm,0.5s,mb4.9,baz=84,slow=18,SNR=18						
STKA	**Stephens Creek**	**45.35**	**184**	*e*P	**P**	**15 43 18.0**	**-0.6**
	2.3nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**45.35**	**184**	P	**P**	**15 43 18.1**	**-0.5**
	3.1nm,0.6s,mb4.2,baz=356,slow=8.1,SNR=13						

---

*IDC **01** 15:52:34.1±0.5, 2551S×7072W, h0km, mb4.8/12, mb1 4.7/17, mb1mx4.6/21, mbtmp4.6/17, ML4.2/5, MS4.3/13, Ms1 4.3/13, ms1mx4.0/22, Error ellipse: s-maj=18.2km s-min=14.2km az=71.0*
*ISCJB **01** 15:52:34.0±0.2, 2553S±002×7064W±006, h10km, mb4.9/54, MS4.5/12, Error ellipse: s-maj=7.2km s-min=3.3km az=165.8*
*BJI **01** 15:52:36.1, 2550S×7060W, h13km, mB5.2, Ms5.1, Msz5.0*
*NEIC **01** 15:52:36.2±2.3, 2555S×7063W, h14km±14km, mb5.0/49, ML5.1(GUC), Error ellipse: s-maj=9.1km s-min=4.8km az=85.0*
NEIC Felt [IV] at Taltal; [III] at Chanaral, Copiapo and Tierra Amarilla; [II] at Diego de Almagro and El Salvador.
*GCMT **01** 15:52:36.2±0.3, 2557S×71.13W, h27km±1km, MW5.2/62, Moment Tensor Solution. s20,c24; s62,c88; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.22±.04; $M_{\theta\theta}$0.56±.03; $M_{\phi\phi}$-0.78±.04; $M_{r\theta}$0.39±.06; $M_{\theta\phi}$0.18±.02; $M_{\phi r}$0.19±.07; Best double couple: $M_0$0.84100×10^{17} NP1:ϕ_s133.00000°, δ60.00000°, λ19.00000°. NP2: ϕ_s33.00000°, δ73.00000°, λ149.00000°. Principal axes: T 0.8570, Plg33.0000°, Azm349.0000°; N -0.0310, Plg55.0000°, Azm187.0000°; P -0.8260, Plg8.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **01** 15:52:37.1±0.8, 2562S×7080W, h31km±7km, ML5.1*
*MOS **01** 15:52:37.8±1.3, 2549S×7066W, h33km, mb5.1/23, Error ellipse: s-maj=15.3km s-min=8.4km az=102.9*
ISC 01 15:52:36.9±1.8**, 2559S**±002×**7071W**±006**, h17**km±11km**, h15**km±2.4km**:pP-P, n184,** σ**1§13**/148**, mb4.9**/54**, MS4.5**/12**, 15C-5D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.00**	**16**	⇑*i*P	**Pb**	**15 52 56.9**	**+1.0**
CPN1				*i* S	**Sb**	**15 53 11.0**	**+2.2**
CPN1				AML	AML	15 53 13.0	
	comp=E,149μm,0.3s						
CDCH	**Caldera**	**1.48**	**184**	⇑*i*P	**Pn**	**15 53 02.4**	**-0.3**
CDCH				*i* S	**Sn**	**15 53 20.4**	**-1.3**
CDCH				AML	AML	15 53 26.4	
	comp=E,23μm,0.4s						
CDCH	**Caldera**	**1.48**	**184**	⇑*i*P	**Pn**	**15 53 02.4**	**-0.3**
CDCH				*i* S	**Sn**	**15 53 20.4**	**-1.3**
CPCH	**Copiapo**	**1.79**	**170**	⇑*i*P	**Pn**	**15 53 07.6**	**+0.6**
CPCH				*i* S	**Sn**	**15 53 29.8**	**+0.5**
ANCH	**Antofagasta**	**1.92**	**8**	⇑*i*P	**Pn**	**15 53 08.5**	**-0.4**
ANCH				*i* S	**Sn**	**15 53 37.9**	**+5.3**
ANCH				AML	AML	15 53 45.2	
	comp=N,31μm,0.7s						
ANCH	**Antofagasta**	**1.92**	**8**	P	**Pn**	**15 53 08.5**	**-0.4**
ANCH				S	**Sn**	**15 53 37.9**	**+5.3**
LSCH	**La Serena**	**4.33**	**186**	⇑*i*P	**Pn**	**15 53 41.3**	**-0.6**
TLL	**Tololo Astrono**	**4.56**	**181**	⇑*i*P	**Pn**	**15 53 45.4**	**+0.3**
CFAA	**Coronel Fontan**	**6.37**	**161**	Pn	**Pn**	**15 54 12.1**	**+2.1**
	comp=N,1.6nm,0.3s,baz=333,slow=14,SNR=55						
CFAA				Sn	**Sn**	**15 55 27.2**	**+4.9**
	comp=N,5.9nm,0.3s,baz=215,slow=9.7,SNR=4.6						
CFAA				LR	LR	15 56 45.0	
	comp=N,511nm,19.2s,baz=325,slow=39						
JACH	**Jahuel**	**7.07**	**179**	⇓*i*P	**Pn**	**15 54 19.4**	**-0.1**
MDZ	**Mendoza**	**7.45**	**168**	*e*P	**Pn**	**15 54 20.7**	**-4.0**
MDZ				*i*		15 54 24.6	
FCH	**Farellones**	**7.72**	**177**	*e*P	**Pn**	**15 54 28.8**	**+0.4**
LPAZ	**La Paz**	**9.57**	**15**	Pn	**Pn**	**15 54 55.4**	**+1.6**
	comp=N,2.1nm,0.3s,baz=194,slow=7.7,SNR=55						
LPAZ				Sn	**Sn**	**15 56 50.8**	**+10**
	comp=N,0.7nm,0.3s,baz=1.6,slow=23,SNR=2.0						
LPAZ	**La Paz**	**9.57**	**15**	*e*P	**Pn**	**15 54 54.9**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,91nm,0.9s						
LPAZ	**La Paz**	**9.57**	**15**	*e*Pn	**Pn**	**15 54 54.9**	**+1.1**
	comp=Z,91nm,0.9s						
LPAZ				*e*		15 55 09.4	
CPUP	**Villa Florida**	**12.06**	**96**	Pn	**Pn**	**15 55 28.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=264,slow=12,SNR=14						
CPUP				Lg		15 59 01.4	
	comp=Z,1.1nm,0.3s,baz=343,slow=20,SNR=1.7						
CPUP				LR	LR	16 00 13.9	
	comp=Z,1μm,19.6s,baz=258,slow=38						
CPUP	**Villa Florida**	**12.06**	**96**	⇑*i*P	**Pn**	**15 55 29.3**	**+1.3**
CPUP				pmax	pmax		
	comp=Z,89nm,0.8s						
CPUP	**Villa Florida**	**12.06**	**96**	⇑*i*Pn	**Pn**	**15 55 29.3**	**+1.3**
	comp=Z,89nm,0.8s						
CPUP				*e*		15 55 39.0	
SIV	**San Ignacio**	**13.13**	**45**	Pn	**Pn**	**15 55 40.2**	**-2.4**
	comp=Z,1.7nm,0.3s,baz=243,slow=12,SNR=23						
SIV				Sn	**Sn**	**15 58 07.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=277,slow=17,SNR=3.2						
TRQA	**Tornquist**	**14.46**	**151**	*e*Pn	**Pn**	**15 55 58.8**	**-2.0**
	comp=Z,49nm,0.6s						
NNA	**Nana**	**14.72**	**336**	Pn	**Pn**	**15 56 01.3**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=180,slow=8.1,SNR=2.3						
NNA				Sn	**Sn**	**15 58 41.4**	**-5.6**
NNA	**Nana**	**14.72**	**336**	Pn	**Pn**	**15 56 02.1**	**-2.2**
NNA				*e*Sn	**Sn**	**15 58 35.8**	**-11**
SAML	**Samuel**	**18.04**	**25**	*e*Pn	**Pn**	**15 56 42.5**	**-4.2**
	comp=Z,63nm,1.1s						
SAML				*e*		15 56 48.0	
SAML				*e*		15 56 56.1	
ATAH	**Atahualpa**	**19.89**	**337**	P	**Pn**	**15 57 06.2**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=168,slow=8.0,SNR=14						
BDFB	**Brasilia**	**23.41**	**69**	P	**P**	**15 57 44.3**	**-0.8**
	comp=Z,32nm,0.6s,mb5.0,baz=241,slow=9.9,SNR=28						
BDFB				LR	LR	16 08 06.6	
	comp=Z,1μm,18.2s,MS4.4,baz=246,slow=40						
BDFB	**Brasilia**	**23.41**	**69**	*e*P	**P**	**15 57 43.6**	**-1.5**
BDFB				pmax	pmax		
	comp=Z,458nm,1.5s						
BDFB	**Brasilia**	**23.41**	**69**	*e*P	**P**	**15 57 43.6**	**-1.5**
	comp=Z,458nm,1.5s,mb5.7						
EFI	**East Falkland**	**27.77**	**163**	P	**P**	**15 58 25.5**	**+0.7**
EFI				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.0						
EFI	**East Falkland**	**27.77**	**163**	P	**P**	**15 58 25.5**	**+0.7**
	comp=Z,36nm,0.9s,mb5.0						
USHA	**Ushuaia**	**29.26**	**177**	P	**P**	**15 58 37.5**	**-0.5**
	comp=Z,12nm,0.8s,mb4.7,baz=360,slow=5.7,SNR=6.5						
USHA				LR	LR	16 11 28.1	
	comp=Z,972nm,18.5s,MS4.5,baz=342,slow=39						
ROSC	**El Rosal**	**30.47**	**353**	LR	LR	16 10 33.0	
	comp=Z,423nm,18.7s,MS4.1,baz=16,slow=36						
SDV	**Santo Domingo**	**34.27**	**0**	*e*P	**P**	**15 59 19.0**	**-3.0**
	comp=Z,22nm,1.1s,mb5.0						
RCBR	**Riachuelo**	**38.65**	**65**	⇓*i*P	**P**	**16 00 01.2**	**+1.8**
	comp=Z,66nm,1.1s,mb5.3						
PMSA	**Palmer Station**	**39.42**	**176**	*e*P	**P**	**16 00 03.6**	**-2.3**
	comp=Z,38nm,1.3s,mb5.0						
SJG	**San Juan**	**43.67**	**6**	*e*P	**P**	**16 00 38.2**	**-2.5**
SJG				pmax	pmax		
	comp=Z,16nm,0.6s						
SJG	**San Juan**	**43.67**	**6**	*e*P	**P**	**16 00 38.2**	**-2.5**
	comp=Z,16nm,0.6s,mb4.9						
VNA3	**Neumayer Olymp**	**56.77**	**160**	⇑*i*P	**P**	**16 02 19.5**	**-0.5**
VNA3				*e*	pP	16 02 23.8	-1.5
VNA3				*e*		16 02 28.6	
VNA3				*e*		16 02 34.8	
VNA3				*e*		16 02 40.9	
VNA3				*e*		16 03 14.7	
VNA3				*e*		16 03 19.7	
VNA3				*e*		16 03 25.1	
VNA1	**Neumayer--Stat**	**57.03**	**159**	⇑*i*P	**P**	**16 02 21.5**	**-0.3**
VNA1				*e*	pP	16 02 25.5	-1.6
VNA1				*e*		16 02 31.4	
VNA1				*e*		16 02 36.3	
VNA1				*e*		16 02 42.2	
VNA1				*e*		16 03 16.5	
RKT	**Rikitea**	**58.08**	**258**	*e*S	**S**	**16 10 33.9**	**+4.4**
	comp=Z,326nm,27.8s						
RKT				*e*LR	LR	16 19 50.4	
	comp=Z,452nm,23.8s						
SNAA	**Sanae**	**58.99**	**160**	⇑*i*P	**P**	**16 02 34.7**	**-0.9**

SNAA				e	pP	16 02 37.8	-3.1
SNAA				e		16 02 43.9	
SNAA				e		16 02 48.9	
SNAA				e		16 02 54.8	
SNAA				e		16 03 22.8	
MYNC	**Murphy**	**61.66**	**348**	eP	**P**	**16 02 52.1**	**-1.7**
MYNC				e		16 03 03.0	
MYNC				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.4						
MYNC	**Murphy**	**61.66**	**348**	eP	**P**	**16 02 52.1**	**-1.7**
	comp=Z,34nm,1.0s,mb5.4						
MYNC				e		16 03 03.0	
CPCT	**Cooper Cave**	**62.10**	**347**	eP	**P**	**16 02 55.6**	**-1.2**
SWET	**Sewanee**	**62.17**	**346**	eP	**P**	**16 02 55.9**	**-1.3**
SWET				e		16 03 08.2	
TZTN	**Tazewell**	**62.98**	**348**	eP	**P**	**16 03 02.9**	**+0.3**
TZTN				e	pP	16 03 09.7	+1.7
WVT	**Waverly**	**63.48**	**345**	eP	**P**	**16 03 04.2**	**-1.8**
WVT				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
WVT	**Waverly**	**63.48**	**345**	eP	**P**	**16 03 04.2**	**-1.8**
	comp=Z,14nm,0.8s,mb5.1						
MAIT	**Maitri**	**63.60**	**158**	eP	**P**	**16 03 07.7**	**+0.9**
MIAR	**Mount Ida**	**63.62**	**339**	eP	**P**	**16 03 05.9**	**-1.0**
MIAR				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
MIAR	**Mount Ida**	**63.62**	**339**	eP	**P**	**16 03 05.9**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0						
NVL	**N'lazarevskaya**	**63.63**	**158**⇑	iP	**P**	**16 03 06.1**	**-0.9**
NVL				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.1						
NVL				pmax	pmax		
	comp=Z,293nm,15.9s						
NVL				pmax	pmax		
	comp=N,122nm,16.5s						
NVL				pmax	pmax		
	comp=E,212nm,18.0s						
QSPA	**South Pole Qui**	**64.62**	**180**⇑	iP	**P**	**16 03 13.9**	**+0.4**
	comp=E,30nm,0.7s,mb5.4						
WCI	**Wyandotte Cave**	**65.14**	**347**	eP	**P**	**16 03 15.0**	**-1.9**
WCI				e		16 03 26.1	
WCI				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
WCI	**Wyandotte Cave**	**65.14**	**347**	eP	**P**	**16 03 15.0**	**-1.9**
	comp=Z,22nm,0.9s,mb5.2						
WCI				e		16 03 26.1	
MVL	**Millersville**	**65.46**	**355**	P	**P**	**16 03 26.7**	**+7.7**
WMOK	**Wichita Mounta**	**65.64**	**335**	eP	**P**	**16 03 19.0**	**-1.1**
WMOK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
WMOK	**Wichita Mounta**	**65.64**	**335**	eP	**P**	**16 03 19.0**	**-1.0**
	comp=Z,11nm,1.3s,mb4.7						
FVM	**French Village**	**65.89**	**343**	eP	**P**	**16 03 20.6**	**-1.1**
FVM				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
FVM	**French Village**	**65.89**	**343**	eP	**P**	**16 03 20.6**	**-1.2**
	comp=Z,24nm,0.8s,mb5.3						
MNTX	**Cornudas Mount**	**65.89**	**328**	eP	**P**	**16 03 21.2**	**-0.5**
	comp=Z,15nm,1.4s,mb4.8						
ACSO	**Alum Creek Sta**	**66.47**	**350**	eP	**P**	**16 03 23.9**	**-1.6**
	comp=Z,14nm,0.9s,mb5.0						
TAOE	**Nuku Hiva Isla**	**67.72**	**271**	eLR	LR	16 23 53.8	
	comp=Z,779nm,24.7s						
LPM	**Los Pinos Moun**	**68.64**	**329**	eP	**P**	**16 03 39.9**	**+0.7**
LPM				e		16 03 48.0	
LAZ	**Ladron**	**68.95**	**328**	eP	**P**	**16 03 41.3**	**+0.2**
HNH	**Hanover**	**68.97**	**359**	eP	**P**	**16 03 40.7**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.9						
HNH				e		16 03 51.1	
ANMO	**Albuquerque**	**69.08**	**329**	eP	**P**	**16 03 42.7**	**+0.8**
ANMO				e		16 03 51.5	
ANMO				pmax	pmax		
	comp=Z,34nm,1.9s						
ANMO	**Albuquerque**	**69.08**	**329**	eP	**P**	**16 03 42.7**	**+0.8**
	comp=Z,34nm,1.9s,mb5.0						
ANMO				e		16 03 51.5	
TUC	**Tucson**	**69.11**	**324**	eP	**P**	**16 03 42.2**	**+0.1**
TUC				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
TUC	**Tucson**	**69.11**	**324**	eP	**P**	**16 03 42.2**	**+0.2**
	comp=Z,11nm,1.3s,mb4.6						
LONY	**Lake Ozonia**	**69.96**	**357**	eP	**P**	**16 03 46.3**	**-1.0**
LONY				e		16 03 55.6	
FRNY	**Flat Rock**	**70.13**	**358**	eP	**P**	**16 03 47.8**	**-0.6**
FRNY				e		16 03 57.7	
TBI	**Tubuai**	**70.66**	**253**	eS	S	16 13 09.5	+4.5
	comp=Z,327nm,30.8s						
TBI				eLR	LR	16 25 31.0	
	comp=Z,157nm,23.0s						
DBIC	**Dimbokro**	**71.50**	**73**	P	**P**	**16 03 57.2**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9,baz=204,slow=6.3,SNR=16						
DBIC				LR	LR	16 32 38.2	
	comp=Z,320nm,19.5s,MS4.6,baz=202,slow=34						
DBIC	**Dimbokro**	**71.50**	**73**	eP	**P**	**16 03 57.0**	**+0.3**
DBIC				e		16 04 04.7	
DBIC				pmax	pmax		
	comp=Z,22nm,1.1s						
DBIC	**Dimbokro**	**71.50**	**73**	eP	**P**	**16 03 57.0**	**+0.3**
	comp=Z,22nm,1.1s,mb5.0						
DBIC				e		16 04 04.7	
SBA	**Scott Base**	**71.52**	**191**	eP	**P**	**16 03 57.8**	**+1.0**
SBA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
SBA	**Scott Base**	**71.52**	**191**	eP	**P**	**16 03 57.8**	**+1.0**
	comp=Z,11nm,1.2s,mb4.7						
WUAZ	**Wupatki**	**71.92**	**326**	eP	**P**	**16 04 00.6**	**+1.4**
	comp=Z,16nm,1.0s,mb4.9						
VNDA	**Vanda**	**72.55**	**190**	P	**P**	**16 04 03.4**	**+0.4**
	comp=Z,4.2nm,0.9s,mb4.4,baz=130,slow=5.4,SNR=13						
VNDA				LR	LR	16 35 12.5	
	comp=Z,141nm,19.6s,MS4.2,baz=131,slow=35						
VNDA	**Vanda**	**72.55**	**190**	eP	**P**	**16 04 03.4**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VNDA	**Vanda**	**72.55**	**190**	eP	**P**	**16 04 03.4**	**+0.5**
	comp=Z,9.7nm,1.3s,mb4.6						
PV01	**Paradox Valley**	**72.66**	**330**	eP	**P**	**16 04 04.9**	**+1.2**
PV01				e		16 04 20.7	
ISCO	**Idaho Springs**	**72.74**	**333**	eP	**P**	**16 04 05.2**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ISCO	**Idaho Springs**	**72.74**	**333**	eP	**P**	**16 04 05.2**	**+1.0**
	comp=Z,6.3nm,1.0s,mb4.5						
SMCO	**Snowmass**	**72.80**	**331**	eP	**P**	**16 04 05.5**	**+1.0**
	comp=Z,18nm,1.1s,mb4.9						
PPT	**Papeete**	**72.83**	**258**	eS	S	16 13 33.8	+3.8
	comp=Z,402nm,30.2s						
PPT				eLR	LR	16 26 27.5	
	comp=Z,253nm,26.8s,baz=100						
ECSD	**EROS,Sioux Fal**	**72.97**	**341**	eP	**P**	**16 04 04.6**	**-0.9**
SYO	**Syowa Base**	**73.27**	**159**⇓	eP	**P**	**16 04 06.2**	**-1.1**
SYO	**Syowa Base**	**73.27**	**159**⇓	eX	pP	16 04 16.0	+3.3
SYO	**Syowa Base**	**73.27**	**159**⇓	ePcP	PcP	16 04 22.2	-1.5
SRU	**San Rafael**	**74.35**	**329**	eP	**P**	**16 04 13.9**	**+0.3**
SRU				e		16 04 24.4	
SRU				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
SRU	**San Rafael**	**74.35**	**329**	eP	**P**	**16 04 13.9**	**+0.3**
	comp=Z,19nm,1.4s,mb4.8						
SRU				e		16 04 24.4	
CCUT	**Cedar City**	**74.50**	**326**	eP	**P**	**16 04 16.3**	**+1.8**
MSU	**Marysvale**	**74.67**	**327**	eP	**P**	**16 04 16.7**	**+1.3**
ARUT	**Antelope Range**	**74.73**	**326**	eP	**P**	**16 04 17.2**	**+1.4**
RWWY	**Rawlins**	**74.99**	**333**	eP	**P**	**16 04 18.2**	**+1.0**
	comp=Z,9.5nm,0.8s,mb4.8						
RSSD	**Black Hills**	**75.79**	**336**	eP	**P**	**16 04 22.0**	**+0.1**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
RSSD	**Black Hills**	**75.79**	**336**	eP	**P**	**16 04 22.0**	**+0.1**
	comp=Z,7.1nm,0.9s,mb4.6						
DUG	**Dugway**	**76.29**	**328**	eP	**P**	**16 04 25.6**	**+0.9**
DUG				e		16 04 35.9	
DUG				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
DUG	**Dugway**	**76.29**	**328**	eP	**P**	**16 04 25.6**	**+0.9**
	comp=Z,24nm,1.5s,mb4.9						
DUG				e		16 04 35.9	
HWUT	**Hardware Ranch**	**76.82**	**330**	eP	**P**	**16 04 28.0**	**+0.3**
	comp=Z,6.3nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**76.86**	**332**	P	**P**	**16 04 28.6**	**+0.6**
	comp=Z,2.2nm,1.1s,mb4.0,baz=165,slow=6.2,SNR=12						
TPH	**Tonopah**	**76.90**	**324**	eP	**P**	**16 04 29.8**	**+1.6**
NVAR	**Mina Array Bea**	**77.74**	**324**	P	**P**	**16 04 34.0**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=141,slow=6.6,SNR=10						
SUR	**Sutherland**	**77.96**	**120**	eP	**P**	**16 04 35.6**	**+1.5**
	comp=Z,26nm,1.2s,mb5.0						
LOHW	**Long Hollow**	**78.00**	**332**	eP	**P**	**16 04 34.7**	**+0.3**
	comp=Z,9.6nm,1.1s,mb4.6						
TPAW	**Teton Pass**	**78.05**	**331**	eP	**P**	**16 04 34.9**	**+0.2**
	comp=Z,13nm,1.1s,mb4.8						
RRI2	**Red Ridge**	**78.09**	**331**	eP	**P**	**16 04 35.4**	**+0.5**
	comp=Z,46nm,1.6s,mb5.2						
FLWY	**Flagg Ranch**	**78.42**	**332**	eP	**P**	**16 04 37.2**	**+0.6**
	comp=Z,20nm,1.1s,mb5.0						
ULM	**Lac du Bonnet**	**78.74**	**344**	P	**P**	**16 04 36.8**	**-1.7**
	comp=Z,3.7nm,0.8s,mb4.4,baz=161,slow=8.1,SNR=6.0						
PAHR	**Pah Rah Range**	**79.24**	**324**	eP	**P**	**16 04 42.3**	**+1.1**
	comp=Z,34nm,1.4s,mb5.1						
PAHR				e		16 04 53.3	
QLMT	**Earthquake Lak**	**79.33**	**332**	eP	**P**	**16 04 43.0**	**+1.3**
GCMT	**Greycliff**	**79.37**	**333**	eP	**P**	**16 04 42.2**	**+0.3**
HLID	**Hailey**	**79.66**	**329**	eP	**P**	**16 04 44.3**	**+0.8**
	comp=Z,16nm,1.2s,mb4.8						
MCMT	**McKenzie Canyo**	**79.94**	**331**	eP	**P**	**16 04 46.1**	**+1.1**
SCHQ	**Schefferville**	**80.16**	**2**	P	**P**	**16 04 44.7**	**-1.5**
	comp=Z,4.3nm,1.0s,mb4.3,baz=229,slow=9.3,SNR=3.0						
SCHQ				LR	LR	16 37 53.8	
	comp=Z,117nm,20.6s,MS4.2,baz=93,slow=34						
SCHQ	**Schefferville**	**80.16**	**2**	eP	**P**	**16 04 42.0**	**-4.2**
	comp=Z,9.4nm,0.9s,mb4.7						
DLMT	**Dillon**	**80.25**	**331**	eP	**P**	**16 04 47.4**	**+0.7**
	comp=Z,24nm,1.3s,mb5.0						
DLMT				e		16 04 58.3	
TOA0	**Torodi Ar. Sit**	**80.28**	**70**	eP	**P**	**16 04 47.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**80.28**	**70**	P	**P**	**16 04 47.3**	**+0.5**
	comp=Z,23nm,0.5s,mb5.3,baz=262,slow=5.1,SNR=297						
TORD				LR	LR	16 38 20.2	
	comp=Z,195nm,19.2s,MS4.5,baz=230,slow=34						
TSUM	**Tsumeb**	**80.45**	**107**	eP	**P**	**16 04 48.9**	**+1.1**
	comp=Z,14nm,1.0s,mb4.9						
TSUM				e		16 05 05.5	
WVOR	**Wild Horse Val**	**80.84**	**326**	eP	**P**	**16 04 50.2**	**+0.4**
WVOR				e		16 05 02.3	
WVOR				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
WVOR	**Wild Horse Val**	**80.84**	**326**	eP	**P**	**16 04 50.2**	**+0.4**
	comp=Z,14nm,1.4s,mb4.7						
WVOR				e		16 05 02.3	
MAW	**Mawson**	**80.89**	**164**	P	**P**	**16 04 50.1**	**-0.1**
	comp=Z,18nm,0.5s,mb5.2,baz=211,slow=6.5,SNR=47						
MAW				LR	LR	16 39 45.4	
	comp=Z,304nm,19.8s,MS4.7,baz=232,slow=35						
MAW	**Mawson**	**80.89**	**164**	eP	**P**	**16 04 50.0**	**-0.1**
MAW				e		16 04 59.6	
MAW				pmax	pmax		
	comp=Z,38nm,0.9s						
MAW	**Mawson**	**80.89**	**164**	eP	**P**	**16 04 50.0**	**-0.2**
	comp=Z,38nm,0.9s,mb5.3						
MAW				e		16 04 59.6	
HRY	**Holter Researc**	**81.00**	**333**	eP	**P**	**16 04 51.3**	**+0.6**
CHMT	**Chamberlain Mo**	**81.76**	**332**	eP	**P**	**16 04 54.6**	**-0.1**
BMO	**Blue Mountains**	**81.99**	**329**	eP	**P**	**16 04 56.0**	**+0.1**
	comp=Z,12nm,1.4s,mb4.6						
BMO				e		16 05 05.0	
YBH	**Yreka Blue Hor**	**82.46**	**323**	P	**P**	**16 04 57.0**	**-1.4**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YBH	**Yreka Blue Hor**	**82.46**	**323**	P	**P**	**16 04 57.0**	**-1.4**
	comp=Z,5.1nm,1.1s,mb4.4						
BOSA	**Boshof**	**82.99**	**118**	P	**P**	**16 05 01.6**	**+0.5**
	comp=Z,11nm,0.9s,mb4.9,baz=236,slow=3.8,SNR=14						
BOSA				LR	LR	16 38 53.4	
	comp=Z,246nm,19.1s,MS4.6,baz=75,slow=34						
BOSA	**Boshof**	**82.99**	**118**	eP	**P**	**16 05 00.9**	**-0.2**
BOSA				e		16 05 11.7	
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
BOSA	**Boshof**	**82.99**	**118**	eP	**P**	**16 05 00.9**	**-0.2**
	comp=Z,7.9nm,0.9s,mb4.7						
BOSA				e		16 05 11.7	
WALA	**Waterton Lakes**	**83.72**	**333**	eP	**P**	**16 05 04.6**	**-0.3**
	comp=Z,16nm,1.0s,mb5.1						
LBTB	**Lobatse**	**84.80**	**115**	eP	**P**	**16 05 10.7**	**+0.3**
LBTB				e		16 05 20.8	
LBTB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LBTB	**Lobatse**	**84.80**	**115**	eP	**P**	**16 05 10.7**	**+0.3**
	comp=Z,6.8nm,1.0s,mb4.7						
LBTB				e		16 05 20.8	
EDM	**Edmonton**	**86.78**	**336**	eP	**P**	**16 05 18.5**	**-1.7**
CASY	**Casey**	**88.42**	**181**	eP	**P**	**16 05 28.1**	**0.0**
	comp=Z,16nm,0.8s,mb5.3						
CASY				e		16 05 37.9	
ESDC	**Sonseca Array**	**89.89**	**45**	LR	LR	16 41 44.3	
	comp=Z,188nm,19.4s,MS4.5,baz=230,slow=33						
LSZ	**Lusaka**	**91.28**	**107**	eP	**P**	**16 05 43.2**	**+1.7**
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
LSZ	**Lusaka**	**91.28**	**107**	eP	**P**	**16 05 43.2**	**+1.7**
	comp=Z,10nm,1.4s,mb5.0						
YKA	**Yellowknife Ar**	**94.49**	**341**	P	**P**	**16 05 54.3**	**-2.0**
	comp=Z,1.5nm,0.8s,mb4.5,baz=138,slow=4.2,SNR=4.0						
YKA				LR	LR	16 49 01.5	
	comp=Z,89nm,19.6s,MS4.2,baz=200,slow=36						
YKA	**Yellowknife Ar**	**94.49**	**341**	P	**P**	**16 05 54.3**	**-2.0**
YKA				LR	LR	16 49 01.5	
CTA	**Charters Tower**	**122.10**	**222**	ePKP	PKPdf	16 11 39.6	+9.0
	comp=Z,8.3nm,0.8s						
ASAR	**Alice Springs**	**125.54**	**208**	PKP	PKPdf	16 11 37.1	-0.1
	comp=Z,3.0nm,0.8s,baz=133,slow=2.0,SNR=37						
AS31	**Alice Springs**	**125.54**	**208**	ePKP	PKPdf	16 11 36.7	-0.5
ASPA	**Alice Springs**	**125.54**	**208**	ePKP	PKPdf	16 11 36.7	-0.5
WB2	**Warramunga Arr**	**128.60**	**211**	ePKP	PKPdf	16 11 43.2	+0.2
WRA	**Warramunga Arr**	**128.61**	**211**	PKP	PKPdf	16 11 43.3	+0.2
	comp=Z,5.7nm,0.8s,baz=159,slow=1.7,SNR=60						
ARU	**Arti**	**132.44**	**36**	i PKIKP	PKPdf	16 11 49.3	-1.0
FITZ	**Fitzroy Crossi**	**133.75**	**202**	ePKP	PKPdf	16 11 49.4	-3.4
	comp=Z,5.4nm,1.9s						
AB31	**Akbulak array**	**135.24**	**45**	i PKIKP	PKPdf	16 11 55.5	-0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZRNK	**Zerenda**	**139.36**	**37**	ePKIKP	PKPdf	16 12 02.5	-0.7
ZRNK				e		16 12 13.1	
VOSK	**Vostochnaya**	**140.53**	**36**	PKIKP	PKPdf	16 12 05.4	+0.1
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	**145.06**	**26**	ePKIKP	PKPdf	16 12 12.3	-1.0
NVS				e		16 12 21.8	
NVS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**146.00**	**318**	ePKP2	PKPab	16 12 15.0	-1.2
ZAL	**Zalesovo**	**146.34**	**26**	PKPbc	PKPbc	16 12 15.9	-0.8
	comp=Z,20nm,0.8s,baz=163,slow=3.9,SNR=93						
KAD	**Karad**	**146.38**	**97**	i P	PKPdf	16 12 17.7	+2.1
POO	**Poona**	**146.49**	**95**	eP	PKPdf	16 12 09.0	-6.8
AAK	**Ala-Archa**	**146.84**	**50**	i PKP2	PKPbc	16 12 16.3	-1.9
AAK	**Ala-Archa**	**146.84**	**50**	ePKPdf	PKPdf	16 12 16.7	+0.3
BOD	**Bodaibo**	**147.62**	**355**⇑	iPKP2	PKPbc	16 12 19.0	-1.4
BOD				pmax	pmax		
	comp=Z,13nm,1.2s						
HABR	**Khabarovsk**	**149.53**	**325**	ePKP2	PKPbc	16 12 24.8	-0.5
MK31	**Makanchi Array**	**149.88**	**38**	PKP2	PKPbc	16 12 25.7	-0.4
MK31				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**149.88**	**38**	PKPbc	PKPbc	16 12 26.0	-0.1
	comp=Z,15nm,0.8s,baz=336,slow=2.7,SNR=76						
HYB	**Hyderabad**	**150.32**	**100**	i PKP	PKPbc	16 12 28.0	+0.8
HYB				e		16 12 38.0	
HYB	**Hyderabad**	**150.32**	**100**	eP	PKPbc	16 12 28.0	+0.8
KLR	**Kul'dur**	**150.63**	**329**	ePKIKP	PKPdf	16 12 24.3	+1.8
MJAR	**Matsushiro Arr**	**153.03**	**301**	PKPbc	PKPbc	16 12 33.5	0.0
	comp=Z,2.8nm,0.9s,baz=218,slow=0.5,SNR=8.1						
MAT	**Matsushiro**	**153.03**	**301**	PKP	PKPbc	16 12 33.3	-0.1
TLY	**Talaya**	**153.60**	**8**	ePKIKP	PKPbc	16 12 34.7	0.0
TLY				e		16 12 46.7	
WMQ	**Urumqi**	**154.71**	**39**	ePKP	PKPdf	16 12 29.5	+1.0
WMQ				LR	LR		
	comp=N,196nm,26.0s,MS4.9						
WMQ				LR	LR		
	comp=E,170nm,25.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,214nm,22.8s,MS4.9						
ZAK	**Zakamensk**	**154.82**	**9**	ePKIKP	PKPdf	16 12 24.8	-3.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CN2	**Changchun**	**157.57**	**328**	ePKP	PKPdf	16 12 34.4	+2.2
SONM	**Songino Array**	**157.68**	**5**	PKP	PKPdf	16 12 32.1	-0.2
	comp=Z,2.8nm,0.9s,baz=0.0,slow=0.0,SNR=7.3						
SONM				PKPab	PKPab	16 13 05.2	+0.5
	comp=Z,2.6nm,0.8s,baz=336,slow=3.3,SNR=4.6						
ULN	**Ulaanbaatar**	**157.70**	**4**	ePKIKP	PKPdf	16 12 32.3	-0.1
ULN				e		16 12 42.6	
ULN	**Ulaanbaatar**	**157.70**	**4**	ePKPdf	PKPdf	16 12 32.3	-0.1
ULN				e		16 12 42.6	
ULN				ePKPab	PKPab	16 13 05.2	+0.4
HHC	**Hu-ho-hao-te**	**164.67**	**353**	ePKP	PKPdf	16 12 36.0	-3.8
HHC				PKP2	PKPab	16 13 33.1	-2.1
HHC				PKS		16 16 08.1	
HHC				PP	PP	16 17 20.3	-1.0
HHC				LR	LR		
	comp=N,85nm,4.7s						
HHC				LR	LR		
	comp=E,109nm,5.5s						
HHC				LR	LR		
	comp=Z,122nm,6.8s						
SSE	**Sheshan**	**168.18**	**300**	PKP	PKPdf	16 12 45.3	+2.8
SSE				PP	PP	16 17 45.2	+5.8
SSE				SS	SS	16 38 30.6	+1.6
SSE				PP	PP		
	comp=Z,42nm,12.0s						
SSE				LR	LR		
	comp=N,48nm,15.9s						
SSE				LR	LR		
	comp=E,91nm,15.9s						
SSE				LR	LR		
	comp=Z,80nm,15.4s						
LZH	**Lanzhou**	**168.54**	**23**	ePKP	PKPdf	16 12 44.0	+1.2
LZH				LR	LR		
	comp=E,196nm,19.5s						
LZH				LR	LR		
	comp=Z,265nm,20.4s						
CD2	**Chengdu**	**172.80**	**41**	ePKP	PKPdf	16 12 44.2	-0.8
KMI	**Kunming**	**174.06**	**93**	PKP	PKPdf	16 12 46.3	+0.8
GYA	**Guiyang**	**177.49**	**69**	ePKP	PKPdf	16 12 45.7	-0.7
GYA				XPKP		16 12 56.5	
GYA				PP	PP		
	comp=Z,110nm,7.2s						

*ISCJB **01** 15:58:38.2±0.6, 4243N±004×14207E±005, h102^{km}±4^{km}, mb3.5/3, Error ellipse: s-maj=7.2km s-min=5.0km az=92.5*
*JMA **01** 15:58:38.9±0.1, 4247N×14205E, h100^{km}±2^{km}, M2.8*
*IDC **01** 15:58:39.2±5.6, 4263N×14363E, h118^{km}±30^{km}, mb3.2/3, mb1 3.4/3, mb1mx3.1/19, mbtmp3.6/3, Error ellipse: s-maj=185.5km s-min=25.1km az=80.0*

ISC 01 15:58:39.1±0.5**, 4243N**±004×**14207E**±005**, h97**^{km}±4^{km}**, n19,** σ**0^{s}52**/33**, mb3.5**/3**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.41**	**32**	P	**Pn**	**15 58 53.9**	**-0.1**
JBT2				eS	**Sn**	**15 59 05.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.53**	**107**	P	**Pn**	**15 58 55.1**	**+0.3**
JEW	**Eniwo**	**0.61**	**312**	P	**Pn**	**15 58 55.3**	**-0.2**
JEW				eS	**Sn**	**15 59 06.9**	**-0.9**
JNB	**Noboribetsu**	**0.77**	**273**	P	**Pn**	**15 58 56.5**	**-0.4**
JNB				eS	**Sn**	**15 59 09.6**	**-0.6**
JFR	**Furan**	**0.82**	**28**	P	**Pn**	**15 58 57.0**	**-0.5**
JFR				eS	**Sn**	**15 59 10.4**	**-0.8**
JEM	**Erimo**	**0.91**	**117**	P	**Pn**	**15 58 58.9**	**+0.6**
JEM				eS	**Sn**	**15 59 13.5**	**+0.7**
JKB	**Kayabe**	**0.95**	**235**	P	**Pn**	**15 58 58.8**	**0.0**
JKB				eS	**Sn**	**15 59 13.0**	**-0.5**
JCH	**Churui**	**0.97**	**79**	P	**Pn**	**15 58 59.1**	**+0.1**
JCH				eS	**Sn**	**15 59 13.4**	**-0.6**
JAB	**Ashibetsu**	**1.08**	**6**	P	**Pn**	**15 59 00.8**	**+0.6**
JAB				eS	**Sn**	**15 59 16.8**	**+0.8**
JOT	**Ohata**	**1.30**	**216**	P	**Pn**	**15 59 03.0**	**+0.2**
JOT				eS	**Sn**	**15 59 20.8**	**+0.1**
JYM2	**Yakumo 2**	**1.30**	**256**	P	**Pn**	**15 59 03.2**	**+0.4**
JYM2				eS	**Sn**	**15 59 21.1**	**+0.4**
JHR	**Hokuryu**	**1.33**	**349**	P	**Pn**	**15 59 03.7**	**+0.5**
JHR				eS	**Sn**	**15 59 22.3**	**+0.9**
JSK	**Shakotan**	**1.49**	**309**	P	**Pn**	**15 59 05.3**	**+0.2**
JAR	**Ashorobuto**	**1.52**	**55**	P	**Pn**	**15 59 05.1**	**-0.3**
JAR				eS	**Sn**	**15 59 24.5**	**-0.9**
JKK2	**Kamakawa 2**	**1.52**	**19**	P	**Pn**	**15 59 05.7**	**+0.2**
JKK2				eS	**Sn**	**15 59 25.2**	**-0.3**
ASAJ	**Asahikawa**	**1.73**	**13**	P	**Pn**	**15 59 08.2**	**+0.2**
ASAJ				S	**Sn**	**15 59 30.7**	**+0.7**
WRA	**Warramunga Arr**	**62.47**	**188**	P	**P**	**16 08 52.4**	**+0.3**
	0.8nm,1.2s,mb3.6,baz=7.7,slow=7.1,SNR=5.8						
FINES	**FINESS Array B**	**64.30**	**331**	P	**P**	**16 09 03.7**	**-0.4**
	0.4nm,0.4s,mb3.6,baz=46,slow=8.5,SNR=7.3						
NOA	**NORSAR Array B**	**69.42**	**337**	P	**P**	**16 09 35.8**	**-0.9**
	0.5nm,0.7s,mb3.4,baz=39,slow=5.8,SNR=2.7						

*ISCJB **01** 16:11:19.7±5.0, 63S±03×1505E±03, h52^{km}±33^{km}, mb4.2/5, Error ellipse: s-maj=46.4km s-min=37.5km az=88.6*
*IDC **01** 16:11:19.1±3.8, 644S×15072E, h30^{km}±25^{km}, mb4.1/4, mb1 4.3/5, mb1mx3.9/13, mbtmp4.3/5, ML3.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=58.4km s-min=19.7km az=129.0*
*NEIC **01** 16:11:21.9±3.3, 641S×15053E, h56^{km}±25^{km}, mb4.4/5, Error ellipse: s-maj=36.6km s-min=23.0km az=134.0*

ISC 01 16:11:18.4±3.6**, 62S**±02×**1506E**±02**, h29**^{km}±27^{km}**, n21,** σ**0^{s}78**/19**, mb4.2**/5**, 2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.65**	**227**	Pn	**Pn**	**16 12 27.8**	**+1.2**
	6.4nm,0.3s,baz=45,slow=9.1,SNR=28						
PMG				Sn	**Sn**	**16 13 18.9**	**-0.7**
	12nm,0.3s,baz=112,slow=18,SNR=6.9						
PMG				LR	LR	16 14 25.8	
	comp=Z,197nm,20.3s,baz=25,slow=41						
PMG	**Port Moresby**	**4.65**	**227**	ePn	**Pn**	**16 12 27.6**	**+0.9**
PMG				eSn	**Sn**	**16 13 19.2**	**-0.4**
HNR	**Honiara**	**9.80**	**110**	LR	LR	16 16 32.1	
	comp=Z,62nm,19.8s,baz=178,slow=33						
CTA	**Charters Tower**	**14.42**	**197**	LR	LR	16 18 22.0	
	comp=Z,122nm,19.2s,baz=56,slow=30						
KAKA	**Kakadu**	**19.03**	**249**	eP	**Pn**	**16 15 38.5**	**-0.3**
	5.5nm,0.6s						
WRAB	**Tennant Creek**	**20.86**	**228**	ePn	**P**	**16 15 57.8**	**-0.1**
	25nm,0.9s						
WB2	**Warramunga Arr**	**20.86**	**228**⇑	iP	**P**	**16 15 58.3**	**+0.4**
WRA	**Warramunga Arr**	**20.87**	**228**	P	**P**	**16 15 58.4**	**+0.4**
	9.8nm,0.7s,baz=53,slow=11,SNR=89						
WRA				PcP	PcP	16 20 07.1	+1.5
	0.2nm,0.5s,baz=46,slow=1.7,SNR=4.6						
WRA				ScP	ScP	16 23 47.1	+6.9
	0.3nm,1.0s,baz=48,slow=3.0,SNR=6.7						
AS31	**Alice Springs**	**23.64**	**221**	eP	**P**	**16 16 27.3**	**+0.2**
ASAR	**Alice Springs**	**23.64**	**221**	P	**P**	**16 16 26.9**	**-0.3**
	2.6nm,0.6s,mb3.9,baz=56,slow=8.8,SNR=24						
ASAR				S	**S**	**16 20 40.7**	**+1.0**
	0.6nm,0.9s,baz=42,slow=20,SNR=4.0						
ASPA	**Alice Springs**	**23.64**	**221**	eP	**P**	**16 16 27.3**	**+0.1**
STKA	**Stephens Creek**	**26.88**	**197**⇑	iP	**P**	**16 16 55.7**	**-0.9**
	3.9nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**26.88**	**197**	P	**P**	**16 16 55.6**	**-1.0**
	6.0nm,0.9s,mb4.1,baz=24,slow=13,SNR=9.9						
STKA	**Stephens Creek**	**26.88**	**197**	eP	**P**	**16 16 55.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.06**	**242**	eP	**P**	**16 16 59.0**	**+0.8**
	3.6nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.06**	**242**	P	**P**	**16 16 59.0**	**+0.8**
	1.9nm,0.5s,mb3.9,baz=47,slow=9.1,SNR=19						
MBWA	**Marble Bar**	**33.37**	**241**	P	**P**	**16 17 52.4**	**-1.6**
	6.6nm,1.0s,mb4.5						
MAW	**Mawson**	**83.43**	**203**	eP	**P**	**16 23 46.9**	**+3.9**
	2.9nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**101.42**	**48**	P	Pdif	16 25 08.4	+1.4
	0.5nm,0.9s,baz=231,slow=0.9,SNR=4.4						
GERES	**GERESS Array B**	**124.08**	**327**	PKP	PKPdf	16 30 14.9	+1.0
	0.6nm,0.5s,baz=66,slow=1.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.61**	**285**	PKPbc	PKPbc	16 31 04.1	+1.7
	2.1nm,0.5s,baz=59,slow=3.0,SNR=13						

JMA 01 16:36:16.5±0.7**, 4344N**×**14888E, h30**^{km}**, M3.5, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.29**	**269**	P	Pn	16 36 51.5	-0.7
NEM2				eS	Sn	16 37 17.5	-1.8
JRA	**Rausu**	**2.77**	**282**	P	Pn	16 36 59.4	+0.6
JRA				eS	Sn	16 37 30.9	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAK	Akkeshi	3.09	263	P	Pn	16 37 02.4	-0.8
JAK				eS	Sn	16 37 35.5	-3.6
JTKR	Abashiri--Toko	3.64	280	P	Pn	16 37 12.2	+1.4
JAR	Ashorobuto	3.73	270	P	Pn	16 37 12.1	+0.1
JOB	Onbets	3.73	263	P	Pn	16 37 11.4	-0.6
JMP	Maruseppu	4.04	280	P	Pn	16 37 17.7	+1.4
JCH	Churui	4.13	260	P	Pn	16 37 16.7	-0.8
JCH				eS	Sn	16 38 00.4	-4.3
JEM	Erimo	4.45	253	P	Pn	16 37 22.0	+0.1
JFR	Furan	4.60	269	P	Pn	16 37 24.5	+0.6
JFR				eS	Sn	16 38 14.9	-1.4
JNBK	Urakawa-nobuka	4.65	258	P	Pn	16 37 23.6	-1.1
JBT2	Biratori 2	4.82	264	P	Pn	16 37 26.2	-0.7
JAB	Ashibetsu	4.84	273	P	Pn	16 37 29.6	+2.3
JNB	Noboribetsu	5.84	263	P	Pn	16 37 40.8	-0.2
JKB	Kayabe	5.99	258	P	Pn	16 37 42.4	-0.7
JANG	Nango	6.29	243	P	Pn	16 37 43.7	-3.5
JANG				eS	Sn	16 38 48.2	-10
JTH	Tanohata	6.31	239	eS	Sn	16 38 47.4	-11
JOSM	Okushiri--Mats	7.05	262	P	Pn	16 37 58.4	+0.7
JIO	Ouri	7.57	231	eS	Sn	16 39 16.4	-13

*IDC **01** 16:45:32.9±2.5, 8.21N×83.16W, h0km, mb3.8/2, mb1 4.2/7, mb1mx3.9/23, mbtmp4.2/7, ML4.4/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/33, Error ellipse: s-maj=63.8km s-min=22.6km az=23.0*

*NEIC **01** 16:45:35.6±4.0, 8.24N×83.07W, h22km±30km, Error ellipse: s-maj=26.3km s-min=10.8km az=202.0*

*ISCJB **01** 16:45:38.3±1.1, 8.5N±0.1×83.01W±0.04, h29km±6km, mb3.6/2, Error ellipse: s-maj=18.0km s-min=4.6km az=35.1*

*CASC **01** 16:45:38.2±2.6, 8.49N×83.02W, h16km±7km, MD4.4, ML3.7*

ISC 01 16:45:37.4±1.3**, 8.45N**±0.09×**83.03W**±0.04**, h12**km±6km**, n47, σ1.34**/47**, mb3.6**/2**, 13C-12D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.48	44	⇑iP	Pg	16 45 47.9	+1.2
CTCR	Cotoan	0.52	31	⇓iP	Pg	16 45 48.1	+0.6
DVD	David	0.57	91	⇑eP	Pg	16 45 48.8	+0.3
BRU	Baru	0.58	53	⇑eP	Pg	16 45 49.1	+0.3
CNI	Changuinola	1.08	28	⇓iP	Pb	16 45 56.4	-1.6
BUS	Buena Vista	1.31	327	ePg	Pg	16 46 01.8	-0.9
LCR2	La Lucha 2	1.60	323	ePg	Pg	16 46 05.6	-2.6
VTU	Volcan Turrial	1.72	335	⇓eP	Pn	16 46 06.3	-0.8
LAJ	Bijagual	1.77	323	ePg	Pg	16 46 11.1	-0.3
SJS	Escuela Geolog	1.79	326	⇑eP	Pn	16 46 06.8	-1.3
PRS1	Puriscal	1.98	320	⇓eP	Pn	16 46 08.7	-2.0
POA2	Poas 2	2.10	325	⇓eP	Pn	16 46 11.4	-0.8
CGA2	Cerro Gallo 2	2.10	318	⇑eP	Pn	16 46 11.3	-1.0
CAO	Cobano	2.40	301	⇓eP	Pn	16 46 13.6	-2.7
JCR	Jicaral	2.48	304	⇑ePg	Pg	16 46 19.8	-5.2
FORC	Fortuna	2.58	321	eP	Pn	16 46 19.5	+0.7
VACR	Volcan Arenal	2.58	321	⇓eP	Pn	16 46 19.7	+0.7
JTS	JuntasAbangare	2.63	314	Pn	Pn	16 46 17.5	-2.2
	294nm,0.3s,baz=84,slow=4.1,SNR=195						
JTS				Sn	Sn	16 46 47.4	-4.1
	74nm,0.3s,baz=340,slow=21,SNR=5.2						
JTS				LR	LR	16 47 30.0	
	comp=Z,610nm,19.1s,baz=155,slow=43						
JTS	JuntasAbangare	2.63	314	Pn	Pn	16 46 17.5	-2.2
JTS				Sn	Sn	16 46 47.4	-4.1
JTS				LR	LR	16 47 30.0	
AZU	Azuero	2.81	103	⇓eP	Pn	16 46 23.0	+1.0
AZU				eS	Sn	16 46 55.8	+0.1
VCR	Vista de Mar	3.06	303	ePg	Pb	16 46 30.2	-1.6
RIN3	Volcan Rincon	3.28	315	⇑eP	Pn	16 46 28.7	+0.2
UPA	Univ. de Panam	3.50	81	eP	Pn	16 46 32.7	+1.2
UPA				eS	Sn	16 47 12.3	-0.4
CRZC	La Cruz	3.55	315	⇑eP	Pn	16 46 32.4	+0.2
MADN	Villa Maderas	3.84	320	⇑eP	Pn	16 46 37.7	+1.5
SSNN	San Juan del S	3.96	316	⇓eP	Pn	16 46 39.4	+1.6
CONN	Concepcion	4.01	321	⇓eP	Pn	16 46 40.0	+1.4
CONN				i		16 47 46.0	
	comp=Z,288nm,0.5s						
TICN	Ticuantepe	4.75	319	eP	Pn	16 46 50.7	+1.9
CRUN	El Crucero	4.76	318	eP	Pn	16 46 51.0	+2.1
COPN	Copaltepe	5.10	317	⇑eP	Pn	16 46 55.1	+1.6
MOMJ	Momotombo	5.23	319	⇓eP	Pn	16 46 56.7	+1.3
MIRN	Miramar	5.37	318	⇑eP	Pn	16 46 59.1	+1.8
MIRN				i		16 48 09.6	
	comp=Z,94nm,0.4s						
CNGN	Cerro Negro	5.40	318	⇑eP	Pn	16 46 59.9	+2.1
LEON	Leon	5.47	316	⇓eP	Pn	16 47 00.2	+1.5
ROSC	El Rosal	9.35	112	Pn	Pn	16 47 49.8	-2.1
	baz=105,slow=22,SNR=1.7						
SDV	Santo Domingo	12.26	87	Pn	Pn	16 48 32.3	+0.6
	comp=Z,0.4nm,0.3s,baz=157,slow=21,SNR=3.0						
SDV	Santo Domingo	12.26	87	Pn	Pn	16 48 28.5	-3.3
	comp=Z,5.3nm,0.6s						
CMIG	Matias Romero	14.39	308	Pn	Pn	16 49 00.6	-0.3
	comp=Z,0.5nm,0.3s,baz=108,slow=12,SNR=9.9						
CMIG	Matias Romero	14.39	308	Pn	Pn	16 49 00.6	-0.3
SDDR	Presa de Saban	15.47	46	ePn	Pn	16 49 14.4	-0.9
PCRV	Puerto La Cruz	18.23	83	LR	LR	16 57 30.2	
	comp=Z,102nm,19.4s,baz=71,slow=39						
SJG	San Juan	19.01	58	P	Pn	16 49 59.4	-0.3
	comp=Z,2.3nm,0.3s,baz=354,slow=18,SNR=5.0						
PTP	Ponta Puerca	19.52	58	⇑iP	Px	16 45 45.5	
ULM	Lac du Bonnet	43.02	348	P	P	16 53 34.5	-2.1
	comp=Z,1.0nm,0.3s,mb4.0,baz=188,slow=7.1,SNR=3.3						
NVAR	Mina Array Bea	43.56	319	P	P	16 53 40.2	-0.8
	comp=Z,0.3nm,0.6s,mb3.2,baz=125,slow=5.6,SNR=4.8						
ASAR	Alice Springs	141.57	242	PKP	PKPdf	17 05 04.4	-4.0
	comp=Z,0.4nm,0.8s,baz=116,slow=4.2,SNR=3.6						
WRA	Warramunga Arr	142.11	248	PKP	PKPdf	17 05 07.3	-2.0
	comp=Z,0.4nm,1.0s,baz=109,slow=3.0,SNR=3.7						

*IDC **01** 17:05:07.8±13.0, 7.92S×129.14E, h88km±101km, mb3.5/1, mb1 3.6/3, mb1mx3.2/12, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=91.0km s-min=84.4km az=95.0*

*ISCJB **01** 17:05:09.3±2.0, 7.6S±0.1×129.5E±0.1, h143km±20km, mb3.6/1, Error ellipse: s-maj=20.0km s-min=17.3km az=106.9*

*NEIC **01** 17:05:24.4±9.0, 8.78S×129.67E, h178km±29km, mb4.4/2, Error ellipse: s-maj=107.7km s-min=31.6km az=174.0*

ISC 01 17:05:14.5±2.1**, 8.0S**±0.1×**129.7E**±0.1**, h141**km±22km**, n10, σ1.06**/18**, mb3.6**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	5.44	150	eP	Pn	17 06 34.6	+0.9
	13nm,0.2s						
KAKA				eS	Sn	17 07 41.8	+6.4
FITZ	Fitzroy Crossi	10.82	201	eP	Pn	17 07 44.9	-0.6
	3.3nm,0.3s						
FITZ				eS	Sn	17 09 45.3	+0.4
WRAB	Tennant Creek	12.73	160	ePn	Pn	17 08 10.1	-0.4
	30nm,1.5s						
WRAB				eSn	Sn	17 10 29.1	-2.0
WRA	Warramunga Arr	12.74	160	P	Pn	17 08 09.4	-1.1
	0.8nm,0.3s,baz=336,slow=13,SNR=49						
WRA				S	Sn	17 10 31.2	+0.1
	1.1nm,0.3s,baz=337,slow=22,SNR=9.3						
WB2	Warramunga Arr	12.74	160	eP	Pn	17 08 11.1	+0.5
WB2				eS	Sn	17 10 32.1	+0.9
AS31	Alice Springs	16.13	166	ePn	Pn	17 08 49.8	-3.4
AS31				eSn	Sn	17 11 52.8	0.0
ASAR	Alice Springs	16.13	166	P	Pn	17 08 52.9	-0.3
	0.3nm,0.3s,baz=337,slow=10,SNR=32						
ASAR				S	S	17 11 52.7	-0.2
	0.1nm,0.3s,baz=345,slow=25,SNR=4.7						
ASPA	Alice Springs	16.13	166	eP	Pn	17 08 56.3	+3.1
ASPA				eS	S	17 11 56.4	+3.5
STKA	Stephens Creek	26.25	157	P	P	17 10 36.7	+0.3
	0.7nm,0.4s,mb3.6,baz=333,slow=9.0,SNR=4.0						
STKA	Stephens Creek	26.25	157	P	P	17 10 36.7	+0.3

IDC 01 17:17:11.4±34.0**, 4.87N**×**126.15E, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/16**, mbtmp3.9**/3**, Error ellipse: s-maj=578.5km s-min=184.8km az=158.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.94	162	P	P	17 22 46.6	+1.2
	2.4nm,0.4s,baz=341,slow=10,SNR=57						
ASAR	Alice Springs	29.36	165	P	P	17 23 15.6	-0.4
	0.4nm,0.6s,baz=345,slow=7.7,SNR=13						
STKA	Stephens Creek	39.39	159	P	P	17 24 42.6	-0.1
	1.3nm,0.5s,baz=357,slow=12,SNR=5.8						

*IDC **01** 17:22:54.9±7.4, 22.09S×176.90W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/11, mbtmp4.1/5, Error ellipse: s-maj=180.8km s-min=37.0km az=35.0*

*ISCJB **01** 17:24:13.1±3.4, 24.8S±0.5×179.9E±0.4, h600km, mb3.8/12, Error ellipse: s-maj=81.7km s-min=16.4km az=78.5*

*NEIC **01** 17:24:13.4±2.8, 24.59S×179.90W, h600km, mb3.9/9, Error ellipse: s-maj=75.4km s-min=14.6km az=220.0*

ISC 01 17:24:13.9±3.5**, 24.8S**±0.5×**179.9W**±0.5**, h600**km**, n19, σ0.87**/19**, mb3.8**/12**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.55	272	eP	P	17 29 49.0	+0.3
	4.3nm,0.4s,mb4.4						
CTAO	Charters Tower	31.55	272	eP	P	17 29 49.1	+0.4
	5.1nm,0.4s,mb4.5						
STKA	Stephens Creek	34.47	249	eP	P	17 30 13.4	+0.2
	5.8nm,1.6s,mb4.0						
STKA	Stephens Creek	34.47	249	P	P	17 30 13.2	0.0
	0.7nm,0.4s,mb3.6,baz=98,slow=12,SNR=5.8						
AS31	Alice Springs	41.96	262	P	P	17 31 11.6	-2.1
ASAR	Alice Springs	41.96	262	P	P	17 31 13.9	+0.3
	1.1nm,0.4s,mb3.8,baz=92,slow=8.0,SNR=19						
ASPA	Alice Springs	41.97	262	eP	P	17 31 14.3	+0.6
WB2	Warramunga Arr	42.41	267	eP	P	17 31 16.9	-0.2
WB2	Warramunga Arr	42.41	267	eP	P	17 31 16.8	-0.3
WRAB	Tennant Creek	42.41	267	eP	P	17 31 16.8	-0.3
	4.0nm,0.6s,mb4.1						
WRA	Warramunga Arr	42.42	267	P	P	17 31 17.0	-0.2
	1.6nm,0.4s,mb3.9,baz=98,slow=8.1,SNR=52						
KAKA	Kakadu	46.45	276	eP	P	17 31 48.0	-0.1
	4.2nm,0.7s,mb4.1						
FITZ	Fitzroy Crossi	50.83	266	eP	P	17 32 21.8	+1.4
	4.1nm,1.4s,mb3.7						
SBA	Scott Base	53.54	183	eP	P	17 32 40.9	+1.1
	4.9nm,0.9s,mb3.8						
VNDA	Vanda	53.54	185	P	P	17 32 38.7	-1.0
	0.7nm,0.6s,mb3.2,baz=8.9,slow=7.0,SNR=5.8						
VNDA	Vanda	53.54	185	P	P	17 32 38.7	-1.0
CASY	Casey	59.38	206	eP	P	17 33 19.3	-0.4
	1.7nm,0.6s,mb3.4						
MAW	Mawson	76.98	200	P	P	17 35 07.2	+1.3
	2.6nm,0.7s,mb3.8,baz=149,slow=7.7,SNR=4.7						
SNAA	Sanae	83.82	179	P	P	17 35 40.4	-0.9
	1.2nm,0.9s,mb3.4						

*ISCJB **01** 17:42:53.2±0.5, 51.54N±0.02×16.17E±0.03, h0km, Error ellipse: s-maj=3.7km s-min=2.7km az=49.1*

*IPEC **01** 17:42:55.4±0.3, 51.56N×16.23E, h0km, ML2.0/4, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*

*IDC **01** 17:42:56.8±1.1, 51.30N×16.48E, h0km, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, ML2.6/3, Error ellipse: s-maj=20.4km s-min=9.3km az=108.0*

*NEIC **01** 17:42:57.5±2.0, 51.46N×16.01E, h5km, ML2.6(SZGRF), Error ellipse: s-maj=25.1km s-min=7.8km az=202.0*

*WAR **01** 17:42:57.5, 51.48N×16.12E, ML2.5, Mining Induced*

*PRU **01** 17:42:58.0, 51.42N×16.08E, h0km*

*CSEM **01** 17:42:58.3±0.4, 51.43N×16.13E, h2km, ML3.1/4, Error ellipse: s-maj=7.1km s-min=3.3km az=14.0*

ISC 01 17:42:54.8±0.5**, 51.54N**±0.02×**16.16E**±0.03**, h0**km**, n31, σ1.02**/55**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.70	173	i Pgd	Pg	17 43 09.3	+0.9
KSP				eSg	Sg	17 43 17.8	+0.3
KSP				eL		17 43 22.5	
KSP	Ksiaz	0.70	173	ePg	Pg	17 43 09.2	+0.8
KSP				eSg	Sg	17 43 17.8	+0.3
UPC	Upice	1.04	185	ePG	Pg	17 43 15.3	+0.5
DPC	Dobruska-Polom	1.20	175	eSG	Sg	17 43 32.3	-1.0
	32nm,0.5s						
DPC	Dobruska-Polom	1.20	175	ePg	Pg	17 43 18.0	+0.2
DPC				eSg	Sg	17 43 33.2	-0.1
PVCC	Panska Ves	1.43	225	ePG	Pg	17 43 22.5	+0.3
PVCC	Panska Ves	1.43	225	ePn	Pn	17 43 23.0	+1.0
PVCC				eSg	Sg	17 43 41.4	+0.7
BRG	Berggiesshubel	1.55	245	PG	Pg	17 43 24.8	+0.3
BRG				SG	Sg	17 43 45.0	+0.5
	26nm,0.4s						
BRG	Berggiesshubel	1.55	245	Pg	Pg	17 43 24.8	+0.3
BRG				Sg	Sg	17 43 45.0	+0.5
PRU	Pruhonice	1.86	214	ePG	Pg	17 43 29.8	-0.8
PRU				eSG	Sg	17 43 52.4	-2.3
	20nm,0.5s						
MORC	Moravsky Berou	1.98	153	ePn	Pn	17 43 29.9	+0.3
MORC	Moravsky Berou	1.98	153	ePn	Pn	17 43 29.9	+0.4
MORC				eSg	Sg	17 43 56.9	-1.4
	13nm,0.3s						
CLL	Collm	1.99	264	i Pg	Pg	17 43 32.5	-0.5
CLL				i x	x	17 43 36.0	
CLL				i x	x	17 43 48.0	
CLL				i Sg	Sg	17 43 59.2	+0.4
	comp=Z,24nm,1.2s						
OKC	Ostrava-Krasne	2.12	143	ePG	Pg	17 43 35.8	+0.3
OKC				eSG	Sg	17 44 01.7	-1.4
VRAC	Vranov	2.25	173	Pg	Pg	17 43 33.7	-4.3
	comp=Z,1.0nm,0.3s,baz=346,slow=15,SNR=10						
VRAC				Lg		17 44 03.0	
	comp=Z,3.3nm,0.3s,baz=252,slow=19,SNR=6.8						
VRAC	Vranov	2.25	173	ePn	Pn	17 43 34.2	+0.9
VRAC				eSg	Sg	17 44 06.1	-1.2
	comp=Z,5.2nm,0.2s						
TREC	Trest	2.29	191	ePG	Pg	17 43 38.3	-0.4
KRUC	Moravsky	2.49	176	ePn	Pn	17 43 37.7	+1.1
KRUC				eSg	Sg	17 44 14.4	-0.4
	comp=Z,5.3nm,0.2s						
OJC	Ojcow	2.66	118	ePg	Pg	17 43 45.9	+0.1
OJC				eSg	Sg	17 44 20.5	+0.2
NKC	Novy Kostel	2.69	242	ePN	Pn	17 43 40.0	+0.6
NKC				eSG	Sg	17 44 22.2	+0.9
	comp=Z,18nm,0.3s						
JAVC	Velka Javorina	2.86	160	eSg	Sg	17 44 28.3	+1.7
	comp=Z,8.3nm,0.4s						
KHC	Kasperske Hory	2.93	215	ePN	Pn	17 43 43.4	+0.8
KHC				ePG	Pg	17 43 49.4	-1.5
KHC				eSG	Sg	17 44 27.2	-1.7
	comp=Z,12nm,0.4s						
MOX	Moxa	3.00	254	ePg	Pg	17 43 52.2	-0.2
MOX				i Sg	Sg	17 44 32.4	+1.1
GERES	GERESS Array B	3.13	211	Pn	Pn	17 43 46.2	+0.8
	comp=Z,0.6nm,0.3s,baz=31,slow=12,SNR=18						
GERES				Pg	Pg	17 43 52.4	-2.4
	comp=Z,1.8nm,0.3s,baz=32,slow=15,SNR=25						
GERES				Lg		17 44 33.7	
	comp=Z,3.1nm,0.3s,baz=35,slow=28,SNR=7.5						
GERES	GERESS Array B	3.13	211	Pg	Pg	17 43 52.4	-2.4
VYHS	Vyhne	3.51	149	ePN	Pn	17 43 50.8	+0.2
VYHS				ePG	Pg	17 44 02.5	+0.5
VYHS				eSG	Sg	17 44 47.5	0.0
VYHS	Vyhne	3.51	149	ePn	Pn	17 43 50.8	+0.2
VYHS				ePg	Pg	17 44 02.6	+0.6
VYHS				eSg	Sg	17 44 47.6	+0.1
BSD	Bornholm Skovb	3.66	349	i P	Pn	17 43 53.0	+0.4
BSD				i S	Sn	17 44 34.5	-1.9
STHS	Stebnicka Huta	3.88	121	ePG	Pg	17 44 11.5	+2.3
STHS				eSG	Sg	17 45 05.2	+5.6
FINES	FINESS Array B	11.32	25	Pn	Pn	17 45 37.6	-0.2
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=3.4						
ARCES	ARCESS Array B	18.59	10	Pn	Pn	17 47 11.5	-2.1
	comp=Z,0.1nm,0.3s,baz=197,slow=14,SNR=3.5						

*IDC **01** 17:47:17.5±9.9, 7.05S×155.60E, h72km±72km, mb3.5/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.8/4, ML3.0/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/22, Error ellipse: s-maj=77.2km s-min=43.4km az=104.0*

*ISCJB **01** 17:47:19.4±5.8, 7.2S±0.3×155.5E±0.3, h98km±45km, mb3.6/4, Error ellipse: s-maj=50.6km s-min=36.7km az=101.5*

ISC 01 17:47:20.2±5.3**, 7.1S**±0.3×**155.5E**±0.3**, h92**km±38km**, n7, σ0.68**/8**, mb3.6**/4**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.58	254	P	Pn	17 49 21.4	-0.1
	0.9nm,0.3s,baz=161,slow=22,SNR=5.4						
PMG				S	Sn	17 50 56.7	+0.1
	0.5nm,0.3s,baz=351,slow=2.9,SNR=2.3						
PMG				LR	LR	17 52 03.9	
	comp=Z,84nm,20.2s,baz=98,slow=33						
WB2	Warramunga Arr	24.16	236	eP	P	17 52 28.1	+0.5
WRA	Warramunga Arr	24.17	236	P	P	17 52 28.4	+0.6
	1.5nm,0.6s,mb3.5,baz=60,slow=9.9,SNR=52						
ASAR	Alice Springs	26.48	229	P	P	17 52 48.6	0.0
	0.4nm,0.3s,mb3.3,baz=60,slow=9.3,SNR=15						
ASPA	Alice Springs	26.48	229	eP	P	17 52 48.4	-0.2
FITZ	Fitzroy Crossi	31.08	247	eP	P	17 53 28.4	-1.1
	3.0nm,0.8s,mb4.1						
MKAR	Makanchi Array	83.86	319	P	P	17 59 39.7	+0.2
	0.2nm,0.2s,mb3.5,baz=101,slow=7.5,SNR=4.6						

WEL 01 17:55:38.3±0.1**, 37.69S**×**177.30E, h120**km±1km**, ML3.5**/7**, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.59	195	PN	Pn	17 55 56.8	0.0
URZ				SN	Sn	17 56 11.0	+0.2
MWZ	Matawai	0.67	165	PN	Pn	17 55 57.5	+0.2
MWZ				SN	Sn	17 56 12.2	+0.4
MXZ	Matakaoa Point	0.81	82	PN	Pn	17 55 58.4	0.0
MXZ				SN	Sn	17 56 14.0	+0.2
PUZ	Puketiti	0.85	117	PN	Pn	17 55 58.8	-0.1
PUZ				SN	Sn	17 56 13.6	-0.8
KNZ	Kokohu	1.36	168	PN	Pn	17 56 04.1	0.0
KUZ	Kuaotunu	1.57	306	PN	Pn	17 56 06.5	-0.1
BKZ	Black Stump Fm	1.61	203	PN	Pn	17 56 06.8	-0.1
BKZ				SN	Sn	17 56 29.0	+0.2
PXZ	Pawanui	2.37	188	PN	Pn	17 56 15.2	-1.2
TSZ	Takapari Road	2.59	203	PN	Pn	17 56 17.5	-1.7
TSZ				SN	Sn	17 56 49.0	-1.7

*ISCJB **01** 18:00:57.3±2.9, 11.76S±0.10×166.0E±0.2, h43km±21km, mb4.4/13, MS3.6/8, Error ellipse: s-maj=28.0km s-min=9.6km az=120.0*

*IDC **01** 18:00:58.4±3.8, 11.52S×166.10E, h46km±30km, mb4.0/8, mb1 4.1/10, mb1mx4.0/14, mbtmp4.2/10, ML4.4/2, MS3.7/9, Ms1 3.7/9, ms1mx3.3/33, Error ellipse: s-maj=34.9km s-min=18.7km az=67.0*

*NEIC **01** 18:00:59.1±1.6, 11.62S×166.10E, h52km±12km, mb5.0/5, Error ellipse: s-maj=19.0km s-min=9.2km az=67.0*

ISC 01 18:00:58.8±2.3**, 11.67S**±0.10×**166.1E**±0.1**, h44**km±17km**, n34, σ1.01**/23**, mb4.4**/13**, MS3.6**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.41	290	P	Pn	18 02 31.8	+1.2
	28nm,0.3s,baz=98,slow=4.2,SNR=11						
HNR				S	Sn	18 03 41.1	-1.3
	9.9nm,0.3s,baz=93,slow=22,SNR=3.2						
HNR	Honiara	6.41	290	eP	Pn	18 02 31.1	+0.5
	106nm,0.8s						
DZM	Mont Dzumac	10.35	178	P	Pn	18 03 26.2	+1.6
	0.8nm,0.3s,baz=79,slow=23,SNR=9.1						
DZM				S	Sn	18 05 17.8	-1.4
	0.0nm,0.3s,baz=94,slow=21,SNR=2.2						
DZM				LR	LR	18 07 13.6	
	comp=Z,295nm,18.1s,baz=184,slow=36						
AFI	Afiamalu	21.73	98	LR	LR	18 12 49.0	
	comp=Z,127nm,19.6s,MS3.3,baz=230,slow=33						
URZ	Urewera	28.26	161	LR	LR	18 16 40.2	
	comp=Z,195nm,18.8s,MS3.7,baz=184,slow=33						
STKA	Stephens Creek	30.21	224	P	P	18 07 06.3	+1.3
	1.7nm,0.9s,mb3.8,baz=95,slow=16,SNR=3.2						
STKA				PcP	PcP	18 10 04.9	-0.2
	2.0nm,0.7s,baz=78,slow=2.4,SNR=6.5						
STKA				LR	LR	18 18 59.5	
	comp=Z,165nm,20.9s,MS3.6,baz=171,slow=36						
STKA	Stephens Creek	30.21	224	eP	P	18 07 04.4	-0.6
STKA				PcP	PcP	18 10 04.9	-0.2
STKA				LR	LR	18 18 59.5	
WRA	Warramunga Arr	31.56	251	PcP	PcP	18 10 08.9	+0.2
	1.6nm,0.8s,baz=80,slow=2.5,SNR=11						
GUMO	Guam	32.73	319	LR	LR	18 18 06.0	
	comp=Z,68nm,20.1s,MS3.4,baz=3.1,slow=32						
ASAR	Alice Springs	32.79	244	P	P	18 07 27.9	+0.1
	1.4nm,0.7s,mb4.0,baz=72,slow=9.9,SNR=20						
ASAR				PcP	PcP	18 10 12.4	+0.3
	1.2nm,0.6s,baz=70,slow=2.1,SNR=9.0						
RAR	Rarotonga	34.05	111	LR	LR	18 19 32.3	
	comp=Z,269nm,18.8s,MS4.0,baz=252,slow=33						
FITZ	Fitzroy Crossi	39.52	256	P	P	18 08 26.2	+0.9
	0.8nm,0.6s,mb3.7,baz=98,slow=16,SNR=6.8						
TBI	Tubuai	43.82	112	eLR	LR	18 21 53.0	
	119nm,29.5s						
MBWA	Marble Bar	45.29	252	P	P	18 09 12.6	+0.4
NWAO	Narrogin (SRO)	49.37	237	LR	LR	18 31 43.3	
	comp=Z,142nm,21.2s,MS3.9,baz=223,slow=37						
MJAR	Matsushiro Arr	54.66	333	P	P	18 10 21.2	-2.0
	1.4nm,0.9s,mb4.0,baz=169,slow=9.5,SNR=4.7						
RKT	Rikitea	57.09	110	eLR	LR	18 28 01.7	
	106nm,28.0s						
VNDA	Vanda	65.88	181	P	P	18 11 39.1	-0.8
	1.3nm,0.6s,mb4.1,baz=349,slow=8.8,SNR=6.8						
QSPA	South Pole Qui	78.34	180	eP	P	18 12 53.6	-0.8
	11nm,1.1s,mb4.7						
ULN	Ulaanbaatar	78.98	324	eP	P	18 12 58.0	0.0
	3.9nm,1.0s,mb4.3						
SONM	Songino Array	79.35	324	P	P	18 12 59.6	-0.3
	1.5nm,0.9s,mb3.9,baz=137,slow=7.4,SNR=5.8						
YBH	Yreka Blue Hor	84.11	45	LR	LR	18 45 02.0	
	comp=Z,42nm,19.5s,MS3.8,baz=179,slow=32						
NVAR	Mina Array Bea	86.19	50	pP	pP	18 13 45.0	-3.7
	0.3nm,0.7s,baz=245,slow=5.7,SNR=2.7						
GUN	Gumba	86.89	299	eP	P	18 13 40.2	+1.3
PKI	Pulchoki	87.20	299	eP	P	18 13 41.3	+0.9
KKN	Kakani	87.37	299	eP	P	18 13 42.0	+0.8
DMN	Daman	87.47	299	eP	P	18 13 42.6	+0.9
	14nm,0.7s,mb5.3						
GKN	Gorkha	87.97	299	eP	P	18 13 44.3	+0.2
	16nm,0.8s,mb5.3						
KOLN	Koldanda	88.81	299	eP	P	18 13 47.9	-0.1
	5.9nm,0.6s,mb5.1						
MKAR	Makanchi Array	94.18	317	P	P	18 14 12.8	-0.2
	5.3nm,0.7s,mb5.1,baz=86,slow=6.3,SNR=39						
ZAL	Zalesovo	94.25	324	P	P	18 14 11.4	-1.8
	1.3nm,0.6s,mb4.6,baz=13,slow=6.1,SNR=4.3						
YKA	Yellowknife Ar	95.38	27	LR	LR	18 53 59.5	
	comp=Z,13nm,19.7s,MS3.4,baz=270,slow=33						
BOSA	Boshof	124.87	223	PKP	PKPdf	18 19 54.2	+0.4
	2.5nm,0.9s,baz=146,slow=1.8,SNR=4.9						
KEST	Kesra	148.09	323	PKPbc	PKPbc	18 20 37.4	-2.2
	1.4nm,0.9s,baz=13,slow=9.4,SNR=4.9						

IDC 01 18:02:43.1±7.4**, 22.18S**×**175.32W, h0**km**, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.7**/12**, mbtmp3.8**/2**, Error ellipse: s-maj=317.0km s-min=57.3km az=146.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.59	258	P	P	18 11 13.2	+0.4
	1.0nm,0.7s,baz=99,slow=6.3,SNR=5.5						
WRA	Warramunga Arr	46.87	263	P	P	18 11 15.2	+0.2
	0.9nm,0.6s,baz=102,slow=8.0,SNR=9.2						
AKASG	Malin Array Be	145.68	332	PKPbc	PKPbc	18 22 22.9	-0.9
	0.5nm,0.5s,baz=42,slow=3.9,SNR=8.1						

*NEIC **01** 18:03:30.6, 15.84N×94.30W, h81km, MD3.9(MEX), After MEX.*

MEX 01 18:03:31.0±0.6**, 15.82N**×**94.30W, h68**km±27km**, MD3.9, 2C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.38	336	i P	Pn	18 03 52.7	-1.6
CMIG				i S	Sn	18 04 10.3	-1.5
HUIG	Huatulco	1.74	269	⇑iP	Pn	18 03 58.2	-0.9
HUIG				i S	Sn	18 04 18.1	-2.2
HUIG	Huatulco	1.74	269	⇑iP	Pn	18 03 58.2	-0.9
HUIG				i S	Sn	18 04 18.8	-1.5
SCX	San Cristobal	1.84	60	i P	Pn	18 03 59.0	-1.5
SCX				i S	Sn	18 04 22.0	-0.9
OXX	Oaxaca	2.64	299	i P	Pn	18 04 10.0	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OXX				*i* S	Sn	18 04 41.0	-1.1
UTMO	**Huajuapan**	**3.90**	**301**	*i* P	Pn	18 04 28.3	-0.2
UTMO				*i* S	Sn	18 05 12.3	-0.7

*SOF **01** 18:04:57.7, 4058N×2249E, h10^{km}, MD2.6*
*ATH **01** 18:04:59.8, 4059N×2248E, h33^{km}±2^{km}, MD3.4/5*
*NEIC **01** 18:04:59.8, 4059N×2248E, h33^{km}, MD2.6(SOF), MD3.4(ATH), After ATH.*
*THE **01** 18:05:00.2, 4059N×2249E, h12^{km}, ML2.9*
*CSEM **01** 18:05:00.3±0.1, 4060N×2252E, h20^{km}, ML2.9, Error ellipse: s-maj=1.4km s-min=1.4km az=79.0*
*ISCJB **01** 18:05:00.5±0.4, 4058N±003×2250E±004, h18^{km}±7^{km}, Error ellipse: s-maj=5.0km s-min=4.2km az=65.5*
*SKO **01** 18:05:01.5, 4061N×2248E, h0^{km}, M1.9, ML2.7*
ISC 01 18:04:59.8±0.4, **4058N**±002×**2252E**±003, **h12**^{km}±6^{km}, **n28**, σ**0^{s}89**/39, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.34**	**82**	*e*Pg	**Pg**	**18 05 07.3**	**+0.6**
THE				*e*Sg	**Sg**	**18 05 12.5**	**+1.2**
GRG	**Griva**	**0.38**	**347**	*e*Pg	**Pg**	**18 05 07.7**	**+0.2**
HORT	**Hortiatis**	**0.44**	**88**	*e*Pg	**Pg**	**18 05 09.1**	**+0.6**
LIT	**Litokhoron**	**0.48**	**183**	*e*Pg	**Pg**	**18 05 09.7**	**+0.5**
KZN	**Kozani**	**0.63**	**244**	*e*PN	**Pg**	**18 05 12.5**	**+0.4**
KZN				*e*SN	**Sg**	**18 05 22.1**	**+1.6**
KNT	**Kendrikon**	**0.65**	**26**	*e*Pg	**Pg**	**18 05 12.3**	**0.0**
SOH	**Sokhos**	**0.68**	**69**	*e*Pg	**Pg**	**18 05 12.8**	**-0.2**
SOH				*e*Sg	**Sg**	**18 05 25.2**	**+3.3**
PLG	**Polygyros**	**0.74**	**106**	*e*PN	**Pg**	**18 05 14.7**	**+0.6**
VAY	**Valandovo**	**0.74**	**3**	*e*Pg	**Pg**	**18 05 13.5**	**-0.7**
VAY	**Valandovo**	**0.74**	**3**	*i* Pg	**Pg**	**18 05 13.5**	**-0.6**
VAY				*i* Sg	**Sg**	**18 05 23.7**	**-0.1**
VAY				*e*Lg		18 05 26.2	
	comp=N,246nm,0.5s						
VAY				*e*Lg		18 05 26.4	
	comp=E,212nm,0.6s						
VAY	**Valandovo**	**0.74**	**3**	*e*Pg	**Pg**	**18 05 13.5**	**-0.6**
VAY				*i* Sg	**Sg**	**18 05 23.7**	**-0.1**
FNA	**Florina**	**0.89**	**283**	*e*Pg	**Pg**	**18 05 16.6**	**-0.5**
FNA	**Florina**	**0.89**	**283**	*e*Pg	**Pg**	**18 05 16.5**	**-0.5**
SRS	**Serrai**	**0.97**	**56**	*e*Pg	**Pg**	**18 05 18.1**	**-0.5**
SRS				*e*Sg	**Sg**	**18 05 33.5**	**+2.2**
BIA	**Bitola**	**1.01**	**296**	*i* Pg	**Pg**	**18 05 19.6**	**+0.4**
BIA				*e*Lg		18 05 36.3	
	comp=N,32nm,0.3s						
BIA				*e*Lg		18 05 37.9	
	comp=E,97nm,0.9s						
PAIG	**Paliouri**	**1.10**	**126**	*e*Pg	**Pg**	**18 05 20.7**	**-0.3**
STIP	**Stip**	**1.14**	**347**	*i* Pg	**Pg**	**18 05 21.9**	**+0.2**
STIP				*e*Lg		18 05 40.9	
	comp=N,22nm,0.3s						
OUR	**Ouranopolis**	**1.14**	**102**	*e*Pg	**Pg**	**18 05 22.3**	**+0.5**
NVR	**Nevrokopi**	**1.27**	**53**	*e*PN	**Pn**	**18 05 23.5**	**0.0**
XOR	**Xorichti**	**1.32**	**157**	*e*Pg	**Pg**	**18 05 24.1**	**-1.1**
XOR				*e*Sg	**Sg**	**18 05 41.1**	**-1.3**
KKB	**Krupnik**	**1.35**	**18**	Pg	**Pg**	**18 05 24.4**	**-1.4**
KKB				Sg	**Sg**	**18 05 42.7**	**-0.7**
MMB	**Musomiste**	**1.36**	**42**	*e*Pg	**Pg**	**18 05 24.9**	**-1.0**
MMB				*e*Sg	**Sg**	**18 05 42.9**	**-0.7**
MMB	**Musomiste**	**1.36**	**42**	Pg	**Pg**	**18 05 24.8**	**-1.1**
MMB				Sg	**Sg**	**18 05 42.7**	**-0.9**
NEO	**Neokhori**	**1.39**	**157**	*e*PN	**Pn**	**18 05 24.9**	**-0.1**
AGG	**Agios Georgios**	**1.56**	**185**	*e*Pg	**Pg**	**18 05 28.4**	**-1.4**
VTS	**Vitosha**	**2.07**	**14**	P	**Pn**	**18 05 35.0**	**+0.6**
RDO	**Rodhopi**	**2.36**	**75**	*e*PN	**Pn**	**18 05 39.2**	**+0.8**
KDZ	**Kurdzhali**	**2.44**	**63**	P	**Pb**	**18 05 44.0**	**+0.4**
KDZ				*e*Sg	**Sg**	**18 06 16.8**	**-1.3**

*NEIC **01** 18:08:17.6±0.5, 292S×12865E, h10^{km}, mb3.9/3, Error ellipse: s-maj=30.8km s-min=6.3km az=70.0*
*ISCJB **01** 18:08:19.6±0.5, 305S±006×12843E±008, h33^{km}, mb4.0/7, Error ellipse: s-maj=11.2km s-min=8.4km az=156.7*
*IDC **01** 18:08:22.3±4.6, 309S×12834E, h44^{km}±43^{km}, mb3.8/5, mb1 3.9/7, mb1mx3.7/17, mbtmp4.0/7, ML3.9/2, Error ellipse: s-maj=99.5km s-min=12.7km az=71.0*
ISC 01 18:08:21.9±0.5, **307S**±006×**12843E**±008, **h35**^{km}, **n16**, σ**0^{s}72**/17, **mb4.0**/7, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.66**	**201**	P	**Pn**	**18 08 33.9**	**-0.8**
	0.0nm,0.0s						
SWI	**Sorong**	**3.58**	**52**	P	**Pn**	**18 09 15.1**	**+0.2**
	0.0nm,0.0s						
BAKI	**Biak**	**7.90**	**76**	P	**Pn**	**18 10 15.1**	**+0.9**
	0.0nm,0.0s						
PCI	**Palu**	**8.85**	**284**	P	**Pn**	**18 10 28.6**	**+1.3**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**15.19**	**190**	P	**Pn**	**18 11 54.4**	**+0.7**
	0.1nm,0.3s,baz=6.6,slow=16,SNR=4.3						
WRAB	**Tennant Creek**	**17.73**	**161**	*e*P	**Pn**	**18 12 26.2**	**+0.2**
	3.8nm,0.5s						
WRA	**Warramunga Arr**	**17.73**	**161**	P	**Pn**	**18 12 25.7**	**-0.3**
	0.8nm,0.3s,baz=341,slow=12,SNR=28						
WB2	**Warramunga Arr**	**17.74**	**161**	*e*P	**Pn**	**18 12 25.6**	**-0.4**
AS31	**Alice Springs**	**21.15**	**166**	*e*P	**P**	**18 13 04.1**	**+0.3**
ASAR	**Alice Springs**	**21.15**	**166**	P	**P**	**18 13 04.0**	**+0.1**
	5.2nm,0.4s,mb4.2,baz=348,slow=12,SNR=113						
ASAR				S	**S**	**18 16 57.7**	**+0.6**
	0.7nm,0.7s,baz=348,slow=17,SNR=3.0						
STKA	**Stephens Creek**	**31.22**	**158**	P	**P**	**18 14 37.4**	**-0.6**
	1.4nm,0.9s,mb3.8,baz=326,slow=14,SNR=3.1						
LSA	**Lhasa**	**48.31**	**315**	*e*P	**P**	**18 17 01.0**	**+1.3**
	1.5nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**64.10**	**327**	P	**P**	**18 18 51.9**	**-0.6**
	1.6nm,0.7s,mb4.1,baz=120,slow=7.2,SNR=12						
ZAL	**Zalesovo**	**67.39**	**334**	P	**P**	**18 19 12.4**	**-1.2**
	1.0nm,0.3s,mb4.3,baz=16,slow=3.6,SNR=3.9						
BVAR	**Borovoye Array**	**73.92**	**328**	P	**P**	**18 19 52.8**	**-0.7**
	0.6nm,0.8s,mb3.5,baz=125,slow=7.4,SNR=4.7						
BRVK	**Borovoye**	**74.00**	**328**	P	**P**	**18 19 53.2**	**-0.6**
	0.9nm,0.8s,mb3.8						

*ISCJB **01** 18:10:01.4±0.9, 29S±0.1×1286E±03, h10^{km}, mb4.0/3, MS4.0/1, Error ellipse: s-maj=52.8km s-min=10.2km az=142.4*
*NEIC **01** 18:10:03.3±0.7, 292S×12859E, h10^{km}, Error ellipse: s-maj=43.0km s-min=8.7km az=71.0*
*IDC **01** 18:10:09.4±5.2, 312S×12825E, h52^{km}±45^{km}, mb3.7/3, mb1 3.8/5, mb1mx3.6/17, mbtmp3.9/5, ML3.7/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/29, Error ellipse: s-maj=114.8km s-min=13.6km az=71.0*
ISC 01 18:10:07.0±4.5, **30S**±01×**1286E**±04, **h35**^{km}±32^{km}, **n11**, σ**0^{s}69**/11, **mb4.0**/3, **MS4.0**/1, **Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.31**	**191**	P	**Pn**	**18 13 40.3**	**-0.1**
	0.1nm,0.3s,baz=174,slow=21,SNR=2.3						
WRAB	**Tennant Creek**	**17.79**	**162**	P	**Pn**	**18 14 11.8**	**0.0**
WRA	**Warramunga Arr**	**17.79**	**162**	P	**Pn**	**18 14 12.2**	**+0.4**
	0.5nm,0.3s,baz=342,slow=12,SNR=7.1						
WB2	**Warramunga Arr**	**17.80**	**162**	*e*P	**Pn**	**18 14 10.8**	**-1.1**
AS31	**Alice Springs**	**21.22**	**166**	*e*P	**P**	**18 14 50.0**	**+0.3**
ASAR	**Alice Springs**	**21.22**	**166**	P	**P**	**18 14 50.4**	**+0.6**
	8.7nm,0.9s,mb4.1,baz=348,slow=12,SNR=11						
ASAR				S	**S**	**18 18 43.5**	**-0.1**
	1.0nm,0.9s,baz=345,slow=16,SNR=4.6						
RAO	**Raoul Island**	**57.06**	**123**	LR	LR	18 44 10.4	
	comp=Z,110nm,18.4s,MS4.0,baz=41,slow=36						
MKAR	**Makanchi Array**	**64.08**	**327**	P	**P**	**18 20 38.1**	**+0.6**
	1.6nm,0.8s,mb4.1,baz=120,slow=7.2,SNR=10						
BVAR	**Borovoye Array**	**73.90**	**328**	P	**P**	**18 21 38.3**	**-0.1**
	0.9nm,0.9s,mb3.7,baz=118,slow=8.5,SNR=4.7						
BRVK	**Borovoye**	**73.98**	**328**	P	**P**	**18 21 39.7**	**+0.8**
ZRNK	**Zerenda**	**74.61**	**327**	P	**P**	**18 21 41.1**	**-1.5**

JMA 01 18:14:16.3±0.4, **4405N**×**14826E**, **h0**^{km}, **M3.8**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.95**	**250**	P	Pn	18 14 51.2	+0.6
NEM2				*e*S	Sn	18 15 16.6	+0.8
JRA	**Rausu**	**2.27**	**268**	P	Pn	18 14 55.7	+0.7
JNK	**Nakash**	**2.60**	**261**	P	Pn	18 15 00.9	+1.3
JNK				*e*S	Sn	18 15 32.9	+0.9
JAK	**Akkeshi**	**2.80**	**249**	P	Pn	18 15 03.4	+1.1
JAK				*e*S	Sn	18 15 37.6	+0.9
JOT	**Ohata**	**5.94**	**246**	P	Pn	18 15 47.2	+1.7
JOT				*e*S	Sn	18 16 53.8	-0.5
JANG	**Nango**	**6.21**	**236**	*e*S	Sn	18 16 59.0	-1.9

*ISCJB **01** 18:14:40.5±0.4, 4380N±003×10523W±005, h0^{km}, mb4.1/5, Error ellipse: s-maj=5.6km s-min=4.8km az=61.0*
*IDC **01** 18:14:41.5±2.2, 4373N×10547W, h0^{km}, mb4.0/5, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, ML3.0/1, Error ellipse: s-maj=71.0km s-min=8.5km az=149.0*
*NEIC **01** 18:14:42.3±0.4, 4378N×10523W, h0^{km}, ML3.6, Error ellipse: s-maj=5.1km s-min=4.5km az=147.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 01 18:14:42.2±0.4, **4381N**±003×**10523W**±005, **h0**^{km}, **n51**, σ**1^{s}02**/55, **mb4.1**/5, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**70**	*e*P	**Pg**	**18 15 01.2**	**+1.5**
PHWY	**Pilot Hill**	**2.52**	**184**	*e*P	**Pn**	**18 15 24.0**	**-0.3**
PHWY				*e*S	**Sn**	**18 15 55.6**	**-0.1**
RWWY	**Rawlins**	**2.58**	**215**	*e*Pn	**Pn**	**18 15 25.7**	**+0.6**
RWWY				*e*Sn	**Sn**	**18 15 57.7**	**+0.5**
BW06	**Boulder Array**	**3.33**	**253**	*e*Pn	**Pn**	**18 15 35.0**	**-0.5**
BW06				*e*Sn	**Sn**	**18 16 15.4**	**-0.4**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**18 15 35.7**	**+0.2**
	5.6nm,0.3s,baz=72,slow=15,SNR=77						
PDAR				Lg		18 16 19.4	
	11nm,0.3s,baz=74,slow=23,SNR=7.7						
GCMT	**Greycliff**	**3.73**	**304**	*e*Pn	**Pn**	**18 15 41.9**	**+0.9**
LKWY	**Lake**	**3.80**	**283**	*e*Pn	**Pn**	**18 15 43.5**	**+1.5**
LOHW	**Long Hollow**	**3.91**	**269**	*e*P	**Pn**	**18 15 44.3**	**+0.9**
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn	**Pn**	**18 15 44.2**	**0.0**
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**18 15 44.8**	**-0.2**
YNR	**Norris Junctio**	**4.02**	**285**	*e*Pg	**Pg**	**18 15 54.8**	**-4.5**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pn	**Pn**	**18 15 51.2**	**+6.1**
YFT	**Old Faithful**	**4.09**	**281**	*e*Pn	**Pn**	**18 15 49.0**	**+3.0**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**18 15 45.1**	**-1.2**
IMW	**Indian Meadow**	**4.13**	**273**	*e*Pn	**Pn**	**18 15 48.3**	**+1.8**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**18 15 47.6**	**+0.6**
YMR	**Madison River**	**4.21**	**284**	*e*Pg	**Pg**	**18 15 59.7**	**-3.2**
DCID1	**Drake Creek**	**4.33**	**269**	Pn	**Pn**	**18 15 50.8**	**+1.6**
AHID	**Auburn Hatcher**	**4.42**	**258**	*e*Pg	**Pg**	**18 16 02.7**	**-4.1**
RRI2	**Red Ridge**	**4.45**	**266**	*e*Pn	**Pn**	**18 15 51.4**	**+0.4**
QLMT	**Earthquake Lak**	**4.57**	**285**	*e*Pn	**Pn**	**18 15 51.8**	**-0.7**
SMCO	**Snowmass**	**4.81**	**196**	P	**Pn**	**18 15 58.9**	**+3.0**
SMCO				*e*Pg	**Pg**	**18 16 07.8**	**-6.7**
HWUT	**Hardware Ranch**	**5.17**	**247**	*e*Pn	**Pn**	**18 16 00.4**	**-0.4**
	15nm,0.6s						
EGMT	**Eagleton**	**5.27**	**325**	*e*Pn	**Pn**	**18 16 02.6**	**+0.5**
	19nm,0.6s						
TCUT	**Toone Canyon**	**5.31**	**242**	*e*Pn	**Pn**	**18 16 01.8**	**-0.9**
DLMT	**Dillon**	**5.49**	**289**	*e*Pn	**Pn**	**18 16 04.8**	**-0.4**
	16nm,1.0s						
HRY	**Holter Researc**	**5.49**	**304**	*e*Pn	**Pn**	**18 16 05.3**	**+0.1**
HRY				*e*Pg	**Pg**	**18 16 24.2**	**-3.2**
CTU	**Camp Tracy**	**5.76**	**239**	*e*Pn	**Pn**	**18 16 07.8**	**-1.1**
	9.1nm,0.5s						
HVU	**Hansel Valley**	**5.91**	**253**	*e*Pn	**Pn**	**18 16 10.8**	**-0.2**
	11nm,0.7s						
MPU	**Maple Canyon**	**6.10**	**234**	*e*Pg	**Pg**	**18 16 31.5**	**-7.6**
	18nm,0.8s						
PV10	**Paradox Valley**	**6.15**	**209**	*e*Pn	**Pn**	**18 16 15.7**	**+1.5**
SRU	**San Rafael**	**6.16**	**222**	*e*Pn	**Pn**	**18 16 12.5**	**-1.8**
	20nm,0.6s						
PV01	**Paradox Valley**	**6.21**	**205**	*e*Pn	**Pn**	**18 16 15.6**	**+0.5**
ECSD	**EROS,Sioux Fal**	**6.24**	**88**	*e*Pn	**Pn**	**18 16 14.3**	**-1.1**
TMUT	**Trail Mountain**	**6.36**	**227**	*e*Pn	**Pn**	**18 16 16.9**	**-0.3**
CHMT	**Chamberlain Mo**	**6.45**	**302**	*e*Pn	**Pn**	**18 16 19.1**	**+0.7**
BGU	**Big Grassy Mou**	**6.46**	**246**	*e*Pn	**Pn**	**18 16 17.6**	**-0.9**
DUG	**Dugway**	**6.71**	**240**	*e*Pn	**Pn**	**18 16 21.4**	**-0.6**
	6.3nm,0.5s						
MSU	**Marysvale**	**7.45**	**227**	*e*Pn	**Pn**	**18 16 32.0**	**-0.1**
ARUT	**Antelope Range**	**8.66**	**229**	*e*Pn	**Pn**	**18 16 49.1**	**+0.4**
CCUT	**Cedar City**	**8.79**	**227**	*e*Pn	**Pn**	**18 16 50.9**	**+0.4**
ANMO	**Albuquerque**	**8.90**	**187**	Lg		18 19 19.7	
	0.1nm,0.3s,baz=272,slow=21,SNR=3.9						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**18 16 53.9**	**-0.3**
	0.5nm,0.3s,baz=226,slow=10,SNR=6.9						
ULM				Pg	Pg	18 17 29.6	-6.2
	0.7nm,0.3s,baz=238,slow=14,SNR=4.5						
ULM				Lg		18 19 26.8	
	0.2nm,0.3s,baz=139,slow=20,SNR=3.1						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**18 16 53.9**	**-0.3**
ULM				Pg	Pg	18 17 29.6	-6.2
ULM				Lg		18 19 26.8	
WUAZ	**Wupatki**	**9.54**	**212**	*e*Pn	**Pn**	**18 17 00.3**	**-0.5**
	9.6nm,0.6s						
NVAR	**Mina Array Bea**	**11.23**	**246**	Pn	**Pn**	**18 17 23.7**	**-0.2**
	0.1nm,0.3s,baz=58,slow=11,SNR=3.5						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**18 24 58.5**	**-1.2**
	2.0nm,0.8s,mb4.3,baz=338,slow=6.8,SNR=5.5						
ZAL	**Zalesovo**	**82.25**	**354**	P	**P**	**18 27 03.1**	**-2.3**
	0.8nm,0.5s,mb4.1,baz=65,slow=7.9,SNR=2.9						
BVAR	**Borovoye Array**	**83.47**	**3**	P	**P**	**18 27 11.7**	**0.0**
	0.4nm,0.5s,mb3.9,baz=341,slow=3.5,SNR=3.6						
SONM	**Songino Array**	**84.58**	**339**	P	**P**	**18 27 18.1**	**+0.8**
	0.4nm,0.5s,mb3.9,baz=29,slow=3.3,SNR=2.4						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**18 27 41.3**	**-0.1**
	0.3nm,0.3s,mb4.1,baz=15,slow=6.4,SNR=3.7						

*IDC **01** 18:33:48.9±3.7, 349S×13888E, h0^{km}, mb3.3/2, mb1 3.6/4, mb1mx3.5/11, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=117.9km s-min=30.8km az=90.0*
*ISCJB **01** 18:34:03.0±3.1, 39S±0.1×1383E±02, h112^{km}±31^{km}, mb3.5/1, Error ellipse: s-maj=35.1km s-min=17.9km az=39.7*
ISC 01 18:34:03.9±2.2, **38S**±01×**1381E**±02, **h102**^{km}±17^{km}, **n8**, σ**1^{s}00**/14, **mb3.5**/1, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.45**	**212**	*e*P	**Pn**	**18 36 30.8**	**+0.2**
	8.8nm,0.5s						
KAKA				*e*S	**Sn**	**18 38 25.7**	**0.0**
WB2	**Warramunga Arr**	**16.45**	**192**	*e*P	**Pn**	**18 37 48.9**	**+0.4**
WB2				*e*S	**S**	**18 40 42.8**	**-13**
WRA	**Warramunga Arr**	**16.45**	**192**	Pn	**Pn**	**18 37 46.4**	**-2.2**
	0.2nm,0.3s,baz=17,slow=12,SNR=22						
WRA				Sn	**Sn**	**18 40 40.2**	**-11**
	0.2nm,0.3s,baz=15,slow=23,SNR=6.3						
FITZ	**Fitzroy Crossi**	**18.70**	**220**	*e*P	**P**	**18 38 18.6**	**+4.4**
	2.5nm,0.7s						
FITZ				*e*S	**S**	**18 41 42.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**18.70**	**220**	P	**P**	**18 38 17.5**	**+3.3**
	0.1nm,0.3s,baz=51,slow=13,SNR=6.3						
FITZ				S	**S**	**18 41 40.1**	**-1.6**
	0.1nm,0.3s,baz=10,slow=24,SNR=3.8						
ASAR	**Alice Springs**	**20.16**	**191**	P	**P**	**18 38 30.7**	**+0.8**
	0.5nm,0.6s,baz=20,slow=10,SNR=28						
ASAR				S	**S**	**18 42 10.6**	**-0.1**
	0.2nm,0.5s,baz=8.6,slow=29,SNR=4.4						
ASPA	**Alice Springs**	**20.16**	**191**	*e*P	**P**	**18 38 30.4**	**+0.4**
MKAR	**Makanchi Array**	**70.25**	**323**	P	**P**	**18 45 05.6**	**-0.3**
	0.3nm,0.4s,mb3.5,baz=122,slow=5.4,SNR=3.7						

*ISCJB **01** 18:40:20.6±0.3, 4249N±004×14179E±005, h134^{km}±3^{km}, mb3.5/11, Error ellipse: s-maj=7.7km s-min=5.0km az=84.4*
*IDC **01** 18:40:20.7±1.2, 4243N×14192E, h127^{km}±11^{km}, mb3.3/8, mb1 3.4/9, mb1mx3.3/21, mbtmp3.6/9, Error ellipse: s-maj=24.4km s-min=14.0km az=96.0*
*MOS **01** 18:40:20.7±1.0, 4247N×14192E, h148^{km}, mb3.7/7, Error ellipse: s-maj=21.4km s-min=11.4km az=99.4*
*NEIC **01** 18:40:22.3±0.8, 4242N×14189E, h144^{km}±10^{km}, mb3.8/3, Error ellipse: s-maj=17.7km s-min=13.3km az=99.0*
*JMA **01** 18:40:22.0±0.1, 4253N×14173E, h130^{km}±1^{km}, M3.2*
ISC 01 18:40:21.5±0.3, **4249N**±004×**14180E**±005, **h132**^{km}±2^{km}, **n42**, σ**0^{s}72**/57, **mb3.5**/11, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEW	**Eniwo**	**0.43**	**324**	P	**Pn**	**18 40 40.5**	**0.0**
JEW				*e*S	**Sn**	**18 40 54.0**	**-0.8**
JBT2	**Biratori 2**	**0.51**	**55**	P	**Pn**	**18 40 41.3**	**+0.4**
JBT2				*e*S	**Sn**	**18 40 56.3**	**+0.8**
JNB	**Noboribetsu**	**0.56**	**268**	P	**Pn**	**18 40 41.0**	**-0.2**
JNB				*e*S	**Sn**	**18 40 55.4**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.74**	**106**	P	**Pn**	**18 40 43.2**	**+0.8**
JNBK				*e*S	**Sn**	**18 40 59.3**	**+1.1**
JKB	**Kayabe**	**0.83**	**224**	P	**Pn**	**18 40 43.1**	**0.0**
JKB				*e*S	**Sn**	**18 40 58.5**	**-1.0**
JFR	**Furan**	**0.89**	**41**	P	**Pn**	**18 40 43.6**	**0.0**
JFR				*e*S	**Sn**	**18 40 59.9**	**-0.5**
ERM	**Erimo**	**1.12**	**115**	*e*PN	**Pn**	**18 40 46.4**	**+0.7**
JCH	**Churui**	**1.16**	**83**	P	**Pn**	**18 40 46.6**	**+0.4**
JCH				*e*S	**Sn**	**18 41 04.3**	**-0.6**
JOT	**Ohata**	**1.24**	**207**	P	**Pn**	**18 40 47.2**	**+0.3**
JOT				*e*S	**Sn**	**18 41 05.8**	**-0.5**
JHR	**Hokuryu**	**1.25**	**358**	P	**Pn**	**18 40 47.8**	**+0.7**
JHR				*e*S	**Sn**	**18 41 06.8**	**+0.2**
JSK	**Shakotan**	**1.30**	**312**	P	**Pn**	**18 40 47.9**	**+0.3**
JKK2	**Kamakawa 2**	**1.55**	**26**	P	**Pn**	**18 40 50.6**	**+0.3**
JKK2				*e*S	**Sn**	**18 41 11.6**	**-0.6**
JAR	**Ashorobuto**	**1.66**	**60**	P	**Pn**	**18 40 51.5**	**0.0**
JAR				*e*S	**Sn**	**18 41 13.1**	**-1.4**
ASAJ	**Asahikawa**	**1.73**	**19**	P	**Pn**	**18 40 52.6**	**+0.3**
	5.9nm,0.3s,baz=226,slow=11,SNR=94						
ASAJ				S	**Sn**	**18 41 15.2**	**-0.7**
	6.7nm,0.3s,baz=274,slow=25,SNR=17						
ASAJ	**Asahikawa**	**1.73**	**19**	PN	**Pn**	**18 40 52.6**	**+0.3**
ASAJ				S	**Sn**	**18 41 15.2**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
JOSM	**Okushiri--Mats**	**1.77**	**257**	P	**Pn**	**18 40 53.3**	**+0.5**
JOSM				*e*S	**Sn**	**18 41 17.0**	**+0.2**
JYG	**Yagishiri**	**1.96**	**352**	P	**Pn**	**18 40 55.7**	**+0.7**
JANG	**Nango**	**2.12**	**186**	P	**Pn**	**18 40 56.3**	**-0.8**
JTKR	**Abashiri--Toko**	**2.14**	**45**	P	**Pn**	**18 40 58.0**	**+0.7**
JTKR				*e*S	**Sn**	**18 41 24.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.52**	**8**	*e*PN	**Pn**	**18 41 28.0**	**-0.1**
MJAR	**Matsushiro Arr**	**6.55**	**206**	P	**Pn**	**18 41 56.4**	**+0.9**
	comp=N,0.5nm,0.3s,baz=25,slow=14,SNR=7.6						
MJAR	**Matsushiro Arr**	**6.55**	**206**	PN	**Pn**	**18 41 56.4**	**+0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**25.38**	**294**	P	**P**	**18 45 37.9**	**+1.5**
	comp=Z,0.5nm,0.4s,mb3.4,baz=81,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**25.38**	**294**	P	**P**	**18 45 37.9**	**+1.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**38.65**	**307**	P	**P**	**18 47 30.6**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.5,baz=150,slow=12,SNR=3.4						
ZAL	**Zalesovo**	**38.65**	**307**	P	**P**	**18 47 30.6**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.68**	**297**	P	**P**	**18 47 57.2**	**+0.2**
	comp=Z,0.2nm,0.2s,mb3.3,baz=84,slow=7.4,SNR=2.5						
CHKZ	**Chkalovo**	**46.93**	**310**	*e*P	**P**	**18 48 39.2**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**46.93**	**310**	*e*P	**P**	**18 48 39.1**	**+0.4**
	comp=Z,1.6nm,0.6s,mb3.8						
BRVK	**Borovoye**	**47.30**	**309**	*e*P	**P**	**18 48 42.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
BRVK	**Borovoye**	**47.30**	**309**	*e*P	**P**	**18 48 42.0**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.6						
ZRNK	**Zerenda**	**48.07**	**309**	*e*P	**P**	**18 48 48.0**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ZRNK	**Zerenda**	**48.07**	**309**	*e*P	**P**	**18 48 48.0**	**+0.5**
	comp=Z,1.8nm,0.8s,mb3.8						
INK	**Inuvik**	**49.44**	**29**	P	**P**	**18 48 58.1**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.6,baz=292,slow=5.4,SNR=2.6						
INK	**Inuvik**	**49.44**	**29**	P	**P**	**18 48 58.1**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JOF	**Joensuu**	**61.32**	**331**	*e*p	**P**	**18 50 21.4**	**-1.6**
WRA	**Warramunga Arr**	**62.50**	**188**	P	**P**	**18 50 31.0**	**+0.1**
	comp=Z,0.3nm,0.9s,mb3.1,baz=6.1,slow=6.8,SNR=5.7						
KAF	**Kangasniemi**	**63.62**	**332**	*e*p	**P**	**18 50 37.8**	**-0.5**
FINES	**FINESS Array B**	**64.15**	**331**	P	**P**	**18 50 41.8**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=52,slow=7.2,SNR=20						
FINES	**FINESS Array B**	**64.15**	**331**	P	**P**	**18 50 41.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**66.22**	**188**	P	**P**	**18 50 52.9**	**-2.3**
	comp=Z,0.2nm,0.8s,mb3.0,baz=0.7,slow=7.3,SNR=3.2						
NOA	**NORSAR Array B**	**69.29**	**337**	P	**P**	**18 51 14.8**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=36,slow=6.4,SNR=2.9						

*ISCJB **01** 18:50:33.0±0.7, 3639N±005×2691E±006, h127^{km}±7^{km}, Error ellipse: s-maj=9.9km s-min=5.9km az=85.1*
*CSEM **01** 18:50:32.7±0.2, 3644N×2694E, h116^{km}±2^{km}, MD3.2, Error ellipse: s-maj=6.2km s-min=2.3km az=142.0*
*HLW **01** 18:50:33.2, 3638N×2642E, h33^{km}, Mb3.7*
*ATH **01** 18:50:33.1, 3641N×2687E, h126^{km}±7^{km}*
*ISK **01** 18:50:38.7, 3646N×2727E, h93^{km}, MD3.2*
ISC 01 18:50:33.8±0.8, **3640N**±005×**2692E**±006, **h124**^{km}±8^{km}, **n21**, σ**0^{s}92**/31, **4C**, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.63**	**58**	PG	**Pn**	**18 50 53.6**	**+0.6**
BODT	**Bodrum**	**0.74**	**25**	*e*PG	**Pn**	**18 50 54.6**	**+0.8**
BDRM	**Kayabasi**	**0.79**	**32**	*i* P	**Pn**	**18 50 55.1**	**+0.9**
BDRM				*i* S	**Sn**	**18 51 08.7**	**-1.0**
KARP	**Karpathos**	**0.87**	**167**	⇑*i*P	**Pn**	**18 50 55.3**	**+0.4**
KARP				*e*S	**Sn**	**18 51 11.2**	**+0.3**
ARG	**Arkhangelos**	**0.99**	**100**	⇑*i*P	**Pn**	**18 50 57.0**	**+0.9**
ARG				*e*S	**Sn**	**18 51 13.8**	**+0.9**
MLSB	**Milas**	**1.13**	**37**	*e*PG	**Pn**	**18 50 58.1**	**+0.7**
MLSB				*e*SG	**Sn**	**18 51 13.7**	**-1.7**
YER	**Yerkesik**	**1.32**	**56**	*e*PG	**Pn**	**18 51 00.4**	**+1.0**
YER				*e*SG	**Sn**	**18 51 14.9**	**-4.0**
DALT	**Dalyan (Mudla)**	**1.44**	**74**	*e*PN	**Pn**	**18 51 01.9**	**+1.2**
AYDN	**Tasoluk**	**1.48**	**31**	*i* P	**Pn**	**18 51 01.9**	**+0.7**
AYDN				*i* S	**Sn**	**18 51 20.3**	**-1.8**
NPS	**Neapolis**	**1.55**	**224**	*e*P	**Pn**	**18 51 01.6**	**-0.4**
NPS				*e*S	**Sn**	**18 51 23.1**	**-0.4**
FETY	**Fethiye**	**1.76**	**82**	*e*PN	**Pn**	**18 51 04.9**	**+0.4**
DNZL	**Cakiroluk**	**2.14**	**52**	*i* P	**Pn**	**18 51 08.4**	**-0.7**
DNZL				*i* S	**Sn**	**18 51 35.9**	**-0.3**
AKAS	**Kas**	**2.18**	**93**	*i* P	**Pn**	**18 51 10.2**	**+0.6**
AKAS				*i* S	**Sn**	**18 51 34.7**	**-2.3**
GOLH	**Golhisar**	**2.28**	**68**	*i* P	**Pn**	**18 51 01.7**	**-9.3**
GOLH				*i* S	**Sn**	**18 51 25.6**	**-14**
VAM	**Vamos**	**2.42**	**247**	*e*P	**Pn**	**18 51 12.9**	**+0.3**
ELL	**Elmali**	**2.44**	**81**	*e*PN	**Pn**	**18 51 14.0**	**+1.1**
KYTH	**Kithira**	**3.13**	**269**	*e*P	**Pn**	**18 51 22.0**	**+0.1**
HMAT	**Matruh**	**5.29**	**178**	P	**Pn**	**18 51 50.5**	**-0.2**
SWA1		**7.18**	**188**	P	**Pn**	**18 52 15.6**	**-0.7**
SWA2		**7.24**	**190**	⇑P	**Pn**	**18 52 16.1**	**-0.8**
HFRF	**Wahat Farafira**	**9.30**	**172**	⇑*e*P	**Pn**	**18 52 43.6**	**-1.1**

IDC 01 18:55:42.2±19.0, **4871S**×**12008E**, **h0**^{km}, **mb3.8**/2, **mb1 4.0**/2, **mb1mx3.7**/10, **mbtmp3.8**/2, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.7**/21, **Error ellipse: s-maj=903.6km s-min=63.5km az=98.0**, **Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**23.37**	**52**	LR	LR	19 07 53.6	
	comp=Z,127nm,19.7s,baz=212,slow=31						
ASAR	**Alice Springs**	**27.28**	**29**	P	P	19 01 28.3	+0.1
	1.6nm,1.1s,baz=202,slow=9.0,SNR=7.2						
WRA	**Warramunga Arr**	**30.91**	**27**	P	P	19 02 00.5	0.0
	1.3nm,1.1s,baz=199,slow=8.6,SNR=3.3						
PDAR	**Pinedale Array**	**145.36**	**81**	PKPbc	PKPbc	19 15 20.6	-1.2
	0.5nm,0.8s,baz=225,slow=3.4,SNR=4.0						

*NEIC **01** 19:26:04.9±3.6, 2303S×17067E, h31^{km}±24^{km}, mb4.8/11, Error ellipse: s-maj=13.1km s-min=10.2km az=193.0*
*BJI **01** 19:26:04.9, 2300S×17070E, h30^{km}, mB5.2, mb4.8*
*ISCJB **01** 19:26:06.7±2.2, 2322S±009×1705E±0.1, h49^{km}±17^{km}, mb4.6/24, MS3.7/7, Error ellipse: s-maj=18.3km s-min=11.0km az=95.6*
*IDC **01** 19:26:07.9±3.6, 2312S×17050E, h48^{km}±29^{km}, mb4.1/9, mb1 4.3/11, mb1mx4.2/14, mbtmp4.4/11, ML4.0/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/25, Error ellipse: s-maj=27.2km*

s-min=20.5km az=59.0
*MOS **01** 19:26:07.6±1.7,2362S×17027E,h33km,mb5.1/4,Error ellipse: s-maj=16.2km s-min=12.5km az=173.4*
ISC 01 19:26:07.8±2.0**,2318S**±009×**1705E**±01**,h46**km±15km**,h28**km±2.9km**:pP-P,n96,**σ1§**01**/47**,mb4.6**/24**,MS3.7**/7**,3D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.93	286	eP	Pn	19 27 04.5	-1.1
DZM				eS	Sn	19 27 49.5	-0.9
DZM	Mont Dzumac	3.93	286	P	Pn	19 27 04.9	-0.7
	11nm,0.3s,baz=99,slow=16,SNR=535						
DZM				S	Sn	19 27 50.0	-0.5
	29nm,0.3s,baz=298,slow=22,SNR=12						
DZM				LR	LR	19 28 24.3	
	comp=Z,322nm,20.2s,baz=353,slow=35						
URZ	Urewera	16.05	161	P	Pn	19 29 51.6	+1.3
	0.5nm,0.3s,baz=16,slow=6.1,SNR=7.0						
AFI	Afiamalu	19.13	64	P	Pn	19 30 21.0	-7.2
	2.8nm,0.3s,baz=223,slow=23,SNR=3.3						
CNB	Canberra Magne	22.02	232	eP	P	19 31 00.1	+1.9
	35nm,1.3s,mb4.6						
CTA	Charters Tower	22.77	273	P	P	19 31 07.0	+0.9
	5.1nm,0.6s,mb4.1,baz=106,slow=15,SNR=7.6						
CTA				LR	LR	19 39 22.0	
	comp=Z,130nm,19.8s,MS3.4,baz=244,slow=35						
CTAO	Charters Tower	22.77	273	P	P	19 31 07.4	+1.3
TOO	Toolangi	25.82	231	eP	P	19 31 36.5	+1.8
	5.8nm,0.8s,mb4.2						
TOO	Toolangi	25.82	231	eP	P	19 31 36.5	+1.8
TOO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
PMG	Port Moresby	26.22	298	eP	P	19 31 43.9	+5.6
STKA	Stephens Creek	27.01	245	eP	P	19 31 46.2	+0.7
	comp=Z,4.3nm,0.8s,mb4.0						
STKA	Stephens Creek	27.01	245	P	P	19 31 45.8	+0.3
	comp=Z,4.8nm,0.7s,mb4.2,baz=96,slow=9.5,SNR=15						
STKA				LR	LR	19 40 12.6	
	comp=Z,160nm,21.9s,MS3.5,baz=30,slow=31						
AS31	Alice Springs	33.55	262	eP	P	19 32 43.4	+0.2
ASAR	Alice Springs	33.55	262	P	P	19 32 43.4	+0.2
	comp=Z,12nm,0.8s,mb4.8,baz=98,slow=10.0,SNR=176						
ASAR				LR	LR	19 46 01.2	
	comp=Z,107nm,21.8s,MS3.5,baz=2.8,slow=36						
ASPA	Alice Springs	33.55	262	eP	P	19 32 43.4	+0.2
WB2	Warramunga Arr	33.74	268	eP	P	19 32 44.0	-0.9
WRAB	Tennant Creek	33.75	268	eP	P	19 32 44.2	-0.7
WRA	Warramunga Arr	33.76	268	P	P	19 32 44.1	-0.9
	comp=Z,1.1nm,0.4s,mb4.1,baz=101,slow=8.3,SNR=41						
WRA				PcP	PcP	19 35 23.2	-0.4
	comp=Z,0.5nm,0.6s,baz=93,slow=2.9,SNR=5.4						
WRA				LR	LR	19 46 48.4	
	comp=Z,190nm,19.1s,MS3.8,baz=100,slow=37						
WRA	Warramunga Arr	33.76	268	P	P	19 32 44.1	-0.9
WRA						19 35 23.2	
KAKA	Kakadu	37.60	279	eP	P	19 33 17.9	0.0
	comp=Z,5.6nm,0.6s,mb4.5						
FORT	Forrest	38.41	249	eP	P	19 33 24.6	-0.2
	comp=Z,26nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	42.19	268	eP	P	19 33 56.6	+0.6
	comp=Z,19nm,0.7s,mb4.8						
FITZ	Fitzroy Crossi	42.19	268	P	P	19 33 56.7	+0.7
	comp=Z,11nm,0.7s,mb4.6,baz=131,slow=9.3,SNR=42						
FITZ				LR	LR	19 52 09.5	
	comp=Z,99nm,20.8s,MS3.7,baz=269,slow=37						
MBWA	Marble Bar	46.89	262	eP	P	19 34 33.7	+0.2
	comp=Z,5.7nm,0.6s,mb4.7						
MBWA				e	pP	19 34 42.9	-3.3
KLBR	Kellerberrin	47.22	248	eP	P	19 34 35.6	-0.5
	comp=Z,22nm,1.0s,mb5.0						
NWAO	Narrogin (SRO)	47.60	246	eP	P	19 34 39.0	0.0
MUN	Mundaring	48.51	247	eP	P	19 34 45.3	-0.8
VNDA	Vanda	54.55	182	P	P	19 35 31.6	+0.3
	comp=Z,1.2nm,0.8s,mb4.0,baz=19,slow=4.9,SNR=5.6						
VNDA				LR	LR	19 54 09.4	
	comp=Z,71nm,19.7s,MS3.7,baz=358,slow=31						
SBA	Scott Base	54.76	181	eP	P	19 35 32.2	-0.5
SBA				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
SBA	Scott Base	54.76	181	eP	P	19 35 32.2	-0.5
	comp=Z,16nm,1.1s,mb5.0						
MIR	Mirnyy	64.00	206	eP	P	19 36 36.5	0.0
MIR				e		19 36 55.0	
MIR				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.8						
QSPA	South Pole Qui	66.89	180	eP	P	19 36 54.0	-1.2
	comp=Z,13nm,1.0s,mb4.9						
MAW	Mawson	75.25	202	P	P	19 37 45.0	-0.8
	comp=Z,4.8nm,0.7s,mb4.5,baz=121,slow=8.1,SNR=14						
CN2	Changchun	78.43	328	eP	P	19 38 03.8	+0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
KMI	Kunming	81.37	302	P	P	19 38 20.2	+0.6
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
SNAA	Sanae	85.29	182	eP	P	19 38 36.8	-3.0
SNAA				e		19 38 40.4	
SNAA				e	pP	19 38 46.0	-7.3
SNAA	Sanae	85.29	182	eP	P	19 38 37.3	-2.5
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SNAA	Sanae	85.29	182	eP	P	19 38 37.3	-2.4
	comp=Z,9.7nm,1.3s,mb4.8						
VNA3	Neumayer Olymp	85.83	180	eP	P	19 38 40.2	-2.2
VNA3				e		19 38 43.8	
VNA3				e	pP	19 38 49.5	-6.5
LZH	Lanzhou	86.25	312	eP	P	19 38 46.0	+1.5
LZH				AP	pP	19 38 56.0	-2.1
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,66nm,4.1s						
NVAR	Mina Array Bea	90.52	48	P	P	19 39 04.7	-0.1
	comp=Z,0.2nm,0.3s,mb3.9,baz=220,slow=8.2,SNR=4.0						
GTA	Gaotai	90.69	313	eP	P	19 39 06.9	+1.3
GTA				AP	pP	19 39 12.8	-6.4
GTA				XP	sP	19 39 16.6	-7.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.6						
ULN	Ulaanbaatar	90.73	323	eP	P	19 39 08.6	+2.8
YAK	Yakutsk	90.97	342	eP	P	19 39 05.7	-1.2
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
SONM	Songino Array	91.08	323	P	P	19 39 07.5	+0.1
	comp=Z,2.1nm,1.0s,mb4.4,baz=168,slow=3.9,SNR=8.5						
PDAR	Pinedale Array	98.41	47	LR	LR	20 16 37.4	
	comp=Z,42nm,18.3s,MS4.0,baz=160,slow=31						
BVAR	Borovoye Array	114.19	319	PKP	PKiKP	19 44 40.9	-1.3
	comp=Z,0.8nm,0.7s,baz=106,slow=3.2,SNR=6.8						
ZRNK	Zerenda	115.02	319	ePKIKP	PKiKP	19 44 42.3	-1.4
AKTK	Aktyubinsk	121.75	316	PKP	PKPdf	19 44 54.1	-2.5
AKTO	Aktyubinsk	121.75	316	PKP	PKPdf	19 44 54.1	-2.5
	comp=Z,1.4nm,0.6s,baz=105,slow=4.0,SNR=5.1						
MLR	Muntele Rosu	143.68	317	PKP	PKPdf	19 45 35.2	-2.5
	comp=Z,3.5nm,0.7s,baz=75,slow=23,SNR=3.9						
KOLS	Kolonicke sedl	144.13	324	ePKP	PKPdf	19 45 38.7	+0.3
UZH	Uzhgorod	144.28	323	i PKIKP	PKPdf	19 45 44.0	+5.3
UZH				pmax	pmax		
	comp=Z,31nm,0.9s						
STHS	Stebnicka Huta	144.40	325	ePKP	PKPdf	19 45 39.2	+0.3
STHS	Stebnicka Huta	144.40	325	ePKP	PKPdf	19 45 39.3	+0.4
CRVS	Cervenica-Dubn	144.58	324	ePKP	PKPdf	19 45 38.9	-0.3
KECS	Kecovo	145.35	324	ePKP	PKPdf	19 45 41.0	+0.5
OKC	Ostrava-Krasne	145.71	328	ePKP	PKPdf	19 45 41.4	+0.2
VYHS	Vyhne	146.22	325	ePKP	PKPdf	19 45 43.5	+1.5
DPC	Dobruska-Polom	146.24	330	ePKP	PKPab	19 45 45.7	+1.7
UPC	Upice	146.27	330	ePKP	PKPdf	19 45 44.0	+1.9
VRAC	Vranov	146.82	328	PKPbc	PKPbc	19 45 44.6	-0.3
	comp=Z,1.3nm,0.3s,baz=33,slow=2.2,SNR=3.4						
PVCC	Panska Ves	146.90	332	ePKP	PKPdf	19 45 44.8	+1.6
BRG	Berggiesshubel	146.91	333	ePKPdf	PKPab	19 45 47.1	+0.5
BRG	Berggiesshubel	146.91	333	ePKP	PKPdf	19 45 45.1	+1.9
	comp=Z,2.7nm,1.1s						
BRG				e		19 45 47.1	
	comp=Z,3.0nm,0.8s						
BRG				e		19 45 55.0	
	comp=Z,2.5nm,0.9s						
BRG	Berggiesshubel	146.91	333	ePKIKP	PKPdf	19 45 45.1	+1.9
BRG				e		19 45 47.1	
BRG				e		19 45 55.0	
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	Collm	146.98	334	ePKPdf	PKPab	19 45 47.3	+0.5
CLL	Collm	146.98	334⇓	iPKiKP	PKiKP	19 45 47.3	-0.5
	comp=Z,10.0nm,0.9s						
CLL	Collm	146.98	334⇓	iPKP2	PKPab	19 45 47.3	+0.5
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	Collm	146.98	334⇓	iPKP	PKPab	19 45 47.3	+0.5
CLL				i		19 46 04.7	
NRDL	Niedersach Rie	147.12	338	ePKPdf	PKPab	19 45 48.9	+1.5
FBE	Freiberg	147.13	333	ePKPdf	PKPab	19 45 48.0	+0.6
PRU	Pruhonice	147.30	331	ePKP	PKPdf	19 45 46.1	+2.3
TREC	Trest	147.36	329	ePKP	PKPdf	19 45 46.2	+2.3
EKA	Eskdalemuir Ar	147.55	353	PKPbc	PKPbc	19 45 46.1	-0.8
	comp=Z,1.4nm,0.8s,baz=346,slow=2.3,SNR=6.3						
WERD	Werda	147.92	333	ePKPdf	PKPdf	19 45 47.7	+2.8
GTTG	Gvttingen	147.95	337	ePKPdf	PKPbc	19 45 50.1	+2.1
GUNZ	Gunzen	147.97	333	ePKPdf	PKPbc	19 45 48.5	+0.4
NKC	Novy Kostel	148.03	333	ePKP	PKPdf	19 45 47.9	+2.9
MOX	Moxa	148.05	334	ePKPdf	PKPdf	19 45 48.1	+3.0
KHC	Kasperske Hory	148.36	331	ePKP	PKPbc	19 45 49.0	-0.1
KHC	Kasperske Hory	148.36	331	i PKIKP	PKPdf	19 45 48.5	+2.9
GEC2	GERESS Array S	148.51	330	ePKPdf	PKPbc	19 45 48.9	-0.6
GERES	GERESS Array B	148.51	330	PKPbc	PKPbc	19 45 49.3	-0.1
	comp=Z,2.5nm,0.8s,baz=48,slow=2.0,SNR=15						
GRA1	Grafenberg Arr	148.95	334	ePKPdf	PKPbc	19 45 49.6	-1.0
GRF	Grafenberg Arr	148.95	334	ePKPdf	PKPbc	19 45 49.6	-1.0
BOJS	Bojanci	150.01	324	i PKPbc	PKPbc	19 45 53.2	0.0
VISS	Visnje	150.04	325	ePKPbc	PKPbc	19 45 53.3	0.0
LJU	Ljubljana	150.04	325	i PKPbc	PKPbc	19 45 53.4	+0.1
CEY	Cerknica	150.30	325	ePKPbc	PKPbc	19 45 53.9	0.0
CADS	Cadrg	150.33	326	i PKPbc	PKPbc	19 45 53.0	-1.0
VOY	Vojsko	150.38	326	ePKPbc	PKPbc	19 45 53.4	-0.7
WLF	Walferdange	150.85	339	ePKPdf	PKPdf	19 45 51.4	+1.8
BFO	Black Forest	151.19	335	ePKPdf	PKPbc	19 45 54.7	-1.3
CDF	Champ du Feu	151.52	336	ePKP1	PKPbc	19 45 55.2	-1.6
	comp=Z,14nm,1.1s						
HINF	Hinteralfeld	152.17	336	ePKP1	PKPbc	19 45 57.5	-0.8
	comp=Z,28nm,1.4s						

---

*STR **01** 19:29:15.9±0.3,4961N×842E,h17km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LEDBW **01** 19:29:17.0±0.1,4963N±001×8407E±0009,h16km±3km,ML1.9,Error ellipse: s-maj=4.8km s-min=2.6km az=159.0*
*LDG **01** 19:29:16.2±0.1,4964N×837E,h20km,Md2.6/3,Ml2.4/17,Error ellipse: s-maj=1.7km s-min=1.4km az=1.0*
BGR 01 19:29:16.8±0.4**,4965N**×**838E,h22**km**,ML1.9**/6**,2C-2D, Error ellipse: s-maj=4.4km s-min=2.2km az=123.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWS	Schriesheim-Wi	0.26	127⇓	iP*	Pb	19 29 22.4	-0.7
SWS				i S*	Sb	19 29 26.1	-1.3
TOD	Tromm	0.28	98⇑	iP*	Pb	19 29 22.7	-0.6
TOD				S*	Sb	19 29 26.6	-1.1
TOD	Tromm	0.28	98⇑	iPg	Pb	19 29 22.7	-0.6
TOD				Sg	Sb	19 29 26.6	-1.1
KTD	Kalmit	0.38	211⇑	eP*	Pb	19 29 24.7	-0.2
KTD				S*	Sb	19 29 30.5	+0.2
KTD	Kalmit	0.38	211⇑	ePg	Pb	19 29 24.7	-0.2
KTD				Sg	Sb	19 29 30.5	+0.2
TNS	Taunus Mts	0.58	4	ePg	Pb	19 29 28.4	+0.1
	SNR=10.0						
TNS				eSg	Sb	19 29 36.2	+0.2
	SNR=13						
ABH	Alteburg	0.59	294	P*	Pb	19 29 28.6	+0.2
LANF	Langenberg	0.76	210	ePg	Pb	19 29 31.1	-0.3
	SNR=4.6						
LANF				P		19 29 31.1	
LANF	Langenberg	0.76	210	Pg	Pb	19 29 30.4	-1.0
LANF	Langenberg	0.76	210	Pn	Pn	19 29 31.1	-1.1
SIND	Sindeldorf	0.85	110⇓	iPg	Pb	19 29 32.9	-0.1
SIND				Sg	Sb	19 29 43.8	-0.1
LBG	Lerchenberg	1.02	164	Pg	Pn	19 29 36.6	+0.8
LBG				Sg	Sb	19 29 48.9	+0.2
BFO	Black Forest	1.32	181	Pn	Pn	19 29 38.2	-1.6
BFO				Pg	Pn	19 29 41.4	+1.6
BFO				Sn	Sn	19 29 53.8	-2.9
BFO				Sg	Sn	19 29 58.0	+1.3
BFO	Black Forest	1.32	181	Pn	Pn	19 29 38.2	-1.6
BFO				Sn	Sn	19 29 53.8	-2.9
BFO	Black Forest	1.32	181	P	Pn	19 29 41.4	+1.6
BFO				Sx	Sx	19 29 58.0	
WLS	Welschbruch	1.41	209	Pn	Pn	19 29 39.2	-1.9
WLS				Sg	Sn	19 30 01.2	+2.3
WLS	Welschbruch	1.41	209	P	Pn	19 29 43.6	+2.5
CDF	Champ du Feu	1.43	211	ePn	Pn	19 29 39.3	-2.1
CDF	Champ du Feu	1.43	211	ePg	Pn	19 29 42.9	+1.5
CDF				eSn	Sn	19 29 56.7	-2.8
CDF				eSg	Sn	19 30 01.7	+2.2
	7.8nm,0.2s						
WLF	Walferdange	1.45	272	eSg	Sn	19 30 01.4	+1.5
	SNR=4.9						
UBBA	Unterbreizbach	1.57	41	eSg	Sn	19 30 04.9	+2.0
	SNR=2.5						
ECH	Echery	1.64	210	ePg	Pn	19 29 46.7	+2.4
	SNR=2.1						
GUT	Gutenstein	1.65	163	Sg	Sn	19 30 08.2	+3.3
KIZ	Kirchzarten	1.72	190	Pg	Pn	19 29 49.2	+3.9
KIZ				Sg	Sn	19 30 10.4	+3.8
FELD	Feldberg im Sc	1.79	188	ePg	Pn	19 29 50.8	+4.5
	SNR=2.8						
GRFO	Grafenberg	1.85	87	eSg	Sn	19 30 14.1	+4.3
MOF	Molkenrain	1.98	205	ePg	Pn	19 29 53.4	+4.5
	SNR=2.4						
SISB	Singen-Schiene	2.00	169	Pg	Pn	19 29 55.5	+6.3
HINF	Hinteralfeld	2.09	209	ePn	Pn	19 29 48.3	-2.2
HINF	Hinteralfeld	2.09	209	ePg	Pn	19 29 54.9	+4.4
HINF				eSg	Sn	19 30 22.0	+6.2
	6.0nm,0.2s						
HAU	Haudompre	2.12	220	ePn	Pn	19 29 48.6	-2.3
HAU				eSg	Sn	19 30 22.8	+6.3
	9.5nm,0.2s						
THEF	They Montfort	2.12	229	ePg	Pn	19 29 55.0	+4.1
	SNR=2.2						
MOX	Moxa	2.31	63	eSg	Sn	19 30 28.5	+7.3
	SNR=2.9						
GIVF	Givet	2.34	283	ePn	Pn	19 29 52.1	-1.9
GIVF				eSg	Sn	19 30 30.0	+7.9
	5.1nm,0.2s						
MEZF	Maizieres J'vi	2.47	244	ePn	Pn	19 29 53.1	-2.6
MEZF				eSg	Sn	19 30 33.5	+8.4
	3.1nm,0.3s						
SFTF	Sexfontaines	2.63	238	ePn	Pn	19 29 55.7	-2.2
	baz=54						
SFTF				eSg	Sn	19 30 38.7	+10
	4.7nm,0.3s						
GUNZ	Gunzen	2.65	73	eSg	Sn	19 30 38.9	+9.3
	SNR=2.4						
WERD	Werda	2.66	71	eSg	Sn	19 30 37.8	+8.0
	SNR=3.3						
BAIF	Baives	2.73	280	ePn	Pn	19 29 57.0	-2.3
BAIF				eSg	Sn	19 30 42.0	+10
	2.2nm,0.3s						
TANN	Tannenbergstha	2.74	72	ePg	Pn	19 30 07.8	+8.3
	SNR=2.7						
TANN				eSg	Sn	19 30 40.2	+8.3
	SNR=3.5						
WET	Wettzell	2.98	98	eSg	Sn	19 30 47.6	+10
	SNR=2.1						
CABF	La Chapelle	3.40	208	ePn	Pn	19 30 06.3	-2.2
CABF	La Chapelle	3.40	208	ePg	Pn	19 30 19.2	+11
CABF				eSg	Sn	19 31 02.5	+14
	0.8nm,0.2s						
LOR	Lormes	3.83	233	ePn	Pn	19 30 12.4	-2.1
	baz=56						
LOR				eSn	Sn	19 30 53.9	-4.9
LOR				eSg	Sn	19 31 16.4	+18
	2.1nm,0.3s						
SMF	Signal de Mont	4.27	227	ePn	Pn	19 30 17.8	-2.6
SMF				eSg	Sn	19 31 29.9	+20
	1.5nm,0.2s						
LPL	La Plagne	4.28	196	ePn	Pn	19 30 18.0	-2.6
LPL				eSg	Sn	19 31 30.0	+20
	0.6nm,0.3s						
LPG	La Plagne	4.29	195	ePn	Pn	19 30 18.3	-2.5
LPG				eSg	Sn	19 31 31.2	+21
	0.9nm,0.4s						
AVF	Avril sur Loir	4.41	232	ePn	Pn	19 30 19.9	-2.5
AVF				eSg	Sn	19 31 33.8	+21
	0.6nm,0.2s						
HYF	Humbligny	4.50	240	eSg	Sn	19 31 36.9	+22
ORIF	Oris-en-Rattie	5.03	201	ePn	Pn	19 30 28.3	-2.5
ORIF				eSg	Sn	19 31 53.8	+26
	0.5nm,0.2s						
MBDF	Montbardon	5.04	193	ePn	Pn	19 30 28.7	-2.3
TCF	Toulx Ste Croi	5.33	233	ePn	Pn	19 30 32.1	-2.9
TCF				eSg	Sn	19 32 03.1	+27
	0.3nm,0.2s						
VIVF	Saint-Julien-l	5.41	209	eSg	Sn	19 32 05.8	+28
	1.2nm,0.3s						

---

*ISCJB **01** 19:36:53.1±0.4,6712N±003×2095E±008,h0km,Error ellipse: s-maj=5.0km s-min=3.2km az=59.3*
*IDC **01** 19:36:54.5±0.9,6716N×2075E,h0km,mb1 3.2/4,mb1mx3.1/21,mbtmp3.2/4,ML3.0/4,Error ellipse: s-maj=14.3km s-min=7.4km az=117.0*
*CSEM **01** 19:36:54.6±0.2,6714N×2057E,h1km,ML2.8,Error ellipse: s-maj=7.4km s-min=5.1km az=114.0,Mining explosion.*
*NAO **01** 19:36:54.9±0.8,6715N×2086E,ML2.6*
*HEL **01** 19:36:55.1±0.1,6718N×2073E,h0km,ML2.8,ML2.6(BER),ML2.6(NAO),Explosion*
*BER **01** 19:36:56.5±4.5,6719N×2067E,h0km,ML2.6,ML2.6(NAO),Suspected explosion*
*UPP **01** 19:37:09.7,6621N×1946E,h0km,ML1.9,Suspected Mining explosion.*
ISC 01 19:36:54.5±0.3**,6715N**±002×**2089E**±008**,h0**km**,n41, σ1§13**/65**,Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.86	359	eP	Pn	19 37 27.9	+0.3
KIF				eS	Sn	19 37 51.7	-0.1
KIF	Kilpisjarvi	1.86	359	P	Pn	19 37 27.8	+0.2
KIF				S	Sn	19 37 51.7	-0.1
KTK1	Kautokeino	2.07	24	eP	Pn	19 37 32.6	+2.2
KTK1				eSG	Sg	19 37 59.7	-1.1
KTK1				AML	AML	19 38 02.6	
	comp=Z,82nm,0.8s						
SGF	Sodankyl	2.21	80	eP	Pn	19 37 33.9	+1.6
SGF				eSG	Sg	19 38 04.7	-0.7
SGF				MSG		19 38 07.1	
	comp=Z,117nm,0.2s						
SGF	Sodankyl	2.21	80	P	Pn	19 37 33.9	+1.5
SGF				Sg	Sg	19 38 04.7	-0.7
TRO	Tromso	2.59	345	eP	Pn	19 37 37.0	-0.7
TRO				eSG	Sg	19 38 13.2	-4.6
MOR8	Moi Rana	2.75	252	eP	Pn	19 37 38.0	-1.8
MOR8				eSG	Sg	19 38 13.0	-10
OUL	Oulu	2.91	133	eP	Pn	19 37 43.6	+1.6
OUL				eSG	Sg	19 38 25.8	-2.2
OUL				MSG		19 38 35.2	
	comp=Z,38nm,0.3s						
OUL	Oulu	2.91	133	P	Pn	19 37 43.5	+1.5
OUL				Sg	Sg	19 38 25.8	-2.2
ARA0	ARCESS Array S	2.94	33	Pn	Pn	19 37 43.0	+0.5
	baz=212,slow=16						
ARA0				Sn	Sn	19 38 19.6	+1.1
	baz=208,slow=28						
ARA0	ARCESS Array S	2.94	33	eP	Pn	19 37 43.0	+0.5
ARA0				eS	Sn	19 38 19.6	+1.1
ARA0	ARCESS Array S	2.94	33	Pn	Pn	19 37 43.0	+0.5
	SNR=319						
ARA0				Sn	Sn	19 38 19.5	+1.0
	SNR=1.9						
ARCES	ARCESS Array B	2.94	33	Pn	Pn	19 37 43.0	+0.5
	comp=Z,2.8nm,0.3s,baz=216,slow=13,SNR=143						
ARCES				Sn	Sn	19 38 18.8	+0.3
	comp=Z,6.3nm,0.3s,baz=213,slow=22,SNR=10.0						
ARCES				Lg		19 38 23.8	
	comp=Z,6.3nm,0.3s,baz=213,slow=22,SNR=12						
LOF	Lofoten	2.97	293	eP	Pn	19 37 43.8	+0.9
STOK	Stokkvaagen	3.23	259	eP	Pn	19 37 46.2	-0.2
BREU	Bredtraesk	3.41	197	P	Pn	19 37 49.4	+0.5
KEV	Kevo	3.45	38	eP	Pn	19 37 49.9	+0.4
KEV				eSB	Sb	19 38 37.2	-1.8
HUSU	Husum	3.89	191	P	Pn	19 37 56.6	+1.1
VAF	Ylistaro	4.20	169	eP	Pn	19 38 01.1	+1.4
VAF				eSG	Sg	19 39 05.6	-3.8
VAF				MSG		19 39 10.1	
	comp=Z,16nm,0.3s						
NSS	Namsos	4.51	238	eP	Pn	19 38 02.9	-1.2
HEMU	Hemsoen	4.66	196	P	Pn	19 38 06.3	+0.3
APA0	Apatity Array	4.70	79	Pn	Pn	19 38 07.5	+0.9
	baz=275,slow=12						
APA0				Sn	Sn	19 39 01.1	-0.6
	baz=258,slow=22						
APA0				Lg		19 39 21.1	
	baz=288,slow=37						
APA0	Apatity Array	4.70	79	eP	Pn	19 38 07.5	+0.9
APA0				eS	Sn	19 39 01.1	-0.6
APA0				eSG		19 39 21.1	
APA0	Apatity Array	4.70	79	Pn	Pn	19 38 07.5	+0.9
	SNR=5.0						
APA0				Sn	Sn	19 39 01.1	-0.7
	SNR=6.7						
SUF	Sumiainen	4.98	151	MSG		19 39 41.6	
	comp=Z,9.5nm,0.3s						
HASU	Hassela	5.34	202	P	Pn	19 38 16.0	+0.5
ARNU	Arnoeviken	5.69	197	P	Pn	19 38 20.4	+0.2
FIA0	FINESS Array S	6.16	156	Pn	Pn	19 38 28.2	+1.6
	baz=348,slow=14						
FIA0				Sn	Sn	19 39 37.1	-0.7
	baz=343,slow=28						
FIA0				Lg		19 40 08.0	
	baz=340,slow=37						
FIA0	FINESS Array S	6.16	156	eP	Pn	19 38 28.2	+1.6
FIA0				eS	Sn	19 39 37.1	-0.7
FIA0				eSG		19 40 08.0	
FINES	FINESS Array B	6.16	156	Pn	Pn	19 38 28.3	+1.6
	comp=Z,0.4nm,0.3s,baz=351,slow=13,SNR=46						
FINES				Sn	Sn	19 39 35.5	-2.3
	comp=Z,1.3nm,0.3s,baz=343,slow=23,SNR=15						
FINES				Lg		19 40 10.1	
	comp=Z,2.0nm,0.3s,baz=349,slow=29,SNR=12						
GRAU	Graesoe	6.92	190	P	Pn	19 38 37.8	+0.6
FALU	Falun	7.05	201	P	Pn	19 38 38.9	0.0
NB2	NORSAR Subarra	7.45	219	eP	Pn	19 38 43.0	-1.4
NB2				eSG		19 40 45.5	
NB2	NORSAR Subarra	7.45	219	Pn	Pn	19 38 43.0	-1.4
	baz=30,slow=14						
NB2				Lg		19 40 45.5	
	baz=22,slow=37						
NOA	NORSAR Array B	7.45	219	Pn	Pn	19 38 43.5	-0.9
	comp=Z,0.5nm,0.3s,baz=27,slow=10,SNR=3.5						
NOA				Sn	Sn	19 40 03.5	-6.0
	comp=Z,0.6nm,0.3s,baz=31,slow=19,SNR=4.6						
NOA				Lg		19 40 48.1	
	comp=Z,1.1nm,0.3s,baz=40,slow=24,SNR=5.7						
HFS	Hagfors	7.73	208	eP	Pn	19 38 47.0	-1.2
HFS				eS	Sn	19 40 12.5	-4.1
HFS				eSG		19 40 53.4	
HFS	Hagfors	7.73	208	Pn	Pn	19 38 46.0	-2.3
	comp=Z,0.7nm,0.3s,baz=20,slow=13,SNR=46						
HFS				Sn	Sn	19 40 10.0	-6.5
	comp=Z,0.8nm,0.3s,baz=19,slow=28,SNR=8.4						
HFS				Lg		19 40 52.1	
	comp=Z,0.9nm,0.3s,baz=22,slow=28,SNR=4.0						
HFS	Hagfors	7.73	208	Pn	Pn	19 38 47.0	-1.2
	baz=19,slow=12						
HFS				Sn	Sn	19 40 12.5	-4.1
	baz=44,slow=28						
HFS				Lg		19 40 53.4	
	baz=39,slow=28						
HFS	Hagfors	7.73	208	Pn	Pn	19 38 47.0	-1.3
	SNR=1.4						
SPA0	Spitsbergen Ar	11.16	355	Pn	Pn	19 39 33.5	-1.8
	baz=160,slow=14						
SPA0	Spitsbergen Ar	11.16	355	eP	Pn	19 39 33.5	-1.8

---

*IDC **01** 19:55:51.4±0.8,1820S×17395W,h0km,mb4.5/9,mb1 4.6/11,mb1mx4.4/19,mbtmp4.5/11,ML3.0/2,MS3.4/7,Ms1 3.4/7,ms1mx3.2/24,Error ellipse: s-maj=42.6km s-min=15.4km az=142.0*
*ISCJB **01** 19:55:54.3±0.6,181S±0.1×1740W±0.1,h33km,mb4.5/11,MS3.5/6,Error ellipse: s-maj=20.2km s-min=10.1km az=97.9*
*NEIC **01** 19:55:56.3±6.3,1828S×17398W,h31km±42km,mb4.7/2,*

Error ellipse: s-maj=18.0km s-min=13.4km az=155.0
*SZGRF **01** 19:55:59.0, 17.65S×172.79W, h33km, Tonga Islands region*
ISC 01 19:55:56.4±0.6, **18.1S**±0.1×**174.0W**±0.1, **h35km, n100,** σ0.85/23, **mb4.5**/11, **MS3.5**/6, **14C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.69	27	Pn	Pn	19 57 02.4	-2.2
	15nm,0.3s,baz=292,slow=18,SNR=14						
AFI				Sn	Sn	19 57 49.4	-8.4
	110nm,0.3s,baz=188,slow=21,SNR=11						
AFI				LR	LR	19 58 35.3	
	comp=Z,156nm,21.0s,baz=180,slow=34						
RAR	Rarotonga	13.70	105	Pn	Pn	19 58 58.7	-9.4
	2.3nm,0.3s,baz=244,slow=14,SNR=3.0						
DZM	Mont Dzumac	18.83	255	P	Pn	20 00 14.4	+0.6
	0.1nm,0.3s,baz=90,slow=18,SNR=1.8						
URZ	Urewera	21.53	199	P	P	20 00 41.1	-1.4
	39nm,0.5s,mb5.1,baz=341,slow=2.1,SNR=21						
URZ				LR	LR	20 07 06.5	
	comp=Z,118nm,21.9s,MS3.2,baz=116,slow=32						
PPT	Papeete	23.20	92	LR	LR	20 07 01.2	
	comp=Z,117nm,20.4s,MS3.3,baz=2.4,slow=29						
TBI	Tubuai	23.47	107	eLR	LR	20 06 29.6	
	164nm,28.5s						
HNR	Honiara	26.76	285	LR	LR	20 09 33.0	
	comp=Z,38nm,19.7s,MS3.0,baz=2.0,slow=31						
RKT	Rikitea	36.74	105	eLR	LR	20 12 37.7	
	105nm,26.8s						
CTA	Charters Tower	37.60	260	P	P	20 03 08.1	+0.5
	8.3nm,0.6s,mb4.7,baz=116,slow=11,SNR=9.5						
CTAO	Charters Tower	37.60	260	eP	P	20 03 08.7	+1.1
STKA	Stephens Creek	42.27	242	P	P	20 03 46.0	-0.3
	1.9nm,0.7s,mb3.9,baz=96,slow=12,SNR=6.0						
STKA				LR	LR	20 18 03.9	
	comp=Z,105nm,19.6s,MS3.7,baz=27,slow=32						
STKA	Stephens Creek	42.27	242	eP	P	20 03 46.1	-0.3
STKA				LR	LR	20 18 03.9	
WB2	Warramunga Arr	48.75	259	eP	P	20 04 37.3	-0.4
WB2	Warramunga Arr	48.75	259	eS	P	20 04 37.0	-0.7
WRAB	Tennant Creek	48.75	259	eP	P	20 04 36.8	-0.9
	4.8nm,0.4s,mb4.9						
WRA	Warramunga Arr	48.76	259	P	P	20 04 37.5	-0.2
	4.9nm,0.5s,mb4.8,baz=97,slow=8.3,SNR=55						
WRA				LR	LR	20 24 01.3	
	comp=Z,68nm,18.2s,MS3.7,baz=295,slow=35						
AS31	Alice Springs	48.81	254	eP	P	20 04 38.3	+0.1
ASAR	Alice Springs	48.82	254	P	P	20 04 38.2	0.0
	6.2nm,0.6s,mb4.8,baz=90,slow=7.8,SNR=62						
ASPA	Alice Springs	48.82	254	eP	P	20 04 38.3	+0.1
SBA	Scott Base	60.50	185	eP	P	20 06 03.4	+0.6
MBWA	Marble Bar	62.13	255	P	P	20 06 14.3	+0.4
QSPA	South Pole Qui	71.93	180	eP	P	20 07 15.8	-0.3
	6.5nm,1.0s,mb4.5						
YBH	Yreka Blue Hor	76.08	37	P	P	20 07 41.8	+1.5
	3.4nm,0.8s,mb4.3,baz=303,slow=0.9,SNR=7.1						
NVAR	Mina Array Bea	76.70	42	P	P	20 07 45.2	+1.3
	1.8nm,0.9s,mb4.0,baz=219,slow=7.1,SNR=12						
PDAR	Pinedale Array	84.64	42	P	P	20 08 26.6	+0.3
	0.5nm,0.6s,mb3.8,baz=242,slow=3.2,SNR=4.5						
INK	Inuvik	91.03	14	P	P	20 08 57.1	0.0
	1.6nm,0.7s,mb4.5,baz=211,slow=5.9,SNR=3.3						
ULM	Lac du Bonnet	96.37	39	LR	LR	20 47 10.6	
	comp=Z,37nm,18.6s,MS3.9,baz=311,slow=32						
MKAR	Makanchi Array	112.34	314	PKiKP	PKiKP	20 14 28.9	+0.4
	1.0nm,0.5s,baz=58,slow=0.8,SNR=13						
CHKZ	Chkalovo	119.44	322	ePKPdf	PKPdf	20 14 41.4	-0.8
BVAR	Borovoye Array	119.69	321	PKP	PKPdf	20 14 43.2	+0.6
	3.1nm,0.5s,baz=127,slow=1.6,SNR=14						
ZRNK	Zerenda	120.52	321	ePKPdf	PKPdf	20 14 44.4	+0.1
ARCES	ARCESS Array B	127.22	352	PKP	PKPdf	20 14 57.8	+0.7
	3.2nm,1.0s,baz=4.1,slow=1.7,SNR=7.6						
BOSA	Boshof	129.96	202	PKP	PKPdf	20 15 03.9	+1.6
	2.3nm,0.9s,baz=79,slow=8.4,SNR=3.0						
FINES	FINESS Array B	134.47	347	PKP	PKPdf	20 15 11.5	+0.7
	1.0nm,0.6s,baz=86,slow=5.9,SNR=5.3						
AKASG	Malin Array Be	142.62	336	PKhKP		20 15 21.6	
	0.3nm,0.3s,baz=39,slow=4.0,SNR=4.2						
KMBO	Kilima Mbogo	143.83	241	PKP	PKPdf	20 15 28.1	+0.3
	1.5nm,0.9s,baz=20,slow=14,SNR=2.7						
MALT	Malatya	145.36	312	⇓iP	PKPbc	20 15 34.0	+3.6
MALT	Malatya	145.36	312	ePKPdf	PKPdf	20 15 33.2	+2.7
NRDL	Niedersach Rie	145.56	356	ePKPbc	PKPbc	20 15 32.0	+0.9
CLL	Collm	146.44	352	ePKPbc	PKPbc	20 15 35.0	+1.3
CLL	Collm	146.44	352	⇓iPKPbc	PKPbc	20 15 35.3	+1.6
	comp=Z,18nm,1.0s						
CLL	Collm	146.44	352	⇓iP	PKPdf	20 15 35.3	+3.0
STHS	Stebnicka Huta	146.47	342	ePKP	PKPdf	20 15 35.4	+3.0
KOLS	Kolonicke sedl	146.58	340	ePKP	PKPbc	20 15 36.3	+2.2
BURAR	Bucovina Array	146.67	336	⇑iP	PKPbc	20 15 36.6	+2.2
UPC	Upice	146.73	348	ePKP	PKPdf	20 15 34.4	+1.6
BRG	Berggiesshubel	146.73	351	ePKPbc	PKPbc	20 15 36.0	+1.4
BRG	Berggiesshubel	146.73	351	eP	PKPbc	20 15 36.1	+1.6
	comp=Z,6.4nm,1.2s						
BRG				e		20 16 13.5	
	comp=Z,9.7nm,1.7s						
BRG				e		20 17 37.1	
	comp=Z,4.0nm,1.0s						
NIE	Niedzica	146.73	343	eP	PKPbc	20 15 36.7	+2.1
DPC	Dobruska-Polom	146.82	348	ePKP	PKPbc	20 15 36.7	+1.9
OKC	Ostrava-Krasne	146.90	346	ePKP	PKPbc	20 15 36.6	+1.5
PVCC	Panska Ves	146.97	350	ePKP	PKPdf	20 15 34.9	+1.7
MORC	Moravsky Berou	147.10	346	⇑iP	PKPbc	20 15 37.5	+1.9
MORC	Moravsky Berou	147.10	346	ePKPdf	PKPdf	20 15 34.7	+1.3
MORC				ePKPbc	PKPbc	20 15 37.0	+1.4
MOX	Moxa	147.26	353	ePKPbc	PKPbc	20 15 37.3	+1.3
CFR	Carcaliu	147.34	330	⇑iP	PKPbc	20 15 38.5	+2.2
WERD	Werda	147.37	353	ePKPbc	PKPbc	20 15 37.9	+1.5
TANN	Tannenbergstha	147.38	352	ePKPbc	PKPbc	20 15 37.8	+1.4
GUNZ	Gunzen	147.45	353	ePKPbc	PKPbc	20 15 38.4	+1.8
PRU	Pruhonice	147.49	350	ePKP	PKPbc	20 15 38.3	+1.6
KECS	Kecovo	147.53	342	ePKP	PKPdf	20 15 37.5	+3.3
NKC	Novy Kostel	147.56	352	ePKP	PKPbc	20 15 39.3	+2.4
MANZ	Manzenberg	147.85	353	ePKPbc	PKPbc	20 15 39.3	+1.6
VYHS	Vyhne	147.98	344	ePKP	PKPbc	20 15 39.9	+1.9
ROTZ	Rotzenmuhle	148.05	352	ePKPbc	PKPbc	20 15 39.8	+1.6
GIVF	Givet	148.09	1	ePKP1	PKPbc	20 15 39.5	+1.2
BAIF	Baives	148.11	2	⇑iPKP1	PKPbc	20 15 39.7	+1.3
	comp=Z,33nm,1.3s						
GRA1	Grafenberg Arr	148.24	354	ePKPbc	PKPbc	20 15 40.5	+1.8
GRF	Grafenberg Arr	148.24	354	ePKPbc	PKPbc	20 15 40.5	+1.8
KHC	Kasperske Hory	148.48	351	ePKP	PKPbc	20 15 41.0	+1.7
WET	Wettzell	148.57	351	ePKPbc	PKPbc	20 15 41.2	+1.6
GEC2	GERESS Array S	148.74	350	ePKPbc	PKPbc	20 15 41.5	+1.5
GEC2	GERESS Array S	148.74	350	ePKPbc	PKPbc	20 15 41.2	+1.2
GEC2	GERESS Array S	148.74	350	ePKPbc	PKPbc	20 15 41.5	+1.5
GERES	GERESS Array B	148.74	350	PKPbc	PKPbc	20 15 41.6	+1.6
	comp=Z,3.4nm,0.9s,baz=29,slow=3.0,SNR=21						
FLN	La Foliniere	148.99	8	⇑iPKP1	PKPbc	20 15 41.3	+0.7
	comp=Z,17nm,0.9s						
LDF	La Druitiere	149.20	8	ePKP1	PKPbc	20 15 41.8	+0.6
GRR	Gorron	149.30	9	⇑iPKP1	PKPbc	20 15 42.3	+0.9
	comp=Z,19nm,0.9s						
MEZF	Maizieres J'vi	149.69	1	ePKP1	PKPbc	20 15 44.0	+1.6
CDF	Champ du Feu	149.78	358	⇑iPKP1	PKPbc	20 15 43.9	+1.3
	comp=Z,20nm,1.1s						
BFO	Black Forest	149.82	357	ePKPbc	PKPbc	20 15 44.2	+1.5
BFO	Black Forest	149.82	357	ePKPbc	PKPbc	20 15 44.2	+1.5
PKSM	Moragy	150.12	342	⇑iP	PKPbc	20 15 44.3	+0.9
HAU	Haudompre	150.20	360	⇑iPKP1	PKPbc	20 15 44.8	+1.2
	comp=Z,18nm,0.8s						
HINF	Hinteralfeld	150.38	359	⇑iPKP1	PKPbc	20 15 45.0	+1.0
	comp=Z,13nm,1.2s						
LOR	Lormes	150.88	3	⇑iPKP1	PKPbc	20 15 46.4	+1.2
	comp=Z,17nm,1.1s						
DOBS	Dobrina	150.99	346	eP	PKPbc	20 15 46.4	+0.9
LJU	Ljubljana	151.29	348	i P	PKPbc	20 15 47.4	+1.2
AVF	Avril sur Loir	151.33	4	⇑iPKP1	PKPbc	20 15 47.0	+0.7
	comp=Z,10nm,0.9s						
SMF	Signal de Mont	151.50	3	ePKP1	PKPbc	20 15 47.6	+0.9
BGF	Bois d'Agland	151.53	5	⇑iPKP1	PKPbc	20 15 47.7	+1.0
	comp=Z,15nm,0.8s						
CABF	La Chapelle	151.60	360	⇑iPKP1	PKPbc	20 15 48.6	+1.7
	comp=Z,24nm,1.0s						
CEY	Cerknica	151.60	348	eP	PKPbc	20 15 48.1	+1.2
BOJS	Bojanci	151.65	346	eP	PKPbc	20 15 48.5	+1.5
TCF	Toulx Ste Croi	151.74	6	ePKP1	PKPbc	20 15 48.0	+0.8
RJF	Les Rejaudoux	152.64	7	ePKP1	PKPbc	20 15 50.1	+0.9
LPL	La Plagne	152.69	359	ePKP1	PKPbc	20 15 51.4	+2.1
LPG	La Plagne	152.70	359	ePKP1	PKPbc	20 15 51.5	+2.1
VIVF	Saint-Julien-l	153.33	2	ePKP1	PKPbc	20 15 52.1	+1.3
MBDF	Montbardon	153.47	359	ePKP1	PKPbc	20 15 52.5	+1.4
	comp=Z,7.5nm,0.9s						

*ISCJB **01** 19:58:35.4±2.2, 6.2S±0.1×154.39E±0.05, h79km±20km, mb3.7/9, Error ellipse: s-maj=24.8km s-min=8.9km az=176.9*
*IDC **01** 19:58:37.1±2.8, 6.23S×154.38E, h82km±25km, mb3.4/6, mb1 3.7/9, mb1mx3.7/16, mbtmp4.0/9, MS3.7/1, Ms1 3.7/1, ms1mx2.8/19, Error ellipse: s-maj=27.2km s-min=15.0km az=0.0*
*NEIC **01** 19:58:38.3±1.5, 6.25S×154.44E, h95km±14km, mb4.1/2, Error ellipse: s-maj=15.6km s-min=11.2km az=176.0*
ISC 01 19:58:37.9±1.8, **6.2S**±0.1×**154.39E**±0.05, **h87**km±16km, **n17,** σ**0.73**/16, **mb3.7**/9, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.38	121	P	Pn	20 00 09.1	-0.1
	6.7nm,0.3s,baz=265,slow=4.8,SNR=3.0						
HNR				S	Sn	20 01 20.3	-0.3
	baz=266,slow=20,SNR=3.4						
PMG	Port Moresby	7.85	245	P	Pn	20 00 29.0	-0.2
	9.4nm,0.3s,baz=48,slow=9.0,SNR=39						
PMG				S	Sn	20 01 56.4	0.0
	2.1nm,0.3s,baz=166,slow=23,SNR=4.8						
CTA	Charters Tower	15.92	209	P	Pn	20 02 18.9	+2.2
	0.2nm,0.3s,baz=34,slow=16,SNR=4.5						
DZM	Mont Dzumac	19.63	145	P	Pn	20 02 57.1	-4.5
	0.4nm,0.3s,baz=353,slow=16,SNR=3.5						
KAKA	Kakadu	22.59	252	eP	P	20 03 35.8	+4.7
	4.7nm,0.6s,mb4.0						
WRAB	Tennant Creek	23.79	233	eP	P	20 03 42.2	-0.3
	8.7nm,1.0s,mb4.0						
WB2	Warramunga Arr	23.79	233	eP	P	20 03 42.2	-0.2
WRA	Warramunga Arr	23.80	233	P	P	20 03 42.4	-0.2
	0.4nm,0.4s,mb3.1,baz=58,slow=9.6,SNR=15						
WRA				PcP	PcP	20 07 24.9	+1.2
	1.6nm,0.7s,baz=56,slow=2.3,SNR=9.3						
ASAR	Alice Springs	26.28	226	P	P	20 04 04.0	-1.0
	0.5nm,0.5s,mb3.2,baz=57,slow=8.9,SNR=10						
ASAR				PcP	PcP	20 07 30.4	+1.2
	1.3nm,0.7s,baz=60,slow=2.5,SNR=7.7						
FITZ	Fitzroy Crossi	30.45	245	eP	P	20 04 50.9	+8.8
	4.2nm,0.8s,mb4.1						
AFI	Afiamalu	34.15	106	LR	LR	20 16 30.2	
	comp=Z,131nm,21.0s,baz=126,slow=31						
SONM	Songino Array	68.33	327	P	P	20 09 29.8	+0.1
	0.3nm,0.4s,mb3.5,baz=134,slow=8.3,SNR=4.7						
MKAR	Makanchi Array	82.40	319	P	P	20 10 50.0	-0.3
	0.5nm,0.8s,mb3.4,baz=88,slow=7.3,SNR=4.0						
MAW	Mawson	84.91	203	P	P	20 11 03.0	-0.2
	1.3nm,0.8s,mb3.9,baz=78,slow=9.3,SNR=3.2						
NVAR	Mina Array Bea	91.69	52	P	P	20 11 36.5	+1.1
	0.6nm,0.7s,mb3.9,baz=262,slow=4.1,SNR=5.9						
TORD	Torodi Ar. Bea	152.23	286	PKPbc	PKPbc	20 18 23.2	-0.1
	1.0nm,0.6s,baz=47,slow=2.4,SNR=11						
TORD				PKPab	PKPab	20 18 33.9	+0.5
	0.7nm,0.6s,baz=61,slow=3.5,SNR=5.8						
TORD	Torodi Ar. Bea	152.23	286	PKPbc	PKPbc	20 18 23.2	-0.1
TORD				PKPab	PKPab	20 18 33.9	+0.5

*ISCJB **01** 19:59:50.9±1.2, 27.7S±0.1×178.2W±0.2, h140km±12km, mb4.3/13, Error ellipse: s-maj=23.5km s-min=19.7km az=159.0*
*NEIC **01** 19:59:50.9±1.6, 27.55S×177.93W, h139km±13km, mb4.7/2, Error ellipse: s-maj=19.0km s-min=15.8km az=207.0*
*BJI **01** 19:59:50.9, 27.60S×177.90W, h138km, mB5.2, mb4.9*
*IDC **01** 19:59:52.3±0.8, 27.80S×177.86W, h153km±6km, mb4.0/9, mb1 4.1/9, mb1mx4.0/13, mbtmp4.5/9, MS3.5/1, Ms1 3.5/1, ms1mx2.6/22, Error ellipse: s-maj=17.8km s-min=12.6km az=80.0*
ISC 01 19:59:51.8±1.3, **27.7S**±0.1×**178.1W**±0.2, **h137**km±12km, **h156**km±8.2km**:pP-P, n56,** σ**0.81**/24, **mb4.3**/13, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.59	175	P	Pn	20 00 21.8	+0.4
	812nm,0.3s,baz=76,slow=2.9,SNR=54						
RAO				S	Sn	20 00 43.8	+4.5
	645nm,0.3s,baz=74,slow=22,SNR=21						
RAO	Raoul Island	1.59	175	eP	Pn	20 00 21.3	0.0
DZM	Mont Dzumac	15.11	288	P	Pn	20 03 25.0	+6.9
	0.6nm,0.3s,baz=77,slow=19,SNR=3.6						
CTA	Charters Tower	33.40	275	eP	P	20 06 19.0	+1.9
	4.5nm,0.4s,mb4.5						
CTA	Charters Tower	33.40	275	P	P	20 06 19.1	+1.9
	6.0nm,0.5s,mb4.6,baz=105,slow=10.0,SNR=15						
CTAO	Charters Tower	33.40	275	eP	P	20 06 18.9	+1.8
STKA	Stephens Creek	35.12	253	P	P	20 06 30.9	-1.1
	1.0nm,0.5s,mb3.8,baz=104,slow=13,SNR=5.0						
STKA				pP	pP	20 07 06.9	+5.1
	3.4nm,1.0s,baz=109,slow=13,SNR=3.3						
STKA				PcP	PcP	20 09 00.3	-0.1
	1.7nm,0.8s,baz=117,slow=2.3,SNR=3.1						
STKA	Stephens Creek	35.12	253	P	P	20 06 30.9	-1.1
STKA				pP	pP	20 07 06.9	+5.1
STKA				PcP	PcP	20 09 00.3	-0.1
PMG	Port Moresby	37.45	292	LR	LR	20 19 25.4	
	comp=Z,66nm,19.7s,baz=21,slow=31						
ASAR	Alice Springs	43.26	264	P	P	20 07 39.4	-0.2
	2.3nm,0.8s,mb3.9,baz=102,slow=7.6,SNR=7.9						
ASAR				pP	pP	20 08 14.7	+4.4
	5.2nm,0.9s,baz=114,slow=8.8,SNR=9.7						
ASAR				PcP	PcP	20 09 25.6	-0.5
	1.1nm,0.5s,baz=118,slow=3.6,SNR=6.1						
ASAR				ScP	ScP	20 13 00.8	-3.8
	0.6nm,0.8s,baz=113,slow=4.4,SNR=4.6						
WRAB	Tennant Creek	43.99	269	eP	P	20 07 44.8	-0.6
WRA	Warramunga Arr	44.00	269	P	P	20 07 45.4	0.0
	3.1nm,0.7s,mb4.0,baz=107,slow=7.7,SNR=13						
WRA				PcP	PcP	20 09 28.3	-0.4
	3.6nm,0.8s,baz=106,slow=3.3,SNR=11						
WRA				ScP	ScP	20 13 04.7	-2.9
	1.5nm,1.2s,baz=98,slow=3.9,SNR=3.6						
SBA	Scott Base	50.75	184	eP	P	20 08 39.0	+1.4
VNDA	Vanda	50.80	186	eP	P	20 08 38.4	+0.4
JOW	Kunigami	74.79	312	P	P	20 11 17.1	+0.2
	6.3nm,0.4s,mb4.6,baz=178,slow=12,SNR=3.8						
MAW	Mawson	74.84	200	P	P	20 11 15.7	-1.4
	1.3nm,0.5s,mb3.8,baz=131,slow=8.8,SNR=5.8						
MJAR	Matsushiro Arr	75.97	325	P	P	20 11 22.9	-0.6
	15nm,0.7s,mb4.7,baz=158,slow=5.4,SNR=39						
MAJO	Matsushiro	75.97	325	eP	P	20 11 22.9	-0.7
	18nm,0.8s,mb4.7						
MAT	Matsushiro	75.97	325	P	P	20 11 22.8	-0.8
ASAJ	Asahikawa	79.99	332	P	P	20 11 47.0	+1.3
	11nm,0.8s,mb4.6,baz=117,slow=2.3,SNR=7.2						
NVAR	Mina Array Bea	86.28	43	P	P	20 12 17.5	-0.6
	0.4nm,0.7s,mb3.3,baz=210,slow=6.2,SNR=3.9						
NVAR				pP	pP	20 12 53.4	+0.6
	0.7nm,0.9s,baz=222,slow=9.4,SNR=2.5						
MDJ	Mudanjiang	86.34	325	P	P	20 12 18.8	+0.4
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
MDJ				LR	LR		
	comp=N,148nm,16.3s						
MDJ				LR	LR		
	comp=Z,104nm,16.3s						
CN2	Changchun	87.93	323	eP	P	20 12 26.2	+0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
BJI	Beijing	90.93	316	eP	P	20 12 40.5	+0.5
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,719nm,12.4s						
BJI				LR	LR		
	comp=E,532nm,13.0s						
BJI				LR	LR		
	comp=Z,423nm,19.2s						
MKAR	Makanchi Array	115.95	311	PKP	PKPdf	20 18 15.8	-2.5
	comp=Z,0.7nm,0.4s,baz=41,slow=2.2,SNR=6.6						
MKAR	Makanchi Array	115.95	311	PKP	PKPdf	20 18 15.8	-2.5
BOSA	Boshof	119.74	204	PKP	PKPdf	20 18 25.9	+0.3
	comp=Z,2.3nm,1.0s,baz=180,slow=2.0,SNR=3.7						
CHKZ	Chkalovo	124.26	318	ePKPdf	PKPdf	20 18 32.2	-2.0
BVAR	Borovoye Array	124.39	317	PKP	PKPdf	20 18 31.7	-2.8
	comp=Z,2.5nm,0.6s,baz=112,slow=1.6,SNR=14						
ZRNK	Zerenda	125.22	317	ePKPdf	PKPdf	20 18 33.8	-2.3
AKTK	Aktyubinsk	132.19	314	PKP	PKPdf	20 18 48.4	-0.9
AKTO	Aktyubinsk	132.19	314	PKP	PKPdf	20 18 48.4	-0.9
	comp=Z,2.2nm,0.7s,baz=96,slow=3.5,SNR=7.1						
ARCES	ARCESS Array B	135.91	348	PKhKP		20 18 47.3	
	comp=Z,3.3nm,1.1s,baz=28,slow=2.1,SNR=3.2						
ARCES				PKP	PKPdf	20 18 55.2	-1.1
	comp=Z,2.4nm,0.8s,baz=26,slow=2.3,SNR=7.9						
JOF	Joensuu	139.85	340	ep	PKPdf	20 19 02.6	-0.9
KAF	Kangasniemi	141.95	342	ep	PKPdf	20 18 58.3	-9.0
FINES	FINESS Array B	142.55	341	PKhKP		20 19 01.6	
	comp=Z,1.9nm,0.6s,baz=79,slow=3.1,SNR=17						
NB2	NORSAR Subarra	146.04	352	PKPa	PKPbc	20 19 13.6	-1.9
	comp=Z,4.8nm,0.9s,baz=20,slow=4.1						
NOA	NORSAR Array B	146.04	352	PKPbc	PKPbc	20 19 12.8	-2.7
	comp=Z,3.9nm,0.8s,baz=16,slow=2.7,SNR=12						
NOA	NORSAR Array B	146.04	352	PKPbc	PKPbc	20 19 12.8	-2.7
MALT	Malatya	147.78	299	ePKPbc	PKPbc	20 19 20.7	+0.3
AKASG	Malin Array Be	149.06	325	PKPbc	PKPbc	20 19 21.5	-2.2
	comp=Z,8.5nm,0.6s,baz=40,slow=3.4,SNR=32						
AKASG				PKPab	PKPab	20 19 27.1	-1.1
	comp=Z,7.6nm,0.5s,baz=45,slow=4.5,SNR=16						
AKBB	Malin Array Si	149.06	325	ePKPbc	PKPbc	20 19 22.4	-1.3
KOLS	Kolonicke sedl	153.59	329	ePKP	PKPab	20 19 45.9	-1.3
STHS	Stebnicka Huta	153.69	331	ePKP	PKPab	20 19 48.2	+0.6
CRVS	Cervenica-Dubn	153.98	330	ePKP	PKPab	20 19 48.4	-0.5
KECS	Kecovo	154.72	330	ePKP	PKPab	20 19 51.0	-1.0
UPC	Upice	154.79	339	ePKPab	PKPab	20 19 51.4	-0.9
DPC	Dobruska-Polom	154.82	338	ePKPab	PKPab	20 19 52.5	0.0
BRG	Berggiesshubel	155.09	342	eP	PKPab	20 19 53.0	-0.6
	comp=Z,2.5nm,0.8s						
PVCC	Panska Ves	155.22	341	ePKPab	PKPab	20 19 53.1	-1.1
VYHS	Vyhne	155.41	332	ePKP	PKPab	20 19 53.9	-1.1
PRU	Pruhonice	155.71	340	ePKPab	PKPab	20 19 55.3	-0.9
KHC	Kasperske Hory	156.76	340	ePKPab	PKPab	20 19 59.7	-1.1
GERES	GERESS Array B	156.97	340	PKPab	PKPab	20 20 00.6	-1.1
	comp=Z,0.7nm,0.7s,baz=30,slow=5.0,SNR=6.4						
TORD	Torodi Ar. Bea	165.56	179	PKP	PKPdf	20 19 38.5	-1.5
	comp=Z,0.7nm,0.9s,baz=223,slow=1.1,SNR=3.7						
TORD				PKPab	PKPab	20 20 38.7	-0.5
	comp=Z,1.0nm,0.8s,baz=168,slow=3.0,SNR=6.1						
TORD	Torodi Ar. Bea	165.56	179	PKP	PKPdf	20 19 38.5	-1.5
TORD				PKPab	PKPab	20 20 38.7	-0.5

*IDC **01** 20:08:00.9±0.7, 35.13N×89.75E, h0km, mb4.2/13, mb1 4.4/16, mb1mx4.2/24, mbtmp4.2/16, ML3.3/3, MS3.8/15, Ms1 3.8/15, ms1mx3.5/37, Error ellipse: s-maj=31.3km s-min=15.0km az=50.0*
*BJI **01** 20:08:02.0, 35.55N×89.83E, h6km, mB4.6, mb4.3, Ms4.3, Msz4.1*
*MOS **01** 20:08:02.4±1.2, 35.42N×89.75E, h14km, mb4.7/43, Error ellipse: s-maj=10.9km s-min=5.6km az=118.8*
*NEIC **01** 20:08:03.1±0.4, 35.27N×89.78E, h10km, mb4.8/31, Error ellipse: s-maj=11.4km s-min=7.4km az=213.0*
*GCMT **01** 20:08:03.1±0.5, 35.35N×89.62E, h24km±1km, MW4.8/41, Moment Tensor Solution. s10,c10; s41,c65; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68±.23; $M_{\theta\theta}$-0.02±.12; $M_{\phi\phi}$1.70±.14; $M_{r\theta}$0.40±.19; $M_{\theta\phi}$0.84±.08; $M_{\phi r}$0.35±.17; Best double couple: $M_0$1.94300×10^{16} NP1:ϕ_s12.00000°, δ39.00000°, λ-105.00000°. NP2: ϕ_s211.00000°, δ53.00000°, λ-78.00000°. Principal axes: T 2.1070, Plg7.0000°, Azm293.0000°; N -0.3260, Plg9.0000°, Azm24.0000°; P -1.7790, Plg78.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **01** 20:08:06.8±0.9, 35.36N±0.04×89.89E±0.04, h53km±9km, mb4.5/62, MS3.8/20 Error ellipse: s-maj=6.9km s-min=5.4km az=177.2*
*SZGRF **01** 20:08:23.6, 36.35N×87.14E, h33km, mb4.6, Southern Xinjiang, China*
ISC 01 20:08:07.9±0.7, **35.40N**±0.04×**89.88E**±0.04, **h43**km±7km, **n181,** σ**1.17**/178, **mb4.5**/62, **MS3.8**/20, **2D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSA	Lhasa	5.78	169	P	Pn	20 09 33.8	+2.7
LSA	Lhasa	5.78	169	eP	Pn	20 09 33.0	+1.9
LSA				pmax	pmax		
	comp=Z,54nm,1.1s						
LSA	Lhasa	5.78	169	eP	Pn	20 09 33.0	+1.9
	comp=Z,54nm,1.1s						
GUN	Gumba	8.20	206	eP	Pn	20 10 06.6	+2.3
KKN	Kakani	8.54	209	eP	Pn	20 10 08.6	-0.3
	comp=Z,7.5nm,0.5s						
WMQ	Urumqi	8.58	349	eP	Pn	20 10 08.5	-1.0
WMQ				S	Sn	20 11 38.0	-7.0
WMQ				LR	LR		
	comp=N,2μm,10.2s						
WMQ				LR	LR		
	comp=E,932nm,8.6s						
WMQ				LR	LR		
	comp=Z,1μm,11.0s						
GKN	Gorkha	8.62	213	eP	Pn	20 10 12.0	+2.0
	comp=Z,50nm,1.3s						
DMN	Daman	8.77	209	eP	Pn	20 10 10.0	-2.0
	comp=Z,34nm,0.9s						
GTA	Gaotai	8.86	60	eP	Pn	20 10 13.4	+0.1
GTA				AP		20 10 18.4	
GTA				XP		20 10 20.7	
GTA				S	Sn	20 11 57.1	+5.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
GTA				LR	LR		
	comp=N,1μm,12.9s						
GTA				LR	LR		
	comp=E,705nm,11.8s						
GTA				LR	LR		
	comp=Z,860nm,10.6s						
KOLN	Koldanda	9.30	217	eP	Pn	20 10 16.8	-2.5
	comp=Z,17nm,0.8s						
LZH	Lanzhou	11.37	82	eP	Pn	20 10 51.0	+3.3
LZH				AMB	AMB		
	comp=Z,19nm,1.0s						
CD2	Chengdu	12.46	107	eP	Pn	20 11 00.6	-1.9
CD2				PP		20 11 11.0	
CD2				S	Sn	20 13 18.6	-1.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CD2				LR	LR		
	comp=E,730nm,10.8s						
CD2				LR	LR		
	comp=Z,580nm,9.6s						
MKAR	Makanchi Array	12.74	336	Pn	Pn	20 11 02.6	-3.7
	comp=Z,0.1nm,0.3s,baz=143,slow=14,SNR=9.5						
AAK	Ala-Archa	13.96	306	⇓P	Pn	20 11 28.4	+5.3
	SNR=6.2						
AAK	Ala-Archa	13.96	306	P	Pn	20 11 18.5	-4.6
AAK				pmax	pmax		
	comp=Z,18nm,1.0s						
AAK	Ala-Archa	13.96	306	P	Pn	20 11 18.4	-4.7
	comp=Z,18nm,1.0s						
FRU	Bishkek	13.97	307	eP	Pn	20 11 28.0	+4.8
KMI	Kunming	15.09	129	P	Pn	20 11 40.4	+2.2
KMI				AP	pP	20 11 45.3	-7.7
KMI				XP	sP	20 11 49.3	-9.2
KMI				PP		20 11 54.5	
KMI				S	S	20 14 34.1	-5.7
KMI				AMB	AMB		
	comp=Z,16nm,1.3s						
KMI				LR	LR		
	comp=N,390nm,14.4s						
KMI				LR	LR		
	comp=E,614nm,10.7s						
KMI				LR	LR		
	comp=Z,628nm,12.6s						
XAN	Xi'an	15.72	89	P	Pn	20 11 49.5	+3.2
XAN				AMB	AMB		
	comp=Z,12nm,1.4s						
GYA	Guiyang	16.91	117	P	Pn	20 11 59.2	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s						
GYA				AMB	AMB		
	comp=Z,110nm,6.5s						
GYA				LR	LR		
	comp=N,430nm,7.8s						
GYA				LR	LR		
	comp=E,510nm,9.1s						
GYA				LR	LR		
	comp=Z,800nm,9.3s						
SONM	Songino Array	17.47	40	P	Pn	20 12 09.7	+1.4
	comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=14						
SONM				LR	LR	20 18 48.5	
	comp=Z,81nm,19.7s,baz=50,slow=36						
ULN	Ulaanbaatar	17.84	40	P	Pn	20 12 14.4	+1.6
	SNR=8.8						
ULN	Ulaanbaatar	17.84	40	eP	Pn	20 12 13.5	+0.7

ULN pmax pmax
comp=Z,21nm,1.4s
ULN Ulaanbaatar 17.84 40 *eP* **Pn 20 12 13.5 +0.7**
comp=Z,21nm,1.4s
HHC Hu-ho-hao-te 17.89 66 *eP* **Pn 20 12 14.9 +1.4**
HHC AP pP 20 12 22.9 -1.2
HHC XP sP 20 12 26.7 -2.8
HHC S **S 20 15 27.3 -10**
HHC XS sS 20 15 37.6 -16
HHC AMB AMB
comp=Z,10.0nm,0.3s
HHC LR LR
comp=N,899nm,17.8s
HHC LR LR
comp=E,407nm,17.2s
HHC LR LR
comp=Z,497nm,16.2s
ZAL Zalesovo 18.88 351 P **Pn 20 12 23.4 -2.0**
comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=16
ZAL LR LR 20 20 43.5
comp=Z,402nm,18.1s,baz=301,slow=40
TLY Talaya 19.04 27 *eP* **Pn 20 12 27.2 -0.2**
TLY pmax pmax
comp=Z,10.0nm,1.5s
TLY MLR MLR
comp=Z,168nm,11.0s
NVS Novosibirsk 19.98 349 *eP* **Pn 20 12 34.6 -4.0**
NVS pmax pmax
comp=Z,14nm,1.2s
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.1s
WHN Wuhan 21.07 96 *eP* **P 20 12 49.0 +0.6**
BJT Baijiatuau 21.27 70 *eP* **P 20 12 52.3 +1.8**
BJT pmax pmax
comp=Z,44nm,1.3s
BJT Baijiatuau 21.27 70 *eP* **P 20 12 52.3 +1.7**
comp=Z,44nm,1.3s,mb4.6
BJI Beijing 21.28 70 *eP* **P 20 12 52.0 +1.4**
BJI AMB AMB
comp=Z,11nm,1.2s,mb4.1
BJI AMB AMB
comp=Z,157nm,2.6s,mb4.9
BJI LR LR
comp=N,719nm,12.4s,MS4.3
BJI LR LR
comp=E,532nm,13.0s,MS4.3
BJI LR LR
comp=Z,423nm,19.2s
BVAR Borovoye Array 22.37 328 P **P 20 13 00.7 -1.6**
comp=Z,2.3nm,0.6s,mb3.8,baz=138,slow=9.1,SNR=15
BVAR LR LR 20 22 45.0
comp=Z,501nm,19.1s,MS4.0,baz=139,slow=39
BVAR Borovoye Array 22.37 328 P **P 20 13 00.7 -1.5**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR MLR MLR
comp=Z,501nm,19.1s
BRVK Borovoye 22.43 328 P **P 20 13 04.6 +1.6**
SNR=9.0
BRVK Borovoye 22.43 328 *eP* **P 20 12 59.9 -3.1**
BRVK pmax pmax
comp=Z,19nm,1.3s,mb4.4
BRVK Borovoye 22.43 328 *eP* **P 20 12 59.9 -3.0**
comp=Z,19nm,1.3s,mb4.4
CHKZ Chkalovo 22.73 329 *eP* **P 20 13 04.5 -1.6**
CHKZ pmax pmax
comp=Z,17nm,1.1s,mb4.4
CHKZ Chkalovo 22.73 329 *eP* **P 20 13 04.5 -1.6**
comp=Z,17nm,1.1s,mb4.4
ZRNK Zerenda 22.93 326 *eP* **P 20 13 08.2 0.0**
ZRNK pmax pmax
comp=Z,15nm,1.4s,mb4.2
ZRNK Zerenda 22.93 326 *eP* **P 20 13 08.2 +0.1**
comp=Z,15nm,1.4s,mb4.2
HIA Hailar 25.86 48 *eP* **P 20 13 36.4 +0.9**
SSE Sheshan 26.47 90 P **P 20 13 40.3 -0.6**
SSE S **S 20 18 04.9 -6.9**
SSE AMB AMB
comp=Z,30nm,0.6s,mb5.0
SSE LR LR
comp=N,144nm,20.8s,MS3.6
SSE LR LR
comp=E,76nm,20.8s,MS3.6
SSE LR LR
comp=Z,319nm,8.1s
AKTK Aktyubinsk 27.50 313 P **P 20 13 48.8 -1.3**
AKTK LR LR 20 24 41.9
AKTO Aktyubinsk 27.50 313 P **P 20 13 48.8 -1.3**
comp=Z,1.2nm,0.6s,mb3.6,baz=101,slow=12,SNR=4.5
AKTO LR LR 20 24 41.9
comp=Z,44nm,20.2s,MS3.0,baz=123,slow=36
AKTO Aktyubinsk 27.50 313 P **P 20 13 48.8 -1.3**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.5
AKTO MLR MLR
comp=Z,45nm,20.2s,MS3.0
BOD Bodaibo 27.61 28 *eP* **P 20 13 50.5 -0.6**
BOD pmax pmax
comp=Z,4.0nm,1.6s,mb3.8
ARU Arti 29.86 325 ⇓ *iP* **P 20 14 11.8 +0.6**
ARU *e* 20 15 18.9
ARU *e* 20 17 14.5
ARU *eS* **S 20 19 00.3 -4.9**
ARU *eSS* SS 20 20 46.8 -27
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.0
ARU MLR MLR
comp=N,100nm,16.0s,MS3.9
ARU MLR MLR
comp=E,200nm,18.0s,MS3.9
YAK Yakutsk 36.44 31 *eP* **P 20 15 07.2 -1.3**
YAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV Kislovodsk 36.89 298 *eP* **P 20 15 11.8 -0.5**
KIV pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
ANN Anapa 40.59 300 *eP* **P 20 15 40.8 -2.5**
ANN MLR MLR
comp=Z,197nm,16.0s,MS4.1
OBN Obninsk 41.20 316 *eP* **P 20 15 47.0 -1.3**
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.8
JOF Joensuu 44.95 326 *ep* **P 20 16 15.8 -2.9**
comp=Z,12nm,0.9s,mb4.7
JOF Joensuu 44.95 326 *eP* **P 20 16 15.8 -2.9**
JOF pmax pmax
comp=Z,12nm,0.9s,mb4.7
AKASG Malin Array Be 45.60 309 P **P 20 16 22.9 -1.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=76,slow=6.5,SNR=9.3
AKASG Malin Array Be 45.60 309 P **P 20 16 22.9 -0.9**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 47.17 325 *ep* **P 20 16 33.3 -2.8**
baz=94,slow=7.7
FINES FINESS Array B 47.23 324 P **P 20 16 37.1 +0.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=8.1,SNR=12
FINES LR LR 20 38 19.9
comp=Z,159nm,18.1s,MS4.0,baz=87,slow=38
FINES FINESS Array B 47.23 324 P **P 20 16 37.1 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,159nm,18.1s
KEV Kevo 47.91 335 *ep* **P 20 16 41.0 -0.9**
ARCES ARCESS Array B 48.39 335 P **P 20 16 46.5 +1.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=80,slow=7.5,SNR=7.2
ARCES LR LR 20 37 29.2
comp=Z,99nm,19.5s,MS3.8,baz=88,slow=36
ARCES ARCESS Array B 48.39 335 P **P 20 16 46.6 +1.1**
ARCES pmax pmax
comp=Z,1.0nm,0.6s
ARCES MLR MLR
comp=Z,99nm,19.5s
MLR Muntele Rosu 48.52 302 P **P 20 16 47.5 +1.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=126,slow=17,SNR=3.2
MLR Muntele Rosu 48.52 302 P **P 20 16 47.5 +1.0**
MLR pmax pmax
comp=Z,3.0nm,0.8s
VYHS Vyhne 52.62 308 *eP* **P 20 17 15.3 -2.2**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
VYHS Vyhne 52.62 308 *eP* **P 20 17 15.3 -2.2**
comp=Z,4.3nm,1.4s,mb4.2
BILL Bilibino 52.66 27 *eP* **P 20 17 16.8 -0.9**
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
GUMO Guam 53.81 99 LR LR 20 42 03.2
comp=Z,95nm,18.6s,MS3.9,baz=127,slow=38
NB2 NORSAR Subarra 54.42 324 P **P 20 17 30.7 0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=82,slow=7.4
NOA NORSAR Array B 54.42 324 P **P 20 17 30.2 -0.4**
comp=Z,4.0nm,0.8s,mb4.4,baz=81,slow=7.2,SNR=12
NOA LR LR 20 42 32.1
comp=Z,128nm,19.9s,MS4.0,baz=65,slow=38
NOA NORSAR Array B 54.42 324 P **P 20 17 30.3 -0.4**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,128nm,19.9s
BRG Berggiesshubel 55.12 311 *eP* **P 20 17 35.7 0.0**
comp=Z,7.0nm,1.0s,mb4.7
CLL Collm 55.58 312 *eP* **P 20 17 39.1 +0.1**
comp=Z,7.0nm,1.1s,mb4.6
GEC2 GERESS Array S 55.82 309 *eP* **P 20 17 41.3 +0.6**
comp=Z,11nm,1.2s,mb4.8
GEC2 GERESS Array S 55.82 309 *eP* **P 20 17 41.3 +0.6**
GEC2 pmax pmax
comp=Z,11nm,1.2s,mb4.8
GERES GERESS Array B 55.82 309 P **P 20 17 41.6 +0.8**
comp=Z,2.3nm,0.8s,mb4.3,baz=74,slow=5.8,SNR=17
GERES LR LR 20 46 52.3
comp=Z,71nm,18.3s,MS3.8,baz=339,slow=42
GERES GERESS Array B 55.82 309 P **P 20 17 41.6 +0.8**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,71nm,18.3s
TANN Tannenbergstha 56.15 311 *eP* **P 20 17 43.8 +0.7**
comp=Z,4.0nm,1.0s,mb4.4
WERD Werda 56.24 311 *eP* **P 20 17 44.2 +0.5**
comp=Z,4.0nm,1.1s,mb4.4
WERN Wernitzgruen 56.24 311 *eP* **P 20 17 44.4 +0.6**
comp=Z,5.0nm,1.2s,mb4.4
GUNZ Gunzen 56.24 311 *eP* **P 20 17 44.5 +0.7**
comp=Z,6.0nm,1.0s,mb4.6
WET Wettzell 56.25 310 *eP* **P 20 17 44.3 +0.4**
comp=Z,6.0nm,1.2s,mb4.5
WET Wettzell 56.25 310 *eP* **P 20 17 44.3 +0.4**
WET pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
BSEG Bad Segeberg 56.46 316 *eP* **P 20 17 46.8 +1.5**
comp=Z,8.0nm,1.0s,mb4.7
BSEG Bad Segeberg 56.46 316 *eP* **P 20 17 46.8 +1.5**
BSEG pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ROTZ Rotzenmuhle 56.49 311 *eP* **P 20 17 46.4 +0.8**
comp=Z,10.0nm,1.6s,mb4.6
MOX Moxa 56.60 312 *eP* **P 20 17 46.8 +0.5**
NRDL Niedersach Rie 56.98 314 *eP* **P 20 17 51.5 +2.5**
GRA1 Grafenberg Arr 57.12 311 *eP* **P 20 17 51.0 +1.0**
comp=Z,7.0nm,0.8s,mb4.7
GRF Grafenberg Arr 57.12 311 *eP* **P 20 17 51.0 +1.0**
comp=Z,7.0nm,0.8s,mb4.7
GRF Grafenberg Arr 57.12 311 *eP* **P 20 17 51.0 +1.0**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GRF Grafenberg Arr 57.12 311 *eP* **P 20 17 51.0 +1.0**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
GTTG Gvttingen 57.34 313 *eP* **P 20 17 52.4 +0.9**
comp=Z,7.0nm,0.7s,mb4.8
UBBA Unterbreizbach 57.53 312 *eP* **P 20 17 53.5 +0.6**
comp=Z,4.0nm,0.7s,mb4.6
BUG Bochum--Univer 58.97 314 *eP* **P 20 18 04.5 +1.5**
comp=Z,8.0nm,0.7s,mb4.9
BFO Black Forest 59.37 310 *eP* **P 20 18 05.9 +0.2**
comp=Z,12nm,1.4s,mb4.7
BFO Black Forest 59.37 310 *eP* **P 20 18 05.9 +0.2**
BFO pmax pmax
comp=Z,12nm,1.4s,mb4.7
CDF Champ du Feu 60.00 310 *eP* **P 20 18 10.2 +0.2**
comp=Z,16nm,1.1s,mb4.7
CDF Champ du Feu 60.00 310 *eP* **P 20 18 10.2 +0.2**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CDF Champ du Feu 60.00 310 *eP* **P 20 18 10.2 +0.2**
comp=Z,8.1nm,1.1s,mb4.7
WLF Walferdange 60.24 312 *eP* **P 20 18 13.4 +1.7**
comp=Z,7.0nm,0.9s,mb4.7
HINF Hinteralfeld 60.47 310 *eP* **P 20 18 13.4 +0.1**
comp=Z,15nm,1.1s,mb4.7
HINF Hinteralfeld 60.47 310 *eP* **P 20 18 13.4 +0.1**
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
HINF Hinteralfeld 60.47 310 *eP* **P 20 18 13.4 +0.1**
comp=Z,7.4nm,1.0s,mb4.7
KMBO Kilima Mbogo 61.02 245 LR LR 20 46 34.0
comp=Z,63nm,18.9s,MS3.8,baz=82,slow=38
BAIF Baives 61.27 313 *eP* **P 20 18 19.2 +0.5**
comp=Z,17nm,1.1s,mb4.8
BAIF Baives 61.27 313 *eP* **P 20 18 19.2 +0.5**
BAIF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
BAIF Baives 61.27 313 *eP* **P 20 18 19.2 +0.5**
comp=Z,8.6nm,1.1s,mb4.8
MEZF Maizieres J'vi 61.34 311 *eP* **P 20 18 19.8 +0.6**
comp=Z,8.9nm,0.7s,mb4.7
MEZF Maizieres J'vi 61.34 311 *eP* **P 20 18 19.8 +0.6**
comp=Z,8.9nm,0.7s,mb5.0
LPG La Plagne 61.40 307 *eP* **P 20 18 20.5 +0.9**
comp=Z,30nm,1.1s,mb5.0
LPG La Plagne 61.40 307 *eP* **P 20 18 20.5 +0.9**
LPG pmax pmax
comp=Z,15nm,1.1s,mb5.0
LPG La Plagne 61.40 307 *eP* **P 20 18 20.5 +0.9**
comp=Z,15nm,1.1s,mb5.0
CABF La Chapelle 61.41 309 *eP* **P 20 18 19.7 +0.1**
comp=Z,7.7nm,0.9s,mb4.5
CABF La Chapelle 61.41 309 *eP* **P 20 18 19.7 +0.1**
CABF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CABF La Chapelle 61.41 309 *eP* **P 20 18 19.7 +0.1**
comp=Z,3.8nm,0.9s,mb4.5
LPL La Plagne 61.41 307 *eP* **P 20 18 20.5 +0.9**
comp=Z,31nm,1.1s,mb5.0
LPL La Plagne 61.41 307 *eP* **P 20 18 20.5 +0.9**
LPL pmax pmax
comp=Z,15nm,1.1s,mb5.0
LPL La Plagne 61.41 307 *eP* **P 20 18 20.5 +0.9**
comp=Z,15nm,1.1s,mb5.0
SBF Sospel 61.59 305 *eP* **P 20 18 20.8 0.0**
comp=Z,17nm,0.8s,mb4.9
SBF Sospel 61.59 305 *eP* **P 20 18 20.8 0.0**
SBF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
SBF Sospel 61.59 305 *eP* **P 20 18 20.8 0.0**
comp=Z,8.4nm,0.8s,mb4.9
MBDF Montbardon 61.69 307 *eP* **P 20 18 21.1 -0.4**
comp=Z,9.3nm,1.0s,mb4.6
MBDF Montbardon 61.69 307 *eP* **P 20 18 21.1 -0.4**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
MBDF Montbardon 61.69 307 *eP* **P 20 18 21.1 -0.4**
comp=Z,4.7nm,1.0s,mb4.6
ORIF Oris-en-Rattie 62.20 307 *eP* **P 20 18 23.6 -1.3**
ORIF *eR*
comp=Z,94nm,18.8s
LOR Lormes 62.56 310 *eP* **P 20 18 27.0 -0.4**
comp=Z,10nm,0.9s,mb4.6
LOR *eR*
comp=Z,96nm,23.0s
LOR Lormes 62.56 310 *eP* **P 20 18 27.0 -0.4**
LOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,100nm,23.0s,MS3.9
LOR Lormes 62.56 310 *eP* **P 20 18 27.0 -0.4**
comp=Z,5.2nm,0.9s,mb4.7
LOR LR LR
comp=Z,100nm,23.0s,MS3.9
SMRF Simiane la Rot 62.77 306 *eP* **P 20 18 29.0 +0.2**
SMF Signal de Mont 62.82 309 *eP* **P 20 18 29.0 -0.1**
comp=Z,18nm,1.0s,mb4.9
SMF Signal de Mont 62.82 309 *eP* **P 20 18 29.0 -0.1**
SMF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SMF Signal de Mont 62.82 309 *eP* **P 20 18 29.0 -0.1**
comp=Z,9.1nm,1.0s,mb4.9
VIVF Saint-Julien-l 63.01 307 *eP* **P 20 18 30.4 0.0**
comp=Z,22nm,1.2s,mb4.9
VIVF Saint-Julien-l 63.01 307 *eP* **P 20 18 30.4 0.0**
VIVF pmax pmax
comp=Z,11nm,1.2s,mb4.9
VIVF Saint-Julien-l 63.01 307 *eP* **P 20 18 30.4 0.0**
comp=Z,11nm,1.2s,mb4.9
AVF Avril sur Loir 63.07 310 *eP* **P 20 18 30.7 0.0**
comp=Z,24nm,1.2s,mb4.9
AVF Avril sur Loir 63.07 310 *eP* **P 20 18 30.7 0.0**
AVF pmax pmax
comp=Z,12nm,1.2s,mb4.9
AVF Avril sur Loir 63.07 310 *eP* **P 20 18 30.7 0.0**
comp=Z,12nm,1.2s,mb4.9
FITZ Fitzroy Crossi 63.09 141 *eP* **P 20 18 29.7 -1.2**
comp=Z,3.7nm,1.0s,mb4.5
BGF Bois d'Agland 63.48 310 *eP* **P 20 18 33.4 -0.1**
TCF Toulx Ste Croi 63.99 310 *eP* **P 20 18 37.2 +0.3**
comp=Z,33nm,1.2s,mb4.9
TCF Toulx Ste Croi 63.99 310 *eP* **P 20 18 37.2 +0.3**
TCF pmax pmax
comp=Z,17nm,1.2s,mb5.0
TCF Toulx Ste Croi 63.99 310 *eP* **P 20 18 37.2 +0.3**
comp=Z,17nm,1.2s,mb4.9
LDF La Druitiere 64.46 313 *eP* **P 20 18 39.6 -0.3**
comp=Z,17nm,1.0s,mb4.7
LDF La Druitiere 64.46 313 *eP* **P 20 18 39.6 -0.3**
LDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
LDF La Druitiere 64.46 313 *eP* **P 20 18 39.6 -0.3**
comp=Z,8.4nm,1.0s,mb4.7
CAF Calviac 64.66 308 *eP* **P 20 18 41.9 +0.7**
comp=Z,12nm,1.0s,mb4.6
CAF Calviac 64.66 308 *eP* **P 20 18 41.9 +0.7**
CAF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CAF Calviac 64.66 308 *eP* **P 20 18 41.9 +0.7**
comp=Z,5.8nm,1.0s,mb4.6
RJF Les Rejaudoux 64.85 309 *eP* **P 20 18 43.2 +0.7**
comp=Z,20nm,1.3s,mb4.7
RJF *eR*
comp=Z,33nm,17.0s
RJF Les Rejaudoux 64.85 309 *eP* **P 20 18 43.2 +0.7**
RJF pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
RJF MLR MLR
comp=Z,30nm,17.0s,MS3.5
RJF Les Rejaudoux 64.85 309 *eP* **P 20 18 43.2 +0.7**
comp=Z,10nm,1.3s,mb4.7
RJF LR LR
comp=Z,30nm,17.0s,MS3.5
GRR Gorron 64.99 313 *eP* **P 20 18 43.0 -0.4**
MTLF Montolieu 65.25 307 *eP* **P 20 18 45.4 +0.3**
LFF La Frestale 65.50 309 *eP* **P 20 18 46.0 -0.7**
ETSF Etsaut 67.27 307 *eP* **P 20 18 58.6 +0.6**
comp=Z,12nm,1.0s,mb4.6
ETSF Etsaut 67.27 307 *eP* **P 20 18 58.6 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ETSF Etsaut 67.27 307 *eP* **P 20 18 58.6 +0.6**
comp=Z,6.2nm,1.0s,mb4.6
WRAB Tennant Creek 69.32 135 *eP* **P 20 19 10.2 -0.6**
WRAB pmax pmax
comp=Z,21nm,1.3s,mb4.9
WRAB Tennant Creek 69.32 135 *eP* **P 20 19 10.2 -0.6**
comp=Z,21nm,1.3s,mb4.9
WRA Warramunga Arr 69.32 135 P **P 20 19 09.9 -1.0**
comp=Z,3.0nm,0.9s,mb4.2,baz=326,slow=6.5,SNR=38
WRA Warramunga Arr 69.32 135 P **P 20 19 09.9 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WB2 Warramunga Arr 69.33 135 *eP* **P 20 19 09.7 -1.2**
ESDC Sonseca Array 71.07 306 P **P 20 19 22.0 +0.5**
comp=Z,1.8nm,0.7s,mb4.1,baz=47,slow=7.6,SNR=5.7
ASPA Alice Springs 72.03 138 *eP* **P 20 19 26.5 -0.8**
AS31 Alice Springs 72.03 138 *eP* **P 20 19 26.5 -0.8**
ASAR Alice Springs 72.03 138 P **P 20 19 26.2 -1.1**
comp=Z,2.4nm,1.0s,mb4.1,baz=331,slow=6.7,SNR=31
ASAR Alice Springs 72.03 138 P **P 20 19 26.3 -1.0**
ASAR pmax pmax
comp=Z,2.0nm,1.0s
EGAK Eagle 72.49 20 *eP* **P 20 19 29.0 -1.1**
FRB Frobisher Bay 79.72 350 LR LR 20 58 01.4
comp=Z,76nm,19.1s,MS4.1,baz=189,slow=38
YKA Yellowknife Ar 80.47 11 P **P 20 20 17.7 +2.5**
comp=Z,4.0nm,1.0s,mb4.3,baz=2.4,slow=11,SNR=4.3
YKA LR LR 20 58 42.5
comp=Z,15nm,18.9s,MS3.4,baz=230,slow=38
YKA Yellowknife Ar 80.47 11 P **P 20 20 17.7 +2.5**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA MLR MLR
comp=Z,15nm,18.9s
TORD Torodi Ar. Bea 81.05 280 P **P 20 20 18.7 +0.4**
comp=Z,3.6nm,0.8s,mb4.3,baz=47,slow=4.8,SNR=17
TORD LR LR 20 58 20.2
comp=Z,55nm,18.6s,MS3.9,baz=95,slow=37
BOSA Boshof 88.10 233 LR LR 20 59 48.5
comp=Z,97nm,19.8s,MS4.2,baz=337,slow=35
YBH Yreka Blue Hor 97.63 24 LR LR 21 08 56.4
comp=Z,35nm,19.3s,MS3.9,baz=353,slow=37
SAML Samuel 143.97 310 *e*PKPdf PKPdf 20 27 35.5 -3.0
CPUP Villa Florida 150.55 279 PKPbc PKPbc 20 27 52.8 -2.2
comp=Z,5.4nm,0.6s,baz=64,slow=4.3,SNR=13
CPUP Villa Florida 150.55 279 *e*PKPdf PKPdf 20 27 51.9 +2.4
CPUP PKPbc PKPbc 20 27 52.8 -2.2
LPAZ La Paz 152.66 308 PKPbc PKPbc 20 27 58.5 -1.2
comp=Z,1.6nm,0.9s,baz=354,slow=6.8,SNR=3.1
LPAZ La Paz 152.66 308 PKIKP PKPbc 20 27 58.6 -1.2
LPAZ pmax pmax
comp=Z,2.0nm,1.0s

IDC 01 21:08:47.0±1.1, 1247N×4338W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/20, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=33.5km s-min=24.1km az=174.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.66**	**287**	LR	LR		21 20 46.7	
comp=Z,56nm,19.8s,baz=0.0,slow=32								
LPAZ	**La Paz**	**37.62**	**221**	P	P		21 16 04.6	+1.1
0.7nm,0.6s,baz=34,slow=6.1,SNR=4.1								
DBIC	**Dimbokro**	**38.39**	**95**	P	P		21 16 10.3	+0.4
7.2nm,0.9s,baz=271,slow=10,SNR=10								
TORD	**Torodi Ar. Bea**	**43.91**	**84**	P	P		21 16 55.8	+0.4
1.3nm,0.7s,baz=279,slow=8.7,SNR=14								
NB2	**NORSAR Subarra**	**62.43**	**27**	P	P		21 19 12.1	+0.3
comp=Z,0.6nm,0.7s,baz=243,slow=6.9								
NOA	**NORSAR Array B**	**62.43**	**27**	P	P		21 19 12.0	+0.2
comp=Z,0.5nm,0.7s,baz=242,slow=6.6,SNR=4.1								
PDAR	**Pinedale Array**	**64.18**	**312**	P	P		21 19 23.9	+0.4
comp=Z,0.8nm,1.0s,baz=121,slow=14,SNR=4.0								
FINES	**FINESS Array B**	**69.34**	**29**	P	P		21 19 56.2	-0.1
comp=Z,2.0nm,1.0s,baz=241,slow=5.7,SNR=7.1								

---

*ISCJB **01** 21:13:37.1±2.2, 596S±0.10×147 41E±0.10, h69km±18km, mb4.1/9, Error ellipse: s-maj=17.5km s-min=15.2km az=89.3*

*NEIC **01** 21:13:40.6±2.0, 604S×147 37E, h87km±16km, mb4.7/4, Error ellipse: s-maj=16.0km s-min=12.8km az=196.0*

*IDC **01** 21:13:41.4±2.2, 6.12S×147 35E, h89km±19km, mb4.0/8, mb1 4.2/11, mb1mx4.0/17, mbtmp4.3/11, MS3.6/5, Ms1 3.6/5, ms1mx3.1/29, Error ellipse: s-maj=22.0km s-min=12.6km az=114.0*

ISC 01 21:13:41.1±1.6, 609S±009×1473E±01, h85km±13km, n29, σ0 81/27, mb4.1/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.30**	**183**	P	**Pn**		**21 14 30.1**	**-0.4**
18nm,0.3s,baz=9.0,slow=11,SNR=42								
PMG				S	**Sn**		**21 15 09.0**	**+0.4**
43nm,0.3s,baz=221,slow=20,SNR=11								
CTA	**Charters Tower**	**13.95**	**184**	*eP*	**Pn**		**21 17 00.6**	**+5.8**
3.6nm,0.5s								
CTA	**Charters Tower**	**13.95**	**184**	P	**Pn**		**21 16 56.7**	**+1.9**
0.3nm,0.3s,baz=3.6,slow=18,SNR=3.9								
CTA				LR	LR		21 21 50.9	
comp=Z,83nm,20.6s,baz=231,slow=35								
CTA	**Charters Tower**	**13.95**	**184**	P	**Pn**		**21 16 56.7**	**+1.9**
CTA				LR	LR		21 21 50.9	

KAKA	Kakadu	16.10	245	eP	Pn	21 17 22.1	-0.1
	18nm,0.4s						
WRAB	Tennant Creek	18.67	221	eP	Pn	21 17 52.6	-1.0
	36nm,0.8s						
WB2	Warramunga Arr	18.68	221	eP	Pn	21 17 52.7	-1.0
WRA	Warramunga Arr	18.69	221	P	Pn	21 17 52.6	-1.1
	2.0nm,0.3s,baz=41,slow=12,SNR=162						
WRA				S	S	21 21 19.8	-0.9
	0.2nm,0.3s,baz=44,slow=20,SNR=5.7						
GUMO	Guam	19.70	353	LR	LR	21 23 49.9	
	comp=Z,103nm,19.5s,baz=68,slow=31						
AS31	Alice Springs	21.73	215	eP	P	21 18 25.7	+0.3
ASAR	Alice Springs	21.74	215	P	P	21 18 26.2	+0.8
	9.6nm,0.5s,mb4.4,baz=45,slow=9.1,SNR=178						
ASAR				S	S	21 22 22.6	+1.7
	2.6nm,1.1s,baz=30,slow=23,SNR=4.4						
ASAR				LR	LR	21 26 41.8	
	comp=Z,110nm,22.0s,baz=175,slow=36						
ASPA	Alice Springs	21.74	215	eP	P	21 18 26.1	+0.7
FITZ	Fitzroy Crossi	24.31	239	eP	P	21 18 50.8	+0.3
	62nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	24.31	239	P	P	21 18 51.6	+1.0
	32nm,0.6s,mb4.8,baz=71,slow=9.0,SNR=240						
DZM	Mont Dzumac	24.36	133	P	P	21 18 50.3	-0.7
	7.6nm,0.9s,mb4.0,baz=31,slow=18,SNR=5.1						
STKA	Stephens Creek	26.21	191	eP	P	21 19 08.2	+0.4
	4.1nm,0.6s,mb4.0						
STKA	Stephens Creek	26.21	191	P	P	21 19 08.3	+0.6
	5.2nm,0.6s,mb4.1,baz=358,slow=8.9,SNR=9.1						
STKA	Stephens Creek	26.21	191	eP	P	21 19 07.8	0.0
MBWA	Marble Bar	30.65	238	eP	P	21 19 47.7	+0.5
NWAO	Narrogin (SRO)	38.69	222	P	P	21 20 56.7	+0.2
	3.2nm,0.5s,mb4.4,baz=93,slow=5.6,SNR=7.6						
NWAO	Narrogin (SRO)	38.69	222	P	P	21 20 56.7	+0.2
RAO	Raoul Island	40.06	129	LR	LR	21 35 04.3	
	comp=Z,684nm,19.6s,baz=11,slow=32						
ASAJ	Asahikawa	50.16	356	LR	LR	21 43 06.9	
	comp=Z,37nm,18.6s,baz=292,slow=35						
SONM	Songino Array	64.65	331	P	P	21 24 10.9	+1.2
	0.7nm,0.7s,mb3.6,baz=155,slow=6.3,SNR=3.5						
VNDA	Vanda	71.80	177	P	P	21 24 54.3	-0.1
	1.4nm,0.8s,mb3.8,baz=321,slow=6.0,SNR=9.7						
MKAR	Makanchi Array	77.78	320	P	P	21 25 28.2	-0.7
	0.2nm,0.2s,mb3.4,baz=112,slow=7.7,SNR=2.9						
QSPA	South Pole Qui	83.88	180	eP	P	21 26 00.4	-0.9
	6.6nm,1.1s,mb4.4						
TORD	Torodi Ar. Bea	145.44	284	PKPbc	PKPbc	21 33 08.4	-0.9
	0.6nm,0.6s,baz=72,slow=2.8,SNR=12						
SAML	Samuel	146.10	116	ePKPdf	PKPdf	21 33 10.8	+0.6

*NEIC **01** 21:15:19.4, 1785N×99.16W, h49km, MD3.9(MEX), After MEX.*

MEX 01 21:15:19.0±0.8**, 1789N×9924W, h63**km±8km**, MD4.0, 1D, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEIG	Mezcala	0.36	276	iP	Pn	21 15 28.8	-1.1
MEIG				iS	Sn	21 15 36.4	-1.3
PLIG	Platanillo	0.56	334	⇓iP	Pn	21 15 30.8	-1.0
PLIG				iS	Sn	21 15 39.5	-1.6
YAIG	Yautepec	0.98	10	iP	Pn	21 15 35.6	-1.3
YAIG				iS	Sn	21 15 47.8	-2.4
ACX	Acapulco	1.20	212	iP	Pn	21 15 38.0	-1.8
ACX				iS	Sn	21 15 53.0	-2.3
CAIG	El Cayaco	1.28	230	iP	Pn	21 15 39.9	-1.0
CAIG				iS	Sn	21 15 54.2	-3.1
IIZ	Mezontepec	1.29	0	eP	Pn	21 15 37.8	-3.1
IIZ				eS	Sn	21 15 54.3	-3.1
PPM	Popocatepetl	1.31	26	eP	Pn	21 15 40.0	-1.2
PPM				iP		21 15 40.3	
PPM				iS	Sn	21 15 57.2	-0.6
PPM	Popocatepetl	1.31	26	iP	Pn	21 15 40.3	-0.9
PPM				iS	Sn	21 15 57.2	-0.6
UTMO	Huajuapan	1.37	92	iP	Pn	21 15 41.3	-0.8
UTMO				iS	Sn	21 15 57.8	-1.5
UNM	Universidad Na	1.44	2	eP	Pn	21 15 37.0	-5.9
PNIG	Pinotepa	1.83	144	iP	Pn	21 15 47.5	-0.6
PNIG				iS	Sn	21 16 08.3	-2.0
VHO	Vista Hermosa	2.53	108	iP	Pn	21 15 56.4	-1.3
VHO				iS	Sn	21 16 24.0	-3.4
VHO	Vista Hermosa	2.53	108	iP	Pn	21 15 58.0	+0.4
VHO				iS	Sn	21 16 28.0	+0.7
OXX	Oaxaca	2.54	108	eP	Pn	21 15 55.5	-2.3
OXX				iS	Sn	21 16 26.5	-1.0
OXX	Oaxaca	2.54	108	eP	Pn	21 15 59.0	+1.2
OXX				iS	Sn	21 16 28.0	+0.5
CMIG	Matias Romero	4.24	100	eP	Pn	21 16 18.9	-2.1
CMIG				iS	Sn	21 17 07.2	-2.0
CMIG	Matias Romero	4.24	100	iP	Pn	21 16 22.0	+1.0
CMIG				iS	Sn	21 17 07.2	-2.0

*IDC **01** 21:16:48.9±11.0, 592N×126.13E, h75km±107km, mb3.8/11, mb1 3.9/11, mb1mx3.8/20, mbtmp4.1/11, Error ellipse: s-maj=75.3km s-min=20.3km az=67.0*
*ISCJB **01** 21:16:51.5±0.7, 598N±008×1263E±01, h119km±6km, mb4.0/11, Error ellipse: s-maj=21.2km s-min=10.5km az=131.1*
*NEIC **01** 21:16:51.8±1.0, 591N×126.14E, h104km±9km, mb4.3/3, Error ellipse: s-maj=47.9km s-min=8.2km az=71.0*
*MAN **01** 21:16:55.3, 604N×12644E, h39km, mb4.2, ML5.1, MS3.5*

ISC 01 21:16:52.4±0.7**, 598N**±008×**1264E**±01**, h112**km±7km**, n25, σ0.88**/29**, mb4.0**/11**, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.97	354	eP	Pn	21 17 12.3	-1.1
MATI				eS	Sn	21 17 28.6	-0.7
DAV	Davao City (W)	1.33	325	eP	Pn	21 17 18.0	+0.6
DAV	Davao City (W)	1.33	325	P	Pn	21 17 15.7	-1.6
KCP	Kidapawan	1.62	309	⇑eP	Pn	21 17 22.2	+1.4
KCP				iS	Sn	21 17 42.7	+0.3
BUKP	Musuan	2.29	326	eP	Pn	21 17 29.1	0.0
BUKP				eS	Sn	21 17 52.9	-4.3
CGP	Cagayan de Oro	2.96	326	⇑iP	Pn	21 17 41.5	+3.5
CGP				iS	Sn	21 18 12.6	-0.4
BUTP	Butuan	3.06	346	eP	Pn	21 17 42.2	+2.9
PAGZ	Pagadian	3.49	302	eP	Pn	21 17 44.2	-0.7
SCPH	Surigao	3.88	347	⇑eP	Pn	21 17 51.1	+1.0
KAKA	Kakadu	19.52	162	eP	P	21 21 15.3	+4.4
	12nm,0.6s						
FITZ	Fitzroy Crossi	23.93	182	eP	P	21 21 55.7	-0.3
	6.5nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	23.93	182	P	P	21 21 55.2	-0.8
	3.1nm,0.6s,mb3.8,baz=12,slow=12,SNR=3.7						
WRA	Warramunga Arr	26.93	163	P	P	21 22 23.0	-0.1
	1.0nm,0.4s,mb3.7,baz=335,slow=11,SNR=6.8						
ASAR	Alice Springs	30.37	166	P	P	21 22 53.9	+0.2
	2.1nm,0.6s,mb3.9,baz=343,slow=7.1,SNR=11						
NWAO	Narrogin (SRO)	39.65	192	P	P	21 24 12.7	-0.4
	3.2nm,0.4s,mb4.5,baz=14,slow=12,SNR=11						
STKA	Stephens Creek	40.35	160	eP	P	21 24 19.6	+0.6
	1.6nm,0.4s,mb4.2						
STKA	Stephens Creek	40.35	160	P	P	21 24 20.0	+1.0
	2.5nm,0.4s,mb4.4,baz=340,slow=5.8,SNR=9.3						
MKAR	Makanchi Array	55.52	325	P	P	21 26 16.0	+0.2
	0.8nm,0.5s,mb4.0,baz=115,slow=6.9,SNR=7.2						
MKAR				PcP	PcP	21 27 14.8	+0.4
	0.9nm,0.6s,baz=108,slow=4.0,SNR=4.4						
BVAR	Borovoye Array	65.25	327	P	P	21 27 22.2	+0.3
	0.4nm,0.5s,mb3.5,baz=124,slow=7.9,SNR=3.5						
ZRNK	Zerenda	65.98	326	eP	P	21 27 25.4	-1.3
AKTK	Aktyubinsk	71.68	321	P	P	21 28 01.5	-0.5
AKTO	Aktyubinsk	71.68	321	P	P	21 28 01.5	-0.5
	1.0nm,0.6s,mb3.9,baz=89,slow=12,SNR=4.1						
VNDA	Vanda	85.69	173	P	P	21 29 18.8	+0.1
	0.3nm,0.4s,mb3.5,baz=283,slow=13,SNR=4.8						
ARCES	ARCESS Array B	88.22	340	P	P	21 29 30.8	-0.2
	2.8nm,0.9s,mb4.3,baz=87,slow=3.9,SNR=4.3						
FINES	FINESS Array B	89.69	332	P	P	21 29 38.6	+0.9
	2.3nm,1.0s,mb4.2,baz=90,slow=5.7,SNR=6.0						

*IDC **01** 21:26:30.9±1.2, 4226N×7099E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.8/24, mbtmp3.8/10, ML3.9/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/43, Error ellipse: s-maj=21.4km s-min=12.6km az=16.0*
*NNC **01** 21:26:35.6±2.1, 4254N×7082E, h18km±9km, mb4.0, mpv4.2, Error ellipse: s-maj=20.5km s-min=13.2km az=20.0*
*MOS **01** 21:26:35.0±1.2, 4259N×7094E, h33km, mb4.0/6, Error ellipse: s-maj=13.7km s-min=8.0km az=98.5*
*NEIC **01** 21:26:36.0±5.4, 4248N×7100E, h29km±38km, mb3.9/1, Error ellipse: s-maj=26.2km s-min=8.9km az=202.0*
*ISCJB **01** 21:26:37.1±0.6, 4278N±005×7093E±004, h33km, mb3.8/6, Error ellipse: s-maj=7.3km s-min=3.3km az=51.8*

ISC 01 21:26:37.5±0.8**, 4262N**±005×**7094E**±004**, h30**km±5km**, n54, σ1.20**/70**, mb3.8**/6**, 12C-10D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	0.57	327	⇓P	Pb	21 26 48.3	-0.9
	21nm,0.2s,baz=300,slow=29,SNR=9984						
KK31				⇑S	Sb	21 27 00.0	+2.9
	342nm,0.3s						
KKAR	Karatay Array	0.57	327	PG	Pb	21 26 48.2	-1.0
KKAR				S	Sb	21 27 00.2	+3.1
KKAR				pmax	pmax		
	comp=Z,29nm,0.2s						
KKAR				smax			
	comp=Z,321nm,0.3s						
EKS2	Erkin-Say	2.10	88	P	Pn	21 27 09.1	-1.5
	SNR=97						
AML	Almayashu	2.10	103	P	Pn	21 27 07.2	-3.5
	SNR=54						
AAK	Ala-Archa	2.63	88	P	Pn	21 27 18.8	+0.9
	SNR=54						
AAK	Ala-Archa	2.63	88	eP	Pn	21 27 16.8	-1.1
AAK				eS	Sn	21 27 51.6	+2.9
USP	Ospenovka	2.70	75	P	Pn	21 27 21.1	+2.2
	SNR=69						
CHMS	Chumysh	2.83	81	P	Pn	21 27 22.4	+1.7
	SNR=31						
KBK	Karagaybulak	2.96	88	P	Pn	21 27 23.5	+1.0
	SNR=40						
KZA	Kyzart	3.24	98	P	Pn	21 27 29.2	+2.8
	SNR=8.1						
TKM2	Tokmak 2	3.44	83	P	Pn	21 27 32.5	+3.4
	SNR=14						
TKM2	Tokmak 2	3.44	83	⇓Pn	Pn	21 27 29.6	+0.5
	comp=Z,40nm,0.5s						
TKM2				⇓Sn	Sb	21 28 17.8	-1.4
	comp=Z,146nm,0.5s						
TKM2				⇓Lg		21 28 28.8	
	comp=Z,139nm,0.6s						
TKM2	Tokmak 2	3.44	83	PN	Pn	21 27 28.2	-1.0
TKM2						21 28 16.8	
TKM2						21 28 26.9	
TKM2				pmax	pmax		
	comp=Z,18nm,0.5s						
TKM2				smax			
	comp=Z,73nm,0.5s						
TKM2				pmax	pmax		
	comp=Z,76nm,0.6s						
ULHL	Ulahol	3.94	94	P	Pn	21 27 36.1	+0.1
	SNR=19						
AAA	Alma-Ata	4.46	80	ePN	Pb	21 27 54.2	-0.9
AAA				eS	Sb	21 28 50.7	+2.3
AAA				pmax	pmax		
	comp=Z,170nm,0.4s						
AAA				smax			
	comp=E,390nm,0.6s						
KNDC	Almaty	4.47	80	⇑Pn	Pb	21 27 52.6	-2.7
	comp=E,109nm,0.7s						
KNDC				⇑Lg		21 28 52.0	
	comp=E,290nm,0.8s						
MK31	Makanchi Array	9.10	59	P	Pn	21 28 46.0	-0.8
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31				pmax	pmax		
	comp=Z,20nm,0.7s						
MKAR	Makanchi Array	9.10	59	Pn	Pn	21 28 46.1	-0.6
	comp=Z,1.8nm,0.3s,baz=240,slow=15,SNR=18						
MKAR				Lg		21 31 21.5	
	comp=Z,2.2nm,0.3s,baz=267,slow=23,SNR=5.2						
MK02	Makanchi Array	9.10	59	⇑Pn	Pn	21 28 47.3	+0.5
	comp=Z,2.4nm,0.3s,baz=240,slow=15						
MK02				⇑Lg		21 31 28.0	
	comp=Z,24nm,0.7s,baz=237,slow=32						
VOSK	Vostochnaya	10.11	0	⇑Pn	Pn	21 29 01.2	+0.6
	comp=Z,1.9nm,0.5s						
VOSK				⇓Sn	Sn	21 30 52.3	-0.6
	comp=Z,9.8nm,1.0s						
VOSK				⇑Lg		21 32 03.3	
	comp=Z,647nm,0.1s						
VOSK	Vostochnaya	10.11	0	P	Pn	21 29 01.2	+0.6
VOSK						21 30 51.3	
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VOSK				smax			
	comp=Z,2.0nm,0.5s						
VOSK				pmax	pmax		
	comp=Z,55nm,1.2s						
AB31	Akbulak array	10.13	315	⇑Pn	Pn	21 29 00.5	-0.4
	comp=Z,1.7nm,0.6s,baz=127,slow=14,SNR=34						
AB31				⇓Sn	Sn	21 30 52.6	-0.8
	comp=Z,8.0nm,0.8s,baz=120,slow=24,SNR=8.9						
AB31	Akbulak array	10.13	315	eP	Pn	21 29 00.9	0.0
AB31				e		21 30 53.5	
AB31				smax			
	comp=Z,1.0nm,0.3s						
BVAR	Borovoye Array	10.42	358	Pn	Pn	21 29 04.7	-0.1
	comp=Z,0.9nm,0.3s,baz=165,slow=12,SNR=11						
BVAR				Sn	Sn	21 31 00.8	+0.3
	comp=Z,3.6nm,0.3s,baz=166,slow=24,SNR=12						
BVAR				Lg		21 32 10.1	
	baz=160,slow=30,SNR=3.0						
BVAR				LR	LR	21 33 13.1	
	comp=Z,32nm,18.4s,baz=323,slow=37						
BVAR	Borovoye Array	10.42	358	P	Pn	21 29 04.7	-0.2
BVAR						21 31 00.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,4.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,32nm,18.5s						
ZRNK	Zerenda	10.42	354	⇑Pn	Pn	21 29 04.5	-0.3
	comp=Z,1.0nm,0.3s						
ZRNK				⇓Sn	Sn	21 31 02.5	+1.9
	comp=Z,7.0nm,0.6s						
ZRNK				⇑Lg		21 32 12.2	
	comp=Z,26nm,1.2s						
ZRNK	Zerenda	10.42	354	P	Pn	21 29 04.5	-0.4
ZRNK						21 30 59.1	
ZRNK				smax			
	comp=Z,4.0nm,0.6s						
ZRNK				pmax	pmax		
	comp=Z,31nm,1.2s						
ZRNK	Zerenda	10.42	354	eP	Pn	21 29 04.0	-0.8
	comp=Z,3.0nm,0.3s						
BRVK	Borovoye	10.45	358	eP	Pn	21 29 05.5	+0.1
	comp=Z,2.0nm,0.6s						
CHKZ	Chkalovo	11.07	359	⇓Pn	Pn	21 29 12.7	-1.0
	comp=Z,0.8nm,0.3s						
CHKZ				⇑Sn	Sn	21 31 16.0	-0.4
	comp=Z,4.3nm,0.6s						
CHKZ				⇓Lg		21 32 20.8	
	comp=Z,13nm,0.8s						
CHKZ	Chkalovo	11.07	359	P	Pn	21 29 13.8	+0.1
CHKZ						21 31 16.0	
CHKZ				smax			
	comp=Z,3.0nm,0.6s						
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s						
CHKZ	Chkalovo	11.07	359	eP	Pn	21 29 13.3	-0.5
	comp=Z,2.2nm,0.4s						
AKTK	Aktyubinsk	11.83	316	Pn	Pn	21 29 24.3	+0.1
AKTK				Sn	Sn	21 31 35.9	+0.7
AKTO	Aktyubinsk	11.83	316	⇓Pn	Pn	21 29 24.1	-0.1
	comp=Z,0.1nm,0.8s						
AKTO				⇑Sn	Sn	21 31 34.5	-0.6
	comp=Z,0.5nm,1.2s						
AKTO	Aktyubinsk	11.83	316	Pn	Pn	21 29 24.3	+0.1
	comp=Z,0.6nm,0.3s,baz=114,slow=12,SNR=6.2						
AKTO				Sn	Sn	21 31 35.9	+0.7
	comp=Z,0.4nm,0.3s,baz=12,slow=20,SNR=4.8						
AKTO	Aktyubinsk	11.83	316	P	Pn	21 29 24.3	+0.1
AKTO						21 31 35.9	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	Zalesovo	14.58	34	Pn	Pn	21 30 01.9	+0.3
	comp=Z,0.6nm,0.3s,baz=253,slow=12,SNR=5.6						
ZAL				Sn	Sn	21 32 39.7	-2.5
	comp=Z,0.7nm,0.3s,baz=323,slow=22,SNR=6.0						
ZAL				Lg		21 34 25.9	
	comp=Z,0.3nm,0.3s,baz=165,slow=21,SNR=3.5						
ZAL	Zalesovo	14.58	34	P	Pn	21 30 01.9	+0.2
ZAL						21 32 39.7	
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL				smax			
	comp=N,1.0nm,0.3s						
ZAL	Zalesovo	14.58	34	Pn	Pn	21 30 01.9	+0.3
ZAL				Sn	Sn	21 32 39.7	-2.5
ZAL				Lg		21 34 25.9	
ARU	Arti	15.95	334	eP	Pn	21 30 18.2	-1.5
ARU				eS	Sn	21 33 09.9	-5.7
ARU	Arti	15.95	334	eP	Pn	21 30 20.1	+0.4
	comp=N,13nm,1.2s						
SONM	Songino Array	25.36	66	P	P	21 32 00.9	-1.0
	comp=N,0.6nm,0.6s,baz=300,slow=12,SNR=3.2						
SONM	Songino Array	25.36	66	P	P	21 32 00.9	-1.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	29.42	301	P	P	21 32 37.9	-0.4
	comp=Z,0.5nm,0.5s,mb3.5,baz=77,slow=8.2,SNR=5.1						
AKASG	Malin Array Be	29.42	301	P	P	21 32 37.9	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	32.53	321	P	P	21 33 05.9	+0.1
	comp=Z,0.7nm,0.3s,mb4.0,baz=114,slow=9.8,SNR=19						
FINES	FINESS Array B	32.53	321	P	P	21 33 05.9	+0.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	ARCESS Array B	35.54	334	P	P	21 33 32.2	+0.4
	comp=Z,2.4nm,0.8s,mb4.2,baz=102,slow=8.9,SNR=12						
ARCES	ARCESS Array B	35.54	334	P	P	21 33 32.3	+0.5
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	39.60	319	P	P	21 34 05.5	-0.7
	comp=Z,0.9nm,0.7s,mb3.6,baz=91,slow=8.3,SNR=4.0						
NOA	NORSAR Array B	39.60	319	P	P	21 34 05.5	-0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	39.61	299	P	P	21 34 06.9	+0.6
	comp=Z,0.4nm,0.6s,mb3.4,baz=78,slow=7.0,SNR=5.5						
WRA	Warramunga Arr	85.29	122	P	P	21 39 07.3	-4.2
	comp=Z,0.5nm,0.5s,mb3.9,baz=329,slow=4.4,SNR=8.6						
WRA	Warramunga Arr	85.29	122	P	P	21 39 07.3	-4.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*IDC **01** 21:38:02.5±0.7, 1784S×17400W, h0km, mb4.4/10, mb1 4.6/11, mb1mx4.5/17, mbtmp4.4/11, ML2.2/1, MS3.8/2, Ms1 3.8/2, ms1mx2.9/29, Error ellipse: s-maj=31.1km s-min=16.2km az=128.0*
*ISCJB **01** 21:38:05.7±0.6, 178S±01×174.1W±01, h33km, mb4.5/14, MS4.2/1, Error ellipse: s-maj=20.2km s-min=10.4km az=89.5*
*NEIC **01** 21:38:07.2±3.9, 1783S×17408W, h32km±27km, mb4.7/5, Error ellipse: s-maj=19.0km s-min=9.6km az=134.0*

ISC 01 21:38:07.9±0.6**, 179S**±01×**1740W**±01**, h35**km**, n37, σ0.91**/26**, mb4.5**/14**, MS4.2**/1**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	4.49	29	Pn	Pn	21 39 13.3	-0.1
	6.5nm,0.3s,baz=174,slow=21,SNR=7.7						
AFI				Sn	Sn	21 39 57.6	-6.8
	51nm,0.3s,baz=209,slow=23,SNR=11						
RAR	Rarotonga	13.84	106	Pn	Pn	21 41 13.3	-8.2
	2.2nm,0.3s,baz=281,slow=11,SNR=3.9						
RAR	Rarotonga	13.84	106	Pn	Pn	21 41 13.3	-8.2
DZM	Mont Dzumac	18.83	254	P	Pn	21 42 29.2	+3.9
	0.3nm,0.3s,baz=78,slow=15,SNR=4.7						
DZM				LR	LR	21 48 04.7	
	comp=Z,136nm,20.7s,baz=246,slow=32						
URZ	Urewera	21.75	199	P	P	21 42 55.5	-0.7
	21nm,0.3s,mb5.0,baz=0.3,slow=4.0,SNR=38						
URZ				S	S	21 46 42.1	-13
	4.5nm,0.8s,baz=241,slow=19,SNR=3.6						
PPT	Papeete	23.29	93	eLR	LR	21 48 23.0	
	355nm,29.0s						
TBI	Tubuai	23.61	107	eLR	LR	21 48 26.3	
	355nm,31.2s						
RPZ	Rata Peaks	28.68	203	P	P	21 44 03.4	+2.0
	16nm,0.4s,mb5.1,baz=0.0,slow=1.0,SNR=3.4						
RKT	Rikitea	36.87	105	eLR	LR	21 54 28.0	
	172nm,32.5s						
CTA	Charters Tower	37.57	260	eP	P	21 45 19.6	+0.8
	6.4nm,0.6s,mb4.5						
STKA	Stephens Creek	42.33	242	eP	P	21 45 57.9	-0.4
	1.7nm,0.5s,mb3.9						
STKA	Stephens Creek	42.33	242	P	P	21 45 58.0	-0.3
	4.1nm,0.8s,mb4.1,baz=99,slow=11,SNR=11						
WB2	Warramunga Arr	48.73	259	eP	P	21 46 46.7	-2.3
WRAB	Tennant Creek	48.73	259	eP	P	21 46 48.2	-0.8
	6.2nm,0.4s,mb5.0						
WRA	Warramunga Arr	48.74	259	P	P	21 46 48.8	-0.3
	4.6nm,0.4s,mb4.8,baz=98,slow=6.8,SNR=248						
AS31	Alice Springs	48.82	254	eP	P	21 46 49.5	-0.1
ASAR	Alice Springs	48.82	254	P	P	21 46 49.5	-0.1
	25nm,0.7s,mb5.3,baz=88,slow=8.7,SNR=272						
ASAR				PcP	PcP	21 48 14.4	+0.4
	2.1nm,0.7s,baz=108,slow=3.9,SNR=4.9						
ASPA	Alice Springs	48.82	254	eP	P	21 46 49.5	-0.2
KAKA	Kakadu	51.76	268	eP	P	21 47 11.9	0.0
	9.5nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	57.15	260	eP	P	21 47 51.1	0.0
	3.4nm,0.8s,mb4.4						
VNDA	Vanda	60.87	186	P	P	21 48 16.8	-0.1
	0.9nm,0.9s,mb3.9,baz=30,slow=6.0,SNR=3.8						
MBWA	Marble Bar	62.13	255	eP	P	21 48 26.0	+0.7
JHJ	Hachijo jima 2	67.21	319	LR	LR	22 13 51.0	
	comp=Z,151nm,21.4s,MS4.2,baz=282,slow=32						
MJAR	Matsushiro Arr	70.44	321	P	P	21 49 20.1	+1.4
	0.8nm,0.6s,mb3.8,baz=157,slow=5.4,SNR=4.9						
NVAR	Mina Array Bea	76.55	42	P	P	21 49 54.0	-0.5
	1.7nm,0.9s,mb4.0,baz=219,slow=7.6,SNR=7.2						
ANMO	Albuquerque	82.84	50	P	P	21 50 29.5	+0.9
	0.3nm,0.3s,mb3.8,baz=214,slow=3.6,SNR=3.6						
ANMO	Albuquerque	82.84	50	P	P	21 50 29.5	+0.9
PDAR	Pinedale Array	84.49	42	P	P	21 50 36.1	-1.0
	0.9nm,1.0s,mb3.9,baz=242,slow=3.2,SNR=4.8						
CHKZ	Chkalovo	119.20	322	eP	PKPdf	21 56 52.4	-0.8
ARCES	ARCESS Array B	126.95	352	PKP	PKPdf	21 57 08.4	+0.4
	1.0nm,0.5s,baz=96,slow=1.2,SNR=7.4						
FINES	FINESS Array B	134.20	347	PKP	PKPdf	21 57 21.0	-0.8
	0.9nm,0.8s,baz=5.7,slow=7.0,SNR=2.7						
AKASG	Malin Array Be	142.35	336	PKhKP		21 57 31.6	
	0.4nm,0.4s,baz=42,slow=3.7,SNR=4.7						
KMBO	Kilima Mbogo	143.89	242	PKP	PKPdf	21 57 39.0	-0.4
	2.7nm,0.9s,baz=52,slow=9.3,SNR=7.5						
MALT	Malatya	145.13	312	ePKPdf	PKPdf	21 57 43.0	+1.5
CLL	Collm	146.17	352	iPKPbc	PKPbc	21 57 44.5	+0.1
	comp=Z,43nm,1.4s						
GERES	GERESS Array B	148.47	350	PKPbc	PKPbc	21 57 50.3	-0.5
	comp=Z,1.4nm,0.8s,baz=354,slow=2.7,SNR=4.4						
ASF	Jabal al Asfar	148.70	303	PKPbc	PKPbc	21 57 53.0	+1.6
	comp=Z,2.1nm,0.7s,baz=39,slow=4.5,SNR=4.3						

*NAO **01** 21:49:55.1, 3563N×2253E, h33km, mb3.5*
*PRU **01** 21:50:34.5, 3978N×1898E, h0km, M4.1*
*IDC **01** 21:50:38.3±0.7, 4020N×1966E, h0km, mb4.1/13, mb1 4.1/22, mb1mx4.1/33, mbtmp4.0/22, ML3.8/7, MS3.8/12, Ms1 3.8/12, ms1mx3.5/30, Error ellipse: s-maj=12.0km s-min=11.6km az=87.0*
*ISCJB **01** 21:50:39.3±0.3, 40.19N±001×1964E±001, h10km±2km, mb4.2/21, MS3.8/9, Error ellipse: s-maj=2.0km s-min=1.5km az=25.2*
*LDG **01** 21:50:39.5±0.5, 4077N×1971E, h10km, Mb4.9/24, Ms3.4/7, Error ellipse: s-maj=23.9km s-min=6.6km az=6.0*
*TIR **01** 21:50:39.1, 40.14N×1977E, h16km, Ml4.2*
*THE **01** 21:50:39.3, 40.12N×1957E, h6km, ML4.2*
*PDG **01** 21:50:40.1±1.1, 4021N×1964E, h8km±3km*
*MOS **01** 21:50:41.4±1.4, 4028N×1956E, h27km, mb4.4/17, Error ellipse: s-maj=3.3km s-min=2.4km az=104.5*
*ATH **01** 21:50:41.9, 3999N×1975E, h21km, MD4.4/17, ML4.4*
*ROM **01** 21:50:41.1±0.1, 4005N×1987E, h50km±1km, Md4.2/55, Ml4.6/47, Error ellipse: s-maj=2.3km s-min=1.6km az=148.0*
*CSEM **01** 21:50:43.1±0.0, 4020N×1972E, h40km, mb4.3/12, Ms3.4, Error ellipse: s-maj=1.2km s-min=0.7km az=11.0*
*BJI **01** 21:50:44.0, 4020N×1970E, h38km, mb4.6*
*NEIC **01** 21:50:44.1±0.2, 4023N×1965E, h39km±5km, mb4.1/16,*

MD4.4(ATH), Error ellipse: s-maj=3.4km s-min=2.4km az=191.0

ISC 01 21:50:40.2±0.3, **4016N**±001×**1966E**±001, **h5**km±2km, **n555**, σ**1.41**/633, **mb4.2**/21, **MS3.8**/9, **31C-34D**, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPE	Tepelena	0.30	63	iPg	Pg	21 50 44.3	-1.7
TPE				iSg	Sg	21 50 48.9	-1.0
VLO	Vlora	0.33	337	iPg	Pg	21 50 47.5	+0.8
VLO				iSg	Sg	21 50 53.2	+2.1
SRN	Sarande	0.38	137	iPg	Pg	21 50 46.1	-1.5
SRN				iSg	Sg	21 50 52.1	-0.5
KEK	Kerkira	0.46	167	ePB	Pg	21 50 48.4	-0.7
KEK				eSB	Sg	21 50 52.9	-2.1
LSK	Leskovik	0.72	91	iPg	Pg	21 50 52.0	-2.0
LSK				iSg	Sg	21 51 03.9	+0.6
IGT	Igoumenitsa	0.81	140	ePg	Pg	21 50 53.8	-2.0
IGT				eSg	Sg	21 51 07.3	+0.9
SCTE	Santa Cesarea	0.92	265	⇓ePn	Pn	21 50 59.8	0.0
	14μm,0.7s						
KBN	Korca	0.97	61	iPg	Pg	21 50 58.4	-0.5
KBN				iSg	Sg	21 51 14.3	+2.7
JAN	Janina	1.04	118	ePN	Pn	21 50 59.2	-2.3
JAN				eSN	Sn	21 51 12.1	-4.3
TIR	Tirane	1.20	7	ePg	Pg	21 51 01.9	-1.3
TIR				eSg	Sg	21 51 20.6	+1.9
TIR	Tirane	1.20	7	P	Pg	21 51 02.2	-1.0
TIR	Tirane	1.20	7	Pn	Pn	21 51 03.6	0.0
	7μm,0.7s						
TIR				eSg	Sg	21 51 20.6	+1.9
LCI	Lecce	1.20	279	ePn	Pn	21 51 03.5	-0.1
MEV	Metsovon	1.26	107	ePg	Pg	21 51 02.7	-1.7
MEV				eSg	Sg	21 51 22.3	+1.6
MEV	Metsovon	1.26	107	P	Pg	21 51 02.9	-1.5
PRZA	Preza	1.27	0	iPn	Pn	21 51 04.5	-0.1
OHR	Ohrid	1.28	42	ePg	Pg	21 51 03.4	-1.5
OHR				eSg	Sg	21 51 22.6	+1.1
OHR	Ohrid	1.28	42	iPn	Pn	21 51 03.2	-1.6
OHR				iSn	Sn	21 51 25.8	+3.4
OHR	Ohrid	1.28	42	iPn	Pn	21 51 03.1	-1.7
OHR	Ohrid	1.28	42	ePg	Pg	21 51 03.4	-1.5
OHR	Ohrid	1.28	42	P	Pn	21 51 04.6	-0.2
OHR				eSg	Sg	21 51 22.6	+1.1
OHR				iSn	Sn	21 51 25.7	+3.4
FNA	Florina	1.45	64	ePg	Pg	21 51 06.0	-2.0
FNA				eSg	Sg	21 51 27.8	+1.0
FNA	Florina	1.45	64	P	Pn	21 51 05.8	-1.2
BIA	Bitola	1.53	55	ePg	Pn	21 51 07.0	-1.2
BIA				eSg	Sg	21 51 29.1	-0.3
BIA	Bitola	1.53	55	iPn	Pn	21 51 06.9	-1.2
BIA				iSn	Sg	21 51 33.9	+4.6
BIA	Bitola	1.53	55	P	Pn	21 51 06.7	-1.4
KZN	Kozani	1.62	84	ePN	Pn	21 51 10.8	+1.4
KZN				eSN	Sn	21 51 31.9	+1.3
LKD	Levkas	1.64	152	ePb	Pn	21 51 07.8	-1.8
LKD				eSb	Sn	21 51 29.4	-1.7
LKD	Levkas	1.64	152	P	Pn	21 51 09.1	-0.6
LKD				eSb	Sb	21 51 29.4	-2.5
PE1	Pezze di Greco	1.83	291	ePn	Pn	21 51 12.0	-0.2
ULC	Ulcinj	1.83	350	⇓iPn	Pn	21 51 12.5	+0.2
ULC				eSn	Sn	21 51 37.9	+2.1
EVR	Evrytania	2.07	126	ePN	Pn	21 51 15.6	0.0
NOCI	Noci	2.08	288	Pn	Pn	21 51 16.3	+0.6
	7μm,0.9s						
VLS	Valsamata	2.11	160	ePN	Pn	21 51 15.9	-0.2
VLS				eSN	Sn	21 51 40.5	-2.2
LIT	Litokhoron	2.17	91	ePn	Pn	21 51 16.1	-0.9
LIT				eSn	Sn	21 51 44.7	+0.6
LIT	Litokhoron	2.17	91	ePn	Pn	21 51 16.0	-0.9
LIT	Litokhoron	2.17	91	P	Pn	21 51 18.7	+1.8
LIT				eSn	Sn	21 51 44.7	+0.5
BUM	Brajici-Budva	2.21	345	⇓iPn	Pn	21 51 17.4	-0.1
BUM				eSn	Sn	21 51 46.9	+1.6
BCI	Bajram Curri	2.23	8	iPn	Pn	21 51 18.9	+1.2
GRG	Griva	2.23	68	ePn	Pn	21 51 18.0	+0.2
GRG	Griva	2.23	68	P	Pn	21 51 18.4	+0.6
SKO	Skopje	2.25	36	ePn	Pn	21 51 18.9	+0.8
SKO				eSn	Sn	21 51 48.2	+1.9
SKO	Skopje	2.25	36	iPn	Pn	21 51 19.1	+1.0
SKO				iSn	Sg	21 51 52.8	+0.1
SKO	Skopje	2.25	36	P	Pn	21 51 19.3	+1.2
SKO				eSn	Sn	21 51 48.2	+1.9
TTG	Podgorica	2.29	353	⇓iPn	Pn	21 51 18.5	-0.1
TTG				eSn	Sn	21 51 48.2	+1.1
BAI	Bari	2.32	295	ePn	Pn	21 51 18.7	-0.3
AGG	Agios Georgios	2.35	118	ePn	Pn	21 51 19.1	-0.4
AGG				eSn	Sn	21 51 49.5	+0.8
AGG	Agios Georgios	2.35	118	ePn	Pn	21 51 19.0	-0.5
AGG	Agios Georgios	2.35	118	P	Pn	21 51 20.5	+1.0
AGG				eSn	Sn	21 51 49.5	+0.8
SG1	Sgolgore (BA)	2.38	288	ePn	Pn	21 51 19.9	+0.1
PVY	Plav	2.44	5	⇓iPn	Pn	21 51 21.4	+0.7
PVY				eSn	Sn	21 51 52.0	+1.0
AMUR	Altamura	2.45	289	Pn	Pn	21 51 20.9	+0.1
	5μm,1.3s						
HCY	Herceg Novi	2.45	339	⇓iPn	Pn	21 51 20.7	-0.1
HCY				eSn	Sn	21 51 52.7	+1.6
STIP	Stip	2.45	50	ePn	Pn	21 51 20.8	0.0
STIP				eSn	Sn	21 51 52.5	+1.3
STIP	Stip	2.45	50	iPn	Pn	21 51 21.1	+0.3
ORI	Oriolo Calabro	2.47	269	Pn	Pb	21 51 24.2	-0.8
	3μm,0.7s						
ORI	Oriolo Calabro	2.47	269	P	Pn	21 51 21.7	+0.7
ORI				Pn	Pb	21 51 24.2	-0.8
ORI	Oriolo Calabro	2.47	269	Pn	Pb	21 51 24.2	-0.8
	3μm,0.7s						
VAY	Valandovo	2.49	61	ePn	Pn	21 51 20.6	-0.9
VAY				eSn	Sn	21 51 53.2	+1.0
VAY	Valandovo	2.49	61	iPn	Pn	21 51 21.0	-0.4
VAY	Valandovo	2.49	61	P	Pn	21 51 21.3	-0.1
VAY				eSn	Sn	21 51 53.2	+1.0
MIGL	Miglionico	2.50	281	Pn	Pn	21 51 23.2	+1.7
	32μm,1.4s						
RLS	Riolos of Patr	2.52	146	ePB	Pn	21 51 21.9	+0.1
RLS				eSN	Sn	21 51 50.8	-2.2
SERS	Sersale	2.56	245	Pn	Pn	21 51 23.1	+0.8
	984nm,1.0s						
THE	Thessaloniki	2.56	78	ePn	Pn	21 51 21.8	-0.6
THE				eSn	Sn	21 51 54.8	+0.9
THE	Thessaloniki	2.56	78	P	Pn	21 51 23.9	+1.5
THE				eSn	Sn	21 51 54.8	+0.8
KNT	Kendrikon	2.66	67	ePn	Pn	21 51 23.2	-0.4
KNT				eSn	Sn	21 51 57.5	+1.3
KNT	Kendrikon	2.66	67	P	Pn	21 51 24.2	+0.6
KNT				eSn	Sn	21 51 57.5	+1.3
HORT	Hortiatis	2.66	79	ePn	Pn	21 51 23.2	-0.5
HORT				eSn	Sn	21 51 58.1	+1.8
HORT	Hortiatis	2.66	79	P	Pn	21 51 25.6	+1.9
NKY	Niksic	2.70	350	⇓iPn	Pn	21 51 23.9	-0.3
NKY				eSn	Sn	21 51 59.0	+1.8
IVA	Berane	2.71	4	⇓iPn	Pn	21 51 25.1	+0.7
IVA				eSn	Sn	21 51 58.8	+1.2
CDT	Castel del Mon	2.74	291	ePn	Pn	21 51 24.9	+0.1
SCHR	S. Chirico Rap	2.75	272	Pn	Pn	21 51 25.8	+0.9
	3μm,1.3s						
XOR	Xorichti	2.83	105	ePn	Pn	21 51 26.1	0.0
XOR	Xorichti	2.83	105	P	Pn	21 51 29.1	+3.0
GRI	Girifalco	2.84	243	Pn	Pn	21 51 27.4	+1.2
	2μm,1.4s						
BRY	Bratogost	2.86	343	⇓iPn	Pn	21 51 26.3	-0.2
BRY				eSn	Sn	21 52 02.5	+1.1
SOH	Sokhos	2.89	76	ePn	Pn	21 51 26.4	-0.5
SOH				eSn	Sn	21 52 03.1	+1.2
SOH	Sokhos	2.89	76	P	Pn	21 51 27.9	+1.0
SOH				eSn	Sn	21 52 03.2	+1.2
PLG	Polygyros	2.90	85	ePN	Pn	21 51 28.6	+1.6
SIRI	Monte Sirino -	2.91	272	Pn	Pn	21 51 29.7	+2.6
	3μm,1.6s						
PALZ	Palazzo San Ge	2.93	287	Pn	Pn	21 51 27.8	+0.4
	25μm,1.6s						
CUC	Castrocucco	2.96	268	Pn	Pn	21 51 28.0	+0.2
	2μm,0.7s						
CUC	Castrocucco	2.96	268	P	Pn	21 51 26.8	-1.0
CUC				Pn	Pn	21 51 28.0	+0.2
CUC	Castrocucco	2.96	268	Pn	Pn	21 51 28.0	+0.2
	2μm,0.7s						
LKR	Lokris	2.99	119	ePN	Pn	21 51 28.7	+0.4
LKR				eSN	Sn	21 52 02.9	-1.6
MTSN	Montesano sull	3.00	273	Pn	Pn	21 51 29.0	+0.7
	4μm,1.5s						
PLAC	Placanica	3.03	237	Pn	Pn	21 51 27.4	-1.4
	198nm,0.7s						
PAIG	Paliouri	3.09	93	ePn	Pn	21 51 28.4	-1.2
PAIG	Paliouri	3.09	93	P	Pn	21 51 30.0	+0.4
SLCN	Sala Consilina	3.09	276	Pn	Pn	21 51 30.3	+0.7
	1μm,0.7s						
SLCN	Sala Consilina	3.09	276	P	Pn	21 51 30.1	+0.5
SLCN				Pn	Pn	21 51 30.3	+0.7
UPM	Unac-Piva	3.09	350	⇓iPn	Pn	21 51 30.2	+0.6
UPM				eSn	Sn	21 52 07.7	+0.7
KKB	Krupnik	3.10	56	P	Pn	21 51 31.8	+2.1
SJES	Sjenica	3.11	4	Pn	Pn	21 51 32.6	+2.7
BARS	Barje	3.11	31	iPn	Pn	21 51 31.3	+1.3
PLE	Pljevlja	3.17	356	⇓iPn	Pn	21 51 31.8	+1.1
PLE				eSn	Sn	21 52 09.8	+0.8
VULT	Monte Vulture	3.18	286	Pn	Pn	21 51 31.5	+0.6
	14μm,2.0s						
FGMS	Monte Sant'Ang	3.21	300	Pn	Pn	21 51 31.3	+0.1
	907nm,0.7s						
MS1	Monte Sant'Ang	3.21	300	ePn	Pn	21 51 31.2	-0.1
MSAG	Monte S. Angel	3.24	300	Pn	Pn	21 51 31.5	-0.2
	7μm,1.6s						
MSAG	Monte S. Angel	3.24	300	P	Pn	21 51 31.6	-0.1
MRLC	Muro Lucano	3.24	282	Pn	Pn	21 51 31.7	0.0
	5μm,1.6s						
MRLC	Muro Lucano	3.24	282	Pn	Pn	21 51 31.7	0.0
MRLC				P		21 51 32.3	
MRLC	Muro Lucano	3.24	282	P	Pn	21 51 32.3	+0.6
FG4	Candela	3.30	288	Pn	Pn	21 51 34.8	+2.3
FG4	Candela	3.30	288	P	Pn	21 51 33.2	+0.7
FG4				Pn	Pn	21 51 34.8	+2.3
FG4	Candela	3.30	288	Pn	Pn	21 51 34.8	+2.3
CMPR	Campora	3.34	274	Pn	Pn	21 51 33.1	0.0
	2μm,1.6s						
CDRU	Civita di Ruta	3.35	277	Pn	Pn	21 51 33.7	+0.5
	3μm,1.9s						
SGRT	San Giovanni R	3.37	299	Pn	Pn	21 51 33.9	+0.5
	1μm,0.6s						
SGRT	San Giovanni R	3.37	299	P	Pn	21 51 33.8	+0.4
MMB	Musomiste	3.40	64	ePn	Pn	21 51 34.2	+0.4
MMB				eSn	Sn	21 52 15.5	+1.0
MMB	Musomiste	3.40	64	P	Pn	21 51 34.7	+0.9
AOS	Alonnisos	3.40	106	ePn	Pn	21 51 33.8	-0.1
NVR	Nevrokopi	3.40	68	ePN	Pn	21 51 36.8	+2.9
SGTA	Sant Agata di	3.41	288	Pn	Pn	21 51 35.9	+1.9
RGNG	Rignano Grg	3.44	297	Pn	Pn	21 51 34.5	+0.1
RGNG	Rignano Grg	3.44	297	P	Pn	21 51 34.3	-0.1
RGNG				Pn	Pn	21 51 34.5	+0.1
ITM	Ithomi	3.46	149	ePN	Pn	21 51 35.1	+0.4
SNAL	S. Angelo Dei	3.48	284	Pn	Pn	21 51 37.6	+2.6
	15μm,2.3s						
CAFE	Carife	3.48	286	Pn	Pn	21 51 37.4	+2.4
	7μm,1.5s						
MCRV	Calabrutti - M	3.48	282	Pn	Pn	21 51 35.6	+0.6
	949nm,1.0s						
CEL	Celeste	3.49	238	Pn	Pn	21 51 34.1	-1.0
	507nm,0.7s						
CEL	Celeste	3.49	238	P	Pn	21 51 34.0	-1.1
SOI	Samo	3.50	235	Pn	Pn	21 51 34.3	-0.9
	233nm,0.5s						
FG5	Orsara di Pugl	3.52	290	Pn	Pn	21 51 37.7	+2.1
	2μm,0.8s						
FG5	Orsara di Pugl	3.52	290	P	Pn	21 51 37.0	+1.4
FG5				Pn	Pn	21 51 37.7	+2.1
MGER	Gerania Oros	3.54	127	ePN	Pn	21 51 36.5	+0.7
VTS	Vitosha	3.61	47	ePn	Pn	21 51 37.1	+0.4
VTS	Vitosha	3.61	47	⇓iP	Pn	21 51 37.0	+0.3
VTS	Vitosha	3.61	47	P	Pn	21 51 37.5	+0.8
SCLL	Scilla	3.61	239	Pn	Pn	21 51 36.1	-0.6
	103nm,0.7s						
SCLL	Scilla	3.61	239	Pn	Pn	21 51 36.1	-0.6
SCLL				P		21 51 36.8	
BBLS	Bajina Basta -	3.71	357	iPn	Pb	21 51 44.9	-1.3
MSRU	Castanea	3.74	241	Pn	Pn	21 51 38.1	-0.5
	507nm,0.7s						
MSI	Messina ING	3.74	240	Pn	Pn	21 51 39.1	+0.5
	867nm,0.7s						
MSI	Messina ING	3.74	240	Pn	Pn	21 51 39.1	+0.5
MSI				P		21 51 39.5	
MTTG	Motta San Giov	3.77	236	Pn	Pn	21 51 38.6	-0.3
	307nm,0.6s						
MTTG	Motta San Giov	3.77	236	P	Pn	21 51 38.3	-0.6
MTTG				Pn	Pn	21 51 38.6	-0.3
GRUS	Gruza	3.81	12	iPn	Pn	21 51 38.9	-0.5
NAIG	Nisos Aigina	3.83	128	ePN	Pn	21 51 40.0	+0.3
ATH	Athens Observa	3.84	123	ePN	Pn	21 51 40.7	+0.8
PSB1	Pescosannita	3.84	288	Pn	Pn	21 51 41.5	+1.6
	3μm,1.5s						
PSB1	Pescosannita	3.84	288	P	Pn	21 51 41.6	+1.7
PTL	Penteli	3.89	121	ePN	Pn	21 51 40.5	-0.1
CIGN	Sant'Elia a Pi	3.90	294	Pn	Pn	21 51 42.7	+1.9
	4μm,1.4s						
CIGN	Sant'Elia a Pi	3.90	294	P	Pn	21 51 41.9	+1.1
CIGN				Pn	Pn	21 51 42.7	+1.9
CIGN	Sant'Elia a Pi	3.90	294	Pn	Pn	21 51 42.7	+1.9
	4μm,1.4s						
DIVS	Divcibare	3.94	3	iPn	Pn	21 51 40.7	-0.7
DIVS	Divcibare	3.94	3	ePn	Pn	21 51 40.8	-0.5
SACR	S. Croce Del S	3.96	290	Pn	Pn	21 51 43.7	+2.1
	3μm,1.5s						
VPL	Vulcano Piano	4.04	245	Pn	Pn	21 51 42.8	+0.1
	809nm,1.0s						
SLNA	Salina	4.07	248	Pn	Pn	21 51 44.5	+1.4
SLNA				P		21 51 46.1	
SLNA	Salina	4.07	248	P	Pn	21 51 46.1	+3.0
BSSO	Busso	4.09	291	Pn	Pn	21 51 44.7	+1.4
	3μm,1.4s						
MMME	Mongiuffi-Meli	4.09	238	Pn	Pn	21 51 42.7	-0.6
	235nm,0.7s						
RZN	Rozhen	4.12	67	P	Pn	21 51 45.7	+1.9
PGB	Panagyurishte	4.15	53	P	Pn	21 51 44.4	+0.3
LOS	Limnos	4.17	91	ePn	Pn	21 51 44.8	+0.4
FRES	Fresagrandinar	4.19	297	Pn	Pn	21 51 46.9	+2.2
	4μm,1.4s						
TRIV	Trivento	4.19	294	Pn	Pn	21 51 45.9	+1.2
	5μm,1.7s						
IFIL	Filicudi I Eol	4.26	250	Pn	Pn	21 51 45.1	-0.6
	1μm,0.9s						
PLD	Plovdiv	4.27	61	ePn	Pn	21 51 46.5	+0.6
PLD	Plovdiv	4.27	61	P	Pn	21 51 46.6	+0.7
VLI	Veliai	4.29	142	ePN	Pn	21 51 46.8	+0.7
SVIS	Svilajnac	4.29	15	iPn	Pn	21 51 47.3	+1.2
VAGA	Valle Agricola	4.31	289	Pn	Pn	21 51 48.7	+2.3
	2μm,1.1s						
MOCO	Biccari - m.te	4.35	288	Pn	Pn	21 51 38.9	-8.1
	12μm,2.2s						
MIDA	Miranda	4.36	292	Pn	Pn	21 51 48.9	+1.8
	3μm,1.7s						
RNI2	Rionero Sannit	4.45	292	Pn	Pn	21 51 50.6	+2.3
MNO	Monte Soro	4.46	242	Pn	Pn	21 51 50.1	+1.6
	247nm,0.7s						
MNO	Monte Soro	4.46	242	Pn	Pn	21 51 50.1	+1.6
MNO				P		21 51 50.3	
RFI	Roccamonfina	4.46	287	Pn	Pn	21 51 49.8	+1.3
	419nm,1.7s						
CERA	Filignano	4.51	290	Pn	Pn	21 51 50.6	+1.4
	3μm,1.6s						
RDO	Rodhopi	4.58	76	ePN	Pn	21 51 52.4	+2.4
KDZ	Kurdzhali	4.61	69	P	Pn	21 51 50.1	-0.4
SSY	Sortino	4.68	232	Pn	Pn	21 51 48.9	-2.6
BEO	Belgrade	4.70	7	iPn	Pn	21 51 50.2	-1.4
BEO	Belgrade	4.70	7	Pn	Pn	21 51 50.2	-1.5
KYTH	Kithira	4.70	145	ePN	Pn	21 51 52.8	+1.1
INTR	Introdacqua	4.73	295	Pn	Pn	21 51 52.6	+0.5
	1μm,1.0s						
INTR	Introdacqua	4.73	295	P	Pn	21 51 52.4	+0.3
INTR				Pn	Pn	21 51 52.6	+0.5
HAVL	Avola	4.78	230	Pn	Pn	21 51 49.2	-3.7
	348nm,0.6s						
DIM	Dimitrovgrad	4.82	65	eP	Pn	21 51 56.6	+3.2
VVLD	Villa Vallelon	4.88	292	Pn	Pn	21 51 55.3	+1.1
	3μm,1.9s						
HVZN	Vizzini	4.88	234	P	Pn	21 51 57.5	+3.2
GIB	Gibilmanna	4.89	245	P	Pn	21 51 56.4	+2.0
VAE	Valguarnera	4.90	239	Pn	Pn	21 51 56.1	+1.6
	1.0nm,0.3s,baz=277,slow=6.3,SNR=7.1						
VAE	Valguarnera	4.90	239	Pn	Pn	21 51 56.1	+1.6
ALN	Alexandroupoli	4.92	79	ePn	Pn	21 51 54.1	-0.6
VCEL	Villa Celiera	4.92	299	Pn	Pn	21 51 55.7	+0.9
	1μm,1.2s						
DJES	Djerdap	4.95	24	iPn	Pn	21 51 58.1	+3.0
HMDC	Modica	4.99	232	Pn	Pn	21 51 52.7	-3.0
	370nm,0.5s						
FGSL	Fruska Gora	5.00	1	Pn	Pn	21 51 55.6	-0.2
FAGN	Fagnano	5.04	297	Pn	Pn	21 51 57.9	+1.4
	625nm,0.8s						
GIUL	Giuliano Di Ro	5.06	288	Pn	Pn	21 51 56.9	+0.3
	2μm,3.3s						
TERO	Teramo	5.18	300	Pn	Pn	21 51 59.1	+0.8
	268nm,0.6s						
TERO	Teramo	5.18	300	P	Pn	21 51 58.9	+0.6
TERO				Pn	Pn	21 51 59.1	+0.8
PVL	Pavlikeni	5.23	52	eP	Pn	21 52 00.3	+1.3
CERT	Cerreto	5.36	292	Pn	Pn	21 52 01.8	+1.0
	141nm,0.7s						
FIAM	Fiamignano	5.37	295	Pn	Pn	21 52 02.8	+1.9
	183nm,0.7s						
FIAM	Fiamignano	5.37	295	Pn	Pn	21 52 02.8	+1.9
FIAM				P		21 52 02.9	
MTCE	Montecelio	5.55	292	Pn	Pn	21 52 04.2	+0.8
	108nm,0.8s						
BZS	Buzias	5.64	14	P	Pn	21 52 03.9	-0.8
AOI	Ancona	5.65	309	Pn	Pn	21 52 04.2	-0.6
	131nm,0.8s						
AOI	Ancona	5.65	309	P	Pn	21 52 04.1	-0.7
CLTB	Caltabellotta	5.65	245	Pn	Pn	21 52 07.3	+2.5
CLTB	Caltabellotta	5.65	245	P	Pn	21 52 07.2	+2.4
NVLJ	Novalja	5.65	323	⇑iPn	Pn	21 52 04.0	-0.9
NVLJ				iSn	Sn	21 53 08.0	-2.1
JMB	Yambol	5.70	64	ePn	Pn	21 52 06.5	+1.1
JMB	Yambol	5.70	64	P	Pn	21 52 05.7	+0.2
JMB	Yambol	5.70	64	ePn	Pn	21 52 06.5	+1.0
GZR	Gura Zlata	5.71	23	⇑iP	Pn	21 52 06.0	+0.4
GZR	Gura Zlata	5.71	23	⇑P	Pn	21 52 06.0	+0.4
MNS	Montasola	5.71	295	Pn	Pn	21 52 07.6	+2.0
	129nm,0.9s						
CING	Cingoli	5.80	306	Pn	Pn	21 52 06.6	-0.3
	108nm,0.8s						
KARN	Karanos	5.82	143	ePn	Pn	21 52 07.2	+0.1
SISC	Sisak	5.83	337	ePn	Pn	21 52 08.0	+0.7
ERC	Erice	5.90	251	Pn	Pn	21 52 11.1	+2.9
ERC	Erice	5.90	251	P	Pn	21 52 11.0	+2.8
ASS	Assisi	6.00	301	Pn	Pn	21 52 10.7	+1.1
	4.0nm,0.5s						
ASS	Assisi	6.00	301	P	Pn	21 52 10.6	+1.0
TOLF	Tolfa	6.09	291	Pn	Pn	21 52 12.1	+1.2
	69nm,0.9s						
TOLF	Tolfa	6.09	291	P	Pn	21 52 12.0	+1.1
PKSM	Moragy	6.09	353	⇓iP	Pn	21 52 09.5	-1.4
PKSM	Moragy	6.09	353	⇓P	Pn	21 52 09.5	-1.4
SMG	Samos	6.11	111	P	Pn	21 52 12.6	+1.6
BOJS	Bojanci	6.25	330	iPn	Pn	21 52 12.2	-0.8
BOJS				e		21 53 24.0	
PESA	Pesaro	6.33	309	Pn	Pn	21 52 13.7	-0.4
	123nm,0.5s						
IDI	Anoyia	6.39	138	Pn	Pn	21 52 12.1	-2.9
	2.0nm,0.3s,baz=323,slow=5.1,SNR=12						
IDI				Sn	Sn	21 53 20.4	-7.8
	5.7nm,0.3s,baz=340,slow=14,SNR=6.7						
IDI	Anoyia	6.39	138	Sn	Sn	21 53 20.4	-7.8
CDCA	Citt' di Caste	6.46	303	Pn	Pn	21 52 17.7	+1.8
	351nm,0.8s						
BADI	Badiali	6.47	304	Pn	Pn	21 52 17.2	+1.1
	160nm,0.9s						
BADI	Badiali	6.47	304	P	Pn	21 52 17.1	+1.0
RSM	Repubblica di	6.56	307	Pn	Pn	21 52 17.5	+0.2
	148nm,1.0s						
RSM	Repubblica di	6.56	307	P	Pn	21 52 17.4	+0.1
VOIR		6.59	35	⇓iP	Pn	21 52 21.1	+3.3
VOIR		6.59	35	⇓P	Pn	21 52 21.1	+3.3
KNDS	Knezji Dol	6.62	326	iPn	Pn	21 52 17.1	-1.0
ARCI	Arcidosso	6.71	296	Pn	Pn	21 52 22.1	+2.8
CRE	Caprese Michel	6.71	304	Pn	Pn	21 52 19.7	+0.3
	25nm,0.8s						
CRE	Caprese Michel	6.71	304	P	Pn	21 52 19.8	+0.4
CEY	Cerknica	6.77	327	iPn	Pn	21 52 19.4	-0.7
SFI	Santa Sofia	6.92	305	Pn	Pn	21 52 22.8	+0.6
	17nm,0.7s						
SFI	Santa Sofia	6.92	305	Pn	Pn	21 52 22.8	+0.6
SFI				P		21 52 23.0	
LJU	Ljubljana	6.98	329	iPn	Pn	21 52 22.0	-1.0
LJU				e		21 53 41.1	
LJU				eSn	Sn	21 53 42.5	-0.2
LJU	Ljubljana	6.98	329	iPn	Pn	21 52 22.0	-1.0
LJU				e		21 53 41.1	
LJU	Ljubljana	6.98	329	iPn	Pn	21 52 22.0	-1.0
LJU				eS	Sn	21 53 41.1	-1.6
DRGR		6.99	17	⇓iP	Pn	21 52 24.8	+1.6
DRGR		6.99	17	⇓P	Pn	21 52 24.8	+1.6
MLR	Muntele Rosu	7.05	39	Pn	Pn	21 52 25.4	+1.4
	0.7nm,0.3s,baz=246,slow=7.6,SNR=11						
MLR	Muntele Rosu	7.05	39	⇑iP	Pn	21 52 28.3	+4.3
MLR	Muntele Rosu	7.05	39	P	Pn	21 52 25.4	+1.4
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CSNT	Castellina Chi	7.08	301	Pn	Pn	21 52 24.6	+0.2
	comp=Z,85nm,0.8s						
CSNT	Castellina Chi	7.08	301	Pn	Pn	21 52 24.6	+0.2
CSNT				P		21 52 24.8	
GRFL	Gerfalco	7.16	297	Pn	Pn	21 52 27.3	+1.8
	comp=Z,14nm,0.6s						
VOY	Vojsko	7.23	326	⇑ePn	Pn	21 52 25.2	-1.3
VOY				eSn	Sn	21 53 46.7	-2.2
PERS	Pernice	7.27	334	iPn	Pn	21 52 25.6	-1.4
SEI	Scarperia	7.30	305	Pn	Pn	21 52 28.9	+1.5
	comp=Z,135nm,0.4s						
SEI	Scarperia	7.30	305	Pn	Pn	21 52 28.9	+1.5
SEI				P		21 52 29.0	
BUD	Budapest	7.34	357	ePg	Pn	21 52 32.6	+4.6
OBKA	Obir	7.36	331	⇓iPn	Pn	21 52 27.3	-0.9
	SNR=15						
OBKA				⇓iSn	Sn	21 53 50.6	-1.5
DRE	Drenchia	7.45	326	⇑eP	Pn	21 52 28.0	-1.5
CADS	Cadrg	7.45	326	iPn	Pn	21 52 28.0	-1.5
TLI	Talmassons	7.50	322	⇓eP	Pn	21 52 29.0	-1.2
FNVD	Fontana Vidola	7.50	305	Pn	Pn	21 52 31.9	+1.7
	comp=Z,48nm,0.0s						
COLI	Coloredo	7.53	324	⇓iP	Pn	21 52 29.0	-1.6
PZZT	Monte Pizzetto	7.65	304	Pn	Pn	21 52 33.1	+0.9
	comp=Z,33nm,0.6s						
PLOR	Plostina	7.65	40	⇑iP	Pn	21 52 33.9	+1.6
BAD	Bernadia	7.67	324	⇓eP	Pn	21 52 32.0	-0.6
ZCCA	Zocca	7.68	306	Pn	Pn	21 52 32.9	+0.2
	comp=Z,45nm,0.8s						
ZCCA	Zocca	7.68	306	Pn	Pn	21 52 32.9	+0.2
ZCCA				P		21 52 34.4	
ZCCA	Zocca	7.68	306	P	Pn	21 52 34.4	+1.7
PII	Pisa	7.69	301	Pn	Pn	21 52 35.7	+3.0
ARSA	Arzberg	7.70	338	⇑iPn	Pn	21 52 32.4	-0.5
ARSA				⇓iSn	Sn	21 53 57.6	-2.8
ARSA	Arzberg	7.70	338	⇑iPn	Pn	21 52 31.2	-1.7
ARSA				iSn	Sn	21 53 57.6	-2.8
VRI	Vrincioaia	7.70	40	⇑iP	Pn	21 52 36.5	+3.6
GMNA	Gemona	7.70	325	Pn	Pn	21 52 31.8	-1.2
GMNA				P		21 52 32.2	
PTCC	Patocco-Chiusa	7.75	326	Pn	Pn	21 52 32.4	-1.3
PTCC	Patocco-Chiusa	7.75	326	P	Pn	21 52 32.0	-1.7
PTCC				Pn	Pn	21 52 32.4	-1.3
PSZ	Piszkesteto	7.76	1	⇓ePg	Pn	21 52 32.5	-1.2
PSZ	Piszkesteto	7.76	1	⇑iP	Pn	21 52 31.0	-2.7
PSZ	Piszkesteto	7.76	1	ePn	Pn	21 52 32.0	-1.8
	comp=Z,44nm,1.0s						
PSZ	Piszkesteto	7.76	1	ePn	Pn	21 52 32.0	-1.7
	comp=Z,44nm,1.0s						
TIRR	Tirgusor	7.78	54	⇑iP	Pn	21 52 26.5	-7.5
TIRR	Tirgusor	7.78	54	P	Pn	21 52 36.1	+2.1
BDI	Bagni Di Lucca	7.79	303	Pn	Pn	21 52 35.5	+1.4
	comp=Z,28nm,0.9s						
BDI	Bagni Di Lucca	7.79	303	P	Pn	21 52 35.4	+1.3
MPRI	Monte Prat	7.79	323	⇓eP	Pn	21 52 34.0	-0.2
SOP	Sopron	7.85	344	⇑ePg	Pn	21 52 32.5	-2.5
CAE	Caneva	7.88	320	⇓eP	Pn	21 52 34.0	-1.4
GSCL	Gusciola	7.93	305	Pn	Pn	21 52 37.3	+1.2
	comp=Z,24nm,0.7s						
GSCL	Gusciola	7.93	305	Pn	Pn	21 52 37.3	+1.2
GSCL				P		21 52 37.4	
VSL	Villasalto	7.94	269	Pn	Pn	21 52 34.1	-2.2
	comp=Z,12nm,0.8s						
VSL	Villasalto	7.94	269	Pn	Pn	21 52 34.1	-2.2
	comp=Z,12nm,0.8s						
PLRO	Paularo	7.96	326	⇑iP	Pn	21 52 36.0	-0.5
CFR	Carcaliu	8.01	48	⇑iP	Pn	21 52 40.7	+3.6
CFR	Carcaliu	8.01	48	⇑P	Pn	21 52 40.7	+3.5
ERBM	Eremo	8.07	305	Pn	Pn	21 52 39.4	+1.4
ERBM				P		21 52 39.9	
SBPO	S.Benedetto Po	8.09	310	Pn	Pn	21 52 41.9	+3.6
FVI	Forni Avoltri	8.15	324	Pn	Pn	21 52 38.4	-0.8

FVI Forni Avoltri 8.15 324 P Pn 21 52 37.9 -1.3
FVI Pn **Pn** 21 52 38.4 -0.8
CONA Conrad Observa 8.23 342 ⇑*i*Pn **Pn** 21 52 40.6 +0.4
CONA ⇑*i*Sn **Sn** 21 54 10.9 -2.7
KBA Koelnbreinsper 8.29 329 ⇓*i*Pn **Pn** 21 52 39.9 -1.2
KBA ⇑*i*Sn **Sn** 21 54 11.1 -4.0
CTI Castel Tesino 8.30 318 Pn **Pn** 21 52 39.7 -1.5
KECS Kecovo 8.34 4 *e*PN **Pn** 21 52 39.2 -2.6
VYHS Vyhne 8.35 356 *e*PN **Pn** 21 52 41.4 -0.5
BURAR Bucovina Array 8.46 26 ⇑*i*P **Pn** 21 52 45.1 +1.7
BURAR Bucovina Array 8.46 26 ⇑P **Pn** 21 52 45.1 +1.7
SEST Monte Rota 8.52 323 Pn **Pn** 21 52 43.7 -0.6
SEST P 21 52 43.9
MOA Molln 8.61 335 ⇑*i*Pn **Pn** 21 52 44.2 -1.2
SNR=46
MOA ⇑*i*Sn **Sn** 21 54 19.8 -3.1
SALO Salr 8.64 312 Pn **Pn** 21 52 44.3 -1.6
UZH Uzhgorod 8.68 12 ⇑*i*P **Pn** 21 52 53.0 +6.7
UZH pmax pmax
comp=Z,31nm,1.0s
UZH MLR MLR
comp=Z,4μm,1.2s
MAGA Magasa 8.68 313 Pn **Pn** 21 52 44.5 -1.9
MAGA Magasa 8.68 313 P **Pn** 21 52 45.1 -1.3
APPI Appiano 8.81 319 Pn **Pn** 21 52 47.7 -0.5
CRVS Cervenica-Dubn 8.83 8 *e* **Pn** 21 52 54.6 +6.1
BOB Bobbio (Coli) 8.84 305 Pn **Pn** 21 52 49.5 +0.9
MABI Malga Bissina 8.91 314 Pn **Pn** 21 52 49.2 -0.4
MABI Malga Bissina 8.91 314 P **Pn** 21 52 48.8 -0.8
MABI Pn **Pn** 21 52 49.2 -0.4
KOLS Kolonicke sedl 8.97 11 *e*PN **Pn** 21 52 53.0 +2.7
WTTA Wattenberg 9.17 323 ⇓*i*Pn **Pn** 21 52 52.5 -0.6
SNR=21
WTTA ⇑*i*Sn **Sn** 21 54 34.3 -2.4
MDI Monti di Nese 9.20 311 Pn **Pn** 21 52 51.9 -1.6
BRMO Bormio 9.25 316 Pn **Pn** 21 52 54.9 +0.6
WATA Walderalm 9.25 323 ⇑*i*Pn **Pn** 21 52 53.5 -0.7
SNR=25
WATA ⇑*i*Sn **Sn** 21 54 36.1 -2.6
KEST Kesra 9.27 245 Pn **Pn** 21 52 55.5 +1.0
comp=Z,0.0nm,0.3s,baz=60,slow=20,SNR=4.5
KEST LR LR 21 57 20.8
comp=Z,225nm,20.5s,baz=10,slow=43
NIE Niedzica 9.27 3 *e*Pc **Pn** 21 52 55.8 +1.3
STHS Stebnicka Huta 9.32 6 *e*PN **Pn** 21 52 58.6 +3.4
SQTA Sankt Quirin 9.34 322 ⇑*i*Pn **Pn** 21 52 55.2 -0.2
SNR=15
SQTA ⇓*i*Sn **Sn** 21 54 39.6 -1.2
VRAC Vranov 9.40 348 Pn **Pn** 21 52 55.1 -1.2
comp=Z,0.1nm,0.3s,baz=164,slow=15,SNR=3.2
MOTA Moosalm 9.48 322 ⇑*i*Pn **Pn** 21 52 56.8 -0.6
SNR=64
MOTA ⇓*i*Sn **Sn** 21 54 43.0 -1.3
KIS Kishinev 9.53 41 *e*P **Pn** 21 53 00.0 +2.0
KIS MLR MLR
comp=Z,1μm,8.0s
KIS MLR MLR
comp=Z,1μm,1.0s
KIS Kishinev 9.53 41 *e*P **Pn** 21 53 00.0 +2.0
comp=Z,1μm,1.0s
TREC Trest 9.60 343 AMS AMS 21 57 30.0
comp=Z,500nm,13.6s
GEC2 GERESS Array S 9.67 336 *e*Pn **Pn** 21 52 58.4 -1.5
GEC2 *e*Sn **Sn** 21 54 45.9 -3.0
GERES GERESS Array B 9.67 336 Pn **Pn** 21 52 58.3 -1.6
comp=Z,0.7nm,0.3s,baz=161,slow=12,SNR=23
GERES Sn **Sn** 21 54 46.4 -2.5
comp=Z,1.0nm,0.3s,baz=151,slow=23,SNR=5.5
GERES GERESS Array B 9.67 336 P **Pn** 21 52 58.3 -1.6
GERES 21 54 46.4
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
KWP Kalwaria 9.71 12 *e*P **Pn** 21 53 02.9 +2.3
MORC Moravsky Berou 9.73 352 *e*P **Pn** 21 52 58.2 -2.6
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 9.73 352 *e*P **Pn** 21 52 58.2 -2.6
comp=Z,7.2nm,1.0s
OKC Ostrava-Krasne 9.74 354 *e*P **Pn** 21 53 00.8 -0.1
OKC AMS AMS 21 58 00.0
comp=Z,800nm,9.9s
VDL Val di Lei 9.75 314 P **Pn** 21 53 02.1 +1.0
SAOF Saorge 9.78 297 P **Pn** 21 53 04.0 +2.5
SBF Sospel 9.82 296 *e*P **Pn** 21 53 01.0 -1.1
comp=Z,28nm,0.8s
AUTN L'Aution 9.87 297 P **Pn** 21 53 05.3 +2.6
KHC Kasperske Hory 9.96 336 *e*P **Pn** 21 53 01.9 -2.0
KHC *e*S **Sn** 21 54 51.9 -4.1
KHC AMS AMS 21 57 20.0
comp=Z,1μm,10.7s
KHC Kasperske Hory 9.96 336 *e*Pn **Pn** 21 53 01.9 -2.0
KHC *e*Sn **Sn** 21 54 51.9 -4.1
FUR Furstenfeldbru 10.01 326 P **Pn** 21 53 05.4 +0.8
DAVA Damuels 10.04 318 ⇓*i*Pn **Pn** 21 53 04.6 -0.4
DAVA ⇑*i*Sn **Sn** 21 54 57.7 -0.3
OJC Ojcow 10.06 0 *e*P **Pn** 21 53 05.6 +0.3
LVV L'vov 10.14 16 *e*P **Pn** 21 53 07.3 +0.9
WET Wettzell 10.20 334 *e*Pn **Pn** 21 53 05.2 -2.0
LLS Linth-Limmern 10.22 314 ⇓P **Pn** 21 53 10.4 +2.9
FRF La Foret Royal 10.29 294 *e*P **Pn** 21 53 08.7 +0.3
comp=Z,8.2nm,0.6s
FRF La Foret Royal 10.29 294 *e*P **Pn** 21 53 08.7 +0.3
FRF pmax pmax
comp=Z,4.0nm,0.6s
FRF La Foret Royal 10.29 294 *e*P **Pn** 21 53 08.7 +0.3
comp=Z,4.1nm,0.6s
LMR La Mourre 10.33 292 *e*P **Pn** 21 53 10.8 +1.8
comp=Z,22nm,1.1s
LMR La Mourre 10.33 292 *e*P **Pn** 21 53 10.8 +1.8
LMR pmax pmax
comp=Z,11nm,1.1s
LMR La Mourre 10.33 292 *e*P **Pn** 21 53 10.8 +1.8
comp=Z,11nm,1.1s
DPC Dobruska-Polom 10.46 348 AMS AMS 21 58 20.0
comp=Z,900nm,10.8s
PRU Pruhonice 10.47 342 *e*P **Pn** 21 53 09.5 -1.4
PRU AMS AMS 21 59 20.0
comp=Z,500nm,8.1s
MBDF Montbardon 10.56 300 *e*P **Pn** 21 53 09.3 -2.9
comp=Z,26nm,0.9s
MBDF Montbardon 10.56 300 *e*P **Pn** 21 53 09.3 -2.9
MBDF pmax pmax
comp=Z,13nm,0.9s
MBDF Montbardon 10.56 300 *e*P **Pn** 21 53 09.3 -2.9
comp=Z,13nm,0.9s
TAVF Tavernes 10.71 293 P **Pn** 21 53 15.6 +1.3
DIX Grande Dixence 10.73 307 P **Pn** 21 53 15.0 +0.5
BNI Bardonecchia 10.74 301 *e*P **Pn** 21 53 15.6 +0.9
BNI pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 10.74 301 *e*P **Pn** 21 53 15.6 +0.9
comp=Z,6.6nm,0.8s
BNI Bardonecchia 10.74 301 *e*P **Pn** 21 53 15.6 +0.9
comp=Z,6.6nm,0.8s
LKBD Leukerbad 10.75 309 ⇓P **Pn** 21 53 14.1 -0.7
LPG La Plagne 10.88 304 *e*P **Pn** 21 53 13.2 -3.3
comp=Z,24nm,0.6s
LPG La Plagne 10.88 304 *e*P **Pn** 21 53 13.2 -3.3
LPG pmax pmax
comp=Z,12nm,0.6s
LPG La Plagne 10.88 304 *e*P **Pn** 21 53 13.2 -3.3
comp=Z,12nm,0.6s
LPL La Plagne 10.90 304 *e*P **Pn** 21 53 13.4 -3.4
comp=Z,22nm,0.6s
LPL La Plagne 10.90 304 *e*P **Pn** 21 53 13.4 -3.4
LPL pmax pmax
comp=Z,11nm,0.6s
LPL La Plagne 10.90 304 *e*P **Pn** 21 53 13.4 -3.4
comp=Z,11nm,0.6s
PUYF Puyloubier 10.95 292 P **Pn** 21 53 19.8 +2.3
PVCC Panska Ves 10.97 343 *e*P **Pn** 21 53 15.8 -1.9
EMV Vieux Emosson 11.03 307 ⇑P **Pn** 21 53 20.0 +1.4
SMRF Simiane la Rot 11.14 295 *e*P **Pn** 21 53 20.0 -0.2
comp=Z,26nm,1.1s
SMRF Simiane la Rot 11.14 295 *e*P **Pn** 21 53 20.0 -0.2
comp=Z,13nm,1.1s
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn** 21 53 19.9 -1.3
comp=Z,12nm,0.7s
ORIF *e*R
comp=Z,630nm,18.2s
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn** 21 53 19.9 -1.3
ORIF pmax pmax
comp=Z,6.0nm,0.7s
ORIF Oris-en-Rattie 11.22 300 *e*P **Pn** 21 53 19.9 -1.3
comp=Z,5.8nm,0.7s
NKC Novy Kostel 11.28 336 AMS AMS 21 58 20.0
comp=Z,900nm,16.1s
FELD Feldberg im Sc 11.39 316 P **Pn** 21 53 23.2 -0.3
STU Stuttgart 11.39 323 *e*P **Pn** 21 53 20.9 -2.7
STU pmax pmax
comp=Z,18nm,0.6s
STU Stuttgart 11.39 323 *e*P **Pn** 21 53 20.9 -2.7
comp=Z,18nm,0.6s
BRG Berggiesshubel 11.44 341 *e*PN **Pn** 21 53 21.9 -2.2
comp=Z,3.5nm,1.1s
BRG *e* 21 56 33.9
comp=Z,7.3nm,1.3s
BRG
comp=N,469nm,8.3s
BRG
comp=E,460nm,15.2s
BRG
comp=Z,286nm,10.9s
BRG Berggiesshubel 11.44 341 *e*P **Pn** 21 53 21.9 -2.2
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG MLR MLR
comp=N,469nm,8.3s
BRG MLR MLR
comp=E,460nm,15.2s
BRG MLR MLR
comp=Z,286nm,11.0s
BRG Berggiesshubel 11.44 341 *e*Pn **Pn** 21 53 21.9 -2.2
comp=Z,3.5nm,1.1s
BRG *e* 21 56 33.9
BFO Black Forest 11.51 319 *e*Pn **Pn** 21 53 22.1 -3.1
BFO *e*Sn **Sn** 21 55 28.1 -6.0
LOMF Lomont 11.73 312 P **Pn** 21 53 26.8 -1.4
CABF La Chapelle 11.79 308 *e*P **Pn** 21 53 26.2 -2.8
comp=Z,8.0nm,0.4s
CABF La Chapelle 11.79 308 *e*P **Pn** 21 53 26.2 -2.8
CABF pmax pmax
comp=Z,4.0nm,0.4s
CABF La Chapelle 11.79 308 *e*P **Pn** 21 53 26.2 -2.8
comp=Z,4.0nm,0.4s
MOF Molkenrain 11.84 315 P **Pn** 21 53 30.2 +0.5
MOX Moxa 11.90 334 *e*P **Pn** 21 53 29.7 -0.8
comp=Z,22nm,0.9s
MOX *e* 21 56 51.0
MOX
comp=Z,900nm,16.0s
MOX Moxa 11.90 334 *e*P **Pn** 21 53 29.7 -0.8
MOX pmax pmax
comp=Z,204nm,0.9s
MOX MLR MLR
comp=Z,22μm,16.0s
MOX Moxa 11.90 334 *e*P **Pn** 21 53 29.7 -0.8
comp=Z,22nm,0.9s
MOX *e* 21 56 51.0
HINF Hinteralfeld 11.98 314 *e*P **Pn** 21 53 28.9 -2.6
comp=Z,11nm,0.4s
HINF Hinteralfeld 11.98 314 *e*P **Pn** 21 53 28.9 -2.6
HINF pmax pmax
comp=Z,5.0nm,0.4s
HINF Hinteralfeld 11.98 314 *e*P **Pn** 21 53 28.9 -2.6
comp=Z,5.3nm,0.4s
VIVF Saint-Julien-l 12.01 298 *e*P **Pn** 21 53 30.8 -1.3
ECH Echery 12.05 316 P **Pn** 21 53 33.7 +1.2
CLL Collm 12.07 340 *e*(PP) 21 53 53.0
CLL *e*(S) **Sn** 21 55 51.0 +3.1
CLL *ex* x 21 56 50.0
CLL *i* x 21 57 10.6
CDF Champ du Feu 12.11 317 *e*P **Pn** 21 53 31.2 -2.1
comp=Z,4.3nm,0.4s
CDF Champ du Feu 12.11 317 *e*P **Pn** 21 53 31.2 -2.1
CDF pmax pmax
comp=Z,2.0nm,0.4s
CDF Champ du Feu 12.11 317 *e*P **Pn** 21 53 31.2 -2.1
comp=Z,2.2nm,0.4s
TOD Tromm 12.17 324 P **Pn** 21 53 34.8 +0.6
HAU Haudompre 12.36 314 *e*P **Pn** 21 53 33.3 -3.5
comp=Z,23nm,0.5s
HAU *e*R
comp=Z,98nm,21.0s
HAU Haudompre 12.36 314 *e*P **Pn** 21 53 33.3 -3.5
HAU pmax pmax
comp=Z,12nm,0.5s
HAU Haudompre 12.36 314 *e*P **Pn** 21 53 33.3 -3.5
comp=Z,12nm,0.5s
AKASG Malin Array Be 12.48 29 Pn **Pn** 21 53 37.7 -0.8
comp=Z,0.5nm,0.3s,baz=215,slow=12,SNR=6.7
AKASG Malin Array Be 12.48 29 P **Pn** 21 53 37.7 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 12.48 29 Pn **Pn** 21 53 37.7 -0.8
THEF They Montfort 12.69 314 P **Pn** 21 53 39.4 -1.9
TNS Taunus Mts 12.78 326 *e*Pn **Pn** 21 53 40.2 -2.4
PLDF La Plantade 13.08 302 P **Pn** 21 53 45.8 -0.8
SMF Signal de Mont 13.19 305 *e*P **Pn** 21 53 45.3 -2.9
comp=Z,5.6nm,0.4s
SMF Signal de Mont 13.19 305 *e*P **Pn** 21 53 45.3 -2.9
SMF pmax pmax
comp=Z,3.0nm,0.4s
SMF Signal de Mont 13.19 305 *e*P **Pn** 21 53 45.3 -2.9
comp=Z,2.8nm,0.4s
MEZF Maizieres J'vi 13.36 313 *e*P **Pn** 21 53 46.8 -3.6
comp=Z,14nm,0.7s
MEZF Maizieres J'vi 13.36 313 *e*P **Pn** 21 53 46.8 -3.6
comp=Z,14nm,0.6s
MTLF Montolieu 13.41 289 *e*P **Pn** 21 53 50.8 -0.3
comp=Z,13nm,1.1s
MTLF Montolieu 13.41 289 *e*P **Pn** 21 53 50.8 -0.3
MTLF pmax pmax
comp=Z,6.0nm,1.1s
MTLF Montolieu 13.41 289 *e*P **Pn** 21 53 50.8 -0.3
comp=Z,6.4nm,1.1s
LOR Lormes 13.45 307 *e*P **Pn** 21 53 47.7 -3.9
comp=Z,8.2nm,0.5s
LOR *e*R
comp=Z,286nm,20.8s
LOR Lormes 13.45 307 *e*P **Pn** 21 53 47.7 -3.9
LOR pmax pmax
comp=Z,4.0nm,0.5s
LOR Lormes 13.45 307 *e*P **Pn** 21 53 47.7 -3.9
comp=Z,4.1nm,0.5s
AVF Avril sur Loir 13.56 305 *e*P **Pn** 21 53 49.2 -4.0
comp=Z,5.0nm,0.6s
AVF Avril sur Loir 13.56 305 *e*P **Pn** 21 53 49.2 -4.0
AVF pmax pmax
comp=Z,3.0nm,0.6s
AVF Avril sur Loir 13.56 305 *e*P **Pn** 21 53 49.2 -4.0
comp=Z,2.5nm,0.6s
BGF Bois d'Agland 13.79 303 *e*P **Pn** 21 53 53.7 -2.7
comp=Z,11nm,0.5s
BGF Bois d'Agland 13.79 303 *e*P **Pn** 21 53 53.7 -2.7
BGF pmax pmax
comp=Z,5.0nm,0.5s
BGF Bois d'Agland 13.79 303 *e*P **Pn** 21 53 53.7 -2.7
comp=Z,5.3nm,0.5s
CAF Calviac 13.82 296 *e*P **Pn** 21 53 55.3 -1.4
comp=Z,42nm,1.6s
CAF Calviac 13.82 296 *e*P **Pn** 21 53 55.3 -1.4
CAF pmax pmax
comp=Z,21nm,1.6s
CAF Calviac 13.82 296 *e*P **Pn** 21 53 55.3 -1.4
comp=Z,21nm,1.6s
ANN Anapa 13.90 65 *e*P **Pn** 21 53 57.9 0.0
ANN *e*S **Sn** 21 56 30.5 -2.1
ANN pmax pmax
comp=Z,74nm,1.7s
ANN MLR MLR
comp=Z,163nm,11.0s
ANN MLR MLR
comp=N,196nm,12.0s
ANN MLR MLR
comp=E,320nm,12.0s
ANN Anapa 13.90 65 *e*P **Pn** 21 53 57.9 0.0
comp=E,74nm,1.7s
ANN *e*S **Sn** 21 56 30.5 -2.1
comp=E,163nm,11.0s
SUW Suwalki 14.06 9 *e*P **Pn** 21 53 59.9 -0.1
TCF Toulx Ste Croi 14.11 301 *e*P **Pn** 21 54 00.3 -0.4
GIVF Givet 14.41 319 *e*P **Pn** 21 54 00.4 -4.4
MALT Malatya 14.66 91 *e*P **Pn** 21 54 14.2 +6.0
MALT pmax pmax
comp=Z,6.0nm,0.8s
MALT Malatya 14.66 91 *e*P **Pn** 21 54 14.2 +6.0
comp=Z,5.6nm,0.8s
BAIF Baives 14.70 317 *e*P **Pn** 21 54 02.5 -6.3
comp=Z,10nm,0.7s
BAIF Baives 14.70 317 *e*P **Pn** 21 54 02.5 -6.3
BAIF pmax pmax
comp=Z,5.0nm,0.7s
BAIF Baives 14.70 317 *e*P **Pn** 21 54 02.5 -6.3
comp=Z,5.1nm,0.7s
LFF La Frestale 14.74 295 *e*P **Pn** 21 54 07.8 -1.4
MNK Minsk 15.36 18 *e*P **Pn** 21 54 16.0 -1.6
ETSF Etsaut 15.39 287 *e*P **Pn** 21 54 19.6 +1.6
LDF La Druitiere 16.43 307 *e*P **Pn** 21 54 27.4 -4.1
comp=Z,22nm,1.0s
LDF La Druitiere 16.43 307 *e*P **Pn** 21 54 27.4 -4.1
LDF pmax pmax
comp=Z,11nm,1.0s
LDF La Druitiere 16.43 307 *e*P **Pn** 21 54 27.4 -4.1
comp=Z,11nm,1.0s
FLN La Foliniere 16.72 308 *e*P **Pn** 21 54 32.3 -2.8
FLN *e*R
comp=Z,197nm,18.8s
GRR Gorron 16.81 306 *e*P **Pn** 21 54 32.6 -3.6
EVIA Vianos 17.20 272 P **Pn** 21 54 43.9 +2.8
EVIA pmax pmax
comp=Z,18nm,1.2s
EVIA Vianos 17.20 272 P **Pn** 21 54 43.9 +2.8
comp=Z,18nm,1.2s
KIV Kislovodsk 17.50 70 *e*P **Pn** 21 54 50.1 +5.2
KIV pmax pmax
comp=Z,14nm,1.7s
KIV MLR MLR
comp=Z,100nm,19.0s
VRSR Storozhevoye 17.50 44 *e*P **Pn** 21 54 46.8 +1.9
VRSR pmax pmax
comp=Z,10.0nm,0.9s
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=N,170nm,15.0s
VRSR MLR MLR
comp=E,230nm,15.0s
VRSR MLR MLR
comp=Z,360nm,15.0s
EQES Quesada 17.83 270 P **Pn** 21 54 51.6 +2.6
comp=Z,10nm,0.8s
EBER Berja 17.94 267 P **Pn** 21 54 54.8 +4.4
comp=Z,20nm,1.0s
ESDC Sonseca Array 18.12 276 P **Pn** 21 54 53.2 +0.6
comp=Z,0.2nm,0.3s,baz=77,slow=11,SNR=10
ESDC LR LR 22 01 38.2
comp=Z,194nm,18.7s,baz=90,slow=36
ESDC Sonseca Array 18.12 276 P **Pn** 21 54 54.0 +1.4
comp=Z,2.8nm,0.8s
ESDC Sonseca Array 18.12 276 P **Pn** 21 54 54.0 +1.4
comp=Z,2.8nm,0.8s
GUD Guadarrama 18.14 279 P **Pn** 21 54 54.1 +1.3
GUD pmax pmax
comp=Z,6.0nm,0.7s
GUD Guadarrama 18.14 279 P **Pn** 21 54 54.1 +1.3
comp=Z,6.2nm,0.7s
GUD Guadarrama 18.14 279 P **Pn** 21 54 54.1 +1.3
comp=Z,6.2nm,0.7s
ROSF Rostrenen 18.30 304 *e*P **Pn** 21 54 51.9 -2.9
OBN Obninsk 18.73 31 *e*P **Pn** 21 54 57.2 -2.8
OBN pmax pmax
comp=Z,27nm,1.2s
OBN MLR MLR
comp=Z,300nm,17.0s
OBN Obninsk 18.73 31 *e*P **Pn** 21 54 57.2 -2.8
comp=Z,300nm,17.0s
VRHR Novokhopersk 18.78 47 *e*P **Pn** 21 55 00.0 -0.6
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.8s
VRHR MLR MLR
comp=Z,150nm,9.0s
VRHR MLR MLR
comp=N,100nm,11.0s
VRHR MLR MLR
comp=E,180nm,10.0s
VRHR Novokhopersk 18.78 47 *e*P **Pn** 21 55 00.0 -0.6
comp=E,100nm,11.0s
MSL Mosul 18.79 94 *ex* x 21 55 05.0
MSL *ex* x 21 58 48.0
ELUQ Luque 18.80 270 P **Pn** 21 55 02.4 +1.5
ELUQ pmax pmax
comp=Z,10.0nm,0.8s
ELUQ Luque 18.80 270 P **Pn** 21 55 02.4 +1.5
comp=Z,9.8nm,0.8s
VSU Vasula 18.87 12 *e*P **Pn** 21 54 59.0 -2.7
VSU Vasula 18.87 12 *e*P **Pn** 21 54 59.1 -2.6
EADA Adamuz 18.89 272 P **Pn** 21 55 03.6 +1.6
comp=Z,6.2nm,0.7s
GNI Garni 19.16 82 P **Pn** 21 55 04.3 -0.9
comp=Z,0.1nm,0.3s,baz=38,slow=9.1,SNR=3.1
GNI LR LR 22 04 09.0
comp=Z,97nm,18.9s,baz=0.9,slow=42
GNI Garni 19.16 82 *e*P **Pn** 21 55 08.4 +3.2
GNI LR LR 22 04 09.0
EMIJ Mijas 19.48 267 P **Pn** 21 55 08.0 -1.0
comp=Z,52nm,2.7s
EMIJ Mijas 19.48 267 P **Pn** 21 55 08.0 -1.1
comp=Z,52nm,2.7s
MOS Moscow 19.59 31 *e*P **Pn** 21 55 04.8 -5.6
MOS *e* 21 58 44.5
MOS pmax pmax
comp=Z,60nm,1.5s
ESPR Espera 20.22 269 P **P** 21 55 18.3 +2.3
comp=Z,2.3nm,0.5s
HFS Hagfors 20.34 351 P **P** 21 55 16.1 -1.2
comp=Z,7.7nm,0.8s,baz=167,slow=13,SNR=11
HFS LR LR 22 03 31.6
comp=Z,204nm,18.5s,MS3.5,baz=168,slow=38
HFS Hagfors 20.34 351 P **P** 21 55 16.1 -1.2
HFS pmax pmax
comp=Z,8.0nm,0.8s
HFS MLR MLR
comp=Z,204nm,18.5s
HFS Hagfors 20.34 351 P **P** 21 55 16.1 -1.2
HFS LR LR 22 03 31.6
HFA0 Hagfors New Ar 20.35 351 P **P** 21 55 16.2 -1.2
HFA0 Pn **P** 21 55 17.4 0.0
EMIN Mina Concepcio 20.59 272 P **P** 21 55 20.6 +0.6
comp=Z,24nm,1.1s
EMIN Mina Concepcio 20.59 272 P **P** 21 55 20.6 +0.6
comp=Z,24nm,1.1s
MDT Midelt 20.81 257 P **P** 21 55 22.3 -0.1
comp=Z,2.6nm,0.8s,baz=74,slow=14,SNR=3.7
NAO01 NORSAR Array S 21.41 348 *e*P **P** 21 55 26.8 -2.0
comp=Z,18nm,0.9s,mb4.4
NAO01 NORSAR Array S 21.41 348 *e*P **P** 21 55 26.8 -2.1
comp=Z,18nm,0.9s,mb4.4
EKA Eskdalemuir Ar 21.44 323 P **P** 21 55 28.9 -0.3
comp=Z,8.9nm,0.8s,mb4.1,baz=123,slow=9.5,SNR=20
EKA Eskdalemuir Ar 21.44 323 P **P** 21 55 28.9 -0.3
EKA pmax pmax
comp=Z,9.0nm,0.9s
ESK Eskdalemuir 21.45 323 *e*P **P** 21 55 30.1 +0.8
ESK pmax pmax
comp=Z,18nm,0.9s,mb4.4
ESK Eskdalemuir 21.45 323 *e*P **P** 21 55 30.1 +0.8
comp=Z,18nm,0.9s,mb4.4
NB2 NORSAR Subarra 21.55 349 P **P** 21 55 28.3 -2.0
comp=Z,0.6nm,0.6s,mb3.2,baz=157,slow=10
NB2 NORSAR Subarra 21.55 349 P **P** 21 55 29.0 -1.3
NOA NORSAR Array B 21.55 349 P **P** 21 55 27.9 -2.4
comp=Z,5.0nm,0.8s,mb4.0,baz=163,slow=10,SNR=12
NOA NORSAR Array B 21.55 349 P **P** 21 55 27.9 -2.4
NOA pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 21.67 8 P **P** 21 55 28.6 -3.0
comp=Z,2.6nm,0.6s,mb3.9,baz=176,slow=9.1,SNR=19
FINES LR LR 22 05 11.5
comp=Z,217nm,18.2s,MS3.6,baz=13,slow=40
FINES FINESS Array B 21.67 8 *e*P **P** 21 55 29.5 -2.2
FIA1 FINESS Array S 21.67 8 *e*P **P** 21 55 28.6 -3.0
KAF Kangasniemi 22.35 8 *ep* **P** 21 55 36.1 -2.8
comp=Z,9.4nm,0.9s,mb4.2,baz=190,slow=11
KAF Kangasniemi 22.35 8 *e*P **P** 21 55 36.1 -2.8
KAF pmax pmax

	comp=Z,9.0nm,0.9s,mb4.2						
JOF	**Joensuu**	**23.84**	**13**	*e*p	**P**	**21 55 49.5**	**-4.8**
AKTK	**Aktyubinsk**	**28.57**	**56**	P	**P**	**21 56 35.0**	**-2.1**
AKTK				LR	LR	22 09 50.5	
AKTK	**Aktyubinsk**	**28.57**	**56**	P	**P**	**21 56 35.0**	**-2.0**
	comp=Z,190nm,18.4s						
AKTO	**Aktyubinsk**	**28.57**	**56**	P	**P**	**21 56 35.0**	**-2.1**
	comp=Z,1.0nm,0.4s,mb3.9,baz=256,slow=3.1,SNR=6.4						
AKTO				LR	LR	22 09 50.5	
	comp=Z,190nm,18.4s,MS3.7,baz=98,slow=40						
AKTO	**Aktyubinsk**	**28.57**	**56**	P	**P**	**21 56 35.0**	**-2.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,190nm,18.4s,MS3.7						
ARCES	**ARCESS Array B**	**29.60**	**4**	P	**P**	**21 56 43.4**	**-2.8**
	comp=Z,3.6nm,0.8s,mb4.2,baz=195,slow=10,SNR=9.3						
ARCES	**ARCESS Array B**	**29.60**	**4**	P	**P**	**21 56 43.4**	**-2.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KEV	**Kevo**	**29.91**	**5**	*e*p	**P**	**21 56 46.7**	**-2.2**
	comp=Z,2.3nm,0.5s,mb4.2						
KEV	**Kevo**	**29.91**	**5**	*e*P	**P**	**21 56 46.7**	**-2.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
ARU	**Arti**	**30.06**	**44**	*e*P	**P**	**21 56 50.2**	**0.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
ARU	**Arti**	**30.06**	**44**	*e*P	**P**	**21 56 50.2**	**0.0**
	comp=Z,3.0nm,1.2s,mb3.9						
TORD	**Torodi Ar. Bea**	**31.20**	**215**	P	**P**	**21 56 59.5**	**-0.9**
	comp=Z,2.1nm,1.0s,mb3.9,baz=12,slow=9.8,SNR=12						
TORD				LR	LR	22 12 25.4	
	comp=Z,132nm,19.0s,MS3.6,baz=55,slow=42						
TORD	**Torodi Ar. Bea**	**31.20**	**215**	P	**P**	**21 56 59.5**	**-0.9**
TORD				LR	LR	22 12 25.4	
SVE	**Sverdlovsk**	**31.27**	**44**	*e*P	**P**	**21 57 00.0**	**-0.9**
SVE				MLR	MLR		
	comp=N,200nm,9.0s						
SVE				MLR	MLR		
	comp=E,400nm,9.0s						
SVE				MLR	MLR		
	comp=Z,400nm,9.0s						
BRVK	**Borovoye**	**36.33**	**52**	*e*P	**P**	**21 57 44.8**	**-0.1**
CHKZ	**Chkalovo**	**36.53**	**51**	*e*P	**P**	**21 57 44.1**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**36.53**	**51**	*e*P	**P**	**21 57 44.1**	**-2.4**
	comp=Z,4.4nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**36.53**	**51**	*e*P	**P**	**21 57 44.1**	**-2.5**
	comp=Z,4.0nm,0.9s,mb4.2						
DBIC	**Dimbokro**	**39.94**	**220**	LR	LR	22 17 12.9	
	comp=Z,142nm,19.7s,MS3.8,baz=8.2,slow=40						
AAK	**Ala-Archa**	**40.60**	**68**	*e*P	**P**	**21 58 20.9**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.2						
NVS	**Novosibirsk**	**43.84**	**48**	*e*P	**P**	**21 58 43.9**	**-3.3**
NVS				pmax	pmax		
	comp=Z,40nm,2.4s,mb4.7						
NVS	**Novosibirsk**	**43.84**	**48**	*e*P	**P**	**21 58 43.9**	**-3.3**
	comp=Z,40nm,2.4s,mb4.7						
MK31	**Makanchi Array**	**44.86**	**60**	P	**P**	**21 58 53.0**	**-2.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**44.86**	**60**	P	**P**	**21 58 53.0**	**-2.4**
	comp=Z,5.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**44.86**	**60**	P	**P**	**21 58 52.9**	**-2.5**
	comp=Z,4.8nm,0.7s,mb4.4,baz=292,slow=6.4,SNR=26						
MKAR	**Makanchi Array**	**44.86**	**60**	P	**P**	**21 58 52.9**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZAL	**Zalesovo**	**44.88**	**49**	P	**P**	**21 58 52.5**	**-3.1**
	comp=Z,2.2nm,0.3s,mb4.4,baz=196,slow=7.7,SNR=11						
ZAL				LR	LR	22 21 11.8	
	comp=Z,65nm,18.4s,MS3.6,baz=316,slow=41						
ZAL	**Zalesovo**	**44.88**	**49**	P	**P**	**21 58 52.5**	**-3.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				MLR	MLR		
	comp=Z,65nm,18.4s						
ZAL	**Zalesovo**	**44.88**	**49**	P	**P**	**21 58 52.5**	**-3.1**
ZAL				LR	LR	22 21 11.8	
SCHQ	**Schefferville**	**56.56**	**316**	P	**P**	**22 00 21.2**	**-2.5**
	comp=Z,1.8nm,0.6s,mb4.3,baz=43,slow=19,SNR=2.2						
SCHQ	**Schefferville**	**56.56**	**316**	P	**P**	**22 00 21.2**	**-2.5**
BOD	**Bodaibo**	**59.23**	**38**	*e*P	**P**	**22 00 39.0**	**-3.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.0s,mb4.2						
BOD	**Bodaibo**	**59.23**	**38**	*e*P	**P**	**22 00 39.0**	**-3.4**
	comp=Z,5.0nm,2.0s,mb4.2						
SONM	**Songino Array**	**59.73**	**51**	P	**P**	**22 00 45.9**	**+0.1**
	comp=Z,1.4nm,0.9s,mb4.0,baz=285,slow=9.4,SNR=7.7						
SONM	**Songino Array**	**59.73**	**51**	P	**P**	**22 00 45.9**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SUR	**Sutherland**	**72.18**	**179**	LR	LR	22 36 16.2	
	comp=Z,149nm,18.7s,MS4.3,baz=65,slow=38						
CN2	**Changchun**	**73.02**	**47**	*e*P	**P**	**22 02 12.8**	**+1.8**
NJ2	**Nanjing**	**76.39**	**60**	*e*P	**P**	**22 02 29.6**	**-0.9**
ASAJ	**Asahikawa**	**81.63**	**38**	LR	LR	22 42 36.8	
	comp=Z,86nm,19.7s,MS4.1,baz=181,slow=38						
MJAR	**Matsushiro Arr**	**85.07**	**45**	P	**P**	**22 03 16.9**	**-0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=314,slow=8.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**85.07**	**45**	P	**P**	**22 03 16.9**	**-0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CPUP	**Villa Florida**	**97.39**	**242**	LR	LR	22 45 32.5	
	comp=Z,93nm,21.3s,MS4.2,baz=43,slow=34						
WRA	**Warramunga Arr**	**121.25**	**91**	PKP	PKPdf	22 09 32.9	-1.4
	comp=Z,0.3nm,0.7s,baz=312,slow=1.7,SNR=6.0						
ASAR	**Alice Springs**	**123.02**	**94**	PKP	PKPdf	22 09 35.9	-1.8
	comp=Z,0.5nm,0.6s,baz=312,slow=1.6,SNR=7.4						
ASAR	**Alice Springs**	**123.02**	**94**	PKIKP	PKPdf	22 09 35.9	-1.8
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

---

*NEIC **01** 21:54:44.8, 4456S×16798E, h89km, ML4.0(WEL), After WEL.*

WEL 01 21:54:45.2±0.3**, 4459S**×**16801E, h86**km±3km**, ML4.0**/15**, Error ellipse: s-maj=2.4km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.74**	**47**	P	Pn	21 55 01.9	+0.1
JCZ				S	Sn	21 55 13.7	-0.4
JCZ	**Jackson Bay**	**0.74**	**47**	PN	Pn	21 55 01.9	+0.1
JCZ				SN	Sn	21 55 13.7	-0.4
WKZ	**Wanaka**	**0.76**	**109**	P	Pn	21 55 02.3	+0.3
WKZ				S	Sn	21 55 14.7	+0.2
WKZ	**Wanaka**	**0.76**	**109**	PN	Pn	21 55 02.3	+0.3
WKZ				SN	Sn	21 55 14.3	-0.1
MLZ	**Mavora Lakes**	**0.77**	**172**	P	Pn	21 55 02.0	-0.1
MLZ	**Mavora Lakes**	**0.77**	**172**	PN	Pn	21 55 02.0	-0.1
MLZ				SN	Sn	21 55 14.3	-0.5
DCZ	**Deep Cove**	**1.08**	**214**	P	Pn	21 55 05.1	-0.5
DCZ				S	Sn	21 55 20.7	-0.2
DCZ	**Deep Cove**	**1.08**	**214**	PN	Pn	21 55 05.1	-0.5
DCZ				SN	Sn	21 55 20.7	-0.2
EAZ	**Earnscleugh**	**1.12**	**126**	P	Pn	21 55 06.2	+0.1
EAZ	**Earnscleugh**	**1.12**	**126**	PN	Pn	21 55 06.2	+0.1
EAZ				SN	Sn	21 55 20.5	-1.4
WHZ	**Wether Hill Ro**	**1.31**	**182**	P	Pn	21 55 08.4	0.0
WHZ				S	Sn	21 55 25.2	-0.7
WHZ	**Wether Hill Ro**	**1.31**	**182**	PN	Pn	21 55 08.4	0.0
WHZ				SN	Sn	21 55 25.2	-0.7
LBZ	**Lake Benmore**	**1.57**	**84**	P	Pn	21 55 11.2	-0.4
LBZ	**Lake Benmore**	**1.57**	**84**	PN	Pn	21 55 11.2	-0.4
FOZ	**Fox Glacier**	**1.58**	**50**	*e*P	Pn	21 55 12.2	+0.4
FOZ	**Fox Glacier**	**1.58**	**50**	PN	Pn	21 55 12.2	+0.4
TUZ	**Tuapeka**	**1.79**	**141**	PN	Pn	21 55 14.3	-0.2
ODZ	**Otahua Downs**	**1.93**	**105**	*e*P	Pn	21 55 15.8	-0.5
ODZ	**Otahua Downs**	**1.93**	**105**	PN	Pn	21 55 15.8	-0.5
SYZ	**Scrubby Hill**	**2.11**	**158**	PN	Pn	21 55 18.4	-0.3
HHSZ	**Highcliff Hill**	**2.24**	**126**	PN	Pn	21 55 20.6	+0.2
APZ	**The Paps**	**2.25**	**180**	PN	Pn	21 55 20.1	-0.4
RPZ	**Rata Peaks**	**2.35**	**69**	P	Pn	21 55 21.0	-1.0
RPZ	**Rata Peaks**	**2.35**	**69**	PN	Pn	21 55 21.0	-1.0
WVZ	**Waitaha Valley**	**2.48**	**54**	PN	Pn	21 55 22.6	-1.0
MQZ	**McQueen's Vall**	**3.45**	**77**	*e*P	Pn	21 55 35.3	-1.4
MQZ	**McQueen's Vall**	**3.45**	**77**	PN	Pn	21 55 35.3	-1.5
LTZ	**Lake Taylor**	**3.57**	**61**	*e*P	Pn	21 55 36.6	-1.8
DSZ	**Denniston Nort**	**3.97**	**46**	P	Pn	21 55 42.8	-0.9
THZ	**Tophouse**	**4.55**	**53**	P	Pn	21 55 50.1	-1.6
QRZ	**Quartz Range**	**5.02**	**43**	*e*P	Pn	21 55 57.3	-0.7
NNZ	**Nelson**	**5.18**	**51**	*e*P	Pn	21 55 58.8	-1.4

---

*ISCJB **01** 22:07:23.4±0.3, 5261N±004×15929E±006, h49km, mb4.8/127, MS3.7/15, Error ellipse: s-maj=6.4km s-min=3.6km az=87.2*

*SZGRF **01** 22:07:23.1, 5259N×15850E, h33km, mb5.0, Near east coast of Kamchatka Peninsula, Russia*

*MOS **01** 22:07:24.9±1.0, 5275N×159.14E, h56km, mb5.1/62, Error ellipse: s-maj=9.7km s-min=4.3km az=97.8*

MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.

*NEIC **01** 22:07:26.9±0.7, 5280N×15928E, h59km±5km, mb4.9/62, Error ellipse: s-maj=8.5km s-min=5.0km az=173.0*

NEIC Felt [IV] at Petropavlovsk-Kamchatskiy.

*IDC **01** 22:07:26.6±4.1, 5290N×159.19E, h56km±36km, mb4.3/25, mb1 4.5/26, mb1mx4.4/28, mbtmp4.6/26, ML4.5/1, MS3.6/12, Ms1 3.6/12, ms1mx3.3/34, Error ellipse: s-maj=15.3km s-min=11.5km az=141.0*

*KRSC **01** 22:07:27, 5278N×15953E, h49km, ML5.0*

ISC 01 22:07:24.9±0.2**, 5262N**±003×**15932E**±006**, h51**km±3.3km**:pP-P, n368,** σ1s05/371**, mb4.8**/127**, MS3.7**/15**, 101C-16D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.53**	**249**	*e*P	**Pn**	**22 07 40.1**	**+3.6**
NLC	**Nalytchevo**	**0.55**	**2**	*e*P	**Pn**	**22 07 37.5**	**+0.7**
PET	**Petropavlovsk**	**0.57**	**315**κ	*i*PN	**Pn**	**22 07 38.8**	**+1.7**
PET				*e*		22 07 42.1	
PET				pmax	pmax		
	comp=Z,10μm,0.7s						
PET				pmax	pmax		
	comp=E,4μm,0.5s						
PET				pmax	pmax		
	comp=Z,11μm,0.5s						
PET				pmax	pmax		
	comp=N,5μm,0.5s						
PET				smax			
	comp=E,110μm,1.0s						
PET				smax			
	comp=N,78μm,0.5s						
PET				smax			
	comp=E,107μm,0.8s						
PET				smax			
	comp=N,87μm,0.6s						
PET	**Petropavlovsk**	**0.57**	**315**⇓	*i*Pn	**Pn**	**22 07 39.5**	**+2.4**
PET				*e*Sn	**Sn**	**22 07 48.3**	**+2.5**
PET	**Petropavlovsk**	**0.57**	**315**	*i* P	**Pn**	**22 07 39.5**	**+2.4**
PET				*i* S	**Sn**	**22 07 49.6**	**+3.8**
INSR	**Institute**	**0.62**	**316**	*e*P	**Pn**	**22 07 39.7**	**+2.0**
INSR				*i* S	**Sn**	**22 07 49.9**	**+3.0**
SPN	**Mys Shipunski**	**0.64**	**42**	*i* P	**Pn**	**22 07 37.0**	**-1.0**
AVH	**Avacha**	**0.73**	**332**	*e*P	**Pn**	**22 07 41.6**	**+2.5**
GRL	**Gorelyy**	**0.76**	**265**	*i* P	**Pn**	**22 07 44.1**	**+4.6**
GRL				*i* S	**Sn**	**22 07 56.4**	**+6.3**
GNL	**Ganaly**	**1.36**	**323**	*e*P	**Pn**	**22 07 50.3**	**+2.8**
KII	**Karymskiy**	**1.42**	**3**	*e*P	**Pn**	**22 07 49.0**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.60**	**259**	*i* P	**Pn**	**22 07 56.2**	**+5.4**
MIPR				*i* S	**Sn**	**22 08 17.3**	**+6.9**
MKZ	**Mys Kozlova**	**2.42**	**36**	*e*P	**Pn**	**22 08 00.9**	**-1.0**
MKZ				*i* S	**Sn**	**22 08 24.9**	**-5.4**
TUMR	**Tumrok**	**2.71**	**10**	*e*P	**Pn**	**22 08 07.6**	**+1.6**
SKR	**Severo-Kuril's**	**2.78**	**227**⇑	*i*PN	**Pn**	**22 08 08.5**	**+1.6**
SKR				*i* S	**Sn**	**22 08 40.9**	**+1.6**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=N,3μm,2.0s						
SKR				smax			
	comp=Z,2μm,2.0s						
ALID	**Alaid**	**2.92**	**235**	*e*P	**Pn**	**22 08 14.6**	**+5.7**
KPT	**Kopyto**	**3.39**	**9**	*e*P	**Pn**	**22 08 17.1**	**+1.7**
KOZ	**Kozyrevsk**	**3.46**	**5**	*e*P	**Pn**	**22 08 18.3**	**+2.0**
KOZR	**Kozyr**	**3.47**	**5**	PN	**Pn**	**22 08 18.3**	**+1.9**
ZLN	**Zelenaya**	**3.51**	**14**	*e*P	**Pn**	**22 08 19.4**	**+2.4**
ZLN				*i* S	**Sn**	**22 08 57.3**	**0.0**
CIRR	**Tsirk**	**3.60**	**13**	*e*P	**Pn**	**22 08 20.4**	**+2.2**
KRSR	**Krestovskiy**	**3.68**	**11**	*e*P	**Pn**	**22 08 20.7**	**+1.5**
SRDR	**Sredinnyy**	**3.71**	**3**	*e*P	**Pn**	**22 08 21.3**	**+1.6**
KLY	**Klyuchi**	**3.78**	**11**	*e*P	**Pn**	**22 08 22.9**	**+2.2**
KLY				*i* S	**Sn**	**22 09 05.1**	**+1.2**
BDR	**Baidarnaya**	**4.11**	**15**	*e*P	**Pn**	**22 08 27.4**	**+2.3**
KBTR	**Krutoberegovo**	**4.14**	**28**	*e*P	**Pn**	**22 08 26.7**	**+1.2**
KBTR				*i* S	**Sn**	**22 09 10.7**	**-1.9**
SMKR	**Semkarok**	**4.16**	**17**	*e*P	**Pn**	**22 08 27.7**	**+1.8**
SRKR	**Sorokina**	**4.18**	**14**	*e*P	**Pn**	**22 08 28.3**	**+2.1**
MA2	**Magadan**	**8.45**	**329**⇑	*e*PN	**Pn**	**22 09 27.1**	**+2.5**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**8.45**	**329**	*e*Pn	**Pn**	**22 09 21.8**	**-2.8**
	comp=Z,8.3nm,0.7s						
YSS	**Yuzh-Sakhalins**	**12.10**	**249**	PN	**Pn**	**22 10 21.0**	**+6.4**
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
ASAJ	**Asahikawa**	**13.97**	**239**	P	**Pn**	**22 10 44.5**	**+4.5**
	comp=Z,3.3nm,0.3s,baz=84,slow=7.1,SNR=21						
ASAJ				LR	LR	22 15 58.4	
	comp=Z,220nm,18.4s,baz=182,slow=36						
ASAJ	**Asahikawa**	**13.97**	**239**	P	**Pn**	**22 10 44.6**	**+4.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,220nm,18.4s						
BILL	**Bilibino**	**15.83**	**10**	*e*P	**Pn**	**22 11 08.6**	**+4.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	**17.66**	**270**	*e*P	**Pn**	**22 11 28.2**	**+1.0**
YAK	**Yakutsk**	**18.40**	**312**	*e*P	**Pn**	**22 11 37.9**	**+1.7**
YAK				pmax	pmax		
	comp=Z,61nm,0.9s						
YAK	**Yakutsk**	**18.40**	**312**	*e*Pn	**Pn**	**22 11 37.9**	**+1.7**
	comp=Z,61nm,0.9s						
CLNS	**Chul'man**	**20.18**	**296**	*e*P	**P**	**22 11 56.5**	**+1.3**
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=N,12nm,1.4s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
MDJ	**Mudanjiang**	**21.10**	**260**	P	**P**	**22 12 05.6**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,47nm,3.6s						
MJAR	**Matsushiro Arr**	**21.88**	**231**	P	**P**	**22 12 16.0**	**+2.6**
	comp=Z,8.9nm,0.5s,mb4.5,baz=16,slow=12,SNR=34						
MJAR				LR	LR	22 20 55.0	
	comp=Z,120nm,18.8s,MS3.3,baz=95,slow=37						
MJAR	**Matsushiro Arr**	**21.88**	**231**	P	**P**	**22 12 16.0**	**+2.5**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MJAR				MLR	MLR		
	comp=Z,121nm,18.8s						
MJAR	**Matsushiro Arr**	**21.88**	**231**	P	**P**	**22 12 16.0**	**+2.5**
MJAR				LR	LR	22 20 55.0	
MAJO	**Matsushiro**	**21.88**	**231**	*e*P	**P**	**22 12 16.0**	**+2.5**
MAJO				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**21.88**	**231**	*e*P	**P**	**22 12 16.0**	**+2.6**
	comp=Z,23nm,0.6s,mb4.8						
MAT	**Matsushiro**	**21.88**	**231**	P	**P**	**22 12 16.0**	**+2.5**
CN2	**Changchun**	**24.04**	**262**	*e*P	**P**	**22 12 35.1**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
HIA	**Hailar**	**24.94**	**278**	*e*P	**P**	**22 12 44.3**	**+1.0**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**24.94**	**278**	*e*P	**P**	**22 12 44.3**	**+0.9**
	comp=Z,7.1nm,0.6s,mb4.4						
TTA	**Tatalina**	**25.42**	**49**	*e*P	**P**	**22 12 47.4**	**-0.3**
BOD	**Bodaibo**	**25.97**	**300**	*e*P	**P**	**22 12 52.5**	**-0.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.1						
COLA	**College**	**29.07**	**44**	*i* P	**P**	**22 13 23.3**	**+2.9**
ULN	**Ulaanbaatar**	**33.15**	**283**	*e*P	**P**	**22 13 55.6**	**-0.7**
ULN	**Ulaanbaatar**	**33.15**	**283**	*e*P	**P**	**22 13 56.0**	**-0.3**
	comp=Z,3.8nm,0.9s,mb4.3						
SONM	**Songino Array**	**33.55**	**283**	P	**P**	**22 14 00.2**	**+0.4**
	comp=Z,1.4nm,0.5s,mb4.1,baz=60,slow=7.2,SNR=10						
SONM				PcP	PcP	22 16 39.7	+0.3
	comp=Z,2.2nm,0.7s,baz=77,slow=2.0,SNR=11						
SONM	**Songino Array**	**33.55**	**283**	P	**P**	**22 14 00.2**	**+0.4**
SONM						22 16 39.7	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**34.53**	**37**	P	**P**	**22 14 08.1**	**-0.3**
	comp=Z,9.5nm,0.4s,mb5.1,baz=286,slow=7.5,SNR=35						
INK				PcP	PcP	22 16 41.9	-0.4
	comp=Z,1.8nm,0.5s,baz=253,slow=3.3,SNR=3.7						
INK	**Inuvik**	**34.53**	**37**	P	**P**	**22 14 08.1**	**-0.2**
INK						22 16 41.9	
INK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
INK	**Inuvik**	**34.53**	**37**	P	**P**	**22 14 08.1**	**-0.3**
INK				PcP	PcP	22 16 41.9	-0.4
SKAG	**Skagway**	**35.77**	**53**	*e*P	**P**	**22 14 18.2**	**-0.8**
GTA	**Gaotai**	**42.19**	**276**	*e*P	**P**	**22 15 13.1**	**+0.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb3.8						
ZAL	**Zalesovo**	**42.65**	**303**	P	**P**	**22 15 14.7**	**-1.7**
	comp=Z,1.5nm,0.5s,mb4.0,baz=52,slow=7.2,SNR=8.9						
ZAL				PcP	PcP	22 17 07.0	-0.7
	comp=Z,1.0nm,0.4s,baz=115,slow=2.4,SNR=3.9						
ZAL				LR	LR	22 34 45.4	
	comp=Z,86nm,19.7s,MS3.6,baz=33,slow=39						
ZAL	**Zalesovo**	**42.65**	**303**	P	**P**	**22 15 14.7**	**-1.7**
ZAL						22 17 07.0	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL				MLR	MLR		
	comp=Z,86nm,19.7s						
ZAL	**Zalesovo**	**42.65**	**303**	P	**P**	**22 15 14.7**	**-1.7**
ZAL				PcP	PcP	22 17 07.0	-0.7
ZAL				LR	LR	22 34 45.4	
NVS	**Novosibirsk**	**42.99**	**305**	*e*P	**P**	**22 15 17.0**	**-2.2**
NVS				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
NVS				pmax	pmax		
	comp=E,21nm,1.2s						
YKA	**Yellowknife Ar**	**43.83**	**42**	P	**P**	**22 15 25.2**	**-0.7**
	comp=E,5.1nm,0.8s,mb4.3,baz=300,slow=7.9,SNR=4.8						
YKA				LR	LR	22 36 02.5	
	comp=E,34nm,20.4s,MS3.2,baz=90,slow=39						
YKA	**Yellowknife Ar**	**43.83**	**42**	P	**P**	**22 15 25.2**	**-0.7**
YKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,34nm,20.4s						
YKA	**Yellowknife Ar**	**43.83**	**42**	P	**P**	**22 15 25.2**	**-0.7**
YKA				LR	LR	22 36 02.5	
MK31	**Makanchi Array**	**47.94**	**296**	P	**P**	**22 15 57.1**	**-1.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MKAR	**Makanchi Array**	**47.94**	**296**	P	**P**	**22 15 57.2**	**-1.0**
	comp=Z,4.7nm,0.5s,mb4.8,baz=52,slow=7.9,SNR=43						
MKAR	**Makanchi Array**	**47.94**	**296**	P	**P**	**22 15 57.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CHKZ	**Chkalovo**	**49.81**	**309**	*i* P	**P**	**22 16 10.3**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
VOSK	**Vostochnaya**	**50.21**	**308**	P	**P**	**22 16 13.1**	**-2.6**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**50.31**	**308**	LR	LR	22 38 57.2	
	comp=Z,70nm,18.8s,MS3.7,baz=330,slow=38						
BRVK	**Borovoye**	**50.34**	**308**	*e*P	**P**	**22 16 14.2**	**-2.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
BRVK	**Borovoye**	**50.34**	**308**	*e*P	**P**	**22 16 14.2**	**-2.4**
	comp=Z,3.1nm,0.5s,mb4.6						
NEW	**Newport**	**50.55**	**59**	P	**P**	**22 16 17.8**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=280,slow=12,SNR=3.2						
NEW	**Newport**	**50.55**	**59**	P	**P**	**22 16 17.8**	**-0.4**
NEW				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**51.02**	**309**	*i* P	**P**	**22 16 19.9**	**-1.8**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
YBH	**Yreka Blue Hor**	**51.63**	**69**	LR	LR	22 33 30.1	
	comp=Z,35nm,20.5s,MS3.4,baz=6.7,slow=30						
KEV	**Kevo**	**53.11**	**341**	*e*p	**P**	**22 16 35.7**	**-1.6**
ARU	**Arti**	**53.42**	**317**⇑	*i*P	**P**	**22 16 37.6**	**-2.0**
ARU				*e*		22 17 44.6	
ARU				*e*		22 18 39.2	
ARU				*e*PPP		22 19 44.1	
ARU				*e*S	**S**	**22 24 08.6**	**+0.4**
ARU				*e*SS	SS	22 27 45.7	-3.0
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**53.59**	**342**	P	**P**	**22 16 38.6**	**-2.2**
	comp=Z,3.6nm,0.8s,mb4.3,baz=39,slow=7.8,SNR=12						
ARCES				PcP	PcP	22 17 47.6	+0.8
	comp=Z,3.3nm,0.9s,baz=56,slow=5.5,SNR=3.4						
ARCES				LR	LR	22 42 41.8	
	comp=Z,40nm,21.6s,MS3.4,baz=24,slow=40						
ARCES	**ARCESS Array B**	**53.59**	**342**	P	**P**	**22 16 38.6**	**-2.2**
ARCES						22 17 47.6	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,40nm,21.6s						
HRY	**Holter Researc**	**54.30**	**58**	*e*P	**P**	**22 16 45.5**	**-0.4**
SUMG	**Summit**	**54.49**	**6**	*e*P	**P**	**22 16 46.7**	**-0.6**
	comp=Z,36nm,0.9s,mb5.3						
AAK	**Ala-Archa**	**54.86**	**296**⇑	*e*P	**P**	**22 16 47.9**	**-2.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**56.35**	**69**	P	**P**	**22 17 02.1**	**+1.4**
	comp=Z,4.5nm,0.7s,mb4.6,baz=305,slow=6.0,SNR=30						
KK31	**Karatay Array**	**56.70**	**299**	*i* P	**P**	**22 17 01.8**	**-1.4**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KKAR	**Karatay Array**	**56.70**	**299**	*i* P	**P**	**22 17 01.8**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
LOHW	**Long Hollow**	**57.03**	**60**	*e*P	**P**	**22 17 06.1**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.1						
LAO	**LASA Array**	**57.16**	**55**	*e*P	**P**	**22 17 06.9**	**+0.4**
	comp=Z,6.4nm,0.8s,mb4.7						
AB31	**Akbulak array**	**57.74**	**310**	*e*P	**P**	**22 17 09.0**	**-1.6**
AKTK	**Aktyubinsk**	**57.79**	**312**	P	**P**	**22 17 09.2**	**-1.7**
AKTK				PcP	PcP	22 18 02.7	-0.4
AKTK				LR	LR	22 44 44.8	
AKTO	**Aktyubinsk**	**57.79**	**312**	P	**P**	**22 17 09.2**	**-1.7**
	comp=Z,2.6nm,0.5s,mb4.6,baz=64,slow=8.7,SNR=19						
AKTO				PcP	PcP	22 18 02.7	-0.4
	comp=Z,2.6nm,0.8s,baz=338,slow=2.4,SNR=5.3						
AKTO				LR	LR	22 44 44.8	
	comp=Z,64nm,18.8s,MS3.8,baz=128,slow=39						
AKTO	**Aktyubinsk**	**57.79**	**312**	*i* P	**P**	**22 17 09.2**	**-1.7**
JOF	**Joensuu**	**57.80**	**335**	*e*p	**P**	**22 17 08.6**	**-2.3**
	comp=Z,2.9nm,0.4s,mb4.7						
JOF	**Joensuu**	**57.80**	**335**	*e*P	**P**	**22 17 08.6**	**-2.3**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
HWUT	**Hardware Ranch**	**57.90**	**62**	*e*P	**P**	**22 17 12.8**	**+1.2**
FRB	**Frobisher Bay**	**58.13**	**23**	P	**P**	**22 17 11.1**	**-2.2**
	comp=Z,17nm,0.5s,mb5.3,baz=306,slow=3.8,SNR=10						
FRB	**Frobisher Bay**	**58.13**	**23**	P	**P**	**22 17 11.1**	**-2.2**
FRB				pmax	pmax		
	comp=Z,17nm,0.5s						
PDAR	**Pinedale Array**	**58.17**	**60**	P	**P**	**22 17 14.3**	**+0.8**
	comp=Z,7.2nm,0.8s,mb4.8,baz=346,slow=2.4,SNR=25						
GUN	**Gumba**	**58.47**	**276**	*e*P	**P**	**22 17 16.7**	**+1.0**
KKN	**Kakani**	**58.92**	**276**	*e*P	**P**	**22 17 19.0**	**+0.2**
	comp=Z,14nm,0.6s,mb5.2						
KKN	**Kakani**	**58.92**	**276**	*e*P	**P**	**22 17 19.0**	**+0.2**
KKN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
PKI	**Pulchoki**	**59.01**	**276**	*e*P	**P**	**22 17 18.5**	**-0.9**
GKN	**Gorkha**	**59.16**	**277**	*e*P	**P**	**22 17 20.6**	**+0.2**
	comp=Z,9.8nm,0.4s,mb5.2						
DMN	**Daman**	**59.16**	**276**	*e*P	**P**	**22 17 20.0**	**-0.4**
	comp=Z,12nm,0.4s,mb5.3						
ULM	**Lac du Bonnet**	**59.49**	**46**	P	**P**	**22 17 22.1**	**-0.6**
	comp=Z,3.9nm,0.5s,mb4.7,baz=309,slow=5.7,SNR=5.3						
TMUT	**Trail Mountain**	**59.72**	**64**	*e*P	**P**	**22 17 25.1**	**+0.9**
KAF	**Kangasniemi**	**59.73**	**337**	*e*p	**P**	**22 17 22.2**	**-2.2**
	comp=Z,3.8nm,0.3s,mb4.9,baz=32,slow=6.3						

KAF Kangasniemi 59.73 337 *e*P **P 22 17 22.2 -2.2**
KAF pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
KOLN Koldanda 59.96 277 *e*P **P 22 17 25.7 -0.2**
comp=Z,5.8nm,0.4s,mb5.0
RSSD Black Hills 60.06 56 *e*P **P 22 17 27.1 +0.5**
RSSD *e* pP 22 17 40.9 +0.2
RSSD pmax pmax
comp=Z,15nm,0.8s,mb5.1
RSSD Black Hills 60.06 56 *e*P **P 22 17 27.1 +0.5**
comp=Z,15nm,0.8s,mb5.1
RSSD *e* pP 22 17 40.9 +0.1
FINES FINESS Array B 60.37 336 P **P 22 17 27.3 -1.4**
comp=Z,3.0nm,0.5s,mb4.6,baz=42,slow=8.2,SNR=33
FINES LR LR 22 46 07.6
comp=Z,60nm,18.2s,MS3.8,baz=270,slow=39
FINES FINESS Array B 60.37 336 P **P 22 17 27.3 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES MLR MLR
comp=Z,60nm,18.2s
ISCO Idaho Springs 62.37 60 *e*P **P 22 17 43.4 +1.2**
ISCO *e**PP pP 22 17 57.1 +0.7
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
ISCO Idaho Springs 62.37 60 *e*P **P 22 17 43.4 +1.2**
comp=Z,6.1nm,1.0s,mb4.7
ISCO *e*pP pP 22 17 57.1 +0.7
OBN Obninsk 62.66 327 *e*P **P 22 17 44.1 -0.1**
OBN *e* 22 18 19.3
OBN pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
NB2 NORSAR Subarra 63.86 343 P **P 22 17 50.8 -1.4**
comp=Z,2.3nm,0.5s,mb4.5,baz=21,slow=6.9
NOA NORSAR Array B 63.86 343 P **P 22 17 50.9 -1.3**
comp=Z,1.4nm,0.4s,mb4.4,baz=15,slow=5.5,SNR=15
NOA LR LR 22 50 47.9
comp=Z,27nm,18.4s,MS3.5,baz=10.0,slow=41
NOA NORSAR Array B 63.86 343 P **P 22 17 50.9 -1.3**
NOA pmax pmax
comp=Z,1.0nm,0.4s
NOA MLR MLR
comp=Z,27nm,18.4s
ANMO Albuquerque 65.47 64⇑*e*P **P 22 18 03.7 +1.1**
ANMO Albuquerque 65.47 64 *e*P **P 22 18 02.9 +0.3**
comp=Z,3.5nm,0.9s,mb4.4
LAZ Ladron 65.50 65 *e*P **P 22 18 04.0 +1.2**
LAZ *e*pP pP 22 18 17.8 +0.7
SCHQ Schefferville 66.29 27 P **P 22 18 06.7 -1.2**
comp=Z,4.2nm,0.7s,mb4.6,baz=27,slow=10.0,SNR=8.2
SCIA State Center 66.99 51 *e*P **P 22 18 09.6 -2.8**
SCIA *e*pP pP 22 18 26.3 -0.4
MNTX Cornudas Mount 68.50 66 *e*P **P 22 18 22.6 +0.7**
comp=Z,4.4nm,0.9s,mb4.4
MNTX *e*pP pP 22 18 36.6 +0.4
AKASG Malin Array Be 68.77 329 P **P 22 18 21.9 -1.6**
comp=Z,3.0nm,0.4s,mb4.6,baz=30,slow=6.0,SNR=14
AKASG LR LR 22 50 31.5
comp=Z,44nm,21.1s,MS3.7,baz=25,slow=38
AKASG Malin Array Be 68.77 329 P **P 22 18 21.9 -1.7**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG MLR MLR
comp=Z,44nm,21.1s
AKASG Malin Array Be 68.77 329 P **P 22 18 21.9 -1.7**
AKASG LR LR 22 50 31.4
WMOK Wichita Mounta 69.75 59 *e*P **P 22 18 29.4 -0.2**
WMOK *e**PP pP 22 18 43.6 -0.4
WMOK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WMOK Wichita Mounta 69.75 59 *e*P **P 22 18 29.4 -0.2**
comp=Z,8.0nm,0.8s,mb4.7
WMOK *e*pP pP 22 18 43.6 -0.4
BSEG Bad Segeberg 70.72 341 *e*P **P 22 18 35.5 0.0**
comp=Z,23nm,1.1s,mb5.0
BSEG Bad Segeberg 70.72 341 *e*P **P 22 18 35.5 0.0**
BSEG pmax pmax
comp=Z,23nm,1.1s,mb5.0
KWP Kalwaria 71.69 332 *e*P **P 22 18 41.5 +0.1**
OJC Ojcow 71.97 334 *e*P **P 22 18 42.6 -0.5**
NRDL Niedersach Rie 72.12 341 *e*P **P 22 18 44.7 +0.7**
comp=Z,17nm,0.9s,mb5.0
KSP Ksiaz 72.29 336 *e*P **P 22 18 44.6 -0.4**
STHS Stebnicka Huta 72.30 333 *e*P **P 22 18 44.7 -0.4**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 72.30 333 *e*P **P 22 18 44.7 -0.4**
comp=Z,7.3nm,0.9s,mb4.6
KOLS Kolonicke sedl 72.44 332 *e*P **P 22 18 45.5 -0.4**
WIT Witteveen 72.47 343 *e*P **P 22 18 46.6 +0.6**
NIE Niedzica 72.56 333 *e*P **P 22 18 47.0 +0.4**
CLL Collm 72.63 339 *e*P **P 22 18 46.2 -0.8**
comp=Z,30nm,1.0s,mb5.2
CLL Collm 72.63 339⇑*i*P **P 22 18 46.3 -0.7**
comp=Z,30nm,1.0s,mb5.2
CLL Collm 72.63 339⇑*i*P **P 22 18 46.3 -0.7**
CLL *i* pP 22 18 57.2 -4.2
CLL pmax pmax
comp=Z,30nm,1.0s,mb5.2
CLL Collm 72.63 339⇑*i*P **P 22 18 46.3 -0.7**
comp=Z,30nm,1.0s,mb5.2
CLL *i* pP 22 18 57.2 -4.2
UPC Upice 72.67 336 *e*P **P 22 18 47.0 -0.3**
CRVS Cervenica-Dubn 72.70 332 *e*P **P 22 18 46.9 -0.6**
DPC Dobruska-Polom 72.74 336 *e*P **P 22 18 47.6 -0.1**
BURAR Bucovina Array 72.75 329⇑*i*P **P 22 18 46.8 -0.9**
BURAR Bucovina Array 72.75 329⇑P **P 22 18 46.8 -0.9**
OKC Ostrava-Krasne 72.75 335 *e*P **P 22 18 47.4 -0.3**
BRG Berggiesshubel 72.82 338 *e*P **P 22 18 47.5 -0.6**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 72.82 338 *e*P **P 22 18 47.6 -0.5**
comp=Z,3.3nm,0.8s,mb4.3
BRG Berggiesshubel 72.82 338 *e*P **P 22 18 47.6 -0.5**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FBE Freiberg 72.91 338 *e*P **P 22 18 48.3 -0.4**
comp=Z,18nm,1.1s,mb4.9
MORC Moravsky Berou 72.96 335⇓*i*P **P 22 18 48.8 -0.2**
MORC Moravsky Berou 72.96 335⇓P **P 22 18 48.8 -0.2**
PVCC Panska Ves 73.00 337 *e*P **P 22 18 48.8 -0.4**
WTSB Winterswijk 73.26 343 *e*P **P 22 18 50.5 -0.2**
comp=Z,31nm,0.7s,mb5.3
KECS Kecovo 73.36 333 *e*P **P 22 18 50.5 -0.8**
KECS *e*PP PP 22 21 16.7 -19
KECS Kecovo 73.36 333 *e*P **P 22 18 50.6 -0.7**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
KECS Kecovo 73.36 333 *e*P **P 22 18 50.6 -0.7**
comp=Z,3.1nm,0.9s,mb4.2
KECS *e*PP PP 22 21 16.7 -19
PRU Pruhonice 73.50 337 *e*P **P 22 18 51.9 -0.3**
MOX Moxa 73.55 339 *e*P **P 22 18 52.1 -0.4**
comp=Z,13nm,0.7s,mb5.0
MOX Moxa 73.55 339 *e*P **P 22 18 52.3 -0.2**
comp=Z,21nm,1.1s,mb5.0
MOX Moxa 73.55 339 *e*P **P 22 18 52.3 -0.2**
MOX pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
TANN Tannenbergstha 73.58 339 *e*P **P 22 18 52.2 -0.4**
comp=Z,9.0nm,1.5s,mb4.5
WERD Werda 73.59 339 *e*P **P 22 18 52.5 -0.2**
comp=Z,13nm,1.0s,mb4.8
VRAC Vranov 73.64 336⇑*i*P **P 22 18 53.2 +0.3**
VRAC Vranov 73.64 336⇑P **P 22 18 53.2 +0.2**
GUNZ Gunzen 73.66 339 *e*P **P 22 18 52.9 -0.2**
comp=Z,9.0nm,0.8s,mb4.8
BUG Bochum--Univer 73.67 342 *e*P **P 22 18 52.8 -0.4**
comp=Z,25nm,0.9s,mb5.1
WERN Wernitzgruen 73.72 339 *e*P **P 22 18 53.4 -0.1**
comp=Z,18nm,0.8s,mb5.0
UBBA Unterbreizbach 73.73 340 *e*P **P 22 18 52.9 -0.6**
comp=Z,4.0nm,0.6s,mb4.5
NKC Novy Kostel 73.76 339 *e*P **P 22 18 53.2 -0.5**
DLF Lyons Farm 73.79 351⇑*i*P **P 22 18 53.3 -0.6**
VYHS Vyhne 73.80 334 *e*P **P 22 18 53.5 -0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 73.80 334 *e*P **P 22 18 53.5 -0.4**
comp=Z,5.4nm,1.1s,mb4.4
VYHS *e*PP PP 22 21 19.5 -19
DCN Croghan 73.81 352⇑*i*P **P 22 18 53.3 -0.7**
CFR Carcaliu 73.95 326⇓*i*P **P 22 18 53.1 -1.7**
CFR Carcaliu 73.95 326⇓P **P 22 18 53.1 -1.7**
PSZ Piszkesteto 74.04 333⇓*i*P **P 22 18 54.5 -0.8**
PSZ Piszkesteto 74.04 333⇓P **P 22 18 54.5 -0.8**

MANZ Manzenberg 74.06 339 *e*P **P 22 18 55.3 -0.2**
comp=Z,11nm,1.1s,mb4.7
DRGR 74.25 331⇑*i*P **P 22 18 56.1 -0.4**
DRGR 74.25 331⇑P **P 22 18 56.1 -0.5**
ROTZ Rotzenmuhle 74.25 339 *e*P **P 22 18 56.5 0.0**
comp=Z,10.0nm,0.8s,mb4.8
MLR Muntele Rosu 74.40 328 P **P 22 18 58.1 +0.7**
comp=Z,4.2nm,0.5s,mb4.6,baz=307,slow=4.4,SNR=6.4
MLR Muntele Rosu 74.40 328⇑*i*P **P 22 18 58.3 +0.9**
MLR Muntele Rosu 74.40 328⇑P **P 22 18 58.3 +0.9**
ZST Bratislava 74.53 335 *e*P **P 22 18 58.9 +0.7**
ZST pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZST Bratislava 74.53 335 *e*P **P 22 18 58.9 +0.7**
comp=Z,9.5nm,0.9s,mb4.7
KHC Kasperske Hory 74.53 337 *e*P **P 22 18 58.3 +0.1**
KHC Kasperske Hory 74.53 337⇑*e*P **P 22 18 58.4 +0.2**
GRA1 Grafenberg Arr 74.54 339 *e*P **P 22 18 58.4 +0.2**
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 74.54 339 *e*P **P 22 18 58.4 +0.2**
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 74.54 339 *e*P **P 22 18 58.4 +0.2**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 74.54 339 *e*P **P 22 18 58.4 +0.2**
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.2
HGN Heimansgroeve 74.57 343 *e*P **P 22 18 58.1 -0.3**
comp=Z,23nm,1.1s,mb5.0
TNS Taunus Mts 74.61 341 *e*P **P 22 18 58.5 -0.1**
comp=Z,16nm,0.7s,mb5.1
TNS Taunus Mts 74.61 341 *e*P **P 22 18 58.5 -0.1**
TNS pmax pmax
comp=Z,16nm,0.7s,mb5.1
WET Wettzell 74.68 338 *e*P **P 22 18 59.2 +0.1**
comp=Z,17nm,1.0s,mb4.9
WET Wettzell 74.68 338 *e*P **P 22 18 59.2 +0.1**
WET pmax pmax
comp=Z,17nm,1.0s,mb4.9
MEM Membach 74.70 343 P **P 22 18 59.1 -0.1**
VOIR 74.74 328⇑*i*P **P 22 18 59.9 +0.5**
VOIR 74.74 328⇑P **P 22 18 59.9 +0.5**
GEC2 GERESS Array S 74.77 337 *e*P **P 22 18 59.2 -0.4**
comp=Z,9.0nm,0.6s,mb4.9
GEC2 GERESS Array S 74.77 337 *e*P **P 22 18 59.2 -0.4**
GEC2 pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GERES GERESS Array B 74.77 337 P **P 22 18 59.4 -0.2**
comp=Z,5.5nm,0.5s,mb4.8,baz=33,slow=5.7,SNR=80
GERES LR LR 22 53 27.6
comp=Z,75nm,20.6s,MS4.0,baz=345,slow=37
GERES GERESS Array B 74.77 337 P **P 22 18 59.4 -0.2**
GERES pmax pmax
comp=Z,6.0nm,0.5s
GERES MLR MLR
comp=Z,75nm,20.6s
BCLA Clavier 75.01 343 P **P 22 19 00.7 -0.3**
CONA Conrad Observa 75.10 336⇓*i*P **P 22 19 01.8 +0.4**
comp=Z,16nm,1.5s,mb4.8,SNR=10
GIVF Givet 75.40 343⇑*i*P **P 22 19 02.7 -0.5**
comp=Z,26nm,0.8s,mb4.9
GIVF Givet 75.40 343⇑*i*P **P 22 19 02.7 -0.5**
GIVF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GIVF Givet 75.40 343⇑*i*P **P 22 19 02.7 -0.5**
comp=Z,13nm,0.8s,mb4.9
DOU Dourbes 75.44 343 P **P 22 19 02.9 -0.6**
WRA Warramunga Arr 75.45 204 P **P 22 19 05.0 +1.5**
comp=Z,3.5nm,0.7s,mb4.4,baz=19,slow=6.0,SNR=33
WRA Warramunga Arr 75.45 204 P **P 22 19 05.0 +1.5**
WRA pmax pmax
comp=Z,4.0nm,0.7s
GZR Gura Zlata 75.49 330⇓*i*P **P 22 19 03.4 -0.3**
GZR Gura Zlata 75.49 330⇓P **P 22 19 03.4 -0.2**
BAIF Baives 75.55 344⇑*i*P **P 22 19 03.7 -0.3**
comp=Z,31nm,1.0s,mb4.9
BAIF Baives 75.55 344⇑*i*P **P 22 19 03.7 -0.3**
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
BAIF Baives 75.55 344⇑*i*P **P 22 19 03.7 -0.3**
comp=Z,15nm,1.0s,mb4.9
MOA Molln 75.56 337⇑*i*P **P 22 19 04.1 0.0**
comp=Z,6.6nm,0.6s,mb4.7,SNR=5.7
ARSA Arzberg 75.81 335⇑*i*P **P 22 19 05.8 +0.3**
comp=Z,10nm,1.1s,mb4.7
STU Stuttgart 75.84 340 *e*P **P 22 19 05.6 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
MALT Malatya 75.93 316⇑*i*P **P 22 19 05.1 -1.1**
MALT Malatya 75.93 316⇑P **P 22 19 05.1 -1.1**
PKSM Moragy 75.94 333⇓*i*P **P 22 19 05.1 -1.2**
PKSM Moragy 75.94 333⇓P **P 22 19 05.1 -1.2**
FUR Furstenfeldbru 75.97 339 *e*P **P 22 19 06.4 0.0**
comp=Z,12nm,0.6s,mb5.0
FUR Furstenfeldbru 75.97 339 *e*P **P 22 19 06.4 0.0**
FUR pmax pmax
comp=Z,12nm,0.6s,mb5.0
FITZ Fitzroy Crossi 76.25 213 P **P 22 19 10.2 +2.2**
comp=Z,4.1nm,0.9s,mb4.4,baz=19,slow=5.4,SNR=11
BFO Black Forest 76.44 341 *e*P **P 22 19 08.5 -0.6**
comp=Z,9.0nm,0.7s,mb4.8
BFO Black Forest 76.44 341 *e*P **P 22 19 08.5 -0.6**
BFO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
PERS Pernice 76.49 336 *i* P **P 22 19 09.5 +0.2**
KBA Koelnbreinsper 76.51 337 *i* P **P 22 19 10.4 +0.9**
comp=Z,44nm,0.9s,mb5.4,SNR=60
KBA Koelnbreinsper 76.51 337 *i* P **P 22 19 10.4 +0.9**
KBA pmax pmax
comp=Z,44nm,0.9s,mb5.4
CDF Champ du Feu 76.57 341⇑*i*P **P 22 19 09.6 -0.2**
comp=Z,40nm,0.8s,mb5.1
CDF Champ du Feu 76.57 341⇑*i*P **P 22 19 09.6 -0.2**
CDF pmax pmax
comp=Z,20nm,0.8s,mb5.1
CDF Champ du Feu 76.57 341⇑*i*P **P 22 19 09.6 -0.2**
comp=Z,20nm,0.8s,mb5.1
WATA Walderalm 76.68 338⇑*i*P **P 22 19 10.8 +0.4**
comp=Z,16nm,1.3s,mb4.8
WATA Walderalm 76.68 338⇑*i*P **P 22 19 10.8 +0.3**
WATA pmax pmax
comp=Z,16nm,1.3s,mb4.8
WTTA Wattenberg 76.73 338⇑*i*P **P 22 19 11.4 +0.6**
comp=Z,36nm,1.4s,mb5.1
WTTA Wattenberg 76.73 338⇑*i*P **P 22 19 11.4 +0.6**
WTTA pmax pmax
comp=Z,36nm,1.4s,mb5.1
OBKA Obir 76.75 336⇓*i*P **P 22 19 11.0 +0.2**
comp=Z,18nm,1.3s,mb4.8
MOTA Moosalm 76.78 338⇑*i*P **P 22 19 11.2 +0.2**
comp=Z,15nm,1.0s,mb4.9,SNR=16
MOTA Moosalm 76.78 338⇑*i*P **P 22 19 11.2 +0.2**
MOTA pmax pmax
comp=Z,15nm,1.0s,mb4.9
SQTA Sankt Quirin 76.87 338⇑*i*P **P 22 19 12.0 +0.4**
comp=Z,13nm,0.9s,mb4.9,SNR=18
SQTA Sankt Quirin 76.87 338⇑*i*P **P 22 19 12.0 +0.5**
SQTA pmax pmax
comp=Z,13nm,0.9s,mb4.9
MEZF Maizieres J'vi 76.90 343⇑*i*P **P 22 19 11.7 0.0**
comp=Z,35nm,0.9s,mb5.0
MEZF Maizieres J'vi 76.90 343⇑*i*P **P 22 19 11.7 0.0**
comp=Z,35nm,0.9s,mb5.3
FELD Feldberg im Sc 76.94 341 *e*P **P 22 19 11.4 -0.5**
DAVA Damuels 77.10 339⇑*i*P **P 22 19 13.1 +0.2**
comp=Z,13nm,1.2s,mb4.7
DAVA Damuels 77.10 339⇑*i*P **P 22 19 13.1 +0.2**
comp=Z,13nm,1.2s,mb4.7
HAU Haudompre 77.14 342⇑*i*P **P 22 19 12.7 -0.3**
comp=Z,24nm,0.6s,mb5.0
HAU *e*R
comp=Z,57nm,18.2s
HAU Haudompre 77.14 342⇑*i*P **P 22 19 12.7 -0.3**
HAU pmax pmax
comp=Z,12nm,0.6s,mb5.0
HAU MLR MLR
comp=Z,60nm,18.3s,MS4.0
HAU Haudompre 77.14 342⇑*i*P **P 22 19 12.7 -0.3**
comp=Z,12nm,0.6s,mb5.0
HAU LR LR
comp=Z,60nm,18.3s,MS4.0
PTCC Patocco-Chiusa 77.14 337 P **P 22 19 12.3 -0.7**
LJU Ljubljana 77.19 336 *i* P **P 22 19 12.9 -0.4**
CADS Cadrg 77.21 336 *i* P **P 22 19 12.5 -1.0**
HINF Hinteralfeld 77.22 341⇑*i*P **P 22 19 12.9 -0.6**
comp=Z,14nm,0.7s,mb4.7
HINF Hinteralfeld 77.22 341⇑*i*P **P 22 19 12.9 -0.6**

HINF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HINF Hinteralfeld 77.22 341⇑*i*P **P 22 19 12.9 -0.6**
comp=Z,7.2nm,0.7s,mb4.7
VISS Visnje 77.33 335 *i* P **P 22 19 13.6 -0.6**
CEY Cerknica 77.50 336 *i* P **P 22 19 14.4 -0.6**
BOJS Bojanci 77.50 335 *i* P **P 22 19 14.8 -0.3**
FLN La Foliniere 77.54 346⇑*i*P **P 22 19 14.5 -0.8**
FLN *e*R
comp=Z,62nm,19.8s
FLN La Foliniere 77.54 346⇑*i*P **P 22 19 14.5 -0.8**
FLN LR LR
comp=Z,60nm,19.8s,MS3.9
APPI Appiano 77.57 338 P **P 22 19 14.9 -0.5**
LDF La Druitiere 77.66 346 *e*P **P 22 19 15.2 -0.7**
KNDS Knezji Dol 77.70 336 *i* P **P 22 19 15.7 -0.5**
BRMO Bormio 77.76 339 P **P 22 19 17.2 +0.7**
VTS Vitosha 77.88 328⇑*i*P **P 22 19 17.0 -0.2**
VTS Vitosha 77.88 328⇑P **P 22 19 17.0 -0.1**
CTI Castel Tesino 77.88 338 P **P 22 19 16.6 -0.6**
GRR Gorron 77.96 347⇑*i*P **P 22 19 17.1 -0.5**
comp=Z,51nm,1.2s,mb5.0
GRR Gorron 77.96 347⇑*i*P **P 22 19 17.1 -0.5**
GRR pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRR Gorron 77.96 347⇑*i*P **P 22 19 17.1 -0.5**
comp=Z,26nm,1.2s,mb5.0
TUE Stuetta 77.99 339 P **P 22 19 18.4 +0.6**
LOR Lormes 78.30 343⇑*i*P **P 22 19 19.3 -0.2**
comp=Z,41nm,0.9s,mb5.0
LOR *e*R
comp=Z,53nm,18.2s
LOR Lormes 78.30 343⇑*i*P **P 22 19 19.3 -0.2**
LOR pmax pmax
comp=Z,20nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,50nm,18.3s,MS3.9
LOR Lormes 78.30 343⇑*i*P **P 22 19 19.3 -0.2**
comp=Z,20nm,0.9s,mb5.1
LOR LR LR
comp=Z,50nm,18.3s,MS3.9
SGMF Saint Gilles 78.32 348⇑*i*P **P 22 19 19.1 -0.5**
comp=Z,40nm,1.0s,mb5.0
SGMF Saint Gilles 78.32 348⇑*i*P **P 22 19 19.1 -0.5**
SGMF pmax pmax
comp=Z,20nm,1.0s,mb5.0
SGMF Saint Gilles 78.32 348⇑*i*P **P 22 19 19.1 -0.5**
comp=Z,20nm,1.0s,mb5.0
ROSF Rostrenen 78.33 348⇑*i*P **P 22 19 19.3 -0.4**
comp=Z,49nm,1.0s,mb5.1
ROSF Rostrenen 78.33 348⇑*i*P **P 22 19 19.3 -0.4**
ROSF pmax pmax
comp=Z,24nm,1.0s,mb5.1
ROSF Rostrenen 78.33 348⇑*i*P **P 22 19 19.3 -0.4**
comp=Z,24nm,1.0s,mb5.1
CABF La Chapelle 78.53 342⇑*i*P **P 22 19 20.9 +0.1**
comp=Z,36nm,0.9s,mb5.0
CABF La Chapelle 78.53 342⇑*i*P **P 22 19 20.9 +0.1**
CABF pmax pmax
comp=Z,18nm,0.9s,mb5.0
CABF La Chapelle 78.53 342⇑*i*P **P 22 19 20.9 +0.1**
comp=Z,18nm,0.9s,mb5.0
QUIF Quistinic 78.73 348 *e*P **P 22 19 21.4 -0.5**
comp=Z,36nm,1.0s,mb4.9
QUIF Quistinic 78.73 348 *e*P **P 22 19 21.4 -0.5**
QUIF pmax pmax
comp=Z,18nm,1.0s,mb5.0
QUIF Quistinic 78.73 348 *e*P **P 22 19 21.4 -0.5**
comp=Z,18nm,1.0s,mb5.0
MIB Mutribah 78.83 305 *e*P **P 22 19 21.8 -0.7**
MIB AMb AMB 22 19 22.4
comp=Z,30nm,0.6s,mb5.4
AVF Avril sur Loir 78.85 343⇑*i*P **P 22 19 22.4 -0.2**
comp=Z,53nm,1.0s,mb5.1
AVF Avril sur Loir 78.85 343⇑*i*P **P 22 19 22.4 -0.2**
AVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
AVF Avril sur Loir 78.85 343⇑*i*P **P 22 19 22.4 -0.2**
comp=Z,26nm,1.0s,mb5.1
SMF Signal de Mont 78.91 343⇑*i*P **P 22 19 22.7 -0.2**
comp=Z,39nm,1.1s,mb4.9
SMF Signal de Mont 78.91 343⇑*i*P **P 22 19 22.7 -0.2**
SMF pmax pmax
comp=Z,19nm,1.1s,mb4.9
SMF Signal de Mont 78.91 343⇑*i*P **P 22 19 22.7 -0.2**
comp=Z,19nm,1.1s,mb4.9
ASAR Alice Springs 79.13 204 P **P 22 19 26.1 +2.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=14,slow=4.9,SNR=27
ASAR Alice Springs 79.13 204 P **P 22 19 26.2 +2.1**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
BGF Bois d'Agland 79.17 344 *e*P **P 22 19 24.2 -0.1**
comp=Z,28nm,1.1s,mb4.8
BGF Bois d'Agland 79.17 344 *e*P **P 22 19 24.2 -0.1**
BGF pmax pmax
comp=Z,14nm,1.1s,mb4.8
BGF Bois d'Agland 79.17 344 *e*P **P 22 19 24.2 -0.1**
comp=Z,14nm,1.1s,mb4.8
RST Umm Al-Ruwaisa 79.25 305 *e*P **P 22 19 23.6 -1.2**
RST AMb AMB 22 19 24.2
comp=Z,27nm,0.5s,mb5.4
NAY Al-Naaiem 79.33 305 *e*P **P 22 19 24.3 -0.9**
NAY AMb AMB 22 19 24.8
comp=Z,17nm,0.8s,mb5.0
RDF Al-Radifah 79.44 304 *e*P **P 22 19 24.7 -1.1**
RDF AMb AMB 22 19 25.8
comp=Z,34nm,0.7s,mb5.4
LPL La Plagne 79.45 341⇑*i*P **P 22 19 26.7 +0.9**
comp=Z,47nm,0.9s,mb5.1
LPL La Plagne 79.45 341⇑*i*P **P 22 19 26.7 +0.9**
LPL pmax pmax
comp=Z,24nm,0.9s,mb5.1
LPL La Plagne 79.45 341⇑*i*P **P 22 19 26.7 +0.9**
comp=Z,24nm,0.9s,mb5.1
LPG La Plagne 79.46 341⇑*i*P **P 22 19 27.0 +1.1**
comp=Z,52nm,0.9s,mb5.2
LPG La Plagne 79.46 341⇑*i*P **P 22 19 27.0 +1.1**
LPG pmax pmax
comp=Z,26nm,0.9s,mb5.2
LPG La Plagne 79.46 341⇑*i*P **P 22 19 27.0 +1.1**
comp=Z,26nm,0.9s,mb5.2
TCF Toulx Ste Croi 79.54 344⇑*i*P **P 22 19 26.3 0.0**
comp=Z,17nm,1.0s,mb4.6
TCF Toulx Ste Croi 79.54 344⇑*i*P **P 22 19 26.3 0.0**
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 79.54 344⇑*i*P **P 22 19 26.3 0.0**
comp=Z,8.4nm,1.0s,mb4.6
BOB Bobbio (Coli) 79.59 339 P **P 22 19 27.2 +0.6**
SFI Santa Sofia 79.85 337 P **P 22 19 28.8 +0.8**
BNI Bardonecchia 79.90 341 *e*P **P 22 19 28.8 +0.5**
BNI pmax pmax
comp=Z,12nm,1.0s,mb4.8
BNI Bardonecchia 79.90 341 *e*P **P 22 19 28.8 +0.6**
comp=Z,12nm,1.0s,mb4.8
BDI Bagni Di Lucca 80.00 338 P **P 22 19 29.4 +0.6**
ORIF Oris-en-Rattie 80.19 341⇑*i*P **P 22 19 30.6 +0.8**
comp=Z,35nm,0.9s,mb5.0
ORIF *e*R
comp=Z,36nm,18.2s
ORIF Oris-en-Rattie 80.19 341⇑*i*P **P 22 19 30.6 +0.8**
ORIF pmax pmax
comp=Z,17nm,0.9s,mb5.0
ORIF Oris-en-Rattie 80.19 341⇑*i*P **P 22 19 30.6 +0.8**
comp=Z,18nm,0.9s,mb5.0
MBDF Montbardon 80.20 341 *e*P **P 22 19 30.1 +0.2**
comp=Z,12nm,0.7s,mb4.6
MBDF Montbardon 80.20 341 *e*P **P 22 19 30.1 +0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MBDF Montbardon 80.20 341 *e*P **P 22 19 30.1 +0.2**
comp=Z,6.3nm,0.7s,mb4.7
VIVF Saint-Julien-l 80.48 342⇑*i*P **P 22 19 31.9 +0.5**
comp=Z,45nm,0.9s,mb5.1
VIVF Saint-Julien-l 80.48 342⇑*i*P **P 22 19 31.9 +0.5**
VIVF pmax pmax
comp=Z,23nm,0.9s,mb5.1
VIVF Saint-Julien-l 80.48 342⇑*i*P **P 22 19 31.9 +0.5**
comp=Z,23nm,0.9s,mb5.1
RJF Les Rejaudoux 80.61 344 *e*P **P 22 19 32.3 +0.2**
RJF *e*R
comp=Z,67nm,18.2s
RJF Les Rejaudoux 80.61 344 *e*P **P 22 19 32.3 +0.2**
RJF LR LR
comp=Z,70nm,18.3s,MS4.0
TERO Teramo 80.62 335 P **P 22 19 32.4 +0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAF	Calviac	80.88	344	⇑iP	P	22 19 34.3	+0.8
	comp=Z,35nm,1.1s,mb4.9						
CAF	Calviac	80.88	344	⇑iP	P	22 19 34.3	+0.8
CAF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
CAF	Calviac	80.88	344	⇑iP	P	22 19 34.3	+0.8
	comp=Z,18nm,1.1s,mb4.9						
SBF	Sospel	80.89	340	eP	P	22 19 33.2	-0.4
LFF	La Frestale	81.09	345	eP	P	22 19 35.2	+0.6
	comp=Z,33nm,1.1s,mb4.9						
LFF	La Frestale	81.09	345	eP	P	22 19 35.2	+0.6
LFF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
LFF	La Frestale	81.09	345	eP	P	22 19 35.2	+0.6
	comp=Z,16nm,1.1s,mb4.9						
SMRF	Simiane la Rot	81.16	341	eP	P	22 19 35.7	+0.7
FRF	La Foret Royal	81.34	340	eP	P	22 19 35.7	-0.3
LMR	La Mourre	81.59	340	⇑iP	P	22 19 37.3	0.0
	comp=Z,12nm,0.8s,mb4.6						
LMR	La Mourre	81.59	340	⇑iP	P	22 19 37.3	0.0
LMR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LMR	La Mourre	81.59	340	⇑iP	P	22 19 37.3	0.0
	comp=Z,6.1nm,0.8s,mb4.6						
ASF	Jabal al Asfar	81.79	314	P	P	22 19 38.8	+0.5
	comp=Z,10.0nm,0.9s,mb4.8,baz=266,slow=2.2,SNR=14						
ASF	Jabal al Asfar	81.79	314	P	P	22 19 38.8	+0.5
ASF				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MTLF	Montolieu	82.39	343	⇑iP	P	22 19 42.1	+0.6
	comp=Z,11nm,0.7s,mb4.6						
EPF	Esparros	83.01	345	eP	P	22 19 44.6	-0.1
	comp=Z,4.6nm,0.5s,mb4.5						
SJPF	Ste Jean	83.18	346	eP	P	22 19 46.4	+0.8
	comp=Z,13nm,0.7s,mb4.7						
ETSF	Etsaut	83.28	345	⇑iP	P	22 19 46.9	+0.8
	comp=Z,11nm,0.6s,mb4.8						
PBRG	Braganca	85.18	350	eP	P	22 19 56.0	+0.3
	comp=Z,7.3nm,1.2s,mb4.7						
PVRL	Vila Real	85.81	350	eP	P	22 19 59.1	+0.2
	comp=Z,19nm,0.7s,mb5.4						
PVIS	Viseu	86.38	350	eP	P	22 20 01.1	-0.6
ESDC	Sonseca Array	86.94	347	P	P	22 20 04.0	-0.4
	comp=Z,1.5nm,0.5s,mb4.4,baz=2.0,slow=5.0,SNR=11						
KEST	Kesra	88.20	336	P	P	22 20 10.2	-0.2
	comp=Z,1.4nm,0.7s,mb4.3,baz=307,slow=3.7,SNR=13						
TORD	Torodi Ar. Bea	111.72	336	Pdiff	Pdif	22 22 04.7	+8.0
	comp=Z,0.2nm,0.5s,baz=12,slow=3.5,SNR=7.0						
TORD				PKiKP	PKiKP	22 25 54.0	+0.1
	comp=Z,0.4nm,0.5s,baz=11,slow=2.2,SNR=11						
TORD	Torodi Ar. Bea	111.72	336	PKPdf	PKiKP	22 25 54.0	+0.1
DBIC	Dimbokro	119.42	342	PKP	PKPdf	22 26 09.0	+0.3
	comp=Z,3.8nm,0.7s,baz=358,slow=6.4,SNR=7.8						
DBIC	Dimbokro	119.42	342	PKIKP	PKPdf	22 26 09.0	+0.3
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SYO	Syowa Base	148.03	216	⇓eP	PKPdf	22 27 03.0	+1.5
SYO	Syowa Base	148.03	216	⇑eP	pPKPdf	22 27 21.5	+4.6

*NEIC **01** 22:19:25.8, 20.17N×67.59W, h42km, MD3.5(RSPR), After RSPR.*

RSPR 01 22:19:25.8, 20.17N×67.59W, h42km±12km, MD3.5/14, MD3.5/14, 9C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.75	165	⇓eP	Pn	22 19 52.6	-1.0
AGPR				eS	Sn	22 20 13.3	-1.4
AOPR	Arecibo Observ	1.98	156	⇑eP	Pn	22 19 55.9	-0.8
AOPR				eS	Sn	22 20 19.5	-0.7
LRS	Lares	1.99	159	⇓eP	Pn	22 19 56.1	-0.9
LRS				eS	Sn	22 20 19.6	-1.1
LSP	Las Mesas	2.04	166	⇑eP	Pn	22 19 56.8	-0.8
LSP				eS	Sn	22 20 21.2	-0.6
CRPR	Cabo Rojo, PR	2.20	168	⇑eP	Pn	22 19 58.9	-0.8
CRPR				eS	Sn	22 20 24.9	-0.8
MGP	Maguayo	2.20	167	⇑eP	Pn	22 19 59.0	-0.9
MGP				eS	Sn	22 20 24.8	-1.0
CELP	Cerrillos	2.29	155	⇓eP	Pn	22 20 00.4	-0.7
CELP				eS	Sn	22 20 27.2	-0.8
OBIP	Obispado Ponce	2.31	156	⇓eP	Pn	22 20 00.6	-0.7
OBIP				eS	Sn	22 20 27.6	-0.9
SJG	San Juan	2.46	146	⇑eP	Pn	22 20 02.1	-1.2
SJG				eS	Sn	22 20 31.0	-1.1
ICM	Isla Caja Muer	2.48	156	⇑eP	Pn	22 20 02.8	-0.8
ICM				eS	Sn	22 20 32.0	-0.6
CBYP	Canovanas	2.50	139	⇑eP	Pn	22 20 03.1	-0.8
HUMP	Col San Antoni	2.60	140	⇑eP	Pn	22 20 04.8	-0.5
HUMP				eS	Sn	22 20 34.7	-0.9
CPD	Cerro la Pandu	2.65	143	⇑eP	Pn	22 20 05.1	-0.8
CPD				eS	Sn	22 20 36.0	-0.7
MTP	Monte Pirata	2.82	137	⇓eP	Pn	22 20 07.7	-0.6
MTP				eS	Sn	22 20 40.7	-0.4

*BJI **01** 22:25:16.4, 52.90N×159.10E, h66km, mB4.5, mb4.6*
*MOS **01** 22:25:16.5±1.2, 52.78N×159.33E, h60km, mb4.6/21, Error ellipse: s-maj=15.1km s-min=6.4km az=84.1*
MOS Felt (II) at Petropavlovsk-Kamchatskiy.
*KRSC **01** 22:25:17, 52.69N×159.63E, h48km, ML4.5*
*ISCJB **01** 22:25:17.3±0.5, 52.70N±0.04×159.42E±0.08, h71km±3km, mb4.2/31, Error ellipse: s-maj=10.0km s-min=4.0km az=72.7*
*NEIC **01** 22:25:19.4±0.8, 52.93N×159.12E, h67km±6km, mb4.3/15, Error ellipse: s-maj=11.8km s-min=8.0km az=124.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
*IDC **01** 22:25:21.5±5.6, 52.89N×159.16E, h88km±53km, mb3.7/13, mb1 3.9/14, mb1mx3.7/24, mbtmp4.0/14, ML3.7/1, Error ellipse: s-maj=20.3km s-min=15.0km az=135.0*

ISC 01 22:25:18.7±0.6, 52.72N±0.04×159.32E±0.09, h71km±3km, n107, σ1.17/126, mb4.2/31, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.46	2	eP	Pn	22 25 28.9	-2.3
NLC				i S	Sn	22 25 36.8	-3.5
PET	Petropavlovsk	0.51	308	⇑iPN	Pn	22 25 30.3	-1.4
PET				eS	Sn	22 25 39.8	-1.4
PET				pmax	pmax		
	comp=E,1μm,0.4s						
PET				pmax	pmax		
	comp=Z,3μm,0.4s						
PET				pmax	pmax		
	comp=Z,3μm,0.4s						
PET				pmax	pmax		
	comp=E,1μm,0.4s						
PET				pmax	pmax		
	comp=N,1μm,0.4s						
PET				pmax	pmax		
	comp=N,1μm,0.3s						
PET				smax			
	comp=E,2μm,1.0s						
PET				smax			
	comp=N,1μm,1.2s						
PET				smax			
	comp=N,19μm,0.4s						
PET				smax			
	comp=E,22μm,0.6s						
PET				smax			
	comp=N,20μm,0.5s						
PET	Petropavlovsk	0.51	308	ePn	Pn	22 25 30.3	-1.4
PET				eSn	Sn	22 25 39.6	-1.6
PET	Petropavlovsk	0.51	308	i P	Pn	22 25 30.9	-0.8
PET				i S	Sn	22 25 40.5	-0.7
INSR	Institute	0.56	309	eP	Pn	22 25 31.0	-1.1
INSR				i S	Sn	22 25 40.8	-1.2
RUS	Russkaya	0.57	240	eP	Pn	22 25 31.3	-0.9
SPN	Mys Shipunski	0.57	48	i P	Pn	22 25 28.3	-4.0
SPN				i S	Sn	22 25 36.0	-6.3
AVH	Avacha	0.65	328	i P	Pn	22 25 32.9	-0.2
AVH				i S	Sn	22 25 44.2	+0.4
GRL	Gorelyy	0.78	258	i P	Pn	22 25 35.5	+1.0
GRL				i S	Sn	22 25 48.6	+2.4
GNL	Ganaly	1.28	320	eP	Pn	22 25 41.7	+0.9
GNL				i S	Sn	22 25 59.5	+2.1
KII	Karymskiy	1.32	3	eP	Pn	22 25 40.5	-0.8
KII				i S	Sn	22 25 57.1	-1.3
MIPR	Malaya Ipel'ka	1.63	255	i P	Pn	22 25 47.5	+2.2
MIPR				i S	Sn	22 26 09.7	+4.2
MKZ	Mys Kozlova	2.34	37	eP	Pn	22 25 52.0	-2.9
MKZ				i S	Sn	22 26 17.1	-5.4
TUMR	Tumrok	2.62	10	eP	Pn	22 25 58.9	+0.2
TUMR				i S	Sn	22 26 29.9	+0.5
SKR	Severo-Kuril's	2.85	226	ePN	Pn	22 26 01.2	-0.6
SKR				i S	Sn	22 26 33.4	-1.6
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,460nm,0.5s						
SKR				smax			
	comp=E,310nm,0.5s						
SKR				smax			
	comp=Z,230nm,0.5s						
KMNR	Kamenistaya	3.09	10	eP	Pn	22 26 06.4	+1.3
KMNR				i S	Sn	22 26 42.1	+1.1
KPT	Kopyto	3.30	9	eP	Pn	22 26 08.9	+1.0
KOZ	Kozyrevsk	3.37	5	eP	Pn	22 26 09.6	+0.8
KOZR	Kozyr	3.37	5	PN	Pn	22 26 09.6	+0.6
ZLN	Zelenaya	3.42	14	eP	Pn	22 26 10.6	+1.0
ZLN				i S	Sn	22 26 49.8	+0.9
CIRR	Tsirk	3.51	13	eP	Pn	22 26 10.5	-0.3
KRSR	Krestovskiy	3.58	11	eP	Pn	22 26 12.1	+0.3
SRDR	Sredinnyy	3.62	4	eP	Pn	22 26 13.3	+1.0
KLY	Klyuchi	3.69	12	eP	Pn	22 26 13.7	+0.5
KLY				i S	Sn	22 26 55.2	-0.3
BDR	Baidarnaya	4.01	15	eP	Pn	22 26 18.7	+1.0
KBTR	Krutoberegovo	4.05	29	eP	Pn	22 26 18.2	0.0
KBTR				i S	Sn	22 27 02.5	-1.9
SMKR	Semkarok	4.07	17	eP	Pn	22 26 19.4	+1.0
SMKR				i S	Sn	22 27 05.4	+0.6
SRKR	Sorokina	4.09	14	eP	Pn	22 26 19.5	+0.8
MA2	Magadan	8.36	329	ePN	Pn	22 27 17.7	+0.6
ASAJ	Asahikawa	14.02	239	P	Pn	22 28 36.4	+2.6
	comp=Z,0.6nm,0.3s,baz=59,slow=13,SNR=3.8						
ASAJ	Asahikawa	14.02	239	P	Pn	22 28 36.4	+2.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VLA	Vladivostok	20.62	253	eP	P	22 29 52.4	+0.2
VLA				pmax	pmax		
	comp=Z,12nm,0.8s						
MAJO	Matsushiro	21.95	231	eP	P	22 30 08.0	+1.7
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
MAJO	Matsushiro	21.95	231	eP	P	22 30 08.0	+1.7
	comp=Z,4.8nm,0.5s,mb4.1						
MJAR	Matsushiro Arr	21.95	231	P	P	22 30 08.5	+2.2
	comp=Z,2.1nm,0.6s,mb3.7,baz=15,slow=12,SNR=9.5						
MJAR	Matsushiro Arr	21.95	231	P	P	22 30 08.5	+2.2
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	College	29.00	45	eP	P	22 31 13.7	+2.1
INK	Inuvik	34.45	37	P	P	22 31 59.1	-0.4
	comp=Z,2.3nm,0.3s,mb4.4,baz=293,slow=3.8,SNR=9.8						
INK	Inuvik	34.45	37	P	P	22 31 59.1	-0.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SSE	Sheshan	35.08	247	P	P	22 32 03.1	-1.7
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,84nm,3.9s						
NJ2	Nanjing	35.69	251	eP	P	22 32 07.7	-2.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
MKAR	Makanchi Array	47.90	296	P	P	22 33 48.7	-0.9
	comp=Z,0.9nm,0.4s,mb4.0,baz=51,slow=7.5,SNR=11						
MKAR	Makanchi Array	47.90	296	P	P	22 33 48.7	-0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	47.90	296	P	P	22 33 48.7	-0.9
CHKZ	Chkalovo	49.75	309	eP	P	22 34 01.7	-2.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
CHKZ	Chkalovo	49.75	309	eP	P	22 34 01.7	-2.1
	comp=Z,1.8nm,0.3s,mb4.5						
BVAR	Borovoye Array	50.26	308	P	P	22 34 06.4	-1.3
	comp=Z,1.2nm,0.4s,mb4.2,baz=60,slow=7.2,SNR=9.0						
BVAR	Borovoye Array	50.26	308	P	P	22 34 06.4	-1.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KEV	Kevo	53.02	341	ep	P	22 34 27.0	-1.3
	comp=Z,1.5nm,0.4s,mb4.4						
KEV	Kevo	53.02	341	eP	P	22 34 27.0	-1.3
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
ARU	Arti	53.36	317	eP	P	22 34 30.4	-0.3
NVAR	Mina Array Bea	56.31	69	P	P	22 34 53.5	+1.5
	comp=Z,0.8nm,0.7s,mb3.9,baz=303,slow=6.4,SNR=7.3						
JOF	Joensuu	57.71	335	ep	P	22 34 58.6	-3.3
PDAR	Pinedale Array	58.12	60	P	P	22 35 05.7	+0.9
	comp=Z,1.3nm,0.7s,mb4.0,baz=318,slow=3.0,SNR=12						
SFJD	Kangerlussuaq	58.49	13	P	P	22 35 06.2	-1.2
	comp=Z,4.2nm,0.4s,mb4.8,baz=282,slow=4.2,SNR=6.0						
SFJD	Kangerlussuaq	58.49	13	P	P	22 35 06.2	-1.2
SFJD				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
KAF	Kangasniemi	59.65	337	ep	P	22 35 13.4	-2.0
	comp=Z,0.6nm,0.3s,mb4.1,baz=32,slow=6.3						
KAF	Kangasniemi	59.65	337	eP	P	22 35 13.4	-2.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	FINESS Array B	60.28	336	P	P	22 35 18.9	-0.9
	comp=Z,0.5nm,0.4s,mb3.9,baz=38,slow=7.5,SNR=9.0						
FINES	FINESS Array B	60.28	336	P	P	22 35 18.9	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	NORSAR Subarra	63.77	343	P	P	22 35 42.0	-1.1
	comp=Z,0.3nm,0.4s,mb3.5,baz=21,slow=6.9						
NOA	NORSAR Array B	63.77	343	P	P	22 35 42.3	-0.8
	comp=Z,0.4nm,0.4s,mb3.6,baz=15,slow=5.5,SNR=3.2						
SCHQ	Schefferville	66.20	27	P	P	22 35 58.6	-0.3
	comp=Z,3.7nm,1.0s,mb4.2,baz=293,slow=7.7,SNR=3.1						
CLL	Collm	72.54	339	⇓iP	P	22 36 37.9	-0.1
	comp=Z,5.0nm,0.9s,mb4.3						
GERES	GERESS Array B	74.68	337	P	P	22 36 50.8	+0.3
	comp=Z,1.0nm,0.4s,mb3.9,baz=32,slow=5.8,SNR=15						
GERES	GERESS Array B	74.68	337	P	P	22 36 50.8	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BAIF	Baives	75.46	344	eP	P	22 36 54.3	-0.7
WRA	Warramunga Arr	75.54	204	P	P	22 36 56.4	+0.9
	comp=Z,0.4nm,0.5s,mb3.4,baz=19,slow=6.0,SNR=8.0						
CDF	Champ du Feu	76.48	341	eP	P	22 37 00.3	-0.5
	comp=Z,6.4nm,0.8s,mb4.1						
CDF	Champ du Feu	76.48	341	eP	P	22 37 00.3	-0.5
CDF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
CDF	Champ du Feu	76.48	341	eP	P	22 37 00.3	-0.5
	comp=Z,3.2nm,0.8s,mb4.1						
HAU	Haudompre	77.05	342	eP	P	22 37 03.3	-0.7
	comp=Z,3.8nm,0.5s,mb4.0						
HAU	Haudompre	77.05	342	eP	P	22 37 03.3	-0.7
HAU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
HAU	Haudompre	77.05	342	eP	P	22 37 03.3	-0.7
	comp=Z,1.9nm,0.5s,mb4.1						
HINF	Hinteralfeld	77.13	341	eP	P	22 37 03.5	-1.0
LOR	Lormes	78.21	343	eP	P	22 37 09.8	-0.7
	comp=Z,6.4nm,0.9s,mb4.0						
LOR	Lormes	78.21	343	eP	P	22 37 09.8	-0.7
LOR				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
LOR	Lormes	78.21	343	eP	P	22 37 09.8	-0.7
	comp=Z,3.2nm,0.9s,mb4.0						
SGMF	Saint Gilles	78.23	348	eP	P	22 37 09.8	-0.8
	comp=Z,15nm,0.9s,mb4.4						
SGMF	Saint Gilles	78.23	348	eP	P	22 37 09.8	-0.8
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SGMF	Saint Gilles	78.23	348	eP	P	22 37 09.8	-0.8
	comp=Z,7.7nm,0.9s,mb4.4						
CABF	La Chapelle	78.44	342	eP	P	22 37 11.5	-0.2
AVF	Avril sur Loir	78.76	343	eP	P	22 37 13.1	-0.4
	comp=Z,4.4nm,0.8s,mb4.1						
AVF	Avril sur Loir	78.76	343	eP	P	22 37 13.1	-0.4
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
AVF	Avril sur Loir	78.76	343	eP	P	22 37 13.1	-0.4
	comp=Z,2.2nm,0.8s,mb4.0						
SMF	Signal de Mont	78.82	343	eP	P	22 37 13.5	-0.3
ASAR	Alice Springs	79.22	204	P	P	22 37 17.4	+1.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=17,slow=5.1,SNR=6.7						
LPL	La Plagne	79.36	341	eP	P	22 37 17.5	+0.7
	comp=Z,3.8nm,0.6s,mb4.1						
LPL	La Plagne	79.36	341	eP	P	22 37 17.5	+0.7
LPL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
LPL	La Plagne	79.36	341	eP	P	22 37 17.5	+0.7
	comp=Z,1.9nm,0.6s,mb4.1						
LPG	La Plagne	79.37	341	eP	P	22 37 17.7	+0.9
	comp=Z,8.8nm,0.9s,mb4.3						
LPG	La Plagne	79.37	341	eP	P	22 37 17.7	+0.9
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
LPG	La Plagne	79.37	341	eP	P	22 37 17.7	+0.9
	comp=Z,4.4nm,0.9s,mb4.3						
ORIF	Oris-en-Rattie	80.10	341	eP	P	22 37 21.3	+0.5
	comp=Z,7.0nm,0.9s,mb4.2						
ORIF	Oris-en-Rattie	80.10	341	eP	P	22 37 21.3	+0.5
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ORIF	Oris-en-Rattie	80.10	341	eP	P	22 37 21.3	+0.5
	comp=Z,3.5nm,0.9s,mb4.2						
VIVF	Saint-Julien-l	80.39	342	eP	P	22 37 22.6	+0.2
	comp=Z,9.5nm,0.9s,mb4.3						
VIVF	Saint-Julien-l	80.39	342	eP	P	22 37 22.6	+0.2
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
VIVF	Saint-Julien-l	80.39	342	eP	P	22 37 22.6	+0.2
	comp=Z,4.8nm,0.9s,mb4.3						
SMRF	Simiane la Rot	81.07	341	eP	P	22 37 26.5	+0.5
MTLF	Montolieu	82.31	343	eP	P	22 37 33.0	+0.5
	comp=Z,3.6nm,0.8s,mb3.9						
MTLF	Montolieu	82.31	343	eP	P	22 37 33.0	+0.5
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MTLF	Montolieu	82.31	343	eP	P	22 37 33.0	+0.5
	comp=Z,1.8nm,0.8s,mb4.0						
SJPF	Ste Jean	83.08	346	eP	P	22 37 37.1	+0.6
ETSF	Etsaut	83.19	345	eP	P	22 37 37.7	+0.6
	comp=Z,4.8nm,0.7s,mb4.1						
ETSF	Etsaut	83.19	345	eP	P	22 37 37.7	+0.6
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
ETSF	Etsaut	83.19	345	eP	P	22 37 37.7	+0.6
	comp=Z,2.4nm,0.7s,mb4.1						

IDC 01 22:27:09.6±5.5, 0.85N×25.23W, h0km, mb3.8/2, mb1 3.8/2, mb1mx3.4/21, mbtmp3.9/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/21, Error ellipse: s-maj=288.0km s-min=49.4km az=144.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	21.12	74	P	P	22 31 56.2	+0.3
	4.1nm,0.8s,baz=248,slow=14,SNR=5.5						
BDFB	Brasilia	27.85	233	LR	LR	22 42 49.7	
	comp=Z,157nm,19.7s,baz=65,slow=34						
TORD	Torodi Ar. Bea	29.33	64	P	P	22 33 14.5	+0.5
	0.5nm,0.8s,baz=246,slow=9.9,SNR=5.7						
TORD				LR	LR	22 43 50.9	
	comp=Z,96nm,19.1s,baz=200,slow=34						
LPAZ	La Paz	45.63	246	LR	LR	22 53 54.9	
	comp=Z,72nm,19.9s,baz=85,slow=35						
ASAR	Alice Springs	149.60	140	PKPbc	PKPbc	22 47 01.7	+0.6
	0.8nm,0.8s,baz=205,slow=2.5,SNR=6.4						

IDC 01 22:30:46.7±9.4, 31.24S×179.10W, h89km±90km, mb3.5/2, mb1 3.7/3, mb1mx3.4/11, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=73.2km s-min=54.0km az=170.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	7.15	197	PN	Pn	22 32 30.2	+1.6
PUZ				SN	Sn	22 33 46.1	-2.1
MWZ	Matawai	7.60	201	PN	Pn	22 32 37.3	+2.6
MWZ				SN	Sn	22 33 59.9	+0.7
URZ	Urewera	7.66	203	P	Pn	22 32 36.4	+0.9
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.0						
URZ				S	Sn	22 34 00.0	-0.7
	1.6nm,0.3s,baz=144,slow=19,SNR=6.5						
URZ	Urewera	7.66	203	PN	Pn	22 32 38.3	+2.7
NNZ	Nelson	11.65	209	SN	Sn	22 35 29.7	-8.3
MQZ	McQueen's Vall	14.05	205	SN	Sn	22 36 20.5	-16
ASAR	Alice Springs	42.13	268	P	P	22 38 30.3	+0.1
	0.4nm,0.4s,baz=108,slow=7.4,SNR=7.6						
WRA	Warramunga Arr	43.20	274	P	P	22 38 39.3	+0.5
	1.2nm,0.3s,baz=112,slow=7.9,SNR=43						
KAF	Kangasniemi	145.02	339	ep	PKPbc	22 50 01.7	-11
FINES	FINESS Array B	145.60	339	PKPbc	PKPbc	22 50 13.2	-1.8
	0.5nm,0.5s,baz=72,slow=4.5,SNR=9.4						

*STR **01** 22:31:01.1±0.1, 45.90N×3.12E, h5km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 01 22:31:00.3±0.1, 45.90N×3.10E, h5km, Md1.5/3, Ml1.3/6, Error ellipse: s-maj=1.0km s-min=0.7km az=111.0, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGO	Saint Agoulin	0.15	8	Pg	Pg	22 31 04.5	+1.2
AGO				Sg	Sg	22 31 07.1	+1.8
PYM	Petit Puy Mans	0.17	203	Pg	Pg	22 31 05.1	+1.5
PYM	Petit Puy Mans	0.17	203	Pg	Pg	22 31 04.9	+1.3
PYM				Sg	Sg	22 31 07.8	+2.0
PYM				Sg	Sg	22 31 07.9	+2.1
BGF	Bois d'Agland	0.68	345	ePg	Pg	22 31 13.2	-0.1
BGF				eSg	Sg	22 31 21.6	-0.5
	4.6nm,0.4s						
TCF	Toulx Ste Croi	0.73	302	ePg	Pg	22 31 14.1	-0.2
TCF				eSg	Sg	22 31 23.3	-0.4
	0.7nm,0.2s						
SMF	Signal de Mont	0.90	34	ePg	Pg	22 31 17.4	-0.2
SMF				eSg	Sg	22 31 28.8	-0.5
	1.2nm,0.3s						
AVF	Avril sur Loir	0.90	11	ePg	Pg	22 31 17.3	-0.3
AVF				eSg	Sg	22 31 28.7	-0.7
	0.4nm,0.2s						
CAF	Calviac	1.22	217	ePg	Pg	22 31 23.2	-0.5
CAF				eSg	Sg	22 31 38.6	-0.9
	0.5nm,0.2s						
RJF	Les Rejaudoux	1.26	242	ePg	Pg	22 31 23.9	-0.6
RJF				eSg	Sg	22 31 39.8	-1.1
	0.5nm,0.2s						
LOR	Lormes	1.46	21	ePg	Pg	22 31 27.6	-0.7
LOR				eSg	Sg	22 31 46.2	-1.1
	0.6nm,0.2s						
VIVF	Saint-Julien-l	1.53	133	ePg	Pg	22 31 29.0	-0.5
VIVF				eSg	Sg	22 31 48.3	-1.0
	0.5nm,0.2s						

*NEIC **01** 22:41:05.2, 15.65N×97.78W, h20km, MD4.0(MEX), After MEX.*

MEX 01 22:41:05.0±0.7, 15.64N×97.78W, h20km±35km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.82	336	i P	Pb	22 41 17.9	-2.6
PNIG				i S	Sb	22 41 28.1	-3.0
HUIG	Huatulco	1.62	85	eP	Pn	22 41 30.3	-2.1
HUIG				i S	Sn	22 41 49.0	-3.6
VHO	Vista Hermosa	1.75	35	i P	Pn	22 41 31.4	-2.7
VHO				i S	Sn	22 41 51.3	-4.5
OXX	Oaxaca	1.76	35	eP	Pn	22 41 31.0	-3.3
OXX				i S	Sn	22 41 52.5	-3.6
OXX	Oaxaca	1.76	35	eP	Pn	22 41 31.0	-3.3
OXX				i S	Sn	22 41 55.0	-1.1
UTMO	Huajuapan	2.18	359	i P	Pn	22 41 38.1	-2.0
UTMO				i S	Sn	22 42 05.0	-1.5
ACX	Acapulco	2.39	301	eP	Pn	22 41 53.0	+10
MEIG	Mezcala	2.88	323	eP	Pn	22 41 52.2	+2.5
MEIG				i S	Sn	22 42 20.5	-3.2
CMIG	Matias Romero	3.14	62	eP	Pn	22 41 49.3	-4.0
CMIG				i S	Sn	22 42 28.1	-2.0
PPM	Popocatepetl	3.50	347	eP	Pn	22 41 55.7	-2.6
PPM				eP		22 42 17.0	
PPM				i S	Sn	22 42 37.2	-1.9

*MOS **01** 22:47:19.8±1.6, 53.49N×108.18E, h11km, mb4.3/1, Error ellipse: s-maj=19.4km s-min=12.8km az=136.4*

BYKL 01 22:47:20.6±0.2, 53.49N×108.18E, h12km±4km, 6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.38**	**294**	⇑*i*Pg	Pg	22 47 28.2	0.0
	893nm,0.2s						
OGRR				⇓*i*Pg	Pg	22 47 28.2	0.0
	650nm,0.2s						
OGRR				⇑*i*Pg	Pg	22 47 28.2	0.0
	2μm,0.2s						
OGRR				*e*Sg	Sg	22 47 33.0	-0.3
OGRR				*e*		22 47 33.5	
OGRR				Pmax			
	1μm,0.1s						
OGRR				max			
	3μm,0.2s						
OGRR	**Ongureny**	**0.38**	**294**	*e*PG	Pg	22 47 28.2	0.0
OGRR				*e*		22 47 33.5	
OGRR				pmax	pmax		
	comp=Z,1μm,0.1s						
OGRR				smax			
	comp=E,3μm,0.2s						
MXMB	**Maximikha**	**0.41**	**124**	⇑*i*Pg	Pg	22 47 28.8	+0.1
MXMB				*e*Sg	Sg	22 47 34.1	0.0
MXMB				*e*		22 47 34.7	
MXMB				*e*		22 47 40.5	
MXMB				Pmax			
	comp=E,548nm,0.1s						
MXMB				max			
	comp=E,4μm,0.3s						
KELR	**Kotokel**	**0.73**	**185**	*e*Pg	Pg	22 47 34.0	-0.8
KELR				⇑*i*		22 47 34.5	
KELR				*e*		22 47 39.5	
KELR				*i*Sg	Sg	22 47 44.4	0.0
KELR				*e*		22 47 47.3	
SYVR	**Suvo**	**1.10**	**80**	⇑*i*Pg	Pg	22 47 40.3	-1.4
SYVR				*e*Sg	Sg	22 47 54.9	-1.1
SYVR				Pmax			
	comp=E,180nm,0.3s						
SYVR				Smax			
	comp=E,578nm,0.3s						
SYVR	**Suvo**	**1.10**	**80**	*e*PG	Pg	22 47 40.2	-1.5
SYVR				*e*		22 47 54.4	
SYVR				pmax	pmax		
	comp=Z,177nm,0.3s						
SYVR				smax			
	comp=E,594nm,0.3s						
ZRHB	**Zarechye**	**1.12**	**214**	⇓*i*Pg	Pg	22 47 41.7	-0.5
ZRHB				*e*		22 47 42.3	
ZRHB				*e*		22 47 46.1	
ZRHB				*e*Sg	Sg	22 47 56.2	-0.7
ZRHB				*e*		22 48 00.3	
ZRHB				max			
	comp=E,97nm,0.3s						
ZRHB				Smax			
	comp=E,747nm,0.7s						
TRTB	**Turuntaevo**	**1.31**	**195**	*e*Pg	Pg	22 47 44.3	-1.4
TRTB				*e*Pb	Pb	22 47 44.9	-0.2
TRTB				*e*Sg	Sg	22 48 01.6	-1.1
TRTB				*e*Sb	Sb	22 48 02.6	+0.8
TRTB				max			
	comp=E,106nm,0.4s						
TRTB				max			
	comp=E,583nm,0.4s						
TRG	**Tyrgan**	**1.32**	**237**	*e*Pg	Pg	22 47 43.8	-2.2
TRG				*e*		22 47 44.5	
TRG				*e*Pb	Pb	22 47 45.6	+0.2
TRG				*e*Sg	Sg	22 48 01.0	-2.3
TRG				*e*Sb	Sb	22 48 02.4	+0.1
TRG				max			
	comp=E,59nm,0.2s						
TRG				max			
	comp=E,502nm,0.3s						
TRG	**Tyrgan**	**1.32**	**237**	*e*PG	Pg	22 47 43.8	-2.2
TRG				*e*		22 48 01.6	
TRG				pmax	pmax		
	comp=Z,59nm,0.2s						
TRG				smax			
	comp=E,503nm,0.3s						
FFNB	**Fofonovo**	**1.68**	**211**	*e*Pg	Pg	22 47 49.8	-3.1
FFNB				*e*		22 47 55.4	
FFNB				*e*Sg	Sg	22 48 12.0	-2.7
FFNB				*e*Sb	Sb	22 48 12.9	+0.3
FFNB				Pmax			
	comp=E,208nm,0.1s						
FFNB				max			
	comp=E,883nm,0.4s						
STDB	**Stepnoy Dvoret**	**1.72**	**220**	*e*Pg	Pg	22 47 51.3	-2.3
STDB				*e*		22 47 53.1	
STDB				*e*Sg	Sg	22 48 13.1	-2.9
STDB				*e*		22 48 17.5	
STDB				max			
	comp=E,92nm,0.3s						
STDB				max			
	comp=E,1μm,1.1s						
YLYR	**Ulyunkhan**	**2.24**	**50**	*e*Pn	Pn	22 47 57.3	-0.1
YLYR				*e*Pg	Pg	22 47 59.8	-3.7
YLYR				*e*		22 48 06.2	
YLYR				*e*Sn	Sn	22 48 23.7	-1.3
YLYR				*e*Sg	Sg	22 48 29.7	-2.8
YLYR				max			
	comp=E,35nm,0.4s						
YLYR				Smax			
	comp=E,127nm,0.3s						
YLYR	**Ulyunkhan**	**2.24**	**50**	*e*PN	Pn	22 48 00.0	+2.6
YLYR				*e*		22 48 29.3	
YLYR				pmax	pmax		
	comp=Z,39nm,0.3s						
YLYR				smax			
	comp=E,128nm,0.3s						
BTMB	**Babushkin**	**2.29**	**220**	*e*Pg	Pg	22 48 01.0	-3.6
BTMB				*e*Sg	Sg	22 48 31.6	-2.8
BTMB				*e*		22 48 42.0	
BTMB				Pmax			
	comp=E,32nm,0.6s						
BTMB				Smax			
	comp=E,194nm,0.5s						
NIZ	**Nizh Angarsk**	**2.42**	**19**	*e*Pn	Pn	22 48 00.6	+0.6
NIZ				*e*Pg	Pg	22 48 04.9	-2.1
NIZ				*e*Sn	Sn	22 48 28.3	-1.3
NIZ				*e*Sg	Sg	22 48 35.2	-3.3
NIZ				*e*		22 48 41.5	
NIZ				Pmax			
	comp=E,39nm,0.3s						
NIZ				max			
	comp=E,215nm,0.5s						
NIZ	**Nizh Angarsk**	**2.42**	**19**	*e*PN	Pn	22 48 00.6	+0.6
NIZ				*e*		22 48 03.5	
NIZ				*e*S	Sn	22 48 28.3	-1.3
NIZ				*e*		22 48 34.3	
NIZ				pmax	pmax		
	comp=Z,39nm,0.3s						
NIZ				smax			
	comp=N,216nm,0.6s						
LSTR	**Listvyanka**	**2.61**	**233**	*e*Pn	Pn	22 48 02.6	+0.1
LSTR				*e*Pg	Pg	22 48 08.1	-2.5
LSTR				*e*Sn	Sn	22 48 34.5	+0.4
LSTR				*e*Sg	Sg	22 48 41.1	-3.2
LSTR				Pmax			
	comp=N,19nm,0.4s						
LSTR				Smax			
	comp=N,119nm,0.7s						
IRK	**Irkutsk**	**2.68**	**244**	*e*PN	Pn	22 48 06.5	+3.0
IRK				*e*		22 48 41.5	
IRK				pmax	pmax		
	comp=Z,58nm,0.2s						
IRK				smax			
	comp=N,736nm,0.4s						
KMO	**Kumora**	**2.97**	**35**	*e*Pn	Pn	22 48 07.5	-0.1
KMO				*e*Pg	Pg	22 48 12.6	-5.0
KMO				*e*Sn	Sn	22 48 42.1	-1.1
KMO				*e*Sg	Sg	22 48 52.3	-3.8
KMO				Pmax			
	comp=N,37nm,0.4s						
KMO				Smax			
	comp=N,150nm,0.9s						
KMO	**Kumora**	**2.97**	**35**	*e*PN	Pn	22 48 06.9	-0.7
KMO				*e*		22 48 12.5	
KMO				*e*S	Sn	22 48 42.2	-1.0
KMO				*e*		22 48 50.5	
KMO				pmax	pmax		
	comp=Z,37nm,0.4s						
KMO				smax			
	comp=N,126nm,1.1s						
YOA	**Uoyan**	**3.35**	**36**	*e*Sg	Sg	22 49 04.4	-3.8
YOA				Smax			
	comp=N,286nm,0.6s						
CIT	**Chita**	**3.58**	**112**	*e*Pn	Pn	22 48 14.6	-1.3
CIT				*e*Pg	Pg	22 48 24.4	-4.8
CIT				*e*Sn	Sn	22 48 57.8	-0.3
CIT				*e*Sg	Sg	22 49 10.8	-4.8
CIT				Pmax			
	comp=N,41nm,0.3s						
CIT				Smax			
	comp=N,143nm,0.6s						
CIT	**Chita**	**3.58**	**112**	*e*PN	Pn	22 48 25.4	+9.5
CIT				*e*		22 49 10.3	
CIT				pmax	pmax		
	comp=Z,51nm,0.9s						
CIT				smax			
	comp=N,158nm,0.4s						
UKT	**Uakit**	**3.75**	**56**	*e*Pn	Pn	22 48 18.8	+0.5
UKT				*e*		22 48 26.4	
UKT				*e*Pg	Pg	22 48 28.9	-3.6
UKT				*e*Sn	Sn	22 49 01.9	-0.5
UKT				*e*Sg	Sg	22 49 16.4	-4.8
UKT				Pmax			
	comp=N,11nm,0.7s						
UKT				Smax			
	comp=N,53nm,0.8s						
SVKR	**Severomuysk**	**4.08**	**48**	*e*Sg	Sg	22 49 28.5	-3.0
SVKR				Smax			
	comp=N,174nm,0.8s						
ZAK	**Zakamensk**	**4.34**	**226**	*e*Pg	Pg	22 48 39.2	-4.6
ZAK				*e*Sg	Sg	22 49 35.6	-4.5
ZAK				*e*		22 49 43.0	
ZAK				Pmax			
	comp=N,4.0nm,0.3s						
ZAK				max			
	comp=N,48nm,0.7s						
MOY	**Mondy**	**4.75**	**250**	*e*Pn	Pn	22 48 35.3	+3.3
MOY				*e*Pg	Pg	22 48 45.9	-5.6
MOY				*e*Sn	Sn	22 49 28.8	+1.9
MOY				*e*Sg	Sg	22 49 45.7	-7.3
MOY				Pmax			
	comp=N,18nm,0.9s						
MOY				Smax			
	comp=N,273nm,1.4s						
ORL	**Orlik**	**5.14**	**263**	⇑*i*Pn	Pn	22 48 39.3	+1.9
ORL				*e*		22 48 45.5	
	comp=N,11nm,0.0s						
ORL				*e*Sn	Sn	22 49 35.7	-1.0
ORL				*e*Sg	Sg	22 50 00.2	-5.5
ORL				Smax			
	comp=N,91nm,1.6s						
ORL	**Orlik**	**5.14**	**263**	*e*PN	Pn	22 48 39.2	+1.8
ORL				*e*		22 48 53.0	
ORL				*e*S	Sn	22 49 35.8	-0.9
ORL				*e*		22 49 56.3	
ORL				pmax	pmax		
	comp=Z,13nm,0.5s						
ORL				smax			
	comp=N,92nm,0.9s						
NLYR	**Nelyaty**	**5.27**	**52**	*e*Pg	Pg	22 48 55.9	-5.7
NLYR				*e*		22 49 08.5	
NLYR				*e*Sg	Sg	22 50 05.1	-4.8
BOD	**Bodaibo**	**5.45**	**35**	*e*Sg	Sg	22 50 09.0	-6.5
BOD				Smax			
	comp=N,28nm,1.1s						
CRS	**Chara**	**6.71**	**55**	*e*Pg	Pg	22 49 21.3	-7.8
CRS				*e*Sg	Sg	22 50 47.4	-8.5
CRS				Pmax			
	comp=N,1.0nm,0.1s						
CRS				Smax			
	comp=N,17nm,0.9s						
TUP	**Tupik**	**7.01**	**78**	*e*Pg	Pg	22 49 27.1	-7.7
TUP				*e*Sg	Sg	22 50 57.2	-8.4
TUP				Pmax			
	comp=N,2.0nm,0.3s						
TUP				Smax			
	comp=N,53nm,2.2s						
TUP	**Tupik**	**7.01**	**78**	*e*PN	Pn	22 49 02.6	-0.5
TUP				*e*		22 49 25.4	
TUP				*e*S	Sn	22 50 20.9	-1.8
TUP				*e*		22 50 55.8	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TUP				smax			
	comp=N,41nm,1.0s						
TDJR	**Todzha**	**7.38**	**266**	*e*Pg	Pg	22 49 32.6	-9.3
TDJR				*e*		22 50 46.0	
TDJR				*e*Sg	Sg	22 51 09.4	-8.1

*NEIC **01** 22:59:29.0, 3458N×1036W, h0km, MG3.7(MDD), After MDD.*
*MDD **01** 22:59:28.8±2.3, 3457N×1039W, h0km, mb4.1/3, Error ellipse: s-maj=20.1km s-min=18.0km az=53.0, PRXIMO*
*CSEM **01** 22:59:30.8±0.6, 3455N×1017W, h2km, ML2.9/15, Error ellipse: s-maj=10.5km s-min=9.7km az=39.0*

INMG 01 22:59:29.7±0.7, 3427N×1068W, h10km, ML2.3, Error ellipse: s-maj=5.1km s-min=3.4km az=74.0, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.64**	**25**	*e*Pn	Pn	23 00 20.4	-5.6
PTEO				*e*-		23 00 57.3	
PTEO				*e*Sn	Sn	23 00 58.0	-11
PTEO							
	7.6nm,0.2s						
PTEO	**Sao Teotonio**	**3.64**	**25**	*e*Pn	Pn	23 00 20.4	-5.6
PTEO				*e*Sn	Sn	23 00 58.0	-11
	7.6nm,0.2s						
EGRO	**El Granado**	**4.17**	**38**	P	Pn	23 00 27.5	-5.8
	2.2nm,0.1s,SNR=10						
EGRO				S	Sn	23 01 09.3	-13
	2.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.17**	**38**	Pn	Pn	23 00 27.5	-5.8
	2.2nm,0.1s,SNR=10						
EGRO				Sn	Sn	23 01 09.3	-13
	2.1nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**4.39**	**30**	*e*Pn	Pn	23 00 30.7	-5.7
PBEJ				*e*Sn	Sn	23 01 15.8	-12
PBEJ							
	3.4nm,0.1s						
PBEJ	**Beja**	**4.39**	**30**	*e*Pn	Pn	23 00 30.7	-5.7
PBEJ				*e*Sn	Sn	23 01 15.8	-12
	3.4nm,0.1s						
ESPR	**Espera**	**4.71**	**55**	P	Pn	23 00 34.8	-6.0
	1.3nm,0.1s,SNR=7.9						
ESPR				S	Sn	23 01 23.6	-12
	0.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**4.71**	**55**	Pn	Pn	23 00 34.8	-6.0
	1.3nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	23 01 23.6	-12
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.77**	**42**	P	Pn	23 00 35.3	-6.3
	0.5nm,0.1s,SNR=7.5						
EMIN				S	Sn	23 01 23.0	-14
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.77**	**42**	Pn	Pn	23 00 35.3	-6.3
	0.5nm,0.1s,SNR=7.5						
EMIN				Sn	Sn	23 01 23.0	-14
	0.5nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.79**	**61**	P	Pn	23 00 36.8	-5.1
	0.4nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**4.81**	**13**	*e*Sn	Sn	23 01 25.7	-12
PESTR	**Estremoz**	**5.22**	**28**	*e*Pn	Pn	23 00 42.0	-5.8
PESTR				*e*Sn	Sn	23 01 35.8	-12
PESTR							
	0.9nm,0.1s						
PESTR	**Estremoz**	**5.22**	**28**	*e*Pn	Pn	23 00 42.0	-5.8
PESTR				*e*Sn	Sn	23 01 35.8	-12
	0.9nm,0.1s						
EMIJ	**Mijas**	**5.34**	**63**	P	Pn	23 00 43.5	-6.0
	0.4nm,0.1s,SNR=7.9						
EMIJ				S	Sn	23 01 39.4	-12
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**32**	P	Pn	23 00 43.6	-6.2
	1.2nm,0.1s,SNR=11						
EBAD				S	Sn	23 01 40.0	-12
	3.5nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.37**	**32**	Pn	Pn	23 00 43.6	-6.2
	1.2nm,0.1s,SNR=11						
EBAD				Sn	Sn	23 01 40.0	-12
	3.5nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**6.12**	**24**	*e*Sn	Sn	23 01 57.6	-13
PCBR							
	1.6nm,0.1s						
PCBR	**Castelo Branco**	**6.12**	**24**	S	Sn	23 01 57.6	-13
	0.8nm,0.1s						
ELUQ	**Luque**	**6.16**	**56**	S	Sn	23 01 58.0	-13
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.28**	**50**	P	Pn	23 00 56.0	-6.4
	0.4nm,0.1s,SNR=7.9						
EADA				S	Sn	23 01 59.9	-14
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.28**	**50**	Pn	Pn	23 00 56.0	-6.4
	0.4nm,0.1s,SNR=7.9						
EADA				Sn	Sn	23 01 59.9	-14
	0.6nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**6.58**	**61**	P	Pn	23 01 01.5	-4.9
	0.3nm,0.1s,SNR=7.9						
EQUE				S	Sn	23 02 10.2	-11
	0.3nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**6.80**	**53**	P	Pn	23 01 02.8	-6.7
	0.7nm,0.1s,SNR=7.9						
EBAN				S	Sn	23 02 11.8	-15
	1.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**7.10**	**58**	P	Pn	23 01 07.8	-5.9
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	23 02 20.5	-14
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**7.10**	**58**	Pn	Pn	23 01 07.8	-5.9
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	23 02 20.5	-14
	0.3nm,0.2s,SNR=7.9						
PCAB	**Cabril**	**7.72**	**15**	*e*Pn	Pn	23 01 15.9	-6.2
PCAB				*e*Sn	Sn	23 02 35.2	-14
ELOB	**Lobios**	**7.86**	**14**	P	Pn	23 01 17.9	-6.2
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	23 02 38.8	-14
	0.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**7.90**	**54**	P	Pn	23 01 19.4	-5.2
	0.4nm,0.1s,SNR=7.9						
EVIA				S	Sn	23 02 41.1	-13
	0.2nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**7.90**	**54**	Pn	Pn	23 01 17.5	-7.1
EVIA				Sn	Sn	23 02 37.9	-16
PBRG	**Braganca**	**8.14**	**21**	*e*Sn	Sn	23 02 45.7	-14
ETOB	**Tobarra**	**8.56**	**57**	P	Pn	23 01 26.9	-6.7
	0.3nm,0.1s,SNR=8.2						
ETOB				S	Sn	23 02 53.7	-16
	0.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**8.56**	**57**	Pn	Pn	23 01 25.9	-7.7
ETOB				Sn	Sn	23 02 53.7	-16
ETOB	**Tobarra**	**8.56**	**57**	Pn	Pn	23 01 26.9	-6.7
	0.3nm,0.1s,SNR=8.2						
ETOB				Sn	Sn	23 02 53.7	-16
	0.1nm,0.2s,SNR=7.9						

CASC 01 23:14:03.7±2.4, 953N×8482W, h0km±5km, MD3.6, 4C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAO	**Cobano**	**0.33**	**300**	⇓*i*P	Pg	23 14 11.3	+1.3
JCR	**Jicaral**	**0.43**	**317**	⇓*e*P	Pg	23 14 13.1	+1.2
JCR				*e*S	Sg	23 14 20.1	+2.6
CGA2	**Cerro Gallo 2**	**0.59**	**36**	⇓*e*P	Pg	23 14 16.3	+1.3
PRS1	**Puriscal**	**0.67**	**48**	⇓*i*P	Pg	23 14 16.0	-0.5
LAJ	**Bijagual**	**0.76**	**64**	⇑*i*P	Pg	23 14 11.3	-6.9
LCR2	**La Lucha 2**	**0.83**	**75**	⇓*e*P	Pg	23 14 20.1	+0.5
LCR2				*e*S	Sg	23 14 33.0	+2.7
POA2	**Poas 2**	**0.85**	**41**	⇓*i*P	Pg	23 14 21.3	+1.4
OCM	**Ochomogo**	**0.92**	**67**	⇑*e*P	Pg	23 14 22.1	+0.8
OCM				⇑*e*P		23 14 22.1	
VCR	**Vista de Mar**	**1.00**	**306**	*e*P	Pg	23 14 23.1	+0.2
VCR				*e*S	Sg	23 14 38.3	+2.5
IRZ2	**Volcan Irazu 2**	**1.00**	**64**	⇑*e*P	Pg	23 14 23.7	+0.8
BUS	**Buena Vista**	**1.04**	**89**	⇓*e*P	Pg	23 14 24.5	+0.8
BUS				*e*S	Sg	23 14 40.9	+3.7
CRZC	**La Cruz**	**1.61**	**331**	*e*P	Pn	23 14 32.4	-0.9
CTCR	**Cotoan**	**2.13**	**107**	*e*P	Pn	23 14 39.5	-0.9

IDC 01 23:16:56.6±1.8, 041S×12512E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=185.3km s-min=24.8km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**156**	P	P	23 21 45.6	-0.5
	1.4nm,0.7s,baz=334,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**24.64**	**160**	P	P	23 22 19.7	+0.9
	7.4nm,1.4s,baz=335,slow=9.5,SNR=8.9						
MKAR	**Makanchi Array**	**60.08**	**327**	P	P	23 27 05.7	+0.1
	0.9nm,0.5s,baz=120,slow=8.6,SNR=9.9						

*CSEM **01** 23:19:53.8, 6783N×20.18E, h1km, ML2.7, Mining explosion. After UPP*
*UPP **01** 23:19:53.8, 6783N×20.18E, h1km, ML2.7, Mining explosion.*

HEL 01 23:19:54.4±0.1, 6783N×2016E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**28**	*i*P	Pg	23 19 56.6	-0.6
KUA				*i*S	Sg	23 19 58.8	-0.2
NIKU	**Nikkaluokta**	**0.43**	**276**	*i*P	Pg	23 20 02.1	-0.5
DUNU	**Dundret**	**0.73**	**167**	*i*P	Pg	23 20 07.2	-1.1
DUNU				*i*S	Sg	23 20 16.9	-0.9
LANU	**Lannavaara**	**0.73**	**71**	*i*P	Pg	23 20 07.4	-0.9
MASU	**Masugnsbyn**	**0.80**	**117**	*i*P	Pg	23 20 08.7	-1.0
MASU				*i*S	Sg	23 20 19.1	-0.9
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	Pg	23 20 17.1	-0.5
KIF				*e*S	Sg	23 20 32.9	-0.3
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pn	23 20 18.7	-2.4
SJUU	**Sjulsmark**	**2.40**	**165**	*e*P	Pn	23 20 35.2	+0.2

IDC 01 23:35:00.6±2.3, 1578S×6914W, h165km±23km, mb3.5/2, mb1 3.3/3, mb1mx3.0/18, mbtmp3.7/3, Error ellipse: s-maj=105.5km s-min=43.3km az=18.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.10**	**118**	P	Pn	23 35 28.3	+0.7
	1.0nm,0.3s,baz=283,slow=5.9,SNR=26						
SIV	**San Ignacio**	**7.77**	**93**	P	Pn	23 36 50.8	0.0
	0.4nm,0.3s,baz=230,slow=7.9,SNR=6.9						
SCHQ	**Schefferville**	**70.35**	**1**	P	P	23 45 56.1	-0.2
	3.2nm,0.8s,baz=225,slow=7.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**75.71**	**72**	P	P	23 46 28.7	+0.9
	0.3nm,0.9s,baz=260,slow=6.1,SNR=4.8						
SONM	**Songino Array**	**147.82**	**6**	PKPbc	PKPbc	23 54 25.4	-0.5
	0.6nm,0.7s,baz=351,slow=7.5,SNR=3.5						

*ISCJB **01** 23:44:50.6±0.3, 6630N±003×14234W±007, h10km, mb4.3/27, MS3.7/11, Error ellipse: s-maj=4.6km s-min=4.1km az=63.1*
*NEIC **01** 23:44:51.0, 6628N×14232W, h10km, mb4.4/15, ML4.7(AEIC), MW4.4(SLM), MW4.5(PGC), After AEIC.*
*BJI **01** 23:44:51.0, 6630N×14230W, h10km, mB4.9, mb4.8, Ms4.9, Msz4.5*
*IDC **01** 23:44:52.4±0.8, 6648N×14175W, h0km, mb4.0/9, mb1 4.3/13, mb1mx4.1/25, mbtmp4.1/13, ML4.3/4, MS3.6/12, Ms1 3.6/12, ms1mx3.4/33, Error ellipse: s-maj=14.9km s-min=12.6km az=79.0*
*PGC **01** 23:44:52.2, 6631N×14193W, h5km, ML4.6/2, Mw4.6, 276km northwest of Dawson, Yt Eastern Alaska.*

ISC 01 23:44:52.1±0.3, 6631N±003×14232W±007, h10km, (h18km±1.0km: pP-P), n83, σ1s18/92, mb4.3/27, MS3.7/11, 1D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**1.61**	**162**	⇓*e*Pn	**Pn**	**23 45 18.1**	**-2.5**
EGAK				*e*Sn	**Sn**	**23 45 40.1**	**-1.3**
DAWY	**Dawson**	**2.57**	**150**	Pn	**Pn**	**23 45 32.1**	**-1.7**
DAWY				Sn	**Sn**	**23 46 03.1**	**-2.0**
DAWY				Sg	**Sg**	**23 46 06.9**	**-7.8**
DAWY				Trac		23 46 16.8	
	comp=Z,2μm,0.7s						
DAWY	**Dawson**	**2.57**	**150**	P	**Pn**	**23 45 32.1**	**-1.7**
DAWY				S	**Sn**	**23 46 02.6**	**-2.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COLA	**College**	**2.71**	**240**	P	**Pn**	**23 45 35.0**	**-0.8**
COLD	**Coldfoot**	**3.26**	**290**	P	**Pn**	**23 45 43.3**	**+0.1**
COLD				S	**Sn**	**23 46 21.7**	**-0.3**
MENT	**Mentasta**	**3.44**	**191**	P	**Pn**	**23 45 44.5**	**-1.2**
MCK	**McKinley**	**3.82**	**230**	P	**Pn**	**23 45 50.1**	**-0.9**
INK	**Inuvik**	**3.96**	**56**	Pn	**Pn**	**23 45 52.0**	**-0.9**
	15nm,0.3s,baz=231,slow=16,SNR=146						
INK				Sn	**Sn**	**23 46 38.2**	**-1.1**
	16nm,0.3s,baz=308,slow=16,SNR=8.0						
INK				Lg		23 46 49.5	
	43nm,0.3s,baz=322,slow=19,SNR=5.8						
INK				LR	LR	23 47 41.9	
	comp=Z,308nm,19.1s,baz=241,slow=46						
INK	**Inuvik**	**3.96**	**56**	Pn	**Pn**	**23 45 51.8**	**-1.0**
INK				Pg	**Pg**	**23 46 00.5**	**-7.4**
INK				Sn	**Sn**	**23 46 37.4**	**-1.9**
INK				Sg	**Sg**	**23 46 51.1**	**-8.1**
INK				Trac		23 47 01.9	
	comp=Z,873nm,0.8s						
INK	**Inuvik**	**3.96**	**56**	*e*Pn	**Pn**	**23 45 52.0**	**-0.8**
INK				*e*Sn	**Sn**	**23 46 37.2**	**-2.0**
TRF	**Thorofare Moun**	**4.45**	**233**	P	**Pn**	**23 45 59.1**	**-0.5**
KTH	**Kantishna Hill**	**4.59**	**237**	P	**Pn**	**23 46 00.3**	**-1.2**
DIV	**Divide**	**5.42**	**198**	P	**Pn**	**23 46 13.8**	**+0.9**
BMRM	**Bremner River**	**5.46**	**192**	P	**Pn**	**23 46 14.2**	**+0.8**
PMR	**Palmer**	**5.60**	**216**	*e*P	**Pn**	**23 46 16.5**	**+1.0**
HYT	**Haines Junctio**	**5.91**	**156**	Pn	**Pn**	**23 46 19.0**	**-0.7**
HYT				Sg	**Sg**	**23 47 54.9**	**-6.9**
HYT				Trac		23 48 01.4	
	comp=Z,615nm,0.9s						
EYAK	**Cordova Ski Ar**	**5.98**	**196**	P	**Pn**	**23 46 21.5**	**+0.8**
WHY	**Whitehorse**	**6.57**	**146**	Pn	**Pn**	**23 46 26.6**	**-2.2**
WHY				Sg	**Sg**	**23 48 15.3**	**-7.8**
WHY				Trac		23 48 34.1	
	comp=Z,177nm,1.0s						
WHY	**Whitehorse**	**6.57**	**146**	P	**Pn**	**23 46 26.6**	**-2.2**
TTA	**Tatalina**	**6.79**	**246**	*e*Pn	**Pn**	**23 46 29.4**	**-2.4**
SLKM	**Skilak Lake**	**6.81**	**215**	*e*Pn	**Pn**	**23 46 33.2**	**+1.1**
PLBC	**Pleasant Camp**	**7.39**	**156**	Pn	**Pn**	**23 46 39.2**	**-0.9**
PLBC				Sg	**Sg**	**23 48 38.4**	**-11**
SKAG	**Skagway**	**7.58**	**152**	*e*P	**Pn**	**23 46 43.4**	**+0.8**
SVW2	**Sparrevohn**	**7.86**	**235**	*e*P	**Pn**	**23 46 46.3**	**-0.2**
DLBC	**Dease Lake**	**9.72**	**138**	Pn	**Pn**	**23 47 11.5**	**-0.6**
	1.1nm,0.3s,baz=343,slow=14,SNR=7.1						
DLBC				Lg		23 49 55.6	
	2.3nm,0.3s,baz=86,slow=24,SNR=7.8						
DLBC	**Dease Lake**	**9.72**	**138**	Pn	**Pn**	**23 47 11.8**	**-0.2**
DLBC				Sg	Sn	23 49 49.1	+48
DLBC				Trac		23 50 02.1	
	comp=Z,111nm,1.1s						
KDAK	**Kodiak Island**	**9.80**	**214**	Pn	**Pn**	**23 47 15.4**	**+2.3**
	0.5nm,0.3s,baz=59,slow=11,SNR=3.9						
YKW3	**Yellowknife Ar**	**12.48**	**95**	Pn	**Pn**	**23 47 43.5**	**-6.3**
YKW3				Pn	**Pn**	**23 47 44.4**	**-5.3**
YKW3				Sn	**Sn**	**23 49 54.8**	**-14**
YKW3				Sn	**Sn**	**23 49 54.8**	**-14**
YKW3				Trac		23 50 37.0	
	comp=Z,33nm,0.8s						
YKW3				Sg	Sn	23 51 13.8	+65
YKW3				Trac		23 51 38.9	
	comp=Z,77nm,1.0s						
YKA	**Yellowknife Ar**	**12.52**	**95**	Pn	**Pn**	**23 47 44.6**	**-5.6**
	baz=295,slow=13,SNR=36						
YKA				Sn	**Sn**	**23 49 57.5**	**-12**
	baz=294,slow=23,SNR=11						
YKA				LR	LR	23 52 48.2	
	comp=Z,369nm,20.4s,baz=100,slow=39						
NEW	**Newport**	**22.35**	**132**	LR	LR	23 59 51.2	
	comp=Z,90nm,19.8s,MS3.2,baz=151,slow=40						
LON	**Longmire**	**22.42**	**141**	*e*P	**P**	**23 49 52.1**	**+1.2**
FFC	**Flin Flon**	**22.52**	**101**	*e*P	**P**	**23 49 49.7**	**-2.3**
	18nm,1.2s,mb4.4						
WALA	**Waterton Lakes**	**22.67**	**126**	*e*P	**P**	**23 49 54.2**	**+0.7**
BSMT	**Bassoo Peak**	**23.44**	**128**	*e*P	**P**	**23 50 02.9**	**+1.2**
HOOD	**Mount Hood Mea**	**23.80**	**142**	*e*P	**P**	**23 50 05.7**	**+0.7**
MSO	**Missoula**	**24.62**	**128**	*e*P	**P**	**23 50 09.3**	**-3.3**
CHMT	**Chamberlain Mo**	**24.76**	**127**	*e*P	**P**	**23 50 13.4**	**-0.5**
EGMT	**Eagleton**	**24.96**	**121**	*e*P	**P**	**23 50 15.7**	**0.0**
	12nm,1.1s,mb4.3						
HRY	**Holter Researc**	**25.40**	**126**	*e*P	**P**	**23 50 19.0**	**-0.7**
LRM	**Limekiln Ridge**	**25.99**	**127**	*e*P	**P**	**23 50 23.9**	**-1.1**
DLMT	**Dillon**	**26.35**	**128**	*e*P	**P**	**23 50 28.8**	**+0.5**
	5.1nm,0.8s,mb4.1						
BOZ	**Bozeman (W)**	**26.41**	**126**	*e*P	**P**	**23 50 28.4**	**-0.4**
	4.7nm,1.2s,mb3.9						
QLMT	**Earthquake Lak**	**27.20**	**127**	*e*P	**P**	**23 50 36.1**	**+0.2**
WVOR	**Wild Horse Val**	**27.27**	**140**	*e*P	**P**	**23 50 35.0**	**-1.5**
	4.7nm,1.1s,mb3.9						
HLID	**Hailey**	**27.41**	**132**	*e*P	**P**	**23 50 40.0**	**+2.1**
	1.2nm,0.7s,mb3.5						
FLWY	**Flagg Ranch**	**28.10**	**127**	*e*P	**P**	**23 50 44.5**	**+0.5**
IMW	**Indian Meadow**	**28.19**	**127**	*e*P	**P**	**23 50 46.0**	**+1.2**
	13nm,0.9s,mb4.6						
ULM	**Lac du Bonnet**	**28.35**	**102**	LR	LR	00 01 38.7	
	comp=Z,63nm,21.8s,MS3.2,baz=325,slow=36						
TPAW	**Teton Pass**	**28.55**	**128**	*e*P	**P**	**23 50 49.5**	**+1.5**
	11nm,1.2s,mb4.5						
LOHW	**Long Hollow**	**28.55**	**127**	*e*P	**P**	**23 50 49.1**	**+1.1**
	9.8nm,1.1s,mb4.5						
RRI2	**Red Ridge**	**28.56**	**128**	*e*P	**P**	**23 50 49.7**	**+1.6**
REDW	**Red Top Meadow**	**28.70**	**128**	*e*P	**P**	**23 50 51.5**	**+2.2**
	12nm,1.3s,mb4.5						
PDAR	**Pinedale Array**	**29.65**	**126**	P	**P**	**23 50 58.0**	**+0.2**
	5.5nm,0.9s,mb4.3,baz=354,slow=5.4,SNR=32						
DUG	**Dugway**	**30.97**	**133**	*e*P	**P**	**23 51 10.7**	**+1.3**
	6.2nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**31.12**	**142**	P	**P**	**23 51 12.0**	**+1.2**
	2.9nm,0.7s,mb4.2,baz=343,slow=7.2,SNR=19						
SRU	**San Rafael**	**32.66**	**131**	*e*P	**P**	**23 51 26.2**	**+1.9**
MSU	**Marysvale**	**32.72**	**133**	*e*P	**P**	**23 51 26.1**	**+1.3**
ARUT	**Antelope Range**	**33.02**	**135**	P	**P**	**23 51 29.4**	**+1.9**
CCUT	**Cedar City**	**33.27**	**135**	*e*P	**P**	**23 51 30.4**	**+0.8**
PV01	**Paradox Valley**	**34.16**	**129**	*e*P	**P**	**23 51 37.7**	**+0.3**
SCHQ	**Schefferville**	**36.42**	**71**	LR	LR	00 07 02.7	
	comp=Z,108nm,18.1s,MS3.7,baz=319,slow=37						
ANMO	**Albuquerque**	**37.75**	**128**	P	**P**	**23 52 08.9**	**+0.7**
	4.1nm,0.9s,mb4.1,baz=337,slow=9.0,SNR=10						
WMOK	**Wichita Mounta**	**40.53**	**119**	*e*P	**P**	**23 52 30.8**	**-0.6**
	8.3nm,1.1s,mb4.3						
JCT	**Junction City**	**44.05**	**123**	*e*P	**P**	**23 52 58.4**	**-1.7**
	9.9nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**44.16**	**6**	LR	LR	00 11 52.5	
	comp=Z,55nm,19.0s,MS3.5,baz=49,slow=37						
ASAJ	**Asahikawa**	**44.81**	**279**	LR	LR	00 13 58.9	
	comp=Z,100nm,19.9s,MS3.7,baz=148,slow=39						
JSC	**Jenkinsville**	**47.56**	**101**	*e*P	**P**	**23 53 27.2**	**-0.6**
JOF	**Joensuu**	**50.99**	**4**	*e*p	**P**	**23 53 55.1**	**+1.1**
NB2	**NORSAR Subarra**	**51.46**	**16**	P	**P**	**23 53 56.4**	**-1.2**
	comp=Z,1.9nm,1.1s,mb3.9,baz=346,slow=7.9						
NOA	**NORSAR Array B**	**51.46**	**16**	P	**P**	**23 53 57.1**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=345,slow=7.8,SNR=2.6						
FINES	**FINESS Array B**	**52.27**	**7**	P	**P**	**23 54 03.1**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=4.4,slow=9.2,SNR=11						
MJAR	**Matsushiro Arr**	**53.01**	**278**	LR	LR	00 17 31.9	
	comp=Z,109nm,18.4s,MS3.9,baz=255,slow=37						
SONM	**Songino Array**	**54.75**	**310**	LR	LR	00 21 59.3	
	comp=Z,146nm,20.5s,MS4.0,baz=47,slow=41						
ZAL	**Zalesovo**	**54.89**	**328**	P	**P**	**23 54 22.2**	**-0.6**
	comp=Z,0.6nm,0.3s,mb4.1,baz=155,slow=16,SNR=3.9						
ZAL				LR	LR	00 20 21.6	
	comp=Z,79nm,19.2s,MS3.8,baz=348,slow=39						
CHKZ	**Chkalovo**	**57.76**	**338**	*e*P	**P**	**23 54 43.0**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.3						
CMIG	**Matias Romero**	**58.09**	**124**	P	**P**	**23 54 46.0**	**+0.4**
	comp=Z,5.1nm,0.9s,mb4.5,baz=319,slow=5.4,SNR=6.2						
ZRNK	**Zerenda**	**58.71**	**338**	*e*P	**P**	**23 54 50.0**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.4						
HHC	**Hu-ho-hao-te**	**59.28**	**302**	*e*P	**P**	**23 54 53.5**	**-0.4**
HHC				AP	pP	23 54 58.2	+1.1
HHC				XP	sP	23 55 00.6	+2.3
HHC				PCP	PcP	23 55 42.5	+0.5
HHC				PP	PP	23 57 05.6	+0.9
HHC				SCP	ScP	23 59 40.7	-2.1
HHC				PCS	PcS	23 59 42.7	-1.3
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,77nm,4.6s						
HHC				LR	LR		
	comp=N,288nm,16.1s						
HHC				LR	LR		
	comp=E,190nm,5.7s						
HHC				LR	LR		
	comp=Z,322nm,15.2s,MS4.6						
AKASG	**Malin Array Be**	**63.14**	**6**	P	**P**	**23 55 19.9**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=350,slow=5.9,SNR=4.4						
GERES	**GERESS Array B**	**63.72**	**17**	P	**P**	**23 55 24.3**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=337,slow=6.4,SNR=3.0						
GERES				LR	LR	00 20 27.0	
	comp=Z,46nm,21.7s,MS3.6,baz=313,slow=34						
GTA	**Gaotai**	**64.40**	**311**	*e*P	**P**	**23 55 31.4**	**+3.0**
GTA				AP	pP	23 55 37.3	+5.7
GTA				XP	sP	23 55 41.6	+8.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.6						
LZH	**Lanzhou**	**66.16**	**306**	*e*P	**P**	**23 55 39.0**	**-0.8**
LZH				AP	pP	23 55 44.5	+1.4
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb5.0						
LPAZ	**La Paz**	**98.58**	**111**	LR	LR	00 43 27.6	
	comp=Z,32nm,18.3s,MS3.9,baz=216,slow=36						

RSPR ***02*** *00:05:26.3, 1936N×6364W, h50km±16km, MD3.5/5, MD3.5/5*
NEIC ***02*** *00:05:26.3, 1936N×6364W, h50km, MD3.5(RSPR), After RSPR.*
TRN 02 00:05:23.9, 1924N×6358W, h35km, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.57**	**236**⥣	*e*P	Pn	00 05 51.5	+2.2
STVI				*e*S	Sn	00 06 10.7	+2.2
MTP	**Monte Pirata**	**2.19**	**239**⥣	*e*P	Pn	00 05 59.6	+1.8
MTP				*e*S	Sn	00 06 26.1	+2.4
CBYP	**Canovanas**	**2.37**	**246**⥣	*e*P	Pn	00 06 01.9	+1.7
CBYP				*e*S	Sn	00 06 29.6	+1.6
HUMP	**Col San Antoni**	**2.42**	**243**⥣	*e*P	Pn	00 06 02.8	+1.9
HUMP				*e*S	Sn	00 06 30.7	+1.5
CRPR	**Cabo Rojo, PR**	**3.57**	**250**⥣	*e*P	Pn	00 06 18.5	+1.7
CRPR				*e*S	Sn	00 06 59.8	+2.1

KRSC 02 00:06:06, 5572N×16227E, h23km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.58**	**32**	*e*P	Pb	00 06 19.0	+1.5
KBTR				*i* S	Sb	00 06 28.0	+2.7
ZLN	**Zelenaya**	**0.88**	**290**	*e*P	Pb	00 06 23.8	+1.2
ZLN				*i* S	Sb	00 06 36.3	+2.4
CIRR	**Tsirk**	**0.94**	**295**	*e*P	Pb	00 06 23.8	+0.1
CIRR				*i* S	Sb	00 06 36.0	+0.3
SMKR	**Semkarok**	**0.97**	**333**	*e*P	Pb	00 06 24.7	+0.5
SMKR				*i* S	Sb	00 06 37.9	+1.3
BDR	**Baidarnaya**	**1.04**	**325**	*e*P	Pn	00 06 25.9	+0.8
BDR				*i* S	Sb	00 06 40.4	+2.0
KRSR	**Krestovskiy**	**1.08**	**298**	*e*P	Pn	00 06 25.9	+0.2
KRSR				*i* S	Sb	00 06 39.8	+0.1
KLY	**Klyuchi**	**1.09**	**304**	*e*P	Pn	00 06 24.9	-0.9
KLY				*i* S	Sb	00 06 38.0	-1.8
SRKR	**Sorokina**	**1.12**	**327**	*e*P	Pn	00 06 27.0	+0.7
SRKR				*i* S	Sb	00 06 42.1	+1.3
KMNR	**Kamenistaya**	**1.15**	**273**	*e*P	Pn	00 06 28.2	+1.5
KMNR				*i* S	Sb	00 06 43.9	+2.2
KPT	**Kopyto**	**1.18**	**283**	*e*P	Pn	00 06 28.4	+1.3
KPT				*i* S	Sn	00 06 44.4	+2.0
MKZ	**Mys Kozlova**	**1.21**	**195**	*e*P	Pn	00 06 28.1	+0.7
MKZ				*i* S	Sn	00 06 43.8	+0.7
TUMR	**Tumrok**	**1.28**	**251**	*e*P	Pn	00 06 30.3	+1.8
TUMR				*i* S	Sn	00 06 47.7	+2.7
KOZ	**Kozyrevsk**	**1.39**	**285**	*e*P	Pn	00 06 32.0	+2.0
KOZ				*i* S	Sn	00 06 50.2	+2.5
SRDR	**Sredinnyy**	**1.55**	**294**	*e*P	Pn	00 06 33.8	+1.6
SRDR				*i* S	Sn	00 06 53.9	+2.3
SPN	**Mys Shipunski**	**2.94**	**207**	*e*P	Pn	00 06 52.3	+1.1
SPN				*i* S	Sn	00 07 25.4	-0.4
AVH	**Avacha**	**3.21**	**221**	*e*P	Pn	00 06 57.7	+2.7
AVH				*i* S	Sn	00 07 34.6	+2.1
GNL	**Ganaly**	**3.23**	**233**	*e*P	Pn	00 06 57.5	+2.3
PET	**Petropavlovsk**	**3.43**	**220**	*e*P	Pn	00 07 00.3	+2.3

IDC ***02*** *00:20:56.7±7.6, 602S×14880E, h77km±63km, mb3.5/2, mb1 3.7/4, mb1mx3.4/14, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=102.2km s-min=51.4km az=122.0*
ISCJB ***02*** *00:20:59.1±3.1, 59S±0.1×1476E±03, h33km, mb3.8/2, Error ellipse: s-maj=50.6km s-min=16.3km az=148.6*
NEIC ***02*** *00:21:06.2±6.9, 632S×14743E, h35km, mb3.6/1, Error ellipse: s-maj=93.4km s-min=35.6km az=211.0*
ISC 02 00:21:01.2±3.0**, 59S**±01×**1476E**±03**, h35**km**, n11, σ1§08**/11**, mb3.8**/2**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.56**	**187**	P	**Pn**	**00 21 52.4**	**-1.5**
	13nm,0.3s,baz=19,slow=6.2,SNR=28						
PMG				S	**Sn**	**00 22 35.4**	**+0.6**
	9.5nm,0.3s,baz=73,slow=14,SNR=9.2						
WRAB	**Tennant Creek**	**19.02**	**221**	*e*Pn	**Pn**	**00 25 20.0**	**-1.0**
	3.5nm,0.8s						
WB2	**Warramunga Arr**	**19.03**	**221**	*e*P	**Pn**	**00 25 20.5**	**-0.6**
WRA	**Warramunga Arr**	**19.04**	**221**	P	**Pn**	**00 25 20.8**	**-0.3**
	0.3nm,0.3s,baz=50,slow=11,SNR=5.6						
AS31	**Alice Springs**	**22.08**	**215**	*e*P	**P**	**00 25 54.8**	**+1.7**
ASAR	**Alice Springs**	**22.08**	**215**	P	**P**	**00 25 51.8**	**-1.4**
	0.6nm,0.4s,mb3.4,baz=52,slow=9.1,SNR=16						
ASPA	**Alice Springs**	**22.09**	**215**	*e*P	**P**	**00 25 54.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**24.66**	**239**	*e*P	**P**	**00 26 19.2**	**+0.7**
	3.0nm,0.3s,mb4.3						
FITZ				*e*		00 26 32.5	
FITZ	**Fitzroy Crossi**	**24.66**	**239**	P	**P**	**00 26 18.9**	**+0.4**
	1.6nm,0.4s,mb4.0,baz=64,slow=11,SNR=22						
STKA	**Stephens Creek**	**26.50**	**192**	P	**P**	**00 26 35.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**145.63**	**285**	PKPbc	PKPbc	00 40 30.2	-5.9
	0.2nm,0.4s,baz=97,slow=2.9,SNR=10						

WEL 02 00:39:43.0±0.4**, 3842S**×**17609E, h132**km±3km**, ML3.6**/8**, 3C, Error ellipse: s-maj=2.5km s-min=2.2km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.80**	**209**	PN	Pn	00 40 04.4	+0.2
BKZ	**Black Stump Fm**	**0.81**	**157**	PN	Pn	00 40 04.7	+0.3
BKZ				SN	Sn	00 40 20.2	-0.4
URZ	**Urewera**	**0.82**	**79**	PN	Pn	00 40 04.2	-0.2
URZ				SN	Sn	00 40 20.4	-0.3
TWVZ	**Taurewa**	**0.82**	**218**	⥣PN	Pn	00 40 04.6	+0.2
TUVZ	**Tukino**	**0.91**	**202**	⥣PN	Pn	00 40 05.6	+0.4
MOVZ	**Moawhango**	**1.02**	**195**	⥣PN	Pn	00 40 06.0	-0.2
MOVZ				SN	Sn	00 40 23.3	-0.6
PKVZ	**Pokaka**	**1.04**	**213**	PN	Pn	00 40 05.9	-0.5
MWZ	**Matawai**	**1.14**	**86**	PN	Pn	00 40 07.5	+0.1
MWZ				SN	Sn	00 40 26.0	+0.1
KNZ	**Kokohu**	**1.38**	**116**	PN	Pn	00 40 10.3	+0.4
KNZ				SN	Sn	00 40 30.3	-0.1
WAZ	**Wanganui**	**1.58**	**212**	PN	Pn	00 40 11.7	-0.4
WAZ				SN	Sn	00 40 33.8	-0.5
TSZ	**Takapari Road**	**1.64**	**183**	PN	Pn	00 40 12.1	-0.7
TSZ				SN	Sn	00 40 34.9	-0.6
PXZ	**Pawanui**	**1.72**	**160**	PN	Pn	00 40 13.3	-0.4
PXZ				SN	Sn	00 40 36.9	-0.2
PUZ	**Puketiti**	**1.75**	**79**	PN	Pn	00 40 13.6	-0.4
PUZ				SN	Sn	00 40 36.9	-0.7
MXZ	**Matakaoa Point**	**1.95**	**65**	PN	Pn	00 40 16.4	-0.1
KIW	**Kapiti Island**	**2.60**	**200**	PN	Pn	00 40 22.1	-2.4
KIW				SN	Sn	00 40 52.5	-3.9
MTW	**Mount Morrison**	**2.77**	**189**	PN	Pn	00 40 23.8	-2.8

IDC 02 00:49:10.8±2.5**, 064S**×**12458E, h0**km**, mb3.4**/3**, mb1 3.6**/3**, mb1mx3.5**/15**, mbtmp3.4**/3**, Error ellipse: s-maj=443.2km s-min=26.0km az=63.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.43**	**154**	P	P	00 54 01.6	+1.1
	1.1nm,0.6s,baz=333,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**24.61**	**159**	P	P	00 54 32.5	-0.2
	0.5nm,0.9s,baz=345,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**59.99**	**328**	P	P	00 59 19.2	+0.2
	0.7nm,0.6s,baz=115,slow=8.7,SNR=6.1						

IDC ***02*** *01:21:28.8±1.2, 4403N×749E, h0km, mb3.5/4, mb1 3.9/9, mb1mx3.7/24, mbtmp3.7/9, ML4.2/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=32.8km s-min=13.6km az=123.0*
ROM ***02*** *01:21:29.2±0.2, 4383N×759E, h10km, Md3.8/13, Ml3.5/32, Error ellipse: s-maj=4.2km s-min=1.9km az=132.0*
CRAAG ***02*** *01:21:29.5, 4390N×774E, Mb4.2*
CSEM ***02*** *01:21:30.0±0.1, 4391N×770E, h0km, ML4.3/45, Error ellipse: s-maj=1.3km s-min=0.7km az=140.0*
IPEC ***02*** *01:21:30.5±0.2, 4386N×769E, h10km±2km, Error ellipse: s-maj=1.8km s-min=1.0km az=145.0*
GEN ***02*** *01:21:30.5, 4390N×762E, h8km, ML4.0*
ISCJB ***02*** *01:21:30.1±0.2, 4388N±001×763E±001, h23km±1km, mb3.6/4, Error ellipse: s-maj=2.3km s-min=1.6km az=141.9*
SZGRF ***02*** *01:21:31.5, 4399N×742E, h10km, mb4.3, Near south coast of France*
LDG ***02*** *01:21:31.5±0.1, 4395N×768E, h2km, Md4.2/3, Ml4.3/48, Error ellipse: s-maj=2.1km s-min=1.6km az=174.0*
NEIC ***02*** *01:21:31.5, 4395N×768E, h2km, mb3.8/1, ML4.0(STR), ML4.3(LDG), After LDG.*
STR ***02*** *01:21:31.7±0.2, 4392N×755E, h5km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ZUR ***02*** *01:21:32.1, 4398N×772E, h10km, ML3.7/26*
ISC 02 01:21:31.0±0.2**, 4395N**±001×**760E**±001**, h15**km±1km**, n368, σ1§33**/568**, mb3.6**/4**, 19C-47D, Near south coast of France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEGI	**Negi**	**0.12**	**144**	P	**Pg**	**01 21 33.0**	**-1.5**
NEGI				S	**Sg**	**01 21 34.6**	**-2.2**
AUTN	**L'Aution**	**0.14**	**291**	Pg	**Pg**	**01 21 34.9**	**+0.2**
AUTN				Sg	**Sg**	**01 21 37.8**	**+0.7**
SBF	**Sospel**	**0.15**	**235**	*e*Pg	**Pg**	**01 21 34.6**	**-0.3**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**01 21 36.9**	**-0.5**
MONE	**Monesi**	**0.17**	**39**	P	**Pg**	**01 21 34.8**	**-0.4**
MONE				S	**Sg**	**01 21 37.7**	**-0.3**
LUCF	**Luceram**	**0.19**	**254**	Pg	**Pg**	**01 21 35.5**	**0.0**
LUCF				Sg	**Sg**	**01 21 39.0**	**+0.4**
IMI	**Imperia**	**0.21**	**100**⥣	*i*Pg	**Pg**	**01 21 34.8**	**-1.0**
TOUF	**Mont Tournerai**	**0.27**	**285**	Pg	**Pg**	**01 21 37.2**	**+0.5**
MVIF	**Mont Vial**	**0.33**	**261**	Pg	**Pg**	**01 21 38.1**	**+0.3**
MVIF				Sg	**Sg**	**01 21 43.3**	**+0.9**
STV	**Sta Anna Valdi**	**0.36**	**326**	P	**Pg**	**01 21 38.7**	**+0.3**
RORO		**0.37**	**64**	P	**Pg**	**01 21 38.5**	**-0.1**
RORO				S	**Sg**	**01 21 43.4**	**-0.3**
ROB	**Roburent**	**0.40**	**29**	P	**Pg**	**01 21 39.1**	**+0.1**
FIN	**Finale Ligure**	**0.51**	**59**⥣	*i*Pg	**Pg**	**01 21 40.4**	**-0.7**
FIN	**Finale Ligure**	**0.51**	**59**	P	**Pg**	**01 21 40.3**	**-0.8**
CALF	**Calern**	**0.53**	**249**	*e*Pg	**Pg**	**01 21 41.5**	**0.0**
CALF				*e*Sg	**Sg**	**01 21 48.6**	**0.0**
DOI	**San Damiano**	**0.61**	**335**⥥	*i*Pg	**Pg**	**01 21 43.3**	**+0.3**
DOI				Sg	**Sg**	**01 21 51.9**	**+0.7**
	7μm,0.2s						
PZZ	**Prazzo**	**0.67**	**327**	P	**Pg**	**01 21 44.0**	**0.0**
SURF	**Saint Ours**	**0.78**	**313**	Pg	**Pg**	**01 21 46.6**	**+0.4**
FRF	**La Foret Royal**	**0.79**	**241**	*e*Pg	**Pg**	**01 21 46.1**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**01 21 56.8**	**-0.1**
	4μm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**0.79**	**241**	*e*Pg	**Pg**	**01 21 46.1**	**-0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**01 21 56.8**	**-0.1**
	2μm,0.2s,SNR=1.0						
PCP	**Pian Castagno**	**0.90**	**48**	P	**Pb**	**01 21 47.5**	**-0.8**
MBDF	**Montbardon**	**0.98**	**323**	*e*Pg	**Pg**	**01 21 49.8**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**01 22 03.6**	**+0.7**
	3μm,0.5s						
LMR	**La Mourre**	**1.00**	**233**	*e*Pg	**Pg**	**01 21 49.8**	**-0.6**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**01 22 03.2**	**-0.3**
	2μm,0.2s,SNR=1.0						
GENL	**Genova Univers**	**1.08**	**65**	P	**Pb**	**01 21 50.5**	**-1.0**
RRL	**Cesana Torines**	**1.14**	**329**	P	**Pb**	**01 21 52.0**	**-0.4**
MONC	**Moncucco Torin**	**1.15**	**11**⥥	*i*Pg	**Pg**	**01 21 53.8**	**+0.6**
MONC				Sg	**Sg**	**01 22 10.1**	**+1.9**
	5μm,0.5s						
TAVF	**Tavernes**	**1.17**	**254**	Pn	**Pn**	**01 21 53.5**	**+0.7**
STOF	**St-Etienne Org**	**1.23**	**273**	Pg	**Pg**	**01 21 56.6**	**+2.0**
STOF	**St-Etienne Org**	**1.23**	**273**	Pn	**Pn**	**01 21 56.0**	**+2.4**
STOF				Pg	**Pg**	**01 21 56.6**	**+2.0**
STOF	**St-Etienne Org**	**1.23**	**273**	Pg	**Pg**	**01 21 56.6**	**+2.0**
RSP	**Reno Superiore**	**1.23**	**348**⥥	*i*Pg	**Pn**	**01 21 52.4**	**-1.3**
	1μm,0.4s						
BNI	**Bardonecchia**	**1.29**	**329**⥥	*i*P	**Pn**	**01 21 54.6**	**+0.2**
BNI				*e*S	**Sb**	**01 22 15.3**	**+4.0**
BNI	**Bardonecchia**	**1.29**	**329**⥥	*i*Pg	**Pg**	**01 21 54.7**	**-1.1**
	1μm,0.4s						
BNI				*e*S	**Sb**	**01 22 15.3**	**+4.0**
VILF	**Villemus**	**1.37**	**267**	Pn	**Pn**	**01 21 56.6**	**+1.0**
PUYF	**Puyloubier**	**1.44**	**254**	Pn	**Pn**	**01 21 56.8**	**+0.2**
SC2M	**Scurtabr**	**1.46**	**71**	P	**Pn**	**01 21 55.7**	**-1.2**
SMRF	**Simiane la Rot**	**1.47**	**272**	*e*Pg	**Pg**	**01 22 00.5**	**+1.3**
SMRF				*e*Sg	**Sg**	**01 22 19.6**	**+1.3**
	8μm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.47**	**272**	*e*Pn	**Pn**	**01 21 58.0**	**+1.1**
SMRF				*e*Pg	**Pg**	**01 22 00.5**	**+1.3**
SMRF				*e*Sg	**Sg**	**01 22 19.6**	**+1.3**
SMRF	**Simiane la Rot**	**1.47**	**272**	*e*Pg	**Pg**	**01 22 00.5**	**+1.3**
SMRF				*e*Sg	**Sg**	**01 22 19.6**	**+1.3**
	4μm,0.4s,SNR=1.0						
BERF	**Bertagne**	**1.53**	**246**	Pn	**Pn**	**01 21 58.9**	**+1.1**
BERF				Sg	**Sg**	**01 22 20.7**	**+0.5**
LSD	**Ceresole Reale**	**1.54**	**348**	P	**Pn**	**01 21 57.8**	**-0.2**
BOB	**Bobbio (Coli)**	**1.56**	**58**	Pg	**Pn**	**01 21 58.4**	**+0.2**
	1μm,0.6s						
ORIF	**Oris-en-Rattie**	**1.57**	**309**	*e*Pn	**Pn**	**01 22 00.3**	**+1.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 22 22.1**	**+0.5**
	5μm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.57**	**309**	*e*Pn	**Pn**	**01 22 00.3**	**+1.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 22 22.1**	**+0.5**
	2μm,0.5s,SNR=1.0						
TREF	**Trevaresse**	**1.64**	**259**	Sg	**Sg**	**01 22 24.7**	**+0.9**
GDM	**Grand'Maison**	**1.65**	**320**	Pg	**Pg**	**01 22 04.1**	**+1.5**
LPG	**La Plagne**	**1.67**	**339**	*e*Sg	**Sg**	**01 22 23.3**	**-1.3**
LPG				*e*Pg	**Pg**	**01 22 03.4**	**+0.4**
LPG				*e*Sn	**Sn**	**01 22 21.2**	**+0.4**
	2μm,0.5s						
CODM		**1.68**	**74**	P	**Pn**	**01 21 58.5**	**-1.3**
LPL	**La Plagne**	**1.69**	**339**	*e*Pg	**Pg**	**01 22 04.0**	**+0.6**
LPL				*e*Sn	**Sn**	**01 22 21.3**	**0.0**
	979nm,0.4s						
LPL	**La Plagne**	**1.69**	**339**	*e*Pn	**Pn**	**01 22 00.9**	**+0.9**
LPL				*e*Pg	**Pg**	**01 22 04.0**	**+0.6**
LPL				*e*Sn	**Sn**	**01 22 21.3**	**0.0**
LPL	**La Plagne**	**1.69**	**339**	*e*Pg	**Pg**	**01 22 04.0**	**+0.6**
LPL				*e*Sn	**Sn**	**01 22 21.3**	**0.0**
	489nm,0.4s						
ORO	**Oropa**	**1.70**	**9**⥥	*i*Pg	**Pn**	**01 22 00.1**	**-0.1**
	418nm,0.2s						
ORX	**Oropa**	**1.71**	**9**	P	**Pn**	**01 22 00.0**	**-0.2**
ORX				S	**Sn**	**01 22 19.7**	**-2.1**
ARBF	**Arbois**	**1.71**	**255**	*e*Pn	**Pn**	**01 22 00.6**	**+0.3**
ARBF	**Arbois**	**1.71**	**255**	*e*Pg	**Pg**	**01 22 02.3**	**-1.5**
ARBF				*e*Sg	**Sg**	**01 22 25.3**	**-0.7**
GROG	**Isola di Gorgo**	**1.74**	**107**	Pg	**Pn**	**01 21 58.7**	**-2.0**
	476nm,0.7s						
PRAF	**Pradon**	**1.77**	**266**	Pn	**Pn**	**01 22 01.7**	**+0.6**
BACM		**1.81**	**79**	P	**Pn**	**01 22 00.1**	**-1.5**
BACM				S	**Sn**	**01 22 21.9**	**-2.4**
VINC	**Vinca**	**1.85**	**83**	P	**Pn**	**01 22 01.0**	**-1.2**
VINC				S	**Sn**	**01 22 22.2**	**-3.1**
GRAM		**1.85**	**72**	P	**Pn**	**01 22 01.6**	**-0.6**
GRAM				S	**Sn**	**01 22 22.6**	**-2.8**
MRGE	**Morge**	**1.86**	**348**	Pg	**Pn**	**01 22 03.3**	**+0.9**
	1μm,0.7s						
VALM		**1.94**	**77**	P	**Pn**	**01 22 02.8**	**-0.7**
VALM				S	**Sn**	**01 22 24.7**	**-3.0**
VLC	**Villacollemand**	**2.02**	**83**	Pg	**Pn**	**01 22 03.4**	**-1.1**
	474nm,0.9s						
VLC	**Villacollemand**	**2.02**	**83**⥣	*i*Pn	**Pn**	**01 22 03.4**	**-1.2**
VLC				*e*Sn	**Sn**	**01 22 31.7**	**+2.2**
VLC	**Villacollemand**	**2.02**	**83**	*e*Pn	**Pn**	**01 22 03.3**	**-1.2**
VLC				*e*Sn	**Sn**	**01 22 31.7**	**+2.2**

SARO **Sassorosso** 2.03 82 P Pn 01 22 03.6 -1.1
SARO S Sn 01 22 26.6 -3.2
ERBM **Eremo** 2.08 76 Pg Pn 01 22 05.6 +0.3
340nm,0.4s
MMK **Mattmark** 2.12 7⇓*i*Pg Pn 01 22 06.4 +0.5
MMK **Mattmark** 2.12 7⇓*i*P Pn 01 22 06.3 +0.4
PII **Pisa** 2.13 95⇑*i*Pg Pn 01 22 04.7 -1.3
77nm,0.2s
DIX **Grande Dixence** 2.14 356⇓*i*Pg Pn 01 22 07.1 +0.9
BDI **Bagni Di Lucca** 2.16 86 Pg Pn 01 22 05.1 -1.4
364nm,0.5s
EMV **Vieux Emosson** 2.17 347 *e*Pn Pn 01 22 10.1 +3.4
1µm,0.5s
EMV **Vieux Emosson** 2.17 347 *e*P Pn 01 22 09.1 +2.4
EMV **Vieux Emosson** 2.17 347 Pg Pn 01 22 09.2 +2.5
EMV **Vieux Emosson** 2.17 347 *e*Pn Pn 01 22 10.1 +3.4
1µm,0.5s
GSCL **Gusciola** 2.19 78⇑*i*Pg Pn 01 22 06.9 +0.1
163nm,0.5s
MUGIO **Muggio** 2.22 27 Pg Pn 01 22 08.5 +1.2
MUGIO **Muggio** 2.22 27⇑*i*P Pn 01 22 08.2 +0.9
SALAN **Lac Salanfe** 2.24 349 *e*Pn Pn 01 21 58.2 -9.4
268nm,0.5s
SALAN **Lac Salanfe** 2.24 349 *e*P Pn 01 22 10.1 +2.5
VIVF **Saint-Julien-I** 2.29 294 *e*Pg Pg 01 22 14.9 0.0
VIVF *e*Sn Sn 01 22 36.0 -0.2
VIVF *e*Sg Sg 01 22 44.6 0.0
2µm,0.5s
VIVF **Saint-Julien-I** 2.29 294 *e*Pn Pn 01 22 08.9 +0.7
VIVF *e*Pg Pg 01 22 14.9 0.0
VIVF *e*Sn Sn 01 22 36.0 -0.2
VIVF *e*Sg Sg 01 22 44.6 0.0
VIVF **Saint-Julien-I** 2.29 294 *e*Pg Pg 01 22 14.9 0.0
VIVF *e*Sn Sn 01 22 36.0 -0.2
VIVF *e*Sg Sg 01 22 44.6 0.0
1µm,0.5s
GRYON **Gryon** 2.33 352⇓*i*Pn Pn 01 22 06.3 -2.5
236nm,0.4s
GRYON **Gryon** 2.33 352⇓*i*P Pn 01 22 11.2 +2.4
PZZT **Monte Pizzetto** 2.36 84 Pg Pn 01 22 08.1 -1.1
SENIN **Lac Senin** 2.43 355⇓*i*Pn Pn 01 22 07.9 -2.2
696nm,0.7s
SENIN **Lac Senin** 2.43 355⇓*i*P Pn 01 22 12.4 +2.3
SENIN **Lac Senin** 2.43 355 *e*Pn Pn 01 22 12.4 +2.3
AIGLE **Aigle** 2.44 349⇓*i*Pn Pn 01 22 09.5 -0.8
1µm,0.7s
AIGLE **Aigle** 2.44 349⇓*i*P Pn 01 22 12.9 +2.6
LKBD **Leukerbad** 2.44 0⇓*i*Pn Pn 01 22 08.2 -2.1
361nm,0.5s
LKBD **Leukerbad** 2.44 0⇓*i*P Pn 01 22 12.2 +1.9
ZCCA **Zocca** 2.46 79 Pg Pn 01 22 12.3 +1.7
170nm,0.4s
FNVD **Fontana Vidola** 2.55 84 Pg Pn 01 22 11.2 -0.6
117nm,0.4s
GRFL **Gerfalco** 2.58 107 Pg Pn 01 22 11.1 -1.1
23nm,0.5s
FUSIO **Fusio** 2.62 16 *e*Pn Pn 01 22 10.7 -2.1
491nm,1.0s
FUSIO **Fusio** 2.62 16 *e*P Pn 01 22 13.0 +0.2
SBPO **S.Benedetto Po** 2.62 64 Pg Pn 01 22 14.9 +2.1
RAVA **Ravarino** 2.65 71 Pg Pn 01 22 15.9 +2.7
SALO **Salr** 2.67 50 Pg Pn 01 22 14.5 +1.0
3µm,0.6s
SEI **Scarperia** 2.71 86 Pg Pn 01 22 13.4 -0.6
761nm,0.8s
CSNT **Castellina Chi** 2.72 99 Pg Pn 01 22 12.8 -1.3
103nm,0.8s
WIMIS **Wimmis** 2.72 0⇓*i*Pn Pn 01 22 11.2 -2.9
968nm,0.8s
WIMIS **Wimmis** 2.72 0⇓*i*P Pn 01 22 16.7 +2.6
GIMEL **Gimel** 2.75 340⇓*i*Pn Pn 01 22 12.2 -2.4
419nm,0.8s
GIMEL **Gimel** 2.75 340⇓*i*P Pn 01 22 16.6 +2.0
TUE **Stuetta** 2.81 25 Pg Pn 01 22 17.2 +1.8
TUE Sg Sn 01 22 50.6 +1.6
331nm,0.4s
MAGA **Magasa** 2.82 49 Pg Pn 01 22 16.3 +0.7
1µm,0.5s
HASLI **Hasliberg** 2.84 8⇓*i*Pn Pn 01 22 12.9 -2.9
2µm,0.5s
HASLI **Hasliberg** 2.84 8⇓*i*P Pn 01 22 18.2 +2.4
VDL **Val di Lei** 2.86 27 *e*Pn Pn 01 22 12.4 -3.7
1µm,0.6s
VDL **Val di Lei** 2.86 27 *e*P Pn 01 22 17.2 +1.1
TORNY **Torny** 2.86 351⇓*i*Pn Pn 01 22 13.0 -3.1
937nm,0.8s
TORNY **Torny** 2.86 351⇓*i*P Pn 01 22 18.1 +2.0
CABF **La Chapelle** 2.87 339 *e*Pg Pg 01 22 25.3 -0.7
CABF *e*Sg Sg 01 23 01.5 -1.8
623nm,0.8s
CABF **La Chapelle** 2.87 339 *e*Pn Pn 01 22 18.2 +2.0
CABF *e*Pg Pg 01 22 25.3 -0.7
CABF *e*Sg Sg 01 23 01.5 -1.8
CABF **La Chapelle** 2.87 339 *e*Pg Pg 01 22 25.3 -0.7
CABF *e*Sg Sg 01 23 01.5 -1.8
311nm,0.8s
MABI **Malga Bissina** 2.95 43 Pg Pn 01 22 18.0 +0.7
55nm,0.5s
BNALP **Bannalp** 2.98 11⇓*i*Pn Pn 01 22 16.7 -1.1
669nm,0.6s
BNALP **Bannalp** 2.98 11⇓*i*P Pn 01 22 20.0 +2.2
BNALP **Bannalp** 2.98 11 *e*Pn Pn 01 22 20.3 +2.5
MAON **Monte Argentar** 2.99 119 Pg Pn 01 22 15.9 -2.0
54nm,0.5s
BERNI **Berninapass** 3.00 34 *e*Pn Pn 01 22 16.6 -1.4
500nm,0.6s
BERNI **Berninapass** 3.00 34 *e*P Pn 01 22 19.5 +1.5
ARCI **Arcidosso** 3.03 110 Pg Pn 01 22 16.8 -1.6
40nm,0.5s
SFI **Santa Sofia** 3.07 89 Pg Pn 01 22 18.4 -0.5
68nm,0.4s
BRANT **Les Verrieres** 3.10 345⇓*i*Pn Pn 01 22 18.8 -0.5
336nm,0.7s
BRANT **Les Verrieres** 3.10 345⇓*i*P Pn 01 22 21.1 +1.8
MUO **Muotathal** 3.11 13 *e*Pn Pn 01 22 17.2 -2.3
2µm,0.8s
MUO **Muotathal** 3.11 13 *e*P Pn 01 22 21.9 +2.4
CRE **Caprese Michel** 3.17 94 Pg Pn 01 22 20.3 0.0
41nm,0.3s
BRMO **Bormio** 3.20 37 Pg Pn 01 22 23.5 +2.8
76nm,0.5s
DAVOX **Davos** 3.26 29 Pg Pn 01 22 24.0 +2.5
DAVOX **Davos** 3.26 29⇑*i*Pn Pn 01 22 18.2 -3.3
551nm,0.5s
DAVOX **Davos** 3.26 29⇑*i*P Pn 01 22 23.9 +2.4
FUORN **Ofenpass** 3.27 34⇑*i*Pn Pn 01 22 19.5 -2.2
210nm,0.9s
FUORN **Ofenpass** 3.27 34⇑*i*P Pn 01 22 23.7 +2.0
LATE **Laterza** 3.34 112 Pg Pn 01 22 21.6 -1.2
5.0nm,0.3s
PLONS **Plons** 3.34 21 *e*Pn Pn 01 22 20.2 -2.6
PLONS **Plons** 3.34 21 *e*P Pn 01 22 24.8 +2.0
LBL **Lubilhac** 3.37 294 Pn Pn 01 22 23.9 +0.8
BALST **Balsthal** 3.39 1⇓*i*Pn Pn 01 22 21.1 -2.3
540nm,0.4s
BALST **Balsthal** 3.39 1⇓*i*P Pn 01 22 24.4 +1.0
BADI **Badiali** 3.39 96 Pg Pn 01 22 23.4 0.0
75nm,0.6s
LOMF **Lomont** 3.45 351 Pn Pn 01 22 25.4 +1.2
BOURR **Bourrignon** 3.46 356⇓*i*Pn Pn 01 22 21.9 -2.4
312nm,0.7s
BOURR **Bourrignon** 3.46 356⇓*i*P Pn 01 22 25.4 +1.1
BOURR **Bourrignon** 3.46 356 *e*Pn Pn 01 22 25.5 +1.2
PLDF **La Plantade** 3.48 307 Pn Pn 01 22 25.9 +1.3
RSM **Repubblica di** 3.50 89 Pg Pn 01 22 27.6 +2.7
BBS **Basel-Blauen** 3.52 359 Pn Pn 01 22 26.1 +0.9
CTI **Castel Tesino** 3.56 52 Pg Pn 01 22 26.2 +0.5
156nm,0.7s
SULZ **Sulz-Cheisache** 3.60 6⇓*i*Pn Pn 01 22 23.7 -2.6
476nm,0.5s
SULZ **Sulz-Cheisache** 3.60 6⇓*i*P Pn 01 22 27.1 +0.8
APPI **Appiano** 3.60 44 Pg Pn 01 22 27.9 +1.6
170nm,0.4s
DAVA **Damuels** 3.70 25⇑*i*Pn Pn 01 22 29.9 +2.2
SNR=42
DAVA ⇑*i*Sn Sn 01 23 15.8 +4.8
DAVA **Damuels** 3.70 25 *e*Pn Pn 01 22 29.7 +2.0
DAVA *e*Sn Sn 01 23 14.4 +3.4
TOLF **Tolfa** 3.73 119 Pg Pn 01 22 26.7 -1.4
29nm,0.5s
SJAF **Saint Jean de** 3.75 249 Pn Pn 01 22 27.6 -0.7
EJON **La Jonquera** 3.76 248 Pn Pn 01 22 28.1 -0.3
EJON Sn Sn 01 23 16.0 +3.6
EJON **La Jonquera** 3.76 248 Pn Pn 01 22 28.1 -0.4
8.5nm,0.1s,SNR=43

TRULL **Truellikon** 3.78 11 *e*Pn Pn 01 22 23.9 -4.8
103nm,0.3s
TRULL **Truellikon** 3.78 11 *e*P Pn 01 22 30.1 +1.4
SMF **Signal de Mont** 3.79 317 *e*Pg Pg 01 22 40.9 -2.6
SNR=1.0
SMF *e*Sn Sn 01 23 12.1 -1.0
119nm,0.3s
SMF *e*Sg Sg 01 23 31.2 -1.4
155nm,0.3s
SMF **Signal de Mont** 3.79 317 *e*Pn Pn 01 22 30.5 +1.7
SMF *e*Pg Pg 01 22 40.9 -2.6
SMF *e*Sn Sn 01 23 12.1 -1.0
SMF *e*Sg Sg 01 23 31.2 -1.4
SMF **Signal de Mont** 3.79 317 *e*Pg Pg 01 22 40.9 -2.6
SNR=1.0
SMF *e*Sn Sn 01 23 12.1 -1.0
59nm,0.3s
SMF *e*Sg Sg 01 23 31.2 -1.4
77nm,0.3s
LRDF **Laroque-de-Fa** 3.82 256 Pn Pn 01 22 28.9 -0.5
SLE **Schleitheim** 3.87 9 *e*Pn Pn 01 22 24.4 -5.6
192nm,0.5s
SLE **Schleitheim** 3.87 9 *e*P Pn 01 22 30.5 +0.5
HINF **Hinteralfeld** 3.91 353 *e*Pg Pb 01 22 40.6 +1.0
HINF *e*Sn Sn 01 23 14.2 -1.9
129nm,0.3s
HINF **Hinteralfeld** 3.91 353 *e*Pn Pn 01 22 30.9 +0.4
HINF *e*Pg Pb 01 22 40.6 +1.0
HINF *e*Sn Sn 01 23 14.2 -1.9
HINF **Hinteralfeld** 3.91 353 *e*Pg Pb 01 22 40.6 +1.0
HINF *e*Sn Sn 01 23 14.2 -1.9
65nm,0.3s
MOF **Molkenrain** 3.92 355 Pn Pn 01 22 31.2 +0.5
DGI **Dorgali Grotta** 3.92 157 Pg Pn 01 22 29.3 -1.4
64nm,0.8s
FILF **Fillols** 3.94 251 Pn Pn 01 22 31.6 +0.7
FELD **Feldberg im Sc** 3.94 4 Pn Pn 01 22 30.9 0.0
MTLF **Montolieu** 3.96 263 *e*Pn Pn 01 22 31.5 +0.3
SNR=1.0
MTLF *e*Sn Sn 01 23 16.3 -1.0
85nm,0.3s
MTLF *e*Sg Sg 01 23 35.7 -2.4
176nm,0.5s,SNR=1.0
MTLF **Montolieu** 3.96 263 *e*Pn Pn 01 22 31.5 +0.3
SNR=1.0
MTLF *e*Sn Sn 01 23 16.3 -1.0
43nm,0.3s
MTLF *e*Sg Sg 01 23 35.7 -2.4
88nm,0.5s,SNR=1.0
MNS **Montasola** 4.03 111 Pg Pn 01 22 31.3 -0.9
22nm,0.7s
CAF **Calviac** 4.09 286 *e*Pn Pn 01 22 33.7 +0.7
SNR=1.0
CAF *e*Sn Sn 01 23 19.5 -1.0
91nm,0.2s
CAF *e*Sg Sg 01 23 41.0 -1.2
135nm,0.4s
CAF **Calviac** 4.09 286 *e*Pn Pn 01 22 33.7 +0.7
SNR=1.0
CAF *e*Sn Sn 01 23 19.5 -1.0
46nm,0.2s
CAF *e*Sg Sg 01 23 41.0 -1.2
68nm,0.4s
CING **Cingoli** 4.10 96 Pg Pn 01 22 33.8 +0.7
40nm,0.7s
AVF **Avril sur Loir** 4.13 315 *e*Pg Pg 01 22 47.9 -2.2
SNR=1.0
AVF *e*Sn Sn 01 23 20.3 -1.3
40nm,0.3s
AVF *e*Sg Sg 01 23 41.3 -2.3
141nm,0.5s
AVF **Avril sur Loir** 4.13 315 *e*Pn Pn 01 22 35.3 +1.7
AVF *e*Pg Pg 01 22 47.9 -2.2
AVF *e*Sn Sn 01 23 20.3 -1.3
AVF *e*Sg Sg 01 23 41.3 -2.3
AVF **Avril sur Loir** 4.13 315 *e*Pg Pg 01 22 47.9 -2.2
SNR=1.0
AVF *e*Sn Sn 01 23 20.3 -1.3
20nm,0.3s
AVF *e*Sg Sg 01 23 41.3 -2.3
70nm,0.5s
SQTA **Sankt Quirin** 4.14 36⇓*i*Pn Pn 01 22 35.6 +1.9
SNR=29
SQTA ⇓*i*Sn Sn 01 23 25.8 +4.0
HAU **Haudompre** 4.15 348 *e*Pn Pn 01 22 34.8 +0.9
SNR=1.0
HAU *e*Sn Sn 01 23 20.5 -1.6
166nm,0.3s
HAU **Haudompre** 4.15 348 *e*Pn Pn 01 22 34.8 +0.9
SNR=1.0
HAU *e*Sn Sn 01 23 20.5 -1.6
83nm,0.3s
MOTA **Moosalm** 4.19 35⇓*i*Pn Pn 01 22 36.1 +1.7
SNR=36
MOTA ⇓*i*Sn Sn 01 23 27.1 +4.0
MOTA **Moosalm** 4.19 35⇓*i*Pn Pn 01 22 36.1 +1.7
MOTA *i* Sn Sn 01 23 27.1 +4.0
CARF **Carcanieres** 4.20 255 Pn Pn 01 22 34.5 0.0
LIBD **Limburg** 4.20 360 Pn Pn 01 22 35.6 +1.0
MTCE **Montecelio** 4.23 115 Pg Pn 01 22 33.8 -1.2
21nm,0.4s
LOR **Lormes** 4.24 323 *e*Pn Pn 01 22 36.5 +1.5
baz=147,SNR=1.0
LOR **Lormes** 4.24 323 *e*Pg Pg 01 22 49.0 -3.1
SNR=1.0
LOR *e*Sn Sn 01 23 22.4 -1.8
68nm,0.2s
LOR *e*Sg Sg 01 23 44.9 -2.1
97nm,0.4s
LOR **Lormes** 4.24 323 *e*Pn Pn 01 22 36.5 +1.5
LOR *e*Pg Pg 01 22 49.0 -3.1
LOR *e*Sn Sn 01 23 22.4 -1.8
LOR *e*Sg Sg 01 23 44.9 -2.1
LOR **Lormes** 4.24 323 *e*Pg Pg 01 22 49.0 -3.1
SNR=1.0
LOR *e*Sn Sn 01 23 22.4 -1.8
34nm,0.2s
LOR *e*Sg Sg 01 23 44.9 -2.1
48nm,0.4s
BGF **Bois d'Agland** 4.25 310 *e*Pg Pg 01 22 51.4 -1.1
BGF *e*Sn Sn 01 23 23.6 -1.1
203nm,0.4s
BGF *e*Sg Sg 01 23 45.8 -1.8
420nm,0.5s
BGF **Bois d'Agland** 4.25 310 *e*Pn Pn 01 22 37.1 +1.8
BGF *e*Pg Pg 01 22 51.4 -1.1
BGF *e*Sn Sn 01 23 23.6 -1.1
BGF *e*Sg Sg 01 23 45.8 -1.8
BGF **Bois d'Agland** 4.25 310 *e*Pg Pg 01 22 51.4 -1.1
BGF *e*Sn Sn 01 23 23.6 -1.1
101nm,0.4s
BGF *e*Sg Sg 01 23 45.8 -1.8
210nm,0.5s
ECH **Echery** 4.28 356 Pn Pn 01 22 35.9 +0.3
SEST **Monte Rota** 4.29 48 Pg Pn 01 22 37.2 +1.4
121nm,0.4s
WTTA **Wattenberg** 4.36 39⇑*i*Pn Pn 01 22 38.4 +1.7
SNR=24
WTTA ⇑*i*Sn Sn 01 23 31.9 +4.7
WTTA **Wattenberg** 4.36 39 *e*Pn Pn 01 22 39.7 +3.0
VALF **Valcebollere** 4.37 251 Pn Pn 01 22 37.3 +0.5
FIAM **Fiamignano** 4.37 111 Pg Pn 01 22 36.7 -0.2
24nm,0.8s
WATA **Walderalm** 4.39 38⇑*i*Pn Pn 01 22 38.6 +1.6
SNR=12
WATA ⇑*i*Sn Sn 01 23 31.7 +3.8
BFO **Black Forest** 4.41 6 *e*Pn Pn 01 22 37.3 -0.1
BFO *e*Sn Sn 01 23 26.4 -2.2
BFO **Black Forest** 4.41 6 *e*Pn Pn 01 22 37.4 0.0
BFO *e*Sn Sn 01 23 26.4 -2.2
CERT **Cerreto** 4.42 115 Pg Pn 01 22 36.7 -0.9
20nm,0.5s
THEF **They Montfort** 4.43 346 Pn Pn 01 22 38.6 +1.0
WLS **Welschbruch** 4.47 358 Pn Pn 01 22 38.4 +0.2
CDF **Champ du Feu** 4.47 357 *e*Pn Pn 01 22 38.5 +0.2
SNR=1.0
CDF *e*Sn Sn 01 23 27.6 -2.4
81nm,0.3s
CDF **Champ du Feu** 4.47 357 *e*Pn Pn 01 22 38.5 +0.2
SNR=1.0
CDF *e*Sn Sn 01 23 27.6 -2.4
41nm,0.3s
TCF **Toulx Ste Croi** 4.48 303 *e*Pn Pn 01 22 40.1 +1.8
SNR=1.0
TCF *e*Sn Sn 01 23 28.6 -1.6
82nm,0.5s
TCF *e*Sg Sg 01 23 53.7 -1.1
98nm,0.4s,SNR=1.0
TCF **Toulx Ste Croi** 4.48 303 *e*Pn Pn 01 22 40.1 +1.8
SNR=1.0
TCF *e*Sn Sn 01 23 28.6 -1.6
41nm,0.5s
TCF *e*Sg Sg 01 23 53.7 -1.1
49nm,0.4s,SNR=1.0
FVI **Forni Avoltri** 4.51 52 Pg Pn 01 22 40.2 +1.4
51nm,0.5s
RJF **Les Rejaudoux** 4.55 289 *e*Pn Pn 01 22 40.3 +0.9
SNR=1.0
RJF *e*Sn Sn 01 23 31.0 -1.0
80nm,0.3s
RJF *e*Sg Sg 01 23 53.9 -3.3
109nm,0.4s
RJF **Les Rejaudoux** 4.55 289 *e*Pn Pn 01 22 40.3 +0.9
SNR=1.0
RJF *e*Sn Sn 01 23 31.0 -1.0
40nm,0.3s
RJF *e*Sg Sg 01 23 53.9 -3.3
54nm,0.4s
GMNA **Gemona** 4.62 58 Pg Pn 01 22 40.2 -0.1
326nm,0.8s
SFTF **Sexfontaines** 4.62 338 *e*Pn Pn 01 22 41.8 +1.5
baz=148
SFTF *e*Sn Sn 01 23 31.6 -2.0
90nm,0.2s
SFTF **Sexfontaines** 4.62 338 *e*Pn Pn 01 22 41.8 +1.5
SFTF *e*Sn Sn 01 23 31.6 -2.0
45nm,0.2s
VSL **Villasalto** 4.64 163 Pg Pn 01 22 39.7 -0.9
33nm,0.3s
VSL **Villasalto** 4.64 163 *e*Pn Pn 01 22 39.4 -1.2
VSL Pg Pn 01 22 39.7 -0.9
VSL *e*Sn Sn 01 23 28.9 -5.4
VSL **Villasalto** 4.64 163 *e*Pn Pn 01 22 39.6 -1.0
TRI **Trieste** 4.72 66 *e*Pn Pn 01 22 41.1 -0.6
PTCC **Patocco-Chiusa** 4.75 57 Pg Pn 01 22 42.8 +0.7
62nm,0.7s
GIUL **Giuliano Di Ro** 4.80 118 Pg Pn 01 22 41.6 -1.1
26nm,0.6s
HYF **Humbligny** 4.81 315 *e*Pn Pn 01 22 44.9 +2.0
HYF *e*Pg Pg 01 23 01.6 -1.6
HYF *e*Sn Sn 01 23 36.7 -1.7
HYF *e*Sg Sg 01 24 03.5 -2.0
MLS **Moulis** 4.84 260 Pn Pn 01 22 43.5 +0.2
VVLD **Villa Vallelon** 4.88 113 Pg Pn 01 22 44.1 +0.2
24nm,0.5s
MEZF **Maizieres J'vi** 4.89 340 *e*Pn Pn 01 22 45.8 +1.8
baz=164,SNR=1.0
MEZF *e*Sn Sn 01 23 38.7 -1.6
93nm,0.4s
MEZF **Maizieres J'vi** 4.89 340 *e*Pn Pn 01 22 45.8 +1.8
SNR=1.0
MEZF *e*Sn Sn 01 23 38.7 -1.6
47nm,0.4s
VOJS **Vojsko** 4.92 63 *i* Pn Pn 01 22 44.1 -0.3
VOJS **Vojsko** 4.92 63 *i* Pn Pn 01 22 44.1 -0.3
VOJS *e*Sn Sn 01 23 38.8 -2.2
VOY **Vojsko** 4.92 63 *e*Sn Sn 01 23 38.8 -2.4
FUR **Furstenfeldbru** 4.93 30 *e*Pn Pn 01 22 46.0 +1.4
FUR *e*Sn Sn 01 23 41.7 +0.3
FUR **Furstenfeldbru** 4.93 30 *e*Pn Pn 01 22 45.7 +1.1
FUR *e*Sn Sn 01 23 41.7 +0.3
STU **Stuttgart** 4.95 12 *e*Pn Pn 01 22 44.6 -0.2
STU *e*Sn Sn 01 23 39.6 -2.2
LFF **La Frestale** 5.01 284 *e*Pn Pn 01 22 46.7 +1.0
SNR=1.0
LFF *e*Sn Sn 01 23 41.0 -2.4
63nm,0.4s
LFF *e*Sg Sg 01 24 10.7 -1.3
271nm,0.7s
LFF **La Frestale** 5.01 284 *e*Pn Pn 01 22 46.7 +1.0
SNR=1.0
LFF *e*Sn Sn 01 23 41.0 -2.4
31nm,0.4s
LFF *e*Sg Sg 01 24 10.7 -1.3
136nm,0.7s
MELF **Melles** 5.10 260 Pn Pn 01 22 46.5 -0.4
KBA **Koelnbreinsper** 5.11 50⇓*i*Pn Pn 01 22 49.1 +2.1
SNR=7.9
KBA ⇑*i*Sn Sn 01 23 49.1 +3.4
KBA **Koelnbreinsper** 5.11 50 *e*Pn Pn 01 22 48.9 +1.9
NVLJ **Novalja** 5.26 81 *i* Pn Pn 01 22 48.7 -0.3
NVLJ *i* Sn Sn 01 23 47.4 -1.9
EPF **Esparros** 5.36 263 *e*Pn Pn 01 22 50.6 +0.1
SNR=1.0
EPF *e*Sn Sn 01 23 50.3 -1.7
134nm,0.6s
EPF **Esparros** 5.36 263 *e*Pn Pn 01 22 50.6 +0.1
SNR=1.0
EPF *e*Sn Sn 01 23 50.3 -1.7
67nm,0.6s
EPOB **Poblet** 5.47 244 Pn Pn 01 22 52.5 +0.5
EPOB Sn Sn 01 23 55.8 +1.3
EPOB **Poblet** 5.47 244 Pn Pn 01 22 52.5 +0.6
4.1nm,0.2s,SNR=14
VISS **Visnje** 5.47 68 *i* Pn Pn 01 22 51.5 -0.5
ETOS **Mallorca** 5.50 222 Pn Pn 01 22 52.3 0.0
ETOS Sn Sn 01 23 50.6 -4.7
ETOS **Mallorca** 5.50 222 Pn Pn 01 22 52.3 0.0
9.7nm,0.2s,SNR=51
OBKA **Obir** 5.53 60⇓*i*Pn Pn 01 22 53.7 +0.9
SNR=17
OBKA ⇓*i*Sn Sn 01 23 58.6 +2.4
OBKA **Obir** 5.53 60 *e*Pn Pn 01 22 53.8 +1.0
LABF **Labassere** 5.55 263 Pn Pn 01 22 52.5 -0.6
EBIE **Bielsa** 5.59 260 Pn Pn 01 22 54.5 +0.9
EBIE Sn Sn 01 23 58.7 +1.2
EBIE **Bielsa** 5.59 260 Pn Pn 01 22 54.5 +0.9
8.4nm,0.2s,SNR=61
EBIE Sn Sn 01 23 58.7 +1.2
20nm,0.4s
BOJS **Bojanci** 5.67 71 *i* Pn Pn 01 22 54.7 0.0
WLF **Walferdange** 5.81 351 P Pn 01 22 58.0 +1.4
WLF **Walferdange** 5.81 351 *e*Pn Pn 01 22 57.8 +1.3
6.7nm,2.1s
WLF *e*Sn Sn 01 24 04.6 +1.7
WLF **Walferdange** 5.81 351 *e*Pn Pn 01 22 57.8 +1.2
6.7nm,2.1s
ETSF **Etsaut** 6.04 263 *e*Pg Pg 01 23 25.1 -1.5
ETSF *e*Sn Sn 01 24 07.1 -1.5
34nm,0.3s
ETSF **Etsaut** 6.04 263 *e*Pn Pn 01 23 00.2 +0.4
ETSF *e*Pg Pg 01 23 25.1 -1.5
ETSF *e*Sn Sn 01 24 07.1 -1.5
ETSF **Etsaut** 6.04 263 *e*Pg Pg 01 23 25.1 -1.5
ETSF *e*Sn Sn 01 24 07.1 -1.5
17nm,0.3s
MOA **Molln** 6.07 48⇑*i*Pn Pn 01 23 01.0 +0.8
SNR=12
MOA ⇓*i*Sn Sn 01 24 11.9 +2.5
MOA **Molln** 6.07 48 *e*Pn Pn 01 23 00.9 +0.7
MOA **Molln** 6.07 48 *e*Pn Pn 01 23 01.2 +1.0
EBR **Ebro Roquetas** 6.12 242 *e*Pn Pn 01 23 01.5 +0.6
ERTA **Horta de San J** 6.15 243 Pn Pn 01 23 02.2 +0.9
ERTA Sn Sn 01 24 12.6 +1.1
ERTA **Horta de San J** 6.15 243 Pn Pn 01 23 02.2 +0.9
6.7nm,0.3s,SNR=25
GRA1 **Grafenberg Arr** 6.26 22 *e*Pn Pn 01 23 02.1 -0.7
GRA1 *e*Sn Sn 01 24 11.5 -2.6
GRF **Grafenberg Arr** 6.26 22 *e*Pn Pn 01 23 02.1 -0.7
GRF *e*Sn Sn 01 24 11.5 -2.6
TNS **Taunus Mts** 6.30 5 *e*Pn Pn 01 23 03.2 -0.2
TNS *e*Sn Sn 01 24 13.5 -1.7
ESAC **San Caprasio** 6.34 252 Pn Pn 01 23 05.0 +1.1
ESAC Sn Sn 01 24 15.4 -0.6
ESAC **San Caprasio** 6.34 252 Pn Pn 01 23 05.0 +1.1
35nm,0.2s,SNR=18
ESAC Sn Sn 01 24 15.4 -0.6
42nm,0.4s,SNR=5.0
WET **Wettzell** 6.34 33 *e*Pn Pn 01 23 04.3 +0.3
GIVF **Givet** 6.44 344 *e*Pg Pg 01 23 32.1 -2.3
GIVF *e*Sn Sn 01 24 15.0 -3.6
35nm,0.5s
GIVF **Givet** 6.44 344 *e*Pn Pn 01 23 06.8 +1.4
GIVF *e*Pg Pg 01 23 32.1 -2.3
GIVF *e*Sn Sn 01 24 15.0 -3.6
GIVF **Givet** 6.44 344 *e*Pg Pg 01 23 32.1 -2.3
GIVF *e*Sn Sn 01 24 15.0 -3.6
17nm,0.5s
GEC2 **GERESS Array S** 6.46 39 *e*Pn Pn 01 23 05.2 -0.4
GEC2 *e*Sn Sn 01 24 16.9 -2.2
GEC2 **GERESS Array S** 6.46 39 *e*Pn Pn 01 23 05.2 -0.4

GEC2				eSn	Sn	01 24 16.9	-2.2
GERES	GERESS Array B	6.46	39	Pn	Pn	01 23 05.6	0.0
	4.4nm,0.3s,baz=218,slow=13,SNR=57						
GERES				Sn	Sn	01 24 16.2	-2.9
	8.8nm,0.3s,baz=237,slow=25,SNR=12						
ARSA	Arzberg	6.46	57	⇓iPn	Pn	01 23 05.6	0.0
	SNR=21						
ARSA				⇓iSn	Sn	01 24 22.8	+3.7
ARSA	Arzberg	6.46	57	ePn	Pn	01 23 05.7	+0.1
ARSA	Arzberg	6.46	57	ePn	Pn	01 23 05.8	+0.2
SJPF	Ste Jean	6.47	266	ePg	Pg	01 23 32.0	-2.9
SJPF				eSn	Sn	01 24 16.2	-3.1
	18nm,0.4s						
SJPF	Ste Jean	6.47	266	ePn	Pn	01 23 05.2	-0.5
SJPF				ePg	Pg	01 23 32.0	-2.9
SJPF				eSn	Sn	01 24 16.2	-3.1
DOU	Dourbes	6.49	343	P	Pn	01 23 07.1	+1.2
BAIF	Baives	6.54	340	ePn	Pn	01 23 07.7	+1.0
	SNR=1.0						
BAIF				eSn	Sn	01 24 18.1	-2.9
	19nm,0.4s						
BAIF	Baives	6.54	340	ePn	Pn	01 23 07.7	+1.0
	SNR=1.0						
BAIF				eSn	Sn	01 24 18.1	-2.9
	9.4nm,0.4s						
KHC	Kasperske Hory	6.62	36	ePN	Pn	01 23 07.9	+0.1
KHC				ex	x	01 23 11.6	
KHC				ex	x	01 24 14.3	
	17nm,0.4s						
EALK	Alkurruntz	6.66	267	Pn	Pn	01 23 08.0	-0.3
EALK				Sn	Sn	01 24 20.7	-3.2
BCLA	Clavier	6.66	347	P	Pn	01 23 09.7	+1.4
ELIZ	Elizondo	6.68	266	Pn	Pn	01 23 08.4	-0.2
ELIZ				Sn	Sn	01 24 22.3	-2.2
ELIZ	Elizondo	6.68	266	Pn	Pn	01 23 08.4	-0.2
	4.1nm,0.2s,SNR=18						
ELIZ				Sn	Sn	01 24 22.3	-2.2
	9.0nm,0.2s,SNR=7.9						
MEM	Membach	6.75	351	P	Pn	01 23 10.8	+1.2
EIBI	Ibiza	6.80	226	Pn	Pn	01 23 10.6	+0.4
EIBI				Sn	Sn	01 24 23.6	-3.8
EIBI	Ibiza	6.80	226	Pn	Pn	01 23 10.6	+0.4
	7.6nm,0.2s,SNR=26						
EIBI				Sn	Sn	01 24 23.6	-3.8
	8.1nm,0.3s,SNR=9.3						
HGN	Heimansgroeve	6.91	351	ePn	Pn	01 23 13.2	+1.4
	10nm,0.9s						
HGN				eSn	Sn	01 24 29.6	-0.6
SNF	Seneffe	6.94	342	P	Pn	01 23 13.7	+1.5
EMOS	Mosqueruela	6.99	242	Pn	Pn	01 23 13.8	+1.0
EMOS				Sn	Sn	01 24 31.1	-0.8
EMOS	Mosqueruela	6.99	242	Pn	Pn	01 23 13.8	+1.0
	2.7nm,0.4s,SNR=11						
EMOS				Sn	Sn	01 24 31.1	-0.9
	11nm,0.7s,SNR=5.0						
CONA	Conrad Observa	7.00	52	⇑iPn	Pn	01 23 13.6	+0.6
CONA				⇓iSn	Sn	01 24 34.5	+2.2
LDF	La Druitiere	7.09	314	ePn	Pn	01 23 15.4	+1.2
	SNR=1.0						
LDF				eSn	Sn	01 24 31.0	-3.5
	17nm,0.3s						
LDF				eSg	Sn	01 25 14.6	+40
	82nm,0.8s						
LDF	La Druitiere	7.09	314	ePn	Pn	01 23 15.4	+1.2
	SNR=1.0						
LDF				eSn	Sn	01 24 31.0	-3.5
	8.6nm,0.3s						
LDF				eSg	Sn	01 25 14.6	+40
	41nm,0.8s						
NKC	Novy Kostel	7.10	26	ePN	Pn	01 23 14.9	+0.5
NKC				eSN	Sn	01 24 31.7	-3.2
	24nm,0.5s						
UCC	Uccle	7.20	343	P	Pn	01 23 16.8	+1.1
MOX	Moxa	7.23	21	ePN	Pn	01 23 17.7	+1.5
MOX				ePG	Pn	01 23 46.6	+30
MOX				i SN	Sn	01 24 35.0	-3.1
MOX				(SG)	Sn	01 25 14.5	+36
GRR	Gorron	7.36	310	ePn	Pn	01 23 19.3	+1.3
	SNR=1.0						
GRR				eSn	Sn	01 24 38.4	-2.9
	29nm,0.4s						
GRR	Gorron	7.36	310	ePn	Pn	01 23 19.3	+1.3
	SNR=1.0						
GRR				eSn	Sn	01 24 38.4	-2.9
	14nm,0.4s						
FLN	La Foliniere	7.38	314	ePn	Pn	01 23 20.2	+2.0
	baz=129,SNR=1.0						
FLN				eSn	Sn	01 24 40.3	-1.4
	42nm,0.6s,SNR=1.0						
FLN				eSg	Sn	01 25 23.7	+42
	36nm,0.6s						
TREC	Trest	7.62	43	ePN	Pn	01 23 20.9	-0.6
TREC				eSN	Sn	01 24 41.3	-6.2
PRU	Pruhonice	7.68	36	ePN	Pn	01 23 22.3	0.0
PRU				eSN	Sn	01 24 46.1	-3.0
PRU	Pruhonice	7.68	36	ePn	Pn	01 23 22.1	-0.2
ECHE	Chera	7.74	239	Pn	Pn	01 23 23.5	+0.3
ECHE	Chera	7.74	239	Pn	Pn	01 23 23.5	+0.3
	4.1nm,0.3s,SNR=7.9						
EBEN	Beniarda	7.88	231	Pn	Pn	01 23 27.1	+2.0
EBEN				Sn	Sn	01 24 48.3	-5.7
EBEN	Beniarda	7.88	231	Pn	Pn	01 23 27.1	+2.0
	1.5nm,0.3s,SNR=6.7						
KRUC	Moravsky	7.93	47	ePn	Pn	01 23 25.7	-0.1
ELAN	Lanestosa	8.05	269	Pn	Pn	01 23 28.6	+1.2
ELAN				Sn	Sn	01 24 54.9	-3.1
ELAN	Lanestosa	8.05	269	Pn	Pn	01 23 28.6	+1.3
	1.3nm,0.2s,SNR=12						
ELAN				Sn	Sn	01 24 54.9	-3.2
	6.0nm,0.4s,SNR=5.2						
PVCC	Panska Ves	8.11	33	ePN	Pn	01 23 29.3	+1.1
PVCC				eSN	Sn	01 24 58.4	-1.2
BRG	Berggiesshubel	8.15	30	PN	Pn	01 23 30.7	+1.9
BRG				i		01 25 01.5	
BRG	Berggiesshubel	8.15	30	Pn	Pn	01 23 30.7	+1.9
	11nm,1.1s						
BRG				i		01 25 01.5	
BRG				Sg	Sn	01 26 00.3	+60
VRAC	Vranov	8.18	46	Pn	Pn	01 23 28.7	-0.6
	0.4nm,0.3s,baz=253,slow=14,SNR=3.1						
VRAC				Sn	Sn	01 24 54.3	-7.1
	0.5nm,0.3s,baz=269,slow=13,SNR=3.6						
VRAC				LR	LR	01 27 11.9	
	comp=Z,77nm,18.5s,baz=254,slow=42						
VRAC	Vranov	8.18	46	ePn	Pn	01 23 28.4	-0.8
VRAC				Sn	Sn	01 24 54.3	-7.2
CLL	Collm	8.21	24	ePn	Pn	01 23 32.0	+2.3
CLL				ePg	Pn	01 24 15.0	+45
CLL				i Sn	Sn	01 25 01.1	-1.1
CLL				i x	x	01 25 23.9	
CLL				eSb	Sb	01 25 43.0	+12
CLL				eSg	Sn	01 26 05.0	+63
CLL	Collm	8.21	24	ePn	Pn	01 23 32.0	+2.3
CLL				i Sn	Sn	01 25 01.1	-1.1
CLL				Sg	Sn	01 25 50.0	+48
SGMF	Saint Gilles	8.27	305	ePn	Pn	01 23 31.3	+0.9
	SNR=1.0						
SGMF				eSg	Sn	01 25 51.4	+48
	34nm,0.6s						
SGMF	Saint Gilles	8.27	305	ePn	Pn	01 23 31.3	+0.9
	SNR=1.0						
SGMF				eSg	Sn	01 25 51.4	+48
	17nm,0.6s						
KEST	Kesra	8.31	170	Pn	Pn	01 23 32.4	+1.4
	0.3nm,0.3s,baz=303,slow=1.6,SNR=22						
KEST				Sn	Sn	01 25 02.4	-2.3
	0.1nm,0.3s,baz=315,slow=17,SNR=2.8						
QUIF	Quistinic	8.49	302	ePn	Pn	01 23 35.6	+2.2
	SNR=1.0						
QUIF				eSg	Sn	01 25 58.7	+50
	80nm,0.9s						
ETOB	Tobarra	8.69	236	Pn	Pn	01 23 36.8	+0.7
ETOB				Sn	Sn	01 25 08.9	-4.9
ETOB	Tobarra	8.69	236	Pn	Pn	01 23 36.8	+0.7
	1.7nm,0.2s,SNR=8.9						
DPC	Dobruska-Polom	8.73	40	ePN	Pn	01 23 36.2	-0.6
DPC				eSN	Sn	01 25 11.6	-3.3
ROSF	Rostrenen	8.73	304	ePn	Pn	01 23 37.9	+1.1
	SNR=1.0						
ROSF				eSg	Sn	01 26 06.0	+51
	86nm,1.2s						
ROSF	Rostrenen	8.73	304	ePn	Pn	01 23 37.9	+1.1
	SNR=1.0						
ROSF				eSg	Sn	01 26 06.0	+51
	43nm,1.2s						
MORC	Moravsky Berou	8.96	46	ePn	Pn	01 23 40.9	+1.0
	3.5nm,0.7s						
MORC				eSn	Sn	01 25 19.5	-1.0
MORC	Moravsky Berou	8.96	46	ePn	Pn	01 23 40.8	+0.9
	3.5nm,0.7s						
VYHS	Vyhne	9.02	56	ePn	Pn	01 23 39.5	-1.1
VYHS				eSn	Sn	01 25 16.1	-5.8
GUD	Guadarrama	9.32	253	Pn	Pn	01 23 45.3	+0.5
	7.5nm,0.5s,SNR=15						
EARI	Arriondas	9.32	270	Pn	Pn	01 23 45.1	+0.3
EARI				Sn	Sn	01 25 22.9	-6.4
EARI	Arriondas	9.32	270	Pn	Pn	01 23 45.1	+0.3
	2.7nm,0.3s,SNR=14						
PSZ	Piszkesteto	9.44	61	ePn	Pn	01 23 49.2	+2.8
	5.5nm,1.0s						
PSZ	Piszkesteto	9.44	61	ePn	Pn	01 23 49.2	+2.8
	5.5nm,1.0s						
ESDC	Sonseca Array	9.63	248	Pn	Pn	01 23 47.9	-1.2
	1.1nm,0.3s,baz=61,slow=14,SNR=20						
ESDC				Sn	Sn	01 25 32.9	-4.1
	0.5nm,0.3s,baz=55,slow=25,SNR=3.2						
ESDC	Sonseca Array	9.63	248	Pn	Pn	01 23 49.2	+0.1
ESDC				Sn	Sn	01 25 32.8	-4.2
ESDC	Sonseca Array	9.63	248	Pn	Pn	01 23 49.2	+0.1
	1.6nm,0.5s,SNR=16						
ESDC				Sn	Sn	01 25 32.8	-4.2
KECS	Kecovo	10.01	59	ePN	Pn	01 23 55.6	+1.3
EQES	Quesada	10.14	236	Pn	Pn	01 23 57.3	+1.2
	0.6nm,0.3s						
EQES	Quesada	10.14	236	Pn	Pn	01 23 57.3	+1.2
	0.6nm,0.3s						
EPON	Pontenova	10.71	272	Pn	Pn	01 24 03.1	-0.8
	1.4nm,0.3s						
KWP	Kalwaria	11.80	56	ePn	Pn	01 24 21.4	+2.6
	2.1nm,0.6s						
EMAZ	Mazaricos	12.10	271	Pn	Pn	01 24 22.7	-0.2
	2.4nm,0.3s						
EMAZ				Sn	Sn	01 26 30.4	-7.1
EMAZ	Mazaricos	12.10	271	Pn	Pn	01 24 22.7	-0.1
	2.4nm,0.3s						
EBAD	Badajoz	12.14	250	Pn	Pn	01 24 23.1	-0.4
	0.4nm,0.2s						
EBAD	Badajoz	12.14	250	Pn	Pn	01 24 23.1	-0.4
	0.4nm,0.2s						
EKA	Eskdalemuir Ar	13.34	332	Pn	Pn	01 24 37.9	-2.0
	1.0nm,0.3s,baz=141,slow=14,SNR=23						
ESK	Eskdalemuir	13.34	332	ePn	Pn	01 24 40.5	+0.7
	7.5nm,0.7s						
ESK	Eskdalemuir	13.34	332	ePn	Pn	01 24 40.5	+0.7
	7.5nm,0.7s						
MDT	Midelt	14.65	225	LR	LR	01 29 43.6	
	comp=Z,51nm,18.3s,baz=339,slow=34						
NOA	NORSAR Array B	17.26	6	P	Pn	01 25 34.8	+3.3
	0.1nm,0.3s,baz=188,slow=13,SNR=2.8						
FINES	FINESS Array B	20.66	26	P	P	01 26 10.4	+0.2
	1.5nm,0.7s,baz=207,slow=9.7,SNR=10						
KAF	Kangasniemi	21.24	25	ep	P	01 26 15.0	-1.5
	3.1nm,0.7s,mb3.8						
ARCES	ARCESS Array B	27.24	14	P	P	01 27 13.2	-1.2
	2.0nm,0.9s,mb3.6,baz=202,slow=12,SNR=3.3						
TORD	Torodi Ar. Bea	31.11	191	P	P	01 27 49.0	+0.2
	0.7nm,0.7s,mb3.6,baz=358,slow=8.1,SNR=5.8						
MKAR	Makanchi Array	50.69	59	P	P	01 30 29.9	0.0
	0.3nm,0.9s,mb3.2,baz=306,slow=7.6,SNR=1.9						

---

*NEIC **02** 01:39:23.5, 1963N×6360W, h67km, MD3.5(RSPR), After RSPR.*
*RSPR **02** 01:39:23.5, 1963N×6360W, h67km±14km, MD3.5/6, MD3.5/6*
TRN 02 01:39:20.9, 1960N×6354W, h35km, 7C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.56	221	⇑eP	Pn	01 39 48.5	+2.4
TBVI				eS	Sn	01 40 07.2	+2.1
STVI	Saint Thomas	1.83	227	⇑eP	Pn	01 39 52.1	+2.3
STVI				eS	Sn	01 40 14.1	+2.5
MTP	Monte Pirata	2.42	232	⇑eP	Pn	01 39 59.5	+1.5
MTP				eS	Sn	01 40 27.9	+1.5
CBYP	Canovanas	2.56	239	⇑eP	Pn	01 40 01.4	+1.5
CBYP				eS	Sn	01 40 31.2	+1.3
HUMP	Col San Antoni	2.63	237	⇑eP	Pn	01 40 02.5	+1.8
HUMP				eS	Sn	01 40 33.3	+1.9
CPD	Cerro la Pandu	2.74	236	⇑eP	Pn	01 40 04.2	+1.9
CPD				eS	Sn	01 40 36.2	+2.0
LSP	Las Mesas	3.65	248	⇓eP	Pn	01 40 16.6	+1.8
LSP				eS	Sn	01 40 58.2	+1.6
CRPR	Cabo Rojo, PR	3.74	246	⇑eP	Pn	01 40 18.0	+1.9
CRPR				eS	Sn	01 41 00.7	+1.9

---

*ISCJB **02** 01:56:00.5±1.7, 7.1S±0.1×15528E±006, h92km±18km, mb3.9/10, Error ellipse: s-maj=21.4km s-min=10.3km az=170.3*
*NEIC **02** 01:56:01.2±1.1, 7.10S×15530E, h87km±10km, mb4.3/4, Error ellipse: s-maj=13.7km s-min=9.0km az=165.0*
*IDC **02** 01:56:02.5±2.2, 7.10S×15523E, h93km±22km, mb3.6/6, mb1 3.8/8, mb1mx3.7/15, mbtmp4.0/8, MS3.4/7, Ms1 3.4/7, ms1mx3.2/23, Error ellipse: s-maj=21.8km s-min=14.5km az=179.0*
ISC 02 01:56:01.8±1.5**, 71S**±01×**15535E**±008**, h91**km±14km**, n19, σ0^{s}74**/15**, mb3.9**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.10	117	P	Pn	01 57 16.2	+0.4
	7.0nm,0.3s,baz=265,slow=7.6,SNR=2.5						
HNR				S	Sn	01 58 19.1	+5.7
	22nm,0.3s,baz=260,slow=5.1,SNR=4.2						
HNR				LR	LR	01 59 12.7	
	comp=Z,443nm,20.1s,baz=178,slow=36						
PMG	Port Moresby	8.42	254	P	Pn	01 57 59.5	-1.4
	3.8nm,0.3s,baz=55,slow=9.6,SNR=9.4						
PMG				S	Sn	01 59 35.9	+1.7
	1.7nm,0.3s,baz=176,slow=2.0,SNR=3.2						
PMG				LR	LR	02 00 38.3	
	comp=Z,60nm,21.1s,baz=75,slow=33						
CTA	Charters Tower	15.63	213	LR	LR	02 04 10.7	
	comp=Z,135nm,19.5s,baz=51,slow=31						
KAKA	Kakadu	23.23	254	eP	P	02 01 00.2	-0.7
	5.7nm,0.6s,mb4.1						
WRAB	Tennant Creek	24.03	236	eP	P	02 01 08.2	0.0
	11nm,0.9s,mb4.2						
WB2	Warramunga Arr	24.03	236	eP	P	02 01 08.2	0.0
WB2				e		02 01 16.5	
WRA	Warramunga Arr	24.04	236	P	P	02 01 08.3	0.0
	3.0nm,0.8s,mb3.7,baz=59,slow=9.4,SNR=41						
ASAR	Alice Springs	26.36	229	P	P	02 01 29.0	-0.3
	0.7nm,0.7s,mb3.2,baz=60,slow=9.3,SNR=8.9						
ASAR				LR	LR	02 11 23.5	
	comp=Z,96nm,20.3s,baz=352,slow=35						
STKA	Stephens Creek	27.78	206	P	P	02 01 41.9	-0.2
	1.0nm,0.4s,mb3.7,baz=34,slow=13,SNR=2.6						
STKA				LR	LR	02 12 31.4	
	comp=Z,155nm,20.6s,baz=24,slow=36						
FITZ	Fitzroy Crossi	30.93	247	eP	P	02 02 09.8	-0.1
	5.0nm,0.6s,mb4.4						
FITZ				e		02 02 18.1	
FITZ	Fitzroy Crossi	30.93	247	LR	LR	02 14 10.2	
	comp=Z,66nm,20.2s,baz=9.5,slow=35						
MBWA	Marble Bar	37.14	244	eP	P	02 03 03.9	+0.3
	1.6nm,0.4s,mb4.3						
NWAO	Narrogin (SRO)	43.68	229	LR	LR	02 23 24.0	
	comp=Z,87nm,19.3s,baz=358,slow=38						
MJAR	Matsushiro Arr	46.30	341	P	P	02 04 17.7	-0.6
	0.6nm,0.3s,mb3.8,baz=108,slow=2.9,SNR=4.1						
SONM	Songino Array	69.62	327	P	P	02 07 01.6	+0.4
	1.0nm,0.7s,mb3.8,baz=127,slow=5.4,SNR=7.0						
MKAR	Makanchi Array	83.72	319	P	P	02 08 21.6	+1.0
	0.5nm,0.7s,mb3.5,baz=88,slow=6.5,SNR=3.2						
MIV	Mineville/With	123.75	41	ePKPdf	PKPdf	02 14 47.7	-1.2
BDFB	Brasilia	147.65	134	PKPbc	PKPbc	02 15 37.2	+1.5
	3.6nm,0.8s,baz=265,slow=3.6,SNR=7.0						
TORD	Torodi Ar. Bea	153.39	285	PKPbc	PKPbc	02 15 51.0	+1.6
	0.3nm,0.6s,baz=69,slow=1.1,SNR=5.7						

---

*ATH **02** 02:01:50.7, 40.17N×1978E, h29km±3km, MD3.2/3*
*THE **02** 02:01:52.0, 4004N×1962E, h4km, ML2.8*
*ISCJB **02** 02:01:54.9±0.8, 3995N±004×1974E±008, h30km±6km, Error ellipse: s-maj=10.4km s-min=6.2km az=141.7*
*CSEM **02** 02:01:54.2±0.3, 4006N×1988E, h18km±3km, ML2.8, Error ellipse: s-maj=8.5km s-min=6.1km az=70.0*
ISC 02 02:01:55.5±0.7**, 3999N**±003×**1987E**±006**, h18**km±5km**, n13, σ1^{s}24**/22**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.28	191	ePB	Pg	02 02 00.9	-0.8
KEK				eSB	Sg	02 02 07.8	+1.9
VLO	Vlora	0.55	329	i Pg	Pg	02 02 04.0	-2.5
VLO				i Sg	Sg	02 02 15.2	+1.2
IGT	Igoumenitsa	0.58	142	ePg	Pg	02 02 06.0	-1.1
IGT				eSg	Sg	02 02 16.9	+2.0
JAN	Janina	0.83	114	ePN	Pb	02 02 09.3	-2.1
JAN				eSN	Sb	02 02 23.1	+0.9
MEV	Metsovon	1.07	101	ePg	Pg	02 02 15.4	-0.8
OHR	Ohrid	1.32	32	i Pn	Pn	02 02 20.7	+1.6
OHR				i Sn	Sn	02 02 37.2	+0.9
FNA	Florina	1.40	55	ePg	Pn	02 02 19.0	-1.1
FNA				eSg	Sg	02 02 40.4	-0.3
BIA	Bitola	1.51	47	ePb	Pn	02 02 20.6	-1.0
BIA				eSb	Sb	02 02 42.7	+0.9
BIA	Bitola	1.51	47	i Pn	Pn	02 02 20.7	-1.0
BIA				i Sn	Sg	02 02 44.1	-0.2
BIA	Bitola	1.51	47	i Pn	Pn	02 02 20.7	-1.0
BIA				i Sn	Sg	02 02 44.1	-0.2
VLS	Valsamata	1.90	163	ePN	Pn	02 02 26.3	-0.7
STIP	Stip	2.45	45	i Pn	Pn	02 02 35.2	+0.7
STIP	Stip	2.45	45	i Pn	Pn	02 02 35.1	+0.6

---

*ISCJB **02** 02:08:43.7±0.9, 4394N±003×772E±006, h2km, Error ellipse: s-maj=6.3km s-min=3.5km az=38.5*
*STR **02** 02:08:45.1±0.2, 4394N×757E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 02:08:45.8±0.1, 4391N×763E, h2km, Md2.0/3, Ml2.1/10, Error ellipse: s-maj=2.3km s-min=1.2km az=109.0*
ISC 02 02:08:45.7±0.8**, 4393N**±003×**759E**±006**, h14**km±2km**, n21, σ0^{s}67**/38**, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAOF	Saorge	0.07	337	Pg	Pg	02 08 47.7	-0.8
SAOF				Sg	Sg	02 08 49.5	-1.0
SBF	Sospel	0.13	240	ePg	Pg	02 08 48.9	-0.3
	SNR=1.0						
SBF				eSg	Sg	02 08 51.0	-0.7
	143nm,0.2s						
AUTN	L'Aution	0.14	300	Pg	Pg	02 08 49.2	-0.1
AUTN				Sg	Sg	02 08 52.3	+0.4
LUCF	Luceram	0.18	259	Pg	Pg	02 08 49.9	0.0
LUCF				Sg	Sg	02 08 53.7	+0.8
REVF	Revere	0.25	221	Pg	Pg	02 08 51.0	0.0
REVF				Sg	Sg	02 08 56.0	+1.3
TOUF	Mont Tournerai	0.26	289	Pg	Pg	02 08 51.6	+0.3
TOUF				Sg	Sg	02 08 56.1	+1.0
MVIF	Mont Vial	0.32	265	Pg	Pg	02 08 52.5	+0.2
FRF	La Foret Royal	0.78	242	ePg	Pg	02 09 00.4	-0.4
	SNR=1.0						
FRF				eSg	Sg	02 09 11.0	0.0
	8.7nm,0.2s						
LMR	La Mourre	0.98	233	ePg	Pg	02 09 04.0	-0.7
	SNR=1.0						
LMR				eSg	Sg	02 09 17.2	-0.4
	6.5nm,0.2s						
MBDF	Montbardon	0.99	324	ePg	Pg	02 09 04.2	-0.7
MBDF				eSg	Sg	02 09 18.3	+0.4
	11nm,0.5s						
TAVF	Tavernes	1.15	255	Pn	Pn	02 09 07.9	+0.5
STOF	St-Etienne Org	1.22	274	Pn	Pn	02 09 09.2	+1.0
SMRF	Simiane la Rot	1.46	273	ePn	Pn	02 09 12.4	+0.9
SMRF				eSg	Sg	02 09 32.5	-0.1
	12nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	1.58	310	ePg	Pg	02 09 15.1	-0.9
	SNR=1.0						
ORIF				eSg	Sg	02 09 37.0	+0.5
	8.2nm,0.5s						
LPG	La Plagne	1.68	339	ePn	Pn	02 09 15.5	+0.9
	SNR=1.0						
LPG	La Plagne	1.68	339	ePg	Pg	02 09 18.0	0.0
	SNR=1.0						
LPG				eSg	Sg	02 09 40.2	+0.4
	1.7nm,0.3s						
LPL	La Plagne	1.70	339	ePn	Pn	02 09 15.7	+0.8
	SNR=1.0						
LPL	La Plagne	1.70	339	ePg	Pg	02 09 18.4	0.0
LPL				eSg	Sg	02 09 40.8	+0.3
	1.8nm,0.4s						
VIVF	Saint-Julien-l	2.29	295	ePn	Pn	02 09 23.2	+0.2
VIVF				eSn	Sn	02 09 50.9	0.0
	0.8nm,0.2s,SNR=1.0						
VIVF				eSg	Sg	02 09 58.3	-1.0
	3.2nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.89	339	ePn	Pn	02 09 31.2	0.0
CABF				eSn	Sn	02 10 04.6	-1.1
	1.0nm,0.4s						
MTLF	Montolieu	3.94	263	ePn	Pn	02 09 45.7	-0.1
MTLF				eSn	Sn	02 10 30.1	-1.7
	0.7nm,0.3s						

---

*TRN **02** 02:12:02.7, 1952N×6354W, h26km, MD3.9, MG3.9(RSPR)*
*NEIC **02** 02:12:05.6, 1964N×6357W, h33km, MD3.9(RSPR), After RSPR.*
RSPR 02 02:12:05.6, 1964N×6357W, h33km±21km**, MD3.9**/17**, MD3.9**/17**, 11C-6D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	1.16	219	⇑eP	Pn	02 12 23.8	-1.7
TBVI	Tortola	1.57	219	⇑eP	Pn	02 12 29.4	-1.7
TBVI				eS	Sn	02 12 49.4	-0.9
STMA	St. Maarten, A	1.65	165	eP	Pn	02 12 29.8	-2.3
STMA				eS	Sn	02 12 49.7	-2.4
STVI	Saint Thomas	1.83	226	⇓eP	Pn	02 12 33.4	-1.3
STVI				eS	Sn	02 12 54.8	-2.0
CDVI	St. Croix	2.19	211	⇑eP	Pn	02 12 39.2	-0.5
CDVI				eS	Sn	02 13 04.5	-1.2
MTP	Monte Pirata	2.43	231	⇓eP	Pn	02 12 41.8	-1.1
MTP				eS	Sn	02 13 09.7	-1.7
CBYP	Canovanas	2.56	238	⇑eP	Pn	02 12 44.0	-0.7
CBYP				eS	Sn	02 13 13.6	-1.1
HUMP	Col San Antoni	2.63	236	⇑eP	Pn	02 12 44.7	-0.9
HUMP				eS	Sn	02 13 15.3	-1.0
CPD	Cerro la Pandu	2.74	235	⇑eP	Pn	02 12 46.8	-0.4
CPD				eS	Sn	02 13 18.3	-0.8
SJG	San Juan	2.88	239	⇑eP	Pn	02 12 48.3	-0.9
SJG				eS	Sn	02 13 21.2	-1.4
CELP	Cerrillos	3.25	242	⇑eP	Pn	02 12 53.3	-1.0
CELP				eS	Sn	02 13 31.0	-0.7
AOPR	Arecibo Observ	3.28	247	⇓eP	Pn	02 12 53.4	-1.2
AOPR				eS	Sn	02 13 31.9	-0.5
OBIP	Obispado Ponce	3.29	242	⇓eP	Pn	02 12 53.8	-0.9
OBIP				eS	Sn	02 13 31.2	-1.4
ICM	Isla Caja Muer	3.29	239	⇓eP	Pn	02 12 54.5	-0.3
ICM				eS	Sn	02 13 32.4	-0.5
LRS	Lares	3.38	247	⇑eP	Pn	02 12 55.2	-0.8
LRS				eS	Sn	02 13 34.2	-0.8
AGPR	Aguadilla, PR	3.55	251	⇑eP	Pn	02 12 57.7	-0.6
AGPR				eS	Sn	02 13 39.0	-0.1
LSP	Las Mesas	3.64	247	⇑eP	Pn	02 12 59.5	-0.1
LSP				eS	Sn	02 13 41.2	0.0
MGP	Maguayo	3.71	245	⇑iP	Pn	02 13 00.1	-0.5
MGP				eS	Sn	02 13 42.5	-0.6
CRPR	Cabo Rojo, PR	3.73	245	⇓eP	Pn	02 13 00.1	-0.7
CRPR				eS	Sn	02 13 42.5	-1.1

---

*TRN **02** 02:14:42.5, 1937N×6333W, h35km*
*NEIC **02** 02:14:44.8, 1943N×6336W, h58km, MD3.4(RSPR), After RSPR.*
RSPR 02 02:14:44.8, 1943N×6336W, h58km±15km**, MD3.4**/5**, MD3.4**/5**, 6C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.56	230	⇑eP	Pn	02 15 09.8	-0.4
TBVI				eS	Sn	02 15 28.5	-0.8
STVI	Saint Thomas	1.85	235	⇑eP	Pn	02 15 13.3	-0.8
STVI				eS	Sn	02 15 35.5	-0.9
MTP	Monte Pirata	2.46	238	⇑eP	Pn	02 15 21.7	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTP				eS	Sn	02 15 51.1	-0.2
CBYP	Canovanas	2.63	245⇑	eP	Pn	02 15 24.1	-0.6
CBYP				eS	Sn	02 15 54.9	-0.5
HUMP	Col San Antoni	2.68	242⇑	eP	Pn	02 15 24.6	-0.9
HUMP				eS	Sn	02 15 56.2	-0.6
CPD	Cerro la Pandu	2.79	241⇑	eP	Pn	02 15 26.9	0.0
CPD				eS	Sn	02 15 59.3	-0.1

WEL 02 02:17:09.7±0.5, 3729S×17958E, h12km, ML3.7/10, Error ellipse: s-maj=5.0km s-min=2.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.05	255	P*	Pb	02 17 28.5	-1.3
MXZ				S*	Sb	02 17 42.5	-1.0
PUZ	Puketiti	1.31	233	PN	Pn	02 17 33.3	-0.4
PUZ				SN	Sn	02 17 50.4	-0.7
MWZ	Matawai	1.93	237	PN	Pn	02 17 41.6	-0.7
MWZ				SN	Sn	02 18 05.6	-0.9
URZ	Urewera	2.18	243	PN	Pn	02 17 45.3	-0.5
URZ				SN	Sn	02 18 12.0	-0.7
KNZ	Kokohu	2.29	220	PN	Pn	02 17 46.2	-1.1
BKZ	Black Stump Fm	3.07	231	PN	Pn	02 17 57.0	-1.0
BKZ				SN	Sn	02 18 32.6	-2.0
KUZ	Kuaotunu	3.13	279	PN	Pn	02 17 56.9	-2.0
PXZ	Pawanui	3.46	217	PN	Pn	02 18 00.7	-2.7
TSZ	Takapari Road	3.96	225	PN	Pn	02 18 08.2	-2.1
WCZ	Waipu Caves	4.42	286	PN	Pn	02 18 15.3	-1.3

IDC 02 02:19:28.8±2.7, 950S×10744E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=110.9km s-min=22.3km az=51.0
NEIC 02 02:19:29.0±0.8, 976S×107.10E, h10km, mb4.1/3, Error ellipse: s-maj=35.4km s-min=11.7km az=54.0
ISCJB 02 02:19:36.4±3.9, 96S±02×1074E±03, h84km±37km, mb3.8/7, Error ellipse: s-maj=53.0km s-min=15.3km az=101.8
ISC 02 02:19:36.3±3.1, 97S±02×1073E±03, h66km±30km, n9, σ0^{s}55/9, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	14.99	326	Pn	Pn	02 23 04.6	+0.3
	0.7nm,0.3s,baz=140,slow=16,SNR=3.1						
FITZ	Fitzroy Crossi	19.62	117	P	Pn	02 24 00.5	-0.7
	0.1nm,0.3s,baz=282,slow=13,SNR=5.5						
WRA	Warramunga Arr	27.98	114	P	P	02 25 21.0	+0.2
	0.7nm,0.7s,mb3.3,baz=286,slow=11,SNR=7.3						
STKA	Stephens Creek	38.62	130	P	P	02 26 53.8	+0.7
	1.7nm,0.8s,mb3.9,baz=294,slow=9.9,SNR=3.7						
SONM	Songino Array	57.31	359	P	P	02 29 17.9	+0.6
	0.8nm,0.6s,mb3.9,baz=166,slow=7.9,SNR=5.5						
ULN	Ulaanbaatar	57.34	360	eP	P	02 29 17.8	+0.3
	1.4nm,0.6s,mb4.2						
MKAR	Makanchi Array	60.54	340	P	P	02 29 39.2	-0.5
	0.9nm,0.5s,mb4.0,baz=144,slow=7.4,SNR=7.6						
ZRNK	Zerenda	70.47	337	eP	P	02 30 42.7	-1.0
	1.1nm,0.6s,mb3.9						
ZRNK				epP	pP	02 30 48.5	-13
VNDA	Vanda	73.24	169	eP	P	02 31 00.4	+0.1
	0.4nm,0.5s,mb3.5						

IDC 02 02:26:50.2±3.3, 054N×9968E, h146km±20km, mb3.4/5, mb1 3.6/6, mb1mx3.3/19, mbtmp3.8/6, Error ellipse: s-maj=96.4km s-min=21.8km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.38	341	P	Pn	02 27 28.6	-1.0
	4.2nm,0.3s,baz=164,slow=10,SNR=17						
WRA	Warramunga Arr	39.59	123	P	P	02 34 07.4	+0.2
	0.2nm,0.4s,baz=303,slow=8.9,SNR=6.8						
SONM	Songino Array	47.47	6	P	P	02 35 10.8	+0.5
	0.6nm,0.6s,baz=186,slow=8.5,SNR=3.7						
MKAR	Makanchi Array	48.52	344	P	P	02 35 18.2	-0.1
	0.5nm,0.4s,baz=157,slow=7.2,SNR=7.0						
ZAL	Zalesovo	54.63	349	P	P	02 36 03.2	-0.5
	2.0nm,0.4s,baz=303,slow=5.6,SNR=4.7						
ARCES	ARCESS Array B	84.00	340	P	P	02 39 04.0	-0.2
	1.6nm,0.8s,baz=94,slow=5.1,SNR=10						

IDC 02 02:26:59.3±0.6, 1948N×6350W, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, ML4.0/3, MS3.4/10, Ms1 3.4/10, ms1mx3.2/27, Error ellipse: s-maj=15.5km s-min=12.8km az=115.0
TRN 02 02:27:02.3, 1957N×6354W, h48km, MD4.2
ISCJB 02 02:27:03.2±0.7, 1953N±004×6355W±003, h39km±7km, mb4.1/22, MS3.4/8, Error ellipse: s-maj=7.5km s-min=4.1km az=18.9
NEIC 02 02:27:05.5, 1963N×6367W, h12km, mb4.0/4, MD4.1(RSPR), After RSPR.
RSPR 02 02:27:05.5, 1963N×6367W, h12km±18km, MD4.1/18, MD4.1/18
ISC 02 02:27:03.7±1.3, 1950N±003×6355W±002, h25km±10km, n67, σ0^{s}96/85, mb4.1/22, MS3.4/8, 8C-10D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABV	Anegada	1.07	224⇑	eP	Pn	02 27 23.2	+0.1
TBVI	Tortola	1.48	223⇑	eP	Pn	02 27 28.7	0.0
TBVI				eS	Sn	02 27 47.3	0.0
STMA	St. Maarten, A	1.51	164	eP	Pn	02 27 29.7	+0.6
STMA				eS	Sn	02 27 48.9	+0.9
STVI	Saint Thomas	1.76	230⇑	eP	Pn	02 27 32.7	+0.1
STVI				eS	Sn	02 27 54.1	0.0
SABT	Saba	1.89	171	eP	Pn	02 27 35.0	+0.6
SABT				eS	Sn	02 27 59.3	+1.9
CDVI	St. Croix	2.09	214⇓	eP	Pn	02 27 38.5	+1.4
CDVI				eS	Sn	02 28 03.6	+1.2
MTP	Monte Pirata	2.36	234⇑	eP	Pn	02 27 41.0	+0.2
MTP				eS	Sn	02 28 09.5	+0.5
CBYP	Canovanas	2.51	241⇓	eP	Pn	02 27 43.0	+0.2
HUMP	Col San Antoni	2.57	239⇑	eP	Pn	02 27 43.8	+0.1
HUMP				eS	Sn	02 28 14.3	+0.2
CPD	Cerro la Pandu	2.68	237⇑	eP	Pn	02 27 45.7	+0.5
CPD				eS	Sn	02 28 16.1	-0.7
SJG	San Juan	2.83	241⇓	eP	Pn	02 27 47.5	+0.2
SJG	San Juan	2.83	241	eS	Sn	02 28 20.5	-0.1
SJG	San Juan	2.83	241	Pn	Pn	02 27 47.3	0.0
	34nm,0.3s,baz=71,slow=8.4,SNR=79						
SJG				Sn	Sn	02 28 20.7	+0.2
	33nm,0.3s,baz=260,slow=17,SNR=6.8						
SJG	San Juan	2.83	241⇓	eP	Pn	02 27 47.5	+0.2
SJG				eS	Sn	02 28 20.5	-0.1
SJG	San Juan	2.83	241	ePn	Pn	02 27 46.9	-0.4
SJG				eSn	Sn	02 28 20.6	+0.1
BPA	Boggy Peak	2.92	146	eP	Pn	02 27 48.0	-0.5
BPA				eS	Sn	02 28 22.2	-0.7
CELP	Cerrillos	3.21	244⇓	iP	Pn	02 27 52.9	+0.4
CELP				eS	Sn	02 28 29.5	-0.4
ICM	Isla Caja Muer	3.24	241⇓	eP	Pn	02 27 53.9	+0.9
ICM				eS	Sn	02 28 30.2	-0.6
OBIP	Obispado Ponce	3.24	244⇑	eP	Pn	02 27 52.7	-0.3
OBIP				eS	Sn	02 28 30.9	+0.1
AOPR	Arecibo Observ	3.25	250⇑	eP	Pn	02 27 52.4	-0.7
AOPR				eS	Sn	02 28 29.4	-1.5
LRS	Lares	3.35	249⇓	iP	Pn	02 27 54.1	-0.3
AGPR	Aguadilla, PR	3.53	254⇓	eP	Pn	02 27 57.0	+0.1
AGPR				eS	Sn	02 28 36.3	-1.5
LSP	Las Mesas	3.60	249⇓	eP	Pn	02 27 58.4	+0.5
SEG	Port Louis	3.64	147	eP	Pn	02 27 56.9	-1.6
MGP	Maguayo	3.67	247⇑	iP	Pn	02 27 59.2	+0.3
CRPR	Cabo Rojo, PR	3.69	247⇓	eP	Pn	02 27 59.2	0.0
CRPR				eS	Sn	02 28 41.5	-0.3
LZG	Guadaloupe-1	3.74	153	eP	Pn	02 27 59.7	-0.1
HMG	Houelmont	3.92	153	eP	Pn	02 28 03.0	+0.7
DEG	La Desirade	3.96	143	eP	Pn	02 28 00.8	-2.0
TBG	Guadaloupe-3	4.06	153	eP	Pn	02 28 03.2	-0.9
BBL	Barber's Block	4.42	153	eP	Pn	02 28 07.7	-1.5
SDDR	Presa de Saban	7.33	267	ePn	Pn	02 28 49.6	+0.4
SDDR				eSn	Sn	02 30 12.6	+1.1
PCRV	Puerto La Cruz	9.33	187	Pn	Pn	02 29 12.3	-4.3
	0.2nm,0.3s,baz=57,slow=11,SNR=2.1						
PCRV				LR	LR	02 32 39.9	
	comp=Z,177nm,20.6s,baz=170,slow=36						
MASC	Masc	10.08	276	ePG	Pn	02 29 26.3	-0.5
	baz=180						
MASC				eSG	Sn	02 31 12.7	-6.4
	comp=N,208nm,0.0s						
MASC				e			
	comp=E,237nm,0.0s						
SDV	Santo Domingo	12.59	214	Pn	Pn	02 30 01.9	+0.7
	comp=E,0.6nm,0.3s,baz=57,slow=8.8,SNR=12						
SDV	Santo Domingo	12.59	214	ePn	Pn	02 30 01.4	+0.3
	comp=E,25nm,0.9s						
BBSR	BB Station	12.86	356	ePn	Pn	02 29 58.7	-6.2
	comp=E,20nm,1.0s						
BBSR				eSn	Sn	02 32 08.7	-18
ROSC	El Rosal	17.96	217	P	Pn	02 31 12.4	+0.8
	comp=E,0.7nm,0.3s,baz=120,slow=7.5,SNR=8.2						
ROSC				LR	LR	02 38 37.1	
	comp=E,148nm,19.4s,baz=11,slow=39						
ROSC	El Rosal	17.96	217	eP	Pn	02 31 14.3	+2.7
JTS	JuntasAbangare	22.60	249	P	P	02 32 03.3	+0.9
	comp=E,7.2nm,0.8s,mb4.1,baz=110,slow=12,SNR=3.0						
JTS				LR	LR	02 40 53.2	
	comp=E,48nm,18.1s,MS3.0,baz=225,slow=37						
WVT	Waverly	27.01	313	eP	P	02 32 47.9	+4.2
	comp=E,2.0nm,0.6s,mb3.8						
SAML	Samuel	28.27	179	eP	P	02 32 53.6	-1.4
	comp=E,3.4nm,1.1s,mb3.9						
ATAH	Atahualpa	30.12	210	P	P	02 33 13.5	+2.1
	comp=E,2.1nm,0.6s,mb4.1,baz=75,slow=16,SNR=2.1						
SIV	San Ignacio	35.35	176	P	P	02 33 55.6	-1.5
	comp=E,2.3nm,0.8s,mb4.2,baz=9.4,slow=10,SNR=13						
SCHQ	Schefferville	35.36	357	LR	LR	02 44 55.6	
	comp=E,47nm,21.0s,MS3.2,baz=36,slow=30						
LPAZ	La Paz	35.85	188	P	P	02 34 00.1	-1.3
	comp=E,2.4nm,0.9s,mb4.1,baz=1.7,slow=9.2,SNR=7.9						
LPAZ				LR	LR	02 50 25.1	
	comp=E,50nm,18.5s,MS3.3,baz=241,slow=39						
BDFB	Brasilia	38.12	155	P	P	02 34 20.8	+0.2
	comp=E,4.7nm,0.8s,mb4.3,baz=324,slow=6.7,SNR=6.6						
MNTX	Cornudas Mount	39.41	296	eP	P	02 34 29.7	-1.7
	comp=E,2.6nm,1.0s,mb3.9						
ANMO	Albuquerque	40.82	301	P	P	02 34 43.5	+0.4
	comp=E,1.8nm,1.0s,mb3.7,baz=121,slow=8.2,SNR=5.4						
PDAR	Pinedale Array	45.01	311	P	P	02 35 15.9	-1.2
	comp=E,1.2nm,0.9s,mb3.7,baz=111,slow=8.1,SNR=9.7						
CPUP	Villa Florida	45.96	172	P	P	02 35 22.6	-2.0
	comp=E,2.3nm,0.8s,mb4.2,baz=333,slow=6.0,SNR=5.4						
CPUP				LR	LR	02 55 37.1	
	comp=E,76nm,18.1s,MS3.7,baz=138,slow=37						
NEW	Newport	51.60	317	P	P	02 36 07.0	-0.9
	comp=E,0.6nm,0.3s,mb4.0,baz=174,slow=6.5,SNR=3.8						
MDT	Midelt	53.92	63	P	P	02 36 25.1	0.0
	comp=E,2.1nm,0.8s,mb4.1,baz=291,slow=11,SNR=7.5						
YKA	Yellowknife Ar	55.31	334	LR	LR	03 01 15.6	
	comp=E,52nm,18.0s,MS3.7,baz=270,slow=37						
SJPF	Ste Jean	56.85	51	eP	P	02 36 48.5	+2.4
EPF	Esparros	57.99	51	eP	P	02 36 55.8	+1.6
	comp=E,6.2nm,0.8s,mb4.4						
MTLF	Montolieu	59.37	51	eP	P	02 37 05.5	+1.7
	comp=E,8.3nm,1.1s,mb4.4						
MEZF	Maizieres J'vi	61.52	45	eP	P	02 37 18.6	+0.1
	comp=E,14nm,0.9s,mb4.8						
TORD	Torodi Ar. Bea	62.62	85	P	P	02 37 25.2	-0.6
	comp=E,0.6nm,0.6s,mb3.9,baz=288,slow=5.2,SNR=7.4						
NB2	NORSAR Subarra	65.76	31	P	P	02 37 48.5	+2.1
	comp=Z,0.7nm,0.7s,mb3.8,baz=268,slow=6.9						
NOA	NORSAR Array B	65.76	31	P	P	02 37 46.4	0.0
	comp=Z,1.2nm,0.8s,mb4.0,baz=267,slow=6.6,SNR=4.6						
NOA				LR	LR	03 03 42.7	
	comp=Z,23nm,18.7s,MS3.4,baz=275,slow=34						
NOA	NORSAR Array B	65.76	31	P	P	02 37 46.4	0.0
NOA				LR	LR	03 03 42.7	
GERES	GERESS Array B	67.25	44	P	P	02 37 56.4	+0.4
	comp=Z,0.6nm,0.9s,mb3.6,baz=289,slow=8.3,SNR=4.6						
GERES				LR	LR	03 05 31.3	
	comp=Z,25nm,18.9s,MS3.5,baz=99,slow=34						
BRG	Berggiesshubel	67.28	42	e(P)	P	02 37 57.0	+0.8
	comp=Z,0.8nm,0.4s,mb4.2						
ARCES	ARCESS Array B	71.57	22	P	P	02 38 21.4	-1.3
	comp=Z,3.2nm,0.9s,mb4.2,baz=311,slow=7.4,SNR=4.6						
FINES	FINESS Array B	72.90	30	P	P	02 38 30.9	+0.3
	comp=Z,1.7nm,0.8s,mb4.0,baz=225,slow=5.1,SNR=6.8						
FINES				LR	LR	03 07 47.3	
	comp=Z,34nm,19.6s,MS3.6,baz=314,slow=34						
WRA	Warramunga Arr	163.15	266	PKPab	PKPab	02 47 54.4	+0.3
	comp=Z,0.4nm,1.0s,baz=94,slow=2.7,SNR=4.5						

IDC 02 02:29:14.4±3.7, 1221S×16694E, h219km±34km, mb3.8/13, mb1 4.0/14, mb1mx4.0/17, mbtmp4.3/14, Error ellipse: s-maj=18.8km s-min=17.1km az=140.0
ISCJB 02 02:29:15.5±2.5, 1228S±010×16687E±008, h241km±24km, mb4.1/35, Error ellipse: s-maj=16.6km s-min=11.6km az=141.8
NEIC 02 02:29:15.7±1.5, 1225S×16691E, h232km±14km, mb4.2/23, Error ellipse: s-maj=10.3km s-min=6.8km az=157.0
BJI 02 02:29:15.6, 1230S×16690E, h231km, mB4.7, mb4.5
ISC 02 02:29:16.5±2.5, 1230S±010×16693E±008, h237km±24km, n93, σ0^{s}86/50, mb4.1/35, 7C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.73	183	P	Pn	02 31 32.0	+0.3
	2.7nm,0.3s,baz=37,slow=16,SNR=21						
CTA	Charters Tower	21.30	246	P	P	02 33 44.9	0.0
	4.0nm,0.4s,mb4.3,baz=62,slow=14,SNR=8.0						
CTA	Charters Tower	21.30	246	P	P	02 33 44.9	0.0
CTAO	Charters Tower	21.30	246	eP	P	02 33 44.9	-0.1
	10.0nm,0.7s,mb4.5						
STKA	Stephens Creek	30.38	226	eP	P	02 35 06.8	+0.4
	4.9nm,1.7s,mb3.9						
STKA	Stephens Creek	30.38	226	P	P	02 35 07.0	+0.6
	1.3nm,0.4s,mb3.9,baz=80,slow=8.2,SNR=7.6						
WB2	Warramunga Arr	32.17	252	eP	P	02 35 21.2	-0.8
WRA	Warramunga Arr	32.18	252	P	P	02 35 21.6	-0.5
	0.8nm,0.5s,mb3.5,baz=78,slow=8.8,SNR=19						
ASAR	Alice Springs	33.30	246	P	P	02 35 31.3	-0.6
	1.8nm,0.7s,mb3.7,baz=72,slow=9.4,SNR=28						
KAKA	Kakadu	33.66	266	eP	P	02 35 35.0	0.0
	4.4nm,0.3s,mb4.5						
FITZ	Fitzroy Crossi	40.20	257	eP	P	02 36 30.3	+0.4
	3.8nm,1.4s,mb3.6						
FITZ	Fitzroy Crossi	40.20	257	P	P	02 36 30.4	+0.5
	1.1nm,0.5s,mb3.6,baz=58,slow=11,SNR=9.0						
FORT	Forrest	40.30	237	eP	P	02 36 31.0	+0.3
	11nm,0.6s,mb4.5						
MBWA	Marble Bar	45.91	252	eP	P	02 37 15.7	+0.2
	5.3nm,0.8s,mb3.9						
MJAR	Matsushiro Arr	55.61	332	P	P	02 38 26.7	-1.0
	4.9nm,0.8s,mb4.1,baz=166,slow=8.6,SNR=14						
MAT	Matsushiro	55.62	332	P	P	02 38 27.0	-0.7
VNDA	Vanda	65.27	181	P	P	02 39 32.8	-0.1
	1.3nm,0.6s,mb3.8,baz=347,slow=7.5,SNR=10						
VNDA	Vanda	65.27	181	eP	P	02 39 32.6	-0.2
	1.3nm,0.6s,mb3.7						
CASY	Casey	65.65	202	eP	P	02 39 34.6	-0.7
	4.6nm,0.7s,mb4.2						
HHC	Hu-ho-hao-te	73.53	319	eP	P	02 40 26.3	+2.9
HHC				PCP	PcP	02 40 40.8	+2.7
HHC				AP	pP	02 41 18.8	0.0
HHC				XP	sP	02 41 42.7	-1.5
HHC				PP	PP	02 43 15.4	+4.8
HHC				S	S	02 49 36.6	+3.2
HHC				SKS		02 50 06.6	
HHC				SCS	ScS	02 50 10.7	+0.9
HHC				XS	sS	02 51 09.5	-1.1
HHC				SS	SS	02 54 28.4	+7.1
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,74nm,5.5s						
HHC				LR	LR		
	comp=N,72nm,5.7s						
HHC				LR	LR		
	comp=E,64nm,4.9s						
HHC				LR	LR		
	comp=Z,94nm,5.5s						
CHTO	Chiang Mai	73.79	294	eP	P	02 40 25.7	+0.8
	comp=Z,2.5nm,0.7s,mb4.0						
LZH	Lanzhou	76.46	312	eP	P	02 40 41.5	+1.5
LZH				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.7						
LZH				AMB	AMB		
	comp=Z,57nm,4.8s						
QSPA	South Pole Qui	77.72	180	eP	P	02 40 47.2	+0.2
	comp=Z,5.4nm,0.9s,mb4.2						
ULN	Ulaanbaatar	79.99	324	eP	P	02 40 59.9	+0.5
	comp=Z,6.9nm,1.3s,mb4.1						
SLKM	Skilak Lake	80.17	20	eP	P	02 40 59.0	-1.4
SONM	Songino Array	80.36	323	P	P	02 41 01.3	0.0
	comp=Z,0.7nm,0.3s,mb3.7,baz=141,slow=6.1,SNR=8.5						
GTA	Gaotai	80.76	314	eP	P	02 41 04.6	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.0						
MCK	McKinley	82.96	18	eP	P	02 41 13.7	-1.2
	comp=Z,1.8nm,0.6s,mb4.0						
YBH	Yreka Blue Hor	83.94	45	eP	P	02 41 20.2	+0.4
	comp=Z,9.4nm,0.9s,mb4.5						
COLA	College	84.11	18	eP	P	02 41 19.1	-1.6
	comp=Z,13nm,0.8s,mb4.7						
CMB	Columbia Colle	84.27	49	eP	P	02 41 21.2	-0.3
	comp=Z,3.7nm,0.9s,mb4.1						
MTUM	Tungsten Hills	85.40	50	eP	P	02 41 27.8	+0.7
NVAR	Mina Array Bea	85.94	49	P	P	02 41 30.1	+0.3
	comp=Z,2.6nm,0.8s,mb4.0,baz=221,slow=6.2,SNR=22						
EGAK	Eagle	86.15	20	eP	P	02 41 29.7	-1.1
WVOR	Wild Horse Val	87.02	46	eP	P	02 41 35.3	+0.3
	comp=Z,2.3nm,0.8s,mb4.0						
HAWA	Hanford	87.76	42	eP	P	02 41 38.9	+0.4
	comp=Z,0.3nm,0.7s,mb3.2						
ARUT	Antelope Range	89.41	51	eP	P	02 41 47.4	+1.1
ARUT				epP	pP	02 42 05.1	-39
NEW	Newport	89.93	40	P	P	02 41 47.8	-1.0
	comp=Z,4.9nm,0.8s,mb4.4,baz=246,slow=6.1,SNR=7.0						
TUC	Tucson	90.08	57	eP	P	02 41 50.2	+0.8
	comp=Z,6.0nm,1.6s,mb4.2						
HLID	Hailey	90.32	45	eP	P	02 41 51.0	+0.5
	comp=Z,5.4nm,1.0s,mb4.3						
DUG	Dugway	90.53	49	eP	P	02 41 51.9	+0.3
	comp=Z,1.8nm,1.0s,mb4.0						
MSU	Marysvale	90.56	51	eP	P	02 41 52.7	+1.1
DLMT	Dillon	92.06	44	eP	P	02 41 59.0	+0.5
	comp=Z,3.3nm,0.8s,mb4.3						
TPAW	Teton Pass	92.72	46	eP	P	02 42 02.6	+1.0
	comp=Z,1.5nm,0.6s,mb4.2						
PDAR	Pinedale Array	93.54	47	P	P	02 42 05.0	-0.4
	comp=Z,0.5nm,0.7s,mb3.6,baz=200,slow=2.2,SNR=4.5						
MKAR	Makanchi Array	95.23	317	P	P	02 42 13.1	0.0
	comp=Z,3.7nm,0.7s,mb4.7,baz=83,slow=6.6,SNR=29						
MKAR	Makanchi Array	95.23	317	P	P	02 42 13.1	0.0
YKA	Yellowknife Ar	95.55	27	P	P	02 42 12.5	-2.0
	comp=Z,0.7nm,0.4s,mb4.3,baz=258,slow=4.9,SNR=7.3						
YKA	Yellowknife Ar	95.55	27	P	P	02 42 12.5	-2.1
SNAA	Sanae	95.94	183	eP	P	02 42 14.9	-1.4
	comp=Z,1.3nm,0.7s,mb4.3						
ARCES	ARCESS Array B	117.83	346	PKP	PKPdf	02 47 33.6	-0.9
	comp=Z,5.9nm,0.6s,baz=85,slow=2.2,SNR=78						
JOF	Joensuu	120.52	338	epkp	PKPdf	02 47 38.1	-1.6
GNI	Garni	122.35	310	ePKPdf	PKPdf	02 47 44.4	+1.2
KAF	Kangasniemi	122.82	339	epkp	PKPdf	02 47 42.2	-1.9
FINES	FINESS Array B	123.36	339	PKP	PKPdf	02 47 43.8	-1.4
	comp=Z,1.9nm,0.6s,baz=66,slow=1.9,SNR=20						
SAML	Samuel	125.91	111	ePKPdf	PKPdf	02 47 50.0	0.0
MALT	Malatya	127.54	309	ePKPdf	PKPdf	02 47 54.9	+1.8
NB2	NORSAR Subarra	128.21	345	PKPd	PKPdf	02 47 54.5	+0.1
	comp=Z,1.2nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	128.21	345	PKP	PKPdf	02 47 54.0	-0.4
	comp=Z,1.8nm,0.7s,baz=32,slow=2.0,SNR=7.2						
EIL	Elat	132.31	299	ePKPdf	PKPdf	02 48 04.0	+1.8
MORC	Moravsky Berou	134.95	332	ePKPdf	PKPdf	02 48 09.0	+1.8
GERES	GERESS Array B	137.34	334	PKP	PKPdf	02 48 12.0	+0.4
	comp=Z,1.0nm,0.7s,baz=48,slow=2.0,SNR=11						
CDF	Champ du Feu	140.21	339	ePKP1	PKPdf	02 48 15.6	-1.2
CABF	La Chapelle	142.16	338	ePKP1	PKPdf	02 48 17.0	-3.3
FLN	La Foliniere	142.17	346	ePKP1	PKPdf	02 48 17.0	-3.3
LDF	La Druitiere	142.25	346	ePKP1	PKPdf	02 48 17.1	-3.4
LOR	Lormes	142.35	341	ePKP1	PKPdf	02 48 17.4	-3.3
GRR	Gorron	142.61	347	ePKP1	PKPdf	02 48 18.7	-2.4
LPL	La Plagne	142.85	337	ePKP1	PKPdf	02 48 19.2	-2.3
	comp=Z,5.5nm,0.6s						
LPG	La Plagne	142.86	337	ePKP1	PKPdf	02 48 18.9	-2.7
	comp=Z,5.8nm,0.7s						
SMF	Signal de Mont	142.91	341	ePKP1	PKPdf	02 48 18.2	-3.4
AVF	Avril sur Loir	142.93	341	ePKP1	PKPdf	02 48 17.9	-3.8
SGMF	Saint Gilles	143.10	348	ePKP1	PKPdf	02 48 19.2	-2.8
	comp=Z,6.5nm,0.6s						
BGF	Bois d'Agland	143.30	342	ePKP1	PKPdf	02 48 18.9	-3.4
MBDF	Montbardon	143.49	336	ePKP1	PKPdf	02 48 20.6	-2.1
	comp=Z,11nm,0.7s						
QUIF	Quistinic	143.54	349	ePKP1	PKPdf	02 48 19.8	-3.0
ORIF	Oris-en-Rattie	143.68	337	ePKP1	PKPdf	02 48 21.8	-1.2
	comp=Z,38nm,0.7s						
TCF	Toulx Ste Croi	143.74	342	ePKP1	PKPdf	02 48 21.6	-1.5
	comp=Z,9.6nm,0.8s						
SBF	Sospel	143.93	335⇑	iPKP1	PKPdf	02 48 21.8	-1.6
	comp=Z,63nm,0.7s						
VIVF	Saint-Julien-l	144.18	338⇑	iPKP1	PKPdf	02 48 23.3	-0.6
	comp=Z,23nm,0.8s						
FRF	La Foret Royal	144.51	335⇑	iPKP1	PKPdf	02 48 23.9	-0.5
	comp=Z,52nm,0.8s						
SMRF	Simiane la Rot	144.59	337⇑	iPKP1	PKPdf	02 48 24.8	+0.2
	comp=Z,21nm,0.7s						
LMR	La Mourre	144.75	335	ePKP1	PKPdf	02 48 24.7	-0.2
	comp=Z,44nm,0.8s						
RJF	Les Rejaudoux	144.83	342⇑	iPKP1	PKPdf	02 48 25.3	+0.3
	comp=Z,17nm,0.7s						
CAF	Calviac	145.00	341⇑	iPKP1	PKPbc	02 48 26.0	+0.8
	comp=Z,13nm,0.9s						
LFF	La Frestale	145.39	343	ePKP1	PKPbc	02 48 27.0	+0.6
	comp=Z,26nm,0.7s						
MTLF	Montolieu	146.36	340⇑	iPKP1	PKPbc	02 48 27.9	-1.4
	comp=Z,16nm,0.7s						
VSL	Villasalto	146.41	328	ePKPbc	PKPbc	02 48 29.9	+0.5
EPF	Esparros	147.25	342	ePKP1	PKPbc	02 48 29.4	-2.4
	comp=Z,3.6nm,0.6s						
ETSF	Etsaut	147.64	343	ePKP1	PKPbc	02 48 33.8	+1.0
	comp=Z,14nm,0.8s						
KEST	Kesra	149.11	323	PKPbc	PKPbc	02 48 37.8	+1.3
	comp=Z,4.5nm,0.7s,baz=334,slow=1.3,SNR=18						
ESDC	Sonseca Array	151.57	345	PKPbc	PKPbc	02 48 42.9	+0.5
	comp=Z,3.3nm,0.7s,baz=11,slow=2.6,SNR=16						
ESDC				PKPab	PKPab	02 48 52.2	+0.3
	comp=Z,2.9nm,0.6s,baz=9.4,slow=3.9,SNR=17						
TORD	Torodi Ar. Bea	165.57	275	PKP	PKPdf	02 48 53.1	+0.6
	comp=Z,0.8nm,1.0s,baz=216,slow=7.3,SNR=5.7						
TORD				PKPab	PKPab	02 49 53.0	+0.5
	comp=Z,2.2nm,1.1s,baz=91,slow=2.4,SNR=6.7						

ISCJB 02 02:35:55.2±1.7, 7.1S±0.1×155.15E±0.06, h95km±18km, mb3.9/9, Error ellipse: s-maj=23.6km s-min=9.1km az=177.8
IDC 02 02:35:56.7±2.4, 7.12S×155.14E, h99km±22km, mb3.6/5, mb1 3.8/7, mb1mx3.7/15, mbtmp4.1/7, MS3.4/5, Ms1 3.4/5, ms1mx3.1/25, Error ellipse: s-maj=26.6km s-min=14.1km az=178.0
NEIC 02 02:35:56.7±1.2, 7.14S×155.16E, h99km±11km, mb4.1/3, Error ellipse: s-maj=16.2km s-min=9.7km az=172.0
ISC 02 02:35:57.3±1.4, 71S±01×15516E±006, h99km±14km, n20, σ0^{s}77/17, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.27	116	P	Pn	02 37 13.2	-0.4
	29nm,0.3s,baz=262,slow=7.7,SNR=3.9						
HNR				S	Sn	02 38 13.6	+0.6
	26nm,0.3s,baz=256,slow=4.1,SNR=3.8						
HNR				LR	LR	02 39 05.7	
	comp=Z,622nm,18.9s,baz=179,slow=36						
PMG	Port Moresby	8.23	253	P	Pn	02 37 52.6	-1.3
	2.6nm,0.3s,baz=50,slow=9.1,SNR=7.3						
PMG				S	Sn	02 39 26.3	+1.1
	0.7nm,0.3s,baz=90,slow=20,SNR=2.3						
PMG				LR	LR	02 40 07.6	
	comp=Z,88nm,18.1s,baz=235,slow=30						
CTA	Charters Tower	15.52	213	LR	LR	02 44 15.4	
	comp=Z,184nm,18.1s,baz=43,slow=32						
KAKA	Kakadu	23.05	254	eP	P	02 40 55.0	+1.0
	7.5nm,0.7s,mb4.1						
WRAB	Tennant Creek	23.87	236	eP	P	02 41 01.4	-0.1
	10nm,0.9s,mb4.2						
WB2	Warramunga Arr	23.87	236	eP	P	02 41 01.6	+0.1
WB2	Warramunga Arr	23.87	236	eP	P	02 41 01.5	0.0
WRA	Warramunga Arr	23.88	236	P	P	02 41 01.3	-0.3
	4.0nm,0.8s,mb3.8,baz=62,slow=9.5,SNR=13						
ASAR	Alice Springs	26.21	229	P	P	02 41 21.1	-1.7
	1.0nm,0.9s,mb3.3,baz=60,slow=8.9,SNR=9.4						
ASAR				LR	LR	02 51 34.4	
	comp=Z,121nm,21.3s,baz=247,slow=36						
STKA	Stephens Creek	27.69	205	P	P	02 41 36.4	+0.4

	1.3nm,0.6s,mb3.6,baz=344,slow=4.5,SNR=3.1						
STKA				LR	LR	02 52 34.3	
	comp=Z,113nm,21.4s,baz=23,slow=36						
FITZ	Fitzroy Crossi	30.75	246	eP	P	02 41 56.1	-7.0
	7.3nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	30.75	246	P	P	02 42 03.4	+0.3
	4.3nm,0.7s,mb4.3,baz=109,slow=8.1,SNR=11						
ULN	Ulaanbaatar	69.19	328	eP	P	02 46 53.8	+0.6
	1.4nm,0.6s,mb4.0						
SONM	Songino Array	69.52	327	P	P	02 46 54.7	-0.5
	1.3nm,0.7s,mb3.8,baz=137,slow=6.7,SNR=7.4						
MKAR	Makanchi Array	83.60	319	P	P	02 48 14.8	+0.3
	0.7nm,0.6s,mb3.6,baz=91,slow=6.1,SNR=5.4						
MKAR	Makanchi Array	83.60	319	P	P	02 48 14.8	+0.3
LPAZ	La Paz	131.26	119	ePKPdf	PKPdf	02 54 58.6	+0.9
SAML	Samuel	138.59	112	ePKPdf	PKPdf	02 55 11.8	+0.4
BDFB	Brasilia	147.78	135	PKPbc	PKPbc	02 55 30.9	+0.3
	5.2nm,0.7s,baz=201,slow=2.7,SNR=8.7						
TORD	Torodi Ar. Bea	153.21	285	PKPbc	PKPbc	02 55 43.3	-0.2
	0.4nm,0.6s,baz=35,slow=2.3,SNR=5.7						

*NEIC **02** 02:45:03.8, 3274S×7187W, h7km, ML2.9(GUC), After GUC.*

GUC 02 02:45:03.8±0.9, 3274S×7187W, h7km±3km, MD3.5, ML2.9, 9C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.42	61	⇑iP	Pg	02 45 12.2	+0.2
PACH				iS	Sg	02 45 19.5	+2.1
ROCH	El Roble	0.76	108	⇑iP	Pg	02 45 19.0	+0.6
ROCH				iS	Sg	02 45 30.0	+1.6
LCCH	Las Cruces	0.78	161	⇑iP	Pg	02 45 18.2	-0.6
LCCH				iS	Sg	02 45 30.7	+1.9
LCCH	Las Cruces	0.78	161	⇑iP	Pg	02 45 18.2	-0.6
LCCH				iS	Sg	02 45 30.7	+1.9
CHNG	Los Chungos	0.91	20	⇑iP	Pg	02 45 21.1	-0.2
CHNG				iS	Sg	02 45 33.3	+0.2
PTCH	Petorca	0.93	60	⇑iP	Pg	02 45 21.9	+0.3
PTCH				iS	Sg	02 45 34.8	+1.1
PTCH				AML	AML	02 45 36.1	
	comp=N,727nm,0.3s						
PTCH	Petorca	0.93	60	⇑iP	Pg	02 45 21.9	+0.3
PTCH				iS	Sg	02 45 34.8	+1.1
PEL	Peldehue	1.08	112	eP	Pg	02 45 23.8	-0.7
PEL				iS	Sg	02 45 39.3	+0.8
PEL				AML	AML	02 45 43.5	
	comp=E,942nm,0.4s						
PEL	Peldehue	1.08	112	eP	Pg	02 45 23.8	-0.7
PEL				iS	Sg	02 45 39.3	+0.8
JACH	Jahuel	1.08	87	⇑iP	Pg	02 45 23.9	-0.7
JACH				iS	Sg	02 45 39.0	+0.4
TACH	Talagante	1.20	140	⇑iP	Pb	02 45 25.6	-1.3
TACH				iS	Sg	02 45 42.0	-0.5
CLCH	Cerro Calan	1.30	121	eP	Pn	02 45 27.7	-0.6
CLCH				iS	Sb	02 45 45.2	-0.1
CLCH				AML	AML	02 45 50.6	
	comp=N,364nm,0.6s						
PCH	Pirque	1.44	128	eP	Pn	02 45 29.7	-0.5
PCH				eS	Sn	02 45 49.5	+0.1
FCH	Farellones	1.45	114	eP	Pn	02 45 30.0	-0.4
FCH				iS	Sn	02 45 49.8	+0.1
FCH				AML	AML	02 45 53.6	
	comp=N,161nm,0.3s						
CHCH	Chadas Angostu	1.57	140	eP	Pn	02 45 31.6	-0.5
CMCH	Combarbala	1.73	26	eP	Pn	02 45 34.1	-0.1
CMCH				iS	Sn	02 45 57.2	+0.7
CMCH				AML	AML	02 46 00.3	
	comp=E,224nm,0.5s						
CMCH	Combarbala	1.73	26	eP	Pn	02 45 34.1	-0.1
CMCH				iS	Sn	02 45 57.2	+0.7
CACH	El Canelo	1.74	143	eP	Pn	02 45 35.0	+0.7
CACH				iS	Sn	02 45 59.0	+2.2
CICH	Cipreses	1.99	143	eP	Pn	02 45 39.0	+1.2
CICH				iS	Sn	02 46 05.3	+2.3
SFDO	San Fernando	2.00	159	eP	Pn	02 45 38.5	+0.5

IDC 02 02:45:34.4±2.7, 079S×13358E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/14, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=133.3km s-min=26.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.05	178	P	Pn	02 49 58.4	-0.5
	0.2nm,0.3s,baz=357,slow=12,SNR=11						
ASAR	Alice Springs	22.75	179	P	P	02 50 38.6	+0.6
	0.4nm,0.5s,baz=6.0,slow=11,SNR=12						
MKAR	Makanchi Array	65.18	324	P	P	02 56 17.5	+0.1
	0.8nm,0.6s,baz=108,slow=6.0,SNR=6.5						

JMA 02 02:47:48.3±0.2, 3212N×14072E, h31km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.25	323	eS	Sn	02 48 25.7	+0.4
BSO1	Boso 1	2.54	5	P	Pn	02 48 28.5	+1.2
BSO3	Boso 3	2.68	356	P	Pn	02 48 30.6	+1.3
BSO3				eS	Sn	02 49 02.7	+2.0
BSO4	Boso 4	2.88	354	P	Pn	02 48 34.2	+2.2
JOD2	Odawara 2	3.42	337	P	Pn	02 48 40.6	+1.2
JNY	Yasuok	4.01	324	P	Pn	02 48 50.2	+2.6
JHO	Hitachi	4.48	358	P	Pn	02 48 54.6	+0.6

*ISCJB **02** 03:05:21.9±2.0, 449S±02×967E±05, h10km, mb3.9/8, Error ellipse: s-maj=54.8km s-min=16.1km az=61.9*
*IDC **02** 03:05:22.7±5.9, 4501S×9682E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.8/5, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=146.8km s-min=32.9km az=111.0*
*NEIC **02** 03:05:23.9±1.6, 4495S×9673E, h10km, mb4.1/3, Error ellipse: s-maj=45.7km s-min=13.8km az=120.0*

ISC 02 03:05:23.7±1.9, 450S±02×967E±05, h10km, n9, σ0^{s}76/8, mb3.9/8, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	19.94	60	LR	LR	03 14 45.7	
	comp=Z,110nm,21.7s,baz=87,slow=28						
CASY	Casey	22.63	165	eP	P	03 10 25.1	+0.5
	7.0nm,1.1s,mb4.0						
FITZ	Fitzroy Crossi	36.07	51	P	P	03 12 26.7	+1.3
	1.0nm,0.8s,mb3.8,baz=210,slow=8.1,SNR=3.3						
ASAR	Alice Springs	36.92	67	P	P	03 12 32.1	-0.5
	0.6nm,0.6s,mb3.6,baz=228,slow=6.5,SNR=7.9						
STKA	Stephens Creek	37.07	85	P	P	03 12 34.6	+0.7
	1.8nm,0.9s,mb3.9,baz=315,slow=10.0,SNR=3.7						
WRA	Warramunga Arr	39.87	64	P	P	03 12 56.2	-1.3
	2.7nm,0.9s,mb4.0,baz=223,slow=8.4,SNR=22						
WRAB	Tennant Creek	39.88	64	eP	P	03 12 57.5	-0.1
	3.1nm,0.7s,mb4.2						
VNDA	Vanda	41.20	163	P	P	03 13 07.9	-0.6
	0.8nm,0.8s,mb3.4,baz=273,slow=8.6,SNR=3.8						
SNAA	Sanae	50.87	204	eP	P	03 14 24.7	0.0
	3.0nm,0.8s,mb4.3						

CASC 02 03:30:41.3±1.7, 1107N×8567W, h108km±5km, MD3.5, 3C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.28	321	⇑eP	Pn	03 30 57.1	+0.3
SSNN				eS	Sn	03 31 09.2	+0.8
MADN	Villa Maderas	0.37	21	⇑eP	Pn	03 30 57.8	+0.6
MADN				eS	Sn	03 31 09.1	+0.1
CONN	Concepcion	0.50	5	eP	Pn	03 30 58.2	+0.3
VCR	Vista de Mar	0.93	178	⇓eP	Pn	03 31 01.9	+0.2
VCR				eS	Sn	03 31 17.3	+0.3
JCR	Jicaral	1.33	156	⇓eP	Pn	03 31 06.5	+0.5
JCR				eS	Sn	03 31 26.6	+2.0
CAO	Cobano	1.47	158	⇓iP	Pn	03 31 07.7	+0.1
CAO				eS	Sn	03 31 27.5	0.0
EPA	Esparza	1.50	135	eP	Pn	03 31 07.6	-0.4
EPA				eS	Sn	03 31 29.0	+0.7
CGA2	Cerro Gallo 2	1.58	131	eP	Pn	03 31 09.5	+0.6
CGA2				eS	Sn	03 31 31.2	+1.3
PRS1	Puriscal	1.71	129	⇓eP	Pn	03 31 12.2	+1.6
PRS1				eS	Sn	03 31 36.5	+3.6
LEON	Leon	1.80	318	eP	Pn	03 31 11.4	-0.2
LCR2	La Lucha 2	2.10	129	⇑eP	Pn	03 31 16.4	+0.9
LCR2				eS	Sn	03 31 41.9	+0.3
BUS	Buena Vista	2.41	128	eP	Pn	03 31 21.0	+1.6
BUS				eS	Sn	03 31 50.9	+2.2

*IDC **02** 03:31:12.5±1.0, 3063N×10319E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=83.7km s-min=18.8km az=60.0*
*ISCJB **02** 03:31:15.2±0.7, 3060N±007×10333E±008, h33km, mb3.9/6, Error ellipse: s-maj=11.1km s-min=8.3km az=97.9*
*BJI **02** 03:31:15.7, 3056N×10338E, h23km, ML3.7*

ISC 02 03:31:13.5±1.4, 3064N±005×10319E±007, h7km±8km, n13, σ1^{s}08/19, mb3.9/6, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	0.56	61	⇓PG	Pg	03 31 24.7	+0.5
CD2				SG	Sg	03 31 32.7	+1.2
CD2				Smax			
	comp=N,3μm,0.7s						
CD2				Smax			
	comp=E,1μm,0.7s						
GYA	Guiyang	5.16	143	P	Pn	03 32 30.6	-0.5
GYA				S	Sn	03 33 37.8	+6.9
GYA				SG	Sg	03 33 59.1	-0.1
GYA				Smax			
	comp=N,80nm,0.8s						
GYA				Smax			
	comp=E,100nm,0.9s						
LZH	Lanzhou	5.46	6	ePG	Pg	03 32 56.5	-1.6
XAN	Xi'an	5.92	54	P	Pn	03 32 42.3	+0.8
XAN				PG	Pg	03 33 03.0	-3.8
XAN				S	Sn	03 33 48.7	-0.8
XAN				SG	Sg	03 34 12.7	-11
XAN				Smax			
	comp=N,106nm,0.8s						
XAN				Smax			
	comp=E,101nm,1.0s						
NJ2	Nanjing	13.46	80	eP	Pn	03 34 23.7	-1.1
SONM	Songino Array	17.35	7	P	Pn	03 35 17.6	+1.6
	comp=E,0.1nm,0.3s,baz=188,slow=8.7,SNR=3.4						
MKAR	Makanchi Array	22.83	321	P	P	03 36 18.6	+1.5
	comp=E,0.3nm,0.5s,mb3.0,baz=102,slow=11,SNR=4.1						
ARCES	ARCESS Array B	57.37	336	P	P	03 41 00.9	-1.5
	comp=E,3.0nm,0.8s,mb4.3,baz=76,slow=10,SNR=7.5						
FINES	FINESS Array B	57.52	326	P	P	03 41 03.5	+0.1
	comp=E,0.5nm,0.4s,mb3.9,baz=102,slow=6.9,SNR=6.5						
WRA	Warramunga Arr	58.53	145	P	P	03 41 10.6	+0.1
	comp=E,2.6nm,0.6s,mb4.5,baz=338,slow=7.5,SNR=10						
ASAR	Alice Springs	61.51	148	P	P	03 41 31.8	+0.8
	comp=E,0.3nm,0.3s,mb3.9,baz=335,slow=7.1,SNR=6.2						
NB2	NORSAR Subarra	64.63	327	P	P	03 41 51.4	-0.3
	comp=Z,0.6nm,0.5s,mb3.9,baz=75,slow=6.9						
NOA	NORSAR Array B	64.63	327	P	P	03 41 51.5	-0.2
	comp=Z,0.7nm,0.5s,mb3.9,baz=74,slow=6.6,SNR=4.2						

*IDC **02** 03:34:05.8±1.0, 692S×15472E, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.2/14, mbtmp4.1/7, MS3.4/4, Ms1 3.4/4, ms1mx3.1/16, Error ellipse: s-maj=39.4km s-min=21.6km az=123.0*
*ISCJB **02** 03:34:16.9±3.6, 7.1S±0.1×1547E±0.1, h100km±34km, mb4.0/13, Error ellipse: s-maj=28.7km s-min=17.3km az=98.6*
*NEIC **02** 03:34:16.9±3.1, 699S×15462E, h87km±28km, mb4.2/8, Error ellipse: s-maj=18.6km s-min=13.8km az=134.0*
*BJI **02** 03:34:17.7, 673S×15423E, h76km, mB4.8, mb4.5, Ms4.8, Msz4.5*

ISC 02 03:34:19.4±3.7, 71S±02×1547E±01, h111km±36km, n26, σ1^{s}02/24, mb4.0/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	15.27	212	Pn	Pn	03 37 48.7	-0.3
	0.2nm,0.3s,baz=31,slow=11,SNR=3.7						
CTA				LR	LR	03 42 51.3	
	comp=Z,147nm,21.1s,baz=55,slow=34						
CTAO	Charters Tower	15.27	212	eP	Pn	03 37 49.5	+0.5
	6.6nm,0.7s						
WRAB	Tennant Creek	23.50	235	eP	P	03 39 18.4	-0.7
	8.7nm,0.9s,mb4.1						
WB2	Warramunga Arr	23.51	235	eP	P	03 39 19.0	-0.2
WRA	Warramunga Arr	23.52	235	P	P	03 39 18.7	-0.6
	4.6nm,0.9s,mb3.8,baz=59,slow=9.8,SNR=21						
WRA				LR	LR	03 47 21.5	
	comp=Z,40nm,19.1s,baz=330,slow=34						
AS31	Alice Springs	25.88	228	eP	P	03 39 40.1	-0.6
ASAR	Alice Springs	25.88	228	P	P	03 39 40.4	-0.3
	2.1nm,0.8s,mb3.6,baz=62,slow=9.2,SNR=23						
ASAR				ScP	ScP	03 46 48.6	+12
	0.3nm,0.9s,baz=37,slow=3.1,SNR=5.1						
ASAR				LR	LR	03 48 38.0	
	comp=Z,96nm,21.1s,baz=270,slow=34						
STKA	Stephens Creek	27.50	205	eP	P	03 39 57.0	+1.8
	7.2nm,0.8s,mb4.2						
STKA	Stephens Creek	27.50	205	P	P	03 39 56.7	+1.5
	9.2nm,0.8s,mb4.3,baz=18,slow=11,SNR=19						
STKA				LR	LR	03 50 47.3	
	comp=Z,133nm,19.7s,baz=24,slow=36						
FITZ	Fitzroy Crossi	30.35	246	eP	P	03 40 20.9	+0.4
	3.5nm,0.8s,mb4.0						
FITZ	Fitzroy Crossi	30.35	246	P	P	03 40 20.2	-0.3
	1.9nm,0.8s,mb3.8,baz=93,slow=9.9,SNR=8.0						
MBWA	Marble Bar	36.57	244	eP	P	03 41 15.1	+0.7
	11nm,1.0s,mb4.7						
KKM	Kota Kinabalu	40.59	288	eP	P	03 41 46.3	-1.7
HHC	Hu-ho-hao-te	62.04	324	eP	P	03 44 29.8	+1.8
HHC				PCP	PcP	03 45 09.1	+1.7
HHC				PP	PP	03 46 49.8	+4.1
HHC				SCP	ScP	03 48 59.0	+0.1
HHC				PCS	PcS	03 49 10.2	-0.5
HHC				S	S	03 52 43.7	-0.3
HHC				SCS	ScS	03 54 07.2	-2.1
HHC				SS	SS	03 56 49.6	+1.3
HHC				AMB	AMB		
	comp=Z,97nm,5.1s						
HHC				LR	LR		
	comp=N,67nm,5.1s						
HHC				LR	LR		
	comp=E,80nm,4.9s						
HHC				LR	LR		
	comp=Z,90nm,4.9s						
GTA	Gaotai	68.65	317	eP	P	03 45 13.0	+2.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	Ulaanbaatar	68.97	328	eP	P	03 45 13.5	+0.9
	comp=Z,0.9nm,0.5s,mb3.9						
SONM	Songino Array	69.30	327	P	P	03 45 14.4	-0.3
	comp=Z,1.9nm,0.8s,mb4.0,baz=141,slow=5.0,SNR=5.8						
MCK	McKinley	82.28	22	eP	P	03 46 27.0	-1.5
	comp=Z,3.1nm,0.7s,mb4.2						
MCK				e		03 46 35.5	
COLA	College	83.31	21	eP	P	03 46 32.2	-1.6
	comp=Z,3.2nm,0.8s,mb4.2						
MKAR	Makanchi Array	83.33	319	P	P	03 46 34.1	+0.2
	comp=Z,0.9nm,0.8s,mb3.6,baz=104,slow=5.1,SNR=5.3						
EGAK	Eagle	85.75	23	eP	P	03 46 45.7	-0.4
DAWY	Dawson	86.13	24	eP	P	03 46 48.0	+0.1
NVAR	Mina Array Bea	92.02	52	P	P	03 47 16.6	+0.9
	comp=Z,0.9nm,0.8s,mb4.0,baz=246,slow=5.4,SNR=7.2						
GERES	GERESS Array B	127.03	329	PKP	PKPdf	03 53 12.1	+1.8
	comp=Z,0.6nm,0.8s,baz=62,slow=3.2,SNR=6.0						
BDFB	Brasilia	148.08	135	PKPbc	PKPbc	03 53 53.7	+1.8
	comp=Z,3.4nm,1.0s,baz=253,slow=15,SNR=3.8						
TORD	Torodi Ar. Bea	152.80	285	PKPbc	PKPbc	03 54 05.4	+2.2
	comp=Z,1.8nm,0.8s,baz=71,slow=2.2,SNR=15						

*TRN **02** 03:36:56.3, 1944N×6354W, h23km*
*NEIC **02** 03:36:58.7, 1958N×6353W, h50km, MD3.5(RSPR), After RSPR.*

RSPR 02 03:36:58.7, 1958N×6353W, h50km±19km, MD3.5/6, MD3.5/6, 9C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.55	222	⇑eP	Pn	03 37 22.6	-1.3
TBVI				eS	Sn	03 37 41.6	-1.2
STVI	Saint Thomas	1.82	228	⇑eP	Pn	03 37 26.9	-0.7
STVI				eS	Sn	03 37 49.0	-0.5
MTP	Monte Pirata	2.42	233	⇑eP	Pn	03 37 35.1	-0.6
MTP				eS	Sn	03 38 03.8	-0.4
CBYP	Canovanas	2.56	240	⇑eP	Pn	03 37 37.2	-0.5
CBYP				eS	Sn	03 38 06.0	-1.6
CBYP	Canovanas	2.56	240	⇑eP	Pn	03 37 37.2	-0.5
CBYP				eS	Sn	03 38 06.7	-1.0
HUMP	Col San Antoni	2.63	237	⇑eP	Pn	03 37 37.8	-0.8
HUMP				eS	Sn	03 38 09.0	-0.2
CPD	Cerro la Pandu	2.74	236	⇑eP	Pn	03 37 39.7	-0.4
CPD				eS	Sn	03 38 11.8	-0.1
LSP	Las Mesas	3.65	248	⇑eP	Pn	03 37 52.3	-0.3
LSP				eS	Sn	03 38 33.9	-0.5
CRPR	Cabo Rojo, PR	3.74	246	⇑eP	Pn	03 37 54.0	+0.1
CRPR				eS	Sn	03 38 36.2	-0.3

JMA 02 03:40:21.8±0.4, 2469N×13041E, h32km, M3.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	Minamidaito 2	1.34	33	P	Pn	03 40 45.0	+0.7
JMZ				S	Sn	03 41 01.7	+0.7
JOW	Kunigami	2.87	318	P	Pn	03 41 07.0	+1.6
JOW				S	Sn	03 41 40.0	+1.2
JIH	Iheya	3.21	317	P	Pn	03 41 12.5	+2.5
JIH				S	Sn	03 41 48.7	+1.6
JTK	Tokunoshima	3.35	337	P	Pn	03 41 14.6	+2.7
JAGN	Aguni-jima	3.43	304	P	Pn	03 41 12.5	-0.5
JAGN				S	Sn	03 41 53.7	+1.2
JKE	Kume jima 2	3.66	297	P	Pn	03 41 17.1	+1.0
JKE				S	Sn	03 41 57.9	-0.3
JAM	Amami Oshima	3.78	349	P	Pn	03 41 20.7	+2.9
JAM				S	Sn	03 42 02.5	+1.4

GUC 02 03:44:34.5±0.5, 2563S×7084W, h10km, MD3.5, ML3.4, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	1.07	21	⇑iP	Pg	03 44 53.7	-1.4
CPN1				iS	Sg	03 45 07.7	-1.3
CPN1				AML	AML	03 45 09.2	
	comp=E,781nm,0.3s						
CDCH	Caldera	1.44	180	⇑iP	Pn	03 44 58.9	-1.7
CDCH				iS	Sn	03 45 17.0	-2.6
CPCH	Copiapo	1.78	166	⇑iP	Pn	03 45 04.7	-0.6
CPCH				iS	Sn	03 45 27.6	-0.3
CPCH				AML	AML	03 45 33.4	
	comp=E,1μm,0.1s						
ANCH	Antofagasta	1.98	11	⇓iP	Pn	03 45 05.5	-2.5
ANCH				iS	Sn	03 45 31.0	-1.8

*NEIC **02** 03:45:39.0, 3743S×17709E, h140km, MG3.8(WEL), After WEL.*

WEL 02 03:45:38.6±0.4, 3741S×17701E, h138km±4km, ML3.7/9, Error ellipse: s-maj=5.5km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.85	175	P	Pn	03 46 01.1	+0.1
URZ	Urewera	0.85	175	PN	Pn	03 46 01.1	+0.2
URZ				SN	Sn	03 46 18.0	0.0
MWZ	Matawai	1.01	156	P	Pn	03 46 02.7	+0.4
MWZ				S	Sn	03 46 21.0	+0.7
MWZ	Matawai	1.01	156	PN	Pn	03 46 02.6	+0.3
MWZ				SN	Sn	03 46 21.0	+0.7
MXZ	Matakaoa Point	1.04	99	P	Pn	03 46 02.7	+0.1
MXZ				S	Sn	03 46 20.8	0.0
MXZ	Matakaoa Point	1.04	99	PN	Pn	03 46 02.7	+0.1
MXZ				SN	Sn	03 46 20.8	-0.1
PUZ	Puketiti	1.19	124	P	Pn	03 46 03.8	-0.2
PUZ	Puketiti	1.19	124	PN	Pn	03 46 03.3	-0.7
KNZ	Kokohu	1.69	162	eP	Pn	03 46 09.6	+0.2
KNZ	Kokohu	1.69	162	PN	Pn	03 46 09.6	+0.2
BKZ	Black Stump Fm	1.80	193	P	Pn	03 46 11.5	+0.8
BKZ	Black Stump Fm	1.80	193	PN	Pn	03 46 11.2	+0.6
MOVZ	Moawhango	2.23	206	P	Pn	03 46 15.9	+0.1
MOVZ	Moawhango	2.23	206	PN	Pn	03 46 15.9	+0.2
MOVZ				SN	Sn	03 46 44.1	-0.2
PXZ	Pawanui	2.62	183	PN	Pn	03 46 19.7	-0.9
TSZ	Takapari Road	2.77	197	P	Pn	03 46 21.7	-0.9
TSZ	Takapari Road	2.77	197	PN	Pn	03 46 21.5	-1.0
WAZ	Wanganui	2.83	213	eP	Pn	03 46 24.0	+0.7
WAZ	Wanganui	2.83	213	PN	Pn	03 46 24.0	+0.6
BFZ	Birch Farm	3.32	190	P	Pn	03 46 28.0	-1.6
MRZ	Mangatainoka R	3.44	199	eP	Pn	03 46 29.5	-1.6
MRZ	Mangatainoka R	3.44	199	PN	Pn	03 46 29.5	-1.7
MRZ				SN	Sn	03 47 09.1	-2.7
KIW	Kapiti Island	3.82	205	P	Pn	03 46 34.1	-2.0
KIW	Kapiti Island	3.82	205	PN	Pn	03 46 34.1	-2.0
KIW				SN	Sn	03 47 17.1	-3.6
TCW	Tory Channel	4.35	208	P	Pn	03 46 40.5	-2.7
NNZ	Nelson	4.74	215	eP	Pn	03 46 45.6	-2.6
THZ	Tophouse	5.38	215	eP	Pn	03 46 54.8	-2.1
KHZ	Kahutara	5.67	207	eP	Pn	03 46 58.2	-2.5

*NEIC **02** 04:02:00.0, 5837N×13346W, h1km, ML2.9(AEIC), ML3.0(PGC), After PGC.*

PGC 02 04:02:00.8, 5837N×13346W, h1km, ML3.0/3, 56km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	1.46	319	P	Pn	04 02 26.5	-1.8
SKAG				S	Sg	04 02 46.5	-1.3
SIT	Sitka	1.65	218	P	Pn	04 02 28.6	-2.3
SIT				S	Sn	04 02 50.2	-2.6
DLBC	Dease Lake	1.81	86	P	Pn	04 02 31.9	-1.3
DLBC				Pg	Pg	04 02 33.6	-1.9
DLBC				Sn	Sn	04 02 56.4	-0.3
DLBC				Sg	Sg	04 02 57.9	-1.1
DLBC				Trac		04 02 59.1	
	comp=Z,100nm,0.5s						
PLBC	Pleasant Camp	1.86	307	Pn	Pn	04 02 33.5	-0.2
PLBC				Pg	Pg	04 02 34.0	-2.5
PLBC				Sn	Sn	04 02 57.6	-0.3
PLBC				Sg	Sg	04 02 59.2	-1.3
WRAK	Wrangell Islan	2.04	162	ePn	Pn	04 02 34.2	-2.2
WRAK				eSn	Sn	04 03 03.2	+0.8
WHY	Whitehorse	2.41	343	Pn	Pn	04 02 40.3	-1.1
WHY				Pg	Pg	04 02 44.0	-3.1
WHY				Sg	Sg	04 03 12.9	-5.3
WHY				Trac		04 03 23.7	
	comp=Z,40nm,0.5s						
WHY	Whitehorse	2.41	343	P	Pn	04 02 40.4	-0.9
HYT	Haines Junctio	3.21	322	Pn	Pn	04 02 52.2	-0.1
HYT				Pg	Pg	04 02 58.7	-3.6
HYT				Sg	Sg	04 03 40.3	-3.5
HYT				Trac		04 03 44.7	
	comp=Z,18nm,0.3s						
PNL	Peninsula	3.33	296	P	Pn	04 02 53.0	-1.0
RUBB	Prince Rupert	4.43	155	Pn	Pn	04 03 07.4	-1.7
RUBB				Sg	Sg	04 04 16.8	-6.2
RUBB				Trac		04 04 27.9	
	comp=Z,53nm,0.9s						
FNBB	Fort Nelson	5.49	80	Trac		04 05 06.5	
	comp=Z,13nm,0.9s						
FNBB	Fort Nelson	5.49	80	Sg	Sg	04 04 52.2	-4.9
DAWY	Dawson	6.39	336	Pn	Pn	04 03 35.5	-0.5
DAWY				Sg	Sg	04 05 19.9	-6.1
DAWY				Trac		04 05 24.8	
	comp=Z,21nm,0.8s						
INK	Inuvik	9.98	360	P	Pn	04 04 22.2	-3.1

*ISCJB **02** 04:11:26.5±1.0, 4074N±004×848W±008, h0km, Error ellipse: s-maj=9.1km s-min=4.4km az=133.8*
*MDD **02** 04:11:28.2±0.8, 4076N×846W, h0km, mbLg1.5/4, Error ellipse: s-maj=8.5km s-min=3.8km az=59.0, PRXIMO*
*CSEM **02** 04:11:28.8±0.2, 4081N×840W, h15km, ML1.0, Error ellipse: s-maj=6.4km s-min=2.7km az=58.0*
*INMG **02** 04:11:28.2±1.0, 4075N×847W, h0km±6km, ML1.0, Error*

ellipse: s-maj=4.1km s-min=3.9km az=74.0

ISC 02 04:11:26.9±1.2, 4073N±004×851W±009, h7km±10km, n16, σ0s55/22, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTO	Porto	0.41	350	ePg	Pg	04 11 35.5	+0.6
PTO				eSg	Sg	04 11 40.8	+0.5
PTO							
	24nm,0.1s						
PTO	Porto	0.41	350	ePg	Pg	04 11 35.5	+0.6
PTO				eSg	Sg	04 11 40.8	+0.5
	24nm,0.1s						
PVIS	Viseu	0.47	92	ePg	Pg	04 11 36.3	+0.3
PVIS				eSg	Sg	04 11 42.0	-0.1
PVIS							
	13nm,0.1s						
PVIS	Viseu	0.47	92	ePg	Pg	04 11 36.3	+0.3
PVIS				eSg	Sg	04 11 42.0	-0.1
	13nm,0.1s						
PCAB	Cabril	1.04	20	eP	Pg	04 11 46.7	-0.2
PCAB				eS	Sg	04 12 00.6	+0.1
PCAB							
	2.2nm,0.1s						
PCAB	Cabril	1.04	20	eP	Pg	04 11 46.7	-0.2
PCAB				eS	Sg	04 12 00.6	+0.1
	2.2nm,0.1s						
ELOB	Lobios	1.18	16	Pg	Pg	04 11 48.8	-0.8
	1.4nm,0.1s,SNR=9.1						
ELOB				Lg		04 12 04.2	
	0.8nm,0.0s,SNR=8.5						
ELOB	Lobios	1.18	16	Pg	Pg	04 11 48.8	-0.8
	1.4nm,0.1s,SNR=9.1						
PCBR	Castelo Branco	1.19	138	eP	Pg	04 11 50.0	+0.2
PCBR				eS	Sg	04 12 06.0	+0.8
PCBR							
	1.0nm,0.1s						
PBRG	Braganca	1.71	51	eS	Sn	04 12 19.5	+0.2
PBRG							
	0.9nm,0.2s						
PBRG	Braganca	1.71	51	Sn	Sn	04 12 19.5	+0.2
	0.4nm,0.2s						
ECAL	Calabor	1.80	47	Pg	Pg	04 12 00.8	-0.6
	0.4nm,0.2s,SNR=4.0						
ECAL				Lg		04 12 22.6	
	0.4nm,0.1s,SNR=7.9						
ECAL	Calabor	1.80	47	Pg	Pg	04 12 00.8	-0.6
	0.4nm,0.2s,SNR=4.0						
EMAZ	Mazaricos	2.24	351	Lg		04 12 37.6	
	0.8nm,0.1s,SNR=4.0						
EBAD	Badajoz	2.29	149	Pg	Pg	04 12 09.7	-1.0
	0.1nm,0.1s,SNR=4.0						
EBAD				Lg		04 12 39.8	
	1.0nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.29	149	Pg	Pg	04 12 09.7	-1.0
	0.1nm,0.1s,SNR=4.0						

KRSC 02 04:15:03, 5518N×16230E, h66km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.71	208	eP	Pn	04 15 18.5	+0.8
MKZ				i S	Sn	04 15 29.7	+1.2
KBTR	Krutoberegovo	1.07	16	eP	Pn	04 15 22.5	+0.3
KBTR				i S	Sn	04 15 36.8	+0.3
ZLN	Zelenaya	1.19	315	i P	Pn	04 15 25.8	+2.0
ZLN				i S	Sn	04 15 42.4	+3.1
TUMR	Tumrok	1.24	276	eP	Pn	04 15 26.4	+2.0
TUMR				i S	Sn	04 15 43.4	+3.1
CIRR	Tsirk	1.29	317	eP	Pn	04 15 27.0	+2.0
CIRR				i S	Sn	04 15 44.0	+2.6
KMNR	Kamenistaya	1.31	297	eP	Pn	04 15 27.3	+2.0
KMNR				i S	Sn	04 15 45.2	+3.2
KPT	Kopyto	1.42	305	eP	Pn	04 15 28.4	+1.7
KPT				i S	Sn	04 15 46.8	+2.2
KRSR	Krestovskiy	1.43	317	eP	Pn	04 15 28.4	+1.5
KRSR				i S	Sn	04 15 47.4	+2.5
KLY	Klyuchi	1.47	321	eP	Pn	04 15 28.2	+0.8
KLY				i S	Sn	04 15 46.7	+0.9
SMKR	Semkarok	1.48	342	eP	Pn	04 15 28.8	+1.2
SMKR				i S	Sn	04 15 47.8	+1.7
BDR	Baidarnaya	1.52	337	eP	Pn	04 15 30.0	+1.9
BDR				i S	Sn	04 15 49.9	+2.9
SRKR	Sorokina	1.61	337	eP	Pn	04 15 31.0	+1.7
SRKR				i S	Sn	04 15 51.4	+2.3
KOZ	Kozyrevsk	1.63	304	eP	Pn	04 15 31.8	+2.2
KOZ				i S	Sn	04 15 53.1	+3.4
SRDR	Sredinnyy	1.85	309	eP	Pn	04 15 34.2	+1.7
SRDR				i S	Sn	04 15 57.3	+2.3
KII	Karymskiy	2.02	237	eP	Pn	04 15 36.9	+2.1
KII				i S	Sn	04 16 01.9	+3.0
SPN	Mys Shipunski	2.48	214	eP	Pn	04 15 41.4	+0.4
SPN				i S	Sn	04 16 09.2	-1.0
NLC	Nalytchevo	2.66	222	eP	Pn	04 15 44.8	+1.3
NLC				i S	Sn	04 16 15.8	+1.2
AVH	Avacha	2.84	229	eP	Pn	04 15 48.7	+2.8
AVH				i S	Sn	04 16 21.7	+2.8
GNL	Ganaly	2.95	241	eP	Pn	04 15 50.0	+2.6
GNL				i S	Sn	04 16 24.5	+2.9
PET	Petropavlovsk	3.05	226	eP	Pn	04 15 50.8	+2.0
PET				i S	Sn	04 16 25.8	+1.8
RUS	Russkaya	3.55	221	eP	Pn	04 15 57.7	+2.0
RUS				i S	Sn	04 16 36.8	+0.4
GRL	Gorelyy	3.63	225	eP	Pn	04 15 59.8	+3.0
GRL				i S	Sn	04 16 41.1	+2.7

IDC 02 04:39:13.2±8.5, 632S×15476E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=139.8km s-min=96.6km az=22.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.02	234	P	P	04 44 30.1	+0.4
	0.5nm,0.7s,baz=60,slow=9.5,SNR=9.4						
ASAR	Alice Springs	26.45	227	P	P	04 44 52.0	+0.2
	0.4nm,0.8s,baz=59,slow=9.7,SNR=4.8						
STKA	Stephens Creek	28.25	204	P	P	04 45 08.3	+0.4
	1.1nm,0.6s,baz=24,slow=9.6,SNR=3.3						

---

*ISCJB **02** 05:25:28.1±0.3, 3204S±002×7059W±005, h105km±4km, mb3.8/5, Error ellipse: s-maj=7.2km s-min=3.2km az=168.2*

*NEIC **02** 05:25:28.6, 3204S×7059W, h98km, mb3.8/3, MD3.8(GUC), After GUC.*

*GUC **02** 05:25:28.6±0.8, 3204S×7059W, h98km±3km, MD3.8, ML3.9*

*IDC **02** 05:25:29.8±4.3, 3211S×7045W, h105km±29km, mb3.7/3, mb1 3.6/4, mb1mx3.4/14, mbtmp4.0/4, Error ellipse: s-maj=48.7km s-min=39.2km az=159.0*

ISC 02 05:25:29.1±0.3, 3204S±002×7059W±005, h98km±4km, n45, σ0s54/75, mb3.8/5, 16C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTCH	Petorca	0.37	232⇑	iP	Pn	05 25 43.5	-0.3
PTCH				i S	Sn	05 25 54.6	-0.2
PTCH				AML	AML	05 25 55.6	
	comp=N,18μm,0.3s						
PTCH	Petorca	0.37	232⇑	iP	Pn	05 25 43.5	-0.3
PTCH				i S	Sn	05 25 54.6	-0.2
JACH	Jahuel	0.64	181	eP	Pn	05 25 45.7	-0.2
JACH				i S	Sn	05 25 58.3	-0.1
CHNG	Los Chungos	0.79	281⇑	iP	Pn	05 25 47.3	+0.1
CHNG				i S	Sn	05 26 00.7	-0.1
CHNG				AML	AML	05 26 05.2	
	comp=E,2μm,0.8s						
PACH	Papudo	0.88	235⇑	iP	Pn	05 25 48.0	-0.1
PACH				i S	Sn	05 26 02.1	-0.2
CMCH	Combarbala	0.93	337⇓	iP	Pn	05 25 48.6	-0.1
CMCH				i S	Sn	05 26 03.7	+0.4
ROCH	El Roble	1.00	201⇑	iP	Pn	05 25 49.4	0.0
PEL	Peldehue	1.11	184⇑	iP	Pn	05 25 50.4	-0.2
PEL				i S	Sn	05 26 06.8	0.0
PEL				AML	AML	05 26 10.6	
	comp=N,2μm,0.6s						
PEL	Peldehue	1.11	184⇑	iP	Pn	05 25 50.4	-0.2
PEL				i S	Sn	05 26 06.8	0.0
FCH	Farellones	1.31	169⇓	iP	Pn	05 25 53.9	+0.9
FCH				i S	Sn	05 26 12.5	+1.5
FCH				AML	AML	05 26 15.3	
	comp=E,3μm,0.3s						
IHA	Instituto Hidr	1.33	222⇓	iP	Pn	05 25 52.7	-0.5
IHA				i S	Sn	05 26 10.9	-0.4
CLCH	Cerro Calan	1.36	178	eP	Pn	05 25 53.4	-0.1
CLCH				i S	Sn	05 26 12.0	+0.1
CLCH				AML	AML	05 26 16.5	
	comp=N,2μm,0.7s						
CLCH				AML	AML	05 26 17.1	
	comp=N,2μm,0.8s						
DSCH	Colegio Aleman	1.36	179	i P	Pn	05 25 52.9	-0.6
DSCH				i S	Sn	05 26 12.0	0.0
STL	Santa Lucia	1.40	182⇑	iP	Pn	05 25 53.4	-0.6
STL				i S	Sn	05 26 12.7	-0.1
LACH	Colegio Las Am	1.41	178⇑	iP	Pn	05 25 53.9	-0.3
LACH				i S	Sn	05 26 13.3	+0.2
SAN	Santiago	1.42	183	eS	Sn	05 26 13.1	-0.1
SAN				AML	AML	05 26 14.3	
	comp=N,1μm,0.5s						
OVCH	Ovalle	1.52	340	eP	Pn	05 25 55.5	+0.1
OVCH				i S	Sn	05 26 15.3	-0.2
OVCH				AML	AML	05 26 20.8	
	comp=N,2μm,0.5s						
OVCH	Ovalle	1.52	340	eP	Pn	05 25 55.5	+0.1
OVCH				i S	Sn	05 26 15.3	-0.2
ANTU	Antumapu	1.53	181⇑	iP	Pn	05 25 55.6	0.0
ANTU				i S	Sn	05 26 16.1	+0.4
ANTU				AML	AML	05 26 19.0	
	comp=E,2μm,0.3s						
ANTU	Antumapu	1.53	181⇑	iP	Pn	05 25 55.6	0.0
ANTU				i S	Sn	05 26 16.1	+0.4
PCH	Pirque	1.58	178	eP	Pn	05 25 56.4	+0.1
PCH				i S	Sn	05 26 17.6	+0.7
SJCH	San Jose de Ma	1.61	173	eP	Pn	05 25 56.7	0.0
SJCH				i S	Sn	05 26 17.9	+0.4
SJCH				AML	AML	05 26 18.9	
	comp=N,2μm,0.3s						
SJCH	San Jose de Ma	1.61	173	eP	Pn	05 25 56.7	0.0
SJCH				i S	Sn	05 26 17.9	+0.4
TACH	Talagante	1.64	190⇑	iP	Pn	05 25 56.8	-0.2
TACH				i S	Sn	05 26 17.8	-0.4
LCCH	Las Cruces	1.66	210	eP	Pn	05 25 57.0	-0.2
LCCH				i S	Sn	05 26 18.4	-0.2
MDZ	Mendoza	1.69	120⇑	iP	Pn	05 25 57.0	-0.7
MDZ				i S	Sn	05 26 08.3	-11
TLL	Tololo Astrono	1.87	354⇑	iP	Pn	05 26 00.3	+0.3
TLL				i S	Sn	05 26 24.5	+1.0
TLL				AML	AML	05 26 30.4	
	comp=E,2μm,0.3s						
TLL	Tololo Astrono	1.87	354⇑	iP	Pn	05 26 00.3	+0.3
TLL				i S	Sn	05 26 24.5	+1.0
CHCH	Chadas Angostu	1.89	182	eP	Pn	05 25 60.0	-0.3
CHCH				i S	Sn	05 26 24.1	+0.2
LNV	Longovilo	2.04	200⇓	iP	Pn	05 26 01.3	-0.8
CFAA	Coronel Fontan	2.04	78	P	Pn	05 26 02.1	-0.1
	comp=E,8.7nm,0.3s,baz=247,slow=10,SNR=601						
CFAA				S	Sn	05 26 26.8	-0.6
	comp=E,50nm,0.3s,baz=86,slow=17,SNR=93						
CACH	El Canelo	2.08	180⇓	iP	Pn	05 26 03.0	+0.4
CACH				i S	Sn	05 26 29.4	+1.3
LSCH	La Serena	2.19	345	eP	Pn	05 26 03.7	-0.5
LSCH				i S	Sn	05 26 30.4	-0.5
CICH	Cipreses	2.28	177⇑	iP	Pn	05 26 06.1	+0.8
SFDO	San Fernando	2.60	188⇓	iP	Pn	05 26 09.2	-0.2
VACH	Vallenar	3.45	357	eP	Pn	05 26 21.2	+0.3
VACH				i S	Sn	05 27 01.1	+0.3
TRQA	Tornquist	9.26	133	ePn	Pn	05 27 38.2	-1.6
	comp=E,5.1nm,0.4s						
LPAZ	La Paz	15.84	9	P	Pn	05 29 08.2	+1.9
	comp=E,0.1nm,0.3s,baz=197,slow=11,SNR=6.7						
LPAZ	La Paz	15.84	9	eP	Pn	05 29 07.7	+1.3
	comp=E,1.4nm,0.8s						
BDFB	Brasilia	26.23	57	P	P	05 30 53.9	-0.9
	comp=E,2.1nm,0.8s,mb3.6,baz=240,slow=8.1,SNR=3.0						
SNAA	Sanae	52.95	158	eP	P	05 34 35.5	+0.2
	comp=E,0.7nm,0.7s,mb3.8						
WVT	Waverly	69.71	345	eP	P	05 36 28.0	-0.3
	comp=E,1.2nm,0.5s,mb4.0						
DBIC	Dimbokro	73.39	71	P	P	05 36 50.6	+0.3
	comp=E,2.7nm,0.8s,mb4.1,baz=288,slow=10,SNR=3.7						
TORD	Torodi Ar. Bea	82.39	69	P	P	05 37 40.6	+0.4
	comp=E,0.6nm,0.7s,mb3.5,baz=235,slow=4.5,SNR=8.5						
WRA	Warramunga Arr	123.07	208	PKP	PKPdf	05 44 14.0	0.0
	comp=E,0.2nm,0.8s,baz=155,slow=1.8,SNR=9.2						

IDC 02 05:37:35.0±1.3, 2429N×13992E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/18, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=61.9km s-min=22.6km az=107.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.46	36	Pn	Pn	05 38 30.4	+0.3
	44nm,0.3s,baz=104,slow=11,SNR=20						
CBIJ				Sn	Sn	05 39 12.1	+0.3
	23nm,0.3s,baz=263,slow=24,SNR=6.9						
WRA	Warramunga Arr	44.30	188	P	P	05 45 46.2	-0.3
	0.3nm,0.4s,baz=7.6,slow=8.2,SNR=17						
ASAR	Alice Springs	48.03	187	P	P	05 46 16.7	+0.7
	0.2nm,0.6s,baz=12,slow=9.7,SNR=3.1						
FINES	FINESS Array B	79.54	333	P	P	05 49 43.6	-0.1
	0.6nm,0.7s,baz=46,slow=5.5,SNR=4.5						

IDC 02 05:49:45.6±1.9, 032S×12527E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=179.4km s-min=27.1km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.43	156	P	P	05 54 34.8	-0.4
	1.4nm,0.6s,baz=334,slow=11,SNR=15						
ASAR	Alice Springs	24.68	161	P	P	05 55 08.9	+0.9
	0.5nm,0.4s,baz=338,slow=8.8,SNR=9.8						
MKAR	Makanchi Array	60.09	327	P	P	05 59 54.7	+0.1
	0.5nm,0.6s,baz=132,slow=8.0,SNR=4.0						

---

*LDG **02** 06:30:42.6±0.1, 4448N×977E, h10km, Ml2.3/15, Error ellipse: s-maj=2.3km s-min=1.4km az=109.0*

ROM 02 06:30:40.1±0.2, 4455N×992E, h10km, Md2.3/7, Ml1.8/4, Error ellipse: s-maj=5.7km s-min=2.2km az=33.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERBM	Eremo	0.38	110	Pg	Pg	06 30 47.7	+0.1
ERBM				Sg	Sg	06 30 54.5	+1.9
	78nm,0.4s						
BOB	Bobbio (Coli)	0.40	303	Pg	Pg	06 30 48.3	+0.4
BOB				Sg	Sg	06 30 54.9	+1.7
	33nm,0.3s						
VLC	Villacollemand	0.52	139	Pg	Pg	06 30 49.5	-0.6
VLC				Sg	Sg	06 30 57.7	+0.8
	111nm,1.0s						
GSCL	Gusciola	0.52	112	Pg	Pg	06 30 50.7	+0.5
GSCL				Sg	Sg	06 30 59.1	+2.0
	11nm,0.3s						
PZZT	Monte Pizzetto	0.80	121	Pg	Pg	06 30 54.7	-0.8
PZZT				Sg	Sg	06 31 07.2	+1.3
	46nm,0.7s						
PII	Pisa	0.94	152	Pg	Pg	06 30 57.9	-0.2
	27nm,0.2s						
FNVD	Fontana Vidola	0.95	113	Pg	Pg	06 30 58.6	+0.3
GROG	Isola di Gorgo	1.12	181	Pg	Pg	06 31 01.4	-0.3
	17nm,0.5s						
SBF	Sospel	1.91	250	ePn	Pn	06 31 12.1	-0.6
SBF				eSn	Sn	06 31 33.6	-3.2
	5.8nm,0.3s						
MBDF	Montbardon	2.25	276	ePn	Pn	06 31 16.9	-0.5
MBDF				eSn	Sn	06 31 42.0	-3.2
	6.0nm,0.6s						
LPG	La Plagne	2.44	294	ePn	Pn	06 31 20.1	+0.2
LPG				eSn	Sn	06 31 47.7	-2.1
	2.8nm,0.4s						
LPL	La Plagne	2.46	294	ePn	Pn	06 31 20.3	+0.1
LPL				eSn	Sn	06 31 47.8	-2.4
	2.6nm,0.4s						
FRF	La Foret Royal	2.56	248	ePn	Pn	06 31 20.5	-1.1
FRF				eSn	Sn	06 31 49.1	-3.6
	2.8nm,0.3s						
LMR	La Mourre	2.75	245	ePn	Pn	06 31 23.4	-0.8
LMR				eSn	Sn	06 31 53.7	-3.7
	2.8nm,0.3s						
ORIF	Oris-en-Rattie	2.90	279	ePn	Pn	06 31 25.7	-0.6
ORIF				eSn	Sn	06 31 57.7	-3.5
	1.9nm,0.4s						
SMRF	Simiane la Rot	3.17	261	ePn	Pn	06 31 29.3	-0.7
SMRF				eSn	Sn	06 32 03.8	-4.1
	0.9nm,0.3s						
VIVF	Saint-Julien-l	3.75	277	ePn	Pn	06 31 37.0	-1.0
VIVF				eSn	Sn	06 32 18.0	-4.2
	2.1nm,0.5s						
HAU	Haudompre	4.25	326	ePn	Pn	06 31 45.5	+0.6
HAU				eSn	Sn	06 32 32.4	-2.1
	4.6nm,0.3s						
CDF	Champ du Feu	4.27	336	ePn	Pn	06 31 46.3	+1.1
CDF				eSn	Sn	06 32 33.0	-2.1
	1.2nm,0.3s						
LOR	Lormes	5.03	305	ePn	Pn	06 31 55.3	-0.2
LOR				eSn	Sn	06 32 49.9	-3.7
	0.7nm,0.2s						
BGF	Bois d'Agland	5.36	295	ePn	Pn	06 31 59.5	-0.6
BGF				eSn	Sn	06 32 57.0	-4.8
	3.1nm,0.5s						
MTLF	Montolieu	5.69	260	ePn	Pn	06 32 03.3	-1.3
MTLF				eSn	Sn	06 33 03.7	-6.3
	0.5nm,0.3s						

---

*ISCJB **02** 06:54:37.0±0.5, 4385N±003×563E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.5km az=127.0*

*LDG **02** 06:54:36.9±0.1, 4379N×556E, h2km, Md1.7/3, Ml1.6/3, Error ellipse: s-maj=2.5km s-min=1.0km az=47.0*

*STR **02** 06:54:37.9±0.2, 4384N×561E, h5km±1km, Ml1.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 02 06:54:37.1±0.9, 4385N±003×561E±004, h17km±8km, n12, σ0s57/21, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VILF	Villemus	0.08	85	Pg	Pg	06 54 39.4	-0.9
SMRF	Simiane la Rot	0.13	349	ePg	Pg	06 54 40.4	-0.5
SMRF				eSg	Sg	06 54 43.5	0.0
	9.4nm,0.3s						
STOF	St-Etienne Org	0.26	55	Pg	Pg	06 54 42.7	-0.2
STOF				Sg	Sg	06 54 47.5	+0.6
TREF	Trevaresse	0.28	217	Pg	Pg	06 54 43.5	+0.4
PUYF	Puyloubier	0.32	168	Pg	Pg	06 54 44.7	+0.8
TAVF	Tavernes	0.40	125	Pg	Pg	06 54 46.2	+1.0
TAVF				Sg	Sg	06 54 51.0	+0.3
GELF	Grande-Etoile	0.48	196	Pg	Pg	06 54 46.8	+0.1
GELF				Sg	Sg	06 54 53.6	+0.4
FRF	La Foret Royal	0.80	110	ePg	Pg	06 54 52.4	-0.3
FRF				eSg	Sg	06 55 03.0	-0.4
	2.4nm,0.2s						
LMR	La Mourre	0.83	128	ePg	Pg	06 54 52.4	-0.8
LMR				eSg	Sg	06 55 03.2	-1.0
	2.1nm,0.2s						
MBDF	Montbardon	1.21	43	ePg	Pg	06 55 01.1	+0.6
MBDF				eSg	Sg	06 55 17.2	+0.9
	1.1nm,0.3s						
VIVF	Saint-Julien-l	1.21	327	ePg	Pg	06 55 00.3	-0.2
VIVF				eSg	Sg	06 55 16.0	-0.4
	0.9nm,0.3s						
SBF	Sospel	1.32	89	ePg	Pg	06 55 02.3	-0.2
SBF				eSg	Sg	06 55 19.7	0.0
	1.6nm,0.2s						

---

*IDC **02** 06:55:27.2±3.1, 4921S×16288E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.9/9, mbtmp3.9/3, MS3.7/7, Ms1 3.7/7, ms1mx3.4/20, Error ellipse: s-maj=305.1km s-min=47.7km az=33.0*

*NEIC **02** 06:55:27.7±1.4, 5024S×16174E, h10km, mb4.2/1, Error ellipse: s-maj=32.9km s-min=7.5km az=164.0*

*ISCJB **02** 06:55:30.3±1.6, 496S±02×1617E±01, h10km, mb3.9/4, MS3.7/7, Error ellipse: s-maj=32.9km s-min=6.8km az=148.2*

ISC 02 06:55:31.9±1.6, 496S±02×1617E±01, h10km, n29, σ0s85/25, mb3.9/4, MS3.7/7, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APZ	The Paps	5.06	59	PN	Pn	06 56 48.0	+0.2
APZ				SN	Sn	06 57 45.1	-1.2
WHZ	Wether Hill Ro	5.64	51	eP	Pn	06 56 56.4	+0.6
WHZ	Wether Hill Ro	5.64	51	PN	Pn	06 56 56.7	+1.0
WHZ				SN	Sn	06 57 60.0	-0.6
SYZ	Scrubby Hill	5.88	61	PN	Pn	06 56 59.0	0.0
SYZ				SN	Sn	06 58 02.2	-4.2
MLZ	Mavora Lakes	6.14	48	P	Pn	06 57 03.9	+1.3
MLZ	Mavora Lakes	6.14	48	PN	Pn	06 57 03.9	+1.2
MLZ				SN	Sn	06 58 13.5	+0.6
TUZ	Tuapeka	6.50	59	eP	Pn	06 57 07.6	+0.1
TUZ	Tuapeka	6.50	59	PN	Pn	06 57 07.7	+0.2
TUZ				SN	Sn	06 58 21.2	-0.5
EAZ	Earnscleugh	6.79	53	eP	Pn	06 57 11.6	0.0
EAZ	Earnscleugh	6.79	53	PN	Pn	06 57 11.6	0.0
WKZ	Wanaka	6.93	49	eP	Pn	06 57 14.4	+0.9
WKZ	Wanaka	6.93	49	PN	Pn	06 57 14.9	+1.4
JCZ	Jackson Bay	7.37	44	eP	Pn	06 57 23.1	+3.5
JCZ	Jackson Bay	7.37	44	PN	Pn	06 57 22.7	+3.1
ODZ	Otahua Downs	7.62	56	eP	Pn	06 57 21.7	-1.3
ODZ	Otahua Downs	7.62	56	PN	Pn	06 57 21.5	-1.5
STKA	Stephens Creek	23.24	312	P	P	07 00 39.3	0.0
	1.1nm,0.3s,mb3.8,baz=135,slow=13,SNR=3.1						
STKA				LR	LR	07 08 12.6	
	comp=Z,146nm,20.6s,MS3.4,baz=27,slow=32						
VNDA	Vanda	28.00	180	LR	LR	07 09 55.8	
	comp=Z,93nm,18.6s,MS3.4,baz=342,slow=31						
ASAR	Alice Springs	33.82	310	P	P	07 02 14.1	-0.1
	1.4nm,0.7s,mb4.0,baz=147,slow=8.3,SNR=17						
NWAO	Narrogin (SRO)	36.73	280	LR	LR	07 14 48.4	
	comp=Z,113nm,21.5s,MS3.6,baz=314,slow=31						
WRA	Warramunga Arr	36.77	314	P	P	07 02 38.8	-0.8
	0.9nm,0.8s,mb3.7,baz=150,slow=9.4,SNR=7.3						
WRA				LR	LR	07 17 48.2	
	comp=Z,66nm,19.8s,MS3.4,baz=5.0,slow=36						
WRAB	Tennant Creek	36.77	314	eP	P	07 02 39.3	-0.3
	4.2nm,1.0s,mb4.2						
HNR	Honiara	40.09	357	LR	LR	07 16 22.3	
	comp=Z,74nm,19.9s,MS3.5,baz=357,slow=32						
MAW	Mawson	48.43	210	LR	LR	07 22 45.6	
	comp=Z,87nm,18.3s,MS3.8,baz=67,slow=33						
CBIJ	Chichi jima	78.32	342	LR	LR	07 35 03.6	
	comp=Z,262nm,22.0s,MS4.5,baz=112,slow=30						
ARCES	ARCESS Array B	151.18	330	PKPbc	PKPbc	07 15 21.1	-4.2
	1.6nm,0.8s,baz=71,slow=3.3,SNR=4.3						
ARCES				PKPab	PKPab	07 15 28.3	-4.9
	3.8nm,1.0s,baz=20,slow=3.9,SNR=4.7						
ARCES	ARCESS Array B	151.18	330	PKPbc	PKPbc	07 15 21.1	-4.2
ARCES				PKPab	PKPab	07 15 28.3	-4.9
FINES	FINESS Array B	152.81	313	PKPbc	PKPbc	07 15 25.0	-4.1
	0.4nm,0.6s,baz=126,slow=3.6,SNR=4.6						
FINES				PKPab	PKPab	07 15 32.6	-7.4
	1.3nm,0.9s,baz=107,slow=3.3,SNR=4.8						
FINES	FINESS Array B	152.81	313	PKPbc	PKPbc	07 15 25.0	-4.1
FINES				PKPab	PKPab	07 15 32.6	-7.4

IDC 02 06:59:14.4±1.6, 008N×12506E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=117.3km s-min=23.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.07	178	P	Pn	07 03 27.5	+0.6
	0.1nm,0.3s,baz=3.8,slow=15,SNR=8.1						
WRA	Warramunga Arr	21.87	156	P	P	07 04 08.0	-0.7
	0.6nm,0.4s,baz=334,slow=11,SNR=10						
ASAR	Alice Springs	25.11	161	P	P	07 04 41.1	+0.3
	1.1nm,0.5s,baz=345,slow=10,SNR=18						
STKA	Stephens Creek	35.42	155	P	P	07 06 12.9	+0.8
	4.1nm,0.4s,baz=332,slow=9.2,SNR=7.4						
MKAR	Makanchi Array	59.65	327	P	P	07 09 20.3	+0.1
	0.6nm,0.5s,baz=117,slow=7.7,SNR=5.9						

IDC 02 07:10:35.6±2.5, 2953N×6812E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=87.9km

s-min=25.3km az=70.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.47**	**29**	P	P	07 15 15.4	+0.6
	0.8nm,0.8s,baz=218,slow=9.1,SNR=3.8						
AKTO	**Aktyubinsk**	**22.23**	**343**	P	P	07 15 34.5	+0.7
	0.6nm,0.5s,baz=173,slow=15,SNR=4.5						
BVAR	**Borovoye Array**	**23.54**	**3**	P	P	07 15 46.4	-1.2
	0.7nm,0.5s,baz=187,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**80.54**	**119**	P	P	07 22 50.0	+0.3
	0.6nm,0.8s,baz=320,slow=4.7,SNR=7.7						
ASAR	**Alice Springs**	**82.41**	**122**	P	P	07 23 00.2	+0.5
	0.6nm,0.6s,baz=306,slow=5.1,SNR=11						

HLW 02 07:22:03.4, 3397N×2842E, h33^{km}, Mb3.6, 8C-3D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMAT	**Matruh**	**3.08**	**202**	⇑P	Pn	07 22 49.6	-0.1
HBRG	**Burj al 'Arab**	**3.59**	**160**	P	Pn	07 22 56.5	-0.3
SQR		**4.71**	**149**	⇓P	Pn	07 23 12.6	+0.5
FYM	**Al Fayyum**	**4.81**	**152**	⇓P	Pn	07 23 13.8	+0.3
AYT	**Al 'Ayyat**	**4.85**	**151**	⇑P	Pn	07 23 14.6	+0.6
KOT	**Kottamia**	**4.96**	**143**	⇑P	Pn	07 23 15.8	+0.2
HHAG	**Hagoal**	**5.08**	**141**	⇑P	Pn	07 23 17.5	+0.3
HSAF	**As Saff**	**5.09**	**148**	⇑*i*P	Pn	07 23 17.5	+0.1
GLL	**Jalalah**	**5.20**	**147**	⇓P	Pn	07 23 19.1	+0.3
SWA1		**5.23**	**207**	P	Pn	07 23 19.4	+0.1
SWA2		**5.35**	**209**	⇑P	Pn	07 23 21.1	+0.3
SWA2				S	Sn	07 24 18.0	-3.3
SUZ		**5.57**	**136**	⇑P	Pn	07 23 24.5	+0.5
HFRF	**Wahat Farafira**	**6.80**	**181**	⇑P	Pn	07 23 41.5	+0.7

*BJI **02** 07:30:07.2, 5290N×15650W, h10^{km}, mB4.6, mb4.6, Ms4.8, Msz4.6*
NEIC 02 07:30:05.2±1.4**, 5289N×15651W, h10^{km}, mb4.7**/1**, ML4.1**(AEIC)**, ML4.3**(PMR)**, Error ellipse: s-maj=20.6km s-min=8.8km az=163.0, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**3.40**	**318**	P	Pn	07 30 59.2	+1.0
SDPT				S	Sn	07 31 42.0	+3.4
CHGN	**Chignik**	**3.59**	**343**	P	Pn	07 31 02.1	+1.1
KDAK	**Kodiak Island**	**5.39**	**23**	P	Pn	07 31 25.2	-0.4
KDAK				S	Sn	07 32 26.3	-1.5
AKUT	**Akutan**	**5.67**	**286**	P	Pn	07 31 28.5	-0.9
NIKO	**Nikolski**	**7.46**	**276**	P	Pn	07 31 52.1	-2.0
SEW	**Seward**	**8.22**	**26**	P	Pn	07 32 03.3	-1.1
SLKM	**Skilak Lake**	**8.38**	**22**	P	Pn	07 32 05.7	-1.1
MID	**Middleton Isla**	**8.66**	**37**	P	Pn	07 32 08.3	-2.3
SPIA	**Saint Paul Isl**	**8.98**	**304**	P	Pn	07 32 16.0	+1.1
RC01	**Rabbit Creek A**	**9.01**	**21**	P	Pn	07 32 15.3	-0.1
PMR	**Palmer**	**9.59**	**22**	*e*Pn	Pn	07 32 24.1	+0.7
	7.1nm,0.4s						
EYAK	**Cordova Ski Ar**	**9.68**	**33**	P	Pn	07 32 23.2	-1.3
TTA	**Tatalina**	**10.07**	**1**	*e*Pn	Pn	07 32 23.8	-6.1
DIV	**Divide**	**10.11**	**31**	*e*Pn	Pn	07 32 29.8	-0.6
	46nm,0.4s						
MCK	**McKinley**	**11.57**	**17**	*e*Pn	Pn	07 32 51.6	+1.2
	2.1nm,0.5s						
COLA	**College**	**12.81**	**17**	*e*Pn	Pn	07 33 07.5	+0.2
	3.9nm,0.6s						
EGAK	**Eagle**	**14.27**	**27**	*e*Pn	Pn	07 33 27.8	+0.5
DAWY	**Dawson**	**14.28**	**32**	*e*Pn	Pn	07 33 27.1	-0.3
AHID	**Auburn Hatcher**	**31.63**	**90**	*e*P	P	07 36 30.5	+2.2
	5.6nm,0.5s						
AHID				*e*PcP	PcP	07 39 24.2	+3.8
MDJ	**Mudanjiang**	**47.40**	**291**	P	P	07 38 45.0	+5.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,50nm,7.2s						
CN2	**Changchun**	**50.24**	**293**	*e*P	P	07 39 08.3	+6.9
NJ2	**Nanjing**	**62.08**	**287**	*e*P	P	07 40 33.7	+7.6
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s						

*ISCJB **02** 07:40:03.2±0.3, 4935N±002×678E±003, h0^{km}, Error ellipse: s-maj=2.8km s-min=2.2km az=12.3*
*NEIC **02** 07:40:05.4, 4939N×688E, h1^{km}, ML2.3(STR), ML2.5(LDG), After STR.*
*CSEM **02** 07:40:05.3±0.1, 4939N×677E, h1^{km}, ML2.5/16, Error ellipse: s-maj=1.2km s-min=0.8km az=55.0*
*LDG **02** 07:40:05.2±0.0, 4940N×678E, h1^{km}, Md2.4/3, Ml2.5/19, Error ellipse: s-maj=0.7km s-min=0.7km az=73.0, Suspected Mining induced.*
*BGR **02** 07:40:05.3±0.4, 4936N×686E, h1^{km}, ML1.7/3, Error ellipse: s-maj=7.8km s-min=4.4km az=34.0*
*BNS **02** 07:40:08.3±0.5, 4945N×696E, h2^{km}, ML1.5*
ISC 02 07:40:04.4±0.3**, 4936N**±002×**679E**±003**, h0^{km}, n48, σ1^{s}28**/93**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.52**	**307**	*e*Pg	**Pg**	**07 40 16.6**	**+2.4**
	SNR=2.9						
WLF				*e*Sg	**Sg**	**07 40 22.1**	**+1.1**
	SNR=3.6						
WLF	**Walferdange**	**0.52**	**307**	Pg	**Pg**	**07 40 16.6**	**+2.3**
	SNR=2.9						
WLF				Sg	**Sg**	**07 40 22.0**	**+1.0**
	SNR=3.6						
BGG	**Burgeitz**	**0.92**	**23**	*e*Pg	**Pg**	**07 40 23.5**	**+1.4**
BGG				*e*Sg	**Sg**	**07 40 34.3**	**+0.2**
HILG	**Hillesheim**	**0.94**	**356**	*e*Sg	**Sg**	**07 40 36.7**	**+2.1**
CDF	**Champ du Feu**	**1.00**	**161**	*e*Pg	**Pg**	**07 40 24.7**	**+1.2**
CDF				*e*Sg	**Sg**	**07 40 38.5**	**+2.0**
	18nm,0.2s						
CDF	**Champ du Feu**	**1.00**	**161**	*e*Pg	**Pg**	**07 40 24.7**	**+1.2**
CDF				*e*Sg	**Sg**	**07 40 38.5**	**+2.0**
	8.9nm,0.2s						
WLS	**Welschbruch**	**1.01**	**158**	Pg	**Pg**	**07 40 25.4**	**+1.6**
WLS				Sg	**Sg**	**07 40 40.2**	**+3.2**
RFYF	**Reffroy**	**1.13**	**230**	*e*Pg	**Pg**	**07 40 26.8**	**+0.8**
RFYF				*e*Sg	**Sg**	**07 40 41.9**	**+1.2**
	19nm,0.2s						
RFYF	**Reffroy**	**1.13**	**230**	*e*Pg	**Pg**	**07 40 26.8**	**+0.8**
RFYF				*e*Sg	**Sg**	**07 40 41.9**	**+1.2**
	9.5nm,0.2s						
ECH	**Echery**	**1.17**	**168**	Pn	**Pn**	**07 40 27.9**	**0.0**
ECH				Sg	**Sg**	**07 40 43.0**	**+1.1**
STB	**Steinbach**	**1.24**	**2**	*e*Pg	**Pg**	**07 40 29.2**	**+1.0**
STB				*e*Sg	**Sg**	**07 40 45.3**	**+1.0**
	12nm,0.7s						
TOD	**Tromm**	**1.34**	**78**	Pn	**Pn**	**07 40 29.2**	**-1.1**
TOD				Sg	**Sg**	**07 40 46.9**	**-0.6**
MEM	**Membach**	**1.35**	**338**	P	**Pg**	**07 40 31.1**	**+0.8**
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**07 40 31.9**	**+1.0**
HAU				*e*Sg	**Sg**	**07 40 50.3**	**+1.5**
	16nm,0.2s						
HAU	**Haudompre**	**1.38**	**192**	*e*Pg	**Pg**	**07 40 31.9**	**+1.0**
HAU				*e*Sg	**Sg**	**07 40 50.3**	**+1.5**
	7.8nm,0.2s						
TNS	**Taunus Mts**	**1.38**	**51**	*e*Pg	**Pg**	**07 40 30.7**	**-0.2**
	SNR=2.5						
TNS				*e*Sg	**Sg**	**07 40 47.5**	**-1.4**
	SNR=5.8						
MEZF	**Maizieres J'vi**	**1.43**	**234**	*e*Pg	**Pg**	**07 40 32.4**	**+0.7**
MEZF				*e*Sg	**Sg**	**07 40 51.0**	**+0.8**
	12nm,0.4s						
MEZF	**Maizieres J'vi**	**1.43**	**234**	*e*Pg	**Pg**	**07 40 32.4**	**+0.7**
MEZF				*e*Sg	**Sg**	**07 40 51.0**	**+0.8**
	5.9nm,0.4s						
BFO	**Black Forest**	**1.45**	**135**	*e*Pg	**Pg**	**07 40 31.4**	**-0.7**
	SNR=6.2						
BFO				*e*Sg	**Sg**	**07 40 49.6**	**-1.2**
	SNR=9.8						
GIVF	**Givet**	**1.48**	**301**	*e*Pn	**Pn**	**07 40 30.8**	**-1.4**
GIVF				*e*Sg	**Sg**	**07 40 51.2**	**-0.6**
	9.9nm,0.3s						
GIVF	**Givet**	**1.48**	**301**	*e*Pn	**Pn**	**07 40 30.8**	**-1.4**
GIVF				*e*Sg	**Sg**	**07 40 51.2**	**-0.6**
	4.9nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**07 40 34.8**	**+0.9**
HINF				*e*Sg	**Sg**	**07 40 55.2**	**+1.3**
	42nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**178**	*e*Pg	**Pg**	**07 40 34.8**	**+0.9**
HINF				*e*Sg	**Sg**	**07 40 55.2**	**+1.3**
	21nm,0.3s						
SFTF	**Sexfontaines**	**1.63**	**226**	*e*Pg	**Pg**	**07 40 36.2**	**+0.6**
SFTF				*e*Sg	**Sg**	**07 40 57.8**	**+1.0**
	13nm,0.4s						
SFTF	**Sexfontaines**	**1.63**	**226**	*e*Pg	**Pg**	**07 40 36.2**	**+0.6**
SFTF				*e*Sg	**Sg**	**07 40 57.8**	**+1.0**
	6.3nm,0.4s						
BAIF	**Baives**	**1.82**	**294**	*e*Pg	**Pg**	**07 40 38.6**	**-0.6**
BAIF				*e*Sg	**Sg**	**07 41 01.6**	**-1.1**
	3.8nm,0.3s						
BAIF	**Baives**	**1.82**	**294**	*e*Pg	**Pg**	**07 40 38.6**	**-0.6**
BAIF				*e*Sg	**Sg**	**07 41 01.6**	**-1.1**
	1.9nm,0.3s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**07 40 50.0**	**-0.2**
CABF				*e*Sg	**Sg**	**07 41 34.5**	**+0.6**
	6.4nm,0.5s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**07 40 50.0**	**-0.2**
CABF				*e*Sg	**Sg**	**07 41 34.5**	**+0.6**
	3.2nm,0.5s						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**07 40 50.3**	**-0.9**
LOR				*e*Sn	**Sn**	**07 41 23.8**	**-2.5**
	5.1nm,0.4s						
LOR	**Lormes**	**2.86**	**224**	*e*Pn	**Pn**	**07 40 50.3**	**-0.9**
LOR				*e*Sn	**Sn**	**07 41 23.8**	**-2.5**
	2.5nm,0.4s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**07 40 57.3**	**-0.7**
SMF				*e*Sn	**Sn**	**07 41 35.8**	**-2.8**
	2.5nm,0.3s						
SMF	**Signal de Mont**	**3.35**	**217**	*e*Pn	**Pn**	**07 40 57.3**	**-0.7**
SMF				*e*Sn	**Sn**	**07 41 35.8**	**-2.8**
	1.2nm,0.3s						
AVF	**Avril sur Loir**	**3.45**	**223**	*e*Pn	**Pn**	**07 40 58.3**	**-1.0**
AVF				*e*Sn	**Sn**	**07 41 37.8**	**-3.0**
	1.1nm,0.2s						
AVF	**Avril sur Loir**	**3.45**	**223**	*e*Pn	**Pn**	**07 40 58.3**	**-1.0**
AVF				*e*Sn	**Sn**	**07 41 37.8**	**-3.0**
	0.6nm,0.2s						
LPL	**La Plagne**	**3.84**	**181**	*e*Pn	**Pn**	**07 41 04.3**	**-0.4**
LPL				*e*Sn	**Sn**	**07 41 47.8**	**-2.8**
	0.5nm,0.2s						
LPL	**La Plagne**	**3.84**	**181**	*e*Pn	**Pn**	**07 41 04.3**	**-0.4**
LPL				*e*Sn	**Sn**	**07 41 47.8**	**-2.8**
	0.2nm,0.2s						
LPG	**La Plagne**	**3.86**	**180**	*e*Pn	**Pn**	**07 41 04.5**	**-0.5**
LPG				*e*Sn	**Sn**	**07 41 48.4**	**-2.6**
	0.9nm,0.3s						
LPG	**La Plagne**	**3.86**	**180**	*e*Pn	**Pn**	**07 41 04.5**	**-0.5**
LPG				*e*Sn	**Sn**	**07 41 48.4**	**-2.6**
	0.4nm,0.3s						
GEC2	**GERESS Array S**	**4.57**	**94**	*e*Pn	**Pn**	**07 41 14.5**	**-0.3**
	SNR=4.2						
LDF	**La Druitiere**	**4.61**	**263**	*e*Pn	**Pn**	**07 41 14.0**	**-1.3**
LDF				*e*Sn	**Sn**	**07 42 05.2**	**-4.4**
	0.5nm,0.2s						
LDF	**La Druitiere**	**4.61**	**263**	*e*Pn	**Pn**	**07 41 14.0**	**-1.3**
LDF				*e*Sn	**Sn**	**07 42 05.2**	**-4.4**
	0.2nm,0.2s						
MBDF	**Montbardon**	**4.63**	**180**	*e*Pn	**Pn**	**07 41 15.0**	**-0.6**
MBDF				*e*Sn	**Sn**	**07 42 06.6**	**-3.4**
	0.4nm,0.2s						
MBDF	**Montbardon**	**4.63**	**180**	*e*Pn	**Pn**	**07 41 15.0**	**-0.6**
MBDF				*e*Sn	**Sn**	**07 42 06.6**	**-3.4**
	0.2nm,0.2s						
VIVF	**Saint-Julien-l**	**4.73**	**199**	*e*Pn	**Pn**	**07 41 16.0**	**-0.9**
VIVF				*e*Sn	**Sn**	**07 42 08.6**	**-3.8**
	1.0nm,0.3s						
VIVF	**Saint-Julien-l**	**4.73**	**199**	*e*Pn	**Pn**	**07 41 16.0**	**-0.9**
VIVF				*e*Sn	**Sn**	**07 42 08.6**	**-3.8**
	0.5nm,0.3s						
FLN	**La Foliniere**	**4.81**	**266**	*e*Pn	**Pn**	**07 41 16.7**	**-1.4**
FLN				*e*Sn	**Sn**	**07 42 09.6**	**-5.0**
	2.2nm,0.4s						
FLN	**La Foliniere**	**4.81**	**266**	*e*Pn	**Pn**	**07 41 16.7**	**-1.4**
FLN				*e*Sn	**Sn**	**07 42 09.6**	**-5.0**
	1.1nm,0.4s						

*NEIC **02** 07:55:42.5, 1843N×6931W, h162^{km}, MD3.6(RSPR), After RSPR.*
RSPR 02 07:55:42.5, 1843N×6931W, h162^{km}±7^{km}**, MD3.6**/8**, 5C-3D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.09**	**89**	⇑*e*P	Pn	07 56 18.9	-0.3
AGPR				*e*S	Sn	07 56 48.1	+0.4
LSP	**Las Mesas**	**2.13**	**96**	⇑*e*P	Pn	07 56 20.5	+0.7
LSP				*e*S	Sn	07 56 49.1	+0.6
CRPR	**Cabo Rojo, PR**	**2.13**	**101**	⇓*e*P	Pn	07 56 20.7	+0.9
CRPR				*e*S	Sn	07 56 48.3	-0.4
MGP	**Maguayo**	**2.15**	**101**	⇓*e*P	Pn	07 56 20.1	+0.1
MGP				*e*S	Sn	07 56 49.7	+0.7
LRS	**Lares**	**2.35**	**93**	⇑*i*P	Pn	07 56 22.0	-0.3
LRS				*e*S	Sn	07 56 54.6	+1.5
AOPR	**Arecibo Observ**	**2.43**	**92**	⇑*i*P	Pn	07 56 23.9	+0.6
AOPR				*e*S	Sn	07 56 56.2	+1.4
CELP	**Cerrillos**	**2.62**	**97**	⇑*e*P	Pn	07 56 26.8	+1.2
CELP				*e*S	Sn	07 57 00.6	+1.6
CBYP	**Canovanas**	**3.29**	**92**	⇑*e*P	Pn	07 56 34.1	+0.3
CBYP				*e*S	Sn	07 57 14.8	+1.1
MTP	**Monte Pirata**	**3.59**	**95**	⇓*e*P	Pn	07 56 38.5	+0.9
MTP				*e*S	Sn	07 57 21.4	+0.8

*NEIC **02** 08:00:16.0, 1597N×9666W, h46^{km}, MD3.7(MEX), After MEX.*
MEX 02 08:00:16.0±0.3**, 1599N×9661W, h52^{km}**±9^{km}**, MD3.7, 1D, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.53**	**114**	*i* P	Pn	08 00 26.3	-1.4
HUIG				*i* S	Sn	08 00 34.3	-1.8
VHO	**Vista Hermosa**	**1.08**	**354**	⇓*i*P	Pn	08 00 33.6	-1.2
VHO				*i* S	Sn	08 00 47.2	-1.7
OXX	**Oaxaca**	**1.09**	**354**	*i* P	Pn	08 00 34.0	-1.0
OXX				*i* S	Sn	08 00 47.0	-2.1
CMIG	**Matias Romero**	**1.98**	**56**	*e*P	Pn	08 00 44.8	-2.3
CMIG				*i* S	Sn	08 01 09.2	-1.6
CMIG	**Matias Romero**	**1.98**	**56**	*i* P	Pn	08 00 46.1	-1.0
CMIG				*i* S	Sn	08 01 10.6	-0.2
UTMO	**Huajuapan**	**2.16**	**328**	*e*P	Pn	08 00 47.6	-1.9
UTMO				*i* S	Sn	08 01 13.6	-1.5

*IDC **02** 08:03:35.0±1.5, 605S×15032E, h0^{km}, mb3.8/5, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, ML2.7/1, Error ellipse: s-maj=60.2km s-min=25.4km az=130.0*
*ISCJB **02** 08:03:41.8±4.0, 6.1S±03×1502E±03, h62^{km}±32^{km}, mb3.6/4, Error ellipse: s-maj=67.3km s-min=27.7km az=93.2*
*NEIC **02** 08:03:42.5±2.9, 6.13S×15024E, h56^{km}±23^{km}, mb3.9/2, Error ellipse: s-maj=41.2km s-min=21.3km az=137.0*
ISC 02 08:03:42.9±3.9**, 62S**±03×**1503E**±03**, h55^{km}**±31^{km}**, n10, σ0^{s}46**/10**, mb3.6**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**223**	Pn	**Pn**	**08 04 47.7**	**-0.2**
	2.7nm,0.3s,baz=57,slow=14,SNR=6.8						
PMG				Sn	**Sn**	**08 05 39.0**	**+0.4**
	4.5nm,0.3s,baz=187,slow=16,SNR=5.2						
WRAB	**Tennant Creek**	**20.66**	**227**	*e*P	**P**	**08 08 17.5**	**-0.4**
	6.6nm,0.8s						
WB2	**Warramunga Arr**	**20.66**	**227**	*e*P	**P**	**08 08 18.0**	**0.0**
WRA	**Warramunga Arr**	**20.67**	**227**	P	**P**	**08 08 17.9**	**-0.2**
	3.1nm,0.7s,baz=53,slow=11,SNR=34						
ASAR	**Alice Springs**	**23.47**	**220**	P	**P**	**08 08 46.6**	**-0.9**
	0.6nm,0.4s,mb3.4,baz=57,slow=9.0,SNR=12						
FITZ	**Fitzroy Crossi**	**26.80**	**242**	*e*P	**P**	**08 09 18.5**	**+0.8**
	1.8nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**26.80**	**242**	P	**P**	**08 09 18.2**	**+0.5**
	1.0nm,0.7s,mb3.4,baz=65,slow=10,SNR=6.9						
STKA	**Stephens Creek**	**26.85**	**196**	P	**P**	**08 09 18.6**	**+0.4**
	1.4nm,0.8s,mb3.6,baz=358,slow=10.0,SNR=4.5						
NVAR	**Mina Array Bea**	**94.90**	**52**	P	**P**	**08 16 59.3**	**+0.3**
	0.2nm,0.5s,mb3.8,baz=235,slow=6.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**148.26**	**285**	PKPbc	PKPbc	08 23 23.5	+0.7
	0.7nm,0.6s,baz=82,slow=2.3,SNR=9.1						

*ISCJB **02** 08:25:34.6±0.9, 4127N±003×2088E±006, h1^{km}, Error ellipse: s-maj=7.4km s-min=4.2km az=48.6*
*CSEM **02** 08:25:34.6±0.3, 4123N×2082E, h5^{km}, ML1.9, Error ellipse: s-maj=6.9km s-min=3.9km az=104.0*
*THE **02** 08:25:34.1, 4129N×2084E, h1^{km}, ML2.8*
*SKO **02** 08:25:34.3, 4122N×2083E, h13^{km}, M2.1, ML1.9*
ISC 02 08:25:35.1±2.1**, 4126N**±005×**2086E**±010**, h1^{km}**±52^{km}**, n14, σ0^{s}83**/28**, 1C, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.16**	**197**	*e*Pg	**Pg**	**08 25 37.1**	**-1.0**
OHR				*e*Sg	**Sg**	**08 25 40.3**	**+0.2**
OHR	**Ohrid**	**0.16**	**197**	⇑*i*Pg	**Pg**	**08 25 37.4**	**-0.7**
OHR				*i* Sg	**Sg**	**08 25 40.3**	**+0.2**
OHR				*e*Lg		08 25 40.4	
	comp=E,362nm,0.4s						
OHR				*e*Lg		08 25 40.4	
	comp=N,571nm,0.2s						
OHR	**Ohrid**	**0.16**	**197**	*e*Pg	**Pg**	**08 25 37.1**	**-1.0**
OHR				*e*Sg	**Sg**	**08 25 40.3**	**+0.2**
OHR				*e*Lg		08 25 40.4	
	comp=N,571nm,0.2s						
BIA	**Bitola**	**0.42**	**124**	*e*Pg	**Pg**	**08 25 42.5**	**-0.7**
BIA				*e*Sg	**Sg**	**08 25 49.4**	**+0.7**
BIA	**Bitola**	**0.42**	**124**	*i* Pg	**Pg**	**08 25 42.5**	**-0.8**
BIA				*i* Sg	**Sg**	**08 25 49.5**	**+0.7**
BIA				*e*Lg		08 25 49.5	
	comp=E,75nm,0.3s						
BIA				*e*Lg		08 25 50.4	
	comp=N,52nm,0.2s						
BIA	**Bitola**	**0.42**	**124**	*e*Pg	**Pg**	**08 25 42.5**	**-0.8**
BIA				*e*Sg	**Sg**	**08 25 49.4**	**+0.6**
BIA				*e*Lg		08 25 50.3	
	comp=N,52nm,0.2s						
FNA	**Florina**	**0.61**	**141**	*e*Pg	**Pg**	**08 25 46.4**	**-0.5**
FNA				*e*Sg	**Sg**	**08 25 55.7**	**+0.8**
SKO	**Skopje**	**0.83**	**31**	*e*Pg	**Pg**	**08 25 51.1**	**0.0**
SKO				*e*Sg	**Sg**	**08 26 02.3**	**+0.4**
SKO	**Skopje**	**0.83**	**31**	*i* Pg	**Pg**	**08 25 51.0**	**-0.1**
SKO				*i* Sg	**Sg**	**08 26 02.3**	**+0.4**
SKO				*e*Lg		08 26 03.0	
	comp=E,25nm,0.3s						
SKO				*e*Lg		08 26 04.0	
	comp=N,75nm,0.3s						
SKO	**Skopje**	**0.83**	**31**	*e*Pg	**Pg**	**08 25 51.1**	**0.0**
SKO				*e*Sg	**Sg**	**08 26 02.3**	**+0.4**
SKO				*e*Lg		08 26 04.0	
	comp=N,75nm,0.3s						
STIP	**Stip**	**1.09**	**66**	*i* Pg	**Pg**	**08 25 56.3**	**+0.3**
STIP				*i* Sg	**Sg**	**08 26 10.0**	**0.0**
STIP				*e*Lg		08 26 10.8	
	comp=N,22nm,0.3s						
STIP				*e*Lg		08 26 11.2	
	comp=E,8.5nm,0.4s						
STIP	**Stip**	**1.09**	**66**	*i* Pg	**Pg**	**08 25 56.2**	**+0.3**
STIP				*i* Sg	**Sg**	**08 26 09.9**	**-0.1**
STIP				*e*Lg		08 26 10.8	
	comp=E,22nm,0.3s						
VAY	**Valandovo**	**1.29**	**87**	*e*Pg	**Pg**	**08 26 01.2**	**+1.3**
VAY				*i* Sg	**Sg**	**08 26 14.6**	**-2.0**
VAY				*e*Lg		08 26 17.2	
	comp=N,15nm,0.6s						
VAY				*e*Lg		08 26 17.4	
	comp=E,14nm,0.4s						
VAY	**Valandovo**	**1.29**	**87**	*e*Pg	**Pg**	**08 26 01.1**	**+1.3**
VAY				*i* Sg	**Sg**	**08 26 14.5**	**-2.1**
VAY				*e*Lg		08 26 17.4	
	comp=E,14nm,0.4s						

*IDC **02** 09:02:42.1±1.5, 345S×14075E, h0^{km}, mb4.1/4, mb1 4.4/6, mb1mx4.0/14, mbtmp4.3/6, ML4.0/2, MS3.6/7, Ms1 3.6/7, ms1mx3.2/25, Error ellipse: s-maj=42.9km s-min=15.9km az=94.0*
*ISCJB **02** 09:02:44.0±3.0, 357S±008×1408E±0.1, h26^{km}±25^{km}, mb4.1/3, MS3.7/4, Error ellipse: s-maj=23.2km s-min=12.4km az=23.8*
*NEIC **02** 09:02:47.2±0.7, 354S×14075E, h35^{km}, mb4.6/2, Error ellipse: s-maj=13.2km s-min=10.5km az=91.0*
ISC 02 09:02:49.9±1.8**, 370S**±010×**1408E**±01**, h59^{km}**±19^{km}**, n16, σ0^{s}94**/18**, mb4.1**/2**, MS3.7**/4**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.49**	**132**	Pn	**Pn**	**09 04 49.9**	**-0.3**
	1.0nm,0.3s,baz=304,slow=18,SNR=3.9						
KAKA	**Kakadu**	**12.18**	**222**	*e*P	**Pn**	**09 05 39.7**	**-0.8**
	50nm,0.5s						
CTA	**Charters Tower**	**17.13**	**162**	LR	LR	09 13 33.3	
	comp=Z,159nm,20.8s,baz=153,slow=38						
WRAB	**Tennant Creek**	**17.31**	**201**	*e*Pn	**Pn**	**09 06 47.6**	**+0.1**
	111nm,1.3s						
WRAB				*e*Sn	**Sn**	**09 09 58.2**	**-1.1**
WB2	**Warramunga Arr**	**17.32**	**201**	*e*P	**Pn**	**09 06 47.9**	**+0.4**
WB2				*e*S	**S**	**09 10 02.7**	**-2.5**
WRA	**Warramunga Arr**	**17.32**	**201**	P	**Pn**	**09 06 47.9**	**+0.3**
	2.3nm,0.3s,baz=22,slow=12,SNR=51						
WRA				S	**S**	**09 09 57.9**	**-7.4**
	0.2nm,0.3s,baz=15,slow=22,SNR=3.5						
WRA				LR	LR	09 12 38.8	
	comp=Z,26nm,21.3s,baz=25,slow=34						
GUMO	**Guam**	**17.65**	**13**	LR	LR	09 13 17.4	
	comp=Z,126nm,19.3s,baz=340,slow=36						
FITZ	**Fitzroy Crossi**	**20.61**	**225**	*e*P	**P**	**09 07 25.4**	**+1.2**
	7.9nm,0.6s						
FITZ				*e*S	**S**	**09 11 12.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.61**	**225**	P	**P**	**09 07 25.5**	**+1.3**
	8.1nm,1.0s,baz=45,slow=14,SNR=17						
FITZ				S	**S**	**09 11 12.3**	**+1.0**
	6.3nm,0.9s,baz=68,slow=19,SNR=5.0						
FITZ				LR	LR	09 16 24.7	
	comp=Z,246nm,20.1s,MS3.6,baz=251,slow=40						
AS31	**Alice Springs**	**20.93**	**198**	*e*P	**P**	**09 07 28.5**	**+0.9**
ASAR	**Alice Springs**	**20.93**	**198**	P	**P**	**09 07 28.6**	**+0.9**
	5.2nm,0.6s,baz=27,slow=11,SNR=96						
ASAR				S	**S**	**09 11 26.3**	**+8.7**
	3.3nm,1.1s,baz=21,slow=24,SNR=5.6						
ASAR				LR	LR	09 16 18.2	
	comp=Z,324nm,20.2s,MS3.7,baz=350,slow=39						
ASPA	**Alice Springs**	**20.93**	**198**	*e*P	**P**	**09 07 28.5**	**+0.9**
STKA	**Stephens Creek**	**28.04**	**179**	LR	LR	09 21 42.7	
	comp=Z,166nm,20.7s,MS3.6,baz=203,slow=40						
NWAO	**Narrogin (SRO)**	**36.48**	**214**	LR	LR	09 25 59.0	
	comp=Z,195nm,18.9s,MS3.9,baz=324,slow=38						
MKAR	**Makanchi Array**	**71.84**	**322**	P	**P**	**09 14 05.7**	**-0.7**
	2.3nm,0.9s,mb4.1,baz=104,slow=7.6,SNR=9.8						
BVAR	**Borovoye Array**	**81.31**	**325**	P	**P**	**09 14 58.9**	**-0.9**
	1.6nm,0.7s,mb4.1,baz=108,slow=4.8,SNR=9.5						

*NAO **02** 09:10:37.4, 3961N×2462E, h33^{km}, mb4.2*
*ROM **02** 09:10:46.9±0.4, 4002N×1993E, h10^{km}, Md4.1/1, Ml4.4/43, Error ellipse: s-maj=6.0km s-min=3.7km az=68.0*
*MOS **02** 09:10:47.4±1.6, 40.15N×1953E, h12^{km}, mb4.4/11, Error ellipse: s-maj=4.9km s-min=3.2km az=100.8*
*ISCJB **02** 09:10:48.0±0.3, 40.12N±001×1964E±002, h5^{km}±2^{km}, mb4.1/15, MS3.5/14, Error ellipse: s-maj=2.4km s-min=1.9km az=21.2*
*IDC **02** 09:10:47.0±0.8, 4023N×1962E, h0^{km}, mb4.0/13, mb1 4.1/19, mb1mx4.0/31, mbtmp4.0/19, ML3.6/7, MS3.5/15, Ms1 3.5/15, ms1mx3.2/35, Error ellipse: s-maj=12.8km s-min=12.0km az=92.0*
*TIR **02** 09:10:48.6, 40.14N×1980E, h18^{km}, Ml3.9*
*SKO **02** 09:10:48.7, 40.12N×1953E, h8^{km}, M3.7, ML4.3*
*PDG **02** 09:10:48.8±1.1, 40.12N×1967E, h8^{km}±2^{km}*
*THE **02** 09:10:49.2, 40.11N×1965E, h10^{km}, ML4.2*
*CSEM **02** 09:10:49.3±0.0, 40.12N×1971E, h5^{km}, Ms3.0, Error ellipse: s-maj=1.3km s-min=0.9km az=12.0*
*NEIC **02** 09:10:49.4±0.2, 40.14N×1968E, h10^{km}, mb3.8/7, ML3.9(TIR), ML4.1(PDG), ML4.3(ATH), ML4.4(ROM), Error ellipse: s-maj=3.9km s-min=3.1km az=23.0*
NEIC Felt [IV] at Borsh, Himara and Vuno. Felt at Vlora.
*ATH **02** 09:10:51.4, 3996N×1989E, h13^{km}±1^{km}, MD4.3/17, ML4.3*
*HLW **02** 09:12:23.4, 3424N×2507E, h33^{km}, Mb3.9*
ISC 02 09:10:48.8±0.4**, 4012N**±001×**1965E**±002**, h1^{km}**±3^{km}**, n306, σ1^{s}41**/362**, mb4.1**/15**, MS3.5**/14**, 34C-20D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.33**	**58**	*i* Pg	**Pg**	**09 10 53.6**	**-1.5**
TPE				*i* Sg	**Sg**	**09 10 58.0**	**-1.3**
TPE	**Tepelena**	**0.33**	**58**	Pg	**Pg**	**09 10 53.6**	**-1.5**

TPE Sg **Sg** 09 10 57.9 -1.4
VLO Vlora 0.36 341 *i* Pg **Pg** 09 10 57.4 +1.6
VLO *i* Sg **Sg** 09 11 03.4 +2.9
SRN Sarande 0.36 132 *i* Pg **Pg** 09 10 55.3 -0.5
SRN *i* Sg **Sg** 09 11 00.7 +0.2
KEK Kerkira 0.43 164 *e*PG **Pg** 09 10 57.2 +0.2
KEK *e*SG **Sg** 09 11 00.3 -2.2
LSK Leskovik 0.73 88 *i* Pg **Pg** 09 11 01.5 -1.3
LSK *i* Sg **Sg** 09 11 11.8 -0.5
IGT Igoumenitsa 0.79 138 *e*Pg **Pg** 09 11 03.1 -0.9
IGT *e*Sg **Sg** 09 11 16.2 +1.9
SCTE Santa Cesarea 0.91 267 Pn **Pg** 09 11 08.1 +1.9
SCTE Sn **Sn** 09 11 23.7 +1.3
18µm,1.2s
KBN Korca 1.00 60 *i* Pg **Pg** 09 11 07.2 -0.9
KBN *i* Sg **Sg** 09 11 23.1 +2.0
JAN Janina 1.04 116 *e*PB **Pg** 09 11 07.0 -1.7
LCI Lecce 1.19 281 Pn **Pn** 09 11 12.4 -0.2
767nm,0.4s
TIR Tirane 1.23 8 Pn **Pg** 09 11 12.3 -0.1
11µm,1.4s
TIR Tirane 1.23 8 *e*Pg **Pg** 09 11 12.3 -0.1
TIR *e*Sg **Sg** 09 11 32.1 +3.7
MEV Metsovon 1.26 105 *e*Pg **Pg** 09 11 12.5 -0.5
PRZA Preza 1.30 1 *i* Pn **Pn** 09 11 13.5 -0.7
OHR Ohrid 1.32 41 *e*Pg **Pg** 09 11 13.6 -0.5
OHR *e*Sg **Sg** 09 11 34.8 +3.6
OHR Ohrid 1.32 41 *i* Pg **Pg** 09 11 13.5 -0.6
OHR *i* Sg **Sg** 09 11 34.7 +3.5
comp=E,15µm,1.8s
OHR *e*Lg 09 11 35.7
comp=N,16µm,1.6s
OHR *e*Lg 09 11 36.0
comp=E,14µm,2.2s
OHR Ohrid 1.32 41 *i* Pg **Pg** 09 11 13.4 -0.7
OHR *i* Sg **Sg** 09 11 34.7 +3.5
FNA Florina 1.48 63 *e*Pg **Pg** 09 11 15.8 -1.3
BIA Bitola 1.56 54 *e*Pg **Pg** 09 11 17.1 -1.6
BIA *e*Sg **Sg** 09 11 40.4 +1.4
BIA Bitola 1.56 54 *i* Pg **Pg** 09 11 17.1 -1.6
BIA *i* Sg **Sg** 09 11 40.1 +1.2
BIA Bitola 1.56 54 *i* Pg **Pg** 09 11 17.1 -1.6
BIA *e*Sg **Sg** 09 11 40.3 +1.4
LKD Levkas 1.61 151 *e*Pg **Pn** 09 11 17.6 -0.9
LKD *e*Sg **Sg** 09 11 41.1 +0.4
KZN Kozani 1.64 83 *e*PG **Pn** 09 11 18.9 +0.2
KZN *e*SB **Sn** 09 11 39.8 -0.6
ULC Ulcinj 1.86 351⇑*i*Pn **Pn** 09 11 21.4 -0.5
ULC *e*Sn **Sn** 09 11 48.9 +2.9
EVR Evrytania 2.06 125 *e*PG **Pn** 09 11 25.3 +0.7
VLS Valsamata 2.08 159 *e*PN **Pn** 09 11 25.2 +0.4
VLS *e*SN **Sn** 09 11 50.2 -1.1
NOCI Noci 2.08 289 Pn **Pn** 09 11 24.3 -0.5
comp=E,3µm,0.7s
LIT Litokhoron 2.18 90 *e*Pn **Pn** 09 11 26.5 +0.3
BUM Brajici-Budva 2.25 346⇑*i*Pn **Pn** 09 11 27.0 -0.1
BUM *e*Sn **Sn** 09 11 57.7 +2.3
GRG Griva 2.26 68 *e*Pn **Pn** 09 11 28.1 +0.8
SKO Skopje 2.29 36 *e*Pn **Pn** 09 11 28.3 +0.5
SKO Skopje 2.29 36 *i* Pn **Pn** 09 11 28.2 +0.5
TTG Podgorica 2.32 353⇑*i*Pn **Pn** 09 11 28.5 +0.4
TTG *e*Sn **Sn** 09 11 59.7 +2.4
BAI Bari 2.32 296 *e*Pn **Pn** 09 11 27.9 -0.3
AGG Agios Georgios 2.35 117 *e*Pn **Pn** 09 11 29.0 +0.5
AGG *e*Sn **Sn** 09 11 59.5 +1.6
SG1 Sgolgore (BA) 2.37 288 *e*Pn **Pn** 09 11 28.7 -0.2
AMUR Altamura 2.45 290 Pn **Pn** 09 11 29.6 -0.3
comp=E,2µm,0.9s
HCY Herceg Novi 2.48 340⇑*i*Pn **Pn** 09 11 29.2 -1.1
HCY *e*Sn **Sn** 09 12 04.0 +2.9
PVY Plav 2.48 6⇓*i*Pn **Pn** 09 11 30.4 0.0
PVY *e*Sn **Sn** 09 12 03.2 +2.0
STIP Stip 2.48 50 *e*Pn **Pn** 09 11 30.5 +0.2
STIP Stip 2.48 50 *i* Pn **Pn** 09 11 30.4 +0.1
MIGL Miglionico 2.50 282 Pn **Pn** 09 11 31.2 +0.7
comp=E,9µm,0.9s
RLS Riolos of Patr 2.50 145 *e*PN **Pn** 09 11 31.0 +0.4
VAY Valandovo 2.52 61 *e*Pn **Pn** 09 11 31.2 +0.3
VAY Valandovo 2.52 61 *i* Pn **Pn** 09 11 31.0 +0.1
SERS Sersale 2.53 246 Pn **Pn** 09 11 31.1 +0.1
comp=E,1µm,1.5s
THE Thessaloniki 2.58 78 *e*Pn **Pn** 09 11 31.7 -0.1
HORT Hortiatis 2.68 79 *e*Pn **Pn** 09 11 34.4 +1.3
KNT Kendrikon 2.68 66 *e*Pn **Pn** 09 11 33.6 +0.5
NKY Niksic 2.73 350⇓*i*Pn **Pn** 09 11 34.4 -0.3
NKY *e*Sn **Sn** 09 12 09.4 +2.0
CDT Castel del Mon 2.74 292 *e*Pn **Pn** 09 11 33.5 -0.4
IVA Berane 2.75 4⇑*i*Pn **Pn** 09 11 34.4 +0.4
IVA *e*Sn **Sn** 09 12 09.7 +1.7
TREB Trebinje 2.77 340 P **Sn** 09 11 33.4 -0.9
TREB S **Sn** 09 12 08.6 +0.3
NEO Neokhori 2.88 105 *e*PN **Pn** 09 11 37.0 +1.2
BRY Bratogost 2.90 344⇓*i*Pn **Pn** 09 11 35.5 -0.5
BRY *e*Sn **Sn** 09 12 13.0 +1.6
BRY Bratogost 2.90 344⇓*i*Pn **Pn** 09 11 35.5 -0.5
BRY *e*Sn **Sn** 09 12 13.0 +1.5
SIRI Monte Sirino - 2.90 272 Pn **Pn** 09 11 38.3 +2.2
comp=E,988nm,1.0s
SOH Sokhos 2.91 75 *e*Pn **Pn** 09 11 37.0 +0.7
SOH *e*Sn **Sn** 09 12 12.2 +0.3
PLG Polygyros 2.92 84 *e*PN **Pn** 09 11 36.9 +0.6
PLG *e*SN **Sn** 09 12 10.5 -1.5
PALZ Palazzo San Ge 2.93 287 Pn **Pn** 09 11 37.1 +0.6
comp=E,6µm,1.1s
CUC Castrocucco 2.94 269 Pn **Pn** 09 11 39.3 +2.6
comp=E,2µm,1.1s
LKR Lokris 2.99 118 *e*PB **Pn** 09 11 37.9 +0.6
MTSN Montesano sull 2.99 274 Pn **Pn** 09 11 38.9 +1.6
comp=E,2µm,1.1s
PLAC Placanica 3.00 237 Pn **Pn** 09 11 36.9 -0.6
comp=E,161nm,0.8s
SLCN Sala Consilina 3.08 276 Pn **Pn** 09 11 39.3 +0.7
comp=E,2µm,1.4s
PAIG Paliouri 3.10 92 *e*Pn **Pn** 09 11 38.3 -0.6
PAIG *e*Sn **Sn** 09 12 17.5 +0.9
UPM Unac-Piva 3.12 350⇓*i*Pn **Pn** 09 11 39.5 +0.3
UPM *e*Sn **Sn** 09 12 18.4 +1.2
KKB Krupnik 3.13 55 *i* P **Pn** 09 11 41.0 +1.7
BARS Barje 3.15 31 *i* Pn **Pn** 09 11 39.8 +0.3
SRS Serrai 3.16 70 *e*Pn **Pn** 09 11 40.9 +1.2
PLE Pljevlja 3.21 357⇓*i*Pn **Pn** 09 11 40.2 -0.2
PLE *e*Sn **Sn** 09 12 20.6 +1.4
FGMS Monte Sant'Ang 3.21 301 Pn **Pn** 09 11 39.2 -1.2
comp=E,307nm,0.6s
MS1 Monte Sant'Ag 3.22 301 *e*Pn **Pn** 09 11 41.6 +1.1
MRLC Muro Lucano 3.23 283 Pn **Pn** 09 11 42.2 +1.5
comp=E,3µm,2.0s
MSAG Monte S. Angel 3.25 300 Pn **Pn** 09 11 40.6 -0.3
comp=E,1µm,0.5s
FG4 Candela 3.30 289 Pn **Pn** 09 11 44.1 +2.5
comp=E,2µm,0.8s
CMPR Campora 3.33 275 Pn **Pn** 09 11 42.7 +0.7
comp=E,762nm,1.1s
CDRU Civita di Ruta 3.34 278 Pn **Pn** 09 11 42.4 +0.2
comp=E,1µm,1.7s
SGRT San Giovanni R 3.38 300 Pn **Pn** 09 11 42.5 -0.1
comp=E,964nm,1.0s
AOS Alonnisos 3.40 105 *e*Pn **Pn** 09 11 42.5 -0.5
SGTA Sant Agata di 3.41 289 Pn **Pn** 09 11 45.7 +2.6
comp=E,5µm,1.9s
MMB Musomiste 3.42 63 *e*Pn **Pn** 09 11 43.6 +0.3
MMB Musomiste 3.42 63 *i* P **Pn** 09 11 43.5 +0.2
NVR Nevrokopi 3.43 68 *e*PN **Pn** 09 11 45.7 +2.3
ITM Ithomi 3.44 148 *e*PN **Pn** 09 11 44.1 +0.6
RGNG Rignano Grg 3.44 298 Pn **Pn** 09 11 43.5 -0.1
CEL Celeste 3.46 239 Pn **Pn** 09 11 43.1 -0.7
comp=E,624nm,0.9s
SOI Samo 3.46 235 Pn **Pn** 09 11 43.0 -0.9
comp=E,266nm,0.7s
SNAL S. Angelo Dei 3.48 285 Pn **Pn** 09 11 46.3 +2.3
comp=E,3µm,1.2s
CAFE Carife 3.48 286 Pn **Pn** 09 11 44.9 +0.8
comp=E,7µm,2.2s
MCRV Calabrutti - M 3.48 282 Pn **Pn** 09 11 44.8 +0.7
comp=E,354nm,0.7s
FG5 Orsara di Pugl 3.52 291 Pn **Pn** 09 11 46.1 +1.4
comp=E,707nm,0.8s
MGER Gerania Oros 3.53 126 *e*PB **Pn** 09 11 46.0 +1.2
SCLL Scilla 3.58 240 Pn **Pn** 09 11 45.6 +0.1
comp=E,54nm,0.6s
CSSN Cassano Irpino 3.60 283 Pn **Pn** 09 11 47.6 +1.9
comp=E,274nm,1.0s
VTS Vitosha 3.64 46 *e*Pn **Pn** 09 11 46.8 +0.5

VTS Vitosha 3.64 46⇑*i*P **Pn** 09 11 47.2 +0.9
VTS Vitosha 3.64 46 *i* P **Pn** 09 11 46.4 +0.1
MSRU Castanea 3.71 241 Pn **Pn** 09 11 46.8 -0.5
comp=E,388nm,0.7s
MTTG Motta San Giov 3.74 237 Pn **Pn** 09 11 47.0 -0.6
comp=E,212nm,0.6s
NAIG Nisos Aigina 3.81 127 *e*PN **Pn** 09 11 48.5 -0.2
ATH Athens Observa 3.83 123 *e*PN **Pn** 09 11 49.0 +0.1
PSB1 Pescosannita 3.84 288 Pn **Pn** 09 11 49.2 +0.2
comp=E,2µm,1.9s
GRUS Gruza 3.84 12 *i* Pn **Pn** 09 11 47.5 -1.6
GRUS Sg **Sg** 09 13 01.6 +9.2
SACR S. Croce Del S 3.96 290 Pn **Pn** 09 11 52.6 +1.9
comp=E,918nm,1.2s
DIVS Divcibare 3.98 4 *i* Pn **Pn** 09 11 49.1 -1.8
DIVS Sg **Sg** 09 13 02.8 +6.2
DIVS Divcibare 3.98 4 *e*Pn **Pn** 09 11 49.7 -1.2
VPL Vulcano Piano 4.02 246 Pn **Pn** 09 11 52.0 +0.5
comp=E,534nm,1.0s
MMME Mongiuffi-Meli 4.06 239 Pn **Pn** 09 11 52.1 +0.1
comp=E,236nm,0.9s
BSSO Busso 4.09 292 Pn **Pn** 09 11 53.7 +1.3
comp=E,1µm,1.2s
RZN Rozhen 4.15 66 *i* P **Pn** 09 11 55.4 +2.2
PGB Panagyurishte 4.18 53 *i* P **Pn** 09 11 55.0 +1.3
FRES Fresagrandinar 4.19 298 Pn **Pn** 09 11 54.8 +0.9
comp=E,2µm,1.3s
TRIV Trivento 4.19 295 Pn **Pn** 09 11 54.7 +0.8
comp=E,1µm,1.4s
LIA Limnos Island 4.26 91 *e*PN **Pn** 09 11 55.8 +1.0
VLI Veliai 4.27 142 *e*PN **Pn** 09 11 55.4 +0.5
PLD Plovdiv 4.30 61 *e*Pn **Pn** 09 11 56.6 +1.2
PLD Plovdiv 4.30 61 *i* P **Pn** 09 11 58.5 +3.1
VAGA Valle Agricola 4.31 289 Pn **Pn** 09 11 57.1 +1.6
comp=E,724nm,0.9s
MOCO Biccari - m.te 4.35 288 Pn **Pn** 09 11 47.1 -9.0
comp=E,8µm,2.5s
MIDA Miranda 4.36 292 Pn **Pn** 09 11 57.8 +1.6
comp=E,1µm,1.8s
RNI2 Rionero Sannit 4.45 293 Pn **Pn** 09 12 00.7 +3.3
comp=E,1µm,1.6s
CERA Filignano 4.51 291 Pn **Pn** 09 12 00.0 +1.7
comp=E,2µm,2.1s
RDO Rodhopi 4.60 75 *e*PN **Pn** 09 12 01.5 +2.1
INTR Introdacqua 4.73 295 Pn **Pn** 09 12 01.6 +0.3
comp=E,516nm,0.8s
HAVL Avola 4.75 230 Pn **Pn** 09 11 59.0 -2.5
comp=E,308nm,0.4s
VAE Valguarnera 4.87 239 Pn **Pn** 09 12 02.2 -0.9
comp=E,2.3nm,0.3s,baz=313,slow=2.7,SNR=4.8
VAE Sn **Sn** 09 13 04.3 +4.2
comp=E,3.6nm,0.3s,baz=92,slow=10.0,SNR=3.3
VAE Valguarnera 4.87 239 Pn **Pn** 09 12 02.2 -0.9
VAE Sn **Sn** 09 13 04.3 +4.2
VVLD Villa Vallelon 4.88 293 Pn **Pn** 09 12 04.2 +0.9
comp=E,556nm,1.0s
VCEL Villa Celiera 4.93 299 Pn **Pn** 09 12 04.5 +0.5
comp=E,562nm,1.0s
HMDC Modica 4.95 232 Pn **Pn** 09 12 02.2 -2.1
comp=E,669nm,0.8s
FAGN Fagnano 5.05 297 Pn **Pn** 09 12 08.2 +2.5
comp=E,482nm,1.0s
GIUL Giuliano Di Ro 5.06 289 Pn **Pn** 09 12 05.9 +0.2
comp=E,537nm,2.3s
TERO Teramo 5.19 301 Pn **Pn** 09 12 08.0 +0.5
comp=E,91nm,0.6s
CERT Cerreto 5.36 292 Pn **Pn** 09 12 10.8 +0.9
comp=E,118nm,1.0s
APE Apeiranthos 5.53 122⇑*i*P **Pn** 09 12 19.4 +7.2
SZH Strazhica 5.66 54 *i* P **Pn** 09 12 15.0 +1.0
AOI Ancona 5.67 309 Pn **Pn** 09 12 13.0 -1.1
comp=E,85nm,0.9s
NVLJ Novalja 5.67 323 *i* Pn **Pn** 09 12 13.1 -1.1
NVLJ *i* Sn **Sn** 09 13 17.5 -2.5
BZS Buzias 5.68 14⇑*i*P **Pn** 09 12 13.2 -1.1
BZS Buzias 5.68 14 ⇑P **Pn** 09 12 13.2 -1.1
GZR Gura Zlata 5.75 23⇑*i*P **Pn** 09 12 16.5 +1.3
GZR Gura Zlata 5.75 23 ⇑P **Pn** 09 12 16.4 +1.2
CING Cingoli 5.82 306 Pn **Pn** 09 12 15.5 -0.7
comp=E,65nm,0.9s
SISC Sisak 5.86 337 Sn **Sn** 09 13 21.3 -3.3
ASS Assisi 6.01 302 Pn **Pn** 09 12 19.6 +0.8
comp=E,4.0nm,0.6s
ASS Assisi 6.01 302 P **Pn** 09 12 19.6 +0.8
ASS pmax pmax
comp=Z,4.0nm,0.6s
PKSM Moragy 6.13 353⇑*i*P **Pn** 09 12 17.7 -2.8
BOJS Bojanci 6.27 330 *i* Pn **Pn** 09 12 21.6 -0.8
BOJS *e*Sn **Sn** 09 13 30.5 -4.3
IDI Anoyia 6.37 138 Pn **Pn** 09 12 21.8 -2.0
comp=Z,3.9nm,0.3s,baz=310,slow=16,SNR=9.6
IDI Sn **Sn** 09 13 29.9 -7.3
comp=Z,14nm,0.3s,baz=43,slow=20,SNR=7.6
CDCA Citt' di Caste 6.46 303 Pn **Pn** 09 12 26.8 +1.7
comp=Z,249nm,1.0s
BADI Badiali 6.48 304 Pn **Pn** 09 12 25.9 +0.6
comp=Z,144nm,1.0s
RSM Repubblica di 6.57 308 Pn **Pn** 09 12 26.0 -0.5
comp=Z,23nm,0.6s
RSM Repubblica di 6.57 308 P **Pn** 09 12 26.0 -0.5
RSM pmax pmax
comp=Z,23nm,0.6s
VOIR 6.63 35⇑*i*P **Pn** 09 12 29.6 +2.2
VOIR 6.63 35 ⇑P **Pn** 09 12 29.6 +2.2
CRE Caprese Michel 6.72 304 Pn **Pn** 09 12 29.5 +0.9
comp=Z,6.0nm,0.4s
CRE Caprese Michel 6.72 304 P **Pn** 09 12 29.5 +0.9
CRE pmax pmax
comp=Z,6.0nm,0.4s
CEY Cerknica 6.79 327 *i* Pn **Pn** 09 12 28.4 -1.2
PDKS Podkum 6.84 332 *i* Pn **Pn** 09 12 28.7 -1.5
SFI Santa Sofia 6.93 306 Pn **Pn** 09 12 32.4 +0.9
comp=Z,730nm,3.9s
SFI Santa Sofia 6.93 306 P **Pn** 09 12 32.4 +0.9
SFI pmax pmax
comp=Z,730nm,3.9s
LJU Ljubljana 7.00 329 *e*Pn **Pn** 09 12 30.8 -1.7
LJU *i* Sn **Sn** 09 13 50.5 -2.2
DRGR 7.03 17⇑*i*P **Pn** 09 12 32.7 -0.1
DRGR 7.03 17 ⇑P **Pn** 09 12 32.7 -0.1
MLR Muntele Rosu 7.08 39 Pn **Pn** 09 12 34.7 +1.1
comp=Z,0.6nm,0.3s,baz=262,slow=11,SNR=7.2
MLR Muntele Rosu 7.08 39⇑*i*P **Pn** 09 12 38.3 +4.7
MLR Muntele Rosu 7.08 39 P **Pn** 09 12 34.7 +1.1
MLR pmax pmax
comp=Z,1.0nm,0.3s
VOY Vojsko 7.25 326 *e*Pn **Pn** 09 12 33.5 -2.4
VOY *e* 09 12 36.9
VOY *e*Sn **Sn** 09 13 55.8 -3.0
VOY *e* 09 13 57.5
OBKA Obir 7.38 331⇑*i*Pn **Pn** 09 12 36.5 -1.2
OBKA ⇓*i*Sn **Sn** 09 13 59.5 -2.7
ROBS Robic 7.58 326 *i* Pn **Pn** 09 12 38.8 -1.6
ROBS *e*Sn **Sn** 09 14 01.3 -5.7
PZZT Monte Pizzetto 7.66 304 Pn **Pn** 09 12 42.4 +0.9
comp=Z,21nm,0.5s
PLOR Plostina 7.69 40⇑*i*P **Pn** 09 12 43.7 +1.8
GMNA Gemona 7.72 325 Pn **Pn** 09 12 40.9 -1.5
VRI Vrincioaia 7.74 40⇑*i*P **Pn** 09 12 44.6 +2.1
VRI Vrincioaia 7.74 40 ⇑P **Pn** 09 12 44.6 +2.0
PSZ Piszkesteto 7.79 1⇑*e*Pn **Pn** 09 12 49.9 +6.6
PSZ Piszkesteto 7.79 1⇑*i*P **Pn** 09 12 45.7 +2.4
PSZ Piszkesteto 7.79 1 *e*P **Pn** 09 12 43.9 +0.6
PSZ *e* 09 14 05.5
PSZ pmax pmax
comp=Z,11nm,0.7s
PSZ Piszkesteto 7.79 1 *e*Pn **Pn** 09 12 43.9 +0.6
comp=Z,11nm,0.7s
PSZ *e*Sn **Sn** 09 14 05.5 -6.7
PSZ Piszkesteto 7.79 1 *e*Pn **Pn** 09 12 43.9 +0.6
comp=Z,11nm,0.7s
SOP Sopron 7.88 345 *e*Pn **Pn** 09 12 56.1 +12
VSL Villasalto 7.93 269 *e*Pn **Pn** 09 12 45.5 +0.3
comp=Z,9.0nm,0.8s
VSL Villasalto 7.93 269 *e*Pn **Pn** 09 12 45.5 +0.3
comp=Z,9.0nm,0.8s
FVI Forni Avoltri 8.18 325 Pn **Pn** 09 12 48.9 +0.3
KBA Koelnbreinsper 8.32 329⇓*i*Pn **Pn** 09 12 49.6 -0.9
KBA ⇑*i*Sn **Sn** 09 14 19.9 -5.2
KECS Kecovo 8.38 4 *e* **Pn** 09 12 55.7 +4.3
VYHS Vyhne 8.39 356 *e*PN **Pn** 09 12 49.7 -1.8
BURAR Bucovina Array 8.50 26⇑*i*P **Pn** 09 12 54.9 +1.9
BURAR Bucovina Array 8.50 26 ⇑P **Pn** 09 12 54.9 +1.9
MOA Molln 8.64 335⇓*i*Pn **Pn** 09 12 53.3 -1.6

SNR=8.4
MOA ⇓*i*Pn **Pn** 09 12 53.3 -1.6
SNR=8.4
MOA Molln 8.64 335⇓*i*Pn **Pn** 09 12 53.3 -1.6
SNR=8.4
MOA ⇑*i*Sn **Sn** 09 14 28.7 -4.3
UZH Uzhgorod 8.71 12 *e*P **Pn** 09 13 00.0 +4.1
UZH *e*S **Sn** 09 14 40.0 +5.2
UZH pmax pmax
comp=Z,17nm,1.0s
UZH MLR MLR
comp=Z,4µm,1.3s
UZH Uzhgorod 8.71 12 *e*P **Pn** 09 13 00.0 +4.1
comp=Z,17nm,1.0s
UZH *e*S **Sn** 09 14 40.0 +5.2
comp=Z,4µm,1.3s
WTTA Wattenberg 9.19 324⇓*i*Pn **Pn** 09 13 01.6 -1.0
SNR=10
WTTA ⇓*i*Pn **Pn** 09 13 01.6 -1.0
SNR=10
WTTA Wattenberg 9.19 324⇓*i*Pn **Pn** 09 13 01.6 -1.0
SNR=10
WTTA ⇓*i*Sn **Sn** 09 14 42.6 -4.1
KEST Kesra 9.24 245 Pn **Pn** 09 13 04.0 +0.8
comp=Z,0.1nm,0.3s,baz=157,slow=23,SNR=9.6
WATA Walderalm 9.27 324⇑*i*Pn **Pn** 09 13 02.6 -1.0
SNR=12
WATA ⇑*i*Pn **Pn** 09 13 02.6 -1.0
SNR=12
WATA Walderalm 9.27 324⇑*i*Pn **Pn** 09 13 02.6 -1.0
SNR=12
WATA ⇑*i*Sn **Sn** 09 14 44.7 -4.0
NIE Niedzica 9.31 3 *e*P **Pn** 09 13 05.2 +1.1
SQTA Sankt Quirin 9.36 322⇑*i*Pn **Pn** 09 13 03.8 -1.0
SQTA ⇑*i*Sn **Sn** 09 14 48.2 -2.5
STHS Stebnicka Huta 9.36 6 *e* **Pn** 09 13 12.6 +7.8
VRAC Vranov 9.44 348 Pn **Pn** 09 13 03.6 -2.2
comp=Z,0.1nm,0.3s,baz=287,slow=19,SNR=2.3
MOTA Moosalm 9.50 322⇓*i*Pn **Pn** 09 13 06.2 -0.6
SNR=23
MOTA ⇓*i*Pn **Pn** 09 13 06.2 -0.6
SNR=23
MOTA Moosalm 9.50 322⇓*i*Pn **Pn** 09 13 06.2 -0.6
SNR=23
MOTA ⇓*i*Sn **Sn** 09 14 49.8 -4.4
KIS Kishinev 9.56 41 *e*P **Pn** 09 13 03.0 -4.6
KIS MLR MLR
comp=Z,800nm,8.0s
KIS MLR MLR
comp=N,500nm,10.0s
KIS MLR MLR
comp=E,500nm,8.0s
KIS MLR MLR
comp=Z,700nm,12.0s
GEC2 GERESS Array S 9.70 336 *e*Pn **Pn** 09 13 07.3 -2.1
GEC2 *e*Sn **Sn** 09 14 47.6 -11
GEC2 GERESS Array S 9.70 336 *e*Pn **Pn** 09 13 07.3 -2.1
GEC2 *e*Sn **Sn** 09 14 47.6 -11
GERES GERESS Array B 9.70 336 Pn **Pn** 09 13 06.7 -2.7
comp=Z,0.6nm,0.3s,baz=157,slow=14,SNR=18
GERES Sn **Sn** 09 14 52.1 -6.8
comp=Z,0.5nm,0.3s,baz=161,slow=20,SNR=2.9
GERES GERESS Array B 9.70 336 P **Pn** 09 13 06.7 -2.7
GERES 09 14 52.1
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
KHC Kasperske Hory 9.99 336 *e*P **Pn** 09 13 11.1 -2.3
LVV L'vov 10.18 16 *e*P **Pn** 09 13 18.5 +2.5
FRF La Foret Royal 10.29 294 *e*P **Pn** 09 13 18.2 +0.6
LMR La Mourre 10.33 292 *e*P **Pn** 09 13 20.0 +1.9
MBDF Montbardon 10.57 300 *e*P **Pn** 09 13 18.5 -2.9
comp=N,13nm,0.8s
MBDF Montbardon 10.57 300 *e*P **Pn** 09 13 18.5 -2.9
MBDF pmax pmax
comp=Z,6.0nm,0.8s
MBDF Montbardon 10.57 300 *e*P **Pn** 09 13 18.5 -2.9
comp=Z,6.3nm,0.8s
HMAT Matruh 10.86 144 P **Pn** 09 13 16.0 -9.3
LPG La Plagne 10.88 304 *e*P **Pn** 09 13 22.5 -3.2
comp=Z,12nm,0.5s
LPG La Plagne 10.88 304 *e*P **Pn** 09 13 22.5 -3.2
LPG pmax pmax
comp=Z,6.0nm,0.5s
LPG La Plagne 10.88 304 *e*P **Pn** 09 13 22.5 -3.2
comp=Z,5.8nm,0.5s
LPL La Plagne 10.90 304 *e*P **Pn** 09 13 22.6 -3.4
comp=Z,6.7nm,0.4s
LPL La Plagne 10.90 304 *e*P **Pn** 09 13 22.6 -3.4
LPL pmax pmax
comp=Z,3.0nm,0.4s
LPL La Plagne 10.90 304 *e*P **Pn** 09 13 22.6 -3.4
comp=Z,3.3nm,0.4s
SMRF Simiane la Rot 11.15 295 *e*P **Pn** 09 13 29.1 -0.2
ORIF Oris-en-Rattie 11.23 300 *e*P **Pn** 09 13 28.9 -1.5
ORIF *e*R
comp=Z,472nm,19.0s
CABF La Chapelle 11.80 308 *e*P **Pn** 09 13 35.5 -2.7
comp=Z,12nm,0.7s
CABF La Chapelle 11.80 308 *e*P **Pn** 09 13 35.5 -2.7
CABF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 11.80 308 *e*P **Pn** 09 13 35.5 -2.7
comp=Z,6.2nm,0.7s
SWA2 11.86 155 ⇑P **Pn** 09 13 36.5 -2.5
SWA1 11.92 153 P **Pn** 09 13 36.1 -3.8
MOX Moxa 11.93 335 *e*P **Pn** 09 13 38.9 -1.1
comp=Z,18nm,1.1s
MOX *e* 09 17 06.0
MOX
comp=Z,600nm,17.0s
MOX Moxa 11.93 335 *e*P **Pn** 09 13 38.9 -1.1
MOX pmax pmax
comp=Z,21nm,1.1s
MOX MLR MLR
comp=Z,18µm,17.0s
MOX Moxa 11.93 335 *e*P **Pn** 09 13 38.9 -1.1
comp=Z,18nm,1.1s
MOX *e* 09 17 06.0
HINF Hinteralfeld 11.99 314 *e*P **Pn** 09 13 38.2 -2.7
comp=Z,4.7nm,0.4s
HINF Hinteralfeld 11.99 314 *e*P **Pn** 09 13 38.2 -2.7
HINF pmax pmax
comp=Z,2.0nm,0.4s
HINF Hinteralfeld 11.99 314 *e*P **Pn** 09 13 38.2 -2.7
comp=Z,2.3nm,0.4s
CDF Champ du Feu 12.12 317 *e*P **Pn** 09 13 40.5 -2.2
comp=Z,3.6nm,0.5s
CDF Champ du Feu 12.12 317 *e*P **Pn** 09 13 40.5 -2.2
CDF pmax pmax
comp=Z,2.0nm,0.5s
CDF Champ du Feu 12.12 317 *e*P **Pn** 09 13 40.5 -2.2
comp=Z,1.8nm,0.5s
HAU Haudompre 12.38 314 *e*P **Pn** 09 13 42.3 -3.9
comp=Z,6.0nm,0.3s
HAU *e*R
comp=Z,51nm,22.4s
HAU Haudompre 12.38 314 *e*P **Pn** 09 13 42.3 -3.9
HAU pmax pmax
comp=Z,3.0nm,0.3s
HAU Haudompre 12.38 314 *e*P **Pn** 09 13 42.3 -3.9
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 12.52 29 Pn **Pn** 09 13 45.0 -3.1
comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=2.4
HBRG Burj al 'Arab 12.64 136 P **Pn** 09 13 42.8 -6.9
SMF Signal de Mont 13.20 305 *e*P **Pn** 09 13 54.8 -2.6
LOR Lormes 13.46 307 *e*P **Pn** 09 13 56.8 -4.1
LOR *e*R
comp=Z,229nm,21.2s
AVF Avril sur Loir 13.57 305 *e*P **Pn** 09 13 58.5 -3.9
comp=Z,4.7nm,0.6s
AVF Avril sur Loir 13.57 305 *e*P **Pn** 09 13 58.5 -3.9
AVF pmax pmax
comp=Z,2.0nm,0.6s
AVF Avril sur Loir 13.57 305 *e*P **Pn** 09 13 58.5 -3.9
comp=Z,2.3nm,0.6s
ANN Anapa 13.93 65 *e*P **Pn** 09 14 08.2 +0.8
ANN *e*S **Sn** 09 16 41.9 -0.8
ANN pmax pmax
comp=Z,121nm,1.8s
ANN MLR MLR
comp=E,496nm,15.0s
ANN MLR MLR
comp=Z,213nm,15.0s
ANN Anapa 13.93 65 *e*P **Pn** 09 14 08.2 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,121nm,1.8s						
HFRF	Wahat Farafira	14.80	148	P	Pn	09 14 14.1	-5.2
EBIE	Bielsa	14.86	286	P	Pn	09 14 27.5	+7.5
	comp=Z,0.8nm,0.4s						
EQES	Quesada	17.81	270	P	Pn	09 15 02.0	+4.0
	comp=Z,2.5nm,0.6s						
VOR	Voronezh	17.82	43	P	Pn	09 14 53.0	-5.0
VOR				pmax	pmax		
	comp=Z,70nm,2.4s						
ESDC	Sonseca Array	18.12	276	P	Pn	09 15 02.6	+0.9
	comp=Z,0.3nm,0.3s,baz=78,slow=11,SNR=8.3						
ESDC				LR	LR	09 22 16.6	
	comp=Z,159nm,18.2s,baz=85,slow=38						
ESDC	Sonseca Array	18.12	276	P	Pn	09 15 03.3	+1.6
	comp=Z,2.6nm,0.8s						
GUD	Guadarrama	18.13	279	P	Pn	09 15 04.9	+3.0
GUD				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GUD	Guadarrama	18.13	279	P	Pn	09 15 04.9	+3.0
	comp=Z,6.4nm,0.9s						
GUD	Guadarrama	18.13	279	P	Pn	09 15 04.9	+3.0
	comp=Z,6.0nm,0.9s						
OBN	Obninsk	18.76	31	P	Pn	09 15 06.0	-3.6
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s						
EADA	Adamuz	18.88	272	P	Pn	09 15 13.4	+2.4
	comp=Z,4.1nm,0.7s						
GNI	Garni	19.17	82	LR	LR	09 23 00.2	
	comp=Z,100nm,19.8s,baz=165,slow=38						
EMIJ	Mijas	19.46	267	P	Pn	09 15 18.6	+0.6
MOS	Moscow	19.63	31	eP	Pn	09 15 15.7	-4.4
MOS				pmax	pmax		
	comp=Z,40nm,0.6s						
MOS				pmax	pmax		
	comp=Z,41nm,0.7s						
HFS	Hagfors	20.38	351	P	P	09 15 25.6	-1.3
	comp=Z,7.1nm,0.6s,baz=164,slow=14,SNR=14						
HFS				LR	LR	09 23 41.1	
	comp=Z,119nm,18.7s,MS3.3,baz=171,slow=38						
HFS	Hagfors	20.38	351	P	P	09 15 25.6	-1.3
HFS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HFS				MLR	MLR		
	comp=Z,119nm,18.7s						
EMIN	Mina Concepcio	20.58	272	P	P	09 15 30.1	+0.9
	comp=Z,9.9nm,1.0s						
MDT	Midelt	20.79	257	P	P	09 15 30.6	-0.7
	comp=Z,1.4nm,0.6s,baz=82,slow=10,SNR=4.0						
MDT				LR	LR	09 23 16.9	
	comp=Z,111nm,20.6s,MS3.2,baz=165,slow=36						
NAO01	NORSAR Array S	21.44	348	eP	P	09 15 34.9	-3.5
	comp=Z,3.9nm,0.6s,mb3.9						
EKA	Eskdalemuir Ar	21.46	323	P	P	09 15 37.4	-1.2
	comp=Z,5.1nm,0.9s,mb3.9,baz=126,slow=9.4,SNR=7.4						
EKA	Eskdalemuir Ar	21.46	323	P	P	09 15 37.4	-1.2
EKA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NB2	NORSAR Subarra	21.58	349	P	P	09 15 38.4	-1.5
	comp=Z,9.1nm,0.9s,mb4.2,baz=153,slow=10						
NOA	NORSAR Array B	21.58	349	P	P	09 15 37.8	-2.0
	comp=Z,4.6nm,0.7s,mb4.0,baz=154,slow=9.9,SNR=13						
NOA				LR	LR	09 24 16.7	
	comp=Z,42nm,21.2s,MS2.8,baz=170,slow=38						
NOA	NORSAR Array B	21.58	349	P	P	09 15 37.8	-2.1
NOA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,42nm,21.2s						
FINES	FINESS Array B	21.71	8	P	P	09 15 38.0	-3.3
	comp=Z,3.5nm,0.6s,mb4.0,baz=169,slow=12,SNR=21						
FINES				LR	LR	09 24 21.4	
	comp=Z,71nm,19.1s,MS3.1,baz=183,slow=38						
FINES	FINESS Array B	21.71	8	eP	P	09 15 37.8	-3.5
FINES	FINESS Array B	21.71	8	P	P	09 15 38.0	-3.3
FINES				LR	LR	09 24 21.4	
KAF	Kangasniemi	22.39	8	ep	P	09 15 44.2	-4.3
	comp=Z,4.6nm,0.7s,mb4.0						
KAF	Kangasniemi	22.39	8	eP	P	09 15 44.2	-4.3
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
JOF	Joensuu	23.88	13	ep	P	09 16 00.3	-3.5
	comp=Z,11nm,0.6s,mb4.6						
JOF	Joensuu	23.88	13	eP	P	09 16 00.3	-3.5
JOF				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
AKTK	Aktyubinsk	28.61	56	P	P	09 16 44.0	-2.5
AKTK				LR	LR	09 29 59.2	
AKTO	Aktyubinsk	28.61	56	P	P	09 16 44.0	-2.5
	comp=Z,1.5nm,0.5s,mb4.1,baz=255,slow=8.8,SNR=6.7						
AKTO				LR	LR	09 29 59.2	
	comp=Z,170nm,18.0s,MS3.7,baz=98,slow=40						
AKTO	Aktyubinsk	28.61	56	P	P	09 16 44.1	-2.5
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
AKTO				MLR	MLR		
	comp=Z,170nm,18.0s,MS3.7						
ARCES	ARCESS Array B	29.64	4	P	P	09 16 52.7	-3.1
	comp=Z,3.4nm,0.7s,mb4.3,baz=188,slow=8.9,SNR=11						
ARCES				LR	LR	09 29 08.6	
	comp=Z,88nm,20.7s,MS3.4,baz=37,slow=37						
ARCES	ARCESS Array B	29.64	4	P	P	09 16 52.7	-3.0
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,88nm,20.7s						
TORD	Torodi Ar. Bea	31.17	215	P	P	09 17 08.4	-0.9
	comp=Z,3.0nm,0.9s,mb4.2,baz=22,slow=8.7,SNR=8.7						
TORD				LR	LR	09 32 35.0	
	comp=Z,142nm,18.2s,MS3.7,baz=40,slow=42						
SVE	Sverdlovsk	31.31	44	eP	P	09 17 07.0	-3.5
SVE				MLR	MLR		
	comp=N,200nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,300nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,400nm,12.0s,MS4.3						
JMIC	Jan Mayen	34.11	344	LR	LR	09 31 48.1	
	comp=Z,22nm,20.6s,MS2.9,baz=85,slow=37						
BVAR	Borovoye Array	36.42	52	P	P	09 17 51.7	-3.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=242,slow=6.1,SNR=5.3						
BVAR				LR	LR	09 33 40.8	
	comp=Z,48nm,18.1s,MS3.3,baz=228,slow=38						
DBIC	Dimbokro	39.90	220	LR	LR	09 35 58.8	
	comp=Z,103nm,18.7s,MS3.7,baz=0.9,slow=38						
AAK	Ala-Archa	40.63	68⇓	eP	P	09 18 26.2	-4.1
AAK				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.2						
NVS	Novosibirsk	43.87	48	eP	P	09 18 53.5	-3.2
MKAR	Makanchi Array	44.89	60	P	P	09 19 01.7	-3.1
	comp=Z,2.1nm,0.5s,mb4.3,baz=278,slow=7.5,SNR=14						
MKAR	Makanchi Array	44.89	60	P	P	09 19 01.7	-3.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	Zalesovo	44.91	49	P	P	09 19 01.6	-3.4
	comp=Z,2.0nm,0.3s,mb4.5,baz=181,slow=4.9,SNR=4.8						
ZAL	Zalesovo	44.91	49	P	P	09 19 01.7	-3.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SFJD	Kangerlussuaq	46.21	329	LR	LR	09 39 34.3	
	comp=Z,75nm,21.4s,MS3.6,baz=60,slow=38						
SCHQ	Schefferville	56.58	316	P	P	09 20 29.5	-3.6
	comp=Z,1.4nm,0.6s,mb4.2,baz=102,slow=20,SNR=2.5						
SCHQ				LR	LR	09 44 35.2	
	comp=Z,39nm,19.7s,MS3.5,baz=90,slow=36						
BDFB	Brasilia	83.75	244	LR	LR	10 00 46.9	
	comp=Z,106nm,19.0s,MS4.2,baz=126,slow=36						
PDAR	Pinedale Array	85.56	325	P	P	09 23 28.9	+0.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=61,slow=7.6,SNR=3.8						
ASAR	Alice Springs	123.03	94	PKP	PKPdf	09 29 45.0	-2.0
	comp=Z,0.5nm,0.7s,baz=291,slow=1.1,SNR=5.3						
ASAR	Alice Springs	123.03	94	PKIKP	PKPdf	09 29 45.0	-2.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

---

*BJI **02** 09:11:35.8, 5235N×17498W, h31km, mB4.8, mb4.8, Ms4.6, Msz4.3*

*ISCJB **02** 09:11:37.0±1.4, 5220N±008×17505W±006, h35km±11km, mb4.4/52, MS3.3/6, Error ellipse: s-maj=13.0km s-min=5.9km az=13.2*

*MOS **02** 09:11:36.5±0.6, 52.14N×17505W, h33km, mb4.6/19, Error ellipse: s-maj=15.8km s-min=10.0km az=51.9*

*IDC **02** 09:11:38.7±0.6, 5229N×17391W, h0km, mb4.2/17, mb1 4.4/18, mb1mx4.1/31, mbtmp4.2/18, ML4.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.6/40, Error ellipse: s-maj=20.1km s-min=14.6km az=166.0*

*NEIC **02** 09:11:38.4±0.4, 52.16N×17504W, mb4.4/30, ML4.3(AEIC), Error ellipse: s-maj=7.6km s-min=5.1km az=197.0*

ISC 02 09:11:38.8±1.1**, 5218N**±007×**17506W**±006**, h37**km±9km**, h36**km±2.2km**:pP-P, n127, σ0?77**/129**, mb4.4**/52**, MS3.3**/6**, 1C,**
Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	3.87	76	P	Pn	09 12 35.4	-0.3
NIKO				S	Sn	09 13 10.1	-10
SPIA	Saint Paul Isl	5.73	27	P	Pn	09 13 07.8	+6.4
SPIA				S	Sn	09 14 07.4	+1.5
AKUT	Akutan	5.92	67	P	Pn	09 13 05.4	+1.5
SDPT	Sand Point	9.20	64	ePn	Pn	09 13 48.4	-0.5
SVW2	Sparrevohn	13.90	42	ePn	Pn	09 14 52.8	-0.3
TNA	Tin City	13.90	12	ePn	Pn	09 14 51.6	-1.6
KDAK	Kodiak Island	14.04	58	Pn	Pn	09 14 51.5	-3.5
	2.3nm,0.3s,baz=260,slow=7.3,SNR=16						
KDAK				Sn	Sn	09 17 12.8	-17
	0.1nm,0.3s,baz=204,slow=19,SNR=2.1						
TTA	Tatalina	14.78	36	eP	Pn	09 15 05.2	+0.1
PET	Petropavlovsk	15.97	283	eP	Pn	09 15 21.1	+0.5
SLKM	Skilak Lake	16.01	49	eP	Pn	09 15 21.2	+0.1
MCK	McKinley	17.89	40	eP	Pn	09 15 44.5	-0.2
MCK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MCK	McKinley	17.89	40	ePn	Pn	09 15 44.5	-0.2
	comp=Z,5.6nm,0.8s						
BILL	Bilibino	18.29	337	eP	Pn	09 15 49.8	+0.3
BILL				pmax	pmax		
	comp=Z,13nm,0.3s						
BILL	Bilibino	18.29	337	eP	Pn	09 15 49.8	+0.3
	comp=Z,13nm,0.3s						
COLA	College	18.86	37	eP	Pn	09 15 55.4	-1.0
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	College	18.86	37	eP	Pn	09 15 55.4	-1.0
	comp=Z,8.6nm,0.8s						
COLA				epP	pP	09 16 04.5	-0.6
MA2	Magadan	20.36	305	eP	P	09 16 11.5	-0.5
MA2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MA2	Magadan	20.36	305	eP	P	09 16 11.5	-0.6
	comp=Z,2.6nm,0.5s						
EGAK	Eagle	21.42	41	eP	P	09 16 23.4	-0.1
EGAK				eS	S	09 20 19.3	+0.2
DAWY	Dawson	21.93	43	eP	P	09 16 29.0	+0.1
INK	Inuvik	25.47	35	P	P	09 17 04.2	+0.9
	comp=Z,6.9nm,0.6s,mb4.3,baz=236,slow=9.2,SNR=29						
INK				LR	LR	09 27 30.5	
	comp=Z,46nm,18.4s,MS3.0,baz=288,slow=38						
INK	Inuvik	25.47	35	eP	P	09 17 04.1	+0.8
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	Inuvik	25.47	35	eP	P	09 17 04.1	+0.8
	comp=Z,5.7nm,0.5s,mb4.4						
DLBC	Dease Lake	25.97	58	P	P	09 17 10.0	+2.1
	comp=Z,3.5nm,0.7s,mb4.0,baz=328,slow=8.3,SNR=4.9						
DLBC				S	S	09 21 18.4	-17
	comp=Z,2.4nm,0.6s,baz=322,slow=19,SNR=5.4						
DLBC				LR	LR	09 26 11.4	
	comp=Z,46nm,20.7s,MS3.0,baz=309,slow=34						
ASAJ	Asahikawa	29.03	271	LR	LR	09 27 06.5	
	comp=Z,59nm,21.7s,MS3.2,baz=345,slow=31						
YAK	Yakutsk	30.65	311	ePcP	PcP	09 20 47.3	+0.2
YKA	Yellowknife Ar	32.98	48	P	P	09 18 09.1	-0.9
	comp=Z,0.4nm,0.3s,mb3.8,baz=276,slow=9.2,SNR=8.5						
YKA				LR	LR	09 31 40.1	
	comp=Z,41nm,19.0s,MS3.1,baz=270,slow=37						
YKA	Yellowknife Ar	32.98	48	P	P	09 18 09.1	-1.0
YKA				MLR	MLR		
	comp=Z,41nm,19.0s						
GNW	Green Mountain	33.37	77	eP	P	09 18 14.2	+0.7
EBG	Ellensburg	35.03	76	P	P	09 18 28.2	+0.3
HOOD	Mount Hood Mea	35.18	79	eP	P	09 18 30.2	+1.1
VFP	Flag Point	35.29	79	P	P	09 18 30.4	+0.4
EPH	Ephrata	35.40	75	P	P	09 18 30.9	-0.1
MDW	Midway	35.66	76	P	P	09 18 33.5	+0.2
WAH2	Wahluke Slope	35.71	76	P	P	09 18 33.7	+0.1
HAWA	Hanford	35.91	77	eP	P	09 18 35.4	+0.1
	comp=Z,0.9nm,0.7s,mb3.8						
EDM	Edmonton	36.38	63	eP	P	09 18 39.1	-0.3
NEW	Newport	36.42	72	P	P	09 18 38.2	-1.6
	comp=Z,1.5nm,0.3s,mb4.4,baz=289,slow=7.1,SNR=5.3						
NEW	Newport	36.42	72	P	P	09 18 38.2	-1.6
NEW				pmax	pmax		
	comp=Z,2.0nm,0.3s						
NEW	Newport	36.42	72	P	P	09 18 38.2	-1.6
YBH	Yreka Blue Hor	36.48	85	P	P	09 18 39.9	-0.3
	comp=Z,2.0nm,0.8s,mb4.1,baz=286,slow=7.1,SNR=7.9						
YBH	Yreka Blue Hor	36.48	85	P	P	09 18 39.9	-0.4
YBH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MDJ	Mudanjiang	36.72	281	P	P	09 18 42.3	0.0
MDJ				AP	pP	09 18 51.0	-1.9
MDJ				XP	sP	09 18 54.9	-2.5
MDJ				PP	PP	09 20 07.4	+1.1
MDJ				PCP	PcP	09 21 02.4	-1.9
MDJ				S	S	09 24 23.9	+0.5
MDJ				XS	sS	09 24 39.6	-1.3
MDJ				SCS	ScS	09 28 53.9	-1.0
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,65nm,4.2s						
MDJ				LR	LR		
	comp=N,111nm,16.0s,MS3.9						
MDJ				LR	LR		
	comp=E,101nm,17.2s,MS3.9						
MDJ				LR	LR		
	comp=Z,87nm,6.4s						
WALA	Waterton Lakes	37.91	70	eP	P	09 18 52.4	0.0
	comp=Z,2.9nm,0.8s,mb4.1						
BMO	Blue Mountains	38.04	77	eP	P	09 18 53.4	-0.2
	comp=Z,3.6nm,0.8s,mb4.2						
WVOR	Wild Horse Val	38.57	82	eP	P	09 18 58.0	0.0
WVOR				e*PP	pP	09 19 08.6	0.0
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
WVOR	Wild Horse Val	38.57	82	eP	P	09 18 58.0	0.0
	comp=Z,9.3nm,0.8s,mb4.6						
WVOR				epP	pP	09 19 08.6	0.0
MSO	Missoula	39.01	73	eP	P	09 19 01.2	-0.5
	comp=Z,2.2nm,0.9s,mb3.9						
MSO				ePcP	PcP	09 21 14.1	+2.8
CHMT	Chamberlain Mo	39.37	72	eP	P	09 19 03.3	-1.3
CN2	Changchun	39.67	282	eP	P	09 19 08.2	+1.1
PAHR	Pah Rah Range	39.71	86	eP	P	09 19 07.9	+0.4
	comp=Z,3.0nm,0.6s,mb4.2						
WAKR	Walker	40.42	87	eP	P	09 19 14.3	+0.9
HLID	Hailey	40.49	77	eP	P	09 19 14.1	+0.2
	comp=Z,6.2nm,0.9s,mb4.3						
MCMT	McKenzie Canyo	40.72	75	eP	P	09 19 15.5	-0.4
BOZ	Bozeman (W)	40.99	73	eP	P	09 19 17.5	-0.6
NVAR	Mina Array Bea	41.16	86	P	P	09 19 19.8	+0.3
	comp=Z,1.4nm,0.6s,mb3.7,baz=297,slow=6.4,SNR=22						
NVAR				PcP	PcP	09 21 21.9	+3.7
	comp=Z,0.5nm,0.7s,baz=276,slow=1.2,SNR=4.0						
SNY	Shenyang	41.92	281	⇑P	P	09 19 26.2	+0.5
SNY				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.8						
IMW	Indian Meadow	42.38	75	eP	P	09 19 29.6	+0.2
	comp=Z,6.3nm,1.0s,mb4.2						
IMW				ePcP	PcP	09 21 26.2	+4.0
FLWY	Flagg Ranch	42.41	74	eP	P	09 19 30.5	+0.8
	comp=Z,6.5nm,1.0s,mb4.2						
RRI2	Red Ridge	42.47	76	eP	P	09 19 30.2	0.0
	comp=Z,7.3nm,0.9s,mb4.3						
MOOW	Moose Ponds	42.58	75	eP	P	09 19 28.8	-2.2
REDW	Red Top Meadow	42.73	75	eP	P	09 19 32.7	+0.4
	comp=Z,9.0nm,1.3s,mb4.3						
SNOW	Snow King Moun	42.74	75	eP	P	09 19 33.0	+0.7
	comp=Z,9.8nm,1.4s,mb4.3						
LOHW	Long Hollow	42.74	75	eP	P	09 19 32.6	+0.3
	comp=Z,10nm,1.4s,mb4.4						
BGU	Big Grassy Mou	42.86	80	eP	P	09 19 33.5	+0.1
HWUT	Hardware Ranch	43.34	78	eP	P	09 19 37.4	+0.3
	comp=Z,3.2nm,0.9s,mb4.0						
HWUT				ePcP	PcP	09 21 26.4	+1.0
DUG	Dugway	43.43	80	eP	P	09 19 38.2	+0.2
DUG				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
DUG	Dugway	43.43	80	eP	P	09 19 38.2	+0.3
	comp=Z,12nm,1.0s,mb4.6						
BW06	Boulder Array	43.85	75	eP	P	09 19 41.3	0.0
PDAR	Pinedale Array	43.85	75	P	P	09 19 41.0	-0.3
	comp=Z,8.0nm,0.8s,mb4.5,baz=312,slow=4.6,SNR=64						
NLU	North Lily Min	44.03	80	eP	P	09 19 41.5	-1.2
GSC	Goldstone	44.09	89	eP	P	09 19 43.1	-0.1
MPU	Maple Canyon	44.26	80	eP	P	09 19 44.7	+0.1
CCUT	Cedar City	44.74	84	eP	P	09 19 48.9	+0.5
CCUT				epP	pP	09 19 57.9	-1.4
CCUT				ePcP	PcP	09 21 30.1	-0.1
MSU	Marysvale	44.86	82	eP	P	09 19 49.5	+0.1
TMUT	Trail Mountain	44.96	80	eP	P	09 19 50.4	+0.2
TMUT				ePcP	PcP	09 21 31.5	+0.6
SRU	San Rafael	45.49	80	eP	P	09 19 54.3	-0.1
SRU				e*PP	pP	09 20 04.0	-1.2
SRU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
SRU	San Rafael	45.49	80	eP	P	09 19 54.3	-0.1
	comp=Z,8.4nm,0.8s,mb4.6						
SRU				epP	pP	09 20 04.0	-1.2
WUAZ	Wupatki	47.28	84	eP	P	09 20 08.6	+0.1
	comp=Z,4.9nm,0.8s,mb4.5						
ULM	Lac du Bonnet	47.29	59	P	P	09 20 07.4	-1.1
	comp=Z,1.7nm,0.3s,mb4.4,baz=323,slow=6.1,SNR=11						
PV01	Paradox Valley	47.29	80	eP	P	09 20 08.2	-0.3
SMCO	Snowmass	47.59	78	eP	P	09 20 10.5	-0.3
	comp=Z,3.0nm,0.7s,mb4.4						
SMCO				ePcP	PcP	09 21 45.1	+4.9
ISCO	Idaho Springs	48.02	76	eP	P	09 20 14.7	+0.6
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
ISCO	Idaho Springs	48.02	76	eP	P	09 20 14.7	+0.6
	comp=Z,6.9nm,1.4s,mb4.5						
HHC	Hu-ho-hao-te	49.69	288	eP	P	09 20 27.3	+0.3
HHC				AP	pP	09 20 37.7	-0.2
HHC				XP	sP	09 20 43.1	+0.9
HHC				PP	PP	09 22 21.8	+0.2
HHC				SCP	ScP	09 25 39.6	-0.7
HHC				PCS	PcS	09 25 44.6	0.0
HHC				S	S	09 27 30.8	-2.3
HHC				XS	sS	09 27 49.3	-1.9
HHC				SCS	ScS	09 30 11.4	-4.1
HHC				SS	SS	09 30 58.8	-6.9
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,59nm,4.5s						
HHC				LR	LR		
	comp=N,118nm,6.9s						
HHC				LR	LR		
	comp=E,92nm,6.3s						
HHC				LR	LR		
	comp=Z,77nm,5.3s						
TUC	Tucson	49.80	87	eP	P	09 20 28.2	+0.4
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
TUC	Tucson	49.80	87	eP	P	09 20 28.2	+0.4
	comp=Z,4.0nm,1.1s,mb4.4						
SSE	Sheshan	50.32	271	eP	P	09 20 30.5	-1.3
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,21nm,3.5s						
ANMO	Albuquerque	50.66	81	P	P	09 20 34.4	0.0
	comp=Z,0.9nm,0.8s,mb3.8,baz=299,slow=9.3,SNR=4.1						
ANMO	Albuquerque	50.66	81	P	P	09 20 34.4	+0.1
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NJ2	Nanjing	51.09	274	eP	P	09 20 41.3	+3.7
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4						
FRB	Frobisher Bay	51.11	33	P	P	09 20 37.2	-0.4
	comp=Z,22nm,1.0s,mb5.0,baz=316,slow=9.1,SNR=3.1						
FRB	Frobisher Bay	51.11	33	P	P	09 20 37.3	-0.4
FRB				pmax	pmax		
	comp=Z,22nm,1.0s						
MNTX	Cornudas Mount	53.54	84	eP	P	09 20 56.3	+0.6
	comp=Z,4.8nm,0.9s,mb4.4						
WMOK	Wichita Mounta	55.44	76	eP	P	09 21 09.6	+0.1
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WMOK	Wichita Mounta	55.44	76	eP	P	09 21 09.6	0.0
	comp=Z,6.3nm,0.9s,mb4.7						
LZH	Lanzhou	57.37	288	eP	P	09 21 23.0	-0.3
LZH				AP	pP	09 21 35.0	+0.6
LZH				XP	sP	09 21 39.5	+0.8
LZH				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.1						
ARCES	ARCESS Array B	57.67	352	P	P	09 21 31.3	+5.9
	comp=Z,1.1nm,0.7s,mb4.0,baz=13,slow=7.8,SNR=6.4						
ARCES	ARCESS Array B	57.67	352	P	P	09 21 31.3	+5.9
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JCT	Junction City	57.79	81	eP	P	09 21 26.2	-0.1
JCT				e		09 22 18.1	
JCT				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
JCT	Junction City	57.79	81	eP	P	09 21 26.2	-0.1
	comp=Z,5.5nm,0.6s,mb4.8						
JCT				ePcP	PcP	09 22 18.1	-0.5
MIAR	Mount Ida	58.67	73	eP	P	09 21 32.1	-0.3
MIAR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
MIAR	Mount Ida	58.67	73	eP	P	09 21 32.1	-0.3
	comp=Z,6.7nm,1.0s,mb4.6						
HBAR	Harrisburg	59.66	70	eP	P	09 21 37.6	-1.6
HKT	Hockley	60.57	78	eP	P	09 21 46.1	+0.6
WMQ	Urumqi	60.83	305	eP	P	09 21 49.0	+1.8
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.8						
CD2	Chengdu	61.06	284	eP	P	09 21 48.0	-0.8
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
BVAR	Borovoye Array	61.75	321	P	P	09 22 01.3	+7.8
	comp=Z,1.0nm,0.5s,mb4.2,baz=57,slow=5.5,SNR=6.2						
BVAR	Borovoye Array	61.75	321	P	P	09 22 01.3	+7.9
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMI	Kunming	65.89	280	P	P	09 22 20.3	-0.4
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.0						
KMI				LR	LR		
	comp=Z,42nm,22.8s,MS3.6						
NOA	NORSAR Array B	67.02	357	P	P	09 22 32.7	+4.7
	comp=Z,0.4nm,0.5s,mb3.7,baz=5.5,slow=6.5,SNR=2.7						
HFS	Hagfors	67.82	355	P	P	09 22 36.9	+3.9
	comp=Z,1.0nm,0.6s,mb4.0,baz=24,slow=8.2,SNR=4.5						
HFS	Hagfors	67.82	355	P	P	09 22 36.9	+3.9
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTO	Aktyubinsk	68.34	327	P	P	09 22 43.2	+7.0
	comp=Z,1.5nm,0.5s,mb4.3,baz=44,slow=4.9,SNR=7.6						
AKTO	Aktyubinsk	68.34	327	P	P	09 22 43.3	+7.1
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
GNI	Garni	81.75	330	eP	P	09 23 53.3	-0.3
GNI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GNI	Garni	81.75	330	eP	P	09 23 53.2	-0.4
	comp=Z,7.0nm,0.8s,mb4.6						
WRA	Warramunga Arr	84.23	227	P	P	09 24 14.4	+8.0
	comp=Z,1.1nm,0.7s,mb4.1,baz=36,slow=5.9,SNR=5.6						
WRA	Warramunga Arr	84.23	227	P	P	09 24 14.4	+8.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PSI	Prapat	85.36	269	P	P	09 24 21.8	+10
	comp=Z,4.2nm,0.8s,mb4.6,baz=326,slow=2.4,SNR=4.9						
PSI	Prapat	85.36	269	P	P	09 24 21.8	+10
PSI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
ASAR	Alice Springs	87.68	226	P	P	09 24 32.0	+8.6
	comp=Z,2.5nm,0.8s,mb4.5,baz=34,slow=4.5,SNR=18						
ASAR	Alice Springs	87.68	226	P	P	09 24 32.0	+8.6
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TIP	Timpagrande	88.44	351	eP	P	09 24 27.7	+0.6
MAW	Mawson	148.55	218	PKPbc	PKPbc	09 31 26.9	+5.3
	comp=Z,3.0nm,0.7s,baz=10,slow=2.0,SNR=8.8						
MAW	Mawson	148.55	218	PKP2	PKPab	09 31 26.9	+1.8
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SNAA	Sanae	160.13	173	PKPab	PKPab	09 32 17.3	+3.1
	comp=Z,0.4nm,0.8s,baz=194,slow=5.6,SNR=5.9						

*ISCJB **02** 09:28:39.4±0.7, 39S±0.1×104.1W±0.1, h10^{km}, mb4.0/14, MS3.8/9, Error ellipse: s-maj=21.9km s-min=10.8km az=112.7*
*IDC **02** 09:28:39.2±0.8, 385S×104.17W, h0^{km}, mb4.0/11, mb1 4.1/11, mb1mx4.1/18, mbtmp4.0/11, MS3.8/9, Ms1 3.8/9, ms1mx3.6/17, Error ellipse: s-maj=27.6km s-min=16.8km az=52.0*
*NEIC **02** 09:28:40.7±0.6, 395S×10420W, h10^{km}, mb4.4/2, Error ellipse: s-maj=18.1km s-min=10.2km az=59.0*
ISC 02 09:28:41.2±0.7**, 393S**±010×**1042W**±01**, h10**^{km}**, n28,** σ**1^{s}06**/21**, mb4.0**/14**, MS3.8**/9**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**22.83**	**24**	P	**P**	**09 33 46.4**	**+2.1**
	3.9nm,1.0s,mb3.8,baz=190,slow=12,SNR=3.9						
CMIG				LR	LR	09 40 39.2	
	comp=Z,314nm,18.9s,MS3.8,baz=188,slow=32						
ATAH	**Atahualpa**	**25.88**	**98**	LR	LR	09 41 23.8	
	comp=Z,106nm,20.3s,MS3.4,baz=92,slow=30						
NNA	**Nana**	**28.24**	**108**	LR	LR	09 42 45.9	
	comp=Z,253nm,21.6s,MS3.8,baz=311,slow=30						
SDV	**Santo Domingo**	**35.82**	**69**	P	**P**	**09 35 41.5**	**+0.8**
	6.8nm,0.6s,mb4.8,baz=283,slow=2.3,SNR=5.9						
LPAZ	**La Paz**	**37.51**	**112**	P	**P**	**09 35 56.1**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=229,slow=11,SNR=2.6						
LPAZ				LR	LR	09 49 21.8	
	comp=Z,110nm,18.2s,MS3.7,baz=266,slow=33						
SAML	**Samuel**	**41.05**	**99**	*e*P	**P**	**09 36 24.1**	**-0.6**
	2.8nm,0.6s,mb4.1						
ARUT	**Antelope Range**	**42.38**	**349**	*e*P	**P**	**09 36 37.4**	**+1.8**
MSU	**Marysvale**	**42.87**	**351**	*e*P	**P**	**09 36 39.5**	**-0.1**
CFAA	**Coronel Fontan**	**43.58**	**133**	P	**P**	**09 36 44.7**	**-0.6**
	0.5nm,0.9s,mb3.2,baz=305,slow=8.7,SNR=4.9						
CFAA	**Coronel Fontan**	**43.58**	**133**	P	**P**	**09 36 44.7**	**-0.6**
SIV	**San Ignacio**	**44.05**	**109**	P	**P**	**09 36 48.2**	**-0.9**
	0.9nm,0.8s,mb3.5,baz=252,slow=6.4,SNR=5.1						
NVAR	**Mina Array Bea**	**44.12**	**344**	P	**P**	**09 36 49.4**	**-0.2**
	1.6nm,1.1s,mb3.6,baz=160,slow=9.1,SNR=6.5						
NVAR	**Mina Array Bea**	**44.12**	**344**	P	**P**	**09 36 49.4**	**-0.2**
PPT	**Papeete**	**46.44**	**250**	LR	LR	09 50 35.5	
	comp=Z,171nm,21.9s,MS4.0,baz=18,slow=28						
PDAR	**Pinedale Array**	**46.73**	**355**	P	**P**	**09 37 09.3**	**-1.0**
	0.8nm,0.9s,mb3.7,baz=185,slow=7.0,SNR=5.8						
YBH	**Yreka Blue Hor**	**48.47**	**342**	P	**P**	**09 37 23.7**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=280,slow=2.0,SNR=3.8						
MCMT	**McKenzie Canyo**	**49.15**	**352**	*e*P	**P**	**09 37 30.4**	**+1.3**
CPUP	**Villa Florida**	**50.06**	**121**	P	**P**	**09 37 36.0**	**0.0**
	2.3nm,0.7s,mb4.3,baz=260,slow=9.7,SNR=4.5						
NEW	**Newport**	**53.19**	**349**	P	**P**	**09 37 58.0**	**-1.5**
	3.1nm,1.1s,mb4.2,baz=136,slow=17,SNR=2.6						
NEW	**Newport**	**53.19**	**349**	P	**P**	**09 37 58.0**	**-1.5**
ULM	**Lac du Bonnet**	**54.44**	**7**	P	**P**	**09 38 07.2**	**-1.4**
	5.3nm,1.1s,mb4.4,baz=156,slow=6.8,SNR=3.7						
ULM				LR	LR	10 00 12.2	
	comp=Z,111nm,19.9s,MS3.9,baz=197,slow=35						
EDM	**Edmonton**	**57.46**	**353**	*e*P	**P**	**09 38 29.0**	**-1.2**
SCHQ	**Schefferville**	**66.22**	**23**	LR	LR	10 07 47.5	
	comp=Z,75nm,18.1s,MS3.9,baz=82,slow=36						
YKA	**Yellowknife Ar**	**66.71**	**355**	LR	LR	10 06 41.7	
	comp=Z,65nm,18.6s,MS3.9,baz=180,slow=34						
URZ	**Urewera**	**78.68**	**232**	P	**P**	**09 40 44.8**	**+1.3**
	3.6nm,0.3s,mb4.8,baz=260,slow=4.0,SNR=8.4						
QSPA	**South Pole Qui**	**86.12**	**180**	*e*P	**P**	**09 41 22.4**	**0.0**
	4.3nm,0.9s,mb4.7						
DBIC	**Dimbokro**	**99.73**	**84**	LR	LR	10 20 59.8	
	comp=Z,33nm,20.4s,MS3.8,baz=240,slow=32						
WRA	**Warramunga Arr**	**117.81**	**245**	PKP	PKPdf	09 47 27.8	+0.1
	0.6nm,1.2s,baz=99,slow=2.5,SNR=2.8						

*IDC **02** 09:32:16.1±1.8, 3137S×17869W, h198^{km}±20^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.2/12, mbtmp3.8/4, Error ellipse: s-maj=56.5km s-min=17.9km az=114.0*
*ISCJB **02** 09:32:17.1±1.1, 31.18S±0.07×179.1W±0.2, h200^{km}, mb3.4/3, Error ellipse: s-maj=25.3km s-min=7.6km az=30.3*
ISC 02 09:32:17.9±1.3**, 3123S**±007×**1789W**±02**, h200**^{km}**, n14,** σ**1^{s}55**/17**, mb3.4**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.16**	**24**	P	**Pn**	**09 32 57.0**	**-1.1**
	91nm,0.3s,baz=285,slow=23,SNR=4.5						
MXZ	**Matakaoa Point**	**6.72**	**199**	SN	**Sn**	**09 35 16.4**	**+5.5**
PUZ	**Puketiti**	**7.21**	**198**	*e*PN	**Pn**	**09 34 01.4**	**+0.6**
PUZ				SN	**Sn**	**09 35 23.9**	**+1.4**
MWZ	**Matawai**	**7.66**	**201**	PN	**Pn**	**09 34 08.5**	**+1.8**
MWZ				SN	**Sn**	**09 35 37.7**	**+4.4**
URZ	**Urewera**	**7.73**	**204**	P	**Pn**	**09 34 05.2**	**-2.4**
	0.9nm,0.3s,baz=194,slow=8.9,SNR=9.0						
URZ				S	**Sn**	**09 35 31.0**	**-3.9**
	1.9nm,0.3s,baz=354,slow=1.9,SNR=4.9						
URZ	**Urewera**	**7.73**	**204**	SN	**Sn**	**09 35 38.0**	**+3.1**
TSZ	**Takapari Road**	**9.74**	**204**	SN	**Sn**	**09 36 21.2**	**-1.4**
MRZ	**Mangatainoka R**	**10.41**	**204**	SN	**Sn**	**09 36 33.8**	**-4.7**
THZ	**Tophouse**	**12.39**	**210**	*e*PN	**Pn**	**09 35 07.8**	**+0.2**
THZ				SN	**Sn**	**09 37 21.4**	**-4.3**
KHZ	**Kahutara**	**12.68**	**206**	SN	**Sn**	**09 37 26.6**	**-6.2**
STKA	**Stephens Creek**	**33.52**	**258**	P	**P**	**09 38 40.1**	**+1.6**
	1.2nm,0.4s,mb3.8,baz=98,slow=14,SNR=6.7						
ASAR	**Alice Springs**	**42.27**	**268**	P	**P**	**09 39 51.8**	**+0.2**
	0.3nm,0.4s,mb3.1,baz=107,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.34**	**274**	P	**P**	**09 39 59.4**	**-0.8**
	0.4nm,0.4s,mb3.2,baz=113,slow=8.1,SNR=9.9						
FINES	**FINESS Array B**	**145.64**	**339**	PKPbc	PKPbc	09 51 30.1	-2.9
	1.0nm,1.0s,baz=88,slow=7.1,SNR=3.5						

*IDC **02** 10:01:39.1±1.8, 589S×13036E, h0^{km}, mb4.4/2, mb1 4.5/5, mb1mx4.1/12, mbtmp4.3/5, ML4.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/25, Error ellipse: s-maj=87.3km s-min=24.6km az=79.0*
*NEIC **02** 10:01:49.1±2.3, 6.12S×13028E, h84^{km}±26^{km}, mb4.1/1, Error ellipse: s-maj=27.9km s-min=14.7km az=65.0*
*ISCJB **02** 10:01:50.4±1.6, 636S±0.06×1302E±0.1, h124^{km}±18^{km}, mb4.4/2, Error ellipse: s-maj=21.3km s-min=8.4km az=143.0*
ISC 02 10:01:54.2±1.2**, 656S**±006×**1303E**±01**, h155**^{km}±11^{km}**, n15,** σ**1^{s}24**/24**, mb4.2**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.48**	**161**	*e*P	**Pn**	**10 03 28.1**	**+0.9**
	26nm,0.2s						
KAKA				*e*S	**Sn**	**10 04 39.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**12.32**	**201**	*e*P	**Pn**	**10 04 45.7**	**+1.4**
	12nm,0.3s						
FITZ				*e*S	**Sn**	**10 07 00.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**12.32**	**201**	Pn	**Pn**	**10 04 46.4**	**+2.1**
	2.5nm,0.3s,baz=39,slow=11,SNR=73						
FITZ				Sn	**Sn**	**10 07 00.1**	**-0.5**
	4.3nm,0.3s,baz=179,slow=13,SNR=11						
WRAB	**Tennant Creek**	**13.87**	**164**	*e*Pn	**Pn**	**10 05 06.6**	**+2.4**
	5.5nm,0.5s						
WRAB				*e*Sn	**Sn**	**10 07 36.1**	**-1.8**
WRA	**Warramunga Arr**	**13.88**	**164**	Pn	**Pn**	**10 05 03.6**	**-0.7**
	1.0nm,0.3s,baz=347,slow=14,SNR=61						
WRA				Sn	**Sn**	**10 07 32.1**	**-6.0**
	1.1nm,0.3s,baz=346,slow=22,SNR=6.4						
WB2	**Warramunga Arr**	**13.88**	**164**	*e*P	**Pn**	**10 05 04.4**	**+0.1**
WB2				*e*S	**Sn**	**10 07 29.6**	**-8.5**
AS31	**Alice Springs**	**17.36**	**169**	*e*P	**Pn**	**10 05 51.4**	**+4.4**
AS31				*e*S	**S**	**10 08 58.7**	**+0.2**
ASAR	**Alice Springs**	**17.36**	**169**	P	**Pn**	**10 05 51.2**	**+4.3**
	0.7nm,0.3s,baz=345,slow=10,SNR=41						
ASAR				S	**S**	**10 08 58.1**	**-0.4**
	0.8nm,0.3s,baz=350,slow=27,SNR=8.4						
ASPA	**Alice Springs**	**17.36**	**169**	*e*P	**Pn**	**10 05 51.4**	**+4.4**
ASPA				*e*S	**S**	**10 08 58.7**	**+0.2**
MBWA	**Marble Bar**	**17.73**	**214**	*e*P	**Pn**	**10 05 55.5**	**+4.2**
	20nm,1.5s						
KKM	**Kota Kinabalu**	**18.79**	**312**	*e*P	**P**	**10 05 59.7**	**-1.8**
SONM	**Songino Array**	**58.11**	**341**	P	**P**	**10 11 30.7**	**-0.5**
	0.5nm,0.3s,mb3.8,baz=156,slow=6.9,SNR=5.1						
SONM				LR	LR	10 39 03.0	
	comp=Z,78nm,20.6s,baz=50,slow=39						
KAD	**Karad**	**60.25**	**294**	*e*P	**P**	**10 11 48.3**	**+2.3**
POO	**Poona**	**60.94**	**295**	*e*P	**P**	**10 11 49.0**	**-1.6**
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**10 12 36.8**	**+0.4**
	5.6nm,0.4s,mb4.7,baz=120,slow=7.2,SNR=39						

*ISCJB **02** 10:44:04.6±1.6, 65S±0.1×1266E±0.2, h387^{km}±19^{km}, mb3.6/4, Error ellipse: s-maj=40.8km s-min=12.3km az=144.0*
*IDC **02** 10:44:08.9±2.6, 661S×12687E, h429^{km}±33^{km}, mb3.3/4, mb1 3.2/7, mb1mx3.1/14, mbtmp3.9/7, Error ellipse: s-maj=45.9km s-min=12.2km az=73.0*
*NEIC **02** 10:44:08.5±2.9, 657S×12681E, h422^{km}±46^{km}, mb4.2/2, Error ellipse: s-maj=35.2km s-min=24.7km az=98.0*
ISC 02 10:44:08.7±1.4**, 66S**±01×**1268E**±03**, h423**^{km}±19^{km}**, n12,** σ**0^{s}75**/14**, mb3.6**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.24**	**138**	*e*P	**P**	**10 46 06.1**	**-0.3**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.53**	**186**	*e*P	**P**	**10 46 42.2**	**-0.4**
	5.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.53**	**186**	P	**P**	**10 46 42.4**	**-0.2**
	0.5nm,0.3s,baz=15,slow=6.7,SNR=23						
WRA	**Warramunga Arr**	**15.17**	**152**	P	**P**	**10 47 21.5**	**-0.7**
	0.3nm,0.3s,baz=331,slow=11,SNR=29						
WRA				S	**S**	**10 49 57.2**	**-5.1**
	0.2nm,0.3s,baz=329,slow=18,SNR=8.3						
WB2	**Warramunga Arr**	**15.18**	**152**	*e*P	**P**	**10 47 21.9**	**-0.4**
AS31	**Alice Springs**	**18.32**	**159**	*e*P	**P**	**10 47 56.6**	**+1.1**
ASPA	**Alice Springs**	**18.32**	**159**	*e*P	**P**	**10 47 56.6**	**+1.1**
ASAR	**Alice Springs**	**18.32**	**159**	P	**P**	**10 47 55.5**	**-0.1**
	0.2nm,0.3s,baz=344,slow=12,SNR=9.8						
ASAR				S	**S**	**10 51 02.1**	**-0.2**
	0.0nm,0.3s,baz=339,slow=20,SNR=4.8						
MJAR	**Matsushiro Arr**	**44.18**	**13**	P	**P**	**10 51 38.0**	**-0.1**
	1.8nm,0.5s,mb3.7,baz=191,slow=9.1,SNR=10						
SONM	**Songino Array**	**57.08**	**344**	P	**P**	**10 53 14.1**	**+1.2**
	0.5nm,0.5s,mb3.1,baz=156,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**66.16**	**328**	P	**P**	**10 54 12.8**	**+0.1**
	0.5nm,0.4s,mb3.5,baz=124,slow=8.1,SNR=5.2						
ZAL	**Zalesovo**	**69.83**	**335**	P	**P**	**10 54 33.7**	**-1.5**
	2.1nm,0.3s,mb4.1,baz=357,slow=1.4,SNR=3.9						

*IDC **02** 10:46:04.8±1.7, 553S×10261E, h0^{km}, mb4.4/10, mb1 4.4/10, mb1mx4.1/20, mbtmp4.4/10, MS3.6/3, Ms1 3.6/3, ms1mx3.1/27, Error ellipse: s-maj=76.6km s-min=15.1km az=50.0*
*ISCJB **02** 10:46:08.9±1.1, 54S±0.3×1029E±0.3, h33^{km}, mb4.5/16, MS3.7/2, Error ellipse: s-maj=53.4km s-min=9.7km az=96.8*
*NEIC **02** 10:46:09.5±1.3, 547S×10270E, h30^{km}, mb4.3/2, Error ellipse: s-maj=54.2km s-min=9.4km az=52.0*
ISC 02 10:46:11.2±1.2**, 54S**±03×**1028E**±03**, h35**^{km}**, n22,** σ**0^{s}76**/20**, mb4.5**/16**, MS3.7**/2**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**9.03**	**334**	LR	LR	10 51 54.7	
	comp=Z,308nm,18.7s,baz=143,slow=39						
CHTO	**Chiang Mai**	**24.36**	**351**	*e*P	**P**	**10 51 25.0**	**-0.8**
	6.0nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**25.61**	**121**	P	**P**	**10 51 36.9**	**-0.2**
	3.4nm,0.8s,mb3.9,baz=205,slow=3.9,SNR=4.8						
NWAO	**Narrogin (SRO)**	**30.50**	**156**	LR	LR	11 04 15.3	
	comp=Z,105nm,18.4s,MS3.5,baz=306,slow=36						
WRA	**Warramunga Arr**	**33.88**	**118**	P	**P**	**10 52 49.8**	**-0.7**
	2.2nm,0.7s,mb4.2,baz=293,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**35.00**	**124**	P	**P**	**10 53 00.1**	**0.0**
	1.0nm,0.5s,mb4.0,baz=308,slow=8.6,SNR=10						
PKI	**Pulchoki**	**36.85**	**334**	*e*P	**P**	**10 53 16.5**	**+0.5**
	7.7nm,0.7s,mb4.6						
GUN	**Gumba**	**36.94**	**335**	*e*P	**P**	**10 53 17.6**	**+0.9**
	20nm,0.5s,mb5.2						
DMN	**Daman**	**37.01**	**333**	*e*P	**P**	**10 53 18.2**	**+0.8**
KKN	**Kakani**	**37.09**	**334**	*e*P	**P**	**10 53 18.6**	**+0.6**
GKN	**Gorkha**	**37.56**	**333**	*e*P	**P**	**10 53 22.0**	**0.0**
	32nm,1.0s,mb5.0						
KOLN	**Koldanda**	**37.84**	**332**	*e*P	**P**	**10 53 25.3**	**+0.9**
	15nm,0.8s,mb4.8						
PMG	**Port Moresby**	**44.12**	**98**	P	**P**	**10 54 16.6**	**+0.6**
	11nm,0.7s,mb4.7,baz=183,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**44.80**	**131**	P	**P**	**10 54 22.3**	**+0.8**
	3.9nm,0.7s,mb4.3,baz=301,slow=7.4,SNR=8.5						
STKA	**Stephens Creek**	**44.80**	**131**	P	**P**	**10 54 22.3**	**+0.8**
SONM	**Songino Array**	**53.10**	**3**	P	**P**	**10 55 26.0**	**+0.9**
	6.7nm,0.7s,mb4.7,baz=182,slow=9.1,SNR=32						
MKAR	**Makanchi Array**	**55.06**	**343**	P	**P**	**10 55 39.2**	**-0.2**
	2.2nm,0.4s,mb4.5,baz=151,slow=8.4,SNR=21						
MKAR	**Makanchi Array**	**55.06**	**343**	P	**P**	**10 55 39.2**	**-0.2**
ZAL	**Zalesovo**	**61.03**	**348**	P	**P**	**10 56 20.0**	**-1.2**
	5.9nm,0.4s,mb5.1,baz=305,slow=3.5,SNR=16						
ZAL				LR	LR	11 26 42.6	
	comp=Z,72nm,19.9s,MS3.8,baz=105,slow=40						
BVAR	**Borovoye Array**	**64.34**	**339**	P	**P**	**10 56 41.9**	**-1.3**
	2.7nm,0.6s,mb4.4,baz=143,slow=9.0,SNR=16						
CHKZ	**Chkalovo**	**64.79**	**339**	*e*P	**P**	**10 56 45.3**	**-0.9**
	1.9nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**88.42**	**332**	P	**P**	**10 58 58.7**	**-0.8**
	1.0nm,0.7s,mb4.1,baz=130,slow=3.0,SNR=5.4						

*IDC **02** 10:55:17.0±0.7, 1794S×17392W, h0^{km}, mb4.2/10, mb1 4.4/12, mb1mx4.3/18, mbtmp4.2/12, ML2.9/2, MS3.7/10, Ms1 3.7/10, ms1mx3.4/26, Error ellipse: s-maj=29.2km s-min=16.4km az=140.0*
*NEIC **02** 10:55:18.0±0.5, 1789S×17387W, h10^{km}, mb4.6/3, Error ellipse: s-maj=15.5km s-min=9.1km az=134.0*
*ISCJB **02** 10:55:19.7±0.6, 179S±0.1×17392W±0.10, h33^{km}, mb4.3/13, MS3.7/7, Error ellipse: s-maj=16.6km s-min=11.1km az=100.8*
ISC 02 10:55:21.7±0.6**, 179S**±01×**1738W**±01**, h35**^{km}**, n41,** σ**0^{s}81**/24**, mb4.3**/13**, MS3.7**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.45**	**26**	Pn	**Pn**	**10 56 24.8**	**-1.8**
	7.2nm,0.3s,baz=158,slow=21,SNR=9.2						
AFI				Sn	**Sn**	**10 57 10.0**	**-7.2**
	42nm,0.3s,baz=180,slow=20,SNR=11						
AFI				LR	LR	10 58 00.7	
	comp=Z,370nm,21.1s,baz=186,slow=36						
RAR	**Rarotonga**	**13.63**	**106**	LR	LR	11 01 59.9	
	comp=Z,486nm,18.3s,baz=222,slow=29						
DZM	**Mont Dzumac**	**19.00**	**254**	P	**Pn**	**10 59 40.4**	**-0.7**
	0.2nm,0.3s,baz=300,slow=20,SNR=2.2						
DZM				LR	LR	11 05 01.8	
	comp=Z,105nm,18.9s,baz=200,slow=31						
URZ	**Urewera**	**21.76**	**200**	P	**P**	**11 00 09.0**	**-1.1**
	13nm,0.5s,mb4.6,baz=4.3,slow=7.8,SNR=6.4						
PAE	**Paea**	**23.08**	**93**	*e*T		11 23 38.0	
	31nm,0.3s						
PPT	**Papeete**	**23.09**	**93**	*e*LR	LR	11 05 54.7	
	206nm,24.5s,baz=240						
PPT	**Papeete**	**23.09**	**93**	*e*T		11 23 38.7	
	5.4nm,0.3s						
PPT	**Papeete**	**23.09**	**93**	LR	LR	11 06 47.3	
	comp=Z,136nm,19.4s,MS3.4,baz=269,slow=30						
TBI	**Tubuai**	**23.41**	**107**	*e*LR	LR	11 05 57.7	
	248nm,27.2s						
TBI	**Tubuai**	**23.41**	**107**	*e*T		11 24 06.8	
	7.2nm,0.3s						
PMOR	**Pomariorio Ree**	**25.02**	**87**	*e*T		11 26 02.6	
	5.5nm,0.4s						
VAH	**Vaihoa**	**25.24**	**88**	*e*T		11 26 18.2	
	10.0nm,0.3s						
HNR	**Honiara**	**26.82**	**285**	LR	LR	11 10 21.7	
	comp=Z,133nm,18.4s,MS3.5,baz=179,slow=34						
TAOE	**Nuku Hiva Isla**	**33.92**	**79**	*e*T		11 37 07.7	
	100nm,0.2s						
RKT	**Rikitea**	**36.67**	**105**	*e*LR	LR	11 12 01.9	
	130nm,25.8s						
CTA	**Charters Tower**	**37.75**	**260**	*e*P	**P**	**11 02 35.6**	**+1.4**
	5.1nm,0.7s,mb4.4						
CTA	**Charters Tower**	**37.75**	**260**	P	**P**	**11 02 35.3**	**+1.1**
	6.7nm,0.6s,mb4.5,baz=108,slow=9.8,SNR=9.2						
STKA	**Stephens Creek**	**42.47**	**242**	P	**P**	**11 03 12.8**	**-0.5**
	1.4nm,0.5s,mb3.9,baz=113,slow=12,SNR=7.4						
STKA				LR	LR	11 19 10.0	
	comp=Z,117nm,19.2s,MS3.8,baz=25,slow=34						
WB2	**Warramunga Arr**	**48.91**	**259**	*e*P	**P**	**11 04 03.9**	**-0.2**
WRAB	**Tennant Creek**	**48.91**	**259**	*e*P	**P**	**11 04 04.0**	**-0.2**
	4.9nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**48.92**	**259**	P	**P**	**11 04 04.1**	**-0.2**
	3.5nm,0.6s,mb4.5,baz=97,slow=7.3,SNR=74						
WRA				LR	LR	11 23 19.3	
	comp=Z,84nm,20.5s,MS3.7,baz=300,slow=34						
AS31	**Alice Springs**	**48.99**	**254**	*e*P	**P**	**11 04 04.9**	**+0.2**
ASAR	**Alice Springs**	**48.99**	**254**	P	**P**	**11 04 04.8**	**+0.1**
	12nm,0.7s,mb5.0,baz=90,slow=8.8,SNR=189						
ASAR				PcP	PcP	11 05 30.1	+1.8
	1.4nm,0.8s,baz=104,slow=3.3,SNR=6.0						
ASPA	**Alice Springs**	**48.99**	**254**	*e*P	**P**	**11 04 04.9**	**+0.1**
KAKA	**Kakadu**	**51.95**	**268**	*e*P	**P**	**11 04 27.9**	**+0.8**
	2.4nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**57.33**	**260**	*e*P	**P**	**11 05 07.2**	**+1.1**
	1.3nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**57.33**	**260**	P	**P**	**11 05 06.1**	**-0.1**
	0.6nm,0.4s,mb4.0,baz=133,slow=13,SNR=8.2						
FITZ				LR	LR	11 25 50.4	
	comp=Z,71nm,21.6s,MS3.7,baz=288,slow=32						
VNDA	**Vanda**	**60.84**	**186**	P	**P**	**11 05 30.4**	**0.0**
	0.3nm,0.5s,mb3.7,baz=353,slow=6.5,SNR=6.1						
NWAO	**Narrogin (SRO)**	**63.06**	**242**	LR	LR	11 30 31.1	
	comp=Z,102nm,21.2s,MS4.0,baz=30,slow=34						
TGY	**Tagaytay City**	**71.78**	**292**	P	**P**	**11 06 39.8**	**-0.7**
	233nm,0.4s,baz=78,slow=2.5,SNR=3.9						
QSPA	**South Pole Qui**	**72.13**	**180**	*e*P	**P**	**11 06 42.9**	**+0.3**
	8.2nm,1.3s,mb4.5						
NVAR	**Mina Array Bea**	**76.47**	**42**	P	**P**	**11 07 09.8**	**+2.0**
	0.9nm,0.7s,mb3.8,baz=219,slow=7.4,SNR=11						
PDAR	**Pinedale Array**	**84.40**	**42**	P	**P**	**11 07 51.3**	**+0.9**
	0.7nm,0.8s,mb3.9,baz=194,slow=2.4,SNR=8.1						
MAW	**Mawson**	**85.28**	**199**	P	**P**	**11 07 55.2**	**+0.4**
	0.7nm,0.5s,mb4.1,baz=135,slow=8.0,SNR=6.7						
VNA3	**Neumayer Olymp**	**90.39**	**175**	*e*	**P**	**11 08 19.5**	**+0.2**
VNA3				*e*		11 08 26.6	
SNAA	**Sanae**	**90.42**	**177**	*e*	**P**	**11 08 18.6**	**-0.9**
SNAA				*e*		11 08 25.3	
ULM	**Lac du Bonnet**	**96.14**	**39**	LR	LR	11 45 46.3	
	comp=Z,50nm,19.2s,MS4.0,baz=124,slow=32						
ARCES	**ARCESS Array B**	**127.04**	**352**	PKP	PKPdf	11 14 23.9	+1.9
	1.8nm,0.8s,baz=23,slow=4.9,SNR=3.8						
AKASG	**Malin Array Be**	**142.49**	**336**	PKP	PKPdf	11 14 49.7	-1.1
	0.3nm,0.3s,baz=32,slow=3.7,SNR=4.7						
KMBO	**Kilima Mbogo**	**144.03**	**241**	PKP	PKPdf	11 14 55.0	+1.6
	1.9nm,0.8s,baz=50,slow=16,SNR=3.6						
GERES	**GERESS Array B**	**148.56**	**350**	PKPbc	PKPbc	11 15 07.2	+2.4
	0.6nm,0.6s,baz=7.6,slow=4.0,SNR=5.9						

*GII **02** 11:10:41.8±0.0, 3393N×3590E, h0^{km}, ML2.3/4*
*ISCJB **02** 11:10:44.6±0.7, 3379N±0.03×3579E±0.09, h10^{km}, Error ellipse: s-maj=10.3km s-min=4.2km az=172.0*
*GRAL **02** 11:10:45.7±2.2, 3377N×3570E, h8^{km}±23^{km}, MD3.0*
ISC 02 11:10:45.3±0.6**, 3378N**±003×**3574E**±008**, h5**^{km}±7^{km}**, n17,** σ**0^{s}99**/26**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.15**	**330**	*i* Pg	**Pg**	**11 10 47.8**	**-0.5**
BHL				*i* Sg	**Sg**	**11 10 50.9**	**+0.6**
BHL	**Bhannes**	**0.15**	**330**	*i* Pg	**Pg**	**11 10 47.8**	**-0.5**
BHL				*i* Sg	**Sg**	**11 10 50.8**	**+0.5**
RCY	**Rachaya**	**0.30**	**168**	*i* Pg	**Pg**	**11 10 50.5**	**-0.6**
RCY				*i* Sg	**Sg**	**11 10 55.7**	**+0.7**
MATL	**Matirih**	**0.45**	**230**	*e*Pg	**Pg**	**11 10 53.9**	**-0.1**
HRI	**Mount Hermon**	**0.51**	**181**	Pg	**Pg**	**11 10 53.8**	**-1.3**
HWQ	**Hawqa**	**0.53**	**19**	*i* Pg	**Pg**	**11 10 54.3**	**-1.2**
HWQ				*i* Sg	**Sg**	**11 11 04.5**	**+2.1**
KSDI	**Kefar Szold**	**0.59**	**187**	Pg	**Pg**	**11 10 55.8**	**-0.8**
KSDI				Sg	**Sg**	**11 11 06.2**	**+2.0**
KSDI	**Kefar Szold**	**0.59**	**187**	Pg	**Pg**	**11 10 56.2**	**-0.4**
KSDI				Sg	**Sg**	**11 11 07.1**	**+2.9**
KSDI	**Kefar Szold**	**0.59**	**187**	Pg	**Pg**	**11 10 56.2**	**-0.4**
KSDI				Sg	**Sg**	**11 11 06.2**	**+2.0**
KSHT	**Keshet**	**0.79**	**176**	Pg	**Pg**	**11 11 00.5**	**0.0**
MMA1	**Mount Meron ar**	**0.81**	**201**	Pg	**Pg**	**11 11 00.6**	**-0.2**
MMC7	**Mount Meron ar**	**0.81**	**201**	Pg	**Pg**	**11 11 00.6**	**-0.2**
MMA0B	**Mount Meron ar**	**0.81**	**201**	Pg	**Pg**	**11 11 00.8**	**-0.1**
MMA0B				Sg	**Sg**	**11 11 15.7**	**+4.3**
OFRI	**'Ofer**	**1.31**	**209**	Pn	**Pn**	**11 11 09.6**	**-0.8**
MMLI	**Mount Malkishu**	**1.36**	**192**	Pn	**Pn**	**11 11 10.4**	**-0.6**
HMDT	**Nahal Hemdat**	**1.53**	**187**	Pn	**Pn**	**11 11 13.1**	**-0.2**
SLTI	**Sal'it**	**1.64**	**201**	Pn	**Pn**	**11 11 15.3**	**+0.5**
SLTI				Sn	**Sn**	**11 11 39.5**	**+3.1**

*ISCJB **02** 11:10:55.7±1.1, 180S±0.2×1784W±0.2, h502^{km}±22^{km}, mb4.2/8, Error ellipse: s-maj=32.8km s-min=15.9km az=114.5*
*NEIC **02** 11:10:55.7±0.9, 1799S×17838W, h491^{km}±16^{km}, mb4.3/5, Error ellipse: s-maj=23.6km s-min=12.2km az=151.0*
*IDC **02** 11:10:56.1±1.6, 1805S×17832W, h496^{km}±25^{km}, mb3.5/6, mb1 3.6/8, mb1mx3.4/16, mbtmp4.4/8, Error ellipse: s-maj=30.7km s-min=15.1km az=144.0*
ISC 02 11:10:56.2±1.0**, 181S**±02×**1784W**±01**, h491**^{km}±20^{km}**, n18,** σ**0^{s}57**/18**, mb4.2**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**58**	P	**P**	**11 12 47.3**	**-0.5**
	4.5nm,0.3s,baz=3.7,slow=21,SNR=5.5						
AFI				S	**S**	**11 14 19.9**	**+0.5**
	1.4nm,0.3s,baz=106,slow=18,SNR=2.0						
DZM	**Mont Dzumac**	**14.82**	**252**	P	**P**	**11 14 04.3**	**-0.3**
	0.3nm,0.3s,baz=72,slow=20,SNR=3.3						
URZ	**Urewera**	**20.50**	**190**	P	**P**	**11 14 59.1**	**-0.7**
	4.0nm,0.6s,baz=326,slow=7.3,SNR=3.1						
CTA	**Charters Tower**	**33.46**	**261**	*e*P	**P**	**11 16 54.0**	**+0.4**
	8.3nm,0.8s,mb4.2						
TOO	**Toolangi**	**37.10**	**231**	*e*P	**P**	**11 17 25.1**	**+1.1**
	4.0nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**11 17 37.2**	**+1.0**
	5.9nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**11 17 37.2**	**+1.1**
	4.8nm,0.5s,mb4.2,baz=98,slow=9.0,SNR=16						
WB2	**Warramunga Arr**	**44.63**	**260**	*e*P	**P**	**11 18 23.4**	**-0.7**
WRAB	**Tennant Creek**	**44.63**	**260**	*e*P	**P**	**11 18 23.5**	**-0.6**
	10nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**11 18 23.5**	**-0.7**
	4.3nm,0.5s,mb4.1,baz=94,slow=6.9,SNR=159						
AS31	**Alice Springs**	**44.79**	**254**	*e*P	**P**	**11 18 25.5**	**+0.2**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**11 18 25.5**	**+0.2**
	32nm,0.6s,mb4.9,baz=88,slow=8.3,SNR=635						
ASPA	**Alice Springs**	**44.79**	**254**	*e*P	**P**	**11 18 25.5**	**+0.2**
KAKA	**Kakadu**	**47.62**	**269**	*e*P	**P**	**11 18 46.8**	**-0.1**
	8.0nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	*e*P	**P**	**11 19 26.7**	**+0.1**
	2.7nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**11 19 27.1**	**+0.5**
	1.2nm,0.3s,mb3.7,baz=108,slow=4.2,SNR=5.8						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**11 22 11.1**	**-0.2**
	0.1nm,0.5s,baz=221,slow=7.3,SNR=4.1						
GERES	**GERESS Array B**	**147.78**	**345**	PKPbc	PKPbc	11 29 43.9	-1.4
	0.6nm,0.5s,baz=354,slow=1.3,SNR=3.9						

*NIED **02** 12:01:00, 2870N×13020E, h41^{km}, Mw4.1 Best double couple: $M_0$1.62000×10^{15} NP1:ϕ_s40.00000°, δ68.00000°, λ104.00000°. NP2:ϕ_s187.00000°, δ26.00000°, λ60.00000°.*
*ISCJB **02** 12:01:54.7±0.8, 2869N±0.07×1302E±0.1, h48^{km}±9^{km}, mb3.8/5, Error ellipse: s-maj=20.4km s-min=5.0km az=58.5*
*JMA **02** 12:01:54.8±0.1, 2871N×13022E, h52^{km}±2^{km}, M3.5*
*IDC **02** 12:01:57.4±7.8, 2869N×13001E, h50^{km}±66^{km}, mb3.6/4, mb1 3.7/5, mb1mx3.4/21, mbtmp3.9/5, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/29, Error ellipse: s-maj=61.4km s-min=22.1km az=72.0*
ISC 02 12:01:55.5±1.1**, 2870N**±006×**1302E**±01**, h33**^{km}±7^{km}**, n17,** σ**0^{s}77**/23**, mb3.8**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.45**	**211**	P	**Pb**	**12 02 05.6**	**+0.2**
JAM	**Amami Oshima**	**0.63**	**243**	P	**Pn**	**12 02 07.6**	**-0.5**
JAM				*e*S	**Sb**	**12 02 16.9**	**+0.1**
JNN	**Nakanoshima**	**1.18**	**344**	P	**Pn**	**12 02 15.1**	**-0.5**
JTK	**Tokunoshima**	**1.46**	**231**	P	**Pn**	**12 02 19.7**	**+0.2**
JTK				*e*S	**Sn**	**12 02 39.6**	**+2.2**
JKC	**Kuchinoerabu**	**1.75**	**359**	P	**Pn**	**12 02 23.4**	**-0.1**
JTN	**Tanegashima 3**	**2.05**	**18**	P	**Pn**	**12 02 27.4**	**-0.2**
JTN				*e*S	**Sn**	**12 02 52.7**	**+0.8**
JTSR	**Tashiro 2**	**2.52**	**13**	P	**Pn**	**12 02 34.1**	**0.0**
JTSR				*e*S	**Sn**	**12 03 03.6**	**-0.1**
JOW	**Kunigami**	**2.55**	**223**	P	**Pn**	**12 02 34.2**	**-0.2**
	14nm,0.3s,baz=97,slow=20,SNR=73						
JOW				S	**Sn**	**12 03 03.1**	**-1.2**
	12nm,0.3s,baz=238,slow=29,SNR=5.4						
JOW				LR	LR	12 03 58.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,254nm,18.4s,baz=295,slow=50						
JOW	**Kunigami**	**2.55**	**223**	P	**Pn**	**12 02 34.2**	**-0.3**
JIH	**Iheya**	**2.61**	**231**	P	**Pn**	**12 02 35.0**	**-0.3**
JIH				*e*S	**Sn**	**12 03 05.8**	**0.0**
JAGN	**Aguni-jima**	**3.39**	**232**	P	**Pn**	**12 02 46.4**	**+0.3**
JKE	**Kume jima 2**	**3.88**	**233**	P	**Pn**	**12 02 52.3**	**-0.4**
SONM	**Songino Array**	**26.57**	**322**	P	**P**	**12 07 33.4**	**+3.1**
	0.9nm,0.9s,mb3.3,baz=120,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**48.52**	**175**	P	**P**	**12 10 35.2**	**0.0**
	2.3nm,0.8s,mb4.2,baz=353,slow=8.2,SNR=18						
BVAR	**Borovoye Array**	**49.66**	**317**	P	**P**	**12 10 43.6**	**-0.3**
	1.1nm,0.5s,mb4.1,baz=90,slow=7.4,SNR=6.5						
ASAR	**Alice Springs**	**52.19**	**176**	P	**P**	**12 11 03.5**	**+0.6**
	0.9nm,0.9s,mb3.7,baz=348,slow=5.5,SNR=6.7						
FINES	**FINESS Array B**	**71.59**	**331**	P	**P**	**12 13 12.1**	**-1.4**
	0.6nm,0.7s,mb3.6,baz=64,slow=4.9,SNR=6.1						

---

*NIED **02** 12:06:00,2490N×12240E,h5^{km},Mw4.4 Best double couple: M₀4.82000×10^{15} NP1:ϕ_s66.00000°,δ64.00000°, λ-110.00000°. NP2:ϕ_s285.00000°,δ32.00000°, λ-56.00000°.*
*BJI **02** 12:06:08.4,2375N×12250E,h10^{km},mB4.4,mb4.0,Ms4.2, Msz4.0*
*JMA **02** 12:06:14.3±0.5,2486N×12245E,h36^{km},M3.5*
*IDC **02** 12:06:16.7±2.1,2484N×12267E,h0^{km},mb3.7/5, mb1 3.8/5,mb1mx3.7/20,mbtmp3.7/5,MS3.8/7,Ms1 3.8/7, ms1mx3.3/27,Error ellipse: s-maj=161.8km s-min=21.1km az=64.0*
*ISCJB **02** 12:06:16.1±1.2,2486N±010×12267E±006,h9^{km}±9^{km}, mb3.8/8,MS3.8/8,Error ellipse: s-maj=18.4km s-min=4.8km az=56.2*
*NEIC **02** 12:06:18.1±1.0,2475N×12261E,h10^{km},mb4.3/2,Error ellipse: s-maj=16.4km s-min=13.0km az=203.0*
ISC 02 12:06:16.7±1.0,**2481N**±009×**12270E**±005,**h6**^{km}±7^{km},**n23**, σ**1^{s}28**/22,**mb3.8**/8,**MS3.8**/8,**Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**141**	P	**Pg**	**12 06 26.8**	**+1.4**
YOJ				S	**Sg**	**12 06 35.9**	**+4.7**
IRIF	**Iriomote-Funau**	**1.05**	**117**	P	**Pg**	**12 06 35.7**	**-1.2**
IRIF				*e*S	**Sg**	**12 06 52.1**	**+1.6**
TATO	**Taipei**	**1.11**	**279**	*e*Pg	**Pg**	**12 06 37.5**	**-0.6**
NACB	**Ninganchiao**	**1.19**	**238**	*e*Pg	**Pg**	**12 06 39.5**	**0.0**
YHNB	**Yeheng**	**1.21**	**264**	*e*Pg	**Pg**	**12 06 39.5**	**-0.5**
HATJ	**Hateruma jima**	**1.26**	**127**	P	**Pn**	**12 06 39.6**	**-1.2**
HATJ				*e*S	**Sb**	**12 06 57.9**	**+0.6**
JKRS	**Kuro-shima**	**1.32**	**115**	P	**Pn**	**12 06 40.1**	**-1.6**
JKRS				*e*S	**Sb**	**12 07 00.4**	**+1.3**
JIJ	**Ishigaki jima**	**1.39**	**109**	P	**Pn**	**12 06 40.7**	**-1.9**
JIJ				*e*S	**Sb**	**12 06 59.8**	**-1.2**
JTJ	**Tarama**	**1.83**	**95**	P	**Pn**	**12 06 48.2**	**-0.5**
GTA	**Gaotai**	**24.15**	**313**	*e*P	**P**	**12 11 34.3**	**+0.8**
GTA				AP		12 11 39.3	
GTA				XP	sP	12 11 42.7	+6.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.6						
GTA				AMB	AMB		
	comp=Z,98nm,4.2s						
GTA				LR	LR		
	comp=N,513nm,14.8s,MS4.2						
GTA				LR	LR		
	comp=E,456nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,391nm,16.0s,MS4.0						
ASAJ	**Asahikawa**	**25.18**	**35**	LR	LR	12 22 10.0	
	comp=Z,148nm,20.1s,MS3.5,baz=286,slow=38						
SONM	**Songino Array**	**26.36**	**335**	P	**P**	**12 11 54.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.5,baz=123,slow=11,SNR=5.0						
SONM				LR	LR	12 23 43.6	
	comp=Z,243nm,21.8s,MS3.7,baz=323,slow=40						
MKAR	**Makanchi Array**	**38.86**	**315**	P	**P**	**12 13 41.9**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=103,slow=11,SNR=3.9						
PMG	**Port Moresby**	**41.54**	**142**	LR	LR	12 30 54.8	
	comp=Z,81nm,18.7s,MS3.6,baz=347,slow=36						
WRAB	**Tennant Creek**	**45.90**	**165**	P	**P**	**12 14 38.5**	**-1.5**
	comp=Z,7.9nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**45.90**	**165**	P	**P**	**12 14 40.1**	**0.0**
	comp=Z,1.9nm,1.0s,mb4.0,baz=347,slow=8.4,SNR=8.5						
BVAR	**Borovoye Array**	**48.07**	**320**	P	**P**	**12 14 59.2**	**+2.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=95,slow=11,SNR=3.8						
ZRNK	**Zerenda**	**48.87**	**320**	*e*P	**P**	**12 15 05.1**	**+1.9**
	comp=Z,0.9nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**49.40**	**166**	P	**P**	**12 15 10.0**	**+2.8**
	comp=Z,0.3nm,0.9s,mb3.3,baz=348,slow=8.5,SNR=4.0						
CTA	**Charters Tower**	**50.17**	**151**	LR	LR	12 33 41.5	
	comp=Z,118nm,20.7s,MS3.9,baz=356,slow=33						
STKA	**Stephens Creek**	**59.19**	**161**	LR	LR	12 43 53.7	
	comp=Z,109nm,20.3s,MS4.0,baz=205,slow=38						
GERES	**GERESS Array B**	**83.23**	**321**	LR	LR	12 58 38.2	
	comp=Z,59nm,18.9s,MS4.0,baz=80,slow=38						
ESDC	**Sonseca Array**	**98.83**	**321**	LR	LR	13 09 42.0	
	comp=Z,38nm,18.3s,MS3.9,baz=25,slow=38						

---

*NIED **02** 12:08:00,2870N×13030E,h32^{km},Mw4.1 Best double couple: M₀1.76000×10^{15} NP1:ϕ_s204.00000°,δ74.00000°, λ-76.00000°. NP2:ϕ_s342.00000°,δ22.00000°, λ-130.00000°.*
*IDC **02** 12:08:22.6±1.1,2880N×13014E,h0^{km},mb4.0/8, mb1 4.1/9,mb1mx3.9/22,mbtmp4.0/9,ML3.4/1,MS3.7/1, Ms1 3.6/1,ms1mx2.5/27,Error ellipse: s-maj=33.1km s-min=19.4km az=86.0*
*NEIC **02** 12:08:25.7±0.9,2904N×13095E,h35^{km},mb4.3/3,Error ellipse: s-maj=25.1km s-min=13.6km az=81.0*
*ISCJB **02** 12:08:26.8±0.8,2869N±005×1303E±01,h54^{km}±5^{km}, mb4.0/12,Error ellipse: s-maj=16.3km s-min=5.1km az=47.6*
*JMA **02** 12:08:26.4±0.2,2868N×13026E,h60^{km}±3^{km},M3.5*
ISC 02 12:08:27.9±0.7,**2871N**±005×**1302E**±01,**h45**^{km}±6^{km},**n27**, σ**0^{s}75**/32,**mb4.0**/12,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.46**	**211**	P	**Pn**	**12 08 37.8**	**-0.6**
JAM	**Amami Oshima**	**0.64**	**242**	P	**Pn**	**12 08 39.7**	**-0.9**
JAM				*e*S	**Sn**	**12 08 50.1**	**+0.4**
JNN	**Nakanoshima**	**1.17**	**344**	P	**Pn**	**12 08 47.4**	**-0.4**
JNN				*e*S	**Sn**	**12 09 04.7**	**+2.1**
JTK	**Tokunoshima**	**1.47**	**231**	P	**Pn**	**12 08 51.9**	**0.0**
JKC	**Kuchinoerabu**	**1.74**	**359**	P	**Pn**	**12 08 55.9**	**+0.2**
JTN	**Tanegashima 3**	**2.04**	**18**	P	**Pn**	**12 08 59.5**	**-0.2**
JTN				*e*S	**Sn**	**12 09 24.2**	**+0.3**
JTSR	**Tashiro 2**	**2.51**	**13**	P	**Pn**	**12 09 06.3**	**+0.1**
JTSR				*e*S	**Sn**	**12 09 35.1**	**-0.5**
JOW	**Kunigami**	**2.56**	**223**	Pn	**Pn**	**12 09 06.5**	**-0.3**
	13nm,0.3s,baz=93,slow=20,SNR=42						
JOW				Sn	**Sn**	**12 09 38.1**	**+1.3**
	15nm,0.3s,baz=97,slow=26,SNR=4.4						
JOW	**Kunigami**	**2.56**	**223**	P	**Pn**	**12 09 06.5**	**-0.4**
JIH	**Iheya**	**2.62**	**231**	P	**Pn**	**12 09 07.4**	**-0.3**
JAGN	**Aguni-jima**	**3.40**	**232**	P	**Pn**	**12 09 18.4**	**0.0**
JKE	**Kume jima 2**	**3.88**	**233**	P	**Pn**	**12 09 24.7**	**-0.3**
NACB	**Ninganchiao**	**8.97**	**242**	*e*Pn	**Pn**	**12 10 43.4**	**+8.5**
ULN	**Ulaanbaatar**	**26.23**	**323**	P	**P**	**12 13 57.1**	**-1.4**
	2.6nm,0.8s,mb3.8						
SONM	**Songino Array**	**26.56**	**322**	P	**P**	**12 14 00.4**	**-1.1**
	0.5nm,0.4s,mb3.4,baz=128,slow=9.4,SNR=3.2						
MKAR	**Makanchi Array**	**41.28**	**309**	P	**P**	**12 16 09.0**	**+0.2**
	0.5nm,0.3s,mb3.6,baz=88,slow=12,SNR=3.5						
ZAL	**Zalesovo**	**41.42**	**320**	P	**P**	**12 16 09.6**	**-0.4**
	1.7nm,0.5s,mb3.9,baz=7.4,slow=8.4,SNR=4.2						
WRAB	**Tennant Creek**	**48.52**	**175**	*e*P	**P**	**12 17 06.6**	**+0.3**
	4.2nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**48.53**	**175**	P	**P**	**12 17 07.4**	**+1.0**
	3.5nm,0.9s,mb4.4,baz=354,slow=8.4,SNR=19						
BVAR	**Borovoye Array**	**49.66**	**317**	P	**P**	**12 17 15.5**	**+0.5**
	3.1nm,0.6s,mb4.5,baz=92,slow=9.4,SNR=15						
BRVK	**Borovoye**	**49.72**	**317**	*e*P	**P**	**12 17 15.4**	**-0.1**
	2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**50.49**	**317**	*e*P	**P**	**12 17 21.5**	**+0.2**
ARCES	**ARCESS Array B**	**68.36**	**339**	P	**P**	**12 19 25.0**	**+0.4**
	1.2nm,0.8s,mb4.0,baz=73,slow=4.2,SNR=3.9						
JOF	**Joensuu**	**68.74**	**331**	*e*p	**P**	**12 19 26.8**	**-0.2**
	1.1nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**71.59**	**331**	P	**P**	**12 19 43.9**	**-0.5**
	0.9nm,0.5s,mb4.0,baz=79,slow=7.6,SNR=14						
FINES	**FINESS Array B**	**71.59**	**331**	P	**P**	**12 19 43.9**	**-0.5**
NVAR	**Mina Array Bea**	**87.51**	**47**	P	**P**	**12 21 14.2**	**+3.4**
	0.2nm,0.6s,mb3.5,baz=312,slow=3.6,SNR=3.6						

---

*ISCJB **02** 12:11:46.7±0.6,2493N±006×12271E±005,h10^{km}, mb3.8/7,MS3.5/1,Error ellipse: s-maj=10.5km s-min=4.5km az=62.2*
*IDC **02** 12:11:46.8±1.7,2496N×12292E,h0^{km},mb3.7/5, mb1 3.8/5,mb1mx3.6/19,mbtmp3.7/5,MS3.6/1,Ms1 3.6/1, ms1mx2.6/29,Error ellipse: s-maj=148.4km s-min=20.9km az=66.0*
*JMA **02** 12:11:46.3±0.2,2499N×12267E,h16^{km},M3.3*
*NEIC **02** 12:11:48.6±0.8,2485N×12262E,h10^{km},mb4.4/2,Error ellipse: s-maj=13.0km s-min=11.0km az=192.0*
ISC 02 12:11:48.0±0.6,**2493N**±006×**12278E**±005,**h10**^{km},**n17**, σ**0^{s}81**/20,**mb3.8**/7,**MS3.5**/1,**Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.51**	**156**	P	**Pg**	**12 11 57.9**	**+0.1**
YOJ				*e*S	**Sg**	**12 12 06.1**	**+1.6**
IRIF	**Iriomote-Funau**	**1.04**	**124**	P	**Pg**	**12 12 07.7**	**-0.4**
TATO	**Taipei**	**1.18**	**273**	*e*Pg	**Pg**	**12 12 09.3**	**-1.2**
HATJ	**Hateruma jima**	**1.27**	**133**	P	**Pn**	**12 12 11.3**	**-0.5**
HATJ				*e*S	**Sb**	**12 12 28.9**	**+0.5**
YHNB	**Yeheng**	**1.30**	**259**	*e*Pg	**Pg**	**12 12 08.4**	**-4.6**
JKRS	**Kuro-shima**	**1.31**	**121**	P	**Pn**	**12 12 11.2**	**-1.1**
JKRS				*e*S	**Sb**	**12 12 28.7**	**-0.8**
NACB	**Ninganchiao**	**1.31**	**236**	*e*Pg	**Pg**	**12 12 12.2**	**-1.0**
JIJ	**Ishigaki jima**	**1.36**	**114**	P	**Pn**	**12 12 12.4**	**-0.6**
JIJ				*e*S	**Sb**	**12 12 30.6**	**-0.3**
GUMO	**Guam**	**23.67**	**114**	LR	LR	12 25 04.2	
	comp=Z,139nm,18.6s,MS3.5,baz=76,slow=34						
SONM	**Songino Array**	**26.29**	**335**	P	**P**	**12 17 24.9**	**+1.3**
	1.2nm,0.9s,mb3.4,baz=120,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**38.84**	**315**	P	**P**	**12 19 14.1**	**+1.0**
	0.6nm,0.6s,mb3.5,baz=104,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**38.84**	**315**	P	**P**	**12 19 14.1**	**+1.0**
WRAB	**Tennant Creek**	**45.99**	**165**	P	**P**	**12 20 11.4**	**+0.1**
	7.1nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**45.99**	**165**	P	**P**	**12 20 11.7**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=347,slow=8.8,SNR=11						
ZRNK	**Zerenda**	**48.83**	**320**	*e*P	**P**	**12 20 33.8**	**+0.4**
	2.9nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**49.49**	**167**	P	**P**	**12 20 39.5**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=347,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**71.54**	**330**	P	**P**	**12 23 09.0**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=57,slow=7.0,SNR=5.5						

IDC 02 12:18:46.6±1.7,**085S**×**12461E**,**h0**^{km},**mb3.4**/3,**mb1 3.6**/3, **mb1mx3.4**/15,**mbtmp3.5**/3,**Error ellipse: s-maj=179.4km s-min=26.0km az=63.0**,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.23**	**154**	P	P	12 23 34.4	+0.3
	0.7nm,0.7s,baz=332,slow=11,SNR=10						
ASAR	**Alice Springs**	**24.41**	**159**	P	P	12 24 07.1	+0.4
	0.9nm,0.8s,baz=342,slow=8.4,SNR=7.8						
MKAR	**Makanchi Array**	**60.18**	**328**	P	P	12 28 56.3	+0.1
	0.8nm,0.5s,baz=121,slow=8.1,SNR=6.0						

---

*RSPR **02** 12:21:28.9,1968N×6347W,h39^{km}±27^{km},MD3.7/9, MD3.7/9*
*NEIC **02** 12:21:28.9,1968N×6347W,h40^{km},MD3.7(RSPR),After RSPR.*
TRN 02 12:21:25.9,**1960N**×**6338W**,**h35**^{km},**7C-9D**,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**1.66**	**225**	⇑*e*P	Pn	12 21 54.3	+1.9
TBVI				*e*S	Sn	12 22 14.2	+1.8
STVI	**Saint Thomas**	**1.94**	**230**	⇑*e*P	Pn	12 21 58.0	+1.8
STVI				*e*S	Sn	12 22 21.7	+2.4
CDVI	**St. Croix**	**2.26**	**216**	⇓*e*P	Pn	12 22 03.9	+3.3
CDVI				*e*S	Sn	12 22 29.8	+2.5
MTP	**Monte Pirata**	**2.54**	**234**	⇓*e*P	Pn	12 22 06.6	+2.1
MTP				*e*S	Sn	12 22 35.2	+1.0
CBYP	**Canovanas**	**2.69**	**241**	⇓*e*P	Pn	12 22 08.2	+1.6
CBYP				*e*S	Sn	12 22 39.8	+1.9
CBYP	**Canovanas**	**2.69**	**241**	⇓*e*P	Pn	12 22 08.2	+1.6
CBYP				*e*S	Sn	12 22 39.8	+1.9
CPD	**Cerro la Pandu**	**2.86**	**237**	⇑*e*P	Pn	12 22 11.6	+2.6
CPD				*e*S	Sn	12 22 43.3	+1.2
SJG	**San Juan**	**3.01**	**241**	*e*Pn	Pn	12 22 12.7	+1.6
SJG				*e*Sn	Sn	12 22 46.7	+0.9
CELP	**Cerrillos**	**3.38**	**244**	⇑*e*P	Pn	12 22 18.0	+1.8
CELP				*e*S	Sn	12 22 56.6	+1.5
ICM	**Isla Caja Muer**	**3.42**	**241**	⇓*e*P	Pn	12 22 19.2	+2.5
ICM				*e*S	Sn	12 22 58.3	+2.2
AOPR	**Arecibo Observ**	**3.42**	**249**	⇓*e*P	Pn	12 22 18.3	+1.6
LRS	**Lares**	**3.52**	**249**	⇑*e*P	Pn	12 22 19.7	+1.6
LSP	**Las Mesas**	**3.78**	**249**	⇑*e*P	Pn	12 22 24.5	+2.9
LSP				*e*S	Sn	12 23 06.4	+1.5
MGP	**Maguayo**	**3.85**	**246**	⇑*e*P	Pn	12 22 24.4	+1.9
MGP				*e*S	Sn	12 23 09.0	+2.4
CRPR	**Cabo Rojo, PR**	**3.87**	**246**	⇓*e*P	Pn	12 22 24.6	+1.7
CRPR	**Cabo Rojo, PR**	**3.87**	**246**	⇓*e*P	Pn	12 22 24.6	+1.7
CRPR				*e*S	Sn	12 23 08.6	+1.5
CRPR	**Cabo Rojo, PR**	**3.87**	**246**	⇓*e*P	Pn	12 22 24.6	+1.7
CRPR				*e*S	Sn	12 23 08.6	+1.5

---

*THE **02** 12:49:45.9,4009N×1958E,h10^{km},ML3.2*
*ISCJB **02** 12:49:46.0±0.8,4002N±003×1959E±005,h8^{km}±5^{km}, Error ellipse: s-maj=6.4km s-min=4.3km az=157.2*
*NEIC **02** 12:49:46.1,3979N×1945E,h34^{km},MD3.5(ATH),After ATH.*
*ATH **02** 12:49:46.1,3979N×1945E,h34^{km}±1^{km},MD3.5/5*
*CSEM **02** 12:49:46.2±0.2,4012N×1978E,h10^{km},MD3.5,Error ellipse: s-maj=5.1km s-min=4.4km az=67.0*
ISC 02 12:49:47.1±0.7,**4002N**±003×**1960E**±005,**h14**^{km}±4^{km},**n23**, σ**1^{s}05**/36,**Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.34**	**114**	*i* Pg	**Pg**	**12 49 52.7**	**-1.3**
SRN				*i* Sg	**Sg**	**12 49 58.1**	**-0.5**
KEK	**Kerkira**	**0.34**	**153**	*e*PB	**Pg**	**12 49 54.1**	**+0.1**
KEK				*e*SB	**Sg**	**12 49 59.2**	**+0.5**
IGT	**Igoumenitsa**	**0.75**	**130**	*e*Pg	**Pg**	**12 50 00.5**	**-1.0**
IGT				*e*Sg	**Sg**	**12 50 12.6**	**+1.2**
JAN	**Janina**	**1.03**	**110**	*e*PN	**Pn**	**12 50 06.7**	**-0.4**
JAN				*e*SN	**Sn**	**12 50 21.3**	**0.0**
LCI	**Lecce**	**1.18**	**286**	Pn	**Pn**	**12 50 09.8**	**+0.6**
MEV	**Metsovon**	**1.28**	**100**	*e*Pg	**Pg**	**12 50 10.7**	**-0.9**
MEV				*e*Sg	**Sg**	**12 50 29.3**	**+1.1**
TIR	**Tirane**	**1.34**	**9**	*e*Pg	**Pg**	**12 50 06.2**	**-6.7**
TIR				*e*Sg	**Sg**	**12 50 30.6**	**+0.3**
OHR	**Ohrid**	**1.42**	**40**	*e*Sg	**Sg**	**12 50 32.0**	**-1.0**
OHR				*e*Sg	**Sg**	**12 50 33.5**	**+0.6**
OHR	**Ohrid**	**1.42**	**40**	*e*Pn	**Pn**	**12 50 08.7**	**-3.8**
OHR				*i* Sn	**Sn**	**12 50 30.4**	**-0.6**
LKD	**Levkas**	**1.54**	**148**	*e*Pg	**Pg**	**12 50 16.1**	**-0.6**
LKD				*e*Sg	**Sg**	**12 50 38.2**	**+1.4**
FNA	**Florina**	**1.56**	**60**	*e*Pg	**Pn**	**12 50 14.0**	**-0.4**
BIA	**Bitola**	**1.65**	**52**	*e*Pb	**Pn**	**12 50 14.5**	**-1.2**
BIA				*e*Sb	**Sb**	**12 50 39.2**	**+1.2**
BIA	**Bitola**	**1.65**	**52**	*e*Pn	**Pn**	**12 50 14.5**	**-1.2**
BIA				*i* Sn	**Sn**	**12 50 36.5**	**-0.2**
BIA	**Bitola**	**1.65**	**52**	*e*Pn	**Pn**	**12 50 14.5**	**-1.2**
BIA				*i* Sn	**Sn**	**12 50 36.4**	**-0.3**
KZN	**Kozani**	**1.69**	**79**	*e*PN	**Pn**	**12 50 17.4**	**+1.2**
KZN				*e*SN	**Sn**	**12 50 41.0**	**+3.4**
PE1	**Pezze di Greco**	**1.84**	**296**	*e*Pn	**Pn**	**12 50 22.0**	**+3.8**
VLS	**Valsamata**	**1.99**	**157**	*e*PN	**Pn**	**12 50 17.6**	**-2.8**
EVR	**Evrytania**	**2.03**	**122**	*e*PN	**Pn**	**12 50 19.7**	**-1.2**
GRG	**Griva**	**2.33**	**65**	*e*Pn	**Pn**	**12 50 26.6**	**+1.6**
SG1	**Sgolgore (BA)**	**2.38**	**291**	*e*Pn	**Pn**	**12 50 26.5**	**+0.9**
STIP	**Stip**	**2.58**	**49**	*e*Pn	**Pn**	**12 50 27.6**	**-0.8**
STIP	**Stip**	**2.58**	**49**	*e*Pn	**Pn**	**12 50 27.5**	**-0.9**
DIVS	**Divcibare**	**4.09**	**4**	*i* Pn	**Pb**	**12 50 59.0**	**+0.2**

---

*NEIC **02** 12:54:39.6,1559N×9578W,h20^{km},MD3.7(MEX),After MEX.*
MEX 02 12:54:39.3±0.6,**1557N**×**9577W**,**h15**^{km},**MD3.7**,**Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**301**	*i* P	Pg	12 54 46.0	-1.0
HUIG				*i* S	Sg	12 54 51.2	-1.1
CMIG	**Matias Romero**	**1.73**	**29**	*e*P	Pn	12 55 06.3	-2.6
CMIG				*i* S	Sn	12 55 25.4	-5.3
VHO	**Vista Hermosa**	**1.76**	**328**	*e*P	Pn	12 55 06.7	-2.5
VHO				*i* S	Sn	12 55 26.9	-4.4
OXX	**Oaxaca**	**1.76**	**329**	*e*P	Pn	12 55 07.5	-1.7
OXX				*i* S	Sn	12 55 27.0	-4.4
OXX	**Oaxaca**	**1.76**	**329**	*e*P	Pn	12 55 08.0	-1.2
OXX				*i* S	Sn	12 55 29.0	-2.4
UTMO	**Huajuapan**	**2.98**	**319**	*e*P	Pn	12 55 25.2	-0.8
UTMO				*i* S	Sn	12 55 59.8	-1.5
TPIG	**Tehuac#an**	**3.22**	**332**	*i* S	Sn	12 56 04.7	-2.7
PPM	**Popocatepetl**	**4.42**	**322**	*i* S	Sn	12 56 35.2	-1.8
PPM	**Popocatepetl**	**4.42**	**322**	*e*P	Pn	12 55 55.4	+10
PPM				*i* S	Sn	12 56 31.6	-5.5

WEL 02 12:59:47.8±0.1,**3852S**×**17755E**,**h58**^{km}±1^{km},**ML3.5**/12, **1C-3D**,**Error ellipse: s-maj=1.3km s-min=1.0km az=90.0**, **North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.18**	**355**	⇑PN	Pn	12 59 56.6	-0.4
MWZ				SN	Sn	13 00 03.3	-0.2
URZ	**Urewera**	**0.43**	**307**	⇓PN	Pn	12 59 58.5	-0.4
URZ				SN	Sn	13 00 06.5	-0.4
KNZ	**Kokohu**	**0.51**	**169**	⇓PN	Pn	12 59 59.5	-0.2
KNZ				SN	Sn	13 00 08.1	-0.2
PUZ	**Puketiti**	**0.71**	**52**	SN	Sn	13 00 12.6	+0.1
TAZ	**Tarawera**	**0.87**	**289**	PN	Pn	13 00 04.1	+0.1
BKZ	**Black Stump Fm**	**1.05**	**232**	⇓PN	Pn	13 00 06.4	0.0
BKZ				SN	Sn	13 00 20.6	+0.5
MXZ	**Matakaoa Point**	**1.13**	**32**	PN	Pn	13 00 07.3	-0.1
PXZ	**Pawanui**	**1.60**	**199**	PN	Pn	13 00 11.8	-2.0
PXZ				SN	Sn	13 00 32.5	-0.9
NGZ	**Ngauruhoe**	**1.66**	**246**	PN	Pn	13 00 14.2	-0.3
TUVZ	**Tukino**	**1.66**	**243**	PN	Pn	13 00 14.2	-0.3
MOVZ	**Moawhango**	**1.66**	**237**	PN	Pn	13 00 13.9	-0.7
MOVZ				SN	Sn	13 00 33.7	-1.0
WPVZ	**Whakapapa**	**1.71**	**246**	PN	Pn	13 00 14.9	-0.3
TSZ	**Takapari Road**	**1.97**	**218**	PN	Pn	13 00 16.9	-1.9
WAZ	**Wanganui**	**2.34**	**237**	PN	Pn	13 00 23.6	-0.3

---

*SZGRF **02** 13:20:26.4,1394N×9069W,h33^{km},mb4.7,Near coast of Guatemala*
*IDC **02** 13:20:28.9±2.0,1440N×9118W,h53^{km}±18^{km},mb4.1/20, mb1 4.2/21,mb1mx4.1/26,mbtmp4.3/21,ML4.7/1,MS3.9/21, Ms1 3.9/21,ms1mx3.7/28,Error ellipse: s-maj=21.8km s-min=9.5km az=52.0*
*ISCJB **02** 13:20:30.0±0.3,1421N±003×9151W±003,h80^{km}±3^{km}, mb4.4/57,Error ellipse: s-maj=6.9km s-min=2.5km az=74.8*
*GCMT **02** 13:20:31.3±0.3,1409N×9166W,h73^{km}±2^{km},MW5.0/63, Moment Tensor Solution. s55,c74; s63,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.09±.14; $M_{\theta\theta}$-3.28±.13; $M_{\phi\phi}$0.19±.16; $M_{r\theta}$0.97±.09; $M_{\theta\phi}$1.71±.14; $M_{\phi r}$-0.56±.11; Best double couple: M₀3.71000×10^{16} NP1:ϕ_s288.00000°,δ36.00000°,λ84.00000°. NP2: ϕ_s116.00000°,δ54.00000°,λ94.00000°. Principal axes: T 3.2700, Plg81.0000°, Azm45.0000°; N 0.8820, Plg4.0000°, Azm293.0000°; P -4.1510, Plg9.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **02** 13:20:31.2,1420N×9130W,h81^{km},mB5.0,Ms5.0,Msz4.8*
*NEIC **02** 13:20:31.3±0.3,1418N×9134W,mb4.6/50,Error ellipse: s-maj=6.9km s-min=4.6km az=44.0*
NEIC Felt at Guatemala City and Villa Nueva.
*CASC **02** 13:20:31.1±2.1,1411N×9152W,h32^{km}±7^{km},MD4.7, mb4.6(NEIC)*
*MEX **02** 13:20:34.7±0.4,1443N×9180W,h130^{km}±10^{km},MD5.0*
ISC 02 13:20:31.9±0.3,**1427N**±003×**9148W**±003,**h76**^{km}±3^{km}, **h78**^{km}±4.1^{km}**:pP-P**,**n207**,σ**1^{s}25**/190,**mb4.4**/57,**14C-9D**, **Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.16**	**288**	⇑*e*P	**Pn**	**13 20 39.9**	**-3.2**
FUG	**Fuego 3**	**0.64**	**74**	⇓*i*P	**Pn**	**13 20 45.8**	**-0.8**
TER	**Terranova**	**0.77**	**87**	⇑*e*P	**Pn**	**13 20 46.7**	**-1.3**
PCG	**Pacaya**	**0.85**	**81**	*e*P	**Pn**	**13 20 49.0**	**0.0**
GCG	**Guatemala City**	**0.97**	**71**	⇑*e*P	**Pn**	**13 20 50.1**	**-0.2**
GCG				*e*S	**Sn**	**13 21 05.9**	**+1.9**
RBDL	**Robledal**	**1.74**	**95**	⇓*i*P	x	13 20 59.4	
RTR	**El Retiro**	**1.81**	**101**	⇓*e*P	x	13 21 00.2	
SBLS	**San Blas**	**1.85**	**103**	*e*P	x	13 21 00.3	
SBLS				*e*S	x	13 21 26.0	
SNJE	**San Jose**	**1.86**	**102**	⇓*e*P	x	13 21 00.7	
MTO2	**Montecristo 2**	**2.06**	**86**	*e*P	x	13 21 03.3	
CCIG	**Comitan**	**2.10**	**342**	*i* P	**Pn**	**13 21 06.2**	**+1.2**
CCIG				*i* S	**Sn**	**13 21 30.2**	**0.0**
BOQS	**Boqueron**	**2.20**	**104**	⇑*e*P	x	13 21 05.2	
BOQS				*e*S	x	13 21 32.7	
LFU	**La Fuente**	**2.35**	**102**	*e*P	x	13 21 08.1	
LFU				*e*S	x	13 21 36.5	
LBRS	**Las Brisas**	**2.42**	**102**	⇓*e*P	x	13 21 08.1	
LFRS	**El Faro**	**2.43**	**105**	⇑*e*P	x	13 21 07.8	
LCBS	**La Ceiba**	**2.50**	**104**	⇑*e*P	x	13 21 09.3	
SNVI	**San Vicente**	**2.64**	**104**	*e*P	x	13 21 11.6	
SNVI				*e*S	x	13 21 45.0	
VSM	**San Miguel**	**3.22**	**105**	⇑*e*P	x	13 21 19.6	
VSM				*e*S	x	13 21 59.3	
BLLM	**Bellamira**	**3.25**	**104**	⇑*e*P	x	13 21 20.4	
BLLM				*e*S	x	13 21 59.6	
CNCH	**Conchagua**	**3.67**	**105**	*e*P	x	13 21 25.8	
CNCH				*e*S	x	13 22 10.7	
CMIG	**Matias Romero**	**4.32**	**311**	P	**Pn**	**13 21 33.0**	**-2.1**
	37nm,0.3s,baz=121,slow=10,SNR=188						
CMIG				S	**Sn**	**13 22 23.8**	**-0.3**
	73nm,0.3s,baz=103,slow=12,SNR=6.1						
CMIG	**Matias Romero**	**4.32**	**311**	*i* P	**Pn**	**13 21 33.0**	**-2.1**
CMIG				*i* S	**Sn**	**13 22 18.4**	**-5.8**
CMIG	**Matias Romero**	**4.32**	**311**	P	**Pn**	**13 21 33.0**	**-2.1**
CMIG				S	**Sn**	**13 22 23.8**	**-0.3**
CRIN	**San Cristobal**	**4.58**	**109**	*e*P	**Pn**	**13 21 40.0**	**+1.4**
SCIG	**Sabancuy, Camp**	**4.68**	**3**	*i* P	**Pn**	**13 21 40.1**	**+0.1**
SCIG				*i* S	**Sn**	**13 22 32.4**	**-0.6**
HUIG	**Huatulco**	**4.72**	**289**	*e*P	**Pn**	**13 21 37.0**	**-3.5**
HUIG				*i* S	**Sn**	**13 22 28.4**	**-5.5**
TELN	**Telica**	**4.81**	**110**	⇓*e*P	**Pn**	**13 21 41.3**	**-0.5**
LEON	**Leon**	**4.83**	**112**	⇓*e*P	**Pn**	**13 21 41.6**	**-0.4**
LEON				*e*S	**Sn**	**13 22 36.9**	**+0.3**
CNGN	**Cerro Negro**	**4.97**	**110**	*e*P	**Pn**	**13 21 43.9**	**-0.1**
CNGN				*e*S	**Sn**	**13 22 41.3**	**+1.2**
MIRN	**Miramar**	**4.98**	**111**	*e*P	**Pn**	**13 21 43.0**	**-1.1**
MOMJ	**Momotombo**	**5.15**	**110**	⇑*e*P	**Pn**	**13 21 46.4**	**0.0**
MOMJ				*e*S	**Sn**	**13 22 47.5**	**+3.0**
COPN	**Copaltepe**	**5.19**	**113**	*e*P	**Pn**	**13 21 45.8**	**-1.1**
APYN	**Apoyeque**	**5.39**	**111**	⇑*e*P	**Pn**	**13 21 49.4**	**-0.3**
XAVN	**Gruta Xavier**	**5.44**	**112**	*e*P	**Pn**	**13 21 51.1**	**+0.7**
XAVN				*e*S	**Sn**	**13 22 52.5**	**+0.9**
TISN	**Laguna Tiscapa**	**5.49**	**112**	⇑*e*P	**Pn**	**13 21 51.3**	**+0.2**
TISN				*e*S	**Sn**	**13 22 57.2**	**+4.3**
MGAN	**Managua**	**5.51**	**112**	*e*P	**Pn**	**13 21 51.8**	**+0.5**
MGAN				*e*S	**Sn**	**13 22 52.9**	**-0.4**
TICN	**Ticuantepe**	**5.57**	**113**	*e*P	**Pn**	**13 21 52.2**	**+0.1**
OXX	**Oaxaca**	**5.78**	**300**	*e*P	**Pn**	**13 21 55.0**	**+0.1**
VHO	**Vista Hermosa**	**5.78**	**300**	*e*P	**Pn**	**13 21 53.8**	**-1.2**
VHO				*i* S	**Sn**	**13 22 51.8**	**-8.1**
VHO	**Vista Hermosa**	**5.78**	**300**	*e*P	**Pn**	**13 21 55.2**	**+0.2**
VHO				*i* S	**Sn**	**13 23 01.0**	**+1.1**
SSNN	**San Juan del S**	**6.24**	**118**	⇑*e*P	**Pn**	**13 22 00.7**	**-0.5**
SSNN				*e*S	**Sn**	**13 23 10.4**	**-0.7**
CONN	**Concepcion**	**6.31**	**115**	*e*P	**Pn**	**13 22 02.2**	**0.0**
PNIG	**Pinotepa**	**6.75**	**289**	*i* S	**Sn**	**13 23 17.5**	**-6.2**
RIN3	**Volcan Rincon**	**6.88**	**119**	*e*P	**Pn**	**13 22 10.7**	**+0.6**
LIM1	**Limonal**	**7.04**	**120**	⇑*e*P	**Pn**	**13 22 12.9**	**+0.7**
UTMO	**Huajuapan**	**7.04**	**301**	*e*P	**Pn**	**13 22 10.9**	**-1.3**
UTMO				*i* S	**Sn**	**13 23 25.3**	**-5.4**
VCR	**Vista de Mar**	**7.04**	**125**	*e*P	**Pn**	**13 22 12.0**	**-0.2**
JTS	**JuntasAbangare**	**7.50**	**121**	P	**Pn**	**13 22 18.0**	**-0.5**
	3.6nm,0.3s,baz=307,slow=22,SNR=18						
JTS				S	**Sn**	**13 23 41.6**	**-0.4**

2.6nm,0.3s,baz=272,slow=22,SNR=1.5
JTS JuntasAbangare 7.50 121 P **Pn 13 22 18.0 -0.5**
JTS S **Sn 13 23 41.6 -0.4**
JCR Jicaral 7.62 124 *e*P **Pn 13 22 20.7 +0.6**
CAO Cobano 7.71 125‖ *e*P **Pn 13 22 21.9 +0.5**
EPA Esparza 7.96 122 *e*P **Pn 13 22 26.6 +1.8**
CGA2 Cerro Gallo 2 8.05 121 *e*P **Pn 13 22 26.6 +0.6**
PPM Popocatepetl 8.35 306 *e*P **Pn 13 22 26.1 -4.0**
PPM *e*P 13 22 36.0
PPM *i* S **Sn 13 23 56.2 -6.5**
PPM Popocatepetl 8.35 306 *e*P **Pn 13 22 31.1 +1.0**
PPM *i* S **Sn 13 24 02.9 +0.2**
LAJ Bijagual 8.42 121 *e*P **Pn 13 22 28.2 -2.9**
ACX Acapulco 8.53 289 *i* P **Pn 13 22 30.0 -2.6**
OCM Ochomogo 8.54 120 *e*P **Pn 13 22 34.0 +1.3**
IRZ2 Volcan Irazu 2 8.55 119 *e*P **Pn 13 22 33.9 +1.0**
LCR2 La Lucha 2 8.58 121 *e*P **Pn 13 22 34.8 +1.5**
LCR2 *e*S **Sn 13 24 09.1 +0.6**
YAIG Yautepec 8.59 303 *i* S **Sn 13 24 02.9 -5.8**
MEIG Mezcala 8.63 296 *e*P **Pn 13 22 32.3 -1.7**
MEIG *i* S **Sn 13 24 02.6 -7.0**
PLIG Platanillo 8.73 299 *e*P **Pn 13 22 32.8 -2.4**
PLIG *i* S **Sn 13 24 05.5 -6.5**
PLIG Platanillo 8.73 299 *e*P **Pn 13 22 34.2 -1.0**
PLIG *i* S **Sn 13 24 13.2 +1.2**
BUS Buena Vista 8.89 121 *e*P **Pn 13 22 38.6 +1.2**
IIZ Mezontepec 8.90 304 *i* P **Pn 13 22 31.8 -5.9**
IIZ *i* S **Sn 13 24 05.7 -11**
CAIG El Cayaco 8.91 289 *e*P **Pn 13 22 32.5 -5.2**
CAIG *i* S **Sn 13 24 06.5 -10**
CAIG El Cayaco 8.91 289 *e*P **Pn 13 22 32.5 -5.2**
CAIG *i* S **Sn 13 24 15.5 -0.8**
SZVM Salazar 9.08 305 *i* P **Pn 13 22 41.8 +1.7**
SZVM *e*S **Sn 13 24 13.5 -7.2**
CTCR Cotoan 10.07 121‖ *e*P **Pn 13 22 53.5 0.0**
MOIG Morelia 10.73 301 *e*P **Pn 13 23 00.8 -1.8**
MOIG Morelia 10.73 301 *e*P **Pn 13 23 04.1 +1.5**
LNIG Linares 12.97 326 *i* P **Pn 13 23 31.7 -1.4**
LNIG *i* S **Sn 13 25 48.1 -7.4**
HKT Hockley 16.12 346 *e*Pn **Pn 13 24 14.1 +0.4**
89nm,1.7s
DWPF Disney 16.64 33 *e*Pn **Pn 13 24 20.3 0.0**
71nm,1.1s
NATX Nacogdoches 17.65 351 *e*Pn **Pn 13 24 31.4 -1.2**
46nm,0.9s
NATX *e* 13 24 50.7
JCT Junction City 17.86 336 *e*P **Pn 13 24 36.9 +1.7**
47nm,1.4s
JCT *e*S **S 13 27 46.0 -8.8**
LRAL Lakeview Retre 19.12 12 *e*P **Pn 13 24 49.0 -1.3**
54nm,1.0s
ROSC El Rosal 19.31 117 P **Pn 13 24 52.5 0.0**
1.1nm,0.3s,baz=272,slow=22,SNR=7.7
MIAR Mount Ida 20.28 355 *e*P **P 13 25 00.5 -0.8**
122nm,1.4s
MIAR *e*pP 13 25 20.1
UALR University of 20.43 358 *e*P **P 13 25 02.1 -0.8**
12nm,0.6s
UALR *e*pP 13 25 18.9
PLAL Pickwick Lake 20.85 8 *e*P **P 13 25 07.4 0.0**
40nm,1.1s
SDV Santo Domingo 21.10 102 P **P 13 25 07.7 -2.4**
21nm,0.8s,mb4.5,baz=336,slow=5.0,SNR=6.5
SDV Santo Domingo 21.10 102 *e*P **P 13 25 07.6 -2.5**
26nm,0.8s,mb4.6
WMOK Wichita Mounta 21.42 343 *e*P **P 13 25 12.9 -0.7**
20nm,1.0s,mb4.4
WMOK *e*pP 13 25 31.1
WMOK *e*S **S 13 28 56.6 -10**
SWET Sewanee 21.45 12 *e*P **P 13 25 13.9 +0.1**
MNTX Cornudas Mount 21.52 326 *e*P **P 13 25 14.6 0.0**
24nm,0.8s,mb4.6
MNTX *e* 13 25 36.1
HALT Halls 21.64 5 P **P 13 25 16.7 +0.8**
MYNC Murphy 21.75 16 *e*P **P 13 25 18.4 +1.4**
112nm,1.4s,mb5.0
JSC Jenkinsville 21.97 23 *e*P **P 13 25 20.2 +0.8**
JSC *e*pP 13 25 33.7
CPCT Cooper Cave 22.00 15 *e*P **P 13 25 20.2 +0.5**
WVT Waverly 22.01 8 *e*P **P 13 25 19.6 -0.3**
14nm,0.8s,mb4.4
TZTN Tazewell 23.29 16 *e*P **P 13 25 32.6 -0.2**
TZTN *e*pP 13 25 49.0
SIUC Southern Illin 23.44 5 *e*P **P 13 25 33.1 -1.2**
109nm,1.3s,mb5.0
SIUC *e*pP 13 25 48.2
USIN University of 23.84 7 *e*P **P 13 25 37.9 0.0**
32nm,0.8s,mb4.7
LPM Los Pinos Moun 24.21 328 *e*P **P 13 25 42.7 +1.4**
LENM Lemitar 24.27 327 *e*P **P 13 25 43.6 +1.7**
SLM Saint Louis 24.30 2 *e*P **P 13 25 41.0 -1.1**
20nm,0.6s,mb4.6
WCI Wyandotte Cave 24.30 10 *e*P **P 13 25 40.9 -1.2**
26nm,0.7s,mb4.7
LAZ Ladron 24.54 327 *e*P **P 13 25 46.0 +1.7**
SJG San Juan 24.61 78 LR LR 13 34 27.8
comp=Z,255nm,21.5s,baz=270,slow=34
ANMO Albuquerque 24.63 329 P **P 13 25 46.5 +1.4**
4.1nm,0.8s,mb3.9,baz=150,slow=1.1,SNR=20
ANMO Albuquerque 24.63 329 *e*P **P 13 25 46.2 +1.1**
3.1nm,0.6s,mb3.9
ELN Prospectdale 24.78 21 *e*P **P 13 25 46.4 -0.1**
ELN *e*pP 13 26 00.2
ATAH Atahualpa 24.80 148 P **P 13 25 49.0 +2.4**
6.2nm,0.8s,mb4.1,baz=15,slow=9.0,SNR=6.0
ATAH LR LR 13 32 57.4
comp=Z,190nm,19.9s,baz=241,slow=30
BLA Blacksburg 24.88 21 *e*P **P 13 25 47.4 0.0**
2.1nm,0.9s,mb3.6
BLA *e*pP 13 26 06.4
FWV Forest Hill 25.08 20 *e*P **P 13 25 47.6 -1.6**
FWV *e*pP pP 13 26 07.0 +0.1
KSU1 Kansas State U 25.15 351 *e*P **P 13 25 57.1 +7.3**
TUC Tucson 25.16 319 *e*P **P 13 25 51.2 +1.2**
10nm,0.8s,mb4.3
PCRV Puerto La Cruz 26.54 96 LR LR 13 37 16.5
comp=Z,169nm,20.6s,baz=136,slow=38
WUAZ Wupatki 27.70 323 *e*P **P 13 26 14.3 +1.5**
11nm,0.9s,mb4.4
PV01 Paradox Valley 28.19 331 *e*P **P 13 26 18.7 +1.6**
JFWS Jewell Farm 28.57 2 *e*P **P 13 26 20.6 +0.1**
8.1nm,0.6s,mb4.5
PV10 Paradox Valley 28.61 330 *e*P **P 13 26 21.3 +0.5**
SSPA Standing Stone 28.83 22 *e*P **P 13 26 21.6 -1.2**
7.8nm,0.8s,mb4.4
NNA Nana 29.85 150 LR LR 13 36 19.5
comp=Z,210nm,21.1s,baz=325,slow=32
CCUT Cedar City 30.27 324 *e*P **P 13 26 37.7 +2.1**
CCUT *e*PcP PcP 13 29 35.6 +1.2
CCUT *e*pPcP 13 29 53.7
MSU Marysvale 30.30 327 *e*P **P 13 26 37.6 +1.8**
MSU *e*PcP PcP 13 29 35.1 +0.6
MSU *e*pPcP 13 29 53.0
ARUT Antelope Range 30.48 324 *e*P **P 13 26 39.6 +2.2**
CTU Camp Tracy 31.72 330 *e*P **P 13 26 49.6 +1.3**
6.3nm,0.8s,mb4.4
DUG Dugway 31.88 328 *e*P **P 13 26 51.3 +1.6**
4.0nm,1.0s,mb4.1
DUG *e*pP pP 13 27 08.0 +0.4
DUG *e*PcP PcP 13 29 38.5 -0.2
DAC Darwin (Calif) 32.03 318 *e*P **P 13 26 52.7 +1.6**
8.5nm,1.2s,mb4.3
DAC *e*pP pP 13 27 10.9 +1.8
DAC *e*PcP PcP 13 29 39.7 +0.5
ISA Isabella 32.26 316 *e*P **P 13 26 53.6 +0.5**
HWUT Hardware Ranch 32.34 331 *e*P **P 13 26 55.3 +1.5**
8.4nm,1.0s,mb4.4
HWUT *e*pPcP 13 29 57.1
PDAR Pinedale Array 32.39 335 P **P 13 26 54.9 +0.6**
1.7nm,0.9s,mb3.8,baz=122,slow=10,SNR=9.1
PDAR PcP PcP 13 29 40.1 0.0
2.4nm,0.9s,baz=116,slow=3.4,SNR=9.1
PDAR LR LR 13 42 28.2
comp=Z,82nm,20.7s,baz=156,slow=41
BGU Big Grassy Mou 32.53 329 *e*P **P 13 26 56.7 +1.3**
HVU Hansel Valley 33.05 330 *e*P **P 13 27 01.6 +1.6**
18nm,1.2s,mb4.8
HVU *e* 13 27 30.5
HVU *e*PcP PcP 13 29 42.8 +0.8
REDW Red Top Meadow 33.42 334 *e*P **P 13 27 03.2 -0.1**
22nm,1.1s,mb4.9
SNOW Snow King Moun 33.46 334 *e*P **P 13 27 03.6 0.0**
12nm,0.5s,mb5.0
SNOW *e*pP pP 13 27 23.0 +1.4

LOHW Long Hollow 33.52 334 *e*P **P 13 27 03.5 -0.6**
4.5nm,0.8s,mb4.3
LOHW *e*PcP PcP 13 29 43.7 +0.4
TPAW Teton Pass 33.57 334 *e*P **P 13 27 06.0 +1.5**
5.7nm,0.6s,mb4.6
TPAW *e*pP pP 13 27 25.5 +2.9
TPAW *e*PcP PcP 13 29 43.6 +0.2
NVAR Mina Array Bea 33.78 320 P **P 13 27 08.4 +2.0**
18nm,1.0s,mb4.8,baz=130,slow=9.2,SNR=89
NVAR PcP PcP 13 29 45.4 +1.4
4.0nm,0.7s,baz=127,slow=4.3,SNR=12
NVAR ScP ScP 13 33 24.7 +2.8
0.5nm,0.7s,baz=130,slow=5.7,SNR=5.0
IMW Indian Meadow 33.89 334 *e*P **P 13 27 06.7 -0.6**
1.9nm,0.5s,mb4.2
BMN Battle Mountai 34.43 324 *e*P **P 13 27 13.4 +1.5**
23nm,1.4s,mb4.8
CMB Columbia Colle 34.87 318 *e*P **P 13 27 16.7 +1.0**
4.3nm,0.9s,mb4.3
CMB *e*PcP PcP 13 29 47.8 +0.7
HLID Hailey 35.19 331 *e*P **P 13 27 19.6 +1.1**
12nm,1.1s,mb4.6
MCMT McKenzie Canyo 35.46 333 *e*P **P 13 27 21.9 +1.1**
BOZ Bozeman (W) 35.61 335 *e*P **P 13 27 24.1 +2.0**
1.6nm,0.6s,mb4.1
BOZ *e*PcP PcP 13 29 49.3 0.0
DLMT Dillon 35.77 334 *e*P **P 13 27 25.1 +1.5**
6.2nm,0.9s,mb4.5
DLMT *e*PcP PcP 13 29 50.9 +1.1
ULM Lac du Bonnet 36.06 355 P **P 13 27 24.1 -1.9**
1.0nm,0.5s,mb4.0,baz=158,slow=16,SNR=2.9
ULM PcP PcP 13 29 49.5 -1.1
0.8nm,0.4s,baz=154,slow=4.6,SNR=3.0
ULM LR LR 13 45 06.1
comp=Z,121nm,19.0s,baz=219,slow=41
OHCM Honcut 36.32 319 *e*P **P 13 27 29.5 +1.4**
OHCM *e*PcP PcP 13 29 52.3 +0.9
OHCM *e* 13 30 10.2
SAML Samuel 36.33 128 *e*P **P 13 27 25.9 -2.4**
19nm,1.1s,mb4.9
SAML *e*pP pP 13 27 40.7 -5.7
SAML *e*PcP PcP 13 29 51.2 -0.3
WVOR Wild Horse Val 36.56 325 *e*P **P 13 27 31.3 +1.1**
14nm,1.1s,mb4.8
WVOR *e*PcP PcP 13 29 53.1 +1.0
CHMT Chamberlain Mo 37.29 335 *e*P **P 13 27 37.4 +0.9**
LPAZ La Paz 38.13 142 P **P 13 27 43.4 -0.1**
2.2nm,0.6s,mb4.1,baz=339,slow=8.8,SNR=11
LPAZ PcP PcP 13 29 57.8 +0.9
5.2nm,1.2s,baz=56,slow=5.7,SNR=5.4
LPAZ LR LR 13 42 48.7
comp=Z,61nm,21.0s,baz=93,slow=35
LPAZ La Paz 38.13 142 *e*P **P 13 27 43.1 -0.4**
2.4nm,1.0s,mb4.0
LPAZ *e*PcP PcP 13 29 57.6 +0.7
SIV San Ignacio 42.51 134 P **P 13 28 18.6 -1.0**
17nm,0.7s,mb4.9,baz=308,slow=9.6,SNR=88
SIV PcP PcP 13 30 11.2 +0.2
4.2nm,0.8s,baz=64,slow=3.6,SNR=5.4
SCHQ Schefferville 44.80 20 P **P 13 28 36.0 -2.0**
7.0nm,0.8s,mb4.4,baz=219,slow=6.9,SNR=9.0
SCHQ LR LR 13 48 03.4
comp=Z,375nm,21.7s,baz=128,slow=37
SCHQ Schefferville 44.80 20 *e*P **P 13 28 35.8 -2.2**
12nm,0.8s,mb4.7
CFAA Coronel Fontan 50.77 154 P **P 13 29 23.7 -0.5**
1.2nm,0.8s,mb4.0,baz=329,slow=7.2,SNR=14
CFAA LR LR 13 46 42.0
comp=Z,16nm,21.9s,baz=264,slow=31
YKA Yellowknife Ar 50.88 346 P **P 13 29 23.8 -1.2**
1.7nm,0.6s,mb4.2,baz=147,slow=7.6,SNR=5.2
YKA PcP PcP 13 30 39.8 -0.8
2.9nm,0.6s,baz=153,slow=3.5,SNR=9.3
YKA LR LR 13 54 57.6
comp=Z,70nm,20.3s,baz=180,slow=41
YKA Yellowknife Ar 50.88 346 P **P 13 29 23.8 -1.2**
YKA PcP PcP 13 30 39.8 -0.8
YKA LR LR 13 54 57.6
BDFB Brasilia 52.24 123 P **P 13 29 34.1 -1.0**
5.1nm,0.9s,mb4.6,baz=335,slow=6.5,SNR=5.2
BDFB LR LR 13 53 12.5
comp=Z,128nm,20.6s,baz=304,slow=38
CPUP Villa Florida 52.26 140 P **P 13 29 32.9 -2.4**
4.6nm,0.7s,mb4.6,baz=317,slow=7.3,SNR=10
CPUP LR LR 13 51 15.3
comp=Z,109nm,20.4s,baz=314,slow=35
CPUP Villa Florida 52.26 140 *e*P **P 13 29 32.0 -3.3**
19nm,0.9s,mb5.1
RKT Rikitea 56.50 229 *e*LR LR 13 46 42.4
395nm,28.0s
INK Inuvik 60.33 343 *e*P **P 13 30 31.2 -1.5**
12nm,1.4s,mb4.7
EYAK Cordova Ski Ar 60.48 333 *e*P **P 13 30 34.5 +0.8**
PMR Palmer 62.41 333 *e*P **P 13 30 46.6 -0.1**
21nm,1.2s,mb5.0
SLKM Skilak Lake 62.50 332 *e*P **P 13 30 47.4 +0.1**
PMOR Pomariorio Ree 62.92 245 *e*T 14 38 37.6
2.0nm,0.3s
COLA College 63.21 337 *e*P **P 13 30 51.4 -0.7**
8.1nm,1.1s,mb4.6
COLA *e*PcP PcP 13 31 27.1 -1.7
SVW2 Sparrevohn 65.18 331 *e*P **P 13 31 03.9 -1.0**
PPT Papeete 65.46 243 *e*LR LR 13 50 41.7
383nm,27.5s,baz=64
PPT Papeete 65.46 243 LR LR 13 51 03.7
comp=Z,191nm,20.9s,baz=118,slow=28
TTA Tatalina 65.89 333 *e*P **P 13 31 08.2 -1.3**
49nm,1.4s,mb5.2
TBI Tubuai 67.92 237 *e*LR LR 13 51 54.3
207nm,23.5s
DAG Danmarks Havn 72.29 13⇑ *i*P **P 13 31 46.5 -2.6**
4.0nm,1.0s,mb4.2
ESK Eskdalemuir 77.43 36 *e*P **P 13 32 16.2 -2.6**
14nm,0.8s,mb4.7
EKA Eskdalemuir Ar 77.45 36 P **P 13 32 16.1 -2.7**
5.2nm,0.7s,mb4.4,baz=273,slow=5.2,SNR=15
ESDC Sonseca Array 79.15 52 P **P 13 32 25.7 -2.6**
0.6nm,0.6s,mb3.6,baz=295,slow=6.0,SNR=5.2
NB2 NORSAR Subarra 83.67 29 P **P 13 32 50.7 -1.4**
comp=Z,7.6nm,1.2s,mb4.4,baz=288,slow=5.3
NOA NORSAR Array B 83.67 29 P **P 13 32 50.3 -1.8**
comp=Z,1.9nm,0.8s,mb4.0,baz=290,slow=4.9,SNR=4.2
NOA LR LR 14 06 51.2
comp=Z,69nm,21.7s,baz=280,slow=33
DBIC Dimbokro 85.12 84 P **P 13 32 59.1 -0.4**
comp=Z,2.7nm,1.0s,mb4.2,baz=236,slow=2.7,SNR=4.4
DBIC LR LR 14 04 53.0
comp=Z,118nm,21.5s,baz=257,slow=31
HFS Hagfors 85.12 29 P **P 13 32 58.1 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=222,slow=1.9,SNR=4.6
ARCES ARCESS Array B 85.73 18 P **P 13 32 59.8 -2.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=316,slow=5.1,SNR=4.3
ARCES LR LR 14 10 22.4
comp=Z,151nm,20.4s,baz=290,slow=35
GRA1 Grafenberg Arr 87.26 39 *e*P **P 13 33 08.3 -1.7**
comp=Z,9.0nm,1.5s,mb4.5
GRF Grafenberg Arr 87.26 39 *e*P **P 13 33 08.3 -1.7**
comp=Z,9.0nm,1.5s,mb4.5
CLL Collm 87.80 37 *e*P **P 13 33 11.0 -1.5**
GERES GERESS Array B 89.08 40 LR LR 14 08 56.8
comp=Z,73nm,20.2s,baz=93,slow=33
TORD Torodi Ar. Bea 89.82 77 P **P 13 33 20.6 -1.5**
comp=Z,0.3nm,0.5s,mb3.6,baz=282,slow=5.4,SNR=3.6
TORD LR LR 14 07 12.8
comp=Z,138nm,20.5s,baz=260,slow=31
FINES FINESS Array B 90.04 25 LR LR 14 12 09.2
comp=Z,44nm,20.5s,baz=353,slow=34
RAO Raoul Island 93.81 241 LR LR 14 06 52.2
comp=Z,220nm,21.6s,baz=80,slow=30
AKASG Malin Array Be 97.23 33 LR LR 14 19 00.2
comp=Z,33nm,19.2s,baz=325,slow=36
VNA3 Neumayer Olymp 100.78 161 *e*Pdiff Pdif 13 34 11.7 -0.3
VNA1 Neumayer--Stat 101.11 160 *e*Pdiff Pdif 13 34 13.5 +0.1
SNAA Sanae 103.00 161 *e*Pdiff Pdif 13 34 18.9 -2.9
CN2 Changchun 113.10 332 *e*PKP PKiKP 13 38 56.7 -3.6
SONM Songino Array 116.15 347 PKP PKPdf 13 39 05.9 -0.3
comp=Z,1.0nm,0.8s,baz=320,slow=2.1,SNR=5.8
MKAR Makanchi Array 118.97 5 PKP PKPdf 13 39 10.4 -1.2
comp=Z,1.3nm,0.6s,baz=29,slow=2.8,SNR=9.7
BOSA Boshof 120.01 115 PKP PKPdf 13 39 13.6 0.0
comp=Z,4.1nm,0.7s,baz=213,slow=5.5,SNR=7.7
BOSA Boshof 120.01 115 PKP PKPdf 13 39 13.6 -0.1
HHC Hu-ho-hao-te 121.15 340 *e*PKP PKPdf 13 39 12.1 -3.7
HHC PP PP 13 40 47.5 +0.9
LSZ Lusaka 121.82 99 *e*PKPdf PKPdf 13 39 17.4 +0.3
WMQ Urumqi 122.19 1 *e*PKP PKPdf 13 39 15.0 -2.8
MAW Mawson 124.13 168 *e*PKPdf PKPdf 13 39 20.6 -0.9

SSE Sheshan 125.05 326 *e*PKP PKPdf 13 39 19.3 -4.0
GTA Gaotai 125.57 349 PKP PKPdf 13 39 24.7 +0.4
LZH Lanzhou 127.87 344 *e*PKP PKPdf 13 39 30.0 +1.3
LZH XPKP 13 39 58.0
LZH SKKS SKKSac 13 48 16.0 -6.0
LZH SS SS 13 58 36.0 -2.3
LZH PP PP
comp=Z,116nm,6.0s
STKA Stephens Creek 128.63 241 *e*PKPdf PKPdf 13 39 29.2 -1.0
WRA Warramunga Arr 135.95 256 PKP PKPdf 13 39 44.1 +0.2
comp=Z,1.9nm,0.9s,baz=88,slow=2.5,SNR=4.7
KMI Kunming 138.47 340 PKP PKPdf 13 39 51.6 +3.0
KMI LR LR
comp=N,136nm,15.2s
KMI LR LR
comp=E,118nm,12.7s
KMI LR LR
comp=Z,133nm,16.4s
CHTO Chiang Mai 145.56 342 *e*PKPdf PKPdf 13 40 01.3 +0.1
NWAO Narrogin (SRO) 147.96 230 PKPbc PKPbc 13 40 07.7 -0.7
comp=Z,13nm,0.9s,baz=96,slow=4.2,SNR=4.8
MBWA Marble Bar 149.53 253 *e*PKPbc PKPbc 13 40 10.7 -1.7
MBWA *ep*PKPdf pPKPdf 13 40 26.3 -3.1
KSM Kuching 153.35 304 *e*PKPdf PKPdf 13 40 14.5 +0.9
KSM *e*PKPbc PKPbc 13 40 21.9 +0.7
KSM *e*PKPab PKPab 13 40 34.1 +0.6
PSI Prapat 160.15 328 PKPab PKPab 13 41 03.6 +0.9
comp=Z,6.6nm,0.8s,baz=292,slow=4.5,SNR=7.1

IDC 02 13:22:08.8±1.7, 3123N×14028E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=111.4km s-min=17.8km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.93**	**348**	Pn	Pn	13 22 43.2	+0.4
	11nm,0.3s,baz=82,slow=19,SNR=3.5						
JHJ				Sn	Sn	13 23 08.9	+1.1
	15nm,0.3s,baz=63,slow=21,SNR=2.3						
CBIJ	**Chichi jima**	**4.44**	**158**	Pn	Pn	13 23 17.7	+0.2
	7.8nm,0.3s,baz=294,slow=20,SNR=2.6						
MJAR	**Matsushiro Arr**	**5.57**	**343**	Pn	Pn	13 23 31.8	-1.2
	0.7nm,0.3s,baz=162,slow=12,SNR=12						
WRA	**Warramunga Arr**	**51.20**	**187**	P	P	13 31 13.1	-0.7
	0.5nm,0.4s,baz=6.9,slow=7.8,SNR=75						
ASAR	**Alice Springs**	**54.92**	**187**	P	P	13 31 42.3	+0.9
	0.3nm,0.7s,baz=18,slow=13,SNR=7.2						

*IDC **02** 13:33:16.6±0.7, 342.5°×12860E, h0km, mb4.5/8, mb1 4.6/10, mb1mx4.5/16, mbtmp4.5/10, ML3.9/2, MS3.9/8, Ms1 3.9/8, ms1mx3.6/24, Error ellipse: s-maj=47.6km s-min=15.7km az=77.0*

*NEIC **02** 13:33:19.7±3.8, 335.5°×129.14E, h27km±27km, mb4.8/22, Error ellipse: s-maj=16.3km s-min=8.3km az=61.0*

NEIC Felt in parts of Maluku.

*MOS **02** 13:33:19.0±1.8, 339.5°×12882E, h33km, mb4.9/15, Error ellipse: s-maj=25.8km s-min=8.0km az=107.9*

*BJI **02** 13:33:19.0, 3.14S×12890E, h15km, mB5.1, mb4.8, Ms4.8, Msz4.3*

*GCMT **02** 13:33:19.7±0.4, 341.5°×12896E, h21km±1km, MW4.9/47, Moment Tensor Solution. s14,c17; s47,c61; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.39±.20; Mθθ 1.75±.13; Mϕϕ 0.64±.13; Mrθ -0.84±.21; Mϕθ 0.50±.09; Mϕr -0.83±.28; Best double couple: Mo2.45800×10^16 NP1:ϕs255.00000°, δ32.00000°, λ-76.00000°. NP2: ϕs59.00000°, δ59.00000°, λ-98.00000°. Principal axes: T 2.2050, Plg14.0000°, Azm155.0000°; N 0.5110, Plg7.0000°, Azm63.0000°; P -2.7110, Plg75.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **02** 13:33:20.2±0.9, 349.5°×12888E±006, h43km±9km, mb4.7/40, MS3.9/8 Error ellipse: s-maj=10.4km s-min=6.4km az=138.0*

ISC 02 13:33:22.8±0.9, 349S±004×12896E±007, h50km±9km, h23km±3.9km: pP-P, n94, σ1§28/93, mb4.7/40, MS3.9/8, 4C-4D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.79**	**255**	P	Pn	13 33 32.0	-5.7
	0.0nm,0.0s						
SWI	**Sorong**	**3.47**	**41**	P	Pn	13 34 13.7	-0.6
	0.0nm,0.0s						
PCI	**Palu**	**9.47**	**286**	P	Pn	13 35 36.6	+0.1
	0.0nm,0.0s						
KAKA	**Kakadu**	**9.79**	**160**⇑ *i*P		Pn	13 35 41.5	+0.6
	57nm,0.6s						
JAY	**Jayapura**	**11.77**	**86**	P	Pn	13 36 12.1	+4.2
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**14.88**	**192**	*e*P	Pn	13 36 50.6	+0.6
	19nm,0.7s						
FITZ	**Fitzroy Crossi**	**14.88**	**192**	Pn	Pn	13 36 48.5	-1.5
	0.2nm,0.3s,baz=41,slow=10,SNR=12						
FITZ				LR	LR	13 43 00.1	
	comp=Z,238nm,19.3s,baz=22,slow=39						
KKM	**Kota Kinabalu**	**15.87**	**307**	*e*P	Pn	13 37 03.1	+0.4
WRAB	**Tennant Creek**	**17.17**	**163**	*e*P	Pn	13 37 18.3	-0.8
WRAB				pmax	pmax		
	comp=Z,64nm,1.0s						
WRAB	**Tennant Creek**	**17.17**	**163**	*e*Pn	Pn	13 37 18.3	-0.8
	comp=Z,64nm,1.0s						
WRA	**Warramunga Arr**	**17.18**	**163**	P	Pn	13 37 18.5	-0.6
	comp=Z,0.6nm,0.3s,baz=342,slow=13,SNR=45						
WRA				LR	LR	13 44 37.9	
	comp=Z,428nm,19.4s,baz=345,slow=39						
WB2	**Warramunga Arr**	**17.18**	**163**‖ *i*P		Pn	13 37 17.9	-1.3
PMG	**Port Moresby**	**19.01**	**109**	*e*P	Pn	13 37 35.2	-6.2
PMG				pmax	pmax		
	comp=Z,33nm,1.1s						
PMG	**Port Moresby**	**19.01**	**109**	*e*P	Pn	13 37 35.2	-6.3
	comp=Z,32nm,1.1s						
KSM	**Kuching**	**19.29**	**285**	*e*P	Pn	13 37 43.5	-1.3
MBWA	**Marble Bar**	**19.73**	**206**	*e*P	Pn	13 37 47.8	-2.3
	comp=Z,55nm,1.2s						
AS31	**Alice Springs**	**20.62**	**167**‖ *i*P		P	13 37 59.8	+1.9
ASAR	**Alice Springs**	**20.62**	**167**	P	P	13 37 59.6	+1.7
	comp=Z,36nm,0.8s,baz=347,slow=11,SNR=106						
ASAR				PcP	PcP	13 42 09.5	+2.7
	comp=Z,1.0nm,0.5s,baz=9.6,slow=2.0,SNR=4.2						
ASAR				LR	LR	13 46 59.6	
	comp=Z,396nm,19.4s,MS3.8,baz=3.1,slow=40						
ASAR	**Alice Springs**	**20.62**	**167**	P	P	13 37 59.6	+1.7
ASAR						13 42 09.5	
ASPA	**Alice Springs**	**20.62**	**167**‖ *i*P		P	13 37 59.8	+1.9
CTA	**Charters Tower**	**23.59**	**136**	*e*P	P	13 38 36.1	+7.1
	comp=Z,24nm,1.2s,mb4.5						
CTA	**Charters Tower**	**23.59**	**136**	P	P	13 38 36.5	+7.5
	comp=Z,18nm,0.8s,mb4.6,baz=319,slow=14,SNR=9.2						
CTA				LR	LR	13 48 02.3	
	comp=Z,235nm,19.4s,MS3.7,baz=136,slow=37						
CTA	**Charters Tower**	**23.59**	**136**	*e*P	P	13 38 36.1	+7.1
CTA				pmax	pmax		
	comp=Z,24nm,1.2s						
CTAO	**Charters Tower**	**23.59**	**136**	P	P	13 38 30.5	+1.5
CTAO				pmax	pmax		
	comp=Z,63nm,1.2s,mb4.9						
CTAO	**Charters Tower**	**23.59**	**136**	P	P	13 38 30.5	+1.5
	comp=Z,62nm,1.2s,mb4.9						
KULM	**Kulim**	**29.59**	**287**	*e*P	P	13 39 24.8	+1.8
JOW	**Kunigami**	**30.15**	**359**	LR	LR	13 49 36.1	
	comp=Z,165nm,21.1s,MS3.6,baz=152,slow=33						
STKA	**Stephens Creek**	**30.64**	**159**	*e*P	P	13 39 30.5	-1.7
	comp=Z,7.4nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**30.64**	**159**	P	P	13 39 30.1	-2.2
	comp=Z,3.7nm,0.8s,mb4.3,baz=330,slow=2.6,SNR=7.3						
STKA				LR	LR	13 52 36.7	
	comp=Z,340nm,21.0s,MS4.0,baz=263,slow=38						
STKA	**Stephens Creek**	**30.64**	**159**	P	P	13 39 33.6	+1.4
SSE	**Sheshan**	**35.18**	**348**	*e*P	P	13 40 11.6	-0.3
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,63nm,3.5s						
NJ2	**Nanjing**	**36.62**	**346**	*e*P	P	13 40 23.0	-1.3
NJ2				AP	pP	13 40 29.0	-8.3
NJ2				XP	sP	13 40 31.9	-11
NJ2				PP	PP	13 41 46.7	-1.6
NJ2				S	S	13 46 03.0	-0.7
NJ2				XS	sS	13 46 13.0	-13

NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,290nm,5.0s
NJ2 LR LR
comp=N,430nm,17.6s,MS4.3
NJ2 LR LR
comp=E,270nm,22.0s,MS4.3
NJ2 LR LR
comp=Z,280nm,20.3s,MS4.0
GYA Guiyang 36.76 325 P **P** **13 40 26.3 +0.9**
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.0
KMI Kunming 38.17 320 P **P** **13 40 38.7 +1.4**
KMI AP pP 13 40 47.9 -2.5
KMI XP sP 13 40 51.1 -5.2
KMI PP PP 13 42 09.8 +4.6
KMI S **S** **13 46 35.1 +8.0**
KMI AMB AMB
comp=Z,22nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,87nm,4.2s
KMI LR LR
comp=N,136nm,15.2s,MS4.0
KMI LR LR
comp=E,118nm,12.7s,MS4.0
KMI LR LR
comp=Z,133nm,16.4s,MS3.8
MJAR Matsushiro Arr 40.75 11 P **P** **13 40 58.5 -0.3**
comp=Z,5.8nm,0.7s,mb4.3,baz=180,slow=8.5,SNR=10
CD2 Chengdu 41.81 327 P **P** **13 41 07.5 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
XAN Xi'an 41.84 335 P **P** **13 41 07.2 -0.6**
XAN AMB AMB
comp=Z,12nm,0.9s,mb4.5
BJT Baijiatuau 44.86 346 P **P** **13 41 28.1 -4.0**
BJT pmax pmax
comp=Z,29nm,1.3s
BJT Baijiatuau 44.86 346 P **P** **13 41 28.1 -4.0**
comp=Z,29nm,1.3s,mb4.9
BJI Beijing 44.88 346 *e*P **P** **13 41 27.5 -4.8**
BJI AMB AMB
comp=Z,18nm,0.8s,mb5.0
SNY Shenyang 45.37 354 ⇑P **P** **13 41 40.7 +4.6**
SNY AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
SHL Shillong 46.10 311 *e*P **P** **13 41 43.5 +1.6**
HHC Hu-ho-hao-te 46.91 342 *e*P **P** **13 41 50.3 +2.1**
HHC AP pP 13 41 56.5 -5.1
HHC XP sP 13 41 59.0 -8.4
HHC PCP PcP 13 43 23.0 +2.7
HHC PP PP 13 43 40.8 +1.8
HHC SCP ScP 13 47 14.1 +4.3
HHC PCS PcS 13 47 16.5 +1.2
HHC S **S** **13 48 40.1 +4.5**
HHC XS sS 13 48 49.9 -8.1
HHC SCS ScS 13 51 40.9 +2.6
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,161nm,4.5s
HHC LR LR
comp=N,138nm,5.5s
HHC LR LR
comp=E,110nm,7.3s
HHC LR LR
comp=Z,137nm,7.4s
CN2 Changchun 47.18 357 *e*P **P** **13 41 53.1 +2.8**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
MDJ Mudanjiang 47.89 1 *e*P **P** **13 41 55.9 0.0**
comp=Z,14nm,1.0s,mb4.9
ASAJ Asahikawa 48.95 13 P **P** **13 42 05.3 +1.3**
comp=Z,9.6nm,0.9s,mb4.8,baz=244,slow=16,SNR=5.1
LSA Lhasa 48.98 315 P **P** **13 42 03.0 -1.2**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.9
LSA Lhasa 48.98 315 P **P** **13 42 03.0 -1.3**
comp=Z,11nm,0.8s,mb4.9
GTA Gaotai 50.42 331 *e*P **P** **13 42 15.8 +0.6**
GTA AP pP 13 42 23.6 -5.1
GTA XP sP 13 42 28.1 -6.4
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 51.68 12 P **P** **13 42 23.5 -1.2**
YSS pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 51.68 12 P **P** **13 42 23.5 -1.1**
comp=Z,8.8nm,0.7s,mb4.8
GUN Gumba 51.90 310 *e*P **P** **13 42 27.3 +1.0**
HABR Khabarovsk 52.02 5 *e*P **P** **13 42 28.4 +1.2**
HABR *e*S **S** **13 49 53.3 +6.2**
PKI Pulchoki 52.09 309 *e*P **P** **13 42 30.6 +2.9**
KLR Kul'dur 52.56 2 *e*P **P** **13 42 28.0 -3.2**
GKN Gorkha 52.90 309 *e*P **P** **13 42 34.3 +0.6**
comp=Z,10nm,0.6s,mb4.9
KOLN Koldanda 53.60 308 *e*P **P** **13 42 39.0 +0.2**
comp=Z,25nm,0.8s,mb5.2
ULN Ulaanbaatar 54.63 342 ⇑*i*P **P** **13 42 46.5 +0.2**
ULN Ulaanbaatar 54.63 342 *e*P **P** **13 42 46.7 +0.4**
comp=Z,16nm,1.2s,mb4.9
SONM Songino Array 54.80 342 P **P** **13 42 48.0 +0.4**
comp=Z,5.6nm,1.0s,mb4.6,baz=155,slow=7.3,SNR=15
SONM LR LR 14 07 55.3
comp=Z,68nm,18.2s,MS3.8,baz=224,slow=38
ZAK Zakamensk 58.03 341 *e*P **P** **13 43 11.4 +0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.9s,mb3.8
WMQ Urumqi 59.91 327 *e*P **P** **13 43 23.5 -0.1**
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
BOD Bodaibo 62.29 351 *e*P **P** **13 43 38.9 -0.8**
BOD pmax pmax
comp=Z,7.0nm,1.5s,mb4.6
MKAR Makanchi Array 64.74 326 P **P** **13 43 54.6 -1.3**
comp=Z,4.4nm,0.7s,mb4.6,baz=120,slow=7.3,SNR=15
YAK Yakutsk 65.34 0 ⇑*i*P **P** **13 44 00.5 +0.7**
YAK pmax pmax
comp=Z,23nm,0.7s,mb5.3
YAK Yakutsk 65.34 0 *e*P **P** **13 44 00.1 +0.4**
comp=Z,49nm,0.8s,mb5.6
AAK Ala-Archa 67.21 319 *e*P **P** **13 44 10.6 -1.2**
AAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
AAK Ala-Archa 67.21 319 *e*P **P** **13 44 11.5 -0.3**
comp=Z,7.3nm,1.0s,mb4.7
ZAL Zalesovo 68.00 334 P **P** **13 44 15.2 -1.5**
comp=Z,2.1nm,0.9s,mb4.2,baz=39,slow=4.3,SNR=7.4
NVS Novosibirsk 69.28 334 *e*P **P** **13 44 21.6 -3.1**
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,11nm,1.3s
NVS pmax pmax
comp=Z,14nm,1.3s,mb4.7
BVAR Borovoye Array 74.56 328 P **P** **13 44 55.7 -0.7**
comp=Z,5.6nm,1.0s,mb4.5,baz=133,slow=6.5,SNR=17
BRVK Borovoye 74.63 328 *e*P **P** **13 44 54.1 -2.6**
BRVK pmax pmax
comp=Z,12nm,1.3s,mb4.7
BRVK Borovoye 74.63 328 *e*P **P** **13 44 54.1 -2.7**
comp=Z,12nm,1.3s,mb4.7
CHKZ Chkalovo 74.75 328 *e*P **P** **13 44 56.6 -0.8**
CHKZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CHKZ Chkalovo 74.75 328 *e*P **P** **13 44 56.6 -0.8**
comp=Z,9.0nm,1.1s,mb4.6
ZRNK Zerenda 75.27 327 *e*P **P** **13 44 59.3 -1.1**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ZRNK Zerenda 75.27 327 *e*P **P** **13 44 59.3 -1.1**
comp=Z,5.6nm,0.9s,mb4.5
BILL Bilibino 75.96 14 ⇓*e*P **P** **13 45 07.2 +2.8**
BILL *e* 13 55 17.4
BILL pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BILL Bilibino 75.96 14 P **P** **13 45 01.2 -3.1**
VNDA Vanda 76.04 173 P **P** **13 45 05.0 +0.2**
comp=Z,2.3nm,0.9s,mb4.1,baz=308,slow=6.3,SNR=7.1
VNDA LR LR 14 17 31.6
comp=Z,106nm,21.7s,MS4.1,baz=292,slow=35
VNDA Vanda 76.04 173 *e*P **P** **13 45 03.8 -1.0**
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 76.04 173 *e*P **P** **13 45 03.8 -1.0**
comp=Z,3.0nm,1.0s,mb4.2
SBA Scott Base 76.93 172 *e*P **P** **13 45 09.3 -0.6**
SBA pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
SBA Scott Base 76.93 172 *e*P **P** **13 45 09.3 -0.5**
comp=Z,5.0nm,1.2s,mb4.3
MAW Mawson 77.83 201 *e*P **P** **13 45 17.9 +3.0**
MAW pmax pmax
comp=Z,10.0nm,1.3s
MAW Mawson 77.83 201 *e*P **P** **13 45 17.9 +3.0**
comp=Z,9.5nm,1.3s,mb4.6
SVE Sverdlovsk 81.25 329 *e*P **P** **13 45 33.5 0.0**
ARU Arti 82.20 328 *e*P **P** **13 45 35.0 -3.5**
ARU *e* 13 48 42.6
ARU *e*S S 13 55 47.2 -2.6
ARU *e*SS SS 14 01 03.3 -7.0
ARU Arti 82.20 328 P **P** **13 45 34.9 -3.6**
QSPA South Pole Qui 86.47 180 *e*P **P** **13 45 59.4 -0.7**
comp=Z,9.0nm,1.2s,mb4.9
TORD Torodi Ar. Bea 127.05 284 PKP PKPdf 13 52 24.4 +3.1
comp=Z,1.2nm,0.8s,baz=116,slow=3.4,SNR=6.5
CPUP Villa Florida 149.74 169 PKPbc PKPbc 13 53 11.1 +4.0
comp=Z,3.4nm,0.7s,baz=197,slow=0.8,SNR=5.4
CPUP Villa Florida 149.74 169 *e*PKPdf PKPdf 13 53 03.9 +1.6
CPUP *e*PKPbc PKPbc 13 53 09.5 +2.5
CPUP PKPbc PKPbc 13 53 11.1 +4.0
LPAZ La Paz 154.08 140 PKPab PKPab 13 53 34.0 +3.4
comp=Z,1.2nm,0.8s,baz=220,slow=4.3,SNR=4.6

*ISCJB **02** 13:39:28.0±1.7,323N±0.1×1413E±0.1,h43km±19km, mb3.6/3,MS3.9/2,Error ellipse: s-maj=19.0km s-min=16.2km az=42.0*
*IDC **02** 13:39:28.4±1.7,3190N×14004E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/19,mbtmp3.4/4,ML3.2/1,MS3.8/2, Ms1 3.8/2,ms1mx2.9/22,Error ellipse: s-maj=76.8km s-min=16.1km az=83.0*
*JMA **02** 13:39:29.2±0.3,3251N×14129E,h26km,M3.3*
ISC 02 13:39:29.8±1.7,324N±0.1×1413E±0.1,h39km±21km,n17, σ0§91/20,mb3.6/3,MS3.9/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.44**	**302**	P	**Pn**	**13 39 53.2**	**-0.1**
JHJ2				S	**Sn**	**13 40 11.3**	**+0.3**
JHJ	**Hachijo jima 2**	**1.47**	**302**	Pn	**Pn**	**13 39 53.2**	**-0.5**
	89nm,0.3s,baz=78,slow=18,SNR=22						
JHJ				Sn	**Sn**	**13 40 10.8**	**-1.0**
	39nm,0.3s,baz=106,slow=23,SNR=6.6						
BSO1	**Boso 1**	**2.30**	**354**	P	**Pn**	**13 40 04.8**	**-0.4**
BSO3	**Boso 3**	**2.52**	**346**	P	**Pn**	**13 40 07.6**	**-0.6**
JKO	**Kozu shima**	**2.56**	**316**	P	**Pn**	**13 40 08.8**	**+0.1**
JIM2	**Oshima 3**	**2.81**	**327**	P	**Pn**	**13 40 11.8**	**-0.4**
JIM2				*e*S	**Sn**	**13 40 38.6**	**-6.3**
JIZS	**Izushimoda**	**3.09**	**320**	P	**Pn**	**13 40 16.5**	**+0.5**
JOD2	**Odawara 2**	**3.42**	**328**	P	**Pn**	**13 40 19.4**	**-1.2**
JYN	**Shimob**	**3.87**	**325**	P	**Pn**	**13 40 27.8**	**+1.1**
JYN				*e*S	**Sn**	**13 41 12.9**	**+2.0**
JRY	**Ryogami san**	**4.14**	**332**	P	**Pn**	**13 40 30.8**	**+0.3**
JAG	**Ashikaga**	**4.33**	**340**	P	**Pn**	**13 40 34.2**	**+1.2**
JAG				S	**Sn**	**13 41 18.8**	**-3.4**
MJAR	**Matsushiro Arr**	**4.88**	**330**	Pn	**Pn**	**13 40 41.4**	**+0.7**
	0.9nm,0.3s,baz=162,slow=14,SNR=12						
MKAR	**Makanchi Array**	**46.63**	**306**	P	**P**	**13 47 53.9**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=91,slow=7.8,SNR=4.7						
WRA	**Warramunga Arr**	**52.43**	**188**	P	**P**	**13 48 37.9**	**-0.5**
	0.4nm,0.4s,mb3.7,baz=5.2,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**56.15**	**188**	P	**P**	**13 49 06.1**	**+0.6**
	0.2nm,0.7s,mb3.3,baz=11,slow=10,SNR=3.7						
DZM	**Mont Dzumac**	**59.23**	**153**	LR	LR	14 11 58.5	
	comp=Z,142nm,18.3s,MS4.1,baz=46,slow=33						
GNI	**Garni**	**74.44**	**308**	LR	LR	14 24 17.5	
	comp=Z,34nm,20.4s,MS3.6,baz=138,slow=36						

IDC 02 13:45:10.2±32.0,2008S×17791W,h397km±288km, mb3.3/4,mb1 3.5/4,mb1mx3.2/12,mbtmp4.1/4,Error ellipse: s-maj=177.7km s-min=105.7km az=68.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.05**	**244**	P	P	13 51 52.3	0.0
	1.3nm,0.4s,baz=97,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**44.70**	**256**	P	P	13 52 45.9	+0.2
	2.5nm,0.5s,baz=91,slow=8.2,SNR=41						
ASAR				PcP	PcP	13 54 20.0	-0.1
	0.3nm,0.6s,baz=111,slow=5.1,SNR=4.2						
WB2	**Warramunga Arr**	**44.73**	**262**	*e*P	P	13 52 46.0	+0.1
WRA	**Warramunga Arr**	**44.74**	**262**	P	P	13 52 46.4	+0.4
	0.9nm,0.3s,baz=97,slow=7.1,SNR=60						
FITZ	**Fitzroy Crossi**	**53.17**	**262**	P	P	13 53 49.5	+0.5
	1.1nm,0.6s,baz=149,slow=5.9,SNR=6.7						
AKASG	**Malin Array Be**	**142.69**	**331**	PKP	PKPdf	14 03 56.4	-0.4
	0.8nm,0.4s,baz=40,slow=3.7,SNR=6.9						

*STR **02** 13:47:45.9±0.3,4305N×037W,h9km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 13:47:46.6±0.0,4307N×036W,h6km,Md1.9/3,Ml2.0/4, Error ellipse: s-maj=1.0km s-min=0.7km az=167.0*
MDD 02 13:47:47.0±0.3,4310N×035W,h0km,mbLg1.4/8,1C, Error ellipse: s-maj=3.2km s-min=1.7km az=178.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.04**	**228**	Pg	Pg	13 47 48.2	+0.4
REYF				Sg	Sg	13 47 49.2	+0.8
REYF	**Montagne du Re**	**0.04**	**228**	P	Pg	13 47 48.3	+0.5
REYF				S	Sg	13 47 49.4	+1.0
ETSF	**Etsaut**	**0.25**	**218**	*e*Pg	Pg	13 47 51.4	-0.4
ETSF				*e*Sg	Sg	13 47 54.6	-0.5
	14nm,0.3s						
ETSF	**Etsaut**	**0.25**	**218**	Pg	Pg	13 47 51.4	-0.4
ETSF				Lg		13 47 54.6	
	7.2nm,0.3s						
ATE	**Arette**	**0.26**	**268**	Pg	Pg	13 47 51.6	-0.4
ATE				Sg	Sg	13 47 55.4	+0.1
ATE	**Arette**	**0.26**	**268**	P	Pg	13 47 51.5	-0.4
ATE				S	Sg	13 47 55.0	-0.3
LABF	**Labassere**	**0.32**	**99**	Pg	Pg	13 47 52.5	-0.6
LABF				Sg	Sg	13 47 57.6	+0.4
LABF	**Labassere**	**0.32**	**99**	P	Pg	13 47 52.7	-0.4
LABF				S	Sg	13 47 57.7	+0.5
FDAF	**Les Forges d'A**	**0.32**	**210**	P	Pg	13 47 52.7	-0.5
FDAF				S	Sg	13 47 57.4	+0.1
VIEF	**Viey**	**0.35**	**128**	Pg	Pg	13 47 53.2	-0.5
VIEF				Sg	Sg	13 47 57.9	-0.3
VIEF	**Viey**	**0.35**	**128**	P	Pg	13 47 53.3	-0.4
VIEF				S	Sg	13 47 58.0	-0.2
LARF	**Larrau**	**0.47**	**263**	Pg	Pg	13 47 54.5	-1.6
LARF	**Larrau**	**0.47**	**263**	P	Pg	13 47 54.7	-1.4
LARF				S	Sg	13 48 02.0	-0.1
EPF	**Esparros**	**0.51**	**97**	*e*Pg	Pg	13 47 56.4	-0.4
EPF				*e*Sg	Sg	13 48 03.1	-0.3
	5.1nm,0.3s						
EPF	**Esparros**	**0.51**	**97**	Pg	Pg	13 47 56.4	-0.4
EPF				Lg		13 48 03.1	
	2.5nm,0.3s						
EBIE	**Bielsa**	**0.55**	**138**	⇑Pg	Pg	13 47 56.9	-0.7
	0.5nm,0.1s,SNR=18						
EBIE				Lg		13 48 03.9	
	9.3nm,0.1s,SNR=35						
RESF	**Ens**	**0.58**	**120**	S	Sg	13 48 05.7	-0.1
SJPF	**Ste Jean**	**0.64**	**272**	*e*Pg	Pg	13 47 58.7	-0.6
SJPF				*e*Sg	Sg	13 48 07.2	-0.4
	1.5nm,0.2s						
SJPF	**Ste Jean**	**0.64**	**272**	Pg	Pg	13 47 58.7	-0.6
SJPF				Lg		13 48 07.2	
	0.8nm,0.2s						
EALK	**Alkurruntz**	**0.85**	**279**	Pg	Pg	13 48 03.1	-0.3
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		13 48 14.2	
	1.7nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.86**	**275**	Lg		13 48 13.9	
	2.1nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.96**	**251**	Lg		13 48 20.0	
	2.5nm,0.2s,SNR=4.0						
SALF	**Salau**	**1.18**	**106**	S	Sg	13 48 24.9	-0.1
ESAC	**San Caprasio**	**1.38**	**184**	Pg	Pg	13 48 13.0	-0.5
	2.1nm,0.1s,SNR=7.9						
ESAC				Lg		13 48 31.5	
	12nm,0.3s,SNR=5.7						
MTLF	**Montolieu**	**1.89**	**82**	*e*Pg	Pg	13 48 22.1	-1.2
MTLF				*e*Sg	Sg	13 48 46.1	-1.8
	1.1nm,0.3s						
MTLF	**Montolieu**	**1.89**	**82**	Pg	Pg	13 48 22.1	-1.2
MTLF				Lg		13 48 46.1	
	0.6nm,0.3s						
LFF	**La Frestale**	**2.00**	**23**	*e*Pg	Pg	13 48 24.5	-0.9
LFF				*e*Sg	Sg	13 48 50.6	-0.8
	6.0nm,0.3s						
LFF	**La Frestale**	**2.00**	**23**	Pg	Pg	13 48 24.5	-0.9
LFF				Lg		13 48 50.6	
	3.0nm,0.3s						
EPOB	**Poblet**	**2.04**	**148**	Pg	Pg	13 48 23.6	-2.5
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		13 48 50.8	
	0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.20**	**166**	Pn	Pn	13 48 24.8	0.0
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		13 48 55.1	
	2.6nm,0.3s,SNR=7.9						
CAF	**Calviac**	**2.52**	**43**	*e*Pg	Pg	13 48 34.2	-1.2
CAF				*e*Sg	Sg	13 49 06.7	-1.5
	1.3nm,0.2s						
CAF	**Calviac**	**2.52**	**43**	Pg	Pg	13 48 34.2	-1.2
CAF				Lg		13 49 06.7	
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**31**	*e*Pg	Pg	13 48 34.9	-1.7
RJF				*e*Sg	Sg	13 49 08.8	-1.2
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.58**	**31**	Pg	Pg	13 48 34.9	-1.7
RJF				Lg		13 49 08.8	
	0.4nm,0.2s						

IDC 02 13:52:50.4±3.6,586S×15020E,h0km,mb3.5/3,mb1 3.8/4, mb1mx3.6/14,mbtmp3.6/4,ML2.7/1,MS2.9/1,Ms1 2.9/1, ms1mx2.4/21,Error ellipse: s-maj=111.9km s-min=44.1km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.64**	**220**	Pn	Pn	13 54 01.8	+0.1
	2.4nm,0.3s,baz=34,slow=8.4,SNR=15						
PMG				Sn	Sn	13 54 51.5	-4.8
	4.0nm,0.3s,baz=141,slow=13,SNR=4.9						
PMG				LR	LR	13 55 48.9	
	comp=Z,135nm,18.6s,baz=20,slow=38						
WB2	**Warramunga Arr**	**20.82**	**226**	*e*P	P	13 57 32.1	-1.3
WRA	**Warramunga Arr**	**20.83**	**226**	P	P	13 57 32.3	-1.2
	2.6nm,0.8s,baz=53,slow=11,SNR=20						
ASAR	**Alice Springs**	**23.65**	**220**	P	P	13 58 05.0	+1.5
	0.4nm,0.4s,baz=55,slow=9.2,SNR=9.7						
FITZ	**Fitzroy Crossi**	**26.89**	**241**	P	P	13 58 33.3	+0.4
	0.5nm,0.5s,baz=58,slow=9.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**148.13**	**285**	PKPbc	PKPbc	14 12 38.4	+0.3
	0.3nm,0.6s,baz=62,slow=2.1,SNR=4.4						

*ISCJB **02** 14:04:05.7±0.9,2417S±005×669W±0.1,h181km±13km, mb3.4/1,Error ellipse: s-maj=17.6km s-min=7.2km az=14.6*
*IDC **02** 14:04:05.8±1.6,2416S×6693W,h173km±15km,mb3.4/1, mb1 3.5/5,mb1mx3.3/18,mbtmp3.9/5,Error ellipse: s-maj=24.3km s-min=13.3km az=103.0*
*NEIC **02** 14:04:06.8±0.9,2410S×6692W,h184km±10km,mb3.3/1, Error ellipse: s-maj=15.4km s-min=8.5km az=95.0*
ISC 02 14:04:06.7±0.9,2415S±005×669W±01,h171km±13km,n15, σ0§87/17,mb3.4/1,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**14 05 53.7**	**+0.1**
	0.1nm,0.3s,baz=346,slow=11,SNR=7.6						
CFAA				S	**Sn**	**14 07 14.9**	**-3.1**
	0.2nm,0.3s,baz=156,slow=18,SNR=9.4						
CFAA	**Coronel Fontan**	**7.52**	**189**	P	**Pn**	**14 05 53.7**	**+0.1**
CFAA				S	**Sn**	**14 07 14.9**	**-3.1**
LPAZ	**La Paz**	**7.91**	**351**	P	**Pn**	**14 05 59.6**	**+0.8**
	0.8nm,0.3s,baz=152,slow=7.4,SNR=17						
LPAZ				S	**Sn**	**14 07 27.8**	**+0.5**
	0.4nm,0.3s,baz=332,slow=11,SNR=4.0						
LPAZ	**La Paz**	**7.91**	**351**	P	**Pn**	**14 05 59.6**	**+0.8**
LPAZ				S	**Sn**	**14 07 27.8**	**+0.5**
CPUP	**Villa Florida**	**8.91**	**106**	P	**Pn**	**14 06 12.6**	**+0.7**
	0.4nm,0.3s,baz=274,slow=12,SNR=4.3						
SIV	**San Ignacio**	**9.78**	**35**	P	**Pn**	**14 06 22.5**	**-0.8**
	0.6nm,0.3s,baz=216,slow=14,SNR=12						
SIV				S	**Sn**	**14 08 11.3**	**-0.7**
	baz=180,slow=17,SNR=2.8						
TRQA	**Tornquist**	**14.48**	**164**	*e*Pn	**Pn**	**14 07 24.9**	**+1.3**
SAML	**Samuel**	**15.52**	**14**	*e*Pn	**Pn**	**14 07 35.7**	**-0.8**
	1.1nm,0.8s						
BDFB	**Brasilia**	**19.64**	**68**	P	**P**	**14 08 22.8**	**+0.7**
	1.0nm,0.3s,baz=238,slow=9.3,SNR=16						
VNA3	**Neumayer Olymp**	**56.97**	**161**	*e*	**P**	**14 13 34.5**	**+0.3**
VNA3				*e*		14 13 35.3	
VNA3				*e*		14 13 36.3	
SNAA	**Sanae**	**59.17**	**161**	*e*	**P**	**14 13 49.0**	**-0.5**
SNAA				*e*		14 13 50.5	
TORD	**Torodi Ar. Bea**	**76.52**	**69**	P	**P**	**14 15 37.2**	**-0.5**
	0.5nm,0.5s,mb3.4,baz=259,slow=5.6,SNR=14						
ASAR	**Alice Springs**	**128.37**	**205**	PKP	PKPdf	14 22 52.7	-0.1
	0.4nm,0.5s,baz=142,slow=2.1,SNR=8.8						
WRA	**Warramunga Arr**	**131.54**	**207**	PKP	PKPdf	14 22 58.7	-0.2
	0.5nm,0.4s,baz=155,slow=1.8,SNR=24						
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	PKPbc	14 23 25.6	-2.3
	1.1nm,0.5s,baz=331,slow=4.5,SNR=6.0						

*IDC **02** 14:15:35.4±2.3,2465N×122.16E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=170.3km s-min=28.0km az=65.0*
*JMA **02** 14:15:35.8±0.4,2494N×12261E,h32km,M3.1*
*NEIC **02** 14:15:36.4±0.9,2482N×12260E,h10km,mb4.0/2,Error ellipse: s-maj=12.8km s-min=9.6km az=143.0*
*ISCJB **02** 14:15:37.3±1.3,249N±0.1×12265E±006,h30km±11km, mb3.6/5,Error ellipse: s-maj=19.2km s-min=7.5km az=37.5*
ISC 02 14:15:36.9±1.2,248N±01×12260E±007,h19km±10km,n14, σ0§97/16,mb3.6/5,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.51**	**132**	P	**Pg**	**14 15 47.5**	**+0.4**
YOJ				S	**Sg**	**14 15 55.7**	**+1.7**
TATO	**Taipei**	**1.02**	**280**	*e*Pg	**Pg**	**14 15 56.1**	**-0.6**
NACB	**Ninganchiao**	**1.10**	**236**	*e*Pg	**Pg**	**14 15 58.1**	**-0.2**
YHNB	**Yeheng**	**1.12**	**264**	*e*Pg	**Pg**	**14 15 57.9**	**-0.7**
IRIF	**Iriomote-Funau**	**1.13**	**114**	P	**Pn**	**14 15 56.1**	**-1.7**
IRIF				*e*S	**Sb**	**14 16 12.2**	**0.0**
HATJ	**Hateruma jima**	**1.33**	**124**	P	**Pn**	**14 16 00.2**	**-0.3**
JKRS	**Kuro-shima**	**1.40**	**113**	P	**Pn**	**14 16 00.5**	**-1.0**
JIJ	**Ishigaki jima**	**1.48**	**107**	P	**Pn**	**14 16 00.9**	**-1.6**
JTJ	**Tarama**	**1.92**	**94**	P	**Pn**	**14 16 08.4**	**-0.2**
ULN	**Ulaanbaatar**	**26.11**	**336**	P	**P**	**14 21 10.9**	**+1.3**
	1.7nm,0.9s,mb3.6						
SONM	**Songino Array**	**26.33**	**335**	P	**P**	**14 21 12.7**	**+1.1**
	0.6nm,0.7s,mb3.2,baz=147,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**38.80**	**315**	P	**P**	**14 23 00.3**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=102,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**45.92**	**165**	P	**P**	**14 23 59.6**	**+1.3**
	0.5nm,0.8s,mb3.5,baz=345,slow=8.3,SNR=4.5						
ZRNK	**Zerenda**	**48.81**	**320**	*e*P	**P**	**14 24 21.4**	**+0.5**
	2.0nm,0.9s,mb4.2						

*IDC **02** 14:17:38.4±1.7,2490N×12264E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.7/19,mbtmp3.7/6,MS3.9/1,Ms1 3.9/1, ms1mx2.4/25,Error ellipse: s-maj=19.0km s-min=19.9km az=65.0*
*ISCJB **02** 14:17:39.4±0.5,2489N±007×12251E±005,h10km, mb3.9/10,MS4.0/1,Error ellipse: s-maj=11.2km s-min=4.8km az=50.5*
*NEIC **02** 14:17:39.5±0.8,2490N×12260E,h10km,mb4.4/3,Error ellipse: s-maj=13.0km s-min=11.8km az=135.0*
*JMA **02** 14:17:40.4±0.4,2478N×12253E,h0km,M3.4*
*BJI **02** 14:17:49.6,2575N×12259E,h5km,mB4.0,mb3.9,Ms4.3, Msz4.5*
ISC 02 14:17:40.6±1.2,249N±01×12253E±006,h11km±8km,n21, σ0§92/22,mb3.9/10,MS4.0/1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.58	132	P	Pg	14 17 51.2	-0.7
YOJ				S	Sg	14 17 58.7	-0.9
TATO	Taipei	0.96	277	ePg	Pg	14 17 59.5	+0.5
YHNB	Yeheng	1.07	260	ePg	Pg	14 18 01.5	+0.3
NACB	Ninganchiao	1.09	232	ePg	Pg	14 18 01.8	+0.3
IRIF	Iriomote-Funau	1.21	115	P	Pn	14 18 02.3	-1.1
IRIF				S	Sb	14 18 19.1	+0.1
HATJ	Hateruma jima	1.40	124	P	Pn	14 18 07.8	+1.7
JKRS	Kuro-shima	1.48	114	P	Pn	14 18 08.6	+1.5
JIJ	Ishigaki jima	1.54	108	P	Pn	14 18 09.1	+1.1
GTA	Gaotai	24.01	313	eP	P	14 23 01.5	+6.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.7						
KSM	Kuching	26.07	209	P	P	14 23 13.4	-0.6
SONM	Songino Array	26.26	335	P	P	14 23 16.4	+0.7
	comp=Z,1.1nm,0.9s,mb3.4,baz=153,slow=10.0,SNR=6.1						
MKAR	Makanchi Array	38.73	315	P	P	14 25 04.3	-0.4
	comp=Z,1.4nm,0.8s,mb3.8,baz=97,slow=9.9,SNR=5.9						
MKAR	Makanchi Array	38.73	315	P	P	14 25 04.3	-0.4
WRAB	Tennant Creek	45.98	164	P	P	14 26 07.9	+4.2
	comp=Z,5.1nm,1.0s,mb4.4						
WRA	Warramunga Arr	45.98	164	P	P	14 26 03.2	-0.6
	comp=Z,1.1nm,0.8s,mb3.8,baz=346,slow=8.5,SNR=6.2						
BVAR	Borovoye Array	47.94	320	P	P	14 26 19.1	0.0
	comp=Z,0.7nm,0.7s,mb3.8,baz=91,slow=10,SNR=4.0						
BRVK	Borovoye	48.02	320	P	P	14 26 15.8	-3.9
	comp=Z,5.3nm,1.5s,mb4.3						
ZRNK	Zerenda	48.74	320	eP	P	14 26 24.6	-0.6
	comp=Z,4.1nm,1.2s,mb4.3						
ASAR	Alice Springs	49.48	166	P	P	14 26 31.4	+0.6
	comp=Z,0.3nm,0.8s,mb3.4,baz=349,slow=8.8,SNR=2.8						
NOA	NORSAR Array B	78.21	332	P	P	14 29 38.4	-1.8
	comp=Z,0.6nm,0.7s,mb3.6,baz=60,slow=5.3,SNR=3.5						
GERES	GERESS Array B	83.10	321	LR	LR	15 11 32.6	
	comp=Z,68nm,18.9s,MS4.0,baz=268,slow=39						

---

*IDC **02** 14:19:14.9±1.0, 24.81N×122.30E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML2.8/1, MS3.8/6, Ms1 3.7/6, ms1mx3.2/25, Error ellipse: s-maj=43.2km s-min=18.7km az=62.0*

*ISCJB **02** 14:19:19.6±1.0, 24.80N±0.08×122.48E±0.09, h52km±10km, mb4.0/11, MS3.9/5, Error ellipse: s-maj=14.3km s-min=13.0km az=101.7*

*NEIC **02** 14:19:20.7±0.9, 24.82N×122.41E, h44km±9km, mb4.4/3, Error ellipse: s-maj=11.6km s-min=10.0km az=219.0*

*BJI **02** 14:19:20.9, 24.89N×122.99E, h61km, mB4.6, mb4.1, Ms4.7, Msz4.5*

ISC 02 14:19:20.8±1.0**, 24.80N**±0.08×**122.41E**±0.09**, h44**km±10km**, n21, σ0.91**/18**, mb4.0**/11**, MS3.9**/5**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	Taipei	0.85	282	ePg	Pn	14 19 35.7	-0.7
YHNB	Yeheng	0.95	262	ePg	Pn	14 19 37.8	0.0
NACB	Ninganchiao	0.97	230	ePg	Pn	14 19 38.4	+0.3
JOW	Kunigami	5.66	68	Pn	Pn	14 20 42.2	-0.1
	0.6nm,0.3s,baz=260,slow=9.4,SNR=4.8						
JHJ	Hachijo jima 2	17.30	57	LR	LR	14 29 42.0	
	comp=Z,197nm,19.8s,baz=322,slow=36						
MJAR	Matsushiro Arr	17.90	45	LR	LR	14 29 39.5	
	comp=Z,151nm,19.0s,baz=165,slow=35						
CN2	Changchun	19.11	7	eP	Pn	14 23 41.6	+0.4
LZH	Lanzhou	19.53	310	eP	Pn	14 23 53.0	+6.9
LZH				AP	pP	14 24 02.0	+7.0
LZH				XP	sP	14 24 07.5	+6.9
LZH				AMB	AMB		
	comp=Z,19nm,1.0s						
GTA	Gaotai	23.96	313	eP	P	14 24 32.8	+1.8
GTA				PP		14 25 08.0	
GTA				S	S	14 28 49.8	+5.1
GTA				SS		14 29 43.3	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,129nm,4.6s						
GTA				LR	LR		
	comp=N,624nm,9.1s						
GTA				LR	LR		
	comp=E,851nm,9.9s						
GTA				LR	LR		
	comp=Z,888nm,11.0s,MS4.5						
ASAJ	Asahikawa	25.34	36	LR	LR	14 34 56.1	
	comp=Z,316nm,18.3s,MS3.9,baz=354,slow=37						
SONM	Songino Array	26.25	335	P	P	14 24 52.4	+0.6
	comp=Z,2.1nm,0.8s,mb3.7,baz=162,slow=10,SNR=7.2						
SONM				LR	LR	14 35 35.6	
	comp=Z,358nm,19.8s,MS3.9,baz=315,slow=37						
MKAR	Makanchi Array	38.68	315	P	P	14 26 40.6	+0.4
	comp=Z,1.5nm,0.6s,mb3.9,baz=95,slow=11,SNR=5.7						
ZAL	Zalesovo	40.35	326	P	P	14 26 53.6	-0.6
	comp=Z,1.3nm,0.7s,mb3.8						
ZAL				LR	LR	14 43 11.7	
	comp=Z,89nm,20.6s,MS3.6,baz=351,slow=36						
WRAB	Tennant Creek	45.96	164	P	P	14 27 38.5	-1.0
	comp=Z,7.2nm,1.0s,mb4.6						
WRA	Warramunga Arr	45.97	164	P	P	14 27 39.0	-0.5
	comp=Z,1.8nm,1.0s,mb4.0,baz=347,slow=8.8,SNR=5.4						
BVAR	Borovoye Array	47.91	320	P	P	14 27 54.0	-0.7
	comp=Z,0.9nm,0.7s,mb3.9,baz=104,slow=11,SNR=4.8						
BRVK	Borovoye	47.98	320	eP	P	14 27 55.2	0.0
	comp=Z,3.0nm,1.1s,mb4.2						
ZRNK	Zerenda	48.70	320	eP	P	14 28 01.0	+0.2
	comp=Z,4.6nm,1.1s,mb4.4						
ASAR	Alice Springs	49.45	166	P	P	14 28 08.4	+1.9
	comp=Z,0.3nm,0.6s,mb3.5,baz=351,slow=10,SNR=3.8						
FINES	FINESS Array B	71.48	330	P	P	14 30 34.8	-2.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=46,slow=8.2,SNR=5.3						
PDAR	Pinedale Array	97.47	36	LR	LR	15 16 59.3	
	comp=Z,35nm,20.2s,MS3.8,baz=260,slow=36						

---

*MDD **02** 14:27:44.9±0.8, 36.70N×7.45W, h40km±23km, mb4.3/6, Error ellipse: s-maj=9.5km s-min=4.6km az=30.0, PRXIMO*

*IGIL **02** 14:27:45.1, 36.70N×7.50W, h26km, ML2.2*

INMG 02 14:27:45.0±1.1**, 36.67N×7.47W, h31**km±8km**, ML2.2, 1D, Error ellipse: s-maj=3.9km s-min=3.3km az=39.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGRO	El Granado	0.86	359	⇓P	Pn	14 27 59.7	-1.3
	8.0nm,0.1s,SNR=18						
EGRO				S	Sn	14 28 10.5	-2.1
	149nm,0.2s,SNR=17						
MORF	Marmelete	1.14	304	eP	Pn	14 28 03.4	-1.3
MORF				eS	Sn	14 28 16.8	-2.5
MORF				eS	Sn	14 28 16.8	-2.5
MORF				AML	AML	14 28 18.1	
	comp=N,40nm,0.1s						
MORF	Marmelete	1.14	304	eP	Pn	14 28 03.4	-1.4
MORF				eS	Sn	14 28 16.8	-2.5
EMIN	Mina Concepcio	1.27	30	P	Pn	14 28 04.9	-1.7
	comp=N,0.8nm,0.1s,SNR=12						
EMIN				S	Sn	14 28 18.9	-3.6
	comp=N,13nm,0.1s,SNR=18						
ESPR	Espera	1.31	81	P	Pn	14 28 05.9	-1.3
	comp=N,3.2nm,0.1s,SNR=23						
ESPR				S	Sn	14 28 20.7	-3.0
	comp=N,51nm,0.2s,SNR=7.4						
PTEO	Sao Teotonio	1.33	312	eP	Pn	14 28 06.4	-1.0
PTEO				eS	Sn	14 28 22.0	-2.0
PTEO							
	comp=N,8.8nm,0.1s						
PBEJ	Beja	1.39	347	eP	Pn	14 28 06.9	-1.3
PBEJ				eS	Sn	14 28 23.2	-2.3
PBEJ							
	comp=N,8.6nm,0.1s						
EJIF	Jimena Fronter	1.63	97	P	Pn	14 28 10.6	-0.9
	comp=N,0.4nm,0.2s,SNR=7.9						
EJIF				S	Sn	14 28 28.8	-2.6
	comp=N,1.7nm,0.3s,SNR=4.0						
EBAD	Badajoz	2.11	10	P	Pn	14 28 16.6	-1.6
	comp=N,0.6nm,0.0s,SNR=7.5						
EBAD				S	Sn	14 28 40.4	-3.0
	comp=N,15nm,0.1s,SNR=6.9						
EMIJ	Mijas	2.17	92	S	Sn	14 28 42.3	-2.6
	comp=N,2.4nm,0.2s,SNR=7.9						
PESTR	Estremoz	2.19	358	ePn	Pn	14 28 17.9	-1.4
PESTR				eSn	Sn	14 28 42.5	-2.9
PESTR							
	comp=N,3.5nm,0.2s						
PMAFR	Mafra	2.69	328	eSn	Sn	14 28 54.8	-2.9
ELOJ	Sierra Loja	2.70	79	S	Sn	14 28 55.0	-3.0
	comp=N,1.2nm,0.2s,SNR=7.9						
ELUQ	Luque	2.71	70	P	Pn	14 28 24.6	-1.8
	comp=N,0.5nm,0.1s,SNR=7.9						
ELUQ				S	Sn	14 28 54.8	-3.4
	comp=N,2.0nm,0.1s,SNR=7.9						
EADA	Adamuz	2.75	56	P	Pn	14 28 25.6	-1.3
	comp=N,1.2nm,0.1s,SNR=23						
EADA				S	Sn	14 28 54.3	-4.7
	comp=N,1.5nm,0.2s,SNR=7.9						
PTOM	Tomar	3.04	346	ePn	Pn	14 28 29.5	-1.4
PTOM				eSn	Sn	14 29 02.5	-3.6
PTOM							
	comp=N,10nm,0.1s						
EGUA	Guajares	3.14	86	S	Sn	14 29 05.5	-3.3
	comp=N,0.5nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	3.17	360	ePn	Pn	14 28 31.0	-1.7
PCBR				eSn	Sn	14 29 05.7	-3.6
PCBR							
	comp=N,8.3nm,0.1s						
EQUE	Quentar	3.27	79	P	Pn	14 28 33.2	-0.9
	comp=N,0.1nm,0.1s,SNR=7.9						
EQUE				S	Sn	14 29 07.9	-4.1
	comp=N,2.2nm,0.3s,SNR=7.9						
EBAN	Banos Encina	3.29	62	P	Pn	14 28 32.8	-1.6
	comp=N,3.0nm,0.1s,SNR=6.2						
EBAN				S	Sn	14 29 06.7	-5.8
	comp=N,2.5nm,0.1s						
EBER	Berja	3.69	85	S	Sn	14 29 18.4	-3.8
	comp=N,0.9nm,0.3s,SNR=7.9						
EQES	Quesada	3.69	71	P	Pn	14 28 38.6	-1.2
	comp=N,0.4nm,0.1s,SNR=7.9						
EQES				S	Sn	14 29 18.8	-3.5
	comp=N,0.9nm,0.1s,SNR=7.9						
PVIS	Viseu	4.05	355	eSn	Sn	14 29 26.8	-4.4
PVIS							
	comp=N,7.4nm,0.1s						
PVIS	Viseu	4.05	355	S	Sn	14 29 26.8	-4.4
	comp=N,3.7nm,0.1s						
ESDC	Sonseca Array	4.08	42	P	Pn	14 28 43.8	-1.5
	comp=N,3.4nm,0.1s,baz=224,slow=13,SNR=7.9						
ESDC				S	Sn	14 29 25.4	-6.5
	comp=N,0.9nm,0.2s,baz=225,slow=24,SNR=7.9						
EVIA	Vianos	4.41	62	P	Pn	14 28 47.6	-2.1
	comp=N,2.0nm,0.1s,SNR=6.5						
EVIA				S	Sn	14 29 34.1	-5.9
	comp=N,1.7nm,0.1s						
PVRL	Vila Real	4.60	358	eSn	Sn	14 29 39.7	-5.1
PVRL							
	comp=N,5.2nm,0.1s						
PVRL	Vila Real	4.60	358	S	Sn	14 29 39.7	-5.1
	comp=N,2.6nm,0.1s						
GUD	Guadarrama	4.74	32	P	Pn	14 28 53.6	-0.8
	comp=N,0.3nm,0.2s,SNR=7.9						
PCAB	Cabril	5.05	355	eSn	Sn	14 29 50.5	-5.4
PCAB							
	comp=N,4.9nm,0.2s						
PCAB	Cabril	5.05	355	S	Sn	14 29 50.5	-5.4
	comp=N,2.5nm,0.2s						
ETOB	Tobarra	5.10	65	P	Pn	14 28 56.8	-2.4
	comp=N,0.2nm,0.2s,SNR=8.8						
ETOB				S	Sn	14 29 50.3	-6.7
	comp=N,1.5nm,0.1s,SNR=7.9						
PBRG	Braganca	5.16	6	eSn	Sn	14 29 53.1	-5.4
PBRG							
	comp=N,2.7nm,0.1s						
PBRG	Braganca	5.16	6	S	Sn	14 29 53.1	-5.4
	comp=N,1.4nm,0.1s						
ECAL	Calabor	5.29	6	P	Pn	14 29 01.3	-0.6
	comp=N,0.6nm,0.2s,SNR=7.9						
ECAL				S	Sn	14 29 56.2	-5.6
	comp=N,2.4nm,0.2s,SNR=7.9						
EBEN	Beniarda	6.10	68	P	Pn	14 29 11.7	-1.3
	comp=N,0.3nm,0.2s,SNR=7.9						
EBEN				S	Sn	14 30 14.4	-7.2
	comp=N,0.3nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	6.61	54	S	Sn	14 30 25.7	-8.6
	comp=N,0.1nm,0.1s,SNR=4.0						
EPON	Pontenova	6.65	2	S	Sn	14 30 29.4	-6.0
	comp=N,0.2nm,0.1s,SNR=4.0						
EARI	Arriondas	6.85	14	S	Sn	14 30 34.0	-6.1
	comp=N,0.1nm,0.1s,SNR=4.0						
EBIE	Bielsa	8.40	42	P	Pn	14 29 44.0	-0.5
	comp=N,0.1nm,0.3s,SNR=7.9						

---

*SZGRF **02** 15:04:23.1, 33.50N×138.77E, h33km, mb4.7, Southeast of Honshu, Japan*

*NIED **02** 15:05:00, 33.80N×137.00E, h340km, Mw4.5 Best double couple: M0 5.74000×10^15 NP1:φs338.00000°, δ80.00000°, λ-110.00000°. NP2:φs223.00000°, δ22.00000°, λ-27.00000°.*

*MOS **02** 15:05:00.9±0.8, 33.70N×136.89E, h352km, mb4.3/46, Error ellipse: s-maj=9.9km s-min=6.0km az=102.9*

*BJI **02** 15:05:01.1, 33.80N×137.00E, h363km, mB4.5, mb4.6*

*JMA **02** 15:05:02.4±0.1, 33.78N×137.01E, h366km±2km, M4.4*

*IDC **02** 15:05:02.2±0.7, 33.73N×136.87E, h349km±6km, mb4.0/18, mb1 4.2/21, mb1mx4.0/28, mbtmp4.7/21, Error ellipse: s-maj=12.1km s-min=8.7km az=74.0*

*NEIC **02** 15:05:02.9±0.4, 33.75N×136.93E, h356km±4km, mb4.4/55, Error ellipse: s-maj=5.1km s-min=3.6km az=135.0*

*ISCJB **02** 15:05:02.1±0.2, 33.74N±0.03×136.94E±0.03, h362km±1km, mb4.3/92, Error ellipse: s-maj=5.0km s-min=3.8km az=108.5*

ISC 02 15:05:03.0±0.2**, 33.77N**±0.03×**136.96E**±0.03**, h358**km±1km**, n234, σ0.89**/256**, mb4.3**/92**, 14C-18D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.53	91	P	Pn	15 05 48.7	+0.5
TK02	Tokai 2	0.69	75	⇓P	Pn	15 05 49.2	+0.7
JKN2	Miekihoku	0.73	310	⇓P	Pn	15 05 49.3	+0.6
JKN2				S	S	15 06 25.4	+0.1
JWZ	Kozaga	1.06	257	⇑P	Pn	15 05 50.2	+0.4
JWZ				S	S	15 06 26.8	-0.5
JWY	Kouya	1.22	292	S	S	15 06 28.8	+0.3
JHMK	Hamakita	1.23	32	P	Pn	15 05 50.9	+0.3
HMMJ	Hamamatsu 2	1.25	30	⇓P	Pn	15 05 51.1	+0.5
HMMJ				S	S	15 06 29.3	+0.5
JAO	Obara	1.51	9	⇓P	Pn	15 05 52.7	+0.7
JAO				S	S	15 06 32.7	+1.5
JNY	Yasuok	1.75	25	⇓P	Pn	15 05 53.8	+0.5
JGM	Miyama	1.93	354	⇓P	Pn	15 05 55.2	+0.7
JGM				S	S	15 06 36.2	+0.3
JWT	Wachi	1.98	320	S	S	15 06 35.9	-0.6
JAI	Aioi	2.08	271	⇑P	Pn	15 05 56.3	+0.7
JAI				S	S	15 06 38.0	+0.2
JYN	Shimob	2.16	37	⇓P	Pn	15 05 56.1	0.0
JOD2	Odawara 2	2.30	49	⇓P	Pn	15 05 57.1	-0.1
JHJ	Hachijo jima 2	2.45	105	P	Pn	15 05 58.8	+0.5
	154nm,0.3s,baz=222,slow=5.6,SNR=23						
JHJ				S	S	15 06 42.2	-0.6
	54nm,0.3s,baz=63,slow=23,SNR=2.8						
JHJ2	Mitsune	2.48	105	P	Pn	15 05 58.7	+0.1
JKG	Kaga	2.55	349	⇓P	Pn	15 05 59.4	+0.3
JMN	Monobe	2.56	270	⇑P	Pn	15 06 00.2	+1.0
JRY	Ryogami san	2.75	35	⇓P	Pn	15 06 00.8	0.0
JHU	Hanno	2.82	42	⇓P	Pn	15 06 01.0	-0.4
MJAR	Matsushiro Arr	2.95	20	P	Pn	15 06 02.2	-0.2
	43nm,0.3s,baz=194,slow=8.9,SNR=1083						
MJAR				S	S	15 06 48.0	-2.3
	baz=252,slow=25,SNR=1.6						
MJAR	Matsushiro Arr	2.95	20	P	Pn	15 06 02.3	-0.1
MJAR				S	S	15 06 48.0	-2.3
MJAR				pmax	pmax		
	comp=Z,43nm,0.3s						
MAJO	Matsushiro	2.95	20	eP	Pn	15 06 02.1	-0.3
MAJO				eS	S	15 06 50.6	+0.3
MAT	Matsushiro	2.95	20	P	Pn	15 06 02.3	-0.1
MAT				S	S	15 06 49.4	-0.9
BSO4	Boso 4	3.05	66	⇑P	Pn	15 06 02.4	-1.0
BSO3	Boso 3	3.12	70	P	Pn	15 06 02.0	-2.0
JAG	Ashikaga	3.34	37	⇓P	Pn	15 06 04.5	-1.6
BSO1	Boso 1	3.45	74	P	Pn	15 06 04.3	-2.7
CBIJ	Chichi jima	8.04	144	P	Pn	15 06 53.4	-4.3
	comp=Z,38nm,0.3s,baz=278,slow=20,SNR=11						
CBIJ				S	S	15 08 21.4	-10
	comp=Z,91nm,0.3s,baz=257,slow=23,SNR=14						
INCN	Inchon	9.18	297	ePn	Pn	15 07 12.6	+1.4
	comp=Z,106nm,0.8s						
INCN				eS	S	15 08 58.1	+2.0
ERM	Erimo	9.57	29	eP	Pn	15 07 13.7	-2.1
ERM				eS	S	15 08 53.9	-11
ERM				pmax	pmax		
	comp=Z,61nm,0.7s						
ERM	Erimo	9.57	29	ePn	Pn	15 07 13.7	-2.2
	comp=Z,61nm,0.7s						
ERM				eS	S	15 08 53.9	-11
VLA	Vladivostok	10.14	338	eP	Pn	15 07 22.7	+0.2
JOW	Kunigami	10.20	230	P	Pn	15 07 24.6	+1.3
	comp=Z,3.6nm,0.3s,baz=74,slow=10,SNR=6.4						
JOW				S	S	15 09 16.7	-1.8
	comp=Z,5.7nm,0.3s,baz=95,slow=20,SNR=12						
ASAJ	Asahikawa	11.22	21	P	Pn	15 07 34.5	-0.8
	comp=Z,9.4nm,0.3s,baz=235,slow=12,SNR=74						
ASAJ				S	S	15 09 38.0	-2.9
	comp=Z,1.6nm,0.3s,baz=64,slow=33,SNR=5.8						
ASAJ	Asahikawa	11.22	21	P	Pn	15 07 34.6	-0.8
ASAJ				S	S	15 09 38.0	-2.8
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
MDJ	Mudanjiang	12.23	334	P	P	15 07 47.0	+0.1
MDJ				AMB	AMB		
	comp=Z,11nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,66nm,5.5s						
MDJ	Mudanjiang	12.23	334	eP	P	15 07 46.6	-0.2
	comp=Z,6.4nm,0.6s						
SNY	Shenyang	13.28	311	⇑P	P	15 07 58.4	+0.1
SNY				AMB	AMB		
	comp=Z,14nm,1.2s						
CN2	Changchun	13.43	322	eP	P	15 08 01.6	+1.5
CN2				eXP		15 09 21.3	
CN2				eS	S	15 10 25.3	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
SSE	Sheshan	13.58	263	eP	P	15 08 00.9	-0.8
SSE				AMB	AMB		
	comp=Z,41nm,0.7s						
SSE				AMB	AMB		
	comp=Z,37nm,3.5s						
YSS	Yuzh-Sakhalins	13.88	17	⇑iP	P	15 08 06.9	+1.9
YSS				eS	S	15 10 33.5	-2.3
YSS				pmax	pmax		
	comp=N,90nm,0.6s						
YSS				pmax	pmax		
	comp=Z,90nm,0.6s						
YSS				smax			
	comp=N,60nm,1.0s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS	Yuzh-Sakhalins	13.88	17	eP	P	15 08 05.6	+0.6
	comp=E,92nm,0.5s						
HABR	Khabarovsk	14.76	355	eP	P	15 08 15.0	+0.4
HABR				eS	S	15 10 56.7	+3.4
NJ2	Nanjing	15.30	269	eP	P	15 08 21.7	+1.2
NJ2				AMB	AMB		
	comp=Z,90nm,0.7s						
KLR	Kul'dur	15.92	347	eP	P	15 08 22.2	-5.0
TATO	Taipei	16.07	241	P	P	15 08 29.8	+0.9
	comp=Z,26nm,0.8s						
YHNB	Yeheng	16.33	240	eP	P	15 08 31.3	-0.4
NACB	Ninganchiao	16.48	239	eP	P	15 08 33.1	-0.1
BJI	Beijing	17.74	297	eP	P	15 08 46.7	-0.1
BJI				AMB	AMB		
	comp=Z,25nm,0.7s						
BJT	Baijiatuau	17.74	297	eP	P	15 08 45.9	-0.9
BJT				pmax	pmax		
	comp=Z,24nm,0.5s						
BJT	Baijiatuau	17.74	297	eP	P	15 08 45.9	-0.9
	comp=Z,24nm,0.5s						
QZH	Quanzhou	18.25	246	P	P	15 08 52.0	-0.1
WHN	Wuhan	19.40	267	⇑P	P	15 09 04.3	0.0
HIA	Hailar	20.07	326	eP	P	15 09 09.0	-2.0
HIA				pmax	pmax		
	comp=Z,13nm,0.6s						
HIA	Hailar	20.07	326	eP	P	15 09 09.0	-2.0
	comp=Z,13nm,0.6s						
HHC	Hu-ho-hao-te	21.35	297	eP	P	15 09 22.7	0.0
HHC				XP	sP	15 11 03.1	-0.4
HHC				S	S	15 12 52.8	-1.9
HHC				PCP	PcP	15 13 14.9	+3.0
HHC				SCP	ScP	15 16 17.1	+2.8
HHC				PCS	PcS	15 16 51.0	+0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,119nm,6.9s						
HHC				LR	LR		
	comp=N,134nm,5.2s						
HHC				LR	LR		
	comp=E,115nm,6.1s						
HHC				LR	LR		
	comp=Z,119nm,8.3s						
XAN	Xi'an	23.24	279	P	P	15 09 40.0	+0.1
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.3						
PET	Petropavlovsk	24.70	32	eP	P	15 09 51.8	-1.2
PET				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.4						
ULN	Ulaanbaatar	26.45	311	d iP	P	15 10 09.7	+1.1
ULN	Ulaanbaatar	26.45	311	eP	P	15 10 09.6	+1.0
	comp=Z,14nm,0.6s,mb4.3						
SONM	Songino Array	26.86	311	P	P	15 10 13.3	+1.2
	comp=Z,15nm,0.8s,mb4.3,baz=110,slow=8.7,SNR=46						
SONM	Songino Array	26.86	311	P	P	15 10 13.3	+1.1
SONM				pmax	pmax		
	comp=Z,15nm,0.8s						
GYA	Guiyang	27.13	263	⇑iP	P	15 10 14.6	0.0
GYA				AP		15 11 18.4	
GYA				XP	sP	15 11 59.6	-2.6
GYA				PCP	PcP	15 13 26.1	+1.4
GYA				S	S	15 14 25.5	-0.6
GYA				SCP	ScP	15 16 31.8	+1.5
GYA				SCS	ScS	15 20 22.2	0.0
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,60nm,4.0s						
LZH	Lanzhou	27.17	284	eP	P	15 10 15.0	0.0
LZH				eS	S	15 14 25.8	-1.0
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,94nm,4.6s						
MA2	Magadan	27.38	15	eP	P	15 10 17.4	+0.6
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.0						
MA2	Magadan	27.38	15	eP	P	15 10 16.2	-0.6
	comp=Z,14nm,1.0s,mb4.2						
CD2	Chengdu	28.13	273	eP	P	15 10 22.5	-0.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.2						
QIZ	Qiongzhong	28.27	246	P	P	15 10 24.9	+0.3
	comp=Z,10nm,0.9s,mb4.0						
BOD	Bodaibo	28.61	334	eP	P	15 10 26.6	-1.0
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.4						
ZAK	Zakamensk	29.67	314	eP	P	15 10 37.7	+0.7
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA	Gaotai	30.20	292	eP	P	15 10 41.2	-0.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.0						
KMI	Kunming	30.90	263	P	P	15 10 47.6	-0.1
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.0						
NANT	Nan	35.56	254	⇓P	P	15 11 25.0	-2.6
	comp=Z,375nm,1.0s						
CHRT	Chiangrai	35.74	257	⇑P	P	15 11 30.0	+0.9
	comp=Z,153nm,1.2s,mb5.1						
CHG	Chiang Mai	36.96	256	⇓P	P	15 11 39.7	+0.3
	comp=Z,22nm,0.8s,mb4.4						
CHTO	Chiang Mai	36.96	256	eP	P	15 11 39.4	0.0
CHTO				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.3						
CHTO	Chiang Mai	36.96	256	eP	P	15 11 39.4	0.0
	comp=Z,21nm,1.0s,mb4.3						
CM31	Chiang Mai Arr	37.15	255	eP	P	15 11 41.0	+0.1
	comp=Z,10nm,0.5s,mb4.3						
BILL	Bilibino	38.20	17	eP	P	15 11 50.2	+0.6
BILL				pmax	pmax		

comp=Z,32nm,1.4s,mb4.4
BILL Bilibino 38.20 17 *e*P **P** **15 11 50.2 +0.6**
WMQ Urumqi 39.17 300 ⇑*i*P **P** **15 11 58.2 +0.6**
WMQ AP pP 15 13 08.0 +1.0
WMQ PP PP 15 13 39.0 +2.6
WMQ PCP PcP 15 14 01.0 +2.3
WMQ S **S** **15 17 33.0 +2.6**
WMQ XS sS 15 19 34.0 -2.0
WMQ AMB AMB
comp=Z,13nm,0.9s,mb4.2
WMQ AMB AMB
comp=Z,118nm,5.0s
KSM Kuching 40.68 223 *e*P **P** **15 12 10.3 +0.4**
ZAL Zalesovo 41.55 315 P **P** **15 12 16.3 -0.5**
comp=Z,6.5nm,0.3s,mb4.2,baz=20,slow=7.4,SNR=19
ZAL PcP PcP 15 14 05.3 -1.1
comp=Z,1.9nm,0.7s,baz=353,slow=4.1,SNR=5.9
ZAL ScP ScP 15 17 19.3 -2.5
comp=Z,1.1nm,0.4s,baz=171,slow=4.3,SNR=3.7
ZAL Zalesovo 41.55 315 P **P** **15 12 16.3 -0.6**
ZAL 15 14 05.4
ZAL pmax pmax
comp=Z,7.0nm,0.4s
ZAL pmax pmax
comp=Z,2.0nm,0.7s
ZAL pmax pmax
comp=N,1.0nm,0.4s
NVS Novosibirsk 42.57 316 *e*P **P** **15 12 24.5 -0.5**
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.5s
NVS pmax pmax
comp=Z,8.0nm,0.5s,mb4.1
NIKO Nikolski 42.66 46 *e*P **P** **15 12 24.9 -0.9**
MK31 Makanchi Array 42.86 305 P **P** **15 12 27.1 -0.2**
MK31 pmax pmax
comp=Z,3.0nm,0.4s,mb3.8
MKAR Makanchi Array 42.86 305 P **P** **15 12 27.5 +0.2**
comp=Z,7.1nm,0.4s,mb4.2,baz=76,slow=10.0,SNR=118
MKAR PcP PcP 15 14 09.8 -1.1
comp=Z,0.8nm,0.4s,baz=75,slow=5.9,SNR=4.4
MKAR ScP ScP 15 17 25.6 -1.5
comp=Z,0.4nm,0.3s,baz=79,slow=7.5,SNR=3.6
MKAR Makanchi Array 42.86 305 P **P** **15 12 27.5 +0.2**
MKAR 15 14 09.8
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 42.86 305 P **P** **15 12 27.5 +0.2**
MKAR PcP PcP 15 14 09.8 -1.1
MKAR ScP ScP 15 17 25.6 -1.5
JIRN Jiri 43.71 276 *e*P **P** **15 12 35.0 +0.9**
comp=Z,31nm,0.3s,mb4.9
GUN Gumba 43.88 277 *e*P **P** **15 12 35.9 +0.5**
KULM Kulim 44.02 238 *e*P **P** **15 12 37.0 +0.5**
PKI Pulchoki 44.39 276 *e*P **P** **15 12 39.3 -0.1**
comp=Z,6.1nm,0.3s,mb4.2
PKI Pulchoki 44.39 276 *e*P **P** **15 12 39.3 -0.1**
PKI pmax pmax
comp=Z,6.0nm,0.3s,mb4.2
KKN Kakani 44.42 277 *e*P **P** **15 12 39.7 +0.1**
comp=Z,8.8nm,0.4s,mb4.2
KKN Kakani 44.42 277 *e*P **P** **15 12 39.7 +0.1**
KKN pmax pmax
comp=Z,9.0nm,0.4s,mb4.2
DMN Daman 44.63 277 *e*P **P** **15 12 41.5 +0.3**
GKN Gorkha 44.87 277 *e*P **P** **15 12 43.2 0.0**
comp=Z,11nm,0.3s,mb4.5
KOLN Koldanda 45.81 277 *e*P **P** **15 12 50.7 +0.2**
comp=Z,6.1nm,0.3s,mb4.2
KAKA Kakadu 46.42 186 *e*P **P** **15 12 54.2 -1.0**
comp=Z,18nm,0.6s,mb4.4
VOSK Vostochnaya 49.80 313 P **P** **15 13 19.4 -1.3**
VOSK pmax pmax
comp=Z,1.0nm,0.6s
CHKZ Chkalovo 49.94 315 *i* P **P** **15 13 20.9 -0.8**
CHKZ pmax pmax
comp=Z,16nm,1.0s,mb4.2
CHKZ Chkalovo 49.94 315 *e*P **P** **15 13 20.7 -1.0**
comp=Z,18nm,0.8s,mb4.4
BVA0 Borovoye Array 50.13 314 P **P** **15 13 21.5 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 50.19 314 *e*P **P** **15 13 23.6 0.0**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.0
BRVK Borovoye 50.19 314 *e*P **P** **15 13 23.6 0.0**
comp=Z,11nm,1.0s,mb4.0
ZRNK Zerenda 50.97 314 *i* P **P** **15 13 28.4 -1.0**
ZRNK pmax pmax
comp=Z,12nm,1.2s,mb4.0
ZRNK Zerenda 50.97 314 *e*P **P** **15 13 28.7 -0.7**
comp=Z,15nm,1.0s,mb4.2
KK31 Karatay Array 51.64 301 *i* P **P** **15 13 34.5 +0.2**
KK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.2
KKAR Karatay Array 51.64 301 *e*P **P** **15 13 34.5 +0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
KDAK Kodiak Island 51.94 40 P **P** **15 13 36.6 +0.1**
comp=Z,9.9nm,0.5s,mb4.4,baz=282,slow=4.0,SNR=17
FITZ Fitzroy Crossi 52.70 194 ⇓*i*P **P** **15 13 42.0 0.0**
comp=Z,31nm,0.6s,mb4.8
MCK McKinley 53.34 32 P **P** **15 13 45.9 -0.8**
MCK pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
MCK McKinley 53.34 32 P **P** **15 13 45.9 -0.8**
comp=Z,3.4nm,0.8s,mb3.7
PMR Palmer 53.39 35 *e*P **P** **15 13 46.7 -0.3**
PMR pmax pmax
comp=Z,19nm,1.1s,mb4.3
PMR Palmer 53.39 35 *e*P **P** **15 13 46.7 -0.4**
comp=Z,19nm,1.1s,mb4.3
WRAB Tennant Creek 53.46 183 ⇑*i*P **P** **15 13 46.6 -0.9**
WRAB Tennant Creek 53.46 183 *e*P **P** **15 13 46.6 -0.9**
comp=Z,15nm,0.3s,mb4.8
WB2 Warramunga Arr 53.47 183 ⇓*i*P **P** **15 13 46.8 -0.8**
WB2 *e*S **S** **15 20 48.8 -3.1**
WRA Warramunga Arr 53.47 183 P **P** **15 13 46.9 -0.7**
comp=Z,12nm,0.3s,mb4.7,baz=360,slow=7.5,SNR=718
WRA Warramunga Arr 53.47 183 P **P** **15 13 46.9 -0.7**
WRA pmax pmax
comp=Z,12nm,0.3s
COLA College 53.76 31 *e*P **P** **15 13 50.5 +0.9**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
COLA College 53.76 31 *e*P **P** **15 13 50.5 +0.8**
comp=Z,2.9nm,0.7s,mb3.7
CTAO Charters Tower 54.29 169 P **P** **15 13 52.2 -1.2**
CTAO pmax pmax
comp=Z,10.0nm,1.1s,mb4.1
CTAO Charters Tower 54.29 169 P **P** **15 13 52.2 -1.2**
comp=Z,9.7nm,1.1s,mb4.0
DIV Divide 55.05 35 *e*P **P** **15 13 59.2 +0.3**
comp=Z,24nm,0.5s,mb4.8
ARU Arti 56.41 319 *d i*P **P** **15 14 07.9 -0.5**
ARU pmax pmax
comp=Z,15nm,1.2s,mb4.2
ARU Arti 56.41 319 *e*P **P** **15 14 07.7 -0.8**
comp=Z,10nm,0.8s,mb4.2
MBWA Marble Bar 57.04 199 *e*P **P** **15 14 12.1 -0.7**
comp=Z,33nm,0.6s,mb4.8
AS31 Alice Springs 57.19 183 P **P** **15 14 13.5 -0.4**
ASAR Alice Springs 57.19 183 P **P** **15 14 13.5 -0.4**
comp=Z,6.4nm,0.6s,mb4.2,baz=12,slow=13,SNR=136
ASAR Alice Springs 57.19 183 P **P** **15 14 13.5 -0.4**
ASAR pmax pmax
comp=Z,6.0nm,0.6s
ASPA Alice Springs 57.20 183 *e*P **P** **15 14 13.5 -0.4**
AB31 Akbulak array 57.27 311 *i* P **P** **15 14 14.2 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
INK Inuvik 58.92 26 P **P** **15 14 26.0 +0.3**
comp=Z,2.4nm,0.6s,mb3.8,baz=276,slow=5.5,SNR=13
INK Inuvik 58.92 26 P **P** **15 14 26.0 +0.3**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 58.92 26 *e*P **P** **15 14 25.2 -0.5**
comp=Z,4.0nm,0.8s,mb3.9
FORT Forrest 64.75 188 *e*P **P** **15 15 03.9 -0.3**
comp=Z,25nm,0.7s,mb5.0
STKA Stephens Creek 65.45 176 P **P** **15 15 08.2 -0.5**
comp=Z,1.9nm,0.6s,mb3.9,baz=19,slow=5.7,SNR=7.5
STKA Stephens Creek 65.45 176 *e*P **P** **15 15 07.9 -0.7**

ARCES ARCESS Array B 65.74 339 P **P** **15 15 10.1 -0.4**
comp=Z,4.5nm,0.7s,mb4.3,baz=59,slow=8.3,SNR=21
ARCES ARCESS Array B 65.74 339 P **P** **15 15 10.1 -0.4**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARE0 ARCESS Array S 65.74 339 *e*P **P** **15 15 09.4 -1.1**
JOF Joensuu 67.10 331 *ep* **P** **15 15 18.0 -1.0**
comp=Z,4.8nm,0.4s,mb4.6
JOF Joensuu 67.10 331 *e*P **P** **15 15 18.0 -1.0**
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb4.6
OBN Obninsk 68.49 323 *e*P **P** **15 15 27.1 -0.5**
OBN pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
VRSR Storozhevoye 68.94 318 *e*P **P** **15 15 30.2 -0.1**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,20nm,1.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
KAF Kangasniemi 69.50 332 *ep* **P** **15 15 32.5 -1.2**
comp=E,14nm,0.3s,mb5.2,baz=55,slow=5.7
KAF Kangasniemi 69.50 332 *e*P **P** **15 15 32.5 -1.2**
KAF pmax pmax
comp=Z,14nm,0.3s,mb5.2
FINES FINESS Array B 69.96 331 P **P** **15 15 36.1 -0.5**
comp=Z,9.0nm,0.4s,mb4.8,baz=59,slow=6.4,SNR=283
FINES FINESS Array B 69.96 331 P **P** **15 15 36.1 -0.4**
FINES pmax pmax
comp=Z,9.0nm,0.4s
KIV Kislovodsk 70.25 310 *ce*P **P** **15 15 39.6 +1.3**
KIV *e* 15 15 59.2
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.6
KIV Kislovodsk 70.25 310 *e*P **P** **15 15 38.6 +0.3**
comp=Z,11nm,0.7s,mb4.7
GNI Garni 70.69 306 *e*P **P** **15 15 41.3 +0.4**
GNI pmax pmax
comp=Z,31nm,1.5s
CMW Cultus Mountai 72.09 43 P **P** **15 15 50.8 +1.6**
JCW Jim Creek 72.32 44 P **P** **15 15 51.7 +1.2**
ANN Anapa 73.11 313 *e*P **P** **15 15 45.5 -10**
ANN pmax pmax
comp=Z,80nm,1.1s,mb5.4
MIB Mutribah 73.83 295 *e*P **P** **15 15 58.9 -0.4**
MIB AMb AMB 15 15 59.5
comp=Z,15nm,0.3s,mb5.2
KBD Kabd 73.87 294 *e*P **P** **15 15 59.0 -0.5**
RDF Al-Radifah 74.11 294 *e*P **P** **15 16 00.8 -0.1**
RDF AMb AMB 15 16 01.6
comp=Z,42nm,0.6s,mb5.3
NAY Al-Naaiem 74.18 295 *e*P **P** **15 16 01.0 -0.4**
NAY AMb AMB 15 16 01.9
comp=Z,22nm,0.9s,mb4.9
AKASG Malin Array Be 74.59 321 P **P** **15 16 02.7 -0.9**
comp=Z,2.4nm,0.3s,mb4.4,baz=51,slow=6.1,SNR=21
AKASG Malin Array Be 74.59 321 P **P** **15 16 02.7 -1.0**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 74.59 321 P **P** **15 16 02.7 -0.9**
NEW Newport 74.99 42 P **P** **15 16 06.5 +0.6**
comp=Z,4.1nm,0.9s,mb4.2,baz=282,slow=3.7,SNR=4.6
NEW Newport 74.99 42 P **P** **15 16 06.5 +0.6**
NEW pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 75.22 50 P **P** **15 16 08.9 +1.7**
comp=Z,3.3nm,0.8s,mb4.1,baz=331,slow=4.4,SNR=11
YBH Yreka Blue Hor 75.22 50 P **P** **15 16 08.9 +1.7**
YBH pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra 75.73 336 P **P** **15 16 09.5 -0.6**
comp=Z,10nm,0.9s,mb4.5,baz=44,slow=5.6
NOA NORSAR Array B 75.73 336 P **P** **15 16 09.6 -0.4**
comp=Z,6.6nm,0.8s,mb4.4,baz=45,slow=5.6,SNR=25
NOA NORSAR Array B 75.73 336 P **P** **15 16 09.6 -0.5**
NOA pmax pmax
comp=Z,7.0nm,0.8s
MALT Malatya 75.85 307 *e*P **P** **15 16 12.1 +1.3**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MALT Malatya 75.85 307 *e*P **P** **15 16 12.1 +1.3**
comp=Z,7.3nm,0.8s,mb4.5
WALA Waterton Lakes 76.28 40 *e*P **P** **15 16 14.1 +0.9**
comp=Z,5.8nm,0.7s,mb4.4
LBCM Butte Creek Ri 76.57 50 P **P** **15 16 16.1 +1.3**
BMO Blue Mountains 76.81 45 *e*P **P** **15 16 16.6 +0.5**
comp=Z,6.4nm,1.3s,mb4.2
WVOR Wild Horse Val 77.38 47 *e*P **P** **15 16 20.0 +0.8**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
WVOR Wild Horse Val 77.38 47 *e*P **P** **15 16 20.0 +0.7**
comp=Z,4.4nm,1.0s,mb4.1
CHMT Chamberlain Mo 77.91 41 *e*P **P** **15 16 22.4 +0.3**
FFC Flin Flon 78.38 30 *e*P **P** **15 16 23.5 -1.2**
FFC pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
FFC Flin Flon 78.38 30 *e*P **P** **15 16 23.5 -1.3**
comp=Z,8.2nm,1.1s,mb4.4
CMB Columbia Colle 78.73 52 *e*P **P** **15 16 27.0 +0.4**
CMB pmax pmax
comp=Z,14nm,1.4s,mb4.5
CMB Columbia Colle 78.73 52 *e*P **P** **15 16 27.0 +0.3**
comp=Z,14nm,1.4s,mb4.5
HRY Holter Researc 78.81 41 *e*P **P** **15 16 27.8 +0.8**
KOLS Kolonicke sedl 79.25 322 *e*P **P** **15 16 28.3 -1.1**
LCCM Lewis and Clar 79.32 42 P **P** **15 16 30.7 +0.9**
STHS Stebnicka Huta 79.45 323 *e*P **P** **15 16 31.0 +0.5**
STHS pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
STHS Stebnicka Huta 79.45 323 *e*P **P** **15 16 31.0 +0.5**
comp=Z,2.4nm,1.0s,mb3.9
BOZ Bozeman (W) 79.57 42 *e*P **P** **15 16 31.7 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
BOZ Bozeman (W) 79.57 42 *e*P **P** **15 16 31.7 +0.6**
comp=Z,1.7nm,0.5s,mb4.0
CRVS Cervenica-Dubn 79.68 323 *e*P **P** **15 16 31.7 0.0**
NVAR Mina Array Bea 79.86 50 P **P** **15 16 33.9 +1.2**
comp=Z,3.3nm,0.8s,mb4.1,baz=305,slow=4.2,SNR=31
MORC Moravsky Berou 81.02 325 *e*P **P** **15 16 38.5 -0.3**
comp=Z,5.3nm,0.9s,mb4.3
IMW Indian Meadow 81.04 43 *e*P **P** **15 16 40.3 +1.4**
comp=Z,3.4nm,0.8s,mb4.5
FLWY Flagg Ranch 81.06 42 *e*P **P** **15 16 40.7 +1.7**
comp=Z,3.4nm,0.8s,mb4.1
PSZ Piszkesteto 81.11 323 *e*P **P** **15 16 39.7 +0.5**
comp=Z,2.5nm,0.6s,mb4.1
RRI2 Red Ridge 81.17 43 *e*P **P** **15 16 38.4 -1.2**
comp=Z,14nm,1.2s,mb4.6
VYHS Vyhne 81.26 324 *e*P **P** **15 16 40.2 +0.2**
TPAW Teton Pass 81.29 43 *e*P **P** **15 16 41.6 +1.5**
comp=Z,15nm,1.2s,mb4.6
LOHW Long Hollow 81.41 43 *e*P **P** **15 16 41.8 +1.0**
comp=Z,4.7nm,0.9s,mb4.2
PVCC Panska Ves 81.88 327 *e*P **P** **15 16 44.6 +1.4**
CLL Collm 82.03 328 ⇑*i*P **P** **15 16 43.8 -0.2**
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
CLL Collm 82.03 328 ⇑*i*P **P** **15 16 43.8 -0.2**
comp=Z,6.0nm,1.1s,mb4.3
HWUT Hardware Ranch 82.11 45 *e*P **P** **15 16 45.4 +0.9**
comp=Z,22nm,1.5s,mb4.8
DUG Dugway 82.24 46 *e*P **P** **15 16 45.9 +0.8**
DUG pmax pmax
comp=Z,11nm,1.3s,mb4.5
DUG Dugway 82.24 46 *e*P **P** **15 16 45.9 +0.8**
comp=Z,11nm,1.3s,mb4.5
PRU Pruhonice 82.28 327 *e*P **P** **15 16 45.5 +0.2**
PDAR Pinedale Array 82.54 43 P **P** **15 16 47.5 +0.8**
comp=Z,3.6nm,0.7s,mb4.3,baz=311,slow=2.9,SNR=33
NKC Novy Kostel 83.05 328 *e*P **P** **15 16 49.5 +0.3**
KHC Kasperske Hory 83.33 326 *e*P **P** **15 16 50.8 +0.2**
KHC Kasperske Hory 83.33 326 *e*P **P** **15 16 50.0 -0.6**
GERES GERESS Array B 83.47 326 P **P** **15 16 50.6 -0.8**
comp=Z,1.8nm,0.4s,mb4.2,baz=41,slow=5.5,SNR=25
GERES GERESS Array B 83.47 326 P **P** **15 16 50.6 -0.8**
GERES pmax pmax
comp=Z,2.0nm,0.4s
MSU Marysvale 83.67 48 *e*P **P** **15 16 53.4 +1.1**
GRA1 Grafenberg Arr 83.98 328 *e*P **P** **15 16 54.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.2
GRF Grafenberg Arr 83.98 328 *e*P **P** **15 16 54.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.2
GRF Grafenberg Arr 83.98 328 *e*P **P** **15 16 54.2 +0.3**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
SRU San Rafael 84.30 46 *e*P **P** **15 16 56.4 +0.9**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SRU San Rafael 84.30 46 *e*P **P** **15 16 56.4 +0.9**
comp=Z,6.3nm,0.8s,mb4.5
SMCO Snowmass 86.35 44 *e*P **P** **15 17 07.0 +1.4**
comp=Z,4.1nm,0.8s,mb4.3
LOR Lormes 88.99 330 *e*P **P** **15 17 16.4 -1.6**
LPL La Plagne 89.12 328 *e*P **P** **15 17 18.2 -0.4**
comp=Z,3.0nm,0.5s,mb4.1
LPG La Plagne 89.13 328 *e*P **P** **15 17 18.3 -0.3**
comp=Z,4.9nm,0.5s,mb4.3
ANMO Albuquerque 89.47 47 P **P** **15 17 21.1 +1.0**
comp=Z,0.6nm,0.5s,mb3.7,baz=8.3,slow=4.5,SNR=3.8
ANMO Albuquerque 89.47 47 P **P** **15 17 21.2 +1.0**
ANMO pmax pmax
comp=Z,1.0nm,0.5s
TCF Toulx Ste Croi 90.46 330 *e*P **P** **15 17 24.3 -0.5**
CAF Calviac 91.51 330 *e*P **P** **15 17 30.1 0.0**
comp=Z,3.3nm,0.6s,mb4.2
VNDA Vanda 112.07 174 *e*PKIKP PKiKP 15 22 58.4 +2.2
TORD Torodi Ar. Bea 116.83 310 PKP PKPdf 15 23 04.7 -0.7
comp=Z,0.3nm,0.4s,baz=65,slow=2.4,SNR=4.9
TORD PP PP 15 24 15.5 -4.2
comp=Z,0.9nm,1.0s,baz=32,slow=8.2,SNR=4.4
LPAZ La Paz 151.49 59 PKPbc PKPbc 15 24 16.0 +0.9
comp=Z,0.5nm,0.4s,baz=348,slow=4.5,SNR=4.6
LPAZ La Paz 151.49 59 PKIKP PKPbc 15 24 16.0 +0.9
LPAZ pmax pmax
comp=Z,1.0nm,0.4s

PRU ***02*** *15:18:52.0, 50.31N×1902E, h0km*
WAR 02 15:18:53.1, 5020N×1914E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**87**	*e*Pg	Pg	15 19 00.9	-0.4
OJC				*e*Sg	Sg	15 19 07.3	+0.5
OKC	**Ostrava-Krasne**	**0.73**	**241**	*e*PG	Pg	15 19 06.1	-1.1
OKC				*e*SG	Sg	15 19 17.0	+0.3
NIE	**Niedzica**	**1.09**	**135**	*e*Pg	Pg	15 19 14.4	+0.4
NIE				*e*Sg	Sg	15 19 30.2	+2.0
STHS	**Stebnicka Huta**	**1.57**	**119**	*e*PN	Pn	15 19 22.9	+0.6
STHS				*e*SN	Sn	15 19 45.2	+1.9
VYHS	**Vyhne**	**1.72**	**187**	*e*PN	Pn	15 19 22.5	-1.7
VYHS				*e*SN	Sn	15 19 45.1	-1.8
DPC	**Dobruska-Polom**	**1.81**	**276**	*e*PG	Pg	15 19 23.6	-4.2
DPC				*e*SG	Sg	15 19 47.3	-4.0
KSP	**Ksiaz**	**1.93**	**291**	*e*Pg	Pg	15 19 29.1	-0.9
KSP				*e*Sg	Sg	15 19 53.4	-1.6
KECS	**Kecovo**	**1.93**	**152**	*e*SN	Sn	15 19 52.2	+0.1
UPC	**Upice**	**2.02**	**280**	*e*SG	Sg	15 19 54.4	-3.8
KOLS	**Kolonicke sedl**	**2.40**	**121**	*e*SG	Sg	15 20 14.7	+4.4
PRU	**Pruhonice**	**2.97**	**268**	*e*SG	Sg	15 20 24.1	-4.3
BRG	**Berggiesshubel**	**3.38**	**284**	PG	Pg	15 19 56.5	-1.4
BRG				SG	Sg	15 20 38.4	-3.4
	2.3nm,0.6s						
KHC	**Kasperske Hory**	**3.77**	**256**	*e*SG	Sg	15 20 50.2	-3.9
CLL	**Collm**	**4.05**	**288**	*e*Sg	Sg	15 21 04.0	+0.8

ISCJB ***02*** *15:33:29.6±0.5, 4935N±002×688E±004, h0km, Error ellipse: s-maj=4.4km s-min=3.1km az=112.2*
BGR ***02*** *15:33:31.0±0.5, 4937N×687E, h1km, ML1.6/2, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*
LDG ***02*** *15:33:31.9±0.1, 4933N×689E, h1km, Md2.3/3, Ml2.4/8, Error ellipse: s-maj=1.3km s-min=1.0km az=69.0, Suspected Mining induced.*
ISC 02 15:33:30.7±0.5, 4935N±002×689E±004, h0km, n11, σ0 64/21, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.57**	**303**	*e*Pg	**Pg**	**15 33 42.1**	**+0.4**
	SNR=1.8						
WLF				*e*Sg	**Sg**	**15 33 47.7**	**-1.4**
	SNR=3.0						
CDF	**Champ du Feu**	**0.98**	**165**	*e*Pg	**Pg**	**15 33 50.1**	**+0.7**
CDF				*e*Sg	**Sg**	**15 34 02.1**	**0.0**
	6.7nm,0.3s						
TNS	**Taunus Mts**	**1.33**	**49**	*e*Pg	**Pg**	**15 33 56.4**	**+0.1**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**15 34 12.9**	**-0.7**
	SNR=2.0						
MEM	**Membach**	**1.38**	**336**	P	**Pg**	**15 33 57.2**	**+0.1**
HAU	**Haudompre**	**1.40**	**195**	*e*Pg	**Pg**	**15 33 57.6**	**+0.1**
HAU				*e*Sg	**Sg**	**15 34 15.2**	**-0.4**
	5.0nm,0.2s						
BFO	**Black Forest**	**1.40**	**137**	*e*Pg	**Pg**	**15 33 58.2**	**+0.7**
	SNR=2.2						
BFO				*e*Sg	**Sg**	**15 34 15.5**	**-0.1**
	SNR=6.3						
MEZF	**Maizieres J'vi**	**1.48**	**236**	*e*Pg	**Pg**	**15 33 59.7**	**+0.6**
MEZF				*e*Sg	**Sg**	**15 34 18.2**	**-0.1**
	7.5nm,0.4s						
GIVF	**Givet**	**1.54**	**300**	*e*Pg	**Pg**	**15 34 00.8**	**+0.6**
GIVF				*e*Sg	**Sg**	**15 34 21.0**	**+0.9**
	8.1nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**181**	*e*Pg	**Pg**	**15 34 00.2**	**0.0**
HINF				*e*Sg	**Sg**	**15 34 20.0**	**-0.1**
	13nm,0.3s						
BAIF	**Baives**	**1.88**	**293**	*e*Pg	**Pg**	**15 34 06.5**	**-0.2**
BAIF				*e*Sg	**Sg**	**15 34 31.3**	**+0.2**
	1.9nm,0.3s						
LOR	**Lormes**	**2.91**	**225**	*e*Pn	**Pn**	**15 34 17.2**	**-1.0**
LOR				*e*Sn	**Sn**	**15 34 50.3**	**-3.5**
	4.3nm,0.5s						

ISCJB ***02*** *15:47:32.5±0.4, 41.10N±002×2276E±003, h10km, Error ellipse: s-maj=3.7km s-min=2.7km az=53.0*
SKO ***02*** *15:47:32.2, 4102N×2277E, h9km, M3.1, ML2.3*
CSEM ***02*** *15:47:32.8±0.1, 41.13N×2278E, h15km±1km, ML2.5, Error ellipse: s-maj=1.7km s-min=1.3km az=41.0*
THE ***02*** *15:47:33.6, 4109N×2277E, h1km, ML2.5*
ISC 02 15:47:33.0±0.6, 4111N±003×2277E±003, h15km±8km, n20, σ0 62/36, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.11**	**60**	*e*Pg	**Pg**	**15 47 36.4**	**0.0**
KNT				*e*Sg	**Sg**	**15 47 38.5**	**-0.2**
VAY	**Valandovo**	**0.26**	**325**	*i* Pg	**Pg**	**15 47 38.4**	**-0.2**
VAY				*i* Sg	**Sg**	**15 47 42.4**	**-0.1**
VAY				*e*Lg		15 47 42.4	
	comp=E,419nm,0.3s						
VAY				*e*Lg		15 47 42.7	
	comp=N,480nm,0.2s						
VAY	**Valandovo**	**0.26**	**325**	*e*Pg	**Pg**	**15 47 38.1**	**-0.5**
VAY				*e*Sg	**Sg**	**15 47 42.4**	**-0.1**
GRG	**Griva**	**0.32**	**242**	*e*Pg	**Pg**	**15 47 39.6**	**0.0**
THE	**Thessaloniki**	**0.50**	**163**	*e*Pg	**Pg**	**15 47 42.6**	**-0.2**
THE				*e*Sg	**Sg**	**15 47 49.5**	**+0.1**
SOH	**Sokhos**	**0.53**	**122**	*e*Pg	**Pg**	**15 47 43.4**	**0.0**
SOH				*e*Sg	**Sg**	**15 47 50.1**	**-0.3**
HORT	**Hortiatis**	**0.57**	**154**	*e*Pg	**Pg**	**15 47 44.0**	**-0.1**
HORT				*e*Sg	**Sg**	**15 47 52.5**	**+0.9**
SRS	**Serrai**	**0.62**	**89**	*e*Pg	**Pg**	**15 47 44.3**	**-0.8**
SRS				*e*Sg	**Sg**	**15 47 53.1**	**-0.3**
STIP	**Stip**	**0.73**	**323**	*e*Pg	**Pg**	**15 47 48.3**	**+1.0**
STIP				*e*Sg	**Sg**	**15 47 58.0**	**+1.1**
STIP	**Stip**	**0.73**	**323**	*i* Pg	**Pg**	**15 47 48.3**	**+1.0**
STIP				*i* Sg	**Sg**	**15 47 58.2**	**+1.2**
STIP				*e*Lg		15 47 59.0	
	comp=E,22nm,0.2s						
STIP				*e*Lg		15 47 59.1	
	comp=N,20nm,0.2s						
STIP	**Stip**	**0.73**	**323**	*i* Pg	**Pg**	**15 47 48.2**	**+0.9**
STIP				*i* Sg	**Sg**	**15 47 58.1**	**+1.1**
MMB	**Musomiste**	**0.87**	**56**	*e*Pg	**Pg**	**15 47 49.9**	**+0.1**
MMB				*e*Sg	**Sg**	**15 48 01.6**	**+0.4**
MMB	**Musomiste**	**0.87**	**56**	*e*Pg	**Pg**	**15 47 49.9**	**+0.1**
MMB				*e*Sg	**Sg**	**15 48 01.6**	**+0.4**
BIA	**Bitola**	**1.10**	**266**	*i* Pg	**Pg**	**15 47 53.1**	**-1.0**
BIA				*i* Sg	**Sg**	**15 48 08.2**	**-0.3**
BIA				*e*Lg		15 48 09.0	
	comp=N,9.1nm,0.2s						

BIA				eLg		15 48 09.3	
	comp=E,9.4nm,0.3s						
BIA	**Bitola**	**1.10**	**266**	i Pg	**Pg**	**15 47 53.0**	**-1.1**
BIA				i Sg	**Sg**	**15 48 08.1**	**-0.4**
FNA	**Florina**	**1.10**	**254**	ePg	**Pg**	**15 47 53.2**	**-1.0**
FNA				eSg	**Sg**	**15 48 09.8**	**+1.1**
KRUS	**Krusevo**	**1.18**	**283**	i Pg	**Pg**	**15 47 55.6**	**0.0**
OUR	**Ouranopolis**	**1.20**	**129**	ePg	**Pg**	**15 47 56.4**	**+0.3**
OUR				eSg	**Sg**	**15 48 13.0**	**+1.2**
PAIG	**Paliouri**	**1.37**	**149**	ePg	**Pg**	**15 47 58.5**	**-0.8**
VTS	**Vitosha**	**1.52**	**12**	ePg	**Pg**	**15 48 01.8**	**-0.4**

*ISCJB **02** 15:47:34.8±0.6, 2455S±004×11661E±006, h5^{km}, Error ellipse: s-maj=8.0km s-min=5.9km az=163.7*
*NEIC **02** 15:47:39.0, 2443S×11641E, h5^{km}, ML3.5(AUST), After AUST.*
*AUST **02** 15:47:39.2, 2443S×11641E, h5^{km}, ML3.5*
ISC 02 15:47:36.3±2.5**, 2448S**±004×**11661E**±007**, h2**^{km}±18^{km}**, n18, σ0^{s}98**/28**, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEEK	**Meekatharra**	**2.81**	**140**	eP	**Pn**	**15 48 26.8**	**+4.7**
MEEK				eS	**Sn**	**15 49 03.6**	**+7.0**
	83nm,0.2s						
GIRL	**Giralia**	**2.85**	**310**	eP	**Pn**	**15 48 21.5**	**-1.2**
GIRL				eS	**Sn**	**15 48 58.2**	**+0.7**
	750nm,0.5s						
MBWA	**Marble Bar**	**4.38**	**42**	eP	**Pn**	**15 48 47.5**	**+3.7**
MBWA				eS	**Sn**	**15 49 41.0**	**+5.5**
MBWA	**Marble Bar**	**4.38**	**42**	eP	**Pn**	**15 48 47.5**	**+3.7**
MBWA				eS	**Sn**	**15 49 41.0**	**+5.5**
MBWA				eSg	**Sg**	**15 49 55.9**	**-1.2**
MORW	**Morawa**	**4.60**	**186**	eP	**Pn**	**15 48 47.0**	**+0.3**
MORW				eS	**Sn**	**15 49 37.8**	**-2.9**
	25nm,0.2s						
BLDU	**Ballidu**	**6.11**	**179**	eP	**Pn**	**15 49 08.5**	**+1.0**
BLDU				eS	**Sn**	**15 50 16.8**	**-1.2**
	3.3nm,0.3s						
BLDU	**Ballidu**	**6.11**	**179**	eP	**Pn**	**15 49 08.5**	**+1.0**
	3.3nm,0.3s						
BLDU				eS	**Sn**	**15 50 16.8**	**-1.2**
KLBR	**Kellerberrin**	**7.15**	**172**	eP	**Pn**	**15 49 22.6**	**+0.7**
MUN	**Mundaring**	**7.48**	**183**	eP	**Pn**	**15 49 26.8**	**+0.5**
KMBL	**Kambalda**	**8.29**	**147**	eP	**Pn**	**15 49 38.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**8.43**	**176**	eP	**Pn**	**15 49 39.1**	**-0.3**
RKGY	**Rocky Gully**	**10.10**	**178**	eP	**Pn**	**15 50 01.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**10.54**	**55**	eP	**Pn**	**15 50 09.0**	**+0.7**
FITZ				eS	**Sn**	**15 51 59.7**	**-7.2**
	3.5nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.54**	**55**	eP	**Pn**	**15 50 09.0**	**+0.7**
	3.5nm,0.3s						
FITZ				eS	**Sn**	**15 51 59.7**	**-7.2**
FORT	**Forrest**	**11.93**	**124**	eP	**Pn**	**15 50 28.2**	**+0.9**
ASPA	**Alice Springs**	**15.82**	**91**	eP	**Pn**	**15 51 20.1**	**+0.1**
AS31	**Alice Springs**	**15.82**	**91**	eP	**Pn**	**15 51 20.1**	**+0.1**
WB2	**Warramunga Arr**	**17.04**	**78**	eP	**Pn**	**15 51 34.7**	**-0.9**

*IDC **02** 15:53:55.2±1.3, 2.14S×13239E, h0^{km}, mb3.9/6, mb1 4.1/7, mb1mx4.0/14, mbtmp4.0/7, ML4.2/1, MS3.8/3, Ms1 3.8/3, ms1mx3.1/22, Error ellipse: s-maj=76.4km s-min=21.7km az=81.0*
*ISCJB **02** 15:53:56.2±1.9, 229S±005×13203E±007, h16^{km}±14^{km}, mb4.2/12, MS3.7/3, Error ellipse: s-maj=12.7km s-min=7.4km az=152.7*
*NEIC **02** 15:53:57.0±0.5, 228S×13202E, h10^{km}, mb4.4/7, Error ellipse: s-maj=15.8km s-min=7.7km az=75.0*
ISC 02 15:54:00.9±1.0**, 237S**±005×**13206E**±008**, h40**^{km}±11^{km}**, n30, σ1^{s}14**/36**, mb4.2**/12**, MS3.7**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.69**	**332**	P	**Pn**	**15 54 24.5**	**-3.4**
	0.0nm,0.0s						
AAI	**Ambon**	**4.07**	**251**	P	**Pn**	**15 55 00.9**	**+0.3**
	0.0nm,0.0s						
BAKI	**Biak**	**4.21**	**74**	P	**Pn**	**15 55 03.0**	**+0.4**
	0.0nm,0.0s						
JAY	**Jayapura**	**8.64**	**91**	P	**Pn**	**15 56 11.6**	**+8.3**
	0.0nm,0.0s						
KAKA	**Kakadu**	**10.29**	**178**	eP	**Pn**	**15 56 25.0**	**-0.9**
	29nm,0.4s						
KAKA				eS	**Sn**	**15 58 13.4**	**-6.4**
PMG	**Port Moresby**	**16.56**	**116**	P	**Pn**	**15 57 49.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.86**	**202**	eP	**Pn**	**15 57 51.7**	**-2.1**
	11nm,0.4s						
FITZ				eS	S	16 00 45.0	-24
FITZ	**Fitzroy Crossi**	**16.86**	**202**	Pn	**Pn**	**15 57 51.3**	**-2.5**
	0.5nm,0.3s,baz=22,slow=15,SNR=9.7						
FITZ				Sn	**Sn**	**16 00 46.9**	**-13**
	0.7nm,0.3s,baz=184,slow=18,SNR=3.7						
WRAB	**Tennant Creek**	**17.60**	**173**	ePn	**Pn**	**15 58 03.1**	**0.0**
	38nm,1.0s						
WRAB				eSn	**Sn**	**16 01 04.8**	**-13**
WRA	**Warramunga Arr**	**17.61**	**173**	P	**Pn**	**15 58 03.0**	**-0.1**
	0.8nm,0.3s,baz=356,slow=13,SNR=15						
WRA				S	**S**	**16 01 09.2**	**-15**
	1.0nm,0.3s,baz=342,slow=18,SNR=5.6						
WB2	**Warramunga Arr**	**17.61**	**173**	eP	**Pn**	**15 58 03.5**	**+0.3**
WB2				eS	**S**	**16 01 08.1**	**-17**
AS31	**Alice Springs**	**21.25**	**175**	eP	**P**	**15 58 46.1**	**+2.6**
AS31				eS	**S**	**16 02 36.5**	**-0.9**
ASAR	**Alice Springs**	**21.25**	**175**	P	**P**	**15 58 46.2**	**+2.7**
	5.0nm,0.7s,mb4.0,baz=354,slow=9.7,SNR=20						
ASAR				S	**S**	**16 02 36.2**	**-1.2**
	1.7nm,0.6s,baz=358,slow=28,SNR=4.8						
ASPA	**Alice Springs**	**21.25**	**175**	eP	**P**	**15 58 46.1**	**+2.6**
ASPA				eS	**S**	**16 02 36.5**	**-0.9**
KSM	**Kuching**	**22.07**	**280**	eP	**P**	**15 58 52.8**	**+0.5**
MBWA	**Marble Bar**	**22.21**	**212**	eP	**P**	**15 58 53.8**	**+0.1**
	17nm,0.8s,mb4.5						
MBWA				e		15 59 00.9	
CTAO	**Charters Tower**	**22.42**	**143**	P	**P**	**15 58 59.1**	**+3.1**
	17nm,1.1s,mb4.4						
JOW	**Kunigami**	**29.25**	**353**	LR	LR	16 10 31.7	
	comp=Z,102nm,19.0s,MS3.5,baz=185,slow=34						
STKA	**Stephens Creek**	**30.70**	**164**	P	**P**	**16 00 19.3**	**+7.4**
	2.7nm,0.5s,mb4.3,baz=339,slow=11,SNR=8.8						
STKA	**Stephens Creek**	**30.70**	**164**	P	**P**	**16 00 12.8**	**+0.9**
JHJ	**Hachijo jima 2**	**36.04**	**11**	LR	LR	16 12 44.6	
	comp=Z,250nm,20.8s,MS4.0,baz=275,slow=32						
MJAR	**Matsushiro Arr**	**39.13**	**8**	P	**P**	**16 01 22.2**	**-2.3**
	1.9nm,0.9s,mb3.8,baz=189,slow=8.6,SNR=6.0						
MJAR				LR	LR	16 16 02.0	
	comp=Z,111nm,19.4s,MS3.7,baz=180,slow=34						
SONM	**Songino Array**	**54.80**	**339**	P	**P**	**16 03 26.9**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=153,slow=6.8,SNR=4.7						
YAK	**Yakutsk**	**64.25**	**359**	eP	**P**	**16 04 31.6**	**-0.2**
	8.9nm,0.6s,mb5.0						
MKAR	**Makanchi Array**	**65.57**	**325**	P	**P**	**16 04 41.1**	**+0.7**
	1.2nm,0.6s,mb4.1,baz=112,slow=8.4,SNR=9.4						
ZAL	**Zalesovo**	**68.41**	**332**	P	**P**	**16 04 57.7**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=43,slow=4.6,SNR=5.1						
ZAL	**Zalesovo**	**68.41**	**332**	P	**P**	**16 04 57.7**	**-0.8**
BVAR	**Borovoye Array**	**75.30**	**327**	P	**P**	**16 05 40.2**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=132,slow=8.5,SNR=8.2						
BRVK	**Borovoye**	**75.37**	**327**	eP	**P**	**16 05 40.6**	**+0.3**
	1.9nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**76.03**	**326**	eP	**P**	**16 05 43.9**	**-0.1**
	2.9nm,1.1s,mb4.1						

*ISCJB **02** 16:03:08.6±0.6, 3289N±005×1402E±0.1, h134^{km}±5^{km}, mb3.6/3, Error ellipse: s-maj=16.9km s-min=8.0km az=159.9*
*IDC **02** 16:03:10.4±1.1, 3276N×13975E, h118^{km}±30^{km}, mb3.4/3, mb1 3.5/4, mb1mx3.2/19, mbtmp3.6/4, Error ellipse: s-maj=164.7km s-min=13.8km az=70.0*
*JMA **02** 16:03:10.3±0.1, 3298N×14030E, h123^{km}±2^{km}, M3.2*
ISC 02 16:03:09.9±0.6**, 3290N**±005×**1402E**±01**, h127**^{km}±5^{km}**, n18, σ0^{s}64**/27**, mb3.8**/3**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.41**	**300**	P	**Pn**	**16 03 28.6**	**+0.4**
JHJ2				S	**Sn**	**16 03 42.0**	**0.0**
JHJ	**Hachijo jima 2**	**0.44**	**299**	P	**Pn**	**16 03 28.5**	**+0.1**
	69nm,0.3s,baz=230,slow=7.9,SNR=15						
JHJ				S	**Sn**	**16 03 41.9**	**-0.4**
	413nm,0.3s,baz=235,slow=23,SNR=61						
JKO	**Kozu shima**	**1.58**	**324**	P	**Pn**	**16 03 38.9**	**+0.2**
JKO				eS	**Sn**	**16 04 00.8**	**+0.1**
NJJJ	**Nii jima 2**	**1.70**	**332**	P	**Pn**	**16 03 40.6**	**+0.5**
BSO1	**Boso 1**	**1.85**	**19**	P	**Pn**	**16 03 41.3**	**-0.6**
BSO1				eS	**Sn**	**16 04 07.0**	**+0.6**
BSO3	**Boso 3**	**1.91**	**7**	P	**Pn**	**16 03 42.2**	**-0.4**
JIM2	**Oshima 3**	**1.93**	**340**	P	**Pn**	**16 03 42.7**	**-0.2**
JIM2				S	**Sn**	**16 04 06.8**	**-1.3**
JIZS	**Izushimoda**	**2.14**	**328**	P	**Pn**	**16 03 45.6**	**+0.2**
JOD2	**Odawara 2**	**2.54**	**338**	P	**Pn**	**16 03 50.7**	**+0.2**
JOD2				S	**Sn**	**16 04 21.0**	**-0.8**
JYN	**Shimob**	**2.95**	**332**	P	**Pn**	**16 03 57.0**	**+1.3**
JRY	**Ryogami san**	**3.30**	**341**	P	**Pn**	**16 04 00.7**	**+0.4**
JRY				eS	**Sn**	**16 04 38.6**	**-0.7**
MJAR	**Matsushiro Arr**	**4.00**	**336**	P	**Pn**	**16 04 09.9**	**+0.3**
	1.4nm,0.3s,baz=100,slow=22,SNR=21						
MJAR				S	**Sn**	**16 04 55.0**	**-0.8**
	0.6nm,0.3s,baz=128,slow=12,SNR=5.0						
MAT	**Matsushiro**	**4.00**	**336**	P	**Pn**	**16 04 09.9**	**+0.3**
MAT				eS	**Sn**	**16 04 58.0**	**+2.1**
MKAR	**Makanchi Array**	**45.61**	**305**	P	**P**	**16 11 16.9**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=81,slow=10,SNR=3.3						
WB2	**Warramunga Arr**	**52.85**	**187**	eP	**P**	**16 12 12.2**	**-0.2**
WRA	**Warramunga Arr**	**52.85**	**187**	P	**P**	**16 12 12.0**	**-0.3**
	0.9nm,0.4s,mb4.1,baz=4.4,slow=7.6,SNR=53						
ASAR	**Alice Springs**	**56.58**	**187**	P	**P**	**16 12 39.2**	**0.0**
	0.5nm,0.4s,mb3.9,baz=1.2,slow=6.1,SNR=38						
ASPA	**Alice Springs**	**56.58**	**187**	eP	**P**	**16 12 39.2**	**0.0**

MAN 02 16:16:01.5, 1027N×12490E, h1^{km}, mb2.8, ML4.3, MS3.6, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.14**	**197**	eP	Pg	16 16 06.2	+1.9
MSLP				eS	Sg	16 16 09.5	+3.3
SCPH	**Surigao**	**0.76**	**130**⥣	eP	Pg	16 16 16.2	+0.2
OCLP	**Ormoc**	**0.82**	**340**	eP	Pg	16 16 17.8	+0.5
LLP	**Lapu-Lapu**	**0.92**	**273**⥣	eP	Pg	16 16 20.0	+0.8
LLP				i S	Sg	16 16 34.0	+2.9
TBP	**Tagbilaran**	**1.18**	**241**	eP	Pg	16 16 24.6	+0.6
TBP				eS	Sg	16 16 44.6	+5.3

*ISCJB **02** 16:16:09.1±0.3, 4830N±002×659E±003, h14^{km}±5^{km}, Error ellipse: s-maj=3.1km s-min=2.8km az=31.7*
*NEIC **02** 16:16:10.9, 4834N×666E, h5^{km}, ML2.2(STR), ML2.5(LDG), After STR.*
*STR **02** 16:16:10.9±0.3, 4834N×666E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **02** 16:16:11.0±0.1, 4831N×667E, h12^{km}, ML2.5/15, Error ellipse: s-maj=1.4km s-min=1.2km az=9.0*
*LDG **02** 16:16:11.2±0.1, 4830N×667E, h8^{km}, Md2.4/3, Ml2.5/17, Error ellipse: s-maj=1.0km s-min=1.0km az=159.0*
*BGR **02** 16:16:12.2±1.4, 4838N×680E, h10^{km}, ML2.0, Error ellipse: s-maj=16.7km s-min=6.7km az=39.0*
ISC 02 16:16:09.9±0.3**, 4831N**±002×**665E**±002**, h19**^{km}±5^{km}**, n55, σ0^{s}95**/106**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**106**	Pg	**Pg**	**16 16 18.0**	**+0.6**
HAU	**Haudompre**	**0.37**	**213**	ePg	**Pg**	**16 16 18.6**	**+1.0**
	SNR=1.0						
HAU				eSg	**Sg**	**16 16 22.9**	**+0.1**
	81nm,0.2s						
HAU	**Haudompre**	**0.37**	**213**	ePg	**Pg**	**16 16 18.6**	**+1.0**
	SNR=1.0						
HAU				eSg	**Sg**	**16 16 22.9**	**+0.1**
	40nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**77**	ePg	**Pg**	**16 16 19.1**	**+0.4**
	SNR=1.0						
CDF				eSg	**Sg**	**16 16 24.7**	**0.0**
	61nm,0.3s						
CDF	**Champ du Feu**	**0.43**	**77**	ePg	**Pg**	**16 16 19.1**	**+0.4**
	SNR=1.0						
CDF				eSg	**Sg**	**16 16 24.7**	**0.0**
	30nm,0.3s						
THEF	**They Montfort**	**0.45**	**259**	Pg	**Pg**	**16 16 19.7**	**+0.6**
WLS	**Welschbruch**	**0.48**	**78**	Pg	**Pg**	**16 16 20.1**	**+0.4**
WLS				Sg	**Sg**	**16 16 26.2**	**0.0**
HINF	**Hinteralfeld**	**0.52**	**164**	ePg	**Pg**	**16 16 21.0**	**+0.7**
	SNR=1.0						
HINF				eSg	**Sg**	**16 16 28.0**	**+0.7**
HINF				eSn	**Sg**	**16 16 30.7**	**+3.4**
	25nm,0.2s						
HINF	**Hinteralfeld**	**0.52**	**164**	ePg	**Pg**	**16 16 21.0**	**+0.7**
	SNR=1.0						
HINF				eSg	**Sg**	**16 16 28.0**	**+0.7**
HINF				eSn	**Sg**	**16 16 30.7**	**+3.4**
	12nm,0.2s						
MOF	**Molkenrain**	**0.57**	**145**	Pg	**Pg**	**16 16 22.1**	**+0.9**
RFYF	**Reffroy**	**0.84**	**292**	ePg	**Pg**	**16 16 27.7**	**+1.4**
	baz=112						
RFYF				eSg	**Sg**	**16 16 38.6**	**+1.1**
	27nm,0.2s						
RFYF	**Reffroy**	**0.84**	**292**	ePg	**Pg**	**16 16 27.7**	**+1.4**
	baz=112						
RFYF				eSg	**Sg**	**16 16 38.6**	**+1.1**
	13nm,0.2s						
LOMF	**Lomont**	**0.97**	**173**	Pg	**Pg**	**16 16 29.8**	**+1.0**
LOMF				Sg	**Sg**	**16 16 42.7**	**+1.2**
FELD	**Feldberg im Sc**	**1.01**	**115**	Pg	**Pg**	**16 16 30.4**	**+0.9**
LANF	**Langenberg**	**1.02**	**49**	Pg	**Pg**	**16 16 29.3**	**-0.4**
BBS	**Basel-Blauen**	**1.03**	**145**	Pg	**Pg**	**16 16 31.6**	**+1.7**
MEZF	**Maizieres J'vi**	**1.08**	**281**	ePg	**Pg**	**16 16 31.5**	**+0.7**
	baz=103						
MEZF				eSg	**Sg**	**16 16 45.8**	**+0.8**
	8.2nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.08**	**281**	ePg	**Pg**	**16 16 31.5**	**+0.7**
	baz=103						
MEZF				eSg	**Sg**	**16 16 45.8**	**+0.8**
	4.1nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.08**	**265**	ePg	**Pg**	**16 16 31.2**	**+0.4**
	baz=88						
SFTF				eSg	**Sg**	**16 16 45.9**	**+0.9**
	19nm,0.2s						
SFTF	**Sexfontaines**	**1.08**	**265**	ePg	**Pg**	**16 16 31.2**	**+0.4**
	baz=88						
SFTF				eSg	**Sg**	**16 16 45.9**	**+0.9**
	9.4nm,0.2s						
BFO	**Black Forest**	**1.12**	**89**	ePg	**Pg**	**16 16 32.0**	**+0.4**
	SNR=6.3						
BFO				eSg	**Sg**	**16 16 44.7**	**-1.7**
WLF	**Walferdange**	**1.39**	**347**	eSg	**Sg**	**16 16 55.0**	**+0.2**
CABF	**La Chapelle**	**1.75**	**193**	ePg	**Pg**	**16 16 43.1**	**-0.3**
CABF				eSg	**Sg**	**16 17 06.4**	**+0.2**
	4.6nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**1.75**	**193**	ePn	**Pn**	**16 16 40.1**	**+1.0**
CABF				ePg	**Pg**	**16 16 43.1**	**-0.3**
CABF				eSg	**Sg**	**16 17 06.4**	**+0.2**
CABF	**La Chapelle**	**1.75**	**193**	ePg	**Pg**	**16 16 43.1**	**-0.3**
CABF				eSg	**Sg**	**16 17 06.4**	**+0.2**
	2.3nm,0.3s,SNR=1.0						
STU	**Stuttgart**	**1.75**	**74**	eSg	**Sg**	**16 17 02.5**	**-3.9**
LOR	**Lormes**	**2.15**	**242**	ePn	**Pn**	**16 16 45.4**	**+0.7**
	baz=64,SNR=1.0						
LOR	**Lormes**	**2.15**	**242**	ePg	**Pg**	**16 16 51.7**	**+0.5**
	baz=66,SNR=1.0						
LOR				eSg	**Sg**	**16 17 19.0**	**-0.1**
	7.4nm,0.2s,baz=59						
LOR	**Lormes**	**2.15**	**242**	ePn	**Pn**	**16 16 45.4**	**+0.7**
LOR				ePg	**Pg**	**16 16 51.7**	**+0.5**
LOR				eSg	**Sg**	**16 17 19.0**	**-0.1**
LOR	**Lormes**	**2.15**	**242**	ePg	**Pg**	**16 16 51.7**	**+0.5**
	baz=66,SNR=1.0						
LOR				eSg	**Sg**	**16 17 19.0**	**-0.1**
	3.7nm,0.2s,baz=59						
GIVF	**Givet**	**2.15**	**327**	ePg	**Pg**	**16 16 51.7**	**+0.5**
GIVF				eSg	**Sg**	**16 17 18.9**	**-0.3**
	3.3nm,0.2s						
GIVF	**Givet**	**2.15**	**327**	ePg	**Pg**	**16 16 51.7**	**+0.5**
GIVF				eSg	**Sg**	**16 17 18.9**	**-0.3**
	1.6nm,0.2s						
TNS	**Taunus Mts**	**2.25**	**31**	eSg	**Sg**	**16 17 20.2**	**-1.9**
BAIF	**Baives**	**2.37**	**318**	ePg	**Pg**	**16 16 55.6**	**+0.3**
BAIF				eSg	**Sg**	**16 17 26.0**	**-0.1**
	2.0nm,0.3s						
BAIF	**Baives**	**2.37**	**318**	ePg	**Pg**	**16 16 55.6**	**+0.3**
BAIF				eSg	**Sg**	**16 17 26.0**	**-0.1**
	1.0nm,0.3s						
SMF	**Signal de Mont**	**2.53**	**230**	ePg	**Pg**	**16 16 58.1**	**-0.3**
	SNR=1.0						
SMF				eSg	**Sg**	**16 17 30.7**	**-0.6**
	8.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.53**	**230**	ePn	**Pn**	**16 16 50.3**	**+0.4**
SMF				ePg	**Pg**	**16 16 58.1**	**-0.3**
SMF				eSg	**Sg**	**16 17 30.7**	**-0.6**
SMF	**Signal de Mont**	**2.53**	**230**	ePg	**Pg**	**16 16 58.1**	**-0.3**
	SNR=1.0						
SMF				eSg	**Sg**	**16 17 30.7**	**-0.6**
	4.2nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	ePg	**Pg**	**16 17 01.4**	**-0.3**
	SNR=1.0						
AVF				eSg	**Sg**	**16 17 35.9**	**-0.8**
	2.6nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.70**	**237**	ePn	**Pn**	**16 16 52.9**	**+0.6**
AVF				ePg	**Pg**	**16 17 01.4**	**-0.3**
AVF				eSg	**Sg**	**16 17 35.9**	**-0.8**
AVF	**Avril sur Loir**	**2.70**	**237**	ePg	**Pg**	**16 17 01.4**	**-0.3**
	SNR=1.0						
AVF				eSg	**Sg**	**16 17 35.9**	**-0.8**
	1.3nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.80**	**179**	ePg	**Pg**	**16 17 03.1**	**-0.4**
LPL				eSg	**Sg**	**16 17 38.9**	**-0.9**
	1.1nm,0.3s						
LPL	**La Plagne**	**2.80**	**179**	ePg	**Pg**	**16 17 03.1**	**-0.4**
LPL				eSg	**Sg**	**16 17 38.9**	**-0.9**
	0.6nm,0.3s						
LPG	**La Plagne**	**2.82**	**178**	ePg	**Pg**	**16 17 03.1**	**-0.8**
LPG				eSg	**Sg**	**16 17 39.6**	**-0.8**
	1.0nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**2.82**	**178**	ePg	**Pg**	**16 17 03.1**	**-0.8**
LPG				eSg	**Sg**	**16 17 39.6**	**-0.8**
	0.5nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	ePg	**Pg**	**16 17 08.9**	**-0.8**
BGF				eSg	**Sg**	**16 17 49.1**	**-1.0**
	10nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.12**	**237**	ePn	**Pn**	**16 16 59.5**	**+1.4**
BGF				ePg	**Pg**	**16 17 08.9**	**-0.8**
BGF				eSg	**Sg**	**16 17 49.1**	**-1.0**
BGF	**Bois d'Agland**	**3.12**	**237**	ePg	**Pg**	**16 17 08.9**	**-0.8**
BGF				eSg	**Sg**	**16 17 49.1**	**-1.0**
	5.1nm,0.3s,SNR=1.0						
GRF	**Grafenberg Arr**	**3.31**	**64**	eSg	**Sg**	**16 17 54.7**	**-1.6**
TCF	**Toulx Ste Croi**	**3.63**	**238**	ePg	**Pg**	**16 17 18.8**	**-0.7**
TCF				eSg	**Sg**	**16 18 05.4**	**-1.2**
	2.5nm,0.3s						
TCF	**Toulx Ste Croi**	**3.63**	**238**	ePg	**Pg**	**16 17 18.8**	**-0.7**
TCF				eSg	**Sg**	**16 18 05.4**	**-1.2**
	1.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.72**	**202**	ePg	**Pg**	**16 17 19.4**	**-1.7**
VIVF				eSg	**Sg**	**16 18 07.2**	**-2.0**
	1.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.72**	**202**	ePg	**Pg**	**16 17 19.4**	**-1.7**
VIVF				eSg	**Sg**	**16 18 07.2**	**-2.0**
	0.8nm,0.3s						
FLN	**La Foliniere**	**4.76**	**278**	ePg	**Pg**	**16 17 39.3**	**-1.7**
FLN				eSg	**Sg**	**16 18 40.6**	**-2.0**
	2.1nm,0.3s						
FLN	**La Foliniere**	**4.76**	**278**	ePg	**Pg**	**16 17 39.3**	**-1.7**
FLN				eSg	**Sg**	**16 18 40.6**	**-2.0**
	1.0nm,0.3s						

MAN 02 16:19:06.3, 1450N×12315E, h1^{km}, MS5.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**1.20**	**281**	eP	Pg	16 19 28.7	-0.5
POLP				eS	Sg	16 19 46.0	+1.2
PVCP	**Virac**	**1.32**	**133**⥣	i P	Pg	16 19 31.1	-0.6
PVCP				i S	Sg	16 19 49.4	+0.5
PVCP	**Virac**	**1.32**	**133**	eP	Pg	16 19 31.0	-0.7
BOAC	**Boac**	**1.64**	**231**	eP	Pn	16 19 36.3	0.0
CAUP	**Cauayan**	**2.75**	**332**	eP	Pn	16 19 51.8	+0.3

*ISCJB **02** 16:26:06.5±1.8, 2165S±007×685W±0.1, h83^{km}±16^{km}, mb4.0/13, Error ellipse: s-maj=19.1km s-min=11.2km az=179.6*
*NEIC **02** 16:26:08.0±1.5, 2162S×6850W, h86^{km}±13^{km}, mb4.2/9, Error ellipse: s-maj=17.2km s-min=10.2km az=91.0*
*IDC **02** 16:26:09.2±2.9, 2169S×6846W, h90^{km}±25^{km}, mb3.8/9, mb1 3.9/11, mb1mx3.8/18, mbtmp4.1/11, Error ellipse: s-maj=23.6km s-min=17.8km az=80.0*
ISC 02 16:26:08.1±1.4**, 2166S**±007×**685W**±01**, h83**^{km}±13^{km}**, n33, σ1^{s}11**/31**, mb4.0**/13**, 1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.36**	**4**	P	**Pn**	**16 27 34.4**	**+8.9**
	1.1nm,0.3s,baz=195,slow=6.9,SNR=33						
LPAZ	**La Paz**	**5.36**	**4**	ePn	**Pn**	**16 27 34.0**	**+8.5**
	5.9nm,0.5s						
SIV	**San Ignacio**	**9.04**	**53**	P	**Pn**	**16 28 17.5**	**+1.8**
	5.5nm,0.3s,baz=247,slow=12,SNR=92						
CFAA	**Coronel Fontan**	**9.91**	**178**	P	**Pn**	**16 28 27.1**	**-0.5**
	0.0nm,0.3s,baz=358,slow=15,SNR=6.3						
CFAA				S	**Sn**	**16 30 09.2**	**-7.7**
	0.1nm,0.3s,baz=68,slow=17,SNR=2.7						
CPUP	**Villa Florida**	**11.25**	**117**	P	**Pn**	**16 28 46.1**	**+0.3**
	0.8nm,0.3s,baz=274,slow=15,SNR=5.0						
CPUP	**Villa Florida**	**11.25**	**117**	ePn	**Pn**	**16 28 45.8**	**0.0**
SAML	**Samuel**	**13.65**	**23**	Pn	**Pn**	**16 29 16.5**	**-1.5**
TRQA	**Tornquist**	**17.29**	**162**	eP	**Pn**	**16 30 03.9**	**-0.2**
	3.6nm,0.7s						
BDFB	**Brasilia**	**20.34**	**76**	P	**P**	**16 30 38.1**	**+0.5**
	4.2nm,0.4s,baz=248,slow=9.5,SNR=7.0						
BDFB	**Brasilia**	**20.34**	**76**	eP	**P**	**16 30 36.5**	**-1.1**
	12nm,0.7s						
WVT	**Waverly**	**60.30**	**342**	eP	**P**	**16 36 07.5**	**-0.5**
	4.3nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**60.75**	**336**	eP	**P**	**16 36 08.6**	**-2.4**
	2.2nm,0.8s,mb4.2						
SNAA	**Sanae**	**62.02**	**161**	P	**P**	**16 36 19.6**	**0.0**
	0.5nm,0.6s,mb3.7,baz=288,slow=6.9,SNR=16						
SNAA	**Sanae**	**62.02**	**161**	eP	**P**	**16 36 19.0**	**-0.6**
	1.8nm,0.8s,mb4.2						
SIUC	**Southern Illin**	**62.18**	**342**	P	**P**	**16 36 20.6**	**-0.1**
BRNJ	**Basking Ridge**	**62.27**	**355**	P	**P**	**16 36 17.8**	**-3.5**
DBIC	**Dimbokro**	**68.45**	**73**	P	**P**	**16 37 00.7**	**-0.5**
	2.0nm,0.6s,mb4.1,baz=186,slow=5.2,SNR=4.7						
DBIC	**Dimbokro**	**68.45**	**73**	P	**P**	**16 36 59.3**	**-1.8**
	4.9nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**74.42**	**330**	P	**P**	**16 37 37.3**	**+0.2**
	0.3nm,0.7s,mb3.1,baz=152,slow=7.8,SNR=2.8						
ULM	**Lac du Bonnet**	**75.57**	**342**	P	**P**	**16 37 43.6**	**-0.1**
	0.9nm,0.4s,mb3.8,baz=131,slow=9.3,SNR=3.8						
NVAR	**Mina Array Bea**	**75.83**	**322**	P	**P**	**16 37 47.5**	**+2.4**
	0.9nm,0.9s,mb3.5,baz=153,slow=6.9,SNR=6.1						
SYO	**Syowa Base**	**76.23**	**159**⥥	eP	**P**	**16 37 46.6**	**-0.9**
VNDA	**Vanda**	**76.75**	**190**	eP	**P**	**16 37 51.4**	**+1.0**
	1.0nm,0.9s,mb3.5						
TOA0	**Torodi Ar. Sit**	**77.09**	**70**	eP	**P**	**16 37 52.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**77.09**	**70**	P	**P**	**16 37 52.6**	**+0.3**
	1.4nm,0.3s,mb4.1,baz=254,slow=5.6,SNR=36						
HLID	**Hailey**	**77.36**	**328**	eP	**P**	**16 37 56.4**	**+2.5**
	2.6nm,0.8s,mb4.0						
TSUM	**Tsumeb**	**79.67**	**107**	eP	**P**	**16 38 07.6**	**+1.1**
	1.7nm,0.8s,mb3.9						
MAW	**Mawson**	**84.08**	**163**	P	**P**	**16 38 29.6**	**0.0**
	1.5nm,0.5s,mb4.1,baz=214,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**91.45**	**340**	P	**P**	**16 39 04.6**	**-0.4**
	1.3nm,0.5s,mb4.3,baz=128,slow=4.8,SNR=5.9						
YKA	**Yellowknife Ar**	**91.45**	**340**	P	**P**	**16 39 04.6**	**-0.4**
ASAR	**Alice Springs**	**129.93**	**207**	PKP	PKPdf	16 45 08.6	+0.6
	0.5nm,0.5s,baz=124,slow=1.7,SNR=13						
WRA	**Warramunga Arr**	**132.99**	**210**	PKP	PKPdf	16 45 14.7	+0.9
	0.8nm,0.6s,baz=154,slow=1.8,SNR=22						
MKAR	**Makanchi Array**	**145.56**	**36**	PKPbc	PKPbc	16 45 37.4	+0.5
	0.4nm,0.4s,baz=350,slow=3.1,SNR=8.8						

NEIC 02 16:29:42.0, 3395N×11637W, h9^{km}, ML3.5(PAS)**, After PAS., Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFO	**Pinyon Flat Ob**	**0.34**	**192**	ePg	Pg	16 29 48.0	-0.8
DAC	**Darwin (Calif)**	**2.53**	**337**	ePn	Pn	16 30 22.3	-1.0
DAC				ePg	Pg	16 30 28.9	-1.7
DAC				eSg	Sg	16 31 01.7	-1.8
MTUM	**Tungsten Hills**	**3.84**	**333**	ePn	Pn	16 30 41.8	+0.4
MTUM				ePg	Pg	16 30 56.4	+0.7
TPH	**Tonopah**	**4.18**	**351**	ePg	Pg	16 30 59.0	-3.1
CCUT	**Cedar City**	**4.35**	**33**	ePn	Pn	16 30 48.6	+0.3
WUAZ	**Wupatki**	**4.40**	**68**	ePn	Pn	16 30 51.2	+2.2
TRCR	**Troy Canyon**	**4.44**	**8**	ePg	Pg	16 31 01.5	-5.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARUT	**Antelope Range**	**4.51**	**31**	*e*Pn	Pn	16 30 51.1	+0.6
LRV	**Little Rabbit**	**4.54**	**304**	*e*Pn	Pn	16 30 53.4	+2.4
TUC	**Tucson**	**4.96**	**108**	*e*Pn	Pn	16 30 53.8	-2.9
TUC				*e*Pg	Pg	16 31 15.0	-2.0
CMB	**Columbia Colle**	**5.22**	**323**	*e*Pn	Pn	16 31 00.1	-0.1
	4.1nm,0.5s						
CMB				*e*Sg	Sg	16 32 19.9	-10
MSU	**Marysvale**	**5.68**	**35**	*e*Pn	Pn	16 31 12.3	+5.7
DUG	**Dugway**	**6.85**	**23**	*e*Pg	Pg	16 31 47.9	-5.4
	4.2nm,0.8s						

*IDC **02** 17:05:27.2±1.0, 0.24S×125.15E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.8/14, mbtmp3.8/5, Error ellipse: s-maj=62.3km s-min=19.5km az=73.0*

*NEIC **02** 17:05:32.7±0.7, 0.19S×125.59E, h35km, mb4.3/3, Error ellipse: s-maj=24.1km s-min=12.6km az=65.0*

*ISCJB **02** 17:05:41.0±5.9, 0.4S±0.2×125.3E±0.2, h141km±62km, mb3.8/8, Error ellipse: s-maj=45.2km s-min=14.3km az=119.9*

ISC 02 17:05:39.9±5.5**, 0.3S**±0.2×**125.4E**±0.2**, h110**km±58km**, n10, σ0.82**/10**, mb3.9**/8**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.16**	**277**	*e*P	**Pn**	**17 09 08.5**	**+0.4**
WRAB	**Tennant Creek**	**21.38**	**156**	*e*P	**P**	**17 10 17.6**	**-0.9**
	4.3nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**21.38**	**156**	P	**P**	**17 10 17.9**	**-0.6**
	1.9nm,0.6s,mb3.6,baz=336,slow=12,SNR=13						
ASAR	**Alice Springs**	**24.63**	**161**	P	**P**	**17 10 51.2**	**+1.2**
	0.5nm,0.6s,mb3.1,baz=338,slow=9.0,SNR=9.3						
ASAR				PcP	PcP	17 14 28.1	+3.4
	0.3nm,0.6s,baz=347,slow=1.9,SNR=4.6						
STKA	**Stephens Creek**	**34.93**	**155**	*e*P	**P**	**17 12 21.4**	**+0.3**
MJAR	**Matsushiro Arr**	**38.58**	**17**	P	**P**	**17 12 51.7**	**-0.3**
	1.2nm,0.6s,mb3.9,baz=193,slow=8.3,SNR=8.6						
SONM	**Songino Array**	**50.73**	**344**	P	**P**	**17 14 28.4**	**-0.1**
	1.1nm,0.7s,mb4.0,baz=157,slow=8.8,SNR=8.5						
MKAR	**Makanchi Array**	**60.15**	**327**	P	**P**	**17 15 34.6**	**-1.3**
	1.4nm,0.5s,mb4.2,baz=115,slow=6.5,SNR=9.9						
MA2	**Magadan**	**62.95**	**14**	*e*P	**P**	**17 15 56.1**	**+1.4**
	13nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**70.69**	**328**	*e*P	**P**	**17 16 43.5**	**-0.3**
	1.7nm,0.6s,mb4.0						

*IDC **02** 17:10:08.6±1.5, 6.44S×154.53E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, MS3.4/8, Ms1 3.4/8, ms1mx3.3/19, Error ellipse: s-maj=69.4km s-min=29.0km az=130.0*

*ISCJB **02** 17:10:17.4±2.4, 6.7S±0.2×154.43E±0.07, h74km±24km, mb4.2/12, Error ellipse: s-maj=26.6km s-min=11.6km az=175.0*

*NEIC **02** 17:10:20.3±1.3, 6.66S×154.35E, h85km±13km, mb4.8/8, Error ellipse: s-maj=17.3km s-min=9.6km az=166.0*

ISC 02 17:10:20.2±1.9**, 6.8S**±0.2×**154.42E**±0.07**, h81**km±19km**, n25, σ0.76**/19**, mb4.2**/12**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.09**	**116**	LR	LR	17 13 58.6	
	comp=Z,269nm,18.2s,baz=357,slow=38						
HNR	**Honiara**	**6.09**	**116**	*e*Pn	**Pn**	**17 11 49.8**	**+2.2**
HNR				*e*Sn	**Sn**	**17 12 55.0**	**-0.9**
PMG	**Port Moresby**	**7.66**	**249**	LR	LR	17 14 03.6	
	comp=Z,74nm,19.8s,baz=56,slow=30						
PMG	**Port Moresby**	**7.66**	**249**	*e*Pn	**Pn**	**17 12 07.9**	**-1.0**
CTA	**Charters Tower**	**15.45**	**210**	LR	LR	17 17 57.6	
	comp=Z,76nm,18.9s,baz=48,slow=30						
DZM	**Mont Dzumac**	**19.16**	**144**	LR	LR	17 20 25.7	
	comp=Z,142nm,21.9s,baz=15,slow=32						
WRAB	**Tennant Creek**	**23.48**	**234**	*e*P	**P**	**17 15 22.2**	**-0.2**
	7.4nm,0.9s,mb4.0						
WB2	**Warramunga Arr**	**23.48**	**234**	*e*P	**P**	**17 15 22.5**	**0.0**
WRA	**Warramunga Arr**	**23.49**	**234**	P	**P**	**17 15 23.4**	**+0.8**
	2.5nm,0.9s,mb3.5,baz=56,slow=9.4,SNR=25						
WRA				PcP	PcP	17 19 06.5	+0.4
	0.2nm,0.5s,baz=53,slow=2.5,SNR=5.9						
WRA				LR	LR	17 23 46.0	
	comp=Z,69nm,19.8s,baz=75,slow=34						
ASAR	**Alice Springs**	**25.91**	**227**	P	**P**	**17 15 44.5**	**-0.1**
	0.6nm,0.7s,mb3.2,baz=58,slow=8.6,SNR=9.0						
ASAR				LR	LR	17 25 14.0	
	comp=Z,133nm,20.4s,baz=166,slow=35						
STKA	**Stephens Creek**	**27.72**	**204**	LR	LR	17 27 05.8	
	comp=Z,150nm,18.6s,baz=23,slow=36						
STKA	**Stephens Creek**	**27.72**	**204**	P	**P**	**17 15 56.3**	**-4.6**
FITZ	**Fitzroy Crossi**	**30.23**	**245**	*e*P	**P**	**17 16 23.3**	**+0.2**
	3.9nm,0.9s,mb4.0						
LSA	**Lhasa**	**70.66**	**305**	*e*P	**P**	**17 21 27.8**	**+0.7**
	4.5nm,0.7s,mb4.4						
GUN	**Gumba**	**74.50**	**301**	*e*P	**P**	**17 21 50.4**	**+0.5**
	18nm,0.6s,mb5.0						
PKI	**Pulchoki**	**74.80**	**301**	*e*P	**P**	**17 21 51.6**	**0.0**
KKN	**Kakani**	**74.97**	**301**	*e*P	**P**	**17 21 52.7**	**+0.1**
	11nm,0.6s,mb4.7						
DMN	**Daman**	**75.07**	**301**	*e*P	**P**	**17 21 53.7**	**+0.5**
	21nm,0.7s,mb5.0						
GKN	**Gorkha**	**75.58**	**301**	*e*P	**P**	**17 21 56.0**	**-0.1**
	12nm,0.7s,mb4.8						
KOLN	**Koldanda**	**76.40**	**301**	*e*P	**P**	**17 22 00.3**	**-0.5**
	11nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**82.84**	**319**	P	**P**	**17 22 35.1**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=93,slow=5.0,SNR=7.5						
NVAR	**Mina Array Bea**	**92.02**	**52**	P	**P**	**17 23 18.8**	**-1.3**
	0.3nm,0.5s,mb3.8,baz=244,slow=4.9,SNR=3.6						
NVAR	**Mina Array Bea**	**92.02**	**52**	P	**P**	**17 23 18.8**	**-1.3**
PDAR	**Pinedale Array**	**98.96**	**48**	LR	LR	18 04 35.4	
	comp=Z,31nm,19.9s,baz=79,slow=33						
TORD	**Torodi Ar. Bea**	**152.40**	**285**	PKPbc	PKPbc	17 30 07.2	+0.3
	0.8nm,0.6s,baz=68,slow=1.8,SNR=6.0						

*LDG **02** 17:24:50.3±0.0, 43.08N×0.54W, h10km, Md1.8/3, Ml1.7/4, Error ellipse: s-maj=1.2km s-min=0.7km az=175.0*

*STR **02** 17:24:50.1±0.2, 43.12N×0.54W, h6km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 02 17:24:50.8±0.4**, 43.10N**×**0.54W, h8**km±6km**, mbLg1.2**/6**, Error ellipse: s-maj=3.3km s-min=1.8km az=14.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.11**	**104**	Pg	Pg	17 24 53.2	-0.1
REYF				Sg	Sg	17 24 55.5	+0.6
REYF	**Montagne du Re**	**0.11**	**104**	P	Pg	17 24 53.3	0.0
REYF				S	Sg	17 24 55.4	+0.4
ATE	**Arette**	**0.12**	**265**	Pg	Pg	17 24 53.1	-0.3
ATE				Sg	Sg	17 24 55.3	+0.1
ATE	**Arette**	**0.12**	**265**	P	Pg	17 24 53.1	-0.3
ATE				S	Sg	17 24 55.3	0.0
ETSF	**Etsaut**	**0.20**	**185**	*e*Pg	Pg	17 24 54.6	-0.2
ETSF				*e*Sg	Sg	17 24 57.0	-0.5
	19nm,0.2s						
ETSF	**Etsaut**	**0.20**	**185**	Pg	Pg	17 24 54.6	-0.2
ETSF				Lg		17 24 57.0	
	9.4nm,0.2s						
FDAF	**Les Forges d'A**	**0.28**	**185**	P	Pg	17 24 56.1	-0.2
FDAF				S	Sg	17 25 00.2	+0.2
ORDF	**Ordiarp**	**0.31**	**292**	Pg	Pg	17 24 56.5	-0.5
ORDF				Sg	Sg	17 25 00.7	-0.4
ORDF	**Ordiarp**	**0.31**	**292**	P	Pg	17 24 56.6	-0.3
ORDF				S	Sg	17 25 01.1	-0.1
LARF	**Larrau**	**0.34**	**260**	Pg	Pg	17 24 57.1	-0.3
LARF				Sg	Sg	17 25 02.3	+0.5
LARF	**Larrau**	**0.34**	**260**	P	Pg	17 24 57.1	-0.2
LARF				S	Sg	17 25 02.2	+0.4
VIEF	**Viey**	**0.46**	**117**	Pg	Pg	17 24 59.0	-0.8
VIEF				Sg	Sg	17 25 05.8	0.0
VIEF	**Viey**	**0.46**	**117**	P	Pg	17 24 59.0	-0.8
VIEF				S	Sg	17 25 05.6	-0.2
SJPF	**Ste Jean**	**0.50**	**272**	*e*Pg	Pg	17 24 59.8	-0.8
SJPF				*e*Sg	Sg	17 25 06.7	-0.5
	5.1nm,0.3s						
SJPF	**Ste Jean**	**0.50**	**272**	Pg	Pg	17 24 59.8	-0.8
SJPF				Lg		17 25 06.7	
	2.5nm,0.3s						
EPF	**Esparros**	**0.65**	**96**	*e*Pg	Pg	17 25 02.7	-0.5
EPF				*e*Sg	Sg	17 25 11.5	-0.2
	1.7nm,0.2s						
EPF	**Esparros**	**0.65**	**96**	Pg	Pg	17 25 02.7	-0.5
EPF				Lg		17 25 11.5	
	0.9nm,0.2s						
EBIE	**Bielsa**	**0.65**	**129**	Pg	Pg	17 25 02.7	-0.5
	1.0nm,0.1s,SNR=18						
EBIE				Lg		17 25 11.0	
	4.8nm,0.1s,SNR=23						
EALK	**Alkurruntz**	**0.72**	**280**	Pg	Pg	17 25 04.6	0.0
	0.4nm,0.0s,SNR=7.9						
EALK				Lg		17 25 13.4	
	0.5nm,0.1s,SNR=6.8						
ELIZ	**Elizondo**	**0.73**	**276**	Lg		17 25 13.8	
	1.2nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.38**	**178**	Pg	Pg	17 25 17.5	+0.3
	3.0nm,0.2s,SNR=7.9						
ESAC				Lg		17 25 36.3	
	3.8nm,0.1s,SNR=5.5						
MTLF	**Montolieu**	**2.03**	**82**	*e*Pg	Pg	17 25 28.2	-1.5
MTLF				*e*Sg	Sg	17 25 54.6	-1.4
	0.8nm,0.4s						
MTLF	**Montolieu**	**2.03**	**82**	Pg	Pg	17 25 28.2	-1.5
MTLF				Lg		17 25 54.6	
	0.4nm,0.4s						
LFF	**La Frestale**	**2.06**	**26**	*e*Pg	Pg	17 25 28.9	-1.4
LFF				*e*Sg	Sg	17 25 55.9	-1.1
	3.1nm,0.4s						
LFF	**La Frestale**	**2.06**	**26**	Pg	Pg	17 25 28.9	-1.4
LFF				Lg		17 25 55.9	
	1.6nm,0.4s						
EPOB	**Poblet**	**2.12**	**145**	Pg	Pg	17 25 28.9	-2.5
	0.2nm,0.1s,SNR=7.9						
EPOB				Lg		17 25 57.5	
	0.5nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.62**	**45**	*e*Pg	Pg	17 25 39.4	-1.6
CAF				*e*Sg	Sg	17 26 13.0	-2.0
	0.5nm,0.2s						
CAF	**Calviac**	**2.62**	**45**	Pg	Pg	17 25 39.4	-1.6
CAF				Lg		17 26 13.0	
	0.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.66**	**33**	*e*Sg	Sg	17 26 14.3	-1.8
	1.3nm,0.3s						
RJF	**Les Rejaudoux**	**2.66**	**33**	Lg		17 26 14.3	
	0.6nm,0.3s						

*NAO **02** 17:37:03.4, 45.80N×26.40E, h33km, mb3.1*

*SOF **02** 17:37:05.6, 45.89N×26.46E, h15km, MD3.0*

*ISCJB **02** 17:37:08.8±0.3, 45.68N±0.03×26.56E±0.03, h147km±3km, mb3.3/2, Error ellipse: s-maj=4.4km s-min=3.8km az=161.7*

*MOS **02** 17:37:08.9±0.5, 45.66N×26.51E, h148km, mb3.5/1, Error ellipse: s-maj=9.7km s-min=6.2km az=100.0*

*CSEM **02** 17:37:08.5±0.1, 45.69N×26.49E, h146km, MD4.4/2, Error ellipse: s-maj=1.6km s-min=1.4km az=175.0*

*BUC **02** 17:37:09.2±0.7, 45.65N×26.55E, h150km±6km, MD4.5/2, Error ellipse: s-maj=5.3km s-min=4.7km az=60.0*

*NEIC **02** 17:37:09.7, 45.65N×26.53E, h150km, mb3.9/3, MD4.0(BUC), After BUC.*

*IDC **02** 17:37:10.1±1.5, 45.83N×26.41E, h135km±7km, mb3.0/2, mb1 3.1/5, mb1mx2.9/20, mbtmp3.5/5, Error ellipse: s-maj=56.6km s-min=13.3km az=114.0*

ISC 02 17:37:09.5±0.3**, 45.68N**±0.03×**26.57E**±0.03**, h146**km±3km**, n91, σ0.93**/141**, mb3.3**/2**, 29C-15D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.18**	**19**	⇑P	**Pn**	**17 37 29.5**	**+0.3**
PLOR				S	**Sn**	**17 37 44.8**	**+0.6**
PLOR	**Plostina**	**0.18**	**19**	⇑*i*P	**Pn**	**17 37 29.4**	**+0.2**
PLOR				S	**Sn**	**17 37 44.8**	**+0.6**
VRI	**Vrincioaia**	**0.22**	**31**	⇑*i*P	**Pn**	**17 37 29.7**	**+0.4**
VRI				*i* S	**Sn**	**17 37 44.2**	**-0.1**
VRI	**Vrincioaia**	**0.22**	**31**	⇑P	**Pn**	**17 37 29.8**	**+0.4**
VRI				S	**Sn**	**17 37 44.3**	**0.0**
VRI	**Vrincioaia**	**0.22**	**31**	⇑*i*P	**Pn**	**17 37 29.7**	**+0.4**
VRI				*i* S	**Sn**	**17 37 44.3**	**0.0**
PETR		**0.47**	**84**	⇑*i*P	**Pn**	**17 37 31.1**	**+0.9**
PETR				*i* S	**Sn**	**17 37 46.8**	**+0.9**
MLR	**Muntele Rosu**	**0.47**	**247**	P	**Pn**	**17 37 30.7**	**+0.4**
	120nm,0.3s,baz=354,slow=3.5,SNR=894						
MLR				S	**Sn**	**17 37 46.0**	**0.0**
	352nm,0.3s,baz=210,slow=20,SNR=63						
MLR	**Muntele Rosu**	**0.47**	**247**	⇑*i*P	**Pn**	**17 37 30.7**	**+0.5**
MLR				*i* S	**Sn**	**17 37 46.1**	**+0.1**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑P	**Pn**	**17 37 30.6**	**+0.4**
MLR				S	**Sn**	**17 37 46.1**	**+0.1**
MLR	**Muntele Rosu**	**0.47**	**247**	⇑P	**Pn**	**17 37 30.6**	**+0.4**
MLR				*i* S	**Sn**	**17 37 46.1**	**+0.1**
GHRR		**0.70**	**57**	⇑*i*P	**Pn**	**17 37 32.3**	**+0.7**
GHRR				*i* S	**Sn**	**17 37 49.1**	**+0.8**
TUDR		**0.78**	**96**	⇑*i*P	**Pn**	**17 37 32.7**	**+0.6**
TUDR				*i* S	**Sn**	**17 37 49.1**	**-0.2**
SNX	**Sinaia**	**0.81**	**247**	⇑*i*P	**Pn**	**17 37 33.0**	**+0.7**
SNX				*i* S	**Sn**	**17 37 49.7**	**0.0**
SNX	**Sinaia**	**0.81**	**247**	⇑P	**Pn**	**17 37 33.0**	**+0.7**
SNX				S	**Sn**	**17 37 49.3**	**-0.3**
TESR		**0.83**	**4**	⇓*i*P	**Pn**	**17 37 32.5**	**0.0**
TESR				*i* S	**Sn**	**17 37 50.0**	**0.0**
VARR		**0.93**	**77**	⇑*i*P	**Pn**	**17 37 33.8**	**+0.6**
VARR				*i* S	**Sn**	**17 37 50.9**	**-0.4**
SULR		**1.02**	**193**	⇑*i*P	**Pn**	**17 37 34.6**	**+0.5**
SULR				*i* S	**Sn**	**17 37 53.3**	**+0.5**
VOIR		**1.09**	**258**	⇑*i*P	**Pn**	**17 37 34.5**	**-0.2**
VOIR				*i* S	**Sn**	**17 37 52.4**	**-1.5**
VOIR		**1.09**	**258**	⇑P	**Pn**	**17 37 34.6**	**-0.1**
VOIR				S	**Sn**	**17 37 52.7**	**-1.1**
VOIR		**1.09**	**258**	⇑*i*P	**Pn**	**17 37 34.6**	**-0.1**
VOIR				S	**Sn**	**17 37 52.7**	**-1.2**
MTUR	**Matau**	**1.15**	**247**	⇓*i*P	**Pn**	**17 37 35.6**	**+0.4**
MTUR				*i* S	**Sn**	**17 37 54.1**	**-0.7**
MTUR	**Matau**	**1.15**	**247**	⇓P	**Pn**	**17 37 35.6**	**+0.4**
KGL	**Cahul**	**1.17**	**78**	*e*S	**Sn**	**17 37 54.0**	**-1.1**
	1μm,0.6s						
CFR	**Carcaliu**	**1.21**	**114**	⇑*i*P	**Pn**	**17 37 36.0**	**+0.2**
CFR				*i* S	**Sn**	**17 37 55.5**	**-0.4**
CFR	**Carcaliu**	**1.21**	**114**	⇓P	**Pn**	**17 37 36.1**	**+0.2**
CFR	**Carcaliu**	**1.21**	**114**	⇑*i*P	**Pn**	**17 37 36.1**	**+0.3**
CFR				*i* S	**Sn**	**17 37 55.1**	**-0.8**
HARR	**Harsova**	**1.38**	**135**	⇑P	**Pn**	**17 37 38.0**	**+0.5**
BUC1	**Bucharest**	**1.39**	**196**	⇑*i*P	**Pn**	**17 37 37.8**	**+0.3**
BUC1				*i* S	**Sn**	**17 37 58.5**	**-0.5**
BUC1	**Bucharest**	**1.39**	**196**	⇑P	**Pn**	**17 37 37.8**	**+0.3**
BUC1				S	**Sn**	**17 37 58.5**	**-0.4**
BUC1	**Bucharest**	**1.39**	**196**	⇑*i*P	**Pn**	**17 37 37.8**	**+0.3**
BUC1				S	**Sn**	**17 37 58.6**	**-0.4**
TIRR	**Tirgusor**	**1.79**	**132**	⇓*i*P	**Pn**	**17 37 42.2**	**+0.3**
TIRR				*i* S	**Sn**	**17 38 05.1**	**-1.7**
TIRR	**Tirgusor**	**1.79**	**132**	*e*Pn	**Pn**	**17 37 42.1**	**+0.2**
TIRR				*e*Sn	**Sn**	**17 38 04.4**	**-2.4**
TIRR	**Tirgusor**	**1.79**	**132**	*e*Pn	**Pn**	**17 37 42.1**	**+0.2**
TIRR				*e*Sn	**Sn**	**17 38 04.4**	**-2.4**
KIS	**Kishinev**	**2.04**	**49**	*i* S	**Sn**	**17 38 10.0**	**-2.0**
	2μm,0.4s						
BURAR	**Bucovina Array**	**2.15**	**335**	⇓P	**Pn**	**17 37 47.8**	**+1.7**
BURAR				S	**Sn**	**17 38 16.1**	**+1.9**
BURAR	**Bucovina Array**	**2.15**	**335**	⇓*i*P	**Pn**	**17 37 47.8**	**+1.7**
BURAR				S	**Sn**	**17 38 16.1**	**+1.9**
ZIMR		**2.20**	**203**	⇑*i*P	**Pn**	**17 37 46.6**	**-0.1**
ZIMR				*i* S	**Sn**	**17 38 13.4**	**-1.9**
ZIMR		**2.20**	**203**	P	**Pn**	**17 37 46.7**	**0.0**
SZH	**Strazhica**	**2.46**	**191**	*i* P	**Pn**	**17 37 49.7**	**-0.2**
PRD	**Provadia**	**2.55**	**166**	*i* P	**Pn**	**17 37 51.8**	**+0.8**
PVL	**Pavlikeni**	**2.62**	**200**	*i* P	**Pn**	**17 37 53.3**	**+1.4**
GZR	**Gura Zlata**	**2.68**	**265**	⇓*i*P	**Pn**	**17 37 52.9**	**+0.3**
GZR				*i* S	**Sn**	**17 38 26.2**	**+0.3**
GZR	**Gura Zlata**	**2.68**	**265**	⇑P	**Pn**	**17 37 52.7**	**+0.1**
GZR				S	**Sn**	**17 38 25.4**	**-0.4**
GZR	**Gura Zlata**	**2.68**	**265**	⇑P	**Pn**	**17 37 52.7**	**+0.1**
GZR				S	**Sn**	**17 38 25.5**	**-0.4**
DRGR		**2.90**	**294**	⇓*i*P	**Pn**	**17 37 54.9**	**-0.5**
DRGR		**2.90**	**294**	⇓P	**Pn**	**17 37 54.9**	**-0.5**
JMB	**Yambol**	**3.21**	**180**	*i* P	**Pn**	**17 37 59.3**	**-0.1**
BZS	**Buzias**	**3.47**	**271**	⇓*i*P	**Pn**	**17 38 02.4**	**-0.4**
BZS				*i* S	**Sn**	**17 38 41.7**	**-2.3**
BZS	**Buzias**	**3.47**	**271**	⇓P	**Pn**	**17 38 02.4**	**-0.3**
BZS				S	**Sn**	**17 38 42.9**	**-1.1**
BZS	**Buzias**	**3.47**	**271**	⇓*i*P	**Pn**	**17 38 02.4**	**-0.4**
BZS				S	**Sn**	**17 38 42.9**	**-1.1**
PGB	**Panagyurishte**	**3.57**	**210**	*i* P	**Pn**	**17 38 04.0**	**-0.1**
VTS	**Vitosha**	**3.92**	**219**	⇑*i*P	**Pn**	**17 38 08.4**	**-0.2**
VTS				*i* S	**Sn**	**17 38 50.8**	**-3.7**
VTS	**Vitosha**	**3.92**	**219**	*i* P	**Pn**	**17 38 08.3**	**-0.3**
UZH	**Uzhgorod**	**4.15**	**317**	⇓*i*P	**Pn**	**17 38 11.0**	**-0.6**
UZH				*e*S	**Sn**	**17 38 59.0**	**-0.8**
UZH				pmax	pmax		
	comp=Z,51nm,1.0s						
UZH	**Uzhgorod**	**4.15**	**317**	*i* P	**Pn**	**17 38 11.0**	**-0.6**
	comp=Z,51nm,1.0s						
UZH				*e*S	**Sn**	**17 38 59.0**	**-0.8**
KOLS	**Kolonicke sedl**	**4.37**	**320**	*e*PN	**Pn**	**17 38 15.3**	**+0.8**
BARS	**Barje**	**4.45**	**232**	*i* Pn	**Pn**	**17 38 16.3**	**+0.8**
BARS				Sn	**Sn**	**17 38 55.0**	**-12**
GRUS	**Gruza**	**4.53**	**249**	*i* Pn	**Pn**	**17 38 15.4**	**-1.2**
GRUS				Sn	**Sn**	**17 38 56.4**	**-12**
GRUS	**Gruza**	**4.53**	**249**	Pn	**Pn**	**17 38 15.4**	**-1.3**
MMB	**Musomiste**	**4.58**	**208**	*i* P	**Pn**	**17 38 17.5**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.74**	**315**	*e*P	**Pn**	**17 38 20.0**	**+0.6**
DIVS	**Divcibare**	**4.93**	**254**	*i* Pn	**Pn**	**17 38 21.4**	**-0.5**
DIVS				Sn	**Sn**	**17 39 08.7**	**-10**
KECS	**Kecovo**	**5.01**	**306**	*e*P	**Pn**	**17 38 23.1**	**+0.1**
KECS				pmax	pmax		
	comp=N,4.0nm,0.7s						
KECS	**Kecovo**	**5.01**	**306**	*e*P	**Pn**	**17 38 23.1**	**+0.1**
	comp=N,3.5nm,0.7s						
PSZ	**Piszkesteto**	**5.10**	**298**	⇑*i*P	**Pn**	**17 38 23.7**	**-0.4**
PSZ				*i* S	**Sn**	**17 39 17.4**	**-4.9**
PSZ	**Piszkesteto**	**5.10**	**298**	S	**Sn**	**17 39 17.4**	**-4.9**
PSZ	**Piszkesteto**	**5.10**	**298**	*e*P	**Pn**	**17 38 22.8**	**-1.3**
PSZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PSZ	**Piszkesteto**	**5.10**	**298**	*e*Pn	**Pn**	**17 38 22.8**	**-1.4**
	comp=Z,5.2nm,0.7s						
PSZ	**Piszkesteto**	**5.10**	**298**	*e*Pn	**Pn**	**17 38 22.8**	**-1.3**
	comp=Z,5.2nm,0.7s						
SEV	**Sevastopol'**	**5.15**	**100**	*e*P	**Pn**	**17 38 25.4**	**+0.5**
SEV				*e*S	**Sn**	**17 39 20.1**	**-3.5**
SEV				pmax	pmax		
	comp=Z,30nm,0.6s						
SEV				smax			
	comp=E,20nm,0.6s						
SEV	**Sevastopol'**	**5.15**	**100**	*e*P	**Pn**	**17 38 25.4**	**+0.5**
	comp=E,30nm,0.6s						
STHS	**Stebnicka Huta**	**5.19**	**318**	*e*PN	**Pn**	**17 38 26.8**	**+1.4**
AKASG	**Malin Array Be**	**5.33**	**19**	P	**Pn**	**17 38 26.7**	**-0.5**
	comp=E,6.5nm,0.3s,baz=206,slow=12,SNR=25						
AKASG				S	**Sn**	**17 39 24.7**	**-3.1**
	comp=E,3.5nm,0.3s,baz=202,slow=22,SNR=15						
AKASG	**Malin Array Be**	**5.33**	**19**	P	**Pn**	**17 38 26.7**	**-0.5**
AKASG				S	**Sn**	**17 39 24.7**	**-3.1**
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AKASG				smax			
	comp=N,4.0nm,0.3s						
BBLS	**Bajina Basta -**	**5.41**	**253**	*i* Pn	**Pn**	**17 38 29.5**	**+1.3**
BBLS				Sn	**Sn**	**17 39 20.4**	**-9.3**
PKSM	**Moragy**	**5.55**	**278**	⇓*i*P	**Pn**	**17 38 30.6**	**+0.4**
ALU	**Alushta**	**5.63**	**97**	*e*P	**Pn**	**17 38 31.5**	**+0.3**
SUDU	**Sudak**	**6.00**	**95**	*e*P	**Pn**	**17 38 37.2**	**+1.0**
SUDU				*e*S	**Sn**	**17 39 43.0**	**-0.9**
SUDU				smax			
	comp=E,30nm,0.6s						
FINES	**FINESS Array B**	**15.80**	**359**	P	**Pn**	**17 40 40.1**	**-3.8**
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=6.9						
HFS	**Hagfors**	**16.38**	**337**	P	**Pn**	**17 40 48.4**	**-2.6**
	comp=E,0.1nm,0.3s,baz=113,slow=22,SNR=4.9						
KAF	**Kangasniemi**	**16.47**	**360**	*e*p	**Pn**	**17 40 52.3**	**+0.2**
	comp=E,5.4nm,0.5s						
KAF	**Kangasniemi**	**16.47**	**360**	*e*P	**Pn**	**17 40 52.3**	**+0.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s						
JOF	**Joensuu**	**17.49**	**7**	*e*p	**Pn**	**17 41 00.9**	**-3.5**
	comp=Z,2.4nm,0.5s						
JOF	**Joensuu**	**17.49**	**7**	*e*P	**Pn**	**17 41 00.9**	**-3.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NB2	**NORSAR Subarra**	**17.83**	**335**	P	**Pn**	**17 41 07.2**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=143,slow=11						
NOA	**NORSAR Array B**	**17.83**	**335**	P	**Pn**	**17 41 07.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**23.93**	**359**	P	**P**	**17 42 10.7**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.5,baz=162,slow=9.5,SNR=4.8						
ARCES	**ARCESS Array B**	**23.93**	**359**	P	**P**	**17 42 10.7**	**+0.7**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**23.93**	**359**	P	**P**	**17 42 10.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**38.67**	**221**	P	**P**	**17 44 20.0**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.1,baz=29,slow=9.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**38.67**	**221**	P	**P**	**17 44 20.0**	**+1.1**

*NEIC **02** 17:48:13.9, 19.28N×68.42W, h144km, MD3.9(RSPR), After RSPR.*

RSPR 02 17:48:13.9, 19.28N×**68.42W, h144**km±5km**, 6C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.47**	**123**	⇑*e*P	Pn	17 48 42.8	+0.2
AGPR				*e*S	Sn	17 49 04.7	0.0
LRS	**Lares**	**1.78**	**123**	⇑*e*P	Pn	17 48 45.6	-0.5
LRS				*e*S	Sn	17 49 11.3	+0.6
AOPR	**Arecibo Observ**	**1.83**	**120**	⇑*e*P	Pn	17 48 46.8	+0.3
AOPR				*e*S	Sn	17 49 11.6	0.0
CELP	**Cerrillos**	**2.11**	**124**	⇑*e*P	Pn	17 48 49.5	-0.4
CELP				*e*S	Sn	17 49 18.3	+0.7
CBYP	**Canovanas**	**2.62**	**112**	⇑*e*P	Pn	17 48 56.3	+0.1
CBYP				*e*S	Sn	17 49 29.7	+0.9
MTP	**Monte Pirata**	**2.96**	**113**	⇑*e*P	Pn	17 49 00.8	+0.4
MTP				*e*S	Sn	17 49 36.9	+0.5

MEX 02 18:09:11.4±0.9**, 16.99N**×**100.27W, h21**km±8km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.05**	**7**	*i* P	Pb	18 09 13.9	-1.2
CAIG				*i* S	Sb	18 09 16.5	-1.1
ACX	**Acapulco**	**0.36**	**110**	*i* P	Pb	18 09 18.0	-1.2
ACX				*i* S	Sb	18 09 23.0	-1.5
MEIG	**Mezcala**	**1.12**	**34**	*e*P	Pn	18 09 28.0	-3.8
MEIG				*i* S	Sb	18 09 42.2	-3.9
PLIG	**Platanillo**	**1.57**	**28**	*i* P	Pn	18 09 36.2	-1.8
PLIG				*i* S	Sn	18 09 53.9	-3.9

MAN 02 18:10:45.6, 11.69N×**125.31E, h32**km**, mb1.9, ML3.7, MS3.6, 1D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.15**	**124**	*e*P	Pb	18 10 52.3	+0.8
BESP				*e*S	Sb	18 10 55.2	-0.4
PLP	**Palo**	**0.61**	**212**	*e*P	Pb	18 10 58.4	+0.6
PLP				*e*S	Sb	18 11 07.4	+1.2
OCLP	**Ormoc**	**0.93**	**227**	*e*P	Pn	18 11 03.3	+0.9
OCLP				*e*S	Sn	18 11 12.1	-2.6
SCPH	**Surigao**	**1.90**	**175**	⇓*e*P	Pn	18 11 17.8	+2.1
PVCP	**Virac**	**2.21**	**329**	*e*P	Pn	18 11 20.4	+0.5

*NEIC **02** 18:34:26.8, 17.02N×100.19W, h14km, MD3.6(MEX), After MEX.*

MEX 02 18:34:26.8±0.8**, 17.02N**×**100.20W, h15**km±32km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.07**	**296**	*i* P	Pg	18 34 28.7	-1.1
CAIG				*i* S	Sg	18 34 31.2	-0.6
ACX	**Acapulco**	**0.31**	**119**	*i* P	Pg	18 34 32.5	-0.8
ACX				*i* S	Sg	18 34 37.0	-0.6
MEIG	**Mezcala**	**1.06**	**31**	*i* P	Pb	18 34 43.9	-2.9
MEIG				*i* S	Sb	18 34 56.1	-4.4
PLIG	**Platanillo**	**1.52**	**26**	*i* P	Pn	18 34 50.6	-2.8
PLIG				*i* S	Sn	18 35 07.1	-5.8
UTMO	**Huajuapan**	**2.43**	**70**	*e*P	Pn	18 35 03.6	-2.3
PPM	**Popocatepetl**	**2.53**	**36**	*e*P	Pn	18 35 05.2	-2.1
PPM				*i* S	Sn	18 35 34.2	-3.6

*IDC **02** 18:37:57.8±0.5, 6.55S×130.84E, h0km, mb5.0/12, mb1 5.1/15, mb1mx5.0/17, mbtmp5.0/15, ML4.9/3, MS3.8/6,*

Ms1 3.8/6, ms1mx3.6/17, Error ellipse: s-maj=23.0km s-min=12.4km az=77.0
BJI ***02*** *18:37:58.5, 7.06S×130.77E, h35km, mB5.0, mb4.9, Ms4.7, Msz4.2*
ISCJB ***02*** *18:37:59.0±0.2, 6.68S±0.03×130.79E±0.04, h19km, mb5.0/66, MS3.9/12, Error ellipse: s-maj=6.2km s-min=3.6km az=140.0*
NEIC ***02*** *18:37:59.2±0.2, 6.61S×130.78E, h10km, mb5.0/34, Error ellipse: s-maj=7.9km s-min=4.2km az=69.0*
MOS ***02*** *18:38:02.5±1.1, 6.50S×130.69E, h38km, mb5.1/21, Error ellipse: s-maj=12.7km s-min=6.9km az=119.2*
ISC 02 18:38:01.4±0.2, **6.68S**±0.03×**130.78E**±0.04, **h20km, h20km**±1.5km**:pP-P, n192,** σ1.**20**/182, **mb5.0**/66, **MS3.9**/12, **6C-4D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	3.94	319	P	Pn	18 39 06.1	+5.5
	218nm,0.6s						
SWI	Sorong	5.80	5	P	Pn	18 39 27.1	+0.9
	418nm,0.6s						
KAKA	Kakadu	6.21	165	eP	Pn	18 39 34.6	+2.7
	369nm,0.8s						
KAKA				eS	Sn	18 40 41.7	-0.5
	1μm,0.5s						
BAKI	Biak	7.61	44	P	Pn	18 39 52.3	+1.2
	614nm,0.8s						
MMPI	Merauke	9.68	101	P	Pn	18 40 22.1	+2.6
	432nm,1.2s						
JAY	Jayapura	10.72	68	P	Pn	18 40 34.9	+1.2
	82nm,0.9s						
FITZ	Fitzroy Crossi	12.41	203	eP	Pn	18 40 56.3	-0.5
	62nm,0.3s						
FITZ				eS	Sn	18 43 06.1	-8.4
FITZ	Fitzroy Crossi	12.41	203	Pn	Pn	18 40 56.8	-0.1
	9.8nm,0.3s,baz=33,slow=12,SNR=54						
FITZ				Sn	Sn	18 43 04.3	-10
	31nm,0.3s,baz=119,slow=20,SNR=12						
WRAB	Tennant Creek	13.62	166	ePn	Pn	18 41 11.7	-1.6
WRAB				eSn	Sn	18 43 33.2	-11
WRA	Warramunga Arr	13.63	166	Pn	Pn	18 41 12.3	-1.1
	4.0nm,0.3s,baz=348,slow=13,SNR=173						
WRA				Sn	Sn	18 43 33.8	-10
	13nm,0.3s,baz=348,slow=22,SNR=18						
WB2	Warramunga Arr	13.63	166	eP	Pn	18 41 11.6	-1.9
WB2				eS	Sn	18 43 34.5	-10
PMG	Port Moresby	16.44	101	Pn	Pn	18 41 52.4	+1.6
	9.9nm,0.3s,baz=285,slow=7.9,SNR=67						
PMG				Sn	Sn	18 44 41.0	-12
	2.2nm,0.3s,baz=216,slow=17,SNR=6.9						
PMG	Port Moresby	16.44	101	ePn	Pn	18 41 52.4	+1.6
	258nm,0.9s						
PMG				eSn	Sn	18 44 39.6	-13
TSM	Tawau	16.88	310	P	Pn	18 42 00.1	+3.7
AS31	Alice Springs	17.15	170	eP	Pn	18 41 58.5	-1.3
AS31				eS	Sn	18 45 01.1	-8.8
ASAR	Alice Springs	17.15	170	P	Pn	18 41 59.0	-0.8
	6.7nm,0.3s,baz=20,slow=13,SNR=402						
ASAR				S	Sn	18 44 59.8	-10
	3.4nm,0.3s,baz=355,slow=26,SNR=12						
ASAR				LR	LR	18 49 30.7	
	comp=Z,326nm,18.1s,baz=349,slow=40						
ASPA	Alice Springs	17.15	170	eP	Pn	18 41 58.5	-1.3
ASPA				eS	Sn	18 45 01.1	-8.8
MBWA	Marble Bar	17.93	216	ePn	Pn	18 42 10.2	+0.7
	58nm,0.7s						
MBWA				eSn	Sn	18 45 12.6	-16
KRKI	Karangkates	18.23	264	P	Pn	18 42 17.1	+3.9
	152nm,0.6s						
KKM	Kota Kinabalu	19.26	311	P	Pn	18 42 26.4	+0.8
KKM	Kota Kinabalu	19.26	311	eP	Pn	18 42 25.9	+0.3
CTA	Charters Tower	20.08	133	eP	P	18 42 36.5	+3.0
	20nm,0.9s						
CTA				eS	S	18 46 10.7	-7.4
CTA	Charters Tower	20.08	133	P	P	18 42 36.5	+3.1
	34nm,1.0s,baz=310,slow=14,SNR=16						
CTA	Charters Tower	20.08	133	P	P	18 42 36.5	+3.0
CTA				pmax	pmax		
	comp=Z,34nm,1.0s						
CTAO	Charters Tower	20.08	133	eP	P	18 42 36.8	+3.4
CTAO				pmax	pmax		
	comp=Z,40nm,1.0s						
CTAO	Charters Tower	20.08	133	ePn	P	18 42 36.8	+3.4
	comp=Z,40nm,1.0s						
BJII	Banjamegara	20.93	267	P	P	18 42 48.1	+5.5
	comp=Z,42nm,1.2s						
KSM	Kuching	21.98	291	eP	P	18 42 53.8	-0.2
TGY	Tagaytay City	22.84	335	P	P	18 43 02.3	-0.8
	comp=Z,54nm,0.4s,baz=276,slow=4.3,SNR=5.7						
TGY	Tagaytay City	22.84	335	P	P	18 43 02.3	-0.9
TGY				pmax	pmax		
	comp=Z,54nm,0.4s						
LEM	Lembang	23.00	268	P	P	18 43 05.4	+0.5
	comp=Z,76nm,1.2s,mb5.0						
CBJI	Citeko	23.78	269	P	P	18 43 14.1	+1.5
	comp=Z,128nm,1.0s,mb5.3						
FORT	Forrest	24.11	186	eP	P	18 43 16.5	+0.9
	comp=Z,88nm,0.8s,mb5.2						
FORT				eS	S	18 47 39.8	+7.6
GUMO	Guam	24.52	35	P	P	18 43 17.4	-2.0
	comp=Z,40nm,0.4s,mb5.3,baz=209,slow=21,SNR=4.1						
GUMO	Guam	24.52	35	P	P	18 43 17.4	-2.0
GUMO				pmax	pmax		
	comp=Z,40nm,0.4s,mb5.3						
STKA	Stephens Creek	27.02	159	eP	P	18 43 42.9	+0.8
	comp=Z,12nm,0.8s,mb4.5						
STKA				eS	S	18 48 56.5	+38
STKA	Stephens Creek	27.02	159	P	P	18 43 43.1	+1.1
	comp=Z,11nm,0.7s,mb4.5,baz=332,slow=10,SNR=28						
STKA				LR	LR	18 55 32.2	
	comp=Z,212nm,19.1s,MS3.7,baz=20,slow=39						
KLBR	Kellerberrin	27.61	205	eP	P	18 43 48.6	+1.2
	comp=Z,24nm,0.5s,mb5.1						
KLBR				eS	S	18 49 00.0	+32
MUN	Mundaring	28.61	207	eP	P	18 43 57.4	+1.2
MUN				eS	S	18 49 22.3	+39
KGM	Kluang	28.74	287	P	P	18 43 58.3	+0.9
NWAO	Narrogin (SRO)	28.99	204	P	P	18 44 01.1	+1.4
	comp=Z,16nm,0.5s,mb5.0,baz=32,slow=6.9,SNR=43						
NWAO				LR	LR	18 57 13.9	
	comp=Z,202nm,19.4s,MS3.8,baz=214,slow=40						
NWAO	Narrogin (SRO)	28.99	204	eP	P	18 44 01.0	+1.3
HNR	Honiara	29.00	97	LR	LR	18 53 01.2	
	comp=Z,75nm,22.0s,MS3.3,baz=180,slow=31						
IPM	Ipoh	31.70	290	P	P	18 44 24.1	+0.5
KULM	Kulim	32.34	291	eP	P	18 44 27.9	-1.2
KULM				ePcP	PcP	18 47 17.3	+0.5
QIZ	Qiongzhong	32.84	321	P	P	18 44 35.3	+1.7
	comp=Z,28nm,1.2s,mb5.1						
PSI	Prapat	33.17	286	P	P	18 44 35.0	-1.4
	comp=Z,59nm,1.2s,mb5.4,baz=149,slow=2.4,SNR=19						
PSI				LR	LR	18 58 18.1	
	comp=Z,227nm,20.9s,MS3.9,baz=272,slow=37						
PSI	Prapat	33.17	286	P	P	18 44 35.1	-1.3
PSI				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.4						
PSI				MLR	MLR		
	comp=Z,227nm,20.9s,MS3.9						
CNB	Canberra Magne	33.23	152	eP	P	18 44 39.5	+2.6
	comp=Z,14nm,1.0s,mb4.8						
TOO	Toolangi	33.53	159	eP	P	18 44 42.1	+2.5
	comp=Z,6.1nm,0.8s,mb4.6						
TOO	Toolangi	33.53	159	eP	P	18 44 42.1	+2.5
TOO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BSI	Banda Aceh	37.43	288	P	P	18 45 13.9	+0.8
	comp=Z,42nm,1.5s,mb5.0						
DZM	Mont Dzumac	37.65	118	P	P	18 45 14.1	-0.9
	comp=Z,4.6nm,0.6s,mb4.4,baz=288,slow=3.2,SNR=2.9						
SSE	Sheshan	38.67	347	eP	P	18 45 25.3	+1.8
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,104nm,6.5s						
NANT	Nan	38.99	311	⇑P	P	18 45 24.0	-2.3
	comp=Z,415nm,1.0s,mb6.1						
CM31	Chiang Mai Arr	40.13	309	eP	P	18 45 35.9	+0.2
	comp=Z,13nm,0.8s,mb4.7						
NJ2	Nanjing	40.16	344	eP	P	18 45 34.8	-1.2
NJ2				AP	pP	18 45 41.7	-0.6
NJ2				PP	PP	18 47 11.2	+2.7
NJ2				S	S	18 51 50.0	+8.5
NJ2				XS	sS	18 51 56.0	+4.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,210nm,6.4s						
NJ2				LR	LR		
	comp=N,390nm,24.1s,MS4.3						
NJ2				LR	LR		
	comp=E,350nm,19.2s,MS4.3						
NJ2				LR	LR		
	comp=Z,180nm,23.6s,MS3.8						
CHG	Chiang Mai	40.34	309	⇑P	P	18 45 37.6	+0.2
	comp=Z,22nm,0.6s,mb5.1						
CHTO	Chiang Mai	40.34	309	P	P	18 45 38.2	+0.7
	SNR=6.1						
CHTO	Chiang Mai	40.34	309	eP	P	18 45 37.7	+0.3
CHTO				e		18 45 45.9	
CHTO				e		18 47 40.7	
CHTO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
CHTO	Chiang Mai	40.34	309	eP	P	18 45 37.7	+0.2
	comp=Z,11nm,0.7s,mb4.7						
CHTO				e		18 45 45.9	
CHTO				ePcP	PcP	18 47 40.7	+0.1
GYA	Guiyang	40.40	326	P	P	18 45 38.2	+0.2
GYA				AP	pP	18 45 42.8	-1.5
GYA				PP	PP	18 47 15.5	+4.4
GYA				PCP	PcP	18 47 41.8	+0.9
GYA				SCP	ScP	18 51 29.3	+0.3
GYA				S	S	18 51 47.1	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,340nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,360nm,17.0s,MS4.4						
GYA				LR	LR		
	comp=Z,380nm,17.2s,MS4.3						
KMI	Kunming	41.76	320	P	P	18 45 49.9	+0.7
KMI				PP	PP	18 47 29.3	+3.5
KMI				S	S	18 52 06.4	+1.0
KMI				SS	SS	18 55 06.1	-5.3
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
KMI				AMB	AMB		
	comp=Z,67nm,6.0s						
KMI				LR	LR		
	comp=N,128nm,16.6s,MS4.0						
KMI				LR	LR		
	comp=E,88nm,16.9s,MS4.0						
KMI				LR	LR		
	comp=Z,177nm,14.0s,MS4.1						
MJAR	Matsushiro Arr	43.55	9	P	P	18 46 02.4	-1.3
	comp=Z,4.3nm,0.9s,mb4.2,baz=190,slow=9.5,SNR=16						
MJAR	Matsushiro Arr	43.55	9	P	P	18 46 02.4	-1.3
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MAJO	Matsushiro	43.56	9	eP	P	18 46 02.5	-1.3
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MAJO	Matsushiro	43.56	9	eP	P	18 46 02.5	-1.3
	comp=Z,10nm,0.9s,mb4.6						
MAT	Matsushiro	43.56	9	P	P	18 46 02.0	-1.8
MAT				S	S	18 52 38.0	+6.3
CD2	Chengdu	45.46	327	P	P	18 46 18.2	-0.7
CD2				AP	pP	18 46 25.2	-0.1
CD2				PP	PP	18 48 05.5	+0.1
CD2				S	S	18 52 59.5	+0.1
CD2				SS	SS	18 56 14.9	-8.3
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=E,100nm,15.6s						
CD2				LR	LR		
	comp=Z,140nm,15.6s,MS4.0						
XAN	Xi'an	45.48	334	P	P	18 46 18.0	-1.1
XAN				AP	pP	18 46 25.6	+0.1
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
BJT	Baijiatuau	48.38	345	P	P	18 46 41.1	-0.7
BJI	Beijing	48.40	345	eP	P	18 46 41.4	-0.6
BJI				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.1						
SNY	Shenyang	48.72	353	⇓P	P	18 46 47.4	+3.0
SNY				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb5.0						
LZH	Lanzhou	49.49	331	eP	P	18 46 51.0	+0.7
LZH				AP	pP	18 46 57.0	+0.2
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,63nm,4.8s						
CN2	Changchun	50.48	355	eP	P	18 46 56.0	-1.8
HHC	Hu-ho-hao-te	50.49	341	eP	P	18 47 00.6	+2.7
HHC				AP	pP	18 47 04.8	+0.5
HHC				PCP	PcP	18 48 18.4	+2.6
HHC				PP	PP	18 48 57.4	+3.8
HHC				PCS	PcS	18 52 14.4	+1.4
HHC				S	S	18 54 14.1	+3.5
HHC				SS	SS	18 57 45.9	+1.3
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,88nm,5.6s						
HHC				LR	LR		
	comp=N,201nm,8.0s						
HHC				LR	LR		
	comp=E,657nm,18.8s						
HHC				LR	LR		
	comp=Z,72nm,5.9s						
MDJ	Mudanjiang	51.07	359	P	P	18 47 04.4	+2.1
MDJ				PP	PP	18 49 02.1	+3.2
MDJ				S	S	18 54 23.4	+4.7
MDJ				SCS	ScS	18 56 49.7	-2.1
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,53nm,5.3s						
MDJ				LR	LR		
	comp=Z,39nm,19.1s,MS3.5						
PALK	Pallekele	51.84	285	P	P	18 47 06.3	-1.7
	comp=Z,12nm,1.0s,mb4.8						
LSA	Lhasa	52.51	316	P	P	18 47 14.0	+1.0
LSA	Lhasa	52.51	316	eP	P	18 47 14.1	+1.1
LSA				e		18 47 24.2	
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
LSA	Lhasa	52.51	316	eP	P	18 47 14.1	+1.1
	comp=Z,11nm,0.6s,mb5.0						
LSA				e		18 47 24.2	
RAO	Raoul Island	53.21	122	eP	P	18 47 22.9	+4.7
RAO				pmax	pmax		
	comp=Z,526nm,0.7s						
RAO	Raoul Island	53.21	122	eP	P	18 47 22.9	+4.7
	comp=Z,526nm,0.7s						
GTA	Gaotai	54.07	331	eP	P	18 47 25.0	+0.5
GTA				AP	pP	18 47 31.7	+0.7
GTA				XP	sP	18 47 34.4	+0.9
GTA				PCP	PcP	18 48 28.4	-0.8
GTA				PP	PP	18 49 29.0	+3.0
GTA				PPP		18 50 39.7	
GTA				SCP	ScP	18 52 20.4	-5.8
GTA				PCS	PcS	18 52 26.8	-1.8
GTA				S	S	18 55 00.9	+1.1
GTA				SCS	ScS	18 57 06.3	-6.4
GTA				SS	SS	18 58 42.6	+1.3
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,65nm,5.7s						
GTA				LR	LR		
	comp=N,67nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=E,72nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,76nm,10.3s,MS4.0						
YSS	Yuzh-Sakhalins	54.45	10	eP	P	18 47 26.4	-0.8
YSS				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
YSS	Yuzh-Sakhalins	54.45	10	eP	P	18 47 26.4	-0.8
	comp=Z,8.5nm,0.6s,mb4.8						
JIRN	Jiri	54.97	310	eP	P	18 47 31.4	+0.4
GUN	Gumba	55.33	311	eP	P	18 47 33.8	+0.2
	comp=Z,76nm,0.6s,mb5.9						
PKI	Pulchoki	55.51	310	eP	P	18 47 34.6	-0.3
	comp=Z,29nm,0.5s,mb5.6						
PKI	Pulchoki	55.51	310	eP	P	18 47 34.6	-0.3
PKI				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.6						
KKN	Kakani	55.72	310	eP	P	18 47 36.2	-0.2
	comp=Z,31nm,0.6s,mb5.5						
KKN	Kakani	55.72	310	eP	P	18 47 36.2	-0.2
KKN				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.5						
DMN	Daman	55.76	310	eP	P	18 47 36.6	-0.1
	comp=Z,31nm,0.7s,mb5.5						
GKN	Gorkha	56.32	310	eP	P	18 47 40.5	-0.2
	comp=Z,58nm,0.5s,mb5.9						
HYB	Hyderabad	56.87	296	iP	P	18 47 44.0	-0.7
HYB				e	pP	18 47 49.0	-2.2
HYB	Hyderabad	56.87	296	eP	P	18 47 44.0	-0.7
KOLN	Koldanda	57.00	309	eP	P	18 47 45.6	+0.1
	comp=Z,36nm,0.5s,mb5.6						
SONM	Songino Array	58.39	341	P	P	18 47 55.4	+0.1
	comp=Z,1.8nm,0.4s,mb4.4,baz=162,slow=7.3,SNR=30						
SONM	Songino Array	58.39	341	P	P	18 47 55.4	+0.1
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAD	Karad	60.78	294	eP	P	18 48 11.0	-0.8
CASY	Casey	61.14	189	eP	P	18 48 14.7	+0.5
ZAK	Zakamensk	61.62	340	eP	P	18 48 17.6	+0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.3						
TLY	Talaya	62.62	341	eP	P	18 48 23.8	-0.4
MOY	Mondy	63.48	340	eP	P	18 48 30.0	+0.1
WMQ	Urumqi	63.55	326	⇓iP	P	18 48 31.2	+0.8
WMQ				AP	pP	18 48 36.0	-1.0
WMQ				PCP	PcP	18 49 07.0	+0.2
WMQ				PP	PP	18 50 53.0	+2.8
WMQ				PCS		18 53 11.0	
WMQ				S	S	18 57 04.0	+1.1
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,175nm,4.6s						
WMQ				LR	LR		
	comp=N,115nm,27.0s,MS4.2						
WMQ				LR	LR		
	comp=E,148nm,22.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,98nm,20.4s,MS4.0						
MIR	Mirnyy	65.16	196	d iP	P	18 48 43.5	+2.6
MIR				pmax	pmax		
	comp=Z,190nm,1.5s,mb5.9						
BOD	Bodaibo	65.71	350	eP	P	18 48 37.8	-6.7
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
MK31	Makanchi Array	68.39	326	P	P	18 49 00.7	-0.8
MK31				pmax	pmax		
	comp=Z,43nm,0.7s,mb5.6						
MKAR	Makanchi Array	68.39	326	P	P	18 49 01.7	+0.2
	comp=Z,42nm,0.4s,mb5.8,baz=115,slow=7.9,SNR=469						
MKAR	Makanchi Array	68.39	326	P	P	18 49 01.7	+0.2
MKAR				pmax	pmax		
	comp=Z,42nm,0.4s						
MKAR	Makanchi Array	68.39	326	P	P	18 49 01.7	+0.2
YAK	Yakutsk	68.51	359	eP	P	18 48 57.5	-4.8
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
YAK	Yakutsk	68.51	359	eP	P	18 49 01.1	-1.2
	comp=Z,26nm,0.8s,mb5.2						
KZA	Kyzart	70.04	319	P	P	18 49 13.2	+1.5
	SNR=21						
TKM2	Tokmak 2	70.23	320	P	P	18 49 13.6	+0.7
	SNR=21						
TKM2	Tokmak 2	70.23	320	P	P	18 49 12.9	0.0
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
KBK	Karagaybulak	70.52	320	P	P	18 49 15.6	+0.9
	SNR=10						
AAK	Ala-Archa	70.80	319	P	P	18 49 17.2	+0.8
	SNR=13						
AAK	Ala-Archa	70.80	319	P	P	18 49 16.9	+0.5
	SNR=7.2						
AAK	Ala-Archa	70.80	319	c iP	P	18 49 16.1	-0.3
AAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
AAK	Ala-Archa	70.80	319	eP	P	18 49 16.3	-0.1
	comp=Z,23nm,0.8s,mb5.2						
CHMS	Chumysh	70.81	320	P	P	18 49 16.7	+0.2
	SNR=9.9						
AML	Almayashu	71.08	319	P	P	18 49 19.2	+1.1
	SNR=28						
USP	Ospenovka	71.11	320	P	P	18 49 18.7	+0.4
	SNR=25						
EKS2	Erkin-Say	71.28	319	P	P	18 49 20.4	+1.1
	SNR=20						
ZAL	Zalesovo	71.65	333	P	P	18 49 19.7	-1.8
	comp=Z,5.5nm,0.9s,mb4.5,baz=350,slow=5.6,SNR=24						
ZAL	Zalesovo	71.65	333	P	P	18 49 19.7	-1.8
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KURK	Kurchatov	72.65	328	P	P	18 49 27.4	-0.1
	comp=Z,162nm,0.9s,mb6.0,SNR=18						
VNDA	Vanda	72.67	173	P	P	18 49 27.9	+0.3
	comp=Z,5.9nm,0.8s,mb4.6,baz=321,slow=6.4,SNR=32						
VNDA				LR	LR	19 22 24.5	
	comp=Z,73nm,18.3s,MS4.0,baz=332,slow=37						
VNDA	Vanda	72.67	173	eP	P	18 49 27.5	-0.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VNDA	Vanda	72.67	173	eP	P	18 49 27.5	-0.1
	comp=Z,4.6nm,0.6s,mb4.6						
NVS	Novosibirsk	72.93	333	eP	P	18 49 27.6	-1.6
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
SBA	Scott Base	73.55	173	eP	P	18 49 33.6	+0.8
SBA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
SBA	Scott Base	73.55	173	eP	P	18 49 33.6	+0.8
	comp=Z,8.7nm,1.0s,mb4.6						
KK31	Karatay Array	73.61	318	P	P	18 49 30.8	-2.4
KK31				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
MAW	Mawson	75.53	202	⇑iP	P	18 49 45.1	+0.8
	comp=Z,9.4nm,0.6s,mb4.9						
MAW	Mawson	75.53	202	P	P	18 49 45.3	+1.0
	comp=Z,12nm,0.6s,mb5.0,baz=79,slow=6.5,SNR=29						
MAW	Mawson	75.53	202	⇑iP	P	18 49 45.1	+0.8
MAW				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VOSK	Vostochnaya	77.75	327	P	P	18 49 55.1	-1.8
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRVK	Borovoye	78.28	328	P	P	18 49 59.5	-0.3
	SNR=5.2						
BRVK	Borovoye	78.28	328	eP	P	18 49 58.9	-0.9
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	Borovoye	78.28	328	eP	P	18 49 58.9	-0.9
	comp=Z,9.3nm,0.8s,mb4.8						
CHKZ	Chkalovo	78.40	328	eP	P	18 49 59.5	-1.0
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	Chkalovo	78.40	328	eP	P	18 49 59.5	-1.0
	comp=Z,9.2nm,0.8s,mb4.8						
ZRNK	Zerenda	78.92	327	eP	P	18 50 02.1	-1.2
ZRNK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
ZRNK	Zerenda	78.92	327	eP	P	18 50 02.1	-1.2
	comp=Z,14nm,0.8s,mb4.9						
AB31	Akbulak array	82.74	321	P	P	18 50 21.6	-2.2
AB31				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
QSPA	South Pole Qui	83.29	180	eP	P	18 50 26.5	-0.1
	comp=Z,16nm,0.9s,mb5.1						
SYO	Syowa Base	84.24	201	⇓eP	P	18 50 30.2	-1.3
AKTO	Aktyubinsk	84.30	322	P	P	18 50 29.5	-2.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
ARU	Arti	85.85	328	⇑iP	P	18 50 38.1	-1.4
ARU				e		18 53 57.8	
ARU				ePPP		18 55 50.8	
ARU				eS	SKSac	19 01 00.4	-3.7
ARU				eSS	SS	19 06 46.8	-2.0
ARU				pmax	pmax		

	comp=Z,7.0nm,1.0s,mb4.8						
ARU	Arti	85.85	328	eP	P	18 50 38.2	-1.3
	comp=Z,6.4nm,0.8s,mb4.9						
GNI	Garni	91.24	310	eP	P	18 51 05.8	+0.6
GNI				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GNI	Garni	91.24	310	eP	P	18 51 05.8	+0.6
	comp=Z,7.8nm,0.9s,mb5.0						
COLA	College	92.34	25	eP	P	18 51 11.3	+1.0
SNAA	Sanae	96.15	193	eP	P	18 51 27.7	0.0
SNAA				e		18 51 30.3	
SNAA				e		18 51 31.5	
SNAA	Sanae	96.15	193	eP	P	18 51 26.4	-1.3
SNAA	Sanae	96.15	193	eP	P	18 51 27.8	+0.1
	comp=Z,5.5nm,0.9s,mb5.0						
VNA1	Neumayer--Stat	98.11	193	eP	P	18 51 36.3	-0.3
VNA1				e		18 51 38.0	
VNA1				e		18 51 39.9	
INK	Inuvik	98.28	22	eP	P	18 51 43.6	+6.3
ARCES	ARCESS Array B	101.55	340	P	Pdif	18 51 49.3	-2.6
	comp=Z,2.7nm,0.9s,baz=74,slow=6.7,SNR=3.8						
ARCES	ARCESS Array B	101.55	340	P	Pdif	18 51 49.3	-2.6
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	102.86	332	P	Pdif	18 51 55.1	-2.7
	comp=Z,0.5nm,0.7s,baz=64,slow=9.4,SNR=4.2						
FINES	FINESS Array B	102.86	332	P	Pdif	18 51 55.1	-2.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CLL	Collm	112.37	323	ePKiKP	PKiKP	18 56 36.0	+0.2
GERES	GERESS Array B	112.67	320	SKP	SKPdf	19 00 04.7	-6.0
	comp=Z,0.4nm,0.7s,baz=27,slow=3.3,SNR=3.7						
GERES				PKKP	PKKPdf	19 07 43.9	-0.8
	comp=Z,0.2nm,0.5s,baz=233,slow=4.8,SNR=3.5						
PDAR	Pinedale Array	116.11	45	SKP		19 00 11.3	
	comp=Z,0.3nm,0.7s,baz=325,slow=4.4,SNR=3.5						
PDAR				PKKPbc	PKKPbc	19 07 12.2	-0.5
	comp=Z,0.4nm,0.7s,baz=99,slow=5.6,SNR=3.6						
BAIF	Baives	118.02	324	ePKIKP	PKPdf	18 56 46.5	-0.1
LPG	La Plagne	118.24	319	ePKIKP	PKPdf	18 56 46.8	-0.3
	comp=Z,3.2nm,0.5s						
LPL	La Plagne	118.24	319	ePKIKP	PKPdf	18 56 46.7	-0.4
	comp=Z,3.1nm,0.4s						
CABF	La Chapelle	118.26	320	ePKIKP	PKPdf	18 56 46.7	-0.4
	comp=Z,5.1nm,0.5s						
SBF	Sospel	118.34	317	ePKIKP	PKPdf	18 56 46.9	-0.4
MBDF	Montbardon	118.50	318	ePKIKP	PKPdf	18 56 47.4	-0.2
FRF	La Foret Royal	118.98	317	ePKIKP	PKPdf	18 56 47.9	-0.6
ORIF	Oris-en-Rattie	119.02	318	ePKIKP	PKPdf	18 56 47.9	-0.7
	comp=Z,1.3nm,0.3s						
KEST	Kesra	119.25	307	PKP	PKPdf	18 56 49.1	+0.1
	comp=Z,0.6nm,0.7s,baz=151,slow=3.2,SNR=3.9						
LOR	Lormes	119.41	321	ePKIKP	PKPdf	18 56 48.5	-0.8
SMRF	Simiane la Rot	119.56	317	ePKIKP	PKPdf	18 56 49.5	-0.1
VIVF	Saint-Julien-l	119.84	319	ePKIKP	PKPdf	18 56 49.8	-0.3
AVF	Avril sur Loir	119.92	321	ePKIKP	PKPdf	18 56 49.3	-1.0
	comp=Z,1.9nm,0.4s						
BGF	Bois d'Agland	120.33	321	ePKIKP	PKPdf	18 56 50.6	-0.5
	comp=Z,8.1nm,0.6s						
TCF	Toulx Ste Croi	120.85	321	ePKIKP	PKPdf	18 56 51.7	-0.4
	comp=Z,14nm,0.9s						
MTLF	Montolieu	122.06	318	ePKIKP	PKPdf	18 56 53.8	-0.6
EPF	Esparros	123.44	318	ePKIKP	PKPdf	18 56 56.8	-0.2
	comp=Z,2.0nm,0.5s						
TORD	Torodi Ar. Bea	129.51	281	PKhKP		18 56 59.1	
	comp=Z,0.2nm,0.5s,baz=100,slow=1.6,SNR=4.2						
TORD				PKP	PKPdf	18 57 09.5	+0.8
	comp=Z,3.9nm,0.5s,baz=102,slow=2.2,SNR=77						
TORD				SKPbc		19 00 23.4	
	comp=Z,2.8nm,0.6s,baz=68,slow=3.8,SNR=28						
DBIC	Dimbokro	135.95	273	PKhKP		18 57 17.1	
	comp=Z,3.4nm,0.9s,baz=155,slow=3.1,SNR=3.5						
DBIC				PKP	PKPdf	18 57 23.1	+2.4
	comp=Z,5.1nm,0.4s,baz=79,slow=2.5,SNR=18						
DBIC				SKPbc	SKPbc	19 00 46.1	-5.2
	comp=Z,4.5nm,0.8s,baz=73,slow=3.5,SNR=6.1						
DBIC	Dimbokro	135.95	273	PKIKP	PKPdf	18 57 23.1	+2.3
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.4s						
DBIC				pmax	pmax		
	comp=N,5.0nm,0.8s						
CFAA	Coronel Fontan	137.82	156	PKhKP		18 57 16.4	
	comp=N,0.3nm,0.5s,baz=243,slow=6.4,SNR=5.3						
CPUP	Villa Florida	146.25	167	PKPbc	PKPbc	18 57 41.3	+1.0
	comp=N,7.8nm,0.6s,baz=178,slow=2.2,SNR=19						
CPUP				SKP		19 01 13.9	
	comp=N,2.3nm,0.6s,baz=204,slow=0.6,SNR=3.7						
CPUP	Villa Florida	146.25	167	PKP2	PKPab	18 57 41.3	+0.2
CPUP						19 01 13.9	
CPUP				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CPUP				pmax	pmax		
	comp=N,2.0nm,0.6s						
LPAZ	La Paz	150.49	141	PKPbc	PKPbc	18 57 54.1	+2.6
	comp=N,9.3nm,0.4s,baz=29,slow=1.1,SNR=58						
LPAZ	La Paz	150.49	141	PKIKP	PKPbc	18 57 54.1	+2.6
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.4s						

*NEIC **02** 18:46:10.4, 5833N×13347W, h1km, ML3.1(AEIC), ML3.3(PGC), After PGC.*

PGC 02 18:46:10.4, 5833N×13347W, h1km, ML3.3/4, 55km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKAG	Skagway	1.49	320	P	Pn	18 46 36.2	-2.2
SKAG				S	Sb	18 46 57.7	-0.7
SIT	Sitka	1.62	219	P	Pn	18 46 38.5	-1.6
SIT				S	Sn	18 47 00.8	-0.8
DLBC	Dease Lake	1.81	85	Pn	Pn	18 46 42.0	-0.8
DLBC				Sg	Sg	18 47 07.2	-1.6
DLBC				Trac		18 47 13.5	
	comp=Z,414nm,0.8s						
PLBC	Pleasant Camp	1.88	308	Pn	Pn	18 46 43.8	+0.1
PLBC				Sg	Sg	18 47 08.8	-2.1
WRAK	Wrangell Islan	2.01	162	ePn	Pn	18 46 43.7	-1.7
WRAK				eSn	Sn	18 47 12.9	+1.7
WHY	Whitehorse	2.45	343	Pn	Pn	18 46 50.1	-1.3
WHY				Pg	Pg	18 46 55.1	-2.3
WHY				Sn	Sn	18 47 18.6	-3.5
WHY				Sg	Sg	18 47 24.6	-4.5
WHY				Trac		18 47 35.1	
	comp=Z,86nm,0.7s						
WHY	Whitehorse	2.45	343	P	Pn	18 46 50.2	-1.3
WHY				S	Sn	18 47 19.3	-2.7
CRAG	Craig	2.87	176	P	Pn	18 46 56.4	-0.9
HYT	Haines Junctio	3.24	322	Pn	Pn	18 47 02.4	0.0
HYT				Pg	Pg	18 47 08.4	-4.1
HYT				Sg	Sg	18 47 51.1	-3.4
HYT				Trac		18 47 56.3	
	comp=Z,46nm,0.6s						
PNL	Peninsula	3.35	296	P	Pn	18 47 04.1	+0.2
RUBB	Prince Rupert	4.39	155	Pn	Pn	18 47 16.9	-1.4
RUBB				Pg	Pg	18 47 28.9	-5.7
RUBB				Sg	Sg	18 48 27.8	-3.8
RUBB				Trac		18 48 31.8	
	comp=Z,90nm,0.8s						
NDB	Naden	4.39	176	Sg	Sg	18 48 36.5	+4.8
NDB				Trac		18 48 40.4	
	comp=Z,28nm,0.9s						
FNBB	Fort Nelson	5.50	80	Trac		18 49 16.3	
	comp=Z,19nm,0.8s						
FNBB	Fort Nelson	5.50	80	Sg	Sg	18 49 05.6	-1.4
BNB	Barry Inlet	5.85	170	Pn	Pn	18 47 38.2	0.0
DAWY	Dawson	6.43	336	Pg	Pg	18 48 07.0	-6.6
DAWY				Sg	Sg	18 49 32.9	-3.9
DAWY				Trac		18 49 34.8	
	comp=Z,36nm,0.8s						
DAWY	Dawson	6.43	336	ePn	Pn	18 47 46.0	-0.2
DAWY				ePg	Pg	18 48 08.1	-5.5
DAWY				eSg	Sg	18 49 33.1	-3.8
EGAK	Eagle	7.43	334	ePn	Pn	18 48 00.1	0.0
EGAK				ePg	Pg	18 48 26.2	-6.6
EGAK				eSg	Sg	18 50 05.0	-4.2
INK	Inuvik	10.02	360	eP	Pn	18 48 33.9	-1.6
	6.1nm,0.9s						

*ISCJB **02** 18:54:45.9±0.5, 2.17S±0.03×77.51W±0.07, h12km, mb4.3/4, MS3.0/3, Error ellipse: s-maj=10.5km s-min=4.3km az=151.9*

*IGQ **02** 18:54:47.9, 1.87S×77.58W, h12km±7km, Mb4.9, Ms4.8, Error ellipse: s-maj=9.2km s-min=2.2km az=45.7*

*IDC **02** 18:54:49.4±0.9, 2.12S×76.87W, h0km, mb4.2/6, mb1 4.4/9, mb1mx4.1/22, mbtmp4.3/9, ML4.2/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/31, Error ellipse: s-maj=26.2km s-min=19.9km az=69.0*

*NEIC **02** 18:54:55.0±1.3, 2.39S×77.08W, h43km±13km, mb4.6/7, MD4.9(IGQ), Error ellipse: s-maj=16.3km s-min=9.9km az=67.0*

NEIC Felt at Banos, Choglontus, Macas, Puyo and Runtun, Ecuador.

*BJI **02** 18:54:55.0, 2.40S×77.10W, h42km, mB5.1*

ISC 02 18:54:47.6±0.5, 2.14S±0.03×77.71W±0.08, h12km, n43, σ1s17/29, mb4.3/4, MS3.0/3, 2C-9D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARRY	Arrayan	0.97	310	⇑P	Pb	18 55 05.9	-0.6
PISA	Pisayambo	1.27	328	⇓P	Pn	18 55 10.0	-1.2
TAMB	Tambo	1.58	335	⇓P	Pn	18 55 14.9	-0.5
MOV1	Cotopaxi Vol s	1.60	333	⇑P	Pn	18 55 15.2	-0.5
COV1	Cotopaxi Volc	1.60	337	⇓P	Pn	18 55 16.2	+0.5
VC1	Cotopaxi 1	1.64	335	⇓P	Pn	18 55 16.2	-0.1
CAMI	Rancho Maria	1.66	331	⇓P	Pn	18 55 16.7	+0.2
NAS1	Nasa	1.68	333	⇓P	Pn	18 55 17.1	+0.2
PITA	Cotopaxi Volc	1.73	335	⇓P	Pn	18 55 17.6	+0.1
ANTI	Antisana	1.74	345	⇓P	Pn	18 55 16.7	-0.9
PINO	Pino	2.17	336	P	Pn	18 55 24.9	+1.4
CAYA	Cayambe	2.22	353	⇓P	Pn	18 55 24.3	+0.1
COTA	Cotacachi	2.54	346	P	Pn	18 55 30.6	+2.0
COTA				S	Sn	18 56 03.4	+4.0
ATAH	Atahualpa	4.87	188	Pn	Pb	18 56 10.2	-2.7
	18nm,0.3s,baz=13,slow=9.5,SNR=88						
ATAH				Sn	Sb	18 57 11.4	-0.1
	16nm,0.3s,baz=4.4,slow=7.0,SNR=16						
ROSC	El Rosal	7.73	26	Lg		18 58 51.3	
	8.0nm,0.3s,baz=269,slow=22,SNR=3.9						
ROSC				LR	LR	18 59 45.3	
	comp=Z,39nm,21.2s,baz=55,slow=40						
ROSC	El Rosal	7.73	26	Pn	Pn	18 56 45.5	+5.5
ROSC				eSg		18 58 51.0	
NNA	Nana	9.82	175	Pn	Pn	18 57 11.1	+2.5
	3.0nm,0.3s,baz=329,slow=13,SNR=6.3						
NNA				Sn	Sn	18 58 59.2	+0.5
	2.1nm,0.3s,baz=72,slow=19,SNR=2.0						
NNA	Nana	9.82	175	Pn	Pn	18 57 09.8	+1.2
	24nm,0.6s						
NNA				eSn	Sn	18 58 57.6	-1.1
SDV	Santo Domingo	13.03	33	Pn	Pn	18 57 50.8	-1.7
	0.6nm,0.3s,baz=218,slow=18,SNR=3.1						
SDV				Lg		19 01 45.9	
	1.6nm,0.3s,baz=290,slow=16,SNR=3.7						
SAML	Samuel	15.96	116	ePn	Pn	18 58 28.3	-3.6
SAML				eSn	Sn	19 01 16.9	-12
PCRV	Puerto La Cruz	17.87	47	LR	LR	19 06 18.0	
	comp=Z,55nm,19.4s,baz=67,slow=40						
SIV	San Ignacio	21.40	131	P	P	18 59 37.1	+1.9
	9.0nm,0.6s,mb4.3,baz=299,slow=14,SNR=21						
SJG	San Juan	23.12	29	LR	LR	19 07 60.0	
	comp=Z,39nm,20.4s,MS2.9,baz=180,slow=35						
CMIG	Matias Romero	25.54	319	P	sP	19 00 24.9	+3.6
	1.1nm,0.4s,baz=120,slow=7.8,SNR=5.0						
CMIG				LR	LR	19 09 00.5	
	comp=Z,26nm,20.9s,MS2.7,baz=16,slow=33						
CPUP	Villa Florida	31.01	143	LR	LR	19 16 07.5	
	comp=Z,96nm,19.0s,MS3.5,baz=292,slow=42						
WMOK	Wichita Mounta	41.68	334	P	sP	19 02 42.7	+1.5
	3.9nm,1.1s						
ACSO	Alum Creek Sta	42.45	354	P	sP	19 02 48.9	+1.4
	19nm,1.3s						
MNTX	Cornudas Mount	42.70	324	eP	sP	19 02 52.1	+2.6
ANMO	Albuquerque	45.69	326	eP	sP	19 03 16.7	+3.1
RSSD	Black Hills	51.73	336	eP	sP	19 04 02.4	+2.4
	3.5nm,0.7s						
PDAR	Pinedale Array	53.13	331	P	sP	19 04 12.7	+2.2
	0.8nm,0.6s,baz=122,slow=8.8,SNR=8.6						
ULM	Lac du Bonnet	54.47	346	P	sP	19 04 20.3	+0.1
	4.7nm,0.6s,baz=165,slow=7.4,SNR=11						
NVAR	Mina Array Bea	55.04	321	P	sP	19 04 26.0	+1.6
	0.3nm,0.3s,baz=127,slow=8.1,SNR=4.7						
WVOR	Wild Horse Val	57.72	325	eP	sP	19 04 45.9	+2.4
	4.6nm,0.9s						
DBIC	Dimbokro	73.24	82	P	P	19 06 18.8	+0.2
	6.2nm,0.7s,mb4.7,baz=223,slow=4.9,SNR=10						
DBIC	Dimbokro	73.24	82	eP	P	19 06 18.4	-0.2
	7.6nm,0.8s,mb4.7						
INK	Inuvik	79.96	342	eP	sP	19 07 03.5	+1.5
	7.2nm,0.9s						
TORD	Torodi Ar. Bea	80.18	76	P	P	19 06 57.3	-0.5
	2.0nm,0.8s,mb4.1,baz=284,slow=6.0,SNR=25						
EGAK	Eagle	80.92	337	eP	sP	19 07 08.7	+1.5
SNAA	Sanae	83.24	162	eP	P	19 07 15.5	+1.6
	3.5nm,1.1s,mb4.3						
HHC	Hu-ho-hao-te	140.57	349	ePKP	PKPdf	19 14 20.6	+3.7
WRA	Warramunga Arr	141.65	234	PKhKP		19 14 14.7	
	0.4nm,0.7s,baz=119,slow=2.7,SNR=5.0						
LZH	Lanzhou	146.19	358	ePKP	PKPdf	19 14 28.0	+1.2
LZH				APKP		19 14 42.0	

IDC 02 19:02:38.5±2.4, 7.37S×127.96E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=297.2km s-min=31.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.90	141	eP	Pn	19 04 24.0	+3.1
	15nm,0.1s						
KAKA				eS	Sn	19 05 33.8	-6.4
FITZ	Fitzroy Crossi	10.91	192	eP	Pn	19 05 22.2	+6.3
	2.0nm,0.4s						
FITZ				eS	Sn	19 07 16.8	-1.8
WRA	Warramunga Arr	13.95	154	Pn	Pn	19 05 56.7	-0.7
	0.7nm,0.3s,baz=331,slow=14,SNR=61						
WRA				Sn	Sn	19 08 19.0	-14
	0.7nm,0.3s,baz=332,slow=23,SNR=13						
WB2	Warramunga Arr	13.95	154	eP	Pn	19 05 56.6	-0.9
WB2				eS	Sn	19 08 19.4	-14
ASAR	Alice Springs	17.18	161	P	Pn	19 06 41.0	+1.0
	0.3nm,0.3s,baz=344,slow=9.9,SNR=19						
ASAR				S	Sn	19 09 35.5	-16
	0.1nm,0.3s,baz=321,slow=13,SNR=4.2						
ASPA	Alice Springs	17.18	161	eP	Pn	19 06 42.4	+2.5
ASPA				eS	Sn	19 09 41.1	-10
MKAR	Makanchi Array	67.44	328	P	P	19 13 36.1	+0.2
	0.3nm,0.5s,baz=115,slow=8.2,SNR=7.2						

*ISCJB **02** 19:04:20.0±0.4, 38.43N±0.03×21.72E±0.03, h10km, mb3.3/4, Error ellipse: s-maj=4.0km s-min=3.0km az=174.6*

*NEIC **02** 19:04:20.6, 38.50N×21.66E, h14km, ML3.4(ATH), After ATH.*

*THE **02** 19:04:20.7, 38.44N×21.74E, h10km, ML3.3*

*CSEM **02** 19:04:20.9±0.1, 38.46N×21.66E, h2km, ML3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=2.0*

*ATH **02** 19:04:20.6, 38.50N×21.66E, h14km±2km, MD3.5/11, ML3.4*

*IDC **02** 19:04:23.9±5.5, 38.55N×21.40E, h33km±49km, mb3.2/4, mb1 3.4/6, mb1mx3.3/23, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=30.5km s-min=19.7km az=90.0*

ISC 02 19:04:20.4±0.5, 38.48N±0.03×21.71E±0.03, h1km±4km, n33, σ1s15/46, mb3.3/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.45	10	ePB	Pg	19 04 30.0	+1.0
RLS	Riolos of Patr	0.46	204	ePB	Pg	19 04 30.2	+1.0
AGG	Agios Georgios	0.73	42	ePg	Pg	19 04 35.2	+0.7
LKD	Levkas	0.86	286	ePg	Pg	19 04 35.6	-1.3
LKD				eSg	Sg	19 04 50.1	+2.0
VLS	Valsamata	0.93	252	ePG	Pg	19 04 37.0	-1.2
VLS				eSB	Sb	19 04 51.0	-1.1
LKR	Lokris	1.03	80	ePG	Pg	19 04 40.2	+0.1
LKR				eSB	Sb	19 04 55.6	+0.6
ITM	Ithomi	1.30	172	ePG	Pg	19 04 45.2	-0.3
JAN	Janina	1.35	331	ePB	Pb	19 04 45.3	-1.3
JAN				eSB	Sb	19 05 03.3	-1.1
MEV	Metsovon	1.36	344	ePg	Pg	19 04 47.0	+0.5
NEO	Neokhori	1.45	54	ePG	Pg	19 04 47.6	-0.5
XOR	Xorichti	1.46	52	ePg	Pg	19 04 47.7	-0.7
XOR				eSg	Sg	19 05 08.1	+0.8
IGT	Igoumenitsa	1.50	315	ePg	Pg	19 04 48.6	-0.6
IGT				eSg	Sg	19 05 12.0	+3.3
ATH	Athens Observa	1.66	107	ePG	Pg	19 04 52.2	-0.1
LIT	Litokhoron	1.73	20	ePb	Pb	19 04 51.5	-1.5
LIT				eSb	Sb	19 05 15.7	+0.4
KZN	Kozani	1.83	2	ePN	Pn	19 04 53.6	+0.7
KZN				eSN	Sn	19 05 17.2	+0.5
AOS	Alonnisos	1.83	67	ePb	Pb	19 04 53.0	-1.7
AOS				eSb	Sb	19 05 16.8	-1.4
SRN	Sarande	1.93	317	i Pn	Pn	19 04 55.1	+0.8
SRN				i Sn	Sn	19 05 21.4	+2.2
KEK	Kerkira	1.93	310	ePN	Pn	19 04 54.4	0.0
KEK				eSN	Sn	19 05 19.4	+0.2
VLI	Veliai	2.01	151	ePN	Pn	19 04 57.5	+2.1
PAIG	Paliouri	2.11	46	ePn	Pn	19 04 57.1	+0.3
FNA	Florina	2.32	354	ePn	Pn	19 05 01.4	+1.8
GRG	Griva	2.54	12	ePn	Pn	19 05 03.3	+0.6
OUR	Ouranopolis	2.56	43	ePn	Pn	19 05 02.7	-0.3
KNT	Kendrikon	2.83	18	ePn	Pn	19 05 07.3	+0.5
MMB	Musomiste	3.48	26	ePn	Pn	19 05 15.4	-0.2
MMB				eSn	Sn	19 05 56.8	-0.5
IDI	Anoyia	4.08	140	Pn	Pn	19 05 27.7	+3.8
	0.2nm,0.3s,baz=266,slow=13,SNR=4.7						
IDI				Sn	Sn	19 06 13.7	+1.5
	0.8nm,0.3s,baz=108,slow=20,SNR=2.2						
SLCN	Sala Consilina	5.08	294	Pn	Pn	19 05 38.4	+0.8
RGNG	Rignano Grg	5.68	306	Pn	Pn	19 05 44.9	-1.0
MLR	Muntele Rosu	7.69	23	Pn	Pn	19 06 17.0	+3.5
	0.5nm,0.3s,baz=304,slow=7.3,SNR=5.8						
HFS	Hagfors	22.27	349	P	P	19 09 16.2	-2.6
	1.0nm,0.8s,mb3.3,baz=159,slow=9.3,SNR=4.3						
NOA	NORSAR Array B	23.52	347	P	P	19 09 29.0	-3.1
	0.8nm,0.8s,mb3.2,baz=163,slow=11,SNR=3.9						
TORD	Torodi Ar. Bea	30.86	221	P	P	19 10 36.6	-1.5
	0.3nm,0.4s,mb3.5,baz=32,slow=9.1,SNR=7.3						
MKAR	Makanchi Array	44.35	59	P	P	19 12 31.3	-0.8
	0.3nm,0.4s,mb3.4,baz=271,slow=7.3,SNR=9.1						

IDC 02 19:08:41.1±26.0, 52.53N×167.00W, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.9/4, Error ellipse: s-maj=651.0km s-min=84.8km az=158.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	64.73	315	P	P	19 19 20.9	-0.2
	0.6nm,0.8s,baz=46,slow=7.2,SNR=4.2						
FINES	FINESS Array B	65.89	353	P	P	19 19 27.9	-0.7
	0.9nm,0.6s,baz=24,slow=8.1,SNR=10						
HFS	Hagfors	67.69	360	P	P	19 19 39.7	-0.4
	0.8nm,0.3s,baz=57,slow=5.5,SNR=8.4						
AKASG	Malin Array Be	76.23	349	P	P	19 20 30.7	-0.6
	0.3nm,0.4s,baz=9.4,slow=5.0,SNR=4.3						

MAN 02 19:24:39.4, 5.00N×125.00E, h160km, mb2.6, ML4.1, MS2.6, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	1.99	3	⇓iP	Pn	19 25 16.6	+1.6
KCP				i S	Sn	19 25 34.8	-7.8
MATI	Mati	2.30	33	eP	Pn	19 25 19.0	+0.4
MATI				eS	Sn	19 25 41.5	-7.4
PAGZ	Pagadian	3.25	330	eP	Pn	19 25 31.1	+0.8
IPIL	Ipil	3.67	319	⇑eP	Pn	19 25 37.3	+1.7
IPIL				i S	Sn	19 26 12.1	-7.2
IPIL	Ipil	3.67	319	eP	Pn	19 25 36.6	+1.0
IPIL				eS	Sn	19 26 11.1	-8.2

IDC 02 19:31:07.7±1.7, 24.27S×66.89W, h145km±20km, mb3.3/3, mb1 3.4/5, mb1mx3.3/17, mbtmp3.8/5, Error ellipse: s-maj=44.7km s-min=13.6km az=95.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.40	189	P	Pn	19 32 54.8	+1.6
	0.1nm,0.3s,baz=13,slow=11,SNR=9.3						
CFAA				S	Sn	19 34 13.5	-2.3
	0.3nm,0.3s,baz=172,slow=20,SNR=9.1						
LPAZ	La Paz	8.03	351	P	Pn	19 33 03.8	+2.4
	0.6nm,0.3s,baz=160,slow=11,SNR=21						
LPAZ				S	Sn	19 34 29.6	-1.1
	0.1nm,0.3s,baz=114,slow=20,SNR=5.1						
SIV	San Ignacio	9.88	35	P	Pn	19 33 27.0	+0.8
	1.1nm,0.3s,baz=226,slow=14,SNR=20						
SNAA	Sanae	59.06	161	P	P	19 40 53.0	+0.5
	0.1nm,0.4s,baz=304,slow=11,SNR=6.8						
TORD	Torodi Ar. Bea	76.57	69	P	P	19 42 42.0	0.0
	0.2nm,0.4s,baz=244,slow=5.0,SNR=7.0						
BOSA	Boshof	80.52	117	P	P	19 43 03.6	0.0
	2.8nm,0.9s,baz=228,slow=7.1,SNR=3.6						
WRA	Warramunga Arr	131.44	207	PKP	PKPdf	19 50 02.9	+0.1
	0.2nm,0.5s,baz=160,slow=1.7,SNR=8.1						
MKAR	Makanchi Array	146.66	40	PKPbc	PKPbc	19 50 32.0	-0.2
	0.5nm,0.6s,baz=328,slow=1.7,SNR=6.3						

IDC 02 19:50:48.1±2.0, 8.97S×108.29E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=99.6km s-min=20.4km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.14	120	P	Pn	19 55 15.0	+1.4
	0.0nm,0.3s,baz=274,slow=14,SNR=3.5						
WRA	Warramunga Arr	27.44	116	P	P	19 56 35.4	-0.2
	0.2nm,0.5s,baz=290,slow=10,SNR=4.3						
ASAR	Alice Springs	28.53	124	P	P	19 56 45.1	-0.1
	0.3nm,0.7s,baz=301,slow=9.2,SNR=3.2						
ASAR				PcP	PcP	19 59 56.9	0.0
	0.4nm,1.0s,baz=296,slow=1.4,SNR=4.2						
SONM	Songino Array	56.58	358	P	P	20 00 33.1	+0.6
	0.9nm,0.5s,baz=176,slow=8.6,SNR=5.4						
MKAR	Makanchi Array	60.16	340	P	P	20 00 57.0	-0.5
	2.4nm,0.6s,baz=139,slow=7.1,SNR=24						
BVAR	Borovoye Array	69.67	337	P	P	20 01 59.9	+0.5
	0.7nm,0.5s,baz=149,slow=11,SNR=5.9						

*ATH **02** 19:51:21.9, 39.34N×23.91E, h37km±2km, MD3.4/9, ML3.2*

*NEIC **02** 19:51:21.9, 39.34N×23.91E, h37km, MD3.4(ATH), After ATH.*

*ISCJB **02** 19:51:22.4±0.5, 39.33N±0.03×23.94E±0.05, h25km±4km, Error ellipse: s-maj=6.7km s-min=4.9km az=73.2*

*THE **02** 19:51:22.7, 39.37N×23.99E, h8km, ML2.8*

*CSEM **02** 19:51:22.3±0.1, 39.32N×23.97E, h25km, ML2.8, Error ellipse: s-maj=2.7km s-min=1.8km az=121.0*

ISC 02 19:51:22.4±0.6, 39.34N±0.03×23.95E±0.04, h20km±3km, n23, σ0s82/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOS	Alonnisos	0.18	199	ePg	Pg	19 51 27.2	0.0
AOS				eSg	Sg	19 51 30.7	+0.2
NEO	Neokhori	0.57	267	ePN	Pn	19 51 33.7	-1.7
NEO				eSN	Sb	19 51 41.9	+0.6
XOR	Xorichti	0.59	273	ePg	Pg	19 51 34.3	+0.1
XOR				eSg	Sg	19 51 43.5	+1.3
XOR	Xorichti	0.59	273	ePg	Pg	19 51 34.3	0.0
XOR				eSg	Sg	19 51 43.5	+1.3
PAIG	Paliouri	0.63	340	ePg	Pg	19 51 33.7	-1.2
PAIG				eSg	Sg	19 51 43.5	+0.2
OUR	Ouranopolis	1.00	1	ePg	Pg	19 51 40.9	-0.9
LKR	Lokris	1.01	228	ePN	Pn	19 51 41.6	+0.1
LKR				eSN	Sn	19 51 54.6	-0.5
LIA	Limnos Island	1.10	59	ePN	Pn	19 51 42.8	0.0
PLG	Polygyros	1.11	340	ePN	Pn	19 51 42.2	-0.6
PLG				eSN	Sn	19 51 56.6	-0.9
AGG	Agios Georgios	1.30	257	ePg	Pg	19 51 45.7	-1.9
AGG				eSg	Sg	19 52 06.3	+1.8
LIT	Litokhoron	1.36	305	ePg	Pn	19 51 46.3	0.0
ATH	Athens Observa	1.38	188	ePB	Pn	19 51 45.9	-0.6
HORT	Hortiatis	1.42	333	ePg	Pn	19 51 47.7	+0.6
SOH	Sokhos	1.55	343	ePg	Pn	19 51 49.0	0.0
EVR	Evrytania	1.72	257	ePN	Pn	19 51 51.0	-0.2
SRS	Serrai	1.80	351	ePb	Pn	19 51 52.4	0.0
PRK	Paraskevi	1.80	92	ePN	Pn	19 51 53.0	+0.6
KNT	Kendrikon	1.99	336	ePb	Pn	19 51 55.9	+0.9
GRG	Griva	2.01	324	ePn	Pn	19 51 55.8	+0.6
NVR	Nevrokopi	2.01	358	ePN	Pn	19 51 55.2	-0.1
RDO	Rodhopi	2.18	33	ePN	Pn	19 51 57.3	-0.2
ALN	Alexandroupoli	2.24	45	ePn	Pn	19 51 59.0	+0.7
ALN				eSn	Sn	19 52 27.1	+1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MMB	**Musomiste**	**2.26**	**356**	*e*Pn	**Pn**	**19 51 58.2**	**-0.4**

*IDC **02** 19:52:02.7±21.0, 36.10N×70.69E, h133^{km}±132^{km}, mb3.5/4, mb1 3.5/7, mb1mx3.1/23, mbtmp3.8/7, ML3.6/3, Error ellipse: s-maj=192.3km s-min=45.2km az=3.0*
*ISCJB **02** 19:52:05.6±1.5, 36.43N±0.08×70.7E±0.2, h154^{km}±18^{km}, mb3.5/4, Error ellipse: s-maj=25.7km s-min=9.4km az=134.4*
ISC 02 19:52:06.7±1.4**, 36.43N**±0.08×**70.7E**±0.2**, h153**^{km}±17^{km}**, n19, σ0.^{s}54**/21**, mb3.5**/4**, 3C, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.77**	**132**	*e*P	**Pn**	**19 53 29.9**	**-0.3**
THN				*e*S	**Sn**	**19 54 35.9**	**+0.3**
AML	**Almayashu**	**6.15**	**21**	P	**Pn**	**19 53 35.4**	**0.0**
	SNR=81						
KZA	**Kyzart**	**6.66**	**31**	P	**Pn**	**19 53 41.5**	**-0.6**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.67**	**20**	P	**Pn**	**19 53 42.4**	**+0.2**
	SNR=18						
KK09	**Karatay Array**	**6.68**	**359**	⇑P	**Pn**	**19 53 41.7**	**-0.7**
	39nm,0.5s,baz=176,slow=13						
KK09				⇑S	**Sn**	**19 54 53.1**	**-4.4**
	13nm,0.6s,baz=178,slow=21						
AAK	**Ala-Archa**	**6.86**	**24**	P	**Pn**	**19 53 45.1**	**+0.4**
	SNR=6.0						
KBK	**Karagaybulak**	**7.04**	**27**	P	**Pn**	**19 53 47.8**	**+0.7**
	SNR=5.7						
CHMS	**Chumysh**	**7.27**	**24**	P	**Pn**	**19 53 50.1**	**-0.2**
	SNR=13						
USP	**Ospenovka**	**7.43**	**22**	P	**Pn**	**19 53 52.8**	**+0.4**
	SNR=5.3						
TKM2	**Tokmak 2**	**7.51**	**29**	P	**Pn**	**19 53 52.9**	**-0.5**
	SNR=7.9						
MKAR	**Makanchi Array**	**13.50**	**36**	P	**Pn**	**19 55 12.3**	**+0.3**
	0.3nm,0.3s,baz=211,slow=9.2,SNR=7.6						
AB31	**Akbulak array**	**15.02**	**332**	⇑P	**Pn**	**19 55 30.8**	**-0.3**
	0.6nm,0.4s,baz=157,slow=12						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**19 55 50.1**	**-0.2**
	0.2nm,0.3s,baz=166,slow=11,SNR=6.9						
AKTO	**Aktyubinsk**	**16.71**	**331**	P	**Pn**	**19 55 53.3**	**+1.6**
	0.2nm,0.3s,baz=135,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**19 59 04.6**	**0.0**
	0.8nm,0.8s,mb3.4,baz=125,slow=11,SNR=8.0						
ARCES	**ARCESS Array B**	**41.11**	**338**	P	**P**	**19 59 35.5**	**+0.1**
	2.0nm,0.7s,mb3.8,baz=105,slow=8.5,SNR=6.0						
NB2	**NORSAR Subarra**	**44.28**	**323**	P	**P**	**20 00 00.1**	**-0.8**
	comp=Z,0.1nm,0.6s,mb2.6,baz=98,slow=8.6						
NOA	**NORSAR Array B**	**44.28**	**323**	P	**P**	**20 00 00.2**	**-0.7**
	comp=Z,1.0nm,0.7s,mb3.5,baz=97,slow=7.8,SNR=4.4						
INK	**Inuvik**	**74.01**	**9**	P	**P**	**20 03 25.4**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.8,baz=350,slow=6.1,SNR=4.0						

*NEIC **02** 19:54:59.0, 42.41N×111.51W, h6^{km}, ML3.6(SLC), MW3.6(SLM), After SLC.*
NEIC Felt [III] at Montpelier. Also felt at Bern and Preston.
*ISCJB **02** 19:55:00.4±0.3, 42.43N±0.02×111.40W±0.04, h10^{km}, Error ellipse: s-maj=4.6km s-min=2.9km az=30.7*
*IDC **02** 19:55:00.3±0.9, 42.42N×111.54W, h0^{km}, mb1 3.8/3, mb1mx3.4/22, mbtmp3.6/3, ML3.0/3, Error ellipse: s-maj=14.8km s-min=6.5km az=166.0*
ISC 02 19:55:01.5±0.3**, 42.44N**±0.02×**111.38W**±0.04**, h10**^{km}**, n57, σ1.^{s}19**/57**, Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.39**	**32**	*e*Pg	**Pg**	**19 55 08.7**	**-0.5**
AHID				*e*Sg	**Sg**	**19 55 13.9**	**-0.5**
HWUT	**Hardware Ranch**	**0.84**	**189**	*e*Pg	**Pg**	**19 55 15.5**	**-2.3**
RRI2	**Red Ridge**	**0.91**	**3**	*e*Pg	**Pg**	**19 55 17.4**	**-1.6**
REDW	**Red Top Meadow**	**1.00**	**23**	*e*Pg	**Pg**	**19 55 19.4**	**-1.4**
TPAW	**Teton Pass**	**1.10**	**17**	*e*Pg	**Pg**	**19 55 21.1**	**-1.6**
SNOW	**Snow King Moun**	**1.12**	**24**	*e*Pg	**Pg**	**19 55 22.2**	**-0.9**
DCID1	**Drake Creek**	**1.17**	**7**	*e*Pg	**Pg**	**19 55 22.3**	**-1.7**
HVU	**Hansel Valley**	**1.23**	**238**	*e*Pg	**Pg**	**19 55 21.0**	**-4.1**
TCUT	**Toone Canyon**	**1.32**	**181**	*e*Pn	**Pn**	**19 55 25.2**	**-0.8**
SPUT	**South Promonto**	**1.38**	**216**	*e*Pn	**Pn**	**19 55 23.8**	**-3.1**
BW06	**Boulder Array**	**1.39**	**76**	*e*Pn	**Pn**	**19 55 27.2**	**+0.3**
PDAR	**Pinedale Array**	**1.39**	**76**	Pg	**Pg**	**19 55 28.1**	**0.0**
	176nm,0.3s,baz=254,slow=14,SNR=2552						
PDAR				Lg		19 55 48.1	
	146nm,0.3s,baz=234,slow=12,SNR=26						
IMW	**Indian Meadow**	**1.50**	**12**	*e*Pn	**Pn**	**19 55 27.7**	**-0.7**
FLWY	**Flagg Ranch**	**1.72**	**17**	*e*Pn	**Pn**	**19 55 31.6**	**+0.1**
CTU	**Camp Tracy**	**1.77**	**189**	*e*Pn	**Pn**	**19 55 31.7**	**-0.5**
NOQ	**North Oquirrh**	**1.87**	**197**	*e*Pn	**Pn**	**19 55 32.1**	**-1.4**
BGU	**Big Grassy Mou**	**1.95**	**220**	*e*Pn	**Pn**	**19 55 32.3**	**-2.4**
YFT	**Old Faithful**	**2.05**	**11**	*e*Pn	**Pn**	**19 55 37.3**	**+1.2**
LKWY	**Lake**	**2.24**	**18**	*e*Pn	**Pn**	**19 55 38.1**	**-0.6**
YMR	**Madison River**	**2.25**	**8**	*e*Pn	**Pn**	**19 55 39.5**	**+0.6**
YNR	**Norris Junctio**	**2.33**	**12**	*e*Pn	**Pn**	**19 55 40.7**	**+0.8**
QLMT	**Earthquake Lak**	**2.39**	**359**	*e*Pn	**Pn**	**19 55 40.9**	**+0.1**
MPU	**Maple Canyon**	**2.43**	**185**	*e*Pn	**Pn**	**19 55 40.9**	**-0.3**
DUG	**Dugway**	**2.48**	**206**	*e*Pn	**Pn**	**19 55 40.6**	**-1.4**
HLID	**Hailey**	**2.49**	**298**	*e*Pn	**Pn**	**19 55 40.2**	**-1.9**
NLU	**North Lily Min**	**2.53**	**192**	*e*Pn	**Pn**	**19 55 42.0**	**-0.8**
MCMT	**McKenzie Canyo**	**2.62**	**336**	*e*Pn	**Pn**	**19 55 43.8**	**-0.1**
DLMT	**Dillon**	**3.05**	**344**	*e*Pn	**Pn**	**19 55 52.2**	**+2.3**
TMUT	**Trail Mountain**	**3.14**	**178**	*e*Pn	**Pn**	**19 55 50.3**	**-0.8**
RWWY	**Rawlins**	**3.20**	**102**	*e*Pn	**Pn**	**19 55 53.6**	**+1.7**
BOZ	**Bozeman (W)**	**3.21**	**357**	*e*Pn	**Pn**	**19 55 52.0**	**0.0**
ELK	**Elko**	**3.35**	**241**	*e*Pn	**Pn**	**19 55 55.1**	**+1.2**
SRU	**San Rafael**	**3.39**	**169**	*e*Pn	**Pn**	**19 55 55.7**	**+1.3**
GCMT	**Greycliff**	**3.57**	**20**	*e*Pn	**Pn**	**19 56 01.5**	**+4.5**
MSU	**Marysvale**	**3.97**	**189**	*e*Pn	**Pn**	**19 56 02.7**	**+0.3**
HRY	**Holter Researc**	**4.29**	**356**	*e*Pn	**Pn**	**19 56 10.3**	**+3.5**
PV10	**Paradox Valley**	**4.43**	**155**	*e*Pn	**Pn**	**19 56 08.9**	**+0.1**
PHWY	**Pilot Hill**	**4.57**	**102**	*e*Pn	**Pn**	**19 56 11.8**	**+1.1**
SMCO	**Snowmass**	**4.67**	**133**	*e*Pn	**Pn**	**19 56 13.4**	**+1.3**
CHMT	**Chamberlain Mo**	**4.67**	**344**	*e*Pn	**Pn**	**19 56 13.6**	**+1.5**
MSO	**Missoula**	**4.76**	**338**	*e*Pn	**Pn**	**19 56 14.0**	**+0.8**
PV01	**Paradox Valley**	**4.81**	**152**	*e*Pn	**Pn**	**19 56 14.1**	**+0.2**
BMN	**Battle Mountai**	**4.83**	**247**	*e*Pn	**Pn**	**19 56 14.5**	**+0.3**
BMO	**Blue Mountains**	**4.93**	**301**	*e*Pn	**Pn**	**19 56 15.9**	**+0.3**
ISCO	**Idaho Springs**	**5.09**	**119**	*e*Pn	**Pn**	**19 56 19.9**	**+2.0**
	54nm,0.7s						
CCUT	**Cedar City**	**5.11**	**198**	*e*Pn	**Pn**	**19 56 18.7**	**+0.6**
WVOR	**Wild Horse Val**	**5.37**	**272**	*e*Pn	**Pn**	**19 56 24.1**	**+2.4**
	35nm,0.7s						
RSSD	**Black Hills**	**5.62**	**70**	*e*Pn	**Pn**	**19 56 25.1**	**-0.1**
	21nm,0.6s						
LAO	**LASA Array**	**5.63**	**39**	*e*Pn	**Pn**	**19 56 25.7**	**+0.5**
	19nm,0.8s						
NVAR	**Mina Array Bea**	**6.62**	**235**	Pn	**Pn**	**19 56 39.0**	**0.0**
	0.6nm,0.3s,baz=52,slow=12,SNR=17						
NVAR				Lg		19 58 25.1	
	1.0nm,0.3s,baz=52,slow=29,SNR=3.4						
NVAR	**Mina Array Bea**	**6.62**	**235**	Pn	**Pn**	**19 56 39.0**	**0.0**
NVAR				Lg		19 58 25.1	
PAHR	**Pah Rah Range**	**6.63**	**248**	*e*Pg	**Pb**	**19 56 57.1**	**+0.2**
	6.3nm,0.7s						
WUAZ	**Wupatki**	**6.91**	**180**	*e*Pn	**Pn**	**19 56 43.7**	**+0.9**
	9.9nm,0.7s						
HAWA	**Hanford**	**7.05**	**307**	*e*P	**Pn**	**19 56 46.9**	**+2.1**
	0.3nm,0.6s						
NEW	**Newport**	**7.09**	**327**	Pn	**Pn**	**19 56 46.2**	**+0.9**
	0.3nm,0.3s,baz=134,slow=16,SNR=3.3						
NEW				Lg		19 58 41.2	
	1.1nm,0.3s,baz=48,slow=22,SNR=7.6						
ANMO	**Albuquerque**	**8.41**	**151**	Lg		19 59 18.8	
	0.2nm,0.3s,baz=246,slow=20,SNR=3.5						
ULM	**Lac du Bonnet**	**13.24**	**49**	Pn	**Pn**	**19 58 07.6**	**-2.0**
	0.4nm,0.3s,baz=240,slow=12,SNR=5.4						

IDC 02 19:58:53.3±2.1**, 3.03N**×**128.63E, h0**^{km}**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.6**/14**, mbtmp3.7**/4**, Error ellipse: s-maj=155.0km s-min=23.9km az=68.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.50**	**166**	P	P	20 04 04.8	-0.2
	0.9nm,0.4s,baz=344,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**27.02**	**169**	P	P	20 04 35.4	-1.7
	0.2nm,0.4s,baz=355,slow=7.9,SNR=4.1						
STKA	**Stephens Creek**	**36.83**	**161**	P	P	20 06 03.9	+0.8
	3.1nm,1.1s,baz=332,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**59.22**	**325**	P	P	20 08 58.1	+1.9
	0.3nm,0.4s,baz=122,slow=5.4,SNR=4.1						

*BJI **02** 19:59:14.7, 24.06N×122.81E, h10^{km}, mB4.6, mb4.2, Ms4.3, Msz3.8*
*NEIC **02** 19:59:21.9±0.6, 24.82N×122.57E, h10^{km}, mb4.2/4, Error ellipse: s-maj=12.2km s-min=9.4km az=145.0*
*JMA **02** 19:59:21.6±0.6, 24.88N×122.60E, h39^{km}, M2.9*
*ISCJB **02** 19:59:23.6±0.6, 24.78N±0.08×122.66E±0.05, h38^{km}±10^{km}, mb3.8/9, MS3.6/8, Error ellipse: s-maj=13.9km s-min=7.6km az=24.4*
*IDC **02** 19:59:31.5±8.0, 25.01N×123.03E, h100^{km}±85^{km}, mb3.5/4, mb1 3.5/5, mb1mx3.3/19, mbtmp3.8/5, ML2.3/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/20, Error ellipse: s-maj=90.5km s-min=21.8km az=64.0*
ISC 02 19:59:24.0±1.0**, 24.76N**±0.08×**122.65E**±0.05**, h29**^{km}±8^{km}**, n28, σ0.^{s}99**/25**, mb3.8**/9**, MS3.6**/8**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.44**	**131**	P	**Pb**	**19 59 33.0**	**-0.4**
YOJ				*e*S	**Sb**	**19 59 40.7**	**+0.8**
IRIF	**Iriomote-Funau**	**1.07**	**113**	P	**Pn**	**19 59 41.2**	**-1.8**
IRIF				*e*S	**Sn**	**19 59 58.2**	**+1.3**
TATO	**Taipei**	**1.07**	**282**	*e*Pn	**Pn**	**19 59 41.8**	**-1.2**
NACB	**Ninganchiao**	**1.12**	**239**	*e*Pn	**Pn**	**19 59 44.4**	**+0.7**
YHNB	**Yeheng**	**1.16**	**266**	*e*Pn	**Pn**	**19 59 43.9**	**-0.3**
HATJ	**Hateruma jima**	**1.27**	**123**	P	**Pn**	**19 59 45.4**	**-0.3**
JKRS	**Kuro-shima**	**1.34**	**112**	P	**Pn**	**19 59 45.7**	**-1.1**
JIJ	**Ishigaki jima**	**1.42**	**106**	P	**Pn**	**19 59 45.8**	**-2.0**
JTJ	**Tarama**	**1.87**	**93**	P	**Pn**	**19 59 54.2**	**+0.2**
JOW	**Kunigami**	**5.48**	**67**	P	**Pn**	**20 00 45.0**	**+1.3**
	0.2nm,0.3s,baz=287,slow=11,SNR=4.9						
MJAR	**Matsushiro Arr**	**17.79**	**45**	LR	LR	20 10 52.0	
	comp=Z,104nm,20.8s,baz=80,slow=39						
LZH	**Lanzhou**	**19.72**	**309**	*e*P	**Pn**	**20 03 54.1**	**+1.4**
LZH				AP	pP	20 04 01.2	+2.2
LZH				XP	sP	20 04 04.6	+1.9
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
GTA	**Gaotai**	**24.15**	**313**	*e*P	**P**	**20 04 38.0**	**+0.5**
GTA				AP		20 04 43.6	
GTA				XP	sP	20 04 46.8	-2.7
GTA				PP		20 05 16.0	
GTA				PPP		20 05 27.7	
GTA				S	**S**	**20 08 53.1**	**-0.5**
GTA				XS	sS	20 09 12.5	+4.9
GTA				SS		20 09 54.3	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.5s,mb3.3						
GTA				AMB	AMB		
	comp=Z,78nm,4.6s						
GTA				LR	LR		
	comp=N,331nm,10.6s,MS4.1						
GTA				LR	LR		
	comp=E,183nm,11.4s,MS4.1						
GTA				LR	LR		
	comp=Z,195nm,14.1s,MS3.7						
ASAJ	**Asahikawa**	**25.25**	**35**	LR	LR	20 15 01.8	
	comp=Z,154nm,19.1s,MS3.5,baz=360,slow=37						
KSM	**Kuching**	**26.04**	**209**	P	**P**	**20 04 54.6**	**0.0**
ULN	**Ulaanbaatar**	**26.16**	**336**	*e*P	**P**	**20 04 55.9**	**+0.1**
	comp=Z,1.2nm,0.9s,mb3.4						
SONM	**Songino Array**	**26.39**	**335**	P	**P**	**20 04 58.5**	**+0.7**
	comp=Z,1.9nm,1.0s,mb3.6,baz=142,slow=7.5,SNR=7.8						
SONM				LR	LR	20 16 43.6	
	comp=Z,125nm,18.9s,MS3.5,baz=260,slow=39						
PSI	**Prapat**	**31.62**	**230**	LR	LR	20 20 34.5	
	comp=Z,145nm,18.3s,MS3.7,baz=237,slow=39						
YAK	**Yakutsk**	**37.57**	**5**	P	**P**	**20 06 35.8**	**+0.1**
	comp=Z,13nm,1.1s,mb4.6						
MKAR	**Makanchi Array**	**38.87**	**315**	P	**P**	**20 06 47.4**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.7,baz=119,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**38.87**	**315**	P	**P**	**20 06 47.4**	**+0.8**
ZAL	**Zalesovo**	**40.51**	**326**	LR	LR	20 24 29.1	
	comp=Z,63nm,18.7s,MS3.5,baz=346,slow=37						
WRA	**Warramunga Arr**	**45.86**	**165**	P	**P**	**20 07 45.2**	**+1.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=347,slow=8.6,SNR=4.7						
BVAR	**Borovoye Array**	**48.09**	**320**	LR	LR	20 30 09.3	
	comp=Z,21nm,19.6s,MS3.1,baz=149,slow=38						
CHKZ	**Chkalovo**	**48.13**	**321**	*e*P	**P**	**20 08 00.7**	**-0.5**
	comp=Z,1.9nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**48.88**	**320**	*e*P	**P**	**20 08 06.7**	**-0.3**
	comp=Z,2.9nm,1.2s,mb4.2						
CTA	**Charters Tower**	**50.15**	**151**	LR	LR	20 26 29.7	
	comp=Z,59nm,21.9s,MS3.5,baz=40,slow=32						
NOA	**NORSAR Array B**	**78.34**	**332**	P	**P**	**20 11 19.8**	**-1.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=83,slow=5.8,SNR=3.5						
NOA				LR	LR	20 49 35.8	
	comp=Z,43nm,18.4s,MS3.8,baz=135,slow=38						

MAN 02 20:03:07.0, 16.67N×**121.00E, h30**^{km}**, mb3.4, ML4.6, MS0.7, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.50**	**235**	⇑*i*P	Pb	20 03 17.9	+0.5
BCPH				*i* S	Sb	20 03 26.3	+1.9
CAUP	**Cauayan**	**0.83**	**71**	*e*P	Pn	20 03 22.6	0.0
CAUP				*e*S	Sb	20 03 35.4	+1.6
ABRA	**Dolores**	**1.01**	**344**	*e*P	Pn	20 03 25.1	0.0
ABRA				*e*S	Sn	20 03 39.2	+0.9
BALP	**Baler**	**1.08**	**149**	*e*P	Pn	20 03 25.8	-0.2
BALP				*e*S	Sn	20 03 30.2	-10
BOLP	**Bolinao**	**1.08**	**255**	*e*P	Pn	20 03 28.6	+2.5

*NEIC **02** 20:12:39.0±2.1, 43.81N×105.19W, h0^{km}, ML3.6, Error ellipse: s-maj=27.7km s-min=9.1km az=61.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **02** 20:12:38.4±1.4, 43.95N×105.62W, h0^{km}, mb4.1/2, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, ML3.5/4, Error ellipse: s-maj=40.9km s-min=8.4km az=148.0*
*ISCJB **02** 20:12:39.9±0.6, 43.68N±0.03×105.59W±0.05, h0^{km}, mb4.2/2, Error ellipse: s-maj=6.0km s-min=4.2km az=104.7*
ISC 02 20:12:40.9±0.7**, 43.72N**±0.03×**105.49W**±0.06**, h0**^{km}**, n49, σ1.^{s}34**/74**, mb4.1**/2**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**3.12**	**254**	Pn	**Pn**	**20 13 31.4**	**+0.1**
	6.3nm,0.3s,baz=66,slow=20,SNR=28						
PDAR				Lg		20 14 15.0	
	12nm,0.3s,baz=68,slow=24,SNR=7.1						
GCMT	**Greycliff**	**3.62**	**306**	*e*Pn	**Pn**	**20 13 37.7**	**-0.5**
GCMT				*e*Sn	**Sn**	**20 14 24.2**	**+2.5**
LKWY	**Lake**	**3.63**	**285**	*e*Pn	**Pn**	**20 13 38.9**	**+0.6**
LKWY				*e*Sn	**Sn**	**20 14 21.4**	**-0.5**
LOHW	**Long Hollow**	**3.71**	**270**	*e*Pn	**Pn**	**20 13 39.7**	**+0.3**
FLWY	**Flagg Ranch**	**3.78**	**277**	*e*Pn	**Pn**	**20 13 40.8**	**+0.4**
FLWY				*e*Sn	**Sn**	**20 14 22.9**	**-2.6**
SNOW	**Snow King Moun**	**3.83**	**268**	*e*Pn	**Pn**	**20 13 42.2**	**+1.1**
SNOW				*e*Sn	**Sn**	**20 14 24.6**	**-2.2**
YNR	**Norris Junctio**	**3.86**	**287**	*e*Pn	**Pn**	**20 13 41.8**	**+0.4**
YNR				*e*Sn	**Sn**	**20 14 24.4**	**-3.1**
REDW	**Red Top Meadow**	**3.91**	**267**	*e*Pn	**Pn**	**20 13 44.0**	**+1.9**
REDW				*e*Sn	**Sn**	**20 14 30.4**	**+1.6**
ISCO	**Idaho Springs**	**3.92**	**181**	*e*Pn	**Pn**	**20 13 41.0**	**-1.3**
ISCO				*e*Sn	**Sn**	**20 14 28.0**	**-0.9**
YFT	**Old Faithful**	**3.92**	**283**	*e*Pn	**Pn**	**20 13 44.6**	**+2.3**
IMW	**Indian Meadow**	**3.95**	**274**	*e*Pn	**Pn**	**20 13 43.9**	**+1.2**
TPAW	**Teton Pass**	**3.97**	**269**	*e*Pn	**Pn**	**20 13 43.5**	**+0.5**
TPAW				*e*Sn	**Sn**	**20 14 30.7**	**+0.5**
YMR	**Madison River**	**4.05**	**285**	Pn	**Pn**	**20 13 45.7**	**+1.7**
DCID1	**Drake Creek**	**4.13**	**270**	*e*Pn	**Pn**	**20 13 46.6**	**+1.4**
AHID	**Auburn Hatcher**	**4.21**	**259**	*e*Pn	**Pn**	**20 13 49.1**	**+2.9**
RRI2	**Red Ridge**	**4.25**	**267**	*e*Pn	**Pn**	**20 13 47.2**	**+0.3**
RRI2				*e*Sn	**Sn**	**20 14 37.1**	**-0.1**
QLMT	**Earthquake Lak**	**4.41**	**287**	*e*Pn	**Pn**	**20 13 51.4**	**+2.4**
QLMT				*e*Sg	**Sg**	**20 15 02.7**	**+0.3**
SMCO	**Snowmass**	**4.67**	**194**	*e*Pn	**Pn**	**20 13 54.2**	**+1.6**
SMCO				*e*Sn	**Sn**	**20 14 53.1**	**+5.7**
BOZ	**Bozeman (W)**	**4.78**	**296**	*e*Pn	**Pn**	**20 13 53.9**	**-0.2**
BOZ				*e*Sn	**Sn**	**20 14 49.5**	**-0.8**
HWUT	**Hardware Ranch**	**4.95**	**247**	*e*Pn	**Pn**	**20 13 56.2**	**-0.3**
	26nm,0.6s						
HWUT				*e*Sn	**Sn**	**20 14 52.9**	**-1.5**
TCUT	**Toone Canyon**	**5.09**	**241**	*e*Pn	**Pn**	**20 13 58.0**	**-0.4**
TCUT				*e*Sn	**Sn**	**20 14 58.9**	**+1.0**
EGMT	**Eagleton**	**5.24**	**327**	*e*Pn	**Pn**	**20 13 58.3**	**-2.1**
	26nm,0.6s						
EGMT				*e*Sn	**Sn**	**20 14 58.6**	**-2.8**
DLMT	**Dillon**	**5.34**	**290**	*e*Pn	**Pn**	**20 14 03.4**	**+1.6**
	19nm,1.0s						
HRY	**Holter Researc**	**5.38**	**306**	*e*Pn	**Pn**	**20 14 01.5**	**-0.9**
HRY				*e*Sg	**Sg**	**20 15 25.4**	**-8.4**
MCMT	**McKenzie Canyo**	**5.40**	**284**	*e*Pn	**Pn**	**20 14 07.9**	**+5.3**
MCMT				*e*Sg	**Sg**	**20 15 33.6**	**-0.7**
CTU	**Camp Tracy**	**5.54**	**239**	*e*Pn	**Pn**	**20 14 04.1**	**-0.5**
	13nm,0.5s						
CTU				*e*Sn	**Sn**	**20 15 03.3**	**-5.7**
SPUT	**South Promonto**	**5.67**	**247**	*e*Pn	**Pn**	**20 14 06.3**	**-0.1**
HVU	**Hansel Valley**	**5.70**	**253**	*e*Pn	**Pn**	**20 14 06.7**	**0.0**
	14nm,0.7s						
HVU				*e*Sg	**Sg**	**20 15 40.1**	**-3.9**
NOQ	**North Oquirrh**	**5.80**	**240**	*e*Pn	**Pn**	**20 14 10.7**	**+2.6**
	24nm,0.5s						
SRU	**San Rafael**	**5.96**	**221**	*e*Pn	**Pn**	**20 14 08.9**	**-1.4**
	28nm,0.6s						
SRU				*e*Sn	**Sn**	**20 15 20.6**	**+1.5**
PV01	**Paradox Valley**	**6.04**	**204**	*e*Pn	**Pn**	**20 14 11.2**	**-0.3**
PV01				*e*Sn	**Sn**	**20 15 27.8**	**+6.5**
TMUT	**Trail Mountain**	**6.16**	**226**	*e*Pn	**Pn**	**20 14 12.4**	**-0.6**
TMUT				*e*Sn	**Sn**	**20 15 21.9**	**-2.2**
NLU	**North Lily Min**	**6.19**	**235**	*e*Pn	**Pn**	**20 14 12.1**	**-1.4**
BGU	**Big Grassy Mou**	**6.24**	**246**	*e*Pn	**Pn**	**20 14 14.2**	**0.0**
BGU				*e*Sg	**Sg**	**20 15 58.4**	**-3.0**
CHMT	**Chamberlain Mo**	**6.33**	**303**	*e*Pn	**Pn**	**20 14 14.6**	**-0.9**
ECSD	**EROS,Sioux Fal**	**6.43**	**87**	*e*Pn	**Pn**	**20 14 20.1**	**+3.2**
HLID	**Hailey**	**6.47**	**272**	*e*Pn	**Pn**	**20 14 18.5**	**+1.1**
	2.3nm,0.6s						
DUG	**Dugway**	**6.49**	**240**	*e*Pn	**Pn**	**20 14 16.9**	**-0.8**
	8.1nm,0.5s						
MSU	**Marysvale**	**7.24**	**226**	*e*Pn	**Pn**	**20 14 27.7**	**-0.3**
CCUT	**Cedar City**	**8.58**	**227**	*e*Pn	**Pn**	**20 14 46.3**	**0.0**
ANMO	**Albuquerque**	**8.79**	**185**	Pg	**Pg**	**20 15 23.4**	**-5.7**
	0.1nm,0.3s,baz=12,slow=13,SNR=3.9						
ULM	**Lac du Bonnet**	**9.26**	**42**	Pn	**Pn**	**20 14 49.5**	**-6.2**
	0.6nm,0.3s,baz=241,slow=11,SNR=6.9						
ULM				Sn	**Sn**	**20 16 32.5**	**-8.1**
	0.2nm,0.3s,baz=248,slow=3.8,SNR=3.6						
ULM				Lg		20 17 24.9	
	0.2nm,0.3s,baz=144,slow=22,SNR=3.3						
ULM	**Lac du Bonnet**	**9.26**	**42**	Pn	**Pn**	**20 14 49.5**	**-6.2**
ULM				Sn	**Sn**	**20 16 32.5**	**-8.1**
ULM				Lg		20 17 24.9	
NEW	**Newport**	**9.28**	**303**	Lg		20 17 16.1	
	0.2nm,0.3s,baz=1.5,slow=17,SNR=3.1						
WUAZ	**Wupatki**	**9.36**	**211**	*e*Pn	**Pn**	**20 14 55.3**	**-1.6**
	12nm,0.5s						
WUAZ				Sn	**Sn**	**20 16 39.5**	**-3.4**
NVAR	**Mina Array Bea**	**11.01**	**246**	Pn	**Pn**	**20 15 20.9**	**+1.3**
	0.2nm,0.3s,baz=61,slow=13,SNR=6.0						
YBH	**Yreka Blue Hor**	**12.82**	**267**	Pn	**Pn**	**20 15 45.9**	**+1.5**
	0.2nm,0.3s,baz=60,slow=7.7,SNR=9.0						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**20 22 53.6**	**-5.7**
	1.5nm,0.6s,mb4.3,baz=340,slow=6.6,SNR=8.7						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**20 25 37.0**	**-3.5**
	0.2nm,0.2s,mb3.9,baz=5.7,slow=4.9,SNR=5.0						

*ISCJB **02** 20:39:00.6±0.3, 46.98N±0.02×1.66W±0.03, h10^{km}, Error ellipse: s-maj=3.3km s-min=2.1km az=107.2*
*LDG **02** 20:39:03.7±0.1, 47.02N×1.76W, h5^{km}, Md2.6/3, Ml2.5/20, Error ellipse: s-maj=1.4km s-min=0.9km az=59.0*
*CSEM **02** 20:39:03.5±0.1, 47.00N×1.78W, h8^{km}, ML2.6/18, Error ellipse: s-maj=2.2km s-min=1.2km az=52.0*
*NEIC **02** 20:39:04.0, 46.92N×1.76W, h20^{km}, ML2.5(LDG), ML2.7(STR), After STR.*
*STR **02** 20:39:04.0±0.3, 46.92N×1.76W, h20^{km}±1^{km}, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 02 20:39:02.2±0.4**, 47.00N**±0.02×**1.74W**±0.03**, h11**^{km}±3^{km}**, n55, σ0.^{s}91**/138**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.44**	**163**	Pg	**Pg**	**20 39 12.5**	**+1.6**
LRYF				Sg	**Sg**	**20 39 18.4**	**+1.7**
LCHF	**La Chataignera**	**0.76**	**115**	Pg	**Pg**	**20 39 18.3**	**+1.4**
LCHF				Sg	**Sg**	**20 39 29.2**	**+2.4**
CHIF	**Chize**	**1.26**	**133**	Pg	**Pg**	**20 39 27.0**	**+0.6**
CHIF				Sg	**Sg**	**20 39 44.3**	**+1.5**
QUIF	**Quistinic**	**1.34**	**314**	*e*Pn	**Pn**	**20 39 27.5**	**+0.7**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**20 39 45.0**	**-0.3**
	19nm,0.3s						
QUIF	**Quistinic**	**1.34**	**314**	*e*Pn	**Pn**	**20 39 27.5**	**+0.7**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**20 39 45.0**	**-0.3**
	9.4nm,0.3s						
SGMF	**Saint Gilles**	**1.37**	**336**	*e*Pg	**Pg**	**20 39 28.7**	**+0.1**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**20 39 46.1**	**-0.4**
	29nm,0.3s						
SGMF	**Saint Gilles**	**1.37**	**336**	*e*Pn	**Pn**	**20 39 27.3**	**0.0**
SGMF				*e*Pg	**Pg**	**20 39 28.7**	**+0.1**
SGMF				*e*Sg	**Sg**	**20 39 46.1**	**-0.4**
SGMF	**Saint Gilles**	**1.37**	**336**	*e*Pg	**Pg**	**20 39 28.7**	**+0.1**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**20 39 46.1**	**-0.4**
	15nm,0.3s						
GRR	**Gorron**	**1.51**	**23**	*e*Pg	**Pg**	**20 39 31.5**	**+0.3**
GRR				*e*Sg	**Sg**	**20 39 51.1**	**+0.2**
	5.2nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.51**	**23**	*e*Pn	**Pn**	**20 39 29.8**	**+0.6**
GRR				*e*Pg	**Pg**	**20 39 31.5**	**+0.3**
GRR				*e*Sg	**Sg**	**20 39 51.1**	**+0.2**
GRR	**Gorron**	**1.51**	**23**	*e*Pg	**Pg**	**20 39 31.5**	**+0.3**
GRR				*e*Sg	**Sg**	**20 39 51.1**	**+0.2**
	2.6nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**1.69**	**323**	*e*Pg	**Pg**	**20 39 34.4**	**-0.3**
ROSF				*e*Sn	**Sn**	**20 39 52.9**	**-0.5**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**20 39 55.9**	**-0.8**
	16nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**1.69**	**323**	*e*Pn	**Pn**	**20 39 32.0**	**+0.3**
ROSF				*e*Pg	**Pg**	**20 39 34.4**	**-0.3**
ROSF				*e*Sn	**Sn**	**20 39 52.9**	**-0.5**
ROSF				*e*Sg	**Sg**	**20 39 55.9**	**-0.8**
ROSF	**Rostrenen**	**1.69**	**323**	*e*Pg	**Pg**	**20 39 34.4**	**-0.3**
ROSF				*e*Sn	**Sn**	**20 39 52.9**	**-0.5**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**20 39 55.9**	**-0.8**
	8.0nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**1.93**	**34**	*e*Pg	**Pg**	**20 39 39.6**	**+0.3**
LDF				*e*Sg	**Sg**	**20 40 03.6**	**-0.7**
	8.5nm,0.2s						
LDF	**La Druitiere**	**1.93**	**34**	*e*Pn	**Pn**	**20 39 35.6**	**+0.6**
LDF				*e*Pg	**Pg**	**20 39 39.6**	**+0.3**
LDF				*e*Sg	**Sg**	**20 40 03.6**	**-0.7**
LDF	**La Druitiere**	**1.93**	**34**	*e*Pg	**Pg**	**20 39 39.6**	**+0.3**
LDF				*e*Sg	**Sg**	**20 40 03.6**	**-0.7**
	4.2nm,0.2s						
FLN	**La Foliniere**	**1.96**	**25**	*e*Pg	**Pg**	**20 39 38.9**	**-0.8**
	baz=206,SNR=1.0						
FLN				*e*Sg	**Sg**	**20 40 04.7**	**-0.4**
	5.1nm,0.2s,SNR=1.0						
FLN	**La Foliniere**	**1.96**	**25**	*e*Pg	**Pg**	**20 39 38.9**	**-0.8**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**20 40 04.7**	**-0.4**
	2.5nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**2.69**	**139**	*e*Pg	**Pg**	**20 39 52.8**	**-0.9**
LFF				*e*Sg	**Sg**	**20 40 28.7**	**+0.2**
	14nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**2.69**	**139**	*e*Pg	**Pg**	**20 39 52.8**	**-0.9**
LFF				*e*Sg	**Sg**	**20 40 28.7**	**+0.2**
	7.1nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.81**	**103**	*e*Pg	**Pg**	**20 39 56.4**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**20 40 32.1**	**-0.4**
	2.8nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.81**	**103**	*e*Pn	**Pn**	**20 39 48.3**	**+1.3**
TCF				*e*Pg	**Pg**	**20 39 56.4**	**+0.3**
TCF				*e*Sg	**Sg**	**20 40 32.1**	**-0.4**
TCF	**Toulx Ste Croi**	**2.81**	**103**	*e*Pg	**Pg**	**20 39 56.4**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**20 40 32.1**	**-0.4**
	1.4nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.82**	**126**	*e*Pg	**Pg**	**20 39 56.0**	**-0.3**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**20 40 33.0**	**0.0**
	4.5nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.82**	**126**	*e*Pn	**Pn**	**20 39 48.2**	**+1.0**
RJF				*e*Pg	**Pg**	**20 39 56.0**	**-0.3**
RJF				*e*Sg	**Sg**	**20 40 33.0**	**0.0**
RJF	**Les Rejaudoux**	**2.82**	**126**	*e*Pg	**Pg**	**20 39 56.0**	**-0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	SNR=1.0						
RJF				eSg	Sg	20 40 33.0	0.0
	2.2nm,0.2s,SNR=1.0						
HYF	Humbligny	3.00	83	ePn	Pn	20 39 50.4	+0.8
HYF				eSg	Sg	20 40 38.0	-0.5
BGF	Bois d'Agland	3.18	96	ePg	Pg	20 40 02.5	-0.6
BGF				eSn	Sn	20 40 29.2	-0.8
	SNR=1.0						
BGF				eSg	Sg	20 40 44.1	-0.2
	7.1nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	3.18	96	ePn	Pn	20 39 53.4	+1.3
BGF				ePg	Pg	20 40 02.5	-0.6
BGF				eSn	Sn	20 40 29.2	-0.8
BGF				eSg	Sg	20 40 44.1	-0.2
BGF	Bois d'Agland	3.18	96	ePg	Pg	20 40 02.5	-0.6
BGF				eSn	Sn	20 40 29.2	-0.8
	SNR=1.0						
BGF				eSg	Sg	20 40 44.1	-0.2
	3.5nm,0.3s,SNR=1.0						
CAF	Calviac	3.36	127	ePg	Pg	20 40 06.0	-0.7
	SNR=1.0						
CAF				eSn	Sn	20 40 33.4	-1.2
	SNR=1.0						
CAF				eSg	Sg	20 40 50.1	-0.2
	3.7nm,0.3s,SNR=1.0						
CAF	Calviac	3.36	127	ePn	Pn	20 39 55.9	+1.2
CAF				ePg	Pg	20 40 06.0	-0.7
CAF				eSn	Sn	20 40 33.4	-1.2
CAF				eSg	Sg	20 40 50.1	-0.2
CAF	Calviac	3.36	127	ePg	Pg	20 40 06.0	-0.7
	SNR=1.0						
CAF				eSn	Sn	20 40 33.4	-1.2
	SNR=1.0						
CAF				eSg	Sg	20 40 50.1	-0.2
	1.9nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.50	92	ePg	Pg	20 40 08.3	-0.9
AVF				eSn	Sn	20 40 36.9	-0.9
	SNR=1.0						
AVF				eSg	Sg	20 40 54.7	+0.2
	1.5nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.50	92	ePn	Pn	20 39 57.4	+0.9
AVF				ePg	Pg	20 40 08.3	-0.9
AVF				eSn	Sn	20 40 36.9	-0.9
AVF				eSg	Sg	20 40 54.7	+0.2
AVF	Avril sur Loir	3.50	92	ePg	Pg	20 40 08.3	-0.9
AVF				eSn	Sn	20 40 36.9	-0.9
	SNR=1.0						
AVF				eSg	Sg	20 40 54.7	+0.2
	0.8nm,0.3s,SNR=1.0						
LOR	Lormes	3.83	84	ePn	Pn	20 40 01.7	+0.7
	baz=262						
LOR	Lormes	3.83	84	ePg	Pg	20 40 14.9	-0.7
	baz=267						
LOR				eSg	Sg	20 41 04.7	-0.5
	2.5nm,0.4s,SNR=1.0						
LOR	Lormes	3.83	84	ePn	Pn	20 40 01.7	+0.7
LOR				ePg	Pg	20 40 14.9	-0.7
LOR				eSg	Sg	20 41 04.7	-0.5
LOR	Lormes	3.83	84	ePg	Pg	20 40 14.9	-0.7
LOR				eSg	Sg	20 41 04.7	-0.5
	1.2nm,0.4s,SNR=1.0						
SMF	Signal de Mont	3.84	93	ePg	Pg	20 40 15.2	-0.7
SMF				eSg	Sg	20 41 04.9	-0.8
	1.3nm,0.2s						
SMF	Signal de Mont	3.84	93	ePn	Pn	20 40 02.0	+0.7
SMF				ePg	Pg	20 40 15.2	-0.7
SMF				eSg	Sg	20 41 04.9	-0.8
SMF	Signal de Mont	3.84	93	ePg	Pg	20 40 15.2	-0.7
SMF				eSg	Sg	20 41 04.9	-0.8
	0.6nm,0.2s						
SJPF	Ste Jean	3.90	175	ePg	Pg	20 40 16.0	-1.0
SJPF				eSg	Sg	20 41 06.5	-1.0
	1.3nm,0.2s						
SJPF	Ste Jean	3.90	175	ePn	Pn	20 40 02.7	+0.7
SJPF				ePg	Pg	20 40 16.0	-1.0
SJPF				eSg	Sg	20 41 06.5	-1.0
SJPF	Ste Jean	3.90	175	ePg	Pg	20 40 16.0	-1.0
SJPF				eSg	Sg	20 41 06.5	-1.0
	0.6nm,0.2s						
ETSF	Etsaut	4.18	168	ePg	Pg	20 40 21.4	-1.0
ETSF				eSn	Sn	20 40 52.7	-2.1
	1.2nm,0.4s,SNR=1.0						
ETSF				eSg	Sg	20 41 15.4	-1.2
	0.8nm,0.3s						
ETSF	Etsaut	4.18	168	ePn	Pn	20 40 07.0	+1.1
ETSF				ePg	Pg	20 40 21.4	-1.0
ETSF				eSn	Sn	20 40 52.7	-2.1
ETSF				eSg	Sg	20 41 15.4	-1.2
ETSF	Etsaut	4.18	168	ePg	Pg	20 40 21.4	-1.0
ETSF				eSn	Sn	20 40 52.7	-2.1
	0.6nm,0.4s,SNR=1.0						
ETSF				eSg	Sg	20 41 15.4	-1.2
	0.4nm,0.3s						
EPF	Esparros	4.23	159	ePn	Pn	20 40 07.3	+0.7
EPF				eSn	Sn	20 40 52.7	-3.2
	SNR=1.0						
EPF				eSg	Sg	20 41 17.3	-0.8
	2.2nm,0.3s,SNR=1.0						
EPF	Esparros	4.23	159	ePn	Pn	20 40 07.3	+0.7
EPF				eSn	Sn	20 40 52.7	-3.2
	SNR=1.0						
EPF				eSg	Sg	20 41 17.3	-0.8
	1.1nm,0.3s,SNR=1.0						
MTLF	Montolieu	4.60	141	ePn	Pn	20 40 12.3	+0.6
MTLF				eSn	Sn	20 41 02.7	-2.4
	1.4nm,0.5s,SNR=1.0						
MTLF	Montolieu	4.60	141	ePn	Pn	20 40 12.3	+0.6
MTLF				eSn	Sn	20 41 02.7	-2.4
	0.7nm,0.5s,SNR=1.0						
BAIF	Baives	5.00	50	ePn	Pn	20 40 17.4	+0.3
	SNR=1.0						

*ISCJB **02** 20:51:25.3±1.8, 7.13S±0.09×129.0E±0.2, h113km±20km, mb3.8/2, Error ellipse: s-maj=34.3km s-min=10.2km az=140.4*
*NEIC **02** 20:51:25.9±3.0, 7.13S×128.87E, h103km±32km, mb4.3/4, Error ellipse: s-maj=37.9km s-min=18.4km az=62.0*
*IDC **02** 20:51:28.4±6.7, 7.39S×128.63E, h125km±62km, mb3.7/2, mb1 3.7/5, mb1mx3.5/12, mbtmp4.0/5, Error ellipse: s-maj=60.9km s-min=27.3km az=56.0*
ISC 02 20:51:32.7±1.6**, 7.57S**±0.08×**128.8E**±0.1**, h162**km±15km**, n15, σ1^{s}38**/23**, mb3.8**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.26	145	eP	Pn	20 53 04.4	+1.6
	22nm,0.2s						
KAKA				eS	Sn	20 54 12.6	-1.0
FITZ	Fitzroy Crossi	10.90	196	eP	Pn	20 54 04.9	+0.7
	7.4nm,1.0s						
FITZ				eS	Sn	20 56 04.3	-0.7
FITZ	Fitzroy Crossi	10.90	196	P	Pn	20 54 04.7	+0.5
	0.3nm,0.3s,baz=26,slow=12,SNR=10						
FITZ				S	Sn	20 56 04.8	-0.2
	0.9nm,0.3s,baz=306,slow=23,SNR=10						
WRAB	Tennant Creek	13.43	157	ePn	Pn	20 54 36.6	-0.2
	6.9nm,0.6s						
WRAB				eSn	Sn	20 57 00.5	-5.1
WRA	Warramunga Arr	13.43	157	P	Pn	20 54 36.5	-0.4
	0.8nm,0.3s,baz=331,slow=14,SNR=71						
WRA				S	Sn	20 57 02.4	-3.3
	2.7nm,0.3s,baz=332,slow=22,SNR=14						
WB2	Warramunga Arr	13.44	157	eP	Pn	20 54 36.4	-0.5
WB2				eS	Sn	20 57 01.8	-4.1
AS31	Alice Springs	16.74	163	eP	Pn	20 55 21.1	+3.4
AS31				eS	S	20 58 22.9	-0.7
ASAR	Alice Springs	16.74	163	P	Pn	20 55 19.1	+1.3
	1.1nm,0.3s,baz=341,slow=10,SNR=114						
ASAR				S	S	20 58 24.9	+1.2
	0.6nm,0.3s,baz=73,slow=17,SNR=6.0						
ASPA	Alice Springs	16.74	163	eP	Pn	20 55 21.1	+3.4
ASPA				eS	S	20 58 22.9	-0.7
STKA	Stephens Creek	26.98	155	eP	P	20 57 01.8	+2.7
	2.9nm,1.6s,mb3.7						
STKA	Stephens Creek	26.98	155	P	P	20 57 01.8	+2.7
	0.7nm,0.3s,mb3.7,baz=311,slow=13,SNR=2.9						
NACB	Ninganchiao	32.32	348	eP	P	20 57 42.2	-4.1
MKAR	Makanchi Array	68.04	328	P	P	21 02 12.6	-1.9
	1.1nm,0.5s,mb3.8,baz=121,slow=7.0,SNR=12						
MKAR	Makanchi Array	68.04	328	P	P	21 02 12.6	-1.9
TORD	Torodi Ar. Bea	127.72	281	PKP	PKPdf	21 10 19.3	+0.6
	0.6nm,0.7s,baz=64,slow=2.4,SNR=9.6						

*IDC **02** 21:10:42.6±5.4, 35.04S×179.11W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.5/10, mbtmp3.2/2, Error ellipse: s-maj=251.1km s-min=59.9km az=165.0*
*ISCJB **02** 21:11:26.0±1.4, 36.1S±0.2×178.1E±0.4, h263km±21km, mb2.6/2, Error ellipse: s-maj=55.5km s-min=22.8km az=70.5*
*WEL **02** 21:11:27.0±0.5, 35.88S×177.88E, h236km±6km, ML3.8/8, Error ellipse: s-maj=9.4km s-min=7.3km az=90.0*
*NEIC **02** 21:11:28.1, 35.98S×178.03E, h236km, MG3.8(WEL), After WEL.*
ISC 02 21:11:27.0±1.4**, 36.1S**±0.2×**178.1E**±0.3**, h261**km±19km**, n20, σ0^{s}82**/27**, mb2.6**/2**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.43	174	P	Pn	21 12 06.0	+0.2
MXZ				S	S	21 12 35.2	-1.2
MXZ	Matakaoa Point	1.43	174	PN	Pn	21 12 05.9	+0.1
MXZ				SN	S	21 12 35.2	-1.2
PUZ	Puketiti	1.93	176	P	Pn	21 12 10.5	+0.7
PUZ				S	S	21 12 41.4	-2.1
PUZ	Puketiti	1.93	176	PN	Pn	21 12 10.4	+0.6
PUZ				SN	S	21 12 43.4	-0.1
MWZ	Matawai	2.24	192	P	Pn	21 12 13.2	+0.7
MWZ	Matawai	2.24	192	PN	Pn	21 12 13.2	+0.7
MWZ				SN	S	21 12 49.2	+0.7
URZ	Urewera	2.26	200	P	Pn	21 12 13.2	+0.5
URZ	Urewera	2.26	200	PN	Pn	21 12 13.2	+0.5
URZ				SN	S	21 12 48.4	-0.4
KNZ	Kokohu	2.89	187	eP	Pn	21 12 20.3	+1.3
KNZ	Kokohu	2.89	187	PN	Pn	21 12 20.2	+1.2
BKZ	Black Stump Fm	3.28	203	P	Pn	21 12 23.5	+0.4
BKZ				S	S	21 13 09.3	+1.6
BKZ	Black Stump Fm	3.28	203	PN	Pn	21 12 23.4	+0.3
BKZ				SN	S	21 13 08.4	+0.6
TSZ	Takapari Road	4.26	203	eP	Pn	21 12 34.1	-0.2
BFZ	Birch Farm	4.76	197	eP	Pn	21 12 40.9	+0.7
MRZ	Mangatainoka R	4.93	203	eP	Pn	21 12 41.6	-0.7
KIW	Kapiti Island	5.34	207	P	Pn	21 12 46.0	-1.2
CAW	Cannon Point	5.50	205	P	Pn	21 12 47.9	-1.3
ASAR	Alice Springs	39.97	276	P	P	21 18 36.2	-0.2
	0.3nm,0.8s,mb2.7,baz=114,slow=8.4,SNR=5.2						
WRA	Warramunga Arr	41.50	281	P	P	21 18 48.9	0.0
	0.2nm,0.5s,mb2.6,baz=119,slow=7.7,SNR=7.1						
FINES	FINESS Array B	149.15	334	PKPbc	PKPdf	21 30 31.3	-8.7
	2.0nm,1.0s,baz=79,slow=7.2,SNR=5.2						

CASC 02 21:35:20.7±2.4**, 11.06N**×**86.41W, h1**km±4km**, MD3.8, 6C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.59	68⇓	eP	Pg	21 35 33.4	+1.3
SSNN				eS	Sg	21 35 43.8	+3.9
CONN	Concepcion	0.92	57⇑	eP	Pg	21 35 38.6	+0.3
MADN	Villa Maderas	0.93	68⇓	eP	Pg	21 35 38.6	+0.2
TICN	Ticuantepe	0.98	10⇓	iP	Pg	21 35 40.5	+1.0
TICN				eS	Sg	21 35 54.9	+2.7
RIN3	Volcan Rincon	1.05	105⇑	eP	Pg	21 35 40.7	-0.2
RIN3				eS	Sg	21 35 56.8	+2.3
TISN	Laguna Tiscapa	1.08	7⇑	eP	Pg	21 35 41.6	+0.2
XAVN	Gruta Xavier	1.08	4⇑	eP	Pg	21 35 41.8	+0.3
MGAN	Managua	1.09	9⇓	eP	Pg	21 35 42.0	+0.5
MGAN				eS	Sg	21 35 58.1	+2.4
COPN	Copaltepe	1.12	351	eP	Pg	21 35 42.2	0.0
COPN				eS	Sg	21 35 59.1	+2.3
APYN	Apoyeque	1.17	3⇑	eP	Pg	21 35 43.1	0.0
MOMJ	Momotombo	1.34	355	eP	Pg	21 35 45.5	-1.0
LEON	Leon	1.43	341	eP	Pn	21 35 45.8	-1.9
LEON				eS	Sg	21 36 05.5	-1.0
CNGN	Cerro Negro	1.46	349⇑	eP	Pn	21 35 46.7	-1.4
VACR	Volcan Arenal	1.80	109	eP	Pn	21 35 52.6	-0.3
CAO	Cobano	1.87	136	eP	Pn	21 35 53.8	0.0
CAO				eS	Sn	21 36 20.6	+2.6
EPA	Esparza	2.08	121⇓	eP	Pn	21 35 54.0	-2.8
EPA				eS	Sn	21 36 25.2	+1.9
CGA2	Cerro Gallo 2	2.18	118	eP	Pn	21 35 58.9	+0.8
POA2	Poas 2	2.30	112	eP	Pn	21 36 01.9	+2.1
POA2				eS	Sn	21 36 32.5	+3.8
PRS1	Puriscal	2.33	117	eP	Pn	21 36 00.6	+0.5
OCM	Ochomogo	2.68	115	eP	Pn	21 36 05.7	+0.7
IRZ2	Volcan Irazu 2	2.70	114	eP	Pn	21 36 07.1	+1.9
IRZ2				eS	Sn	21 36 40.1	+1.5
LCR2	La Lucha 2	2.71	119	eP	Pn	21 36 06.9	+1.6
BUS	Buena Vista	3.01	120	eP	Pn	21 36 10.7	+1.2

*KRSC **02** 21:59:55, 51.55N×153.68E, h591km, ML4.7*
*SKHL **02** 21:59:57.4±1.6, 53.26N×152.43E, h490km±20km, mb5.1/3, msh6.0/1*
*ISCJB **02** 22:00:01.4±0.2, 52.45N±0.04×152.39E±0.04, h497km±2km, mb4.4/93, Error ellipse: s-maj=6.4km s-min=3.0km az=132.7*
*MOS **02** 22:00:01.4±1.0, 52.50N×152.44E, h499km, mb4.4/32, Error ellipse: s-maj=9.2km s-min=6.9km az=71.6*
*BJI **02** 22:00:01.3, 52.33N×152.57E, h514km, mB4.7, mb4.7*
*NEIC **02** 22:00:02.4±0.4, 52.44N×152.37E, h497km±5km, mb4.4/40, Error ellipse: s-maj=5.7km s-min=3.1km az=157.0*
*IDC **02** 22:00:03.5±1.2, 52.49N×152.41E, h511km±13km, mb3.7/22, mb1 3.8/24, mb1mx3.7/29, mbtmp4.6/24, Error ellipse: s-maj=11.2km s-min=8.1km az=156.0*
ISC 02 22:00:02.2±0.2**, 52.45N**±0.04×**152.39E**±0.04**, h494**km±2km**, h497**km±6.9km**:pP-P, n268, σ0^{s}97**/293**, mb4.4**/93**, 10C-9D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	Alaid	2.53	128	eP	P	22 01 09.9	+0.3
ALID				i S	S	22 02 03.2	-1.3
MIPR	Malaya Ipel'ka	2.69	92	i P	P	22 01 10.5	-0.1
MIPR				i S	S	22 02 03.9	-2.4
SKR	Severo-Kuril's	2.92	126	eP	P	22 01 06.5	-5.6
SKR				AMB	AMB	22 01 07.0	
	100nm,0.6s						
SKR				AMB	AMB	22 01 07.0	
	330nm,0.6s						
SKR				eS	S	22 02 01.2	-7.9
SKR				A		22 02 15.0	
	170nm,0.7s						
SKR				A		22 02 15.0	
	220nm,0.7s						
SKR				A		22 02 15.0	
	130nm,0.7s						
GRL	Gorelyy	3.48	86	eP	P	22 01 16.2	+0.1
GNL	Ganaly	3.58	67	eP	P	22 01 17.1	+0.3
RUS	Russkaya	3.75	88	P	P	22 01 17.2	-0.9
RUS				S	S	22 02 15.4	-4.7
RUS	Russkaya	3.75	88	eP	P	22 01 17.2	-0.9
RUS				i S	S	22 02 15.4	-4.7
PET	Petropavlovsk	3.85	79	P	P	22 01 18.5	-0.5
PET				S	S	22 02 17.5	-4.1
PET	Petropavlovsk	3.85	79	eP	P	22 01 18.5	-0.5
PET	Petropavlovsk	3.85	79	eP	P	22 01 18.5	-0.5
PET				i S	S	22 02 17.5	-4.1
AVH	Avacha	3.94	75	eP	P	22 01 19.7	+0.1
NLC	Nalytchevo	4.28	78	P	P	22 01 21.4	-1.1
NLC				S	S	22 02 23.5	-4.5
NLC	Nalytchevo	4.28	78	eP	P	22 01 21.4	-1.1
NLC				i S	S	22 02 23.5	-4.5
KII	Karymskiy	4.53	67	P	P	22 01 25.0	+0.4
KII	Karymskiy	4.53	67	eP	P	22 01 25.0	+0.4
SPN	Mys Shipunski	4.68	79	P	P	22 01 23.8	-2.1
SPN				S	S	22 02 26.7	-7.6
SPN	Mys Shipunski	4.68	79	eP	P	22 01 23.8	-2.1
SPN				i S	S	22 02 26.7	-7.6
TUMR	Tumrok	5.40	55	eP	P	22 01 33.3	+0.9
TUMR				i S	S	22 02 46.1	-0.1
KOZ	Kozyrevsk	5.69	48	P	P	22 01 36.5	+1.3
KOZ	Kozyrevsk	5.69	48	eP	P	22 01 36.5	+1.3
KOZR	Kozyr	5.70	48	PN	P	22 01 36.5	+1.2
SRDR	Sredinnyy	5.78	45	eP	P	22 01 36.8	+0.8
SRDR				i S	S	22 02 54.0	+1.2
KPT	Kopyto	5.79	49	eP	P	22 01 36.7	+0.5
ZLN	Zelenaya	6.09	51	eP	P	22 01 40.1	+1.0
CIRR	Tsirk	6.12	50	eP	P	22 01 39.8	+0.4
KLY	Klyuchi	6.19	48	P	P	22 01 42.0	+2.0
KLY				S	S	22 03 02.8	+2.7
KLY	Klyuchi	6.19	48	eP	P	22 01 42.0	+2.0
KLY				i S	S	22 03 02.8	+2.7
BDR	Baidarnaya	6.59	48	eP	P	22 01 44.7	+0.7
SRKR	Sorokina	6.62	47	eP	P	22 01 44.5	+0.2
SMKR	Semkarok	6.71	48	eP	P	22 01 46.1	+0.9
SMKR				i S	S	22 03 08.0	-1.6
KBTR	Krutoberegovo	7.17	54	P	P	22 01 47.5	-2.3
KBTR				S	S	22 03 10.4	-7.6
KBTR	Krutoberegovo	7.17	54	eP	P	22 01 47.5	-2.3
KBTR				i S	S	22 03 10.4	-7.6
MA2	Magadan	7.20	353c	iPN	P	22 01 51.5	+1.3
MA2				e		22 03 21.0	
MA2				pmax	pmax		
	comp=N,10.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,40nm,0.7s						
MA2	Magadan	7.20	353	ePn	P	22 01 51.3	+1.1
	comp=Z,33nm,1.0s						
KUR	Kuril'sk	7.81	204	eP	P	22 01 52.0	-4.4
KUR				AMB	AMB	22 01 53.0	
	comp=Z,190nm,1.0s						
KUR				eS	S	22 03 29.0	-1.1
KUR				A		22 03 36.5	
	comp=Z,110nm,0.8s						
KUR				A		22 03 36.5	
	comp=Z,50nm,0.8s						
YSS	Yuzh-Sakhalins	8.32	232	eP	P	22 02 03.2	+1.5
YSS				AMB	AMB	22 02 04.0	
	comp=Z,40nm,0.7s						
YSS				eS	S	22 03 42.0	+2.2
YSS	Yuzh-Sakhalins	8.32	232	ePN	P	22 02 03.2	+1.5
YSS				S	S	22 03 42.0	+2.2
YSS				pmax	pmax		
	comp=Z,40nm,0.7s						
YSS	Yuzh-Sakhalins	8.32	232	eP	P	22 02 02.4	+0.8
YUK	Yuzh-Kuril'sk	9.47	210	erx	rx	22 03 17.8	
YUK				A		22 04 03.5	
	comp=Z,420nm,0.5s						
YUK				A		22 04 03.5	
	comp=Z,190nm,0.5s						
YUK				A		22 04 06.0	
	comp=Z,2µm,2.0s						
YUK				A		22 04 06.0	
	comp=Z,2µm,2.0s						
ASAJ	Asahikawa	10.58	222	P	P	22 02 26.6	+1.1
	comp=Z,1.9nm,0.3s,baz=49,slow=7.5,SNR=14						
ASAJ	Asahikawa	10.58	222	PN	P	22 02 26.6	+1.1
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HABR	Khabarovsk	11.74	257	ePN	P	22 02 40.0	+2.1
HABR				pmax	pmax		
	comp=Z,39nm,1.0s						
ERM	Erimo	12.16	215	ePN	P	22 02 40.9	-1.5
ERM				pmax	pmax		
	comp=Z,24nm,0.6s						
ERM	Erimo	12.16	215	eP	P	22 02 40.9	-1.5
	comp=Z,24nm,0.6s						
KLR	Kul'dur	13.43	264	eP	P	22 02 54.2	-1.6
BMKR	Bomnak	14.15	289	eP	P	22 03 00.5	-3.0
BMKR				AMB	AMB	22 03 03.0	
	comp=Z,21nm,0.6s						
YASR	Yasnyy	14.75	283	eP	P	22 03 06.5	-3.2
YASR				AMB	AMB	22 03 07.1	
	comp=Z,3.0nm,0.5s						
YASR				AMB	AMB	22 03 07.1	
	comp=Z,10.0nm,0.5s						
KROS	Kirovskiy	15.25	288⇓	iP	P	22 03 12.3	-2.7
KROS				AMB	AMB	22 03 12.9	
	comp=Z,32nm,0.6s						
KROS				AMB	AMB	22 03 12.9	
	comp=Z,44nm,0.6s						
YAK	Yakutsk	15.51	317	eP	P	22 03 19.6	+1.9
YAK				eS	S	22 05 58.3	-0.6
CLNS	Chul'man	16.45	296d	iP	P	22 03 28.5	+1.0
CLNS				eS	S	22 06 20.8	+4.0
CLNS				pmax	pmax		
	comp=N,18nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,50nm,0.6s						
CLNS				pmax	pmax		
	comp=E,36nm,0.9s						
CLNS				smax			
	comp=N,36nm,1.2s						
CLNS				smax			
	comp=Z,8.0nm,1.3s						
CLNS				smax			
	comp=E,9.0nm,0.8s						
VLA	Vladivostok	16.59	244	eP	P	22 03 29.2	+0.3
MDJ	Mudanjiang	16.96	252	P	P	22 03 31.7	-1.1
MDJ				AMB	AMB		
	comp=Z,18nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,68nm,5.0s						
MDJ	Mudanjiang	16.96	252	eP	P	22 03 31.8	-0.9
BILL	Bilibino	17.01	18⇑	eP	P	22 03 32.2	-1.1
BILL				pmax	pmax		
	comp=Z,13nm,0.5s						
BILL	Bilibino	17.01	18	P	P	22 03 32.3	-1.1
	comp=Z,20nm,0.4s						
MAJO	Matsushiro	18.79	218	eP	P	22 03 49.5	-0.5
MAT	Matsushiro	18.79	218	P	P	22 03 49.4	-0.6
MJAR	Matsushiro Arr	18.79	218	P	P	22 03 50.3	+0.3
	comp=Z,5.3nm,0.3s,baz=20,slow=8.8,SNR=94						
MJAR				ScP	ScP	22 10 38.0	-2.3
	comp=Z,0.1nm,0.3s,baz=64,slow=1.3,SNR=4.6						
CN2	Changchun	19.86	255	eP	P	22 03 59.5	-0.2
CN2				eXP	sP	22 06 10.1	+0.9
CN2				eS	S	22 07 10.3	-2.6
CN2				AMB	AMB		
	comp=Z,20nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
HIA	Hailar	20.75	274d	iP	P	22 04 08.0	+0.2
HIA	Hailar	20.75	274	eP	P	22 04 07.5	-0.3
SNY	Shenyang	22.14	253	⇑P	P	22 04 21.0	+0.6
SNY				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.5						
BOD	Bodaibo	22.36	299	eP	P	22 04 22.0	-0.4
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
TNA	Tin City	23.78	41	eP	P	22 04 35.0	-0.1
	comp=Z,6.3nm,0.5s,mb4.3						
TTA	Tatalina	28.70	48	eP	P	22 05 17.0	-1.5
ULN	Ulaanbaatar	29.03	279	eP	P	22 05 21.6	+0.3
ULN	Ulaanbaatar	29.03	279	eP	P	22 05 22.1	+0.8
SVW2	Sparrevohn	29.06	52	eP	P	22 05 21.9	+0.4
SONM	Songino Array	29.44	280	P	P	22 05 25.8	+0.9
	comp=Z,0.9nm,0.3s,mb3.6,baz=67,slow=8.3,SNR=17						
SONM				PcP	PcP	22 08 14.4	-0.8
	comp=Z,1.0nm,0.6s,baz=106,slow=1.8,SNR=7.3						
SONM				ScP	ScP	22 11 07.4	-2.4
	comp=Z,2.0nm,0.8s,baz=58,slow=1.7,SNR=11						
SONM	Songino Array	29.44	280	P	P	22 05 25.8	+0.9
SONM						22 08 14.4	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM				pmax	pmax		
	comp=N,2.0nm,0.8s						
TLY	Talaya	29.53	288	eP	P	22 05 27.2	+1.6
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
HHC	Hu-ho-hao-te	29.93	264	eP	P	22 05 29.0	-0.1
HHC				PCP	PcP	22 08 17.5	+1.0
HHC				S	S	22 09 51.5	+0.3
HHC				SCP	ScP	22 11 12.1	+0.6
HHC				PCS	PcS	22 12 00.2	-0.4
HHC				SCS	ScS	22 15 07.6	-0.4
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,95nm,5.2s						
ZAK	Zakamensk	30.23	286	eP	P	22 05 32.7	+1.0
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
KDAK	Kodiak Island	31.16	58	P	P	22 05 38.4	-1.3
	comp=Z,9.4nm,0.5s,mb4.5,baz=282,slow=4.5,SNR=17						
KDAK	Kodiak Island	31.16	58	eP	P	22 05 38.6	-1.2
SSE	Sheshan	31.18	239	eP	P	22 05 39.7	-0.2
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,114nm,8.9s						
NJ2	Nanjing	31.69	243	eP	P	22 05 44.0	-0.3

NJ2 PP PP 22 07 14.9 +3.1
NJ2 XP sP 22 08 11.0 +4.3
NJ2 S **S** **22 10 27.0 +8.7**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,190nm,10.4s
SLKM Skilak Lake 31.74 52 *e*P **P 22 05 43.7 -1.0**
MCK McKinley 31.81 46 *e*P **P 22 05 45.5 +0.2**
MCK pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
MCK McKinley 31.81 46 *e*P **P 22 05 45.5 +0.2**
comp=Z,9.9nm,0.8s,mb4.3
PMR Palmer 32.06 50 *e*P **P 22 05 46.9 -0.5**
PMR pmax pmax
comp=Z,6.0nm,0.3s,mb4.5
PMR Palmer 32.06 50 *e*P **P 22 05 46.9 -0.5**
comp=Z,6.1nm,0.3s,mb4.5
COLA College 32.15 44*c i*P **P 22 05 47.3 -0.9**
COLA College 32.15 44⇑*i*P **P 22 05 48.0 -0.2**
comp=Z,32nm,0.6s,mb4.9
DIV Divide 33.73 50 *e*P **P 22 06 01.5 -0.1**
EYAK Cordova Ski Ar 33.89 51 *e*P **P 22 06 02.4 -0.6**
KRAR Krasnoyarsk 34.03 300 *e*P **P 22 06 04.5 +0.3**
KRAR pmax pmax
comp=Z,21nm,1.5s,mb4.3
EGAK Eagle 34.98 43 *e*P **P 22 06 11.2 -1.0**
DAWY Dawson 35.89 44 *e*P **P 22 06 19.1 -0.7**
INK Inuvik 37.20 36 P **P 22 06 30.3 -0.3**
comp=Z,26nm,0.5s,mb5.0,baz=301,slow=7.3,SNR=104
INK Inuvik 37.20 36 *e*P **P 22 06 30.1 -0.4**
LZH Lanzhou 37.63 264 *e*P **P 22 06 35.5 +1.4**
LZH AP pP 22 08 03.5 +1.3
LZH PP PP 22 08 17.2 +2.3
LZH XP sP 22 08 59.5 +0.9
LZH *e*S **S 22 11 48.5 +0.7**
LZH XS sS 22 14 31.2 +1.8
LZH SS SS 22 14 52.6 -8.2
LZH AMB AMB
comp=Z,25nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,60nm,4.0s
GTA Gaotai 37.98 271⇓*i*P **P 22 06 38.0 +1.1**
GTA PCP PcP 22 08 39.8 -0.1
GTA SCP ScP 22 11 38.0 -2.2
GTA S **S 22 11 53.5 +0.5**
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.1
ZAL Zalesovo 39.13 300 P **P 22 06 45.8 -0.4**
comp=Z,3.5nm,0.4s,mb4.2,baz=45,slow=4.8,SNR=13
ZAL PcP PcP 22 08 42.5 -1.1
comp=Z,0.8nm,0.7s,baz=223,slow=4.6,SNR=3.5
ZAL ScP ScP 22 11 42.0 -2.7
comp=Z,1.1nm,0.9s,baz=22,slow=4.9,SNR=8.7
ZAL Zalesovo 39.13 300 P **P 22 06 45.8 -0.5**
ZAL 22 08 42.5
ZAL pmax pmax
comp=Z,4.0nm,0.4s
ZAL pmax pmax
comp=Z,1.0nm,0.7s
ZAL pmax pmax
comp=N,1.0nm,0.9s
SKAG Skagway 39.19 50 *e*P **P 22 06 46.4 -0.4**
comp=N,19nm,1.2s,mb4.4
NVS Novosibirsk 39.55 302 *e*P **P 22 06 49.6 -0.1**
NVS pmax pmax
comp=Z,14nm,0.9s,mb4.4
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,10.0nm,0.9s
CD2 Chengdu 41.24 258 *e*P **P 22 07 03.1 -0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
DLBC Dease Lake 42.12 50 P **P 22 07 11.4 +1.3**
comp=Z,7.0nm,0.6s,mb4.3,baz=301,slow=7.2,SNR=19
WMQ Urumqi 42.69 285⇓*i*P **P 22 07 16.0 +1.3**
WMQ AP pP 22 08 45.0 -0.6
WMQ PCP PcP 22 08 58.0 +2.6
WMQ S **S 22 13 04.0 +2.4**
WMQ SCS ScS 22 16 22.0 +2.1
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,106nm,4.2s
GYA Guiyang 42.82 251 P **P 22 07 15.8 +0.1**
GYA AP pP 22 08 49.8 +3.1
GYA XP sP 22 09 45.6 +3.3
GYA SCP ScP 22 11 58.4 -0.9
GYA S **S 22 13 03.3 -0.2**
GYA SCS ScS 22 16 18.1 -2.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,60nm,4.0s
MK31 Makanchi Array 44.13 292 P **P 22 07 25.9 0.0**
MK31 pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
MKAR Makanchi Array 44.13 292 P **P 22 07 26.2 +0.3**
comp=Z,4.3nm,0.4s,mb4.2,baz=52,slow=6.6,SNR=32
MKAR ScP ScP 22 12 01.9 -2.8
comp=Z,0.7nm,0.4s,baz=46,slow=5.2,SNR=6.9
MKAR Makanchi Array 44.13 292 P **P 22 07 26.2 +0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR pmax pmax
comp=N,1.0nm,0.4s
MKAR Makanchi Array 44.13 292 P **P 22 07 26.2 +0.3**
MKAR ScP ScP 22 12 01.9 -2.8
KMI Kunming 46.12 253 P **P 22 07 41.4 +0.2**
KMI PCP PcP 22 09 08.5 +1.2
KMI AP pP 22 09 15.3 +1.3
KMI PP PP 22 09 38.0 +1.4
KMI XP sP 22 10 09.4 +0.3
KMI SCP ScP 22 12 13.4 +0.4
KMI S **S 22 13 50.7 +0.5**
KMI XS sS 22 16 37.2 -1.0
KMI SCS ScS 22 16 41.6 -0.5
KMI SS SS 22 17 20.7 -2.7
KMI SSS 22 19 14.0
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,115nm,5.0s
CHKZ Chkalovo 46.55 306 *i* P **P 22 07 42.9 -1.6**
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb4.5
CHKZ Chkalovo 46.55 306 *e*P **P 22 07 44.4 -0.1**
YKW3 Yellowknife Ar 46.69 39 *e*P **P 22 07 44.2 -1.3**
YKA Yellowknife Ar 46.73 40 P **P 22 07 45.2 -0.6**
comp=Z,12nm,0.5s,mb4.6,baz=304,slow=7.2,SNR=34
YKA PcP PcP 22 09 08.3 -1.2
comp=Z,0.6nm,0.4s,baz=314,slow=3.5,SNR=5.2
YKA Yellowknife Ar 46.73 40 P **P 22 07 45.2 -0.6**
YKA 22 09 08.3
YKA pmax pmax
comp=Z,12nm,0.5s
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 46.73 40 P **P 22 07 45.2 -0.6**
YKA PcP PcP 22 09 08.3 -1.2
VOSK Vostochnaya 46.90 305 P **P 22 07 45.1 -2.0**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
BVAR Borovoye Array 47.02 305 P **P 22 07 48.3 +0.2**
comp=Z,12nm,0.8s,mb4.4,baz=60,slow=8.0,SNR=35
BVAR PcP PcP 22 09 09.3 -1.3
comp=Z,1.1nm,0.5s,baz=75,slow=2.7,SNR=4.7
BVAR ScP ScP 22 12 14.0 -2.8
comp=Z,1.3nm,0.8s,baz=119,slow=5.2,SNR=4.8
BVAR Borovoye Array 47.02 305 P **P 22 07 48.3 +0.2**
BVAR 22 09 09.3
BVAR pmax pmax
comp=Z,12nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=N,1.0nm,0.8s
BRVK Borovoye 47.06 305 *e*P **P 22 07 48.7 +0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
BRVK Borovoye 47.06 305 *e*P **P 22 07 48.7 +0.3**
comp=Z,6.1nm,0.6s,mb4.2
ZRNK Zerenda 47.76 306⇓*i*P **P 22 07 53.7 +0.1**
ZRNK pmax pmax
comp=Z,13nm,0.6s,mb4.4
ZRNK Zerenda 47.76 306⇓*i*P **P 22 07 53.7 +0.1**
comp=Z,13nm,0.6s,mb4.4
LSA Lhasa 49.75 268 P **P 22 08 10.0 +1.5**
LSA Lhasa 49.75 268 *e*P **P 22 08 10.2 +1.7**
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.3
LSA Lhasa 49.75 268 *e*P **P 22 08 10.2 +1.7**
comp=Z,12nm,0.7s,mb4.3
TKM2 Tokmak 2 50.26 292 *i* P **P 22 08 11.3 -0.9**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
ARU Arti 50.59 314⇑*i*P **P 22 08 14.0 -0.6**
ARU *e* 22 09 22.6
ARU *e* pP 22 09 47.5 -2.3
ARU *e* 22 10 15.4
ARU *e*S **S 22 14 50.2 -1.5**
ARU *e* 22 17 11.5
ARU *e*SS SS 22 18 37.3 +3.3
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
ARU Arti 50.59 314 *e*P **P 22 08 14.3 -0.3**
comp=Z,9.2nm,0.8s,mb4.2
USP Ospenovka 50.66 293 P **P 22 08 16.1 +1.0**
SNR=8.2
CHMS Chumysh 50.69 292 P **P 22 08 16.4 +1.0**
SNR=5.9
KBK Karagaybulak 50.80 292 P **P 22 08 17.2 +1.1**
SNR=5.3
AAK Ala-Archa 51.07 292 P **P 22 08 19.1 +1.0**
SNR=6.9
AAK Ala-Archa 51.07 292 *e*P **P 22 08 16.8 -1.3**
EKS2 Erkin-Say 51.46 292 P **P 22 08 22.0 +1.1**
SNR=5.6
HDW Hoodsport 51.55 59 P **P 22 08 22.0 +0.4**
CMW Cultus Mountai 51.55 58 P **P 22 08 22.1 +0.6**
JCW Jim Creek 51.79 58 P **P 22 08 23.2 -0.1**
RPW Rockport 51.85 58 P **P 22 08 23.7 -0.1**
NANT Nan 52.21 250 P **P 22 08 24.0 -2.4**
ARCES ARCESS Array B 52.33 339 P **P 22 08 26.2 -1.0**
comp=Z,0.8nm,0.3s,mb3.5,baz=43,slow=8.6,SNR=16
ARCES ARCESS Array B 52.33 339 P **P 22 08 26.3 -0.9**
ARCES pmax pmax
comp=Z,1.0nm,0.4s
NLW Nelson Butte 52.69 57 P **P 22 08 30.1 +0.3**
ETW Entiat 53.00 58 P **P 22 08 32.1 +0.1**
KK31 Karatay Array 53.00 295 P **P 22 08 31.6 -0.4**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
TBM Table Mountain 53.14 58 P **P 22 08 32.9 -0.1**
CHG Chiang Mai 53.22 252 ⇓P **P 22 08 34.1 +0.5**
comp=Z,16nm,0.9s,mb4.3
EPH Ephrata 53.54 58 P **P 22 08 35.6 -0.2**
HOOD Mount Hood Mea 53.78 61 *e*P **P 22 08 38.5 +0.9**
HAWA Hanford 54.20 59 *e*P **P 22 08 40.0 -0.5**
GUN Gumba 54.26 270 *e*P **P 22 08 41.8 +0.8**
comp=Z,52nm,0.4s,mb5.2
AB31 Akbulak array 54.53 307 P **P 22 08 42.5 -0.4**
AB31 pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
AKTK Aktyubinsk 54.68 309 P **P 22 08 43.6 -0.3**
AKTO Aktyubinsk 54.68 309 P **P 22 08 43.6 -0.3**
comp=Z,2.4nm,0.5s,mb3.8,baz=62,slow=9.0,SNR=15
AKTO Aktyubinsk 54.68 309 *i* P **P 22 08 43.0 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,0.6s,mb3.3
KKN Kakani 54.71 271 *e*P **P 22 08 45.1 +1.0**
comp=Z,110nm,0.5s,mb5.4
KKN Kakani 54.71 271 *e*P **P 22 08 45.1 +1.0**
KKN pmax pmax
comp=Z,110nm,0.5s,mb5.4
PKI Pulchoki 54.79 271 *e*P **P 22 08 45.5 +0.8**
comp=Z,40nm,0.4s,mb5.1
PKI Pulchoki 54.79 271 *e*P **P 22 08 45.5 +0.8**
PKI pmax pmax
comp=Z,40nm,0.4s,mb5.1
DMN Daman 54.95 271 *e*P **P 22 08 46.0 +0.2**
comp=Z,97nm,0.5s,mb5.4
GKN Gorkha 54.95 271 *e*P **P 22 08 46.6 +0.8**
comp=Z,69nm,0.5s,mb5.2
SUMG Summit 55.04 4 *e*P **P 22 08 46.1 -0.4**
WALA Waterton Lakes 55.27 53 *e*P **P 22 08 48.0 -0.1**
comp=Z,11nm,0.7s,mb4.3
BSMT Bassoo Peak 55.65 55 *e*P **P 22 08 51.1 +0.4**
BSMT *e*pP pP 22 10 32.6 +4.2
KOLN Koldanda 55.75 272 *e*P **P 22 08 52.3 +0.9**
comp=Z,42nm,0.4s,mb5.1
JOF Joensuu 56.05 332 *e*p **P 22 08 52.8 -0.7**
comp=Z,1.0nm,0.3s,mb3.6
JOF Joensuu 56.05 332 *e*P **P 22 08 52.8 -0.7**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb3.6
BMO Blue Mountains 56.39 59 *e*P **P 22 08 56.3 +0.4**
FFC Flin Flon 56.74 42 *e*P **P 22 08 57.8 -0.5**
FFC pmax pmax
comp=Z,14nm,0.6s,mb4.5
FFC Flin Flon 56.74 42 *e*P **P 22 08 57.8 -0.4**
comp=Z,14nm,0.6s,mb4.5
MSO Missoula 56.77 55 *e*P **P 22 08 58.6 +0.1**
FCC Fort Churchill 56.80 35 *e*P **P 22 08 57.3 -1.4**
FCC pmax pmax
comp=Z,22nm,0.6s,mb4.7
FCC Fort Churchill 56.80 35 *e*P **P 22 08 57.3 -1.3**
comp=Z,22nm,0.6s,mb4.7
CHMT Chamberlain Mo 57.06 55 *e*P **P 22 09 00.6 +0.2**
BOK Bokaro 57.26 267 *e*P **P 22 09 02.6 +0.7**
BOK AMb AMB 22 09 03.0
comp=Z,11nm,0.5s,mb4.4
SMLA Simla 57.27 280 *e*P **P 22 09 01.5 -0.4**
SMLA AMb AMB 22 09 02.1
comp=Z,55nm,0.5s,mb5.2
WVOR Wild Horse Val 57.34 62⇑*e*P **P 22 09 03.1 +0.8**
WVOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
WVOR Wild Horse Val 57.34 62⇑*e*P **P 22 09 03.0 +0.7**
comp=Z,10nm,0.9s,mb4.2
HRY Holter Researc 57.90 54 *e*P **P 22 09 06.7 +0.5**
OHCM Honcut 57.91 66 *e*P **P 22 09 06.5 +0.2**
KAF Kangasniemi 58.10 333 *e*p **P 22 09 06.4 -1.2**
DLMT Dillon 58.46 55 *e*P **P 22 09 10.8 +0.8**
comp=Z,13nm,0.8s,mb4.3
MCMT McKenzie Canyo 58.71 56 *e*P **P 22 09 11.8 +0.2**
FINES FINESS Array B 58.71 333 P **P 22 09 10.9 -0.8**
comp=Z,1.0nm,0.3s,mb3.6,baz=38,slow=6.5,SNR=36
FINES FINESS Array B 58.71 333 P **P 22 09 10.9 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.3s
BOZ Bozeman (W) 58.75 55 *e*P **P 22 09 12.1 +0.2**
BOZ pmax pmax
comp=Z,11nm,0.7s,mb4.3
BOZ Bozeman (W) 58.75 55 *e*P **P 22 09 12.1 +0.2**
comp=Z,11nm,0.7s,mb4.3
HLID Hailey 58.79 58 *e*P **P 22 09 13.0 +0.8**
PAHR Pah Rah Range 58.82 64 *e*P **P 22 09 13.3 +0.9**
comp=Z,10nm,0.9s,mb4.2
SONA Sohna 59.38 277 *e*P **P 22 09 15.5 -0.7**
SONA AMb AMB 22 09 15.9
comp=Z,13nm,0.2s,mb4.8
QLMT Earthquake Lak 59.42 55 *e*P **P 22 09 17.3 +0.9**
CMB Columbia Colle 59.43 66 *e*P **P 22 09 17.0 +0.5**
AGRA Agra 59.60 276 *e*P **P 22 09 17.0 -0.7**
AGRA AMb AMB 22 09 20.5
comp=Z,47nm,0.3s,mb5.4
GCMT Greycliff 59.62 53 *e*P **P 22 09 18.5 +0.7**
WAKR Walker 59.63 65 *e*P **P 22 09 18.9 +1.0**
KUDL Kundal 59.82 278 *e*P **P 22 09 18.7 -0.5**
KUDL AMb AMB 22 09 19.1
comp=Z,13nm,0.8s,mb4.4
FRB Frobisher Bay 59.83 20 P **P 22 09 16.6 -2.6**
comp=Z,6.4nm,0.4s,mb4.4,baz=339,slow=8.8,SNR=15
FRB Frobisher Bay 59.83 20 P **P 22 09 16.6 -2.6**
FRB pmax pmax
comp=Z,6.0nm,0.4s
YFT Old Faithful 59.99 55 *e*P **P 22 09 22.9 +2.7**
KHET Khetri 60.28 278 *e*P **P 22 09 21.8 -0.5**
NVAR Mina Array Bea 60.31 65 P **P 22 09 23.3 +0.9**
comp=Z,5.3nm,0.7s,mb4.1,baz=318,slow=5.2,SNR=35
NVAR Mina Array Bea 60.31 65 P **P 22 09 23.3 +0.9**
IMW Indian Meadow 60.33 56 *e*P **P 22 09 23.7 +1.2**
RRI2 Red Ridge 60.53 56 *e*P **P 22 09 25.4 +1.5**
MOOW Moose Ponds 60.54 56 *e*P **P 22 09 21.0 -2.9**
comp=Z,37nm,1.2s,mb4.7
TPAW Teton Pass 60.62 56 *e*P **P 22 09 25.9 +1.5**
comp=Z,10nm,0.8s,mb4.3
LAO LASA Array 60.63 51 *e*P **P 22 09 24.2 -0.3**
comp=Z,15nm,1.0s,mb4.4
LOHW Long Hollow 60.71 56 *e*P **P 22 09 26.0 +1.0**
REDW Red Top Meadow 60.76 56 *e*P **P 22 09 26.7 +1.3**
HWUT Hardware Ranch 61.66 58 *e*P **P 22 09 32.0 +0.7**
comp=Z,9.6nm,0.7s,mb4.3
BW06 Boulder Array 61.84 56 *e*P **P 22 09 32.7 +0.2**
comp=Z,8.1nm,0.8s,mb4.2
PDAR Pinedale Array 61.84 56 P **P 22 09 32.6 +0.1**
comp=Z,8.6nm,0.8s,mb4.2,baz=337,slow=2.2,SNR=48
DAC Darwin (Calif) 62.24 66 *e*P **P 22 09 35.5 +0.4**
ULM Lac du Bonnet 62.56 42 P **P 22 09 35.8 -1.3**
comp=Z,3.3nm,0.3s,mb4.3,baz=314,slow=7.4,SNR=13
NLU North Lily Min 62.59 60 *e*P **P 22 09 38.3 +0.9**
NB2 NORSAR Subarra 62.69 340 P **P 22 09 37.0 -1.0**
comp=Z,1.3nm,0.8s,mb3.5,baz=26,slow=6.9
NOA NORSAR Array B 62.69 340 P **P 22 09 37.1 -0.9**
comp=Z,0.6nm,0.4s,mb3.4,baz=25,slow=6.4,SNR=4.5
NOA NORSAR Array B 62.69 340 P **P 22 09 37.1 -0.9**
NOA pmax pmax
comp=Z,1.0nm,0.4s
BHPL Bhopal 62.85 273 *e*P **P 22 09 38.6 -0.4**
BHPL AMb AMB 22 09 39.1
comp=Z,18nm,0.9s,mb4.6
HFS Hagfors 62.97 338 P **P 22 09 38.7 -1.1**
comp=Z,0.9nm,0.4s,mb3.6,baz=80,slow=3.2,SNR=16
HFS Hagfors 62.97 338 P **P 22 09 38.7 -1.1**
HFS pmax pmax
comp=Z,1.0nm,0.4s
GSC Goldstone 63.39 66 *e*P **P 22 09 43.1 +0.6**
NGP Nagpur 63.42 271 *e*x x 22 09 35.3
NGP AMb AMB 22 09 39.1
comp=Z,16nm,1.0s,mb4.5
RSSD Black Hills 63.57 51 *e*P **P 22 09 43.5 -0.1**
MSU Marysvale 63.58 61 *e*P **P 22 09 45.1 +1.4**
CCUT Cedar City 63.65 62 *e*P **P 22 09 44.7 +0.5**
SRU San Rafael 64.02 59 *e*P **P 22 09 47.1 +0.6**
AKL Akola 65.00 272 *e*P **P 22 09 52.8 0.0**
AKL AMb AMB 22 09 53.5
comp=Z,16nm,0.9s,mb4.7
ISCO Idaho Springs 66.04 56 *e*P **P 22 10 04.5 +5.2**
GLA Glamis 66.15 67 *e*P **P 22 10 00.6 +0.6**
WUAZ Wupatki 66.23 62 *e*P **P 22 10 01.4 +0.9**
comp=Z,6.4nm,0.9s,mb4.2
KAKA Kakadu 67.14 201 *e*P **P 22 10 05.8 -0.3**
comp=Z,9.2nm,0.6s,mb4.6
ECSD EROS,Sioux Fal 67.31 47⇑*i*P **P 22 10 06.0 -1.2**
SCHQ Schefferville 68.24 23 P **P 22 10 11.3 -1.6**
comp=Z,7.4nm,0.4s,mb4.7,baz=346,slow=5.5,SNR=31
SCHQ Schefferville 68.24 23 P **P 22 10 11.3 -1.6**
ANMO Albuquerque 69.28 60 *e*P **P 22 10 18.4 -0.8**
KAD Karad 69.31 272 *e*P **P 22 10 19.1 -0.2**
KAD AMb AMB 22 10 19.9
comp=Z,16nm,0.8s,mb4.6
EKA Eskdalemuir Ar 70.69 345 P **P 22 10 26.9 -0.7**
comp=Z,2.5nm,0.5s,mb4.0,baz=16,slow=4.9,SNR=24
EKA Eskdalemuir Ar 70.69 345 P **P 22 10 26.9 -0.7**
EKA pmax pmax
comp=Z,3.0nm,0.5s
CLL Collm 71.10 334 *i* (P) **P 22 10 20.9 -9.0**
comp=Z,4.0nm,1.0s,mb3.9
CLL Collm 71.10 334 *i* P **P 22 10 20.9 -9.0**
CLL pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
MNTX Cornudas Mount 72.36 61 *e*P **P 22 10 37.7 +0.4**
comp=Z,5.1nm,0.7s,mb4.2
GDL2 Guadalupe Moun 72.52 60 *e*P **P 22 10 38.8 +0.6**
GERES GERESS Array B 73.14 333 P **P 22 10 41.5 -0.4**
comp=Z,0.2nm,0.3s,baz=38,slow=6.8,SNR=5.9
WMOK Wichita Mounta 73.39 54 *e*P **P 22 10 42.8 -0.5**
WMOK pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
WMOK Wichita Mounta 73.39 54 *e*P **P 22 10 42.8 -0.5**
comp=Z,6.8nm,0.6s,mb4.3
WRAB Tennant Creek 73.77 198 *e*P **P 22 10 44.8 -0.6**
WRAB pmax pmax
comp=Z,13nm,0.8s,mb4.5
WRAB Tennant Creek 73.77 198 *e*P **P 22 10 44.8 -0.7**
comp=Z,13nm,0.8s,mb4.5
WB2 Warramunga Arr 73.78 198 *e*P **P 22 10 44.7 -0.8**
WRA Warramunga Arr 73.78 198 P **P 22 10 45.2 -0.3**
comp=Z,7.2nm,0.7s,mb4.3,baz=14,slow=6.1,SNR=50
WRA Warramunga Arr 73.78 198 P **P 22 10 45.2 -0.3**
WRA pmax pmax
comp=Z,7.0nm,0.7s
FITZ Fitzroy Crossi 74.00 206 *e*P **P 22 10 46.7 0.0**
comp=Z,11nm,0.8s,mb4.4
FVM French Village 74.71 47 *e*P **P 22 10 49.6 -1.1**
FVM pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
FVM French Village 74.71 47 *e*P **P 22 10 49.6 -1.1**
comp=Z,7.4nm,0.6s,mb4.4
MIB Mutribah 75.35 300 *e*P **P 22 10 53.8 -0.5**
MIB AMb AMB 22 10 54.9
comp=Z,36nm,0.5s,mb5.1
RST Umm Al-Ruwaisa 75.77 300 *e*P **P 22 10 55.9 -0.7**
RST AMb AMB 22 10 57.0
comp=Z,26nm,0.7s,mb4.9
NAY Al-Naaiem 75.84 300 *e*P **P 22 10 56.3 -0.7**
NAY AMb AMB 22 10 57.8
comp=Z,13nm,1.0s,mb4.4
MIAR Mount Ida 76.08 51 *e*P **P 22 10 57.8 -0.6**
MIAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
MIAR Mount Ida 76.08 51 *e*P **P 22 10 57.8 -0.6**
comp=Z,5.7nm,0.7s,mb4.2
WCI Wyandotte Cave 76.31 44 *e*P **P 22 10 58.6 -1.0**
WCI pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
WCI Wyandotte Cave 76.31 44 *e*P **P 22 10 58.6 -1.1**
comp=Z,8.3nm,0.8s,mb4.3
AS31 Alice Springs 77.49 197 *e*P **P 22 11 06.2 +0.1**
ASAR Alice Springs 77.49 197 P **P 22 11 06.4 +0.3**
comp=Z,9.8nm,0.7s,mb4.5,baz=9.9,slow=5.2,SNR=139
ASAR pP pP 22 12 56.8 +4.2
comp=Z,0.8nm,0.9s,baz=8.9,slow=6.6,SNR=4.1
ASAR Alice Springs 77.49 197 P **P 22 11 06.4 +0.3**
ASAR *PP pP 22 12 56.8 +4.2
ASAR pmax pmax
comp=Z,10.0nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.9s
ASPA Alice Springs 77.49 197 *e*P **P 22 11 06.2 +0.1**
TZTN Tazewell 78.89 43 *e*P **P 22 11 12.5 -1.2**
SWET Sewanee 79.00 45 *e*P **P 22 11 12.9 -1.3**
CFAA Coronel Fontan 143.98 71 PKP PKPdf 22 18 38.9 -2.0
comp=N,0.6nm,0.5s,baz=267,slow=4.1,SNR=9.2
SYO Syowa Base 145.40 216⇑*e*PKPdf PKPdf 22 18 41.0 -2.3
SYO Syowa Base 145.40 216⇓*e*PKPbc PKPbc 22 18 43.0 -1.4
CPUP Villa Florida 145.68 52 PKPbc PKPbc 22 18 43.8 -1.4
comp=N,1.4nm,0.5s,baz=304,slow=3.1,SNR=5.4
CPUP Villa Florida 145.68 52 PKP2 PKPab 22 18 43.8 -2.8
CPUP pmax pmax
comp=Z,1.0nm,0.5s

---

*NEIC **02** 22:18:55.8, 38.14N×22.10E, h66km, MG3.2(ATH), After ATH.*
*ATH **02** 22:18:55.8, 38.14N×22.10E, h66km±5km, ML3.2*
*CSEM **02** 22:18:55.8±0.1, 38.09N×22.11E, h60km, ML3.2, Error ellipse: s-maj=2.1km s-min=1.6km az=2.0*
*ISCJB **02** 22:18:56.7±0.7, 38.14N±0.04×22.12E±0.04, h62km±12km, Error ellipse: s-maj=6.1km s-min=5.8km az=154.4*
*THE **02** 22:18:58.2, 38.17N×22.14E, h21km, ML2.8*
ISC 02 22:18:57.6±0.7, **38.13N**±0.04×**22.12E**±0.04, **h54**km±15km, **n23**, σ**0.61**/33, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.52**	**262**	*e*P	**Pn**	**22 19 08.4**	**-1.0**
RLS				*e*S	**Sn**	**22 19 18.2**	**+0.4**
EVR	**Evrytania**	**0.82**	**343**	*e*P	**Pn**	**22 19 13.6**	**+0.5**
LKR	**Lokris**	**0.86**	**53**	*e*P	**Pn**	**22 19 13.6**	**0.0**
AGG	**Agios Georgios**	**0.91**	**10**	*e*Pg	**Pn**	**22 19 14.6**	**+0.4**
AGG				*e*Sg	**Sn**	**22 19 25.6**	**-0.8**
ITM	**Ithomi**	**0.96**	**189**	*e*P	**Pn**	**22 19 15.2**	**+0.3**
ITM				*e*S	**Sn**	**22 19 28.7**	**+1.1**
VLS	**Valsamata**	**1.21**	**273**	*e*P	**Pn**	**22 19 17.3**	**-0.9**
ATH	**Athens Observa**	**1.27**	**97**	*e*P	**Pn**	**22 19 18.2**	**-0.8**
ATH				*e*S	**Sn**	**22 19 35.5**	**+0.5**
LKD	**Levkas**	**1.29**	**297**	*e*Pg	**Pn**	**22 19 19.2**	**-0.2**
NEO	**Neokhori**	**1.46**	**36**	*e*P	**Pn**	**22 19 21.7**	**+0.1**
NEO				*e*S	**Sn**	**22 19 39.2**	**-0.4**
XOR	**Xorichti**	**1.49**	**34**	*e*Pg	**Pn**	**22 19 22.2**	**+0.2**
VLI	**Veliai**	**1.55**	**155**	*e*P	**Pn**	**22 19 22.0**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AOS	**Alonnisos**	**1.73**	**52**	*e*Pb	**Pn**	**22 19 25.1**	**-0.1**
AOS				*e*Sb	**Sn**	**22 19 46.3**	**+0.2**
IGT	**Igoumenitsa**	**1.98**	**316**	*e*Pb	**Pn**	**22 19 28.6**	**-0.1**
IGT				*e*Sb	**Sn**	**22 19 52.1**	**-0.3**
LIT	**Litokhoron**	**1.99**	**8**	*e*Pb	**Pn**	**22 19 28.7**	**-0.1**
PAIG	**Paliouri**	**2.17**	**34**	*e*Pn	**Pn**	**22 19 30.9**	**-0.3**
PAIG				*e*Sn	**Sn**	**22 19 56.3**	**-0.6**
KEK	**Kerkira**	**2.41**	**312**	*e*P	**Pn**	**22 19 33.8**	**-0.7**
PLG	**Polygyros**	**2.47**	**24**	*e*P	**Pn**	**22 19 35.1**	**-0.2**
OUR	**Ouranopolis**	**2.63**	**33**	*e*Pn	**Pn**	**22 19 37.6**	**0.0**
FNA	**Florina**	**2.71**	**348**	*e*Pn	**Pn**	**22 19 39.6**	**+0.9**
FNA				*e*Sn	**Sn**	**22 20 12.1**	**+1.8**
SOH	**Sokhos**	**2.85**	**19**	*e*Pn	**Pn**	**22 19 41.0**	**+0.4**
KNT	**Kendrikon**	**3.09**	**11**	*e*Pn	**Pn**	**22 19 44.8**	**+0.9**
KNT				*e*Sn	**Sn**	**22 20 19.3**	**-0.2**
SRS	**Serrai**	**3.19**	**20**	*e*Pn	**Pn**	**22 19 45.1**	**-0.2**
MMB	**Musomiste**	**3.67**	**19**	*e*Pn	**Pn**	**22 19 52.2**	**+0.3**

*ISCJB **02** 22:25:06.4±0.7,122S±0.1×68.1E±0.1,h10^{km},mb4.3/19, MS3.7/2,Error ellipse: s-maj=19.7km s-min=13.2km az=106.5*

*IDC **02** 22:25:06.8±0.9,1205S×68.14E,h0^{km},mb4.1/10, mb1 4.2/10,mb1mx3.9/21,mbtmp4.1/10,MS3.7/2, Ms1 3.6/2,ms1mx3.1/24,Error ellipse: s-maj=30.6km s-min=21.1km az=37.0*

*NEIC **02** 22:25:08.2±0.5,12.15S×6808E,h10^{km},mb4.7/10,Error ellipse: s-maj=15.1km s-min=10.4km az=53.0*

ISC 02 22:25:08.7±0.7**,121S**±01×**681E**±01**,h10**^{km}**,n26,**σ**0**^{s}**94**/23**, mb4.3**/19**,MS3.7**/2**,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**38.83**	**261**	P	**P**	**22 32 34.7**	**+0.9**
	1.8nm,0.8s,mb3.9,baz=86,slow=12,SNR=6.1						
KOLN	**Koldanda**	**42.41**	**21**	*e*P	**P**	**22 33 04.1**	**+0.7**
	13nm,0.9s,mb4.5						
DMN	**Daman**	**42.80**	**23**	*e*P	**P**	**22 33 08.4**	**+1.8**
GKN	**Gorkha**	**42.99**	**22**	*e*P	**P**	**22 33 09.2**	**+1.1**
	16nm,0.8s,mb4.8						
KKN	**Kakani**	**43.03**	**23**	*e*P	**P**	**22 33 09.4**	**+0.9**
	18nm,0.9s,mb4.8						
BOSA	**Boshof**	**43.10**	**241**	LR	LR	22 51 00.8	
	comp=Z,62nm,18.7s,MS3.5,baz=349,slow=36						
LSA	**Lhasa**	**47.15**	**28**	P	**P**	**22 33 41.4**	**+0.2**
	2.0nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**55.73**	**104**	*e*P	**P**	**22 34 45.7**	**+0.2**
	3.6nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**60.01**	**11**	P	**P**	**22 35 14.2**	**-1.2**
	1.0nm,0.6s,mb4.0,baz=200,slow=7.9,SNR=5.9						
KIV	**Kislovodsk**	**60.40**	**339**	P	**P**	**22 35 18.8**	**+0.7**
	6.5nm,1.0s,mb4.6						
ASAR	**Alice Springs**	**63.24**	**110**	P	**P**	**22 35 37.0**	**-0.4**
	2.2nm,0.8s,mb4.4,baz=275,slow=6.2,SNR=23						
WRA	**Warramunga Arr**	**63.84**	**106**	P	**P**	**22 35 41.9**	**+0.6**
	3.0nm,0.8s,mb4.4,baz=274,slow=6.1,SNR=24						
WB2	**Warramunga Arr**	**63.85**	**106**	*e*P	**P**	**22 35 41.1**	**-0.3**
WRAB	**Tennant Creek**	**63.85**	**106**	*e*P	**P**	**22 35 41.5**	**+0.1**
	13nm,1.0s,mb4.9						
ZRNK	**Zerenda**	**64.80**	**1**	*e*P	**P**	**22 35 46.1**	**-1.5**
	2.5nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**65.56**	**2**	*e*P	**P**	**22 35 50.8**	**-1.7**
	2.1nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**67.31**	**11**	P	**P**	**22 36 01.7**	**-2.0**
	0.8nm,0.6s,mb4.0,baz=271,slow=4.8,SNR=4.9						
ZAL				LR	LR	23 05 35.5	
	comp=Z,70nm,18.6s,MS3.9,baz=169,slow=36						
ZAL	**Zalesovo**	**67.31**	**11**	P	**P**	**22 36 01.7**	**-2.0**
ZAL				LR	LR	23 05 35.5	
SONM	**Songino Array**	**68.72**	**27**	P	**P**	**22 36 12.7**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=212,slow=6.5,SNR=9.4						
STKA	**Stephens Creek**	**69.79**	**120**	P	**P**	**22 36 18.8**	**-0.4**
	3.2nm,0.8s,mb4.3,baz=357,slow=6.7,SNR=3.8						
AKASG	**Malin Array Be**	**71.12**	**335**	P	**P**	**22 36 28.1**	**+0.8**
	0.1nm,0.2s,mb3.3,baz=132,slow=5.4,SNR=4.0						
MJAR	**Matsushiro Arr**	**81.73**	**50**	P	**P**	**22 37 27.3**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=238,slow=6.4,SNR=4.9						
ARCES	**ARCESS Array B**	**86.66**	**346**	P	**P**	**22 37 51.6**	**-0.9**
	3.3nm,0.9s,mb4.5,baz=106,slow=4.3,SNR=3.9						
HNR	**Honiara**	**89.88**	**100**	*e*P	**P**	**22 38 07.9**	**0.0**
	45nm,1.1s						
PDAR	**Pinedale Array**	**149.39**	**357**	PKPbc	PKPbc	22 44 57.1	-0.8
	1.0nm,0.6s,baz=96,slow=2.6,SNR=9.7						
NVAR	**Mina Array Bea**	**153.18**	**11**	PKPbc	PKPbc	22 45 07.0	+0.3
	1.0nm,0.8s,baz=265,slow=4.9,SNR=5.9						

*IDC **02** 22:59:22.7±3.2,1835S×17101W,h0^{km},mb4.1/5, mb1 4.3/5,mb1mx3.9/16,mbtmp4.1/5,MS3.5/1,Ms1 3.5/1, ms1mx2.8/23,Error ellipse: s-maj=166.3km s-min=36.0km az=4.0*

NEIC 02 22:59:42.4±5.1**,1857S**×**17304W,h35**^{km}**,mb4.3**/4**,Error ellipse: s-maj=123.0km s-min=24.7km az=218.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.38**	**261**	P	P	23 07 00.7	+0.6
	4.2nm,0.4s,baz=92,slow=12						
CTA				LR	LR	23 21 48.2	
	comp=Z,62nm,18.4s,baz=227,slow=33						
CTA	**Charters Tower**	**38.38**	**261**	P	P	23 07 00.7	+0.6
CTA				LR	LR	23 21 48.2	
CTAO	**Charters Tower**	**38.38**	**261**	*e*P	P	23 07 00.6	+0.5
	5.4nm,0.6s						
STKA	**Stephens Creek**	**42.84**	**243**	P	P	23 07 37.4	+0.4
	1.3nm,0.6s,baz=80,slow=11,SNR=3.6						
WB2	**Warramunga Arr**	**49.52**	**259**	*e*P	P	23 08 29.5	0.0
WRAB	**Tennant Creek**	**49.52**	**259**	*e*P	P	23 08 29.4	-0.1
	2.1nm,0.6s						
AS31	**Alice Springs**	**49.53**	**254**	*e*P	P	23 08 30.3	+0.7
ASAR	**Alice Springs**	**49.53**	**254**	P	P	23 08 30.1	+0.5
	1.4nm,0.5s,baz=92,slow=8.0,SNR=36						
WRA	**Warramunga Arr**	**49.53**	**259**	P	P	23 08 29.9	+0.3
	1.0nm,0.5s,baz=97,slow=7.2,SNR=44						
ASPA	**Alice Springs**	**49.53**	**254**	*e*P	P	23 08 30.3	+0.7
FITZ	**Fitzroy Crossi**	**57.95**	**260**	*e*P	P	23 09 32.5	+1.3
	3.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**57.95**	**260**	P	P	23 09 32.3	+1.2
	1.8nm,1.1s,baz=126,slow=8.7,SNR=5.0						
VNDA	**Vanda**	**60.27**	**186**	*e*P	P	23 09 46.8	-0.4
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**172.60**	**136**	PKPab	PKPab	23 20 53.4	-20
	0.1nm,0.4s,baz=249,slow=3.7,SNR=6.3						

MAN 02 23:27:15.1,1894N×**12122E,h0**^{km}**,mb3.3,ML4.5,MS5.7, 2D,Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.05**	**131**	*e*P	Pg	23 27 35.8	+0.5
SGCP				*e*S	Sg	23 27 51.4	+2.5
CVP	**Callao Caves**	**1.36**	**155**	⇓*i*P	Pg	23 27 41.0	-0.2
CVP				*i* S	Sg	23 28 01.0	+2.2
ABRA	**Dolores**	**1.37**	**200**	*e*P	Pg	23 27 39.8	-1.7
ABRA				*e*S	Sg	23 27 58.2	-1.0
PALP	**Palanan**	**2.19**	**148**	⇓*i*P	Pn	23 27 53.1	+0.2
PALP				*i* S	Sn	23 28 26.2	+5.5
PALP	**Palanan**	**2.19**	**148**	*e*P	Pn	23 27 53.5	+0.6
PALP				*e*S	Sn	23 28 20.6	-0.1
BOLP	**Bolinao**	**2.83**	**206**	*e*P	Pn	23 28 03.7	+2.1
BALP	**Baler**	**3.20**	**174**	*e*P	Pn	23 28 07.7	+1.0
BALP				*e*S	Sn	23 28 12.0	-34

*LDG **02** 23:27:14.8±1.0,4068N×1967E,h10^{km},Mb5.0/18,Ms2.5/5, Error ellipse: s-maj=47.8km s-min=9.3km az=8.0*

*TIR **02** 23:27:16.5,40.13N×1973E,h20^{km},Ml3.5*

*ROM **02** 23:27:16.8±0.4,4008N×1979E,h10^{km},Md4.2/1,Ml4.1/40, Error ellipse: s-maj=6.4km s-min=3.0km az=66.0*

*IDC **02** 23:27:16.2±0.9,40.19N×1964E,h0^{km},mb3.9/10, mb1 3.9/18,mb1mx3.9/32,mbtmp3.8/18,ML3.6/8,MS3.0/4, Ms1 3.0/4,ms1mx2.5/36,Error ellipse: s-maj=13.3km s-min=12.5km az=128.0*

*ISCJB **02** 23:27:17.1±0.1,4021N±001×1959E±001,h10^{km}, mb3.9/11,MS2.8/3,Error ellipse: s-maj=2.2km s-min=1.5km az=43.0*

*ATH **02** 23:27:17.4,40.11N×1958E,h21^{km}±1^{km},MD4.1/19,ML4.3*

*PDG **02** 23:27:17.7±0.9,4020N×1963E,h7^{km}±3^{km}*

*NEIC **02** 23:27:17.4,40.11N×1958E,h21^{km},mb4.1/4,ML4.3(ATH), After ATH.*

*THE **02** 23:27:18.1,40.18N×1964E,h10^{km},ML3.9*

*MOS **02** 23:27:18.1±1.2,4023N×1955E,h24^{km},mb4.2/10,Error ellipse: s-maj=6.2km s-min=3.5km az=106.8*

*CSEM **02** 23:27:18.0±0.0,40.14N×1964E,h2^{km},Ms2.5,Error ellipse: s-maj=1.4km s-min=0.7km az=27.0*

*SOF **02** 23:27:19.9,4027N×1967E,h18^{km},MD3.8*

*NAO **02** 23:27:35.2,4149N×1903E,h33^{km},mb3.0*

*PRU **02** 23:27:57.4,43.13N×1830E,h0^{km},M4.1*

*HLW **02** 23:28:40.6,3504N×2430E,h30^{km},Mb3.1*

ISC 02 23:27:17.7±0.4**,4016N**±001×**1961E**±002**,h3**^{km}±3^{km}**,n297,** σ**1**^{s}**27**/349**,mb3.9**/11**,MS2.8**/3**,29C-27D,Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.32**	**345**	*i* Pg	**Pg**	**23 27 24.7**	**+0.9**
VLO				*i* Sg	**Sg**	**23 27 31.1**	**+3.1**
SRN	**Sarande**	**0.41**	**132**	*i* Pg	**Pg**	**23 27 24.2**	**-1.4**
SRN				*i* Sg	**Sg**	**23 27 30.3**	**-0.7**
KEK	**Kerkira**	**0.47**	**161**	*e*PB	**Pg**	**23 27 26.5**	**-0.2**
KEK				*e*SB	**Sg**	**23 27 32.7**	**-0.1**
LSK	**Leskovik**	**0.76**	**90**	*i* Pg	**Pg**	**23 27 29.6**	**-2.7**
LSK				*i* Sg	**Sg**	**23 27 40.6**	**-1.6**
IGT	**Igoumenitsa**	**0.84**	**138**	*e*Pg	**Pg**	**23 27 32.4**	**-1.4**
SCTE	**Santa Cesarea**	**0.88**	**265**	Pn	**Pn**	**23 27 36.0**	**-0.9**
	4μm,0.4s						
KBN	**Korca**	**1.01**	**62**	*i* Pg	**Pg**	**23 27 36.5**	**-0.6**
KBN				*i* Sg	**Sg**	**23 27 52.0**	**+1.7**
JAN	**Janina**	**1.08**	**117**	*e*PB	**Pb**	**23 27 37.1**	**-1.9**
JAN				*e*SN	**Sn**	**23 27 52.8**	**-2.4**
LCI	**Lecce**	**1.16**	**279**	Pn	**Pn**	**23 27 40.9**	**+0.2**
	681nm,0.4s						
TIR	**Tirane**	**1.20**	**9**	Pn	**Pn**	**23 27 40.7**	**-0.7**
	3μm,0.7s						
TIR	**Tirane**	**1.20**	**9**	*e*Pg	**Pg**	**23 27 41.5**	**+0.8**
PRZA	**Preza**	**1.27**	**2**	*i* pg?	**Pg**	**23 27 46.0**	**+4.0**
PRZA				*i* Sg	**Sg**	**23 28 05.0**	**+6.5**
MEV	**Metsovon**	**1.30**	**106**	*e*Pg	**Pg**	**23 27 41.5**	**-1.2**
OHR	**Ohrid**	**1.31**	**43**	*e*Pg	**Pn**	**23 27 41.1**	**-1.8**
OHR				*e*Sg	**Sg**	**23 28 01.5**	**+1.6**
OHR	**Ohrid**	**1.31**	**43**	*i* Pn	**Pn**	**23 27 41.1**	**-1.8**
OHR				*i* Sn	**Sn**	**23 28 01.6**	**+0.7**
FNA	**Florina**	**1.49**	**65**	*e*Pg	**Pg**	**23 27 43.7**	**-2.5**
FNA				*e*Sg	**Sg**	**23 28 07.7**	**+2.2**
BIA	**Bitola**	**1.57**	**56**	*e*Pg	**Pg**	**23 27 44.8**	**-2.9**
BIA	**Bitola**	**1.57**	**56**	*i* Pn	**Pn**	**23 27 44.9**	**-1.5**
BIA				*i* Sn	**Sn**	**23 28 08.3**	**+1.2**
BIA	**Bitola**	**1.57**	**56**	*i* Pn	**Pn**	**23 27 44.8**	**-1.5**
BIA				*i* Sn	**Sn**	**23 28 08.3**	**+1.2**
LKD	**Levkas**	**1.66**	**150**	*e*Pb	**Pb**	**23 27 47.9**	**-1.0**
LKD				*e*Sb	**Sb**	**23 28 12.2**	**+2.0**
KZN	**Kozani**	**1.67**	**84**	*e*PN	**Pn**	**23 27 47.8**	**+0.1**
KZN				*e*SN	**Sn**	**23 28 10.0**	**+0.4**
KRUS	**Krusevo**	**1.74**	**45**	*i* Pn	**Pn**	**23 27 48.9**	**+0.2**
KRUS	**Krusevo**	**1.74**	**45**	*i* Pn	**Pn**	**23 27 48.8**	**+0.1**
PE1	**Pezze di Greco**	**1.78**	**292**	⇓*i*Pn	**Pn**	**23 27 49.4**	**0.0**
ULC	**Ulcinj**	**1.82**	**352**	⇓*i*Pn	**Pn**	**23 27 49.3**	**-0.6**
ULC				*e*Sn	**Sn**	**23 28 16.0**	**+2.5**
NOCI	**Noci**	**2.04**	**289**	Pn	**Pn**	**23 27 52.9**	**+0.1**
	2μm,0.9s						
EVR	**Evrytania**	**2.11**	**125**	*e*PN	**Pn**	**23 27 54.3**	**+0.5**
VLS	**Valsamata**	**2.12**	**159**	*e*PB	**Pb**	**23 27 53.1**	**-3.6**
BUM	**Brajici-Budva**	**2.20**	**346**	⇓*i*Pn	**Pn**	**23 27 54.4**	**-0.8**
BUM				*e*Sn	**Sn**	**23 28 25.3**	**+2.4**
LIT	**Litokhoron**	**2.21**	**91**	*e*Pn	**Pn**	**23 27 55.9**	**+0.7**
LIT				*e*Sn	**Sn**	**23 28 24.7**	**+1.6**
GRG	**Griva**	**2.27**	**69**	*e*Pn	**Pn**	**23 27 56.1**	**0.0**
BAI	**Bari**	**2.28**	**295**	⇓*i*Pn	**Pn**	**23 27 56.2**	**0.0**
SKO	**Skopje**	**2.28**	**37**	*i* Pn	**Pn**	**23 27 57.1**	**+1.0**
SKO				*i* Sn	**Sn**	**23 28 28.1**	**+3.3**
SKO	**Skopje**	**2.28**	**37**	*e*Pn	**Pn**	**23 27 57.2**	**+1.0**
SKO				*i* Sn	**Sn**	**23 28 28.1**	**+3.3**
TTG	**Podgorica**	**2.28**	**354**	⇓*i*Pn	**Pn**	**23 27 55.8**	**-0.4**
TTG				*e*Sn	**Sn**	**23 28 26.7**	**+1.8**
SG1	**Sgolgore (BA)**	**2.33**	**288**	⇓*i*Pn	**Pn**	**23 27 57.0**	**+0.1**
AGG	**Agios Georgios**	**2.39**	**117**	*e*Pn	**Pn**	**23 27 59.0**	**+1.3**
AGG				*e*Sn	**Sn**	**23 28 29.0**	**+1.4**
AMUR	**Altamura**	**2.41**	**289**	Pn	**Pn**	**23 27 58.0**	**+0.1**
	638nm,0.5s						
ORI	**Oriolo Calabro**	**2.42**	**269**	Pn	**Pn**	**23 28 00.1**	**+2.0**
	1μm,0.6s						
HCY	**Herceg Novi**	**2.43**	**340**	⇑*i*Pn	**Pn**	**23 27 57.0**	**-1.2**
HCY				*e*Sn	**Sn**	**23 28 30.7**	**+2.2**
PVY	**Plav**	**2.45**	**6**	⇑*i*Pn	**Pn**	**23 27 59.2**	**+0.7**
PVY				*e*Sn	**Sn**	**23 28 31.2**	**+2.3**
MIGL	**Miglionico**	**2.46**	**281**	Pn	**Pn**	**23 27 59.4**	**+0.8**
	4μm,0.8s						
STIP	**Stip**	**2.48**	**51**	*i* Pn	**Pn**	**23 27 59.0**	**0.0**
STIP				*i* Sn	**Sn**	**23 28 34.6**	**+4.8**
STIP	**Stip**	**2.48**	**51**	*e*Pn	**Pn**	**23 27 59.4**	**+0.4**
STIP				*i* Sn	**Sn**	**23 28 34.6**	**+4.8**
SERS	**Sersale**	**2.52**	**244**	Pn	**Pn**	**23 27 59.6**	**+0.2**
	314nm,0.8s						
VAY	**Valandovo**	**2.53**	**62**	*e*Pn	**Pn**	**23 27 59.4**	**-0.3**
VAY	**Valandovo**	**2.53**	**62**	*i* Pn	**Pn**	**23 27 59.0**	**-0.7**
RLS	**Riolos of Patr**	**2.55**	**145**	*e*PN	**Pn**	**23 27 59.7**	**-0.2**
THE	**Thessaloniki**	**2.61**	**79**	*e*Pn	**Pn**	**23 28 00.6**	**-0.1**
NKY	**Niksic**	**2.69**	**350**	⇓*i*Pn	**Pn**	**23 28 01.2**	**-0.6**
NKY				*e*Sn	**Sn**	**23 28 36.1**	**+1.2**
CDT	**Castel del Mon**	**2.70**	**291**	⇓*i*Pn	**Pn**	**23 28 02.0**	**+0.1**
KNT	**Kendrikon**	**2.70**	**67**	*e*Pn	**Pn**	**23 28 02.1**	**+0.2**
SCHR	**S. Chirico Rap**	**2.70**	**272**	Pn	**Pn**	**23 28 03.1**	**+1.1**
	362nm,0.8s						
HORT	**Hortiatis**	**2.71**	**80**	*e*Pn	**Pn**	**23 28 03.0**	**+1.0**
IVA	**Berane**	**2.72**	**5**	⇑*i*Pn	**Pn**	**23 28 02.9**	**+0.7**
IVA				*e*Sn	**Sn**	**23 28 37.7**	**+2.1**
TREB	**Trebinje**	**2.72**	**340**	P	**Pn**	**23 28 01.5**	**-0.8**
GRI	**Girifalco**	**2.80**	**243**	Pn	**Pn**	**23 28 03.8**	**+0.4**
	80nm,0.5s						
BRY	**Bratogost**	**2.85**	**344**	⇑*i*Pn	**Pn**	**23 28 02.9**	**-1.2**
BRY				*e*Sn	**Sn**	**23 28 40.8**	**+1.9**
SIRI	**Monte Sirino -**	**2.86**	**272**	Pn	**Pn**	**23 28 05.6**	**+1.4**
	519nm,1.0s						
XOR	**Xorichti**	**2.88**	**105**	*e*Pn	**Pn**	**23 28 05.0**	**+0.6**
PALZ	**Palazzo San Ge**	**2.88**	**287**	Pn	**Pn**	**23 28 05.3**	**+0.8**
	2μm,0.9s						
CUC	**Castrocucco**	**2.91**	**268**	Pn	**Pn**	**23 28 06.5**	**+1.6**
	712nm,0.8s						
NEO	**Neokhori**	**2.92**	**106**	*e*PN	**Pn**	**23 28 05.1**	**+0.2**
SOH	**Sokhos**	**2.94**	**76**	*e*Pn	**Pn**	**23 28 06.0**	**+0.8**
PLG	**Polygyros**	**2.95**	**85**	*e*PN	**Pn**	**23 28 05.4**	**+0.1**
PLG				*e*SN	**Sn**	**23 28 40.9**	**-0.3**
MTSN	**Montesano sull**	**2.95**	**273**	Pn	**Pn**	**23 28 06.3**	**+0.9**
	633nm,0.9s						
PLAC	**Placanica**	**2.99**	**236**	Pn	**Pn**	**23 28 05.2**	**-0.8**
	61nm,0.7s						
LKR	**Lokris**	**3.03**	**119**	*e*PN	**Pn**	**23 28 06.9**	**+0.4**
SLCN	**Sala Consilina**	**3.05**	**276**	Pn	**Pn**	**23 28 07.8**	**+1.1**
	380nm,0.8s						
UPM	**Unac-Piva**	**3.08**	**351**	⇑*i*Pn	**Pn**	**23 28 07.2**	**0.0**
UPM				*e*Sn	**Sn**	**23 28 46.8**	**+2.2**
KKB	**Krupnik**	**3.14**	**56**	*i* P	**Pn**	**23 28 09.6**	**+1.7**
PAIG	**Paliouri**	**3.14**	**93**	*e*Pn	**Pn**	**23 28 07.4**	**-0.6**
BARS	**Barje**	**3.14**	**31**	*i* Pn	**Pn**	**23 28 08.1**	**+0.2**
FGMS	**Monte Sant'Ang**	**3.17**	**300**	Pn	**Pn**	**23 28 08.7**	**+0.3**
	174nm,0.4s						
PLE	**Pljevlja**	**3.17**	**357**	⇓*i*Pn	**Pn**	**23 28 09.0**	**+0.6**
PLE				*e*Sn	**Sn**	**23 28 48.3**	**+1.5**
MS1	**Monte Sant'Ang**	**3.17**	**300**	⇑*i*Pn	**Pn**	**23 28 08.9**	**+0.4**
SRS	**Serrai**	**3.18**	**71**	*e*Pn	**Pn**	**23 28 08.6**	**+0.1**
MSAG	**Monte S. Angel**	**3.20**	**300**	Pn	**Pn**	**23 28 09.1**	**+0.3**
	908nm,0.8s						
CMPR	**Campora**	**3.30**	**274**	Pn	**Pn**	**23 28 11.6**	**+1.5**
	483nm,1.2s						
CDRU	**Civita di Ruta**	**3.30**	**277**	Pn	**Pn**	**23 28 11.3**	**+1.1**
	105nm,0.6s						
SGRT	**San Giovanni R**	**3.33**	**300**	Pn	**Pn**	**23 28 10.9**	**+0.3**
	526nm,0.9s						
OUR	**Ouranopolis**	**3.35**	**86**	*e*Pn	**Pn**	**23 28 11.2**	**+0.2**
SGTA	**Sant Agata di**	**3.37**	**288**	Pn	**Pn**	**23 28 12.4**	**+1.3**
	506nm,0.9s						
RGNG	**Rignano Grg**	**3.40**	**298**	Pn	**Pn**	**23 28 11.7**	**+0.1**
SNAL	**S. Angelo Dei**	**3.44**	**284**	Pn	**Pn**	**23 28 13.0**	**+0.9**
	993nm,1.4s						
CAFE	**Carife**	**3.44**	**286**	Pn	**Pn**	**23 28 13.2**	**+1.1**
	1μm,1.3s						
MMB	**Musomiste**	**3.44**	**64**	*e*Pn	**Pn**	**23 28 12.1**	**+0.1**
MMB				*e*Sn	**Sn**	**23 28 52.9**	**-0.4**
MMB	**Musomiste**	**3.44**	**64**	*i* P	**Pn**	**23 28 12.2**	**+0.1**
MMB				*i* S	**Sn**	**23 28 52.9**	**-0.4**
MCRV	**Calabrutti - M**	**3.44**	**282**	Pn	**Pn**	**23 28 12.9**	**+0.8**
	221nm,0.6s						
AOS	**Alonnisos**	**3.44**	**105**	*e*Pn	**Pn**	**23 28 12.6**	**+0.4**
NVR	**Nevrokopi**	**3.44**	**68**	*e*PN	**Pn**	**23 28 13.7**	**+1.5**
CEL	**Celeste**	**3.45**	**238**	Pn	**Pn**	**23 28 12.1**	**-0.2**
	227nm,1.0s						
SOI	**Samo**	**3.46**	**234**	Pn	**Pn**	**23 28 12.3**	**-0.1**
	177nm,0.8s						
FG5	**Orsara di Pugl**	**3.48**	**290**	Pn	**Pn**	**23 28 14.4**	**+1.7**
	297nm,0.5s						
ITM	**Ithomi**	**3.49**	**148**	*e*PN	**Pn**	**23 28 12.9**	**+0.1**
MGER	**Gerania Oros**	**3.58**	**126**	*e*PN	**Pn**	**23 28 14.5**	**+0.5**
VTS	**Vitosha**	**3.64**	**47**	*e*Pn	**Pn**	**23 28 15.5**	**+0.6**
VTS	**Vitosha**	**3.64**	**47**	⇓*i*P	**Pn**	**23 28 15.9**	**+1.0**
VTS	**Vitosha**	**3.64**	**47**	*i* P	**Pn**	**23 28 15.6**	**+0.7**
VTS	**Vitosha**	**3.64**	**47**	⇓P	**Pn**	**23 28 15.8**	**+1.0**
MTTG	**Motta San Giov**	**3.73**	**236**	Pn	**Pn**	**23 28 16.3**	**+0.2**
	141nm,0.8s						
FG2	**Serracapriola**	**3.74**	**297**	Pn	**Pn**	**23 28 16.9**	**+0.6**
	1μm,1.0s						
GRUS	**Gruza**	**3.82**	**12**	*i* Pn	**Pn**	**23 28 17.1**	**-0.2**
GRUS	**Gruza**	**3.82**	**12**	Pn	**Pn**	**23 28 17.0**	**-0.3**
CIGN	**Sant'Elia a Pi**	**3.86**	**294**	Pn	**Pn**	**23 28 19.0**	**+1.1**
	773nm,1.2s						
NAIG	**Nisos Aigina**	**3.86**	**127**	*e*PN	**Pn**	**23 28 18.0**	**+0.1**
ATH	**Athens Observa**	**3.88**	**123**	*e*PN	**Pn**	**23 28 18.0**	**-0.1**
SACR	**S. Croce Del S**	**3.92**	**290**	Pn	**Pn**	**23 28 20.5**	**+1.8**
	308nm,0.9s						
PTL	**Penteli**	**3.93**	**121**	*e*PN	**Pn**	**23 28 19.0**	**+0.2**
DIVS	**Divcibare**	**3.95**	**4**	*i* Pn	**Pn**	**23 28 18.3**	**-0.8**
DIVS	**Divcibare**	**3.95**	**4**	*e*Pn	**Pn**	**23 28 19.0**	**-0.1**
KVR	**Kavouri**	**3.99**	**124**	*e*PN	**Pn**	**23 28 20.0**	**+0.3**
BSSO	**Busso**	**4.04**	**292**	Pn	**Pn**	**23 28 22.0**	**+1.6**
	339nm,1.1s						
FRES	**Fresagrandinar**	**4.15**	**298**	Pn	**Pn**	**23 28 23.3**	**+1.5**
	762nm,1.1s						
TRIV	**Trivento**	**4.15**	**294**	Pn	**Pn**	**23 28 23.1**	**+1.2**
	1μm,1.5s						
RZN	**Rozhen**	**4.16**	**67**	*i* P	**Pn**	**23 28 23.5**	**+1.4**
VAGA	**Valle Agricola**	**4.26**	**289**	Pn	**Pn**	**23 28 25.4**	**+1.9**
	466nm,1.1s						
MOCO	**Biccari - m.te**	**4.31**	**288**	Pn	**Pn**	**23 28 15.8**	**-8.3**
	890nm,1.1s						
PLD	**Plovdiv**	**4.31**	**62**	*i* P	**Pn**	**23 28 26.4**	**+2.3**
MIDA	**Miranda**	**4.32**	**292**	Pn	**Pn**	**23 28 25.6**	**+1.4**
	357nm,1.2s						
VLI	**Veliai**	**4.32**	**142**	*e*PN	**Pn**	**23 28 24.4**	**+0.2**
CERA	**Filignano**	**4.47**	**291**	Pn	**Pn**	**23 28 28.6**	**+2.3**
	269nm,0.9s						
RDO	**Rodhopi**	**4.62**	**76**	*e*PN	**Pn**	**23 28 29.2**	**+0.9**
SSY	**Sortino**	**4.65**	**231**	Pn	**Pn**	**23 28 26.9**	**-1.8**
	302nm,0.9s						
INTR	**Introdacqua**	**4.69**	**295**	Pn	**Pn**	**23 28 29.7**	**+0.4**
	400nm,0.9s						
KYTH	**Kithira**	**4.72**	**144**	*e*PN	**Pn**	**23 28 30.5**	**+0.8**
HAVL	**Avola**	**4.75**	**229**	Pn	**Pn**	**23 28 27.4**	**-2.7**
	113nm,0.5s						
VVLD	**Villa Vallelon**	**4.84**	**293**	Pn	**Pn**	**23 28 33.0**	**+1.7**
	317nm,1.0s						
VAE	**Valguarnera**	**4.86**	**238**	Pn	**Pn**	**23 28 32.8**	**+1.2**
	0.8nm,0.3s,baz=54,slow=14,SNR=2.6						
VAE	**Valguarnera**	**4.86**	**238**	Pn	**Pn**	**23 28 32.8**	**+1.2**
VCEL	**Villa Celiera**	**4.88**	**299**	Pn	**Pn**	**23 28 33.1**	**+1.1**
	385nm,1.1s						
ALN	**Alexandroupoli**	**4.96**	**79**	*e*Pn	**Pn**	**23 28 32.2**	**-0.8**
ALN	**Alexandroupoli**	**4.96**	**79**	*e*Pn	**Pn**	**23 28 32.2**	**-0.9**
FGSL	**Fruska Gora**	**5.00**	**2**	Pn	**Pn**	**23 28 32.9**	**-0.6**
FAGN	**Fagnano**	**5.00**	**297**	Pn	**Pn**	**23 28 35.0**	**+1.4**
	241nm,0.6s						
TERO	**Teramo**	**5.14**	**301**	Pn	**Pn**	**23 28 36.5**	**+1.0**
	123nm,0.5s						
CERT	**Cerreto**	**5.32**	**292**	Pn	**Pn**	**23 28 39.3**	**+1.4**
	60nm,0.7s						
FIAM	**Fiamignano**	**5.33**	**295**	Pn	**Pn**	**23 28 40.9**	**+2.8**
	74nm,0.6s						
AOI	**Ancona**	**5.62**	**309**	Pn	**Pn**	**23 28 41.6**	**-0.5**
	48nm,0.6s						
NVLJ	**Novalja**	**5.63**	**323**	⇑*i*Pn	**Pn**	**23 28 41.5**	**-0.6**
NVLJ				*i* Sn	**Sn**	**23 29 46.1**	**-1.1**
BZS	**Buzias**	**5.65**	**14**	⇓*i*P	**Pn**	**23 28 42.4**	**-0.1**
BZS	**Buzias**	**5.65**	**14**	⇓P	**Pn**	**23 28 42.4**	**-0.1**
MNS	**Montasola**	**5.67**	**295**	Pn	**Pn**	**23 28 44.6**	**+1.8**
	35nm,0.6s						
GZR	**Gura Zlata**	**5.73**	**23**	⇑*i*P	**Pn**	**23 28 44.4**	**+0.8**
GZR	**Gura Zlata**	**5.73**	**23**	⇑P	**Pn**	**23 28 44.4**	**+0.9**
CING	**Cingoli**	**5.77**	**306**	Pn	**Pn**	**23 28 44.1**	**0.0**
	101nm,0.7s						
ASS	**Assisi**	**5.96**	**301**	Pn	**Pn**	**23 28 48.5**	**+1.7**
	2.0nm,0.6s						
PKSM	**Moragy**	**6.09**	**354**	⇑*i*P	**Pn**	**23 28 48.0**	**-0.5**
PKSM	**Moragy**	**6.09**	**354**	⇑P	**Pn**	**23 28 48.0**	**-0.5**
BOJS	**Bojanci**	**6.22**	**331**	*i* Pn	**Pn**	**23 28 50.2**	**-0.2**
BOJS				*i* Sn	**Sn**	**23 30 01.9**	**-0.1**
PESA	**Pesaro**	**6.29**	**309**	Pn	**Pn**	**23 28 51.2**	**-0.1**
	109nm,0.6s						
CDCA	**Citt' di Caste**	**6.42**	**303**	Pn	**Pn**	**23 28 54.3**	**+1.3**
	87nm,0.7s						
IDI	**Anoyia**	**6.42**	**138**	Pn	**Pn**	**23 28 51.4**	**-1.7**
	0.8nm,0.3s,baz=317,slow=11,SNR=11						
IDI				Sn	**Sn**	**23 29 59.0**	**-7.8**
	1.1nm,0.3s,baz=275,slow=23,SNR=4.6						
BADI	**Badiali**	**6.43**	**304**	Pn	**Pn**	**23 28 54.1**	**+0.8**
	69nm,0.5s						
RSM	**Repubblica di**	**6.52**	**308**	Pn	**Pn**	**23 28 54.7**	**+0.2**
	26nm,1.0s						
VISS	**Visnje**	**6.63**	**330**	*e*Pn	**Pn**	**23 28 55.3**	**-0.7**
CRE	**Caprese Michel**	**6.67**	**304**	Pn	**Pn**	**23 28 57.6**	**+1.0**
	8.0nm,0.6s						
CEY	**Cerknica**	**6.75**	**327**	*i* Pn	**Pn**	**23 28 57.0**	**-0.6**
SFI	**Santa Sofia**	**6.88**	**305**	Pn	**Pn**	**23 29 00.3**	**+0.9**
	28nm,0.4s						
LJU	**Ljubljana**	**6.96**	**329**	*i* Pn	**Pn**	**23 28 59.4**	**-1.0**
LJU				*i* Sn	**Sn**	**23 30 17.2**	**-2.8**
CSNT	**Castellina Chi**	**7.04**	**301**	Pn	**Pn**	**23 29 02.2**	**+0.7**
	31nm,0.6s						
MLR	**Muntele Rosu**	**7.08**	**39**	Pn	**Pn**	**23 29 03.0**	**+0.9**
	0.3nm,0.3s,baz=251,slow=16,SNR=4.9						
MLR	**Muntele Rosu**	**7.08**	**39**	⇑*i*P	**Pn**	**23 29 04.8**	**+2.7**
MLR	**Muntele Rosu**	**7.08**	**39**	⇑P	**Pn**	**23 29 04.8**	**+2.7**
VOY	**Vojsko**	**7.20**	**326**	*e*Pn	**Pn**	**23 29 03.0**	**-0.8**
VOY				*e*Sn	**Sn**	**23 30 24.0**	**-2.1**
SEI	**Scarperia**	**7.26**	**305**	Pn	**Pn**	**23 29 06.2**	**+1.6**
	185nm,0.6s						
OBKA	**Obir**	**7.34**	**332**	⇑*i*Pn	**Pn**	**23 29 05.0**	**-0.7**
	SNR=20						
OBKA				⇑*i*Sn	**Sn**	**23 30 27.8**	**-1.6**
ROBS	**Robic**	**7.54**	**326**	*i* Pn	**Pn**	**23 29 06.9**	**-1.5**
ROBS				*i* Sn	**Sn**	**23 30 31.7**	**-2.6**
GMNA	**Gemona**	**7.68**	**325**	Pn	**Pn**	**23 29 09.5**	**-0.8**
ARSA	**Arzberg**	**7.68**	**339**	⇑*i*Pn	**Pn**	**23 29 09.7**	**-0.6**
ARSA				⇓*i*Sn	**Sn**	**23 30 34.4**	**-3.4**
PLOR	**Plostina**	**7.68**	**40**	⇓*i*P	**Pn**	**23 29 12.3**	**+1.9**
PTCC	**Patocco-Chiusa**	**7.73**	**326**	Pn	**Pn**	**23 29 09.7**	**-1.3**
VRI	**Vrincioaia**	**7.73**	**40**	⇓*i*P	**Pn**	**23 29 12.8**	**+1.8**
VRI	**Vrincioaia**	**7.73**	**40**	⇓P	**Pn**	**23 29 12.8**	**+1.7**
PSZ	**Piszkesteto**	**7.76**	**1**	*e*P	**Pn**	**23 29 10.9**	**-0.6**
PSZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PSZ	**Piszkesteto**	**7.76**	**1**	*e*Pn	**Pn**	**23 29 10.9**	**-0.5**
	comp=Z,8.5nm,0.8s						
PSZ	**Piszkesteto**	**7.76**	**1**	*e*Pn	**Pn**	**23 29 10.9**	**-0.6**
	comp=Z,8.5nm,0.8s						
PSZ	**Piszkesteto**	**7.76**	**1**	⇓*e*P	**Pn**	**23 29 12.5**	**+1.0**
CONA	**Conrad Observa**	**8.22**	**342**	⇑*i*Pn	**Pn**	**23 29 16.9**	**-0.9**
ZST	**Bratislava**	**8.23**	**348**	*e*Sn	**Sn**	**23 30 48.1**	**-3.4**
KBA	**Koelnbreinsper**	**8.27**	**329**	⇓*i*Pn	**Pn**	**23 29 17.7**	**-0.8**
KBA				⇓*i*Sn	**Sn**	**23 30 50.3**	**-2.1**
CTI	**Castel Tesino**	**8.27**	**318**	Pn	**Pn**	**23 29 16.8**	**-1.7**
KECS	**Kecovo**	**8.35**	**4**	*e*PN	**Pn**	**23 29 18.9**	**-0.6**
VYHS	**Vyhne**	**8.35**	**356**	*e*PN	**Pn**	**23 29 18.8**	**-0.8**
BURAR	**Bucovina Array**	**8.48**	**27**	⇓*i*P	**Pn**	**23 29 24.0**	**+2.6**
BURAR	**Bucovina Array**	**8.48**	**27**	⇓P	**Pn**	**23 29 23.9**	**+2.6**
MOA	**Molln**	**8.59**	**335**	⇓*i*Pn	**Pn**	**23 29 22.2**	**-0.7**
	SNR=37						
MOA				⇑*i*Sn	**Sn**	**23 30 59.1**	**-1.3**
MAGA	**Magasa**	**8.65**	**313**	Pn	**Pn**	**23 29 22.2**	**-1.4**
APPI	**Appiano**	**8.78**	**319**	Pn	**Pn**	**23 29 24.5**	**-1.0**
BOB	**Bobbio (Coli)**	**8.80**	**305**	Pn	**Pn**	**23 29 26.8**	**+1.0**
MABI	**Malga Bissina**	**8.88**	**315**	Pn	**Pn**	**23 29 25.9**	**-0.9**
KOLS	**Kolonicke sedl**	**8.98**	**11**	*e*	**Pn**	**23 29 34.0**	**+5.9**
WTTA	**Wattenberg**	**9.14**	**324**	⇑*i*Pn	**Pn**	**23 29 29.9**	**-0.6**
	SNR=31						
WTTA				⇓*i*Sn	**Sn**	**23 31 13.1**	**-0.8**
WATA	**Walderalm**	**9.23**	**324**	⇑*i*Pn	**Pn**	**23 29 31.2**	**-0.3**
	SNR=51						
WATA				⇑*i*Sn	**Sn**	**23 31 14.6**	**-1.3**

KEST	Kesra	9.23	245	Pn	Pn	23 29 33.0	+1.4
	comp=Z,0.0nm,0.3s,baz=79,slow=5.2,SNR=2.5						
NIE	Niedzica	9.27	3	eP	Pn	23 29 33.8	+1.6
SQTA	Sankt Quirin	9.31	322	⇑iPn	Pn	23 29 33.2	+0.5
	SNR=24						
SQTA				⇑iSn	Sn	23 31 16.9	-1.1
SQTA	Sankt Quirin	9.31	322	⇑iPn	Pn	23 29 33.2	+0.5
SQTA				i Sn	Sn	23 31 16.9	-1.1
MOTA	Moosalm	9.45	322	⇓iPn	Pn	23 29 34.7	0.0
	SNR=100						
MOTA				⇓iSn	Sn	23 31 20.3	-1.1
GEC2	GERESS Array S	9.65	336	ePn	Pn	23 29 35.5	-1.9
GERES	GERESS Array B	9.65	336	Pn	Pn	23 29 36.0	-1.4
	comp=Z,0.9nm,0.3s,baz=158,slow=13,SNR=58						
GERES				Sn	Sn	23 31 24.5	-1.8
	comp=Z,0.4nm,0.3s,baz=158,slow=25,SNR=5.6						
GERES	GERESS Array B	9.65	336	P	Pn	23 29 36.0	-1.4
GERES						23 31 24.5	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SBF	Sospel	9.78	296	eP	Pn	23 29 36.7	-2.5
	comp=Z,22nm,0.8s						
SBF	Sospel	9.78	296	eP	Pn	23 29 36.7	-2.5
	comp=Z,11nm,0.8s						
KHC	Kasperske Hory	9.94	336	ePN	Pn	23 29 39.6	-1.8
KHC				eSN	Sn	23 31 32.2	-1.2
DAVA	Damuels	10.01	319	⇑iPn	Pn	23 29 42.3	0.0
DAVA				⇓iSn	Sn	23 31 31.8	-3.3
FRF	La Foret Royal	10.25	294	eP	Pn	23 29 44.2	-1.3
	comp=Z,14nm,0.9s						
FRF	La Foret Royal	10.25	294	eP	Pn	23 29 44.2	-1.3
FRF				pmax	pmax		
	comp=Z,7.0nm,0.9s						
FRF	La Foret Royal	10.25	294	eP	Pn	23 29 44.2	-1.3
	comp=Z,7.0nm,0.9s						
LMR	La Mourre	10.29	292	eP	Pn	23 29 46.3	+0.2
	comp=Z,7.3nm,0.8s						
LMR	La Mourre	10.29	292	eP	Pn	23 29 46.3	+0.2
LMR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LMR	La Mourre	10.29	292	eP	Pn	23 29 46.3	+0.2
	comp=Z,3.7nm,0.8s						
PRU	Pruhonice	10.46	342	ePN	Pn	23 29 47.9	-0.5
PRU				eSN	Sn	23 31 54.4	+8.3
MBDF	Montbardon	10.52	300	eP	Pn	23 29 44.1	-5.2
	comp=Z,9.3nm,0.6s						
MBDF	Montbardon	10.52	300	eP	Pn	23 29 44.1	-5.2
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MBDF	Montbardon	10.52	300	eP	Pn	23 29 44.1	-5.2
	comp=Z,4.7nm,0.6s						
LPG	La Plagne	10.84	304	eP	Pn	23 29 48.9	-4.8
	comp=Z,34nm,0.6s						
LPG	La Plagne	10.84	304	eP	Pn	23 29 48.9	-4.8
LPG				pmax	pmax		
	comp=Z,17nm,0.6s						
LPG	La Plagne	10.84	304	eP	Pn	23 29 48.9	-4.8
	comp=Z,17nm,0.6s						
LPL	La Plagne	10.86	304	eP	Pn	23 29 49.4	-4.5
	comp=Z,26nm,0.7s						
LPL	La Plagne	10.86	304	eP	Pn	23 29 49.4	-4.5
LPL				pmax	pmax		
	comp=Z,13nm,0.7s						
LPL	La Plagne	10.86	304	eP	Pn	23 29 49.4	-4.5
	comp=Z,13nm,0.7s						
SMRF	Simiane la Rot	11.10	295	eP	Pn	23 29 55.8	-1.5
	comp=Z,13nm,0.8s						
SMRF	Simiane la Rot	11.10	295	eP	Pn	23 29 55.8	-1.5
	comp=Z,6.5nm,0.8s						
ORIF	Oris-en-Rattie	11.18	300	eP	Pn	23 29 55.5	-2.9
	comp=Z,8.2nm,0.7s						
ORIF				eR			
	comp=Z,123nm,20.2s						
ORIF	Oris-en-Rattie	11.18	300	eP	Pn	23 29 55.5	-2.9
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ORIF	Oris-en-Rattie	11.18	300	eP	Pn	23 29 55.5	-2.9
	comp=Z,4.1nm,0.7s						
STU	Stuttgart	11.37	323	eP	Pn	23 29 58.5	-2.4
STU				pmax	pmax		
	comp=Z,17nm,0.6s						
STU	Stuttgart	11.37	323	ePn	Pn	23 29 58.5	-2.4
	comp=Z,17nm,0.6s						
STU	Stuttgart	11.37	323	ePn	Pn	23 29 58.5	-2.4
	comp=Z,17nm,0.6s						
BRG	Berggiesshubel	11.42	342	PN	Pn	23 30 00.6	-1.0
	comp=Z,2.8nm,1.0s						
CABF	La Chapelle	11.75	308	eP	Pn	23 30 02.3	-3.9
	comp=Z,17nm,0.8s						
CABF	La Chapelle	11.75	308	eP	Pn	23 30 02.3	-3.9
CABF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CABF	La Chapelle	11.75	308	eP	Pn	23 30 02.3	-3.9
	comp=Z,8.5nm,0.8s						
MOX	Moxa	11.88	335	e(P)	Pn	23 30 05.9	-2.1
	comp=Z,20nm,0.9s						
MOX							
	comp=Z,100nm,14.0s						
MOX	Moxa	11.88	335	eP	Pn	23 30 05.9	-2.1
MOX				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MOX				MLR	MLR		
	comp=Z,20μm,14.0s						
SWA2		11.90	154	P	Pn	23 30 04.9	-3.3
SWA2				S	rx	23 31 06.7	
HINF	Hinteralfeld	11.94	314	eP	Pn	23 30 04.7	-4.1
	comp=Z,8.5nm,0.6s						
HINF	Hinteralfeld	11.94	314	eP	Pn	23 30 04.7	-4.1
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HINF	Hinteralfeld	11.94	314	eP	Pn	23 30 04.7	-4.1
	comp=Z,4.2nm,0.6s						
SWA1		11.97	153	⇑eP	Pn	23 30 05.2	-3.9
VIVF	Saint-Julien-l	11.97	298	eP	Pn	23 30 06.7	-2.5
	comp=Z,10nm,0.8s						
VIVF	Saint-Julien-l	11.97	298	eP	Pn	23 30 06.7	-2.5
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VIVF	Saint-Julien-l	11.97	298	eP	Pn	23 30 06.7	-2.5
	comp=Z,5.2nm,0.8s						
CLL	Collm	12.06	340	ePn	Pn	23 30 09.0	-1.4
CLL				e		23 33 04.0	
CDF	Champ du Feu	12.07	317	eP	Pn	23 30 05.9	-4.7
	comp=Z,9.5nm,0.8s						
CDF	Champ du Feu	12.07	317	eP	Pn	23 30 05.9	-4.7
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CDF	Champ du Feu	12.07	317	eP	Pn	23 30 05.9	-4.7
	comp=Z,4.8nm,0.8s						
HAU	Haudompre	12.33	314	eP	Pn	23 30 07.8	-6.3
	comp=Z,13nm,0.5s						
HAU				eR			
	comp=Z,46nm,17.5s						
HAU	Haudompre	12.33	314	eP	Pn	23 30 07.8	-6.3
HAU				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HAU	Haudompre	12.33	314	eP	Pn	23 30 07.8	-6.3
	comp=Z,6.5nm,0.5s						
AKASG	Malin Array Be	12.51	29	Pn	Pn	23 30 16.1	-0.4
	comp=Z,0.2nm,0.3s,baz=218,slow=13,SNR=2.9						
SMF	Signal de Mont	13.16	305	eP	Pn	23 30 21.0	-4.4
	comp=Z,8.0nm,0.7s						
SMF	Signal de Mont	13.16	305	eP	Pn	23 30 21.0	-4.4
SMF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SMF	Signal de Mont	13.16	305	eP	Pn	23 30 21.0	-4.4
	comp=Z,4.0nm,0.7s						
LOR	Lormes	13.41	307	eP	Pn	23 30 23.5	-5.3
	comp=Z,14nm,0.7s						
LOR				eR			
	comp=Z,56nm,21.0s						
LOR	Lormes	13.41	307	eP	Pn	23 30 23.5	-5.3
LOR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LOR	Lormes	13.41	307	eP	Pn	23 30 23.5	-5.3
	comp=Z,6.8nm,0.7s						
AVF	Avril sur Loir	13.52	305	eP	Pn	23 30 25.1	-5.3
BGF	Bois d'Agland	13.76	303	eP	Pn	23 30 29.5	-4.1
	comp=Z,13nm,0.7s						
BGF	Bois d'Agland	13.76	303	eP	Pn	23 30 29.5	-4.1
BGF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BGF	Bois d'Agland	13.76	303	eP	Pn	23 30 29.5	-4.1
	comp=Z,6.4nm,0.7s						
TCF	Toulx Ste Croi	14.07	302	eP	Pn	23 30 34.7	-3.2
AWBH		14.08	144	⇑P	Pn	23 30 31.6	-6.4
HFRF	Wahat Farafira	14.85	148	⇑P	Pn	23 30 43.5	-5.0
EIL	Elat	16.35	125	ePn	Pn	23 31 05.0	-3.1
	comp=Z,60nm,0.8s						
HDK1	Dakhla	16.72	148	⇑P	Pn	23 31 08.4	-4.5
ESDC	Sonseca Array	18.08	276	P	Pn	23 31 30.5	+0.7
	comp=Z,0.8nm,0.3s,baz=74,slow=11,SNR=16						
ESDC				LR	LR	23 38 24.8	
	comp=Z,49nm,19.3s,baz=120,slow=37						
GNI	Garni	19.20	82	P	Pn	23 31 41.6	-1.9
	comp=Z,0.4nm,0.3s,baz=15,slow=13,SNR=3.2						
GNI	Garni	19.20	82	eP	Pn	23 31 39.0	-4.5
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	Garni	19.20	82	eP	Pn	23 31 39.0	-4.4
	comp=Z,2.4nm,0.5s						
HFS	Hagfors	20.34	351	P	P	23 31 54.2	-0.7
	comp=Z,5.0nm,0.8s,baz=163,slow=11,SNR=14						
HFS				LR	LR	23 40 06.0	
	comp=Z,48nm,20.2s,MS2.9,baz=210,slow=38						
HFS	Hagfors	20.34	351	P	P	23 31 54.2	-0.8
HFS				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS				MLR	MLR		
	comp=Z,48nm,20.2s						
MDT	Midelt	20.77	257	P	P	23 31 59.1	-0.6
	comp=Z,1.0nm,0.8s,baz=42,slow=11,SNR=2.4						
NAO01	NORSAR Array S	21.40	348	eP	P	23 32 04.3	-2.2
	comp=Z,8.2nm,0.8s,mb4.1						
EKA	Eskdalemuir Ar	21.41	323	P	P	23 32 06.5	-0.1
	comp=Z,3.3nm,0.7s,mb3.8,baz=120,slow=11,SNR=10						
EKA	Eskdalemuir Ar	21.41	323	P	P	23 32 06.6	0.0
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NB2	NORSAR Subarra	21.54	349	P	P	23 32 06.2	-1.8
	comp=Z,0.6nm,0.7s,mb3.1,baz=162,slow=12						
NOA	NORSAR Array B	21.54	349	P	P	23 32 06.4	-1.6
	comp=Z,3.6nm,0.7s,mb3.9,baz=162,slow=10,SNR=11						
NOA				LR	LR	23 41 03.8	
	comp=Z,29nm,18.2s,MS2.7,baz=200,slow=38						
NOA	NORSAR Array B	21.54	349	P	P	23 32 06.4	-1.6
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,29nm,18.2s						
FINES	FINESS Array B	21.68	8	P	P	23 32 07.7	-1.8
	comp=Z,4.2nm,0.8s,mb3.9,baz=168,slow=10.0,SNR=11						
FINES				LR	LR	23 41 05.9	
	comp=Z,39nm,18.8s,MS2.8,baz=218,slow=38						
FINES	FINESS Array B	21.68	8	P	P	23 32 07.7	-1.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES				MLR	MLR		
	comp=Z,39nm,18.8s						
KAF	Kangasniemi	22.36	8	ep	P	23 32 12.8	-3.9
	comp=Z,3.0nm,0.6s,mb3.9						
KAF	Kangasniemi	22.36	8	eP	P	23 32 12.8	-3.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.9						
JOF	Joensuu	23.85	13	ep	P	23 32 35.1	+3.0
	comp=Z,3.6nm,0.6s,mb4.0						
JOF	Joensuu	23.85	13	eP	P	23 32 35.1	+3.0
JOF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
AKTK	Aktyubinsk	28.61	56	P	P	23 33 13.0	-2.1
AKTO	Aktyubinsk	28.61	56	P	P	23 33 13.0	-2.1
	comp=Z,0.9nm,0.5s,mb3.8,baz=259,slow=9.3,SNR=4.8						
AKTO	Aktyubinsk	28.61	56	P	P	23 33 13.0	-2.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
ARCES	ARCESS Array B	29.61	4	P	P	23 33 21.4	-2.6
	comp=Z,2.8nm,0.8s,mb4.0,baz=210,slow=7.0,SNR=7.1						
ARCES	ARCESS Array B	29.61	4	P	P	23 33 21.4	-2.6
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TORD	Torodi Ar. Bea	31.18	215	P	P	23 33 37.1	-0.8
	comp=Z,0.9nm,0.8s,mb3.6,baz=20,slow=8.5,SNR=11						
MKAR	Makanchi Array	44.90	60	P	P	23 35 31.6	-1.9
	comp=Z,3.4nm,0.6s,mb4.4,baz=285,slow=6.1,SNR=22						
MKAR	Makanchi Array	44.90	60	P	P	23 35 31.6	-1.9
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	Zalesovo	44.91	49	P	P	23 35 31.5	-2.1
	comp=Z,1.3nm,0.5s,mb4.0,baz=190,slow=8.8,SNR=7.2						
ZAL	Zalesovo	44.91	49	P	P	23 35 31.5	-2.1
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	44.91	49	P	P	23 35 31.5	-2.1

*BJI **02** 23:39:06.2, 498N×12606E, h61^{km}, mb4.7*
*MAN **02** 23:39:11.1, 557N×12539E, h94^{km}, mb4.3, ML5.2, MS5.2*
*ISCJB **02** 23:39:13.6±0.8, 562N±005×12530E±007, h65^{km}±7^{km}, mb4.3/21, Error ellipse: s-maj=12.4km s-min=6.9km az=141.6*
*IDC **02** 23:39:13.9±2.3, 569N×12530E, h46^{km}±22^{km}, mb3.9/10, mb1 4.0/10, mb1mx3.8/20, mbtmp4.1/10, MS3.7/2, Ms1 3.7/2, ms1mx2.9/28, Error ellipse: s-maj=44.9km s-min=13.1km az=76.0*
*NEIC **02** 23:39:15.1±1.0, 568N×12533E, h62^{km}±9^{km}, mb4.4/10, Error ellipse: s-maj=17.2km s-min=4.6km az=81.0*
ISC 02 23:39:14.8±0.7**, 563N**±005×**12532E**±007**, h56**^{km}±7^{km}**, n42, σ0^{s}94**/49**, mb4.3**/21**, MS3.6**/2**, 3C-3D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	1.39	350	⇓iP	Pn	23 39 41.8	+3.9
KCP				i S	Sn	23 39 59.6	+4.7
DAV	Davao City (W)	1.45	10	eP	Pn	23 39 39.0	+0.3
DAV	Davao City (W)	1.45	10	ePn	Pn	23 39 38.4	-0.3
DAV				eSn	Sn	23 39 57.9	+1.5
MATI	Mati	1.60	35	eP	Pn	23 39 38.9	-1.9
CTBH	Cotabato--PC H	1.91	326	⇓eP	Pn	23 39 43.4	-1.5
CTBH				i S	Sn	23 40 08.5	+0.8
BUKP	Musuan	2.25	353	eP	Pn	23 39 49.6	0.0
BUKP				eS	Sn	23 40 18.8	+2.7
CGP	Cagayan de Oro	2.87	348	⇓iP	Pn	23 39 57.5	-0.6
CGP				i S	Sn	23 40 31.2	-0.2
PAGZ	Pagadian	2.92	319	eP	Pn	23 39 58.2	-0.6
IPIL	Ipil	3.47	308	⇑iP	Pn	23 40 05.7	-0.6
IPIL				i S	Sn	23 40 45.7	-0.5
IPIL	Ipil	3.47	308	eP	Pn	23 40 05.3	-1.0
IPIL				eS	Sn	23 40 42.0	-4.2
SCPH	Surigao	4.12	2	⇑eP	Pn	23 40 15.9	+0.6
PVCP	Virac	8.00	352	⇑iP	Pn	23 41 13.0	+4.7
KAKA	Kakadu	19.55	159	eP	Pn	23 43 38.5	-1.1
	15nm,0.4s						
JOW	Kunigami	21.27	7	P	P	23 43 56.5	+0.1
	39nm,0.8s,mb4.8,baz=199,slow=8.8,SNR=12						
JOW				LR	LR	23 52 07.7	
	comp=Z,181nm,20.5s,MS3.5,baz=148,slow=36						
FITZ	Fitzroy Crossi	23.59	179	eP	P	23 44 20.5	+0.1
	5.2nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	23.59	179	P	P	23 44 20.6	+0.2
	1.6nm,0.5s,mb3.7,baz=27,slow=13,SNR=18						
WRAB	Tennant Creek	26.91	161	eP	P	23 44 50.8	+0.2
	27nm,1.4s,mb4.6						
WRA	Warramunga Arr	26.92	161	P	P	23 44 50.8	+0.1
	1.1nm,0.4s,mb3.8,baz=343,slow=9.7,SNR=57						
WRA				ScP	ScP	23 51 48.5	+1.6
	0.5nm,0.7s,baz=338,slow=3.5,SNR=5.9						
WB2	Warramunga Arr	26.92	161	eP	P	23 44 50.4	-0.3
MBWA	Marble Bar	27.18	191	eP	P	23 44 53.6	+0.6
	16nm,1.0s,mb4.5						
AS31	Alice Springs	30.30	164	eP	P	23 45 21.4	+0.7
ASAR	Alice Springs	30.30	164	P	P	23 45 21.4	+0.7
	0.9nm,0.3s,mb4.0,baz=340,slow=7.1,SNR=48						
ASAR				ScP	ScP	23 51 59.4	+2.0
	0.6nm,0.6s,baz=343,slow=2.5,SNR=10						
ASPA	Alice Springs	30.30	164	eP	P	23 45 21.4	+0.7
XAN	Xi'an	32.10	334	P	P	23 45 36.5	0.0
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
CD2	Chengdu	32.29	324	P	P	23 45 39.8	+1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
MJAR	Matsushiro Arr	32.95	19	P	P	23 45 43.1	-0.9
	comp=Z,1.4nm,0.8s,mb4.0,baz=194,slow=10.0,SNR=6.1						
LZH	Lanzhou	36.16	330	eP	P	23 46 13.5	+1.8
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
STKA	Stephens Creek	40.40	158	eP	P	23 46 48.5	+1.2
	comp=Z,5.4nm,1.0s,mb4.2						
STKA	Stephens Creek	40.40	158	P	P	23 46 49.2	+1.9
	comp=Z,3.8nm,0.8s,mb4.2,baz=322,slow=6.0,SNR=7.9						
GTA	Gaotai	40.75	329	P	P	23 46 51.2	+1.0
GTA				AP	pP	23 47 04.6	-0.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.0						
HIA	Hailar	43.74	355	eP	P	23 47 13.6	-0.9
	comp=Z,2.4nm,0.4s,mb4.3						
SONM	Songino Array	45.06	342	P	P	23 47 24.9	-0.2
	comp=Z,0.3nm,0.3s,mb3.6,baz=159,slow=6.6,SNR=4.5						
MKAR	Makanchi Array	55.20	325	P	P	23 48 42.2	+0.3
	comp=Z,1.2nm,0.6s,mb4.1,baz=113,slow=7.8,SNR=14						
MKAR	Makanchi Array	55.20	325	P	P	23 48 42.2	+0.3
YAK	Yakutsk	56.37	2	eP	P	23 48 49.3	-0.9
	comp=Z,19nm,0.8s,mb5.2						
ZAL	Zalesovo	58.27	333	P	P	23 49 02.7	-0.9
	comp=Z,0.7nm,0.3s,mb4.2,baz=102,slow=11,SNR=3.3						
ZAL				LR	LR	00 14 42.2	
	comp=Z,60nm,18.1s,MS3.8,baz=110,slow=37						
ZAL	Zalesovo	58.27	333	P	P	23 49 02.7	-0.9
ZAL				LR	LR	00 14 42.2	
ZRNK	Zerenda	65.69	326	eP	P	23 49 52.4	-1.0
	comp=Z,2.2nm,0.9s,mb4.2						
AKTK	Aktyubinsk	71.31	321	P	P	23 50 28.0	-0.4
AKTO	Aktyubinsk	71.31	321	P	P	23 50 28.0	-0.4
	comp=Z,0.6nm,0.2s,mb4.1,baz=92,slow=5.1,SNR=4.0						
PMR	Palmer	82.96	29	P	P	23 51 32.7	-1.1
	comp=Z,3.6nm,0.7s,mb4.5						
MCK	McKinley	83.10	27	eP	P	23 51 34.2	-0.3
	comp=Z,2.7nm,0.6s,mb4.5						

*NEIC **03** 00:13:15.5±2.8, 1659S×17734W, h10^{km}, mb4.2/4, Error ellipse: s-maj=110.0km s-min=35.0km az=142.0*
IDC 03 00:13:15.8±4.4**, 1620S**×**17780W, h0**^{km}**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/12**, mbtmp4.2**/3**, Error ellipse: s-maj=179.0km s-min=50.8km az=138.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.98	240	eP	P	00 20 51.9	-0.1
	1.8nm,0.6s						
STKA	Stephens Creek	39.98	240	P	P	00 20 51.7	-0.3
	2.2nm,0.6s,baz=90,slow=10,SNR=6.0						
WB2	Warramunga Arr	45.53	258	eP	P	00 21 38.3	+1.3
WRAB	Tennant Creek	45.53	258	eP	P	00 21 38.3	+1.2
	1.1nm,0.4s						
WRA	Warramunga Arr	45.54	258	P	P	00 21 37.9	+0.8
	0.8nm,0.5s,baz=91,slow=7.4,SNR=29						
AS31	Alice Springs	45.84	253	eP	P	00 21 40.0	+0.5
ASAR	Alice Springs	45.84	253	P	P	00 21 39.9	+0.4
	5.8nm,0.5s,baz=88,slow=8.5,SNR=160						
ASPA	Alice Springs	45.84	253	eP	P	00 21 40.0	+0.5
KAKA	Kakadu	48.22	267	eP	P	00 22 00.9	+2.8
	1.8nm,0.6s						
MBWA	Marble Bar	59.07	255	P	P	00 23 21.2	+3.5
	7.6nm,1.1s						
GERES	GERESS Array B	146.11	346	PKPbc	PKPbc	00 32 57.1	-0.6
	0.2nm,0.4s,baz=343,slow=3.1,SNR=3.1						

*NDI **03** 00:44:46.3±2.2, 3214N×7126E, h10^{km}, MD4.0, ML4.1*
*IDC **03** 00:44:50.5±1.1, 3460N×7323E, h0^{km}, mb3.6/5, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=38.4km s-min=23.3km az=58.0*
*ISCJB **03** 00:44:51.2±0.5, 3480N±004×7333E±006, h10^{km}, mb3.5/4, Error ellipse: s-maj=7.1km s-min=5.7km az=101.2*
ISC 03 00:44:52.8±0.5**, 3478N**±004×**7327E**±005**, h10**^{km}**, n17, σ1^{s}19**/22**, mb3.5**/4**, 5D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	1.12	180	⇓P	Pb	00 45 11.1	-3.1
CEP	Cherat	1.48	230	⇓P	Pn	00 45 17.2	-2.2
THW	Thamme Wali	2.35	213	⇓P	Pn	00 45 31.5	0.0
THW				S	Sn	00 46 02.0	+1.6
SARP	Sargodha	2.89	190	P	Pn	00 45 40.0	+1.1
THN	Thein Dam	3.11	138	eP	Pn	00 45 43.7	+1.9
THN				eS	Sb	00 46 27.6	+1.6
DLH	Dalhousie	3.17	134	eP	Pb	00 45 47.0	-2.2
DLH				eS	Sg	00 46 33.0	-1.6
SBDP	Sheikh Budin	3.21	220	⇓P	Pb	00 45 49.2	-0.8
DRP	Derazinda	3.97	221	⇓P	Pn	00 45 54.2	+0.5
SDNR	Sundarnagar	4.51	135	eP	Pn	00 46 01.8	+0.7
SDNR				eS	Sn	00 46 52.8	-0.8
SMLA	Simla	4.90	137	eP	Pn	00 46 07.5	+1.1
SMLA				eS	Sn	00 47 03.9	+0.7
	352nm,0.2s						
BVAR	Borovoye Array	18.36	354	P	Pn	00 49 07.4	0.0
	0.2nm,0.3s,baz=154,slow=9.4,SNR=4.8						
AKTO	Aktyubinsk	19.20	329	P	Pn	00 49 17.4	-0.1
	0.2nm,0.3s,baz=158,slow=5.4,SNR=3.6						
ZAL	Zalesovo	20.80	19	P	P	00 49 34.7	+0.6
	1.3nm,0.4s,baz=250,slow=8.3,SNR=5.7						
ARCES	ARCESS Array B	43.44	338	P	P	00 52 56.7	+0.9
	1.0nm,0.8s,mb3.6,baz=105,slow=9.3,SNR=3.7						
TORD	Torodi Ar. Bea	67.56	271	P	P	00 55 48.4	-0.9
	0.3nm,0.7s,mb3.4,baz=50,slow=5.8,SNR=4.3						
WRA	Warramunga Arr	79.51	123	P	P	00 56 58.9	-0.7
	0.3nm,0.5s,mb3.5,baz=323,slow=5.1,SNR=11						
ASAR	Alice Springs	81.75	126	P	P	00 57 11.1	-0.6
	0.4nm,0.8s,mb3.4,baz=311,slow=6.0,SNR=4.5						

*ISCJB **03** 01:15:42.2±0.5, 5005S±008×1142E±03, h10^{km}, mb4.3/13, MS4.2/12, Error ellipse: s-maj=25.5km s-min=8.7km az=34.3*
*IDC **03** 01:15:42.3±0.9, 5004S×114.12E, h0^{km}, mb4.2/8, mb1 4.3/9, mb1mx4.3/12, mbtmp4.2/9, ML2.0/1, MS4.3/13, Ms1 4.2/13, ms1mx4.1/21, Error ellipse: s-maj=48.7km s-min=17.3km az=116.0*
*BJI **03** 01:15:42.8, 5000S×114.10E, h10^{km}, mb4.7*
*NEIC **03** 01:15:43.8±0.4, 5004S×114.13E, h10^{km}, mb4.4/4, Error ellipse: s-maj=20.2km s-min=6.3km az=108.0*
*GCMT **03** 01:15:43.8±0.3, 50.11S×11423E, h18^{km}±1^{km}, MW5.1/77, Moment Tensor Solution. s34,c43; s77,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.14±.19; $M_{\theta\theta}$4.65±.17; $M_{\phi\phi}$-3.51±.17; $M_{r\theta}$-1.15±.33; $M_{\theta\phi}$1.82±.12; $M_{\phi r}$-1.44±.38; Best double couple: $M_0$4.85500×10^{16} NP1:ϕ_s302.00000°, δ66.00000°, λ-6.00000°. NP2: ϕ_s35.00000°, δ84.00000°, λ-156.00000°. Principal axes: T 5.3570, Plg13.0000°, Azm166.0000°; N -1.0040, Plg65.0000°, Azm48.0000°; P -4.3530, Plg21.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 01:15:43.6±0.5**, 5005S**±008×**1141E**±03**, h10**^{km}**, n44, σ0^{s}56**/23**, mb4.3**/13**, MS4.2**/12**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CASY	Casey	16.38	185	ePn	Pn	01 19 33.3	-0.3
	28nm,1.1s						
NWAO	Narrogin (SRO)	17.27	9	P	Pn	01 19 44.2	-0.5
	0.3nm,0.3s,baz=170,slow=7.2,SNR=3.8						
NWAO				LR	LR	01 24 42.0	
	comp=Z,2μm,20.2s,baz=189,slow=31						
STKA	Stephens Creek	27.35	59	P	P	01 21 29.9	+1.1
	5.8nm,1.0s,mb4.1,baz=196,slow=11,SNR=3.1						
STKA				LR	LR	01 30 23.4	
	comp=Z,533nm,19.9s,MS4.1,baz=211,slow=32						
STKA	Stephens Creek	27.35	59	P	P	01 21 29.9	+1.1
STKA				LR	LR	01 30 23.4	
ASAR	Alice Springs	30.54	38	P	P	01 21 57.0	-0.2
	3.9nm,1.0s,mb4.2,baz=208,slow=8.2,SNR=16						
AS31	Alice Springs	30.55	38	eP	P	01 21 56.9	-0.2
AS31				e		01 22 02.8	
MAW	Mawson	30.59	216	P	P	01 21 58.0	+0.4
	5.1nm,1.1s,mb4.3,baz=82,slow=14,SNR=4.3						
MAW				LR	LR	01 32 36.8	
	comp=Z,282nm,18.1s,MS4.0,baz=251,slow=33						
VNDA	Vanda	32.81	163	P	P	01 22 16.9	-0.2
	1.0nm,0.9s,mb3.7,baz=290,slow=12,SNR=4.4						
VNDA				LR	LR	01 34 49.8	
	comp=Z,981nm,18.1s,MS4.5,baz=322,slow=35						
VNDA	Vanda	32.81	163	P	P	01 22 16.9	-0.2
VNDA				LR	LR	01 34 49.8	
FITZ	Fitzroy Crossi	33.19	20	eP	P	01 22 21.4	+1.0
	6.9nm,1.0s,mb4.5						
FITZ				e		01 22 28.5	
FITZ	Fitzroy Crossi	33.19	20	LR	LR	01 35 34.9	
	comp=Z,497nm,18.2s,MS4.3,baz=197,slow=36						
WRA	Warramunga Arr	34.09	36	P	P	01 22 27.9	-0.4

	4.2nm,0.7s,mb4.5,baz=202,slow=11,SNR=47						
WRA				LR	LR	01 35 46.6	
	comp=Z,166nm,21.1s,MS3.7,baz=215,slow=35						
WB2	**Warramunga Arr**	**34.09**	**36**	*e*P	**P**	**01 22 27.9**	**-0.3**
WB2				*e*		01 22 34.2	
WRAB	**Tennant Creek**	**34.10**	**36**	*e*P	**P**	**01 22 27.9**	**-0.4**
	16nm,0.9s,mb4.9						
WRAB				*e*		01 22 34.3	
QSPA	**South Pole Qui**	**40.08**	**180**	*e*P	**P**	**01 23 19.4**	**+0.3**
	3.5nm,0.7s,mb4.2						
PMG	**Port Moresby**	**48.91**	**46**	LR	LR	01 43 01.8	
	comp=Z,256nm,18.4s,MS4.2,baz=201,slow=34						
SNAA	**Sanae**	**50.74**	**201**	P	**P**	**01 24 42.9**	**-0.7**
	2.1nm,0.9s,mb4.0,baz=117,slow=9.2,SNR=12						
SNAA	**Sanae**	**50.74**	**201**	*e*	**P**	**01 24 43.7**	**+0.1**
SNAA				*e*		01 24 49.8	
SNAA				*e*		01 25 00.2	
SNAA				*e*		01 25 06.5	
VNA1	**Neumayer--Stat**	**52.72**	**201**	*e*	**P**	**01 24 53.3**	**-5.1**
VNA1				*e*		01 24 59.6	
VNA1				*e*		01 25 16.3	
PSI	**Prapat**	**54.24**	**341**	LR	LR	01 44 53.2	
	comp=Z,557nm,18.3s,MS4.7,baz=101,slow=32						
BOSA	**Boshof**	**67.93**	**252**	LR	LR	01 50 34.1	
	comp=Z,189nm,19.8s,MS4.3,baz=158,slow=31						
GYA	**Guiyang**	**76.45**	**353**	*e*P	**P**	**01 27 34.6**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
JOW	**Kunigami**	**77.57**	**13**	LR	LR	02 00 05.8	
	comp=Z,151nm,18.4s,MS4.3,baz=200,slow=34						
WHN	**Wuhan**	**80.23**	**0**	*e*P	**P**	**01 28 00.0**	**+5.6**
KMBO	**Kilima Mbogo**	**80.70**	**279**	LR	LR	01 56 50.1	
	comp=Z,104nm,20.8s,MS4.2,baz=95,slow=31						
PPT	**Papeete**	**80.70**	**106**	*e*LR	LR	01 53 10.8	
	comp=Z,147nm,26.0s						
XAN	**Xi'an**	**83.85**	**356**	P	**P**	**01 28 12.7**	**-0.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.4						
RKT	**Rikitea**	**85.04**	**120**	*e*LR	LR	01 55 11.6	
	comp=Z,159nm,25.2s						
ATD	**Arta Tunnel**	**87.06**	**292**	LR	LR	02 01 15.5	
	comp=Z,83nm,19.9s,MS4.1,baz=328,slow=31						
MJAR	**Matsushiro Arr**	**88.81**	**19**	P	**P**	**01 28 37.5**	**-0.3**
	comp=Z,0.9nm,0.7s,mb4.2,baz=171,slow=4.8,SNR=4.3						
MJAR	**Matsushiro Arr**	**88.81**	**19**	P	**P**	**01 28 37.5**	**-0.3**
SONM	**Songino Array**	**97.73**	**355**	P	**P**	**01 29 18.9**	**+0.1**
	comp=Z,0.2nm,0.3s,mb4.1,baz=186,slow=4.3,SNR=2.6						
SONM				LR	LR	02 13 09.6	
	comp=Z,138nm,18.6s,MS4.5,baz=43,slow=35						
BMO	**Blue Mountains**	**145.43**	**78**	*e*PKPdf	PKPdf	01 35 21.2	-0.6
MSU	**Marysvale**	**145.45**	**91**	*e*PKPdf	PKPdf	01 35 23.1	+1.2
MNTX	**Cornudas Mount**	**145.47**	**107**	*e*PKPdf	PKPdf	01 35 21.4	-0.5
DUG	**Dugway**	**145.97**	**89**	*e*PKPdf	PKPdf	01 35 21.4	-1.4
ANMO	**Albuquerque**	**146.96**	**102**	*e*PKPdf	PKPdf	01 35 24.4	0.0
ANMO				*e*PKPbc	PKPbc	01 35 27.0	+0.6
PV01	**Paradox Valley**	**147.56**	**95**	*e*PKPab	PKPab	01 35 29.8	-0.4
CHMT	**Chamberlain Mo**	**148.87**	**77**	*e*PKPdf	PKPdf	01 35 27.0	-0.6
IMW	**Indian Meadow**	**149.04**	**84**	*e*PKPbc	PKPbc	01 35 32.2	+0.3
IMW				*e*PKPab	PKPab	01 35 35.6	-0.5
BOZ	**Bozeman (W)**	**149.38**	**80**	*e*PKPbc	PKPbc	01 35 33.1	+0.4
PDAR	**Pinedale Array**	**149.39**	**87**	PKPbc	PKPbc	01 35 30.8	-2.1
	comp=Z,0.5nm,0.9s,baz=126,slow=4.6,SNR=3.3						
YKA	**Yellowknife Ar**	**151.00**	**46**	PKPbc	PKPbc	01 35 36.0	-0.6
	comp=Z,1.7nm,0.8s,baz=281,slow=2.1,SNR=4.9						
YKA	**Yellowknife Ar**	**151.00**	**46**	PKPbc	PKPbc	01 35 36.0	-0.6

*ISCJB **03** 01:30:17.2±0.9, 06N±02×1222E±05, h33km, mb3.9/6, Error ellipse: s-maj=80.7km s-min=13.7km az=135.1*
*NEIC **03** 01:30:18.5±0.8, 030N×12172E, h30km, mb3.8/2, Error ellipse: s-maj=123.0km s-min=11.5km az=65.0*
*IDC **03** 01:30:39.2±7.2, 017N×12182E, h240km±76km, mb3.3/5, mb1 3.4/6, mb1mx3.2/17, mbtmp3.9/6, Error ellipse: s-maj=84.4km s-min=18.4km az=65.0*
ISC 03 01:30:19.7±0.9**, 06N**±02×**1224E**±05**, h35**km**, n12,** σ**0s64**/11**, mb3.9**/6**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.87**	**170**	*e*P	**Pn**	**01 34 38.2**	**+0.6**
	3.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.87**	**170**	P	**Pn**	**01 34 38.2**	**+0.6**
	0.2nm,0.3s,baz=7.4,slow=10,SNR=16						
WRAB	**Tennant Creek**	**23.56**	**151**	*e*P	**P**	**01 35 27.1**	**+0.1**
	1.3nm,0.3s,mb3.8						
WRA	**Warramunga Arr**	**23.56**	**151**	P	**P**	**01 35 26.8**	**-0.1**
	2.3nm,0.4s,mb3.9,baz=325,slow=11,SNR=41						
WRA				S	S	01 39 12.6	-26
	0.1nm,0.4s,baz=334,slow=22,SNR=5.1						
WB2	**Warramunga Arr**	**23.57**	**151**	*e*P	**P**	**01 35 23.1**	**-3.9**
ASPA	**Alice Springs**	**26.61**	**156**	*e*P	**P**	**01 35 54.5**	**-0.2**
AS31	**Alice Springs**	**26.61**	**156**	*e*P	**P**	**01 35 54.5**	**-0.2**
ASAR	**Alice Springs**	**26.61**	**156**	P	**P**	**01 35 54.9**	**+0.2**
	0.6nm,0.5s,mb3.4,baz=343,slow=13,SNR=20						
STKA	**Stephens Creek**	**37.09**	**152**	P	**P**	**01 37 26.4**	**-0.2**
	1.9nm,0.7s,mb4.1,baz=317,slow=11,SNR=3.0						
SONM	**Songino Array**	**49.04**	**346**	P	**P**	**01 39 04.2**	**+1.1**
	0.8nm,0.5s,mb4.0,baz=168,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**57.76**	**328**	P	**P**	**01 40 06.1**	**-1.0**
	1.4nm,0.6s,mb4.2,baz=120,slow=8.7,SNR=9.7						
TORD	**Torodi Ar. Bea**	**119.62**	**285**	PKP	PKPdf	01 49 00.2	-5.6
	0.2nm,0.6s,baz=76,slow=1.4,SNR=4.2						

*HLW **03** 01:33:06.6, 3681N×2728E, h30km, Mb4.5*
*GRAL **03** 01:33:07.7±3.5, 3643N×2737E, h0km±999km, MD4.4*
*CSEM **03** 01:33:07.7±0.1, 3663N×2741E, h138km±1km, Mw3.2, Error ellipse: s-maj=2.0km s-min=1.3km az=12.0*
*ISCJB **03** 01:33:08.8±0.2, 3660N±002×2730E±002, h133km±3km, mb3.9/5, Error ellipse: s-maj=3.5km s-min=3.0km az=43.8*
*IDC **03** 01:33:09.3±1.7, 3665N×2719E, h111km±21km, mb3.6/4, mb1 3.6/6, mb1mx3.4/21, mbtmp3.9/6, Error ellipse: s-maj=28.8km s-min=14.0km az=171.0*
*ATH **03** 01:33:09.7, 3668N×2720E, h124km±1km, ML4.0*
*NEIC **03** 01:33:09.7, 3668N×2720E, h124km, mb3.9/5, After ATH.*
*ISK **03** 01:33:10.6, 3681N×2723E, h118km, MD3.6*
*NIC **03** 01:33:11.3±0.2, 3697N×2765E, h25km, ML3.2, MW3.2*
*GII **03** 01:33:14.0±2.5, 3621N×2742E, h31km±6km, ML3.5/1*
ISC 03 01:33:09.9±0.2**, 3660N**±002×**2729E**±002**, h126**km±3km**, n111,** σ**1s17**/152**, mb3.8**/5**, 8C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.27**	**61**	*i* PG	**Pn**	**01 33 27.7**	**+0.4**
DAT				*i* SG	**Sn**	**01 33 39.9**	**-0.6**
BODT	**Bodrum**	**0.46**	**2**	*i* PG	**Pn**	**01 33 27.7**	**-0.5**
BODT				*i* SG	**Sn**	**01 33 39.8**	**-2.3**
BDRM	**Kayabasi**	**0.48**	**15**	*i* P	**Pn**	**01 33 28.5**	**+0.2**
BDRM				*i* S	**Sn**	**01 33 41.5**	**-0.8**
ARG	**Arkhangelos**	**0.78**	**119**	*e*P	**Pn**	**01 33 32.0**	**+1.6**
ARG				*e*S	**Sn**	**01 33 47.6**	**+1.7**
MLSB	**Milas**	**0.80**	**29**	*i* PG	**Pn**	**01 33 30.0**	**-0.5**
MLSB				*i* SG	**Sn**	**01 33 43.6**	**-2.6**
YER	**Yerkesik**	**0.96**	**56**	PG	**Pn**	**01 33 32.7**	**+0.7**
KARP	**Karpathos**	**1.05**	**186**	*e*P	**Pn**	**01 33 34.0**	**+1.1**
KARP				*e*S	**Sn**	**01 33 51.8**	**+1.4**
DALT	**Dalyan (Mudla)**	**1.10**	**81**	PN	**Pn**	**01 33 34.6**	**+1.3**
AYDN	**Tasoluk**	**1.16**	**24**	*i* P	**Pn**	**01 33 34.6**	**+0.7**
AYDN				*i* S	**Sn**	**01 33 51.1**	**-1.2**
SMG	**Samos**	**1.17**	**342**	*e*P	**Pn**	**01 33 33.3**	**-0.7**
FETY	**Fethiye**	**1.44**	**88**	PN	**Pn**	**01 33 38.0**	**+1.0**
APE	**Apeiranthos**	**1.49**	**289**	*e*P	**Pn**	**01 33 37.3**	**-0.2**
DNZL	**Cakiroluk**	**1.78**	**52**	*i* P	**Pn**	**01 33 42.2**	**+1.4**
DNZL				*i* S	**Sn**	**01 34 06.2**	**+1.6**
BLCB	**Balcova**	**1.79**	**354**	PN	**Pn**	**01 33 39.6**	**-1.5**
IZM	**Izmir**	**1.80**	**359**	PN	**Pn**	**01 33 39.2**	**-1.9**
DENT	**Denizli**	**1.81**	**50**	PN	**Pn**	**01 33 42.1**	**+0.9**
AKAS	**Kas**	**1.90**	**100**	*i* P	**Pn**	**01 33 44.2**	**+1.8**
AKAS				*i* S	**Sn**	**01 34 03.3**	**-3.9**
KSL	**Kastellorizon**	**1.90**	**103**	*e*P	**Pn**	**01 33 44.0**	**+1.6**
NPS	**Neapolis**	**1.91**	**226**	*e*P	**Pn**	**01 33 42.9**	**+0.5**
NPS				*e*S	**Sn**	**01 34 06.9**	**-0.4**
GOLH	**Golhisar**	**1.93**	**70**	*i* P	**Pn**	**01 33 44.9**	**+2.2**
GOLH				*i* S	**Sn**	**01 34 04.0**	**-3.8**
ELL	**Elmali**	**2.11**	**85**	PN	**Pn**	**01 33 46.5**	**+1.6**
XRY	**Khrisi**	**2.15**	**218**	*e*P	**Pn**	**01 33 46.5**	**+1.0**
AKS	**Akhisar**	**2.31**	**10**	PN	**Pn**	**01 33 46.2**	**-1.3**
IDI	**Anoyia**	**2.35**	**237**	P	**Pn**	**01 33 48.1**	**+0.2**
	25nm,0.3s,baz=57,slow=11,SNR=1437						
IDI				S	**Sn**	**01 34 15.1**	**-2.0**
	103nm,0.3s,baz=263,slow=19,SNR=32						
ANTB	**Antalya**	**2.72**	**83**	PN	**Pn**	**01 33 54.3**	**+1.7**
PRK	**Paraskevi**	**2.76**	**343**	*e*P	**Pn**	**01 33 52.9**	**-0.3**
VAM	**Vamos**	**2.77**	**246**	*e*P	**Pn**	**01 33 54.1**	**+0.7**
VAM				*e*S	**Sn**	**01 34 26.3**	**-0.6**
BCK	**Bucak**	**2.78**	**71**	PN	**Pn**	**01 33 54.4**	**+1.0**
ISP	**Isparta**	**2.85**	**63**	PN	**Pn**	**01 33 54.9**	**+0.5**
ISP	**Isparta**	**2.85**	**63**	⇑*i*Pn	**Pn**	**01 33 55.7**	**+1.3**
ISP				*e*Sn	**Sn**	**01 34 30.0**	**+1.3**
ISP	**Isparta**	**2.85**	**63**	*e*Pn	**Pn**	**01 33 54.9**	**+0.5**
ISP				*e*Sn	**Sn**	**01 34 30.0**	**+1.3**
GVD	**Gavdhos**	**3.14**	**237**	*e*P	**Pn**	**01 33 59.0**	**+0.8**
ATH	**Athens Observa**	**3.16**	**297**	*e*P	**Pn**	**01 33 58.6**	**+0.2**
DST	**Dursunbey**	**3.18**	**19**	PN	**Pn**	**01 33 58.2**	**-0.5**
KYTH	**Kithira**	**3.44**	**266**	*e*P	**Pn**	**01 34 03.0**	**+0.9**
VLI	**Veliai**	**3.50**	**273**	*e*P	**Pn**	**01 34 03.0**	**+0.1**
GADA	**Gvkgeada**	**3.75**	**343**	*e*PN	**Pn**	**01 34 04.2**	**-2.0**
MRMT	**Marmara Adasi**	**4.01**	**3**	*e*PN	**Pn**	**01 34 07.9**	**-1.7**
ESKT	**Eskisehir**	**4.05**	**43**	*e*PN	**Pn**	**01 34 10.5**	**+0.4**
GEMT	**Gemlik**	**4.11**	**21**	*e*PN	**Pn**	**01 34 09.9**	**-1.0**
HDMB	**Hadim**	**4.19**	**83**	*e*PN	**Pn**	**01 34 13.4**	**+1.4**
KONT	**Konya--Tatoy**	**4.26**	**70**	*e*PN	**Pn**	**01 34 14.4**	**+1.4**
ADVT	**Abdulvahap**	**4.28**	**26**	*e*PN	**Pn**	**01 34 12.9**	**-0.4**
YLV	**Yalova**	**4.29**	**22**	*e*PN	**Pn**	**01 34 12.0**	**-1.3**
KIZT	**Kizilcal**	**4.29**	**57**	*e*PN	**Pn**	**01 34 14.3**	**+0.9**
ITM	**Ithomi**	**4.34**	**279**	*e*P	**Pn**	**01 34 14.8**	**+0.8**
PPCY	**Paphos**	**4.45**	**111**	P	**Pn**	**01 34 15.9**	**+0.4**
ALFC	**Alevga**	**4.54**	**107**	⇑P	**Pn**	**01 34 16.6**	**-0.1**
ALFC				S	**Sn**	**01 35 08.3**	**-0.4**
ALFC	**Alevga**	**4.54**	**107**	⇑*e*P	**Pn**	**01 34 16.6**	**-0.1**
ALFC				S	**Sn**	**01 35 08.3**	**-0.4**
HRT	**Hereke**	**4.61**	**23**	*e*PN	**Pn**	**01 34 16.5**	**-1.1**
MAMC	**Mammari**	**5.02**	**105**	P	**Pn**	**01 34 23.1**	**0.0**
IKL	**Isikli**	**5.17**	**92**	*e*PN	**Pn**	**01 34 26.0**	**+0.9**
CSS	**Prodhromos**	**5.17**	**107**	P	**Pn**	**01 34 25.1**	**-0.1**
	0.8nm,0.3s						
CSS				S	**Sn**	**01 35 23.2**	**-0.6**
CSS	**Prodhromos**	**5.17**	**107**	*e*Pn	**Pn**	**01 34 24.6**	**-0.6**
	14nm,0.4s						
CSS				*e*Sn	**Sn**	**01 35 24.1**	**+0.2**
CSS	**Prodhromos**	**5.17**	**107**	*e*Pn	**Pn**	**01 34 24.6**	**-0.6**
CSS	**Prodhromos**	**5.17**	**107**	P	**Pn**	**01 34 25.1**	**-0.1**
CSS				S	**Sn**	**01 35 23.2**	**-0.6**
CSS				*e*Sn	**Sn**	**01 35 24.1**	**+0.3**
EDRB	**Edirne**	**5.26**	**356**	*e*PN	**Pn**	**01 34 24.8**	**-1.5**
PHNC	**Paralimni**	**5.71**	**104**	P	**Pn**	**01 34 34.2**	**+1.9**
KAMT	**Kaman**	**5.78**	**59**	*e*PN	**Pn**	**01 34 34.4**	**+1.1**
MERS	**Mersin**	**5.81**	**85**	*e*PN	**Pn**	**01 34 35.7**	**+1.9**
HBRG	**Burj al 'Arab**	**6.37**	**160**	⇓P	**Pn**	**01 34 41.0**	**-0.3**
CORM	**Corum**	**6.78**	**56**	*e*PN	**Pn**	**01 34 46.8**	**-0.1**
BHL	**Bhannes**	**7.35**	**109**	*e*Pn	**Pn**	**01 34 53.0**	**-1.5**
BHL				Sn	**Sn**	**01 36 09.8**	**-6.6**
HNTI	**Hanita**	**7.37**	**116**	Pn	**Pn**	**01 34 54.8**	**0.0**
HNTI				Sn	**Sn**	**01 36 15.1**	**-1.8**
SWA1		**7.43**	**191**	P	**Pn**	**01 34 55.4**	**-0.2**
HWQ	**Hawqa**	**7.43**	**106**	*e*Pn	**Pn**	**01 34 55.6**	**-0.1**
HWQ				Sn	**Sn**	**01 36 15.7**	**-2.7**
SQR		**7.45**	**153**	⇓P	**Pn**	**01 34 55.9**	**0.0**
OFRI	**'Ofer**	**7.48**	**120**	Pn	**Pn**	**01 34 56.8**	**+0.5**
SWA2		**7.50**	**192**	P	**Pn**	**01 34 56.3**	**-0.2**
SWA2				S	**Sn**	**01 36 17.1**	**-2.8**
MMC7	**Mount Meron ar**	**7.56**	**116**	Pn	**Pn**	**01 34 56.9**	**-0.4**
MMC7				Sn	**Sn**	**01 36 19.3**	**-2.1**
MMA0	**Mount Meron ar**	**7.57**	**116**	Pn	**Pn**	**01 34 57.1**	**-0.4**
MMA0				Sn	**Sn**	**01 36 20.5**	**-1.2**
AYT	**Al 'Ayyat**	**7.60**	**154**	⇑P	**Pn**	**01 34 57.9**	**0.0**
RCY	**Rachaya**	**7.65**	**111**	*e*Pn	**Pn**	**01 34 58.4**	**-0.2**
RCY				Sn	**Sn**	**01 36 21.2**	**-2.5**
KOT	**Kottamia**	**7.66**	**149**	⇑P	**Pn**	**01 34 58.6**	**-0.1**
KSDI	**Kefar Szold**	**7.67**	**114**	Pn	**Pn**	**01 34 58.9**	**+0.1**
KSDI				Sn	**Sn**	**01 36 22.3**	**-1.8**
HRI	**Mount Hermon**	**7.69**	**113**	Pn	**Pn**	**01 34 59.4**	**+0.3**
AMAG	**Maghara**	**7.72**	**139**	⇑P	**Pn**	**01 34 59.2**	**-0.4**
SLTI	**Sal'it**	**7.74**	**122**	Pn	**Pn**	**01 35 01.1**	**+1.4**
SLTI				Sn	**Sn**	**01 36 23.3**	**-2.5**
HHAG	**Hagoal**	**7.75**	**147**	⇑P	**Pn**	**01 34 59.9**	**0.0**
HSAF	**As Saff**	**7.82**	**152**	⇑P	**Pn**	**01 35 00.7**	**-0.2**
KSHT	**Keshet**	**7.88**	**115**	Pn	**Pn**	**01 35 02.4**	**+0.7**
MMLI	**Mount Malkishu**	**7.89**	**119**	Pn	**Pn**	**01 35 02.7**	**+0.9**
MMLI				Sn	**Sn**	**01 36 28.1**	**-1.3**
GLH	**Golan-Tel Qazi**	**7.90**	**117**	Pn	**Pn**	**01 35 03.1**	**+1.2**
HMDT	**Nahal Hemdat**	**8.07**	**120**	Pn	**Pn**	**01 35 05.5**	**+1.3**
AMAZ	**Amatzia**	**8.10**	**126**	Pn	**Pn**	**01 35 04.9**	**+0.3**
AMAZ				Sn	**Sn**	**01 36 31.9**	**-2.5**
KZIT	**Kziot**	**8.20**	**132**	Pn	**Pn**	**01 35 06.3**	**+0.3**
KZIT				Sn	**Sn**	**01 36 33.8**	**-3.1**
SVTA	**Shivta**	**8.32**	**131**	Pn	**Pn**	**01 35 07.7**	**+0.1**
YTIR	**Yattir**	**8.34**	**127**	Pn	**Pn**	**01 35 07.8**	**0.0**
YTIR				Sn	**Sn**	**01 36 38.3**	**-1.9**
DRGI	**Dragot**	**8.37**	**124**	Pn	**Pn**	**01 35 08.2**	**-0.1**
MASH	**Mash'abbe Sade**	**8.37**	**130**	Pn	**Pn**	**01 35 08.9**	**+0.6**
DSI	**Dead Sea**	**8.38**	**124**	Pn	**Pn**	**01 35 08.5**	**+0.1**
MZDA	**Masada**	**8.53**	**126**	Pn	**Pn**	**01 35 11.2**	**+0.8**
MZDA				Sn	**Sn**	**01 36 41.9**	**-3.0**
PRNI	**Paran**	**8.96**	**132**	Pn	**Pn**	**01 35 15.9**	**-0.4**
PRNI				Sn	**Sn**	**01 36 51.8**	**-3.5**
KMTI	**Karmit**	**8.98**	**134**	Pn	**Pn**	**01 35 16.3**	**-0.2**
KMTI				Sn	**Sn**	**01 36 52.5**	**-3.2**
MALT	**Malatya**	**9.02**	**76**	*e*Pn	**Pn**	**01 35 17.2**	**+0.1**
	0.8nm,0.4s						
ASF	**Jabal al Asfar**	**9.08**	**116**	P	**Pn**	**01 35 19.0**	**+1.1**
	1.5nm,0.3s,baz=186,slow=2.9,SNR=17						
ASF				S	**Sn**	**01 37 00.1**	**+1.7**
	0.3nm,0.3s,baz=354,slow=19,SNR=2.7						
HRFI	**Mount Harif**	**9.21**	**133**	Pn	**Pn**	**01 35 20.0**	**+0.4**
HRFI				Sn	**Sn**	**01 36 58.2**	**-3.2**
MBH	**Mount Berech**	**9.32**	**135**	Pn	**Pn**	**01 35 21.5**	**+0.4**
MBH				Sn	**Sn**	**01 37 00.7**	**-3.3**
EIL	**Elat**	**9.43**	**135**	Pn	**Pn**	**01 35 23.2**	**+0.7**
AQBJ	**Aqaba**	**9.44**	**134**	Pn	**Pn**	**01 35 22.6**	**-0.1**
HFRF	**Wahat Farafira**	**9.46**	**174**	P	**Pn**	**01 35 22.8**	**-0.2**
PSZ	**Piszkesteto**	**12.56**	**337**	*e*Pn	**Pn**	**01 35 59.7**	**-4.3**
	0.9nm,0.5s						
AKASG	**Malin Array Be**	**14.17**	**5**	P	**Pn**	**01 36 27.9**	**+3.1**
	0.9nm,0.3s,baz=192,slow=12,SNR=6.0						
KEST	**Kesra**	**14.53**	**272**	P	**Pn**	**01 36 31.2**	**+1.9**
	0.1nm,0.3s,baz=45,slow=11,SNR=8.1						
KEST				S	**Sn**	**01 38 59.9**	**-10**
	0.1nm,0.3s,baz=233,slow=20,SNR=3.8						
MORC	**Moravsky Berou**	**14.95**	**335**	*e*Pn	**Pn**	**01 36 32.3**	**-2.3**
	0.3nm,0.4s						
ESDC	**Sonseca Array**	**24.71**	**287**	P	**P**	**01 38 19.0**	**-0.2**
	0.5nm,0.4s,mb3.3,baz=86,slow=9.4,SNR=10						
FINES	**FINESS Array B**	**24.88**	**359**	P	**P**	**01 38 20.4**	**-0.3**
	0.7nm,0.9s,mb3.1,baz=173,slow=15,SNR=3.7						
KONO	**Kongsberg**	**25.75**	**339**	*e*P	**P**	**01 38 27.0**	**-1.7**
	6.4nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**32.74**	**231**	P	**P**	**01 39 31.6**	**+1.0**
	2.9nm,0.3s,mb4.5,baz=32,slow=8.9,SNR=155						
MKAR	**Makanchi Array**	**41.54**	**58**	P	**P**	**01 40 46.0**	**+1.1**
	0.8nm,0.3s,mb3.9,baz=276,slow=7.7,SNR=7.0						
MKAR	**Makanchi Array**	**41.54**	**58**	P	**P**	**01 40 46.0**	**+1.1**

MEX 03 01:34:08.2±0.9**, 1729N**×**9994W, h23**km±24km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.39**	**233**	*i* P	Pb	01 34 14.7	-1.8
CAIG				*i* S	Sb	01 34 21.1	-1.1
ACX	**Acapulco**	**0.42**	**177**	*i* P	Pb	01 34 15.0	-2.0
ACX				*i* S	Sb	01 34 22.0	-0.9
MEIG	**Mezcala**	**0.71**	**26**	*i* P	Pb	01 34 20.1	-1.8
MEIG				*i* S	Sb	01 34 28.6	-2.6
PPM	**Popocatepetl**	**2.17**	**35**	*i* P	Pn	01 34 42.6	-0.2
PPM				*i* S	Sn	01 35 06.4	-2.6

*ISCJB **03** 01:50:48.2±0.9, 4008N±002×1972E±008, h10km, Error ellipse: s-maj=8.6km s-min=3.4km az=6.9*
*THE **03** 01:50:48.3, 4008N×1966E, h1km, ML2.9*
*ATH **03** 01:50:51.2, 3996N×1992E, h4km, MD3.4/3*
ISC 03 01:50:48.6±0.9**, 4006N**±002×**1967E**±008**, h10**km**, n16,** σ**1s02**/25**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.36**	**164**	*e*PG	**Pg**	**01 50 56.7**	**+0.9**
KEK				*e*SG	**Sg**	**01 50 59.9**	**-0.7**
IGT	**Igoumenitsa**	**0.74**	**136**	*e*Pg	**Pg**	**01 51 02.5**	**-0.3**
IGT				*e*Sg	**Sg**	**01 51 13.4**	**+0.9**
TIR	**Tirane**	**1.29**	**7**	*e*Pg	**Pg**	**01 51 12.4**	**-1.0**
TIR				*e*Sg	**Sg**	**01 51 30.5**	**+0.4**
OHR	**Ohrid**	**1.36**	**39**	*e*Pg	**Pg**	**01 51 12.9**	**-1.7**
OHR				*e*Sg	**Sg**	**01 51 32.3**	**+0.1**
OHR	**Ohrid**	**1.36**	**39**	*i* Pn	**Pn**	**01 51 13.5**	**0.0**
OHR				*i* Sn	**Sn**	**01 51 33.5**	**+1.9**
FNA	**Florina**	**1.49**	**61**	*e*Pg	**Pg**	**01 51 15.1**	**-2.0**
FNA				*e*Sg	**Sg**	**01 51 36.5**	**0.0**
LKD	**Levkas**	**1.56**	**150**	*e*Pg	**Pn**	**01 51 15.9**	**-0.3**
LKD				*e*Sg	**Sg**	**01 51 38.8**	**+0.2**
BIA	**Bitola**	**1.58**	**52**	*e*Pg	**Pn**	**01 51 16.2**	**-0.4**
BIA				*e*Sg	**Sg**	**01 51 38.5**	**-1.0**
BIA	**Bitola**	**1.58**	**52**	*i* Pn	**Pn**	**01 51 16.3**	**-0.4**
BIA				*e*Sn	**Sn**	**01 51 39.5**	**+2.3**
KZN	**Kozani**	**1.63**	**81**	*e*PG	**Pg**	**01 51 18.5**	**-1.4**
KRUS	**Krusevo**	**1.77**	**42**	*i* Pn	**Pn**	**01 51 20.1**	**+0.8**
EVR	**Evrytania**	**2.02**	**124**	*e*PB	**Pb**	**01 51 25.0**	**-0.3**
GRG	**Griva**	**2.27**	**66**	*e*Pn	**Pn**	**01 51 26.6**	**+0.5**
STIP	**Stip**	**2.51**	**49**	*e*Pn	**Pn**	**01 51 30.0**	**+0.6**
STIP	**Stip**	**2.51**	**49**	*i* Pn	**Pn**	**01 51 32.7**	**+3.3**
KNT	**Kendrikon**	**2.69**	**65**	*e*Pn	**Pn**	**01 51 32.6**	**+0.7**

*MDD **03** 01:53:39.8±1.3, 36.12N×7.46W, h0km, mbLg2.2/11, Error ellipse: s-maj=13.6km s-min=6.2km az=28.0, PRXIMO*
INMG 03 01:53:41.2±0.8**, 3601N**×**757W, h20**km±12km**, ML1.8, 3C-1D, Error ellipse: s-maj=10.0km s-min=2.8km az=28.0, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.53**	**3**	⇓P	Pn	01 54 05.9	-1.5
	6.6nm,0.1s,SNR=18						
EGRO				S	Sn	01 54 24.6	-2.1
	12nm,0.1s,SNR=11						
ESPR	**Espera**	**1.63**	**58**	⇑P	Pn	01 54 06.7	-2.0
	1.0nm,0.1s,SNR=18						
ESPR				S	Sn	01 54 26.7	-2.5
	16nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.75**	**75**	P	Pn	01 54 08.8	-1.7
	0.6nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.80**	**329**	*e*Pn	Pn	01 54 09.4	-1.7
PTEO				*e*Sn	Sn	01 54 30.6	-2.7
PTEO							
	2.5nm,0.1s						
EMIN	**Mina Concepcio**	**1.90**	**22**	P	Pn	01 54 10.8	-1.7
	0.7nm,0.1s,SNR=9.1						
EMIN				S	Sn	01 54 32.9	-3.0
	4.6nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.03**	**353**	*e*Pn	Pn	01 54 12.7	-1.6
PBEJ				*e*Sn	Sn	01 54 36.4	-2.7
PBEJ							
	3.9nm,0.1s						
EMIJ	**Mijas**	**2.33**	**75**	P	Pn	01 54 15.5	-2.9
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	01 54 42.3	-4.0
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.78**	**9**	P	Pn	01 54 22.9	-1.8
	1.1nm,0.1s,SNR=11						
EBAD				S	Sn	01 54 55.6	-2.0
	2.1nm,0.1s,SNR=9.0						
PESTR	**Estremoz**	**2.86**	**360**	*e*Pn	Pn	01 54 23.9	-1.8
PESTR				*e*Sn	Sn	01 54 56.2	-3.3
PESTR							
	1.8nm,0.2s						
ELUQ	**Luque**	**3.07**	**59**	P	Pn	01 54 26.7	-1.9
	0.3nm,0.1s,SNR=7.9						
ELUQ				S	Sn	01 54 59.8	-4.9
	1.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**47**	⇑P	Pn	01 54 29.0	-1.7
	0.5nm,0.1s,SNR=18						
EADA				S	Sn	01 55 04.9	-3.5
	3.2nm,0.1s,SNR=9.2						
PMAFR	**Mafra**	**3.25**	**336**	*e*Pn	Pn	01 54 29.6	-1.4
ECOG	**Cogollos-Vega**	**3.46**	**67**	P	Pn	01 54 32.5	-1.4
	1.8nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.53**	**69**	P	Pn	01 54 33.3	-1.6
	0.6nm,0.1s,SNR=11						
EQUE				S	Sn	01 55 14.0	-2.1
	0.4nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.71**	**53**	⇑P	Pn	01 54 35.3	-2.1
	1.1nm,0.2s,SNR=18						
EBAN				S	Sn	01 55 14.4	-6.2
	0.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.83**	**1**	*e*Pn	Pn	01 54 37.3	-1.7
PCBR				*e*Sn	Sn	01 55 19.6	-3.9
PCBR							
	2.1nm,0.2s						
EQES	**Quesada**	**4.03**	**62**	P	Pn	01 54 40.0	-1.7
	0.3nm,0.0s,SNR=5.7						
EQES				S	Sn	01 55 24.7	-3.7
	1.1nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**4.38**	**64**	P	Pn	01 54 45.0	-1.6
	0.4nm,0.1s,SNR=7.9						
EHUE				S	Sn	01 55 32.5	-4.5
	0.5nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.71**	**357**	*e*Pn	Pn	01 54 49.4	-1.8
PVIS				*e*Sn	Sn	01 55 40.0	-5.2
PVIS							
	1.3nm,0.1s						
EVIA	**Vianos**	**4.82**	**55**	P	Pn	01 54 50.3	-2.4
	1.0nm,0.2s,SNR=7.9						
EVIA				S	Sn	01 55 41.2	-6.6
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.47**	**59**	P	Pn	01 54 59.1	-2.5
	1.6nm,0.1s,SNR=49						
ETOB				S	Sn	01 55 58.2	-5.8
	0.6nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**5.71**	**357**	*e*Pn	Pn	01 55 03.0	-1.9
PCAB				*e*Sn	Sn	01 56 03.7	-6.1
PCAB							
	0.9nm,0.2s						
ELOB	**Lobios**	**5.87**	**356**	P	Pn	01 55 05.3	-1.7
	0.2nm,0.1s,SNR=7.9						
ELOB				S	Sn	01 56 09.6	-4.1
	0.9nm,0.1s,SNR=7.9						

*IDC **03** 01:57:38.0±0.5, 833S×17002W, h0km, mb4.9/17, mb1 5.0/17, mb1mx4.9/20, mbtmp4.9/17, MS4.2/18, Ms1 4.2/18, ms1mx4.1/21, Error ellipse: s-maj=23.7km s-min=13.0km az=136.0*
*BJI **03** 01:57:38.5, 782S×16957W, h13km, mB5.3, mb5.2, Ms5.2, Msz4.8*
*ISCJB **03** 01:57:38.7±0.2, 824S±005×170.17W±004, h10km, mb5.1/93, MS4.5/110, Error ellipse: s-maj=8.0km s-min=4.7km az=138.0*
*GCMT **03** 01:57:40.3±0.3, 825S×17001W, h14km±1km, MW5.0/65, Moment Tensor Solution. s35,c40; s65,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.66±.26; $M_{\theta\theta}$-2.57±.17; $M_{\phi\phi}$-1.08±.18; $M_{r\theta}$1.07±.39; $M_{\theta\phi}$2.38±.12; $M_{\phi r}$1.38±.45; Best double couple: $M_0$4.39100×10^{16} NP1:ϕ_s329.00000°, δ50.00000°, λ123.00000°. NP2: ϕ_s104.00000°, δ50.00000°, λ57.00000°. Principal axes: T 4.4630, Plg65.0000°, Azm307.0000°; N -0.1340, Plg25.0000°, Azm126.0000°; P -4.3190, Plg0.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 01:57:40.3±0.2, 828S×170.17W, h10km, mb5.3/57, MS4.5/90 Error ellipse: s-maj=7.5km s-min=3.7km az=148.0*
*MOS **03** 01:57:42.5±0.9, 8.17S×170.15W, h33km, mb5.4/36, MS4.4/31, Error ellipse: s-maj=10.1km s-min=6.6km az=54.7*
ISC 03 01:57:40.8±0.2**, 823S**±005×**17017W**±004**, h10**km**, (h15**km±2.5km**:pP-P), n469,** σ**0s85**/250**, mb5.1**/93**, MS4.5**/110**, 21C-1D, Tokelau Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.86**	**195**	Sn	**Sn**	**01 59 59.6**	**-15**
	34nm,0.3s,baz=41,slow=20,SNR=3.6						
AFI				T		02 05 13.0	
	93nm,0.3s,baz=299,slow=19,SNR=6.5						
AFI	**Afiamalu**	**5.86**	**195**	*e*Sn	**Sn**	**02 00 01.9**	**-13**
FUNA	**Funafuti**	**10.53**	**268**	*e*Pn	**Pn**	**02 00 05.4**	**-6.4**
FUNA				*e*Sn	**Sn**	**02 01 54.2**	**-15**
RAR	**Rarotonga**	**16.35**	**143**	LR	LR	02 05 52.5	
	comp=Z,834nm,19.5s,baz=286,slow=31						
PPT	**Papeete**	**22.09**	**117**	*e*P	**P**	**02 02 36.9**	**+0.8**
	113nm,1.4s,mb5.1						

PPT Papeete 22.09 117 *e*LQ 02 06 49.6
2µm,24.8s
PPT *e*LR LR 02 07 41.4
836nm,23.8s,baz=291
PPT Papeete 22.09 117 P **P** **02 02 37.2 +1.1**
58nm,1.0s,mb5.0,baz=58,slow=10,SNR=4.0
PPT LR LR 02 09 39.3
comp=Z,626nm,18.3s,MS4.1,baz=302,slow=33
PAE Paea 22.12 117 *e*P **P** **02 02 36.8 +0.4**
227nm,1.3s,mb5.4
RAO Raoul Island 22.14 198 LR LR 02 09 52.9
comp=Z,683nm,18.6s,MS4.1,baz=71,slow=33
TVO Taravao 22.46 117 *e*P **P** **02 02 40.1 +0.1**
420nm,1.5s,mb5.7
PMOR Pomariorio Ree 22.82 109 *e*P **P** **02 02 43.7 -0.1**
224nm,1.3s,mb5.4
VAH Vaihoa 23.13 110 *e*P **P** **02 02 46.4 -0.7**
108nm,1.2s,mb5.2
TBI Tubuai 24.91 129 *e*LQ 02 08 14.5
351nm,26.8s
TBI *e*LR LR 02 09 02.3
478nm,24.0s,baz=315
DZM Mont Dzumac 26.38 236 P **P** **02 03 18.2 +0.9**
16nm,1.0s,mb4.5,baz=90,slow=19,SNR=3.9
DZM LR LR 02 11 32.6
comp=Z,527nm,20.9s,MS4.1,baz=59,slow=32
HNR Honiara 29.55 265 LR LR 02 13 35.8
comp=Z,290nm,18.3s,MS3.9,baz=177,slow=32
HNR Honiara 29.55 265 PFAKE 02 04 00.0 +14
HNR LR LR
comp=Z,466nm,21.0s,MS4.1
URZ Urewera 32.03 199 P **P** **02 04 03.9 -3.5**
comp=Z,4.8nm,0.6s,mb4.5,baz=323,slow=5.1,SNR=2.5
URZ LR LR 02 14 28.2
comp=Z,235nm,20.6s,MS3.9,baz=200,slow=32
RKT Rikitea 36.85 118 *e*LR LR 02 14 33.5
comp=Z,489nm,26.0s,baz=300
PMG Port Moresby 42.17 265 P **P** **02 05 34.2 +0.7**
comp=Z,18nm,0.8s,mb4.7,baz=79,slow=10,SNR=4.7
PMG LR LR 02 19 41.6
comp=Z,495nm,21.0s,MS4.4,baz=92,slow=31
PMG Port Moresby 42.17 265 *e*P **P** **02 05 33.8 +0.3**
PMG pmax pmax
comp=Z,23nm,0.9s
PMG MLR MLR
comp=Z,601nm,20.0s
PMG Port Moresby 42.17 265 *e*P **P** **02 05 33.8 +0.3**
comp=Z,23nm,0.9s,mb4.8
PMG LR LR
comp=Z,601nm,20.0s,MS4.5
CTA Charters Tower 43.74 250 *e*P **P** **02 05 49.4 +3.2**
comp=Z,10nm,1.0s,mb4.5
CTA Charters Tower 43.74 250 LR LR 02 20 26.8
comp=Z,417nm,19.0s,MS4.4,baz=69,slow=31
CTA Charters Tower 43.74 250 *e*P **P** **02 05 49.4 +3.2**
CTA pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 43.74 250 *e*P **P** **02 05 48.8 +2.6**
CTAO pmax pmax
comp=Z,28nm,1.3s,mb4.8
CTAO MLR MLR
comp=Z,551nm,19.0s,MS4.5
CTAO Charters Tower 43.74 250 *e*P **P** **02 05 48.8 +2.5**
comp=Z,28nm,1.3s,mb4.8
CTAO LR LR
comp=Z,551nm,19.0s,MS4.5
GUMO Guam 49.62 296 PFAKE 02 06 40.0 +7.6
GUMO LR LR
comp=Z,1.0nm,20.0s
STKA Stephens Creek 50.53 235 *e*P **P** **02 06 39.6 +0.3**
comp=Z,9.3nm,0.9s,mb4.7
STKA Stephens Creek 50.53 235 P **P** **02 06 39.8 +0.5**
comp=Z,9.4nm,0.6s,mb4.9,baz=57,slow=7.2,SNR=11
STKA LR LR 02 24 47.8
comp=Z,585nm,20.4s,MS4.6,baz=37,slow=32
WB2 Warramunga Arr 54.84 251 *e*P **P** **02 07 11.5 +0.4**
WRAB Tennant Creek 54.84 251 P **P** **02 07 11.0 -0.1**
comp=Z,100nm,1.0s,mb5.8,SNR=7.3
WRAB Tennant Creek 54.84 251 *e*P **P** **02 07 10.7 -0.4**
WRAB Tennant Creek 54.84 251 *e*P **P** **02 07 11.0 -0.2**
comp=Z,24nm,1.0s,mb5.2
WRA Warramunga Arr 54.85 251 P **P** **02 07 11.1 -0.1**
comp=Z,11nm,1.0s,mb4.9,baz=82,slow=6.9,SNR=54
WRA LR LR 02 27 59.7
comp=Z,169nm,18.5s,MS4.2,baz=85,slow=33
AS31 Alice Springs 55.58 247 *e*P **P** **02 07 16.8 +0.3**
ASAR Alice Springs 55.58 247 P **P** **02 07 16.8 +0.3**
comp=Z,7.6nm,0.9s,mb4.7,baz=82,slow=7.7,SNR=37
ASAR LR LR 02 27 33.0
comp=Z,397nm,21.6s,MS4.5,baz=86,slow=32
ASPA Alice Springs 55.59 247 *e*P **P** **02 07 16.8 +0.3**
KAKA Kakadu 56.52 260 *e*P **P** **02 07 23.2 0.0**
comp=Z,24nm,0.9s,mb5.2
CBIJ Chichi jima 57.99 309 LR LR 02 27 50.8
comp=Z,164nm,19.8s,MS4.2,baz=151,slow=31
UNV Unalaska Valle 61.92 2 PFAKE 02 08 10.0 +9.4
UNV LR LR
comp=Z,1µm,22.0s,MS5.0
FITZ Fitzroy Crossi 63.01 254 *e*P **P** **02 08 08.1 +0.2**
comp=Z,9.0nm,0.9s,mb4.9
FITZ Fitzroy Crossi 63.01 254 P **P** **02 08 07.8 -0.2**
comp=Z,9.1nm,1.1s,mb4.8,baz=64,slow=6.1,SNR=8.9
SAO San Andreas Ge 63.92 42 *e*P **P** **02 08 12.7 -1.2**
SAO pmax pmax
comp=Z,23nm,1.1s,mb5.1
SAO MLR MLR
comp=Z,312nm,19.0s,MS4.5
SAO San Andreas Ge 63.92 42 *e*P **P** **02 08 12.7 -1.2**
comp=Z,23nm,1.1s,mb5.1
SAO LR LR
comp=Z,312nm,19.0s,MS4.5
LRV Little Rabbit 64.02 43 *e*P **P** **02 08 14.9 +0.4**
HOPS Hopland 64.15 39 *e*P **P** **02 08 15.6 +0.2**
comp=Z,39nm,1.3s,mb5.3
HOPS *e* 02 08 27.3
HOPS LR LR
comp=Z,426nm,21.0s,MS4.6
NSHM Saint Helena R 64.17 40 *e*P **P** **02 08 13.4 -2.1**
KHMM Horse Mountain 64.88 37 *e*P **P** **02 08 20.8 +0.6**
MWC Mount Wilson 64.91 46 *e*P **P** **02 08 20.8 +0.4**
BAR Barrett 65.15 48 *e*P **P** **02 08 22.4 +0.5**
KRMB Red Mountain 65.17 37 *e*P **P** **02 08 22.2 +0.1**
CMB Columbia Colle 65.33 42 *e*P **P** **02 08 23.3 +0.2**
CMB pmax pmax
comp=Z,12nm,0.8s,mb5.0
CMB MLR MLR
comp=Z,357nm,20.0s,MS4.6
CMB Columbia Colle 65.33 42 *e*P **P** **02 08 23.3 +0.2**
comp=Z,12nm,0.8s,mb5.0
CMB LR LR
comp=Z,357nm,20.0s,MS4.6
ISA Isabella 65.35 45 *e*P **P** **02 08 23.9 +0.7**
ISA MLR MLR
comp=Z,80nm,20.0s,MS3.9
WDC Whiskeytown Da 65.42 38 *e*P **P** **02 08 24.0 +0.3**
WDC pmax pmax
comp=Z,33nm,1.1s,mb5.3
WDC MLR MLR
comp=Z,450nm,22.0s,MS4.6
WDC Whiskeytown Da 65.42 38 *e*P **P** **02 08 24.0 +0.3**
comp=Z,33nm,1.1s,mb5.3
WDC LR LR
comp=Z,450nm,22.0s,MS4.6
MJAR Matsushiro Arr 65.76 316 P **P** **02 08 25.6 -0.2**
comp=Z,12nm,0.9s,mb4.9,baz=153,slow=5.8,SNR=34
MJAR LR LR 02 30 30.3
comp=Z,254nm,20.7s,MS4.4,baz=60,slow=30
MAJO Matsushiro 65.76 316 *e*P **P** **02 08 26.1 +0.2**
MAJO pmax pmax
comp=Z,45nm,1.3s,mb5.3
MAJO Matsushiro 65.76 316 *e*P **P** **02 08 26.1 +0.2**
comp=Z,44nm,1.3s,mb5.3
MAT Matsushiro 65.76 316 P **P** **02 08 25.8 -0.1**
PFO Pinyon Flat Ob 65.76 48 *e*P **P** **02 08 26.6 +0.7**
PFO pmax pmax
comp=Z,32nm,1.3s,mb5.2
PFO MLR MLR
comp=Z,110nm,22.0s,MS4.0
PFO Pinyon Flat Ob 65.76 48 *e*P **P** **02 08 26.6 +0.7**
comp=Z,32nm,1.3s,mb5.2
PFO LR LR
comp=Z,110nm,22.0s,MS4.0
DAV Davao City (W) 65.83 282 PFAKE 02 08 40.0 +14
DAV LR LR
comp=Z,1µm,20.0s,MS5.0
YBH Yreka Blue Hor 66.01 37 *e*P **P** **02 08 28.2 +0.7**
YBH pmax pmax
comp=Z,21nm,0.9s
YBH MLR MLR
comp=Z,312nm,21.0s
YBH Yreka Blue Hor 66.01 37 *e*P **P** **02 08 28.2 +0.7**
comp=Z,21nm,0.9s,mb5.2
YBH LR LR
comp=Z,312nm,21.0s,MS4.5
MTUM Tungsten Hills 66.17 43 *e*P **P** **02 08 29.3 +0.7**
WAKR Walker 66.21 42 *e*P **P** **02 08 29.3 +0.5**
DAC Darwin (Calif) 66.28 45 *e*P **P** **02 08 29.6 +0.4**
DAC MLR MLR
comp=Z,433nm,21.0s,MS4.6
GSC Goldstone 66.34 46 *e*P **P** **02 08 29.8 +0.2**
PET Petropavlovsk 66.53 340 *e*P **P** **02 08 30.2 -0.7**
PET pmax pmax
comp=Z,106nm,2.3s,mb5.5
PET Petropavlovsk 66.53 340 *e*P **P** **02 08 31.0 +0.1**
comp=Z,121nm,1.8s,mb5.6
GLA Glamis 66.70 49 *e*P **P** **02 08 32.4 +0.5**
PAHR Pah Rah Range 66.90 41 *e*P **P** **02 08 34.0 +0.8**
comp=Z,28nm,1.2s,mb5.2
NVAR Mina Array Bea 66.92 42 P **P** **02 08 33.5 +0.2**
comp=Z,15nm,0.8s,mb5.1,baz=224,slow=8.6,SNR=99
NVAR Mina Array Bea 66.92 42 P **P** **02 08 33.5 +0.2**
MPOR Mary's Peak 67.22 34 P **P** **02 08 36.1 +0.9**
KDAK Kodiak Island 67.33 10 P **P** **02 08 34.4 -1.5**
comp=Z,249nm,0.9s,mb6.2,SNR=7.9
KDAK Kodiak Island 67.33 10 P **P** **02 08 35.2 -0.7**
comp=Z,29nm,0.8s,mb5.4,baz=204,slow=4.8,SNR=25
KDAK Kodiak Island 67.33 10 *e*P **P** **02 08 35.6 -0.3**
KDAK LR LR
comp=Z,85nm,22.0s,MS3.9
COR Corvallis 67.41 34 PFAKE 02 08 50.0 +14
COR LR LR
comp=Z,614nm,19.0s,MS4.8
TPH Tonopah 67.46 43 *e*P **P** **02 08 37.5 +0.8**
TPH MLR MLR
comp=Z,298nm,21.0s,MS4.5
SHPR Sheep Range 68.09 45 *e*P **P** **02 08 41.1 +0.3**
BKCOR Black Crater 68.15 35 P **P** **02 08 41.8 +0.7**
MBWA Marble Bar 68.56 251 *e*P **P** **02 08 43.7 0.0**
comp=Z,11nm,0.9s,mb4.8
MBWA LR LR
comp=Z,314nm,22.0s,MS4.5
BMN Battle Mountai 68.69 41 *e*P **P** **02 08 44.7 +0.2**
BMN pmax pmax
comp=Z,34nm,1.1s,mb5.2
BMN MLR MLR
comp=Z,230nm,19.0s,MS4.4
BMN Battle Mountai 68.69 41 *e*P **P** **02 08 44.7 +0.2**
comp=Z,34nm,1.1s,mb5.2
BMN LR LR
comp=Z,230nm,19.0s,MS4.4
TRCR Troy Canyon 68.70 43 *e*P **P** **02 08 44.7 +0.1**
HOOD Mount Hood Mea 68.79 35 *e*P **P** **02 08 45.5 +0.4**
WVOR Wild Horse Val 68.88 38 *e*P **P** **02 08 45.4 -0.3**
WVOR pmax pmax
comp=Z,34nm,1.1s,mb5.2
WVOR MLR MLR
comp=Z,486nm,20.0s,MS4.7
WVOR Wild Horse Val 68.88 38 *e*P **P** **02 08 45.4 -0.3**
comp=Z,34nm,1.1s,mb5.2
WVOR LR LR
comp=Z,486nm,20.0s,MS4.7
YSS Yuzh-Sakhalins 69.01 328⇑ *i*P **P** **02 08 46.2 -0.3**
YSS *e* 02 09 05.8
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 69.01 328 *e*P **P** **02 08 47.3 +0.9**
YSS LR LR
comp=Z,188nm,19.0s,MS4.3
JOW Kunigami 69.06 303 P **P** **02 08 47.2 +0.5**
comp=Z,30nm,1.1s,mb5.1,baz=104,slow=10,SNR=7.3
KOSW Kosmos 69.19 33 P **P** **02 08 48.5 +0.9**
OSD Olympics--Snow 69.24 32 P **P** **02 08 48.9 +1.0**
TUC Tucson 69.44 51 *e*P **P** **02 08 49.4 +0.3**
TUC MLR MLR
comp=Z,334nm,19.0s,MS4.6
HDW Hoodsport 69.47 32 P **P** **02 08 49.9 +0.6**
GNW Green Mountain 69.54 32 *e*P **P** **02 08 50.0 +0.3**
LON Longmire 69.57 33 P **P** **02 08 49.7 -0.3**
VGZ Gonzales 69.82 31 P **P** **02 08 51.2 -0.3**
CCUT Cedar City 69.85 45 *e*P **P** **02 08 52.1 +0.5**
ARUT Antelope Range 69.91 45 *e*P **P** **02 08 52.6 +0.5**
RMW Rattlesnake Mo 70.01 33 P **P** **02 08 52.9 +0.2**
SVW2 Sparrevohn 70.06 7 *e*P **P** **02 08 51.7 -1.8**
SNB Saturna Island 70.13 31 P **P** **02 08 53.7 +0.4**
ELK Elko 70.14 41 *e*P **P** **02 08 53.8 +0.3**
ELK pmax pmax
comp=Z,27nm,0.8s
ELK MLR MLR
comp=Z,305nm,19.0s
ELK Elko 70.14 41 *e*P **P** **02 08 53.8 +0.4**
comp=Z,27nm,0.8s,mb5.2
ELK LR LR
comp=Z,305nm,19.0s,MS4.6
SLKM Skilak Lake 70.32 10 *e*P **P** **02 08 53.7 -0.8**
TWW Teanaway 70.32 33 P **P** **02 08 55.5 +1.0**
EBG Ellensburg 70.35 34 P **P** **02 08 54.9 +0.2**
WUAZ Wupatki 70.36 48 *e*P **P** **02 08 55.9 +1.1**
comp=Z,19nm,0.7s,mb5.1
WUAZ LR LR
comp=Z,523nm,22.0s,MS4.7
JCW Jim Creek 70.40 32 P **P** **02 08 55.2 +0.1**
TBM Table Mountain 70.49 33 P **P** **02 08 55.6 +0.1**
CRAG Craig 70.55 21 *e*P **P** **02 08 56.1 +0.1**
RSW Rattlesnake Hi 70.58 35 P **P** **02 08 56.5 +0.3**
HAWA Hanford 70.62 35 *e*P **P** **02 08 56.3 0.0**
HAWA LR LR
comp=Z,30nm,20.0s,MS3.5
SBA Scott Base 70.62 185 *e*P **P** **02 08 55.4 -1.0**
SBA pmax pmax
comp=Z,19nm,1.1s,mb4.9
SBA Scott Base 70.62 185 *e*P **P** **02 08 55.4 -1.0**
comp=Z,19nm,1.1s,mb4.9
RPW Rockport 70.78 32 P **P** **02 08 57.0 -0.3**
MBW Mount Baker 70.78 32 P **P** **02 08 57.4 0.0**
VNDA Vanda 70.79 186 P **P** **02 08 56.4 -1.1**
comp=Z,6.4nm,1.0s,mb4.5,baz=360,slow=5.6,SNR=17
VNDA LR LR 02 35 15.8
comp=Z,106nm,20.1s,MS4.1,baz=31,slow=32
NWAO Narrogin (SRO) 70.98 238 PFAKE 02 09 10.0 +11
NWAO LR LR
comp=Z,750nm,20.0s,MS5.0
BMO Blue Mountains 71.03 37 *e*P **P** **02 08 58.6 -0.3**
comp=Z,36nm,1.3s,mb5.1
BMO LR LR
comp=Z,331nm,19.0s,MS4.6
SIT Sitka 71.05 19 PFAKE 02 09 10.0 +11
SIT LR LR
comp=Z,673nm,19.0s,MS4.9
MSU Marysvale 71.13 45 *e*P **P** **02 09 00.3 +0.8**
EPH Ephrata 71.14 34 P **P** **02 08 59.6 0.0**
WTV Waterville 71.15 33 P **P** **02 08 59.6 0.0**
EYAK Cordova Ski Ar 71.23 12 *e*P **P** **02 08 58.9 -1.2**
DUG Dugway 71.48 43 *e*P **P** **02 09 01.5 -0.1**
DUG pmax pmax
comp=Z,25nm,1.0s,mb5.1
DUG MLR MLR
comp=Z,256nm,22.0s,MS4.4
DUG Dugway 71.48 43 *e*P **P** **02 09 01.5 -0.1**
comp=Z,25nm,1.0s,mb5.1
DUG LR LR
comp=Z,256nm,22.0s,MS4.4
PMR Palmer 71.52 10 *e*P **P** **02 09 00.8 -1.1**
PMR pmax pmax
comp=Z,42nm,0.9s,mb5.4
PMR MLR MLR
comp=Z,240nm,21.0s,MS4.4
PMR Palmer 71.52 10 *e*P **P** **02 09 00.8 -1.1**
comp=Z,42nm,0.9s,mb5.4
PMR LR LR
comp=Z,240nm,21.0s,MS4.4
BGU Big Grassy Mou 71.69 42 *e*P **P** **02 09 02.7 -0.2**
DIV Divide 71.75 12 *e*P **P** **02 09 02.8 -0.5**
DIV LR LR
comp=Z,863nm,20.0s,MS5.0
TTA Tatalina 71.78 7 *e*P **P** **02 09 03.1 -0.3**
NLU North Lily Min 71.87 43 *e*P **P** **02 09 04.6 +0.6**
HLID Hailey 72.11 39 *e*P **P** **02 09 05.8 +0.4**
HLID LR LR
comp=Z,243nm,20.0s,MS4.5
TMUT Trail Mountain 72.16 44 *e*P **P** **02 09 07.3 +1.6**
NOQ North Oquirrh 72.17 43 *e*P **P** **02 09 06.2 +0.4**
MPU Maple Canyon 72.20 43 PFAKE 02 09 20.0 +14
MPU LR LR
comp=Z,1µm,20.0s,MS5.1
SPUT South Promonto 72.26 42 *e*P **P** **02 09 05.8 -0.5**
HVU Hansel Valley 72.27 41 *e*P **P** **02 09 06.6 +0.3**
PNT Penticton 72.30 32 P **P** **02 09 06.1 -0.4**
CTU Camp Tracy 72.43 43 *e*P **P** **02 09 07.6 +0.2**
SRU San Rafael 72.55 45 *e*P **P** **02 09 08.3 +0.3**
TCUT Toone Canyon 72.86 43 *e*P **P** **02 09 10.4 +0.5**
HWUT Hardware Ranch 72.98 42 *e*P **P** **02 09 09.2 -1.4**
comp=Z,28nm,0.9s,mb5.2
HWUT LR LR
comp=Z,312nm,19.0s,MS4.6
SKAG Skagway 72.98 18 *e*P **P** **02 09 10.7 +0.1**
comp=Z,57nm,1.1s,mb5.4
LAZ Ladron 73.07 50 *e*P **P** **02 09 11.9 +0.8**
LENM Lemitar 73.10 51 *e*P **P** **02 09 12.5 +1.2**
PV10 Paradox Valley 73.28 46 *e*P **P** **02 09 11.6 -0.7**
LPM Los Pinos Moun 73.42 51 *e*P **P** **02 09 13.8 +0.7**
MNTX Cornudas Mount 73.44 54 *e*P **P** **02 09 13.5 +0.2**
comp=Z,21nm,1.1s,mb5.0
MNTX LR LR
comp=Z,272nm,20.0s,MS4.5
PV01 Paradox Valley 73.51 46 *e*P **P** **02 09 13.7 0.0**
MCK McKinley 73.55 10 *e*P **P** **02 09 12.9 -1.0**
MCK pmax pmax
comp=Z,35nm,0.9s,mb5.3
MCK MLR MLR
comp=Z,130nm,19.0s,MS4.2
MCK McKinley 73.55 10 *e*P **P** **02 09 12.9 -1.0**
comp=Z,35nm,0.9s,mb5.3
MCK LR LR
comp=Z,130nm,19.0s,MS4.2
TNA Tin City 73.61 1 *e*P **P** **02 09 14.8 +0.5**
TNA LR LR
comp=Z,148nm,20.0s,MS4.3
MCMT McKenzie Canyo 73.72 39 P **P** **02 09 15.2 +0.3**
ANMO Albuquerque 73.80 50*d* *i*P **P** **02 09 15.4 0.0**
ANMO Albuquerque 73.80 50 *e*P **P** **02 09 15.9 +0.5**
comp=Z,22nm,1.0s,mb5.0
ANMO LR LR
comp=Z,289nm,20.0s,MS4.6
MENT Mentasta 73.81 12 *e*P **P** **02 09 15.1 -0.3**
AHID Auburn Hatcher 73.83 41 *e*P **P** **02 09 15.7 +0.1**
comp=Z,13nm,0.9s,mb4.9
AHID LR LR
comp=Z,171nm,20.0s,MS4.3
RRI2 Red Ridge 73.96 41 *e*P **P** **02 09 16.4 +0.1**
MSO Missoula 74.07 36 *e*P **P** **02 09 16.2 -0.8**
comp=Z,33nm,1.0s,mb5.2
MSO LR LR
comp=Z,203nm,20.0s,MS4.4
HABR Khabarovsk 74.11 326 *i*P **P** **02 09 17.8 +0.6**
HABR pmax pmax
comp=Z,75nm,1.3s,mb5.5
BSMT Bassoo Peak 74.12 35 P **P** **02 09 17.0 -0.3**
DLMT Dillon 74.14 38 *e*P **P** **02 09 17.5 +0.1**
comp=Z,41nm,1.1s,mb5.3
DCID1 Drake Creek 74.17 40 *e*P **P** **02 09 18.1 +0.6**
TPAW Teton Pass 74.27 41 *e*P **P** **02 09 18.5 +0.3**
REDW Red Top Meadow 74.27 41 *e*P **P** **02 09 20.5 +2.4**
comp=Z,48nm,1.4s,mb5.2
SNOW Snow King Moun 74.38 41 *e*P **P** **02 09 19.4 +0.7**
comp=Z,38nm,1.0s,mb5.3
INCN Inchon 74.40 313 PFAKE 02 09 30.0 +11
INCN LR LR
comp=Z,214nm,19.0s,MS4.5
MA2 Magadan 74.41 341*c* *i*P **P** **02 09 18.3 -0.7**
MA2 *e* 02 12 06.6
MA2 *e* 02 19 48.1
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 Magadan 74.41 341⇑ *i*P **P** **02 09 18.2 -0.8**
GDL2 Guadalupe Moun 74.42 53 *e*P **P** **02 09 19.7 +0.6**
LRM Limekiln Ridge 74.45 38 *e*P **P** **02 09 19.1 -0.1**
IMW Indian Meadow 74.46 40 *e*P **P** **02 09 19.6 +0.3**
comp=Z,30nm,0.9s,mb5.2
CHMT Chamberlain Mo 74.52 37 *e*P **P** **02 09 18.9 -0.8**
LOHW Long Hollow 74.55 41 *e*P **P** **02 09 19.7 -0.1**
comp=Z,51nm,1.3s,mb5.3
QLMT Earthquake Lak 74.60 39 *e*P **P** **02 09 20.8 +0.7**
FLWY Flagg Ranch 74.70 40 *e*P **P** **02 09 21.2 +0.5**
KKM Kota Kinabalu 74.77 279 *e*P **P** **02 09 20.0 -1.0**
COLA College 74.79 10⇑ *i*P **P** **02 09 20.0 -1.2**
COLA MLR MLR
comp=Z,261nm,20.0s,MS4.5
YFT Old Faithful 74.79 40 *e*P **P** **02 09 23.2 +2.0**
LCCM Lewis and Clar 74.81 38 P **P** **02 09 21.0 -0.3**
YMR Madison River 74.81 39 *e*P **P** **02 09 21.7 +0.4**
comp=Z,48nm,1.0s,mb5.4
YMR LR LR
comp=Z,2µm,19.0s,MS5.5
BW06 Boulder Array 74.84 42 *e*P **P** **02 09 20.9 -0.6**
comp=Z,33nm,1.1s,mb5.2
BW06 LR LR
comp=Z,255nm,19.0s,MS4.5
PDAR Pinedale Array 74.84 42 P **P** **02 09 20.9 -0.5**
comp=Z,14nm,0.8s,mb5.0,baz=226,slow=3.7,SNR=112
PDAR LR LR 02 40 08.1
comp=Z,161nm,18.2s,MS4.4,baz=257,slow=34
BOZ Bozeman (W) 74.87 38 *e*P **P** **02 09 21.5 -0.1**
BOZ pmax pmax
comp=Z,26nm,1.1s,mb5.1
BOZ MLR MLR
comp=Z,371nm,22.0s,MS4.6
BOZ Bozeman (W) 74.87 38 *e*P **P** **02 09 21.5 -0.2**
comp=Z,26nm,1.1s,mb5.1
BOZ LR LR
comp=Z,371nm,22.0s,MS4.6
YNR Norris Junctio 75.01 39 *e*P **P** **02 09 25.7 +3.2**
SMCO Snowmass 75.08 46 *e*P **P** **02 09 22.8 0.0**
comp=Z,16nm,0.8s,mb5.0
LKWY Lake 75.12 40 *e*P **P** **02 09 24.8 +1.7**
LKWY pmax pmax
comp=Z,42nm,1.1s,mb5.3
LKWY MLR MLR
comp=Z,254nm,19.0s,MS4.5
LKWY Lake 75.12 40 *e*P **P** **02 09 24.8 +1.7**
comp=Z,42nm,1.1s,mb5.3
LKWY LR LR
comp=Z,254nm,19.0s,MS4.5
WALA Waterton Lakes 75.25 34 *e*P **P** **02 09 23.4 -0.4**
HRY Holter Researc 75.27 37 *e*P **P** **02 09 23.6 -0.3**
MDJ Mudanjiang 75.44 320 P **P** **02 09 25.5 +0.6**
MDJ XP sP 02 09 30.0 +0.6
MDJ PP PP 02 12 14.5 +0.6
MDJ S S 02 19 07.5 +2.4
MDJ SS SS 02 23 58.6 +3.2
MDJ AMB AMB
comp=Z,18nm,1.6s,mb4.8
MDJ AMB AMB
comp=Z,164nm,5.8s
MDJ LR LR
comp=Z,83nm,21.2s,MS4.0
MDJ Mudanjiang 75.44 320 *e*P **P** **02 09 25.2 +0.2**
comp=Z,5.4nm,0.5s,mb4.7
MDJ LR LR
comp=Z,169nm,19.0s,MS4.4
SDCO Great Sand Dun 75.58 48 PFAKE 02 09 40.0 +14
SDCO LR LR
comp=Z,323nm,21.0s,MS4.6
DAWY Dawson 75.75 13 *e*P **P** **02 09 26.2 -0.5**
RWWY Rawlins 75.95 43 *e*P **P** **02 09 27.6 -0.2**
EGAK Eagle 75.97 12 *e*P **P** **02 09 27.0 -1.0**
ISCO Idaho Springs 76.29 46 *e*P **P** **02 09 31.1 +1.3**
ISCO MLR MLR
comp=Z,200nm,20.0s,MS4.4
SSE Sheshan 76.34 305 P **P** **02 09 31.6 +1.5**
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,133nm,11.5s
PHWY Pilot Hill 76.99 44 *e*P **P** **02 09 33.8 0.0**
EGMT Eagleton 77.13 37 *e*P **P** **02 09 34.4 -0.1**
EGMT LR LR
comp=Z,254nm,22.0s,MS4.5
JCT Junction City 77.56 56 *e*P **P** **02 09 36.2 -0.8**
JCT pmax pmax
comp=Z,21nm,1.0s,mb5.0
JCT MLR MLR
comp=Z,279nm,19.0s,MS4.6
JCT Junction City 77.56 56 *e*P **P** **02 09 36.2 -0.8**
comp=Z,21nm,1.0s,mb5.0
JCT LR LR
comp=Z,279nm,19.0s,MS4.6
EDM Edmonton 77.75 31 *e*P **P** **02 09 37.0 -1.0**

CN2 Changchun 77.77 318 *e*P P 02 09 38.3 +0.2
CN2 *e*XP sP 02 09 45.3 +2.7
CN2 *e*S S 02 19 29.1 -1.5
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,17.0s,MS4.8
CN2 LR LR
comp=E,300nm,17.0s,MS4.8
CN2 LR LR
comp=Z,200nm,16.0s,MS4.5
BILL Bilibino 77.91 351 *e*P P 02 09 38.2 -0.7
BILL pmax pmax
comp=Z,26nm,1.3s,mb5.0
BILL Bilibino 77.91 351 P P 02 09 40.3 +1.4
comp=Z,6.0nm,0.4s,mb4.9
BILL LR LR
comp=Z,220nm,21.0s,MS4.5
SNY Shenyang 78.26 316 ⇑P P 02 09 41.4 +0.6
SNY AP pP 02 09 51.9 +7.7
SNY XP sP 02 09 55.8 +10
SNY S S 02 19 27.0 -8.9
SNY XS sS 02 19 51.4 +10
SNY AMB AMB
comp=Z,22nm,1.3s,mb4.9
SNY AMB AMB
comp=Z,150nm,2.7s,mb5.4
SNY LR LR
comp=E,201nm,5.8s
SNY LR LR
comp=Z,211nm,16.1s,MS4.6
DL2 Dalian 78.59 312 P P 02 09 43.7 +1.0
DL2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
LAO LASA Array 78.69 39 *e*P P 02 09 44.0 +0.8
LAO LR LR
comp=Z,109nm,20.0s,MS4.2
RSSD Black Hills 79.06 42 *e*P P 02 09 44.0 -1.2
RSSD pmax pmax
comp=Z,39nm,1.1s,mb5.2
RSSD Black Hills 79.06 42 *e*P P 02 09 44.0 -1.2
comp=Z,39nm,1.1s,mb5.2
WMOK Wichita Mounta 79.66 53 *e*P P 02 09 47.2 -1.3
WMOK MLR MLR
comp=Z,278nm,20.0s,MS4.6
KSM Kuching 79.85 273 *e*P P 02 09 49.0 -0.5
KSM *e* 02 09 59.8
INK Inuvik 80.60 13 *e*P P 02 09 52.8 -0.8
HKT Hockley 80.72 58 *e*P P 02 09 53.8 -0.4
HKT pmax pmax
comp=Z,33nm,1.3s,mb5.1
HKT MLR MLR
comp=Z,341nm,20.0s,MS4.7
HKT Hockley 80.72 58 *e*P P 02 09 53.8 -0.4
comp=Z,33nm,1.3s,mb5.1
HKT LR LR
comp=Z,341nm,20.0s,MS4.7
QSPA South Pole Qui 81.77 180 *e*P P 02 09 58.5 -1.3
comp=Z,13nm,1.1s,mb4.8
QSPA LR LR
comp=Z,2.0nm,21.0s
WHN Wuhan 81.83 302 P P 02 10 01.0 +0.9
NATX Nacogdoches 82.15 56 *e*P P 02 10 01.3 -0.5
comp=Z,34nm,1.1s,mb5.2
YKA Yellowknife Ar 82.30 23 P P 02 10 01.4 -1.2
comp=Z,18nm,0.9s,mb5.0,baz=237,slow=5.1,SNR=55
YKA LR LR 02 39 42.6
comp=Z,191nm,21.0s,MS4.4,baz=205,slow=31
YKA Yellowknife Ar 82.30 23 P P 02 10 01.4 -1.2
YKA pmax pmax
comp=Z,18nm,0.9s
YKW3 Yellowknife Ar 82.34 23 *e*P P 02 10 01.7 -1.0
KSU1 Kansas State U 82.61 49 *e*P P 02 10 03.4 -0.8
BJT Baijiatuau 82.95 312 *e*P P 02 10 05.0 -1.0
BJT pmax pmax
comp=Z,20nm,1.0s
BJT MLR MLR
comp=Z,202nm,21.0s
BJT Baijiatuau 82.95 312 *e*P P 02 10 05.0 -1.0
comp=Z,20nm,1.0s,mb5.1
BJT LR LR
comp=Z,202nm,21.0s,MS4.5
BJI Beijing 82.95 312 P P 02 10 03.6 -2.4
BJI AMB AMB
comp=Z,25nm,1.2s,mb5.1
QIZ Qiongzhong 83.30 290 PFAKE 02 10 20.0 +12
QIZ LR LR
comp=Z,169nm,22.0s,MS4.4
HIA Hailar 83.49 322 *e*P P 02 10 08.0 -0.8
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA MLR MLR
comp=Z,129nm,19.0s
HIA Hailar 83.49 322 *e*P P 02 10 08.0 -0.8
comp=Z,10nm,1.0s,mb4.8
HIA LR LR
comp=Z,129nm,19.0s,MS4.3
YAK Yakutsk 83.86 336 *e*P P 02 10 08.3 -2.4
YAK pmax pmax
comp=Z,14nm,0.9s,mb5.1
YAK MLR MLR
comp=Z,93nm,20.0s,MS4.2
YAK Yakutsk 83.86 336 *e*P P 02 10 08.3 -2.4
comp=Z,14nm,0.9s,mb5.1
YAK LR LR
comp=Z,93nm,20.0s,MS4.2
ECSD EROS,Sioux Fal 83.96 44⇑*e*P P 02 10 09.7 -1.5
FFC Flin Flon 84.41 33 *e*P P 02 10 10.9 -2.5
FFC pmax pmax
comp=Z,28nm,1.6s,mb5.1
FFC MLR MLR
comp=Z,74nm,19.0s,MS4.1
FFC Flin Flon 84.41 33 *e*P P 02 10 10.9 -2.5
comp=Z,28nm,1.6s,mb5.1
FFC LR LR
comp=Z,74nm,19.0s,MS4.1
UALR University of 84.77 54 *e*P P 02 10 15.2 -0.1
TEIG Tepich 85.28 69 *e*P P 02 10 17.5 -0.3
comp=Z,34nm,1.6s,mb5.2
TEIG LR LR
comp=Z,103nm,20.0s,MS4.2
ENH Enshi 85.85 301 PFAKE 02 10 30.0 +9.3
ENH LR LR
comp=Z,27nm,20.0s,MS3.6
ULM Lac du Bonnet 86.39 38 P P 02 10 21.5 -1.9
comp=Z,8.0nm,1.1s,mb4.9,baz=239,slow=4.5,SNR=7.6
ULM Lac du Bonnet 86.39 38 P P 02 10 21.5 -1.9
ULM LR LR
comp=Z,574nm,21.0s,MS5.0
HHC Hu-ho-hao-te 86.56 312 *e*P P 02 10 24.7 +0.5
HHC PP PP 02 13 51.8 +5.9
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,145nm,5.9s
HHC LR LR
comp=N,112nm,6.1s
HHC LR LR
comp=E,246nm,6.9s
HHC LR LR
comp=Z,131nm,5.7s
XAN Xi'an 87.10 305 P P 02 10 28.0 +1.2
XAN SP 02 10 37.1
XAN AMB AMB
comp=Z,40nm,1.3s,mb5.5
GYA Guiyang 87.56 297⇑*i*P P 02 10 31.1 +2.0
GYA AP pP 02 10 35.9 +3.5
GYA XP sP 02 10 38.1 +4.5
GYA PP PP 02 14 01.3 +7.3
GYA SKS 02 20 57.4
GYA S S 02 21 14.5 +4.0
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,190nm,3.6s
GYA LR LR
comp=N,540nm,18.9s,MS5.1
GYA LR LR
comp=E,460nm,19.0s,MS5.1
GYA LR LR
comp=Z,450nm,19.4s,MS4.9
JFWS Jewell Farm 88.23 46 *e*P P 02 10 30.6 -1.7
JFWS MLR MLR
comp=Z,302nm,21.0s,MS4.7

PLAL Pickwick Lake 88.24 54 PFAKE 02 10 40.0 +7.7
PLAL LR LR
comp=Z,297nm,19.0s,MS4.7
WVT Waverly 88.66 53 *e*P P 02 10 32.7 -1.6
WVT pmax pmax
comp=Z,12nm,1.3s,mb5.1
WVT MLR MLR
comp=Z,285nm,19.0s,MS4.7
WVT Waverly 88.66 53 *e*P P 02 10 32.7 -1.6
comp=Z,12nm,1.3s,mb5.0
WVT LR LR
comp=Z,285nm,19.0s,MS4.7
LRAL Lakeview Retre 88.75 57 PFAKE 02 10 50.0 +15
LRAL LR LR
comp=Z,275nm,19.0s,MS4.7
TIXI Tiksi 89.01 344 PFAKE 02 10 50.0 +14
TIXI LR LR
comp=Z,258nm,19.0s,MS4.7
BOD Bodaibo 89.45 329 *e*P P 02 10 35.9 -2.1
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
FCC Fort Churchill 89.84 30 *e*P P 02 10 38.6 -1.2
KULM Kulim 89.94 275 *e*P P 02 10 41.8 +1.5
WCI Wyandotte Cave 90.25 52 *e*P P 02 10 39.8 -1.9
WCI pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
WCI MLR MLR
comp=Z,237nm,22.0s,MS4.6
WCI Wyandotte Cave 90.25 52 *e*P P 02 10 39.8 -2.0
comp=Z,4.0nm,0.7s,mb4.9
WCI LR LR
comp=Z,237nm,22.0s,MS4.6
CD2 Chengdu 90.83 301 *e*P P 02 10 43.4 -1.0
CD2 AP pP 02 10 48.2 +0.5
CD2 XP sP 02 10 50.5 +1.6
CD2 PP PP 02 14 21.9 +1.9
CD2 SKS 02 21 12.4
CD2 S S 02 21 37.4 -3.7
CD2 SS SS 02 27 44.8 +1.4
CD2 AMB AMB
comp=Z,10.0nm,1.1s,mb5.1
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=E,100nm,16.8s
CD2 LR LR
comp=Z,110nm,15.6s,MS4.4
KMI Kunming 90.83 295 P P 02 10 45.9 +1.5
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb5.0
ULN Ulaanbaatar 91.22 318⇑*i*P P 02 10 45.6 -0.6
ULN Ulaanbaatar 91.22 318 *e*P P 02 10 46.4 +0.2
ULN LR LR
comp=Z,150nm,20.0s,MS4.4
PSI Prapat 91.29 273 P P 02 10 45.6 -1.0
comp=Z,13nm,1.0s,mb5.2,baz=126,slow=5.1,SNR=10
NNA Nana 91.54 102 *e*P P 02 10 47.5 -0.2
comp=Z,47nm,1.5s,mb5.6
LZH Lanzhou 91.56 306 *e*P P 02 10 49.7 +1.9
LZH AP pP 02 10 52.7 +1.5
LZH XP sP 02 10 54.6 +2.2
LZH PP PP 02 14 30.8 +4.9
LZH *e*SKS 02 21 20.0
LZH *e*S S 02 21 49.0 +1.2
LZH XS sS 02 21 54.0 +0.6
LZH SS SS 02 28 00.0 +6.0
LZH AMB AMB
comp=Z,52nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,135nm,4.0s
LZH LR LR
comp=E,479nm,18.5s
LZH LR LR
comp=Z,788nm,19.7s,MS5.2
SONM Songino Array 91.65 318 P P 02 10 48.1 -0.1
comp=Z,4.3nm,0.9s,mb4.8,baz=122,slow=3.5,SNR=21
SONM PP PP 02 14 25.3 -1.3
comp=Z,1.4nm,1.1s,baz=89,slow=7.2,SNR=4.2
DWPF Disney 92.71 62 PFAKE 02 11 00.0 +6.9
DWPF LR LR
comp=Z,131nm,19.0s,MS4.4
AAM Ann Arbor 92.90 48 PFAKE 02 11 10.0 +16
AAM LR LR
comp=Z,231nm,19.0s,MS4.7
ACSO Alum Creek Sta 93.11 50 PFAKE 02 11 10.0 +15
ACSO LR LR
comp=Z,216nm,20.0s,MS4.6
CHTO Chiang Mai 93.45 288 PFAKE 02 11 10.0 +13
CHTO LR LR
comp=Z,64nm,19.0s,MS4.1
TLY Talaya 94.03 321 *e*P P 02 10 59.7 +0.5
TLY *e* 02 11 13.8
TLY pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
TLY Talaya 94.03 321 *e*P P 02 10 58.5 -0.7
TLY LR LR
comp=Z,26nm,20.0s,MS3.7
ZAK Zakamensk 94.08 320 *e*P P 02 10 58.7 -0.7
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
BLA Blacksburg 94.71 53 PFAKE 02 11 10.0 +7.7
BLA LR LR
comp=Z,22nm,20.0s,MS3.6
GTA Gaotai 95.17 309 *e*P P 02 11 05.5 +1.1
GTA AP pP 02 11 10.4 +2.6
GTA XP sP 02 11 13.3 +4.3
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb5.0
MCWV Mont Chateau 95.43 51 PFAKE 02 11 20.0 +14
MCWV LR LR
comp=Z,359nm,19.0s,MS4.9
MAW Mawson 95.55 198 LR LR 02 47 15.3
comp=Z,155nm,21.9s,MS4.4,baz=100,slow=31
ERPA Erie 95.58 48 PFAKE 02 11 20.0 +14
ERPA LR LR
comp=Z,274nm,20.0s,MS4.7
MOY Mondy 95.67 321 *e*P P 02 11 06.6 -0.1
CBN Corbin 97.22 52 PFAKE 02 11 20.0 +6.3
CBN LR LR
comp=Z,390nm,21.0s,MS4.9
BINY Binghamton 98.56 49 PFAKE 02 11 30.0 +10
BINY LR LR
comp=Z,506nm,19.0s,MS5.0
LPAZ La Paz 99.13 108 LR LR 02 49 40.7
comp=Z,52nm,18.8s,MS4.1,baz=188,slow=32
NCB Newcomb 99.93 47 PFAKE 02 11 40.0 +14
NCB LR LR
comp=Z,450nm,19.0s,MS5.0
SDV Santo Domingo 100.59 82 PFAKE 02 11 40.0 +11
SDV LR LR
comp=Z,96nm,21.0s,MS4.3
HRV Harvard--Oak R 101.85 48 PFAKE 02 11 50.0 +16
HRV LR LR
comp=Z,535nm,21.0s,MS5.0
WES Weston 102.02 48 PFAKE 02 11 50.0 +15
WES LR LR
comp=Z,1μm,20.0s,MS5.4
SCHQ Schefferville 104.36 36 PFAKE 02 12 00.0 +14
SCHQ LR LR
comp=Z,257nm,20.0s,MS4.8
SJG San Juan 105.78 74 PFAKE 02 16 20.0 +15
SJG LR LR
comp=Z,83nm,19.0s,MS4.3
MKAR Makanchi Array 107.96 316 PKiKP PKiKP 02 16 09.6 +0.9
comp=Z,0.2nm,0.3s,baz=153,slow=0.6,SNR=3.9
MKAR PP PP 02 16 26.5 -4.0
comp=Z,0.3nm,0.2s,baz=72,slow=7.8,SNR=4.4
MKAR Makanchi Array 107.96 316 PKPdf PKiKP 02 16 09.6 +0.9
MKAR PP PP 02 16 26.5 -4.0
KBS Kingsbay 109.31 360 PFAKE 02 16 20.0 +8.8
KBS LR LR
comp=Z,120nm,19.0s,MS4.5
CHKZ Chkalovo 113.69 325 *e*PKiKP PKiKP 02 16 17.7 -1.8
BVAR Borovoye Array 114.03 325 PKP PKiKP 02 16 18.7 -1.5
comp=Z,1.3nm,0.7s,baz=114,slow=1.8,SNR=6.5
BRVK Borovoye 114.08 325 PFAKE 02 16 30.0 +10
BRVK LR LR
comp=Z,20nm,21.0s,MS3.7
AAK Ala-Archa 114.11 313 PFAKE 02 16 30.0 +10
AAK LR LR
comp=Z,26nm,19.0s,MS3.9
ZRNK Zerenda 114.84 325 *e*PKiKP PKiKP 02 16 20.3 -1.4
SVE Sverdlovsk 117.56 331 *e*PKiKP PKPdf 02 16 25.0 -1.9
ARCES ARCESS Array B 117.92 354 PKP PKPdf 02 16 26.1 -1.5
comp=Z,1.8nm,0.7s,baz=323,slow=2.2,SNR=8.9

BDFB Brasilia 118.00 113 PKP PKPdf 02 16 26.1 -1.6
comp=Z,1.0nm,0.4s,baz=245,slow=18,SNR=3.1
ARU Arti 118.75 332 *i* PKiKP PKPdf 02 16 26.8 -2.4
ARU *e* 02 17 44.7
ARU *e*PPP 02 20 16.9
ARU *e* 02 23 11.3
ARU Arti 118.75 332 *e*PKPdf PKPdf 02 16 27.5 -1.8
ARU LR LR
comp=Z,43nm,20.0s,MS4.1
AKTK Aktyubinsk 122.10 326 PKP PKPdf 02 16 33.8 -1.9
AKTO Aktyubinsk 122.10 326 PKP PKPdf 02 16 33.8 -1.9
comp=Z,2.9nm,0.9s,baz=306,slow=3.9,SNR=7.8
JOF Joensuu 123.23 348 *e*pkp PKPdf 02 16 35.0 -2.8
KAF Kangasniemi 124.88 351 *e*pkp PKPdf 02 16 36.6 -4.4
FINES FINESS Array B 125.55 350 PKP PKPdf 02 16 38.7 -3.6
comp=Z,3.4nm,0.9s,baz=50,slow=6.0,SNR=8.6
FINES FINESS Array B 125.55 350 PKP PKPdf 02 16 38.7 -3.6
NB2 NORSAR Subarra127.29 359 PKPd PKPdf 02 16 44.4 -1.2
comp=Z,5.1nm,1.2s,baz=1.5,slow=2.0
NOA NORSAR Array B127.29 359 PKP PKPdf 02 16 44.3 -1.3
comp=Z,2.2nm,0.9s,baz=13,slow=4.1,SNR=4.5
HFS Hagfors 128.13 358 PKP PKPdf 02 16 46.0 -1.2
comp=Z,4.4nm,0.9s,baz=186,slow=1.4,SNR=5.0
OBN Obninsk 128.63 341 *i* PKiKP PKPdf 02 16 47.3 -0.9
OBN pmax pmax
comp=Z,17nm,1.2s
OBN Obninsk 128.63 341 *e*PKP PKPdf 02 16 47.4 -0.8
OBN LR LR
comp=Z,27nm,19.0s,MS4.0
KIV Kislovodsk 134.34 327 *e*PKiKP PKPdf 02 16 57.7 -1.3
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 134.34 327 PFAKE 02 17 10.0 +11
KIV LR LR
comp=Z,26nm,19.0s,MS4.0
AKASG Malin Array Be 134.71 343 PKP PKPdf 02 16 57.8 -1.9
comp=Z,2.6nm,0.8s,baz=20,slow=2.3,SNR=11
CLL Collm 136.98 357 *e*PKPdf PKPdf 02 17 03.1 -0.8
CLL Collm 136.98 357 *i* PKPdf PKPdf 02 17 03.3 -0.6
comp=Z,15nm,1.5s
KWP Kalwaria 137.35 348 *e*PKiKP PKPdf 02 17 05.5 +0.9
BRG Berggiesshubel 137.35 356 *e*PKP PKPdf 02 17 03.9 -0.6
comp=Z,3.5nm,1.2s
MOX Moxa 137.69 358 *e*PKPdf PKPdf 02 17 04.6 -0.6
STHS Stebnicka Huta 137.85 349 *e*PKP PKPdf 02 17 07.7 +2.2
TANN Tannenbergstha 137.89 357 *e*PKPdf PKPdf 02 17 05.1 -0.5
MORC Moravsky Berou 138.09 353 *e*PKiKP PKPdf 02 17 07.3 +1.4
KOLS Kolonicke sedl 138.10 348 *e*PKP PKPdf 02 17 05.9 -0.1
CRVS Cervenica-Dubn 138.30 348 *e*PKP PKPdf 02 17 05.7 -0.6
MANZ Manzenberg 138.34 358 *e*PKPdf PKPdf 02 17 05.8 -0.6
UZH Uzhgorod 138.38 348⇑*i*PKiKP PKPdf 02 17 06.3 -0.2
UZH *e* 02 17 20.3
GRA1 Grafenberg Arr 138.66 359 *e*PKPdf PKPdf 02 17 06.1 -0.9
GRF Grafenberg Arr 138.66 359 *e*PKPdf PKPdf 02 17 06.1 -0.9
KHC Kasperske Hory 139.11 356 *i* PKiKP PKPdf 02 17 07.6 -0.2
KHC Kasperske Hory 139.11 356 *e*PKP PKPdf 02 17 07.7 -0.1
VYHS Vyhne 139.16 351 *e*PKP PKPdf 02 17 09.5 +1.6
GEC2 GERESS Array S 139.39 356 *e*PKPdf PKPdf 02 17 06.2 -2.1
GERES GERESS Array B 139.39 356 PKP PKPdf 02 17 07.1 -1.2
comp=Z,0.9nm,0.7s,baz=318,slow=1.8,SNR=7.6
PSZ Piszkesteto 139.54 350 *e*PKiKP PKPdf 02 17 08.2 -0.4
STU Stuttgart 139.59 1 *e*PKPdf PKPdf 02 17 08.4 -0.3
STU Stuttgart 139.59 1 *e*PKPdf PKPdf 02 17 09.4 +0.7
BFO Black Forest 140.02 2 *e*PKPdf PKPdf 02 17 05.8 -3.7
MLR Muntele Rosu 140.35 342 PKP PKPdf 02 17 08.8 -1.2
comp=Z,2.1nm,0.8s,baz=270,slow=8.1,SNR=3.1
MALT Malatya 140.49 324 *e*PKiKP PKPdf 02 17 05.9 -4.4
LBL Lubilhac 142.70 8 PKP PKPdf 02 17 10.7 -3.6
CAF Calviac 142.83 9 *e*PKP1 PKPdf 02 17 12.6 -1.9
PCAB Cabril 143.10 22 *e*PKPdf PKPdf 02 17 15.9 +0.9
BNI Bardonecchia 143.22 4 *e*PKiKP PKPdf 02 17 12.9 -2.3
ORIF Oris-en-Rattie 143.29 5 *e*PKP1 PKPdf 02 17 12.3 -3.0
comp=Z,14nm,0.9s
PBRG Braganca 143.49 21 *e*PKPdf PKPdf 02 17 12.4 -3.3
MBDF Montbardon 143.54 4 *e*PKP1 PKPdf 02 17 13.0 -2.8
comp=Z,20nm,1.0s
SURF Saint Ours 143.79 4 PKP PKPdf 02 17 14.5 -1.7
PLD Plovdiv 143.80 341 *e*P PKPdf 02 17 13.7 -2.5
VTS Vitosha 143.81 343 *e*P PKPdf 02 17 14.3 -1.9
VTS Vitosha 143.81 343 *e*P PKPdf 02 17 14.0 -2.2
KDZ Kurdzhali 143.97 340 *e*P PKPdf 02 17 15.0 -1.5
PVIS Viseu 144.01 23 *e*PKPdf PKPdf 02 17 14.4 -2.2
PLE Pljevlja 144.05 348⇑*i*PKP PKPdf 02 17 14.2 -2.4
SMRF Simiane la Rot 144.20 5⇑*i*PKP1 PKPdf 02 17 15.5 -1.4
comp=Z,98nm,1.3s
STOF St-Etienne Org 144.21 5 PKP PKPdf 02 17 14.9 -2.0
VLC Villacollemand 144.21 359 *e*PKPdf PKPdf 02 17 14.2 -2.8
UPM Unac-Piva 144.27 349⇑*i*PKP PKPdf 02 17 13.4 -3.6
TOUF Mont Tournerai 144.28 3 PKP PKPdf 02 17 15.5 -1.6
AUTN L'Aution 144.31 3 PKP PKPdf 02 17 15.6 -1.5
AUTN L'Aution 144.31 3 PKP PKPdf 02 17 15.5 -1.6
AUTN L'Aution 144.31 3 PKP PKPdf 02 17 15.5 -1.6
SAOF Saorge 144.33 3 PKP PKPdf 02 17 15.4 -1.7
PRAF Pradon 144.33 6 PKP PKPdf 02 17 15.6 -1.5
VILF Villemus 144.33 5 PKP PKPdf 02 17 15.6 -1.5
EPF Esparros 144.35 12 *e*PKP1 PKPdf 02 17 14.4 -2.8
comp=Z,40nm,1.4s
IVA Berane 144.38 347 *e*PKP PKPdf 02 17 15.4 -1.8
MVIF Mont Vial 144.40 3 PKP PKPdf 02 17 15.6 -1.6
MTLF Montolieu 144.40 10 *e*PKP1 PKPdf 02 17 15.4 -1.8
comp=Z,86nm,1.3s
LUCF Luceram 144.41 3 PKP PKPdf 02 17 15.5 -1.8
ALN Alexandroupoli 144.42 339 *e*P PKPdf 02 17 15.2 -2.1
SBF Sospel 144.44 3⇑*i*PKP1 PKPdf 02 17 15.3 -2.0
comp=Z,94nm,1.0s
KKB Krupnik 144.51 343 *e*P PKPdf 02 17 16.0 -1.4
TREF Trevaresse 144.53 6 PKP PKPdf 02 17 16.3 -1.2
RESF Ens 144.56 12 PKP PKPdf 02 17 16.5 -1.0
REVF Revere 144.56 3 PKP PKPdf 02 17 15.7 -1.8
MLS Moulis 144.57 11 PKP PKPdf 02 17 15.6 -1.9
MMB Musomiste 144.57 342 *e*P PKPdf 02 17 16.2 -1.4
MMB Musomiste 144.57 342 *e*P PKPdf 02 17 16.0 -1.6
TAVF Tavernes 144.60 5 PKP PKPdf 02 17 16.5 -1.1
NKY Niksic 144.62 348 *e*PKP PKPdf 02 17 15.6 -2.0
PVY Plav 144.63 347⇑*i*PKP PKPdf 02 17 16.1 -1.6
BRY Bratogost 144.63 349⇑*i*PKP PKPdf 02 17 15.6 -2.0
EBIE Bielsa 144.64 12 PKP PKPdf 02 17 16.2 -1.5
PUYF Puyloubier 144.65 5 PKP PKPdf 02 17 17.0 -0.7
FRF La Foret Royal 144.70 4⇑*i*PKP1 PKPdf 02 17 16.3 -1.5
comp=Z,133nm,1.2s
PTOM Tomar 144.73 25 *e*PKPdf PKPdf 02 17 16.4 -1.4
GELF Grande-Etoile 144.77 6 PKP PKPdf 02 17 16.8 -1.1
LRDF Laroque-de-Fa 144.84 9 PKP PKPdf 02 17 17.1 -0.9
SKO Skopje 144.86 345 *i* P PKPdf 02 17 17.6 -0.5
BERF Bertagne 144.87 5 PKP PKPdf 02 17 17.7 -0.4
PMAFR Mafra 144.91 26 *e*PKPdf PKPdf 02 17 17.6 -0.5
LMR La Mourre 144.91 4⇑*i*PKP1 PKPdf 02 17 17.1 -1.0
comp=Z,186nm,1.3s
PCBR Castelo Branco 144.92 23 *e*PKPdf PKPdf 02 17 16.8 -1.4
STIP Stip 144.92 344 *e*P PKPdf 02 17 16.9 -1.3
STIP Stip 144.92 344 *i* P PKPdf 02 17 16.6 -1.6
TTG Podgorica 144.94 348⇑*i*PKP PKPdf 02 17 16.9 -1.3
CARF Carcanieres 144.99 10 PKP PKPdf 02 17 17.4 -0.9
SRS Serrai 145.04 342 *e*P PKPbc 02 17 16.7 -1.1
HCY Herceg Novi 145.07 349⇑*i*PKP PKPdf 02 17 16.5 -1.9
BHL Bhannes 145.09 321 *e*P PKPbc 02 17 18.4 +0.5
ISP Isparta 145.09 331 *e*P PKPbc 02 17 17.6 -0.3
ISP Isparta 145.09 331 *e*PKPbc PKPbc 02 17 17.7 -0.2
BUM Brajici-Budva 145.14 348⇑*i*PKP PKPdf 02 17 17.4 -1.1
VAY Valandovo 145.16 343 *e*P PKPbc 02 17 16.3 -1.8
VAY Valandovo 145.16 343 *i* P PKPbc 02 17 17.1 -1.0
VALF Valcebollere 145.28 10 PKP PKPdf 02 17 18.7 -0.1
EJON La Jonquera 145.37 9 PKP PKPdf 02 17 17.6 -1.3
SOH Sokhos 145.38 342 *e*P PKPbc 02 17 17.7 -1.2
ULC Ulcinj 145.39 348⇑*i*PKP PKPdf 02 17 17.1 -1.8
GUD Guadarrama 145.40 19 PKiKP PKPdf 02 17 18.5 -0.5
ESAC San Caprasio 145.42 14 PKP PKPdf 02 17 18.9 -0.1
KRUS Krusevo 145.48 345 *i* P PKPdf 02 17 19.0 -0.1
GRG Griva 145.55 343 *e*P PKPdf 02 17 18.6 -0.7
OUR Ouranopolis 145.63 341 *e*P PKPdf 02 17 18.6 -0.8
PESTR Estremoz 145.71 25 *e*PKPdf PKPdf 02 17 19.5 0.0
CSS Prodhromos 145.76 324 *e*PKPdf PKPdf 02 17 20.0 +0.4
BIA Bitola 145.79 344 *i* P PKPdf 02 17 18.5 -1.1
OHR Ohrid 145.84 345 *e*P PKPdf 02 17 19.5 -0.2
OHR Ohrid 145.84 345 *i* P PKPdf 02 17 19.4 -0.3
TIR Tirane 145.84 346 *e*P PKPdf 02 17 13.7 -6.0
FNA Florina 145.99 344 *e*P PKPdf 02 17 19.9 -0.1
EBAD Badajoz 146.03 24 PKP PKPdf 02 17 19.5 -0.6
PAIG Paliouri 146.09 341 *e*P PKPdf 02 17 19.4 -0.7
EPOB Poblet 146.11 12 PKP PKPdf 02 17 19.3 -0.9
PBEJ Beja 146.30 26 *e*PKPdf PKPdf 02 17 21.9 +1.4
LIT Litokhoron 146.31 342 *e*P PKPdf 02 17 20.1 -0.4

ERTA	**Horta de San J**	**146.33**	**13**	PKP	PKPdf	02 17 20.4	-0.2
ESDC	**Sonseca Array**	**146.34**	**19**	PKPbc	PKPbc	02 17 20.9	-0.9
	comp=Z,16nm,0.9s,baz=330,slow=3.2,SNR=89						
ESDC				PP	PP	02 20 44.0	-0.3
	comp=Z,0.6nm,0.8s,baz=328,slow=5.5,SNR=4.3						
ESDC	**Sonseca Array**	**146.34**	**19**	PKP	PKPdf	02 17 21.0	+0.4
CHOS	**Chios island**	**146.60**	**336**	*e*P	PKPdf	02 17 21.9	+0.9
EMOS	**Mosqueruela**	**146.71**	**14**	PKP	PKPdf	02 17 22.4	+1.2
AOS	**Alonnisos**	**146.71**	**340**	*e*P	PKPdf	02 17 21.6	+0.4
EGRO	**El Granado**	**146.88**	**26**	PKP	PKPdf	02 17 23.1	+1.6
MEV	**Metsovon**	**146.96**	**344**	*e*P	PKPbc	02 17 23.9	+0.3
EMIN	**Mina Concepcio**	**147.02**	**24**	PKP	PKPdf	02 17 21.9	+0.2
AGG	**Agios Georgios**	**147.35**	**342**	*e*P	PKPdf	02 17 23.3	+1.0
IGT	**Igoumenitsa**	**147.44**	**345**	*e*P	PKPdf	02 17 24.3	+1.9
EADA	**Adamuz**	**147.48**	**21**	PKP	PKPdf	02 17 22.6	+0.1
EVIA	**Vianos**	**147.75**	**18**	PKP2	PKPbc	02 17 25.9	+0.1
EBAN	**Banos Encina**	**147.76**	**20**	PKP2	PKPbc	02 17 25.4	-0.4
ETOB	**Tobarra**	**148.03**	**17**	PKP	PKPbc	02 17 25.4	-1.2
CCAN	**Las Canadas**	**148.11**	**48**	PKP	PKPbc	02 17 27.9	+1.2
ESPR	**Espera**	**148.12**	**24**	PKP	PKPdf	02 17 25.2	+1.6
ELUQ	**Luque**	**148.13**	**22**	PKIKP	PKPdf	02 17 24.0	+0.4
LKD	**Levkas**	**148.13**	**344**	*e*P	PKPbc	02 17 26.5	-0.3
EIL	**Elat**	**148.22**	**315**	*e*PKPdf	PKPdf	02 17 23.3	-0.4
EIL				*e*PKPbc	PKPbc	02 17 27.3	+0.3
EQES	**Quesada**	**148.33**	**20**	PKP	PKPbc	02 17 26.2	-1.1
EHUE	**Huescar**	**148.47**	**19**	PKP2	PKPbc	02 17 27.4	-0.3
ELOJ	**Sierra Loja**	**148.54**	**22**	PKP2	PKPbc	02 17 27.6	-0.3
ECOG	**Cogollos-Vega**	**148.63**	**21**	PKP2	PKPbc	02 17 27.7	-0.4
EJIF	**Jimena Fronter**	**148.64**	**24**	PKIKP	PKPdf	02 17 25.3	+0.9
ERON	**Agron**	**148.78**	**21**	PKP	PKPbc	02 17 28.1	-0.4
EMIJ	**Mijas**	**148.82**	**23**	PKP	PKPbc	02 17 27.2	-1.4
EMUR	**La Murta**	**148.86**	**17**	PKP	PKPbc	02 17 27.2	-1.5
VSL	**Villasalto**	**148.87**	**1**	*e*PKPbc	PKPbc	02 17 26.8	-1.9
EBER	**Berja**	**149.21**	**20**	PKP	PKPbc	02 17 28.2	-1.3
ENIJ	**Nijar**	**149.37**	**19**	PKP2	PKPbc	02 17 28.5	-1.5
LSZ	**Lusaka**	**150.40**	**218**	*e*PKIKP	PKPbc	02 17 33.1	+0.6
KMBO	**Kilima Mbogo**	**151.13**	**252**	PKPbc	PKPbc	02 17 35.9	+1.7
	comp=Z,10nm,0.9s,baz=77,slow=4.0,SNR=3.1						
KMBO	**Kilima Mbogo**	**151.13**	**252**	PKIKP	PKPbc	02 17 35.9	+1.7
KMBO				pmax	pmax		
	comp=Z,11nm,0.9s						
TSUM	**Tsumeb**	**151.69**	**196**	*e*PKPbc	PKPbc	02 17 36.0	+0.5
KEST	**Kesra**	**152.62**	**1**	PKPbc	PKPbc	02 17 37.5	-0.1
	comp=Z,2.0nm,0.7s,baz=262,slow=2.2,SNR=9.5						
LIC	**Lamto**	**165.12**	**97**	*e*PKIKP	PKPdf	02 17 43.4	-1.9
	comp=Z,34nm,1.1s						
DBIC	**Dimbokro**	**165.35**	**95**	PKP	PKPdf	02 17 44.8	-0.7
	comp=Z,5.0nm,0.9s,baz=353,slow=2.9,SNR=6.7						
DBIC	**Dimbokro**	**165.35**	**95**	PKP	PKPdf	02 17 44.8	-0.7
DBIC				LR	LR		
	comp=Z,100nm,19.0s						
TOA0	**Torodi Ar. Sit**	**170.63**	**58**	*e*PKPdf	PKPdf	02 17 47.8	-1.3
TOA0				SKPdf	SKPdf	02 21 22.6	+2.3
TORD	**Torodi Ar. Bea**	**170.63**	**58**	PKP	PKPdf	02 17 48.0	-1.1
	comp=Z,5.0nm,0.9s,baz=333,slow=1.9,SNR=24						
TORD				PKPab	PKPab	02 19 06.0	-0.6
	comp=Z,4.0nm,1.2s,baz=306,slow=4.7,SNR=6.3						

*NEIC **03** 02:02:45.4, 5827N×13355W, h1km, ML2.9(AEIC), ML3.1(PGC), After PGC.*

PGC 03 02:02:45.4, 5827N×13355W, h1km, ML3.1/4, 51km southeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.51**	**323**	P	Pn	02 03 12.2	-1.4
SKAG				S	Sb	02 03 32.6	-1.3
SIT	**Sitka**	**1.54**	**219**	P	Pn	02 03 14.6	+0.5
SIT				S	Sn	02 03 37.5	+2.7
DLBC	**Dease Lake**	**1.86**	**83**	P	Pn	02 03 17.8	-0.7
DLBC				Pg	Pg	02 03 19.2	-2.0
DLBC				Sn	Sn	02 03 41.4	-1.2
DLBC				Sg	Sg	02 03 44.3	-1.0
DLBC				Trac		02 03 49.8	
	comp=Z,204nm,0.7s						
PLBC	**Pleasant Camp**	**1.89**	**310**	Pn	Pn	02 03 18.5	-0.3
PLBC				Pg	Pg	02 03 19.5	-2.2
PLBC				Sg	Sg	02 03 44.0	-2.0
WRAK	**Wrangell Islan**	**1.96**	**160**	*e*Pn	Pn	02 03 19.8	-0.1
WRAK				*e*Pg	Pg	02 03 25.2	+2.0
WRAK				*e*Sg	Sg	02 03 49.5	+0.9
WHY	**Whitehorse**	**2.49**	**345**	Pn	Pn	02 03 26.1	-1.0
WHY				Pg	Pg	02 03 30.6	-2.6
WHY				Sn	Sn	02 03 54.2	-3.9
WHY				Sg	Sg	02 04 00.1	-5.4
WHY				Trac		02 04 10.3	
	comp=Z,43nm,0.7s						
WHY	**Whitehorse**	**2.49**	**345**	P	Pn	02 03 24.7	-2.5
WHY				S	Sn	02 03 57.3	-0.9
CRAG	**Craig**	**2.82**	**175**	P	Pn	02 03 31.1	-0.5
HYT	**Haines Junctio**	**3.26**	**324**	Pn	Pn	02 03 37.6	-0.1
HYT				Pg	Pg	02 03 44.2	-3.7
HYT				Sg	Sg	02 04 26.6	-3.6
HYT				Trac		02 04 30.8	
	comp=Z,27nm,0.7s						
NDB	**Naden**	**4.34**	**175**	Sg	Sg	02 05 02.2	-2.5
NDB				Trac		02 05 20.2	
	comp=Z,19nm,0.9s						
RUBB	**Prince Rupert**	**4.36**	**154**	Pn	Pn	02 03 53.3	+0.6
RUBB				Sg	Sg	02 05 00.3	-5.1
RUBB				Trac		02 05 13.3	
	comp=Z,43nm,0.8s						
FNBB	**Fort Nelson**	**5.55**	**79**	Trac		02 05 51.9	
	comp=Z,17nm,0.9s						
FNBB	**Fort Nelson**	**5.55**	**79**	Sg	Sg	02 05 37.6	-6.1
FSB	**Fort Saint Jam**	**6.38**	**123**	Sg	Sg	02 06 05.4	-4.8
FSB				Trac		02 06 14.1	
	comp=Z,5.9nm,0.8s						
DAWY	**Dawson**	**6.46**	**337**	Pg	Pg	02 04 43.7	-5.6
DAWY				Sg	Sg	02 06 06.9	-6.2
DAWY				Trac		02 06 10.1	
	comp=Z,15nm,0.8s						
DAWY	**Dawson**	**6.46**	**337**	*e*Pn	Pn	02 04 21.1	-0.6
DAWY				*e*Pg	Pg	02 04 43.8	-5.5
DAWY				*e*Sg	Sg	02 06 08.9	-4.1
EGAK	**Eagle**	**7.47**	**334**	*e*Pn	Pn	02 04 35.5	0.0
EGAK				*e*Pg	Pg	02 05 02.1	-6.5
EGAK				*e*Sg	Sg	02 06 40.6	-4.7
KRMB	**Red Mountain**	**17.84**	**156**	*e*Pn	Pn	02 06 56.0	+1.1

SKHL 03 02:06:41.3±0.1, 5328N×13291E, h6km±2km, mb3.8/3, 1C, Felt (III) at Tokur, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**0.21**	**173**	⇑*i*Pg	Pg	02 06 45.4	-0.1
EKMR				AMB	AMB	02 06 45.9	
	380nm,0.2s						
EKMR				*e*Sg	Sg	02 06 48.4	+0.1
BMKR	**Bomnak**	**2.80**	**302**	*e*Pn	Pn	02 07 27.9	+1.3
BMKR				*e*Pg	Pg	02 07 31.5	-3.4
BMKR				AMB	AMB	02 07 34.6	
	7.0nm,0.4s						
BMKR				pPg		02 07 35.0	
BMKR				*e*Sn	Sn	02 08 00.5	-0.1
BMKR				*e*Sg	Sg	02 08 07.4	-3.7
BMKR				A		02 08 08.0	
	23nm,0.4s						
YASR	**Yasnyy**	**2.96**	**272**	*e*Pg	Pg	02 07 34.6	-3.4
YASR				pPg		02 07 36.1	
YASR				*e*Sg	Sg	02 08 13.6	-2.8
YASR				A		02 08 19.6	
	32nm,0.5s						
GRNR	**Gornyy**	**3.32**	**138**	*e*Pg	Pg	02 07 41.2	-3.7
GRNR				pPg		02 07 43.3	
GRNR				*e*Sg	Sg	02 08 25.0	-3.0
GRNR				A		02 08 25.5	
	46nm,0.2s						
KROS	**Kirovskiy**	**3.70**	**291**	*e*Pg	Pg	02 07 47.0	-5.2
KROS				AMB	AMB	02 07 49.6	
	4.0nm,0.5s						
KROS				*e*Sg	Sg	02 08 35.5	-4.7
KROS				A		02 08 42.4	
	13nm,0.6s						
KLR	**Kul'dur**	**4.12**	**191**	*e*Sg	Sg	02 08 48.5	-5.1

*NEIC **03** 02:34:22.5, 1526N×9302W, h100km, MD4.2(MEX), After MEX.*

MEX 03 02:34:22.2±0.5, 1519N×9301W, h81km±34km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.37**	**37**	*i* P	Pn	02 34 44.8	-1.1
CCIG				*i* S	Sn	02 35 02.0	-1.7
SCX	**San Cristobal**	**1.58**	**13**	*i* P	Pn	02 34 48.0	-0.5
SCX				*i* S	Sn	02 35 07.5	-0.9
CMIG	**Matias Romero**	**2.61**	**317**	*i* P	Pn	02 35 01.2	-1.1
CMIG				*i* S	Sn	02 35 31.7	-1.4
OXX	**Oaxaca**	**4.04**	**298**	*e*P	Pn	02 35 20.0	-1.6
OXX				*i* S	Sn	02 36 06.0	-1.7
VHO	**Vista Hermosa**	**4.04**	**298**	*e*P	Pn	02 35 20.6	-1.1
VHO				*i* S	Sn	02 36 07.6	-0.2
VHO	**Vista Hermosa**	**4.04**	**298**	*e*P	Pn	02 35 20.6	-1.1
VHO				*i* S	Sn	02 36 05.1	-2.7
SCIG	**Sabancuy, Camp**	**4.14**	**25**	*i* P	Pn	02 35 22.0	-1.0
SCIG				*i* S	Sn	02 36 07.2	-3.0
UTMO	**Huajuapan**	**5.30**	**300**	*i* S	Sn	02 36 37.1	-1.4

*MOS **03** 02:53:44.5±1.1, 5245N×15976E, h33km, mb4.3/1, Error ellipse: s-maj=30.5km s-min=11.5km az=82.7*

KRSC 03 02:53:47, 5269N×15961E, h38km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.48**	**31**	*i* P	Pn	02 53 57.8	+0.4
SPN				*i* S	Sn	02 54 05.2	+0.5
NLC	**Nalytchevo**	**0.51**	**342**	*e*P	Pn	02 53 58.4	+0.6
NLC				*i* S	Sn	02 54 06.4	+1.1
PET	**Petropavlovsk**	**0.67**	**300**	*e*P	Pn	02 54 00.3	+0.3
PET				*i* S	Sn	02 54 10.0	+0.7
RUS	**Russkaya**	**0.72**	**249**	*e*P	Pn	02 54 00.7	+0.1
RUS				*i* S	Sn	02 54 10.2	-0.2
AVH	**Avacha**	**0.78**	**318**	*e*P	Pn	02 54 02.4	+0.9
AVH				*i* S	Sn	02 54 13.0	+1.0
GRL	**Gorelyy**	**0.95**	**262**	*e*P	Pn	02 54 04.9	+1.1
GRL				*i* S	Sn	02 54 17.7	+1.6
KII	**Karymskiy**	**1.35**	**356**	*e*P	Pn	02 54 09.9	+0.6
KII				*i* S	Sn	02 54 26.3	+0.2
GNL	**Ganaly**	**1.42**	**316**	*e*P	Pn	02 54 11.4	+1.1
GNL				*i* S	Sn	02 54 29.0	+1.2
MIPR	**Malaya Ipel'ka**	**1.79**	**258**	*i* P	Pn	02 54 17.0	+1.6
MIPR				*i* S	Sn	02 54 38.0	+1.1
MKZ	**Mys Kozlova**	**2.26**	**33**	*e*P	Pn	02 54 21.3	-0.5
MKZ				*i* S	Sn	02 54 45.7	-2.7
TUMR	**Tumrok**	**2.62**	**7**	*e*P	Pn	02 54 28.5	+1.7
SKR	**Severo-Kuril's**	**2.96**	**229**	*e*PN	Pn	02 54 29.0	-2.5
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
KMNR	**Kamenistaya**	**3.09**	**7**	*e*P	Pn	02 54 36.1	+2.8
ALID	**Alaid**	**3.11**	**236**	P	Pn	02 54 37.4	+3.9
KPT	**Kopyto**	**3.30**	**6**	*e*P	Pn	02 54 38.2	+2.0
KOZ	**Kozyrevsk**	**3.38**	**3**	*e*P	Pn	02 54 39.2	+2.0
KOZR	**Kozyr**	**3.39**	**3**	PN	Pn	02 54 39.2	+1.9
ZLN	**Zelenaya**	**3.41**	**11**	*e*P	Pn	02 54 41.8	+4.2
ZLN				*i* S	Sn	02 55 21.0	+4.3
CIRR	**Tsirk**	**3.50**	**11**	*e*P	Pn	02 54 41.3	+2.5
CIRR				*i* S	Sn	02 55 20.6	+1.6
KRSR	**Krestovskiy**	**3.58**	**9**	P	Pn	02 54 42.5	+2.5
SRDR	**Sredinnyy**	**3.63**	**1**	*e*P	Pn	02 54 43.3	+2.6
KLY	**Klyuchi**	**3.68**	**9**	*e*P	Pn	02 54 45.0	+3.6
KBTR	**Krutoberegovo**	**3.99**	**27**	*e*P	Pn	02 54 48.6	+3.0
KBTR				*i* S	Sn	02 55 32.8	+1.6
BDR	**Baidarnaya**	**4.00**	**13**	P	Pn	02 54 49.9	+4.2
SMKR	**Semkarok**	**4.05**	**15**	*e*P	Pn	02 54 50.1	+3.7
SMKR				*i* S	Sn	02 55 36.2	+3.7
SRKR	**Sorokina**	**4.07**	**12**	*e*P	Pn	02 54 49.0	+2.2

IDC 03 03:00:50.7±88.0, 690S×11966E, h532km±263km, mb2.9/2, mb1 2.9/4, mb1mx2.6/16, mbtmp3.6/4, Error ellipse: s-maj=1126.0km s-min=162.9km az=144.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.57**	**153**	P	P	03 03 35.3	+0.3
	0.1nm,0.3s,baz=344,slow=11,SNR=11						
WRA	**Warramunga Arr**	**19.26**	**134**	P	P	03 04 41.0	+0.2
	0.2nm,0.3s,baz=309,slow=11,SNR=23						
ASAR	**Alice Springs**	**21.57**	**142**	P	P	03 05 01.8	0.0
	0.6nm,0.4s,baz=318,slow=8.2,SNR=19						
STKA	**Stephens Creek**	**32.19**	**143**	P	P	03 06 35.1	+0.3
	1.3nm,0.5s,baz=307,slow=10,SNR=3.8						

PGC 03 03:02:05.1, 5219N×10691W, h0km, MN3.0/7, Saskatchewan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDM	**Edmonton**	**4.05**	**287**	Pn	Pn	03 03 06.8	-1.6
EDM				Pg	Pg	03 03 17.9	-4.9
EDM				Sn	Sn	03 03 53.2	-3.3
EDM				Sg	Sg	03 04 11.6	-3.7
EDM				Trac		03 04 16.3	
	comp=Z,31nm,0.8s						
EDM				Trac		03 04 16.3	
	comp=Z,31nm,0.8s						
WALA	**Waterton Lakes**	**5.45**	**238**	Pg	Pg	03 03 42.6	-6.9
WALA				Sn	Sn	03 04 26.2	-4.6
WALA				Sg	Sg	03 04 54.8	-5.2
WALA				Trac		03 05 00.3	
	comp=Z,17nm,0.8s						
WALA				Trac		03 05 00.3	
	comp=Z,17nm,0.8s						
SLEB	**Sale Mountain**	**7.05**	**266**	Pg	Pg	03 04 10.9	-9.3
SLEB				Sg	Sg	03 05 45.0	-6.7
SLEB				Trac		03 06 03.4	
	comp=Z,10.0nm,0.7s						
SLEB				Trac		03 06 03.4	
	comp=Z,10.0nm,0.7s						
ULM	**Lac du Bonnet**	**7.20**	**101**	Pn	Pn	03 03 49.7	-1.8
ULM				Pg	Pg	03 04 16.4	-6.7
ULM				Sg	Sg	03 05 44.6	-12
ULM				Trac		03 05 55.7	
	comp=Z,7.0nm,0.6s						
ULM				Trac		03 05 55.7	
	comp=Z,7.0nm,0.6s						
DOWB	**Downie Slide**	**7.22**	**269**	Pn	Pn	03 03 51.1	-0.8
DOWB				Pg	Pg	03 04 15.2	-8.3
DOWB				Sg	Sg	03 05 49.7	-7.3
DOWB				Trac		03 05 58.5	
	comp=Z,32nm,0.5s						
DOWB				Trac		03 05 58.5	
	comp=Z,32nm,0.5s						
FSB	**Fort Saint Jam**	**10.67**	**289**	Trac		03 07 40.0	
	comp=Z,1.0nm,0.0s						
FSB				Trac		03 07 40.0	
	comp=Z,1.0nm,0.0s						
YKW3	**Yellowknife Ar**	**11.19**	**341**	P	Pn	03 04 44.2	-2.1
YKW3				S	Sn	03 06 40.7	-11
YKW3				Trac		03 06 42.6	
	comp=Z,6.0nm,0.8s						
YKW3				Trac		03 06 42.6	
	comp=Z,6.0nm,0.8s						

IDC 03 03:14:31.8±59.0, 2281S×17781W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/11, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=1087.0km s-min=159.4km az=86.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**25.12**	**298**	LR	LR	03 27 53.1	
	comp=Z,48nm,18.9s,baz=357,slow=32						
STKA	**Stephens Creek**	**37.00**	**247**	P	P	03 21 42.5	-0.5
	2.2nm,0.9s,baz=73,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**44.21**	**259**	P	P	03 22 42.8	+0.2
	0.7nm,0.7s,baz=98,slow=7.7,SNR=9.8						
WRA	**Warramunga Arr**	**44.51**	**264**	P	P	03 22 45.8	+0.9
	0.6nm,0.3s,baz=100,slow=8.3,SNR=38						

*NEIC **03** 03:36:25.5, 3430S×7265W, h45km, MD3.9(GUC), After GUC.*

GUC 03 03:36:25.5±0.8, 3430S×7265W, h45km±13km, MD3.9, ML3.5, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.08**	**72**	⇑*i*P	Pn	03 36 44.3	+0.2
LNV				*i* S	Sn	03 36 59.8	+1.8
LCCH	**Las Cruces**	**1.21**	**48**	⇑*i*P	Pn	03 36 46.2	+0.2
LCCH				*i* S	Sn	03 37 02.7	+1.5
NICH	**Los Niches**	**1.36**	**122**	*e*P	Pn	03 36 49.0	+0.9
NICH				*i* S	Sn	03 37 06.2	+1.3
TALC	**Talca**	**1.38**	**143**	⇑*i*P	Pn	03 36 48.0	-0.3
TALC				*i* S	Sn	03 37 06.1	+0.8
TALC				AML	AML	03 37 10.8	
	comp=E,2μm,0.5s						
TALC	**Talca**	**1.38**	**143**	⇑*i*P	Pn	03 36 48.0	-0.3
TALC				*i* S	Sn	03 37 06.1	+0.8
SFDO	**San Fernando**	**1.39**	**104**	*e*P	Pn	03 36 49.0	+0.6
SFDO				*i* S	Sn	03 37 07.0	+1.6
TACH	**Talagante**	**1.56**	**66**	*e*P	Pn	03 36 50.9	+0.2
TACH				*i* S	Sn	03 37 11.2	+1.5
CHCH	**Chadas Angostu**	**1.69**	**78**	⇓*i*P	Pn	03 36 53.6	+1.1
CHCH				*i* S	Sn	03 37 14.6	+1.6
CACH	**El Canelo**	**1.70**	**85**	⇑*i*P	Pn	03 36 54.4	+1.7
LNCH	**Linares**	**1.77**	**151**	*e*P	Pn	03 36 54.6	+1.0
LNCH				*i* S	Sn	03 37 15.9	+1.0
LNCH				AML	AML	03 37 21.0	
	comp=N,990nm,0.4s						
LNCH	**Linares**	**1.77**	**151**	*e*P	Pn	03 36 54.6	+1.0
LNCH				*i* S	Sn	03 37 15.9	+1.0
CICH	**Cipreses**	**1.84**	**91**	*e*P	Pn	03 36 56.0	+1.4
CICH				*e*S	Sn	03 37 20.4	+3.7
PCH	**Pirque**	**1.90**	**70**	*e*P	Pn	03 36 56.4	+1.1
ROCH	**El Roble**	**1.90**	**46**	*e*P	Pn	03 36 56.5	+1.1
CLCH	**Cerro Calan**	**1.97**	**64**	⇑*i*P	Pn	03 36 57.6	+1.2
CLCH				*i* S	Sn	03 37 21.3	+1.4
CLCH				AML	AML	03 37 35.0	
	comp=E,394nm,0.6s						
PEL	**Peldehue**	**2.00**	**55**	⇓*i*P	Pn	03 36 58.3	+1.6
PEL				*i* S	Sn	03 37 22.4	+1.9
PEL				AML	AML	03 37 40.3	
	comp=E,522nm,0.8s						
PEL	**Peldehue**	**2.00**	**55**	P	Pn	03 36 58.3	+1.6
PEL				*i* S	Sn	03 37 22.4	+1.9
FCH	**Farellones**	**2.19**	**64**	*e*P	Pn	03 37 00.8	+1.5
FCH				*i* S	Sn	03 37 28.1	+3.0
FCH				AML	AML	03 37 40.8	
	comp=N,161nm,0.6s						
CCHI	**Chillan**	**2.35**	**169**	*e*P	Pn	03 37 02.6	+1.1
CCHI				AML	AML	03 37 42.3	
	comp=E,374nm,0.4s						
JACH	**Jahuel**	**2.35**	**47**	*e*P	Pn	03 37 02.8	+1.2
LPAZ	**La Paz**	**18.39**	**14**	*e*P	Pn	03 40 39.0	+2.0
	comp=E,24nm,0.3s						

*ISCJB **03** 03:45:29.2±0.6, 4359N±0.02×1682E±0.02, h5km±4km, Error ellipse: s-maj=3.2km s-min=2.4km az=80.5*
*CSEM **03** 03:45:29.5±0.1, 4353N×1694E, h10km, MD3.1, Error ellipse: s-maj=2.2km s-min=1.2km az=106.0*
*ROM **03** 03:45:29.2±0.5, 4345N×1699E, h10km, Ml2.8/19, Error ellipse: s-maj=8.2km s-min=3.0km az=124.0*
*NEIC **03** 03:45:30.8, 4359N×1689E, h12km, MD3.1(PDG), ML2.7(BUC), ML2.8(ROM), After PDG.*
*PDG **03** 03:45:30.8±0.4, 4359N×1689E, h12km±1km*
*PRU **03** 03:45:43.6, 44.16N×1724E, h0km*

ISC 03 03:45:30.6±0.7, 4356N±0.02×1684E±0.02, h9km±5km, n87, σ1§36/129, 16C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**1.21**	**12**	P	**Pb**	**03 45 53.6**	**-0.2**
BLY				S	**Sb**	**03 46 10.2**	**+0.7**
TREB	**Trebinje**	**1.39**	**127**	P	**Pn**	**03 45 56.0**	**-0.3**
TREB				S	**Sb**	**03 46 14.6**	**-0.2**
BRY	**Bratogost**	**1.41**	**117**	⇓*i*Pg	**Pg**	**03 45 56.1**	**-1.7**
BRY				*e*Sg	**Sg**	**03 46 17.8**	**+1.7**
UPM	**Unac-Piva**	**1.56**	**103**	⇓*i*Pg	**Pg**	**03 45 59.4**	**-1.0**
UPM				*e*Sg	**Sg**	**03 46 21.0**	**+0.4**
HCY	**Herceg Novi**	**1.65**	**132**	⇓*i*Pn	**Pn**	**03 45 59.1**	**-0.7**
HCY				*e*Sn	**Sn**	**03 46 23.1**	**+1.8**
NVLJ	**Novalja**	**1.73**	**306**	⇓*i*Pn	**Pn**	**03 46 02.1**	**+1.1**
NVLJ				*i* Sn	**Sn**	**03 46 24.7**	**+1.5**
NKY	**Niksic**	**1.75**	**115**	*e*Pn	**Pn**	**03 46 01.6**	**+0.4**
NKY				*e*Sn	**Sn**	**03 46 25.7**	**+2.0**
NKY	**Niksic**	**1.75**	**115**	*e*Pn	**Pn**	**03 46 01.6**	**+0.4**
NKY				*e*Sn	**Sn**	**03 46 25.7**	**+2.0**
PLE	**Pljevlja**	**1.88**	**96**	⇓*i*Pn	**Pn**	**03 46 03.1**	**+0.2**
PLE				*e*Sn	**Sn**	**03 46 28.7**	**+1.9**
BBLS	**Bajina Basta -**	**1.89**	**80**	*i* Pn	**Pn**	**03 46 04.3**	**+1.2**
BBLS	**Bajina Basta -**	**1.89**	**80**	Pn	**Pn**	**03 46 04.3**	**+1.1**
SISC	**Sisak**	**1.94**	**350**	*e*Pn	**Pn**	**03 46 04.6**	**+0.8**
SISC				Sn	**Sn**	**03 46 30.6**	**+2.4**
FGMS	**Monte Sant'Ang**	**1.96**	**200**	Pn	**Pn**	**03 46 02.2**	**-2.0**
	34nm,0.2s						
BUM	**Brajici-Budva**	**1.97**	**129**	⇑*i*Pn	**Pn**	**03 46 04.0**	**-0.3**
BUM				*e*Sn	**Sn**	**03 46 31.6**	**+2.5**
MSAG	**Monte S. Angel**	**1.97**	**201**	Pn	**Pn**	**03 46 02.4**	**-1.9**
	154nm,0.5s						
SGRT	**San Giovanni R**	**1.98**	**204**	Pn	**Pn**	**03 46 02.4**	**-1.9**
	82nm,0.3s						
RGNG	**Rignano Grg**	**2.10**	**206**	Pn	**Pn**	**03 46 03.9**	**-2.1**
TTG	**Podgorica**	**2.11**	**122**	⇓*i*Pn	**Pn**	**03 46 07.1**	**+1.0**
TTG				*e*Sn	**Sn**	**03 46 34.8**	**+2.3**
BOJS	**Bojanci**	**2.25**	**330**	*i* Pn	**Pn**	**03 46 09.2**	**+1.2**
BOJS				*e*Sn	**Sn**	**03 46 37.4**	**+1.5**
BOJS							
	comp=Z,17nm,0.2s						
BOJS	**Bojanci**	**2.25**	**330**	*i* Pn	**Pn**	**03 46 09.2**	**+1.2**
BOJS				*e*Sn	**Sn**	**03 46 37.4**	**+1.5**
SJES	**Sjenica**	**2.28**	**96**	Pn	**Pn**	**03 46 08.8**	**+0.3**
IVA	**Berane**	**2.34**	**106**	⇑*i*Pn	**Pn**	**03 46 09.8**	**+0.4**
IVA				*e*Sn	**Sn**	**03 46 40.2**	**+1.9**
DIVS	**Divcibare**	**2.35**	**76**	*i* Pn	**Pn**	**03 46 09.2**	**-0.2**
DIVS				Sg	**Sn**	**03 46 36.9**	**-1.4**
ULC	**Ulcinj**	**2.39**	**131**	⇓*i*Pn	**Pn**	**03 46 10.4**	**+0.4**
ULC				*e*Sn	**Sn**	**03 46 42.4**	**+2.9**
GCIS	**Gornji Cirnik**	**2.46**	**340**	*i* Pn	**Pn**	**03 46 11.8**	**+0.9**
GCIS				*i* Sn	**Sn**	**03 46 41.2**	**+0.1**
GCIS							
	comp=Z,9.0nm,0.2s						
GCIS	**Gornji Cirnik**	**2.46**	**340**	*i* Pn	**Pn**	**03 46 11.8**	**+0.8**
GCIS				*i* Sn	**Sn**	**03 46 41.2**	**0.0**
VCEL	**Villa Celiera**	**2.49**	**243**	Pn	**Pn**	**03 46 10.9**	**-0.5**
	comp=Z,51nm,0.8s						
PVY	**Plav**	**2.50**	**112**	⇑*i*Pn	**Pn**	**03 46 12.8**	**+1.3**
PVY				*e*Sn	**Sn**	**03 46 44.2**	**+2.2**
RHK3	**Tenkes**	**2.54**	**23**	⇑*i*P	**Pn**	**03 46 11.5**	**-0.5**
RHK3				*e*S	**Sn**	**03 46 41.3**	**-1.7**
	comp=Z,0.8nm,0.1s						
TERO	**Teramo**	**2.55**	**249**	Pn	**Pn**	**03 46 12.0**	**-0.2**
	comp=Z,28nm,0.3s						
VISS	**Visnje**	**2.65**	**328**	*e*Pn	**Pn**	**03 46 15.1**	**+1.4**
CING	**Cingoli**	**2.66**	**267**	Pn	**Pn**	**03 46 13.3**	**-0.4**
	comp=Z,21nm,0.6s						
AMUR	**Altamura**	**2.66**	**184**	Pn	**Pn**	**03 46 11.3**	**-2.4**
SGTA	**Sant Agata di**	**2.66**	**205**	Pn	**Pn**	**03 46 12.6**	**-1.1**
	comp=Z,36nm,0.5s						
FGSL	**Fruska Gora**	**2.66**	**52**	Pn	**Pn**	**03 46 13.1**	**-0.7**
FGSL				Sg	**Sn**	**03 46 44.5**	**-1.7**
FAGN	**Fagnano**	**2.72**	**243**	Pn	**Pn**	**03 46 14.0**	**-0.5**
	comp=Z,81nm,0.4s						
NOCI	**Noci**	**2.78**	**176**	Pn	**Pn**	**03 46 13.1**	**-2.2**
	comp=Z,46nm,0.1s						
GRUS	**Gruza**	**2.83**	**82**	*i* Pn	**Pn**	**03 46 15.9**	**-0.2**
GRUS				Sg	**Sn**	**03 46 50.0**	**-0.3**
VAGA	**Valle Agricola**	**2.88**	**223**	Pn	**Pn**	**03 46 16.9**	**+0.1**
	comp=Z,20nm,0.5s						
VVLD	**Villa Vallelon**	**2.91**	**236**	Pn	**Pn**	**03 46 16.3**	**-0.8**
	comp=Z,37nm,1.0s						
PKSM	**Moragy**	**2.94**	**25**	⇑*i*P	**Pn**	**03 46 17.0**	**-0.6**
PKSM	**Moragy**	**2.94**	**25**	S	**Sn**	**03 46 50.2**	**-2.9**
PKSM	**Moragy**	**2.94**	**25**	⇑P	**Pn**	**03 46 17.0**	**-0.6**
PKSM				S	**Sn**	**03 46 50.2**	**-2.9**
PKSM	**Moragy**	**2.94**	**25**	⇑*e*Pn	**Pn**	**03 46 16.9**	**-0.7**
PKSM				*e*Sn	**Sn**	**03 46 50.3**	**-2.8**
MRLC	**Muro Lucano**	**2.98**	**200**	Pn	**Pn**	**03 46 16.4**	**-1.7**
FIAM	**Fiamignano**	**3.02**	**246**	Pn	**Pn**	**03 46 19.0**	**+0.3**
	comp=Z,21nm,0.6s						
MCRV	**Calabrutti - M**	**3.04**	**205**	Pn	**Pn**	**03 46 17.3**	**-1.7**
	comp=Z,20nm,0.4s						
ASS	**Assisi**	**3.09**	**262**	Pn	**Pn**	**03 46 19.8**	**+0.1**
	comp=Z,1.0nm,0.2s						
RSM	**Repubblica di**	**3.20**	**278**	Pn	**Pn**	**03 46 23.9**	**+2.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,116nm,2.4s						
VOY	**Vojsko**	**3.24**	**321**	*e*Pn	**Pn**	**03 46 23.2**	**+1.6**
VOY				*e*Sn	**Sn**	**03 47 03.4**	**+3.1**
CERT	**Cerreto**	**3.26**	**242**	Pn	**Pn**	**03 46 21.6**	**-0.4**
	comp=Z,14nm,0.5s						
MNS	**Montasola**	**3.27**	**250**	Pn	**Pn**	**03 46 21.8**	**-0.3**
	comp=Z,18nm,0.3s						
CDRU	**Civita di Ruta**	**3.28**	**201**	Pn	**Pn**	**03 46 20.3**	**-1.9**
	comp=Z,5.0nm,0.2s						
BADI	**Badiali**	**3.34**	**271**	Pn	**Pn**	**03 46 24.2**	**+1.2**
	comp=Z,17nm,0.7s						
OBKA	**Obir**	**3.36**	**332**	⇑*i*Pn	**Pn**	**03 46 25.8**	**+2.4**
OBKA				⇑*i*Sn	**Sn**	**03 47 04.3**	**+0.9**
SIRI	**Monte Sirino -**	**3.46**	**192**	Pn	**Pn**	**03 46 22.8**	**-1.8**
	comp=Z,14nm,0.3s						
PKS6	**Bocsa**	**3.60**	**32**	⇓*e*P	**Pn**	**03 46 26.4**	**-0.2**
PKS6				*e*S	**Sn**	**03 47 07.4**	**-1.9**
	comp=Z,1.7nm,0.2s						
PTCC	**Patocco-Chiusa**	**3.77**	**320**	Pn	**Pn**	**03 46 29.3**	**+0.4**
	comp=Z,3.0nm,0.3s						
ARSA	**Arzberg**	**3.80**	**346**	⇑*i*Pn	**Pn**	**03 46 30.0**	**+0.6**
ARSA				⇑*i*Sn	**Sn**	**03 47 12.8**	**-1.5**
PKS7	**Kunszentmiklos**	**3.85**	**24**	*e*P	**Pn**	**03 46 30.3**	**+0.2**
PKSG		**3.98**	**15**	⇓*i*P	**Pn**	**03 46 32.0**	**+0.1**
PKSG				*e*S	**Sn**	**03 47 16.8**	**-1.9**
	comp=Z,0.2nm,0.2s						
BZS	**Buzias**	**3.98**	**57**	⇓*i*P	**Pn**	**03 46 31.0**	**-0.9**
BZS	**Buzias**	**3.98**	**57**	⇓P	**Pn**	**03 46 31.0**	**-0.9**
BZS				S	**Sn**	**03 47 16.3**	**-2.5**
BZS	**Buzias**	**3.98**	**57**	⇓P	**Pn**	**03 46 31.0**	**-0.9**
BZS				S	**Sn**	**03 47 16.3**	**-2.5**
SOP	**Sopron**	**4.13**	**357**	⇑*e*Sn	**Sn**	**03 47 22.1**	**-0.2**
FVI	**Forni Avoltri**	**4.18**	**318**	Pn	**Pn**	**03 46 37.3**	**+2.7**
	comp=Z,3.0nm,0.2s						
CONA	**Conrad Observa**	**4.42**	**351**	⇓*i*Pn	**Pn**	**03 46 38.2**	**+0.3**
CONA				⇑*i*Sn	**Sn**	**03 47 27.7**	**-1.8**
ZST	**Bratislava**	**4.64**	**2**	*i* PN	**Pn**	**03 46 41.1**	**+0.2**
ZST				*e*SN	**Sn**	**03 47 31.6**	**-3.3**
ZST	**Bratislava**	**4.64**	**2**	*i* Pn	**Pn**	**03 46 41.2**	**+0.3**
ZST				*e*Sn	**Sn**	**03 47 31.6**	**-3.3**
MOA	**Molln**	**4.65**	**338**	⇓*i*Pn	**Pn**	**03 46 42.6**	**+1.5**
MOA				⇑*i*Sn	**Sn**	**03 47 34.7**	**-0.5**
PSZ	**Piszkesteto**	**4.85**	**25**	⇓*i*P	**Pn**	**03 46 43.4**	**-0.5**
PSZ	**Piszkesteto**	**4.85**	**25**	⇓P	**Pn**	**03 46 43.4**	**-0.4**
PSZ				S	**Sn**	**03 47 36.1**	**-4.1**
PSZ	**Piszkesteto**	**4.85**	**25**	⇓P	**Pn**	**03 46 43.4**	**-0.5**
PSZ				S	**Sn**	**03 47 36.1**	**-4.1**
APPI	**Appiano**	**4.93**	**308**	Pn	**Pn**	**03 46 45.1**	**+0.2**
	comp=Z,77nm,3.0s						
SMOL	**Smolenice**	**4.97**	**5**	*i* PN	**Pn**	**03 46 45.9**	**+0.4**
SMOL				*e*SN	**Sn**	**03 47 41.5**	**-1.6**
VYHS	**Vyhne**	**5.12**	**15**	*e*PN	**Pn**	**03 46 48.0**	**+0.4**
VYHS				*e*SN	**Sn**	**03 47 44.2**	**-2.7**
WTTA	**Wattenberg**	**5.20**	**317**	⇑*i*Pn	**Pn**	**03 46 51.7**	**+3.1**
WTTA				⇓*i*Sn	**Sn**	**03 47 50.0**	**+1.2**
DRGR		**5.26**	**50**	⇓*i*P	**Pn**	**03 46 50.0**	**+0.5**
DRGR		**5.26**	**50**	⇓P	**Pn**	**03 46 50.0**	**+0.6**
KECS	**Kecovo**	**5.54**	**26**	*e*SN	**Sn**	**03 47 54.3**	**-2.8**
KHC	**Kasperske Hory**	**6.01**	**339**	*e*PN	**Pn**	**03 47 01.3**	**+1.6**
KHC				*e*SG	**Sn**	**03 48 03.6**	**-5.1**
CRVS	**Cervenica-Dubn**	**6.23**	**29**	*e*PN	**Pn**	**03 47 03.6**	**+0.8**
MORC	**Moravsky Berou**	**6.24**	**4**	⇓*i*P	**Pn**	**03 47 04.3**	**+1.4**
MORC	**Moravsky Berou**	**6.24**	**4**	⇓P	**Pn**	**03 47 04.3**	**+1.4**
PRU	**Pruhonice**	**6.62**	**347**	*e*SG	**Sn**	**03 48 20.0**	**-3.7**
BURAR	**Bucovina Array**	**7.14**	**53**	⇑*i*P	**Pn**	**03 47 06.7**	**-8.6**
CLL	**Collm**	**8.17**	**343**	*e*(Sb)	**Sb**	**03 49 26.0**	**-3.7**

---

*ISCJB **03** 03:51:39.9±0.8, 616N±0.1×1689E±02, h10^{km}, mb4.0/9, Error ellipse: s-maj=19.9km s-min=13.1km az=170.8*
*IDC **03** 03:51:40.1±1.2, 6156N×16902E, h0^{km}, mb3.7/5, mb1 4.0/5, mb1mx3.5/22, mbtmp3.7/5, Error ellipse: s-maj=47.4km s-min=23.5km az=172.0*
*NEIC **03** 03:51:41.6±0.5, 6156N×16902E, h10^{km}, mb4.3/4, Error ellipse: s-maj=13.1km s-min=8.4km az=175.0*
ISC 03 03:51:41.4±0.8**, 616N**±01×**1690E**±02**, h10**^{km}**, n12, σ0^{s}30**/12**, mb4.0**/9**, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**6.60**	**351**	*e*Pn	**Pn**	**03 53 18.7**	**+0.2**
EGAK	**Eagle**	**22.24**	**60**	*e*P	**P**	**03 56 38.5**	**+0.2**
DAWY	**Dawson**	**23.18**	**61**	*e*P	**P**	**03 56 47.6**	**-0.6**
INK	**Inuvik**	**24.39**	**49**	*e*P	**P**	**03 56 60.0**	**+0.2**
	16nm,1.5s,mb4.2						
MJAR	**Matsushiro Arr**	**31.61**	**232**	P	**P**	**03 58 04.4**	**0.0**
	3.1nm,1.0s,mb4.1,baz=13,slow=8.0,SNR=9.0						
FLWY	**Flagg Ranch**	**48.18**	**72**	*e*P	**P**	**04 00 21.5**	**-0.4**
	4.3nm,0.9s,mb4.5						
LOHW	**Long Hollow**	**48.59**	**73**	*e*P	**P**	**04 00 25.3**	**+0.3**
	2.8nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**48.94**	**295**	P	**P**	**04 00 27.9**	**+0.2**
	0.3nm,0.2s,mb3.9,baz=51,slow=7.6,SNR=3.3						
BVAR	**Borovoye Array**	**48.97**	**308**	P	**P**	**04 00 27.6**	**-0.4**
	0.4nm,0.4s,mb3.8,baz=54,slow=7.3,SNR=3.7						
NVAR	**Mina Array Bea**	**49.06**	**83**	P	**P**	**04 00 29.1**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=322,slow=7.4,SNR=4.0						
BW06	**Boulder Array**	**49.73**	**73**	*e*P	**P**	**04 00 33.9**	**+0.2**
	3.0nm,1.2s,mb4.2						
PDAR	**Pinedale Array**	**49.73**	**73**	P	**P**	**04 00 33.5**	**-0.2**
	0.9nm,0.9s,mb3.8,baz=321,slow=3.8,SNR=6.8						

---

*NEIC **03** 04:09:27.2, 1547N×9303W, h90^{km}, MD4.0(MEX), After MEX.*
MEX 03 04:09:27.1±0.9**, 1550N**×**9303W, h97**^{km}±18^{km}**, MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.29**	**17**	*i* P	Pn	04 09 49.0	-1.6
SCX				*i* S	Sn	04 10 08.0	-0.3
CMIG	**Matias Romero**	**2.38**	**312**	*i* P	Pn	04 10 03.9	-0.7
CMIG				*i* S	Sn	04 10 31.8	-1.5
HUIG	**Huatulco**	**2.98**	**276**	*i* P	Pn	04 10 11.9	-0.6
HUIG				*i* S	Sn	04 10 45.9	-1.6
OXX	**Oaxaca**	**3.88**	**294**	*i* P	Pn	04 10 25.0	+0.4
OXX				*i* S	Sn	04 11 07.0	-2.2
VHO	**Vista Hermosa**	**3.89**	**294**	*i* P	Pn	04 10 25.3	+0.6
VHO				*i* S	Sn	04 11 08.0	-1.2
UTMO	**Huajuapan**	**5.13**	**298**	*i* P	Pn	04 10 42.7	+1.2
UTMO				*i* S	Sn	04 11 36.7	-2.7
TEIG	**Tepich**	**6.52**	**43**	*i* P	Pn	04 10 52.9	-7.6
TEIG				*i* S	Sn	04 12 01.3	-12

---

*NEIC **03** 04:18:01.4, 40.13N×1956E, h3^{km}, MD3.2(ATH), After ATH.*
*ATH **03** 04:18:01.4, 40.13N×1956E, h3^{km}, MD3.2/3*
*THE **03** 04:18:01.5, 4001N×1951E, h10^{km}, ML2.9*
*ISCJB **03** 04:18:02.3±0.8, 4007N±003×1958E±006, h3^{km}, Error ellipse: s-maj=6.7km s-min=3.9km az=168.8*
*CSEM **03** 04:18:03.3±0.3, 40.11N×1966E, h8^{km}, ML2.9, Error ellipse: s-maj=6.3km s-min=4.1km az=83.0*
ISC 03 04:18:02.6±0.9**, 4006N**±003×**1958E**±006**, h2**^{km}±6^{km}**, n16, σ1^{s}24**/27**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.39**	**154**	*e*PG	**Pg**	**04 18 10.2**	**+0.1**
KEK				*e*SG	**Sg**	**04 18 16.7**	**+1.6**
IGT	**Igoumenitsa**	**0.79**	**132**	*e*Pg	**Pg**	**04 18 15.8**	**-1.9**
IGT				*e*Sg	**Sg**	**04 18 28.6**	**+0.8**
JAN	**Janina**	**1.06**	**112**	*e*PB	**Pb**	**04 18 22.0**	**-1.7**
JAN				*e*SB	**Sb**	**04 18 37.0**	**-1.0**
LCI	**Lecce**	**1.16**	**284**	Pn	**Pn**	**04 18 26.3**	**+0.4**
TIR	**Tirane**	**1.30**	**9**	*e*Pg	**Pg**	**04 18 27.3**	**-0.3**
TIR				*e*Sg	**Sg**	**04 18 47.2**	**+2.8**
OHR	**Ohrid**	**1.40**	**41**	*e*Pg	**Pg**	**04 18 28.4**	**-1.1**
OHR				*e*Sg	**Sg**	**04 18 48.3**	**+0.7**
OHR	**Ohrid**	**1.40**	**41**	*e*Pg	**Pg**	**04 18 28.3**	**-1.1**
OHR				*e*Sg	**Sg**	**04 18 48.2**	**+0.6**
FNA	**Florina**	**1.55**	**62**	*e*Pb	**Pn**	**04 18 29.6**	**-1.7**
FNA				*e*Sb	**Sb**	**04 18 52.4**	**+0.3**
FNA	**Florina**	**1.55**	**62**	*e*Pb	**Pn**	**04 18 29.5**	**-1.8**
BIA	**Bitola**	**1.64**	**54**	*e*Pb	**Pn**	**04 18 30.8**	**-1.7**
BIA				*e*Sb	**Sb**	**04 18 56.0**	**+1.4**
BIA	**Bitola**	**1.64**	**54**	*e*Pn	**Pn**	**04 18 30.2**	**-2.3**
BIA				*e*Sn	**Sn**	**04 18 54.7**	**+0.6**
BIA	**Bitola**	**1.64**	**54**	*e*Pn	**Pn**	**04 18 30.1**	**-2.4**
BIA				*e*Sn	**Sn**	**04 18 54.6**	**+0.5**
KRUS	**Krusevo**	**1.82**	**44**	*i* Pn	**Pn**	**04 18 34.8**	**-0.2**
KRUS	**Krusevo**	**1.82**	**44**	*i* Pn	**Pn**	**04 18 34.7**	**-0.3**
VLS	**Valsamata**	**2.04**	**157**	*e*PN	**Pn**	**04 18 40.0**	**+2.0**
AGG	**Agios Georgios**	**2.37**	**115**	*e*Pn	**Pn**	**04 18 42.0**	**-0.5**
AGG				*e*Sn	**Sn**	**04 19 13.1**	**+1.0**

---

*IDC **03** 04:22:09.5±0.5, 1487N×11978E, h0^{km}, mb4.3/16, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, Error ellipse: s-maj=35.1km s-min=12.7km az=73.0*
*MAN **03** 04:22:13.0, 1494N×11952E, h15^{km}, mb3.9, ML4.9, MS2.1*
*ISCJB **03** 04:22:15.4±0.6, 1490N±003×11976E±006, h55^{km}±6^{km}, mb4.4/29, MS4.0/1, Error ellipse: s-maj=10.4km s-min=5.0km az=1.3*
*NEIC **03** 04:22:16.3±1.4, 1486N×11974E, h49^{km}±13^{km}, mb4.6/10, Error ellipse: s-maj=20.0km s-min=6.5km az=72.0*
*BJI **03** 04:22:16.3, 1490N×11970E, h49^{km}, mB4.7, mb4.4, Ms4.4, Msz4.0*
ISC 03 04:22:16.8±0.7**, 1491N**±003×**11979E**±007**, h53**^{km}±6^{km}**, n72, σ1^{s}06**/74**, mb4.4**/29**, MS4.0**/1**, 1C-5D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.87**	**8**	*e*P	**Pn**	**04 22 29.5**	**-3.4**
LUBP	**Lubang**	**1.25**	**159**	*e*P	**Pn**	**04 22 36.9**	**-1.0**
TGY	**Tagaytay City**	**1.37**	**126**	⇓*e*P	**Pn**	**04 22 40.8**	**+1.2**
TGY				*e*S	**Sn**	**04 23 02.4**	**+5.8**
TGY	**Tagaytay City**	**1.37**	**126**	Pn	**Pn**	**04 22 40.7**	**+1.1**
	1μm,0.3s,baz=288,slow=1.3,SNR=77						
PCPH	**Palayan**	**1.42**	**63**	⇓*e*P	**Pn**	**04 22 38.3**	**-2.0**
PCPH				*e*S	**Sn**	**04 22 56.8**	**-1.1**
BOLP	**Bolinao**	**1.47**	**5**	*e*P	**Pn**	**04 22 38.1**	**-2.8**
BCPH	**Baguio City Da**	**1.65**	**27**	⇓*i*P	**Pn**	**04 22 41.8**	**-1.7**
BCPH				*i* S	**Sn**	**04 23 04.5**	**+1.0**
PGP	**Puerto Galera**	**1.80**	**141**	*i* P	**Pn**	**04 22 46.6**	**+1.2**
BALP	**Baler**	**1.92**	**64**	*e*P	**Pn**	**04 22 46.3**	**-0.7**
POLP	**Polilio Island**	**2.09**	**95**	*e*P	**Pn**	**04 22 50.7**	**+1.4**
BOAC	**Boac**	**2.46**	**126**	*e*P	**Pn**	**04 22 54.4**	**-0.1**
GQP	**Guinayangan**	**2.76**	**111**	*e*P	**Pn**	**04 23 03.8**	**+5.2**
CAUP	**Cauayan**	**2.82**	**44**	*e*P	**Pn**	**04 23 00.1**	**+0.7**
ABRA	**Dolores**	**2.87**	**18**	*e*P	**Pn**	**04 22 59.3**	**-0.7**
BUSP	**Coron**	**2.91**	**172**	*e*P	**Pn**	**04 23 01.1**	**+0.5**
PALP	**Palanan**	**3.32**	**49**	⇑*i*P	**Pn**	**04 23 08.3**	**+2.1**
PALP				*i* S	**Sn**	**04 23 44.6**	**+0.1**
PALP	**Palanan**	**3.32**	**49**	*e*P	**Pn**	**04 23 09.4**	**+3.2**
OTRP	**Odiongan**	**3.33**	**139**	*e*P	**Pn**	**04 23 10.8**	**+4.4**
CVP	**Callao Caves**	**3.40**	**35**	⇓*e*P	**Pn**	**04 23 08.0**	**+0.7**
ENPP	**El Nido**	**3.69**	**186**	*e*P	**Pn**	**04 23 11.1**	**-0.3**
CUYO	**Cuyo Island**	**4.21**	**163**	*e*P	**Pn**	**04 23 19.1**	**+0.8**
PVCP	**Virac**	**4.43**	**107**	⇓*e*P	**Pn**	**04 23 24.3**	**+2.9**
PVCP				*e*S	**Sn**	**04 23 59.1**	**-13**
PVCP	**Virac**	**4.43**	**107**	*e*P	**Pn**	**04 23 24.4**	**+3.0**
YHNB	**Yeheng**	**9.83**	**8**	Pn	**Pn**	**04 24 34.6**	**-0.8**
XAN	**Xi’an**	**21.43**	**335**	P	**P**	**04 27 03.5**	**+3.1**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb3.9						
CD2	**Chengdu**	**21.68**	**320**	*e*P	**P**	**04 27 08.6**	**+5.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
LZH	**Lanzhou**	**25.46**	**329**	*e*P	**P**	**04 27 46.1**	**+6.3**
LZH				AP	pP	04 27 51.3	-1.7
LZH				XP	sP	04 27 54.6	-4.7
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
HHC	**Hu-ho-hao-te**	**26.82**	**346**	*e*P	**P**	**04 27 55.5**	**+3.4**
HHC				AP	pP	04 28 04.8	-0.6
HHC				XP	sP	04 28 08.9	-2.7
HHC				PP		04 28 41.9	
HHC				PCP	PcP	04 31 17.1	+3.4
HHC				S	**S**	**04 32 28.8**	**+4.2**
HHC				XS	sS	04 32 44.7	-2.5
HHC				SS		04 33 43.7	
HHC				SCP	ScP	04 34 53.2	+3.9
HHC				PCS	PcS	04 34 57.2	+2.2
HHC				SCS	ScS	04 38 42.9	+2.8
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,99nm,5.5s						
HHC				LR	LR		
	comp=N,182nm,11.8s						
HHC				LR	LR		
	comp=E,684nm,20.6s						
HHC				LR	LR		
	comp=Z,235nm,10.8s,MS4.0						
FITZ	**Fitzroy Crossi**	**33.30**	**170**	*e*P	**P**	**04 28 50.9**	**+1.5**
	comp=Z,3.2nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**33.30**	**170**	P	**P**	**04 28 49.1**	**-0.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=16,slow=9.6,SNR=9.5						
FITZ				PcP	PcP	04 31 32.0	+1.5
	comp=Z,0.7nm,0.5s,baz=352,slow=7.1,SNR=5.3						
SONM	**Songino Array**	**34.66**	**344**	P	**P**	**04 29 01.2**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.9,baz=160,slow=11,SNR=6.6						
ASAJ	**Asahikawa**	**34.99**	**29**	P	**P**	**04 29 03.8**	**-0.3**
	comp=Z,4.2nm,0.5s,mb4.7,baz=214,slow=13,SNR=9.7						
MBWA	**Marble Bar**	**35.84**	**180**	*e*P	**P**	**04 29 11.5**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9						
PMG	**Port Moresby**	**36.33**	**130**	*e*P	**P**	**04 29 15.1**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**37.47**	**157**	*e*P	**P**	**04 29 23.7**	**-1.4**
	comp=Z,14nm,0.5s,mb5.1						
WRA	**Warramunga Arr**	**37.47**	**157**	P	**P**	**04 29 24.0**	**-1.2**
	comp=Z,9.2nm,0.5s,mb4.8,baz=329,slow=10,SNR=118						
WB2	**Warramunga Arr**	**37.48**	**157**	*e*P	**P**	**04 29 24.0**	**-1.2**
AS31	**Alice Springs**	**40.74**	**160**	*e*P	**P**	**04 29 52.2**	**-0.3**
ASAR	**Alice Springs**	**40.74**	**160**	P	**P**	**04 29 52.0**	**-0.5**
	comp=Z,7.9nm,0.4s,mb4.7,baz=336,slow=7.3,SNR=96						
ASPA	**Alice Springs**	**40.74**	**160**	*e*P	**P**	**04 29 52.2**	**-0.3**
MKAR	**Makanchi Array**	**44.54**	**323**	P	**P**	**04 30 24.0**	**+0.7**
	comp=Z,0.2nm,0.2s,mb3.5,baz=159,slow=7.1,SNR=5.6						
MKAR				PcP	PcP	04 32 06.1	+0.4
	comp=Z,1.0nm,0.6s,baz=90,slow=3.6,SNR=5.4						
MKAR	**Makanchi Array**	**44.54**	**323**	P	**P**	**04 30 24.0**	**+0.7**
MKAR				PcP	PcP	04 32 06.1	+0.4
NWAO	**Narrogin (SRO)**	**47.62**	**183**	P	**P**	**04 30 45.4**	**-2.1**
	comp=Z,8.4nm,0.9s,mb4.8,baz=355,slow=11,SNR=3.8						
NWAO	**Narrogin (SRO)**	**47.62**	**183**	P	**P**	**04 30 45.4**	**-2.1**
STKA	**Stephens Creek**	**51.00**	**156**	P	**P**	**04 31 14.4**	**+1.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=171,slow=18,SNR=4.0						
BVAR	**Borovoye Array**	**54.28**	**326**	PcP	PcP	04 32 40.4	-0.8
	comp=Z,1.2nm,0.6s,baz=131,slow=6.5,SNR=3.8						
CHKZ	**Chkalovo**	**54.44**	**326**	*e*P	**P**	**04 31 39.0**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**55.01**	**325**	*e*P	**P**	**04 31 43.3**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.2						
AKTK	**Aktyubinsk**	**60.73**	**320**	P	**P**	**04 32 23.9**	**+1.0**
AKTO	**Aktyubinsk**	**60.73**	**320**	P	**P**	**04 32 23.9**	**+1.0**
	comp=Z,0.9nm,0.5s,mb4.2,baz=113,slow=7.7,SNR=4.7						
JOF	**Joensuu**	**76.17**	**332**	*e*p	**P**	**04 33 58.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.3						
MCK	**McKinley**	**77.33**	**27**	*e*P	**P**	**04 34 05.3**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**77.65**	**339**	P	**P**	**04 34 07.4**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=75,slow=6.4,SNR=20						
KAF	**Kangasniemi**	**78.58**	**331**	*e*p	**P**	**04 34 11.9**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.5,baz=76,slow=5.0						
FINES	**FINESS Array B**	**78.81**	**331**	P	**P**	**04 34 14.2**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=59,slow=6.1,SNR=35						
AKASG	**Malin Array Be**	**78.97**	**320**	P	**P**	**04 34 14.5**	**-0.4**
	comp=Z,0.1nm,0.3s,mb3.3,baz=65,slow=6.3,SNR=4.1						
EGAK	**Eagle**	**80.46**	**25**	*e*P	**P**	**04 34 22.9**	**0.0**
CASY	**Casey**	**81.24**	**184**	*e*P	**P**	**04 34 27.4**	**+0.2**
	comp=Z,14nm,0.6s,mb5.1						
INK	**Inuvik**	**82.30**	**21**	P	**P**	**04 34 32.4**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=278,slow=7.1,SNR=3.0						
INK	**Inuvik**	**82.30**	**21**	*e*P	**P**	**04 34 32.5**	**-0.2**
	comp=Z,4.9nm,1.1s,mb4.3						
NSS	**Namsos**	**84.11**	**336**	*e*P	**P**	**04 34 40.6**	**-1.4**
NSS	**Namsos**	**84.11**	**336**	*e*P	**P**	**04 34 40.5**	**-1.6**
SKAG	**Skagway**	**84.67**	**30**	*e*P	**P**	**04 34 46.4**	**+1.6**
NB2	**NORSAR Subarra**	**85.79**	**332**	P	**P**	**04 34 50.0**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.8,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**85.79**	**332**	P	**P**	**04 34 50.2**	**-0.3**
	comp=Z,5.0nm,0.8s,mb4.8,baz=66,slow=4.7,SNR=16						
NOA	**NORSAR Array B**	**85.79**	**332**	P	**P**	**04 34 50.2**	**-0.3**
CLL	**Collm**	**88.64**	**323**	*e*P	**P**	**04 35 05.0**	**+0.8**
GERES	**GERESS Array B**	**89.14**	**321**	P	**P**	**04 35 07.4**	**+0.8**
	comp=Z,1.0nm,0.8s,mb4.2,baz=46,slow=7.6,SNR=5.2						
YKA	**Yellowknife Ar**	**92.00**	**22**	P	**P**	**04 35 20.3**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.5,baz=309,slow=4.5,SNR=11						
TORD	**Torodi Ar. Bea**	**112.69**	**291**	PKiKP	PKiKP	04 40 47.8	+0.4
	comp=Z,0.3nm,0.9s,baz=48,slow=3.0,SNR=4.2						
CPUP	**Villa Florida**	**168.32**	**193**	PKPab	PKPab	04 43 27.4	+1.1
	comp=Z,1.3nm,0.6s,baz=90,slow=4.0,SNR=3.7						
LPAZ	**La Paz**	**172.25**	**101**	PKP	PKPdf	04 42 23.6	+3.9
	comp=Z,1.3nm,1.0s,baz=276,slow=3.2,SNR=4.0						

---

*BJI **03** 04:26:25.3, 22.15S×17445W, h36^{km}, mB5.7, mb5.5, Ms5.3, Msz5.2*
*ISCJB **03** 04:26:28.0±0.2, 2189S±005×175.13W±004, h38^{km}, mb5.2/101, MS5.1/149, Error ellipse: s-maj=7.7km s-min=4.1km az=118.9*
*SZGRF **03** 04:26:28.9, 2199S×17602W, h33^{km}, mb5.4, Fiji Islands region*
*NEIC **03** 04:26:29.4±0.1, 2180S×175.15W, mb5.3/67, MS5.2/105, MW5.6, Error ellipse: s-maj=6.4km s-min=3.1km az=143.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{17}Nm; M_{rr}2.42; $M_{\theta\theta}$0.01; $M_{\phi\phi}$-2.43; $M_{r\theta}$-1.40; $M_{\theta\phi}$-1.62; $M_{\phi r}$0.06; Best double couple: $M_0$3.20000×10^{17} NP1: ϕ_s232.00000°, δ57.00000°, λ124.00000°. NP2: ϕ_s1.00000°, δ46.00000°, λ49.00000°. Principal axes: T 3.1700, Plg61.0000°, Azm197.0000°; N 0.1300, Plg28.0000°, Azm32.0000°; P -3.3000, Plg6.0000°, Azm298.0000°;*
*BGS **03** 04:26:29.8±1.9, 2180S×175.15W, h33^{km}, mb5.2(NEIC)*
*GCMT **03** 04:26:29.4±0.1, 2201S×17440W, h29^{km}, MW5.7/99, Moment Tensor Solution. s90,c175; s99,c259; Duration: 1^{s}7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.22±.05; $M_{\theta\theta}$-0.21±.03; $M_{\phi\phi}$-3.01±.04; $M_{r\theta}$0.85±.07; $M_{\theta\phi}$-1.39±.03; $M_{\phi r}$1.90±.06; Best double couple: $M_0$3.98800×10^{17} NP1: ϕ_s201.00000°, δ29.00000°, λ88.00000°. NP2: ϕ_s23.00000°, δ61.00000°, λ91.00000°. Principal axes: T 3.8060, Plg74.0000°, Azm296.0000°; N 0.3590, Plg1.0000°, Azm203.0000°; P -4.1690, Plg16.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **03** 04:26:30.9±3.1, 2173S×17567W, h33^{km}, mb5.3/27, MS5.2/17 Error ellipse: s-maj=14.4km s-min=11.4km az=117.4*
*IDC **03** 04:26:31.5±2.5, 2184S×17520W, h54^{km}±21^{km}, mb4.7/19, mb1 4.7/20, mb1mx4.7/21, mbtmp4.9/20, ML4.8/1, MS5.1/19, Ms1 5.1/19, ms1mx4.9/26, Error ellipse: s-maj=16.9km s-min=11.4km az=147.0*
ISC 03 04:26:29.8±0.2**, 2189S**±005×**17508W**±004**, h40**^{km}**, h40**^{km}±.9^{km}**:pP-P, n587, σ0^{s}93**/242**, mb5.2**/101**, MS5.1**/149**, 57C-19D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.76**	**199**	S	**Sn**	**04 29 42.6**	**-4.3**
	201nm,0.3s,baz=89,slow=23,SNR=7.7						
AFI	**Afiamalu**	**8.54**	**22**	P	**Pn**	**04 28 23.9**	**-6.9**
	31nm,0.3s,baz=188,slow=2.3,SNR=20						
AFI				S	**Sn**	**04 29 50.9**	**-15**
	52nm,0.3s,baz=76,slow=21,SNR=5.9						
AFI				LR	LR	04 31 26.8	
	comp=Z,8μm,21.5s,baz=186,slow=35						
AFI	**Afiamalu**	**8.54**	**22**	P	**Pn**	**04 28 23.9**	**-6.9**
AFI				pmax	pmax		
	comp=Z,31nm,0.3s						
AFI				MLR	MLR		
	comp=Z,8μm,21.5s						
AFI	**Afiamalu**	**8.54**	**22**	*e*Pn	**Pn**	**04 28 24.0**	**-6.8**
	comp=Z,200nm,0.4s						
AFI				*e*Sn	**Sn**	**04 29 50.7**	**-15**
RAR	**Rarotonga**	**14.26**	**90**	P	**Pn**	**04 29 35.2**	**-14**
	comp=Z,5.4nm,0.3s,baz=258,slow=9.7,SNR=18						
RAR				T		04 44 12.8	
	comp=Z,41nm,0.3s,baz=182,slow=21,SNR=5.7						
DZM	**Mont Dzumac**	**17.14**	**266**	*e*P	**Pn**	**04 30 30.7**	**+4.4**
DZM	**Mont Dzumac**	**17.14**	**266**	P	**Pn**	**04 30 32.1**	**+5.8**
	comp=Z,1.5nm,0.3s,baz=89,slow=20,SNR=15						
DZM				LR	LR	04 34 46.8	
	comp=Z,2μm,19.4s,baz=96,slow=29						
URZ	**Urewera**	**17.65**	**201**	P	**Pn**	**04 30 32.3**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=8.4,slow=5.9,SNR=16						
URZ				S	**S**	**04 33 37.9**	**-16**
	comp=Z,3.0nm,0.3s,baz=286,slow=19,SNR=7.9						
TBI	**Tubuai**	**23.68**	**98**	*e*LQ		04 35 48.5	
	comp=Z,6μm,30.8s						
TBI				*e*LR	LR	04 37 16.1	
	comp=Z,10μm,28.5s,baz=270						
PAE	**Paea**	**24.35**	**85**	*e*P	**P**	**04 31 40.9**	**-2.9**
	comp=Z,149nm,1.2s,mb5.3						
PPT	**Papeete**	**24.37**	**84**	*e*P	**P**	**04 31 41.6**	**-2.5**
	comp=Z,98nm,1.3s,mb5.1						
PPT	**Papeete**	**24.37**	**84**	*e*LQ		04 36 18.0	
	comp=Z,11μm,27.2s						
PPT				*e*LR	LR	04 37 32.4	
	comp=Z,9μm,23.5s,baz=255						
PPT	**Papeete**	**24.37**	**84**	P	**P**	**04 31 40.8**	**-3.2**
	comp=Z,86nm,1.1s,mb5.1,baz=205,slow=7.7,SNR=3.8						
PPT				LR	LR	04 38 44.4	
	comp=Z,4μm,19.0s,MS5.0,baz=262,slow=30						
PPT				T		04 56 57.3	
	comp=Z,46nm,0.3s,baz=202,slow=21,SNR=6.9						
PPT	**Papeete**	**24.37**	**84**	P	**P**	**04 31 40.8**	**-3.2**
PPT				LR	LR	04 38 44.4	
TVO	**Taravao**	**24.62**	**85**	*e*P	**P**	**04 31 43.9**	**-2.4**
	comp=Z,167nm,1.0s,mb5.5						
RPZ	**Rata Peaks**	**24.62**	**205**	P	**P**	**04 31 46.4**	**0.0**
	comp=Z,17nm,0.5s,mb4.9,baz=1.7,slow=3.0,SNR=13						
RPZ				LR	LR	04 41 05.1	
	comp=Z,8μm,20.7s,MS5.2,baz=21,slow=36						
RPZ				T		04 57 16.4	
	comp=Z,7.3nm,0.3s,baz=232,slow=3.6,SNR=9.2						
RPZ	**Rata Peaks**	**24.62**	**205**	P	**P**	**04 31 46.4**	**0.0**
RPZ				LR	LR	04 41 05.1	
HNR	**Honiara**	**27.00**	**293**	LR	LR	04 41 14.5	
	comp=Z,3μm,20.2s,MS4.9,baz=180,slow=33						
HNR	**Honiara**	**27.00**	**293**	PFAKE		04 32 20.0	+12
HNR				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
ARMA	**Armidale**	**30.98**	**247**	*e*P	**P**	**04 32 45.1**	**+1.9**
CTA	**Charters Tower**	**36.09**	**266**	*e*P	**P**	**04 33 27.8**	**+0.2**
	comp=Z,30nm,0.5s,mb5.5						
CTA				*e*		04 35 02.8	
CTA				*e*S	**S**	**04 39 10.3**	**+6.1**
CTA	**Charters Tower**	**36.09**	**266**	P	**P**	**04 33 27.9**	**+0.3**
	comp=Z,31nm,0.5s,mb5.5,baz=93,slow=11,SNR=54						
CTA	**Charters Tower**	**36.09**	**266**	P	**P**	**04 33 28.0**	**+0.4**
CTA				pmax	pmax		
	comp=Z,31nm,0.5s						
CTAO	**Charters Tower**	**36.09**	**266**	*e*P	**P**	**04 33 27.8**	**+0.2**
	comp=Z,37nm,0.6s,mb5.5						
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
RKT	**Rikitea**	**36.99**	**100**	*e*S	**S**	**04 39 20.8**	**+2.9**
	comp=Z,1μm,27.0s						
RKT				*e*LQ		04 41 58.4	
	comp=Z,1μm,26.5s						
RKT				*e*LR	LR	04 43 23.5	
	comp=Z,6μm,29.0s,baz=260						
PMG	**Port Moresby**	**38.31**	**283**	P	**P**	**04 33 45.6**	**-0.9**
	comp=Z,27nm,0.8s,mb5.0,baz=88,slow=6.7,SNR=9.7						
PMG				LR	LR	04 48 21.7	
	comp=Z,4μm,18.1s,MS5.3,baz=122,slow=34						
PMG	**Port Moresby**	**38.31**	**283**	*e*P	**P**	**04 33 45.7**	**-0.8**
PMG	**Port Moresby**	**38.31**	**283**	*e*P	**P**	**04 33 47.1**	**+0.6**
	comp=Z,56nm,1.0s,mb5.2						
PMG				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
STKA	**Stephens Creek**	**39.68**	**246**	*e*P	**P**	**04 33 57.6**	**-0.4**
	comp=Z,8.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**39.68**	**246**	P	**P**	**04 33 58.0**	**0.0**
	comp=Z,8.9nm,0.5s,mb4.7,baz=98,slow=11,SNR=12						
STKA				LR	LR	04 49 49.1	
	comp=Z,6μm,18.1s,MS5.5,baz=80,slow=35						
POHA	**Pohakuloa**	**45.59**	**26**	PFAKE		04 35 00.0	+14
POHA				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
KIP	**Kipapa**	**46.16**	**22**	*e*P	**P**	**04 34 48.8**	**-1.6**
KIP				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
AS31	**Alice Springs**	**46.87**	**258**	*e*P	**P**	**04 34 55.4**	**-0.5**
AS31				*e*S	**S**	**04 41 42.8**	**-1.0**
ASAR	**Alice Springs**	**46.87**	**258**	P	**P**	**04 34 55.4**	**-0.6**
	comp=Z,24nm,0.8s,mb5.2,baz=92,slow=8.1,SNR=186						
ASAR				PcP	PcP	04 36 29.9	+1.6
	comp=Z,13nm,0.9s,baz=108,slow=4.1,SNR=6.9						
ASAR				S	**S**	**04 41 42.0**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=102,slow=14,SNR=4.8						
ASAR				LR	LR	04 54 28.9	

comp=Z,6µm,18.1s,MS5.6,baz=106,slow=36
ASAR Alice Springs 46.87 258 P **P** **04 34 55.4 -0.6**
ASAR 04 36 29.9
ASAR S **S** **04 41 42.0 -1.8**
ASAR pmax pmax
comp=Z,24nm,0.8s
ASAR pmax pmax
comp=Z,13nm,0.9s
ASAR smax
comp=N,1.0nm,0.9s
ASAR MLR MLR
comp=Z,6µm,18.1s
ASPA Alice Springs 46.88 258 *e*P **P** **04 34 55.4 -0.6**
ASPA *e*S **S** **04 41 42.8 -1.1**
WB2 Warramunga Arr 47.11 263⇑*i*P **P** **04 34 56.5 -1.3**
WB2 *e*S **S** **04 41 45.7 -1.5**
WRAB Tennant Creek 47.11 263 P **P** **04 34 56.3 -1.5**
comp=Z,300nm,0.7s,mb6.3,SNR=16
WRAB Tennant Creek 47.11 263 *e*P **P** **04 34 56.1 -1.7**
WRAB Tennant Creek 47.11 263 *e*P **P** **04 34 56.5 -1.3**
comp=Z,65nm,0.9s,mb5.6
WRAB LR LR
comp=Z,1µm,20.0s,MS4.8
WRA Warramunga Arr 47.12 263 P **P** **04 34 56.8 -1.1**
comp=Z,18nm,1.0s,mb5.0,baz=101,slow=8.6,SNR=70
WRA PcP PcP 04 36 30.6 +1.4
comp=Z,12nm,0.9s,baz=96,slow=4.0,SNR=6.4
WRA S **S** **04 41 45.9 -1.5**
comp=Z,3.3nm,1.2s,baz=102,slow=13,SNR=4.2
WRA LR LR 04 53 36.9
comp=Z,4µm,19.6s,MS5.4,baz=95,slow=35
WRA Warramunga Arr 47.12 263 P **P** **04 34 56.8 -1.1**
WRA 04 36 30.6
WRA S **S** **04 41 45.9 -1.5**
WRA pmax pmax
comp=Z,18nm,1.0s
WRA pmax pmax
comp=Z,12nm,0.9s
WRA smax
comp=N,3.0nm,1.3s
KAKA Kakadu 50.73 271⇑*i*P **P** **04 35 24.8 -0.8**
comp=N,16nm,0.7s,mb5.1
FORT Forrest 51.27 248⇓*i*P **P** **04 35 28.9 -0.7**
comp=N,154nm,0.7s,mb6.0
GUMO Guam 52.79 308 LR LR 04 55 44.2
comp=N,1µm,18.3s,MS5.1,baz=312,slow=33
DRV Dumont d'Urvil 52.99 201 P **P** **04 35 41.0 -1.4**
DRV S **S** **04 43 07.0 -2.1**
FITZ Fitzroy Crossi 55.55 263⇑*i*P **P** **04 36 00.8 -0.2**
comp=N,19nm,0.6s,mb5.3
FITZ *e*S **S** **04 43 43.7 0.0**
FITZ Fitzroy Crossi 55.55 263 P **P** **04 36 01.0 -0.1**
comp=N,16nm,0.8s,mb5.1,baz=105,slow=5.9,SNR=50
FITZ LR LR 04 58 48.6
comp=N,3µm,19.9s,MS5.4,baz=102,slow=35
SBA Scott Base 56.69 185 *e*P **P** **04 36 11.2 +2.0**
comp=N,26nm,1.0s,mb5.2
SBA *e*pP pP 04 36 20.7 -0.2
SBA LR LR
comp=Z,1µm,20.0s,MS5.0
VNDA Vanda 56.79 186 P **P** **04 36 11.0 +1.2**
comp=Z,2.6nm,0.9s,mb4.3,baz=329,slow=4.7,SNR=11
VNDA Vanda 56.79 186 P **P** **04 36 11.0 +1.1**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 56.79 186 *e*P **P** **04 36 10.8 +0.9**
comp=Z,10nm,0.9s,mb4.9
VNDA *e*pP pP 04 36 20.6 -1.1
VNDA LR LR
comp=Z,1µm,21.0s,MS5.0
KLBR Kellerberrin 59.95 245 *e*P **P** **04 36 31.6 -0.3**
comp=Z,46nm,1.0s,mb5.5
NWAO Narrogin (SRO) 60.20 244 P **P** **04 36 33.4 -0.2**
comp=Z,12nm,1.0s,mb4.9,baz=70,slow=9.7,SNR=3.9
NWAO LR LR 05 01 50.6
comp=Z,2µm,18.8s,MS5.2,baz=100,slow=35
MBWA Marble Bar 60.22 257 *e*P **P** **04 36 32.9 -0.8**
comp=Z,31nm,0.8s,mb5.4
MBWA LR LR
comp=Z,3µm,19.0s,MS5.4
MUN Mundaring 61.19 245 *e*P **P** **04 36 39.9 -0.5**
CASY Casey 63.89 206⇑*i*P **P** **04 36 58.8 +0.4**
DAV Davao City (W) 64.87 289 PFAKE 04 37 20.0 +15
DAV LR LR
comp=Z,1µm,19.0s,MS5.2
QSPA South Pole Qui 68.19 180 *e*P **P** **04 37 27.0 +1.0**
comp=Z,62nm,1.1s,mb5.5
MIR Mirnyy 70.89 205*c i*P **P** **04 37 45.0 +2.3**
MIR pmax pmax
comp=Z,250nm,1.2s,mb6.0
KKM Kota Kinabalu 72.75 284 *e*P **P** **04 37 54.9 +1.1**
MJAR Matsushiro Arr 72.96 322 P **P** **04 37 53.8 -1.3**
comp=Z,12nm,0.8s,mb4.9,baz=156,slow=5.4,SNR=35
MJAR LR LR 05 04 35.1
comp=Z,265nm,21.8s,MS4.5,baz=25,slow=31
MAJO Matsushiro 72.96 322 *e*P **P** **04 37 54.9 -0.2**
comp=Z,16nm,0.8s,mb5.0
MAJO LR LR
comp=Z,469nm,19.0s,MS4.8
MAT Matsushiro 72.96 322 P **P** **04 37 54.7 -0.4**
MAT S S 04 47 17.0 -1.9
ERM Erimo 74.39 329 PFAKE 04 38 10.0 +6.5
ERM LR LR
comp=Z,592nm,20.0s,MS4.9
NIKO Nikolski 74.74 4 *e*P **P** **04 38 03.9 -1.6**
SMY Shemya 74.90 353 PFAKE 04 38 20.0 +14
SMY LR LR
comp=Z,3µm,20.0s,MS5.6
UNV Unalaska Valle 75.78 5 PFAKE 04 38 20.0 +8.5
UNV LR LR
comp=Z,2µm,20.0s,MS5.4
SNCC San Nicolas Is 76.23 45 PFAKE 04 38 30.0 +16
SNCC LR LR
comp=Z,1µm,20.0s,MS5.2
ASAJ Asahikawa 76.27 330 P **P** **04 38 15.4 +1.2**
comp=Z,28nm,0.7s,mb5.3,baz=238,slow=7.1,SNR=29
ASAJ Asahikawa 76.27 330 P **P** **04 38 15.4 +1.2**
ASAJ pmax pmax
comp=Z,28nm,0.7s
KSM Kuching 76.30 277 *e*P **P** **04 38 15.5 +1.1**
SAO San Andreas Ge 77.21 42 *e*P **P** **04 38 20.1 +0.6**
comp=Z,39nm,1.0s,mb5.3
SAO *e*pP pP 04 38 29.6 -2.1
SAO LR LR
comp=Z,1µm,19.0s,MS5.3
TATO Taipei 77.22 304 PFAKE 04 38 30.0 +10
TATO LR LR
comp=Z,1µm,20.0s,MS5.3
LRV Little Rabbit 77.26 42 *e*P **P** **04 38 20.0 +0.2**
PTRM Twissleman Ran 77.28 43 *e*P **P** **04 38 20.4 +0.5**
NSHM Saint Helena R 77.65 40 *e*P **P** **04 38 21.7 -0.3**
NSHM *e*pP pP 04 38 34.2 0.0
HOPS Hopland 77.69 39 *e*P **P** **04 38 22.8 +0.6**
comp=Z,21nm,1.0s,mb5.0
HOPS LR LR
comp=Z,2µm,19.0s,MS5.3
BAR Barrett 77.81 47 *e*P pP 04 38 35.2 +0.1
KIPM Iron Peak 77.99 38 *e*P **P** **04 38 23.5 -0.4**
PET Petropavlovsk 78.01 344⇓*i*P **P** **04 38 23.7 -0.3**
PET *e* 04 41 23.6
PET *e*S S 04 48 08.4 -6.4
PET *e*SS SS 04 53 18.5 +2.0
PET pmax pmax
comp=Z,22nm,0.7s,mb5.2
PET pmax pmax
comp=Z,600nm,12.6s
PET smax
comp=E,600nm,21.4s
PET MLR MLR
comp=Z,700nm,19.0s,MS5.0
PET Petropavlovsk 78.01 344 *e*P **P** **04 38 23.0 -1.0**
comp=Z,24nm,0.9s,mb5.1
PET LR LR
comp=Z,817nm,21.0s,MS5.0
YSS Yuzh-Sakhalins 78.38 332⇑*i*P **P** **04 38 26.4 +0.4**
YSS *e*SP sP 04 38 32.8 -10
YSS *e* 04 38 43.6
YSS *e*S S 04 48 19.0 +0.3
YSS *e*PPS 04 49 09.0
YSS pmax pmax
comp=Z,100nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 78.38 332 *e*P **P** **04 38 27.2 +1.2**
comp=Z,77nm,0.9s,mb5.6
YSS LR LR
comp=Z,2µm,21.0s,MS5.3
ISA Isabella 78.39 44 *e*P **P** **04 38 26.6 +0.5**
comp=Z,29nm,1.2s,mb5.1
ISA LR LR
comp=Z,262nm,20.0s,MS4.6
PFO Pinyon Flat Ob 78.50 47 *e*P **P** **04 38 26.9 +0.2**
PFO *e*pP pP 04 38 37.1 -1.8
PFO LR LR
comp=Z,226nm,22.0s,MS4.5
KHMM Horse Mountain 78.56 37 *e*P **P** **04 38 27.8 +0.7**
KHMM *e*pP pP 04 38 37.3 -2.0
CMB Columbia Colle 78.67 41 *e*P **P** **04 38 27.6 0.0**
comp=Z,30nm,1.0s,mb5.2
CMB *e*pP pP 04 38 37.6 -2.3
CMB LR LR
comp=Z,2µm,20.0s,MS5.3
OHCM Honcut 78.84 40 *e*P **P** **04 38 28.4 -0.2**
SPIA Saint Paul Isl 78.86 3 *e*P **P** **04 38 28.2 -0.5**
PMSA Palmer Station 78.92 156 PFAKE 04 38 40.0 +11
PMSA LR LR
comp=Z,1µm,19.0s,MS5.2
WDC Whiskeytown Da 79.04 38 *e*P **P** **04 38 29.9 +0.2**
comp=Z,49nm,1.3s,mb5.3
WDC LR LR
comp=Z,891nm,19.0s,MS5.1
CHGN Chignik 79.15 9 *e*P **P** **04 38 29.2 -1.1**
GSC Goldstone 79.26 45 *e*P **P** **04 38 31.3 +0.4**
GSC *e*pP pP 04 38 42.9 -0.2
GLA Glamis 79.29 48 *e*P **P** **04 38 31.0 0.0**
GLA *e*pP pP 04 38 42.2 -1.0
DAC Darwin (Calif) 79.33 44 *e*P **P** **04 38 31.8 +0.5**
comp=Z,30nm,1.6s,mb5.0
DAC *e*pP pP 04 38 42.9 -0.7
DAC LR LR
comp=Z,1µm,20.0s,MS5.3
MTUM Tungsten Hills 79.37 43 *e*P **P** **04 38 32.1 +0.6**
MTUM *e*pP pP 04 38 42.4 -1.3
QZH Quanzhou 79.46 302 P **P** **04 38 33.5 +1.6**
QZH S S 04 48 33.7 +3.5
QZH AMB AMB
comp=Z,70nm,1.1s,mb5.5
QZH AMB AMB
comp=Z,530nm,3.2s
QZH LR LR
comp=Z,1µm,18.6s,MS5.3
WAKR Walker 79.55 41 *e*P **P** **04 38 32.9 +0.4**
YBH Yreka Blue Hor 79.71 37 *e*P **P** **04 38 33.9 +0.6**
comp=Z,34nm,1.1s,mb5.2
YBH *e*pP pP 04 38 43.7 -1.8
YBH LR LR
comp=Z,633nm,20.0s,MS5.0
NVAR Mina Array Bea 80.20 42 P **P** **04 38 35.8 -0.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=207,slow=6.9,SNR=45
NVAR PKPPKP 05 05 29.4
comp=Z,0.5nm,0.9s,baz=70,slow=2.6,SNR=4.0
PAHR Pah Rah Range 80.33 40 *e*P **P** **04 38 37.3 +0.7**
comp=Z,31nm,1.1s,mb5.2
PAHR *e*pP pP 04 38 48.2 -0.7
INCN Inchon 80.58 317 PFAKE 04 38 50.0 +12
INCN LR LR
comp=Z,892nm,22.0s,MS5.1
TPH Tonopah 80.66 43 *e*P **P** **04 38 38.5 +0.1**
comp=Z,29nm,1.1s,mb5.1
TPH *e*pP pP 04 38 48.8 -1.9
TPH LR LR
comp=Z,1µm,20.0s,MS5.2
SSE Sheshan 80.67 309 P **P** **04 38 39.5 +1.0**
SSE AP pP 04 38 56.5 +5.7
SSE S S 04 48 42.9 -0.1
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,318nm,10.4s
SSE LR LR
comp=N,356nm,21.1s,MS4.8
SSE LR LR
comp=E,376nm,21.2s,MS4.8
SSE LR LR
comp=Z,409nm,17.4s,MS4.8
VLA Vladivostok 81.00 324*d i*P **P** **04 38 40.2 0.0**
VLA *e* 04 38 48.2
VLA pmax pmax
comp=Z,25nm,1.4s,mb5.0
VLA MLR MLR
comp=Z,700nm,19.6s,MS5.0
SHPR Sheep Range 81.05 45 *e*P **P** **04 38 41.0 +0.5**
MAW Mawson 81.17 199 *e*P **P** **04 38 41.9 +0.7**
comp=Z,11nm,0.6s,mb5.0
MAW Mawson 81.17 199 P **P** **04 38 41.4 +0.2**
comp=Z,10nm,0.7s,mb4.9,baz=122,slow=5.8,SNR=19
MAW LR LR 05 15 43.5
comp=Z,1µm,18.1s,MS5.2,baz=120,slow=36
MAW Mawson 81.17 199 P **P** **04 38 41.4 +0.2**
MAW pmax pmax
comp=Z,10.0nm,0.7s
MAW MLR MLR
comp=Z,1µm,18.1s
COR Corvallis 81.30 35 PFAKE 04 38 50.0 +8.2
COR LR LR
comp=Z,428nm,21.0s,MS4.8
KDAK Kodiak Island 81.56 12 *e*P **P** **04 38 43.4 +0.2**
comp=Z,50nm,1.0s,mb5.4
KDAK LR LR
comp=Z,430nm,20.0s,MS4.8
TUC Tucson 81.72 50 *e*P **P** **04 38 44.4 +0.3**
comp=Z,14nm,1.0s,mb4.9
TUC *e*pP pP 04 38 55.8 -0.6
TUC LR LR
comp=Z,1µm,19.0s,MS5.3
TRCR Troy Canyon 81.85 43 *e*P **P** **04 38 45.0 +0.2**
TRCR *e*pP pP 04 38 55.9 -1.1
BMN Battle Mountai 82.08 41 *e*P **P** **04 38 45.6 -0.4**
comp=Z,7.4nm,1.0s,mb4.6
BMN *e*pP pP 04 38 58.9 +0.6
BMN LR LR
comp=Z,1µm,20.0s,MS5.3
WVOR Wild Horse Val 82.48 38 *e*P **P** **04 38 48.0 0.0**
comp=Z,31nm,1.1s,mb5.2
WVOR *e*pP pP 04 39 00.7 +0.3
WVOR LR LR
comp=Z,1µm,20.0s,MS5.3
HOOD Mount Hood Mea 82.66 35 *e*P **P** **04 38 49.4 +0.5**
VFP Flag Point 82.76 35 P **P** **04 38 50.0 +0.5**
GZH Guangzhou 82.78 298 P **P** **04 38 49.4 -0.2**
GZH S S 04 49 04.9 +0.2
GZH LR LR
comp=N,453nm,18.0s,MS5.0
GZH LR LR
comp=E,493nm,21.8s,MS5.0
GZH LR LR
comp=Z,1µm,22.4s,MS5.2
CCUT Cedar City 82.83 45 *e*P **P** **04 38 50.4 +0.6**
CCUT *e*pP pP 04 39 03.3 +1.1
NJ2 Nanjing 82.87 309 *e*P **P** **04 38 52.1 +2.0**
NJ2 AP pP 04 39 06.6 +4.2
NJ2 PP PP 04 42 04.5 +3.8
NJ2 S S 04 49 06.0 +0.4
NJ2 SKS 04 49 08.0
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,830nm,10.2s
NJ2 LR LR
comp=N,770nm,27.3s,MS5.2
NJ2 LR LR
comp=E,1µm,29.8s,MS5.2
NJ2 LR LR
comp=Z,1µm,28.3s,MS5.1
ARUT Antelope Range 82.91 45 *e*P **P** **04 38 50.5 +0.2**
ARUT *e*pP pP 04 39 02.1 -0.5
OOW Octopus West 82.99 32 P **P** **04 38 51.5 +0.8**
HABR Khabarovsk 83.01 329⇑*i*P **P** **04 38 53.6 +2.8**
HABR *e*S S 04 49 09.9 +2.8
HABR pmax pmax
comp=Z,98nm,1.0s,mb5.8
HABR MLR MLR
comp=Z,500nm,21.0s,MS4.9
WUAZ Wupatki 83.03 47 *e*P **P** **04 38 51.0 0.0**
comp=Z,53nm,1.6s,mb5.3
WUAZ *e*pP pP 04 39 02.0 -1.2
WUAZ LR LR
comp=Z,1µm,22.0s,MS5.2
TDL Tradedollar La 83.05 34 P **P** **04 38 52.0 +1.0**
KOSW Kosmos 83.13 34 P **P** **04 38 52.0 +0.5**
MDJ Mudanjiang 83.23 324 P **P** **04 38 53.5 +1.5**
MDJ AP pP 04 39 06.8 +2.5
MDJ PP PP 04 42 03.3 -0.4
MDJ S S 04 49 12.4 +3.1
MDJ SS SS 04 54 38.6 +4.2
MDJ AMB AMB
comp=Z,37nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,513nm,11.4s
MDJ LR LR
comp=N,568nm,41.2s,MS4.8
MDJ LR LR
comp=E,479nm,38.4s,MS4.8
MDJ LR LR
comp=Z,535nm,23.4s
ELK Elko 83.48 41 *e*P **P** **04 38 53.2 0.0**
comp=Z,25nm,1.1s,mb5.2
ELK LR LR
comp=Z,2µm,19.0s,MS5.4
HDW Hoodsport 83.49 32 P **P** **04 38 53.8 +0.5**
GNW Green Mountain 83.55 33 *e*P **P** **04 38 53.8 +0.2**
WPW White Pass 83.62 34 P **P** **04 38 54.4 +0.4**
COCO West Island 83.80 259 PFAKE 04 39 10.0 +15
COCO LR LR
comp=Z,636nm,19.0s,MS5.0
QIZ Qiongzhong 83.91 293 P **P** **04 38 56.2 +0.8**
QIZ AP pP 04 39 10.2 +2.4
QIZ PP PP 04 42 10.0 +0.8
QIZ S S 04 49 16.9 +0.7
QIZ SS SS 04 54 48.3 +3.8
QIZ AMB AMB
comp=Z,321nm,11.6s
QIZ LR LR
comp=N,201nm,24.9s,MS4.7
QIZ LR LR
comp=E,311nm,26.2s,MS4.7
QIZ LR LR
comp=Z,529nm,22.8s,MS4.9
RMW Rattlesnake Mo 83.99 33 P **P** **04 38 56.1 +0.2**
MSU Marysvale 84.14 45 *e*P **P** **04 38 57.5 +0.9**
MSU *e*pP pP 04 39 08.5 -0.4
SVW2 Sparrevohn 84.18 9 *e*P **P** **04 38 56.1 -0.7**
TWW Teanaway 84.26 34 P **P** **04 38 58.1 +0.8**
EBG Ellensburg 84.27 34 P **P** **04 38 57.7 +0.4**
HAWA Hanford 84.48 35 *e*P **P** **04 38 58.3 0.0**
comp=Z,3.4nm,1.3s,mb4.3
HAWA LR LR
comp=Z,96nm,21.0s,MS4.2
SLKM Skilak Lake 84.56 12 *e*P **P** **04 38 57.5 -1.2**
SLKM *e*pP pP 04 39 10.6 -0.4
DL2 Dalian 84.62 316⇑P **P** **04 38 59.9 +0.9**
DL2 S S 04 49 26.8 +3.6
DL2 PS 04 50 32.1
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
DL2 AMB AMB
comp=Z,260nm,8.4s
DL2 LR LR
comp=N,270nm,21.4s,MS4.8
DL2 LR LR
comp=E,270nm,20.2s,MS4.8
DL2 LR LR
comp=Z,400nm,21.2s,MS4.8
GBL Gable Mountain 84.65 35 P **P** **04 38 59.6 +0.4**
DUG Dugway 84.67 43 *e*P **P** **04 38 59.0 -0.3**
comp=Z,11nm,1.2s,mb4.9
DUG LR LR
comp=Z,906nm,20.0s,MS5.2
BMO Blue Mountains 84.73 37 *e*P **P** **04 38 59.1 -0.5**
comp=Z,30nm,1.3s,mb5.3
BMO LR LR
comp=Z,575nm,20.0s,MS5.0
PAYG Puerto Ayora 84.91 89 PFAKE 04 39 10.0 +9.5
PAYG LR LR
comp=Z,1µm,22.0s,MS5.3
BGU Big Grassy Mou 84.95 42 *e*P **P** **04 39 00.9 +0.2**
BGU *e*pP pP 04 39 12.4 -0.6
SNY Shenyang 85.03 319⇓P **P** **04 39 02.0 +0.9**
SNY AP pP 04 39 16.3 +2.8
SNY S S 04 49 33.1 +5.8
SNY AMB AMB
comp=Z,19nm,1.5s,mb5.0
SNY AMB AMB
comp=Z,360nm,6.4s
SNY LR LR
comp=E,355nm,18.6s
SNY LR LR
comp=Z,522nm,20.6s,MS4.9
CN2 Changchun 85.07 321⇑P **P** **04 39 02.2 +0.9**
CN2 *e*AP pP 04 39 16.6 +2.9
CN2 *e*S S 04 49 28.5 +0.8
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.6
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,500nm,16.0s,MS5.2
CN2 LR LR
comp=E,500nm,16.0s,MS5.2
CN2 LR LR
comp=Z,400nm,19.0s,MS4.8
WTV Waterville 85.10 34 P **P** **04 39 01.5 +0.1**
KLR Kul'dur 85.12 328 *e*P **P** **04 38 58.5 -3.1**
KLR *e*S S 04 49 22.5 -5.7
KLR *e* 04 50 24.5
KLR pmax pmax
comp=E,500nm,9.5s
KLR pmax pmax
comp=Z,900nm,9.5s
KLR MLR MLR
comp=N,900nm,19.0s,MS5.4
KLR MLR MLR
comp=E,1µm,19.0s,MS5.4
TMUT Trail Mountain 85.20 44 *e*P **P** **04 39 02.8 +0.8**
MPU Maple Canyon 85.33 44 *e*P **P** **04 39 02.5 0.0**
MPU *e*pP pP 04 39 12.7 -2.2
MPU LR LR
comp=Z,2µm,21.0s,MS5.5
MNTX Cornudas Mount 85.36 53 *e*P **P** **04 39 03.0 +0.3**
comp=Z,46nm,1.6s,mb5.4
MNTX LR LR
comp=Z,786nm,19.0s,MS5.1
NOQ North Oquirrh 85.37 43 *e*P **P** **04 39 02.4 -0.4**
LAZ Ladron 85.41 50 *e*P **P** **04 39 03.5 +0.5**
LAZ *e*pP pP 04 39 15.1 -0.2
LENM Lemitar 85.41 51 *e*P **P** **04 39 02.9 -0.1**
LENM *e*pP pP 04 39 13.4 -2.0
SIT Sitka 85.43 21 PFAKE 04 39 10.0 +6.9
SIT LR LR
comp=Z,1µm,20.0s,MS5.3
WHN Wuhan 85.47 305 *e*P **P** **04 39 05.7 +2.4**
SPUT South Promonto 85.53 42 *e*P **P** **04 39 03.3 -0.3**
EYAK Cordova Ski Ar 85.53 14 *e*P **P** **04 39 02.5 -1.1**
EYAK *e*pP pP 04 39 13.8 -2.1
SRU San Rafael 85.55 45 *e*P **P** **04 39 03.8 +0.1**
comp=Z,52nm,1.3s,mb5.6
SRU *e*pP pP 04 39 16.4 +0.3
OD2 Odessa Site #2 85.55 35 P **P** **04 39 03.8 +0.1**
HVU Hansel Valley 85.59 42 *e*P **P** **04 39 03.8 -0.1**
comp=Z,23nm,1.2s,mb5.3
CTU Camp Tracy 85.62 43 *e*P **P** **04 39 04.9 +0.8**
comp=Z,17nm,1.1s,mb5.2
HLID Hailey 85.63 39 *e*P **P** **04 39 04.2 +0.1**
comp=Z,12nm,1.0s,mb5.1
HLID LR LR
comp=Z,750nm,19.0s,MS5.1
LPM Los Pinos Moun 85.73 51 *e*P **P** **04 39 05.5 +0.9**
PMR Palmer 85.77 12 *e*P **P** **04 39 03.9 -0.9**
comp=Z,48nm,1.4s,mb5.5
PMR LR LR
comp=Z,1µm,19.0s,MS5.2
MA2 Magadan 85.87 343*c i*P **P** **04 39 04.3 -1.0**
MA2 *e* 04 39 11.6
MA2 *e*S S 04 49 33.3 -2.3
MA2 *e*PS 04 50 36.4
MA2 *e*SS SS 04 55 20.1 +6.8
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.4
MA2 MLR MLR
comp=Z,1µm,20.0s,MS5.2
MA2 Magadan 85.87 343 *e*P **P** **04 39 04.4 -0.9**
MA2 LR LR
comp=Z,688nm,20.0s,MS5.0
TTA Tatalina 85.87 9 *e*P **P** **04 39 05.6 +0.3**
WRAK Wrangell Islan 85.93 22 *e*P **P** **04 39 05.0 -0.6**
SYO Syowa Base 85.96 192⇓*e*P **P** **04 39 04.8 -0.9**
DIV Divide 86.05 14 *e*P **P** **04 39 05.8 -0.4**
comp=Z,122nm,1.0s,mb6.1

TCUT **Toone Canyon** 86.08 43 *e*P P 04 39 06.4 +0.1
PV10 **Paradox Valley** 86.14 46 *e*P P 04 39 06.7 +0.1
ANMO **Albuquerque** 86.17 50⇑ *i*P P 04 39 07.1 +0.3
ANMO **Albuquerque** 86.17 50 *e*P P 04 39 07.2 +0.4
comp=Z,24nm,1.1s,mb5.3
ANMO LR LR
comp=Z,1μm,19.0s,MS5.3
HWUT **Hardware Ranch** 86.25 42 *e*P P 04 39 06.1 -1.0
HWUT *e*pP pP 04 39 18.6 -0.9
HWUT LR LR
comp=Z,1μm,20.0s,MS5.4
PNT **Penticton** 86.31 33 P P 04 39 07.4 -0.1
PV01 **Paradox Valley** 86.33 46 *e*P P 04 39 07.2 -0.4
PV01 *e*pP pP 04 39 18.5 -1.4
GDL2 **Guadalupe Moun** 86.36 53 *e*P P 04 39 08.5 +0.8
SNAA **Sanae** 86.53 178 *e*P P 04 39 08.1 -0.4
SNAA *e* 04 39 10.7
SNAA *e* pP 04 39 19.4 -1.5
SNAA *e* 04 39 23.5
SNAA *e* 04 39 29.9
SNAA **Sanae** 86.53 178 *e*P P 04 39 07.4 -1.1
SNAA **Sanae** 86.53 178 *e*P P 04 39 07.7 -0.9
comp=Z,37nm,1.4s,mb5.4
KULM **Kulim** 86.66 277 *e*P P 04 39 10.5 +1.4
AHID **Auburn Hatcher** 87.17 41 PFAKE 04 39 20.0 +8.3
AHID LR LR
comp=Z,1μm,19.0s,MS5.4
VNA1 **Neumayer--Stat** 87.25 176 *e*P P 04 39 11.9 -0.1
VNA1 *e* 04 39 13.8
VNA1 *e* pP 04 39 23.4 -1.0
VNA1 *e* 04 39 27.7
VNA1 *e* 04 39 33.9
VNA1 *e* 04 39 47.9
VNA1 *e* 04 39 55.4
MCMT **McKenzie Canyo** 87.28 39 *e*P P 04 39 12.3 +0.1
PSI **Prapat** 87.32 274 P P 04 39 12.1 -0.3
comp=Z,11nm,1.0s,mb5.0,baz=171,slow=5.5,SNR=13
PSI **Prapat** 87.32 274 P P 04 39 12.1 -0.3
PSI pmax pmax
comp=Z,11nm,1.0s,mb5.0
TNA **Tin City** 87.34 3 *e*P P 04 39 10.1 -2.4
comp=Z,9.9nm,0.8s,mb5.1
TNA LR LR
comp=Z,589nm,21.0s,MS5.0
RRI2 **Red Ridge** 87.36 41 *e*P P 04 39 13.0 +0.4
comp=Z,12nm,1.1s,mb5.0
SKAG **Skagway** 87.36 19 *e*P P 04 39 13.1 +0.5
comp=Z,40nm,1.4s,mb5.5
SKAG LR LR
comp=Z,1μm,21.0s,MS5.2
NVL **N'lazarevskaya** 87.47 182 *e*P pP 04 39 26.3 +0.8
NVL *i* S S 04 49 53.4 +2.3
NVL *e*PS 04 51 19.1
NVL *e*SSS 04 59 18.8
NVL pmax pmax
comp=Z,15nm,1.1s,mb5.1
NVL pmax pmax
comp=Z,1μm,18.8s
NVL pmax pmax
comp=N,754nm,18.8s
NVL pmax pmax
comp=E,460nm,18.8s
REDW **Red Top Meadow** 87.65 41 *e*P P 04 39 13.4 -0.6
comp=E,16nm,1.2s,mb5.1
TPAW **Teton Pass** 87.66 41 *e*P P 04 39 13.8 -0.2
comp=E,6.1nm,0.9s,mb4.8
DLMT **Dillon** 87.73 39 *e*P P 04 39 13.3 -1.0
comp=E,24nm,1.5s,mb5.2
MCK **McKinley** 87.76 11 *e*P P 04 39 13.8 -0.7
comp=E,17nm,1.0s,mb5.2
MCK LR LR
comp=Z,930nm,20.0s,MS5.2
SNOW **Snow King Moun** 87.77 41 *e*P P 04 39 14.0 -0.5
comp=Z,15nm,1.1s,mb5.1
MSO **Missoula** 87.80 37 *e*P P 04 39 13.6 -1.1
MSO *e*pP pP 04 39 26.2 -0.9
MSO LR LR
comp=Z,448nm,21.0s,MS4.9
IMW **Indian Meadow** 87.89 41 *e*P P 04 39 14.5 -0.6
comp=Z,4.4nm,0.8s,mb4.7
IMW *e*pP pP 04 39 26.3 -1.3
BSMT **Bassoo Peak** 87.93 36 *e*P P 04 39 14.9 -0.4
SMCO **Snowmass** 87.94 46 *e*P P 04 39 14.9 -0.4
comp=Z,13nm,1.0s,mb5.1
LOHW **Long Hollow** 87.94 41 *e*P P 04 39 14.7 -0.6
comp=Z,7.6nm,1.2s,mb4.8
QLMT **Earthquake Lak** 88.11 40 *e*P P 04 39 16.9 +0.7
BW06 **Boulder Array** 88.13 42 *e*P P 04 39 15.8 -0.4
BW06 LR LR
comp=Z,1μm,20.0s,MS5.3
PDAR **Pinedale Array** 88.13 42 P P 04 39 15.6 -0.7
comp=Z,2.2nm,0.8s,mb4.4,baz=211,slow=2.6,SNR=14
PDAR LR LR 05 13 48.1
comp=Z,943nm,19.2s,MS5.2,baz=250,slow=32
FLWY **Flagg Ranch** 88.14 41 *e*P P 04 39 16.8 +0.5
FLWY *e*pP pP 04 39 27.5 -1.1
SDCO **Great Sand Dun** 88.22 48 PFAKE 04 39 30.0 +13
SDCO LR LR
comp=Z,887nm,20.0s,MS5.2
CHMT **Chamberlain Mo** 88.24 37 *e*P P 04 39 16.0 -0.7
YMR **Madison River** 88.30 40 PFAKE 04 39 30.0 +13
YMR LR LR
comp=Z,1μm,21.0s,MS5.4
EFI **East Falkland** 88.43 146 PFAKE 04 39 30.0 +12
EFI LR LR
comp=Z,287nm,22.0s,MS4.7
BOZ **Bozeman (W)** 88.45 39 *e*P P 04 39 17.2 -0.6
comp=Z,20nm,1.5s,mb5.1
BOZ LR LR
comp=Z,743nm,19.0s,MS5.1
LKWY **Lake** 88.58 40 PFAKE 04 39 30.0 +12
LKWY LR LR
comp=Z,1μm,19.0s,MS5.4
BJT **Baijiatuau** 88.80 314 *e*P P 04 39 15.5 -3.9
comp=Z,15nm,0.4s,mb5.7
HRY **Holter Researc** 88.93 38 *e*P P 04 39 20.1 +0.1
COLA **College** 89.00 11⇑ *i*P P 04 39 19.2 -1.2
COLA **College** 89.00 11 *e*P P 04 39 18.8 -1.6
comp=Z,39nm,1.0s,mb5.7
COLA LR LR
comp=Z,2μm,20.0s,MS5.5
JCT **Junction City** 89.04 57 *e*P P 04 39 19.9 -0.6
JCT *e*pP pP 04 39 31.3 -1.6
JCT LR LR
comp=Z,1μm,19.0s,MS5.3
WALA **Waterton Lakes** 89.11 35 *e*P P 04 39 20.0 -0.8
comp=Z,18nm,1.1s,mb5.3
ISCO **Idaho Springs** 89.16 46 PFAKE 04 39 30.0 +8.9
ISCO LR LR
comp=Z,530nm,20.0s,MS5.0
GYA **Guiyang** 89.71 299 P P 04 39 25.2 +1.5
GYA AP pP 04 39 39.7 +3.6
GYA PP PP 04 43 01.4 +5.4
GYA SKS 04 49 51.2
GYA S S 04 50 12.6 +0.4
GYA AMB AMB
comp=Z,40nm,1.1s,mb5.7
GYA AMB AMB
comp=Z,290nm,2.8s,mb6.1
GYA LR LR
comp=N,1μm,20.4s,MS5.5
GYA LR LR
comp=E,1μm,19.8s,MS5.5
GYA LR LR
comp=Z,980nm,20.6s,MS5.2
DAWY **Dawson** 90.07 15 *e*P P 04 39 25.3 0.0
DAWY *e*pP pP 04 39 37.9 +0.2
EGAK **Eagle** 90.27 14 *e*P P 04 39 26.1 -0.2
EGAK *e*pP pP 04 39 38.5 -0.2
BILL **Bilibino** 90.71 353 *e*P P 04 39 27.2 -1.2
BILL *i* pP 04 39 37.9 -2.9
BILL *e* 04 43 02.6
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
BILL **Bilibino** 90.71 353 PFAKE 04 39 40.0 +12
BILL LR LR
comp=Z,2μm,21.0s,MS5.6
EGMT **Eagleton** 90.83 38 PFAKE 04 39 40.0 +11
EGMT LR LR
comp=Z,661nm,20.0s,MS5.1
XAN **Xi'an** 91.15 306 P P 04 39 32.0 +1.6
XAN AP pP 04 39 45.0 +2.2
XAN PP PP 04 43 15.6 +8.2
XAN AMB AMB
comp=Z,43nm,1.0s,mb5.7
XAN AMB AMB
comp=Z,261nm,10.6s
XAN LR LR
comp=N,183nm,19.2s,MS4.8
XAN LR LR
comp=E,243nm,17.7s,MS4.8
XAN LR LR
comp=Z,507nm,20.0s,MS5.0
WMOK **Wichita Mounta** 91.66 53 *e*P P 04 39 32.4 -0.4
comp=Z,20nm,1.6s,mb5.2
WMOK LR LR
comp=Z,804nm,20.0s,MS5.2
NANT **Nan** 91.73 289 ⇓P P 04 39 37.0 +3.9
comp=Z,225nm,0.5s
EDM **Edmonton** 91.81 32 *e*P P 04 39 32.5 -1.0
HKT **Hockley** 91.93 59 *e*P P 04 39 34.1 +0.1
comp=Z,47nm,1.8s,mb5.5
HKT LR LR
comp=Z,193nm,22.0s,MS4.5
LAO **LASA Array** 92.19 40 *e*P P 04 39 36.1 +0.9
comp=Z,27nm,1.0s,mb5.5
LAO *e*pP pP 04 39 48.3 +0.7
LAO LR LR
comp=Z,679nm,20.0s,MS5.1
HHC **Hu-ho-hao-te** 92.28 313 *e*P P 04 39 37.0 +1.4
HHC AP pP 04 39 51.4 +3.4
HHC PP PP 04 43 20.4 +4.1
HHC SKS 04 50 06.3
HHC S S 04 50 35.3 -0.4
HHC SS SS 04 56 48.8 +2.4
HHC AMB AMB
comp=Z,29nm,0.8s,mb5.7
HHC AMB AMB
comp=Z,357nm,5.4s
HHC LR LR
comp=N,372nm,21.1s
HHC LR LR
comp=E,764nm,26.5s
HHC LR LR
comp=Z,931nm,25.0s,MS5.1
RSSD **Black Hills** 92.28 43 *e*P P 04 39 35.4 -0.3
comp=Z,19nm,1.3s,mb5.3
RSSD LR LR
comp=Z,336nm,19.0s,MS4.8
KMI **Kunming** 92.41 296 P P 04 39 38.6 +2.4
KMI PP PP 04 43 20.2 +2.8
KMI PPP 04 45 21.8
KMI SKS 04 50 06.7
KMI S S 04 50 34.2 -2.6
KMI AMB AMB
comp=Z,25nm,1.3s,mb5.4
KMI AMB AMB
comp=Z,334nm,9.1s
KMI LR LR
comp=N,416nm,18.9s,MS5.1
KMI LR LR
comp=E,657nm,23.6s,MS5.1
KMI LR LR
comp=Z,1μm,21.7s,MS5.3
CHRT **Chiangrai** 92.94 290 ⇑P P 04 39 42.0 +3.4
comp=Z,105nm,0.8s,mb6.3
NNA **Nana** 93.08 104 PFAKE 04 39 50.0 +11
NNA LR LR
comp=Z,421nm,21.0s,MS4.9
CM31 **Chiang Mai Arr** 93.15 289 PFAKE 04 39 50.0 +10
CM31 LR LR
comp=Z,501nm,20.0s,MS5.0
CHG **Chiang Mai** 93.28 289 ⇑P P 04 39 42.6 +2.4
comp=Z,20nm,0.9s,mb5.5
CHTO **Chiang Mai** 93.28 289 *e*P P 04 39 42.4 +2.1
comp=Z,14nm,0.8s,mb5.4
CHTO LR LR
comp=Z,443nm,20.0s,MS4.9
TRQA **Tornquist** 93.44 133 PFAKE 04 39 50.0 +9.0
TRQA LR LR
comp=Z,985nm,19.0s,MS5.3
CD2 **Chengdu** 93.83 302 *e*P P 04 39 41.9 -0.9
CD2 PP PP 04 43 30.4 +1.9
CD2 SKS 04 50 12.4
CD2 S S 04 50 46.1 -3.3
CD2 AMB AMB
comp=Z,60nm,0.8s,mb6.1
CD2 AMB AMB
comp=Z,160nm,9.6s
CD2 LR LR
comp=E,430nm,19.2s
CD2 LR LR
comp=Z,290nm,24.0s,MS4.7
YAK **Yakutsk** 94.43 337 *e*P P 04 39 44.3 -1.2
YAK pmax pmax
comp=Z,12nm,0.5s,mb5.6
YAK MLR MLR
comp=Z,500nm,16.0s,MS5.1
TEIG **Tepich** 94.51 70 PFAKE 04 40 00.0 +14
TEIG LR LR
comp=Z,250nm,21.0s,MS4.7
INK **Inuvik** 94.92 14 P P 04 39 45.9 -1.9
comp=Z,4.4nm,0.9s,mb4.9,baz=228,slow=8.8,SNR=6.6
INK LR LR 05 24 10.4
comp=Z,1μm,18.2s,MS5.4,baz=240,slow=36
INK **Inuvik** 94.92 14 P P 04 39 45.9 -1.8
INK pmax pmax
comp=Z,4.0nm,0.9s
INK MLR MLR
comp=Z,1μm,18.2s
INK **Inuvik** 94.92 14 *e*P P 04 39 46.0 -1.7
comp=Z,10nm,0.9s,mb5.3
INK *e*pP pP 04 39 58.6 -1.6
KSU1 **Kansas State U** 95.07 50 *e*P P 04 39 48.2 -0.2
KSU1 *e*pP pP 04 39 58.8 -2.1
LZH **Lanzhou** 95.78 306 *e*P P 04 39 53.7 +2.0
LZH AP pP 04 40 08.4 +4.3
LZH PP PP 04 43 49.0 +5.3
LZH *e*SKS 04 50 26.3
LZH *e*S S 04 51 05.0 -1.3
LZH SS SS 04 57 39.3 +2.9
LZH AMB AMB
comp=Z,36nm,1.2s,mb5.7
LZH AMB AMB
comp=Z,110nm,4.0s
LZH LR LR
comp=E,612nm,18.5s
LZH LR LR
comp=Z,959nm,19.7s,MS5.3
YKA **Yellowknife Ar** 96.65 24 P P 04 39 54.9 -0.7
comp=Z,2.5nm,0.8s,mb4.7,baz=239,slow=4.2,SNR=9.6
YKA LR LR 05 17 09.6
comp=Z,634nm,19.9s,MS5.1,baz=180,slow=31
YKA **Yellowknife Ar** 96.65 24 P P 04 39 54.9 -0.7
comp=Z,3.0nm,0.8s
YKA pmax pmax
YKA **Yellowknife Ar** 96.65 24 P P 04 39 54.9 -0.7
YKA LR LR 05 17 09.6
ECSD **EROS,Sioux Fal** 96.93 46 *e*P P 04 39 55.8 -1.1
ULN **Ulaanbaatar** 98.20 318 *e*P P 04 40 02.8 +0.2
ULN **Ulaanbaatar** 98.20 318 *e*P P 04 40 01.1 -1.5
comp=Z,6.2nm,1.0s,mb5.1
ULN LR LR
comp=Z,400nm,19.0s,MS4.9
FFC **Flin Flon** 98.35 34 PFAKE 04 40 10.0 +6.7
FFC LR LR
comp=Z,227nm,21.0s,MS4.6
SONM **Songino Array** 98.60 318 P P 04 40 04.3 -0.1
comp=Z,1.0nm,0.7s,mb4.5,baz=111,slow=3.3,SNR=8.1
SONM **Songino Array** 98.60 318 P P 04 40 04.3 -0.1
SONM pmax pmax
comp=Z,1.0nm,0.7s
LPAZ **La Paz** 99.01 112 P P 04 40 08.4 +2.2
comp=Z,0.9nm,0.8s,mb4.3,baz=171,slow=7.8,SNR=5.4
LPAZ LR LR 05 19 40.2
comp=Z,727nm,18.4s,MS5.2,baz=330,slow=32
LPAZ **La Paz** 99.01 112 *e*P P 04 40 08.6 +2.3
comp=Z,2.1nm,1.0s,mb4.6
PLAL **Pickwick Lake** 99.88 56 PFAKE 04 40 20.0 +10
PLAL LR LR
comp=Z,1μm,20.0s,MS5.3
ULM **Lac du Bonnet** 99.93 40 LR LR 05 21 11.9
comp=Z,788nm,19.4s,MS5.2,baz=84,slow=33
ULM **Lac du Bonnet** 99.93 40 PFAKE 04 40 20.0 +10
ULM LR LR
comp=Z,1μm,20.0s,MS5.4
LRAL **Lakeview Retre** 100.08 59 PFAKE 04 40 20.0 +9.0
LRAL LR LR
comp=Z,1μm,20.0s,MS5.3
WVT **Waverly** 100.45 55 PFAKE 04 40 20.0 +7.3
WVT LR LR
comp=Z,1μm,20.0s,MS5.4
TIXI **Tiksi** 100.80 344 PFAKE 04 40 20.0 +5.8
TIXI LR LR
comp=Z,501nm,22.0s,MS5.0
JFWS **Jewell Farm** 100.95 48 PFAKE 04 40 30.0 +15
JFWS LR LR
comp=Z,964nm,20.0s,MS5.3
ZAK **Zakamensk** 101.44 320 *e*P Pdif 04 40 16.3 -0.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY **Talaya** 101.68 321 PFAKE 04 40 30.0 +12
TLY LR LR
comp=Z,191nm,20.0s,MS4.6
WCI **Wyandotte Cave** 102.29 54 PFAKE 04 40 30.0 +9.2
WCI LR LR
comp=Z,255nm,19.0s,MS4.8
DWPF **Disney** 103.05 65 PFAKE 04 40 40.0 +16
DWPF LR LR
comp=Z,116nm,20.0s,MS4.4
ACSO **Alum Creek Sta** 105.33 52 PFAKE 04 45 00.0 +12
ACSO LR LR
comp=Z,589nm,19.0s,MS5.2
AAM **Ann Arbor** 105.40 50 PFAKE 04 45 00.0 +12
AAM LR LR
comp=Z,1μm,19.0s,MS5.5
PALK **Pallekele** 105.84 272 PFAKE 04 45 00.0 +11
PALK LR LR
comp=Z,256nm,20.0s,MS4.8
BLA **Blacksburg** 106.46 56 PFAKE 04 45 00.0 +10
BLA LR LR
comp=Z,79nm,19.0s,MS4.3
SAML **Samuel** 106.55 107 PFAKE 04 45 00.0 +10
SAML LR LR
comp=Z,869nm,20.0s,MS5.3
SDV **Santo Domingo** 106.61 87 PFAKE 04 45 00.0 +10
SDV LR LR
comp=Z,373nm,21.0s,MS4.9
MCWV **Mont Chateau** 107.52 54 PFAKE 04 45 00.0 +7.8
MCWV LR LR
comp=Z,2μm,20.0s,MS5.5
DGAR **Diego Garcia** 107.73 254 PFAKE 04 45 10.0 +17
DGAR LR LR
comp=Z,390nm,21.0s,MS4.9
ERPA **Erie** 108.00 51 PFAKE 04 45 00.0 +6.9
ERPA LR LR
comp=Z,2μm,19.0s,MS5.6
CBN **Corbin** 109.05 56 PFAKE 04 45 10.0 +15
CBN LR LR
comp=Z,1μm,20.0s,MS5.5
SSPA **Standing Stone** 109.20 53 PFAKE 04 45 10.0 +15
SSPA LR LR
comp=Z,229nm,22.0s,MS4.7
WMQ **Urumqi** 109.90 310 *e*PKP PKiKP 04 44 56.4 -0.2
WMQ PP PP 04 45 34.5 +5.1
WMQ PPP 04 47 54.5
WMQ PKS 04 48 32.0
WMQ SKS SKSdf 04 52 04.0 -1.4
WMQ SS SS 05 00 54.0 +2.9
WMQ PP PP
comp=Z,149nm,4.2s
WMQ LR LR
comp=N,1μm,19.4s,MS5.6
WMQ LR LR
comp=E,1μm,23.8s,MS5.6
WMQ LR LR
comp=Z,2μm,24.0s,MS5.6
BINY **Binghamton** 110.92 52 PFAKE 04 45 10.0 +11
BINY LR LR
comp=Z,2μm,20.0s,MS5.7
NCB **Newcomb** 112.50 50 PFAKE 04 45 10.0 +8.4
NCB LR LR
comp=Z,1μm,19.0s,MS5.5
MKAR **Makanchi Array** 114.14 313 PKP PKiKP 04 45 04.1 -0.6
comp=Z,1.6nm,0.6s,baz=41,slow=2.4,SNR=12
MKAR **Makanchi Array** 114.14 313 PKiKP PKiKP 04 45 04.1 -0.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
LBNH **Lisbon** 114.18 50 PFAKE 04 45 20.0 +15
LBNH LR LR
comp=Z,2μm,19.0s,MS5.7
WES **Weston** 114.36 52 PFAKE 04 45 20.0 +15
WES LR LR
comp=Z,1μm,20.0s,MS5.5
KSH **Kashi** 117.92 304 *e*PKP PKPdf 04 45 10.0 -2.0
KSH *e*PKS 04 48 45.6
KSH *e*PPP 04 48 52.1
KSH PP PP
comp=Z,340nm,4.4s
KSH LR LR
comp=N,290nm,4.0s
KSH LR LR
comp=E,512nm,6.0s
KSH LR LR
comp=Z,451nm,5.9s
AAK **Ala-Archa** 119.30 308 *i* PKIKP PKPdf 04 45 13.8 -0.8
AAK MLR MLR
comp=Z,200nm,19.0s,MS4.8
AAK **Ala-Archa** 119.30 308 *e*PKPdf PKPdf 04 45 13.5 -1.1
CHKZ **Chkalovo** 121.70 320 *e*PKPdf PKPdf 04 45 18.2 -1.1
BVAR **Borovoye Array** 121.90 320 PKP PKPdf 04 45 19.0 -0.6
comp=Z,7.4nm,0.8s,baz=90,slow=1.9,SNR=27
BVAR **Borovoye Array** 121.90 320 PKIKP PKPdf 04 45 19.0 -0.6
BVAR pmax pmax
comp=Z,7.0nm,0.8s
BRVK **Borovoye** 121.96 320 *e*PKPdf PKPdf 04 45 19.5 -0.3
OPO **Ambohidratompo** 122.32 229 PKP PKPdf 04 45 21.0 +0.5
comp=Z,4.9nm,0.8s,baz=168,slow=1.9,SNR=7.1
ZRNK **Zerenda** 122.74 320 *e*PKPdf PKPdf 04 45 20.5 -0.7
KBS **Kingsbay** 122.81 358 *e*PP PP 04 46 57.8 -1.9
KBS AMS AMS 05 36 57.4
comp=Z,210nm,18.5s,MS4.8
SUMG **Summit** 123.84 14 *e*PKPdf PKPdf 04 45 22.5 -0.8
BOSA **Boshof** 126.09 202 PKP PKPdf 04 45 28.8 +1.1
comp=Z,3.2nm,0.8s,baz=75,slow=1.9,SNR=4.7
BOSA **Boshof** 126.09 202 PKIKP PKPdf 04 45 28.8 +1.1
BOSA pmax pmax
comp=Z,3.0nm,0.8s
BOSA **Boshof** 126.09 202 *e*PKPdf PKPdf 04 45 29.1 +1.5
SVE **Sverdlovsk** 126.68 326 *i* PKIKP PKPdf 04 45 28.0 -0.8
SVE *e* 05 09 09.0
SVE pmax pmax
comp=Z,44nm,1.0s
SVE MLR MLR
comp=N,400nm,16.0s,MS5.3
SVE MLR MLR
comp=E,400nm,16.0s,MS5.3
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.6
ARU **Arti** 127.89 325 *i* PKIKP PKPdf 04 45 30.8 -0.3
ARU *e* 04 52 34.1
ARU MLR MLR
comp=N,500nm,19.0s,MS5.5
ARU MLR MLR
comp=E,800nm,19.0s,MS5.5
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.6
ARU **Arti** 127.89 325 *e*PKPdf PKPdf 04 45 30.9 -0.2
AKTK **Aktyubinsk** 129.92 318 PKP PKPdf 04 45 34.7 -0.3
AKTO **Aktyubinsk** 129.92 318 PKP PKPdf 04 45 34.7 -0.3
comp=Z,5.6nm,0.9s,baz=6.1,slow=1.1,SNR=11
AKTO **Aktyubinsk** 129.92 318 PKIKP PKPdf 04 45 34.7 -0.2
AKTO pmax pmax
comp=Z,6.0nm,0.9s
JMIC **Jan Mayen** 130.26 6 *e*PP PP 04 47 44.9 -4.2
JMIC AMS AMS 05 39 52.0
comp=Z,248nm,17.3s,MS5.0
LVZ **Lovozero** 130.42 346 *i* PKIKP PKPdf 04 45 33.4 -2.5
LVZ *e*SS SS 05 05 13.3 -1.3
LVZ pmax pmax
comp=Z,31nm,1.8s
LVZ pmax pmax
comp=N,10.0nm,1.5s
LVZ pmax pmax
comp=E,10.0nm,1.4s
LVZ MLR MLR
comp=Z,768nm,23.0s,MS5.3
LVZ MLR MLR
comp=N,524nm,22.0s,MS5.3
LVZ MLR MLR
comp=E,456nm,25.0s,MS5.3
ARCES **ARCESS Array B** 130.75 351 PKP PKPdf 04 45 35.9 -0.6
comp=E,5.4nm,0.8s,baz=90,slow=1.2,SNR=9.7
ARCES **ARCESS Array B** 130.75 351 PKIKP PKPdf 04 45 35.9 -0.6
ARCES pmax pmax
comp=Z,5.0nm,0.8s

TRO Tromso 131.51 354 *e*PP PP 04 47 50.6 -6.6
TRO *e*SS SS 05 05 26.9 -1.0
TRO AMS AMS 05 51 04.9
comp=Z,283nm,18.1s,MS5.0
JOF Joensuu 135.27 343 *e*pkp PKPdf 04 45 42.7 -2.3
LSZ Lusaka 136.59 214 PKP PKPdf 04 45 48.8 +1.3
comp=Z,4.6nm,0.8s,baz=72,slow=1.5,SNR=9.6
LSZ Lusaka 136.59 214 PKIKP PKPdf 04 45 48.8 +1.3
LSZ pmax pmax
comp=Z,5.0nm,0.8s
LSZ Lusaka 136.59 214 *e*PKPdf PKPdf 04 45 49.3 +1.8
KAF Kangasniemi 137.21 345 *e*pkp PKPdf 04 45 46.4 -2.2
TSUM Tsumeb 137.32 198 *e*PKPdf PKPdf 04 45 51.2 +2.4
FINES FINESS Array B 137.84 345 PKhKP 04 45 39.4
comp=Z,1.3nm,0.8s,baz=24,slow=5.2,SNR=4.0
FINES FINESS Array B 137.84 345 PKHKP 04 45 39.4
FINES pmax pmax
comp=Z,1.0nm,0.8s
MOS Moscow 138.39 333 *e*PKIKP PKPdf 04 45 50.7 -0.1
MAK Makhachkala 138.92 311 *i* PKIKP PKPdf 04 45 51.6 -0.2
MAK *i* 04 48 44.0
MAK *e*PPP 04 51 54.9
MAK pmax pmax
comp=Z,385nm,1.5s
OBN Obninsk 139.26 332 *i* PKIKP PKPdf 04 45 53.2 +0.8
OBN *e* 04 48 43.6
OBN pmax pmax
comp=Z,16nm,0.9s
OBN MLR MLR
comp=Z,500nm,21.0s,MS5.2
OBN Obninsk 139.26 332 *e*PKP PKPdf 04 45 53.2 +0.8
OBN LR LR
comp=Z,500nm,21.0s,MS5.2
VOR Voronezh 140.14 327 PKIKP PKPdf 04 45 54.0 0.0
VOR pmax pmax
comp=Z,70nm,2.0s
VRSR Storozhevoye 140.44 326 *i* PKIKP PKPdf 04 45 53.9 -0.6
VRSR pmax pmax
comp=Z,10.0nm,1.2s
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,7.0nm,1.0s
NB2 NORSAR Subarra140.64 355 PKPd PKPdf 04 45 53.6 -1.3
comp=Z,6.9nm,1.1s,baz=9.4,slow=1.9
NB2 NORSAR Subarra140.64 355 PKPd PKPdf 04 45 53.6 -1.3
baz=9.4,slow=1.9
NOA NORSAR Array B140.64 355 PKhKP 04 45 50.4
comp=Z,2.5nm,0.9s,baz=16,slow=2.8,SNR=6.8
NOA NORSAR Array B140.64 355 PKHKP 04 45 50.4
NOA pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 141.03 238 PKhKP 04 45 50.2
comp=Z,4.1nm,0.9s,baz=51,slow=3.5,SNR=8.7
KMBO Kilima Mbogo 141.03 238 PKHKP 04 45 50.2
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 141.03 238 PKP PKPdf 04 45 50.2 -5.4
BER Bergen 141.54 360 *e*P PKPdf 04 45 50.8 -5.7
BER *e*PP PP 04 48 53.2 -6.8
BER *e*SS SS 05 07 27.2 -0.3
BER AMS AMS 05 50 28.3
comp=Z,433nm,19.3s,MS5.2
BER Bergen 141.54 360 *e*P PKPdf 04 45 50.8 -5.7
BER *e*PP PP 04 48 53.2 -6.8
BER LR LR
comp=Z,430nm,19.3s,MS5.2
BHD Baghdad 143.44 297 *ex* x 04 45 58.0
MSL Mosul 143.94 302 *ex* x 04 46 04.0
ANN Anapa 144.88 318 *i* PKHKP 04 46 00.6
ANN pmax pmax
comp=Z,252nm,1.9s
EAB Aberfoyle 145.06 9⇑ *e*P PKPbc 04 46 01.5 -0.7
EAB Aberfoyle 145.06 9⇑ *e*P PKPbc 04 46 01.5 -0.7
SUW Suwalki 145.06 341 *i* PKPc 04 46 02.1
PCOU Corrie 145.29 9 *e*P PKPbc 04 46 02.8 -0.1
PCOU Corrie 145.29 9 *e*P PKPbc 04 46 02.8 -0.1
MUD Monsted U'grnd 145.34 356⇑ *i*P PKPbc 04 46 02.9 -0.2
comp=Z,110nm,1.0s
MUD Monsted U'grnd 145.34 356⇑ *i*PKP2 PKPab 04 46 02.9 -0.3
MUD pmax pmax
comp=Z,110nm,1.0s
MARD Mardin 145.48 305 *i* P PKPdf 04 46 04.2 +0.8
EDI Edinburgh 145.48 8⇑ *e*P PKPdf 04 46 03.6 +0.2
EDI Edinburgh 145.48 8⇑ *e*P PKPdf 04 46 03.6 +0.2
EAU Auchinoon 145.52 8⇑ *e*P PKPdf 04 46 03.2 -0.3
EAU Auchinoon 145.52 8⇑ *e*P PKPdf 04 46 03.2 -0.3
AKASG Malin Array Be 145.53 332 PKPbc PKPbc 04 46 02.4 -1.3
comp=Z,71nm,0.8s,baz=39,slow=4.0,SNR=4.2
AKASG Malin Array Be 145.53 332 PKP2 PKPab 04 46 02.4 -1.5
AKASG pmax pmax
comp=Z,71nm,0.9s
ESY Stoneypath 145.56 8⇑ *e*P PKPdf 04 46 02.8 -0.8
ESY Stoneypath 145.56 8⇑ *e*P PKPdf 04 46 02.8 -0.8
EBL Broad Law 145.65 8⇑ *e*P PKPdf 04 46 03.5 -0.2
EBL Broad Law 145.65 8⇑ *e*P PKPdf 04 46 03.5 -0.2
COP Copenhagen 145.79 352 *i* P PKPdf 04 46 01.5 -2.5
comp=Z,32nm,0.7s
COP Copenhagen 145.79 352 *i* PKHKP 04 46 01.5
COP pmax pmax
comp=Z,32nm,0.7s
BSD Bornholm Skovb 145.99 350⇑ *i*P PKPdf 04 46 04.5 +0.2
comp=Z,86nm,1.1s
BSD
comp=Z,450nm,23.0s
BSD Bornholm Skovb 145.99 350⇑ *i*PKIKP PKPdf 04 46 04.5 +0.2
BSD pmax pmax
comp=Z,86nm,1.1s
BSD MLR MLR
comp=Z,450nm,23.0s,MS5.2
XSO Sourhope Farm 146.02 7 *e*P PKPdf 04 46 04.7 +0.3
XSO Sourhope Farm 146.02 7 *e*P PKPdf 04 46 04.7 +0.3
ESK Eskdalemuir 146.07 8 *e*P PKPdf 04 46 04.4 -0.1
ESK Eskdalemuir 146.07 8 *e*P PKPdf 04 46 04.4 -0.1
ESK Eskdalemuir 146.07 8 *e*PKPbc PKPbc 04 46 05.3 -0.1
GRSN GIRESUNGRSN 146.08 312 *i* P PKPdf 04 45 59.4 -5.0
ECK Cauldkaine Hil 146.21 8 *e*P PKPdf 04 46 05.3 +0.6
ECK Cauldkaine Hil 146.21 8 *e*P PKPdf 04 46 05.3 +0.6
GAL1 Galloway 146.28 10 *e*P PKPdf 04 46 05.1 +0.3
GAL1 Galloway 146.28 10 *e*P PKPdf 04 46 05.1 +0.3
BHH Howats Hill 146.29 8 *e*P PKPdf 04 46 04.9 +0.1
BHH Howats Hill 146.29 8 *e*P PKPdf 04 46 04.9 +0.1
SIM Simferopol' 146.80 321 *c i*PKP2 PKPab 04 46 09.0 +0.2
SIM *e* 04 49 39.0
SIM pmax pmax
comp=Z,70nm,0.7s
SIM pmax pmax
comp=Z,270nm,15.6s
MALT Malatya 146.94 307⇑ *i*P PKPbc 04 46 09.8 +1.9
MALT Malatya 146.94 307 PKP2 PKPab 04 46 10.2 +0.8
MALT Malatya 146.94 307 *e*PKPbc PKPbc 04 46 09.4 +1.5
WAR Warsaw 147.25 342 *e*PKP PKPbc 04 46 09.7 +0.9
WAR *e* 04 46 11.3
GKP Gorka Klasztor 147.29 346 *i* PKPc PKPbc 04 46 08.9 0.0
GKP *e* 04 46 11.2
SVST Sivas 147.46 311 *i* P PKPdf 04 46 06.1 -0.7
BSEG Bad Segeberg 147.75 354 *e*PKPbc PKPbc 04 46 10.2 +0.1
GZT Gaziantep 147.91 306 *i* P PKPbc 04 46 10.9 +0.4
BOYT Boyabat 148.14 315 *i* P PKPbc 04 46 10.9 -0.2
LVV L'vov 148.31 336⇓ *i*PKIKP PKPbc 04 46 11.9 +0.3
KIS Kishinev 148.37 328 *e*PKIKP PKPdf 04 46 11.0 +2.7
KIS *e* 04 49 39.0
KIS pmax pmax
comp=Z,800nm,10.0s
KIS pmax pmax
comp=Z,1μm,16.0s
KIS MLR MLR
comp=Z,900nm,19.0s,MS5.6
KIS MLR MLR
comp=Z,900nm,19.0s
RUE Ruedersdorf 148.71 350 *e*PKPbc PKPbc 04 46 12.6 0.0
HLM1 Long Mynd 148.84 9 *e*P PKPdf 04 46 09.0 0.0
HLM1 Long Mynd 148.84 9 *e*P PKPdf 04 46 09.0 0.0
KWP Kalwaria 148.95 337 *i* PKPc PKPbc 04 46 13.9 +0.6
KWP *e* 04 46 17.2
KWP Kalwaria 148.95 337 *e*PKPdf PKPdf 04 46 09.4 +0.2
KWP *e*PKPbc PKPbc 04 46 13.4 +0.1
KWP ⇑ *i*PKP PKPdf 04 46 13.9 +4.7
KWP *e* 04 46 17.2
WIT Witteveen 149.10 358 *e*PKP PKPbc 04 46 14.5 +0.9
NRDL Niedersach Rie 149.19 354 *e*PKPbc PKPbc 04 46 14.4 +0.5
MCH1 Michaelchurch 149.33 10 *e*P PKPdf 04 46 10.7 +0.9
MCH1 Michaelchurch 149.33 10 *e*P PKPdf 04 46 10.7 +0.9

OJC Ojcow 149.40 341 *e*PKP PKPdf 04 46 10.0 +0.1
ELDT Eldivan 149.57 314 *i* P PKPbc 04 46 13.8 -1.0
BURAR Bucovina Array 149.58 332⇑ *i*P PKPbc 04 46 15.9 +1.1
STHS Stebnicka Huta 149.64 339 *e*PKP PKPbc 04 46 15.9 +0.9
STHS *e* 04 46 21.5
KOLS Kolonicke sedl 149.69 337 *e*PKP PKPdf 04 46 10.9 +0.5
KOLS *e* 04 46 15.9
KOLS *e* 04 46 23.3
KSP Ksiaz 149.76 346 *e*PKPc PKPbc 04 46 16.2 +0.9
KSP *e* 04 46 19.9
KSP Ksiaz 149.76 346 *i* PKHKP 04 46 16.1
KSP *e*SS SS 05 09 07.0 +5.8
KSP MLR MLR
comp=Z,1μm,22.8s,MS5.6
KSP Ksiaz 149.76 346 *e*PKP PKPdf 04 46 10.8 +0.3
KSP *e*PKPdf PKPdf 04 46 16.1 +5.6
KSP *e*SS SS 05 09 07.0 +5.8
KSP LR LR
comp=Z,1μm,22.8s,MS5.6
ASF Jabal al Asfar 149.84 297 PKPbc PKPbc 04 46 16.7 +1.3
comp=Z,21nm,0.8s,baz=304,slow=1.0,SNR=30
ASF Jabal al Asfar 149.84 297 PKP2 PKPbc 04 46 16.7 +1.2
ASF pmax pmax
comp=Z,21nm,0.8s
UZH Uzhgorod 149.93 337⇓ *i*PKHKP PKPbc 04 46 16.0 +0.3
NIE Niedzica 149.94 340 *i* PKPc PKPbc 04 46 16.9 +1.2
WTSB Winterswijk 149.94 358 *e*PKP PKPbc 04 46 15.7 0.0
comp=Z,81nm,1.1s
CLL Collm 149.97 350 *e*PKPbc PKPbc 04 46 15.8 0.0
CLL Collm 149.97 350 *e*PKPdf PKPdf 04 46 12.0 +1.1
CLL ⇑ *i*PKPbc PKPbc 04 46 16.2 +0.4
comp=Z,91nm,1.1s
CLL *i* PKPab PKPab 04 46 21.6 +0.1
comp=Z,51nm,1.1s
CLL *i* x x 04 46 23.8
CLL *i* pPKPbc pPKPbc 04 46 28.0 -0.5
CLL *e*PP PP 04 49 46.0 -4.0
CLL *e*SS SS 05 09 00.0 -3.5
CLL *e*SSS 05 14 39.0
CLL LmV 05 57 00.0
comp=Z,800nm,20.0s
CLL Collm 149.97 350⇑ *e*PKIKP PKPdf 04 46 12.0 +1.1
CLL *i* 04 46 16.2
CLL *i* 04 46 21.6
CLL *i* 04 46 28.0
CLL pmax pmax
comp=Z,91nm,1.1s
CLL pmax pmax
comp=Z,51nm,1.1s
CLL MLR MLR
comp=Z,800nm,20.0s,MS5.5
CLL Collm 149.97 350 *e*PKP PKPdf 04 46 12.0 +1.1
CLL ⇑ *i*PKP PKPbc 04 46 16.2 +0.4
CLL *i* PKP PKPab 04 46 21.6 +0.1
CLL *i* pPKP pPKPdf 04 46 28.0 +4.3
CLL LR LR
comp=Z,800nm,20.0s,MS5.5
CFR Carcaliu 149.97 326 PKP2 PKPbc 04 46 17.1 +1.3
CRVS Cervenica-Dubn 150.00 338 *e*PKP PKPdf 04 46 10.6 -0.3
CRVS *e* 04 46 16.6
CRVS Cervenica-Dubn 150.00 338 *e*PKP PKPdf 04 46 10.7 -0.2
CRVS *e* 04 46 16.6
UPC Upice 150.14 346 *e*PKPdf PKPdf 04 46 11.8 +0.7
UPC *e*PKPbc PKPbc 04 46 17.0 +0.8
VRI Vrincioaia 150.19 329⇑ *i*P PKPbc 04 46 16.8 +0.5
VRI Vrincioaia 150.19 329 P PKPbc 04 46 17.2 +0.9
DPC Dobruska-Polom 150.22 345 *e*PKPdf PKPdf 04 46 11.6 +0.4
DPC *e*PKPbc PKPbc 04 46 17.1 +0.7
DPC AMS AMS 05 51 10.0
comp=Z,800nm,20.9s
DPC Dobruska-Polom 150.22 345 *e*PKP PKPdf 04 46 11.6 +0.4
DPC *e* 04 46 17.1
OKC Ostrava-Krasne 150.22 343 *e*PKPdf PKPdf 04 46 11.5 +0.3
OKC *e*PKPbc PKPbc 04 46 17.1 +0.7
OKC AMS AMS 05 50 30.0
comp=Z,600nm,20.6s
OKC Ostrava-Krasne 150.22 343 *e*PKP PKPdf 04 46 11.5 +0.3
OKC *e* 04 46 17.1
BRG Berggiesshubel 150.22 348 *e*PKPdf PKPdf 04 46 11.2 -0.1
BRG *e*PKPbc PKPbc 04 46 17.0 +0.6
BRG Berggiesshubel 150.22 348⇑ *i*PKPB PKPdf 04 46 17.1 +5.8
comp=Z,33nm,1.1s
BRG *i* 04 46 24.2
comp=Z,12nm,0.9s
BRG *i* 04 46 30.1
comp=Z,58nm,1.9s
BRG *e* 04 49 51.0
BRG *e* 05 09 19.0
BRG
comp=N,147nm,21.3s
BRG
comp=E,146nm,17.4s
BRG
comp=Z,298nm,23.6s
BRG Berggiesshubel 150.22 348 *i* PKIKP PKPdf 04 46 11.2 -0.1
BRG *i* 04 46 17.1
BRG *i* 04 46 24.2
BRG *e* 04 49 51.0
BRG pmax pmax
comp=Z,33nm,1.1s
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,58nm,1.9s
BRG MLR MLR
comp=N,147nm,21.3s,MS4.9
BRG MLR MLR
comp=E,146nm,17.4s,MS4.9
BRG MLR MLR
comp=Z,298nm,23.6s
BRG Berggiesshubel 150.22 348 *i* PKPdf PKPdf 04 46 11.2 0.0
BRG *i* PKPbc PKPbc 04 46 17.1 +0.7
BRG *i* 04 46 24.2
BRG *i* 04 46 30.1
BRG *e* 04 49 51.0
BRG *e* 05 09 19.0
BRG LR LR
comp=Z,300nm,23.6s,MS5.0
PLOR Plostina 150.24 329⇓ *i*P PKPbc 04 46 17.1 +0.7
ANTO Ankara 150.29 313⇑ *i*P PKPbc 04 46 17.8 +1.2
ANTO Ankara 150.29 313 *e*PKPdf PKPdf 04 46 11.8 +0.4
ANTO *e*PKPbc PKPbc 04 46 17.1 +0.5
HARR Harsova 150.41 326 PKHKP 04 46 18.2
RCY Rachaya 150.41 300 *e*P PKPbc 04 46 18.6 +1.8
PVCC Panska Ves 150.43 347 *e*PKPdf PKPdf 04 46 12.4 +0.8
PVCC *e*PKPbc PKPbc 04 46 17.6 +0.7
SGKT Sivrigoynuk 150.43 315 *i* P PKPdf 04 46 14.8 +3.2
MORC Moravsky Berou 150.44 343⇓ *i*P PKPbc 04 46 17.5 +0.6
MORC Moravsky Berou 150.44 343 *e*PKPdf PKPdf 04 46 12.2 +0.6
MORC *e*PKPbc PKPbc 04 46 17.3 +0.4
BHL Bhannes 150.44 301 *e*P PKPbc 04 46 18.2 +1.3
BUG Bochum--Univer 150.45 357 *e*PKPbc PKPbc 04 46 16.7 -0.2
KECS Kecovo 150.69 339 *e*PKP PKPbc 04 46 18.1 +0.6
KECS *e* 04 46 25.5
KECS Kecovo 150.69 339 *e*PKP PKPbc 04 46 18.2 +0.7
KECS *e* 04 46 25.5
MEST Erdemli 150.74 307 *i* P PKPdf 04 46 14.8 +2.7
MOX Moxa 150.83 351 *e*PKPdf PKPdf 04 46 12.0 -0.2
MOX *e*PKPbc PKPbc 04 46 18.0 +0.2
MOX Moxa 150.83 351 *de*PKP PKPbc 04 46 17.9 +0.1
comp=Z,68nm,1.5s
MOX *e* 04 46 25.0
MOX *e* 04 46 31.5
MOX *e* 04 49 53.0
MOX
comp=Z,400nm,20.0s
MLR Muntele Rosu 150.84 329⇑ *i*P PKPbc 04 46 18.3 +0.4
MLR Muntele Rosu 150.84 329 P PKPbc 04 46 18.2 +0.3
UBBA Unterbreizbach 150.85 353 *e*PKPbc PKPbc 04 46 17.9 0.0
PRA Prague 150.89 347 PKPdf PKPdf 04 46 13.0 +0.7
PRA PKPbc PKPbc 04 46 19.0 +1.0
PRA PKPab PKPab 04 46 24.0 -1.4
TANN Tannenbergstha 150.92 350 *e*PKPdf PKPdf 04 46 12.5 +0.2
TANN *e*PKPbc PKPbc 04 46 18.4 +0.3
PRU Pruhonice 150.95 347 *e*PKPdf PKPdf 04 46 12.6 +0.2
PRU *e*PKPbc PKPbc 04 46 18.6 +0.5
PRU AMS AMS 05 51 50.0
comp=Z,700nm,22.3s
PRU Pruhonice 150.95 347 *e*PKP PKPdf 04 46 12.6 +0.2
PRU *e* 04 46 18.6
HENT Hendek 151.05 317 *i* P PKPbc 04 46 17.6 -0.7
NKC Novy Kostel 151.10 350 *e*PKPbc PKPbc 04 46 19.0 +0.5

VRAC Vranov 151.11 344⇑ *i*P PKPbc 04 46 19.2 +0.7
VRAC Vranov 151.11 344 P PKPbc 04 46 19.1 +0.6
BEBN Eben Emael 151.15 359 PKPbc PKPbc 04 46 18.9 +0.3
UCC Uccle 151.15 1 PKPbc PKPbc 04 46 18.6 0.0
UCC APKPbc 04 46 31.7
SNX Sinaia 151.15 329⇓ *i*P PKPbc 04 46 20.1 +1.5
SNX Sinaia 151.15 329⇓ P PKPbc 04 46 20.1 +1.5
HGN Heimansgroeve 151.17 359 *e*PKP PKPbc 04 46 18.7 +0.1
comp=Z,45nm,0.9s
VYHS Vyhne 151.22 341 *i* PKP PKPbc 04 46 19.1 +0.4
VYHS Vyhne 151.22 341 *i* PKP PKPbc 04 46 19.2 +0.5
DRGR 151.28 334⇑ *i*P PKPbc 04 46 19.5 +0.6
DRGR 151.28 334 P PKPbc 04 46 19.4 +0.5
VOIR 151.31 330⇑ *i*P PKPbc 04 46 19.5 +0.5
VOIR 151.31 330⇑ P PKPbc 04 46 19.6 +0.6
MEM Membach 151.33 359 PKPbc PKPbc 04 46 19.1 +0.1
MEM APKPbc 04 46 31.2
PSZ Piszkesteto 151.38 339⇑ *e*PKP/F PKPbc 04 46 19.8 +0.7
PSZ Piszkesteto 151.38 339⇑ *i*P PKPbc 04 46 19.9 +0.8
PSZ Piszkesteto 151.38 339 *e*PKPdf PKPdf 04 46 13.5 +0.5
PSZ *e*PKPbc PKPbc 04 46 19.5 +0.3
PSZ *e*PKPab PKPab 04 46 26.0 -1.4
KDHN Kadinhani 151.39 312 *i* P PKPdf 04 46 17.6 +4.6
MANZ Manzenberg 151.39 350 *e*PKPdf PKPdf 04 46 13.4 +0.3
MANZ *e*PKPbc PKPbc 04 46 19.4 +0.3
TREC Trest 151.40 345 *e*PKPdf PKPdf 04 46 13.3 +0.2
SNF Seneffe 151.44 1 PKPbc PKPbc 04 46 19.5 +0.3
SNF APKPbc 04 46 31.8
BCLA Clavier 151.53 359 PKPbc PKPbc 04 46 19.3 -0.1
BCLA APKPbc 04 46 32.2
ROTZ Rotzenmuhle 151.59 350 *e*PKPdf PKPdf 04 46 13.8 +0.4
ROTZ *e*PKPbc PKPbc 04 46 19.7 +0.1
SMOL Smolenice 151.62 342 *e*PKP PKPbc 04 46 20.9 +1.2
SMOL *e* 04 46 29.7
ERMK Ermenek 151.63 307 *i* P PKiKP 04 46 22.4 +2.3
GRA1 Grafenberg Arr 151.81 351 *e*PKPbc PKPbc 04 46 20.5 +0.4
GRA1 *e*PP PP 04 49 57.1 -3.5
GRA1 LR LR
comp=Z,500nm,20.2s,MS5.3
GRF Grafenberg Arr 151.81 351 *e*PKPbc PKPbc 04 46 20.5 +0.4
GRF *e*PP PP 04 49 57.1 -3.5
GRF *e*L 05 57 27.0
comp=Z,548nm,20.2s
GIVF Givet 151.85 0 *i*PKP1 PKPbc 04 46 20.7 +0.5
comp=Z,115nm,1.0s
DOU Dourbes 151.85 0 PKPbc PKPbc 04 46 20.6 +0.4
BAIF Baives 151.88 1⇑ *i*PKP1 PKPbc 04 46 20.9 +0.6
comp=Z,108nm,1.1s
EIL Elat 151.93 292 *e*PKPdf PKPdf 04 46 14.7 +0.8
EIL *e*PKPbc PKPbc 04 46 21.6 +1.2
CSS Prodhromos 151.94 304 *e*PKPbc PKPbc 04 46 20.6 +0.2
KHC Kasperske Hory 151.96 348 *e*PKPdf PKPdf 04 46 14.6 +0.7
KHC *e*PKPbc PKPbc 04 46 21.1 +0.7
KHC AMS AMS 05 54 10.0
comp=Z,700nm,21.4s
KHC Kasperske Hory 151.96 348 *e*PKP PKPdf 04 46 14.6 +0.7
KHC *e* 04 46 21.1
ZST Bratislava 152.00 343 *e*PP PP 04 49 55.9 -5.7
BUD Budapest 152.05 339 *e*pPKP/F PKPbc 04 46 21.1 +0.5
WET Wettzell 152.08 349 *e*PKPdf PKPdf 04 46 14.2 +0.1
WET *e*PKPbc PKPbc 04 46 20.4 -0.3
WET Wettzell 152.08 349 *e*PKIKP PKPbc 04 46 20.4 -0.3
GEC2 GERESS Array S 152.21 348 *e*PKPdf PKPdf 04 46 14.2 -0.1
GEC2 *e*PKPbc PKPbc 04 46 21.5 +0.5
GERES GERESS Array B 152.21 348 PKP PKPdf 04 46 13.1 -1.2
comp=Z,1.6nm,0.9s,baz=325,slow=1.6,SNR=13
GERES PKPbc PKPbc 04 46 21.5 +0.5
comp=Z,8.9nm,0.9s,baz=75,slow=1.5,SNR=38
WLF Walferdange 152.27 358 *e*PKPbc PKPbc 04 46 21.3 +0.2
WLF *e*PKPab PKPab 04 46 34.3 +3.2
WLF Walferdange 152.27 358 PKPbc PKPbc 04 46 21.4 +0.3
WLF APKPbc 04 46 34.2
WLF Walferdange 152.27 358 *e*PKPdf PKPdf 04 46 14.2 -0.1
WLF *e*PKPbc PKPbc 04 46 21.5 +0.4
WLF *e*PKPab PKPab 04 46 30.1 -1.0
GZR Gura Zlata 152.37 332⇓ *i*P PKPbc 04 46 21.7 +0.3
GZR Gura Zlata 152.37 332 P PKPbc 04 46 21.7 +0.3
ULDT Uludag 152.55 317 *i* P PKPdf 04 46 18.6 +3.8
CONA Conrad Observa 152.57 344⇑ *i*PKPdf PKPdf 04 46 14.8 -0.1
comp=Z,16nm,1.0s,SNR=6.1
SOP Sopron 152.62 343⇓ *e*PKP/F PKPdf 04 46 15.5 +0.6
BZS Buzias 152.68 334⇑ *i*P PKPbc 04 46 21.0 -1.1
BZS Buzias 152.68 334 P PKPdf 04 46 15.4 +0.5
ROSF Rostrenen 152.81 12 *e*PKP1 PKPbc 04 46 22.0 -0.3
ISP Isparta 152.83 312 *e*PKPdf PKPdf 04 46 16.5 +1.3
ISP *e*PKPbc PKPbc 04 46 22.6 +0.2
FLN La Foliniere 152.84 8⇑ *i*PKP1 PKPbc 04 46 22.3 -0.1
comp=Z,111nm,1.2s
LANF Langenberg 152.87 356 PKP PKPbc 04 46 22.8 +0.3
STU Stuttgart 152.96 354 *e*PKPbc PKPbc 04 46 22.3 -0.4
STU Stuttgart 152.96 354 *e*PKPdf PKPdf 04 46 16.3 +0.9
STU *e*PKPbc PKPbc 04 46 22.1 -0.6
STU *e*PKPab PKPab 04 46 33.9 -0.2
SGMF Saint Gilles 153.02 11 *e*PKP1 PKPbc 04 46 22.7 -0.1
MOA Molln 153.03 346⇓ *i*P PKPdf 04 46 12.4 -3.1
comp=Z,11nm,1.1s
LDF La Druitiere 153.05 7⇑ *i*PKP1 PKPbc 04 46 22.8 -0.1
comp=Z,30nm,1.0s
GRR Gorron 153.16 9⇑ *i*PKP1 PKPbc 04 46 23.2 +0.1
comp=Z,46nm,0.9s
QUIF Quistinic 153.23 12 *e*PKP1 PKPbc 04 46 23.1 -0.2
FUR Furstenfeldbru 153.29 351 *e*PKPbc PKPbc 04 46 23.5 +0.1
MEZF Maizieres J'vi 153.45 360⇑ *i*PKP1 PKPbc 04 46 24.4 +0.7
comp=Z,59nm,1.1s
BTOK Tokmak 153.46 317 *i* P PKPdf 04 46 21.5 +5.4
WLS Welschbruch 153.47 356 PKP PKPbc 04 46 24.1 +0.3
CDF Champ du Feu 153.47 356⇑ *i*PKP1 PKPbc 04 46 24.3 +0.5
comp=Z,32nm,1.0s
BFO Black Forest 153.48 355 *e*PKPbc PKPbc 04 46 23.5 -0.3
ECH Echery 153.67 357 PKP PKPbc 04 46 26.0 +1.8
THEF They Montfort 153.71 358 PKP PKPbc 04 46 25.2 +0.9
BEO Belgrade 153.80 334 *i* PKP PKPdf 04 46 17.4 +0.8
KOGS Kog 153.83 342 *e*PKPdf PKPdf 04 46 16.3 -0.3
KOGS *e*PKPbc PKPbc 04 46 24.5 -0.1
KOGS *e*PKPab PKPab 04 46 37.8 +0.1
KOGS *e* 04 46 51.7
HAU Haudompre 153.92 358 *e*PKP1 PKPbc 04 46 25.1 +0.3
KBA Koelnbreinsper 153.96 347⇑ *i*P PKPdf 04 46 14.1 -2.7
comp=Z,10nm,1.3s
PERS Pernice 153.96 344 *e*PKPdf PKPdf 04 46 16.5 -0.3
PERS *e*PKPbc PKPbc 04 46 24.7 -0.2
PERS *e*PKPab PKPab 04 46 38.2 0.0
PERS *e* 04 46 44.3
PERS *e* 04 46 52.3
HINF Hinteralfeld 154.09 357⇑ *i*PKP1 PKPbc 04 46 25.3 +0.2
comp=Z,14nm,1.0s
WTTA Wattenberg 154.11 349⇑ *i*P PKPdf 04 46 17.4 +0.3
comp=Z,14nm,1.0s
MOTA Moosalm 154.12 350⇓ *i*P PKPdf 04 46 17.2 +0.1
comp=Z,9.6nm,1.1s
VTS Vitosha 154.31 328⇓ *i*P PKPbc 04 46 26.7 +1.1
VTS Vitosha 154.31 328 ⇓P PKPbc 04 46 26.7 +1.1
LOMF Lomont 154.55 357 PKP PKPbc 04 46 26.0 -0.1
DIVS Divcibare 154.58 334 *i* PKP PKPdf 04 46 17.5 -0.2
HYF Humbligny 154.62 4 *e*PKP1 PKPbc 04 46 27.0 +0.8
LJU Ljubljana 154.66 344 *e*PKPdf PKPdf 04 46 17.9 +0.1
LJU *e*PKPbc PKPbc 04 46 26.7 +0.4
LOR Lormes 154.67 2 *e*PKP1 PKPbc 04 46 25.9 -0.5
comp=Z,16nm,1.0s
BOJS Bojanci 154.97 343 *e*PKPdf PKPdf 04 46 18.4 +0.1
BOJS *e*PKPbc PKPbc 04 46 27.2 +0.2
BOJS *e*PKPab PKPab 04 46 42.9 +0.3
CEY Cerknica 154.97 344 *e*PKPdf PKPdf 04 46 18.0 -0.2
CEY *e*PKPbc PKPbc 04 46 26.9 -0.1
CEY *e*PKPab PKPab 04 46 42.5 -0.1
BBLS Bajina Basta - 155.01 335 *i* PKP PKPdf 04 46 18.8 +0.5
AVF Avril sur Loir 155.13 3 *e*PKP1 PKPdf 04 46 27.4 +9.0
comp=Z,18nm,1.2s
CABF La Chapelle 155.32 358 *e*PKP1 PKPdf 04 46 26.2 +7.5
comp=Z,48nm,1.3s
BGF Bois d'Agland 155.34 3 *e*PKP1 PKPdf 04 46 27.1 +8.4
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 155.56 5 *e*PKP1 PKPdf 04 46 27.4 +8.4
comp=Z,12nm,1.1s
LPL La Plagne 156.39 357 *e*PKP1 PKPdf 04 46 29.0 +8.9
LPG La Plagne 156.41 357 *e*PKP1 PKPdf 04 46 29.0 +8.8
comp=Z,8.4nm,0.9s
RJF Les Rejaudoux 156.48 6 *e*PKP1 PKPdf 04 46 28.8 +8.6
comp=Z,24nm,1.3s
BNI Bardonecchia 156.85 357 *e*PKPdf PKPdf 04 46 21.2 +0.5
BNI *e*PKPab PKPab 04 46 50.4 -0.2
CAF Calviac 156.91 5 *e*PKP1 PKPdf 04 46 29.6 +8.8

ORIF	Oris-en-Rattie	157.02	358	ePKP1	PKPdf	04 46 29.4	+8.5
MBDF	Montbardon	157.17	357	ePKP1	PKPdf	04 46 29.7	+8.6
PCAB	Cabril	157.43	26	ePKPdf	PKPdf	04 46 23.0	+1.5
MTE	Manteigas	158.73	27	ePP	PP	04 50 14.1	-25
MTE	Manteigas	158.73	27	eSS	SS	05 10 23.7	-15
MTE	Manteigas	158.73	27	eLR	LR	05 42 58.5	
	comp=Z,674nm,16.6s						
PMAFR	Mafra	159.09	32	ePKPdf	PKPdf	04 46 21.1	-2.4
PMAFR	Mafra	159.09	32	eLR	LR	05 41 57.5	
PCBR	Castelo Branco	159.22	28	ePKPdf	PKPdf	04 46 25.0	+1.4
GUD	Guadarrama	159.78	20	PKP	PKPdf	04 46 25.4	+1.1
PESTR	Estremoz	159.97	30	ePKPdf	PKPdf	04 46 25.6	+1.1
PESTR	Estremoz	159.97	30	ePKPdf	PKPdf	04 46 26.7	+2.2
PESTR	Estremoz	159.97	30	ePP	PP	04 50 49.1	+3.2
PESTR	Estremoz	159.97	30	eSS	SS	05 10 47.1	-4.7
PESTR	Estremoz	159.97	30	eLR	LR	05 43 20.0	
EBAD	Badajoz	160.32	29	PKP	PKPdf	04 46 25.3	+0.4
PBEJ	Beja	160.50	32	ePKPdf	PKPdf	04 46 27.1	+2.0
ESDC	Sonseca Array	160.72	21	PKP	PKPdf	04 46 25.4	+0.1
	comp=Z,2.4nm,0.9s,baz=345,slow=3.2,SNR=18						
ESDC				PKPab	PKPab	04 47 07.9	+0.5
	comp=Z,1.6nm,0.8s,baz=324,slow=4.1,SNR=5.9						
ESDC	Sonseca Array	160.72	21	PKP	PKPdf	04 46 25.3	0.0
EMIN	Mina Concepcio	161.28	30	PKP	PKPdf	04 46 26.6	+0.7
LIC	Lamto	161.69	147⇑	iPKIKP	PKPdf	04 46 27.0	+0.7
	comp=Z,40nm,1.0s						
EADA	Adamuz	161.83	25	PKP	PKPdf	04 46 27.2	+0.8
EBAN	Banos Encina	162.13	23	PKP	PKPdf	04 46 27.8	+1.0
EVIA	Vianos	162.13	19	PKP	PKPdf	04 46 28.4	+1.7
DBIC	Dimbokro	162.16	147	PKP	PKPdf	04 46 27.2	+0.4
	comp=Z,9.5nm,0.9s,baz=106,slow=2.0,SNR=11						
DBIC	Dimbokro	162.16	147	PKIKP	PKPdf	04 46 27.2	+0.4
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DBIC	Dimbokro	162.16	147	ePKPdf	PKPdf	04 46 27.6	+0.8
ETOB	Tobarra	162.40	17	PKP	PKPdf	04 46 29.0	+2.0
ELUQ	Luque	162.48	25	PKP	PKPdf	04 46 28.4	+1.2
EQES	Quesada	162.71	22	PKP	PKPdf	04 46 28.0	+0.7
EHUE	Huescar	162.85	21	PKP	PKPdf	04 46 28.0	+0.5
ELOJ	Sierra Loja	162.88	25	PKP	PKPdf	04 46 27.5	0.0
ECOG	Cogollos-Vega	163.00	24	PKP	PKPdf	04 46 27.8	+0.2
ERON	Agron	163.13	25	PKP	PKPdf	04 46 28.2	+0.4
ENIJ	Nijar	163.75	21	PKP	PKPdf	04 46 29.0	+0.7
KEST	Kesra	165.68	345	PKP	PKPdf	04 46 30.2	+0.2
	comp=Z,1.1nm,0.8s,baz=247,slow=5.3,SNR=3.6						
KEST				PKPab	PKPab	04 47 29.0	-0.2
	comp=Z,3.5nm,0.8s,baz=294,slow=2.7,SNR=9.0						
TOA0	Torodi Ar. Sit	170.78	160	ePKPdf	PKPdf	04 46 33.4	-0.1
TOA0				ePKPab	PKPab	04 47 52.5	+0.8
TORD	Torodi Ar. Bea	170.78	160	PKP	PKPdf	04 46 33.0	-0.5
	comp=Z,4.2nm,0.9s,baz=311,slow=1.0,SNR=20						
TORD				PKPab	PKPab	04 47 50.8	-0.9
	comp=Z,3.1nm,0.8s,baz=212,slow=3.2,SNR=4.7						

*IDC **03** 04:35:03.3±2.7, 422N×9425E, h0^{km}, mb3.7/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.3/1, Error ellipse: s-maj=116.6km s-min=22.5km az=51.0*

*ISCJB **03** 04:35:06.4±1.6, 43N±03×943E±03, h33^{km}, mb3.9/6, Error ellipse: s-maj=63.9km s-min=14.5km az=92.6*

*NEIC **03** 04:35:08.2±1.3, 429N×9436E, h30^{km}, mb4.2/2, Error ellipse: s-maj=52.8km s-min=10.9km az=47.0*

ISC 03 04:35:09.2±1.7**, 43N**±03×**944E**±04**, h35**^{km}**, n7,** σ**0^{s}31**/7**, mb3.9**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	4.80	108	Pn	Pn	04 36 19.1	+0.1
	1.2nm,0.3s,baz=332,slow=14,SNR=8.0						
MKAR	Makanchi Array	43.57	348	P	P	04 43 09.2	-0.5
	0.5nm,0.3s,mb3.7,baz=161,slow=7.7,SNR=5.9						
WRA	Warramunga Arr	46.10	123	P	P	04 43 29.4	-0.5
	0.9nm,0.7s,mb3.8,baz=301,slow=9.2,SNR=5.6						
WRAB	Tennant Creek	46.11	123	eP	P	04 43 30.1	+0.2
	2.6nm,0.7s,mb4.3						
ASAR	Alice Springs	47.54	128	P	P	04 43 41.1	+0.1
	0.2nm,0.6s,mb3.4,baz=296,slow=8.3,SNR=4.4						
BVAR	Borovoye Array	52.39	342	P	P	04 44 18.2	+0.3
	1.5nm,0.6s,mb4.1,baz=142,slow=7.5,SNR=5.6						
CHKZ	Chkalovo	52.88	343	eP	P	04 44 21.7	+0.2
	1.4nm,0.5s,mb4.2						

*ISCJB **03** 04:42:24.7±2.0, 66N±03×729W±03, h147^{km}±25^{km}, mb3.2/1, Error ellipse: s-maj=63.5km s-min=7.9km az=85.4*

*IDC **03** 04:42:24.2±1.3, 677N×7294W, h162^{km}±13^{km}, mb2.9/1, mb1 3.3/4, mb1mx3.0/21, mbtmp3.7/4, Error ellipse: s-maj=41.8km s-min=13.8km az=133.0*

*NEIC **03** 04:42:24.5±0.9, 682N×7307W, h165^{km}±8^{km}, mb3.6/2, Error ellipse: s-maj=22.3km s-min=10.9km az=132.0*

ISC 03 04:42:25.2±1.9**, 67N**±02×**729W**±02**, h148**^{km}±19^{km}**, n9,** σ**0^{s}63**/11**, mb3.2**/1**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.29	217	P	Pn	04 43 04.7	+1.1
	16nm,0.3s,baz=251,slow=20,SNR=74						
ROSC				S	Sn	04 43 32.7	-0.6
	30nm,0.3s,baz=96,slow=16,SNR=12						
SDV	Santo Domingo	3.16	46	P	Pn	04 43 14.6	+0.1
	23nm,0.3s,baz=239,slow=3.7,SNR=83						
SDV				S	Sn	04 43 51.6	-1.0
	27nm,0.3s,baz=272,slow=21,SNR=26						
SDV	Santo Domingo	3.16	46	ePn	Pn	04 43 14.5	0.0
SDV				eSn	Sn	04 43 52.0	-0.6
PCRV	Puerto La Cruz	8.91	67	P	Pn	04 44 31.3	+0.5
	1.1nm,0.3s,baz=194,slow=8.8,SNR=8.7						
PCRV				S	Sn	04 46 10.1	+0.4
	0.3nm,0.3s,baz=129,slow=6.5,SNR=2.5						
SAML	Samuel	18.34	148	eP	P	04 46 28.0	-0.2
	2.0nm,0.6s						
LPAZ	La Paz	23.33	168	P	P	04 47 18.9	-1.1
	0.6nm,0.7s,mb3.1,baz=355,slow=11,SNR=3.7						
LPAZ	La Paz	23.33	168	eP	P	04 47 20.2	+0.2
	1.3nm,0.9s,mb3.4						
ASAR	Alice Springs	149.18	234	PKPbc	PKPbc	05 01 54.2	-1.9
	0.3nm,0.6s,baz=132,slow=3.3,SNR=6.5						
WRA	Warramunga Arr	150.43	241	PKPbc	PKPbc	05 01 57.4	-1.8
	0.3nm,0.4s,baz=106,slow=2.7,SNR=12						

IDC 03 06:20:35.1±1.3**, 477N**×**12678E, h0**^{km}**, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/16**, mbtmp3.7**/5**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.2**/26**, Error ellipse: s-maj=128.7km s-min=19.5km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUKP	Musuan	3.53	331	eP	Pn	06 21 41.9	+11
FITZ	Fitzroy Crossi	22.75	183	LR	LR	06 34 43.5	
	comp=Z,52nm,18.9s,baz=71,slow=37						
WRA	Warramunga Arr	25.66	163	P	P	06 26 07.5	+1.0
	1.6nm,0.5s,baz=342,slow=10,SNR=14						
ASAR	Alice Springs	29.11	166	P	P	06 26 37.5	+0.1
	0.3nm,0.6s,baz=0.7,slow=8.6,SNR=6.9						
STKA	Stephens Creek	39.08	160	P	P	06 28 03.3	-0.6
	1.4nm,0.6s,baz=325,slow=12,SNR=5.6						
SONM	Songino Array	46.33	341	P	P	06 29 02.2	-0.5
	0.4nm,0.6s,baz=160,slow=8.8,SNR=2.7						
MKAR	Makanchi Array	56.73	325	P	P	06 30 21.1	+0.5
	1.0nm,0.5s,baz=116,slow=8.1,SNR=14						

*RSPR **03** 06:22:17.1, 1859N×6325W, h32^{km}±12^{km}, MD3.5/6, MD3.5/6*

*NEIC **03** 06:22:17.1, 1859N×6325W, h32^{km}, MD3.5(RSPR), After RSPR.*

NEIC Felt at Philipsburg, Netherlands Antilles.

TRN 03 06:22:13.2, 1820N×**6315W, h34**^{km}**, MD3.1, 6C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STMA	St. Maarten, A	0.16	165	eP	Pb	06 22 21.0	+1.5
STMA				eS	Sb	06 22 25.6	+1.8
STAT	Sint Eustatius	0.72	167	eP	Pn	06 22 28.9	+2.1
STAT				eS	Sn	06 22 39.6	+2.9
TBVI	Tortola	1.41	279⇑	eP	Pn	06 22 37.8	+1.4
TBVI				eS	Sn	06 22 53.5	-0.2
BPA	Boggy Peak	1.69	133	eP	Pn	06 22 42.2	+2.1
BPA				eS	Sn	06 23 02.5	+2.0
STVI	Saint Thomas	1.72	275⇑	eP	Pn	06 22 41.9	+1.3
STVI				eS	Sn	06 23 01.8	+0.4
MTP	Monte Pirata	2.28	268⇑	eP	Pn	06 22 50.9	+2.5
MTP				eS	Sn	06 23 16.8	+1.5
HUMP	Col San Antoni	2.56	269⇑	eP	Pn	06 22 54.4	+2.1
HUMP				eS	Sn	06 23 24.0	+1.7
CBYP	Canovanas	2.57	272⇑	eP	Pn	06 22 54.5	+2.1
CBYP				eS	Sn	06 23 23.6	+1.2
CPD	Cerro la Pandu	2.63	267⇑	eP	Pn	06 22 55.7	+2.4
CPD				eS	Sn	06 23 26.0	+2.0

IDC 03 06:27:02.4±1.4**, 646N**×**7265W, h160**^{km}±8^{km}**, mb1 3.3**/2**, mb1mx2.9**/22**, mbtmp3.8**/2**, Error ellipse: s-maj=165.9km s-min=7.4km az=133.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.31	226	P	Pn	06 27 43.6	+1.9
	13nm,0.3s,baz=283,slow=11,SNR=101						
ROSC				S	Sn	06 28 13.0	+1.0
	34nm,0.3s,baz=65,slow=23,SNR=28						
SDV	Santo Domingo	3.13	40	P	Pn	06 27 53.3	+1.7
	7.2nm,0.3s,baz=214,slow=1.2,SNR=29						
SDV				S	Sn	06 28 30.3	+0.4
	28nm,0.3s,baz=267,slow=23,SNR=31						
ASAR	Alice Springs	149.28	233	PKPbc	PKPbc	06 46 32.8	+0.6
	0.6nm,0.6s,baz=112,slow=3.3,SNR=11						
WRA	Warramunga Arr	150.57	240	PKPbc	PKPbc	06 46 35.8	+0.5
	0.4nm,0.4s,baz=108,slow=2.8,SNR=23						

*NEIC **03** 06:40:54.0, 1799N×6887W, h114^{km}, MD3.6(RSPR), After RSPR.*

RSPR 03 06:40:54.0, 1799N×**6887W, h114**^{km}±3^{km}**, MD3.6**/4**, MD3.6**/4**, 7C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.67	89⇑	eP	Pn	06 41 22.6	-0.5
CRPR				eS	Sn	06 41 45.2	0.0
LSP	Las Mesas	1.71	83	eS	Sn	06 41 46.5	+0.5
AGPR	Aguadilla, PR	1.74	74⇑	eP	Pn	06 41 24.1	+0.2
AGPR				eS	Sn	06 41 46.3	-0.4
LRS	Lares	1.95	81⇑	eP	Pn	06 41 26.3	-0.3
LRS				eS	Sn	06 41 51.7	+0.4
AOPR	Arecibo Observ	2.04	80⇑	eP	Pn	06 41 27.3	-0.4
AOPR				eS	Sn	06 41 53.5	+0.1
HUMP	Col San Antoni	2.88	86⇑	eP	Pn	06 41 38.8	+0.3
HUMP				eS	Sn	06 42 12.9	+0.2
CBYP	Canovanas	2.88	84⇑	eP	Pn	06 41 38.1	-0.4
CBYP				eS	Sn	06 42 12.7	0.0
MTP	Monte Pirata	3.16	87⇑	eP	Pn	06 41 42.2	0.0
MTP				eS	Sn	06 42 20.1	+0.7

IDC 03 06:56:43.5±2.2**, 395N**×**12655E, h0**^{km}**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/16**, mbtmp3.7**/4**, Error ellipse: s-maj=190.0km s-min=26.3km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUKP	Musuan	4.17	339	eP	Pn	06 57 52.2	+3.9
WRA	Warramunga Arr	24.95	162	P	P	07 02 08.5	+0.1
	1.0nm,0.6s,baz=341,slow=10,SNR=16						
ASAR	Alice Springs	28.37	166	P	P	07 02 39.7	+0.4
	0.3nm,0.4s,baz=350,slow=7.5,SNR=9.7						
STKA	Stephens Creek	38.40	159	P	P	07 04 06.7	+0.2
	1.8nm,0.6s,baz=336,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	57.27	325	P	P	07 06 33.0	+0.2
	0.5nm,0.5s,baz=133,slow=12,SNR=4.1						

*STR **03** 07:07:47.1±0.8, 4422N×470E, h10^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*ISCJB **03** 07:07:49.0±0.4, 4409N±003×493E±003, h10^{km}±6^{km}, Error ellipse: s-maj=5.1km s-min=3.4km az=37.6*

*MDD **03** 07:07:51.1±0.6, 4406N×498E, h11^{km}±1^{km}, mbLg1.4/7, Error ellipse: s-maj=5.3km s-min=3.4km az=22.0, PRXIMO*

*LDG **03** 07:07:51.1±0.1, 4409N×499E, h10^{km}, Md1.8/3, Ml2.0/9, Error ellipse: s-maj=2.0km s-min=1.2km az=31.0*

ISC 03 07:07:50.2±0.4**, 4409N**±003×**497E**±003**, h17**^{km}±5^{km}**, n28,** σ**0^{s}73**/41**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMRF	Simiane la Rot	0.45	104	ePg	Pg	07 07 59.3	-0.1
SMRF				eSg	Sg	07 08 05.3	-0.2
	47nm,0.5s						
SMRF	Simiane la Rot	0.45	104	Pg	Pg	07 07 59.3	-0.1
SMRF				Lg		07 08 05.3	
	47nm,0.5s						
TREF	Trevaresse	0.55	147	Pg	Pg	07 08 02.9	+1.7
TREF				Sg	Sg	07 08 12.9	+4.2
VILF	Villemus	0.59	113	Pg	Pg	07 08 02.7	+0.8
STOF	St-Etienne Org	0.69	97	Pg	Pg	07 08 02.9	-0.8
STOF				Sg	Sg	07 08 13.8	+1.0
PUYF	Puyloubier	0.77	136	Pg	Pg	07 08 05.5	+0.3
GELF	Grande-Etoile	0.78	155	Pg	Pg	07 08 05.7	+0.2
VIVF	Saint-Julien-l	0.80	345	ePg	Pg	07 08 06.8	+1.1
VIVF				eSg	Sg	07 08 17.1	+0.9
	10nm,0.5s						
VIVF	Saint-Julien-l	0.80	345	Pg	Pg	07 08 06.8	+1.1
VIVF				Lg		07 08 17.1	
	5.1nm,0.5s						
TAVF	Tavernes	0.92	120	Pg	Pg	07 08 08.3	+0.2
BERF	Bertagne	0.94	146	Pg	Pg	07 08 09.2	+0.8
ORIF	Oris-en-Rattie	1.06	38	ePg	Pg	07 08 10.9	+0.2
ORIF				eSg	Sg	07 08 24.4	-0.1
	3.0nm,0.3s						
ORIF	Oris-en-Rattie	1.06	38	Pg	Pg	07 08 10.9	+0.2
ORIF				Lg		07 08 24.4	
	1.5nm,0.3s						
FRF	La Foret Royal	1.33	113	ePn	Pn	07 08 14.1	+0.1
FRF				eSg	Sg	07 08 32.2	-0.9
	13nm,0.4s						
FRF	La Foret Royal	1.33	113	Pn	Pn	07 08 14.1	+0.1
FRF				Lg		07 08 32.2	
	6.7nm,0.4s						
LMR	La Mourre	1.35	123	ePn	Pn	07 08 14.0	-0.3
LMR				eSg	Sg	07 08 33.4	-0.4
	5.2nm,0.3s						
LMR	La Mourre	1.35	123	Pn	Pn	07 08 14.0	-0.3
LMR				Lg		07 08 33.4	
	2.6nm,0.3s						
MBDF	Montbardon	1.44	63	ePn	Pn	07 08 15.7	+0.1
MBDF				eSg	Sg	07 08 36.0	-0.8
	0.8nm,0.3s						
MBDF	Montbardon	1.44	63	Pn	Pn	07 08 15.7	+0.1
MBDF				Lg		07 08 36.0	
	0.4nm,0.3s						
SBF	Sospel	1.80	96	ePg	Pg	07 08 24.0	-0.7
SBF				eSg	Sg	07 08 47.1	-1.0
	7.5nm,0.4s						
SBF	Sospel	1.80	96	Pg	Pg	07 08 24.0	-0.7
SBF				Lg		07 08 47.1	
	3.8nm,0.4s						
MTLF	Montolieu	2.13	250	ePn	Pn	07 08 25.1	+0.1
MTLF				eSg	Sg	07 08 58.8	+0.1
	1.0nm,0.2s						
MTLF	Montolieu	2.13	250	Pn	Pn	07 08 25.1	+0.1
MTLF				Lg		07 08 58.8	
	0.5nm,0.2s						
EJON	La Jonquera	2.23	224	Pn	Pn	07 08 27.1	+0.7
	0.1nm,0.2s,SNR=7.9						
EJON				Pg	Pg	07 08 31.3	-1.8
	0.1nm,0.1s,SNR=7.9						
EJON				Lg		07 09 00.1	
	0.3nm,0.1s,SNR=7.9						
CAF	Calviac	2.24	293	ePn	Pn	07 08 26.4	-0.1
CAF				eSg	Sg	07 09 01.5	-0.7
	1.2nm,0.2s						
CAF	Calviac	2.24	293	Pn	Pn	07 08 26.4	-0.1
CAF				Lg		07 09 01.5	
	0.6nm,0.2s						
RJF	Les Rejaudoux	2.74	297	ePn	Pn	07 08 33.6	+0.1
RJF				eSg	Sg	07 09 17.6	-0.8
	3.3nm,0.3s						
RJF	Les Rejaudoux	2.74	297	Pn	Pn	07 08 33.6	+0.1
RJF				Lg		07 09 17.6	
	1.6nm,0.3s						

MAN 03 07:10:15.0, 1497N×**11962E, h16**^{km}**, mb2.8, ML4.2, MS3.6, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.85	19	eP	Pb	07 10 31.2	-0.2
LUBP	Lubang	1.37	153	eP	Pn	07 10 38.5	-0.8
BOLP	Bolinao	1.43	11	eP	Pn	07 10 39.8	-0.5
PCPH	Palayan	1.54	67⇓	eP	Pn	07 10 40.4	-1.4
PCPH				eS	Sn	07 11 02.7	+1.2
BCPH	Baguio City Da	1.68	33⇓	eP	Pn	07 10 43.5	-0.3
BCPH				eS	Sn	07 11 04.6	-0.4
BALP	Baler	2.04	68	eP	Pn	07 10 48.2	-0.4
POLP	Polilio Island	2.26	96	eP	Pn	07 10 52.2	+0.6
CAUP	Cauayan	2.89	47	eP	Pn	07 11 01.3	+1.0
PVCP	Virac	4.61	107	eP	Pn	07 11 26.3	+2.4

*NIED **03** 08:08:00, 3630N×13720E, h280^{km}, Mw4.5 Best double couple: $M_0$6.13000×10^{15} NP1:ϕ_s125.00000°, δ71.00000°, λ-40.00000°. NP2:ϕ_s230.00000°, δ52.00000°, λ-156.00000°.*

*BJI **03** 08:08:40.6, 3634N×13775E, h271^{km}, mb4.4, mB4.4*

*MOS **03** 08:08:44.1±1.1, 3641N×13696E, h262^{km}, mb4.0/14, Error ellipse: s-maj=16.9km s-min=8.9km az=75.2*

*NEIC **03** 08:08:45.4, 3631N×13725E, h272^{km}, mb4.1/24, After JMA.*

*ISCJB **03** 08:08:45.2±0.2, 3635N±003×137.11E±005, h269^{km}±1^{km}, mb3.9/40, Error ellipse: s-maj=6.6km s-min=4.7km az=52.0*

*JMA **03** 08:08:45.3±0.1, 3631N×13725E, h272^{km}±1^{km}, M4.2*

*IDC **03** 08:08:45.5±0.5, 3630N×13705E, h264^{km}±4^{km}, mb3.7/16, mb1 3.9/16, mb1mx3.7/23, mbtmp4.3/16, Error ellipse: s-maj=15.3km s-min=11.9km az=90.0*

ISC 03 08:08:46.0±0.2**, 3635N**±003×**13712E**±005**, h265**^{km}±1^{km}**, n111,** σ**0^{s}82**/131**, mb3.9**/40**, 6C-6D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JGN	Niukaw	0.20	128	⇓P	Pn	08 09 20.1	+0.1
JGN				S	S	08 09 47.1	+0.3
JTT	Ttatey	0.31	34	P	Pn	08 09 20.4	+0.3
JTT				S	S	08 09 47.6	+0.6
JKG	Kaga	0.64	264	⇓P	Pn	08 09 21.7	+0.7
JKG				S	S	08 09 49.3	+0.7
JGM	Miyama	0.72	207	⇓P	Pn	08 09 21.5	+0.2
JGM				S	S	08 09 49.1	-0.1
MAJO	Matsushiro	0.90	77	ePg	Pn	08 09 22.2	+0.1
MAJO				eSg	S	08 09 50.5	0.0
MAT	Matsushiro	0.90	77	P	Pn	08 09 22.0	-0.1
MAT				S	S	08 09 50.1	-0.4
MAT	Matsushiro	0.90	77	P	Pn	08 09 22.0	-0.1
MAT				S	S	08 09 51.0	+0.5
MJAR	Matsushiro Arr	0.90	77	P	Pn	08 09 22.4	+0.3
	36nm,0.3s,baz=251,slow=7.0,SNR=401						
MJAR				S	S	08 09 51.1	+0.6
	6.5nm,0.3s,baz=291,slow=14,SNR=9.6						
JSZ	Suzu	1.11	10	P	Pn	08 09 23.5	+0.3
JSZ				S	S	08 09 52.8	+0.2
JYN	Shimob	1.44	126	P	Pn	08 09 25.0	-0.2
JRY	Ryogami san	1.48	102	P	Pn	08 09 25.1	-0.5
JRY				S	S	08 09 55.5	-1.3
JHG	Hegura jima	1.50	354	⇑P	Pn	08 09 26.4	+0.7
JHG				S	S	08 09 58.5	+1.4
JWT	Wachi	1.75	233	⇓P	Pn	08 09 28.0	+0.4
JWT				S	S	08 10 00.7	+0.2
JAG	Ashikaga	1.89	87	P	Pn	08 09 27.7	-1.0
JAG				S	S	08 10 00.0	-2.5
JSD	Sado	1.92	28	P	Pn	08 09 29.0	0.0
JSD				S	S	08 10 02.6	-0.3
JOD2	Odawara 2	1.93	124	⇓P	Pn	08 09 29.0	-0.1
JNS	Sasagawa	2.29	50	P	Pn	08 09 31.9	-0.4
JNS				S	S	08 10 07.0	-1.9
JWY	Kouya	2.46	211	P	Pn	08 09 34.6	+0.6
JWY				S	S	08 10 12.2	+0.2
TK01	Tokai 1	2.61	171	eS	S	08 10 15.0	+0.5
JAW	Awa shima	2.70	38	⇑P	Pn	08 09 36.0	-0.3
JAW				S	S	08 10 16.0	-0.2
JWZ	Kozaga	3.04	203	P	Pn	08 09 39.8	0.0
JWZ				S	S	08 10 22.4	-0.1
JHJ	Hachijo jima 2	3.90	145	S	S	08 10 40.6	+1.0
	56nm,0.3s,baz=80,slow=23,SNR=14						
ERM	Erimo	7.35	38	eP	Pn	08 10 27.8	-3.3
ERM				pmax	pmax		
	comp=Z,44nm,0.5s						
ERM	Erimo	7.35	38	ePn	Pn	08 10 27.8	-3.4
	comp=Z,44nm,0.5s						
ASAJ	Asahikawa	8.81	27	P	Pn	08 10 46.6	-2.9
	comp=Z,32nm,0.3s,baz=229,slow=9.2,SNR=212						
ASAJ				S	S	08 12 22.6	-6.9
	comp=Z,2.8nm,0.3s,baz=26,slow=25,SNR=6.4						
ASAJ	Asahikawa	8.81	27	P	Pn	08 10 46.7	-2.8
ASAJ				S	S	08 12 22.7	-6.8
ASAJ				pmax	pmax		
	comp=Z,32nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
MDJ	Mudanjiang	10.05	328	P	Pn	08 11 05.4	+0.4
MDJ				AMB	AMB		
	comp=Z,35nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,80nm,7.4s						
MDJ	Mudanjiang	10.05	328	ePn	Pn	08 11 05.8	+0.8
	comp=Z,26nm,0.9s						
YSS	Yuzh-Sakhalins	11.40	20⇓	iP	Pn	08 11 18.2	-3.6
YSS				eS	S	08 13 18.0	-11
YSS				pmax	pmax		
	comp=Z,110nm,0.9s						
YSS				smax			
	comp=N,50nm,1.2s						
YSS	Yuzh-Sakhalins	11.40	20	ePn	Pn	08 11 18.4	-3.4
CN2	Changchun	11.62	313	eP	Pn	08 11 23.6	-1.0
KLR	Kul'dur	13.46	345	eP	Pn	08 11 40.5	-6.5
KLR				eS	S	08 14 08.0	-8.1
KLR				pmax	pmax		
	comp=E,32nm,1.2s						
KLR				pmax	pmax		
	comp=Z,43nm,1.2s						
YHNB	Yeheng	17.85	234	eP	P	08 12 36.1	+0.1
HHC	Hu-ho-hao-te	20.44	290	eP	P	08 13 03.6	-0.1
HHC				XP	sP	08 14 18.3	-1.0
HHC				S	S	08 16 32.4	-4.3
HHC				PCP	PcP	08 17 06.2	+2.5
HHC				PCS	PcS	08 20 42.8	+1.2
HHC				AMB	AMB		
	comp=Z,11nm,0.6s						
HHC				AMB	AMB		
	comp=Z,97nm,4.1s						
HHC				LR	LR		
	comp=N,152nm,7.6s						
HHC				LR	LR		
	comp=E,241nm,5.3s						
HHC				LR	LR		
	comp=Z,149nm,5.9s						
MA2	Magadan	24.87	17	eP	P	08 13 44.9	+0.1
MA2				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.4						
MA2	Magadan	24.87	17	eP	P	08 13 44.9	+0.1
	comp=Z,16nm,1.1s,mb4.3						
SONM	Songino Array	25.36	307	P	P	08 13 49.0	-0.2
	comp=Z,0.3nm,0.5s,mb3.0,baz=108,slow=9.3,SNR=2.9						
MKAR	Makanchi Array	41.56	302	P	P	08 16 08.3	+0.3
	comp=Z,0.5nm,0.5s,mb3.0,baz=90,slow=10,SNR=3.4						
KAKA	Kakadu	48.99	186	eP	P	08 17 05.2	-0.9
	comp=Z,4.4nm,0.7s,mb3.9						
ZRNK	Zerenda	49.31	312	eP	P	08 17 07.5	-1.0
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
ZRNK	Zerenda	49.31	312	eP	P	08 17 07.5	-1.0
	comp=Z,1.6nm,0.5s,mb3.6						
KDAK	Kodiak Island	49.90	41	P	P	08 17 12.8	-0.1
	comp=Z,6.2nm,0.7s,mb4.1,baz=220,slow=1.0,SNR=6.2						
MCK	McKinley	51.11	33	eP	P	08 17 22.0	+0.1
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
MCK	McKinley	51.11	33	eP	P	08 17 22.0	+0.1
	comp=Z,2.0nm,0.8s,mb3.5						
PMR	Palmer	51.22	36	eP	P	08 17 22.5	-0.3
COLA	College	51.49	32	eP	P	08 17 24.7	0.0
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
COLA	College	51.49	32	eP	P	08 17 24.7	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.6nm,0.6s,mb3.5						
EGAK	**Eagle**	**54.34**	**31**	*e*P	**P**	**08 17 44.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.23**	**193**	⇑*i*P	**P**	**08 17 51.2**	**-0.6**
	comp=Z,5.9nm,0.9s,mb4.0						
WRAB	**Tennant Creek**	**56.04**	**183**	*c i*P	**P**	**08 17 56.8**	**-0.7**
WRAB	**Tennant Creek**	**56.04**	**183**	*e*P	**P**	**08 17 56.6**	**-1.0**
	comp=Z,13nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**56.05**	**183**	⇑*i*P	**P**	**08 17 56.5**	**-1.1**
WRA	**Warramunga Arr**	**56.05**	**183**	P	**P**	**08 17 56.6**	**-1.1**
	comp=Z,11nm,0.5s,mb4.6,baz=360,slow=7.6,SNR=488						
INK	**Inuvik**	**56.55**	**26**	P	**P**	**08 18 00.7**	**-0.5**
	comp=Z,4.5nm,0.5s,mb4.2,baz=276,slow=6.1,SNR=22						
INK	**Inuvik**	**56.55**	**26**	P	**P**	**08 18 00.7**	**-0.5**
INK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MBWA	**Marble Bar**	**59.51**	**199**	*e*P	**P**	**08 18 20.4**	**-1.3**
	comp=Z,3.2nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**59.77**	**183**	P	**P**	**08 18 22.6**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.0,baz=358,slow=6.1,SNR=94						
ASAR	**Alice Springs**	**59.77**	**183**	P	**P**	**08 18 22.6**	**-0.8**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ASPA	**Alice Springs**	**59.77**	**183**	⇑*i*P	**P**	**08 18 22.7**	**-0.7**
ARCES	**ARCESS Array B**	**63.40**	**339**	P	**P**	**08 18 45.7**	**-1.8**
	comp=Z,3.5nm,0.9s,mb4.0,baz=64,slow=8.2,SNR=9.8						
ARCES	**ARCESS Array B**	**63.40**	**339**	P	**P**	**08 18 45.7**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	**Joensuu**	**64.91**	**331**	*e*p	**P**	**08 18 56.3**	**-1.0**
	comp=Z,1.3nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**66.10**	**29**	P	**P**	**08 19 04.5**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=184,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**66.10**	**29**	P	**P**	**08 19 04.5**	**-0.4**
FINES	**FINESS Array B**	**67.78**	**331**	P	**P**	**08 19 14.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.9,baz=64,slow=6.6,SNR=11						
FINES	**FINESS Array B**	**67.78**	**331**	P	**P**	**08 19 14.6**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SUMG	**Summit**	**71.33**	**359**	*e*P	**P**	**08 19 37.9**	**+0.9**
	comp=Z,7.7nm,0.9s,mb4.3						
EDM	**Edmonton**	**71.99**	**37**	*e*P	**P**	**08 19 41.1**	**+0.1**
AKASG	**Malin Array Be**	**72.68**	**321**	P	**P**	**08 19 43.7**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.4,baz=49,slow=5.6,SNR=5.0						
HFS	**Hagfors**	**73.24**	**334**	P	**P**	**08 19 46.9**	**-1.4**
	comp=Z,2.6nm,0.9s,mb3.9,baz=123,slow=5.5,SNR=6.5						
HFS	**Hagfors**	**73.24**	**334**	P	**P**	**08 19 46.9**	**-1.4**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**73.44**	**336**	P	**P**	**08 19 49.0**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.5,baz=42,slow=6.2						
NOA	**NORSAR Array B**	**73.44**	**336**	P	**P**	**08 19 49.0**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.7,baz=42,slow=6.0,SNR=5.3						
NOA	**NORSAR Array B**	**73.44**	**336**	P	**P**	**08 19 49.1**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WDC	**Whiskeytown Da**	**74.22**	**51**	*e*P	**P**	**08 19 54.4**	**+0.4**
WALA	**Waterton Lakes**	**74.23**	**40**	*e*P	**P**	**08 19 54.1**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.0						
BMO	**Blue Mountains**	**74.89**	**45**	*e*P	**P**	**08 19 58.4**	**+0.6**
	comp=Z,5.9nm,1.2s,mb4.1						
HRY	**Holter Researc**	**76.78**	**41**	*e*P	**P**	**08 20 09.2**	**+0.7**
LRM	**Limekiln Ridge**	**77.01**	**42**	*e*P	**P**	**08 20 10.8**	**+1.0**
EGMT	**Eagleton**	**77.03**	**39**	*e*P	**P**	**08 20 10.8**	**+1.0**
CMB	**Columbia Colle**	**77.05**	**52**	*e*P	**P**	**08 20 10.5**	**+0.5**
DLMT	**Dillon**	**77.22**	**43**	*e*P	**P**	**08 20 11.7**	**+0.8**
	comp=Z,9.3nm,1.0s,mb4.5						
HLID	**Hailey**	**77.33**	**45**	*e*P	**P**	**08 20 12.0**	**+0.5**
	comp=Z,1.2nm,1.0s,mb3.6						
BOZ	**Bozeman (W)**	**77.57**	**42**	*e*P	**P**	**08 20 13.4**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
BOZ	**Bozeman (W)**	**77.57**	**42**	*e*P	**P**	**08 20 13.4**	**+0.6**
	comp=Z,9.0nm,1.3s,mb4.3						
NVAR	**Mina Array Bea**	**78.13**	**51**	P	**P**	**08 20 16.6**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.8,baz=284,slow=6.3,SNR=16						
GCMT	**Greycliff**	**78.53**	**41**	*e*P	**P**	**08 20 18.4**	**+0.3**
IMW	**Indian Meadow**	**79.07**	**43**	*e*P	**P**	**08 20 22.4**	**+1.4**
	comp=Z,6.0nm,1.0s,mb4.3						
FLWY	**Flagg Ranch**	**79.08**	**43**	*e*P	**P**	**08 20 22.8**	**+1.7**
RRI2	**Red Ridge**	**79.21**	**44**	*e*P	**P**	**08 20 21.9**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.1						
TPAW	**Teton Pass**	**79.33**	**43**	*e*P	**P**	**08 20 23.6**	**+1.2**
SNOW	**Snow King Moun**	**79.45**	**43**	*e*P	**P**	**08 20 23.9**	**+0.9**
	comp=Z,5.9nm,1.2s,mb4.2						
HWUT	**Hardware Ranch**	**80.20**	**45**	*e*P	**P**	**08 20 27.9**	**+0.8**
	comp=Z,2.0nm,0.8s,mb3.9						
DUG	**Dugway**	**80.38**	**47**	*e*P	**P**	**08 20 28.7**	**+0.7**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
DUG	**Dugway**	**80.38**	**47**	*e*P	**P**	**08 20 28.7**	**+0.7**
	comp=Z,2.9nm,1.1s,mb3.9						
BW06	**Boulder Array**	**80.57**	**43**	*e*P	**P**	**08 20 29.3**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**80.57**	**43**	P	**P**	**08 20 29.3**	**+0.2**
	comp=Z,2.1nm,0.8s,mb3.9,baz=324,slow=2.2,SNR=19						
MSU	**Marysvale**	**81.84**	**48**	*e*P	**P**	**08 20 37.3**	**+1.6**
ULM	**Lac du Bonnet**	**81.92**	**31**	P	**P**	**08 20 35.6**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.1,baz=343,slow=3.1,SNR=4.3						
SRU	**San Rafael**	**82.42**	**47**	*e*P	**P**	**08 20 39.4**	**+0.7**
SRU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
SRU	**San Rafael**	**82.42**	**47**	*e*P	**P**	**08 20 39.4**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.1						
EKA	**Eskdalemuir Ar**	**82.56**	**338**	P	**P**	**08 20 39.0**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=33,slow=4.7,SNR=9.6						
EKA	**Eskdalemuir Ar**	**82.56**	**338**	P	**P**	**08 20 39.0**	**-0.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PV10	**Paradox Valley**	**83.78**	**46**	*e*P	**P**	**08 20 47.1**	**+1.5**
PV01	**Paradox Valley**	**84.22**	**46**	*e*P	**P**	**08 20 48.8**	**+1.0**
PV01				*e*		08 21 45.0	
SCHQ	**Schefferville**	**86.88**	**14**	P	**P**	**08 20 59.9**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.2,baz=319,slow=8.1,SNR=3.7						
ANMO	**Albuquerque**	**87.63**	**47**	*e*P	**P**	**08 21 04.8**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ANMO	**Albuquerque**	**87.63**	**47**	*e*P	**P**	**08 21 04.8**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.8						
SAML	**Samuel**	**147.06**	**39**	*e*PKPdf	PKPdf	08 27 56.2	+1.1
LPAZ	**La Paz**	**149.97**	**55**	PKPbc	PKPbc	08 28 06.2	+1.2
	comp=Z,1.5nm,1.0s,baz=345,slow=8.2,SNR=5.2						
LPAZ				PKPab	PKPab	08 28 12.2	+0.5
	comp=Z,3.1nm,1.0s,baz=291,slow=4.6,SNR=8.5						
LPAZ	**La Paz**	**149.97**	**55**	*e*PKPdf	PKPdf	08 28 05.6	+5.8
LPAZ				*e*PKPab	PKPab	08 28 12.3	+0.6

---

*NAO **03** 08:12:52.0, 3850N×2493E, h33^{km}, mb3.8*
*NEIC **03** 08:13:14.1, 40.13N×1964E, h12^{km}, MD3.2(PDG), MD3.8(ATH), After ATH.*
*THE **03** 08:13:14.3, 4006N×1956E, h10^{km}, ML3.5*
*IDC **03** 08:13:14.6±1.7, 4040N×1995E, h0^{km}, mb3.4/4, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=34.6km s-min=25.0km az=84.0*
*ATH **03** 08:13:14.1, 40.13N×1964E, h12^{km}±1^{km}, MD3.8/10*
*PDG **03** 08:13:15.4±0.4, 40.10N×1970E, h16^{km}±1^{km}*
*ISCJB **03** 08:13:15.2±0.3, 4007N±002×1963E±002, h10^{km}, mb3.5/4, Error ellipse: s-maj=2.7km s-min=2.2km az=142.1*
*CSEM **03** 08:13:16.3±0.1, 4000N×1968E, h5^{km}, MD3.8, Error ellipse: s-maj=3.0km s-min=2.3km az=55.0*
*SOF **03** 08:13:29.1, 4099N×2049E, h20^{km}, MD2.9*

ISC 03 08:13:15.9±0.3, **4006N**±002×**1964E**±002, **h10**^{km}, **n66**, σ**1^{s}25**/98, **mb3.5**/4, **9C, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.37**	**161**	*e*PB	**Pg**	**08 13 22.7**	**-0.5**
KEK				*e*SB	**Sg**	**08 13 29.0**	**+0.9**
IGT	**Igoumenitsa**	**0.75**	**135**	*e*Pg	**Pg**	**08 13 29.1**	**-1.3**
IGT				*e*Sg	**Sg**	**08 13 41.0**	**+0.7**
JAN	**Janina**	**1.01**	**113**	*e*PG	**Pg**	**08 13 33.7**	**-1.7**
JAN				*e*SB	**Sb**	**08 13 48.2**	**-0.8**
KBN	**Korca**	**1.04**	**57**	*i* Pg	**Pg**	**08 13 34.2**	**-1.7**
KBN				*i* Sg	**Sg**	**08 13 50.8**	**+1.4**
LCI	**Lecce**	**1.20**	**284**	Pn	**Pn**	**08 13 38.3**	**-0.5**
LCI				*e*		08 13 58.4	
MEV	**Metsovon**	**1.25**	**102**	*e*Pg	**Pg**	**08 13 38.1**	**-1.9**
TIR	**Tirane**	**1.29**	**7**	*e*Pg	**Pg**	**08 13 39.1**	**-1.7**
TIR				*e*Sg	**Sg**	**08 13 59.1**	**+1.5**
OHR	**Ohrid**	**1.37**	**40**	*e*Pg	**Pg**	**08 13 38.9**	**-3.3**
OHR				*e*Sg	**Sg**	**08 14 00.3**	**+0.4**
OHR	**Ohrid**	**1.37**	**40**	*i* Pn	**Pn**	**08 13 39.2**	**-1.9**
OHR				*i* Sn	**Sn**	**08 14 00.2**	**+0.9**
OHR	**Ohrid**	**1.37**	**40**	*i* Pn	**Pn**	**08 13 39.1**	**-2.0**
OHR				*e*Sg	**Sg**	**08 14 00.3**	**+0.3**
FNA	**Florina**	**1.51**	**61**	*e*Pg	**Pg**	**08 13 40.6**	**-4.2**
FNA				*e*Sg	**Sg**	**08 14 03.9**	**-0.5**
LKD	**Levkas**	**1.56**	**150**	*e*Pg	**Pg**	**08 13 44.0**	**-1.9**
BIA	**Bitola**	**1.60**	**53**	*e*Pb	**Pb**	**08 13 42.1**	**-3.5**
BIA				*e*Sb	**Sb**	**08 14 08.0**	**+2.2**
BIA	**Bitola**	**1.60**	**53**	*i* Pn	**Pn**	**08 13 42.0**	**-2.2**
BIA				*i* Sn	**Sn**	**08 14 04.8**	**-0.1**
BIA	**Bitola**	**1.60**	**53**	*i* Pn	**Pn**	**08 13 42.0**	**-2.2**
BIA				*i* Sn	**Sn**	**08 14 04.8**	**-0.1**
KZN	**Kozani**	**1.65**	**81**	*e*PB	**Pb**	**08 13 44.9**	**-1.5**
KZN				*e*SB	**Sb**	**08 14 07.6**	**+0.4**
KRUS	**Krusevo**	**1.79**	**43**	*i* Pn	**Pn**	**08 13 47.0**	**+0.1**
KRUS	**Krusevo**	**1.79**	**43**	*i* Pn	**Pn**	**08 13 46.9**	**+0.1**
PE1	**Pezze di Greco**	**1.85**	**294**	*e*Pn	**Pn**	**08 13 44.6**	**-3.1**
ULC	**Ulcinj**	**1.92**	**351**	⇑*i*Pn	**Pn**	**08 13 48.6**	**-0.2**
ULC				*e*Sn	**Sn**	**08 14 14.3**	**+1.4**
VLS	**Valsamata**	**2.02**	**158**	*e*PN	**Pn**	**08 13 50.7**	**+0.6**
EVR	**Evrytania**	**2.03**	**124**	*e*PN	**Pn**	**08 13 50.8**	**+0.6**
EVR				*e*SN	**Sn**	**08 14 17.8**	**+2.2**
LIT	**Litokhoron**	**2.18**	**88**	*e*Pn	**Pn**	**08 13 52.9**	**+0.6**
GRG	**Griva**	**2.28**	**66**	*e*Pn	**Pn**	**08 13 54.1**	**+0.4**
BUM	**Brajici-Budva**	**2.31**	**346**	⇑*i*Pn	**Pn**	**08 13 53.7**	**-0.3**
BUM				*e*Sn	**Sn**	**08 14 23.1**	**+0.7**
AGG	**Agios Georgios**	**2.32**	**116**	*e*Pn	**Pn**	**08 13 54.8**	**+0.5**
AGG				*e*Sn	**Sn**	**08 14 25.7**	**+2.9**
SKO	**Skopje**	**2.34**	**35**	*e*Pn	**Pn**	**08 13 54.0**	**-0.5**
SKO				*e*Sn	**Sn**	**08 14 26.2**	**+2.9**
SKO	**Skopje**	**2.34**	**35**	*i* Pn	**Pn**	**08 13 54.0**	**-0.5**
SKO	**Skopje**	**2.34**	**35**	*e*Pn	**Pn**	**08 13 54.0**	**-0.5**
SKO				*e*Sn	**Sn**	**08 14 26.2**	**+2.9**
TTG	**Podgorica**	**2.38**	**353**	⇑*i*Pn	**Pn**	**08 13 54.3**	**-0.7**
TTG				*e*Sn	**Sn**	**08 14 25.4**	**+1.1**
RLS	**Riolos of Patr**	**2.45**	**144**	*e*PN	**Pn**	**08 13 57.5**	**+1.5**
STIP	**Stip**	**2.52**	**49**	*e*Pn	**Pn**	**08 13 56.0**	**-1.0**
STIP	**Stip**	**2.52**	**49**	*i* Pn	**Pn**	**08 13 57.4**	**+0.4**
HCY	**Herceg Novi**	**2.54**	**340**	⇑*i*Pn	**Pn**	**08 13 56.2**	**-0.9**
HCY				*e*Sn	**Sn**	**08 14 28.6**	**+0.6**
HCY	**Herceg Novi**	**2.54**	**340**	⇑*i*Pn	**Pn**	**08 13 56.2**	**-0.9**
HCY				*e*Sn	**Sn**	**08 14 28.6**	**+0.6**
PVY	**Plav**	**2.54**	**5**	⇑*i*Pn	**Pn**	**08 13 56.3**	**-1.0**
PVY				*e*Sn	**Sn**	**08 14 28.4**	**+0.1**
VAY	**Valandovo**	**2.56**	**60**	*e*Pn	**Pn**	**08 13 58.0**	**+0.6**
VAY	**Valandovo**	**2.56**	**60**	*i* Pn	**Pn**	**08 14 00.7**	**+3.3**
KNT	**Kendrikon**	**2.71**	**65**	*e*Pn	**Pn**	**08 14 00.7**	**+1.1**
NKY	**Niksic**	**2.79**	**350**	⇑*i*Pn	**Pn**	**08 14 00.6**	**-0.1**
NKY				*e*Sn	**Sn**	**08 14 35.1**	**+0.8**
IVA	**Berane**	**2.81**	**4**	⇑*i*Pn	**Pn**	**08 14 00.5**	**-0.5**
IVA				*e*Sn	**Sn**	**08 14 35.8**	**+0.8**
XOR	**Xorichti**	**2.82**	**103**	*e*Pn	**Pn**	**08 14 00.5**	**-0.6**
NEO	**Neokhori**	**2.86**	**104**	*e*PB	**Pb**	**08 14 02.8**	**-4.3**
PLG	**Polygyros**	**2.93**	**83**	*e*PN	**Pn**	**08 14 02.6**	**+0.1**
BRY	**Bratogost**	**2.95**	**344**	*e*Pn	**Pn**	**08 14 02.2**	**-0.7**
BRY				*e*Sn	**Sn**	**08 14 39.0**	**+0.6**
LKR	**Lokris**	**2.96**	**117**	*e*PN	**Pn**	**08 14 03.4**	**+0.4**
SLCN	**Sala Consilina**	**3.09**	**277**	Pn	**Pn**	**08 14 06.1**	**+1.4**
KKB	**Krupnik**	**3.17**	**54**	*i* P	**Pn**	**08 14 08.2**	**+2.4**
UPM	**Unac-Piva**	**3.19**	**350**	⇑*i*Pn	**Pn**	**08 14 06.2**	**+0.1**
UPM				*e*Sn	**Sn**	**08 14 44.3**	**+0.1**
PLE	**Pljevlja**	**3.27**	**357**	*e*Pn	**Pn**	**08 14 07.2**	**0.0**
PLE				*e*Sn	**Sn**	**08 14 46.0**	**-0.2**
CEL	**Celeste**	**3.43**	**239**	Pn	**Pn**	**08 14 09.6**	**+0.2**
SOI	**Samo**	**3.43**	**236**	Pn	**Pn**	**08 14 08.9**	**-0.5**
SOI				Sn	**Sn**	**08 14 50.8**	**+0.7**
MMB	**Musomiste**	**3.45**	**62**	*i* P	**Pn**	**08 14 10.6**	**+0.8**
MMB				S	**Sn**	**08 14 49.4**	**-1.3**
RGNG	**Rignano Grg**	**3.47**	**299**	Pn	**Pn**	**08 14 08.2**	**-1.8**
VTS	**Vitosha**	**3.69**	**46**	*i* P	**Pn**	**08 14 12.0**	**-1.0**
VTS				Sg	**Sn**	**08 14 55.8**	**-0.7**
MTTG	**Motta San Giov**	**3.70**	**237**	Pn	**Pn**	**08 14 14.2**	**+1.0**
MTTG				Sn	**Sn**	**08 14 57.7**	**+0.9**
BBLS	**Bajina Basta -**	**3.81**	**357**	*i* Pg	**Pn**	**08 14 16.4**	**+1.8**
DIVS	**Divcibare**	**4.04**	**4**	*i* Pg	**Pn**	**08 14 21.6**	**+3.8**
VLI	**Veliai**	**4.22**	**141**	*e*PN	**Pn**	**08 14 22.5**	**+2.1**
DIM	**Dimitrovgrad**	**4.88**	**64**	*i* P	**Pn**	**08 14 35.7**	**+6.4**
GERES	**GERESS Array B**	**9.75**	**336**	Pn	**Pn**	**08 15 34.0**	**-2.3**
	0.2nm,0.3s,baz=151,slow=12,SNR=4.5						
NB2	**NORSAR Subarra**	**21.64**	**349**	P	**P**	**08 18 03.9**	**-2.5**
	comp=Z,3.0nm,1.0s,mb3.7,baz=153,slow=10						
NOA	**NORSAR Array B**	**21.64**	**349**	P	**P**	**08 18 03.9**	**-2.4**
	comp=Z,0.7nm,0.7s,mb3.2,baz=150,slow=9.9,SNR=3.8						
FINES	**FINESS Array B**	**21.77**	**8**	P	**P**	**08 18 04.2**	**-3.5**
	comp=Z,1.3nm,0.7s,mb3.5,baz=194,slow=14,SNR=6.5						
TORD	**Torodi Ar. Bea**	**31.12**	**216**	P	**P**	**08 19 38.5**	**+3.9**
	comp=Z,0.3nm,0.7s,mb3.2,baz=29,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**44.92**	**60**	P	**P**	**08 21 27.8**	**-3.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=282,slow=6.1,SNR=4.3						

---

*ISCJB **03** 08:31:41.7±0.3, 3201N±002×3551E±005, h2^{km}, Error ellipse: s-maj=6.3km s-min=2.0km az=17.9*
*GII **03** 08:31:41.4±0.3, 3202N×3546E, h1^{km}, ML3.1/14, Mw3.2/6*
*GRAL **03** 08:31:41.3±3.2, 3182N×3545E, h0^{km}±999^{km}, MD3.7*
*CSEM **03** 08:31:41.8±0.1, 3204N×3549E, h2^{km}±1^{km}, Mw2.7, Error ellipse: s-maj=2.2km s-min=1.4km az=79.0*

ISC 03 08:31:42.3±0.4, **3200N**±002×**3551E**±005, **h2**^{km}, **n35**, σ**0^{s}89**/51, **Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.25**	**3**	Pg	**Pg**	**08 31 46.7**	**-0.4**
DRGI	**Dragot**	**0.42**	**194**	Pg	**Pg**	**08 31 50.4**	**0.0**
MMLI	**Mount Malkishu**	**0.44**	**350**	Pg	**Pg**	**08 31 50.1**	**-0.7**
MMLI				Sg	**Sg**	**08 31 57.7**	**+1.3**
DSI	**Dead Sea**	**0.45**	**194**	Pg	**Pg**	**08 31 51.0**	**+0.2**
SLTI	**Sal'it**	**0.46**	**301**	Pg	**Pg**	**08 31 50.4**	**-0.8**
SLTI				Sg	**Sg**	**08 31 57.4**	**+0.2**
AMAZ	**Amatzia**	**0.69**	**227**	Pg	**Pg**	**08 31 55.2**	**-0.3**
AMAZ				Sg	**Sg**	**08 32 06.2**	**+1.7**
MZDA	**Masada**	**0.70**	**190**	Pg	**Pg**	**08 31 55.8**	**0.0**
MZDA				Sg	**Sg**	**08 32 06.0**	**+1.1**
GLH	**Golan-Tel Qazi**	**0.72**	**10**	Pg	**Pg**	**08 31 56.1**	**0.0**
YTIR	**Yattir**	**0.72**	**208**	Pg	**Pg**	**08 31 55.8**	**-0.3**
YTIR				Sg	**Sg**	**08 32 06.9**	**+1.5**
OFRI	**'Ofer**	**0.76**	**324**	Pg	**Pg**	**08 31 55.9**	**-1.0**
KSHT	**Keshet**	**1.01**	**15**	Pg	**Pg**	**08 32 01.0**	**-0.6**
MMA0	**Mount Meron ar**	**1.01**	**355**	Pg	**Pg**	**08 32 00.7**	**-1.1**
MMA0				Sg	**Sg**	**08 32 15.5**	**+0.7**
HNTI	**Hanita**	**1.11**	**345**	Pg	**Pg**	**08 32 02.4**	**-1.2**
HNTI				Sg	**Sg**	**08 32 18.4**	**+0.3**
HNTI	**Hanita**	**1.11**	**345**	Pg	**Pg**	**08 32 02.5**	**-1.1**
HNTI	**Hanita**	**1.11**	**345**	Pg	**Pg**	**08 32 02.5**	**-1.1**
HNTI				Sg	**Sg**	**08 32 18.4**	**+0.3**
MASH	**Mash'abbe Sade**	**1.18**	**212**	Pg	**Pg**	**08 32 04.3**	**-0.6**
RTMM	**Retamin**	**1.18**	**217**	Pg	**Pg**	**08 32 04.1**	**-0.8**
KSDI	**Kefar Szold**	**1.19**	**6**	Pg	**Pg**	**08 32 04.3**	**-0.8**
KSDI				Sg	**Sg**	**08 32 21.3**	**+0.7**
HRI	**Mount Hermon**	**1.27**	**9**	Pg	**Pg**	**08 32 05.7**	**-1.1**
HRI	**Mount Hermon**	**1.27**	**9**	Pg	**Pg**	**08 32 05.6**	**-1.1**
SVTA	**Shivta**	**1.31**	**216**	Pn	**Pn**	**08 32 06.4**	**-1.1**
KZIT	**Kziot**	**1.45**	**221**	Pn	**Pn**	**08 32 08.4**	**-1.0**
KZIT				Sn	**Sn**	**08 32 28.6**	**-0.4**
ZFRI	**Zfri**	**1.47**	**191**	Pn	**Pn**	**08 32 09.1**	**-0.7**
MATL	**Matirih**	**1.49**	**354**	*e*Pn	**Pn**	**08 32 10.6**	**+0.6**
RCY	**Rachaya**	**1.50**	**10**	*e*Pn	**Pn**	**08 32 09.1**	**-1.0**
RCY				Sn	**Sn**	**08 32 30.6**	**+0.4**
RMNI	**Mount Ramon**	**1.54**	**205**	Pn	**Pn**	**08 32 10.7**	**0.0**
PRNI	**Paran**	**1.70**	**195**	Pn	**Pn**	**08 32 12.3**	**-0.6**
PRNI				Sn	**Sn**	**08 32 36.0**	**+0.8**
BHL	**Bhannes**	**1.90**	**4**	*e*Pn	**Pn**	**08 32 15.7**	**0.0**
BHL				Sn	**Sn**	**08 32 42.4**	**+2.3**
HRFI	**Mount Harif**	**2.00**	**192**	Pn	**Pn**	**08 32 16.6**	**-0.4**
HRFI				Sn	**Sn**	**08 32 43.6**	**+0.9**
KMTI	**Karmit**	**2.01**	**200**	Pn	**Pn**	**08 32 16.6**	**-0.5**
MBH	**Mount Berech**	**2.26**	**193**	Pn	**Pn**	**08 32 20.1**	**-0.6**
HWQ	**Hawqa**	**2.30**	**9**	*e*Pn	**Pn**	**08 32 23.0**	**+1.8**
HWQ				Sn	**Sn**	**08 32 53.5**	**+3.5**
AQBJ	**Aqaba**	**2.30**	**190**	Pn	**Pn**	**08 32 21.1**	**0.0**
FKH	**Fakeheh**	**2.35**	**18**	*e*Pn	**Pn**	**08 32 23.4**	**+1.5**
EIL	**Elat**	**2.37**	**192**	Pn	**Pn**	**08 32 21.6**	**-0.6**
EIL				Sn	**Sn**	**08 32 52.6**	**+0.8**

---

*ISCJB **03** 08:49:57.6±1.3, 09N±02×100.1E±0.1, h221^{km}±8^{km}, mb3.7/14, Error ellipse: s-maj=28.4km s-min=12.2km az=65.4*
*IDC **03** 08:49:58.3±1.5, 086N×100.17E, h212^{km}±9^{km}, mb3.3/7, mb1 3.4/8, mb1mx3.2/18, mbtmp3.8/8, Error ellipse: s-maj=77.4km s-min=13.5km az=48.0*
*NEIC **03** 08:49:59.3±1.0, 098N×10029E, h222^{km}±7^{km}, mb3.9/7, Error ellipse: s-maj=22.9km s-min=11.5km az=50.0*

ISC 03 08:49:58.6±1.3, **09N**±02×**1001E**±01, **h215**^{km}±8^{km}, **n23**, σ**0^{s}79**/22, **mb3.7**/14, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.23**	**329**	P	**Pn**	**08 50 41.1**	**+0.7**
	4.4nm,0.3s,baz=204,slow=20,SNR=23						
PSI				S	**S**	**08 51 12.6**	**-0.7**
	2.6nm,0.3s,baz=300,slow=18,SNR=6.8						
KGM	**Kluang**	**3.42**	**71**	P	**Pn**	**08 50 53.0**	**-0.8**
IPM	**Ipoh**	**3.70**	**15**	P	**Pn**	**08 50 58.1**	**+1.0**
KULM	**Kulim**	**4.42**	**7**	*e*Pn	**Pn**	**08 51 06.0**	**0.0**
TSM	**Tawau**	**18.09**	**79**	P	**P**	**08 53 55.8**	**+1.5**
FITZ	**Fitzroy Crossi**	**31.43**	**128**	ScP	ScP	09 02 09.0	-1.1
	0.6nm,0.8s,baz=309,slow=6.5,SNR=3.5						
WRA	**Warramunga Arr**	**39.44**	**124**	P	**P**	**08 57 07.2**	**-0.6**
	0.3nm,0.4s,mb3.1,baz=305,slow=9.2,SNR=16						
WRA				PcP	PcP	08 59 11.4	+0.2
	0.2nm,0.3s,baz=316,slow=2.6,SNR=8.2						
ASAR	**Alice Springs**	**40.92**	**129**	P	**P**	**08 57 19.9**	**-0.1**
	0.1nm,0.4s,mb2.6,baz=306,slow=7.7,SNR=4.3						
BJT	**Baijiatuau**	**41.62**	**19**	*e*P	**P**	**08 57 25.2**	**-0.4**
	6.9nm,0.4s,mb4.4						
SONM	**Songino Array**	**47.09**	**6**	ScP	ScP	09 03 09.1	-1.2
	0.1nm,0.3s,baz=177,slow=3.8,SNR=4.0						
ULN	**Ulaanbaatar**	**47.19**	**6**	*e*P	**P**	**08 58 06.8**	**-2.8**
	3.6nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**47.48**	**334**	*e*P	**P**	**08 58 12.6**	**+0.7**
	2.5nm,0.6s,mb3.7						
MKAR	**Makanchi Array**	**48.30**	**344**	P	**P**	**08 58 18.6**	**+0.5**
	2.3nm,0.4s,mb3.9,baz=158,slow=7.1,SNR=22						
BRVK	**Borovoye**	**57.60**	**339**	*e*P	**P**	**08 59 25.5**	**-0.5**
	1.4nm,0.6s,mb3.8						
ZRNK	**Zerenda**	**57.97**	**338**	*e*P	**P**	**08 59 28.6**	**0.0**
	1.7nm,0.9s,mb3.7						
CHKZ	**Chkalovo**	**57.98**	**340**	*e*P	**P**	**08 59 28.6**	**-0.1**
	4.9nm,1.0s,mb4.1						
BRTR	**Keskin Array B**	**71.47**	**312**	P	**P**	**09 00 56.8**	**+1.1**
	1.1nm,0.6s,mb3.7,baz=146,slow=9.0,SNR=4.3						
AKASG	**Malin Array Be**	**77.28**	**322**	P	**P**	**09 01 29.3**	**+0.1**
	0.9nm,0.6s,mb3.6,baz=91,slow=4.8,SNR=4.2						
AKASG	**Malin Array Be**	**77.28**	**322**	P	**P**	**09 01 29.3**	**+0.1**
FINES	**FINESS Array B**	**81.62**	**332**	P	**P**	**09 01 52.6**	**+0.1**
	1.6nm,0.5s,mb3.9,baz=104,slow=5.8,SNR=22						
KAF	**Kangasniemi**	**81.67**	**333**	*e*p	**P**	**09 01 52.2**	**-0.6**
	2.7nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**83.81**	**340**	P	**P**	**09 02 03.7**	**-0.1**
	1.5nm,0.7s,mb3.8,baz=103,slow=6.0,SNR=8.1						
ARCES	**ARCESS Array B**	**83.81**	**340**	P	**P**	**09 02 03.7**	**-0.1**

OTT 03 09:08:04.5±0.6, **6575N**×**8992W**, **h18**^{km}, **MN2.7**/6, **Wager Bay, Nt 190km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEDN	**First Sedna Si**	**2.57**	**193**	PN	Pn	09 08 45.5	+0.4
SEDN				PG	Pg	09 08 50.1	-3.6
SEDN				SN	Sn	09 09 14.6	-1.4
SEDN				SG	Sg	09 09 22.9	-4.3
SEDN				Trac		09 09 28.2	
	comp=Z,11nm,0.1s						
JOSN	**Second Sedna S**	**2.69**	**196**	PN	Pn	09 08 53.0	+6.2
JOSN				SG	Sg	09 09 28.4	-2.6
JOSN				Trac		09 09 31.4	
	comp=Z,14nm,0.3s						
YRTN	**Rankin Inlet**	**3.10**	**199**	PN	Pn	09 08 51.5	-1.0
YRTN				SN	Sn	09 09 27.9	-1.2
YRTN				SG	Sg	09 09 41.6	-2.5
YRTN				Trac		09 09 45.7	
	comp=Z,17nm,0.3s						
SRLN	**Sarcpa Lake, N**	**3.81**	**39**	PN	Pn	09 09 01.4	-0.9
SRLN				SN	Sn	09 09 44.6	-2.1
SRLN				SG	Sg	09 09 59.8	-7.1
SRLN				Trac		09 10 03.7	
	comp=Z,11nm,0.5s						
ILON	**Igloolik, Nuna**	**4.78**	**37**	PN	Pn	09 09 14.9	-0.7
ILON				SN	Sn	09 10 07.1	-3.4
ILON				SG	Sg	09 10 29.3	-8.6
ILON				Trac		09 10 34.0	
	comp=Z,6.0nm,0.3s						
ARVN	**Arviat, NU**	**5.03**	**204**	PN	Pn	09 09 22.8	+3.7
ARVN				SN	Sn	09 10 14.9	-1.8
ARVN				SG	Sg	09 10 39.8	-6.2
ARVN				Trac		09 10 47.0	
	comp=Z,1.5nm,0.2s						
GIFN	**Gifford Fjord,**	**5.29**	**33**	PN	Pn	09 09 22.4	-0.1
GIFN				SN	Sn	09 10 20.4	-2.6
GIFN				SG	Sg	09 10 48.8	-5.4
FCC	**Fort Churchill**	**7.28**	**197**	PN	Pn	09 09 48.7	-1.1
FCC				SN	Sn	09 11 02.1	-10
FCC				LG		09 11 39.5	
FRB	**Frobisher Bay**	**9.34**	**93**	PN	Pn	09 10 15.8	-2.4
FRB				SN	Sn	09 11 59.7	-3.0
YKW3	**Yellowknife Ar**	**11.20**	**265**	SN	Sn	09 13 06.9	+18

MAN 03 09:14:35.7, 1001N×**12319E, h1**^{km}**, mb2.3, ML3.9, MS3.1, 1D, Cebu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.66**	**176**	⇓*e*P	Pg	09 14 48.5	+0.1
GUIM	**Jordan**	**0.85**	**317**	*e*P	Pg	09 14 52.2	+0.2
GUIM				*e*S	Sg	09 15 04.8	+1.7
MSLP	**Maasin**	**1.65**	**85**	*e*P	Pn	09 15 06.0	+0.1

IDC 03 09:14:45.0±2.2, **697S**×**15457E**, **h0**^{km}, **mb3.9**/5, **mb1 4.0**/5, **mb1mx3.8**/12, **mbtmp3.9**/5, **MS3.4**/2, **Ms1 3.4**/2, **ms1mx2.7**/25, **Error ellipse: s-maj=78.7km s-min=26.9km az=106.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.33**	**211**	LR	LR	09 23 04.3	
	comp=Z,101nm,21.7s,baz=47,slow=33						
WB2	**Warramunga Arr**	**23.47**	**235**	*e*P	P	09 19 56.6	+0.3
WRA	**Warramunga Arr**	**23.48**	**235**	P	P	09 19 56.4	+0.1
	2.5nm,1.0s,baz=60,slow=9.5,SNR=20						
WRA				PcP	PcP	09 23 42.4	+0.1
	0.2nm,0.5s,baz=63,slow=2.3,SNR=7.2						
ASAR	**Alice Springs**	**25.87**	**228**	P	P	09 20 18.3	0.0
	1.0nm,0.9s,baz=62,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**27.58**	**204**	P	P	09 20 35.0	+1.3
	2.9nm,1.1s,baz=7.6,slow=13,SNR=3.4						
STKA				LR	LR	09 30 44.4	
	comp=Z,130nm,20.3s,baz=203,slow=35						
SONM	**Songino Array**	**69.08**	**327**	P	P	09 25 53.2	+0.4
	0.7nm,0.5s,baz=154,slow=6.4,SNR=5.6						
MKAR	**Makanchi Array**	**83.10**	**319**	P	P	09 27 13.6	+1.0
	0.7nm,0.6s,baz=79,slow=6.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.61**	**285**	PKPbc	PKPbc	09 34 43.5	+0.1
	0.7nm,0.8s,baz=34,slow=2.6,SNR=5.3						

MAN 03 09:30:42.8, 988N×**12508E, h33**^{km}**, mb2.7, ML4.2, MS3.3, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.33**	**320**	*e*P	Pb	09 30 51.8	+0.9
SCPH	**Surigao**	**0.42**	**103**	*e*P	Pb	09 30 53.5	+1.4
SCPH				*i* S	Sb	09 31 00.8	+2.3
OCLP	**Ormoc**	**1.25**	**338**	*e*P	Pn	09 31 11.5	+7.5
PLP	**Palo**	**1.28**	**356**	*e*P	Pn	09 31 05.0	+0.7
PLP				*e*S	Sn	09 31 20.4	0.0

---

*ISCJB **03** 10:05:52.5±1.3, 3004N±005×3620E±007, h14^{km}±8^{km}, Error ellipse: s-maj=12.3km s-min=6.3km az=69.9*
*GII **03** 10:05:55.3±0.5, 3000N×3604E, h0^{km}±14^{km}, ML2.4/2*
*HLW **03** 10:06:00.2, 2946N×3606E, h18^{km}, Mb3.0*

ISC 03 10:05:52.9±1.7, **2998N**±006×**3623E**±009, **h11**^{km}±10^{km}, **n21**, σ**0^{s}94**/29, **Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.04**	**273**	Pg	**Pg**	**10 06 12.1**	**-0.8**
HRFI				Sg	**Sg**	**10 06 26.6**	**+0.2**

AQBJ	Aqaba	1.06	256	Pg	Pg	10 06 13.6	+0.3
ZFRI	Zfri	1.08	302	Pg	Pg	10 06 14.6	+1.1
PRNI	Paran	1.12	289	Pg	Pg	10 06 14.6	+0.1
PRNI				Sg	Sg	10 06 28.7	-0.5
EIL	Elat	1.16	255	Pg	Pg	10 06 15.1	0.0
EIL				Sg	Sg	10 06 29.8	-0.3
MBH	Mount Berech	1.16	261	Pg	Pg	10 06 15.2	0.0
MBH				Sg	Sg	10 06 30.9	+0.7
KMTI	Karmit	1.31	276	Pg	Pg	10 06 17.9	-0.2
KMTI				Sg	Sg	10 06 34.5	-0.7
HBST	Basata	1.51	240	P	Pn	10 06 20.6	+0.6
MZDA	Masada	1.52	331	T		10 07 45.3	
MZDA	Masada	1.52	331	Pg	Pg	10 06 20.3	-1.8
MZDA				Sg	Pg	10 06 25.6	+3.5
YTIR	Yattir	1.68	325	Pg	Pn	10 06 20.3	-1.9
YTIR				Sg	Pg	10 06 27.3	+2.2
DSI	Dead Sea	1.74	335	Pg	Pg	10 06 25.9	-0.5
DRGI	Dragot	1.76	336	Pg	Pg	10 06 25.9	-0.8
HDHB	Dhahab	1.89	229	P	Pn	10 06 24.4	-0.7
HNKL	Nakhl	1.96	269	P	Pn	10 06 29.9	+3.8
HMDT	Nahal Hemdat	2.34	345	Pg	Pg	10 06 37.2	-0.6
HMDT				Sg	Sn	10 06 55.7	-4.4
HKAT	Jabal Katrina	2.44	234	P	Pn	10 06 32.6	0.0
MMLI	Mount Malkishu	2.54	344	Pn	Pb	10 06 40.1	+1.5
MMLI				Sn	Sn	10 07 00.3	-4.8
AMAG	Maghara	2.70	285	P	Pb	10 06 42.3	+1.1
TR2		2.71	235	P	Pn	10 06 36.1	-0.3
SUZ		2.96	268	P	Pn	10 06 43.7	+3.9

*ISCJB **03** 10:14:44.8±2.7, 21.86S±0.08×175.21W±0.08, h6km±16km, mb4.7/31, MS4.5/12, Error ellipse: s-maj=15.8km s-min=9.3km az=101.0*

*NEIC **03** 10:14:50.8±0.3, 21.85S×175.20W, h35km, mb5.0/19, Error ellipse: s-maj=13.9km s-min=7.7km az=138.0*

*IDC **03** 10:14:50.2±3.1, 21.81S×175.16W, h30km±22km, mb4.2/12, mb1 4.4/13, mb1mx4.3/18, mbtmp4.4/13, ML4.2/1, MS4.5/11, Ms1 4.4/11, ms1mx4.2/24, Error ellipse: s-maj=25.5km s-min=15.7km az=144.0*

*GCMT **03** 10:14:50.8±0.2, 22.04S×174.37W, h28km, MW5.2/73, Moment Tensor Solution. s56,c92; s73,c122; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.69±.03; Mθθ-0.02±.02; Mφφ-0.67±.02; Mrθ0.23±.03; Mθφ-0.36±.01; Mφr0.39±.03; Best double couple: M0 0.89000×10^17 NP1:φs199.00000°,δ30.00000°,λ82.00000°. NP2: φs28.00000°,δ60.00000°,λ95.00000°. Principal axes: T 0.8200, Plg74.0000°, Azm311.0000°; N 0.1390, Plg4.0000°, Azm206.0000°; P -0.9590, Plg15.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **03** 10:14:50.7, 21.90S×175.20W, h35km, mB5.3, mb5.0, Ms4.7, Msz4.4*

*MOS **03** 10:15:02.1±2.9, 19.04S×176.88W, h55km, mb5.0/8, Error ellipse: s-maj=18.2km s-min=12.5km az=143.7*

*SZGRF **03** 10:15:30.0, 22.56S×176.50W, h368km, South of Fiji Islands*

ISC 03 10:14:49.0±3.0**, 21.97S**±0.06×**175.09W**±0.08**, h24**km±20km**, n137, σ0s93**/75**, mb4.7**/31**, MS4.5**/12**, 4C-4D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.69	199	Sn	Sn	10 18 04.1	-1.7
	78nm,0.3s,baz=69,slow=23,SNR=7.0						
AFI	Afiamalu	8.61	22	Pn	Pn	10 16 44.5	-7.4
	8.0nm,0.3s,baz=49,slow=23,SNR=9.1						
AFI				Sn	Sn	10 18 14.6	-14
	8.6nm,0.3s,baz=16,slow=22,SNR=5.0						
AFI				LR	LR	10 19 47.4	
	comp=Z,1µm,20.0s,baz=191,slow=35						
AFI	Afiamalu	8.61	22	P	Pn	10 16 44.5	-7.5
AFI						10 18 14.7	
RAR	Rarotonga	14.27	90	Pn	Pn	10 18 01.7	-7.6
	5.5nm,0.3s,baz=277,slow=6.7,SNR=13						
RAR				Sn	Sn	10 20 27.6	-19
	2.6nm,0.3s,baz=78,slow=22,SNR=3.6						
DZM	Mont Dzumac	17.13	266	P	Pn	10 18 53.9	+7.2
	0.4nm,0.3s,baz=72,slow=18,SNR=7.1						
DZM				LR	LR	10 23 08.3	
	comp=Z,557nm,19.7s,baz=97,slow=29						
URZ	Urewera	17.57	201	P	Pn	10 18 52.9	+0.7
	0.8nm,0.3s,baz=328,slow=2.9,SNR=3.2						
URZ				S	Sn	10 21 57.8	-9.4
	1.0nm,0.3s,baz=245,slow=19,SNR=6.8						
TBI	Tubuai	23.68	98	eLQ		10 24 09.0	
	2µm,29.8s						
TBI				eLR	LR	10 25 32.8	
	2µm,29.2s,baz=272						
PPT	Papeete	24.39	84	eLQ		10 24 37.2	
	3µm,27.5s						
PPT				eLR	LR	10 25 49.4	
	2µm,27.0s,baz=254						
PPT	Papeete	24.39	84	LR	LR	10 26 52.9	
	comp=Z,835nm,18.6s,MS4.2,baz=263,slow=30						
RPZ	Rata Peaks	24.55	205	P	P	10 20 09.5	+2.8
	7.4nm,0.9s,mb4.2,baz=81,slow=15,SNR=3.5						
HNR	Honiara	27.02	294	LR	LR	10 29 37.2	
	comp=Z,647nm,20.0s,MS4.2,baz=180,slow=33						
CTA	Charters Tower	36.07	266	eP	P	10 21 49.5	+0.9
	7.8nm,0.4s,mb5.0						
CTA	Charters Tower	36.07	266	P	P	10 21 49.5	+0.9
	7.5nm,0.4s,mb5.0,baz=88,slow=10,SNR=29						
CTA				LR	LR	10 34 16.7	
	comp=Z,304nm,21.8s,MS4.0,baz=94,slow=32						
CTA	Charters Tower	36.07	266	eP	P	10 21 49.5	+0.9
CTA				pmax	pmax		
	comp=Z,8.0nm,0.4s						
CTAO	Charters Tower	36.07	266	eP	P	10 21 49.6	+1.0
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
CTAO	Charters Tower	36.07	266	eP	P	10 21 49.6	+1.0
	comp=Z,7.4nm,0.4s,mb5.0						
RKT	Rikitea	36.99	100	eS	S	10 27 30.6	-10
	comp=Z,227nm,29.0s						
RKT				eLQ		10 30 18.7	
	comp=Z,436nm,32.2s						
RKT				eLR	LR	10 31 41.8	
	comp=Z,1µm,29.0s,baz=269						
PMG	Port Moresby	38.32	283	LR	LR	10 36 34.8	
	comp=Z,806nm,18.4s,MS4.6,baz=100,slow=34						
STKA	Stephens Creek	39.65	246	eP	P	10 22 19.6	+0.9
	comp=Z,5.0nm,1.5s,mb4.0						
STKA	Stephens Creek	39.65	246	P	P	10 22 19.2	+0.5
	comp=Z,2.4nm,0.6s,mb4.1,baz=78,slow=15,SNR=5.5						
STKA				LR	LR	10 38 18.5	
	comp=Z,1µm,18.1s,MS4.7,baz=309,slow=36						
AS31	Alice Springs	46.85	258	eP	P	10 23 16.9	+0.1
ASAR	Alice Springs	46.85	258	P	P	10 23 16.7	-0.2
	comp=Z,5.9nm,0.7s,mb4.6,baz=77,slow=6.1,SNR=115						
ASAR				S	S	10 30 06.5	+0.6
	comp=Z,0.4nm,1.0s,baz=94,slow=16,SNR=3.9						
ASAR				LR	LR	10 42 59.6	
	comp=Z,1µm,18.1s,MS4.9,baz=106,slow=36						
ASAR	Alice Springs	46.85	258	P	P	10 23 16.7	-0.2
ASAR				S	S	10 30 06.6	+0.6
ASPA	Alice Springs	46.85	258	eP	P	10 23 17.2	+0.3
WB2	Warramunga Arr	47.09	263	eP	P	10 23 17.5	-1.3
WB2	Warramunga Arr	47.09	263	eP	P	10 23 18.5	-0.3
WRAB	Tennant Creek	47.09	263⇓	eP	P	10 23 18.3	-0.5
WRAB	Tennant Creek	47.09	263	eP	P	10 23 18.2	-0.6
	comp=Z,18nm,0.9s,mb5.0						
WRA	Warramunga Arr	47.10	263	P	P	10 23 18.1	-0.8
	comp=Z,7.4nm,0.8s,mb4.7,baz=97,slow=8.0,SNR=108						
WRA				S	S	10 30 10.0	+0.3
	comp=Z,0.6nm,1.0s,baz=98,slow=13,SNR=3.3						
WRA				LR	LR	10 41 58.5	
	comp=Z,805nm,19.6s,MS4.7,baz=100,slow=35						
WRA	Warramunga Arr	47.10	263	P	P	10 23 18.1	-0.8
WRA				S	S	10 30 10.0	+0.4
KAKA	Kakadu	50.72	271	eP	P	10 23 45.4	-1.3
	comp=Z,3.5nm,0.3s,mb4.8						
FORT	Forrest	51.23	248	eP	P	10 23 50.1	-0.4
	comp=Z,27nm,0.5s,mb5.4						
FITZ	Fitzroy Crossi	55.53	263	eP	P	10 24 21.7	-0.4
	comp=Z,5.6nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	55.53	263	P	P	10 24 22.4	+0.4
	comp=Z,3.0nm,0.5s,mb4.6,baz=99,slow=5.7,SNR=22						
FITZ				LR	LR	10 46 39.7	
	comp=Z,422nm,20.6s,MS4.5,baz=351,slow=34						
VNDA	Vanda	56.72	186	P	P	10 24 32.5	+2.0
	comp=Z,1.3nm,0.8s,mb4.0,baz=3.3,slow=8.7,SNR=6.2						
KLBR	Kellerberrin	59.91	245	eP	P	10 24 53.0	+0.1
	comp=Z,19nm,1.2s,mb5.0						
NWAO	Narrogin (SRO)	60.15	244	LR	LR	10 50 54.4	
	comp=Z,435nm,18.7s,MS4.6,baz=247,slow=36						
MBWA	Marble Bar	60.19	258	eP	P	10 24 54.3	-0.5
	comp=Z,13nm,1.0s,mb4.9						
QSPA	South Pole Qui	68.11	180	eP	P	10 25 47.8	+1.0
	comp=Z,24nm,1.2s,mb5.1						
MJAR	Matsushiro Arr	73.01	322	P	P	10 26 16.8	+0.1
	comp=Z,2.0nm,0.7s,mb4.1,baz=155,slow=5.0,SNR=7.6						
YSS	Yuzh-Sakhalins	78.44	332	i P	P	10 26 47.9	+0.3
YSS				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
WDC	Whiskeytown Da	79.10	38	eP	P	10 26 51.2	-0.1
WDC				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
WDC	Whiskeytown Da	79.10	38	eP	P	10 26 51.2	-0.2
	comp=Z,17nm,1.4s,mb4.8						
YBH	Yreka Blue Hor	79.77	37	eP	P	10 26 54.0	-1.0
YBH				pmax	pmax		
	comp=Z,13nm,1.4s						
YBH	Yreka Blue Hor	79.77	37	eP	P	10 26 54.0	-1.0
	comp=Z,13nm,1.4s,mb4.7						
NVAR	Mina Array Bea	80.26	42	P	P	10 26 57.6	0.0
	comp=Z,1.0nm,0.8s,mb3.8,baz=219,slow=7.4,SNR=8.8						
SSE	Sheshan	80.71	309	P	P	10 27 00.6	+0.6
SSE				AP	pP	10 27 10.1	+2.2
SSE				XP	sP	10 27 13.9	+3.1
SSE				PP	PP	10 30 02.9	-1.1
SSE				S	S	10 37 05.3	-0.9
SSE				XS	sS	10 37 20.9	+1.6
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,63nm,4.2s						
SSE				LR	LR		
	comp=N,57nm,19.4s,MS4.2						
SSE				LR	LR		
	comp=E,92nm,19.4s,MS4.2						
SSE				LR	LR		
	comp=Z,114nm,21.7s,MS4.2						
MAW	Mawson	81.10	199	P	P	10 27 01.8	-0.3
	comp=Z,2.3nm,0.7s,mb4.2,baz=53,slow=2.6,SNR=4.8						
MAW	Mawson	81.10	199	eP	P	10 27 02.1	0.0
WVOR	Wild Horse Val	82.54	38	eP	P	10 27 10.1	+0.4
WVOR				pmax	pmax		
	comp=Z,34nm,1.7s,mb5.1						
WVOR	Wild Horse Val	82.54	38	eP	P	10 27 10.1	+0.5
	comp=Z,34nm,1.7s,mb5.1						
BMO	Blue Mountains	84.80	37	eP	P	10 27 21.4	+0.1
BMO				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.9						
BMO	Blue Mountains	84.80	37	eP	P	10 27 21.4	+0.2
	comp=Z,15nm,1.5s,mb4.9						
CN2	Changchun	85.12	321	eP	P	10 27 24.4	+1.5
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
KLR	Kul'dur	85.18	328	eP	P	10 27 17.5	-5.7
TMUT	Trail Mountain	85.26	44	eP	P	10 27 25.1	+1.5
HLID	Hailey	85.69	39	eP	P	10 27 26.4	+0.7
	comp=Z,9.1nm,1.4s,mb4.8						
ANMO	Albuquerque	86.22	50	i P	P	10 27 28.4	0.0
ANMO	Albuquerque	86.22	50	eP	P	10 27 28.2	-0.2
	comp=Z,15nm,1.5s,mb5.0						
SNAA	Sanae	86.46	178	eP	P	10 27 30.4	+0.9
SNAA				e		10 27 32.7	
SNAA				e		10 27 44.6	
SNAA				e		10 27 49.0	
SNAA	Sanae	86.46	178	eP	P	10 27 29.2	-0.3
	comp=Z,13nm,1.5s,mb4.9						
VNA3	Neumayer Olymp	86.49	175	eP	P	10 27 29.5	-0.2
VNA3				e		10 27 31.6	
VNA3				e		10 27 39.3	
VNA3				e		10 27 43.4	
VNA3				e		10 27 47.6	
VNA1	Neumayer--Stat	87.17	176	eP	P	10 27 31.8	-1.2
VNA1				e		10 27 34.1	
VNA1				e		10 27 49.0	
VNA1				e		10 27 56.1	
PSI	Prapat	87.32	274	P	P	10 27 33.2	-0.5
	comp=Z,3.1nm,0.4s,mb4.9,baz=167,slow=10,SNR=6.1						
MCK	McKinley	87.84	11	eP	P	10 27 36.1	-0.1
MCK				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb5.0						
MCK	McKinley	87.84	11	eP	P	10 27 36.1	-0.1
	comp=Z,3.2nm,0.3s,mb5.0						
PDAR	Pinedale Array	88.19	42	P	P	10 27 36.7	-1.2
	comp=Z,0.7nm,0.9s,mb3.9,baz=254,slow=5.5,SNR=5.7						
COLA	College	89.08	11	i P	P	10 27 40.5	-1.5
COLA	College	89.08	11	eP	P	10 27 41.5	-0.5
	comp=Z,28nm,1.6s,mb5.3						
DAWY	Dawson	90.14	15	eP	P	10 27 47.5	+0.4
EGAK	Eagle	90.34	14	eP	P	10 27 46.8	-1.1
BILL	Bilibino	90.78	353	eP	P	10 27 48.0	-2.0
BILL				eS	SKSac	10 38 19.5	-0.7
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
XAN	Xi'an	91.18	306	P	P	10 27 53.8	+1.9
XAN				AMB	AMB		
	comp=Z,12nm,1.4s,mb5.0						
EDM	Edmonton	91.88	32	eP	P	10 27 54.5	-0.6
TIXI	Tiksi	100.86	344	i P	Pdif	10 28 29.7	-6.1
TIXI				pmax	pmax		
	comp=Z,11nm,0.7s						
TLY	Talaya	101.73	321	i P	Pdif	10 28 38.5	-1.2
MKAR	Makanchi Array	114.18	313	PKiKP	PKiKP	10 33 25.1	-1.1
	comp=Z,0.3nm,0.5s,baz=135,slow=2.9,SNR=3.6						
AAK	Ala-Archa	119.34	308	i PKIKP	PKPdf	10 33 37.5	+1.4
ZRNK	Zerenda	122.79	320	ePKIKP	PKPdf	10 33 43.0	+0.3
OBN	Obninsk	139.32	332	i PKIKP	PKPdf	10 34 13.8	-0.1
OBN				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MSL	Mosul	143.97	302	ex	x	10 34 19.5	
SUW	Suwalki	145.13	341	ePKP	PKPdf	10 34 23.9	-0.4
AKASG	Malin Array Be	145.59	332	PKPbc	PKPbc	10 34 24.9	-0.4
	comp=Z,14nm,0.9s,baz=38,slow=4.1,SNR=42						
SIM	Simferopol'	146.85	321	ePKHKP		10 34 23.0	
SIM				pmax	pmax		
	comp=Z,70nm,8.4s						
MALT	Malatya	146.97	307⇓	iP	PKiKP	10 34 31.8	-0.1
MALT	Malatya	146.97	307	eP	PKPab	10 34 30.6	-0.3
LVV	L'vov	148.37	336	ePKIKP	PKPab	10 34 35.3	-1.1
OJC	Ojcow	149.46	341	ePKP	PKPab	10 34 36.2	-4.6
BURAR	Bucovina Array	149.64	332⇑	iP	PKPab	10 34 39.2	-2.4
STHS	Stebnicka Huta	149.70	339	ePKP	PKPab	10 34 38.6	-3.2
STHS				esP		10 36 39.4	
KOLS	Kolonicke sedl	149.75	337	ePKP	PKPab	10 34 38.5	-3.5
BR131	Keskin Array S	149.83	312	ePKPdf	PKPdf	10 34 32.0	-0.1
BR131				ePKPbc	PKPbc	10 34 38.0	+1.1
BR131				ePKPab	PKPab	10 34 41.4	-0.9
BRTR	Keskin Array B	149.83	312	PKPbc	PKPbc	10 34 37.5	+0.6
	comp=Z,5.4nm,0.8s,baz=131,slow=3.4,SNR=20						
KSP	Ksiaz	149.83	346	ePKP2	PKPbc	10 34 38.0	+1.1
UZH	Uzhgorod	150.00	337	ePKP2	PKPbc	10 34 38.6	+1.3
NIE	Niedzica	150.01	340	ePKP	PKPbc	10 34 38.8	+1.5
CLL	Collm	150.04	350	ePKPbc	PKPbc	10 34 38.1	+0.7
CLL	Collm	150.04	350⇓	iPKPbc	PKPbc	10 34 37.0	-0.4
	comp=Z,14nm,0.9s						
CLL				i pPKPbc	pPKPbc	10 34 46.7	+1.2
	comp=Z,33nm,1.8s						
CLL				i pPKiKP		10 34 50.8	
CRVS	Cervenica-Dubn	150.06	338	ePKP	PKPbc	10 34 38.9	+1.5
UPC	Upice	150.21	346	ePKPbc	PKPbc	10 34 38.9	+1.1
GTTG	Gvttingen	150.21	354	ePKPbc	PKPbc	10 34 38.8	+1.0
DPC	Dobruska-Polom	150.28	345	ePKPbc	PKPbc	10 34 39.1	+1.1
OKC	Ostrava-Krasne	150.28	343	ePKPbc	PKPbc	10 34 38.8	+0.8
BRG	Berggiesshubel	150.29	348	ePKPbc	PKPbc	10 34 38.7	+0.7
BRG	Berggiesshubel	150.29	348	i PKP	PKPbc	10 34 38.5	+0.6
	comp=Z,6.8nm,1.0s						
BRG				e		10 35 01.2	
	comp=Z,12nm,1.4s						
ANTO	Ankara	150.34	313	ePKP2	PKPbc	10 34 39.5	+1.4
FBE	Freiberg	150.35	349	ePKPbc	PKPbc	10 34 38.8	+0.7
PVCC	Panska Ves	150.50	347	ePKPbc	PKPbc	10 34 39.8	+1.3
MORC	Moravsky Berou	150.50	343⇑	iP	PKPbc	10 34 39.9	+1.4
MORC	Moravsky Berou	150.50	343	ePKHKP		10 34 29.8	
MORC				e		10 34 39.6	
MORC				e		10 34 41.4	
BUG	Bochum--Univer	150.52	357	ePKPbc	PKPbc	10 34 39.1	+0.6
MOX	Moxa	150.90	351	ePKPdf	PKPdf	10 34 34.7	+1.0
MOX				ePKPbc	PKPbc	10 34 40.3	+0.9
MOX	Moxa	150.90	351	eP	PKPbc	10 34 40.5	+1.1
	comp=Z,41nm,2.0s						
MOX				e		10 34 51.1	
MOX							
	comp=Z,300nm,20.0s						
MOX	Moxa	150.90	351	ePKHKP	PKPdf	10 34 34.7	+1.0
MOX				e		10 34 40.5	
MOX				MLR	MLR		
	comp=Z,300nm,20.0s,MS5.1						
MOX	Moxa	150.90	351	ePKPdf	PKPdf	10 34 34.7	+1.0
MOX				ePKP	PKPbc	10 34 40.5	+1.1
MOX				ePKPab	PKPab	10 34 51.1	+4.4
MOX				LR	LR		
	comp=Z,300nm,20.0s,MS5.1						
MLR	Muntele Rosu	150.90	329⇑	iP	PKPbc	10 34 40.8	+1.4
WERD	Werda	150.99	350	ePKPdf	PKPdf	10 34 34.9	+1.0
TANN	Tannenbergstha	150.99	350	ePKPbc	PKPbc	10 34 40.4	+0.8
PRU	Pruhonice	151.02	347	ePKPbc	PKPbc	10 34 40.2	+0.5
GUNZ	Gunzen	151.06	350	ePKPbc	PKPbc	10 34 41.0	+1.2
WERN	Wernitzgruen	151.13	350	ePKPbc	PKPbc	10 34 40.9	+0.9
NKC	Novy Kostel	151.17	350	ePKPbc	PKPbc	10 34 41.4	+1.4
VYHS	Vyhne	151.28	341	ePKP	PKPbc	10 34 41.2	+0.9
PSZ	Piszkesteto	151.45	339⇑	epPKP/F	pPKPdf	10 34 42.2	-0.6
PSZ	Piszkesteto	151.45	339	ePKPbc	PKPbc	10 34 41.7	+1.0
MANZ	Manzenberg	151.46	350	ePKPdf	PKPdf	10 34 35.3	+0.7
MANZ				ePKPbc	PKPbc	10 34 41.9	+1.2
ROTZ	Rotzenmuhle	151.66	350	ePKPbc	PKPbc	10 34 41.6	+0.4
GRA1	Grafenberg Arr	151.88	351	ePKPdf	PKPdf	10 34 35.6	+0.4
GRA1				ePKPbc	PKPbc	10 34 42.3	+0.6
GRF	Grafenberg Arr	151.88	351	ePKPdf	PKPdf	10 34 35.6	+0.4
GRF				ePKPbc	PKPbc	10 34 42.3	+0.6
KHC	Kasperske Hory	152.03	348	ePKPbc	PKPbc	10 34 43.3	+1.3
KHC	Kasperske Hory	152.03	348	i PKIKP	PKPbc	10 34 42.9	+0.9
WET	Wettzell	152.15	349	ePKPbc	PKPbc	10 34 42.4	+0.1
GEC2	GERESS Array S	152.28	347	ePKPbc	PKPbc	10 34 43.1	+0.5
GERES	GERESS Array B	152.28	347	PKPbc	PKPbc	10 34 43.6	+1.0
	comp=Z,1.6nm,0.9s,baz=333,slow=1.5,SNR=6.5						
BZS	Buzias	152.74	334⇓	iP	PKPbc	10 34 44.6	+1.0
BFO	Black Forest	153.55	355	ePKPdf	PKPdf	10 34 39.4	+1.7
BFO				ePKPbc	PKPbc	10 34 46.6	+1.2
TORD	Torodi Ar. Bea	170.71	160	PKP	PKPdf	10 34 54.8	-0.1
	comp=Z,0.7nm,0.7s,baz=1.5,slow=0.9,SNR=4.7						

*IDC **03** 10:23:28.1±0.5, 7.43N×78.15W, h0km, mb4.6/17, mb1 4.7/21, mb1mx4.7/23, mbtmp4.6/21, ML4.1/4, MS4.7/19, Ms1 4.7/19, ms1mx4.5/24, Error ellipse: s-maj=16.6km s-min=11.1km az=52.0*

*CASC **03** 10:23:28.2±2.3, 7.58N×78.08W, h0km±6km, MD4.8, MW5.4, mb5.0(NEIC), Fault plane solution: NP1:φs49.32000°, δ30.00000°,λ90.00000°.*

*ISCJB **03** 10:23:29.2±0.2, 7.53N±0.03×78.14W±0.02, h10km, mb4.8/101, MS4.8/27, Error ellipse: s-maj=4.7km s-min=2.8km az=49.5*

*GCMT **03** 10:23:30.6±0.2, 7.65N×78.06W, h12km, MW5.2/88, Moment Tensor Solution. s58,c87; s88,c170; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr-0.01±.01; Mθθ0.85±.01; Mφφ-0.84±.02; Mrθ-0.11±.03; Mθφ0.10±.01; Mφr-0.10±.04; Best double couple: M0 0.86800×10^17 NP1:φs312.00000°,δ80.00000°,λ1.00000°. NP2: φs222.00000°,δ89.00000°,λ170.00000°. Principal axes: T 0.8770, Plg8.0000°, Azm176.0000°; N -0.0170, Plg80.0000°, Azm36.0000°; P -0.8600, Plg6.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **03** 10:23:30.6±2.3, 7.41N×78.18W, h11km±14km, mb5.0/90, MS4.7/3 Error ellipse: s-maj=6.2km s-min=3.5km az=207.0*

NEIC Felt at Meteti.

*BJI **03** 10:23:30.6, 7.40N×78.20W, h11km, mB5.7, Ms5.2, Msz5.1*

*MOS **03** 10:23:32.0±0.9, 7.61N×78.19W, h25km, mb5.1/39, MS4.7/4, Error ellipse: s-maj=8.6km s-min=5.9km az=111.7*

ISC 03 10:23:31.0±0.2**, 7.47N**±0.03×**78.16W**±0.02**, h10**km**, (h8**km±1.8km**:pP-P), n373,** σ1s**06**/364**, mb4.8**/101**, MS4.8**/27**, 10C-1D, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	Univ de Panama	1.08	7	eS	Sg	10 24 00.3	-5.4
UPA	Univ. de Panam	2.03	318⇑	eP	Pn	10 24 03.8	-1.4
UPA				eS	Sn	10 24 30.8	+0.2
ZANG	Zanguenga, Cho	2.25	311⇓	eP	Pn	10 24 06.4	-1.8
ACLA	Agua Clara, Si	2.43	321	eP	Pn	10 24 07.9	-2.9
ACLA				eS	Sn	10 24 42.1	+1.7
PINA	Piqa, Costa Ab	2.59	313⇑	eP	Pn	10 24 09.9	-3.0
TOLC	Tolima	4.01	136	eP	Pn	10 24 32.6	+0.2
ROSC	El Rosal	4.61	124	Pn	Pn	10 24 42.4	+1.7
	26nm,0.3s,baz=96,slow=3.8,SNR=110						
ROSC				Sn	Sn	10 25 32.8	-1.4
	24nm,0.3s,baz=108,slow=22,SNR=4.0						
ROSC				Lg		10 25 55.6	
	16nm,0.3s,baz=83,slow=22,SNR=4.4						
ROSC				LR	LR	10 26 25.7	
	comp=Z,6µm,18.1s,baz=335,slow=39						
ROSC	El Rosal	4.61	124	eP	Pn	10 24 42.6	+1.9
ROSC	El Rosal	4.61	124	ePn	Pn	10 24 42.2	+1.5
BRU2	Volcan	4.68	287⇑	iP	Pn	10 24 40.2	-1.5
CTCR	Cotoan	4.77	288	eP	Pn	10 24 41.6	-1.4
OCAC	Ocana	4.85	81⇑	eP	Pn	10 24 42.5	-1.6
BUS	Buena Vista	5.92	291	eP	Pn	10 24 57.8	-0.8
IRZ2	Volcan Irazu 2	6.19	294	eP	Pn	10 25 01.7	-0.8
LCR2	La Lucha 2	6.21	292	eP	Pn	10 25 01.4	-1.3
OCM	Ochomogo	6.22	293	eP	Pn	10 25 01.3	-1.6
PRS1	Puriscal	6.58	293	eP	Pn	10 25 08.5	+0.7
CGA2	Cerro Gallo 2	6.73	293	eP	Pn	10 25 10.6	+0.7
EPA	Esparza	6.84	292	eP	Pn	10 25 11.1	-0.3
JCR	Jicaral	7.27	289	eP	Pn	10 25 17.9	+0.6
JTS	JuntasAbangare	7.28	293	Pn	Pn	10 25 16.6	-0.8
	403nm,1.2s,SNR=9.0						
JTS	JuntasAbangare	7.28	293	Pn	Pn	10 25 17.4	0.0
	2.7nm,0.3s,baz=95,slow=5.3,SNR=25						
JTS				Sn	Sn	10 26 43.5	+3.5
	baz=294,slow=14,SNR=1.5						
JTS				Lg		10 27 16.7	
	1.2nm,0.3s,baz=275,slow=18,SNR=4.3						
JTS				LR	LR	10 28 09.6	
	comp=Z,16µm,18.6s,baz=109,slow=39						
JTS	JuntasAbangare	7.28	293	P	Pn	10 25 17.4	0.0
JTS						10 26 43.5	
JTS	JuntasAbangare	7.28	293	Pn	Pn	10 25 17.4	0.0
JTS				Sn	Sn	10 26 43.5	+3.5
JTS				Lg		10 27 16.7	
JTS				LR	LR	10 28 09.6	
GUVC	San Jose del G	7.37	131	eP	Pn	10 25 18.8	+0.2
SDV	Santo Domingo	7.58	79	Pn	Pn	10 25 19.7	-1.8
	57nm,0.3s,baz=260,slow=9.0,SNR=223						
SDV				Sn	Sn	10 26 46.9	-0.5
	61nm,0.3s,baz=195,slow=21,SNR=7.0						
SDV				LR	LR	10 28 40.6	
	comp=Z,13µm,18.4s,baz=270,slow=41						
SDV	Santo Domingo	7.58	79	ePn	Pn	10 25 19.6	-1.8
SDV				eSn	Sn	10 26 35.3	-12
LIM1	Limonal	7.71	295	eP	Pn	10 25 23.3	0.0
VCR	Vista de Mar	7.84	290	eP	Pn	10 25 27.4	+2.3
PCJ	Portland Cotta	10.25	5⇑	eP	Pn	10 25 56.9	-1.3
PCJ				eS	Sn	10 27 46.0	-7.1
MCJ	Malvern	10.40	2⇑	iP	Pn	10 25 59.4	-0.8
HOJ	Hope	10.56	7⇑	eP	Pn	10 26 01.2	-1.1
STH	Stony Hill	10.62	7	eP	Pn	10 26 01.7	-1.5
STH				eS	Sn	10 27 52.4	-10
GWJ	Greenwich	10.63	7⇑	eP	Pn	10 26 02.3	-1.1
LMGC	Las Mercedes	12.56	5	eP	Pn	10 26 28.3	-1.5
LMGC				eS	Sn	10 28 42.2	-7.6
RCC	Rio Carpintero	12.67	11	eP	Pn	10 26 32.0	+0.7
RCC				eS	Sn	10 28 35.4	-17
	comp=N,15nm,0.5s						
RCC				e			
	comp=E,10nm,0.4s						
MASC	Masc	13.19	16	eP	Pn	10 26 38.2	-0.1
SDDR	Presa de Saban	13.24	30	ePn	Pn	10 26 37.2	-1.9
SDDR				eSn	Sn	10 29 01.2	-5.2
MOAC	Moa	13.47	13	eP	Pn	10 26 43.6	+1.4
MOAC				eS	Sn	10 28 58.3	-14
	comp=N,336nm,0.1s						
MOAC				e			
	comp=E,339nm,0.1s						
PCRV	Puerto La Cruz	13.63	78	Pn	Pn	10 26 39.3	-5.0
	comp=E,8.4nm,0.3s,baz=247,slow=5.3,SNR=41						
PCRV				Sn	Sn	10 29 29.1	+13
	comp=E,1.5nm,0.3s,baz=11,slow=22,SNR=3.3						
ATAH	Atahualpa	14.38	181	Pn	Pn	10 26 55.4	+0.8
	comp=E,1.2nm,0.3s,baz=8.8,slow=6.3,SNR=19						

ATAH Sn **Sn** **10 29 44.5 +10**
comp=E,0.1nm,0.3s,baz=90,slow=20,SNR=1.5
MPR Mayaguez 15.13 44 *e*Pn **Pn** **10 26 58.8 -6.0**
SJG San Juan 15.76 47 Pn **Pn** **10 27 07.1 -6.0**
comp=E,13nm,0.3s,baz=236,slow=13,SNR=23
SJG Sn **Sn** **10 29 57.8 -10**
comp=E,4.0nm,0.3s,baz=273,slow=23,SNR=7.6
SJG San Juan 15.76 47 *e*P **Pn** **10 27 07.0 -6.1**
SJG pmax pmax
comp=Z,78nm,0.5s
SJG San Juan 15.76 47 *e*Pn **Pn** **10 27 07.0 -6.1**
comp=Z,78nm,0.5s
CPD Cerro la Pandu 15.88 47 *e*P **Pn** **10 27 08.0 -6.6**
HUMP Col San Antoni 16.00 47 *e*Pn **Pn** **10 27 09.7 -6.4**
TEIG Tepich 16.03 323 *e*Pn **Pn** **10 27 18.3 +1.8**
CBYP Canovanas 16.08 47 *e*Pn **Pn** **10 27 11.7 -5.5**
MTP Monte Pirata 16.19 48 *e*Pn **Pn** **10 27 13.5 -5.1**
TBG Guadaloupe-3 18.17 61 *e*P **Pn** **10 27 47.6 +4.2**
BPA Boggy Peak 18.54 58 *e*P **Pn** **10 27 50.4 +2.5**
SEG Port Louis 18.54 60 *e*P **Pn** **10 27 51.6 +3.7**
CPB Codrington 18.85 56 *e*P **Pn** **10 27 52.0 +0.3**
DEG La Desirade 18.88 61 *e*P **Pn** **10 27 53.8 +1.7**
CMIG Matias Romero 18.92 302 P **Pn** **10 27 49.8 -2.7**
comp=Z,0.5nm,0.3s,baz=100,slow=8.9,SNR=6.8
CMIG LR LR 10 35 21.3
comp=Z,4µm,20.4s,baz=14,slow=38
NNA Nana 19.38 176 P **Pn** **10 27 56.1 -2.0**
comp=Z,0.7nm,0.3s,baz=8.1,slow=9.2,SNR=4.3
DWPF Disney 20.76 352 *e*P **P** **10 28 11.7 -0.3**
comp=Z,43nm,0.9s
SAML Samuel 22.11 137 *e*P **P** **10 28 22.9 -3.6**
comp=Z,40nm,1.0s,mb4.8
LPAZ La Paz 25.61 157 P **P** **10 28 59.8 -0.7**
comp=Z,12nm,1.1s,mb4.3,baz=347,slow=9.9,SNR=16
LPAZ LR LR 10 39 56.5
comp=Z,3µm,19.2s,MS4.8,baz=305,slow=39
LPAZ La Paz 25.61 157 *e*P **P** **10 29 01.0 +0.5**
LPAZ pmax pmax
comp=Z,27nm,1.0s
LPAZ La Paz 25.61 157 *e*P **P** **10 29 00.9 +0.5**
comp=Z,27nm,1.0s,mb4.7
LRAL Lakeview Retre 26.73 343 *e*P **P** **10 29 10.0 -0.5**
comp=Z,47nm,0.8s,mb5.1
KVTX Kingsville 27.36 319 *e*P **P** **10 29 16.9 +0.6**
HKT Hockley 27.85 326 *e*P **P** **10 29 20.3 -0.4**
HKT pmax pmax
comp=Z,59nm,1.5s,mb5.0
HKT Hockley 27.85 326 *e*P **P** **10 29 20.3 -0.4**
comp=Z,59nm,1.5s,mb5.0
CPCT Cooper Cave 28.45 349 *e*P **P** **10 29 26.2 +0.2**
SWET Sewanee 28.52 347 *e*P **P** **10 29 26.8 +0.2**
NATX Nacogdoches 28.65 330 *e*P **P** **10 29 27.9 +0.1**
comp=Z,24nm,0.8s,mb5.0
SIV San Ignacio 28.80 144 P **P** **10 29 26.8 -2.3**
comp=Z,6.3nm,0.6s,mb4.5,baz=322,slow=11,SNR=19
PLAL Pickwick Lake 28.86 343 *e*P **P** **10 29 29.2 -0.4**
comp=Z,15nm,0.7s,mb4.8
TZTN Tazewell 29.35 351 *e*P **P** **10 29 34.1 +0.1**
BLA Blacksburg 29.67 356 *e*P **P** **10 29 37.4 +0.5**
BLA pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
BLA Blacksburg 29.67 356 *e*P **P** **10 29 37.4 +0.5**
comp=Z,1.9nm,0.7s,mb3.9
ELN Prospectdale 29.71 356 *e*P **P** **10 29 38.2 +0.9**
WVT Waverly 29.86 344 *e*P **P** **10 29 37.0 -1.6**
WVT pmax pmax
comp=Z,28nm,0.8s,mb5.0
WVT Waverly 29.86 344 *e*P **P** **10 29 37.0 -1.5**
comp=Z,28nm,0.8s,mb5.0
FWV Forest Hill 30.07 356 *e*P **P** **10 29 40.0 -0.4**
HALT Halls 30.10 342 *e*P **P** **10 29 40.1 -0.6**
UALR University of 30.14 336 *e*P **P** **10 29 40.2 -0.8**
comp=Z,25nm,0.8s,mb5.0
UTMT University of 30.35 343 *e*P **P** **10 29 43.2 +0.3**
GLAT Glass 30.41 342 *e*P **P** **10 29 43.4 0.0**
MIAR Mount Ida 30.46 334 *e*P **P** **10 29 42.9 -0.9**
MIAR pmax pmax
comp=Z,12nm,0.8s,mb4.7
MIAR Mount Ida 30.46 334 *e*P **P** **10 29 42.9 -0.9**
comp=Z,12nm,0.8s,mb4.7
JCT Junction City 30.58 321 *e*P **P** **10 29 44.9 0.0**
PARMO Parma 30.92 342 *e*P **P** **10 29 48.1 +0.2**
WCI Wyandotte Cave 31.49 348 *e*P **P** **10 29 51.8 -1.1**
USIN University of 31.55 346 *e*P **P** **10 29 52.3 -1.2**
SIUC Southern Illin 31.73 343 *e*P **P** **10 29 54.9 -0.1**
MCWV Mont Chateau 32.08 358 *e*P **P** **10 29 59.2 +1.1**
comp=Z,16nm,0.9s,mb4.8
FVM French Village 32.34 342 *e*P **P** **10 29 58.8 -1.6**
MVL Millersville 32.42 3 *e*P **P** **10 30 01.7 +0.6**
BLO Bloomington 32.45 348 *e*P **P** **10 30 00.3 -1.0**
SLM Saint Louis 32.89 342 *e*P **P** **10 30 04.8 -0.4**
SSPA Standing Stone 33.02 0 *e*P **P** **10 30 06.6 +0.2**
WMOK Wichita Mounta 33.11 328 *e*P **P** **10 30 05.7 -1.5**
ALLY Alegheny Colle 34.08 357 *e*P **P** **10 30 16.3 +0.7**
BINY Binghamton 34.64 3 *e*P **P** **10 30 21.6 +1.2**
MNTX Cornudas Mount 35.00 317 *e*P **P** **10 30 23.0 -0.6**
comp=Z,13nm,0.9s,mb4.9
KSU1 Kansas State U 35.60 335 *e*Pn **P** **10 30 27.6 -1.1**
NCB Newcomb 36.52 5 *e*P **P** **10 30 37.0 +0.4**
comp=Z,18nm,0.9s,mb4.9
SCIA State Center 36.80 341 *e*P **P** **10 30 37.6 -1.3**
JFWS Jewell Farm 36.87 345 *e*P **P** **10 30 37.3 -2.3**
LONY Lake Ozonia 37.13 4 *e*P **P** **10 30 42.4 +0.6**
LENM Lemitar 37.57 319 *e*P **P** **10 30 46.0 +0.5**
BDFB Brasilia 37.67 128 P **P** **10 30 45.2 -1.1**
comp=Z,7.0nm,0.8s,mb4.5,baz=304,slow=10,SNR=7.5
BDFB LR LR 10 47 53.5
comp=Z,3µm,19.6s,MS5.0,baz=306,slow=39
BDFB Brasilia 37.67 128 *e*P **P** **10 30 42.0 -4.3**
BDFB pP 10 30 45.2 -4.2
BDFB Brasilia 37.67 128 *e*P **P** **10 30 42.0 -4.4**
BDFB P pP 10 30 45.2 -4.2
BDFB LR LR 10 47 53.5
ANMO Albuquerque 37.73 320 *c*P **P** **10 30 47.1 +0.2**
ANMO Albuquerque 37.73 320 *e*P **P** **10 30 47.4 +0.5**
LAZ Ladron 37.82 319 *e*P **P** **10 30 48.5 +0.8**
TUC Tucson 39.11 314 *e*P **P** **10 30 58.0 -0.5**
CPUP Villa Florida 39.22 150 P **P** **10 30 55.9 -3.4**
comp=Z,1.5nm,0.5s,mb4.0,baz=311,slow=6.3,SNR=5.4
CPUP LR LR 10 49 26.1
comp=Z,788nm,20.9s,MS4.5,baz=317,slow=40
CPUP Villa Florida 39.22 150 *e*P **P** **10 30 57.0 -2.4**
CPUP pmax pmax
comp=Z,22nm,1.0s
CPUP Villa Florida 39.22 150 *e*P **P** **10 30 57.0 -2.3**
comp=Z,22nm,1.0s,mb4.8
ECSD EROS,Sioux Fal 39.57 339 *e*P **P** **10 31 00.3 -2.0**
CFAA Coronel Fontan 40.00 167 P **P** **10 31 06.1 +0.3**
comp=Z,1.0nm,1.0s,baz=310,slow=2.3,SNR=7.7
ISCO Idaho Springs 40.51 327 *e*P **P** **10 31 11.1 +1.0**
ISCO pmax pmax
comp=Z,45nm,1.2s,mb5.0
ISCO Idaho Springs 40.51 327 *e*P **P** **10 31 11.1 +0.9**
comp=Z,45nm,1.2s,mb5.0
SMCO Snowmass 40.84 325 *e*P **P** **10 31 14.3 +1.5**
comp=Z,20nm,1.1s,mb4.7
PV01 Paradox Valley 41.08 323 *e*P **P** **10 31 16.0 +1.2**
WUAZ Wupatki 41.28 317 *e*P **P** **10 31 17.8 +1.3**
comp=Z,31nm,0.8s,mb5.0
PHWY Pilot Hill 41.51 329 *e*P **P** **10 31 19.0 +0.6**
PV10 Paradox Valley 41.52 323 *e*P **P** **10 31 18.9 +0.5**
GLA Glamis 42.43 312 *e*P **P** **10 31 27.6 +1.7**
RWWY Rawlins 42.70 328 *e*P **P** **10 31 28.2 +0.1**
comp=Z,28nm,0.8s,mb5.0
SRU San Rafael 42.88 322 *e*P **P** **10 31 29.8 +0.3**
RSSD Black Hills 42.93 333 *e*P **P** **10 31 30.1 +0.2**
RSSD pmax pmax
comp=Z,36nm,1.3s,mb4.9
RSSD Black Hills 42.93 333 *e*P **P** **10 31 30.1 +0.1**
comp=Z,36nm,1.3s,mb5.0
TMUT Trail Mountain 43.41 322 *e*P **P** **10 31 34.1 +0.3**
MSU Marysvale 43.54 320 *e*P **P** **10 31 35.9 +1.0**
PFO Pinyon Flat Ob 43.89 312 *e*P **P** **10 31 39.3 +1.6**
ARUT Antelope Range 43.93 319 *e*P **P** **10 31 38.6 +0.6**
MPU Maple Canyon 44.11 323 *e*P **P** **10 31 40.5 +1.0**
NLU North Lily Min 44.34 322 *e*P **P** **10 31 41.9 +0.6**
SHPR Sheep Range 44.39 316 *e*P **P** **10 31 43.0 +1.3**
CTU Camp Tracy 44.60 323 *e*P **P** **10 31 43.5 +0.1**
TCUT Toone Canyon 44.67 324 *e*P **P** **10 31 44.9 +0.9**
PDAR Pinedale Array 44.71 327 P **P** **10 31 43.7 -0.5**
comp=Z,11nm,0.8s,mb4.7,baz=128,slow=7.5,SNR=84
PDAR LR LR 10 54 36.7
comp=Z,689nm,19.8s,MS4.6,baz=131,slow=42
BW06 Boulder Array 44.71 327 *e*P **P** **10 31 44.1 -0.1**
comp=Z,27nm,1.1s,mb5.0
DUG Dugway 44.94 322 *e*P **P** **10 31 46.9 +0.8**
DUG pmax pmax
comp=Z,21nm,1.1s,mb4.9
DUG Dugway 44.94 322 *e*P **P** **10 31 46.9 +0.8**
comp=Z,21nm,1.1s,mb4.9
GSC Goldstone 44.95 314 *e*P **P** **10 31 47.2 +1.1**
HWUT Hardware Ranch 45.07 324 *e*P **P** **10 31 47.1 0.0**
comp=Z,12nm,0.8s,mb4.8
ULM Lac du Bonnet 45.13 344 P **P** **10 31 45.5 -2.1**
comp=Z,37nm,0.8s,mb5.2,baz=151,slow=8.0,SNR=57
ULM LR LR 10 51 25.7
comp=Z,594nm,19.2s,MS4.5,baz=314,slow=37
ULM Lac du Bonnet 45.13 344 *e*P **P** **10 31 45.6 -2.0**
comp=Z,39nm,0.8s,mb5.3
SPUT South Promonto 45.40 323 *e*P **P** **10 31 49.6 -0.1**
BGU Big Grassy Mou 45.51 323 *e*P **P** **10 31 50.7 +0.1**
AHID Auburn Hatcher 45.55 326 *e*P **P** **10 31 50.8 -0.2**
comp=Z,30nm,1.1s,mb5.1
REDW Red Top Meadow 45.81 327 *e*P **P** **10 31 52.6 -0.4**
SNOW Snow King Moun 45.83 327 *e*P **P** **10 31 53.6 +0.5**
LOHW Long Hollow 45.84 327 *e*P **P** **10 31 53.4 +0.1**
HVU Hansel Valley 45.88 324 *e*P **P** **10 31 58.0 +4.4**
LAO LASA Array 45.89 333 *e*P **P** **10 31 52.6 -1.0**
TPAW Teton Pass 45.95 327 *e*P **P** **10 31 54.4 +0.3**
DAC Darwin (Calif) 45.98 314 *e*P **P** **10 31 54.5 +0.2**
MOOW Moose Ponds 46.01 327 *e*P **P** **10 31 53.6 -1.0**
RRI2 Red Ridge 46.06 326 *e*P **P** **10 31 54.6 -0.3**
DCID1 Drake Creek 46.15 327 *e*P **P** **10 31 56.0 +0.4**
FLWY Flagg Ranch 46.21 328 *e*P **P** **10 31 56.5 +0.3**
comp=Z,25nm,1.2s,mb5.0
IMW Indian Meadow 46.22 327 *e*P **P** **10 31 56.0 -0.1**
comp=Z,16nm,0.7s,mb5.1
ISA Isabella 46.32 313 *e*P **P** **10 31 58.3 +1.3**
YFT Old Faithful 46.53 328 *e*P **P** **10 32 00.6 +1.9**
YNR Norris Junctio 46.63 328 *e*P **P** **10 32 01.9 +2.5**
YMR Madison River 46.75 328 *e*P **P** **10 32 01.0 +0.6**
comp=Z,27nm,1.1s,mb5.1
GCMT Greycliff 46.86 330 *e*P **P** **10 32 01.1 -0.1**
QLMT Earthquake Lak 47.10 328 *e*P **P** **10 32 04.4 +1.3**
MTUM Tungsten Hills 47.18 315 *e*P **P** **10 31 57.4 -6.3**
NVAR Mina Array Bea 47.52 317 P **P** **10 32 06.4 0.0**
comp=Z,11nm,1.1s,mb4.8,baz=120,slow=6.7,SNR=19
BOZ Bozeman (W) 47.75 328 *e*P **P** **10 32 08.1 -0.1**
BOZ pmax pmax
comp=Z,16nm,0.8s,mb5.1
BOZ Bozeman (W) 47.75 328 *e*P **P** **10 32 08.1 -0.1**
comp=Z,16nm,0.8s,mb5.1
BMN Battle Mountai 47.84 320 *e*P **P** **10 32 09.8 +0.9**
BMN pmax pmax
comp=Z,16nm,1.1s,mb5.0
BMN Battle Mountai 47.84 320 *e*P **P** **10 32 09.8 +0.9**
comp=Z,16nm,1.1s,mb5.0
MCMT McKenzie Canyo 47.86 327 *e*P **P** **10 32 09.9 +0.9**
HLID Hailey 47.93 325 *e*P **P** **10 32 09.9 +0.3**
comp=Z,13nm,0.8s,mb5.0
DLMT Dillon 48.07 328 *e*P **P** **10 32 10.3 -0.3**
comp=Z,16nm,1.0s,mb5.0
SCHQ Schefferville 48.09 9 P **P** **10 32 09.8 -1.0**
comp=Z,19nm,0.9s,mb5.1,baz=197,slow=6.3,SNR=19
SCHQ LR LR 10 50 22.8
comp=Z,779nm,21.9s,MS4.6,baz=207,slow=34
SCHQ Schefferville 48.09 9 P **P** **10 32 09.8 -1.0**
SCHQ LR LR 10 50 22.8
LRM Limekiln Ridge 48.30 328 *e*P **P** **10 32 12.7 +0.3**
WAKR Walker 48.34 316 *e*P **P** **10 32 13.7 +1.0**
EGMT Eagleton 48.49 332 *e*P **P** **10 32 13.6 -0.3**
comp=Z,17nm,1.0s,mb5.0
HRY Holter Researc 48.58 329 *e*P **P** **10 32 14.7 +0.1**
CMB Columbia Colle 48.77 315 *e*P **P** **10 32 22.7 +6.6**
PAHR Pah Rah Range 48.89 318 *e*P **P** **10 32 17.8 +0.8**
CHMT Chamberlain Mo 49.44 329 *e*P **P** **10 32 20.8 -0.4**
MSO Missoula 49.74 328 *e*P **P** **10 32 23.1 -0.3**
WVOR Wild Horse Val 49.82 321 *e*P **P** **10 32 23.3 -0.8**
WVOR pmax pmax
comp=Z,32nm,1.0s,mb5.3
WVOR Wild Horse Val 49.82 321 *e*P **P** **10 32 23.3 -0.7**
comp=Z,32nm,1.0s,mb5.3
BMO Blue Mountains 50.37 324 *e*P **P** **10 32 27.5 -0.8**
BSMT Bassoo Peak 50.84 329 *e*P **P** **10 32 30.0 +0.2**
FFC Flin Flon 50.84 342 *e*P **P** **10 32 30.9 -0.9**
FFC pmax pmax
comp=Z,13nm,0.9s,mb4.9
FFC Flin Flon 50.84 342 *e*P **P** **10 32 30.9 -1.0**
comp=Z,13nm,0.9s,mb4.9
WALA Waterton Lakes 51.20 330 *e*P **P** **10 32 33.8 -0.7**
YBH Yreka Blue Hor 52.08 318 *e*P **P** **10 32 40.9 -0.2**
YBH pmax pmax
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 52.08 318 *e*P **P** **10 32 40.9 -0.2**
comp=Z,16nm,1.4s,mb4.8
KHMM Horse Mountain 52.37 317 *e*P **P** **10 32 46.6 +3.4**
HAWA Hanford 52.53 325 *e*P **P** **10 32 44.1 -0.3**
HOOD Mount Hood Mea 53.20 323 *e*P **P** **10 32 50.7 +1.3**
VLL Laurance Lake 53.29 323 P **P** **10 32 51.5 +1.4**
EBG Ellensburg 53.42 325 P **P** **10 32 51.2 +0.2**
WTV Waterville 53.51 326 P **P** **10 32 51.7 0.0**
TBM Table Mountain 53.58 325 P **P** **10 32 52.4 +0.3**
KEBM Edson Butte 53.68 319 *e*P **P** **10 32 56.9 +4.1**
EDM Edmonton 53.81 335 *e*P **P** **10 32 52.4 -1.4**
RPW Rockport 54.80 326 P **P** **10 33 00.3 -0.7**
JCW Jim Creek 54.89 326 P **P** **10 33 00.5 -1.2**
GNW Green Mountain 55.06 324 *e*P **P** **10 33 02.0 -0.9**
MCW Mount Constitu 55.66 326 P **P** **10 33 07.0 -0.3**
YKA Yellowknife Ar 61.00 342 P **P** **10 33 42.5 -2.1**
comp=Z,5.7nm,0.8s,mb4.8,baz=130,slow=6.9,SNR=25
YKA Yellowknife Ar 61.00 342 P **P** **10 33 42.5 -2.1**
YKW3 Yellowknife Ar 61.05 342 *e*P **P** **10 33 42.7 -2.3**
RKT Rikitea 63.31 240 *e*LQ 10 50 37.2
comp=Z,736nm,35.8s
RKT *e*LR LR 10 53 23.4
comp=Z,543nm,26.5s
SUMG Summit 69.33 12 *e*P **P** **10 34 37.7 -0.9**
comp=Z,25nm,0.8s,mb5.2
EZAM Zamans 69.81 48 P **P** **10 34 40.6 -1.0**
EZAM pmax pmax
comp=Z,18nm,0.7s,mb5.1
EZAM Zamans 69.81 48 P **P** **10 34 40.6 -1.0**
comp=Z,18nm,0.7s,mb5.1
EGRO El Granado 70.17 53 P **P** **10 34 43.9 +0.1**
comp=Z,1.9nm,0.7s,mb4.1
EBAD Badajoz 70.66 52 P **P** **10 34 45.9 -0.9**
comp=Z,4.5nm,0.7s,mb4.5
INK Inuvik 70.76 341 *e*P **P** **10 34 46.3 -1.2**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 70.76 341 *e*P **P** **10 34 46.3 -1.2**
comp=Z,12nm,1.0s,mb4.8
EMIN Mina Concepcio 70.83 53 P **P** **10 34 48.4 +0.5**
comp=Z,5.6nm,0.7s,mb4.6
ECAL Calabor 71.23 48 P **P** **10 34 52.0 +1.7**
comp=Z,4.5nm,1.0s,mb4.3
EGAK Eagle 71.96 336 *e*P **P** **10 34 57.1 +2.4**
EADA Adamuz 72.51 52 P **P** **10 34 57.2 -0.8**
comp=Z,6.9nm,1.2s,mb4.5
LIC Lamto 72.54 86 *e*P **P** **10 34 56.5 -1.7**
comp=Z,23nm,0.8s,mb4.9
LIC *e*R
comp=Z,418nm,20.8s
LIC Lamto 72.54 86 *e*P **P** **10 34 56.5 -1.7**
comp=Z,12nm,0.8s,mb4.9
LIC LR LR
comp=Z,210nm,20.8s,MS4.4
DBIC Dimbokro 72.66 85 P **P** **10 34 58.5 -0.4**
comp=Z,8.1nm,0.9s,mb4.7,baz=265,slow=6.9,SNR=10
DBIC LR LR 11 04 34.7
comp=Z,299nm,20.5s,MS4.5,baz=242,slow=34
DBIC Dimbokro 72.66 85 P **P** **10 34 58.5 -0.4**
DBIC LR LR 11 04 34.7
ELOJ Sierra Loja 72.78 54 P **P** **10 34 59.9 +0.3**
ELOJ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ELOJ Sierra Loja 72.78 54 P **P** **10 34 59.9 +0.3**
comp=Z,5.2nm,0.8s,mb4.5
GUD Guadarrama 73.03 50 P **P** **10 35 01.5 +0.4**
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GUD Guadarrama 73.03 50 P **P** **10 35 01.5 +0.4**
comp=Z,4.9nm,0.8s,mb4.5
ESDC Sonseca Array 73.10 51 P **P** **10 35 01.1 -0.4**
comp=Z,6.6nm,0.9s,mb4.5,baz=272,slow=5.7,SNR=21
ESDC LR LR 11 02 46.3
comp=Z,199nm,21.2s,MS4.4,baz=260,slow=32
ESLA Sonseca Array 73.10 51 *e*P **P** **10 35 01.4 -0.1**
comp=Z,3.6nm,1.1s,mb4.2
ECOG Cogollos-Vega 73.25 53 P **P** **10 35 04.6 +2.2**
ECOG pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ECOG Cogollos-Vega 73.25 53 P **P** **10 35 04.6 +2.2**
comp=Z,2.2nm,0.5s,mb4.3
EQES Quesada 73.68 53 P **P** **10 35 07.6 +2.7**
comp=Z,24nm,1.4s,mb4.9
EBER Berja 73.77 54 P **P** **10 35 07.2 +1.8**
comp=Z,21nm,1.3s,mb4.9
ELAN Lanestosa 73.79 47 P **P** **10 35 07.5 +1.9**
comp=Z,16nm,1.1s,mb4.8
EHUE Huescar 74.06 53 P **P** **10 35 08.8 +1.7**
EHUE pmax pmax
comp=Z,33nm,1.6s,mb5.0
EHUE Huescar 74.06 53 P **P** **10 35 08.8 +1.7**
comp=Z,33nm,1.6s,mb5.0
ROSF Rostrenen 74.41 42 *e*P **P** **10 35 09.8 +0.6**
comp=Z,153nm,1.5s,mb5.4
ROSF Rostrenen 74.41 42 *e*P **P** **10 35 09.8 +0.6**
ROSF pmax pmax
comp=Z,77nm,1.5s,mb5.4
ROSF Rostrenen 74.41 42 *e*P **P** **10 35 09.8 +0.6**
comp=Z,77nm,1.5s,mb5.4
QUIF Quistinic 74.43 42 *e*P **P** **10 35 09.9 +0.6**
comp=Z,141nm,1.4s,mb5.4
QUIF Quistinic 74.43 42 *e*P **P** **10 35 09.9 +0.6**
QUIF pmax pmax
comp=Z,71nm,1.4s,mb5.4
QUIF Quistinic 74.43 42 *e*P **P** **10 35 09.9 +0.6**
comp=Z,71nm,1.4s,mb5.4
COLA College 74.71 335 *e*P **P** **10 35 10.1 -0.8**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
COLA College 74.71 335 *e*P **P** **10 35 10.1 -0.8**
comp=Z,6.2nm,0.9s,mb4.5
PPT Papeete 74.77 250 *e*LR LR 10 58 42.5
comp=Z,1µm,27.8s
PPT Papeete 74.77 250 LR LR 10 59 33.6
comp=Z,538nm,19.9s,MS4.8,baz=106,slow=29
MCK McKinley 74.87 334 P **P** **10 35 15.8 +3.9**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MCK McKinley 74.87 334 P **P** **10 35 15.8 +4.0**
comp=Z,3.8nm,0.7s,mb4.4
SGMF Saint Gilles 74.87 42 *e*P **P** **10 35 12.2 +0.3**
comp=Z,55nm,1.1s,mb5.1
SGMF Saint Gilles 74.87 42 *e*P **P** **10 35 12.2 +0.3**
SGMF pmax pmax
comp=Z,28nm,1.1s,mb5.1
SGMF Saint Gilles 74.87 42 *e*P **P** **10 35 12.2 +0.3**
comp=Z,28nm,1.1s,mb5.1
ETOB Tobarra 74.92 52 P **P** **10 35 12.1 0.0**
comp=Z,0.6nm,0.9s
EALK Alkurruntz 75.19 47 P **P** **10 35 16.3 +2.6**
comp=Z,12nm,1.0s,mb4.8
SJPF Ste Jean 75.39 47 *e*P **P** **10 35 14.9 0.0**
comp=Z,46nm,0.9s,mb5.1
SJPF Ste Jean 75.39 47 *e*P **P** **10 35 14.9 0.0**
SJPF pmax pmax
comp=Z,23nm,0.9s,mb5.1
SJPF Ste Jean 75.39 47 *e*P **P** **10 35 14.9 0.0**
comp=Z,23nm,0.9s,mb5.1
EMOS Mosqueruela 75.82 50 P **P** **10 35 17.3 0.0**
comp=Z,5.2nm,1.2s,mb4.3
ETSF Etsaut 75.87 48 *e*P **P** **10 35 18.5 +0.9**
comp=Z,18nm,1.0s,mb4.6
ETSF Etsaut 75.87 48 *e*P **P** **10 35 18.5 +0.9**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ETSF Etsaut 75.87 48 *e*P **P** **10 35 18.5 +0.9**
comp=Z,8.9nm,1.0s,mb4.7
ESAC San Caprasio 75.88 49 P **P** **10 35 19.1 +1.4**
comp=Z,17nm,0.8s,mb5.0
EBEN Beniarda 75.95 52 P **P** **10 35 18.9 +0.8**
comp=Z,24nm,0.9s,mb5.1
GRR Gorron 76.02 42 *e*P **P** **10 35 19.0 +0.6**
comp=Z,48nm,1.1s,mb5.0
GRR Gorron 76.02 42 *e*P **P** **10 35 19.0 +0.6**
GRR pmax pmax
comp=Z,24nm,1.1s,mb5.0
GRR Gorron 76.02 42 *e*P **P** **10 35 19.0 +0.6**
comp=Z,24nm,1.1s,mb5.0
TBI Tubuai 76.04 244 *e*LQ 10 56 01.0
comp=Z,976nm,32.5s
TBI *e*LR LR 10 59 17.3
comp=Z,2µm,28.5s
FLN La Foliniere 76.29 42 *e*P **P** **10 35 20.0 0.0**
FLN *e*R
comp=Z,421nm,22.5s
FLN La Foliniere 76.29 42 *e*P **P** **10 35 20.0 0.0**
FLN LR LR
comp=Z,420nm,22.5s,MS4.7
MFF Saint Martin d 76.37 44 *e*P **P** **10 35 20.8 +0.4**
EBIE Bielsa 76.37 48 P **P** **10 35 20.1 -0.4**
comp=Z,12nm,1.3s,mb4.7
ERTA Horta de San J 76.45 50 P **P** **10 35 22.6 +1.7**
comp=Z,13nm,1.1s,mb4.8
LDF La Druitiere 76.52 42 *e*P **P** **10 35 21.8 +0.5**
comp=Z,55nm,1.2s,mb5.0
LDF La Druitiere 76.52 42 *e*P **P** **10 35 21.8 +0.5**
LDF pmax pmax
comp=Z,27nm,1.2s,mb5.0
LDF La Druitiere 76.52 42 *e*P **P** **10 35 21.8 +0.5**
comp=Z,27nm,1.2s,mb5.1
EPF Esparros 76.53 48 P **P** **10 35 21.4 0.0**
comp=Z,33nm,1.2s,mb4.8
EPF Esparros 76.53 48 *e*P **P** **10 35 21.4 0.0**
EPF pmax pmax
comp=Z,16nm,1.2s,mb4.8
EPF Esparros 76.53 48 *e*P **P** **10 35 21.4 0.0**
comp=Z,16nm,1.2s,mb4.8
LFF La Frestale 76.90 46 *e*P **P** **10 35 23.7 +0.2**
comp=Z,33nm,1.1s,mb4.9
LFF La Frestale 76.90 46 *e*P **P** **10 35 23.7 +0.2**
LFF pmax pmax
comp=Z,16nm,1.1s,mb4.9
LFF La Frestale 76.90 46 *e*P **P** **10 35 23.7 +0.2**
comp=Z,16nm,1.1s,mb4.9
EPOB Poblet 77.03 49 P **P** **10 35 24.1 0.0**
comp=Z,10nm,1.2s,mb4.6
EIBI Ibiza 77.19 52 P **P** **10 35 25.0 -0.1**
comp=Z,13nm,0.7s,mb5.0
SVW2 Sparrevohn 77.42 331 *e*P **P** **10 35 24.8 -1.6**
RJF Les Rejaudoux 77.47 45 *e*P **P** **10 35 26.9 +0.3**
comp=Z,33nm,1.2s,mb4.8
RJF *e*R
comp=Z,496nm,22.5s
RJF Les Rejaudoux 77.47 45 *e*P **P** **10 35 26.9 +0.3**
RJF pmax pmax
comp=Z,17nm,1.2s,mb4.8
RJF MLR MLR
comp=Z,500nm,22.5s,MS4.8
RJF Les Rejaudoux 77.47 45 *e*P **P** **10 35 26.9 +0.3**
comp=Z,17nm,1.2s,mb4.8
RJF LR LR
comp=Z,500nm,22.5s,MS4.8
CAF Calviac 77.84 46 *e*P **P** **10 35 28.3 -0.4**
comp=Z,21nm,1.0s,mb4.7
CAF Calviac 77.84 46 *e*P **P** **10 35 28.3 -0.4**
CAF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CAF Calviac 77.84 46 *e*P **P** **10 35 28.3 -0.4**
comp=Z,10nm,1.0s,mb4.7
MTLF Montolieu 77.92 47 *e*P **P** **10 35 28.9 -0.2**
comp=Z,37nm,1.3s,mb4.8
MTLF Montolieu 77.92 47 *e*P **P** **10 35 28.9 -0.2**
MTLF pmax pmax
comp=Z,19nm,1.3s,mb4.9
MTLF Montolieu 77.92 47 *e*P **P** **10 35 28.9 -0.2**
comp=Z,18nm,1.3s,mb4.8
TCF Toulx Ste Croi 77.98 44 *e*P **P** **10 35 30.5 +1.0**
EJON La Jonquera 78.40 48 P **P** **10 35 33.8 +2.0**
comp=Z,6.9nm,0.8s,mb4.6
TOA0 Torodi Ar. Sit 78.50 78 *e*P **P** **10 35 31.9 -0.4**
TORD Torodi Ar. Bea 78.50 78 P **P** **10 35 31.4 -0.9**
comp=Z,1.6nm,0.5s,mb4.2,baz=286,slow=6.2,SNR=13
TORD LR LR 11 09 28.2
comp=Z,528nm,20.6s,MS4.9,baz=255,slow=35
AVF Avril sur Loir 78.78 44 *e*P **P** **10 35 33.9 0.0**
comp=Z,22nm,1.0s,mb4.7
AVF Avril sur Loir 78.78 44 *e*P **P** **10 35 33.9 0.0**
AVF pmax pmax
comp=Z,11nm,1.0s,mb4.7
AVF Avril sur Loir 78.78 44 *e*P **P** **10 35 33.9 0.0**
comp=Z,11nm,1.0s,mb4.8
SMF Signal de Mont 79.12 44 *e*P **P** **10 35 36.2 +0.4**
comp=Z,29nm,1.1s,mb4.8

SMF Signal de Mont 79.12 44 eP P 10 35 36.2 +0.4
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF Signal de Mont 79.12 44 eP P 10 35 36.2 +0.4
comp=Z,15nm,1.1s,mb4.8
LOR Lormes 79.14 43 eP P 10 35 36.8 +0.9
comp=Z,14nm,1.0s,mb4.6
LOR eR
comp=Z,430nm,22.0s
LOR Lormes 79.14 43 eP P 10 35 36.8 +0.9
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,430nm,22.0s,MS4.7
LOR Lormes 79.14 43 eP P 10 35 36.8 +0.9
comp=Z,7.1nm,1.0s,mb4.5
LOR LR LR
comp=Z,430nm,22.0s,MS4.7
VIVF Saint-Julien-l 79.69 46 eP P 10 35 38.1 -0.8
comp=Z,23nm,1.1s,mb4.7
VIVF Saint-Julien-l 79.69 46 eP P 10 35 38.1 -0.8
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.7
VIVF Saint-Julien-l 79.69 46 eP P 10 35 38.1 -0.8
comp=Z,12nm,1.1s,mb4.7
GIVF Givet 79.81 40 eP P 10 35 40.4 +0.9
comp=Z,57nm,1.2s,mb5.1
GIVF Givet 79.81 40 eP P 10 35 40.4 +0.9
GIVF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GIVF Givet 79.81 40 eP P 10 35 40.4 +0.9
comp=Z,28nm,1.2s,mb5.1
MEZF Maizieres J'vi 79.95 42 eP P 10 35 39.7 -0.6
comp=Z,29nm,1.0s,mb4.9
MEZF Maizieres J'vi 79.95 42 eP P 10 35 39.7 -0.6
comp=Z,29nm,1.0s,mb5.2
SMRF Simiane la Rot 80.35 47 eP P 10 35 42.6 +0.1
ORIF Oris-en-Rattie 80.55 46 eP P 10 35 43.8 +0.3
comp=Z,33nm,1.0s,mb4.9
ORIF eR
comp=Z,338nm,21.5s
ORIF Oris-en-Rattie 80.55 46 eP P 10 35 43.8 +0.3
ORIF pmax pmax
comp=Z,16nm,1.0s,mb4.9
ORIF Oris-en-Rattie 80.55 46 eP P 10 35 43.8 +0.3
comp=Z,16nm,1.0s,mb4.9
CABF La Chapelle 80.67 44 eP P 10 35 42.8 -1.3
LMR La Mourre 81.05 47 eP P 10 35 46.2 0.0
FRF La Foret Royal 81.14 47 eP P 10 35 46.7 0.0
comp=Z,21nm,1.0s,mb4.7
FRF La Foret Royal 81.14 47 eP P 10 35 46.7 0.0
FRF pmax pmax
comp=Z,11nm,1.0s,mb4.7
FRF La Foret Royal 81.14 47 eP P 10 35 46.7 0.0
comp=Z,10nm,1.0s,mb4.7
LPL La Plagne 81.14 45 eP P 10 35 46.9 +0.2
LPG La Plagne 81.15 45 eP P 10 35 47.1 +0.3
SBF Sospel 81.70 47 eP P 10 35 49.8 +0.2
NB2 NORSAR Subarra 83.21 29 P P 10 35 57.1 -0.4
comp=Z,28nm,1.7s,mb5.0,baz=273,slow=5.1
NOA NORSAR Array B 83.21 29 P P 10 35 56.7 -0.8
comp=Z,1.9nm,0.8s,mb4.2,baz=274,slow=5.2,SNR=7.1
NOA LR LR 11 11 37.1
comp=Z,173nm,19.6s,MS4.4,baz=280,slow=35
NOA NORSAR Array B 83.21 29 P P 10 35 56.7 -0.8
NOA LR LR 11 11 37.1
VSL Villasalto 83.40 51 eP P 10 35 58.3 -0.2
comp=Z,13nm,0.8s,mb5.0
KEST Kesra 83.67 55 P P 10 35 59.9 0.0
comp=Z,3.0nm,0.9s,mb4.4,baz=215,slow=1.7,SNR=7.0
MANZ Manzenberg 84.51 40 epPKPbc P 10 36 13.6 +9.4
TANN Tannenbergstha 84.69 40 epPKPbc P 10 36 10.0 +4.9
CLL Collm 84.95 39 esP sP 10 36 11.0 +0.1
comp=Z,11nm,1.3s
CLL i sPcP 10 36 15.5
CLL Lm 11 10 00.0
comp=Z,500nm,19.0s
KHC Kasperske Hory 85.54 41 i P P 10 36 12.9 +3.5
BRG Berggiesshubel 85.59 39 eP P 10 36 14.3 +4.7
comp=Z,4.2nm,1.2s,mb4.6
BRG Berggiesshubel 85.59 39 eP P 10 36 14.3 +4.7
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
GEC2 GERESS Array S 85.65 41 epPKPbc P 10 36 14.4 +4.5
GERES GERESS Array B 85.65 41 P P 10 36 10.0 +0.1
comp=Z,5.0nm,1.1s,mb4.7,baz=276,slow=3.8,SNR=3.0
GERES LR LR 11 12 15.2
comp=Z,173nm,19.6s,MS4.5,baz=91,slow=34
ARCES ARCESS Array B 87.79 20 P P 10 36 19.2 -1.1
comp=Z,5.6nm,0.8s,mb4.8,baz=302,slow=5.5,SNR=8.1
ARCES LR LR 11 09 42.6
comp=Z,295nm,21.8s,MS4.7,baz=281,slow=32
VYHS Vyhne 89.07 41 eP P 10 36 29.9 +3.5
VYHS Vyhne 89.07 41 e P 10 36 29.9 +3.5
FINES FINESS Array B 90.22 28 P P 10 36 30.9 -0.8
comp=Z,3.2nm,0.9s,mb4.7,baz=216,slow=6.1,SNR=5.5
FINES LR LR 11 16 05.8
comp=Z,209nm,19.1s,MS4.6,baz=339,slow=35
VNA3 Neumayer Olymp 90.27 162 eP P 10 36 30.4 -1.6
VNA3 e pP 10 36 32.6 -2.7
VNA3 e 10 36 43.7
VNA3 e 10 36 48.2
VNA3 e 10 36 58.1
VNA3 e 10 37 09.7
VNA1 Neumayer--Stat 90.47 162 eP P 10 36 31.5 -1.4
VNA1 e pP 10 36 33.3 -3.0
VNA1 e 10 36 45.4
VNA1 e 10 36 48.6
BILL Bilibino 92.37 340 i P P 10 36 43.4 +1.7
SNAA Sanae 92.47 162 eP P 10 36 40.6 -1.6
SNAA e 10 36 41.4
SNAA e 10 36 53.9
SNAA e 10 36 57.8
SNAA e 10 37 18.6
SNAA Sanae 92.47 162 i P P 10 36 41.4 -0.8
SNAA Sanae 92.47 162 eP P 10 36 40.0 -2.2
comp=Z,2.8nm,0.8s,mb4.6
AKASG Malin Array Be 95.08 38 LR LR 11 16 48.0
comp=Z,250nm,21.0s,MS4.7,baz=25,slow=34
OBN Obninsk 97.62 32 eP P 10 37 08.3 +2.6
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.6
MDJ Mudanjiang 122.43 337 PKP PKPdf 10 42 23.2 -3.3
MDJ SKS SKSdf 10 49 32.3 -6.2
MDJ PS PS 10 53 55.3 -2.1
MDJ PP PP
comp=Z,146nm,8.1s
MDJ LR LR
comp=N,340nm,24.9s,MS4.9
MDJ LR LR
comp=E,159nm,27.0s,MS4.9
MDJ LR LR
comp=Z,407nm,27.0s,MS4.9
MKAR Makanchi Array 123.24 16 PKP PKPdf 10 42 26.8 -1.3
comp=Z,0.4nm,0.6s,baz=329,slow=1.4,SNR=4.6
CN2 Changchun 124.67 339 ePKP PKPdf 10 42 30.7 -0.1
CN2 PP PP 10 44 21.3 +3.5
CN2 LR LR
comp=Z,600nm,23.0s,MS5.2
SONM Songino Array 124.79 356 PKP PKPdf 10 42 30.2 -0.9
comp=Z,0.9nm,0.6s,baz=315,slow=2.6,SNR=8.2
WMQ Urumqi 127.36 13 ePKP PKPdf 10 42 35.5 -0.5
WMQ PP PP 10 44 39.6 +3.9
WMQ PKS 10 46 11.0
WMQ PPP 10 47 24.0
WMQ SKS SKSdf 10 49 42.0 -5.8
WMQ SKKS SKKSac 10 51 28.0 -5.6
WMQ PP PP
comp=Z,186nm,4.2s
WMQ LR LR
comp=Z,516nm,25.4s,MS5.1
HHC Hu-ho-hao-te 131.09 350 ePKP PKPdf 10 42 42.3 -0.7
HHC PP PP 10 45 03.6 +3.6
HHC PKS 10 46 17.5
HHC SKS SKSdf 10 49 48.1 -6.5
HHC SKKS SKKSac 10 51 50.6 -6.2
HHC SS SS 11 02 27.5 -3.9
HHC LR LR
comp=Z,636nm,28.4s,MS5.2
GTA Gaotai 133.32 2 ePKP PKPdf 10 42 51.7 +4.5
LZH Lanzhou 136.63 358 ePKP PKPdf 10 42 53.0 -0.4
LZH PP PP 10 45 38.0 +2.7
LZH SS SS 11 03 37.0 -1.3
LZH PP PP
comp=Z,150nm,4.7s
LZH LR LR
comp=Z,946nm,20.4s,MS5.5
NJ2 Nanjing 137.47 338 ePKP PKPdf 10 42 55.8 +0.8
NJ2 PP PP 10 45 47.0 +6.4
NJ2 PKS 10 46 32.0
NJ2 PPP 10 48 57.0
NJ2 SKS SKSdf 10 50 02.0 -3.8
NJ2 SKKS SKKSac 10 52 34.0 -1.4
NJ2 PP PP
comp=Z,380nm,9.0s
NJ2 LR LR
comp=Z,390nm,23.7s,MS5.1
AS31 Alice Springs 145.30 239 ePKP PKPdf 10 43 08.5 -0.5
ASAR Alice Springs 145.30 239 PKPbc PKPbc 10 43 07.0 -1.7
comp=Z,5.2nm,0.8s,baz=117,slow=3.8,SNR=67
ASPA Alice Springs 145.30 239 ePKP PKPdf 10 43 08.5 -0.5
GYA Guiyang 145.95 352⇑iPKP PKPdf 10 43 10.3 +0.2
GYA PP PP 10 46 39.4 +7.3
GYA SKKS SKKSac 10 53 24.3 -0.2
GYA SS SS 11 05 32.0 +5.2
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,180nm,20.6s,MS5.0
GYA LR LR
comp=E,160nm,20.4s,MS5.0
GYA LR LR
comp=Z,170nm,21.2s,MS4.8
WB2 Warramunga Arr 146.15 245 ePKP PKPdf 10 43 09.9 -0.6
WRAB Tennant Creek 146.16 245 i PKP2 PKPab 10 43 11.3 -0.8
WRA Warramunga Arr 146.16 245 PKPbc PKPbc 10 43 09.9 -1.6
comp=Z,2.9nm,0.6s,baz=100,slow=2.5,SNR=72
KMI Kunming 147.59 358 PKP PKPdf 10 43 10.7 -2.2
KAKA Kakadu 149.45 258 ePKP PKPdf 10 43 16.9 +1.0
comp=Z,9.4nm,0.6s
FITZ Fitzroy Crossi 154.54 243 PKP PKPdf 10 43 23.7 +0.1
comp=Z,1.2nm,0.9s,baz=180,slow=5.1,SNR=2.9

---

*HLW **03** 10:34:10.0, 31.38N×35.62E, h3km, Mb2.5*
*ISCJB **03** 10:34:16.9±0.5, 31.06N±0.02×35.17E±0.06, h4km±4km,*
Error ellipse: s-maj=8.5km s-min=3.5km az=33.4
*GII **03** 10:34:16.2±0.8, 31.07N×35.18E, h0km, ML1.8/2*
ISC 03 10:34:17.5±0.5, **31.07N**±0.03×**35.15E**±0.06, **h7**km±4km, **n22,**
σ1§05/28, **Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YTIR	Yattir	0.29	355	Pg	Pg	10 34 22.7	-0.6
MZDA	Masada	0.30	37	Pg	Pg	10 34 23.1	-0.4
MZDA				Sg	Sg	10 34 27.9	+0.5
MASH	Mash'abbe Sade	0.32	257	Pg	Pg	10 34 24.1	+0.4
RTMM	Retamin	0.40	268	Pg	Pg	10 34 25.5	+0.3
SVTA	Shivta	0.47	253	Pg	Pg	10 34 27.2	+0.5
ZFRI	Zfri	0.51	177	Pg	Pg	10 34 27.2	-0.1
DSI	Dead Sea	0.54	22	Pg	Pg	10 34 28.7	+0.8
DRGI	Dragot	0.56	22	Pg	Pg	10 34 28.3	-0.1
PRNI	Paran	0.72	190	Pg	Pg	10 34 31.6	+0.2
PRNI				Sg	Sg	10 34 42.5	+1.7
KMTI	Karmit	1.03	201	Pg	Pg	10 34 36.1	-1.1
HRFI	Mount Harif	1.03	185	Pg	Pg	10 34 37.1	-0.2
HRFI				Sg	Sg	10 34 52.8	+2.0
HMDT	Nahal Hemdat	1.23	15	Pg	Pg	10 34 40.0	-1.0
MBH	Mount Berech	1.29	189	Pg	Pg	10 34 41.6	-0.6
AQBJ	Aqaba	1.34	184	Pn	Pn	10 34 42.6	0.0
MMLI	Mount Malkishu	1.39	10	Pn	Pn	10 34 42.3	-0.9
MMLI				Sn	Sn	10 35 02.9	+1.0
EIL	Elat	1.40	187	Pn	Pn	10 34 43.0	-0.5
EIL				Sn	Sn	10 35 03.5	+1.3
HNKL	Nakhl	1.52	222	P	Pn	10 34 44.2	-0.9
AMAG	Maghara	1.72	256	P	Pn	10 34 46.7	-1.2
AMAG				S	Sn	10 35 13.5	+3.4
HBST	Basata	1.88	191	P	Pn	10 34 47.9	-2.2
MMA3	Mount Meron ar	1.95	6	Sn	Sn	10 35 17.8	+2.0
SUZ		2.34	239	P	Pn	10 34 55.7	-0.7
HKAT	Jabal Katrina	2.73	202	P	Pn	10 35 00.5	-1.2

---

*SZGRF **03** 10:40:36.6, 17.60S×173.53W, h33km, Tonga Islands*
*IDC **03** 10:41:37.7±1.4, 17.94S×178.43W, h567km±17km, mb4.1/10, mb1 4.2/12, mb1mx4.0/17, mbtmp5.0/12, Error ellipse: s-maj=23.3km s-min=11.9km az=148.0*
*NEIC **03** 10:41:37.0±0.8, 17.80S×178.55W, h551km±9km, mb4.5/39, Error ellipse: s-maj=16.1km s-min=5.0km az=150.0*
*MOS **03** 10:41:38.0±1.8, 17.50S×178.75W, h556km, mb4.6/15, Error ellipse: s-maj=19.7km s-min=10.3km az=146.4*
*ISCJB **03** 10:41:40.0±1.5, 17.9S±0.1×178.67W±0.08, h606km±19km, mb4.5/47, Error ellipse: s-maj=20.4km s-min=7.0km az=126.4*
ISC 03 10:41:38.6±1.0, **17.9S**±0.1×**178.59W**±0.08, **h572**km±12km,
n167, σ0§78/110, **mb4.5**/47, **13C-14D, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 7.63 60 P P 10 43 31.4 -2.0
13nm,0.3s,baz=38,slow=5.3,SNR=17
DZM Mont Dzumac 14.68 251 eP P 10 44 43.9 -0.6
DZM Mont Dzumac 14.68 251 P P 10 44 45.9 +1.4
3.4nm,0.3s,baz=84,slow=16,SNR=42
URZ Urewera 20.68 190 P P 10 45 38.0 -1.6
4.3nm,0.6s,baz=38,slow=12,SNR=5.7
ARMA Armidale 29.82 240⇓iP P 10 47 01.3 +1.1
CTA Charters Tower 33.29 260⇓iP P 10 47 30.4 +0.7
29nm,0.7s,mb5.0
CTA Charters Tower 33.29 260⇓iP P 10 47 30.4 +0.7
CTA pmax pmax
comp=Z,29nm,0.7s
CTAO Charters Tower 33.29 260 eP P 10 47 30.4 +0.7
CTAO pmax pmax
comp=Z,30nm,0.6s,mb5.1
CTAO Charters Tower 33.29 260 eP P 10 47 30.4 +0.7
comp=Z,30nm,0.6s,mb5.1
CNB Canberra Magne 33.33 232⇓iP P 10 47 30.6 +0.6
comp=Z,40nm,0.5s,mb5.3
PMG Port Moresby 34.28 280 P P 10 47 39.9 +2.0
comp=Z,97nm,0.8s,mb5.5,baz=93,slow=7.6,SNR=39
PMG Port Moresby 34.28 280d iP P 10 47 39.8 +1.8
TOO Toolangi 37.07 231 eP P 10 48 01.4 +0.4
comp=Z,17nm,0.5s,mb4.8
TOO Toolangi 37.07 231 eP P 10 48 01.4 +0.4
TOO pmax pmax
comp=Z,17nm,0.5s,mb4.8
STKA Stephens Creek 38.51 241⇓iP P 10 48 13.5 +0.8
comp=Z,22nm,0.5s,mb4.9
STKA Stephens Creek 38.51 241 P P 10 48 13.6 +0.9
comp=Z,27nm,0.5s,mb5.1,baz=90,slow=9.6,SNR=104
STKA Stephens Creek 38.51 241 eP P 10 48 13.4 +0.8
WB2 Warramunga Arr 44.46 259⇓iP P 10 48 59.4 -0.2
WRAB Tennant Creek 44.47 260d iP P 10 48 59.6 0.0
WRAB Tennant Creek 44.47 260 eP P 10 48 59.4 -0.2
comp=Z,33nm,0.6s,mb5.0
WRA Warramunga Arr 44.47 259 P P 10 48 59.4 -0.3
comp=Z,20nm,0.5s,mb4.9,baz=93,slow=7.1,SNR=640
WRA S S 10 54 51.0 -2.7
comp=Z,0.3nm,0.7s,baz=103,slow=10,SNR=2.5
AS31 Alice Springs 44.64 254 eP P 10 49 01.2 +0.3
AS31 eS S 10 54 55.3 -0.7
ASAR Alice Springs 44.64 254 P P 10 49 01.4 +0.5
comp=Z,146nm,0.7s,baz=88,slow=8.5,SNR=2172
ASAR S S 10 54 55.2 -0.8
comp=Z,1.8nm,1.0s,baz=89,slow=16,SNR=8.8
ASPA Alice Springs 44.65 254⇓iP P 10 49 01.3 +0.3
ASPA eS S 10 54 55.3 -0.8
KAKA Kakadu 47.41 269 eP P 10 49 21.9 0.0
comp=Z,63nm,0.4s,mb5.5
FORT Forrest 49.88 245 eP P 10 49 39.4 -0.8
comp=Z,35nm,0.5s,mb5.0
FITZ Fitzroy Crossi 52.87 261⇓iP P 10 50 02.2 +0.5
comp=Z,7.4nm,0.3s,mb4.5
MBWA Marble Bar 57.92 256 eP P 10 50 36.6 -0.2
comp=Z,9.4nm,0.4s,mb4.3
KLBR Kellerberrin 58.70 244⇓iP P 10 50 41.2 -0.8
comp=Z,25nm,0.7s,mb4.5
NWAO Narrogin (SRO) 59.09 242 P P 10 50 44.4 -0.2
comp=Z,4.6nm,0.6s,mb3.8,baz=107,slow=7.7,SNR=7.7
MUN Mundaring 60.00 243⇑iP P 10 50 50.5 -0.1
MJAR Matsushiro Arr 67.76 323 P P 10 51 39.5 -0.4
comp=Z,1.2nm,0.5s,mb3.6,baz=157,slow=5.6,SNR=7.7
KSM Kuching 72.51 277 eP P 10 52 09.4 +1.4
CMB Columbia Colle 77.91 43 eP P 10 52 38.0 0.0
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.3
CMB Columbia Colle 77.91 43 eP P 10 52 38.0 0.0
comp=Z,11nm,0.9s,mb4.3
YBH Yreka Blue Hor 78.59 39 eP P 10 52 41.9 +0.3
YBH pmax pmax
comp=Z,20nm,1.3s
YBH Yreka Blue Hor 78.59 39 eP P 10 52 41.9 +0.2
comp=Z,20nm,1.3s,mb4.3
MTUM Tungsten Hills 78.75 45 eP P 10 52 43.3 +0.8
DAC Darwin (Calif) 78.83 46 eP P 10 52 43.3 +0.4
DAC pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
DAC Darwin (Calif) 78.83 46 eP P 10 52 43.2 +0.3
comp=Z,1.5nm,0.6s,mb3.5
NVAR Mina Array Bea 79.50 44 P P 10 52 46.9 +0.4
comp=Z,7.0nm,0.7s,mb4.1,baz=219,slow=7.5,SNR=80
SVW2 Sparrevohn 80.81 11 eP P 10 52 52.2 -1.1
BMN Battle Mountai 81.28 43 eP P 10 52 56.1 +0.4
BMN pmax pmax
comp=Z,13nm,0.9s,mb4.4
BMN Battle Mountai 81.28 43 eP P 10 52 56.1 +0.4
comp=Z,14nm,0.9s,mb4.4
LVP Lakeview Peak 81.35 36 P P 10 52 56.1 0.0
WVOR Wild Horse Val 81.47 40 eP P 10 52 57.0 +0.3
WVOR pmax pmax
comp=Z,15nm,0.9s,mb4.4
WVOR Wild Horse Val 81.47 40 eP P 10 52 57.0 +0.3
comp=Z,15nm,0.9s,mb4.4
HDW Hoodsport 81.95 34 P P 10 52 59.5 +0.4
CCUT Cedar City 82.40 47 eP P 10 53 02.2 +0.8
TTA Tatalina 82.45 10 eP P 10 53 01.2 -0.4
PMR Palmer 82.59 14 eP P 10 53 00.8 -1.5
PMR pmax pmax
comp=Z,5.0nm,0.4s,mb4.4
PMR Palmer 82.59 14 eP P 10 53 00.8 -1.5
comp=Z,5.4nm,0.4s,mb4.4
WUAZ Wupatki 82.84 49 eP P 10 53 04.3 +0.7
comp=Z,15nm,1.0s,mb4.5
RSW Rattlesnake Hi 83.13 37 P P 10 53 05.2 +0.2
HAWA Hanford 83.16 37 eP P 10 53 05.2 0.0
comp=Z,0.8nm,0.9s
RPW Rockport 83.26 34 P P 10 53 05.1 -0.6
ETW Entiat 83.41 35 P P 10 53 06.3 -0.1
BMO Blue Mountains 83.61 39 eP P 10 53 07.0 -0.4
BMO pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
BMO Blue Mountains 83.61 39 eP P 10 53 07.0 -0.4
comp=Z,2.2nm,0.8s,mb3.7
WTV Waterville 83.67 35 P P 10 53 07.3 -0.4
MSU Marysvale 83.68 46 eP P 10 53 08.7 +0.9
OD2 Odessa Site #2 84.19 36 P P 10 53 09.9 -0.3
MCK McKinley 84.52 13 eP P 10 53 10.6 -1.3
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
MCK McKinley 84.52 13 eP P 10 53 10.6 -1.3
comp=Z,3.9nm,0.7s,mb4.2
HLID Hailey 84.70 41 eP P 10 53 13.2 +0.4
comp=Z,6.7nm,0.8s,mb4.3
TMUT Trail Mountain 84.72 46 eP P 10 53 13.8 +1.0
MENT Mentasta 85.04 15 eP P 10 53 13.8 -0.6
SRU San Rafael 85.10 46 eP P 10 53 14.9 +0.2
SRU pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
SRU San Rafael 85.10 46 eP P 10 53 14.9 +0.2
comp=Z,6.2nm,0.7s,mb4.3
TCUT Toone Canyon 85.44 44 eP P 10 53 17.1 +0.7
LAZ Ladron 85.46 52 eP P 10 53 17.1 +0.7
HWUT Hardware Ranch 85.57 44 eP P 10 53 16.6 -0.4
comp=Z,2.3nm,0.6s,mb4.0
MNTX Cornudas Mount 85.68 55 eP P 10 53 18.1 +0.5
comp=Z,5.2nm,1.0s,mb4.1
COLA College 85.75 13 eP P 10 53 15.9 -1.9
COLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
COLA College 85.75 13 eP P 10 53 15.9 -2.0
comp=Z,4.7nm,0.7s,mb4.2
PV01 Paradox Valley 86.03 48 eP P 10 53 19.1 0.0
ANMO Albuquerque 86.19 52d iP P 10 53 20.6 +0.7
ANMO Albuquerque 86.19 52 eP P 10 53 20.4 +0.5
comp=Z,5.2nm,1.0s,mb4.1
MCMT McKenzie Canyo 86.31 41 P P 10 53 20.9 +0.4
RRI2 Red Ridge 86.55 42 eP P 10 53 22.2 +0.6
comp=Z,23nm,0.8s,mb5.0
MSO Missoula 86.64 38 eP P 10 53 21.3 -0.8
comp=Z,2.3nm,0.5s,mb4.2
BSMT Bassoo Peak 86.67 37 P P 10 53 21.7 -0.5
DLMT Dillon 86.72 40 eP P 10 53 22.7 +0.3
comp=Z,13nm,1.1s,mb4.6
TPAW Teton Pass 86.86 42 eP P 10 53 23.4 +0.3
comp=Z,8.4nm,0.9s,mb4.5
REDW Red Top Meadow 86.86 43 eP P 10 53 23.4 +0.3
comp=Z,16nm,1.0s,mb4.7
SNOW Snow King Moun 86.97 42 eP P 10 53 24.1 +0.5
comp=Z,15nm,0.9s,mb4.7
IMW Indian Meadow 87.06 42 eP P 10 53 24.7 +0.7
comp=Z,14nm,0.8s,mb4.7
CHMT Chamberlain Mo 87.10 39 eP P 10 53 23.3 -0.8
LOHW Long Hollow 87.14 42 eP P 10 53 24.6 +0.3
comp=Z,3.5nm,0.6s,mb4.3
QLMT Earthquake Lak 87.19 41 eP P 10 53 25.5 +0.9
EGAK Eagle 87.20 15 eP P 10 53 23.6 -1.1
FLWY Flagg Ranch 87.30 42 eP P 10 53 25.8 +0.7
comp=Z,13nm,1.0s,mb4.6
YMR Madison River 87.41 41 eP P 10 53 26.6 +1.0
comp=Z,4.9nm,0.6s,mb4.4
PDAR Pinedale Array 87.43 43 P P 10 53 25.4 -0.3
comp=Z,6.3nm,0.6s,mb4.5,baz=223,slow=2.9,SNR=77
PDAR PP PP 10 56 58.6 -2.4
comp=Z,0.4nm,0.7s,baz=242,slow=3.2,SNR=4.8
BOZ Bozeman (W) 87.46 40 eP P 10 53 26.0 +0.1
BOZ pmax pmax
comp=Z,8.0nm,1.4s,mb4.3
BOZ Bozeman (W) 87.46 40 eP P 10 53 26.0 +0.1
comp=Z,7.8nm,1.4s,mb4.2
HRY Holter Researc 87.85 39 eP P 10 53 27.5 -0.2
JCT Junction City 89.65 58 eP P 10 53 36.1 +0.1
JCT pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
JCT Junction City 89.65 58 eP P 10 53 36.1 0.0
comp=Z,4.7nm,0.8s,mb4.4
VNA3 Neumayer Olymp 90.81 176 eP P 10 53 39.6 -1.8
VNA3 e 10 53 40.7
VNA3 e 10 53 53.6
VNA3 e 10 54 05.1
LAO LASA Array 91.28 41 eP P 10 53 44.2 +0.7
comp=Z,18nm,1.2s,mb4.9
RSSD Black Hills 91.64 44 eP P 10 53 45.0 -0.2
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
RSSD Black Hills 91.64 44 eP P 10 53 45.0 -0.2
comp=Z,3.3nm,0.7s,mb4.5
INK Inuvik 91.88 15 eP P 10 53 45.0 -1.3
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 91.88 15 eP P 10 53 45.0 -1.3
comp=Z,4.1nm,0.9s,mb4.5
YKA Yellowknife Ar 94.35 25 P P 10 53 56.1 -1.5
comp=Z,1.0nm,0.5s,mb4.2,baz=234,slow=4.5,SNR=13
ARCES ARCESS Array B 126.23 350 PKP PKPdf 10 59 35.2 -1.4
comp=Z,1.7nm,0.7s,baz=7.4,slow=0.4,SNR=8.5
ARCES ARCESS Array B 126.23 350 PKP PKPdf 10 59 35.2 -1.5
FINES FINESS Array B 133.09 344 PKP PKPdf 10 59 49.3 -0.3
comp=Z,1.6nm,0.9s,baz=45,slow=3.8,SNR=7.1
FINES SKPbc SKPbc 11 02 23.7 -0.7
comp=Z,0.8nm,0.7s,baz=55,slow=5.3,SNR=4.4
BURAR Bucovina Array 144.48 332⇑iP PKPdf 11 00 11.3 +1.0
STHS Stebnicka Huta 144.67 337 ePKP PKPdf 11 00 11.3 +0.7
KOLS Kolonicke sedl 144.68 336 ePKP PKPdf 11 00 10.9 +0.3
NRDL Niedersach Rie 144.76 351 ePKPbc PKPdf 11 00 09.8 -1.0
NIE Niedzica 145.00 338 ePKP PKPdf 11 00 12.5 +1.3
KSP Ksiaz 145.01 344 ePKP PKPdf 11 00 12.3 +1.1
KSP Ksiaz 145.01 344 ePKP PKPdf 11 00 11.8 +0.6
CLL Collm 145.37 347 ePKPbc PKPbc 11 00 11.2 -1.9
CLL Collm 145.37 347⇑iPKPbc PKPbc 11 00 12.5 -0.6
comp=Z,16nm,1.0s
UPC Upice 145.39 344 ePKP PKPdf 11 00 12.9 +1.1
DPC Dobruska-Polom 145.44 343 ePKP PKPdf 11 00 13.4 +1.5
BRG Berggiesshubel 145.57 346 ePKPbc PKPbc 11 00 13.0 -0.7
BRG Berggiesshubel 145.57 346 i PKP PKPdf 11 00 13.4 +1.3
comp=Z,3.3nm,0.8s
FBE Freiberg 145.66 347 ePKPbc PKPbc 11 00 13.6 -0.3
BUG Bochum--Univer 146.16 353 ePKPbc PKPbc 11 00 11.5 -3.8
DRGR 146.21 333⇓iP PKPdf 11 00 15.6 +2.4
PRU Pruhonice 146.25 345 ePKPbc PKPbc 11 00 15.6 0.0
PRU ePKPab PKPab 11 00 18.2 +0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOX	Moxa	146.28	348	ePKPbc	PKPbc	11 00 15.1	-0.5
VYHS	Vyhne	146.30	339	ePKP	PKPdf	11 00 15.6	+2.2
TANN	Tannenbergstha	146.33	347	ePKPbc	PKPbc	11 00 15.6	-0.2
WERD	Werda	146.33	347	ePKPbc	PKPbc	11 00 15.5	-0.3
GUNZ	Gunzen	146.40	347	ePKPbc	PKPbc	11 00 15.7	-0.3
WERN	Wernitzgruen	146.47	347	ePKPbc	PKPbc	11 00 15.3	-0.9
SMOL	Smolenice	146.75	340	ePKP	PKPdf	11 00 17.1	+3.0
MANZ	Manzenberg	146.81	347	ePKPbc	PKPbc	11 00 16.8	-0.3
ROTZ	Rotzenmuhle	146.99	347	ePKPbc	PKPbc	11 00 17.4	-0.2
TNS	Taunus Mts	147.22	352	ePKPbc	PKPbc	11 00 17.7	-0.4
GRA1	Grafenberg Arr	147.27	348	ePKP	PKPdf	11 00 17.9	+2.9
GRF	Grafenberg Arr	147.27	348	ePKP	PKPdf	11 00 17.9	+2.9
KHC	Kasperske Hory	147.28	345	ePKPbc	PKPbc	11 00 18.5	+0.2
KHC				ePKPab	PKPab	11 00 22.8	+0.7
WET	Wettzell	147.43	346	ePKPbc	PKPbc	11 00 18.2	-0.5
GEC2	GERESS Array S	147.51	345	ePKPbc	PKPbc	11 00 18.3	-0.6
GEC2	GERESS Array S	147.51	345	ePKPdf	PKPdf	11 00 15.0	-0.4
GEC2				ePKPbc	PKPbc	11 00 18.7	-0.3
GERES	GERESS Array B	147.51	345	PKPbc	PKPbc	11 00 18.7	-0.2
	comp=Z,3.6nm,0.6s,baz=22,slow=3.1,SNR=15						
BZS	Buzias	147.60	333	⇓iP	PKPdf	11 00 18.9	+3.4
GIVF	Givet	147.71	356	⇑iPKP1	PKPbc	11 00 19.0	-0.4
	comp=Z,11nm,0.5s						
BAIF	Baives	147.79	357	⇑iPKP1	PKPbc	11 00 19.3	-0.3
	comp=Z,15nm,0.6s						
BFO	Black Forest	149.08	351	ePKPbc	PKPbc	11 00 21.9	-0.9
CDF	Champ du Feu	149.15	352	ePKP1	PKPbc	11 00 22.7	-0.3
	comp=Z,22nm,1.0s						
MEZF	Maizieres J'vi	149.28	355	⇑iPKP1	PKPbc	11 00 23.1	-0.2
LDF	La Druitiere	149.31	2	⇑iPKP1	PKPbc	11 00 22.5	-0.9
	comp=Z,7.4nm,0.4s						
GRR	Gorron	149.49	3	⇑iPKP1	PKPbc	11 00 23.1	-0.7
	comp=Z,8.6nm,0.4s						
HAU	Haudompre	149.66	353	⇑iPKP1	PKPbc	11 00 23.7	-0.5
CRES	Cresnjev	149.76	340	i PKPbc	PKPbc	11 00 23.9	-0.5
HINF	Hinteralfeld	149.78	353	⇑iPKP1	PKPbc	11 00 23.7	-0.8
	comp=Z,9.2nm,0.9s						
LJU	Ljubljana	149.85	342	i PKPbc	PKPbc	11 00 24.1	-0.5
BOJS	Bojanci	150.11	340	i PKPbc	PKPbc	11 00 25.0	-0.2
JAVS	Javornik	150.12	342	i PKPbc	PKPbc	11 00 24.4	-0.9
LOR	Lormes	150.59	357	⇑iPKP1	PKPbc	11 00 26.0	-0.4
	comp=Z,9.7nm,0.5s						
CABF	La Chapelle	151.06	353	ePKP1	PKPbc	11 00 27.6	+0.2
	comp=Z,12nm,0.8s						
AVF	Avril sur Loir	151.10	357	ePKP1	PKPbc	11 00 27.2	-0.3
SMF	Signal de Mont	151.22	357	ePKP1	PKPbc	11 00 27.8	0.0
TCF	Toulx Ste Croi	151.63	359	⇑iPKP1	PKPbc	11 00 28.1	-0.6
	comp=Z,7.7nm,0.9s						
LPL	La Plagne	152.06	352	ePKP1	PKPbc	11 00 30.1	+0.4
LPG	La Plagne	152.08	352	ePKP1	PKPbc	11 00 30.2	+0.5
MBDF	Montbardon	152.83	352	⇑iPKP1	PKPbc	11 00 31.1	-0.2
	comp=Z,5.4nm,0.7s						
VIVF	Saint-Julien-l	152.94	355	ePKP1	PKPbc	11 00 31.4	-0.2
ESDC	Sonseca Array	157.76	11	PKPab	PKPab	11 01 05.5	-1.0
	comp=Z,0.8nm,0.6s,baz=341,slow=4.0,SNR=8.4						

*NEIC **03** 11:15:28.9, 3026S×6947W, h2^{km}, ML3.4(GUC), After GUC.*

GUC 03 11:15:28.9±1.0**, 3026S×6947W, h2**^{km}±9^{km}**, MD4.0, ML3.4, 3C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.16	274	eP	Pg	11 15 51.1	0.0
TLL				i S	Sg	11 16 07.8	+1.6
TLL				AML	AML	11 16 10.8	
	comp=E,1µm,0.6s						
TLL	Tololo Astrono	1.16	274	eP	Pg	11 15 51.1	0.0
TLL				i S	Sg	11 16 07.8	+1.6
OVCH	Ovalle	1.54	257	eP	Pn	11 15 57.3	+0.1
OVCH				i S	Sn	11 16 18.2	+0.4
OVCH				AML	AML	11 16 20.7	
	comp=N,852nm,0.5s						
OVCH	Ovalle	1.54	257	eP	Pn	11 15 57.3	+0.1
OVCH				i S	Sn	11 16 18.2	+0.4
LSCH	La Serena	1.58	282	eP	Pn	11 15 56.9	-0.9
LSCH				eS	Sn	11 16 19.2	+0.3
CMCH	Combarbala	1.60	235	⇑iP	Pn	11 15 57.8	-0.4
CMCH				i S	Sn	11 16 19.9	+0.5
CMCH				AML	AML	11 16 21.8	
	comp=N,883nm,0.5s						
CMCH	Combarbala	1.60	235	⇑iP	Pn	11 15 57.8	-0.4
CMCH				i S	Sn	11 16 19.9	+0.5
PTCH	Petorca	2.35	212	eP	Pn	11 16 09.8	+1.2
PTCH				i S	Sn	11 16 40.3	+2.2
PTCH				AML	AML	11 16 43.6	
	comp=E,519nm,0.2s						
PTCH	Petorca	2.35	212	eP	Pn	11 16 09.8	+1.2
PTCH				i S	Sn	11 16 40.3	+2.2
CHNG	Los Chungos	2.38	227	⇑iP	Pn	11 16 09.2	+0.3
CHNG				i S	Sn	11 16 41.9	+3.3
CHNG				AML	AML	11 16 46.5	
	comp=N,88nm,0.5s						
PEL	Peldehue	3.05	200	eS	Sn	11 16 58.0	+2.7
PEL				AML	AML	11 17 08.7	
	comp=E,127nm,0.4s						
FCH	Farellones	3.13	193	eP	Pn	11 16 21.4	+2.2
FCH				i S	Sn	11 17 02.2	+4.9
FCH				AML	AML	11 17 09.2	
	comp=E,51nm,0.2s						
CLCH	Cerro Calan	3.25	196	i S	Sn	11 17 02.2	+2.0
CLCH				AML	AML	11 17 20.9	
	comp=N,88nm,0.4s						
PCH	Pirque	3.46	195	eP	Pn	11 16 25.4	+1.6
TACH	Talagante	3.60	200	eP	Pn	11 16 26.7	+1.0

NNC 03 11:20:35.9±2.1**, 4309N×7972E, h0**^{km}**, mb3.7, mpv3.3, 6C-2D, Error ellipse: s-maj=31.4km s-min=10.7km az=154.0, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDC	Almaty	2.02	275	⇑Pn	Pn	11 21 11.4	+0.3
	166nm,0.8s						
KNDC				⇓Lg		11 21 42.2	
	143nm,0.6s						
TKM2	Tokmak 2	3.03	268	⇑Pn	Pn	11 21 25.0	0.0
	0.4nm,0.4s						
TKM2				⇓Lg		11 22 09.3	
	12nm,0.8s						
MK02	Makanchi Array	4.11	26	⇑Pn	Pn	11 21 39.8	-0.2
	3.4nm,0.5s,baz=210,slow=13						
MK02				⇑Lg		11 22 46.3	
	12nm,0.6s,baz=214,slow=27						
KK31	Karatay Array	6.74	273	⇑Pg	Pg	11 22 36.1	-8.9
	1.4nm,0.6s,baz=77,slow=15,SNR=3.6						
KK31				⇑Lg		11 24 05.2	
	3.8nm,0.5s,baz=85,slow=28,SNR=5.9						

PGC 03 11:30:27.9, 5830N×13353W, h1^{km}**, ML2.9**/3**, 51km southeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	1.85	84	P	Pn	11 30 59.7	-1.1
DLBC				Pg	Pg	11 31 01.4	-2.1
DLBC				Sn	Sn	11 31 24.5	-0.4
DLBC				Sg	Sg	11 31 26.1	-1.4
DLBC				Trac		11 31 27.0	
	comp=Z,72nm,0.4s						
PLBC	Pleasant Camp	1.88	310	Pn	Pn	11 31 00.8	-0.3
PLBC				Pg	Pg	11 31 01.7	-2.2
PLBC				Sg	Sg	11 31 25.8	-2.4
WHY	Whitehorse	2.47	344	Pn	Pn	11 31 08.4	-0.9
WHY				Pg	Pg	11 31 11.8	-3.5
WHY				Sn	Sn	11 31 37.1	-3.0
WHY				Sg	Sg	11 31 41.9	-5.4
WHY				Trac		11 31 51.5	
	comp=Z,48nm,0.7s						
HYT	Haines Junctio	3.24	323	Pn	Pn	11 31 20.4	+0.5
HYT				Pg	Pg	11 31 26.6	-3.5
HYT				Sg	Sg	11 32 09.2	-3.0
HYT				Trac		11 32 12.6	
	comp=Z,14nm,0.3s						
RUBB	Prince Rupert	4.38	154	Pn	Pn	11 31 35.2	-0.3
RUBB				Pg	Pg	11 31 46.8	-5.0
RUBB				Sn	Sn	11 32 25.3	-1.9
RUBB				Sg	Sg	11 32 44.6	-4.0
RUBB				Trac		11 32 55.4	
	comp=Z,33nm,0.9s						
FNBB	Fort Nelson	5.54	79	Trac		11 33 34.4	
	comp=Z,9.0nm,0.8s						
FNBB	Fort Nelson	5.54	79	Sg	Sg	11 33 20.7	-5.1
DAWY	Dawson	6.44	336	Pg	Pg	11 32 24.7	-6.7
DAWY				Sg	Sg	11 33 48.2	-6.7
DAWY				Trac		11 33 52.6	
	comp=Z,13nm,0.8s						
INK	Inuvik	10.05	0	Trac		11 35 57.5	
	comp=Z,1.0nm,0.7s						
INK	Inuvik	10.05	0	Sg	Sn	11 35 40.0	+53

*NEIC **03** 11:48:20.3, 3958N×2370E, h24^{km}, ML3.2(ATH), After ATH.*
*ISCJB **03** 11:48:20.4±0.5, 3959N±002×2368E±003, h10^{km}±3^{km}, Error ellipse: s-maj=4.2km s-min=3.1km az=13.6*
*ATH **03** 11:48:20.3, 3958N×2370E, h24^{km}, MD3.3/12, ML3.2*
*THE **03** 11:48:21.4, 3959N×2366E, h5^{km}, ML2.8*
*CSEM **03** 11:48:21.2±0.1, 3960N×2370E, h15^{km}, ML2.8, Error ellipse: s-maj=1.9km s-min=1.3km az=93.0*
*SOF **03** 11:48:26.1, 4004N×2381E, h12^{km}, MD2.7*

ISC 03 11:48:21.0±0.4**, 3958N**±002×**2368E**±003**, h12**^{km}±3^{km}**, n32,** σ**0**^{s}**72**/50**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.34	0	ePg	Pg	11 48 28.2	+0.2
PAIG				eSg	Sg	11 48 33.4	+0.8
XOR	Xorichti	0.43	240	ePg	Pg	11 48 29.8	+0.2
AOS	Alonnisos	0.44	159	ePg	Pg	11 48 30.3	+0.6
NEO	Neokhori	0.45	232	⇑iPB	Pg	11 48 30.0	+0.1
NEO				eSB	Sg	11 48 36.7	+0.8
OUR	Ouranopolis	0.79	17	ePg	Pg	11 48 36.5	+0.2
PLG	Polygyros	0.81	347	ePN	Pg	11 48 35.9	-0.8
PLG				eSN	Sg	11 48 47.0	-0.3
LIT	Litokhoron	1.05	300	ePg	Pg	11 48 40.5	-0.8
LIT				eSg	Sg	11 48 55.2	+0.2
LKR	Lokris	1.07	210	ePN	Pn	11 48 41.2	-0.6
HORT	Hortiatis	1.11	337	ePg	Pg	11 48 42.2	-0.2
HORT				eSg	Sg	11 48 57.6	+0.8
LOS	Limnos	1.14	72	ePg	Pg	11 48 42.3	-0.7
LOS				eSg	Sg	11 48 58.9	+1.2
THE	Thessaloniki	1.18	333	ePg	Pg	11 48 43.2	-0.6
THE				eSg	Sg	11 48 59.3	+0.1
AGG	Agios Georgios	1.19	242	ePg	Pg	11 48 43.0	-0.9
LIA	Limnos Island	1.20	74	ePN	Pn	11 48 43.2	-0.4
LIA				eSN	Sn	11 48 59.1	-0.7
SOH	Sokhos	1.26	349	ePg	Pg	11 48 44.5	-0.8
SOH				eSg	Sg	11 49 02.2	+0.5
PTL	Penteli	1.54	175	ePN	Pn	11 48 48.0	-0.3
EVR	Evrytania	1.60	246	ePN	Pn	11 48 49.4	+0.3
EVR				eSN	Sn	11 49 10.5	+0.9
ATH	Athens Observa	1.61	179	ePN	Pn	11 48 49.7	+0.5
ATH				eSN	Sn	11 49 10.0	+0.1
MGER	Gerania Oros	1.63	192	ePN	Pn	11 48 49.5	0.0
KZN	Kozani	1.64	297	ePN	Pn	11 48 49.6	0.0
GRG	Griva	1.68	325	ePb	Pb	11 48 50.5	-1.4
KNT	Kendrikon	1.69	340	ePb	Pb	11 48 50.9	-1.0
KNT				eSb	Sb	11 49 13.1	0.0
KVR	Kavouri	1.75	178	ePN	Pn	11 48 51.8	+0.6
KVR				eSN	Sn	11 49 14.0	+0.5
NVR	Nevrokopi	1.77	4	ePN	Pn	11 48 51.7	+0.3
NAIG	Nisos Aigina	1.83	185	ePB	Pb	11 48 52.0	-2.4
MMB	Musomiste	2.00	1	ePn	Pn	11 48 54.9	+0.3
MMB				eSn	Sn	11 49 21.3	+1.6
MMB	Musomiste	2.00	1	i P	Pn	11 48 54.7	0.0
MMB				Sg	Sn	11 49 20.1	+0.5
MMB	Musomiste	2.00	1	ePn	Pn	11 48 54.9	+0.2
MMB				eSn	Sn	11 49 21.3	+1.7
RDO	Rodhopi	2.11	42	ePN	Pn	11 48 55.6	-0.5
ALN	Alexandroupoli	2.24	53	ePn	Pn	11 48 58.0	+0.1
RZN	Rozhen	2.25	20	P	Pn	11 48 58.2	+0.2
RZN				Sg	Sn	11 49 25.5	-0.1
KKB	Krupnik	2.33	349	i P	Pn	11 48 59.2	+0.1
KKB				Sg	Sn	11 49 26.8	-0.8
VTS	Vitosha	3.03	353	P	Pn	11 49 10.5	+1.8

SKHL 03 12:41:51.4±0.3**, 5562N×13043E, h9**^{km}±1^{km}**, mb3.9**/3**, 1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BMKR	Bomnak	1.29	226	⇓iPg	Pg	12 42 15.0	-1.1
BMKR				eSg	Sg	12 42 32.2	-0.7
BMKR				A		12 42 33.5	
	120nm,0.4s						
KROS	Kirovskiy	2.32	241	ePn	Pn	12 42 28.3	-1.4
KROS				ePg	Pg	12 42 32.5	-3.4
KROS				AMB	AMB	12 42 34.2	
	11nm,0.4s						
KROS				AMB	AMB	12 42 34.2	
	14nm,0.4s						
KROS				AMB	AMB	12 42 34.2	
	16nm,0.4s						
KROS				pPg		12 42 37.0	
KROS				eSn	Sn	12 42 58.0	-0.4
KROS				i Sg	Sg	12 43 03.2	-2.7
KROS				A		12 43 04.0	
	53nm,0.6s						
KROS				A		12 43 04.0	
	28nm,0.6s						
KROS				A		12 43 04.0	
	16nm,0.6s						
ZEA	Zeya	2.64	226	eSg	Sg	12 43 13.0	-3.2
YASR	Yasnyy	2.74	212	ePg	Pg	12 42 40.7	-3.2
YASR				AMB	AMB	12 42 43.8	
	11nm,0.3s						
YASR				AMB	AMB	12 42 43.8	
	7.0nm,0.3s						
YASR				eSg	Sg	12 43 16.8	-2.6
YASR				A		12 43 18.1	
	30nm,0.5s						
YASR				A		12 43 18.1	
	50nm,0.5s						
EKMR	Ekimchan	2.95	149	erx	rx	12 42 43.5	
EKMR				ePg	Pg	12 42 45.3	-2.6
EKMR				AMB	AMB	12 42 46.0	
	9.0nm,0.2s						
EKMR				pPg		12 42 49.0	
EKMR				eSg	Sg	12 43 24.5	-1.7
EKMR				A		12 43 32.0	
	28nm,0.5s						
EKMR				A		12 43 32.0	
	15nm,0.5s						
EKMR				A		12 43 32.0	
	6.0nm,0.5s						
CLNS	Chul'man	3.32	294	ePg	Pg	12 42 50.8	-4.3
CLNS				AMB	AMB	12 42 53.1	
	9.0nm,0.3s						
CLNS				AMB	AMB	12 42 53.1	
	15nm,0.3s						
CLNS				eSg	Sg	12 43 34.6	-3.5
CLNS				A		12 43 39.4	
	25nm,0.3s						
CLNS				A		12 43 39.4	
	39nm,0.3s						
CLNS				A		12 43 39.4	
	9.0nm,0.3s						
GRNR	Gornyy	6.05	141	eSg	Sg	12 45 00.5	-5.0

CASC 03 13:07:22.5±1.6**, 1250N×8750W, h75**^{km}±14^{km}**, MD3.5, ML3.3, 7C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	Leon	0.59	98	eP	Pn	13 07 36.3	-0.3
LEON				eS	Sn	13 07 46.4	-0.7
TELN	Telica	0.66	81	⇑eP	Pn	13 07 37.5	+0.2
TELN				eS	Sn	13 07 49.1	+0.9
MIRN	Miramar	0.77	94	⇑eP	Pn	13 07 38.8	+0.4
MIRN				eS	Sn	13 07 51.1	+0.8
CNGN	Cerro Negro	0.78	90	⇓eP	Pn	13 07 38.9	+0.3
CNGN				eS	Sn	13 07 51.4	+0.8
CNCH	Conchagua	0.84	337	⇓eP	x	13 07 39.3	
CNCH				eS	x	13 07 52.4	
COPN	Copaltepe	0.94	110	⇑eP	Pn	13 07 40.6	+0.1
COPN				eS	Sn	13 07 53.2	-0.7
APYN	Apoyeque	1.15	103	⇑iP	Pn	13 07 41.3	-1.8
APYN				eS	Sn	13 07 58.9	+0.4
BLLM	Bellamira	1.18	322	⇓eP	x	13 07 43.7	
BLLM				eS	x	13 08 00.1	
VSM	San Miguel	1.20	321	eP	x	13 07 44.6	
VSM				eS	x	13 08 01.0	
XAVN	Gruta Xavier	1.20	107	⇑eP	Pn	13 07 44.0	+0.3
XAVN				eS	Sn	13 08 00.7	+1.2
TISN	Laguna Tiscapa	1.25	106	eP	Pn	13 07 45.0	+0.6
TISN				eS	Sn	13 08 01.4	+0.7
MGAN	Managua	1.27	106	eS	Sn	13 08 01.8	+0.6
	comp=N,472nm,0.2s						
TICN	Ticuantepe	1.32	110	eP	Pn	13 07 46.0	+0.7
TICN				eS	Sn	13 08 03.2	+0.9
SNVI	San Vicente	1.71	310	⇑eP	x	13 07 51.1	
SNVI				eS	x	13 08 12.6	
LCBS	La Ceiba	1.85	309	eP	x	13 07 52.4	
LCBS				⇑eP	x	13 07 52.5	
LCBS				eS	x	13 08 15.8	
LFRS	El Faro	1.89	306	eP	x	13 07 53.2	
LFRS				eS	x	13 08 16.3	
LFU	La Fuente	2.01	308	eP	x	13 07 54.5	
BOQS	Boqueron	2.13	305	eP	x	13 07 56.3	
SNJE	San Jose	2.46	304	eP	x	13 08 02.1	

MAN 03 13:13:12.9, 1382N×12075E, h133^{km}**, mb2.0, ML3.7, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.38	149	⇓eP	Pn	13 13 33.9	+2.3
LUBP	Lubang	0.50	260	eP	Pn	13 13 33.6	+1.3
LUBP				eS	Sn	13 13 46.5	-0.4
BOAC	Boac	1.12	109	eP	Pn	13 13 37.5	+0.3
BUSP	Coron	1.89	197	eP	Pn	13 13 46.3	+0.7
BUSP				eS	Sn	13 14 08.7	-2.1
CUYO	Cuyo Island	2.97	175	eP	Pn	13 14 00.2	+1.1

*SKHL **03** 13:12:52.4±4.2, 4220N×150.10E, h50^{km}±19^{km}, mb4.7/2, ms4.2/2, msh5.2/1*
*NIED **03** 13:13:00, 4320N×14770E, h14^{km}, Mw4.1 Best double couple: $M_0$1.57000×10^{15} NP1:ϕ_s254.00000°, δ90.00000°, λ-160.00000°. NP2:ϕ_s164.00000°, δ70.00000°, λ-1.00000°.*
*IDC **03** 13:13:11.8±0.9, 4327N×148.16E, h0^{km}, mb4.1/12, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, ML3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/28, Error ellipse: s-maj=23.6km s-min=19.8km az=94.0*
*MOS **03** 13:13:12.7±0.8, 4328N×148.17E, h21^{km}, mb4.8/11, Error ellipse: s-maj=15.4km s-min=9.7km az=115.9*
*BJI **03** 13:13:13.4, 4403N×14857E, h35^{km}, mB4.7, mb4.5, Ms4.3, Msz3.9*
*NEIC **03** 13:13:14.8±4.7, 4329N×14808E, h19^{km}±29^{km}, mb4.4/11, Error ellipse: s-maj=14.6km s-min=10.3km az=118.0*
*JMA **03** 13:13:15.4±0.3, 4318N×14772E, h4^{km}, M4.0*
*ISCJB **03** 13:13:15.5±0.9, 4322N±006×14801E±007, h39^{km}±7^{km}, mb4.3/35, MS3.9/5, Error ellipse: s-maj=10.5km s-min=7.9km az=123.6*

ISC 03 13:13:15.6±1.7**, 4331N**±007×**14803E**±006**, h23**^{km}±11^{km}**, h39**^{km}±2.4^{km}**: pP-P, n86,** σ**1**^{s}**10**/98**, mb4.3**/35**, MS3.9**/5**, 2C-2D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.67	273	P	Pn	13 13 42.4	-1.0
NEM2				eS	Sn	13 14 01.4	-2.6
YUK	Yuzh-Kuril'sk	1.73	295	eP	Pn	13 13 43.5	-0.7
YUK				AMB	AMB	13 13 44.8	
	180nm,0.5s						
YUK				AMB	AMB	13 13 44.8	
	380nm,0.5s						
YUK				AMB	AMB	13 13 48.0	
	2µm,1.0s						
YUK				AMB	AMB	13 13 48.0	
	2µm,1.0s						
YUK				eS	Sn	13 14 25.0	+19
YUK				A		13 14 27.1	
	8µm,1.0s						
YUK				A		13 14 27.1	
	6µm,1.0s						
YUK				A		13 14 29.6	
	2µm,0.5s						
YUK				A		13 14 29.6	
	570nm,0.5s						
YUK				AMS	AMS	13 15 08.0	
	5µm,12.0s						
YUK				AMS	AMS	13 15 08.0	
	4µm,12.0s						
KUR	Kuril'sk	1.93	357	⇓iP	Pn	13 13 43.1	-3.8
KUR				AMB	AMB	13 13 54.5	
	340nm,1.0s						
KUR				AMB	AMB	13 13 54.5	
	210nm,1.0s						
KUR				AMB	AMB	13 13 54.5	
	750nm,1.0s						
KUR				eS	Sn	13 14 18.0	+7.6
KUR				A		13 14 27.4	
	710nm,0.9s						
KUR				A		13 14 27.4	
	530nm,0.9s						
KUR				A		13 14 42.0	
	2µm,2.0s						
KUR				A		13 14 42.0	
	1µm,2.0s						
KUR	Kuril'sk	1.93	357	⇓iPN	Pn	13 13 43.1	-3.8
KUR				S	Sn	13 14 18.0	+7.6
KUR				pmax	pmax		
	comp=N,340nm,1.0s						
KUR				pmax	pmax		
	comp=E,210nm,1.0s						
KUR				pmax	pmax		
	comp=Z,750nm,1.0s						
KUR				smax			
	comp=N,710nm,0.9s						
KUR				smax			
	comp=E,530nm,0.9s						
KUR				smax			
	comp=N,2µm,2.0s						
KUR				smax			
	comp=E,1µm,2.0s						
JRA	Rausu	2.20	288	P	Pn	13 13 50.6	-0.1
JNK	Nakash	2.43	278	P	Pn	13 13 52.9	-0.9
JNK				eS	Sn	13 14 20.5	-2.2
JAK	Akkeshi	2.46	264	P	Pn	13 13 53.7	-0.5
JAK				eS	Sn	13 14 22.5	-1.0
JTKR	Abashiri--Toko	3.06	284	P	Pn	13 14 02.9	+0.4
JAR	Ashorobuto	3.11	271	P	Pn	13 14 03.0	-0.2
JMP	Maruseppu	3.46	283	P	Pn	13 14 08.9	+0.9
JCH	Churui	3.50	260	P	Pn	13 14 08.5	0.0
ERM	Erimo	3.82	252	ePN	Pn	13 14 14.0	+1.1
JKK2	Kamakawa 2	3.88	280	P	Pn	13 14 15.2	+1.5
JFR	Furan	3.98	270	P	Pn	13 14 15.8	+0.7
JFR				eS	Sn	13 15 01.6	+0.7
JNBK	Urakawa-nobuka	4.02	257	P	Pn	13 14 15.7	+0.1
JNBK				eS	Sn	13 15 01.4	-0.6
ASAJ	Asahikawa	4.02	283	Pn	Pn	13 14 17.1	+1.5
	comp=E,1.8nm,0.3s,baz=144,slow=7.7,SNR=16						
ASAJ	Asahikawa	4.02	283	PN	Pn	13 14 17.2	+1.5
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JWK2	Keihoku	4.84	297	P	Pn	13 14 29.9	+3.0
JEW	Eniwo	4.84	267	P	Pn	13 14 28.2	+1.2
YSS	Yuzh-Sakhalins	5.21	316	eP	Pn	13 14 39.0	+6.9
YSS				AMS	AMS	13 16 54.0	
	comp=Z,700nm,17.0s						
YSS				AMS	AMS	13 16 54.0	
	comp=Z,500nm,17.0s						
YSS	Yuzh-Sakhalins	5.21	316	PN	Pn	13 14 39.0	+6.9
YSS				eS	Sn	13 15 35.7	+4.2
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS				MLR	MLR		
	comp=N,700nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,17.0s						
YSS	Yuzh-Sakhalins	5.21	316	eP	Pn	13 14 33.1	+1.0
	comp=E,34nm,0.9s						
JKB	Kayabe	5.36	257	P	Pn	13 14 33.9	-0.2
JKB				eS	Sn	13 15 32.0	-3.0
MJAR	Matsushiro Arr	10.12	231	Pn	Pn	13 15 38.4	-1.1
	comp=E,0.3nm,0.3s,baz=27,slow=15,SNR=4.9						
HABR	Khabarovsk	10.41	304	ePN	Pn	13 15 40.4	-3.0
KLR	Kul'dur	12.71	303	ePN	Pn	13 16 21.8	+6.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,600nm,15.0s						
EKMR	**Ekimchan**	**13.99**	**320**	*e*P	**Pn**	**13 16 30.0**	**-2.3**
EKMR				AMB	AMB	13 16 31.3	
	comp=Z,3.0nm,0.5s						
MA2	**Magadan**	**16.38**	**5**	*e*P	**Pn**	**13 17 03.7**	**-0.2**
MA2				pmax	pmax		
	comp=Z,16nm,0.9s						
MA2	**Magadan**	**16.38**	**5**	*e*P	**Pn**	**13 17 03.7**	**-0.1**
	comp=Z,16nm,0.9s						
HIA	**Hailar**	**20.36**	**297**	*e*P	**P**	**13 17 47.6**	**-2.8**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**20.36**	**297**	*e*P	**P**	**13 17 47.6**	**-2.8**
	comp=Z,3.9nm,0.6s						
YAK	**Yakutsk**	**21.66**	**336**	*e*P	**P**	**13 17 59.8**	**-4.6**
YAK				*e*		13 18 11.9	
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
YAK	**Yakutsk**	**21.66**	**336**	*e*P	**P**	**13 17 59.8**	**-4.5**
	comp=Z,23nm,0.8s,mb4.7						
YAK				*e*		13 18 11.8	
SSE	**Sheshan**	**24.50**	**249**	P	**P**	**13 18 38.6**	**+5.6**
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,77nm,6.2s						
NJ2	**Nanjing**	**25.55**	**254**	*e*P	**P**	**13 18 48.9**	**+6.3**
NJ2				AP	pP	13 19 00.5	+11
NJ2				PP		13 19 29.6	
NJ2				S	**S**	**13 23 12.0**	**+3.1**
NJ2				XS	sS	13 23 31.0	+11
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,300nm,6.4s						
NJ2				LR	LR		
	comp=N,650nm,16.6s,MS4.4						
NJ2				LR	LR		
	comp=E,840nm,17.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,630nm,17.6s,MS4.2						
BOD	**Bodaibo**	**25.69**	**316**	*e*P	**P**	**13 18 39.1**	**-4.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
BILL	**Bilibino**	**26.61**	**15**	*e*P	**P**	**13 18 52.2**	**+0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.4						
HHC	**Hu-ho-hao-te**	**27.04**	**277**	*e*P	**P**	**13 18 56.0**	**0.0**
HHC				AP	pP	13 19 07.6	+4.7
HHC				XP	sP	13 19 13.1	+7.3
HHC				PP		13 19 42.4	
HHC				PCP	PcP	13 22 18.2	+1.3
HHC				S	**S**	**13 23 28.0**	**-4.5**
HHC				XS	sS	13 23 47.4	+3.5
HHC				SCP	ScP	13 25 52.5	-3.2
HHC				PCS	PcS	13 25 58.4	0.0
HHC				SCS	ScS	13 29 42.2	-4.6
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,128nm,6.9s						
HHC				LR	LR		
	comp=N,103nm,6.5s						
HHC				LR	LR		
	comp=E,164nm,6.5s						
HHC				LR	LR		
	comp=Z,123nm,8.6s						
ULN	**Ulaanbaatar**	**28.79**	**294**	⇑*e*P	**P**	**13 19 12.2**	**+0.6**
ULN	**Ulaanbaatar**	**28.79**	**294**	*e*P	**P**	**13 19 12.3**	**+0.7**
	comp=Z,12nm,1.0s,mb4.6						
SONM	**Songino Array**	**29.23**	**294**	P	**P**	**13 19 16.6**	**+1.1**
	comp=Z,6.0nm,0.9s,mb4.3,baz=86,slow=9.2,SNR=38						
SONM				LR	LR	13 32 01.6	
	comp=Z,91nm,18.2s,MS3.4,baz=313,slow=38						
GTA	**Gaotai**	**36.00**	**281**	*e*P	**P**	**13 20 14.4**	**-0.3**
GTA				AP	pP	13 20 22.7	+1.0
GTA				XP	sP	13 20 27.4	+2.8
GTA				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.9						
CD2	**Chengdu**	**37.00**	**265**	*e*P	**P**	**13 20 21.5**	**-1.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
COLA	**College**	**41.05**	**36**	*i* P	**P**	**13 20 56.7**	**-0.4**
COLA	**College**	**41.05**	**36**	P	**P**	**13 20 57.2**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.0						
KMI	**Kunming**	**41.05**	**259**	P	**P**	**13 20 58.5**	**+1.3**
KMI				AP	pP	13 21 10.2	+6.0
KMI				XP	sP	13 21 14.6	+7.5
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
WMQ	**Urumqi**	**42.85**	**292**	*e*P	**P**	**13 21 13.2**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**45.36**	**298**	P	**P**	**13 21 31.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
MKAR	**Makanchi Array**	**45.36**	**298**	P	**P**	**13 21 32.2**	**+0.3**
	comp=Z,5.2nm,0.8s,mb4.4,baz=67,slow=9.3,SNR=29						
MKAR	**Makanchi Array**	**45.36**	**298**	P	**P**	**13 21 32.2**	**+0.3**
INK	**Inuvik**	**46.46**	**30**	P	**P**	**13 21 40.7**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.2,baz=359,slow=3.0,SNR=4.1						
INK	**Inuvik**	**46.46**	**30**	*e*P	**P**	**13 21 38.8**	**-1.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**46.46**	**30**	*e*P	**P**	**13 21 38.8**	**-1.8**
	comp=Z,1.8nm,0.6s,mb4.2						
CHKZ	**Chkalovo**	**49.91**	**311**	*e*P	**P**	**13 22 06.4**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**49.91**	**311**	*e*P	**P**	**13 22 06.4**	**-0.9**
	comp=Z,7.1nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**50.28**	**310**	P	**P**	**13 22 10.2**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=72,slow=9.5,SNR=14						
BRVK	**Borovoye**	**50.32**	**310**	*e*P	**P**	**13 22 10.7**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**50.32**	**310**	*e*P	**P**	**13 22 10.7**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**51.08**	**310**	*e*P	**P**	**13 22 15.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**51.08**	**310**	*e*P	**P**	**13 22 15.7**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.6						
ULHL	**Ulahol**	**51.16**	**295**	P	**P**	**13 22 17.6**	**+0.9**
	SNR=12						
TKM2	**Tokmak 2**	**51.27**	**296**	P	**P**	**13 22 18.8**	**+1.2**
	SNR=10						
KBK	**Karagaybulak**	**51.82**	**296**	P	**P**	**13 22 22.8**	**+1.1**
	SNR=7.8						
USP	**Ospenovka**	**51.83**	**297**	P	**P**	**13 22 22.5**	**+0.8**
	SNR=6.2						
AAK	**Ala-Archa**	**52.13**	**296**	*e*P	**P**	**13 22 23.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**52.13**	**296**	*e*P	**P**	**13 22 23.9**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**52.58**	**297**	P	**P**	**13 22 28.3**	**+1.0**
	SNR=6.5						
SVE	**Sverdlovsk**	**53.90**	**317**	*e*P	**P**	**13 22 37.0**	**0.0**
ARU	**Arti**	**55.10**	**317**	⇑*i*P	**P**	**13 22 45.2**	**-0.6**
ARU				*e*		13 24 46.5	
ARU				*e*PPP		13 25 59.3	
ARU				*e*S	**S**	**13 30 22.0**	**-5.2**
ARU				*e*SS	SS	13 34 04.6	-6.5
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
ARU	**Arti**	**55.10**	**317**	*e*P	**P**	**13 22 44.9**	**-0.9**
	comp=Z,9.4nm,0.9s,mb4.8						
AB31	**Akbulak array**	**57.84**	**309**	P	**P**	**13 23 05.3**	**+0.1**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
ARCES	**ARCESS Array B**	**59.88**	**340**	P	**P**	**13 23 19.1**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=43,slow=6.9,SNR=8.4						
JOF	**Joensuu**	**62.77**	**333**	*e*p	**P**	**13 23 37.5**	**-1.5**
	comp=Z,5.1nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**64.19**	**194**	P	**P**	**13 23 47.2**	**-1.2**
	comp=Z,0.7nm,0.8s,mb3.7,baz=14,slow=6.9,SNR=5.6						
FINES	**FINESS Array B**	**65.56**	**333**	P	**P**	**13 23 56.5**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.4,baz=44,slow=7.8,SNR=32						
OBN	**Obninsk**	**66.05**	**324**	*i* P	**P**	**13 24 00.2**	**-0.2**
OBN				*e**PP	pP	13 24 11.9	+4.1
OBN				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.2						
NVAR	**Mina Array Bea**	**67.27**	**58**	P	**P**	**13 24 07.8**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.4,baz=299,slow=5.8,SNR=2.8						
ASAR	**Alice Springs**	**67.90**	**194**	P	**P**	**13 24 13.0**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=12,slow=5.3,SNR=6.0						
NB2	**NORSAR Subarra**	**70.24**	**339**	P	**P**	**13 24 26.2**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.24**	**339**	P	**P**	**13 24 26.5**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=32,slow=6.3,SNR=8.1						
KIV	**Kislovodsk**	**70.53**	**312**	*i* P	**P**	**13 24 30.3**	**+1.8**
KIV				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
AKASG	**Malin Array Be**	**72.31**	**324**	P	**P**	**13 24 38.9**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=38,slow=6.0,SNR=13						
CLL	**Collm**	**78.00**	**333**	*e*P	**P**	**13 25 11.0**	**-1.0**
	comp=Z,7.0nm,1.2s,mb4.5						
KHC	**Kasperske Hory**	**79.65**	**332**	*i* P	**P**	**13 25 20.4**	**-0.7**
GERES	**GERESS Array B**	**79.85**	**331**	P	**P**	**13 25 24.4**	**+2.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=28,slow=6.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**115.94**	**323**	PP	PP	13 32 55.8	-4.6
	comp=Z,0.4nm,0.9s,baz=21,slow=7.3,SNR=3.8						

*ISCJB **03** 14:07:57.4±0.2, 3937S±003×17449E±005, h254km±2km, mb4.3/13, Error ellipse: s-maj=6.6km s-min=3.8km az=44.0*

*IDC **03** 14:07:57.6±0.8, 39.14S×17478E, h255km±11km, mb4.0/7, mb1 4.1/9, mb1mx3.9/15, mbtmp4.6/9, Error ellipse: s-maj=20.7km s-min=12.4km az=48.0*

*NEIC **03** 14:07:58.7, 3931S×17458E, h256km, mb4.3/10, After WEL.*

*WEL **03** 14:08:00.1±0.3, 3933S×17464E, h244km±2km, ML5.1/23, Error ellipse: s-maj=2.9km s-min=1.9km az=90.0*

ISC 03 14:07:58.2±0.2**, 3938S**±003×**17452E**±005**, h250**km±2km**, n150,** σ**0.95**/171**, mb4.3**/13**, 11C-21D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.14**	**314**	P	**Pn**	**14 08 31.4**	**+1.0**
RAEZ	**Rainy Point**	**0.14**	**314**	PN	**Pn**	**14 08 31.2**	**+0.8**
VRZ	**Vera Road**	**0.32**	**36**	P	**Pn**	**14 08 31.1**	**+0.4**
VRZ				S	**S**	**14 08 55.5**	**-0.6**
VRZ	**Vera Road**	**0.32**	**36**	⇓PN	**Pn**	**14 08 31.1**	**+0.4**
VRZ				SN	**S**	**14 08 55.5**	**-0.6**
NEZ	**North Egmont**	**0.35**	**288**	P	**Pn**	**14 08 32.0**	**+1.3**
NEZ	**North Egmont**	**0.35**	**288**	⇑PN	**Pn**	**14 08 32.0**	**+1.3**
NEZ				SN	**S**	**14 08 56.4**	**+0.2**
PKE	**Pukeiti**	**0.45**	**294**	P	**Pn**	**14 08 32.1**	**+1.1**
PKE				S	**S**	**14 08 57.1**	**+0.4**
PKE	**Pukeiti**	**0.45**	**294**	PN	**Pn**	**14 08 31.8**	**+0.8**
PKE				SN	**S**	**14 08 57.1**	**+0.4**
NRZ	**Ngariki Road**	**0.46**	**275**	P	**Pn**	**14 08 32.2**	**+1.2**
NRZ	**Ngariki Road**	**0.46**	**275**	SN	**S**	**14 08 57.4**	**+0.7**
NWEZ	**Newall Road**	**0.52**	**282**	P	**Pn**	**14 08 32.5**	**+1.3**
WAZ	**Wanganui**	**0.52**	**136**	P	**Pn**	**14 08 32.8**	**+1.6**
WAZ				S	**S**	**14 08 57.8**	**+0.8**
WAZ	**Wanganui**	**0.52**	**136**	⇓PN	**Pn**	**14 08 32.8**	**+1.6**
WAZ				SN	**S**	**14 08 57.8**	**+0.7**
PKVZ	**Pokaka**	**0.65**	**82**	⇓PN	**Pn**	**14 08 32.5**	**+0.9**
PKVZ				SN	**S**	**14 08 57.1**	**-0.7**
TWVZ	**Taurewa**	**0.78**	**67**	⇓PN	**Pn**	**14 08 32.8**	**+0.7**
TWVZ				SN	**S**	**14 08 57.8**	**-1.0**
FWVZ	**Far West T-bar**	**0.81**	**81**	P	**Pn**	**14 08 33.3**	**+1.0**
FWVZ	**Far West T-bar**	**0.81**	**81**	⇑PN	**Pn**	**14 08 33.3**	**+1.0**
FWVZ				SN	**S**	**14 08 58.2**	**-0.8**
WPVZ	**Whakapapa**	**0.81**	**78**	P	**Pn**	**14 08 33.2**	**+0.9**
DRZ	**Dome Shelter**	**0.82**	**83**	P	**Pn**	**14 08 33.7**	**+1.4**
WNVZ	**Wahianoa**	**0.84**	**87**	P	**Pn**	**14 08 33.4**	**+1.0**
WNVZ	**Wahianoa**	**0.84**	**87**	⇓PN	**Pn**	**14 08 33.4**	**+1.0**
NGZ	**Ngauruhoe**	**0.86**	**77**	P	**Pn**	**14 08 33.3**	**+0.8**
WTVZ	**West Tongariro**	**0.87**	**73**	P	**Pn**	**14 08 33.3**	**+0.7**
WTVZ	**West Tongariro**	**0.87**	**73**	⇓PN	**Pn**	**14 08 33.3**	**+0.8**
WTVZ				SN	**S**	**14 08 58.7**	**-0.9**
TUVZ	**Tukino**	**0.89**	**83**	P	**Pn**	**14 08 33.7**	**+1.1**
TUVZ	**Tukino**	**0.89**	**83**	PN	**Pn**	**14 08 33.7**	**+1.0**
HIZ	**Hauiti**	**0.91**	**17**	P	**Pn**	**14 08 32.9**	**+0.2**
HIZ	**Hauiti**	**0.91**	**17**	⇓PN	**Pn**	**14 08 32.9**	**+0.2**
HIZ				SN	**S**	**14 08 58.7**	**-1.2**
MOVZ	**Moawhango**	**0.95**	**92**	P	**Pn**	**14 08 33.7**	**+0.7**
MOVZ	**Moawhango**	**0.95**	**92**	⇓PN	**Pn**	**14 08 33.7**	**+0.7**
MOVZ				SN	**S**	**14 08 58.5**	**-1.8**
KATZ	**Kakaramea**	**1.00**	**66**	P	**Pn**	**14 08 33.8**	**+0.6**
RATZ	**Rangitukua**	**1.10**	**63**	P	**Pn**	**14 08 34.2**	**+0.4**
RITZ	**Rihia Road**	**1.11**	**69**	P	**Pn**	**14 08 34.5**	**+0.6**
RITZ	**Rihia Road**	**1.11**	**69**	PN	**Pn**	**14 08 34.5**	**+0.6**
RITZ				SN	**S**	**14 09 00.7**	**-1.3**
WATZ	**Wairara**	**1.16**	**55**	P	**Pn**	**14 08 34.8**	**+0.6**
TSZ	**Takapari Road**	**1.30**	**122**	P	**Pn**	**14 08 36.3**	**+1.2**
TSZ	**Takapari Road**	**1.30**	**122**	⇓PN	**Pn**	**14 08 36.3**	**+1.2**
HATZ	**Hinemaiaia**	**1.32**	**69**	P	**Pn**	**14 08 35.3**	**+0.1**
HATZ	**Hinemaiaia**	**1.32**	**69**	PN	**Pn**	**14 08 35.3**	**+0.1**
WHTZ	**Whakaora**	**1.33**	**58**	P	**Pn**	**14 08 35.8**	**+0.5**
KIW	**Kapiti Island**	**1.51**	**169**	P	**Pn**	**14 08 37.7**	**+1.1**
KIW	**Kapiti Island**	**1.51**	**169**	PN	**Pn**	**14 08 37.5**	**+0.9**
KIW				SN	**S**	**14 09 05.9**	**-0.9**
MRZ	**Mangatainoka R**	**1.52**	**148**	P	**Pn**	**14 08 37.6**	**+1.0**
MRZ	**Mangatainoka R**	**1.52**	**148**	PN	**Pn**	**14 08 37.6**	**+1.0**
MRZ				SN	**S**	**14 09 06.4**	**-0.5**
BKZ	**Black Stump Fm**	**1.55**	**83**	P	**Pn**	**14 08 37.3**	**+0.4**
BKZ	**Black Stump Fm**	**1.55**	**83**	PN	**Pn**	**14 08 37.3**	**+0.5**
BKZ				SN	**S**	**14 09 05.2**	**-2.1**
PATZ	**Paeroa**	**1.69**	**54**	P	**Pn**	**14 08 38.2**	**+0.2**
PATZ	**Paeroa**	**1.69**	**54**	⇓PN	**Pn**	**14 08 38.2**	**+0.3**
CAW	**Cannon Point**	**1.77**	**167**	P	**Pn**	**14 08 39.7**	**+1.0**
CAW	**Cannon Point**	**1.77**	**167**	⇑PN	**Pn**	**14 08 39.7**	**+1.0**
CAW				SN	**S**	**14 09 10.4**	**-0.2**
UTU	**Utuhina**	**1.78**	**48**	P	**Pn**	**14 08 38.9**	**+0.2**
TOZ	**Tahuroa Road**	**1.82**	**25**	P	**Pn**	**14 08 38.8**	**-0.3**
TOZ	**Tahuroa Road**	**1.82**	**25**	⇑PN	**Pn**	**14 08 38.9**	**-0.2**
TCW	**Tory Channel**	**1.84**	**186**	P	**Pn**	**14 08 40.3**	**+1.1**
MRW	**Makara Radio**	**1.85**	**176**	P	**Pn**	**14 08 40.4**	**+1.0**
MRW	**Makara Radio**	**1.85**	**176**	⇑PN	**Pn**	**14 08 40.4**	**+1.0**
MRW				SN	**S**	**14 09 11.6**	**-0.2**
BFZ	**Birch Farm**	**1.85**	**135**	P	**Pn**	**14 08 40.3**	**+0.9**
BFZ	**Birch Farm**	**1.85**	**135**	⇓PN	**Pn**	**14 08 40.3**	**+1.0**
BFZ				SN	**S**	**14 09 11.2**	**-0.7**
WEL	**Wellington**	**1.91**	**174**	P	**Pn**	**14 08 40.8**	**+0.9**
WEL	**Wellington**	**1.91**	**174**	PN	**Pn**	**14 08 40.8**	**+0.9**
KARZ	**Kaharoa**	**1.91**	**45**	⇓PN	**Pn**	**14 08 39.8**	**-0.1**
PXZ	**Pawanui**	**1.92**	**111**	⇓PN	**Pn**	**14 08 41.0**	**+1.1**
PXZ				SN	**S**	**14 09 12.0**	**-0.8**
MTW	**Mount Morrison**	**1.93**	**157**	P	**Pn**	**14 08 41.0**	**+1.0**
TAZ	**Tarawera**	**1.93**	**54**	*e*P	**Pn**	**14 08 38.3**	**-1.8**
NNZ	**Nelson**	**2.03**	**205**	P	**Pn**	**14 08 41.9**	**+0.9**
NNZ	**Nelson**	**2.03**	**205**	⇑PN	**Pn**	**14 08 41.9**	**+0.9**
NNZ				SN	**S**	**14 09 13.7**	**-1.0**
BHW	**Baring Head**	**2.04**	**173**	P	**Pn**	**14 08 41.8**	**+0.7**
TUWZ	**Tuamarina**	**2.09**	**192**	⇑PN	**Pn**	**14 08 42.3**	**+0.7**
TUWZ				SN	**S**	**14 09 14.8**	**-0.9**
QRZ	**Quartz Range**	**2.10**	**226**	P	**Pn**	**14 08 41.8**	**+0.2**
QRZ	**Quartz Range**	**2.10**	**226**	⇑PN	**Pn**	**14 08 41.8**	**+0.2**
MSWZ	**Moikau Station**	**2.11**	**165**	P	**Pn**	**14 08 42.5**	**+0.9**
MSWZ	**Moikau Station**	**2.11**	**165**	⇑PN	**Pn**	**14 08 42.5**	**+0.8**
MSWZ				SN	**S**	**14 09 15.2**	**-0.7**
TGRZ	**Tauranga**	**2.14**	**40**	P	**Pn**	**14 08 41.7**	**-0.3**
TGRZ	**Tauranga**	**2.14**	**40**	⇓PN	**Pn**	**14 08 41.7**	**-0.2**
EDRZ	**Edgecumbe**	**2.15**	**54**	P	**Pn**	**14 08 41.4**	**-0.7**
EDRZ	**Edgecumbe**	**2.15**	**54**	PN	**Pn**	**14 08 41.4**	**-0.6**
MARZ	**Manawahe**	**2.19**	**51**	P	**Pn**	**14 08 42.0**	**-0.4**
URZ	**Urewera**	**2.31**	**62**	P	**Pn**	**14 08 42.6**	**-1.0**
	123nm,0.3s,baz=255,slow=6.2,SNR=577						
URZ				S	**S**	**14 09 14.7**	**-4.8**
	153nm,0.3s,baz=123,slow=23,SNR=25						
URZ	**Urewera**	**2.31**	**62**	P	**Pn**	**14 08 42.6**	**-1.0**
URZ	**Urewera**	**2.31**	**62**	PN	**Pn**	**14 08 42.6**	**-1.0**
URZ				SN	**S**	**14 09 14.4**	**-5.0**
MKAZ	**Moumakai**	**2.32**	**13**	⇓PN	**Pn**	**14 08 43.6**	**-0.1**
CMWZ	**Cape Campbell**	**2.38**	**186**	P	**Pn**	**14 08 45.5**	**+1.3**
WTAZ	**Waiatarua**	**2.44**	**1**	P	**Pn**	**14 08 45.0**	**+0.1**
WTAZ	**Waiatarua**	**2.44**	**1**	⇓PN	**Pn**	**14 08 45.0**	**+0.1**
OTAZ	**Otara**	**2.45**	**8**	P	**Pn**	**14 08 44.9**	**0.0**
KNZ	**Kokohu**	**2.48**	**83**	P	**Pn**	**14 08 45.6**	**+0.4**
KNZ	**Kokohu**	**2.48**	**83**	⇓PN	**Pn**	**14 08 45.6**	**+0.3**
KNZ				SN	**S**	**14 09 19.8**	**-2.6**
MYRZ	**Mayor Island**	**2.50**	**33**	PN	**Pn**	**14 08 45.2**	**-0.2**
KAAZ	**Kauri Point**	**2.56**	**3**	P	**Pn**	**14 08 46.0**	**0.0**
KAAZ	**Kauri Point**	**2.56**	**3**	PN	**Pn**	**14 08 46.0**	**0.0**
MWZ	**Matawai**	**2.57**	**67**	P	**Pn**	**14 08 45.6**	**-0.6**
MWZ	**Matawai**	**2.57**	**67**	PN	**Pn**	**14 08 45.6**	**-0.6**
MTAZ	**Motutapu**	**2.61**	**7**	P	**Pn**	**14 08 46.3**	**-0.2**
THZ	**Tophouse**	**2.68**	**207**	P	**Pn**	**14 08 47.9**	**+0.6**
THZ	**Tophouse**	**2.68**	**207**	⇑PN	**Pn**	**14 08 47.9**	**+0.7**
THZ				SN	**S**	**14 09 25.5**	**-0.6**
KUZ	**Kuaotunu**	**2.80**	**20**	P	**Pn**	**14 08 48.1**	**-0.4**
KUZ	**Kuaotunu**	**2.80**	**20**	⇓PN	**Pn**	**14 08 48.1**	**-0.4**
KHZ	**Kahutara**	**3.12**	**193**	P	**Pn**	**14 08 52.5**	**+0.5**
DSZ	**Denniston Nort**	**3.14**	**220**	P	**Pn**	**14 08 52.3**	**+0.1**
PUZ	**Puketiti**	**3.20**	**67**	P	**Pn**	**14 08 51.8**	**-1.1**
PUZ	**Puketiti**	**3.20**	**67**	PN	**Pn**	**14 08 51.8**	**-1.1**
MXZ	**Matakaoa Point**	**3.48**	**60**	P	**Pn**	**14 08 54.9**	**-1.1**
LTZ	**Lake Taylor**	**3.80**	**206**	P	**Pn**	**14 08 59.5**	**-0.1**
OUZ	**Omahuta**	**4.22**	**350**	*e*P	**Pn**	**14 09 04.3**	**-0.3**
CRLZ	**Canterbury Las**	**4.43**	**198**	*e*P	**Pn**	**14 09 06.1**	**-0.9**
MQZ	**McQueen's Vall**	**4.54**	**197**	P	**Pn**	**14 09 07.2**	**-1.2**
MQZ	**McQueen's Vall**	**4.54**	**197**	PN	**Pn**	**14 09 07.2**	**-1.2**
RPZ	**Rata Peaks**	**5.05**	**210**	P	**Pn**	**14 09 13.9**	**-0.7**
	45nm,0.3s,baz=358,slow=0.9,SNR=252						
RPZ				S	**S**	**14 10 10.5**	**-4.9**
	34nm,0.3s,baz=314,slow=23,SNR=16						
RPZ	**Rata Peaks**	**5.05**	**210**	P	**Pn**	**14 09 14.0**	**-0.6**
FOZ	**Fox Glacier**	**5.53**	**219**	P	**Pn**	**14 09 17.6**	**-2.9**
LBZ	**Lake Benmore**	**5.96**	**211**	*e*P	**Pn**	**14 09 24.3**	**-1.5**
ODZ	**Otahua Downs**	**6.35**	**206**	P	**Pn**	**14 09 30.3**	**-0.4**
WKZ	**Wanaka**	**6.81**	**215**	*e*P	**Pn**	**14 09 33.9**	**-2.5**
EAZ	**Earnscleugh**	**7.01**	**212**	*e*P	**Pn**	**14 09 36.5**	**-2.4**
TUZ	**Tuapeka**	**7.49**	**207**	*e*P	**Pn**	**14 09 44.0**	**-1.0**
MLZ	**Mavora Lakes**	**7.59**	**216**	*e*P	**Pn**	**14 09 45.1**	**-1.2**
WHZ	**Wether Hill Ro**	**8.11**	**215**	*e*P	**Pn**	**14 09 50.7**	**-2.2**
DZM	**Mont Dzumac**	**18.58**	**336**	P	**P**	**14 11 56.0**	**-1.0**
	0.3nm,0.3s,baz=278,slow=22,SNR=3.4						
STKA	**Stephens Creek**	**27.68**	**275**	*e*P	**P**	**14 13 24.0**	**+0.8**
	5.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**27.68**	**275**	P	**P**	**14 13 23.8**	**+0.6**
	6.1nm,0.7s,mb4.4,baz=105,slow=9.4,SNR=15						
AS31	**Alice Springs**	**37.66**	**282**	*e*P	**P**	**14 14 49.2**	**-0.2**
ASAR	**Alice Springs**	**37.66**	**282**	P	**P**	**14 14 49.4**	**-0.1**
	12nm,0.6s,mb4.6,baz=133,slow=9.4,SNR=303						
ASPA	**Alice Springs**	**37.66**	**282**	*e*P	**P**	**14 14 49.3**	**-0.2**
PMG	**Port Moresby**	**38.58**	**313**	P	**P**	**14 14 57.9**	**+0.8**
	6.9nm,0.6s,mb4.3,baz=158,slow=5.4,SNR=6.0						
PMG	**Port Moresby**	**38.58**	**313**	*e*P	**P**	**14 14 58.2**	**+1.1**
	6.3nm,0.6s,mb4.3						
VNDA	**Vanda**	**38.62**	**184**	P	**P**	**14 14 59.5**	**+2.1**
	3.1nm,0.8s,mb3.9,baz=358,slow=9.3,SNR=22						
VNDA	**Vanda**	**38.62**	**184**	*e*P	**P**	**14 14 59.2**	**+1.7**
	2.1nm,0.8s,mb3.7						
FORT	**Forrest**	**38.62**	**268**	*e*P	**P**	**14 14 57.5**	**0.0**
	20nm,0.6s,mb4.8						
SBA	**Scott Base**	**38.72**	**183**	P	**P**	**14 15 00.5**	**+2.2**
	15nm,1.3s,mb4.3						
WB2	**Warramunga Arr**	**39.52**	**288**	⇓*i*P	**P**	**14 15 04.5**	**-0.4**
WRAB	**Tennant Creek**	**39.53**	**288**	*e*P	**P**	**14 15 04.5**	**-0.4**
	24nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**39.53**	**288**	P	**P**	**14 15 04.5**	**-0.5**
	12nm,0.6s,mb4.5,baz=128,slow=7.2,SNR=296						
KAKA	**Kakadu**	**45.62**	**294**	*e*P	**P**	**14 15 53.1**	**-0.6**
	4.9nm,0.8s,mb3.9						
KLBR	**Kellerberrin**	**46.22**	**261**	*e*P	**P**	**14 15 57.6**	**-0.8**
	8.8nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**47.16**	**282**	*e*P	**P**	**14 16 05.3**	**-0.4**
	9.6nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**47.16**	**282**	P	**P**	**14 16 05.7**	**-0.1**
	5.2nm,0.6s,mb4.1,baz=162,slow=9.6,SNR=46						
MUN	**Mundaring**	**47.23**	**260**	*e*P	**P**	**14 16 05.4**	**-0.9**
QSPA	**South Pole Qui**	**50.74**	**180**	*e*P	**P**	**14 16 34.7**	**+1.9**
	25nm,0.9s,mb4.6						
SNAA	**Sanae**	**69.24**	**181**	P	**P**	**14 18 37.5**	**-0.6**
	2.9nm,0.9s,mb3.9,baz=197,slow=5.9,SNR=23						
SNAA	**Sanae**	**69.24**	**181**	⇑*i*	**P**	**14 18 37.1**	**-1.0**
SNAA				*e*		14 18 39.5	
VNA3	**Neumayer Olymp**	**69.64**	**179**	⇓*i*	**P**	**14 18 40.3**	**-0.3**
VNA3				*e*		14 18 42.3	
VNA3				*e*		14 18 43.2	
VNA3				*e*		14 18 46.3	
VNA3				*e*		14 19 01.1	
VNA3				*e*		14 19 07.2	
VNA1	**Neumayer--Stat**	**70.26**	**179**	⇓*i*	**P**	**14 18 44.8**	**+0.5**
VNA1				*e*		14 18 45.9	
VNA1				*e*		14 18 48.9	
VNA1				*e*		14 18 58.6	
ARCES	**ARCESS Array B**	**145.61**	**341**	PKPbc	PKPbc	14 27 04.3	-3.0
	3.1nm,0.7s,baz=56,slow=4.1,SNR=7.7						
ARCES	**ARCESS Array B**	**145.61**	**341**	PKPbc	PKPbc	14 27 04.3	-3.0
DBIC	**Dimbokro**	**147.43**	**181**	PKPbc	PKPbc	14 27 13.7	+1.1
	5.1nm,1.1s,baz=175,slow=6.5,SNR=4.3						
BRTR	**Keskin Array B**	**150.00**	**283**	PKPbc	PKPbc	14 27 17.1	-1.9
	0.6nm,0.6s,baz=123,slow=5.3,SNR=3.4						
BRTR				PKPab	PKPab	14 27 24.9	-0.8
	3.6nm,0.8s,baz=142,slow=4.2,SNR=7.6						
FINES	**FINESS Array B**	**150.64**	**329**	PKPbc	PKPbc	14 27 17.8	-2.7
	2.5nm,1.0s,baz=29,slow=3.2,SNR=4.3						
FINES				PKPab	PKPab	14 27 25.4	-2.8
	6.3nm,1.2s,baz=96,slow=3.8,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**153.11**	**196**	*e*PKPab	PKPab	14 27 36.8	-1.9
TORD	**Torodi Ar. Bea**	**153.11**	**196**	PKPbc	PKPbc	14 27 23.7	-2.4
	0.2nm,0.4s,baz=162,slow=4.9,SNR=4.6						
TORD				PKPab	PKPab	14 27 37.5	-1.2
	3.3nm,0.9s,baz=163,slow=4.4,SNR=15						
TORD	**Torodi Ar. Bea**	**153.11**	**196**	PKPbc	PKPbc	14 27 23.7	-2.4
TORD				PKPab	PKPab	14 27 37.5	-1.2

IDC 03 14:20:44.2±8.4**, 637S**×**15010E, h76**km±57km**, mb3.1**/3**, mb1 3.3**/4**, mb1mx3.1**/13**, mbtmp3.4**/4**, ML2.1**/1**, Error ellipse: s-maj=103.4km s-min=64.8km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.19**	**224**	P	Pn	14 21 45.8	+0.1
	0.8nm,0.3s,baz=45,slow=10.0,SNR=5.7						
PMG				S	Sn	14 22 36.7	+3.3
	2.6nm,0.3s,baz=93,slow=17,SNR=5.2						
WRA	**Warramunga Arr**	**20.40**	**227**	P	P	14 25 16.0	+1.0
	1.6nm,0.7s,baz=52,slow=11,SNR=16						
ASAR	**Alice Springs**	**23.20**	**220**	P	P	14 25 44.1	-0.4
	0.3nm,0.5s,baz=55,slow=9.3,SNR=8.5						
FITZ	**Fitzroy Crossi**	**26.55**	**242**	P	P	14 26 15.7	+0.7
	0.4nm,0.4s,baz=49,slow=9.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.16**	**285**	PKPbc	PKPbc	14 40 21.8	+0.4
	0.4nm,0.6s,baz=60,slow=2.1,SNR=4.6						

*NIED **03** 14:38:00, 2880N×12940E, h14km, Mw4.3 Best double couple: $M_0$2.98000×10^15 NP1: ϕ_s351.00000°, δ90.00000°, λ11.00000°. NP2: ϕ_s261.00000°, δ79.00000°, λ180.00000°.*

*IDC **03** 14:38:40.6±0.6, 2883N×12941E, h0km, mb4.0/14, mb1 4.1/17, mb1mx4.1/26, mbtmp4.0/17, ML3.7/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/31, Error ellipse: s-maj=22.7km s-min=13.2km az=90.0*

*JMA **03** 14:38:41.8±0.2, 2877N×12941E, h4km, M4.5*

JMA Felt II J1.

*ISCJB **03** 14:38:42.7±0.6, 2877N±003×12955E±005, h26km±5km, mb4.1/24, MS3.7/3, Error ellipse: s-maj=8.1km s-min=3.9km az=50.5*

*MOS **03** 14:38:43.5±0.7, 2882N×12952E, h33km, mb4.7/6, Error ellipse: s-maj=17.4km s-min=10.5km az=85.3*

*NEIC **03** 14:38:46.6±0.8, 2879N×12949E, h42km±8km, mb4.5/8, MW4.3(NIED), Error ellipse: s-maj=9.1km s-min=6.5km az=108.0*

NEIC Recorded [2 JMA] on Amami-oshima and Nakano-shima.

*BJI **03** 14:38:47.0, 2872N×12948E, h49km, mB4.5, mb4.1, Ms4.0, Msz3.8*

*SZGRF **03** 14:38:51.8, 2994N×12908E, h33km, mb4.7, Ryukyu Islands, Japan*

ISC 03 14:38:42.1±0.7**, 2880N**±003×**12948E**±005**, h8**km±4km**, n59,** σ**1.05**/66**, mb4.1**/24**, MS3.7**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.40**	**164**	P	**Pg**	**14 38 49.6**	**-0.3**
JAM				S	**Sg**	**14 38 54.5**	**-0.8**
JZK	**Kikaishima**	**0.65**	**138**	P	**Pg**	**14 38 55.1**	**+0.5**
JZK				S	**Sg**	**14 39 04.3**	**+1.2**
JNN	**Nakanoshima**	**1.09**	**18**	P	**Pg**	**14 39 02.5**	**-0.5**
JNN				S	**Sg**	**14 39 17.9**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	1.11	205	P	Pg	14 39 02.5	-1.0
JTK				S	Sg	14 39 16.5	-1.5
JKC	Kuchinoerabu	1.77	20	P	Pn	14 39 12.2	-0.7
JKC				S	Sn	14 39 34.0	-1.6
JIH	Iheya	2.21	218	P	Pn	14 39 18.1	-0.9
JIH				S	Sn	14 39 46.3	-0.2
JOW	Kunigami	2.23	209	Pn	Pn	14 39 19.6	+0.2
	57nm,0.3s,baz=43,slow=12,SNR=91						
JOW				Sn	Sn	14 39 49.2	+2.2
	229nm,0.3s,baz=106,slow=29,SNR=10						
JOW				LR	LR	14 40 31.1	
	comp=Z,1μm,18.7s,baz=310,slow=50						
JOW	Kunigami	2.23	209	P	Pn	14 39 19.2	-0.1
JOW				S	Sn	14 39 47.4	+0.3
JTN	Tanegashima 3	2.26	35	P	Pn	14 39 19.6	-0.1
JTN				S	Sn	14 39 48.8	+1.1
JAGN	Aguni-jima	2.97	223	P	Pn	14 39 29.6	+0.2
JJT2	Tamagusuku 2	3.07	211	P	Pn	14 39 33.0	+2.2
JKE	Kume jima 2	3.44	225	P	Pn	14 39 36.3	+0.5
YHNB	Yeheng	8.33	242	eP	Pn	14 40 46.2	+3.1
MAJO	Matsushiro	10.65	41	eP	Pn	14 41 16.6	+1.7
MJAR	Matsushiro Arr	10.66	41	Pn	Pn	14 41 16.6	+1.7
	0.5nm,0.3s,baz=253,slow=14,SNR=7.2						
CN2	Changchun	15.31	349	eP	Pn	14 42 25.9	+7.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
BJT	Baijiatuau	15.66	319	P	Pn	14 42 26.1	+3.1
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	Baijiatuau	15.66	319	P	Pn	14 42 26.1	+3.1
	comp=Z,18nm,0.8s						
XAN	Xi'an	18.30	292	P	Pn	14 42 58.5	+2.3
XAN				AMB	AMB		
	comp=Z,12nm,1.0s						
ASAJ	Asahikawa	18.53	31	P	Pn	14 42 57.4	-1.7
	comp=Z,0.2nm,0.3s,baz=213,slow=11,SNR=5.4						
ASAJ				LR	LR	14 49 21.8	
	comp=Z,64nm,18.1s,baz=169,slow=35						
CD2	Chengdu	22.39	282	eP	P	14 43 45.1	+4.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
LZH	Lanzhou	22.78	295	eP	P	14 43 46.0	+1.1
LZH				AP		14 44 01.6	
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.5						
ULN	Ulaanbaatar	25.76	324	eP	P	14 44 13.3	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ULN	Ulaanbaatar	25.76	324	eP	P	14 44 13.3	+0.2
	comp=Z,1.7nm,0.7s,mb3.7						
SONM	Songino Array	26.08	323	P	P	14 44 15.4	-0.7
	comp=Z,0.8nm,0.5s,mb3.5,baz=140,slow=10,SNR=12						
SONM				LR	LR	14 55 23.8	
	comp=Z,73nm,19.0s,MS3.2,baz=124,slow=39						
GTA	Gaotai	26.64	301	eP	P	14 44 22.0	+0.9
GTA				AP	pP	14 44 34.2	+11
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.7						
GTA				AMB	AMB		
	comp=Z,52nm,4.2s						
GTA				LR	LR		
	comp=N,176nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=E,186nm,11.4s,MS4.0						
GTA				LR	LR		
	comp=Z,256nm,12.5s,MS4.0						
MKAR	Makanchi Array	40.71	309	P	P	14 46 23.8	+0.7
	comp=Z,0.4nm,0.5s,mb3.4,baz=76,slow=10,SNR=3.5						
MKAR				PcP	PcP	14 48 21.6	-3.0
	comp=Z,0.5nm,0.5s,baz=74,slow=4.3,SNR=3.7						
FITZ	Fitzroy Crossi	46.77	185	P	P	14 47 11.1	-0.8
	comp=Z,1.3nm,0.7s,mb4.0,baz=5.5,slow=8.6,SNR=7.3						
WRAB	Tennant Creek	48.68	174	eP	P	14 47 26.1	-0.6
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WRAB	Tennant Creek	48.68	174	eP	P	14 47 26.1	-0.6
	comp=Z,2.9nm,0.8s,mb4.4						
WRA	Warramunga Arr	48.69	174	P	P	14 47 26.3	-0.4
	comp=Z,1.2nm,0.7s,mb4.0,baz=353,slow=8.3,SNR=25						
BVAR	Borovoye Array	49.13	317	P	P	14 47 30.0	-0.1
	comp=Z,0.9nm,0.7s,mb3.9,baz=84,slow=13,SNR=4.0						
BVAR				PcP	PcP	14 48 51.6	-1.9
	comp=Z,0.8nm,0.5s,baz=113,slow=3.4,SNR=3.7						
AS31	Alice Springs	52.34	175	eP	P	14 47 55.5	+1.2
ASAR	Alice Springs	52.34	175	P	P	14 47 55.2	+0.9
	comp=Z,0.8nm,0.5s,mb3.9,baz=7.0,slow=14,SNR=35						
KDAK	Kodiak Island	59.80	37	P	P	14 48 47.5	-0.3
	comp=Z,4.4nm,0.6s,mb4.7,baz=280,slow=1.5,SNR=5.8						
MCK	McKinley	60.90	30	eP	P	14 48 54.6	-0.6
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
MCK	McKinley	60.90	30	eP	P	14 48 54.5	-0.7
	comp=Z,5.7nm,0.9s,mb4.7						
COLA	College	61.23	29	eP	P	14 48 57.5	0.0
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
COLA	College	61.23	29	eP	P	14 48 57.5	0.0
	comp=Z,3.2nm,0.8s,mb4.5						
STKA	Stephens Creek	61.43	168	P	P	14 48 58.5	-0.3
	comp=Z,1.7nm,0.7s,mb4.3,baz=0.0,slow=8.1,SNR=3.2						
EGAK	Eagle	64.07	28	eP	P	14 49 15.5	-0.9
DAWY	Dawson	64.98	29	eP	P	14 49 21.8	-0.6
INK	Inuvik	66.10	24	eP	P	14 49 28.6	-1.0
INK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
INK	Inuvik	66.10	24	eP	P	14 49 28.6	-1.0
	comp=Z,9.5nm,0.9s,mb4.8						
ARCES	ARCESS Array B	68.03	338	LR	LR	15 26 31.4	
	comp=Z,50nm,18.5s,MS3.8,baz=144,slow=42						
JOF	Joensuu	68.34	331	ep	P	14 49 41.9	-1.9
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	71.18	330	P	P	14 49 59.7	-1.6
	comp=Z,1.4nm,0.6s,mb4.0,baz=47,slow=6.1,SNR=8.2						
AKASG	Malin Array Be	74.31	319	P	P	14 50 18.9	-1.0
	comp=Z,0.8nm,0.5s,mb4.0,baz=57,slow=6.3,SNR=5.0						
YKA	Yellowknife Ar	75.73	26	P	P	14 50 28.0	-0.1
	comp=Z,2.6nm,0.8s,mb4.2,baz=300,slow=5.9,SNR=8.3						
BRTR	Keskin Array B	76.34	308	P	P	14 50 31.8	+0.2
	comp=Z,2.2nm,0.9s,mb4.1,baz=104,slow=4.0,SNR=4.7						
CLL	Collm	82.68	325	eP	P	14 51 06.0	-0.1
GERES	GERESS Array B	83.82	323	P	P	14 51 11.3	-0.7
	comp=Z,1.1nm,0.8s,mb4.1,baz=131,slow=5.5,SNR=3.4						
GRA1	Grafenberg Arr	84.57	325	eP	P	14 51 15.0	-0.8
	comp=Z,7.0nm,1.5s,mb4.6						
GRF	Grafenberg Arr	84.57	325	eP	P	14 51 15.0	-0.8
	comp=Z,7.0nm,1.5s,mb4.6						
GRF	Grafenberg Arr	84.57	325	eP	P	14 51 15.0	-0.8
GRF				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.6						
GRF	Grafenberg Arr	84.57	325	eP	P	14 51 15.0	-0.8
GRF				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.6						
DLMT	Dillon	87.12	39	eP	P	14 51 28.9	+0.4
PDAR	Pinedale Array	90.47	39	P	P	14 51 45.9	+1.6
	comp=Z,0.5nm,0.8s,mb3.9,baz=304,slow=0.5,SNR=4.3						
TORD	Torodi Ar. Bea	114.55	302	PKP	PKiKP	14 57 25.1	+2.4
	comp=Z,0.9nm,1.0s,baz=50,slow=3.1,SNR=3.6						

WEL 03 15:18:30.4±0.3, 4102S×17287E, h215km±2km, ML3.6/17, 8C, Error ellipse: s-maj=2.7km s-min=2.5km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.32	306	⥣PN	Pn	15 18 58.4	-0.2
QRZ				SN	S	15 19 19.3	-1.3
NNZ	Nelson	0.43	118	⥣PN	Pn	15 18 59.0	+0.1
NNZ				SN	S	15 19 20.3	-0.8
THZ	Tophouse	0.75	178	⥣PN	Pn	15 19 00.6	+0.4
THZ				SN	S	15 19 22.9	-0.5
DUWZ	D'Urville Isla	0.82	75	PN	Pn	15 19 00.4	-0.1
DUWZ				SN	S	15 19 23.5	-0.6
TUWZ	Tuamarina	0.91	118	⥣PN	Pn	15 19 01.2	+0.1
BSWZ	Blackbirch Sta	1.03	133	SN	S	15 19 26.4	+0.1
TCW	Tory Channel	1.08	101	PN	Pn	15 19 02.1	0.0
TCW				SN	S	15 19 25.8	-1.1
DSZ	Denniston Nort	1.09	227	PN	Pn	15 19 01.9	-0.3
DSZ				SN	S	15 19 25.2	-1.7
MRW	Makara Radio	1.40	99	⥣PN	Pn	15 19 04.2	-0.3
MRW				SN	S	15 19 30.0	-1.1
KHZ	Kahutara	1.49	161	⥣PN	Pn	15 19 04.9	-0.3
KHZ				SN	S	15 19 31.8	-0.7
KIW	Kapiti Island	1.55	85	PN	Pn	15 19 05.5	-0.3
KIW				SN	S	15 19 31.7	-1.7
BHW	Baring Head	1.56	105	PN	Pn	15 19 05.4	-0.4
CAW	Cannon Point	1.66	94	PN	Pn	15 19 06.6	-0.2
LTZ	Lake Taylor	1.82	194	⥣PN	Pn	15 19 07.9	-0.4
LTZ				SN	S	15 19 36.0	-1.8
MTW	Mount Morrison	1.99	95	⥣PN	Pn	15 19 09.5	-0.4
MTW				SN	S	15 19 38.5	-2.3
WAZ	Wanganui	2.05	53	PN	Pn	15 19 09.7	-0.7
WAZ				SN	S	15 19 41.1	-0.6
MRZ	Mangatainoka R	2.08	81	PN	Pn	15 19 10.2	-0.6
MRZ				SN	S	15 19 39.8	-2.6
TRWZ	Traveller	2.16	101	SN	S	15 19 42.4	-1.4
TIWZ	Tintock	2.30	85	PN	Pn	15 19 12.7	-0.3
TIWZ				SN	S	15 19 44.1	-2.3
VRZ	Vera Road	2.38	38	PN	Pn	15 19 11.6	-2.2
VRZ				SN	S	15 19 45.3	-2.6
TSZ	Takapari Road	2.54	69	PN	Pn	15 19 15.0	-0.6
PKVZ	Pokaka	2.56	49	PN	Pn	15 19 14.6	-1.2
CRLZ	Canterbury Las	2.57	184	PN	Pn	15 19 14.2	-1.7
BFZ	Birch Farm	2.58	84	SN	S	15 19 49.5	-2.3
WVZ	Waitaha Valley	2.60	217	PN	Pn	15 19 15.2	-1.1
WVZ				SN	S	15 19 48.2	-4.0

MEX 03 15:28:44.3±0.6, 1708N×9976W, h40km±11km, MD3.6, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.26	214	*i* P	Pn	15 28 50.5	-1.7
ACX				*i* S	Sn	15 28 56.0	-1.6
CAIG	El Cayaco	0.48	266	⥣*i*P	Pn	15 28 53.3	-1.5
CAIG				*i* S	Sn	15 29 00.8	-1.5
MEIG	Mezcala	0.85	9	*e*P	Pn	15 28 58.0	-1.8
MEIG				*i* S	Sn	15 29 08.9	-2.1
UTMO	Huajuapan	2.01	68	*e*P	Pn	15 29 15.0	-0.7
UTMO				*i* S	Sn	15 29 38.6	-1.1
IIZ	Mezontepec	2.15	13	*e*P	Pn	15 29 15.7	-2.0
IIZ				*i* S	Sn	15 29 40.0	-3.0

ISCJB 03 15:30:05.8±0.3, 5204N±005×17505E±005, h35km, mb4.6/66, MS4.0/27, Error ellipse: s-maj=7.1km s-min=4.1km az=172.5
MOS 03 15:30:05.5±1.4, 5204N×17502E, h33km, mb4.7/20, Error ellipse: s-maj=12.3km s-min=7.0km az=104.9
BJI 03 15:30:05.0, 5229N×17489E, h27km, mB5.0, mb4.8, Ms4.5, Msz4.3
NEIC 03 15:30:07.5±0.3, 5207N×17503E, mb4.6/21, ML4.6(AEIC), Error ellipse: s-maj=8.0km s-min=4.9km az=173.0
IDC 03 15:30:08.7±2.4, 5207N×175.15E, h45km±21km, mb4.1/24, mb1 4.2/25, mb1mx4.2/30, mbtmp4.4/25, ML4.9/1, MS3.9/14, Ms1 3.9/14, ms1mx3.6/33, Error ellipse: s-maj=16.6km s-min=11.8km az=164.0
ISC 03 15:30:07.7±0.3, 5208N±005×17505E±005, h37km, h37km±1.5km:pP-P, n137, σ1.05/135, mb4.6/66, MS4.0/27, 3C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMY	Shemya	0.88	319	P	Pn	15 30 23.7	+0.2
SMY				S	Sn	15 30 35.8	+0.8
AMKA	Amchitka	2.74	103	P	Pn	15 30 50.5	+1.5
ATKA	Atka Island	6.63	85	P	Pn	15 31 43.8	+1.3
NIKO	Nikolski	9.86	78	*e*Pn	Pn	15 32 30.3	+3.5
AKUT	Akutan	11.71	72	*e*Pn	Pn	15 32 53.7	+1.6
SKR	Severo-Kuril's	11.91	271	P	Pn	15 32 49.5	-5.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				MLR	MLR		
	comp=Z,1μm,10.0s						
MA2	Magadan	15.50	308	P	Pn	15 33 44.2	+0.8
SEY	Seymchan	16.22	321	*i* P	Pn	15 33 55.1	+2.4
BILL	Bilibino	16.57	348	*i* P	Pn	15 33 59.2	+2.1
BILL				MLR	MLR		
	comp=Z,800nm,21.0s						
SVW2	Sparrevohn	18.37	49	*e*P	Pn	15 34 20.7	+1.3
TTA	Tatalina	18.78	43	*e*P	Pn	15 34 26.9	+2.5
KDAK	Kodiak Island	19.33	60	P	Pn	15 34 28.6	-2.3
	comp=Z,3.9nm,0.3s,baz=248,slow=4.8,SNR=25						
KDAK	Kodiak Island	19.33	60	*e*P	Pn	15 34 28.1	-2.8
	comp=Z,44nm,0.8s						
SLKM	Skilak Lake	20.82	52	*e*P	P	15 34 45.2	-0.6
YSS	Yuzh-Sakhalins	21.47	269	*i* P	P	15 34 54.7	+1.9
YSS				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.5						
YSS				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.5						
YSS	Yuzh-Sakhalins	21.47	269	P	P	15 34 52.7	-0.1
	comp=Z,18nm,0.8s,mb4.4						
MCK	McKinley	22.07	44	*e*P	P	15 35 01.5	+2.3
MCK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
MCK	McKinley	22.07	44	*e*P	P	15 35 01.4	+2.2
	comp=Z,13nm,1.1s,mb4.3						
COLA	College	22.83	42	*i* P	P	15 35 07.6	+0.3
COLA	College	22.83	42	*e*P	P	15 35 07.0	-0.4
	comp=Z,22nm,1.0s,mb4.5						
ASAJ	Asahikawa	22.94	263	P	P	15 35 09.4	+1.0
	comp=Z,14nm,0.9s,mb4.4,baz=332,slow=2.2,SNR=7.5						
ASAJ	Asahikawa	22.94	263	P	P	15 35 09.4	+1.0
ASAJ				pmax	pmax		
	comp=Z,14nm,0.9s						
EYAK	Cordova Ski Ar	23.02	53	*e*P	P	15 35 09.6	+0.3
HABR	Khabarovsk	25.59	278	*e*P	P	15 35 34.1	+0.9
HABR				*e*S	S	15 39 59.9	+1.4
EGAK	Eagle	25.60	43	*e*P	P	15 35 32.1	-1.2
YAK	Yakutsk	26.06	310	*c i*P	P	15 35 36.2	-1.3
YAK				pmax	pmax		
	comp=Z,131nm,1.3s,mb5.3						
YAK				MLR	MLR		
	comp=Z,300nm,25.0s,MS3.7						
YAK	Yakutsk	26.06	310	*e*P	P	15 35 36.0	-1.5
	comp=Z,80nm,0.8s,mb5.3						
DAWY	Dawson	26.28	45	*e*P	P	15 35 38.7	-0.7
KLR	Kul'dur	27.30	281	*e*P	P	15 35 57.4	+8.8
INK	Inuvik	29.14	37	P	P	15 36 06.4	+1.4
	comp=Z,2.7nm,0.8s,mb4.0,baz=285,slow=8.4,SNR=15						
INK				LR	LR	15 50 18.4	
	comp=Z,160nm,18.8s,MS3.7,baz=83,slow=42						
INK	Inuvik	29.14	37	P	P	15 36 06.4	+1.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK				MLR	MLR		
	comp=Z,160nm,18.8s						
INK	Inuvik	29.14	37	*e*P	P	15 36 04.8	-0.2
	comp=Z,9.1nm,1.0s,mb4.5						
MJAR	Matsushiro Arr	30.20	254	P	P	15 36 16.9	+2.4
	comp=Z,1.2nm,0.9s,mb3.6,baz=177,slow=12,SNR=3.5						
MDJ	Mudanjiang	30.69	274	P	P	15 36 20.7	+1.9
MDJ				XP	sP	15 36 33.3	-0.5
MDJ				S	S	15 41 23.0	+4.1
MDJ				AMB	AMB		
	comp=Z,11nm,2.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,113nm,7.3s						
MDJ				LR	LR		
	comp=N,91nm,23.6s,MS3.4						
MDJ				LR	LR		
	comp=E,54nm,24.0s,MS3.4						
CN2	Changchun	33.66	276	*e*P	P	15 36 45.2	+0.4
CN2				*e*AP	pP	15 36 54.8	-0.6
CN2				*e*S	S	15 42 03.1	-2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=Z,300nm,12.0s,MS4.2						
BOD	Bodaibo	34.45	304	⥣*i*P	P	15 36 50.8	-0.9
BOD				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
CIT	Chita	36.81	295	*e*P	P	15 37 11.7	-0.2
CIT				*e*	pP	15 37 20.8	-1.7
YKA	Yellowknife Ar	37.51	46	P	P	15 37 17.4	-0.4
	comp=Z,0.5nm,0.4s,mb3.6,baz=286,slow=7.3,SNR=7.9						
YKA				LR	LR	15 53 16.0	
	comp=Z,139nm,19.7s,MS3.8,baz=90,slow=37						
YKA	Yellowknife Ar	37.51	46	P	P	15 37 17.4	-0.4
YKA				LR	LR	15 53 16.0	
EDM	Edmonton	41.77	59	*e*P	P	15 37 52.0	-1.3
ULN	Ulaanbaatar	42.49	292	*e*P	P	15 37 59.6	+0.5
ULN				*e*	pP	15 38 08.8	-1.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
ULN	Ulaanbaatar	42.49	292	*e*P	P	15 37 59.6	+0.5
	comp=Z,5.0nm,0.9s,mb4.1						
ULN				*e*	pP	15 38 08.8	-1.2
YBH	Yreka Blue Hor	42.53	78	P	P	15 37 59.6	+0.1
	comp=Z,1.9nm,0.9s,mb3.8,baz=274,slow=6.7,SNR=5.3						
SONM	Songino Array	42.88	293	P	P	15 38 03.4	+1.1
	comp=Z,4.6nm,0.7s,mb4.3,baz=59,slow=8.7,SNR=43						
SONM				ScP	ScP	15 43 40.1	-0.7
	comp=Z,0.8nm,1.0s,baz=42,slow=4.6,SNR=4.6						
SONM				LR	LR	15 56 39.7	
	comp=Z,123nm,18.7s,MS3.8,baz=60,slow=37						
WALA	Waterton Lakes	43.57	65	*e*P	P	15 38 06.7	-1.2
	comp=Z,11nm,1.0s,mb4.6						
WALA				*e*	pP	15 38 18.1	-0.7
HHC	Hu-ho-hao-te	43.81	281	*e*P	P	15 38 09.8	0.0
HHC				AP	pP	15 38 19.7	-0.9
HHC				XP	sP	15 38 23.6	-1.4
HHC				PP	PP	15 39 53.2	+1.0
HHC				PCP	PcP	15 39 57.9	+2.0
HHC				SCP	ScP	15 43 45.1	+0.5
HHC				PCS	PcS	15 43 49.2	+0.4
HHC				S	S	15 44 35.8	-2.2
HHC				XS	sS	15 44 51.2	-4.6
HHC				SS	SS	15 47 44.4	-10
HHC				SCS	ScS	15 48 04.4	-1.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,68nm,4.9s						
HHC				LR	LR		
	comp=N,151nm,7.8s						
HHC				LR	LR		
	comp=E,185nm,7.8s						
HHC				LR	LR		
	comp=Z,142nm,9.8s						
SSE	Sheshan	44.23	263	P	P	15 38 12.3	-0.9
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,202nm,7.4s						
NJ2	Nanjing	45.00	266	*e*P	P	15 38 19.6	+0.3
NJ2				AP	pP	15 38 29.6	-0.5
NJ2				XP	sP	15 38 33.5	-1.1
NJ2				PP	PP	15 40 04.8	0.0
NJ2				S	S	15 44 54.0	-1.3
NJ2				XS	sS	15 45 10.0	-3.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,220nm,5.8s						
NJ2				LR	LR		
	comp=N,360nm,24.8s,MS4.3						
NJ2				LR	LR		
	comp=E,240nm,21.1s,MS4.3						
NJ2				LR	LR		
	comp=Z,160nm,27.6s						
NVAR	Mina Array Bea	47.22	79	P	P	15 38 36.5	-0.4
	comp=Z,1.3nm,0.6s,mb4.0,baz=307,slow=6.3,SNR=14						
NVAR	Mina Array Bea	47.22	79	P	P	15 38 36.5	-0.4
PDAR	Pinedale Array	49.69	69	P	P	15 38 55.0	-0.8
	comp=Z,1.7nm,0.8s,mb4.1,baz=315,slow=4.7,SNR=7.5						
PDAR				ScP	ScP	15 44 07.7	-1.5
	comp=Z,0.3nm,0.7s,baz=16,slow=7.0,SNR=3.4						
NVS	Novosibirsk	50.91	312	*i* P	P	15 39 03.7	-1.4
LZH	Lanzhou	51.50	282	*e*P	P	15 39 11.0	+1.5
LZH				AP	pP	15 39 20.7	+0.2
LZH				XP	sP	15 39 24.9	0.0
LZH				PP	PP	15 41 08.8	+1.9
LZH				*e*S	S	15 46 24.2	-3.0
LZH				XS	sS	15 46 37.2	-8.1
LZH				SS	SS	15 49 59.2	-4.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,60nm,4.5s						
LZH				LR	LR		
	comp=E,402nm,14.0s						
LZH				LR	LR		
	comp=Z,679nm,14.9s,MS4.8						
GTA	Gaotai	51.73	287	*e*P	P	15 39 11.9	+0.7
GTA				AP	pP	15 39 22.1	-0.1
GTA				XP	sP	15 39 27.0	+0.4
GTA				PP	PP	15 41 09.0	0.0
GTA				PPP		15 42 09.4	
GTA				S	S	15 46 29.1	-1.2
GTA				XS	sS	15 46 41.7	-6.7
GTA				PS		15 46 58.4	
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,80nm,5.7s						
GTA				LR	LR		
	comp=N,113nm,17.1s,MS4.1						
GTA				LR	LR		
	comp=E,112nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,194nm,15.2s,MS4.2						
ULM	Lac du Bonnet	52.44	54	P	P	15 39 15.7	-0.7
	comp=Z,3.0nm,0.8s,mb4.3,baz=297,slow=9.0,SNR=3.6						
ULM				LR	LR	16 02 07.5	
	comp=Z,108nm,18.9s,MS3.9,baz=260,slow=37						
SUMG	Summit	53.47	12	*e*P	P	15 39 24.1	0.0
	comp=Z,13nm,0.9s,mb4.8						
CD2	Chengdu	55.09	277	*e*P	P	15 39 33.9	-1.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,40nm,6.4s						
WMQ	Urumqi	55.70	299	⥥*i*P	P	15 39 41.3	+1.1
WMQ				AP	pP	15 39 51.5	+0.2
WMQ				XP	sP	15 39 55.5	-0.2
WMQ				PCP	PcP	15 40 40.0	+0.7
WMQ				PP	PP	15 41 47.0	+2.3
WMQ				PPP		15 43 02.0	
WMQ				S	S	15 47 23.0	-1.0
WMQ				XS	sS	15 47 40.0	-2.3
WMQ				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,140nm,4.7s						
WMQ				LR	LR		
	comp=N,365nm,27.6s,MS4.4						
WMQ				LR	LR		
	comp=E,267nm,29.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,356nm,25.3s,MS4.3						
MK31	Makanchi Array	56.55	305	P	P	15 39 45.4	-0.9
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
MKAR	Makanchi Array	56.55	305	P	P	15 39 45.7	-0.6
	comp=Z,4.9nm,0.6s,mb4.7,baz=52,slow=8.0,SNR=30						
MKAR	Makanchi Array	56.55	305	P	P	15 39 45.7	-0.6
ANMO	Albuquerque	56.65	75	LR	LR	15 59 21.6	
	comp=Z,60nm,21.1s,MS3.7,slow=31						
ARCES	ARCESS Array B	56.67	348	P	P	15 39 46.4	-0.8
	comp=Z,4.8nm,0.9s,mb4.5,baz=39,slow=8.1,SNR=7.6						
ARCES				LR	LR	16 04 06.7	
	comp=Z,71nm,19.7s,MS3.8,baz=79,slow=36						
CHKZ	Chkalovo	57.26	317	*e*P	P	15 39 50.0	-1.3
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	Chkalovo	57.26	317	*e*P	P	15 39 50.0	-1.3
	comp=Z,2.4nm,0.6s,mb4.4						
BVA0	Borovoye Array	57.81	316	P	P	15 39 54.5	-0.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	Borovoye Array	57.81	316	P	P	15 39 55.1	-0.1
	comp=Z,5.1nm,0.6s,mb4.7,baz=52,slow=7.4,SNR=38						
BVAR				LR	LR	16 06 43.1	
	comp=Z,149nm,18.0s,MS4.1,baz=319,slow=38						
BRVK	Borovoye	57.83	316	*e*P	P	15 39 54.3	-1.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRVK	Borovoye	57.83	316	*e*P	P	15 39 54.3	-1.0
	comp=Z,3.7nm,0.8s,mb4.5						
ZRNK	Zerenda	58.45	317	*e*P	P	15 39 59.3	-0.4
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ZRNK	Zerenda	58.45	317	*e*P	P	15 39 59.3	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.4nm,0.8s,mb4.7						
SVE	**Sverdlovsk**	**58.87**	**324**	*e*P	**P**	**15 40 02.0**	**-0.6**
SVE				MLR	MLR		
	comp=N,100nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,100nm,12.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,200nm,12.0s,MS4.5						
MNTX	**Cornudas Mount**	**59.56**	**76**	*e*P	**P**	**15 40 07.0**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.3						
KMI	**Kunming**	**59.85**	**273**	P	**P**	**15 40 10.4**	**+1.0**
KMI				AP	pP	15 40 20.5	0.0
KMI				XP	sP	15 40 24.2	-0.7
KMI				PP	PP	15 42 26.6	+5.0
KMI				S	**S**	**15 48 19.7**	**+1.3**
KMI				XS	sS	15 48 34.9	-1.9
KMI				SS	SS	15 52 13.4	-1.5
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
KMI				AMB	AMB		
	comp=Z,123nm,5.7s						
KMI				LR	LR		
	comp=N,108nm,17.5s,MS4.2						
KMI				LR	LR		
	comp=E,95nm,17.5s,MS4.2						
KMI				LR	LR		
	comp=Z,146nm,17.5s,MS4.2						
ARU	**Arti**	**59.91**	**325**	⇑*i*P	**P**	**15 40 09.6**	**-0.2**
ARU				*e*		15 40 25.4	
ARU				*e*		15 40 53.3	
ARU				*e*		15 42 24.4	
ARU				*e*PPP		15 43 57.5	
ARU				*e*S	**S**	**15 48 19.8**	**+0.6**
ARU				*e*SS	SS	15 52 13.5	-2.4
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ARU	**Arti**	**59.91**	**325**	*e*P	**P**	**15 40 09.4**	**-0.4**
	comp=Z,13nm,0.8s,mb5.0						
SCHQ	**Schefferville**	**61.74**	**35**	P	**P**	**15 40 21.4**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.6,baz=325,slow=6.1,SNR=4.9						
SCHQ				LR	LR	16 09 26.6	
	comp=Z,79nm,18.1s,MS3.9,baz=299,slow=38						
JOF	**Joensuu**	**61.85**	**342**	*e*p	**P**	**15 40 21.1**	**-1.9**
	comp=Z,12nm,0.8s,mb5.1						
TKM2	**Tokmak 2**	**62.65**	**305**	P	**P**	**15 40 28.6**	**+0.2**
	SNR=6.7						
ULHL	**Ulahol**	**62.81**	**304**	P	**P**	**15 40 30.1**	**+0.7**
	SNR=5.0						
USP	**Ospenovka**	**62.95**	**306**	P	**P**	**15 40 30.4**	**+0.1**
	SNR=6.2						
AAK	**Ala-Archa**	**63.41**	**306**	*d i*P	**P**	**15 40 32.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
AAK	**Ala-Archa**	**63.41**	**306**	*e*P	**P**	**15 40 32.4**	**-1.0**
	comp=Z,4.8nm,0.8s,mb4.7						
KAF	**Kangasniemi**	**63.49**	**344**	*e*p	**P**	**15 40 31.7**	**-2.2**
	comp=Z,1.0nm,0.3s,mb4.4						
KAF	**Kangasniemi**	**63.49**	**344**	*e*P	**P**	**15 40 31.7**	**-2.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
EKS2	**Erkin-Say**	**63.75**	**306**	P	**P**	**15 40 36.2**	**+0.6**
	SNR=12						
FINES	**FINESS Array B**	**64.16**	**344**	P	**P**	**15 40 37.2**	**-1.0**
	comp=Z,3.2nm,0.8s,mb4.4,baz=23,slow=6.2,SNR=9.5						
FINES				LR	LR	16 11 53.1	
	comp=Z,90nm,19.4s,MS4.0,baz=348,slow=39						
AML	**Almayashu**	**64.18**	**306**	P	**P**	**15 40 39.6**	**+1.2**
	SNR=7.2						
AKTK	**Aktyubinsk**	**64.82**	**321**	P	**P**	**15 40 42.8**	**+0.2**
AKTO	**Aktyubinsk**	**64.82**	**321**	P	**P**	**15 40 42.8**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0,baz=54,slow=6.4,SNR=40						
AB31	**Akbulak array**	**64.99**	**319**	P	**P**	**15 40 43.4**	**-0.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KK31	**Karatay Array**	**65.02**	**309**	*i* P	**P**	**15 40 43.7**	**-0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KKAR	**Karatay Array**	**65.02**	**309**	P	**P**	**15 40 43.7**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
WVT	**Waverly**	**66.43**	**61**	*e*P	**P**	**15 40 56.0**	**+3.0**
WVT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WVT	**Waverly**	**66.43**	**61**	*e*P	**P**	**15 40 56.0**	**+3.0**
	comp=Z,3.5nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**66.50**	**352**	P	**P**	**15 40 53.2**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=10,slow=6.5						
NOA	**NORSAR Array B**	**66.50**	**352**	P	**P**	**15 40 52.7**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=12,slow=6.4,SNR=9.3						
NOA				LR	LR	16 10 23.3	
	comp=Z,52nm,18.0s,MS3.8,baz=0.0,slow=36						
MOS	**Moscow**	**66.93**	**335**	*e*P	**P**	**15 41 05.7**	**+9.5**
MOS				*e*	pP	15 41 19.1	+12
MOS				*e*		15 41 30.5	
MOS				*e*PPP		15 45 07.5	
MOS				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.5						
HFS	**Hagfors**	**67.14**	**350**	P	**P**	**15 40 57.4**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=46,slow=4.3,SNR=11						
OBN	**Obninsk**	**67.76**	**336**	*e*P	**P**	**15 40 59.8**	**-1.7**
OBN				*e*	pP	15 41 12.7	-0.1
OBN				*e*		15 43 26.9	
OBN				*e*SS	SS	15 54 13.5	-4.7
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.3						
GUN	**Gumba**	**68.02**	**287**	*e*P	**P**	**15 41 04.2**	**+1.1**
	comp=Z,30nm,0.7s,mb5.4						
KKN	**Kakani**	**68.46**	**288**	*e*P	**P**	**15 41 06.9**	**+1.0**
	comp=Z,15nm,0.7s,mb5.1						
PKI	**Pulchoki**	**68.55**	**287**	*e*P	**P**	**15 41 06.2**	**-0.2**
	comp=Z,11nm,0.5s,mb5.0						
GKN	**Gorkha**	**68.68**	**288**	*e*P	**P**	**15 41 08.1**	**+0.9**
DMN	**Daman**	**68.70**	**288**	*e*P	**P**	**15 41 07.0**	**-0.3**
KOLN	**Koldanda**	**69.46**	**289**	*e*P	**P**	**15 41 11.8**	**-0.3**
	comp=Z,17nm,1.0s,mb4.9						
EKA	**Eskdalemuir Ar**	**72.95**	**359**	P	**P**	**15 41 33.4**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=18,slow=6.1,SNR=5.1						
AKASG	**Malin Array Be**	**73.59**	**338**	P	**P**	**15 41 36.2**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.4,baz=24,slow=5.9,SNR=10						
AKASG				LR	LR	16 16 01.8	
	comp=Z,78nm,20.9s,MS4.0,baz=35,slow=37						
AKASG	**Malin Array Be**	**73.59**	**338**	P	**P**	**15 41 36.2**	**-0.7**
AKASG				LR	LR	16 16 01.8	
DZM	**Mont Dzumac**	**74.21**	**188**	LR	LR	16 06 03.9	
	comp=Z,189nm,21.8s,MS4.3,baz=340,slow=29						
KAKA	**Kakadu**	**74.26**	**223**	*e*P	**P**	**15 41 40.4**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.6						
PPT	**Papeete**	**75.88**	**145**	*e*LR	LR	16 04 34.7	
	comp=Z,274nm,23.5s						
PPT	**Papeete**	**75.88**	**145**	LR	LR	16 06 26.4	
	comp=Z,302nm,21.7s,MS4.6,baz=331,slow=29						
KIV	**Kislovodsk**	**75.89**	**327**	*e*P	**P**	**15 41 48.9**	**-1.3**
KIV				*e*	pP	15 41 59.9	-1.8
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KIV				MLR	MLR		
	comp=Z,100nm,21.0s,MS4.1						
KWP	**Kalwaria**	**75.98**	**342**	*e*P	**P**	**15 41 51.4**	**+0.7**
GERES	**GERESS Array B**	**78.21**	**348**	LR	LR	16 24 43.3	
	comp=Z,88nm,18.3s,MS4.1,baz=88,slow=42						
GNI	**Garni**	**78.50**	**323**	*i* P	**P**	**15 42 05.1**	**+0.2**
GNI				pmax	pmax		
	comp=Z,20nm,1.7s						
MLR	**Muntele Rosu**	**79.24**	**338**	P	**P**	**15 42 10.4**	**+1.5**
	comp=Z,2.7nm,0.6s,mb4.3,baz=270,slow=6.1,SNR=4.3						
WRAB	**Tennant Creek**	**80.00**	**219**	*i* P	**P**	**15 42 11.9**	**-1.2**
WRAB	**Tennant Creek**	**80.00**	**219**	*e*P	**P**	**15 42 12.2**	**-0.9**
	comp=Z,9.4nm,1.0s,mb4.7						
WB2	**Warramunga Arr**	**80.01**	**219**	*e*P	**P**	**15 42 12.8**	**-0.3**
WRA	**Warramunga Arr**	**80.02**	**219**	P	**P**	**15 42 12.6**	**-0.5**
	comp=Z,3.2nm,0.6s,mb4.4,baz=30,slow=5.8,SNR=48						
TBI	**Tubuai**	**81.27**	**147**	*e*LR	LR	16 07 07.2	
	comp=Z,286nm,29.0s						
FITZ	**Fitzroy Crossi**	**82.01**	**227**	*e*P	**P**	**15 42 24.0**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.5						
BR131	**Keskin Array S**	**82.60**	**331**	*e*P	**P**	**15 42 27.5**	**+0.7**
	comp=Z,3.6nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**82.60**	**331**	P	**P**	**15 42 27.9**	**+1.0**
	comp=Z,3.0nm,0.8s,mb4.4,baz=54,slow=2.5,SNR=13						
AS31	**Alice Springs**	**83.56**	**217**	*e*P	**P**	**15 42 31.9**	**+0.1**
ASAR	**Alice Springs**	**83.56**	**217**	P	**P**	**15 42 31.9**	**+0.1**
	comp=Z,3.0nm,0.9s,mb4.4,baz=20,slow=5.3,SNR=48						
ASPA	**Alice Springs**	**83.56**	**217**	*e*P	**P**	**15 42 31.9**	**+0.1**
RKT	**Rikitea**	**86.66**	**135**	*e*LR	LR	16 09 32.1	
	comp=Z,96nm,31.8s						
STKA	**Stephens Creek**	**88.59**	**208**	P	**P**	**15 42 56.3**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.7,baz=352,slow=8.0,SNR=3.2						
LBTB	**Lobatse**	**144.40**	**308**	PKP	PKPdf	15 49 38.2	-1.6
	comp=Z,4.2nm,0.6s,baz=3.0,slow=2.2,SNR=8.9						
LBTB	**Lobatse**	**144.40**	**308**	PKP	PKPdf	15 49 38.2	-1.6
MAW	**Mawson**	**144.69**	**218**	PKP	PKPdf	15 49 36.8	-3.5
	comp=Z,8.5nm,1.1s,baz=82,slow=4.9,SNR=10						
BOSA	**Boshof**	**147.54**	**304**	PKPbc	PKPbc	15 49 48.2	+0.4
	comp=Z,1.7nm,0.6s,baz=55,slow=17,SNR=6.6						
PMSA	**Palmer Station**	**147.86**	**136**	PKPbc	PKPbc	15 49 46.9	-1.7
	comp=Z,15nm,0.5s,baz=350,slow=9.1,SNR=15						
VNA3	**Neumayer Olymp**	**160.65**	**175**	*e*PKPdf	PKPab	15 50 42.5	-2.8
VNA3				*e*		15 50 54.1	
VNA3				*e*		15 50 57.6	

---

*ISCJB **03** 15:52:26.9±0.8, 47.19N±0.03×141.94E±0.10, h10km, Error ellipse: s-maj=9.5km s-min=4.8km az=169.8*
*JMA **03** 15:52:26.4±0.5, 47.31N×142.10E, h23km, M3.5*
*SKHL **03** 15:52:27.0±0.6, 47.18N×141.90E, h10km, mb3.9/1*
SKHL Felt (II) at Kholmsk.
ISC 03 15:52:28.7±2.0**, 47.19N**±0.09×**142.0E**±0.2**, h14**km±20km**, n8,** σ**0.93**/13**, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.56**	**114**	*i* Pg	**Pg**	**15 52 39.0**	**-0.7**
YSS				*e*Sg	**Sg**	**15 52 48.0**	**+0.9**
YSS				A		15 52 49.2	
	3μm,0.6s						
YSS				A		15 52 49.4	
	2μm,0.5s						
JWK2	**Keihoku**	**1.87**	**182**	P	**Pn**	**15 52 59.7**	**-0.5**
JWK2				*e*S	**Sn**	**15 53 23.3**	**-0.3**
UGL	**Uglegorsk**	**1.89**	**1**	*e*Pg	**Pg**	**15 53 05.0**	**0.0**
UGL				AMB	AMB	15 53 12.0	
	79nm,0.6s						
UGL				*e*Sg	**Sg**	**15 53 30.2**	**+0.6**
UGL				A		15 53 33.4	
	111nm,0.6s						
UGL				A		15 53 33.4	
	95nm,0.6s						
JRR	**Rishiri**	**2.10**	**194**	*e*S	**Sn**	**15 53 32.3**	**+3.0**
JSE	**Soyaes**	**2.26**	**170**	P	**Pn**	**15 53 04.9**	**-0.7**
JSE				*e*S	**Sn**	**15 53 35.0**	**+1.8**
JKK2	**Kamakawa 2**	**3.35**	**171**	P	**Pn**	**15 53 20.4**	**-0.2**
JTKR	**Abashiri--Toko**	**3.48**	**157**	P	**Pn**	**15 53 21.1**	**-1.2**
JTKR				*e*S	**Sn**	**15 54 02.7**	**-0.6**
JAR	**Ashorobuto**	**4.08**	**162**	P	**Pn**	**15 53 30.5**	**-0.1**

OTT 03 15:58:57.6±0.2**, 52.78N**×**67.32W, h0**km**, MN2.9**/7**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.08**	**8**	PN	Pn	15 59 33.9	+0.1
SCHQ				SN	Sn	16 00 02.4	+2.1
SCHQ				Trac		16 00 04.6	
	comp=Z,34nm,0.2s						
MNQ	**Manicouagan**	**2.42**	**203**	PN	Pn	15 59 38.6	+0.2
MNQ				SN	Sn	16 00 08.2	-0.5
MNQ				Trac		16 00 13.6	
	comp=Z,22nm,0.2s						
SMQ	**Clarke City**	**2.58**	**171**	PN	Pn	15 59 39.8	-0.9
SMQ				Trac		16 00 18.6	
	comp=Z,16nm,0.1s						
YOSQ	**Ashton Mining**	**2.96**	**274**	PN	Pn	15 59 45.3	-0.6
YOSQ				SN	Sn	16 00 22.7	+0.5
ICQ	**Pointe Anglais**	**3.26**	**180**	PN	Pn	15 59 48.9	-1.1
ICQ				SN	Sn	16 00 28.6	-0.9
ICQ				Trac		16 00 40.5	
	comp=Z,6.3nm,0.1s						
CNQ	**Baie Comeau**	**3.51**	**188**	PN	Pn	15 59 54.0	+0.6
CNQ				SN	Sn	16 00 35.3	-0.3
CNQ				Trac		16 00 54.7	
	comp=Z,6.4nm,0.2s						
GSQ	**Grosses Roches**	**3.87**	**178**	PN	Pn	15 59 57.9	-0.5
GSQ				SN	Sn	16 00 44.5	0.0
GSQ				Trac		16 00 59.9	
	comp=Z,6.9nm,0.2s						
DAQ	**Lac Daran**	**5.43**	**209**	PN	Pn	16 00 19.0	-0.8
DAQ				Trac		16 01 53.3	
	comp=Z,3.5nm,0.2s						
LMQ	**La Malbaie**	**5.58**	**201**	PN	Pn	16 00 21.0	-0.8
LMQ				SN	Sn	16 01 25.0	-1.7
WEMQ	**Wemindji, Queb**	**6.46**	**277**	PN	Pn	16 00 32.2	-1.7
WEMQ				SN	Sn	16 01 43.6	-4.6
WEMQ				Trac		16 01 49.1	
	comp=Z,2.7nm,0.2s						
WEMQ				LG		16 02 14.9	
DRLN	**Deer Lake**	**7.12**	**116**	PN	Pn	16 00 41.0	-2.0
DRLN				SN	Sn	16 01 57.9	-6.7
LMN	**Caledonia Moun**	**7.12**	**166**	PN	Pn	16 00 41.7	-1.3
VLDQ	**Val d'Or**	**7.98**	**238**	PN	Pn	16 00 54.8	+0.1
MALO	**McAlpine Lake**	**8.26**	**255**	PN	Pn	16 00 56.6	-2.0
MALO				SN	Sn	16 02 25.8	-6.8
KILO	**Kirkland Lake**	**8.97**	**246**	PN	Pn	16 01 06.7	-1.7
VIMO	**Victor Mine**	**9.96**	**277**	PN	Pn	16 01 19.7	-2.2
VIMO				SN	Sn	16 03 03.9	-10
KAPO	**Kapuskasing**	**10.12**	**257**	PN	Pn	16 01 21.3	-2.8
SILO	**Sutton Inlier**	**10.59**	**286**	PN	Pn	16 01 27.3	-3.3

---

*PDG **03** 16:15:00.9±0.2, 39.85N×19.84E, h11km*
*ATH **03** 16:15:01.1, 40.24N×19.47E, h7km±2km, MD3.6/7*
*THE **03** 16:15:03.7, 40.10N×19.51E, h2km, ML3.3*
*NEIC **03** 16:15:04.9±0.4, 40.06N×19.64E, h10km, MD3.2(PDG), MD3.6(ATH), ML3.1(ROM), Error ellipse: s-maj=6.6km s-min=4.6km az=57.0*
*ISCJB **03** 16:15:04.4±0.2, 40.08N±0.02×19.61E±0.02, h10km, Error ellipse: s-maj=2.7km s-min=2.3km az=95.3*
*CSEM **03** 16:15:04.3±0.1, 40.10N×19.64E, h5km, MD3.6, Error ellipse: s-maj=1.8km s-min=1.4km az=8.0*
*ROM **03** 16:15:04.2±0.5, 40.07N×19.66E, h10km, Md3.5/1, Ml3.1/7, Error ellipse: s-maj=8.2km s-min=3.7km az=53.0*
*SOF **03** 16:15:15.8, 40.60N×20.66E, h5km, MD2.6*
ISC 03 16:15:04.6±0.5**, 40.09N**±0.02×**19.60E**±0.02**, h5**km±4km**, n64,** σ**1.05**/90**, 9C, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.38**	**124**	*i* Pg	**Pg**	**16 15 10.7**	**-1.2**
SRN				*i* Sg	**Sg**	**16 15 16.9**	**+0.1**
KEK	**Kerkira**	**0.41**	**158**	*e*PG	**Pg**	**16 15 12.3**	**-0.2**
KEK				*e*SB	**Sg**	**16 15 20.4**	**+2.6**
IGT	**Igoumenitsa**	**0.80**	**134**	*e*Pg	**Pg**	**16 15 18.7**	**-1.2**
IGT				*e*Sg	**Sg**	**16 15 32.8**	**+2.6**
SCTE	**Santa Cesarea**	**0.87**	**269**	Pn	**Pn**	**16 15 21.9**	**-1.6**
KBN	**Korca**	**1.05**	**59**	*i* Pn	**Pn**	**16 15 22.6**	**-3.4**
KBN				*i* Sn	**Sn**	**16 15 40.4**	**-0.7**
JAN	**Janina**	**1.06**	**114**	*e*PN	**Pn**	**16 15 23.5**	**-2.6**
JAN				*e*SB	**Sb**	**16 15 40.8**	**+1.2**
LCI	**Lecce**	**1.16**	**283**	Pn	**Pn**	**16 15 26.7**	**-0.8**
	50nm,0.3s						
TIR	**Tirane**	**1.27**	**9**	*e*Pg	**Pg**	**16 15 27.9**	**-1.2**
TIR				*e*Sg	**Sg**	**16 15 47.6**	**+2.1**
TIR	**Tirane**	**1.27**	**9**	Pn	**Pn**	**16 15 28.1**	**-0.9**
TIR				*e*Sg	**Sg**	**16 15 47.6**	**+2.1**
MEV	**Metsovon**	**1.29**	**103**	*e*Pg	**Pg**	**16 15 28.2**	**-1.2**
OHR	**Ohrid**	**1.37**	**42**	*e*Pg	**Pg**	**16 15 29.4**	**-1.5**
OHR				*e*Sg	**Sg**	**16 15 49.4**	**+0.7**
OHR	**Ohrid**	**1.37**	**42**	*i* Pn	**Pn**	**16 15 27.2**	**-3.1**
OHR	**Ohrid**	**1.37**	**42**	*i* Pn	**Pn**	**16 15 27.2**	**-3.2**
OHR	**Ohrid**	**1.37**	**42**	*e*Pg	**Pg**	**16 15 29.4**	**-1.5**
OHR				*e*Sg	**Sg**	**16 15 49.3**	**+0.6**
FNA	**Florina**	**1.52**	**62**	*e*Pg	**Pn**	**16 15 30.2**	**-2.3**
FNA				*e*Sg	**Sg**	**16 15 54.5**	**+0.9**
FNA	**Florina**	**1.52**	**62**	*e*Pg	**Pn**	**16 15 30.2**	**-2.3**
FNA				*e*Sg	**Sg**	**16 15 54.5**	**+0.9**
LKD	**Levkas**	**1.60**	**149**	*e*Pb	**Pb**	**16 15 34.0**	**-0.7**
BIA	**Bitola**	**1.61**	**54**	*e*Pb	**Pn**	**16 15 31.6**	**-2.1**
BIA				*e*Sb	**Sb**	**16 15 55.4**	**0.0**
BIA	**Bitola**	**1.61**	**54**	*i* Pn	**Pn**	**16 15 31.4**	**-2.3**
BIA	**Bitola**	**1.61**	**54**	*i* Pn	**Pn**	**16 15 31.3**	**-2.4**
KZN	**Kozani**	**1.68**	**82**	*e*PN	**Pn**	**16 15 34.3**	**-0.3**
KZN				*e*SN	**Sn**	**16 15 58.0**	**+1.5**
KRUS	**Krusevo**	**1.79**	**44**	*i* Pn	**Pn**	**16 15 35.6**	**-0.5**
KRUS	**Krusevo**	**1.79**	**44**	*i* Pn	**Pn**	**16 15 35.6**	**-0.6**
PE1	**Pezze di Greco**	**1.81**	**294**	*e*Pn	**Pn**	**16 15 35.5**	**-0.9**
ULC	**Ulcinj**	**1.89**	**352**	⇑*i*Pn	**Pn**	**16 15 38.1**	**+0.6**
ULC				*e*Sn	**Sg**	**16 16 06.8**	**+1.4**
NOCI	**Noci**	**2.05**	**291**	Pn	**Pn**	**16 15 39.0**	**-0.8**
	131nm,0.4s						
VLS	**Valsamata**	**2.06**	**158**	*e*PN	**Pn**	**16 15 41.4**	**+1.5**
EVR	**Evrytania**	**2.08**	**124**	*e*Pn	**Pn**	**16 15 40.9**	**+0.8**
EVR				*e*Sn	**Sg**	**16 16 10.7**	**-0.6**
LIT	**Litokhoron**	**2.22**	**89**	*e*Pn	**Pn**	**16 15 41.9**	**-0.1**
BUM	**Brajici-Budva**	**2.27**	**347**	*e*Pn	**Pn**	**16 15 43.7**	**+1.0**
BUM				*e*Sn	**Sg**	**16 16 16.2**	**-1.4**
GRG	**Griva**	**2.31**	**67**	*e*Pn	**Pn**	**16 15 43.3**	**0.0**
SKO	**Skopje**	**2.34**	**36**	*i* Pn	**Pn**	**16 15 43.1**	**-0.6**
SG1	**Sgolgore (BA)**	**2.35**	**290**	*e*Pn	**Pn**	**16 15 43.0**	**-0.8**
TTG	**Podgorica**	**2.35**	**354**	⇑*i*Pn	**Pn**	**16 15 44.3**	**+0.5**
TTG				*e*Sn	**Sb**	**16 16 17.9**	**+1.2**
AGG	**Agios Georgios**	**2.37**	**116**	*e*Pn	**Pn**	**16 15 44.2**	**+0.1**
AGG	**Agios Georgios**	**2.37**	**116**	*e*Pn	**Pn**	**16 15 44.2**	**+0.1**
AMUR	**Altamura**	**2.42**	**291**	Pn	**Pn**	**16 15 44.2**	**-0.7**
	118nm,0.8s						
MIGL	**Miglionico**	**2.46**	**283**	Pn	**Pn**	**16 15 45.6**	**+0.2**
SERS	**Sersale**	**2.48**	**246**	Pn	**Pn**	**16 15 46.2**	**+0.5**
HCY	**Herceg Novi**	**2.50**	**341**	⇑*i*Pn	**Pn**	**16 15 46.5**	**+0.6**
HCY				*e*Sn	**Sb**	**16 16 21.8**	**+0.8**
RLS	**Riolos of Patr**	**2.50**	**144**	*e*PN	**Pn**	**16 15 47.0**	**+1.1**
PVY	**Plav**	**2.52**	**6**	⇑*i*Pn	**Pn**	**16 15 46.3**	**+0.2**
PVY				*e*Sn	**Sb**	**16 16 21.4**	**-0.2**
STIP	**Stip**	**2.53**	**50**	*i* Pn	**Pn**	**16 15 47.6**	**+1.2**
VAY	**Valandovo**	**2.57**	**61**	*e*Pn	**Pn**	**16 15 46.5**	**-0.5**
NKY	**Niksic**	**2.76**	**351**	⇑*i*Pn	**Pn**	**16 15 50.5**	**+1.0**
NKY				*e*Sn	**Sb**	**16 16 28.2**	**-0.3**
IVA	**Berane**	**2.79**	**5**	⇑*i*Pn	**Pn**	**16 15 49.8**	**-0.1**
IVA				*e*Sn	**Sn**	**16 16 27.8**	**+3.9**
SIRI	**Monte Sirino -**	**2.86**	**273**	Pn	**Pn**	**16 15 51.3**	**+0.4**
	33nm,0.4s						
BRY	**Bratogost**	**2.92**	**345**	⇑*i*Pn	**Pn**	**16 15 52.4**	**+0.7**
BRY				*e*Sn	**Sb**	**16 16 32.2**	**-0.8**
PLAC	**Placanica**	**2.95**	**237**	Pn	**Pn**	**16 15 51.8**	**-0.3**
MTSN	**Montesano sull**	**2.95**	**275**	Pn	**Pn**	**16 15 52.9**	**+0.8**
	64nm,0.8s						
PLG	**Polygyros**	**2.96**	**83**	*e*PN	**Pn**	**16 15 52.0**	**-0.2**
SLCN	**Sala Consilina**	**3.05**	**277**	Pn	**Pn**	**16 15 53.8**	**+0.3**
	67nm,0.6s						
UPM	**Unac-Piva**	**3.15**	**351**	⇑*i*Pn	**Pn**	**16 15 55.6**	**+0.8**
UPM				*e*Sn	**Sn**	**16 16 37.0**	**+4.2**
KKB	**Krupnik**	**3.18**	**55**	P	**Pn**	**16 15 57.5**	**+2.2**
PLE	**Pljevlja**	**3.24**	**357**	⇑*i*Pn	**Pn**	**16 15 56.1**	**+0.1**
PLE				*e*Sn	**Sn**	**16 16 39.1**	**+4.1**
CMPR	**Campora**	**3.30**	**275**	Pn	**Pn**	**16 15 57.6**	**+0.7**
	20nm,0.5s						
CDRU	**Civita di Ruta**	**3.31**	**278**	Pn	**Pn**	**16 15 58.1**	**+1.1**
CEL	**Celeste**	**3.41**	**239**	Pn	**Pn**	**16 15 58.6**	**+0.2**
SOI	**Samo**	**3.41**	**235**	Pn	**Pn**	**16 15 58.2**	**-0.3**
RGNG	**Rignano Grg**	**3.43**	**299**	Pn	**Pn**	**16 15 57.8**	**-0.9**
MCRV	**Calabrutti - M**	**3.45**	**283**	Pn	**Pn**	**16 15 59.1**	**+0.1**
	34nm,0.6s						
MMB	**Musomiste**	**3.47**	**63**	P	**Pn**	**16 15 59.2**	**-0.1**
MMB				Sg	**Sn**	**16 16 39.2**	**-1.6**
VTS	**Vitosha**	**3.69**	**46**	P	**Pn**	**16 16 03.0**	**+0.7**
NVLJ	**Novalja**	**5.68**	**323**	*i* Pn	**Pn**	**16 16 29.4**	**-0.2**
NVLJ				*i* Sn	**Sn**	**16 17 30.5**	**-4.6**

---

*MOS **03** 16:20:31.9±0.9, 0.21N×97.17E, h23km, mb5.4/57, MS4.9/33, Error ellipse: s-maj=9.7km s-min=5.0km az=114.9*
*BJI **03** 16:20:35.2, 0.03S×97.17E, h64km, mB5.4, mb5.4, Ms5.2, Msz5.0*
*ISCJB **03** 16:20:35.1±0.1, 0.17N±0.02×97.24E±0.02, h49km, mb5.3/181, MS4.8/84, Error ellipse: s-maj=3.7km s-min=2.8km az=49.8*
*GCMT **03** 16:20:36.8±0.2, 0.10N×97.11E, h30km, MW5.4/84, Moment Tensor Solution. s73,c131; s84,c161; Duration: 1.3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08±.02; $M_{\theta\theta}$0.38±.02; $M_{\phi\phi}$0.70±.02; $M_{r\theta}$0.72±.03; $M_{\theta\phi}$-0.98±.01; $M_{\phi r}$-0.89±.04; Best double couple: $M_0$1.74100×10^{17} NP1:ϕ_s137.00000°, δ24.00000°, λ-93.00000°. NP2:ϕ_s321.00000°, δ66.00000°, λ-89.00000°. Principal axes: T 1.9700, Plg21.0000°, Azm50.0000°; N -0.4530, Plg1.0000°, Azm140.0000°; P -1.5130, Plg69.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 16:20:36.8±0.1, 0.19N×97.18E, mb5.3/87, MS4.7/21 Error ellipse: s-maj=4.5km s-min=3.0km az=36.0*
NEIC Felt [III] at Sibolga, Sumatra.
*IDC **03** 16:20:37.3±1.4, 0.13N×97.23E, h54km±11km, mb4.8/24, mb1 4.8/25, mb1mx4.8/25, mbtmp5.0/25, MS4.7/30, Ms1 4.7/30, ms1mx4.6/35, Error ellipse: s-maj=14.0km s-min=7.8km az=42.0*
*SZGRF **03** 16:20:40.7, 0.00S×95.72E, h50km, mb5.3, Southwest of Sumatera, Indonesia*
ISC 03 16:20:37.2±0.1**, 0.15N**±0.02×**97.23E**±0.02**, h51**km**, h51**km±.7km**: pP-P, n570,** σ**0.94**/533**, mb5.3**/181**, MS4.8**/84**, 32C-33D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.13**	**33**	P	**Pn**	**16 21 21.9**	**-2.1**
	100nm,0.3s,baz=188,slow=7.5,SNR=300						
PSI	**Prapat**	**3.13**	**33**	P	**Pn**	**16 21 21.9**	**-2.1**
PSI				pmax	pmax		
	comp=Z,100nm,0.3s						
PPI	**Padang Panjang**	**3.22**	**101**	P	**Pn**	**16 21 23.8**	**-1.5**
	comp=Z,2μm,0.9s						
TSI	**Tuntungan**	**3.58**	**22**	P	**Pn**	**16 21 28.4**	**-1.8**
	comp=Z,7μm,0.7s						
BSI	**Banda Aceh**	**5.65**	**340**	P	**Pn**	**16 21 54.7**	**-3.9**
	comp=Z,501nm,0.8s						
IPM	**Ipoh**	**5.73**	**41**	P	**Pn**	**16 21 59.6**	**0.0**
KULM	**Kulim**	**6.14**	**34**	*e*Pn	**Pn**	**16 22 04.0**	**-1.4**
KGM	**Kluang**	**6.36**	**73**	P	**Pn**	**16 22 07.9**	**-0.4**
SNG	**Songkhla**	**7.75**	**26**	P	**Pn**	**16 22 27.0**	**-0.4**
	comp=Z,1μm,1.0s						
PKT	**Phuket**	**7.94**	**7**	P	**Pn**	**16 22 27.5**	**-2.4**
KLI	**Kotabumi**	**9.10**	**123**	P	**Pn**	**16 22 47.6**	**+1.8**
	comp=Z,325nm,0.9s						
CBJI	**Citeko**	**11.61**	**124**	P	**Pn**	**16 23 20.9**	**+0.8**
	comp=Z,125nm,1.1s						
PBA	**Port Blair**	**12.27**	**339**	*e*x	x	16 22 56.7	
PBA				*e*x	x	16 26 11.8	
NNT	**Nongplab**	**12.61**	**11**	P	**Pn**	**16 23 33.0**	**-0.7**
KSM	**Kuching**	**13.14**	**84**	*e*Pn	**Pn**	**16 23 41.2**	**+0.1**
BJII	**Banjamegara**	**14.50**	**121**	P	**Pn**	**16 23 58.0**	**-1.3**
	comp=Z,42nm,1.4s						
KKTK	**Khon Kaen**	**17.00**	**19**	P	**Pn**	**16 24 30.0**	**-1.4**
	comp=Z,988nm,0.5s						
PALK	**Pallekele**	**17.94**	**294**	P	**Pn**	**16 24 43.8**	**+0.9**
	comp=Z,224nm,0.7s,SNR=10						
PALK	**Pallekele**	**17.94**	**294**	*e*P	**Pn**	**16 24 43.3**	**+0.4**
	comp=Z,507nm,1.9s						
CHG	**Chiang Mai**	**18.62**	**5**	⇑P	**Pn**	**16 24 50.3**	**-0.9**
	comp=Z,150nm,0.7s						
CHTO	**Chiang Mai**	**18.62**	**5**	P	**Pn**	**16 24 50.3**	**-0.9**
	SNR=64						
CHTO	**Chiang Mai**	**18.62**	**5**	*e*P	**Pn**	**16 24 49.9**	**-1.3**
	comp=Z,97nm,0.6s						
NANT	**Nan**	**18.84**	**10**	⇑P	**Pn**	**16 24 55.0**	**+1.1**
	comp=Z,950nm,0.5s						
CHRT	**Chiangrai**	**19.76**	**7**	⇑P	**Pn**	**16 25 03.0**	**-1.7**
	comp=Z,855nm,0.8s						
KKM	**Kota Kinabalu**	**19.83**	**72**	P	**Pn**	**16 25 04.6**	**-1.0**
KKM	**Kota Kinabalu**	**19.83**	**72**	*e*P	**Pn**	**16 25 04.2**	**-1.4**
TARAI	**Tarakan**	**20.57**	**81**	P	**P**	**16 25 12.0**	**+0.3**
	comp=Z,2μm,1.2s						
TSM	**Tawau**	**21.03**	**78**	P	**P**	**16 25 16.7**	**+0.1**
TRD	**Trivandrum**	**21.84**	**293**	*e*P	**P**	**16 25 25.8**	**+0.5**
TRD				AMb	AMB	16 25 41.1	
	comp=Z,206nm,1.0s,mb5.5						
TRD				*e*S	**S**	**16 29 27.1**	**+3.4**
VIS	**Vishakhapatnam**	**22.18**	**323**	*e*P	**P**	**16 25 29.2**	**+0.3**
VIS				AMb	AMB	16 25 46.3	
	comp=Z,292nm,1.2s,mb5.6						
VIS				*e*x	x	16 29 26.1	
BATP	**Bataraza**	**22.22**	**67**	*e*P	**P**	**16 25 29.7**	**+0.4**
QIZ	**Qiongzhong**	**22.48**	**33**	P	**P**	**16 25 31.4**	**-0.7**
QIZ				AP		16 25 46.2	
QIZ				S	**S**	**16 29 30.9**	**-4.8**

QIZ SS 16 30 12.6
QIZ AMB AMB
comp=Z,263nm,1.5s,mb5.4
QIZ AMB AMB
comp=Z,843nm,6.4s
QIZ LR LR
comp=N,2μm,14.9s,MS4.9
QIZ LR LR
comp=E,2μm,13.9s,MS4.9
QIZ LR LR
comp=Z,3μm,12.8s,MS4.9
QIZ Qiongzhong 22.48 33 *eP* **P 16 25 31.1 -1.0**
comp=Z,576nm,1.4s,mb5.8
PCI Palu 22.63 93 P **P 16 25 33.0 -0.7**
comp=Z,261nm,1.7s,mb5.4
KAPI Kappang 23.07 103 P **P 16 25 36.5 -1.8**
comp=Z,349nm,1.0s,mb5.7,SNR=7.5
PPR Puerto Princes 23.43 65 *eP* **P 16 25 41.2 -0.7**
CAL Calcutta 23.88 339 *ex* x 16 25 59.5
CAL *eS* **S 16 30 04.0 +5.5**
AGT Agartala 24.30 347 *i* P **P 16 25 52.0 +2.2**
AGT *i* x x 16 26 26.0
ENPP El Nido 24.63 63 *eP* **P 16 25 53.0 +0.1**
HYB Hyderabad 25.15 314 *i* P **P 16 25 58.5 +1.0**
comp=Z,100nm,1.0s,mb5.3
HYB *ep*P pP 16 26 11.0 +0.6
HYB *es*P sP 16 26 15.0 -1.4
HYB *eS* **S 16 30 22.0 +3.1**
HYB *e*SS 16 31 12.0
HYB Hyderabad 25.15 314 *eP* **P 16 25 58.5 +1.0**
comp=Z,100nm,1.0s,mb5.3
HYB *e* pP 16 26 11.0 +0.6
HYB *eS* **S 16 30 22.0 +3.1**
KMI Kunming 25.39 12 ⇑P **P 16 26 01.5 +1.8**
KMI AP pP 16 26 13.5 +0.9
KMI PP 16 26 42.3
KMI PCP PcP 16 29 32.3 +1.3
KMI S **S 16 30 25.9 +3.1**
KMI SS 16 31 30.2
KMI PCS PcS 16 33 11.5 0.0
KMI AMB AMB
comp=Z,101nm,1.4s,mb5.2
KMI AMB AMB
comp=Z,1μm,5.6s
KMI LR LR
comp=N,5μm,15.2s,MS5.2
KMI LR LR
comp=E,2μm,14.3s,MS5.2
KMI LR LR
comp=Z,6μm,15.5s,MS5.2
BUSP Coron 25.66 62 *eP* **P 16 26 01.9 -0.2**
SHL Shillong 25.79 349 *i* PN **P 16 26 04.5 +1.2**
SHL *e*SN **S 16 30 33.5 +4.4**
CUYO Cuyo Island 25.92 65 *eP* **P 16 26 05.2 +0.7**
BOK Bokaro 25.95 336 *eP* **P 16 26 05.0 +0.2**
BOK AMb AMB 16 26 16.6
comp=Z,163nm,0.8s,mb5.6
BOK *ex* x 16 30 32.4
LUBP Lubang 26.49 58 *eP* **P 16 26 03.5 -6.2**
PAGZ Pagadian 27.17 73 *eP* **P 16 26 16.9 +1.2**
NGP Nagpur 27.40 321 *ex* x 16 26 28.3
NGP AMb AMB 16 26 31.3
comp=Z,56nm,1.8s,mb4.8
OTRP Odiongan 27.42 63 *eP* **P 16 26 19.4 +1.3**
BOLP Bolinao 27.57 53 *eP* **P 16 26 13.3 -6.1**
GZH Guangzhou 27.66 33 P **P 16 26 25.2 +5.0**
GZH LR LR
comp=N,2μm,12.4s,MS4.9
GZH LR LR
comp=E,2μm,17.1s,MS4.9
GZH LR LR
comp=Z,3μm,15.2s,MS5.0
GYA Guiyang 27.69 18⇑*iP* **P 16 26 20.7 +0.3**
GYA AP pP 16 26 34.8 +1.4
GYA PP 16 27 09.4
GYA PPP 16 27 21.0
GYA S **S 16 30 58.3 -0.7**
GYA SS 16 32 18.6
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,440nm,6.3s
GYA LR LR
comp=N,3μm,18.9s,MS4.9
GYA LR LR
comp=E,1μm,18.4s,MS4.9
GYA LR LR
comp=Z,3μm,19.2s,MS4.9
KAD Karad 28.38 308 *eP* **P 16 26 27.0 +0.4**
KAD AMb AMB 16 26 31.7
comp=Z,41nm,1.5s,mb4.8
AKL Akola 28.42 317 *ex* x 16 26 42.1
AKL AMb AMB 16 27 05.5
comp=Z,37nm,1.8s,mb4.7
BUKP Musuan 28.78 74 *eP* **P 16 26 33.0 +2.8**
ABRA Dolores 28.91 52 *eP* **P 16 26 33.5 +2.2**
MSLP Maasin 29.22 69 *eP* **P 16 26 33.6 -0.4**
CAUP Cauayan 29.42 54 *eP* **P 16 26 35.2 -0.6**
PKI Pulchoki 29.53 338 *eP* **P 16 26 38.9 +2.1**
GUN Gumba 29.67 339 *eP* **P 16 26 39.2 +1.1**
comp=Z,146nm,0.7s,mb5.8
DMN Daman 29.68 338 *eP* **P 16 26 39.7 +1.6**
comp=Z,87nm,0.7s,mb5.6
KKN Kakani 29.78 338 *eP* **P 16 26 39.7 +0.7**
comp=Z,112nm,0.9s,mb5.6
PVCP Virac 29.82 62 *eP* **P 16 26 39.4 0.0**
LSA Lhasa 29.95 349 P **P 16 26 41.2 +0.7**
LSA Lhasa 29.95 349 *eP* **P 16 26 42.0 +1.4**
comp=Z,34nm,0.6s,mb5.2
LSA LR LR
comp=Z,1μm,19.0s,MS4.5
BHPL Bhopal 29.95 321 *eP* **P 16 26 42.8 +2.2**
BHPL AMb AMB 16 26 57.2
comp=Z,34nm,1.2s,mb5.0
GKN Gorkha 30.21 337 *eP* **P 16 26 43.4 +0.6**
comp=Z,241nm,1.0s,mb5.9
KOLN Koldanda 30.42 336 *eP* **P 16 26 45.6 +1.0**
comp=Z,276nm,0.8s,mb6.0
MBWA Marble Bar 30.52 135 *eP* **P 16 26 45.3 -0.2**
comp=Z,29nm,1.1s,mb5.0
AAI Ambon 31.18 97 P **P 16 26 50.7 -0.6**
comp=Z,113nm,1.4s,mb5.5
CD2 Chengdu 31.21 11 P **P 16 26 51.6 -0.1**
CD2 AP pP 16 27 03.5 -1.2
CD2 PP PP 16 27 53.5 -9.3
CD2 PCP PcP 16 29 44.4 -1.0
CD2 S **S 16 31 53.2 -1.1**
CD2 SCP ScP 16 33 22.5 -1.6
CD2 PCS PcS 16 33 28.1 -1.5
CD2 SCS ScS 16 37 18.7 -2.7
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.2
CD2 AMB AMB
comp=Z,150nm,5.8s
CD2 LR LR
comp=N,3μm,17.4s
CD2 LR LR
comp=Z,3μm,18.6s,MS5.0
QZH Quanzhou 32.16 38⇑*iP* **P 16 27 01.0 +1.0**
QZH S **S 16 32 12.0 +2.8**
QZH AMB AMB
comp=Z,200nm,0.8s,mb6.0
QZH LR LR
comp=N,4μm,14.0s,MS5.4
QZH LR LR
comp=E,4μm,11.4s,MS5.4
QZH LR LR
comp=Z,6μm,14.0s,MS5.4
FITZ Fitzroy Crossi 33.30 125 *eP* **P 16 27 09.5 -0.5**
comp=Z,52nm,1.6s,mb5.2
FITZ Fitzroy Crossi 33.30 125 P **P 16 27 10.0 0.0**
comp=Z,8.3nm,0.6s,mb4.8,baz=313,slow=8.9,SNR=77
FITZ S **S 16 32 24.8 -2.0**
comp=Z,1.1nm,0.9s,baz=72,slow=21,SNR=2.7
FITZ LR LR 16 42 44.4
comp=Z,1μm,18.7s,MS4.6,baz=313,slow=40
LGTI Lohaghat 33.34 332 *i* P **P 16 27 12.0 +1.7**
NACB Ninganchiao 33.59 43 *eP* **P 16 27 11.8 -0.7**
YHNB Yeheng 33.77 42 *eP* **P 16 27 15.0 +1.0**
AJM Ajmer 34.04 322 *eP* **P 16 27 17.7 +1.3**
AJM AMb AMB 16 27 32.6
comp=Z,83nm,1.8s,mb5.4
SWI Sorong 34.04 92 P **P 16 27 15.3 -1.1**
comp=Z,50nm,1.7s,mb5.2
TATO Taipei 34.05 42 *eP* **P 16 27 17.0 +0.5**
comp=Z,112nm,1.3s,mb5.6
WHN Wuhan 34.33 27 ⇑P **P 16 27 20.0 +1.1**
WHN PP PP 16 28 39.8 +2.5
WHN S **S 16 32 47.9 +5.2**
WHN AMB AMB
comp=Z,450nm,1.5s,mb6.2
WHN LR LR
comp=Z,2μm,21.2s,MS4.9
XAN Xi'an 35.45 17 P **P 16 27 28.5 0.0**
XAN PP PP 16 28 46.9 -2.8
XAN S **S 16 32 56.8 -3.2**
XAN AMB AMB
comp=Z,103nm,0.9s,mb5.8
XAN AMB AMB
comp=Z,338nm,4.9s
XAN LR LR
comp=N,1μm,18.1s,MS5.0
XAN LR LR
comp=E,2μm,18.6s,MS5.0
XAN LR LR
comp=Z,3μm,19.1s,MS5.1
SMLA Simla 36.21 330 *eP* **P 16 27 35.8 +0.7**
SMLA AMb AMB 16 27 50.6
comp=Z,88nm,1.2s,mb5.5
LZH Lanzhou 36.28 9 *eP* **P 16 27 36.1 +0.5**
LZH AP pP 16 27 47.7 -1.1
LZH PP PP 16 29 00.5 +1.7
LZH PCP PcP 16 30 01.0 +1.3
LZH *eS* **S 16 33 15.0 +2.3**
LZH PCS PcS 16 33 48.5 +1.1
LZH SS SS 16 35 43.0 -10
LZH AMB AMB
comp=Z,147nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,430nm,4.0s
LZH LR LR
comp=N,3μm,16.2s
LZH LR LR
comp=Z,3μm,18.0s,MS5.1
SDNR Sundarnagar 36.61 330 *eP* **P 16 27 38.8 +0.3**
MUN Mundaring 36.65 152 *eP* **P 16 27 40.1 +1.3**
KLBR Kellerberrin 37.08 150 *eP* **P 16 27 43.9 +1.5**
comp=Z,44nm,1.1s,mb5.2
KAKA Kakadu 37.18 111 *eP* **P 16 27 41.6 -1.7**
comp=Z,17nm,0.6s,mb5.0
NJ2 Nanjing 37.74 31 *eP* **P 16 27 49.7 +1.7**
NJ2 AP pP 16 27 59.5 -1.8
NJ2 PP PP 16 29 19.4 +4.5
NJ2 S **S 16 33 38.0 +3.1**
NJ2 AMB AMB
comp=Z,100nm,1.1s,mb5.5
NJ2 AMB AMB
comp=Z,580nm,5.4s
NJ2 LR LR
comp=N,3μm,23.0s,MS5.4
NJ2 LR LR
comp=E,6μm,25.7s,MS5.4
NJ2 LR LR
comp=Z,7μm,25.2s,MS5.3
NWAO Narrogin (SRO) 37.92 152 P **P 16 27 50.5 +1.0**
comp=Z,64nm,1.1s,mb5.3,baz=322,slow=8.4,SNR=15
NWAO LR LR 16 41 41.6
comp=Z,1μm,21.2s,MS4.8,baz=330,slow=33
NWAO Narrogin (SRO) 37.92 152 P **P 16 27 50.5 +1.0**
NWAO pmax pmax
comp=Z,65nm,1.1s
NWAO MLR MLR
comp=Z,1μm,21.2s
THN Thein Dam 37.99 330 *ex* x 16 28 01.7
SSE Sheshan 38.25 34 P **P 16 27 53.3 +0.9**
SSE AP pP 16 28 06.2 +0.6
SSE PP PP 16 29 20.6 +0.1
SSE S **S 16 33 46.2 +3.5**
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,330nm,4.9s
SSE LR LR
comp=N,2μm,13.4s,MS5.2
SSE LR LR
comp=E,2μm,13.4s,MS5.2
SSE LR LR
comp=Z,3μm,13.2s,MS5.3
GTA Gaotai 39.14 3 *eP* **P 16 28 00.0 +0.2**
GTA PP PP 16 29 34.6 +4.3
GTA PPP 16 29 56.6
GTA PCP PcP 16 30 10.0 +1.5
GTA S **S 16 33 55.8 -0.3**
GTA PCS PcS 16 34 00.8 +2.6
GTA SS SS 16 36 39.3 -11
GTA SCS ScS 16 38 03.8 -0.5
GTA AMB AMB
comp=Z,26nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,228nm,5.7s
GTA LR LR
comp=N,1μm,15.6s,MS4.9
GTA LR LR
comp=E,892nm,16.0s,MS4.9
GTA LR LR
comp=Z,1μm,15.2s,MS4.9
TIA Tai'an 40.36 25 ⇑P **P 16 28 10.0 +0.1**
TIA LR LR
comp=N,2μm,14.0s,MS5.2
TIA LR LR
comp=E,2μm,14.0s,MS5.2
WRA Warramunga Arr 41.46 121 P **P 16 28 19.2 +0.2**
comp=E,18nm,0.5s,mb5.0,baz=304,slow=8.8,SNR=298
WRA ScP ScP 16 34 02.9 +1.1
comp=E,1.7nm,1.1s,baz=336,slow=3.9,SNR=4.3
WRA S **S 16 34 28.7 -2.0**
comp=E,3.2nm,1.1s,baz=291,slow=16,SNR=9.6
WRA PKiKP PKiKP 16 37 21.8 -1.4
comp=E,0.4nm,0.6s,baz=291,slow=1.6,SNR=5.6
WRA LR LR 16 49 28.2
comp=E,800nm,18.7s,MS4.6,baz=325,slow=42
WRA Warramunga Arr 41.46 121 P **P 16 28 19.2 +0.2**
WRA S **S 16 34 28.7 -2.0**
WRA pmax pmax
comp=Z,18nm,0.5s
WRA pmax pmax
comp=N,2.0nm,1.1s
WRA smax
comp=N,3.0nm,1.1s
WRA Warramunga Arr 41.46 121 P **P 16 28 19.2 +0.2**
WRA ScP ScP 16 34 02.9 +1.1
WRA S **S 16 34 28.7 -2.0**
WRAB Tennant Creek 41.47 121 P **P 16 28 19.9 +0.8**
comp=N,285nm,0.4s,mb6.2,SNR=43
WRAB Tennant Creek 41.47 121*c iP* **P 16 28 19.8 +0.7**
WRAB Tennant Creek 41.47 121 *eP* **P 16 28 19.7 +0.6**
comp=N,35nm,0.4s,mb5.3
WRAB *eS* **S 16 34 28.7 -2.1**
WRAB LR LR
comp=Z,301nm,19.0s,MS4.2
WB2 Warramunga Arr 41.47 121 *eP* **P 16 28 19.1 0.0**
BTO Baotou 41.91 15 *eP* **P 16 28 23.4 +0.7**
FORT Forrest 42.46 139 *eP* **P 16 28 28.5 +1.4**
comp=Z,60nm,0.8s,mb5.3
HHC Hu-ho-hao-te 42.55 16⇑*iP* **P 16 28 29.8 +1.9**
HHC AP pP 16 28 42.1 +0.8
HHC XP sP 16 28 47.6 +0.4
HHC PP PP 16 30 11.9 +4.7
HHC PCP PcP 16 30 22.0 +2.4
HHC SCP ScP 16 34 07.5 +1.4
HHC PCS PcS 16 34 13.1 +1.4
HHC S **S 16 34 49.9 +3.2**
HHC XS sS 16 35 10.4 +1.1
HHC SS SS 16 37 55.2 -2.7
HHC SCS ScS 16 38 25.1 +0.4
HHC AMB AMB
comp=Z,93nm,0.6s,mb5.7
HHC AMB AMB
comp=Z,334nm,3.8s
HHC LR LR
comp=N,2μm,17.6s,MS5.2
HHC LR LR
comp=E,2μm,17.8s,MS5.2
HHC LR LR
comp=Z,3μm,18.6s,MS5.2
ASPA Alice Springs 42.74 126⇓*iP* **P 16 28 30.0 +0.6**
AS31 Alice Springs 42.75 126⇓*iP* **P 16 28 30.0 +0.5**
ASAR Alice Springs 42.75 126 P **P 16 28 29.9 +0.5**
comp=Z,10nm,0.8s,mb4.6,baz=296,slow=8.2,SNR=235
ASAR PcP PcP 16 30 21.8 +1.6
comp=Z,2.7nm,0.9s,baz=320,slow=2.7,SNR=5.3
ASAR ScP ScP 16 34 06.1 -0.8
comp=Z,1.5nm,1.0s,baz=303,slow=4.3,SNR=5.1
ASAR S **S 16 34 49.6 0.0**
comp=Z,4.0nm,1.2s,baz=295,slow=14,SNR=9.1
ASAR PKiKP PKiKP 16 37 23.3 -1.1
comp=Z,0.2nm,0.5s,baz=2.4,slow=0.9,SNR=12
ASAR LR LR 16 45 29.5
comp=Z,741nm,21.4s,MS4.5,baz=310,slow=35
ASAR Alice Springs 42.75 126 P **P 16 28 30.0 +0.5**
ASAR 16 30 21.8
ASAR S **S 16 34 49.7 +0.1**
ASAR pmax pmax
comp=Z,10.0nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR pmax pmax
comp=N,2.0nm,1.0s
ASAR smax
comp=N,4.0nm,1.2s
ASAR Alice Springs 42.75 126 P **P 16 28 29.9 +0.5**
ASAR PcP PcP 16 30 21.8 +1.6
ASAR ScP ScP 16 34 06.1 -0.8
ASAR S **S 16 34 49.6 0.0**
BJT Baijiatuau 43.27 21 *eP* **P 16 28 35.0 +1.2**
comp=N,75nm,0.8s,mb5.5
WBK Wadi Bani Khal 43.40 304 ⇑P **P 16 28 36.1 +1.4**
KSH Kashi 43.73 336 *eP* **P 16 28 38.1 +0.7**
KSH *e*AP pP 16 28 51.2 +0.3
KSH *e*PP PP 16 30 21.0 +1.1
KSH *e*PPP 16 30 59.3
KSH *e*SCP ScP 16 34 12.2 +1.3
KSH *e*PCS PcS 16 34 16.1 -0.4
KSH S **S 16 35 05.7 +1.6**
KSH *e*SS SS 16 38 14.1 -6.9
KSH *e*SCS ScS 16 38 32.0 -0.1
KSH LR LR
comp=N,470nm,5.4s
KSH LR LR
comp=E,780nm,6.0s
KSH LR LR
comp=Z,414nm,4.2s
JMDO Jabal Madar 44.02 303 P **P 16 28 40.7 +1.0**
SNR=7.4
WMQ Urumqi 44.31 350 P **P 16 28 42.6 +0.6**
WMQ AP pP 16 28 56.5 +1.0
WMQ PP PP 16 30 28.0 +2.0
WMQ PPP 16 31 07.0
WMQ PCS PcS 16 34 18.0 -0.8
WMQ S **S 16 35 14.0 +1.6**
WMQ AMB AMB
comp=Z,44nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,357nm,4.6s
WMQ LR LR
comp=N,970nm,15.0s,MS5.1
WMQ LR LR
comp=E,2μm,19.4s,MS5.1
WMQ LR LR
comp=Z,1μm,22.2s,MS4.7
SMDO Samad 44.36 304 P **P 16 28 43.6 +1.2**
SNR=11
BIDO Bidbid 44.49 304 ⇑P **P 16 28 44.9 +1.4**
SNR=5.9
DL2 Dalian 44.59 27 ⇑P **P 16 28 45.4 +1.2**
DL2 S **S 16 35 19.8 +3.3**
DL2 AMB AMB
comp=Z,100nm,0.7s,mb5.8
DL2 AMB AMB
comp=Z,200nm,4.6s
DL2 LR LR
comp=N,590nm,14.5s,MS4.7
DL2 LR LR
comp=E,500nm,16.6s,MS4.7
DL2 LR LR
comp=Z,620nm,14.0s,MS4.7
BSY Bisya 44.94 303 P **P 16 28 48.6 +1.5**
SNR=7.4
HOQ Hoqain 45.20 304 ⇓P **P 16 28 50.5 +1.4**
RBK Rabkut 45.70 295 P **P 16 28 54.4 +1.3**
SNR=8.1
ARQ Araqi 45.75 303 ⇑P **P 16 28 54.5 +1.1**
ULHL Ulahol 45.97 338 P **P 16 28 56.8 +1.5**
SNR=7.7
INCN Inchon 46.00 33 *eP* **P 16 28 54.5 -1.0**
comp=Z,18nm,0.8s,mb5.1
WHFO Wadi Hawf 46.22 295 ⇑P **P 16 28 57.7 +0.5**
SNR=11
ABTO Aybut 46.49 294 ⇓P **P 16 28 59.9 +0.6**
TKM2 Tokmak 2 46.80 338 P **P 16 29 02.9 +1.2**
SNR=19
KBK Karagaybulak 46.81 337 P **P 16 29 03.6 +1.7**
SNR=16
AML Almayashu 46.87 336 P **P 16 29 03.7 +1.4**
SNR=18
AAK Ala-Archa 46.97 337 P **P 16 29 03.0 0.0**
comp=Z,84nm,1.5s,mb5.5,SNR=9.0
AAK Ala-Archa 46.97 337 P **P 16 29 03.8 +0.7**
SNR=24
AAK Ala-Archa 46.97 337*d iP* **P 16 29 03.4 +0.4**
AAK pmax pmax
comp=Z,34nm,2.4s,mb4.8
AAK MLR MLR
comp=Z,800nm,17.0s,MS4.8
AAK Ala-Archa 46.97 337 *eP* **P 16 29 03.2 +0.2**
comp=Z,17nm,0.8s,mb5.0
FRU Bishkek 47.09 337 *eP* **P 16 29 05.5 +1.5**
FRU *i* 16 29 10.5
FRU *e* 16 35 54.0
FRU pmax pmax
comp=Z,81nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,1μm,20.0s,MS4.9
CHMS Chumysh 47.18 338 P **P 16 29 05.3 +0.6**
SNR=5.9
EKS2 Erkin-Say 47.28 336 P **P 16 29 06.8 +1.3**
SNR=8.0
USP Ospenovka 47.51 337 P **P 16 29 08.1 +0.9**
SNR=16
SNY Shenyang 47.82 27 ⇑P **P 16 29 09.7 +0.1**
SNY S **S 16 35 59.0 -3.8**
SNY AMB AMB
comp=Z,43nm,1.2s,mb5.3
SNY AMB AMB
comp=Z,478nm,3.5s
SNY LR LR
comp=N,2μm,18.2s
SNY LR LR
comp=Z,1μm,19.4s,MS4.9
SONM Songino Array 48.16 8 P **P 16 29 13.2 +0.9**
comp=Z,22nm,0.6s,mb5.4,baz=191,slow=9.2,SNR=200
SONM LR LR 16 52 05.4
comp=Z,3μm,19.2s,MS5.2,baz=184,slow=39
SONM Songino Array 48.16 8 P **P 16 29 13.2 +0.9**
SONM pmax pmax
comp=Z,22nm,0.6s
SONM MLR MLR
comp=Z,3μm,19.3s
MK31 Makanchi Array 48.26 346 P **P 16 29 13.2 +0.1**
MK31 pmax pmax
comp=Z,25nm,0.6s,mb5.4
MKAR Makanchi Array 48.26 346 P **P 16 29 13.4 +0.3**
comp=Z,25nm,0.6s,mb5.4,baz=154,slow=7.3,SNR=163
MKAR S **S 16 36 11.0 +1.9**
comp=Z,0.1nm,0.4s,baz=167,slow=13,SNR=2.9
MKAR Makanchi Array 48.26 346 P **P 16 29 13.4 +0.3**
MKAR S **S 16 36 11.0 +1.9**
MKAR pmax pmax
comp=Z,25nm,0.6s
ULN Ulaanbaatar 48.29 9⇑*iP* **P 16 29 14.1 +0.9**
KK31 Karatay Array 49.01 334 *i* P **P 16 29 18.9 +0.1**
KK31 pmax pmax
comp=Z,13nm,0.5s,mb5.2
KK31 Karatay Array 49.01 334 *i* P **P 16 29 18.0 -0.8**
KKAR Karatay Array 49.01 334 P **P 16 29 18.9 +0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
GUMO Guam 49.02 72 LR LR 16 52 25.3
comp=Z,420nm,18.9s,MS4.5,baz=247,slow=39
CN2 Changchun 50.22 26 ⇑P **P 16 29 28.2 +0.2**
CN2 *e*AP pP 16 29 42.0 +0.3
CN2 *e*S **S 16 36 36.0 -0.5**
CN2 AMB AMB
comp=Z,60nm,0.5s,mb5.9
CN2 AMB AMB
comp=Z,500nm,5.0s

CN2 LR LR
comp=N,1μm,18.0s,MS5.0
CN2 LR LR
comp=E,1μm,18.0s,MS5.0
CN2 LR LR
comp=Z,1μm,19.0s,MS4.9
ZAK Zakamensk 50.31 5 *i* P **P 16 29 29.0 +0.3**
ZAK pmax pmax
comp=Z,11nm,2.1s,mb4.5
PMG Port Moresby 50.60 102 P **P 16 29 31.6 +0.7**
comp=Z,30nm,0.7s,mb5.3,baz=314,slow=3.4,SNR=25
PMG S **S 16 36 42.7 +1.0**
comp=Z,5.1nm,1.0s,baz=192,slow=22,SNR=1.6
PMG LR LR 16 54 00.3
comp=Z,654nm,19.0s,MS4.7,baz=290,slow=40
PMG Port Moresby 50.60 102 P **P 16 29 31.6 +0.7**
PMG S **S 16 36 42.7 +1.0**
PMG pmax pmax
comp=Z,30nm,0.7s
PMG smax
comp=N,5.0nm,1.0s
PMG MLR MLR
comp=Z,655nm,19.0s
PMG Port Moresby 50.60 102 *e*P **P 16 29 31.7 +0.8**
comp=Z,27nm,0.6s,mb5.3
PMG LR LR
comp=Z,660nm,22.0s,MS4.6
MOY Mondy 51.43 3 *e*P **P 16 29 38.1 +1.0**
MOY pmax pmax
comp=Z,58nm,2.7s,mb5.0
TLY Talaya 51.63 5 P **P 16 29 39.7 +1.1**
comp=Z,136nm,0.6s,mb6.0,SNR=5.3
TLY Talaya 51.63 5*c i*P **P 16 29 39.6 +1.0**
TLY *e* 16 31 33.1
TLY *e*S **S 16 36 57.0 +1.0**
TLY *e*SS SS 16 40 30.2 -2.5
TLY *e*SSS 16 42 15.2
TLY pmax pmax
comp=Z,19nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.3
TLY Talaya 51.63 5 *e*P **P 16 29 39.6 +1.0**
comp=Z,22nm,0.8s,mb5.1
CTA Charters Tower 52.02 116 *e*P **P 16 29 40.7 -0.8**
comp=Z,9.1nm,0.8s,mb4.8
CTA Charters Tower 52.02 116 P **P 16 29 41.2 -0.3**
comp=Z,9.3nm,0.7s,mb4.8,baz=286,slow=9.1,SNR=10
CTA S **S 16 37 02.2 +0.9**
comp=Z,1.5nm,0.8s,baz=64,slow=23,SNR=4.7
CTA LR LR 16 51 59.7
comp=Z,1μm,21.3s,MS4.8,baz=291,slow=36
CTA Charters Tower 52.02 116 P **P 16 29 41.2 -0.3**
CTA S **S 16 37 02.2 +0.9**
CTA pmax pmax
comp=Z,9.0nm,0.7s
CTA smax
comp=N,2.0nm,0.8s
CTA MLR MLR
comp=Z,1μm,21.3s
CTAO Charters Tower 52.02 116 *e*P **P 16 29 42.5 +1.1**
comp=Z,13nm,0.8s,mb4.9
CTAO LR LR
comp=Z,1μm,21.0s,MS4.9
ABKT Ailbek 52.04 321 P **P 16 29 41.5 -0.1**
comp=Z,94nm,0.8s,mb5.8,SNR=5.3
ABKT Ailbek 52.04 321 P **P 16 29 41.2 -0.4**
IRK Irkutsk 52.24 5⇑ *i*P **P 16 29 43.4 +0.2**
IRK *e* 16 31 42.5
IRK pmax pmax
comp=Z,86nm,2.2s,mb5.3
MAJO Matsushiro 52.44 42 *e*P **P 16 29 44.1 -0.5**
comp=Z,78nm,1.4s,mb5.4
MAT Matsushiro 52.44 42 P **P 16 29 44.3 -0.3**
MAT S **S 16 37 05.0 -2.2**
MJAR Matsushiro Arr 52.44 42 P **P 16 29 44.5 -0.2**
comp=Z,25nm,1.1s,mb5.1,baz=223,slow=7.1,SNR=56
MJAR LR LR 16 54 30.5
comp=Z,699nm,19.6s,MS4.7,baz=230,slow=39
MJAR Matsushiro Arr 52.44 42 P **P 16 29 44.5 -0.2**
MJAR pmax pmax
comp=Z,25nm,1.1s
MJAR MLR MLR
comp=Z,699nm,19.6s
HIA Hailar 52.62 18 *e*P **P 16 29 45.9 -0.1**
comp=Z,33nm,0.8s,mb5.3
STKA Stephens Creek 52.64 132‖ *i*P **P 16 29 47.1 +1.0**
comp=Z,43nm,0.8s,mb5.4
STKA Stephens Creek 52.64 132 P **P 16 29 47.1 +1.0**
comp=Z,70nm,1.0s,mb5.5,baz=302,slow=7.6,SNR=78
STKA LR LR 16 51 35.1
comp=Z,920nm,21.1s,MS4.8,baz=92,slow=35
MDJ Mudanjiang 52.77 29 P **P 16 29 47.7 +0.7**
MDJ AP pP 16 30 00.7 -0.1
MDJ PP PP 16 31 47.4 +0.7
MDJ PCS PcS 16 34 55.3 +0.6
MDJ S **S 16 37 15.2 +3.7**
MDJ AMB AMB
comp=Z,34nm,0.7s,mb5.4
MDJ AMB AMB
comp=Z,308nm,7.5s
MDJ LR LR
comp=N,3μm,17.3s,MS5.4
MDJ LR LR
comp=E,1μm,18.3s,MS5.4
MDJ LR LR
comp=Z,4μm,17.3s,MS5.5
MDJ Mudanjiang 52.77 29 *e*P **P 16 29 47.0 -0.1**
comp=Z,25nm,0.6s,mb5.3
KURK Kurchatov 52.81 345 P **P 16 29 47.2 -0.1**
comp=Z,150nm,1.3s,mb5.8,SNR=25
VLA Vladivostok 52.84 32 P **P 16 29 45.0 -2.6**
VLA *e*S **S 16 37 16.0 +3.4**
VLA pmax pmax
comp=Z,112nm,1.4s,mb5.6
VLA MLR MLR
comp=Z,2μm,17.0s,MS5.1
CIT Chita 53.48 12 *e*P **P 16 29 52.4 +0.1**
CIT *e* 16 37 26.9
CIT pmax pmax
comp=Z,145nm,2.2s,mb5.5
QRN Al-Qurain 54.99 306 *e*P **P 16 30 02.3 -0.9**
QRN AMb AMB 16 30 04.6
comp=Z,100nm,0.7s,mb6.0
KBD Kabd 55.34 306 *e*P **P 16 30 05.7 -0.1**
KBD AMb AMB 16 30 07.9
comp=Z,360nm,1.1s,mb6.3
RDF Al-Radifah 55.36 306 *e*P **P 16 30 05.7 -0.3**
RDF AMb AMB 16 30 06.9
comp=Z,103nm,0.6s,mb6.0
UMR Umm Al-Rimmam 55.46 306 *e*P **P 16 30 06.2 -0.5**
UMR AMb AMB 16 30 08.2
comp=Z,142nm,0.9s,mb6.0
NVS Novosibirsk 55.71 350 *i*P **P 16 30 07.8 -0.6**
NVS *i*S **S 16 37 51.2 0.0**
NVS pmax pmax
comp=Z,41nm,1.2s,mb5.3
NVS pmax pmax
comp=N,40nm,1.3s
NVS pmax pmax
comp=E,20nm,1.0s
NVS smax
comp=N,68nm,1.8s
NVS smax
comp=E,136nm,2.2s
NAY Al-Naaiem 55.73 306 *e*P **P 16 30 08.0 -0.6**
NAY AMb AMB 16 30 09.3
comp=Z,50nm,0.5s,mb5.8
MIB Mutribah 55.86 307 *e*P **P 16 30 09.2 -0.4**
MIB AMb AMB 16 30 12.3
comp=Z,190nm,1.3s,mb6.0
VOSK Vostochnaya 56.80 341 P **P 16 30 15.0 -1.2**
VOSK pmax pmax
comp=Z,11nm,0.7s,mb5.0
KLR Kul'dur 57.17 26 *e*P **P 16 30 16.2 -2.7**
KLR *e* 16 32 21.8
KLR *e*S **S 16 38 11.0 +0.4**
KLR pmax pmax
comp=E,30nm,1.4s
KLR pmax pmax
comp=Z,74nm,1.4s,mb5.5
KLR smax
comp=N,900nm,10.0s
KLR smax
comp=E,500nm,10.0s
KLR MLR MLR
comp=N,3μm,13.5s
KLR MLR MLR
comp=Z,4μm,13.5s,MS5.7
BRVK Borovoye 57.31 341 P **P 16 30 18.7 -1.1**
comp=Z,92nm,0.6s,mb6.0,SNR=5.7
BRVK Borovoye 57.31 341 P **P 16 30 19.8 0.0**
SNR=7.0
BRVK Borovoye 57.31 341 P **P 16 30 18.9 -0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BRVK Borovoye 57.31 341 *e*P **P 16 30 18.6 -1.2**
comp=Z,8.0nm,0.6s,mb4.9
BRVK *e* pP 16 30 30.5 -3.2
BRVK LR LR
comp=Z,125nm,21.0s,MS4.0
ZRNK Zerenda 57.64 340 *i*P **P 16 30 21.2 -1.0**
ZRNK pmax pmax
comp=Z,17nm,0.9s,mb5.1
ZRNK Zerenda 57.64 340 *e*P **P 16 30 21.0 -1.2**
comp=Z,17nm,0.8s,mb5.1
ZRNK *e* pP 16 30 33.0 -3.1
CHKZ Chkalovo 57.73 342 *i*P **P 16 30 22.3 -0.4**
CHKZ pmax pmax
comp=Z,29nm,0.8s,mb5.4
CHKZ Chkalovo 57.73 342 *e*P **P 16 30 22.2 -0.6**
comp=Z,32nm,0.7s,mb5.5
CHKZ *e* pP 16 30 34.4 -2.3
HABR Khabarovsk 58.16 29⇑ *i*P **P 16 30 24.7 -1.1**
HABR *e*S **S 16 38 24.7 +1.2**
HABR pmax pmax
comp=Z,32nm,1.0s,mb5.3
HABR MLR MLR
comp=Z,900nm,13.0s,MS5.1
TOO Toolangi 58.17 136 *e*P **P 16 30 27.9 +2.0**
comp=Z,13nm,0.9s,mb5.0
AB31 Akbulak array 58.45 332 *i*P **P 16 30 26.7 -1.1**
AB31 pmax pmax
comp=Z,16nm,0.6s,mb5.2
AB31 Akbulak array 58.45 332 *i*P **P 16 30 26.8 -1.0**
BOD Bodaibo 59.03 10 *e*P **P 16 30 31.8 0.0**
BOD pmax pmax
comp=Z,31nm,1.5s,mb5.1
BHD Baghdad 59.51 309 *ex* x 16 30 31.0
ARMA Armidale 59.90 126 *e*P **P 16 30 40.5 +2.7**
ARMA *e* pP 16 30 53.9 +2.1
KMBO Kilima Mbogo 59.99 269 P **P 16 30 39.3 +0.9**
comp=Z,7.0nm,0.8s,mb4.7,baz=64,slow=10,SNR=19
KMBO LR LR 16 52 55.6
comp=Z,1μm,19.5s,MS5.1,baz=277,slow=32
KMBO Kilima Mbogo 59.99 269 P **P 16 30 39.3 +0.9**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO MLR MLR
comp=Z,1μm,19.5s
AKTK Aktyubinsk 60.17 332 *i*P **P 16 30 37.0 -2.7**
AKTO Aktyubinsk 60.17 332 LR LR 16 59 23.4
comp=Z,281nm,19.3s,MS4.4,baz=283,slow=39
AKTO Aktyubinsk 60.17 332 *i*P **P 16 30 37.9 -1.8**
AKTO pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
YSS Yuzh-Sakhalins 61.19 34⇑ *i*P **P 16 30 46.6 -0.1**
YSS *e* 16 30 51.8
YSS 16 33 04.0
YSS S **S 16 39 04.0 +1.4**
YSS *e*PS 16 39 18.0
YSS pmax pmax
comp=Z,140nm,1.2s,mb6.0
YSS MLR MLR
comp=N,700nm,16.0s,MS5.1
YSS MLR MLR
comp=E,800nm,16.0s,MS5.1
YSS MLR MLR
comp=Z,800nm,16.0s,MS5.0
YSS Yuzh-Sakhalins 61.19 34 *e*P **P 16 30 47.2 +0.5**
comp=Z,91nm,1.1s,mb5.8
MAK Makhachkala 61.55 320 *e*P **P 16 30 41.4 -7.7**
MAK pmax pmax
comp=Z,296nm,1.4s,mb6.2
MAK MLR MLR
comp=Z,344nm,15.0s,MS4.6
MSL Mosul 61.65 312 *ex* x 16 30 53.0
GNI Garni 62.07 317 LR LR 16 58 29.4
comp=Z,254nm,18.9s,MS4.4,baz=263,slow=37
GNI Garni 62.07 317 P **P 16 30 53.7 +1.2**
SNR=6.8
GNI Garni 62.07 317*d i*P **P 16 30 53.0 +0.4**
GNI pmax pmax
comp=Z,56nm,1.5s
GNI Garni 62.07 317 P **P 16 30 52.9 +0.4**
comp=Z,38nm,1.0s,mb5.5
DGRG David-gareji 62.23 318 P **P 16 30 54.1 +0.5**
MTA Mtatsminda 62.72 318 P **P 16 30 56.6 -0.4**
TBLG Delisi 62.78 318 P **P 16 30 57.6 +0.4**
HNR Honiara 63.14 101 P **P 16 31 01.0 +1.3**
comp=Z,190nm,0.9s,mb6.2,baz=248,slow=1.4,SNR=8.2
HNR LR LR 17 00 46.1
comp=Z,366nm,18.9s,MS4.6,baz=359,slow=38
HNR Honiara 63.14 101 P **P 16 31 01.0 +1.3**
HNR pmax pmax
comp=Z,190nm,0.9s,mb6.2
HNR MLR MLR
comp=Z,366nm,18.9s,MS4.6
HNR Honiara 63.14 101 *e*P **P 16 31 01.0 +1.3**
comp=Z,154nm,0.9s,mb6.1
SVE Sverdlovsk 63.67 339 *e*P **P 16 31 01.6 -1.6**
SVE *e*S **S 16 39 27.0 -6.7**
SVE *e*PS 16 40 06.0
SVE *e*SS SS 16 43 42.0 +0.1
SVE pmax pmax
comp=Z,80nm,1.8s,mb5.5
SVE MLR MLR
comp=N,400nm,16.0s,MS4.8
SVE MLR MLR
comp=E,300nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.8
MARD Mardin 63.76 312 *i*P **P 16 31 03.6 -0.1**
ZEI Tsey 63.80 319 *e*P **P 16 31 04.6 +0.6**
ZEI *e**PP pP 16 31 17.7 -0.5
ZEI pmax pmax
comp=Z,18nm,0.6s,mb5.3
ONI Oni 64.01 318 P **P 16 31 05.3 -0.1**
ARU Arti 64.16 337 P **P 16 31 05.7 -0.7**
comp=Z,126nm,0.8s,mb6.0,SNR=5.3
ARU Arti 64.16 337‖ *i*P **P 16 31 05.0 -1.4**
ARU *e* 16 31 41.5
ARU *e* 16 33 26.4
ARU *e*PPP 16 34 59.8
ARU *e*S **S 16 39 40.4 +0.7**
ARU *e* 16 40 52.7
ARU *e*SS SS 16 43 45.1 -4.4
ARU pmax pmax
comp=Z,27nm,1.3s,mb5.1
ARU MLR MLR
comp=N,300nm,19.0s,MS4.6
ARU MLR MLR
comp=Z,400nm,19.0s,MS4.6
ARU MLR MLR
comp=E,200nm,17.0s,MS4.6
ARU Arti 64.16 337 *e*P **P 16 31 05.2 -1.2**
comp=E,27nm,1.0s,mb5.2
ERZM Erzurum 64.32 315 *i*P **P 16 31 08.3 +0.8**
KIV Kislovodsk 65.12 320 P **P 16 31 12.6 -0.1**
SNR=6.8
KIV Kislovodsk 65.12 320*d i*P **P 16 31 12.0 -0.7**
KIV pmax pmax
comp=Z,75nm,1.9s,mb5.4
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 65.12 320 *e*P **P 16 31 11.9 -0.8**
comp=Z,53nm,1.2s,mb5.4
KIV LR LR
comp=Z,60nm,21.0s,MS3.8
ELZG Elazig 65.51 313 *i*P **P 16 31 15.4 +0.3**
MALT Malatya 65.85 312‖ *i*P **P 16 31 17.7 +0.3**
MALT Malatya 65.85 312 *e*P **P 16 31 17.6 +0.2**
comp=Z,81nm,1.4s,mb5.6
KELT Kelkit 65.91 315 *i*P **P 16 31 18.0 +0.2**
EIL Elat 66.04 303 *e*P **P 16 31 18.7 +0.1**
comp=Z,597nm,0.9s
GZT Gaziantep 66.17 311 *i*P **P 16 31 19.8 +0.4**
YAK Yakutsk 66.41 16*c i*P **P 16 31 20.4 -0.6**
YAK pmax pmax
comp=Z,55nm,0.8s,mb5.6
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.2
YAK Yakutsk 66.41 16 P **P 16 31 20.6 -0.4**
comp=Z,94nm,0.9s,mb5.8
YAK LR LR
comp=Z,1μm,19.0s,MS5.2
MIR Mirnyy 66.63 182*c i*P **P 16 31 24.0 +1.6**
MIR pmax pmax
comp=Z,250nm,2.0s,mb5.9
GRSN GIRESUNGRSN 66.90 315 *i*P **P 16 31 23.2 -0.9**
SOKR Solikamsk 67.07 339*d i*P **P 16 31 25.0 -0.1**
SOKR S S 16 40 21.0 +5.8
SOKR SS SS 16 44 38.9 +4.2
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SOKR MLR MLR
comp=Z,660nm,23.0s,MS4.8
CSS Prodhromos 68.73 308 *e*P **P 16 31 35.3 -0.3**
comp=Z,56nm,1.1s,mb5.4
CDAG Cicekdag 69.27 313 *i*P **P 16 31 38.0 -1.0**
BOYT Boyabat 69.45 315 *i*P **P 16 31 37.9 -2.2**
ERMK Ermenek 69.51 309 *i*P **P 16 31 40.3 -0.1**
BR131 Keskin Array S 69.84 313 *e*P **P 16 31 41.1 -1.3**
comp=Z,8.2nm,0.7s,mb4.8
BRTR Keskin Array B 69.84 313 P **P 16 31 41.2 -1.2**
comp=Z,10nm,0.7s,mb4.9,baz=133,slow=6.6,SNR=52
BRTR LR LR 17 04 15.9
comp=Z,202nm,19.4s,MS4.4,baz=198,slow=38
BRTR Keskin Array B 69.84 313 P **P 16 31 41.3 -1.2**
BRTR pmax pmax
comp=Z,11nm,0.7s
BRTR MLR MLR
comp=Z,202nm,19.4s
LSZ Lusaka 69.85 254 P **P 16 31 42.6 +0.1**
SNR=9.3
LSZ Lusaka 69.85 254 *e*P **P 16 31 42.2 -0.3**
comp=Z,41nm,1.5s,mb5.1
LSZ *e* pP 16 31 59.1 +2.3
ELDT Eldivan 70.22 313 *i*P **P 16 31 44.1 -0.7**
PECR Pechory 70.35 332 *i*P **P 16 31 44.6 -1.0**
PECR pmax pmax
comp=Z,700nm,1.6s,mb6.3
ANTO Ankara 70.50 313‖ *i*P **P 16 31 45.6 -0.9**
ANTO Ankara 70.50 313 P **P 16 31 47.0 +0.5**
SNR=6.6
ANTO Ankara 70.50 313 *e*P **P 16 31 45.6 -0.9**
comp=Z,20nm,0.8s,mb5.1
ANTO *e* pP 16 32 00.4 -0.5
BALT Daday 70.57 314 *i*P **P 16 31 42.1 -4.8**
DZM Mont Dzumac 70.84 113 LR LR 17 04 10.8
comp=Z,312nm,19.0s,MS4.6,baz=118,slow=37
SIM Simferopol' 71.16 318*d i*P **P 16 31 50.0 -0.5**
SIM *i*S S 16 41 02.0 -1.6
SIM pmax pmax
comp=Z,33nm,0.6s,mb5.4
SGKT Sivrigoynuk 71.25 313 *i*P **P 16 31 50.5 -0.6**
ISP Isparta 71.67 310 *i*P **P 16 31 52.1 -1.5**
ISP Isparta 71.67 310 *e*P **P 16 31 52.7 -0.9**
comp=Z,9.5nm,0.6s,mb4.9
ISP *e* pP 16 32 11.3 +3.4
MAW Mawson 71.70 193‖ *i*P **P 16 31 53.9 +0.1**
comp=Z,18nm,1.1s,mb4.9
MAW Mawson 71.70 193 P **P 16 31 54.1 +0.3**
comp=Z,19nm,0.8s,mb5.1,baz=31,slow=5.6,SNR=54
MAW LR LR 16 58 30.4
comp=Z,867nm,18.1s,MS5.1,baz=43,slow=32
MAW Mawson 71.70 193 P **P 16 31 54.1 +0.3**
MAW pmax pmax
comp=Z,19nm,0.8s
MAW MLR MLR
comp=Z,867nm,18.1s
ESKT Eskisehir 71.85 312 *i*P **P 16 31 53.8 -0.9**
TKTP Tekketepe 71.87 310 *i*P **P 16 31 53.4 -1.3**
BORA Eskisehir 72.24 312 *i*P **P 16 31 55.7 -1.3**
GOLH Golhisar 72.25 309 *i*P **P 16 31 55.9 -1.2**
MA2 Magadan 72.26 25 *e*P **P 16 31 57.6 +0.5**
MA2 *e* 16 32 05.1
MA2 *e*S S 16 41 17.3 +1.1
MA2 *e*PS 16 41 52.7
MA2 *e*SS SS 16 45 52.2 -2.5
MA2 pmax pmax
comp=N,6.0nm,0.6s
MA2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MA2 MLR MLR
comp=Z,2μm,21.1s,MS5.4
MA2 Magadan 72.26 25 *i*P **P 16 31 57.9 +0.8**
PET Petropavlovsk 73.08 34 *e*P **P 16 32 00.7 -1.3**
PET *e*S S 16 41 26.4 +0.8
PET pmax pmax
comp=Z,200nm,10.5s
PET smax
comp=N,400nm,13.3s
PET MLR MLR
comp=Z,700nm,15.0s,MS5.1
MOS Moscow 73.25 329 *e*P **P 16 32 01.1 -1.9**
MOS *e* pP 16 32 15.9 -1.4
MOS *e* 16 34 44.5
MOS *e*S S 16 41 21.7 -5.7
MOS pmax pmax
comp=Z,100nm,1.5s,mb5.5
MOS pmax pmax
comp=Z,67nm,1.0s,mb5.5
ULDT Uludag 73.28 312 *i*P **P 16 32 02.6 -0.6**
LBTB Lobatse 73.45 244 *e*P **P 16 32 03.8 -0.4**
comp=Z,106nm,1.4s,mb5.6
LBTB *e* pP 16 32 18.7 +0.1
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
OBN Obninsk 73.52 329*d i*P **P 16 32 03.4 -1.2**
OBN *e* pP 16 32 18.6 -0.4
OBN *e* 16 34 46.3
OBN pmax pmax
comp=Z,109nm,2.1s,mb5.4
OBN MLR MLR
comp=Z,500nm,24.0s,MS4.7
OBN Obninsk 73.52 329 *e*P **P 16 32 03.6 -1.0**
comp=Z,129nm,1.5s,mb5.6
OBN *e* pP 16 32 18.5 -0.5
TIXI Tiksi 74.21 10 *e*P **P 16 32 06.4 -2.2**
TIXI pmax pmax
comp=Z,44nm,1.0s,mb5.3
TIXI MLR MLR
comp=Z,1μm,16.0s,MS5.2
TIXI Tiksi 74.21 10 *i*Pr **P 16 32 06.9 -1.7**
BOSA Boshof 74.29 240 P **P 16 32 08.8 -0.3**
comp=Z,23nm,0.7s,mb5.2,baz=95,slow=5.1,SNR=60
BOSA LR LR 17 00 13.4
comp=Z,1μm,18.5s,MS5.2,baz=58,slow=32
BOSA Boshof 74.29 240 P **P 16 32 08.8 -0.3**
BOSA pmax pmax
comp=Z,23nm,0.7s,mb5.2
BOSA MLR MLR
comp=Z,1μm,18.5s,MS5.2
BOSA Boshof 74.29 240 *e*P **P 16 32 08.8 -0.3**
comp=Z,24nm,0.8s,mb5.2
SEY Seymchan 74.71 23‖ *e*P **P 16 32 11.7 +0.2**
TIRR Tirgusor 74.90 316‖ *i*P **P 16 32 11.3 -1.3**
TIRR Tirgusor 74.90 316 *e*P **P 16 32 11.6 -1.0**
TIRR *e* pP 16 32 26.1 -0.9
KIS Kishinev 75.30 319 *e*P **P 16 32 12.0 -2.9**
KIS *e* pP 16 32 27.0 -2.4
KIS *e*S S 16 41 46.0 -4.5
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.7
KIS MLR MLR
comp=Z,300nm,17.0s
IDI Anoyia 75.54 306 LR LR 17 10 45.5
comp=Z,299nm,18.5s,MS4.6,baz=240,slow=40
AKASG Malin Array Be 76.10 323 P **P 16 32 18.1 -1.4**
comp=Z,18nm,0.6s,mb5.2,baz=92,slow=4.8,SNR=72
AKASG LR LR 17 10 05.6
comp=Z,166nm,18.8s,MS4.4,baz=80,slow=39
AKASG Malin Array Be 76.10 323 P **P 16 32 18.1 -1.4**
AKASG pmax pmax
comp=Z,18nm,0.6s
AKASG MLR MLR
comp=Z,166nm,18.8s
AKBB Malin Array Si 76.10 323 *e*P **P 16 32 18.1 -1.4**
AKBB *e* pP 16 32 33.0 -1.0
VRI Vrincioaia 76.40 317‖ *i*P **P 16 32 21.2 0.0**
VRI Vrincioaia 76.40 317 P **P 16 32 21.4 +0.2**
MLR Muntele Rosu 76.85 317‖ *i*P **P 16 32 23.5 -0.2**
MLR Muntele Rosu 76.85 317 P **P 16 32 23.9 +0.2**
TMCR Tamitsa 76.89 337 *e*P **P 16 32 22.6 -1.4**
TMCR pmax pmax
comp=Z,50nm,1.2s,mb5.3

BURAR **Bucovina Array** 77.83 319 ⇓*i*P P **16 32 29.5 +0.3**
BURAR **Bucovina Array** 77.83 319 ⇓P P **16 32 29.4 +0.2**
MNK **Minsk** 78.03 326 *e*P P **16 32 25.0 -5.3**
VTS **Vitosha** 78.17 314 ⇓*i*P P **16 32 28.9 -2.2**
VTS **Vitosha** 78.17 314 P P **16 32 30.2 -0.8**
RPZ **Rata Peaks** 78.45 135 P P **16 32 32.8 +0.2**
comp=Z,16nm,0.6s,mb5.1,baz=232,slow=4.6,SNR=11
RPZ LR LR 17 03 58.6
comp=Z,466nm,21.9s,MS4.8,baz=283,slow=33
LVV **L'vov** 79.09 321 *e*P P **16 32 35.5 -0.7**
LVV *e*S S 16 42 30.7 -1.0
LVV MLR MLR
comp=E,300nm,22.0s
JOF **Joensuu** 79.10 335 *e*p P **16 32 35.3 -0.9**
comp=E,15nm,0.7s,mb5.0
JOF **Joensuu** 79.10 335 *e*P P **16 32 35.3 -0.9**
JOF pmax pmax
comp=Z,15nm,0.7s,mb5.0
DRGR 79.32 318⇑*i*P P **16 32 37.3 -0.1**
DRGR 79.32 318 P P **16 32 37.3 -0.1**
LVZ **Lovozero** 79.82 340 *e*P P **16 32 39.3 -0.8**
LVZ *e*S S 16 42 31.1 -8.3
LVZ *e*SS SS 16 47 49.9 +0.7
LVZ pmax pmax
comp=Z,29nm,1.1s,mb5.1
LVZ pmax pmax
comp=N,14nm,1.5s
LVZ pmax pmax
comp=E,6.0nm,1.4s
LVZ pmax pmax
comp=Z,304nm,3.7s
LVZ pmax pmax
comp=N,189nm,3.5s
LVZ pmax pmax
comp=E,154nm,3.7s
LVZ smax
comp=N,137nm,11.4s
LVZ smax
comp=Z,71nm,9.6s
LVZ smax
comp=E,161nm,10.4s
LVZ smax
comp=N,233nm,4.8s
LVZ smax
comp=Z,289nm,4.2s
LVZ smax
comp=E,252nm,4.7s
LVZ MLR MLR
comp=Z,513nm,20.0s,MS4.9
LVZ MLR MLR
comp=N,120nm,14.0s
LVZ MLR MLR
comp=E,492nm,21.0s
BZS **Buzias** 79.85 316⇓*i*P P **16 32 39.6 -0.7**
BZS **Buzias** 79.85 316 P P **16 32 39.6 -0.7**
KWP **Kalwaria** 79.89 320 *e*P P **16 32 40.3 -0.2**
UZH **Uzhgorod** 79.96 319 *e*P P **16 32 33.0 -7.9**
UZH *e* 16 32 42.0
KOLS **Kolonicke sedl** 80.03 320 *e*P P **16 32 41.3 0.0**
KOLS *e*pP pP 16 32 55.8 0.0
KOLS **Kolonicke sedl** 80.03 320 *e*P P **16 32 41.3 0.0**
KOLS *e* pP 16 32 55.8 0.0
APA **Apatity** 80.11 340⇑*e*P P **16 32 42.0 +0.3**
APA *i* pP 16 32 54.7 -1.6
APA *i*S S 16 42 40.0 -2.5
APA *e* 16 42 56.0
APA *e*SS SS 16 48 02.0 +8.4
APA pmax pmax
comp=Z,13nm,0.9s,mb4.9
APA MLR MLR
comp=Z,600nm,16.0s,MS5.0
GRUS **Gruza** 80.19 314 *i*P P **16 32 39.9 -2.2**
SUW **Suwalki** 80.54 325 *e*P P **16 32 42.9 -1.1**
CRVS **Cervenica-Dubn** 80.55 320 *e*P P **16 32 44.0 -0.1**
CRVS *e*pP pP 16 32 57.9 -0.7
DIVS **Divcibare** 80.74 315 *i*P P **16 32 43.8 -1.3**
STHS **Stebnicka Huta** 80.79 320 *e*P P **16 32 46.0 +0.7**
STHS *e*pP pP 16 33 00.3 +0.4
STHS **Stebnicka Huta** 80.79 320 *e*P P **16 32 46.1 +0.8**
STHS *e* pP 16 33 00.3 +0.4
STHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
STHS **Stebnicka Huta** 80.79 320 *e*P P **16 32 46.1 +0.8**
comp=Z,15nm,1.0s,mb4.9
STHS *e* pP 16 33 00.3 +0.4
FINES **FINESS Array B** 80.94 333 P P **16 32 45.5 -0.6**
comp=Z,7.2nm,0.6s,mb4.8,baz=100,slow=5.7,SNR=54
FINES **FINESS Array B** 80.94 333 P P **16 32 45.5 -0.6**
FINES pmax pmax
comp=Z,7.0nm,0.6s
KAF **Kangasniemi** 81.03 333 *e*p P **16 32 45.7 -0.9**
comp=Z,23nm,0.6s,mb5.3
KAF **Kangasniemi** 81.03 333 *e*P P **16 32 45.7 -0.9**
KAF pmax pmax
comp=Z,23nm,0.6s,mb5.3
KECS **Kecovo** 81.11 319 *e*P P **16 32 46.3 -0.8**
KECS *e*pP pP 16 33 01.5 -0.1
KECS **Kecovo** 81.11 319 *e*P P **16 32 46.3 -0.8**
KECS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KECS **Kecovo** 81.11 319 *e*P P **16 32 46.3 -0.8**
comp=Z,6.5nm,0.8s,mb4.6
KECS *e* pP 16 33 01.5 -0.1
BBLS **Bajina Basta -** 81.12 314 *i*P P **16 32 46.7 -0.4**
NIE **Niedzica** 81.39 320 *e*P P **16 32 48.5 0.0**
PSZ **Piszkesteto** 81.41 318⇓*e*P P **16 32 48.1 -0.5**
PSZ **Piszkesteto** 81.41 318⇑*i*P P **16 32 49.3 +0.7**
PSZ **Piszkesteto** 81.41 318 *e*P P **16 32 48.0 -0.7**
comp=Z,25nm,1.0s,mb5.1
OJC **Ojcow** 81.85 321 *e*P P **16 32 50.5 -0.5**
OJC *e*PcP PcP 16 32 55.2 -1.3
OJC *es*P sP 16 33 04.0 -7.2
OJC *e*S S 16 42 59.2 -1.3
OJC L 17 18 30.7
comp=Z,0.8nm,20.9s
BUD **Budapest** 81.92 318⇑*e*P P **16 32 52.0 +0.7**
PKSM **Moragy** 82.00 317⇓*i*P P **16 32 51.0 -0.7**
PKSM **Moragy** 82.00 317 P P **16 32 51.1 -0.7**
BILL **Bilibino** 82.13 21 *e*P P **16 32 53.3 +0.9**
BILL *e*SS SS 16 48 30.3 +6.7
BILL pmax pmax
comp=Z,2.0nm,0.8s
URZ **Urewera** 82.14 129 P P **16 32 51.9 -0.6**
comp=Z,27nm,0.9s,mb5.2,baz=266,slow=3.2,SNR=14
URZ LR LR 17 08 12.6
comp=Z,476nm,19.7s,MS4.9,baz=241,slow=35
VYHS **Vyhne** 82.20 319 *i*P P **16 32 52.2 -0.6**
VYHS *e*pP pP 16 33 06.4 -1.0
VYHS **Vyhne** 82.20 319 *i*P P **16 32 52.2 -0.6**
VYHS *e* pP 16 33 06.4 -1.0
VYHS pmax pmax
comp=Z,18nm,1.6s,mb4.8
VYHS **Vyhne** 82.20 319 *i*P P **16 32 52.2 -0.6**
comp=Z,18nm,1.6s,mb4.8
VYHS *e* pP 16 33 06.4 -1.0
OKC **Ostrava-Krasne** 82.84 320 *e*P P **16 32 55.9 -0.2**
OKC *e*pP pP 16 33 10.4 -0.4
ORI **Oriolo Calabro** 82.84 310 P P **16 32 56.9 +0.8**
SOI **Samo** 82.95 308 P P **16 32 57.9 +1.2**
MORC **Moravsky Berou** 83.22 320⇑*i*P P **16 32 57.9 -0.2**
MORC **Moravsky Berou** 83.22 320 P P **16 32 58.1 0.0**
MORC **Moravsky Berou** 83.22 320 *e*P P **16 32 57.3 -0.8**
comp=Z,35nm,1.4s,mb5.2
ZST **Bratislava** 83.30 318 *e*P P **16 32 58.4 -0.1**
ZST *e*pP pP 16 33 12.8 -0.3
ZST **Bratislava** 83.30 318 *e*P P **16 32 58.4 -0.1**
comp=Z,15nm,0.9s,mb5.0
ZST *e* pP 16 33 12.8 -0.3
ZST LR LR
comp=Z,200nm,20.4s,MS4.5
SLCN **Sala Consilina** 83.50 310 P P **16 32 59.6 +0.1**
ARCES **ARCESS Array B** 83.53 340 P P **16 32 59.4 -0.3**
comp=Z,6.0nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=20
ARCES LR LR 17 14 19.1
comp=Z,447nm,19.2s,MS4.9,baz=207,slow=39
ARCES **ARCESS Array B** 83.53 340 P P **16 32 59.4 -0.3**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES MLR MLR
comp=Z,447nm,19.2s
SOP **Sopron** 83.60 318⇑*e*P P **16 33 00.2 +0.1**
FG4 **Candela** 83.65 311 P P **16 33 00.6 +0.3**
comp=Z,24nm,0.2s,mb6.0
FG5 **Orsara di Pugl** 83.85 311 P P **16 33 01.7 +0.4**
comp=Z,23nm,0.9s,mb5.3
DPC **Dobruska-Polom** 84.08 321 *e*P P **16 33 02.4 -0.1**
DPC *e*pP pP 16 33 17.4 +0.3
CRES **Cresnjev** 84.15 316 *e*P P **16 33 02.6 -0.2**
KSP **Ksiaz** 84.15 321 *e*P P **16 33 02.1 -0.8**
KSP **Ksiaz** 84.15 321 *e*P P **16 33 02.4 -0.5**
KSP *e*pP pP 16 33 16.5 -1.0
ARSA **Arzberg** 84.25 317⇓*i*P P **16 33 03.2 -0.2**
comp=Z,129nm,2.4s,mb5.6
ARSA **Arzberg** 84.25 317⇓*i*P P **16 33 03.1 -0.2**
comp=Z,129nm,2.4s,mb5.6
BOJS **Bojanci** 84.26 316 *e*P P **16 33 02.9 -0.5**
BOJS *e* pP 16 33 17.1 -0.9
UPC **Upice** 84.29 321 *e*P P **16 33 03.7 +0.1**
PERS **Pernice** 84.47 317 *e*P P **16 33 04.2 -0.3**
TREC **Trest** 84.49 319 *e*P P **16 33 04.7 +0.1**
TREC *e*pP pP 16 33 18.9 -0.3
VNDA **Vanda** 84.80 169 P P **16 33 05.5 -0.6**
comp=Z,11nm,1.1s,mb4.9,baz=294,slow=5.0,SNR=26
VNDA LR LR 17 07 55.6
comp=Z,629nm,18.7s,MS5.0,baz=303,slow=34
VNDA **Vanda** 84.80 169 P P **16 33 05.6 -0.5**
VNDA pmax pmax
comp=Z,11nm,1.1s
VNDA MLR MLR
comp=Z,629nm,18.7s
VNDA **Vanda** 84.80 169 *e*P P **16 33 05.2 -0.9**
comp=Z,43nm,1.4s,mb5.4
VNDA LR LR
comp=Z,678nm,20.0s,MS5.0
LJU **Ljubljana** 84.82 316 *e*P P **16 33 06.0 -0.2**
CEY **Cerknica** 84.86 316 *e*P P **16 33 05.4 -1.0**
VVLD **Villa Vallelon** 85.13 312 P P **16 33 07.2 -0.6**
MOA **Molln** 85.16 318⇓*i*P P **16 33 07.0 -0.9**
comp=Z,67nm,2.5s,mb5.3
PRU **Pruhonice** 85.17 320 *e*P P **16 33 08.0 0.0**
PRU *e*pP pP 16 33 22.5 -0.2
TERO **Teramo** 85.20 313 P P **16 33 07.6 -0.5**
PVCC **Panska Ves** 85.21 321 *e*P P **16 33 08.2 0.0**
PVCC *e*pP pP 16 33 23.1 +0.2
CING **Cingoli** 85.55 313 P P **16 33 09.8 -0.1**
RAO **Raoul Island** 85.57 119 LR LR 17 07 31.4
comp=Z,470nm,21.9s,MS4.8,baz=103,slow=33
GEC2 **GERESS Array S** 85.62 319 *e*P P **16 33 10.1 -0.1**
comp=Z,60nm,1.6s,mb5.6
GEC2 **GERESS Array S** 85.62 319 *e*P P **16 33 10.1 -0.1**
GEC2 pmax pmax
comp=Z,60nm,1.6s,mb5.6
GERES **GERESS Array B** 85.62 319 P P **16 33 09.9 -0.3**
comp=Z,4.2nm,0.8s,mb4.7,baz=104,slow=5.6,SNR=33
GERES LR LR 17 16 41.5
comp=Z,188nm,18.1s,MS4.5,baz=269,slow=39
GERES **GERESS Array B** 85.62 319 P P **16 33 09.9 -0.3**
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES MLR MLR
comp=Z,188nm,18.1s
BRG **Berggiesshubel** 85.64 321 *e*P P **16 33 09.3 -1.0**
comp=Z,39nm,1.6s,mb5.4
BRG **Berggiesshubel** 85.64 321 *i*P P **16 33 10.1 -0.2**
comp=Z,24nm,1.6s,mb5.2
BRG *e* pP 16 33 24.7 -0.3
comp=Z,25nm,1.7s
BRG **Berggiesshubel** 85.64 321 *i*P P **16 33 10.1 -0.2**
BRG *e* pP 16 33 24.7 -0.3
BRG pmax pmax
comp=Z,24nm,1.6s,mb5.2
BRG pmax pmax
comp=Z,25nm,1.7s,mb5.2
PTCC **Patocco-Chiusa** 85.66 316 P P **16 33 10.0 -0.4**
comp=Z,14nm,0.8s,mb5.2
KHC **Kasperske Hory** 85.72 319 *e*P P **16 33 10.5 -0.2**
KHC *e*pP pP 16 33 24.9 -0.5
SBA **Scott Base** 85.90 169 *e*P P **16 33 11.8 +0.2**
comp=Z,159nm,1.9s,mb5.9
FBE **Freiberg** 86.01 321 *e*P P **16 33 11.8 -0.4**
comp=Z,65nm,1.7s,mb5.6
FBE *e*pP pP 16 33 26.6 -0.3
FVI **Forni Avoltri** 86.07 317 P P **16 33 12.5 +0.1**
comp=Z,52nm,1.7s,mb5.5
WET **Wettzell** 86.18 319 *e*P P **16 33 13.0 0.0**
comp=Z,26nm,1.4s,mb5.3
WET *e*pP pP 16 33 27.3 -0.4
WET **Wettzell** 86.18 319 *e*P P **16 33 13.0 0.0**
WET *e**PP pP 16 33 27.3 -0.4
WET pmax pmax
comp=Z,26nm,1.4s,mb5.3
CLL **Collm** 86.27 321 *e*P P **16 33 12.5 -0.9**
comp=Z,18nm,1.5s,mb5.1
CLL **Collm** 86.27 321⇓*i*P P **16 33 12.7 -0.7**
comp=Z,18nm,1.5s,mb5.1
CLL *i* pP pP 16 33 27.4 -0.7
CLL LmV 17 19 00.0
comp=Z,300nm,18.5s
CLL **Collm** 86.27 321⇓*i*P P **16 33 12.7 -0.7**
CLL *i* *SP sP 16 33 27.4 -6.3
CLL pmax pmax
comp=Z,18nm,1.5s,mb5.1
CLL MLR MLR
comp=Z,300nm,18.5s,MS4.7
CRE **Caprese Michel** 86.47 314 P P **16 33 14.1 -0.3**
comp=Z,8.6nm,0.8s,mb5.0
TANN **Tannenbergstha** 86.54 320 *e*P P **16 33 14.2 -0.6**
comp=Z,12nm,1.3s,mb5.0
SFI **Santa Sofia** 86.56 314 P P **16 33 14.9 0.0**
comp=Z,131nm,1.7s,mb5.9
WERN **Wernitzgruen** 86.59 320 *e*P P **16 33 14.2 -0.8**
comp=Z,16nm,1.6s,mb5.0
GUNZ **Gunzen** 86.62 320 *e*P P **16 33 15.2 0.0**
comp=Z,17nm,1.2s,mb5.2
GUNZ *e*pP pP 16 33 29.8 -0.1
WERD **Werda** 86.64 320 *e*P P **16 33 14.9 -0.4**
comp=Z,16nm,1.4s,mb5.1
ROTZ **Rotzenmuhle** 86.66 320 *e*P P **16 33 14.9 -0.5**
comp=Z,37nm,1.7s,mb5.3
ROTZ *e*pP pP 16 33 30.0 -0.1
MANZ **Manzenberg** 86.74 320 *e*P P **16 33 16.1 +0.4**
comp=Z,31nm,1.4s,mb5.3
CTI **Castel Tesino** 86.82 316 P P **16 33 16.3 +0.2**
comp=Z,74nm,1.4s,mb5.7
WTTA **Wattenberg** 86.89 317⇑*i*P P **16 33 15.2 -1.3**
comp=Z,77nm,2.3s,mb5.5
MOX **Moxa** 87.09 321 *e*P P **16 33 17.0 -0.5**
comp=Z,68nm,2.0s,mb5.5
MOX **Moxa** 87.09 321 *e*P P **16 33 17.3 -0.2**
comp=Z,53nm,2.0s,mb5.4
MOX *e* pP 16 33 31.5 -0.7
MOX
comp=Z,200nm,19.0s
MOX **Moxa** 87.09 321 *e*P P **16 33 17.3 -0.2**
comp=Z,53nm,2.0s,mb5.4
MOX *e*pP pP 16 33 31.5 -0.7
MOX *e*S S 16 43 51.0 -1.8
MOX LR LR
comp=Z,200nm,19.0s,MS4.5
MOTA **Moosalm** 87.26 317⇑*i*P P **16 33 17.3 -1.0**
comp=Z,22nm,1.5s,mb5.2
GRA1 **Grafenberg Arr** 87.30 320 *e*P P **16 33 18.4 0.0**
comp=Z,12nm,0.9s,mb5.1
GRA1 *e*pP pP 16 33 32.5 -0.7
GRF **Grafenberg Arr** 87.30 320 *e*P P **16 33 18.4 0.0**
comp=Z,12nm,0.9s,mb5.1
GRF *e*pP pP 16 33 32.5 -0.7
GRF **Grafenberg Arr** 87.30 320 *e*P P **16 33 18.4 0.0**
GRF *e**PP pP 16 33 32.5 -0.7
GRF pmax pmax
comp=Z,12nm,0.9s,mb5.1
GSCL **Gusciola** 87.49 314 P P **16 33 20.0 +0.6**
comp=Z,11nm,0.8s,mb5.1
MABI **Malga Bissina** 87.61 316 P P **16 33 20.0 +0.1**
NB2 **NORSAR Subarra** 87.93 331 P P **16 33 21.4 -0.1**
comp=Z,39nm,1.4s,mb5.4,baz=95,slow=4.8
NOA **NORSAR Array B** 87.93 331 P P **16 33 20.4 -1.1**
comp=Z,5.5nm,1.0s,mb4.8,baz=95,slow=4.9,SNR=6.5
NOA LR LR 17 16 21.9
comp=Z,321nm,21.1s,MS4.7,baz=90,slow=38
NOA **NORSAR Array B** 87.93 331 P P **16 33 20.4 -1.1**
NOA pmax pmax
comp=Z,6.0nm,1.0s
NOA MLR MLR
comp=Z,321nm,21.2s
BSEG **Bad Segeberg** 88.06 324 *e*P P **16 33 21.9 -0.2**
comp=Z,42nm,1.3s,mb5.5
BSEG *e*pP pP 16 33 36.8 0.0
BSEG **Bad Segeberg** 88.06 324 *e*P P **16 33 21.9 -0.2**
BSEG pmax pmax
comp=Z,42nm,1.3s,mb5.5
DAVA **Damuels** 88.09 317⇓*i*P P **16 33 21.9 -0.3**
comp=Z,138nm,2.7s,mb5.7
NRDL **Niedersach Rie** 88.12 322 *e*P P **16 33 23.5 +1.1**
comp=Z,63nm,1.4s,mb5.7
GTTG **Gvttingen** 88.18 321 *e*P P **16 33 22.9 +0.3**
KEST **Kesra** 88.19 306 P P **16 33 23.6 +0.9**
comp=Z,3.0nm,0.7s,mb4.6,baz=136,slow=2.2,SNR=11
KEST LR LR 17 12 41.9
comp=Z,167nm,19.5s,MS4.5,baz=9.3,slow=35
NVL **N'lazarevskaya** 88.62 199*d*iP P **16 33 25.5 +0.8**
NVL *e**PP pP 16 33 38.8 -0.7
NVL pmax pmax
comp=Z,136nm,1.6s,mb6.0
NVL pmax pmax
comp=Z,677nm,18.8s
KONO **Kongsberg** 88.67 330⇑*e*P P **16 33 26.4 +1.4**
SPAK **Spaichingen-Ko** 88.85 318 *e*P P **16 33 26.1 +0.3**
TOD **Tromm** 88.86 319 *e*P P **16 33 24.2 -1.7**
KBS **Kingsbay** 88.94 349 *i*P pP 16 33 40.6 -0.4
TNS **Taunus Mts** 89.11 320 *e*P P **16 33 27.5 +0.5**
comp=Z,32nm,1.4s,mb5.5
TNS **Taunus Mts** 89.11 320 *e*P P **16 33 27.5 +0.5**
TNS pmax pmax
comp=Z,32nm,1.4s,mb5.5
BFO **Black Forest** 89.16 318 *e*P P **16 33 26.3 -1.0**
comp=Z,10.0nm,1.4s,mb5.0
BFO **Black Forest** 89.16 318 *e*P P **16 33 26.3 -1.0**
BFO pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
FIN **Finale Ligure** 89.19 314 P P **16 33 27.5 +0.1**
comp=Z,29nm,0.8s,mb5.7
FELD **Feldberg im Sc** 89.37 318 *e*P P **16 33 28.1 -0.2**
LANF **Langenberg** 89.51 319 *e*P P **16 33 29.4 +0.5**
SAOF **Saorge** 89.66 314 *e*P P **16 33 30.1 +0.5**
ABH **Alteburg** 89.68 320 *e*P P **16 33 29.6 -0.1**
BBS **Basel-Blauen** 89.70 317 *e*P P **16 33 30.0 +0.2**
SBF **Sospel** 89.75 314 *e*P P **16 33 29.6 -0.4**
AUTN **L'Aution** 89.75 314 *e*P P **16 33 30.8 +0.7**
REVF **Revere** 89.80 314 *e*P P **16 33 30.6 +0.3**
LUCF **Luceram** 89.81 314 *e*P P **16 33 30.8 +0.5**
CDF **Champ du Feu** 89.86 318 *e*P P **16 33 29.6 -0.9**
BUG **Bochum--Univer** 89.86 321 *e*P P **16 33 30.5 -0.1**
comp=Z,68nm,1.5s,mb5.8
TOUF **Mont Tournerai** 89.88 314 *e*P P **16 33 30.8 +0.1**
MVIF **Mont Vial** 89.95 314 *e*P P **16 33 31.7 +0.7**
QSPA **South Pole Qui** 90.10 180 *e*P P **16 33 31.5 -0.2**
comp=Z,48nm,1.3s,mb5.7
HINF **Hinteralfeld** 90.14 318 *e*P P **16 33 30.5 -1.4**
MBDF **Montbardon** 90.22 315 *e*P P **16 33 31.2 -1.0**
comp=Z,8.6nm,0.7s,mb4.9
MBDF **Montbardon** 90.22 315 *e*P P **16 33 31.2 -1.0**
comp=Z,4.3nm,0.7s,mb4.9
LPG **La Plagne** 90.23 315 *e*P P **16 33 32.2 -0.1**
comp=Z,15nm,0.7s,mb5.2
LPG **La Plagne** 90.23 315 *e*P P **16 33 32.2 -0.1**
comp=Z,7.7nm,0.7s,mb5.1
LPL **La Plagne** 90.25 315 *e*P P **16 33 32.2 -0.1**
comp=Z,22nm,0.7s,mb5.3
LPL **La Plagne** 90.25 315 *e*P P **16 33 32.2 -0.1**
comp=Z,11nm,0.7s,mb5.3
BNI **Bardonecchia** 90.29 315 *e*P P **16 33 30.8 -1.8**
comp=Z,11nm,1.0s,mb5.2
FRF **La Foret Royal** 90.32 313 *e*P P **16 33 32.4 -0.3**
comp=Z,16nm,0.7s,mb5.1
FRF **La Foret Royal** 90.32 313 *e*P P **16 33 32.4 -0.3**
comp=Z,7.8nm,0.7s,mb5.2
LMR **La Mourre** 90.42 313 *e*P P **16 33 32.6 -0.6**
HAU **Haudompre** 90.48 318 *e*P P **16 33 32.7 -0.8**
comp=Z,14nm,0.7s,mb5.1
HAU *e*R
comp=Z,208nm,20.5s
HAU **Haudompre** 90.48 318 *e*P P **16 33 32.7 -0.8**
comp=Z,7.2nm,0.6s,mb5.2
HAU LR LR
comp=Z,210nm,20.5s,MS4.6
WLF **Walferdange** 90.59 319 *e*P P **16 33 34.1 +0.2**
comp=Z,94nm,1.9s,mb5.8
WLF **Walferdange** 90.59 319 P P **16 33 35.3 +1.3**
MEM **Membach** 90.67 320 P P **16 33 34.9 +0.6**
CABF **La Chapelle** 90.68 316 *e*P P **16 33 34.2 -0.2**
comp=Z,23nm,0.6s,mb5.3
CABF **La Chapelle** 90.68 316 *e*P P **16 33 34.2 -0.2**
comp=Z,11nm,0.6s,mb5.4
THEF **They Montfort** 90.72 318 *e*P P **16 33 34.8 +0.2**
TAVF **Tavernes** 90.75 313 *e*P P **16 33 35.8 +1.1**
ORIF **Oris-en-Rattie** 90.86 315 *e*P P **16 33 34.6 -0.6**
comp=Z,14nm,0.8s,mb5.0
ORIF *e*R
comp=Z,246nm,21.2s
ORIF **Oris-en-Rattie** 90.86 315 *e*P P **16 33 34.6 -0.6**
comp=Z,7.0nm,0.8s,mb5.0
VILF **Villemus** 90.99 314 *e*P P **16 33 37.1 +1.3**
PUYF **Puyloubier** 91.01 313 *e*P P **16 33 37.1 +1.2**
BERF **Bertagne** 91.02 313 *e*P P **16 33 37.1 +1.1**
SMRF **Simiane la Rot** 91.09 314 *e*P P **16 33 36.6 +0.3**
TREF **Trevaresse** 91.24 313 *e*P P **16 33 38.2 +1.2**
MEZF **Maizieres J'vi** 91.34 318 *e*P P **16 33 36.9 -0.5**
PRAF **Pradon** 91.39 314 *e*P P **16 33 38.8 +1.1**
GIVF **Givet** 91.44 320 *e*P P **16 33 37.5 -0.4**
DOU **Dourbes** 91.58 320 P P **16 33 38.8 +0.2**
VIVF **Saint-Julien-l** 91.72 315 *e*P P **16 33 38.8 -0.4**
BAIF **Baives** 91.83 320 *e*P P **16 33 39.6 -0.1**
comp=Z,57nm,1.2s,mb5.5
BAIF **Baives** 91.83 320 *e*P P **16 33 39.6 -0.1**
comp=Z,28nm,1.2s,mb5.5
LOR **Lormes** 92.19 317 *e*P P **16 33 40.8 -0.6**
LOR *e*R
comp=Z,179nm,19.2s
LOR **Lormes** 92.19 317 *e*P P **16 33 40.8 -0.6**
LOR LR LR
comp=Z,180nm,19.3s,MS4.5
SMF **Signal de Mont** 92.23 317 *e*P P **16 33 40.9 -0.6**
comp=Z,10nm,0.7s,mb5.0
SMF **Signal de Mont** 92.23 317 *e*P P **16 33 40.9 -0.6**
comp=Z,5.1nm,0.6s,mb5.0
PLDF **La Plantade** 92.41 316 *e*P P **16 33 41.1 -1.3**
AVF **Avril sur Loir** 92.56 317 *e*P P **16 33 42.3 -0.8**
LBL **Lubilhac** 92.71 315 *e*P P **16 33 42.8 -1.0**
SNAA **Sanae** 93.31 198 *e*P P **16 33 46.0 -0.5**
SNAA *e* 16 33 55.3
SNAA *e* pP 16 33 59.5 -1.8
SNAA **Sanae** 93.31 198*d*iP P **16 33 46.5 0.0**
SNAA **Sanae** 93.31 198 *e*P P **16 33 46.3 -0.3**
comp=Z,17nm,1.1s,mb5.4
MTLF **Montolieu** 93.55 313 *e*P P **16 33 47.4 -0.3**
RJF **Les Rejaudoux** 93.92 315 *e*P P **16 33 49.3 -0.1**
RJF *e*R
comp=Z,209nm,19.8s
RJF **Les Rejaudoux** 93.92 315 *e*P P **16 33 49.3 -0.1**
RJF LR LR
comp=Z,210nm,19.8s,MS4.6
LFF **La Frestale** 94.50 315 *e*P P **16 33 52.0 0.0**
LDF **La Druitiere** 94.76 319 *e*P P **16 33 52.5 -0.7**
FLN **La Foliniere** 94.98 319 *e*P P **16 33 53.3 -0.9**
FLN *e*R
comp=Z,201nm,19.2s
FLN **La Foliniere** 94.98 319 *e*P P **16 33 53.3 -0.9**
FLN LR LR
comp=Z,200nm,19.3s,MS4.6
VNA1 **Neumayer--Stat** 95.25 199 *e*P P **16 33 55.8 +0.4**
VNA1 *e* 16 34 04.4
VNA1 *e* pP 16 34 07.7 -2.5
TORD **Torodi Ar. Bea** 95.36 283 P P **16 33 55.9 -0.1**
comp=Z,1.8nm,0.5s,mb4.7,baz=95,slow=5.5,SNR=17
TORD PP PP 16 37 46.2 -0.5
comp=Z,1.6nm,1.2s,baz=29,slow=3.3,SNR=3.5
TORD LR LR 17 14 20.8
comp=Z,599nm,21.4s,MS5.0,baz=105,slow=34
VNA3 **Neumayer Olymp** 95.54 198 *e*P P **16 33 57.3 +0.6**
VNA3 *e* 16 34 06.2
VNA3 *e* pP 16 34 09.4 -2.1
ESDC **Sonseca Array** 98.52 310 PP PP 16 38 08.0 -3.1
comp=Z,0.3nm,0.7s,baz=70,slow=4.2,SNR=3.7
ESDC LR LR 17 26 09.5
comp=Z,159nm,18.1s,MS4.5,baz=145,slow=40
TBI **Tubuai** 111.39 115 *e*LR LR 17 12 22.8
comp=Z,294nm,34.0s
PPT **Papeete** 112.11 109 *e*PS PS 16 49 28.1 +2.8
comp=Z,159nm,24.0s
PPT **Papeete** 112.11 109 *e*LR LR 17 12 37.5
comp=Z,288nm,22.5s
YKA **Yellowknife Ar** 113.09 15 PP PP 16 39 49.0 -10
comp=Z,0.4nm,0.7s,baz=323,slow=7.7,SNR=3.0
YKA PKKPbc PKKPbc 16 49 53.9 -1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,1.1nm,0.7s,baz=152,slow=3.6,SNR=6.3						
EDM	Edmonton	121.04	21	ePKPdf	PKPdf	16 39 23.5	-0.5
HAWA	Hanford	123.55	30	ePKPdf	PKPdf	16 39 29.6	+0.7
HAWA				e		16 39 43.7	
SCHQ	Schefferville	123.66	349	PKP	PKPdf	16 39 28.8	-0.3
	comp=Z,1.7nm,0.4s,baz=0.0,slow=4.0,SNR=9.8						
KRMB	Red Mountain	124.32	37	ePKPdf	PKPdf	16 39 31.7	+1.3
RKT	Rikitea	124.42	118	eLR	LR	17 18 19.4	
	comp=Z,254nm,22.0s						
MSO	Missoula	125.84	26	ePKPdf	PKPdf	16 39 33.1	-0.1
CHMT	Chamberlain Mo	126.08	25	ePKPdf	PKPdf	16 39 33.5	-0.2
HRY	Holter Researc	126.84	25	ePKPdf	PKPdf	16 39 35.6	+0.4
DLMT	Dillon	127.57	26	ePKPdf	PKPdf	16 39 37.4	+0.8
BOZ	Bozeman (W)	127.77	25	ePKPdf	PKPdf	16 39 37.2	+0.2
HLID	Hailey	128.10	29	ePKPdf	PKPdf	16 39 38.8	+1.2
QLMT	Earthquake Lak	128.50	26	ePKPdf	PKPdf	16 39 40.0	+1.6
ULM	Lac du Bonnet	128.56	11	PKP	PKPdf	16 39 37.6	-0.8
	comp=Z,5.4nm,0.8s,baz=335,slow=3.3,SNR=9.4						
NVAR	Mina Array Bea	129.61	36	PKP	PKPdf	16 39 42.5	+2.0
	comp=Z,2.4nm,0.7s,baz=329,slow=0.6,SNR=21						
NVAR				SKPbc		16 43 00.1	
	comp=Z,1.6nm,1.0s,baz=237,slow=2.8,SNR=6.0						
RRI2	Red Ridge	129.72	27	ePKPdf	PKPdf	16 39 42.1	+1.4
TPAW	Teton Pass	129.77	27	ePKPdf	PKPdf	16 39 42.0	+1.2
LOHW	Long Hollow	129.83	26	ePKPdf	PKPdf	16 39 42.1	+1.2
REDW	Red Top Meadow	129.92	27	ePKPdf	PKPdf	16 39 42.2	+1.1
PDAR	Pinedale Array	130.97	26	PKP	PKPdf	16 39 44.1	+1.1
	comp=Z,1.7nm,0.6s,baz=214,slow=0.8,SNR=18						
PDAR				PP	PP	16 42 00.9	+1.0
	comp=Z,0.3nm,0.4s,baz=15,slow=3.8,SNR=4.1						
PDAR				SKPbc	SKPbc	16 43 04.0	+0.9
	comp=Z,2.7nm,1.1s,baz=328,slow=1.9,SNR=9.3						
TRCR	Troy Canyon	131.24	35	PKPdf	PKPdf	16 39 44.9	+1.3
TRCR				eSKPbc	SKPbc	16 43 06.2	+2.0
DUG	Dugway	131.41	31	ePKPdf	PKPdf	16 39 45.1	+1.3
DUG				eSKPbc	SKPbc	16 43 06.6	+1.8
DUG				LR	LR		
	comp=Z,258nm,20.0s,MS4.9						
DAC	Darwin (Calif)	131.44	38	ePKPdf	PKPdf	16 39 46.5	+2.6
DAC				eSKPbc	SKPbc	16 43 06.6	+1.7
NLU	North Lily Min	131.96	30	ePKPdf	PKPdf	16 39 47.1	+2.2
RSSD	Black Hills	132.02	21	ePKPdf	PKPdf	16 39 46.1	+1.1
RSSD				eSKPbc	SKPbc	16 43 08.6	+1.7
RWWY	Rawlins	132.85	25	ePKPdf	PKPdf	16 39 46.9	+0.2
TMUT	Trail Mountain	132.90	30	ePKPdf	PKPdf	16 39 49.5	+2.8
MSU	Marysvale	132.99	32	ePKPdf	PKPdf	16 39 49.5	+2.6
MSU				eSKPbc	SKPbc	16 43 12.9	+2.6
CCUT	Cedar City	133.04	34	ePKPdf	PKPdf	16 39 49.3	+2.3
SRU	San Rafael	133.38	30	ePKPdf	PKPdf	16 39 48.7	+1.1
PHWY	Pilot Hill	133.90	24	ePKPdf	PKPdf	16 39 48.9	+0.3
ECSD	EROS,Sioux Fal	134.59	14	ePKPdf	PKPdf	16 39 50.2	+0.3
PV10	Paradox Valley	134.68	29	ePKPdf	PKPdf	16 39 51.6	+1.6
PV01	Paradox Valley	135.10	29	ePKPdf	PKPdf	16 39 51.8	+1.0
WUAZ	Wupatki	135.62	34	PKPdf	PKPdf	16 39 53.0	+1.2
PLCA	Paso Flores	138.11	194	PKhKP		16 39 48.0	
	comp=Z,0.9nm,0.5s,baz=240,slow=3.3,SNR=3.1						
PLCA				PKP	PKPdf	16 39 57.0	+0.5
	comp=Z,3.8nm,0.9s,baz=153,slow=3.3,SNR=4.0						
ANMO	Albuquerque	138.66	30⇑	iPKIKP	PKPdf	16 39 59.8	+2.4
ANMO	Albuquerque	138.66	30	ePKPdf	PKPdf	16 39 59.1	+1.7
LAZ	Ladron	138.74	31	ePKPdf	PKPdf	16 39 59.1	+1.5
LPM	Los Pinos Moun	139.07	31	ePKPdf	PKPdf	16 39 59.9	+1.7
WCI	Wyandotte Cave	141.67	4	ePKPpre		16 39 59.1	
MNTX	Cornudas Mount	141.77	32	ePKPpre		16 40 01.9	
WMOK	Wichita Mounta	142.20	22	ePKPpre		16 39 59.0	
WMOK				LR	LR		
	comp=Z,253nm,20.0s,MS5.0						
BDFB	Brasilia	142.40	244	PKhKP		16 40 00.9	
	comp=Z,3.9nm,0.7s,baz=128,slow=2.5,SNR=6.1						
BDFB	Brasilia	142.40	244	PKIKP	PKPdf	16 40 00.9	-3.3
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TZTN	Tazewell	143.49	1	ePKPpre		16 40 02.8	
WVT	Waverly	143.60	7	ePKPpre		16 40 02.9	
MIAR	Mount Ida	144.03	15	ePKP	PKPdf	16 40 05.8	-1.3
UALR	University of	144.12	14	ePKP	PKPdf	16 40 05.4	-1.8
CPUP	Villa Florida	144.25	221	PKP	PKPdf	16 40 06.0	-1.4
	comp=Z,44nm,0.7s,baz=91,slow=2.7,SNR=57						
CPUP	Villa Florida	144.25	221	PKIKP	PKPdf	16 40 06.1	-1.3
CPUP				pmax	pmax		
	comp=Z,44nm,0.7s						
CPUP	Villa Florida	144.25	221	ePKP	PKPdf	16 40 06.1	-1.3
CPCT	Cooper Cave	144.55	2	ePKP	PKPdf	16 40 06.2	-1.7
SWET	Sewanee	144.69	4	ePKP	PKPdf	16 40 06.0	-2.2
PLAL	Pickwick Lake	144.70	8	ePKP	PKPdf	16 40 06.7	-1.5
MYNC	Murphy	144.94	2	ePKPdf	PKPdf	16 40 07.6	-1.0
JCT	Junction City	145.50	27	ePKP	PKPdf	16 40 10.5	+0.9
JSC	Jenkinsville	145.72	358	ePKP	PKPdf	16 40 10.4	+0.4
LRAL	Lakeview Retre	146.75	6	ePKPdf	PKPdf	16 40 11.9	+0.2
HKT	Hockley	147.58	21	ePKPdf	PKPdf	16 40 13.5	+0.4
LPAZ	La Paz	158.42	221	PKP	PKPdf	16 40 30.8	+2.0
	comp=Z,2.8nm,0.7s,baz=50,slow=2.8,SNR=16						
LPAZ				PP	PP	16 44 42.6	-1.1
	comp=Z,0.5nm,0.9s,baz=99,slow=7.1,SNR=4.1						
LPAZ	La Paz	158.42	221	PKIKP	PKPdf	16 40 30.8	+2.0
LPAZ						16 44 42.6	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LPAZ	La Paz	158.42	221	ePKPdf	PKPdf	16 40 30.5	+1.7
LPAZ				LR	LR		
	comp=Z,309nm,21.0s,MS5.1						
SAML	Samuel	158.63	245	ePKPdf	PKPdf	16 40 29.7	+0.7
SAML				LR	LR		
	comp=Z,751nm,19.0s,MS5.5						
ROSC	El Rosal	170.21	301	PKP	PKPdf	16 40 40.2	+0.9
	comp=Z,4.9nm,0.4s,baz=86,slow=23,SNR=8.1						

---

*ISCJB **03** 16:21:23.0±1.5, 178S±02×1784W±02, h550km±25km, mb3.8/5, Error ellipse: s-maj=33.3km s-min=24.0km az=111.0*
*IDC **03** 16:21:23.4±10.0, 1774S×17844W, h540km±115km, mb3.1/3, mb1 3.3/3, mb1mx3.2/13, mbtmp4.0/3, Error ellipse: s-maj=63.9km s-min=46.6km az=117.0*
*NEIC **03** 16:21:24.7±1.2, 1774S×17851W, h554km±15km, mb3.5/1, Error ellipse: s-maj=29.1km s-min=17.7km az=129.0*
ISC 03 16:21:25.1±1.6**, 178S**±02×**1784W**±02**, h560**km±24km**, n16, σ0s37**/8**, mb3.8**/5**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.49	60	P	P	16 23 18.0	0.0
AFI				eS	S	16 24 44.1	-6.5
STKA	Stephens Creek	38.66	241	P	P	16 28 01.0	-0.1
	0.6nm,0.3s,mb3.6,baz=103,slow=11,SNR=8.5						
STKA	Stephens Creek	38.66	241	P	P	16 28 01.0	-0.1
JAY	Jayapura	42.87	286	P	P	16 28 34.9	+0.4
	32nm,0.8s,mb4.9						
SBA	Scott Base	60.50	184	eP	P	16 30 41.3	-0.1
	0.8nm,0.4s,mb3.4						
MJAR	Matsushiro Arr	67.83	323	P	P	16 31 27.3	-0.5
	2.4nm,0.6s,mb3.9,baz=153,slow=5.6,SNR=4.9						
PDAR	Pinedale Array	87.30	43	P	P	16 33 12.9	+0.2
	0.4nm,0.6s,mb3.2,baz=183,slow=2.7,SNR=5.1						
STHS	Stebnicka Huta	144.71	338	ePKP	PKPdf	16 39 56.3	-2.1
BRTR	Keskin Array B	144.71	315	PKP	PKPdf	16 39 58.5	+0.2
	2.4nm,0.9s,baz=127,slow=2.8,SNR=8.4						
KOLS	Kolonicke sedl	144.72	336	ePKP	PKPdf	16 39 57.8	-0.6
CLL	Collm	145.38	347⇓	iPKPbc	PKPbc	16 40 00.0	-0.8
	comp=Z,9.0nm,0.8s						
BRG	Berggiesshubel	145.58	346	eP	PKPdf	16 40 00.5	+0.7
	comp=Z,2.9nm,0.5s						
KECS	Kecovo	145.76	337	ePKP	PKPdf	16 40 01.1	+0.9
VYHS	Vyhne	146.33	339	ePKP	PKPdf	16 40 03.1	+2.0
GEC2	GERESS Array S	147.53	345	ePKP	PKPdf	16 40 06.1	+3.0
GERES	GERESS Array B	147.53	345	PKPbc	PKPbc	16 40 06.2	-0.4
	comp=Z,1.7nm,0.6s,baz=25,slow=3.2,SNR=13						

NEIC 03 16:34:25.9±11.0**, 1452S**×**3428E, h10**km**, mb3.8**/1**, Error ellipse: s-maj=141.0km s-min=28.5km az=51.0, Malawi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSZ	Lusaka	5.94	262	ePn	Pn	16 35 55.0	+1.1
LSZ				eSn	Sn	16 37 05.8	+3.9
LBTB	Lobatse	13.25	217	ePn	Pn	16 37 35.2	+1.1
LBTB				Sn	Sn	16 40 00.7	-0.8
LBTB				eLg		16 41 32.0	
BOSA	Boshof	16.33	209	ePn	Pn	16 38 14.5	-0.7
	4.5nm,0.5s						
BOSA				eS	Sn	16 41 28.3	+12
BOSA				eLg		16 43 03.6	
TSUM	Tsumeb	16.64	251	ePn	Pn	16 38 18.2	-1.0
SUR	Sutherland	21.61	212	Pn	P	16 39 17.0	+1.0

---

*ISCJB **03** 16:56:42.3±0.9, 2258S±007×17937E±009, h566km±16km, mb4.5/15, Error ellipse: s-maj=13.0km s-min=9.3km az=60.8*
*IDC **03** 16:56:43.1±1.3, 2244S×17937E, h562km±14km, mb3.7/11, mb1 3.8/13, mb1mx3.7/18, mbtmp4.6/13, Error ellipse: s-maj=15.5km s-min=14.2km az=150.0*
*NEIC **03** 16:56:44.0±0.8, 2240S×17928E, h569km±10km, mb4.6/7, Error ellipse: s-maj=12.5km s-min=10.2km az=156.0*
ISC 03 16:56:42.7±0.9**, 2249S**±008×**17944E**±009**, h560**km±15km**, n39, σ0s90**/37**, mb4.5**/15**, 5C, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	7.14	161	P	P	16 58 34.9	+2.5
	182nm,0.3s,baz=44,slow=7.0,SNR=6.9						
RAO	Raoul Island	7.14	161	eP	P	16 58 36.3	+3.9
AFI	Afiamalu	11.93	46	P	P	16 59 20.6	+0.1
	7.3nm,0.3s,baz=198,slow=20,SNR=11						
AFI				S	S	17 01 29.1	-1.2
	1.1nm,0.3s,baz=110,slow=22,SNR=2.4						
AFI	Afiamalu	11.93	46	eP	P	16 59 21.1	+0.7
DZM	Mont Dzumac	12.04	270	P	P	16 59 22.0	+0.4
	0.6nm,0.3s,baz=66,slow=14,SNR=6.7						
URZ	Urewera	15.85	187	P	P	16 59 56.4	-4.0
	1.7nm,0.3s,baz=350,slow=7.2,SNR=11						
URZ				S	S	17 02 34.5	-7.1
	1.7nm,0.3s,baz=99,slow=24,SNR=17						
NNZ	Nelson	19.36	194	PN	P	17 00 31.3	-1.2
NNZ				SN	S	17 03 31.6	-7.2
THZ	Tophouse	19.99	194	PN	P	17 00 37.2	-0.9
KHZ	Kahutara	20.48	193	PN	P	17 00 41.2	-1.3
RPZ	Rata Peaks	22.28	196	P	P	17 00 58.7	-0.1
	6.3nm,0.5s,mb4.5,baz=68,slow=14,SNR=7.2						
ARMA	Armidale	26.07	246⇑	iP	P	17 01 33.7	+1.4
CNB	Canberra Magne	29.14	237	eP	P	17 02 00.1	+1.0
	24nm,0.6s,mb5.0						
CTA	Charters Tower	30.98	268⇑	iP	P	17 02 15.3	+0.4
	29nm,0.5s,mb5.1						
CTA	Charters Tower	30.98	268	P	P	17 02 15.4	+0.6
	35nm,0.5s,mb5.2,baz=95,slow=10,SNR=82						
CTAO	Charters Tower	30.98	268	eP	P	17 02 15.3	+0.4
	31nm,0.5s,mb5.1						
TOO	Toolangi	32.80	235⇑	iP	P	17 02 30.9	+0.5
	18nm,0.6s,mb4.8						
STKA	Stephens Creek	34.79	246⇑	iP	P	17 02 47.5	+0.4
	10nm,0.4s,mb4.7						
STKA	Stephens Creek	34.79	246	P	P	17 02 47.5	+0.5
	12nm,0.4s,mb4.8,baz=89,slow=9.3,SNR=100						
ASAR	Alice Springs	41.77	259	P	P	17 03 44.1	+0.5
	14nm,0.7s,mb4.6,baz=91,slow=11,SNR=52						
WB2	Warramunga Arr	41.99	265	eP	P	17 03 44.2	-1.1
WRA	Warramunga Arr	42.00	265	P	P	17 03 44.6	-0.8
	6.9nm,0.3s,mb4.7,baz=96,slow=8.0,SNR=35						
FORT	Forrest	46.33	248⇑	iP	P	17 04 17.9	-0.9
	61nm,0.6s,mb5.3						
FITZ	Fitzroy Crossi	50.43	265	eP	P	17 04 49.1	-0.1
	12nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	50.43	265	P	P	17 04 49.1	-0.1
	6.6nm,0.5s,mb4.3,baz=100,slow=8.1,SNR=13						
KLBR	Kellerberrin	55.07	246	eP	P	17 05 21.3	-0.9
	13nm,0.6s,mb4.3						
NWAO	Narrogin (SRO)	55.36	245	P	P	17 05 23.6	-0.6
	5.6nm,0.4s,mb4.2,baz=140,slow=5.2,SNR=13						
VNDA	Vanda	55.74	185	P	P	17 05 27.6	+0.7
	0.6nm,0.5s,baz=12,slow=7.2,SNR=7.8						
VNDA	Vanda	55.74	185	eP	P	17 05 27.5	+0.7
	0.6nm,0.5s						
SBA	Scott Base	55.75	183	eP	P	17 05 28.1	+1.1
	3.1nm,0.7s,mb3.6						
MUN	Mundaring	56.33	246	eP	P	17 05 30.3	-0.6
QSPA	South Pole Qui	67.59	180	eP	P	17 06 44.4	+0.4
	6.1nm,0.7s,mb4.2						
MJAR	Matsushiro Arr	70.44	326	P	P	17 07 01.3	+0.2
	2.0nm,0.7s,mb3.7,baz=154,slow=4.9,SNR=8.3						
MAW	Mawson	78.89	200	P	P	17 07 48.4	0.0
	2.4nm,0.6s,mb3.7,baz=134,slow=4.4,SNR=10						
NVAR	Mina Array Bea	84.10	44	P	P	17 08 16.7	+1.6
	0.3nm,0.5s,baz=218,slow=6.5,SNR=2.9						
ARCES	ARCESS Array B	130.40	348	PKP	PKPdf	17 14 49.0	-0.9
	2.9nm,0.9s,baz=20,slow=2.9,SNR=4.3						
ARCES				SKPbc	SKPbc	17 17 20.4	-1.1
	2.3nm,0.7s,baz=32,slow=5.3,SNR=9.3						
FINES	FINESS Array B	136.95	342	PKP	PKPdf	17 15 04.3	+2.1
	2.1nm,1.0s,baz=2.9,slow=2.8,SNR=3.4						
FINES				SKPbc	SKPbc	17 17 41.3	-1.4
	2.1nm,0.8s,baz=33,slow=4.5,SNR=5.0						
AKASG	Malin Array Be	143.51	328	PKP	PKPdf	17 15 11.9	-2.1
	1.1nm,0.4s,baz=43,slow=4.2,SNR=15						
GERES	GERESS Array B	151.36	340	PKPbc	PKPbc	17 15 33.4	-0.1
	0.3nm,0.4s,baz=349,slow=3.0,SNR=3.0						
TORD	Torodi Ar. Bea	170.47	193	PKPab	PKPab	17 17 06.4	-1.4
	0.2nm,0.4s,baz=167,slow=5.4,SNR=4.0						

---

*IDC **03** 16:58:56.5±1.2, 422S×13598E, h0km, mb3.9/1, mb1 4.4/6, mb1mx4.0/14, mbtmp4.3/6, ML3.9/5, MS3.6/2, Ms1 3.6/2, ms1mx3.0/22, Error ellipse: s-maj=37.7km s-min=22.9km az=72.0*
*NEIC **03** 16:58:56.8±7.8, 4.10S×136.12E, h4km±47km, mb4.0/3, Error ellipse: s-maj=24.5km s-min=14.4km az=168.0*
*ISCJB **03** 16:58:57.5±2.5, 429S±008×1361E±0.1, h19km±22km, mb3.8/1, Error ellipse: s-maj=19.0km s-min=13.2km az=43.8*
ISC 03 16:59:03.6±1.4**, 446S**±009×**1361E**±01**, h56**km±13km**, n17, σ1s44**/22**, mb3.8**/1**, 2D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	8.95	203	eP	Pn	17 01 12.3	+2.2
	26nm,0.5s						
KAKA				eS	Sn	17 02 55.2	+5.8
PMG	Port Moresby	12.06	115	Pn	Pn	17 01 51.0	-1.7
	0.4nm,0.3s,baz=302,slow=15,SNR=3.8						
PMG	Port Moresby	12.06	115	ePn	Pn	17 01 51.0	-1.7
	19nm,0.8s						
WRAB	Tennant Creek	15.47	186	ePn	Pn	17 02 37.8	-0.4
	27nm,0.8s						
WRAB				eSn	Sn	17 05 19.9	-8.7
WB2	Warramunga Arr	15.48	186	eP	Pn	17 02 37.3	-1.0
WB2				eS	S	17 05 28.3	-14
WRA	Warramunga Arr	15.48	186	Pn	Pn	17 02 37.2	-1.1
	0.5nm,0.3s,baz=3.2,slow=13,SNR=36						
WRA				Sn	Sn	17 05 23.5	-5.3
	0.3nm,0.3s,baz=4.0,slow=22,SNR=6.5						
WRA				Lg		17 07 13.3	
	baz=8.7,slow=28,SNR=3.5						
FITZ	Fitzroy Crossi	16.96	216	eP	Pn	17 02 57.7	+0.7
	6.1nm,0.6s						
FITZ	Fitzroy Crossi	16.96	216	Pn	Pn	17 02 56.6	-0.4
	0.2nm,0.3s,baz=36,slow=12,SNR=16						
FITZ				Sn	Sn	17 06 02.2	-2.5
	0.7nm,0.3s,baz=204,slow=18,SNR=10						
FITZ				LR	LR	17 10 32.7	
	comp=Z,142nm,19.4s,baz=193,slow=41						
CTA	Charters Tower	18.44	148	P	Pn	17 03 15.9	+0.9
	0.5nm,0.3s,baz=330,slow=14,SNR=4.6						
CTA				Lg		17 08 52.4	
	0.2nm,0.3s,baz=253,slow=23,SNR=2.6						
CTA				LR	LR	17 09 50.2	
	comp=Z,249nm,18.0s,baz=227,slow=35						
CTAO	Charters Tower	18.44	148	eP	Pn	17 03 16.0	+0.9
	7.5nm,0.8s						
AS31	Alice Springs	19.21	186⇓	iP	Pn	17 03 27.2	+2.9
AS31				eS	S	17 06 56.3	-1.2
ASAR	Alice Springs	19.21	186	P	Pn	17 03 26.3	+1.9
	2.0nm,0.3s,baz=12,slow=11,SNR=556						
ASAR				S	S	17 06 57.5	0.0
	0.3nm,0.3s,baz=5.5,slow=27,SNR=8.4						
ASAR				Lg		17 09 11.2	
	baz=9.3,slow=32,SNR=2.8						
ASPA	Alice Springs	19.21	186⇓	iP	Pn	17 03 27.2	+2.9
ASPA				eS	S	17 06 58.2	+0.7
BVAR	Borovoye Array	79.25	326	P	P	17 11 02.2	-0.6
	0.8nm,0.6s,mb3.8,baz=122,slow=7.2,SNR=6.4						
CPUP	Villa Florida	146.76	158	PKPbc	PKPbc	17 18 41.3	+2.0
	4.3nm,1.0s,baz=274,slow=11,SNR=2.7						
LPAZ	La Paz	148.42	131	PKPbc	PKPbc	17 18 47.0	+3.2
	0.6nm,0.8s,baz=212,slow=6.1,SNR=3.9						
LPAZ	La Paz	148.42	131	PKPbc	PKPbc	17 18 47.0	+3.2

---

*CSEM **03** 17:10:32.7±0.3, 3664N×525E, h5km, ML3.0, Error ellipse: s-maj=21.6km s-min=8.0km az=45.0*
*ISCJB **03** 17:10:33.6±0.6, 3666N±006×521E±005, h10km, Error ellipse: s-maj=8.4km s-min=4.7km az=48.1*
*MDD **03** 17:10:34.7±0.7, 3663N×527E, h0km, mb3.4/3, mbLg2.3/1, Error ellipse: s-maj=8.3km s-min=6.4km az=49.0, PRXIMO*
*CRAAG **03** 17:10:34.9, 3650N×552E, Ml3.0*
ISC 03 17:10:34.1±0.6**, 3667N**±005×**529E**±005**, h10**km**, n15, σ1s24**/20**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET	Setif	0.48	169	P	Pg	17 10 43.5	+0.1
DFRA	Djebel Bou Aff	0.49	104	P	Pg	17 10 42.3	-1.3
CKHR	Kef el Ahmar	0.67	165	P	Pg	17 10 46.0	-1.1
CASM	Ain Smara	1.05	113	P	Pg	17 10 55.0	+0.8
CTEI	Djebel Teioual	1.08	124	P	Pb	17 10 54.0	-0.9
CKFL	Kef-Lekhel	1.18	103	P	Pb	17 10 56.5	-0.1
CAEH	'Ain El Ouahch	1.26	84	P	Pn	17 11 00.0	+2.3
CMAH	Djebel Manchou	1.71	91	P	Pg	17 11 11.5	+4.6
EMHD	Djebel Mahouad	1.94	257	P	Sg	17 11 37.0	+0.5
ETOS	Mallorca	3.66	329	P	Pn	17 11 32.0	+1.3
	1.4nm,0.2s,SNR=7.4						
ETOS				S	Sn	17 12 11.9	-2.0
	2.3nm,0.2s,SNR=6.1						
ETOS				T		17 14 36.7	
	SNR=7.9						
ETOS	Mallorca	3.66	329	P	Pn	17 11 32.0	+1.3
	1.4nm,0.2s,SNR=7.4						
ETOS				S	Sn	17 12 05.9	-8.0
	2.3nm,0.2s,SNR=6.1						
EIBI	Ibiza	3.91	308	P	Pn	17 11 35.6	+1.4
	0.8nm,0.1s,SNR=7.9						
EIBI				S	Sn	17 12 19.3	-0.9
	2.4nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.91	308	P	Pn	17 11 35.6	+1.4
	0.8nm,0.1s,SNR=7.9						
EIBI				S	Sn	17 12 19.3	-0.9
	2.4nm,0.3s,SNR=7.9						
EPOB	Poblet	5.71	326	P	Pn	17 11 59.6	+0.7
	0.3nm,0.3s,SNR=7.9						
EPOB				S	Sn	17 13 01.4	-3.1
	0.8nm,0.2s,SNR=4.0						
EPOB	Poblet	5.71	326	P	Pn	17 11 59.6	+0.7
	SNR=7.9						

---

*ISCJB **03** 17:47:25.1±0.7, 2376N±003×7094E±005, h10km, mb3.3/4, Error ellipse: s-maj=6.8km s-min=4.5km az=160.0*
*IDC **03** 17:47:25.1±1.4, 2337N×7063E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, Error ellipse: s-maj=39.9km s-min=32.0km az=145.0*
*NEIC **03** 17:47:27.0±1.1, 2350N×7050E, h10km, Error ellipse: s-maj=27.1km s-min=18.5km az=51.0*
*NDI **03** 17:47:26.0±4.8, 2358N×7052E, h15km±33km, ML3.7*
ISC 03 17:47:29.0±1.7**, 2374N**±003×**7086E**±006**, h22**km±17km**, n36, σ1s66**/51**, mb3.3**/4**, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BHV	Bhavnagar	2.31	149	eP	Pn	17 48 06.0	+0.4
BHV				ex	Sn	17 48 39.0	+5.7
JASL	Jaisalmer	3.17	1	eP	Pn	17 48 17.6	+0.1
AJM	Ajmer	4.38	51	eP	Pn	17 48 35.8	+1.7
AJM				eS	Sn	17 49 27.0	+2.6
AJM				AML	AML	17 49 51.4	
	comp=N,257nm,0.3s						
AJM				AML	AML	17 49 51.9	
	comp=E,262nm,0.4s						
BHPL	Bhopal	6.04	93	eP	Pn	17 48 57.8	+0.8
BHPL				eS	Sn	17 50 05.3	-0.2
BHPL				AML	AML	17 50 41.7	
	comp=E,102nm,0.4s						
BHPL				AML	AML	17 50 42.4	
	comp=N,101nm,0.6s						
KHET	Khetri	6.20	45	eP	Pn	17 49 00.4	+1.3
KHET				eS	Sn	17 50 11.4	+2.1
KHET				AML	AML	17 50 11.9	
	comp=N,27nm,0.3s						
KHET				AML	AML	17 50 12.0	
	comp=E,26nm,0.5s						
AKL	Akola	6.45	117	eP	Pn	17 49 03.0	+0.4
AKL				eS	Sn	17 50 14.7	-0.8
AKL				AML	AML	17 50 55.5	
	comp=E,46nm,0.6s						
AKL				AML	AML	17 50 56.9	
	comp=N,70nm,0.5s						
KUDL	Kundal	6.70	48	eP	Pn	17 49 08.6	+2.7
KUDL				eS	Sn	17 50 23.0	+1.4
KUDL				ex	x	17 51 00.2	
	comp=N,80nm,0.6s						
KUDL				ex	x	17 51 00.6	
	comp=E,87nm,0.5s						
KAD	Karad	7.12	153	eP	Pn	17 49 09.3	-2.4
KAD				eS	Sn	17 50 23.2	-8.7
KAD				AML	AML	17 51 15.7	
	comp=E,49nm,0.5s						
KAD				AML	AML	17 51 16.2	
	comp=N,28nm,0.6s						
SONA	Sohna	7.17	50	eP	Pn	17 49 15.5	+3.0
SONA				eS	Sn	17 50 33.6	+0.3
SONA				ex	x	17 50 50.8	
	comp=N,65nm,0.4s						
SONA				ex	x	17 50 51.3	
	comp=E,92nm,0.5s						
AGRA	Agra	7.28	60	eS	Sn	17 50 35.1	-0.8
AGRA				AML	AML	17 50 50.6	
	comp=E,82nm,0.2s						
AGRA				AML	AML	17 50 53.3	
	comp=N,88nm,0.4s						
LATR	Latur	7.51	134	eP	Pn	17 49 18.0	+0.9
NDI	New Delhi	7.53	48	ex	Sn	17 50 40.0	-2.2
NDI				ex	x	17 51 38.0	
DRP	Derazinda	7.99	356	P	Pn	17 49 23.2	-0.6
NGP	Nagpur	8.00	107	ex	Pn	17 49 21.3	-2.6
NGP				eS	Sn	17 50 52.3	-1.3
JBP	Jabalpur	8.39	92	i x	x	17 50 23.4	
JBP				i x	x	17 51 20.9	
SBDP	Sheikh Budin	8.53	360	P	Pn	17 49 29.6	-1.5
THW	Thamme Wali	9.05	5	P	Pn	17 49 37.1	-1.2
BHK	Bhakra	9.09	32	ex	x	17 51 21.6	
SMLA	Simla	9.24	36	eP	Pn	17 49 42.0	+1.1
SMLA				eS	Sn	17 51 23.0	-1.2
SMLA				AML	AML	17 52 27.5	
	comp=N,52nm,0.3s						
SMLA				AML	AML	17 52 28.1	
	comp=E,68nm,0.6s						
SDNR	Sundarnagar	9.44	34	ex	Pn	17 49 49.2	+5.7
SDNR				eS	Sn	17 51 27.0	-1.9
HYB	Hyderabad	9.56	130	i P	Pn	17 49 47.0	+1.8
HYB				eS	Sn	17 51 34.5	+2.5
HYB	Hyderabad	9.56	130	eP	Pn	17 49 47.0	+1.8
HYB				eS	Sn	17 51 34.5	+2.5
THN	Thein Dam	9.66	25	eP	Pn	17 49 56.1	+10
THN				eS	Sn	17 51 37.2	+2.8
LGTI	Lohaghat	10.14	54	i x	Pn	17 49 57.7	+4.5
LGTI				i S	Sn	17 51 41.0	-5.1
KLP	Kalpa	10.15	39	eP	Pn	17 49 55.7	+2.3
KLP				eS	Sn	17 51 45.0	-1.5
KOLN	Koldanda	12.16	68	eP	Pn	17 50 19.1	-1.7
	comp=E,18nm,0.5s						
KOLN				eS	Sn	17 52 29.2	-6.4
GKN	Gorkha	13.11	68	eP	Pn	17 50 32.1	-1.6
	comp=E,11nm,0.4s						
DMN	Daman	13.41	70	eP	Pn	17 50 35.0	-2.9
	comp=E,9.6nm,0.4s						
KKN	Kakani	13.60	70	eP	Pn	17 50 37.5	-3.0
	comp=E,19nm,0.6s						
PKI	Pulchoki	13.66	71	eP	Pn	17 50 38.1	-3.2
	comp=E,15nm,0.5s						
GUN	Gumba	14.14	70	eP	Pn	17 50 45.2	-2.7
	comp=E,17nm,0.4s						
MKAR	Makanchi Array	24.77	19	P	P	17 52 53.0	+4.0
	comp=E,0.3nm,0.6s,mb3.0,baz=213,slow=10,SNR=3.0						
SONM	Songino Array	37.03	41	P	P	17 54 39.5	+2.4
	comp=E,0.2nm,0.4s,mb3.3,baz=243,slow=8.0,SNR=3.3						
TORD	Torodi Ar. Bea	65.92	274	P	P	17 58 12.1	-1.1
	comp=E,0.3nm,0.6s,mb3.5,baz=75,slow=5.3,SNR=4.7						
TORD	Torodi Ar. Bea	65.92	274	P	P	17 58 12.1	-1.1
WRA	Warramunga Arr	75.57	120	P	P	17 59 12.5	+0.6
	comp=E,0.4nm,0.9s,mb3.3,baz=311,slow=5.8,SNR=5.7						

*IDC **03** 17:54:05.4±2.5, 3155N×14044E, h0^{km}, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, Error ellipse: s-maj=122.8km s-min=24.0km az=76.0*
*ISCJB **03** 17:54:24.1±1.2, 3185N±009×1405E±02, h169^{km}±9^{km}, mb3.4/4, Error ellipse: s-maj=23.7km s-min=14.5km az=4.1*
*JMA **03** 17:54:26.5±0.4, 3192N×14041E, h155^{km}, M3.7*
ISC 03 17:54:24.9±1.2**, 3184N**±009×**1405E**±02**, h163**^{km}±10^{km}**, n20, σ0^{s}99**/25**, mb3.4**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.40**	**335**	P	**Pn**	**17 54 54.2**	**-0.3**
JHJ2				eS	**Sn**	**17 55 16.7**	**-0.6**
JMY	**Miyakejima3**	**2.38**	**339**	eS	**Sn**	**17 55 33.4**	**-3.1**
BSO1	**Boso 1**	**2.83**	**8**	P	**Pn**	**17 55 11.6**	**+0.9**
BSO2	**Boso 2**	**2.91**	**4**	eS	**Sn**	**17 55 47.0**	**-1.0**
BSO3	**Boso 3**	**2.96**	**360**	P	**Pn**	**17 55 12.8**	**+0.6**
BSO3				eS	**Sn**	**17 55 49.3**	**+0.4**
BSO4	**Boso 4**	**3.15**	**357**	P	**Pn**	**17 55 15.6**	**+1.0**
JOD2	**Odawara 2**	**3.62**	**341**	P	**Pn**	**17 55 21.3**	**+0.7**
JYN	**Shimob**	**4.00**	**336**	P	**Pn**	**17 55 28.1**	**+2.5**
JHU	**Hanno**	**4.13**	**346**	P	**Pn**	**17 55 27.6**	**+0.4**
JHU				eS	**Sn**	**17 56 16.2**	**+0.4**
JRY	**Ryogami san**	**4.38**	**343**	P	**Pn**	**17 55 31.3**	**+0.9**
JYT	**Yasato**	**4.39**	**357**	P	**Pn**	**17 55 30.5**	**0.0**
JAG	**Ashikaga**	**4.66**	**349**	P	**Pn**	**17 55 33.7**	**-0.4**
JHO	**Hitachi**	**4.76**	**0**	P	**Pn**	**17 55 35.4**	**0.0**
CBIJ	**Chichi jima**	**4.94**	**163**	Sn	**Sn**	**17 56 21.9**	**-13**
	18nm,0.3s,baz=288,slow=20,SNR=4.0						
MAT	**Matsushiro**	**5.07**	**338**	P	**Pn**	**17 55 40.1**	**+0.7**
MAT				eS	**Sn**	**17 56 36.7**	**-1.0**
JFK	**Kawauchi**	**5.52**	**3**	P	**Pn**	**17 55 44.9**	**-0.5**
JFK				eS	**Sn**	**17 56 47.1**	**-1.3**
SONM	**Songino Array**	**30.39**	**312**	P	**P**	**18 00 21.3**	**-0.2**
	0.2nm,0.3s,mb3.3,baz=111,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	**51.82**	**187**	P	**P**	**18 03 12.2**	**-3.9**
	0.3nm,0.4s,mb3.2,baz=3.6,slow=7.8,SNR=28						
ASAR	**Alice Springs**	**55.55**	**187**	P	**P**	**18 03 41.5**	**-1.7**
	0.2nm,0.5s,mb3.2,baz=14,slow=13,SNR=7.0						
FINES	**FINESS Array B**	**73.07**	**333**	P	**P**	**18 05 38.0**	**+0.8**
	2.8nm,1.1s,mb3.9,baz=56,slow=5.1,SNR=11						

---

*ISCJB **03** 18:07:49.9±1.0, 248N±02×1254E±0.1, h50^{km}±5^{km}, mb3.2/2, Error ellipse: s-maj=32.8km s-min=4.9km az=124.6*
*JMA **03** 18:07:50.5, 2474N×12543E, h46^{km}, M3.4*
JMA Felt I J1.
*IDC **03** 18:07:51.6±1.2, 2557N×125.14E, h0^{km}, mb3.4/4, mb1 3.5/6, mb1mx3.4/22, mbtmp3.4/6, ML2.8/2, Error ellipse: s-maj=34.4km s-min=22.9km az=72.0*
*NEIC **03** 18:07:53.0±0.7, 2556N×125.13E, h10^{km}, MG3.5(JMA), Error ellipse: s-maj=16.2km s-min=11.6km az=152.0*
ISC 03 18:07:50.9±1.0**, 247N**±02×**12544E**±010**, h44**^{km}±5^{km}**, n19, σ0^{s}69**/24**, mb3.2**/2**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.03**	**304**	P	**Pn**	**18 07 57.6**	**-0.2**
JOGS				S	**Sn**	**18 08 02.7**	**+0.1**
JMJ	**Miyako jima 2**	**0.15**	**299**	P	**Pn**	**18 07 58.0**	**-0.2**
JMJ				S	**Sn**	**18 08 03.4**	**+0.1**
JTJ	**Tarama**	**0.68**	**262**	P	**Pn**	**18 08 03.6**	**-0.5**
JTJ				eS	**Sn**	**18 08 13.1**	**-0.4**
JIJ	**Ishigaki jima**	**1.24**	**253**	P	**Pn**	**18 08 11.8**	**+0.1**
JIJ				eS	**Sn**	**18 08 27.5**	**+0.3**
JKRS	**Kuro-shima**	**1.39**	**249**	P	**Pn**	**18 08 14.0**	**+0.2**
JKRS				eS	**Sn**	**18 08 31.2**	**+0.2**
IRIF	**Iriomote-Funau**	**1.61**	**256**	P	**Pn**	**18 08 16.7**	**0.0**
HATJ	**Hateruma jima**	**1.64**	**246**	eS	**Sn**	**18 08 36.3**	**-0.7**
JKE	**Kume jima 2**	**1.99**	**37**	P	**Pn**	**18 08 22.5**	**+0.4**
YOJ	**Yonaguni jima**	**2.23**	**263**	P	**Pn**	**18 08 25.2**	**0.0**
YOJ				eS	**Sn**	**18 08 51.3**	**-0.2**
JAGN	**Aguni-jima**	**2.46**	**41**	P	**Pn**	**18 08 29.6**	**+1.2**
JOW	**Kunigami**	**3.30**	**50**	Pn	**Pn**	**18 08 41.4**	**+1.4**
	1.2nm,0.3s,baz=118,slow=17,SNR=6.3						
JOW				Sn	**Sn**	**18 09 16.3**	**-1.6**
	3.8nm,0.3s,baz=149,slow=22,SNR=2.8						
NACB	**Ninganchiao**	**3.55**	**262**	eP	**Pn**	**18 08 42.6**	**-0.7**
YHNB	**Yeheng**	**3.69**	**270**	eP	**Pn**	**18 08 47.3**	**+1.9**
JTK	**Tokunoshima**	**4.38**	**45**	P	**Pn**	**18 08 54.0**	**-0.8**
MJAR	**Matsushiro Arr**	**16.08**	**40**	Pn	**Pn**	**18 11 33.6**	**-0.2**
	0.1nm,0.3s,baz=228,slow=11,SNR=2.5						
SONM	**Songino Array**	**27.54**	**332**	P	**P**	**18 13 33.6**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=137,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**40.69**	**314**	P	**P**	**18 15 26.6**	**-0.4**
	0.5nm,0.5s,mb3.4,baz=103,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**45.25**	**168**	P	pP	18 16 16.9	+0.8
	1.2nm,0.9s,baz=350,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**48.81**	**170**	P	pP	18 16 46.2	+2.3
	0.4nm,0.7s,baz=354,slow=15,SNR=7.7						

---

*ISCJB **03** 18:15:20.9±0.5, 3988N±003×2164E±004, h16^{km}±9^{km}, Error ellipse: s-maj=5.7km s-min=4.3km az=37.4*
*NEIC **03** 18:15:20.1, 3989N×2166E, h19^{km}, MD3.0(ATH), After ATH.*
*ATH **03** 18:15:20.1, 3989N×2166E, h19^{km}±4^{km}, MD3.0/4*
*CSEM **03** 18:15:20.7±0.2, 3991N×2162E, h20^{km}, ML2.7, Error ellipse: s-maj=4.4km s-min=3.4km az=117.0*
*THE **03** 18:15:20.6, 3989N×2161E, h10^{km}, ML2.7*
ISC 03 18:15:20.4±0.5**, 3988N**±002×**2162E**±004**, h15**^{km}±5^{km}**, n16, σ0^{s}94**/26**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.32**	**253**	ePg	**Pg**	**18 15 27.0**	**0.0**
KZN	**Kozani**	**0.45**	**15**	ePB	**Pg**	**18 15 28.8**	**-0.5**
KZN				eSB	**Sg**	**18 15 35.6**	**+0.3**
JAN	**Janina**	**0.63**	**250**	ePN	**Pg**	**18 15 33.3**	**+0.5**
JAN				eSN	**Sg**	**18 15 41.8**	**+0.6**
LIT	**Litokhoron**	**0.70**	**71**	ePg	**Pg**	**18 15 33.3**	**-0.8**
LIT				eSg	**Sg**	**18 15 44.9**	**+1.5**
FNA	**Florina**	**0.93**	**348**	ePg	**Pg**	**18 15 37.2**	**-1.1**
FNA				eSg	**Sg**	**18 15 51.5**	**+1.1**
EVR	**Evrytania**	**0.97**	**171**	ePB	**Pb**	**18 15 38.1**	**-0.7**
EVR				eSN	**Sn**	**18 15 52.7**	**-0.1**
AGG	**Agios Georgios**	**1.01**	**147**	ePg	**Pg**	**18 15 39.4**	**-0.5**
AGG				eSg	**Sg**	**18 15 55.3**	**+2.1**
IGT	**Igoumenitsa**	**1.05**	**251**	ePg	**Pg**	**18 15 40.4**	**-0.3**
IGT				eSg	**Sg**	**18 15 55.0**	**+0.6**
BIA	**Bitola**	**1.17**	**349**	ePg	**Pg**	**18 15 40.7**	**-2.1**
BIA				eSg	**Sg**	**18 15 58.7**	**+0.7**
BIA	**Bitola**	**1.17**	**349**	ePn	**Pn**	**18 15 41.3**	**-0.7**
BIA				eSn	**Sn**	**18 15 58.8**	**+1.1**
BIA	**Bitola**	**1.17**	**349**	ePn	**Pn**	**18 15 41.3**	**-0.8**
BIA				eSg	**Sg**	**18 15 58.7**	**+0.7**
GRG	**Griva**	**1.23**	**29**	ePg	**Pg**	**18 15 42.8**	**-1.3**
OHR	**Ohrid**	**1.39**	**333**	ePn	**Pn**	**18 15 45.9**	**+0.8**
OHR	**Ohrid**	**1.39**	**333**	ePn	**Pn**	**18 15 45.8**	**+0.7**
LKD	**Levkas**	**1.39**	**213**	ePg	**Pg**	**18 15 46.1**	**-1.0**
KEK	**Kerkira**	**1.42**	**264**	ePN	**Pg**	**18 15 47.7**	**+0.1**

---

*IDC **03** 18:29:15.1±1.9, 3422N×14202E, h0^{km}, mb3.5/3, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=65.1km s-min=22.6km az=72.0*
*JMA **03** 18:29:16.1±0.5, 3409N×14195E, h26^{km}±4^{km}, M3.5*
*ISCJB **03** 18:29:18.3±1.3, 34.17N±006×14187E±009, h35^{km}±13^{km}, mb3.4/3, Error ellipse: s-maj=13.4km s-min=9.0km az=134.6*
ISC 03 18:29:17.4±1.8**, 3417N**±006×**14186E**±009**, h14**^{km}±14^{km}**, n17, σ0^{s}91**/27**, mb3.4**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.87**	**304**	P	**Pb**	**18 29 34.0**	**-0.3**
BSO3	**Boso 3**	**1.28**	**300**	P	**Pn**	**18 29 40.3**	**-0.5**
BSO4	**Boso 4**	**1.50**	**304**	P	**Pn**	**18 29 44.2**	**+0.4**
BSO4				S	**Sn**	**18 30 05.2**	**+2.1**
KTR	**Katsuura**	**1.60**	**308**	P	**Pn**	**18 29 45.1**	**-0.1**
JHJ2	**Mitsune**	**2.00**	**239**	P	**Pn**	**18 29 50.9**	**+0.2**
JHJ2				S	**Sn**	**18 30 14.0**	**-1.6**
JIZS	**Izushimoda**	**2.52**	**283**	P	**Pn**	**18 29 57.0**	**-0.9**
JIZS				S	**Sn**	**18 30 28.3**	**-0.1**
JOD2	**Odawara 2**	**2.53**	**296**	P	**Pn**	**18 29 57.2**	**-0.8**
JOD2				S	**Sn**	**18 30 28.4**	**-0.2**
JAG	**Ashikaga**	**2.99**	**320**	P	**Pn**	**18 30 04.7**	**+0.4**
JAG				S	**Sn**	**18 30 38.7**	**-1.2**
JYN	**Shimob**	**3.03**	**297**	P	**Pn**	**18 30 04.9**	**0.0**
JYN				S	**Sn**	**18 30 40.9**	**0.0**
JRY	**Ryogami san**	**3.04**	**308**	P	**Pn**	**18 30 05.2**	**+0.1**
JRY				S	**Sn**	**18 30 42.1**	**+0.8**
SHZ3	**Shizuoka 3**	**3.14**	**288**	P	**Pn**	**18 30 07.8**	**+1.4**
MJAR	**Matsushiro Arr**	**3.81**	**309**	Pn	**Pn**	**18 30 15.8**	**+0.3**
	4.4nm,0.3s,baz=128,slow=13,SNR=74						
MJAR				Sn	**Sn**	**18 30 59.3**	**-0.8**
	1.1nm,0.3s,baz=223,slow=10,SNR=4.6						
MAT	**Matsushiro**	**3.81**	**309**	P	**Pn**	**18 30 16.5**	**+0.9**
MAT				S	**Sn**	**18 31 00.1**	**-0.1**
ASAJ	**Asahikawa**	**9.95**	**3**	Pn	**Pn**	**18 31 37.2**	**-2.7**
	0.2nm,0.3s,baz=225,slow=8.6,SNR=3.3						
ASAJ				Sn	**Sn**	**18 33 25.6**	**-5.7**
	0.1nm,0.3s,baz=246,slow=19,SNR=2.4						
SONM	**Songino Array**	**29.76**	**308**	P	**P**	**18 35 24.6**	**+1.2**
	0.4nm,0.6s,mb3.3,baz=112,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**54.28**	**189**	P	**P**	**18 38 43.0**	**0.0**
	0.3nm,0.4s,mb3.6,baz=3.0,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**58.01**	**189**	P	**P**	**18 39 10.4**	**+0.8**
	0.1nm,0.3s,mb3.3,baz=358,slow=6.3,SNR=12						

---

*ISCJB **03** 18:36:07.7±0.4, 3989N±002×2166E±003, h8^{km}±4^{km}, Error ellipse: s-maj=3.9km s-min=3.5km az=22.2*
*NEIC **03** 18:36:08.1, 3988N×2169E, h22^{km}, MD3.2(ATH), After ATH.*
*ATH **03** 18:36:08.1, 3988N×2169E, h22^{km}±1^{km}, MD3.2/9*
*CSEM **03** 18:36:08.4±0.1, 3990N×2168E, h12^{km}, ML2.9, Error ellipse: s-maj=2.2km s-min=2.0km az=135.0*
*THE **03** 18:36:08.5, 3991N×2167E, h10^{km}, ML2.9*
ISC 03 18:36:08.5±0.4**, 3987N**±002×**2166E**±003**, h11**^{km}±4^{km}**, n28, σ0^{s}96**/45**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEV	**Metsovon**	**0.35**	**255**	ePg	**Pg**	**18 36 15.2**	**-0.2**
KZN	**Kozani**	**0.44**	**11**	⇑iPB	**Pg**	**18 36 17.1**	**-0.1**
KZN				eSB	**Sg**	**18 36 24.0**	**+0.9**
JAN	**Janina**	**0.66**	**251**	ePN	**Pn**	**18 36 21.5**	**-2.3**
JAN				eSN	**Sg**	**18 36 30.4**	**+0.3**
LIT	**Litokhoron**	**0.67**	**70**	ePg	**Pg**	**18 36 21.6**	**0.0**
LIT				eSg	**Sg**	**18 36 31.9**	**+1.4**
FNA	**Florina**	**0.94**	**346**	ePg	**Pg**	**18 36 25.4**	**-1.2**
FNA				eSg	**Sg**	**18 36 38.9**	**+0.1**
EVR	**Evrytania**	**0.96**	**173**	ePN	**Pn**	**18 36 26.1**	**-1.9**
EVR				eSN	**Sn**	**18 36 40.5**	**-1.1**
AGG	**Agios Georgios**	**0.99**	**149**	ePg	**Pg**	**18 36 27.6**	**-0.1**
AGG				eSg	**Sg**	**18 36 42.8**	**+2.1**
IGT	**Igoumenitsa**	**1.08**	**252**	ePg	**Pg**	**18 36 28.7**	**-0.6**
IGT				eSg	**Sg**	**18 36 44.6**	**+1.2**
BIA	**Bitola**	**1.17**	**347**	ePg	**Pg**	**18 36 29.6**	**-1.5**
BIA				eSg	**Sg**	**18 36 47.1**	**+0.8**
BIA	**Bitola**	**1.17**	**347**	i Pg	**Pg**	**18 36 29.7**	**-1.5**
BIA				i Sg	**Sg**	**18 36 47.0**	**+0.6**
BIA	**Bitola**	**1.17**	**347**	ePg	**Pg**	**18 36 29.6**	**-1.5**
BIA				eSg	**Sg**	**18 36 47.1**	**+0.7**
GRG	**Griva**	**1.22**	**27**	ePg	**Pg**	**18 36 31.2**	**-0.8**
XOR	**Xorichti**	**1.28**	**113**	ePg	**Pg**	**18 36 32.4**	**-0.8**
NEO	**Neokhori**	**1.33**	**115**	ePN	**Pn**	**18 36 33.0**	**0.0**
NEO				eSN	**Sn**	**18 36 51.6**	**+0.9**
OHR	**Ohrid**	**1.40**	**332**	i Pg	**Pg**	**18 36 34.7**	**-0.8**
OHR				i Sg	**Sg**	**18 36 53.8**	**+0.2**
OHR	**Ohrid**	**1.40**	**332**	i Pg	**Pg**	**18 36 34.6**	**-0.9**
OHR				i Sg	**Sg**	**18 36 53.8**	**+0.1**
LKD	**Levkas**	**1.41**	**214**	ePg	**Pg**	**18 36 34.9**	**-0.7**
LKD				eSg	**Sg**	**18 36 58.1**	**+4.3**
KEK	**Kerkira**	**1.45**	**264**	ePN	**Pn**	**18 36 36.0**	**+1.4**
KEK				eSN	**Sn**	**18 36 54.9**	**+1.3**
PLG	**Polygyros**	**1.46**	**69**	ePN	**Pn**	**18 36 34.2**	**-0.5**
PLG				eSN	**Sn**	**18 36 53.0**	**-0.8**
PAIG	**Paliouri**	**1.55**	**87**	ePg	**Pn**	**18 36 35.3**	**-0.8**
KNT	**Kendrikon**	**1.59**	**36**	ePg	**Pn**	**18 36 36.5**	**-0.1**
LKR	**Lokris**	**1.60**	**139**	ePN	**Pn**	**18 36 36.7**	**-0.1**
VAY	**Valandovo**	**1.60**	**25**	i Pg	**Pn**	**18 36 36.6**	**-0.2**
STIP	**Stip**	**1.86**	**12**	i Pn	**Pn**	**18 36 41.2**	**+0.9**
STIP	**Stip**	**1.86**	**12**	i Pn	**Pn**	**18 36 41.1**	**+0.8**
VLS	**Valsamata**	**1.89**	**207**	ePN	**Pn**	**18 36 42.2**	**+1.5**
NVR	**Nevrokopi**	**2.23**	**48**	ePB	**Pn**	**18 36 45.8**	**+0.4**
MMB	**Musomiste**	**2.32**	**42**	ePn	**Pn**	**18 36 46.6**	**-0.1**
MMB				eSn	**Sn**	**18 37 16.3**	**+1.1**

IDC 03 18:51:50.9±6.5**, 3075S**×**17953W, h0**^{km}**, mb3.3**/2**, mb1 3.6**/2**, mb1mx3.5**/11**, mbtmp3.3**/2**, Error ellipse: s-maj=260.9km s-min=59.3km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.78**	**268**	P	P	18 59 41.3	-0.6
	0.2nm,0.6s,baz=103,slow=7.7,SNR=3.2						
WRA	**Warramunga Arr**	**42.80**	**273**	P	P	18 59 51.2	+1.0
	0.2nm,0.3s,baz=113,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	19 11 27.5	-1.8
	0.6nm,0.7s,baz=29,slow=4.4,SNR=6.1						

IDC 03 19:07:34.7±1.7**, 604S**×**13023E, h0**^{km}**, mb3.9**/2**, mb1 4.1**/5**, mb1mx3.8**/12**, mbtmp3.9**/5**, ML3.9**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.4**/24**, Error ellipse: s-maj=78.6km s-min=24.8km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.80**	**200**	Pn	Pn	19 10 39.2	+1.2
	0.5nm,0.3s,baz=29,slow=13,SNR=42						
FITZ				Sn	Sn	19 12 49.8	-11
	0.3nm,0.3s,baz=201,slow=18,SNR=2.6						
FITZ				LR	LR	19 14 58.2	
	comp=Z,94nm,21.4s,baz=218,slow=35						
WRA	**Warramunga Arr**	**14.39**	**164**	Pn	Pn	19 11 00.2	+0.6
	0.5nm,0.3s,baz=344,slow=13,SNR=47						
WRA				Sn	Sn	19 13 28.8	-11
	0.5nm,0.3s,baz=346,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**17.88**	**169**	P	Pn	19 11 46.0	+1.2
	0.5nm,0.3s,baz=343,slow=10,SNR=50						
ASAR				S	Sn	19 14 54.2	-11
	0.4nm,0.3s,baz=0.0,slow=28,SNR=5.7						
STKA	**Stephens Creek**	**27.82**	**159**	P	P	19 13 25.0	-0.6
	1.7nm,0.8s,baz=328,slow=9.5,SNR=2.4						
MKAR	**Makanchi Array**	**67.55**	**326**	P	P	19 18 33.1	+0.3
	0.8nm,0.7s,baz=111,slow=8.0,SNR=6.0						

---

*NEIC **03** 19:09:25.8, 4388N×1205E, h7^{km}, ML2.6(LDG), ML2.6(ROM), After ROM.*
*ROM **03** 19:09:25.8±0.2, 4388N×1205E, h7^{km}±2^{km}, Md3.1/5, Ml2.6/12, Error ellipse: s-maj=2.6km s-min=1.9km az=146.0*
*CSEM **03** 19:09:25.9±0.1, 4385N×1208E, h12^{km}, ML2.4/7, Error ellipse: s-maj=1.8km s-min=1.7km az=25.0*
*ISCJB **03** 19:09:26.5±0.3, 4387N±002×1199E±003, h23^{km}±4^{km}, Error ellipse: s-maj=4.2km s-min=3.1km az=155.5*
*LDG **03** 19:09:28.0±0.2, 4387N×12.10E, h10^{km}, Ml2.6/13, Error ellipse: s-maj=6.6km s-min=5.0km az=24.0*
ISC 03 19:09:26.6±0.3**, 4386N**±002×**1202E**±002**, h14**^{km}±2^{km}**, n61, σ0^{s}94**/101**, 14C-4D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFI	**Santa Sofia**	**0.13**	**289**	⇑iPg	**Pg**	**19 09 29.3**	**-0.8**
CRE	**Caprese Michel**	**0.25**	**191**	⇑iPg	**Pg**	**19 09 31.8**	**-0.2**
	2μm,0.8s						
RSM	**Repubblica di**	**0.32**	**78**	Pg	**Pg**	**19 09 32.8**	**-0.5**
	2μm,1.1s						
BADI	**Badiali**	**0.39**	**155**	Pg	**Pg**	**19 09 33.8**	**-0.7**
BADI				Sg	**Sg**	**19 09 40.7**	**+0.9**
	498nm,0.4s						
BRSN	**Barisano**	**0.42**	**6**	Pg	**Pg**	**19 09 34.6**	**-0.5**
	2μm,1.0s						
CDCA	**Citt' di Caste**	**0.43**	**158**	Pg	**Pg**	**19 09 34.6**	**-0.7**
CDCA				Sg	**Sg**	**19 09 42.2**	**+1.0**
	240nm,0.3s						
SEI	**Scarperia**	**0.51**	**292**	Pg	**Pg**	**19 09 36.1**	**-0.7**
SEI				Sg	**Sg**	**19 09 45.2**	**+1.6**
	514nm,0.2s						
PESA	**Pesaro**	**0.60**	**82**	Pg	**Pg**	**19 09 37.1**	**-1.3**
	312nm,0.2s						
CSNT	**Castellina Chi**	**0.66**	**234**	Pg	**Pg**	**19 09 39.6**	**+0.2**
CSNT				Sg	**Sg**	**19 09 50.1**	**+2.0**
	268nm,0.6s						
FNVD	**Fontana Vidola**	**0.71**	**296**	Pg	**Pg**	**19 09 40.0**	**-0.5**
	320nm,0.9s						
PZZT	**Monte Pizzetto**	**0.87**	**288**	Pg	**Pg**	**19 09 42.9**	**-0.7**
	89nm,0.7s						
ASS	**Assisi**	**0.92**	**150**	Pg	**Pg**	**19 09 44.9**	**+0.4**
	3.0nm,0.4s						
CING	**Cingoli**	**0.99**	**119**	Pg	**Pg**	**19 09 44.7**	**-1.0**
	131nm,0.4s						
GRFL	**Gerfalco**	**1.04**	**227**	Pg	**Pg**	**19 09 46.7**	**0.0**
	28nm,0.8s						
BDI	**Bagni Di Lucca**	**1.04**	**282**	Pg	**Pg**	**19 09 46.3**	**-0.5**
	90nm,0.8s						
ARCI	**Arcidosso**	**1.08**	**201**	Pg	**Pg**	**19 09 47.0**	**-0.6**
	201nm,1.0s						
PII	**Pisa**	**1.09**	**263**	Pg	**Pg**	**19 09 46.9**	**-0.7**
	26nm,0.3s						
GSCL	**Gusciola**	**1.14**	**296**	Pg	**Pg**	**19 09 49.4**	**+0.8**
	43nm,0.8s						
AOI	**Ancona**	**1.19**	**105**	Pg	**Pg**	**19 09 49.7**	**+0.1**
	81nm,0.6s						
VLC	**Villacollemand**	**1.21**	**285**	Pg	**Pg**	**19 09 48.9**	**-1.1**
TEOL	**Teolo**	**1.52**	**351**	⇑ePg	**Pn**	**19 09 52.9**	**-0.4**
MNS	**Montasola**	**1.56**	**162**	Pg	**Pn**	**19 09 54.0**	**+0.1**
	45nm,0.6s						
MAGA	**Magasa**	**2.15**	**333**	Pg	**Pn**	**19 10 02.2**	**+0.2**
	108nm,0.8s						
NVLJ	**Novalja**	**2.17**	**70**	i Pn	**Pn**	**19 10 01.8**	**-0.5**
NVLJ				i Sn	**Sn**	**19 10 28.8**	**-0.2**
NVLJ	**Novalja**	**2.17**	**70**	i Pn	**Pn**	**19 10 01.7**	**-0.6**
NVLJ				i Sn	**Sn**	**19 10 28.7**	**-0.3**
CTI	**Castel Tesino**	**2.20**	**353**	Pg	**Pn**	**19 10 02.7**	**0.0**
	13nm,0.3s						
BAD	**Bernadia**	**2.53**	**20**	⇑iPg	**Pn**	**19 10 06.4**	**-0.8**
BAD				i Sg	**Sn**	**19 10 37.6**	**-0.2**
VOJS	**Vojsko**	**2.54**	**31**	ePn	**Pn**	**19 10 06.6**	**-0.8**
VOY	**Vojsko**	**2.55**	**31**	e	**Pn**	**19 10 10.1**	**+2.6**
VOY				eSn	**Sn**	**19 10 38.4**	**+0.2**
OBKA	**Obir**	**3.20**	**33**	⇑iPn	**Pn**	**19 10 16.8**	**+0.4**
OBKA				⇑iSg	**Sg**	**19 11 10.1**	**+0.8**
OBKA	**Obir**	**3.20**	**33**	⇑iPn	**Pn**	**19 10 16.8**	**+0.4**
OBKA				i Sn	**Sn**	**19 10 52.4**	**-1.9**
OBKA	**Obir**	**3.20**	**33**	⇑iPn	**Pn**	**19 10 16.8**	**+0.4**
OBKA				i Sn	**Sn**	**19 10 52.4**	**-1.9**
OBKA				Sg	**Sg**	**19 11 10.1**	**+0.8**
SBF	**Sospel**	**3.31**	**272**	ePn	**Pn**	**19 10 19.1**	**+1.1**
SBF				eSn	**Sn**	**19 10 57.4**	**+0.3**
	11nm,0.5s						
SBF	**Sospel**	**3.31**	**272**	ePn	**Pn**	**19 10 19.1**	**+1.1**
SBF				eSn	**Sn**	**19 10 57.4**	**+0.3**
	5.4nm,0.5s						
SQTA	**Sankt Quirin**	**3.41**	**351**	⇓iPn	**Pn**	**19 10 21.2**	**+1.9**
SQTA				⇑iSn	**Sn**	**19 11 00.7**	**+1.3**
WTTA	**Wattenberg**	**3.41**	**356**	⇑iPn	**Pn**	**19 10 21.4**	**+2.1**
WTTA				⇓iSn	**Sn**	**19 10 60.0**	**+0.4**
MOTA	**Moosalm**	**3.54**	**350**	⇑iPn	**Pn**	**19 10 23.0**	**+1.9**
MOTA				⇑iSn	**Sn**	**19 11 03.4**	**+0.7**
DAVA	**Damuels**	**3.74**	**337**	⇑iPn	**Pn**	**19 10 26.7**	**+2.8**
DAVA				⇓iSn	**Sn**	**19 11 10.6**	**+2.9**
MBDF	**Montbardon**	**3.86**	**285**	ePn	**Pn**	**19 10 26.6**	**+1.0**
MBDF				eSn	**Sn**	**19 11 10.7**	**0.0**
	6.0nm,0.6s						
MBDF	**Montbardon**	**3.86**	**285**	ePn	**Pn**	**19 10 26.6**	**+1.0**
MBDF				eSn	**Sn**	**19 11 10.7**	**0.0**
	3.0nm,0.6s						
FRF	**La Foret Royal**	**3.90**	**267**	ePn	**Pn**	**19 10 26.2**	**+0.1**
FRF				eSn	**Sn**	**19 11 11.0**	**-0.7**
	1.3nm,0.3s						
FRF	**La Foret Royal**	**3.90**	**267**	ePn	**Pn**	**19 10 26.2**	**+0.1**
FRF				eSn	**Sn**	**19 11 11.0**	**-0.7**
	0.6nm,0.3s						
LMR	**La Mourre**	**4.03**	**264**	ePn	**Pn**	**19 10 27.9**	**0.0**
LMR				eSn	**Sn**	**19 11 14.8**	**-0.1**
	1.3nm,0.3s						
LMR	**La Mourre**	**4.03**	**264**	ePn	**Pn**	**19 10 27.9**	**0.0**
LMR				eSn	**Sn**	**19 11 14.8**	**-0.1**
	0.6nm,0.3s						
LPG	**La Plagne**	**4.09**	**295**	ePn	**Pn**	**19 10 29.3**	**+0.5**
LPG				eSn	**Sn**	**19 11 16.7**	**+0.3**
	2.4nm,0.4s						
LPG	**La Plagne**	**4.09**	**295**	ePn	**Pn**	**19 10 29.3**	**+0.5**
LPG				eSn	**Sn**	**19 11 16.7**	**+0.3**
	1.2nm,0.4s						
LPL	**La Plagne**	**4.11**	**296**	ePn	**Pn**	**19 10 29.7**	**+0.7**
LPL				eSn	**Sn**	**19 11 16.8**	**-0.1**
	2.4nm,0.5s						
LPL	**La Plagne**	**4.11**	**296**	ePn	**Pn**	**19 10 29.7**	**+0.7**
LPL				eSn	**Sn**	**19 11 16.8**	**-0.1**
	1.2nm,0.5s						
MOA	**Molln**	**4.29**	**21**	⇑iPn	**Pn**	**19 10 31.3**	**-0.1**
MOA				⇓iSn	**Sn**	**19 11 20.1**	**-1.1**
ORIF	**Oris-en-Rattie**	**4.52**	**286**	ePn	**Pn**	**19 10 34.8**	**+0.2**
ORIF				eSn	**Sn**	**19 11 26.5**	**-0.5**
	3.0nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.52**	**286**	ePn	**Pn**	**19 10 34.8**	**+0.2**
ORIF				eSn	**Sn**	**19 11 26.5**	**-0.5**
	1.5nm,0.6s						
SMRF	**Simiane la Rot**	**4.65**	**274**	ePn	**Pn**	**19 10 36.7**	**+0.2**
SMRF				eSn	**Sn**	**19 11 29.6**	**-0.6**
	2.4nm,0.6s						
SMRF	**Simiane la Rot**	**4.65**	**274**	ePn	**Pn**	**19 10 36.7**	**+0.2**
SMRF				eSn	**Sn**	**19 11 29.6**	**-0.6**
	1.2nm,0.6s						
CABF	**La Chapelle**	**5.01**	**305**	ePn	**Pn**	**19 10 41.8**	**+0.5**
CABF				eSn	**Sn**	**19 11 37.9**	**-1.0**
	2.5nm,0.6s						
CABF	**La Chapelle**	**5.01**	**305**	ePn	**Pn**	**19 10 41.8**	**+0.5**
CABF				eSn	**Sn**	**19 11 37.9**	**-1.0**
	1.2nm,0.6s						
HINF	**Hinteralfeld**	**5.35**	**319**	ePn	**Pn**	**19 10 46.0**	**0.0**
HINF				eSn	**Sn**	**19 11 45.6**	**-1.8**
	1.9nm,0.3s						
HINF	**Hinteralfeld**	**5.35**	**319**	ePn	**Pn**	**19 10 46.0**	**0.0**
HINF				eSn	**Sn**	**19 11 45.6**	**-1.8**
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**5.36**	**283**	ePn	**Pn**	**19 10 46.0**	**-0.1**
VIVF				eSn	**Sn**	**19 11 46.4**	**-1.2**
	0.4nm,0.2s						
CDF	**Champ du Feu**	**5.62**	**326**	ePn	**Pn**	**19 10 49.7**	**0.0**
SMF	**Signal de Mont**	**6.41**	**299**	ePn	**Pn**	**19 11 00.3**	**-0.2**
SMF				eSn	**Sn**	**19 12 11.3**	**-2.1**
	1.7nm,0.5s						
GIVF	**Givet**	**7.94**	**324**	ePn	**Pn**	**19 11 21.3**	**-0.3**
GIVF				eSn	**Sn**	**19 12 47.4**	**-3.8**
	3.7nm,0.3s						

---

*ISCJB **03** 19:26:57.3±1.5, 252S±0.1×1799E±02, h434^{km}±17^{km}, mb3.6/9, Error ellipse: s-maj=29.8km s-min=14.8km az=137.3*
*NEIC **03** 19:27:02.5±3.1, 2525S×17977E, h476^{km}±28^{km}, mb3.8/4, Error ellipse: s-maj=37.8km s-min=13.1km az=47.0*
*IDC **03** 19:27:03.3±5.8, 2531S×17975E, h486^{km}±57^{km}, mb3.1/6, mb1 3.3/7, mb1mx3.2/13, mbtmp4.1/7, Error ellipse: s-maj=49.3km s-min=19.0km az=57.0*
ISC 03 19:26:58.8±1.6**, 253S**±01×**1799E**±02**, h436**^{km}±17^{km}**, n17, σ0^{s}94**/17**, mb3.6**/9**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.40**	**155**	eP	**P**	**19 28 16.0**	**-0.7**
URZ	**Urewera**	**13.16**	**190**	P	**P**	**19 29 53.2**	**+2.8**
	2.2nm,0.3s,baz=78,slow=1.9,SNR=15						
URZ				S	**S**	**19 32 10.5**	**-1.7**
	0.5nm,0.3s,baz=77,slow=23,SNR=5.1						
CTA	**Charters Tower**	**31.44**	**273**	P	**P**	**19 32 43.5**	**+1.0**
	3.0nm,0.6s,mb3.8,baz=42,slow=15,SNR=5.5						
CTAO	**Charters Tower**	**31.44**	**273**	eP	**P**	**19 32 43.8**	**+1.4**
	2.3nm,0.5s,mb3.8						
AS31	**Alice Springs**	**41.76**	**262**	eP	**P**	**19 34 08.2**	**+0.1**
ASAR	**Alice Springs**	**41.76**	**262**	P	**P**	**19 34 08.1**	**0.0**
	0.5nm,0.3s,mb3.2,baz=89,slow=7.7,SNR=33						
ASPA	**Alice Springs**	**41.77**	**262**	eP	**P**	**19 34 08.2**	**0.0**
WB2	**Warramunga Arr**	**42.25**	**268**	eP	**P**	**19 34 11.5**	**-0.5**
WRAB	**Tennant Creek**	**42.26**	**268**	eP	**P**	**19 34 11.5**	**-0.5**
	1.5nm,0.6s,mb3.5						
WRA	**Warramunga Arr**	**42.26**	**268**	P	**P**	**19 34 11.6**	**-0.5**
	1.2nm,0.6s,mb3.4,baz=104,slow=7.9,SNR=20						
FITZ	**Fitzroy Crossi**	**50.67**	**267**	eP	**P**	**19 35 16.6**	**+0.3**
	1.6nm,0.6s,mb3.4						
VNDA	**Vanda**	**53.01**	**185**	P	**P**	**19 35 33.8**	**+0.5**
	0.6nm,0.6s,mb3.0,baz=17,slow=8.3,SNR=4.9						
QSPA	**South Pole Qui**	**64.81**	**180**	eP	**P**	**19 36 53.8**	**+0.7**

	9.0nm,1.1s,mb4.3						
MJAR	Matsushiro Arr	72.99	326	P	P	19 37 42.2	-0.5
	1.4nm,0.8s,mb3.5,baz=167,slow=4.8,SNR=5.0						
MJAR	Matsushiro Arr	72.99	326	P	P	19 37 42.2	-0.5
MAW	Mawson	76.44	201	P	P	19 38 01.4	-0.8
	1.3nm,0.5s,mb3.9,baz=110,slow=7.1,SNR=8.8						
TORD	Torodi Ar. Bea	167.82	188	PKPab	PKPab	19 47 22.6	-1.2
	0.3nm,0.8s,baz=177,slow=3.1,SNR=4.0						

*ISCJB **03** 19:38:54.5±0.6, 38.47N±0.03×20.56E±0.04, h1km±5km, Error ellipse: s-maj=5.9km s-min=4.0km az=128.3*
*NEIC **03** 19:38:54.9, 38.49N×20.62E, h5km, MD3.5(ATH), After ATH.*
*ATH **03** 19:38:54.9, 38.49N×20.62E, h5km±2km, MD3.5/10*
*THE **03** 19:38:56.6, 38.54N×20.51E, h10km, ML3.1*
*CSEM **03** 19:38:56.3±0.1, 38.52N×20.54E, h5km, ML3.1, Error ellipse: s-maj=2.2km s-min=1.6km az=64.0*
ISC 03 19:38:55.4±0.6, **38.49N**±0.03×**20.60E**±0.05, **h1**km±5km, **n26**, σ**1.02**/38, **1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.22	11	*e*Pg	Pg	19 38 58.9	-0.8
LKD				*e*Sg	Sg	19 39 03.3	+0.8
VLS	Valsamata	0.31	181	⇑*i*PB	Pg	19 39 01.4	+0.1
VLS				*e*SB	Sg	19 39 06.8	+1.5
RLS	Riolos of Patr	0.81	122	*e*PB	Pg	19 39 10.1	-0.7
RLS				*e*SB	Sg	19 39 21.9	+0.6
EVR	Evrytania	1.04	65	*e*PG	Pg	19 39 14.2	-1.1
EVR				*e*SB	Sg	19 39 28.8	0.0
IGT	Igoumenitsa	1.06	349	*e*Pg	Pg	19 39 15.8	0.0
IGT				*e*Sg	Sg	19 39 30.5	+1.0
JAN	Janina	1.19	10	*e*PB	Pn	19 39 17.5	-1.6
JAN				*e*SB	Sn	19 39 33.4	-2.4
KEK	Kerkira	1.37	333	*e*PG	Pn	19 39 20.8	-0.8
KEK				*e*SB	Sn	19 39 40.6	+0.1
MEV	Metsovon	1.39	21	*e*Pg	Pn	19 39 21.8	0.0
MEV				*e*Sg	Sn	19 39 41.9	+1.1
AGG	Agios Georgios	1.46	68	*e*Pg	Pg	19 39 24.1	+0.8
AGG				*e*Sg	Sg	19 39 46.6	+4.5
AGG	Agios Georgios	1.46	68	*e*Pg	Pg	19 39 24.0	+0.7
ITM	Ithomi	1.68	141	*e*PB	Pg	19 39 26.9	-0.6
ITM				*e*SB	Sg	19 39 49.5	+0.3
LKR	Lokris	1.89	84	*e*PN	Pb	19 39 30.8	+0.2
KZN	Kozani	2.03	26	*e*PG	Pb	19 39 32.5	-0.6
LIT	Litokhoron	2.18	42	*e*Pn	Pb	19 39 34.8	-0.8
XOR	Xorichti	2.21	66	*e*Pn	Pb	19 39 34.9	-1.1
NEO	Neokhori	2.21	67	*e*PN	Pb	19 39 35.1	-0.9
FNA	Florina	2.37	14	*e*Pn	Pb	19 39 34.8	-4.0
VLI	Veliai	2.56	133	*e*PN	Pb	19 39 40.8	-1.3
BIA	Bitola	2.59	12	*e*Pn	Pb	19 39 39.3	-3.3
BIA				*e*Sn	Sn	19 40 11.6	+1.1
BIA	Bitola	2.59	12	*i* Pn	Pb	19 39 42.8	+0.2
OHR	Ohrid	2.63	3	*i* Pn	Pb	19 39 44.7	+1.5
AOS	Alonnisos	2.65	74	*e*Pn	Pn	19 39 39.7	+0.4
AOS				*e*Sn	Sn	19 40 15.2	+3.2
GRG	Griva	2.83	29	*e*Pn	Pn	19 39 42.5	+0.8
PLG	Polygyros	2.90	49	*e*PN	Pn	19 39 44.7	+2.0
CUC	Castrocucco	4.01	294	Pn	Pn	19 39 57.7	-0.1
SLCN	Sala Consilina	4.29	298	Pn	Pn	19 40 01.5	-0.2

*ISCJB **03** 19:44:39.7±0.4, 58.78S±0.05×149.4E±0.1, h10km, mb4.7/20, MS4.8/26, Error ellipse: s-maj=11.0km s-min=7.3km az=163.5*
*BJI **03** 19:44:40.4, 58.84S×148.88E, h7km, mB5.6, mb5.0, Ms5.0, Msz5.1*
*IDC **03** 19:44:40.1±0.6, 58.78S×149.22E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.4/17, mbtmp4.4/12, ML3.5/1, MS4.9/17, Ms1 4.9/17, ms1mx4.8/21, Error ellipse: s-maj=24.8km s-min=14.5km az=94.0*
*GCMT **03** 19:44:41.6±0.1, 58.65S×148.76E, h15km±1km, MW5.5/89, Moment Tensor Solution. s74,c133; s89,c161; Duration: 1.3 Moment tensor: Scale 10^17Nm; Mrr-0.10±.03; Mθθ1.06±.03; Mφφ-0.95±.03; Mrθ0.04±.04; Mθφ-1.69±.03; Mφr0.17±.05; Best double couple: M0 1.97500×10^17 NP1:φs255.00000°, δ86.00000°, λ-177.00000°. NP2:φs164.00000°, δ87.00000°, λ-5.00000°. Principal axes: T 2.0210, Plg1.0000°, Azm210.0000°; N -0.0910, Plg85.0000°, Azm313.0000°; P -1.9300, Plg5.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 19:44:41.6±0.3, 58.77S×149.16E, h10km, mb4.8/13, MS4.8/8 Error ellipse: s-maj=13.3km s-min=6.8km az=85.0*
*MOS **03** 19:44:43.0±1.7, 58.77S×149.56E, h33km, mb5.0/7, MS4.7/5, Error ellipse: s-maj=54.7km s-min=11.0km az=91.7*
ISC 03 19:44:41.1±0.4, **58.80S**±0.05×**149.4E**±0.2, **h10**km, **(h13**km±3.6km**:pP-P), n82,** σ**1.22**/51, **mb4.7**/20, **MS4.8**/25, **6C-4D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	19.27	172	P	Pn	19 49 04.6	-2.1
	0.1nm,0.3s,baz=340,slow=12,SNR=16						
VNDA				LR	LR	19 55 52.2	
	comp=Z,3μm,18.9s,baz=341,slow=35						
SBA	Scott Base	20.00	169	*e*P	P	19 49 16.6	+2.9
SBA				pmax	pmax		
	comp=Z,41nm,1.4s						
SBA				MLR	MLR		
	comp=Z,2μm,22.0s						
SBA	Scott Base	20.00	169	*e*P	P	19 49 16.6	+2.9
	comp=Z,41nm,1.4s						
SBA				LR	LR		
	comp=Z,2μm,22.0s						
RPZ	Rata Peaks	20.14	51	P	P	19 49 16.2	+0.9
	comp=Z,8.6nm,0.9s,baz=9.2,slow=21,SNR=2.2						
RPZ				LR	LR	19 55 54.6	
	comp=Z,4μm,18.8s,MS4.8,baz=204,slow=33						
TOO	Toolangi	21.40	351	*e*P	P	19 49 29.8	+0.9
	comp=Z,35nm,0.9s,mb4.7						
TOO	Toolangi	21.40	351	*e*P	P	19 49 29.8	+0.9
TOO				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.7						
CNB	Canberra Magne	23.50	360	*e*P	P	19 49 51.7	+0.5
	comp=Z,48nm,1.2s,mb4.8						
MIR	Mirnyy	26.13	229	*e*P	P	19 50 19.0	+3.7
MIR				*e*		19 51 02.0	
MIR				pmax	pmax		
	comp=Z,150nm,2.0s,mb5.2						
MIR				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.7						
MIR				MLR	MLR		
	comp=N,2μm,20.0s,MS4.9						
MIR				MLR	MLR		
	comp=E,2μm,20.0s,MS4.9						
URZ	Urewera	27.21	53	P	P	19 50 25.5	+0.6
	comp=E,37nm,1.1s,mb4.8,baz=246,slow=6.6,SNR=10.0						
URZ				LR	LR	20 00 33.9	
	comp=E,3μm,18.6s,MS4.9,baz=214,slow=35						
STKA	Stephens Creek	27.44	345	*e*P	P	19 50 27.7	+0.6
	comp=E,8.0nm,1.1s,mb4.2						
STKA	Stephens Creek	27.44	345	P	P	19 50 27.0	-0.1
	comp=E,6.3nm,0.9s,mb4.1,baz=149,slow=9.6,SNR=7.3						
QSPA	South Pole Qui	31.30	180	*e*P	P	19 51 01.8	+0.5
	comp=E,4.7nm,0.9s,mb4.3						
FORT	Forrest	31.57	323	*e*P	P	19 51 03.9	+0.2
	comp=E,17nm,0.6s,mb5.0						
NWAO	Narrogin (SRO)	33.65	306	LR	LR	20 01 36.6	
	comp=E,2μm,18.6s,MS4.8,baz=145,slow=30						
ASAR	Alice Springs	36.80	336	P	P	19 51 47.9	-1.2
	comp=E,5.5nm,0.8s,mb4.4,baz=164,slow=9.8,SNR=48						
ASAR				PcP	PcP	19 54 10.4	-0.6
	comp=E,1.8nm,1.1s,baz=142,slow=3.3,SNR=3.5						
ASAR				LR	LR	20 03 47.8	
	comp=E,981nm,20.1s,MS4.6,baz=344,slow=31						
ASAR	Alice Springs	36.80	336	P	P	19 51 47.9	-1.1
ASAR						19 54 10.5	
ASAR	Alice Springs	36.80	336	P	P	19 51 47.9	-1.2
ASAR				PcP	PcP	19 54 10.4	-0.6
ASAR				LR	LR	20 03 47.8	
ASPA	Alice Springs	36.80	336	*e*P	P	19 51 48.1	-0.9
AS31	Alice Springs	36.80	336	*e*P	P	19 51 48.1	-0.9
MAW	Mawson	36.80	220	P	P	19 51 48.8	-0.2
	comp=E,2.2nm,0.8s,mb4.0,baz=129,slow=12,SNR=5.1						
MAW				LR	LR	20 06 48.0	
	comp=E,3μm,18.6s,MS5.1,baz=105,slow=36						
RAO	Raoul Island	37.06	52	LR	LR	20 04 59.6	
	comp=E,2μm,19.7s,MS4.8,baz=350,slow=33						
DZM	Mont Dzumac	38.68	26	P	P	19 52 06.5	+1.6
	comp=E,18nm,1.1s,mb4.7,baz=117,slow=7.7,SNR=4.4						
DZM				LR	LR	20 05 14.6	
	comp=E,2μm,18.4s,MS5.0,baz=210,slow=32						
CTA	Charters Tower	38.74	355	⇓*i*P	P	19 52 05.7	+0.3
	comp=E,14nm,0.8s,mb4.8						
CTA	Charters Tower	38.74	355	P	P	19 52 05.8	+0.5
	comp=E,20nm,0.9s,mb4.9,baz=183,slow=8.8,SNR=16						
CTA				LR	LR	20 06 06.4	
	comp=E,3μm,19.3s,MS5.1,baz=182,slow=33						
CTA	Charters Tower	38.74	355	⇓*i*P	P	19 52 05.7	+0.3
CTA				pmax	pmax		
	comp=Z,15nm,0.8s						
CTAO	Charters Tower	38.74	355	*e*P	P	19 52 05.4	0.0
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.1						
CTAO	Charters Tower	38.74	355	*e*P	P	19 52 05.4	0.0
	comp=Z,21nm,0.9s,mb4.9						
CTAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
WB2	Warramunga Arr	40.33	338	*e*P	P	19 52 16.7	-1.9
WRA	Warramunga Arr	40.33	338	P	P	19 52 17.3	-1.4
	comp=Z,9.7nm,0.9s,mb4.5,baz=166,slow=7.2,SNR=59						
WRA				LR	LR	20 06 48.1	
	comp=Z,1μm,18.4s,MS4.7,baz=175,slow=33						
WRAB	Tennant Creek	40.34	338	*i* P	P	19 52 17.7	-1.0
WRAB	Tennant Creek	40.34	338	*e*P	P	19 52 16.9	-1.8
	comp=Z,13nm,0.8s,mb4.7						
WRAB				LR	LR		
	comp=Z,456nm,21.0s,MS4.3						
MBWA	Marble Bar	43.24	318	*e*P	P	19 52 43.2	+0.7
	comp=Z,31nm,1.2s,mb4.9						
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
FITZ	Fitzroy Crossi	44.21	327	*e*P	P	19 52 50.4	+0.1
	comp=Z,9.0nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	44.21	327	P	P	19 52 50.7	+0.4
	comp=Z,6.0nm,1.1s,mb4.2,baz=172,slow=15,SNR=6.7						
FITZ				LR	LR	20 09 17.0	
	comp=Z,1μm,18.0s,MS4.8,baz=348,slow=34						
NVL	N'lazarevskaya	47.29	198	*e*P	P	19 53 12.2	-2.5
NVL				*i* S	S	20 00 15.5	+7.5
NVL				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
NVL				pmax	pmax		
	comp=Z,5μm,21.5s						
KAKA	Kakadu	47.74	337	*e*P	P	19 53 17.4	-0.7
	comp=Z,14nm,0.8s,mb5.1						
SNAA	Sanae	48.38	191	P	P	19 53 22.4	-0.7
	comp=Z,1.6nm,0.7s,mb4.2,baz=186,slow=9.4,SNR=27						
SNAA	Sanae	48.38	191	*e*	P	19 53 22.2	-0.9
SNAA				*e*	pP	19 53 23.5	-2.7
SNAA				*e*		19 53 29.7	
SNAA				*e*		19 53 35.4	
SNAA	Sanae	48.38	191	⇑*e*P	P	19 53 22.3	-0.8
SNAA	Sanae	48.38	191	*e*P	P	19 53 21.9	-1.1
	comp=Z,22nm,1.4s,mb5.0						
PMG	Port Moresby	49.32	357	LR	LR	20 10 59.0	
	comp=Z,2μm,21.1s,MS5.0,baz=184,slow=32						
PMG	Port Moresby	49.32	357	*e*P	P	19 53 30.8	+0.5
PMG				MLR	MLR		
	comp=Z,2μm,20.0s						
VNA1	Neumayer--Stat	49.87	190	*e*	P	19 53 35.1	+0.6
VNA1				*e*	pP	19 53 36.7	-1.0
VNA1				*e*		19 53 41.4	
VNA1				*e*		19 53 47.5	
HNR	Honiara	49.91	14	LR	LR	20 10 15.4	
	comp=Z,1μm,21.3s,MS4.9,baz=177,slow=31						
TBI	Tubuai	55.42	78	*e*S	S	20 01 58.2	-2.1
	comp=Z,476nm,27.5s						
TBI				*e*SS	SS	20 05 50.0	+5.2
	comp=Z,288nm,25.8s						
TBI				*e*LR	LR	20 10 25.4	
	comp=Z,949nm,29.2s,baz=207						
PPT	Papeete	60.21	74	*e*S	S	20 03 00.9	-2.1
	comp=Z,615nm,24.0s						
PPT				*e*SS	SS	20 06 59.2	-0.9
	comp=Z,525nm,24.8s						
PPT				*e*LQ		20 10 06.0	
	comp=Z,1μm,25.5s						
PPT				*e*LR	LR	20 12 39.4	
	comp=Z,836nm,23.0s,baz=212						
PPT	Papeete	60.21	74	LR	LR	20 15 12.1	
	comp=Z,708nm,19.1s,MS4.8,baz=304,slow=30						
RKT	Rikitea	63.10	91	*e*S	S	20 03 37.3	-2.3
	comp=Z,738nm,36.5s						
RKT				*e*SS	SS	20 07 37.6	-7.8
	comp=Z,98nm,30.5s						
RKT				*e*LQ		20 11 13.7	
	comp=Z,1μm,34.5s						
RKT				*e*LR	LR	20 13 46.2	
	comp=Z,868nm,28.0s,baz=210						
GUMO	Guam	72.23	355	LR	LR	20 24 18.0	
	comp=Z,237nm,20.9s,MS4.4,baz=185,slow=33						
KULM	Kulim	74.72	309	*e*P	P	19 56 21.4	+0.3
PLCA	Paso Flores	75.42	150	P	P	19 56 26.2	+1.1
	comp=Z,1.5nm,0.9s,mb3.9,baz=240,slow=8.1,SNR=3.0						
PLCA	Paso Flores	75.42	150	P	P	19 56 26.2	+1.1
PLCA				LR	LR		
	comp=Z,464nm,21.0s,MS4.8						
BOSA	Boshof	81.39	227	LR	LR	20 29 05.4	
	comp=Z,560nm,18.2s,MS5.0,baz=158,slow=33						
QIZ	Qiongzhong	84.10	323	P	P	19 57 14.2	+2.1
QIZ				XP	sP	19 57 21.5	+4.9
QIZ				S	S	20 07 35.3	-1.5
QIZ				SS	SS	20 13 03.7	-1.6
QIZ				LR	LR		
	comp=N,288nm,23.4s,MS4.8						
QIZ				LR	LR		
	comp=E,434nm,24.9s,MS4.8						
QIZ				LR	LR		
	comp=Z,399nm,45.0s						
KMI	Kunming	92.11	319	P	P	19 57 52.1	+1.5
KMI				AP	pP	19 57 59.8	+5.9
KMI				XP	sP	19 58 02.6	+7.5
KMI				PP	PP	20 01 32.3	+1.9
KMI				PPP		20 03 37.4	
KMI				S	S	20 08 53.6	+0.6
KMI				XS	sS	20 09 05.3	+6.8
KMI				PS	PS	20 10 08.1	+4.1
KMI				SS	SS	20 15 01.5	-0.6
KMI				SSS		20 18 43.8	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb5.0						
KMI				AMB	AMB		
	comp=Z,187nm,6.3s						
KMI				LR	LR		
	comp=N,406nm,26.3s,MS4.8						
KMI				LR	LR		
	comp=E,159nm,27.5s,MS4.8						
KMI				LR	LR		
	comp=Z,570nm,28.7s,MS4.9						
NJ2	Nanjing	94.03	334	*e*P	P	19 57 59.0	-0.4
NJ2				AP	pP	19 58 03.8	+1.0
NJ2				XP	sP	19 58 06.0	+2.0
NJ2				PP	PP	20 01 46.6	+1.1
NJ2				SKS		20 08 30.0	
NJ2				S	S	20 09 04.0	-6.0
NJ2				XS	sS	20 09 16.0	+0.4
NJ2				LR	LR		
	comp=N,590nm,27.0s						
NJ2				LR	LR		
	comp=E,840nm,20.3s						
NJ2				LR	LR		
	comp=Z,870nm,23.0s,MS5.2						
CD2	Chengdu	97.11	322	*e*P	P	19 58 14.1	+0.6
CD2				AP	pP	19 58 18.9	+2.1
CD2				XP	sP	19 58 21.3	+3.3
CD2				PP	PP	20 02 13.1	+3.7
CD2				SKS		20 08 49.5	
CD2				S	S	20 09 33.6	-3.1
CD2				XS	sS	20 09 41.8	-0.4
CD2				PS	PS	20 11 02.8	+3.8
CD2				SS	SS	20 16 15.0	+1.7
CD2				AMB	AMB		
	comp=Z,80nm,8.4s						
CD2				LR	LR		
	comp=E,230nm,25.0s						
CD2				LR	LR		
	comp=Z,230nm,20.4s,MS4.7						
LPAZ	La Paz	99.11	144	LR	LR	20 36 02.6	
	comp=Z,144nm,20.5s,MS4.5,baz=322,slow=31						
LPAZ	La Paz	99.11	144	PFAKE		19 58 40.0	+18
LPAZ				LR	LR		
	comp=Z,310nm,21.0s,MS4.8						
SAML	Samuel	107.54	146	PFAKE		20 03 20.0	+12
SAML				LR	LR		
	comp=Z,242nm,21.0s,MS4.7						
ULM	Lac du Bonnet	142.59	74	PKP	PKPdf	20 04 13.8	-0.5
	comp=Z,1.1nm,0.5s,baz=202,slow=6.0,SNR=3.4						
MLR	Muntele Rosu	143.98	274	⇑*i*P	PKPdf	20 04 15.8	-1.0
OBN	Obninsk	144.58	294	*i* PKIKP	PKPdf	20 04 18.9	+1.1
OBN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KEST	Kesra	145.20	246	PKPbc	PKPbc	20 04 19.2	+0.7
	comp=Z,3.0nm,1.0s,baz=183,slow=6.5,SNR=7.0						
AKASG	Malin Array Be	145.63	283	PKPbc	PKPbc	20 04 18.1	-1.8
	comp=Z,2.1nm,0.7s,baz=96,slow=2.7,SNR=15						
AKBB	Malin Array Si	145.63	283	PKP2	PKPab	20 04 19.4	-0.8
BURAR	Bucovina Array	145.76	276	⇓*i*P	PKPab	20 04 25.7	+5.1
BZS	Buzias	146.32	270	⇑*i*P	PKPdf	20 04 21.9	+1.1
DRGR		146.53	273	⇑*i*P	PKPbc	20 04 24.7	+2.1
KOLS	Kolonicke sedl	148.12	276	*e*PKP	PKPab	20 04 29.9	+0.1
PKSM	Moragy	148.26	269	⇓*i*P	PKPab	20 04 32.4	+2.0
CRVS	Cervenica-Dubn	148.52	275	*e*PKP	PKPbc	20 04 30.0	+1.9
PSZ	Piszkesteto	148.72	272	⇑*e*sPKP/p		20 04 34.7	
KECS	Kecovo	148.76	273	*e*PKP	PKPbc	20 04 29.9	+1.2
STHS	Stebnicka Huta	148.95	276	*e*PKP	PKPdf	20 04 26.4	+1.3
VYHS	Vyhne	149.63	272	*e*PKP	PKPbc	20 04 33.2	+2.3
OJC	Ojcow	150.18	276	*e*P	PKPbc	20 04 34.3	+2.1
SOP	Sopron	150.30	269	⇑*e*sPKP/p		20 04 40.0	
SUW	Suwalki	150.56	284	PKIKP	PKPdf	20 04 31.1	+3.4
FINES	FINESS Array B	152.41	300	PKPbc	PKPbc	20 04 37.3	-0.1
	comp=Z,2.2nm,0.8s,baz=148,slow=33,SNR=5.6						
GERES	GERESS Array B	152.52	268	PKPbc	PKPbc	20 04 36.8	-0.8
	comp=Z,0.3nm,0.5s,baz=259,slow=1.0,SNR=2.3						
ESDC	Sonseca Array	154.43	233	PKPbc	PKPbc	20 04 41.3	-0.5
	comp=Z,0.1nm,0.3s,baz=15,slow=2.7,SNR=4.6						

*ISCJB **03** 19:49:23.1±0.8, 10.99N±0.04×62.33W±0.03, h100km±7km, Error ellipse: s-maj=6.5km s-min=4.8km az=112.9*
*FUNV **03** 19:49:23.1, 11.02N×62.19W, h97km, MW3.2*
*NEIC **03** 19:49:25.0, 11.03N×62.29W, h92km, MD3.4(TRN), After TRN.*
*TRN **03** 19:49:25.0, 11.03N×62.29W, h93km, MD3.4*
ISC 03 19:49:23.9±0.8, **10.99N**±0.04×**62.32W**±0.03, **h97**km±8km, **n17,** σ**0.89**/32, **1C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.35	164	*e*P	Pn	19 49 37.8	-0.6
GUIV				*e*S	Sn	19 49 47.8	-1.4
ITEV	Isla Los Testi	0.87	295	*e*P	Pn	19 49 42.2	-0.4
ITEV				*e*S	Sn	19 49 56.9	0.0
CRUV	Carupano	0.95	251	*e*P	Pn	19 49 44.1	+0.6
CRUV				*e*S	Sn	19 49 59.0	+0.8
TRN	Trinidad (W)	0.97	110	⇑*i*P	Pn	19 49 44.3	+0.7
TRN				*e*S	Sn	19 49 57.2	-1.4
GUNV	Guanoco	1.02	217	*e*P	Pn	19 49 45.0	+0.7
GUNV				*e*S	Sn	19 50 00.8	+1.2
TPP	Pointe-a-Pierr	1.09	128	*e*P	Pn	19 49 46.2	+1.2
TPP				*e*S	Sn	19 50 02.2	+1.3
TBH	Brigand Hill	1.33	112	*e*P	Pn	19 49 48.4	+0.5
TBH				*e*S	Sn	19 50 06.9	+0.8
GRW	Mount Saint Ca	1.33	29	*e*P	Pn	19 49 49.2	+1.3
GRW				*e*S	Sn	19 50 04.7	-1.4
GRSS	Sisters	1.48	28	*e*P	Pn	19 49 50.0	+0.3
GRSS				*e*S	Sn	19 50 08.8	-0.4
GRIC	Isle de Caille	1.48	29	*e*P	Pn	19 49 50.2	+0.5
GRIC				*e*S	Sn	19 50 09.2	0.0
TPR	Prospect	1.53	82	*e*P	Pn	19 49 50.7	+0.3
TPR				*e*S	Sn	19 50 10.2	-0.2
BOT	Bacolet	1.59	83	*e*P	Pn	19 49 51.0	0.0
BOT				*e*S	Sn	19 50 11.0	-0.6
GRCU	Cariacou	1.70	30	*e*P	Pn	19 49 52.6	+0.1
GRCU				*e*S	Sn	19 50 13.9	-0.3
PCRV	Puerto La Cruz	2.41	251	*e*P	Pn	19 50 02.2	+0.5
GURV	El Guri	3.29	193	*e*P	Pn	19 50 12.7	-0.7
GURV				*e*S	Sn	19 50 49.0	-2.8
CAOV	Caicara del Or	5.37	228	*e*P	Pn	19 50 40.0	-1.5
CAOV				*e*S	Sn	19 51 37.9	-4.1
BAUV	El Baul	5.99	251	*e*P	Pn	19 50 49.5	-0.4

OTT 03 20:02:18.3±0.1, **62.10N**×**79.55W**, **h18**km, **MN3.0**/6, **90km west from Ivujivik, Qc Boothia Ungava Seismic Zone., Hudson Strait region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	Frobisher Bay	5.29	67	SN	Sn	20 04 33.5	-3.3
FRB				SG	Sg	20 04 59.5	-8.5
FRB				Trac		20 05 00.9	
	comp=Z,43nm,0.8s						
SEDN	First Sedna Si	5.50	287	PN	Pn	20 03 38.5	-0.8
SEDN				SN	Sn	20 04 38.1	-3.8
SEDN				SG	Sg	20 05 04.8	-10
SEDN				Trac		20 05 14.1	
	comp=Z,36nm,0.8s						
JOSN	Second Sedna S	5.64	286	SN	Sn	20 04 38.0	-7.5
JOSN				LG		20 05 10.0	
JOSN				Trac		20 05 28.1	
	comp=Z,13nm,0.3s						
KUQ	Kuujjuuaa	6.85	121	PN	Pn	20 03 58.7	+0.9
KUQ				SG	Sn	20 05 46.4	+31
KUQ				Trac		20 05 48.4	
	comp=Z,3.3nm,0.2s						
ARVN	Arviat, NU	7.00	268	PN	Pn	20 03 58.6	-1.2
ARVN				SN	Sn	20 05 14.2	-4.8
ARVN				LG		20 05 53.3	
ARVN				Trac		20 05 58.1	
	comp=Z,20nm,0.8s						
ILON	Igloolik, Nuna	7.36	354	SN	Sn	20 05 20.6	-7.3
ILON				LG		20 05 54.0	
ILON				Trac		20 06 06.3	
	comp=Z,32nm,0.7s						
FCC	Fort Churchill	7.93	252	SN	Sn	20 05 35.8	-6.1
GIFN	Gifford Fjord,	7.97	355	PN	Pn	20 04 11.9	-1.3
GIFN				SN	Sn	20 05 37.4	-5.5
GIFN				LG		20 06 24.8	
GIFN				Trac		20 06 27.6	
	comp=Z,9.4nm,0.7s						
SILO	Sutton Inlier	8.15	203	PN	Pn	20 04 14.0	-1.6
SILO				SN	Sn	20 05 41.2	-6.0
SILO				Trac		20 05 47.6	
	comp=Z,1.0nm,0.1s						
SILO				LG		20 06 22.2	
WEMQ	Wemindji, Queb	9.11	174	PN	Pn	20 04 27.9	-0.9
WEMQ				SN	Sn	20 06 02.8	-8.2
WEMQ				LG		20 06 51.0	
WEMQ				Trac		20 07 01.7	
	comp=Z,2.4nm,0.3s						
VIMO	Victor Mine	9.58	195	PN	Pn	20 04 33.7	-1.5
VIMO				SN	Sn	20 06 15.9	-6.4
VIMO				Trac		20 06 21.3	
	comp=Z,2.1nm,0.4s						
SCHQ	Schefferville	9.86	132	SN	Sn	20 06 20.0	-9.2
SCHQ				LG		20 07 18.6	
SCHQ				Trac		20 07 37.4	
	comp=Z,4.4nm,0.7s						
YOSQ	Ashton Mining	10.06	154	PN	Pn	20 04 41.0	-0.8
YOSQ				SN	Sn	20 06 25.4	-8.9
YOSQ				LG		20 07 21.8	
NSKO	Neskantaga (La	10.91	208	PN	Pn	20 04 49.1	-4.4
NSKO				SN	Sn	20 06 49.3	-5.8
MALO	McAlpine Lake	12.11	181	PN	Pn	20 05 06.4	-3.4
MALO				SN	Sn	20 07 12.5	-12
NANO	Nakina Ontario	12.47	203	PN	Pn	20 05 11.7	-3.1
NANO				SN	Sn	20 07 24.9	-8.2

*ISCJB **03** 20:51:20.8±2.3, 22.4S±0.2×170.89E±0.09, h49km±19km, mb3.8/6, MS3.5/1, Error ellipse: s-maj=27.8km s-min=12.8km az=150.1*
*SZGRF **03** 20:51:20.3, 22.67S×170.61E, h33km, Southeast of Loyalty Islands*
*NEIC **03** 20:51:21.9±0.6, 22.25S×170.85E, h35km, mb4.0/4, Error ellipse: s-maj=26.1km s-min=10.7km az=169.0*
*IDC **03** 20:51:24.1±8.7, 22.34S×170.84E, h57km±62km, mb3.3/3, mb1 3.5/3, mb1mx3.4/11, mbtmp3.6/3, ML4.4/1, MS3.3/2,*

Ms1 3.3/2, ms1mx3.1/12, Error ellipse: s-maj=88.3km s-min=45.9km az=156.0

ISC 03 20:51:23.3±2.0**, 223S**±02×**17089E**±010**, h54**^{km}±17^{km}**, n58, σ0^{s}74**/19**, mb3.8**/6**, MS3.5**/1**, 4C-1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.13	273	eP	Pn	20 52 23.6	-0.2
DZM				eS	Sn	20 53 10.6	-0.3
DZM	Mont Dzumac	4.13	273	P	Pn	20 52 23.7	-0.1
	22nm,0.3s,baz=112,slow=19,SNR=12						
DZM				S	Sn	20 53 11.5	+0.6
	18nm,0.3s,baz=188,slow=19,SNR=5.4						
DZM				LR	LR	20 53 17.0	
	comp=Z,211nm,21.2s,baz=174,slow=28						
DZM	Mont Dzumac	4.13	273	P	Pn	20 52 23.7	-0.1
DZM				S	Sn	20 53 11.5	+0.6
DZM				LR	LR	20 53 17.0	
HNR	Honiara	16.58	319	eP	Pn	20 55 11.4	-0.6
	11nm,0.4s						
AFI	Afiamalu	18.47	66	P	Pn	20 55 35.5	+0.3
CTAO	Charters Tower	23.07	271	P	P	20 56 24.4	+0.3
PMG	Port Moresby	26.15	296	eP	P	20 56 51.1	-1.2
	4.0nm,0.5s,mb4.2						
STKA	Stephens Creek	27.68	244	LR	LR	21 07 35.8	
	comp=Z,137nm,20.7s,MS3.5,baz=204,slow=35						
ASAR	Alice Springs	34.02	260	P	P	20 58 02.1	+0.2
	0.6nm,0.8s,mb3.6,baz=82,slow=8.8,SNR=8.1						
WRAB	Tennant Creek	34.12	267	eP	P	20 58 03.4	+0.6
	0.4nm,0.4s,mb3.7						
WRA	Warramunga Arr	34.13	267	P	P	20 58 02.7	-0.1
	0.2nm,0.6s,mb3.2,baz=96,slow=8.2,SNR=5.6						
MBWA	Marble Bar	47.35	261	P	P	20 59 52.2	+0.5
SNAA	Sanae	86.14	182	eP	P	21 03 55.5	-3.0
	0.2nm,0.4s,mb3.7						
PMR	Palmer	89.57	18	P	P	21 04 14.5	-0.4
SONM	Songino Array	90.61	323	P	P	21 04 20.1	+0.4
	1.1nm,1.0s,mb4.2,baz=131,slow=4.4,SNR=7.5						
MCK	McKinley	91.35	17	eP	P	21 04 24.1	+1.0
COLA	College	92.55	16	P	P	21 04 28.6	0.0
STHS	Stebnicka Huta	143.90	326	e	PKPdf	21 10 49.0	-3.4
KECS	Kecovo	144.86	325	ePKP	PKPdf	21 10 53.4	-0.7
DPC	Dobruska-Polom	145.67	331	ePKP	PKPdf	21 10 55.8	+0.3
VYHS	Vyhne	145.71	326	ePKP	PKPdf	21 10 56.5	+0.9
VYHS	Vyhne	145.71	326	eP	PKPdf	21 10 56.6	+1.0
VRAC	Vranov	146.28	329	PKPbc	PKPbc	21 10 58.1	+0.3
	2.8nm,0.7s,baz=19,slow=18,SNR=4.3						
BRG	Berggiesshubel	146.32	333	ePKPbc	PKPbc	21 10 57.7	-0.2
BRG	Berggiesshubel	146.32	333	i P	PKPdf	21 10 57.7	+1.1
	2.4nm,0.8s						
CLL	Collm	146.37	335	ePKPbc	PKPbc	21 10 57.6	-0.4
CLL	Collm	146.37	335	⇑iPKPbc	PKPbc	21 10 57.7	-0.3
	comp=Z,6.0nm,0.7s						
FBE	Freiberg	146.52	334	ePKPbc	PKPbc	21 10 58.1	-0.4
PRU	Pruhonice	146.72	332	ePKP	PKPdf	21 10 59.4	+2.1
EKA	Eskdalemuir Ar	146.75	354	PKPbc	PKPbc	21 10 58.0	-1.1
	comp=Z,3.0nm,0.6s,baz=359,slow=2.7,SNR=14						
TANN	Tannenbergstha	147.28	334	ePKPbc	PKPbc	21 11 00.5	-0.1
WERD	Werda	147.31	334	ePKPbc	PKPbc	21 11 00.6	-0.1
GUNZ	Gunzen	147.37	334	ePKPbc	PKPbc	21 11 00.4	-0.5
WERN	Wernitzgruen	147.41	334	ePKPbc	PKPbc	21 11 01.2	+0.2
NKC	Novy Kostel	147.42	334	ePKP	PKPbc	21 11 01.3	+0.3
MOX	Moxa	147.43	335	ePKPbc	PKPbc	21 11 00.7	-0.3
MANZ	Manzenberg	147.75	334	ePKPbc	PKPbc	21 11 02.1	+0.2
KHC	Kasperske Hory	147.78	332	ePKP	PKPbc	21 11 02.2	+0.2
ROTZ	Rotzenmuhle	147.88	334	ePKPbc	PKPbc	21 11 02.3	+0.1
GEC2	GERESS Array S	147.94	331	ePKPbc	PKPbc	21 11 02.4	0.0
GERES	GERESS Array B	147.94	331	PKPbc	PKPbc	21 11 02.5	+0.1
	comp=Z,3.1nm,0.8s,baz=40,slow=2.3,SNR=11						
WET	Wettzell	148.08	332	ePKPbc	PKPbc	21 11 02.1	-0.7
GRA1	Grafenberg Arr	148.34	335	ePKPbc	PKPbc	21 11 03.2	-0.3
GRF	Grafenberg Arr	148.34	335	ePKPbc	PKPbc	21 11 03.2	-0.3
BOJS	Bojanci	149.52	325	i PKPbc	PKPbc	21 11 06.5	+0.1
LJU	Ljubljana	149.53	327	i PKPbc	PKPbc	21 11 06.3	-0.2
CEY	Cerknica	149.79	326	i PKPbc	PKPbc	21 11 06.9	-0.2
CADS	Cadrg	149.81	328	i PKPbc	PKPbc	21 11 06.2	-1.0
WATA	Walderalm	150.01	331	⇑iP	PKPbc	21 11 07.1	-0.5
	comp=Z,5.0nm,1.2s						
WTTA	Wattenberg	150.04	331	⇑iP	PKPbc	21 11 07.5	-0.2
	comp=Z,4.9nm,0.5s						
MOTA	Moosalm	150.22	332	⇓iP	PKPbc	21 11 07.6	-0.5
	comp=Z,4.6nm,0.9s						
SQTA	Sankt Quirin	150.26	332	⇑iP	PKPbc	21 11 07.9	-0.3
	comp=Z,2.5nm,0.7s						
CDF	Champ du Feu	150.88	337	ePKIKP	PKPbc	21 11 09.2	-0.5
	comp=Z,12nm,0.9s						
HINF	Hinteralfeld	151.54	337	ePKIKP	PKPbc	21 11 10.6	-0.6
MEZF	Maizieres J'vi	151.55	340	ePKIKP	PKPbc	21 11 11.2	-0.1
HAU	Haudompre	151.55	338	ePKIKP	PKPbc	21 11 10.7	-0.6
	comp=Z,6.5nm,0.8s						
LPL	La Plagne	153.50	335	ePKIKP	PKPbc	21 11 15.7	+0.1
LPG	La Plagne	153.51	334	ePKIKP	PKPbc	21 11 15.9	+0.3
	comp=Z,8.1nm,1.1s						

---

*IDC **03** 20:58:30.2±1.4, 3576N×2655E, h0^{km}, mb3.5/5, mb1 3.5/6, mb1mx3.5/19, mbtmp3.4/6, ML2.5/1, Error ellipse: s-maj=46.9km s-min=15.0km az=152.0*

*ISK **03** 20:58:30.6, 3568N×2612E, h32^{km}, MD3.7*

*ISCJB **03** 20:58:31.9±0.3, 3564N±002×2659E±002, h10^{km}, mb3.4/5, Error ellipse: s-maj=3.7km s-min=2.7km az=132.4*

*NEIC **03** 20:58:32.8, 3578N×2657E, h16^{km}, ML4.0(ATH), After ATH.*

*ATH **03** 20:58:32.8, 3578N×2657E, h16^{km}±1^{km}, MD3.7/16, ML4.0*

*CSEM **03** 20:58:34.4±0.1, 3573N×2660E, h20^{km}, ML4.0, Error ellipse: s-maj=3.2km s-min=1.6km az=7.0*

*HLW **03** 20:58:35.2, 3567N×2676E, h33^{km}, Mb3.4*

ISC 03 20:58:33.9±0.7**, 3569N**±002×**2656E**±003**, h16**^{km}±5^{km}**, n63, σ1^{s}33**/81**, mb3.4**/5**, 1D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.51	106	ePN	Pg	20 58 43.6	-0.5
KARP				eSN	Sg	20 58 50.8	-0.1
NPS	Neapolis	0.88	241	ePN	Pn	20 58 50.6	-1.0
NPS				eSN	Sn	20 59 02.3	-1.8
NISR	Nisiros	1.03	26	ePN	Pn	20 58 51.0	-2.7
NISR				eSN	Sn	20 59 04.5	-3.2
XRY	Khrisi	1.08	221	ePN	Pn	20 58 54.5	+0.2
XRY				eSN	Sn	20 59 10.0	+1.1
SANT	Santorini	1.12	308	eP	Pn	20 58 54.2	-0.7
SANT				eS	Sb	20 59 09.8	+0.5
SANT	Santorini	1.12	308	eP	Pn	20 58 54.2	-0.7
SANT				eS	Sb	20 59 09.8	+0.5
DAT	Datca	1.32	38	PN	Pn	20 58 56.3	-1.4
DAT				SN	Sn	20 59 16.5	+1.5
ARG	Arkhangelos	1.38	67	ePN	Pn	20 58 57.8	-0.6
ARG				eSN	Sn	20 59 16.0	-0.3
IDI	Anoyia	1.42	254	Pn	Pn	20 58 57.8	-1.2
	33nm,0.3s,baz=81,slow=11,SNR=173						
IDI				Sn	Sn	20 59 18.4	+1.0
	58nm,0.3s,baz=330,slow=19,SNR=16						
BODT	Bodrum	1.50	24	PN	Pn	20 58 58.4	-1.7
BODT				SN	Sn	20 59 18.6	-0.7
BDRM	Kayabasi	1.55	27	i P	Pn	20 59 01.9	+1.1
BDRM				i S	Sg	20 59 25.2	+1.4
APE	Apeiranthos	1.61	329	⇓iPN	Pn	20 59 01.5	-0.1
APE				eSN	Sn	20 59 22.5	+0.5
MLSB	Milas	1.88	31	PN	Pn	20 59 04.3	-1.1
VAM	Vamos	1.94	262	ePN	Pn	20 59 08.5	+2.2
DALT	Dalyan (Mudla)	2.00	57	PN	Pn	20 59 07.6	+0.6
YER	Yerkesik	2.00	43	PN	Pn	20 59 06.4	-0.7
SMG	Samos	2.03	6	ePN	Pn	20 59 07.0	-0.4
GVD	Gavdhos	2.19	248	ePN	Pn	20 59 12.0	+2.3
AYDN	Tasoluk	2.24	28	i P	Pn	20 59 13.0	+2.7
AYDN				i S	Sg	20 59 43.3	-2.5
FETY	Fethiye	2.25	64	PN	Pn	20 59 11.3	+0.8
KSL	Kastellorizon	2.50	78	ePB	Pn	20 59 15.0	+1.2
AKAS	Kas	2.53	77	i P	Pn	20 59 14.8	+0.5
AKAS				i S	Sn	20 59 46.9	+2.1
AKAS	Kas	2.53	77	i P	Pn	20 59 14.8	+0.5
AKAS				i S	Sn	20 59 46.8	+2.0
BLCB	Balcova	2.72	8	ePN	Pn	20 59 14.4	-2.5
IZM	Izmir	2.76	12	ePN	Pn	20 59 15.2	-2.3
DNZL	Cakiroluk	2.83	44	i P	Pn	20 59 18.6	+0.2
DNZL				i S	Sn	20 59 56.6	+4.5
DENT	Denizli	2.86	43	ePN	Pn	20 59 18.7	-0.2
GOLH	Golhisar	2.87	57	i P	Pn	20 59 17.9	-1.0
GOLH				i S	Sn	20 59 49.1	-4.1
ELL	Elmali	2.91	68	ePN	Pn	20 59 20.6	+1.1
KYTH	Kithira	2.92	283	ePN	Pn	20 59 20.5	+0.9
KVR	Kavouri	3.10	314	ePN	Pn	20 59 22.5	+0.4
VLI	Veliai	3.10	290	ePN	Pn	20 59 22.7	+0.5
PTL	Penteli	3.20	318	ePN	Pn	20 59 24.0	+0.5
ATH	Athens Observa	3.22	316	ePN	Pn	20 59 24.8	+1.0
ANTB	Antalya	3.52	69	ePN	Pn	20 59 29.7	+1.8
PRK	Paraskevi	3.56	356	ePN	Pn	20 59 28.0	-0.4
BCK	Bucak	3.69	60	ePN	Pn	20 59 31.9	+1.6
ISP	Isparta	3.83	55	ePN	Pn	20 59 33.2	+1.0
LKR	Lokris	4.10	317	ePN	Pn	20 59 36.8	+0.9
NEO	Neokhori	4.48	325	ePN	Pn	20 59 42.0	+0.9
GADA	Gvkgeada	4.53	354	ePN	Pn	20 59 39.1	-2.6
HDMB	Hadim	4.95	73	ePN	Pn	20 59 50.2	+2.6
EVR	Evrytania	4.97	312	ePN	Pn	20 59 49.5	+1.6
ENEZ	Enez	5.05	356	ePN	Pn	20 59 46.8	-2.1
ESKT	Eskisehir	5.12	40	ePN	Pn	20 59 50.9	+1.0
KONT	Konya--Tatoy	5.17	62	ePN	Pn	20 59 52.7	+2.1
KIZT	Kizilcal	5.30	52	ePN	Pn	20 59 53.4	+1.0
IKL	Isikli	5.80	82	ePN	Pn	21 00 02.6	+3.3
SWA1		6.45	187	P	Pn	21 00 08.5	+0.3
SWA2		6.49	189	P	Pn	21 00 08.9	+0.1
BRTR	Keskin Array B	6.91	52	Pn	Pn	21 00 13.6	-0.9
	0.1nm,0.3s,baz=230,slow=11,SNR=4.4						
BRTR				Sn	Sn	21 01 32.4	-0.3
	0.1nm,0.3s,baz=215,slow=24,SNR=5.1						
BRTR	Keskin Array B	6.91	52	Sn	Sn	21 01 32.4	-0.3
GLL	Jalalah	7.48	143	P	Pn	21 00 20.9	-1.4
AMAG	Maghara	7.51	130	P	Pn	21 00 21.5	-1.2
AWBH		7.61	164	P	Pn	21 00 23.3	-0.8
HFRF	Wahat Farafira	8.64	170	P	Pn	21 00 37.2	-1.1
AKASG	Malin Array Be	15.13	7	Pn	Pn	21 02 09.8	+2.9
	0.6nm,0.3s,baz=195,slow=11,SNR=9.6						
AKASG	Malin Array Be	15.13	7	Pn	Pn	21 02 09.8	+2.9
ESDC	Sonseca Array	24.42	289	P	P	21 03 50.4	-1.2
	0.2nm,0.4s,mb2.9,baz=84,slow=10.0,SNR=6.1						
FINES	FINESS Array B	25.78	359	P	P	21 04 01.5	-2.5
	4.4nm,1.2s,mb3.9,baz=174,slow=14,SNR=3.7						
TORD	Torodi Ar. Bea	31.71	231	P	P	21 04 55.9	-0.9
	0.2nm,0.5s,mb3.2,baz=34,slow=8.6,SNR=4.1						
MKAR	Makanchi Array	42.53	57	P	P	21 06 27.3	-1.3
	0.7nm,0.4s,mb3.8,baz=284,slow=6.1,SNR=7.0						
SONM	Songino Array	58.27	51	P	P	21 08 25.7	-2.0
	0.4nm,0.9s,mb3.5,baz=289,slow=8.2,SNR=4.6						

---

*MOS **03** 21:07:01.5±1.8, 5056N×15763E, h90^{km}, mb4.0/1, Error ellipse: s-maj=64.3km s-min=31.6km az=70.0*

*ISCJB **03** 21:07:03.7±0.9, 508N±0.1×1573E±02, h106^{km}±10^{km}, mb3.6/4, Error ellipse: s-maj=25.9km s-min=6.1km az=89.3*

*KRSC **03** 21:07:04, 5092N×15739E, h93^{km}, ML3.8*

*IDC **03** 21:07:15.2±11.0, 5144N×156.10E, h215^{km}±130^{km}, mb3.0/4, mb1 3.4/5, mb1mx3.0/21, mbtmp3.6/5, MS3.7/1, Ms1 3.7/1, ms1mx2.8/6, Error ellipse: s-maj=148.7km s-min=19.2km az=130.0*

ISC 03 21:07:04.9±0.9**, 508N**±01×**1573E**±02**, h100**^{km}±10^{km}**, n18, σ1^{s}16**/25**, mb3.6**/4**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.78	263	⇑iPN	Pn	21 07 20.5	-2.5
SKR				i S	Sn	21 07 35.0	-1.7
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,320nm,0.5s						
SKR				smax			
	comp=N,850nm,0.5s						
SKR				smax			
	comp=E,850nm,0.5s						
SKR				smax			
	comp=Z,160nm,0.6s						
ALID	Alaid	1.14	275	eP	Pn	21 07 27.7	+0.9
ALID				S	Sn	21 07 45.5	+2.2
MIPR	Malaya Ipel'ka	1.54	347	eP	Pn	21 07 30.7	-0.9
RUS	Russkaya	1.81	23	eP	Pn	21 07 35.6	+0.7
RUS				eS	Sn	21 07 57.6	-0.2
GRL	Gorelyy	1.83	14	eP	Pn	21 07 36.4	+1.2
GRL				eS	Sn	21 07 59.8	+1.5
PET	Petropavlovsk	2.39	19	ePN	Pn	21 07 43.3	+0.8
PET				eS	Sn	21 08 10.8	-0.5
PET				smax			
	comp=N,150nm,0.7s						
PET				smax			
	comp=E,137nm,0.5s						
AVH	Avacha	2.63	19	eP	Pn	21 07 47.1	+1.4
AVH				eS	Sn	21 08 17.3	+0.3
SPN	Mys Shipunski	2.85	35	eP	Pn	21 07 49.6	+1.0
SPN				eS	Sn	21 08 21.3	-1.0
GNL	Ganaly	2.94	7	eP	Pn	21 07 49.6	-0.2
GNL				eS	Sn	21 08 22.7	-1.7
MKZ	Mys Kozlova	4.63	34	eP	Pn	21 08 11.9	-0.6
KBTR	Krutoberegovo	6.34	29	eP	Pn	21 08 34.8	-0.9
MJAR	Matsushiro Arr	19.77	231	P	P	21 11 27.2	+0.3
	comp=E,0.4nm,0.3s,baz=26,slow=8.6,SNR=6.6						
INK	Inuvik	36.74	36	P	P	21 14 00.4	-2.0
	comp=E,0.9nm,0.6s,mb3.9,baz=304,slow=3.6,SNR=4.0						
INK	Inuvik	36.74	36	P	P	21 14 00.4	-2.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	46.03	40	LR	LR	21 39 03.0	
	comp=Z,87nm,18.6s,baz=80,slow=42						
NVAR	Mina Array Bea	58.18	67	P	P	21 16 49.6	+1.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=297,slow=8.0,SNR=3.0						
PDAR	Pinedale Array	60.17	58	P	P	21 17 02.6	+0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=336,slow=3.3,SNR=4.9						
WRA	Warramunga Arr	73.28	203	P	P	21 18 24.6	-0.7
	comp=Z,0.2nm,0.5s,mb3.2,baz=18,slow=6.2,SNR=4.7						

---

*ISK **03** 21:15:00.8, 3885N×2689E, h8^{km}, MD3.3*

*NEIC **03** 21:15:00.0, 3885N×2685E, h7^{km}, MD3.1(ATH), MD3.3(ISK), After ISK.*

*CSEM **03** 21:15:01.3±0.1, 3885N×2696E, h8^{km}, MD3.3, Error ellipse: s-maj=2.5km s-min=1.5km az=72.0*

*ISCJB **03** 21:15:01.5±0.4, 3885N±002×2689E±003, h11^{km}±4^{km}, Error ellipse: s-maj=4.0km s-min=3.3km az=130.1*

*THE **03** 21:15:01.7, 3886N×2698E, h3^{km}*

*ATH **03** 21:15:02.7, 3880N×2678E, h34^{km}±4^{km}, MD3.1/4*

ISC 03 21:15:02.2±0.4**, 3885N**±002×**2692E**±003**, h12**^{km}±3^{km}**, n56, σ0^{s}79**/72**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLCB	Balcova	0.47	168	i PG	Pg	21 15 10.5	-0.9
BLCB				i SG	Sg	21 15 17.7	0.0
BLCB	Balcova	0.47	168	Pg	Pg	21 15 10.6	-0.8
BLCB	Balcova	0.47	168	Pg	Pg	21 15 10.6	-0.8
BLCB				i Sg	Sg	21 15 17.7	0.0
AYVA	Ayvalik	0.49	339	i P	Pg	21 15 11.8	-0.1
AYVA				i S	Sg	21 15 18.5	+0.1
KDAG	Bornova	0.52	148	i P	Pg	21 15 12.2	-0.1
KDAG				i S	Sg	21 15 19.1	-0.2
KDAG	Bornova	0.52	148	i P	Pg	21 15 12.2	-0.1
IZM	Izmir	0.52	149	i PG	Pg	21 15 12.0	-0.4
IZM	Izmir	0.52	149	Pg	Pg	21 15 12.1	-0.3
URLA	Izmir	0.55	208	i P	Pg	21 15 12.2	-0.7
URLA				i S	Sg	21 15 19.9	-0.2
PRK	Paraskevi	0.64	309	ePN	Pn	21 15 15.1	-2.0
PRK				eSN	Sg	21 15 24.3	+1.2
AKHS	Akhisar	0.70	87	i P	Pg	21 15 15.7	0.0
AKHS				i S	Sg	21 15 25.1	+0.1
AKHS	Akhisar	0.70	87	i P	Pg	21 15 15.7	0.0
AKHS				i S	Sg	21 15 25.0	+0.1
AKS	Akhisar	0.70	87	i PG	Pg	21 15 15.7	0.0
AKS				i SG	Sg	21 15 25.1	+0.2
AKS	Akhisar	0.70	87	Pg	Pg	21 15 15.8	0.0
AKS	Akhisar	0.70	87	Pg	Pg	21 15 15.8	+0.1
AKS				i Sg	Sg	21 15 25.1	+0.2
CHOS	Chios island	0.82	236	ePg	Pg	21 15 18.1	+0.1
CHOS				eSg	Sg	21 15 31.1	+2.4
CHOS	Chios island	0.82	236	ePg	Pg	21 15 18.0	0.0
CHOS				eSg	Sg	21 15 31.1	+2.4
EZN	Ezine	1.08	335	PG	Pg	21 15 21.5	-1.5
EZN	Ezine	1.08	335	Pg	Pg	21 15 21.5	-1.5
SMG	Samos	1.14	183	ePB	Pb	21 15 22.7	-1.1
SMG				eSN	Sn	21 15 38.7	-0.8
CANB	Canakkale	1.18	5	PN	Pn	21 15 23.6	-0.9
CANB	Canakkale	1.18	5	Pn	Pn	21 15 23.6	-0.8
BTOK	Tokmak	1.26	43	i P	Pn	21 15 24.9	-0.7
BTOK				i S	Sb	21 15 41.8	-0.2
DST	Dursunbey	1.53	60	PN	Pn	21 15 28.7	-0.6
DST	Dursunbey	1.53	60	Pn	Pn	21 15 28.7	-0.6
GADA	Gvkgeada	1.56	330	PN	Pn	21 15 29.1	-0.6
GADA	Gvkgeada	1.56	330	Pn	Pn	21 15 29.1	-0.6
MLSB	Milas	1.69	156	ePN	Pn	21 15 31.8	+0.3
MLSB	Milas	1.69	156	Pn	Pn	21 15 31.9	+0.4
LIA	Limnos Island	1.71	309	ePB	Pn	21 15 31.8	0.0
LOS	Limnos	1.79	308	ePb	Pn	21 15 32.9	0.0
BODT	Bodrum	1.81	170	ePN	Pn	21 15 33.2	0.0
BODT	Bodrum	1.81	170	Pn	Pn	21 15 33.3	+0.1
MRMT	Marmara Adasi	1.83	16	ePN	Pn	21 15 33.6	+0.1
RKY	Sarkoy-Tekirda	1.85	6	ePN	Pn	21 15 33.2	-0.5
RKY	Sarkoy-Tekirda	1.85	6	Pn	Pn	21 15 33.2	-0.5
MFT	Murefte	1.96	8	ePN	Pn	21 15 35.4	+0.2
ENEZ	Enez	1.98	343	ePN	Pn	21 15 35.3	-0.2
YER	Yerkesik	2.02	147	ePN	Pn	21 15 37.0	+0.9
DNZL	Cakiroluk	2.03	124	i P	Pg	21 15 43.1	+1.9
DNZL				i S	Sg	21 16 06.1	-1.4
ALN	Alexandroupoli	2.16	342	ePn	Pn	21 15 37.6	-0.4
ALN				eSn	Sn	21 16 04.9	+0.3
DAT	Datca	2.18	166	ePN	Pn	21 15 38.7	+0.5
GEMT	Gemlik	2.36	47	ePN	Pn	21 15 41.8	+1.0
GEMT	Gemlik	2.36	47	Pn	Pn	21 15 41.9	+1.1
RDO	Rodhopi	2.53	336	ePN	Pn	21 15 43.2	+0.1
YLV	Yalova	2.56	47	ePN	Pn	21 15 44.5	+1.0
FETY	Fethiye	2.79	141	ePN	Pn	21 15 47.8	+1.1
FETY	Fethiye	2.79	141	Pn	Pn	21 15 47.9	+1.1
EDRB	Edirne	3.00	358	ePN	Pn	21 15 50.3	+0.7
EDRB	Edirne	3.00	358	Pn	Pn	21 15 50.4	+0.8
ESKT	Eskisehir	3.13	76	ePN	Pn	21 15 53.0	+1.7
SRS	Serrai	3.42	313	ePn	Pn	21 15 55.1	-0.2
NVR	Nevrokopi	3.43	318	ePN	Pn	21 15 55.6	+0.2
MMB	Musomiste	3.67	319	ePn	Pn	21 15 58.5	-0.3
KNT	Kendrikon	3.86	308	ePn	Pn	21 16 02.0	+0.7
VTS	Vitosha	4.69	324	ePn	Pn	21 16 12.4	-0.3

---

*MOS **03** 21:28:18.5±0.9, 3574N×7001E, h88^{km}, mb4.1/3, Error ellipse: s-maj=14.4km s-min=6.8km az=90.3*

*IDC **03** 21:28:19.4±1.0, 3563N×7005E, h90^{km}±7^{km}, mb3.5/8, mb1 3.7/11, mb1mx3.5/23, mbtmp3.9/11, Error ellipse: s-maj=26.7km s-min=17.6km az=40.0*

*ISCJB **03** 21:28:19.9±0.5, 3567N±003×7038E±005, h132^{km}±8^{km}, mb3.7/11, Error ellipse: s-maj=7.4km s-min=3.9km az=143.4*

*BJI **03** 21:28:20.6, 3580N×7000E, h96^{km}, mb3.9*

*NEIC **03** 21:28:20.6±0.5, 3575N×7004E, mb4.0/6, Error ellipse: s-maj=9.7km s-min=8.3km az=179.0*

*NNC **03** 21:28:27.1±4.8, 3628N×6986E, h120^{km}±36^{km}, mb3.5, mpv4.2, Error ellipse: s-maj=46.4km s-min=30.0km az=7.0*

ISC 03 21:28:20.5±0.5**, 3566N**±003×**7030E**±006**, h115**^{km}±7^{km}**, n81, σ1^{s}16**/97**, mb3.8**/11**, 8C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.26	144	⇓P	Pn	21 28 58.9	+1.9
THW	Thamme Wali	3.10	157	P	Pn	21 29 08.7	+0.8
SBDP	Sheikh Budin	3.38	173	P	Pn	21 29 11.2	-0.4
DRP	Derazinda	3.91	181	P	Pn	21 29 20.1	+1.4
DRP				S	Sn	21 30 34.0	+30
SARP	Sargodha	4.22	151	P	Pn	21 29 23.2	+0.3
THN	Thein Dam	5.53	124	eP	Pn	21 29 41.8	+1.3
THN				eS	Sn	21 30 45.4	+2.6
DLH	Dalhousie	5.63	122	eP	Pn	21 29 44.0	+2.1
DLH				ex	x	21 30 50.0	
KSH	Kashi	5.92	48	P	Pn	21 29 50.3	+4.4
KSH				S	Sn	21 30 55.6	+3.2
KSH				Smax			
	comp=N,86nm,0.4s						
KSH				Smax			
	comp=E,88nm,0.2s						
BHK	Bhakra	6.63	128	ex	x	21 30 55.0	
SDNR	Sundarnagar	6.94	125	eP	Pn	21 29 59.8	+0.2
SDNR				eS	Sn	21 31 15.6	-1.4
AML	Almayashu	6.98	21	P	Pn	21 30 00.2	0.0
	SNR=205						
SMLA	Simla	7.30	126	eP	Pn	21 30 05.2	+0.6
SMLA				eS	Sn	21 31 24.8	-1.1
SMLA				AML	AML	21 31 29.3	
	comp=N,118nm,0.3s						
SMLA				AML	AML	21 31 29.7	
	comp=E,144nm,0.3s						
KK31	Karatay Array	7.44	1	⇑P	Pn	21 30 05.3	-1.0
	comp=E,26nm,0.3s,baz=188,slow=14,SNR=714						
KK31				⇓S	Sn	21 31 24.6	-4.5
	comp=E,29nm,0.6s,baz=189,slow=20,SNR=6.9						
KKAR	Karatay Array	7.44	1	PN	Pn	21 30 05.2	-1.1
KKAR				pmax	pmax		
	comp=Z,19nm,0.3s						
KZA	Kyzart	7.48	30	P	Pn	21 30 07.7	+0.7
	SNR=33						
EKS2	Erkin-Say	7.50	20	P	Pn	21 30 07.3	+0.2
	SNR=45						
AAK	Ala-Archa	7.69	24	P	Pn	21 30 10.7	+0.9
	SNR=32						
AAK	Ala-Archa	7.69	24	ePN	Pn	21 30 09.0	-0.7
AAK				pmax	pmax		
	comp=Z,33nm,0.4s						
AAK	Ala-Archa	7.69	24	ePn	Pn	21 30 09.0	-0.7
	comp=Z,33nm,0.4s						
AAK				eSn	Sn	21 31 35.2	0.0
KLP	Kalpa	7.80	120	eP	Pn	21 30 11.3	0.0
KLP				eS	Sn	21 31 36.8	-1.2
KLP				AML	AML	21 32 14.7	
	comp=N,96nm,0.7s						
KLP				AML	AML	21 32 18.3	
	comp=E,112nm,1.2s						
KBK	Karagaybulak	7.86	26	P	Pn	21 30 13.3	+1.2
	SNR=15						
FRU	Bishkek	7.91	24	ePN	Pn	21 30 13.0	+0.3
FRU				pmax	pmax		
	comp=Z,42nm,1.2s						
FRU				pmax	pmax		
	comp=E,130nm,1.2s						
ULHL	Ulahol	8.04	33	P	Pn	21 30 15.5	+1.0
	SNR=9.8						
CHMS	Chumysh	8.10	24	P	Pn	21 30 15.6	+0.3
	SNR=61						
USP	Ospenovka	8.26	22	P	Pn	21 30 17.6	+0.1
	SNR=14						
TKM2	Tokmak 2	8.33	28	P	Pn	21 30 19.1	+0.6
	SNR=37						
TKM2	Tokmak 2	8.33	28	⇓P	Pn	21 30 18.8	+0.3
	comp=E,1.3nm,0.5s						
TKM2				⇑S	Sn	21 31 48.9	-1.9
	comp=E,0.8nm,0.5s						
TKM2	Tokmak 2	8.33	28	PN	Pn	21 30 18.7	+0.2
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KHET	Khetri	8.89	147	eP	Pn	21 30 24.5	-1.6
KHET				eS	Sn	21 31 59.1	-5.2
KHET				AML	AML	21 32 02.9	
	comp=N,31nm,0.3s						
KHET				AML	AML	21 32 02.9	
	comp=E,28nm,0.4s						
NDI	New Delhi	9.09	138	eS	Sn	21 32 05.5	-3.7
KUDL	Kundal	9.15	143	eP	Pn	21 30 28.6	-0.9
KUDL				eS	Sn	21 32 04.6	-6.1
KUDL				AML	AML	21 32 09.2	
	comp=E,45nm,0.5s						
AYAN	Aya Nagar	9.20	139	eP	Pn	21 30 22.0	-8.3
AYAN				eS	Sn	21 32 00.1	-12
AYAN				AML	AML	21 32 02.4	
	comp=Z,22nm,0.8s						
JOSI	Joshimath	9.28	121	eP	Pn	21 30 12.1	-19
JOSI				eS	Sn	21 31 50.2	-24
JOSI				AML	AML	21 31 58.9	
	comp=E,80nm,0.7s						
JOSI				AML	AML	21 32 01.5	
	comp=N,77nm,0.6s						
SONA	Sohna	9.37	140	eP	Pn	21 30 32.4	0.0
SONA				eS	Sn	21 32 10.2	-5.6
SONA				AML	AML	21 32 14.9	
	comp=E,107nm,0.3s						
SONA				AML	AML	21 32 15.0	
	comp=N,166nm,0.5s						
AJM	Ajmer	9.88	157	eS	Sn	21 32 21.9	-6.4
KOLN	Koldanda	13.77	121	eP	Pn	21 31 29.6	-1.3
	comp=N,18nm,0.3s						
BHPL	Bhopal	13.84	152	ex	x	21 33 58.3	
MKAR	Makanchi Array	14.30	35	P	Pn	21 31 39.2	+1.5
	comp=N,0.1nm,0.3s,baz=223,slow=15,SNR=3.2						
GKN	Gorkha	14.37	118	eP	Pn	21 31 37.0	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,38nm,0.3s						
GKN				eS	Sn	21 34 11.5	-5.5
DMN	Daman	14.94	118	eP	Pn	21 31 44.9	-0.8
	comp=N,37nm,0.5s						
KKN	Kakani	14.96	117	eP	Pn	21 31 44.6	-1.3
	comp=N,62nm,0.6s						
PKI	Pulchoki	15.18	118	eP	Pn	21 31 48.0	-0.7
	comp=N,63nm,0.7s						
GUN	Gumba	15.32	116	eP	Pn	21 31 50.8	+0.3
	comp=N,50nm,0.6s						
AB31	Akbulak array	15.57	334	⇑P	Pn	21 31 50.9	-2.6
	comp=N,11nm,0.4s						
AB31				⇑S	S	21 34 29.7	-24
	comp=N,2.4nm,0.4s,baz=144,slow=26,SNR=5.3						
AB31	Akbulak array	15.57	334	P	Pn	21 31 51.1	-2.5
AB31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKL	Akola	16.02	157	ex	x	21 34 47.4	
VOSK	Vostochnaya	17.07	1	⇑P	Pn	21 32 10.9	-1.1
	comp=Z,8.1nm,1.4s						
VOSK	Vostochnaya	17.07	1	P	Pn	21 32 10.8	-1.2
VOSK				pmax	pmax		
	comp=Z,11nm,1.4s						
AKTK	Aktyubinsk	17.25	333	P	Pn	21 32 12.7	-1.5
AKTK				S	S	21 35 11.5	-15
AKTO	Aktyubinsk	17.25	333	⇑P	Pn	21 32 12.8	-1.4
	comp=Z,0.1nm,0.5s						
AKTO				⇓S	S	21 35 11.6	-15
	comp=Z,0.6nm,1.6s						
AKTO	Aktyubinsk	17.25	333	P	Pn	21 32 12.7	-1.5
	comp=Z,1.4nm,0.3s,baz=137,slow=12,SNR=21						
AKTO				S	S	21 35 11.5	-15
	comp=Z,0.3nm,0.3s,baz=189,slow=19,SNR=3.4						
ZRNK	Zerenda	17.31	357	⇑P	Pn	21 32 14.0	-1.0
	comp=Z,3.5nm,0.6s						
ZRNK	Zerenda	17.31	357	eP	Pn	21 32 13.8	-1.2
ZRNK				e		21 35 17.2	
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZRNK	Zerenda	17.31	357	ePn	Pn	21 32 13.8	-1.2
	comp=Z,4.3nm,0.5s						
ZRNK				eSn	Sn	21 35 17.2	-11
BVAR	Borovoye Array	17.36	0	P	Pn	21 32 15.4	-0.2
	comp=Z,1.8nm,0.3s,baz=172,slow=13,SNR=34						
BRVK	Borovoye	17.40	360	eP	Pn	21 32 15.9	-0.1
CHKZ	Chkalovo	18.02	1	⇑P	P	21 32 23.0	+0.7
	comp=Z,3.3nm,0.7s						
CHKZ	Chkalovo	18.02	1	eP	P	21 32 23.2	+0.8
CHKZ				eS	S	21 35 34.6	-8.4
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHKZ	Chkalovo	18.02	1	eP	P	21 32 23.2	+0.9
	comp=Z,5.6nm,0.8s						
CHKZ				eS	S	21 35 34.6	-8.4
LSA	Lhasa	18.52	103	P	P	21 32 33.0	+5.2
LSA	Lhasa	18.52	103	eP	P	21 32 33.8	+6.0
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LSA	Lhasa	18.52	103	eP	P	21 32 33.8	+6.0
	comp=Z,6.4nm,0.6s						
GNI	Garni	20.63	290	P	P	21 32 52.9	+2.1
	comp=Z,12nm,0.7s,baz=46,slow=3.8,SNR=7.1						
GNI	Garni	20.63	290	eP	P	21 32 49.8	-1.0
GNI				pmax	pmax		
	comp=Z,12nm,0.7s						
GNI	Garni	20.63	290	eP	P	21 32 49.8	-1.0
	comp=Z,12nm,0.7s						
NVS	Novosibirsk	21.17	21	i P	P	21 32 57.7	+1.2
ARU	Arti	22.25	343	⇓iP	P	21 33 08.9	+0.9
ARU				e		21 33 28.8	
ARU				ePPP		21 33 38.6	
ARU				eSS		21 37 39.4	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb3.9						
ARU	Arti	22.25	343	eP	P	21 33 09.2	+1.2
	comp=Z,4.7nm,0.7s,mb3.9						
KIV	Kislovodsk	22.70	300	eP	P	21 33 11.9	-0.6
KIV				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
KIV	Kislovodsk	22.70	300	eP	P	21 33 11.9	-0.7
	comp=Z,3.1nm,0.5s,mb3.9						
GTA	Gaotai	23.65	72	P	P	21 33 26.2	+4.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb3.9						
BR131	Keskin Array S	29.16	289	P	P	21 34 11.6	+0.8
BRTR	Keskin Array B	29.16	289	P	P	21 34 11.9	+1.2
	comp=Z,0.5nm,0.7s,mb3.3,baz=103,slow=8.9,SNR=3.5						
AKASG	Malin Array Be	33.04	310	P	P	21 34 44.2	-0.6
	comp=Z,0.5nm,0.4s,mb3.7,baz=83,slow=7.7,SNR=5.8						
AKASG				pP	pP	21 35 06.0	-4.2
	comp=Z,1.2nm,0.6s,baz=85,slow=7.0,SNR=5.0						
FINES	FINESS Array B	37.87	327	P	P	21 35 26.2	+0.1
	comp=Z,3.2nm,1.1s,mb4.1,baz=119,slow=11,SNR=3.0						
ARCES	ARCESS Array B	41.71	338	P	P	21 35 58.9	+1.0
	comp=Z,1.8nm,0.9s,mb3.8,baz=104,slow=5.1,SNR=5.6						
YAK	Yakutsk	44.98	35	P	P	21 36 26.9	+2.7
ESDC	Sonseca Array	57.35	298	P	P	21 37 56.8	+0.2
	comp=Z,0.1nm,0.3s,mb3.3,baz=80,slow=7.2,SNR=4.7						
TORD	Torodi Ar. Bea	65.13	269	P	P	21 38 49.1	+0.1
	comp=Z,1.2nm,0.6s,mb3.9,baz=46,slow=6.0,SNR=19						
TORD				pP	pP	21 39 13.7	-3.6
	comp=Z,0.5nm,0.5s,baz=47,slow=5.4,SNR=2.6						
TORD				sP	sP	21 39 21.6	-8.3
	comp=Z,1.3nm,0.7s,baz=46,slow=5.7,SNR=4.5						
WRA	Warramunga Arr	82.03	121	P	P	21 40 30.5	+2.6
	comp=Z,0.9nm,0.5s,mb3.9,baz=324,slow=4.7,SNR=14						
ASAR	Alice Springs	84.24	124	P	P	21 40 42.5	+3.3
	comp=Z,1.1nm,0.7s,mb3.8,baz=313,slow=5.0,SNR=12						

*CSEM **03** 21:28:45.7, 2975N×5040E, h15km, ML3.0, After THR*
*THR **03** 21:28:45.7±0.3, 2975N×5040E, h15km, ML3.0*
*ISCJB **03** 21:28:49.4±2.2, 2999N±008×5075E±007, h11km±18km, Error ellipse: s-maj=13.9km s-min=9.3km az=146.0*
*KISR **03** 21:28:50.0±0.9, 2997N×5058E, h16km±178km, MD3.4, ML2.9*
ISC 03 21:28:49.4±2.9**, 2997N**±008×**5072E**±007**, h1**km±23km**, n11, σ0s84**/17**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	2.60	130	ePN	Pn	21 29 30.6	-2.0
GHIR				AML	AML	21 30 21.7	
	comp=N,36nm,0.6s						
GHIR				AML	AML	21 30 22.1	
	comp=E,50nm,0.5s						
UMR	Umm Al-Rimmam	2.65	262	eP	Pn	21 29 33.2	0.0
UMR				eS	Sn	21 30 05.9	-0.1
UMR				AML	AML	21 30 07.8	
	comp=Z,42nm,0.2s						
QRN	Al-Qurain	2.73	244	eP	Pn	21 29 34.4	-0.1
QRN				eS	Sn	21 30 08.8	+0.6
QRN				AML	AML	21 30 09.6	
	comp=Z,58nm,0.2s						
KBD	Kabd	2.75	254	eP	Pn	21 29 35.1	+0.4
KBD				eS	Sn	21 30 08.7	+0.1
KBD				AML	AML	21 30 10.4	
	comp=Z,152nm,0.2s						
MIB	Mutribah	2.94	268	eP	Pn	21 29 37.7	+0.4
MIB				eS	Sn	21 30 12.9	-0.3
MIB				AML	AML	21 30 15.7	
	comp=Z,26nm,0.5s						
RDF	Al-Radifah	2.95	250	eP	Pn	21 29 37.6	+0.1
RDF				eS	Sn	21 30 13.1	-0.5
RDF				AML	AML	21 30 14.9	
	comp=Z,70nm,0.3s						
NAY	Al-Naaiem	3.11	257	eP	Pn	21 29 40.3	+0.6
NAY				eS	Sn	21 30 17.6	+0.1
NAY				AML	AML	21 30 17.7	
	comp=Z,23nm,0.5s						
NASN	Na'in	3.34	32	ePN	Pn	21 29 44.4	+1.6
ASAO	Ashtian	4.60	353	ePN	Pn	21 29 59.8	-0.3
KRBR	Kerman	5.24	88	ePN	Pn	21 30 09.8	+0.9
KRBR				AML	AML	21 31 17.4	
	comp=N,9.9nm,0.5s						
KRBR				AML	AML	21 31 19.7	
	comp=E,8.0nm,0.4s						
SNGE	Sanandaj	5.85	332	ePN	Pn	21 30 15.1	-2.1
SNGE				AML	AML	21 31 40.1	
	comp=N,5.1nm,0.8s						

*IDC **03** 21:41:58.3±2.7, 697S×13196E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.6/11, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=103.4km s-min=30.5km az=81.0*
*NEIC **03** 21:42:03.0±1.2, 704S×13200E, h35km, mb3.9/1, Error ellipse: s-maj=24.7km s-min=15.9km az=73.0*
*ISCJB **03** 21:42:08.0±3.3, 740S±0.10×1318E±0.1, h107km±37km, mb3.6/1, Error ellipse: s-maj=21.0km s-min=15.7km az=152.9*
ISC 03 21:42:08.8±4.4**, 74S**±02×**1318E**±01**, h93**km±52km**, n8, σ1s00**/11**, mb3.6**/1**, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.19	209	Pn	Pn	21 44 59.3	+0.2
	0.7nm,0.3s,baz=34,slow=12,SNR=32						
FITZ				Sn	Sn	21 47 12.2	-0.8
	0.5nm,0.3s,baz=180,slow=15,SNR=7.5						
WRAB	Tennant Creek	12.70	169	ePn	Pn	21 45 06.0	+0.2
WRAB				eSn	Sn	21 47 25.5	+0.3
WRA	Warramunga Arr	12.70	169	Pn	Pn	21 45 05.9	0.0
	0.4nm,0.3s,baz=352,slow=13,SNR=18						
WRA				Sn	Sn	21 47 25.2	-0.3
	0.6nm,0.3s,baz=357,slow=25,SNR=8.8						
ASAR	Alice Springs	16.29	173	Pn	Pn	21 45 54.4	+2.5
	0.3nm,0.3s,baz=352,slow=9.7,SNR=14						
ASAR				Sn	Sn	21 48 52.4	+0.1
	0.1nm,0.3s,baz=356,slow=22,SNR=3.9						
CTAO	Charters Tower	18.86	133	eP	Pn	21 46 20.4	-2.7
	8.0nm,1.1s						
MKAR	Makanchi Array	69.54	326	P	P	21 53 07.5	0.0
	0.4nm,0.4s,mb3.6,baz=122,slow=8.1,SNR=3.7						
MKAR	Makanchi Array	69.54	326	P	P	21 53 07.5	0.0
TMUT	Trail Mountain	115.49	50	ePdif	Pdif	21 56 52.7	+0.4

*IDC **03** 21:47:16.0±1.2, 1769S×17325W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.9/17, mbtmp3.8/6, ML1.4/1, Error ellipse: s-maj=53.8km s-min=22.1km az=134.0*
*ISCJB **03** 21:47:19.4±0.9, 176S±0.1×1733W±02, h33km, mb3.8/6, Error ellipse: s-maj=32.2km s-min=8.6km az=67.9*
*NEIC **03** 21:47:21.1±0.8, 1764S×17323W, h35km, mb4.1/1, Error ellipse: s-maj=32.3km s-min=12.4km az=130.0*
ISC 03 21:47:21.4±0.9**, 176S**±01×**1732W**±02**, h35**km**, n10, σ0s99**/12**, mb3.8**/6**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.93	21	Pn	Pn	21 48 17.9	-1.3
	1.3nm,0.3s,baz=225,slow=10.0,SNR=2.1						
AFI				Sn	Sn	21 49 03.7	-0.4
	6.0nm,0.3s,baz=205,slow=23,SNR=4.5						
AFI				T		21 53 00.1	
	5.7nm,0.3s,baz=153,slow=9.1,SNR=4.0						
AFI	Afiamalu	3.93	21	Pn	Pn	21 48 17.9	-1.3
AFI				Sn	Sn	21 49 03.7	-0.4
URZ	Urewera	22.25	200	P	P	21 52 13.2	-1.9
	4.1nm,0.4s,mb4.2,baz=342,slow=6.4,SNR=5.5						
STKA	Stephens Creek	43.12	242	eP	P	21 55 18.4	+0.2
WB2	Warramunga Arr	49.53	259	eP	P	21 56 09.6	+0.9
WB2				ePcP	PcP	21 57 30.3	+0.2
WRAB	Tennant Creek	49.54	259	eP	P	21 56 08.4	-0.3
	1.1nm,0.6s,mb4.1						
WRA	Warramunga Arr	49.55	259	P	P	21 56 08.3	-0.4
	0.5nm,0.6s,mb3.7,baz=98,slow=6.0,SNR=6.8						
ASAR	Alice Springs	49.63	254	P	P	21 56 09.7	+0.3
	0.7nm,0.7s,mb3.8,baz=86,slow=8.8,SNR=7.7						
NVAR	Mina Array Bea	75.85	42	P	P	21 59 05.8	+1.8
	0.4nm,0.8s,mb3.4,baz=233,slow=8.9,SNR=3.5						
PDAR	Pinedale Array	83.79	42	P	P	21 59 47.9	+0.9
	0.6nm,0.7s,mb3.9,baz=220,slow=2.4,SNR=7.5						

*SKO **03** 21:54:32.0, 4187N×2321E, h10km, M0.4, ML2.0*
*ISCJB **03** 21:54:31.8±0.5, 4188N±003×2320E±004, h1km, Error ellipse: s-maj=4.2km s-min=3.5km az=62.1*
*NEIC **03** 21:54:32.6, 4188N×2320E, h2km, MD3.0(ATH), After THE.*
*CSEM **03** 21:54:32.1±0.1, 4191N×2322E, h5km, ML2.6, Error ellipse: s-maj=1.8km s-min=1.5km az=153.0*
*THE **03** 21:54:32.6, 4188N×2320E, h1km, ML2.6*
*ATH **03** 21:54:43.5, 4126N×2384E, h10km, MD3.0/3*
ISC 03 21:54:32.4±0.6**, 4188N**±003×**2319E**±004**, h15**km±11km**, n21, σ0s57**/34**, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MMB	Musomiste	0.49	126	ePg	Pg	21 54 42.0	-0.2
VTS	Vitosha	0.71	1	ePg	Pg	21 54 45.7	-0.5
VTS				eSg	Sg	21 54 55.8	+0.1
NVR	Nevrokopi	0.73	136	ePG	Pg	21 54 46.0	-0.6
VAY	Valandovo	0.73	220	ePg	Pg	21 54 46.4	-0.2
VAY				eSg	Sg	21 54 56.7	+0.5
VAY	Valandovo	0.73	220	i Pg	Pg	21 54 46.9	+0.3
VAY				i Sg	Sg	21 54 56.9	+0.7
VAY				eLg		21 54 57.0	
	comp=E,58nm,0.3s						
VAY				eLg		21 54 57.0	
	comp=N,51nm,0.5s						
VAY	Valandovo	0.73	220	ePg	Pg	21 54 46.4	-0.2
VAY				i Sg	Sg	21 54 56.9	+0.7
KNT	Kendrikon	0.75	197	ePg	Pg	21 54 46.7	-0.3
KNT				eSg	Sg	21 54 57.2	+0.3
KNT	Kendrikon	0.75	197	ePg	Pg	21 54 46.7	-0.3
KNT				eSg	Sg	21 54 57.2	+0.2
STIP	Stip	0.78	256	ePg	Pg	21 54 47.3	-0.2
STIP				eSg	Sg	21 54 58.5	+0.7
STIP	Stip	0.78	256	i Pg	Pg	21 54 47.5	0.0
STIP				i Sg	Sg	21 54 58.6	+0.8
STIP				eLg		21 54 58.9	
	comp=E,38nm,0.4s						
STIP				eLg		21 54 59.1	
	comp=N,26nm,0.2s						
STIP	Stip	0.78	256	ePg	Pg	21 54 47.3	-0.2
STIP				i Sg	Sg	21 54 58.5	+0.8
SRS	Serrai	0.82	158	ePg	Pg	21 54 47.7	-0.6
SRS				eSg	Sg	21 54 59.1	0.0
SOH	Sokhos	1.06	173	ePg	Pg	21 54 52.3	-0.7
SOH				eSg	Sg	21 55 07.0	+0.1
GRG	Griva	1.10	213	ePg	Pg	21 54 53.3	-0.3
PLD	Plovdiv	1.15	78	ePg	Pg	21 54 54.4	-0.1
PLD				eSg	Sg	21 55 10.7	+1.2
THE	Thessaloniki	1.26	188	ePg	Pg	21 54 56.0	-0.7
THE				eSg	Sg	21 55 14.1	+1.0
PLG	Polygyros	1.52	173	ePB	Pb	21 55 00.8	+0.5
KRUS	Krusevo	1.55	251	i Pg	Pg	21 55 01.9	-0.3
KRUS	Krusevo	1.55	251	i Pg	Pg	21 55 01.8	-0.3
OUR	Ouranopolis	1.66	159	ePb	Pb	21 55 01.8	-0.8
RDO	Rodhopi	1.91	112	ePB	Pb	21 55 07.8	+0.9

*ROM **03** 21:54:37.7±0.2, 4389N×1204E, h6km±2km, Md3.1/28, Ml2.4/13, Error ellipse: s-maj=2.7km s-min=1.9km az=25.0*
*ISCJB **03** 21:54:38.2±0.3, 4387N±002×1195E±002, h19km±3km, Error ellipse: s-maj=3.5km s-min=3.0km az=159.7*
*NEIC **03** 21:54:38.0, 4388N×1204E, h3km, ML2.3(ROM), ML2.5(LDG), After ROM.*
*CSEM **03** 21:54:38.1±0.1, 4385N×1206E, h12km, ML2.5/10, Error ellipse: s-maj=1.3km s-min=1.2km az=122.0*
*LDG **03** 21:54:40.1±0.1, 4383N×1205E, h10km, Ml2.5/12, Error ellipse: s-maj=4.5km s-min=3.3km az=31.0*
ISC 03 21:54:38.7±0.3**, 4386N**±002×**1199E**±002**, h14**km±2km**, n79, σ1s14**/124**, 14C-11D, Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFI	Santa Sofia	0.11	293	⇑iPg	Pg	21 54 41.4	-0.6
SFI				Sg	Sg	21 54 42.6	-1.8
SFI	Santa Sofia	0.11	293	P	Pg	21 54 41.4	-0.7
CRE	Caprese Michel	0.24	187	⇑iPg	Pg	21 54 43.8	-0.1
	1µm,0.7s						
RSM	Repubblica di	0.34	78	⇑iPg	Pg	21 54 44.8	-0.8
	204nm,0.3s						
BADI	Badiali	0.40	152	⇓ePg	Pg	21 54 45.8	-0.9
BADI				Sg	Sg	21 54 52.5	+0.5
	353nm,0.3s						
BRSN	Barisano	0.43	8	Pg	Pg	21 54 46.5	-0.8
	390nm,0.3s						
CDCA	Citt' di Caste	0.44	156	Pg	Pg	21 54 47.7	+0.2
CDCA				Sg	Sg	21 54 53.7	+0.3
	245nm,0.3s						
SEI	Scarperia	0.50	293	⇑iPg	Pg	21 54 48.1	-0.4
SEI				Sg	Sg	21 54 56.9	+1.7
	669nm,0.3s						
PESA	Pesaro	0.62	82	Pg	Pg	21 54 49.4	-1.4
	226nm,0.3s						
CSNT	Castellina Chi	0.64	233	Pg	Pg	21 54 51.5	+0.3
CSNT				Sg	Sg	21 55 02.1	+2.4
	273nm,0.6s						
FNVD	Fontana Vidola	0.70	296	Pg	Pg	21 54 52.0	-0.3
	234nm,0.8s						
PZZT	Monte Pizzetto	0.86	289	Pg	Pg	21 54 55.0	-0.3
	81nm,0.6s						
ASS	Assisi	0.93	149	Pn	Pn	21 54 57.0	-0.3
	2.0nm,0.4s						
CING	Cingoli	1.00	119	Pn	Pn	21 54 56.3	-2.0
	79nm,0.4s						
GRFL	Gerfalco	1.03	226	Pn	Pn	21 54 58.6	0.0
	21nm,0.8s						
BDI	Bagni Di Lucca	1.03	282	Pn	Pn	21 54 58.5	-0.1
	56nm,0.6s						
PII	Pisa	1.07	263	Pn	Pn	21 54 59.0	-0.2
	31nm,0.2s						
ARCI	Arcidosso	1.08	201	Pn	Pn	21 54 59.1	-0.2
	155nm,1.0s						
GSCL	Gusciola	1.12	296	Pn	Pn	21 55 01.3	+1.3
	33nm,0.6s						
VLC	Villacollemand	1.20	285	Pn	Pn	21 55 00.7	-0.3
VLC	Villacollemand	1.20	285	ePn	Pn	21 55 03.0	+2.1
VLC				eSn	Sn	21 55 20.3	+3.4
VLC	Villacollemand	1.20	285	ePn	Pn	21 55 03.0	+2.0
VLC				eSn	Sn	21 55 20.3	+3.3
AOI	Ancona	1.21	104	Pn	Pn	21 55 01.6	+0.5
	46nm,0.5s						
ERBM	Eremo	1.27	297	Pn	Pg	21 55 06.7	+3.6
TEOL	Teolo	1.52	351	⇓iPg	Pn	21 55 04.9	-0.5
MNS	Montasola	1.56	161	Pn	Pn	21 55 05.6	-0.3
	34nm,0.6s						
TERO	Teramo	1.71	136	Pn	Pn	21 55 10.4	+2.4
	39nm,0.6s						
FIAM	Fiamignano	1.79	152	Pn	Pn	21 55 10.2	+1.0
	29nm,0.7s						
MAGA	Magasa	2.15	334	Pn	Pn	21 55 14.4	+0.4
	77nm,0.5s						
NVLJ	Novalja	2.19	70	i Pn	Pn	21 55 13.7	-0.9
NVLJ				i Sn	Sn	21 55 41.4	0.0
NVLJ	Novalja	2.19	70	i Pn	Pn	21 55 13.6	-1.0
CTI	Castel Tesino	2.20	354	Pn	Pn	21 55 14.9	+0.1
	13nm,0.3s						
BAD	Bernadia	2.54	20	⇑iPg	Pn	21 55 18.4	-1.0
BAD				i Sg	Sn	21 55 49.4	-0.7
CADS	Cadrg	2.67	27	ePn	Pn	21 55 19.9	-1.3
CADS				eSn	Sn	21 55 53.3	-0.1
CADS							
	comp=Z,8.0nm,0.3s						
CADS	Cadrg	2.67	27	ePn	Pn	21 55 20.0	-1.2
CADS				eSn	Sn	21 55 53.3	-0.1
	comp=Z,8.0nm,0.3s						
PTCC	Patocco-Chiusa	2.72	20	Pn	Pn	21 55 21.2	-0.7
FVI	Forni Avoltri	2.79	11	Pn	Pn	21 55 22.6	-0.3
	comp=Z,7.0nm,0.4s						
OBKA	Obir	3.21	33	⇑iSn	Sn	21 56 04.3	-2.3
OBKA	Obir	3.21	33	⇓iPn	Pn	21 55 28.1	-0.5
OBKA				⇑iSn	Sn	21 56 08.1	+1.5
OBKA	Obir	3.21	33	⇓iPn	Pn	21 55 28.1	-0.5
OBKA				i Sn	Sn	21 56 04.3	-2.3
SBF	Sospel	3.29	272	ePn	Pn	21 55 29.2	-0.6
SBF				eSn	Sn	21 56 07.9	-0.9
	comp=Z,6.5nm,0.4s						
SBF	Sospel	3.29	272	ePn	Pn	21 55 29.2	-0.6
SBF				eSn	Sn	21 56 07.9	-0.9
	comp=Z,3.2nm,0.4s						
KBA	Koelnbreinsper	3.36	16	⇑iPn	Pn	21 55 30.7	+0.1
KBA				⇑iSn	Sn	21 56 10.4	+0.1
SQTA	Sankt Quirin	3.41	351	⇓iPn	Pn	21 55 33.1	+1.8
SQTA				⇓iSn	Sn	21 56 13.7	+2.2
WTTA	Wattenberg	3.41	356	⇑iPn	Pn	21 55 33.3	+1.9
WTTA				⇑iSn	Sn	21 56 13.3	+1.7
WATA	Walderalm	3.49	355	⇑iPn	Pn	21 55 34.1	+1.6
WATA				⇓iSn	Sn	21 56 15.7	+2.2
MOTA	Moosalm	3.54	350	⇓iPn	Pn	21 55 34.8	+1.6
MOTA				⇓iSn	Sn	21 56 17.2	+2.3
DAVA	Damuels	3.73	337	⇑iPn	Pn	21 55 38.6	+2.7
DAVA				⇑iSn	Sn	21 56 24.1	+4.5
MBDF	Montbardon	3.85	285	ePn	Pn	21 55 38.4	+1.0
MBDF				eSn	Sn	21 56 21.9	-0.5
	comp=Z,6.1nm,0.7s						
MBDF	Montbardon	3.85	285	ePn	Pn	21 55 38.4	+1.0
MBDF				eSn	Sn	21 56 21.9	-0.5
	comp=Z,3.0nm,0.7s						
FRF	La Foret Royal	3.89	267	ePn	Pn	21 55 38.4	+0.4
FRF				eSn	Sn	21 56 21.9	-1.5
	comp=Z,1.2nm,0.3s						
FRF	La Foret Royal	3.89	267	ePn	Pn	21 55 38.4	+0.4
FRF				eSn	Sn	21 56 21.9	-1.5
	comp=Z,0.6nm,0.3s						
LMR	La Mourre	4.02	264	ePn	Pn	21 55 39.3	-0.4
LMR				eSn	Sn	21 56 24.9	-1.7
	comp=Z,0.7nm,0.2s						
LMR	La Mourre	4.02	264	ePn	Pn	21 55 39.3	-0.4
LMR				eSn	Sn	21 56 24.9	-1.7
	comp=Z,0.3nm,0.2s						
LPG	La Plagne	4.08	295	ePn	Pn	21 55 41.5	+0.9
LPG				eSn	Sn	21 56 27.7	-0.4
	comp=Z,2.0nm,0.3s						
LPG	La Plagne	4.08	295	ePn	Pn	21 55 41.5	+0.9
LPG				eSn	Sn	21 56 27.7	-0.4
	comp=Z,1.0nm,0.3s						
LPL	La Plagne	4.10	296	ePn	Pn	21 55 41.9	+1.0
LPL				eSn	Sn	21 56 28.0	-0.6
	comp=Z,1.3nm,0.3s						
LPL	La Plagne	4.10	296	ePn	Pn	21 55 41.9	+1.0
LPL				eSn	Sn	21 56 28.0	-0.6
	comp=Z,0.6nm,0.3s						
MOA	Molln	4.29	21	⇓iPn	Pn	21 55 43.8	+0.2
MOA				⇓iSn	Sn	21 56 32.8	-0.6
ORIF	Oris-en-Rattie	4.51	286	ePn	Pn	21 55 47.2	+0.7
ORIF				eSn	Sn	21 56 37.7	-0.9
	comp=Z,2.8nm,0.6s						
ORIF	Oris-en-Rattie	4.51	286	ePn	Pn	21 55 47.2	+0.7
ORIF				eSn	Sn	21 56 37.7	-0.9
	comp=Z,1.4nm,0.6s						
SMRF	Simiane la Rot	4.64	274	ePn	Pn	21 55 49.3	+1.0
SMRF				eSn	Sn	21 56 40.2	-1.7
	comp=Z,1.1nm,0.5s						
SMRF	Simiane la Rot	4.64	274	ePn	Pn	21 55 49.3	+1.0
SMRF				eSn	Sn	21 56 40.2	-1.7
	comp=Z,0.6nm,0.5s						
VIVF	Saint-Julien-l	5.34	283	ePn	Pn	21 55 58.4	+0.4
VIVF				eSn	Sn	21 56 57.3	-1.9
	comp=Z,0.4nm,0.3s						
VIVF	Saint-Julien-l	5.34	283	ePn	Pn	21 55 58.4	+0.4
VIVF				eSn	Sn	21 56 57.3	-1.9
	comp=Z,0.2nm,0.3s						
HINF	Hinteralfeld	5.34	320	ePn	Pn	21 55 58.4	+0.4
HINF				eSn	Sn	21 56 57.0	-2.2
	comp=Z,4.2nm,0.4s						
HINF	Hinteralfeld	5.34	320	ePn	Pn	21 55 58.4	+0.4
HINF				eSn	Sn	21 56 57.0	-2.2
	comp=Z,2.1nm,0.4s						
KHC	Kasperske Hory	5.38	11	ePG	Pn	21 55 56.6	-1.9
KHC				eSG	Sn	21 56 59.2	-1.1
CDF	Champ du Feu	5.61	326	ePn	Pn	21 56 02.1	+0.5
HAU	Haudompre	5.71	318	ePn	Pn	21 56 03.7	+0.6
HAU				eSn	Sn	21 57 06.2	-2.3
	comp=Z,4.3nm,0.3s						
HAU	Haudompre	5.71	318	ePn	Pn	21 56 03.7	+0.6
HAU				eSn	Sn	21 57 06.2	-2.3
	comp=Z,2.2nm,0.3s						
LOR	Lormes	6.65	304	ePn	Pn	21 56 16.4	+0.5
LOR				eSn	Sn	21 57 28.7	-2.7
	comp=Z,2.4nm,0.5s						
LOR	Lormes	6.65	304	ePn	Pn	21 56 16.4	+0.5
LOR				eSn	Sn	21 57 28.7	-2.7
	comp=Z,1.2nm,0.5s						
MEZF	Maizieres J'vi	6.69	316	ePn	Pn	21 56 16.4	-0.1
BGF	Bois d'Agland	7.00	296	ePn	Pn	21 56 21.2	+0.5
MTLF	Montolieu	7.12	269	ePn	Pn	21 56 22.7	+0.4
TCF	Toulx Ste Croi	7.34	293	ePn	Pn	21 56 25.7	+0.3
GIVF	Givet	7.94	324	ePn	Pn	21 56 33.5	-0.1
LFF	La Frestale	8.13	282	ePn	Pn	21 56 36.5	+0.3

*IDC **03** 22:09:23.7±2.3, 642S×12946E, h0km, mb3.9/1, mb1 3.5/3, mb1mx3.3/12, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=148.2km s-min=32.2km az=68.0*
*NEIC **03** 22:09:28.4±1.2, 649S×12945E, h35km, Error ellipse:*

s-maj=58.5km s-min=9.4km az=62.0
*ISCJB **03** 22:09:32.0±1.4, 6.7S±0.2×129.4E±0.4, h100km, mb3.9/1, Error ellipse: s-maj=63.0km s-min=9.8km az=129.7*
ISC 03 22:09:34.5±1.4**, 7.0S**±0.2×**129.2E**±0.4**, h100km, n6,** σ**1s35**/9**, mb3.9**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.81**	**159**	Pn	**Pn**	**22 12 46.7**	**+0.8**
	0.2nm,0.3s,baz=343,slow=14,SNR=8.7						
WRA				Sn	**Sn**	**22 15 12.0**	**-5.9**
	0.6nm,0.3s,baz=335,slow=23,SNR=9.0						
WB2	**Warramunga Arr**	**13.82**	**159**	*e*Pn	**Pn**	**22 12 46.9**	**+1.0**
WB2				*e*Sn	**Sn**	**22 15 12.2**	**-5.8**
ASAR	**Alice Springs**	**17.19**	**165**	P	**Pn**	**22 13 31.6**	**+3.3**
	0.1nm,0.3s,baz=341,slow=9.6,SNR=5.2						
ASAR				S	**S**	**22 16 38.5**	**-1.7**
	0.2nm,0.3s,baz=330,slow=17,SNR=4.2						
KULM	**Kulim**	**30.97**	**292**	P	**P**	**22 15 43.3**	**+1.1**
QIZ	**Qiongzhong**	**32.12**	**324**	P	**P**	**22 15 50.3**	**-2.0**
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**22 20 21.4**	**-0.1**
	0.5nm,0.3s,mb3.9,baz=119,slow=8.2,SNR=4.9						

---

*LDG **03** 22:40:17.1±0.2, 18.19S×169.08E, h210km, Mb4.2/2, Error ellipse: s-maj=26.5km s-min=3.6km az=114.0*
*IDC **03** 22:40:18.7±1.6, 18.50S×169.28E, h233km±12km, mb4.3/10, mb1 4.4/11, mb1mx4.3/14, mbtmp4.8/11, Error ellipse: s-maj=16.9km s-min=10.7km az=63.0*
*BJI **03** 22:40:18.9, 18.60S×169.10E, h239km, mB4.9, mb4.5*
*ISCJB **03** 22:40:20.3±0.9, 18.63S±0.06×169.17E±0.06, h258km±8km, mb4.7/24, Error ellipse: s-maj=10.3km s-min=9.1km az=160.3*
*NEIC **03** 22:40:20.9±1.6, 18.65S×169.11E, h239km±14km, mb4.9/19, Error ellipse: s-maj=12.6km s-min=11.0km az=52.0*
ISC 03 22:40:21.2±0.9**, 18.64S**±0.06×**169.20E**±0.06**, h252km**±8km**, n92,** σ**0s95**/58**, mb4.8**/24**, 1C-4D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.28**	**217**	*e*P	**Pn**	**22 41 27.5**	**-0.9**
DZM				*e*S	**S**	**22 42 19.6**	**-2.3**
DZM	**Mont Dzumac**	**4.28**	**217**	P	**Pn**	**22 41 27.6**	**-0.8**
	24nm,0.3s,baz=51,slow=16,SNR=96						
DZM				S	**S**	**22 42 21.4**	**-0.5**
	12nm,0.3s,baz=220,slow=23,SNR=4.2						
HNR	**Honiara**	**12.82**	**314**	P	**Pn**	**22 43 15.5**	**+0.7**
	23nm,0.3s,baz=243,slow=1.0,SNR=32						
HNR	**Honiara**	**12.82**	**314**	*e*Pn	**Pn**	**22 43 15.3**	**+0.5**
	381nm,0.8s						
RAO	**Raoul Island**	**15.80**	**134**	P	**Pn**	**22 43 50.1**	**-0.7**
ARMA	**Armidale**	**19.80**	**230**	*e*P	**P**	**22 44 34.7**	**+1.9**
URZ	**Urewera**	**20.73**	**162**	P	**P**	**22 44 44.0**	**+1.3**
	9.0nm,0.6s,baz=168,slow=1.3,SNR=8.6						
URZ				S	**S**	**22 48 22.4**	**+4.0**
	2.3nm,0.5s,baz=307,slow=20,SNR=3.0						
CTA	**Charters Tower**	**21.70**	**262**	*e*P	**P**	**22 44 52.8**	**+0.6**
	28nm,1.0s,mb4.8						
CTA	**Charters Tower**	**21.70**	**262**	P	**P**	**22 44 52.9**	**+0.7**
	28nm,0.7s,mb4.9,baz=89,slow=12,SNR=27						
CTAO	**Charters Tower**	**21.70**	**262**	*e*P	**P**	**22 44 52.3**	**+0.1**
	52nm,0.9s,mb5.1						
CTAO				*e*		22 45 37.8	
RIV	**Riverview**	**22.10**	**223**	*e*P	**P**	**22 44 58.0**	**+2.2**
PMG	**Port Moresby**	**23.25**	**290**	*e*P	**P**	**22 45 06.4**	**+0.1**
	10.0nm,0.8s,mb4.4						
CNB	**Canberra Magne**	**24.18**	**223**	*e*P	**P**	**22 45 16.4**	**+1.6**
	71nm,1.1s,mb5.2						
RPZ	**Rata Peaks**	**25.05**	**177**	P	**P**	**22 45 22.2**	**-0.3**
	13nm,0.7s,mb4.7,baz=51,slow=6.6,SNR=5.6						
TOO	**Toolangi**	**28.03**	**223**	*e*P	**P**	**22 45 50.3**	**+1.2**
	5.7nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**28.14**	**237**	*e*P	**P**	**22 45 50.9**	**+0.8**
	46nm,0.6s,mb5.3						
STKA				*i*		22 48 58.1	
STKA	**Stephens Creek**	**28.14**	**237**	P	**P**	**22 45 51.3**	**+1.2**
	54nm,0.6s,mb5.4,baz=63,slow=8.4,SNR=188						
STKA				PcP	PcP	22 48 57.4	+0.2
	4.4nm,0.5s,baz=26,slow=5.5,SNR=4.2						
STKA				ScP	ScP	22 52 16.6	+2.8
	2.8nm,0.9s,baz=37,slow=6.3,SNR=3.1						
WB2	**Warramunga Arr**	**32.89**	**262**	*e*P	**P**	**22 46 31.1**	**-0.6**
WB2				*e*		22 49 10.5	
WB2				*e*S	**S**	**22 51 28.1**	**-2.1**
WRAB	**Tennant Creek**	**32.89**	**262**	*e*P	**P**	**22 46 31.1**	**-0.6**
	40nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**32.90**	**262**	P	**P**	**22 46 31.3**	**-0.5**
	18nm,0.6s,mb4.8,baz=94,slow=8.5,SNR=75						
WRA				PcP	PcP	22 49 09.9	+0.1
	2.8nm,0.7s,baz=92,slow=3.0,SNR=6.9						
WRA				S	**S**	**22 51 28.4**	**-2.1**
	5.8nm,0.9s,baz=89,slow=15,SNR=20						
WRA				ScP	ScP	22 52 32.3	+2.7
	4.2nm,0.9s,baz=87,slow=3.8,SNR=12						
AS31	**Alice Springs**	**33.24**	**255**	⇓*i*P	**P**	**22 46 34.7**	**-0.1**
AS31				*e*S	**S**	**22 51 35.6**	**-0.1**
ASAR	**Alice Springs**	**33.24**	**255**	P	**P**	**22 46 34.9**	**+0.1**
	132nm,0.5s,mb5.7,baz=83,slow=8.8,SNR=1769						
ASAR				PcP	PcP	22 49 10.7	-0.1
	1.9nm,0.7s,baz=104,slow=3.0,SNR=4.2						
ASAR				S	**S**	**22 51 35.5**	**-0.2**
	1.7nm,1.0s,baz=84,slow=17,SNR=7.3						
ASPA	**Alice Springs**	**33.25**	**255**	⇓*i*P	**P**	**22 46 34.7**	**-0.1**
ASPA				*e*S	**S**	**22 51 35.6**	**-0.2**
KAKA	**Kakadu**	**35.84**	**274**	⇑*i*P	**P**	**22 46 57.3**	**+0.4**
	8.0nm,0.4s,mb4.6						
FORT	**Forrest**	**39.08**	**244**	⇓*i*P	**P**	**22 47 24.2**	**+0.2**
	37nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**41.27**	**264**	*e*P	**P**	**22 47 42.3**	**+0.3**
	76nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**41.27**	**264**	P	**P**	**22 47 42.8**	**+0.8**
	41nm,0.6s,mb5.0,baz=102,slow=7.7						
MBWA	**Marble Bar**	**46.44**	**258**	*e*P	**P**	**22 48 23.6**	**+0.7**
	69nm,0.8s,mb5.0						
KLBR	**Kellerberrin**	**47.94**	**244**	⇓*i*P	**P**	**22 48 34.2**	**-0.3**
	44nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**48.46**	**242**	*e*P	**P**	**22 48 38.6**	**+0.2**
	54nm,1.0s,mb4.8						
MUN	**Mundaring**	**49.27**	**244**	*e*P	**P**	**22 48 44.7**	**+0.1**
VNDA	**Vanda**	**59.02**	**182**	P	**P**	**22 49 53.4**	**-1.4**
	1.8nm,0.7s,mb3.8,baz=4.4,slow=7.1,SNR=13						
SBA	**Scott Base**	**59.26**	**181**	*e*P	**P**	**22 49 56.4**	**+0.1**
	33nm,1.3s,mb4.8						
SBA				*e*PcP	PcP	22 50 41.3	-0.4
MJAR	**Matsushiro Arr**	**62.21**	**332**	P	**P**	**22 50 15.2**	**-1.0**
	4.1nm,0.8s,mb4.1,baz=164,slow=6.1,SNR=13						
MAJO	**Matsushiro**	**62.21**	**332**	*e*P	**P**	**22 50 16.5**	**+0.3**
	3.5nm,0.5s,mb4.2						
QSPA	**South Pole Qui**	**71.41**	**180**	*e*P	**P**	**22 51 13.8**	**-0.2**
	28nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**72.58**	**331**	P	**P**	**22 51 20.3**	**-0.7**
KMI	**Kunming**	**77.93**	**302**	P	**P**	**22 51 50.1**	**-1.2**
KMI				AP	pP	22 52 51.3	+0.6
MAW	**Mawson**	**78.97**	**202**	*e*P	**P**	**22 51 57.5**	**+0.5**
	15nm,0.8s,mb4.7						
MAW	**Mawson**	**78.97**	**202**	P	**P**	**22 51 57.1**	**+0.1**
	20nm,0.8s,mb4.8,baz=113,slow=6.7,SNR=50						
MAW	**Mawson**	**78.97**	**202**	*e*P	**P**	**22 51 57.1**	**+0.1**
	18nm,0.7s,mb4.8						
HHC	**Hu-ho-hao-te**	**79.75**	**319**	*e*P	**P**	**22 52 03.9**	**+2.7**
HHC				AP	pP	22 53 04.6	+3.8
HHC				PP	PP	22 55 11.0	+5.0
HHC				S	S	23 01 44.5	+2.1
HHC				SKS		23 01 51.4	
HHC				SS	SS	23 07 03.3	+6.3
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,172nm,6.8s						
HHC				LR	LR		
	comp=N,242nm,6.1s						
HHC				LR	LR		
	comp=E,211nm,7.6s						
HHC				LR	LR		
	comp=Z,251nm,8.8s						
SONM	**Songino Array**	**86.72**	**323**	P	**P**	**22 52 36.2**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.7,baz=149,slow=5.8,SNR=7.3						
CMB	**Columbia Colle**	**86.78**	**48**	*e*P	**P**	**22 52 38.0**	**+1.0**
MTUM	**Tungsten Hills**	**87.79**	**49**	*e*P	**P**	**22 52 41.0**	**-0.8**
MCK	**McKinley**	**88.30**	**17**	P	**P**	**22 52 43.5**	**-0.7**
NVAR	**Mina Array Bea**	**88.43**	**49**	P	**P**	**22 52 45.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=219,slow=5.0,SNR=4.2						
SNAA	**Sanae**	**89.75**	**183**	*e*	**P**	**22 52 49.5**	**-1.5**
SNAA				*e*		22 52 51.0	
SNAA				*e*		22 52 54.1	
SNAA	**Sanae**	**89.75**	**183**	*e*P	**P**	**22 52 49.8**	**-1.2**
	comp=Z,15nm,0.8s,mb4.9						
VNA1	**Neumayer--Stat**	**90.93**	**181**	*e*	**P**	**22 52 55.4**	**-1.0**
VNA1				*e*		22 52 56.6	
VNA1				*e*		22 53 00.0	
BOSA	**Boshof**	**121.51**	**217**	PKP	PKPdf	22 58 44.4	-0.2
	comp=Z,2.5nm,0.6s,baz=112,slow=5.8,SNR=15						
SCHQ	**Schefferville**	**124.44**	**36**	PKKPbc	PKKPbc	23 08 33.6	-0.3
	comp=Z,1.6nm,0.6s,baz=45,slow=4.3,SNR=5.7						
ARCES	**ARCESS Array B**	**124.48**	**345**	PKP	PKPdf	22 58 48.4	-1.9
	comp=Z,1.6nm,0.5s,baz=76,slow=1.3,SNR=20						
ARCES				PKKPbc	PKKPbc	23 08 31.6	-2.2
	comp=Z,1.2nm,0.7s,baz=232,slow=2.9,SNR=5.1						
ARCES	**ARCESS Array B**	**124.48**	**345**	PKP	PKPdf	22 58 48.4	-1.9
ARCES				PKKPbc	PKKPbc	23 08 31.6	-2.1
BDFB	**Brasilia**	**129.97**	**131**	PKP	PKPdf	22 59 00.4	-0.4
	comp=Z,2.1nm,0.7s,baz=243,slow=6.8,SNR=3.3						
FINES	**FINESS Array B**	**130.02**	**338**	SKPbc	SKPbc	23 01 59.5	0.0
	comp=Z,3.8nm,0.7s,baz=57,slow=3.9,SNR=13						
MALT	**Malatya**	**133.10**	**305**	*e*PKPdf	PKPdf	22 59 06.6	-0.1
AKASG	**Malin Array Be**	**134.99**	**325**	SKPbc	SKPbc	23 02 17.1	+0.5
	comp=Z,2.1nm,0.8s,baz=42,slow=4.0,SNR=8.4						
BRTR	**Keskin Array B**	**136.42**	**308**	SKPbc	SKPbc	23 02 23.0	+2.0
	comp=Z,0.6nm,0.8s,baz=102,slow=2.9,SNR=4.2						
EIL	**Elat**	**137.08**	**294**	*e*PKPdf	PKPdf	22 59 14.9	+0.9
CSS	**Prodhromos**	**137.75**	**302**	*e*PKPdf	PKPdf	22 59 15.8	+0.5
GERES	**GERESS Array B**	**143.95**	**332**	PKP	PKPdf	22 59 24.2	-2.3
	comp=Z,0.5nm,0.6s,baz=48,slow=2.2,SNR=4.3						
GERES				SKPbc	SKPbc	23 02 42.5	+1.5
	comp=Z,1.2nm,0.8s,baz=243,slow=0.9,SNR=4.9						
GRA1	**Grafenberg Arr**	**144.34**	**335**	*e*PKP	PKPdf	22 59 26.5	-0.6
GRF	**Grafenberg Arr**	**144.34**	**335**	*e*PKP	PKPdf	22 59 26.5	-0.6
BAIF	**Baives**	**146.43**	**342**	*e*PKP1	PKPbc	22 59 32.0	-0.5
	comp=Z,3.5nm,0.5s						
CDF	**Champ du Feu**	**146.88**	**338**	*e*PKP1	PKPbc	22 59 33.2	-0.5
	comp=Z,6.6nm,0.6s						
HINF	**Hinteralfeld**	**147.53**	**338**	*e*PKP1	PKPbc	22 59 34.6	-0.9
	comp=Z,2.6nm,0.6s						
HAU	**Haudompre**	**147.55**	**338**	*e*PKP1	PKPbc	22 59 34.9	-0.7
	comp=Z,3.3nm,0.6s						
MEZF	**Maizieres J'vi**	**147.56**	**340**	*e*PKP1	PKPbc	22 59 35.3	-0.3
	comp=Z,8.0nm,0.5s						
FLN	**La Foliniere**	**148.81**	**347**	*e*PKP1	PKPbc	22 59 37.8	-1.0
	comp=Z,11nm,0.6s						
CABF	**La Chapelle**	**148.83**	**337**	*e*PKP1	PKPbc	22 59 38.7	-0.2
	comp=Z,7.5nm,0.5s						
LDF	**La Druitiere**	**148.89**	**346**	*e*PKP1	PKPbc	22 59 37.9	-1.1
	comp=Z,6.7nm,0.7s						
LOR	**Lormes**	**149.02**	**340**	*e*PKP1	PKPbc	22 59 38.7	-0.6
	comp=Z,9.2nm,0.6s						
GRR	**Gorron**	**149.25**	**347**	*e*PKP1	PKPbc	22 59 39.0	-0.9
	comp=Z,7.0nm,0.6s						
LPL	**La Plagne**	**149.50**	**335**	*e*PKP1	PKPbc	22 59 40.4	-0.1
LPG	**La Plagne**	**149.51**	**335**	*e*PKP1	PKPbc	22 59 40.6	+0.1
	comp=Z,4.4nm,0.6s						
SMF	**Signal de Mont**	**149.58**	**340**	*e*PKP1	PKPbc	22 59 39.8	-0.9
AVF	**Avril sur Loir**	**149.61**	**341**	*e*PKP1	PKPbc	22 59 39.7	-1.1
SGMF	**Saint Gilles**	**149.71**	**349**	*e*PKP1	PKPbc	22 59 39.5	-1.5
MBDF	**Montbardon**	**150.13**	**334**	*e*PKP1	PKPbc	22 59 41.3	-0.7
	comp=Z,5.2nm,0.9s						
ORIF	**Oris-en-Rattie**	**150.33**	**336**	*e*PKP1	PKPbc	22 59 42.1	-0.4
	comp=Z,9.3nm,0.7s						
TCF	**Toulx Ste Croi**	**150.41**	**342**	*e*PKP1	PKPbc	22 59 41.9	-0.8
	comp=Z,4.6nm,0.7s						
SBF	**Sospel**	**150.55**	**333**	*e*PKP1	PKPbc	22 59 42.0	-1.0
	comp=Z,4.3nm,0.5s						
VIVF	**Saint-Julien-l**	**150.84**	**337**	*e*PKP1	PKPbc	22 59 43.1	-0.6
	comp=Z,2.1nm,0.5s						
FRF	**La Foret Royal**	**151.14**	**333**	*e*PKP1	PKPbc	22 59 43.4	-1.0
	comp=Z,5.4nm,0.7s						
SMRF	**Simiane la Rot**	**151.24**	**335**	*e*PKP1	PKPbc	22 59 44.4	-0.2
LMR	**La Mourre**	**151.38**	**333**	*e*PKP1	PKPbc	22 59 44.0	-0.9
	comp=Z,3.2nm,0.6s						
RJF	**Les Rejaudoux**	**151.51**	**342**	*e*PKP1	PKPbc	22 59 44.5	-0.7
LFF	**La Frestale**	**152.07**	**342**	*e*PKP1	PKPbc	22 59 46.4	-0.1
ETSF	**Etsaut**	**154.31**	**342**	*e*PKP1	PKPbc	22 59 51.8	+0.4
	comp=Z,2.8nm,0.7s						
DBIC	**Dimbokro**	**166.77**	**207**	PKPab	PKPab	23 01 01.6	+0.7
	comp=Z,4.4nm,0.7s,baz=112,slow=8.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**166.80**	**247**	PKP	PKPdf	22 59 56.5	+0.2
	comp=Z,2.4nm,1.0s,baz=137,slow=0.5,SNR=10.0						
TORD				PKPab	PKPab	23 01 02.1	+1.1
	comp=Z,0.7nm,0.6s,baz=99,slow=4.5,SNR=9.9						

IDC 03 22:48:59.4±25.0**, 26.79N**×**139.06E, h699**km±323km**, mb3.0**/6**, mb1 3.2**/6**, mb1mx2.7**/18**, mbtmp4.1**/6**, Error ellipse: s-maj=239.9km s-min=21.7km az=68.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.68**	**186**	P	P	22 56 29.5	+0.2
	0.2nm,0.4s,baz=3.7,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**48.52**	**310**	P	P	22 56 42.8	-0.2
	0.2nm,0.2s,baz=86,slow=9.1,SNR=2.6						
BVAR	**Borovoye Array**	**56.38**	**317**	P	P	22 57 38.2	-0.1
	3.1nm,0.4s,baz=88,slow=7.0,SNR=32						
ARCES	**ARCESS Array B**	**72.90**	**340**	P	P	22 59 20.4	-0.6
	3.7nm,1.0s,baz=72,slow=8.0,SNR=4.2						
FINES	**FINESS Array B**	**76.97**	**333**	P	P	22 59 43.2	-0.2
	1.3nm,0.4s,baz=73,slow=5.4,SNR=18						
NOA	**NORSAR Array B**	**82.83**	**337**	P	P	23 00 13.5	-0.2
	1.3nm,0.7s,baz=46,slow=4.9,SNR=3.1						

---

*MOS **03** 22:57:28.9±1.1, 23.87S×178.87E, h548km, mb5.8/18, Error ellipse: s-maj=11.6km s-min=9.0km az=128.9*
*ISCJB **03** 22:57:29.6±0.1, 24.13S±0.02×178.79E±0.03, h565km, mb5.3/102, Error ellipse: s-maj=3.6km s-min=2.8km az=55.7*
*CRAAG **03** 22:57:29.8, 23.91S×178.76E, Mb5.6*
*SZGRF **03** 22:57:29.6, 24.44S×178.96E, h591km, South of Fiji Islands*
*BJI **03** 22:57:29.9, 23.80S×179.14E, h572km, mB5.6, mb5.5*
*GCMT **03** 22:57:30.7±0.1, 23.92S×179.03E, h569km, MW5.9/90, Moment Tensor Solution. s90,c183; s53,c64; Duration: 2s2 Moment tensor: Scale 10^18Nm; M_{rr}-0.23±.01; $M_{\theta\theta}$-0.25±.01; $M_{\phi\phi}$0.48±.01; $M_{r\theta}$-0.50±.01; $M_{\theta\phi}$-0.27±.01; $M_{\phi r}$-0.64±.01; Best double couple: $M_0$0.94500×10^18 NP1:ϕ_s129.00000°, δ31.00000°, λ-165.00000°. NP2: ϕ_s26.00000°, δ83.00000°, λ-60.00000°. Principal axes: T 0.8610, Plg31.0000°, Azm92.0000°; N 0.1660, Plg29.0000°, Azm202.0000°; P -1.0280, Plg44.0000°, Azm326.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*IDC **03** 22:57:30.8±0.5, 24.01S×178.85E, h563km±5km, mb5.1/27, mb1 5.0/29, mb1mx5.0/29, mbtmp5.9/29 Error ellipse: s-maj=8.0km s-min=5.9km az=176.0*
*NEIC **03** 22:57:30.7±0.1, 24.05S×178.82E, mb5.1/47, MW5.9, Error ellipse: s-maj=6.4km s-min=3.9km az=155.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; M_{rr}-5.09; $M_{\theta\theta}$1.37; $M_{\phi\phi}$3.71; $M_{r\theta}$-4.83; $M_{\theta\phi}$1.19; $M_{\phi r}$-7.00; Best double couple: $M_0$9.70000×10^17 NP1:ϕ_s33.00000°, δ76.00000°, λ-86.00000°. NP2:ϕ_s198.00000°, δ15.00000°, λ-104.00000°. Principal axes: T 9.2000, Plg31.0000°, Azm120.0000°; N 1.0000, Plg4.0000°, Azm212.0000°; P -10.2000, Plg59.0000°, Azm308.0000°;*
*BGS **03** 22:57:35.5±5.6, 24.05S×178.82E, h568km, mb5.1(NEIC)*
ISC 03 22:57:30.8±0.1**, 24.15S**±0.03×**178.87E**±0.03**, h567**km±1.6km**:pP-P, n1043,** σ**1s07**/366**, mb5.3**/99**, 52C-99D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.84**	**151**	P	**P**	**22 59 08.9**	**+0.1**
	1µm,0.3s,baz=124,slow=21,SNR=37						
RAO				S	**S**	**23 00 29.9**	**+1.0**
	76nm,0.3s,baz=270,slow=20,SNR=2.2						
RAO	**Raoul Island**	**5.84**	**151**	P	**P**	**22 59 08.9**	**+0.1**
RAO				S	**S**	**23 00 29.9**	**+1.0**
RAO				smax			
	comp=N,76nm,0.3s						
RAO	**Raoul Island**	**5.84**	**151**	⇓*i*P	**P**	**22 59 09.3**	**+0.6**
RAO				*e*S	**S**	**23 00 31.9**	**+3.0**
DZM	**Mont Dzumac**	**11.62**	**278**	*e*P	**P**	**23 00 07.3**	**+1.9**
DZM				*e*S	**S**	**23 02 15.8**	**+3.3**
DZM	**Mont Dzumac**	**11.62**	**278**	P	**P**	**23 00 07.5**	**+2.1**
	comp=N,61nm,0.3s,baz=95,slow=11,SNR=381						
DZM				S	**S**	**23 02 13.9**	**+1.4**
	comp=N,0.2nm,0.3s,baz=252,slow=20,SNR=1.9						
DZM				ScP	ScP	23 07 46.1	+4.0
	comp=N,0.9nm,0.3s,baz=33,slow=21,SNR=12						
WCZ	**Waipu Caves**	**12.39**	**197**	PN	**P**	**23 00 16.3**	**+3.1**
MXZ	**Matakaoa Point**	**13.38**	**182**	PN	**P**	**23 00 20.4**	**-3.0**
AFI	**Afiamalu**	**13.48**	**43**	P	**P**	**23 00 18.7**	**-5.8**
	comp=N,57nm,0.3s,baz=24,slow=3.9,SNR=67						
AFI				S	**S**	**23 02 34.3**	**-13**
	comp=N,23nm,0.3s,baz=164,slow=20,SNR=6.8						
AFI				ScP	ScP	23 07 46.6	+1.7
	comp=N,4.2nm,0.3s,baz=142,slow=0.7,SNR=5.5						
AFI	**Afiamalu**	**13.48**	**43**	P	**P**	**23 00 18.7**	**-5.8**
AFI				S	**S**	**23 02 34.3**	**-13**
AFI				pmax	pmax		
	comp=Z,57nm,0.3s						
AFI				smax			
	comp=N,23nm,0.3s						
AFI				pmax	pmax		
	comp=N,4.0nm,0.3s						
AFI	**Afiamalu**	**13.48**	**43**	⇓*i*P	**P**	**23 00 19.2**	**-5.3**
AFI				*e*S	**S**	**23 02 33.0**	**-14**
PUZ	**Puketiti**	**13.89**	**182**	PN	**P**	**23 00 24.8**	**-3.8**
PUZ				SN	**S**	**23 02 49.7**	**-5.3**
URZ	**Urewera**	**14.15**	**186**	P	**P**	**23 00 28.0**	**-3.3**
	comp=N,14nm,0.3s,baz=4.8,slow=3.9,SNR=64						
URZ				S	**S**	**23 02 55.9**	**-3.9**
	comp=N,15nm,0.3s,baz=24,slow=20,SNR=14						
URZ	**Urewera**	**14.15**	**186**	PN	**P**	**23 00 28.2**	**-3.1**
URZ				*e*SN	**S**	**23 02 55.2**	**-4.7**
MWZ	**Matawai**	**14.19**	**184**	PN	**P**	**23 00 29.2**	**-2.5**
HIZ	**Hauiti**	**14.72**	**192**	PN	**P**	**23 00 38.4**	**+1.2**
KNZ	**Kokohu**	**14.86**	**184**	PN	**P**	**23 00 36.4**	**-2.2**
BKZ	**Black Stump Fm**	**15.11**	**187**	PN	**P**	**23 00 38.1**	**-3.0**
WNVZ	**Wahianoa**	**15.39**	**190**	PN	**P**	**23 00 42.6**	**-1.2**
MOVZ	**Moawhango**	**15.44**	**189**	PN	**P**	**23 00 42.7**	**-1.6**
FUNA	**Funafuti**	**15.54**	**1**	*e*P	**P**	**23 00 41.1**	**-4.2**
FUNA				*e*S	**S**	**23 03 22.6**	**-1.4**
WAZ	**Wanganui**	**15.90**	**191**	PN	**P**	**23 00 48.1**	**-0.5**
PXZ	**Pawanui**	**15.93**	**186**	PN	**P**	**23 00 45.9**	**-2.9**
PXZ				SN	**S**	**23 03 25.3**	**-5.2**
TSZ	**Takapari Road**	**16.05**	**188**	PN	**P**	**23 00 48.4**	**-1.6**
MRZ	**Mangatainoka R**	**16.70**	**189**	PN	**P**	**23 00 53.8**	**-2.1**
KIW	**Kapiti Island**	**17.00**	**190**	PN	**P**	**23 00 57.5**	**-1.1**
DUWZ	**D'Urville Isla**	**17.12**	**193**	PN	**P**	**23 00 59.4**	**-0.4**
DUWZ				SN	**S**	**23 03 52.2**	**+2.2**
QRZ	**Quartz Range**	**17.46**	**196**	PN	**P**	**23 01 03.4**	**+0.5**
QRZ				SN	**S**	**23 03 57.5**	**+1.9**
NNZ	**Nelson**	**17.63**	**194**	PN	**P**	**23 01 03.7**	**-0.8**
NNZ				SN	**S**	**23 03 55.3**	**-3.0**
THZ	**Tophouse**	**18.26**	**194**	PN	**P**	**23 01 09.7**	**-0.5**
THZ				SN	**S**	**23 04 05.0**	**-3.5**
DSZ	**Denniston Nort**	**18.51**	**197**	PN	**P**	**23 01 13.6**	**+1.2**
KHZ	**Kahutara**	**18.75**	**192**	PN	**P**	**23 01 13.6**	**-1.0**
KHZ				SN	**S**	**23 04 13.7**	**-2.7**
LTZ	**Lake Taylor**	**19.37**	**195**	PN	**P**	**23 01 19.7**	**-0.6**
RAR	**Rarotonga**	**19.92**	**86**	P	**P**	**23 01 24.1**	**-1.2**
	comp=N,14nm,0.3s,baz=247,slow=7.9,SNR=23						
RAR				ScP	ScP	23 07 57.9	-0.2
	comp=N,0.8nm,0.3s,baz=5.6,slow=4.1,SNR=3.8						
RAR	**Rarotonga**	**19.92**	**86**	P	**P**	**23 01 24.1**	**-1.2**
RAR				pmax	pmax		
	comp=Z,14nm,0.3s						
RAR				pmax	pmax		
	comp=N,1.0nm,0.3s						
WVZ	**Waitaha Valley**	**20.04**	**198**	PN	**P**	**23 01 26.4**	**+0.1**
MQZ	**McQueen's Vall**	**20.17**	**193**	PN	**P**	**23 01 27.3**	**-0.2**
RPZ	**Rata Peaks**	**20.55**	**196**	P	**P**	**23 01 31.8**	**+0.8**
	comp=N,66nm,0.6s,baz=335,slow=1.4,SNR=25						
RPZ				ScP	ScP	23 08 00.1	+0.5
	comp=N,15nm,0.6s,baz=73,slow=11,SNR=3.3						
FOZ	**Fox Glacier**	**20.79**	**199**	PN	**P**	**23 01 31.8**	**-1.2**
FOZ				SN	**S**	**23 04 43.5**	**-5.3**
LBZ	**Lake Benmore**	**21.40**	**197**	PN	**P**	**23 01 37.1**	**-1.5**
HNR	**Honiara**	**23.24**	**306**	P	**P**	**23 01 54.5**	**-0.5**
	comp=N,1µm,0.7s,baz=129,slow=1.1,SNR=56						
HNR	**Honiara**	**23.24**	**306**	⇓*i*P	**P**	**23 01 53.2**	**-1.8**
HNR				*e*PcP	PcP	23 05 21.8	0.0
ARMA	**Armidale**	**24.97**	**250**	*e*P	**P**	**23 02 13.0**	**+2.7**
ARMA				*e*sP	sP	23 04 45.5	+0.7
ARMA				*e*SCP	ScP	23 08 14.3	+2.9
ARMA				*e*SCS	ScS	23 12 07.0	+6.3
CNB	**Canberra Magne**	**27.83**	**240**	*e*P	**P**	**23 02 37.9**	**+2.5**
	comp=N,265nm,1.1s,mb5.8						
CNB				*e*PCP	PcP	23 05 34.1	+1.5
CNB				*e*S	**S**	**23 06 44.1**	**+4.7**
CNB				*e*SCP	ScP	23 08 23.9	+3.9
TBI	**Tubuai**	**28.97**	**95**	*e*P	**P**	**23 02 45.6**	**+0.3**
	comp=N,660nm,0.8s,mb6.3						
PAE	**Paea**	**30.13**	**84**	*e*P	**P**	**23 02 54.7**	**-0.6**
	comp=N,937nm,1.4s,mb6.1						
PPT	**Papeete**	**30.16**	**84**	*e*P	**P**	**23 02 55.2**	**-0.4**
	comp=N,508nm,1.4s,mb5.9						
PPT				*e*pP		23 04 25.8	
	comp=N,168nm,1.5s						
PPT				*e*ScP	ScP	23 08 28.3	+0.8
	comp=N,85nm,1.1s						
PPT	**Papeete**	**30.16**	**84**	P	**P**	**23 02 55.4**	**-0.2**
	comp=N,120nm,0.3s,mb5.8,baz=245,slow=7.8,SNR=10						
PPT				ScP	ScP	23 08 28.5	+1.1
	comp=N,79nm,0.9s,baz=287,slow=1.4,SNR=3.8						
PPT	**Papeete**	**30.16**	**84**	P	**P**	**23 02 55.4**	**-0.2**
PPT				pmax	pmax		
	comp=Z,120nm,0.4s						
PPT				pmax	pmax		
	comp=N,79nm,0.9s						
TVO	**Taravao**	**30.39**	**84**	*e*P	**P**	**23 02 57.1**	**-0.5**
	comp=N,665nm,0.8s,mb6.2						
CTA	**Charters Tower**	**30.44**	**271**	⇓*i*P	**P**	**23 02 59.5**	**+1.5**
	comp=N,524nm,0.3s						
CTA				*e*PP	PP	23 04 30.4	-7.4
CTA				*e*PCP	PcP	23 05 35.6	-3.8
CTA				*e*sP	sP	23 05 40.6	+4.3
CTA				*i* S	**S**	**23 07 21.3**	**+1.6**
CTA				*e*SCP	ScP	23 08 32.6	+4.2
CTA				*e*SS	SS	23 10 08.4	-19
CTA				*e*SCS	ScS	23 12 31.2	+5.2
CTA	**Charters Tower**	**30.44**	**271**	P	**P**	**23 02 59.6**	**+1.6**
	comp=N,744nm,0.4s,baz=94,slow=10,SNR=1077						
CTA				PcP	PcP	23 05 41.2	+1.8
	comp=N,46nm,0.7s,baz=48,slow=2.3,SNR=5.3						
CTA				S	**S**	**23 07 20.8**	**+1.1**
	comp=N,53nm,1.1s,baz=265,slow=17,SNR=18						
CTA				ScP	ScP	23 08 32.1	+3.7
	comp=N,49nm,1.0s,baz=118,slow=4.1,SNR=6.5						
CTA	**Charters Tower**	**30.44**	**271**	P	**P**	**23 02 59.6**	**+1.6**
CTA						23 05 41.2	
CTA				S	**S**	**23 07 20.8**	**+1.1**
CTA				pmax	pmax		
	comp=Z,744nm,0.4s						
CTA				pmax	pmax		
	comp=Z,46nm,0.7s						
CTA				smax			
	comp=N,53nm,1.1s						
CTA				pmax	pmax		
	comp=N,49nm,1.0s						
CTAO	**Charters Tower**	**30.44**	**271**	*e*P	**P**	**23 02 59.4**	**+1.4**
CTAO				*e*pP		23 04 31.3	
TOO	**Toolangi**	**31.45**	**237**	⇑*i*P	**P**	**23 03 08.4**	**+1.8**
	comp=N,73nm,1.1s,mb5.1						
TOO				*e*PCP	PcP	23 05 43.7	+1.6
TOO				*e*S	**S**	**23 07 38.7**	**+3.7**
TOO				*e*SCP	ScP	23 08 35.4	+3.6
PMOR	**Pomariorio Ree**	**32.54**	**80**	*e*P	**P**	**23 03 15.3**	**-0.6**
	comp=N,337nm,1.0s,mb5.8						
PMOR				*e*ScP	ScP	23 08 36.4	+0.8
	comp=N,139nm,0.9s						
VAH	**Vaihoa**	**32.70**	**81**	*e*P	**P**	**23 03 16.5**	**-0.7**
	comp=N,386nm,0.9s,mb5.9						
VAH				*e*ScP	ScP	23 08 36.7	+0.6
	comp=N,98nm,0.9s						
PMG	**Port Moresby**	**33.60**	**290**	P	**P**	**23 03 25.8**	**+1.0**
	comp=N,879nm,0.8s,mb6.3,baz=112,slow=7.1,SNR=265						
PMG	**Port Moresby**	**33.60**	**290**	*d i*P	**P**	**23 03 25.2**	**+0.4**
PMG	**Port Moresby**	**33.60**	**290**	*e*P	**P**	**23 03 25.1**	**+0.3**
PMG				*e*pP		23 05 04.9	
STKA	**Stephens Creek**	**33.67**	**248**	*e*P	**P**	**23 03 26.5**	**+1.1**
	comp=N,106nm,1.3s,mb5.2						
STKA				*e*PCP	PcP	23 05 49.9	+1.5
STKA				*i* S	**S**	**23 08 08.7**	**-0.1**
STKA				*e*SCP	ScP	23 08 43.2	+3.6
STKA				*e*SS	SS	23 11 14.5	-6.9
STKA				*e*SCS	ScS	23 12 43.7	+0.9
STKA	**Stephens Creek**	**33.67**	**248**	P	**P**	**23 03 27.2**	**+1.9**
	comp=N,84nm,0.6s,mb5.5,baz=92,slow=9.2,SNR=147						
STKA				PcP	PcP	23 05 49.5	+1.1

STKA S **S** **23 08 10.1 +1.3**
comp=N,8.9nm,0.8s,baz=276,slow=15,SNR=3.2
STKA ScP ScP 23 08 42.1 +2.5
comp=N,25nm,0.9s,baz=15,slow=5.4,SNR=4.8
STKA ScS ScS 23 12 43.9 +1.1
comp=N,4.9nm,0.8s,baz=221,slow=22,SNR=6.5
STKA Stephens Creek 33.67 248 *e*P **P** **23 03 27.1 +1.8**
STKA *ep*P 23 05 02.3
STKA *e*PP PP 23 05 06.0 -1.6
STKA *e*PcP PcP 23 05 49.6 +1.2
STKA *e*S **S** **23 08 09.9 +1.1**
STKA *e*ScP ScP 23 08 42.6 +3.1
AS31 Alice Springs 40.97 261⇓*e*P **P** **23 04 25.6 +0.7**
AS31 *ep*P pP 23 06 03.0 -0.9
AS31 *e*PcP PcP 23 06 10.7 -0.6
AS31 *es*P sP 23 07 06.8 -1.0
AS31 *e*ScP ScP 23 09 10.8 +3.5
AS31 *e*S **S** **23 09 56.0 -0.6**
ASAR Alice Springs 40.97 261 P **P** **23 04 25.9 +1.0**
comp=N,266nm,0.8s,mb5.8,baz=93,slow=7.9,SNR=929
ASAR PcP PcP 23 06 12.3 +1.0
comp=N,31nm,0.7s,baz=103,slow=5.3,SNR=6.7
ASAR ScP ScP 23 09 11.2 +3.9
comp=N,22nm,0.8s,baz=112,slow=3.8,SNR=10
ASAR S **S** **23 09 55.9 -0.8**
comp=N,22nm,0.8s,baz=99,slow=15,SNR=10
ASAR ScS ScS 23 13 26.6 +1.5
comp=N,6.2nm,1.1s,baz=102,slow=6.9,SNR=4.5
ASAR P4KPbc 23 42 22.2
comp=N,0.7nm,0.8s,baz=105,slow=4.8,SNR=8.0
ASAR Alice Springs 40.97 261 P **P** **23 04 25.9 +1.0**
ASAR 23 06 12.3
ASAR S **S** **23 09 55.9 -0.7**
ASAR 23 13 26.6
ASAR pmax pmax
comp=Z,266nm,0.8s
ASAR pmax pmax
comp=Z,31nm,0.7s
ASAR pmax pmax
comp=N,22nm,0.8s
ASAR smax
comp=N,22nm,0.8s
ASAR pmax pmax
comp=N,6.0nm,1.1s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASPA Alice Springs 40.98 261⇓*i*P **P** **23 04 25.8 +0.8**
WB2 Warramunga Arr 41.35 267⇓*i*P **P** **23 04 28.1 +0.2**
WB2 *es*P sP 23 07 07.8 -3.1
WB2 *i* S **S** **23 10 00.3 -1.7**
WB2 *e*SS SS 23 13 26.6 -1.2
WB2 Warramunga Arr 41.35 267⇓*e*P **P** **23 04 28.2 +0.3**
WB2 *ep*P pP 23 06 05.5 -1.6
WB2 *e*PcP PcP 23 06 12.8 +0.3
WB2 *es*P sP 23 07 06.9 -4.0
WB2 *e*ScP ScP 23 09 13.0 +4.2
WB2 *e*S **S** **23 10 00.4 -1.6**
WRAB Tennant Creek 41.35 267*d*/*i*P **P** **23 04 28.1 +0.2**
WRAB Tennant Creek 41.35 267 *e*P **P** **23 04 28.2 +0.3**
WRAB *ep*P pP 23 06 14.3 +7.2
WRA Warramunga Arr 41.36 267 P **P** **23 04 28.1 +0.1**
comp=Z,210nm,0.5s,mb5.9,baz=104,slow=8.4,SNR=400
WRA PcP PcP 23 06 13.8 +1.2
comp=Z,42nm,1.0s,baz=104,slow=3.7,SNR=6.8
WRA ScP ScP 23 09 12.4 +3.5
comp=Z,58nm,0.8s,baz=99,slow=4.3,SNR=19
WRA S **S** **23 10 00.6 -1.6**
comp=Z,42nm,1.0s,baz=107,slow=14,SNR=14
WRA Warramunga Arr 41.36 267 P **P** **23 04 28.1 +0.1**
WRA 23 06 13.8
WRA S **S** **23 10 00.6 -1.6**
WRA pmax pmax
comp=Z,210nm,0.5s
WRA pmax pmax
comp=Z,42nm,1.0s
WRA pmax pmax
comp=N,58nm,0.8s
WRA smax
comp=N,42nm,1.0s
FORT Forrest 45.25 250 *e*P **P** **23 04 58.3 +0.1**
comp=N,543nm,0.6s,mb6.3
FORT *e*SCP ScP 23 09 27.9 +3.1
FORT *e*S **S** **23 10 56.7 -0.8**
KAKA Kakadu 45.30 276⇓*i*P **P** **23 04 58.4 -0.2**
comp=N,195nm,0.4s,mb6.0
KAKA *e*SCP ScP 23 09 27.3 +2.3
KAKA *e*S **S** **23 10 57.0 -1.2**
FITZ Fitzroy Crossi 49.78 266⇓*i*P **P** **23 05 32.8 +0.8**
comp=N,370nm,0.7s,mb5.9
FITZ *i* S **S** **23 12 01.8 +2.0**
FITZ *e*SS SS 23 15 50.0 +7.8
FITZ Fitzroy Crossi 49.78 266 P **P** **23 05 32.9 +0.8**
comp=N,193nm,0.7s,mb5.7,baz=117,slow=7.0,SNR=329
FITZ ScP ScP 23 09 48.0 +4.0
comp=N,17nm,0.9s,baz=127,slow=7.9,SNR=5.9
FITZ S **S** **23 11 59.1 -0.7**
comp=N,6.3nm,0.8s,baz=277,slow=20,SNR=12
GUMO Guam 50.10 315 P **P** **23 05 33.7 -0.6**
comp=N,420nm,0.7s,mb6.0,baz=176,slow=10,SNR=27
GUMO Guam 50.10 315 P **P** **23 05 33.7 -0.7**
GUMO pmax pmax
comp=Z,420nm,0.7s,mb6.0
POHA Pohakuloa 50.26 32 P **P** **23 05 35.4 -0.1**
KLBR Kellerberrin 53.94 248 *e*P **P** **23 06 01.9 0.0**
comp=Z,226nm,0.8s,mb5.5
VNDA Vanda 54.05 185 P **P** **23 06 03.7 +1.0**
comp=Z,12nm,0.7s,baz=351,slow=7.9,SNR=59
VNDA ScP ScP 23 10 02.2 -0.3
comp=Z,9.9nm,0.8s,baz=339,slow=4.3,SNR=7.4
VNDA Vanda 54.05 185 P **P** **23 06 03.7 +1.0**
VNDA pmax pmax
comp=Z,12nm,0.7s
VNDA pmax pmax
comp=N,10.0nm,0.8s
VNDA Vanda 54.05 185 *e*P **P** **23 06 03.6 +1.0**
VNDA *ep*P pP 23 07 52.7 +2.6
SBA Scott Base 54.07 183 *e*P **P** **23 06 05.4 +2.6**
comp=N,59nm,0.8s,mb5.0
SBA *ep*P pP 23 07 57.5 +7.2
NWAO Narrogin (SRO) 54.19 246 P **P** **23 06 04.0 +0.3**
comp=N,52nm,0.7s,mb5.0,baz=113,slow=7.2,SNR=44
NWAO Narrogin (SRO) 54.19 246 P **P** **23 06 04.0 +0.4**
NWAO pmax pmax
comp=Z,52nm,0.7s
NWAO Narrogin (SRO) 54.19 246 P **P** **23 06 04.0 +0.3**
MBWA Marble Bar 54.31 261 P **P** **23 06 05.2 +0.7**
SNR=19
MBWA Marble Bar 54.31 261 *e*P **P** **23 06 04.5 +0.1**
comp=Z,305nm,1.0s,mb5.6
MBWA *ep*P pP 23 07 52.7 +0.6
MBWA *e*ScP ScP 23 10 07.0 +3.3
MUN Mundaring 55.18 247 *e*P **P** **23 06 11.0 +0.4**
KAPI Kappang 59.84 279 P **P** **23 06 41.7 -0.5**
comp=Z,648nm,0.9s,mb6.0,SNR=18
DAV Davao City (W) 60.51 294 P **P** **23 06 46.7 +0.1**
SNR=11
DAV Davao City (W) 60.51 294 *e*P **P** **23 06 47.9 +1.3**
BUKP Musuan 61.38 294 *e*P **P** **23 06 53.0 +0.7**
BUTP Butuan 61.51 296 *e*P **P** **23 06 53.0 -0.2**
CGP Cagayan de Oro 61.99 295⇓*e*P **P** **23 06 56.7 +0.4**
comp=Z,8581μm,1.0s
CBIJ Chichi jima 62.04 323 P **P** **23 06 56.0 -0.7**
comp=Z,287nm,0.5s,mb6.0,baz=280,slow=5.5,SNR=9.4
SCPH Surigao 62.06 296 *e*P **P** **23 06 56.3 -0.5**
PAGZ Pagadian 62.76 293 *e*P **P** **23 07 01.9 +0.6**
MSLP Maasin 62.77 296 *e*P **P** **23 07 01.3 -0.1**
PLP Palo 63.25 297 *e*P **P** **23 07 03.1 -1.3**
TBP Tagbilaran 63.35 295 *e*P **P** **23 07 06.3 +1.2**
LLP Lapu-Lapu 63.61 296 *e*P **P** **23 07 06.4 -0.3**
RPN Rapa Nui 63.97 110 P **P** **23 07 11.2 +2.2**
comp=Z,230nm,0.8s,mb5.7,baz=290,slow=3.2,SNR=8.3
GUIM Jordan 64.91 295 *e*P **P** **23 07 13.5 -1.5**
PVCP Virac 65.28 299 *e*P **P** **23 07 17.3 +0.1**
RCP Roxas 65.29 296⇓*e*P **P** **23 07 16.6 -0.7**
TSM Tawau 65.70 287 P **P** **23 07 21.1 +1.2**
OTRP Odiongan 66.32 297 *e*P **P** **23 07 23.1 -0.6**
MIR Mirnyy 66.47 206*c*/*i*P **P** **23 07 27.5 +2.9**
MIR pmax pmax
comp=Z,300nm,1.9s,mb5.5
BOAC Boac 67.06 298 *e*P **P** **23 07 27.3 -1.0**
ENPP El Nido 67.84 294 *e*P **P** **23 07 33.5 +0.5**
KKM Kota Kinabalu 67.99 288 P **P** **23 07 34.9 +1.0**
KKM Kota Kinabalu 67.99 288⇓*i*P **P** **23 07 33.6 -0.3**

KKM *e*PP PP 23 10 11.0 -2.9
KKM *es*P sP 23 10 26.2 -1.7
JHJ Hachijo jima 2 68.05 325 P **P** **23 07 34.1 -0.1**
comp=Z,985nm,0.6s,baz=178,slow=8.9,SNR=13
TGY Tagaytay City 68.15 298 P **P** **23 07 35.3 +0.4**
comp=Z,300nm,0.5s,baz=69,slow=12,SNR=10
TGY Tagaytay City 68.15 298 P **P** **23 07 35.3 +0.4**
TGY pmax pmax
comp=Z,300nm,0.5s
LUBP Lubang 68.51 297 *e*P **P** **23 07 34.8 -2.3**
SCZP Santa Cruz 69.90 299 *e*P **P** **23 07 43.6 -1.8**
BOLP Bolinao 70.23 299 *e*P **P** **23 07 46.7 -0.7**
ABRA Dolores 70.31 301 *e*P **P** **23 07 49.3 +1.5**
JOW Kunigami 70.39 313 P **P** **23 07 48.3 0.0**
comp=Z,335nm,0.7s,mb6.0,baz=163,slow=5.2,SNR=70
KSM Kuching 71.13 280⇓*i*P **P** **23 07 53.0 +0.4**
KSM *ep*P pP 23 09 47.9 -1.0
KSM *e*PP PP 23 10 38.3 -2.2
KSM *es*P sP 23 10 47.4 -0.3
MJAR Matsushiro Arr 71.52 326 P **P** **23 07 54.0 -0.9**
comp=Z,254nm,0.7s,mb5.7,baz=158,slow=4.9,SNR=490
MJAR Matsushiro Arr 71.52 326 P **P** **23 07 54.0 -0.9**
MJAR pmax pmax
comp=Z,254nm,0.7s
MAJO Matsushiro 71.52 326 *e*P **P** **23 07 54.2 -0.7**
NACB Ninganchiao 73.42 307⇓*i*P **P** **23 08 04.2 -1.7**
NACB *ep*P pP 23 09 58.2 -4.9
NACB *e*PP PP 23 10 57.1 -2.6
NACB *es*P sP 23 11 03.3 +1.7
ERM Erimo 73.65 333⇑*i*P **P** **23 08 07.5 +0.3**
comp=Z,95nm,0.9s,mb5.2
YHNB Yeheng 73.87 307⇓*i*P **P** **23 08 07.1 -1.3**
YHNB *ep*P pP 23 10 05.1 -0.8
TATO Taipei 73.97 307 P **P** **23 08 08.6 -0.3**
SNR=18
TATO P 23 08 08.9
SNR=8.8
TATO Taipei 73.97 307 *e*P **P** **23 08 08.4 -0.6**
AMKA Amchitka 75.19 0⇓*e*P **P** **23 08 14.5 -1.3**
AMKA *ep*P pP 23 10 13.4 -0.5
ASAJ Asahikawa 75.62 334 P **P** **23 08 19.1 +0.9**
comp=Z,168nm,0.8s,mb5.5,baz=218,slow=9.1,SNR=55
ASAJ Asahikawa 75.62 334 P **P** **23 08 19.1 +0.9**
ASAJ pmax pmax
comp=Z,168nm,0.8s
QZH Quanzhou 76.08 306 *i* PR **P** **23 08 20.5 -0.2**
QZH AP pP 23 10 18.0 -1.1
QZH XP sP 23 11 14.0 -3.3
QZH S S 23 17 17.7 -1.0
QZH AMB AMB
comp=Z,190nm,1.1s,mb5.4
QZH AMB AMB
comp=Z,2μm,3.7s
SMY Shemya 76.66 357 *e*P **P** **23 08 23.6 -0.3**
comp=Z,729nm,1.4s,mb5.9
SMY LR LR
comp=Z,500nm,21.0s
MAW Mawson 77.16 201 *e*P **P** **23 08 27.1 +0.5**
comp=Z,19nm,0.6s,mb4.7
MAW *e*S S 23 17 27.8 -2.4
MAW *i* SS sS 23 21 02.9 +0.9
MAW Mawson 77.16 201 P **P** **23 08 27.8 +1.2**
comp=Z,20nm,0.7s,mb4.7,baz=122,slow=7.2,SNR=66
MAW Mawson 77.16 201 P **P** **23 08 27.8 +1.2**
MAW pmax pmax
comp=Z,20nm,0.7s
SKR Severo-Kuril's 77.17 345 *e*P **P** **23 08 20.5 -6.2**
SKR pmax pmax
comp=N,80nm,0.6s
SKR pmax pmax
comp=E,80nm,0.6s
SKR pmax pmax
comp=Z,170nm,0.6s,mb5.7
SKR pmax pmax
comp=Z,2μm,1.0s
NIKO Nikolski 77.53 8 *e*P **P** **23 08 27.2 -1.4**
KGM Kluang 77.66 278 P **P** **23 08 30.5 +1.1**
SSE Sheshan 77.88 312 P **P** **23 08 30.0 -0.5**
SSE AP pP 23 10 29.6 -0.1
SSE XP sP 23 11 27.3 -0.3
SSE PP PP 23 11 34.0 -2.7
SSE S S 23 17 37.2 -0.6
SSE XS sS 23 21 11.2 +1.0
SSE SS SS 23 22 55.0 +0.3
SSE AMB AMB
comp=Z,50nm,0.9s,mb4.8
SSE AMB AMB
comp=Z,494nm,6.8s
YSS Yuzh-Sakhalins 77.92 336 *e*P **P** **23 08 30.1 -0.7**
YSS *e* 23 08 39.8
YSS *e* 23 11 25.0
YSS pmax pmax
comp=Z,300nm,0.8s,mb5.7
YSS pmax pmax
comp=N,150nm,0.9s
YSS pmax pmax
comp=E,200nm,0.8s
YSS Yuzh-Sakhalins 77.92 336 *e*P **P** **23 08 31.2 +0.5**
INCN Inchon 78.55 320 P **P** **23 08 34.8 +0.7**
SNR=9.9
INCN Inchon 78.55 320 *e*P **P** **23 08 34.5 +0.4**
PET Petropavlovsk 78.83 348*b*/*i*P **P** **23 08 34.8 -0.8**
PET *e**SP sP 23 11 41.4 +8.4
PET *i* S S 23 17 46.8 -0.9
PET pmax pmax
comp=Z,217nm,0.5s,mb5.7
PET pmax pmax
comp=N,122nm,0.7s
PET pmax pmax
comp=Z,1μm,3.6s
PET pmax pmax
comp=Z,800nm,10.4s
PET pmax pmax
comp=Z,70nm,1.2s,mb4.9
PET pmax pmax
comp=Z,300nm,4.0s
PET pmax pmax
comp=Z,400nm,2.0s,mb5.4
PET pmax pmax
comp=Z,104nm,1.4s,mb5.0
PET smax
comp=N,1μm,6.7s
PET smax
comp=E,900nm,5.7s
PET smax
comp=E,800nm,13.6s
PET smax
comp=N,900nm,13.9s
PET smax
comp=E,58nm,1.0s
PET smax
comp=N,58nm,1.0s
PET Petropavlovsk 78.83 348 *e*P **P** **23 08 34.4 -1.2**
GZH Guangzhou 79.05 301 P **P** **23 08 36.9 +0.1**
GZH S S 23 17 46.5 -3.4
GZH AMB AMB
comp=Z,138nm,1.0s,mb5.2
AKUT Akutan 79.08 9⇓*i*P **P** **23 08 34.4 -2.5**
AKUT *e*PcP PcP 23 08 41.9 -1.1
PMSA Palmer Station 79.09 157 *e*P **P** **23 08 38.1 +1.1**
VLA Vladivostok 79.67 327 *e*P **P** **23 08 39.7 -0.3**
VLA *e**PP pP 23 10 37.8 -2.1
VLA *e* 23 11 47.2
VLA *e*S S 23 17 59.0 +2.7
VLA pmax pmax
comp=Z,102nm,0.7s,mb5.3
VLA Vladivostok 79.67 327 *i* P **P** **23 08 42.2 +2.2**
QIZ Qiongzhong 79.77 296 P **P** **23 08 41.4 +0.8**
QIZ AP pP 23 10 45.5 +5.0
QIZ XP sP 23 11 34.5 -3.7
QIZ S S 23 17 59.2 +1.8
QIZ AMB AMB
comp=Z,49nm,0.9s,mb4.8
QIZ AMB AMB
comp=Z,455nm,13.0s
QIZ Qiongzhong 79.77 296⇓*i*P **P** **23 08 40.3 -0.3**
comp=Z,33nm,0.8s,mb4.7
QIZ *ep*P pP 23 10 41.2 +0.7
QIZ *es*P sP 23 11 37.8 -0.5
QIZ *e*PP PP 23 11 59.0 +6.8
NJ2 Nanjing 80.04 312 *e*P **P** **23 08 42.8 +0.8**
NJ2 AP pP 23 10 38.6 -3.4
NJ2 PP PP 23 11 56.3 +1.9
NJ2 S S 23 18 02.0 +1.9

NJ2 AMB AMB
comp=Z,1μm,10.6s
IPM Ipoh 80.78 279 P **P** **23 08 46.2 +0.4**
SDPT Sand Point 81.12 12 *e*P **P** **23 08 45.5 -2.1**
KULM Kulim 81.46 280⇓*i*P **P** **23 08 49.6 +0.3**
KULM *ep*P pP 23 10 48.9 -1.0
KULM *es*P sP 23 11 49.5 +2.0
MDJ Mudanjiang 81.90 327 P **P** **23 08 51.5 0.0**
MDJ AP pP 23 10 52.8 +0.5
MDJ XP sP 23 11 50.7 +0.9
MDJ PP PP 23 12 07.5 -1.9
MDJ S S 23 18 16.0 -2.8
MDJ XS sS 23 21 53.1 -0.9
MDJ SS SS 23 23 49.5 -4.4
MDJ AMB AMB
comp=Z,185nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,1μm,9.6s
MDJ Mudanjiang 81.90 327⇓*i*P **P** **23 08 51.5 0.0**
comp=Z,204nm,1.0s,mb5.5
MDJ *e*PcP PcP 23 08 54.4 -1.0
MDJ pP pP 23 10 52.5 +0.3
MDJ *es*P sP 23 11 50.0 +0.2
PSI Prapat 81.97 277 P **P** **23 08 51.5 -0.4**
comp=Z,128nm,0.8s,mb5.4,baz=174,slow=4.2,SNR=139
PSI Prapat 81.97 277 P **P** **23 08 51.6 -0.3**
PSI pmax pmax
comp=Z,128nm,0.8s,mb5.4
HABR Khabarovsk 82.24 332⇓*i*P **P** **23 08 53.7 +0.4**
HABR *e*S S 23 18 20.1 -2.1
HABR pmax pmax
comp=Z,422nm,1.7s,mb5.6
SNG Songkhla 82.29 281 P **P** **23 08 55.0 +1.5**
comp=Z,398nm,1.0s,mb5.8
WHN Wuhan 82.33 308⇓P **P** **23 08 53.8 +0.1**
WHN S S 23 18 16.0 -7.2
CHGN Chignik 82.42 13 *e*P **P** **23 08 52.7 -1.4**
DL2 Dalian 82.46 319 PR **P** **23 08 54.4 +0.1**
DL2 XP sP 23 11 51.2 -1.6
DL2 S S 23 18 20.7 -3.7
DL2 AMB AMB
comp=Z,60nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,520nm,6.5s
SAO San Andreas Ge 82.65 44 *e*P **P** **23 08 56.0 +0.6**
comp=Z,41nm,1.1s,mb4.9
SAO *ep*P pP 23 10 58.8 +2.4
NSHM Saint Helena R 83.00 42 *e*P **P** **23 08 57.5 +0.4**
HOPS Hopland 83.01 42 *e*P **P** **23 08 58.0 +0.8**
comp=Z,38nm,1.0s,mb4.9
SNY Shenyang 83.19 322⇓P **P** **23 08 57.5 -0.5**
SNY S S 23 18 23.6 -8.0
SNY AMB AMB
comp=Z,88nm,1.0s,mb5.2
SNY AMB AMB
comp=Z,3μm,2.9s,mb6.3
KIPM Iron Peak 83.27 41 *e*P **P** **23 08 58.8 +0.4**
MWC Mount Wilson 83.39 48 *e*P **P** **23 08 59.6 +0.5**
CN2 Changchun 83.47 324⇓P **P** **23 08 59.3 -0.1**
CN2 *e*AP pP 23 10 58.1 -2.7
CN2 *e*S S 23 18 35.7 +1.3
CN2 AMB AMB
comp=Z,2μm,4.0s
TIA Tai'an 83.66 314⇓P **P** **23 09 00.3 0.0**
TIA AMB AMB
comp=Z,344nm,0.8s,mb5.9
LPIG La Paz 83.74 60 P **P** **23 09 01.4 +0.7**
comp=Z,76nm,0.9s,mb5.2,baz=351,slow=2.1,SNR=6.1
LPIG La Paz 83.74 60 P **P** **23 09 01.4 +0.7**
KHMM Horse Mountain 83.80 40 *e*P **P** **23 09 00.7 -0.3**
ISA Isabella 83.94 47 *e*P **P** **23 09 01.8 +0.1**
comp=Z,0.1nm,1.1s
ISA *ep*P pP 23 11 05.0 +1.8
CMB Columbia Colle 84.09 44 *e*P **P** **23 09 02.2 -0.2**
comp=Z,62nm,1.1s,mb5.0
CMB *ep*P pP 23 11 04.9 +0.8
KRMB Red Mountain 84.11 39 *e*P **P** **23 09 03.4 +0.9**
PFO Pinyon Flat Ob 84.15 49 *e*P **P** **23 09 03.2 +0.4**
comp=Z,35nm,1.3s,mb4.7
OHCM Honcut 84.19 42 *e*P **P** **23 09 02.7 -0.3**
KLR Kul'dur 84.24 331 *e*P **P** **23 09 00.0 -3.2**
KLR *e* 23 11 56.0
KLR *e* 23 12 21.6
KLR *e*S SKSac 23 18 26.5 -6.4
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,370nm,1.8s,mb5.6
KLR pmax pmax
comp=Z,2μm,8.0s
WDC Whiskeytown Da 84.32 41 *e*P **P** **23 09 04.2 +0.6**
comp=Z,37nm,1.1s,mb4.8
WDC *ep*P pP 23 11 06.5 +1.2
SNAA Sanae 84.43 179 PKKPbc PKKPbc 23 27 08.5 -2.6
comp=Z,0.5nm,0.6s,baz=213,slow=1.1,SNR=8.2
SNAA Sanae 84.43 179*d*/*i*P **P** **23 09 03.2 -1.0**
SNAA Sanae 84.43 179 *e*P **P** **23 09 03.5 -0.6**
KEBM Edson Butte 84.72 38 *e*P **P** **23 09 04.0 -1.6**
GSC Goldstone 84.85 48 *e*P **P** **23 09 06.7 +0.5**
GSC *ep*P pP 23 11 10.2 +2.1
MTUM Tungsten Hills 84.86 45 *e*P **P** **23 09 06.8 +0.5**
MTUM *ep*P pP 23 11 09.0 +0.9
MTUM *ep*P pP 23 11 10.0 +1.9
DAC Darwin (Calif) 84.88 47 *e*P **P** **23 09 08.8 +2.4**
NVL N'lazarevskaya 84.91 184*c*/*i*P **P** **23 09 05.9 -0.6**
NVL *i* pP 23 11 07.3 -1.0
NVL *i* S S 23 18 45.9 -2.4
NVL *i* 23 19 58.3
NVL pmax pmax
comp=Z,36nm,0.9s,mb4.9
YBH Yreka Blue Hor 84.94 40 P **P** **23 09 06.9 +0.3**
comp=Z,23nm,0.9s,mb4.7,baz=192,slow=2.5,SNR=46
YBH pP pP 23 11 09.1 +0.6
comp=Z,4.1nm,0.9s,baz=230,slow=3.6,SNR=2.7
YBH S S 23 18 52.7 +4.1
comp=Z,0.7nm,0.7s,baz=141,slow=22,SNR=9.6
YBH Yreka Blue Hor 84.94 40 P **P** **23 09 06.9 +0.3**
YBH *PP pP 23 11 09.1 +0.6
YBH S S 23 18 52.7 +4.2
YBH pmax pmax
comp=Z,23nm,0.9s
YBH pmax pmax
comp=N,4.0nm,1.0s
YBH smax
comp=N,1.0nm,0.7s
YBH Yreka Blue Hor 84.94 40 *e*P **P** **23 09 06.9 +0.3**
YBH *ep*P pP 23 11 09.9 +1.4
WAKR Walker 84.97 44 *e*P **P** **23 09 07.1 +0.3**
WAKR *ep*P pP 23 11 10.6 +1.9
GLA Glamis 84.98 51 *e*P **P** **23 09 07.7 +0.9**
GLA *ep*P pP 23 11 13.0 +4.3
KDAK Kodiak Island 85.05 15 P **P** **23 09 06.2 -1.0**
comp=N,34nm,0.7s,mb5.0,baz=169,slow=1.7,SNR=30
KDAK S S 23 18 49.5 -0.1
comp=N,3.3nm,0.8s,baz=319,slow=23,SNR=7.2
KDAK Kodiak Island 85.05 15 *e*P **P** **23 09 05.7 -1.4**
NNT Nongplab 85.41 286 P **P** **23 09 11.2 +2.3**
NVAR Mina Array Bea 85.65 44 P **P** **23 09 10.5 +0.4**
comp=N,15nm,0.9s,mb4.6,baz=210,slow=6.0,SNR=84
NVAR pP pP 23 11 13.2 +1.0
comp=N,1.3nm,0.8s,baz=229,slow=8.2,SNR=1.9
NVAR PKKPbc PKKPbc 23 27 11.9 +3.8
comp=N,1.3nm,0.7s,baz=86,slow=3.0,SNR=12
NVAR PKPPKP 23 35 15.6
comp=N,1.4nm,0.8s,baz=86,slow=1.5,SNR=7.4
NVAR Mina Array Bea 85.65 44 P **P** **23 09 10.5 +0.4**
NVAR pP pP 23 11 13.2 +1.0
NVAR PKKPbc PKKPbc 23 27 11.9 +3.8
NVAR P'P' 23 35 15.6
PAHR Pah Rah Range 85.71 43⇓*i*P **P** **23 09 10.0 -0.4**
comp=N,26nm,1.1s,mb4.8
PAHR *ep*P pP 23 11 13.3 +0.8
PAHR *es*P sP 23 12 10.9 +1.2
HOG Hogback Mounta 85.84 40 P **P** **23 09 11.7 +0.8**
HSO Harness Mounta 85.84 38 P **P** **23 09 11.8 +0.9**
GYA Guiyang 85.98 301⇑*i*P **P** **23 09 11.6 0.0**
GYA PP PP 23 12 41.8 -0.3
GYA SKS 23 18 43.9
GYA S S 23 18 57.8 -0.8
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,480nm,6.8s
TPH Tonopah 86.14 45 *e*P **P** **23 09 12.5 +0.1**

comp=Z,56nm,1.1s,mb5.1
BJT Baijiatuau 86.49 317 ⇓*i*P P 23 09 14.1 0.0
comp=Z,121nm,0.8s,mb5.6
BJT *e*pP pP 23 11 15.6 -0.9
BJT *e*sP sP 23 12 12.6 -1.0
BJT *e*PP PP 23 12 42.9 -3.3
MA2 Magadan 86.56 346*d i*P P 23 09 13.0 -1.3
MA2 pmax pmax
comp=Z,261nm,0.9s,mb5.9
MA2 Magadan 86.56 346 *e*P P 23 09 13.5 -0.8
SHPR Sheep Range 86.63 47 *e*P P 23 09 14.8 +0.1
SHPR *e*pP pP 23 11 19.4 +2.2
NANT Nan 87.30 292 ⇓P P 23 09 19.0 +1.2
comp=Z,812nm,0.4s
SVW2 Sparrevohn 87.43 12 *e*P P 23 09 16.6 -1.8
BMN Battle Mountai 87.49 43 *e*P P 23 09 19.2 +0.6
comp=Z,60nm,1.2s,mb5.1
TUC Tucson 87.49 53 *e*P P 23 09 19.2 +0.5
comp=Z,62nm,1.3s,mb5.1
VLMM Larch Mountain 87.68 37 P P 23 09 19.9 +0.3
HOOD Mount Hood Mea 87.75 37 *e*P P 23 09 20.3 +0.3
WVOR Wild Horse Val 87.77 41 P P 23 09 20.1 +0.1
VLL Laurance Lake 87.84 37 P P 23 09 20.8 +0.5
SLKM Skilak Lake 88.03 15 *e*P P 23 09 19.8 -1.4
SLKM *e*pP pP 23 11 23.1 -1.2
SLKM *e*sP sP 23 12 18.8 -2.5
SLKM *e*PP PP 23 12 55.8 -2.6
XAN Xi'an 88.08 309 P P 23 09 21.1 -0.4
XAN AP pP 23 11 22.8 -1.7
XAN AMB AMB
comp=Z,219nm,0.8s,mb5.9
XAN AMB AMB
comp=Z,641nm,7.9s
CCUT Cedar City 88.41 47 *e*P P 23 09 24.0 +1.0
CCUT *e*pP pP 23 11 27.9 +1.7
CCUT *e*PP PP 23 13 00.7 -0.5
HDW Hoodsport 88.46 35 P P 23 09 24.0 +0.8
KMI Kunming 88.46 298 ⇓P P 23 09 24.0 +0.8
KMI AP pP 23 11 26.1 -0.3
KMI XP sP 23 12 23.4 +0.1
KMI PP PP 23 13 03.7 +2.0
KMI PPP 23 15 06.3
KMI SKS 23 18 58.0
KMI S S 23 19 19.7 -1.9
KMI PS 23 21 46.1
KMI XS sS 23 22 58.4 -2.9
KMI SS SS 23 25 29.7 +0.6
KMI SSS 23 29 09.2
KMI AMB AMB
comp=Z,700nm,7.6s
ARUT Antelope Range 88.48 47 *e*P P 23 09 23.9 +0.6
ARUT *e*pP pP 23 11 27.9 +1.3
GNW Green Mountain 88.53 35 *e*P P 23 09 23.7 +0.2
LON Longmire 88.56 36 P P 23 09 22.9 -0.8
WUAZ Wupatki 88.71 50 *e*P P 23 09 25.3 +0.9
comp=Z,43nm,1.2s,mb5.2
CHG Chiang Mai 88.80 291 ⇓P P 23 09 26.4 +1.6
comp=Z,94nm,0.7s,mb5.7
CHTO Chiang Mai 88.80 291 P P 23 09 26.5 +1.7
SNR=49
CHTO Chiang Mai 88.80 291 ⇓*i*P P 23 09 26.0 +1.2
comp=Z,85nm,1.0s,mb5.5
CHTO *e*pP pP 23 11 28.2 +0.1
CHTO *e*sP sP 23 12 23.5 -1.4
CHTO *e*PP PP 23 13 04.8 +0.5
PLCA Paso Flores 88.83 135 P P 23 09 26.6 +1.7
comp=Z,18nm,0.8s,mb5.0,baz=224,slow=4.4,SNR=39
PLCA pP pP 23 11 31.1 +2.9
comp=Z,9.2nm,1.1s,baz=251,slow=5.1,SNR=6.0
PLCA PKKPbc PKKPbc 23 27 00.2 -0.4
comp=Z,2.3nm,0.6s,baz=80,slow=2.8,SNR=13
PLCA PKPPKP 23 35 05.2
comp=Z,2.4nm,0.8s,baz=14,slow=3.1,SNR=5.9
PLCA Paso Flores 88.83 135 P P 23 09 26.6 +1.6
PLCA *PP pP 23 11 31.2 +2.9
PLCA pmax pmax
comp=Z,18nm,0.8s
PLCA pmax pmax
comp=N,9.0nm,1.1s
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 88.83 135 *e*P P 23 09 26.6 +1.6
comp=Z,29nm,0.9s,mb5.1
GSM Grass Mountain 88.85 36 P P 23 09 25.4 +0.4
ELK Elko 88.91 44 *e*P P 23 09 25.5 +0.2
comp=Z,40nm,1.0s,mb5.2
TTA Tatalina 89.04 11 *e*P P 23 09 25.1 -0.8
EYAK Cordova Ski Ar 89.17 17 ⇓*i*P P 23 09 24.9 -1.7
EYAK *e*pP pP 23 11 32.2 +2.2
CRAG Craig 89.22 25⇓*e*P P 23 09 26.6 -0.1
CRAG pP pP 23 11 30.1 0.0
PMR Palmer 89.24 15 *e*P P 23 09 24.9 -2.0
comp=Z,24nm,0.5s,mb5.3
SEY Seymchan 89.29 348*d e*P P 23 09 25.9 -1.2
SEY Seymchan 89.29 348 *e*Pr P 23 09 25.9 -1.2
TWW Teanaway 89.31 36 P P 23 09 27.8 +0.7
TBM Table Mountain 89.47 36 P P 23 09 28.2 +0.2
EFI East Falkland 89.55 149 *e*P P 23 09 29.3 +1.0
SIT Sitka 89.58 23 *e*P P 23 09 27.6 -0.8
comp=Z,24nm,1.0s,mb5.0
HAWA Hanford 89.59 38 *e*P P 23 09 28.2 -0.3
DIV Divide 89.66 16 *e*P P 23 09 27.6 -1.2
MSU Marysvale 89.71 47 *e*P P 23 09 29.8 +0.8
WRW Wenatchee Ridg 89.74 36 P P 23 09 29.1 -0.1
HHC Hu-ho-hao-te 89.86 316 *e*P P 23 09 30.3 +0.6
HHC AP pP 23 11 34.8 +1.5
HHC XP sP 23 12 30.2 +0.2
HHC PP PP 23 13 15.7 +3.0
HHC SKS 23 19 04.4
HHC S S 23 19 32.4 -1.9
HHC XS sS 23 23 15.2 +0.3
HHC SS SS 23 25 51.1 +2.0
HHC AMB AMB
comp=Z,54nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,986nm,5.0s
BMO Blue Mountains 89.96 40 *e*P P 23 09 30.0 -0.2
TNA Tin City 89.99 5 *e*P P 23 09 30.2 -0.1
comp=Z,46nm,0.8s,mb5.3
HIA Hailar 90.02 326 *i*P P 23 09 29.5 -0.9
HIA Hailar 90.02 326 *i*Pr P 23 09 29.5 -0.9
DUG Dugway 90.17 45 *e*P P 23 09 31.3 +0.1
comp=Z,24nm,1.2s,mb4.9
WRAK Wrangell Islan 90.21 25 *e*P P 23 09 31.3 0.0
CD2 Chengdu 90.35 304 ⇓*i*P P 23 09 33.2 +1.2
CD2 SKS 23 19 09.3
CD2 S S 23 19 38.1 -0.6
CD2 AMB AMB
comp=Z,80nm,0.6s,mb5.7
CD2 AMB AMB
comp=Z,410nm,6.4s
BGU Big Grassy Mou 90.42 45 *e*P P 23 09 32.4 +0.1
BGU *e*pP pP 23 11 37.9 +2.0
NLU North Lily Min 90.53 46 *e*P P 23 09 33.5 +0.7
BTO Baotou 90.73 315 *e*P P 23 09 34.0 +0.3
TMUT Trail Mountain 90.76 47 *e*P P 23 09 35.1 +1.2
MPU Maple Canyon 90.85 46 *e*P P 23 09 36.5 +2.2
NOQ North Oquirrh 90.86 45 *e*P P 23 09 34.9 +0.6
HLID Hailey 90.97 42 *e*P P 23 09 34.8 0.0
comp=Z,8.1nm,0.8s,mb4.7
SPUT South Promonto 90.99 45 *e*P P 23 09 34.3 -0.6
HVU Hansel Valley 91.03 44 *e*P P 23 09 36.6 +1.5
CTU Camp Tracy 91.12 45 *e*P P 23 09 36.0 +0.5
SRU San Rafael 91.12 47 *e*P P 23 09 37.5 +2.0
MCK McKinley 91.16 14 *e*P P 23 09 34.3 -1.4
comp=Z,9.5nm,0.7s,mb4.8
LAZ Ladron 91.17 53 *e*P P 23 09 36.6 +0.8
LENM Lemitar 91.18 53 *e*P P 23 09 36.8 +0.9
MNTX Cornudas Mount 91.21 56 *e*P P 23 09 38.0 +2.0
comp=Z,19nm,0.9s,mb5.0
MNTX *e*pP pP 23 11 41.6 +2.0
SKAG Skagway 91.41 21 *e*P P 23 09 36.9 +0.1
comp=Z,41nm,1.6s,mb5.1
LPM Los Pinos Moun 91.50 53 *e*P P 23 09 38.5 +1.2
TCUT Toone Canyon 91.56 45 *e*P P 23 09 38.2 +0.7
MENT Mentasta 91.71 16 *e*P P 23 09 37.4 -0.9
HWUT Hardware Ranch 91.72 45 *e*P P 23 09 38.2 0.0
comp=Z,16nm,1.0s,mb5.0
PV10 Paradox Valley 91.76 48 *e*P P 23 09 38.5 0.0
PV10 *e*pP pP 23 11 44.7 +2.4
ANMO Albuquerque 91.93 52*d i*P P 23 09 39.2 0.0
ANMO Albuquerque 91.93 52⇓*e*P P 23 09 39.2 -0.1
comp=Z,20nm,1.2s,mb5.0
PV01 Paradox Valley 91.97 49 *e*P P 23 09 39.2 -0.2
GDL2 Guadalupe Moun 92.20 56 *e*P P 23 09 41.3 +0.8
GDL2 *e*pP pP 23 11 46.6 +2.3
BILL Bilibino 92.38 355*d i*P P 23 09 40.3 -1.0
BILL pmax pmax
comp=Z,53nm,0.8s,mb5.6
BILL Bilibino 92.38 355 P P 23 09 40.7 -0.6
COLA College 92.39 14 *i*P P 23 09 39.1 -2.3
COLA College 92.39 14 *i*Pr P 23 09 39.1 -2.3
CLNS Chul'man 92.55 334 *e*P P 23 09 39.7 -2.4
CLNS *e*S S 23 20 01.9 +3.9
CLNS *e*PS 23 21 13.2
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS smax
comp=N,5.0nm,1.2s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS smax
comp=E,4.0nm,1.0s
MCMT McKenzie Canyo 92.59 41 *e*P P 23 09 42.4 +0.1
MCMT *e*pP pP 23 11 46.2 +0.1
MCMT *e*PP PP 23 13 34.4 +0.5
LZH Lanzhou 92.71 308 ⇓P P 23 09 44.0 +1.2
LZH AP pP 23 11 45.2 -1.5
LZH XP sP 23 12 40.0 -3.3
LZH PP PP 23 13 39.0 +4.3
LZH SKS 23 19 21.2
LZH *e*S S 23 19 57.0 -2.4
LZH PS 23 22 32.1
LZH XS sS 23 23 41.1 -0.6
LZH SS SS 23 26 33.0 +3.5
LZH AMB AMB
comp=Z,152nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,450nm,4.0s
RRI2 Red Ridge 92.77 43 *e*P P 23 09 46.1 +3.0
MSO Missoula 93.02 39 *e*P P 23 09 43.0 -1.2
DLMT Dillon 93.03 41 *e*P P 23 09 44.2 -0.1
REDW Red Top Meadow 93.07 43 *e*P P 23 09 44.7 +0.3
comp=Z,14nm,1.1s,mb4.9
REDW *e*pP pP 23 11 51.0 +2.7
TPAW Teton Pass 93.07 43 *e*P P 23 09 44.9 +0.4
BSMT Bassoo Peak 93.08 38 *e*P P 23 09 44.1 -0.4
SNOW Snow King Moun 93.18 43 *e*P P 23 09 45.5 +0.5
comp=Z,20nm,1.1s,mb5.1
IMW Indian Meadow 93.28 43 *e*P P 23 09 45.8 +0.4
comp=Z,25nm,1.4s,mb5.0
IMW *e*pP pP 23 11 52.4 +3.0
MOOW Moose Ponds 93.33 43 *e*P P 23 09 42.2 -3.5
LOHW Long Hollow 93.35 43 *e*P P 23 09 45.9 +0.2
LRM Limekiln Ridge 93.36 41 *e*P P 23 09 47.6 +1.8
QLMT Earthquake Lak 93.46 42 *e*P P 23 09 47.0 +0.7
QLMT *e*pP pP 23 11 53.0 +2.9
CHMT Chamberlain Mo 93.46 40 *e*P P 23 09 45.6 -0.7
CHMT *e*pP pP 23 11 53.6 +3.4
FLWY Flagg Ranch 93.53 43 *e*P P 23 09 47.2 +0.6
comp=Z,7.7nm,0.8s,mb4.9
CMIG Matias Romero 93.53 73 P P 23 09 47.1 +0.5
comp=Z,6.6nm,0.7s,mb4.9,baz=252,slow=4.8,SNR=11
SMCO Snowmass 93.56 49 *e*P P 23 09 47.0 +0.3
comp=Z,5.6nm,0.4s,mb5.0
SMCO *e*PP PP 23 13 34.5 -6.8
BW06 Boulder Array 93.59 44 *e*P P 23 09 49.4 +2.5
PDAR Pinedale Array 93.59 44 P P 23 09 46.3 -0.6
comp=Z,3.7nm,0.6s,mb4.7,baz=207,slow=2.9,SNR=46
PDAR pP pP 23 11 51.9 +1.1
comp=Z,1.5nm,1.0s,baz=240,slow=1.8,SNR=2.9
PDAR PP PP 23 13 42.5 +1.0
comp=Z,3.0nm,1.1s,baz=240,slow=4.8,SNR=4.6
PDAR PKKP PKKPbc 23 26 50.0 +1.3
comp=Z,1.6nm,0.7s,baz=77,slow=4.3,SNR=12
LCCM Lewis and Clar 93.71 41 P P 23 09 47.2 -0.2
BOZ Bozeman (W) 93.76 41 *e*P P 23 09 47.4 -0.2
DAWY Dawson 93.76 17 *e*P P 23 09 46.1 -1.5
EGAK Eagle 93.88 16⇓*e*P P 23 09 46.4 -1.7
EGAK *e*pP pP 23 11 49.6 -2.5
EGAK *e*PP PP 23 13 39.2 -4.4
HRY Holter Researc 94.19 40 *e*P P 23 09 49.4 -0.2
WALA Waterton Lakes 94.23 37 *e*P P 23 09 49.2 -0.5
YAK Yakutsk 94.43 339 *e*P P 23 09 49.4 -1.3
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.3
YAK pmax pmax
comp=Z,19nm,0.9s,mb5.2
YAK Yakutsk 94.43 339 *e*P P 23 09 49.2 -1.4
YAK *e*PP PP 23 13 44.8 -3.1
RWWY Rawlins 94.59 46 *e*P P 23 09 51.3 -0.1
comp=Z,4.5nm,0.5s,mb4.8
CIT Chita 94.82 326 *e*P P 23 09 50.9 -1.6
JCT Junction City 94.96 59 *e*P P 23 09 52.9 -0.2
comp=Z,6.7nm,0.3s,mb5.2
CFAA Coronel Fontan 95.23 128 S SKSac 23 19 34.4 -1.4
comp=Z,0.3nm,0.8s,baz=297,slow=19,SNR=7.3
CFAA PKKP PKKPbc 23 26 45.2 +0.8
comp=Z,0.4nm,0.5s,baz=61,slow=2.7,SNR=11
TRQA Tornquist 95.83 136 *e*P P 23 09 57.9 +0.9
comp=Z,7.1nm,0.8s,mb5.0
ULN Ulaanbaatar 96.24 320 P P 23 09 58.6 -0.2
SNR=18
ULN Ulaanbaatar 96.24 320 *i*P P 23 09 58.1 -0.8
ULN Ulaanbaatar 96.24 320 *e*P P 23 09 57.6 -1.3
SONM Songino Array 96.62 320 P P 23 09 59.9 -0.6
comp=Z,9.9nm,0.8s,mb5.1,baz=156,slow=2.3,SNR=44
SONM pP pP 23 12 07.8 +3.1
comp=Z,4.7nm,1.0s,baz=129,slow=4.6,SNR=5.2
SONM PP PP 23 13 58.2 -6.4
comp=Z,5.3nm,1.0s,baz=118,slow=6.5,SNR=6.9
SONM S SKSac 23 19 41.7 -1.2
comp=Z,1.3nm,0.8s,baz=176,slow=5.4,SNR=5.7
SONM PKKP PKKPbc 23 26 41.7 +0.9
comp=Z,1.4nm,0.6s,baz=261,slow=2.7,SNR=8.5
SONM Songino Array 96.62 320 P P 23 09 59.9 -0.6
SONM S SKSac 23 19 41.7 -1.2
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM pmax pmax
comp=N,5.0nm,1.0s
SONM pmax pmax
comp=Z,5.0nm,1.0s
SONM smax
comp=N,1.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.6s
GTA Gaotai 97.06 310 *e*P P 23 10 02.6 +0.1
GTA AMB AMB
comp=Z,26nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,258nm,5.3s
RSSD Black Hills 97.78 45 *e*Pdif Pdif 23 10 05.2 -0.5
comp=Z,5.6nm,0.9s
BOD Bodaibo 97.81 331 *e*P Pdif 23 10 02.9 -3.0
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.6
INK Inuvik 98.55 16 pP pP 23 12 14.8 +1.2
comp=Z,4.0nm,1.1s,baz=235,slow=7.7,SNR=3.3
INK S SKSac 23 19 49.2 -3.4
comp=Z,1.1nm,0.9s,baz=53,slow=20,SNR=4.8
INK PKKP PKKPbc 23 26 35.8 +0.2
comp=Z,1.4nm,0.7s,baz=6.7,slow=8.0,SNR=5.9
INK Inuvik 98.55 16 *e*Pdif Pdif 23 10 07.5 -1.6
comp=Z,8.8nm,0.7s
ATAH Atahualpa 98.67 102 PKKP PKKPbc 23 26 37.6 +2.3
comp=Z,5.3nm,0.8s,baz=112,slow=11,SNR=4.3
ZAK Zakamensk 99.61 321 *e*P Pdif 23 10 09.7 -4.1
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
LSA Lhasa 99.72 298 *e*Pdif Pdif 23 10 16.3 +1.9
comp=Z,4.9nm,0.6s
LSA *e*PP PP 23 14 27.1 -0.7
TLY Talaya 99.98 322 *e*P Pdif 23 10 14.5 -1.0
TLY *e* 23 19 54.2
TLY *e*S Sdif 23 20 56.7 -4.3
TLY *e* 23 22 41.4
TLY *e* 23 23 44.8
TLY *e*SSS 23 32 02.4
TLY pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
TLY Talaya 99.98 322 *i*P Pdif 23 10 15.1 -0.4
YKA Yellowknife Ar 101.03 26 P Pdif 23 10 18.5 -1.7
comp=Z,1.2nm,0.7s,baz=243,slow=4.6,SNR=9.4
YKA PKiKP PKiKP 23 14 39.2 -2.5
comp=Z,1.2nm,0.5s,baz=267,slow=2.3,SNR=16
YKA PKKPbc PKKPbc 23 26 28.2 -0.5
comp=Z,2.0nm,0.6s,baz=42,slow=2.5,SNR=18
LPAZ La Paz 103.27 115 Pdiff Pdif 23 10 34.4 +4.3
comp=Z,1.3nm,0.6s,baz=191,slow=4.4,SNR=8.1
LPAZ PKiKP PKiKP 23 14 47.4 +1.6
comp=Z,1.0nm,0.7s,baz=260,slow=6.1,SNR=3.9
LPAZ SKSac SKSac 23 20 16.6 +1.6
comp=Z,1.8nm,0.9s,baz=11,slow=22,SNR=7.6
LPAZ PKKPbc PKKPbc 23 26 23.2 +0.9
comp=Z,2.3nm,0.7s,baz=20,slow=3.1,SNR=11
ULM Lac du Bonnet 105.27 42 PKKPbc PKKPbc 23 26 17.6 +1.2
comp=Z,3.8nm,0.9s,baz=85,slow=3.5,SNR=6.1
CPUP Villa Florida 106.06 129 PKKPbc PKKPbc 23 26 12.9 -1.0
comp=Z,1.4nm,0.6s,baz=184,slow=8.8,SNR=3.0
CPUP Villa Florida 106.06 129 *e*PKiKP PKiKP 23 14 51.3 +0.4
HYB Hyderabad 106.09 282 *i*PKP PKiKP 23 14 51.5 +0.6
HYB *e* 23 15 01.0
HYB *e*PP PP 23 15 12.5 -2.2
HYB *e*Sdif Sdif 23 21 52.0 0.0
HYB *e*SS SS 23 29 28.0 -5.6
HYB Hyderabad 106.09 282 *e*P PKiKP 23 15 01.0 +10
WMQ Urumqi 107.11 311 PDIF Pdif 23 10 48.5 +1.3
WMQ PP PP
comp=Z,364nm,7.4s
ROSC El Rosal 107.30 92 PKKPbc PKKPbc 23 26 13.1 +3.0
comp=Z,1.1nm,0.5s,baz=275,slow=23,SNR=9.5
SIV San Ignacio 109.19 118 PKKPbc PKKPbc 23 26 04.2 -0.1
comp=Z,4.3nm,0.6s,baz=78,slow=5.0,SNR=26
SIV PKKP PKKPbc 23 26 19.8 +15
comp=Z,2.4nm,0.7s,baz=105,slow=7.9,SNR=6.6
MK31 Makanchi Array 111.56 313 PKiKP PKiKP 23 14 59.8 -1.4
MK31 pmax pmax
comp=Z,15nm,0.9s
MKAR Makanchi Array 111.56 313 Pdiff Pdif 23 11 08.2 +1.2
comp=Z,5.2nm,0.5s,baz=99,slow=4.3,SNR=28
MKAR PKiKP PKiKP 23 14 59.8 -1.4
comp=Z,8.5nm,0.6s,baz=46,slow=1.5,SNR=25
MKAR PP PP 23 15 50.6 -3.0
comp=Z,2.8nm,0.7s,baz=82,slow=8.7,SNR=3.7
MKAR SKSac SKSac 23 20 48.1 -2.3
comp=Z,3.3nm,0.8s,baz=108,slow=6.5,SNR=7.8
MKAR PKKPbc PKKPbc 23 25 56.0 -0.8
comp=Z,1.0nm,0.7s,baz=305,slow=4.3,SNR=3.9
MKAR PKKPab PKKPab 23 26 08.5 +0.2
comp=Z,7.3nm,0.7s,baz=283,slow=4.5,SNR=23
MKAR PKKP PKKPbc 23 26 20.1 +23
comp=Z,2.0nm,0.7s,baz=316,slow=5.1,SNR=3.5
MKAR SKKPbc 23 28 45.6
comp=Z,1.6nm,0.8s,baz=262,slow=3.7,SNR=4.2
MKAR Makanchi Array 111.56 313 *i*PKiKP PKiKP 23 14 59.8 -1.4
MKAR 23 15 50.6
MKAR 23 20 48.1
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=N,3.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR Makanchi Array 111.56 313 Pdif Pdif 23 11 08.2 +1.2
MKAR PKPdf PKiKP 23 14 59.8 -1.4
MKAR PP PP 23 15 50.6 -3.0
MKAR SKSac SKSac 23 20 48.1 -2.3
MKAR PKKPbc PKKPbc 23 25 56.0 -0.8
MKAR PKKPab PKKPab 23 26 08.5 +0.2
MKAR PKKP PKKPbc 23 26 20.1 +23
MKAR SKKPbc 23 28 45.6
FWV Forest Hill 112.15 58 *e*PKiKP PKiKP 23 15 01.0 -1.3
NVS Novosibirsk 112.56 321 *i*PKiKP PKiKP 23 15 01.2 -1.9
NVS *e*S SKSac 23 20 52.6 -1.8
NVS pmax pmax
comp=N,4.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS pmax pmax
comp=Z,8.0nm,0.7s
NVS smax
comp=N,46nm,1.3s
NVS smax
comp=E,247nm,2.4s
KSH Kashi 114.55 304 *e*PKP PKPdf 23 15 08.0 +1.1
KSH *e*PKS 23 18 43.2
KSH *e*SKS SKSdf 23 21 28.1 +2.5
KSH *e*SKKS SKKSac 23 22 12.2 -4.9
KSH PP PP
comp=Z,644nm,3.9s
ULHL Ulahol 114.88 307 P PKPdf 23 15 07.8 +0.2
SNR=5.8
TKM2 Tokmak 2 115.47 308 P PKPdf 23 15 08.1 -0.6
SNR=19
KZA Kyzart 115.58 307 P PKPdf 23 15 09.7 +0.8
SNR=22
KBK Karagaybulak 115.90 307 P PKPdf 23 15 09.2 -0.3
SNR=18
CHMS Chumysh 116.09 308 P PKPdf 23 15 09.0 -0.9
SNR=25
AAK Ala-Archa 116.22 307 P PKPdf 23 15 10.2 +0.1
SNR=9.7
AAK Ala-Archa 116.22 307 P PKPdf 23 15 09.2 -0.9
SNR=12
AAK Ala-Archa 116.22 307*d i*PKIKP PKPdf 23 15 08.3 -1.9
USP Ospenovka 116.32 308 P PKPdf 23 15 09.9 -0.5
SNR=7.9
OPO Ambohidratompo 116.58 232 PKP PKPdf 23 15 11.9 +1.1
comp=Z,12nm,0.7s,baz=126,slow=1.6,SNR=14
AML Almayashu 116.73 307 P PKPdf 23 15 11.1 0.0
SNR=44
EKS2 Erkin-Say 116.75 307 P PKPdf 23 15 11.0 -0.2
SNR=26
NCB Newcomb 118.25 52 *e*PKPdf PKPdf 23 15 12.6 -1.5
KKAR Karatay Array 119.19 307 PKIKP PKPdf 23 15 15.1 -0.8
KKAR pmax pmax
comp=Z,27nm,0.7s
BDFB Brasilia 119.51 126 PKP PKPdf 23 15 16.2 -0.2
comp=Z,7.1nm,0.6s,baz=192,slow=1.4,SNR=15
BDFB PKKPbc PKKPbc 23 25 31.2 +1.6
comp=Z,11nm,0.8s,baz=119,slow=2.1,SNR=14
BDFB Brasilia 119.51 126 PKIKP PKPdf 23 15 16.2 -0.3
BDFB pmax pmax
comp=Z,7.0nm,0.6s
BDFB pmax pmax
comp=Z,11nm,0.8s
BAO Brasilia Array 119.53 126 PKPdf PKPdf 23 15 16.2 -0.3
VOSK Vostochnaya 119.57 318 PKIKP PKPdf 23 15 15.1 -1.5
VOSK pmax pmax
comp=Z,29nm,0.7s
CHKZ Chkalovo 119.81 319 PKIKP PKPdf 23 15 15.4 -1.7
CHKZ Chkalovo 119.81 319 *e*PKPdf PKPdf 23 15 15.4 -1.6
CHKZ *e*PP PP 23 16 46.2 -4.4
CHKZ *e*SKPdf SKPdf 23 17 58.1 -0.9
BVAR Borovoye Array 119.94 319 Pdiff Pdif 23 11 48.2 +4.0
comp=Z,1.0nm,0.8s,baz=116,slow=3.4,SNR=6.2
BVAR PKP PKPdf 23 15 15.9 -1.4
comp=Z,2.1nm,0.4s,baz=119,slow=2.7,SNR=128
BVAR PKKPbc PKKPbc 23 25 29.3 +1.2
comp=Z,1.5nm,0.7s,baz=289,slow=4.9,SNR=5.9
BVAR Borovoye Array 119.94 319 PKIKP PKPdf 23 15 15.9 -1.4
BVAR pmax pmax
comp=Z,21nm,0.4s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 120.00 319 P PKPdf 23 15 16.6 -0.9
SNR=6.9
BRVK P 23 15 16.7
SNR=13
BRVK Borovoye 120.00 319⇑*e*PKP PKPdf 23 15 16.6 -0.8
SUR Sutherland 120.01 201 PKKPbc PKKPbc 23 25 28.2 +0.3
comp=Z,10nm,0.7s,baz=64,slow=6.7,SNR=7.6
SUR Sutherland 120.01 201 P PKPdf 23 15 18.7 +1.2
SNR=30
SUR Sutherland 120.01 201 *e*PKPdf PKPdf 23 15 18.8 +1.3

SUR ePP PP 23 16 51.7 -0.2
MTP Monte Pirata 120.05 82 ePKPdf PKPdf 23 15 16.8 -0.8
ZRNK Zerenda 120.78 319 PKIKP PKPdf 23 15 17.5 -1.4
ZRNK pmax pmax
comp=Z,34nm,0.9s
ZRNK Zerenda 120.78 319⇓ *i*PKPdf PKPdf 23 15 17.3 -1.6
ZRNK ePP PP 23 16 35.4 -22
ZRNK eSKPdf SKPdf 23 17 59.2 -1.6
BOSA Boshof 121.72 207 PKP PKPdf 23 15 21.8 +1.1
comp=Z,15nm,0.7s,baz=150,slow=2.1,SNR=26
BOSA PKKPbc PKKPbc 23 25 21.1 -0.6
comp=Z,6.1nm,0.6s,baz=326,slow=3.5,SNR=15
BOSA Boshof 121.72 207 PKIKP PKPdf 23 15 21.8 +1.1
BOSA pmax pmax
comp=Z,15nm,0.7s
BOSA pmax pmax
comp=Z,6.0nm,0.6s
BOSA Boshof 121.72 207 PKP PKPdf 23 15 21.8 +1.1
BOSA PKKPbc PKKPbc 23 25 21.1 -0.6
SCHQ Schefferville 123.32 39 PKP PKPdf 23 15 21.3 -2.5
comp=Z,5.8nm,0.5s,baz=335,slow=2.9,SNR=14
SCHQ PKKPbc PKKPbc 23 25 15.5 -0.2
comp=Z,1.9nm,0.8s,baz=44,slow=4.2,SNR=3.6
LBTB Lobatse 124.69 210 PKKPbc PKKPbc 23 25 09.5 -0.9
comp=Z,3.5nm,0.8s,baz=356,slow=3.8,SNR=5.1
LBTB Lobatse 124.69 210 ePKPdf PKPdf 23 15 27.6 +1.2
LBTB ePP PP 23 17 20.6 -2.4
KBS Kingsbay 124.83 357 eP PKPdf 23 15 25.4 -1.3
KBS eSS SS 23 33 30.9 -4.6
KBS Kingsbay 124.83 357⇑ *i*PKIKP PKPdf 23 15 26.1 -0.6
KBS Kingsbay 124.83 357 eP PKPdf 23 15 25.4 -1.3
KBS ⇑ePKP PKPdf 23 15 26.1 -0.6
SVE Sverdlovsk 125.26 324 *i* PKIKP PKPdf 23 15 26.0 -1.5
SVE *e* 23 18 24.0
SVE *e* 23 20 16.0
SVE *e* 23 21 40.0
SVE *e* 23 27 36.0
SVE *e* 23 33 35.0
SVE *e* 23 34 06.0
SVE pmax pmax
comp=Z,80nm,1.6s
SPB4 Spitsbergen Ar 125.29 356 ePKPdf PKPdf 23 15 26.0 -1.5
SPB4 eSKPdf SKPdf 23 18 08.2 -1.3
JMDO Jabal Madar 125.91 281 P PKPdf 23 15 29.6 +0.9
SNR=19
SMDO Samad 126.12 282 P PKPdf 23 15 30.4 +1.2
SNR=12
BIDO Bidbid 126.16 282⇑P PKPdf 23 15 30.2 +1.0
SNR=5.6
ARU Arti 126.46 323 *i* PKIKP PKPdf 23 15 28.3 -1.5
ARU *e* 23 17 27.9
ARU *e* 23 21 39.3
ARU Arti 126.46 323⇑ ePKP PKPdf 23 15 28.8 -1.0
DAG Danmarks Havn 126.62 5⇓ *i*P PKPdf 23 15 27.7 -2.4
comp=Z,8.2nm,0.8s
DAG Danmarks Havn 126.62 5⇓ *i*PKIKP PKPdf 23 15 27.7 -2.4
DAG pmax pmax
comp=Z,8.0nm,0.8s
AB31 Akbulak array 126.64 314 *i* PKIKP PKPdf 23 15 29.0 -1.1
AB31 pmax pmax
comp=Z,15nm,0.8s
AB31 Akbulak array 126.64 314⇑ ePKP PKPdf 23 15 29.1 -1.0
SOKR Solikamsk 126.66 327 *c i* PKIKP PKPdf 23 15 29.4 -0.8
SOKR pmax pmax
comp=Z,70nm,1.0s
BSY Bisya 126.81 281⇑P PKPdf 23 15 31.0 +0.5
SUMG Summit 127.36 13 ePKPdf PKPdf 23 15 30.7 -0.8
SUMG ePP PP 23 17 35.0 -5.5
AKTK Aktyubinsk 127.76 316 PKP PKPdf 23 15 31.6 -0.7
AKTK SKPbc 23 17 58.8
AKTK SKKPbc 23 27 54.1
AKTO Aktyubinsk 127.76 316 PKP PKPdf 23 15 31.6 -0.7
comp=Z,42nm,0.7s,baz=100,slow=3.7,SNR=89
AKTO SKPbc 23 17 58.8
comp=Z,9.4nm,0.8s,baz=82,slow=1.2,SNR=5.3
AKTO SKKPbc 23 27 54.1
comp=Z,1.6nm,0.7s,baz=235,slow=6.6,SNR=4.2
AKTO Aktyubinsk 127.76 316 PKIKP PKPdf 23 15 31.6 -0.7
AKTO 23 27 54.1
AKTO pmax pmax
comp=Z,42nm,0.7s
AKTO pmax pmax
comp=N,9.0nm,0.8s
AKTO pmax pmax
comp=N,2.0nm,0.7s
RBK Rabkut 128.13 274⇑P PKPdf 23 15 34.2 +1.2
SNR=9.3
ASHO Ashiyiah 128.26 283⇓P PKPdf 23 15 33.5 +0.3
BANOM Banah 128.29 285⇓P PKPdf 23 15 33.6 +0.3
WHFO Wadi Hawf 128.64 274⇑P PKPdf 23 15 35.2 +1.2
SNR=12
ABTO Aybut 128.91 273⇓P PKPdf 23 15 35.7 +1.2
SNR=9.1
LVZ Lovozero 131.07 343 *i* PKIKP PKPdf 23 15 37.4 -1.2
LVZ *e* 23 21 52.8
LVZ pmax pmax
comp=Z,35nm,0.9s
LVZ pmax pmax
comp=N,2.0nm,0.8s
LVZ pmax pmax
comp=E,7.0nm,0.9s
KEV Kevo 131.43 347 *e*p 23 15 27.8
comp=E,5.7nm,0.5s
KEV Kevo 131.43 347 ePKHKP 23 15 27.8
KEV pmax pmax
comp=Z,6.0nm,0.5s
LSZ Lusaka 131.47 219 SKPbc SKPbc 23 18 14.9 +2.8
comp=Z,54nm,0.8s,baz=141,slow=2.7,SNR=24
LSZ Lusaka 131.47 219 eP 23 15 31.5
LSZ ePKPdf PKPdf 23 15 41.1 +1.8
APA Apatity 131.64 343⇓ *i*PKIKP PKPdf 23 15 38.2 -1.4
APA pmax pmax
comp=Z,23nm,0.7s
ARCES ARCESS Array B 131.91 348 PKhKP 23 15 24.6
comp=Z,1.4nm,0.3s,baz=24,slow=1.3,SNR=7.4
ARCES PKP PKPdf 23 15 38.5 -1.6
comp=Z,42nm,0.7s,baz=11,slow=1.2,SNR=39
ARCES SKPbc SKPbc 23 18 13.6 -0.1
comp=Z,80nm,0.9s,baz=40,slow=4.0,SNR=34
ARCES SKKPbc 23 27 40.9
comp=Z,2.4nm,0.9s,baz=208,slow=6.9,SNR=3.7
ARCES ARCESS Array B 131.91 348 PKIKP PKPdf 23 15 38.6 -1.6
ARCES 23 18 13.6
ARCES pmax pmax
comp=Z,42nm,0.7s
ARCES pmax pmax
comp=N,80nm,0.9s
ARCES pmax pmax
comp=N,2.0nm,0.9s
ARCES ARCESS Array B 131.91 348 PKP 23 15 24.6
ARCES PKP PKPdf 23 15 38.5 -1.6
ARCES SKPbc SKPbc 23 18 13.6 -0.1
ARCES SKKPbc 23 27 40.9
ARE0 ARCESS Array S 131.91 348 eP 23 15 29.4
ARE0 ePKPdf PKPdf 23 15 38.5 -1.7
TMCR Tamitsa 132.53 338 *i* PKIKP PKPdf 23 15 41.2 -0.1
TMCR *e* 23 18 15.1
TMCR pmax pmax
comp=Z,20nm,0.7s
KTK1 Kautokeino 132.79 348 *e* 23 15 30.5
TRO Tromso 132.96 351 *e* 23 15 31.6
TSUM Tsumeb 133.21 205 PKhKP 23 15 33.0
comp=Z,1.6nm,0.4s,baz=139,slow=6.2,SNR=16
TSUM PKP PKPdf 23 15 44.8 +2.2
comp=Z,2.5nm,0.6s,baz=245,slow=9.3,SNR=5.7
TSUM SKPbc SKPbc 23 18 20.2 +2.2
comp=Z,64nm,0.9s,baz=131,slow=4.6,SNR=43
TSUM Tsumeb 133.21 205 PKP 23 15 33.0
TSUM PKP PKPdf 23 15 44.8 +2.2
TSUM SKPbc SKPbc 23 18 20.2 +2.2
PECR Pechory 134.13 327 ePKIKP PKPdf 23 15 44.0 -0.3
PECR *i* 23 18 20.0
KMBO Kilima Mbogo 135.07 242 PKhKP 23 15 35.5
comp=Z,1.4nm,0.7s,baz=76,slow=10,SNR=5.1
KMBO PKP PKPdf 23 15 47.6 +1.5
comp=Z,12nm,0.9s,baz=80,slow=4.1,SNR=18
KMBO SKPbc SKPbc 23 18 27.0 +3.0
comp=Z,20nm,0.9s,baz=47,slow=2.1,SNR=16
KMBO Kilima Mbogo 135.07 242 PKIKP PKPdf 23 15 47.6 +1.5
KMBO 23 18 27.0
KMBO pmax pmax
comp=Z,12nm,0.9s
KMBO pmax pmax
comp=N,20nm,1.0s
JOF Joensuu 135.60 339 *e*p 23 15 32.5
comp=N,4.6nm,0.4s
JOF Joensuu 135.60 339 ePKHKP 23 15 32.5
JOF pmax pmax
comp=Z,5.0nm,0.4s
MAK Makhachkala 136.00 308 *i* PKIKP PKPdf 23 15 44.4 -3.4
MAK *e* 23 22 12.0
MAK *e*SSS 23 41 07.3
MAK pmax pmax
comp=Z,279nm,1.7s
URKR Urkarakh 136.03 306 PKHKP 23 15 30.0
URKR S PKiKP 23 15 47.5 -2.1
RDF Al-Radifah 136.42 287 eP 23 15 37.2
RDF AMb AMB 23 15 52.3
comp=Z,141nm,0.7s
ATD Arta Tunnel 136.47 261 PKP PKPdf 23 15 51.8 +3.2
comp=Z,14nm,0.8s,baz=262,slow=4.5,SNR=6.5
MIB Mutribah 136.68 288 eP 23 15 37.4
MIB AMb AMB 23 15 41.8
comp=Z,52nm,0.6s
NAY Al-Naaiem 136.72 288 eP 23 15 37.0
STOK Stokkvaagen 136.87 352 *e* 23 15 36.8
RST Umm Al-Ruwaisa 136.96 288 eP 23 15 37.8
RST AMb AMB 23 15 52.4
comp=Z,67nm,0.7s
BORG Borgarnes 137.33 13 SKPbc SKPbc 23 18 30.5 -0.2
comp=Z,23nm,0.8s,baz=263,slow=0.6,SNR=5.0
KAF Kangasniemi 137.75 341 *e*p 23 15 38.5
comp=Z,7.3nm,0.4s
KAF Kangasniemi 137.75 341 ePKHKP 23 15 38.5
KAF pmax pmax
comp=Z,7.0nm,0.4s
TBLG Delisi 138.23 306 PKHKP 23 15 44.4
TBLG Delisi 138.23 306 P PKPdf 23 15 44.4 -7.5
TBLG S SKPbc 23 18 35.8 +2.6
FIA1 FINESS Array S 138.34 341 eP 23 15 42.2
FIA1 ePKPdf PKPdf 23 15 51.0 -1.1
FINES FINESS Array B 138.34 341 PKhKP 23 15 40.7
comp=Z,16nm,0.4s,baz=33,slow=5.3,SNR=37
FINES PKP PKPdf 23 15 51.5 -0.7
comp=Z,31nm,0.6s,baz=90,slow=4.2,SNR=23
FINES SKPbc SKPbc 23 18 33.2 -0.4
comp=Z,78nm,0.8s,baz=83,slow=4.6,SNR=25
FINES SKKPbc 23 27 17.9
comp=Z,1.7nm,0.7s,baz=222,slow=3.7,SNR=5.6
FINES FINESS Array B 138.34 341 PKIKP PKPdf 23 15 51.5 -0.6
FINES pmax pmax
comp=Z,31nm,0.6s
FINES pmax pmax
comp=N,78nm,0.9s
FINES pmax pmax
comp=N,2.0nm,0.7s
FINES FINESS Array B 138.34 341 PKP 23 15 40.7
FINES PKP PKPdf 23 15 51.5 -0.7
FINES SKPbc SKPbc 23 18 33.2 -0.4
FINES SKKPbc 23 27 17.9
OBN Obninsk 138.44 328⇑ *i*PKIKP PKPdf 23 15 53.7 +1.4
OBN *e* 23 18 01.7
OBN *e* 23 18 44.3
OBN *e* 23 22 05.8
OBN pmax pmax
comp=Z,38nm,1.0s
OBN Obninsk 138.44 328 eP 23 15 42.4
OBN ePKPdf PKPdf 23 15 52.9 +0.6
OBN ⇑ePKP PKPdf 23 15 53.8 +1.5
GNI Garni 138.48 304 PKhKP 23 15 43.9
comp=Z,5.5nm,0.6s,baz=47,slow=13,SNR=6.0
GNI PKP PKPdf 23 15 52.4 0.0
comp=Z,26nm,0.7s,baz=184,slow=23,SNR=11
GNI SKPbc SKPbc 23 18 34.9 +0.9
comp=Z,14nm,0.8s,baz=348,slow=6.2,SNR=5.5
GNI Garni 138.48 304 PKIKP PKPdf 23 15 52.4 0.0
GNI pmax pmax
comp=Z,26nm,0.7s
GNI pmax pmax
comp=N,14nm,0.8s
ZEI Tsey 138.64 308 ePKIKP PKPdf 23 15 54.9 +2.2
NSS Namsos 138.72 351 *e* 23 15 41.1
NSS Namsos 138.72 351 eP 23 15 40.8
VRSR Storozhevoye 138.97 322 *i* PKHKP 23 15 43.3
VRSR pmax pmax
comp=Z,20nm,0.8s
VRSR pmax pmax
comp=N,8.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,1.0s
KIV Kislovodsk 139.24 310 P PKPdf 23 15 54.1 +0.4
SNR=6.6
KIV Kislovodsk 139.24 310 *i* PKIKP PKPdf 23 15 55.1 +1.4
KIV Kislovodsk 139.24 310 eP PKPdf 23 15 46.8 -6.9
KIV ePKPdf PKPdf 23 15 55.0 +1.3
KIV *i* PKP PKPdf 23 15 55.2 +1.5
MSL Mosul 140.23 298 *e*x x 23 15 53.0
BEST Besiri 141.49 301 *i* P PKPdf 23 15 54.2 -3.6
DOMB Dombas 141.49 352 eP PKPdf 23 15 51.9 -5.9
MARD Mardin 141.96 300 *i* P PKPdf 23 15 55.9 -2.7
NB2 NORSAR Subarra142.16 350 PKPa PKPdf 23 15 54.3 -4.7
comp=Z,109nm,0.8s,baz=18,slow=3.5
NB2 NORSAR Subarra142.16 350 PKPa PKPdf 23 15 54.3 -4.7
baz=18,slow=3.5
NOA NORSAR Array B142.16 350 PKhKP 23 15 53.9
comp=Z,88nm,0.7s,baz=16,slow=4.9,SNR=298
NOA SKPbc SKPbc 23 18 43.4 -0.1
comp=Z,27nm,0.8s,baz=16,slow=4.2,SNR=12
NOA NORSAR Array B142.16 350 PKHKP 23 15 53.9
NOA pmax pmax
comp=Z,88nm,0.7s
NOA pmax pmax
comp=N,27nm,0.8s
NOA NORSAR Array B142.16 350 PKP PKPdf 23 15 53.9 -5.0
NOA SKPbc SKPbc 23 18 43.4 -0.1
KBSD Kabsdagh 142.19 300⇓P PKPdf 23 15 56.2 -2.8
MZRK Al-Mazaregh 142.24 298⇓P PKPdf 23 15 57.0 -2.1
FOO Floro 142.33 355 eP PKPdf 23 15 53.6 -5.7
NAO01 NORSAR Array S 142.39 350 ePKPdf PKPdf 23 15 55.0 -4.4
HFS Hagfors 142.58 348 PKhKP 23 15 54.9
comp=N,212nm,0.4s,baz=59,slow=3.5,SNR=1765
HFS SKPbc SKPbc 23 18 44.2 -0.3
comp=N,54nm,0.8s,baz=90,slow=1.5,SNR=12
HFS SKKPbc 23 27 01.3
comp=N,5.5nm,0.8s,baz=202,slow=3.2,SNR=5.1
HFS Hagfors 142.58 348 PKHKP 23 15 54.9
HFS pmax pmax
comp=Z,213nm,0.4s
HFS pmax pmax
comp=N,54nm,0.8s
HFS pmax pmax
comp=N,6.0nm,0.9s
IZAR Zarasai 142.58 335 eP PKPdf 23 15 56.2 -3.6
IZAR AMb AMB 23 15 57.9
comp=Z,4μm,1.1s
ANN Anapa 142.58 313 *i* PKHKP 23 15 54.6
ANN pmax pmax
comp=Z,152nm,0.7s
SFNV Sufian 142.61 299⇓P PKPdf 23 15 57.9 -1.9
KELT Kelkit 142.62 305 *i* P PKPdf 23 15 59.2 -0.6
IDID Didziasalis 142.69 334 eP PKPdf 23 15 56.2 -3.7
IDID AMb AMB 23 15 57.8
comp=Z,3μm,0.5s
MNK Minsk 142.81 332 ePKHKP 23 15 54.0
MNK pmax pmax
comp=Z,760nm,0.8s
IIGN Ignalina 142.88 334 eP PKPdf 23 15 57.0 -3.3
IIGN AMb AMB 23 15 58.5
comp=Z,6μm,0.7s
SUE Sulen 142.89 355 eP PKPdf 23 15 56.7 -3.6
ELZG Elazig 143.16 303 *i* P PKPdf 23 16 00.5 -0.3
OSL Oslo 143.28 350 eP PKPdf 23 15 58.0 -2.9
OSL AMb AMB 23 16 00.4
comp=Z,211nm,1.2s
ASK Askoy 143.42 355 eP PKPdf 23 15 58.7 -2.5
ASK AMb AMB 23 16 01.8
comp=Z,503nm,1.7s
RUND Rundenannen 143.47 355 eP PKPdf 23 15 59.0 -2.3
RUND AMb AMB 23 16 01.4
comp=Z,740nm,0.9s
BER Bergen 143.51 355 eP PKPdf 23 15 58.5 -2.9
BER eP 23 15 58.5
BER AMb AMB 23 16 00.4
comp=Z,432nm,0.7s
BER *e*SS SS 23 37 15.1 -2.1
BER Bergen 143.51 355 eP PKPdf 23 15 58.5 -2.8
EGD Espegrend 143.63 355 eP PKPdf 23 15 59.6 -2.0
EGD AMb AMB 23 16 01.2
comp=Z,572nm,0.9s
MALT Malatya 143.63 302⇓ *i*P PKPdf 23 16 01.3 -0.3
MALT Malatya 143.63 302 PKIKP PKPdf 23 16 01.4 -0.2
MALT Malatya 143.63 302⇓ *i*PKPbc PKPdf 23 16 01.1 -0.5
MALT ⇑*e*SKPbc SKPbc 23 18 48.9 +1.8
KONO Kongsberg 143.73 351 eP PKPdf 23 15 59.3 -2.4
KONO Kongsberg 143.73 351⇑ *i*PKIKP PKPdf 23 15 59.5 -2.2
KONO Kongsberg 143.73 351 ePKP PKPdf 23 15 59.2 -2.6
KONO *e*SKP 23 18 47.1
ATAB Bozova 143.89 301 *i* P PKPdf 23 16 02.7 +0.7
WAL1 Walls 143.91 0 eP PKPdf 23 15 59.4 -2.7
WAL1 Walls 143.91 0 eP PKPdf 23 15 59.4 -2.7
LRW Lerwick 144.03 0 eP PKPdf 23 15 59.8 -2.5
LRW Lerwick 144.03 0 eP PKPdf 23 15 59.8 -2.5
JHLN Al Jahlan 144.05 298⇓P PKPdf 23 16 02.5 +0.2
BLS5 Blasjo 144.35 353 eP PKPdf 23 16 01.7 -1.1
BLS5 AMb AMB 23 16 05.4
comp=Z,244nm,1.4s
SVST Sivas 144.43 305 *i* P PKPdf 23 16 06.2 +3.2
GZT Gaziantep 144.48 301 *i* P PKPdf 23 16 04.0 +1.0
AKASG Malin Array Be 144.61 326 PKP PKPdf 23 16 01.5 -1.8
comp=Z,302nm,0.7s,baz=45,slow=4.0,SNR=881
AKASG SKPbc SKPbc 23 18 49.9 +0.6
comp=Z,32nm,0.8s,baz=46,slow=2.4,SNR=11
AKASG SKKPbc 23 26 52.5
comp=Z,5.0nm,0.8s,baz=242,slow=4.1,SNR=14
AKASG Malin Array Be 144.61 326 PKIKP PKPdf 23 16 01.5 -1.7
AKASG pmax pmax
comp=Z,302nm,0.7s
AKASG pmax pmax
comp=N,32nm,0.8s
AKASG pmax pmax
comp=N,5.0nm,0.9s
AKBB Malin Array Si 144.61 326 ePKPdf PKPdf 23 16 02.2 -1.1
AKBB eSKPdf SKPdf 23 18 42.5 -1.6
AKBB eSKPbc SKPbc 23 18 49.9 +0.6
SIM Simferopol' 144.70 315⇓ *i*PKIKP PKPdf 23 16 04.0 +0.6
SIM *e* 23 19 10.0
SIM pmax pmax
comp=Z,316nm,0.7s
SIM pmax pmax
comp=Z,260nm,13.8s
STAV Stavanger 144.90 354 eP PKPdf 23 16 03.4 -0.4
STAV Stavanger 144.90 354 eP PKPdf 23 16 02.7 -1.0
SUW Suwalki 145.06 335 *i* PKPd PKPdf 23 16 03.7 -0.3
ROOS tl_alroos 145.17 296⇓P PKPdf 23 16 06.7 +2.5
RABH Abou Rabah 145.21 296⇓P PKPdf 23 16 06.9 +2.6
ZALF Zalf 145.25 293⇓P PKPdf 23 16 06.3 +1.9
DRWC Darouich 145.32 300⇓P PKPdf 23 16 06.3 +1.8
SNART Snartemo 145.32 352 eP PKPdf 23 16 04.6 +0.1
SNART AMb AMB 23 16 07.5
comp=Z,130nm,0.9s
OBR Brabster 145.53 2 eP PKPdf 23 16 04.7 -0.1
OBR Brabster 145.53 2 eP PKPdf 23 16 04.7 -0.1
ORE Reay 145.58 2 eP PKPdf 23 16 04.9 0.0
ORE Reay 145.58 2 eP PKPdf 23 16 04.9 0.0
BTCH Batrach 145.58 299⇓P PKPdf 23 16 06.1 +1.2
COBT Iskenderun 145.66 300 *i* P PKPbc 23 16 07.8 +1.1
ASF Jabal al Asfar 145.67 292 PKPbc PKPbc 23 16 07.6 +0.9
comp=Z,75nm,0.7s,baz=346,slow=2.7,SNR=123
ASF SKKPbc 23 26 48.6
comp=Z,9.5nm,0.9s,baz=120,slow=2.5,SNR=13
ASF Jabal al Asfar 145.67 292 PKP2 PKPab 23 16 07.6 -0.7
ASF pmax pmax
comp=Z,75nm,0.7s
ASF pmax pmax
comp=N,10.0nm,0.9s
SALA Sala 145.77 293⇓P PKPbc 23 16 08.5 +1.5
CTKT Corum 145.78 307 *i* P PKPbc 23 16 08.0 +1.0
SLNF Slenfeh 145.84 298⇓P PKPbc 23 16 08.0 +0.9
MARH Ras Al Marh 145.85 295⇓P PKPbc 23 16 09.3 +2.1
TOTH TOTAH 145.97 294⇓P PKPbc 23 16 08.9 +1.4
ARNB Al Arnab 146.00 299⇓P PKPbc 23 16 08.3 +0.6
QASN Qassioun 146.07 295⇓P PKPdf 23 16 07.3 +1.6
MVH1 Achvaich 146.18 3 eP PKPdf 23 16 06.5 +0.6
MVH1 Achvaich 146.18 3 eP PKPdf 23 16 06.5 +0.6
BRBR Barbar 146.36 294⇓P PKPbc 23 16 10.1 +1.5
CDAG Cicekdag 146.38 306 *i* P PKPdf 23 16 08.7 +2.5
RCY Rachaya 146.46 295 eP PKPdf 23 16 07.7 +1.3
KSK Scoval 146.47 5 eP PKPdf 23 16 07.5 +1.0
KSK Scoval 146.47 5 eP PKPdf 23 16 07.5 +1.0
BALT Daday 146.49 310 *i* P PKPdf 23 16 08.5 +2.1
KAC Achnashellach 146.54 4 eP PKPdf 23 16 07.5 +1.0
KAC Achnashellach 146.54 4 eP PKPdf 23 16 07.5 +1.0
BHL Bhannes 146.55 295 eP PKPdf 23 16 07.5 +0.9
MCD Coleburn Disti 146.56 2 eP PKPdf 23 16 07.5 +1.0
MCD Coleburn Disti 146.56 2 eP PKPdf 23 16 07.5 +1.0
KPL Plockton 146.68 4 eP PKPdf 23 16 08.2 +1.4
KPL Plockton 146.68 4 eP PKPdf 23 16 08.2 +1.4
ELDT Eldivan 146.81 308 *i* P PKPbc 23 16 10.1 +0.3
KSB Sheil Bridge 146.82 4 eP PKPdf 23 16 07.8 +0.8
KSB Sheil Bridge 146.82 4 eP PKPdf 23 16 07.8 +0.8
MME1 Meikle Cairn 146.84 2 eP PKPdf 23 16 07.5 +0.5
MME1 Meikle Cairn 146.84 2 eP PKPdf 23 16 07.5 +0.5
MUD Monsted U'grnd 146.86 350⇓ *i*P PKPdf 23 16 09.0 +2.0
comp=N,98nm,0.6s
MUD *i* 23 19 15.4
MUD Monsted U'grnd 146.86 350⇓ *i*PKIKP PKPdf 23 16 09.0 +2.0
MUD *i* 23 19 15.4
MUD pmax pmax
comp=Z,98nm,0.6s
BSD Bornholm Skovb 146.86 343⇓ *i*P PKPdf 23 16 08.6 +1.5
comp=Z,189nm,0.6s
BSD *e* 23 18 27.9
BSD *i* 23 19 15.0
BSD Bornholm Skovb 146.86 343⇓ *i*PKIKP PKPdf 23 16 08.6 +1.5
BSD *i* 23 19 15.0
BSD pmax pmax
comp=Z,190nm,0.6s
BR131 Keskin Array S 146.90 306 ePKPdf PKPdf 23 16 06.7 -0.4
BR131 ePKPbc PKPbc 23 16 10.3 +0.3
BRTR Keskin Array B 146.90 306 PKPbc PKPbc 23 16 09.6 -0.4
comp=Z,117nm,0.6s,baz=143,slow=4.7,SNR=212
BRTR SKPbc SKPbc 23 18 56.5 +2.0
comp=Z,11nm,0.9s,baz=129,slow=1.8,SNR=4.0
BRTR SKKPbc 23 26 43.9
comp=Z,0.8nm,0.8s,baz=222,slow=1.7,SNR=3.8
BRTR Keskin Array B 146.90 306 PKIKP PKPdf 23 16 09.6 +2.5
BRTR pmax pmax
comp=Z,117nm,0.6s
BRTR pmax pmax
comp=N,11nm,0.9s
BRTR pmax pmax
comp=N,1.0nm,0.8s
KIS Kishinev 146.97 321 *d i* PKIKP PKPdf 23 16 08.0 +0.8
KIS 23 18 16.0
KIS *e* 23 19 12.0
KIS pmax pmax
comp=Z,1μm,9.0s
KIS pmax pmax
comp=Z,1μm,12.0s
KAR1 Arisaig 147.08 5 eP PKPdf 23 16 07.7 +0.3
KAR1 Arisaig 147.08 5 eP PKPdf 23 16 07.7 +0.3
SLAT Slait 147.24 262 *i* S PKPbc 23 16 13.3 +2.4
WAR Warsaw 147.25 335 ePKP PKPdf 23 16 10.3 +2.6
MEST Erdemli 147.31 301 *i* P PKPbc 23 16 11.5 +0.3
EIL Elat 147.44 288 ePKPdf PKPdf 23 16 08.4 +0.4
EIL ePKPbc PKPbc 23 16 12.6 +1.1
EIL *e*pPKPdf pPKPdf 23 18 20.8 +0.5
ANTO Ankara 147.47 307⇓ *i*P PKPdf 23 16 07.7 -0.4
ANTO Ankara 147.47 307 P PKPdf 23 16 08.1 +0.1
SNR=56
ANTO Ankara 147.47 307 PKIKP PKPdf 23 16 08.2 +0.1
ANTO Ankara 147.47 307⇓ *i*PKPdf PKPdf 23 16 07.1 -0.9
ANTO ⇓*i*PKPbc PKPbc 23 16 11.6 0.0
ANTO ePKPab PKPab 23 16 15.7 +0.1
ANTO *e*pPKPdf pPKPdf 23 18 17.8 -2.5
ANTO *es*PKPdf 23 19 15.4
IAS Iasi 147.57 322⇓ *i*P PKPbc 23 16 11.6 -0.2
IAS Iasi 147.57 322 P PKPbc 23 16 11.7 -0.1
LVV L'vov 147.72 329⇑ *i*PKP2 PKPbc 23 16 11.3 -0.9
SGKT Sivrigoynuk 147.77 309 *i* P PKPdf 23 16 07.5 -1.0
GKP Gorka Klasztor 147.78 339 *i* PKPd PKPdf 23 16 11.5 +2.9
GKP *e* 23 16 16.4
EAB Aberfoyle 147.91 3 eP PKPdf 23 16 10.9 +2.1
EAB Aberfoyle 147.91 3 eP PKPdf 23 16 10.9 +2.1
PCOU Corrie 148.12 3 eP PKPdf 23 16 11.8 +2.6
PCOU Corrie 148.12 3 eP PKPdf 23 16 11.8 +2.6
EDI Edinburgh 148.22 2 eP PKPbc 23 16 13.5 0.0
EDI Edinburgh 148.22 2 eP PKPbc 23 16 13.5 0.0
PMSU Muirshiel 148.23 4 eP PKPdf 23 16 11.9 +2.6
PMSU Muirshiel 148.23 4 eP PKPdf 23 16 11.9 +2.6
POB1 Observatory 148.24 4 eP PKPbc 23 16 12.4 -1.1

POB1	Observatory	148.24	4	eP	PKPbc	23 16 12.4	-1.1
ESY	Stoneypath	148.25	2	eP	PKPdf	23 16 11.7	+2.4
ESY	Stoneypath	148.25	2	eP	PKPdf	23 16 11.7	+2.4
ERMK	Ermenek	148.27	301	i P	PKPbc	23 16 15.1	+1.5
CSS	Prodhromos	148.28	298	P	PKPbc	23 16 13.6	0.0
	comp=Z,3.3nm,0.7s						
CSS	Prodhromos	148.28	298	ePKPbc	PKPbc	23 16 13.3	-0.3
EAU	Auchinoon	148.29	2	eP	PKPbc	23 16 12.5	-1.1
EAU	Auchinoon	148.29	2	eP	PKPbc	23 16 12.5	-1.1
MAMC	Mammari	148.34	298	P	PKPbc	23 16 13.7	0.0
CFR	Carcaliu	148.34	319	PKP2	PKPbc	23 16 14.1	+0.4
EBL	Broad Law	148.38	2	eP	PKPbc	23 16 12.4	-1.4
EBL	Broad Law	148.38	2	eP	PKPbc	23 16 12.4	-1.4
KDHN	Kadinhani	148.38	305	i P	PKPbc	23 16 13.6	-0.2
KWP	Kalwaria	148.47	330	i PKPd	PKPbc	23 16 13.7	-0.4
KWP				e		23 16 19.8	
KWP	Kalwaria	148.47	330	ePKPdf	PKPdf	23 16 09.5	-0.2
KWP				⇓iPKP	PKPdf	23 16 13.7	+4.0
KWP				ePKPbc	PKPbc	23 16 14.0	-0.1
KWP				e		23 16 19.8	
HENT	Hendek	148.50	310	i P	PKPdf	23 16 09.7	0.0
TIRR	Tirgusor	148.54	317	⇑iP	PKPdf	23 16 09.9	+0.1
TIRR	Tirgusor	148.54	317	PKHKP	PKPbc	23 16 14.0	-0.2
TIRR	Tirgusor	148.54	317	ePKPdf	PKPdf	23 16 10.4	+0.6
TIRR				ePKPbc	PKPbc	23 16 14.4	+0.1
BURAR	Bucovina Array	148.58	325	⇓iP	PKPdf	23 16 09.5	-0.4
BURAR	Bucovina Array	148.58	325	P	PKPbc	23 16 14.8	+0.5
GMK	Mull of Kintyr	148.66	5	eP	PKPbc	23 16 13.3	-1.2
GMK	Mull of Kintyr	148.66	5	eP	PKPbc	23 16 13.3	-1.2
HARR	Harsova	148.72	318	⇓iP	PKPbc	23 16 15.0	+0.3
HARR	Harsova	148.72	318	P	PKPbc	23 16 14.8	+0.2
VRI	Vrincioaia	148.80	321	⇑iP	PKPdf	23 16 08.7	-1.5
VRI	Vrincioaia	148.80	321	P	PKPbc	23 16 14.9	+0.1
EKA	Eskdalemuir Ar	148.81	2	PKPbc	PKPbc	23 16 13.1	-1.8
	comp=Z,23nm,0.3s,baz=343,slow=2.7,SNR=68						
EKA	Eskdalemuir Ar	148.81	2	PKHKP	PKPbc	23 16 13.1	-1.8
EKA				pmax	pmax		
	comp=Z,23nm,0.3s						
ESK	Eskdalemuir	148.83	2	eP	PKPbc	23 16 13.3	-1.6
ESK	Eskdalemuir	148.83	2	eP	PKPbc	23 16 13.3	-1.6
ESK	Eskdalemuir	148.83	2	ePKPbc	PKPbc	23 16 12.7	-2.2
ALFC	Alevga	148.84	298	⇑P	PKPbc	23 16 15.1	+0.1
	comp=Z,6.9nm,0.5s						
PLOR	Plostina	148.85	321	⇓iP	PKPbc	23 16 14.7	-0.3
GCL	Cushendall	148.89	6	eP	PKPbc	23 16 14.2	-0.9
GCL	Cushendall	148.89	6	eP	PKPbc	23 16 14.2	-0.9
BWH	Wardlaw	148.95	3	eP	PKPbc	23 16 14.1	-1.2
BWH	Wardlaw	148.95	3	eP	PKPbc	23 16 14.1	-1.2
ESKT	Eskisehir	149.00	307	i P	PKPdf	23 16 09.3	-1.2
BHH	Howats Hill	149.05	2	eP	PKPbc	23 16 14.2	-1.3
BHH	Howats Hill	149.05	2	eP	PKPbc	23 16 14.2	-1.3
PPCY	Paphos	149.09	298	⇑P	PKPbc	23 16 15.5	-0.1
BORA	Eskisehir	149.16	308	i P	PKPbc	23 16 14.2	-1.6
BORA	Eskisehir	149.16	308	i P	PKPbc	23 16 16.4	+0.7
KOLS	Kolonicke sedl	149.17	329	ePKP	PKPdf	23 16 10.2	-0.6
KOLS				e		23 16 16.3	
GAL1	Galloway	149.20	4	P	PKPbc	23 16 14.5	-1.3
GAL1	Galloway	149.20	4	eP	PKPbc	23 16 14.5	-1.4
GAL1				eP		23 16 14.5	
GAL1	Galloway	149.20	4	eP	PKPbc	23 16 14.5	-1.4
GAL1				eP		23 16 14.5	
GCD	Castle Douglas	149.25	3	eP	PKPbc	23 16 14.4	-1.5
GCD	Castle Douglas	149.25	3	eP	PKPbc	23 16 14.4	-1.5
STHS	Stebnicka Huta	149.29	331	ePKP	PKPdf	23 16 11.1	+0.1
STHS				e		23 16 16.3	
OJC	Ojcow	149.30	333	ePKPbc	PKPbc	23 16 15.5	-0.6
OJC				epPKPbc	pPKPbc	23 18 24.5	-2.3
OJC				eSKKSac	SKKSac	23 25 47.2	-1.3
BDL	Dobcross Hall	149.35	2	eP	PKPbc	23 16 15.1	-1.1
BDL	Dobcross Hall	149.35	2	eP	PKPbc	23 16 15.1	-1.1
UZH	Uzhgorod	149.37	329	ePKHKP		23 16 14.0	
MLR	Muntele Rosu	149.46	321	PKP	PKPdf	23 16 09.8	-1.5
	comp=Z,5.9nm,0.9s,baz=243,slow=4.1,SNR=12						
MLR				PKPbc	PKPbc	23 16 16.3	-0.2
	comp=Z,86nm,0.6s,baz=325,slow=4.5,SNR=73						
MLR	Muntele Rosu	149.46	321	⇓iP	PKPdf	23 16 10.2	-1.1
MLR	Muntele Rosu	149.46	321	PKHKP	PKPbc	23 16 16.3	-0.2
MLR				pmax	pmax		
	comp=Z,86nm,0.6s						
RUE	Ruedersdorf	149.51	342	ePKPdf	PKPdf	23 16 11.1	-0.2
RUE				ePKPbc	PKPbc	23 16 16.4	-0.2
RUE				ePKPab	PKPab	23 16 23.7	-0.3
CKE	Keswick	149.56	2	eP	PKPbc	23 16 15.9	-0.8
CKE	Keswick	149.56	2	eP	PKPbc	23 16 15.9	-0.8
CRVS	Cervenica-Dubn	149.56	330	ePKP	PKPdf	23 16 10.2	-1.2
CRVS				e		23 16 17.2	
CRVS				e		23 18 28.7	
XDE	Dent Fell	149.63	3	eP	PKPbc	23 16 15.7	-1.1
XDE	Dent Fell	149.63	3	eP	PKPbc	23 16 15.7	-1.1
ISK	Istanbul-Kandi	149.68	311	eP	PKPdf	23 16 12.8	+1.2
NIE	Niedzica	149.69	332	ePKPbc	PKPbc	23 16 17.2	+0.2
GMM	Mts of Mourne	149.73	6	eP	PKPbc	23 16 15.7	-1.4
GMM	Mts of Mourne	149.73	6	eP	PKPbc	23 16 15.7	-1.4
ISP	Isparta	149.79	304	eP	PKPdf	23 16 09.1	-2.7
ISP	Isparta	149.79	304	⇓iP	PKPbc	23 16 16.5	-0.7
ISP	Isparta	149.79	304	ePKPdf	PKPdf	23 16 11.9	+0.1
ISP				ePKPbc	PKPbc	23 16 16.9	-0.3
ISP				ePKPab	PKPab	23 16 25.6	+0.4
PRD	Provadia	149.81	316	i P	PKPbc	23 16 17.6	+0.3
CDU1	Dunnerdale	149.81	2	eP	PKPbc	23 16 16.2	-1.0
CDU1	Dunnerdale	149.81	2	eP	PKPbc	23 16 16.2	-1.0
LWH	Whinny Nab	149.85	359	eP	PKPbc	23 16 15.9	-1.5
LWH	Whinny Nab	149.85	359	eP	PKPbc	23 16 15.9	-1.5
TKTP	Tekketepe	149.88	305	i P	PKPbc	23 16 16.1	-1.3
TKTP	Tekketepe	149.88	305	i P	PKPbc	23 16 17.5	0.0
TKTP				i S		23 16 23.7	
WIM	Isle of Man	149.92	4	eP	PKPbc	23 16 16.5	-1.1
WIM	Isle of Man	149.92	4	eP	PKPbc	23 16 16.5	-1.1
ULDT	Uludag	150.00	309	i P	PKPdf	23 16 13.4	+1.3
VOIR		150.00	322	⇓iP	PKPdf	23 16 12.6	+0.5
BUC1	Bucharest	150.06	319	PKHKP	PKPbc	23 16 17.2	-0.7
ELBA	Catalca	150.08	312	i P	PKPbc	23 16 17.0	-0.9
KSP	Ksiaz	150.13	338	i PKPd	PKPbc	23 16 17.8	-0.2
KSP				e		23 16 26.9	
KSP	Ksiaz	150.13	338	ePKP2	PKPab	23 16 26.3	-0.3
KSP	Ksiaz	150.13	338	ePKPdf	PKPdf	23 16 11.6	-0.7
KSP				i PKPdf	PKPbc	23 16 17.8	-0.2
KSP				ePKPab	PKPab	23 16 26.3	-0.3
KSP				epPKPdf	pPKPdf	23 18 27.2	+2.5
KSP				epPKPab	pPKPab	23 18 33.1	+0.6
GDZ	Gediz	150.15	307	i P	PKPbc	23 16 18.0	-0.1
OKC	Ostrava-Krasne	150.26	334	ePKPdf	PKPdf	23 16 11.6	-0.9
OKC				ePKPbc	PKPbc	23 16 18.0	-0.3
OKC				ePKPab	PKPab	23 16 27.3	+0.2
KECS	Kecovo	150.31	330	ePKP	PKPbc	23 16 18.3	-0.2
KECS				e		23 16 27.3	
KECS				e		23 18 29.5	
KECS	Kecovo	150.31	330	ePKIKP	PKPbc	23 16 18.3	-0.2
KECS				e		23 16 27.3	
DRGR		150.42	326	⇓iP	PKPdf	23 16 11.6	-1.1
DRGR		150.42	326	P	PKPbc	23 16 18.6	-0.1
NRDL	Niedersach Rie	150.43	346	ePKPdf	PKPdf	23 16 12.4	-0.4
NRDL				ePKPbc	PKPbc	23 16 19.3	+0.6
DCN	Croghan	150.48	7	⇑iP	PKPbc	23 16 17.6	-1.2
DCN	Croghan	150.48	7	⇑iP	PKPdf	23 16 11.8	-1.0
DCN				⇑iP		23 16 17.6	
UPC	Upice	150.51	338	ePKPdf	PKPdf	23 16 11.8	-1.1
UPC				ePKPbc	PKPbc	23 16 18.5	-0.4
UPC				ePKPab	PKPab	23 16 28.3	+0.1
DPC	Dobruska-Polom	150.53	337	ePKPdf	PKPdf	23 16 12.2	-0.7
DPC				ePKPbc	PKPbc	23 16 18.9	-0.1
DPC				ePKPab	PKPab	23 16 28.7	+0.4
MORC	Moravsky Berou	150.55	335	⇓iP	PKPdf	23 16 12.2	-0.7
MORC	Moravsky Berou	150.55	335	PKIKP	PKPbc	23 16 19.2	+0.2
MORC	Moravsky Berou	150.55	335	ePKPdf	PKPdf	23 16 11.9	-1.1
MORC				ePKPbc	PKPbc	23 16 19.1	+0.1
MORC				epPKPdf	pPKPdf	23 18 30.3	+5.0
DLF	Lyons Farm	150.61	7	⇑iP	PKPbc	23 16 17.7	-1.4
DLF	Lyons Farm	150.61	7	⇑iP	PKPdf	23 16 11.9	-1.1
DLF				⇑iP		23 16 17.7	
LHO	Holmfirth	150.64	1	eP	PKPbc	23 16 17.7	-1.5
LHO	Holmfirth	150.64	1	eP	PKPbc	23 16 17.7	-1.5
DSB	Dublin	150.67	6	ePKPdf	PKPdf	23 16 12.4	-0.7
DSB				ePKPbc	PKPbc	23 16 18.4	-0.9
DSB				ePKPab	PKPab	23 16 27.8	-1.1
JMB	Yambol	150.69	315	eP	PKPdf	23 16 11.8	-1.4
JMB	Yambol	150.69	315	i P	PKPbc	23 16 19.9	+0.6
SZH	Strazhica	150.70	317	i P	PKPbc	23 16 19.4	+0.1
WCB1	Church Bay	150.70	4	eP	PKPbc	23 16 17.9	-1.5
WCB1	Church Bay	150.70	4	eP	PKPbc	23 16 17.9	-1.5
GOLH	Golhisar	150.70	304	i P	PKPbc	23 16 20.2	+0.8
WIT	Witteveen	150.77	350	ePKP	PKPbc	23 16 19.6	+0.1
CLL	Collm	150.78	342	ePKPdf	PKPdf	23 16 13.1	-0.2
CLL				ePKPbc	PKPbc	23 16 19.3	-0.2
	comp=Z,361nm,0.8s						
CLL				ePKPab	PKPab	23 16 28.7	-0.6
CLL				epPKPdf	pPKPdf	23 18 29.2	+3.5
CLL				epPKPbc	pPKPbc	23 18 34.1	+3.6
CLL				esPKPab		23 19 31.4	
CLL				ePP	PP	23 19 58.6	-3.9
CLL				esPP		23 22 59.3	
CLL				eSKKSac	SKKSac	23 25 56.5	-0.1
CLL				eSKSP		23 29 20.6	
CLL				eSPP		23 32 02.6	
CLL				ePPS		23 33 07.5	
CLL				eSS	SS	23 38 35.3	-2.7
CLL	Collm	150.78	342	ePKPdf	PKPdf	23 16 13.0	-0.3
CLL				i PKPbc	PKPbc	23 16 19.4	-0.1
	comp=Z,356nm,0.8s						
CLL				⇑iPKPab	PKPab	23 16 28.7	-0.6
	comp=Z,211nm,0.6s						
CLL				epPKPbc	pPKPbc	23 18 30.0	-0.5
CLL				i pPKPab	pPKPab	23 18 34.7	-0.4
CLL				esPKPbc		23 19 23.0	
CLL				ePP	PP	23 20 01.0	-1.5
CLL				esPP		23 23 03.0	
CLL				eSKKSac	SKKSac	23 25 55.0	-1.6
CLL				eSKSP		23 29 18.0	
CLL				eSPP		23 32 03.0	
CLL				ePPS		23 33 00.0	
CLL				ex	x	23 35 00.0	
CLL				eSS	SS	23 38 42.0	+4.0
CLL				eSSS		23 44 48.0	
CLL	Collm	150.78	342	⇑ePKIKP	PKPdf	23 16 13.0	-0.3
CLL				i		23 16 28.7	
CLL				pmax	pmax		
	comp=Z,356nm,0.8s						
CLL				pmax	pmax		
	comp=Z,211nm,0.6s						
WLF1	Llynfaes	150.79	4	eP	PKPbc	23 16 18.1	-1.5
WLF1	Llynfaes	150.79	4	eP	PKPbc	23 16 18.1	-1.5
YRC	Rhoscolyn	150.82	4	eP	PKPbc	23 16 18.0	-1.6
YRC	Rhoscolyn	150.82	4	eP	PKPbc	23 16 18.0	-1.6
ZIMR		150.83	318	⇓iP	PKPbc	23 16 19.7	0.0
ZIMR		150.83	318	P	PKPbc	23 16 19.7	0.0
WPM1	Penmaenmawr	150.85	3	eP	PKPbc	23 16 18.3	-1.4
WPM1	Penmaenmawr	150.85	3	eP	PKPbc	23 16 18.3	-1.4
BRG	Berggiesshubel	150.88	340	ePKPdf	PKPdf	23 16 12.5	-0.9
BRG				ePKPbc	PKPbc	23 16 19.3	-0.5
BRG	Berggiesshubel	150.88	340	⇑iPKPB	PKPdf	23 16 19.6	+6.2
	comp=Z,117nm,0.8s						
BRG				i PKPpB		23 16 27.4	
	comp=Z,32nm,0.8s						
BRG				i		23 16 29.8	
	comp=Z,64nm,0.7s						
BRG				pPKPDF		23 18 30.6	
	comp=Z,15nm,1.2s						
BRG	Berggiesshubel	150.88	340	i PKIKP	PKPdf	23 16 13.1	-0.3
BRG				i		23 16 27.4	
BRG				pmax	pmax		
	comp=Z,47nm,2.1s						
BRG				pmax	pmax		
	comp=Z,117nm,0.8s						
BRG				pmax	pmax		
	comp=Z,32nm,0.8s						
BRG				pmax	pmax		
	comp=Z,64nm,0.7s						
BRG				pmax	pmax		
	comp=Z,15nm,1.2s						
BRG				pmax	pmax		
	comp=Z,56nm,1.4s						
BRG	Berggiesshubel	150.88	340	i PKPdf	PKPdf	23 16 13.1	-0.3
BRG				i PKPbc	PKPbc	23 16 19.6	-0.2
BRG				i PKPab	PKPab	23 16 27.4	-2.3
BRG				i		23 16 29.8	
BRG				pPKPdf	pPKPdf	23 18 30.6	+4.7
BRG				pPKPbc	pPKPbc	23 18 35.3	+4.5
BTOK	Tokmak	150.93	309	i P	PKPbc	23 16 19.7	-0.2
BTOK	Tokmak	150.93	309	i P	PKPbc	23 16 20.6	+0.7
BTOK	Tokmak	150.93	309	i P	PKPbc	23 16 20.8	+0.9
BTOK				i S	PKPab	23 16 27.7	-2.3
DNZL	Cakiroluk	150.94	305	i P	PKPbc	23 16 21.0	+1.1
DNZL	Cakiroluk	150.94	305	i P	PKPbc	23 16 21.8	+1.9
DNZL				i S	PKPab	23 16 27.4	-2.6
AKAS	Kas	150.95	302	i P	PKPbc	23 16 19.6	-0.3
AKAS	Kas	150.95	302	i P	PKPbc	23 16 20.4	+0.5
YLL	Llanberis	150.96	4	eP	PKPbc	23 16 18.3	-1.6
YLL	Llanberis	150.96	4	eP	PKPbc	23 16 18.3	-1.6
PVCC	Panska Ves	150.98	339	ePKPdf	PKPdf	23 16 12.9	-0.7
PVCC				ePKPbc	PKPbc	23 16 19.8	-0.2
PVCC				ePKPab	PKPab	23 16 29.8	-0.4
KSL	Kastellorizon	150.99	302	eP	PKPbc	23 16 20.0	0.0
PSZ	Piszkesteto	151.00	330	⇓ePKP/F	PKPdf	23 16 12.8	-0.8
PSZ				e		23 16 19.5	
PSZ	Piszkesteto	151.00	330	PKIKP	PKPbc	23 16 19.5	-0.5
PSZ	Piszkesteto	151.00	330	ePKPdf	PKPdf	23 16 13.2	-0.4
PSZ				ePKPbc	PKPbc	23 16 19.7	-0.3
PSZ				epPKPdf	pPKPdf	23 18 29.9	+3.8
FBE	Freiberg	151.02	341	ePKPdf	PKPdf	23 16 13.0	-0.7
FBE				ePKPbc	PKPbc	23 16 19.9	-0.2
FBE				ePKPab	PKPab	23 16 30.3	0.0
VYHS	Vyhne	151.03	332	ePKP	PKPdf	23 16 12.6	-1.1
VYHS				i		23 16 20.0	
VYHS				e		23 16 29.5	
VYHS				e		23 18 29.6	
VYHS				ePP	PP	23 20 03.4	-0.5
VYHS	Vyhne	151.03	332	ePKIKP	PKPdf	23 16 12.6	-1.1
VYHS				e		23 16 29.5	
VYHS				e		23 20 03.4	
PVL	Pavlikeni	151.09	318	i P	PKPbc	23 16 20.3	+0.1
YRE	Yr Eifl	151.10	4	eP	PKPbc	23 16 18.5	-1.8
YRE	Yr Eifl	151.10	4	eP	PKPbc	23 16 18.5	-1.8
SART	Tekirdag	151.13	312	i P	PKPbc	23 16 19.5	-0.8
SBD1	Bryn Du	151.24	3	eP	PKPbc	23 16 19.4	-1.2
SBD1	Bryn Du	151.24	3	eP	PKPbc	23 16 19.4	-1.2
VRAC	Vranov	151.29	335	PKP	PKPdf	23 16 12.9	-1.2
	comp=Z,1.1nm,0.4s,baz=86,slow=2.8,SNR=7.1						
VRAC				PKPbc	PKPbc	23 16 20.5	-0.2
	comp=Z,40nm,1.0s,baz=23,slow=1.6,SNR=34						
VRAC	Vranov	151.29	335	⇓iP	PKPdf	23 16 13.2	-0.9
VRAC	Vranov	151.29	335	PKP	PKPdf	23 16 12.9	-1.2
VRAC				P		23 16 20.3	
VRAC				PKPbc	PKPbc	23 16 20.5	-0.2
GZR	Gura Zlata	151.29	324	⇓iP	PKPbc	23 16 20.3	-0.4
GZR	Gura Zlata	151.29	324	P	PKPbc	23 16 20.0	-0.7
GTTG	Gvttingen	151.34	345	ePKPbc	PKPbc	23 16 20.4	-0.4
GTTG				ePKPab	PKPab	23 16 31.2	-0.5
GTTG				epPKPbc	pPKPbc	23 18 36.2	+4.3
GTTG				ePP	PP	23 20 01.8	-3.9
PRA	Prague	151.42	339	PKPbc	PKPbc	23 16 20.0	-1.0
PRA				PKPab	PKPab	23 16 31.0	-1.0
AKHS	Akhisar	151.43	308	i P	PKPdf	23 16 12.5	-1.7
PRU	Pruhonice	151.45	339	ePKPdf	PKPdf	23 16 12.9	-1.4
PRU				ePKPbc	PKPbc	23 16 20.8	-0.3
PRU				ePKPab	PKPab	23 16 31.5	-0.7
AEU	East Anglia Un	151.51	357	eP	PKPbc	23 16 20.4	-0.8
AEU	East Anglia Un	151.51	357	eP	PKPbc	23 16 20.4	-0.8
WTSB	Winterswijk	151.57	350	ePKP	PKPbc	23 16 20.3	-1.0
	comp=Z,199nm,0.7s						
WTSB				epPKP	pPKPdf	23 18 30.5	+3.6
DIM	Dimitrovgrad	151.58	315	i P	PKPbc	23 16 20.3	-1.0
SMOL	Smolenice	151.60	334	ePKP	PKPbc	23 16 21.7	+0.3
SMOL				e		23 16 32.6	
HLM1	Long Mynd	151.64	2	eP	PKPbc	23 16 20.2	-1.3
HLM1	Long Mynd	151.64	2	eP	PKPbc	23 16 20.2	-1.3
BUD	Budapest	151.71	330	⇓ePKP/F	PKPdf	23 16 13.4	-1.3
BUD				e		23 16 20.5	
TREC	Trest	151.71	337	ePKPdf	PKPdf	23 16 13.4	-1.3
TREC				ePKPbc	PKPbc	23 16 21.4	-0.2
TREC				ePKPab	PKPab	23 16 33.2	0.0
TANN	Tannenbergstha	151.73	341	ePKPdf	PKPdf	23 16 13.8	-0.9
TANN				ePKPbc	PKPbc	23 16 21.4	-0.3
TANN				ePKPab	PKPab	23 16 32.9	-0.4
WERD	Werda	151.74	342	ePKPdf	PKPdf	23 16 13.1	-1.6
WERD				ePKPbc	PKPbc	23 16 21.6	-0.1
WERD				ePKPab	PKPab	23 16 32.9	-0.5
MOX	Moxa	151.76	343	ePKPdf	PKPdf	23 16 13.7	-1.1
MOX				ePKPbc	PKPbc	23 16 21.2	-0.5
MOX				ePKPab	PKPab	23 16 32.8	-0.7
MOX				ePP	PP	23 20 04.3	-3.7
MOX	Moxa	151.76	343	ePDIFF	PKPdf	23 16 13.9	-0.9
MOX				e		23 16 21.4	
	comp=Z,114nm,1.5s						
MOX				e		23 16 32.7	
MOX				e		23 18 36.8	
MOX	Moxa	151.76	343	ePKIKP	PKPdf	23 16 13.9	-0.9
MOX				e		23 16 32.7	
BZS	Buzias	151.77	325	⇑iP	PKPdf	23 16 13.3	-1.5
BZS	Buzias	151.77	325	P	PKPdf	23 16 14.1	-0.7
GUNZ	Gunzen	151.81	342	ePKPdf	PKPdf	23 16 13.6	-1.2
GUNZ				ePKPbc	PKPbc	23 16 21.7	-0.2
GUNZ				ePKPab	PKPab	23 16 33.0	-0.7
APAE	Packway	151.82	357	eP	PKPbc	23 16 20.8	-1.1
APAE	Packway	151.82	357	eP	PKPbc	23 16 20.8	-1.1
KDZ	Kurdzhali	151.85	315	i P	PKPbc	23 16 21.6	-0.3
WERN	Wernitzgruen	151.87	341	ePKPdf	PKPdf	23 16 14.8	-0.1
WERN				ePKPbc	PKPbc	23 16 22.1	+0.1
WERN				ePKPab	PKPab	23 16 33.2	-0.7
WERN				epPKPbc	pPKPbc	23 18 37.9	+4.7
ZST	Bratislava	151.99	334	ePKP	PKPdf	23 16 15.4	+0.3
ZST				e		23 16 22.6	
ZST				e		23 16 35.3	
ZST				e		23 18 31.5	
ZST				ePP	PP	23 20 05.3	-4.0
ZST				e		23 23 35.5	
ZST	Bratislava	151.99	334	ePKIKP	PKPdf	23 16 15.4	+0.3
ZST				e		23 20 05.3	
BUG	Bochum--Univer	151.99	349	ePKPbc	PKPbc	23 16 22.0	-0.2
BUG				ePP	PP	23 20 04.9	-4.4
KDAG	Bornova	152.01	307	i P	PKPbc	23 16 21.9	-0.3
KDAG	Bornova	152.01	307	i P	PKPbc	23 16 22.4	+0.1
KDAG				i S	PKPab	23 16 32.2	-2.3
UBBA	Unterbreizbach	152.01	345	ePKPdf	PKPdf	23 16 14.4	-0.7
UBBA				ePKPbc	PKPbc	23 16 21.4	-0.9
RDO	Rodhopi	152.02	314	eP	PKPbc	23 16 21.0	-1.3
HTR	Trewern Hill	152.06	3	eP	PKPbc	23 16 21.1	-1.3
HTR	Trewern Hill	152.06	3	eP	PKPbc	23 16 21.1	-1.3
PLD	Plovdiv	152.08	316	eP	PKPbc	23 16 19.2	-3.3
ARG	Arkhangelos	152.10	302	eP	PKPbc	23 16 22.5	0.0
MCH1	Michaelchurch	152.16	2	P	PKPbc	23 16 21.3	-1.4
MCH1	Michaelchurch	152.16	2	eP	PKPbc	23 16 21.2	-1.4
MCH1				eP		23 16 21.3	
MCH1	Michaelchurch	152.16	2	eP	PKPbc	23 16 21.2	-1.4
MCH1				eP		23 16 21.3	
MANZ	Manzenberg	152.21	342	ePKPdf	PKPdf	23 16 14.7	-0.7
MANZ				ePKPbc	PKPbc	23 16 22.6	-0.1
MANZ				ePKPab	PKPab	23 16 35.3	-0.1
MANZ				epPKPbc	pPKPbc	23 18 38.6	+4.6
SSW	Stow on the Wo	152.22	1	eP	PKPbc	23 16 21.9	-0.9
SSW	Stow on the Wo	152.22	1	eP	PKPbc	23 16 21.9	-0.9
BOZC	Bozcaada	152.28	311	i P	PKPbc	23 16 20.0	-2.9
RZN	Rozhen	152.29	315	i P	PKPbc	23 16 22.9	0.0
ROTZ	Rotzenmuhle	152.38	341	ePKPdf	PKPdf	23 16 13.2	-2.5
ROTZ				ePKPbc	PKPbc	23 16 22.7	-0.4
ROTZ				ePKPab	PKPab	23 16 36.1	0.0
ROTZ				epPKPbc	pPKPbc	23 18 38.7	+4.3
ROTZ				ePP	PP	23 20 05.7	-5.8
PRK	Paraskevi	152.38	310	eP	PKPbc	23 16 23.0	-0.1
SKP1	Kophill	152.47	360	eP	PKPbc	23 16 21.6	-1.7
SKP1	Kophill	152.47	360	eP	PKPbc	23 16 21.6	-1.7
URLA	Izmir	152.51	308	i P	PKPbc	23 16 21.2	-2.2
KHC	Kasperske Hory	152.51	339	ePKPdf	PKPdf	23 16 14.9	-1.0
KHC				ePKPbc	PKPbc	23 16 23.3	-0.1
KHC				ePKPab	PKPab	23 16 36.4	-0.2
HGH	Gray Hill	152.52	2	eP	PKPbc	23 16 22.1	-1.4
HGH	Gray Hill	152.52	2	eP	PKPbc	23 16 22.1	-1.4
SMG	Samos	152.58	306	eP	PKPbc	23 16 22.0	-1.5
SOP	Sopron	152.62	333	⇓ePKP/F	PKPdf	23 16 14.9	-1.1
SOP				e		23 16 23.3	
SWN1	Swindon	152.67	1	eP	PKPbc	23 16 22.7	-1.1
SWN1	Swindon	152.67	1	eP	PKPbc	23 16 22.7	-1.1
CONA	Conrad Observa	152.70	335	⇑iPKPdf	PKPdf	23 16 15.4	-0.7
	comp=Z,54nm,0.7s,SNR=15						
GEC2	GERESS Array S	152.72	338	ePKPdf	PKPdf	23 16 14.3	-1.9
GEC2				ePKPbc	PKPbc	23 16 23.3	-0.5
GEC2				ePKPab	PKPab	23 16 37.2	-0.3
GEC2				epPKPbc	pPKPbc	23 18 39.6	+4.5
GEC2	GERESS Array S	152.72	338	ePKP2	PKPab	23 16 37.2	-0.3
GERES	GERESS Array B	152.72	338	PKP	PKPdf	23 16 14.9	-1.2
	comp=Z,3.7nm,0.7s,baz=85,slow=1.6,SNR=17						
GERES				PKPbc	PKPbc	23 16 22.8	-1.0
	comp=Z,22nm,0.7s,baz=48,slow=2.0,SNR=58						
GERES				PKPab	PKPab	23 16 35.8	-1.7
	comp=Z,5.1nm,0.6s,baz=34,slow=3.9,SNR=4.1						
WET	Wettzell	152.73	340	ePKPdf	PKPdf	23 16 14.6	-1.6
WET				ePKPbc	PKPbc	23 16 23.6	-0.3
WET				ePKPab	PKPab	23 16 37.6	0.0
WET	Wettzell	152.73	340	ePKP2	PKPab	23 16 37.6	0.0
GRA1	Grafenberg Arr	152.73	342	ePKPdf	PKPdf	23 16 14.7	-1.5
GRA1				ePKPbc	PKPbc	23 16 23.9	0.0
GRA1				ePKPab	PKPab	23 16 37.6	0.0
GRA1				epPKPbc	pPKPbc	23 18 39.2	+4.0
GRF	Grafenberg Arr	152.73	342	ePKPdf	PKPdf	23 16 14.7	-1.5
GRF				ePKPbc	PKPbc	23 16 23.9	0.0
GRF				ePKPab	PKPab	23 16 37.6	0.0
GRF				epPKPbc	pPKPbc	23 18 39.2	+4.0
GRF	Grafenberg Arr	152.73	342	ePKP2	PKPab	23 16 37.6	0.0
GRF	Grafenberg Arr	152.73	342	ePKP	PKPdf	23 16 14.7	-1.5
GRF				ePKP	PKPbc	23 16 23.9	0.0
GRF				ePKP	PKPab	23 16 37.6	0.0
GRF				pPKPbc	pPKPbc	23 18 39.2	+4.0
GRF				ePPP		23 23 34.0	
VTS	Vitosha	152.74	318	eP	PKPbc	23 16 23.5	-0.4
VTS	Vitosha	152.74	318	⇓iP	PKPdf	23 16 15.1	-1.1
VTS	Vitosha	152.74	318	i P	PKPbc	23 16 24.8	+0.9
VTS	Vitosha	152.74	318	P	PKPdf	23 16 16.0	-0.2
VTS				i P		23 16 24.8	
PKSM	Moragy	152.83	329	⇓iP	PKPdf	23 16 15.4	-0.9
PKSM	Moragy	152.83	329	P	PKPdf	23 16 15.6	-0.7
HGN	Heimansgroeve	152.87	350	ePKP	PKPbc	23 16 23.3	-0.9
	comp=Z,34nm,0.8s						
HGN				ex	x	23 16 36.3	
	comp=Z,76nm,1.1s						
BEBN	Eben Emael	152.88	350	PKP	PKPdf	23 16 15.9	-0.5
BEBN				PKPbc	PKPbc	23 16 23.4	-0.8
BEBN				PKPab	PKPab	23 16 37.3	-0.9
CHOS	Chios island	152.89	308	eP	PKPdf	23 16 15.2	-1.3
LOS	Limnos	152.91	312	eP	PKPdf	23 16 14.7	-1.8
TNS	Taunus Mts	152.92	346	ePKPbc	PKPbc	23 16 24.0	-0.3
MMB	Musomiste	152.97	316	eP	PKPbc	23 16 23.6	-0.8
MMB	Musomiste	152.97	316	i P	PKPbc	23 16 23.3	-1.1
MEM	Membach	153.01	350	PKP	PKPdf	23 16 16.4	-0.2
MEM				PKPbc	PKPbc	23 16 24.0	-0.5
MEM				PKPab	PKPab	23 16 37.6	-1.1
SWK	Warminster	153.03	2	eP	PKPbc	23 16 23.2	-1.3
SWK	Warminster	153.03	2	eP	PKPbc	23 16 23.2	-1.3
KARP	Karpathos	153.05	301	eP	PKPbc	23 16 25.0	+0.4
UCC	Uccle	153.06	352	PKPbc	PKPbc	23 16 25.1	+0.5
UCC				PKPab	PKPab	23 16 37.8	-1.2
HTL	Hartland	153.07	5	eP	PKPbc	23 16 23.7	-0.9
HTL	Hartland	153.07	5	eP	PKPbc	23 16 23.7	-0.9
KKB	Krupnik	153.22	317	i P	PKPbc	23 16 24.5	-0.4
BCLA	Clavier	153.30	351	PKP	PKPdf	23 16 18.0	+1.0
BCLA				PKPbc	PKPbc	23 16 24.4	-0.6
BCLA				PKPab	PKPab	23 16 39.0	-1.0
SRS	Serrai	153.31	315	eP	PKPbc	23 16 23.3	-1.8
SNF	Seneffe	153.35	352	PKPbc	PKPbc	23 16 24.4	-0.7
SNF				PKPab	PKPab	23 16 39.2	-1.1
MOA	Molln	153.37	336	i P	PKPdf	23 16 16.0	-1.1
	comp=Z,17nm,0.9s,SNR=9.6						
ARSA	Arzberg	153.38	334	⇑iP	PKPdf	23 16 16.2	-1.0
	comp=Z,12nm,0.9s						
TOD	Tromm	153.42	345	PKP	PKPdf	23 16 16.4	-0.8
ABH	Alteburg	153.43	347	PKP	PKPdf	23 16 16.8	-0.4
OUR	Ouranopolis	153.45	313	eP	PKPbc	23 16 24.4	-1.0
SOH	Sokhos	153.62	315	eP	PKPbc	23 16 24.3	-1.4
DIVS	Divcibare	153.64	324	eP	PKPbc	23 16 26.3	+0.5
DYA	Yadsworthy	153.67	4	eP	PKPbc	23 16 24.4	-1.5
DYA	Yadsworthy	153.67	4	eP	PKPbc	23 16 24.4	-1.5
GIVF	Givet	153.68	351	ePKIKP	PKPdf	23 16 15.7	-1.8
DOU	Dourbes	153.72	352	PKP	PKPdf	23 16 18.5	+0.9
DOU				PKPbc	PKPbc	23 16 25.7	-0.3
DOU				PKPab	PKPab	23 16 40.9	-0.9
KOGS	Kog	153.72	332	ePKPdf	PKPdf	23 16 16.3	-1.3
KOGS				ePKPbc	PKPbc	23 16 25.1	-0.9
KOGS				i PKPab	PKPab	23 16 40.8	-1.0
KOGS				eSKKSac	SKKSac	23 26 10.3	-2.2
KNT	Kendrikon	153.73	316	eP	PKPbc	23 16 24.9	-1.1
PLG	Polygyros	153.79	314	eP	PKPbc	23 16 25.0	-1.1
BAIF	Baives	153.80	352	ePKIKP	PKPdf	23 16 16.1	-1.6
	comp=Z,28nm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CRQ2	**Rosemanowes 2**	**153.84**	**6**	*e*P	PKPbc	23 16 24.9	-1.3
CRQ2	**Rosemanowes 2**	**153.84**	**6**	*e*P	PKPbc	23 16 24.9	-1.3
VAY	**Valandovo**	**153.85**	**317**	*e*P	PKPbc	23 16 23.9	-2.3
VAY	**Valandovo**	**153.85**	**317**	*i* P	PKPbc	23 16 24.6	-1.7
PAIG	**Paliouri**	**153.85**	**313**	*e*P	PKPdf	23 16 16.0	-1.8
STIP	**Stip**	**153.88**	**318**	*e*P	PKPbc	23 16 25.9	-0.4
STIP	**Stip**	**153.88**	**318**	*i* P	PKPdf	23 16 18.3	+0.5
HORT	**Hortiatis**	**153.90**	**315**	*e*P	PKPbc	23 16 25.2	-1.2
WLF	**Walferdange**	**153.90**	**349**	*e*PKPdf	PKPdf	23 16 16.6	-1.2
WLF				*e*PKPbc	PKPbc	23 16 26.5	+0.1
WLF				*e*PKPab	PKPab	23 16 42.1	-0.5
WLF				*e*PP	PP	23 20 16.2	-3.8
WLF	**Walferdange**	**153.90**	**349**	PKP	PKPdf	23 16 16.7	-1.1
WLF				PKPbc	PKPbc	23 16 25.9	-0.5
WLF				PKPab	PKPab	23 16 41.5	-1.0
WLF	**Walferdange**	**153.90**	**349**	*e*PKPdf	PKPdf	23 16 17.1	-0.8
WLF				*e*PKPbc	PKPbc	23 16 26.1	-0.2
WLF				*e*		23 18 42.6	
THE	**Thessaloniki**	**153.97**	**315**	*e*P	PKPbc	23 16 24.9	-1.6
PERS	**Pernice**	**154.04**	**334**	*e*PKPdf	PKPdf	23 16 16.5	-1.5
PERS				*e*PKPbc	PKPbc	23 16 25.8	-0.9
PERS				*e*PKPab	PKPab	23 16 42.2	-1.0
PERS				*e*PP	PP	23 20 20.3	-0.5
AOS	**Alonnisos**	**154.08**	**311**	*e*P	PKPbc	23 16 25.5	-1.3
FUR	**Furstenfeldbru**	**154.09**	**341**	*e*PKPdf	PKPdf	23 16 16.9	-1.2
FUR				*e*PKPbc	PKPbc	23 16 26.4	-0.4
FUR				*e*PKPab	PKPab	23 16 43.4	0.0
FUR				*e*pPKPbc	pPKPbc	23 18 42.6	+4.4
FUR	**Furstenfeldbru**	**154.09**	**341**	*e*PKP2	PKPab	23 16 43.4	0.0
STU	**Stuttgart**	**154.11**	**344**	*e*PKPdf	PKPdf	23 16 17.3	-0.8
STU				*e*PKPbc	PKPbc	23 16 26.4	-0.4
STU				*e*PKPab	PKPab	23 16 43.0	-0.5
STU				*e*pPKPbc	pPKPbc	23 18 42.6	+4.4
STU	**Stuttgart**	**154.11**	**344**	*e*PKPdf	PKPdf	23 16 17.0	-1.1
STU				*e*PKPbc	PKPbc	23 16 26.6	-0.2
STU				*e*pPKPdf	pPKPdf	23 18 28.3	-2.4
GRG	**Griva**	**154.15**	**316**	*e*P	PKPbc	23 16 25.7	-1.2
SKO	**Skopje**	**154.17**	**319**	*e*P	PKPbc	23 16 26.8	-0.2
SKO	**Skopje**	**154.17**	**319**	*i* P	PKPbc	23 16 26.6	-0.3
LANF	**Langenberg**	**154.23**	**346**	PKP	PKPdf	23 16 17.5	-0.8
NPS	**Neapolis**	**154.34**	**302**	*e*P	PKPbc	23 16 28.0	+0.7
KBA	**Koelnbreinsper**	**154.35**	**337**	⇑*i*P	PKPdf	23 16 17.5	-1.0
	comp=Z,18nm,0.7s						
XRY	**Khrisi**	**154.40**	**301**	*e*P	PKPbc	23 16 27.0	-0.4
SISC	**Sisak**	**154.43**	**331**	iP	PKPdf	23 16 17.9	-0.7
XOR	**Xorichti**	**154.46**	**312**	*e*P	PKPdf	23 16 17.9	-0.7
PLE	**Pljevlja**	**154.48**	**324**	⇑*i*PKP	PKPbc	23 16 26.5	-1.1
IVA	**Berane**	**154.50**	**322**	⇑*i*PKP	PKPbc	23 16 27.5	-0.1
LIT	**Litokhoron**	**154.55**	**314**	*e*P	PKPbc	23 16 26.3	-1.4
PTL	**Penteli**	**154.60**	**309**	*e*P	PKPdf	23 16 27.0	+8.2
KRUS	**Krusevo**	**154.64**	**318**	*i* P	PKPdf	23 16 18.6	-0.3
PVY	**Plav**	**154.64**	**322**	⇑*i*PKP	PKPdf	23 16 27.6	+8.7
BFO	**Black Forest**	**154.73**	**345**	*e*PKPdf	PKPdf	23 16 17.5	-1.5
BFO				*e*PKPbc	PKPdf	23 16 27.7	+8.7
BFO				*e*PKPab	PKPab	23 16 45.5	-0.6
BFO				*e*PP	PP	23 20 20.4	-4.1
BFO	**Black Forest**	**154.73**	**345**	*e*PKP2	PKPab	23 16 45.5	-0.6
BFO				*e*		23 20 20.4	
WATA	**Walderalm**	**154.73**	**339**	*i* P	PKPdf	23 16 18.0	-1.0
	comp=Z,9.5nm,1.0s,SNR=6.3						
KVR	**Kavouri**	**154.76**	**309**	*e*P	PKPdf	23 16 27.0	+8.0
LJU	**Ljubljana**	**154.76**	**334**	*e*PKPdf	PKPdf	23 16 18.1	-0.9
LJU				*e*PKPbc	PKPdf	23 16 27.6	+8.6
LJU				*e*PKPab	PKPab	23 16 45.1	-1.2
LJU				*e*pPKPbc	pPKPbc	23 18 35.8	-3.9
LJU				*e*		23 23 55.4	
LJU				*e*SKKSac	SKKSac	23 26 14.8	-3.3
WTTA	**Wattenberg**	**154.78**	**339**	*i* P	PKPdf	23 16 18.5	-0.5
	comp=Z,26nm,0.7s,SNR=9.0						
BIA	**Bitola**	**154.79**	**317**	*i* P	PKPdf	23 16 19.1	+0.1
UPM	**Unac-Piva**	**154.83**	**324**	⇑*i*PKP	PKPdf	23 16 27.8	+8.6
SPAK	**Spaichingen-Ko**	**154.83**	**344**	PKP	PKPdf	23 16 18.5	-0.6
WLS	**Welschbruch**	**154.87**	**347**	PKP	PKPdf	23 16 18.5	-0.7
MOTA	**Moosalm**	**154.87**	**340**	*i* P	PKPdf	23 16 18.2	-1.0
	comp=Z,17nm,1.0s,SNR=12						
CDF	**Champ du Feu**	**154.88**	**347**	*e*PKIKP	PKPdf	23 16 17.2	-2.0
	comp=Z,16nm,1.0s						
IDI	**Anoyia**	**154.89**	**302**	PKP	PKPdf	23 16 19.1	-0.1
	comp=Z,6.5nm,0.8s,baz=176,slow=8.2,SNR=3.5						
IDI				PKPbc	PKPdf	23 16 28.2	+9.0
	comp=Z,49nm,0.7s,baz=11,slow=4.4,SNR=23						
FNA	**Florina**	**154.89**	**317**	*e*P	PKPdf	23 16 18.3	-0.9
BOJS	**Bojanci**	**154.90**	**332**	*e*PKPdf	PKPdf	23 16 18.2	-1.0
BOJS				*e*PKPbc	PKPdf	23 16 28.2	+9.0
BOJS				*e*PKPab	PKPab	23 16 46.5	-0.4
BOJS				*e*pPKPbc	pPKPbc	23 18 36.2	-3.7
BOJS				*e*PP	PP	23 20 24.2	-1.3
BOJS				*e*		23 21 26.4	
BOJS				*e*		23 23 58.5	
BOJS				*e*SKKSac	SKKSac	23 26 16.7	-2.1
PTCC	**Patocco-Chiusa**	**154.92**	**336**	PKP	PKPdf	23 16 17.9	-1.3
CADS	**Cadrg**	**154.92**	**335**	*e*PKPdf	PKPdf	23 16 17.8	-1.5
CADS				*e*PKPbc	PKPdf	23 16 27.3	+8.0
CADS				*e*PKPab	PKPab	23 16 45.7	-1.3
SQTA	**Sankt Quirin**	**154.95**	**340**	*i* P	PKPdf	23 16 18.4	-0.9
FVI	**Forni Avoltri**	**154.97**	**337**	PKP	PKPdf	23 16 17.3	-2.0
NAIG	**Nisos Aigina**	**154.99**	**309**	*e*P	PKPdf	23 16 27.5	+8.2
VOY	**Vojsko**	**155.03**	**335**	*e*PKPdf	PKPdf	23 16 18.3	-1.1
VOY				*e*PKPbc	PKPdf	23 16 28.0	+8.6
NKY	**Niksic**	**155.04**	**323**	⇑*i*PKP	PKPdf	23 16 28.6	+9.2
OHR	**Ohrid**	**155.06**	**318**	*i* P	PKPdf	23 16 27.1	+7.7
GMNA	**Gemona**	**155.07**	**336**	PKP	PKPdf	23 16 18.4	-1.0
ECH	**Echery**	**155.10**	**347**	PKP	PKPdf	23 16 18.8	-0.7
TTG	**Podgorica**	**155.15**	**322**	⇑*i*PKP	PKPdf	23 16 28.6	+9.0
MEZF	**Maizieres J'vi**	**155.21**	**350**	*e*PKIKP	PKPdf	23 16 18.6	-1.0
AGG	**Agios Georgios**	**155.21**	**312**	*e*P	PKPdf	23 16 18.1	-1.6
BRY	**Bratogost**	**155.23**	**324**	⇑*i*PKP	PKPdf	23 16 28.6	+8.9
FELD	**Feldberg im Sc**	**155.23**	**345**	PKP	PKPdf	23 16 18.1	-1.6
FELD				⇑*e*P		23 16 47.7	
DAVA	**Damuels**	**155.29**	**342**	⇑*i*P	PKPdf	23 16 19.2	-0.6
	comp=Z,12nm,0.7s,SNR=11						
THEF	**They Montfort**	**155.31**	**349**	PKP	PKPdf	23 16 17.9	-1.9
VAM	**Vamos**	**155.38**	**303**	*e*P	PKPdf	23 16 29.5	+10
FLN	**La Foliniere**	**155.43**	**359**	*e*PKIKP	PKPdf	23 16 17.9	-2.0
	comp=Z,54nm,0.9s						
FLN				*e*R			
	comp=Z,150nm,22.0s						
FLN	**La Foliniere**	**155.43**	**359**	*e*PKPdf	PKPdf	23 16 17.9	-2.0
FLN				LR	LR		
	comp=Z,150nm,22.0s						
BUM	**Brajici-Budva**	**155.44**	**322**	⇑*i*PKP	PKPdf	23 16 29.2	+9.3
MOF	**Molkenrain**	**155.45**	**347**	PKP	PKPdf	23 16 19.4	-0.5
ULC	**Ulcinj**	**155.46**	**321**	⇑*i*PKP	PKPdf	23 16 29.0	+9.1
HAU	**Haudompre**	**155.46**	**348**	*e*PKIKP	PKPdf	23 16 18.1	-1.9
	comp=Z,21nm,1.1s						
HAU				*e*R			
	comp=Z,65nm,19.5s						
HAU	**Haudompre**	**155.46**	**348**	*e*PKPdf	PKPdf	23 16 18.1	-1.9
HAU				LR	LR		
	comp=Z,70nm,19.5s						
HINF	**Hinteralfeld**	**155.54**	**347**	*e*PKIKP	PKPdf	23 16 18.0	-2.1
	comp=Z,22nm,1.1s						
MEV	**Metsovon**	**155.54**	**315**	*e*P	PKPdf	23 16 19.8	-0.3
HCY	**Herceg Novi**	**155.56**	**323**	⇑*i*PKP	PKPdf	23 16 29.2	+9.1
LDF	**La Druitiere**	**155.59**	**358**	*e*PKIKP	PKPdf	23 16 18.0	-2.1
	comp=Z,44nm,0.9s						
APPI	**Appiano**	**155.60**	**339**	PKP	PKPdf	23 16 18.4	-1.7
GVD	**Gavdhos**	**155.66**	**302**	*e*P	PKPdf	23 16 30.0	+10
BBS	**Basel-Blauen**	**155.73**	**346**	PKP	PKPdf	23 16 19.6	-0.7
ROSF	**Rostrenen**	**155.80**	**3**	*e*PKIKP	PKPdf	23 16 18.9	-1.5
GRR	**Gorron**	**155.81**	**360**	*e*PKIKP	PKPdf	23 16 18.5	-1.9
	comp=Z,46nm,1.1s						
VLI	**Veliai**	**155.83**	**307**	*e*P	PKPdf	23 16 31.0	+11
CTI	**Castel Tesino**	**155.84**	**338**	PKP	PKPdf	23 16 19.5	-1.0
JAN	**Janina**	**155.86**	**315**	*e*P	PKPdf	23 16 30.5	+10
BRMO	**Bormio**	**155.88**	**340**	PKP	PKPdf	23 16 19.8	-0.7
SGMF	**Saint Gilles**	**155.91**	**2**	*e*PKIKP	PKPdf	23 16 18.8	-1.8
	comp=Z,36nm,1.1s						
KYTH	**Kithira**	**155.94**	**306**	*e*P	PKPdf	23 16 32.0	+11
LOMF	**Lomont**	**155.99**	**347**	PKP	PKPdf	23 16 20.3	-0.3
QUIF	**Quistinic**	**156.22**	**3**	*e*PKIKP	PKPdf	23 16 18.7	-2.3
IGT	**Igoumenitsa**	**156.26**	**315**	*e*P	PKPdf	23 16 30.7	+10
ITM	**Ithomi**	**156.36**	**309**	*e*P	PKPdf	23 16 31.5	+10
LKD	**Levkas**	**156.50**	**313**	*e*P	PKPdf	23 16 31.9	+11
LOR	**Lormes**	**156.59**	**351**	*e*PKIKP	PKPdf	23 16 19.7	-1.7
	comp=Z,17nm,0.8s						
LOR				*e*R			
	comp=Z,145nm,22.5s						
LOR	**Lormes**	**156.59**	**351**	*e*PKPdf	PKPdf	23 16 19.7	-1.7
LOR				LR	LR		
	comp=Z,150nm,22.5s						
HYF	**Humbligny**	**156.73**	**353**	*e*PKIKP	PKPdf	23 16 20.3	-1.3
CABF	**La Chapelle**	**156.85**	**347**	*e*PKIKP	PKPdf	23 16 20.4	-1.3
	comp=Z,64nm,1.2s						
AVF	**Avril sur Loir**	**157.12**	**352**	*e*PKIKP	PKPdf	23 16 20.7	-1.4
	comp=Z,6.6nm,0.8s						
SMF	**Signal de Mont**	**157.20**	**351**	*e*PKIKP	PKPdf	23 16 20.2	-2.0
	comp=Z,22nm,1.0s						
ZCCA	**Zocca**	**157.55**	**337**	PKP	PKPdf	23 16 22.7	+0.1
SFI	**Santa Sofia**	**157.60**	**335**	PKP	PKPdf	23 16 22.0	-0.7
FNVD	**Fontana Vidola**	**157.65**	**336**	PKP	PKPdf	23 16 22.0	-0.7
SEI	**Scarperia**	**157.66**	**336**	PKP	PKPdf	23 16 23.4	+0.6
ERBM	**Eremo**	**157.69**	**338**	PKP	PKPdf	23 16 22.7	-0.1
TCF	**Toulx Ste Croi**	**157.75**	**354**	*e*PKIKP	PKPdf	23 16 20.4	-2.5
	comp=Z,33nm,1.1s						
LPL	**La Plagne**	**157.75**	**345**	*e*PKIKP	PKPdf	23 16 22.4	-0.5
	comp=Z,14nm,1.1s						
LPG	**La Plagne**	**157.76**	**345**	*e*PKIKP	PKPdf	23 16 22.4	-0.5
	comp=Z,14nm,1.1s						
AGO	**Saint Agoulin**	**157.87**	**352**	PKP	PKPdf	23 16 23.1	+0.1
PYM	**Petit Puy Mans**	**158.19**	**352**	PKP	PKPdf	23 16 23.5	+0.1
BNI	**Bardonecchia**	**158.20**	**345**	*e*PKPdf	PKPdf	23 16 22.9	-0.5
MBDF	**Montbardon**	**158.48**	**344**	*e*PKIKP	PKPdf	23 16 22.1	-1.6
	comp=Z,19nm,1.1s						
ORIF	**Oris-en-Rattie**	**158.51**	**346**	*e*PKIKP	PKPdf	23 16 22.9	-0.9
	comp=Z,13nm,0.8s						
ORIF				*e*R			
	comp=Z,155nm,22.0s						
LBL	**Lubilhac**	**158.66**	**351**	PKP	PKPdf	23 16 24.2	+0.3
RJF	**Les Rejaudoux**	**158.78**	**355**	*e*PKIKP	PKPdf	23 16 22.5	-1.6
	comp=Z,31nm,1.2s						
RJF				*e*R			
	comp=Z,168nm,21.0s						
RJF	**Les Rejaudoux**	**158.78**	**355**	*e*PKPdf	PKPdf	23 16 22.5	-1.6
RJF				LR	LR		
	comp=Z,170nm,21.0s						
VIVF	**Saint-Julien-l**	**158.81**	**349**	*e*PKIKP	PKPdf	23 16 22.7	-1.4
	comp=Z,21nm,1.1s						
SAOF	**Saorge**	**158.97**	**342**	PKP	PKPdf	23 16 24.1	-0.2
AUTN	**L'Aution**	**158.99**	**343**	PKP	PKPdf	23 16 24.5	+0.2
TOUF	**Mont Tournerai**	**159.03**	**343**	PKP	PKPdf	23 16 24.3	-0.1
CAF	**Calviac**	**159.11**	**354**	*e*PKIKP	PKPdf	23 16 23.0	-1.5
	comp=Z,24nm,1.3s						
LUCF	**Luceram**	**159.11**	**343**	PKP	PKPdf	23 16 24.1	-0.4
SBF	**Sospel**	**159.11**	**342**	*e*PKIKP	PKPdf	23 16 23.0	-1.5
	comp=Z,15nm,0.9s						
MVIF	**Mont Vial**	**159.16**	**343**	PKP	PKPdf	23 16 24.0	-0.5
LFF	**La Frestale**	**159.20**	**356**	*e*PKIKP	PKPdf	23 16 23.0	-1.6
	comp=Z,25nm,0.9s						
REVF	**Revere**	**159.25**	**342**	PKP	PKPdf	23 16 24.1	-0.5
SMRF	**Simiane la Rot**	**159.47**	**346**	*e*PKIKP	PKPdf	23 16 23.7	-1.2
	comp=Z,12nm,0.8s						
FRF	**La Foret Royal**	**159.60**	**344**	*e*PKIKP	PKPdf	23 16 24.2	-0.8
	comp=Z,12nm,0.9s						
TAVF	**Tavernes**	**159.70**	**345**	PKP	PKPdf	23 16 25.5	+0.4
PRAF	**Pradon**	**159.72**	**347**	PKP	PKPdf	23 16 25.7	+0.5
TREF	**Trevaresse**	**159.85**	**346**	PKP	PKPdf	23 16 28.9	+3.6
LMR	**La Mourre**	**159.85**	**344**	*e*PKIKP	PKPdf	23 16 24.4	-0.9
	comp=Z,9.5nm,0.9s						
PUYF	**Puyloubier**	**159.86**	**345**	PKP	PKPdf	23 16 24.4	-0.9
GELF	**Grande-Etoile**	**160.07**	**346**	PKP	PKPdf	23 16 25.7	+0.2
BERF	**Bertagne**	**160.07**	**345**	PKP	PKPdf	23 16 24.6	-0.9
EMAZ	**Mazaricos**	**160.16**	**17**	P	PKPab	23 17 07.1	-2.7
STS	**Santiago**	**160.33**	**16**	P	PKPab	23 17 08.8	-1.7
MTLF	**Montolieu**	**160.66**	**353**	*e*PKIKP	PKPdf	23 16 24.6	-1.6
	comp=Z,18nm,1.1s						
SJPF	**Ste Jean**	**161.08**	**0**	*e*PKIKP	PKPdf	23 16 25.5	-1.1
	comp=Z,8.1nm,0.6s						
EPF	**Esparros**	**161.13**	**357**	*e*PKIKP	PKPdf	23 16 25.5	-1.2
	comp=Z,31nm,0.8s						
VAE	**Valguarnera**	**161.20**	**319**	PKPab	PKPab	23 17 16.8	+2.5
	comp=Z,8.7nm,0.7s,baz=254,slow=5.2,SNR=3.5						
ETSF	**Etsaut**	**161.29**	**359**	*e*PKIKP	PKPdf	23 16 26.6	-0.2
	comp=Z,29nm,0.8s						
RESF	**Ens**	**161.35**	**357**	PKP	PKPdf	23 16 27.5	+0.6
PCAB	**Cabril**	**161.57**	**17**	*e*PKPdf	PKPdf	23 16 27.6	+0.5
PCAB	**Cabril**	**161.57**	**17**	*e*PKPab	PKPab	23 17 15.3	-0.6
VALF	**Valcebollere**	**161.61**	**353**	PKP	PKPdf	23 16 27.3	+0.1
ECAL	**Calabor**	**161.65**	**13**	P	PKPab	23 17 13.5	-2.8
PBRG	**Braganca**	**161.78**	**14**	*e*PKPdf	PKPdf	23 16 27.6	+0.3
PBRG	**Braganca**	**161.78**	**14**	*e*PKPab	PKPab	23 17 15.9	-1.0
LIC	**Lamto**	**161.79**	**168**	⇑*i*PKIKP	PKPdf	23 16 27.9	+0.6
	comp=Z,35nm,1.0s						
LIC				*e*R			
	comp=Z,197nm,22.2s						
LIC	**Lamto**	**161.79**	**168**	⇑*i*PKPdf	PKPdf	23 16 27.9	+0.6
LIC				LR	LR		
	comp=Z,100nm,22.3s						
PVRL	**Vila Real**	**162.06**	**16**	*e*PKPdf	PKPdf	23 16 28.1	+0.5
PVRL	**Vila Real**	**162.06**	**16**	*e*PKPab	PKPab	23 17 17.3	-0.8
DBIC	**Dimbokro**	**162.26**	**168**	PKP	PKPdf	23 16 28.0	+0.2
	comp=Z,12nm,0.9s,baz=88,slow=0.8,SNR=10.0						
DBIC				PKPab	PKPab	23 17 20.6	+1.6
	comp=Z,6.5nm,0.7s,baz=110,slow=4.3,SNR=7.5						
DBIC	**Dimbokro**	**162.26**	**168**	PKP2	PKPab	23 17 20.6	+1.6
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DBIC	**Dimbokro**	**162.26**	**168**	PKP	PKPdf	23 16 28.0	+0.2
DBIC				PKPab	PKPab	23 17 20.6	+1.6
VSL	**Villasalto**	**162.30**	**332**	*e*PKPdf	PKPdf	23 16 27.1	-0.7
PVIS	**Viseu**	**162.53**	**17**	*e*PKPdf	PKPdf	23 16 28.1	0.0
PVIS	**Viseu**	**162.53**	**17**	*e*PKPab	PKPab	23 17 19.8	-0.4
PTOM	**Tomar**	**163.39**	**20**	*e*PKPdf	PKPdf	23 16 29.6	+0.7
PTOM	**Tomar**	**163.39**	**20**	*e*PKPab	PKPab	23 17 23.0	-1.0
PCBR	**Castelo Branco**	**163.46**	**17**	*e*PKPdf	PKPdf	23 16 28.9	-0.1
PCBR	**Castelo Branco**	**163.46**	**17**	*e*PKPab	PKPab	23 17 23.3	-1.0
PMAFR	**Mafra**	**163.70**	**23**	*e*PKPdf	PKPdf	23 16 30.4	+1.2
PMAFR	**Mafra**	**163.70**	**23**	*e*PKPab	PKPab	23 17 24.7	-0.6
PLOU	**Loures**	**163.81**	**23**	*e*PKPab	PKPab	23 17 24.8	-1.0
PMPS	**Porto Santo**	**163.98**	**53**	*e*PKPdf	PKPdf	23 16 30.4	+1.0
PESTR	**Estremoz**	**164.33**	**19**	*e*PKPdf	PKPdf	23 16 30.0	+0.3
PESTR	**Estremoz**	**164.33**	**19**	*e*PKPab	PKPab	23 17 26.5	-1.6
ESDC	**Sonseca Array**	**164.34**	**8**	PKP	PKPdf	23 16 30.7	+0.9
	comp=Z,0.5nm,0.5s,baz=6.4,slow=2.7,SNR=9.3						
ESDC				PKPab	PKPab	23 17 27.3	-0.8
	comp=Z,8.2nm,0.6s,baz=345,slow=4.1,SNR=34						
ESDC				SKKPbc		23 25 20.0	
	comp=Z,1.1nm,0.8s,baz=166,slow=5.0,SNR=4.4						
PBEJ	**Beja**	**165.02**	**21**	*e*PKPdf	PKPdf	23 16 31.5	+1.2
PBEJ	**Beja**	**165.02**	**21**	*e*PKPab	PKPab	23 17 30.2	-0.9
PTEO	**Sao Teotonio**	**165.15**	**24**	*e*PKPdf	PKPdf	23 16 31.4	+1.0
PTEO	**Sao Teotonio**	**165.15**	**24**	*e*PKPab	PKPab	23 17 30.5	-1.2
KEST	**Kesra**	**165.32**	**324**	PKP	PKPdf	23 16 30.9	+0.4
	comp=Z,2.5nm,0.8s,baz=199,slow=1.4,SNR=12						
KEST				PKPab	PKPab	23 17 33.1	+0.7
	comp=Z,4.5nm,0.5s,baz=316,slow=1.7,SNR=22						
EVIA	**Vianos**	**165.51**	**4**	P	PKPab	23 17 30.8	-2.5
CMAH	**Djebel Manchou**	**165.55**	**331**	P	PKPab	23 17 33.0	-0.5
CGMA	**Guelma**	**165.70**	**331**	P	PKPab	23 17 34.0	-0.1
EADA	**Adamuz**	**165.72**	**11**	P	PKPab	23 17 31.8	-2.4
EBAN	**Banos Encina**	**165.84**	**9**	P	PKPab	23 17 30.4	-4.4
CKFL	**Kef-Lekhel**	**166.04**	**333**	P	PKPab	23 17 34.0	-1.6
DFRA	**Djebel Bou Aff**	**166.25**	**336**	P	PKPab	23 17 24.0	-13
EQES	**Quesada**	**166.29**	**6**	P	PKPab	23 17 33.8	-3.0
ELUQ	**Luque**	**166.36**	**11**	P	PKPab	23 17 35.9	-1.2
SET	**Setif**	**166.73**	**336**	P	PKPab	23 17 33.0	-5.7
ECOG	**Cogollos-Vega**	**166.75**	**8**	P	PKPab	23 17 36.5	-2.3
ELOJ	**Sierra Loja**	**166.78**	**11**	P	PKPab	23 17 38.3	-0.6
CKHR	**Kef el Ahmar**	**166.85**	**336**	P	PKPab	23 17 39.0	-0.2
ERON	**Agron**	**166.97**	**10**	P	PKPab	23 17 36.7	-3.0
EGUA	**Guajares**	**167.18**	**9**	P	PKPab	23 17 37.9	-2.8
EMHD	**Djebel Mahouad**	**167.48**	**345**	P	PKPab	23 17 42.0	0.0
TOA0	**Torodi Ar. Sit**	**168.74**	**194**	*e*PKPdf	PKPdf	23 16 33.1	+0.1
TOA0				*e*		23 19 42.5	
TORD	**Torodi Ar. Bea**	**168.74**	**194**	PKP	PKPdf	23 16 32.8	-0.3
	comp=Z,8.9nm,0.8s,baz=345,slow=0.8,SNR=59						
TORD				PKPab	PKPab	23 17 48.0	+0.4
	comp=Z,20nm,0.7s,baz=162,slow=4.3,SNR=40						
TORD				PP	PP	23 21 39.2	+1.2
	comp=Z,4.0nm,0.9s,baz=158,slow=6.0,SNR=5.1						
MDT	**Midelt**	**170.84**	**19**	PKPab	PKPab	23 17 57.2	+0.3
	comp=Z,23nm,0.7s,baz=352,slow=4.4,SNR=32						
MDT				SKKPbc		23 25 00.2	
	comp=Z,3.3nm,1.1s,baz=134,slow=2.6,SNR=4.2						

*IDC **03** 23:18:07.5±0.5, 653S×132.16E, h0km, mb4.7/14, mb1 4.7/14, mb1mx4.7/16, mbtmp4.7/14, MS3.9/2, Ms1 3.8/2, ms1mx3.1/22, Error ellipse: s-maj=22.1km s-min=12.8km az=63.0*

*ISCJB **03** 23:18:09.8±0.2, 675S±003×13205E±004, h33km, mb4.9/46, MS4.0/3, Error ellipse: s-maj=6.3km s-min=4.0km az=136.1*

*BJI **03** 23:18:09.8, 686S×13238E, h57km, mB5.2, mb4.8, Ms4.2, Msz4.1*

*MOS **03** 23:18:10.8±0.9, 652S×13205E, h33km, mb4.9/9, Error ellipse: s-maj=18.5km s-min=11.5km az=127.3*

*NEIC **03** 23:18:12.8±0.3, 656S×13202E, h35km, mb4.9/20, Error ellipse: s-maj=8.6km s-min=5.7km az=61.0*

ISC 03 23:18:12.4±0.2**, 673S**±003×**13204E**±004**, h35km, n122, σ1§18**/126**, mb4.9**/46**, MS4.0**/3**, 7C-1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.88**	**308**	P	**Pn**	**23 19 23.5**	**+0.3**
	966nm,0.5s						
SWI	**Sorong**	**5.88**	**352**	P	**Pn**	**23 19 35.5**	**-1.5**
	1µm,0.6s						
KAKA	**Kakadu**	**5.96**	**176**	⇓*i*P	**Pn**	**23 19 40.5**	**+2.5**
	452nm,0.2s						
KAKA				*e*S	**Sn**	**23 20 44.7**	**-0.3**
BAKI	**Biak**	**6.84**	**37**	P	**Pn**	**23 19 50.7**	**+0.6**
	1µm,0.6s						
MMPI	**Merauke**	**8.45**	**102**	P	**Pn**	**23 20 13.2**	**+1.0**
	4µm,0.6s						
JAY	**Jayapura**	**9.60**	**65**	P	**Pn**	**23 20 29.3**	**+1.3**
	69nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.91**	**208**	*e*P	**Pn**	**23 21 11.2**	**-2.1**
	234nm,0.2s						
FITZ				*e*S	**Sn**	**23 23 26.4**	**-9.3**
FITZ	**Fitzroy Crossi**	**12.91**	**208**	Pn	**Pn**	**23 21 12.0**	**-1.3**
	53nm,0.3s,baz=35,slow=11,SNR=790						
FITZ				Sn	**Sn**	**23 23 26.6**	**-9.1**
	69nm,0.3s,baz=161,slow=15,SNR=12						
WRAB	**Tennant Creek**	**13.31**	**171**	⇑*e*Pn	**Pn**	**23 21 17.4**	**-1.4**
	331nm,0.8s						
WRAB				*e*Sn	**Sn**	**23 23 35.5**	**-10**
WRA	**Warramunga Arr**	**13.32**	**171**	Pn	**Pn**	**23 21 16.7**	**-2.2**
	0.1nm,0.3s,baz=356,slow=12,SNR=33						
WRA				Sn	**Sn**	**23 23 37.7**	**-8.0**
	34nm,0.3s,baz=355,slow=21,SNR=6.6						
WB2	**Warramunga Arr**	**13.32**	**171**	*e*P	**Pn**	**23 21 17.3**	**-1.6**
WB2				*e*S	**Sn**	**23 23 37.3**	**-8.4**
WB2	**Warramunga Arr**	**13.32**	**171**	⇑*e*Pn	**Pn**	**23 21 17.4**	**-1.6**
WB2				*e*Sn	**Sn**	**23 23 36.8**	**-8.9**
PCI	**Palu**	**13.48**	**295**	P	**Pn**	**23 21 23.7**	**+2.7**
	123nm,1.1s						
PMG	**Port Moresby**	**15.20**	**101**	Pn	**Pn**	**23 21 45.8**	**+1.5**
	14nm,0.3s,baz=308,slow=8.8,SNR=71						
PMG	**Port Moresby**	**15.20**	**101**	P	**Pn**	**23 21 45.8**	**+1.5**
PMG				pmax	pmax		
	comp=Z,14nm,0.3s						
PMG	**Port Moresby**	**15.20**	**101**	*e*Pn	**Pn**	**23 21 44.1**	**-0.2**
PMG				Sn	**Sn**	**23 24 25.6**	**-5.9**
AS31	**Alice Springs**	**16.93**	**174**	*e*P	**Pn**	**23 22 04.3**	**-2.2**
AS31				*e*S	**S**	**23 25 03.4**	**-19**
ASAR	**Alice Springs**	**16.93**	**174**	Pn	**Pn**	**23 22 04.9**	**-1.6**
	comp=Z,15nm,0.3s,baz=348,slow=9.5,SNR=310						
ASAR				Sn	**Sn**	**23 25 04.7**	**-8.8**
	comp=Z,15nm,0.3s,baz=355,slow=26,SNR=12						
ASPA	**Alice Springs**	**16.93**	**174**	*e*P	**Pn**	**23 22 04.3**	**-2.2**
ASPA				*e*S	**S**	**23 25 03.4**	**-19**
TSM	**Tawau**	**17.89**	**307**	P	**Pn**	**23 22 17.9**	**-0.4**
MBWA	**Marble Bar**	**18.64**	**218**	*e*P	**Pn**	**23 22 26.9**	**-0.6**
	comp=Z,4.5nm,0.8s						
MBWA				*e*S	**S**	**23 25 39.6**	**-18**
CTA	**Charters Tower**	**19.14**	**135**	⇑*i*P	**Pn**	**23 22 36.3**	**+2.7**
	comp=Z,65nm,0.7s						
CTA	**Charters Tower**	**19.14**	**135**	P	**Pn**	**23 22 35.9**	**+2.3**
	comp=Z,4.8nm,0.3s,baz=310,slow=13,SNR=88						
CTA				S	**S**	**23 25 59.7**	**-8.0**
	comp=Z,1.8nm,0.3s,baz=219,slow=20,SNR=4.1						
CTA	**Charters Tower**	**19.14**	**135**	P	**Pn**	**23 22 35.9**	**+2.3**
CTA				S	**S**	**23 25 59.7**	**-8.0**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA				smax			
	comp=N,2.0nm,0.3s						
CTAO	**Charters Tower**	**19.14**	**135**	*e*P	**Pn**	**23 22 36.0**	**+2.4**
	comp=N,204nm,1.1s						
CTAO				*e*S	**S**	**23 25 53.6**	**-14**
KKM	**Kota Kinabalu**	**20.26**	**308**	P	**P**	**23 22 45.0**	**+0.3**
KKM	**Kota Kinabalu**	**20.26**	**308**	*e*P	**P**	**23 22 44.9**	**+0.2**
KKM				*e*S	**S**	**23 26 32.0**	**+2.0**
KSM	**Kuching**	**23.17**	**290**	*e*P	**P**	**23 23 16.0**	**+0.2**
GUMO	**Guam**	**23.87**	**32**	LR	LR	23 32 35.4	
	comp=N,173nm,18.0s,MS3.6,baz=229,slow=37						
FORT	**Forrest**	**24.21**	**188**	*e*P	**P**	**23 23 27.6**	**+2.0**
	comp=N,376nm,1.1s,mb5.7						
FORT				*e*S	**S**	**23 27 52.8**	**+11**
STKA	**Stephens Creek**	**26.56**	**162**	P	**P**	**23 23 49.1**	**+2.2**
	comp=N,11nm,0.5s,mb4.6,baz=332,slow=8.6,SNR=30						
STKA				S	S	23 28 49.4	+30
	comp=N,25nm,0.7s,baz=334,slow=3.9,SNR=4.9						
STKA				LR	LR	23 36 10.4	
	comp=N,342nm,19.4s,MS3.9,baz=165,slow=40						
STKA	**Stephens Creek**	**26.56**	**162**	⇑*i*P	**P**	**23 23 49.1**	**+2.2**
	comp=N,25nm,0.6s,mb4.9						
STKA				*e*S	**S**	**23 28 33.0**	**+14**
HNR	**Honiara**	**27.75**	**97**	P	**P**	**23 23 57.6**	**-0.1**
	comp=N,46nm,0.3s,mb5.5,baz=200,slow=2.2,SNR=4.9						
HNR	**Honiara**	**27.75**	**97**	P	**P**	**23 23 57.6**	**-0.1**
HNR				pmax	pmax		
	comp=Z,46nm,0.3s,mb5.6						
HNR	**Honiara**	**27.75**	**97**	*e*P	**P**	**23 23 58.5**	**+0.9**
	comp=Z,75nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**28.11**	**207**	*e*P	**P**	**23 24 02.3**	**+1.5**
	comp=Z,24nm,0.9s,mb4.8						
KLBR				*e*		23 24 23.5	
MUN	**Mundaring**	**29.14**	**208**	*e*P	**P**	**23 24 11.4**	**+1.4**
NWAO	**Narrogin (SRO)**	**29.48**	**206**	P	**P**	**23 24 14.5**	**+1.5**
	comp=Z,11nm,0.8s,mb4.7,baz=123,slow=5.7,SNR=7.8						
NWAO	**Narrogin (SRO)**	**29.48**	**206**	P	**P**	**23 24 14.5**	**+1.5**
NWAO				pmax	pmax		
	comp=Z,11nm,0.8s						
NWAO	**Narrogin (SRO)**	**29.48**	**206**	*e*P	**P**	**23 24 15.0**	**+2.0**
NWAO				*e*S	**S**	**23 29 13.7**	**+8.8**
TOO	**Toolangi**	**33.05**	**160**	*e*P	**P**	**23 24 48.0**	**+3.6**
	comp=Z,12nm,0.6s,mb5.0						
KULM	**Kulim**	**33.53**	**290**	*e*P	**P**	**23 24 47.2**	**-1.4**
JOW	**Kunigami**	**33.56**	**354**	P	**P**	**23 24 46.6**	**-2.3**
	comp=Z,21nm,0.7s,mb5.2,baz=183,slow=10,SNR=5.5						
PSI	**Prapat**	**34.39**	**285**	P	**P**	**23 24 56.7**	**+0.6**
	comp=Z,8.8nm,0.7s,mb4.8,baz=117,slow=7.0,SNR=12						
PSI	**Prapat**	**34.39**	**285**	P	**P**	**23 24 56.7**	**+0.6**
PSI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
PSI	**Prapat**	**34.39**	**285**	P	**P**	**23 24 56.7**	**+0.6**
COCO	**West Island**	**35.12**	**258**	P	**P**	**23 25 01.3**	**-1.2**
DZM	**Mont Dzumac**	**36.52**	**118**	P	**P**	**23 25 14.3**	**-0.1**
	comp=Z,11nm,0.6s,mb4.8,baz=301,slow=11,SNR=10						
NANT	**Nan**	**39.98**	**310**	⇑P	**P**	**23 25 44.0**	**+0.5**
	comp=Z,412nm,0.4s						
WHN	**Wuhan**	**40.76**	**336**	⇑P	**P**	**23 25 49.7**	**-0.2**
CHG	**Chiang Mai**	**41.34**	**308**	⇑P	**P**	**23 25 54.8**	**+0.1**
	comp=Z,28nm,0.7s,mb5.0						
CHTO	**Chiang Mai**	**41.34**	**308**	*e*P	**P**	**23 25 54.5**	**-0.3**
	comp=Z,19nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**43.43**	**7**	P	**P**	**23 26 10.2**	**-1.6**
	comp=Z,21nm,1.0s,mb4.8,baz=190,slow=9.2,SNR=42						
MJAR	**Matsushiro Arr**	**43.43**	**7**	P	**P**	**23 26 10.2**	**-1.5**
MJAR				pmax	pmax		
	comp=Z,21nm,1.0s						
MAJO	**Matsushiro**	**43.43**	**7**	*e*P	**P**	**23 26 10.4**	**-1.4**
	comp=Z,38nm,0.9s,mb5.1						
MAT	**Matsushiro**	**43.43**	**7**	P	**P**	**23 26 10.3**	**-1.4**
XAN	**Xi'an**	**46.08**	**333**	P	**P**	**23 26 31.9**	**-1.0**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
BJT	**Baijiatuau**	**48.77**	**344**	*e*P	**P**	**23 26 51.2**	**-2.6**
	comp=Z,7.0nm,0.4s,mb5.0						
BJT				*e*	pP	23 27 03.0	-1.2
RPZ	**Rata Peaks**	**50.23**	**144**	P	**P**	**23 27 06.3**	**+1.4**
	comp=Z,6.8nm,0.3s,mb5.2,baz=345,slow=3.2,SNR=4.3						
URZ	**Urewera**	**51.39**	**135**	P	**P**	**23 27 14.4**	**+0.8**
	comp=Z,6.6nm,0.6s,mb4.8,baz=322,slow=9.3,SNR=4.1						
PALK	**Pallekele**	**53.07**	**284**	*e*P	**P**	**23 27 27.1**	**+1.0**
	comp=Z,3.4nm,0.5s,mb4.5						
LSA	**Lhasa**	**53.43**	**315**	P	**P**	**23 27 30.4**	**+1.7**
LSA	**Lhasa**	**53.43**	**315**	*e*P	**P**	**23 27 30.3**	**+1.6**
	comp=Z,14nm,0.6s,mb5.1						
GTA	**Gaotai**	**54.74**	**330**	*e*P	**P**	**23 27 39.2**	**+0.9**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.9						
GUN	**Gumba**	**56.32**	**310**	*e*P	**P**	**23 27 50.2**	**+0.6**
	comp=Z,76nm,0.6s,mb5.9						
PKI	**Pulchoki**	**56.51**	**309**	*e*P	**P**	**23 27 51.2**	**+0.2**

	comp=Z,20nm,0.5s,mb5.4						
KKN	**Kakani**	**56.72**	**309**	*e*P	**P**	**23 27 52.8**	**+0.3**
	comp=Z,34nm,0.5s,mb5.6						
DMN	**Daman**	**56.76**	**309**	*e*P	**P**	**23 27 53.3**	**+0.5**
	comp=Z,49nm,0.9s,mb5.5						
HIA	**Hailar**	**56.79**	**350**	P	**P**	**23 27 53.0**	**0.0**
GKN	**Gorkha**	**57.32**	**309**	*e*P	**P**	**23 27 57.1**	**+0.4**
	comp=Z,47nm,0.4s,mb5.9						
KOLN	**Koldanda**	**58.00**	**309**	*e*P	**P**	**23 28 02.2**	**+0.7**
	comp=Z,32nm,0.6s,mb5.5						
HYB	**Hyderabad**	**58.02**	**295**	*i* P	**P**	**23 28 02.0**	**+0.3**
ULN	**Ulaanbaatar**	**58.66**	**341**	*e*P	**P**	**23 28 06.4**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.8						
SONM	**Songino Array**	**58.85**	**340**	P	**P**	**23 28 07.3**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=160,slow=7.8,SNR=17						
SONM	**Songino Array**	**58.85**	**340**	P	**P**	**23 28 07.3**	**-0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZAK	**Zakamensk**	**62.10**	**340**	*e*P	**P**	**23 28 29.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.2						
TLY	**Talaya**	**63.07**	**341**	*e*P	**P**	**23 28 34.7**	**-1.4**
WMQ	**Urumqi**	**64.29**	**326**	P	**P**	**23 28 45.2**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,201nm,5.2s						
WMQ				LR	LR		
	comp=Z,321nm,23.6s,MS4.4						
BOD	**Bodaibo**	**65.98**	**350**	*e*P	**P**	**23 28 54.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
YAK	**Yakutsk**	**68.58**	**359**	*e*P	**P**	**23 29 11.1**	**-0.5**
YAK				*e*		23 29 27.2	
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
YAK	**Yakutsk**	**68.58**	**359**	*e*P	**P**	**23 29 11.1**	**-0.5**
MK31	**Makanchi Array**	**69.13**	**326**	P	**P**	**23 29 15.1**	**+0.1**
MK31				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**69.13**	**326**	P	**P**	**23 29 15.6**	**+0.6**
	comp=Z,5.6nm,0.5s,mb4.8,baz=110,slow=8.3,SNR=49						
MKAR	**Makanchi Array**	**69.13**	**326**	P	**P**	**23 29 15.6**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**71.66**	**319**	*e*P	**P**	**23 29 30.5**	**+0.1**
	comp=Z,14nm,1.1s,mb4.8						
VNDA	**Vanda**	**72.47**	**173**	P	**P**	**23 29 36.0**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.9,baz=319,slow=6.5,SNR=9.3						
VNDA	**Vanda**	**72.47**	**173**	P	**P**	**23 29 36.0**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
VNDA	**Vanda**	**72.47**	**173**	*e*P	**P**	**23 29 37.0**	**+1.7**
	comp=Z,4.1nm,0.9s,mb4.4						
NVS	**Novosibirsk**	**73.54**	**333**	*i* P	**P**	**23 29 39.3**	**-2.3**
KKAR	**Karatay Array**	**74.48**	**318**	*i* P	**P**	**23 29 47.5**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MAW	**Mawson**	**75.94**	**202**	P	**P**	**23 29 57.6**	**+2.0**
	comp=Z,3.1nm,0.7s,mb4.3,baz=53,slow=7.0,SNR=6.9						
MAW	**Mawson**	**75.94**	**202**	P	**P**	**23 29 57.6**	**+2.1**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MAW	**Mawson**	**75.94**	**202**	*e*P	**P**	**23 29 57.4**	**+1.9**
VOSK	**Vostochnaya**	**78.47**	**327**	P	**P**	**23 30 09.0**	**-0.7**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BVAR	**Borovoye Array**	**78.93**	**327**	P	**P**	**23 30 12.0**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=132,slow=8.9,SNR=16						
BVAR	**Borovoye Array**	**78.93**	**327**	P	**P**	**23 30 12.0**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**79.00**	**327**	*e*P	**P**	**23 30 12.6**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**79.10**	**328**	*e*P	**P**	**23 30 12.6**	**-0.5**
	comp=Z,7.4nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**79.64**	**327**	P	**P**	**23 30 15.7**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**79.64**	**327**	*e*P	**P**	**23 30 15.9**	**-0.2**
	comp=Z,7.0nm,0.8s,mb4.6						
OPO	**Ambohidratompo**	**83.03**	**252**	P	**P**	**23 30 43.5**	**+9.4**
	comp=Z,3.9nm,0.8s,mb4.5,baz=101,slow=2.4,SNR=9.0						
QSPA	**South Pole Qui**	**83.24**	**180**	*e*P	**P**	**23 30 38.7**	**+3.5**
	comp=Z,4.4nm,0.7s,mb4.6						
AKTK	**Aktyubinsk**	**85.11**	**322**	P	**P**	**23 30 44.8**	**+0.1**
AKTO	**Aktyubinsk**	**85.11**	**322**	P	**P**	**23 30 44.8**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.3,baz=73,slow=11,SNR=3.8						
AKTO	**Aktyubinsk**	**85.11**	**322**	P	**P**	**23 30 44.8**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
ARU	**Arti**	**86.56**	**328**	P	**P**	**23 30 51.7**	**-0.1**
KDAK	**Kodiak Island**	**87.94**	**31**	*e*P	**P**	**23 30 59.1**	**+0.6**
	comp=Z,6.0nm,0.8s,mb4.9						
COLA	**College**	**91.86**	**25**	P	**P**	**23 31 15.6**	**-1.2**
GERES	**GERESS Array B**	**113.51**	**321**	PKiKP	PKiKP	23 36 49.1	+2.4
	comp=Z,0.5nm,0.4s,baz=266,slow=5.1,SNR=3.6						
GERES	**GERESS Array B**	**113.51**	**321**	*i* PKIKP	PKiKP	23 36 49.1	+2.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MNTX	**Cornudas Mount**	**121.11**	**57**	*e*PKPdf	PKPdf	23 37 03.1	+1.7
TORD	**Torodi Ar. Bea**	**130.74**	**281**	PKP	PKPdf	23 37 21.1	+1.4
	comp=Z,0.3nm,0.6s,baz=122,slow=2.2,SNR=3.0						
TORD				SKPbc	SKPbc	23 40 47.9	+6.9
	comp=Z,1.1nm,0.9s,baz=69,slow=3.7,SNR=3.6						
NNA	**Nana**	**145.78**	**123**	PKPbc	PKPbc	23 37 47.8	+0.2
	comp=Z,9.2nm,0.6s,baz=242,slow=5.6,SNR=5.3						
NNA	**Nana**	**145.78**	**123**	PKPbc	PKPbc	23 37 47.8	+0.1
NNA				*e*PKP	PKPdf	23 37 50.0	+2.8
CPUP	**Villa Florida**	**145.90**	**165**	PKPbc	PKPbc	23 37 49.7	+1.7
	comp=Z,1.4nm,0.6s,baz=203,slow=4.7,SNR=6.0						
CPUP	**Villa Florida**	**145.90**	**165**	PKP2	PKPab	23 37 49.7	+1.2
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**145.90**	**165**	*e*PKP	PKPdf	23 37 49.8	+2.4
ATAH	**Atahualpa**	**146.71**	**114**	PKPbc	PKPbc	23 37 55.5	+5.1
	comp=Z,13nm,0.7s,baz=238,slow=0.6,SNR=10						
LPAZ	**La Paz**	**149.64**	**139**	PKPbc	PKPbc	23 38 01.8	+3.6
	comp=Z,2.2nm,0.8s,baz=131,slow=1.8,SNR=11						
LPAZ	**La Paz**	**149.64**	**139**	PKP2	PKPab	23 38 01.8	-1.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ	**La Paz**	**149.64**	**139**	*e*PKPdf	PKPdf	23 37 59.2	+5.6
LPAZ				PKPbc	PKPbc	23 38 01.8	+3.6
LPAZ				*e*PKPbc	PKPbc	23 38 02.2	+4.1
SIV	**San Ignacio**	**153.96**	**150**	PKPbc	PKPbc	23 38 12.9	+4.9
	comp=Z,0.4nm,0.6s,baz=27,slow=9.0,SNR=2.7						

---

*IDC **03** 23:49:25.0±2.3, 33.65S×178.65W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.2/3, ML4.2/1, Error ellipse: s-maj=63.2km s-min=34.0km az=127.0*
*ISCJB **03** 23:49:28.1±2.5, 33.71S±0.09×178.7W±0.4, h33km, mb4.0/3, Error ellipse: s-maj=45.8km s-min=10.2km az=18.6*
*NEIC **03** 23:49:30.4±1.5, 33.67S×178.75W, h35km, mb4.3/1, Error ellipse: s-maj=34.6km s-min=21.0km az=112.0*
ISC 03 23:49:29.6±2.5**, 33.69S**±0.09×**178.6W**±0.4**, h35**km**, n12, σ0.73**/14**, mb4.0**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.62**	**212**	PN	**Pn**	**23 50 37.3**	**+0.4**
PUZ	**Puketiti**	**5.07**	**209**	PN	**Pn**	**23 50 42.1**	**-1.0**
PUZ				SN	**Sn**	**23 51 40.5**	**+0.1**
URZ	**Urewera**	**5.75**	**216**	Pn	**Pn**	**23 50 52.4**	**+0.1**
	6.9nm,0.3s,baz=19,slow=2.5,SNR=27						
URZ				Sn	**Sn**	**23 51 56.6**	**-0.4**
	5.8nm,0.3s,baz=177,slow=22,SNR=10						
URZ	**Urewera**	**5.75**	**216**	PN	**Pn**	**23 50 52.7**	**+0.3**
URZ				SN	**Sn**	**23 51 57.2**	**+0.2**
URZ				SN	**Sn**	**23 51 57.4**	**+0.4**
KNZ	**Kokohu**	**6.12**	**208**	PN	**Pn**	**23 50 57.9**	**+0.4**
STKA	**Stephens Creek**	**33.38**	**262**	P	**P**	**23 56 02.8**	**-1.9**
ASAR	**Alice Springs**	**42.54**	**271**	P	**P**	**23 57 22.6**	**+0.8**
	0.9nm,0.5s,mb3.8,baz=111,slow=7.2,SNR=17						
WB2	**Warramunga Arr**	**43.82**	**276**	*e*P	**P**	**23 57 32.2**	**+0.1**
WRAB	**Tennant Creek**	**43.82**	**276**	*e*P	**P**	**23 57 32.9**	**+0.8**
	2.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**43.83**	**276**	P	**P**	**23 57 32.0**	**-0.2**
	1.4nm,0.5s,mb4.0,baz=115,slow=7.5,SNR=8.2						
FINES	**FINESS Array B**	**148.02**	**338**	PKPbc	PKPbc	00 09 11.0	-0.3
	1.6nm,0.7s,baz=20,slow=4.4,SNR=13						
BRTR	**Keskin Array B**	**153.56**	**293**	PKPbc	PKPbc	00 09 25.1	+0.6

0.5nm,0.5s,baz=94,slow=4.3,SNR=4.3

---

*MDD **04** 00:06:13.9±0.5, 37.62N×8.37W, h0km, mbLg1.2/4, Error ellipse: s-maj=10.0km s-min=3.4km az=162.0, PRXIMO*
*CSEM **04** 00:06:13.8±0.0, 37.60N×8.39W, h12km, ML1.0, Error ellipse: s-maj=0.8km s-min=0.3km az=160.0*
INMG 04 00:06:13.7±0.8**, 37.59N**×**8.36W, h8**km±4km**, ML1.0, Error ellipse: s-maj=3.5km s-min=2.9km az=171.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.29**	**262**	*e*Pg	Pg	00 06 19.2	-0.3
PTEO				*e*Sg	Sg	00 06 23.3	-0.1
PTEO							
	3.4nm,0.2s						
PTEO	**Sao Teotonio**	**0.29**	**262**	*e*Pg	Pg	00 06 19.2	-0.3
PTEO				*e*Sg	Sg	00 06 23.3	-0.1
	3.4nm,0.2s						
PBEJ	**Beja**	**0.59**	**42**	*e*Pg	Pg	00 06 24.7	-0.3
PBEJ				*e*Sg	Sg	00 06 32.7	0.0
PBEJ							
	5.1nm,0.1s						
PBEJ	**Beja**	**0.59**	**42**	*e*Pg	Pg	00 06 24.7	-0.3
PBEJ				*e*Sg	Sg	00 06 32.7	0.0
	5.1nm,0.1s						
EGRO	**El Granado**	**0.70**	**94**	Pg	Pg	00 06 26.9	-0.3
	1.6nm,0.2s,SNR=7.9						
EGRO				Lg		00 06 37.4	
	3.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**0.70**	**94**	Pg	Pg	00 06 26.9	-0.3
	1.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.35**	**82**	Pg	Pg	00 06 38.2	-1.4
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		00 06 56.6	
	0.9nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.35**	**82**	Pg	Pg	00 06 38.2	-1.4
	0.2nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**1.41**	**25**	*e*S	Sb	00 06 56.4	-2.1
PESTR							
	0.8nm,0.1s						
EBAD	**Badajoz**	**1.58**	**42**	Pg	Pg	00 06 41.8	-2.1
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	00 07 01.0	-1.5
	2.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.58**	**42**	Pg	Pg	00 06 41.8	-2.1
	0.4nm,0.1s,SNR=7.9						

---

*LDG **04** 00:33:44.0±2.9, 23.71S×66.63W, h10km, Mb5.0/15, Ms3.5/1, Error ellipse: s-maj=196.7km s-min=29.3km az=17.0*
*ISCJB **04** 00:34:04.0±0.5, 23.96S±0.03×66.71W±0.04, h177km±4km, mb4.9/80, Error ellipse: s-maj=5.5km s-min=4.4km az=118.4*
*MOS **04** 00:34:04.8±1.1, 23.91S×66.74W, h182km, mb5.0/31, Error ellipse: s-maj=10.3km s-min=6.2km az=100.1*
*NEIC **04** 00:34:05.7±0.1, 24.00S×66.65W, mb5.0/54, Error ellipse: s-maj=4.7km s-min=3.7km az=77.0*
*GCMT **04** 00:34:05.7±0.4, 24.09S×66.90W, h216km±3km, MW5.1/55, Moment Tensor Solution. s28,c29; s55,c73; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.76±.22; $M_{\theta\theta}$0.23±.22; $M_{\phi\phi}$3.53±.28; $M_{r\theta}$0.39±.16; $M_{\theta\phi}$0.49±.24; $M_{\phi r}$-3.95±.21; Best double couple: $M_0$5.41000×10^{16} NP1:ϕ_s197.00000°,δ22.00000°,λ-73.00000°. NP2: ϕ_s358.00000°,δ69.00000°,λ-97.00000°. Principal axes: T 5.2770, Plg23.0000°, Azm94.0000°; N 0.2670, Plg6.0000°, Azm1.0000°; P -5.5430, Plg66.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **04** 00:34:07.1±0.7, 23.88S×66.61W, h194km±5km, mb4.6/24, mb1 4.7/30, mb1mx4.7/31, mbtmp5.1/30, MS3.8/2, Ms1 3.8/2, ms1mx3.1/23 Error ellipse: s-maj=10.9km s-min=7.2km az=68.0*
*GUC **04** 00:34:07.8±0.8, 24.23S×67.12W, h200km, ML5.8*
*BJI **04** 00:34:07.4, 24.95S×67.49W, h205km, mB5.3*
ISC 04 00:34:04.9±0.4**, 23.98S**±0.03×**66.69W**±0.03**, h172**km±4km**, h188**km±4.4km**:pP-P, n404, σ0.97**/303**, mb4.9**/80**, 10C-7D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**3.42**	**274**	⇑*i*P	**Pn**	**00 35 00.0**	**+1.6**
ANCH				*i* S	**Sn**	**00 35 39.0**	**+1.2**
ANCH				AML	AML	00 35 43.2	
	comp=N,15μm,0.5s						
ANCH	**Antofagasta**	**3.42**	**274**	⇑*i*P	**Pn**	**00 35 00.0**	**+1.6**
ANCH				*i* S	**Sn**	**00 35 39.0**	**+1.2**
CPN1	**Cerro Paranal**	**3.45**	**258**	⇑*i*P	**Pn**	**00 35 00.1**	**+1.3**
CPN1				*i* S	**Sn**	**00 35 40.1**	**+1.5**
CPN1				AML	AML	00 35 44.2	
	comp=E,12μm,0.3s						
CPCH	**Copiapo**	**4.72**	**224**	*e*P	**Pn**	**00 35 15.4**	**+0.4**
CPCH				*e*S	**Sn**	**00 36 07.3**	**-1.7**
CDCH	**Caldera**	**4.85**	**230**	*e*P	**Pn**	**00 35 15.4**	**-1.3**
CDCH				*i* S	**Sn**	**00 36 07.8**	**-4.3**
CDCH				AML	AML	00 36 13.7	
	comp=E,2μm,0.6s						
CDCH	**Caldera**	**4.85**	**230**	*e*P	**Pn**	**00 35 15.4**	**-1.3**
CDCH				*i* S	**Sn**	**00 36 07.8**	**-4.3**
VACH	**Vallenar**	**5.86**	**218**	*e*P	**Pn**	**00 35 30.7**	**+0.8**
VACH				*i* S	**Sn**	**00 36 33.7**	**-2.6**
TLL	**Tololo Astrono**	**7.18**	**210**	*e*P	**Pn**	**00 35 45.5**	**-1.8**
CFAA	**Coronel Fontan**	**7.72**	**190**	P	**Pn**	**00 35 54.6**	**+0.1**
	comp=E,2.3nm,0.3s,baz=7.9,slow=12,SNR=72						
LPAZ	**La Paz**	**7.77**	**350**	P	**Pn**	**00 35 57.4**	**+2.3**
	comp=E,12nm,0.3s,baz=156,slow=7.6,SNR=177						
LPAZ				S	**Sn**	**00 37 22.6**	**+0.6**
	baz=245,slow=24,SNR=3.6						
LPAZ	**La Paz**	**7.77**	**350**	P	**Pn**	**00 35 57.4**	**+2.3**
LPAZ				S	**Sn**	**00 37 22.6**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,12nm,0.3s						
LPAZ	**La Paz**	**7.77**	**350**	*e*Pb	**Pn**	**00 35 57.5**	**+2.4**
LPAZ				*e*Sn	**Sn**	**00 37 23.4**	**+1.4**
CPUP	**Villa Florida**	**8.79**	**107**	P	**Pn**	**00 36 10.9**	**+2.3**
	comp=Z,14nm,0.3s,baz=269,slow=11,SNR=269						
CPUP				ScP	ScP	00 45 31.0	-2.3
	comp=Z,0.4nm,0.3s,baz=2.4,slow=2.4,SNR=4.3						
CPUP	**Villa Florida**	**8.79**	**107**	*e*Pb	**Pn**	**00 36 10.3**	**+1.6**
SIV	**San Ignacio**	**9.53**	**35**	P	**Pn**	**00 36 19.2**	**+0.8**
	comp=Z,13nm,0.3s,baz=221,slow=13,SNR=302						
TRQA	**Tornquist**	**14.60**	**165**	*e*Pn	**Pn**	**00 37 22.7**	**-0.6**
SAML	**Samuel**	**15.31**	**13**	*e*Pn	**Pn**	**00 37 32.3**	**+0.2**
	comp=Z,17nm,0.7s						
SAML				*e*Sn	**Sn**	**00 40 21.5**	**-1.4**
NNA	**Nana**	**15.33**	**319**	P	**Pn**	**00 37 33.0**	**+0.6**
	comp=Z,3.8nm,0.3s,baz=184,slow=15,SNR=13						
NNA				S	**S**	**00 40 15.9**	**-7.1**
	comp=Z,1.3nm,0.3s,baz=230,slow=17,SNR=2.7						
NNA	**Nana**	**15.33**	**319**	*e*P	**Pn**	**00 37 33.4**	**+1.0**
PLCA	**Paso Flores**	**17.02**	**190**	P	**Pn**	**00 37 52.5**	**-0.3**
	comp=Z,2.3nm,0.3s,baz=9.5,slow=13,SNR=67						
PLCA				PcP	PcP	00 42 27.7	+0.1
	comp=Z,0.5nm,0.3s,baz=356,slow=1.7,SNR=6.2						
PLCA				ScP	ScP	00 45 44.0	-2.2
	comp=Z,0.1nm,0.3s,baz=253,slow=4.5,SNR=8.3						
PLCA	**Paso Flores**	**17.02**	**190**	*e*Pn	**Pn**	**00 37 52.2**	**-0.6**
VAO	**Valinhos**	**18.12**	**91**	⇑*i*P	**P**	**00 38 04.9**	**+1.1**
VAO				*i*		00 38 08.0	
VAO				*i*		00 38 11.4	
VAO				*i*		00 38 26.1	
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**00 38 19.0**	**+1.1**
	comp=Z,29nm,0.3s,baz=246,slow=11,SNR=578						
BDFB				ScP	ScP	00 45 49.7	-1.7
	comp=Z,0.5nm,0.3s,baz=124,slow=1.6,SNR=3.2						
BDFB	**Brasilia**	**19.41**	**68**	P	**P**	**00 38 19.0**	**+1.2**
BDFB				pmax	pmax		
	comp=Z,29nm,0.3s						
BDFB				pmax	pmax		
	comp=N,1.0nm,0.3s						
BAO	**Brasilia Array**	**19.43**	**68**	P	**P**	**00 38 19.4**	**+1.3**
ATAH	**Atahualpa**	**20.28**	**324**	P	**P**	**00 38 28.5**	**+1.4**
	comp=N,17nm,0.9s,baz=166,slow=9.6,SNR=11						
ATAH				ScP	ScP	00 45 52.0	-1.4
	comp=N,5.3nm,1.0s,baz=46,slow=4.8,SNR=4.5						
CAM4	**Nova Friburgo**	**22.23**	**91**	⇑*i*P	**P**	**00 38 47.6**	**0.0**
CAM4				*i*		00 38 49.0	
CAM4				*i*		00 38 51.1	
CAM4				*i*		00 38 56.6	
CAM4				*i*		00 39 13.9	
CAM3	**Guarapari**	**24.40**	**88**	⇑*i*P	**P**	**00 39 07.0**	**-0.3**
CAM3				*i*		00 39 09.1	
CAM3				*i*		00 39 21.2	
EFI	**East Falkland**	**28.44**	**169**	*e*P	**P**	**00 39 44.2**	**+0.7**
ROSC	**El Rosal**	**29.61**	**344**	P	**P**	**00 39 54.3**	**+0.4**
	comp=N,4.0nm,0.3s,mb4.6,baz=286,slow=13,SNR=6.4						
ROSC				PcP	PcP	00 42 54.6	+0.5
	comp=N,3.9nm,0.5s,baz=97,slow=17,SNR=3.9						
ROSC				ScP	ScP	00 46 17.3	-2.4
	comp=N,4.0nm,0.8s,baz=270,slow=20,SNR=4.1						
ROSC				LR	LR	00 51 23.2	
	comp=N,185nm,19.4s,baz=178,slow=35						
SDV	**Santo Domingo**	**32.89**	**353**	P	**P**	**00 40 21.5**	**-1.1**
	comp=N,7.1nm,0.4s,mb4.8,baz=199,slow=6.8,SNR=14						
SDV				ScP	ScP	00 46 28.7	-2.0
	comp=N,1.3nm,0.3s,baz=199,slow=23,SNR=3.0						
SDV	**Santo Domingo**	**32.89**	**353**	*e*P	**P**	**00 40 21.7**	**-0.8**
	comp=N,35nm,1.0s,mb5.0						
PCRV	**Puerto La Cruz**	**34.00**	**4**	P	**P**	**00 40 32.2**	**0.0**
	comp=N,9.6nm,0.6s,mb4.7,baz=72,slow=11,SNR=6.3						
RCBR	**Riachuelo**	**34.66**	**64**	*e*P	**P**	**00 40 38.4**	**+0.6**
	comp=N,75nm,0.8s,mb5.4						
HOPE	**Hope Point**	**37.73**	**151**	P	**P**	**00 41 04.5**	**+0.6**
	comp=N,635nm,0.9s,SNR=5.9						
HOPE	**Hope Point**	**37.73**	**151**	P	**P**	**00 41 04.3**	**+0.4**
JTS	**JuntasAbangare**	**38.45**	**330**	P	**P**	**00 41 11.9**	**+2.0**
	comp=N,345nm,0.7s,SNR=8.6						
JTS	**JuntasAbangare**	**38.45**	**330**	P	**P**	**00 41 11.0**	**+1.1**
	comp=N,40nm,0.8s,mb5.1,baz=146,slow=2.7,SNR=24						
JTS				PcP	PcP	00 43 18.7	-0.8
	comp=N,4.4nm,0.4s,baz=327,slow=11,SNR=3.8						
JTS				ScP	ScP	00 46 47.6	-3.5
	comp=N,5.1nm,0.7s,baz=2.8,slow=13,SNR=3.9						
RPN	**Rapa Nui**	**38.47**	**256**	P	**P**	**00 41 11.5**	**+1.4**
	comp=N,159nm,1.0s,mb5.6,baz=53,slow=2.5,SNR=2.9						
PMSA	**Palmer Station**	**40.83**	**178**	P	**P**	**00 41 30.2**	**+0.7**
	comp=N,45nm,0.8s,mb5.1,baz=45,slow=2.9,SNR=6.5						
PMSA	**Palmer Station**	**40.83**	**178**	*e*P	**P**	**00 41 27.9**	**-1.7**
	comp=N,36nm,0.6s,mb5.2						
SJG	**San Juan**	**41.83**	**1**	P	**P**	**00 41 35.8**	**-2.0**
	comp=N,25nm,0.5s,mb5.1,baz=184,slow=2.3,SNR=8.9						
SJG	**San Juan**	**41.83**	**1**	*e*P	**P**	**00 41 35.8**	**-1.9**
SJG				pmax	pmax		
	comp=Z,63nm,1.0s						
SJG	**San Juan**	**41.83**	**1**	*e*P	**P**	**00 41 35.8**	**-2.0**
	comp=Z,63nm,1.0s,mb5.2						
SDDR	**Presa de Saban**	**42.93**	**354**	P	**P**	**00 41 44.5**	**-2.1**
TEIG	**Tepich**	**48.71**	**333**	*e*P	**P**	**00 42 31.3**	**-0.6**
	comp=Z,19nm,0.5s,mb5.0						
DWPF	**Disney**	**53.70**	**344**	*e*P	**P**	**00 43 09.0**	**+0.1**
	comp=Z,48nm,1.0s,mb5.2						
BBSR	**BB Station**	**56.06**	**2**	P	**P**	**00 43 25.1**	**-0.8**
VNA1	**Neumayer--Stat**	**57.27**	**160**	⇓*i*P	**P**	**00 43 35.1**	**+0.7**
VNA1				*e*		00 43 37.0	
VNA1				*e*		00 43 39.6	
VNA1				*e*		00 43 47.4	
VNA1				*e*	pP	00 44 18.0	+3.9
VNA1				*e*		00 44 26.8	
VNA1				*e*		00 48 07.8	
VNA1				*e*		00 48 25.8	
VNA1				*e*S	**S**	**00 51 16.4**	**-0.5**
VNA1				*e*		00 51 24.5	
SNAA	**Sanae**	**59.28**	**161**	P	**P**	**00 43 48.2**	**-0.1**
	comp=Z,8.0nm,0.8s,mb4.6,baz=288,slow=6.5,SNR=39						
SNAA				pP	pP	00 44 33.0	+4.8
	comp=Z,3.6nm,0.6s,baz=277,slow=5.1,SNR=2.8						
SNAA	**Sanae**	**59.28**	**161**	⇓*i*P	**P**	**00 43 48.0**	**-0.3**
SNAA				*e*		00 43 50.3	
SNAA				*e*		00 43 52.9	
SNAA				*e*		00 44 01.1	
SNAA				*e*	pP	00 44 28.1	-0.1
SNAA				*e*		00 44 34.0	
SNAA				*e*		00 48 16.7	
SNAA				*e*		00 48 35.8	
SNAA				*e*S	**S**	**00 51 42.1**	**-0.7**
SNAA	**Sanae**	**59.28**	**161**	*d i*P	**P**	**00 43 48.0**	**-0.3**
SNAA				*i* *PP	pP	00 44 31.7	+3.5
SNAA				*i* *SP	sP	00 44 52.8	+5.8
SNAA	**Sanae**	**59.28**	**161**	*e*P	**P**	**00 43 47.9**	**-0.5**
JSC	**Jenkinsville**	**59.57**	**346**	*e*P	**P**	**00 43 49.9**	**-0.4**
LRAL	**Lakeview Retre**	**59.91**	**340**	*e*P	**P**	**00 43 51.2**	**-1.5**
HKT	**Hockley**	**60.48**	**331**	*e*P	**P**	**00 43 56.1**	**-0.5**
HKT				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
HKT	**Hockley**	**60.48**	**331**	*e*P	**P**	**00 43 56.1**	**-0.5**
	comp=Z,24nm,1.1s,mb4.9						
MYNC	**Murphy**	**61.01**	**344**	*e*P	**P**	**00 43 59.4**	**-0.7**
MYNC				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
MYNC	**Murphy**	**61.01**	**344**	*e*P	**P**	**00 43 59.4**	**-0.7**
	comp=Z,30nm,0.8s,mb5.2						
CPCT	**Cooper Cave**	**61.47**	**343**	*e*P	**P**	**00 44 02.3**	**-0.9**
NATX	**Nacogdoches**	**61.54**	**333**	*e*P	**P**	**00 44 04.3**	**+0.6**
SWET	**Sewanee**	**61.63**	**342**	*e*P	**P**	**00 44 03.0**	**-1.3**
PLAL	**Pickwick Lake**	**62.05**	**340**	*e*P	**P**	**00 44 05.1**	**-1.9**
ELN	**Prospectdale**	**62.30**	**347**	*e*P	**P**	**00 44 08.7**	**0.0**
FWV	**Forest Hill**	**62.65**	**347**	*e*P	**P**	**00 44 10.7**	**-0.3**
JCT	**Junction City**	**62.77**	**328**	*e*P	**P**	**00 44 10.8**	**-1.1**
WVT	**Waverly**	**63.03**	**341**	*e*P	**P**	**00 44 11.8**	**-1.8**
WVT				pmax	pmax		
	comp=Z,68nm,0.6s,mb5.7						
WVT	**Waverly**	**63.03**	**341**	*e*P	**P**	**00 44 11.8**	**-1.8**
	comp=Z,68nm,0.6s,mb5.7						
UALR	**University of**	**63.30**	**336**	*e*P	**P**	**00 44 14.0**	**-1.3**
	comp=Z,25nm,0.9s,mb5.0						
UTMT	**University of**	**63.54**	**340**	*e*P	**P**	**00 44 15.4**	**-1.5**
MIAR	**Mount Ida**	**63.55**	**335**	*e*P	**P**	**00 44 16.0**	**-1.0**
MIAR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.2						
MIAR	**Mount Ida**	**63.55**	**335**	*e*P	**P**	**00 44 16.0**	**-1.0**
	comp=Z,40nm,0.9s,mb5.2						
GLAT	**Glass**	**63.61**	**340**	*e*P	**P**	**00 44 17.0**	**-0.3**
MAIT	**Maitri**	**63.76**	**159**	*e*P	**P**	**00 44 20.3**	**+1.9**
NVL	**N'lazarevskaya**	**63.80**	**159**	*d i*P	**P**	**00 44 18.3**	**-0.3**
NVL				pmax	pmax		
	comp=N,18nm,1.4s						
NVL				pmax	pmax		
	comp=Z,60nm,1.4s,mb5.2						
NVL				pmax	pmax		
	comp=E,23nm,1.0s						
PARMO	**Parma**	**64.12**	**340**	*e*P	**P**	**00 44 20.2**	**-0.5**
MCWV	**Mont Chateau**	**64.48**	**349**	*e*P	**P**	**00 44 23.1**	**0.0**
	comp=E,33nm,1.1s,mb5.1						
WCI	**Wyandotte Cave**	**64.56**	**343**	*e*P	**P**	**00 44 21.5**	**-2.0**
USIN	**University of**	**64.69**	**342**	*e*P	**P**	**00 44 21.9**	**-2.5**
	comp=E,17nm,0.6s,mb5.0						
SIUC	**Southern Illin**	**64.92**	**340**	*e*P	**P**	**00 44 24.1**	**-1.8**
BLO	**Bloomington**	**65.50**	**343**	*e*P	**P**	**00 44 28.3**	**-1.3**
FVM	**French Village**	**65.54**	**340**	*e*P	**P**	**00 44 28.4**	**-1.5**
ACSO	**Alum Creek Sta**	**65.66**	**346**	*e*P	**P**	**00 44 30.0**	**-0.6**
WMOK	**Wichita Mounta**	**65.86**	**331**	*e*P	**P**	**00 44 30.8**	**-1.1**
BINY	**Binghamton**	**66.40**	**352**	*e*P	**P**	**00 44 35.3**	**0.0**
GDL2	**Guadalupe Moun**	**66.45**	**326**	*e*P	**P**	**00 44 35.9**	**+0.2**
MNTX	**Cornudas Mount**	**66.59**	**324**	*e*P	**P**	**00 44 35.3**	**-1.2**
	comp=E,33nm,0.9s,mb5.2						
LIC	**Lamto**	**67.16**	**72**	*e*P	**P**	**00 44 38.6**	**-1.5**
	comp=E,17nm,0.6s,mb4.8						
LIC	**Lamto**	**67.16**	**72**	*e*P	**P**	**00 44 38.6**	**-1.5**
	comp=E,8.5nm,0.6s,mb4.8						
DBIC	**Dimbokro**	**67.52**	**71**	P	**P**	**00 44 41.9**	**-0.6**
	comp=E,19nm,0.6s,mb5.0,baz=225,slow=7.4,SNR=36						
DBIC	**Dimbokro**	**67.52**	**71**	*e*P	**P**	**00 44 41.8**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,21nm,0.7s						
DBIC	**Dimbokro**	**67.52**	**71**	*e*P	**P**	**00 44 41.8**	**-0.6**
	comp=Z,21nm,0.7s,mb5.0						
HNH	**Hanover**	**67.54**	**356**	*e*P	**P**	**00 44 42.9**	**+0.4**
KSU1	**Kansas State U**	**68.71**	**335**	*e*P	**P**	**00 44 49.0**	**-0.9**
MSNY	**Massena**	**69.04**	**354**	*e*P	**P**	**00 44 51.0**	**-0.9**
LPM	**Los Pinos Moun**	**69.28**	**325**	*e*P	**P**	**00 44 54.1**	**+0.7**
LENM	**Lemitar**	**69.35**	**325**	*e*P	**P**	**00 44 54.9**	**+1.1**
LAZ	**Ladron**	**69.62**	**325**	*e*P	**P**	**00 44 56.2**	**+0.8**
ANMO	**Albuquerque**	**69.69**	**326**	*e*P	**P**	**00 44 56.3**	**+0.4**
ANMO				pmax	pmax		
	comp=Z,39nm,0.9s						
ANMO	**Albuquerque**	**69.69**	**326**	*e*P	**P**	**00 44 56.2**	**+0.4**
	comp=Z,39nm,0.9s,mb5.1						
SCIA	**State Center**	**70.00**	**339**	*e*P	**P**	**00 44 56.8**	**-0.9**
JFWS	**Jewell Farm**	**70.01**	**342**	*e*P	**P**	**00 44 56.4**	**-1.4**
TUC	**Tucson**	**70.04**	**321**	*e*P	**P**	**00 44 58.5**	**+0.5**
TUC				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.0						
TUC	**Tucson**	**70.04**	**321**	*e*P	**P**	**00 44 58.5**	**+0.5**
	comp=Z,39nm,1.3s,mb5.0						

WUAZ Wupatki 72.73 323 *e*P P 00 45 14.4 +0.3
comp=Z,45nm,0.9s,mb5.2
ECSD EROS,Sioux Fal 72.76 338 *e*P P 00 45 13.1 -1.2
GLA Glamis 72.94 319 *e*P P 00 45 16.0 +0.6
ISCO Idaho Springs 73.11 330 *e*P P 00 45 16.9 +0.6
ISCO pmax pmax
comp=Z,30nm,1.1s,mb4.9
ISCO Idaho Springs 73.11 330 *e*P P 00 45 16.9 +0.6
comp=Z,30nm,1.1s,mb4.9
PV01 Paradox Valley 73.23 327 *e*P P 00 45 17.9 +0.9
SMCO Snowmass 73.25 328 *e*P P 00 45 18.2 +1.1
comp=Z,40nm,0.9s,mb5.1
SYO Syowa Base 73.47 159⇑ *e*P P 00 45 18.0 -0.5
SYO Syowa Base 73.47 159⇑ *e*pP pP 00 45 58.3 -1.6
PV10 Paradox Valley 73.65 327 *e*P P 00 45 19.8 +0.3
SBA Scott Base 73.77 190 *e*P P 00 45 20.8 +0.6
BAR Barrett 73.81 318 *e*P P 00 45 21.0 +0.6
PHWY Pilot Hill 74.24 331 *e*P P 00 45 23.2 +0.3
PFO Pinyon Flat Ob 74.31 319 P P 00 45 24.9 +1.6
comp=Z,156nm,0.8s,mb5.8,SNR=9.8
PFO Pinyon Flat Ob 74.31 319 *e*P P 00 45 24.5 +1.2
PFO pmax pmax
comp=Z,28nm,1.0s,mb5.0
PFO Pinyon Flat Ob 74.31 319 *e*P P 00 45 24.5 +1.1
comp=Z,28nm,1.0s,mb5.0
VNDA Vanda 74.77 190 P P 00 45 26.6 +0.6
comp=Z,13nm,0.9s,mb4.5,baz=132,slow=5.3,SNR=56
VNDA Vanda 74.77 190 *e*P P 00 45 26.2 +0.2
SRU San Rafael 74.96 326 *e*P P 00 45 27.8 +0.7
CCUT Cedar City 75.31 323 *e*P P 00 45 30.4 +1.4
CCUT *e* 00 46 25.0
RWWY Rawlins 75.34 330 *e*P P 00 45 29.8 +0.5
MSU Marysvale 75.37 325 *e*P P 00 45 30.3 +0.9
TMUT Trail Mountain 75.45 326 *e*P P 00 45 30.9 +1.1
SHPR Sheep Range 75.56 321 *e*P P 00 45 31.2 +0.7
SUR Sutherland 75.57 119 P P 00 45 31.2 +0.7
comp=Z,6.5nm,0.6s,mb4.5,baz=180,slow=9.2,SNR=9.9
GSC Goldstone 75.68 320 *e*P P 00 45 32.4 +1.2
MWC Mount Wilson 75.70 318 *e*P P 00 45 32.2 +0.9
VAH Vaihoa 75.84 259 *e*P P 00 45 34.4 +2.3
comp=Z,111nm,1.0s,mb5.5
RSSD Black Hills 75.91 333 *e*P P 00 45 32.6 +0.1
RSSD pmax pmax
comp=Z,27nm,0.9s,mb4.9
RSSD Black Hills 75.91 333 *e*P P 00 45 32.5 +0.1
comp=Z,27nm,0.9s,mb4.9
PMOR Pomariorio Ree 76.17 260 *e*P P 00 45 36.2 +2.2
comp=Z,79nm,0.9s,mb5.3
MPU Maple Canyon 76.21 326 *e*P P 00 45 35.1 +1.0
TOA0 Torodi Ar. Sit 76.29 69 *e*P P 00 45 34.0 -0.6
TORD Torodi Ar. Bea 76.29 69 P P 00 45 34.0 -0.6
comp=Z,21nm,0.5s,mb5.0,baz=258,slow=5.6,SNR=393
TORD pP pP 00 46 20.1 +3.6
comp=Z,3.4nm,0.7s,baz=258,slow=4.9,SNR=1.1
NLU North Lily Min 76.39 326 *e*P P 00 45 36.2 +1.0
CTU Camp Tracy 76.77 326 *e*P P 00 45 38.0 +0.7
DAC Darwin (Calif) 76.82 320 *e*P P 00 45 38.2 +0.6
DAC pmax pmax
comp=Z,31nm,1.0s,mb4.9
DAC Darwin (Calif) 76.82 320 *e*P P 00 45 38.2 +0.6
comp=Z,31nm,1.0s,mb4.9
TCUT Toone Canyon 76.92 327 *e*P P 00 45 39.1 +0.9
ISA Isabella 76.92 319 *e*P P 00 45 39.4 +1.2
DUG Dugway 76.95 325 *e*P P 00 45 38.8 +0.5
TRCR Troy Canyon 77.11 323 *e*P P 00 45 40.0 +0.8
TRCR *e*PcP PcP 00 45 50.0 +0.7
BW06 Boulder Array 77.27 329 *e*P P 00 45 39.8 -0.3
PDAR Pinedale Array 77.27 329 P P 00 45 39.9 -0.3
comp=Z,5.7nm,0.5s,mb4.5,baz=129,slow=7.9,SNR=106
TSUM Tsumeb 77.38 106 P P 00 45 41.1 +0.4
comp=Z,22nm,0.7s,mb4.9,baz=227,slow=6.2,SNR=91
TSUM pP pP 00 46 27.8 +5.1
comp=Z,5.5nm,0.8s,baz=281,slow=4.1,SNR=2.3
TSUM Tsumeb 77.38 106 *e*P P 00 45 40.4 -0.3
comp=Z,23nm,0.8s,mb4.9
SPUT South Promonto 77.58 326 *e*P P 00 45 41.4 -0.4
BGU Big Grassy Mou 77.59 326 *e*P P 00 45 42.4 +0.5
BGU *e*pP pP 00 46 25.2 +1.4
TPH Tonopah 77.84 321 *e*P P 00 45 44.3 +1.0
TPH pmax pmax
comp=Z,29nm,1.1s,mb4.8
TPH Tonopah 77.84 321 *e*P P 00 45 44.3 +1.1
comp=Z,29nm,1.1s,mb4.8
AHID Auburn Hatcher 78.01 328 *e*P P 00 45 44.5 +0.3
HVU Hansel Valley 78.09 327 *e*P P 00 45 45.2 +0.5
MTUM Tungsten Hills 78.12 320 *e*P P 00 45 45.5 +0.7
MTUM PcP PcP 00 45 54.4 +0.7
ULM Lac du Bonnet 78.30 341 P P 00 45 44.4 -1.4
comp=Z,38nm,0.7s,mb5.1,baz=156,slow=5.7,SNR=84
REDW Red Top Meadow 78.34 329 *e*P P 00 45 46.2 +0.2
comp=Z,36nm,1.0s,mb5.0
LOHW Long Hollow 78.41 329 *e*P P 00 45 46.8 +0.3
comp=Z,33nm,0.8s,mb5.0
SCHQ Schefferville 78.48 360 P P 00 45 46.0 -0.8
comp=Z,14nm,0.8s,mb4.7,baz=179,slow=4.8,SNR=31
TPAW Teton Pass 78.48 329 *e*P P 00 45 47.2 +0.4
comp=Z,33nm,0.9s,mb5.0
RRI2 Red Ridge 78.55 328 *e*P P 00 45 47.5 +0.4
NVAR Mina Array Bea 78.70 321 P P 00 45 48.4 +0.4
comp=Z,6.1nm,0.7s,mb4.3,baz=141,slow=6.9,SNR=46
IMW Indian Meadow 78.79 329 *e*P P 00 45 49.0 +0.5
comp=Z,47nm,0.9s,mb5.1
FLWY Flagg Ranch 78.81 329 *e*P P 00 45 49.1 +0.5
comp=Z,37nm,0.7s,mb5.1
LAO LASA Array 78.90 333 *e*P P 00 45 48.9 -0.2
LRV Little Rabbit 78.97 318 *e*P P 00 45 50.4 +1.0
LKWY Lake 79.05 330 *e*P P 00 45 51.8 +1.9
LKWY pmax pmax
comp=Z,44nm,1.3s,mb4.9
LKWY Lake 79.05 330 *e*P P 00 45 51.8 +1.9
comp=Z,44nm,1.3s,mb4.9
YFT Old Faithful 79.16 329 *e*P P 00 45 52.6 +2.1
YNR Norris Junctio 79.29 330 *e*P P 00 45 53.2 +2.0
YMR Madison River 79.38 330 *e*P P 00 45 52.6 +0.9
comp=Z,165nm,1.4s,mb5.5
YMR *e*PcP PcP 00 45 60.0 +0.8
WAKR Walker 79.40 321 *e*P P 00 45 52.6 +0.8
CMB Columbia Colle 79.65 320 *e*P P 00 45 53.2 +0.1
GCMT Greycliff 79.66 331 *e*P P 00 45 53.0 -0.2
QLMT Earthquake Lak 79.72 329 *e*P P 00 45 54.8 +1.3
PAHR Pah Rah Range 80.18 321 *e*P P 00 45 58.0 +2.0
HLID Hailey 80.22 327 *e*P P 00 45 57.0 +0.8
comp=Z,52nm,0.9s,mb5.2
MCMT McKenzie Canyo 80.39 329 P P 00 45 57.8 +0.7
BOZ Bozeman (W) 80.43 330 *e*P P 00 45 57.0 -0.3
BOSA Boshof 80.49 117 P P 00 45 57.4 -0.3
comp=Z,9.8nm,0.6s,mb4.6,baz=260,slow=5.2,SNR=37
BOSA Boshof 80.49 117 P P 00 45 57.4 -0.2
BOSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
DLMT Dillon 80.67 329 *e*P P 00 45 58.9 +0.3
comp=Z,70nm,1.2s,mb5.2
LCCM Lewis and Clar 80.69 330 P P 00 45 59.0 +0.3
LRM Limekiln Ridge 80.94 330 *e*P P 00 46 00.3 +0.2
OHCM Honcut 81.15 320 *e*P P 00 46 01.1 -0.1
NSHM Saint Helena R 81.29 319 *e*P P 00 46 01.9 0.0
HRY Holter Researc 81.33 330 *e*P P 00 46 02.3 +0.2
MAW Mawson 81.37 163 P P 00 46 02.3 0.0
comp=Z,42nm,0.8s,mb5.1,baz=216,slow=6.8,SNR=80
EGMT Eagleton 81.42 332 *e*P P 00 46 02.2 -0.4
comp=Z,59nm,1.1s,mb5.1
WVOR Wild Horse Val 81.62 324 *e*P P 00 46 03.6 0.0
WVOR pmax pmax
comp=Z,13nm,1.3s,mb4.4
WVOR Wild Horse Val 81.62 324 *e*P P 00 46 03.6 0.0
comp=Z,13nm,1.3s,mb4.4
CHMT Chamberlain Mo 82.13 330 *e*P P 00 46 06.3 0.0
MSO Missoula 82.38 329 *e*P P 00 46 07.7 +0.1
WDC Whiskeytown Da 82.58 321 *e*P P 00 46 07.4 -1.2
BMO Blue Mountains 82.60 326 *e*P P 00 46 08.5 -0.2
BMO pmax pmax
comp=Z,37nm,1.3s,mb5.0
BMO Blue Mountains 82.60 326 *e*P P 00 46 08.5 -0.2
comp=Z,37nm,1.3s,mb5.0
KIPM Iron Peak 82.63 319 P P 00 46 09.4 +0.6
PBEJ Beja 82.75 43 *e*P P 00 46 10.5 +1.0
comp=Z,14nm,1.3s,mb4.5
PTOM Tomar 83.40 41 *e*P P 00 46 13.5 +0.7
comp=Z,29nm,1.1s,mb4.9
YBH Yreka Blue Hor 83.42 321 P P 00 46 11.9 -1.0
comp=Z,10nm,0.9s,mb4.6,baz=78,slow=3.2,SNR=29
YBH Yreka Blue Hor 83.42 321 *e*P P 00 46 11.6 -1.3
PESTR Estremoz 83.44 42 *e*P P 00 46 16.4 +3.4
comp=Z,13nm,1.1s,mb4.6

KHMM Horse Mountain 83.46 320 *e*P P 00 46 13.8 +0.6
BSMT Bassoo Peak 83.52 330 *e*P P 00 46 13.3 -0.1
WALA Waterton Lakes 84.01 331 *e*P P 00 46 15.3 -0.7
comp=Z,24nm,0.9s,mb4.9
FFC Flin Flon 84.03 340 *e*P P 00 46 13.2 -2.8
FFC pmax pmax
comp=Z,16nm,1.0s,mb4.7
FFC Flin Flon 84.03 340 *e*P P 00 46 13.2 -2.8
comp=Z,16nm,1.0s,mb4.7
PCBR Castelo Branco 84.10 42 *e*P P 00 46 16.8 +0.4
comp=Z,19nm,1.5s,mb4.6
H2OWA Water 84.74 326 P P 00 46 19.6 +0.1
PVRL Vila Real 84.84 40 *e*P P 00 46 20.6 +0.5
comp=Z,26nm,1.2s,mb4.8
OD2 Odessa Site #2 85.07 327 P P 00 46 21.1 -0.1
KEBM Edson Butte 85.07 321 *e*P P 00 46 22.2 +1.0
HOOD Mount Hood Mea 85.17 325 *e*P P 00 46 22.1 +0.4
FCC Fort Churchill 85.50 346 *e*P P 00 46 22.6 -0.8
FCC pmax pmax
comp=Z,40nm,0.7s,mb5.3
FCC Fort Churchill 85.50 346 *e*P P 00 46 22.6 -0.8
comp=Z,40nm,0.7s,mb5.3
COR Corvallis 85.58 323 *e*P P 00 46 23.9 +0.1
MPOR Mary's Peak 85.67 323 P P 00 46 24.8 +0.6
PBRG Braganca 85.75 40 *e*P P 00 46 25.4 +0.8
comp=Z,17nm,1.5s,mb4.5
TBM Table Mountain 85.86 326 P P 00 46 25.2 +0.1
ESDC Sonseca Array 86.18 43 P P 00 46 26.9 +0.2
comp=Z,4.9nm,0.8s,mb4.3,baz=233,slow=4.8,SNR=20
ESLA Sonseca Array 86.18 43 *e*P P 00 46 27.3 +0.6
GSM Grass Mountain 86.49 326 P P 00 46 27.6 -0.6
EDM Edmonton 86.87 334 *e*P P 00 46 28.6 -1.5
GNW Green Mountain 87.26 326 *e*P P 00 46 31.4 -0.6
VDB Vedder Mountai 87.85 327 P P 00 46 33.7 -1.0
LSZ Lusaka 88.24 106 *e*P P 00 46 38.7 +2.1
SJPF Ste Jean 89.83 42 *e*P P 00 46 44.0 0.0
comp=Z,20nm,1.0s,mb4.7
SJPF Ste Jean 89.83 42 *e*P P 00 46 44.0 0.0
SJPF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SJPF Ste Jean 89.83 42 *e*P P 00 46 44.0 0.0
comp=Z,10nm,1.0s,mb4.7
ETSF Etsaut 90.11 42 *e*P P 00 46 45.4 +0.1
comp=Z,17nm,1.0s,mb4.6
ETSF Etsaut 90.11 42 *e*P P 00 46 45.4 +0.1
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ETSF Etsaut 90.11 42 *e*P P 00 46 45.4 +0.1
comp=Z,8.4nm,1.0s,mb4.6
EPF Esparros 90.74 42 *e*P P 00 46 48.1 -0.1
comp=Z,6.4nm,0.7s,mb4.5
EPF Esparros 90.74 42 *e*P P 00 46 48.1 -0.1
EPF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
EPF Esparros 90.74 42 *e*P P 00 46 48.1 -0.1
comp=Z,3.2nm,0.7s,mb4.5
SALF Salau 91.12 43 *e*P P 00 46 51.1 +1.1
MLS Moulis 91.17 43 *e*P P 00 46 50.8 +0.6
QUIF Quistinic 91.41 37 *e*P P 00 46 50.1 -1.2
ROSF Rostrenen 91.59 37 *e*P P 00 46 51.0 -1.2
SGMF Saint Gilles 91.94 37 *e*P P 00 46 52.2 -1.6
comp=Z,24nm,0.9s,mb4.9
SGMF Saint Gilles 91.94 37 *e*P P 00 46 52.2 -1.6
SGMF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SGMF Saint Gilles 91.94 37 *e*P P 00 46 52.2 -1.6
comp=Z,12nm,0.9s,mb4.9
LFF La Frestale 92.01 41 *e*P P 00 46 53.4 -0.7
MTLF Montolieu 92.07 43 *e*P P 00 46 53.5 -0.9
comp=Z,8.8nm,0.9s,mb4.5
MTLF Montolieu 92.07 43 *e*P P 00 46 53.5 -0.9
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MTLF Montolieu 92.07 43 *e*P P 00 46 53.5 -0.9
comp=Z,4.4nm,0.9s,mb4.5
RJF Les Rejaudoux 92.67 41 *e*P P 00 46 56.1 -1.1
comp=Z,9.8nm,1.0s,mb4.6
RJF Les Rejaudoux 92.67 41 *e*P P 00 46 56.1 -1.1
RJF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
RJF Les Rejaudoux 92.67 41 *e*P P 00 46 56.1 -1.1
comp=Z,4.9nm,1.0s,mb4.6
CAF Calviac 92.80 42 *e*P P 00 46 57.1 -0.7
comp=Z,6.2nm,0.7s,mb4.5
CAF Calviac 92.80 42 *e*P P 00 46 57.1 -0.7
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
CAF Calviac 92.80 42 *e*P P 00 46 57.1 -0.7
comp=Z,3.1nm,0.7s,mb4.5
GRR Gorron 92.95 38 *e*P P 00 46 56.9 -1.6
KEST Kesra 93.17 52 P P 00 47 00.5 +1.0
comp=Z,1.3nm,0.8s,mb4.1,baz=258,slow=4.4,SNR=9.2
KEST LR LR 01 32 57.0
comp=Z,42nm,19.2s,baz=149,slow=38
FLN La Foliniere 93.37 37 *e*P P 00 46 58.9 -1.5
LDF La Druitiere 93.47 38 *e*P P 00 46 59.4 -1.5
AGO Saint Agoulin 94.02 41 *e*P P 00 47 00.3 -0.1
YKA Yellowknife Ar 94.20 340 P P 00 47 02.7 -1.5
comp=Z,14nm,0.5s,mb5.3,baz=136,slow=4.6,SNR=251
YKA Yellowknife Ar 94.20 340 P P 00 47 02.7 -1.5
YKW3 Yellowknife Ar 94.25 340 *e*P P 00 47 02.2 -2.2
PLDF La Plantade 94.28 41 *e*P P 00 47 04.9 +0.3
VIVF Saint-Julien-l 94.36 43 *e*P P 00 47 04.5 -0.4
SMRF Simiane la Rot 94.49 44 *e*P P 00 47 04.8 -0.7
SMF Signal de Mont 94.75 41 *e*P P 00 47 05.8 -0.9
comp=Z,10nm,0.8s,mb4.8
SMF Signal de Mont 94.75 41 *e*P P 00 47 05.8 -0.9
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
SMF Signal de Mont 94.75 41 *e*P P 00 47 05.8 -0.9
comp=Z,5.3nm,0.8s,mb4.8
LMR La Mourre 94.78 45 *e*P P 00 47 06.4 -0.5
comp=Z,7.5nm,0.8s,mb4.7
LMR La Mourre 94.78 45 *e*P P 00 47 06.4 -0.5
LMR pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
LMR La Mourre 94.78 45 *e*P P 00 47 06.4 -0.5
comp=Z,3.8nm,0.8s,mb4.7
FRF La Foret Royal 94.97 44 *e*P P 00 47 07.4 -0.3
LOR Lormes 95.07 40 *e*P P 00 47 06.7 -1.5
ORIF Oris-en-Rattie 95.14 43 *e*P P 00 47 08.5 0.0
comp=Z,7.1nm,0.7s,mb4.7
ORIF Oris-en-Rattie 95.14 43 *e*P P 00 47 08.5 0.0
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 95.14 43 *e*P P 00 47 08.5 0.0
comp=Z,3.5nm,0.7s,mb4.7
MVIF Mont Vial 95.46 44 *e*P P 00 47 10.5 +0.6
TOUF Mont Tournerai 95.57 44 *e*P P 00 47 11.0 +0.5
LUX Luceram 95.58 44 *e*P P 00 47 10.7 +0.2
MBDF Montbardon 95.61 43 *e*P P 00 47 10.6 0.0
SBF Sospel 95.62 44 *e*P P 00 47 10.4 -0.3
AUTN L'Aution 95.68 44 *e*P P 00 47 10.5 -0.5
SAOF Saorge 95.76 44 *e*P P 00 47 11.8 +0.5
LPL La Plagne 95.96 43 *e*P P 00 47 12.4 +0.2
comp=Z,7.6nm,0.8s,mb4.8
LPL La Plagne 95.96 43 *e*P P 00 47 12.4 +0.2
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LPL La Plagne 95.96 43 *e*P P 00 47 12.4 +0.2
comp=Z,3.8nm,0.8s,mb4.8
LPG La Plagne 95.96 43 *e*P P 00 47 12.6 +0.4
comp=Z,9.8nm,0.9s,mb4.8
LPG La Plagne 95.96 43 *e*P P 00 47 12.6 +0.4
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
LPG La Plagne 95.96 43 *e*P P 00 47 12.6 +0.4
comp=Z,4.9nm,0.9s,mb4.8
CABF La Chapelle 96.08 41 *e*P P 00 47 12.0 -0.8
INK Inuvik 103.96 339 P Pdif 00 47 47.0 -1.0
DAWY Dawson 104.08 334 *e*Pdif Pdif 00 47 47.4 -1.1
AKASG Malin Array Be 111.82 43 PKiKP PKiKP 00 52 17.7 -1.5
comp=Z,0.5nm,0.3s,baz=263,slow=2.3,SNR=8.8
AKASG PKKPbc PKKPbc 01 03 11.6 -0.6
comp=Z,1.0nm,0.5s,baz=56,slow=3.2,SNR=7.6
AKASG PKKPab PKKPab 01 03 20.4 -1.5
comp=Z,1.7nm,0.6s,baz=66,slow=3.2,SNR=7.0
AKASG Malin Array Be 111.82 43 PKPdf PKiKP 00 52 17.7 -1.6
AKASG PKKPbc PKKPbc 01 03 11.6 -0.6
AKASG PKKPab PKKPab 01 03 20.4 -1.5
FINES FINESS Array B 112.06 31 PKiKP PKiKP 00 52 16.6 -3.0
comp=Z,1.1nm,0.8s,baz=319,slow=5.5,SNR=4.3
FINES PKKPbc PKKPbc 01 03 10.5 -1.0
comp=Z,0.5nm,0.3s,baz=69,slow=3.6,SNR=8.0
KAF Kangasniemi 112.28 30 *e*pkp PKiKP 00 52 17.1 -3.0

BRTR Keskin Array B 112.56 55 PKiKP PKiKP 00 52 20.2 -0.4
comp=Z,0.9nm,0.8s,baz=175,slow=4.8,SNR=7.5
BRTR PKKPab PKKPab 01 03 18.2 -0.4
comp=Z,1.4nm,0.8s,baz=110,slow=4.7,SNR=9.6
ARCES ARCESS Array B 112.99 22 PKKPbc PKKPbc 01 03 07.5 -0.9
comp=Z,1.0nm,0.4s,baz=87,slow=3.6,SNR=23
ARCES PKKPab PKKPab 01 03 14.5 -2.2
comp=Z,2.6nm,0.7s,baz=100,slow=5.0,SNR=6.6
JOF Joensuu 114.68 30 *e*pkp PKiKP 00 52 22.3 -2.4
OBN Obninsk 116.82 39⇓ *i* PKiKP PKPdf 00 52 27.5 -1.3
OBN pmax pmax
comp=Z,21nm,1.0s
STKA Stephens Creek 118.23 207 PKiKP PKiKP 00 52 30.9 -0.7
comp=Z,1.7nm,0.5s,baz=171,slow=0.9,SNR=3.2
KIV Kislovodsk 119.91 52 *i* PKiKP PKPdf 00 52 34.2 -0.5
KIV Kislovodsk 119.91 52 *e*PKPdf PKPdf 00 52 34.4 -0.3
NWAO Narrogin (SRO) 123.29 184 PKP PKPdf 00 52 40.1 -1.1
comp=Z,10nm,0.7s,baz=121,slow=6.3,SNR=6.6
FORT Forrest 123.75 195 *e*PKP PKPdf 00 52 41.5 -0.6
comp=Z,9.8nm,0.6s
MUN Mundaring 124.29 183 *e*PKP PKPdf 00 52 42.8 -0.4
KLBR Kellerberrin 124.58 185 *e*PKP PKPdf 00 52 43.0 -0.7
comp=Z,10nm,0.4s
BILL Bilibino 125.57 338⇑ *i* PKiKP PKPdf 00 52 44.5 -1.1
CTA Charters Tower 125.70 219 *e*PKP PKPdf 00 52 46.3 +0.4
comp=Z,7.6nm,0.6s
CTA Charters Tower 125.70 219 PKP PKPdf 00 52 45.9 0.0
comp=Z,12nm,0.8s,baz=172,slow=2.1,SNR=12
CTAO Charters Tower 125.70 219 *e*PKiKP PKPdf 00 52 46.3 +0.4
ASAR Alice Springs 128.60 204 PKHKP 00 52 38.7
comp=Z,0.2nm,0.3s,baz=111,slow=1.4,SNR=4.5
ASAR PKP PKPdf 00 52 50.9 -0.5
comp=Z,19nm,0.7s,baz=148,slow=2.0,SNR=119
ASAR SKPbc 00 55 52.0
comp=Z,1.4nm,0.5s,baz=147,slow=3.7,SNR=7.4
ASAR SKP 00 56 07.4
comp=Z,2.0nm,1.1s,baz=143,slow=3.2,SNR=4.1
ASAR Alice Springs 128.60 204 PKHKP 00 52 38.7
ASAR 00 52 50.9
ARU Arti 128.99 36 *i* PKiKP PKPdf 00 52 51.4 -0.7
ARU *e* 00 55 00.0
ARU *e*SS SS 01 12 01.4 -5.6
ARU Arti 128.99 36 *e*PKPdf PKPdf 00 52 50.5 -1.6
AKTO Aktyubinsk 130.07 43 SKPbc SKPbc 00 55 58.7 -2.1
comp=Z,18nm,1.0s,baz=283,slow=4.0,SNR=32
AB31 Akbulak array 131.52 45 *i* PKiKP PKPdf 00 52 56.7 -0.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s
WB2 Warramunga Arr 131.78 207 *e*PKP PKPdf 00 52 57.7 +0.3
WB2 Warramunga Arr 131.78 207 *e*P SKPbc 00 56 04.1 -3.0
WB2 Warramunga Arr 131.78 207 *e*PKPdf PKPdf 00 52 57.5 +0.1
WB2 *e*PKP PKPdf 00 52 57.7 +0.3
WRA Warramunga Arr 131.78 207 PKHKP 00 52 44.6
comp=Z,1.1nm,0.5s,baz=199,slow=1.4,SNR=9.9
WRA PKP PKPdf 00 52 57.3 -0.1
comp=Z,9.8nm,0.3s,baz=166,slow=1.6,SNR=46
WRA SKPbc SKPbc 00 56 04.1 -3.0
comp=Z,16nm,0.7s,baz=154,slow=3.5,SNR=34
WRA Warramunga Arr 131.78 207 PKHKP 00 52 44.6
WRA 00 52 57.3
WRAB Tennant Creek 131.78 207 *d* *i* PKiKP PKPdf 00 52 57.1 -0.3
WRAB Tennant Creek 131.78 207 *e*PKPdf PKPdf 00 52 56.9 -0.5
COEN Coen 132.32 221 *e*P SKPbc 00 56 07.1 -1.9
comp=Z,12nm,0.8s
PMG Port Moresby 133.16 229 PKP PKPdf 00 53 00.4 +0.4
comp=Z,5.9nm,0.5s,baz=90,slow=4.0,SNR=4.7
PMG SKPbc SKPbc 00 56 10.8 -1.0
comp=Z,11nm,0.7s,baz=20,slow=3.4,SNR=4.5
PMG Port Moresby 133.16 229 PKIKP PKPdf 00 53 00.4 +0.4
PMG pmax pmax
comp=Z,6.0nm,0.5s
PMG pmax pmax
comp=N,11nm,0.7s
SEY Seymchan 133.17 337⇑ *i* PKiKP PKPdf 00 52 59.7 -0.3
PET Petropavlovsk 135.27 322 *i* PKiKP PKPdf 00 53 06.5 +2.5
ZRNK Zerenda 135.87 37 *e*PKiKP PKPdf 00 53 04.9 -0.2
CHKZ Chkalovo 136.45 36 *e*PKiKP PKPdf 00 53 05.5 -0.7
FITZ Fitzroy Crossi 136.49 197 *e*PKP PKPdf 00 53 06.7 +0.5
comp=N,9.8nm,0.6s
FITZ Fitzroy Crossi 136.49 197 PKhKP 00 52 53.3
comp=N,1.5nm,0.4s,baz=180,slow=8.4,SNR=5.8
FITZ PKP PKPdf 00 53 06.8 +0.6
comp=N,6.9nm,0.6s,baz=200,slow=5.4,SNR=18
FITZ SKPbc SKPbc 00 56 20.0 -2.5
comp=N,5.1nm,0.8s,baz=181,slow=2.7,SNR=8.1
FITZ Fitzroy Crossi 136.49 197 PKP 00 52 53.3
FITZ *e*PKP PKPdf 00 53 06.7 +0.5
BRVK Borovoye 136.53 37 *e*PKiKP PKPdf 00 53 06.3 0.0
BVAR Borovoye Array 136.60 37 SKPbc SKPbc 00 56 20.7 -2.1
comp=N,1.7nm,0.5s,baz=307,slow=3.1,SNR=10
BVA2 Borovoye Array 136.61 37 PKIKP PKPdf 00 53 06.5 0.0
BVA2 pmax pmax
comp=Z,1.0nm,0.7s
KAKA Kakadu 139.03 209 *e*PKP 00 53 00.5
comp=Z,7.5nm,0.6s
KKAR Karatay Array 140.05 51 *i* PKiKP PKPdf 00 53 12.2 -0.6
KKAR pmax pmax
comp=Z,1.0nm,0.5s
NVS Novosibirsk 141.95 28 *i* PKiKP PKPdf 00 53 15.4 -0.8
NVS pmax pmax
comp=Z,28nm,1.4s
NVS pmax pmax
comp=N,1.0nm,0.7s
NVS pmax pmax
comp=E,10.0nm,1.3s
KAD Karad 142.87 93 AMS AMS 01 03 39.4
comp=Z,50nm,16.2s
AAK Ala-Archa 143.00 50 *e*PKiKP PKPdf 00 53 14.2 -3.8
KSH Kashi 144.95 55 *e*PKP PKPdf 00 53 21.1 -0.3
KSH *e*PKS 00 56 55.0
KSH *e*PPP 00 58 39.2
KSH LR LR
comp=N,451nm,8.6s
KSH LR LR
comp=E,369nm,6.5s
KSH LR LR
comp=Z,591nm,13.3s
AJM Ajmer 145.01 78 *e*P PKPbc 00 53 21.0 -0.3
THN Thein Dam 145.95 67 *e*P PKPdf 00 53 22.6 -0.6
KHET Khetri 146.14 75 *e*P PKPdf 00 53 22.7 -0.8
BOD Bodaibo 146.18 359⇓ *i* PKiKP PKPdf 00 53 22.1 -1.5
BOD pmax pmax
comp=Z,50nm,0.8s
MK31 Makanchi Array 146.32 40 PKP2 PKPab 00 53 23.8 -2.6
MK31 pmax pmax
comp=Z,46nm,0.8s
MKAR Makanchi Array 146.32 40 PKPbc PKPbc 00 53 24.0 -1.3
comp=Z,39nm,0.6s,baz=325,slow=2.5,SNR=112
MKAR SKPbc SKPbc 00 56 44.1 -3.6
comp=Z,3.0nm,0.9s,baz=270,slow=2.4,SNR=3.5
AKL Akola 146.32 88 *e*P PKPdf 00 53 26.0 +2.2
KUDL Kundal 146.74 75 *e*P PKPdf 00 53 23.3 -1.2
HYB Hyderabad 146.89 95 *i* PKP PKPdf 00 53 25.5 +0.8
HYB *e* 00 53 28.0
HYB *e* 00 54 21.5
HYB Hyderabad 146.89 95 *e*P PKPdf 00 53 25.5 +0.8
HYB *e* 00 54 21.0
SDNR Sundarnagar 147.08 69 *e*P PKPdf 00 53 26.0 +0.9
YSS Yuzh-Sakhalins 147.15 322 *i* PKiKP PKPdf 00 53 25.3 +0.1
YSS Yuzh-Sakhalins 147.15 322 *e*PKPdf PKPdf 00 53 27.3 +2.1
BHPL Bhopal 147.16 84 *e*P PKPdf 00 53 24.7 -0.5
BHPL AMS AMS 01 31 22.4
comp=Z,306nm,11.9s
SONA Sohna 147.27 75 *e*P PKPdf 00 53 24.8 -0.5
SMLA Simla 147.28 69 *e*P PKPdf 00 53 24.9 -0.4
SMLA AMS AMS 01 23 12.9
comp=Z,207nm,20.8s
AYAN Aya Nagar 147.31 74 *ex* x 00 53 17.9
NDI New Delhi 147.39 74 *e*P PKPdf 00 53 26.0 +0.4
AGRA Agra 148.00 77 *e*P PKPdf 00 53 25.6 -0.9
KLP Kalpa 148.17 68 *e*P PKPdf 00 53 26.4 -0.4
NGP Nagpur 148.28 88 *e*P PKPdf 00 53 26.9 -0.1
GUMO Guam 148.46 257 PKPbc PKPbc 00 53 30.5 -0.6
comp=Z,219nm,1.1s,baz=187,slow=3.2,SNR=10
GUMO Guam 148.46 257 PKPbc PKPbc 00 53 30.5 -0.6
JOSI Joshimath 149.37 70 *ex* x 00 53 10.3
LGTI Lohaghat 150.03 72 *i* *x* x 00 53 36.0
HABR Khabarovsk 150.12 330 *e*PKiKP PKPbc 00 53 34.6 -0.6
MOY Mondy 150.78 16 *e*PKiKP PKPbc 00 53 37.2 +0.5
MOY pmax pmax
comp=Z,65nm,1.6s
KLR Kul'dur 150.93 335 *e*PKiKP PKPdf 00 53 31.8 +0.6
KLR pmax pmax
comp=Z,56nm,0.8s
WMQ Urumqi 151.14 40 PKP PKPbc 00 53 36.7 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				PKP2	PKPab	00 53 52.0	+6.0
WMQ				PP	PP		
	comp=Z,143nm,5.0s						
WMQ				LR	LR		
	comp=N,154nm,20.8s						
WMQ				LR	LR		
	comp=E,176nm,22.4s						
WMQ				LR	LR		
	comp=Z,123nm,25.6s						
VIS	Vishakhapatnam	151.33	97	eP	PKPdf	00 53 31.3	-0.6
VIS				AMS	AMS	01 28 00.5	
	comp=Z,462nm,10.1s						
TLY	Talaya	151.36	13	i PKIKP	PKPbc	00 53 37.7	-0.4
TLY	Talaya	151.36	13	ePKPdf	PKPbc	00 53 38.2	+0.1
CIT	Chita	152.00	360	ePKIKP	PKPbc	00 53 38.5	-1.0
CIT				pmax	pmax		
	comp=Z,69nm,1.6s						
ZAK	Zakamensk	152.51	14	ePKIKP	PKPdf	00 53 33.7	+0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KOLN	Koldanda	153.03	76	eP	PKPdf	00 53 34.8	+0.4
GKN	Gorkha	153.94	75	eP	PKPdf	00 53 36.1	+0.4
DMN	Daman	154.37	76	eP	PKPdf	00 53 35.2	-1.1
KKN	Kakani	154.52	75	eP	PKPdf	00 53 36.6	+0.1
PKI	Pulchoki	154.64	76	eP	PKPdf	00 53 36.1	-0.5
BOK	Bokaro	154.93	85	eP	PKPdf	00 53 35.9	-1.2
BOK				AMb	AMB	00 53 47.9	
	comp=Z,17nm,1.9s						
GUN	Gumba	155.04	75	eP	PKPdf	00 53 37.6	+0.4
MJAR	Matsushiro Arr	155.20	306	PKPbc	PKPdf	00 53 45.2	+7.8
	comp=Z,4.6nm,0.7s,baz=84,slow=0.9,SNR=11						
MJAR				PKPab	PKPab	00 54 02.8	-0.3
	comp=Z,10nm,0.8s,baz=62,slow=2.3,SNR=15						
MAJO	Matsushiro	155.20	306	ePKIKP	PKPdf	00 53 45.7	+8.3
MAT	Matsushiro	155.20	306	PKP	PKPdf	00 53 46.0	+8.6
MDJ	Mudanjiang	155.50	331	PKP	PKPdf	00 53 37.2	-0.6
MDJ				PP	PP	00 57 42.5	+0.9
MDJ				PP	PP		
	comp=Z,198nm,7.2s						
MDJ				LR	LR		
	comp=N,186nm,26.3s						
MDJ				LR	LR		
	comp=E,150nm,29.9s						
MDJ				LR	LR		
	comp=Z,181nm,16.7s						
SONM	Songino Array	155.56	11	PKP	PKPdf	00 53 38.3	+0.4
	comp=Z,4.7nm,0.9s,baz=299,slow=1.0,SNR=25						
SONM				PKPab	PKPab	00 54 04.1	-0.6
	comp=Z,10nm,0.9s,baz=324,slow=4.3,SNR=19						
ULN	Ulaanbaatar	155.64	10	i PKIKP	PKPdf	00 53 38.4	+0.4
ULN	Ulaanbaatar	155.64	10	ePKPdf	PKPdf	00 53 38.5	+0.5
CN2	Changchun	157.85	336	ePKP	PKPdf	00 53 42.7	+1.9
CN2				PP	PP	00 57 59.0	+4.4
CN2				PP	PP		
	comp=Z,200nm,6.0s						
LSA	Lhasa	159.43	69	PKIKP	PKPdf	00 53 43.9	+1.2
SHL	Shillong	160.47	81	ex	x	00 50 55.8	
GTA	Gaotai	160.83	33	PKP	PKPdf	00 53 44.7	+0.4
GTA				PP	PP		
	comp=Z,197nm,10.3s						
GTA				LR	LR		
	comp=N,345nm,14.5s						
GTA				LR	LR		
	comp=E,205nm,15.2s						
GTA				LR	LR		
	comp=Z,359nm,12.6s						
HHC	Hu-ho-hao-te	163.11	5	ePKP	PKPdf	00 53 47.5	+0.9
HHC				PKP2	PKPab	00 54 40.1	+2.6
HHC				PKS		00 57 19.7	
HHC				PP	PP	00 58 26.1	+3.3
HHC				SKKS	SKKSac	01 04 56.1	+2.0
HHC				LR	LR		
	comp=N,207nm,10.0s						
HHC				LR	LR		
	comp=E,197nm,7.6s						
HHC				LR	LR		
	comp=Z,268nm,10.0s						
LZH	Lanzhou	165.42	32	ePKP	PKPdf	00 53 49.9	+1.3
LZH				SKKS	SKKSac	01 05 06.0	+0.3
LZH				PP	PP		
	comp=Z,200nm,7.6s						
CHTO	Chiang Mai	165.67	108	ePKIKP	PKPdf	00 53 49.1	+0.3
CD2	Chengdu	169.06	49	ePKP	PKPdf	00 53 51.0	-0.3
CD2				PKP2	PKPab	00 55 04.1	+0.3
CD2				PP	PP		
	comp=Z,90nm,9.2s						
XAN	Xi'an	169.26	20	PKP	PKPdf	00 53 51.0	-0.4
SSE	Sheshan	170.05	317	PKP	PKPdf	00 53 53.0	+1.1
KMI	Kunming	170.31	81	PKP	PKPdf	00 53 52.9	+0.9
NJ2	Nanjing	170.59	330	ePKP	PKPdf	00 53 53.2	+1.0
NJ2				PP	PP	00 59 05.0	+3.9
NJ2				SKKS	SKKSac	01 05 34.0	+2.8
NJ2				PP	PP		
	comp=Z,550nm,9.6s						
NJ2				LR	LR		
	comp=N,550nm,31.8s						
NJ2				LR	LR		
	comp=E,1μm,33.4s						
NJ2				LR	LR		
	comp=Z,1μm,31.1s						
GYA	Guiyang	173.49	66	i PKP	PKPdf	00 53 53.3	-0.2
GYA				PKS		00 57 24.5	
GYA				PP	PP		
	comp=Z,120nm,7.6s						

*IDC **04** 00:34:22.5±8.6, 15.17S×171.70W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.2/16, mbtmp4.5/4, MS4.5/1, Ms1 4.5/1, ms1mx3.1/26, Error ellipse: s-maj=189.9km s-min=144.2km az=133.0*

*ISCJB **04** 00:34:26.2±2.2, 15.6S±0.7×171.6W±0.5, h33km, mb4.5/7, Error ellipse: s-maj=119.3km s-min=23.2km az=112.9*

*NEIC **04** 00:34:28.5±2.2, 15.55S×171.63W, h35km, mb4.5/4, Error ellipse: s-maj=119.0km s-min=22.6km az=147.0*

ISC 04 00:34:28.4±2.2**, 15.7S**±0.7×**171.5W**±0.5**, h35**km**, n14, σ1s01**/14**, mb4.5**/7**, 3D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	21.79	250	P	P	00 39 16.9	-0.3
	3.8nm,0.6s,mb4.0,baz=95,slow=24,SNR=6.1						
CTAO	Charters Tower	40.35	257	eP	P	00 42 01.4	-1.1
STKA	Stephens Creek	45.48	241	⇓iP	P	00 42 44.1	0.0
	2.8nm,0.6s,mb4.3						
STKA	Stephens Creek	45.48	241	P	P	00 42 44.2	+0.1
	2.6nm,0.5s,mb4.3,baz=104,slow=11,SNR=11						
WB2	Warramunga Arr	51.53	257	⇓iP	P	00 43 29.9	-0.8
WRAB	Tennant Creek	51.53	257	eP	P	00 43 29.8	-0.9
	3.2nm,0.5s,mb4.5						
WRA	Warramunga Arr	51.54	257	P	P	00 43 30.2	-0.6
	1.9nm,0.4s,mb4.3,baz=93,slow=7.7,SNR=20						
AS31	Alice Springs	51.75	252	eP	P	00 43 32.0	-0.3
ASAR	Alice Springs	51.75	252	P	P	00 43 32.1	-0.2
	19nm,0.6s,mb5.2,baz=88,slow=8.4,SNR=274						
ASPA	Alice Springs	51.75	252	eP	P	00 43 32.0	-0.3
KAKA	Kakadu	54.28	265	eP	P	00 43 52.2	+1.3
	4.6nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	59.92	258	⇓iP	P	00 44 33.1	+2.2
	1.0nm,0.3s,mb4.3						
MBWA	Marble Bar	65.02	254	P	P	00 45 07.1	+2.2
HAWA	Hanford	77.46	34	eP	P	00 46 19.7	-0.4

IGQ 04 00:38:55.2, 2.46S×77.71W, h16km±3km, Mb4.2, Ms4.0, 1C, Error ellipse: s-maj=8.3km s-min=2.6km az=143.9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PATA	Patacocha	1.19	323	P	Pn	00 39 19.0	+1.8
ARRY	Arrayan	1.21	322	P	Pn	00 39 17.4	0.0
ARRY				S	Sb	00 39 33.8	+0.8
ULBA	Ulba	1.22	325	P	Pn	00 39 18.4	+0.8
ULBA				S	Sb	00 39 35.0	+1.5
RETU	Refugio	1.24	324	P	Pn	00 39 19.4	+1.4
RETU				S	Sb	00 39 35.2	+1.2
RUN5	Runtun	1.26	325	⇑P	Pn	00 39 19.4	+1.2
RUN5				S	Sb	00 39 36.6	+2.0
PISA	Pisayambo	1.55	334	P	Pn	00 39 24.5	+2.4
PISA				S	Sn	00 39 44.7	+2.9
TAMB	Tambo	1.87	339	P	Pn	00 39 29.6	+3.0
TAMB				S	Sn	00 39 54.8	+4.9
VC1	Cotopaxi 1	1.93	339	P	Pn	00 39 30.5	+3.1
VC1				S	Sn	00 39 55.1	+3.7
CAMI	Rancho Maria	1.94	336	P	Pn	00 39 30.5	+3.0
ANTI	Antisana	2.05	347	P	Pn	00 39 31.1	+2.1
ANTI				S	Sn	00 39 59.4	+5.2
CONE	Cono NE Rev Vo	2.38	2	P	Pn	00 39 36.9	+3.4
CONE				S	Sn	00 40 09.5	+7.2
GGP	Refugio Guagua	2.44	339	P	Pn	00 39 39.9	+5.6
CAYR	Refugio Cayamb	2.48	353	P	Pn	00 39 38.3	+3.4

*ISCJB **04** 00:45:17.7±0.6, 40.69S±0.03×177.18E±0.06, h20km, mb4.5/5, Error ellipse: s-maj=6.6km s-min=3.6km az=55.1*

*IDC **04** 00:45:19.7±1.1, 40.43S×176.70E, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.2/16, mbtmp4.3/7, ML3.9/2, Error ellipse: s-maj=29.7km s-min=21.0km az=110.0*

*WEL **04** 00:45:21.7±0.3, 40.52S×176.84E, h20km±2km, ML4.7/49, Error ellipse: s-maj=3.0km s-min=1.7km az=90.0*

WEL Felt from Hawke's Bay to Wellington, maximum reported intensity MM 4.

*NEIC **04** 00:45:22.2, 40.53S×176.95E, h37km, mb4.9/1, ML4.8(WEL), After WEL.*

ISC 04 00:45:19.8±0.5**, 40.62S**±0.03×**177.05E**±0.06**, h20**km**, n81, σ0s85**/80**, mb4.5**/5**, 6C, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.60	346	P*	Pb	00 45 32.2	+0.5
PXZ				eS*	Sb	00 45 39.6	-0.2
PXZ				eS*	Sb	00 45 39.7	0.0
BFZ	Birch Farm	0.61	264	P	Pb	00 45 33.5	+1.6
BFZ				S	Sb	00 45 42.0	+1.9
BFZ	Birch Farm	0.61	264	⇑P*	Pb	00 45 33.5	+1.7
BFZ				eS*	Sb	00 45 41.0	+1.0
TIWZ	Tintock	0.90	260	P*	Pb	00 45 37.6	+0.9
TIWZ				eS*	Sb	00 45 47.7	-0.6
TSZ	Takapari Road	1.00	304	P	Pb	00 45 37.2	-1.3
TSZ	Takapari Road	1.00	304	⇑P*	Pb	00 45 37.2	-1.3
TSZ				S*	Sb	00 45 48.2	-3.0
MRZ	Mangatainoka R	1.12	267	eP	Pn	00 45 40.0	-0.3
MRZ	Mangatainoka R	1.12	267	⇑P*	Pb	00 45 40.0	-0.5
MRZ				eS*	Sb	00 45 53.5	-1.1
MTW	Mount Morrison	1.29	245	P	Pn	00 45 42.9	+0.2
MTW	Mount Morrison	1.29	245	P*	Pb	00 45 42.9	-0.5
TRWZ	Traveller	1.29	232	P*	Pb	00 45 43.5	+0.1
BKZ	Black Stump Fm	1.51	343	P	Pn	00 45 45.2	-0.6
BKZ	Black Stump Fm	1.51	343	PN	Pn	00 45 45.2	-0.6
MOVZ	Moawhango	1.57	320	P	Pn	00 45 46.1	-0.4
MOVZ	Moawhango	1.57	320	PN	Pn	00 45 45.9	-0.6
MSWZ	Moikau Station	1.58	239	P	Pn	00 45 46.8	+0.2
MSWZ	Moikau Station	1.58	239	⇑PN	Pn	00 45 46.8	+0.2
CAW	Cannon Point	1.58	251	P	Pn	00 45 46.7	0.0
CAW	Cannon Point	1.58	251	⇑PN	Pn	00 45 46.7	0.0
KIW	Kapiti Island	1.64	261	P	Pn	00 45 47.5	-0.1
KIW	Kapiti Island	1.64	261	⇑PN	Pn	00 45 47.5	0.0
KNZ	Kokohu	1.67	17	P	Pn	00 45 48.1	+0.2
KNZ	Kokohu	1.67	17	PN	Pn	00 45 48.1	+0.2
WNVZ	Wahianoa	1.71	319	P	Pn	00 45 48.2	-0.2
WNVZ	Wahianoa	1.71	319	ePN	Pn	00 45 48.2	-0.2
TUVZ	Tukino	1.72	321	ePN	Pn	00 45 48.6	0.0
WAZ	Wanganui	1.80	298	P	Pn	00 45 50.6	+0.9
OTVZ	Oturere	1.80	323	ePN	Pn	00 45 49.8	+0.1
NGZ	Ngauruhoe	1.82	322	P	Pn	00 45 50.2	+0.2
NGZ	Ngauruhoe	1.82	322	ePN	Pn	00 45 50.2	+0.2
WPVZ	Whakapapa	1.82	320	P	Pn	00 45 50.7	+0.6
BHW	Baring Head	1.83	244	P	Pn	00 45 49.7	-0.4
BHW	Baring Head	1.83	244	PN	Pn	00 45 49.7	-0.4
WTVZ	West Tongariro	1.88	323	P	Pn	00 45 51.6	+0.9
MRW	Makara Radio	1.88	250	P	Pn	00 45 50.6	-0.2
KATZ	Kakaramea	1.94	327	P	Pn	00 45 51.8	+0.1
KATZ	Kakaramea	1.94	327	ePN	Pn	00 45 51.5	-0.2
RATZ	Rangitukua	2.01	330	P	Pn	00 45 52.7	+0.1
TCW	Tory Channel	2.18	253	P	Pn	00 45 54.6	-0.4
MWZ	Matawai	2.31	9	P	Pn	00 45 56.3	-0.4
URZ	Urewera	2.36	1	Pn	Pn	00 45 56.9	-0.5
	48nm,0.3s,baz=231,slow=7.4,SNR=150						
URZ				Sn	Sn	00 46 24.4	-1.3
	45nm,0.3s,baz=328,slow=16,SNR=7.4						
URZ	Urewera	2.36	1	eP	Pn	00 45 56.9	-0.5
NEZ	North Egmont	2.64	300	P	Pn	00 46 03.1	+1.9
HIZ	Hauiti	2.70	320	P	Pn	00 46 03.0	+0.9
HIZ	Hauiti	2.70	320	ePN	Pn	00 46 02.2	+0.1
PUZ	Puketiti	2.71	21	eP	Pn	00 46 01.6	-0.6
NRZ	Ngariki Road	2.71	297	P	Pn	00 46 04.9	+2.6
PKE	Pukeiti	2.75	300	P	Pn	00 46 04.7	+1.9
NNZ	Nelson	2.84	257	P	Pn	00 46 03.8	-0.3
KHZ	Kahutara	3.19	235	eP	Pn	00 46 08.2	-0.6
MXZ	Matakaoa Point	3.21	18	eP	Pn	00 46 09.0	0.0
THZ	Tophouse	3.33	249	eP	Pn	00 46 09.8	-0.9
QRZ	Quartz Range	3.44	265	eP	Pn	00 46 11.8	-0.5
DSZ	Denniston Nort	4.12	252	eP	Pn	00 46 18.6	-2.9
LTZ	Lake Taylor	4.18	237	P	Pn	00 46 22.9	+0.5
MQZ	McQueen's Vall	4.49	225	eP	Pn	00 46 25.8	-0.9
RPZ	Rata Peaks	5.42	233	Pn	Pn	00 46 38.9	-0.6
	3.4nm,0.3s,baz=174,slow=2.2,SNR=15						
RPZ				Sn	Sn	00 47 37.4	-3.9
	11nm,0.3s,baz=17,slow=20,SNR=12						
RPZ	Rata Peaks	5.42	233	eP	Pn	00 46 38.7	-0.8
LBZ	Lake Benmore	6.32	231	eP	Pn	00 46 51.5	-0.3
ODZ	Otahua Downs	6.46	225	eP	Pn	00 46 53.2	-0.5
EAZ	Earnscleugh	7.31	228	eP	Pn	00 47 05.7	+0.2
TUZ	Tuapeka	7.59	223	eP	Pn	00 47 10.3	+1.0
DZM	Mont Dzumac	20.56	331	P	P	00 49 57.2	0.0
	6.0nm,0.9s,baz=171,slow=19,SNR=3.7						
STKA	Stephens Creek	29.73	276	P	P	00 51 25.8	+1.1
	3.3nm,0.8s,mb4.1,baz=97,slow=9.4,SNR=4.9						
SBA	Scott Base	37.59	184	P	P	00 52 32.9	0.0
AS31	Alice Springs	39.82	282	eP	P	00 52 50.7	-1.0
PMG	Port Moresby	40.84	311	P	P	00 52 59.7	-0.4
WRAB	Tennant Creek	41.74	287	eP	P	00 53 08.1	+0.5
	12nm,0.4s,mb4.9						
WRA	Warramunga Arr	41.75	287	P	P	00 53 08.2	+0.6
	6.7nm,0.6s,mb4.5,baz=128,slow=7.6,SNR=24						
NWAO	Narrogin (SRO)	47.72	259	P	P	00 53 56.1	+0.9
	6.9nm,0.8s,mb4.8,baz=145,slow=3.1,SNR=3.3						
FITZ	Fitzroy Crossi	49.32	281	P	P	00 54 08.1	+0.6
	1.8nm,0.6s,mb4.3,baz=169,slow=9.9,SNR=4.2						
KEV	Kevo	146.88	341	ep	PKPdf	01 05 00.7	+1.9
	2.7nm,0.6s						
ASF	Jabal al Asfar	147.06	268	PKPbc	PKPbc	01 05 04.4	+3.2
	0.5nm,0.3s,baz=69,slow=5.8,SNR=3.2						
ARCES	ARCESS Array B	147.40	342	PKPbc	PKPbc	01 05 03.4	+1.3
	5.3nm,0.6s,baz=44,slow=3.4,SNR=30						
ARCES	ARCESS Array B	147.40	342	PKPbc	PKPbc	01 05 03.4	+1.3
JOF	Joensuu	149.83	329	ep	PKPbc	01 05 08.1	-0.3
	5.5nm,0.6s						
BRTR	Keskin Array B	152.15	280	PKPbc	PKPbc	01 05 16.0	+2.2
	1.6nm,0.7s,baz=138,slow=5.2,SNR=12						
KAF	Kangasniemi	152.20	330	ep	PKPbc	01 05 11.7	-2.2
TORD	Torodi Ar. Bea	152.33	190	PKPbc	PKPbc	01 05 17.8	+3.5
	0.4nm,0.4s,baz=150,slow=3.3,SNR=16						
TORD				PKPab	PKPab	01 05 28.2	+4.0
	1.6nm,0.7s,baz=144,slow=3.8,SNR=11						
FINES	FINESS Array B	152.69	329	PKPbc	PKPbc	01 05 15.8	+0.7
	1.5nm,0.8s,baz=48,slow=2.8,SNR=5.5						
FINES	FINESS Array B	152.69	329	PKPbc	PKPbc	01 05 15.8	+0.7

*IDC **04** 00:55:58.4±18.0, 36.18N×70.99E, h131km±140km, mb3.3/5, mb1 3.4/7, mb1mx3.1/22, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=107.4km s-min=40.1km az=140.0*

*ISCJB **04** 00:56:04.6±3.2, 36.7N±0.2×70.9E±0.3, h176km±26km, mb3.4/5, Error ellipse: s-maj=38.6km s-min=24.1km az=118.8*

ISC 04 00:56:08.9±3.8**, 36.9N**±0.2×**70.6E**±0.2**, h185**km±30km**, n10, σ1s29**/12**, mb3.4**/5**, 1C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.20	360	⇑P	Pn	00 57 38.7	+0.2
	2.1nm,0.2s,baz=32,slow=76,SNR=154						
KK31				⇓S	Sn	00 58 48.4	-0.9
	2.3nm,0.3s						
AB31	Akbulak array	14.58	331	⇓P	Pn	00 59 27.6	+1.1
	0.3nm,0.3s,baz=149,slow=10,SNR=20						
AB31				S	Sn	01 02 08.2	-0.9
	baz=168,slow=20						
BVAR	Borovoye Array	16.13	360	P	Pn	00 59 45.3	-0.1
	0.2nm,0.3s,baz=150,slow=12,SNR=4.6						
AKTO	Aktyubinsk	16.27	330	P	Pn	00 59 50.0	+2.9
	0.3nm,0.3s,baz=140,slow=12,SNR=5.6						
JOF	Joensuu	35.36	330	ep	P	01 02 47.4	+0.7
FINES	FINESS Array B	36.97	326	P	P	01 03 02.0	+1.7
	3.1nm,1.0s,mb3.9,baz=124,slow=12,SNR=3.8						
ARCES	ARCESS Array B	40.66	338	P	P	01 03 32.1	+1.2
	1.2nm,0.9s,mb3.5,baz=108,slow=8.6,SNR=3.5						
GERES	GERESS Array B	42.43	305	P	P	01 03 43.7	-1.7
	0.2nm,0.3s,mb3.2,baz=95,slow=5.9,SNR=2.3						
TORD	Torodi Ar. Bea	65.39	268	P	P	01 06 30.1	-1.5
	0.2nm,0.4s,mb3.3,baz=47,slow=6.1,SNR=4.3						
YKA	Yellowknife Ar	80.87	2	P	P	01 08 00.7	-1.5
	0.5nm,0.9s,mb3.2,baz=350,slow=5.3,SNR=4.1						

*IDC **04** 01:03:48.1±0.4, 9.24S×107.58E, h0km, mb4.8/22, mb1 4.8/23, mb1mx4.8/25, mbtmp4.8/23, ML3.7/1, MS4.3/13, Ms1 4.3/13, ms1mx4.2/19, Error ellipse: s-maj=16.5km s-min=11.3km az=52.0*

*NEIC **04** 01:03:49.8±0.2, 9.26S×107.54E, h10km, mb5.1/23, Error ellipse: s-maj=6.7km s-min=5.1km az=47.0*

*BJI **04** 01:03:49.7, 9.30S×107.50E, h10km, mB5.4, mb5.3, Ms5.1, Msz4.9*

*ISCJB **04** 01:03:50.8±0.2, 9.23S±0.03×107.58E±0.03, h28km, mb5.2/96, MS4.6/36, Error ellipse: s-maj=4.8km s-min=3.9km az=83.6*

*MOS **04** 01:03:52.0±1.0, 9.09S×107.68E, h33km, mb5.4/32, MS4.6/7, Error ellipse: s-maj=11.1km s-min=5.9km az=113.9*

ISC 04 01:03:53.0±0.2**, 9.24S**±0.03×**107.57E**±0.03**, h30**km**, h30**km±.7km**:pP-P, n299, σ1s01**/272**, mb5.2**/96**, MS4.6**/36**, 27C-21D, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEM	Lembang	2.40	1	P	Pn	01 04 31.2	+1.0
	10μm,0.8s						
JCJI	Jatiwangi	2.82	14	P	Pn	01 04 34.7	-1.3
	7μm,1.0s						
BJII	Banjamegara	2.84	48	P	Pn	01 04 36.5	+0.2
	1μm,0.9s						
CBJI	Citeko	2.89	346	P	Pn	01 04 33.4	-3.6
	4μm,0.8s						
SBJI	Serang	3.41	335	P	Pn	01 04 44.2	+0.1
	2μm,1.2s						
KRKI	Karangkates	4.95	78	P	Pn	01 05 05.6	+0.4
	1μm,0.7s						
KLI	Kotabumi	5.12	328	P	Pn	01 05 08.4	+0.9
	208nm,0.8s						
NBBI	Negara	7.03	83	P	Pn	01 05 35.7	+1.9
	1μm,0.8s						
DNP	Denpasar	7.57	86	P	Pn	01 05 42.9	+1.6
	1μm,0.7s						
COCO	West Island	10.95	254	ePn	Pn	01 06 23.6	-3.9
	488nm,1.3s						
COCO				e		01 06 33.0	
COCO				Sn	Sn	01 08 22.8	-6.0
KSM	Kuching	10.99	15	ePn	Pn	01 06 28.9	+0.8
KSM				eSn	Sn	01 09 03.0	+33
KAPI	Kappang	12.80	72	Pn	Pn	01 06 53.9	+1.1
	697nm,1.3s,SNR=17						
PSI	Prapat	14.74	324	Pn	Pn	01 07 12.0	-7.3
	1.0nm,0.3s,baz=175,slow=7.7,SNR=5.6						
PSI	Prapat	14.74	324	Pn	Pn	01 07 12.0	-7.3
PCI	Palu	14.76	57	P	Pn	01 07 20.6	+1.1
	265nm,1.9s						
KULM	Kulim	16.00	334	ePn	Pn	01 07 31.6	-4.1
KULM				Sn	Sn	01 10 31.1	-1.0
MBWA	Marble Bar	16.66	137	ePn	Pn	01 07 39.1	-5.1
KKM	Kota Kinabalu	17.46	30	ePn	Pn	01 07 54.2	0.0
KKM				e		01 08 06.9	
KKM				eSn	Sn	01 11 04.7	-3.0
BSI	Banda Aceh	19.08	320	P	Pn	01 08 15.1	+1.2
	198nm,1.1s						
FITZ	Fitzroy Crossi	19.63	119	eP	Pn	01 08 18.4	-2.1
	40nm,0.9s						
FITZ				eS	Sn	01 11 39.1	-21
FITZ	Fitzroy Crossi	19.63	119	P	Pn	01 08 18.8	-1.7
	0.2nm,0.3s,baz=292,slow=8.4,SNR=28						
AAI	Ambon	21.22	76	P	P	01 08 34.9	-1.4
	455nm,1.2s,mb5.7						
DAV	Davao City (W)	24.18	49	P	P	01 09 08.9	+2.3
	SNR=8.8						
BUKP	Musuan	24.35	46	eP	P	01 09 08.6	+0.4
KAKA	Kakadu	24.66	100	eP	P	01 09 11.4	+0.5
	49nm,0.9s,mb5.0						
KAKA				eS	S	01 13 44.0	+13
NWAO	Narrogin (SRO)	25.21	161	P	P	01 09 15.4	-0.5
	16nm,1.0s,mb4.5,baz=320,slow=12,SNR=4.6						
NWAO				LR	LR	01 17 57.3	
	comp=Z,523nm,19.3s,MS4.1,baz=213,slow=34						
NWAO	Narrogin (SRO)	25.21	161	eP	P	01 09 15.8	-0.1
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	Narrogin (SRO)	25.21	161	eP	P	01 09 15.8	-0.1
	comp=Z,9.9nm,0.6s,mb4.5						
TGY	Tagaytay City	26.72	30	P	P	01 09 30.0	+0.4
	comp=Z,136nm,0.4s,baz=204,slow=11,SNR=3.9						
WRA	Warramunga Arr	27.96	115	P	P	01 09 40.4	-0.4
	comp=Z,11nm,0.9s,mb4.5,baz=290,slow=11,SNR=7.5						
WRAB	Tennant Creek	27.97	115	P	P	01 09 42.0	+1.2
	comp=Z,90nm,0.9s,mb5.4,SNR=6.6						
WRAB	Tennant Creek	27.97	115	⇓eP	P	01 09 41.7	+0.9
WRAB	Tennant Creek	27.97	115	eP	P	01 09 42.0	+1.2
	comp=Z,30nm,0.9s,mb4.9						
WB2	Warramunga Arr	27.97	115	eP	P	01 09 41.8	+0.9
WB2				eS	S	01 15 03.9	+41
QIZ	Qiongzhong	28.18	5	P	P	01 09 43.5	+0.8
QIZ				XP	sP	01 09 53.0	-2.1
QIZ				S	S	01 14 24.1	-2.2
QIZ				SCP	ScP	01 16 34.8	0.0
QIZ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
QIZ				AMB	AMB		
	comp=Z,285nm,12.7s						
QIZ				LR	LR		
	comp=E,1μm,16.5s						
QIZ				LR	LR		
	comp=Z,1μm,14.5s,MS4.7						
ASPA	Alice Springs	28.97	123	eP	P	01 09 49.2	-0.5
ASPA				eS	S	01 15 23.7	+45
ASAR	Alice Springs	28.97	123	P	P	01 09 49.1	-0.6
	comp=Z,2.9nm,0.7s,mb4.1,baz=299,slow=7.5,SNR=27						
ASAR				PcP	PcP	01 12 58.8	+0.8
	comp=Z,1.9nm,0.7s,baz=304,slow=2.1,SNR=8.1						
ASAR				ScP	ScP	01 16 39.5	+2.2
	comp=Z,3.2nm,1.1s,baz=318,slow=3.5,SNR=4.5						
ASAR				PKiKP	PKiKP	01 20 30.8	-1.3
	comp=Z,0.9nm,1.0s,baz=261,slow=4.9,SNR=4.3						
ASAR				LR	LR	01 20 39.8	
	comp=Z,739nm,18.0s,MS4.3,baz=44,slow=35						
ASAR	Alice Springs	28.97	123	P	P	01 09 49.2	-0.6
ASAR						01 12 58.8	
ASAR	Alice Springs	28.97	123	P	P	01 09 49.1	-0.6
ASAR				PcP	PcP	01 12 58.8	+0.8
ASAR				ScP	ScP	01 16 39.5	+2.2
AS31	Alice Springs	28.97	123	eP	P	01 09 49.2	-0.6
AS31				eS	S	01 15 23.7	+45
CHTO	Chiang Mai	29.15	343	P	P	01 09 52.2	+0.8
	SNR=24						
CHTO	Chiang Mai	29.15	343	eP	P	01 09 50.8	-0.5
CHTO				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.2						
CHTO	Chiang Mai	29.15	343	eP	P	01 09 50.8	-0.5
	comp=Z,59nm,1.2s,mb5.2						
GZH	Guangzhou	32.62	10	P	P	01 10 27.2	+5.2
GZH				S	S	01 15 45.8	+10
GZH				LR	LR		
	comp=N,776nm,17.7s,MS4.6						
GZH				LR	LR		
	comp=E,715nm,15.2s,MS4.6						
GZH				LR	LR		
	comp=Z,2μm,16.5s,MS4.8						
KMI	Kunming	34.48	352	P	P	01 10 40.5	+2.4
KMI				AP	pP	01 10 48.9	+2.0
KMI				XP	sP	01 10 52.0	+1.4
KMI				PP	PP	01 11 58.4	+1.9
KMI				PPP		01 12 16.9	
KMI				S	S	01 16 08.8	+4.1
KMI				XS	sS	01 16 22.6	+3.4
KMI				PCS	PcS	01 16 58.9	-0.4
KMI				SS	SS	01 18 22.8	-12
KMI				SSS		01 18 50.0	

KMI AMB AMB
comp=Z,50nm,1.2s,mb5.3
KMI AMB AMB
comp=Z,257nm,5.2s
KMI LR LR
comp=N,2μm,12.5s,MS5.2
KMI LR LR
comp=E,2μm,12.8s,MS5.2
KMI LR LR
comp=Z,3μm,13.4s,MS5.1
MDRS Chennai 35.03 309 *ex* x 01 10 45.0
MDRS *ex* x 01 14 39.0
GYA Guiyang 35.50 359⇑ *i* P **P** **01 10 47.1 +0.2**
GYA AP pP 01 10 54.8 -0.9
GYA XP sP 01 10 57.9 -1.5
GYA PP PP 01 12 06.3 -1.4
GYA PCP PcP 01 13 18.1 +2.3
GYA S **S** **01 16 18.2 -2.1**
GYA SCP ScP 01 17 00.9 +1.4
GYA SCS ScS 01 21 03.5 -0.6
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,540nm,17.6s,MS4.5
GYA LR LR
comp=E,460nm,17.8s,MS4.5
GYA LR LR
comp=Z,430nm,16.8s,MS4.3
QZH Quanzhou 35.64 17 *eP* **P** **01 10 52.4 +4.3**
QZH S **S** **01 16 31.0 +8.5**
QZH LR LR
comp=N,2μm,14.3s,MS5.1
QZH LR LR
comp=E,850nm,10.0s,MS5.1
QZH LR LR
comp=Z,1μm,13.2s,MS4.8
NACB Ninganchiao 35.93 22 *eP* **P** **01 10 50.1 -0.5**
NACB *ep*P pP 01 10 58.3 -1.1
VIS Vishakhapatnam 35.93 318 *eP* **P** **01 10 50.8 +0.2**
VIS AMb AMB 01 10 54.8
comp=Z,75nm,1.3s,mb5.5
YHNB Yeheng 36.30 22 *eP* **P** **01 10 53.4 -0.4**
SHL Shillong 37.82 337 *i* P **P** **01 11 08.0 +1.3**
SHL *eS* **S** **01 16 56.0 +0.3**
STKA Stephens Creek 38.75 130⇓ *iP* **P** **01 11 13.9 -0.6**
comp=Z,22nm,1.0s,mb4.8
STKA Stephens Creek 38.75 130 P **P** **01 11 14.4 -0.1**
comp=Z,11nm,0.7s,mb4.7,baz=302,slow=7.1,SNR=8.5
CTA Charters Tower 38.85 111 *eP* **P** **01 11 15.9 +0.5**
comp=Z,15nm,1.1s,mb4.6
CTA Charters Tower 38.85 111 P **P** **01 11 17.1 +1.7**
comp=Z,15nm,0.9s,mb4.7,baz=281,slow=12,SNR=11
CTA Charters Tower 38.85 111 *eP* **P** **01 11 15.9 +0.5**
CTA pmax pmax
comp=Z,15nm,1.1s
CTAO Charters Tower 38.85 111 *eP* **P** **01 11 16.9 +1.5**
CTAO pmax pmax
comp=Z,38nm,1.3s,mb5.0
CTAO Charters Tower 38.85 111 *eP* **P** **01 11 16.9 +1.5**
comp=Z,38nm,1.3s,mb5.0
HYB Hyderabad 39.04 313 *i* P **P** **01 11 17.5 +0.6**
HYB *eS* **S** **01 17 14.0 -0.1**
HYB Hyderabad 39.04 313 *eP* **P** **01 11 17.5 +0.6**
PMG Port Moresby 39.05 94 P **P** **01 11 17.3 +0.2**
comp=Z,14nm,0.9s,mb4.7,baz=248,slow=5.4,SNR=3.7
PMG Port Moresby 39.05 94 *i* P **P** **01 11 18.8 +1.7**
BOK Bokaro 39.08 328 *eP* **P** **01 11 18.9 +1.6**
CD2 Chengdu 40.09 355⇓ *iP* **P** **01 11 26.3 +0.6**
CD2 AP pP 01 11 34.2 -0.4
CD2 XP sP 01 11 37.8 -0.4
CD2 PP PP 01 13 03.2 +5.1
CD2 PCP PcP 01 13 30.8 +0.8
CD2 S **S** **01 17 31.1 +1.2**
CD2 XS sS 01 17 44.5 -0.1
CD2 SS SS 01 20 21.8 -6.1
CD2 SCS ScS 01 21 29.1 -1.2
CD2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,160nm,6.1s
CD2 LR LR
comp=E,970nm,13.8s
CD2 LR LR
comp=Z,890nm,16.8s,MS4.7
WHN Wuhan 40.09 9⇓ **P** **P** **01 11 26.5 +0.8**
JOW Kunigami 41.11 29 P **P** **01 11 34.4 +0.3**
comp=Z,66nm,1.0s,mb5.2,baz=212,slow=9.6,SNR=7.2
NGP Nagpur 41.20 317 *eP* **P** **01 11 32.3 -2.5**
NGP AMb AMB 01 11 32.9
comp=Z,57nm,2.5s,mb4.8
LSA Lhasa 41.82 338 *eP* **P** **01 11 41.5 +1.6**
LSA *e**PP pP 01 11 50.2 +1.3
LSA pmax pmax
comp=Z,123nm,1.0s,mb5.5
LSA Lhasa 41.82 338 *eP* **P** **01 11 41.5 +1.5**
comp=Z,123nm,1.0s,mb5.5
LSA *ep*P pP 01 11 50.2 +1.3
SSE Sheshan 42.18 18 P **P** **01 11 43.6 +0.7**
SSE AP pP 01 11 52.4 +0.6
SSE XP sP 01 11 56.4 +1.0
SSE PP PP 01 13 20.6 -0.2
SSE S **S** **01 18 02.8 +1.8**
SSE XS sS 01 18 18.2 +2.5
SSE AMB AMB
comp=Z,78nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,252nm,9.6s
SSE LR LR
comp=N,134nm,16.9s,MS4.2
SSE LR LR
comp=E,243nm,16.8s,MS4.2
SSE LR LR
comp=Z,241nm,17.3s,MS4.1
KAD Karad 42.24 309 *ex* x 01 11 57.3
KAD AMb AMB 01 11 59.4
comp=Z,31nm,1.2s,mb4.8
PKI Pulchoki 42.42 330 *eP* **P** **01 11 45.3 +0.4**
comp=Z,165nm,1.1s,mb5.6
NJ2 Nanjing 42.45 14 *eP* **P** **01 11 46.1 +1.0**
NJ2 AP pP 01 11 56.1 +2.0
NJ2 XP sP 01 12 00.1 +2.4
NJ2 PP PP 01 13 27.5 +3.7
NJ2 XS sS 01 18 15.0 -4.7
NJ2 AMB AMB
comp=Z,200nm,0.8s,mb5.8
NJ2 AMB AMB
comp=Z,680nm,7.8s
NJ2 LR LR
comp=N,1μm,29.9s
NJ2 LR LR
comp=E,2μm,24.4s
NJ2 LR LR
comp=Z,2μm,28.2s,MS4.9
GUN Gumba 42.48 331 *eP* **P** **01 11 46.2 +0.9**
comp=Z,335nm,1.0s,mb5.9
DMN Daman 42.61 330 *eP* **P** **01 11 46.0 -0.3**
comp=Z,207nm,1.0s,mb5.8
KKN Kakani 42.67 330 *eP* **P** **01 11 47.5 +0.6**
comp=Z,179nm,1.0s,mb5.7
XAN Xi'an 43.06 2 P **P** **01 11 49.7 -0.3**
XAN AP pP 01 12 01.5 +2.5
XAN S **S** **01 18 13.6 -0.3**
XAN AMB AMB
comp=Z,111nm,1.1s,mb5.5
XAN LR LR
comp=N,671nm,13.5s,MS5.0
XAN LR LR
comp=E,970nm,12.8s,MS5.0
XAN LR LR
comp=Z,1μm,14.9s,MS5.0
GKN Gorkha 43.16 330 *eP* **P** **01 11 51.5 +0.6**
comp=Z,286nm,1.2s,mb5.9
POO Poona 43.22 310 *eP* **P** **01 11 49.0 -2.4**
KOLN Koldanda 43.50 328 *eP* **P** **01 11 54.4 +0.8**
comp=Z,194nm,0.8s,mb5.9
BHPL Bhopal 43.73 318 *eP* **P** **01 11 55.7 +0.3**
BHPL AMb AMB 01 11 56.7
comp=Z,33nm,1.4s,mb4.9
LZH Lanzhou 45.22 356 *eP* **P** **01 12 08.3 +1.0**
LZH AP pP 01 12 16.5 +0.2
LZH XP sP 01 12 20.5 +0.6
LZH PCP PcP 01 13 46.2 -0.9
LZH PP PP 01 13 55.0 +1.7
LZH SCP ScP 01 17 36.0 -1.5
LZH PCS PcS 01 17 40.1 -0.8
LZH *eS* **S** **01 18 45.0 -0.4**
LZH XS sS 01 18 59.0 -1.2
LZH SS SS 01 22 02.0 -6.7
LZH AMB AMB
comp=Z,194nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,390nm,4.0s
LZH LR LR
comp=E,1μm,13.7s
LZH LR LR
comp=Z,2μm,14.0s,MS5.2
TIA Tai'an 46.10 11 P **P** **01 12 13.4 -0.9**
TIA AMB AMB
comp=Z,77nm,1.1s,mb5.5
AGRA Agra 46.25 322 *eP* **P** **01 12 15.1 -0.4**
AGRA AMb AMB 01 12 17.9
comp=Z,57nm,0.3s,mb6.0
LGTI Lohaghat 46.61 327 *i* P **P** **01 12 19.0 +0.7**
SONA Sohna 47.51 323 *eP* **P** **01 12 24.6 -0.7**
BISR Bishrakh 47.54 323 *eP* **P** **01 12 25.1 -0.4**
BISR AMb AMB 01 12 26.9
comp=Z,2.6nm,0.3s,mb4.8
NDI New Delhi 47.75 323 *eP* **P** **01 12 25.0 -2.2**
NDI *ex* x 01 19 18.0
AJM Ajmer 47.78 319 *eP* **P** **01 12 27.7 +0.3**
AJM AMb AMB 01 12 28.8
comp=Z,20nm,0.8s,mb5.2
JOSI Joshimath 47.85 327 *ex* x 01 12 08.7
KHET Khetri 48.16 321 *eP* **P** **01 12 29.8 -0.6**
KHET AMb AMB 01 12 31.6
comp=Z,40nm,1.3s,mb5.3
GTA Gaotai 48.94 352⇑ *iP* **P** **01 12 37.4 +1.1**
GTA AP pP 01 12 46.5 +1.1
GTA XP sP 01 12 50.0 +1.0
GTA PCP PcP 01 14 01.7 +1.4
GTA PP PP 01 14 30.8 +1.0
GTA PPP 01 15 27.1
GTA S **S** **01 19 39.8 +1.5**
GTA XS sS 01 19 57.4 +4.1
GTA SS SS 01 23 07.9 -1.3
GTA AMB AMB
comp=Z,74nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,350nm,4.9s
GTA LR LR
comp=N,665nm,14.1s,MS4.9
GTA LR LR
comp=E,794nm,19.0s,MS4.9
GTA LR LR
comp=Z,619nm,19.8s,MS4.6
KLP Kalpa 49.31 327 *eP* **P** **01 12 38.9 -0.2**
KLP AMb AMB 01 12 42.9
comp=Z,40nm,1.3s,mb5.3
SMLA Simla 49.60 325 *eP* **P** **01 12 40.9 -0.5**
SMLA AMb AMB 01 12 45.0
comp=Z,58nm,1.1s,mb5.5
BTO Baotou 49.65 2 *eP* **P** **01 12 41.5 -0.3**
BTO AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
BJT Baijiatuau 49.65 9 *eP* **P** **01 12 41.9 +0.1**
BJT *e**PP pP 01 12 50.7 -0.2
BJT *e* 01 14 03.2
BJT pmax pmax
comp=Z,43nm,0.9s
BJT Baijiatuau 49.65 9 *eP* **P** **01 12 41.9 +0.1**
comp=Z,43nm,0.9s,mb5.5
BJT *ep*P pP 01 12 50.7 -0.1
BJT *e*PcP PcP 01 14 03.2 +0.3
BJI Beijing 49.68 9 P **P** **01 12 41.6 -0.4**
BJI AMB AMB
comp=Z,65nm,1.3s,mb5.5
HHC Hu-ho-hao-te 49.98 4 *eP* **P** **01 12 44.9 +0.6**
HHC AP pP 01 12 53.8 +0.5
HHC XP sP 01 12 57.0 +0.1
HHC PCP PcP 01 14 04.1 +0.1
HHC PP PP 01 14 41.2 +1.9
HHC SCP ScP 01 17 57.3 -0.2
HHC PCS PcS 01 18 00.4 -0.6
HHC S **S** **01 19 53.6 +0.7**
HHC XS sS 01 20 08.1 +0.2
HHC SCS ScS 01 22 31.0 -2.4
HHC SS SS 01 23 24.2 -1.8
HHC AMB AMB
comp=Z,52nm,0.9s,mb5.6
HHC AMB AMB
comp=Z,256nm,4.3s
HHC LR LR
comp=N,1μm,12.3s,MS5.2
HHC LR LR
comp=E,848nm,14.3s,MS5.2
HHC LR LR
comp=Z,1μm,13.5s,MS5.0
THN Thein Dam 51.39 325 *eP* **P** **01 12 53.8 -1.2**
SNY Shenyang 52.90 15 PR **P** **01 13 05.1 -1.1**
SNY S **S** **01 20 39.4 +6.2**
SNY LR LR
comp=N,616nm,10.2s
SNY LR LR
comp=Z,787nm,12.9s,MS5.0
MAJO Matsushiro 53.88 31 *eP* **P** **01 13 11.2 -2.2**
MAJO pmax pmax
comp=Z,21nm,1.0s,mb5.0
MAJO Matsushiro 53.88 31 *eP* **P** **01 13 11.2 -2.1**
comp=Z,21nm,1.0s,mb5.0
MAT Matsushiro 53.88 31 P **P** **01 13 11.0 -2.4**
MAT *eS* **S** **01 21 01.0 +14**
MJAR Matsushiro Arr 53.88 31 P **P** **01 13 11.4 -1.9**
comp=Z,7.3nm,0.8s,mb4.7,baz=209,slow=7.5,SNR=22
MJAR LR LR 01 36 31.7
comp=Z,253nm,20.2s,MS4.3,baz=215,slow=36
CN2 Changchun 55.23 16 *eP* **P** **01 13 22.0 -1.2**
CN2 *e*XP sP 01 13 36.3 +0.4
CN2 *eS* **S** **01 21 03.0 -1.8**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,600nm,16.0s,MS5.0
CN2 LR LR
comp=E,700nm,16.0s,MS5.0
CN2 LR LR
comp=Z,500nm,19.0s,MS4.6
WMQ Urumqi 55.81 343⇑ *iP* **P** **01 13 28.1 +0.8**
WMQ AP pP 01 13 36.0 -0.5
WMQ XP sP 01 13 39.0 -1.1
WMQ PCP PcP 01 14 27.0 +0.9
WMQ PP PP 01 15 34.0 +2.1
WMQ PPP 01 16 49.0
WMQ PCS PcS 01 18 24.0 -2.4
WMQ S **S** **01 21 12.0 -0.4**
WMQ XS sS 01 21 25.0 -2.6
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,357nm,4.6s
WMQ LR LR
comp=N,1μm,14.2s,MS5.3
WMQ LR LR
comp=E,1μm,14.2s,MS5.3
WMQ LR LR
comp=Z,927nm,19.2s,MS4.9
KSH Kashi 56.68 331 *eP* **P** **01 13 33.0 -0.5**
KSH *e*AP pP 01 13 40.6 -2.1
KSH *e*XP sP 01 13 43.6 -2.7
KSH *e*PCP PcP 01 14 30.3 +0.9
KSH *e*PP PP 01 15 39.2 -0.5
KSH *e*PPP 01 16 56.1
KSH *e*SCP ScP 01 18 26.1 -0.6
KSH *e*PCS PcS 01 18 29.2 -1.0
KSH *e*SCS ScS 01 23 16.1 -4.5
KSH AMB AMB
comp=Z,553nm,5.4s
KSH LR LR
comp=N,603nm,7.8s
KSH LR LR
comp=E,783nm,11.4s
KSH LR LR
comp=Z,389nm,9.8s
SONM Songino Array 56.83 359 P **P** **01 13 35.0 +0.4**
comp=Z,20nm,0.7s,mb5.3,baz=172,slow=7.1,SNR=128
SONM LR LR 01 40 53.8
comp=Z,424nm,18.2s,MS4.6,baz=182,slow=39
ULN Ulaanbaatar 56.86 360 P **P** **01 13 35.4 +0.6**
SNR=16
ULN Ulaanbaatar 56.86 360 *c iP* **P** **01 13 35.1 +0.3**
ULN Ulaanbaatar 56.86 360⇑ *iP* **P** **01 13 35.2 +0.4**
MDJ Mudanjiang 57.19 19 P **P** **01 13 38.3 +1.2**
MDJ AMB AMB
comp=Z,11nm,1.6s,mb4.6
MDJ AMB AMB
comp=Z,170nm,6.5s
KZA Kyzart 59.03 332 P **P** **01 13 50.9 +0.9**
SNR=19
HIA Hailar 59.23 9 *eP* **P** **01 13 50.8 -0.6**
HIA *PP pP 01 14 00.8 +0.2
ZAK Zakamensk 59.49 357 *eP* **P** **01 13 52.9 -0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
TKM2 Tokmak 2 59.54 333 P **P** **01 13 53.4 -0.2**
SNR=8.8
KBK Karagaybulak 59.62 333 P **P** **01 13 54.4 +0.3**
SNR=8.1
AML Almayashu 59.80 331 P **P** **01 13 55.4 +0.1**
SNR=11
AAK Ala-Archa 59.81 332 P **P** **01 13 55.3 -0.1**
SNR=9.3
AAK Ala-Archa 59.81 332 *c iP* **P** **01 13 54.4 -1.0**
AAK pmax pmax
comp=Z,12nm,1.3s,mb4.8
AAK Ala-Archa 59.81 332 *eP* **P** **01 13 55.0 -0.4**
FRU Bishkek 59.91 332 *eP* **P** **01 13 55.0 -1.1**
FRU pmax pmax
comp=Z,34nm,1.8s,mb5.1
EKS2 Erkin-Say 60.17 332 P **P** **01 13 57.7 -0.1**
SNR=14
MK31 Makanchi Array 60.17 340 P **P** **01 13 57.4 -0.5**
MK31 pmax pmax
comp=Z,33nm,0.8s,mb5.4
MKAR Makanchi Array 60.17 340 P **P** **01 13 57.8 -0.1**
comp=Z,38nm,0.9s,mb5.4,baz=134,slow=5.2,SNR=85
USP Ospenovka 60.31 333 P **P** **01 13 58.2 -0.6**
SNR=9.1
TLY Talaya 60.77 357 *eP* **P** **01 14 00.3 -1.6**
TLY *eS* **S** **01 22 11.5 -5.6**
TLY pmax pmax
comp=Z,14nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,482nm,14.0s,MS4.8
TLY Talaya 60.77 357 *eP* **P** **01 14 03.1 +1.1**
comp=Z,9.7nm,0.8s,mb5.0
TLY *ep*P pP 01 14 11.3 +0.1
MOY Mondy 60.92 355 *eP* **P** **01 14 04.1 +1.1**
MOY pmax pmax
comp=Z,66nm,2.5s,mb5.3
CIT Chita 61.23 4 *eP* **P** **01 14 05.6 +0.5**
CIT *e* pP 01 14 13.5 -0.9
IRK Irkutsk 61.30 358 *eP* **P** **01 14 05.2 -0.4**
IRK pmax pmax
comp=Z,54nm,2.3s,mb5.3
KLR Kul'dur 61.97 18 *eP* **P** **01 14 05.0 -5.1**
KK31 Karatay Array 62.07 330 *i* P **P** **01 14 10.3 -0.4**
KKAR Karatay Array 62.07 330 P **P** **01 14 10.3 -0.4**
KKAR pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
HABR Khabarovsk 62.37 20 *eP* **P** **01 14 09.8 -3.0**
HABR *eS* **S** **01 22 35.6 -1.8**
YSS Yuzh-Sakhalins 64.12 26⇑ *eP* **P** **01 14 23.3 -1.1**
YSS *e* 01 14 36.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 64.12 26 *eP* **P** **01 14 23.7 -0.7**
KURK Kurchatov 64.78 340 P **P** **01 14 28.4 -0.3**
comp=Z,286nm,1.1s,mb6.2,SNR=42
MAW Mawson 65.40 197⇓ *iP* **P** **01 14 31.4 -1.3**
comp=Z,8.9nm,0.8s,mb4.8
MAW Mawson 65.40 197 P **P** **01 14 31.7 -1.0**
comp=Z,10.0nm,0.7s,mb4.9,baz=43,slow=7.3,SNR=30
MAW LR LR 01 40 31.6
comp=Z,177nm,18.1s,MS4.3,baz=184,slow=34
MAW Mawson 65.40 197⇓ *iP* **P** **01 14 31.4 -1.3**
MAW pmax pmax
comp=Z,9.0nm,0.8s
ABKT Ailbek 65.80 319 P **P** **01 14 35.9 +0.6**
comp=Z,140nm,1.5s,mb5.8,SNR=7.9
ABKT Ailbek 65.80 319 P **P** **01 14 35.5 +0.2**
BOD Bodaibo 67.03 4⇓ *iP* **P** **01 14 42.2 -1.0**
BOD pmax pmax
comp=Z,29nm,1.1s,mb5.2
NVS Novosibirsk 67.03 345 *i* P **P** **01 14 41.5 -1.7**
NVS *i* 01 17 10.1
NVS *eS* S 01 23 31.8 -3.1
NVS pmax pmax
comp=N,25nm,1.4s
NVS pmax pmax
comp=Z,28nm,1.4s,mb5.1
NVS pmax pmax
comp=E,15nm,1.3s
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,3.0nm,0.9s
NVS smax
comp=N,14nm,1.6s
NVS smax
comp=E,15nm,1.6s
CLNS Chul'man 67.38 10 *eP* **P** **01 14 41.9 -3.4**
CLNS pmax pmax
comp=Z,27nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS MLR MLR
comp=Z,500nm,14.0s,MS4.9
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.8
CLNS MLR MLR
comp=E,300nm,14.0s,MS4.8
VOSK Vostochnaya 69.18 337 P **P** **01 14 54.9 -1.7**
VOSK pmax pmax
comp=Z,17nm,1.1s,mb4.9
BVAR Borovoye Array 69.64 337 P **P** **01 14 59.1 -0.4**
comp=Z,28nm,0.8s,mb5.3,baz=146,slow=8.2,SNR=75
BRVK Borovoye 69.70 337 P **P** **01 14 59.4 -0.5**
comp=Z,220nm,0.8s,mb6.1,SNR=25
BRVK Borovoye 69.70 337 P **P** **01 14 59.9 0.0**
SNR=26
BRVK Borovoye 69.70 337 *eP* **P** **01 14 59.6 -0.3**
BRVK pmax pmax
comp=Z,19nm,0.9s,mb5.0
BRVK Borovoye 69.70 337 *eP* **P** **01 14 59.6 -0.3**
comp=Z,19nm,0.9s,mb5.0
CHKZ Chkalovo 70.06 338 *eP* **P** **01 15 01.9 -0.1**
ZRNK Zerenda 70.12 336 *eP* **P** **01 15 01.9 -0.5**
ZRNK pmax pmax
comp=Z,68nm,1.1s,mb5.5
ZRNK Zerenda 70.12 336 *eP* **P** **01 15 01.9 -0.6**
comp=Z,68nm,1.1s,mb5.5
KMBO Kilima Mbogo 70.39 272 P **P** **01 15 06.6 +2.5**
comp=Z,3.2nm,0.8s,mb4.3,baz=57,slow=7.8,SNR=9.9
KMBO LR LR 01 42 45.6
comp=Z,160nm,18.2s,MS4.3,baz=99,slow=33
AB31 Akbulak array 71.61 329⇑ *eP* **P** **01 15 11.1 -0.4**
YAK Yakutsk 73.11 11 *eP* **P** **01 15 19.1 -1.3**
YAK *e**PP pP 01 15 28.2 -1.7
YAK *e* 01 15 37.3
YAK *e* 01 18 02.2
YAK *e*PPP 01 19 40.4
YAK *eS* S 01 24 46.4 +0.4
YAK *e* 01 25 23.2
YAK *eSS* SS 01 29 27.2 -0.2
YAK *eSSS* 01 32 33.3
YAK pmax pmax
comp=Z,100nm,1.1s,mb5.7
YAK pmax pmax
comp=N,32nm,1.2s
YAK pmax pmax
comp=E,20nm,1.2s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=E,8.0nm,1.3s
YAK smax

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,4.0nm,0.9s						
YAK	Yakutsk	73.11	11	⇑iP	P	01 15 19.3	-1.1
AKTK	Aktyubinsk	73.33	329	P	P	01 15 21.2	-0.5
AKTO	Aktyubinsk	73.33	329	P	P	01 15 21.2	-0.5
	comp=N,17nm,1.1s,mb4.9,baz=145,slow=4.5,SNR=13						
BHD	Baghdad	73.38	309	ex	x	01 15 16.0	
SYO	Syowa Base	73.61	200	⇑eP	P	01 15 21.2	-2.1
VNDA	Vanda	73.67	169	P	P	01 15 22.2	-1.6
	comp=N,4.2nm,0.9s,mb4.3,baz=305,slow=5.5,SNR=10						
VNDA				LR	LR	01 45 19.1	
	comp=N,119nm,18.1s,MS4.2,baz=329,slow=34						
VNDA	Vanda	73.67	169	eP	P	01 15 22.2	-1.6
SBA	Scott Base	74.75	169	eP	P	01 15 29.4	-0.6
SBA				pmax	pmax		
	comp=Z,5.0nm,0.2s,mb5.1						
SBA	Scott Base	74.75	169	eP	P	01 15 29.4	-0.6
	comp=Z,4.8nm,0.2s,mb5.1						
MSL	Mosul	75.54	311	ex	x	01 15 37.0	
MSL				ex	x	01 25 03.0	
PET	Petropavlovsk	75.67	29	i P	P	01 15 34.0	-1.3
DGRG	David-gareji	76.06	317	P	P	01 15 38.3	+0.8
SVE	Sverdlovsk	76.27	336	⇑eP	P	01 15 38.8	+0.1
SVE				eS	S	01 25 22.0	+0.7
SVE				ePS		01 26 08.0	
SVE				e		01 26 23.0	
SVE				pmax	pmax		
	comp=Z,80nm,2.3s,mb5.2						
SVE				MLR	MLR		
	comp=N,300nm,16.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.8						
MTA	Mtatsminda	76.56	317	P	P	01 15 40.7	+0.3
TBLG	Delisi	76.61	317	P	P	01 15 41.3	+0.6
MA2	Magadan	76.77	21	c iP	P	01 15 41.5	-0.1
MA2				pmax	pmax		
	comp=Z,143nm,1.8s,mb5.6						
MA2				MLR	MLR		
	comp=Z,200nm,26.0s,MS4.3						
MA2	Magadan	76.77	21	eP	P	01 15 41.0	-0.5
	comp=Z,77nm,1.0s,mb5.6						
ARU	Arti	76.87	334	c iP	P	01 15 41.7	-0.4
ARU				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
ARU				MLR	MLR		
	comp=Z,400nm,25.0s,MS4.6						
ARU	Arti	76.87	334	eP	P	01 15 42.3	+0.1
	comp=Z,33nm,1.1s,mb5.2						
ZEI	Tsey	77.61	317	eP	P	01 15 47.3	+1.0
ZEI				e*PP	pP	01 15 52.2	-3.6
ZEI				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
ERZM	Erzurum	78.20	314	i P	P	01 15 50.3	+0.7
ASF	Jabal al Asfar	78.90	305	P	P	01 15 54.6	+1.2
	comp=Z,8.8nm,0.8s,mb4.7,baz=338,slow=2.4,SNR=14						
KIV	Kislovodsk	78.91	318	⇓eP	P	01 15 53.0	-0.5
LBTB	Lobatse	78.92	246	eP	P	01 15 54.9	+1.4
LBTB				e	pP	01 16 03.7	+0.7
BOSA	Boshof	78.92	243	P	P	01 15 55.0	+1.5
	comp=Z,6.2nm,1.2s,mb4.4,baz=281,slow=20,SNR=3.6						
BOSA				LR	LR	01 47 37.3	
	comp=Z,213nm,19.3s,MS4.5,baz=169,slow=33						
SOKR	Solikamsk	79.61	336	c iP	P	01 15 57.0	-0.3
SOKR				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
SEY	Seymchan	79.72	19	⇓eP	P	01 15 58.2	+0.3
EIL	Elat	79.74	302	eP	P	01 16 00.2	+2.2
MALT	Malatya	79.75	312	⇓iP	P	01 15 59.3	+1.3
MALT	Malatya	79.75	312	⇓P	P	01 15 59.3	+1.3
GZT	Gaziantep	80.06	311	i P	P	01 15 59.5	-0.2
COBT	Iskenderun	80.78	309	i P	P	01 16 06.0	+2.4
TIXI	Tiksi	81.95	7	eP	P	01 16 07.2	-2.6
TIXI				eS	S	01 26 16.4	-5.3
TIXI				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,269nm,16.0s,MS4.7						
TIXI	Tiksi	81.95	7	⇓eP	P	01 16 08.9	-0.9
CSS	Prodhromos	82.57	307	eP	P	01 16 13.6	+0.6
	comp=Z,32nm,1.0s,mb5.3						
CSS				epP	pP	01 16 22.7	0.0
ANN	Anapa	82.72	318	eP	P	01 16 10.8	-3.0
ANN				e*PP	pP	01 16 20.4	-3.0
ANN				eS	S	01 26 27.0	-2.5
ANN				pmax	pmax		
	comp=Z,172nm,9.9s						
CDAG	Cicekdag	83.16	312	i P	P	01 16 16.3	+0.2
CTKT	Corum	83.17	313	i P	P	01 16 16.6	+0.5
BOYT	Boyabat	83.33	314	i P	P	01 16 16.1	-0.9
PECR	Pechory	83.51	330	eP	P	01 16 17.0	-0.9
PECR				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.4						
BR131	Keskin Array S	83.73	312	eP	P	01 16 19.0	0.0
	comp=Z,11nm,1.0s,mb5.0						
BR131				epP	pP	01 16 29.1	+0.5
BRTR	Keskin Array B	83.73	312	P	P	01 16 18.9	-0.1
	comp=Z,11nm,1.0s,mb5.0,baz=134,slow=5.1,SNR=38						
BRTR				LR	LR	02 00 16.1	
	comp=Z,172nm,18.8s,MS4.5,baz=306,slow=40						
VRSR	Storozhevoye	83.99	324	eP	P	01 16 19.8	-0.5
VRSR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,50nm,1.0s						
VRSR				MLR	MLR		
	comp=Z,220nm,23.0s,MS4.5						
VRSR				MLR	MLR		
	comp=N,620nm,20.0s						
VRSR				MLR	MLR		
	comp=E,590nm,26.0s						
ELDT	Eldivan	84.11	312	i P	P	01 16 21.1	+0.1
ANTO	Ankara	84.39	312	⇓iP	P	01 16 22.3	-0.1
ANTO	Ankara	84.39	312	⇓P	P	01 16 22.3	-0.1
BALT	Daday	84.45	313	i P	P	01 16 24.1	+1.4
SIM	Simferopol’	84.99	317	eP	P	01 16 26.3	+0.9
SIM				e	pP	01 16 35.0	0.0
SIM				eS	S	01 26 55.6	+3.2
SIM				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
SGKT	Sivrigoynuk	85.14	312	i P	P	01 16 24.8	-1.4
ESKT	Eskisehir	85.74	311	i P	P	01 16 28.9	-0.2
TKTP	Tekketepe	85.75	309	i P	P	01 16 28.3	-0.9
HENT	Hendek	86.05	312	i P	P	01 16 38.8	+8.1
BORA	Eskisehir	86.13	311	i P	P	01 16 31.0	-0.1
MOS	Moscow	86.57	328	eP	P	01 16 32.5	-0.7
MOS				e	pP	01 16 42.0	-0.8
MOS				e		01 26 56.8	
MOS				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.8						
MOS				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.8						
OBN	Obninsk	86.90	327	P	P	01 16 35.4	+0.5
	comp=Z,259nm,1.3s,SNR=5.7						
OBN	Obninsk	86.90	327	c iP	P	01 16 34.6	-0.3
OBN				e		01 19 56.9	
OBN				eS	S	01 27 05.8	-5.3
OBN				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.8						
OBN	Obninsk	86.90	327	⇑iP	P	01 16 34.7	-0.2
OBN				LR	LR		
	comp=Z,200nm,23.0s,MS4.5						
BILL	Bilibino	87.42	19	i P	P	01 16 36.9	-0.5
AYDN	Tasoluk	87.53	309	i P	P	01 16 38.9	+1.0
SNAA	Sanae	87.57	197	⇑iP	P	01 16 37.9	-0.2
SNAA				e		01 16 39.8	
SNAA				e		01 16 41.8	
SNAA				e	pP	01 16 47.1	-0.6
SNAA				e		01 16 51.8	
SNAA				e		01 17 10.5	
SNAA				e		05 05 04.5	
SNAA	Sanae	87.57	197	eP	P	01 16 37.8	-0.3
SNAA				e*PP	pP	01 16 46.3	-1.4
SNAA				e*SP	sP	01 16 51.6	+0.4
SNAA				pmax	pmax		
	comp=Z,15nm,1.3s						
SNAA	Sanae	87.57	197	eP	P	01 16 37.8	-0.3
	comp=Z,15nm,1.3s,mb5.1						
SNAA				epP	pP	01 16 46.3	-1.5
SNAA				esP	sP	01 16 51.6	+0.5
KDAG	Bornova	88.17	309	i P	P	01 16 42.1	+1.1
SART	Tekirdag	88.75	311	i P	P	01 16 43.4	-0.3
CFR	Carcaliu	89.12	316	⇓iP	P	01 16 46.4	+0.9
CFR	Carcaliu	89.12	316	⇓P	P	01 16 46.4	+1.0
HARR	Harsova	89.15	315	⇑iP	P	01 16 46.6	+1.0
HARR	Harsova	89.15	315	⇑P	P	01 16 46.6	+1.1
TMCR	Tamitsa	89.55	336	eP	P	01 16 40.0	-7.5
TMCR				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.3						
VNA1	Neumayer--Stat	89.59	197	⇑iP	P	01 16 48.2	+0.5
VNA1				e		01 16 49.7	
VNA1				e		01 16 52.0	
VNA1				e	pP	01 16 57.5	+0.2
VNA1				e		01 17 02.5	
VNA1				e		01 17 21.2	
VNA1				e		01 17 26.5	
VNA1				e		05 05 16.4	
VNA1				e		05 05 18.5	
AKASG	Malin Array Be	89.79	321	P	P	01 16 47.7	-0.8
	comp=Z,2.0nm,0.7s,mb4.6,baz=88,slow=4.4,SNR=18						
AKASG				PP	PP	01 20 18.6	-2.4
	comp=Z,2.4nm,0.9s,baz=90,slow=6.6,SNR=8.9						
AKASG				LR	LR	02 06 32.1	
	comp=Z,103nm,18.3s,MS4.3,baz=90,slow=42						
AKASG	Malin Array Be	89.79	321	P	P	01 16 47.7	-0.9
AKASG						01 20 18.6	
AKASG	Malin Array Be	89.79	321	P	P	01 16 47.7	-0.8
AKASG				PP	PP	01 20 18.6	-2.4
AKASG				LR	LR	02 06 32.1	
VRI	Vrincioaia	90.25	316	⇑iP	P	01 16 51.4	+0.7
VRI	Vrincioaia	90.25	316	⇑P	P	01 16 51.4	+0.7
PLOR	Plostina	90.30	316	⇑iP	P	01 16 51.7	+0.8
MLR	Muntele Rosu	90.70	316	P	P	01 16 53.1	+0.3
	comp=Z,6.6nm,0.8s,mb5.0,baz=98,slow=1.1,SNR=9.3						
MLR	Muntele Rosu	90.70	316	⇑iP	P	01 16 52.1	-0.7
MLR	Muntele Rosu	90.70	316	⇑P	P	01 16 52.1	-0.7
BURAR	Bucovina Array	91.64	318	⇑iP	P	01 16 58.7	+1.5
BURAR	Bucovina Array	91.64	318	⇑P	P	01 16 58.7	+1.6
VTS	Vitosha	92.06	313	⇓iP	P	01 16 59.9	+0.8
VTS	Vitosha	92.06	313	⇓P	P	01 16 59.9	+0.8
BZS	Buzias	93.71	315	⇓iP	P	01 17 07.3	+0.6
KOLS	Kolonicke sedl	93.81	319	eP	P	01 17 07.6	+0.4
KOLS				e		01 17 14.5	
FINES	FINESS Array B	94.00	332	P	P	01 17 07.3	-0.8
	comp=Z,3.8nm,1.0s,mb4.8,baz=340,slow=16,SNR=4.6						
FINES				LR	LR	02 05 15.2	
	comp=Z,155nm,20.9s,MS4.5,baz=141,slow=39						
SUW	Suwalki	94.12	324	eP	P	01 17 08.1	-0.5
SUW				e*PP	pP	01 17 17.8	-0.5
SUW				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.6						
SUW	Suwalki	94.12	324	eP	P	01 17 08.1	-0.5
	comp=Z,24nm,0.9s,mb5.6						
SUW				epP	pP	01 17 17.8	-0.5
CRVS	Cervenica-Dubn	94.34	319	eP	P	01 17 08.7	-0.9
STHS	Stebnicka Huta	94.56	319	eP	P	01 17 11.3	+0.7
STHS				e	pP	01 17 19.2	-1.1
STHS				e		01 21 04.5	
STHS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
STHS	Stebnicka Huta	94.56	319	eP	P	01 17 11.3	+0.7
	comp=Z,3.5nm,0.9s,mb4.8						
STHS				e	pP	01 17 19.2	-1.1
STHS				ePP	PP	01 21 04.5	+5.9
ARCES	ARCESS Array B	95.82	340	P	P	01 17 15.6	-0.8
	comp=Z,4.5nm,1.0s,mb4.8,baz=59,slow=7.2,SNR=5.8						
ARCES				LR	LR	02 08 26.7	
	comp=Z,237nm,19.1s,MS4.7,baz=107,slow=40						
PKSM	Moragy	95.85	316	⇓iP	P	01 17 16.8	+0.3
PKSM	Moragy	95.85	316	⇓P	P	01 17 16.8	+0.3
PPT	Papeete	99.31	110	eLR	LR	01 49 57.4	
	comp=Z,325nm,24.2s						
GERES	GERESS Array B	99.42	318	LR	LR	02 11 26.1	
	comp=Z,155nm,18.3s,MS4.5,baz=298,slow=41						
COLA	College	104.50	25	eP	Pdif	01 17 53.7	-1.5
RKT	Rikitea	110.90	119	eLR	LR	01 55 21.1	
	comp=Z,148nm,26.5s						
ESLA	Sonseca Array	112.40	309	PKiKP	PKiKP	01 22 27.6	+1.7
YKA	Yellowknife Ar	118.75	21	PKP	PKPdf	01 22 37.4	-0.7
	comp=Z,0.6nm,0.7s,baz=337,slow=2.0,SNR=4.5						
YKA	Yellowknife Ar	118.75	21	PKP	PKPdf	01 22 37.4	-0.7
NVAR	Mina Array Bea	129.69	47	PKP	PKPdf	01 23 00.9	+1.9
	comp=Z,0.7nm,0.8s,baz=211,slow=3.2,SNR=4.3						
PDAR	Pinedale Array	133.44	38	PKP	PKPdf	01 23 07.9	+1.7
	comp=Z,0.4nm,0.8s,baz=49,slow=1.2,SNR=3.8						
ULM	Lac du Bonnet	134.73	21	PKP	PKPdf	01 23 08.1	-0.6
	comp=Z,1.6nm,0.7s,baz=46,slow=2.8,SNR=3.2						
PV10	Paradox Valley	136.18	43	ePKPdf	PKPdf	01 23 14.0	+2.7
PV01	Paradox Valley	136.62	43	ePKPdf	PKPdf	01 23 14.1	+1.9
ISCO	Idaho Springs	137.58	39	ePKIKP	PKPdf	01 23 14.0	+0.1
ANMO	Albuquerque	139.74	45	ePKPdf	PKPdf	01 23 18.3	+0.4
ANMO				eSKP		01 26 52.6	
MSNY	Massena	144.31	3	ePKPdf	PKPdf	01 23 24.1	-1.9
MSNY				epPKPdf	pPKPdf	01 23 33.1	-2.8
MSNY				esPKPdf		01 23 39.4	
LONY	Lake Ozonia	144.71	3	ePKPdf	PKPdf	01 23 26.0	-0.7
LONY				epPKPdf	pPKPdf	01 23 34.8	-1.8
WMOK	Wichita Mounta	144.99	40	ePKIKP	PKPdf	01 23 27.6	+0.4
WMOK				e		01 23 36.7	
NCB	Newcomb	145.37	2	ePKP	PKPdf	01 23 28.1	+0.3
NCB				epPKP	pPKPdf	01 23 37.3	-0.5
BDFB	Brasilia	145.41	225	PKPbc	PKPbc	01 23 28.6	+0.7
	comp=Z,4.2nm,0.9s,baz=128,slow=4.2,SNR=5.4						
AAM	Ann Arbor	145.62	15	ePKIKP	PKPdf	01 23 28.9	+0.6
AAM				e		01 23 38.0	
JCT	Junction City	146.86	47	ePKP	PKPdf	01 23 32.1	+1.7
JCT				e		01 23 43.6	
ALLY	Alegheny Colle	147.01	11	ePKP	PKPbc	01 23 34.1	+1.4
BINY	Binghamton	147.03	5	ePKP	PKPdf	01 23 33.3	+2.7
BINY				epPKPdf	pPKPdf	01 23 41.5	+0.9
FVM	French Village	147.11	27	ePKP	PKPdf	01 23 32.9	+2.1
FVM				e		01 23 44.3	
BLO	Bloomington	147.64	21	ePKP2	PKPab	01 23 37.5	+0.8
ACSO	Alum Creek Sta	147.74	15	ePKPbc	PKPbc	01 23 34.9	+0.2
MIAR	Mount Ida	148.22	34	ePKPbc	PKPbc	01 23 36.6	+0.7
MIAR				e		01 23 48.1	
USIN	University of	148.28	23	ePKPbc	PKPbc	01 23 37.0	+0.9
SSPA	Standing Stone	148.36	8	ePKPbc	PKPbc	01 23 36.8	+0.5
SSPA				e		01 23 45.8	
WCI	Wyandotte Cave	148.56	21	ePKP2	PKPab	01 23 37.6	-2.7
UALR	University of	148.72	33	ePKPbc	PKPbc	01 23 38.5	+1.3
HBAR	Harrisburg	148.98	30	PKPdf	PKPdf	01 23 33.4	-0.5
MVL	Millersville	149.17	6	ePKP	PKPbc	01 23 37.6	-0.8
WVT	Waverly	149.79	25	ePKPbc	PKPbc	01 23 40.5	+0.6
WVT				e		01 23 49.1	
HKT	Hockley	149.95	43	ePKP2	PKPbc	01 23 42.1	+1.8
PLAL	Pickwick Lake	150.65	27	ePKPbc	PKPbc	01 23 41.9	-0.1
FWV	Forest Hill	150.79	14	ePKPdf	PKPdf	01 23 36.3	-0.4
FWV				ePKPbc	PKPbc	01 23 42.4	+0.1
TZTN	Tazewell	151.01	19	ePKPdf	PKPdf	01 23 38.4	+1.4
TZTN				ePKPbc	PKPbc	01 23 43.6	+0.7
TZTN				e		01 23 50.3	
ELN	Prospectdale	151.14	14	ePKPbc	PKPbc	01 23 42.8	-0.4
ELN				e		01 23 50.9	
BLA	Blacksburg	151.23	13	ePKIKP	PKPbc	01 23 43.8	+0.4
SWET	Sewanee	151.35	23	ePKPbc	PKPbc	01 23 43.7	+0.1
CPCT	Cooper Cave	151.67	21	ePKPbc	PKPbc	01 23 45.1	+0.7
CPCT				ePKPab	PKPab	01 23 53.8	+0.6
MYNC	Murphy	152.15	21	ePKIKP	PKPdf	01 23 39.3	+0.5
MYNC				e		01 23 46.3	
MYNC				e		01 23 54.7	
LRAL	Lakeview Retre	152.77	27	ePKPdf	PKPdf	01 23 41.1	+1.4
LPAZ	La Paz	154.28	190	ePKIKP	PKPdf	01 23 42.3	+0.4
LPAZ				e		01 23 52.7	
LPAZ				e		01 24 05.4	

*MDD **04** 01:33:52.4±13.0, 3336N×531E, h0km, mb3.4/5, Error ellipse: s-maj=152.0km s-min=19.6km az=159.0, PRXIMO*
*CRAAG **04** 01:34:17.4, 35.12N×559E, Ml2.6*
ISC 04 01:34:16.9±1.8, 354N±01×47E±01, h7km±19km, n12, σ1s09/15, Northern Algeria

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CKHR	Kef el Ahmar	0.95	47	P	Pg	01 34 35.5	+0.4
SET	Setif	1.02	36	P	Pg	01 34 36.0	-0.5
CMER	Merouana	1.04	76	P	Pg	01 34 30.0	-6.9
DFRA	Djebel Bou Aff	1.53	40	P	Pn	01 34 44.6	0.0
EMHD	Djebel Mahouad	1.62	301	P	Pn	01 34 47.0	+1.2
ETRT	Tiaret	2.75	271	P	Pn	01 34 52.0	-9.3
EIBI	Ibiza	4.51	325	P	Pn	01 35 27.3	+1.8
	0.2nm,0.1s,SNR=7.9						
EIBI				S	Sn	01 36 17.1	-1.1
	0.1nm,0.1s,SNR=7.9						
ETOS	Mallorca	4.63	342	P	Pn	01 35 27.7	+0.5
	0.1nm,0.1s,SNR=7.9						
ETOS				S	Sn	01 36 20.6	-0.6
	0.2nm,0.1s,SNR=7.9						
EBEN	Beniarda	5.13	312	P	Pn	01 35 34.4	+0.3
	0.0nm,0.1s,SNR=7.9						
EBEN				S	Sn	01 36 35.2	+1.6
	0.1nm,0.2s,SNR=7.9						
EMUR	La Murta	5.35	299	P	Pn	01 35 34.5	-2.6
	0.1nm,0.1s,SNR=7.9						
ETOB	Tobarra	5.95	305	P	Pn	01 35 44.5	-0.8
	0.2nm,0.1s,SNR=7.9						
EQES	Quesada	6.68	294	P	Pn	01 35 54.7	-0.7
	0.2nm,0.1s,SNR=7.9						

ECX 04 02:24:46.6±0.5, 3182N×11553W, h6km, MD3.5, ML3.7, 8C-3D, Baja California

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMX	El Mayor	0.30	55	⇑eP	Pg	02 24 52.0	-0.3
EMX				eS	Sg	02 24 56.2	-0.1
RDX	Rancho Dowling	0.38	288	⇑eP	Pg	02 24 53.4	-0.5
RDX				eS	Sg	02 24 58.6	-0.2
RDX				e		02 24 59.2	
	comp=E,9μm,0.4s						
SPX	San Pedro Mart	0.77	176	⇓eP	Pg	02 25 00.4	-1.0
SPX				eS	Sg	02 25 10.9	-0.6
YUH	Yuha Desert	0.89	338	⇓eP	Pg	02 25 02.3	-1.4
RMX	La Rumorosa	0.91	329	⇓eP	Pg	02 25 03.0	-1.1
RMX				eS	Sg	02 25 15.1	-0.8
ECNX	Esteban Cantu	0.93	260	⇑eP	Pg	02 25 02.9	-1.4
ECNX				⇑eP		02 25 03.8	
ECNX				eS	Sg	02 25 15.3	-1.1
ECNX				eS	Sg	02 25 16.4	0.0
ENX	Ensenada	0.97	274	⇑eP	Pg	02 25 03.8	-1.4
ENX				eS	Sg	02 25 16.5	-1.3
ENX				⇑e		02 25 19.5	
	comp=E,2μm,0.7s						
PBX	Punta Banda	1.02	266	⇑eP	Pg	02 25 04.7	-1.5
PBX				eS	Sg	02 25 18.2	-1.3
CBX	Cerro Bola	1.08	297	⇑eP	Pg	02 25 05.8	-1.6
CBX				eS	Sg	02 25 19.9	-1.6

*NEIC **04** 02:41:53.0, 1491N×9398W, h20km, MD4.0(MEX), After MEX.*
MEX 04 02:41:51.4±1.0, 1481N×9397W, h20km±170km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.29	50	i P	Pn	02 42 25.0	-3.0
CCIG				i S	Sn	02 42 52.8	-2.8
SCX	San Cristobal	2.30	34	i P	Pn	02 42 27.0	-1.2
SCX				i S	Sn	02 42 52.0	-3.9
CMIG	Matias Romero	2.43	339	i P	Pn	02 42 27.4	-2.6
CMIG				i S	Sn	02 42 55.7	-3.4
OXX	Oaxaca	3.48	311	i P	Pn	02 42 43.0	-1.4
OXX				i S	Sn	02 43 27.0	+2.0
TEIG	Tepich	7.64	44	i P	Pn	02 43 39.1	-2.5
TEIG				i S	Sn	02 45 03.5	-4.1
TEIG	Tepich	7.64	44	ePn	Pn	02 43 38.1	-3.4
TEIG				eSn	Sn	02 45 03.2	-4.4

*NEIC **04** 02:53:33.7, 3207S×7157W, h32km, ML3.4(GUC), After GUC.*
GUC 04 02:53:33.7±0.7, 3207S×7157W, h32km±1km, MD4.0, ML3.4, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.20	19	⇑iP	Pb	02 53 40.0	-0.1
CHNG				i S	Sb	02 53 44.6	+0.1
CHNG				AML	AML	02 53 44.9	
	comp=E,10μm,0.3s						
PACH	Papudo	0.48	166	⇓iP	Pb	02 53 43.9	0.0
PACH				i S	Sb	02 53 51.4	+0.4
PTCH	Petorca	0.58	110	⇓iP	Pb	02 53 45.3	-0.2
PTCH				i S	Sb	02 53 53.9	+0.3
PTCH				AML	AML	02 53 54.6	
	comp=N,7μm,0.2s						
PTCH	Petorca	0.58	110	⇓iP	Pb	02 53 45.3	-0.2
PTCH				i S	Sb	02 53 53.9	+0.3
IHA	Instituto Hidr	0.96	183	⇑eP	Pn	02 53 50.9	+0.1
IHA				i S	Sn	02 54 03.8	+0.5
CMCH	Combarbala	1.02	29	⇑iP	Pn	02 53 51.3	-0.4
CMCH				i S	Sn	02 54 04.5	-0.4
CMCH				AML	AML	02 54 07.7	
	comp=E,2μm,0.8s						
CMCH	Combarbala	1.02	29	⇑iP	Pn	02 53 51.3	-0.4
CMCH				i S	Sn	02 54 04.5	-0.4
ROCH	El Roble	1.02	152	⇓iP	Pn	02 53 52.1	+0.4
ROCH				i S	Sn	02 54 06.4	+1.5
JACH	Jahuel	1.03	127	eP	Pn	02 53 52.2	+0.3
JACH				i S	Sn	02 54 06.3	+1.1
LCCH	Las Cruces	1.40	180	⇓iP	Pn	02 53 57.6	+0.6
OVCH	Ovalle	1.49	12	eP	Pn	02 53 59.7	+1.5
OVCH				i S	Sn	02 54 18.4	+1.9
OVCH				AML	AML	02 54 22.5	
	comp=N,583nm,0.3s						
OVCH	Ovalle	1.49	12	eP	Pn	02 53 59.7	+1.5
OVCH				i S	Sn	02 54 18.4	+1.9
DSCH	Colegio Aleman	1.57	148	eP	Pn	02 53 59.7	+0.4
DSCH				i S	Sn	02 54 20.2	+1.6
STL	Santa Lucia	1.57	150	eP	Pn	02 53 59.8	+0.5
STL				i S	Sn	02 54 20.4	+1.8
CLCH	Cerro Calan	1.59	147	eP	Pn	02 54 01.1	+1.6
CLCH				i S	Sn	02 54 21.8	+2.9
CLCH				AML	AML	02 54 24.5	
	comp=E,656nm,0.7s						
CLCH	Cerro Calan	1.59	147	eP	Pn	02 54 01.1	+1.6
CLCH				i S	Sn	02 54 21.8	+2.9
TACH	Talagante	1.67	161	⇑iP	Pn	02 54 02.0	+1.3
ANTU	Antumapu	1.69	152	eP	Pn	02 54 02.4	+1.4
ANTU				i S	Sn	02 54 24.3	+2.7
ANTU				AML	AML	02 54 26.1	
	comp=N,343nm,0.0s						
ANTU	Antumapu	1.69	152	eP	Pn	02 54 02.4	+1.4
ANTU				i S	Sn	02 54 24.3	+2.7
PCH	Pirque	1.79	150	eP	Pn	02 54 03.7	+1.5
SJCH	San Jose de Ma	1.87	147	eP	Pn	02 54 04.3	+0.9
SJCH				i S	Sn	02 54 28.1	+2.1
LNV	Longovilo	1.89	176	eP	Pn	02 54 03.5	-0.2
TLL	Tololo Astrono	2.01	19	eP	Pn	02 54 07.2	+1.9
TLL				i S	Sn	02 54 32.9	+3.6
TLL				AML	AML	02 54 41.2	
	comp=N,498nm,0.5s						
TLL	Tololo Astrono	2.01	19	eP	Pn	02 54 07.2	+1.9
TLL				i S	Sn	02 54 32.9	+3.6
CHCH	Chadas Angostu	2.01	158	eP	Pn	02 54 07.2	+1.8
CACH	El Canelo	2.20	158	⇑iP	Pn	02 54 10.5	+2.5
CICH	Cipreses	2.44	157	eP	Pn	02 54 12.2	+0.8
SFDO	San Fernando	2.58	170	eP	Pn	02 54 14.3	+1.1

*MDD **04** 03:10:17.6±1.2, 3879N×799W, h0km, mbLg1.2/1, Error ellipse: s-maj=11.1km s-min=5.5km az=98.0, PRXIMO SIN SOLUCIN*
INMG 04 03:10:18.1±0.8, 3877N×795W, h16km±5km, ML0.6, Error ellipse: s-maj=5.3km s-min=2.2km az=109.0, Portugal

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PESTR	Estremoz	0.30	70	ePg	Pg	03 10 24.0	-0.5
PESTR				eSg	Sg	03 10 28.4	-0.4
PESTR							
	0.5nm,0.1s						
EBAD	Badajoz	0.73	91	Pg	Pg	03 10 31.8	-0.6
	0.3nm,0.1s,SNR=7.9						
EBAD				Lg		03 10 41.6	
	1.5nm,0.1s,SNR=7.9						
PBEJ	Beja	0.74	175	eP	Pg	03 10 31.6	-1.0
PBEJ				eS	Sg	03 10 41.7	-0.7
PBEJ							
	0.8nm,0.1s						
PCBR	Castelo Branco	1.14	19	eP	Pn	03 10 38.3	-1.0
PCBR				eS	Sb	03 10 52.8	-1.0
PCBR							
	1.0nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.28**	**163**	Lg		03 10 58.7	
	0.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.42**	**134**	Lg		03 11 04.6	
	0.1nm,0.1s,SNR=7.9						

*IGQ **04** 03:21:42.3, 281S×7959W, h12km±7km, Mb4.5, Ms4.3, Error ellipse: s-maj=12.2km s-min=5.5km az=55.3*
*NEIC **04** 03:21:48.6±0.5, 189S×7849W, h35km, mb4.4/7, Error ellipse: s-maj=22.6km s-min=7.5km az=53.0*
*ISCJB **04** 03:21:52.4±0.7, 253S±005×789W±0.1, h112km±6km, mb3.9/14, Error ellipse: s-maj=17.9km s-min=6.8km az=149.0*
*IDC **04** 03:21:56.0±5.8, 236S×7873W, h128km±68km, mb3.4/8, mb1 3.7/10, mb1mx3.5/23, mbtmp3.9/10, Error ellipse: s-maj=67.9km s-min=19.0km az=40.0*
ISC 04 03:21:53.8±0.6**, 250S**±005×**789W**±01**, h104**km±6km**, n45, σ1s10**/56**, mb3.9**/14**, 4C-13D, Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.04**	**14**	⇓P	**Pn**	**03 22 14.5**	**-0.4**
ARRY	**Arrayan**	**1.08**	**24**	⇓P	**Pn**	**03 22 14.2**	**-1.2**
PATA	**Patacocha**	**1.10**	**25**	⇓P	**Pn**	**03 22 14.8**	**-0.8**
BILB	**Tungurahua vol**	**1.13**	**21**	P	**Pn**	**03 22 16.0**	**+0.1**
RETU	**Refugio**	**1.14**	**23**	⇑P	**Pn**	**03 22 15.6**	**-0.5**
JUIV	**Juive**	**1.16**	**22**	P	**Pn**	**03 22 15.2**	**-1.0**
ULBA	**Ulba**	**1.16**	**25**	⇑P	**Pn**	**03 22 15.4**	**-0.8**
RUN5	**Runtun**	**1.18**	**24**	⇓P	**Pn**	**03 22 15.8**	**-0.7**
PISA	**Pisayambo**	**1.52**	**20**	⇓P	**Pn**	**03 22 20.3**	**-0.3**
CAMI	**Rancho Maria**	**1.86**	**12**	⇓P	**Pn**	**03 22 24.4**	**-0.3**
TAMB	**Tambo**	**1.87**	**16**	P	**Pn**	**03 22 24.6**	**-0.3**
NAS1	**Nasa**	**1.90**	**13**	⇓P	**Pn**	**03 22 25.2**	**-0.1**
NAS1				S	**Sn**	**03 22 56.5**	**+7.2**
VC1	**Cotopaxi 1**	**1.91**	**15**	⇑P	**Pn**	**03 22 25.1**	**-0.3**
ANTI	**Antisana**	**2.17**	**20**	P	**Pn**	**03 22 28.6**	**-0.1**
JUA2	**San Juan 2**	**2.29**	**7**	P	**Pn**	**03 22 29.7**	**-0.6**
JUA2				S	**Sn**	**03 23 00.4**	**+2.1**
TERV	**Terraza Guagua**	**2.33**	**7**	P	**Pn**	**03 22 30.1**	**-0.7**
TERV				S	**Sn**	**03 23 01.2**	**+2.1**
GGP	**Refugio Guagua**	**2.33**	**7**	⇓P	**Pn**	**03 22 30.2**	**-0.6**
PINO	**Pino**	**2.35**	**7**	⇓P	**Pn**	**03 22 30.5**	**-0.5**
PINO				S	**Sn**	**03 23 01.0**	**+1.5**
YANA	**Yana**	**2.39**	**8**	⇓P	**Pn**	**03 22 30.7**	**-0.9**
YANA				S	**Sn**	**03 23 03.6**	**+3.1**
CAYR	**Refugio Cayamb**	**2.66**	**20**	⇓P	**Pn**	**03 22 36.3**	**+1.2**
CAYR				S	**Sn**	**03 23 09.4**	**+2.7**
LAV3	**Lava3-Reventad**	**2.71**	**28**	⇑P	**Pn**	**03 22 35.4**	**-0.3**
CAYA	**Cayambe**	**2.71**	**20**	P	**Pn**	**03 22 36.9**	**+1.0**
CONE	**Cono NE Rev Vo**	**2.72**	**27**	⇓P	**Pn**	**03 22 35.4**	**-0.5**
COTA	**Cotacachi**	**2.87**	**11**	⇓P	**Pn**	**03 22 37.8**	**-0.1**
ATAH	**Atahualpa**	**4.50**	**174**	P	**Pn**	**03 23 06.8**	**+7.1**
	6.8nm,0.3s,baz=2.8,slow=8.0,SNR=57						
ATAH				S	**Sn**	**03 24 02.0**	**+11**
	9.6nm,0.3s,baz=5.1,slow=23,SNR=10						
NNA	**Nana**	**9.64**	**168**	P	**Pn**	**03 24 12.0**	**+2.4**
	4.3nm,0.3s,baz=334,slow=11,SNR=11						
NNA				S	**Sn**	**03 25 56.6**	**+0.7**
	3.9nm,0.3s,baz=88,slow=20,SNR=7.4						
NNA	**Nana**	**9.64**	**168**	P	**Pn**	**03 24 12.0**	**+2.4**
NNA				eSn	**Sn**	**03 25 56.2**	**+0.3**
NNA				S	**Sn**	**03 25 56.6**	**+0.7**
SAML	**Samuel**	**16.89**	**113**	ePn	**Pn**	**03 25 41.7**	**-2.0**
	5.1nm,0.5s						
SAML				eSn	**Sn**	**03 28 40.8**	**-11**
LPAZ	**La Paz**	**17.32**	**143**	P	**Pn**	**03 25 54.5**	**+5.6**
	0.2nm,0.3s,baz=323,slow=10,SNR=9.0						
LPAZ	**La Paz**	**17.32**	**143**	ePn	**Pn**	**03 25 51.8**	**+2.9**
	0.9nm,0.5s						
SIV	**San Ignacio**	**22.08**	**128**	P	**P**	**03 26 41.8**	**+1.5**
	1.5nm,0.7s,mb3.4,baz=321,slow=10,SNR=9.3						
TEIG	**Tepich**	**24.39**	**338**	eP	**P**	**03 27 02.0**	**-0.2**
	4.0nm,0.9s,mb3.8						
CMIG	**Matias Romero**	**25.06**	**322**	P	**P**	**03 27 09.1**	**+0.7**
	1.5nm,0.9s,mb3.4,baz=142,slow=6.6,SNR=3.6						
CPUP	**Villa Florida**	**31.47**	**141**	P	**P**	**03 28 08.9**	**+3.5**
	3.1nm,0.5s,mb4.3						
RCBR	**Riachuelo**	**43.00**	**96**	P	**P**	**03 29 42.7**	**0.0**
	16nm,1.0s,mb4.7						
WUAZ	**Wupatki**	**48.51**	**324**	eP	**P**	**03 30 27.1**	**+1.0**
	4.9nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**52.88**	**332**	P	**P**	**03 30 59.0**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=122,slow=9.0,SNR=8.0						
HWUT	**Hardware Ranch**	**52.98**	**330**	eP	**P**	**03 30 59.3**	**-0.4**
	3.3nm,0.7s,mb4.5						
RRI2	**Red Ridge**	**54.16**	**331**	eP	**P**	**03 31 08.8**	**+0.6**
	3.2nm,0.6s,mb4.5						
ULM	**Lac du Bonnet**	**54.54**	**347**	P	**P**	**03 31 08.6**	**-2.3**
	0.7nm,0.4s,mb4.1,baz=144,slow=11,SNR=3.2						
NVAR	**Mina Array Bea**	**54.59**	**322**	P	**P**	**03 31 12.4**	**+1.1**
	0.6nm,0.6s,mb3.8,baz=119,slow=7.3,SNR=7.7						
YBH	**Yreka Blue Hor**	**59.28**	**323**	P	**P**	**03 31 43.4**	**-1.1**
	0.3nm,0.4s,mb3.6,baz=118,slow=7.8,SNR=3.7						
YKA	**Yellowknife Ar**	**70.23**	**343**	P	**P**	**03 32 54.2**	**-1.3**
	0.3nm,0.5s,mb3.4,baz=139,slow=6.3,SNR=6.8						
YKA	**Yellowknife Ar**	**70.23**	**343**	P	**P**	**03 32 54.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**81.42**	**76**	P	**P**	**03 33 58.3**	**-0.8**
	0.2nm,0.5s,mb3.2,baz=262,slow=5.1,SNR=6.6						

ISK 04 03:24:37.3, 3674N×4371E, h31km, ML3.6, Iraq

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.51**	**351**	PG	Pb	03 24 48.2	+0.3
MSL	**Mosul**	**0.67**	**228**	i x	x	03 24 42.5	
MSL				ex	x	03 24 43.5	
MSL				i x	x	03 24 59.0	
HKR	**Hakkari**	**0.83**	**2**	PG	Pn	03 24 52.7	-0.2
VANT	**Van**	**1.72**	**352**	PN	Pn	03 25 05.2	+0.1
VANB	**Van**	**1.87**	**352**	PN	Pn	03 25 08.2	+1.1
BEST	**Besiri**	**2.26**	**301**	i P	Pn	03 25 16.6	+4.1
BEST				i S	Sn	03 26 00.3	+21
BTMT	**Batman**	**2.29**	**310**	PN	Pn	03 25 14.3	+1.4
CLDR	**Caldiran**	**2.40**	**4**	PN	Pn	03 25 15.9	+1.4
MARD	**Mardin**	**2.42**	**285**	i P	Pn	03 25 12.3	-2.3
MARD				i S	Sn	03 25 57.6	+14
BNGL	**BINGOL**	**3.00**	**318**	i P	Pn	03 25 33.3	+11
BNGL				i S	Sn	03 26 31.9	+34
DIY	**Diyarbakir**	**3.01**	**294**	PN	Pn	03 25 24.4	+1.6
BINT	**Bingol**	**3.32**	**311**	ePN	Pn	03 25 29.2	+2.1
GNI	**Garni**	**3.50**	**13**	ePN	Pn	03 25 31.5	+2.0
BHD	**Baghdad**	**3.51**	**171**	ex	x	03 24 49.0	
BHD				ex	x	03 24 52.5	
BHD				ex	x	03 25 13.0	
BHD				ex	x	03 25 17.0	
EZM	**Erzurum**	**3.66**	**330**	ePN	Pn	03 25 34.3	+2.6
URFA	**Urfa**	**3.97**	**282**	ePN	Pn	03 25 37.7	+1.7
PTK	**Pertek**	**4.04**	**303**	ePN	Pn	03 25 38.6	+1.7
EZC	**Erzincan**	**4.29**	**316**	ePN	Pn	03 25 46.7	+6.3
ATAB	**Bozova**	**4.39**	**281**	i P	Pn	03 25 47.8	+6.0
ATAB				i S	Sn	03 26 49.8	+18
MYA	**Malataya**	**4.49**	**292**	ePN	Pn	03 25 45.4	+2.3
GZT	**Gaziantep**	**4.96**	**279**	i P	Pn	03 25 40.0	-10
GZT				i S	Sb	03 27 07.0	+4.6
GAZ	**Gaziantep**	**5.22**	**277**	ePN	Pn	03 25 55.5	+2.3
KMRS	**Kahramanmaras**	**5.50**	**280**	ePN	Pn	03 25 59.4	+2.4
COBT	**Iskenderun**	**6.00**	**270**	i P	Pn	03 26 14.6	+11
COBT				i S	Sn	03 27 41.6	+30
HTY	**Hatay**	**6.14**	**266**	ePN	Pn	03 26 08.6	+2.8
SVSK	**Karacayir**	**6.16**	**303**	ePN	Pn	03 26 09.4	+3.4
KOZT	**Kozan**	**6.34**	**279**	ePN	Pn	03 26 11.5	+2.9
CEYT	**Ceyhan**	**6.39**	**275**	ePN	Pn	03 26 12.0	+2.7
BNN	**Bunyan**	**6.57**	**291**	ePN	Pn	03 26 14.9	+3.1
KRTS	**Karatas**	**6.70**	**271**	ePN	Pn	03 26 16.4	+2.8
KARA	**Karaisali**	**6.95**	**277**	ePN	Pn	03 26 19.7	+2.8

*MDD **04** 03:25:15.2±0.9, 3880N×800W, h0km, mbLg1.4/6, Error ellipse: s-maj=9.1km s-min=4.7km az=101.0, PRXIMO*
INMG 04 03:25:15.8±1.0**, 3879N×796W, h15**km±5km**, ML1.1, 1D, Error ellipse: s-maj=2.6km s-min=1.7km az=93.0, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PESTR	**Estremoz**	**0.30**	**74**	ePg	Pg	03 25 21.8	-0.4
PESTR				eSg	Sg	03 25 26.2	-0.3
PESTR							
	2.5nm,0.1s						
EBAD	**Badajoz**	**0.74**	**92**	⇓Pg	Pg	03 25 29.6	-0.7
	1.8nm,0.1s,SNR=18						
EBAD				Lg		03 25 39.4	
	10nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**0.76**	**174**	eP	Pg	03 25 29.4	-1.3
PBEJ				eS	Sg	03 25 39.7	-1.0
PBEJ							
	3.0nm,0.1s						
PMAFR	**Mafra**	**1.04**	**280**	eS	Sb	03 25 48.7	-0.3
PCBR	**Castelo Branco**	**1.12**	**20**	eP	Pb	03 25 36.0	-0.8
PCBR				eS	Sb	03 25 50.3	-0.8
PCBR							
	3.5nm,0.2s						
EGRO	**El Granado**	**1.31**	**163**	Pg	Pg	03 25 39.5	-1.5
	0.2nm,0.1s,SNR=7.9						
EGRO				Lg		03 25 57.2	
	1.0nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**1.38**	**206**	eSg	Sg	03 25 58.7	-1.5
PTEO							
	2.4nm,0.2s						
PTEO	**Sao Teotonio**	**1.38**	**206**	Lg		03 25 58.7	
	1.2nm,0.2s						
EMIN	**Mina Concepcio**	**1.44**	**135**	Pg	Pg	03 25 41.7	-1.8
	0.3nm,0.1s,SNR=7.9						
EMIN				Lg		03 26 01.9	
	1.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**1.64**	**11**	eP	Pn	03 25 24.2	-20
MTE				eS	Sn	03 25 41.3	-24
MTE							
	1.1nm,0.1s						
PVIS	**Viseu**	**1.93**	**2**	eSg	Sg	03 26 15.3	-2.5
PVIS							
	1.4nm,0.1s						
PVIS	**Viseu**	**1.93**	**2**	Lg		03 26 15.3	
	0.7nm,0.1s						

CASC 04 03:41:52.1±2.3**, 1177N×8712W, h30**km±6km**, MD3.5, ML3.2, 9C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.66**	**51**	⇑eP	Pb	03 42 04.7	-0.5
COPN				eS	Sb	03 42 15.6	+1.5
LEON	**Leon**	**0.69**	**19**	⇓eP	Pb	03 42 05.2	-0.4
LEON				eS	Sb	03 42 16.1	+1.3
MIRN	**Miramar**	**0.78**	**31**	⇑eP	Pn	03 42 06.5	-0.6
MIRN				eS	Sb	03 42 18.6	+1.1
CNGN	**Cerro Negro**	**0.84**	**30**	⇑eP	Pn	03 42 07.3	-0.6
CNGN				eP		03 42 07.6	
CNGN				eS	Sb	03 42 20.4	+1.3
MOMJ	**Momotombo**	**0.86**	**42**	⇑eP	Pn	03 42 07.4	-0.7
XAVN	**Gruta Xavier**	**0.87**	**64**	⇑eP	Pn	03 42 07.5	-0.7
XAVN				eS	Sn	03 42 20.6	+0.8
APYN	**Apoyeque**	**0.89**	**58**	eP	Pn	03 42 07.8	-0.7
APYN				eS	Sn	03 42 20.6	+0.2
TICN	**Ticuantepe**	**0.91**	**73**	⇑eP	Pn	03 42 08.4	-0.5
TICN				eS	Sn	03 42 23.4	+2.4
TISN	**Laguna Tiscapa**	**0.92**	**66**	⇓eP	Pn	03 42 08.2	-0.7
TISN				eS	Sn	03 42 21.9	+0.8
CRIN	**San Cristobal**	**0.93**	**4**	⇑eP	Pn	03 42 09.2	+0.1
MGAN	**Managua**	**0.94**	**66**	⇑eP	Pn	03 42 08.3	-0.9
MGAN				eS	Sn	03 42 22.0	+0.5
	comp=N,559nm,0.3s						
CONN	**Concepcion**	**1.48**	**98**	⇑eP	Pn	03 42 15.1	-1.6
BOA	**Boaco**	**1.55**	**62**	eP	Pn	03 42 16.9	-0.7
CNCH	**Conchagua**	**1.66**	**335**	eP	x	03 42 19.3	
CNCH				eS	x	03 42 41.9	
BLLM	**Bellamira**	**1.99**	**327**	eP	x	03 42 24.4	
VSM	**San Miguel**	**2.00**	**326**	eP	x	03 42 24.4	
LCBS	**La Ceiba**	**2.61**	**316**	eP	x	03 42 32.7	
LCBS				eS	x	03 43 03.1	
LFRS	**El Faro**	**2.65**	**315**	eP	x	03 42 33.3	
LFRS				eS	x	03 43 04.5	

*IDC **04** 04:16:05.5±6.9, 3692N×7225E, h207km±61km, mb3.3/4, mb1 3.4/7, mb1mx3.0/23, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=52.8km s-min=33.3km az=133.0*
*ISCJB **04** 04:16:08.9±1.9, 374N±0.1×720E±0.1, h223km±16km, mb3.4/4, Error ellipse: s-maj=21.1km s-min=14.4km az=57.3*
*NEIC **04** 04:16:08.2±7.5, 3727N×7213E, h202km±36km, mb3.8/2, Error ellipse: s-maj=90.9km s-min=33.7km az=179.0*
*NNC **04** 04:16:14.7±3.7, 3776N×7187E, h228km±31km, mb2.3, mpv2.8, Error ellipse: s-maj=37.2km s-min=21.1km az=20.0*
ISC 04 04:16:10.2±2.1**, 374N**±01×**720E**±01**, h218**km±16km**, n24, σ0s98**/27**, mb3.4**/4**, 4C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.87**	**15**	P	**Pn**	**04 17 24.1**	**+0.7**
	SNR=41						
UCH	**Uchtor**	**5.17**	**21**	P	**S**	**04 18 27.4**	**-0.6**
	SNR=5.0						
KZA	**Kyzart**	**5.27**	**27**	P	**Pn**	**04 17 28.3**	**-0.1**
	SNR=12						
AAK	**Ala-Archa**	**5.54**	**19**	P	**Pn**	**04 17 32.8**	**+1.0**
	SNR=5.9						
AAK	**Ala-Archa**	**5.54**	**19**	ePn	**Pn**	**04 17 30.7**	**-1.1**
	6.6nm,0.6s						
AAK				eSn	**S**	**04 18 36.5**	**-0.1**
KK31	**Karatay Array**	**5.79**	**349**	⇑P	**Pn**	**04 17 35.9**	**+1.0**
	0.6nm,0.2s,baz=138,slow=9.9,SNR=7.2						
KK31				⇑S	**S**	**04 18 39.7**	**-2.6**
	17nm,0.4s,baz=175,slow=24,SNR=8.3						
ULHL	**Ulahol**	**5.81**	**33**	P	**Pn**	**04 17 34.9**	**-0.4**
	SNR=13						
TKM2	**Tokmak 2**	**6.13**	**25**	P	**Pn**	**04 17 39.7**	**+0.3**
	SNR=7.7						
TKM2	**Tokmak 2**	**6.13**	**25**	⇓P	**Pn**	**04 17 39.5**	**+0.1**
	0.3nm,0.5s						
TKM2				⇓S	**S**	**04 18 51.2**	**+0.9**
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**12.06**	**36**	P	**Pn**	**04 18 55.1**	**-0.2**
	0.2nm,0.3s,baz=215,slow=14,SNR=3.2						
AB31	**Akbulak array**	**14.71**	**327**	P	**Pn**	**04 19 27.6**	**-0.4**
	0.8nm,0.4s,baz=139,slow=12,SNR=36						
AB31				⇑S	**S**	**04 22 04.8**	**-6.2**
	1.5nm,0.8s,baz=133,slow=25,SNR=4.4						
VOSK	**Vostochnaya**	**15.31**	**358**	⇓P	**Pn**	**04 19 34.5**	**-0.8**
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**15.64**	**356**	P	**Pn**	**04 19 39.9**	**+0.6**
	1.2nm,0.3s,baz=160,slow=9.9,SNR=15						
ZRNK	**Zerenda**	**15.67**	**353**	⇓P	**Pn**	**04 19 40.2**	**+0.6**
	2.3nm,0.7s						
ZRNK	**Zerenda**	**15.67**	**353**	eP	**Pn**	**04 19 39.1**	**-0.5**
	2.5nm,0.8s						
CHKZ	**Chkalovo**	**16.28**	**357**	⇑P	**P**	**04 19 46.6**	**+0.7**
	1.2nm,0.7s						
AKTK	**Aktyubinsk**	**16.42**	**327**	P	**P**	**04 19 49.1**	**+1.6**
AKTO	**Aktyubinsk**	**16.42**	**327**	⇓P	**P**	**04 19 48.9**	**+1.4**
	0.1nm,0.7s						
AKTO	**Aktyubinsk**	**16.42**	**327**	P	**P**	**04 19 49.1**	**+1.6**
	1.4nm,0.3s,baz=131,slow=11,SNR=27						
FINES	**FINESS Array B**	**37.18**	**325**	P	**P**	**04 23 00.5**	**+0.2**
	0.5nm,0.4s,mb3.4,baz=117,slow=12,SNR=5.8						
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**04 23 29.0**	**+0.3**
	2.1nm,0.7s,mb3.7,baz=118,slow=8.5,SNR=13						
VRAC	**Vranov**	**41.13**	**305**	LR	LR	04 42 04.0	
	comp=Z,27nm,19.2s,baz=61,slow=38						
TORD	**Torodi Ar. Bea**	**66.55**	**269**	P	**P**	**04 26 34.7**	**-2.0**
	0.6nm,0.4s,mb3.5,baz=49,slow=5.9,SNR=32						
YKA	**Yellowknife Ar**	**80.28**	**3**	P	**P**	**04 27 55.5**	**-1.2**
	0.4nm,0.9s,mb3.0,baz=347,slow=5.3,SNR=4.2						

*MDD **04** 04:26:40.6±0.7, 4039N×853W, h0km, mbLg2.0/9, Error ellipse: s-maj=7.6km s-min=3.5km az=91.0, PRXIMO*
INMG 04 04:26:40.9±1.1**, 4038N×853W, h14**km±5km**, ML1.7, Error ellipse: s-maj=4.1km s-min=1.3km az=93.0, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVIS	**Viseu**	**0.59**	**55**	ePg	Pg	04 26 51.9	-0.6
PVIS				eSg	Sg	04 27 00.0	-0.3
PVIS							
	32nm,0.1s						
PTO	**Porto**	**0.76**	**356**	eP	Pg	04 26 54.7	-0.9
PTO				eS	Sg	04 27 04.6	-1.0
PTO							
	64nm,0.1s						
PTOM	**Tomar**	**0.77**	**173**	eP	Pg	04 26 55.0	-0.8
PTOM				eS	Sg	04 27 05.5	-0.5
PTOM							
	26nm,0.1s						
PCBR	**Castelo Branco**	**0.97**	**123**	eP	Pb	04 26 58.5	-1.0
PCBR				eS	Sb	04 27 11.2	-1.0
PCBR							
	5.4nm,0.1s						
PVRL	**Vila Real**	**1.09**	**35**	eP	Pb	04 27 00.4	-1.1
PVRL				eS	Sb	04 27 14.6	-0.9
PVRL							
	17nm,0.1s						
PCAB	**Cabril**	**1.38**	**16**	ePg	Pg	04 27 05.5	-2.0
PCAB				eSg	Sg	04 27 23.4	-2.0
PCAB							
	17nm,0.1s						
PMAFR	**Mafra**	**1.54**	**202**	eSg	Sg	04 27 28.6	-1.8
PLOU	**Loures**	**1.57**	**198**	eSg	Sg	04 27 29.9	-1.5
PESTR	**Estremoz**	**1.68**	**154**	ePg	Pg	04 27 10.4	-2.8
PESTR				eSg	Sg	04 27 32.7	-2.3
PESTR							
	1.4nm,0.1s						
PBRG	**Braganca**	**1.96**	**43**	eSg	Sg	04 27 41.5	-2.6
PBRG							
	1.5nm,0.1s						
PBRG	**Braganca**	**1.96**	**43**	Lg		04 27 41.5	
	0.8nm,0.1s						
EBAD	**Badajoz**	**2.00**	**144**	Pg	Pg	04 27 15.9	-3.5
	0.9nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	04 27 41.0	+1.9
	1.6nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**2.07**	**40**	Pg	Pg	04 27 18.3	-2.2
	0.1nm,0.1s,SNR=7.9						
ECAL				Lg		04 27 45.3	
	1.4nm,0.2s,SNR=6.7						
PBEJ	**Beja**	**2.41**	**167**	eSg	Sg	04 27 55.4	-2.9
EMAZ	**Mazaricos**	**2.59**	**353**	Lg		04 28 01.8	
	0.1nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**2.96**	**164**	Lg		04 28 12.6	
	1.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.99**	**150**	Lg		04 28 16.0	
	0.3nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**3.12**	**19**	Lg		04 28 19.2	
	1.5nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.78**	**124**	Sn	Sn	04 28 20.0	-3.1
	0.3nm,0.2s,SNR=7.9						
EADA				Lg		04 28 38.2	
	0.7nm,0.2s,SNR=7.9						

*IDC **04** 04:32:04.7±1.7, 3442N×13165E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.3/1, MS4.1/1, Ms1 4.1/1, ms1mx2.8/11, Error ellipse: s-maj=42.1km s-min=32.1km az=53.0*
*ISCJB **04** 04:32:05.6±0.6, 3475N±004×132.13E±004, h23km±7km, mb3.2/2, MS4.1/1, Error ellipse: s-maj=7.7km s-min=4.7km az=110.0*
*JMA **04** 04:32:05.9, 3475N×132.12E, h18km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs22.00000°, δ39.00000°, λ82.00000°. NP2:φs213.00000°, δ51.00000°, λ97.00000°. Principal axes: T Plg82.0000°, Azm159.0000°; N Plg5.0000°, Azm29.0000°; P Plg6.0000°, Azm298.0000°;*
JMA Felt II J1.
ISC 04 04:32:05.7±0.6**, 3474N**±004×**13214E**±004**, h18**km±4km**, n12, σ0s55**/20**, mb3.2**/2**, MS4.1**/1**, 3C-5D, Western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHT	**Toyohira**	**0.24**	**110**	⇓P	**Pg**	**04 32 11.7**	**+0.4**
JHT				S	**Sg**	**04 32 15.3**	**+0.1**
JHIK	**Hikimi**	**0.28**	**220**	⇑P	**Pg**	**04 32 11.9**	**0.0**
JHIK				S	**Sg**	**04 32 15.9**	**-0.2**
JGT	**Gotsu**	**0.32**	**29**	⇑P	**Pg**	**04 32 12.8**	**+0.1**
JGT				S	**Sg**	**04 32 17.7**	**+0.3**
JHM	**Kurahashi**	**0.68**	**152**	⇓P	**Pb**	**04 32 19.1**	**+0.1**
JHM				S	**Sb**	**04 32 28.4**	**+0.3**
JKD	**Kudamatsu**	**0.72**	**198**	⇑P	**Pb**	**04 32 19.6**	**-0.1**
JKD				S	**Sb**	**04 32 29.3**	**0.0**
JHS	**Saijyo**	**0.84**	**72**	⇓P	**Pb**	**04 32 21.4**	**-0.3**
JHS				S	**Sb**	**04 32 32.8**	**+0.2**
JJG	**Jouge**	**0.84**	**97**	⇓P	**Pb**	**04 32 21.7**	**0.0**
JJG				S	**Sb**	**04 32 32.8**	**+0.2**
JTY	**Toyota**	**1.01**	**242**	⇓P	**Pb**	**04 32 24.0**	**-0.6**
JTY				S	**Sb**	**04 32 37.4**	**-0.2**
MJAR	**Matsushiro Arr**	**5.25**	**68**	Pn	**Pn**	**04 33 31.8**	**+8.5**
	0.7nm,0.3s,baz=250,slow=12,SNR=5.4						
MJAR				Sn	**Sg**	**04 34 51.4**	**-2.9**
	0.7nm,0.3s,baz=234,slow=29,SNR=4.7						
SONM	**Songino Array**	**23.22**	**312**	P	**P**	**04 37 12.6**	**+0.9**
	0.5nm,0.8s,mb3.0,baz=97,slow=12,SNR=2.9						
HNR	**Honiara**	**51.22**	**144**	LR	LR	04 58 32.3	
	comp=Z,184nm,19.6s,MS4.1,baz=357,slow=31						
WRA	**Warramunga Arr**	**54.42**	**177**	P	**P**	**04 41 31.4**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=354,slow=7.9,SNR=5.6						

WEL 04 04:33:59.5±0.4**, 3851S×17591E, h144**km±3km**, ML3.5**/16**, 6C, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTVZ	**West Tongariro**	**0.66**	**202**	PN	Pn	04 34 21.2	+0.2
TWVZ	**Taurewa**	**0.67**	**213**	⇑PN	Pn	04 34 21.3	+0.2
WPVZ	**Whakapapa**	**0.75**	**202**	⇑PN	Pn	04 34 21.9	+0.3
TUVZ	**Tukino**	**0.79**	**195**	PN	Pn	04 34 22.2	+0.3
FWVZ	**Far West T-bar**	**0.80**	**201**	PN	Pn	04 34 22.3	+0.3
BKZ	**Black Stump Fm**	**0.80**	**146**	⇑PN	Pn	04 34 22.3	+0.3
BKZ				SN	Sn	04 34 39.3	+0.2
WNVZ	**Wahianoa**	**0.85**	**197**	⇑PN	Pn	04 34 22.7	+0.2
MOVZ	**Moawhango**	**0.91**	**188**	⇑PN	Pn	04 34 22.7	-0.2
URZ	**Urewera**	**0.97**	**76**	PN	Pn	04 34 22.8	-0.6
URZ				SN	Sn	04 34 41.7	0.0
VRZ	**Vera Road**	**1.09**	**235**	PN	Pn	04 34 24.3	-0.2
MWZ	**Matawai**	**1.28**	**83**	PN	Pn	04 34 27.1	+0.8
MWZ				SN	Sn	04 34 46.5	-0.3
KNZ	**Kokohu**	**1.47**	**111**	PN	Pn	04 34 28.6	+0.3
TSZ	**Takapari Road**	**1.55**	**179**	PN	Pn	04 34 28.6	-0.5
PXZ	**Pawanui**	**1.69**	**154**	PN	Pn	04 34 30.3	-0.3
PXZ				SN	Sn	04 34 53.6	-0.9
PUZ	**Puketiti**	**1.90**	**77**	SN	Sn	04 34 57.3	-1.4
MRZ	**Mangatainoka R**	**2.17**	**187**	⇑PN	Pn	04 34 34.5	-1.7
MRZ				SN	Sn	04 35 01.1	-3.3
BFZ	**Birch Farm**	**2.19**	**173**	PN	Pn	04 34 35.2	-1.3
TIWZ	**Tintock**	**2.27**	**181**	PN	Pn	04 34 35.9	-1.6
KIW	**Kapiti Island**	**2.47**	**198**	PN	Pn	04 34 37.5	-2.5

*MOS **04** 04:47:04.2±0.8, 4.18S×14302E, h33km, mb5.5/31, Error ellipse: s-maj=10.7km s-min=5.7km az=97.5*
*ISCJB **04** 04:47:11.3±0.2, 437S±003×14299E±004, h100km, mb5.2/94, Error ellipse: s-maj=5.3km s-min=3.7km az=147.9*
*NEIC **04** 04:47:12.7±0.1, 434S×14299E, mb5.4/38, Error ellipse: s-maj=5.4km s-min=3.8km az=90.0*
*IDC **04** 04:47:12.8±0.4, 433S×14298E, h98km±3km, mb4.9/21, mb1 5.0/26, mb1mx5.0/27, mbtmp5.3/26, MS4.3/11, Ms1 4.3/11, ms1mx4.0/21, Error ellipse: s-maj=11.1km s-min=7.8km az=83.0*
*BJI **04** 04:47:12.7, 430S×14300E, h100km, mB5.2, mb5.2*
*GCMT **04** 04:47:12.7±0.1, 439S×14294E, h105km±1km, MW5.3/90, Moment Tensor Solution. s71,c101; s90,c171; Duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.40±.02; $M_{\theta\theta}$-0.47±.02; $M_{\phi\phi}$0.06±.02; $M_{r\theta}$0.95±.01; $M_{\theta\phi}$-0.02±.02; $M_{\phi r}$-0.42±.02; Best double couple: $M_0$1.12800×10^{17} NP1:φs246.00000°, δ15.00000°, λ45.00000°. NP2:φs111.00000°, δ80.00000°, λ100.00000°. Principal axes: T 1.1370, Plg54.0000°, Azm34.0000°; N -0.0180, Plg10.0000°, Azm290.0000°; P -1.1190, Plg34.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 04:47:13.3±0.2**, 436S**±003×**14303E**±004**, h102**km**, h102**km±.9km**:pP-P, n358, σ1s03**/218**, mb5.2**/92**, 24C-19D, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.47**	**141**	P	**Pn**	**04 48 45.9**	**0.0**
	27nm,0.3s,baz=322,slow=11,SNR=100						
PMG				S	**Sn**	**04 49 57.3**	**-1.1**

11nm,0.3s,baz=276,slow=19,SNR=2.6
PMG Lg 04 50 36.2
11nm,0.3s,baz=168,slow=20,SNR=1.9
PMG Port Moresby 6.47 141 P **Pn** **04 48 45.9 -0.1**
PMG S **Sn** **04 49 57.3 -1.1**
PMG pmax pmax
comp=Z,27nm,0.3s
PMG smax
comp=N,11nm,0.3s
PMG Port Moresby 6.47 141 *e*Pn **Pn** **04 48 46.1 +0.1**
KAKA Kakadu 13.36 231 *e*P **Pn** **04 50 16.4 -2.3**
comp=N,292nm,0.6s
CTA Charters Tower 15.95 169 *e*P **Pn** **04 50 51.7 0.0**
comp=N,30nm,1.1s
CTA Charters Tower 15.95 169 P **Pn** **04 50 52.0 +0.4**
comp=N,0.8nm,0.3s,baz=346,slow=12,SNR=16
CTA Lg 04 55 45.0
comp=N,0.7nm,0.3s,baz=62,slow=23,SNR=4.5
CTA LR LR 04 57 16.0
comp=N,1μm,20.3s,baz=354,slow=38
CTA Charters Tower 15.95 169 *e*P **Pn** **04 50 51.7 0.0**
CTA pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 15.95 169 *e*P **Pn** **04 50 51.7 0.0**
HNR Honiara 17.53 108 P **Pn** **04 51 11.7 +0.6**
comp=Z,151nm,0.3s,baz=270,slow=2.7,SNR=17
WRAB Tennant Creek 17.64 208 P **Pn** **04 51 10.0 -2.4**
comp=Z,3μm,0.8s
WRAB Tennant Creek 17.64 208 *d*/P **Pn** **04 51 10.5 -1.9**
WRAB Tennant Creek 17.64 208 *e*P **Pn** **04 51 09.8 -2.6**
WB2 Warramunga Arr 17.65 208 ⇓/P **Pn** **04 51 10.7 -1.8**
WB2 *e*pP pP 04 51 25.7 -5.4
WRA Warramunga Arr 17.65 208 P **Pn** **04 51 10.9 -1.7**
comp=Z,22nm,0.3s,baz=28,slow=12,SNR=100
WRA S **S** **04 54 32.1 +2.6**
comp=Z,0.7nm,0.3s,baz=35,slow=24,SNR=3.6
WRA Lg 04 56 27.6
baz=39,slow=28,SNR=2.6
WRA PKiKP PKiKP 05 03 37.4 -0.1
comp=Z,0.2nm,0.3s,baz=317,slow=1.1,SNR=16
WRA Warramunga Arr 17.65 208 P **Pn** **04 51 10.9 -1.7**
WRA S **S** **04 54 32.1 +2.6**
WRA Warramunga Arr 17.65 208 P **Pn** **04 51 10.9 -1.7**
WRA S **S** **04 54 32.1 +2.6**
WRA Lg 04 56 27.6
GUMO Guam 17.92 6 P **Pn** **04 51 16.5 +0.6**
comp=Z,17nm,0.3s,baz=187,slow=10.0,SNR=21
ASAR Alice Springs 21.12 204 P **P** **04 51 49.0 -0.8**
comp=Z,55nm,0.7s,mb5.0,baz=33,slow=11,SNR=421
ASAR pP 04 52 09.5
comp=Z,142nm,0.7s,baz=32,slow=8.3,SNR=15
ASAR Lg 04 58 21.7
comp=Z,9.0nm,0.8s,baz=32,slow=30,SNR=2.9
ASAR LR LR 05 01 00.5
comp=Z,2μm,18.7s,baz=33,slow=39
ASAR PKiKP PKiKP 05 03 38.9 -0.1
comp=Z,1.2nm,0.6s,baz=35,slow=0.9,SNR=6.8
ASAR Alice Springs 21.12 204 P **P** **04 51 49.0 -0.7**
ASAR *PP 04 52 09.5
ASAR Alice Springs 21.12 204 P **P** **04 51 49.0 -0.8**
ASAR pP 04 52 09.5
ASAR Lg 04 58 21.7
ASAR LR LR 05 01 00.6
ASPA Alice Springs 21.12 204 ⇓/P **P** **04 51 48.9 -0.8**
ASPA *e*pP 04 52 11.2
BUKP Musuan 21.66 304 *e*P pP 04 52 17.5 +2.3
FITZ Fitzroy Crossi 21.82 230 ⇓/P **P** **04 51 55.3 -1.9**
comp=Z,70nm,0.5s,mb5.2
FITZ *e* 04 51 59.1
FITZ *e* 04 52 31.4
FITZ Fitzroy Crossi 21.82 230 P **P** **04 51 55.2 -2.0**
comp=Z,242nm,0.7s,mb5.7,baz=53,slow=11,SNR=131
FITZ S **S** **04 55 47.4 -5.0**
comp=Z,19nm,0.9s,baz=54,slow=19,SNR=2.2
FITZ Lg 04 58 38.4
comp=Z,67nm,1.0s,baz=132,slow=12,SNR=4.1
FITZ LR LR 05 01 16.0
comp=Z,997nm,19.9s,baz=41,slow=39
PAGZ Pagadian 23.05 302 *e*P **P** **04 52 10.1 +0.4**
KAPI Kappang 23.21 267 P **P** **04 52 11.0 -0.2**
comp=Z,500nm,0.9s,mb5.8,SNR=8.2
ARMA Armidale 27.16 164 ⇓/P **P** **04 52 48.3 +1.4**
STKA Stephens Creek 27.41 183 ⇓/P **P** **04 52 48.9 -0.2**
comp=Z,59nm,0.7s,mb5.2
STKA Stephens Creek 27.41 183 P **P** **04 52 49.2 +0.1**
comp=Z,71nm,0.7s,mb5.3,baz=350,slow=8.2,SNR=132
STKA ScP ScP 04 59 41.0 +4.4
comp=Z,6.9nm,0.9s,baz=83,slow=11,SNR=3.6
STKA Lg 05 01 45.8
comp=Z,3.8nm,0.9s,baz=90,slow=20,SNR=1.6
STKA LR LR 05 05 58.5
comp=Z,915nm,18.5s,baz=5.3,slow=41
MBWA Marble Bar 28.13 232 P **P** **04 52 56.2 +0.7**
SNR=16
MBWA Marble Bar 28.13 232 *e*P **P** **04 52 55.6 +0.1**
comp=Z,175nm,0.9s,mb5.6
DZM Mont Dzumac 28.71 130 *e*P **P** **04 53 01.7 +0.9**
DZM Mont Dzumac 28.71 130 P **P** **04 53 02.1 +1.3**
comp=Z,344nm,0.6s,mb5.2,baz=282,slow=6.3,SNR=54
FORT Forrest 29.83 207 *e*P **P** **04 53 10.2 -0.5**
comp=Z,150nm,0.8s,mb5.7
CNB Canberra Magne 31.35 170 *e*P **P** **04 53 25.1 +1.0**
comp=Z,39nm,0.8s,mb5.2
TOO Toolangi 33.13 176 *e*P **P** **04 53 41.3 +1.7**
comp=Z,108nm,0.9s,mb5.7
TOO Toolangi 33.13 176 *e*P **P** **04 53 41.3 +1.7**
TOO pmax pmax
comp=Z,108nm,0.9s,mb5.7
KSM Kuching 33.21 279 P **P** **04 53 39.9 -0.4**
JOW Kunigami 34.14 336 P **P** **04 53 49.2 +0.9**
comp=Z,58nm,1.2s,mb5.3,baz=137,slow=7.1,SNR=7.9
JOW LR LR 05 06 21.5
comp=Z,306nm,19.4s,baz=126,slow=34
NACB Ninganchiao 35.22 325 *e*P **P** **04 53 56.9 -0.8**
NACB *e*pP pP 04 54 21.2 +0.4
YHNB Yeheng 35.73 325 *e*P **P** **04 54 03.0 +1.0**
YHNB *e*pP pP 04 54 25.8 +0.6
KLBR Kellerberrin 36.02 218 ⇓/P **P** **04 54 04.6 +0.1**
comp=Z,411nm,0.7s
MUN Mundaring 37.25 219 ⇓/P **P** **04 54 15.5 +0.6**
NWAO Narrogin (SRO) 37.26 217 P **P** **04 54 15.4 +0.3**
comp=Z,182nm,0.8s,mb6.1,baz=42,slow=7.9,SNR=99
NWAO Narrogin (SRO) 37.26 217 *e*P **P** **04 54 15.7 +0.7**
QZH Quanzhou 37.59 322 ⇑/P **P** **04 54 18.2 +0.4**
QZH AP pP 04 54 41.8 +0.7
QZH XP sP 04 54 53.4 +0.6
QIZ Qiongzhong 40.10 306 P **P** **04 54 40.0 +1.3**
QIZ AP pP 04 55 02.0 -0.3
QIZ S **S** **05 00 38.2 +0.9**
QIZ XS sS 05 01 19.0 +1.0
QIZ SS SS 05 03 37.2 -1.5
QIZ AMB AMB
comp=Z,6.0nm,1.2s,mb4.3
QIZ Qiongzhong 40.10 306 *e*P **P** **04 54 36.5 -2.3**
comp=Z,35nm,1.3s,mb5.0
QIZ *e*pP pP 04 55 01.1 -1.2
QIZ sP sP 04 55 12.2 -1.7
MJAR Matsushiro Arr 40.94 354 P **P** **04 54 44.1 -1.5**
comp=Z,18nm,0.8s,mb5.0,baz=178,slow=8.1,SNR=35
MJAR pP pP 04 55 08.3 -1.0
comp=Z,17nm,1.0s,baz=178,slow=6.9,SNR=4.3
MJAR sP sP 04 55 18.4 -2.5
comp=Z,2.9nm,0.4s,baz=14,slow=41,SNR=2.6
MJAR ScP ScP 05 00 23.6 -0.8
comp=Z,0.7nm,0.4s,baz=186,slow=3.7,SNR=4.2
MAJO Matsushiro 40.94 354 *e*P **P** **04 54 44.5 -1.2**
MAJO *e*pP pP 04 55 07.8 -1.4
MAJO *e*sP sP 04 55 17.8 -3.1
MAT Matsushiro 40.94 354 P **P** **04 54 44.2 -1.5**
MAT S **S** **05 00 52.0 +2.2**
SSE Sheshan 40.96 331 P **P** **04 54 46.4 +0.6**
SSE AP pP 04 55 09.6 +0.1
SSE XP sP 04 55 22.0 +0.9
SSE S **S** **05 00 50.9 +0.7**
SSE XS sS 05 01 31.5 +0.6
SSE SS SS 05 03 56.4 +0.6
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,88nm,3.7s
SSE LR LR
comp=N,159nm,22.5s
SSE LR LR
comp=E,259nm,22.5s
SSE LR LR
comp=Z,355nm,21.3s
KULM Kulim 43.40 282 *e*P **P** **04 55 04.8 -0.9**
WHN Wuhan 44.23 324 P **P** **04 55 14.5 +2.2**
WHN AP pP 04 55 38.5 +2.3
PSI Prapat 44.65 278 P **P** **04 55 15.2 -0.4**
comp=Z,13nm,0.9s,mb4.6,baz=68,slow=6.1,SNR=11
PSI pP pP 04 55 37.4 -2.2
comp=Z,35nm,0.8s,baz=76,slow=3.5,SNR=11
AFI Afiamalu 45.54 105 P **P** **04 55 25.5 +2.8**
comp=Z,24nm,0.6s,mb5.1,baz=142,slow=22,SNR=4.3
URZ Urewera 45.83 142 P **P** **04 55 26.2 +1.3**
comp=Z,16nm,0.4s,mb5.1,baz=271,slow=9.1,SNR=13
URZ LR LR 05 13 37.6
comp=Z,375nm,18.2s,baz=241,slow=34
RPZ Rata Peaks 46.35 152 LR LR 05 12 48.5
comp=Z,676nm,20.6s,baz=291,slow=33
GYA Guiyang 46.66 313 ⇑/P **P** **04 55 32.8 +1.3**
GYA AP pP 04 55 58.6 +3.0
GYA XP sP 04 56 11.5 +4.4
GYA PP PP 04 57 24.3 +1.8
GYA SCP ScP 05 00 46.6 -1.1
GYA S **S** **05 02 13.7 +0.6**
GYA XS sS 05 02 58.9 +4.4
GYA SS SS 05 05 34.9 -5.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,140nm,4.6s
GYA LR LR
comp=N,460nm,18.9s
GYA LR LR
comp=E,450nm,19.0s
GYA LR LR
comp=Z,430nm,19.4s
NST Nakhon Sawan 46.89 296 P **P** **04 55 29.3 -4.0**
DL2 Dalian 47.38 337 *e*P **P** **04 55 34.7 -2.4**
DL2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
NANT Nan 47.62 300 P **P** **04 55 40.0 +1.1**
ASAJ Asahikawa 48.26 360 P **P** **04 55 44.1 +0.3**
comp=Z,34nm,0.8s,mb5.2,baz=228,slow=14,SNR=10
ASAJ pP pP 04 56 07.9 -0.1
comp=Z,33nm,0.9s,baz=169,slow=17,SNR=3.6
ASAJ Asahikawa 48.26 360 P **P** **04 55 44.2 +0.4**
ASAJ pmax pmax
comp=Z,34nm,0.8s
ASAJ pmax pmax
comp=N,33nm,0.9s
VLA Vladivostok 48.32 349 *i*P **P** **04 55 44.9 +0.6**
CHRT Chiangrai 48.85 301 ⇑P **P** **04 55 49.0 +0.7**
comp=N,105nm,0.6s,mb5.9
KMI Kunming 48.89 309 P **P** **04 55 50.5 +1.9**
KMI AP pP 04 56 15.2 +2.3
KMI XP sP 04 56 26.9 +2.5
KMI PP PP 04 57 45.2 +2.4
KMI PPP 04 58 41.3
KMI S **S** **05 02 45.8 +1.3**
KMI XS sS 05 03 28.8 +2.5
KMI SS SS 05 06 14.0 -2.4
KMI AMB AMB
comp=Z,16nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,245nm,6.3s
KMI LR LR
comp=N,212nm,15.1s
KMI LR LR
comp=E,179nm,11.8s
KMI LR LR
comp=Z,311nm,25.5s
CM31 Chiang Mai Arr 49.00 299 *e*P **P** **04 55 50.6 +1.1**
comp=Z,7.9nm,0.4s,mb5.0
CHG Chiang Mai 49.14 299 ⇑P **P** **04 55 51.1 +0.5**
comp=Z,11nm,0.8s,mb4.8
CHTO Chiang Mai 49.14 299 *e*P **P** **04 55 50.8 +0.2**
CHTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CHTO Chiang Mai 49.14 299 *e*P **P** **04 55 50.8 +0.3**
comp=Z,8.1nm,0.8s,mb4.7
CHTO *e*pP pP 04 56 10.1 -4.7
SNY Shenyang 49.27 341 ⇑P **P** **04 55 50.6 -0.9**
XAN Xi'an 49.95 323 P **P** **04 55 56.3 -0.4**
XAN AP pP 04 56 20.0 -1.1
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.7
MDJ Mudanjiang 50.22 348 P **P** **04 55 58.6 -0.2**
MDJ XP sP 04 56 33.6 -1.0
MDJ PP PP 04 57 16.1 -0.4
MDJ SCP ScP 05 01 02.7 -0.2
MDJ PCS PcS 05 01 13.3 -0.4
MDJ S **S** **05 03 04.3 +1.1**
MDJ XS sS 05 03 45.6 +0.5
MDJ AMB AMB
comp=Z,39nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,254nm,5.9s
MDJ LR LR
comp=N,271nm,38.7s
MDJ LR LR
comp=E,164nm,44.0s
MDJ LR LR
comp=Z,404nm,40.0s
MDJ Mudanjiang 50.22 348 *e*P **P** **04 55 59.0 +0.2**
comp=Z,48nm,0.8s,mb5.5
MDJ *e* 04 56 33.9
CN2 Changchun 50.49 344 *e*P **P** **04 56 01.3 +0.5**
CN2 AP pP 04 56 24.9 -0.3
CN2 XP sP 04 56 36.0 -0.7
CN2 PCP PcP 04 57 17.1 -0.3
CN2 *e*S **S** **05 03 06.9 0.0**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,300nm,8.0s
BJT Baijiatuan 50.60 333 *e*P **P** **04 56 01.5 -0.1**
BJT pmax pmax
comp=Z,85nm,1.1s
BJT Baijiatuan 50.60 333 *e*P **P** **04 56 01.5 -0.1**
comp=Z,86nm,1.1s,mb5.7
BJI Beijing 50.61 333 P **P** **04 56 01.6 -0.1**
BJI S **S** **05 02 59.5 -9.1**
BJI AMB AMB
comp=Z,19nm,1.7s,mb4.8
BJI LR LR
comp=N,275nm,19.0s
BJI LR LR
comp=E,336nm,19.8s
BJI LR LR
comp=Z,336nm,35.6s
YSS Yuzh-Sakhalins 51.09 360 ⇑*e*P **P** **04 56 04.1 -1.2**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 51.09 360 *e*P **P** **04 56 05.3 0.0**
comp=Z,75nm,1.0s,mb5.7
CD2 Chengdu 51.33 316 *e*P **P** **04 56 08.0 +0.9**
CD2 AP pP 04 56 31.4 -0.2
CD2 PCP PcP 04 57 21.4 +0.8
CD2 PP PP 04 58 07.5 +2.5
CD2 SCP ScP 05 01 07.5 -0.1
CD2 PCS PcS 05 01 17.8 -0.6
CD2 S **S** **05 03 18.6 +0.2**
CD2 XS sS 05 03 59.4 -1.1
CD2 SCS ScS 05 05 45.4 -2.0
CD2 SS SS 05 06 53.4 -1.8
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,160nm,8.2s
MCQ Macquarie Isla 51.63 168 *e*P **P** **04 56 11.1 +1.7**
PBA Port Blair 52.49 288 *ex* x 04 57 08.8
PBA AMb AMB 04 57 29.6
comp=Z,155nm,2.2s,mb5.6
HABR Khabarovsk 53.07 353 *e*P **P** **04 56 19.6 -0.4**
HABR *e*S **S** **05 03 43.7 +1.4**
HHC Hu-ho-hao-te 53.42 330 *e*P **P** **04 56 25.5 +3.0**
HHC AP pP 04 56 50.1 +3.0
HHC XP sP 04 57 01.3 +2.8
HHC PCP PcP 04 57 30.4 +2.0
HHC PP PP 04 58 29.3 +5.5
HHC SCP ScP 05 01 18.0 +1.3
HHC PCS PcS 05 01 28.3 +0.8
HHC S **S** **05 03 49.4 +2.5**
HHC XS sS 05 04 32.7 +3.5
HHC SCS ScS 05 06 01.1 -0.9
HHC SS SS 05 07 30.0 +1.8
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,211nm,7.7s
HHC LR LR
comp=N,267nm,7.1s
HHC LR LR
comp=E,219nm,8.4s
HHC LR LR
comp=Z,237nm,8.3s
BTO Baotou 54.01 329 *e*P **P** **04 56 27.7 +0.9**
KLR Kul'dur 54.27 351 ⇓/P **P** **04 56 25.0 -3.7**
KLR pmax pmax
comp=E,40nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.6
LZH Lanzhou 54.43 321 *e*P **P** **04 56 31.2 +1.3**
LZH AP pP 04 56 55.7 +1.1
LZH XP sP 04 57 06.9 +1.0
LZH PCP PcP 04 57 31.9 -0.4
LZH PP PP 04 58 36.0 +3.1
LZH SCP ScP 05 01 22.7 +1.6
LZH PCS PcS 05 01 32.6 +0.7
LZH *e*S **S** **05 04 00.0 -0.5**
LZH XS sS 05 04 45.2 +2.2
LZH SS SS 05 07 42.8 -1.3
LZH AMB AMB
comp=Z,44nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,180nm,6.2s
SKR Severo-Kuril's 55.97 10 *e*P **P** **04 56 36.9 -4.0**
SKR pmax pmax
comp=Z,310nm,1.0s,mb6.3
HIA Hailar 57.12 342 *e*P **P** **04 56 48.9 -0.2**
HIA pmax pmax
comp=Z,51nm,1.1s
HIA Hailar 57.12 342 *e*P **P** **04 56 48.9 -0.2**
comp=Z,51nm,1.1s,mb5.5
SHL Shillong 57.82 304 *e*P **P** **04 56 50.7 -3.3**
SHL AMb AMB 04 56 56.6
comp=Z,970nm,1.5s
GTA Gaotai 58.99 322 *e*P **P** **04 57 03.0 +0.9**
GTA SCP ScP 05 01 43.6 +2.4
GTA AMB AMB
comp=Z,15nm,0.8s,mb5.1
GTA LR LR
comp=N,130nm,10.7s
GTA LR LR
comp=E,147nm,9.5s
GTA LR LR
comp=Z,219nm,12.2s
LSA Lhasa 60.11 308 *e*P **P** **04 57 11.5 +1.7**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
LSA Lhasa 60.11 308 *e*P **P** **04 57 11.5 +1.7**
comp=Z,6.7nm,0.6s,mb4.8
LSA *e*pP pP 04 57 31.6 -3.3
ULN Ulaanbaatar 60.82 333 P **P** **04 57 16.3 +1.6**
SNR=7.4
ULN Ulaanbaatar 60.82 333 *e*P **P** **04 57 15.0 +0.3**
ULN pmax pmax
comp=Z,51nm,1.2s,mb5.4
ULN Ulaanbaatar 60.82 333 *e*P **P** **04 57 15.0 +0.4**
comp=Z,51nm,1.2s,mb5.4
ULN *e*pP pP 04 57 40.4 +0.5
ULN *e*sP sP 04 57 50.4 -0.7
SONM Songino Array 61.10 333 P **P** **04 57 17.1 +0.5**
comp=Z,2.8nm,0.6s,mb4.5,baz=158,slow=6.6,SNR=20
SONM pP pP 04 57 41.1 -0.7
comp=Z,17nm,1.0s,baz=146,slow=7.8,SNR=10
SONM LR LR 05 21 15.8
comp=Z,177nm,20.4s,baz=12,slow=34
SONM PKP2bc 05 26 41.7
comp=Z,0.7nm,0.7s,baz=276,slow=2.7,SNR=5.7
SONM Songino Array 61.10 333 P **P** **04 57 17.1 +0.5**
SONM pP pP 04 57 41.1 -0.7
SONM LR LR 05 21 15.8
SONM ⇑*e* 05 26 41.7
CIT Chita 61.51 340 *e*P **P** **04 57 19.8 +0.5**
CIT pmax pmax
comp=Z,155nm,2.1s,mb5.7
BOK Bokaro 62.28 300 *e*P **P** **04 57 24.3 -0.1**
CLNS Chul'man 62.76 349 *e*P **P** **04 57 27.6 0.0**
CLNS *e* 04 58 01.9
CLNS *e* 04 59 42.4
CLNS *e*S **S** **05 05 50.0 +1.5**
CLNS pmax pmax
comp=Z,43nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,23nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLNS smax
comp=E,11nm,0.7s
CLNS smax
comp=N,8.0nm,0.8s
CLNS smax
comp=Z,7.0nm,0.8s
VIS Vishakhapatnam 62.83 292 *e*P **P** **04 57 28.3 +0.2**
VIS AMb AMB 04 57 54.6
comp=Z,42nm,1.1s,mb5.3
MA2 Magadan 64.03 4 *e*P **P** **04 57 36.2 +0.2**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.1
MA2 Magadan 64.03 4 *e*P **P** **04 57 36.1 0.0**
comp=Z,76nm,1.1s,mb5.4
MA2 *e*pP pP 04 58 00.3 -1.2
ZAK Zakamensk 64.36 333 *i*P **P** **04 57 38.1 0.0**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,28nm,1.2s,mb5.0
TLY Talaya 65.12 334 P **P** **04 57 43.9 +0.8**
SNR=7.0
TLY Talaya 65.12 334 *e*P **P** **04 57 43.3 +0.2**
TLY *e*S S 05 06 17.9 +0.2
TLY *e*SS SS 05 10 34.1 +2.4
TLY pmax pmax
comp=Z,14nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,208nm,22.0s
TLY Talaya 65.12 334 *e*P **P** **04 57 43.6 +0.5**
BOD Bodaibo 66.25 344 ⇓/P **P** **04 57 49.1 -1.2**
BOD *e* pP 04 58 15.3 -0.6
BOD pmax pmax
comp=Z,16nm,1.3s,mb4.7
BOD pmax pmax
comp=Z,52nm,1.2s,mb5.2
YAK Yakutsk 67.00 353 *e*P **P** **04 57 54.7 -0.4**
YAK *e**PP pP 04 58 20.2 -0.5
YAK *e* 05 00 24.2
YAK *e*PPP 05 02 01.1
YAK *e*S S 05 06 41.4 +0.9
YAK *e**SS sS 05 07 27.2 +2.9
YAK *e* 05 07 38.3
YAK pmax pmax
comp=Z,89nm,1.1s,mb5.5
YAK pmax pmax
comp=N,47nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,21nm,1.4s,mb4.8
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.7s
YAK smax
comp=E,29nm,1.5s
YAK smax
comp=N,15nm,1.6s
YAK Yakutsk 67.00 353 *e*P **P** **04 57 54.6 -0.5**
comp=N,32nm,0.7s,mb5.3
YAK *e*pP pP 04 58 19.3 -1.4
TRD Trivandrum 67.11 281 *e*P **P** **04 57 55.8 -0.1**
TRD AMb AMB 04 58 11.0
comp=Z,48nm,1.5s,mb5.1
PPT Papeete 67.15 107 *e*sP sP 04 58 32.8 0.0
comp=Z,109nm,1.4s

PPT Papeete 67.15 107 *e*S S 05 06 42.7 +0.4
comp=Z,573nm,27.8s
PPT *e*LR LR 05 18 17.5
comp=Z,147nm,22.5s
PPT Papeete 67.15 107 LR LR 05 23 15.2
comp=Z,186nm,19.5s,baz=261,slow=32
HYB Hyderabad 67.19 291 *i* P **P** **04 57 56.0 -0.3**
HYB *e*PcP PcP 04 58 21.0 -2.6
HYB *e*sP sP 04 58 31.5 -1.6
HYB Hyderabad 67.19 291 *e*P pP 04 58 21.0 -0.9
SEY Seymchan 67.48 5⇓ *e*P **P** **04 57 57.9 -0.3**
NGP Nagpur 67.59 295 *ex* x 04 57 54.4
NGP AMb AMB 04 58 14.2
comp=Z,31nm,0.0s
TBI Tubuai 67.64 113 *e*S S 05 06 48.1 -0.1
comp=Z,360nm,28.8s
PMOR Pomariorio Ree 68.68 104 *e*P **P** **04 58 07.6 +1.9**
comp=Z,116nm,0.9s,mb5.7
PMOR *e*sP sP 04 58 42.3 -0.2
comp=Z,29nm,1.0s
VAH Vaihoa 68.94 105 *e*P **P** **04 58 09.0 +1.7**
comp=Z,66nm,0.9s,mb5.5
VAH *e*pP pP 04 58 32.7 -0.3
comp=Z,36nm,0.9s
WMQ Urumqi 69.00 320⇑ *i*P **P** **04 58 08.3 +0.7**
WMQ AP pP 04 58 33.0 -0.4
WMQ XP sP 04 58 44.5 0.0
WMQ PP PP 05 00 44.0 +2.8
WMQ PPP 05 02 24.0
WMQ S S 05 07 04.0 -0.3
WMQ XS sS 05 07 44.0 -4.4
WMQ AMB AMB
comp=Z,20nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,103nm,5.0s
WMQ LR LR
comp=N,540nm,21.2s
WMQ LR LR
comp=E,455nm,25.0s
WMQ LR LR
comp=Z,312nm,27.8s
AKL Akola 69.33 294 *ex* x 04 58 04.2
AKL AMb AMB 04 58 10.8
comp=Z,29nm,0.8s,mb5.1
BHPL Bhopal 69.57 297 *e*P **P** **04 58 10.9 -0.2**
BHPL AMb AMB 04 58 13.2
comp=Z,22nm,0.7s,mb5.1
JOSI Joshimath 69.76 305 *ex* x 04 57 53.5
JOSI AMb AMB 04 57 56.1
comp=Z,353nm,0.0s
AGRA Agra 70.15 301 *e*P **P** **04 58 14.3 -0.4**
AGRA AMb AMB 04 58 15.1
comp=Z,71nm,0.2s,mb6.2
MIR Mirnyy 71.00 199 *d i*P **P** **04 58 21.5 +1.6**
MIR *e*PPP 05 00 55.0
MIR pmax pmax
comp=Z,1μm,1.0s
MIR pmax pmax
comp=Z,2μm,20.0s
KLP Kalpa 71.13 305 *e*P **P** **04 58 20.6 0.0**
SONA Sohna 71.16 302 *e*P **P** **04 58 20.6 -0.3**
SONA AMb AMB 04 58 22.3
comp=Z,18nm,0.2s,mb5.7
NDI New Delhi 71.16 302 *e*P **P** **04 58 19.0 -1.9**
AYAN Aya Nagar 71.19 302 *ex* x 04 58 11.5
AYAN AMb AMB 04 58 42.0
comp=Z,49nm,1.2s,mb5.2
KAD Karad 71.25 290 *e*P **P** **04 58 21.6 +0.2**
KUDL Kundal 71.64 301 *e*P **P** **04 58 23.0 -0.7**
KUDL AMb AMB 04 58 39.9
comp=Z,20nm,0.5s,mb5.2
POO Poona 71.80 291 *e*P **P** **04 58 23.5 -1.2**
KKR Kurukshetra 71.85 303 *ex* x 04 58 47.3
KKR AMb AMB 04 58 59.5
comp=Z,156nm,0.3s,mb6.3
SMLA Simla 71.89 305 *e*P **P** **04 58 25.9 +0.6**
AKUT Akutan 72.14 29 *e*P **P** **04 58 26.6 -0.1**
comp=Z,206nm,1.6s,mb5.7
AKUT LR LR
comp=Z,100nm,21.0s
SDNR Sundarnagar 72.16 305 *e*P **P** **04 58 28.4 +1.5**
KHET Khetri 72.20 301 *e*P **P** **04 58 26.4 -0.7**
MK31 Makanchi Array 73.74 321 P **P** **04 58 36.2 0.0**
MK31 pmax pmax
comp=Z,23nm,0.7s,mb5.0
MKAR Makanchi Array 73.74 321 P **P** **04 58 36.4 +0.2**
comp=Z,21nm,0.8s,mb4.9,baz=107,slow=6.7,SNR=64
MKAR pP pP 04 59 01.3 -0.9
comp=Z,33nm,0.7s,baz=107,slow=6.5,SNR=14
VNDA Vanda 73.80 176 P **P** **04 58 36.7 +0.2**
comp=Z,28nm,0.8s,mb5.0,baz=326,slow=6.5,SNR=183
VNDA LR LR 05 28 56.5
comp=Z,160nm,21.1s,baz=352,slow=34
VNDA Vanda 73.80 176 P **P** **04 58 36.7 +0.2**
VNDA LR LR 05 28 56.5
BILL Bilibino 74.06 9 *i* P **P** **04 58 38.1 +0.1**
BILL pmax pmax
comp=Z,26nm,1.5s,mb4.7
SBA Scott Base 74.50 175 *e*P **P** **04 58 41.8 +1.2**
SBA pmax pmax
comp=Z,69nm,1.3s,mb5.2
SBA Scott Base 74.50 175 *e*P **P** **04 58 41.8 +1.2**
comp=Z,69nm,1.3s,mb5.2
SBA *e* pP 04 59 11.6 +4.9
SDPT Sand Point 75.38 29 *e*P **P** **04 58 45.0 -0.6**
comp=Z,106nm,1.2s,mb5.5
SDPT LR LR
comp=Z,100nm,19.0s
JASL Jaisalmer 76.16 299 *e*P **P** **04 58 50.5 +0.4**
TIXI Tiksi 76.43 355 *e*P **P** **04 58 50.7 -0.9**
TIXI *e*pP pP 04 59 18.3 +0.5
KZA Kyzart 76.69 315 P **P** **04 58 54.8 +1.7**
SNR=12
TKM2 Tokmak 2 76.71 316 P **P** **04 58 53.8 +0.6**
SNR=5.0
TKM2 Tokmak 2 76.71 316 P **P** **04 58 53.7 +0.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
NVS Novosibirsk 76.79 329 *i* P **P** **04 58 52.6 -1.0**
NVS *e*S S 05 08 30.6 -2.0
NVS pmax pmax
comp=Z,42nm,1.1s,mb5.1
NVS pmax pmax
comp=N,17nm,1.2s
NVS pmax pmax
comp=E,25nm,1.2s
NVS smax
comp=N,12nm,1.6s
NVS smax
comp=E,39nm,2.1s
CHGN Chignik 76.86 29 *e*P **P** **04 58 53.6 -0.4**
KBK Karagaybulak 77.08 315 P pP 04 59 23.6 +2.1
SNR=5.7
FRU Bishkek 77.37 315 *e*P **P** **04 58 56.0 -0.9**
AAK Ala-Archa 77.39 315 *c i*P **P** **04 58 56.7 -0.3**
AAK *i* 04 59 06.4
AAK *i* 05 01 52.5
AAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
AAK Ala-Archa 77.39 315 *e*P **P** **04 58 57.2 +0.2**
KURK Kurchatov 77.56 324 P **P** **04 58 57.7 -0.2**
comp=Z,112nm,0.9s,mb5.6,SNR=15
USP Ospenovka 77.58 316 P **P** **04 58 58.0 -0.1**
SNR=21
AML Almayashu 77.81 315 P **P** **04 59 00.6 +1.3**
SNR=6.5
EKS2 Erkin-Say 77.91 315 P **P** **04 59 00.8 +0.9**
SNR=13
KKAR Karatay Array 80.33 315 *i* P **P** **04 59 13.0 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KDAK Kodiak Island 80.38 29 P **P** **04 59 13.0 -0.3**
comp=Z,144nm,0.9s,mb5.8,SNR=5.6
KDAK Kodiak Island 80.38 29 P **P** **04 59 13.3 0.0**
comp=Z,12nm,0.7s,mb4.8,baz=142,slow=2.1,SNR=11
KDAK pP pP 04 59 39.2 -0.4
comp=Z,63nm,0.8s,baz=239,slow=1.9,SNR=17
KDAK Kodiak Island 80.38 29 *e*P **P** **04 59 13.3 0.0**
SVW2 Sparrevohn 80.44 26 *e*P **P** **04 59 13.6 -0.1**
SVW2 *e*pP pP 04 59 39.6 -0.5
SVW2 *e*sP sP 04 59 49.7 -1.3
RKT Rikitea 80.95 113 *e*LR LR 05 24 43.4
comp=Z,162nm,27.0s
TTA Tatalina 81.12 24 *e*P **P** **04 59 17.3 0.0**
MAW Mawson 82.24 202⇓ *i*P **P** **04 59 23.6 +0.4**
comp=Z,60nm,0.9s,mb5.4
MAW Mawson 82.24 202 P **P** **04 59 23.7 +0.6**
comp=Z,79nm,0.9s,mb5.5,baz=84,slow=6.3,SNR=121
MAW Mawson 82.24 202⇓ *i*P **P** **04 59 23.6 +0.4**
MAW pmax pmax
comp=Z,60nm,0.9s
SLKM Skilak Lake 82.58 27 *e*P **P** **04 59 23.5 -1.4**
SLKM *e*pP pP 04 59 50.4 -1.0
VOSK Vostochnaya 82.71 324 P **P** **04 59 25.1 -0.5**
VOSK pmax pmax
comp=Z,22nm,1.0s,mb4.9
BVA0 Borovoye Array 83.14 324 P **P** **04 59 27.7 -0.1**
BVA0 pmax pmax
comp=Z,16nm,1.1s,mb4.8
BVAR Borovoye Array 83.14 324 P **P** **04 59 27.7 -0.1**
comp=Z,42nm,0.7s,mb5.4,baz=111,slow=6.5,SNR=261
BVAR pP pP 04 59 54.0 -0.3
comp=Z,51nm,0.9s,baz=118,slow=5.4,SNR=8.7
CHKZ Chkalovo 83.19 325⇑ *i*P **P** **04 59 27.5 -0.6**
CHKZ pmax pmax
comp=Z,36nm,0.8s,mb5.2
CHKZ Chkalovo 83.19 325⇑ *i*P **P** **04 59 27.5 -0.6**
comp=Z,36nm,0.8s,mb5.2
CHKZ *e*pP pP 04 59 51.6 -3.0
BRVK Borovoye 83.21 325 P **P** **04 59 28.0 -0.2**
comp=Z,340nm,0.9s,mb6.2,SNR=39
BRVK Borovoye 83.21 325 P **P** **04 59 28.4 +0.2**
SNR=29
BRVK Borovoye 83.21 325 P **P** **04 59 28.2 0.0**
PMR Palmer 83.48 26 *e*P **P** **04 59 28.0 -1.6**
PMR pmax pmax
comp=Z,34nm,1.2s,mb5.0
PMR MLR MLR
comp=Z,100nm,23.0s
PMR Palmer 83.48 26 *e*P **P** **04 59 28.0 -1.6**
comp=Z,34nm,1.2s,mb5.0
PMR LR LR
comp=Z,100nm,23.0s
ZRNK Zerenda 83.92 324⇑ *i*P **P** **04 59 31.2 -0.6**
ZRNK pmax pmax
comp=Z,42nm,0.8s,mb5.3
ZRNK Zerenda 83.92 324⇑ *i*P **P** **04 59 31.2 -0.6**
comp=Z,42nm,0.8s,mb5.3
ZRNK *e*pP pP 04 59 56.8 -1.6
MCK McKinley 84.36 24 *e*P **P** **04 59 32.3 -1.7**
MCK pmax pmax
comp=Z,66nm,1.2s,mb5.3
MCK McKinley 84.36 24 *e*P **P** **04 59 32.3 -1.7**
comp=Z,66nm,1.2s,mb5.3
MCK *e*pP pP 04 59 59.5 -1.2
MCK *e*sP sP 05 00 08.3 -3.2
EYAK Cordova Ski Ar 84.66 28 *e*P **P** **04 59 34.9 -0.6**
EYAK *e*sP sP 05 00 12.1 -1.0
COLA College 85.21 24 *e*P **P** **04 59 36.5 -1.8**
COLA pmax pmax
comp=Z,35nm,1.1s,mb5.2
COLA College 85.21 24 *e*P **P** **04 59 36.5 -1.8**
comp=Z,35nm,1.1s,mb5.2
COLA *e*pP pP 05 00 03.6 -1.3
COLA *e*sP sP 05 00 12.1 -3.7
QSPA South Pole Qui 85.60 180 *e*P **P** **04 59 40.2 0.0**
comp=Z,144nm,0.9s,mb5.9
MENT Mentasta 86.31 26 *e*P **P** **04 59 43.2 -0.6**
EGAK Eagle 87.91 25 *e*P **P** **04 59 50.5 -1.0**
EGAK *e*pP pP 05 00 16.8 -1.5
EGAK *e*sP sP 05 00 26.9 -2.2
DAWY Dawson 88.48 25 *e*P **P** **04 59 53.7 -0.5**
DAWY *e*pP pP 05 00 21.7 +0.7
AB31 Akbulak array 88.77 319 *i* P **P** **04 59 54.0 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
SKAG Skagway 89.48 30 *e*P **P** **04 59 58.9 +0.1**
comp=Z,29nm,1.4s,mb5.1
SKAG LR LR
comp=Z,100nm,21.0s
AKTK Aktyubinsk 90.15 320 P **P** **05 00 00.2 -1.7**
AKTK pP pP 05 00 27.1 -1.7
AKTK PKKPbc PKKPbc 05 17 32.5 +1.2
AKTO Aktyubinsk 90.15 320 P **P** **05 00 00.2 -1.7**
comp=Z,2.9nm,0.6s,mb4.6,baz=107,slow=5.8,SNR=13
AKTO pP pP 05 00 27.1 -1.7
comp=Z,11nm,0.9s,baz=103,slow=4.0,SNR=8.7
AKTO PKKPbc PKKPbc 05 17 32.5 +1.2
comp=Z,0.7nm,0.4s,baz=325,slow=4.2,SNR=3.9
ARU Arti 90.54 326⇑ *e*P **P** **05 00 01.7 -2.1**
ARU *i* 05 03 38.0
ARU pmax pmax
comp=Z,21nm,1.6s,mb5.0
ARU Arti 90.54 326 *e*P **P** **05 00 01.8 -2.0**
comp=Z,6.3nm,0.3s,mb5.2
ARU *e*pP pP 05 00 30.7 +0.1
WRAK Wrangell Islan 90.62 34 *e*P **P** **05 00 04.1 -0.1**
WRAK *e*pP pP 05 00 32.0 +1.0
WRAK *e*sP sP 05 00 41.2 -0.7
SYO Syowa Base 90.75 201⇑ *e*P **P** **05 00 04.6 -0.2**
SYO Syowa Base 90.75 201⇑ *e*PP PP 05 03 38.4 -3.1
INK Inuvik 91.59 22 P **P** **05 00 07.1 -1.6**
comp=Z,1.0nm,0.4s,mb4.4,baz=266,slow=8.3,SNR=8.0
INK PP PP 05 03 42.9 -5.2
comp=Z,3.4nm,0.9s,baz=209,slow=5.9,SNR=3.0
INK Inuvik 91.59 22 *e*P **P** **05 00 06.4 -2.3**
INK 05 03 42.9
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 91.59 22 *e*P **P** **05 00 06.4 -2.3**
comp=Z,4.2nm,1.0s,mb4.6
INK *e*pP pP 05 00 34.2 -1.4
INK PP PP 05 03 42.9 -5.2
YBH Yreka Blue Hor 96.05 49 *e*P **P** **05 00 29.5 +0.4**
YBH pmax pmax
comp=Z,18nm,1.5s
YBH Yreka Blue Hor 96.05 49 *e*P **P** **05 00 29.5 +0.3**
comp=Z,18nm,1.5s,mb5.3
YBH *e*pP pP 05 00 56.1 0.0
YBH *e*sP sP 05 01 06.7 -0.2
HAWA Hanford 98.27 44 *e*P **P** **05 00 38.5 -0.6**
comp=Z,0.4nm,1.2s
HAWA *e*pP pP 05 01 06.7 +0.6
HAWA *e*sP sP 05 01 15.7 -1.3
WVOR Wild Horse Val 99.07 48 *e*P **P** **05 00 42.8 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
WVOR Wild Horse Val 99.07 48 *e*P **P** **05 00 42.8 +0.1**
comp=Z,7.5nm,0.9s,mb5.2
WVOR *e*pP pP 05 01 09.4 -0.3
WVOR *e*sP sP 05 01 20.5 -0.1
NVAR Mina Array Bea 99.48 52 P Pdif 05 00 44.8 +0.2
comp=Z,0.9nm,0.8s,baz=255,slow=4.5,SNR=8.4
NVAR PKiKP PKiKP 05 05 10.3 -3.1
comp=Z,0.7nm,0.7s,baz=263,slow=5.2,SNR=3.0
YKA Yellowknife Ar 99.56 27 P Pdif 05 00 43.1 -1.7
comp=Z,1.9nm,0.7s,baz=280,slow=4.6,SNR=13
YKA pP pP 05 01 10.6 -1.3
comp=Z,1.3nm,0.7s,baz=278,slow=4.8,SNR=4.4
YKA PP PP 05 04 45.4 -4.3
comp=Z,1.6nm,0.8s,baz=277,slow=7.1,SNR=6.4
YKA PKiKP PKiKP 05 05 12.2 -1.2
comp=Z,0.8nm,0.7s,baz=278,slow=1.1,SNR=7.4
YKA PKKPbc PKKPbc 05 17 05.5 -0.9
comp=Z,0.4nm,0.6s,baz=104,slow=3.0,SNR=5.5
YKA LR LR 05 40 26.1
comp=Z,90nm,22.0s,baz=345,slow=32
YKA Yellowknife Ar 99.56 27 P Pdif 05 00 43.1 -1.7
YKA pP pP 05 01 10.6 -1.3
YKA PP PP 05 04 45.4 -4.3
BMO Blue Mountains 99.91 45 *e*P Pdif 05 00 46.5 +0.1
BMO pmax pmax
comp=Z,5.0nm,1.1s,mb5.1
BMO Blue Mountains 99.91 45 *e*Pdif Pdif 05 00 46.5 +0.1
comp=Z,5.2nm,1.1s
DAC Darwin (Calif) 100.12 54 *e*P Pdif 05 00 47.1 -0.3
DAC pmax pmax
comp=Z,3.0nm,1.3s
DAC Darwin (Calif) 100.12 54 *e*Pdif Pdif 05 00 47.1 -0.3
comp=Z,3.1nm,1.3s
SNAA Sanae 100.92 190 PP PP 05 04 58.3 -1.8
comp=Z,8.1nm,1.0s,baz=158,slow=10,SNR=7.8
SNAA Sanae 100.92 190 *d i*P Pdif 05 00 50.7 -0.3
SNAA Sanae 100.92 190 *e*Pdif Pdif 05 00 50.5 -0.4
comp=Z,11nm,1.1s
APA Apatity 101.44 338⇓ *i*P Pdif 05 00 49.4 -3.8
APA pmax pmax
comp=Z,10.0nm,1.0s
HLID Hailey 102.09 47 *e*Pdif Pdif 05 00 57.1 +0.9
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 103.46 341 Pdiff Pdif 05 01 00.3 -1.9
comp=Z,6.2nm,0.8s,baz=64,slow=6.5,SNR=20
ARCES PKiKP PKiKP 05 05 20.0 -0.5
comp=Z,2.0nm,0.9s,baz=70,slow=1.4,SNR=4.6
ARCES PKKPbc PKKPbc 05 16 55.1 0.0
comp=Z,1.9nm,1.0s,baz=270,slow=0.9,SNR=4.8
JOF Joensuu 103.65 334 *e*pkp Pdif 05 00 59.5 -3.6
PDAR Pinedale Array 105.71 47 Pdiff Pdif 05 01 13.2 +1.0
comp=Z,0.4nm,0.7s,baz=338,slow=1.6,SNR=4.2
PDAR pPdiff 05 01 39.8
comp=Z,1.1nm,0.7s,baz=260,slow=1.3,SNR=7.7
PDAR PKiKP PKiKP 05 05 25.5 +0.8
comp=Z,0.9nm,0.7s,baz=165,slow=1.0,SNR=7.2
KAF Kangasniemi 106.11 334 *e*pkp Pdif 05 01 08.7 -5.3
baz=62,slow=4.0
FINES FINESS Array B 106.47 333 Pdiff Pdif 05 01 13.1 -2.5
comp=Z,4.3nm,0.9s,baz=95,slow=5.6,SNR=6.0
FINES pPdiff 05 01 41.5
comp=Z,1.4nm,0.6s,baz=68,slow=10,SNR=4.5
FINES PP PP 05 05 39.5 -1.8
comp=Z,1.2nm,0.8s,baz=73,slow=6.4,SNR=3.4
FINES FINESS Array B 106.47 333 Pdif Pdif 05 01 13.1 -2.5
FINES PP PP 05 05 39.5 -1.8
BRTR Keskin Array B 107.66 310 PKKPbc PKKPbc 05 16 44.3 +2.0
comp=Z,0.7nm,0.6s,baz=186,slow=2.5,SNR=3.9
AKASG Malin Array Be 108.32 322 PKiKP PKiKP 05 05 28.5 -1.0
comp=Z,0.5nm,0.4s,baz=55,slow=2.2,SNR=4.0
AKASG Malin Array Be 108.32 322 PKPdf PKiKP 05 05 28.5 -1.0
ANMO Albuquerque 109.27 55 *e*PKPdf PKiKP 05 05 32.4 +1.1
ULM Lac du Bonnet 112.86 37 PKiKP PKiKP 05 05 36.7 -1.4
comp=Z,1.7nm,0.5s,baz=117,slow=1.9,SNR=7.0
ULM Lac du Bonnet 112.86 37 PKPdf PKiKP 05 05 36.7 -1.4
ECSD EROS,Sioux Fal 114.66 43 *e*PKPdf PKiKP 05 05 40.5 -1.1
VYHS Vyhne 115.42 322 *e* PKPdf 05 05 42.9 -0.1
WMOK Wichita Mounta 115.51 54 *e*PKIKP PKPdf 05 05 42.9 -0.3
JCT Junction City 115.54 58⇑ *i*PKIKP PKPdf 05 05 43.5 +0.3
KSU1 Kansas State U 116.08 48 *e*PKPdf PKPdf 05 05 44.5 +0.2
DPC Dobruska-Polom 116.09 325 *e*PKP PKPdf 05 05 35.2 -9.1
BRG Berggiesshubel 117.18 326 *e*P PKPdf 05 05 46.4 0.0
comp=Z,3.6nm,0.9s
CLL Collm 117.47 327 *e*PKPdf PKPdf 05 05 46.7 -0.3
CLL Collm 117.47 327⇓ *i*PKP PKPdf 05 05 46.8 -0.2
CLL *e* 05 06 19.0
FBE Freiberg 117.48 327 *e*PKPdf PKPdf 05 05 47.0 0.0
TANN Tannenbergstha 118.23 327 *e*PKPdf PKPdf 05 05 48.8 +0.4
KHC Kasperske Hory 118.24 325 *e*PKPdf PKPdf 05 05 48.3 -0.1
KHC *ep*PKP pPKPdf 05 06 18.8 +2.4
WERD Werda 118.30 327 *e*PKPdf PKPdf 05 05 48.5 0.0
GEC2 GERESS Array S 118.31 325 *e*PKPdf PKPdf 05 05 48.4 -0.2
GERES GERESS Array B 118.31 325 PKP PKPdf 05 05 47.9 -0.7
comp=Z,2.2nm,0.5s,baz=109,slow=1.9,SNR=14
GERES pPKP pPKPdf 05 06 16.7 +0.1
comp=Z,1.9nm,0.6s,baz=73,slow=1.8,SNR=6.1
GUNZ Gunzen 118.32 327 *e*PKPdf PKPdf 05 05 48.9 +0.3
WERN Wernitzgruen 118.34 326 *e*PKPdf PKPdf 05 05 48.7 +0.1
MANZ Manzenberg 118.64 326 *e*PKPdf PKPdf 05 05 49.3 +0.1
HKT Hockley 119.01 58 *e*PKPdf PKPdf 05 05 50.7 +0.8
HKT *ep*PKPdf pPKPdf 05 06 18.5 +0.6
HKT *e*SKPdf SKPdf 05 09 16.4 +0.4
GRA1 Grafenberg Arr 119.28 326 *e*PKPdf PKPdf 05 05 50.3 -0.1
GRF Grafenberg Arr 119.28 326 *e*PKPdf PKPdf 05 05 50.3 -0.1
JFWS Jewell Farm 119.29 42 *e*PKPdf PKPdf 05 05 49.2 -1.2
JFWS *ep*PKPdf pPKPdf 05 06 16.5 -1.9
MIAR Mount Ida 119.71 53 *e*PKPdf PKPdf 05 05 51.2 -0.1
MIAR *ep*PKPdf pPKPdf 05 06 19.1 -0.1
WATA Walderalm 120.29 324⇑ *i*P PKPdf 05 05 52.9 +0.5
comp=Z,1.8nm,0.6s
WTTA Wattenberg 120.29 324⇑ *i*P PKPdf 05 05 52.3 -0.1
comp=Z,11nm,0.5s
MOTA Moosalm 120.56 324⇓ *i*P PKPdf 05 05 52.6 -0.3
comp=Z,5.9nm,0.9s
SQTA Sankt Quirin 120.56 324⇑ *i*P PKPdf 05 05 52.7 -0.2
comp=Z,3.8nm,0.8s
UALR University of 120.61 52 *e*PKPdf PKPdf 05 05 53.1 +0.2
UALR *ep*PKPdf pPKPdf 05 06 20.0 -1.0
UALR *e*SKPdf SKPdf 05 09 19.9 +0.8
FVM French Village 121.03 48 *e*PKPdf PKPdf 05 05 53.1 -0.7
FVM *ep*PKPdf pPKPdf 05 06 19.9 -1.9
FVM *es*PKPdf 05 06 28.0
DAVA Damuels 121.31 324⇑ *i*P PKPdf 05 05 54.2 -0.1
comp=Z,10nm,0.5s
BFO Black Forest 121.62 326 *e*PKPdf PKPdf 05 05 54.5 -0.4
CMIG Matias Romero 121.91 73 PKP PKPdf 05 05 56.6 +1.1
comp=Z,20nm,0.6s,baz=290,slow=2.9
PARMO Parma 121.99 49 *e*PKPdf PKPdf 05 05 55.2 -0.4
FELD Feldberg im Sc 122.06 326 PKP PKPdf 05 05 55.6 -0.2
CDF Champ du Feu 122.16 327 *e*PKIKP PKPdf 05 05 55.7 -0.3
comp=Z,3.5nm,0.6s
GIVF Givet 122.45 329 *e*PKIKP PKPdf 05 05 56.8 +0.3
HINF Hinteralfeld 122.73 326 *e*PKIKP PKPdf 05 05 56.9 -0.2
comp=Z,16nm,0.7s
HAU Haudompre 122.90 327 *e*PKIKP PKPdf 05 05 57.4 0.0
comp=Z,20nm,0.7s
LOMF Lomont 123.01 326 PKP PKPdf 05 05 57.2 -0.4
BLO Bloomington 123.39 45 *e*PKPdf PKPdf 05 05 58.0 -0.3
BLO *ep*PKPdf pPKPdf 05 06 25.5 -0.8
BLO *es*PKPdf 05 06 34.8
WVT Waverly 123.63 49 *e*PKPdf PKPdf 05 05 57.7 -1.1
WVT *ep*PKPdf pPKPdf 05 06 25.1 -1.8
CABF La Chapelle 123.85 325 *e*PKIKP PKPdf 05 05 59.8 +0.6
comp=Z,24nm,0.7s
PLAL Pickwick Lake 123.86 50 *e*PKPdf PKPdf 05 05 56.5 -2.7
PLAL *ep*PKPdf pPKPdf 05 06 24.9 -2.4
WCI Wyandotte Cave 123.94 46 *e*PKPdf PKPdf 05 05 58.8 -0.6
WCI *ep*PKPdf pPKPdf 05 06 26.2 -1.2
LPG La Plagne 124.09 324 *e*PKIKP PKPdf 05 06 00.3 +0.6
comp=Z,11nm,0.6s
LPL La Plagne 124.10 324 *e*PKIKP PKPdf 05 06 00.3 +0.6
comp=Z,10.0nm,0.6s
SCHQ Schefferville 124.19 20 PKP PKPdf 05 05 59.0 -0.9
comp=Z,3.8nm,0.6s,baz=308,slow=2.6,SNR=5.4
BNI Bardonecchia 124.38 324 *e*PKIKP PKPdf 05 06 00.6 +0.4
SAOF Saorge 124.43 322 PKP PKPdf 05 06 01.1 +0.8
AUTN L'Aution 124.51 322 PKP PKPdf 05 06 01.5 +1.0
AUTN L'Aution 124.51 322 PKP PKPdf 05 06 00.7 +0.2
AUTN L'Aution 124.51 322 PKP PKPdf 05 06 00.7 +0.2
AUTN PKP PKPdf 05 06 01.5 +1.0
MBDF Montbardon 124.51 323 *e*PKIKP PKPdf 05 06 00.5 0.0
comp=Z,7.7nm,0.7s
SBF Sospel 124.57 322 *e*PKIKP PKPdf 05 06 00.6 0.0
comp=Z,25nm,0.8s
TOUF Mont Tournerai 124.61 322 PKP PKPdf 05 06 01.0 +0.3
LUCF Luceram 124.61 322 PKP PKPdf 05 06 01.6 +0.9
LOR Lormes 124.69 327 *e*PKIKP PKPdf 05 06 01.0 +0.2
MVIF Mont Vial 124.73 322 PKP PKPdf 05 06 01.8 +0.9
ORIF Oris-en-Rattie 124.93 324 *e*PKIKP PKPdf 05 06 01.6 +0.3
comp=Z,12nm,0.7s
SMF Signal de Mont 125.08 327 *e*PKIKP PKPdf 05 06 01.7 +0.1
comp=Z,25nm,1.0s
FRF La Foret Royal 125.22 322 *e*PKIKP PKPdf 05 06 02.0 +0.2
comp=Z,23nm,0.8s
AVF Avril sur Loir 125.26 327 *e*PKIKP PKPdf 05 06 01.9 0.0
comp=Z,9.8nm,0.9s
HYF Humbligny 125.34 328 *e*PKIKP PKPdf 05 06 02.7 +0.6
ACSO Alum Creek Sta 125.36 42 *e*PKPdf PKPdf 05 06 01.7 -0.4
ACSO *ep*PKPdf pPKPdf 05 06 28.5 -1.7
LRAL Lakeview Retre 125.38 52 *e*PKPdf PKPdf 05 06 02.0 -0.1
LRAL *ep*PKPdf pPKPdf 05 06 28.0 -2.2
SWET Sewanee 125.41 49 *e*PKPdf PKPdf 05 06 01.1 -1.1
SWET *ep*PKPdf pPKPdf 05 06 27.5 -2.7
SWET *e*SKPdf SKPdf 05 09 28.5 +0.3
LMR La Mourre 125.42 322 *e*PKIKP PKPdf 05 06 02.4 +0.2
comp=Z,11nm,0.8s
VSL Villasalto 125.48 317 *e*PKPdf PKPdf 05 06 02.9 +0.5
VSL *ep*PKPdf pPKPdf 05 06 29.3 -1.1
VSL *e*SKPdf SKPdf 05 09 29.3 +1.0
TAVF Tavernes 125.55 322 PKP PKPdf 05 06 03.1 +0.6
PLCA Paso Flores 125.61 149 PKP PKPdf 05 06 04.7 +2.1
comp=Z,25nm,0.7s,baz=222,slow=2.7,SNR=64
PLDF La Plantade 125.61 326 PKP PKPdf 05 06 02.7 +0.1
VILF Villemus 125.62 323 PKP PKPdf 05 06 03.4 +0.8
SMRF Simiane la Rot 125.64 323 *e*PKIKP PKPdf 05 06 03.4 +0.8
comp=Z,31nm,0.9s
VIVF Saint-Julien-l 125.67 324 *e*PKIKP PKPdf 05 06 03.1 +0.4
comp=Z,19nm,1.0s
BERF Bertagne 125.94 322 PKP PKPdf 05 06 04.3 +1.1
FLN La Foliniere 125.95 331 *e*PKIKP PKPdf 05 06 03.2 0.0
PYM Petit Puy Mans 126.08 326 PKP PKPdf 05 06 04.4 +0.9
TCF Toulx Ste Croi 126.19 327 *e*PKIKP PKPdf 05 06 04.2 +0.5
comp=Z,41nm,1.1s
LBL Lubilhac 126.26 326 PKP PKPdf 05 06 05.0 +1.2
TZTN Tazewell 126.63 47 *e*PKPdf PKPdf 05 06 04.9 +0.4
TZTN *ep*PKPdf pPKPdf 05 06 31.9 -0.6
MYNC Murphy 126.82 49 *e*PKPdf PKPdf 05 06 05.1 +0.2

MYNC				epPKPdf	pPKPdf	05 06 31.9	-1.0
CAF	Calviac	127.11	326	ePKIKP	PKPdf	05 06 06.3	+0.8
	comp=Z,18nm,1.0s						
KEST	Kesra	127.18	312	PKP	PKPdf	05 06 07.1	+1.5
	comp=Z,2.5nm,0.9s,baz=210,slow=2.0,SNR=7.4						
RJF	Les Rejaudoux	127.18	327	ePKIKP	PKPdf	05 06 06.1	+0.5
	comp=Z,11nm,0.8s						
SGMF	Saint Gilles	127.30	332	ePKIKP	PKPdf	05 06 06.2	+0.4
LFF	La Frestale	127.84	327	ePKIKP	PKPdf	05 06 07.5	+0.7
MTLF	Montolieu	127.99	324	ePKIKP	PKPdf	05 06 07.6	+0.5
	comp=Z,5.3nm,0.7s						
FWV	Forest Hill	128.11	44	ePKPdf	PKPdf	05 06 06.6	-0.8
FWV				epPKPdf	pPKPdf	05 06 33.4	-2.0
FWV				esPKPdf		05 06 43.1	
ELN	Prospectdale	128.32	45	ePKPdf	PKPdf	05 06 07.4	-0.4
ELN				epPKPdf	pPKPdf	05 06 34.0	-1.8
ELN				esPKPdf		05 06 43.9	
BLA	Blacksburg	128.56	45	ePKPdf	PKPdf	05 06 08.3	+0.1
BLA				epPKPdf	pPKPdf	05 06 35.8	-0.4
EPF	Esparros	129.27	325	ePKIKP	PKPdf	05 06 11.1	+1.5
	comp=Z,6.4nm,0.7s						
JSC	Jenkinsville	129.30	48	ePKIKP	PKPdf	05 06 09.7	+0.1
JTS	JuntasAbangare	132.08	80	PKP	PKPdf	05 06 15.1	+0.2
	comp=Z,11nm,0.5s,baz=276,slow=2.2,SNR=23						
JTS				SKPbc	SKPbc	05 09 32.0	+0.1
	comp=Z,8.2nm,0.8s,baz=339,slow=21,SNR=8.0						
ESDC	Sonseca Array	133.90	324	PKP	PKPdf	05 06 18.9	+0.5
	comp=Z,0.6nm,0.5s,baz=45,slow=2.0,SNR=4.6						
ESDC				SKPab		05 09 42.0	
	comp=Z,0.3nm,0.3s,baz=25,slow=4.1,SNR=5.1						
ATAH	Atahualpa	137.14	105	PKhKP		05 06 18.3	
	comp=Z,9.1nm,0.6s,baz=208,slow=2.1,SNR=7.1						
ATAH				PKP	PKPdf	05 06 26.8	+2.5
	comp=Z,29nm,1.0s,baz=252,slow=1.4,SNR=11						
ATAH				SKPbc	SKPbc	05 09 50.5	+2.4
	comp=Z,6.6nm,0.9s,baz=60,slow=2.7,SNR=3.8						
NNA	Nana	137.16	113	PKhKP		05 06 23.2	
	comp=Z,18nm,0.9s,baz=276,slow=5.0,SNR=5.1						
NNA				SKPbc	SKPbc	05 09 48.9	+0.7
	comp=Z,4.5nm,0.7s,baz=76,slow=8.5,SNR=3.9						
MDT	Midelt	138.59	317	PKP	PKPdf	05 06 28.4	+1.4
	comp=Z,1.1nm,0.6s,baz=27,slow=1.6,SNR=5.5						
ARE	Arequipa	140.09	122	ePKHKP		05 06 25.0	
TOA0	Torodi Ar. Sit	140.85	285	ePKPdf	PKPdf	05 06 24.4	-6.7
TOA0				epPKPdf	pPKPdf	05 07 00.2	+1.0
TOA0				eSKPdf	SKPdf	05 10 01.4	+4.9
TORD	Torodi Ar. Bea	140.85	285	PKhKP		05 06 24.4	
	comp=Z,1.6nm,0.5s,baz=63,slow=3.8,SNR=25						
TORD				PKP	PKPdf	05 06 31.2	+0.1
	comp=Z,8.1nm,0.8s,baz=78,slow=2.0,SNR=17						
TORD				pPKP	pPKPdf	05 07 00.0	+0.8
	comp=Z,9.3nm,0.8s,baz=84,slow=2.0,SNR=6.2						
TORD				SKPbc	SKPbc	05 09 58.5	+0.1
	comp=Z,4.7nm,0.7s,baz=66,slow=2.9,SNR=8.9						
TORD				PKKP		05 15 52.9	
	comp=Z,0.6nm,0.8s,baz=322,slow=1.1,SNR=4.6						
ROSC	El Rosal	142.76	88	PKhKP		05 06 33.1	
	comp=Z,24nm,0.5s,baz=355,slow=1.8,SNR=51						
ROSC				SKPbc	SKPbc	05 10 04.3	+1.1
	comp=Z,3.1nm,0.5s,baz=96,slow=18,SNR=3.3						
LPAZ	La Paz	142.98	124	PKP	PKPdf	05 06 34.9	-0.1
	comp=Z,29nm,0.7s,baz=312,slow=2.1,SNR=145						
LPAZ				SKPbc	SKPbc	05 10 05.4	+1.7
	comp=Z,13nm,1.0s,baz=321,slow=2.5,SNR=6.9						
SDDR	Presa de Saban	143.49	64	ePKPdf	PKPdf	05 06 34.1	-1.7
CPUP	Villa Florida	143.67	148	PKP	PKPdf	05 06 35.2	-0.9
	comp=Z,21nm,0.8s,baz=225,slow=2.5,SNR=28						
CPUP				SKPbc	SKPbc	05 10 06.7	+1.3
	comp=Z,6.2nm,0.8s,baz=229,slow=1.3,SNR=3.8						
CPUP	Villa Florida	143.67	148	PKP	PKPdf	05 06 35.2	-0.9
CPUP				SKPbc	SKPbc	05 10 06.7	+1.3
SDV	Santo Domingo	146.27	81	PKPbc	PKPbc	05 06 41.7	-0.2
	comp=Z,67nm,0.6s,baz=279,slow=3.0,SNR=77						
DBIC	Dimbokro	147.96	276	PKPbc	PKPbc	05 06 48.0	+1.4
	comp=Z,59nm,0.6s,baz=82,slow=2.8,SNR=120						
DBIC				pPKPbc	pPKPbc	05 07 12.9	-1.5
	comp=Z,46nm,0.7s,baz=86,slow=2.3,SNR=7.2						
DBIC	Dimbokro	147.96	276	PKPbc	PKPbc	05 06 48.0	+1.3
DBIC				pPKPbc	pPKPbc	05 07 12.9	-1.5
LIC	Lamto	148.15	275	⇑iPKIKP	PKPbc	05 06 48.4	+1.3
	comp=Z,152nm,0.7s						
SJG	San Juan	148.35	62	PKPbc	PKPbc	05 06 47.7	+0.1
	comp=Z,139nm,0.7s,baz=62,slow=3.1,SNR=35						
SJG				pPKPbc	pPKPbc	05 07 14.1	-1.3
	comp=Z,30nm,0.5s,baz=61,slow=6.0,SNR=2.7						
CPD	Cerro la Pandu	148.59	62	ePKIKP	PKPdf	05 06 45.5	+1.0
CPD				e		05 06 52.9	
CPD	Cerro la Pandu	148.59	62	ePKPdf	PKPdf	05 06 45.5	+1.0
CPD				ePKPbc	PKPbc	05 06 48.8	+0.6
CPD				ePKPab	PKPab	05 06 52.9	+0.8
CPD				epPKPdf	pPKPdf	05 07 15.5	+3.0
SIV	San Ignacio	148.73	131	PKPbc	PKPbc	05 06 51.1	+2.5
	comp=Z,78nm,0.6s,baz=247,slow=4.0,SNR=37						
MTP	Monte Pirata	148.88	62	ePKPdf	PKPdf	05 06 46.2	+1.2
MTP				ePKPbc	PKPbc	05 06 49.8	+0.8
SAML	Samuel	150.71	117	⇑ePKPdf	PKPdf	05 06 49.1	+1.3
SAML				⇑iPKPbc	PKPbc	05 06 54.5	+1.0
PCRV	Puerto La Cruz	151.96	77	PKPbc	PKPbc	05 06 56.0	-0.3
	comp=Z,49nm,0.7s,baz=144,slow=0.5,SNR=47						
CAM4	Nova Friburgo	152.89	169	⇓iP	PKPbc	05 07 01.5	+3.1
CAM4				i		05 07 03.7	
CAM4				i		05 07 07.0	
CAM4				i		05 07 25.2	
BDFB	Brasilia	157.32	151	PKP	PKPdf	05 06 59.1	+2.0
	comp=Z,24nm,0.9s,baz=202,slow=1.1,SNR=24						
BAO	Brasilia Array	157.33	151	PKPdf	PKPdf	05 06 58.7	+1.6

*FUNV **04** 04:53:07.2, 10.15N×61.53W, h9km, MW3.1*
*ISCJB **04** 04:53:08.3±0.7, 10.20N±0.05×61.60W±0.05, h49km±7km, Error ellipse: s-maj=10.0km s-min=4.8km az=84.1*
*NEIC **04** 04:53:09.4, 10.25N×61.58W, h39km, MD3.3(TRN), After TRN.*
*TRN **04** 04:53:09.4, 10.25N×61.58W, h40km, MD3.3*
ISC 04 04:53:09.1±0.7**, 10.19N**±0.04×**61.58W**±0.05**, h41**km±10km**, n20, σ1s07**/34**, 3C-6D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.18	45	⇓iP	Pn	04 53 16.0	-0.4
TPP				eS	Sn	04 53 22.2	+0.8
TRN	Trinidad (W)	0.49	21	⇓iP	Pn	04 53 18.2	-1.5
TRN				eS	Sn	04 53 25.8	-1.5
TBH	Brigand Hill	0.58	60	⇓iP	Pn	04 53 20.2	-0.7
TBH				eS	Sn	04 53 30.4	+0.9
GUIV	Guiria	0.78	306	eP	Pn	04 53 22.9	-0.8
GUIV				eS	Sn	04 53 33.6	-0.5
TPR	Prospect	1.27	38	eP	Pn	04 53 29.6	-0.7
GUNV	Guanoco	1.34	269	⇓eP	Pn	04 53 32.6	+1.3
GUNV				eS	Sn	04 53 50.8	+2.8
CRUV	Carupano	1.70	287	eP	Pn	04 53 36.1	-0.1
GRW	Mount Saint Ca	1.96	358	eP	Pn	04 53 39.2	-0.6
GRHS	Sauteurs	2.02	358	⇓iP	Pn	04 53 40.9	+0.1
GRHS				eS	Sn	04 54 03.7	-1.0
GRIC	Isle de Caille	2.08	360	⇑eP	Pn	04 53 41.8	+0.2
GRIC				eS	Sn	04 54 08.8	+2.6
ORIV	Oritupano	2.12	239	eP	Pn	04 53 42.7	+0.7
ORIV				eS	Sn	04 54 09.0	+1.9
GRCU	Cariacou	2.27	3	⇓iP	Pn	04 53 44.2	+0.1
GRCU				eS	Sn	04 54 11.2	+0.3
PCRV	Puerto La Cruz	3.01	270	eP	Pn	04 53 54.4	+0.1
SVB	Belmont	3.08	6	eP	Pn	04 53 56.3	+1.1
SVB				eS	Sn	04 54 31.1	+0.3
SSV	Crater Summit	3.14	7	⇑iP	Pn	04 53 57.2	+1.2
SSV				eS	Sn	04 54 32.3	0.0
PRGV	PARIAGUAN	3.34	245	eP	Pn	04 53 59.3	+0.5
CUPV	Cœpira	4.15	269	eP	Pn	04 54 10.3	+0.4
BIRV	Birongo	4.62	274	eP	Pn	04 54 16.8	+0.3
BIRV				eS	Sn	04 55 07.9	-0.9
CAOV	Caicara del Or	5.48	239	⇑eP	Pn	04 54 26.6	-1.6
CAOV				eS	Sn	04 55 26.9	-3.1
BAUV	El Baul	6.49	260	eP	Pn	04 54 41.1	-1.0
BAUV				eS	Sn	04 55 51.3	-3.6

CASC 04 05:07:42.5±2.9**, 14.64N**×**91.00W, h1**km±9km**, MD3.6, 3C-4D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	0.24	140	⇓iP	Pg	05 07 47.6	+0.4
PCG	Pacaya	0.45	122	eP	Pg	05 07 51.9	+0.7
TER	Terranova	0.45	137	⇑eP	Pg	05 07 50.8	-0.4
GCG	Guatemala City	0.46	96	⇓iP	Pg	05 07 51.9	+0.6
GCG				eS	Sg	05 07 59.1	+1.8
JAT	Jato	0.69	243	⇓eP	Pg	05 07 56.7	+1.0
RBDL	Robledal	1.38	112	⇑eP	x	05 08 09.4	
RBDL				eS	x	05 08 29.0	
RTR	El Retiro	1.51	119	⇓eP	x	05 08 11.9	
SBLS	San Blas	1.56	120	⇑eP	x	05 08 12.1	
SBLS				eS	x	05 08 34.3	
SNJE	San Jose	1.56	119	eP	x	05 08 12.3	
MTO2	Montecristo 2	1.61	98	eP	x	05 08 12.9	
BOQS	Boqueron	1.90	118	eP	x	05 08 17.9	
SNET	Serv Nac Est T	1.96	119	eP	x	05 08 16.6	
SNET				eS	x	05 08 42.2	

*ISCJB **04** 05:11:53.1±0.9, 21.47N±0.06×94.39E±0.07, h84km±9km, mb4.0/16, Error ellipse: s-maj=13.4km s-min=6.1km az=110.2*
*IDC **04** 05:11:55.9±0.9, 21.45N×94.42E, h93km±8km, mb3.7/9, mb1 3.8/10, mb1mx3.6/22, mbtmp4.0/10, MS3.8/3, Ms1 3.9/3, ms1mx3.2/29, Error ellipse: s-maj=40.2km s-min=12.4km az=60.0*
*NEIC **04** 05:11:55.3±0.8, 21.49N×94.48E, h87km±8km, mb4.1/8, Error ellipse: s-maj=12.6km s-min=4.4km az=62.0*
*BJI **04** 05:11:55.7, 21.50N×94.33E, h100km, mB4.4, mb4.4*
ISC 04 05:11:54.8±0.8**, 21.48N**±0.05×**94.40E**±0.07**, h80**km±8km**, h95**km±1.0km**: pP-P, n42, σ0s75**/41**, mb4.0**/16**, 2C, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	Imphal	3.32	353	i x	x	05 12 50.0	
AGT	Agartala	3.76	310	ePG	Pn	05 13 03.0	+13
SHL	Shillong	4.68	331	ePN	Pn	05 13 03.0	+0.1
SHL				eSN	Sn	05 13 53.0	-2.9
CHG	Chiang Mai	5.03	121	PN	Pn	05 13 07.6	-0.1
CHTO	Chiang Mai	5.03	121	⇑iPn	Pn	05 13 07.4	-0.3
CHTO				eSn	Sn	05 14 09.1	+4.6
CHRT	Chiangrai	5.29	107	⇑PN	Pn	05 13 10.0	-1.3
CHRT				PG	Pn	05 13 13.0	+1.7
NANT	Nan	6.49	113	PG	Pn	05 13 28.5	+0.8
BOK	Bokaro	8.19	288	i P	Pn	05 13 50.1	-0.8
BOK				i S	Sn	05 15 15.1	-6.7
KMI	Kunming	8.48	63	P	Pn	05 13 59.9	+5.1
KMI				AMB	AMB		
	comp=Z,30nm,0.8s						
LSA	Lhasa	8.69	341	ePn	Pn	05 13 58.5	+0.8
	comp=Z,15nm,0.4s						
LSA				eSn	Sn	05 15 34.4	+0.3
PBA	Port Blair	9.89	189	eS	Sn	05 15 45.6	-18
PBA				ex	x	05 15 47.9	
	comp=E,87nm,0.3s						
PBA				ex	x	05 15 48.5	
	comp=N,118nm,0.5s						
CD2	Chengdu	12.60	40	eP	Pn	05 14 51.2	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=E,190nm,9.6s						
CD2				LR	LR		
	comp=Z,260nm,7.2s						
KULM	Kulim	17.20	158	ePn	Pn	05 15 49.9	+0.1
XAN	Xi'an	17.91	43	P	Pn	05 15 58.0	-0.5
XAN				AMB	AMB		
	comp=Z,11nm,0.9s						
PSI	Prapat	19.08	166	P	Pn	05 16 12.1	-0.4
	comp=Z,0.9nm,0.3s,baz=353,slow=9.4,SNR=12						
AAK	Ala-Archa	26.88	326	eP	P	05 17 29.0	+1.0
	comp=Z,4.7nm,1.0s,mb4.0						
MKAR	Makanchi Array	27.10	342	P	P	05 17 30.1	+0.1
	comp=Z,0.9nm,0.4s,mb3.6,baz=156,slow=9.3,SNR=7.2						
MKAR				pP	pP	05 17 50.8	+2.3
	comp=Z,2.4nm,0.6s,baz=145,slow=8.9,SNR=6.8						
SONM	Songino Array	28.02	17	P	P	05 17 38.3	+0.1
	comp=Z,0.3nm,0.3s,mb3.3,baz=195,slow=9.9,SNR=4.9						
BVAR	Borovoye Array	36.48	336	P	P	05 18 52.2	+0.1
	comp=Z,0.7nm,0.4s,mb4.0,baz=134,slow=11,SNR=6.2						
BVAR				pP	pP	05 19 14.6	+3.5
	comp=Z,0.5nm,0.5s,baz=274,slow=36,SNR=2.4						
BRVK	Borovoye	36.55	336	eP	P	05 18 53.1	+0.4
	comp=Z,0.9nm,0.6s,mb3.9						
CHKZ	Chkalovo	36.90	336	eP	P	05 18 56.1	+0.4
	comp=Z,4.5nm,0.7s,mb4.5						
AKTK	Aktyubinsk	40.59	324	P	P	05 19 27.4	+0.9
AKTO	Aktyubinsk	40.59	324	P	P	05 19 27.4	+0.9
	comp=Z,2.9nm,0.3s,mb4.5,baz=112,slow=7.4,SNR=15						
FITZ	Fitzroy Crossi	49.84	140	eP	P	05 20 39.3	-0.3
	comp=Z,2.6nm,0.9s,mb4.2						
FITZ	Fitzroy Crossi	49.84	140	P	P	05 20 39.0	-0.7
	comp=Z,0.8nm,0.4s,mb4.0,baz=344,slow=4.0,SNR=9.0						
WRA	Warramunga Arr	56.74	134	P	P	05 21 30.0	-0.3
	comp=Z,1.3nm,0.4s,mb4.3,baz=320,slow=7.5,SNR=44						
WRAB	Tennant Creek	56.75	134	eP	P	05 21 29.8	-0.4
	comp=Z,2.2nm,0.6s,mb4.4						
WB2	Warramunga Arr	56.75	134	eP	P	05 21 29.7	-0.6
MUN	Mundaring	57.11	158	eP	P	05 21 33.1	+0.2
KLBR	Kellerberrin	57.32	156	eP	P	05 21 34.3	-0.1
	comp=Z,121nm,1.9s						
ASAR	Alice Springs	59.10	137	P	P	05 21 46.9	+0.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=314,slow=7.0,SNR=12						
ASAR				PcP	PcP	05 22 34.6	-0.1
	comp=Z,0.8nm,0.5s,baz=313,slow=4.4,SNR=6.3						
ARCES	ARCESS Array B	62.69	338	P	P	05 22 09.9	-1.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=99,slow=7.5,SNR=5.1						
TIP	Timpagrande	67.42	305	eP	P	05 22 41.3	-0.4
GERES	GERESS Array B	68.11	315	P	P	05 22 45.7	-0.4
	comp=Z,0.4nm,0.3s,mb3.7,baz=81,slow=8.0,SNR=3.0						
GERES				pP	pP	05 23 09.4	+2.5
	comp=Z,0.6nm,0.5s,baz=62,slow=7.2,SNR=2.4						
NOA	NORSAR Array B	68.17	329	pP	pP	05 23 09.6	+2.3
	comp=Z,2.2nm,1.1s,baz=86,slow=6.2,SNR=2.7						
NOA				LR	LR	05 56 46.1	
	comp=Z,48nm,19.3s,baz=40,slow=39						
LSZ	Lusaka	74.50	246	eP	P	05 23 25.6	+1.0
	comp=Z,2.5nm,0.5s,mb4.2						
LBTB	Lobatse	81.23	239	P	P	05 24 02.5	+0.6
	comp=Z,1.2nm,0.6s,mb3.9						
ESDC	Sonseca Array	82.71	310	LR	LR	06 06 19.2	
	comp=Z,50nm,19.1s,baz=60,slow=39						
INK	Inuvik	83.92	16	eP	P	05 24 14.4	-1.5
	comp=Z,0.5nm,0.5s,mb3.6						
TORD	Torodi Ar. Bea	87.74	283	pP	pP	05 25 00.1	+3.7
	comp=Z,0.4nm,0.6s,baz=62,slow=4.1,SNR=2.8						
DBIC	Dimbokro	96.13	280	LR	LR	06 15 32.6	
	comp=Z,58nm,19.7s,baz=78,slow=40						
CPUP	Villa Florida	153.73	254	PKPbc	PKPbc	05 31 44.2	-0.2
	comp=Z,0.7nm,0.5s,baz=182,slow=12,SNR=5.4						

IDC 04 05:33:24.4±7.3**, 20.49S**×**179.31W, h256**km±56km**, mb2.8**/2**, mb1 3.4**/3**, mb1mx3.1**/13**, mbtmp3.9**/3**, Error ellipse: s-maj=225.7km s-min=29.0km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.73	49	P	Pn	05 35 38.9	-0.6
	9.1nm,0.3s,baz=1.3,slow=16,SNR=14						
AFI				S	S	05 37 31.9	+2.8
	2.7nm,0.3s,baz=73,slow=19,SNR=3.1						
ASAR	Alice Springs	43.32	257	P	P	05 41 00.7	-0.6
	0.3nm,0.5s,baz=89,slow=8.4,SNR=4.4						
WRA	Warramunga Arr	43.38	262	P	P	05 41 02.7	+0.9
	0.2nm,0.4s,baz=95,slow=8.3,SNR=16						
AKASG	Malin Array Be	142.40	330	PKP	PKPdf	05 52 25.6	-0.9
	1.2nm,0.3s,baz=41,slow=4.1,SNR=15						

*STR **04** 05:44:22.8±0.3, 42.48N×1.65E, h10km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **04** 05:44:22.7, 42.45N×1.65E, h5km, ML3.0(LDG), ML3.0(STR), MN2.6(MDD), After STR.*
*CSEM **04** 05:44:22.9±0.0, 42.43N×1.65E, h10km, ML3.0/26, Error ellipse: s-maj=0.8km s-min=0.6km az=147.0*
*LDG **04** 05:44:23.3±0.1, 42.44N×1.66E, h7km, Md2.9/3, Ml3.0/24, Error ellipse: s-maj=1.5km s-min=1.2km az=155.0*
MDD 04 05:44:23.1±0.2**, 42.43N**×**1.66E, h0**km**, mbLg2.6**/28**, 2C, Error ellipse: s-maj=2.0km s-min=1.5km az=175.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLLI	Llivia	0.24	77	Pg	Pg	05 44 27.6	-0.1
CLLI				Lg		05 44 30.8	
	170nm,0.1s						
CLLI	Llivia	0.24	77	P	Pg	05 44 27.6	-0.1
CLLI				S	Sg	05 44 30.8	0.0
VALF	Valcebollere	0.27	95	Pg	Pg	05 44 28.1	-0.2
VALF	Valcebollere	0.27	95	P	Pg	05 44 28.2	-0.1
VALF				S	Sg	05 44 31.6	-0.1
CORG	Organya	0.32	232	Pg	Pg	05 44 28.7	-0.6
CORG				Lg		05 44 33.6	
	84nm,0.2s						
CORG	Organya	0.32	232	P	Pg	05 44 28.8	-0.5
CORG				S	Sg	05 44 33.6	+0.2
CORG	Organya	0.32	232	P	Pg	05 44 28.8	-0.5
CSOR	Sort	0.39	263	Pg	Pg	05 44 30.2	-0.4
CSOR				Lg		05 44 35.8	
	286nm,0.2s						
CSOR	Sort	0.39	263	P	Pg	05 44 30.2	-0.4
CSOR				S	Sg	05 44 35.9	+0.2
CBRU	Bruguera	0.41	110	Pg	Pg	05 44 30.7	-0.3
CBRU				Lg		05 44 36.6	
	196nm,0.2s						
CBRU	Bruguera	0.41	110	P	Pg	05 44 30.8	-0.3
CBRU				S	Sg	05 44 36.6	+0.3
CBRU	Bruguera	0.41	110	P	Pg	05 44 30.8	-0.2
GRBF	Gourbit	0.42	348	P	Pg	05 44 31.1	-0.1
GRBF				S	Sg	05 44 36.5	-0.2
CARF	Carcanieres	0.44	49	Pg	Pg	05 44 31.3	-0.2
CARF				Sg	Sg	05 44 37.2	0.0
CARF	Carcanieres	0.44	49	P	Pg	05 44 31.4	-0.1
CARF				S	Sg	05 44 37.4	+0.1
SALF	Salau	0.48	314	Pg	Pg	05 44 31.7	-0.6
SALF				Sg	Sg	05 44 38.0	-0.6
SALF	Salau	0.48	314	P	Pg	05 44 31.8	-0.5
SALF				S	Sg	05 44 37.9	-0.6
LPEF	Le Peyrat	0.55	19	P	Pg	05 44 33.9	+0.1
LPEF				S	Sg	05 44 41.9	+1.0
MLS	Moulis	0.67	322	Pg	Pg	05 44 35.2	-0.8
MLS				Sg	Sg	05 44 44.4	-0.4
MLS	Moulis	0.67	322	P	Pg	05 44 35.5	-0.6
MLS				S	Sg	05 44 44.4	-0.3
FILF	Fillols	0.68	78	Pg	Pg	05 44 33.8	-2.4
FILF				Sg	Sg	05 44 41.6	-3.4
FILF	Fillols	0.68	78	P	Pg	05 44 33.8	-2.4
FILF				S	Sg	05 44 41.6	-3.3
MELF	Melles	0.80	304	Pg	Pg	05 44 37.4	-1.0
MELF				Sg	Sg	05 44 47.7	-1.1
MELF	Melles	0.80	304	P	Pg	05 44 37.4	-1.1
MELF				S	Sg	05 44 48.2	-0.6
LRDF	Laroque-de-Fa	0.83	52	Pg	Pg	05 44 38.4	-0.6
LRDF				Sg	Sg	05 44 49.7	0.0
LRDF	Laroque-de-Fa	0.83	52	P	Pg	05 44 38.4	-0.6
LRDF				S	Sg	05 44 50.1	+0.4
CAVN	Les Avellanes	0.87	231	Pg	Pg	05 44 39.3	-0.4
CAVN				Lg		05 44 51.2	
	63nm,0.1s						
CAVN	Les Avellanes	0.87	231	P	Pg	05 44 39.3	-0.4
CAVN				S	Sg	05 44 51.3	+0.3
CFON	Fontmartina	0.88	139	Pg	Pg	05 44 39.3	-0.7
CFON				Lg		05 44 52.2	
	156nm,0.3s						
CFON	Fontmartina	0.88	139	P	Pg	05 44 39.3	-0.7
CFON				S	Sg	05 44 52.2	+0.8
SJAF	Saint Jean de	0.91	86	P	Pg	05 44 39.8	-0.8
SJAF				S	Sg	05 44 51.7	-0.6
EJON	La Jonquera	0.91	88	⇑Pg	Pg	05 44 39.9	-0.7
	3.4nm,0.1s,SNR=18						
EJON				Lg		05 44 52.4	
	38nm,0.1s,SNR=17						
EJON	La Jonquera	0.91	88	Pg	Pg	05 44 39.9	-0.7
	3.4nm,0.1s,SNR=18						
MTLF	Montolieu	1.00	24	ePg	Pg	05 44 41.6	-0.7
MTLF				eSg	Sg	05 44 54.7	-0.6
	61nm,0.2s						
MTLF	Montolieu	1.00	24	ePg	Pg	05 44 41.6	-0.7
MTLF				eSg	Sg	05 44 54.7	-0.6
	31nm,0.2s						
RESF	Ens	1.05	292	Pg	Pg	05 44 42.2	-1.0
RESF				Sg	Sg	05 44 55.9	-0.8
RESF	Ens	1.05	292	P	Pg	05 44 42.1	-1.1
RESF				S	Sg	05 44 56.2	-0.5
EPF	Esparros	1.14	302	ePg	Pg	05 44 43.3	-1.7
EPF				eSg	Sg	05 44 59.4	-0.5
	38nm,0.2s						
EPF	Esparros	1.14	302	ePg	Pg	05 44 43.3	-1.7
EPF				eSg	Sg	05 44 59.4	-0.5
	19nm,0.2s						
EBIE	Bielsa	1.15	284	Pg	Pg	05 44 43.8	-1.3
	2.1nm,0.1s,SNR=51						
EBIE				Lg		05 44 59.7	
	16nm,0.1s,SNR=16						
EBIE	Bielsa	1.15	284	Pg	Pg	05 44 43.8	-1.4
	2.1nm,0.1s,SNR=51						
EPOB	Poblet	1.16	202	⇑Pg	Pg	05 44 44.3	-1.0
	37nm,0.1s,SNR=18						
EPOB				Lg		05 44 59.4	
	38nm,0.1s,SNR=18						
EPOB	Poblet	1.16	202	Pg	Pg	05 44 44.3	-1.0
	37nm,0.1s,SNR=18						
CGAR	Garraf	1.20	199	Pg	Pg	05 44 45.0	-1.1
CGAR				Lg		05 44 59.1	
	30nm,0.2s						
CGAR	Garraf	1.20	199	P	Pg	05 44 45.1	-1.0
CGAR				S	Sg	05 44 59.1	-2.5
CGAR	Garraf	1.20	199	P	Pg	05 44 45.1	-1.0
VIEF	Viey	1.29	291	Pn	Pn	05 44 46.2	-2.2
VIEF				Sg	Sg	05 45 04.4	-0.2
VIEF	Viey	1.29	291	P	Pg	05 44 46.2	-1.7
VIEF				S	Sg	05 45 04.2	-0.4
LABF	Labassere	1.32	299	Pg	Pg	05 44 47.1	-1.4
LABF				Sg	Sg	05 45 06.4	+0.8
LABF	Labassere	1.32	299	P	Pg	05 44 47.1	-1.3
LABF				S	Sg	05 45 05.1	-0.5
REYF	Montagne du Re	1.64	294	Pg	Pg	05 44 54.2	-0.4
REYF				Sg	Sg	05 45 16.6	+0.7
REYF	Montagne du Re	1.64	294	P	Pn	05 44 54.9	+1.6
REYF				S	Sn	05 45 14.8	-0.3
FDAF	Les Forges d'A	1.69	284	P	Pn	05 44 54.2	+0.4
FDAF				S	Sn	05 45 16.5	+0.3
ETSF	Etsaut	1.70	287	ePg	Pg	05 44 55.0	-0.8
ETSF				eSg	Sg	05 45 17.2	-0.6
	72nm,0.2s						
ETSF	Etsaut	1.70	287	ePg	Pg	05 44 55.0	-0.8
ETSF				eSg	Sg	05 45 17.2	-0.6
	36nm,0.2s						
ESAC	San Caprasio	1.73	247	Pn	Pn	05 44 53.5	-0.9
	3.6nm,0.1s,SNR=5.0						
ESAC				Pg	Pg	05 44 55.4	-0.9
	56nm,0.1s,SNR=37						
ESAC				Lg		05 45 17.9	
	164nm,0.2s,SNR=5.0						
ESAC	San Caprasio	1.73	247	Pn	Pn	05 44 53.5	-1.0
ESAC				Pg	Pg	05 44 55.5	-0.9
ESAC				Lg		05 45 17.9	
ESAC	San Caprasio	1.73	247	Pn	Pn	05 44 53.5	-1.0
	3.6nm,0.1s,SNR=5.0						
ESAC	San Caprasio	1.73	247	Pg	Pg	05 44 55.4	-1.0
	56nm,0.1s,SNR=37						
ERTA	Horta de San J	1.77	214	Pn	Pn	05 44 53.8	-1.2
	1.4nm,0.1s,SNR=33						
ERTA				Pg	Pg	05 44 55.6	-1.5
	23nm,0.2s,SNR=8.9						
ERTA				Lg		05 45 18.5	
	24nm,0.2s,SNR=5.0						
ERTA	Horta de San J	1.77	214	Pn	Pn	05 44 53.8	-1.2
ERTA				Pg	Pg	05 44 55.6	-1.5
ERTA				Lg		05 45 18.5	
ERTA	Horta de San J	1.77	214	Pn	Pn	05 44 53.8	-1.2
	1.4nm,0.1s,SNR=33						
ERTA	Horta de San J	1.77	214	Pg	Pg	05 44 55.6	-1.5
	23nm,0.2s,SNR=8.9						
ATE	Arette	1.86	292	Pg	Pg	05 44 58.3	-0.4
ATE				Sg	Sg	05 45 22.3	-0.5
ATE	Arette	1.86	292	P	Pn	05 44 58.5	+2.3
ATE				S	Sn	05 45 22.5	+2.1
LARF	Larrau	2.04	288	Pg	Pg	05 45 00.2	-2.1
LARF				Sg	Sg	05 45 28.8	0.0
LARF	Larrau	2.04	288	P	Pn	05 45 00.3	+1.6
LARF				S	Sn	05 45 27.7	+2.8
ORDF	Ordiarp	2.06	293	S	Sn	05 45 28.9	+3.5
SJPF	Ste Jean	2.23	289	ePg	Pg	05 45 03.9	-2.0
SJPF				eSg	Sg	05 45 33.5	-1.3
	30nm,0.3s						
SJPF	Ste Jean	2.23	289	ePg	Pg	05 45 03.9	-2.0
SJPF				eSg	Sg	05 45 33.5	-1.3

	15nm,0.3s						
EARA	**Aranguren**	**2.42**	**279**	Lg		05 45 41.5	
	8.1nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**2.46**	**288**	Pg	Pg	05 45 08.8	-1.5
	4.1nm,0.2s,SNR=11						
ELIZ				Sn	Sn	05 45 34.3	-0.9
	4.3nm,0.2s,SNR=7.9						
ELIZ				Lg		05 45 40.9	
	9.3nm,0.2s,SNR=8.0						
ELIZ	**Elizondo**	**2.46**	**288**	Pg	Pg	05 45 08.8	-1.5
	4.1nm,0.2s,SNR=11						
ELIZ				Sn	Sn	05 45 34.3	-0.9
	4.3nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**2.46**	**290**	Pn	Pn	05 45 04.2	-0.3
	0.0nm,0.1s,SNR=6.3						
EALK				Pg	Pg	05 45 08.3	-2.0
	11nm,0.4s,SNR=9.1						
EALK				Lg		05 45 40.9	
	31nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.52**	**7**	ePg	Pg	05 45 09.7	-1.6
CAF				eSg	Sg	05 45 41.5	-2.4
	58nm,0.3s						
CAF	**Calviac**	**2.52**	**7**	Pn	Pn	05 45 03.7	-1.5
CAF				Pg	Pg	05 45 09.7	-1.6
CAF				Lg		05 45 41.5	
	29nm,0.3s						
CAF	**Calviac**	**2.52**	**7**	ePn	Pn	05 45 03.7	-1.5
CAF				ePg	Pg	05 45 09.7	-1.6
CAF				eSg	Sg	05 45 41.5	-2.4
CAF	**Calviac**	**2.52**	**7**	ePg	Pg	05 45 09.7	-1.6
CAF				eSg	Sg	05 45 41.5	-2.4
	29nm,0.3s						
LFF	**La Frestale**	**2.60**	**345**	ePg	Pg	05 45 11.0	-1.9
LFF				eSg	Sg	05 45 44.5	-2.1
	30nm,0.3s						
LFF	**La Frestale**	**2.60**	**345**	Pn	Pn	05 45 05.0	-1.4
LFF				Pg	Pg	05 45 11.0	-1.9
LFF				Lg		05 45 44.5	
	15nm,0.3s						
LFF	**La Frestale**	**2.60**	**345**	ePn	Pn	05 45 05.0	-1.4
LFF				ePg	Pg	05 45 11.0	-1.9
LFF				eSg	Sg	05 45 44.5	-2.1
LFF	**La Frestale**	**2.60**	**345**	ePg	Pg	05 45 11.0	-1.9
LFF				eSg	Sg	05 45 44.5	-2.1
	15nm,0.3s						
EMOS	**Mosqueruela**	**2.61**	**219**	Pn	Pn	05 45 06.6	+0.1
	0.3nm,0.1s,SNR=5.7						
EMOS				Pg	Pg	05 45 10.5	-2.6
	2.1nm,0.2s,SNR=16						
EMOS				Lg		05 45 44.8	
	2.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.61**	**219**	Pn	Pn	05 45 06.6	+0.1
EMOS				Pg	Pg	05 45 10.6	-2.6
EMOS				Lg		05 45 44.8	
EMOS	**Mosqueruela**	**2.61**	**219**	Pn	Pn	05 45 06.6	0.0
	0.3nm,0.1s,SNR=5.7						
EMOS	**Mosqueruela**	**2.61**	**219**	Pg	Pg	05 45 10.6	-2.6
ETOS	**Mallorca**	**2.80**	**161**	Pn	Pn	05 45 07.5	-1.6
	1.8nm,0.3s,SNR=5.8						
ETOS				Sn	Sn	05 45 38.1	-5.4
	1.9nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.80**	**161**	Pn	Pn	05 45 07.5	-1.6
	1.8nm,0.3s,SNR=5.8						
ETOS				Sn	Sn	05 45 38.1	-5.4
	1.9nm,0.1s,SNR=7.9						
RJF	**Les Rejaudoux**	**2.88**	**358**	ePg	Pg	05 45 16.5	-1.8
RJF				eSg	Sg	05 45 53.2	-2.4
	18nm,0.2s						
RJF	**Les Rejaudoux**	**2.88**	**358**	ePg	Pg	05 45 16.5	-1.8
RJF				eSg	Sg	05 45 53.2	-2.4
	8.9nm,0.2s						
LBL	**Lubilhac**	**3.03**	**22**	Pn	Pn	05 45 11.2	-1.1
LBL	**Lubilhac**	**3.03**	**22**	Pg	Pg	05 45 19.9	-1.3
LBL				Sg	Sg	05 45 59.1	-1.4
LBL	**Lubilhac**	**3.03**	**22**	Pn	Pn	05 45 11.0	-1.3
LBL	**Lubilhac**	**3.03**	**22**	Pg	Pg	05 45 19.9	-1.3
LBL				Sg	Sg	05 45 59.1	-1.4
SMRF	**Simiane la Rot**	**3.25**	**60**	ePg	Pg	05 45 23.5	-2.0
SMRF				eSn	Sn	05 45 50.1	-4.8
	2.5nm,0.3s						
SMRF	**Simiane la Rot**	**3.25**	**60**	Pn	Pn	05 45 13.1	-2.3
SMRF				Pg	Pg	05 45 23.5	-2.0
SMRF				Sn	Sn	05 45 50.1	-4.8
	2.5nm,0.3s						
SMRF	**Simiane la Rot**	**3.25**	**60**	ePn	Pn	05 45 13.1	-2.3
SMRF				ePg	Pg	05 45 23.5	-2.0
SMRF				eSn	Sn	05 45 50.1	-4.8
SMRF	**Simiane la Rot**	**3.25**	**60**	ePg	Pg	05 45 23.5	-2.0
SMRF				eSn	Sn	05 45 50.1	-4.8
	1.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.27**	**41**	ePg	Pg	05 45 23.6	-2.2
VIVF				eSg	Sg	05 46 05.3	-2.9
	9.2nm,0.3s						
VIVF	**Saint-Julien-l**	**3.27**	**41**	Pn	Pn	05 45 13.5	-2.1
VIVF				Pg	Pg	05 45 23.6	-2.2
VIVF				Lg		05 46 05.3	
	4.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.27**	**41**	ePn	Pn	05 45 13.5	-2.1
VIVF				ePg	Pg	05 45 23.6	-2.2
VIVF				eSg	Sg	05 46 05.3	-2.9
VIVF	**Saint-Julien-l**	**3.27**	**41**	ePg	Pg	05 45 23.6	-2.2
VIVF				eSg	Sg	05 46 05.3	-2.9
	4.6nm,0.3s						
EIBI	**Ibiza**	**3.41**	**184**	Pn	Pn	05 45 15.9	-1.6
	0.9nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	05 45 54.2	-4.3
	2.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.41**	**184**	Pn	Pn	05 45 15.9	-1.6
	0.9nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	05 45 54.2	-4.4
	2.7nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**3.68**	**74**	ePn	Pn	05 45 19.1	-2.1
LMR				eSn	Sn	05 46 00.3	-5.0
	3.2nm,0.2s						
LMR	**La Mourre**	**3.68**	**74**	ePn	Pn	05 45 19.1	-2.1
LMR				eSn	Sn	05 46 00.3	-5.0
	1.6nm,0.2s						
ELAN	**Lanestosa**	**3.83**	**284**	Pn	Pn	05 45 21.5	-1.9
	0.2nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	05 46 08.5	-0.6
	1.8nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**3.83**	**284**	Pn	Pn	05 45 21.5	-1.8
	0.2nm,0.2s,SNR=7.9						
FRF	**La Foret Royal**	**3.83**	**71**	ePn	Pn	05 45 21.1	-2.2
FRF				eSn	Sn	05 46 03.7	-5.4
	3.5nm,0.3s						
FRF	**La Foret Royal**	**3.83**	**71**	ePn	Pn	05 45 21.1	-2.2
FRF				eSn	Sn	05 46 03.7	-5.4
	1.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.88**	**6**	ePg	Pg	05 45 34.8	-2.7
TCF				eSg	Sg	05 46 24.7	-3.1
	19nm,0.5s						
TCF	**Toulx Ste Croi**	**3.88**	**6**	ePg	Pg	05 45 34.8	-2.7
TCF				eSg	Sg	05 46 24.7	-3.1
	9.6nm,0.5s						
ORIF	**Oris-en-Rattie**	**3.95**	**49**	ePn	Pn	05 45 22.3	-2.6
ORIF				eSn	Sn	05 46 06.8	-5.1
	1.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.95**	**49**	ePn	Pn	05 45 22.3	-2.6
ORIF				eSn	Sn	05 46 06.8	-5.1
	0.8nm,0.4s						
EBEN	**Beniarda**	**3.99**	**202**	Pn	Pn	05 45 23.9	-1.5
	2.0nm,0.2s,SNR=7.5						
EBEN	**Beniarda**	**3.99**	**202**	Pn	Pn	05 45 23.9	-1.6
	2.0nm,0.2s,SNR=7.5						
BGF	**Bois d'Agland**	**4.22**	**11**	ePg	Pg	05 45 40.9	-3.0
BGF				eSg	Sg	05 46 35.0	-3.6
	29nm,0.3s						
BGF	**Bois d'Agland**	**4.22**	**11**	ePg	Pg	05 45 40.9	-3.0
BGF				eSg	Sg	05 46 35.0	-3.6
	15nm,0.3s						
MBDF	**Montbardon**	**4.37**	**57**	ePn	Pn	05 45 28.2	-2.5
MBDF				eSn	Sn	05 46 16.5	-5.8
	2.0nm,0.4s						
MBDF	**Montbardon**	**4.37**	**57**	ePn	Pn	05 45 28.2	-2.5
MBDF				eSn	Sn	05 46 16.5	-5.8
	1.0nm,0.4s						
MFF	**Saint Martin d**	**4.37**	**343**	ePn	Pn	05 45 28.4	-2.3
MFF				eSg	Sg	05 46 40.0	-3.5
	6.9nm,0.3s						
MFF	**Saint Martin d**	**4.37**	**343**	ePn	Pn	05 45 28.4	-2.3
MFF				eSg	Sg	05 46 40.0	-3.5
	3.5nm,0.3s						
SBF	**Sospel**	**4.46**	**69**	ePn	Pn	05 45 29.8	-2.2
SBF				eSn	Sn	05 46 18.9	-5.8
	2.6nm,0.2s						
SBF	**Sospel**	**4.46**	**69**	ePn	Pn	05 45 29.8	-2.2
SBF				eSn	Sn	05 46 18.9	-5.8
	1.3nm,0.2s						
SMF	**Signal de Mont**	**4.50**	**20**	ePg	Pg	05 45 46.0	-3.3
SMF				eSg	Sg	05 46 43.8	-3.8
	3.1nm,0.2s						
SMF	**Signal de Mont**	**4.50**	**20**	ePg	Pg	05 45 46.0	-3.3
SMF				eSg	Sg	05 46 43.8	-3.8
	1.5nm,0.2s						
AVF	**Avril sur Loir**	**4.53**	**15**	ePg	Pg	05 45 46.7	-3.2
AVF				eSg	Sg	05 46 44.6	-4.0
	4.4nm,0.3s						
AVF	**Avril sur Loir**	**4.53**	**15**	ePg	Pg	05 45 46.7	-3.2
AVF				eSg	Sg	05 46 44.6	-4.0
	2.2nm,0.3s						
GUD	**Guadarrama**	**4.71**	**250**	Pn	Pn	05 45 34.4	-1.1
	0.5nm,0.2s,SNR=5.8						
GUD				Sn	Sn	05 46 27.0	-3.8
	1.6nm,0.3s,SNR=7.9						
GUD				Lg		05 46 52.1	
	1.6nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**4.71**	**250**	Pn	Pn	05 45 34.4	-1.1
	0.5nm,0.2s,SNR=5.8						
GUD				Sn	Sn	05 46 27.0	-3.8
	1.6nm,0.3s,SNR=7.9						
LPG	**La Plagne**	**4.79**	**48**	ePn	Pn	05 45 34.3	-2.2
LPG				eSn	Sn	05 46 26.9	-5.8
	1.4nm,0.3s						
LPG	**La Plagne**	**4.79**	**48**	ePn	Pn	05 45 34.3	-2.2
LPG				eSn	Sn	05 46 26.9	-5.8
	0.7nm,0.3s						
LPL	**La Plagne**	**4.79**	**48**	ePn	Pn	05 45 34.3	-2.2
LPL				eSn	Sn	05 46 26.9	-5.8
	4.4nm,0.5s						
LPL	**La Plagne**	**4.79**	**48**	ePn	Pn	05 45 34.3	-2.2
LPL				eSn	Sn	05 46 26.9	-5.8
	2.2nm,0.5s						
HYF	**Humbligny**	**4.89**	**8**	eSg	Sg	05 46 56.3	-4.0
ESDC	**Sonseca Array**	**5.06**	**239**	Pn	Pn	05 45 39.0	-1.3
	0.3nm,0.2s,baz=50,slow=14,SNR=5.1						
ESDC				Sn	Sn	05 46 34.3	-5.2
	0.5nm,0.2s,baz=54,slow=24,SNR=4.2						
ESDC				Lg		05 47 00.4	
	0.4nm,0.3s,baz=235,slow=42,SNR=67						
ESDC	**Sonseca Array**	**5.06**	**239**	Pn	Pn	05 45 39.0	-1.3
ESDC				Sn	Sn	05 46 34.3	-5.1
LOR	**Lormes**	**5.09**	**17**	ePg	Pg	05 45 56.9	-3.7
LOR				eSg	Sg	05 47 02.0	-4.6
	4.5nm,0.3s						
LOR	**Lormes**	**5.09**	**17**	ePg	Pg	05 45 56.9	-3.7
LOR				eSg	Sg	05 47 02.0	-4.6
	2.2nm,0.3s						
CABF	**La Chapelle**	**5.25**	**36**	ePg	Pg	05 46 00.2	-3.5
CABF				eSg	Sg	05 47 07.1	-4.6
	2.0nm,0.3s						
CABF	**La Chapelle**	**5.25**	**36**	ePg	Pg	05 46 00.2	-3.5
CABF				eSg	Sg	05 47 07.1	-4.6
	1.0nm,0.3s						

*ISCJB **04** 05:53:06.6±5.3, 57S±05×1545E±02, h161^{km}±33^{km}, mb3.8/5, Error ellipse: s-maj=77.8km s-min=25.2km az=0.8*

*IDC **04** 05:53:06.5±8.2, 555S×15446E, h150^{km}±46^{km}, mb3.6/5, mb1 3.7/6, mb1mx3.5/14, mbtmp4.1/6, Error ellipse: s-maj=95.8km s-min=27.6km az=8.0*

*NEIC **04** 05:53:09.0±5.9, 582S×15442E, h159^{km}±23^{km}, mb4.2/1, Error ellipse: s-maj=93.0km s-min=17.7km az=193.0*

ISC 04 05:53:06.9±5.8, **56S**±05×**1545E**±02, **h155**^{km}±33^{km}, **n7, σ0§26**/8, **mb3.8**/5, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.21**	**242**	P	**Pn**	**05 55 02.9**	**-0.2**
	6.3nm,0.3s,baz=40,slow=9.2,SNR=17						
PMG				S	**Sn**	**05 56 34.6**	**+0.1**
	0.9nm,0.3s,baz=163,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**20.09**	**146**	P	**P**	**05 57 28.5**	**+0.1**
	3.4nm,0.6s,baz=169,slow=23,SNR=5.9						
WRAB	**Tennant Creek**	**24.25**	**232**	eP	**P**	**05 58 09.4**	**0.0**
	5.5nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**24.26**	**232**	P	**P**	**05 58 09.8**	**+0.2**
	2.3nm,0.7s,mb3.8,baz=55,slow=9.6,SNR=48						
ASAR	**Alice Springs**	**26.78**	**226**	P	**P**	**05 58 32.3**	**0.0**
	0.6nm,0.3s,mb3.6,baz=58,slow=9.3,SNR=18						
STKA	**Stephens Creek**	**28.84**	**203**	P	**P**	**05 58 50.2**	**-0.4**
	1.2nm,0.5s,mb3.9,baz=31,slow=13,SNR=4.3						
MAW	**Mawson**	**85.53**	**203**	P	**P**	**06 05 27.6**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=96,slow=7.6,SNR=8.3						

*MOS **04** 06:21:42.6±1.9, 5150N×9959E, h10^{km}, mb4.4/1, Error ellipse: s-maj=15.3km s-min=13.5km az=152.3*

BYKL 04 06:21:43.1±0.9, **5152N**×**9966E**, **h4**^{km}±19^{km}, **5C-3D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.84**	**79**	⇑iPg	Pg	06 21 58.6	-0.7
MOY				eSg	Sg	06 22 10.8	+0.5
MOY				Pmax			
	149nm,0.3s						
MOY				Smax			
	514nm,0.3s						
MOY	**Mondy**	**0.84**	**79**	⇑iPG	Pg	06 21 58.3	-1.0
MOY				e		06 22 10.7	
MOY				pmax	pmax		
	comp=Z,150nm,0.3s						
MOY				smax			
	comp=N,509nm,0.4s						
ORL	**Orlik**	**1.02**	**5**	⇑iPg	Pg	06 22 01.3	-1.5
ORL				ePb	Pb	06 22 04.4	+1.0
ORL				eSg	Sg	06 22 14.6	-1.4
ORL				max			
	comp=N,450nm,0.3s						
ORL				Smax			
	comp=N,710nm,0.3s						
ORL	**Orlik**	**1.02**	**5**	ePG	Pg	06 22 01.3	-1.5
ORL				e		06 22 14.6	
ORL				pmax	pmax		
	comp=Z,446nm,0.2s						
ORL				smax			
	comp=N,706nm,0.3s						
ARS	**Arshan**	**1.77**	**76**	ePn	Pn	06 22 14.7	+0.3
ARS				ePg	Pg	06 22 15.1	-1.8
ARS				⇑i		06 22 20.0	
ARS				eSg	Sg	06 22 38.8	-1.0
ARS				e		06 22 41.7	
ARS				max			
	comp=N,88nm,0.3s						
ARS				Smax			
	comp=N,905nm,0.4s						
ARS	**Arshan**	**1.77**	**76**	ePN	Pn	06 22 15.4	+1.0
ARS				e		06 22 39.2	
ARS				pmax	pmax		
	comp=Z,85nm,0.2s						
ARS				smax			
	comp=E,904nm,0.4s						
TLY	**Talaya**	**2.49**	**85**	ePn	Pn	06 22 24.1	-0.3
TLY				ePg	Pg	06 22 26.7	-4.1
TLY				e		06 22 49.1	
TLY				eSg	Sg	06 23 00.2	-2.9
TLY				Pmax			
	comp=E,17nm,0.3s						
TLY				Smax			
	comp=E,84nm,0.3s						
TLY	**Talaya**	**2.49**	**85**	d iPN	Pn	06 22 26.7	+2.3
TLY				eS	Sn	06 23 00.3	+5.1
ZAK	**Zakamensk**	**2.56**	**115**	ePn	Pn	06 22 25.2	-0.1
ZAK				⇓iPg	Pg	06 22 28.3	-3.8
ZAK				eSg	Sg	06 23 03.0	-2.3
ZAK				Pmax			
	comp=E,63nm,0.3s						
ZAK				Smax			
	comp=E,156nm,0.6s						
ZAK	**Zakamensk**	**2.56**	**115**	ePN	Pn	06 22 28.3	+3.0
ZAK				e		06 23 02.9	
ZAK				pmax	pmax		
	comp=Z,63nm,0.3s						
ZAK				smax			
	comp=E,156nm,0.6s						
IRK	**Irkutsk**	**2.95**	**74**	eSg	Sg	06 23 14.1	-3.7
IRK	**Irkutsk**	**2.95**	**74**	ePN	Pn	06 22 35.8	+5.1
IRK				e		06 23 13.7	
IRK				pmax	pmax		
	comp=Z,81nm,0.1s						
IRK				smax			
	comp=N,2µm,0.4s						
LSTR	**Listvyanka**	**3.24**	**82**	ePn	Pn	06 22 36.3	+1.6
LSTR				⇑iPg	Pg	06 22 40.9	-4.2
LSTR				eSn	Sn	06 23 12.8	-0.8
LSTR				i Sg	Sg	06 23 22.8	-4.3
LSTR				Pmax			
	comp=N,19nm,0.7s						
LSTR				Smax			
	comp=N,153nm,0.6s						
TRG	**Tyrgan**	**4.30**	**71**	e	Pn	06 22 53.5	+4.2
TRG				ePg	Pg	06 22 59.4	-6.2
TRG				eSg	Sg	06 23 55.1	-6.2
TRG				Pmax			
	comp=N,8.0nm,0.3s						
TRG				Smax			
	comp=N,91nm,0.4s						
FFNB	**Fofonovo**	**4.44**	**80**	eSg	Sg	06 24 00.0	-5.8
FFNB				Smax			
	comp=N,287nm,0.8s						
TRTB	**Turuntaevo**	**4.99**	**79**	ePn	Pn	06 22 59.2	+0.5
TRTB				ePg	Pg	06 23 12.9	-5.8
TRTB				eSn	Sn	06 23 54.0	-2.9
TRTB				e		06 24 04.6	
TRTB				eSg	Sg	06 24 17.5	-5.8
TRTB				Pmax			
	comp=N,14nm,0.8s						
TRTB				Smax			
	comp=N,157nm,1.6s						
OGRR	**Ongureny**	**5.29**	**63**	e	Pb	06 23 11.9	-4.1
OGRR				ePg	Pg	06 23 19.2	-5.2
OGRR				e		06 24 08.8	
OGRR				eSg	Sg	06 24 26.3	-6.5
OGRR				Pmax			
	comp=N,10.0nm,0.3s						
OGRR				Smax			
	comp=N,92nm,0.7s						
OGRR	**Ongureny**	**5.29**	**63**	ePN	Pn	06 23 04.7	+1.9
OGRR				e		06 23 19.6	
OGRR				e		06 24 26.3	
OGRR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
OGRR				smax			
	comp=N,92nm,0.9s						
KELR	**Kotokel**	**5.33**	**73**	eSg	Sg	06 24 27.4	-7.0
KELR				Smax			
	comp=N,144nm,0.5s						
ULN	**Ulaanbaatar**	**6.03**	**124**	ePg	Pb	06 23 31.1	+2.4
ULN				eSg	Sg	06 24 50.3	-6.5
ULN	**Ulaanbaatar**	**6.03**	**124**	d iPN	Pn	06 23 15.5	+2.4
ULN				i S	Sg	06 24 51.1	-5.7
KRAR	**Krasnoyarsk**	**6.04**	**321**	ePN	Pn	06 23 13.2	+0.1
YLYR	**Ulyunkhan**	**7.68**	**60**	ePN	Pn	06 23 37.8	+2.1
YLYR				e		06 24 03.5	
YLYR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KPC	**Khapcheranga**	**8.29**	**98**	ePg	Pg	06 24 13.0	-8.9
KPC				e		06 25 44.1	
KPC				eSg	Sg	06 26 01.6	-7.7
KPC				Pmax			
	comp=Z,3.0nm,0.9s						
KPC				Smax			
	comp=Z,37nm,1.8s						

GUC 04 06:33:51.3±0.6, **3224S**×**7182W**, **h36**^{km}±3^{km}, **MD3.6, ML2.2, 1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**38**	eP	Pn	06 34 00.9	-0.4
CHNG				i S	Sn	06 34 08.3	+0.2
PTCH	**Petorca**	**0.76**	**92**	⇓iP	Pn	06 34 06.0	+0.5
PTCH				i S	Sn	06 34 16.3	+0.6
PTCH				AML	AML	06 34 19.1	
	comp=N,158nm,0.2s						
PEL	**Peldehue**	**1.32**	**134**	eP	Pn	06 34 14.4	+1.2
PEL				i S	Sn	06 34 31.8	+2.3
PEL				AML	AML	06 34 34.0	
	comp=N,138nm,0.4s						
ANTU	**Antumapu**	**1.66**	**143**	eP	Pn	06 34 19.3	+1.4
ANTU				i S	Sn	06 34 40.9	+2.9
FCH	**Farellones**	**1.69**	**130**	eP	Pn	06 34 20.2	+1.9
FCH				i S	Sn	06 34 42.6	+4.0
FCH				AML	AML	06 34 44.9	
	comp=E,39nm,0.3s						

*ISCJB **04** 06:59:56.6±0.6, 4092S±004×17622E±007, h49^{km}±5^{km}, mb3.6/2, Error ellipse: s-maj=10.3km s-min=4.2km az=72.5*

*IDC **04** 06:59:56.1±1.6, 4043S×17563E, h0^{km}, mb3.7/2, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML3.1/1, Error ellipse: s-maj=42.9km s-min=23.0km az=134.0*

*NEIC **04** 06:59:59.8, 4076S×17599E, h32^{km}, ML4.0(WEL), After WEL.*

NEIC Felt at Masterton and in the Fielding-Pahiatua area.

*WEL **04** 06:59:59.8±0.1, 4075S×17599E, h33^{km}±1^{km}, ML4.0/41, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0*

WEL Felt from Hawke's Bay to Wellington, maximum reported intensity MM 4.

ISC 04 06:59:58.4±0.5, **4084S**±004×**17613E**±006, **h42**^{km}±5^{km}, **n79, σ1§07**/88, **mb3.6**/2, **5D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.18**	**30**	P	**Pn**	**07 00 06.5**	**+0.8**
BFZ				S	**Sn**	**07 00 11.8**	**+1.1**
BFZ	**Birch Farm**	**0.18**	**30**	P*	**Pn**	**07 00 06.5**	**+0.8**
BFZ				S*	**Sn**	**07 00 11.8**	**+1.0**
TIWZ	**Tintock**	**0.19**	**289**	P*	**Pn**	**07 00 05.6**	**-0.1**
TIWZ				S*	**Sn**	**07 00 10.0**	**-0.9**
TIWZ				S*	**Sn**	**07 00 10.0**	**-0.8**
MRZ	**Mangatainoka R**	**0.45**	**293**	P	**Pn**	**07 00 07.3**	**-1.2**
MRZ				S	**Sn**	**07 00 12.8**	**-2.9**
MRZ	**Mangatainoka R**	**0.45**	**293**	P*	**Pn**	**07 00 07.3**	**-1.3**
MRZ				S*	**Sn**	**07 00 12.8**	**-2.9**
MTW	**Mount Morrison**	**0.57**	**236**	P	**Pn**	**07 00 11.2**	**+1.1**
MTW	**Mount Morrison**	**0.57**	**236**	⇓P*	**Pn**	**07 00 11.2**	**+1.2**
TRWZ	**Traveller**	**0.65**	**210**	P*	**Pn**	**07 00 13.4**	**+2.3**
TSZ	**Takapari Road**	**0.79**	**351**	P	**Pn**	**07 00 12.3**	**-0.7**
TSZ				S	**Sn**	**07 00 21.6**	**-2.1**
TSZ	**Takapari Road**	**0.79**	**351**	P*	**Pn**	**07 00 12.3**	**-0.7**
TSZ				S*	**Sn**	**07 00 21.5**	**-2.2**
CAW	**Cannon Point**	**0.84**	**251**	P	**Pn**	**07 00 14.3**	**+0.5**
CAW	**Cannon Point**	**0.84**	**251**	⇓P*	**Pn**	**07 00 14.3**	**+0.6**
MSWZ	**Moikau Station**	**0.88**	**229**	⇓P*	**Pn**	**07 00 15.3**	**+1.1**
KIW	**Kapiti Island**	**0.92**	**268**	P	**Pn**	**07 00 15.0**	**+0.1**
KIW	**Kapiti Island**	**0.92**	**268**	P*	**Pn**	**07 00 15.0**	**+0.1**
KIW				S*	**Sn**	**07 00 25.8**	**-1.1**
PXZ	**Pawanui**	**0.98**	**35**	P*	**Pn**	**07 00 16.2**	**+0.5**
BHW	**Baring Head**	**1.10**	**239**	P	**Pn**	**07 00 18.0**	**+0.7**
BHW	**Baring Head**	**1.10**	**239**	P*	**Pn**	**07 00 18.0**	**+0.6**
MRW	**Makara Radio**	**1.15**	**250**	P	**Pn**	**07 00 18.3**	**+0.4**
MRW	**Makara Radio**	**1.15**	**250**	⇓P*	**Pn**	**07 00 18.3**	**+0.4**
WAZ	**Wanganui**	**1.39**	**321**	P	**Pn**	**07 00 22.2**	**+0.9**
WAZ	**Wanganui**	**1.39**	**321**	PN	**Pn**	**07 00 22.1**	**+0.9**
TCW	**Tory Channel**	**1.45**	**254**	S*	**Sn**	**07 00 38.7**	**-1.2**
MOVZ	**Moawhango**	**1.46**	**349**	P	**Pn**	**07 00 22.3**	**+0.1**
MOVZ	**Moawhango**	**1.46**	**349**	PN	**Pn**	**07 00 22.2**	**0.0**
WNVZ	**Wahianoa**	**1.56**	**345**	P	**Pn**	**07 00 24.4**	**+0.8**
WNVZ	**Wahianoa**	**1.56**	**345**	PN	**Pn**	**07 00 23.9**	**+0.3**
TUVZ	**Tukino**	**1.61**	**347**	P	**Pn**	**07 00 25.0**	**+0.7**
TUVZ	**Tukino**	**1.61**	**347**	ePN	**Pn**	**07 00 25.0**	**+0.8**
FWVZ	**Far West T-bar**	**1.64**	**344**	P	**Pn**	**07 00 25.4**	**+0.7**
FWVZ	**Far West T-bar**	**1.64**	**344**	PN	**Pn**	**07 00 25.5**	**+0.7**
PKVZ	**Pokaka**	**1.66**	**339**	PN	**Pn**	**07 00 25.3**	**+0.4**
DUWZ	**D'Urville Isla**	**1.67**	**271**	PN	**Pn**	**07 00 25.3**	**+0.2**
WPVZ	**Whakapapa**	**1.69**	**345**	P	**Pn**	**07 00 26.1**	**+0.7**
WPVZ	**Whakapapa**	**1.69**	**345**	PN	**Pn**	**07 00 25.8**	**+0.4**
BKZ	**Black Stump Fm**	**1.69**	**10**	P	**Pn**	**07 00 25.3**	**-0.1**
BKZ	**Black Stump Fm**	**1.69**	**10**	⇓PN	**Pn**	**07 00 25.3**	**-0.1**
NGZ	**Ngauruhoe**	**1.71**	**346**	P	**Pn**	**07 00 26.3**	**+0.7**
NGZ	**Ngauruhoe**	**1.71**	**346**	PN	**Pn**	**07 00 26.1**	**+0.5**
OTVZ	**Oturere**	**1.71**	**348**	PN	**Pn**	**07 00 26.1**	**+0.5**
TUWZ	**Tuamarina**	**1.75**	**250**	PN	**Pn**	**07 00 25.8**	**-0.4**
WTVZ	**West Tongariro**	**1.77**	**346**	P	**Pn**	**07 00 27.1**	**+0.6**
WTVZ	**West Tongariro**	**1.77**	**346**	ePN	**Pn**	**07 00 26.8**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRVZ	Karewarewa	1.78	348	ePN	Pn	07 00 26.8	+0.2
TWVZ	Taurewa	1.84	343	ePN	Pn	07 00 27.6	+0.1
RITZ	Rihia Road	1.87	354	P	Pn	07 00 28.3	+0.4
RITZ	Rihia Road	1.87	354	ePN	Pn	07 00 28.2	+0.4
KATZ	Kakaramea	1.89	350	P	Pn	07 00 28.8	+0.7
KATZ	Kakaramea	1.89	350	ePN	Pn	07 00 28.5	+0.3
RATZ	Rangitukua	1.99	352	P	Pn	07 00 29.8	+0.3
VRZ	Vera Road	2.01	328	P	Pn	07 00 30.6	+0.8
RAEZ	Rainy Point	2.04	319	P	Pn	07 00 32.7	+2.5
NNZ	Nelson	2.11	259	P	Pn	07 00 31.3	+0.1
NNZ	Nelson	2.11	259	ePN	Pn	07 00 31.3	+0.1
WATZ	Wairara	2.15	352	P	Pn	07 00 31.7	0.0
KNZ	Kokohu	2.17	34	P	Pn	07 00 31.3	-0.7
NEZ	North Egmont	2.21	315	P	Pn	07 00 35.1	+2.6
NRZ	Ngariki Road	2.25	311	P	Pn	07 00 35.7	+2.6
PKE	Pukeiti	2.32	314	P	Pn	07 00 36.6	+2.5
KHZ	Kahutara	2.50	230	eP	Pn	07 00 36.1	-0.4
HIZ	Hauiti	2.52	337	eP	Pn	07 00 36.2	-0.6
THZ	Tophouse	2.60	248	eP	Pn	07 00 37.3	-0.5
TAZ	Tarawera	2.62	7	P	Pn	07 00 35.1	-3.0
URZ	Urewera	2.69	17	Pn	Pn	07 00 37.9	-1.2
	3.0nm,0.3s,baz=241,slow=7.5,SNR=29						
URZ				Sn	Sn	07 01 07.4	-2.9
	12nm,0.3s,baz=82,slow=22,SNR=11						
URZ	Urewera	2.69	17	P	Pn	07 00 37.9	-1.2
MWZ	Matawai	2.73	24	P	Pn	07 00 38.6	-1.0
QRZ	Quartz Range	2.73	269	eP	Pn	07 00 39.9	+0.3
PUZ	Puketiti	3.22	32	eP	Pn	07 00 44.9	-1.5
LTZ	Lake Taylor	3.48	235	eP	Pn	07 00 49.0	-0.9
MXZ	Matakaoa Point	3.68	28	P	Pn	07 00 51.9	-0.9
MQZ	McQueen's Vall	3.85	221	eP	Pn	07 00 53.0	-2.1
RPZ	Rata Peaks	4.73	231	Pn	Pn	07 01 07.0	-0.2
	0.9nm,0.3s,baz=339,slow=8.6,SNR=8.0						
RPZ				Sn	Sn	07 01 56.2	-4.6
	3.1nm,0.3s,baz=120,slow=16,SNR=15						
LBZ	Lake Benmore	5.64	229	eP	Pn	07 01 19.0	-0.6
ODZ	Otahua Downs	5.82	222	eP	Pn	07 01 21.0	-1.1
ASAR	Alice Springs	39.18	283	P	P	07 07 21.9	-0.3
	0.3nm,0.4s,mb3.4,baz=127,slow=6.7,SNR=11						
ASAR	Alice Springs	39.18	283	P	P	07 07 21.9	-0.3
WRA	Warramunga Arr	41.14	288	P	P	07 07 38.5	0.0
	1.0nm,0.4s,mb3.8,baz=125,slow=8.3,SNR=33						
ARCES	ARCESS Array B	147.39	341	PKPbc	PKPbc	07 19 37.4	-0.1
	3.6nm,1.1s,baz=60,slow=5.4,SNR=8.5						
TORD	Torodi Ar. Bea	151.99	192	PKPbc	PKPbc	07 19 54.9	+6.0
	0.2nm,0.7s,baz=165,slow=4.1,SNR=3.3						

*NEIC **04** 07:17:43.9, 3370S×7270W, h25^{km}, ML2.5(GUC), After GUC.*

GUC 04 07:17:43.9±0.6**, 3370S×7270W, h25**^{km}±3^{km}**, MD3.8, ML2.5, 1C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.97	77	eP	Pn	07 18 00.9	-0.9
LCCH				iS	Sb	07 18 14.1	-0.4
LNV	Longovilo	1.11	104	iP	Pn	07 18 03.6	-0.1
LNV				iS	Sn	07 18 17.5	-0.6
TACH	Talagante	1.47	89	⇑iP	Pn	07 18 09.2	+0.4
TACH				iS	Sn	07 18 28.6	+1.4
SFDO	San Fernando	1.67	124	eP	Pn	07 18 12.6	+1.0
CHCH	Chadas Angostu	1.72	98	eP	Pn	07 18 13.2	+0.9
CHCH				iS	Sn	07 18 34.9	+1.5
ANTU	Antumapu	1.73	86	eP	Pn	07 18 13.4	+1.1
ANTU				AML	AML	07 18 38.3	
	comp=E,94nm,0.5s						
PEL	Peldehue	1.77	72	eP	Pn	07 18 14.1	+1.1
PEL				iS	Sn	07 18 37.2	+2.5
PEL				AML	AML	07 18 43.0	
	comp=E,136nm,0.4s						
PEL	Peldehue	1.77	72	eP	Pn	07 18 14.1	+1.1
PEL				iS	Sn	07 18 37.2	+2.5
CACH	El Canelo	1.80	104	eP	Pn	07 18 15.2	+2.0
PCH	Pirque	1.83	88	⇓iP	Pn	07 18 14.9	+1.3
PCH				iS	Sn	07 18 38.4	+2.4
CLCH	Cerro Calan	1.83	81	eP	Pn	07 18 15.3	+1.6
CLCH				iS	Sn	07 18 38.7	+2.6
CLCH				AML	AML	07 18 48.3	
	comp=E,64nm,0.3s						
CICH	Cipreses	2.00	109	eP	Pn	07 18 17.6	+1.6
FCH	Farellones	2.05	80	eP	Pn	07 18 18.3	+1.6
FCH				iS	Sn	07 18 45.5	+4.0
FCH				AML	AML	07 18 51.8	
	comp=N,34nm,0.3s						

IDC 04 07:33:16.2±61.0**, 2207S×17660W, h0**^{km}**, mb3.8**/3**, mb1 3.9**/3**, mb1mx3.7**/12**, mbtmp3.8**/3**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.6**/17**, Error ellipse: s-maj=1119.0km s-min=173.7km az=86.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.32	246	P	P	07 40 39.0	+0.4
	1.2nm,0.6s,baz=85,slow=12,SNR=2.9						
ASAR	Alice Springs	45.45	258	P	P	07 41 36.9	0.0
	0.4nm,0.4s,baz=96,slow=7.5,SNR=11						
WRA	Warramunga Arr	45.70	263	P	P	07 41 39.3	+0.5
	0.4nm,0.3s,baz=102,slow=8.3,SNR=31						
VNDA	Vanda	56.48	186	LR	LR	08 02 48.7	
	comp=Z,50nm,19.8s,baz=147,slow=31						

JMA 04 08:45:24.1±0.4**, 2217N×12137E, h0**^{km}**, M3.6, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.73	33	P	Pn	08 46 10.4	+1.2
YOJ				eS	Sn	08 46 45.0	+2.0
IRIF	Iriomote-Funau	3.06	45	P	Pn	08 46 14.7	+1.0
IRIF				eS	Sn	08 46 52.2	+1.2
JKRS	Kuro-shima	3.18	49	P	Pn	08 46 16.6	+1.2
JKRS				eS	Sn	08 46 55.2	+1.2
JIJ	Ishigaki jima	3.36	49	P	Pn	08 46 19.8	+2.0
JIJ				eS	Sn	08 47 00.1	+1.8
JTJ	Tarama	3.93	51	P	Pn	08 46 28.0	+2.4
JTJ				eS	Sn	08 47 14.4	+2.0

CASC 04 09:12:26.4±1.9**, 845N×8290W, h8**^{km}±7^{km}**, MD3.8, MW3.7, 2C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	Volcan	0.40	31	⇑iP	Pg	09 12 35.4	+1.2
BRU2				eS	Sg	09 12 42.9	+3.3
DVD	David	0.44	91	⇓iP	Pg	09 12 35.0	-0.1
DVD				eS	Sg	09 12 41.4	+0.5
CTCR	Cotoan	0.47	17	⇓iP	Pg	09 12 36.3	+0.8
CTCR				eS	Sg	09 12 44.0	+2.4
CNI	Changuinola	1.04	21	⇓iP	Pg	09 12 45.4	-1.0
BUS	Buena Vista	1.39	322	eP	Pn	09 12 50.4	-1.7
LCR2	La Lucha 2	1.69	320	eP	Pn	09 12 55.5	-0.7
LCR2				eS	Sn	09 13 19.6	+1.5
PRS1	Puriscal	2.07	318	eP	Pn	09 13 00.1	-1.4
PRS1				eS	Sn	09 13 28.8	+1.4
PTP	Ponta Puerca	19.41	58	⇑iP		09 12 31.6	
PTP				eS		09 12 36.7	

*IGIL **04** 09:29:52.0, 3878N×795W, h2^{km}, ML2.0*
*MDD **04** 09:29:52.1±0.4, 3877N×798W, h0^{km}, mbLg2.1/9, Error ellipse: s-maj=4.5km s-min=3.3km az=52.0, PRXIMO*

INMG 04 09:29:52.5±1.1**, 3878N×795W, h12**^{km}±6^{km}**, ML1.8, 1D, Error ellipse: s-maj=1.9km s-min=1.7km az=62.0, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PESTR	Estremoz	0.29	73	ePg	Pg	09 29 58.3	-0.2
PESTR				eSg	Sg	09 30 02.6	0.0
PESTR							
	13nm,0.2s						
ALMR	Almeirim	0.61	308	eP	Pg	09 30 03.2	-1.2
ALMR				eS	Sg	09 30 11.0	-1.5
ALMR				eS	Sg	09 30 11.0	-1.5
ALMR				AML	AML	09 30 12.8	
	comp=N,48nm,0.1s						
ALMR	Almeirim	0.61	308	eP	Pg	09 30 03.2	-1.3
ALMR				eS	Sg	09 30 11.0	-1.5
EBAD	Badajoz	0.73	92	⇓Pg	Pg	09 30 06.2	-0.5
	comp=N,11nm,0.1s,SNR=18						
EBAD				Lg		09 30 16.1	
	comp=N,26nm,0.1s,SNR=7.9						
PBEJ	Beja	0.76	175	eP	Pg	09 30 06.2	-0.9
PBEJ				eS	Sg	09 30 16.1	-1.0
PBEJ							
	comp=N,18nm,0.1s						
PTOM	Tomar	0.91	337	eP	Pg	09 30 09.0	-1.0
PTOM				eS	Sg	09 30 21.1	-0.8
PTOM							
	comp=N,25nm,0.1s						
PLOU	Loures	0.94	277	eP	Pg	09 30 09.1	-1.6
PLOU				eS	Sg	09 30 22.3	-0.7
PLOU							
	comp=N,17nm,0.1s						
PMAFR	Mafra	1.05	280	eS	Sb	09 30 25.5	-0.9
PCBR	Castelo Branco	1.12	19	eP	Pb	09 30 12.8	-1.0
PCBR				eS	Sb	09 30 27.4	-0.9
PCBR							
	comp=N,20nm,0.2s						
EGRO	El Granado	1.30	163	Pg	Pg	09 30 16.1	-1.3
	comp=N,1.1nm,0.1s,SNR=7.9						
EGRO				Lg		09 30 32.8	
	comp=N,4.7nm,0.1s,SNR=9.3						
PTEO	Sao Teotonio	1.38	207	eSg	Sg	09 30 35.3	-1.5
PTEO							
	comp=N,9.6nm,0.2s						
PTEO	Sao Teotonio	1.38	207	Lg		09 30 35.3	
	comp=N,4.8nm,0.2s						
EMIN	Mina Concepcio	1.43	135	Pg	Pg	09 30 18.2	-1.8
	comp=N,1.2nm,0.1s,SNR=16						
EMIN				Lg		09 30 37.8	
	comp=N,2.1nm,0.1s,SNR=8.7						
MORF	Marmelete	1.57	201	eP	Pn	09 30 18.8	-1.4
MORF				eS	Sn	09 30 39.0	-1.5
MORF				eS	Sn	09 30 39.0	-1.5
MORF				AML	AML	09 30 43.5	
	comp=N,20nm,0.2s						
MORF	Marmelete	1.57	201	eP	Pn	09 30 18.8	-1.4
MORF				eS	Sn	09 30 39.0	-1.5
MTE	Manteigas	1.65	11	eSg	Sg	09 30 18.1	-27
MTE							
	comp=N,6.2nm,0.2s						
MTE	Manteigas	1.65	11	Pn	Pn	09 30 18.1	-3.1
	comp=N,3.1nm,0.2s						
EADA	Adamuz	2.72	102	Pn	Pn	09 30 36.4	+0.4
	comp=N,0.1nm,0.1s,SNR=4.0						
EADA				Lg		09 31 18.9	
	comp=N,1.1nm,0.1s,SNR=7.9						

*IDC **04** 09:45:11.1±1.2, 2328N×9522E, h0^{km}, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=63.6km s-min=19.3km az=59.0*
*ISCJB **04** 09:45:12.7±0.7, 235N±0.1×96.1E±02, h10^{km}, mb3.8/6, Error ellipse: s-maj=25.6km s-min=5.7km az=106.8*

ISC 04 09:45:14.6±0.7**, 234N**±01×**959E**±02**, h10**^{km}**, n12,** σ0^{s}**97**/16**, mb3.8**/6**, Myanmar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	2.26	307	iP	Pn	09 45 52.0	0.0
IMP				iS	Sn	09 46 10.0	-10
CHRT	Chiangrai	5.04	134	PG	Pg	09 46 50.0	-1.3
CHRT				SG	Sg	09 47 57.0	+0.4
CHG	Chiang Mai	5.39	148	PN	Pn	09 46 36.0	+0.9
CHG				PG	Pg	09 46 56.7	-1.1
CHG				SG	Sg	09 48 13.2	+5.6
NANT	Nan	6.41	135	PG	Pn	09 46 50.0	+0.9
NANT				SG	Sg	09 48 37.0	-3.5
NST	Nakhon Sawan	8.67	152	P	Pn	09 47 20.3	+0.1
SONM	Songino Array	25.76	16	P	P	09 50 46.0	+0.6
	0.4nm,0.5s,mb3.2,baz=205,slow=8.6,SNR=4.2						
MKAR	Makanchi Array	25.77	338	P	P	09 50 43.5	-2.0
	2.0nm,0.5s,mb3.9,baz=156,slow=11,SNR=13						
BVAR	Borovoye Array	35.34	333	P	P	09 52 10.5	+0.4
	2.2nm,0.7s,mb4.2,baz=141,slow=11,SNR=8.3						
AKTO	Aktyubinsk	39.88	322	P	P	09 52 43.5	-5.0
	0.7nm,0.4s,mb3.7,baz=130,slow=7.9,SNR=2.9						
WRA	Warramunga Arr	57.11	136	P	P	09 55 01.7	+0.5
	0.5nm,0.4s,mb3.9,baz=322,slow=7.4,SNR=16						
ASAR	Alice Springs	59.60	139	P	P	09 55 19.4	+0.8
	0.6nm,0.5s,mb3.9,baz=322,slow=6.9,SNR=12						
SDV	Santo Domingo	145.30	336	PKPbc	PKPbc	10 04 50.5	-1.9
	4.7nm,0.7s,baz=64,slow=2.6,SNR=6.4						

KRSC 04 10:06:50, 5525N×16260E, h23^{km}**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.86	216	eP	Pb	10 07 06.0	-0.2
MKZ				iS	Sb	10 07 16.8	-0.5
KBTR	Krutoberegovo	0.97	7	eP	Pb	10 07 07.4	-0.7
KBTR				iS	Sb	10 07 20.2	-0.2
TUMR	Tumrok	1.41	272	eP	Pn	10 07 15.2	+1.0
TUMR				iS	Sn	10 07 33.6	+1.6
KMNR	Kamenistaya	1.44	292	eP	Pn	10 07 16.1	+1.5
KMNR				iS	Sn	10 07 34.9	+2.1
SMKR	Semkarok	1.48	335	eP	Pn	10 07 15.7	+0.5
SMKR				iS	Sn	10 07 34.4	+0.6
KRSR	Krestovskiy	1.50	311	eP	Pn	10 07 15.8	+0.3
KRSR				iS	Sn	10 07 35.0	+0.6
KPT	Kopyto	1.53	299	eP	Pn	10 07 17.7	+1.8
KPT				iS	Sn	10 07 37.9	+2.9
KLY	Klyuchi	1.53	315	eP	Pn	10 07 15.5	-0.4
KLY				iS	Sn	10 07 34.0	-1.1
BDR	Baidarnaya	1.54	330	eP	Pn	10 07 16.5	+0.5
BDR				iS	Sn	10 07 35.0	-0.2
SRKR	Sorokina	1.62	331	eP	Pn	10 07 18.1	+0.9
SRKR				iS	Sn	10 07 38.4	+1.1
KOZ	Kozyrevsk	1.75	299	eP	Pn	10 07 21.3	+2.5
KOZ				iS	Sn	10 07 44.0	+3.6
SRDR	Sredinnyy	1.95	304	eP	Pn	10 07 23.3	+1.7
SRDR				iS	Sn	10 07 48.5	+3.1
SPN	Mys Shipunski	2.63	216	eP	Pn	10 07 32.0	+0.9
SPN				iS	Sn	10 08 03.1	+0.8
NLC	Nalytchevo	2.83	224	eP	Pn	10 07 34.5	+0.8
NLC				iS	Sn	10 08 07.9	+0.8
AVH	Avacha	3.01	230	eP	Pn	10 07 38.5	+2.2
AVH				iS	Sn	10 08 15.1	+3.4
GNL	Ganaly	3.13	242	eP	Pn	10 07 39.6	+1.7
GNL				iS	Sn	10 08 16.8	+2.2
PET	Petropavlovsk	3.22	228	eP	Pn	10 07 41.0	+1.9
PET				iS	Sn	10 08 18.6	+1.9
RUS	Russkaya	3.72	222	eP	Pn	10 07 47.6	+1.6
RUS				iS	Sn	10 08 30.9	+1.9
GRL	Gorelyy	3.80	227	eP	Pn	10 07 49.9	+2.7

MAN 04 10:17:11.3, 1592N×11966E, h32^{km}**, mb2.7, ML4.2, MS2.7, 2D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.28	120	eP	Pb	10 17 20.4	+1.7
SCZP				eS	Sb	10 17 26.3	+2.5
BOLP	Bolinao	0.52	28	eP	Pb	10 17 22.8	+0.6
BOLP				eS	Sb	10 17 32.0	+2.3
BCPH	Baguio City Da	1.00	62	⇓iP	Pn	10 17 29.8	+0.7
BCPH				eS	Sn	10 17 42.9	+0.8
PCPH	Palayan	1.43	104	⇓eP	Pn	10 17 35.4	+0.4
PCPH				eS	Sn	10 17 53.0	+0.2
BALP	Baler	1.86	95	eP	Pn	10 17 42.5	+1.6
LUBP	Lubang	2.25	165	eP	Pn	10 17 47.8	+1.5
CAUP	Cauayan	2.31	64	eP	Pn	10 17 50.7	+3.5
POLP	Polilio Island	2.50	118	eP	Pn	10 17 49.4	-0.4
BOAC	Boac	3.23	139	eP	Pn	10 18 00.2	+0.4
ENPP	El Nido	4.69	183	eP	Pn	10 18 21.0	+1.2

IDC 04 10:40:59.9±3.2**, 987S×15522E, h0**^{km}**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/12**, mbtmp3.8**/4**, MS3.0**/2**, Ms1 3.0**/2**, ms1mx2.7**/22**, Error ellipse: s-maj=82.6km s-min=33.3km az=104.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.96	273	LR	LR	10 45 33.1	
	comp=Z,70nm,20.3s,baz=234,slow=34						
CTA	Charters Tower	13.35	219	LR	LR	10 48 44.5	
	comp=Z,87nm,18.6s,baz=232,slow=35						
WRA	Warramunga Arr	22.50	241	P	P	10 46 01.3	+0.3
	1.6nm,0.8s,baz=65,slow=9.6,SNR=9.0						
ASAR	Alice Springs	24.55	233	P	P	10 46 21.2	0.0
	2.0nm,0.8s,baz=63,slow=9.5,SNR=12						
STKA	Stephens Creek	25.28	208	P	P	10 46 27.9	-0.1
	1.9nm,0.6s,baz=13,slow=18,SNR=2.2						
SONM	Songino Array	71.86	328	P	P	10 52 25.6	+0.9
	0.6nm,0.8s,baz=138,slow=6.2,SNR=3.8						

IDC 04 10:43:01.8±2.8**, 1985S×17466W, h0**^{km}**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.8**/15**, mbtmp3.7**/4**, Error ellipse: s-maj=193.7km s-min=27.6km az=155.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.68	263	P	P	10 50 11.4	+1.2
	0.9nm,0.4s,baz=94,slow=15,SNR=3.7						
ASAR	Alice Springs	47.72	256	P	P	10 51 40.7	+0.5
	0.6nm,0.6s,baz=96,slow=8.3,SNR=15						
ASAR				PcP	PcP	10 53 09.4	-0.1
	0.2nm,0.5s,baz=99,slow=3.8,SNR=5.3						
WRA	Warramunga Arr	47.80	261	P	P	10 51 40.6	-0.2
	0.3nm,0.3s,baz=97,slow=7.3,SNR=28						
NVAR	Mina Array Bea	78.42	42	P	P	10 55 05.0	+0.7
	0.4nm,0.6s,baz=213,slow=8.1,SNR=4.8						
ARCES	ARCESS Array B	128.81	351	PKP	PKPdf	11 02 10.1	-1.1
	0.9nm,0.9s,baz=1.9,slow=2.7,SNR=3.7						

*IDC **04** 10:51:28.4±1.1, 973S×15484E, h0^{km}, mb4.0/7, mb1 4.3/8, mb1mx4.1/14, mbtmp4.1/8, ML3.4/1, MS3.8/14, Ms1 3.8/14, ms1mx3.8/15, Error ellipse: s-maj=34.6km s-min=23.1km az=122.0*
*NEIC **04** 10:51:33.2±0.5, 969S×15486E, h35^{km}, mb4.5/5, Error ellipse: s-maj=14.8km s-min=11.1km az=135.0*
*GCMT **04** 10:51:33.2±0.4, 987S×155.19E, h12^{km}, MW4.8/59, Moment Tensor Solution. s10,c11; s59,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.92±.07; $M_{\theta\theta}$1.58±.07; $M_{\phi\phi}$0.33±.06; $M_{r\theta}$-0.11±.28; $M_{\theta\phi}$0.44±.05; $M_{\phi r}$-0.29±.36; Best double couple: $M_0$1.84500×10^{16} NP1:ϕ_s259.00000°, δ42.00000°, λ-80.00000°. NP2: ϕ_s66.00000°, δ48.00000°, λ-99.00000°. Principal axes: T 1.7320, Plg3.0000°, Azm162.0000°; N 0.2180, Plg6.0000°, Azm71.0000°; P -1.9590, Plg83.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **04** 10:51:34.6±5.9, 98S±02×1549E±0.1, h61^{km}±54^{km}, mb4.2/10 Error ellipse: s-maj=31.5km s-min=15.9km az=147.6*

ISC 04 10:51:36.3±4.8**, 98S**±02×**1549E**±01**, h64**^{km}±46^{km}**, n29,** σ0^{s}**84**/18**, mb4.2**/10**, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.01	87	LR	LR	10 54 12.5	
	comp=Z,576nm,19.8s,baz=90,slow=32						
PMG	Port Moresby	7.62	272	LR	LR	10 55 41.0	
	comp=Z,137nm,20.7s,baz=104,slow=33						
CTA	Charters Tower	13.22	218	eP	Pn	10 54 52.0	+11
	2.5nm,0.8s						
DZM	Mont Dzumac	16.53	139	Pn	Pn	10 55 24.2	+0.3
	0.1nm,0.3s,baz=349,slow=15,SNR=3.2						
WB2	Warramunga Arr	22.25	241	eP	P	10 56 27.1	-0.6
WRA	Warramunga Arr	22.26	241	P	P	10 56 27.3	-0.5
	3.5nm,0.7s,mb3.9,baz=64,slow=9.6,SNR=26						
WRA				PcP	PcP	11 00 23.3	+1.5
	0.4nm,0.8s,baz=64,slow=2.0,SNR=4.6						
WRA				LR	LR	11 04 51.2	
	comp=Z,129nm,19.5s,baz=60,slow=36						
AS31	Alice Springs	24.33	233	eP	P	10 56 48.1	+0.1
ASAR	Alice Springs	24.34	233	P	P	10 56 48.1	+0.1
	4.5nm,0.8s,mb4.0,baz=66,slow=7.5,SNR=37						
ASAR				LR	LR	11 05 36.6	
	comp=Z,155nm,20.5s,baz=251,slow=35						
ASPA	Alice Springs	24.34	233	eP	P	10 56 48.1	+0.1
STKA	Stephens Creek	25.22	207	eP	P	10 56 56.2	+0.2
	7.7nm,0.8s,mb4.3						
STKA	Stephens Creek	25.22	207	P	P	10 56 56.1	+0.1
	8.6nm,0.7s,mb4.4,baz=37,slow=12,SNR=19						
STKA				LR	LR	11 06 48.7	
	comp=Z,499nm,20.3s,baz=26,slow=36						
FITZ	Fitzroy Crossi	29.53	250	eP	P	10 57 35.4	+0.8
	3.1nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	29.53	250	P	P	10 57 34.5	-0.1
	1.8nm,0.8s,mb3.9,baz=104,slow=9.7,SNR=5.6						
FITZ				LR	LR	11 08 43.6	
	comp=Z,113nm,21.9s,baz=72,slow=35						
RPZ	Rata Peaks	36.64	160	LR	LR	11 11 31.4	
	comp=Z,224nm,21.7s,baz=102,slow=33						
MJAR	Matsushiro Arr	48.65	342	LR	LR	11 16 40.7	
	comp=Z,253nm,21.6s,baz=185,slow=31						
PPT	Papeete	54.38	105	LR	LR	11 18 32.4	
	comp=Z,129nm,20.5s,baz=316,slow=30						
VNDA	Vanda	67.84	178	LR	LR	11 29 13.8	
	comp=Z,84nm,19.3s,baz=353,slow=33						
RKT	Rikitea	68.05	111	eLR	LR	11 22 50.3	
	168nm,30.8s						
SONM	Songino Array	71.59	328	P	P	11 02 52.6	+1.9
	0.8nm,0.7s,mb3.8,baz=146,slow=5.6,SNR=6.3						
SONM				LR	LR	11 32 58.2	
	comp=Z,123nm,18.3s,baz=132,slow=35						
QSPA	South Pole Qui	80.23	180	eP	P	11 03 39.8	-0.1
	4.7nm,1.1s,mb4.3						
MAW	Mawson	81.82	203	LR	LR	11 35 13.7	
	comp=Z,81nm,18.1s,baz=244,slow=32						
MCK	McKinley	84.65	22	eP	P	11 04 01.9	-1.0
	9.4nm,1.1s,mb4.8						
MKAR	Makanchi Array	85.39	319	P	P	11 04 06.9	+0.3
	0.3nm,0.5s,mb3.7,baz=98,slow=6.0,SNR=2.0						
COLA	College	85.68	21	eP	P	11 04 05.9	-2.2
	7.2nm,1.0s,mb4.9						
ZAL	Zalesovo	86.40	326	LR	LR	11 41 49.6	
	comp=Z,82nm,20.8s,baz=180,slow=35						
EGAK	Eagle	88.10	23	eP	P	11 04 19.9	+0.1
NVAR	Mina Array Bea	93.52	52	P	P	11 04 46.0	+1.0
	0.9nm,1.1s,mb4.1,baz=239,slow=8.1,SNR=3.9						
YKA	Yellowknife Ar	98.82	28	LR	LR	11 43 54.9	
	comp=Z,48nm,20.9s,baz=10.0,slow=32						
ESDC	Sonseca Array	144.74	331	PKP	PKPdf	11 11 11.8	+6.1
	1.2nm,0.7s,baz=50,slow=2.2,SNR=5.2						

*KNET **04** 10:59:52.5±1.1, 4279N×7630E, h9^{km}±4^{km}, ml2.4, Error ellipse: s-maj=6.9km s-min=2.0km az=55.0*
*ISCJB **04** 10:59:53.2±0.6, 4280N±004×7638E±004, h10^{km}, Error ellipse: s-maj=5.8km s-min=4.1km az=126.7*
*NNC **04** 10:59:53.6±2.8, 4287N×7632E, h0^{km}, mb3.4, mpv2.7, Error ellipse: s-maj=43.0km s-min=4.9km az=166.0*

ISC 04 10:59:53.7±0.6**, 4280N**±004×**7634E**±004**, h10**^{km}**, n12,** σ0^{s}**93**/22**, 13C-10D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.56	283	⇓P	Pg	11 00 03.9	-0.7
	30nm,0.1s,SNR=150						
TKM2				⇑S	Sg	11 00 11.2	-0.7
	219nm,0.1s						
TKM2	Tokmak 2	0.56	283	⇑P	Pg	11 00 03.8	-0.8
	1.6nm,0.5s						
TKM2				⇑S	Sg	11 00 11.9	0.0
	15nm,0.7s						
ULHL	Ulahol	0.56	187	P	Pg	11 00 04.0	-0.6
	68nm,0.2s,SNR=185						
ULHL				⇑S	Sg	11 00 11.3	-0.7
	78nm,0.1s						
KNDC	Almaty	0.62	48	⇓P	Pg	11 00 04.8	-0.9
	30nm,0.4s						
KNDC				⇑S	Sg	11 00 14.1	+0.3
	104nm,0.3s						
KBK	Karagaybulak	1.03	262	⇓P	Pg	11 00 13.0	-0.6
	28nm,0.1s,SNR=23						
KBK				⇓S	Sg	11 00 27.5	+0.5
	68nm,0.2s						
KZA	Kyzart	1.08	229	⇑P	Pb	11 00 14.3	-0.2
	13nm,0.2s,SNR=9.5						
KZA				⇑S	Sg	11 00 30.1	+1.5
	20nm,0.1s						
CHMS	Chumysh	1.18	280	⇑P	Pb	11 00 14.8	-1.4
	9.7nm,0.1s,SNR=24						
CHMS				⇑S	Sb	11 00 31.0	-0.6
	41nm,0.1s						
AAK	Ala-Archa	1.37	264	⇓P	Pn	11 00 18.8	0.0

	22nm,0.2s,SNR=16						
AAK				⇑S	Sb	11 00 37.3	+0.3
	20nm,0.2s						
USP	Ospenovka	1.43	290	⇓P	Pn	11 00 19.1	-0.5
	15nm,0.1s,SNR=13						
USP				⇓S	Sn	11 00 39.0	+0.6
	62nm,0.2s						
EKS2	Erkin-Say	1.89	267	⇓P	Pn	11 00 28.3	+2.2
	14nm,0.2s,SNR=25						
EKS2				⇑S	Sn	11 00 54.1	+4.2
	25nm,0.2s						
KK31	Karatay Array	4.29	276	⇓Pg	Pg	11 01 10.8	-5.0
	0.7nm,0.3s,baz=88,slow=15,SNR=5.2						
KK31				⇑Lg		11 02 06.5	
	3.3nm,0.4s,baz=83,slow=30,SNR=11						
MK09	Makanchi Array	5.80	45	⇑Pn	Pn	11 01 21.5	+1.7
	0.7nm,0.3s						
MK09				⇓Lg		11 02 54.1	
	2.8nm,0.8s						

MAN 04 11:07:00.2, 1815N×12089E, h10km, mb2.7, ML4.1, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.53	198	eP	Pg	11 07 11.0	+0.5
ABRA				eS	Sg	11 07 19.3	+1.9
CVP	Callao Caves	1.00	116	eP	Pg	11 07 18.0	-1.4
CVP				eS	Sg	11 07 30.0	-2.4
CAUP	Cauayan	1.50	143	eP	Pn	11 07 27.6	+0.5
CAUP				eS	Sn	11 07 49.1	+2.4
PALP	Palanan	1.82	126	⇑iP	Pn	11 07 32.3	+0.6
PALP				iS	Sn	11 07 58.0	+3.3
PALP	Palanan	1.82	126	eP	Pn	11 07 32.0	+0.3
BOLP	Bolinao	1.99	208	eP	Pn	11 07 33.5	-0.4
BALP	Baler	2.49	164	eP	Pn	11 07 40.8	+0.1

IDC 04 12:09:51.8±3.3, 959S×15460E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/12, mbtmp3.8/4, MS3.4/3, Ms1 3.4/3, ms1mx3.0/17, Error ellipse: s-maj=89.6km s-min=32.6km az=105.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	13.19	217	LR	LR	12 17 26.9	
	comp=Z,85nm,20.1s,baz=254,slow=34						
DZM	Mont Dzumac	16.84	139	LR	LR	12 19 26.8	
	comp=Z,236nm,18.1s,baz=266,slow=34						
WRA	Warramunga Arr	22.10	240	P	P	12 14 49.2	+0.6
	2.5nm,1.0s,baz=66,slow=10.0,SNR=13						
ASAR	Alice Springs	24.22	232	P	P	12 15 10.2	0.0
	2.1nm,0.9s,baz=67,slow=9.6,SNR=20						
STKA	Stephens Creek	25.24	207	P	P	12 15 19.8	+0.4
	3.3nm,0.9s,baz=34,slow=13,SNR=4.1						
PPT	Papeete	54.69	105	LR	LR	12 37 23.4	
	comp=Z,43nm,18.8s,baz=356,slow=30						
SONM	Songino Array	71.30	328	P	P	12 21 13.4	+0.3
	0.7nm,0.8s,baz=142,slow=4.9,SNR=4.3						

ISCJB 04 12:21:39.8±1.1, 61.1S±0.1×229W±03, h10km, mb3.9/4, MS4.1/1, Error ellipse: s-maj=22.1km s-min=16.2km az=106.4
IDC 04 12:21:40.8±2.0, 6092S×2238W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/17, mbtmp3.9/4, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx3.0/17, Error ellipse: s-maj=117.9km s-min=29.6km az=94.0
NEIC 04 12:21:41.5±1.0, 6101S×2283W, h10km, mb4.3/1, Error ellipse: s-maj=23.8km s-min=20.2km az=86.0
ISC 04 12:21:41.7±9.2, 610S±02×230W±03, h14km±56km, n12, σ0§80/12, mb3.9/4, MS4.1/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	11.36	155	e	Pn	12 24 24.4	+0.8
VNA1				e		12 24 25.5	
VNA1				e		12 24 27.2	
VNA1				e		12 24 27.6	
VNA1				e		12 24 47.5	
VNA1				e		12 26 29.7	
VNA3	Neumayer Olymp	11.57	158	e	Pn	12 24 26.1	-0.3
VNA3				e		12 24 27.1	
VNA3				e		12 24 27.4	
VNA3				e		12 24 28.9	
VNA3				e		12 24 29.5	
VNA3				e		12 24 31.3	
VNA3				e		12 24 32.6	
VNA3				e		12 24 35.8	
VNA3				e		12 24 43.5	
VNA3				e		12 24 48.6	
VNA3				e		12 26 26.7	
SNAA	Sanae	13.31	152	Pn	Pn	12 24 50.2	0.0
	0.8nm,0.3s,baz=322,slow=14,SNR=142						
SNAA				Sn	Sn	12 27 07.8	-10
	0.1nm,0.3s,baz=360,slow=22,SNR=3.0						
SNAA				LR	LR	12 27 54.5	
	comp=Z,17nm,19.7s,baz=321,slow=28						
SNAA	Sanae	13.31	152	e	Pn	12 24 49.5	-0.7
SNAA				e		12 24 51.7	
SNAA				e		12 24 55.9	
SNAA				e		12 24 57.5	
SNAA				e		12 24 58.8	
SNAA				e		12 27 13.5	
SNAA	Sanae	13.31	152	ePn	Pn	12 24 49.6	-0.6
SNAA				Sn	Sn	12 27 04.9	-13
SNAA				LR	LR	12 27 54.5	
PMSA	Palmer Station	18.84	241	eP	Pn	12 26 01.7	0.0
QSPA	South Pole Qui	29.23	180	eP	P	12 27 41.5	-1.6
	7.8nm,1.4s,mb4.2						
VNDA	Vanda	41.69	182	P	P	12 29 31.3	+1.4
	1.1nm,0.9s,mb3.5,baz=195,slow=7.7,SNR=5.5						
TORD	Torodi Ar. Bea	76.47	25	P	P	12 33 31.0	-0.1
	0.9nm,0.5s,mb4.0,baz=201,slow=6.2,SNR=8.2						
ASAR	Alice Springs	93.58	159	P	P	12 34 57.4	+0.1
	0.3nm,0.8s,mb3.8,baz=188,slow=4.5,SNR=4.2						
WRA	Warramunga Arr	97.29	159	LR	LR	13 14 33.2	
	comp=Z,63nm,20.0s,MS4.1,baz=10.0,slow=33						
SONM	Songino Array	148.60	91	PKPbc	PKPbc	12 41 28.2	-0.1
	0.3nm,0.6s,baz=242,slow=3.1,SNR=3.6						

STR 04 12:23:56.2±0.5, 4525N×633E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISCJB 04 12:23:57.1±0.5, 45.13N±002×666E±009, h5km, Error ellipse: s-maj=8.7km s-min=2.8km az=177.0
LDG 04 12:23:57.4±0.2, 45.15N×689E, h2km, Md2.1/3, Ml2.2/4, Error ellipse: s-maj=5.3km s-min=1.5km az=87.0
ISC 04 12:23:57.8±0.9, 4515N±002×680E±007, h15km±24km, n13, σ1§20/24, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	La Plagne	0.35	355	ePg	Pg	12 24 04.8	-0.2
LPG				eSg	Sg	12 24 09.6	-0.2
	49nm,0.2s						
LPL	La Plagne	0.37	353	ePg	Pg	12 24 05.3	0.0
LPL				eSg	Sg	12 24 10.4	0.0
	92nm,0.3s						
MBDF	Montbardon	0.42	183	ePg	Pg	12 24 05.6	-0.8
MBDF				eSg	Sg	12 24 11.1	-1.0
	41nm,0.3s						
ORIF	Oris-en-Rattie	0.69	251	ePg	Pg	12 24 12.8	+1.5
ORIF				eSg	Sg	12 24 22.2	+1.7
	8.6nm,0.2s						
TOUF	Mont Tournerai	1.18	164	Pg	Pg	12 24 23.0	+2.4
AUTN	L'Aution	1.24	159	Pg	Pg	12 24 24.0	+2.3
AUTN				Sg	Sg	12 24 44.7	+6.8
MVIF	Mont Vial	1.28	168	Pg	Pg	12 24 24.0	+1.5
MVIF				Sg	Sg	12 24 44.4	+5.2
LUCF	Luceram	1.32	163	Pg	Pg	12 24 24.9	+1.7
SBF	Sospel	1.37	160	ePg	Pg	12 24 24.5	+0.4
SBF				eSg	Sg	12 24 41.7	-0.2
SMRF	Simiane la Rot	1.46	217	ePg	Pg	12 24 25.5	-0.5
SMRF				eSg	Sg	12 24 45.0	0.0
	4.7nm,0.5s						
CABF	La Chapelle	1.54	341	ePg	Pg	12 24 26.3	-1.2
CABF				eSg	Sg	12 24 47.0	-0.6
	1.7nm,0.2s						
FRF	La Foret Royal	1.59	184	ePg	Pg	12 24 26.9	-1.6
FRF				eSg	Sg	12 24 47.7	-1.5
	6.7nm,0.3s						
LMR	La Mourre	1.83	187	ePg	Pg	12 24 31.4	-1.5
LMR				eSg	Sg	12 24 55.3	-1.4
	4.1nm,0.3s						

NEIC 04 12:27:36.7, 1821N×6289W, h116km, MD3.8(RSPR), After RSPR.
RSPR 04 12:27:36.7, 1821N×6289W, h116km±10km, MD3.8/4, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.66	277	eP	Pn	12 28 05.8	+0.1
TBVI				eS	Sn	12 28 27.3	-0.5
STVI	Saint Thomas	1.97	274	⇑eP	Pn	12 28 09.4	-0.1
STVI				eS	Sn	12 28 35.2	+0.5
SEG	Port Louis	2.23	144	eP	Pn	12 28 06.0	-6.8
LZG	Guadaloupe-1	2.31	153	eP	Pn	12 28 07.9	-6.0
MTP	Monte Pirata	2.54	268	⇑eP	Pn	12 28 16.1	-0.7
MTP				eS	Sn	12 28 48.2	+0.6
CBYP	Canovanas	2.82	272	⇑eP	Pn	12 28 20.7	+0.2
CBYP				eS	Sn	12 28 54.6	+0.3

NEIC 04 13:01:48.9, 1586N×96.16W, h48km, MD3.9(MEX), After MEX.
MEX 04 13:01:49.1±0.5, 1588N×9614W, h46km±5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.11	166	iP	Pn	13 01 55.0	-1.6
HUIG				iS	Sn	13 02 00.1	-1.6
VHO	Vista Hermosa	1.32	334	iP	Pn	13 02 10.0	-1.1
VHO				iS	Sn	13 02 25.5	-2.0
OXX	Oaxaca	1.32	335	eP	Pn	13 02 10.0	-1.1
OXX				iS	Sn	13 02 25.0	-2.6
CMIG	Matias Romero	1.70	45	iP	Pn	13 02 14.9	-1.4
CMIG				iS	Sn	13 02 34.7	-2.2
PNIG	Pinotepa	1.98	285	iP	Pn	13 02 18.4	-1.7
PNIG				iS	Sn	13 02 41.7	-2.0
PNIG	Pinotepa	1.98	285	eP	Pn	13 02 19.2	-0.9
PNIG				iS	Sn	13 02 39.7	-4.1
UTMO	Huajuapan	2.52	321	eP	Pn	13 02 27.2	-0.2
UTMO				iS	Sn	13 02 54.8	-2.1
TPIG	Tehuac#an	2.79	335	iP	Pn	13 02 30.1	-1.1
TPIG				iS	Sn	13 03 02.5	-1.1
MEIG	Mezcala	3.91	302	eP	Pn	13 02 52.6	+6.1
MEIG				iS	Sn	13 03 29.2	-2.0
PPM	Popocatepetl	3.96	324	iP	Pn	13 02 47.2	-0.1
PPM				iS	Sn	13 03 31.9	-0.7
PPM	Popocatepetl	3.96	324	iP	Pn	13 02 50.1	+2.7
PPM				iS	Sn	13 03 31.9	-0.7

ISCJB 04 13:16:02.2±0.6, 5974N±003×2443E±008, h0km, Error ellipse: s-maj=5.6km s-min=4.9km az=43.1
CSEM 04 13:16:04.9±0.4, 5979N×2457E, h2km, ML2.3, Error ellipse: s-maj=9.1km s-min=8.0km az=30.0, Mining explosion.
NAO 04 13:16:04.6±1.0, 5974N×2464E, ML2.7
HEL 04 13:16:05.0±0.1, 5976N×2459E, h0km, ML2.3, ML2.7(NAO), Explosion
BER 04 13:16:05.6±3.5, 5976N×2461E, h0km, ML2.7(NAO), Suspected explosion
IDC 04 13:16:08.5±3.1, 6005N×2428E, h0km, mb1 3.6/2, mb1mx3.1/20, mbtmp3.5/2, ML3.7/2, Error ellipse: s-maj=33.6km s-min=8.7km az=151.0
ISC 04 13:16:03.6±0.6, 5977N±003×2454E±007, h0km, n26, σ1§12/49, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.46	351	eP	Pg	13 16 13.1	+0.8
MEF				eS	Sg	13 16 19.2	+1.0
MEF	Metsahovi	0.46	351	P	Pg	13 16 13.0	+0.7
PVF	Pernaja	1.02	40	eP	Pg	13 16 22.9	-0.2
PVF				eS	Sg	13 16 35.6	-0.8
VSU	Vasula	1.73	138	eP	Pn	13 16 35.2	+0.3
VSU				eS	Sn	13 16 57.3	-0.4
VSU	Vasula	1.73	138	Pn	Pn	13 16 35.3	+0.5
VSU				Lg		13 16 58.0	
VSU	Vasula	1.73	138	Pn	Pn	13 16 35.3	+0.4
VSU				S	Sn	13 16 57.2	-0.5
FIA0	FINESS Array S	1.84	24	eP	Pn	13 16 37.8	+1.4
FIA0				eS	Sn	13 17 01.1	+0.6
FIA0	FINESS Array S	1.84	24	Pn	Pn	13 16 38.0	+1.6
	baz=195,slow=18						
FIA0				Lg		13 17 03.1	
	baz=188,slow=28						
FIA0	FINESS Array S	1.84	24	Pn	Pn	13 16 38.0	+1.6
	SNR=384						
FIA0				S	Sn	13 17 01.0	+0.5
FINES	FINESS Array B	1.84	24	Pg	Pg	13 16 37.9	-1.0
	11nm,0.3s,baz=201,slow=16,SNR=304						
FINES				Lg		13 17 00.1	
	3.9nm,0.3s,baz=204,slow=30,SNR=5.1						
RAF	Rauma	1.87	314	eP	Pn	13 16 38.0	+1.3
RAF				eS	Sn	13 17 02.6	+1.6
RAF	Rauma	1.87	314	P	Pn	13 16 38.0	+1.2
RAF				S	Sn	13 17 02.6	+1.6
KEF	Keuruu	2.41	4	ePB	Pb	13 16 47.1	-0.8
KEF				eSB	Sb	13 17 17.9	-0.2
KAF	Kangasniemi	2.50	19	ePB	Pb	13 16 48.5	-0.9
KAF				eSB	Sb	13 17 20.9	+0.2
SUF	Sumiainen	3.06	14	eP	Pn	13 16 54.7	+1.5
SUF				eS	Sn	13 17 31.4	+0.9
SUF				MSG		13 17 44.6	
	comp=Z,11nm,0.3s						
SUF	Sumiainen	3.06	14	P	Pn	13 16 54.7	+1.5
SUF				S	Sn	13 17 31.3	+0.8
	comp=Z,11nm,0.3s						
VAF	Ylistaro	3.41	345	eP	Pn	13 17 01.0	+3.1
VAF				eSG	Sg	13 17 50.4	-2.6
VAF				MSG		13 17 52.1	
	comp=Z,7.2nm,0.2s						
HFS	Hagfors	5.47	279	Pn	Pn	13 17 26.8	+0.6
	baz=102,slow=12						
HFS				Sn	Sn	13 18 29.1	-0.7
	baz=102,slow=28						
HFS	Hagfors	5.47	279	eP	Pn	13 17 26.8	+0.6
HFS				eS	Sn	13 18 29.1	-0.7
NB2	NORSAR Subarra	6.73	287	Pn	Pn	13 17 43.2	-0.3
	baz=95,slow=14						
NB2				Sn	Sn	13 18 58.3	-2.6
	baz=98,slow=22						
NB2				Lg		13 19 32.6	
	baz=96,slow=37						
NB2	NORSAR Subarra	6.73	287	eP	Pn	13 17 43.2	-0.3
NB2				eS	Sn	13 18 58.3	-2.6
NB2				eSG		13 19 32.6	
NB2	NORSAR Subarra	6.73	287	Pn	Pn	13 17 43.2	-0.3
	SNR=1.3						
NB2				Sn	Sn	13 18 58.3	-2.6
	SNR=3.1						
NB2				Sg	Sg	13 19 32.5	-7.1
NOA	NORSAR Array B	6.73	287	Pn	Pn	13 17 43.1	-0.4
	comp=Z,1.0nm,0.3s,baz=86,slow=13,SNR=4.0						
NOA				Sn	Sn	13 18 56.1	-4.7
	comp=Z,0.7nm,0.3s,baz=124,slow=21,SNR=2.6						
NOA				Lg		13 19 31.6	
	comp=Z,1.7nm,0.3s,baz=61,slow=15,SNR=4.7						
ARA0	ARCESS Array S	9.82	2	Pn	Pn	13 18 24.9	-1.0
	baz=178,slow=16						
ARA0				Sn	Sn	13 20 10.1	-6.7
	baz=188,slow=22						
ARA0	ARCESS Array S	9.82	2	eP	Pn	13 18 24.9	-1.0
ARA0				eS	Sn	13 20 10.1	-6.7
ARCES	ARCESS Array B	9.82	2	Pn	Pn	13 18 24.6	-1.3
	comp=Z,0.9nm,0.3s,baz=179,slow=14,SNR=53						
ARCES				Sn	Sn	13 20 07.7	-9.1
	comp=Z,0.2nm,0.3s,baz=184,slow=22,SNR=2.7						

IDC 04 13:38:39.3±0.6, 156N×97.10E, h0km, mb4.5/16, mb1 4.6/17, mb1mx4.4/23, mbtmp4.5/17, ML3.8/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/35, Error ellipse: s-maj=23.0km s-min=13.2km az=51.0
BJI 04 13:38:41.3, 150N×97.17E, h29km, mB5.2, mb5.0, Ms4.7, Msz4.6
ISCJB 04 13:38:41.4±0.3, 151N±004×97.14E±004, h27km, mb4.8/77, MS4.2/27, Error ellipse: s-maj=6.2km s-min=5.1km az=78.0
MOS 04 13:38:42.6±0.9, 160N×97.13E, h33km, mb5.1/36, Error ellipse: s-maj=11.4km s-min=6.0km az=102.5
NEIC 04 13:38:43.6±0.3, 155N×97.16E, mb4.8/23, Error ellipse: s-maj=8.5km s-min=5.6km az=46.0
SZGRF 04 13:38:46.0, 067N×9568E, h33km, mb4.7, Off west coast of northern Sumatera, Indonesia
ISC 04 13:38:43.7±0.3, 152N±004×9714E±004, h28km, h28km±.8km:pP-P, n163, σ0§97/161, mb4.8/77, MS4.2/27, 17C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.19	54	Pn	Pn	13 39 17.5	-0.7
	26nm,0.3s,baz=243,slow=4.8,SNR=128						
PSI				LR	LR	13 39 57.0	
	comp=Z,1µm,21.5s,baz=139,slow=36						
PSI	Prapat	2.19	54	Pn	Pn	13 39 17.5	-0.7
PSI				LR	LR	13 39 57.0	
TSI	Tuntungan	2.43	36	P	Pn	13 39 21.9	+0.4
	2µm,1.0s						
PPI	Padang Panjang	3.80	121	P	Pn	13 39 48.5	+8.1
	168nm,1.3s						
BSI	Banda Aceh	4.36	335	P	Pn	13 39 44.3	-3.7
	141nm,0.7s						
IPM	Ipoh	4.87	53	P	Pn	13 39 56.1	+1.1
KULM	Kulim	5.13	43	ePn	Pn	13 39 58.7	+0.1
KGM	Kluang	6.19	85	P	Pn	13 40 14.8	+1.6
PBA	Port Blair	10.97	337	ex	x	13 40 34.4	
CHG	Chiang Mai	17.28	6	⇑P	Pn	13 42 41.0	-1.9
	16nm,0.9s						
CHTO	Chiang Mai	17.28	6	P	Pn	13 42 40.9	-1.9
	SNR=8.2						
CHTO	Chiang Mai	17.28	6	eP	Pn	13 42 40.8	-2.1
CHTO				pmax	pmax		
	comp=Z,17nm,0.9s						
CHTO	Chiang Mai	17.28	6	eP	Pn	13 42 40.8	-2.1
	comp=Z,17nm,0.9s						
NANT	Nan	17.52	11	P	Pn	13 42 47.0	+1.1
CHRT	Chiangrai	18.42	8	⇓P	Pn	13 42 56.0	-0.9
	comp=Z,105nm,1.0s						
KKM	Kota Kinabalu	19.55	76	eP	Pn	13 43 10.1	-0.5
TSM	Tawau	20.89	82	P	P	13 43 25.5	+1.9
VIS	Vishakhapatnam	21.06	321	eP	P	13 43 26.2	+0.7
VIS				AMb	AMB	13 43 29.3	
	comp=Z,65nm,1.1s,mb4.9						
QIZ	Qiongzhong	21.39	35	P	P	13 43 28.8	-0.3
QIZ				PP		13 43 49.5	
QIZ				PPP		13 44 03.8	
QIZ				S	S	13 47 18.9	-6.1
QIZ				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.2						
QIZ				LR	LR		
	comp=N,455nm,13.5s,MS4.2						
QIZ				LR	LR		
	comp=E,442nm,14.0s,MS4.2						
QIZ				LR	LR		
	comp=Z,336nm,14.0s,MS3.9						
KMI	Kunming	24.08	13	P	P	13 43 58.0	+1.3
KMI				AP		13 44 05.7	
KMI				XP	sP	13 44 08.8	+0.4
KMI				PP		13 44 32.5	
KMI				PPP		13 44 43.1	
KMI				S	S	13 48 11.0	-1.4
KMI				XS	sS	13 48 24.0	-2.0
KMI				SS		13 49 03.7	
KMI				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,986nm,16.1s,MS4.5						
KMI				LR	LR		
	comp=E,605nm,13.2s,MS4.5						
KMI				LR	LR		
	comp=Z,1µm,15.5s,MS4.4						
HYB	Hyderabad	24.16	312	iP	P	13 43 59.0	+1.6
HYB				epP		13 44 07.5	
HYB	Hyderabad	24.16	312	eP	P	13 43 59.0	+1.6
SHL	Shillong	24.44	348	eP	P	13 43 58.5	-1.4
SHL				ex	x	13 48 16.0	
BOK	Bokaro	24.68	335	eP	P	13 44 02.9	+0.7
NGP	Nagpur	26.30	319	eP	P	13 44 15.3	-1.5
NGP				AMb	AMB	13 44 16.3	
	comp=Z,20nm,0.8s,mb4.7						
GYA	Guiyang	26.43	19	⇑iP	P	13 44 17.3	-0.7
GYA				AP	pP	13 44 24.6	-1.7
GYA				XP	sP	13 44 27.8	-2.0
GYA				PP		13 44 59.5	
GYA				S	S	13 48 45.5	-4.4
GYA				SS		13 49 54.0	
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		
	comp=N,340nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=E,410nm,17.0s,MS4.2						
GYA				LR	LR		
	comp=Z,540nm,16.7s,MS4.2						
GZH	Guangzhou	26.59	35	P	P	13 44 24.1	+4.7
GZH				LR	LR		
	comp=N,513nm,11.5s,MS4.4						
GZH				LR	LR		
	comp=E,413nm,13.4s,MS4.4						
GZH				LR	LR		
	comp=Z,1µm,13.7s,MS4.5						
LSA	Lhasa	28.60	349	P	P	13 44 39.0	+1.6
LSA	Lhasa	28.60	349	eP	P	13 44 39.1	+1.7
LSA				e*PP	pP	13 44 46.7	+1.0
LSA				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.9						
LSA	Lhasa	28.60	349	eP	P	13 44 39.1	+1.7
	comp=Z,19nm,0.7s,mb4.9						
LSA				epP	pP	13 44 46.7	+1.0
BHPL	Bhopal	28.85	320	eP	P	13 44 41.2	+1.6
BHPL				AMb	AMB	13 44 41.7	
	comp=Z,12nm,0.8s,mb4.7						
CD2	Chengdu	29.89	11	⇑iP	P	13 44 47.8	-1.1
CD2				AP	pP	13 44 55.1	-2.1
CD2				XP	sP	13 44 58.1	-2.6
CD2				PP	PP	13 45 45.9	-11
CD2				S	S	13 49 43.1	-1.3
CD2				XS	sS	13 49 55.2	-2.9
CD2				SS	SS	13 51 20.4	-32
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=E,510nm,15.6s						
CD2				LR	LR		
	comp=Z,460nm,15.6s,MS4.2						
LGTI	Lohaghat	32.10	332	iP	P	13 45 09.5	+1.2
AJM	Ajmer	32.92	321	eP	P	13 45 17.0	+1.5
AJM				AMb	AMB	13 45 17.6	
	comp=Z,21nm,1.1s,mb5.0						
FITZ	Fitzroy Crossi	34.16	126	eP	P	13 45 26.0	-0.4
	comp=Z,5.2nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	34.16	126	P	P	13 45 26.2	-0.2
	comp=Z,2.3nm,0.9s,mb4.1,baz=160,slow=5.4,SNR=4.9						
XAN	Xi'an	34.18	18	P	P	13 45 25.2	-1.3
XAN				AP	pP	13 45 31.4	-3.5
XAN				AMB	AMB		
	comp=Z,75nm,1.0s,mb5.6						
XAN				LR	LR		
	comp=N,425nm,12.3s,MS4.5						
XAN				LR	LR		
	comp=E,333nm,10.5s,MS4.5						
XAN				LR	LR		
	comp=Z,882nm,14.3s,MS4.6						
LZH	Lanzhou	34.95	9	eP	P	13 45 32.7	-0.5
LZH				AP	pP	13 45 40.2	-1.4
LZH				XP	sP	13 45 43.0	-2.0
LZH				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=E,445nm,13.9s						
LZH				LR	LR		
	comp=Z,752nm,15.0s,MS4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SMLA	Simla	34.99	329	eP	P	13 45 34.2	+0.6
SMLA				AMb	AMB	13 45 36.6	
	comp=Z,37nm,1.1s,mb5.2						
SDNR	Sundarnagar	35.39	329	eP	P	13 45 38.6	+1.6
NJ2	Nanjing	36.62	32	eP	P	13 45 48.9	+1.4
NJ2				AP	pP	13 45 56.4	+0.5
NJ2				XP	sP	13 45 59.6	+0.2
NJ2				PP	PP	13 47 13.7	+2.6
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,740nm,7.0s						
NJ2				LR	LR		
	comp=N,1μm,10.1s						
NJ2				LR	LR		
	comp=E,1μm,18.3s						
NJ2				LR	LR		
	comp=Z,1μm,10.9s,MS4.9						
THN	Thein Dam	36.77	329	eP	P	13 45 48.2	-0.6
SSE	Sheshan	37.19	35	P	P	13 45 53.7	+1.4
SSE				AP	pP	13 46 02.5	+1.8
SSE				XP	sP	13 46 06.5	+2.3
SSE				S	S	13 51 38.8	+1.5
SSE				XS	sS	13 51 54.5	+3.4
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,274nm,7.6s						
SSE				LR	LR		
	comp=N,120nm,18.2s,MS3.9						
SSE				LR	LR		
	comp=E,110nm,18.1s,MS3.9						
SSE				LR	LR		
	comp=Z,170nm,16.3s,MS3.9						
KAKA	Kakadu	37.78	113	eP	P	13 45 56.2	-1.1
	comp=Z,7.3nm,0.6s,mb4.6						
GTA	Gaotai	37.79	3	eP	P	13 45 57.3	-0.1
GTA				AP	pP	13 46 04.9	-0.9
GTA				XP	sP	13 46 09.1	-0.2
GTA				PP	PP	13 47 26.1	+2.1
GTA				S	S	13 51 46.2	-0.2
GTA				SS	SS	13 54 19.5	-13
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,85nm,5.3s						
GTA				LR	LR		
	comp=N,295nm,12.2s,MS4.5						
GTA				LR	LR		
	comp=E,312nm,10.3s,MS4.5						
GTA				LR	LR		
	comp=Z,285nm,16.0s						
HHC	Hu-ho-hao-te	41.27	17	eP	P	13 46 27.6	+1.2
HHC				AP	pP	13 46 35.0	+0.1
HHC				XP	sP	13 46 38.4	+0.1
HHC				PP	PP	13 48 06.7	+4.8
HHC				PCP	PcP	13 48 26.1	+1.3
HHC				SCP	ScP	13 52 13.3	+0.6
HHC				PCS	PcS	13 52 16.2	+0.2
HHC				S	S	13 52 41.0	+2.4
HHC				XS	sS	13 52 53.3	+0.7
HHC				SS	SS	13 55 40.6	-1.9
HHC				SCS	ScS	13 56 28.0	-0.5
HHC				AMB	AMB		
	comp=Z,22nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,151nm,3.7s						
HHC				LR	LR		
	comp=N,668nm,16.2s,MS4.8						
HHC				LR	LR		
	comp=E,632nm,12.3s,MS4.8						
HHC				LR	LR		
	comp=Z,585nm,15.2s,MS4.6						
BJT	Baijiatuau	42.04	22	eP	P	13 46 33.2	+0.4
BJT				e*PP	pP	13 46 42.0	+0.8
BJT				pmax	pmax		
	comp=Z,39nm,0.6s						
BJT	Baijiatuau	42.04	22	eP	P	13 46 33.2	+0.5
	comp=Z,39nm,0.6s,mb5.2						
BJT				epP	pP	13 46 42.0	+0.8
BJI	Beijing	42.06	22	P	P	13 46 33.1	+0.2
BJI				AMB	AMB		
	comp=Z,55nm,0.7s,mb5.3						
WRA	Warramunga Arr	42.25	122	P	P	13 46 34.4	-0.1
	comp=Z,2.0nm,0.7s,mb3.9,baz=302,slow=9.1,SNR=23						
WRA				LR	LR	14 03 15.0	
	comp=Z,161nm,21.7s,MS3.9,baz=305,slow=35						
WRAB	Tennant Creek	42.26	122	eP	P	13 46 33.0	-1.5
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
WRAB	Tennant Creek	42.26	122	eP	P	13 46 33.0	-1.5
	comp=Z,7.6nm,0.6s,mb4.5						
WB2	Warramunga Arr	42.26	122	eP	P	13 46 34.3	-0.2
WMQ	Urumqi	42.95	350⇑	iP	P	13 46 40.7	+0.6
WMQ				AP	pP	13 46 48.5	-0.1
WMQ				XP	sP	13 46 52.0	-0.1
WMQ				PP	PP	13 48 23.0	+3.0
WMQ				PPP		13 48 57.0	
WMQ				S	S	13 53 04.4	+1.0
WMQ				SS	SS	13 56 09.4	-6.2
WMQ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,246nm,3.9s						
WMQ				LR	LR		
	comp=N,830nm,20.8s,MS4.8						
WMQ				LR	LR		
	comp=E,964nm,22.6s,MS4.8						
WMQ				LR	LR		
	comp=Z,850nm,22.0s,MS4.6						
FORT	Forrest	43.56	140	eP	P	13 46 53.6	+8.6
	comp=Z,22nm,0.6s,mb5.1						
ASPA	Alice Springs	43.63	127	eP	P	13 46 45.1	-0.5
AS31	Alice Springs	43.63	127	eP	P	13 46 45.1	-0.5
ASAR	Alice Springs	43.63	127	P	P	13 46 45.8	+0.2
	comp=Z,1.8nm,1.0s,mb3.8,baz=301,slow=7.7,SNR=18						
ASAR				LR	LR	14 04 34.1	
	comp=Z,203nm,21.4s,MS4.0,baz=149,slow=36						
ULHL	Ulahol	44.68	338	P	P	13 46 54.7	+0.7
	SNR=19						
KZA	Kyzart	44.92	337	P	P	13 46 57.3	+1.4
	SNR=9.4						
TKM2	Tokmak 2	45.50	338	P	P	13 47 01.6	+1.1
	SNR=14						
AML	Almayashu	45.59	336	P	P	13 47 02.8	+1.6
	SNR=14						
AAK	Ala-Archa	45.68	337	P	P	13 47 03.1	+1.1
	SNR=9.7						
AAK	Ala-Archa	45.68	337	c iP	P	13 47 02.1	+0.1
AAK				pmax	pmax		
	comp=Z,21nm,2.5s,mb4.6						
AAK	Ala-Archa	45.68	337	eP	P	13 47 02.5	+0.5
	comp=Z,10nm,1.0s,mb4.7						
FRU	Bishkek	45.80	337	eP	P	13 47 04.0	+1.1
FRU				e	pP	13 47 12.0	+0.5
EKS2	Erkin-Say	46.00	336	P	P	13 47 05.9	+1.5
	SNR=12						
USP	Ospenovka	46.22	337	P	P	13 47 07.0	+0.8
	SNR=15						
SONM	Songino Array	46.83	9	P	P	13 47 11.2	+0.3
	comp=Z,25nm,0.7s,mb5.2,baz=188,slow=8.6,SNR=176						
MK31	Makanchi Array	46.92	346	P	P	13 47 11.7	0.0
MK31				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.3						
MKAR	Makanchi Array	46.92	346	P	P	13 47 11.9	+0.2
	comp=Z,49nm,0.8s,mb5.5,baz=148,slow=7.1,SNR=168						
MKAR	Makanchi Array	46.92	346⇑	eP	P	13 47 11.8	+0.1
ULN	Ulaanbaatar	46.96	9⇑	eP	P	13 47 12.0	0.0
ULN	Ulaanbaatar	46.96	9	eP	P	13 47 11.8	-0.1
	comp=Z,15nm,0.8s,mb5.0						
KKAR	Karatay Array	47.74	334	P	P	13 47 18.3	+0.2
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
ZAK	Zakamensk	48.96	5⇑	iP	P	13 47 27.5	0.0
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CN2	Changchun	49.05	27	eP	P	13 47 27.4	-0.8
CN2				AP	pP	13 47 34.9	-1.9
CN2				XP	sP	13 47 38.2	-2.0
CN2				eS	S	13 54 30.2	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,10.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,10.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,18.0s						
TLY	Talaya	50.28	5	eP	P	13 47 38.1	+0.5
TLY				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
TLY				MLR	MLR		
	comp=Z,342nm,17.0s,MS4.4						
IRK	Irkutsk	50.90	6	eP	P	13 47 41.6	-0.6
IRK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
HIA	Hailar	51.36	19	eP	P	13 47 45.2	-0.5
HIA				pmax	pmax		
	comp=Z,13nm,0.9s						
HIA	Hailar	51.36	19	eP	P	13 47 45.2	-0.5
	comp=Z,13nm,0.9s,mb4.9						
MJAR	Matsushiro Arr	51.49	43	P	P	13 47 46.3	-0.4
	comp=Z,4.4nm,0.9s,mb4.4,baz=218,slow=6.2,SNR=10						
MDJ	Mudanjiang	51.62	29	P	P	13 47 47.8	+0.2
MDJ				AP	pP	13 47 53.8	-2.5
MDJ				XP	sP	13 47 56.8	-2.9
MDJ				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,262nm,8.2s						
MDJ				LR	LR		
	comp=N,95nm,18.7s,MS4.1						
MDJ				LR	LR		
	comp=E,115nm,17.6s,MS4.1						
MDJ				LR	LR		
	comp=Z,153nm,17.6s,MS4.1						
CIT	Chita	52.17	13	eP	P	13 47 52.4	+0.7
CIT				e	pP	13 48 02.1	+1.7
CIT				pmax	pmax		
	comp=Z,58nm,1.3s,mb5.3						
CTA	Charters Tower	52.70	117	eP	P	13 47 49.4	-6.2
	comp=Z,2.9nm,0.9s,mb4.2						
CTA	Charters Tower	52.70	117	P	P	13 47 57.1	+1.4
	comp=Z,3.1nm,0.9s,mb4.2,baz=277,slow=13,SNR=3.6						
CTA				LR	LR	14 16 10.0	
	comp=Z,127nm,18.9s,MS4.0,baz=27,slow=43						
ZAL	Zalesovo	53.23	351	P	P	13 47 60.0	+0.4
	comp=Z,12nm,0.4s,mb5.2,baz=309,slow=4.9,SNR=39						
STKA	Stephens Creek	53.61	132	P	P	13 48 03.4	+1.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=329,slow=12,SNR=3.9						
NVS	Novosibirsk	54.35	350⇑	iP	P	13 48 06.5	-1.3
NVS				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
KRAR	Krasnoyarsk	54.43	357	eP	P	13 48 07.7	-0.7
KRAR				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
VOSK	Vostochnaya	55.48	341	P	P	13 48 15.1	-0.8
VOSK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
BVA0	Borovoye Array	55.93	341	i P	P	13 48 18.4	-0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BRVK	Borovoye	55.99	341	P	P	13 48 19.3	-0.4
	SNR=5.3						
BRVK	Borovoye	55.99	341	eP	P	13 48 18.7	-0.9
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
BRVK	Borovoye	55.99	341	eP	P	13 48 18.7	-0.9
	comp=Z,6.1nm,0.6s,mb4.8						
KLR	Kul'dur	56.00	27	eP	P	13 48 16.7	-2.9
KLR				pmax	pmax		
	comp=E,22nm,1.0s						
KLR				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
ZRNK	Zerenda	56.33	340	eP	P	13 48 21.0	-1.0
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ZRNK	Zerenda	56.33	340	eP	P	13 48 21.0	-1.0
	comp=Z,8.3nm,0.8s,mb4.8						
CHKZ	Chkalovo	56.41	341	eP	P	13 48 22.0	-0.6
CHKZ				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
CHKZ	Chkalovo	56.41	341	eP	P	13 48 22.0	-0.6
	comp=Z,20nm,0.7s,mb5.2						
HABR	Khabarovsk	57.01	29	eP	P	13 48 26.5	-0.3
HABR				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
AB31	Akbulak array	57.21	332	i P	P	13 48 27.7	-0.5
AB31				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
BOD	Bodaibo	57.71	11	eP	P	13 48 31.3	-0.5
BOD				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
AKTO	Aktyubinsk	58.92	332	LR	LR	14 16 22.0	
	comp=Z,43nm,19.9s,MS3.6,baz=310,slow=38						
AKTO	Aktyubinsk	58.92	332	P	P	13 48 37.0	-3.3
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
YSS	Yuzh-Sakhalins	60.12	34⇑	eP	P	13 48 48.8	+0.3
YSS				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.3						
GNI	Garni	61.02	316	LR	LR	14 17 50.1	
	comp=Z,45nm,19.2s,MS3.6,baz=120,slow=39						
GNI	Garni	61.02	316	eP	P	13 48 54.8	+0.1
GNI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SVE	Sverdlovsk	62.37	338⇑	eP	P	13 49 02.3	-1.4
SVE				pmax	pmax		
	comp=Z,28nm,2.0s,mb5.0						
ZEI	Tsey	62.72	318	eP	P	13 49 06.4	+0.3
ZEI				e*PP	pP	13 49 15.2	+0.3
ZEI				e		13 49 41.9	
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.3						
ARU	Arti	62.87	337⇑	eP	P	13 49 05.4	-1.7
ARU				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
ARU	Arti	62.87	337	eP	P	13 49 06.1	-0.9
	comp=Z,9.7nm,1.0s,mb4.9						
KIV	Kislovodsk	64.03	319⇑	eP	P	13 49 14.7	0.0
KIV				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8						
MALT	Malatya	64.87	312	eP	P	13 49 21.4	+1.1
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MALT	Malatya	64.87	312	eP	P	13 49 21.4	+1.2
	comp=Z,3.0nm,0.9s,mb4.3						
YAK	Yakutsk	65.13	16⇑	eP	P	13 49 20.8	-1.1
YAK				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.7						
YAK	Yakutsk	65.13	16	eP	P	13 49 20.7	-1.2
	comp=Z,84nm,0.9s,mb5.8						
SOKR	Solikamsk	65.77	339	d iP	P	13 49 25.8	-0.2
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BR131	Keskin Array S	68.86	312	eP	P	13 49 44.7	-0.9
	comp=Z,2.5nm,0.6s,mb4.3						
BRTR	Keskin Array B	68.86	312	P	P	13 49 45.2	-0.4
	comp=Z,3.9nm,0.8s,mb4.4,baz=130,slow=7.3,SNR=21						
BRTR	Keskin Array B	68.86	312	i P	P	13 49 45.2	-0.4
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN	Obninsk	72.32	328	d iP	P	13 50 06.2	-0.5
OBN				e		13 50 22.8	
OBN				eS	S	13 59 55.4	+27
OBN				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
TIXI	Tiksi	72.88	10	eP	P	13 50 10.5	+0.4
TIXI				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
MAW	Mawson	73.01	193	eP	P	13 50 12.0	+1.2
	comp=Z,2.5nm,0.7s,mb4.2						
MAW	Mawson	73.01	193	P	P	13 50 12.0	+1.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=35,slow=10,SNR=6.5						
MAW				LR	LR	14 18 36.1	
	comp=Z,110nm,19.0s,MS4.2,baz=248,slow=33						
MAW	Mawson	73.01	193	eP	P	13 50 12.0	+1.2
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SEY	Seymchan	73.49	23⇑	eP	P	13 50 13.2	-0.5
TIRR	Tirgusor	73.85	316	eP	P	13 50 15.4	-0.4
AKASG	Malin Array Be	74.97	322	P	P	13 50 21.0	-1.3
	comp=Z,4.0nm,0.6s,mb4.5,baz=90,slow=4.5,SNR=22						
AKASG	Malin Array Be	74.97	322	i P	P	13 50 21.2	-1.1
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	Malin Array Si	74.97	322	eP	P	13 50 20.9	-1.4
JOF	Joensuu	77.83	335	ep	P	13 50 37.1	-1.4
	comp=Z,10nm,0.8s,mb4.8						
RPZ	Rata Peaks	79.47	135	LR	LR	14 24 19.1	
	comp=Z,209nm,21.5s,MS4.4,baz=118,slow=34						
FINES	FINESS Array B	79.69	332	P	P	13 50 48.0	-0.8
	comp=Z,6.1nm,0.8s,mb4.6,baz=108,slow=6.5,SNR=17						
FINES	FINESS Array B	79.69	332	i P	P	13 50 48.2	-0.5
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KAF	Kangasniemi	79.77	333	ep	P	13 50 47.7	-1.5
	comp=Z,12nm,0.7s,mb4.9,baz=103,slow=5.1						
KAF	Kangasniemi	79.77	333	eP	P	13 50 47.7	-1.5
KAF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
SYO	Syowa Base	80.29	198⇑	eP	P	13 50 52.3	+0.3
BILL	Bilibino	80.89	21	eP	P	13 50 56.4	+1.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KEV	Kevo	81.78	341	ep	P	13 50 58.6	-1.3
	comp=Z,7.9nm,0.8s,mb4.7						
KEV	Kevo	81.78	341	eP	P	13 50 58.6	-1.3
KEV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ARCES	ARCESS Array B	82.22	340	P	P	13 51 01.8	-0.4
	comp=Z,5.7nm,0.7s,mb4.6,baz=97,slow=4.7,SNR=30						
ARCES				LR	LR	14 31 52.2	
	comp=Z,97nm,19.2s,MS4.2,baz=262,slow=39						
BOJS	Bojanci	83.23	315	eP	P	13 51 07.7	+0.3
BOJS				i	pP	13 51 17.8	+1.3
PERS	Pernice	83.42	317	eP	P	13 51 08.7	+0.3
PERS				e	pP	13 51 17.5	0.0
GEC2	GERESS Array S	84.54	319	eP	P	13 51 14.2	+0.1
GERES	GERESS Array B	84.54	319	P	P	13 51 14.4	+0.3
	comp=Z,3.0nm,0.8s,mb4.5,baz=100,slow=5.7,SNR=11						
KHC	Kasperske Hory	84.64	319⇑	eP	P	13 51 13.9	-0.7
HFS	Hagfors	85.42	330	LR	LR	14 33 14.4	
	comp=Z,37nm,18.9s,MS3.8,baz=91,slow=38						
VNDA	Vanda	86.15	169	LR	LR	14 27 10.9	
	comp=Z,108nm,18.0s,MS4.3,baz=329,slow=34						
GRA1	Grafenberg Arr	86.20	320	eP	P	13 51 23.0	+0.6
	comp=Z,5.0nm,0.7s,mb4.8						
GRA1				epP	pP	13 51 32.7	+1.1
GRF	Grafenberg Arr	86.20	320	eP	P	13 51 23.0	+0.6
	comp=Z,5.0nm,0.7s,mb4.8						
GRF				epP	pP	13 51 32.7	+1.1
GRF	Grafenberg Arr	86.20	320	eP	P	13 51 23.0	+0.6
GRF				e*PP	pP	13 51 32.7	+1.1
GRF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
GRF	Grafenberg Arr	86.20	320	eP	P	13 51 23.0	+0.6
GRF				e*PP	pP	13 51 32.7	+1.1
GRF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
NB2	NORSAR Subarra	86.70	331	P	P	13 51 24.0	-0.9
	comp=Z,1.8nm,0.8s,mb4.3,baz=92,slow=4.8						
NOA	NORSAR Array B	86.70	331	P	P	13 51 24.4	-0.5
	comp=Z,2.7nm,0.8s,mb4.5,baz=92,slow=4.9,SNR=5.6						
NOA				LR	LR	14 37 35.1	
	comp=Z,53nm,19.4s,MS4.0,baz=50,slow=41						
NOA	NORSAR Array B	86.70	331	P	P	13 51 24.4	-0.5
NOA				LR	LR	14 37 35.1	
SBA	Scott Base	87.25	169	P	P	13 51 28.1	+0.5
SBA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
SBA	Scott Base	87.25	169	P	P	13 51 28.1	+0.6
	comp=Z,2.7nm,0.9s,mb4.5						
NVAR	Mina Array Bea	128.56	36	PKP	PKPdf	13 57 49.0	+1.1
	comp=Z,0.5nm,0.7s,baz=290,slow=0.4,SNR=5.5						
JCT	Junction City	144.32	26	PKIKP	PKPdf	13 58 15.8	-1.2
CPUP	Villa Florida	145.20	223	PKPbc	PKPbc	13 58 19.2	+1.0
	comp=Z,1.2nm,0.6s,baz=61,slow=8.7,SNR=2.9						
CPUP	Villa Florida	145.20	223	PKP	PKPdf	13 58 19.4	+0.8
CPUP				e		13 58 27.7	
LRAL	Lakeview Retre	145.41	6	ePKPbc	PKPbc	13 58 18.3	-0.6

NEIC ***04*** *14:26:51.9, 3986N×2077E, h18km, MD3.2(ATH), After ATH.*
ATH ***04*** *14:26:51.9, 3986N×2077E, h18km, MD3.2/5*
ISCJB ***04*** *14:26:52.3±0.5, 3982N±002×2083E±004, h2km±6km, Error ellipse: s-maj=5.1km s-min=3.8km az=27.5*
THE ***04*** *14:26:53.0, 3984N×2076E, h10km, ML2.7*
CSEM ***04*** *14:26:53.0±0.1, 3985N×2075E, h5km, MD3.2, Error ellipse: s-maj=2.6km s-min=2.2km az=105.0*
ISC 04 14:26:53.3±0.4**, 3982N**±003×**2080E**±004**, h9**km±5km**, n18,** σ1s**04**/27**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.17	168	ePB	Pg	14 26 56.8	-0.1
JAN				eSB	Sg	14 27 00.5	+1.1
IGT	Igoumenitsa	0.47	231	ePg	Pg	14 27 01.5	-0.8
IGT				eSg	Sg	14 27 08.6	+0.2
SRN	Sarande	0.62	275	i Pg	Pg	14 27 04.9	-0.4
SRN				i Sg	Sg	14 27 14.5	+1.1
KEK	Kerkira	0.78	262	ePN	Pg	14 27 06.7	-1.6
KZN	Kozani	0.89	57	ePN	Pg	14 27 09.0	-1.3
FNA	Florina	1.05	24	ePg	Pg	14 27 12.9	-0.6
FNA				eSg	Sg	14 27 28.0	+0.8
LKD	Levkas	1.12	186	ePg	Pg	14 27 13.9	-0.9
LKD				eSg	Sg	14 27 31.0	+1.6
EVR	Evrytania	1.20	139	ePN	Pn	14 27 15.3	-0.9
BIA	Bitola	1.26	18	ePn	Pn	14 27 16.1	-0.9
BIA				eSn	Sn	14 27 35.0	+1.0
OHR	Ohrid	1.29	360	ePg	Pg	14 27 16.6	-1.3
OHR				eSg	Sg	14 27 36.0	+1.3
OHR	Ohrid	1.29	360	ePn	Pn	14 27 17.8	+0.4
OHR	Ohrid	1.29	360	ePn	Pn	14 27 17.8	+0.4
OHR				eSg	Sg	14 27 36.0	+1.4
LIT	Litokhoron	1.33	77	ePg	Pg	14 27 18.6	-0.1
LIT	Litokhoron	1.33	77	ePg	Pg	14 27 18.6	-0.1
AGG	Agios Georgios	1.43	124	ePg	Pg	14 27 20.1	-0.6
AGG				eSg	Sg	14 27 40.7	+1.4
KRUS	Krusevo	1.58	12	ePn	Pn	14 27 23.3	+1.9
VLS	Valsamata	1.65	186	ePN	Pn	14 27 22.9	+0.4
XOR	Xorichti	1.90	103	ePb	Pb	14 27 26.8	-1.4

MAN 04 14:40:22.2, 969N×12145E, h1km, mb2.1, ML3.8, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUYO	Cuyo Island	1.23	340	eP	Pg	14 40 47.6	+1.8
CUYO				eS	Sg	14 41 03.1	+1.5
GUIM	Jordan	1.46	50	eP	Pn	14 40 49.3	-0.3
IPIL	Ipil	2.19	150⇓	eP	Pn	14 40 59.9	+0.2
IPIL				eS	Sn	14 41 23.2	-4.3
IPIL	Ipil	2.19	150	eP	Pn	14 40 59.6	-0.1
IPIL				eS	Sn	14 41 23.1	-4.4
ENPP	El Nido	2.50	307	eP	Pn	14 41 04.9	+1.0
BUSP	Coron	2.60	332	eP	Pn	14 41 06.4	+1.0
PAGZ	Pagadian	2.65	134	eP	Pn	14 41 07.4	+1.4
OTRP	Odiongan	2.71	12	eP	Pn	14 41 07.5	+0.6
LUBP	Lubang	4.19	344	eP	Pn	14 41 28.2	+1.0

NEIC ***04*** *14:43:55.9, 1575N×9410W, h16km, MD3.9(MEX), After MEX.*
MEX 04 14:43:55.9±1.3**, 1574N×9411W, h17**km±23km**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.54	331	i P	Pn	14 44 19.0	-3.5
CMIG				i S	Sn	14 44 37.5	-4.6
SCX	San Cristobal	1.73	55	i P	Pn	14 44 23.0	-2.2
SCX				i S	Sn	14 44 41.0	-5.9
HUIG	Huatulco	1.92	271	i P	Pn	14 44 24.7	-3.2
HUIG				i S	Sn	14 44 46.5	-5.2
OXX	Oaxaca	2.84	298	i P	Pn	14 44 38.0	-2.5
OXX				i S	Sn	14 45 12.0	-2.3
VHO	Vista Hermosa	2.84	298	i P	Pn	14 44 38.7	-1.9
VHO				i S	Sn	14 45 11.8	-2.6
UTMO	Huajuapan	4.10	301	eP	Pn	14 44 56.2	-1.6
UTMO				i S	Sn	14 45 42.7	-2.8
TEIG	Tepich	7.12	50	i P	Pn	14 45 33.4	-5.9
TEIG				i S	Sn	14 46 48.7	-11

*IDC **04** 14:44:46.8±6.1, 3807N×7450E, h108km±53km, mb3.6/7, mb1 3.8/11, mb1mx3.5/25, mbtmp4.1/11, Error ellipse: s-maj=43.0km s-min=24.9km az=173.0*
*BJI **04** 14:44:48.2, 3805N×7433E, h131km, mB4.4, mb4.3*
*ISCJB **04** 14:44:49.3±0.4, 3821N±003×7438E±008, h149km±6km, mb4.0/12, Error ellipse: s-maj=9.9km s-min=4.1km az=160.6*
*MOS **04** 14:44:49.9±1.0, 3826N×7432E, h138km, mb4.3/5, Error ellipse: s-maj=15.3km s-min=6.4km az=99.2*
*NEIC **04** 14:44:49.3±2.5, 38.17N×7451E, h132km±18km, mb3.7/2, Error ellipse: s-maj=23.6km s-min=12.7km az=177.0*
*NNC **04** 14:44:57.5±3.1, 3883N×74.16E, h183km±23km, mb2.8, mpv3.8, Error ellipse: s-maj=31.8km s-min=19.4km az=12.0*
ISC 04 14:44:50.1±0.4**, 3817N**±003×**7446E**±008**, h142**km±6km**, n70, σ1s13**/89**, mb4.0**/12**, 8C-6D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.79**	**41**	⇑*i*P	**Pn**	**14 45 23.9**	**+1.7**
KSH				S	**Sn**	**14 45 48.0**	**+1.2**
KSH				Smax			
	comp=N,4μm,0.6s						
KSH				Smax			
	comp=E,3μm,0.5s						
KZA	**Kyzart**	**3.95**	**9**	P	**Pn**	**14 45 49.6**	**+0.3**
	SNR=237						
AML	**Almayashu**	**4.00**	**352**	P	**Pn**	**14 45 50.2**	**+0.2**
	SNR=210						
UCH	**Uchtor**	**4.05**	**1**	P	**Sn**	**14 46 33.8**	**-4.0**
	SNR=10						
ULHL	**Ulahol**	**4.29**	**18**	P	**Pn**	**14 45 54.2**	**+0.3**
	SNR=109						
AAK	**Ala-Archa**	**4.46**	**0**	P	**Pn**	**14 45 56.7**	**+0.7**
	SNR=21						
AAK	**Ala-Archa**	**4.46**	**0***c*	*i*PN	**Pn**	**14 45 55.2**	**-0.9**
AAK	**Ala-Archa**	**4.46**	**0**	*e*Pn	**Pn**	**14 45 55.4**	**-0.7**
KBK	**Karagaybulak**	**4.49**	**5**	P	**Pn**	**14 45 57.3**	**+0.7**
	SNR=36						
EKS2	**Erkin-Say**	**4.51**	**354**	P	**Pn**	**14 45 56.9**	**+0.1**
	SNR=23						
TKM2	**Tokmak 2**	**4.82**	**10**	P	**Pn**	**14 46 01.4**	**+0.5**
	SNR=64						
TKM2	**Tokmak 2**	**4.82**	**10**	⇑P	**Pn**	**14 46 01.5**	**+0.6**
	comp=E,4.2nm,0.4s						
TKM2				⇑S	**Sn**	**14 46 53.5**	**-2.6**
	comp=E,11nm,0.8s						
TKM2	**Tokmak 2**	**4.82**	**10**	*i* PN	**Pn**	**14 46 01.4**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,67nm,0.4s						
CHMS	**Chumysh**	**4.83**	**3**	P	**Pn**	**14 46 01.5**	**+0.5**
	SNR=147						
USP	**Ospenovka**	**5.09**	**0**	P	**Pn**	**14 46 04.7**	**+0.2**
	SNR=6.0						
DLH	**Dalhousie**	**5.75**	**167**	*e*P	**Pn**	**14 46 17.0**	**+3.7**
DLH				*e*S	**Sn**	**14 47 19.0**	**+0.6**
KK31	**Karatay Array**	**5.77**	**330**	P	**Pn**	**14 46 12.8**	**-0.7**
	comp=Z,5.6nm,0.2s,baz=130,slow=11,SNR=438						
KK31				⇑S	**Sn**	**14 47 12.7**	**-6.1**
	comp=Z,64nm,0.5s,baz=191,slow=75,SNR=26						
KK31	**Karatay Array**	**5.77**	**330**	*i* PN	**Pn**	**14 46 12.8**	**-0.7**
KK31				pmax	pmax		
	comp=Z,27nm,0.2s						
KKAR	**Karatay Array**	**5.77**	**330**	PN	**Pn**	**14 46 12.8**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
THN	**Thein Dam**	**5.82**	**169**	*e*P	**Pn**	**14 46 15.9**	**+1.7**
THN				*e*S	**Sn**	**14 47 18.4**	**-1.6**
BHK	**Bhakra**	**6.93**	**166**	*e*x	x	14 47 44.8	
SDNR	**Sundarnagar**	**6.97**	**162**	*e*P	**Pn**	**14 46 31.4**	**+1.8**
SDNR				*e*S	**Sn**	**14 47 43.0**	**-4.6**
KLP	**Kalpa**	**7.32**	**154**	*e*P	**Pn**	**14 46 33.5**	**-0.8**
KLP				*e*S	**Sn**	**14 47 53.2**	**-2.9**
DDI	**Dehra Dun**	**8.38**	**158**	*e*x	x	14 48 17.5	
NDI	**New Delhi**	**9.74**	**166**	*e*P	**Pn**	**14 47 07.0**	**+0.3**
NDI				*e*S	**Sn**	**14 48 48.0**	**-6.4**
LGTI	**Lohaghat**	**9.94**	**149**	*i* S	**Sn**	**14 48 52.7**	**-6.5**
KHET	**Khetri**	**10.13**	**173**	*e*P	**Pn**	**14 47 11.7**	**-0.3**
KHET				*e*S	**Sn**	**14 48 57.5**	**-6.5**
KHET				AML	AML	14 49 03.2	
	comp=N,34nm,0.4s						
KHET				AML	AML	14 49 03.6	
	comp=E,33nm,0.4s						
SONA	**Sohna**	**10.14**	**167**	*e*P	**Pn**	**14 47 12.0**	**0.0**
SONA				*e*S	**Sn**	**14 48 57.0**	**-7.0**
KUDL	**Kundal**	**10.14**	**170**	*e*P	**Pn**	**14 47 12.0**	**-0.1**
KUDL				*e*S	**Sn**	**14 48 57.5**	**-6.7**
MK02	**Makanchi Array**	**10.36**	**31**	⇓P	**Pn**	**14 47 15.1**	**+0.3**
	comp=E,8.1nm,0.8s,baz=215,slow=20						
MK31	**Makanchi Array**	**10.37**	**31**	P	**Pn**	**14 47 15.1**	**+0.1**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MKAR	**Makanchi Array**	**10.37**	**31**	P	**Pn**	**14 47 14.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=213,slow=15,SNR=34						
MKAR	**Makanchi Array**	**10.37**	**31**	*i* P	**Pn**	**14 47 15.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AJM	**Ajmer**	**11.66**	**179**	*e*S	**Sn**	**14 49 33.0**	**-7.8**
VOSK	**Vostochnaya**	**14.75**	**352**	⇓P	**Pn**	**14 48 08.2**	**-3.4**
	comp=Z,0.2nm,0.2s						
VOSK				⇓S	**Sn**	**14 50 47.1**	**-8.0**
BVA0	**Borovoye Array**	**15.12**	**351**	P	**Pn**	**14 48 16.8**	**+0.5**
	comp=Z,0.1nm,0.2s,baz=162,slow=13,SNR=15						
BVA0				⇑S	**S**	**14 50 50.6**	**-20**
	baz=157,slow=22,SNR=4.3						
BVAR	**Borovoye Array**	**15.12**	**351**	P	**Pn**	**14 48 15.3**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=161,slow=14,SNR=16						
BVAR				S	**S**	**14 50 55.3**	**-15**
	comp=Z,0.1nm,0.3s,baz=162,slow=20,SNR=4.0						
BRVK	**Borovoye**	**15.16**	**350**	*e*P	**Pn**	**14 48 16.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**15.16**	**350**	*e*P	**Pn**	**14 48 16.8**	**0.0**
	comp=Z,1.3nm,0.5s						
AB31	**Akbulak array**	**15.23**	**321**	P	**Pn**	**14 48 15.3**	**-2.3**
	comp=Z,3.0nm,0.5s,baz=133,slow=12,SNR=60						
AB31				⇓S	**S**	**14 50 52.7**	**-20**
	comp=Z,2.0nm,0.5s,baz=131,slow=24,SNR=6.2						
AB31	**Akbulak array**	**15.23**	**321**	*i* P	**Pn**	**14 48 15.3**	**-2.3**
AB31				*e*S	**S**	**14 50 52.6**	**-20**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AB31				smax			
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**15.26**	**347**	⇑P	**Pn**	**14 48 18.8**	**+0.9**
	comp=Z,0.4nm,0.2s						
ZRNK				⇓S	**S**	**14 50 59.2**	**-14**
	comp=Z,3.9nm,1.1s						
ZRNK	**Zerenda**	**15.26**	**347**	*e*P	**Pn**	**14 48 19.1**	**+1.1**
CHKZ	**Chkalovo**	**15.73**	**352**	P	**Pn**	**14 48 22.9**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CHKZ	**Chkalovo**	**15.73**	**352**	P	**Pn**	**14 48 22.9**	**-0.8**
	comp=Z,0.9nm,0.6s						
AKTK	**Aktyubinsk**	**16.95**	**322**	P	**Pn**	**14 48 36.9**	**-1.7**
AKTK				S	**S**	**14 51 36.8**	**-10**
AKTO	**Aktyubinsk**	**16.95**	**322**	⇑P	**Pn**	**14 48 38.1**	**-0.5**
AKTO				⇓S	**S**	**14 51 36.0**	**-11**
AKTO	**Aktyubinsk**	**16.95**	**322**	P	**Pn**	**14 48 36.9**	**-1.7**
	comp=Z,1.0nm,0.3s,baz=131,slow=15,SNR=12						
AKTO				S	**S**	**14 51 36.8**	**-10**
	comp=Z,0.4nm,0.3s,baz=328,slow=19,SNR=5.1						
ZAL	**Zalesovo**	**17.29**	**21**	P	**Pn**	**14 48 40.5**	**-2.3**
	comp=Z,1.5nm,0.3s,baz=268,slow=8.6,SNR=15						
ZAL	**Zalesovo**	**17.29**	**21**	*i* P	**Pn**	**14 48 43.0**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NVS	**Novosibirsk**	**17.71**	**17**	*e*P	**Pn**	**14 48 45.4**	**-2.3**
ARU	**Arti**	**21.11**	**335**	*e*P	**P**	**14 49 23.7**	**+0.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
ARU	**Arti**	**21.11**	**335**	*e*P	**P**	**14 49 23.6**	**+0.3**
	comp=Z,4.4nm,0.8s,mb3.8						
KRAR	**Krasnoyarsk**	**21.69**	**29**	*e*P	**P**	**14 49 31.4**	**+2.0**
KRAR				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.7						
LZH	**Lanzhou**	**23.48**	**86**	*e*P	**P**	**14 49 45.1**	**-1.6**
LZH				AP		14 50 14.5	
LZH				PP		14 50 24.0	
LZH				XP	sP	14 50 33.2	+1.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,61nm,4.0s						
LZH				LR	LR		
	comp=N,410nm,9.0s						
LZH				LR	LR		
	comp=Z,774nm,9.8s						
KIV	**Kislovodsk**	**24.55**	**294**	*e*P	**P**	**14 49 58.1**	**+1.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.7s,mb4.2						
SONM	**Songino Array**	**25.11**	**57**	P	**P**	**14 50 01.8**	**+0.2**
	comp=Z,0.2nm,0.5s,mb2.9,baz=267,slow=8.5,SNR=4.1						
ANN	**Anapa**	**28.34**	**295**	*e*P	**P**	**14 50 24.2**	**-6.3**
ANN				*e*S	**S**	**14 54 57.5**	**-9.0**
ANN				pmax	pmax		
	comp=Z,113nm,6.4s						
BRTR	**Keskin Array B**	**31.59**	**286**	P	**P**	**14 51 00.5**	**+1.3**
	comp=Z,0.8nm,0.4s,mb3.8,baz=91,slow=8.8,SNR=6.2						
BRTR	**Keskin Array B**	**31.59**	**286**	*i* P	**P**	**14 51 01.3**	**+2.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**34.11**	**306**	P	**P**	**14 51 21.3**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=78,slow=8.3,SNR=5.7						
JOF	**Joensuu**	**35.86**	**328**	*e*p	**P**	**14 51 36.2**	**+0.1**
	comp=Z,3.5nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**37.69**	**324**	P	**P**	**14 51 52.4**	**+0.8**
	comp=Z,2.2nm,0.4s,mb4.1,baz=115,slow=10,SNR=31						
FINES	**FINESS Array B**	**37.69**	**324**	*e*P	**P**	**14 51 52.3**	**+0.7**
KAF	**Kangasniemi**	**37.77**	**325**	*e*p	**P**	**14 51 52.2**	**-0.1**
	baz=106,slow=8.4						
KEV	**Kevo**	**40.32**	**337**	*e*p	**P**	**14 52 13.6**	**+0.2**
ARCES	**ARCESS Array B**	**40.70**	**336**	P	**P**	**14 52 17.4**	**+0.9**
	comp=Z,1.2nm,0.4s,mb3.9,baz=108,slow=8.0,SNR=20						
NB2	**NORSAR Subarra**	**44.74**	**322**	P	**P**	**14 52 49.3**	**+0.2**
	comp=Z,1.4nm,0.5s,mb3.9,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**44.74**	**322**	P	**P**	**14 52 49.6**	**+0.5**
	comp=Z,2.0nm,0.6s,mb3.9,baz=91,slow=7.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**68.50**	**270**	P	**P**	**14 55 37.7**	**+0.8**
	comp=Z,1.2nm,0.5s,mb3.9,baz=50,slow=5.8,SNR=15						

---

*ISCJB **04** 15:18:28.4±2.3, 636S±007×15044E±007, h4km±14km, mb4.4/13, MS3.5/7, Error ellipse: s-maj=14.1km s-min=8.7km az=76.1*
*IDC **04** 15:18:32.0±3.2, 631S×15038E, h19km±19km, mb4.0/8, mb1 4.3/11, mb1mx4.1/17, mbtmp4.2/11, ML3.9/3, MS3.3/8, Ms1 3.3/8, ms1mx3.1/22, Error ellipse: s-maj=23.1km s-min=15.8km az=128.0*
*NEIC **04** 15:18:34.5±1.2, 632S×15044E, h42km±11km, mb4.4/5, Error ellipse: s-maj=13.3km s-min=7.2km az=163.0*
*BJI **04** 15:18:34.5, 630S×15040E, h42km, mB5.1, mb4.6, Ms4.8, Msz4.5*
ISC 04 15:18:33.8±2.2**, 641S**±007×**15045E**±007**, h26**km±15km**, h53**km±3.4km**: pP-P, n34, σ1s03**/34**, mb4.4**/13**, MS3.5**/7**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.42**	**227**	Pn	**Pn**	**15 19 40.4**	**+1.3**
	12nm,0.3s,baz=36,slow=8.6,SNR=44						
PMG				Sn	**Sn**	**15 20 29.8**	**+0.2**
	31nm,0.3s,baz=106,slow=21,SNR=11						
PMG				LR	LR	15 20 44.6	
	comp=Z,126nm,19.9s,baz=25,slow=30						
PMG	**Port Moresby**	**4.42**	**227**	*e*P	**Pn**	**15 19 40.7**	**+1.6**
PMG				*e*S	**Sn**	**15 20 30.9**	**+1.2**
HNR	**Honiara**	**9.88**	**108**	Pn	**Pn**	**15 20 54.2**	**+0.1**
	5.9nm,0.3s,baz=265,slow=5.9,SNR=2.8						
HNR				LR	LR	15 23 49.9	
	comp=Z,98nm,18.9s,baz=1.1,slow=32						
CTA	**Charters Tower**	**14.20**	**196**	*e*P	**Pn**	**15 21 53.8**	**+0.7**
	3.0nm,0.9s						
CTA	**Charters Tower**	**14.20**	**196**	Pn	**Pn**	**15 21 53.4**	**+0.2**
	0.3nm,0.3s,baz=40,slow=7.6,SNR=4.5						
CTA				LR	LR	15 26 51.6	
	comp=Z,106nm,19.4s,baz=43,slow=35						
CTAO	**Charters Tower**	**14.20**	**196**	*e*P	**Pn**	**15 21 54.2**	**+1.1**
	3.8nm,0.8s						
KAKA	**Kakadu**	**18.82**	**249**	*e*P	**Pn**	**15 22 51.0**	**-1.1**
	22nm,1.2s						
GUMO	**Guam**	**20.62**	**344**	LR	LR	15 29 19.7	
	comp=Z,82nm,18.6s,MS3.1,baz=50,slow=32						
WRAB	**Tennant Creek**	**20.62**	**228**	*e*P	**P**	**15 23 11.2**	**+0.1**
	22nm,0.6s						
WB2	**Warramunga Arr**	**20.63**	**228**	*e*P	**P**	**15 23 10.9**	**-0.2**
WRA	**Warramunga Arr**	**20.64**	**228**	P	**P**	**15 23 11.1**	**-0.2**
	15nm,0.6s,baz=52,slow=11,SNR=105						
WRA				S	**S**	**15 26 59.8**	**-0.8**
	1.5nm,1.1s,baz=51,slow=22,SNR=3.3						
WRA				PcP	PcP	15 27 21.3	+0.3
	1.1nm,0.8s,baz=46,slow=1.7,SNR=5.2						
WRA				ScP	ScP	15 30 57.2	+1.4
	0.3nm,0.6s,baz=52,slow=2.9,SNR=6.6						
WRA				LR	LR	15 31 48.4	
	comp=Z,86nm,20.2s,MS3.1,baz=15,slow=39						
DZM	**Mont Dzumac**	**21.94**	**137**	P	**P**	**15 23 24.9**	**-0.4**
	4.7nm,1.0s,mb3.9,baz=20,slow=22,SNR=3.3						
DZM				LR	LR	15 30 01.4	
	comp=Z,88nm,20.3s,MS3.2,baz=231,slow=31						
AS31	**Alice Springs**	**23.40**	**221**	*e*P	**P**	**15 23 40.6**	**-0.1**
ASAR	**Alice Springs**	**23.40**	**221**	P	**P**	**15 23 40.1**	**-0.6**
	2.6nm,0.9s,mb3.7,baz=55,slow=9.5,SNR=52						
ASAR				S	**S**	**15 27 53.4**	**+1.5**
	0.8nm,0.8s,baz=41,slow=18,SNR=4.9						
ASPA	**Alice Springs**	**23.40**	**221**	*e*P	**P**	**15 23 40.6**	**-0.2**
STKA	**Stephens Creek**	**26.66**	**197**	*e*P	**P**	**15 24 09.8**	**-0.6**
	3.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**26.66**	**197**	P	**P**	**15 24 09.8**	**-0.6**
	4.5nm,0.6s,mb4.2,baz=25,slow=11,SNR=13						
STKA				LR	LR	15 33 23.3	
	comp=Z,162nm,20.4s,MS3.6,baz=26,slow=33						
FITZ	**Fitzroy Crossi**	**26.84**	**242**	*e*P	**P**	**15 24 11.3**	**-0.8**
	9.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**26.84**	**242**	P	**P**	**15 24 11.4**	**-0.6**
	2.4nm,0.4s,mb4.0,baz=70,slow=8.0,SNR=27						
MBWA	**Marble Bar**	**33.15**	**241**	*e*P	**P**	**15 25 07.5**	**-0.4**
	2.7nm,0.6s,mb4.3						
RPZ	**Rata Peaks**	**41.34**	**157**	LR	LR	15 38 19.9	
	comp=Z,117nm,21.1s,MS3.7,baz=178,slow=29						
NJ2	**Nanjing**	**48.67**	**324**	*e*P	**P**	**15 27 18.5**	**+2.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
MDJ	**Mudanjiang**	**54.15**	**342**	P	**P**	**15 27 57.9**	**+1.3**
MDJ				AP	pP	15 28 11.7	+7.0
MDJ				XP	sP	15 28 17.7	+10
MDJ				PCP	PcP	15 29 00.5	-0.6
MDJ				SCP	ScP	15 32 54.0	-3.4
MDJ				PCS	PcS	15 33 00.4	-0.1
MDJ				S	**S**	**15 35 33.3**	**+1.5**
MDJ				AMB	AMB		
	comp=Z,293nm,8.8s						
MDJ				LR	LR		
	comp=Z,50nm,21.0s,MS3.5						
KMI	**Kunming**	**55.98**	**306**	P	**P**	**15 28 13.6**	**+3.7**
KMI				XP	sP	15 28 28.7	+7.6
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
CD2	**Chengdu**	**58.04**	**313**	*e*P	**P**	**15 28 23.3**	**-1.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**59.02**	**326**	*e*P	**P**	**15 28 33.0**	**+1.7**
HHC				AP	pP	15 28 49.2	+10
HHC				PCP	PcP	15 29 20.5	+0.4
HHC				PP	PP	15 30 46.2	+4.4
HHC				SCP	ScP	15 33 14.3	-4.6
HHC				PCS	PcS	15 33 21.0	-0.9
HHC				S	**S**	**15 36 35.2**	**-1.2**
HHC				SCS	ScS	15 38 13.5	-6.1
HHC				SS	SS	15 40 32.1	+1.7
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,117nm,4.4s						
HHC				LR	LR		
	comp=N,210nm,8.8s						
HHC				LR	LR		
	comp=E,330nm,8.4s						
HHC				LR	LR		
	comp=Z,270nm,8.8s						
SONM	**Songino Array**	**66.46**	**329**	P	**P**	**15 29 19.0**	**-1.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=149,slow=5.3,SNR=5.4						
VNDA	**Vanda**	**71.33**	**177**	P	**P**	**15 29 51.4**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=358,slow=5.5,SNR=3.0						
WMQ	**Urumqi**	**75.35**	**318**	*e*P	**P**	**15 30 13.5**	**-1.4**
WMQ				AP	pP	15 30 30.0	+6.8
WMQ				XP	sP	15 30 37.0	+11
WMQ				PP	PP	15 33 05.0	+1.3
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,101nm,4.0s						
WMQ				LR	LR		
	comp=N,99nm,20.2s,MS4.3						
WMQ				LR	LR		
	comp=E,133nm,24.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,96nm,19.6s,MS4.1						
NVAR	**Mina Array Bea**	**94.91**	**52**	P	**P**	**15 31 53.9**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.5,baz=246,slow=4.6,SNR=15						
GERES	**GERESS Array B**	**124.15**	**327**	PKP	PKPdf	15 37 29.0	-1.0
	comp=Z,1.4nm,0.6s,baz=96,slow=2.7,SNR=7.3						
SAML	**Samuel**	**143.17**	**114**	*e*PKPpre		15 37 58.7	
TOA0	**Torodi Ar. Sit**	**148.51**	**285**	*e*PKPbc	PKPbc	15 38 17.8	-0.4
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	PKPbc	15 38 17.6	-0.6
	comp=Z,4.1nm,0.6s,baz=91,slow=2.6,SNR=27						

---

*ISCJB **04** 15:20:45.3±0.5, 35.11S±008×15.13W±0.10, h10km, mb4.0/16, MS4.3/21, Error ellipse: s-maj=11.3km s-min=11.0km az=48.0*
*IDC **04** 15:20:45.5±0.6, 35.12S×1522W, h0km, mb4.1/14, mb1 4.1/14, mb1mx4.0/24, mbtmp4.1/14, MS4.3/21, Ms1 4.3/21, ms1mx4.2/29, Error ellipse: s-maj=20.5km s-min=16.5km az=140.0*
*NEIC **04** 15:20:47.0±0.4, 35.13S×15.14W, h10km, mb4.4/4, Error ellipse: s-maj=12.0km s-min=11.3km az=195.0*
*GCMT **04** 15:20:47.0±0.3, 3524S×15.16W, h12km, MW4.9/61, Moment Tensor Solution. s20,c24; s61,c85; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.60±.10; Mθθ0.19±.12; Mφφ2.41±.09; Mrθ-1.22±.51; Mθφ-0.72±.08; Mφr1.09±.34; Best double couple: Mo3.07700×10^16 NP1:φs358.00000°, δ33.00000°, λ-65.00000°. NP2: φs148.00000°, δ61.00000°, λ-105.00000°. Principal axes: T 2.9850, Plg15.0000°, Azm249.0000°; N 0.1850, Plg13.0000°, Azm156.0000°; P -3.1700, Plg70.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 15:20:47.1±0.5**, 3515S**±008×**1512W**±010**, h10**km**, n42, σ1s05**/25**, mb4.0**/16**, MS4.3**/21**, Tristan da Cunha region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**2.97**	**131**	*e*Pn	**Pn**	**15 21 32.9**	**-1.3**
SUR	**Sutherland**	**29.90**	**95**	LR	LR	15 37 10.0	
	comp=Z,659nm,18.7s,MS4.3,baz=206,slow=33						
TSUM	**Tsumeb**	**32.97**	**70**	LR	LR	15 37 43.4	
	comp=Z,446nm,20.5s,MS4.2,baz=141,slow=31						
EFI	**East Falkland**	**34.71**	**228**	P	**P**	**15 27 40.3**	**+3.2**
	134nm,1.4s						
BOSA	**Boshof**	**34.72**	**91**	P	**P**	**15 27 37.0**	**-0.2**
	3.2nm,0.8s,mb4.3,baz=201,slow=9.8,SNR=4.3						
BOSA				LR	LR	15 39 12.8	
	comp=Z,521nm,18.4s,MS4.3,baz=248,slow=32						
BOSA	**Boshof**	**34.72**	**91**	*e*P	**P**	**15 27 36.9**	**-0.3**
BOSA				LR	LR	15 39 12.8	
BDFB	**Brasilia**	**35.27**	**295**	LR	LR	15 39 29.6	
	comp=Z,513nm,20.5s,MS4.3,baz=292,slow=32						
VNA3	**Neumayer Olymp**	**36.27**	**177**	*e*	**P**	**15 27 50.6**	**+0.1**
VNA3				*e*	pP	15 27 53.8	+0.2
LBTB	**Lobatse**	**36.44**	**85**	P	**P**	**15 27 52.5**	**+0.6**
	2.3nm,0.8s,mb4.2,baz=258,slow=8.1,SNR=3.9						
CPUP	**Villa Florida**	**37.10**	**272**	LR	LR	15 40 44.5	
	comp=Z,576nm,18.0s,MS4.4,baz=109,slow=32						
SNAA	**Sanae**	**37.15**	**174**	P	**P**	**15 27 58.7**	**+0.7**
	0.9nm,1.0s,mb3.6,baz=0.8,slow=11,SNR=5.4						
SNAA				LR	LR	15 38 34.4	
	comp=Z,32nm,19.8s,baz=172,slow=29						
SNAA	**Sanae**	**37.15**	**174**	*e*	**P**	**15 27 57.8**	**-0.2**
SNAA				*e*	pP	15 28 01.5	+0.4
DBIC	**Dimbokro**	**42.71**	**15**	P	**P**	**15 28 43.4**	**-0.8**
	4.7nm,0.8s,mb4.3,baz=208,slow=8.3,SNR=5.9						
DBIC				LR	LR	15 41 59.2	
	comp=Z,121nm,19.4s,MS3.8,baz=160,slow=30						
DBIC	**Dimbokro**	**42.71**	**15**	*e*P	**P**	**15 28 43.5**	**-0.7**
	4.9nm,0.7s,mb4.3						
DBIC				LR	LR	15 41 59.2	
PLCA	**Paso Flores**	**43.45**	**245**	P	**P**	**15 28 48.7**	**-1.5**
	1.2nm,0.7s,mb3.7,baz=96,slow=10,SNR=2.8						
PLCA				LR	LR	15 45 17.9	
	comp=Z,403nm,19.3s,MS4.3,baz=12,slow=34						
PLCA	**Paso Flores**	**43.45**	**245**	P	**P**	**15 28 48.7**	**-1.5**
PLCA				LR	LR	15 45 17.9	
LSZ	**Lusaka**	**43.49**	**74**	P	**P**	**15 28 51.5**	**+1.0**
	0.7nm,0.4s,mb3.8,baz=236,slow=9.5,SNR=5.1						
LSZ	**Lusaka**	**43.49**	**74**	*e*P	**P**	**15 28 51.7**	**+1.3**
	14nm,1.5s,mb4.5						
CFAA	**Coronel Fontan**	**44.06**	**259**	P	**P**	**15 28 54.0**	**-1.1**
	0.4nm,0.8s,mb3.2,baz=68,slow=6.4,SNR=8.8						
SIV	**San Ignacio**	**45.18**	**283**	P	**P**	**15 29 04.6**	**+0.6**
	2.4nm,1.0s,mb4.0,baz=115,slow=11,SNR=5.6						
TOA0	**Torodi Ar. Sit**	**50.61**	**21**	*e*P	**P**	**15 29 45.5**	**-0.7**
TORD	**Torodi Ar. Bea**	**50.61**	**21**	P	**P**	**15 29 45.5**	**-0.6**
	6.5nm,0.7s,mb4.7,baz=198,slow=8.3,SNR=34						
TORD				LR	LR	15 47 06.4	
	comp=Z,430nm,19.2s,MS4.5,baz=190,slow=31						
LPAZ	**La Paz**	**50.71**	**278**	LR	LR	15 52 01.9	
	comp=Z,255nm,18.1s,MS4.3,baz=109,slow=37						
SAML	**Samuel**	**50.98**	**289**	*e*P	**P**	**15 29 49.8**	**+1.0**
	3.0nm,1.0s,mb4.2						
MAW	**Mawson**	**53.51**	**152**	P	**P**	**15 30 08.2**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=256,slow=5.7,SNR=3.8						
MAW				LR	LR	15 47 26.0	
	comp=Z,124nm,21.5s,MS3.9,baz=54,slow=30						
QSPA	**South Pole Qui**	**55.10**	**180**	*e*P	**P**	**15 30 20.3**	**+1.1**
	25nm,1.4s,mb5.0						
KMBO	**Kilima Mbogo**	**59.25**	**67**	LR	LR	15 54 12.9	
	comp=Z,763nm,19.2s,MS4.8,baz=97,slow=34						
VNDA	**Vanda**	**67.58**	**179**	P	**P**	**15 31 42.3**	**-1.5**
	1.3nm,1.1s,mb3.9,baz=207,slow=5.6,SNR=5.5						
ROSC	**El Rosal**	**68.30**	**293**	LR	LR	16 00 41.5	
	comp=Z,365nm,18.5s,MS4.6,baz=24,slow=35						
ATD	**Arta Tunnel**	**71.81**	**61**	LR	LR	16 01 28.8	
	comp=Z,353nm,19.8s,MS4.6,baz=46,slow=34						
KEST	**Kesra**	**74.12**	**21**	P	**P**	**15 32 22.5**	**-1.0**
	0.8nm,0.8s,mb3.7,baz=172,slow=4.1,SNR=4.0						
KEST				LR	LR	16 02 05.8	
	comp=Z,174nm,19.4s,MS4.4,baz=218,slow=34						
ESDC	**Sonseca Array**	**75.17**	**9**	LR	LR	16 03 22.7	
	comp=Z,96nm,18.9s,MS4.1,baz=140,slow=34						
RPN	**Rapa Nui**	**78.09**	**245**	LR	LR	16 03 40.8	
	comp=Z,206nm,19.1s,MS4.5,baz=253,slow=33						
ASF	**Jabal al Asfar**	**82.88**	**42**	P	**P**	**15 33 13.7**	**+1.9**
	1.2nm,0.6s,mb4.1,baz=146,slow=4.7,SNR=6.2						
BRTR	**Keskin Array B**	**87.03**	**36**	P	**P**	**15 33 33.1**	**+0.4**
	0.8nm,0.7s,mb4.0,baz=222,slow=1.9,SNR=4.2						
BRTR				LR	LR	16 11 00.7	
	comp=Z,52nm,21.1s,MS3.9,baz=91,slow=35						
GERES	**GERESS Array B**	**87.48**	**19**	LR	LR	16 09 28.4	
	comp=Z,155nm,20.7s,MS4.4,baz=273,slow=33						
VRAC	**Vranov**	**88.69**	**20**	LR	LR	16 11 28.1	
	comp=Z,137nm,19.6s,MS4.4,baz=178,slow=34						
HFS	**Hagfors**	**97.87**	**14**	LR	LR	16 16 06.3	
	comp=Z,86nm,18.7s,MS4.3,baz=201,slow=34						
NOA	**NORSAR Array B**	**98.24**	**13**	LR	LR	16 17 52.5	
	comp=Z,58nm,19.4s,MS4.1,baz=180,slow=35						
ZAL	**Zalesovo**	**123.07**	**44**	PKP	PKPdf	15 39 45.2	+1.4
	1.7nm,0.3s,baz=340,slow=13,SNR=5.1						
SONM	**Songino Array**	**135.41**	**55**	PKP	PKPdf	15 40 07.1	-0.1
	0.3nm,0.8s,baz=252,slow=2.9,SNR=3.1						
YAK	**Yakutsk**	**145.20**	**28**	*e*PKP	PKPdf	15 40 23.2	-1.7

---

*IDC **04** 15:36:18.9±5.9, 3623N×7064E, h170km±54km, mb4.0/14, mb1 4.1/17, mb1mx3.8/27, mbtmp4.5/17, Error ellipse: s-maj=24.5km s-min=12.4km az=19.0*
*MOS **04** 15:36:18.6±0.6, 3631N×7068E, h182km, mb4.6/12, Error ellipse: s-maj=12.7km s-min=5.3km az=89.0*
*NEIC **04** 15:36:18.8±1.4, 3626N×7067E, h170km±12km, mb4.4/12, Error ellipse: s-maj=9.9km s-min=5.8km az=212.0*
*BJI **04** 15:36:18.7, 3630N×7070E, h170km, mB4.9, mb4.4*
*ISCJB **04** 15:36:20.6±0.3, 3642N±002×7069E±005, h199km±4km, mb4.2/33, Error ellipse: s-maj=6.0km s-min=3.5km az=159.0*
*NNC **04** 15:36:29.9±3.6, 37.11N×7063E, h219km±24km, mb3.4, mpv4.5, Error ellipse: s-maj=30.6km s-min=26.4km az=37.0*
ISC 04 15:36:21.7±0.3**, 3644N**±002×**7072E**±005**, h195**km±4km**, n127, σ0s92**/149**, mb4.2**/33**, 13C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.79**	**159**	P	**Pn**	**15 37 10.4**	**+1.9**
CHCP	**Chirah Chowk**	**3.47**	**142**	P	**Pn**	**15 37 18.0**	**+1.3**
THW	**Thamme Wali**	**3.73**	**167**	⇑P	**Pn**	**15 37 20.7**	**+0.8**
SBDP	**Sheikh Budin**	**4.13**	**179**	⇑P	**Pn**	**15 37 24.6**	**-0.3**
DRP	**Derazinda**	**4.70**	**185**	P	**Pn**	**15 37 33.6**	**+1.5**
SARP	**Sargodha**	**4.79**	**160**	P	**Pn**	**15 37 33.3**	**+0.1**
KSH	**Kashi**	**5.16**	**52**	*i* PR	P	15 37 39.0	
KSH				XP		15 38 17.0	
KSH				S	**Sn**	**15 38 38.7**	**+0.6**
KSH				LR	LR		
	comp=N,2µm,2.0s						
KSH				LR	LR		
	comp=E,2µm,2.4s						
KSH				LR	LR		
	comp=Z,1µm,2.2s						
THN	**Thein Dam**	**5.74**	**133**	*e*P	**Pn**	**15 37 45.7**	**+0.2**
THN				*e*x	x	15 38 50.9	
DLH	**Dalhousie**	**5.82**	**130**	*e*P	**Pn**	**15 37 48.0**	**+1.5**
DLH				*e*x	x	15 38 53.0	
AML	**Almayashu**	**6.13**	**21**	P	**Pn**	**15 37 50.7**	**+0.1**
	SNR=399						
UCH	**Uchtor**	**6.48**	**26**	P	**Pn**	**15 37 55.5**	**+0.4**
	SNR=6.5						
KZA	**Kyzart**	**6.63**	**31**	P	**Pn**	**15 37 56.8**	**-0.3**
	SNR=90						
EKS2	**Erkin-Say**	**6.65**	**20**	P	**Pn**	**15 37 57.3**	**+0.1**
	SNR=163						
KK31	**Karatay Array**	**6.66**	**359**	⇓P	**Pn**	**15 37 56.9**	**-0.5**
	comp=Z,46nm,0.3s,baz=271,slow=10,SNR=1363						
KK31				S	**Sn**	**15 39 08.4**	**-4.7**
	comp=Z,96nm,0.7s,baz=191,slow=23,SNR=12						
KK31	**Karatay Array**	**6.66**	**359**	*i* PN	**Pn**	**15 37 56.8**	**-0.6**
KK31				pmax	pmax		
	comp=Z,83nm,0.3s						
KKAR	**Karatay Array**	**6.66**	**359**	PN	**Pn**	**15 37 56.8**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,25nm,0.3s						
AAK	**Ala-Archa**	**6.84**	**24**	P	**Pn**	**15 38 00.0**	**+0.3**
	SNR=89						
AAK	**Ala-Archa**	**6.84**	**24**	*e*PN	**Pn**	**15 37 58.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,70nm,0.4s						
AAK	**Ala-Archa**	**6.84**	**24**	*e*Pn	**Pn**	**15 37 58.9**	**-0.8**
	comp=Z,70nm,0.4s						
AAK				*e*Sn	**Sn**	**15 39 13.6**	**-3.7**
BHK	**Bhakra**	**6.89**	**135**	*e*x	x	15 39 04.5	
KBK	**Karagaybulak**	**7.01**	**26**	P	**Pn**	**15 38 02.4**	**+0.4**
	SNR=84						
FRU	**Bishkek**	**7.06**	**24**	⇓*e*PN	**Pn**	**15 38 02.0**	**-0.6**
FRU				pmax	pmax		
	comp=Z,100nm,1.0s						
SDNR	**Sundarnagar**	**7.16**	**132**	*e*P	**Pn**	**15 38 03.0**	**-0.9**
SDNR				*e*S	**Sn**	**15 39 20.0**	**-4.9**
ULHL	**Ulahol**	**7.20**	**35**	P	**Pn**	**15 38 04.0**	**-0.4**
	SNR=29						
CHMS	**Chumysh**	**7.25**	**24**	P	**Pn**	**15 38 05.2**	**+0.2**
	SNR=16						
USP	**Ospenovka**	**7.41**	**22**	P	**Pn**	**15 38 07.4**	**+0.2**
	SNR=23						
TKM2	**Tokmak 2**	**7.48**	**29**	P	**Pn**	**15 38 08.3**	**+0.2**
	SNR=299						
TKM2	**Tokmak 2**	**7.48**	**29**	⇓P	**Pn**	**15 38 08.3**	**+0.2**
	comp=Z,6.8nm,0.5s						
TKM2				⇓S	**Sn**	**15 39 29.1**	**-3.5**
	comp=Z,9.0nm,0.9s						
TKM2	**Tokmak 2**	**7.48**	**29**	*i* PN	**Pn**	**15 38 08.2**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,94nm,0.4s						
SMLA	**Simla**	**7.54**	**133**	*e*P	**Pn**	**15 38 08.8**	**-0.1**
SMLA				*e*S	**Sn**	**15 39 28.2**	**-5.8**
SMLA				AML	AML	15 39 32.6	
	comp=E,193nm,0.4s						
SMLA				AML	AML	15 39 32.6	
	comp=N,281nm,0.6s						
KLP	**Kalpa**	**7.94**	**126**	*e*P	**Pn**	**15 38 15.2**	**+1.2**
KLP				*e*S	**Sn**	**15 39 38.7**	**-4.7**
KLP				AML	AML	15 39 48.0	
	comp=N,359nm,0.7s						
KLP				AML	AML	15 39 49.6	
	comp=E,232nm,0.9s						
DDI	**Dehra Dun**	**8.65**	**133**	*e*x	x	15 40 01.5	
KHET	**Khetri**	**9.38**	**151**	*e*P	**Pn**	**15 38 31.5**	**-1.5**
KHET				*e*S	**Sn**	**15 40 08.6**	**-9.3**
KHET				AML	AML	15 40 14.0	
	comp=E,85nm,0.4s						
KHET				AML	AML	15 40 14.0	
	comp=N,76nm,0.4s						
NDI	**New Delhi**	**9.48**	**143**	*e*P	**Pn**	**15 38 32.5**	**-1.6**
NDI				*e*S	**Sn**	**15 40 10.0**	**-10**
JASL	**Jaisalmer**	**9.49**	**179**	*e*P	**Pn**	**15 38 31.9**	**-2.4**
AYAN	**Aya Nagar**	**9.60**	**144**	*e*P	**Pn**	**15 38 34.7**	**-1.1**
AYAN				*e*S	**Sn**	**15 40 15.4**	**-7.6**
KUDL	**Kundal**	**9.60**	**148**	*e*P	**Pn**	**15 38 34.8**	**-0.9**
KUDL				*e*S	**Sn**	**15 40 15.1**	**-7.9**
KUDL				AML	AML	15 40 17.2	
	comp=E,100nm,0.4s						
KUDL				AML	AML	15 40 19.3	
	comp=N,81nm,0.6s						
SONA	**Sohna**	**9.78**	**145**	*e*P	**Pn**	**15 38 36.4**	**-1.6**
SONA				*e*S	**Sn**	**15 40 19.1**	**-8.1**
AJM	**Ajmer**	**10.48**	**160**	*e*P	**Pn**	**15 38 46.4**	**-0.7**
AJM				*e*S	**Sn**	**15 40 33.2**	**-11**
AGRA	**Agra**	**11.04**	**144**	*e*P	**Pn**	**15 38 53.5**	**-0.9**
AGRA				*e*S	**Sn**	**15 40 49.0**	**-8.4**
MK02	**Makanchi Array**	**13.46**	**36**	⇑P	**Pn**	**15 39 26.0**	**+0.9**
	comp=N,18nm,0.8s,baz=230,slow=16						
MK31	**Makanchi Array**	**13.47**	**36**	P	**Pn**	**15 39 25.9**	**+0.7**
MK31				pmax	pmax		
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**13.47**	**36**	P	**Pn**	**15 39 25.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=228,slow=16,SNR=39						
MKAR	**Makanchi Array**	**13.47**	**36**	*i* P	**Pn**	**15 39 26.1**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MKAR	**Makanchi Array**	**13.47**	**36**	P	**Pn**	**15 39 25.2**	**0.0**
BHPL	**Bhopal**	**14.38**	**154**	*e*P	**Pn**	**15 39 40.7**	**+4.3**
BHPL				*e*x	x	15 42 08.4	
WMQ	**Urumqi**	**14.91**	**55**	*e*P	**Pn**	**15 39 42.8**	**-0.2**
WMQ				XP		15 40 29.0	
WMQ				*e*S	**Sn**	**15 42 24.0**	**-5.8**
WMQ				AMB	AMB		
	comp=Z,19nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,273nm,5.3s						
WMQ				LR	LR		
	comp=N,209nm,13.9s						
WMQ				LR	LR		
	comp=E,197nm,17.0s						
WMQ				LR	LR		
	comp=Z,213nm,17.7s						
AB31	**Akbulak array**	**15.03**	**332**	⇑P	**Pn**	**15 39 43.2**	**-1.2**
	comp=Z,6.1nm,0.5s,baz=140,slow=12,SNR=100						
AB31				⇑S	**S**	**15 42 19.8**	**-12**
	comp=Z,3.0nm,0.5s,baz=160,slow=21,SNR=3.8						
AB31	**Akbulak array**	**15.03**	**332**	*i* P	**Pn**	**15 39 43.1**	**-1.3**
AB31				*e*S	**S**	**15 42 23.4**	**-8.0**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AB31				smax			
	comp=Z,2.0nm,0.5s						
JBP	**Jabalpur**	**15.46**	**146**	⇓*e*x	x	15 39 44.6	
JBP				*i* x	x	15 42 28.2	
VOSK	**Vostochnaya**	**16.28**	**1**	⇓P	**Pn**	**15 39 59.0**	**-0.6**
	comp=Z,4.3nm,0.3s						
VOSK				⇑S	**S**	**15 42 50.7**	**-8.8**
	comp=Z,19nm,2.2s						
VOSK	**Vostochnaya**	**16.28**	**1**	P	**Pn**	**15 40 00.0**	**+0.4**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZRNK	**Zerenda**	**16.55**	**356**	⇑P	**Pn**	**15 40 02.8**	**0.0**
	comp=Z,6.9nm,0.4s						
ZRNK				⇑S	**S**	**15 42 50.7**	**-14**
	comp=Z,15nm,1.8s						
ZRNK	**Zerenda**	**16.55**	**356**	*e*P	**Pn**	**15 40 02.5**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,20nm,0.5s						
ZRNK	**Zerenda**	**16.55**	**356**	*e*P	**Pn**	**15 40 02.5**	**-0.3**
	comp=Z,20nm,0.5s						
BVA0	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**15 40 03.3**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=160,slow=9.8,SNR=87						
BVA0				⇓S	**S**	**15 43 01.1**	**-4.5**
	comp=Z,2.5nm,1.3s,baz=173,slow=22,SNR=11						
BVA0	**Borovoye Array**	**16.59**	**359**	*e*P	**Pn**	**15 40 03.3**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**15 40 03.2**	**0.0**
	comp=Z,5.4nm,0.3s,baz=156,slow=9.1,SNR=100						
BVAR				S	**S**	**15 43 01.7**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=178,slow=15,SNR=3.1						
AKL	**Akola**	**16.62**	**159**	*e*P	**Pn**	**15 40 06.8**	**+3.2**
AKL				*e*x	x	15 41 54.3	
BRVK	**Borovoye**	**16.62**	**359**	*e*P	**Pn**	**15 40 03.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,14nm,0.7s						
BRVK	**Borovoye**	**16.62**	**359**	*e*P	**Pn**	**15 40 03.6**	**0.0**
	comp=Z,14nm,0.7s						
AKTK	**Aktyubinsk**	**16.72**	**331**	P	**Pn**	**15 40 04.7**	**-0.1**
AKTK				S	**S**	**15 43 02.8**	**-5.6**
AKTO	**Aktyubinsk**	**16.72**	**331**	⇑P	**Pn**	**15 40 04.8**	**-0.1**
	comp=Z,1.1nm,0.8s						
AKTO				⇑S	**S**	**15 43 00.6**	**-7.8**
	comp=Z,0.6nm,1.4s						
AKTO	**Aktyubinsk**	**16.72**	**331**	P	**Pn**	**15 40 04.7**	**-0.1**
	comp=Z,4.5nm,0.3s,baz=140,slow=10,SNR=150						
AKTO				S	**S**	**15 43 02.8**	**-5.6**
	comp=Z,0.2nm,0.3s,baz=95,slow=21,SNR=3.8						
NGP	**Nagpur**	**16.88**	**152**	*e*x	x	15 42 57.2	
CHKZ	**Chkalovo**	**17.24**	**360**	⇑P	**Pn**	**15 40 09.8**	**-1.2**
	comp=Z,5.8nm,0.4s						
CHKZ				⇑S	**S**	**15 43 13.4**	**-5.4**
	comp=Z,9.7nm,1.1s						
CHKZ	**Chkalovo**	**17.24**	**360**	*e*P	**Pn**	**15 40 09.7**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.4s						
CHKZ	**Chkalovo**	**17.24**	**360**	*e*P	**Pn**	**15 40 09.7**	**-1.2**
	comp=Z,14nm,0.4s						
KAD	**Karad**	**19.30**	**170**	*e*P	**P**	**15 40 37.2**	**+5.4**
ZAL	**Zalesovo**	**20.05**	**25**	P	**P**	**15 40 40.6**	**+0.8**
	comp=Z,32nm,0.3s,baz=256,slow=6.9,SNR=56						
ZAL				S	**S**	**15 44 11.3**	**-2.9**
	comp=Z,1.2nm,0.7s,baz=96,slow=14,SNR=5.8						
HYB	**Hyderabad**	**20.18**	**158**	*i* P	**P**	**15 40 43.0**	**+1.8**
HYB	**Hyderabad**	**20.18**	**158**	*e*P	**P**	**15 40 45.0**	**+3.8**
NVS	**Novosibirsk**	**20.32**	**21**	*i* P	**P**	**15 40 42.8**	**+0.1**
NVS				*e*PPP		15 41 10.0	
NVS				*e*S	**S**	**15 44 18.2**	**-1.3**
NVS				pmax	pmax		
	comp=N,43nm,1.6s						
NVS				pmax	pmax		
	comp=Z,49nm,1.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				smax			
	comp=E,24nm,1.3s						
NVS				smax			
	comp=N,10.0nm,1.8s						
SVE	**Sverdlovsk**	**21.49**	**345**	*e*P	**P**	**15 40 56.0**	**+0.9**
ARU	**Arti**	**21.62**	**341**	⇑*e*P	**P**	**15 40 56.9**	**+0.4**
ARU				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.7						
ARU	**Arti**	**21.62**	**341**	*e*P	**P**	**15 40 56.8**	**+0.4**
	comp=Z,19nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**22.62**	**298**	*e*P	**P**	**15 41 06.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
GTA	**Gaotai**	**23.10**	**74**	*e*P	**P**	**15 41 12.7**	**+2.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
ANN	**Anapa**	**26.47**	**299**	*e*P	**P**	**15 41 30.0**	**-11**
ANN				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.2						
ZAK	**Zakamensk**	**27.20**	**49**	*e*P	**P**	**15 41 48.6**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
CD2	**Chengdu**	**27.95**	**92**	*e*P	**P**	**15 41 51.7**	**-2.2**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
SONM	**Songino Array**	**28.55**	**55**	P	**P**	**15 42 00.9**	**+1.7**
	comp=Z,2.1nm,0.8s,mb3.8,baz=258,slow=9.9,SNR=21						
ULN	**Ulaanbaatar**	**29.00**	**55**	*e*P	**P**	**15 42 03.9**	**+0.8**
KMI	**Kunming**	**29.60**	**103**	P	**P**	**15 42 08.7**	**+0.2**
KMI				AP	pP	15 42 43.8	-4.5
KMI				XP	sP	15 43 05.0	-5.8
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
OBN	**Obninsk**	**29.84**	**320**	*e*P	**P**	**15 42 11.4**	**+0.8**
OBN				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
HHC	**Hu-ho-hao-te**	**31.99**	**69**	*e*P	**P**	**15 42 30.0**	**+0.5**
HHC				AP	pP	15 43 06.6	-2.9
HHC				XP	sP	15 43 27.2	-4.8
HHC				PP	PP	15 43 43.1	-2.7
HHC				PCP	PcP	15 45 16.1	+1.6
HHC				S	**S**	**15 47 26.8**	**+0.4**
HHC				SCP	ScP	15 48 42.2	+2.8
HHC				PCS	PcS	15 49 00.3	+0.8
HHC				SCS	ScS	15 52 39.0	+0.6
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,176nm,5.9s						
HHC				LR	LR		
	comp=N,276nm,8.4s						
HHC				LR	LR		
	comp=E,330nm,8.2s						
HHC				LR	LR		
	comp=Z,349nm,9.2s						
AKASG	**Malin Array Be**	**32.81**	**309**	P	**P**	**15 42 36.6**	**+0.1**
	comp=Z,2.8nm,0.5s,mb4.0,baz=81,slow=7.3,SNR=20						
AKASG	**Malin Array Be**	**32.81**	**309**	*i* P	**P**	**15 42 37.2**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BOD	**Bodaibo**	**35.54**	**39**	*e*P	**P**	**15 42 59.5**	**-0.5**
JOF	**Joensuu**	**35.81**	**330**	*e*p	**P**	**15 43 02.4**	**+0.1**
	comp=Z,8.9nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**15 43 16.6**	**+0.8**
	comp=Z,5.3nm,0.6s,mb4.2,baz=113,slow=10,SNR=31						
KAF	**Kangasniemi**	**37.56**	**327**	*e*p	**P**	**15 43 16.5**	**-0.6**
	baz=112,slow=8.2						
KEV	**Kevo**	**40.77**	**338**	*e*p	**P**	**15 43 43.1**	**-0.6**
	comp=Z,0.8nm,0.4s,mb3.5						
KEV	**Kevo**	**40.77**	**338**	*e*P	**P**	**15 43 43.1**	**-0.6**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**15 43 47.4**	**+0.9**
	comp=Z,5.8nm,0.7s,mb4.1,baz=110,slow=7.9,SNR=25						
ARCES	**ARCESS Array B**	**41.12**	**338**	P	**P**	**15 43 47.4**	**+0.9**
HFS	**Hagfors**	**42.98**	**322**	P	**P**	**15 44 01.3**	**-0.2**
	comp=Z,7.4nm,0.6s,mb4.3,baz=97,slow=12,SNR=14						
YAK	**Yakutsk**	**44.15**	**35**	*e*P	**P**	**15 44 11.0**	**+0.1**
YAK				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
YAK	**Yakutsk**	**44.15**	**35**	*e*P	**P**	**15 44 10.8**	**-0.1**
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**15 44 11.7**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.1,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**15 44 12.2**	**+0.1**
	comp=Z,5.8nm,0.7s,mb4.0,baz=96,slow=7.8,SNR=15						
MDJ	**Mudanjiang**	**44.63**	**60**	P	**P**	**15 44 13.4**	**-1.3**
MDJ				XP	sP	15 45 09.4	-9.3
MDJ				S	**S**	**15 50 36.1**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,251nm,9.1s						
MDJ				LR	LR		
	comp=N,39nm,19.4s						
MDJ				LR	LR		
	comp=E,48nm,18.3s						
MDJ				LR	LR		
	comp=Z,53nm,16.7s						
TIXI	**Tiksi**	**45.91**	**22**	*e*P	**P**	**15 44 24.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.4						
HABR	**Khabarovsk**	**47.63**	**54**	*e*P	**P**	**15 44 32.1**	**-6.0**
HABR				pmax	pmax		
	comp=Z,66nm,2.7s,mb4.5						
SEY	**Seymchan**	**54.59**	**34**	*e*P	**P**	**15 45 30.9**	**+1.0**
BILL	**Bilibino**	**58.76**	**26**	*e*P	**P**	**15 45 59.9**	**+0.7**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
SUMG	**Summit**	**61.05**	**341**	*e*P	**P**	**15 46 16.0**	**+1.3**
	comp=Z,2.4nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**65.49**	**268**	P	**P**	**15 46 43.1**	**-0.8**
	comp=Z,5.1nm,0.5s,mb4.4,baz=48,slow=5.2,SNR=64						
INK	**Inuvik**	**74.00**	**9**	*e*P	**P**	**15 47 36.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**74.00**	**9**	*e*P	**P**	**15 47 36.1**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.3						
DBIC	**Dimbokro**	**74.47**	**267**	P	**P**	**15 47 38.2**	**-0.3**
	comp=Z,8.1nm,1.0s,mb4.3,baz=52,slow=10.0,SNR=3.6						
COLA	**College**	**74.60**	**16**	*e*P	**P**	**15 47 39.5**	**+0.2**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
COLA	**College**	**74.60**	**16**	*e*P	**P**	**15 47 39.5**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
TSUM	**Tsumeb**	**74.70**	**232**	P	**P**	**15 47 40.3**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.4,baz=20,slow=10.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**75.04**	**126**	*e*P	**P**	**15 47 41.8**	**0.0**
	comp=Z,2.8nm,1.0s,mb3.9						
FITZ	**Fitzroy Crossi**	**75.04**	**126**	P	**P**	**15 47 42.1**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.6,baz=346,slow=4.2,SNR=4.5						
KAKA	**Kakadu**	**75.90**	**118**	*e*P	**P**	**15 47 46.6**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**81.32**	**2**	P	**P**	**15 48 16.5**	**+0.2**
	comp=Z,0.8nm,0.3s,mb3.8,baz=350,slow=5.3,SNR=7.9						
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**15 48 20.1**	**-0.5**
	comp=Z,2.1nm,0.7s,mb3.9,baz=322,slow=5.1,SNR=29						
WRAB	**Tennant Creek**	**82.15**	**122**	*e*P	**P**	**15 48 20.2**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**82.15**	**122**	*e*P	**P**	**15 48 20.2**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**82.16**	**122**	*e*P	**P**	**15 48 20.1**	**-0.5**
ASPA	**Alice Springs**	**84.40**	**125**	*e*P	**P**	**15 48 31.7**	**-0.4**
AS31	**Alice Springs**	**84.40**	**125**	*e*P	**P**	**15 48 31.7**	**-0.4**
ASAR	**Alice Springs**	**84.40**	**125**	P	**P**	**15 48 31.6**	**-0.5**
	comp=Z,1.5nm,0.7s,mb3.8,baz=310,slow=5.1,SNR=35						
PLCA	**Paso Flores**	**149.59**	**250**	PKPbc	PKPbc	15 55 48.2	+0.2
	comp=Z,1.3nm,0.6s,baz=142,slow=6.4,SNR=4.3						
PLCA	**Paso Flores**	**149.59**	**250**	PKPbc	PKPbc	15 55 48.2	+0.2

---

*IDC **04** 15:54:13.3±1.9, 1.47N×97.09E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML2.6/1, Error ellipse: s-maj=50.4km s-min=25.8km az=47.0*

*ISCJB **04** 15:54:16.2±1.5, 1.5N±0.2×97.1E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=26.0km s-min=21.1km az=24.5*

*NEIC **04** 15:54:17.6±1.2, 1.44N×97.11E, h30km, Error ellipse: s-maj=22.2km s-min=17.6km az=196.0*

ISC 04 15:54:18.8±1.5**, 1.5N**±0.2×**97.2E**±0.2**, h35**km**, n7, σ0.86**/7**, mb3.7**/5**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.19**	**54**	Pn	**Pn**	**15 54 51.4**	**-1.3**
	1.7nm,0.3s,baz=189,slow=8.0,SNR=6.7						
KULM	**Kulim**	**5.13**	**43**	*e*P	**Pn**	**15 55 34.4**	**+1.2**
WRA	**Warramunga Arr**	**42.24**	**122**	P	**P**	**16 02 08.7**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=302,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**46.84**	**9**	P	**P**	**16 02 46.0**	**+0.8**
	1.1nm,0.9s,mb3.8,baz=182,slow=8.3,SNR=7.2						
MKAR	**Makanchi Array**	**46.94**	**346**	P	**P**	**16 02 46.1**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=165,slow=9.7,SNR=5.3						
ZAL	**Zalesovo**	**53.24**	**351**	P	**P**	**16 03 32.6**	**-1.1**
	0.8nm,0.3s,mb4.2,baz=138,slow=7.7,SNR=2.3						
BVAR	**Borovoye Array**	**55.95**	**341**	P	**P**	**16 03 53.5**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=128,slow=9.3,SNR=2.7						

---

*NEIC **04** 15:55:20.0±0.9, 20.96S×178.88W, h605km±11km, mb4.3/8, Error ellipse: s-maj=19.5km s-min=8.5km az=153.0*

*IDC **04** 15:55:20.3±1.7, 20.91S×178.86W, h606km±20km, mb3.5/9, mb1 3.6/12, mb1mx3.5/18, mbtmp4.5/12, Error ellipse: s-maj=26.4km s-min=13.7km az=152.0*

*ISCJB **04** 15:55:21.6±1.2, 20.60S±0.10×179.16W±0.09, h627km±17km, mb4.2/13, Error ellipse: s-maj=16.5km s-min=11.0km az=116.9*

ISC 04 15:55:21.8±1.2**, 20.7S**±0.1×**179.07W**±0.09**, h611**km±15km**, n30, σ0.67**/29**, mb4.2**/13**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.67**	**47**	P	**P**	**15 57 36.6**	**-0.8**
	4.3nm,0.3s,baz=219,slow=6.5,SNR=5.8						
AFI	**Afiamalu**	**9.67**	**47**	*e*P	**P**	**15 57 36.3**	**-1.2**
DZM	**Mont Dzumac**	**13.57**	**261**	P	**P**	**15 58 15.9**	**-0.3**
	0.6nm,0.3s,baz=80,slow=19,SNR=9.3						
URZ	**Urewera**	**17.85**	**190**	P	**P**	**15 58 50.3**	**-5.2**
URZ				S	**S**	**16 01 48.7**	**-0.3**
	0.5nm,0.3s,baz=15,slow=22,SNR=8.8						
HNR	**Honiara**	**23.10**	**296**	S	**S**	**16 03 11.9**	**-0.1**
	20nm,0.3s,baz=95,slow=22,SNR=4.4						
CTA	**Charters Tower**	**32.48**	**265**	⇓*i*P	**P**	**16 01 04.9**	**+1.0**
	8.8nm,0.4s,mb4.7						
CTA	**Charters Tower**	**32.48**	**265**	P	**P**	**16 01 04.9**	**+1.1**
	10nm,0.4s,mb4.8,baz=92,slow=11,SNR=29						
CTAO	**Charters Tower**	**32.48**	**265**	*e*P	**P**	**16 01 04.5**	**+0.6**
PMG	**Port Moresby**	**34.40**	**284**	P	**P**	**16 01 21.2**	**+1.2**
	13nm,0.7s,mb4.7,baz=123,slow=7.6,SNR=6.1						
STKA	**Stephens Creek**	**36.82**	**244**	⇓*i*P	**P**	**16 01 40.2**	**+0.4**
	2.6nm,1.2s,mb3.6						
STKA	**Stephens Creek**	**36.82**	**244**	P	**P**	**16 01 40.4**	**+0.6**
	1.6nm,0.4s,mb3.9,baz=101,slow=11,SNR=12						
AS31	**Alice Springs**	**43.50**	**257**	*e*P	**P**	**16 02 33.0**	**+0.1**
ASAR	**Alice Springs**	**43.51**	**257**	P	**P**	**16 02 33.3**	**+0.4**
	10nm,0.6s,mb4.6,baz=91,slow=7.5,SNR=410						
ASAR				ScP	ScP	16 07 02.0	+1.4
	0.9nm,0.6s,baz=106,slow=4.2,SNR=13						
ASAR				S	**S**	**16 08 16.6**	**-2.1**
	2.1nm,0.8s,baz=93,slow=17,SNR=14						
ASPA	**Alice Springs**	**43.51**	**257**	*e*P	**P**	**16 02 33.2**	**+0.3**
WB2	**Warramunga Arr**	**43.57**	**262**	*e*P	**P**	**16 02 33.3**	**-0.1**
WRAB	**Tennant Creek**	**43.58**	**262**	*e*P	**P**	**16 02 33.2**	**-0.2**
	8.2nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**43.59**	**262**	P	**P**	**16 02 33.4**	**-0.1**
	6.4nm,0.3s,mb4.6,baz=97,slow=7.8,SNR=218						
WRA				S	**S**	**16 08 17.1**	**-2.7**
	0.8nm,0.8s,baz=98,slow=13,SNR=6.1						
KAKA	**Kakadu**	**46.97**	**272**	*e*P	**P**	**16 02 59.4**	**+0.2**
	7.0nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.01**	**263**	*e*P	**P**	**16 03 36.4**	**+0.3**
	5.1nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.01**	**263**	P	**P**	**16 03 36.4**	**+0.3**
	3.0nm,0.5s,mb3.9,baz=150,slow=4.8,SNR=12						
MBWA	**Marble Bar**	**56.84**	**258**	*e*P	**P**	**16 04 09.4**	**-0.3**
	6.3nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**69.75**	**324**	P	**P**	**16 05 31.0**	**-0.9**
	2.0nm,0.7s,mb3.7,baz=156,slow=5.5,SNR=5.6						
ISA	**Isabella**	**80.16**	**46**	*e*P	**P**	**16 06 29.6**	**-0.2**
NVAR	**Mina Array Bea**	**81.83**	**44**	P	**P**	**16 06 39.0**	**+0.7**
	1.2nm,0.6s,mb3.6,baz=230,slow=9.1,SNR=14						
BW06	**Boulder Array**	**89.77**	**44**	*e*P	**P**	**16 07 16.7**	**+0.4**
	0.6nm,0.5s,mb3.7						
PDAR	**Pinedale Array**	**89.77**	**44**	P	**P**	**16 07 16.4**	**+0.1**
	0.8nm,0.7s,mb3.7,baz=218,slow=3.6,SNR=6.5						
BVAR	**Borovoye Array**	**118.55**	**320**	PKP	PKPdf	16 12 59.5	-1.8
	0.4nm,0.3s,baz=118,slow=2.9,SNR=5.7						
ARCES	**ARCESS Array B**	**128.89**	**349**	PKP	PKPdf	16 13 19.2	-1.8
	2.0nm,1.0s,baz=339,slow=6.5,SNR=4.3						
AKASG	**Malin Array Be**	**142.66**	**330**	PKP	PKPdf	16 13 42.8	-3.7
	2.6nm,0.4s,baz=43,slow=4.1,SNR=21						
BRTR	**Keskin Array B**	**146.20**	**311**	PKPbc	PKPbc	16 13 54.5	-0.4
	0.6nm,0.5s,baz=129,slow=3.9,SNR=4.1						

GUC 04 16:06:13.9±0.4**, 33.14S**×**70.20W, h2**km±6km**, MD3.6, ML1.9, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.20**	**201**	⇑*i*P	Pg	16 06 18.3	+0.6
FCH				*i* S	Sg	16 06 22.0	+1.6
CLCH	**Cerro Calan**	**0.38**	**227**	*e*P	Pg	16 06 21.4	+0.2
CLCH				*i* S	Sg	16 06 27.2	+1.1
CLCH				AML	AML	16 06 30.8	
	comp=N,323nm,0.3s						
PEL	**Peldehue**	**0.41**	**269**	⇑*e*P	Pg	16 06 21.8	+0.2
PEL				*i* S	Sg	16 06 27.7	+0.8
PEL				AML	AML	16 06 28.4	
	comp=N,171nm,0.2s						
CHCH	**Chadas Angostu**	**0.88**	**205**	⇓*i*P	Pg	16 06 30.6	-0.1
CACH	**El Canelo**	**1.03**	**199**	⇓*i*P	Pg	16 06 34.1	+0.5
CACH				*i* S	Sg	16 06 48.8	+1.8
CICH	**Cipreses**	**1.19**	**189**	*e*P	Pg	16 06 36.3	-0.5
LNV	**Longovilo**	**1.30**	**231**	*i* P	Pg	16 06 37.9	-0.9

---

*ISCJB **04** 16:11:23.5±0.4, 51.47N±0.02×16.08E±0.02, h0km, Error ellipse: s-maj=3.5km s-min=2.1km az=22.6*

*IPEC **04** 16:11:24.0±0.2, 51.56N×16.21E, h0km, ML2.3/3, Error ellipse: s-maj=1.7km s-min=0.9km az=38.0*

*NEIC **04** 16:11:24.9±0.4, 51.53N×16.11E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=4.8km s-min=4.2km az=172.0*

*BGR **04** 16:11:25.6±0.6, 5153N×1606E, h1km, ML3.0/13, Error ellipse: s-maj=13.3km s-min=5.6km az=162.0*
*WAR **04** 16:11:26.1, 5149N×1610E, ML2.7, Mining Induced*
*CSEM **04** 16:11:26.2±0.2, 5146N×1608E, h0km, ML3.3/7, Error ellipse: s-maj=3.6km s-min=1.9km az=13.0*
*IDC **04** 16:11:26.0±1.0, 5139N×1615E, h0km, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=15.3km s-min=8.6km az=123.0*
*VIE **04** 16:11:27.0±0.6, 5131N×1617E, h0km, mb2.4/4, ML2.9/4, Error ellipse: s-maj=3.6km s-min=3.2km az=167.0 63 km WNW of Breslau Suspected Mining induced.*
*PRU **04** 16:11:27.1, 5142N×1603E, h0km*
ISC 04 16:11:24.6±0.4**, 5152N**±002×**1609E**±002**, h0km, n55, σ0s98**/101**, 1C-3D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**169**	⇓iPg	**Pg**	**16 11 38.1**	**+0.4**
KSP				eSg	**Sg**	**16 11 47.4**	**+0.8**
UPC	**Upice**	**1.01**	**183**	ePG	**Pg**	**16 11 44.0**	**+0.1**
UPC				eSG	**Sg**	**16 11 57.2**	**+0.1**
UPC	**Upice**	**1.01**	**183**	ePg	**Pg**	**16 11 44.1**	**+0.2**
UPC				eSg	**Sg**	**16 11 57.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.18**	**173**	ePG	**Pg**	**16 11 46.9**	**-0.2**
DPC				eSG	**Sg**	**16 12 02.1**	**-0.3**
	39nm,0.4s						
PVCC	**Panska Ves**	**1.38**	**225**	ePn	**Pn**	**16 11 51.5**	**+0.4**
PVCC				eSg	**Sg**	**16 12 10.2**	**+1.3**
BRG	**Berggiesshubel**	**1.50**	**245**	ePg	**Pg**	**16 11 53.3**	**+0.1**
BRG				eSg	**Sg**	**16 12 13.7**	**+1.1**
BRG	**Berggiesshubel**	**1.50**	**245**	PN	**Pn**	**16 11 52.7**	**+0.1**
BRG				PG	**Pg**	**16 11 53.4**	**+0.2**
BRG				SG	**Sg**	**16 12 13.8**	**+1.1**
	38nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**245**	ePn	**Pn**	**16 11 53.2**	**+0.5**
PRU	**Pruhonice**	**1.82**	**213**	ePG	**Pg**	**16 11 58.3**	**-1.1**
PRU				eSG	**Sg**	**16 12 22.4**	**-0.6**
	104nm,1.6s						
PRU	**Pruhonice**	**1.82**	**213**	ePn	**Pn**	**16 11 57.9**	**+0.8**
PRU	**Pruhonice**	**1.82**	**213**	ePg	**Pg**	**16 11 58.3**	**-1.1**
PRU				eSg	**Sg**	**16 12 22.4**	**-0.6**
FBE	**Freiberg**	**1.82**	**252**	ePg	**Pg**	**16 11 59.5**	**0.0**
FBE				eSg	**Sg**	**16 12 24.0**	**+0.9**
CLL	**Collm**	**1.94**	**265**	ePn	**Pn**	**16 11 58.4**	**-0.5**
CLL				eSg	**Sg**	**16 12 27.1**	**0.0**
CLL	**Collm**	**1.94**	**265**	ePn	**Pn**	**16 11 59.0**	**+0.2**
CLL				i Pg	**Pg**	**16 12 01.6**	**-0.3**
CLL				i x	x	16 12 04.9	
CLL				ex	x	16 12 16.0	
CLL				i Sg	**Sg**	**16 12 27.8**	**+0.7**
	comp=Z,20nm,0.6s						
CLL	**Collm**	**1.94**	**265**	ePn	**Pn**	**16 11 59.0**	**+0.2**
CLL				i Pg	**Pg**	**16 12 01.6**	**-0.3**
CLL				i Sg	**Sg**	**16 12 27.8**	**+0.7**
MORC	**Moravsky Berou**	**1.97**	**151**	ePn	**Pn**	**16 11 58.7**	**-0.5**
MORC				eS	**Sn**	**16 12 26.2**	**+1.6**
MORC	**Moravsky Berou**	**1.97**	**151**	ePn	**Pn**	**16 11 58.8**	**-0.4**
MORC				eSg	**Sg**	**16 12 25.4**	**-2.5**
	comp=Z,26nm,0.4s						
MORC				eS	**Sn**	**16 12 26.2**	**+1.6**
OKC	**Ostrava-Krasne**	**2.13**	**141**	ePG	**Pg**	**16 12 05.1**	**-0.3**
OKC				eSG	**Sg**	**16 12 31.5**	**-1.5**
	comp=Z,32nm,0.6s						
VRAC	**Vranov**	**2.23**	**172**	Pg	**Pg**	**16 12 03.7**	**-3.7**
	comp=Z,3.1nm,0.3s,baz=347,slow=16,SNR=13						
VRAC				Lg		16 12 34.9	
	comp=Z,5.7nm,0.3s,baz=72,slow=23,SNR=8.4						
VRAC	**Vranov**	**2.23**	**172**	ePn	**Pn**	**16 12 03.4**	**+0.6**
VRAC				eSg	**Sg**	**16 12 34.8**	**-1.5**
	comp=Z,16nm,0.3s						
TREC	**Trest**	**2.26**	**190**	ePG	**Pg**	**16 12 07.4**	**-0.4**
TREC				eSG	**Sg**	**16 12 36.3**	**-0.8**
	comp=Z,156nm,1.8s						
KRUC	**Moravsky**	**2.46**	**175**	ePn	**Pn**	**16 12 06.8**	**+0.8**
KRUC				eSg	**Sg**	**16 12 42.6**	**-1.2**
	comp=Z,12nm,0.4s						
TANN	**Tannenbergstha**	**2.54**	**246**	ePn	**Pn**	**16 12 07.7**	**+0.6**
TANN				eSg	**Sg**	**16 12 45.2**	**-1.2**
WERD	**Werda**	**2.62**	**247**	ePn	**Pn**	**16 12 08.6**	**+0.5**
WERD				eSg	**Sg**	**16 12 47.8**	**-0.9**
NKC	**Novy Kostel**	**2.64**	**242**	ePN	**Pn**	**16 12 09.1**	**+0.7**
NKC				ePG	**Pg**	**16 12 14.0**	**-1.2**
NKC				eSG	**Sg**	**16 12 51.0**	**+1.6**
GUNZ	**Gunzen**	**2.64**	**246**	eSg	**Sg**	**16 12 48.7**	**-0.8**
WERN	**Wernitzgruen**	**2.65**	**244**	ePn	**Pn**	**16 12 09.3**	**+0.8**
WERN				eSg	**Sg**	**16 12 49.0**	**-0.8**
OJC	**Ojcow**	**2.68**	**117**	ePg	**Pg**	**16 12 16.4**	**+0.4**
OJC				eSg	**Sg**	**16 12 52.1**	**+1.3**
KHC	**Kasperske Hory**	**2.88**	**215**	ePN	**Pn**	**16 12 11.7**	**0.0**
KHC				ePG	**Pg**	**16 12 17.8**	**-2.0**
KHC				eSN	**Sn**	**16 12 42.9**	**-4.1**
KHC				eSG	**Sg**	**16 12 57.2**	**+0.1**
	comp=Z,18nm,0.7s						
MOX	**Moxa**	**2.95**	**255**	ePn	**Pn**	**16 12 13.2**	**+0.5**
MOX	**Moxa**	**2.95**	**255**	ePN	**Pn**	**16 12 13.3**	**+0.6**
MOX				i PG	**Pg**	**16 12 21.2**	**0.0**
MOX				i SG	**Sg**	**16 13 00.3**	**+0.8**
MOX	**Moxa**	**2.95**	**255**	ePn	**Pn**	**16 12 13.3**	**+0.6**
MOX				i Pg	**Pg**	**16 12 21.2**	**0.0**
MOX				i Sg	**Sg**	**16 13 00.3**	**+0.8**
MANZ	**Manzenberg**	**2.96**	**240**	ePn	**Pn**	**16 12 13.7**	**+1.0**
MANZ				eSg	**Sg**	**16 13 00.2**	**+0.6**
MANZ	**Manzenberg**	**2.96**	**240**	Pn	**Pn**	**16 12 13.7**	**+0.9**
MANZ				Sg	**Sg**	**16 13 00.2**	**+0.6**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	ePn	**Pn**	**16 12 14.4**	**+0.7**
GEC2	**GERESS Array S**	**3.08**	**211**	ePn	**Pn**	**16 12 15.8**	**+1.3**
GEC2	**GERESS Array S**	**3.08**	**211**	ePn	**Pn**	**16 12 15.8**	**+1.3**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 12 14.8**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=28,slow=12,SNR=27						
GERES				Pg	**Pg**	**16 12 21.6**	**-2.1**
	comp=Z,3.1nm,0.3s,baz=27,slow=17,SNR=22						
GERES				Sn	**Sn**	**16 12 52.9**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=33,slow=24,SNR=5.6						
GERES				Lg		16 13 01.1	
	comp=Z,3.1nm,0.3s,baz=28,slow=28,SNR=8.9						
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**16 12 21.6**	**-2.1**
WET	**Wettzell**	**3.14**	**222**	ePn	**Pn**	**16 12 15.7**	**+0.4**
WET	**Wettzell**	**3.14**	**222**	ePn	**Pn**	**16 12 15.7**	**+0.4**
WET	**Wettzell**	**3.14**	**222**	ePn	**Pn**	**16 12 15.5**	**+0.2**
CONA	**Conrad Observa**	**3.59**	**182**	⇓iPn	**Pn**	**16 12 21.4**	**-0.1**
CONA				⇓iSg	**Sg**	**16 13 18.5**	**-1.6**
	comp=Z,14nm,0.7s						
GRA1	**Grafenberg Arr**	**3.60**	**241**	Sg	**Sg**	**16 13 19.3**	**-0.9**
GRF	**Grafenberg Arr**	**3.60**	**241**	eSg	**Sg**	**16 13 19.3**	**-0.9**
BSD	**Bornholm Skovb**	**3.67**	**349**	i P	**Pn**	**16 12 22.1**	**-0.5**
BSD	**Bornholm Skovb**	**3.67**	**349**	i P	**Sn**	**16 13 04.4**	**-2.2**
BSD				i S	**Sn**	**16 13 05.0**	**-1.6**
MOA	**Molln**	**3.86**	**199**	⇑iSg	**Sg**	**16 13 29.2**	**+0.7**
	comp=Z,12nm,0.4s						
STHS	**Stebnicka Huta**	**3.91**	**121**	ePN	**Pn**	**16 12 26.4**	**+0.6**
STHS				ePG	**Pg**	**16 12 39.5**	**+0.1**
STHS				eSG	**Sg**	**16 13 33.8**	**+3.8**
KECS	**Kecovo**	**4.15**	**135**	ePG	**Pg**	**16 12 45.2**	**+1.0**
KECS				eSG	**Sg**	**16 13 39.2**	**+1.2**
CRVS	**Cervenica-Dubn**	**4.33**	**125**	ePG	**Pg**	**16 12 49.1**	**+1.6**
KOLS	**Kolonicke sedl**	**4.74**	**121**	ePG	**Pg**	**16 12 55.7**	**+0.4**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**16 13 24.5**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=281,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**16 14 06.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=208,slow=12,SNR=5.4						
FINES				Sn	**Sn**	**16 16 04.7**	**-11**
	comp=Z,0.1nm,0.3s,baz=211,slow=21,SNR=3.3						
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn	**Pn**	**16 15 39.5**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=198,slow=12,SNR=7.5						

---

*ISCJB **04** 16:19:59.8±2.2, 38.16N±0.06×26.6E±0.1, h3km±20km, Error ellipse: s-maj=15.3km s-min=10.8km az=165.1*
*ATH **04** 16:20:00.4, 38.14N×2678E, h37km, MD3.0/3*
*CSEM **04** 16:20:00.8±0.2, 38.15N×2674E, h5km, MD2.6, Error ellipse: s-maj=5.8km s-min=3.1km az=127.0*
*ISK **04** 16:20:00.9, 3826N×2666E, h6km, MD2.6*
ISC 04 16:20:00.2±2.3**, 3821N**±007×**266E**±02**, h5km**±22km**, n6, σ0s21**/9**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.40**	**64**	i PG	**Pg**	**16 20 07.9**	**0.0**
BLCB				i SG	**Sg**	**16 20 12.9**	**-0.3**
SMG	**Samos**	**0.54**	**158**	ePB	**Pg**	**16 20 10.6**	**0.0**
SMG				eSB	**Sg**	**16 20 17.8**	**+0.2**
IZM	**Izmir**	**0.57**	**71**	PG	**Pg**	**16 20 11.0**	**-0.1**
IZM				SG	**Sg**	**16 20 18.6**	**+0.1**
PRK	**Paraskevi**	**1.06**	**347**	ePN	**Pn**	**16 20 22.1**	**+0.4**
AKS	**Akhisar**	**1.17**	**55**	ePN	**Pn**	**16 20 23.3**	**0.0**
APE	**Apeiranthos**	**1.41**	**217**	ePN	**Pn**	**16 20 26.2**	**-0.4**

---

*NAO **04** 16:23:29.3±2.4, 7799N×1234E, h12km±21km, ML2.5*
*NEIC **04** 16:23:32.0, 7802N×1258E, h21km, ML2.5(NAO), After BER.*
*BER **04** 16:23:32.1±2.6, 7803N×1263E, h10km, MD3.0, ML2.6, ML2.5(NAO)*
*ISCJB **04** 16:23:34.8±0.8, 7827N±006×137E±04, h10km, Error ellipse: s-maj=13.8km s-min=5.0km az=113.7*
*CSEM **04** 16:23:34.4±0.3, 78.19N×1307E, h10km, ML2.5, Error ellipse: s-maj=9.9km s-min=5.0km az=52.0*
ISC 04 16:23:35.6±1.3**, 7829N**±008×**136E**±05**, h19km**±9km**, n10, σ0s50**/16**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPB4	**Spitsbergen Ar**	**0.57**	**100**	ePg	**Pg**	**16 23 47.2**	**+0.1**
SPB4	**Spitsbergen Ar**	**0.57**	**100**	ePg	**Pg**	**16 23 47.2**	**+0.1**
SPA0	**Spitsbergen Ar**	**0.58**	**100**	Pg	**Pg**	**16 23 47.3**	**+0.2**
	baz=262,slow=12						
SPA0				Lg		16 23 56.3	
	baz=261,slow=28						
KBS	**Kingsbay**	**0.72**	**333**	Pg	**Pg**	**16 23 49.4**	**-0.4**
KBS				Lg		16 23 59.5	
KBS	**Kingsbay**	**0.72**	**333**	eP	**Pb**	**16 23 49.8**	**+0.3**
KBS				eS	**Sb**	**16 23 58.9**	**-0.1**
KBS				AML	AML	16 24 03.0	
	comp=Z,155nm,0.4s						
KBS	**Kingsbay**	**0.72**	**333**	eP	**Pb**	**16 23 49.9**	**+0.4**
KBS				eS	**Sb**	**16 23 59.1**	**+0.1**
KBS	**Kingsbay**	**0.72**	**333**	eP	**Pb**	**16 23 49.9**	**+0.4**
KBS				eS	**Sb**	**16 23 59.1**	**+0.1**
HSP	**Hornsund**	**1.36**	**161**	P	**Pn**	**16 23 58.6**	**-0.9**
HSP				S	**Sn**	**16 24 17.6**	**+0.6**
HOPEN	**Hopen**	**3.07**	**120**	eP	**Pn**	**16 24 23.7**	**+0.6**
HOPEN				eS	**Sn**	**16 24 58.7**	**-0.6**
HOPEN				AML	AML	16 25 00.1	
	comp=N,71nm,0.3s						
ARA0	**ARCESS Array S**	**9.37**	**154**	Pn	**Pn**	**16 25 39.5**	**-10**
ARA0				Sn	**Sn**	**16 27 21.4**	**-13**
	baz=353,slow=16						

WEL 04 16:34:42.8±0.4**, 3638S**×**17718E, h283km**±5km**, ML3.5**/7**, Error ellipse: s-maj=7.8km s-min=6.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.48**	**143**	PN	Pn	16 35 24.1	0.0
URZ	**Urewera**	**1.87**	**182**	PN	Pn	16 35 27.3	+0.3
URZ				eSN	S	16 36 01.4	-0.6
PUZ	**Puketiti**	**1.89**	**153**	PN	Pn	16 35 27.2	+0.1
PUZ				SN	S	16 36 00.9	-1.4
MWZ	**Matawai**	**1.97**	**172**	PN	Pn	16 35 28.3	+0.6
MWZ				SN	S	16 36 03.2	-0.2
KNZ	**Kokohu**	**2.66**	**172**	PN	Pn	16 35 34.3	+0.3
BKZ	**Black Stump Fm**	**2.83**	**191**	PN	Pn	16 35 35.5	-0.1
PXZ	**Pawanui**	**3.65**	**184**	PN	Pn	16 35 44.4	+0.2
MRZ	**Mangatainoka R**	**4.45**	**196**	PN	Pn	16 35 52.8	-0.4

---

*NEIC **04** 16:40:04.8±0.8, 28.19S×17751W, h10km, mb4.3/9, Error ellipse: s-maj=19.4km s-min=17.7km az=68.0*
*IDC **04** 16:40:09.5±2.5, 2863S×17740W, h52km±20km, mb3.7/5, mb1 3.9/5, mb1mx3.8/11, mbtmp3.9/5, MS3.6/2, Ms1 3.6/2, ms1mx2.8/30, Error ellipse: s-maj=36.2km s-min=27.8km az=159.0*
*ISCJB **04** 16:40:10.4±1.9, 287S±02×1775W±02, h73km±13km, mb4.1/11, Error ellipse: s-maj=35.9km s-min=25.9km az=1.7*
ISC 04 16:40:10.8±2.2**, 287S**±02×**1774W**±02**, h64km**±15km**, n27, σ0s55**/23**, mb4.2**/11**, 2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.71**	**222**	P	**Pn**	**16 40 24.8**	**-0.5**
	507nm,0.3s,baz=48,slow=4.7,SNR=18						
RAO				S	**Sn**	**16 40 36.3**	**+0.4**
	2µm,0.3s,baz=71,slow=23,SNR=30						
RAO	**Raoul Island**	**0.71**	**222**	ePn	**Pn**	**16 40 24.7**	**-0.6**
RAO				S	**Sn**	**16 40 36.3**	**+0.4**
URZ	**Urewera**	**10.56**	**204**	P	**Pn**	**16 42 32.4**	**-6.9**
	0.3nm,0.3s,baz=9.8,slow=18,SNR=3.7						
URZ				S	**Sn**	**16 44 30.2**	**-5.7**
	1.3nm,0.3s,baz=321,slow=24,SNR=8.5						
DZM	**Mont Dzumac**	**16.04**	**291**	LR	LR	16 48 32.7	
	comp=Z,141nm,20.4s,baz=180,slow=32						
CTA	**Charters Tower**	**34.10**	**276**	eP	**P**	**16 46 50.9**	**+1.6**
	3.2nm,0.6s,mb4.4						
CTAO	**Charters Tower**	**34.10**	**276**	P	**P**	**16 46 50.3**	**+1.0**
	2.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**35.41**	**255**	⇓iP	**P**	**16 47 01.5**	**+1.0**
	1.8nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**35.41**	**255**	P	**P**	**16 47 01.4**	**+0.9**
	2.9nm,0.8s,mb4.3,baz=112,slow=9.5,SNR=8.5						
STKA				LR	LR	16 59 49.3	
	comp=Z,128nm,18.9s,baz=24,slow=33						
AS31	**Alice Springs**	**43.76**	**265**	eP	**P**	**16 48 09.5**	**-0.4**
ASAR	**Alice Springs**	**43.77**	**265**	P	**P**	**16 48 09.8**	**-0.1**
	1.1nm,0.6s,mb3.8,baz=105,slow=8.8,SNR=47						
ASPA	**Alice Springs**	**43.77**	**265**	eP	**P**	**16 48 09.5**	**-0.5**
WB2	**Warramunga Arr**	**44.59**	**270**	⇓iP	**P**	**16 48 16.3**	**-0.3**
WRAB	**Tennant Creek**	**44.60**	**270**	eP	**P**	**16 48 16.4**	**-0.2**
	2.1nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**44.60**	**270**	P	**P**	**16 48 16.4**	**-0.3**
	2.7nm,0.8s,mb4.2,baz=106,slow=8.0,SNR=24						
KAKA	**Kakadu**	**49.20**	**278**	eP	**P**	**16 48 52.0**	**-0.5**
	2.2nm,0.5s,mb4.4						
SBA	**Scott Base**	**49.74**	**184**	eP	**P**	**16 49 02.0**	**+5.3**
	5.7nm,0.8s,mb4.7						
VNDA	**Vanda**	**49.81**	**186**	P	**P**	**16 48 57.2**	**0.0**
	0.4nm,0.5s,mb3.7,baz=24,slow=10.0,SNR=2.5						
VNDA	**Vanda**	**49.81**	**186**	P	**P**	**16 48 57.1**	**-0.1**
	0.7nm,0.7s,mb3.8						
FITZ	**Fitzroy Crossi**	**52.92**	**268**	eP	**P**	**16 49 20.5**	**+0.1**
	2.8nm,0.9s,mb4.2						
QSPA	**South Pole Qui**	**61.38**	**180**	eP	**P**	**16 50 26.7**	**+6.6**
	6.6nm,1.1s,mb4.7						
NVAR	**Mina Array Bea**	**86.64**	**42**	P	**P**	**16 52 47.7**	**+0.3**
	0.1nm,0.3s,mb3.5,baz=227,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**143.75**	**341**	PKhKP		16 59 33.9	
	1.8nm,0.9s,baz=31,slow=3.2,SNR=4.6						
FINES	**FINESS Array B**	**143.75**	**341**	PKP	PKPdf	16 59 33.9	-4.7
NOA	**NORSAR Array B**	**147.17**	**352**	PKPbc	PKPbc	16 59 45.5	-1.2
	0.9nm,0.7s,baz=320,slow=3.7,SNR=3.0						
NOA	**NORSAR Array B**	**147.17**	**352**	PKPbc	PKPbc	16 59 45.5	-1.2
AKASG	**Malin Array Be**	**150.27**	**325**	PKPbc	PKPbc	16 59 53.5	-1.1
	0.9nm,0.4s,baz=46,slow=2.9,SNR=10.0						
BRTR	**Keskin Array B**	**152.23**	**301**	PKPbc	PKPbc	16 59 58.9	-0.3
	1.0nm,0.6s,baz=133,slow=2.7,SNR=6.0						

---

*NEIC **04** 16:47:12.7, 3124S×7154W, h27km, ML2.9(GUC), After GUC.*
GUC 04 16:47:12.7±0.8**, 3124S**×**7154W, h27km**±5km**, MD3.8, ML2.9, 1C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.65**	**177**	⇑eP	Pb	16 47 24.6	-0.8
CHNG				i S	Sb	16 47 33.9	-0.1
TLL	**Tololo Astrono**	**1.24**	**31**	eP	Pn	16 47 34.5	+0.4
TLL				i S	Sn	16 47 51.6	+1.6
TLL				AML	AML	16 47 58.2	
	comp=N,408nm,0.6s						
TLL	**Tololo Astrono**	**1.24**	**31**	eP	Pn	16 47 34.5	+0.4
TLL				i S	Sn	16 47 51.6	+1.6
PACH	**Papudo**	**1.30**	**176**	eP	Pn	16 47 33.9	-1.1
PACH				i S	Sn	16 47 51.2	-0.3
JACH	**Jahuel**	**1.65**	**151**	eP	Pn	16 47 41.2	+1.4
ROCH	**El Roble**	**1.79**	**166**	⇓iP	Pn	16 47 42.4	+0.6
ROCH				i S	Sn	16 48 05.6	+2.1
PEL	**Peldehue**	**2.03**	**159**	eP	Pn	16 47 47.0	+1.9
PEL				i S	Sn	16 48 12.4	+2.8
PEL				AML	AML	16 48 16.9	
	comp=N,246nm,0.6s						
PEL	**Peldehue**	**2.03**	**159**	eP	Pn	16 47 47.0	+1.9
PEL				i S	Sn	16 48 12.4	+2.8
RCDM	**Rinconada Maip**	**2.33**	**165**	eP	Pn	16 47 49.7	+0.5
RCDM				i S	Sn	16 48 18.6	+1.7
RCDM				AML	AML	16 48 28.0	
	comp=E,88nm,0.2s						
RCDM	**Rinconada Maip**	**2.33**	**165**	eP	Pn	16 47 49.7	+0.5
RCDM				i S	Sn	16 48 18.6	+1.7
FCH	**Farellones**	**2.34**	**153**	eP	Pn	16 47 51.1	+1.8
FCH				i S	Sn	16 48 20.3	+3.2
FCH				AML	AML	16 48 31.5	
	comp=E,65nm,0.4s						

---

*IDC **04** 16:59:38.2±0.9, 5482N×11132E, h0km, mb3.7/8, mb1 3.8/10, mb1mx3.7/23, mbtmp3.7/10, ML3.6/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/37, Error ellipse: s-maj=22.9km s-min=20.8km az=110.0*
*BJI **04** 16:59:38.3, 5477N×11153E, h8km, mb4.3*
*ISCJB **04** 16:59:38.5±0.2, 5476N±002×11120E±003, h10km, mb3.7/12, MS3.5/3, Error ellipse: s-maj=3.3km s-min=2.0km az=86.4*
*NEIC **04** 16:59:39.8±0.4, 5485N×11131E, h10km, mb3.8/3, Error ellipse: s-maj=8.8km s-min=7.8km az=166.0*
NEIC Felt [III] at Ulyunkhan.
*MOS **04** 16:59:41.2±1.2, 5479N×111.12E, h23km, mb4.1/3, Error ellipse: s-maj=11.0km s-min=6.1km az=77.3*
MOS Felt (II-III) at Ulyunkhan.
*BYKL **04** 16:59:42.0±0.1, 5483N×111.15E, h20km±2km, FELT I=II-III MSK at Ulyunkhan*
ISC 04 16:59:40.4±0.2**, 5476N**±002×**11118E**±003**, h10km, n85, σ1s47**/152**, mb3.7**/12**, MS3.5**/3**, 6C-11D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.11**	**354**	⇓iPg	**Pg**	**16 59 45.1**	**+1.9**
YLYR				eSg	**Sg**	**16 59 47.3**	**+2.1**
YLYR	**Ulyunkhan**	**0.11**	**354**	ePG	**Pg**	**16 59 45.1**	**+1.9**
KMO	**Kumora**	**1.12**	**1**	⇑iPg	**Pg**	**17 00 01.0**	**-1.1**
KMO				Pmax		17 00 01.5	
	5µm,0.3s						
KMO				e		17 00 06.3	
KMO				eSg	**Sg**	**17 00 15.7**	**-1.0**
KMO				Smax		17 00 20.5	
	10µm,0.8s						
KMO	**Kumora**	**1.12**	**1**	ePG	**Pg**	**17 00 01.0**	**-1.1**
KMO				e		17 00 15.4	
KMO				pmax	pmax		
	comp=Z,5µm,0.4s						
KMO				smax			
	comp=N,10µm,0.7s						
SYVR	**Suvo**	**1.31**	**213**	⇓iPg	**Pg**	**17 00 06.2**	**+0.6**
	comp=N,128nm,1.0s						
SYVR				⇓iPg	**Pg**	**17 00 06.2**	**+0.6**
	comp=N,155nm,1.0s						
SYVR				⇑iPg	**Pg**	**17 00 06.2**	**+0.6**
	comp=N,203nm,1.0s						
SYVR				ePb	**Pb**	**17 00 07.5**	**+2.4**
SYVR				max		17 00 12.3	
	comp=N,381nm,0.5s						
SYVR				eSg	**Sg**	**17 00 25.3**	**+2.7**
SYVR				Smax		17 00 25.7	
	comp=N,4µm,0.7s						
SYVR	**Suvo**	**1.31**	**213**	ePN	**Pn**	**17 00 06.1**	**+1.3**
SYVR				e		17 00 25.3	
SYVR				pmax	pmax		
	comp=Z,389nm,0.5s						
SYVR				smax			
	comp=E,3µm,0.7s						
NIZ	**Nizh Angarsk**	**1.38**	**318**	⇑iPg	**Pn**	**17 00 05.7**	**-0.1**
NIZ				Pmax		17 00 06.0	
	comp=E,969nm,0.5s						
NIZ				eSg	**Sg**	**17 00 23.7**	**-1.2**
NIZ				eSb	**Sb**	**17 00 25.8**	**+1.8**
NIZ				max		17 00 26.1	
	comp=E,4µm,0.8s						
NIZ	**Nizh Angarsk**	**1.38**	**318**	ePN	**Pn**	**17 00 05.7**	**-0.1**
NIZ				e		17 00 23.7	
NIZ				pmax	pmax		
	comp=Z,959nm,0.5s						
NIZ				smax			
	comp=N,4µm,0.8s						
YOA	**Uoyan**	**1.41**	**12**	⇓iPg	**Pn**	**17 00 06.4**	**+0.3**
YOA				Pmax		17 00 06.6	
	comp=N,3µm,0.4s						
YOA				i Sg	**Sg**	**17 00 25.4**	**-0.3**
YOA				eSb	**Sb**	**17 00 28.0**	**+3.3**
YOA				max		17 00 29.0	
	comp=N,41µm,0.6s						
YOA	**Uoyan**	**1.41**	**12**	⇓iPN	**Pn**	**17 00 06.4**	**+0.3**
YOA				e		17 00 25.4	
YOA				pmax	pmax		
	comp=Z,3µm,0.4s						
YOA				smax			
	comp=N,590nm,0.6s						
UKT	**Uakit**	**1.58**	**62**	⇓iPg	**Pg**	**17 00 09.7**	**-1.1**
UKT				Pmax		17 00 10.7	
	comp=N,643nm,0.6s						
UKT				i Sg	**Sg**	**17 00 30.8**	**-0.5**
UKT				eSb	**Sb**	**17 00 32.1**	**+2.3**
UKT				max		17 00 32.8	
	comp=N,5µm,0.4s						
UKT	**Uakit**	**1.58**	**62**	ePN	**Pn**	**17 00 09.8**	**+1.3**
UKT				e		17 00 30.6	
UKT				pmax	pmax		
	comp=Z,692nm,0.2s						
UKT				smax			
	comp=N,5µm,0.4s						
SVKR	**Severomuysk**	**1.92**	**44**	⇓iPn	**Pn**	**17 00 14.9**	**+1.8**
SVKR				⇑iPg	**Pg**	**17 00 16.1**	**-1.1**
SVKR				Pmax		17 00 16.3	
	comp=N,2µm,0.4s						
SVKR				i Sg	**Sg**	**17 00 42.2**	**+0.2**
SVKR				Smax		17 00 43.5	
	comp=N,11µm,0.5s						
SVKR	**Severomuysk**	**1.92**	**44**	ePN	**Pn**	**17 00 16.0**	**+2.9**
SVKR				e		17 00 42.0	
SVKR				pmax	pmax		
	comp=Z,2µm,0.5s						
SVKR				smax			
	comp=N,1µm,0.6s						
MXMB	**Maximikha**	**2.08**	**225**	ePn	**Pn**	**17 00 17.0**	**+1.6**
MXMB				ePg	**Pg**	**17 00 19.7**	**-0.7**
MXMB				Pmax		17 00 32.1	
	comp=N,309nm,0.6s						
MXMB				eSn	**Sn**	**17 00 45.4**	**+4.0**
MXMB				eSg	**Sg**	**17 00 48.7**	**+1.4**
MXMB				Smax		17 00 59.2	
	comp=N,3µm,0.9s						
OGRR	**Ongureny**	**2.39**	**243**	⇓iPn	**Pn**	**17 00 21.2**	**+1.6**
OGRR				ePg	**Pg**	**17 00 24.8**	**-1.4**
OGRR				Pmax		17 00 32.3	
	comp=N,221nm,0.7s						
OGRR				eSn	**Sn**	**17 00 51.3**	**+2.4**
OGRR				eSg	**Sg**	**17 00 56.3**	**-0.9**
OGRR				Smax		17 01 11.5	
	comp=N,668nm,0.8s						
OGRR	**Ongureny**	**2.39**	**243**	ePN	**Pn**	**17 00 21.2**	**+1.6**
OGRR				e		17 00 24.7	
OGRR				e		17 00 56.3	
OGRR				pmax	pmax		
	comp=Z,221nm,0.8s						
OGRR				smax			
	comp=N,706nm,1.3s						
KELR	**Kotokel**	**2.73**	**224**	e	**Pn**	**17 00 15.5**	**-8.7**
KELR				ePn	**Pn**	**17 00 25.7**	**+1.5**
KELR				ePg	**Pg**	**17 00 31.0**	**-1.7**
KELR				Pmax		17 00 36.9	
	comp=N,183nm,0.2s						
KELR				eSn	**Sn**	**17 01 00.6**	**+3.4**
KELR				eSg	**Sg**	**17 01 09.1**	**+1.1**
KELR				Smax		17 01 17.7	
	comp=N,1µm,0.6s						
CIT	**Chita**	**3.09**	**152**	ePn	**Pn**	**17 00 30.8**	**+1.5**
CIT				e		17 00 36.9	
CIT				⇑iPg	**Pg**	**17 00 39.1**	**-0.6**
CIT				Pmax		17 00 39.5	
	comp=N,564nm,0.7s						
CIT				eSn	**Sn**	**17 01 10.8**	**+4.5**
CIT				eSg	**Sg**	**17 01 20.5**	**+0.7**
CIT				Smax		17 01 43.2	

comp=N,637nm,1.1s
CIT Chita 3.09 152 *e*PN **Pn** **17 00 30.7 +1.4**
CIT *e* 17 00 39.0
CIT *e* 17 01 18.1
CIT pmax pmax
comp=Z,556nm,0.5s
CIT smax
comp=E,983nm,1.1s
NLYR Nelyaty 3.09 54⇓*i*Pn **Pn** **17 00 30.1 +0.8**
NLYR *e*Pg **Pg** **17 00 38.9 -0.8**
NLYR *e*Sn **Sn** **17 01 05.4 -0.9**
NLYR *e*Sg **Sg** **17 01 16.2 -3.6**
TRTB Turuntaevo 3.31 221 *e*Pn **Pn** **17 00 34.0 +1.7**
TRTB *e*Pg **Pg** **17 00 41.8 -2.0**
TRTB *e* 17 00 49.6
TRTB max 17 00 53.9
comp=E,79nm,0.8s
TRTB *e*Sn **Sn** **17 01 11.5 -0.1**
TRTB *e*Sg **Sg** **17 01 25.4 -1.3**
TRTB Smax 17 01 31.9
comp=E,905nm,1.4s
BOD Bodaibo 3.44 26 *e*Pn **Pn** **17 00 35.0 +0.9**
BOD *e*Pg **Pg** **17 00 42.4 -4.0**
BOD *e* 17 00 47.4
BOD max 17 00 49.8
comp=E,138nm,0.4s
BOD *e*Sn **Sn** **17 01 14.5 -0.4**
BOD *e*Sg **Sg** **17 01 25.2 -5.8**
BOD Smax 17 01 30.8
comp=E,1µm,1.0s
BOD Bodaibo 3.44 26 *e*PN **Pn** **17 00 33.6 -0.5**
BOD *e* 17 00 40.8
TRG Tyrgan 3.50 237 *e*Pn **Pn** **17 00 36.6 +1.7**
TRG *e*Pg **Pg** **17 00 45.1 -2.4**
TRG *e* 17 00 51.3
TRG max 17 00 52.3
comp=E,65nm,0.6s
TRG *e*Sn **Sn** **17 01 16.0 -0.4**
TRG *e*Sg **Sg** **17 01 29.7 -3.2**
TRG Smax 17 01 46.4
comp=E,210nm,0.6s
TRG Tyrgan 3.50 237 *e*PN **Pn** **17 00 36.7 +1.8**
TRG *e* 17 00 44.8
TRG *e*S **Sn** **17 01 18.0 +1.6**
TRG *e* 17 01 29.7
TRG pmax pmax
comp=E,65nm,0.6s
TRG smax
comp=N,210nm,0.5s
KAB Kabansk 3.84 227 *e*PN **Pg** **17 00 52.1 -1.9**
KAB *e* 17 01 43.0
KAB pmax pmax
comp=Z,794nm,0.2s
KAB smax
comp=N,1µm,0.7s
CRS Chara 4.53 59⇓*i*Pn **Pn** **17 00 50.0 +0.9**
CRS *e*Pg **Pg** **17 01 03.1 -4.2**
CRS Pmax 17 01 14.3
comp=N,101nm,1.0s
CRS *e*Sn **Sn** **17 01 41.1 -0.7**
CRS *e*Sg **Sg** **17 02 01.7 -4.3**
CRS Smax 17 02 14.9
comp=N,704nm,1.3s
LSTR Listvyanka 4.79 235 *e*Pn **Pn** **17 00 53.7 +1.1**
LSTR *e*Pg **Pg** **17 01 08.5 -3.6**
LSTR *e* 17 01 16.5
LSTR max 17 01 19.6
comp=N,31nm,0.8s
LSTR *e*Sn **Sn** **17 01 57.8 +10**
LSTR *e*Sg **Sg** **17 02 11.1 -3.0**
LSTR Smax 17 02 21.5
comp=N,285nm,1.2s
IRK Irkutsk 4.84 241 *e*Pg **Pg** **17 01 11.0 -2.1**
IRK *e* 17 01 15.2
IRK max 17 01 20.2
comp=N,86nm,0.6s
IRK *e*Sg **Sg** **17 02 11.3 -4.5**
IRK Smax 17 02 25.5
comp=N,600nm,0.4s
IRK Irkutsk 4.84 241 *e*PN **Pg** **17 01 11.2 -1.9**
IRK *e* 17 02 13.2
IRK pmax pmax
comp=Z,33nm,0.2s
IRK smax
comp=N,589nm,0.5s
TUP Tupik 5.11 90⇓*i*Pn **Pn** **17 00 57.8 +0.7**
TUP Pg **Pg** **17 01 13.8 -4.6**
TUP Pmax 17 01 15.5
comp=N,46nm,0.7s
TUP *e*Sn **Sn** **17 01 53.4 -2.7**
TUP *e*Sg **Sg** **17 02 20.4 -4.2**
TUP Smax 17 02 28.8
comp=N,1µm,0.9s
TUP Tupik 5.11 90 *e*PN **Pb** **17 01 12.5 +2.5**
TUP *e* 17 02 20.5
TUP pmax pmax
comp=Z,46nm,0.7s
TUP smax
comp=N,913nm,0.8s
KPC Khapcheranga 5.12 171 *e*Pn **Pn** **17 00 57.9 +0.7**
KPC *e*Pg **Pg** **17 01 15.9 -2.6**
KPC Pmax 17 01 24.3
comp=N,37nm,0.5s
KPC *e*Sn **Sn** **17 01 54.9 -1.5**
KPC *e*Sg **Sg** **17 02 22.1 -2.8**
KPC Smax 17 02 32.7
comp=N,638nm,0.8s
KPC Khapcheranga 5.12 171 *e*PN **Pn** **17 00 58.0 +0.8**
KPC *e* 17 01 13.7
KHNR Khani 5.41 63 Smax 17 01 02.7
KHNR *e*Sg **Sg** **17 02 29.8 -4.2**
TLY Talaya 5.48 239 *e*Pn **Pn** **17 01 02.8 +0.7**
TLY *e*Pg **Pg** **17 01 21.9 -3.5**
TLY Pmax 17 01 32.1
comp=N,18nm,0.5s
TLY *e* 17 02 12.5
TLY *e*Sg **Sg** **17 02 32.5 -3.9**
TLY Smax 17 02 44.2
comp=N,97nm,0.7s
TLY Talaya 5.48 239 *e*PN **Pn** **17 01 02.3 +0.2**
TLY *e* 17 01 21.7
TLY *e* 17 02 32.2
TLY pmax pmax
comp=Z,22nm,0.6s
TLY Talaya 5.48 239 *e*Pn **Pn** **17 01 02.3 +0.2**
comp=Z,22nm,0.6s
TLY *e*Pg **Pg** **17 01 21.7 -3.8**
TLY *e*Sg **Sg** **17 02 32.2 -4.2**
ARS Arshan 5.97 245 *e*Pn **Pn** **17 01 11.9 +3.1**
ARS *e* 17 01 19.7
ARS *e* 17 01 35.4
ARS max 17 01 37.7
comp=Z,157nm,0.7s
ARS *e*Sg **Sg** **17 02 46.1 -6.0**
ARS Smax 17 03 02.2
comp=Z,707nm,0.8s
ZAK Zakamensk 6.51 231 *e*Pn **Pn** **17 01 18.6 +2.3**
ZAK *e*Pg **Pg** **17 01 40.6 -4.6**
ZAK Pmax 17 01 54.7
comp=Z,15nm,1.1s
ZAK *e*Sg **Sg** **17 03 04.9 -4.7**
ZAK Smax 17 03 33.6
comp=Z,169nm,1.6s
ZAK Zakamensk 6.51 231 *e*PN **Pn** **17 01 18.5 +2.2**
ZAK *e* 17 01 40.2
ZAK *e*S **Sg** **17 03 07.0 -2.5**
ZAK pmax pmax
comp=Z,10.0nm,0.6s
ZAK smax
comp=E,169nm,1.6s
MOY Mondy 6.86 247 *e*Pn **Pn** **17 01 23.1 +2.0**
MOY *e* 17 01 31.7
MOY *e* 17 01 55.2
MOY max 17 01 59.5
comp=E,38nm,0.8s
MOY *e*Sn **Sn** **17 02 37.1 -2.1**
MOY *e*Sg **Sg** **17 03 14.7 -5.9**
MOY Smax 17 03 36.4
comp=E,259nm,1.0s
MOY Mondy 6.86 247 *e*PN **Pn** **17 01 28.8 +7.7**
MOY *e*S **Sn** **17 02 38.3 -0.9**
MOY *e* 17 03 11.9
MOY pmax pmax
comp=Z,38nm,0.7s
MOY pmax pmax
comp=E,258nm,1.2s
ORL Orlik 7.12 256⇑*i*Pn **Pn** **17 01 26.3 +1.7**
ORL *e* 17 01 33.5
ORL max 17 01 42.8
comp=E,32nm,1.2s
ORL *e*Sn **Sn** **17 02 45.0 -0.5**
ORL *e* 17 02 55.8
ORL *e*Sg **Sg** **17 03 22.4 -6.5**
ORL Smax 17 03 33.4
comp=E,349nm,1.2s
ORL Orlik 7.12 256 *e*PN **Pn** **17 01 26.2 +1.6**
ORL *e* 17 01 51.4
ORL *e*S **Sn** **17 02 44.1 -1.4**
ORL *e* 17 03 22.5
ORL pmax pmax
comp=Z,33nm,0.9s
ORL smax
comp=N,379nm,1.2s
ULN Ulaanbaatar 7.38 202 *e*Pn **Pn** **17 01 30.6 +2.4**
ULN *e*Pg **Pg** **17 01 55.9 -5.8**
ULN *e* 17 03 10.7
ULN *e*Sg **Sg** **17 03 33.6 -3.6**
ULN Ulaanbaatar 7.38 202 *e*PN **Pn** **17 01 30.1 +1.9**
ULN *e* 17 01 55.1
ULN *e* 17 03 32.5
ULN pmax pmax
comp=Z,15nm,0.5s
ULN Ulaanbaatar 7.38 202 *e*Pn **Pn** **17 01 30.1 +1.9**
comp=Z,15nm,0.5s
ULN *e*Pg **Pg** **17 01 55.1 -6.6**
ULN *e*Sg **Sg** **17 03 32.5 -4.7**
SONM Songino Array 7.56 205 Pn **Pn** **17 01 32.7 +2.1**
comp=Z,1.4nm,0.3s,baz=21,slow=13,SNR=46
SONM Lg 17 03 39.5
comp=Z,3.8nm,0.3s,baz=16,slow=32,SNR=13
SONM LR LR 17 04 49.6
comp=Z,145nm,19.3s,baz=24,slow=41
SONM Songino Array 7.56 205 PN **Pn** **17 01 32.7 +2.0**
SONM 17 03 39.5
HIA Hailar 7.62 133 *e*PN **Pn** **17 01 33.9 +2.3**
HIA Hailar 7.62 133 Pn **Pn** **17 01 29.5 -2.0**
TNDR Tynda 7.81 82 *e*Pn **Pn** **17 01 34.9 +0.8**
TNDR *e*Sg Sn 17 03 42.6 +40
IENR Iengra 7.91 74 *e*Pn **Pn** **17 01 35.4 -0.1**
IENR *e*Sg Sn 17 03 46.9 +42
KRAR Krasnoyarsk 10.49 284 *e*P **Pn** **17 02 11.2 +0.3**
YAK Yakutsk 12.10 46 *e*P **Pn** **17 02 32.7 -0.1**
YAK Yakutsk 12.10 46 Pn **Pn** **17 02 31.4 -1.4**
ZAL Zalesovo 15.38 278 Pn **Pn** **17 03 17.4 -0.1**
comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=13
ZAL Lg 17 07 43.0
comp=Z,0.2nm,0.3s,baz=2.5,slow=18,SNR=5.1
ZAL Zalesovo 15.38 278 Pn **Pn** **17 03 17.4 -0.1**
ZAL Lg 17 07 43.0
MKAR Makanchi Array 19.82 258 P **Pn** **17 04 11.8 -0.9**
comp=Z,0.1nm,0.3s,baz=64,slow=12,SNR=3.6
MKAR Makanchi Array 19.82 258 *i* P **Pn** **17 04 18.0 +5.3**
NJ2 Nanjing 23.35 163 *e*P **P** **17 04 46.4 -2.6**
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb4.6
CHKZ Chkalovo 23.52 284 *e*P **P** **17 04 50.0 -0.8**
comp=Z,1.4nm,0.6s,mb3.6
BVAR Borovoye Array 23.87 283 P **P** **17 04 53.2 -0.8**
comp=Z,1.3nm,0.8s,mb3.4,baz=67,slow=7.7,SNR=8.7
BRVK Borovoye 23.91 283 *e*P **P** **17 04 53.3 -1.1**
comp=Z,2.0nm,0.8s,mb3.6
ZRNK Zerenda 24.68 283 *e*P **P** **17 05 00.9 -0.5**
ZRNK pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
ZRNK Zerenda 24.68 283 *e*P **P** **17 05 00.9 -0.5**
comp=Z,4.2nm,1.0s,mb3.9
AAK Ala-Archa 26.76 258 *e*P **P** **17 05 20.2 -0.1**
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.4
FINES FINESS Array B 42.40 315 P **P** **17 07 33.9 -1.1**
comp=Z,1.3nm,0.7s,mb3.7,baz=79,slow=9.9,SNR=5.5
FINES FINESS Array B 42.40 315 *i* P **P** **17 07 35.2 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 42.40 315 P **P** **17 07 33.9 -1.1**
BRTR Keskin Array B 52.04 287 P **P** **17 08 50.3 +0.1**
comp=Z,0.8nm,0.7s,mb3.7,baz=82,slow=6.5,SNR=5.4
BRTR Keskin Array B 52.04 287 *i* P **P** **17 08 50.9 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 55.81 308 LR LR 17 35 34.7
comp=Z,36nm,19.3s,MS3.5,baz=277,slow=39
PDAR Pinedale Array 76.82 30 P **P** **17 11 31.4 -1.1**
comp=Z,0.5nm,0.6s,mb3.6,baz=1.2,slow=4.5,SNR=6.1
WRA Warramunga Arr 77.00 158 P **P** **17 11 31.8 -1.6**
comp=Z,0.2nm,0.7s,mb3.2,baz=350,slow=6.5,SNR=4.7
WRA Warramunga Arr 77.00 158 *i* P **P** **17 11 33.9 +0.5**
NVAR Mina Array Bea 77.95 38 P **P** **17 11 38.2 -0.6**
comp=Z,0.5nm,0.8s,mb3.5,baz=258,slow=7.0,SNR=3.9
NVAR Mina Array Bea 77.95 38 P **P** **17 11 38.2 -0.6**
ASAR Alice Springs 80.51 159 P **P** **17 11 52.6 -0.1**
comp=Z,0.2nm,0.8s,mb3.1,baz=356,slow=4.9,SNR=5.5
TORD Torodi Ar. Bea 90.24 293 P **P** **17 12 39.5 -1.8**
comp=Z,0.6nm,0.6s,mb4.1,baz=23,slow=4.5,SNR=3.7
AFI Afiamalu 93.92 108 LR LR 17 55 22.3
comp=Z,20nm,18.1s,MS3.6,baz=257,slow=36
VNA1 Neumayer--Stat 149.69 215 *e*PKPdf PKPdf 17 19 29.3 +3.6
VNA1 *e* 17 19 32.4
VNA1 *e* 17 19 35.8
VNA1 *e* 17 19 36.9
VNA3 Neumayer Olymp 150.14 214 *e*PKPdf PKPdf 17 19 29.9 +3.5
VNA3 *e* 17 19 32.5
VNA3 *e* 17 19 35.0
VNA3 *e* 17 19 42.6
VNA3 *e* 17 19 43.9

*IGIL **04** 17:03:32.3, 3657N×962W, h0km, ML1.7*
*MDD **04** 17:03:33.2±2.2, 3652N×933W, h0km, mbLg2.3/6, Error ellipse: s-maj=20.3km s-min=13.8km az=96.0, PRXIMO*
INMG 04 17:03:34.1±0.8, 3663N×955W, h16km±3km, ML1.8, Error ellipse: s-maj=5.2km s-min=2.4km az=60.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**0.99**	**47**	*e*P	Pb	17 03 52.0	-0.8
MORF				*e*S	Sb	17 04 04.9	-0.7
MORF				*e*S	Sb	17 04 04.9	-0.7
MORF				AML	AML	17 04 07.9	
	comp=E,15nm,0.1s						
MORF	**Marmelete**	**0.99**	**47**	*e*P	Pb	17 03 52.0	-0.8
MORF				*e*S	Sb	17 04 04.9	-0.7
PTEO	**Sao Teotonio**	**1.13**	**36**	*e*P	Pb	17 03 53.8	-1.4
PTEO				*e*S	Sb	17 04 08.7	-0.9
PTEO							
	comp=E,6.6nm,0.1s						
EGRO	**El Granado**	**1.88**	**61**	P	Pn	17 04 04.4	-1.3
	comp=E,1.2nm,0.3s,SNR=5.6						
EGRO				S	Sn	17 04 26.5	-2.6
	comp=E,4.3nm,0.1s,SNR=5.9						
PBEJ	**Beja**	**1.93**	**44**	*e*Pn	Pn	17 04 05.1	-1.3
PBEJ				*e*Sn	Sn	17 04 28.1	-2.3
PLOU	**Loures**	**2.27**	**8**	*e*Sn	Sn	17 04 35.4	-3.2
PMAFR	**Mafra**	**2.33**	**5**	*e*Sn	Sn	17 04 36.8	-3.3
EMIN	**Mina Concepcio**	**2.56**	**63**	P	Pn	17 04 13.3	-1.7
	comp=E,0.8nm,0.3s,SNR=11						
EMIN				S	Sn	17 04 42.6	-3.3
	comp=E,1.3nm,0.1s						
PESTR	**Estremoz**	**2.72**	**34**	*e*Pn	Pn	17 04 15.1	-2.1
PESTR				*e*Sn	Sn	17 04 46.9	-2.8
EBAD	**Badajoz**	**2.92**	**43**	P	Pn	17 04 18.0	-1.9
	comp=E,3.0nm,1.0s,SNR=6.7						
EBAD				S	Sn	17 04 51.6	-3.2
	comp=E,4.2nm,0.2s						
ESPR	**Espera**	**2.98**	**84**	S	Sn	17 04 52.2	-3.9
	comp=E,18nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**3.11**	**16**	*e*Sn	Sn	17 04 55.8	-3.6
PCBR	**Castelo Branco**	**3.59**	**26**	*e*Sn	Sn	17 05 07.5	-3.8
EADA	**Adamuz**	**4.25**	**67**	P	Pn	17 04 35.9	-2.2
	comp=E,0.7nm,0.2s,SNR=7.9						
EADA				S	Sn	17 05 22.7	-4.8
	comp=E,1.7nm,0.1s,SNR=7.9						

*ISCJB **04** 17:12:48.9±2.1, 341S±008×1506E±0.1, h81km±19km, mb4.3/26, Error ellipse: s-maj=19.3km s-min=13.2km az=23.8*
*IDC **04** 17:12:50.8±4.9, 344S×1059E, h83km±43km, mb3.9/10, mb1 4.0/12, mb1mx4.0/17, mbtmp4.2/12, ML3.0/2, MS3.9/14, Ms1 3.9/14, ms1mx3.8/24, Error ellipse: s-maj=31.4km s-min=21.1km az=74.0*
*NEIC **04** 17:12:51.6±2.1, 341S×1055E, h92km±18km, mb4.5/11, Error ellipse: s-maj=15.1km s-min=11.7km az=91.0*
*BJI **04** 17:12:51.5, 340S×1050E, h92km, mB5.0, mb4.6*
ISC 04 17:12:51.8±2.0, 345S±008×1506E±01, h93km±18km, n42, σ0s88/41, mb4.3/26, 2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.84**	**210**	P	**Pn**	**17 14 29.2**	**-0.2**
	0.6nm,0.3s,baz=6.8,slow=3.5,SNR=4.8						
PMG				LR	LR	17 17 06.1	
	comp=Z,624nm,21.2s,baz=195,slow=37						
PMG	**Port Moresby**	**6.84**	**210**	*e*P	**Pn**	**17 14 29.6**	**+0.2**
	32nm,0.8s						
CTA	**Charters Tower**	**17.07**	**194**	*e*P	**Pn**	**17 16 45.6**	**+1.1**
	13nm,0.9s						
CTA				*e*S	**S**	**17 20 05.2**	**+7.3**
CTA	**Charters Tower**	**17.07**	**194**	P	**Pn**	**17 16 44.9**	**+0.4**
	0.1nm,0.3s,baz=22,slow=13,SNR=8.1						
CTA				LR	LR	17 22 54.1	
	comp=Z,325nm,18.0s,baz=16,slow=35						
CTAO	**Charters Tower**	**17.07**	**194**	*e*P	**Pn**	**17 16 45.4**	**+0.8**
	30nm,1.1s						
GUMO	**Guam**	**17.87**	**341**	LR	LR	17 22 54.8	
	comp=Z,163nm,18.5s,baz=135,slow=34						
KAKA	**Kakadu**	**20.20**	**242**	*e*P	**P**	**17 17 17.6**	**-1.4**
	46nm,0.9s						
WRAB	**Tennant Creek**	**22.81**	**223**	*e*P	**P**	**17 17 46.5**	**-0.3**
	36nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**22.82**	**223**	⇓*i*P	**P**	**17 17 45.8**	**-1.1**
WB2				*e*S	**S**	**17 22 04.7**	**+16**
WRA	**Warramunga Arr**	**22.82**	**223**	P	**P**	**17 17 46.3**	**-0.6**
	16nm,0.9s,mb4.4,baz=48,slow=9.7,SNR=80						
WRA				LR	LR	17 27 44.8	
	comp=Z,146nm,19.1s,baz=40,slow=39						
DZM	**Mont Dzumac**	**24.05**	**142**	P	**P**	**17 17 59.1**	**+0.9**
	7.8nm,0.9s,mb4.0,baz=323,slow=11,SNR=6.1						
DZM				LR	LR	17 24 43.5	
	comp=Z,320nm,19.7s,baz=80,slow=30						
AS31	**Alice Springs**	**25.78**	**217**	*e*P	**P**	**17 18 14.9**	**+1.0**
ASAR	**Alice Springs**	**25.78**	**217**	P	**P**	**17 18 14.9**	**+1.0**
	5.3nm,0.9s,mb4.0,baz=53,slow=8.2,SNR=34						
ASAR				LR	LR	17 29 46.0	
	comp=Z,230nm,18.2s,baz=214,slow=39						
ASPA	**Alice Springs**	**25.79**	**217**	*e*P	**P**	**17 18 14.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**28.47**	**237**	⇓*i*P	**P**	**17 18 37.5**	**-0.5**
	24nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**28.47**	**237**	P	**P**	**17 18 37.7**	**-0.2**
	7.9nm,0.8s,mb4.3,baz=74,slow=9.9,SNR=12						
FITZ				LR	LR	17 30 44.6	
	comp=Z,196nm,20.0s,baz=312,slow=38						
STKA	**Stephens Creek**	**29.52**	**196**	P	**P**	**17 18 47.1**	**-0.1**
	2.1nm,0.9s,mb3.8,baz=43,slow=6.9,SNR=3.0						
STKA				LR	LR	17 29 48.7	
	comp=Z,262nm,21.6s,baz=18,slow=34						
STKA	**Stephens Creek**	**29.52**	**196**	*e*P	**P**	**17 18 47.3**	**0.0**
MBWA	**Marble Bar**	**34.81**	**237**	*e*P	**P**	**17 19 33.3**	**-0.2**
	21nm,1.4s,mb4.8						
MJAR	**Matsushiro Arr**	**41.44**	**345**	P	**P**	**17 20 23.6**	**-5.5**
	1.2nm,0.7s,mb3.9,baz=161,slow=9.5,SNR=5.2						
MJAR				LR	LR	17 36 13.1	
	comp=Z,134nm,18.5s,baz=175,slow=34						
RPZ	**Rata Peaks**	**43.99**	**159**	LR	LR	17 36 05.7	
	comp=Z,356nm,21.0s,baz=323,slow=32						
NJ2	**Nanjing**	**46.44**	**322**	*e*P	**P**	**17 21 13.4**	**+4.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
MDJ	**Mudanjiang**	**51.42**	**341**	P	**P**	**17 21 47.9**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,92nm,6.1s						
MDJ				LR	LR		
	comp=N,95nm,30.4s						
MDJ				LR	LR		
	comp=E,53nm,32.0s						
MDJ				LR	LR		
	comp=Z,140nm,28.4s						
KMI	**Kunming**	**54.44**	**304**	P	**P**	**17 22 14.2**	**+4.8**
KMI				AP	pP	17 22 35.5	+3.4
KMI				XP	sP	17 22 45.4	+2.9
KMI				PP	PP	17 24 15.4	+3.1
KMI				S	**S**	**17 29 41.0**	**+0.2**
KMI				XS	sS	17 30 22.2	+2.4
KMI				SS	SS	17 33 23.4	-0.9
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
KMI				AMB	AMB		
	comp=Z,151nm,7.6s						
KMI				LR	LR		
	comp=N,138nm,18.3s						
KMI				LR	LR		
	comp=E,203nm,18.3s						
KMI				LR	LR		
	comp=Z,119nm,22.3s						
CD2	**Chengdu**	**56.22**	**311**	*e*P	**P**	**17 22 22.0**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
HHC	**Hu-ho-hao-te**	**56.70**	**325**	*e*P	**P**	**17 22 27.5**	**+1.9**
HHC				AP	pP	17 22 51.3	+2.8
HHC				XP	sP	17 23 02.6	+3.8
HHC				PCP	PcP	17 23 21.8	+1.2
HHC				PP	PP	17 24 36.4	+3.9
HHC				SCP	ScP	17 27 11.1	-0.5
HHC				PCS	PcS	17 27 21.4	-0.1
HHC				S	**S**	**17 30 11.3**	**+0.3**
HHC				XS	sS	17 30 52.7	+2.5
HHC				SCS	ScS	17 32 03.4	-2.5
HHC				SS	SS	17 34 02.1	+2.2
HHC				AMB	AMB		
	comp=Z,26nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,249nm,6.5s						
HHC				LR	LR		
	comp=N,214nm,8.0s						
HHC				LR	LR		
	comp=E,212nm,8.8s						
HHC				LR	LR		
	comp=Z,304nm,9.8s						
LZH	**Lanzhou**	**58.76**	**316**	*e*P	**P**	**17 22 45.5**	**+5.5**
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,77nm,4.0s						
GTA	**Gaotai**	**63.20**	**318**	*e*P	**P**	**17 23 11.0**	**+1.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
SONM	**Songino Array**	**64.04**	**328**	P	**P**	**17 23 15.2**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=136,slow=9.1,SNR=5.0						
SONM				LR	LR	17 53 27.7	
	comp=Z,114nm,18.4s,baz=134,slow=38						
YAK	**Yakutsk**	**67.25**	**349**	*e*P	**P**	**17 23 35.2**	**-0.9**
	comp=Z,6.8nm,0.8s,mb4.5						
WMQ	**Urumqi**	**73.29**	**318**	*e*P	**P**	**17 24 13.5**	**+0.5**
WMQ				PP	PP	17 27 00.0	+2.6
WMQ				*e*S	S	17 33 33.0	-1.1
WMQ				XS	sS	17 34 20.0	+5.0
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,109nm,5.4s						
WMQ				LR	LR		
	comp=N,115nm,18.3s						
WMQ				LR	LR		
	comp=E,129nm,20.5s						
WMQ				LR	LR		
	comp=Z,179nm,20.6s						
VNDA	**Vanda**	**74.25**	**177**	P	**P**	**17 24 17.4**	**-1.2**
	comp=Z,0.9nm,1.0s,mb3.5,baz=357,slow=1.6,SNR=3.6						
MKAR	**Makanchi Array**	**77.89**	**319**	P	**P**	**17 24 40.4**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.6,baz=89,slow=6.4,SNR=6.0						
ZAL	**Zalesovo**	**78.84**	**327**	P	**P**	**17 24 44.8**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=8.2,slow=22,SNR=3.0						
ZAL				LR	LR	17 57 29.3	
	comp=Z,72nm,21.8s,baz=204,slow=34						
MCK	**McKinley**	**80.47**	**23**	*e*P	**P**	**17 24 51.2**	**-2.1**
	comp=Z,4.9nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**86.85**	**324**	P	**P**	**17 25 25.3**	**-0.6**
	comp=Z,2.2nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**86.87**	**323**	P	**P**	**17 25 25.2**	**-0.8**
	comp=Z,2.9nm,0.7s,mb4.3,baz=104,slow=6.3,SNR=9.5						

BVAR				LR	LR	18 06 04.3	
	comp=Z,72nm,21.9s,baz=319,slow=37						
BRVK	**Borovoye**	**86.94**	**323**	*e*P	**P**	**17 25 26.3**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.0						
ZRNK	**Zerenda**	**87.68**	**323**	P	**P**	**17 25 29.6**	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.4						
YKA	**Yellowknife Ar**	**95.25**	**28**	LR	LR	18 09 33.9	
	comp=Z,52nm,19.5s,baz=90,slow=36						
TORD	**Torodi Ar. Bea**	**147.82**	**289**	PKPbc	PKPbc	17 32 28.4	+2.6
	comp=Z,0.9nm,0.9s,baz=59,slow=1.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**147.82**	**289**	PKPbc	PKPbc	17 32 28.4	+2.6

IDC 04 17:14:02.9±2.2**, 1715S×17580W, h0^{km}, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.9**/14**, mbtmp4.0**/5**, Error ellipse: s-maj=148.9km s-min=29.4km az=150.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.17**	**241**	P	P	17 21 50.3	+1.3
	1.6nm,0.5s,baz=83,slow=9.5,SNR=8.8						
WRA	**Warramunga Arr**	**47.22**	**258**	P	P	17 22 36.9	-0.6
	0.5nm,0.3s,baz=96,slow=8.3,SNR=35						
ASAR	**Alice Springs**	**47.39**	**253**	P	P	17 22 39.1	+0.3
	4.0nm,0.5s,baz=89,slow=8.6,SNR=115						
ASAR				PcP	PcP	17 24 08.9	-0.6
	0.2nm,0.4s,baz=102,slow=3.9,SNR=4.4						
FITZ	**Fitzroy Crossi**	**55.61**	**260**	P	P	17 23 41.5	+1.1
	1.7nm,1.1s,baz=98,slow=7.1,SNR=3.9						
NVAR	**Mina Array Bea**	**77.17**	**43**	P	P	17 25 59.2	+0.7
	0.4nm,0.8s,baz=260,slow=4.5,SNR=3.7						

*ATH **04** 17:15:33.3, 3942N×2198E, h10^{km}, MD2.6/3*
*ISCJB **04** 17:15:45.3±0.8, 3903N±004×2330E±005, h10^{km}, Error ellipse: s-maj=6.4km s-min=4.9km az=138.7*
*THE **04** 17:15:46.0, 3904N×2330E, h7^{km}, ML1.8*
ISC 04 17:15:45.7±0.8**, 3902N**±004×**2331E**±005**, h10^{km}, n8, σ0^{s}46**/13**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.29**	**347**	*e*PB	**Pg**	**17 15 51.7**	**+0.1**
XOR	**Xorichti**	**0.36**	**345**	*e*Pg	**Pg**	**17 15 52.7**	**-0.1**
XOR				*e*Sg	**Sg**	**17 15 57.1**	**-0.5**
LKR	**Lokris**	**0.44**	**213**	*e*PB	**Pg**	**17 15 54.2**	**-0.1**
AOS	**Alonnisos**	**0.47**	**71**	*e*Pg	**Pg**	**17 15 55.1**	**+0.2**
AOS				*e*Sg	**Sg**	**17 16 01.1**	**0.0**
AGG	**Agios Georgios**	**0.76**	**271**	*e*Pg	**Pg**	**17 16 00.4**	**0.0**
AGG				*e*Sg	**Sg**	**17 16 11.1**	**+0.7**
PAIG	**Paliouri**	**0.95**	**17**	*e*Pg	**Pg**	**17 16 04.0**	**-0.1**
PAIG				*e*Sg	**Sg**	**17 16 17.4**	**+0.9**
LIT	**Litokhoron**	**1.25**	**330**	*e*Pg	**Pg**	**17 16 08.8**	**-1.0**
LIT				*e*Sg	**Sg**	**17 16 26.3**	**+0.2**
HORT	**Hortiatis**	**1.58**	**354**	*e*Pg	**Pn**	**17 16 13.6**	**-0.3**

*IDC **04** 17:31:28.9±1.1, 2967N×10299E, h0^{km}, mb3.6/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=76.1km s-min=19.3km az=59.0*
*ISCJB **04** 17:31:30.0±0.8, 2976N±005×10301E±009, h10^{km}, mb3.7/4, Error ellipse: s-maj=11.4km s-min=7.1km az=175.2*
*BJI **04** 17:31:31.8, 2973N×103.16E, h15^{km}, ML3.5*
ISC 04 17:31:31.6±0.8**, 2979N**±005×**10301E**±010**, h10^{km}, n8, σ1^{s}24**/12**, mb3.7**/4**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.29**	**30**	P	**Pn**	**17 31 55.2**	**-0.5**
CD2				PG	**Pg**	**17 31 57.1**	**+0.6**
CD2				SG	**Sg**	**17 32 12.7**	**-0.6**
CD2				Smax			
	comp=N,930nm,0.5s						
CD2				Smax			
	comp=E,1μm,0.6s						
GYA	**Guiyang**	**4.63**	**135**	P	**Pn**	**17 32 42.5**	**+1.0**
GYA				S	**Sn**	**17 33 37.4**	**+2.1**
GYA				SG	**Sg**	**17 33 50.9**	**-9.3**
GYA				Smax			
	comp=N,140nm,0.8s						
GYA				Smax			
	comp=E,60nm,0.8s						
SONM	**Songino Array**	**18.21**	**7**	P	**Pn**	**17 35 45.1**	**+0.7**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=8.0						
WMQ	**Urumqi**	**18.57**	**323**	*e*P	**Pn**	**17 35 51.5**	**+2.6**
MKAR	**Makanchi Array**	**23.40**	**322**	P	**P**	**17 36 40.5**	**-0.2**
	comp=E,2.3nm,0.6s,mb3.8,baz=117,slow=11,SNR=16						
BVAR	**Borovoye Array**	**33.26**	**324**	P	**P**	**17 38 08.1**	**-0.9**
	comp=E,0.3nm,0.5s,mb3.5,baz=148,slow=8.4,SNR=3.6						
WRA	**Warramunga Arr**	**57.93**	**145**	P	**P**	**17 41 22.4**	**-1.5**
	comp=E,0.7nm,0.5s,mb4.0,baz=337,slow=7.8,SNR=34						
ASAR	**Alice Springs**	**60.88**	**147**	P	**P**	**17 41 42.9**	**-1.5**
	comp=E,0.2nm,0.6s,mb3.4,baz=331,slow=6.8,SNR=11						

*SZGRF **04** 17:41:11.8, 2300S×17900W, h33^{km}, South of Fiji Islands*
*ISCJB **04** 17:42:07.9±1.1, 21.11S±006×17867W±007, h480^{km}±14^{km}, mb4.4/26, Error ellipse: s-maj=11.9km s-min=8.4km az=72.0*
*NEIC **04** 17:42:14.8±1.7, 21.15S×17880W, h552^{km}±18^{km}, mb4.8/10, Error ellipse: s-maj=13.0km s-min=11.0km az=53.0*
*BJI **04** 17:42:14.7, 21.10S×17880W, h551^{km}, mB5.0, mb4.5*
*IDC **04** 17:42:16.2±1.8, 21.12S×17887W, h564^{km}±20^{km}, mb3.8/13, mb1 3.9/14, mb1mx3.8/18, mbtmp4.7/14, Error ellipse: s-maj=15.5km s-min=10.9km az=158.0*
ISC 04 17:42:14.8±1.6**, 2130S**±007×**17877W**±009**, h546**^{km}±18^{km}**, n128, σ0^{s}93**/51**, mb4.4**/26**, 3C-13D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.92**	**43**	P	**P**	**17 44 23.4**	**-8.4**
	7.5nm,0.3s,baz=14,slow=4.8,SNR=12						
AFI				S	**S**	**17 46 10.7**	**-14**
	6.6nm,0.3s,baz=230,slow=22,SNR=7.4						
AFI	**Afiamalu**	**9.92**	**43**	*e*P	**P**	**17 44 23.3**	**-8.5**
	166nm,0.9s						
DZM	**Mont Dzumac**	**13.77**	**264**	*e*P	**P**	**17 45 11.2**	**-0.3**
DZM	**Mont Dzumac**	**13.77**	**264**	P	**P**	**17 45 11.1**	**-0.4**
	0.9nm,0.3s,baz=73,slow=18,SNR=17						
URZ	**Urewera**	**17.27**	**191**	P	**P**	**17 45 44.4**	**-1.7**
	1.9nm,0.3s,baz=23,slow=5.3,SNR=12						
URZ				S	**S**	**17 48 37.9**	**-0.5**
	1.5nm,0.3s,baz=143,slow=23,SNR=6.4						
RPZ	**Rata Peaks**	**23.90**	**198**	P	**P**	**17 46 45.5**	**-0.5**
	13nm,0.8s,mb4.6,baz=321,slow=2.8,SNR=4.8						
CNB	**Canberra Magne**	**31.18**	**236**	*e*P	**P**	**17 47 50.4**	**+0.8**
	38nm,0.9s,mb4.9						
CTA	**Charters Tower**	**32.70**	**266**	⇓*i*P	**P**	**17 48 03.0**	**+0.5**
	18nm,0.6s,mb4.8						
CTA	**Charters Tower**	**32.70**	**266**	P	**P**	**17 48 02.7**	**+0.2**
	24nm,0.6s,mb4.9,baz=96,slow=11,SNR=71						
CTAO	**Charters Tower**	**32.70**	**266**	*e*P	**P**	**17 48 02.6**	**+0.1**
	10nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.83**	**285**	P	**P**	**17 48 20.0**	**-0.4**
	26nm,0.7s,mb4.9,baz=104,slow=8.3,SNR=12						
PMG	**Port Moresby**	**34.83**	**285**	*e*P	**P**	**17 48 20.2**	**-0.2**
TOO	**Toolangi**	**34.84**	**234**	⇓*i*P	**P**	**17 48 21.5**	**+1.0**
	20nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**36.79**	**245**	⇓*i*P	**P**	**17 48 37.3**	**+0.7**
	8.6nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**36.79**	**245**	P	**P**	**17 48 37.5**	**+0.9**
	9.3nm,0.8s,mb4.3,baz=96,slow=11,SNR=14						
AS31	**Alice Springs**	**43.64**	**258**	*e*P	**P**	**17 49 31.3**	**+0.1**
ASAR	**Alice Springs**	**43.64**	**258**	P	**P**	**17 49 31.4**	**+0.2**
	29nm,0.9s,mb4.8,baz=95,slow=7.9,SNR=329						
ASAR				S	**S**	**17 55 21.1**	**-0.2**
	1.1nm,0.8s,baz=96,slow=15,SNR=7.7						
ASPA	**Alice Springs**	**43.64**	**258**	*e*P	**P**	**17 49 31.3**	**+0.1**
WB2	**Warramunga Arr**	**43.77**	**263**	⇓*i*P	**P**	**17 49 31.6**	**-0.7**
WRAB	**Tennant Creek**	**43.77**	**263**	*e*P	**P**	**17 49 31.9**	**-0.4**
	48nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**43.78**	**263**	P	**P**	**17 49 32.0**	**-0.3**
	21nm,0.8s,mb4.7,baz=94,slow=5.4,SNR=288						
WRA				S	**S**	**17 55 21.8**	**-1.6**
	0.7nm,0.9s,baz=97,slow=14,SNR=3.8						
KAKA	**Kakadu**	**47.28**	**272**	*e*P	**P**	**17 49 58.6**	**-0.4**
	25nm,0.6s,mb4.9						
FORT	**Forrest**	**48.32**	**247**	⇓*i*P	**P**	**17 50 06.5**	**-0.3**
	36nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**52.21**	**263**	*e*P	**P**	**17 50 35.6**	**+0.4**
	16nm,1.2s,mb4.2						
SBA	**Scott Base**	**57.03**	**184**	*e*P	**P**	**17 51 10.8**	**+1.9**
VNDA	**Vanda**	**57.05**	**185**	P	**P**	**17 51 10.5**	**+1.4**
	1.9nm,0.7s,mb3.5,baz=357,slow=7.4,SNR=14						
VNDA	**Vanda**	**57.05**	**185**	*e*P	**P**	**17 51 10.8**	**+1.7**
	2.5nm,0.8s,mb3.5						
KLBR	**Kellerberrin**	**57.07**	**245**	*e*P	**P**	**17 51 09.2**	**0.0**
	28nm,0.8s,mb4.5						
MUN	**Mundaring**	**58.33**	**245**	*e*P	**P**	**17 51 14.1**	**-3.7**
BUKP	**Musuan**	**62.28**	**292**	*e*P	**P**	**17 51 44.1**	**+0.3**
QSPA	**South Pole Qui**	**68.77**	**180**	*e*P	**P**	**17 52 25.3**	**+0.9**
	16nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**70.43**	**324**	P	**P**	**17 52 32.9**	**-1.4**
	3.8nm,0.6s,mb4.1,baz=153,slow=5.7,SNR=18						
MAT	**Matsushiro**	**70.43**	**324**	P	**P**	**17 52 33.1**	**-1.2**
KSM	**Kuching**	**72.81**	**279**	*e*P	**P**	**17 52 49.0**	**+0.8**
NJ2	**Nanjing**	**79.84**	**310**	*e*P	**P**	**17 53 31.1**	**+4.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
MAW	**Mawson**	**80.57**	**200**	P	**P**	**17 53 30.8**	**+0.3**
	comp=Z,3.5nm,0.7s,mb3.9,baz=128,slow=4.8,SNR=6.3						
MDJ	**Mudanjiang**	**80.76**	**325**	P	**P**	**17 53 31.8**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,120nm,6.2s						
YBH	**Yreka Blue Hor**	**81.36**	**39**	P	**P**	**17 53 34.8**	**+0.1**
	comp=Z,2.4nm,0.7s,mb3.8,baz=188,slow=1.9,SNR=11						
NVAR	**Mina Array Bea**	**82.10**	**44**	P	**P**	**17 53 38.1**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.4,baz=216,slow=6.9,SNR=9.0						
NVAR				PKKPbc	PKKPbc	18 12 03.9	+1.4
	comp=Z,0.1nm,0.3s,baz=55,slow=5.8,SNR=3.6						
PSI	**Prapat**	**83.85**	**275**	P	**P**	**17 53 47.2**	**0.0**
	comp=Z,12nm,0.9s,mb4.5,baz=149,slow=1.8,SNR=12						
SYO	**Syowa Base**	**85.79**	**193**	⇑*e*P	**P**	**17 53 55.0**	**-1.6**
SYO	**Syowa Base**	**85.79**	**193**	⇓*e*PcP	PcP	17 53 56.8	-1.7
SNAA	**Sanae**	**87.23**	**179**	*e*	**P**	**17 54 02.5**	**-0.9**
SNAA				*e*		17 54 06.2	
MNTX	**Cornudas Mount**	**87.80**	**55**	*e*P	**P**	**17 54 06.1**	**0.0**
	comp=Z,0.9nm,0.9s,mb3.5						
VNA1	**Neumayer--Stat**	**88.06**	**177**	*e*	**P**	**17 54 06.8**	**-0.5**
VNA1				*e*		17 54 09.9	
KMI	**Kunming**	**89.07**	**297**	P	**P**	**17 54 14.2**	**+2.2**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.4						
HHC	**Hu-ho-hao-te**	**89.40**	**315**	*e*P	**P**	**17 54 16.0**	**+2.5**
HHC				AP	pP	17 56 18.1	+5.0
HHC				PP	PP	17 57 59.1	+4.7
HHC				SKS		18 03 54.2	
HHC				S	S	18 04 15.6	-2.0
HHC				XS	sS	18 07 52.0	+1.0
HHC				SS	SS	18 10 33.0	+3.9
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,179nm,8.7s						
PDAR	**Pinedale Array**	**90.04**	**44**	P	**P**	**17 54 15.8**	**-0.7**
	comp=Z,1.4nm,0.7s,mb3.9,baz=230,slow=2.3,SNR=15						
ZAL	**Zalesovo**	**110.67**	**321**	PKiKP	PKiKP	17 59 43.8	-1.8
	comp=Z,0.9nm,0.5s,baz=358,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**111.22**	**313**	PKiKP	PKiKP	17 59 45.0	-1.8
	comp=Z,0.3nm,0.3s,baz=48,slow=1.8,SNR=4.0						
CHKZ	**Chkalovo**	**119.05**	**320**	*e*PKPdf	PKPdf	17 59 59.7	-2.0
BVAR	**Borovoye Array**	**119.22**	**320**	PKP	PKPdf	18 00 00.4	-1.7
	comp=Z,1.9nm,0.3s,baz=103,slow=3.2,SNR=17						
BRVK	**Borovoye**	**119.29**	**320**	*e*PKPdf	PKPdf	18 00 00.2	-2.0
ARU	**Arti**	**125.44**	**325**	*e*PKPdf	PKPdf	18 00 12.8	-1.2
AKTK	**Aktyubinsk**	**127.18**	**318**	PKP	PKPdf	18 00 16.4	-0.9
AKTO	**Aktyubinsk**	**127.18**	**318**	PKP	PKPdf	18 00 16.4	-0.9
	comp=Z,2.2nm,0.6s,baz=118,slow=3.3,SNR=6.4						
KEV	**Kevo**	**129.11**	**349**	*e*pkp	PKPdf	18 00 11.1	-10
ARCES	**ARCESS Array B**	**129.57**	**349**	PKP	PKPdf	18 00 20.0	-1.9
	comp=Z,2.9nm,0.6s,baz=345,slow=0.9,SNR=20						
JOF	**Joensuu**	**133.66**	**342**	*e*pkp	PKPdf	18 00 26.9	-2.7
KAF	**Kangasniemi**	**135.72**	**343**	*e*pkp	PKPdf	18 00 30.8	-2.6
FINES	**FINESS Array B**	**136.33**	**343**	PKP	PKPdf	18 00 32.2	-2.3
	comp=Z,3.0nm,1.0s,baz=235,slow=6.7,SNR=3.6						
FINES				SKPbc	SKPbc	18 03 17.3	+1.6
	comp=Z,2.6nm,0.8s,baz=46,slow=8.2,SNR=5.6						
NB2	**NORSAR Subarra**	**139.68**	**353**	PKPd	PKPdf	18 00 41.1	+0.4
	comp=Z,1.5nm,0.8s,baz=14,slow=1.8						
NOA	**NORSAR Array B**	**139.68**	**353**	PKhKP		18 00 32.6	
	comp=Z,0.9nm,0.7s,baz=8.3,slow=2.3,SNR=4.9						
NOA				PKP	PKPdf	18 00 38.6	-2.1
	comp=Z,1.9nm,0.8s,baz=14,slow=4.2,SNR=4.5						
AKASG	**Malin Array Be**	**143.35**	**330**	PKhKP		18 00 43.7	
	comp=Z,4.5nm,0.5s,baz=42,slow=4.2,SNR=37						
AKASG				pPKP	pPKPdf	18 03 00.8	+5.8
	comp=Z,0.3nm,0.4s,baz=41,slow=4.0,SNR=2.2						
AKASG	**Malin Array Be**	**143.35**	**330**	PKP	PKPdf	18 00 43.7	-3.5
AKASG				pPKP	pPKPdf	18 03 00.8	+5.8
AKBB	**Malin Array Si**	**143.35**	**330**	*e*PKPpre		18 00 43.8	
MALT	**Malatya**	**143.83**	**306**	⇑*i*P	PKPdf	18 00 48.5	+0.5
MALT	**Malatya**	**143.83**	**306**	*e*PKP	PKPdf	18 00 47.9	-0.1
ASF	**Jabal al Asfar**	**146.50**	**296**	PKPbc	PKPbc	18 00 54.0	-1.1
	comp=Z,4.4nm,0.9s,baz=313,slow=1.9,SNR=6.0						
BSEG	**Bad Segeberg**	**146.69**	**350**	*e*PKPbc	PKPbc	18 00 54.7	-0.9
BR131	**Keskin Array S**	**146.83**	**311**	*e*PKPbc	PKPbc	18 00 55.5	-0.4
BRTR	**Keskin Array B**	**146.83**	**311**	PKPbc	PKPbc	18 00 53.6	-2.4
	comp=Z,3.0nm,0.6s,baz=132,slow=3.9,SNR=16						
BRTR				pPKPbc	pPKPbc	18 03 01.6	0.0
	comp=Z,1.1nm,0.9s,baz=111,slow=5.4,SNR=3.8						
BURAR	**Bucovina Array**	**147.39**	**329**	⇓*i*P	PKPbc	18 00 58.7	+1.3
KOLS	**Kolonicke sedl**	**147.72**	**334**	*e*PKP	PKPdf	18 00 54.2	-0.4
KOLS				*e*		18 01 00.1	
KOLS				*e*		18 01 06.1	
STHS	**Stebnicka Huta**	**147.75**	**335**	*e*PKP	PKPbc	18 00 58.2	-0.2
CRVS	**Cervenica-Dubn**	**148.07**	**334**	*e*PKP	PKPbc	18 00 59.0	-0.2
NRDL	**Niedersach Rie**	**148.12**	**350**	*e*PKPbc	PKPbc	18 00 58.7	-0.6
UPC	**Upice**	**148.61**	**342**	*e*PKPbc	PKPbc	18 01 00.5	0.0
DPC	**Dobruska-Polom**	**148.66**	**341**	*e*PKPbc	PKPbc	18 01 00.7	+0.1
CLL	**Collm**	**148.67**	**346**	*e*PKPbc	PKPbc	18 00 59.7	-1.0
CLL	**Collm**	**148.67**	**346**	⇓*i*PKPbc	PKPbc	18 00 59.9	-0.8
	comp=Z,19nm,1.0s						
CLL				*e*pPKPbc	pPKPbc	18 03 06.0	-1.0
CLL	**Collm**	**148.67**	**346**	⇓*e*P	PKPbc	18 01 00.0	-0.7
KECS	**Kecovo**	**148.80**	**335**	*e*PKP	PKPbc	18 01 00.5	-0.5
BRG	**Berggiesshubel**	**148.84**	**344**	*e*PKPbc	PKPbc	18 01 00.5	-0.6
BRG	**Berggiesshubel**	**148.84**	**344**	*e*P	PKPbc	18 01 00.7	-0.4
	comp=Z,5.6nm,0.4s						
FBE	**Freiberg**	**148.94**	**345**	*e*PKPbc	PKPbc	18 01 00.9	-0.4
PVCC	**Panska Ves**	**149.00**	**343**	*e*PKPbc	PKPbc	18 01 01.3	-0.2
PSZ	**Piszkesteto**	**149.49**	**335**	*e*PKPbc	PKPbc	18 01 02.3	-0.3
PRU	**Pruhonice**	**149.50**	**343**	*e*PKPbc	PKPbc	18 01 02.4	-0.3
MOX	**Moxa**	**149.60**	**347**	*e*PKPbc	PKPbc	18 01 02.0	-0.9
TANN	**Tannenbergstha**	**149.63**	**346**	*e*PKPbc	PKPbc	18 01 02.6	-0.4
WERD	**Werda**	**149.63**	**346**	*e*PKPbc	PKPbc	18 01 02.1	-0.9
GUNZ	**Gunzen**	**149.70**	**346**	*e*PKPbc	PKPbc	18 01 02.8	-0.3
UBBA	**Unterbreizbach**	**149.75**	**349**	*e*PKPbc	PKPbc	18 01 02.4	-0.8
WERN	**Wernitzgruen**	**149.76**	**346**	*e*PKPbc	PKPbc	18 01 02.9	-0.4
NKC	**Novy Kostel**	**149.80**	**346**	*e*PKPbc	PKPbc	18 01 03.1	-0.3
TREC	**Trest**	**149.85**	**341**	*e*PKPbc	PKPbc	18 01 03.2	-0.3
SMOL	**Smolenice**	**149.91**	**338**	*e*PKP	PKPbc	18 01 03.8	+0.2
MANZ	**Manzenberg**	**150.11**	**346**	*e*PKPbc	PKPbc	18 01 03.7	-0.4
ROTZ	**Rotzenmuhle**	**150.29**	**346**	*e*PKPbc	PKPbc	18 01 04.2	-0.3
KHC	**Kasperske Hory**	**150.54**	**343**	*e*PKPbc	PKPbc	18 01 04.9	-0.2
GRA1	**Grafenberg Arr**	**150.58**	**347**	*e*PKPbc	PKPbc	18 01 04.8	-0.4
GRF	**Grafenberg Arr**	**150.58**	**347**	*e*PKPbc	PKPbc	18 01 04.8	-0.4
WET	**Wettzell**	**150.71**	**344**	*e*PKPbc	PKPbc	18 01 04.6	-0.9
GEC2	**GERESS Array S**	**150.76**	**343**	*e*PKPbc	PKPbc	18 01 05.0	-0.6
GERES	**GERESS Array B**	**150.76**	**343**	PKP	PKPdf	18 00 59.2	-0.3
	comp=Z,5.0nm,0.8s,baz=64,slow=6.1,SNR=3.6						
GERES				PKPbc	PKPbc	18 01 05.1	-0.5
	comp=Z,5.0nm,0.8s,baz=48,slow=2.0,SNR=28						
GERES				pPKPbc	pPKPbc	18 03 11.4	-1.0
	comp=Z,0.8nm,0.8s,baz=318,slow=1.8,SNR=3.9						
CONA	**Conrad Observa**	**150.94**	**340**	⇓*i*PKiKP	PKiKP	18 01 05.5	-0.9
	comp=Z,6.9nm,0.7s						
GIVF	**Givet**	**151.12**	**355**	*e*PKP1	PKPbc	18 01 05.3	-1.1
	comp=Z,28nm,0.8s						
DOU	**Dourbes**	**151.14**	**356**	PKPbc	PKPbc	18 01 06.1	-0.4
BAIF	**Baives**	**151.21**	**356**	*e*PKP1	PKPbc	18 01 05.6	-1.0
	comp=Z,20nm,0.9s						
WLF	**Walferdange**	**151.43**	**353**	*e*PKPbc	PKPbc	18 01 07.0	-0.1
WLF	**Walferdange**	**151.43**	**353**	PKPbc	PKPbc	18 01 07.2	+0.1
MOA	**Molln**	**151.50**	**341**	⇓*i*P	PKPbc	18 01 06.4	-0.9
	comp=Z,3.7nm,0.7s						
VTS	**Vitosha**	**151.90**	**324**	⇓*i*P	PKPbc	18 01 08.3	+0.1
BFO	**Black Forest**	**152.44**	**350**	*e*PKPbc	PKPbc	18 01 08.6	-0.7
KBA	**Koelnbreinsper**	**152.47**	**342**	⇓*i*P	PKPdf	18 01 07.4	+5.4
	comp=Z,14nm,0.7s						
CDF	**Champ du Feu**	**152.52**	**351**	*e*PKP1	PKPbc	18 01 08.3	-1.2
	comp=Z,11nm,0.8s						
FLN	**La Foliniere**	**152.57**	**2**	*e*PKP1	PKPbc	18 01 08.1	-1.5
	comp=Z,9.6nm,0.7s						
LDF	**La Druitiere**	**152.75**	**2**	*e*PKP1	PKPbc	18 01 08.5	-1.5
WTTA	**Wattenberg**	**152.76**	**344**	⇑*i*P	PKPbc	18 01 09.2	-0.9
	comp=Z,11nm,1.1s						
ROSF	**Rostrenen**	**152.79**	**7**	*e*PKP1	PKPbc	18 01 08.3	-1.8
	comp=Z,21nm,1.1s						
GRR	**Gorron**	**152.92**	**3**	*e*PKP1	PKPbc	18 01 09.0	-1.4
	comp=Z,9.8nm,0.8s						
SGMF	**Saint Gilles**	**152.94**	**6**	*e*PKP1	PKPbc	18 01 08.6	-1.8
	comp=Z,11nm,0.7s						
HAU	**Haudompre**	**153.04**	**352**	*e*PKP1	PKPbc	18 01 09.3	-1.4
HINF	**Hinteralfeld**	**153.16**	**352**	*e*PKP1	PKPbc	18 01 09.3	-1.6
LOR	**Lormes**	**154.01**	**356**	*e*PKP1	PKPbc	18 01 11.4	-1.3
	comp=Z,5.5nm,0.7s						
TCF	**Toulx Ste Croi**	**155.06**	**358**	*e*PKP1	PKPdf	18 01 13.6	+8.0
	comp=Z,4.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**171.88**	**183**	PKP	PKPdf	18 01 20.2	-0.7
	comp=Z,3.0nm,0.9s,baz=18,slow=0.5,SNR=14						

MAN 04 17:58:11.8, 1742N×12024E, h9^{km}, mb2.3, ML3.9, MS3.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.51**	**63**	*e*P	Pg	17 58 22.9	+1.3
ABRA				*e*S	Sg	17 58 31.5	+3.3
BOLP	**Bolinao**	**1.08**	**197**	*e*P	Pg	17 58 32.1	-0.4
CVP	**Callao Caves**	**1.54**	**79**	⇓*e*P	Pn	17 58 37.5	-1.9
CAUP	**Cauayan**	**1.59**	**107**	*e*P	Pn	17 58 39.9	-0.2
SCZP	**Santa Cruz**	**1.67**	**191**	*e*P	Pn	17 58 40.2	-0.9
BALP	**Baler**	**2.10**	**142**	*e*P	Pn	17 58 47.8	+0.6
BUKP	**Musuan**	**10.59**	**153**	*e*P	Pn	18 00 44.7	+1.1

*ISCJB **04** 17:59:38.5±1.5, 4.4N±0.1×1278E±0.1, h100^{km}±21^{km}, mb4.3/8, Error ellipse: s-maj=25.8km s-min=14.9km az=132.6*
*NEIC **04** 17:59:40.4±0.7, 436N×12781E, h100^{km}, mb4.5/5, Error ellipse: s-maj=17.1km s-min=9.6km az=48.0*
*IDC **04** 17:59:48.0±10.0, 4.18N×12752E, h172^{km}±103^{km}, mb3.8/6, mb1 3.9/6, mb1mx3.5/19, mbtmp4.3/6, Error ellipse: s-maj=56.8km s-min=21.3km az=58.0*
ISC 04 17:59:39.7±1.4**, 44N**±01×**1278E**±01**, h90**^{km}±20^{km}**, n22, σ0^{s}54**/21**, mb4.3**/8**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.99**	**330**	*e*P	**Pn**	**18 00 23.5**	**-1.6**
BUTP	**Butuan**	**5.07**	**335**	*e*P	**Pn**	**18 00 53.9**	**+0.7**
SCPH	**Surigao**	**5.86**	**337**	*e*P	**Pn**	**18 01 04.0**	**+0.1**
SCPH	**Surigao**	**5.86**	**337**	*e*S	**Pn**	**18 01 05.5**	**+1.6**
KAKA	**Kakadu**	**17.57**	**165**	*e*P	**Pn**	**18 03 38.9**	**+0.2**
	4.5nm,0.6s						
KSM	**Kuching**	**17.69**	**261**	*e*P	**Pn**	**18 03 40.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.41**	**185**	*e*P	**P**	**18 04 30.6**	**-0.2**
	8.1nm,1.2s,mb3.9						
FITZ	**Fitzroy Crossi**	**22.41**	**185**	P	**P**	**18 04 30.2**	**-0.6**
	2.5nm,0.6s,mb3.7,baz=15,slow=8.6,SNR=17						
WRAB	**Tennant Creek**	**24.98**	**165**	*e*P	**P**	**18 04 54.7**	**-0.2**
	12nm,0.3s,mb4.8						
WRA	**Warramunga Arr**	**24.99**	**165**	P	**P**	**18 04 55.4**	**+0.5**
	5.0nm,0.3s,mb4.4,baz=340,slow=10,SNR=64						
WB2	**Warramunga Arr**	**24.99**	**165**	*e*P	**P**	**18 04 54.9**	**-0.1**
WB2	**Warramunga Arr**	**24.99**	**165**	*e*P	**P**	**18 04 54.7**	**-0.2**
MBWA	**Marble Bar**	**26.55**	**197**	*e*P	**P**	**18 05 08.9**	**-0.2**
AS31	**Alice Springs**	**28.48**	**168**	*e*P	**P**	**18 05 26.0**	**-0.2**
ASAR	**Alice Springs**	**28.48**	**168**	P	**P**	**18 05 26.3**	**0.0**
	2.1nm,0.5s,mb3.9,baz=352,slow=7.7,SNR=122						
ASAR				PcP	PcP	18 08 34.0	-2.1
	0.3nm,0.4s,baz=348,slow=2.3,SNR=4.7						
ASPA	**Alice Springs**	**28.48**	**168**	*e*P	**P**	**18 05 26.2**	**-0.1**
FORT	**Forrest**	**34.93**	**180**	*e*P	**P**	**18 06 23.1**	**+0.3**
	8.0nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**38.35**	**161**	*e*P	**P**	**18 06 51.9**	**0.0**
	5.1nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**38.35**	**161**	P	**P**	**18 06 52.0**	**+0.2**
	7.5nm,0.6s,mb4.7,baz=338,slow=8.3,SNR=35						
DZM	**Mont Dzumac**	**46.04**	**126**	P	**P**	**18 07 54.4**	**+0.1**
	9.8nm,1.2s,mb4.4,baz=284,slow=17,SNR=3.3						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**18 09 20.2**	**-0.3**
	0.4nm,0.3s,mb3.9,baz=107,slow=7.4,SNR=7.8						
MKAR				pP	pP	18 09 44.2	+1.3
	0.9nm,0.5s,baz=115,slow=8.1,SNR=4.4						
BVAR	**Borovoye Array**	**67.38**	**327**	pP	pP	18 10 44.7	-3.5
	0.3nm,0.4s,baz=110,slow=8.1,SNR=2.6						

*NEIC **04** 18:11:49.3, 1672N×9476W, h103^{km}, MD4.1(MEX), After MEX.*
MEX 04 18:11:49.4±1.2**, 1671N×9476W, h102**^{km}±10^{km}**, MD4.1, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**342**	*i* P	Pn	18 12 03.3	-1.3
CMIG				*i* S	Sn	18 12 14.4	-1.7
HUIG	**Huatulco**	**1.60**	**234**	*i* P	Pn	18 12 15.0	-2.0
HUIG				*i* S	Sn	18 12 37.2	-0.8
OXX	**Oaxaca**	**1.92**	**281**	*i* P	Pn	18 12 21.0	0.0
OXX				*i* S	Sn	18 12 45.0	-0.1
VHO	**Vista Hermosa**	**1.93**	**281**	*i* P	Pn	18 12 20.8	-0.3
VHO				*i* S	Sn	18 12 44.8	-0.4
SCX	**San Cristobal**	**2.03**	**89**	*i* P	Pn	18 12 22.5	+0.1
SCX				*i* S	Sn	18 12 46.0	-1.6
TPIG	**Tehuac#an**	**3.01**	**305**	*i* S	Sn	18 13 08.8	-1.8
UTMO	**Huajuapan**	**3.12**	**291**	*i* P	Pn	18 12 36.4	-0.3
UTMO				*i* S	Sn	18 13 11.5	-1.7
TEIG	**Tepich**	**7.07**	**59**	*i* P	Pn	18 13 26.0	-4.2
TEIG				*i* S	Sn	18 14 45.0	-4.0
TEIG	**Tepich**	**7.07**	**59**	*i* P	Pn	18 13 26.0	-4.2
TEIG				*i* S	Sn	18 14 42.2	-6.8

*ISCJB **04** 18:37:28.8±0.4, 1058N±003×6330W±003, h10^{km}, mb3.7/4, MS3.5/3, Error ellipse: s-maj=4.6km s-min=3.8km az=100.4*
*IDC **04** 18:37:28.8±1.9, 1056N×63.19W, h0^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, MS3.5/4, Ms1 3.5/4, ms1mx3.0/30, Error ellipse: s-maj=42.3km s-min=27.1km az=171.0*
*NEIC **04** 18:37:29.9, 1060N×6323W, h10^{km}, MD3.6(CAR), After CAR.*
*FUNV **04** 18:37:29.9, 1061N×6323W, h10^{km}, MW3.6*
ISC 04 18:37:29.9±0.4**, 1057N**±003×**6328W**±003**, h10^{km}, n29, σ1^{s}01**/31**, mb3.7**/4**, MS3.5**/3**, 1C-1D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.11**	**23**	*e*P	**Pg**	**18 37 31.5**	**-1.2**
CRUV				*e*S	**Sg**	**18 37 34.1**	**-0.5**
GUNV	**Guanoco**	**0.53**	**141**	*e*P	**Pg**	**18 37 38.9**	**-1.3**
GUNV				*e*S	**Sg**	**18 37 48.4**	**+1.3**
ITEV	**Isla Los Testi**	**0.79**	**11**	⇑*i*P	**Pg**	**18 37 43.7**	**-1.4**
ITEV				*e*S	**Sg**	**18 37 54.9**	**-0.5**
GUIV	**Guiria**	**1.04**	**86**	*e*P	**Pg**	**18 37 48.2**	**-1.7**
GUIV				*e*S	**Sg**	**18 38 02.0**	**-1.5**
PCRV	**Puerto La Cruz**	**1.39**	**254**	*e*P	**Pn**	**18 37 54.7**	**-0.7**
ORIV	**Oritupano**	**1.50**	**185**	*e*P	**Pn**	**18 37 57.5**	**+0.6**
IBAV	**Isla La Blanqu**	**1.78**	**314**	*e*P	**Pn**	**18 37 59.4**	**-1.3**
TPP	**Pointe-a-Pierr**	**1.82**	**98**	*e*P	**Pg**	**18 38 04.6**	**-0.2**
TRN	**Trinidad (W)**	**1.85**	**88**	*e*P	**Pn**	**18 38 03.1**	**+1.5**
TBH	**Brigand Hill**	**2.18**	**92**	*e*P	**Pg**	**18 38 11.4**	**-0.3**
GRW	**Mount Saint Ca**	**2.24**	**45**	*e*P	**Pn**	**18 38 08.5**	**+1.5**
PRGV	**PARIAGUAN**	**2.25**	**217**	*e*P	**Pn**	**18 38 07.5**	**+0.3**
CUPV	**Cœpira**	**2.52**	**258**	*e*P	**Pn**	**18 38 10.9**	**0.0**
TPR	**Prospect**	**2.53**	**76**	*e*P	**Pn**	**18 38 11.1**	**+0.1**
BIRV	**Birongo**	**2.94**	**268**	*e*P	**Pn**	**18 38 17.1**	**+0.4**
MERV	**Las Mercedes**	**3.25**	**246**	*e*P	**Pn**	**18 38 20.4**	**-0.5**
CAOV	**Caicara del Or**	**4.41**	**223**	*e*P	**Pn**	**18 38 36.3**	**-0.5**
MVM	**Montagne Vaucl**	**4.59**	**30**	*e*P	**Pn**	**18 38 40.0**	**+0.7**
MVM				*e*S	**Sn**	**18 39 33.8**	**+1.1**
FDF	**Fort de France**	**4.63**	**26**	⇓*e*P	**Pn**	**18 38 40.4**	**+0.5**
FDF				*e*S	**Sn**	**18 39 34.5**	**+0.9**
BAUV	**El Baul**	**4.96**	**251**	*e*P	**Pn**	**18 38 43.6**	**-0.8**
SDV	**Santo Domingo**	**7.44**	**258**	*e*P	**Pn**	**18 39 17.4**	**-1.1**
	9.2nm,0.5s						
ROSC	**El Rosal**	**12.33**	**243**	LR	LR	18 45 30.5	
	comp=Z,312nm,19.6s,baz=28,slow=39						
SADO	**Sadowa**	**36.71**	**341**	LR	LR	18 57 55.2	
	comp=Z,40nm,19.5s,MS3.2,baz=67,slow=33						
ANMO	**Albuquerque**	**46.14**	**309**	P	**P**	**18 45 56.6**	**+2.2**
	0.5nm,0.4s,mb3.8,baz=100,slow=4.4,SNR=3.2						
PDAR	**Pinedale Array**	**51.41**	**317**	P	**P**	**18 46 35.6**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.0nm,0.9s,mb3.8,baz=112,slow=9.8,SNR=7.5						
NVAR	**Mina Array Bea**	**56.25**	**309**	P	**P**	**18 47 11.9**	**+1.5**
	0.3nm,0.6s,mb3.5,baz=106,slow=6.7,SNR=4.0						
YBH	**Yreka Blue Hor**	**60.32**	**312**	LR	LR	19 16 17.0	
	comp=Z,37nm,18.0s,MS3.6,baz=151,slow=39						
TORD	**Torodi Ar. Bea**	**63.49**	**81**	P	**P**	**18 48 00.6**	**+0.5**
	0.6nm,0.8s,mb3.8,baz=282,slow=7.1,SNR=4.7						
SNAA	**Sanae**	**91.12**	**164**	LR	LR	19 26 00.1	
	comp=Z,22nm,21.6s,MS3.6,baz=38,slow=32						

IDC 04 19:14:08.1±1.1**,023S×12538E,h0^{km},mb3.5**/5**,mb1 3.6**/5**, mb1mx3.5**/17**,mbtmp3.5**/5**,MS3.1**/1**,Ms1 3.1**/1**, ms1mx2.8**/16**,Error ellipse: s-maj=134.4km s-min=20.0km az=66.0,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.76**	**179**	LR	LR	19 25 15.4	
	comp=Z,66nm,21.1s,baz=116,slow=38						
WRA	**Warramunga Arr**	**21.46**	**156**	P	P	19 18 57.9	-0.1
	0.8nm,0.7s,baz=335,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.72**	**161**	P	P	19 19 31.7	+0.7
	0.2nm,0.4s,baz=341,slow=9.5,SNR=9.3						
SONM	**Songino Array**	**50.65**	**344**	P	P	19 23 09.4	+0.4
	0.6nm,0.7s,baz=149,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**60.08**	**327**	P	P	19 24 17.4	+0.4
	1.0nm,0.6s,baz=123,slow=7.3,SNR=12						
BVAR	**Borovoye Array**	**69.92**	**328**	P	P	19 25 20.6	-0.5
	0.3nm,0.5s,baz=140,slow=9.1,SNR=4.1						

*ISCJB **04** 19:22:54.0±0.9, 1059N±003×6329W±007, h9^{km}, Error ellipse: s-maj=9.6km s-min=4.7km az=5.2*
*FUNV **04** 19:22:54.1, 1058N×6326W, h9^{km}, MW3.5*
ISC 04 19:22:54.2±0.9**,1058N**±003×**6328W**±006**,h9^{km},n10,** σ**1^{s}12**/15**,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.10**	**26**	*e*P	**Pg**	**19 22 56.4**	**-0.3**
CRUV				*e*S	**Sg**	**19 22 58.3**	**-0.1**
GUNV	**Guanoco**	**0.54**	**141**	*e*P	**Pg**	**19 23 03.7**	**-0.9**
GUNV				*e*S	**Sg**	**19 23 11.0**	**-0.7**
ITEV	**Isla Los Testi**	**0.78**	**11**	*e*P	**Pg**	**19 23 08.4**	**-0.9**
ITEV				*e*S	**Sg**	**19 23 18.8**	**-0.6**
GUIV	**Guiria**	**1.04**	**86**	*e*P	**Pg**	**19 23 12.8**	**-1.5**
GUIV				*e*S	**Sg**	**19 23 27.9**	**+0.1**
ORIV	**Oritupano**	**1.51**	**185**	*e*P	**Pn**	**19 23 21.9**	**+0.4**
ORIV				*e*S	**Sn**	**19 23 41.0**	**-0.2**
TPP	**Pointe-a-Pierr**	**1.82**	**98**	*e*P	**Pn**	**19 23 29.0**	**+3.2**
TRN	**Trinidad (W)**	**1.85**	**88**	*e*P	**Pn**	**19 23 29.7**	**+3.6**
TBH	**Brigand Hill**	**2.18**	**92**	*e*P	**Pn**	**19 23 34.6**	**+3.9**
GRW	**Mount Saint Ca**	**2.23**	**45**	*e*P	**Pn**	**19 23 32.6**	**+1.2**
TPR	**Prospect**	**2.53**	**76**	*e*P	**Pn**	**19 23 37.1**	**+1.6**

IDC 04 19:25:30.1±3.6**,2594N×9587E,h0^{km},mb3.5**/4**,mb1 3.7**/4**, mb1mx3.3**/22**,mbtmp3.5**/4**,Error ellipse: s-maj=411.0km s-min=22.4km az=59.0,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.61**	**265**	*e*PN	Pg	19 26 43.5	+4.1
SHL				*e*SN	Sg	19 27 28.5	+2.3
MKAR	**Makanchi Array**	**23.44**	**336**	P	P	19 30 42.1	+1.0
	0.6nm,0.4s,baz=142,slow=9.1,SNR=16						
WRA	**Warramunga Arr**	**58.96**	**137**	P	P	19 35 31.6	+0.3
	0.3nm,0.5s,baz=325,slow=7.7,SNR=7.2						
ARCES	**ARCESS Array B**	**59.09**	**337**	P	P	19 35 30.5	-1.6
	1.1nm,0.8s,baz=95,slow=10.0,SNR=3.8						
ASAR	**Alice Springs**	**61.54**	**140**	P	P	19 35 49.4	+0.5
	0.2nm,0.5s,baz=324,slow=6.7,SNR=7.4						

IDC 04 19:46:04.2±2.1**,190N×12642E,h0^{km},mb3.4**/3**,mb1 3.7**/3**, mb1mx3.4**/15**,mbtmp3.5**/3**,Error ellipse: s-maj=173.2km s-min=25.7km az=66.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.06**	**161**	P	P	19 51 10.9	-0.3
	0.7nm,0.3s,baz=339,slow=11,SNR=49						
ASAR	**Alice Springs**	**26.44**	**164**	P	P	19 51 43.6	+1.0
	0.3nm,0.4s,baz=342,slow=11,SNR=9.5						
MKAR	**Makanchi Array**	**58.88**	**326**	P	P	19 56 04.8	0.0
	0.3nm,0.4s,baz=129,slow=7.1,SNR=5.0						

IDC 04 19:59:26.1±5.8**,4494S×9660E,h0^{km},mb3.7**/5**,mb1 3.9**/5**, mb1mx3.7**/13**,mbtmp3.7**/5**,MS3.4**/1**,Ms1 3.4**/1**, ms1mx3.0**/19**,Error ellipse: s-maj=142.0km s-min=32.2km az=112.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**36.10**	**52**	P	P	20 06 30.3	+0.8
	0.8nm,0.8s,baz=192,slow=16,SNR=4.4						
ASAR	**Alice Springs**	**36.97**	**68**	P	P	20 06 36.2	-0.7
	0.6nm,0.8s,baz=224,slow=6.7,SNR=7.2						
STKA	**Stephens Creek**	**37.13**	**85**	P	P	20 06 39.0	+0.6
	2.4nm,1.1s,baz=252,slow=6.4,SNR=5.3						
WRA	**Warramunga Arr**	**39.91**	**64**	P	P	20 07 01.2	-0.5
	1.3nm,0.7s,baz=222,slow=8.4,SNR=28						
VNDA	**Vanda**	**41.26**	**163**	P	P	20 07 12.2	-0.7
	0.6nm,0.8s,baz=275,slow=9.9,SNR=4.5						
VNDA				LR	LR	20 22 13.7	
	comp=Z,51nm,20.9s,baz=61,slow=33						

*NEIC **04** 19:59:56.3, 3371S×7258W, h37^{km}, MD3.6(GUC), After GUC.*
GUC 04 19:59:56.3±0.5**,3371S×7258W,h37^{km}**±1^{km}**,MD3.6, ML3.3,6C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.87**	**75**	*i* P	Pn	20 00 12.2	+0.2
LCCH				*i* S	Sn	20 00 24.5	+0.9
LNV	**Longovilo**	**1.00**	**104**	*i* P	Pn	20 00 14.6	+0.8
LNV				*i* S	Sn	20 00 27.9	+1.3
TACH	**Talagante**	**1.37**	**88**	⇓*i*P	Pn	20 00 20.0	+1.1
TACH				*i* S	Sn	20 00 38.0	+2.3
RCDM	**Rinconada Maip**	**1.49**	**82**	*i* P	Pn	20 00 21.8	+1.1
RCDM				*i* S	Sn	20 00 41.0	+2.1
ROCH	**El Roble**	**1.50**	**61**	⇑*i*P	Pn	20 00 22.4	+1.7
ROCH				*i* S	Sn	20 00 42.4	+3.3
SFDO	**San Fernando**	**1.58**	**125**	⇑*i*P	Pn	20 00 23.0	+1.3
SFDO				*i* S	Sn	20 00 43.5	+2.5
CHCH	**Chadas Angostu**	**1.62**	**98**	*e*P	Pn	20 00 23.9	+1.6
CHCH				*i* S	Sn	20 00 44.5	+2.7
PEL	**Peldehue**	**1.68**	**71**	⇑*i*P	Pn	20 00 26.7	+3.5
PEL				*i* S	Sn	20 00 48.4	+4.9
PEL				AML	AML	20 00 55.8	
	comp=E,780nm,0.6s						
PEL	**Peldehue**	**1.68**	**71**	⇑*i*P	Pn	20 00 26.7	+3.5
PEL				*i* S	Sn	20 00 48.4	+4.9
CACH	**El Canelo**	**1.69**	**104**	*i* P	Pn	20 00 25.7	+2.4
CACH				*i* S	Sn	20 00 47.8	+4.1
PCH	**Pirque**	**1.72**	**88**	⇑*i*P	Pn	20 00 25.2	+1.5
PCH				*i* S	Sn	20 00 47.4	+2.9
CLCH	**Cerro Calan**	**1.73**	**80**	*i* P	Pn	20 00 25.3	+1.5
CLCH				*i* S	Sn	20 00 47.4	+2.7
CLCH				AML	AML	20 00 58.7	
	comp=E,380nm,0.6s						
CICH	**Cipreses**	**1.89**	**109**	*i* P	Pn	20 00 27.8	+1.7
CICH				*i* S	Sn	20 00 51.2	+2.5
FCH	**Farellones**	**1.95**	**79**	⇑*i*P	Pn	20 00 28.9	+2.0
FCH				*i* S	Sn	20 00 53.6	+3.5
FCH				AML	AML	20 01 03.0	
	comp=N,182nm,0.4s						
JACH	**Jahuel**	**1.95**	**59**	*i* P	Pn	20 00 28.4	+1.4
JACH				*i* S	Sn	20 00 53.2	+3.0
LMEL	**Las Melosas**	**1.98**	**95**	*e*P	Pn	20 00 29.1	+1.8
LMEL				*i* S	Sn	20 00 54.1	+3.2
LMEL				AML	AML	20 00 59.8	
	comp=N,346nm,0.9s						
LMEL	**Las Melosas**	**1.98**	**95**	*e*P	Pn	20 00 29.1	+1.8
LMEL				*i* S	Sn	20 00 54.1	+3.2
TLL	**Tololo Astrono**	**3.84**	**24**	AML	AML	20 02 17.0	
	comp=N,79nm,0.5s						

*ISCJB **04** 20:06:56.8±0.5, 4372N±004×10519W±006, h0^{km}, mb4.2/1, Error ellipse: s-maj=6.0km s-min=5.4km az=49.0*
*IDC **04** 20:06:57.9±2.0, 4382N×10559W, h0^{km}, mb4.0/1, mb1 4.0/3, mb1mx3.5/23, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=65.8km s-min=8.3km az=150.0*
*NEIC **04** 20:06:58.5±0.3, 4372N×10520W, h0^{km}, ML3.2, Error ellipse: s-maj=4.7km s-min=4.0km az=147.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 04 20:06:58.4±0.5**,4372N**±004×**10520W**±006**,h0^{km},n36,** σ**0^{s}78**/38**,mb4.2**/1**,Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**64**	*e*P	**Pg**	**20 07 17.2**	**+0.8**
PHWY	**Pilot Hill**	**2.42**	**185**	*e*Pn	**Pn**	**20 07 38.8**	**-0.4**
RWWY	**Rawlins**	**2.51**	**217**	*e*Pn	**Pn**	**20 07 40.7**	**+0.3**
RWWY				*e*Sn	**Sn**	**20 08 11.8**	**+0.2**
LAO	**LASA Array**	**3.06**	**347**	*e*Pn	**Pn**	**20 07 47.8**	**-0.2**
PDAR	**Pinedale Array**	**3.32**	**255**	Pn	**Pn**	**20 07 51.4**	**-0.2**
	2.8nm,0.3s,baz=78,slow=17,SNR=53						
PDAR				Pg	**Pg**	**20 07 56.6**	**-5.4**
	10nm,0.3s,baz=71,slow=20,SNR=88						
PDAR				Lg		20 08 34.5	
	5.2nm,0.3s,baz=82,slow=32,SNR=8.2						
GCMT	**Greycliff**	**3.80**	**305**	*e*P	**Pn**	**20 07 58.4**	**+0.3**
LOHW	**Long Hollow**	**3.92**	**270**	*e*P	**Pn**	**20 08 00.3**	**+0.5**
ISCO	**Idaho Springs**	**3.92**	**185**	*e*P	**Pn**	**20 08 00.3**	**+0.4**
FLWY	**Flagg Ranch**	**3.99**	**277**	*e*P	**Pn**	**20 08 01.3**	**+0.5**
SNOW	**Snow King Moun**	**4.04**	**268**	*e*P	**Pb**	**20 08 08.0**	**-2.5**
YNR	**Norris Junctio**	**4.06**	**286**	P	**Pb**	**20 08 10.6**	**-0.1**
REDW	**Red Top Meadow**	**4.12**	**267**	*e*P	**Pn**	**20 08 03.1**	**+0.5**
YFT	**Old Faithful**	**4.12**	**282**	Pn	**Pn**	**20 08 01.9**	**-0.7**
IMW	**Indian Meadow**	**4.16**	**274**	*e*P	**Pn**	**20 08 04.2**	**+1.1**
TPAW	**Teton Pass**	**4.18**	**269**	*e*Pn	**Pn**	**20 08 03.8**	**+0.3**
AHID	**Auburn Hatcher**	**4.41**	**260**	*e*P	**Pn**	**20 08 06.7**	**+0.1**
RRI2	**Red Ridge**	**4.46**	**267**	*e*P	**Pn**	**20 08 07.6**	**+0.3**
QLMT	**Earthquake Lak**	**4.61**	**286**	*e*P	**Pb**	**20 08 20.1**	**-0.1**
SMCO	**Snowmass**	**4.72**	**197**	*e*Pn	**Pb**	**20 08 20.8**	**-1.3**
BOZ	**Bozeman (W)**	**4.97**	**295**	*e*Pn	**Pn**	**20 08 13.4**	**-0.9**
HWUT	**Hardware Ranch**	**5.14**	**248**	*e*Pn	**Pn**	**20 08 16.1**	**-0.5**
	8.2nm,0.7s						
TCUT	**Toone Canyon**	**5.28**	**243**	*e*Pn	**Pn**	**20 08 18.9**	**+0.4**
EGMT	**Eagleton**	**5.35**	**325**	*e*Pn	**Pn**	**20 08 19.3**	**-0.2**
	6.9nm,0.4s						
DLMT	**Dillon**	**5.54**	**290**	*e*Pn	**Pn**	**20 08 23.1**	**+1.1**
	2.8nm,0.4s						
HRY	**Holter Researc**	**5.56**	**305**	*e*Pn	**Pn**	**20 08 22.6**	**+0.3**
MCMT	**McKenzie Canyo**	**5.60**	**284**	*e*Pn	**Pn**	**20 08 28.7**	**+5.7**
SRU	**San Rafael**	**6.09**	**223**	*e*Pn	**Pn**	**20 08 28.6**	**-1.1**
	10.0nm,0.6s						
PV01	**Paradox Valley**	**6.13**	**206**	*e*Pn	**Pn**	**20 08 31.1**	**+0.9**
ECSD	**EROS,Sioux Fal**	**6.22**	**87**	*e*Pn	**Pn**	**20 08 32.6**	**+1.1**
TMUT	**Trail Mountain**	**6.31**	**228**	*e*Pn	**Pn**	**20 08 32.9**	**+0.2**
CHMT	**Chamberlain Mo**	**6.51**	**302**	*e*Pn	**Pn**	**20 08 35.6**	**+0.1**
HLID	**Hailey**	**6.69**	**272**	*e*Pn	**Pn**	**20 08 38.9**	**+1.1**
	2.1nm,0.8s						
MSU	**Marysvale**	**7.40**	**228**	*e*Pn	**Pn**	**20 08 47.4**	**-0.2**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**20 09 10.2**	**-1.1**
	1.7nm,0.3s,baz=235,slow=12,SNR=17						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**20 17 14.6**	**-1.9**
	1.4nm,0.7s,mb4.2,baz=334,slow=8.0,SNR=5.1						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**20 17 14.6**	**-1.9**

WEL 04 21:17:43.2±0.1**,3839S×17767E,h33^{km},ML3.5**/4**,2C, Error ellipse: s-maj=2.2km s-min=1.4km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.12**	**298**	⇑P*	Pb	21 17 48.6	-0.5
MWZ				S*	Sb	21 17 53.2	+0.1
URZ	**Urewera**	**0.46**	**287**	⇑PN	Pn	21 17 52.9	-0.6
URZ				*e*SN	Sb	21 17 59.8	-0.2
PUZ	**Puketiti**	**0.56**	**56**	PN	Pn	21 17 54.2	-0.7
PUZ				*e*SN	Sn	21 18 02.9	-0.2
KNZ	**Kokohu**	**0.63**	**180**	PN	Pn	21 17 55.0	-0.8
KNZ				SN	Sn	21 18 05.1	+0.5
KNZ				SN	Sn	21 18 05.2	+0.5
MARZ	**Manawahe**	**0.88**	**297**	PN	Pn	21 17 59.5	+0.2
TAZ	**Tarawera**	**0.93**	**280**	PN	Pn	21 18 00.6	+0.7
WIZ	**White Island**	**0.94**	**336**	*e*PN	Pn	21 17 59.9	-0.2
MXZ	**Matakaoa Point**	**0.97**	**32**	PN	Pn	21 18 00.5	0.0
PATZ	**Paeroa**	**1.11**	**270**	*e*PN	Pn	21 18 02.4	0.0
BKZ	**Black Stump Fm**	**1.20**	**230**	PN	Pn	21 18 03.9	+0.3

IDC 04 21:56:06.7±2.0**,393N×12582E,h0^{km},mb3.6**/4**,mb1 3.7**/4**, mb1mx3.5**/17**,mbtmp3.6**/4**,Error ellipse: s-maj=185.2km s-min=25.3km az=64.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.16**	**161**	P	P	22 01 34.1	+0.5
	0.3nm,0.3s,baz=339,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**28.54**	**164**	P	P	22 02 05.2	+1.2
	0.4nm,0.6s,baz=355,slow=7.9,SNR=6.0						
STKA	**Stephens Creek**	**38.65**	**158**	P	P	22 03 30.7	-1.1
	1.1nm,0.8s,baz=0.0,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**56.87**	**326**	P	P	22 05 53.4	+0.2
	0.9nm,0.8s,baz=133,slow=8.4,SNR=5.5						

*IGIL **04** 22:01:34.9, 3696N×1425W, h0^{km}, ML2.6*
*CSEM **04** 22:01:37.4±0.4, 3679N×1397W, h10^{km}, ML3.6/7, Error ellipse: s-maj=17.7km s-min=5.5km az=137.0*
*NEIC **04** 22:01:38.7, 3734N×1390W, h0^{km}, MN2.9(MDD), After MDD.*
*INMG **04** 22:01:39.4±0.9, 3697N×1425W, h2^{km}±9^{km}, ML2.6, Error ellipse: s-maj=8.4km s-min=4.6km az=123.0*
MDD 04 22:01:37.7±2.3**,3723N×1397W,h0^{km},mb4.1**/5**,Error ellipse: s-maj=20.0km s-min=17.0km az=58.0,PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**4.08**	**64**	*e*Pn	Pn	22 02 41.0	-0.3
PMAFR				*e*Sn	Sn	22 03 27.0	-2.7
PLOU	**Loures**	**4.14**	**65**	*e*Pn	Pn	22 02 41.8	-0.4
PLOU				*e*Sn	Sn	22 03 28.5	-2.9
PLOU							
	11nm,0.2s						
PLOU	**Loures**	**4.14**	**65**	*e*Pn	Pn	22 02 41.8	-0.4
PLOU				*e*Sn	Sn	22 03 28.5	-2.9
	11nm,0.2s						
PTEO	**Sao Teotonio**	**4.19**	**84**	*e*Pn	Pn	22 02 41.5	-1.3
PTEO				*e*Sn	Sn	22 03 27.2	-5.2
PTEO							
	5.1nm,0.4s						
PTEO	**Sao Teotonio**	**4.19**	**84**	*e*Pn	Pn	22 02 41.5	-1.3
PTEO				*e*Sn	Sn	22 03 27.2	-5.2
	5.1nm,0.4s						
MORF	**Marmelete**	**4.24**	**87**	*e*P	Pn	22 02 42.0	-1.6
MORF				*e*S	Sn	22 03 31.4	-2.4
MORF				*e*S	Sn	22 03 31.5	-2.3
MORF				AML	AML	22 03 36.2	
	comp=N,11nm,0.2s						
MORF	**Marmelete**	**4.24**	**87**	*e*P	Pn	22 02 42.0	-1.6
MORF				*e*S	Sn	22 03 31.4	-2.4
PBEJ	**Beja**	**4.91**	**79**	*e*Pn	Pn	22 02 52.3	-0.4
PBEJ				*e*Sn	Sn	22 03 45.6	-4.6
PBEJ							
	comp=N,3.2nm,0.1s						
PBEJ	**Beja**	**4.91**	**79**	*e*Pn	Pn	22 02 52.3	-0.4
PBEJ				*e*Sn	Sn	22 03 45.6	-4.6
	comp=N,3.2nm,0.1s						
PTOM	**Tomar**	**4.97**	**60**	*e*Pn	Pn	22 02 52.8	-0.8
PTOM				*e*Sn	Sn	22 03 48.4	-3.4
PTOM							
	comp=N,9.2nm,0.2s						
PTOM	**Tomar**	**4.97**	**60**	*e*Pn	Pn	22 02 52.8	-0.8
PTOM				*e*Sn	Sn	22 03 48.4	-3.4
	comp=N,9.2nm,0.2s						
EGRO	**El Granado**	**5.17**	**85**	P	Pn	22 02 54.6	-1.7
	comp=N,1.1nm,0.3s,SNR=7.9						
EGRO				S	Sn	22 03 50.4	-6.4
	comp=N,2.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**5.17**	**85**	P	Pn	22 02 54.6	-1.8
	comp=N,1.1nm,0.3s,SNR=7.9						
EGRO				S	Sn	22 03 50.4	-6.3
	comp=N,2.1nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**5.29**	**70**	*e*Pn	Pn	22 02 57.4	-0.6
PESTR				*e*Sn	Sn	22 03 55.5	-4.2
PESTR							
	comp=N,4.6nm,0.5s						
PESTR	**Estremoz**	**5.29**	**70**	*e*Pn	Pn	22 02 57.4	-0.6
PESTR				*e*Sn	Sn	22 03 55.5	-4.2
	comp=N,4.6nm,0.5s						
EBAD	**Badajoz**	**5.70**	**72**	P	Pn	22 03 02.5	-1.1
	comp=N,1.8nm,0.1s,SNR=9.3						
EBAD				S	Sn	22 04 03.7	-6.0
	comp=N,4.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.70**	**72**	P	Pn	22 03 02.5	-1.1
	comp=N,1.8nm,0.1s,SNR=9.3						
EBAD				S	Sn	22 04 03.7	-6.0
	comp=N,4.6nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**5.72**	**61**	*e*Pn	Pn	22 03 03.0	-0.8
PCBR				*e*Sn	Sn	22 04 06.2	-3.9
PCBR							
	comp=N,1.8nm,0.1s						
PCBR	**Castelo Branco**	**5.72**	**61**	*e*Pn	Pn	22 03 03.0	-0.8
PCBR				*e*Sn	Sn	22 04 06.2	-3.9
	comp=N,1.8nm,0.1s						
EMIN	**Mina Concepcio**	**5.83**	**83**	P	Pn	22 03 03.8	-1.5
	comp=N,0.5nm,0.1s,SNR=7.0						
EMIN				S	Sn	22 04 06.7	-6.2
	comp=N,1.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.83**	**83**	P	Pn	22 03 03.8	-1.5
	comp=N,0.5nm,0.1s,SNR=7.0						
EMIN				S	Sn	22 04 06.7	-6.1
	comp=N,1.1nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.87**	**52**	*e*Sn	Sn	22 04 09.9	-4.1
PVIS							
	comp=N,5.7nm,0.1s						
PVIS	**Viseu**	**5.87**	**52**	S	Sn	22 04 09.9	-4.1
	comp=N,2.8nm,0.1s						
PVRL	**Vila Real**	**6.31**	**48**	*e*Sn	Sn	22 04 19.1	-5.7
PVRL							
	comp=N,4.7nm,0.1s						
PVRL	**Vila Real**	**6.31**	**48**	S	Sn	22 04 19.1	-5.7
	comp=N,2.3nm,0.1s						
EZAM	**Zamans**	**6.38**	**38**	S	Sn	22 04 19.7	-6.7
	comp=N,9.7nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**6.38**	**38**	S	Sn	22 04 18.3	-8.1
	comp=N,9.7nm,0.4s,SNR=7.9						
PCAB	**Cabril**	**6.41**	**44**	*e*Pn	Pn	22 03 12.7	-0.7
PCAB				*e*Sn	Sn	22 04 22.6	-4.7
PCAB							
	comp=N,4.5nm,0.1s						
ESPR	**Espera**	**6.50**	**91**	S	Sn	22 04 24.3	-5.1
	comp=N,5.4nm,0.3s,SNR=7.9						
ESPR	**Espera**	**6.50**	**91**	S	Sn	22 04 24.3	-5.1
	comp=N,5.4nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**6.88**	**32**	P	Pn	22 03 18.0	-1.8
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ				S	Sn	22 04 30.0	-8.7
	comp=N,3.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.88**	**32**	P	Pn	22 03 18.0	-1.7
	comp=N,1.5nm,0.2s,SNR=7.9						
EMAZ				S	Sn	22 04 30.0	-8.7
	comp=N,3.2nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**7.22**	**48**	*e*Pn	Pn	22 03 23.7	-0.7
PBRG				*e*Sn	Sn	22 04 41.3	-5.8
PBRG							
	comp=N,1.7nm,0.2s						
ECAL	**Calabor**	**7.30**	**48**	P	Pn	22 03 24.6	-1.0
	comp=N,2.7nm,0.5s,SNR=7.9						
ECAL				S	Sn	22 04 41.5	-7.7
	comp=N,6.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.30**	**48**	P	Pn	22 03 24.6	-1.0
	comp=N,2.7nm,0.5s,SNR=7.9						
ECAL				S	Sn	22 04 41.5	-7.6
	comp=N,6.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**7.50**	**80**	P	Pn	22 03 27.2	-1.2
	comp=N,0.8nm,0.2s,SNR=7.9						
EADA				S	Sn	22 04 47.5	-6.7
	comp=N,1.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.50**	**80**	P	Pn	22 03 27.2	-1.2
	comp=N,0.8nm,0.2s,SNR=7.9						
EADA				S	Sn	22 04 47.5	-6.7
	comp=N,1.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**8.01**	**38**	P	Pn	22 03 32.9	-2.5
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				S	Sn	22 04 58.3	-8.4
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**8.01**	**38**	P	Pn	22 03 32.9	-2.5
	comp=N,0.5nm,0.2s,SNR=7.9						
EPON				S	Sn	22 04 57.1	-10
	comp=N,0.6nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**8.22**	**70**	P	Pn	22 03 36.9	-1.3
	comp=N,2.8nm,0.2s,baz=257,slow=13,SNR=14						
ESDC	**Sonseca Array**	**8.22**	**70**	P	Pn	22 03 36.9	-1.3
	comp=N,2.8nm,0.2s,SNR=14						
EQES	**Quesada**	**8.68**	**83**	P	Pn	22 03 43.7	-0.8
	comp=N,0.3nm,0.2s,SNR=4.0						
EQES				S	Sn	22 05 15.6	-7.5
	comp=N,0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.68**	**83**	P	Pn	22 03 43.7	-0.8
	comp=N,0.3nm,0.2s,SNR=4.0						
EQES				S	Sn	22 05 15.6	-7.4
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.03**	**45**	P	Pn	22 03 47.8	-1.5
	comp=N,0.3nm,0.3s,SNR=7.9						
EARI				S	Sn	22 05 22.6	-9.1
	comp=N,0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.03**	**45**	P	Pn	22 03 47.8	-1.5
	comp=N,0.3nm,0.3s,SNR=7.9						
EARI				S	Sn	22 05 22.5	-9.2
	comp=N,0.3nm,0.2s,SNR=7.9						

MAN 04 22:02:19.8,956N×12547E,h4^{km},mb2.5,ML4.0, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.22**	**4**	*e*P	Pg	22 02 24.6	+0.6
SCPH				*e*S	Sg	22 02 35.7	+8.8
BUTP	**Butuan**	**0.61**	**166**	*e*P	Sg	22 02 48.7	+9.3
MSLP	**Maasin**	**0.83**	**313**	*e*P	Pg	22 02 35.5	-0.1
BUKP	**Musuan**	**1.72**	**194**	*e*P	Pn	22 02 50.3	-0.2

*ISCJB **04** 22:06:59.8±0.7, 2429N±002×10289E±008, h10^{km}, Error ellipse: s-maj=10.8km s-min=3.5km az=175.0*
*PLV **04** 22:07:04.2±1.5, 2421N×10288E, h0^{km}±12^{km}, MD3.2, ML3.3*
*BJI **04** 22:07:04.3, 2446N×103.18E, h26^{km}, ML3.1*
ISC 04 22:07:02.2±0.6**,2433N**±002×**10294E**±006**,h10^{km},n7,** σ**1^{s}48**/17**,Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**0.81**	**347**	PG	**Pg**	**22 07 16.0**	**-1.7**
KMI				SG	**Sg**	**22 07 26.5**	**-1.8**
KMI				Smax			
	comp=N,579nm,0.7s						
KMI				Smax			
	comp=E,1μm,0.7s						
LCVN	**Lai Chau**	**2.29**	**175**	*e*PN	**Pn**	**22 07 41.4**	**+1.4**
LCVN				*e*PG	**Pg**	**22 07 46.6**	**+0.5**
LCVN				*e*SG	**Sg**	**22 08 13.8**	**-2.1**
DBV	**Dienbien**	**2.93**	**178**	*e*PN	**Pn**	**22 07 50.1**	**+1.3**
DBV				*e*PG	**Pg**	**22 07 57.5**	**-0.8**
DBV				*e*SG	**Sg**	**22 08 35.6**	**-0.7**
DBV				*e*		22 08 43.9	
	comp=N,111nm,0.5s						
TTVN	**Tram Tau**	**3.13**	**155**	*e*PN	**Pn**	**22 07 54.2**	**+2.6**
TTVN				*e*PG	**Pg**	**22 08 02.2**	**0.0**
TTVN				*e*SG	**Sg**	**22 08 42.5**	**-0.3**
GYA	**Guiyang**	**3.98**	**57**	P	**Pn**	**22 08 03.0**	**-0.2**
GYA				S	**Sn**	**22 08 51.6**	**+1.7**
GYA				SG	**Sg**	**22 09 08.0**	**-1.9**
GYA				Smax			
	comp=N,30nm,0.9s						
GYA				Smax			
	comp=E,20nm,0.8s						
CD2	**Chengdu**	**6.59**	**6**	*e*P	**Pn**	**22 08 41.3**	**+2.2**
CD2				S	**Sn**	**22 09 57.1**	**+2.8**
CD2				Smax			
	comp=N,10.0nm,1.4s						
CD2				Smax			
	comp=E,10.0nm,1.6s						
NJ2	**Nanjing**	**15.99**	**58**	*e*P	**Pn**	**22 10 46.1**	**-1.0**

LDG 04 22:08:20.5±0.5, 4279N×149W, h2km, Md2.0/3, Ml2.1/2, Error ellipse: s-maj=8.7km s-min=5.0km az=60.0
NEIC 04 22:08:20.5, 4279N×149W, h2km, ML2.1(LDG), MN1.7(MDD), After LDG.
NEIC Felt [II] at Aoiz, Spain.
MDD 04 22:08:21.8±0.1, 4281N×138W, h0km, mbLg1.6/11, 2C, Error ellipse: s-maj=1.8km s-min=1.0km az=22.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRE	Itoiz	0.02	108	⇑Pg	Pg	22 08 22.1	-0.1
	28nm,0.0s,SNR=18						
IPRE				Lg		22 08 22.5	
	273nm,0.1s,SNR=7.9						
EARA	Aranguren	0.15	255	Pg	Pg	22 08 24.7	-0.1
	34nm,0.1s,SNR=64						
EARA				Lg		22 08 27.5	
	122nm,0.2s,SNR=7.9						
IUSE	Utxeti	0.18	318	⇑Pg	Pg	22 08 25.1	-0.2
	5.7nm,0.1s,SNR=18						
IUSE				Lg		22 08 27.5	
	28nm,0.2s,SNR=14						
SJPF	Ste Jean	0.32	21	ePg	Pg	22 08 28.0	0.0
SJPF				eSg	Sg	22 08 32.9	+0.7
	43nm,0.5s						
SJPF	Ste Jean	0.32	21	Pg	Pg	22 08 28.0	0.0
SJPF				Lg		22 08 32.9	
	21nm,0.5s						
LARF	Larrau	0.37	52	Pg	Pg	22 08 29.1	+0.2
LARF				Lg		22 08 34.7	
ELIZ	Elizondo	0.37	343	Pg	Pg	22 08 28.7	-0.2
	2.9nm,0.2s,SNR=19						
ELIZ				Lg		22 08 33.0	
	6.2nm,0.2s,SNR=18						
EALK	Alkurruntz	0.42	347	Pg	Pg	22 08 29.5	-0.4
	1.3nm,0.1s,SNR=10.0						
EALK				Lg		22 08 35.3	
	8.3nm,0.1s,SNR=5.0						
ETSF	Etsaut	0.61	82	ePg	Pg	22 08 33.5	0.0
ETSF				eSg	Sg	22 08 42.9	+1.4
	4.7nm,0.2s						
ETSF	Etsaut	0.61	82	Pg	Pg	22 08 33.5	0.0
ETSF				Lg		22 08 42.9	
	2.3nm,0.2s						
EBIE	Bielsa	1.13	96	Pg	Pg	22 08 43.6	+0.1
	0.1nm,0.1s,SNR=19						
EBIE				Lg		22 09 00.0	
	2.3nm,0.2s,SNR=5.0						
EBIE	Bielsa	1.13	96	Pn	Pn	22 08 43.6	-1.3
EBIE				Pg	Pg	22 08 45.1	+1.6
EBIE				Lg		22 09 02.9	
ESAC	San Caprasio	1.28	148	Pg	Pg	22 08 46.9	+0.5
	7.1nm,0.2s,SNR=8.8						
ESAC				Lg		22 09 04.1	
	23nm,0.3s,SNR=5.0						
ESAC	San Caprasio	1.28	148	Pg	Pg	22 08 47.3	+0.9
ESAC				Lg		22 09 04.1	
EPF	Esparros	1.28	80	ePg	Pg	22 08 45.9	-0.5
EPF				eSg	Sg	22 09 04.2	+1.1
	7.2nm,0.3s						
EPF	Esparros	1.28	80	Pg	Pg	22 08 45.9	-0.5
EPF				Lg		22 09 04.2	
	3.6nm,0.3s						
ELAN	Lanestosa	1.56	286	Pg	Pg	22 08 51.2	-0.6
	0.5nm,0.2s,SNR=5.6						
ELAN				Lg		22 09 12.8	
	2.2nm,0.3s,SNR=7.9						
ERTA	Horta de San J	2.25	145	Pn	Pn	22 08 59.1	-1.3
	0.4nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	22 09 26.5	-2.3
	0.4nm,0.2s,SNR=7.9						
ERTA				Lg		22 09 33.6	
	1.2nm,0.2s,SNR=7.9						
EPOB	Poblet	2.34	128	Pn	Pn	22 08 60.0	-1.6
	0.3nm,0.2s,SNR=7.9						
EPOB				Pg	Pg	22 09 04.3	-2.4
	0.2nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	22 09 28.1	-2.9
	0.3nm,0.2s,SNR=7.9						
EPOB				Lg		22 09 35.5	
	0.7nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.54	164	Pn	Pn	22 09 02.8	-1.5
	0.1nm,0.1s,SNR=4.0						
EMOS				Lg		22 09 42.4	
	0.2nm,0.1s,SNR=7.9						
LFF	La Frestale	2.62	35	eSg	Sg	22 09 44.1	-2.0
	1.7nm,0.3s						
LFF	La Frestale	2.62	35	Lg		22 09 44.1	
	0.9nm,0.3s						

IDC 04 22:09:27.5±1.3, 39.11N×142.32E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, ML3.6/1, Error ellipse: s-maj=46.4km s-min=19.0km az=81.0
MOS 04 22:09:30.2±1.0, 39.10N×142.39E, h33km, mb4.2/7, Error ellipse: s-maj=16.4km s-min=11.4km az=105.3
NEIC 04 22:09:33.2±2.0, 39.08N×142.32E, h41km±16km, mb4.2/8, Error ellipse: s-maj=19.2km s-min=9.0km az=75.0
NEIC Recorded [2 JMA] in Iwate and Miyagi Prefectures.
ISCJB 04 22:09:37.0±0.6, 38.90N±0.04×141.7E±0.1, h81km±3km, mb4.0/20, Error ellipse: s-maj=14.3km s-min=6.1km az=33.2
JMA 04 22:09:38.8, 38.91N×141.64E, h72km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs224.00000°, δ21.00000°, λ-57.00000°. NP2:φs10.00000°, δ72.00000°, λ-102.00000°. Principal axes: T Plg26.0000°, Azm109.0000°; N Plg11.0000°, Azm13.0000°; P Plg61.0000°, Azm262.0000°;
JMA Felt II J1.
ISC 04 22:09:38.2±0.6, 3892N±004×1417E±01, h75km±3km, n49, σ0s75/56, mb4.0/20, 9C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.17	350	⇓P	Pn	22 09 49.5	+0.3
OFUJ				S	Sn	22 09 57.3	0.0
JMK	Ichinoseki	0.38	276	⇑P	Pn	22 09 50.3	-0.1
JMK				S	Sn	22 09 58.8	-0.6
JIO	Ouri	0.54	211	⇓P	Pn	22 09 51.8	0.0
JIO				S	Sn	22 10 01.0	-0.8
JOM	Ohasama	0.64	330	⇑P	Pn	22 09 53.1	+0.3
JOM				S	Sn	22 10 03.5	-0.1
JOU	Okura	0.98	236	⇑P	Pn	22 09 56.7	0.0
JOU				S	Sn	22 10 10.3	-0.2
JYK	Kaneyama	1.05	271	⇑P	Pn	22 09 57.5	0.0
JMM	Marumori	1.27	215	⇑P	Pn	22 09 59.9	-0.4
JMM				S	Sn	22 10 15.5	-1.4
JYS	Shirataka	1.46	242	⇑P	Pn	22 10 03.1	+0.3
JANG	Nango	1.46	354	⇑P	Pn	22 10 03.0	+0.2
JAH	Hinai	1.52	327	⇑P	Pn	22 10 04.3	+0.8
JYA	Atsumi	1.59	259	⇑P	Pn	22 10 04.6	+0.1
MJAR	Matsushiro Arr	3.65	231	Pn	Pn	22 10 34.0	+1.8
	3.6nm,0.3s,baz=38,slow=13,SNR=33						
MAJO	Matsushiro	3.65	231	eP	Pn	22 10 33.9	+1.7
MAT	Matsushiro	3.65	231	P	Pn	22 10 33.9	+1.7
MAT				eS	Sn	22 11 13.1	-0.9
ULN	Ulaanbaatar	26.54	301	eP	P	22 15 09.6	+0.8
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ULN	Ulaanbaatar	26.54	301	eP	P	22 15 09.6	+0.9
	comp=Z,1.3nm,0.5s,mb3.7						
ZAK	Zakamensk	29.32	306	eP	P	22 15 40.4	+6.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.5						
ZAL	Zalesovo	40.85	311	P	P	22 17 13.1	+0.5
	comp=Z,1.5nm,0.5s,mb4.1,baz=32,slow=7.4,SNR=5.9						
MKAR	Makanchi Array	43.34	300	P	P	22 17 33.0	+0.2
	comp=Z,3.4nm,0.7s,mb4.2,baz=75,slow=11,SNR=22						
MCK	McKinley	46.95	35	P	P	22 17 55.5	-5.9
CHKZ	Chkalovo	49.21	312	eP	P	22 18 18.1	-0.7
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	Chkalovo	49.21	312	eP	P	22 18 18.1	-0.7
	comp=Z,1.6nm,0.5s,mb4.2						
BRVK	Borovoye	49.55	311	eP	P	22 18 21.3	-0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
BRVK	Borovoye	49.55	311	eP	P	22 18 21.3	0.0
	comp=Z,0.6nm,0.4s,mb3.9						
ZRNK	Zerenda	50.32	311	eP	P	22 18 27.0	-0.2
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	50.32	311	eP	P	22 18 27.0	-0.2
	comp=Z,1.4nm,0.6s,mb4.1						
ARU	Arti	55.12	318	eP	P	22 19 02.3	-0.3
ARU				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARU	Arti	55.12	318	eP	P	22 19 02.3	-0.3
	comp=Z,3.1nm,0.4s,mb4.7						
AKTK	Aktyubinsk	57.60	311	P	P	22 19 19.7	-0.6
AKTO	Aktyubinsk	57.60	311	P	P	22 19 19.7	-0.6
	comp=Z,1.2nm,0.6s,mb4.1,baz=72,slow=12,SNR=7.1						
WRAB	Tennant Creek	58.94	188	eP	P	22 19 29.2	-0.4
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
WRAB	Tennant Creek	58.94	188	eP	P	22 19 29.2	-0.4
	comp=Z,0.9nm,0.5s,mb4.1						
WB2	Warramunga Arr	58.95	188	eP	P	22 19 29.5	-0.1
WRA	Warramunga Arr	58.95	188	P	P	22 19 29.6	-0.1
	comp=Z,0.8nm,0.6s,mb4.0,baz=5.7,slow=6.9,SNR=24						
ARCES	ARCESS Array B	62.32	339	P	P	22 19 52.3	-0.3
	comp=Z,1.0nm,0.8s,mb3.9,baz=44,slow=7.2,SNR=5.8						
ASAR	Alice Springs	62.68	188	P	P	22 19 56.7	+1.7
	comp=Z,0.2nm,0.3s,mb3.6,baz=17,slow=5.8,SNR=4.9						
JOF	Joensuu	64.42	332	ep	P	22 20 05.3	-1.1
	comp=Z,1.4nm,0.4s,mb4.1						
OBN	Obninsk	66.73	323	P	P	22 20 21.6	+0.3
KAF	Kangasniemi	66.75	332	ep	P	22 20 20.2	-1.2
	comp=Z,0.7nm,0.4s,mb3.8,baz=48,slow=6.0						
KAF	Kangasniemi	66.75	332	eP	P	22 20 20.2	-1.2
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	FINESS Array B	67.26	332	P	P	22 20 24.3	-0.4
	comp=Z,1.7nm,0.7s,mb4.0,baz=74,slow=2.8,SNR=7.4						
KIV	Kislovodsk	69.86	311	eP	P	22 20 42.3	+1.5
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
KIV	Kislovodsk	69.86	311	eP	P	22 20 42.3	+1.4
	comp=Z,3.9nm,0.7s,mb4.3						
NOA	NORSAR Array B	72.54	337	P	P	22 20 56.0	-1.1
	comp=Z,1.1nm,0.8s,mb3.7,baz=38,slow=6.1,SNR=3.3						
NOA	NORSAR Array B	72.54	337	P	P	22 20 56.0	-1.1
AKASG	Malin Array Be	72.95	322	P	P	22 20 59.2	-0.3
	comp=Z,1.2nm,0.5s,mb4.0,baz=43,slow=6.2,SNR=7.0						
AKASG	Malin Array Be	72.95	322	P	P	22 20 59.2	-0.3
PSZ	Piszkesteto	79.26	324	P	P	22 21 35.8	+0.5
GERES	GERESS Array B	81.24	328	P	P	22 21 45.5	-0.4
	comp=Z,0.3nm,0.5s,mb3.4,baz=19,slow=8.5,SNR=4.1						

IDC 04 22:14:52.9±49.0, 7.12S×157.50E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/13, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/23, Error ellipse: s-maj=819.1km s-min=105.8km az=44.0
ISCJB 04 22:14:56.0±2.8, 72S±03×1576E±05, h33km, mb3.6/4, Error ellipse: s-maj=76.8km s-min=31.8km az=45.6
NEIC 04 22:14:58.0±2.2, 7.13S×157.51E, h35km, mb4.0/1, Error ellipse: s-maj=63.1km s-min=25.1km az=111.0
ISC 04 22:14:57.8±2.9, 71S±03×1576E±05, h35km, n8, σ0s27/7, mb3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	17.15	151	LR	LR	22 24 42.6	
	comp=Z,120nm,18.8s,baz=258,slow=34						
WRAB	Tennant Creek	25.88	238	eP	P	22 20 26.1	-0.1
	6.1nm,1.3s,mb4.0						
WB2	Warramunga Arr	25.88	238	eP	P	22 20 26.2	0.0
WRA	Warramunga Arr	25.89	238	P	P	22 20 26.8	+0.5
	0.5nm,0.6s,mb3.2,baz=64,slow=9.4,SNR=4.7						
ASAR	Alice Springs	28.06	232	P	P	22 20 45.4	-0.4
	0.5nm,0.8s,mb3.2,baz=64,slow=9.4,SNR=8.6						
STKA	Stephens Creek	28.79	209	P	P	22 20 52.4	+0.1
	2.5nm,0.8s,mb4.0,baz=39,slow=15,SNR=4.2						
STKA	Stephens Creek	28.79	209	eP	P	22 20 52.5	+0.1
CHKZ	Chkalovo	93.88	323	eP	P	22 28 11.6	0.0

MEX 04 22:15:44.1±0.6, 1786N×9968W, h5km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	Mezcala	0.09	42	i P	Pg	22 15 45.5	-0.5
MEIG				i S	Sg	22 15 47.4	0.0
PLIG	Platanillo	0.56	18	i P	Pg	22 15 53.1	-1.8
PLIG				i S	Sg	22 16 00.6	-1.4
PLIG				eS	Sg	22 16 02.7	+0.6
ACX	Acapulco	1.01	193	eP	Pg	22 16 02.0	-1.5
ACX				i S	Sg	22 16 15.0	-1.6
UTMO	Huajuapan	1.79	91	eP	Pn	22 16 11.5	-4.1
UTMO				i S	Sn	22 16 34.7	-4.1

TIF 04 23:25:15.9, 4343N×4500E, h33km±2km
ISCJB 04 23:25:17.1±0.5, 4329N±002×4505E±003, h0km±4km, Error ellipse: s-maj=4.2km s-min=3.3km az=57.6
CSEM 04 23:25:17.0, 4325N×4503E, h14km, mb4.0, After OBN
MOS 04 23:25:17.3±1.0, 4325N×4503E, h14km, mb4.0/1, Error ellipse: s-maj=9.1km s-min=7.1km az=21.2
ISC 04 23:25:17.8±0.5, 4328N±002×4506E±003, h4km±4km, n25, σ1s16/46, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	0.28	221	i Pg	Pg	23 25 22.5	-0.6
SNJR				i Sg	Sg	23 25 26.2	-0.5
VLKR	Vladikavkaz	0.36	231	i Pg	Pg	23 25 24.2	-0.6
VLKR				i Sg	Sg	23 25 29.3	-0.2
TRKR	Terskaya	0.51	332	i Pg	Pg	23 25 28.4	+0.8
TRKR				i Sg	Sg	23 25 36.5	+2.3
KMSR	Komsomolskaya	0.57	280	i Pg	Pg	23 25 29.1	+0.4
KMSR				i Sg	Sg	23 25 37.8	+1.7
ARNR	Ardon	0.58	262	i Pg	Pg	23 25 28.9	0.0
ARNR				i Sg	Sg	23 25 37.5	+1.1
LACR	Lac	0.72	231	i Pg	Pg	23 25 30.9	-0.7
LACR				i Sg	Sg	23 25 40.9	0.0
PRTR	Priterechnaya	0.74	310	i Pg	Pg	23 25 32.7	+0.7
PRTR				i Sg	Sg	23 25 44.0	+2.4
KORR	Kora	0.75	256	i Pg	Pg	23 25 32.0	-0.2
KORR				i Sg	Sg	23 25 42.8	+0.9
ZEI	Tsey	0.99	240	i Pg	Pg	23 25 35.9	-0.9
ZEI				i Sg	Sg	23 25 49.7	0.0
BTLR	Botlikh	1.05	125	ePG	Pg	23 25 36.0	-2.0
BTLR				eS	Sg	23 25 52.5	+0.9
DIGR	Digorskoe uzhe	1.15	251	i Pg	Pg	23 25 38.8	-1.0
DIGR				i Sg	Sg	23 25 54.0	-0.7
DUS	Dusheti	1.21	193	S	Sg	23 25 59.4	+2.6
KUBR	Kubataba	1.31	294	ePg	Pg	23 25 41.4	-1.5
KUBR				eSg	Sg	23 25 59.8	-0.1
DBC	Dubki	1.32	101	i PG	Pg	23 25 40.5	-2.7
DBC				i S	Sg	23 26 00.0	-0.3
ONI	Oni	1.37	240	P	Pn	23 25 41.9	-1.8
ONI				S	Sg	23 26 00.1	-1.8
XNZR	Khunzakh	1.41	121	ePG	Pg	23 25 44.7	-0.3
XNZR				i S	Sg	23 26 05.7	+2.4
XNZR				pmax	pmax		
	comp=Z,44nm,0.2s						
XNZR	Khunzakh	1.41	121	ePg	Pg	23 25 44.7	-0.3
	comp=Z,44nm,0.2s						
XNZR				i Sg	Sg	23 26 05.7	+2.4
GOR	Gori	1.47	209	P	Pn	23 25 44.8	-0.2
GOR				S	Sb	23 26 06.3	+1.6
TBLG	Delisi	1.56	189	P	Pn	23 25 46.4	0.0
TBLG				S	Sn	23 26 08.4	+1.4
MTA	Mtatsminda	1.59	187	P	Pn	23 25 46.6	-0.2
MTA				S	Sn	23 26 08.6	+0.8
BEYR	Belyy Ugol+	1.79	295	ePn	Pn	23 25 48.0	-1.5
SHAR	Shatzhatmas	1.80	286	⇓iPN	Pn	23 25 49.4	-0.3
SHAR				eS	Sn	23 26 13.4	+0.4
DGRG	David-gareji	1.84	173	P	Pn	23 25 51.1	+0.9
DGRG				S	Sg	23 26 20.8	+3.9
KIV0	Kislovodsk Arr	1.85	292	ePn	Pn	23 25 49.1	-1.2
KIV	Kislovodsk	1.85	292	⇑ePN	Pn	23 25 49.2	-1.2

IDC 04 23:43:37.0±2.7, 39.11N×143.08E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=68.2km s-min=35.6km az=58.0
ISCJB 04 23:43:41.3±0.7, 3900N±003×14254E±006, h28km, mb3.9/6, Error ellipse: s-maj=6.7km s-min=4.7km az=10.9
JMA 04 23:43:41.8±0.1, 3900N×14250E, h28km±2km, M3.9
JMA Felt I J1.
NEIC 04 23:43:42.4±1.0, 3909N×14285E, h35km, mb4.1/3, Error ellipse: s-maj=20.7km s-min=13.1km az=91.0
NEIC Recorded [1 JMA] in Miyagi Prefecture.
ISC 04 23:43:43.0±0.7, 3900N±003×14243E±006, h28km, n23, σ1s00/34, mb3.9/6, 7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.60	278	⇓P	Pb	23 43 54.5	-0.5
OFUJ				S	Sb	23 44 03.6	+0.5
MIYJ	Miyakonagasawa	0.75	321	⇓P	Pb	23 43 56.2	-1.2
MIYJ				S	Sb	23 44 06.0	-1.2
JMK	Ichinoseki	0.95	267	⇓P	Pn	23 44 00.0	-0.4
JMK				eS	Sb	23 44 13.1	+0.2
JOM	Ohasama	1.00	298	⇓P	Pn	23 44 00.8	-0.4
JOM				S	Sn	23 44 14.3	-0.1
JIO	Ouri	1.01	238	⇓P	Pn	23 44 00.2	-1.0
JIO				eS	Sn	23 44 12.9	-1.6
JTH	Tanohata	1.03	335	P	Pn	23 44 01.6	0.0
JTH				S	Sn	23 44 15.5	+0.4
JKZ	Kuzumaki	1.30	319	⇓P	Pn	23 44 05.2	-0.1
JKZ				S	Sn	23 44 21.8	+0.1
JOU	Okura	1.52	246	⇓P	Pn	23 44 08.6	+0.3
JOU				eS	Sn	23 44 28.1	+0.9
JANG	Nango	1.54	333	P	Pn	23 44 08.5	-0.1
JANG				eS	Sn	23 44 28.9	+1.2
MAJO	Matsushiro	4.15	235	ePn	Pn	23 44 47.9	+3.5
MAJO				eSn	Sb	23 45 44.5	-0.4
MAT	Matsushiro	4.15	235	P	Pn	23 44 48.2	+3.7
MAT				eS	Sn	23 45 36.8	+4.8
MJAR	Matsushiro Arr	4.15	235	Pn	Pn	23 44 48.0	+3.6
	2.4nm,0.3s,baz=39,slow=9.6,SNR=15						
TATO	Taipei	22.54	238	Pn	P	23 48 40.9	+0.3
NACB	Ninganchiao	23.02	236	eP	P	23 48 48.2	+2.5
ULN	Ulaanbaatar	26.98	301	P	P	23 49 23.9	+1.6
MKAR	Makanchi Array	43.78	301	P	P	23 51 47.2	+1.1
	0.4nm,0.5s,mb3.4,baz=62,slow=6.3,SNR=3.7						
MKAR	Makanchi Array	43.78	301	P	P	23 51 47.2	+1.1
CHKZ	Chkalovo	49.58	312	eP	P	23 52 31.4	-0.1
	0.6nm,0.5s,mb3.9						
BRVK	Borovoye	49.92	311	eP	P	23 52 31.9	-2.2
	0.7nm,0.3s,mb4.2						
ZRNK	Zerenda	50.69	311	P	P	23 52 39.7	-0.2
WRAB	Tennant Creek	59.11	189	eP	P	23 53 40.3	-0.5
	1.9nm,0.7s,mb4.2						
WRA	Warramunga Arr	59.12	189	P	P	23 53 40.3	-0.6
	0.8nm,0.4s,mb4.1,baz=6.6,slow=7.0,SNR=19						
ASAR	Alice Springs	62.85	189	P	P	23 54 06.2	-0.1
	0.2nm,0.4s,mb3.6,baz=348,slow=3.4,SNR=5.4						

IGIL 05 00:20:05.7, 3879N×795W, h0km, ML2.1
MDD 05 00:20:05.4±0.4, 3879N×796W, h0km, mbLg2.2/15, Error ellipse: s-maj=4.0km s-min=2.9km az=57.0, PRXIMO
INMG 05 00:20:06.1±1.1, 3879N×795W, h11km±3km, ML1.9, 1D, Error ellipse: s-maj=1.6km s-min=1.4km az=68.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESTR	Estremoz	0.29	75	ePg	Pg	00 20 11.8	-0.2
PESTR				eSg	Sg	00 20 16.1	+0.1
PESTR							
	17nm,0.1s						
ALMR	Almeirim	0.61	307	eP	Pg	00 20 16.7	-1.2
ALMR				eS	Sg	00 20 24.6	-1.4
ALMR				eS	Sg	00 20 24.6	-1.3
ALMR				AML	AML	00 20 26.4	
	comp=N,77nm,0.3s						
ALMR	Almeirim	0.61	307	eP	Pg	00 20 16.7	-1.2
ALMR				eS	Sg	00 20 24.6	-1.3
EBAD	Badajoz	0.73	93	⇓Pg	Pg	00 20 19.7	-0.6
	comp=N,7.0nm,0.1s,SNR=18						
EBAD				Lg		00 20 29.4	
	comp=N,43nm,0.1s,SNR=13						
PBEJ	Beja	0.77	175	ePg	Pg	00 20 19.6	-1.3
PBEJ				eSg	Sg	00 20 29.8	-1.2
PBEJ							
	comp=N,22nm,0.1s						
PTOM	Tomar	0.90	337	eP	Pg	00 20 22.4	-1.0
PTOM				eS	Sg	00 20 34.5	-0.7
PTOM							
	comp=N,25nm,0.1s						
PLOU	Loures	0.94	276	eP	Pg	00 20 22.9	-1.4
PLOU				eS	Sg	00 20 35.9	-0.7
PLOU							
	comp=N,19nm,0.1s						
PMAFR	Mafra	1.05	279	eP	Pb	00 20 25.0	-1.3
PMAFR				eS	Sb	00 20 38.9	-1.2
PCBR	Castelo Branco	1.11	19	eP	Pb	00 20 26.3	-1.0
PCBR				eS	Sb	00 20 40.7	-1.0
PCBR							
	comp=N,20nm,0.1s						
EGRO	El Granado	1.31	163	Pg	Pg	00 20 29.1	-2.1
	comp=N,1.6nm,0.1s,SNR=11						
EGRO				Lg		00 20 46.7	
	comp=N,5.7nm,0.1s,SNR=9.8						
PTEO	Sao Teotonio	1.39	206	eP	Pn	00 20 30.0	-1.3
PTEO				eS	Sn	00 20 47.8	-1.8
PTEO							
	comp=N,11nm,0.2s						
EMIN	Mina Concepcio	1.44	135	Pg	Pg	00 20 31.3	-2.3
	comp=N,2.8nm,0.1s,SNR=34						
EMIN				Lg		00 20 51.0	
	comp=N,4.8nm,0.1s,SNR=7.9						
PVIS	Viseu	1.92	1	eSg	Sg	00 21 05.3	-2.6
PVIS							
	comp=N,10nm,0.1s						
PVIS	Viseu	1.92	1	Lg		00 21 05.3	
	comp=N,5.2nm,0.1s						
PVRL	Vila Real	2.49	4	eSn	Sn	00 21 14.9	-1.9
PVRL				eSg	Sg	00 21 22.4	-3.6
PVRL							
	comp=N,3.5nm,0.1s						
ESPR	Espera	2.54	139	Pn	Pn	00 20 46.5	-0.7
	comp=N,0.7nm,0.1s,SNR=4.0						
ESPR				Lg		00 21 27.3	
	comp=N,0.8nm,0.1s,SNR=7.9						
EADA	Adamuz	2.72	102	Pg	Pg	00 20 54.4	-3.8
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				Lg		00 21 32.1	
	comp=N,1.3nm,0.1s,SNR=7.3						
PCAB	Cabril	2.92	359	ePn	Pn	00 20 51.2	-1.2
PCAB				eSn	Sn	00 21 24.3	-3.1
PCAB				eSg	Sg	00 21 35.8	-4.0
PBRG	Braganca	3.15	17	ePn	Pn	00 20 54.7	-0.9
PBRG				eSn	Sn	00 21 31.0	-2.1
PBRG				eSg	Sg	00 21 43.4	-3.8
ESDC	Sonseca Array	3.22	73	Lg		00 21 43.0	
	comp=N,1.6nm,0.1s,baz=256,slow=32,SNR=4.0						
ECAL	Calabor	3.28	16	Pn	Pn	00 20 56.4	-1.0
	comp=N,1.4nm,0.2s,SNR=7.1						
ECAL				Sn	Sn	00 21 33.7	-2.7
	comp=N,0.9nm,0.3s,SNR=7.9						
ECAL				Lg		00 21 48.3	
	comp=N,7.7nm,0.4s,SNR=5.0						
EBAN	Banos Encina	3.33	100	Lg		00 21 52.3	
	comp=N,1.5nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.46	57	Pn	Pn	00 20 58.3	-1.5
	comp=N,0.2nm,0.3s,SNR=7.9						
GUD				Lg		00 21 50.0	
	comp=N,0.8nm,0.3s,SNR=7.9						
EQUE	Quentar	3.90	113	Sn	Sn	00 21 50.3	-1.3
	comp=N,0.2nm,0.3s,SNR=4.0						
EQUE				Lg		00 22 10.1	
	comp=N,2.2nm,0.3s,SNR=7.9						
EQES	Quesada	3.96	103	Sn	Sn	00 21 51.0	-2.2
	comp=N,0.2nm,0.1s,SNR=7.9						
EQES				Lg		00 22 12.6	
	comp=N,0.5nm,0.1s,SNR=7.9						

NEIC 05 00:21:30.0, 5826N×13358W, h1km, ML3.1(AEIC), ML3.2(PGC), After PGC.
PGC 05 00:21:30.0, 5826N×13358W, h1km, ML3.2/3, 49km southeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	Skagway	1.51	324	P	Pn	00 21 56.9	-1.2
SKAG				S	Sb	00 22 16.9	-1.5

SIT	Sitka	1.53	219	P	Pn	00 21 59.0	+0.5
SIT				S	Sn	00 22 20.9	+1.9
DLBC	Dease Lake	1.88	83	P	Pn	00 22 02.1	-1.1
DLBC				Pg	Pg	00 22 03.6	-2.5
DLBC				Sn	Sn	00 22 27.3	-0.3
DLBC				Sg	Sg	00 22 29.1	-1.3
DLBC				Trac		00 22 34.5	
	comp=Z,249nm,0.6s						
DLBC	Dease Lake	1.88	83	P	Pn	00 22 02.1	-1.1
DLBC				Pg	Pg	00 22 03.6	-2.5
DLBC				Sn	Sn	00 22 27.3	-0.3
DLBC				Sg	Sg	00 22 29.1	-1.3
PLBC	Pleasant Camp	1.88	311	Pg	Pg	00 22 04.0	-2.0
PLBC				Sg	Sg	00 22 28.3	-2.1
WRAK	Wrangell Islan	1.96	160	*e*Pn	Pn	00 22 04.3	-0.1
WRAK				*e*Sn	Sn	00 22 33.8	+4.1
WHY	Whitehorse	2.50	345	Pn	Pn	00 22 10.2	-1.5
WHY				Pg	Pg	00 22 15.3	-2.6
WHY				Sg	Sg	00 22 42.9	-7.3
WHY				Trac		00 22 55.0	
	comp=Z,59nm,0.7s						
WHY	Whitehorse	2.50	345	Pn	Pn	00 22 10.2	-1.5
WHY				P		00 22 10.5	
WHY				Pg	Pg	00 22 15.3	-2.6
WHY				Sg	Sg	00 22 42.9	-7.3
HYT	Haines Junctio	3.26	324	Pn	Pn	00 22 22.6	+0.4
HYT				Pg	Pg	00 22 28.9	-3.5
HYT				Sg	Sg	00 23 11.0	-3.6
HYT				Trac		00 23 16.5	
	comp=Z,39nm,0.6s						
HYT	Haines Junctio	3.26	324	Pn	Pn	00 22 22.6	+0.4
HYT				Pg	Pg	00 22 28.9	-3.5
HYT				Sg	Sg	00 23 11.0	-3.6
PNL	Peninsula	3.33	298	P	Pn	00 22 24.1	+0.9
RUBB	Prince Rupert	4.36	153	Pn	Pn	00 22 38.1	+0.8
RUBB				Pg	Pg	00 22 47.8	-5.7
RUBB				Sg	Sg	00 23 45.4	-4.5
RUBB				Trac		00 23 56.1	
	comp=Z,66nm,0.8s						
RUBB	Prince Rupert	4.36	153	Pn	Pn	00 22 38.1	+0.8
RUBB				Pg	Pg	00 22 47.8	-5.7
RUBB				Sg	Sg	00 23 45.4	-4.5
FNBB	Fort Nelson	5.57	79	Trac		00 24 36.5	
	comp=Z,21nm,0.9s						
FNBB	Fort Nelson	5.57	79	Sg	Sg	00 24 24.5	-4.3
FSB	Fort Saint Jam	6.38	122	Pg	Pg	00 23 25.9	-6.4
FSB				Sg	Sg	00 24 50.0	-5.1
FSB				Trac		00 24 58.7	
	comp=Z,8.1nm,0.9s						
FSB	Fort Saint Jam	6.38	122	Pg	Pg	00 23 25.9	-6.4
FSB				Sg	Sg	00 24 50.0	-5.1
DAWY	Dawson	6.47	337	Trac		00 24 55.1	
	comp=Z,20nm,0.8s						
DAWY	Dawson	6.47	337	Sg	Sg	00 24 53.7	-4.0
DAWY	Dawson	6.47	337	Sg	Sg	00 24 53.7	-4.0
INK	Inuvik	10.09	0	P	Pn	00 23 54.3	-1.6

*NEIC **05** 00:51:48.1±4.2, 2482N×141.16E, h173km±38km, mb4.0/7, Error ellipse: s-maj=26.2km s-min=7.3km az=75.0*
*ISCJB **05** 00:51:50.8±0.9, 2479N±007×1410E±01, h213km±9km, mb3.7/18, Error ellipse: s-maj=16.1km s-min=10.9km az=165.2*
*IDC **05** 00:51:52.3±1.0, 2482N×141.19E, h211km±10km, mb3.6/11, mb1 3.7/12, mb1mx3.5/22, mbtmp4.1/12, Error ellipse: s-maj=22.0km s-min=11.0km az=84.0*
ISC 05 00:51:52.2±0.8**, 2482N**±007×**1410E**±01**, h211**km±9km**, n32, σ0^{s}88**/30**, mb3.7**/18**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.50	25	P	Pn	00 52 38.1	+1.5
	147nm,0.3s,baz=225,slow=3.4,SNR=51						
CBIJ				S	S	00 53 10.7	-0.8
	175nm,0.3s,baz=292,slow=23,SNR=22						
INCN	Inchon	17.61	319	P	P	00 55 42.8	-0.2
NACB	Ninganchiao	17.69	272	Pn	Pn	00 55 44.6	-1.4
TATO	Taipei	17.72	275	*e*P	P	00 55 42.8	-1.4
	14nm,0.3s						
YHNB	Yeheng	17.84	274	P	P	00 55 45.6	+0.1
BJT	Baijiatuau	25.76	312	*e*P	P	00 57 04.5	+1.0
SONM	Songino Array	35.68	319	P	P	00 58 30.7	+0.4
	0.5nm,0.5s,mb3.4,baz=130,slow=6.9,SNR=5.2						
CTAO	Charters Tower	44.93	173	P	P	00 59 45.8	-0.2
	0.7nm,0.3s,mb3.5						
WRAB	Tennant Creek	44.95	189	*e*P	P	00 59 46.5	+0.2
	13nm,0.7s,mb4.4						
WB2	Warramunga Arr	44.96	189	*e*P	P	00 59 46.4	+0.1
WB2	Warramunga Arr	44.96	189	*e*P	P	00 59 46.3	0.0
WRA	Warramunga Arr	44.97	189	P	P	00 59 46.4	0.0
	7.0nm,0.4s,mb4.3,baz=8.6,slow=8.6,SNR=51						
FITZ	Fitzroy Crossi	45.22	201	P	P	00 59 48.4	+0.1
	1.3nm,0.7s,mb3.4,baz=13,slow=12,SNR=8.2						
ASAR	Alice Springs	48.69	189	P	P	01 00 15.8	+0.6
	0.4nm,0.5s,mb3.0,baz=15,slow=6.8,SNR=5.2						
MKAR	Makanchi Array	51.14	311	P	P	01 00 35.5	+1.9
	3.1nm,0.4s,mb4.1,baz=83,slow=9.2,SNR=31						
STKA	Stephens Creek	56.38	179	P	P	01 01 11.4	-0.1
	2.4nm,0.6s,mb3.9,baz=1.3,slow=10,SNR=7.3						
STKA	Stephens Creek	56.38	179	*e*P	P	01 01 11.5	0.0
CHKZ	Chkalovo	58.88	319	*e*P	P	01 01 29.5	+0.6
	0.9nm,0.3s,mb3.9						
BVAR	Borovoye Array	59.02	318	P	P	01 01 30.4	+0.6
	2.3nm,0.4s,mb4.1,baz=93,slow=8.0,SNR=21						
BRVK	Borovoye	59.08	318	*e*P	P	01 01 32.2	+1.9
	1.0nm,0.8s,mb3.5						
ZRNK	Zerenda	59.86	318	*e*P	P	01 01 35.9	+0.3
	0.8nm,0.4s,mb3.7						
INK	Inuvik	65.53	24	P	P	01 02 12.6	-0.4
	1.4nm,0.9s,mb3.6,baz=313,slow=6.7,SNR=4.4						
YKA	Yellowknife Ar	74.64	28	P	P	01 03 07.3	-0.9
	0.4nm,0.5s,mb3.3,baz=294,slow=6.0,SNR=4.4						
YKA	Yellowknife Ar	74.64	28	P	P	01 03 07.3	-0.9
KEV	Kevo	74.77	341	*e*p	P	01 03 07.9	-1.2
	2.3nm,0.7s,mb3.9						
ARCES	ARCESS Array B	75.34	341	P	P	01 03 12.0	-0.3
	2.0nm,0.8s,mb3.8,baz=74,slow=9.1,SNR=6.8						
ARCES	ARCESS Array B	75.34	341	P	P	01 03 12.0	-0.3
JOF	Joensuu	76.65	334	*e*p	P	01 03 18.7	-1.0
	1.1nm,0.4s,mb3.8						
FINES	FINESS Array B	79.52	334	P	P	01 03 34.4	-1.1
	1.1nm,0.7s,mb3.6,baz=90,slow=3.8,SNR=7.9						
TORD	Torodi Ar. Bea	125.24	309	PKP	PKPdf	01 10 28.5	+0.8
	0.2nm,0.4s,baz=78,slow=0.7,SNR=13						
PLCA	Paso Flores	149.28	129	PKPbc	PKPbc	01 11 16.4	+0.6
	1.2nm,0.6s,baz=228,slow=5.4,SNR=4.1						
LPAZ	La Paz	151.47	78	PKPbc	PKPbc	01 11 22.4	+1.4
	0.4nm,0.5s,baz=27,slow=2.3,SNR=6.2						

IDC 05 01:20:20.6±15.0**, 2192S×17607W, h242**km±163km**, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.2**/13**, mbtmp3.8**/3**, MS3.8**/3**, Ms1 3.8**/3**, ms1mx3.4**/11**, Error ellipse: s-maj=277.6km s-min=35.2km az=158.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.31	198	LR	LR	01 29 43.3	
	comp=Z,178nm,18.2s,baz=209,slow=32						
PMG	Port Moresby	37.42	284	LR	LR	01 41 03.0	
	comp=Z,141nm,18.9s,baz=107,slow=33						
ASAR	Alice Springs	45.96	258	P	P	01 28 19.5	-0.1
	2.0nm,0.9s,baz=88,slow=8.4,SNR=17						
ASAR				LR	LR	01 47 45.8	
	comp=Z,188nm,18.6s,baz=14,slow=36						
WRA	Warramunga Arr	46.20	263	P	P	01 28 22.6	+1.1
	1.0nm,0.8s,baz=101,slow=7.9,SNR=4.8						
NVAR	Mina Array Bea	80.84	42	P	P	01 32 08.1	+0.6
	0.3nm,0.5s,baz=234,slow=8.5,SNR=3.4						
AKASG	Malin Array Be	145.12	332	PKPbc	PKPbc	01 39 27.8	-1.4
	0.6nm,0.4s,baz=37,slow=3.4,SNR=6.0						
BRTR	Keskin Array B	149.12	312	PKPbc	PKPbc	01 39 40.4	+0.2
	0.8nm,0.8s,baz=134,slow=4.2,SNR=4.5						

*IDC **05** 01:31:20.9±1.4, 705S×15492E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.9/15, mbtmp4.0/7, ML4.1/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/20, Error ellipse: s-maj=34.3km s-min=25.5km az=106.0*
*ISCJB **05** 01:31:23.1±0.7, 709S±010×155.13E±006, h33km, mb3.8/7, Error ellipse: s-maj=14.1km s-min=8.5km az=19.9*
*NEIC **05** 01:31:25.6±0.7, 7.10S×15503E, h35km, mb4.0/3, Error ellipse: s-maj=15.5km s-min=12.0km az=143.0*
ISC 05 01:31:25.2±0.6**, 706S**±010×**15511E**±006**, h35**km**, n17, σ1^{s}15**/17**, mb3.8**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.33	117	Pn	Pn	01 32 44.5	+2.2
	21nm,0.3s,baz=293,slow=1.3,SNR=4.5						
HNR				Sn	Sn	01 33 41.5	-1.0
	11nm,0.3s,baz=77,slow=4.3,SNR=2.7						
PMG	Port Moresby	8.21	253	*e*Pn	Pn	01 33 21.6	-0.1
	12nm,0.6s						
CTA	Charters Tower	15.54	213	Pn	Pn	01 34 59.9	-1.7
	0.2nm,0.3s,baz=39,slow=13,SNR=3.0						
CTA				LR	LR	01 40 07.4	
	comp=Z,80nm,18.4s,baz=233,slow=34						
CTAO	Charters Tower	15.54	213	*e*Pn	Pn	01 34 59.4	-2.1
	3.1nm,0.7s						
DZM	Mont Dzumac	18.50	145	LR	LR	01 40 46.6	
	comp=Z,75nm,20.3s,baz=88,slow=30						
WRAB	Tennant Creek	23.86	236	*e*P	P	01 36 36.1	+0.8
	13nm,1.3s,mb4.2						
WB2	Warramunga Arr	23.86	236	*e*P	P	01 36 36.2	+0.9
WRA	Warramunga Arr	23.87	236	P	P	01 36 35.3	-0.1
	1.6nm,0.9s,mb3.5,baz=62,slow=9.8,SNR=7.2						
ASAR	Alice Springs	26.21	229	P	P	01 36 56.2	-0.5
	0.3nm,0.6s,mb3.0,baz=57,slow=8.8,SNR=3.7						
STKA	Stephens Creek	27.72	205	P	P	01 37 10.6	+0.4
	1.4nm,0.7s,mb3.7,baz=29,slow=8.2,SNR=3.7						
FITZ	Fitzroy Crossi	30.73	246	*e*P	P	01 37 38.6	+1.7
	2.7nm,1.0s,mb4.0						
KKM	Kota Kinabalu	40.94	288	P	P	01 39 02.1	-2.1
SONM	Songino Array	69.45	327	P	P	01 42 29.8	-0.1
	0.4nm,0.4s,mb3.7,baz=132,slow=8.8,SNR=3.7						
SLKM	Skilak Lake	79.75	24	P	P	01 43 28.9	-0.7
MKAR	Makanchi Array	83.53	319	P	P	01 43 50.9	+1.4
	1.5nm,0.7s,mb4.2,baz=91,slow=6.0,SNR=15						
MKAR	Makanchi Array	83.53	319	P	P	01 43 50.9	+1.4
BRVK	Borovoye	92.48	323	P	P	01 44 31.9	-0.7

*NEIC **05** 01:31:27.7, 3364S×7245W, h48km, MD3.9(GUC), After GUC.*
GUC 05 01:31:27.7±0.5**, 3364S×7245W, h48**km±7km**, MD3.9, ML2.9, 2C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.75	77	*e*P	Pn	01 31 42.4	+0.4
LCCH				*i* S	Sn	01 31 53.7	+1.4
LNV	Longovilo	0.92	110	*i* P	Pn	01 31 45.4	+1.2
LNV				*i* S	Sn	01 31 58.7	+2.4
TACH	Talagante	1.26	91	*e*P	Pn	01 31 50.6	+1.7
TACH				*i* S	Sn	01 32 08.4	+3.8
RCDM	Rinconada Maip	1.38	84	⇑*i*P	Pn	01 31 52.5	+2.0
RCDM				*i* S	Sn	01 32 11.0	+3.5
RCDM				AML	AML	01 32 17.5	
	comp=N,172nm,0.5s						
RCDM	Rinconada Maip	1.38	84	⇑*i*P	Pn	01 31 52.5	+2.0
RCDM				*i* S	Sn	01 32 11.0	+3.5
CHCH	Chadas Angostu	1.52	101	⇓*i*P	Pn	01 31 55.0	+2.6
PEL	Peldehue	1.55	72	*e*P	Pn	01 31 55.8	+2.9
PEL				*i* S	Sn	01 32 17.1	+5.2
PEL				AML	AML	01 32 26.9	
	comp=E,422nm,0.3s						
PEL	Peldehue	1.55	72	*e*P	Pn	01 31 55.8	+2.9
PEL				*i* S	Sn	01 32 17.1	+5.2
PCH	Pirque	1.61	90	⇓*i*P	Pn	01 31 56.6	+2.9
CLCH	Cerro Calan	1.61	82	*e*P	Pn	01 31 56.8	+3.1
CLCH				*i* S	Sn	01 32 18.8	+5.4
CLCH				AML	AML	01 32 29.0	
	comp=E,220nm,0.4s						
CICH	Cipreses	1.81	112	*i* P	Pn	01 31 59.9	+3.4
JACH	Jahuel	1.83	59	⇓*i*P	Pn	01 32 00.4	+3.8
FCH	Farellones	1.83	81	*e*P	Pn	01 31 59.6	+3.0
FCH				*i* S	Sn	01 32 24.8	+6.2
FCH				AML	AML	01 32 33.9	
	comp=N,133nm,0.3s						
LMEL	Las Melosas	1.88	97	*e*P	Pn	01 32 00.1	+2.7
LMEL				*i* S	Sn	01 32 25.5	+5.7
LMEL				AML	AML	01 32 31.0	
	comp=N,238nm,0.9s						
LMEL	Las Melosas	1.88	97	*e*P	Pn	01 32 00.1	+2.7
LMEL				*i* S	Sn	01 32 25.5	+5.7

*ISCJB **05** 01:40:11.9±1.0, 257N±0.1×9266E±008, h10km, mb3.5/3, Error ellipse: s-maj=14.5km s-min=10.9km az=7.6*
*IDC **05** 01:40:12.9±5.2, 26.11N×9325E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.5/3, Error ellipse: s-maj=429.5km s-min=29.4km az=61.0*
ISC 05 01:40:13.8±1.0**, 2574N**±009×**9255E**±007**, h10**km**, n8, σ0^{s}70**/8**, mb3.5**/3**, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	0.62	254	*e*P	Pg	01 40 26.7	+0.8
SHL				*e*S	Sg	01 40 33.0	-1.0
AGT	Agartala	2.19	213	*i* PG	Pg	01 40 56.0	+0.2
AGT				*i* x	Sg	01 41 37.0	+13
GTK	Gangtok	3.86	295	*e*S	Pb	01 41 23.0	+1.0
BOK	Bokaro	6.36	254	*e*P	Px	01 41 30.7	
BOK				*e*S	Sx	01 42 30.9	
BOK				AML	AML	01 43 06.1	
	comp=E,21nm,0.4s						
BOK				AML	AML	01 43 08.6	
	comp=N,38nm,0.8s						
BHPL	Bhopal	13.99	263	*e*S	Sx	01 45 26.5	
BHPL				AML	AML	01 45 30.6	
	comp=E,3.2nm,0.2s						
BHPL				AML	AML	01 45 31.3	
	comp=N,4.0nm,0.2s						
MKAR	Makanchi Array	22.54	341	P	P	01 45 13.0	-0.9
	comp=N,0.4nm,0.5s,mb3.1,baz=152,slow=14,SNR=4.6						
WRA	Warramunga Arr	60.91	134	P	P	01 50 26.8	+0.1
	comp=N,0.3nm,0.5s,mb3.7,baz=324,slow=7.1,SNR=2.8						
ASAR	Alice Springs	63.36	137	P	P	01 50 43.0	-0.2
	comp=N,0.5nm,0.6s,mb3.8,baz=314,slow=6.3,SNR=6.2						

PGC 05 01:40:18.6, 5831N×13354W, h1km**, ML3.1**/3**, 51km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLBC	Dease Lake	1.85	85	P	Pn	01 40 50.1	-1.4
DLBC				Pg	Pg	01 40 52.0	-2.1
DLBC				Sn	Sn	01 41 15.1	-0.5
DLBC				Sg	Sg	01 41 16.8	-1.4
DLBC				Trac		01 41 21.6	
	comp=Z,121nm,0.5s						
PLBC	Pleasant Camp	1.86	309	Pg	Pg	01 40 52.3	-2.1
PLBC				Sg	Sg	01 41 15.9	-2.7
WHY	Whitehorse	2.45	344	Pn	Pn	01 40 58.7	-1.1
WHY				Pg	Pg	01 41 03.5	-2.2
WHY				Sn	Sn	01 41 27.4	-3.0
WHY				Sg	Sg	01 41 34.6	-2.9
WHY				Trac		01 41 42.0	
	comp=Z,50nm,0.5s						
HYT	Haines Junctio	3.23	323	Pn	Pn	01 41 10.7	+0.3
HYT				Pg	Pg	01 41 17.0	-3.5
HYT				Sg	Sg	01 41 59.5	-3.0
HYT				Trac		01 42 04.7	
	comp=Z,35nm,0.6s						
RUBB	Prince Rupert	4.39	154	Pn	Pn	01 41 25.6	-0.8
RUBB				Pg	Pg	01 41 37.6	-5.2
RUBB				Sg	Sg	01 42 35.7	-4.1
RUBB				Trac		01 42 49.2	
	comp=Z,86nm,1.2s						
FNBB	Fort Nelson	5.54	80	Trac		01 43 24.9	
	comp=Z,15nm,0.8s						
FNBB	Fort Nelson	5.54	80	Sg	Sg	01 43 12.7	-3.8
FSB	Fort Saint Jam	6.39	123	Sg	Sg	01 43 35.5	-8.4
FSB				Trac		01 43 46.6	
	comp=Z,8.0nm,0.9s						
DAWY	Dawson	6.43	336	Pg	Pg	01 42 15.4	-6.4
DAWY				Sg	Sg	01 43 40.4	-4.7
DAWY				Trac		01 43 42.7	
	comp=Z,30nm,0.8s						
INK	Inuvik	10.04	0	P	Pn	01 42 43.4	-0.5

*ISCJB **05** 01:54:01.7±0.5, 3936N±003×2554E±003, h22km±7km, Error ellipse: s-maj=5.1km s-min=4.1km az=76.5*
*NEIC **05** 01:54:01.0, 3975N×2595E, h18km, MD3.3(ATH), After ATH.*
*THE **05** 01:54:01.2, 3935N×2559E, h10km, ML3.0*
*ATH **05** 01:54:01.2, 3972N×2591E, h21km, MD3.3/4*
*CSEM **05** 01:54:01.5±0.1, 3938N×2562E, h20km, MD3.3, Error ellipse: s-maj=2.7km s-min=1.7km az=50.0*
ISC 05 01:54:01.1±0.4**, 3934N**±003×**2553E**±003**, h12**km±4km**, n23, σ0^{s}86**/37**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.58	99	*e*PN	Pg	01 54 12.1	-0.3
PRK				*e*SN	Sg	01 54 20.3	+0.2
LIA	Limnos Island	0.62	334	⇑*i*PN	Pg	01 54 13.0	-0.1
LIA				*e*SN	Sg	01 54 21.4	+0.2
LIA	Limnos Island	0.62	334	*e*Pn	Pg	01 54 13.0	-0.1
BOZC	Bozcaada	0.64	39	*i* P	Pg	01 54 12.4	-1.1
BOZC				*i* S	Sg	01 54 21.9	-0.1
LOS	Limnos	0.69	329	*e*Pg	Pg	01 54 14.7	+0.3
LOS				*e*Sg	Sg	01 54 25.9	+2.6
LOS	Limnos	0.69	329	*e*Pg	Pg	01 54 14.6	+0.2
LOS				*e*Sg	Sg	01 54 26.0	+2.6
AYVA	Ayvalik	0.90	92	*i* P	Pg	01 54 18.3	-0.1
AYVA				*i* S	Sg	01 54 30.0	-0.2
CHOS	Chios island	1.04	157	*e*Pg	Pg	01 54 20.6	-0.4
CHOS				*e*Sg	Sg	01 54 35.1	+0.5
URLA	Izmir	1.28	139	*i* P	Pn	01 54 24.1	-0.8
URLA				*i* S	Sb	01 54 41.6	-0.1
AOS	Alonnisos	1.30	263	*e*Pg	Pg	01 54 24.3	-1.7
AOS				*e*Sg	Sg	01 54 43.2	+0.3
PAIG	Paliouri	1.55	293	*e*Pg	Pn	01 54 27.9	-0.5
ALN	Alexandroupoli	1.60	14	*e*Pg	Pn	01 54 27.8	-1.4
ALN				*e*Sg	Sn	01 54 49.1	-0.7
RDO	Rodhopi	1.80	0	*e*PN	Pn	01 54 28.0	-3.9
AKHS	Akhisar	1.83	104	*i* P	Pn	01 54 34.0	+1.7
AKHS				*i* S	Sg	01 55 01.4	+1.4
SART	Tekirdag	1.84	43	*i* P	Pn	01 54 31.9	-0.7
SART				*i* S	Sn	01 54 57.8	+2.0
SMG	Samos	1.93	148	*e*PN	Pg	01 54 38.3	+0.3
BTOK	Tokmak	1.98	77	*i* P	Pb	01 54 37.3	+0.4
BTOK				*i* S	Sg	01 55 04.2	-0.4
APE	Apeiranthos	2.27	180	*e*Pn	Pn	01 54 38.1	-0.3
LIT	Litokhoron	2.47	289	*e*Pn	Pn	01 54 41.1	0.0
AGG	Agios Georgios	2.51	264	*e*Pn	Pn	01 54 42.7	+1.0
MMB	Musomiste	2.63	329	*e*Pn	Pn	01 54 43.3	-0.1
KNT	Kendrikon	2.71	313	*e*Pn	Pn	01 54 44.7	+0.2
ULDT	Uludag	2.89	73	*i* P	Pb	01 54 52.5	0.0
ULDT				*i* S	Sg	01 55 33.0	-0.9

*MDD **05** 02:04:04.2±0.7, 3882N×806W, h0km, mbLg1.4/3, Error ellipse: s-maj=6.1km s-min=4.8km az=97.0, PRXIMO SOLUCIN POBRE*
INMG 05 02:04:04.6±0.9**, 3882N×805W, h15**km±5km**, ML1.1, Error ellipse: s-maj=1.9km s-min=1.6km az=93.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESTR	Estremoz	0.36	82	*e*Pg	Pg	02 04 11.4	-0.6
PESTR				*e*Sg	Sg	02 04 16.6	-0.3
PESTR							
	11nm,0.1s						
PBEJ	Beja	0.80	170	*e*Pg	Pg	02 04 19.1	-1.1
PBEJ				*e*Sg	Sg	02 04 29.7	-1.0
PBEJ							
	1.8nm,0.1s						
EBAD	Badajoz	0.81	94	Pg	Pg	02 04 19.6	-0.7
	0.8nm,0.1s,SNR=13						
EBAD				Lg		02 04 30.4	
	7.3nm,0.1s,SNR=33						
PLOU	Loures	0.86	275	*e*S	Sg	02 04 32.0	-0.7
PMAFR	Mafra	0.97	279	*e*S	Sb	02 04 35.0	-0.8
PCBR	Castelo Branco	1.11	23	*e*P	Pb	02 04 24.7	-0.9
PCBR				*e*S	Sb	02 04 39.1	-0.8
PCBR							
	2.1nm,0.1s						
EGRO	El Granado	1.36	161	Pg	Pg	02 04 29.1	-1.6
	2.3nm,0.2s,SNR=7.9						
EGRO				Lg		02 04 47.6	
	0.5nm,0.1s,SNR=6.1						
PTEO	Sao Teotonio	1.38	203	*e*Sg	Sg	02 04 47.3	-1.7
PTEO							
	1.5nm,0.1s						
PTEO	Sao Teotonio	1.38	203	Lg		02 04 47.3	
	0.8nm,0.1s						
EMIN	Mina Concepcio	1.51	134	Pg	Pg	02 04 31.8	-1.8
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		02 04 51.6	
	0.4nm,0.1s,SNR=7.9						
PVIS	Viseu	1.90	4	*e*Sg	Sg	02 05 03.3	-2.4
PVIS							
	1.1nm,0.1s						
PVIS	Viseu	1.90	4	Lg		02 05 03.3	
	0.6nm,0.1s						
EADA	Adamuz	2.80	102	Lg		02 05 32.6	
	0.4nm,0.1s,SNR=7.9						

*IDC **05** 02:16:34.4±7.8, 3603N×6973E, h106km±72km, mb3.6/13, mb1 3.8/16, mb1mx3.7/24, mbtmp4.0/16, ML4.4/3, Error ellipse: s-maj=32.3km s-min=15.1km az=9.0*
*MOS **05** 02:16:34.1±0.9, 36.14N×6965E, h114km, mb4.3/3, Error ellipse: s-maj=14.8km s-min=6.1km az=89.1*
*ISCJB **05** 02:16:37.0±0.5, 3627N±003×6978E±007, h141km±7km, mb3.7/17, Error ellipse: s-maj=9.2km s-min=4.3km az=172.2*
*NEIC **05** 02:16:37.0±2.6, 36.18N×6983E, h128km±23km, mb4.1/6, Error ellipse: s-maj=18.2km s-min=11.5km az=196.0*
*BJI **05** 02:16:38.0, 3639N×6967E, h132km, mb4.4*
*NNC **05** 02:16:42.1±2.9, 3666N×6960E, h144km±27km, mb3.5, mpv4.2, Error ellipse: s-maj=23.0km s-min=15.5km az=22.0*
ISC 05 02:16:37.9±0.6**, 3622N**±003×**6990E**±007**, h138**km±7km**, n79, σ1^{s}30**/93**, mb3.7**/17**, 10C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.91	145	P	Pn	02 17 26.2	+2.6
THW	Thamme Wali	3.74	155	⇑P	Pn	02 17 35.8	+1.4
CHCP	Chirah Chowk	3.76	132	⇓P	Pn	02 17 37.5	+2.8
CHCP				S	Sn	02 18 15.0	-3.8
SBDP	Sheikh Budin	3.98	169	⇓P	Pn	02 17 38.2	+0.6
DRP	Derazinda	4.47	177	P	Pn	02 17 45.8	+1.7
SARP	Sargodha	4.87	151	P	Pn	02 17 50.1	+0.8
KSH	Kashi	5.82	54	⇑P	Pn	02 18 05.4	+3.3
KSH				S	Sn	02 19 13.5	+5.8
KSH				Smax			
	comp=N,200nm,0.5s						
KSH				Smax			
	comp=E,213nm,0.6s						
THN	Thein Dam	6.12	126	*e*P	Pn	02 18 07.9	+1.9
THN				*e*x	x	02 19 17.3	
AML	Almayashu	6.59	25	P	Pn	02 18 12.8	+0.3
	SNR=365						
KK31	Karatay Array	6.89	4	⇓P	Pn	02 18 15.5	-0.9
	comp=E,14nm,0.3s,baz=279,slow=19,SNR=230						
KK31				⇑S	Sn	02 19 28.9	-4.5
	comp=E,9.0nm,0.3s,baz=170,slow=140,SNR=6.3						
KKAR	Karatay Array	6.89	4	PN	Pn	02 18 15.4	-1.0
KKAR				pmax	pmax		
	comp=Z,13nm,0.4s						
EKS2	Erkin-Say	7.09	24	P	Pn	02 18 19.7	+0.5
	SNR=53						
KZA	Kyzart	7.17	34	P	Pn	02 18 20.9	+0.7
	SNR=100						
BHK	Bhakra	7.24	130	*e*x	x	02 19 44.2	
AAK	Ala-Archa	7.32	28	P	Pn	02 18 23.1	+0.9
	SNR=89						
AAK	Ala-Archa	7.32	28	*e*PN	Pn	02 18 22.0	-0.2
AAK				pmax	pmax		
	comp=Z,103nm,0.6s						
AAK	Ala-Archa	7.32	28	*e*Pn	Pn	02 18 22.0	-0.2
	comp=Z,103nm,0.6s						
AAK				*e*Sn	Sn	02 19 43.4	-0.5
KBK	Karagaybulak	7.52	30	P	Pn	02 18 26.0	+1.2
	SNR=67						
SDNR	Sundarnagar	7.53	127	*e*P	Pn	02 18 26.4	+1.4
SDNR				*e*S	Sn	02 19 46.6	-2.3
FRU	Bishkek	7.54	27	⇑*i*PN	Pn	02 18 26.0	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRU				pmax	pmax		
	comp=Z,180nm,1.0s						
CHMS	Chumysh	7.73	27	P	Pn	02 18 28.2	+0.5
	SNR=96						
ULHL	Ulahol	7.77	37	P	Pn	02 18 29.1	+0.9
	SNR=16						
USP	Ospenovka	7.88	25	P	Pn	02 18 29.7	+0.1
	SNR=106						
SMLA	Simla	7.90	128	eP	Pn	02 18 31.5	+1.5
SMLA				eS	Sn	02 19 55.2	-2.7
TKM2	Tokmak 2	8.00	32	P	Pn	02 18 32.1	+0.7
	SNR=99						
TKM2	Tokmak 2	8.00	32	⇓P	Pn	02 18 31.9	+0.6
	comp=Z,5.3nm,0.7s						
TKM2				⇓S	Sn	02 19 59.2	-1.2
	comp=Z,1.9nm,0.6s						
KLP	Kalpa	8.37	122	eP	Pn	02 18 38.3	+2.1
KLP				eS	Sn	02 20 06.8	-2.3
KLP				AML	AML	02 20 16.9	
	comp=E,162nm,0.6s						
KLP				AML	AML	02 20 18.0	
	comp=N,174nm,0.3s						
KHET	Khetri	9.54	147	eP	Pn	02 18 51.7	-0.2
KHET				eS	Sn	02 20 32.2	-5.2
KHET				AML	AML	02 20 33.7	
	comp=E,65nm,0.4s						
KHET				AML	AML	02 20 33.9	
	comp=N,63nm,0.3s						
NDI	New Delhi	9.73	139	eP	Pn	02 18 53.0	-1.4
NDI				eS	Sn	02 20 36.0	-5.9
AYAN	Aya Nagar	9.84	140	eP	Pn	02 18 56.3	+0.4
SONA	Sohna	10.00	141	eP	Pn	02 18 58.4	+0.3
SONA				eS	Sn	02 20 43.2	-5.4
AJM	Ajmer	10.52	156	eP	Pn	02 19 05.5	+0.5
AGRA	Agra	11.27	140	eS	Sn	02 21 12.3	-7.0
AGRA				AML	AML	02 23 02.4	
	comp=E,70nm,0.2s						
AGRA				AML	AML	02 23 03.5	
	comp=N,64nm,0.4s						
MK02	Makanchi Array	14.04	38	⇑P	Pn	02 19 52.0	+1.4
	comp=N,6.0nm,0.9s						
MK31	Makanchi Array	14.04	37	P	Pn	02 19 52.0	+1.3
MK31				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MKAR	Makanchi Array	14.04	37	P	Pn	02 19 50.9	+0.2
	comp=Z,0.5nm,0.3s,baz=225,slow=14,SNR=15						
MKAR	Makanchi Array	14.04	37	P	Pn	02 19 50.9	+0.2
AB31	Akbulak array	14.92	334	⇑P	Pn	02 19 59.1	-2.7
	comp=Z,5.7nm,0.4s,baz=149,slow=12,SNR=202						
AB31				S	Sn	02 22 36.9	-10
	comp=Z,6.1nm,0.4s,baz=152,slow=22,SNR=14						
AB31	Akbulak array	14.92	334	eP	Pn	02 19 59.0	-2.8
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VOSK	Vostochnaya	16.52	2	⇓P	Pn	02 20 19.8	-1.6
	comp=Z,6.8nm,0.8s						
VOSK	Vostochnaya	16.52	2	P	Pn	02 20 19.8	-1.6
VOSK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKTK	Aktyubinsk	16.60	333	P	Pn	02 20 21.3	-1.1
AKTK				S	S	02 23 15.7	-12
AKTO	Aktyubinsk	16.60	333	P	Pn	02 20 21.3	-1.1
	comp=Z,1.8nm,0.3s,baz=142,slow=12,SNR=24						
AKTO				S	S	02 23 15.7	-12
	comp=Z,0.7nm,0.3s,baz=200,slow=23,SNR=4.1						
ZRNK	Zerenda	16.74	358	⇑P	Pn	02 20 23.1	-1.0
	comp=Z,3.1nm,0.6s						
ZRNK	Zerenda	16.74	358	eP	Pn	02 20 22.7	-1.4
ZRNK				e		02 23 20.3	
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZRNK	Zerenda	16.74	358	ePn	Pn	02 20 22.7	-1.4
	comp=Z,4.9nm,0.4s						
ZRNK				eSn	Sn	02 23 20.3	-10
BVA0	Borovoye Array	16.80	1	⇑P	Pn	02 20 23.2	-1.7
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	16.80	1	P	Pn	02 20 24.8	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	16.80	1	P	Pn	02 20 23.9	-1.0
	comp=Z,2.6nm,0.3s,baz=163,slow=13,SNR=32						
BRVK	Borovoye	16.84	1	eP	Pn	02 20 24.1	-1.2
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	Borovoye	16.84	1	ePn	Pn	02 20 24.1	-1.2
	comp=Z,4.7nm,0.6s						
CHKZ	Chkalovo	17.46	1	⇓P	Pn	02 20 31.8	-1.0
	comp=Z,7.1nm,0.8s						
CHKZ	Chkalovo	17.46	1	⇑iP	Pn	02 20 31.8	-1.0
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHKZ	Chkalovo	17.46	1	⇑iP	Pn	02 20 31.8	-1.0
	comp=Z,8.8nm,0.7s						
GNI	Garni	20.14	289	P	P	02 21 03.7	+2.6
	comp=Z,9.9nm,0.7s,baz=60,slow=8.1,SNR=7.1						
ZAL	Zalesovo	20.53	26	P	P	02 21 07.3	+2.1
	comp=Z,11nm,0.5s,baz=254,slow=8.3,SNR=38						
NVS	Novosibirsk	20.77	22	eP	P	02 21 09.1	+1.3
ARU	Arti	21.62	343	eP	P	02 21 18.0	+1.1
ARU				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
ARU	Arti	21.62	343	eP	P	02 21 18.0	+1.1
	comp=Z,16nm,1.0s,mb4.4						
GTA	Gaotai	23.79	73	eP	P	02 21 43.7	+5.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.1						
BRTR	Keskin Array B	28.68	288	P	P	02 22 22.2	+0.6
	comp=Z,0.3nm,0.5s,mb3.2,baz=73,slow=8.3,SNR=3.9						
SONM	Songino Array	29.22	55	P	P	02 22 29.5	+3.0
	comp=Z,0.6nm,0.6s,mb3.5,baz=256,slow=7.7,SNR=3.4						
AKASG	Malin Array Be	32.43	309	P	P	02 22 54.5	-0.3
	comp=Z,0.5nm,0.4s,mb3.6,baz=82,slow=7.0,SNR=6.3						
JOF	Joensuu	35.67	331	ep	P	02 23 22.4	-0.3
	comp=Z,1.6nm,0.4s,mb4.0						
FINES	FINESS Array B	37.22	327	P	P	02 23 35.5	-0.3
	comp=Z,1.4nm,0.8s,mb3.6,baz=112,slow=9.6,SNR=3.8						
KAF	Kangasniemi	37.38	328	ep	P	02 23 37.3	+0.1
	comp=Z,1.0nm,0.4s,mb3.8,baz=113,slow=8.3						
KAF	Kangasniemi	37.38	328	eP	P	02 23 37.3	+0.1
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KEV	Kevo	40.73	339	ep	P	02 24 04.8	-0.2
	comp=Z,0.7nm,0.4s,mb3.6						
KEV	Kevo	40.73	339	eP	P	02 24 04.8	-0.2
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ARCES	ARCESS Array B	41.07	338	P	P	02 24 07.8	0.0
	comp=Z,1.1nm,0.5s,mb3.8,baz=103,slow=7.3,SNR=14						
GERES	GERESS Array B	42.37	305	P	P	02 24 17.1	-1.2
	comp=Z,0.7nm,0.8s,mb3.3,baz=69,slow=7.3,SNR=5.8						
NB2	NORSAR Subarra	44.07	323	P	P	02 24 31.3	-0.7
	comp=Z,1.4nm,0.7s,mb3.7,baz=96,slow=8.6						
NOA	NORSAR Array B	44.07	323	P	P	02 24 31.6	-0.5
	comp=Z,1.6nm,0.7s,mb3.7,baz=97,slow=8.0,SNR=3.9						
KEST	Kesra	48.28	288	P	P	02 25 05.8	+0.8
	comp=Z,0.6nm,0.9s,mb3.2,baz=346,slow=8.8,SNR=4.6						
TORD	Torodi Ar. Bea	64.82	268	P	P	02 27 00.5	-1.4
	comp=Z,0.9nm,0.8s,mb3.7,baz=52,slow=4.9,SNR=12						
BOSA	Boshof	76.97	219	P	P	02 28 15.2	0.0
	comp=Z,2.6nm,0.9s,mb3.8,baz=95,slow=6.4,SNR=5.0						
WRA	Warramunga Arr	82.60	121	P	P	02 28 45.3	-0.2
	comp=Z,1.3nm,0.7s,mb3.8,baz=321,slow=4.7,SNR=15						
WB2	Warramunga Arr	82.61	121	eP	P	02 28 45.8	+0.3
ASAR	Alice Springs	84.83	124	P	P	02 28 57.1	+0.3
	comp=Z,1.0nm,0.5s,mb3.8,baz=312,slow=5.0,SNR=14						

SKHL 05 02:37:51.1±0.1, 5343N×13212E, h16km±4km, mb3.9/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	0.62	126	⇓iPg	Pg	02 38 02.6	-0.6
EKMR				AMB	AMB	02 38 03.4	
	64nm,0.4s						
EKMR				pPg		02 38 06.0	
EKMR				eSg	Sg	02 38 11.2	-0.2
EKMR				A		02 38 12.5	
	420nm,0.4s						
EKMR				A		02 38 12.5	
	220nm,0.4s						
BMKR	Bomnak	2.32	305	ePn	Pn	02 38 30.0	+1.4
BMKR				ePg	Pg	02 38 33.0	-2.6
BMKR				AMB	AMB	02 38 36.8	
	15nm,0.6s						
BMKR				AMB	AMB	02 38 36.8	
	12nm,0.6s						
BMKR				AMB	AMB	02 38 36.8	
	24nm,0.6s						
BMKR				eSn	Sn	02 38 57.7	+0.9
BMKR				eSg	Sg	02 39 03.9	-1.8
BMKR				A		02 39 09.5	
	120nm,0.5s						
BMKR				A		02 39 09.5	
	175nm,0.5s						
YASR	Yasnyy	2.48	268	ePn	Pn	02 38 30.8	-0.1
YASR				ePg	Pg	02 38 35.3	-3.5
YASR				AMB	AMB	02 38 38.4	
	11nm,0.4s						
YASR				AMB	AMB	02 38 38.4	
	50nm,0.4s						
YASR				pPg		02 38 40.7	
YASR				eSg	Sg	02 39 07.8	-3.2
YASR				A		02 39 16.1	
	160nm,0.6s						
YASR				A		02 39 16.1	
	90nm,0.6s						
ZEA	Zeya	2.92	278	eSg	Sg	02 39 21.7	-3.2
ZEA				AMS	AMS	02 55 04.0	
	500nm,14.0s						
KROS	Kirovskiy	3.21	290	ePn	Pn	02 38 42.5	+1.7
KROS				pPn		02 38 46.5	
KROS				ePg	Pg	02 38 48.2	-4.3
KROS				AMB	AMB	02 38 50.3	
	7.0nm,0.5s						
KROS				AMB	AMB	02 38 50.3	
	18nm,0.5s						
KROS				AMB	AMB	02 38 50.3	
	16nm,0.5s						
KROS				eSn	Sn	02 39 19.0	+0.4
KROS				eSg	Sg	02 39 30.6	-3.5
KROS				A		02 39 34.4	
	90nm,0.5s						
KROS				A		02 39 34.4	
	48nm,0.5s						
GRNR	Gornyy	3.76	133	ePg	Pg	02 39 00.0	-3.1
GRNR				eSg	Sg	02 39 48.0	-3.8
GRNR				A		02 39 51.0	
	78nm,0.5s						
KLR	Kul'dur	4.21	183	ePn	Pn	02 38 56.9	+2.3
KLR				eSg	Sg	02 40 03.0	-3.4
NKL	Nikolayevsk	5.14	90	eSg	Sg	02 40 30.5	-5.7
NKL				A		02 40 36.1	
	34nm,0.9s						
HABR	Khabarovsk	5.30	158	eSg	Sg	02 40 37.6	-3.5

*MOS **05** 02:48:27.4±2.8, 2335S×17988W, h390km, mb4.6/11, Error ellipse: s-maj=13.7km s-min=12.7km az=179.5*
*ISCJB **05** 02:48:40.4±0.9, 2342S±005×17986E±006, h548km±11km, mb4.4/38, Error ellipse: s-maj=8.7km s-min=7.7km az=85.2*
*IDC **05** 02:48:41.1±0.7, 2326S×17986E, h542km±7km, mb3.8/14, mb1 3.9/15, mb1mx3.9/18, mbtmp4.7/15, Error ellipse: s-maj=11.8km s-min=10.4km az=151.0*
*NEIC **05** 02:48:41.1±0.8, 2332S×17992E, h546km±9km, mb4.5/21, Error ellipse: s-maj=9.0km s-min=7.6km az=178.0*
*BJI **05** 02:48:41.1, 2330S×17990E, h546km, mB5.1, mb4.6*
ISC 05 02:48:41.4±0.8, 2354S±005×17996E±006, h550km±10km, n164, σ1§07/87, mb4.4/38, 6C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.00	162	P	P	02 50 20.7	+0.8
	93nm,0.3s,baz=66,slow=3.4,SNR=5.9						
DZM	Mont Dzumac	12.55	274	eP	P	02 51 26.3	+0.8
DZM	Mont Dzumac	12.55	274	P	P	02 51 25.7	+0.2
	1.1nm,0.3s,baz=101,slow=15,SNR=18						
URZ	Urewera	14.88	189	P	P	02 51 48.3	-1.1
	23nm,0.3s,baz=52,slow=1.7,SNR=76						
URZ				S	S	02 54 22.6	-1.7
	4.0nm,0.3s,baz=21,slow=23,SNR=12						
URZ	Urewera	14.88	189	PN	P	02 51 46.9	-2.6
MWZ	Matawai	14.89	187	PN	P	02 51 48.1	-1.5
MRZ	Mangatainoka R	17.47	191	PN	P	02 52 12.0	-2.3
MRZ				SN	S	02 55 07.0	-0.7
NNZ	Nelson	18.47	196	PN	P	02 52 23.0	-0.4
THZ	Tophouse	19.11	196	PN	P	02 52 29.8	+0.6
LTZ	Lake Taylor	20.22	197	PN	P	02 52 38.3	-1.0
RPZ	Rata Peaks	21.42	198	P	P	02 52 54.0	+3.9
	14nm,0.6s,mb4.8,baz=165,slow=3.2,SNR=11						
WKZ	Wanaka	23.04	200	PN	P	02 53 04.4	-0.2
ARMA	Armidale	26.11	249	eP	P	02 53 34.0	+2.2
CNB	Canberra Magne	29.00	239	eP	P	02 53 58.8	+1.8
	31nm,1.0s,mb4.9						
CTA	Charters Tower	31.44	270	eP	P	02 54 18.7	+0.7
	10.0nm,0.3s,mb4.8						
CTA	Charters Tower	31.44	270	P	P	02 54 18.8	+0.8
	13nm,0.4s,mb4.8,baz=95,slow=11,SNR=27						
CTA	Charters Tower	31.44	270	eP	P	02 54 18.7	+0.7
CTA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
CTAO	Charters Tower	31.44	270	eP	P	02 54 18.5	+0.5
CTAO				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.8						
CTAO	Charters Tower	31.44	270	eP	P	02 54 18.5	+0.5
	comp=Z,12nm,0.4s,mb4.8						
TOO	Toolangi	32.61	237	eP	P	02 54 29.3	+1.3
	comp=Z,11nm,1.1s,mb4.3						
TOO	Toolangi	32.61	237	eP	P	02 54 29.3	+1.3
TOO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.3						
PMG	Port Moresby	34.34	289c	iP	P	02 54 41.7	-0.8
PMG	Port Moresby	34.34	289	eP	P	02 54 42.2	-0.3
	comp=Z,49nm,1.3s,mb4.9						
STKA	Stephens Creek	34.82	248	eP	P	02 54 47.6	+1.1
	comp=Z,8.6nm,0.7s,mb4.4						
STKA	Stephens Creek	34.82	248	P	P	02 54 47.6	+1.1
	comp=Z,9.8nm,0.6s,mb4.5,baz=90,slow=9.4,SNR=27						
AS31	Alice Springs	42.05	260	eP	P	02 55 45.4	+0.3
AS31				eS	S	03 01 25.3	+0.6
ASAR	Alice Springs	42.05	260	P	P	02 55 45.5	+0.4
	comp=Z,6.7nm,0.6s,mb4.3,baz=94,slow=8.1,SNR=65						
ASAR				pP	pP	02 57 20.9	-1.9
	comp=Z,1.7nm,0.8s,baz=85,slow=7.8,SNR=3.3						
ASAR				ScP	ScP	03 00 30.2	+5.0
	comp=Z,2.6nm,0.9s,baz=103,slow=4.1,SNR=11						
ASAR				S	S	03 01 25.2	+0.5
	comp=Z,1.6nm,0.8s,baz=99,slow=15,SNR=9.1						
ASPA	Alice Springs	42.06	260	eP	P	02 55 45.4	+0.3
ASPA				eS	S	03 01 25.3	+0.5
WB2	Warramunga Arr	42.38	266	⇑iP	P	02 55 47.3	-0.4
WB2				eS	S	03 01 26.9	-2.5
WRAB	Tennant Creek	42.38	266	eP	P	02 55 47.2	-0.5
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
WRAB	Tennant Creek	42.38	266	eP	P	02 55 47.2	-0.5
	comp=Z,12nm,0.9s,mb4.4						
WRA	Warramunga Arr	42.39	266	P	P	02 55 47.5	-0.2
	comp=Z,3.2nm,0.3s,mb4.4,baz=89,slow=6.0,SNR=348						
WRA				ScP	ScP	03 00 31.3	+4.7
	comp=Z,2.3nm,0.9s,baz=95,slow=4.2,SNR=8.7						
WRA				S	S	03 01 27.3	-2.2
	comp=Z,1.2nm,0.8s,baz=100,slow=14,SNR=6.6						
KAKA	Kakadu	46.24	275	eP	P	02 56 16.8	-0.6
	comp=Z,4.7nm,0.3s,mb4.5						
FORT	Forrest	46.40	249	eP	P	02 56 18.7	+0.1
	comp=Z,39nm,0.6s,mb5.1						
GUMO	Guam	50.39	313	P	P	02 56 47.5	-0.7
	comp=Z,34nm,0.6s,mb5.0,baz=162,slow=10,SNR=5.1						
FITZ	Fitzroy Crossi	50.82	265	eP	P	02 56 51.9	+0.6
	comp=Z,3.5nm,0.4s,mb4.0						
FITZ				epP	pP	02 58 40.2	+5.6
FITZ	Fitzroy Crossi	50.82	265	pP	pP	02 58 34.0	-0.5
	comp=Z,2.4nm,0.9s,baz=106,slow=8.4,SNR=3.9						
SBA	Scott Base	54.73	183	eP	P	02 57 21.9	+2.7
SBA				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.5						
SBA	Scott Base	54.73	183	eP	P	02 57 21.9	+2.7
	comp=Z,28nm,1.0s,mb4.5						
VNDA	Vanda	54.73	185	P	P	02 57 21.0	+1.7
	comp=Z,3.1nm,0.6s,mb3.7,baz=357,slow=8.0,SNR=28						
VNDA	Vanda	54.73	185	eP	P	02 57 20.7	+1.5
KLBR	Kellerberrin	55.09	247	eP	P	02 57 21.9	+0.2
	comp=Z,24nm,0.9s,mb4.4						
MBWA	Marble Bar	55.40	260	eP	P	02 57 23.5	-0.4
	comp=Z,5.5nm,0.4s,mb4.1						
QSPA	South Pole Qui	66.54	180	eP	P	02 58 38.7	+1.7
	comp=Z,29nm,0.8s,mb4.8						
MJAR	Matsushiro Arr	71.58	326	P	P	02 59 06.5	-0.7
	comp=Z,8.0nm,0.8s,mb4.2,baz=155,slow=5.0,SNR=14						
YSS	Yuzh-Sakhalins	77.79	335	eP	P	02 59 42.9	+0.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.6						
MAW	Mawson	78.07	200	P	P	02 59 44.5	+1.0
	comp=Z,14nm,0.9s,mb4.3,baz=126,slow=6.8,SNR=29						
MAW	Mawson	78.07	200	eP	P	02 59 44.4	+0.9
MAW				pmax	pmax		
	comp=Z,12nm,0.7s						
MAW	Mawson	78.07	200	eP	P	02 59 44.4	+0.9
	comp=Z,12nm,0.7s,mb4.3						
SSE	Sheshan	78.22	311	P	P	02 59 43.6	-0.7
SSE				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.4						
SSE				AMB	AMB		
	comp=Z,289nm,5.1s						
NJ2	Nanjing	80.39	311	eP	P	03 00 00.8	+5.0
NJ2				PP	PP	03 03 09.9	+1.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,420nm,5.7s						
NJ2				LR	LR		
	comp=N,1μm,27.4s						
NJ2				LR	LR		
	comp=E,620nm,26.0s						
NJ2				LR	LR		
	comp=Z,700nm,26.3s						
PSI	Prapat	82.90	276	P	P	03 00 08.5	-0.1
	comp=Z,2.4nm,0.5s,mb4.0,baz=180,slow=7.1,SNR=4.0						
CMB	Columbia Colle	82.97	43	eP	P	03 00 08.6	-0.3
CMB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
CMB	Columbia Colle	82.97	43	eP	P	03 00 08.6	-0.3
	comp=Z,4.7nm,0.8s,mb4.1						
SNY	Shenyang	83.34	321	⇑P	P	03 00 10.4	-0.4
SNY				AMB	AMB		
	comp=Z,12nm,2.0s,mb4.1						
SYO	Syowa Base	83.35	193	⇓eP	P	03 00 10.0	-0.8
CN2	Changchun	83.57	324	eP	P	03 00 11.7	-0.2
KDAK	Kodiak Island	84.21	14	P	P	03 00 13.9	-1.2
	comp=Z,4.7nm,0.8s,mb4.0,baz=236,slow=7.3,SNR=3.2						
NVAR	Mina Array Bea	84.52	44	P	P	03 00 16.7	+0.1
	comp=Z,1.9nm,1.0s,mb3.6,baz=212,slow=6.2,SNR=11						
SNAA	Sanae	85.03	179	eP	P	03 00 18.5	-0.6
SNAA				e		03 00 20.7	
SNAA				e		03 00 22.4	
SNAA	Sanae	85.03	179	eP	P	03 00 18.4	-0.7
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SNAA	Sanae	85.03	179	eP	P	03 00 18.4	-0.7
	comp=Z,2.4nm,0.6s,mb3.9						
VNA1	Neumayer--Stat	85.89	177	eP	P	03 00 23.4	+0.2
VNA1				e		03 00 25.5	
VNA1				e		03 00 27.4	
MA2	Magadan	86.22	346	eP	P	03 00 22.1	-2.7
MA2				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.5						
TUC	Tucson	86.33	53	eP	P	03 00 26.5	+1.2
TUC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
TUC	Tucson	86.33	53	eP	P	03 00 26.5	+1.2
	comp=Z,1.1nm,0.6s,mb3.7						
WVOR	Wild Horse Val	86.66	41	eP	P	03 00 27.0	+0.1
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
WVOR	Wild Horse Val	86.66	41	eP	P	03 00 26.9	+0.1
	comp=Z,3.9nm,1.2s,mb3.9						
XAN	Xi'an	88.49	308	P	P	03 00 36.3	+0.9
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
HAWA	Hanford	88.51	37	eP	P	03 00 35.4	-0.1
	comp=Z,0.3nm,0.9s						
PLCA	Paso Flores	88.55	134	P	P	03 00 37.6	+1.9
	comp=Z,2.8nm,0.9s,mb4.1,baz=260,slow=5.5,SNR=6.3						
MSU	Marysvale	88.57	47	eP	P	03 00 36.5	+0.7
SEY	Seymchan	88.91	348	eP	P	03 00 35.8	-1.6
TMUT	Trail Mountain	89.62	46	eP	P	03 00 41.4	+0.7
SRU	San Rafael	89.98	47	eP	P	03 00 42.3	0.0
SRU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
SRU	San Rafael	89.98	47	eP	P	03 00 42.3	0.0
	comp=Z,7.3nm,0.8s,mb4.6						
HWUT	Hardware Ranch	90.58	44	eP	P	03 00 44.4	-0.7
	comp=Z,1.4nm,0.6s,mb4.1						
ANMO	Albuquerque	90.77	52	eP	P	03 00 46.7	+0.7
COLA	College	91.58	13	eP	P	03 00 47.3	-2.4
PDAR	Pinedale Array	92.46	44	P	P	03 00 53.4	-0.3
	comp=Z,1.1nm,0.7s,mb4.0,baz=236,slow=3.2,SNR=12						
YAK	Yakutsk	94.22	339	eP	P	03 01 05.3	+3.5
YAK				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.4						
MKAR	Makanchi Array	111.88	313	PKiKP	PKiKP	03 06 12.7	-1.3
	comp=Z,0.8nm,0.6s,baz=212,slow=1.5,SNR=9.5						
AAK	Ala-Archa	116.65	307	i PKIKP	PKPdf	03 06 21.3	-1.9
BDFB	Brasilia	119.05	125	PKP	PKPdf	03 06 28.2	+0.4
	comp=Z,3.8nm,1.0s,baz=217,slow=2.8,SNR=3.1						
BVAR	Borovoye Array	120.14	319	PKP	PKPdf	03 06 28.6	-1.3
	comp=Z,2.3nm,0.4s,baz=111,slow=3.3,SNR=13						
ZRNK	Zerenda	120.98	319	ePKIKP	PKPdf	03 06 30.1	-1.4
BOSA	Boshof	122.71	207	PKP	PKPdf	03 06 35.8	+1.0
	comp=Z,2.8nm,0.8s,baz=86,slow=7.3,SNR=5.1						
ARU	Arti	126.57	324	i PKIKP	PKPdf	03 06 40.4	-1.8
ARU				e		03 08 43.8	
AKTK	Aktyubinsk	128.01	316	PKP	PKPdf	03 06 43.7	-1.2
AKTO	Aktyubinsk	128.01	316	PKP	PKPdf	03 06 43.7	-1.2
	comp=Z,2.0nm,0.6s,baz=103,slow=3.1,SNR=12						
ARCES	ARCESS Array B	131.53	348	PKhKP		03 06 37.4	
	comp=Z,3.6nm,1.2s,baz=335,slow=2.0,SNR=7.2						
ARCES				PKP	PKPdf	03 06 50.0	-1.6
	comp=Z,3.0nm,0.7s,baz=16,slow=0.9,SNR=16						
ARCES				SKPbc	SKPbc	03 09 25.6	-0.2
	comp=Z,4.5nm,0.9s,baz=25,slow=4.0,SNR=7.8						
ARCES	ARCESS Array B	131.53	348	PKP		03 06 37.4	
ARCES				PKP	PKPdf	03 06 50.0	-1.6
ARCES				SKPbc	SKPbc	03 09 25.6	-0.2
LSZ	Lusaka	132.56	218	PKP	PKPdf	03 06 55.7	+2.1
	comp=Z,1.9nm,0.6s,baz=213,slow=2.2,SNR=7.0						
LSZ	Lusaka	132.56	218	PKP	PKPdf	03 06 55.6	+2.1
FINES	FINESS Array B	138.09	342	PKhKP		03 06 56.3	
	comp=Z,2.8nm,0.9s,baz=47,slow=3.9,SNR=5.6						
FINES				PKP	PKPdf	03 07 02.8	-1.1
	comp=Z,2.5nm,0.8s,baz=111,slow=4.3,SNR=7.9						
FINES				SKPbc	SKPbc	03 09 46.8	+0.4
	comp=Z,3.2nm,0.8s,baz=90,slow=1.4,SNR=5.7						
FINES	FINESS Array B	138.09	342	PKHKP		03 06 56.3	
FINES						03 07 02.8	
OBN	Obninsk	138.44	329	i PKIKP	PKPdf	03 07 06.6	+2.1
OBN				pmax	pmax		
	comp=Z,6.0nm,1.6s						
KIV	Kislovodsk	139.60	311	i PKIKP	PKPdf	03 07 10.8	+4.2
NB2	NORSAR Subarra	141.72	351	PKPa		03 07 04.5	
	comp=Z,1.9nm,0.5s,baz=13,slow=3.1						
NOA	NORSAR Array B	141.72	351	PKhKP		03 07 04.8	
	comp=Z,3.2nm,0.7s,baz=16,slow=4.6,SNR=10						
ANN	Anapa	142.88	314	i PKIKP	PKPdf	03 07 14.8	+2.3
ANN				pmax	pmax		
	comp=Z,174nm,1.2s						
MALT	Malatya	144.14	303	⇓iP	PKPdf	03 07 15.4	+0.8
MALT	Malatya	144.14	303	ePKPdf	PKPdf	03 07 15.0	+0.3
AKASG	Malin Array Be	144.65	327	PKP	PKPdf	03 07 14.3	-1.2
	comp=Z,8.4nm,0.5s,baz=45,slow=4.1,SNR=50						
AKASG				pPKP	pPKPdf	03 09 23.6	-0.8
	comp=Z,0.8nm,0.6s,baz=19,slow=4.1,SNR=2.6						
AKASG				SKPbc	SKPbc	03 10 03.9	+0.9
	comp=Z,2.1nm,0.6s,baz=43,slow=1.9,SNR=11						
AKASG	Malin Array Be	144.65	327	PKP	PKPdf	03 07 14.3	-1.2
AKASG				pPKP	pPKPdf	03 09 23.6	-0.8
AKASG				SKPbc	SKPbc	03 10 03.9	+0.9
AKBB	Malin Array Si	144.65	327	ePKHKP	PKPdf	03 07 14.0	-1.5
SUW	Suwalki	144.92	336	ePKP	PKPdf	03 07 16.6	+0.6
ASF	Jabal al Asfar	146.36	293	PKPbc	PKPbc	03 07 21.9	+1.2
	comp=Z,3.6nm,0.6s,baz=0.4,slow=3.4,SNR=8.0						
BR131	Keskin Array S	147.33	308	ePKPdf	PKPdf	03 07 21.7	+1.7
BRTR	Keskin Array B	147.33	308	PKPbc	PKPbc	03 07 23.1	-0.2
	comp=Z,2.4nm,0.6s,baz=141,slow=4.3,SNR=14						
KWP	Kalwaria	148.43	331	ePKP	PKPbc	03 07 26.4	+0.3
CFR	Carcaliu	148.53	320	⇑iP	PKPdf	03 07 24.6	+2.6
BURAR	Bucovina Array	148.65	326	⇑iP	PKPbc	03 07 27.2	+0.5
KOLS	Kolonicke sedl	149.14	331	ePKP	PKPbc	03 07 28.0	+0.1
KOLS				e		03 07 35.5	
KOLS				e		03 09 37.2	
KOLS	Kolonicke sedl	149.14	331	ePKHKP	PKPbc	03 07 28.0	+0.1
KOLS				e		03 07 35.5	
STHS	Stebnicka Huta	149.23	332	ePKP	PKPbc	03 07 28.3	+0.2
UZH	Uzhgorod	149.35	330	⇓iPKHKP	PKPbc	03 07 28.5	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UZH				i		03 07 35.0	
CRVS	**Cervenica-Dubn**	**149.52**	**332**	ePKP	PKPbc	03 07 28.5	-0.3
CRVS				e		03 09 39.1	
MLR	**Muntele Rosu**	**149.60**	**322**	PKPbc	PKPbc	03 07 27.7	-1.3
	comp=Z,3.0nm,0.6s,baz=200,slow=6.9,SNR=3.8						
MLR	**Muntele Rosu**	**149.60**	**322**	⇓iP	PKPbc	03 07 27.8	-1.2
NIE	**Niedzica**	**149.62**	**333**	ePKP	PKPbc	03 07 29.4	+0.4
KSP	**Ksiaz**	**149.94**	**339**	ePKP	PKPbc	03 07 29.6	-0.2
KECS	**Kecovo**	**150.26**	**332**	ePKP	PKPbc	03 07 30.0	-0.5
KECS				e		03 21 31.5	
KECS				e		03 21 35.0	
KECS	**Kecovo**	**150.26**	**332**	ePKP	PKPbc	03 07 30.0	-0.5
KECS				e		03 21 31.5	
KECS				e		03 21 35.0	
UPC	**Upice**	**150.32**	**339**	ePKPbc	PKPbc	03 07 30.6	-0.1
DPC	**Dobruska-Polom**	**150.35**	**339**	ePKPbc	PKPbc	03 07 30.7	0.0
DPC				ePKPab	PKPab	03 07 39.6	0.0
MORC	**Moravsky Berou**	**150.41**	**337**	ePKIKP	PKPbc	03 07 30.3	-0.6
MORC				e		03 07 39.6	
CLL	**Collm**	**150.50**	**343**	⇓iPKPbc	PKPbc	03 07 30.6	-0.5
	comp=Z,22nm,0.7s						
CLL				i PKPab	PKPab	03 07 39.2	-1.0
BRG	**Berggiesshubel**	**150.63**	**342**	i PKP	PKPbc	03 07 31.0	-0.4
	comp=Z,9.2nm,0.6s						
BRG	**Berggiesshubel**	**150.63**	**342**	i PKP	PKPbc	03 07 31.0	-0.4
PVCC	**Panska Ves**	**150.75**	**341**	ePKPbc	PKPbc	03 07 31.7	0.0
PRU	**Pruhonice**	**151.24**	**340**	ePKP	PKPbc	03 07 32.0	-0.8
MOX	**Moxa**	**151.46**	**344**	ePKIKP	PKPdf	03 07 30.0	+3.5
MOX				e		03 07 42.0	
KHC	**Kasperske Hory**	**152.29**	**341**	ePKP	PKPbc	03 07 34.6	-0.5
GRA1	**Grafenberg Arr**	**152.44**	**344**	ePKP	PKPab	03 07 47.1	-1.3
GRF	**Grafenberg Arr**	**152.44**	**344**	ePKP	PKPab	03 07 47.1	-1.3
GERES	**GERESS Array B**	**152.50**	**340**	PKPbc	PKPbc	03 07 34.4	-1.2
	comp=Z,1.4nm,0.7s,baz=23,slow=1.9,SNR=13						
GERES				PKPab	PKPab	03 07 47.5	-1.2
	comp=Z,0.6nm,0.8s,baz=297,slow=4.3,SNR=3.3						
GERES				pPKPbc	pPKPbc	03 09 41.0	-2.6
	comp=Z,1.0nm,0.8s,baz=42,slow=2.2,SNR=3.2						
GERES	**GERESS Array B**	**152.50**	**340**	PKIKP	PKPbc	03 07 34.4	-1.2
GERES						03 07 47.5	
CONA	**Conrad Observa**	**152.56**	**336**	⇑iPKPbc	PKPbc	03 07 35.2	-0.5
	comp=Z,4.7nm,1.2s						
GOLS	**Golise**	**154.24**	**334**	ePKPab	PKPab	03 07 55.3	-0.8
PDKS	**Podkum**	**154.45**	**335**	ePKPbc	PKPbc	03 07 38.8	-0.9
PDKS				i PKPab	PKPab	03 07 56.1	-0.9
CDF	**Champ du Feu**	**154.51**	**349**	ePKP2	PKPab	03 07 56.0	-1.3
	comp=Z,8.3nm,0.8s						
VISS	**Visnje**	**154.72**	**335**	ePKPab	PKPab	03 07 57.2	-0.9
MEZF	**Maizieres J'vi**	**154.76**	**352**	ePKP2	PKPab	03 07 57.1	-1.3
	comp=Z,11nm,0.8s						
BOJS	**Bojanci**	**154.81**	**334**	ePKPbc	PKPdf	03 07 40.2	+8.9
BOJS				ePKPab	PKPab	03 07 57.9	-0.7
HAU	**Haudompre**	**155.06**	**350**	ePKP2	PKPab	03 07 58.3	-1.3
	comp=Z,14nm,0.8s						
HINF	**Hinteralfeld**	**155.16**	**349**	ePKP2	PKPab	03 07 59.3	-0.8
LOR	**Lormes**	**156.12**	**353**	ePKP2	PKPab	03 08 02.8	-1.4
CABF	**La Chapelle**	**156.46**	**349**	ePKP2	PKPab	03 08 04.6	-1.1
	comp=Z,50nm,1.6s						
AVF	**Avril sur Loir**	**156.64**	**354**	ePKP2	PKPab	03 08 04.9	-1.6
	comp=Z,9.0nm,1.0s						
SMF	**Signal de Mont**	**156.73**	**353**	ePKP2	PKPab	03 08 05.5	-1.4
	comp=Z,12nm,0.8s						
BGF	**Bois d'Agland**	**156.91**	**355**	ePKP2	PKPab	03 08 05.5	-2.2
	comp=Z,6.1nm,0.9s						
TCF	**Toulx Ste Croi**	**157.23**	**356**	ePKP2	PKPab	03 08 07.6	-1.4
	comp=Z,5.1nm,0.9s						
LPL	**La Plagne**	**157.39**	**348**	ePKP2	PKPab	03 08 09.5	-0.2
	comp=Z,6.6nm,0.9s						
LPG	**La Plagne**	**157.41**	**347**	ePKP2	PKPab	03 08 09.6	-0.2
ORIF	**Oris-en-Rattie**	**158.13**	**349**	ePKP2	PKPab	03 08 12.4	-0.5
	comp=Z,13nm,0.9s						
VIVF	**Saint-Julien-l**	**158.39**	**351**	ePKP2	PKPab	03 08 13.1	-1.0
	comp=Z,8.1nm,1.0s						
SBF	**Sospel**	**158.81**	**345**	ePKP2	PKPab	03 08 14.7	-1.2
	comp=Z,17nm,0.7s						
SMRF	**Simiane la Rot**	**159.10**	**349**	ePKP2	PKPab	03 08 16.7	-0.5
	comp=Z,3.9nm,0.8s						
FRF	**La Foret Royal**	**159.28**	**346**	ePKP2	PKPab	03 08 16.7	-1.3
	comp=Z,8.0nm,1.0s						
LMR	**La Mourre**	**159.53**	**346**	ePKP2	PKPab	03 08 17.9	-1.1
	comp=Z,11nm,1.1s						
ESDC	**Sonseca Array**	**163.57**	**11**	PKPab	PKPab	03 08 35.8	-1.0
	comp=Z,0.1nm,0.3s,baz=346,slow=3.6,SNR=5.5						
KEST	**Kesra**	**165.37**	**328**	PKPab	PKPab	03 08 44.5	-0.2
	comp=Z,1.1nm,0.9s,baz=326,slow=7.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**169.53**	**189**	PKPab	PKPab	03 09 04.1	+0.9
	comp=Z,3.6nm,0.9s,baz=173,slow=4.5,SNR=15						
TORD				pPKPab	pPKPab	03 11 05.7	+1.0
	comp=Z,0.9nm,0.9s,baz=163,slow=3.4,SNR=3.5						

---

*IGIL **05** 02:49:46.1, 3879N×794W, h0km, ML1.3*
*MDD **05** 02:49:46.1±0.5, 3878N×796W, h0km, mbLg1.8/7, Error ellipse: s-maj=4.8km s-min=3.4km az=54.0, PRXIMO*
INMG 05 02:49:46.4±1.3, 3878N×795W, h14km±6km, ML1.4, Error ellipse: s-maj=2.2km s-min=1.8km az=66.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PESTR	**Estremoz**	**0.29**	**72**	ePg	Pg	02 49 52.2	-0.3
PESTR				eSg	Sg	02 49 56.5	-0.1
PESTR							
	4.1nm,0.1s						
ALMR	**Almeirim**	**0.62**	**308**	eP	Pg	02 49 57.2	-1.3
ALMR				eS	Sg	02 50 05.2	-1.5
ALMR				eS	Sg	02 50 05.2	-1.4
ALMR				AML	AML	02 50 06.8	
	comp=N,14nm,0.1s						
ALMR	**Almeirim**	**0.62**	**308**	eP	Pg	02 49 57.2	-1.3
ALMR				eS	Sg	02 50 05.3	-1.4
EBAD	**Badajoz**	**0.73**	**91**	Pg	Pg	02 50 00.1	-0.6
	comp=N,2.8nm,0.1s,SNR=18						
EBAD				Lg		02 50 09.8	
	comp=N,12nm,0.1s,SNR=37						
PBEJ	**Beja**	**0.75**	**175**	ePg	Pg	02 50 00.0	-1.0
PBEJ				eSg	Sg	02 50 10.1	-0.8
PBEJ							
	comp=N,6.6nm,0.1s						
PBEJ	**Beja**	**0.75**	**175**	Lg		02 49 30.4	
	comp=N,0.6nm,0.1s						
PTOM	**Tomar**	**0.91**	**337**	eP	Pb	02 50 02.7	-1.3
PTOM				eS	Sg	02 50 14.9	-1.1
PTOM							
	comp=N,8.4nm,0.1s						
PTOM	**Tomar**	**0.91**	**337**	Lg		02 49 35.4	
	comp=N,0.6nm,0.1s						
PLOU	**Loures**	**0.95**	**277**	eS	Sb	02 50 16.4	-0.6
PLOU							
	comp=N,6.6nm,0.1s						
PLOU	**Loures**	**0.95**	**277**	Lg		02 50 16.4	
	comp=N,3.3nm,0.1s						
PMAFR	**Mafra**	**1.06**	**280**	eS	Sb	02 50 19.4	-0.8
PCBR	**Castelo Branco**	**1.12**	**19**	eP	Pb	02 50 06.7	-0.9
PCBR				eS	Sb	02 50 21.2	-0.9
PCBR							
	comp=N,4.3nm,0.1s						
EGRO	**El Granado**	**1.29**	**163**	Pg	Pg	02 50 10.5	-0.8
	comp=N,0.5nm,0.1s,SNR=7.9						
EGRO				Lg		02 50 27.1	
	comp=N,1.3nm,0.1s,SNR=6.0						
PTEO	**Sao Teotonio**	**1.37**	**207**	eSg	Sg	02 50 28.8	-1.9
EMIN	**Mina Concepcio**	**1.42**	**135**	Pg	Pg	02 50 12.0	-1.7
	comp=N,0.7nm,0.1s,SNR=6.7						
EMIN				Lg		02 50 31.4	
	comp=N,0.8nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.94**	**1**	eSg	Sg	02 50 45.9	-2.8
PVIS							
	comp=N,2.0nm,0.1s						
PVIS	**Viseu**	**1.94**	**1**	Lg		02 50 45.9	
	comp=N,1.0nm,0.1s						
EADA	**Adamuz**	**2.72**	**102**	Pg	Pg	02 50 34.7	-3.8
	comp=N,0.1nm,0.1s,SNR=7.9						
EADA				Lg		02 51 11.4	
	comp=N,0.7nm,0.1s,SNR=7.9						

---

*NEIC **05** 02:53:35.2, 2775S×7104W, h29km, ML3.5(GUC), After GUC.*
GUC 05 02:53:35.2±0.6, 2775S×7104W, h29km±6km, MD3.8, ML3.5, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.70**	**16**	⇑iP	Pb	02 53 48.2	-0.6
CDCH				i S	Sb	02 53 58.3	+0.2
CDCH				AML	AML	02 53 59.6	
	comp=N,501nm,0.5s						
CDCH	**Caldera**	**0.70**	**16**	⇑iP	Pb	02 53 48.2	-0.6
CDCH				i S	Sb	02 53 58.3	+0.2
CPCH	**Copiapo**	**0.72**	**58**	⇓iP	Pb	02 53 48.5	-0.8
CPCH				i S	Sb	02 53 59.2	+0.3
CPCH				AML	AML	02 54 01.5	
	comp=N,17μm,0.1s						
CPCH	**Copiapo**	**0.72**	**58**	⇓iP	Pb	02 53 48.5	-0.8
CPCH				i S	Sb	02 53 59.2	+0.3
VACH	**Vallenar**	**0.86**	**163**	eP	Pn	02 53 51.1	-0.2
VACH				i S	Sb	02 54 02.8	0.0
VACH				AML	AML	02 54 04.2	
	comp=N,5μm,0.1s						
VACH	**Vallenar**	**0.86**	**163**	eP	Pn	02 53 51.1	-0.2
VACH				i S	Sb	02 54 02.8	0.0
LSCH	**La Serena**	**2.16**	**185**	eP	Pn	02 54 10.2	+1.0
LSCH				i S	Sn	02 54 37.6	+2.6
TLL	**Tololo Astrono**	**2.42**	**175**	eP	Pn	02 54 11.9	-0.8
CMCH	**Combarbala**	**3.42**	**179**	eP	Pn	02 54 23.7	-2.7

---

*ISCJB **05** 03:10:34.0±1.7, 16S±1×1748W±06, h124km±24km, mb3.7/6, Error ellipse: s-maj=190.7km s-min=17.4km az=120.0*
*IDC **05** 03:10:34.0±2.4, 1576S×17471W, h114km±24km, mb3.5/5, mb1 3.8/6, mb1mx3.6/14, mbtmp3.9/6, Error ellipse: s-maj=185.6km s-min=17.5km az=149.0*
*NEIC **05** 03:10:36.5±2.0, 1577S×17459W, h143km±23km, mb3.6/1, Error ellipse: s-maj=166.5km s-min=19.4km az=149.0*
ISC 05 03:10:35.6±1.9, 157S±10×1747W±06, h125km±21km, n8, σ0s95/9, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.33**	**58**	P	**Pn**	**03 11 27.0**	**+0.7**
	31nm,0.3s,baz=203,slow=2.4,SNR=18						
AFI				S	**Sn**	**03 12 04.7**	**-0.8**
	54nm,0.3s,baz=31,slow=24,SNR=17						
DZM	**Mont Dzumac**	**18.94**	**248**	P	**P**	**03 14 49.2**	**+2.4**
	0.2nm,0.3s,baz=91,slow=18,SNR=7.7						
STKA	**Stephens Creek**	**42.82**	**240**	P	**P**	**03 18 20.2**	**-0.8**
	1.0nm,0.4s,mb3.9,baz=110,slow=11,SNR=3.2						
WRAB	**Tennant Creek**	**48.56**	**257**	eP	**P**	**03 19 05.5**	**-0.6**
	0.6nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**48.57**	**257**	P	**P**	**03 19 05.6**	**-0.6**
	0.3nm,0.4s,mb3.5,baz=95,slow=7.0,SNR=4.9						
ASAR	**Alice Springs**	**48.84**	**252**	P	**P**	**03 19 07.7**	**-0.6**
	3.1nm,0.7s,mb4.4,baz=86,slow=8.4,SNR=34						
NVAR	**Mina Array Bea**	**75.38**	**43**	P	**P**	**03 22 05.6**	**+0.2**
	0.4nm,0.7s,mb3.3,baz=228,slow=5.6,SNR=5.2						
PDAR	**Pinedale Array**	**83.31**	**42**	P	**P**	**03 22 49.4**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=239,slow=2.4,SNR=7.4						

---

*NEIC **05** 03:15:31.6, 3833N×2049E, h39km, MD3.4(ATH), After ATH.*
*ATH **05** 03:15:31.6, 3833N×2049E, h39km±3km, MD3.4/5*
*ISCJB **05** 03:15:32.3±0.7, 3850N±003×2051E±006, h4km±5km, Error ellipse: s-maj=8.0km s-min=4.8km az=150.7*
*CSEM **05** 03:15:32.4±0.3, 3853N×2040E, h2km, MD3.4, Error ellipse: s-maj=6.5km s-min=3.8km az=75.0*
*THE **05** 03:15:34.0, 3855N×2055E, h10km, ML3.0*
ISC 05 03:15:32.5±0.7, 3848N±003×2046E±005, h6km±5km, n22, σ1s12/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.27**	**32**	ePg	**Pg**	**03 15 37.0**	**-0.9**
LKD				eSg	**Sg**	**03 15 40.5**	**-1.0**
VLS	**Valsamata**	**0.32**	**162**	ePB	**Pg**	**03 15 39.0**	**+0.4**
VLS				eSB	**Sg**	**03 15 44.7**	**+1.9**
RLS	**Riolos of Patr**	**0.89**	**118**	ePN	**Pg**	**03 15 47.9**	**-1.8**
IGT	**Igoumenitsa**	**1.06**	**355**	ePg	**Pg**	**03 15 52.4**	**-0.4**
IGT				eSg	**Sg**	**03 16 07.9**	**+1.3**
EVR	**Evrytania**	**1.14**	**67**	ePN	**Pn**	**03 15 53.1**	**-1.9**
JAN	**Janina**	**1.22**	**14**	ePN	**Pn**	**03 15 55.6**	**-0.5**
KEK	**Kerkira**	**1.34**	**337**	ePN	**Pn**	**03 15 57.4**	**-0.3**
SRN	**Sarande**	**1.45**	**346**	i Pg	**Pg**	**03 16 00.4**	**+0.1**
SRN				i Sg	**Sg**	**03 16 20.5**	**+1.5**
AGG	**Agios Georgios**	**1.56**	**69**	ePg	**Pn**	**03 16 00.1**	**-0.6**
AGG				eSg	**Sg**	**03 16 22.0**	**-0.6**
LIT	**Litokhoron**	**2.26**	**43**	ePn	**Pn**	**03 16 11.5**	**+1.1**
LIT				eSn	**Sn**	**03 16 38.5**	**-0.1**
FNA	**Florina**	**2.41**	**17**	ePn	**Pn**	**03 16 12.4**	**-0.1**
FNA				eSn	**Sn**	**03 16 43.0**	**+0.7**
BIA	**Bitola**	**2.62**	**14**	ePn	**Pn**	**03 16 16.0**	**+0.5**
BIA	**Bitola**	**2.62**	**14**	ePn	**Pn**	**03 16 15.9**	**+0.5**
OHR	**Ohrid**	**2.65**	**6**	ePn	**Pn**	**03 16 19.5**	**+3.8**
PAIG	**Paliouri**	**2.89**	**59**	ePn	**Pn**	**03 16 19.9**	**+0.9**
GRG	**Griva**	**2.89**	**30**	ePn	**Pn**	**03 16 19.0**	**-0.1**
KRUS	**Krusevo**	**2.95**	**12**	ePn	**Pn**	**03 16 20.0**	**0.0**
KRUS	**Krusevo**	**2.95**	**12**	ePn	**Pn**	**03 16 19.9**	**0.0**
OUR	**Ouranopolis**	**3.30**	**55**	ePn	**Pn**	**03 16 26.1**	**+1.4**
CHOS	**Chios island**	**4.39**	**89**	ePn	**Pn**	**03 16 41.7**	**+1.9**
HAVL	**Avola**	**4.50**	**252**	Pn	**Pn**	**03 16 39.5**	**-1.6**
NVLJ	**Novalja**	**7.39**	**327**	i Pn	**Pn**	**03 17 18.6**	**-2.3**
NVLJ				i Sn	**Sn**	**03 18 39.6**	**-5.4**

NEIC 05 03:27:39.0, 1984N×15595W, h42km, ML3.7(HVO), 1D, After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.19**	**199**	ePn	Pn	03 27 46.4	0.0
KKH				eSn	Sn	03 27 50.5	-1.1
HPO	**Honuapo**	**0.84**	**153**	ePn	Pn	03 27 53.4	-1.0
HPO				eSn	Sn	03 28 04.5	-1.0
HKL	**Haleakala**	**0.91**	**342**	ePn	Pn	03 27 54.9	-0.4
HKL				eSn	Sn	03 28 03.6	-3.6
KIP	**Kipapa**	**2.49**	**310**	⇓iPn	Pn	03 28 15.2	-1.8
KIP				eSn	Sn	03 28 42.3	-3.8

---

*ISCJB **05** 03:33:18.9±1.3, 175S±03×1789W±02, h546km±20km, mb3.8/9, Error ellipse: s-maj=42.9km s-min=14.7km az=126.6*
*IDC **05** 03:33:19.7±2.0, 1761S×17880W, h543km±23km, mb3.4/7, mb1 3.6/9, mb1mx3.5/15, mbtmp4.3/9, Error ellipse: s-maj=37.2km s-min=14.0km az=149.0*
*NEIC **05** 03:33:19.6±1.0, 1759S×17882W, h541km±17km, mb3.9/2, Error ellipse: s-maj=52.6km s-min=12.5km az=150.0*
ISC 05 03:33:19.8±1.2, 177S±03×1788W±02, h544km±17km, n18, σ0s47/16, mb3.8/9, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.69**	**62**	P	**P**	**03 35 13.9**	**-0.3**
	5.1nm,0.3s,baz=84,slow=10,SNR=6.2						
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**03 36 25.6**	**+0.5**
	0.3nm,0.3s,baz=124,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**38.45**	**241**	⇓iP	**P**	**03 39 55.9**	**+0.7**
	2.9nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 39 56.0**	**+0.9**
	3.1nm,0.4s,mb4.2,baz=87,slow=11,SNR=11						
WB2	**Warramunga Arr**	**44.34**	**259**	eP	**P**	**03 40 40.8**	**-0.9**
WRA	**Warramunga Arr**	**44.35**	**259**	P	**P**	**03 40 41.1**	**-0.7**
	1.8nm,0.5s,mb3.8,baz=93,slow=6.8,SNR=44						
AS31	**Alice Springs**	**44.53**	**254**	eP	**P**	**03 40 43.3**	**+0.1**
ASAR	**Alice Springs**	**44.53**	**254**	P	**P**	**03 40 43.4**	**+0.1**
	17nm,0.6s,mb4.8,baz=88,slow=8.1,SNR=247						
ASPA	**Alice Springs**	**44.54**	**254**	eP	**P**	**03 40 43.3**	**+0.1**
KAKA	**Kakadu**	**47.25**	**269**	eP	**P**	**03 41 03.9**	**0.0**
	2.8nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**52.74**	**260**	eP	**P**	**03 41 44.1**	**0.0**
	4.4nm,1.1s,mb3.7						
MJAR	**Matsushiro Arr**	**67.52**	**324**	P	**P**	**03 43 21.9**	**0.0**
	0.5nm,0.3s,mb3.5,baz=149,slow=5.5,SNR=4.3						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**03 44 30.8**	**+0.7**
	1.1nm,0.7s,mb3.3,baz=217,slow=6.7,SNR=10						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**03 44 30.8**	**+0.7**
MAW	**Mawson**	**83.97**	**200**	P	**P**	**03 44 52.4**	**-0.5**
	0.5nm,0.3s,mb3.5,baz=117,slow=9.0,SNR=3.7						
PDAR	**Pinedale Array**	**87.41**	**44**	P	**P**	**03 45 09.4**	**0.0**
	1.0nm,0.5s,mb3.7,baz=219,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**144.38**	**315**	PKP	PKPdf	03 51 53.7	-0.4
	0.9nm,0.8s,baz=92,slow=3.1,SNR=5.2						
GERES	**GERESS Array B**	**147.30**	**345**	PKPbc	PKPbc	03 52 01.5	-0.8
	1.3nm,0.5s,baz=4.5,slow=3.0,SNR=13						

---

*IDC **05** 03:41:11.3±2.3, 658S×130.19E, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.6/13, mbtmp3.8/3, ML3.6/2, Error ellipse: s-maj=142.2km s-min=31.1km az=70.0*
*NEIC **05** 03:41:23.8±3.7, 708S×12983E, h108km±35km, mb4.2/4, Error ellipse: s-maj=33.8km s-min=25.2km az=204.0*
*ISCJB **05** 03:41:30.7±2.1, 77S±01×1298E±01, h145km±22km, mb3.8/1, Error ellipse: s-maj=20.4km s-min=15.0km az=71.0*
ISC 05 03:41:32.2±2.1, 77S±01×1298E±01, h169km±21km, n10, σ1s37/16, mb3.8/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.61**	**153**	eP	**Pn**	**03 42 53.6**	**-0.3**
	1.3nm,0.1s						
KAKA				eS	**Sn**	**03 43 59.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**11.12**	**201**	eP	**Pn**	**03 44 07.0**	**+0.5**
	3.0nm,0.3s						
FITZ				eS	**Sn**	**03 46 08.8**	**-1.1**
WRAB	**Tennant Creek**	**12.93**	**161**	ePn	**Pn**	**03 44 31.4**	**+1.6**
	9.0nm,0.8s						
WRAB				eSn	**Sn**	**03 46 51.8**	**-1.5**
WRA	**Warramunga Arr**	**12.94**	**161**	Pn	**Pn**	**03 44 29.5**	**-0.4**
	0.3nm,0.3s,baz=347,slow=13,SNR=18						
WRA				Sn	**Sn**	**03 46 53.2**	**-0.2**
	0.8nm,0.3s,baz=334,slow=22,SNR=11						
WB2	**Warramunga Arr**	**12.94**	**161**	eP	**Pn**	**03 44 29.5**	**-0.4**
WB2				eS	**Sn**	**03 46 52.1**	**-1.4**
ASAR	**Alice Springs**	**16.36**	**167**	P	**Pn**	**03 45 15.2**	**+3.0**
	0.2nm,0.3s,baz=343,slow=9.8,SNR=12						
ASAR				S	**S**	**03 48 15.0**	**+1.1**
	0.1nm,0.3s,baz=332,slow=18,SNR=3.6						
MBWA	**Marble Bar**	**16.57**	**215**	Pn	**Pn**	**03 45 16.4**	**+1.6**
	0.7nm,0.3s						
STKA	**Stephens Creek**	**26.44**	**157**	P	**P**	**03 46 57.0**	**+3.7**
MKAR	**Makanchi Array**	**68.71**	**327**	P	**P**	**03 52 12.3**	**-5.1**
	0.8nm,0.4s,mb3.8,baz=119,slow=7.3,SNR=8.7						
MKAR	**Makanchi Array**	**68.71**	**327**	P	**P**	**03 52 12.3**	**-5.1**

MEX 05 03:58:36.1±0.7, 1758N×9457W, h133km±11km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.58**	**212**	i P	Pn	03 58 54.7	-1.3
CMIG				i S	Sn	03 59 09.2	-1.9
OXX	**Oaxaca**	**2.12**	**257**	i P	Pn	03 59 10.5	-1.2
OXX				i S	Sn	03 59 38.0	-1.0
VHO	**Vista Hermosa**	**2.13**	**257**	i P	Pn	03 59 10.5	-1.4
VHO				i S	Sn	03 59 37.2	-2.0
CCIG	**Comitan**	**2.66**	**119**	i P	Pn	03 59 17.8	-0.7
CCIG				i S	Sn	03 59 49.1	-1.9
PPM	**Popocatepetl**	**4.13**	**292**	i P	Pn	03 59 37.3	-0.4
PPM				i S	Sn	04 00 23.4	-2.0

---

*NEIC **05** 04:00:12.4, 3131S×6875W, h43km, MD4.0(GUC), After GUC.*
GUC 05 04:00:12.4±0.6, 3131S×6875W, h43km±7km, MD4.0, ML3.5, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.58**	**183**	eP	Pn	04 00 28.4	-9.5
MDZ				eS	Sn	04 00 38.8	-18
CMCH	**Combarbala**	**1.93**	**273**	⇑iP	Pn	04 00 43.8	+1.0
CMCH				i S	Sn	04 01 08.0	+2.2
CMCH				AML	AML	04 01 09.7	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**1.93**	**273**	⇑iP	Pn	04 00 43.8	+1.0
CMCH				i S	Sn	04 01 08.0	+2.2
JACH	**Jahuel**	**2.08**	**228**	i S	Sn	04 01 11.3	+1.8
PTCH	**Petorca**	**2.09**	**242**	i P	Pn	04 00 45.7	+0.8
PTCH				i S	Sn	04 01 11.2	+1.5
PTCH				AML	AML	04 01 13.6	
	comp=N,283nm,0.2s						
PTCH	**Petorca**	**2.09**	**242**	i P	Pn	04 00 45.7	+0.8
PTCH				i S	Sn	04 01 11.2	+1.5
TLL	**Tololo Astrono**	**2.10**	**302**	⇑iP	Pn	04 00 46.4	+1.3
TLL				i S	Sn	04 01 12.3	+2.3
TLL				AML	AML	04 01 16.9	
	comp=N,291nm,0.7s						
TLL	**Tololo Astrono**	**2.10**	**302**	⇑iP	Pn	04 00 46.4	+1.3
TLL				i S	Sn	04 01 12.3	+2.3
FCH	**Farellones**	**2.40**	**213**	⇓iP	Pn	04 00 51.0	+1.8
FCH				i S	Sn	04 01 20.2	+2.9
PEL	**Peldehue**	**2.46**	**221**	i P	Pn	04 00 51.1	+1.1
PEL				i S	Sn	04 01 20.1	+1.3
PEL				AML	AML	04 01 23.7	
	comp=E,161nm,0.3s						
PEL	**Peldehue**	**2.46**	**221**	i P	Pn	04 00 51.1	+1.1
PEL				i S	Sn	04 01 20.1	+1.3
ROCH	**El Roble**	**2.54**	**229**	i S	Sn	04 01 23.0	+2.2
LSCH	**La Serena**	**2.56**	**302**	i P	Pn	04 00 51.1	-0.3
LSCH				i S	Sn	04 01 21.2	-0.2
CLCH	**Cerro Calan**	**2.58**	**215**	i P	Pn	04 00 54.1	+2.5
CLCH				i S	Sn	04 01 24.6	+3.0
CLCH				AML	AML	04 01 26.0	
	comp=E,107nm,0.8s						
RCDM	**Rinconada Maip**	**2.79**	**218**	⇓iP	Pn	04 00 55.6	+1.1
RCDM				i S	Sn	04 01 28.2	+1.3
RCDM				AML	AML	04 01 31.5	
	comp=E,142nm,0.1s						
RCDM	**Rinconada Maip**	**2.79**	**218**	⇓iP	Pn	04 00 55.6	+1.1
RCDM				i S	Sn	04 01 28.2	+1.3
LMEL	**Las Melosas**	**2.82**	**205**	i P	Pn	04 00 55.9	+1.0
LMEL				i S	Sn	04 01 29.5	+1.9
VACH	**Vallenar**	**3.23**	**327**	i S	Sn	04 01 39.0	+1.1
VACH				AML	AML	04 01 41.0	
	comp=N,371nm,0.1s						
TRQA	**Tornquist**	**8.74**	**142**	ePn	Pn	04 02 13.8	-2.3
	comp=N,1.7nm,0.3s						
TRQA				eSn	Sn	04 03 47.9	-5.5

---

*IDC **05** 04:05:16.8±8.2, 630S×150.16E, h67km±61km, mb3.2/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.6/4, ML2.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/12, Error ellipse: s-maj=101.3km s-min=53.9km az=131.0*
NEIC 05 04:05:08.8±6.1, 571S×15032E, h35km, mb3.9/1, Error ellipse: s-maj=88.6km s-min=43.8km az=64.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**220**	P	Pn	04 06 19.6	+0.7
	2.9nm,0.3s,baz=11,slow=10,SNR=6.9						
PMG				S	Sn	04 07 09.3	-4.3
	5.1nm,0.3s,baz=153,slow=11,SNR=5.1						
CTAO	**Charters Tower**	**14.83**	**195**	ePn	Pn	04 08 36.7	+0.8
	2.1nm,0.2s						
GUMO	**Guam**	**19.92**	**344**	LR	LR	04 17 29.7	
	comp=Z,65nm,18.9s,baz=93,slow=36						
WRAB	**Tennant Creek**	**21.00**	**226**	eP	P	04 09 48.0	-1.2
	3.5nm,0.6s						
WRA	**Warramunga Arr**	**21.01**	**226**	P	P	04 09 49.2	-0.1
	2.1nm,0.7s,baz=52,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.84**	**220**	P	P	04 10 18.1	-0.6
	0.4nm,0.3s,baz=56,slow=8.8,SNR=6.0						
FITZ	**Fitzroy Crossi**	**27.06**	**241**	P	P	04 10 50.0	+2.1
	0.6nm,0.5s,baz=48,slow=12,SNR=4.5						
TORD	**Torodi Ar. Bea**	**148.21**	**286**	PKPbc	PKPbc	04 24 55.7	+4.7
	0.5nm,0.6s,baz=87,slow=2.5,SNR=11						

---

*IDC **05** 04:37:22.5±2.9, 439S×15337E, h82km±23km, mb3.9/7, mb1 4.0/9, mb1mx3.8/18, mbtmp4.2/9, MS3.8/5, Ms1 3.8/5, ms1mx3.3/34, Error ellipse: s-maj=26.6km s-min=20.6km az=155.0*
*ISCJB **05** 04:37:24.2±3.8, 46S±02×1533E±01, h103km±25km, mb4.1/10, Error ellipse: s-maj=41.2km s-min=16.5km az=179.6*
*NEIC **05** 04:37:25.4±3.0, 443S×15328E, h111km±19km, mb4.2/5, Error ellipse: s-maj=29.8km s-min=12.5km az=198.0*
ISC 05 04:37:21.2±2.4, 43S±02×15333E±010, h75km±16km, n20, σ0s92/20, mb4.1/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.97**	**230**	P	**Pn**	**04 39 17.0**	**+2.7**

	1.3nm,0.3s,baz=17,slow=11,SNR=3.2						
PMG				S	Sn	04 40 41.3	-1.6
	5.7nm,0.3s,baz=43,slow=20,SNR=8.1						
PMG				LR	LR	04 41 25.6	
	comp=Z,51nm,20.4s,baz=79,slow=31						
CTA	Charters Tower	17.16	203	P	Pn	04 41 16.8	+0.7
	0.2nm,0.3s,baz=28,slow=14,SNR=6.3						
CTA	Charters Tower	17.16	203	P	Pn	04 41 16.8	+0.7
GUMO	Guam	19.64	335	LR	LR	04 48 31.6	
	comp=Z,105nm,18.9s,baz=251,slow=34						
DZM	Mont Dzumac	21.78	145	P	P	04 42 07.2	+0.4
	2.6nm,0.7s,mb3.7,baz=297,slow=9.0,SNR=4.7						
KAKA	Kakadu	22.28	247	eP	P	04 42 11.5	-0.6
	9.7nm,0.6s,mb4.3						
KAKA				eS	S	04 46 06.8	-5.8
WRAB	Tennant Creek	24.17	228	eP	P	04 42 30.6	+0.1
	11nm,0.6s,mb4.4						
WB2	Warramunga Arr	24.18	228	eP	P	04 42 29.9	-0.6
WB2				eS	S	04 46 44.6	+1.2
WRA	Warramunga Arr	24.19	228	P	P	04 42 30.9	+0.3
	6.5nm,0.6s,mb4.1,baz=54,slow=9.7,SNR=85						
WRA				PcP	PcP	04 46 10.8	+1.4
	0.3nm,0.8s,baz=59,slow=2.5,SNR=5.1						
WRA				S	S	04 46 44.8	+1.3
	1.3nm,0.7s,baz=48,slow=16,SNR=5.6						
ASAR	Alice Springs	26.89	222	P	P	04 42 54.6	-0.5
	0.9nm,0.6s,mb3.5,baz=54,slow=9.1,SNR=13						
STKA	Stephens Creek	29.59	201	eP	P	04 43 18.5	-0.5
	2.2nm,0.6s,mb4.0						
STKA	Stephens Creek	29.59	201	P	P	04 43 18.4	-0.7
	2.8nm,0.6s,mb4.1,baz=34,slow=14,SNR=6.4						
FITZ	Fitzroy Crossi	30.38	241	eP	P	04 43 26.3	+0.3
	1.6nm,0.4s,mb4.0						
FITZ	Fitzroy Crossi	30.38	241	P	P	04 43 25.9	-0.1
	1.0nm,0.6s,mb3.6,baz=76,slow=11,SNR=10						
AFI	Afiamalu	35.71	108	LR	LR	04 55 37.1	
	comp=Z,416nm,19.5s,baz=355,slow=31						
MBWA	Marble Bar	36.69	240	eP	P	04 44 21.2	+0.4
	1.4nm,0.4s,mb4.2						
RPZ	Rata Peaks	42.29	161	P	P	04 45 06.7	-0.6
	10nm,0.6s,mb4.7,baz=327,slow=5.3,SNR=5.9						
RPZ				LR	LR	04 58 56.3	
	comp=Z,704nm,20.0s,baz=26,slow=31						
MAW	Mawson	86.25	203	P	P	04 49 53.9	-0.7
	1.6nm,0.6s,mb4.1,baz=96,slow=5.2,SNR=7.3						
BBB	Bella Bella	86.36	37	LR	LR	05 25 43.2	
	comp=Z,89nm,19.0s,baz=352,slow=34						
TORD	Torodi Ar. Bea	150.64	289	PKPbc	PKPbc	04 57 06.2	+1.6
	2.3nm,0.7s,baz=81,slow=1.8,SNR=51						
TORD				PKPab	PKPab	04 57 13.4	+1.8
	0.6nm,0.7s,baz=71,slow=2.0,SNR=4.9						

---

*MOS **05** 04:52:52.8±0.9, 7.72N×126.36E, h64km, mb6.0/53, Error ellipse: s-maj=9.0km s-min=4.3km az=116.0*

*ISCJB **05** 04:52:58.3±0.1, 7.73N±0.02×126.66E±0.02, h117km, mb5.5/133, Error ellipse: s-maj=3.5km s-min=2.5km az=137.0*

*IDC **05** 04:52:59.0±1.4, 7.72N×126.47E, h106km±12km, mb5.1/34, mb1 5.2/34, mb1mx5.2/35, mbtmp5.4/34, MS4.7/25, Ms1 4.7/25, ms1mx4.5/38, Error ellipse: s-maj=14.9km s-min=7.7km az=68.0*

*MAN **05** 04:52:58.3, 7.59N×126.65E, h132km, mb5.6, ML6.0*

*BJI **05** 04:53:00.2, 7.96N×126.59E, h121km, mB5.7, mb5.6*

*NEIC **05** 04:53:02.1±0.7, 7.68N×126.43E, h135km±6km, mb5.5/55, MW5.8, Error ellipse: s-maj=5.8km s-min=3.8km az=67.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; M_{rr}2.61; $M_{\theta\theta}$2.76; $M_{\phi\phi}$-5.36; $M_{r\theta}$1.36; $M_{\theta\phi}$3.22; $M_{\phi r}$3.28; Best double couple: $M_0$6.60000×10^{17} NP1: ϕ_s17.00000°, δ75.00000°, λ138.00000°. NP2: ϕ_s121.00000°, δ49.00000°, λ20.00000°. Principal axes: T 5.9200, Plg40.0000°, Azm330.0000°; N 1.3200, Plg45.0000°, Azm181.0000°; P -7.2400, Plg16.0000°, Azm74.0000°;*

NEIC Felt [IV PIVS] at Bisling, [III PIVS] at Davao and [II PIVS] at Butuan, Cagayan de Oro and General Santos. Felt [I PIVS] on Camiguin.

*GCMT **05** 04:53:02.1±0.1, 7.68N×126.62E, h120km, MW5.8/102, Moment Tensor Solution. s99,c226; s102,c299; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}1.63±.05; $M_{\theta\theta}$1.66±.05; $M_{\phi\phi}$-3.29±.06; $M_{r\theta}$1.43±.03; $M_{\theta\phi}$2.39±.05; $M_{\phi r}$4.34±.04; Best double couple: $M_0$5.88200×10^{17} NP1: ϕ_s119.00000°, δ35.00000°, λ17.00000°. NP2: ϕ_s14.00000°, δ80.00000°, λ124.00000°. Principal axes: T 5.6930, Plg44.0000°, Azm318.0000°; N 0.3790, Plg33.0000°, Azm188.0000°; P -6.0720, Plg27.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SZGRF **05** 04:53:03.1, 7.77N×126.18E, h130km, Mindanao, Philippine Islands*

ISC 05 04:53:00.1±0.1**, 7.72N**±0.02×**126.65E**±0.02**, h119**km**, h119**km±1.8km**: pP-P, n649,** σ1s11/585**, mb5.5**/133**, 80C-29D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.86	207	eP	Pn	04 53 20.0	-0.7
MATI				eS	Sn	04 53 36.1	-0.2
DAV	Davao City (W)	1.24	239	⇓iP	Pn	04 53 24.0	-0.5
DAV	Davao City (W)	1.24	239	ePn	Pn	04 53 24.5	0.0
DMPH	Davao City--Mi	1.29	241	⇓iP	Pn	04 53 24.9	-0.2
DMPH				i S	Sn	04 53 44.2	+0.1
BUKP	Musuan	1.58	276	eP	Pn	04 53 28.3	-0.1
BUTP	Butuan	1.60	321	eP	Pn	04 53 30.6	+1.9
BUTP				eS	Sn	04 53 52.6	+2.2
KCP	Kidapawan	1.70	245	⇓iP	Pn	04 53 30.6	+0.8
KCP				i S	Sn	04 53 54.5	+2.0
CGP	Cagayan de Oro	2.07	291	⇑iP	Pn	04 53 33.7	-0.6
CGP				i S	Sn	04 53 57.9	-2.6
SCPH	Surigao	2.35	331	eP	Pn	04 53 39.4	+1.5
SCPH				eS	Sn	04 54 09.6	+2.8
CTBH	Cotabato--PC H	2.43	258	⇑iP	Pn	04 53 37.5	-1.5
CTBH				i S	Sn	04 53 55.6	-13
MSLP	Maasin	2.98	324	eP	Pn	04 53 47.0	+0.9
PAGZ	Pagadian	3.24	272	eP	Pn	04 53 49.4	-0.1
DCPH	Dipolog City	3.37	285	⇓eP	Pn	04 53 51.7	+0.4
TBP	Tagbilaran	3.38	306	eP	Pn	04 53 52.0	+0.7
TBP				eS	Sn	04 54 29.9	-1.0
LLP	Lapu-Lapu	3.70	314	eP	Pn	04 53 56.7	+1.2
LLP				i S	Sn	04 54 35.9	-2.6
SNPH	Sibulan	3.74	296	⇓iP	Pn	04 53 57.5	+1.4
SNPH				i S	Sn	04 54 40.0	+0.5
PLP	Palo	3.80	334	eP	Pn	04 53 57.6	+0.8
PLP				i S	Sn	04 54 41.7	+0.8
OCLP	Ormoc	3.87	329	eP	Pn	04 53 59.0	+1.2
OCLP				eS	Sn	04 54 44.4	+1.7
BESP	Borongan	4.04	343	eP	Pn	04 54 03.4	+3.3
BESP				eS	Sn	04 54 44.9	-1.7
IPIL	Ipil	4.04	271	⇓eP	Pn	04 54 01.3	+1.2
IPIL	Ipil	4.04	271	eP	Pn	04 53 58.7	-1.4
GUIM	Jordan	4.94	306	eP	Pn	04 54 13.1	+0.9
RCP	Roxas	5.42	315	⇑eP	Pn	04 54 19.8	+1.1
MMPH	Masbate	5.49	327	⇑eP	Pn	04 54 23.5	+4.0
MMPH				i S	Sn	04 55 00.1	-21
KALP	Kalibo	5.79	313	eP	Pn	04 54 30.8	+7.2
PVCP	Virac	6.33	337	⇓eP	Pn	04 54 30.6	-0.3
PVCP				eS	Sn	04 55 39.5	-2.3
PVCP	Virac	6.33	337	eP	Pn	04 54 30.9	-0.1
PVCP				eS	Sn	04 55 39.5	-2.4
CUYO	Cuyo Island	6.37	300	eP	Pn	04 54 32.4	+0.9
OTRP	Odiongan	6.48	316	eP	Pn	04 54 34.7	+1.7
BOAC	Boac	7.40	321	eP	Pn	04 54 48.4	+3.0
BUSP	Coron	7.64	304	eP	Pn	04 54 46.1	-2.6
ENPP	El Nido	7.92	296	eP	Pn	04 54 52.9	+0.4
PPR	Puerto Princes	8.09	285	⇓iP	Pn	04 54 56.5	+1.7
POLP	Polilio Island	8.35	327	eP	Pn	04 54 56.0	-2.4
TGY	Tagaytay City	8.46	319	P	Pn	04 55 01.8	+2.0
	baz=146,slow=11,SNR=11						
LUBP	Lubang	8.67	314	eP	Pn	04 55 04.9	+2.2
BATP	Bataraza	8.82	278	eP	Pn	04 54 58.0	-6.7
TSM	Tawau	9.37	249	P	Pn	04 55 13.5	+1.4
BALP	Baler	9.39	329	eP	Pn	04 55 09.0	-3.4
BALP				eS	Sn	04 56 48.5	-7.5
CAUP	Cauayan	10.30	333	eP	Pn	04 55 21.7	-2.9
KKM	Kota Kinabalu	10.49	262	ePn	Pn	04 55 28.4	+1.3
BOLP	Bolinao	10.83	323	eP	Pn	04 55 27.0	-4.7
CVP	Callao Caves	10.98	335	eP	Pn	04 55 35.0	+1.3
KAPI	Kappang	14.40	209	Pn	Pn	04 56 16.4	-1.9
	1µm,0.8s,SNR=15						
KSM	Kuching	17.42	250	⇑iP	Pn	04 56 56.4	+0.8
KSM				ePcP	PcP	05 01 32.7	+2.7
YHNB	Yeheng	17.59	344	eP	Pn	04 56 55.8	-1.9
YHNB				eS	S	05 00 13.3	-0.2
QZH	Quanzhou	18.78	337	⇑iP	P	04 57 09.0	-1.0
QZH				S	S	05 00 29.6	-7.7
QZH				AMB	AMB		
	comp=Z,120nm,1.0s						
QZH				AMB	AMB		
	comp=Z,5µm,11.1s						
QZH				LR	LR		
	comp=N,2µm,11.3s						
QZH				LR	LR		
	comp=E,2µm,8.7s						
QZH				LR	LR		
	comp=Z,4µm,22.6s						
GUMO	Guam	18.83	70	P	P	04 57 14.8	+4.3
	comp=Z,20nm,0.3s,baz=206,slow=7.3,SNR=36						
HKC	Hong Kong	18.83	322	⇑iP	P	04 57 11.0	+0.5
HKC				i S	S	05 00 42.0	+3.7
JOW	Kunigami	19.07	4	P	P	04 57 15.9	+2.8
	comp=Z,26nm,0.3s,baz=186,slow=8.2,SNR=82						
QIZ	Qiongzhong	19.82	306	⇑iP	P	04 57 21.8	+0.5
QIZ				AP		04 57 43.4	
QIZ				XP	sP	04 57 58.2	+0.2
QIZ				S	S	05 00 57.5	-0.4
QIZ				AMB	AMB		
	comp=Z,536nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,3µm,11.5s						
QIZ	Qiongzhong	19.82	306	⇑iP	P	04 57 22.0	+0.7
	comp=Z,426nm,0.9s						
QIZ				eS	S	05 00 58.3	+0.4
GZH	Guangzhou	19.92	322	P	P	04 57 23.2	+0.8
GZH				S	S	05 00 58.6	-1.4
GZH				AMB	AMB		
	comp=Z,277nm,0.9s						
GZH				LR	LR		
	comp=N,2µm,20.5s						
GZH				LR	LR		
	comp=E,1µm,12.4s						
GZH				LR	LR		
	comp=Z,4µm,20.8s						
KAKA	Kakadu	21.10	164	eP	P	04 57 34.4	-0.6
	comp=Z,189nm,0.6s,mb5.6						
KAKA				eS	S	05 01 20.6	-2.4
KAKA				eSCP	ScP	05 05 02.7	+0.4
SSE	Sheshan	23.81	348	P	P	04 58 01.2	-0.7
SSE				AP		04 58 25.9	
SSE				XP	sP	04 58 41.2	+0.2
SSE				PCP	PcP	05 01 39.4	-2.6
SSE				AMB	AMB		
	comp=Z,66nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,1µm,6.1s						
SSE				LR	LR		
	comp=N,686nm,14.5s						
SSE				LR	LR		
	comp=E,424nm,14.7s						
SSE				LR	LR		
	comp=Z,911nm,14.0s						
KGM	Kluang	23.91	257	P	P	04 58 04.3	+1.4
CBIJ	Chichi jima	24.26	36	P	P	04 58 07.0	+1.0
	comp=Z,473nm,0.7s,mb6.0,baz=158,slow=4.1,SNR=24						
NJ2	Nanjing	25.27	344	eP	P	04 58 16.1	+0.9
NJ2				AP	pP	04 58 42.2	+1.4
NJ2				XP	sP	04 58 57.3	+2.6
NJ2				PP		04 59 00.3	
NJ2				S	S	05 02 30.0	-2.2
NJ2				XS	sS	05 03 16.0	-1.1
NJ2				AMB	AMB		
	comp=Z,150nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,2µm,10.4s						
NJ2				LR	LR		
	comp=N,2µm,21.5s						
NJ2				LR	LR		
	comp=E,3µm,19.1s						
NJ2				LR	LR		
	comp=Z,3µm,24.6s						
WHN	Wuhan	25.46	335	⇓P	P	04 58 17.0	+0.1
IPM	Ipoh	25.68	264	P	P	04 58 20.1	+1.3
FITZ	Fitzroy Crossi	25.68	182	eP	P	04 58 19.2	+0.3
	comp=Z,278nm,0.9s,mb5.7						
FITZ	Fitzroy Crossi	25.68	182	P	P	04 58 19.1	+0.3
	comp=Z,115nm,0.9s,mb5.3,baz=15,slow=9.5,SNR=123						
FITZ				ScP	ScP	05 05 14.3	-0.2
	comp=Z,33nm,0.8s,baz=360,slow=1.9,SNR=7.0						
SNG	Songkhla	25.82	271	P	P	04 58 22.0	+1.9
	comp=Z,240nm,0.9s,mb5.6						
KULM	Kulim	25.94	266	⇑eP	P	04 58 20.4	-0.8
KULM				e	pP	04 58 49.3	+2.5
PMG	Port Moresby	26.59	129	⇑eP	P	04 58 27.4	+0.3
PMG	Port Moresby	26.59	129	eP	P	04 58 27.5	+0.4
	comp=Z,81nm,0.9s,mb5.2						
GYA	Guiyang	26.61	317	⇑iP	P	04 58 27.7	+0.4
GYA				AP	pP	04 58 54.4	+1.4
GYA				XP	sP	04 59 09.3	+2.5
GYA				PP		04 59 16.4	
GYA				S	S	05 02 49.9	-3.4
GYA				XS	sS	05 03 38.1	-0.4
GYA				SCP	ScP	05 05 18.2	+0.9
GYA				SCS	ScS	05 09 05.1	-2.8
GYA				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,570nm,4.3s						
GYA				LR	LR		
	comp=N,640nm,16.7s						
GYA				LR	LR		
	comp=E,840nm,16.4s						
GYA				LR	LR		
	comp=Z,860nm,16.0s						
NNT	Nongplab	26.92	283	P	P	04 58 33.8	+3.8
NST	Nakhon Sawan	27.11	289	P	P	04 58 32.0	+0.2
	comp=Z,83nm,1.0s,mb5.2						
PSI	Prapat	28.03	261	P	P	04 58 41.9	+1.9
	comp=Z,33nm,0.5s,mb5.1,baz=106,slow=2.7,SNR=22						
PSI				ScP	ScP	05 05 21.4	-0.2
	comp=Z,40nm,0.9s,baz=79,slow=2.1,SNR=15						
PSI				LR	LR	05 12 05.4	
	comp=Z,1µm,18.1s,baz=242,slow=41						
WRAB	Tennant Creek	28.51	165	eP	P	04 58 43.2	-1.0
WRAB	Tennant Creek	28.51	165	eP	P	04 58 43.8	-0.3
	comp=Z,120nm,0.8s,mb5.6						
WRA	Warramunga Arr	28.51	165	P	P	04 58 43.8	-0.4
	comp=Z,14nm,0.6s,mb4.8,baz=348,slow=9.6,SNR=103						
WRA	Warramunga Arr	28.51	165	i P	P	04 58 43.7	-0.5
WRA				pmax	pmax		
	comp=Z,14nm,0.6s						
WB2	Warramunga Arr	28.52	165	eP	P	04 58 43.6	-0.7
WB2				eS	S	05 03 20.3	-3.0
KMI	Kunming	28.64	310	P	P	04 58 46.9	+1.6
KMI				AP	pP	04 59 09.6	-1.6
KMI				XP	sP	04 59 26.0	+1.0
KMI				PP	PP	04 59 41.1	-11
KMI				PPP		04 59 58.1	
KMI				PCP	PcP	05 01 56.2	+2.9
KMI				S	S	05 03 27.6	+2.4
KMI				XS	sS	05 04 06.9	-3.6
KMI				SS	SS	05 04 59.4	-32
KMI				SSS		05 05 23.3	
KMI				SCP	ScP	05 05 26.3	+2.8
KMI				AMB	AMB		
	comp=Z,311nm,1.1s,mb5.8						
KMI				AMB	AMB		
	comp=Z,1µm,4.6s						
KMI				LR	LR		
	comp=N,3µm,17.7s						
KMI				LR	LR		
	comp=E,2µm,23.0s						
KMI				LR	LR		
	comp=Z,3µm,37.2s						
CHRT	Chiangrai	28.69	298	⇑P	P	04 58 45.5	-0.3
	comp=Z,500nm,1.2s,mb6.0						
CHG	Chiang Mai	29.08	295	⇑P	P	04 58 48.5	-0.8
	comp=Z,31nm,0.9s,mb4.9						
CHTO	Chiang Mai	29.08	295	⇑iP	P	04 58 49.0	-0.3
CHTO				e		05 01 56.4	
CHTO				pmax	pmax		
	comp=Z,145nm,1.4s,mb5.4						
CHTO	Chiang Mai	29.08	295	⇑iP	P	04 58 49.0	-0.2
	comp=Z,145nm,1.4s,mb5.4						
CHTO				epP	pP	04 59 19.0	+3.8
CHTO				ePcP	PcP	05 01 56.4	+2.1
MBWA	Marble Bar	29.49	193	P	P	04 58 52.8	-0.1
	SNR=11						
MBWA				P		04 58 53.4	
	SNR=6.0						
MBWA	Marble Bar	29.49	193	eP	P	04 58 51.8	-1.1
TIA	Tai'an	29.66	344	eP	P	04 58 52.7	-1.7
MAJO	Matsushiro	30.57	19	eP	P	04 59 01.6	-0.8
MAJO				pmax	pmax		
	comp=Z,151nm,0.8s,mb5.8						
MAJO	Matsushiro	30.57	19	eP	P	04 59 01.6	-0.8
	comp=Z,151nm,0.8s,mb5.8						
MAT	Matsushiro	30.57	19	P	P	04 59 01.9	-0.5
MAT				S	S	05 03 53.5	-1.9
MJAR	Matsushiro Arr	30.57	19	P	P	04 59 02.3	0.0
	comp=Z,108nm,0.7s,mb5.7,baz=196,slow=8.9,SNR=181						
MJAR				ScP	ScP	05 05 32.6	+2.9
	comp=Z,4.8nm,0.9s,baz=217,slow=2.7,SNR=6.7						
DL2	Dalian	31.38	352	P	P	04 59 09.2	-0.3
DL2				PP	PP	05 00 12.9	-10
DL2				S	S	05 04 06.9	-1.2
DL2				XS	sS	05 04 53.4	-0.1
DL2				SS	SS	05 06 04.4	-23
DL2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
DL2				AMB	AMB		
	comp=Z,320nm,8.2s						
CD2	Chengdu	31.46	320	P	P	04 59 10.6	+0.3
CD2				AP	pP	04 59 36.2	-0.1
CD2				XP	sP	04 59 54.9	+4.8
CD2				PP	PP	05 00 17.0	-6.5
CD2				PCP	PcP	05 01 59.8	-0.8
CD2				S	S	05 04 09.4	-0.1
CD2				XS	sS	05 04 57.1	+2.2
CD2				PCS	PcS	05 05 43.4	-1.7
CD2				SCS	ScS	05 09 27.0	-3.6
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.4						
CD2				AMB	AMB		
	comp=Z,150nm,5.6s						
CD2				LR	LR		
	comp=E,1µm,14.4s						
CD2				LR	LR		
	comp=Z,1µm,30.0s						
AS31	Alice Springs	31.99	167	eP	P	04 59 15.3	+0.4
AS31				eS	S	05 04 15.3	-2.3
ASAR	Alice Springs	31.99	167	P	P	04 59 14.8	-0.1
	comp=Z,7.8nm,0.3s,mb4.9,baz=347,slow=7.5,SNR=83						
ASAR				ScP	ScP	05 05 35.4	+0.9
	comp=Z,18nm,0.9s,baz=352,slow=3.1,SNR=11						
ASAR				LR	LR	05 14 24.0	
	comp=Z,644nm,18.4s,baz=358,slow=40						
ASAR	Alice Springs	31.99	167	P	P	04 59 14.8	-0.1
ASAR				ScP	ScP	05 05 35.4	+0.9
ASAR				LR	LR	05 14 24.0	
ASPA	Alice Springs	31.99	167	eP	P	04 59 15.3	+0.4
ASPA				eS	S	05 04 15.3	-2.3
BJT	Baijiatuau	33.50	345	P	P	04 59 27.6	-0.4
BJT				S	S	05 04 40.9	-0.1
BJT				ScS	ScS	05 09 43.1	+2.1
BJT	Baijiatuau	33.50	345	eP	P	04 59 27.7	-0.3
BJT				pmax	pmax		
	comp=Z,383nm,1.4s						
BJT	Baijiatuau	33.50	345	eP	P	04 59 27.7	-0.3
	comp=Z,383nm,1.4s,mb6.0						
BJI	Beijing	33.52	345	P	P	04 59 27.6	-0.6
BJI				AP	pP	04 59 53.5	-0.9
BJI				XP	sP	05 00 07.7	-0.4
BJI				PCP	PcP	05 02 06.3	0.0
BJI				S	S	05 04 37.5	-3.8
BJI				XS	sS	05 05 25.2	-1.8
BJI				AMB	AMB		
	comp=Z,154nm,1.5s,mb5.6						
BJI				AMB	AMB		
	comp=Z,601nm,3.0s						
CTA	Charters Tower	33.70	145	eP	P	04 59 31.3	+1.5
	comp=Z,43nm,0.9s,mb5.3						
CTA	Charters Tower	33.70	145	P	P	04 59 31.1	+1.2
	comp=Z,66nm,0.9s,mb5.5,baz=330,slow=11,SNR=62						
CTA				ScP	ScP	05 05 42.1	+1.7
	comp=Z,30nm,0.8s,baz=297,slow=5.8,SNR=11						
CTA				LR	LR	05 11 42.4	
	comp=Z,3µm,21.4s,baz=332,slow=33						
CTA	Charters Tower	33.70	145	P	P	04 59 31.1	+1.3
CTA				pmax	pmax		
	comp=Z,66nm,0.9s						
CTA				pmax	pmax		
	comp=N,31nm,0.9s						
CTA				MLR	MLR		
	comp=Z,3µm,21.4s						
CTAO	Charters Tower	33.70	145	eP	P	04 59 31.4	+1.6
CTAO				pmax	pmax		
	comp=Z,93nm,1.0s,mb5.6						
CTAO	Charters Tower	33.70	145	eP	P	04 59 31.4	+1.6
	comp=Z,93nm,1.0s,mb5.6						
SNY	Shenyang	34.08	356	⇑iP	P	04 59 33.6	+0.6
SNY				AP	pP	04 59 59.9	+0.6
SNY				PP	PP	05 00 52.3	-0.1
SNY				PCP	PcP	05 02 07.5	-0.4
SNY				S	S	05 04 51.1	+1.2
SNY				AMB	AMB		
	comp=Z,199nm,1.5s,mb5.7						
SNY				LR	LR		
	comp=N,1µm,14.4s						
SNY				LR	LR		
	comp=Z,791nm,11.0s						
LZH	Lanzhou	35.09	327	⇑P	P	04 59 42.1	+0.4
LZH				AP	pP	05 00 07.5	-0.6
LZH				XP	sP	05 00 22.1	+0.4
LZH				PP	PP	05 01 05.0	+1.4
LZH				PCP	PcP	05 02 12.4	+1.6
LZH				S	S	05 05 02.1	-3.3
LZH				SCP	ScP	05 05 46.5	+1.2
LZH				XS	sS	05 05 51.0	-0.3
LZH				PCS	PcS	05 05 59.5	+1.7
LZH				SCS	ScS	05 09 46.5	-3.0
LZH				AMB	AMB		
	comp=Z,165nm,1.0s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1µm,7.3s						
VLA	Vladivostok	35.56	7	deP	P	04 59 46.6	+0.8
VLA				e*PP	pP	05 00 11.0	-1.2
VLA				eS	S	05 05 07.8	-4.9
VLA				pmax	pmax		
	comp=Z,562nm,1.8s,mb6.2						
VLA	Vladivostok	35.56	7	i P	P	04 59 48.3	+2.5
HHC	Hu-ho-hao-te	35.62	340	⇑iP	P	04 59 46.7	+0.4
HHC				AP	pP	05 00 14.4	+1.7
HHC				XP	sP	05 00 29.1	+2.7
HHC				PP	PP	05 01 12.0	+2.5
HHC				PCP	PcP	05 02 13.1	+0.7
HHC				S	S	05 05 12.7	-0.9
HHC				SCP	ScP	05 05 45.9	-1.4
HHC				PCS	PcS	05 05 58.7	-1.0
HHC				XS	sS	05 06 02.1	+2.5
HHC				SCS	ScS	05 09 50.0	-2.4
HHC				AMB	AMB		
	comp=Z,121nm,1.0s,mb5.8						
HHC				AMB	AMB		
	comp=Z,575nm,8.9s						
HHC				LR	LR		
	comp=N,987nm,13.2s						
HHC				LR	LR		
	comp=E,753nm,15.2s						
HHC				LR	LR		
	comp=Z,800nm,20.1s						
BTO	Baotou	35.95	338	eP	P	04 59 48.3	-0.8
CN2	Changchun	35.95	359	eP	P	04 59 49.6	+0.5
CN2				eAP	pP	05 00 17.9	+2.3
CN2				eXP	sP	05 00 32.7	+3.5
CN2				PCP	PcP	05 02 13.1	-0.3
CN2				eS	S	05 05 19.3	+0.6
CN2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
CN2				AMB	AMB		
	comp=Z,600nm,8.0s						
CN2				LR	LR		
	comp=N,1µm,19.0s						
CN2				LR	LR		
	comp=E,2µm,19.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
MDJ	Mudanjiang	36.84	4	P	P	04 59 57.5	+0.8

MDJ AP pP 05 00 24.6 +1.4
MDJ XP sP 05 00 37.7 +0.9
MDJ PP PP 05 01 23.7 +0.8
MDJ S **S** **05 05 33.6 +1.4**
MDJ SCP ScP 05 05 52.0 +0.2
MDJ PCS PcS 05 06 04.8 +0.6
MDJ AMB AMB
comp=Z,151nm,1.7s,mb5.7
MDJ AMB AMB
comp=Z,688nm,6.8s
MDJ LR LR
comp=N,428nm,19.6s
MDJ LR LR
comp=E,2μm,35.5s
MDJ LR LR
comp=Z,841nm,21.9s
MDJ Mudanjiang 36.84 4⇑ *i*P **P 04 59 57.5 +0.8**
comp=Z,466nm,1.5s,mb6.2
MDJ *e*pP pP 05 00 25.1 +1.9
ERM Erimo 37.15 21 *e*P **P 05 00 01.5 +2.2**
ERM *e**PP pP 05 00 26.4 +0.6
ERM pmax pmax
comp=Z,184nm,0.9s,mb6.0
ERM Erimo 37.15 21 *e*P **P 05 00 01.5 +2.3**
comp=Z,184nm,0.9s,mb6.0
ERM *e*pP pP 05 00 26.4 +0.6
HNR Honiara 37.29 117 LR LR 05 12 31.5
comp=Z,1μm,20.9s,baz=355,slow=31
FORT Forrest 38.30 178 *e*P **P 05 00 09.5 +0.5**
comp=Z,76nm,0.5s,mb5.8
FORT *e*SCP ScP 05 06 00.5 +3.2
GTA Gaotai 39.69 327 *e*P **P 05 00 21.1 +0.6**
GTA AP pP 05 00 45.4 -1.9
GTA XP sP 05 00 59.3 -1.6
GTA PP PP 05 01 52.7 -1.3
GTA PCP PcP 05 02 27.3 +2.4
GTA SCP ScP 05 06 05.2 +2.6
GTA S **S** **05 06 13.7 -1.4**
GTA PCS PcS 05 06 15.9 +0.8
GTA SCS ScS 05 10 15.3 -0.3
GTA AMB AMB
comp=Z,108nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,1μm,7.3s
GTA LR LR
comp=N,986nm,21.0s
GTA LR LR
comp=E,1μm,21.0s
GTA LR LR
comp=Z,2μm,15.3s
LSA Lhasa 39.84 308 P **P 05 00 24.4 +2.6**
LSA Lhasa 39.84 308⇑ *i*P **P 05 00 23.4 +1.6**
LSA *e**PP pP 05 00 51.8 +3.2
LSA pmax pmax
comp=Z,156nm,1.4s,mb5.7
LSA Lhasa 39.84 308⇑ *i*P **P 05 00 23.4 +1.6**
comp=Z,156nm,1.4s,mb5.7
LSA *e*pP pP 05 00 51.8 +3.1
LSA *e*sP sP 05 01 04.8 +2.6
KLBR Kellerberrin 40.00 192 *e*P **P 05 00 23.1 0.0**
comp=Z,193nm,1.2s,mb5.8
KLBR *e*SCP ScP 05 06 05.0 +1.1
MUN Mundaring 40.72 194⇑ *i*P **P 05 00 29.1 +0.1**
MUN *e*SCP ScP 05 06 06.2 -0.5
HABR Khabarovsk 41.23 8⇑ *i*P **P 05 00 34.8 +1.6**
HABR *e*S **S** **05 06 42.1 +4.1**
HABR pmax pmax
comp=Z,453nm,1.7s,mb6.0
NWAO Narrogin (SRO) 41.40 192 P **P 05 00 35.0 +0.4**
comp=Z,173nm,1.0s,mb5.8,baz=19,slow=9.6,SNR=26
NWAO ScP ScP 05 06 09.3 -0.1
comp=Z,42nm,0.8s,baz=321,slow=1.9,SNR=8.0
NWAO Narrogin (SRO) 41.40 192 *e*P **P 05 00 35.0 +0.4**
NWAO pmax pmax
comp=Z,140nm,1.0s
NWAO Narrogin (SRO) 41.40 192 *e*P **P 05 00 35.0 +0.4**
comp=Z,140nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 41.45 17α*e*P **P 05 00 35.0 0.0**
YSS *e* 05 02 12.8
YSS *e*S **S** **05 06 38.0 -3.3**
YSS *e* 05 07 08.0
YSS *e*SSS 05 09 52.0
YSS pmax pmax
comp=Z,170nm,1.3s,mb5.7
YSS pmax pmax
comp=Z,800nm,6.0s
YSS MLR MLR
comp=Z,500nm,14.0s
YSS Yuzh-Sakhalins 41.45 17 *e*P **P 05 00 36.6 +1.6**
comp=Z,250nm,1.5s,mb5.8
KLR Kul'dur 41.59 5 *e*P **P 05 00 33.2 -3.0**
KLR *e*S **S** **05 06 39.5 -3.9**
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,340nm,1.8s,mb5.8
KLR pmax pmax
comp=Z,1μm,8.5s
HIA Hailar 41.81 353 *e*P **P 05 00 38.4 +0.5**
HIA *e* 05 02 33.1
HIA pmax pmax
comp=Z,100nm,1.1s
HIA Hailar 41.81 353 *e*P **P 05 00 38.4 +0.4**
comp=Z,100nm,1.1s,mb5.5
HIA *e*PcP PcP 05 02 33.1 +1.3
STKA Stephens Creek 41.88 161 *e*P **P 05 00 39.0 +0.5**
comp=Z,27nm,0.6s,mb5.2
STKA *e*pP pP 05 01 06.9 +1.3
STKA *e*SCP ScP 05 06 13.8 +2.5
STKA Stephens Creek 41.88 161 P **P 05 00 39.0 +0.5**
comp=Z,28nm,0.5s,mb5.3,baz=336,slow=8.1,SNR=65
STKA ScP ScP 05 06 13.9 +2.7
comp=Z,13nm,0.8s,baz=3.0,slow=6.5,SNR=4.2
STKA LR LR 05 19 28.7
comp=Z,1μm,19.5s,baz=337,slow=38
ULN Ulaanbaatar 43.33 341⇑ *e*P **P 05 00 50.6 +0.4**
SONM Songino Array 43.52 340 P **P 05 00 51.8 0.0**
comp=Z,44nm,0.9s,mb5.2,baz=159,slow=7.2,SNR=136
SONM ScP ScP 05 06 19.9 +2.0
comp=Z,1.9nm,0.6s,baz=166,slow=3.9,SNR=3.7
SONM LR LR 05 21 03.7
comp=Z,657nm,18.7s,baz=151,slow=39
ARMA Armidale 44.87 149 *e*P **P 05 01 04.1 +1.6**
ARMA *e*pP pP 05 01 28.4 -1.4
ARMA *e*S **S** **05 07 31.9 +0.8**
CIT Chita 45.46 349 *e*P **P 05 01 07.5 +0.4**
CIT *e* 05 01 24.9
CIT *e* pP 05 01 36.0 +1.5
CIT *e* 05 07 33.3
CIT pmax pmax
comp=Z,277nm,1.4s,mb5.8
PALK Pallekele 45.54 273 *e*P **P 05 01 10.3 +2.5**
comp=Z,65nm,1.3s,mb5.2
PALK *e*PcP PcP 05 02 45.7 +1.3
MDRS Chennai 45.90 281⇑ *e*P **P 05 01 11.9 +1.3**
MDRS *ex* x 05 03 03.9
TLY Talaya 47.75 341⇑ *i*P **P 05 01 25.2 +0.2**
TLY *e* 05 03 17.0
TLY *e*S **S** **05 08 14.2 +2.0**
TLY *e*SS ScS 05 11 07.2 +0.9
TLY pmax pmax
comp=Z,109nm,1.0s,mb5.6
TLY MLR MLR
comp=Z,514nm,19.0s
TLY Talaya 47.75 341 *e*P **P 05 01 25.3 +0.3**
HYB Hyderabad 47.80 286 *i*P **P 05 01 25.0 -0.4**
comp=Z,110nm,1.0s,mb5.6
HYB *e*pP pP 05 01 55.5 +2.5
HYB *e*sP sP 05 02 06.0 -0.4
HYB *e* 05 02 55.0
HYB *e*PP PP 05 03 20.0 +1.8
HYB *e*S **S** **05 08 12.0 -1.1**
HYB *e*sS sS 05 09 02.0 +1.3
HYB *e*ScS ScS 05 11 04.0 -2.7
HYB Hyderabad 47.80 286 *e*P **P 05 01 25.0 -0.4**
HYB pmax pmax
comp=Z,110nm,1.0s,mb5.6
CNB Canberra Magne 47.87 155 *e*P **P 05 01 27.7 +1.8**
comp=Z,36nm,0.8s,mb5.3
IRK Irkutsk 48.03 342 *e*P **P 05 01 27.3 +0.1**
IRK *e* 05 01 46.4
IRK pmax pmax
comp=Z,149nm,1.6s,mb5.6
TOO Toolangi 48.38 160 *e*P **P 05 01 29.9 +0.1**
comp=Z,8.9nm,0.5s,mb4.8
TOO Toolangi 48.38 160 *e*P **P 05 01 29.9 +0.1**
TOO pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
DZM Mont Dzumac 48.97 128 *e*P **P 05 01 36.0 +1.6**
DZM Mont Dzumac 48.97 128 P **P 05 01 36.0 +1.7**
comp=Z,70nm,0.6s,mb5.8,baz=303,slow=7.9,SNR=78
DZM LR LR 05 19 58.5
comp=Z,821nm,19.2s,baz=206,slow=33
CLNS Chul'man 49.01 359 *e*P **P 05 01 35.2 +0.5**
CLNS *e* 05 02 59.6
CLNS *e* 05 03 22.9
CLNS *e*S **S** **05 08 30.1 +0.1**
CLNS pmax pmax
comp=Z,117nm,0.9s,mb5.8
CLNS pmax pmax
comp=N,90nm,1.1s
CLNS pmax pmax
comp=E,19nm,1.0s
CLNS pmax pmax
comp=Z,24nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,34nm,1.1s
CLNS pmax pmax
comp=E,21nm,1.1s
CLNS smax
comp=E,621nm,12.8s
CLNS smax
comp=Z,124nm,11.6s
CLNS smax
comp=N,184nm,13.2s
CLNS MLR MLR
comp=Z,300nm,14.0s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=E,400nm,15.0s
SKR Severo-Kuril's 49.32 24 *e*P **P 05 01 36.5 -0.5**
SKR *e* 05 08 36.0
SKR pmax pmax
comp=Z,100nm,0.6s,mb5.9
WMQ Urumqi 49.46 323⇑ *i*P **P 05 01 38.6 +0.5**
WMQ AP pP 05 02 08.0 +2.1
WMQ XP sP 05 02 22.0 +2.8
WMQ PP PP 05 03 35.0 +1.7
WMQ PPP 05 04 33.0
WMQ PCS PcS 05 06 54.0 -1.2
WMQ S **S** **05 08 36.0 -0.3**
WMQ XS sS 05 09 25.5 +1.2
WMQ SCS ScS 05 11 14.5 -3.3
WMQ SS SS 05 12 06.0 -3.6
WMQ AMB AMB
comp=Z,156nm,0.9s,mb5.9
WMQ AMB AMB
comp=Z,897nm,4.9s
WMQ LR LR
comp=N,2μm,14.8s
WMQ LR LR
comp=E,823nm,14.8s
WMQ LR LR
comp=Z,1μm,20.4s
BOD Bodaibo 50.93 351 *e*P **P 05 01 48.7 -0.5**
BOD pmax pmax
comp=Z,89nm,1.5s,mb5.6
PET Petropavlovsk 52.12 24*j* *i*P **P 05 01 59.9 +1.9**
PET *i* S **S** **05 09 14.1 +1.1**
PET pmax pmax
comp=Z,800nm,4.6s
PET pmax pmax
comp=Z,400nm,11.1s
PET pmax pmax
comp=Z,178nm,1.4s,mb5.9
PET smax
comp=E,800nm,14.5s
PET smax
comp=N,1μm,17.9s
PET MLR MLR
comp=Z,500nm,19.0s
PET MLR MLR
comp=Z,600nm,14.0s
PET Petropavlovsk 52.12 24 *e*P **P 05 02 00.0 +2.0**
YAK Yakutsk 54.25 2*c* *i*P **P 05 02 13.4 -0.2**
YAK pmax pmax
comp=Z,465nm,1.7s,mb6.2
YAK Yakutsk 54.25 2 *e*P **P 05 02 13.6 0.0**
MK31 Makanchi Array 54.28 324 P **P 05 02 13.4 -0.4**
MK31 pmax pmax
comp=Z,25nm,0.5s,mb5.5
MKAR Makanchi Array 54.28 324 P **P 05 02 14.0 +0.2**
comp=Z,103nm,0.8s,mb5.9,baz=117,slow=5.3,SNR=78
MKAR PcP PcP 05 03 16.2 -0.3
comp=Z,27nm,0.6s,baz=184,slow=4.1,SNR=7.3
MKAR ScP ScP 05 07 06.4 +2.8
comp=Z,7.0nm,0.9s,baz=105,slow=6.0,SNR=4.5
MKAR PKPPKP 05 32 25.4
comp=Z,0.9nm,1.1s,baz=222,slow=1.6,SNR=3.6
MKAR Makanchi Array 54.28 324 P **P 05 02 14.0 +0.2**
MKAR 05 03 16.2
FUNA Funafuti 54.80 106 *e*P **P 05 02 21.9 +4.3**
MA2 Magadan 54.88 15⇑ *e*P **P 05 02 19.4 +1.2**
MA2 pmax pmax
comp=Z,60nm,1.0s,mb5.6
MA2 Magadan 54.88 15 *e*P **P 05 02 19.7 +1.5**
comp=Z,71nm,0.7s,mb5.8
KSH Kashi 55.22 313⇑ *i*P **P 05 02 21.8 +1.2**
KSH *e*AP pP 05 02 50.3 +1.4
KSH *e*XP sP 05 03 04.2 +2.1
KSH *e*PCP PcP 05 03 20.4 +0.3
KSH *e*PP PP 05 04 27.3 +2.1
KSH *e*PPP 05 05 42.0
KSH *e*SCP ScP 05 07 06.0 -1.7
KSH *e*PCS PcS 05 07 19.1 -1.1
KSH *e*S **S** **05 09 50.6 -4.2**
KSH *e*XS sS 05 10 43.2 -0.4
KSH *e*SCS ScS 05 11 53.1 -4.9
KSH *e*SS SS 05 13 36.2 -4.4
KSH AMB AMB
comp=Z,905nm,2.2s,mb6.4
KSH LR LR
comp=N,466nm,5.6s
KSH LR LR
comp=E,884nm,10.0s
KSH LR LR
comp=Z,1μm,14.7s
ULHL Ulahol 56.05 316 P **P 05 02 27.4 +0.8**
SNR=33
KZA Kyzart 56.67 316 P **P 05 02 32.5 +1.5**
SNR=30
TKM2 Tokmak 2 56.76 317 P **P 05 02 33.1 +1.6**
SNR=28
TKM2 Tokmak 2 56.76 317 *i* P **P 05 02 31.6 +0.1**
TKM2 pmax pmax
comp=Z,126nm,0.9s,mb6.0
TKM2 Tokmak 2 56.76 317 *i* P **P 05 02 31.7 +0.2**
ZAL Zalesovo 57.03 332 P **P 05 02 33.1 -0.4**
comp=Z,13nm,0.5s,mb5.2,baz=344,slow=6.6,SNR=9.8
ZAL LR LR 05 29 14.1
comp=Z,578nm,20.5s,baz=244,slow=38
KBK Karagaybulak 57.10 316 P **P 05 02 34.9 +1.0**
SNR=20
UCH Uchtor 57.23 316 P **P 05 02 36.5 +1.6**
SNR=13
CHMS Chumysh 57.36 317 P **P 05 02 36.8 +1.0**
SNR=24
FRU Bishkek 57.39 316⇓ *i*P **P 05 02 36.0 0.0**
FRU *i* 05 02 49.0
FRU *i* 05 03 29.0
FRU *e* 05 06 00.0
FRU pmax pmax
comp=Z,150nm,1.8s,mb5.7
FRU MLR MLR
comp=Z,600nm,20.0s
AAK Ala-Archa 57.40 316 P **P 05 02 37.6 +1.6**
SNR=13
AAK Ala-Archa 57.40 316⇑ *e*P **P 05 02 35.5 -0.6**
AAK pmax pmax
comp=Z,147nm,1.9s,mb5.7
AAK Ala-Archa 57.40 316⇑ *e*P **P 05 02 35.6 -0.5**
USP Uspenovka 57.63 317 P **P 05 02 37.8 +0.2**
SNR=33
AML Almayashu 57.77 315 P **P 05 02 40.7 +2.1**
SNR=6.8
EKS2 Erkin-Say 57.90 316 P **P 05 02 41.4 +1.9**
SNR=7.8
SEY Seymchan 58.19 14⇑ *e*P **P 05 02 43.5 +1.9**
NVS Novosibirsk 58.31 332 *e*P **P 05 02 40.7 -1.7**
NVS *e*S **S** **05 10 34.0 -1.5**
NVS pmax pmax
comp=N,47nm,1.4s
NVS pmax pmax
comp=Z,70nm,1.4s,mb5.5
NVS pmax pmax
comp=E,38nm,1.1s
NVS smax
comp=N,31nm,1.7s
NVS smax
comp=E,50nm,1.8s
KURK Kurchatov 58.37 326 P **P 05 02 43.1 +0.2**
comp=E,615nm,0.8s,SNR=5.2
KK31 Karatay Array 60.31 316 *i* P **P 05 02 55.8 -0.4**
KK31 pmax pmax
comp=Z,92nm,0.5s,mb6.1
KKAR Karatay Array 60.31 316 *i* P **P 05 02 55.8 -0.4**
KKAR pmax pmax
comp=Z,51nm,0.6s,mb5.7
VOSK Vostochnaya 63.52 326 P **P 05 03 16.7 -0.9**
VOSK pmax pmax
comp=Z,78nm,1.3s,mb5.4
TIXI Tiksi 63.88 1 *e*P **P 05 03 18.0 -2.0**
TIXI pmax pmax
comp=Z,117nm,1.2s,mb5.6
TIXI MLR MLR
comp=Z,266nm,14.0s
TIXI Tiksi 63.88 1⇑ *e*P **P 05 03 19.3 -0.7**
BVA0 Borovoye Array 63.97 326 *e*P **P 05 03 20.7 +0.1**
BVA0 pmax pmax
comp=Z,19nm,1.3s,mb4.8
BVAR Borovoye Array 63.97 326 P **P 05 03 20.0 -0.6**
comp=Z,27nm,0.9s,mb5.1,baz=81,slow=6.6,SNR=19
BVAR PcP PcP 05 03 52.9 -2.2
comp=Z,34nm,0.9s,baz=130,slow=6.0,SNR=6.6
BRVK Borovoye 64.04 326⇑ *e*P **P 05 03 20.8 -0.3**
CHKZ Chkalovo 64.11 327 *i* P **P 05 03 20.2 -1.3**
ZRNK Zerenda 64.71 326 *i* P **P 05 03 25.5 +0.1**
ZRNK pmax pmax
comp=Z,59nm,0.7s,mb5.5
ZRNK Zerenda 64.71 326⇑ *i*P **P 05 03 24.4 -1.0**
comp=Z,66nm,0.7s,mb5.6
ZRNK *e*pP pP 05 03 54.6 +0.1
AFI Afiamalu 64.77 109 LR LR 05 27 54.2
comp=Z,905nm,18.5s,baz=266,slow=32
RPZ Rata Peaks 65.07 146 P **P 05 03 28.9 +1.2**
comp=Z,73nm,0.5s,mb5.8,baz=305,slow=1.0,SNR=71
RPZ LR LR 05 29 04.1
comp=Z,841nm,19.6s,baz=309,slow=33
URZ Urewera 65.52 138 P **P 05 03 31.9 +1.3**
comp=Z,33nm,0.7s,mb5.3,baz=339,slow=4.5,SNR=13
URZ LR LR 05 31 51.6
comp=Z,488nm,18.3s,baz=288,slow=36
WBK Wadi Bani Khal 66.49 291 ⇑P **P 05 03 36.6 -0.3**
SNR=10.0
BIDO Bidbid 67.29 292 P **P 05 03 41.9 0.0**
SNR=41
JMDO Jabal Madar 67.29 291 P **P 05 03 41.6 -0.3**
SNR=16
SMDO Samad 67.35 292 P **P 05 03 41.9 -0.5**
SNR=26
HOQ Hoqain 68.04 292 P **P 05 03 46.2 -0.5**
SNR=29
BSY Bisya 68.13 291 P **P 05 03 46.8 -0.4**
SNR=13
ARQ Araqi 68.76 292 ⇑P **P 05 03 50.7 -0.4**
SNR=5.7
BANOM Banah 69.01 295 ⇑P **P 05 03 53.0 +0.3**
SNR=14
AB31 Akbulak array 69.05 320 *i* P **P 05 03 52.3 -0.6**
ASHO Ashiyiah 69.20 293 ⇑P **P 05 03 53.7 -0.1**
SNR=13
SHAO Shalim 69.65 286 ⇑P **P 05 03 57.2 +0.6**
SNR=9.8
AKTK Aktyubinsk 70.52 321 P **P 05 04 01.6 -0.3**
AKTK LR LR 05 34 26.9
AKTO Aktyubinsk 70.52 321 P **P 05 04 01.6 -0.3**
comp=Z,47nm,0.8s,mb5.4,baz=103,slow=8.3,SNR=14
AKTO LR LR 05 34 26.9
comp=Z,271nm,21.6s,baz=296,slow=35
SVE Sverdlovsk 70.55 328 *e*P **P 05 04 00.5 -1.6**
SVE *e* pP 05 04 29.5 -2.2
SVE *e*S S 05 13 02.0 -4.0
SVE *e* 05 13 50.0
SVE *e*SS SS 05 17 45.0 +5.5
SVE pmax pmax
comp=Z,276nm,1.6s,mb5.8
SVE MLR MLR
comp=N,400nm,10.0s
SVE MLR MLR
comp=E,300nm,10.0s
SVE MLR MLR
comp=Z,400nm,10.0s
RBK Rabkut 71.02 286 ⇑P **P 05 04 04.7 -0.3**
SNR=6.3
WHFO Wadi Hawf 71.42 286 ⇓P **P 05 04 06.8 -0.5**
SNR=21
ARU Arti 71.55 327⇑ *i*P **P 05 04 07.2 -0.9**
ARU *e* 05 04 25.0
ARU *e* 05 06 45.2
ARU *e*PPP 05 08 31.8
ARU *e*S S 05 13 17.5 0.0
ARU *e* 05 13 57.3
ARU *e*SS sS 05 14 08.7 +0.2
ARU *e*SS SS 05 17 49.8 -5.1
ARU pmax pmax
comp=Z,69nm,1.0s,mb5.4
ARU Arti 71.55 327 *e*P **P 05 04 07.8 -0.4**
comp=Z,48nm,0.6s,mb5.5
ABTO Aybut 71.89 286 ⇑P **P 05 04 10.1 -0.1**
SNR=6.5
SOKR Solikamsk 73.22 330⇑ *i*P **P 05 04 16.0 -2.1**
SOKR S S 05 13 33.1 -3.5
SOKR pmax pmax
comp=Z,80nm,1.2s,mb5.4
SOKR MLR MLR
comp=Z,540nm,20.0s
KIP Kipapa 73.61 70 *e*P **P 05 04 24.7 +4.4**
KIP pmax pmax
comp=Z,49nm,0.8s,mb5.3
KIP Kipapa 73.61 70 *e*P **P 05 04 24.7 +4.3**
comp=Z,49nm,0.8s,mb5.3
SDPT Sand Point 73.97 35 *e*P **P 05 04 23.9 +1.5**
comp=Z,214nm,1.6s,mb5.6
SDPT LR LR
comp=Z,500nm,23.0s
CASY Casey 74.74 187 *e*P **P 05 04 26.4 -0.5**
DRV Dumont d'Urvil 74.83 175 P **P 05 04 31.0 +3.6**
DRV Dumont d'Urvil 74.83 175 PP PP 05 07 19.0 +2.8
DRV S S 05 14 02.0 +7.4
CHGN Chignik 75.27 34 *e*P **P 05 04 30.5 +0.6**
UMR Umm Al-Rimmam 76.63 298 *e*P **P 05 04 36.7 -0.9**
UMR AMb AMB 05 04 40.7
comp=Z,317nm,1.1s,mb6.0
KBD Kabd 76.66 298 *e*P **P 05 04 37.1 -0.7**
RDF Al-Radifah 76.79 298 *e*P **P 05 04 37.5 -1.0**
RDF AMb AMB 05 04 40.4
comp=Z,227nm,1.1s,mb5.8
MAK Makhachkala 76.84 312 *e*P **P 05 04 39.2 +0.4**
MAK *i* 05 07 38.4
MAK *e*PPP 05 09 24.2
MAK *i* S S 05 14 15.7 -0.9
MAK *e* 05 14 58.6
MAK *i* *SS sS 05 15 10.2 +1.9
MAK pmax pmax
comp=Z,198nm,1.5s,mb5.6
MIB Mutribah 76.95 299 *e*P **P 05 04 38.4 -1.1**
MIB AMb AMB 05 04 42.3
comp=Z,242nm,0.9s,mb5.9
NAY Al-Naaiem 77.05 298 *e*P **P 05 04 38.5 -1.5**
NAY AMb AMB 05 04 41.6
comp=Z,168nm,1.4s,mb5.6
RST Umm Al-Ruwaisa 77.25 298 *e*P **P 05 04 39.6 -1.5**
RST AMb AMB 05 04 43.8
comp=Z,408nm,1.2s,mb6.0
SVW2 Sparrevohn 77.37 29 *e*P **P 05 04 42.7 +0.9**
TTA Tatalina 77.41 27 *e*P **P 05 04 43.1 +1.1**
TTA 05 04 55.9
TTA Tatalina 77.41 27 *e*P **P 05 04 44.0 +2.0**
RAR Rarotonga 77.68 114 LR LR 05 33 59.6
comp=Z,475nm,19.2s,baz=45,slow=32
MIR Mirnyy 78.00 193*c* *i*P **P 05 04 47.0 +1.7**
MIR *i* pP 05 05 15.0 -0.4
MIR pmax pmax
comp=Z,600nm,1.2s,mb6.2

KDAK **Kodiak Island** 78.59 33 P P 05 04 49.7 +1.1
comp=Z,18nm,0.7s,mb5.0,baz=264,slow=3.3,SNR=18
KDAK LR LR 05 36 49.3
comp=Z,380nm,19.7s,baz=3.2,slow=33
KDAK **Kodiak Island** 78.59 33 *e*P P 05 04 49.7 +1.2
GNI **Garni** 78.89 309 P P 05 04 50.7 +0.5
GNI **Garni** 78.89 309 P P 05 04 51.2 +1.0
comp=Z,53nm,0.8s,mb5.4,baz=159,slow=5.4,SNR=21
GNI **Garni** 78.89 309 *c i*P P 05 04 50.8 +0.6
GNI pmax pmax
comp=Z,415nm,1.7s
GNI **Garni** 78.89 309 *e*P P 05 04 52.0 +1.8
DUS **Dusheti** 78.90 311 P P 05 04 53.2 +3.0
BHD **Baghdad** 79.36 302 *i* x x 05 04 49.0
BHD *ex* x 05 14 35.0
ZEI **Tsey** 79.49 312 *e*P P 05 04 54.7 +1.3
ZEI *e* 05 08 00.8
ZEI pmax pmax
comp=Z,140nm,1.1s,mb5.7
CLDR **Caldiran** 79.55 308 P P 05 04 55.0 +1.3
HKR **Hakkari** 79.73 307 P P 05 04 55.3 +0.5
CUKT **Cukurca** 79.85 306 P P 05 04 55.6 +0.2
LBOS 79.88 283 *e*P P 05 04 56.8 +1.2
SLKM **Skilak Lake** 79.94 30 *e*P P 05 04 57.0 +1.1
VANB **Van** 79.97 308 P P 05 04 56.2 +0.1
MSL **Mosul** 80.30 305 *ex* x 05 05 02.0
MSL *ex* x 05 05 28.5
MSL *ex* x 05 14 53.0
KIV **Kislovodsk** 80.35 313⇑ *e*P P 05 04 57.9 -0.2
KIV pmax pmax
comp=Z,270nm,1.5s,mb5.9
KIV MLR MLR
comp=Z,200nm,20.0s
KIV **Kislovodsk** 80.35 313 *e*P P 05 04 59.0 +0.9
comp=Z,112nm,0.8s,mb5.8
PMR **Palmer** 80.51 29 *e*P P 05 04 58.9 0.0
PMR **Palmer** 80.51 29 *e*P P 05 04 59.9 +1.0
comp=Z,77nm,1.6s,mb5.3
PMR LR LR
comp=Z,500nm,21.0s
MCK **McKinley** 80.65 27 *e*P P 05 05 00.1 +0.4
MCK *e**PP pP 05 05 28.0 -1.9
COLA **College** 81.15 26 *e*P P 05 05 02.7 +0.4
COLA **College** 81.15 26 *e*P P 05 05 02.8 +0.5
HAJJ **Hajjah** 81.29 285 *e*P P 05 05 04.3 +1.3
ERZM **Erzurum** 81.49 309 *i* P P 05 05 05.2 +1.1
EZM **Erzurum** 81.49 309 *e*P P 05 05 05.6 +1.5
BNGL **BINGOL** 81.71 308 *i* P P 05 05 06.7 +1.4
MARD **Mardin** 82.10 307 *i* P P 05 05 07.6 +0.3
MZRK **Al-Mazaregh** 82.30 305 ⇑P P 05 05 07.5 -0.9
KBSD **Kabsdagh** 82.31 306 ⇑P P 05 05 09.6 +1.2
ATD **Arta Tunnel** 82.45 281 P P 05 05 10.6 +1.4
comp=Z,88nm,1.0s,mb5.5,baz=66,slow=3.4,SNR=19
VRSR **Storozhevoye** 82.45 321 *c i*P P 05 05 07.9 -1.2
VRSR *e**PP pP 05 05 37.7 -1.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=Z,100nm,0.9s,mb5.7
VRSR pmax pmax
comp=E,90nm,1.0s
TMCR **Tamitsa** 82.50 334 *e*P P 05 05 06.0 -3.4
TMCR pmax pmax
comp=Z,150nm,1.3s,mb5.7
KTUT **Trabzon** 82.64 310 *e*P P 05 05 10.2 +0.1
EZC **Erzincan** 82.69 309 P P 05 05 13.3 +3.0
DRBT **Darb Altahta** 82.90 306 ⇑P P 05 05 08.4 -3.1
BSHR **Al Beshri** 82.98 305 ⇑P P 05 05 15.2 +3.3
MENT **Mentasta** 83.02 27 *e*P P 05 05 13.4 +1.3
PTK **Pertek** 83.08 308 P P 05 05 13.5 +1.1
KELT **Kelkit** 83.09 310 *i* P P 05 05 13.4 +0.9
MOS **Moscow** 83.13 325⇑ *i*P P 05 05 10.4 -2.2
MOS *e* 05 05 28.8
MOS *e* 05 08 26.7
MOS *i* S S 05 15 16.9 -5.7
MOS pmax pmax
comp=Z,600nm,20.0s
MOS pmax pmax
comp=Z,164nm,0.8s,mb5.9
ELZG **Elazig** 83.43 308 *i* P P 05 05 15.6 +1.4
URFA **Urfa** 83.64 307 *e*P P 05 05 16.3 +1.0
LVZ **Lovozero** 83.66 338⇑ *i*P P 05 05 14.6 -0.8
LVZ *e* 05 08 28.8
LVZ *e*PPP 05 10 21.2
LVZ *e*S S 05 15 24.0 -3.9
LVZ *e*SS SS 05 20 58.0 +1.0
LVZ pmax pmax
comp=Z,53nm,1.0s,mb5.3
LVZ smax
comp=Z,141nm,3.2s
LVZ smax
comp=N,566nm,5.3s
LVZ smax
comp=E,150nm,1.9s
LVZ MLR MLR
comp=Z,576nm,18.0s
LVZ MLR MLR
comp=N,256nm,17.0s
LVZ MLR MLR
comp=E,284nm,14.0s
OBN **Obninsk** 83.77 325⇑ *e*P P 05 05 15.1 -0.8
OBN *i* S S 05 15 25.9 -3.2
OBN *e*PS 05 16 24.7
OBN pmax pmax
comp=Z,353nm,1.4s,mb6.0
OBN MLR MLR
comp=Z,500nm,19.0s
OBN **Obninsk** 83.77 325 *e*P P 05 05 16.0 +0.1
GRSN **GIRESUNGRSN** 83.78 310 *i* P P 05 05 15.5 -0.4
MALT **Malatya** 83.88 308 ⇓*i*P P 05 05 17.4 +0.9
MYA **Malataya** 83.88 308 *e*P P 05 05 18.5 +2.0
EGAK **Eagle** 84.01 26⇑ *i*P P 05 05 17.9 +0.8
EGAK *e*pP pP 05 05 47.6 0.0
EGAK *e*PP PP 05 08 32.2 -0.2
ATAB **Bozova** 84.06 307 *i* P P 05 05 17.8 +0.4
ANN **Anapa** 84.06 314 *c i*P P 05 05 16.4 -1.0
ANN *e* 05 08 33.3
ANN *e*PPP 05 10 22.1
ANN *e*S S 05 15 27.3 -4.7
ANN pmax pmax
comp=Z,438nm,1.3s,mb6.1
JHLN **Al Jahlan** 84.10 305 ⇑P P 05 05 25.7 +8.1
APA **Apatity** 84.16 337 ⇓*i*P P 05 05 17.3 -0.6
APA *i* 05 05 38.0
APA *e* 05 08 36.0
APA *i* S S 05 15 30.0 -2.9
APA *e*SS SS 05 21 10.0 +5.6
APA pmax pmax
comp=Z,64nm,1.3s,mb5.3
APA pmax pmax
comp=Z,700nm,6.0s
APA MLR MLR
comp=Z,500nm,19.0s
GZT **Gaziantep** 84.65 307 *i* P P 05 05 21.0 +0.6
SVSK **Karacayir** 84.84 309 *e*P P 05 05 22.1 +0.8
DAWY **Dawson** 84.85 26 *e*P P 05 05 23.1 +1.7
DAWY *e*pP pP 05 05 50.8 -1.1
GAZ **Gaziantep** 84.95 307 *e*P P 05 05 22.6 +0.8
TOKT **Tokat** 85.14 310 *e*P P 05 05 23.3 +0.5
KMRS **Kahramanmaras** 85.16 307 *e*P P 05 05 23.6 +0.7
ROOS **tl_alroos** 85.19 304 ⇑P P 05 05 24.4 +1.3
ZALF **Zalf** 85.28 302 ⇑P P 05 05 25.1 +1.5
DRWC **Darouich** 85.44 306 ⇑P P 05 05 25.1 +0.7
KVT **Kavak** 85.44 311 *e*P P 05 05 24.8 +0.5
KFRA **Kufra** 85.48 305 ⇑P P 05 05 25.4 +0.9
JOF **Joensuu** 85.61 333 *e*p P 05 05 24.2 -1.0
comp=Z,52nm,0.5s,mb5.7
BTCH **Batrach** 85.67 306 ⇑P P 05 05 25.8 +0.3
ASF **Jabal al Asfar** 85.73 302 P P 05 05 26.6 +0.8
comp=Z,90nm,1.1s,mb5.6,baz=330,slow=0.7,SNR=58
WRDH **Warideh** 85.76 305 ⇑P P 05 05 26.2 +0.3
SALA **Sala** 85.81 302 ⇑P P 05 05 27.3 +1.1
BNN **Bunyan** 85.84 308 *e*P P 05 05 26.8 +0.5
MARH **Ras Al Marh** 85.87 304 ⇑P P 05 05 27.9 +1.4
BIDA **Albida** 85.89 305 ⇑P P 05 05 27.1 +0.6
SLNF **Slenfeh** 85.91 305 ⇑P P 05 05 27.4 +0.8
HTY **Hatay** 85.92 306 *e*P P 05 05 27.7 +1.0
DIKM **Dikmen** 85.97 311 *e*P P 05 05 26.7 -0.2
TOTH **TOTAH** 85.99 303 ⇑P P 05 05 27.7 +0.6
KOZT **Kozan** 86.01 307 *e*P P 05 05 27.5 +0.4
ARNB **Al Arnab** 86.08 305 ⇑P P 05 05 27.0 -0.5
QASN **Qassioun** 86.10 303 ⇑P P 05 05 24.2 -3.4
CEYT **Ceyhan** 86.13 307 *e*P P 05 05 28.5 +0.8

KEV **Kevo** 86.14 340 *e*p P 05 05 27.0 -0.8
comp=Z,8.7nm,0.8s,mb4.7
KEV **Kevo** 86.14 340 *e*P P 05 05 27.0 -0.8
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YOZ **Yozgat** 86.15 309 *e*P P 05 05 28.4 +0.5
BOYT **Boyabat** 86.26 311 *i* P P 05 05 28.4 +0.1
BRBR **Barbar** 86.38 303 ⇑P P 05 05 30.3 +1.3
SIM **Simferopol'** 86.39 315 *c i*P P 05 05 28.6 -0.4
SIM *e*S S 05 15 41.0 -14
SIM pmax pmax
comp=Z,174nm,0.9s,mb6.0
SIM MLR MLR
comp=Z,500nm,23.0s
PPT **Papeete** 86.42 108 *e*S S 05 15 56.7 +1.6
comp=Z,692nm,25.8s
PPT *e*SS SS 05 21 41.7 +4.1
comp=Z,256nm,24.2s
PPT *e*LR LR 05 32 51.9
comp=Z,2µm,33.2s
PPT **Papeete** 86.42 108 LR LR 05 37 32.6
comp=Z,634nm,19.0s,baz=104,slow=31
CTKT **Corum** 86.44 310 *i* P P 05 05 29.9 +0.7
TCHB **Talchebab** 86.46 302 ⇑P P 05 05 32.7 +3.4
KRTS **Karatas** 86.48 306 *e*P P 05 05 29.8 +0.4
RCY **Rachaya** 86.48 303 *e*P P 05 05 30.3 +0.8
INK **Inuvik** 86.50 22 P P 05 05 29.6 0.0
comp=Z,3.8nm,0.6s,mb4.5,baz=286,slow=3.7,SNR=27
INK PP PP 05 08 54.0 +1.3
comp=Z,4.9nm,1.1s,baz=297,slow=15,SNR=3.9
INK PKKPbc PKKPbc 05 23 25.8 +0.8
comp=Z,2.0nm,0.5s,baz=110,slow=6.7,SNR=11
INK **Inuvik** 86.50 22 P P 05 05 29.6 0.0
INK 05 08 54.0
INK pmax pmax
comp=Z,4.0nm,0.6s
INK pmax pmax
comp=Z,5.0nm,1.1s
INK pmax pmax
comp=Z,2.0nm,0.5s
INK **Inuvik** 86.50 22 *e*P P 05 05 29.8 +0.3
comp=Z,38nm,1.2s,mb5.2
BHL **Bhannes** 86.57 304 *e*P P 05 05 30.3 +0.4
PUL **Pulkovo** 86.57 330 *e*P P 05 05 29.3 -0.6
CORM **Corum** 86.61 310 *e*P P 05 05 30.7 +0.6
AVNT **Avonos** 86.62 309 *i* P P 05 05 29.8 -0.3
KARA **Karaisali** 86.65 307 *e*P P 05 05 29.5 -0.8
ARCES **ARCESS Array B** 86.70 340 P P 05 05 29.8 -0.7
comp=Z,13nm,0.8s,mb4.9,baz=84,slow=6.7,SNR=23
ARCES PKKPbc PKKPbc 05 23 24.4 0.0
comp=Z,0.9nm,0.8s,baz=263,slow=3.3,SNR=8.2
ARCES LR LR 05 49 22.1
comp=Z,387nm,21.6s,baz=334,slow=39
BZK **Bozkurt** 86.86 312 *e*P P 05 05 30.9 -0.3
CDAG **Cicekdag** 86.88 309 *i* P P 05 05 30.7 -0.7
TOS **Tosya** 86.96 311 *e*P P 05 05 32.6 +0.8
KBS **Kingsbay** 87.08 350 *e*P P 05 05 31.8 -0.6
KBS *e*PP PP 05 08 55.1 -2.2
KBS **Kingsbay** 87.08 350 *e*P P 05 05 31.8 -0.6
KBS *e* 05 08 56.6
MERS **Mersin** 87.12 307 *e*P P 05 05 32.0 -0.6
VNDA **Vanda** 87.37 173 P P 05 05 33.6 -0.1
comp=Z,8.7nm,0.4s,mb5.0,baz=316,slow=6.6,SNR=81
VNDA LR LR 05 41 26.9
comp=Z,344nm,19.4s,baz=338,slow=33
VNDA **Vanda** 87.37 173 *e*P P 05 05 33.7 0.0
VNDA *e*pP pP 05 06 00.5 -3.9
BALT **Daday** 87.37 311 *i* P P 05 05 34.3 +0.5
KAMT **Kaman** 87.42 309 *e*P P 05 05 33.3 -0.7
BR131 **Keskin Array S** 87.43 310⇑ *i*P P 05 05 33.1 -1.0
comp=Z,12nm,0.6s,mb5.0
BR131 *e*pP pP 05 06 05.3 +0.6
BRTR **Keskin Array B** 87.43 310 P P 05 05 33.4 -0.7
comp=Z,14nm,0.8s,mb5.0,baz=113,slow=4.4,SNR=42
MAW **Mawson** 87.45 200 *e*P P 05 05 34.1 0.0
comp=Z,9.0nm,1.1s,mb4.6
MAW *e*pP pP 05 06 03.1 -1.7
MAW **Mawson** 87.45 200 P P 05 05 34.3 +0.2
comp=Z,8.4nm,0.7s,mb4.8,baz=57,slow=6.7,SNR=16
MAW LR LR 05 44 24.7
comp=Z,208nm,19.1s,baz=72,slow=35
MAW **Mawson** 87.45 200 P P 05 05 34.3 +0.2
MAW pmax pmax
comp=Z,8.0nm,0.7s
MAW MLR MLR
comp=Z,208nm,19.1s
TBI **Tubuai** 87.46 114 *e*LQ 05 29 50.9
comp=Z,1µm,30.5s
TBI **Tubuai** 87.46 114 *e*PP PP 05 09 01.6 +1.2
comp=Z,131nm,28.0s
TBI **Tubuai** 87.46 114 *e*S S 05 16 07.4 +2.3
comp=Z,1µm,28.2s
TBI *e*SS SS 05 21 58.0 +5.2
comp=Z,331nm,32.0s
TBI *e*LR LR 05 33 29.1
comp=Z,1µm,35.8s
ELDT **Eldivan** 87.49 310 *i* P P 05 05 34.6 +0.3
KTK1 **Kautokeino** 87.61 339 *e*P P 05 05 34.1 -0.8
KTK1 AMb AMB 05 05 35.7
comp=Z,42nm,1.8s,mb5.2
KTK1 **Kautokeino** 87.61 339 *e*P P 05 05 34.1 -0.8
comp=Z,42nm,1.8s,mb5.2
PMOR **Pomariorio Ree** 87.62 105 *e*P P 05 05 40.7 +5.8
comp=Z,34nm,1.0s,mb5.3
EIL **Elat** 87.70 299 *e*P P 05 05 35.9 +0.6
IKL **Isikli** 87.87 306 *e*P P 05 05 35.4 -0.8
SAFT **Safranbolu** 87.94 311 *e*P P 05 05 35.7 -0.7
KAF **Kangasniemi** 88.04 332 *e*p P 05 05 35.6 -1.3
comp=Z,27nm,0.6s,mb5.5,baz=73,slow=4.4
KAF **Kangasniemi** 88.04 332 *e*P P 05 05 35.6 -1.3
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ANTO **Ankara** 88.05 310 *e*P P 05 05 36.5 -0.5
ANTO **Ankara** 88.05 310 ⇓*i*P P 05 05 36.3 -0.7
ANTO **Ankara** 88.05 310 P P 05 05 37.6 +0.6
SBA **Scott Base** 88.27 172 *e*P P 05 05 39.6 +1.6
FIA1 **FINESS Array S** 88.30 332 *e*P P 05 05 37.7 -0.4
FINES **FINESS Array B** 88.30 332 P P 05 05 37.6 -0.5
comp=Z,14nm,0.5s,mb5.2,baz=74,slow=3.5,SNR=34
FINES PKKPbc PKKPbc 05 23 22.7 +2.1
comp=Z,4.0nm,1.0s,baz=197,slow=2.0,SNR=4.1
FINES LR LR 05 48 19.4
comp=Z,332nm,18.2s,baz=95,slow=38
CSS **Prodhromos** 88.34 305 *e*P P 05 05 37.8 -0.5
CSS **Prodhromos** 88.34 305 *e*P P 05 05 37.8 -0.5
ERMK **Ermenek** 88.43 307 *i* P P 05 05 37.8 -1.0
SGKT **Sivrigoynuk** 88.51 311 *i* P P 05 05 38.7 -0.5
VSU **Vasula** 88.63 329 *i* P P 05 05 39.5 -0.2
VSU **Vasula** 88.63 329 *i* Pr P 05 05 39.5 -0.2
KONT **Konya--Tatoy** 88.67 308 *e*P P 05 05 29.7 -10
HDMB **Hadim** 88.72 307 *e*P P 05 05 39.6 -0.5
AKASG **Malin Array Be** 88.76 321 P P 05 05 39.2 -1.2
comp=Z,14nm,0.5s,mb5.3,baz=67,slow=4.4,SNR=74
AKASG PP PP 05 09 11.7 +0.9
comp=Z,2.4nm,0.8s,baz=69,slow=7.2,SNR=5.7
AKASG ScS ScS 05 16 16.1 -6.3
comp=Z,0.2nm,0.3s,baz=79,slow=8.7,SNR=8.6
AKASG LR LR 05 50 13.9
comp=Z,325nm,20.0s,baz=70,slow=39
AKASG **Malin Array Be** 88.76 321 P P 05 05 39.2 -1.1
AKASG 05 09 11.7
AKASG 05 16 16.2
AKASG **Malin Array Be** 88.76 321 P P 05 05 39.2 -1.2
AKASG PP PP 05 09 11.7 +0.9
AKASG ScS ScS 05 16 16.1 -6.3
AKASG LR LR 05 50 13.9
AKBB **Malin Array Si** 88.76 321⇑ *i*P P 05 05 39.1 -1.2
KDHN **Kadinhani** 88.78 309 *i* P P 05 05 39.4 -1.0
MNK **Minsk** 88.86 325 *e*P P 05 05 37.0 -3.8
TRO **Tromso** 88.89 341 *e*P P 05 05 39.5 -1.4
TRO *e*SKSa 05 15 49.7
TRO **Tromso** 88.89 341 *e*P P 05 05 39.5 -1.4
TRO *e* 05 15 50.3
KIZT **Kizilcal** 88.90 309 *e*P P 05 05 40.3 -0.7
HENT **Hendek** 89.34 311 *i* P P 05 05 41.4 -1.6
KMBO **Kilima Mbogo** 89.55 269 P P 05 05 43.7 -0.3
comp=Z,20nm,1.0s,mb5.2,baz=39,slow=6.6,SNR=22
KMBO LR LR 05 40 00.0
comp=Z,468nm,21.9s,baz=230,slow=32
KMBO **Kilima Mbogo** 89.55 269 P P 05 05 43.7 -0.3
KMBO LR LR 05 40 00.0
ESKT **Eskisehir** 89.59 310 *e*P P 05 05 43.9 -0.3
ESKT **Eskisehir** 89.59 310 *i* P P 05 05 43.5 -0.7
KIS **Kishinev** 89.72 317 *e*P P 05 05 44.0 -0.8

KIS *e* 05 09 16.0
KIS *e* 05 11 23.0
KIS *e* 05 16 14.0
KIS *e*S S 05 16 34.0 +7.6
ISP **Isparta** 90.14 308 *e*P P 05 05 44.5 -2.2
ISP **Isparta** 90.14 308 *e*P P 05 05 45.2 -1.6
ISP **Isparta** 90.14 308 ⇓*i*P P 05 05 46.5 -0.2
ISP **Isparta** 90.14 308 P P 05 05 46.7 0.0
ISP pmax pmax
comp=Z,130nm,1.3s,mb5.9
TKTP **Tekketepe** 90.25 308 *i* P P 05 05 46.0 -1.3
HRT **Hereke** 90.26 311 *e*P P 05 05 46.4 -0.9
ADVT **Abdulvahap** 90.27 311 *e*P P 05 05 46.4 -1.0
TIRR **Tirgusor** 90.49 315 ⇓*i*P P 05 05 48.8 +0.4
TIRR **Tirgusor** 90.49 315 P P 05 05 48.7 +0.3
TIRR **Tirgusor** 90.49 315 P P 05 05 48.8 +0.4
YLV **Yalova** 90.52 311 *e*P P 05 05 46.4 -2.1
KLYT **Kilyos** 90.64 312 *e*P P 05 05 48.0 -1.1
ISK **Istanbul-Kandi** 90.67 311 *e*P pP 05 06 11.7 -8.3
GEMT **Gemlik** 90.69 311 *e*P P 05 05 48.1 -1.2
GDZ **Gediz** 90.71 309 *i* P P 05 05 47.7 -1.8
ULDT **Uludag** 90.78 311 *i* P P 05 05 49.1 -0.6
GOLH **Golhisar** 90.98 308 *i* P P 05 05 48.5 -2.2
AKAS **Kas** 91.13 307 *i* P P 05 05 49.5 -1.9
DENT **Denizli** 91.30 308 *e*P P 05 05 52.2 +0.1
VRI **Vrincioaia** 91.36 316 ⇓*i*P P 05 05 52.6 +0.1
VRI **Vrincioaia** 91.36 316 P P 05 05 53.1 +0.7
FETY **Fethiye** 91.47 307 *e*P P 05 05 51.6 -1.3
SUW **Suwalki** 91.63 325 *e*P P 05 05 53.4 -0.3
SUW L 05 48 49.4
comp=Z,0.5nm,22.9s
BTOK **Tokmak** 91.69 310 *i* P P 05 05 53.1 -0.9
MOR8 **Moi Rana** 91.73 338 *e*P P 05 05 52.3 -1.8
MOR8 AMb AMB 05 05 54.0
comp=Z,41nm,1.2s,mb5.5
MOR8 **Moi Rana** 91.73 338 *e*P P 05 05 52.3 -1.8
comp=Z,41nm,1.2s,mb5.5
BURAR **Bucovina Array** 91.98 318 ⇓*i*P P 05 05 55.6 +0.3
BURAR **Bucovina Array** 91.98 318 ⇓P P 05 05 55.6 +0.3
MLR **Muntele Rosu** 91.98 316 P P 05 05 55.8 +0.4
comp=Z,17nm,0.9s,mb5.3,baz=357,slow=3.6,SNR=14
MLR **Muntele Rosu** 91.98 316⇑ *i*P P 05 05 54.8 -0.5
MLR **Muntele Rosu** 91.98 316 P P 05 05 56.0 +0.7
YER **Yerkesik** 92.00 308 *e*P P 05 05 54.4 -1.0
AKHS **Akhisar** 92.03 309 *i* P P 05 05 54.0 -1.5
AKS **Akhisar** 92.03 309 *e*P P 05 05 55.6 +0.1
MFT **Murefte** 92.04 311 *e*P P 05 05 54.0 -1.6
SART **Tekirdag** 92.14 311 *i* P P 05 05 54.1 -1.9
RKY **Sarkoy-Tekirda** 92.14 311 *e*P P 05 05 55.4 -0.7
JMB **Yambol** 92.20 313 *e*P P 05 05 56.4 +0.1
LVV **L'vov** 92.21 321⇑ *i*P P 05 05 55.9 -0.5
LVV *e* 05 09 39.1
LVV *e* 05 16 17.5
LVV *i* S S 05 16 48.0 -1.0
LVV *e*SS SS 05 23 08.3 +6.8
EDRB **Edirne** 92.21 313 *e*P P 05 05 55.5 -0.9
CANB **Canakkale** 92.36 311 *e*P P 05 05 53.8 -3.2
IZM **Izmir** 92.55 309 *e*P P 05 05 57.3 -0.6
SLCB **Balcova** 92.72 309 *e*P P 05 05 57.8 -0.9
ENEZ **Enez** 92.89 312 *e*P P 05 05 58.5 -1.0
PVL **Pavlikeni** 92.93 314 *i* P P 05 05 59.2 -0.5
ALN **Alexandroupoli** 92.93 312 *e*P P 05 05 58.4 -1.3
URLA **Izmir** 93.07 309 *i* P P 05 05 58.3 -2.0
KWP **Kalwaria** 93.09 321 *e*P P 05 06 00.1 -0.3
KWP *e*PP PP 05 09 44.2 -0.8
BOZC **Bozcaada** 93.16 311 *i* P P 05 05 59.1 -1.6
GADA **Gvkgeada** 93.20 311 *e*P P 05 05 59.4 -1.5
DAG **Danmarks Havn** 93.31 352⇑ *i*P P 05 06 00.9 -0.5
comp=Z,16nm,1.0s,mb5.3
DAG **Danmarks Havn** 93.31 352⇑ *i*P P 05 06 00.9 -0.5
DAG pmax pmax
comp=Z,16nm,1.0s,mb5.3
NSS **Namsos** 93.36 337 *e*P P 05 05 58.9 -2.8
KOLS **Kolonicke sedl** 93.55 320 *e*P P 05 06 03.8 +1.3
UZH **Uzhgorod** 93.62 320 ⇓*i*P P 05 06 02.4 -0.5
PLD **Plovdiv** 93.64 313 *e*P P 05 06 01.2 -1.8
RZN **Rozhen** 93.73 313 *i* P P 05 06 03.5 +0.1
LOS **Limnos** 93.87 311 *e*P P 05 06 03.2 -0.8
PGB **Panagyurishte** 93.92 314 *i* P P 05 06 03.2 -1.0
STHS **Stebnicka Huta** 94.06 321 *e*P P 05 06 05.8 +0.9
STHS pmax pmax
comp=Z,22nm,1.2s,mb5.4
STHS **Stebnicka Huta** 94.06 321 *e*P P 05 06 05.8 +0.9
comp=Z,22nm,1.2s,mb5.4
CRVS **Cervenica-Dubn** 94.07 320 *e*P P 05 06 07.2 +2.3
CRVS **Cervenica-Dubn** 94.07 320 *e*P P 05 06 07.3 +2.4
GZR **Gura Zlata** 94.17 317 ⇓*i*P P 05 06 06.1 +0.7
GZR **Gura Zlata** 94.17 317 P P 05 06 06.1 +0.7
TAOE **Nuku Hiva Isla** 94.31 98 *e*LQ 05 32 37.6
comp=Z,2µm,29.3s
TAOE **Nuku Hiva Isla** 94.31 98 *e*PP PP 05 10 04.1 +10
comp=Z,2µm,32.2s
TAOE **Nuku Hiva Isla** 94.31 98 *e*PS PS 05 18 38.3 +0.3
comp=Z,3µm,24.3s
TAOE **Nuku Hiva Isla** 94.31 98 *e*SS SS 05 23 37.1 +5.6
comp=Z,443nm,25.7s
TAOE *e*LR LR 05 36 39.3
comp=Z,3µm,34.4s
MMB **Musomiste** 94.47 313 *e*P P 05 06 05.3 -1.5
MMB **Musomiste** 94.47 313 *i* P P 05 06 05.9 -0.9
OUR **Ouranopolis** 94.59 312 *e*P P 05 06 06.4 -0.9
VTS **Vitosha** 94.59 314 *e*P P 05 06 05.4 -1.9
VTS **Vitosha** 94.59 314⇑ *i*P P 05 06 06.7 -0.6
VTS **Vitosha** 94.59 314 *i* P P 05 06 06.4 -0.9
NIE **Niedzica** 94.64 321 *e*P P 05 06 08.0 +0.5
OJC **Ojcow** 94.72 322 *e*Pc P 05 06 07.6 -0.3
OJC *e*PP PP 05 09 58.6 +0.9
OJC *e*S S 05 17 09.4 -1.6
OJC L 05 55 30.2
comp=Z,1.7nm,20.0s
KECS **Kecovo** 94.81 320 *e*P P 05 06 08.1 -0.2
KECS *e* 05 09 42.7
KECS **Kecovo** 94.81 320 *e*P P 05 06 08.2 -0.1
KECS pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
KECS **Kecovo** 94.81 320 *e*P P 05 06 08.2 -0.1
comp=Z,9.2nm,0.9s,mb5.2
KECS *e*PP PP 05 09 42.7 -16
KKB **Krupnik** 94.87 313 *i* P P 05 06 07.5 -1.1
BZS **Buzias** 94.89 317 ⇓*i*P P 05 06 08.8 +0.1
BZS **Buzias** 94.89 317 P P 05 06 08.8 +0.1
PAIG **Paliouri** 94.92 311 *e*P P 05 06 07.2 -1.6
SOH **Sokhos** 94.94 312 *e*P P 05 06 06.6 -2.3
AOS **Alonnisos** 94.95 310 *e*P P 05 06 07.9 -1.1
IDI **Anoyia** 94.97 306 P P 05 06 09.5 0.0
comp=Z,9.3nm,0.6s,mb5.4,baz=74,slow=7.4,SNR=8.6
HORT **Hortiatis** 95.18 312 *e*P P 05 06 07.8 -2.2
KNT **Kendrikon** 95.18 313 *e*P P 05 06 08.4 -1.6
NB2 **NORSAR Subarra** 95.19 334 P P 05 06 08.8 -1.3
comp=Z,4.4nm,0.6s,mb5.1,baz=64,slow=4.6
NOA **NORSAR Array B** 95.19 334 P P 05 06 09.0 -1.1
comp=Z,7.0nm,0.7s,mb5.2,baz=64,slow=4.6,SNR=14
NOA LR LR 05 54 09.0
comp=Z,348nm,19.8s,baz=65,slow=39
THE **Thessaloniki** 95.27 312 *e*P P 05 06 08.7 -1.8
PSZ **Piszkesteto** 95.36 320 ⇓*e*P P 05 06 11.4 +0.6
PSZ **Piszkesteto** 95.36 320 ⇓*i*P P 05 06 11.3 +0.5
PSZ **Piszkesteto** 95.36 320 P P 05 06 11.4 +0.6
PSZ pmax pmax
comp=Z,11nm,0.9s,mb5.3
PSZ **Piszkesteto** 95.36 320 P P 05 06 11.3 +0.5
VAY **Valandovo** 95.38 313 *e*P P 05 06 08.5 -2.4
XOR **Xorichti** 95.42 311 *e*P P 05 06 09.7 -1.4
SVIS **Svilajnac** 95.53 316 *e*P P 05 06 09.6 -2.0
GRG **Griva** 95.60 312 *e*P P 05 06 10.2 -1.7
LIT **Litokhoron** 95.76 312 *e*P P 05 06 10.5 -2.1
OKC **Ostrava-Krasne** 95.85 322 AMS AMS 05 47 10.0
comp=Z,300nm,17.9s
BEO **Belgrade** 95.91 317 *e*P P 05 06 11.8 -1.5
YKA **Yellowknife Ar** 95.92 24 P P 05 06 13.7 +0.3
comp=Z,3.7nm,0.7s,mb4.9,baz=299,slow=4.8,SNR=9.7
YKA PKKPbc PKKPbc 05 23 00.1 -1.1
comp=Z,1.0nm,0.5s,baz=122,slow=3.2,SNR=6.6
YKA LR LR 05 51 00.7
comp=Z,128nm,19.8s,baz=235,slow=36
YKA **Yellowknife Ar** 95.92 24 P P 05 06 13.7 +0.3
YKA PKKPbc PKKPbc 05 23 00.1 -1.1
YKA LR LR 05 51 00.7
SKO **Skopje** 96.02 314 *e*P P 05 06 13.1 -0.7
BUD **Budapest** 96.05 319 ⇓*e*P P 05 06 14.6 +0.6
AGG **Agios Georgios** 96.16 311 *e*P P 05 06 12.5 -2.0
MORC **Moravsky Berou** 96.24 322⇑ *i*P P 05 06 14.6 -0.2

MORC e 05 10 10.8
MORC pmax pmax
comp=Z,22nm,1.1s,mb5.5
MORC Moravsky Berou 96.24 322 ⇑ *i*P **P 05 06 14.6 -0.2**
comp=Z,22nm,1.1s,mb5.5
MORC *e*PP PP 05 10 10.8 +1.3
FNA Florina 96.39 313 *e*P **P 05 06 13.4 -2.1**
DIVS Divcibare 96.44 316 *i* P **P 05 06 14.7 -1.0**
DIVS Divcibare 96.44 316 *e*P **P 05 06 15.3 -0.4**
KONO Kongsberg 96.54 333 *e*P **P 05 06 15.7 -0.4**
KSP Ksiaz 96.62 323 *e*P **P 05 06 16.9 +0.3**
KSP *e*S S 05 17 29.4 +1.9
KSP L 05 53 01.9
comp=Z,0.6nm,22.6s
KSP Ksiaz 96.62 323 ⇑ *e*P **P 05 06 16.7 +0.1**
KSP *e*PP PP 05 10 12.0 -0.4
PKSM Moragy 96.70 318 ⇓ *i*P **P 05 06 17.3 +0.4**
PKSM Moragy 96.70 318 P **P 05 06 17.3 +0.4**
DPC Dobruska-Polom 96.78 323 *e*P **P 05 06 18.4 +1.1**
UPC Upice 96.91 323 *e*P **P 05 06 18.7 +0.8**
VRAC Vranov 96.98 322 P **P 05 06 18.5 +0.4**
comp=Z,20nm,0.7s,mb5.6,baz=110,slow=3.0,SNR=20
VRAC Vranov 96.98 322 ⇓ *i*P **P 05 06 18.5 +0.3**
VRAC Vranov 96.98 322 ' P **P 05 06 18.5 +0.3**
VRAC pmax pmax
comp=Z,20nm,0.7s
VRAC Vranov 96.98 322 P **P 05 06 19.6 +1.4**
ZST Bratislava 97.05 321 *e*P **P 05 06 18.7 +0.2**
ZST MLR MLR
comp=Z,100nm,21.8s
TIR Tirane 97.33 313 *e*P **P 05 06 18.9 -0.9**
SOP Sopron 97.56 320 ⇑ *e*P **P 05 06 21.3 +0.5**
QSPA South Pole Qui 97.60 180 *e*P **P 05 06 21.5 +0.5**
comp=Z,9.9nm,1.1s,mb5.2
PVCC Panska Ves 97.76 323 *e*P **P 05 06 22.9 +1.2**
CONA Conrad Observa 97.92 321 ⇑ *i*P **P 05 06 22.6 +0.2**
comp=Z,21nm,1.4s,mb5.5
PRU Pruhonice 97.98 323 *e*P **P 05 06 23.5 +0.8**
PRU AMS AMS 05 54 30.0
comp=Z,400nm,20.1s
BRG Berggiesshubel 98.00 324 *e*Pdiff **P 05 06 22.7 0.0**
BRG *es*P sP 05 07 11.3 +5.1
BRG *e*PP PP 05 10 23.8 +0.9
BRG Berggiesshubel 98.00 324 *i* P **P 05 06 22.4 -0.4**
comp=Z,21nm,1.4s,mb5.5
BRG *i* pP 05 06 52.5 -1.1
comp=Z,8.6nm,1.4s
BRG *i* pP pP 05 06 54.3 +0.6
comp=Z,6.6nm,1.2s
BRG *i* 05 07 11.8
comp=Z,12nm,1.3s
BRG PP PP 05 10 17.0 -5.9
BRG *e* 05 11 07.4
comp=Z,23nm,2.0s
BRG SKS 05 16 48.0
BRG S S 05 17 36.0 -3.2
BRG SS SS 05 24 20.0 -3.6
BRG
comp=N,150nm,16.3s
BRG
comp=E,232nm,24.6s
BRG
comp=Z,273nm,20.0s
BRG Berggiesshubel 98.00 324 *i* P **P 05 06 22.4 -0.3**
BRG 05 10 17.0
BRG 05 16 48.0
BRG S S 05 17 36.0 -3.2
BRG SS SS 05 24 20.0 -3.6
BRG pmax pmax
comp=Z,3.0nm,1.4s,mb4.6
BRG pmax pmax
comp=Z,21nm,1.4s,mb5.5
BRG pmax pmax
comp=Z,9.0nm,1.2s,mb5.2
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb5.0
BRG pmax pmax
comp=Z,12nm,2.0s,mb5.1
BRG MLR MLR
comp=N,23µm,16.3s
BRG MLR MLR
comp=E,150nm,24.6s
BRG MLR MLR
comp=Z,232nm,20.0s
BRG Berggiesshubel 98.00 324 *i* P **P 05 06 22.4 -0.4**
comp=Z,21nm,1.4s,mb5.5
BRG *i* pP pP 05 06 52.5 -1.1
BRG *i* pP pP 05 06 54.3 +0.6
BRG *i* 05 07 11.8
BRG PP PP 05 10 17.0 -5.9
BRG *e* 05 11 07.4
BRG SKS 05 16 48.0
BRG S S 05 17 36.0 -3.2
BRG SS SS 05 24 20.0 -3.6
BRG LR LR
comp=Z,270nm,20.0s
BLS5 Blasjo 98.05 333 *e*P **P 05 06 23.7 +0.7**
KOGS Kog 98.19 319 *e*Pdiff **P 05 06 23.3 -0.3**
KOGS *e*PP PP 05 10 26.6 +2.2
KOGS *e*SKSac SKSac 05 16 48.5 -1.8
FBE Freiberg 98.32 324 *e*Pdiff **P 05 06 24.0 -0.2**
FBE *es*Pdiff 05 07 13.7
FBE *e*PP PP 05 10 26.3 +0.9
CLL Collm 98.37 324 *e*Pdiff **P 05 06 23.9 -0.5**
comp=Z,55nm,1.9s,mb5.8
CLL *ep*Pdiff pP 05 06 57.2 +1.9
CLL *es*Pdiff 05 07 13.4
CLL *e*PP PP 05 10 28.2 +2.4
CLL *es*PP 05 11 04.2
CLL *e*SKSac SKSac 05 16 49.8 -1.4
CLL *e*Sdiff S 05 17 42.2 -0.2
CLL *e*SP SP 05 19 04.7 -2.7
CLL *e*PPS 05 20 10.8
CLL *es*SS 05 25 21.0
CLL *e*SSS 05 28 21.5
CLL *e*SSSS 05 31 32.2
CLL *e*LR LR 05 40 50.8
CLL *e*L 05 52 51.5
comp=Z,538nm,22.0s
CLL Collm 98.37 324 *i* Pdif **P 05 06 23.9 -0.5**
comp=Z,53nm,1.9s,mb5.8
CLL *e*PP PP 05 10 27.0 +1.2
CLL *e*(sPP) 05 11 07.0
CLL *e*SKSac SKSac 05 16 48.0 -3.2
CLL *e*Sdif S 05 17 32.0 -10
CLL *ex* x 05 18 28.0
CLL *e*SP SP 05 19 01.0 -6.4
CLL *e*PS PS 05 19 28.0 +5.8
CLL *e*PPS 05 20 08.0
CLL *es*SS 05 25 12.0
CLL *e*SSS 05 28 24.0
CLL *e*SSSS 05 31 18.0
CLL LmV 05 52 00.0
comp=Z,600nm,19.8s
CLL Collm 98.37 324 *i* P **P 05 06 23.9 -0.5**
CLL *e* 05 10 27.0
CLL *e* 05 16 48.0
CLL pmax pmax
comp=Z,53nm,1.9s,mb5.8
CLL MLR MLR
comp=Z,600nm,19.8s
CLL Collm 98.37 324 *i* Pdif **P 05 06 23.9 -0.5**
comp=Z,53nm,1.9s,mb5.8
CLL *e*PP PP 05 10 27.0 +1.2
CLL *e*SKS 05 16 48.0
CLL *e*Sdif S 05 17 32.0 -10
CLL LR LR
comp=Z,600nm,19.8s
ARSA Arzberg 98.37 320 ⇑ *i*P **P 05 06 24.1 -0.4**
comp=Z,56nm,2.1s,mb5.7
BSEG Bad Segeberg 98.76 328 *e*Pdiff **P 05 06 25.4 -0.8**
KHC Kasperske Hory 98.88 322 *e*P **P 05 06 27.5 +0.8**
KHC AMS AMS 05 57 10.0
comp=Z,300nm,16.0s
KHC Kasperske Hory 98.88 322 ⇑ *e*P **P 05 06 26.1 -0.6**
GEC2 GERESS Array S 98.92 322 *e*Pdiff **P 05 06 26.9 0.0**
GERES GERESS Array B 98.92 322 P **P 05 06 26.9 0.0**
comp=Z,8.5nm,0.7s,mb5.4,baz=69,slow=4.4,SNR=32
GERES LR LR 05 55 04.1
comp=Z,275nm,19.9s,baz=78,slow=38
CRES Cresnjev 98.92 319 *e*Pdiff **P 05 06 26.4 -0.5**
MOA Molln 98.95 321 ⇑ *i*P **P 05 06 27.0 0.0**
comp=Z,71nm,1.5s,mb6.0,SNR=17
TANN Tannenbergstha 99.04 324 *e*Pdiff **P 05 06 27.6 +0.2**
TANN *e*PP PP 05 10 30.2 -0.7
WERD Werda 99.12 324 *e*Pdiff **P 05 06 27.7 -0.1**
WERD *es*Pdiff 05 07 15.2
WERD *e*PP PP 05 10 31.0 -0.5
NKC Novy Kostel 99.12 324 *e*P **P 05 06 28.6 +0.8**
NKC *ex* x 05 07 58.2
GUNZ Gunzen 99.14 324 *e*Pdiff **P 05 06 28.0 +0.1**
GUNZ *es*Pdiff 05 07 15.4
GUNZ *e*PP PP 05 10 31.4 -0.3
WERN Wernitzgruen 99.14 324 *e*Pdiff **P 05 06 28.0 +0.1**
WERN *e*PP PP 05 10 31.3 -0.4
BOJS Bojanci 99.17 318 *e*Pdiff **P 05 06 28.4 +0.4**
BOJS *e*PP PP 05 10 33.8 +1.9
BOJS *e*SKSac SKSac 05 16 54.0 -1.2
BOJS *e*Sdiff S 05 17 49.9 +0.8
OBKA Obir 99.26 320 ⇑ *i*P **P 05 06 27.9 -0.5**
comp=Z,90nm,3.1s
WET Wettzell 99.30 322 *e*Pdiff Pdif 05 06 28.9 +0.3
WET *e*PP PP 05 10 33.5 +0.6
WET Wettzell 99.30 322 *e*Pdif Pdif 05 06 28.9 +0.3
WET *e*PP PP 05 10 33.4 +0.5
MANZ Manzenberg 99.42 323 *e*Pdiff Pdif 05 06 29.6 +0.5
MOX Moxa 99.44 324 *e*Pdiff Pdif 05 06 29.2 0.0
MOX *es*Pdiff 05 07 18.5
MOX Moxa 99.44 324 *e*Pdif Pdif 05 06 29.8 +0.6
MOX *e*PP PP 05 10 38.0 +4.0
MOX LR LR
comp=Z,400nm,23.0s
LJU Ljubljana 99.45 319 *e*Pdiff Pdif 05 06 29.0 -0.2
LJU *e*PP PP 05 10 36.2 +2.2
LJU *e*Sdiff S 05 17 53.0 +1.6
ROTZ Rotzenmuhle 99.45 323 *e*Pdiff Pdif 05 06 29.7 +0.4
ROTZ *es*Pdiff 05 07 16.2
ROTZ *e*PP PP 05 10 34.7 +0.6
NRDL Niedersach Rie 99.50 326 *e*Pdiff Pdif 05 06 29.6 +0.1
NRDL *e*PP PP 05 10 34.3 -0.1
KNDS Knezji Dol 99.73 319 *e*Pdiff Pdif 05 06 30.2 -0.3
NVLJ Novalja 99.76 318 *i* P Pdif 05 06 29.8 -0.8
CADS Cadrg 99.89 320 *e*Pdiff Pdif 05 06 30.6 -0.6
CADS *e*PP PP 05 10 40.0 +2.6
GTTG Gvttingen 100.00 325 *e*Pdiff Pdif 05 06 31.6 -0.1
GTTG *e*PP PP 05 10 39.2 +1.0
GRA1 Grafenberg Arr 100.07 323 *e*Pdif Pdif 05 06 32.5 +0.5
GRF Grafenberg Arr 100.07 323 *e*Pdiff Pdif 05 06 32.5 +0.5
LSZ Lusaka 100.12 256 LR LR 05 48 14.5
comp=Z,556nm,21.1s,baz=272,slow=33
LSZ Lusaka 100.12 256 *e*P Pdif 05 06 31.5 -0.7
LSZ pmax pmax
comp=Z,9.0nm,0.8s
LSZ Lusaka 100.12 256 *e*P Pdif 05 06 31.5 -0.7
comp=Z,9.0nm,0.8s
UBBA Unterbreizbach 100.30 325 *e*Pdiff Pdif 05 06 33.2 +0.2
RKT Rikitea 100.67 112 *e*PP PP 05 10 45.6 +2.4
comp=Z,78nm,25.5s
RKT Rikitea 100.67 112 *e*SP SP 05 19 26.7 -5.3
comp=Z,325nm,27.8s
RKT *e*SS SS 05 25 06.3 +5.5
comp=Z,466nm,30.2s
RKT *e*LR LR 05 39 45.3
comp=Z,781nm,28.2s
WTTA Wattenberg 100.82 321 ⇑ *i*P Pdif 05 06 35.4 +0.1
comp=Z,45nm,1.4s
WTTA Wattenberg 100.82 321 ⇑ *i*P Pdif 05 06 35.4 +0.1
WTTA pmax pmax
comp=Z,45nm,1.4s
IBBN Ibbenburen 100.87 327 *e*Pdiff Pdif 05 06 36.1 +0.5
SQTA Sankt Quirin 101.10 321 ⇑ *i*P Pdif 05 06 36.7 +0.1
comp=Z,34nm,1.5s
SQTA Sankt Quirin 101.10 321 ⇑ *i*P Pdif 05 06 36.7 +0.1
SQTA pmax pmax
comp=Z,34nm,1.5s
MOTA Moosalm 101.11 321 ⇑ *i*P Pdif 05 06 35.9 -0.8
comp=Z,21nm,1.5s
MOTA Moosalm 101.11 321 ⇑ *i*P Pdif 05 06 35.9 -0.7
MOTA pmax pmax
comp=Z,21nm,1.5s
NEW Newport 101.15 38 P Pdif 05 06 37.5 +0.7
comp=Z,1.9nm,0.6s,baz=290,slow=5.1,SNR=7.9
TNS Taunus Mts 101.45 325 *e*Pdiff Pdif 05 06 38.8 +0.7
DAVA Damuels 101.89 322 ⇑ *i*P Pdif 05 06 40.3 +0.2
comp=Z,50nm,2.0s
BFO Black Forest 102.38 323 *e*Pdiff Pdif 05 06 41.9 -0.3
BFO *e*PP PP 05 10 55.0 -1.1
BSMT Bassoo Peak 102.74 37 *e*Pdif Pdif 05 06 46.8 +3.0
CDF Champ du Feu 102.96 323 *e*P Pdif 05 06 44.8 -0.1
comp=Z,54nm,1.6s
CDF Champ du Feu 102.96 323 *e*P Pdif 05 06 44.8 -0.1
CDF pmax pmax
comp=Z,27nm,1.6s
CDF Champ du Feu 102.96 323 *e*P Pdif 05 06 44.8 -0.1
comp=Z,27nm,1.6s
WLF Walferdange 103.02 325 *e*Pdiff Pdif 05 06 46.1 +1.0
WLF *es*Pdiff 05 07 30.5
WLF *e*PP PP 05 10 59.5 -1.4
HINF Hinteralfeld 103.49 323 *e*P Pdif 05 06 46.7 -0.5
HAU Haudompre 103.70 323 *e*P Pdif 05 06 48.2 +0.1
HAU *e*R
comp=Z,360nm,21.5s
HAU Haudompre 103.70 323 *e*P Pdif 05 06 48.2 +0.1
HAU LR LR
comp=Z,360nm,21.5s
NVAR Mina Array Bea 104.30 47 Pdiff Pdif 05 06 53.8 +3.0
comp=Z,0.9nm,0.7s,baz=280,slow=4.7,SNR=8.7
NVAR PP PP 05 11 13.3 +2.9
comp=Z,0.9nm,0.9s,baz=277,slow=6.2,SNR=3.6
NVAR Mina Array Bea 104.30 47 Pdif Pdif 05 06 53.8 +3.0
NVAR PP PP 05 11 13.3 +2.9
LPG La Plagne 104.63 321 *e*P Pdif 05 06 52.8 +0.5
comp=Z,17nm,0.9s
LPG La Plagne 104.63 321 *e*P Pdif 05 06 52.8 +0.5
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPG La Plagne 104.63 321 *e*P Pdif 05 06 52.8 +0.5
comp=Z,8.6nm,0.9s
LPL La Plagne 104.63 321 *e*P Pdif 05 06 52.7 +0.4
comp=Z,12nm,0.8s
LPL La Plagne 104.63 321 *e*P Pdif 05 06 52.7 +0.4
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 104.63 321 *e*P Pdif 05 06 52.7 +0.4
comp=Z,5.8nm,0.8s
ORIF Oris-en-Rattie 105.44 321 *e*P Pdif 05 06 55.9 0.0
ORIF *e*R
comp=Z,477nm,22.8s
LOR Lormes 105.53 324 *e*P Pdif 05 06 56.5 +0.2
LOR *e*R
comp=Z,156nm,19.8s
LOR Lormes 105.53 324 *e*P Pdif 05 06 56.5 +0.2
LOR LR LR
comp=Z,160nm,19.8s
BOZ Bozeman (W) 105.69 38 *e*PKPdf PKiKP 05 11 13.3 +4.0
LMR La Mourre 105.77 319 *e*P Pdif 05 06 57.0 -0.3
TCF Toulx Ste Croi 107.01 323 *e*P Pdif 05 07 03.0 +0.2
LDF La Druitiere 107.10 326 *e*P Pdif 05 07 02.8 -0.4
REDW Red Top Meadow 107.28 40 *e*PKPdf PKiKP 05 11 14.4 +2.0
RJF Les Rejaudoux 107.93 323 *e*P Pdif 05 07 07.7 +0.7
RJF *e*R
comp=Z,332nm,22.0s
RJF Les Rejaudoux 107.93 323 *e*P Pdif 05 07 07.7 +0.7
RJF LR LR
comp=Z,330nm,22.0s
PDAR Pinedale Array 108.40 40 PP PP 05 11 35.6 -4.9
comp=Z,1.1nm,1.0s,baz=328,slow=5.3,SNR=5.8
PDAR PKKPbc PKKPbc 05 22 25.2 +0.5
comp=Z,0.5nm,0.5s,baz=103,slow=4.7,SNR=5.5
SNAA Sanae 109.03 195 PKKPbc PKKPbc 05 22 23.1 +0.3
comp=Z,0.5nm,0.7s,baz=314,slow=3.8,SNR=6.5
PV01 Paradox Valley 111.33 44 *e*PKPdf PKiKP 05 11 22.0 +2.0
ANMO Albuquerque 114.37 46 PKP PKiKP 05 11 29.4 +3.7
comp=Z,1.7nm,0.8s,baz=235,slow=1.0,SNR=6.5
ECSD EROS,Sioux Fal 115.55 33 *e*PKPdf PKPdf 05 11 28.7 +0.7
SCHQ Schefferville 116.66 9 PKP PKPdf 05 11 30.4 +0.3
comp=Z,1.0nm,0.3s,baz=74,slow=7.2,SNR=5.7
SCHQ Schefferville 116.66 9 PKP PKPdf 05 11 30.4 +0.3
MNTX Cornudas Mount 116.74 49 *e*PKPdf PKPdf 05 11 32.2 +1.9
MNTX *ep*PKPdf pPKPdf 05 12 03.3 +0.9
MNTX *es*PKPdf 05 12 16.8
KSU1 Kansas State U 118.54 37 *e*PKPdf PKPdf 05 11 35.7 +2.0
WMOK Wichita Mounta 119.81 43 *e*PKIKP PKPdf 05 11 37.8 +1.6
JCT Junction City 121.48 47 *e*PKPdf PKPdf 05 11 41.1 +1.7
JCT *ep*PKPdf pPKPdf 05 12 11.0 -0.6
TOA0 Torodi Ar. Sit 121.53 290 *e*PKPdf PKPdf 05 11 40.0 +0.5
TORD Torodi Ar. Bea 121.53 290 PKP PKPdf 05 11 39.4 -0.1
comp=Z,14nm,1.0s,baz=54,slow=1.7,SNR=37
TORD PP PP 05 13 09.6 -3.2
comp=Z,4.6nm,0.9s,baz=63,slow=3.7,SNR=4.7
TORD PKKPbc PKKPbc 05 21 42.8 +3.3
comp=Z,1.9nm,0.9s,baz=286,slow=2.1,SNR=9.5
MIAR Mount Ida 123.32 40 *e*PKIKP PKPdf 05 11 44.7 +1.8
BLO Bloomington 124.12 31 *e*PKIKP PKPdf 05 11 45.5 +1.0
WCI Wyandotte Cave 124.95 31 *e*PKIKP PKPdf 05 11 46.9 +0.8
ACSO Alum Creek Sta 125.01 28 *e*PKPdf PKPdf 05 11 47.2 +1.0
WVT Waverly 125.67 34 *e*PKIKP PKPdf 05 11 48.3 +0.9
PLAL Pickwick Lake 126.35 36 *e*PKPdf PKPdf 05 11 48.7 0.0
LRAL Lakeview Retre 128.36 36 *e*PKPdf PKPdf 05 11 54.8 +2.2
MYNC Murphy 128.47 32 *e*PKIKP PKPdf 05 11 54.5 +1.7
DBIC Dimbokro 129.56 285 SKPdf SKPdf 05 15 07.0 -12
DBIC Dimbokro 129.56 285 PKP PKPdf 05 11 58.0 +3.1
comp=Z,15nm,1.0s,baz=87,slow=1.8,SNR=8.8
DBIC PP PP 05 14 05.2 -1.1
comp=Z,6.6nm,1.1s,baz=49,slow=9.8,SNR=3.6
LIC Lamto 129.85 285 *e*PKIKP PKPdf 05 11 56.3 +0.9
comp=Z,65nm,1.1s
LIC *e*R
comp=Z,223nm,22.8s
LIC Lamto 129.85 285 *e*PKPdf PKPdf 05 11 56.3 +0.9
LIC LR LR
comp=Z,110nm,22.8s
PLCA Paso Flores 143.73 158 PKP PKPdf 05 12 20.2 -0.8
comp=Z,14nm,0.9s,baz=208,slow=2.8,SNR=20
SDDR Presa de Saban 148.12 33 *e*PKPdf PKPbc 05 12 34.2 +2.4
TRQA Tornquist 148.81 167 *e*PKPbc PKPbc 05 12 34.5 +1.0
TRQA *ep*PKPdf pPKPdf 05 13 03.5 +1.7
SJG San Juan 151.39 26 PKPbc PKPbc 05 12 41.5 +1.7
comp=Z,13nm,0.5s,baz=265,slow=4.9,SNR=6.1
MTP Monte Pirata 151.66 25 *e*PKPbc PKPbc 05 12 41.9 +1.5
CFAA Coronel Fontan 152.48 152 PKP PKPdf 05 12 37.0 +1.7
comp=Z,1.5nm,0.4s,baz=70,slow=0.9,SNR=4.4
CFAA PKPbc PKPbc 05 12 43.5 +1.2
comp=Z,1.8nm,0.5s,baz=208,slow=1.9,SNR=26
CFAA Coronel Fontan 152.48 152 PKP PKPdf 05 12 37.0 +1.7
CFAA PKPbc PKPbc 05 12 43.5 +1.2
ROSC El Rosal 155.63 60 PKP PKPdf 05 12 42.9 +3.2
comp=Z,3.7nm,0.8s,baz=272,slow=20,SNR=2.9
SDV Santo Domingo 156.15 47 PKP PKPdf 05 12 43.0 +2.7
comp=Z,2.5nm,0.5s,baz=3.5,slow=4.0,SNR=4.9
SDV Santo Domingo 156.15 47 *e*PKPdf PKPdf 05 12 41.7 +1.4
NNA Nana 156.48 102 PKPab PKPab 05 13 13.6 +3.6
comp=Z,6.4nm,0.5s,baz=27,slow=4.5,SNR=4.2
ARE Arequipa 160.27 118 PKP2 PKPab 05 13 18.0 -8.4
CPUP Villa Florida 161.11 169 PKP PKPdf 05 12 48.8 +2.5
comp=Z,3.6nm,1.0s,baz=242,slow=5.9,SNR=2.9
CPUP PKPab PKPab 05 13 27.6 -2.5
comp=Z,7.7nm,0.9s,baz=99,slow=3.8,SNR=4.5
LPAZ La Paz 163.24 122 PKP PKPdf 05 12 51.5 +3.1
comp=Z,8.5nm,1.2s,baz=215,slow=1.6,SNR=13
LPAZ PKPab PKPab 05 13 42.8 +3.4
comp=Z,8.0nm,0.9s,baz=192,slow=5.6,SNR=6.1
SIV San Ignacio 168.84 138 PKP PKPdf 05 12 54.4 +1.6
comp=Z,3.1nm,0.9s,baz=255,slow=2.2,SNR=8.2
SAML Samuel 170.20 98 *e*PKPdf PKPdf 05 12 55.3 +1.6
BDFB Brasilia 170.55 213 PKP PKPdf 05 12 55.9 +2.1
comp=Z,4.2nm,0.9s,baz=40,slow=9.9,SNR=4.3

*ISCJB **05** 04:53:26.4±0.6, 5965N±003×2444E±008, h0km, Error ellipse: s-maj=5.6km s-min=4.5km az=171.5*
*CSEM **05** 04:53:28.7±0.1, 5967N×2464E, h2km, ML2.6, Error ellipse: s-maj=2.8km s-min=2.1km az=33.0, Mining explosion.*
*NAO **05** 04:53:28.6±1.0, 5969N×2465E, ML2.4*
*HEL **05** 04:53:29.1±0.2, 5968N×2455E, h0km, ML2.6, ML2.4(NAO), Explosion*
*BER **05** 04:53:29.5±3.2, 5970N×2460E, h0km±13km, ML2.4(NAO)*
*IDC **05** 04:53:31.3±1.0, 5983N×2457E, h0km, mb1 3.4/4, mb1mx3.2/22, mbtmp3.4/4, ML3.6/4, Error ellipse: s-maj=11.1km s-min=6.3km az=135.0*

ISC 05 04:53:27.9±0.6, 5968N±003×2457E±007, h0km, n26, σ1§07/46, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.54**	**351**	*e*P	**Pg**	**04 53 38.5**	**+0.2**
MEF				*e*S	**Sg**	**04 53 45.2**	**-0.2**
PVF	**Pernaja**	**1.08**	**36**	*e*P	**Pg**	**04 53 48.2**	**-0.4**
PVF				*e*S	**Sg**	**04 54 02.0**	**-0.6**
VSU	**Vasula**	**1.66**	**137**	*e*P	**Pn**	**04 53 58.7**	**+0.4**
VSU				*e*S	**Sn**	**04 54 20.0**	**-0.3**
VSU	**Vasula**	**1.66**	**137**	Pn	**Pn**	**04 53 58.5**	**+0.2**
VSU				Lg		04 54 20.1	
VSU	**Vasula**	**1.66**	**137**	P	**Pn**	**04 53 58.6**	**+0.3**
VSU				S	**Sn**	**04 54 20.0**	**-0.3**
FIA0	**FINESS Array S**	**1.92**	**22**	*e*P	**Pn**	**04 54 03.1**	**+1.3**
FIA0				*e*S	**Sn**	**04 54 27.8**	**+1.1**
FIA0	**FINESS Array S** baz=195,slow=18	**1.92**	**22**	Pn	**Pn**	**04 54 03.1**	**+1.3**
FIA0				Lg		04 54 27.7	
baz=195,slow=28							
FIA0	**FINESS Array S**	**1.92**	**22**	P	**Pn**	**04 54 03.0**	**+1.2**
FIA0				S	**Sn**	**04 54 27.7**	**+1.1**
FINES	**FINESS Array B** 8.9nm,0.3s,baz=196,slow=16,SNR=348	**1.92**	**22**	Pg	**Pg**	**04 54 03.1**	**-1.5**
FINES				Lg		04 54 27.4	
8.1nm,0.3s,baz=194,slow=27,SNR=17							
RAF	**Rauma**	**1.94**	**315**	*e*P	**Pn**	**04 54 03.4**	**+1.4**
RAF				*e*S	**Sn**	**04 54 28.5**	**+1.4**
RAF				MSG		04 54 29.1	
comp=Z,23nm,0.2s							
RAF	**Rauma**	**1.94**	**315**	P	**Pn**	**04 54 03.4**	**+1.3**
RAF				S	**Sn**	**04 54 28.4**	**+1.3**
comp=Z,23nm,0.2s							
KEF	**Keuruu**	**2.50**	**3**	*e*P	**Pn**	**04 54 11.9**	**+2.1**
KEF				*e*SB	**Sb**	**04 54 44.9**	**0.0**
KEF				MSG		04 54 46.6	
comp=Z,37nm,0.2s							
KAF	**Kangasniemi**	**2.58**	**18**	*e*P	**Pn**	**04 54 12.2**	**+1.3**
KAF				*e*SB	**Sb**	**04 54 46.6**	**-0.8**
KAF				MSG		04 54 49.2	
comp=Z,33nm,0.2s							
KAF	**Kangasniemi**	**2.58**	**18**	P	**Pn**	**04 54 12.2**	**+1.2**
HFS	**Hagfors**	**5.49**	**279**	*e*P	**Pn**	**04 54 51.5**	**+0.5**
HFS				*e*S	**Sn**	**04 55 52.6**	**-2.2**
HFS				*e*SG		04 56 17.2	
HFS	**Hagfors** comp=Z,1.2nm,0.3s,baz=111,slow=13,SNR=47	**5.49**	**279**	Pn	**Pn**	**04 54 51.5**	**+0.6**
HFS				Sn	**Sn**	**04 55 54.3**	**-0.5**
comp=Z,1.5nm,0.3s,baz=89,slow=28,SNR=8.6							
HFS				Lg		04 56 27.6	
comp=Z,2.1nm,0.3s,baz=93,slow=31,SNR=5.1							
HFS	**Hagfors** baz=84,slow=16	**5.49**	**279**	Pn	**Pn**	**04 54 51.5**	**+0.5**
HFS				Sn	**Sn**	**04 55 52.6**	**-2.2**
baz=91,slow=28							
HFS				Lg		04 56 17.2	
baz=93,slow=37							
HFS	**Hagfors** SNR=6.2	**5.49**	**279**	Pn	**Pn**	**04 54 51.5**	**+0.5**
HFS				Sn	**Sn**	**04 55 52.6**	**-2.2**
SNR=6.0							
NB2	**NORSAR Subarra** baz=97,slow=14	**6.76**	**287**	Pn	**Pn**	**04 55 07.7**	**-0.7**
NB2				Sn	**Sn**	**04 56 22.2**	**-3.9**
baz=100,slow=22							
NB2				Lg		04 56 57.9	
baz=85,slow=28							
NB2	**NORSAR Subarra**	**6.76**	**287**	*e*P	**Pn**	**04 55 07.7**	**-0.7**
NB2				*e*S	**Sn**	**04 56 22.2**	**-3.9**
NB2				*e*SG		04 56 57.9	
NB2	**NORSAR Subarra** SNR=0.6	**6.76**	**287**	Pn	**Pn**	**04 55 07.7**	**-0.7**
NB2				Sn	**Sn**	**04 56 22.2**	**-3.9**
SNR=3.6							
NOA	**NORSAR Array B** comp=Z,0.8nm,0.3s,baz=85,slow=13,SNR=3.9	**6.76**	**287**	Pn	**Pn**	**04 55 08.1**	**-0.3**
NOA				Sn	**Sn**	**04 56 24.6**	**-1.5**
comp=Z,1.1nm,0.3s,baz=101,slow=18,SNR=3.2							
NOA				Lg		04 57 02.2	
comp=Z,1.4nm,0.3s,baz=88,slow=12,SNR=3.5							
AKASG	**Malin Array Be** comp=Z,1.8nm,0.3s,baz=339,slow=13,SNR=7.3	**9.39**	**162**	Pn	**Pn**	**04 55 44.4**	**0.0**
ARA0	**ARCESS Array S** baz=174,slow=16	**9.90**	**2**	Pn	**Pn**	**04 55 50.1**	**-1.4**
ARA0				Sn	**Sn**	**04 57 35.9**	**-7.4**
baz=188,slow=28							
ARA0	**ARCESS Array S**	**9.90**	**2**	*e*P	**Pn**	**04 55 50.1**	**-1.4**
ARA0				*e*S	**Sn**	**04 57 35.9**	**-7.4**
ARCES	**ARCESS Array B** comp=Z,1.0nm,0.3s,baz=180,slow=11,SNR=62	**9.90**	**2**	Pn	**Pn**	**04 55 50.1**	**-1.3**

*ISCJB **05** 04:54:37.3±0.2, 3649N±002×7097E±003, h199km, mb4.2/46, Error ellipse: s-maj=3.8km s-min=2.4km az=118.3*
*BJI **05** 04:54:37.2, 3667N×7086E, h191km, mB4.7, mb4.7*
*MOS **05** 04:54:37.8±0.9, 3657N×7090E, h198km, mb4.2/20, Error ellipse: s-maj=8.9km s-min=4.8km az=114.3*
*IDC **05** 04:54:39.0±0.7, 3645N×7098E, h201km±5km, mb4.1/20, mb1 4.2/24, mb1mx4.1/29, mbtmp4.7/24, MS3.5/1, Ms1 3.5/1, ms1mx3.1/38, Error ellipse: s-maj=11.2km s-min=10.3km az=44.0*
*NEIC **05** 04:54:39.1±0.3, 3653N×7092E, mb4.1/23, Error ellipse: s-maj=7.7km s-min=6.7km az=204.0*
*NNC **05** 04:54:44.9±2.2, 3709N×7096E, h215km±17km, mb3.8, mpv4.9, Error ellipse: s-maj=22.1km s-min=12.2km az=26.0*

ISC 05 04:54:38.7±0.2**, 3651N**±002×**7104E**±003**, h201**km**, h201**km±1.5km**:pP-P, n186,** σ1ˢ**05**/202**, mb4.2**/46**, 8C-16D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.38**	**147**	⇓P	**Pn**	**04 55 33.9**	**+1.1**
CHCP				S	**Sn**	**04 56 08.0**	**-7.3**
THW	**Thamme Wali**	**3.75**	**171**	⇑P	**Pn**	**04 55 37.4**	**+0.1**
SRNI	**Srinagar**	**3.94**	**126**	*e*P	**Pn**	**04 55 40.5**	**+0.8**
SRNI				*e*x	x	04 56 47.5	
SBDP	**Sheikh Budin**	**4.20**	**183**	⇑P	**Pn**	**04 55 41.6**	**-1.4**
SARP	**Sargodha**	**4.77**	**163**	P	**Pn**	**04 55 49.5**	**-0.6**
DRP	**Derazinda**	**4.80**	**189**	P	**Pn**	**04 55 49.4**	**-1.1**
KSH	**Kashi**	**4.92**	**51**	⇓P	**Pn**	**04 55 54.0**	**+2.0**
KSH				S	**Sn**	**04 56 50.6**	**+0.7**
JMU	**Jammu**	**4.95**	**139**	*e*P	**Pn**	**04 55 55.0**	**+2.7**
JMU				*e*S	**Sn**	**04 56 48.0**	**-2.4**
THN	**Thein Dam**	**5.61**	**135**	*e*P	**Pn**	**04 56 00.0**	**-0.8**
THN				*e*S	**Sn**	**04 57 04.1**	**-1.7**
AML	**Almayashu**	**5.98**	**19**	P	**Pn**	**04 56 05.5**	**-0.1**
	SNR=484						
UCH	**Uchtor**	**6.31**	**24**	P	**Pn**	**04 56 10.3**	**+0.4**
	SNR=23						
KZA	**Kyzart**	**6.45**	**29**	P	**Pn**	**04 56 11.2**	**-0.5**
	SNR=54						
EKS2	**Erkin-Say**	**6.50**	**18**	P	**Pn**	**04 56 12.1**	**-0.2**
	SNR=184						
KK31	**Karatay Array**	**6.60**	**357**	⇓P	**Pn**	**04 56 12.6**	**-1.0**
	65nm,0.5s,baz=204,slow=199,SNR=817						
KK31				⇓S	**Sn**	**04 57 22.8**	**-6.1**
	807nm,0.5s						
KKAR	**Karatay Array**	**6.60**	**357**	PN	**Pn**	**04 56 12.5**	**-1.1**
KKAR				pmax	pmax		
	comp=Z,12nm,0.2s						
AAK	**Ala-Archa**	**6.67**	**23**	P	**Pn**	**04 56 14.8**	**+0.2**
	SNR=115						
AAK	**Ala-Archa**	**6.67**	**23**	⇓*i*PN	**Pn**	**04 56 13.6**	**-1.0**
AAK				*e*		04 57 29.9	
AAK				pmax	pmax		
	comp=Z,161nm,0.6s						
AAK	**Ala-Archa**	**6.67**	**23**	⇓*i*Pn	**Pn**	**04 56 13.6**	**-1.0**
	comp=Z,161nm,0.6s						
AAK				*e*Sn	**Sn**	**04 57 29.9**	**-0.8**
BHK	**Bhakra**	**6.76**	**137**	*e*P	**Pn**	**04 56 16.8**	**+1.0**
BHK				*e*S	**Sn**	**04 57 30.7**	**-2.1**
KBK	**Karagaybulak**	**6.84**	**25**	P	**Pn**	**04 56 17.2**	**+0.4**
	SNR=143						
FRU	**Bishkek**	**6.89**	**23**	⇓*i*PN	**Pn**	**04 56 17.0**	**-0.5**
FRU				*i* S	**Sn**	**04 57 34.0**	**-1.9**
FRU				pmax	pmax		
	comp=Z,260nm,1.0s						
FRU				smax			
	comp=N,940nm,1.5s						
ULHL	**Ulahol**	**7.00**	**34**	P	**Pn**	**04 56 18.5**	**-0.4**
	SNR=121						
SDNR	**Sundarnagar**	**7.02**	**134**	*e*P	**Pn**	**04 56 18.5**	**-0.5**
SDNR				*e*S	**Sn**	**04 57 32.5**	**-6.2**
CHMS	**Chumysh**	**7.08**	**23**	P	**Pn**	**04 56 19.5**	**-0.4**
	SNR=81						
USP	**Ospenovka**	**7.26**	**20**	P	**Pn**	**04 56 21.2**	**-1.0**
	SNR=113						
TKM2	**Tokmak 2**	**7.30**	**27**	P	**Pn**	**04 56 22.9**	**+0.1**
	SNR=595						
TKM2	**Tokmak 2**	**7.30**	**27**	⇓P	**Pn**	**04 56 23.0**	**+0.2**
	comp=N,38nm,0.6s						
TKM2				⇓S	**Sn**	**04 57 41.3**	**-4.2**
	comp=N,11nm,0.8s						
TKM2	**Tokmak 2**	**7.30**	**27**	*i* PN	**Pn**	**04 56 22.9**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,399nm,0.6s						
KLP	**Kalpa**	**7.78**	**128**	*e*P	**Pn**	**04 56 29.3**	**+0.4**
KLP				*e*S	**Sn**	**04 57 51.4**	**-5.3**
DDI	**Dehra Dun**	**8.51**	**134**	*e*P	**Pn**	**04 56 39.0**	**+0.5**
DDI				*e*x	x	04 58 04.0	
KHET	**Khetri**	**9.33**	**153**	*e*P	**Pn**	**04 56 47.3**	**-1.8**
KHET				*e*S	**Sn**	**04 58 25.5**	**-8.0**
KHET				AML	AML	04 58 29.7	
	comp=E,323nm,0.4s						
KHET				AML	AML	04 58 29.9	
	comp=N,424nm,0.4s						
NDI	**New Delhi**	**9.38**	**145**	*e*P	**Pn**	**04 56 47.0**	**-2.8**
NDI				*e*S	**Sn**	**04 58 25.0**	**-10**
AYAN	**Aya Nagar**	**9.51**	**146**	*e*P	**Pn**	**04 56 50.7**	**-0.8**
JASL	**Jaisalmer**	**9.56**	**181**	*e*P	**Pn**	**04 56 50.3**	**-1.8**
SONA	**Sohna**	**9.69**	**146**	*e*P	**Pn**	**04 56 53.0**	**-0.8**
SONA				*e*S	**Sn**	**04 58 33.7**	**-8.4**
SONA				AML	AML	04 58 40.2	
	comp=N,459nm,0.4s						
SONA				AML	AML	04 58 41.8	
	comp=E,429nm,0.5s						
LGTI	**Lohaghat**	**10.45**	**130**	*i* P	**Pn**	**04 57 02.5**	**-1.2**
LGTI				*i* S	**Sn**	**04 58 54.0**	**-6.4**
AJM	**Ajmer**	**10.46**	**162**	*e*P	**Pn**	**04 57 02.7**	**-1.0**
AGRA	**Agra**	**10.95**	**146**	*e*P	**Pn**	**04 57 09.1**	**-1.0**
AGRA				*e*S	**Sn**	**04 59 03.4**	**-8.8**
AGRA				AML	AML	04 59 07.8	
	comp=N,146nm,0.7s						
AGRA				AML	AML	04 59 08.7	
	comp=E,255nm,0.6s						
MK02	**Makanchi Array**	**13.26**	**36**	⇑P	**Pn**	**04 57 38.9**	**-0.3**
	comp=E,33nm,0.8s						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**04 57 39.2**	**-0.1**
	comp=E,1.9nm,0.3s,baz=221,slow=10,SNR=120						
KOLN	**Koldanda**	**13.74**	**126**	*e*P	**Pn**	**04 57 45.5**	**+0.2**
	comp=E,36nm,0.4s						
GKN	**Gorkha**	**14.28**	**123**	*e*P	**Pn**	**04 57 52.8**	**+0.8**
	comp=E,202nm,0.6s						
BHPL	**Bhopal**	**14.33**	**156**	*e*P	**Pn**	**04 57 55.7**	**+3.2**
BHPL				*e*x	x	05 00 21.7	
WMQ	**Urumqi**	**14.67**	**55**	*e*P	**Pn**	**04 57 57.8**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,23nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,166nm,5.4s						
DMN	**Daman**	**14.85**	**123**	*e*P	**Pn**	**04 57 59.7**	**+0.7**
	comp=Z,170nm,0.6s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**Pn**	**04 57 59.8**	**+0.8**
	comp=Z,162nm,0.5s						
PKI	**Pulchoki**	**15.09**	**122**	*e*P	**Pn**	**04 58 03.1**	**+1.3**
	comp=Z,539nm,0.7s						
AB31	**Akbulak array**	**15.09**	**331**	P	**Pn**	**04 57 59.9**	**-2.0**
	comp=Z,37nm,0.6s,baz=145,slow=12,SNR=315						
AB31				S	**S**	**05 00 40.8**	**-8.5**
	comp=Z,13nm,0.5s,baz=152,slow=23,SNR=8.6						
AB31	**Akbulak array**	**15.09**	**331**	*i* P	**Pn**	**04 57 59.8**	**-2.0**
AB31				pmax	pmax		
	comp=Z,11nm,0.4s						
GUN	**Gumba**	**15.20**	**120**	*e*P	**Pn**	**04 58 04.7**	**+1.6**
	comp=Z,83nm,0.4s						
JBP	**Jabalpur**	**15.38**	**147**	*e*P	**Pn**	**04 58 08.7**	**+3.3**
JBP				*i* x	x	05 00 43.4	
JIRN	**Jiri**	**15.57**	**120**	*e*P	**Pn**	**04 58 08.7**	**+1.1**
	comp=Z,153nm,0.5s						
VOSK	**Vostochnaya**	**16.21**	**360**	⇑P	**P**	**04 58 13.5**	**-1.3**
	comp=Z,24nm,0.7s						
ZRNK	**Zerenda**	**16.50**	**356**	*i* P	**P**	**04 58 17.8**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,15nm,0.7s						
BVA0	**Borovoye Array**	**16.52**	**359**	⇓P	**P**	**04 58 18.2**	**0.0**
	comp=Z,12nm,1.4s,baz=169,slow=11,SNR=198						
BVA0	**Borovoye Array**	**16.52**	**359**	*i* P	**P**	**04 58 18.1**	**0.0**
BVA0				pmax	pmax		
	comp=Z,17nm,1.4s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**P**	**04 58 18.2**	**+0.1**
	comp=Z,5.0nm,0.3s,baz=178,slow=12,SNR=90						
BVAR				S	**S**	**05 01 19.0**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=169,slow=26,SNR=6.4						
BRVK	**Borovoye**	**16.56**	**358**	⇓*e*P	**P**	**04 58 18.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,42nm,0.9s						
BRVK	**Borovoye**	**16.56**	**358**	⇓*e*P	**P**	**04 58 18.5**	**0.0**
	comp=Z,42nm,0.9s						
AKL	**Akola**	**16.59**	**160**	*e*P	**P**	**04 58 21.8**	**+2.8**
AKTK	**Aktyubinsk**	**16.79**	**330**	P	**P**	**04 58 21.7**	**+0.6**
AKTK				S	**S**	**05 01 23.2**	**-2.7**
AKTK				LR	LR	05 05 20.5	
AKTO	**Aktyubinsk**	**16.79**	**330**	⇑P	**P**	**04 58 20.9**	**-0.1**
	comp=Z,4.0nm,1.0s						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**P**	**04 58 21.7**	**+0.6**
	comp=Z,12nm,0.3s,baz=139,slow=11,SNR=317						
AKTO				S	**S**	**05 01 23.2**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=198,slow=18,SNR=4.6						
AKTO				LR	LR	05 05 20.5	
	comp=Z,181nm,20.8s,baz=285,slow=38						
AKTO	**Aktyubinsk**	**16.79**	**330**	P	**P**	**04 58 21.7**	**+0.6**
AKTO				S	**S**	**05 01 23.2**	**-2.7**
NGP	**Nagpur**	**16.82**	**153**	*e*x	x	04 58 20.3	
NGP				*e*x	x	05 01 18.9	
CHKZ	**Chkalovo**	**17.17**	**359**	⇓P	**P**	**04 58 25.6**	**+0.4**
	comp=Z,17nm,0.6s						
CHKZ	**Chkalovo**	**17.17**	**359**	*i* P	**P**	**04 58 25.6**	**+0.3**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.6s						
CHKZ	**Chkalovo**	**17.17**	**359**	⇓*i*P	**P**	**04 58 25.5**	**+0.3**
BOK	**Bokaro**	**18.01**	**131**	*e*x	x	04 58 36.5	
LSA	**Lhasa**	**18.15**	**106**	P	**P**	**04 58 39.6**	**+3.6**
LSA	**Lhasa**	**18.15**	**106**	*e*P	**P**	**04 58 40.5**	**+4.5**
LSA				pmax	pmax		
	comp=Z,55nm,1.0s						
LSA	**Lhasa**	**18.15**	**106**	*e*P	**P**	**04 58 40.5**	**+4.5**
	comp=Z,55nm,1.0s						
LSA				*e*PcP	PcP	05 02 56.5	-3.3
ZAL	**Zalesovo**	**19.88**	**24**	P	**P**	**04 58 55.4**	**+0.8**
	baz=253,slow=10,SNR=4.6						
HYB	**Hyderabad**	**20.15**	**159**	*i* P	**P**	**04 59 01.5**	**+4.1**
HYB	**Hyderabad**	**20.15**	**159**	*e*P	**P**	**04 59 01.5**	**+4.1**
NVS	**Novosibirsk**	**20.16**	**21**	⇑*i*P	**P**	**04 58 58.5**	**+0.9**
NVS				*e*S	**S**	**05 02 33.2**	**+0.5**
NVS				pmax	pmax		
	comp=N,64nm,1.3s						
NVS				pmax	pmax		
	comp=Z,60nm,1.3s						
NVS				pmax	pmax		
	comp=E,29nm,1.2s						
NVS				smax			
	comp=N,40nm,1.6s						
NVS				smax			
	comp=E,31nm,1.2s						
GNI	**Garni**	**20.92**	**288**	P	**P**	**04 59 07.5**	**+1.9**
	comp=E,7.0nm,0.5s,baz=129,slow=14,SNR=3.3						
GNI	**Garni**	**20.92**	**288**	*e*P	**P**	**04 59 03.1**	**-2.5**
GNI				pmax	pmax		
	comp=Z,15nm,0.8s						
GNI	**Garni**	**20.92**	**288**	*e*P	**P**	**04 59 03.1**	**-2.5**
	comp=Z,15nm,0.8s						
AGT	**Agartala**	**21.48**	**120**	*i* x	x	05 00 05.0	
SVE	**Sverdlovsk**	**21.49**	**344**	*e*P	**P**	**04 59 11.8**	**+0.1**
SVE				*e*		05 00 16.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
ARU	**Arti**	**21.63**	**341**	*d i*P	**P**	**04 59 13.2**	**+0.1**
ARU				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.0						
ARU	**Arti**	**21.63**	**341**	*e*P	**P**	**04 59 13.1**	**0.0**
	comp=Z,57nm,1.1s,mb5.0						
ZEI	**Tsey**	**21.76**	**295**	*e*P	**P**	**04 59 15.6**	**+1.1**
ZEI				*e**PP		04 59 49.0	
ZEI				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**22.81**	**298**	*e*P	**P**	**04 59 23.5**	**-0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**22.81**	**298**	*e*P	**P**	**04 59 23.1**	**-0.9**
	comp=Z,8.8nm,0.4s,mb4.6						
GTA	**Gaotai**	**22.84**	**74**	*e*P	**P**	**04 59 28.1**	**+3.8**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.5						
IMP	**Imphal**	**22.84**	**114**	*e*x	x	04 59 46.0	
IMP				*e*x	x	05 02 13.0	
ANN	**Anapa**	**26.66**	**299**	*e*P	**P**	**04 59 57.3**	**-1.5**
ANN				pmax	pmax		
	comp=Z,125nm,1.0s						
SONM	**Songino Array**	**28.31**	**55**	P	**P**	**05 00 15.9**	**+2.4**
	comp=Z,3.3nm,0.6s,mb4.1,baz=267,slow=9.0,SNR=13						
BRTR	**Keskin Array B**	**29.46**	**288**	P	**P**	**05 00 24.4**	**+0.7**
	comp=Z,1.0nm,0.6s,mb3.6,baz=111,slow=8.5,SNR=5.5						
BRTR	**Keskin Array B**	**29.46**	**288**	*i* P	**P**	**05 00 26.3**	**+2.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	**Obninsk**	**29.95**	**319**	⇑*i*P	**P**	**05 00 28.2**	**+0.2**
OBN				*i*	pP	05 01 09.8	+0.9
OBN				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
PBA	**Port Blair**	**31.55**	**136**	*e*x	x	05 00 59.7	
PBA				*e*x	x	05 01 04.5	
AKASG	**Malin Array Be**	**32.96**	**309**	P	**P**	**05 00 54.5**	**+0.1**
	comp=Z,13nm,0.6s,mb4.6,baz=81,slow=7.2,SNR=59						
AKASG				PP	PP	05 02 07.8	-5.3
	comp=Z,2.9nm,0.8s,baz=90,slow=11,SNR=4.8						
AKBB	**Malin Array Si**	**32.96**	**309**	⇓*e*P	**P**	**05 00 54.3**	**0.0**
AKBB				*e**PP	pP	05 01 34.8	-0.8
MLR	**Muntele Rosu**	**34.80**	**299**	P	**P**	**05 01 11.8**	**+1.7**
	comp=Z,9.1nm,1.0s,mb4.3,baz=102,slow=6.2,SNR=7.1						
JOF	**Joensuu**	**35.88**	**330**	*e*p	**P**	**05 01 18.7**	**-0.6**
	comp=Z,15nm,0.4s,mb4.9						
KWP	**Kalwaria**	**37.03**	**306**	P	**P**	**05 01 30.5**	**+1.5**
KWP				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.7						
KWP	**Kalwaria**	**37.03**	**306**	P	**P**	**05 01 30.5**	**+1.4**
	comp=Z,10nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**05 01 33.4**	**+0.5**
	comp=Z,4.0nm,0.4s,mb4.3,baz=118,slow=10,SNR=32						
FINES				pP	pP	05 02 15.5	+0.5
	comp=Z,2.1nm,0.6s,baz=104,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**37.49**	**326**	*e*P	**P**	**05 01 32.7**	**-0.2**
FINES	**FINESS Array B**	**37.49**	**326**	P	**P**	**05 01 33.4**	**+0.5**
FINES				pP	pP	05 02 15.5	+0.5
KAF	**Kangasniemi**	**37.63**	**327**	*e*p	**P**	**05 01 31.9**	**-2.2**
	comp=Z,5.1nm,0.6s,mb4.2,baz=112,slow=8.2						
MORC	**Moravsky Berou**	**40.38**	**306**	*e*P	**P**	**05 01 57.5**	**+0.6**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
MORC	**Moravsky Berou**	**40.38**	**306**	*e*P	**P**	**05 01 57.5**	**+0.6**
	comp=Z,2.5nm,0.8s,mb3.7						
KEV	**Kevo**	**40.80**	**338**	*e*p	**P**	**05 02 00.4**	**+0.1**
	comp=Z,2.9nm,0.4s,mb4.1						
KEV	**Kevo**	**40.80**	**338**	*e*P	**P**	**05 02 00.4**	**+0.1**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**05 02 03.7**	**+0.6**
	comp=Z,9.7nm,0.6s,mb4.4,baz=110,slow=8.2,SNR=82						
ARCES				pP	pP	05 02 45.8	-0.1
	comp=Z,6.5nm,0.7s,baz=118,slow=9.4,SNR=6.7						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**05 02 03.7**	**+0.6**
ARCES				pP	pP	05 02 45.8	-0.1
SSE	**Sheshan**	**41.65**	**82**	P	**P**	**05 02 10.1**	**+2.9**
SSE				AMB	AMB		
	comp=Z,19nm,0.6s,mb4.7						
SSE				AMB	AMB		
	comp=Z,212nm,7.0s						
PSI	**Prapat**	**42.27**	**136**	P	**P**	**05 02 13.1**	**+0.9**
	comp=Z,17nm,0.8s,mb4.6,baz=332,slow=7.2,SNR=4.1						
BRG	**Berggiesshubel**	**42.64**	**308**	*i* P	**P**	**05 02 16.5**	**+1.3**
	comp=Z,4.0nm,0.7s,mb4.0						
BRG				*e*	pP	05 02 58.1	-0.1
	comp=Z,2.9nm,0.9s						
GERES	**GERESS Array B**	**42.95**	**305**	P	**P**	**05 02 18.4**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.0,baz=64,slow=6.7,SNR=3.7						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**05 02 19.0**	**+0.3**
	comp=Z,14nm,0.6s,mb4.6,baz=98,slow=11,SNR=46						
HFS				pP	pP	05 03 01.4	-0.4
	comp=Z,5.0nm,0.6s,baz=98,slow=11,SNR=2.7						
CLL	**Collm**	**43.21**	**309**	*e*P	**P**	**05 02 14.0**	**-5.8**
CLL				*e*	pP	05 03 00.0	-2.9
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**05 02 28.8**	**-0.4**
	comp=Z,11nm,0.6s,mb4.4,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**05 02 29.2**	**0.0**
	comp=Z,14nm,0.7s,mb4.4,baz=96,slow=7.8,SNR=35						
NOA				pP	pP	05 03 11.8	-0.7
	comp=Z,6.9nm,0.8s,baz=96,slow=8.1,SNR=5.5						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**05 02 29.2**	**0.0**
NOA				pP	pP	05 03 11.8	-0.7
DAVA	**Damuels**	**45.69**	**304**	⇑*i*P	**P**	**05 02 39.3**	**-0.1**
	comp=Z,4.5nm,0.5s,mb4.0						
HINF	**Hinteralfeld**	**47.62**	**305**	*e*P	**P**	**05 02 54.4**	**+0.1**
HAU	**Haudompre**	**47.91**	**305**	*e*P	**P**	**05 02 56.8**	**+0.2**
	comp=Z,8.0nm,0.7s,mb3.9						
HAU	**Haudompre**	**47.91**	**305**	*e*P	**P**	**05 02 56.8**	**+0.2**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
HAU	**Haudompre**	**47.91**	**305**	*e*P	**P**	**05 02 56.8**	**+0.2**
	comp=Z,4.0nm,0.7s,mb3.9						
SBF	**Sospel**	**48.08**	**299**	*e*P	**P**	**05 02 58.4**	**+0.5**
LPG	**La Plagne**	**48.17**	**302**	*e*P	**P**	**05 02 59.5**	**+0.9**
LPL	**La Plagne**	**48.18**	**302**	*e*P	**P**	**05 02 59.4**	**+0.8**
	comp=Z,3.4nm,0.3s,mb3.8						
LPL	**La Plagne**	**48.18**	**302**	*e*P	**P**	**05 02 59.4**	**+0.8**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9						
LPL	**La Plagne**	**48.18**	**302**	*e*P	**P**	**05 02 59.4**	**+0.8**
	comp=Z,1.7nm,0.3s,mb3.9						
MBDF	**Montbardon**	**48.33**	**301**	*e*P	**P**	**05 03 00.0**	**+0.2**
	comp=Z,4.4nm,0.5s,mb3.8						
MBDF	**Montbardon**	**48.33**	**301**	*e*P	**P**	**05 03 00.0**	**+0.2**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
MBDF	**Montbardon**	**48.33**	**301**	*e*P	**P**	**05 03 00.0**	**+0.2**
	comp=Z,2.2nm,0.5s,mb3.7						
CABF	**La Chapelle**	**48.37**	**303**	*e*P	**P**	**05 03 00.5**	**+0.4**
	comp=Z,6.0nm,0.6s,mb3.8						
CABF	**La Chapelle**	**48.37**	**303**	*e*P	**P**	**05 03 00.5**	**+0.4**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
CABF	**La Chapelle**	**48.37**	**303**	*e*P	**P**	**05 03 00.5**	**+0.4**
	comp=Z,3.0nm,0.6s,mb3.8						
GIVF	**Givet**	**48.51**	**308**	*e*P	**P**	**05 03 01.9**	**+0.7**
FRF	**La Foret Royal**	**48.71**	**299**	*e*P	**P**	**05 03 02.7**	**0.0**
FRF				*e*pP	pP	05 03 46.8	0.0
KMBO	**Kilima Mbogo**	**48.86**	**228**	P	**P**	**05 03 05.5**	**+1.7**
	comp=Z,5.6nm,0.6s,mb4.1,baz=37,slow=14,SNR=14						
ORIF	**Oris-en-Rattie**	**48.90**	**301**	*e*P	**P**	**05 03 03.7**	**-0.5**
LOR	**Lormes**	**49.72**	**305**	*e*P	**P**	**05 03 11.4**	**+1.1**
VIVF	**Saint-Julien-l**	**49.75**	**301**	*e*P	**P**	**05 03 11.0**	**+0.4**
	comp=Z,3.7nm,0.4s,mb3.8						
VIVF	**Saint-Julien-l**	**49.75**	**301**	*e*P	**P**	**05 03 11.0**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
VIVF	**Saint-Julien-l**	**49.75**	**301**	*e*P	**P**	**05 03 11.0**	**+0.4**
	comp=Z,1.9nm,0.4s,mb3.8						
SMF	**Signal de Mont**	**49.87**	**304**	*e*P	**P**	**05 03 11.7**	**+0.2**
	comp=Z,7.7nm,0.6s,mb3.9						
SMF	**Signal de Mont**	**49.87**	**304**	*e*P	**P**	**05 03 11.7**	**+0.2**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9						
SMF	**Signal de Mont**	**49.87**	**304**	*e*P	**P**	**05 03 11.7**	**+0.2**
	comp=Z,3.8nm,0.6s,mb3.9						
AVF	**Avril sur Loir**	**50.16**	**304**	*e*P	**P**	**05 03 13.2**	**-0.5**
	comp=Z,5.4nm,0.5s,mb3.8						
AVF				*e*pP	pP	05 03 57.6	-0.4
AVF	**Avril sur Loir**	**50.16**	**304**	*e*P	**P**	**05 03 13.2**	**-0.5**
AVF				*e**PP	pP	05 03 57.6	-0.4
AVF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb3.9						
AVF	**Avril sur Loir**	**50.16**	**304**	*e*P	**P**	**05 03 13.2**	**-0.5**
	comp=Z,2.7nm,0.5s,mb3.8						
AVF				*e*pP	pP	05 03 57.6	-0.4
BGF	**Bois d'Agland**	**50.56**	**304**	*e*P	**P**	**05 03 16.7**	**+0.1**
TCF	**Toulx Ste Croi**	**51.05**	**304**	*e*P	**P**	**05 03 20.9**	**+0.6**
TCF				*e*pP	pP	05 04 04.8	0.0
CAF	**Calviac**	**51.52**	**302**	*e*P	**P**	**05 03 24.5**	**+0.7**
	comp=Z,8.9nm,0.9s,mb3.9						
CAF				*e*pP	pP	05 04 08.4	+0.1
CAF	**Calviac**	**51.52**	**302**	*e*P	**P**	**05 03 24.5**	**+0.7**
CAF				*e**PP	pP	05 04 08.4	+0.1
CAF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
CAF	**Calviac**	**51.52**	**302**	*e*P	**P**	**05 03 24.5**	**+0.7**
	comp=Z,4.4nm,0.9s,mb3.9						
CAF				*e*pP	pP	05 04 08.4	+0.1
RJF	**Les Rejaudoux**	**51.78**	**303**	*e*P	**P**	**05 03 26.5**	**+0.8**
MTLF	**Montolieu**	**51.87**	**300**	*e*P	**P**	**05 03 26.8**	**+0.5**
	comp=Z,3.9nm,0.7s,mb3.6						
MTLF	**Montolieu**	**51.87**	**300**	*e*P	**P**	**05 03 26.8**	**+0.5**
MTLF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
MTLF	**Montolieu**	**51.87**	**300**	*e*P	**P**	**05 03 26.8**	**+0.5**
	comp=Z,2.0nm,0.7s,mb3.7						
LDF	**La Druitiere**	**52.00**	**307**	*e*P	**P**	**05 03 27.1**	**-0.2**
LDF				*e*pP	pP	05 04 11.2	-0.8
FLN	**La Foliniere**	**52.18**	**307**	*e*P	**P**	**05 03 29.0**	**+0.3**
	comp=Z,8.6nm,0.7s,mb4.0						
FLN	**La Foliniere**	**52.18**	**307**	*e*P	**P**	**05 03 29.0**	**+0.3**
FLN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
FLN	**La Foliniere**	**52.18**	**307**	*e*P	**P**	**05 03 29.0**	**+0.3**
	comp=Z,4.3nm,0.7s,mb4.0						
EKA	**Eskdalemuir Ar**	**52.30**	**316**	P	**P**	**05 03 29.4**	**-0.1**
	comp=Z,3.9nm,0.9s,mb3.8,baz=79,slow=8.6,SNR=7.6						
EKA				pP	pP	05 04 13.2	-1.1
	comp=Z,4.5nm,0.8s,baz=83,slow=8.3,SNR=7.6						
GRR	**Gorron**	**52.52**	**307**	*e*P	**P**	**05 03 30.9**	**-0.3**
EPF	**Esparros**	**53.27**	**300**	*e*P	**P**	**05 03 36.7**	**+0.1**
	comp=Z,2.8nm,0.5s,mb3.6						
EPF	**Esparros**	**53.27**	**300**	*e*P	**P**	**05 03 36.7**	**+0.1**
EPF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
EPF	**Esparros**	**53.27**	**300**	*e*P	**P**	**05 03 36.7**	**+0.1**
	comp=Z,1.4nm,0.5s,mb3.6						
SGMF	**Saint Gilles**	**53.65**	**307**	*e*P	**P**	**05 03 39.4**	**0.0**
ETSF	**Etsaut**	**53.94**	**300**	*e*P	**P**	**05 03 41.3**	**-0.2**
	comp=Z,5.3nm,0.5s,mb4.0						
ETSF	**Etsaut**	**53.94**	**300**	*e*P	**P**	**05 03 41.3**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
ETSF	**Etsaut**	**53.94**	**300**	*e*P	**P**	**05 03 41.3**	**-0.2**
	comp=Z,2.7nm,0.5s,mb4.0						
ROSF	**Rostrenen**	**54.09**	**308**	*e*P	**P**	**05 03 42.6**	**+0.1**
	comp=Z,3.6nm,0.6s,mb3.8						
ROSF	**Rostrenen**	**54.09**	**308**	*e*P	**P**	**05 03 42.6**	**+0.1**
ROSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ROSF	**Rostrenen**	**54.09**	**308**	*e*P	**P**	**05 03 42.6**	**+0.1**
	comp=Z,1.8nm,0.6s,mb3.8						
QUIF	**Quistinic**	**54.14**	**307**	*e*P	**P**	**05 03 42.7**	**-0.2**
ESDC	**Sonseca Array**	**57.48**	**298**	P	**P**	**05 04 05.6**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=48,slow=7.8,SNR=4.3						
ESDC				pP	pP	05 04 52.6	+0.4
	comp=Z,1.7nm,0.8s,baz=75,slow=6.1,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**65.75**	**269**	*e*P	**P**	**05 05 00.1**	**-1.8**
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**05 05 00.5**	**-1.4**
	comp=Z,2.7nm,0.4s,mb4.2,baz=50,slow=5.8,SNR=80						
TORD				pP	pP	05 05 49.3	+0.7
	comp=Z,2.3nm,0.7s,baz=44,slow=5.8,SNR=3.6						
DBIC	**Dimbokro**	**74.73**	**267**	P	**P**	**05 05 55.4**	**-0.9**
	comp=Z,7.3nm,1.2s,mb4.2,baz=27,slow=4.5,SNR=5.0						
DBIC	**Dimbokro**	**74.73**	**267**	P	**P**	**05 05 55.4**	**-0.9**
BOSA	**Boshof**	**77.77**	**220**	P	**P**	**05 06 13.7**	**+0.3**
	comp=Z,13nm,0.8s,mb4.6,baz=42,slow=5.8,SNR=14						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**05 06 32.9**	**+0.8**
	comp=Z,2.7nm,0.4s,mb4.2,baz=351,slow=5.4,SNR=22						
YKA				pP	pP	05 07 21.1	+0.3
	comp=Z,4.4nm,0.7s,baz=352,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**05 06 32.9**	**+0.8**
YKA				*PP	pP	05 07 21.1	+0.3
YKA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YKA				pmax	pmax		
	comp=N,4.0nm,0.7s						
WRA	**Warramunga Arr**	**81.97**	**122**	P	**P**	**05 06 36.1**	**+0.2**
	comp=N,15nm,0.7s,mb4.7,baz=325,slow=4.9,SNR=9.9						
ASAR	**Alice Springs**	**84.23**	**125**	P	**P**	**05 06 47.7**	**+0.2**
	comp=N,12nm,0.7s,mb4.8,baz=307,slow=5.3,SNR=13						
SAML	**Samuel**	**130.29**	**292**	*e*pPKPdf	PKPdf	05 13 25.8	+1.0

PRE 05 05:09:43.4±1.3**, 2209S**×**3307E, h5**km**, ML4.1, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**5.43**	**194**	*e*P	Pn	05 11 05.4	+0.5
POGA				*e*S	Sn	05 12 05.2	-2.6
POGA				AML	AML	05 12 53.4	
	comp=Z,40nm,0.5s						
LBTB	**Lobatse**	**7.45**	**246**	*e*P	Pn	05 11 34.3	+1.5
LBTB				*e*S	Sn	05 12 55.1	-2.6
LBTB				AML	AML	05 13 44.0	
	comp=Z,28nm,0.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**9.60**	**226**	eP	Pn	05 12 02.8	+0.6
BOSA				eS	Sn	05 13 45.5	-5.0
BOSA				AML	AML	05 15 05.5	
	comp=Z,15nm,0.8s						

---

*ISCJB **05** 05:26:11.4±1.3, 249S±0.1×1799E±0.1, h509km±19km, mb4.3/19, Error ellipse: s-maj=17.9km s-min=13.3km az=78.0*
*IDC **05** 05:26:11.4±1.7, 2490S×17989E, h494km±17km, mb3.7/8, mb1 3.8/11, mb1mx3.6/17, mbtmp4.6/11, Error ellipse: s-maj=19.0km s-min=13.8km az=23.0*
*NEIC **05** 05:26:12.4±1.0, 2489S×17989E, h513km±12km, mb4.4/17, Error ellipse: s-maj=11.4km s-min=10.2km az=51.0*
ISC 05 05:26:12.1±1.1**, 250S**±01×**1799E**±01**, h505**km±16km**, n37,** σ**0.77**/36**, mb4.3**/19**, 5D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.70**	**280**	P	**P**	**05 28 59.1**	**+1.1**
	0.4nm,0.3s,baz=52,slow=18,SNR=6.3						
URZ	**Urewera**	**13.47**	**190**	P	**P**	**05 29 05.5**	**-0.6**
	1.7nm,0.3s,baz=346,slow=9.9,SNR=8.4						
AFI	**Afiamalu**	**13.49**	**37**	P	**P**	**05 29 06.9**	**+0.6**
	1.8nm,0.3s,baz=26,slow=22,SNR=3.9						
AFI	**Afiamalu**	**13.49**	**37**	eP	**P**	**05 29 06.4**	**0.0**
	60nm,1.0s						
RPZ	**Rata Peaks**	**20.06**	**199**	P	**P**	**05 30 10.1**	**-0.8**
	11nm,0.7s,baz=303,slow=9.5,SNR=9.0						
CNB	**Canberra Magne**	**28.27**	**241**	eP	**P**	**05 31 25.3**	**+1.3**
	19nm,1.5s,mb4.3						
CTA	**Charters Tower**	**31.43**	**272**	P	**P**	**05 31 52.0**	**+0.7**
	30nm,0.5s,mb5.0,baz=96,slow=10,SNR=26						
CTAO	**Charters Tower**	**31.43**	**272**	⇓iP	**P**	**05 31 51.9**	**+0.6**
	29nm,0.5s,mb5.0						
TOO	**Toolangi**	**31.82**	**238**	eP	**P**	**05 31 54.1**	**-0.6**
	3.7nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**34.27**	**250**	⇓iP	**P**	**05 32 15.9**	**+0.4**
	5.2nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**34.27**	**250**	P	**P**	**05 32 16.0**	**+0.5**
	5.8nm,0.4s,mb4.3,baz=100,slow=12,SNR=28						
PMG	**Port Moresby**	**34.79**	**291**	eP	**P**	**05 32 19.4**	**-0.4**
	17nm,0.8s,mb4.5						
AS31	**Alice Springs**	**41.80**	**262**	eP	**P**	**05 33 16.9**	**0.0**
ASAR	**Alice Springs**	**41.80**	**262**	P	**P**	**05 33 16.9**	**0.0**
	4.3nm,0.3s,mb4.3,baz=100,slow=7.4,SNR=39						
ASAR				S	**S**	**05 38 59.2**	**+1.8**
	0.9nm,0.8s,baz=108,slow=16,SNR=5.6						
ASPA	**Alice Springs**	**41.80**	**262**	eP	**P**	**05 33 16.9**	**0.0**
WB2	**Warramunga Arr**	**42.26**	**267**	⇓iP	**P**	**05 33 20.0**	**-0.5**
WRAB	**Tennant Creek**	**42.27**	**267**	⇓eP	**P**	**05 33 19.9**	**-0.7**
	15nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**05 33 20.0**	**-0.6**
	10nm,0.3s,mb4.7,baz=100,slow=7.1,SNR=464						
WRA				ScP	ScP	05 38 09.2	+4.1
	1.4nm,0.8s,baz=98,slow=4.0,SNR=9.0						
WRA				S	**S**	**05 39 04.7**	**+0.4**
	1.5nm,0.9s,baz=102,slow=14,SNR=9.0						
WRA	**Warramunga Arr**	**42.27**	**267**	P	**P**	**05 33 20.0**	**-0.6**
WRA				ScP	ScP	05 38 09.2	+4.1
WRA				S	**S**	**05 39 04.7**	**+0.4**
FORT	**Forrest**	**45.88**	**251**	⇓iP	**P**	**05 33 47.7**	**-0.9**
	27nm,0.6s,mb4.8						
KAKA	**Kakadu**	**46.34**	**276**	eP	**P**	**05 33 51.2**	**-0.9**
	14nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.68**	**267**	eP	**P**	**05 34 25.0**	**+0.6**
	20nm,0.6s,mb4.6						
SBA	**Scott Base**	**53.31**	**183**	eP	**P**	**05 34 45.4**	**+2.0**
	3.9nm,0.8s,mb3.8						
VNDA	**Vanda**	**53.31**	**185**	P	**P**	**05 34 44.3**	**+0.9**
	1.0nm,0.8s,mb3.2,baz=354,slow=8.2,SNR=8.1						
VNDA	**Vanda**	**53.31**	**185**	eP	**P**	**05 34 44.2**	**+0.8**
	1.1nm,0.8s,mb3.2						
KLBR	**Kellerberrin**	**54.52**	**248**	eP	**P**	**05 34 51.3**	**-0.6**
	14nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**55.13**	**261**	eP	**P**	**05 34 55.5**	**-0.7**
	3.5nm,0.3s,mb4.2						
CASY	**Casey**	**59.12**	**206**	eP	**P**	**05 35 23.0**	**-0.6**
	7.5nm,0.5s,mb4.3						
QSPA	**South Pole Qui**	**65.12**	**180**	eP	**P**	**05 36 02.9**	**+0.3**
	6.0nm,0.8s,mb4.3						
MAW	**Mawson**	**76.73**	**201**	P	**P**	**05 37 11.3**	**+0.4**
	3.0nm,0.6s,mb4.0,baz=133,slow=8.1,SNR=12						
MAW	**Mawson**	**76.73**	**201**	eP	**P**	**05 37 11.0**	**0.0**
	2.0nm,0.6s,mb3.8						
SNAA	**Sanae**	**83.61**	**179**	P	**P**	**05 37 46.5**	**-0.4**
	0.4nm,0.6s,mb3.1,baz=193,slow=9.2,SNR=6.7						
SNAA	**Sanae**	**83.61**	**179**	eP	**P**	**05 37 46.1**	**-0.8**
	1.0nm,0.6s,mb3.5						
ARCES	**ARCESS Array B**	**132.91**	**348**	PKP	PKPdf	05 44 27.7	-1.8
	0.9nm,0.7s,baz=318,slow=1.6,SNR=6.2						
AKASG	**Malin Array Be**	**145.82**	**326**	PKPbc	PKPbc	05 44 53.0	-1.4
	1.3nm,0.4s,baz=44,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**148.15**	**306**	PKPbc	PKPbc	05 45 00.6	-0.1
	1.2nm,0.6s,baz=134,slow=4.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**168.12**	**188**	PKPab	PKPab	05 46 32.1	+0.3
	1.0nm,0.6s,baz=186,slow=2.8,SNR=11						

---

*IDC **05** 05:45:34.0±1.2, 953S×107.19E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=42.1km s-min=24.3km az=45.0*
*NEIC **05** 05:45:35.5±1.0, 953S×107.19E, h10km, mb3.8/1, Error ellipse: s-maj=31.8km s-min=17.5km az=217.0*
*ISCJB **05** 05:45:36.7±1.2, 95S±02×1072E±02, h33km, mb3.7/6, Error ellipse: s-maj=38.4km s-min=21.0km az=74.9*
ISC 05 05:45:39.3±1.2**, 96S**±02×**1072E**±02**, h35**km**, n8,** σ**0.31**/8**, mb3.7**/6**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.78**	**117**	P	**Pn**	**05 50 07.8**	**-0.3**
	0.0nm,0.3s,baz=312,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**28.14**	**115**	P	**P**	**05 51 27.9**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=285,slow=12,SNR=2.9						
WRAB	**Tennant Creek**	**28.14**	**115**	P	**P**	**05 51 27.7**	**-0.3**
	1.0nm,0.6s,mb3.6						
ASAR	**Alice Springs**	**29.09**	**122**	P	**P**	**05 51 36.9**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=302,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**38.81**	**130**	P	**P**	**05 53 01.0**	**+0.4**
	2.2nm,0.8s,mb3.9,baz=318,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**38.81**	**130**	P	**P**	**05 53 01.0**	**+0.4**
MKAR	**Makanchi Array**	**60.34**	**341**	P	**P**	**05 55 44.6**	**0.0**
	0.7nm,0.6s,mb3.9,baz=132,slow=8.5,SNR=7.4						
MAW	**Mawson**	**65.01**	**197**	P	**P**	**05 56 15.5**	**-0.2**
	1.2nm,0.6s,mb4.1,baz=48,slow=2.4,SNR=5.1						

---

*NEIC **05** 06:58:39.5, 5026N×13030W, h10km, MW3.7(PGC), After PGC.*
PGC 05 06:58:39.5, 5053N×**13030W, h10**km**, MLSn3.1**/2**, Mw3.7, 204km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.39**	**85**	⇑P	Pn	06 59 03.0	-1.8
HOLB				S	Sb	06 59 19.2	-4.0
HOLB				Trac		06 59 20.0	
	comp=Z,138nm,0.2s						
HOLB	**Holberg**	**1.39**	**85**	P	Pn	06 59 03.0	-1.8
HOLB				S	Sb	06 59 19.2	-4.0
BPBC	**Brooks Peninsu**	**1.66**	**102**	Pn	Pn	06 59 06.2	-2.4
PHC	**Port Hardy**	**1.83**	**83**	⇑Pn	Pn	06 59 09.5	-1.5
PHC				Sn	Sn	06 59 30.4	-3.9
PHC				Trac		06 59 31.0	
	comp=Z,115nm,0.2s						
PHC	**Port Hardy**	**1.83**	**83**	Pn	Pn	06 59 09.5	-1.5
PHC				Sn	Sn	06 59 30.4	-3.9
MAYB	**Maynard**	**2.00**	**92**	⇑Pn	Pn	06 59 11.7	-1.6
EDB	**Eliza Dome**	**2.15**	**107**	Pn	Pn	06 59 13.4	-1.8
EDB				Sn	Sn	06 59 38.0	-3.9
EDB				Trac		06 59 41.3	
	comp=Z,8.0nm,0.2s						
EDB	**Eliza Dome**	**2.15**	**107**	Pn	Pn	06 59 13.4	-1.8
EDB				Sn	Sn	06 59 38.0	-3.9
BBB	**Bella Bella**	**2.15**	**39**	Pn	Pn	06 59 13.9	-1.4
BBB				Sn	Sn	06 59 37.9	-4.2
BBB				Trac		06 59 40.8	
	comp=Z,77nm,0.2s						
BNB	**Barry Inlet**	**2.24**	**337**	Pn	Pn	06 59 14.6	-2.0
BNB				Sn	Sn	06 59 40.7	-3.6
	comp=Z,242nm,0.2s						
BNB				Trac		06 59 42.0	
	comp=Z,242nm,0.2s						
BNB	**Barry Inlet**	**2.24**	**337**	Pn	Pn	06 59 14.6	-2.0
BNB				Sn	Sn	06 59 40.7	-3.6
WOSB	**Woss**	**2.42**	**97**	⇑Pn	Pn	06 59 17.9	-1.1
ETB	**Estevan Point**	**2.69**	**114**	Pn	Pn	06 59 20.7	-2.1
NCRB	**Newcastle Ridg**	**2.71**	**91**	⇑Pn	Pn	06 59 21.9	-1.2
NCRB				Sn	Sn	06 59 51.4	-4.6
	comp=Z,7.0nm,0.2s						
NCRB				Trac		06 59 55.3	
	comp=Z,7.0nm,0.2s						
NCRB	**Newcastle Ridg**	**2.71**	**91**	Pn	Pn	06 59 21.9	-1.2
NCRB				Sn	Sn	06 59 51.4	-4.6
GDR	**Gold River**	**2.84**	**104**	Pn	Pn	06 59 23.4	-1.5
MOBC	**Moresby Island**	**2.85**	**340**	Pn	Pn	06 59 22.6	-2.4
MOBC				Sn	Sn	06 59 55.1	-4.2
MOBC				Trac		06 59 57.7	
	comp=Z,5.0nm,0.2s						
MOBC	**Moresby Island**	**2.85**	**340**	Pn	Pn	06 59 22.6	-2.4
MOBC				Sn	Sn	06 59 55.1	-4.2
BNAB	**Bonilla**	**2.98**	**356**	Pn	Pn	06 59 25.1	-1.6
BNAB				Sn	Sn	06 59 58.8	-3.7
	comp=Z,2.0nm,0.1s						
BNAB				Trac		07 00 01.0	
	comp=Z,2.0nm,0.1s						
BNAB	**Bonilla**	**2.98**	**356**	Pn	Pn	06 59 25.1	-1.6
BNAB				Sn	Sn	06 59 58.8	-3.7
VIB	**Van Inlet**	**3.06**	**334**	Pn	Pn	06 59 28.4	+0.5
VIB				Sn	Sn	07 00 02.7	-1.9
VIB				Trac		07 00 04.0	
	comp=Z,4.0nm,0.2s						
VIB	**Van Inlet**	**3.06**	**334**	Pn	Pn	06 59 28.4	+0.5
VIB				Sn	Sn	07 00 02.7	-1.9
CBB	**Campbell River**	**3.20**	**97**	⇑Pn	Pn	06 59 29.1	-0.7
CBB				Sn	Sn	07 00 04.8	-3.2
CBB				Trac		07 00 09.3	
	comp=Z,4.0nm,0.2s						
CBB	**Campbell River**	**3.20**	**97**	Pn	Pn	06 59 29.1	-0.7
CBB				Sn	Sn	07 00 04.8	-3.2
BTB	**Buttle Lake**	**3.26**	**107**	Pn	Pn	06 59 29.5	-1.1
OZB	**Mount Ozzard**	**3.49**	**115**	Pn	Pn	06 59 32.1	-1.7
OZB				Trac		07 00 11.2	
	comp=Z,3.0nm,0.2s						
ALB	**Alberni**	**3.75**	**107**	Pn	Pn	06 59 36.6	-0.8
NDB	**Naden**	**3.80**	**336**	Pn	Pn	06 59 36.2	-1.7
NDB				Trac		07 00 22.0	
	comp=Z,4.0nm,0.3s						
RUBB	**Prince Rupert**	**3.80**	**0**	Pn	Pn	06 59 37.5	-0.6
RUBB				Sn	Sn	07 00 20.1	-2.8
RUBB				Trac		07 00 23.9	
	comp=Z,8.0nm,0.1s						
RUBB	**Prince Rupert**	**3.80**	**0**	Pn	Pn	06 59 37.5	-0.6
RUBB				Sn	Sn	07 00 20.1	-2.8
TXB	**Texada**	**3.86**	**100**	Pn	Pn	06 59 38.3	-0.6
MGB	**Mount Grey**	**3.94**	**111**	Pn	Pn	06 59 38.7	-1.3
SHB	**Sechelt**	**4.24**	**100**	Pn	Pn	06 59 43.7	-0.4
NLLB	**Nanaimo Lost L**	**4.28**	**105**	Pn	Pn	06 59 44.2	-0.5
PFB	**Port Renfrew**	**4.29**	**115**	Pn	Pn	06 59 45.1	+0.3
LZB	**Mount Lazard**	**4.63**	**112**	Pn	Pn	06 59 50.9	+1.5
WPB	**Watts Point**	**4.65**	**98**	Pn	Pn	06 59 49.7	0.0
BIB	**Bowen Island**	**4.65**	**101**	Pn	Pn	06 59 48.5	-1.2
GOBB	**Galiano Island**	**4.68**	**107**	Pn	Pn	06 59 49.8	-0.3
SNB	**Saturna Island**	**4.95**	**108**	Pn	Pn	06 59 54.4	+0.5
HNB	**Haney**	**5.14**	**101**	Pn	Pn	06 59 57.0	+0.5
LLLB	**Lillooet**	**5.37**	**86**	Pn	Pn	06 59 59.5	0.0
FSB	**Fort Saint Jam**	**5.38**	**40**	Pn	Pn	07 00 00.2	+0.5
FSB				Sn	Sn	07 00 59.7	-2.0
	comp=Z,2.0nm,0.3s						
FSB				Trac		07 01 01.2	
	comp=Z,2.0nm,0.3s						
FSB	**Fort Saint Jam**	**5.38**	**40**	Pn	Pn	07 00 00.2	+0.5
FSB				Sn	Sn	07 00 59.7	-2.0
VDB	**Vedder Mountai**	**5.52**	**103**	Pn	Pn	07 00 03.0	+1.3
MBW	**Mount Baker**	**5.73**	**105**	P	Pn	07 00 06.2	+1.7
CMW	**Cultus Mountai**	**5.73**	**108**	P	Pn	07 00 06.1	+1.5
JCW	**Jim Creek**	**5.95**	**110**	P	Pn	07 00 09.2	+1.7
RPW	**Rockport**	**6.09**	**107**	P	Pn	07 00 10.8	+1.3
FMW	**Mount Fremont**	**6.75**	**119**	P	Pn	07 00 20.7	+2.2
PNT	**Penticton**	**7.00**	**96**	Pn	Pn	07 00 22.9	+0.8
BMBC	**Bull Mountain**	**7.38**	**38**	Pn	Pn	07 00 28.4	+1.2
BMBC				Sn	Sn	07 01 50.2	-0.8
BMBC				Trac		07 01 52.2	
	comp=Z,3.0nm,0.3s						
BMBC	**Bull Mountain**	**7.38**	**38**	Pn	Pn	07 00 28.4	+1.2
BMBC				Sn	Sn	07 01 50.2	-0.8
DLBC	**Dease Lake**	**7.93**	**1**	Pn	Pn	07 00 36.9	+2.1

IDC 05 07:30:00.1±4.1**, 3053S**×**13812E, h0**km**, mb1 3.0**/3**, mb1mx3.0**/12**, mbtmp2.8**/3**, ML2.6**/3**, Error ellipse: s-maj=86.2km s-min=15.6km az=41.0, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.27**	**115**	Pn	Pn	07 30 51.9	-0.6
	0.3nm,0.3s,baz=296,slow=13,SNR=4.9						
STKA				Pg	Pg	07 31 00.1	-2.6
	0.7nm,0.3s,baz=318,slow=15,SNR=7.9						
STKA				Sn	Sn	07 31 32.5	+0.5
	1.1nm,0.3s,baz=67,slow=19,SNR=7.9						
STKA				Lg		07 31 44.4	
	2.5nm,0.3s,baz=16,slow=21,SNR=9.2						
ASAR	**Alice Springs**	**7.80**	**330**	Pn	Pn	07 31 55.0	+0.2
	0.1nm,0.3s,baz=151,slow=12,SNR=5.2						
ASAR				Sn	Sn	07 33 25.5	+1.7
	0.2nm,0.3s,baz=155,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**11.08**	**341**	Pn	Pn	07 32 39.6	-0.2
	0.1nm,0.3s,baz=154,slow=13,SNR=5.3						
WRA				Sn	Sn	07 34 46.7	+2.3
	0.1nm,0.3s,baz=160,slow=24,SNR=5.1						

---

*HLW **05** 07:34:18.8, 3088N×3557E, h27km, Mb2.7*
*ISCJB **05** 07:34:19.8±0.6, 3086N±003×3516E±005, h8km±5km, Error ellipse: s-maj=7.4km s-min=4.6km az=25.8*
*GII **05** 07:34:19.2±0.2, 3088N×3513E, h0km±1km, ML2.4/3*
ISC 05 07:34:20.3±0.6**, 3087N**±003×**3516E**±005**, h9**km±5km**, n22,** σ**0.82**/26**, 1C-1D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.32**	**177**	Pg	**Pg**	**07 34 25.7**	**-0.8**
MASH	**Mash'abbe Sade**	**0.35**	**291**	Pg	**Pg**	**07 34 26.5**	**-0.6**
RMNI	**Mount Ramon**	**0.44**	**232**	Pg	**Pg**	**07 34 28.5**	**-0.3**
RTMI	**Retamim**	**0.44**	**295**	Pg	**Pg**	**07 34 28.2**	**-0.7**
SVTA	**Shivta**	**0.47**	**278**	Pg	**Pg**	**07 34 29.4**	**0.0**
YTIR	**Yattir**	**0.49**	**355**	Pg	**Pg**	**07 34 28.9**	**-0.9**
PRNI	**Paran**	**0.53**	**195**	Pg	**Pg**	**07 34 30.7**	**+0.1**
PRNI				Sg	**Sg**	**07 34 39.4**	**+1.8**
KZIT	**Kziot**	**0.66**	**273**	Pg	**Pg**	**07 34 33.1**	**+0.1**
KZIT				Sg	**Sg**	**07 34 42.0**	**+0.4**
DSI	**Dead Sea**	**0.72**	**15**	Pg	**Pg**	**07 34 35.7**	**+1.5**
DRGI	**Dragot**	**0.75**	**15**	Pg	**Pg**	**07 34 35.0**	**+0.3**
HRFI	**Mount Harif**	**0.84**	**187**	Pg	**Pg**	**07 34 37.2**	**+0.8**
KMTI	**Karmit**	**0.85**	**206**	Pg	**Pg**	**07 34 36.5**	**-0.1**
MBH	**Mount Berech**	**1.09**	**191**	Pg	**Pg**	**07 34 41.6**	**+0.3**
AQBJ	**Aqaba**	**1.14**	**185**	Pg	**Pg**	**07 34 41.5**	**-0.7**
SLTI	**Sal'it**	**1.37**	**356**	Pn	**Pn**	**07 34 44.5**	**-1.1**
SLTI				Sn	**Sn**	**07 35 05.3**	**+1.5**
HNKL	**Nakhl**	**1.39**	**228**	⇓P	**Pn**	**07 34 45.3**	**-0.4**
HMDT	**Nahal Hemdat**	**1.41**	**13**	Pn	**Pn**	**07 34 45.3**	**-0.9**
MMLI	**Mount Malkishu**	**1.58**	**8**	Pn	**Pn**	**07 34 48.7**	**+0.2**
AMAG	**Maghara**	**1.70**	**263**	P	**Pn**	**07 34 50.4**	**+0.3**
MMA1	**Mount Meron ar**	**2.15**	**5**	Pn	**Pn**	**07 34 56.8**	**+0.5**
SUZ		**2.26**	**244**	⇑P	**Pn**	**07 34 57.6**	**-0.1**
SUZ				S	**Sn**	**07 35 26.5**	**+0.7**
HKAT	**Jabal Katrina**	**2.55**	**204**	P	**Pn**	**07 34 59.9**	**-1.8**

---

*ISCJB **05** 07:34:58.8±0.6, 5974N±004×2449E±008, h0km, Error ellipse: s-maj=6.2km s-min=5.2km az=151.9*
*CSEM **05** 07:35:00.5±0.3, 5972N×2441E, h2km, ML2.5, Error ellipse: s-maj=8.4km s-min=6.8km az=17.0, Mining explosion.*
*NAO **05** 07:35:01.1±1.0, 5978N×2457E, ML2.5*
*HEL **05** 07:35:01.2±0.2, 5976N×2447E, h0km, ML2.5, ML2.5(NAO), Explosion*
*BER **05** 07:35:02.1±3.8, 5978N×2448E, h0km±21km, ML2.5(NAO)*
*IDC **05** 07:35:03.4±0.9, 5987N×2448E, h0km, mb1 3.7/4, mb1mx3.3/22, mbtmp3.6/4, ML3.8/4, Error ellipse: s-maj=10.3km s-min=6.0km az=137.0*
ISC 05 07:35:00.2±0.6**, 5977N**±003×**2455E**±008**, h0**km**, n23,** σ**0.98**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.45**	**350**	eP	**Pg**	**07 35 09.5**	**+0.6**
MEF				eS	**Sg**	**07 35 15.5**	**+0.6**
PVF	**Pernaja**	**1.02**	**40**	eP	**Pg**	**07 35 20.0**	**+0.3**
PVF				eS	**Sg**	**07 35 32.7**	**-0.2**
VSU	**Vasula**	**1.73**	**138**	eP	**Pn**	**07 35 32.5**	**+1.0**
VSU				eS	**Sn**	**07 35 54.2**	**-0.1**
VSU	**Vasula**	**1.73**	**138**	Pn	**Pn**	**07 35 32.6**	**+1.1**
VSU				Lg		07 35 55.9	
FIA0	**FINESS Array S**	**1.84**	**23**	eP	**Pn**	**07 35 34.7**	**+1.6**
FIA0				eS	**Sn**	**07 35 58.3**	**+1.3**
FIA0	**FINESS Array S**	**1.84**	**23**	Pn	**Pn**	**07 35 34.6**	**+1.6**
	baz=198,slow=18						
FIA0				Lg		07 35 58.3	
	baz=199,slow=28						
FIA0	**FINESS Array S**	**1.84**	**23**	P	**Pn**	**07 35 34.6**	**+1.6**
FIA0				S	**Sn**	**07 35 58.2**	**+1.2**
FINES	**FINESS Array B**	**1.84**	**23**	Pg	**Pg**	**07 35 34.7**	**-0.8**
	10nm,0.3s,baz=204,slow=16,SNR=176						
FINES				Lg		07 35 58.5	
	16nm,0.3s,baz=206,slow=29,SNR=19						
RAF	**Rauma**	**1.87**	**313**	eP	**Pn**	**07 35 34.2**	**+0.8**
RAF				eS	**Sn**	**07 35 58.6**	**+0.9**
RAF	**Rauma**	**1.87**	**313**	P	**Pn**	**07 35 34.2**	**+0.7**
RAF				S	**Sn**	**07 35 58.6**	**+0.9**
KEF	**Keuruu**	**2.41**	**4**	MSG		07 36 18.4	
	comp=Z,28nm,0.2s						
KAF	**Kangasniemi**	**2.50**	**19**	ePB	**Pb**	**07 35 44.9**	**-1.1**
KAF				eSG	**Sg**	**07 36 19.0**	**-1.6**
KAF				MSG		07 36 20.4	
	comp=Z,23nm,0.3s						
VAF	**Ylistaro**	**3.41**	**345**	MSG		07 36 44.8	
	comp=Z,7.0nm,0.2s						
HFS	**Hagfors**	**5.47**	**278**	eP	**Pn**	**07 36 23.4**	**+0.5**
HFS				eS	**Sn**	**07 37 23.3**	**-3.2**
HFS				eSG		07 37 46.5	
HFS	**Hagfors**	**5.47**	**278**	Pn	**Pn**	**07 36 23.5**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=98,slow=12,SNR=33						
HFS				Sn	**Sn**	**07 37 26.5**	**0.0**
	comp=Z,1.8nm,0.3s,baz=91,slow=29,SNR=9.7						
HFS				Lg		07 37 51.3	
	comp=Z,2.4nm,0.3s,baz=87,slow=30,SNR=4.6						
HFS	**Hagfors**	**5.47**	**278**	Pn	**Pn**	**07 36 23.4**	**+0.5**
	baz=100,slow=12						
HFS				Sn	**Sn**	**07 37 23.3**	**-3.2**
	baz=90,slow=28						
HFS				Lg		07 37 46.5	
	baz=95,slow=37						
NB2	**NORSAR Subarra**	**6.73**	**287**	Pn	**Pn**	**07 36 39.2**	**-1.0**
	baz=94,slow=14						
NB2				Sn	**Sn**	**07 37 53.7**	**-3.9**
	baz=96,slow=22						
NB2	**NORSAR Subarra**	**6.73**	**287**	eP	**Pn**	**07 36 39.2**	**-1.0**
NB2				eS	**Sn**	**07 37 53.7**	**-3.9**
NOA	**NORSAR Array B**	**6.73**	**287**	Pn	**Pn**	**07 36 39.6**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=95,slow=14,SNR=7.0						
NOA				Sn	**Sn**	**07 37 53.3**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=135,slow=14,SNR=2.2						
NOA				Lg		07 38 28.2	
	comp=Z,1.6nm,0.3s,baz=85,slow=13,SNR=4.2						
AKASG	**Malin Array Be**	**9.47**	**162**	Pn	**Pn**	**07 37 17.2**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=340,slow=12,SNR=7.6						
ARA0	**ARCESS Array S**	**9.81**	**2**	Pn	**Pn**	**07 37 21.4**	**-1.1**
	baz=173,slow=16						
ARA0	**ARCESS Array S**	**9.81**	**2**	eP	**Pn**	**07 37 21.4**	**-1.1**
ARCES	**ARCESS Array B**	**9.81**	**2**	Pn	**Pn**	**07 37 22.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=180,slow=14,SNR=58						
ARCES				Sn	**Sn**	**07 39 08.8**	**-4.6**
	comp=Z,0.4nm,0.3s,baz=179,slow=26,SNR=4.1						

---

*ISCJB **05** 07:46:45.7±0.6, 5966N±003×2434E±007, h0km, Error ellipse: s-maj=5.4km s-min=5.0km az=28.2*
*NAO **05** 07:46:48.2±1.0, 5970N×2458E, ML2.4*
*HEL **05** 07:46:48.6±0.1, 5968N×2451E, h0km, ML2.3, ML2.4(NAO), Explosion*
*BER **05** 07:46:49.2±4.6, 5969N×2457E, h0km±19km, ML2.4(NAO)*
*IDC **05** 07:46:51.7±2.5, 5993N×2431E, h0km, mb1 3.4/3, mb1mx3.1/21, mbtmp3.3/3, ML3.5/3, Error ellipse: s-maj=28.1km s-min=6.0km az=147.0*
ISC 05 07:46:47.3±0.6**, 5968N**±004×**2449E**±007**, h0**km**, n22,** σ**1.18**/36**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.54**	**355**	eP	**Pg**	**07 46 58.1**	**+0.4**
MEF				eS	**Sg**	**07 47 05.0**	**+0.3**
PVF	**Pernaja**	**1.11**	**38**	eP	**Pg**	**07 47 07.9**	**-0.7**
PVF				eS	**Sg**	**07 47 22.6**	**-0.3**
VSU	**Vasula**	**1.69**	**136**	eP	**Pn**	**07 47 18.5**	**+0.5**
VSU				eS	**Sn**	**07 47 39.7**	**-0.6**
VSU	**Vasula**	**1.69**	**136**	Pn	**Pn**	**07 47 18.6**	**+0.6**
VSU				Lg		07 47 39.9	
RAF	**Rauma**	**1.91**	**316**	eP	**Pn**	**07 47 22.8**	**+1.7**
RAF				eS	**Sn**	**07 47 47.4**	**+1.6**
FIA0	**FINESS Array S**	**1.94**	**23**	eP	**Pn**	**07 47 22.7**	**+1.2**
FIA0				eS	**Sn**	**07 47 47.2**	**+0.8**
FIA0	**FINESS Array S**	**1.94**	**23**	Pn	**Pn**	**07 47 22.7**	**+1.2**
	baz=191,slow=18						
FIA0				Lg		07 47 47.2	
	baz=186,slow=37						
FINES	**FINESS Array B**	**1.94**	**23**	Pg	**Pg**	**07 47 22.6**	**-1.9**
	6.6nm,0.3s,baz=190,slow=17,SNR=84						
FINES				Lg		07 47 46.6	
	6.4nm,0.3s,baz=187,slow=29,SNR=13						
KEF	**Keuruu**	**2.50**	**4**	ePB	**Pb**	**07 47 31.8**	**-1.3**
KEF				eSB	**Sb**	**07 48 04.0**	**-0.5**
KEF				MSG		07 48 06.0	
	comp=Z,19nm,0.2s						
KAF	**Kangasniemi**	**2.60**	**19**	eP	**Pn**	**07 47 32.2**	**+1.6**
KAF				eSB	**Sb**	**07 48 06.9**	**-0.3**
KAF				MSG		07 48 07.9	
	comp=Z,12nm,0.2s						
SUF	**Sumiainen**	**3.15**	**14**	MSG		07 48 24.6	
	comp=Z,6.6nm,0.2s						
HFS	**Hagfors**	**5.45**	**279**	eP	**Pn**	**07 48 11.3**	**+1.5**
HFS				eS	**Sn**	**07 49 11.5**	**-1.7**
HFS				eSG		07 49 35.7	
HFS	**Hagfors**	**5.45**	**279**	Pn	**Pn**	**07 48 11.4**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=110,slow=13,SNR=23						
HFS				Sn	**Sn**	**07 49 10.8**	**-2.5**
	comp=Z,1.0nm,0.3s,baz=92,slow=25,SNR=7.6						
HFS				Lg		07 49 38.6	
	comp=Z,2.7nm,0.3s,baz=93,slow=28,SNR=5.9						
HFS	**Hagfors**	**5.45**	**279**	Pn	**Pn**	**07 48 11.3**	**+1.5**
	baz=104,slow=12						
HFS				Sn	**Sn**	**07 49 11.5**	**-1.7**
	baz=93,slow=28						
HFS				Lg		07 49 35.7	
	baz=99,slow=37						
NB2	**NORSAR Subarra**	**6.72**	**287**	Pn	**Pn**	**07 48 26.9**	**-0.3**
	baz=100,slow=12						
NB2				Sn	**Sn**	**07 49 43.0**	**-1.6**
	baz=97,slow=22						
NB2				Lg		07 50 17.2	
	baz=89,slow=28						
NB2	**NORSAR Subarra**	**6.72**	**287**	eP	**Pn**	**07 48 26.9**	**-0.3**
NB2				eS	**Sn**	**07 49 43.0**	**-1.6**
NB2				eSG		07 50 17.2	
NOA	**NORSAR Array B**	**6.72**	**287**	Pn	**Pn**	**07 48 26.7**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=352,slow=9.3,SNR=2.6						
NOA				Sn	**Sn**	**07 49 39.1**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=1.3,SNR=2.5						
NOA				Lg		07 50 18.4	
	comp=Z,1.5nm,0.3s,baz=117,slow=20,SNR=3.5						
APA0	**Apatity Array**	**8.80**	**22**	Pn	**Pn**	**07 48 57.5**	**+1.8**
	baz=222,slow=14						
APA0	**Apatity Array**	**8.80**	**22**	eP	**Pn**	**07 48 57.5**	**+1.8**
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**07 49 09.7**	**-1.2**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**07 50 55.3**	**-7.5**
	baz=187,slow=22						
ARA0	**ARCESS Array S**	**9.91**	**2**	eP	**Pn**	**07 49 09.7**	**-1.2**
ARA0				eS	**Sn**	**07 50 55.3**	**-7.5**
ARCES	**ARCESS Array B**	**9.91**	**2**	Pn	**Pn**	**07 49 09.6**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=180,slow=11,SNR=51						

---

*IDC **05** 08:29:00.4±1.1, 1730S×7348W, h0km, mb4.1/5, mb1 4.1/8, mb1mx3.8/19, mbtmp4.0/8, ML3.6/4, Error ellipse:*

s-maj=31.3km s-min=23.1km az=52.0

*ISCJB **05** 08:29:04.7±1.6, 1734S±009×7368W±008, h47km±17km, mb4.1/6, Error ellipse: s-maj=15.9km s-min=13.0km az=47.7*

*NEIC **05** 08:29:06.2±1.2, 1730S×7351W, h43km±11km, mb4.1/2, Error ellipse: s-maj=15.4km s-min=10.8km az=53.0*

ISC 05 08:29:06.6±1.4**, 1737S**±009×**7371W**±009**, h50**km±14km**, n19, σ0^{s}84**/19**, mb4.1**/6**, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.45**	**79**	Pn	**Pn**	**08 30 25.0**	**-0.2**
	1.3nm,0.3s,baz=260,slow=9.5,SNR=102						
LPAZ				Sn	**Sn**	**08 31 27.8**	**+1.1**
	baz=14,slow=24,SNR=1.8						
LPAZ	**La Paz**	**5.45**	**79**	Pn	**Pn**	**08 30 25.0**	**-0.3**
LPAZ				Sn	**Sn**	**08 31 27.8**	**+1.1**
NNA	**Nana**	**6.15**	**330**	Pn	**Pn**	**08 30 34.7**	**-0.2**
	0.9nm,0.3s,baz=135,slow=17,SNR=3.2						
NNA				Sn	**Sn**	**08 31 37.4**	**-6.5**
	1.3nm,0.3s,baz=282,slow=22,SNR=2.0						
NNA	**Nana**	**6.15**	**330**	*e*Pn	**Pn**	**08 30 34.8**	**0.0**
	16nm,0.4s						
NNA				Sn	**Sn**	**08 31 37.4**	**-6.5**
SIV	**San Ignacio**	**12.19**	**85**	Pn	**Pn**	**08 31 52.9**	**-4.6**
	0.6nm,0.3s,baz=266,slow=14,SNR=14						
CFAA	**Coronel Fontan**	**15.01**	**162**	Pn	**Pn**	**08 32 36.1**	**+0.6**
	0.0nm,0.3s,baz=336,slow=12,SNR=4.8						
CPUP	**Villa Florida**	**17.61**	**123**	P	**Pn**	**08 33 06.0**	**-2.3**
	0.2nm,0.3s,baz=342,slow=20,SNR=2.3						
PLCA	**Paso Flores**	**23.44**	**174**	P	**P**	**08 34 11.6**	**+0.2**
	2.1nm,0.8s,mb3.6,baz=354,slow=15,SNR=6.7						
PLCA	**Paso Flores**	**23.44**	**174**	*e*P	**P**	**08 34 12.3**	**+0.9**
	4.9nm,1.1s,mb3.9						
BDFB	**Brasilia**	**24.69**	**90**	P	**P**	**08 34 22.2**	**-0.7**
	2.9nm,0.7s,mb3.9,baz=270,slow=16,SNR=4.5						
SNAA	**Sanae**	**67.63**	**161**	*e*P	**P**	**08 39 58.9**	**+0.7**
	3.6nm,1.2s,mb4.3						
SNAA				*e*pP	pP	08 40 10.7	-1.6
DBIC	**Dimbokro**	**72.07**	**77**	P	**P**	**08 40 25.4**	**-0.1**
	2.0nm,0.7s,mb4.2,baz=139,slow=11,SNR=3.5						
TORD	**Torodi Ar. Bea**	**80.37**	**73**	P	**P**	**08 41 12.5**	**-0.1**
	2.1nm,0.7s,mb4.2,baz=253,slow=5.0,SNR=25						
TORD	**Torodi Ar. Bea**	**80.37**	**73**	P	**P**	**08 41 12.5**	**-0.1**
YKA	**Yellowknife Ar**	**85.85**	**342**	P	**P**	**08 41 41.1**	**+0.3**
	2.2nm,0.7s,mb4.5,baz=138,slow=5.5,SNR=5.8						
OBN	**Obninsk**	**115.66**	**37**	*e*PKPdf	PKPdf	08 47 42.1	-1.2
WRA	**Warramunga Arr**	**133.81**	**218**	PKP	PKPdf	08 48 19.8	+1.9
	0.4nm,0.7s,baz=143,slow=1.6,SNR=6.2						
MKAR	**Makanchi Array**	**144.59**	**29**	PKP	PKPdf	08 48 37.9	+0.4
	1.8nm,0.9s,baz=321,slow=1.7,SNR=9.3						
SONM	**Songino Array**	**149.62**	**360**	PKPbc	PKPbc	08 48 52.4	+1.8
	0.8nm,0.7s,baz=358,slow=3.5,SNR=5.2						

---

*IDC **05** 08:32:38.1±0.6, 1730S×7353W, h0km, mb4.6/13, mb1 4.7/16, mb1mx4.6/19, mbtmp4.6/16, ML4.3/4, MS4.0/18, Ms1 3.9/18, ms1mx3.8/33, Error ellipse: s-maj=22.0km s-min=14.9km az=58.0*

*MOS **05** 08:32:41.9±1.2, 1726S×7360W, h33km, mb4.9/16, Error ellipse: s-maj=12.9km s-min=9.0km az=123.9*

*ISCJB **05** 08:32:42.5±0.2, 1730S±004×7350W±005, h41km, mb4.7/60, MS4.2/17, Error ellipse: s-maj=7.6km s-min=4.8km az=118.4*

*NEIC **05** 08:32:44.1±0.2, 1731S×7342W, mb4.8/51, Error ellipse: s-maj=7.1km s-min=4.3km az=48.0*

*BJI **05** 08:32:44.0, 1730S×7340W, h40km, mB5.3, Ms5.4, Msz5.1*

*GCMT **05** 08:32:44.1±0.3, 1752S×7381W, h12km±1km, MW4.9/62, Moment Tensor Solution. s28,c33; s62,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.59±.16; $M_{\theta\theta}$1.53±.09; $M_{\phi\phi}$1.06±.13; $M_{r\theta}$-0.41±.26; $M_{\theta\phi}$-1.58±.07; $M_{\phi r}$0.60±.38; Best double couple: $M_0$2.83700×10^{16} NP1:ϕ_s306.00000°, δ38.00000°, λ-97.00000°. NP2: ϕ_s135.00000°, δ52.00000°, λ-85.00000°. Principal axes: T 2.9810, Plg7.0000°, Azm221.0000°; N -0.2890, Plg4.0000°, Azm312.0000°; P -2.6930, Plg82.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 08:32:44.5±0.2**, 1735S**±004×**7347W**±004**, h43**km**, h43**km±.6km**:pP-P, n156, σ0^{s}92**/131**, mb4.7**/60**, MS4.2**/17**, 3C-8D, Off coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.09**	**65**⇑	*i*P	**Pn**	**08 33 17.2**	**+0.1**
ARE				*e*S	**Sn**	**08 33 44.0**	**+2.1**
LPAZ	**La Paz**	**5.22**	**79**	Pn	**Pn**	**08 34 03.4**	**+3.3**
	3.3nm,0.3s,baz=257,slow=9.7,SNR=26						
LPAZ				LR	LR	08 36 27.0	
	comp=Z,2µm,19.0s,baz=252,slow=44						
LPAZ	**La Paz**	**5.22**	**79**	*e*Pn	**Pn**	**08 34 03.2**	**+3.2**
NNA	**Nana**	**6.25**	**328**	Pn	**Pn**	**08 34 11.3**	**-2.9**
	3.4nm,0.3s,baz=147,slow=14,SNR=9.7						
NNA				Sn	**Sn**	**08 35 19.1**	**-5.1**
	30nm,0.3s,baz=202,slow=12,SNR=5.8						
NNA				LR	LR	08 37 00.8	
	comp=Z,957nm,18.2s,baz=146,slow=42						
NNA	**Nana**	**6.25**	**328**	*e*Pn	**Pn**	**08 34 12.0**	**-2.2**
	86nm,0.6s						
NNA				*e*Sn	**Sn**	**08 35 15.8**	**-8.5**
ATAH	**Atahualpa**	**11.35**	**334**	Pn	**Pn**	**08 35 27.0**	**+3.0**
	0.5nm,0.3s,baz=130,slow=16,SNR=3.2						
ATAH				LR	LR	08 39 18.6	
	comp=Z,226nm,18.8s,baz=156,slow=36						
SIV	**San Ignacio**	**11.96**	**85**	Pn	**Pn**	**08 35 30.6**	**-1.8**
	2.6nm,0.3s,baz=274,slow=11,SNR=35						
SAML	**Samuel**	**13.04**	**51**	*e*Pn	**Pn**	**08 35 45.1**	**-2.0**
	14nm,1.0s						
CFAA	**Coronel Fontan**	**14.97**	**162**	Pn	**Pn**	**08 36 12.3**	**-0.8**
	0.1nm,0.3s,baz=346,slow=12,SNR=13						
CFAA	**Coronel Fontan**	**14.97**	**162**	Pn	**Pn**	**08 36 12.3**	**-0.8**
FCH	**Farellones**	**16.16**	**170**⇓	*e*P	**Pn**	**08 36 30.0**	**+1.4**
CLCH	**Cerro Calan**	**16.20**	**171**	*i* P	**Pn**	**08 36 28.1**	**-0.8**
LMEL	**Las Melosas**	**16.69**	**170**⇓	*i*P	**Pn**	**08 36 35.4**	**+0.2**
CPUP	**Villa Florida**	**17.43**	**124**	P	**Pn**	**08 36 43.9**	**-0.5**
	1.1nm,0.3s,baz=285,slow=10,SNR=11						
CPUP				LR	LR	08 44 54.9	
	comp=Z,238nm,20.1s,baz=285,slow=42						
CPUP	**Villa Florida**	**17.43**	**124**	*e*P	**Pn**	**08 36 43.4**	**-1.1**
CPUP				pmax	pmax		
	comp=Z,23nm,0.6s						
CPUP	**Villa Florida**	**17.43**	**124**	*e*P	**Pn**	**08 36 43.4**	**-1.1**
	comp=Z,23nm,0.6s						
ROSC	**El Rosal**	**22.08**	**358**	P	**P**	**08 37 38.4**	**+2.6**
	comp=Z,6.7nm,0.6s,mb4.3,baz=109,slow=7.1,SNR=11						
ROSC	**El Rosal**	**22.08**	**358**	*e*P	**P**	**08 37 41.7**	**+5.9**
TRQA	**Tornquist**	**22.96**	**156**	*e*P	**P**	**08 37 44.0**	**-1.1**
	comp=Z,65nm,1.4s,mb4.9						
PLCA	**Paso Flores**	**23.44**	**174**	P	**P**	**08 37 49.9**	**-0.1**
	comp=Z,25nm,0.8s,mb4.7,baz=349,slow=10,SNR=53						
PLCA				LR	LR	08 46 37.7	
	comp=Z,148nm,21.4s,MS3.4,baz=90,slow=36						
PLCA	**Paso Flores**	**23.44**	**174**⇓	*e*P	**P**	**08 37 49.6**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,56nm,1.1s						
PLCA	**Paso Flores**	**23.44**	**174**⇓	*e*P	**P**	**08 37 49.6**	**-0.4**
	comp=Z,56nm,1.1s,mb4.9						
BDFB	**Brasilia**	**24.47**	**90**	P	**P**	**08 37 59.0**	**-0.3**
	comp=Z,11nm,0.8s,mb4.3,baz=268,slow=13,SNR=11						
BAO	**Brasilia Array**	**24.49**	**90**	P	**P**	**08 37 58.5**	**-1.1**
SDV	**Santo Domingo**	**26.22**	**6**	P	**P**	**08 38 15.4**	**+0.1**
	comp=Z,7.8nm,0.4s,mb4.6,baz=290,slow=5.3,SNR=4.4						
SDV	**Santo Domingo**	**26.22**	**6**	*e*P	**P**	**08 38 15.5**	**+0.2**
	comp=Z,15nm,0.8s,mb4.6						
PCRV	**Puerto La Cruz**	**28.71**	**18**	LR	LR	08 50 08.6	
	comp=Z,512nm,19.9s,MS4.1,baz=56,slow=37						
RCBR	**Riachuelo**	**38.46**	**77**	*e*P	**P**	**08 40 02.6**	**+0.3**
	comp=Z,20nm,0.9s,mb4.9						
RCBR				*e*pP	pP	08 40 16.2	+2.3
TEIG	**Tepich**	**40.07**	**338**	*e*P	**P**	**08 40 16.9**	**+1.3**
	comp=Z,4.6nm,0.6s,mb4.4						
TEIG				*e*pP	pP	08 40 27.5	+0.1
LRAL	**Lakeview Retre**	**51.74**	**346**	*e*P	**P**	**08 41 46.2**	**-1.3**
	comp=Z,14nm,1.3s,mb4.7						
LRAL				*e*pP	pP	08 41 58.8	-0.9
JSC	**Jenkinsville**	**51.88**	**352**	*e*P	**P**	**08 41 49.3**	**+0.7**
JSC				*e**PP	pP	08 42 00.7	0.0
CPCT	**Cooper Cave**	**53.55**	**349**	*e*P	**P**	**08 41 59.7**	**-1.2**
CPCT				*e*pP	pP	08 42 12.2	-0.8
SWET	**Sewanee**	**53.60**	**347**	*e*P	**P**	**08 42 01.1**	**-0.2**
SWET				*e*pP	pP	08 42 11.8	-1.7
PLAL	**Pickwick Lake**	**53.86**	**345**	*e*P	**P**	**08 42 04.7**	**+1.4**
	comp=Z,10nm,1.3s,mb4.6						
PLAL				*e*pP	pP	08 42 15.1	-0.2
ELN	**Prospectdale**	**54.72**	**353**	*e*P	**P**	**08 42 08.7**	**-0.8**
ELN				*e*pP	pP	08 42 21.9	+0.3
WVT	**Waverly**	**54.90**	**346**	*e*P	**P**	**08 42 08.7**	**-2.1**
WVT				*e**PP	pP	08 42 21.0	-1.9
WVT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WVT	**Waverly**	**54.90**	**346**	*e*P	**P**	**08 42 08.7**	**-2.1**
	comp=Z,3.7nm,0.9s,mb4.4						
WVT				*e*pP	pP	08 42 21.0	-1.9
MIAR	**Mount Ida**	**55.04**	**340**	*e*P	**P**	**08 42 10.5**	**-1.3**
MIAR				*e**PP	pP	08 42 22.9	-1.0
MIAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
MIAR	**Mount Ida**	**55.04**	**340**	*e*P	**P**	**08 42 10.5**	**-1.3**
	comp=Z,3.7nm,0.7s,mb4.5						
MIAR				*e*pP	pP	08 42 22.9	-1.0
WCI	**Wyandotte Cave**	**56.58**	**348**	*e*P	**P**	**08 42 21.0**	**-1.8**
WCI				*e**PP	pP	08 42 33.4	-1.6
WCI				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2						
WCI	**Wyandotte Cave**	**56.58**	**348**	*e*P	**P**	**08 42 21.0**	**-1.8**
	comp=Z,27nm,1.1s,mb5.2						
WCI				*e*pP	pP	08 42 33.4	-1.7
SIUC	**Southern Illin**	**56.74**	**345**	*e*P	**P**	**08 42 22.7**	**-1.2**
	comp=Z,28nm,1.0s,mb5.2						
SIUC				*e*pP	pP	08 42 35.1	-1.0
RKT	**Rikitea**	**57.64**	**253**	*e*S	**S**	**08 50 27.5**	**+2.0**
	comp=Z,119nm,28.8s						
RKT				*e*LR	LR	08 59 25.3	
	comp=Z,238nm,25.5s						
ACSO	**Alum Creek Sta**	**57.96**	**351**	*e*P	**P**	**08 42 33.6**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.5						
ACSO				*e*pP	pP	08 42 43.4	-1.4
BINY	**Binghamton**	**59.29**	**358**	*e*P	**P**	**08 42 42.2**	**+0.4**
	comp=Z,22nm,1.0s,mb5.2						
BINY				*e*pP	pP	08 42 54.0	-0.1
LPM	**Los Pinos Moun**	**60.30**	**329**	*e*P	**P**	**08 42 48.8**	**0.0**
LAZ	**Ladron**	**60.62**	**328**	*e*P	**P**	**08 42 51.2**	**+0.3**
LAZ				*e*pP	pP	08 43 02.9	-0.3
ANMO	**Albuquerque**	**60.72**	**329**	*e*P	**P**	**08 42 51.0**	**-0.6**
ANMO				*e**PP	pP	08 43 03.1	-0.8
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	**Albuquerque**	**60.72**	**329**	*e*P	**P**	**08 42 51.0**	**-0.6**
	comp=Z,4.5nm,1.1s,mb4.5						
ANMO				*e*pP	pP	08 43 03.1	-0.9
TUC	**Tucson**	**60.95**	**324**⇓	*e*P	**P**	**08 42 52.8**	**-0.4**
TUC				*e**PP	pP	08 43 04.8	-0.7
TUC				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
TUC	**Tucson**	**60.95**	**324**⇓	*e*P	**P**	**08 42 52.8**	**-0.4**
	comp=Z,2.3nm,1.0s,mb4.3						
TUC				*e*pP	pP	08 43 04.8	-0.7
MSNY	**Massena**	**62.06**	**359**	*e*P	**P**	**08 43 00.0**	**-0.6**
MSNY				*e*pP	pP	08 43 13.3	+0.3
WUAZ	**Wupatki**	**63.68**	**326**	*e*P	**P**	**08 43 11.8**	**+0.4**
	comp=Z,12nm,1.2s,mb4.8						
ISCO	**Idaho Springs**	**64.27**	**333**	*e*P	**P**	**08 43 15.1**	**-0.2**
ISCO				*e**PP	pP	08 43 27.1	-0.6
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ISCO	**Idaho Springs**	**64.27**	**333**	*e*P	**P**	**08 43 15.1**	**-0.2**
	comp=Z,3.9nm,1.1s,mb4.3						
ISCO				*e*pP	pP	08 43 27.1	-0.6
PV01	**Paradox Valley**	**64.28**	**330**	*e*P	**P**	**08 43 15.8**	**+0.4**
PV01				*e*pP	pP	08 43 26.4	-1.4
PV01				*e*PcP	PcP	08 43 49.9	+0.1
SMCO	**Snowmass**	**64.37**	**332**	*e*P	**P**	**08 43 16.1**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.5						
SMCO				*e*pP	pP	08 43 28.0	-0.4
ECSD	**EROS,Sioux Fal**	**64.38**	**342**⇓	*e*P	**P**	**08 43 14.6**	**-1.5**
ECSD				*e*pP	pP	08 43 26.8	-1.7
VNA1	**Neumayer--Stat**	**65.61**	**161**	*e*P	**P**	**08 43 24.4**	**+0.4**
VNA1				*e*		08 43 25.6	
VNA1				*e*		08 43 27.8	
VNA1				*e*		08 43 33.1	
VNA1				*e*	pP	08 43 38.3	+1.8
SRU	**San Rafael**	**66.00**	**329**	*e*P	**P**	**08 43 26.1**	**-0.4**
SRU				*e**PP	pP	08 43 37.9	-1.0
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SRU	**San Rafael**	**66.00**	**329**	*e*P	**P**	**08 43 26.1**	**-0.4**
	comp=Z,6.5nm,0.8s,mb4.7						
SRU				*e*pP	pP	08 43 37.9	-1.1
CCUT	**Cedar City**	**66.26**	**326**	*e*P	**P**	**08 43 29.2**	**+1.0**
CCUT				*e*pP	pP	08 43 41.0	+0.3
CCUT				*e*PcP	PcP	08 43 57.3	-0.7
MSU	**Marysvale**	**66.36**	**328**	*e*P	**P**	**08 43 29.8**	**+0.9**
MSU				*e**PP	pP	08 43 41.6	+0.3
ARUT	**Antelope Range**	**66.48**	**326**	*e*P	**P**	**08 43 30.9**	**+1.3**
RSSD	**Black Hills**	**67.25**	**337**	*e*P	**P**	**08 43 33.7**	**-0.8**
RSSD				*e**PP	pP	08 43 46.0	-1.0
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
RSSD	**Black Hills**	**67.25**	**337**	*e*P	**P**	**08 43 33.7**	**-0.8**
	comp=Z,8.3nm,1.3s,mb4.6						
RSSD				*e*pP	pP	08 43 46.0	-1.0
NLU	**North Lily Min**	**67.41**	**329**	*e*P	**P**	**08 43 35.9**	**+0.3**
SNAA	**Sanae**	**67.58**	**161**	*e*P	**P**	**08 43 36.2**	**-0.4**
SNAA				*e*		08 43 39.6	
SNAA				*e*	pP	08 43 46.3	-2.8
SNAA				*e*	pP	08 43 50.3	+1.2
SNAA				*e*		08 44 02.6	
SNAA	**Sanae**	**67.58**	**161***d*	*i*P	**P**	**08 43 36.7**	**+0.1**
SNAA	**Sanae**	**67.58**	**161**	*e*P	**P**	**08 43 36.5**	**-0.1**
	comp=Z,29nm,1.2s,mb5.2						
DAC	**Darwin (Calif)**	**67.70**	**323**	*e*P	**P**	**08 43 37.4**	**0.0**
DAC				*e**PP	pP	08 43 49.4	-0.4
DAC				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
DAC	**Darwin (Calif)**	**67.70**	**323**	*e*P	**P**	**08 43 37.4**	**0.0**
	comp=Z,8.1nm,1.2s,mb4.6						
DAC				*e*pP	pP	08 43 49.4	-0.4
DUG	**Dugway**	**67.96**	**328**	*e*P	**P**	**08 43 39.1**	**+0.1**
DUG				*e**PP	pP	08 43 50.8	-0.7
DUG				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
DUG	**Dugway**	**67.96**	**328**	*e*P	**P**	**08 43 39.1**	**+0.1**
	comp=Z,16nm,1.2s,mb4.9						
DUG				*e*pP	pP	08 43 50.8	-0.7
PDAR	**Pinedale Array**	**68.42**	**332**	P	**P**	**08 43 41.5**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=134,slow=6.4,SNR=10						
PDAR				LR	LR	09 12 58.1	
	comp=Z,70nm,18.9s,MS3.9,baz=277,slow=35						
HWUT	**Hardware Ranch**	**68.43**	**330**	*e*P	**P**	**08 43 41.4**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.8						
BGU	**Big Grassy Mou**	**68.62**	**329**	*e*P	**P**	**08 43 42.6**	**-0.5**
BGU				*e*pP	pP	08 43 55.0	-0.6
MTUM	**Tungsten Hills**	**69.01**	**323**	*e*P	**P**	**08 43 46.3**	**+0.8**
MTUM				*e*pP	pP	08 43 58.4	+0.3
REDW	**Red Top Meadow**	**69.47**	**332**	*e*P	**P**	**08 43 48.9**	**+0.5**
	comp=Z,16nm,1.4s,mb4.8						
REDW				*e*pP	pP	08 44 00.2	-0.7
SNOW	**Snow King Moun**	**69.50**	**332**	*e*P	**P**	**08 43 48.6**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4						
SNOW				*e*pP	pP	08 44 00.3	-0.8
LOHW	**Long Hollow**	**69.55**	**332**	*e*P	**P**	**08 43 48.0**	**-0.9**
	comp=Z,6.1nm,1.1s,mb4.4						
LOHW				*e*pP	pP	08 44 00.7	-0.8
NVAR	**Mina Array Bea**	**69.60**	**324**	P	**P**	**08 43 49.3**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=136,slow=7.2,SNR=11						
TPAW	**Teton Pass**	**69.61**	**332**	*e*P	**P**	**08 43 49.0**	**-0.3**
	comp=Z,22nm,1.5s,mb4.9						
RRI2	**Red Ridge**	**69.67**	**331**	*e*P	**P**	**08 43 49.5**	**-0.1**
	comp=Z,16nm,1.0s,mb4.9						
RRI2				*e*pP	pP	08 44 00.4	-1.8
IMW	**Indian Meadow**	**69.93**	**332**	*e*P	**P**	**08 43 51.2**	**0.0**
	comp=Z,13nm,1.2s,mb4.8						
FLWY	**Flagg Ranch**	**69.97**	**332**	*e*P	**P**	**08 43 51.6**	**+0.2**
	comp=Z,30nm,1.3s,mb5.1						
FLWY				*e*pP	pP	08 44 03.3	-0.7
ULM	**Lac du Bonnet**	**70.15**	**345**	P	**P**	**08 43 50.9**	**-1.6**
	comp=Z,2.7nm,0.4s,mb4.5,baz=151,slow=6.5,SNR=17						
ULM				LR	LR	09 18 13.8	
	comp=Z,36nm,18.9s,MS3.6,baz=118,slow=39						
ULM	**Lac du Bonnet**	**70.15**	**345**	*e*P	**P**	**08 43 50.6**	**-1.9**
	comp=Z,12nm,1.1s,mb4.7						
ULM				*e*pP	pP	08 44 03.0	-2.1
LAO	**LASA Array**	**70.25**	**337**	*e*P	**P**	**08 43 53.0**	**-0.2**
	comp=Z,12nm,1.3s,mb4.7						
CMB	**Columbia Colle**	**70.53**	**322**	*e*P	**P**	**08 43 55.0**	**+0.1**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
CMB	**Columbia Colle**	**70.53**	**322**	*e*P	**P**	**08 43 55.0**	**+0.1**
	comp=Z,6.1nm,1.3s,mb4.4						
YMR	**Madison River**	**70.55**	**333**	*e*P	**P**	**08 43 55.4**	**+0.4**
	comp=Z,29nm,1.4s,mb5.0						
TBI	**Tubuai**	**70.77**	**251**	*e*LR	LR	09 05 29.5	
	comp=Z,261nm,37.2s						
QLMT	**Earthquake Lak**	**70.88**	**332**	*e*P	**P**	**08 43 58.8**	**+1.8**
GCMT	**Greycliff**	**70.88**	**334**	*e*P	**P**	**08 43 57.0**	**0.0**
PAHR	**Pah Rah Range**	**71.09**	**324**	*e*P	**P**	**08 43 59.2**	**+0.9**
	comp=Z,22nm,1.1s,mb5.0						
PAHR				*e*pP	pP	08 44 11.2	+0.4
HLID	**Hailey**	**71.28**	**330**	*e*P	**P**	**08 44 00.2**	**+0.7**
	comp=Z,8.5nm,1.1s,mb4.6						
HLID				*e*pP	pP	08 44 11.3	-0.7
MCMT	**McKenzie Canyo**	**71.51**	**332**	*e*P	**P**	**08 44 01.5**	**+0.6**
MCMT				*e*pP	pP	08 44 14.1	+0.7
BOZ	**Bozeman (W)**	**71.60**	**333**	*e*P	**P**	**08 44 01.3**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
BOZ	**Bozeman (W)**	**71.60**	**333**	*e*P	**P**	**08 44 01.2**	**-0.1**
	comp=Z,7.7nm,1.2s,mb4.5						
DLMT	**Dillon**	**71.81**	**332**	*e*P	**P**	**08 44 02.6**	**0.0**
	comp=Z,12nm,1.3s,mb4.7						
DBIC	**Dimbokro**	**71.84**	**77**	P	**P**	**08 44 03.6**	**+0.8**
	comp=Z,6.2nm,0.5s,mb4.8,baz=220,slow=6.7,SNR=19						
DBIC				LR	LR	09 15 30.6	
	comp=Z,234nm,18.0s,MS4.5,baz=225,slow=36						
DBIC	**Dimbokro**	**71.84**	**77**	*e*P	**P**	**08 44 03.2**	**+0.4**
DBIC				*e**PP	pP	08 44 15.8	+0.4
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
DBIC	**Dimbokro**	**71.84**	**77**	*e*P	**P**	**08 44 03.2**	**+0.4**
	comp=Z,5.6nm,0.4s,mb4.8						
DBIC				*e*pP	pP	08 44 15.8	+0.4
OHCM	**Honcut**	**72.04**	**323**	*e*P	**P**	**08 44 04.3**	**+0.3**
PPT	**Papeete**	**72.08**	**257**	*e*LR	LR	09 06 05.6	
	comp=Z,113nm,28.0s						
PPT	**Papeete**	**72.08**	**257**	LR	LR	09 06 46.2	
	comp=Z,239nm,18.7s,MS4.5,baz=129,slow=28						
SCHQ	**Schefferville**	**72.11**	**4**	LR	LR	09 14 32.0	
	comp=Z,42nm,21.6s,MS3.7,baz=315,slow=35						
WVOR	**Wild Horse Val**	**72.58**	**327**	*e*P	**P**	**08 44 07.2**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
WVOR	**Wild Horse Val**	**72.58**	**327**	*e*P	**P**	**08 44 07.2**	**0.0**
	comp=Z,12nm,1.5s,mb4.6						
QSPA	**South Pole Qui**	**72.82**	**180**	*e*P	**P**	**08 44 09.0**	**+0.4**
	comp=Z,19nm,1.2s,mb4.9						
CHMT	**Chamberlain Mo**	**73.30**	**333**	*e*P	**P**	**08 44 11.6**	**+0.1**
CHMT				*e*pP	pP	08 44 24.1	0.0
MSO	**Missoula**	**73.54**	**332**	*e*P	**P**	**08 44 13.4**	**+0.5**
	comp=Z,12nm,1.4s,mb4.6						
MSO				*e*pP	pP	08 44 25.0	-0.5
BMO	**Blue Mountains**	**73.64**	**329**	*e*P	**P**	**08 44 13.7**	**+0.3**
	comp=Z,10nm,1.2s,mb4.6						
BMO				*e*pP	pP	08 44 24.9	-1.2
WALA	**Waterton Lakes**	**75.23**	**334**	*e*P	**P**	**08 44 22.7**	**-0.1**
	comp=Z,14nm,1.3s,mb4.7						
WALA				*e*pP	pP	08 44 34.7	-0.7
HAWA	**Hanford**	**75.83**	**329**	*e*P	**P**	**08 44 26.8**	**+0.6**
	comp=Z,1.5nm,1.3s,mb3.8						
HAWA				*e*pP	pP	08 44 38.0	-0.8
EDM	**Edmonton**	**78.23**	**337**	*e*P	**P**	**08 44 38.8**	**-0.9**
EDM				*e**PP	pP	08 44 50.9	-1.5
SBA	**Scott Base**	**79.09**	**191**	*e*P	**P**	**08 44 45.2**	**+0.8**
SBA				pmax	pmax		
	comp=Z,40nm,2.2s,mb5.0						
SBA	**Scott Base**	**79.09**	**191**	*e*P	**P**	**08 44 45.2**	**+0.8**
	comp=Z,40nm,2.2s,mb5.0						
TOA0	**Torodi Ar. Sit**	**80.14**	**73**	*e*P	**P**	**08 44 50.9**	**+0.8**
TOA0				*e*pP	pP	08 45 03.3	+0.4
TORD	**Torodi Ar. Bea**	**80.14**	**73**	P	**P**	**08 44 51.1**	**+1.0**
	comp=Z,7.6nm,0.7s,mb4.7,baz=264,slow=5.1,SNR=47						
TORD				LR	LR	09 18 32.9	
	comp=Z,196nm,19.9s,MS4.5,baz=250,slow=34						
VNDA	**Vanda**	**80.15**	**190**	P	**P**	**08 44 50.3**	**+0.2**
	comp=Z,3.4nm,1.1s,mb4.2,baz=133,slow=5.8,SNR=5.5						
VNDA				LR	LR	09 19 05.1	
	comp=Z,104nm,18.3s,MS4.2,baz=124,slow=35						
VNDA	**Vanda**	**80.15**	**190**	*e*P	**P**	**08 44 50.5**	**+0.4**
SYO	**Syowa Base**	**81.86**	**160**⇑	*e*P	**P**	**08 44 59.0**	**-0.2**
SYO	**Syowa Base**	**81.86**	**160**⇑	*e*PcP	PcP	08 45 02.0	-2.8
YKA	**Yellowknife Ar**	**85.90**	**342**	P	**P**	**08 45 19.0**	**-0.8**
	comp=Z,11nm,0.7s,mb5.2,baz=141,slow=5.4,SNR=27						
YKA				LR	LR	09 27 35.2	
	comp=Z,57nm,19.5s,MS4.0,baz=135,slow=38						
ESDC	**Sonseca Array**	**86.01**	**46**	P	**P**	**08 45 21.9**	**+1.5**
	comp=Z,0.6nm,0.4s,mb4.2,baz=266,slow=5.9,SNR=7.5						
ESDC				LR	LR	09 24 45.1	
	comp=Z,92nm,18.6s,MS4.2,baz=110,slow=36						
ESLA	**Sonseca Array**	**86.01**	**46**	*e*P	**P**	**08 45 20.6**	**+0.2**
	comp=Z,0.6nm,0.9s,mb3.8						
BOSA	**Boshof**	**89.21**	**120**	P	**P**	**08 45 36.4**	**+0.6**
	comp=Z,4.2nm,0.9s,mb4.8,baz=186,slow=2.7,SNR=4.3						
BOSA				LR	LR	09 23 34.2	
	comp=Z,106nm,18.8s,MS4.3,baz=174,slow=34						
MAW	**Mawson**	**89.49**	**165**	P	**P**	**08 45 37.3**	**+0.3**
	comp=Z,6.7nm,0.9s,mb5.0,baz=218,slow=4.8,SNR=14						
MAW				LR	LR	09 26 58.0	
	comp=Z,73nm,19.8s,MS4.1,baz=243,slow=36						
SUMG	**Summit**	**92.69**	**10**	P	**P**	**08 45 52.9**	**+0.9**
	comp=Z,15nm,1.1s,mb5.3						
SUMG				*e*pP	pP	08 46 05.0	+0.2
KEST	**Kesra**	**94.31**	**54**	LR	LR	09 27 51.1	
	comp=Z,54nm,20.4s,MS4.0,baz=140,slow=35						
INK	**Inuvik**	**95.61**	**341**	*e*P	**P**	**08 46 03.5**	**-1.9**
INK				*e**PP	pP	08 46 16.2	-2.1
INK				pmax	pmax		
	comp=Z,20nm,1.9s						
INK	**Inuvik**	**95.61**	**341**	*e*P	**P**	**08 46 03.5**	**-1.9**
	comp=Z,20nm,1.9s,mb5.2						
INK				*e*pP	pP	08 46 16.2	-2.0
COLA	**College**	**99.10**	**335**	*e*P	**P**	**08 46 20.7**	**-0.4**
ARU	**Arti**	**126.99**	**31**	*i* PKIKP	PKPdf	08 51 42.3	-1.5
ARU				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.8						
ASAR	**Alice Springs**	**131.25**	**214**	PKP	PKPdf	08 51 52.0	+0.2
	comp=Z,0.8nm,0.5s,baz=128,slow=1.6,SNR=16						
WRA	**Warramunga Arr**	**133.97**	**218**	PKP	PKPdf	08 51 57.5	+0.5
	comp=Z,1.0nm,0.4s,baz=139,slow=1.8,SNR=24						
ZRNK	**Zerenda**	**133.97**	**31**	*e*PKIKP	PKPdf	08 51 58.0	+1.0
NVS	**Novosibirsk**	**138.52**	**20**	*e*PKIKP	PKPdf	08 52 00.2	-5.3
ZAL	**Zalesovo**	**139.78**	**20**	*i* PKIKP	PKPdf	08 52 09.6	+1.8
ZAL				pmax	pmax		
	comp=Z,18nm,0.5s						
AAK	**Ala-Archa**	**142.89**	**40**	*i* PKIKP	PKPdf	08 52 11.6	-1.7
AAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.6						
AAK	**Ala-Archa**	**142.89**	**40**	*e*PKPdf	PKPdf	08 52 11.9	-1.4
MK31	**Makanchi Array**	**144.46**	**29**	PKIKP	PKPdf	08 52 15.4	-0.7
MK31				pmax	pmax		
	comp=Z,45nm,1.3s						
MKAR	**Makanchi Array**	**144.46**	**29**	PKP	PKPdf	08 52 15.3	-0.8
	comp=Z,5.4nm,0.7s,baz=332,slow=4.1,SNR=29						
TLY	**Talaya**	**145.67**	**3**	*i* PKP2	PKPab	08 52 19.1	+0.2
TLY	**Talaya**	**145.67**	**3**	*e*PKPdf	PKPdf	08 52 19.6	+1.4
MJAR	**Matsushiro Arr**	**146.12**	**311**	PKPbc	PKPbc	08 52 19.6	-0.4
	comp=Z,4.0nm,0.8s,baz=52,slow=1.8,SNR=11						
ZAK	**Zakamensk**	**146.95**	**4**	*e*PKP2	PKPab	08 52 21.8	-2.0
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WMQ	**Urumqi**	**149.18**	**27**	PKP	PKPdf	08 52 26.8	+2.8
WMQ				APKP		08 52 38.0	
WMQ				XPKP		08 52 42.0	
WMQ				PKS		08 56 00.0	
WMQ				PP	PP	08 56 06.0	+6.1
WMQ				SKS	SKSdf	08 59 29.0	+0.3
WMQ				PP	PP		
	comp=Z,98nm,5.2s						
WMQ				LR	LR		
	comp=N,132nm,23.0s						
WMQ				LR	LR		
	comp=E,214nm,28.7s						
WMQ				LR	LR		
	comp=Z,170nm,25.2s,MS4.7						
ULN	**Ulaanbaatar**	**149.56**	**359**	*e*PKP2	PKPab	08 52 29.6	-4.7
SONM	**Songino Array**	**149.60**	**0**	PKP	PKPdf	08 52 24.9	+0.2
	comp=Z,8.9nm,1.0s,baz=132,slow=2.2,SNR=16						
SONM				PKPbc	PKPbc	08 52 30.1	+0.8
	comp=Z,8.4nm,1.0s,baz=341,slow=1.2,SNR=30						
SNY	**Shenyang**	**151.56**	**333**	*e*PKP	PKPdf	08 52 32.5	+4.8
HHC	**Hu-ho-hao-te**	**156.18**	**351**	*e*PKP	PKPdf	08 52 34.7	+0.4
HHC				APKP		08 52 45.5	
HHC				XPKP		08 52 49.2	

HHC				PKP2	PKPab	08 53 04.7	+2.5
HHC				PKS		08 56 07.4	
HHC				PP	PP	08 56 43.8	+4.2
HHC				SKS	SKSdf	08 59 35.8	-1.3
HHC				SKKS	SKKSac	09 03 26.7	+0.9
HHC				SS	SS	09 16 26.9	+1.1
HHC				LR	LR		
	comp=N,165nm,6.1s						
HHC				LR	LR		
	comp=E,202nm,7.6s						
HHC				LR	LR		
	comp=Z,171nm,8.0s						
NJ2	**Nanjing**	**161.59**	**325**	ePKP	PKPdf	08 52 43.0	+2.3
CD2	**Chengdu**	**166.27**	**10**	ePKP	PKPdf	08 52 43.4	-1.5

*GRAL **05** 08:38:21.2±1.4, 3520N×3850E, h15km±999km, MD3.7*
*ISCJB **05** 08:38:23.3±0.6, 35.13N±002×3809E±004, h16km±5km, Error ellipse: s-maj=5.6km s-min=3.0km az=44.7*
*NSSC **05** 08:38:23.7, 35.17N×38.10E, h19km±2km*
*CSEM **05** 08:38:24.8±0.1, 35.14N×3807E, h33km±5km, Mc2.4, Error ellipse: s-maj=3.2km s-min=1.8km az=111.0*
ISC 05 08:38:23.0±0.6**, 3514N**±002×**3804E**±004**, h6**km±4km**, n51, σ1.s04**/91**, 27D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHLN	**Al Jahlan**	**0.62**	**31**	⇓P	**Pg**	**08 38 34.4**	**-0.6**
JHLN				⇓S	**Sg**	**08 38 42.6**	**-0.4**
JHLN	**Al Jahlan**	**0.62**	**31**	⇓iP	**Pg**	**08 38 34.4**	**-0.5**
JHLN				⇓iS	**Sg**	**08 38 42.6**	**-0.4**
RABH	**Abou Rabah**	**0.98**	**225**	⇑P	**Pg**	**08 38 42.1**	**+0.2**
RABH				⇑S	**Sg**	**08 38 55.9**	**+1.3**
RABH	**Abou Rabah**	**0.98**	**225**	⇑iP	**Pg**	**08 38 42.1**	**+0.2**
RABH				⇑iS	**Sg**	**08 38 55.9**	**+1.3**
KFRA	**Kufra**	**1.02**	**274**	⇓P	**Pg**	**08 38 42.9**	**+0.4**
KFRA				⇓S	**Sg**	**08 38 56.6**	**+0.8**
KFRA	**Kufra**	**1.02**	**274**	⇓iP	**Pg**	**08 38 42.9**	**+0.4**
KFRA				⇓iS	**Sg**	**08 38 56.6**	**+0.8**
SLMH	**Al Salmeh**	**1.07**	**355**	⇓iP	**Pg**	**08 38 43.6**	**0.0**
SLMH				⇓iS	**Sg**	**08 38 56.5**	**-1.0**
ROOS	**tl_alroos**	**1.15**	**213**	⇓P	**Pg**	**08 38 43.7**	**-1.3**
ROOS				⇓S	**Sg**	**08 39 00.1**	**+0.1**
ROOS	**tl_alroos**	**1.15**	**213**	⇓iP	**Pg**	**08 38 43.7**	**-1.3**
ROOS				⇓iS	**Sg**	**08 39 00.1**	**+0.1**
MNKR	**ALMNKUR**	**1.28**	**51**	⇑P	**Pn**	**08 38 57.7**	**+10**
MNKR				⇑S	**Sb**	**08 39 21.1**	**+17**
MNKR	**ALMNKUR**	**1.28**	**51**	⇑iP	**Pn**	**08 38 57.7**	**+10**
MNKR				⇑iS	**Sb**	**08 39 21.1**	**+17**
WRDH	**Warideh**	**1.38**	**286**	⇑P	**Pn**	**08 38 48.5**	**-0.2**
WRDH				⇑S	**Sb**	**08 39 06.4**	**-0.7**
WRDH	**Warideh**	**1.38**	**286**	⇑iP	**Pn**	**08 38 48.5**	**-0.2**
WRDH				⇑iS	**Sb**	**08 39 06.4**	**-0.7**
BIDA	**Albida**	**1.42**	**265**	⇓P	**Pn**	**08 38 49.0**	**-0.2**
BIDA				⇓S	**Sb**	**08 39 07.9**	**-0.1**
BIDA	**Albida**	**1.42**	**265**	⇓iP	**Pn**	**08 38 49.0**	**-0.2**
BIDA				⇓iS	**Sb**	**08 39 07.9**	**-0.2**
BSHR	**Al Beshri**	**1.54**	**70**	⇑P	**Pn**	**08 38 41.7**	**-9.2**
BSHR				⇑S	**Sn**	**08 38 55.9**	**-15**
BSHR	**Al Beshri**	**1.54**	**70**	⇑iP	**Pn**	**08 38 41.7**	**-9.2**
BSHR				⇑iS	**Sn**	**08 38 55.9**	**-15**
SLNF	**Slenfeh**	**1.56**	**287**	⇑P	**Pn**	**08 38 51.2**	**+0.1**
SLNF	**Slenfeh**	**1.56**	**287**	⇑iP	**Pn**	**08 38 51.2**	**+0.1**
SLNF				⇑iS	**Sn**	**08 39 10.0**	**-1.5**
BTCH	**Batrach**	**1.57**	**305**	⇑P	**Pn**	**08 38 51.2**	**-0.1**
BTCH	**Batrach**	**1.57**	**305**	⇑iP	**Pn**	**08 38 51.2**	**-0.1**
BTCH				⇑iS	**Sn**	**08 39 09.9**	**-2.0**
MARH	**Ras Al Marh**	**1.70**	**230**	⇑P	**Pn**	**08 38 52.5**	**-0.6**
MARH	**Ras Al Marh**	**1.70**	**230**	⇑iP	**Pn**	**08 38 52.5**	**-0.6**
DRWC	**Darouich**	**1.85**	**323**	⇑P	**Pn**	**08 38 55.5**	**+0.3**
DRWC				⇑S	**Sn**	**08 39 17.2**	**-1.7**
DRWC	**Darouich**	**1.85**	**323**	⇑iP	**Pn**	**08 38 55.5**	**+0.3**
DRWC				⇑iS	**Sn**	**08 39 17.2**	**-1.7**
HWQ	**Hawqa**	**1.93**	**244**	ePn	**Pn**	**08 38 57.0**	**+0.8**
HWQ				Sn	**Sn**	**08 39 24.4**	**+3.7**
HWQ	**Hawqa**	**1.93**	**244**	ePn	**Pn**	**08 38 57.0**	**+0.7**
COBT	**Iskenderun**	**2.00**	**314**	i P	**Pn**	**08 38 57.1**	**-0.1**
COBT				i S	**Sn**	**08 39 24.4**	**+1.9**
SFNV	**Sufian**	**2.11**	**52**	⇑P	**Pn**	**08 38 58.5**	**-0.2**
SFNV	**Sufian**	**2.11**	**52**	⇑iP	**Pn**	**08 38 58.5**	**-0.2**
QASN	**Qassioun**	**2.17**	**223**	⇑P	**Pn**	**08 39 01.0**	**+1.5**
QASN				⇑S	**Sn**	**08 39 26.1**	**-0.6**
QASN	**Qassioun**	**2.17**	**223**	⇑iP	**Pn**	**08 39 01.0**	**+1.4**
QASN				⇑iS	**Sn**	**08 39 26.1**	**-0.6**
TOTH	**TOTAH**	**2.22**	**217**	⇑P	**Pn**	**08 39 01.1**	**+0.8**
TOTH				⇑S	**Sn**	**08 39 27.2**	**-0.8**
TOTH	**TOTAH**	**2.22**	**217**	⇑iP	**Pn**	**08 39 01.1**	**+0.8**
TOTH				⇑iS	**Sn**	**08 39 27.2**	**-0.8**
DRBT	**Darb Altahta**	**2.23**	**40**	⇑P	**Pn**	**08 38 44.5**	**-16**
DRBT				⇑S	Sn	08 38 59.9	-28
DRBT	**Darb Altahta**	**2.23**	**40**	⇑iP	**Pn**	**08 38 44.5**	**-16**
DRBT				⇑iS	Sn	08 38 59.9	-28
MZRK	**Al-Mazaregh**	**2.24**	**71**	⇓P	**Pn**	**08 39 06.8**	**+6.3**
GZT	**Gaziantep**	**2.24**	**350**	i P	**Pn**	**08 39 00.2**	**-0.4**
GZT				i S	**Sn**	**08 39 29.4**	**+0.9**
ZALF	**Zalf**	**2.29**	**195**	⇓P	**Pn**	**08 39 00.7**	**-0.5**
ZALF				⇓S	**Sn**	**08 39 27.5**	**-2.2**
ZALF	**Zalf**	**2.29**	**195**	⇓iP	**Pn**	**08 39 00.7**	**-0.5**
ZALF				⇓iS	**Sn**	**08 39 27.5**	**-2.2**
BHL	**Bhannes**	**2.33**	**239**	ePn	**Pn**	**08 39 03.3**	**+1.6**
BHL				Sn	**Sn**	**08 39 33.7**	**+3.1**
ATAB	**Bozova**	**2.33**	**5**	i P	**Pn**	**08 39 01.2**	**-0.6**
ATAB				i S	**Sn**	**08 39 31.2**	**+0.5**
ATAB	**Bozova**	**2.33**	**5**	i P	**Pn**	**08 39 01.2**	**-0.6**
ATAB				i S	**Sn**	**08 39 31.2**	**+0.5**
BRBR	**Barbar**	**2.44**	**226**	⇑P	**Pn**	**08 39 04.1**	**+0.8**
BRBR				⇑S	**Sn**	**08 39 32.8**	**-0.7**
BRBR	**Barbar**	**2.44**	**226**	⇑iP	**Pn**	**08 39 04.1**	**+0.8**
BRBR				⇑iS	**Sn**	**08 39 32.8**	**-0.7**
RCY	**Rachaya**	**2.47**	**229**	ePn	**Pn**	**08 39 03.6**	**-0.2**
RCY				Sn	**Sn**	**08 39 36.5**	**+2.2**
SALA	**Sala**	**2.66**	**205**	⇓P	**Pn**	**08 39 05.7**	**-0.5**
SALA				⇓S	**Sn**	**08 39 37.9**	**-0.8**
SALA	**Sala**	**2.66**	**205**	⇓iP	**Pn**	**08 39 05.7**	**-0.6**
SALA				⇓iS	**Sn**	**08 39 37.9**	**-0.8**
KBSD	**Kabsdagh**	**2.75**	**47**	⇑P	**Pn**	**08 38 48.3**	**-19**
KBSD				⇑S	Sn	08 39 05.2	-36
MARD	**Mardin**	**3.10**	**45**	i P	**Pn**	**08 39 12.6**	**+0.2**
MARD				i S	**Sn**	**08 39 52.9**	**+3.3**
ELZG	**Elazig**	**3.43**	**12**	i P	**Pn**	**08 39 16.9**	**-0.1**
ELZG				i S	**Sn**	**08 40 00.1**	**+2.2**

*ISCJB **05** 08:51:28.6±0.6, 5974N±004×2447E±007, h0km, Error ellipse: s-maj=5.4km s-min=5.2km az=116.2*
*NAO **05** 08:51:30.7±1.0, 5980N×2458E, ML2.6*
*HEL **05** 08:51:31.3±0.1, 5977N×2452E, h0km, ML2.5, ML2.6(NAO), Explosion*
*BER **05** 08:51:31.9±4.0, 5977N×2450E, h0km, ML2.6(NAO), Suspected explosion*
*CSEM **05** 08:51:31.0±0.2, 5974N×2453E, h2km, ML2.5, Error ellipse: s-maj=4.9km s-min=4.1km az=56.0, Mining explosion.*
*IDC **05** 08:51:33.1±0.9, 5987N×2453E, h0km, mb1 3.6/4, mb1mx3.3/22, mbtmp3.6/4, ML3.7/4, Error ellipse: s-maj=11.2km s-min=6.4km az=132.0*
ISC 05 08:51:30.1±0.6**, 5978N**±003×**2457E**±007**, h0**km**, n27, σ1.s16**/37**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.45**	**349**	eP	**Pg**	**08 51 39.3**	**+0.7**
MEF				eS	**Sg**	**08 51 45.3**	**+0.9**
PVF	**Pernaja**	**1.00**	**40**	eP	**Pg**	**08 51 49.7**	**+0.5**
PVF				eS	**Sg**	**08 52 02.5**	**+0.3**
VSU	**Vasula**	**1.73**	**139**	eP	**Pn**	**08 52 02.4**	**+0.9**
VSU				eS	**Sn**	**08 52 24.1**	**-0.1**
VSU	**Vasula**	**1.73**	**139**	Pn	**Pn**	**08 52 02.5**	**+1.1**
VSU				Lg		08 52 25.0	
VSU	**Vasula**	**1.73**	**139**	P	**Pn**	**08 52 02.3**	**+0.9**
VSU				S	**Sn**	**08 52 24.1**	**-0.1**
FIA0	**FINESS Array S**	**1.82**	**23**	eP	**Pn**	**08 52 04.3**	**+1.6**
FIA0				eS	**Sn**	**08 52 28.1**	**+1.6**
FIA0	**FINESS Array S**	**1.82**	**23**	Pn	**Pn**	**08 52 04.5**	**+1.8**
	baz=195,slow=18						
FIA0				Lg		08 52 27.9	
	baz=202,slow=37						
FINES	**FINESS Array B**	**1.82**	**23**	Pg	**Pg**	**08 52 04.4**	**-0.6**
	10nm,0.3s,baz=204,slow=16,SNR=210						
FINES				Lg		08 52 27.6	
	15nm,0.3s,baz=205,slow=26,SNR=19						
FINES				Rg		08 52 40.0	
	4.7nm,0.3s,baz=203,slow=33,SNR=4.8						
RAF	**Rauma**	**1.87**	**313**	eP	**Pn**	**08 52 04.1**	**+0.8**
RAF				eS	**Sn**	**08 52 28.5**	**+0.9**
KEF	**Keuruu**	**2.40**	**3**	ePB	**Pb**	**08 52 13.5**	**-0.6**
KEF				eSG	**Sg**	**08 52 45.6**	**-1.6**
KEF				MSG		08 52 48.1	
	comp=Z,27nm,0.2s						
KAF	**Kangasniemi**	**2.49**	**19**	ePB	**Pb**	**08 52 14.5**	**-1.1**
KAF				eSG	**Sg**	**08 52 47.6**	**-2.4**
KAF				MSG		08 52 50.1	
	comp=Z,21nm,0.2s						
SUF	**Sumiainen**	**3.04**	**14**	MSG		08 53 05.5	
	comp=Z,6.8nm,0.2s						
JOF	**Joensuu**	**4.52**	**43**	MSG		08 53 57.5	
	comp=Z,9.1nm,0.2s						
KJN	**Kajaani**	**4.57**	**18**	MSG		08 53 54.0	
	comp=Z,12nm,0.3s						
HFS	**Hagfors**	**5.48**	**278**	eP	**Pn**	**08 52 53.0**	**0.0**
HFS				eS	**Sn**	**08 53 53.2**	**-3.4**
HFS	**Hagfors**	**5.48**	**278**	Pn	**Pn**	**08 52 53.2**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=102,slow=12,SNR=26						
HFS				Sn	**Sn**	**08 53 56.2**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=86,slow=28,SNR=9.7						
HFS				Lg		08 54 20.8	
	comp=Z,2.4nm,0.3s,baz=89,slow=30,SNR=4.7						
HFS	**Hagfors**	**5.48**	**278**	Pn	**Pn**	**08 52 53.0**	**0.0**
	baz=105,slow=12						
HFS				Sn	**Sn**	**08 53 53.2**	**-3.4**
	baz=84,slow=37						
HFS	**Hagfors**	**5.48**	**278**	Pn	**Pn**	**08 52 53.0**	**+0.1**
	SNR=8.2						
HFS				Sn	**Sn**	**08 53 53.2**	**-3.4**
	SNR=7.4						
NB2	**NORSAR Subarra**	**6.74**	**287**	eP	**Pn**	**08 53 08.4**	**-1.8**
NB2				eSG		08 54 57.6	
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**08 53 08.4**	**-1.8**
	baz=97,slow=14						
NB2				Lg		08 54 57.6	
	baz=86,slow=37						
NOA	**NORSAR Array B**	**6.74**	**287**	Pn	**Pn**	**08 53 09.3**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=94,slow=14,SNR=6.4						
NOA				Sn	**Sn**	**08 54 27.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=52,slow=24,SNR=2.8						
NOA				Lg		08 55 01.7	
	comp=Z,1.6nm,0.3s,baz=117,slow=4.0,SNR=4.0						
APA0	**Apatity Array**	**8.69**	**22**	Pn	**Pn**	**08 53 38.1**	**+1.2**
	baz=232,slow=14						
APA0	**Apatity Array**	**8.69**	**22**	eP	**Pn**	**08 53 38.1**	**+1.2**
AKASG	**Malin Array Be**	**9.48**	**162**	Pn	**Pn**	**08 53 46.5**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=341,slow=12,SNR=7.6						
ARA0	**ARCESS Array S**	**9.80**	**2**	Pn	**Pn**	**08 53 49.1**	**-3.1**
	baz=180,slow=14						
ARA0	**ARCESS Array S**	**9.80**	**2**	eP	**Pn**	**08 53 49.1**	**-3.1**
ARCES	**ARCESS Array B**	**9.80**	**2**	Pn	**Pn**	**08 53 52.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=180,slow=14,SNR=51						

NEIC 05 09:12:21.3, 5342N×16728W, h6km, ML3.5(AEIC)**, After AEIC., Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCD	**Okmok Cone D**	**0.50**	**272**	P	Pg	09 12 31.5	+0.7
OKCD				S	Sg	09 12 39.1	+1.7
OKCE	**Okmok Cone E**	**0.53**	**271**	P	Pg	09 12 32.3	+0.8
NIKO	**Nikolski**	**1.05**	**245**	P	Pg	09 12 40.1	-1.3
NIKO				S	Sg	09 12 54.3	-0.7
AKLV	**Akutan Long Va**	**1.08**	**46**	P	Pg	09 12 40.9	-1.1
AKLV				S	Sg	09 12 55.9	-0.2
AKGG	**Akutan Green G**	**1.09**	**44**	P	Pg	09 12 41.2	-1.0
AKGG				S	Sg	09 12 56.0	-0.4
AKUT	**Akutan**	**1.15**	**51**	P	Pg	09 12 42.0	-1.2
AKUT				S	Sg	09 12 57.6	-0.6
AKA	**Akutan**	**1.15**	**51**	P	Pg	09 12 42.1	-1.1
AKA				S	Sg	09 12 57.7	-0.5
SDPT	**Sand Point**	**4.42**	**61**	ePn	Pn	09 13 30.6	+1.7

IDC 05 09:12:49.3±15.0**, 1774S×17843W, h473**km±165km**, mb3.1**/4**, mb1 3.4**/4**, mb1mx3.1**/13**, mbtmp3.9**/4**, Error ellipse: s-maj=72.1km s-min=50.8km az=126.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.64**	**259**	P	P	09 20 18.3	-0.2
	0.2nm,0.4s,baz=96,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**44.82**	**254**	P	P	09 20 20.6	+0.7
	2.9nm,0.6s,baz=88,slow=8.2,SNR=64						
MJAR	**Matsushiro Arr**	**67.76**	**323**	P	P	09 22 58.9	+0.1
	1.2nm,0.4s,baz=121,slow=1.3,SNR=4.5						
PDAR	**Pinedale Array**	**87.24**	**43**	P	P	09 24 44.9	+0.3
	0.4nm,0.5s,baz=217,slow=3.9,SNR=4.7						
BRTR	**Keskin Array B**	**144.65**	**315**	PKP	PKPdf	09 31 30.9	-0.3
	1.6nm,0.7s,baz=47,slow=0.6,SNR=7.4						

*IDC **05** 09:33:35.6±0.6, 1562S×17369W, h0km, mb4.5/13, mb1 4.7/14, mb1mx4.6/19, mbtmp4.5/14, ML2.8/1, MS3.8/16, Ms1 3.8/16, ms1mx3.6/24, Error ellipse: s-maj=30.5km s-min=13.9km az=131.0*
*ISCJB **05** 09:33:42.6±0.3, 1563S±009×17381W±008, h63km, mb4.7/46, Error ellipse: s-maj=15.4km s-min=6.3km az=102.0*
*NEIC **05** 09:33:44.0±0.1, 1563S×17377W, mb4.7/36, Error ellipse: s-maj=7.8km s-min=3.0km az=141.0*
*BJI **05** 09:33:43.9, 1560S×17380W, h61km, mb5.0, mB5.1, Ms5.1, Msz4.6*
ISC 05 09:33:44.7±0.3**, 1564S**±009×**17374W**±008**, h65**km±1.7km**:pP-P, n125, σ0.s60**/82**, mb4.6**/46**, 1C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.56**	**48**	Pn	**Pn**	**09 34 17.6**	**-6.2**
	110nm,0.3s,baz=136,slow=0.8,SNR=85						
AFI				Sn	**Sn**	**09 34 42.5**	**-11**
	271nm,0.3s,baz=61,slow=22,SNR=10						
AFI				LR	LR	09 34 55.7	
	comp=Z,544nm,21.0s,baz=64,slow=32						
AFI	**Afiamalu**	**2.56**	**48**	ePn	**Pn**	**09 34 17.5**	**-6.4**
RAR	**Rarotonga**	**14.37**	**115**	Pn	**Pn**	**09 36 55.8**	**-8.8**
	3.1nm,0.3s,baz=256,slow=7.2,SNR=13						
RAR				LR	LR	09 41 00.8	
	comp=Z,522nm,21.8s,baz=214,slow=31						
DZM	**Mont Dzumac**	**19.80**	**248**	eP	**Pn**	**09 38 14.0**	**+2.2**
DZM	**Mont Dzumac**	**19.80**	**248**	P	**Pn**	**09 38 13.9**	**+2.1**
	0.5nm,0.3s,baz=85,slow=20,SNR=16						
DZM				LR	LR	09 43 13.7	
	comp=Z,109nm,18.0s,baz=289,slow=29						
PPT	**Papeete**	**23.24**	**98**	eLR	LR	09 44 00.4	
	775nm,26.8s,baz=264						
PPT	**Papeete**	**23.24**	**98**	LR	LR	09 45 39.4	
	comp=Z,214nm,18.2s,baz=297,slow=31						
URZ	**Urewera**	**23.94**	**198**	P	**P**	**09 38 51.8**	**-0.9**
	8.2nm,0.6s,mb4.2,baz=282,slow=2.6,SNR=6.7						
URZ				LR	LR	09 46 49.4	
	comp=Z,148nm,19.2s,baz=31,slow=33						
TBI	**Tubuai**	**24.12**	**112**	eLR	LR	09 44 29.4	
	821nm,27.5s,baz=290						
RPZ	**Rata Peaks**	**30.84**	**202**	P	**P**	**09 39 54.3**	**-0.2**
	6.0nm,0.7s,mb4.5,baz=359,slow=10.0,SNR=4.3						
RPZ				LR	LR	09 50 23.5	
	comp=Z,203nm,21.9s,baz=0.5,slow=33						
RKT	**Rikitea**	**37.24**	**108**	eLR	LR	09 50 32.0	
	461nm,28.5s						
CTA	**Charters Tower**	**38.27**	**257**	eP	**P**	**09 40 58.5**	**0.0**
	3.2nm,0.8s,mb4.2						
CTA	**Charters Tower**	**38.27**	**257**	P	**P**	**09 40 58.5**	**0.0**
	4.5nm,0.8s,mb4.4,baz=101,slow=14,SNR=6.2						
CTA				LR	LR	09 54 25.6	
	comp=Z,114nm,21.8s,baz=58,slow=33						
CTAO	**Charters Tower**	**38.27**	**257**	eP	**P**	**09 40 58.7**	**+0.2**
	5.1nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**43.63**	**240**	eP	**P**	**09 41 41.8**	**-0.8**
	16nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**43.63**	**240**	P	**P**	**09 41 42.4**	**-0.3**
	18nm,0.9s,mb4.8,baz=49,slow=6.7,SNR=20						
STKA				LR	LR	09 57 16.3	
	comp=Z,151nm,19.3s,baz=26,slow=32						
WB2	**Warramunga Arr**	**49.46**	**257**	eP	**P**	**09 42 28.3**	**+0.1**
WRAB	**Tennant Creek**	**49.46**	**257**	eP	**P**	**09 42 28.2**	**0.0**
	8.9nm,0.9s,mb4.7						
WRAB				epP	pP	09 42 47.3	+2.4
WRA	**Warramunga Arr**	**49.47**	**257**	P	**P**	**09 42 27.8**	**-0.4**
	4.1nm,0.7s,mb4.5,baz=91,slow=7.2,SNR=52						
WRA				LR	LR	10 00 58.3	
	comp=Z,132nm,22.0s,baz=275,slow=33						
AS31	**Alice Springs**	**49.72**	**252**	eP	**P**	**09 42 29.8**	**-0.4**
ASAR	**Alice Springs**	**49.72**	**252**	P	**P**	**09 42 29.8**	**-0.5**
	29nm,0.9s,mb5.2,baz=84,slow=8.5,SNR=174						
ASAR				LR	LR	10 02 17.7	
	comp=Z,289nm,18.7s,baz=90,slow=35						
ASPA	**Alice Springs**	**49.73**	**252**	eP	**P**	**09 42 29.8**	**-0.4**
KAKA	**Kakadu**	**52.15**	**266**	eP	**P**	**09 42 49.1**	**+0.7**
	8.8nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**57.84**	**258**	eP	**P**	**09 43 30.1**	**+0.6**
	7.9nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**57.84**	**258**	LR	LR	10 06 43.9	
	comp=Z,109nm,19.9s,baz=281,slow=34						
MBWA	**Marble Bar**	**62.98**	**254**	eP	**P**	**09 44 04.6**	**+0.1**
	13nm,0.9s,mb4.9						
MBWA				epP	pP	09 44 23.1	+1.3
SBA	**Scott Base**	**62.99**	**185**	eP	**P**	**09 44 07.7**	**+3.1**
	3.3nm,0.4s,mb4.6						
VNDA	**Vanda**	**63.11**	**186**	P	**P**	**09 44 05.0**	**-0.4**
	0.7nm,0.7s,mb3.7,baz=18,slow=7.0,SNR=5.2						
VNDA	**Vanda**	**63.11**	**186**	eP	**P**	**09 44 05.9**	**+0.5**
	2.7nm,1.2s,mb4.0						
VNDA				epP	pP	09 44 22.6	-0.1
KLBR	**Kellerberrin**	**63.84**	**242**	eP	**P**	**09 44 09.5**	**-0.7**
	11nm,0.8s,mb4.7						
ISA	**Isabella**	**73.05**	**44**	eP	**P**	**09 45 07.8**	**+0.1**
CMB	**Columbia Colle**	**73.16**	**41**	eP	**P**	**09 45 08.4**	**+0.1**
	14nm,1.1s,mb4.7						
OHCM	**Honcut**	**73.25**	**40**	eP	**P**	**09 45 08.7**	**-0.1**
MTUM	**Tungsten Hills**	**73.94**	**43**	eP	**P**	**09 45 13.7**	**+0.8**
YBH	**Yreka Blue Hor**	**73.98**	**37**	eP	**P**	**09 45 13.9**	**+0.8**
	21nm,1.1s,mb4.8						
DAC	**Darwin (Calif)**	**73.99**	**44**	eP	**P**	**09 45 13.1**	**-0.1**
	12nm,1.5s,mb4.4						
QSPA	**South Pole Qui**	**74.41**	**180**	eP	**P**	**09 45 15.5**	**-0.1**
	5.2nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**09 45 17.3**	**-0.2**
	7.9nm,1.0s,mb4.4,baz=220,slow=7.6,SNR=34						
NVAR	**Mina Array Bea**	**74.72**	**42**	P	**P**	**09 45 17.3**	**-0.2**
PAHR	**Pah Rah Range**	**74.77**	**41**	eP	**P**	**09 45 18.1**	**+0.4**
	14nm,1.1s,mb4.6						
KDAK	**Kodiak Island**	**75.22**	**12**	P	**P**	**09 45 20.0**	**-0.3**
	2.7nm,0.6s,mb4.2,baz=180,slow=5.2,SNR=4.6						
TPH	**Tonopah**	**75.23**	**43**	eP	**P**	**09 45 20.9**	**+0.5**
	29nm,1.3s,mb4.8						
TUC	**Tucson**	**76.80**	**51**	eP	**P**	**09 45 29.5**	**+0.2**
	20nm,1.5s,mb4.6						
WVOR	**Wild Horse Val**	**76.82**	**39**	eP	**P**	**09 45 29.3**	**-0.1**
	14nm,1.1s,mb4.6						
ARUT	**Antelope Range**	**77.60**	**45**	eP	**P**	**09 45 33.4**	**-0.3**
WUAZ	**Wupatki**	**77.90**	**48**	eP	**P**	**09 45 35.9**	**+0.5**
	16nm,1.3s,mb4.6						
SLKM	**Skilak Lake**	**78.21**	**12**	eP	**P**	**09 45 36.1**	**-1.0**
MSU	**Marysvale**	**78.83**	**45**	eP	**P**	**09 45 41.3**	**+0.7**
MSU				epP	pP	09 45 58.4	0.0
BMO	**Blue Mountains**	**79.01**	**37**	eP	**P**	**09 45 41.0**	**-0.6**
	7.9nm,1.4s,mb4.3						
DUG	**Dugway**	**79.26**	**43**	eP	**P**	**09 45 42.8**	**-0.1**
	5.2nm,1.1s,mb4.3						
DUG				epP	pP	09 46 03.6	+2.9
TTA	**Tatalina**	**79.53**	**8**	eP	**P**	**09 45 44.6**	**+0.2**
	27nm,1.4s,mb4.9						
TTA				epP	pP	09 46 02.0	-0.2
TMUT	**Trail Mountain**	**79.87**	**44**	eP	**P**	**09 45 46.5**	**+0.3**
HLID	**Hailey**	**80.02**	**39**	eP	**P**	**09 45 47.3**	**+0.3**
	7.8nm,1.1s,mb4.5						
HLID				epP	pP	09 46 03.6	-1.3
LAZ	**Ladron**	**80.46**	**50**	eP	**P**	**09 45 49.8**	**+0.4**
LENM	**Lemitar**	**80.48**	**51**	eP	**P**	**09 45 50.3**	**+0.8**
TCUT	**Toone Canyon**	**80.65**	**43**	eP	**P**	**09 45 51.1**	**+0.7**
LPM	**Los Pinos Moun**	**80.80**	**51**	eP	**P**	**09 45 51.5**	**+0.3**
PV10	**Paradox Valley**	**80.91**	**46**	eP	**P**	**09 45 52.2**	**+0.4**
PV01	**Paradox Valley**	**81.12**	**46**	eP	**P**	**09 45 52.9**	**0.0**
ANMO	**Albuquerque**	**81.21**	**50**	eP	**P**	**09 45 53.3**	**0.0**
	18nm,1.8s,mb4.6						
MCK	**McKinley**	**81.41**	**11**	eP	**P**	**09 45 53.9**	**-0.6**
	9.0nm,1.0s,mb4.5						
MCMT	**McKenzie Canyo**	**81.64**	**39**	eP	**P**	**09 45 55.8**	**+0.1**
MCMT				epP	pP	09 46 13.1	-0.5
RRI2	**Red Ridge**	**81.83**	**41**	eP	**P**	**09 45 56.5**	**-0.2**
	16nm,1.3s,mb4.7						
REDW	**Red Top Meadow**	**82.13**	**41**	eP	**P**	**09 45 57.9**	**-0.3**
	18nm,1.4s,mb4.7						
TPAW	**Teton Pass**	**82.13**	**41**	eP	**P**	**09 45 58.3**	**+0.1**
	15nm,1.4s,mb4.6						
SNOW	**Snow King Moun**	**82.24**	**41**	eP	**P**	**09 45 58.5**	**-0.3**
	16nm,1.3s,mb4.7						
SNOW				epP	pP	09 46 14.7	-2.0
CHMT	**Chamberlain Mo**	**82.51**	**37**	eP	**P**	**09 45 59.1**	**-1.1**
CHMT				epP	pP	09 46 16.2	-2.0
QLMT	**Earthquake Lak**	**82.51**	**39**	eP	**P**	**09 46 00.6**	**+0.4**
FLWY	**Flagg Ranch**	**82.58**	**40**	eP	**P**	**09 46 00.6**	**0.0**
	23nm,1.4s,mb4.8						
COLA	**College**	**82.65**	**11**	eP	**P**	**09 46 00.2**	**-0.7**
	15nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**82.66**	**42**	P	**P**	**09 46 00.8**	**-0.2**
	4.4nm,1.1s,mb4.2,baz=223,slow=2.4,SNR=23						
PDAR				LR	LR	10 15 25.2	
	comp=Z,62nm,20.1s,baz=252,slow=30						
SMCO	**Snowmass**	**82.71**	**46**	eP	**P**	**09 46 01.4**	**+0.1**
	14nm,1.4s,mb4.6						
BOZ	**Bozeman (W)**	**82.81**	**39**	eP	**P**	**09 46 01.4**	**-0.3**
	3.3nm,1.0s,mb4.1						
BOZ				epP	pP	09 46 18.5	-1.2
HRY	**Holter Researc**	**83.23**	**38**	eP	**P**	**09 46 03.7**	**-0.3**
HRY				epP	pP	09 46 20.9	-1.1
RWWY	**Rawlins**	**83.69**	**44**	eP	**P**	**09 46 06.4**	**0.0**
	5.2nm,1.0s,mb4.3						
DAWY	**Dawson**	**83.73**	**14**	eP	**P**	**09 46 06.2**	**-0.3**
EGAK	**Eagle**	**83.92**	**13**	eP	**P**	**09 46 07.0**	**-0.5**
MAW	**Mawson**	**87.47**	**199**	eP	**P**	**09 46 24.5**	**-0.5**
	3.5nm,1.4s,mb4.1						
MAW	**Mawson**	**87.47**	**199**	P	**P**	**09 46 24.0**	**-1.0**
	1.7nm,0.7s,mb4.1,baz=172,slow=16,SNR=7.0						
MAW				LR	LR	10 23 42.9	
	comp=Z,49nm,20.5s,baz=237,slow=34						
INK	**Inuvik**	**88.58**	**14**	P	**P**	**09 46 29.2**	**-1.1**
	1.6nm,0.8s,mb4.1,baz=305,slow=3.8,SNR=5.3						
INK	**Inuvik**	**88.58**	**14**	eP	**P**	**09 46 29.9**	**-0.4**
	2.2nm,0.7s,mb4.3						
HHC	**Hu-ho-hao-te**	**88.94**	**313**	eP	**P**	**09 46 33.3**	**+1.3**
HHC				AP	pP	09 46 50.5	+0.3
HHC				XP	sP	09 46 56.9	-0.4
HHC				PP	PP	09 50 05.5	+3.3
HHC				SKS		09 56 55.6	
HHC				S	S	09 57 13.7	-1.1
HHC				XS	sS	09 57 43.5	-2.2
HHC				PS	PS	09 58 29.5	+2.4
HHC				SS	SS	10 03 10.6	+2.0
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,79nm,5.3s						
HHC				LR	LR		
	comp=N,126nm,4.5s						
HHC				LR	LR		
	comp=E,308nm,6.7s						
HHC				LR	LR		
	comp=Z,156nm,5.9s						
PLCA	**Paso Flores**	**89.60**	**132**	LR	LR	10 16 43.3	
	comp=Z,92nm,18.8s,baz=93,slow=29						
YKA	**Yellowknife Ar**	**90.44**	**23**	P	**P**	**09 46 38.5**	**-0.6**
	comp=Z,3.1nm,1.0s,mb4.4,baz=230,slow=3.7,SNR=4.1						
YKA				LR	LR	10 19 35.9	
	comp=Z,53nm,20.7s,baz=225,slow=30						
YKA	**Yellowknife Ar**	**90.44**	**23**	P	**P**	**09 46 38.5**	**-0.6**
YKA				LR	LR	10 19 35.9	
KMI	**Kunming**	**90.83**	**296**	P	**P**	**09 46 41.9**	**+1.1**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.8						
CD2	**Chengdu**	**91.65**	**302**	eP	**P**	**09 46 43.6**	**-1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
SYO	**Syowa Base**	**92.30**	**191**	⇑epP	pP	09 47 04.8	-1.1
ULM	**Lac du Bonnet**	**94.32**	**39**	LR	LR	10 22 03.4	
	comp=Z,66nm,19.2s,baz=280,slow=31						
WMQ	**Urumqi**	**106.78**	**312**	PDIF	Pdif	09 47 48.5	-4.2
WMQ				PP	PP	09 52 18.0	-0.9
WMQ				PPP		09 54 35.0	

WMQ				PP	PP		
	comp=Z,114nm,4.2s						
WMQ				LR	LR		
	comp=N,137nm,19.8s						
WMQ				LR	LR		
	comp=E,190nm,22.0s						
WMQ				LR	LR		
	comp=Z,119nm,22.8s						
ARCES	ARCESS Array B	124.80	352	PKP	PKPdf	09 52 35.8	-1.1
	comp=Z,1.5nm,0.6s,baz=38,slow=2.2,SNR=8.7						
FINES	FINESS Array B	132.10	347	PKP	PKPdf	09 52 50.8	-0.1
	comp=Z,1.5nm,0.7s,baz=64,slow=4.4,SNR=4.0						
CRVS	Cervenica-Dubn	144.56	343	*e*PKP	PKPdf	09 53 13.0	-0.7
KECS	Kecovo	145.22	343	*e*PKP	PKPdf	09 53 14.6	-0.2
DOU	Dourbes	145.60	2	PKP	PKPdf	09 53 16.2	+0.8
GIVF	Givet	145.60	2	*e*PKP1	PKPbc	09 53 16.0	+0.2
BAIF	Baives	145.63	2	*e*PKP1	PKPbc	09 53 16.3	+0.4
	comp=Z,38nm,1.1s						
BR131	Keskin Array S	146.13	320	*e*PKPab	PKPab	09 53 18.6	+0.4
BRTR	Keskin Array B	146.13	320	PKPbc	PKPbc	09 53 18.7	+1.3
	comp=Z,3.6nm,0.9s,baz=117,slow=1.7,SNR=10.0						
GERES	GERESS Array B	146.32	351	PKPbc	PKPbc	09 53 18.7	+0.7
	comp=Z,1.2nm,0.8s,baz=222,slow=1.8,SNR=5.6						
FLN	La Foliniere	146.50	8	*e*PKP1	PKPbc	09 53 18.2	-0.3
	comp=Z,19nm,0.9s						
SGMF	Saint Gilles	146.67	11	*e*PKP1	PKPbc	09 53 18.5	-0.5
	comp=Z,11nm,0.9s						
GRR	Gorron	146.82	9	*e*PKP1	PKPbc	09 53 19.3	-0.1
CDF	Champ du Feu	147.31	359	*e*PKP1	PKPbc	09 53 21.2	+0.4
	comp=Z,18nm,0.9s						
HAU	Haudompre	147.72	360	*e*PKP1	PKPbc	09 53 22.3	+0.4
HINF	Hinteralfeld	147.91	359	*e*PKP1	PKPbc	09 53 22.6	+0.2
LOR	Lormes	148.40	3	*e*PKP1	PKPbc	09 53 24.1	+0.4
AVF	Avril sur Loir	148.84	4	*e*PKP1	PKPbc	09 53 25.0	+0.2
	comp=Z,12nm,1.0s						
SMF	Signal de Mont	149.02	3	*e*PKP1	PKPbc	09 53 25.6	+0.3
	comp=Z,9.0nm,0.8s						
BGF	Bois d'Agland	149.04	5	*e*PKP1	PKPbc	09 53 25.8	+0.5
CABF	La Chapelle	149.12	0	*e*PKP1	PKPbc	09 53 26.7	+1.2
	comp=Z,24nm,0.9s						
TCF	Toulx Ste Croi	149.25	5	*e*PKP1	PKPbc	09 53 26.1	+0.2
RJF	Les Rejaudoux	150.16	7	*e*PKP1	PKPbc	09 53 28.5	+0.4
LPL	La Plagne	150.21	359	*e*PKP1	PKPbc	09 53 29.8	+1.6
	comp=Z,8.1nm,0.7s						
LPG	La Plagne	150.23	359	*e*PKP1	PKPbc	09 53 29.9	+1.7
	comp=Z,14nm,0.9s						
LFF	La Frestale	150.42	8	*e*PKP1	PKPbc	09 53 29.0	+0.3
CAF	Calviac	150.59	6	*e*PKP1	PKPbc	09 53 29.6	+0.5
ORIF	Oris-en-Rattie	150.81	1	*e*PKP1	PKPbc	09 53 30.6	+1.0
	comp=Z,6.6nm,0.8s						
VIVF	Saint-Julien-l	150.84	2	*e*PKP1	PKPbc	09 53 30.6	+0.9
	comp=Z,16nm,0.9s						
MBDF	Montbardon	151.00	359	*e*PKP1	PKPbc	09 53 31.0	+0.9
	comp=Z,7.8nm,0.9s						
SMRF	Simiane la Rot	151.75	1	*e*PKP1	PKPbc	09 53 33.1	+1.3
	comp=Z,17nm,0.9s						
MTLF	Montolieu	152.17	6	*e*PKP1	PKPbc	09 53 33.2	+0.5
	comp=Z,10nm,1.1s						
ETSF	Etsaut	152.21	11	*e*PKP1	PKPbc	09 53 33.6	+0.8
	comp=Z,15nm,0.9s						
EPF	Esparros	152.23	9	*e*PKP1	PKPbc	09 53 33.5	+0.6
LMR	La Mourre	152.39	360	*e*PKP1	PKPbc	09 53 33.3	+0.1

*NEIC **05** 09:43:29.3, 1477N×9385W, h30km, MD4.3(MEX), After MEX.*
*CASC **05** 09:43:36.4±1.5, 1674N×9247W, h3km±95km, MD4.3*
MEX 05 09:43:32.7±1.1**, 1502N×9367W, h20**km±50km**, MD4.4, 1C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	1.94	49	*i* P	Pn	09 44 01.1	-3.4
CCIG				*i* S	Sn	09 44 25.3	-3.0
SCX	San Cristobal	1.98	30	*i* P	Pn	09 44 03.0	-2.0
SCX				*i* S	Sn	09 44 31.0	+1.8
CMIG	Matias Romero	2.37	331	*e*P	Pn	09 44 08.7	-1.7
CMIG				*i* S	Sn	09 44 34.7	-4.2
CMIG	Matias Romero	2.37	331	*i* P	Pn	09 44 06.6	-3.9
CMIG				*i* S	Sn	09 44 34.7	-4.2
OXX	Oaxaca	3.59	305	*e*P	Pn	09 44 22.0	-5.1
OXX				*i* S	Sn	09 45 06.0	-2.9
VHO	Vista Hermosa	3.59	305	*e*P	Pn	09 44 25.2	-1.9
VHO				*i* S	Sn	09 45 06.4	-2.5
VHO	Vista Hermosa	3.59	305	*i* P	Pn	09 44 22.5	-4.7
VHO				*i* S	Sn	09 45 05.3	-3.7
RBDL	Robledal	3.96	103	*e*P	x	09 44 36.2	
RBDL				*e*S	x	09 45 21.3	
SBLS	San Blas	4.09	106	⇑*e*P	x	09 44 39.3	
SNJE	San Jose	4.10	106	*e*P	x	09 44 38.2	
SNJE				*e*S	x	09 45 26.2	
LFRS	El Faro	4.67	107	*e*P	x	09 44 46.3	
LFRS				*e*S	x	09 45 40.4	
UTMO	Huajuapan	4.86	306	*i* P	Pn	09 44 42.0	-2.6
UTMO				*i* S	Sn	09 45 36.1	-4.1
PPM	Popocatepetl	6.22	311	*i* P	Pn	09 45 04.0	+0.6
PPM				*i* S	Sn	09 46 11.4	-2.5
PPM	Popocatepetl	6.22	311	*e*P	Pn	09 45 07.9	+4.5
PPM				*i* S	Sn	09 46 11.4	-2.5

*ISK **05** 09:44:36.6, 3972N×3739E, h5km, MD4.0*
*CSEM **05** 09:44:36.7±0.2, 3969N×3740E, h3km±1km, MD4.0, Error ellipse: s-maj=2.0km s-min=1.5km az=40.0*
*NEIC **05** 09:44:37.6, 3971N×3737E, h6km, MD4.0(ISK), After ISK.*
*IDC **05** 09:44:37.1±1.7, 3952N×3734E, h0km, mb3.7/3, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, ML4.0/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=33.5km s-min=16.6km az=176.0*
*MOS **05** 09:44:37.7±1.1, 3963N×3728E, h10km, mb3.8/1, Error ellipse: s-maj=14.9km s-min=9.3km az=128.2*
*ISCJB **05** 09:44:38.1±0.2, 3966N±002×3738E±002, h10km, mb3.7/3, Error ellipse: s-maj=2.6km s-min=2.1km az=44.6*
*NSSC **05** 09:44:40.8, 3972N×3768E, h40km*
ISC 05 09:44:38.8±0.2**, 3969N**±002×**3742E**±002**, h10**km**, n111, σ1.17**/146**, mb3.7**/3**, 3C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVSK	Karacayir	0.40	305	*i* PG	Pg	09 44 44.8	-1.8
SVSK				*i* SG	Sg	09 44 51.5	-0.4
SVSK	Karacayir	0.40	305	Pg	Pg	09 44 44.8	-1.8
SVSK				Sg	Sg	09 44 51.8	0.0
TOKT	Tokat	0.92	313	*i* PG	Pg	09 44 54.2	-2.4
TOKT				*i* SG	Sg	09 45 07.8	-0.7
TOKT	Tokat	0.92	313	Pg	Pg	09 44 54.2	-2.3
TOKT				Sg	Sg	09 45 06.2	-2.3
GRSN	GIRESUNGRSN	1.39	28	*i* P	Pn	09 45 02.9	-1.5
GRSN				*i* S	Sn	09 45 22.1	-0.6
BNN	Bunyan	1.48	236	PN	Pn	09 45 04.9	-0.6
BNN				SN	Sn	09 45 27.0	+2.1
BNN	Bunyan	1.48	236	Pn	Pn	09 45 04.3	-1.2
BNN				Sg	Sg	09 45 24.3	-2.1
BNN	Bunyan	1.48	236	*e*Pn	Pn	09 45 04.9	-0.6
BNN				Sg	Sg	09 45 24.3	-2.2
BNN				*e*Sn	Sn	09 45 27.0	+2.1
KELT	Kelkit	1.48	71	*i* P	Pn	09 45 04.2	-1.4
KELT				*i* S	Sn	09 45 25.4	+0.4
MYA	Malataya	1.57	150	PN	Pn	09 45 06.2	-0.6
MYA	Malataya	1.57	150	Pn	Pn	09 45 05.9	-0.9
MALT	Malatya	1.58	150	⇑*i*P	Pn	09 45 06.0	-0.9
MALT	Malatya	1.58	150	*e*Pn	Pn	09 45 05.9	-1.1
MALT				*e*Sg	Sg	09 45 28.3	-1.5
MALT	Malatya	1.58	150	*e*Pn	Pn	09 45 05.9	-1.0
MALT				*e*Sg	Sg	09 45 28.3	-1.5
ELZG	Elazig	1.70	134	*i* P	Pn	09 45 08.4	-0.2
ELZG				*i* S	Sn	09 45 32.8	+2.4
PTK	Pertek	1.73	117	PN	Pn	09 45 08.9	0.0
KVT	Kavak	1.74	323	PN	Pn	09 45 09.1	0.0
KVT	Kavak	1.74	323	Pn	Pn	09 45 09.2	+0.1
KVT	Kavak	1.74	323	Pn	Pn	09 45 09.2	+0.1
EZC	Erzincan	1.85	87	PN	Pn	09 45 05.0	-5.6
EZC	Erzincan	1.85	87	Pn	Pn	09 45 04.8	-5.8
AVNT	Avonos	2.19	246	*i* P	Pn	09 45 14.9	-0.4
AVNT				*i* S	Sg	09 45 49.4	+0.2
MACK	Trabzon	2.19	54	*i* P	Pn	09 45 16.3	+1.0
MACK				*i* S	Sg	09 45 48.3	-0.9
CORM	Corum	2.20	284	PN	Pn	09 45 15.2	-0.2
KTUT	Trabzon	2.21	53	PN	Pn	09 45 16.3	+0.7
KMRS	Kahramanmaras	2.22	191	PN	Pn	09 45 16.9	+1.2
CTKT	Corum	2.22	296	*i* P	Pn	09 45 16.1	+0.4
CTKT				*i* S	Sn	09 45 47.1	+4.0
ATAB	Bozova	2.32	163	*i* P	Pn	09 45 17.4	+0.3
ATAB				*i* S	Sg	09 45 53.0	-0.5
GZT	Gaziantep	2.33	177	*i* P	Pn	09 45 17.2	-0.1
GZT				*i* S	Sn	09 45 48.6	+2.6
CDAG	Cicekdag	2.35	269	*i* P	Pn	09 45 16.4	-1.1
CDAG				*i* S	Sn	09 45 49.2	+2.7
CDAG	Cicekdag	2.35	269	*i* P	Pn	09 45 16.4	-1.1
CDAG				*i* S	Sn	09 45 48.6	+2.2
BINT	Bingol	2.52	108	PN	Pn	09 45 21.2	+1.4
BINT	Bingol	2.52	108	Pn	Pn	09 45 21.2	+1.4
GAZ	Gaziantep	2.52	184	PN	Pn	09 45 21.3	+1.5
GAZ	Gaziantep	2.52	184	Pn	Pn	09 45 21.8	+2.0
KOZT	Kozan	2.53	210	PN	Pn	09 45 20.6	+0.6
DIKM	Dikmen	2.56	321	PN	Pn	09 45 20.8	+0.5
BOYT	Boyabat	2.58	313	*i* P	Pn	09 45 20.9	+0.3
BOYT				*i* S	Sg	09 46 01.5	-0.3
BYBT	Boyabat	2.69	312	PN	Pn	09 45 22.4	+0.2
KAMT	Kaman	2.88	265	PN	Pn	09 45 24.8	0.0
KAMT	Kaman	2.88	265	Pn	Pn	09 45 24.9	+0.1
KAMT	Kaman	2.88	265	Pn	Pn	09 45 24.9	+0.1
BR131	Keskin Array S	2.92	272	*e*Pn	Pn	09 45 24.9	-0.3
BR131	Keskin Array S	2.92	272	*e*Pn	Pn	09 45 24.9	-0.4
BRTR	Keskin Array B	2.92	272	Pn	Pn	09 45 24.8	-0.5
	31nm,0.3s,baz=95,slow=14,SNR=465						
BRTR				Lg		09 46 07.3	
	18nm,0.3s,baz=98,slow=23,SNR=6.3						
CEYT	Ceyhan	2.98	207	*e*PN	Pn	09 45 27.0	+0.8
BNGL	BINGOL	2.99	103	*i* P	Pb	09 45 33.5	+1.4
BNGL				*i* S	Sg	09 46 18.1	+3.3
EZM	Erzurum	3.05	85	Pn	Pb	09 45 33.5	+0.4
ERZM	Erzurum	3.05	85	*i* P	Pb	09 45 33.0	-0.1
ERZM				*i* S	Sg	09 46 23.0	+6.2
CANT	Cankiri	3.05	289	*e*PN	Pn	09 45 27.0	-0.1
KARA	Karaisali	3.05	218	*e*PN	Pn	09 45 27.6	+0.4
DRWC	Darouich	3.12	191	⇓P	Pn	09 45 29.0	+0.9
DRWC				⇓S	Sn	09 46 03.3	-2.1
DRWC	Darouich	3.12	191	⇓*i*P	Pn	09 45 29.0	+0.9
DRWC				⇓*i*S	Sn	09 46 03.3	-2.1
ELDT	Eldivan	3.16	286	*i* P	Pn	09 45 28.6	-0.1
ELDT				*i* S	Sn	09 46 11.1	+4.7
COBT	Iskenderun	3.29	197	*i* P	Pn	09 45 31.4	+0.9
COBT				*i* S	Sg	09 46 23.9	-0.8
DRBT	Darb Altahta	3.40	146	⇑P	Pn	09 45 30.0	-1.9
DRBT	Darb Altahta	3.40	146	⇑*i*P	Pn	09 45 30.0	-2.0
BZK	Bozkurt	3.44	312	*e*PN	Pn	09 45 33.3	+0.8
BZK	Bozkurt	3.44	312	Pn	Pn	09 45 33.5	+1.0
SLMH	Al Salmeh	3.49	173	⇑*i*P	Pn	09 45 33.1	-0.1
MARD	Mardin	3.55	131	*i* P	Pn	09 45 33.8	-0.1
MARD				*i* S	Sg	09 46 32.3	-0.5
ANTO	Ankara	3.57	274	*e*PN	Pn	09 45 35.1	+0.9
ANTO	Ankara	3.57	274	⇑*i*P	Pn	09 45 35.0	+0.8
ANTO	Ankara	3.57	274	*e*Pn	Pn	09 45 34.7	+0.4
ANTO				*e*Pg	Pg	09 45 41.9	-5.4
ANTO				*e*S	Sb	09 46 26.5	+1.1
ANTO	Ankara	3.57	274	*e*Pn	Pn	09 45 34.7	+0.5
BALT	Daday	3.58	302	*i* P	Pn	09 45 34.6	+0.2
BALT				*i* S	Sg	09 46 31.0	-2.9
MERS	Mersin	3.62	220	*e*PN	Pn	09 45 36.4	+1.4
KBSD	Kabsdagh	3.64	137	⇑P	Pn	09 45 33.8	-1.4
KBSD	Kabsdagh	3.64	137	⇑*i*P	Pn	09 45 33.8	-1.4
BCA	Borcka	3.65	60	*e*PN	Pn	09 45 36.7	+1.3
BCA	Borcka	3.65	60	Pn	Pn	09 45 37.6	+2.2
HTY	Hatay	3.70	196	*e*PN	Pn	09 45 37.9	+1.8
HTY	Hatay	3.70	196	Pn	Pn	09 45 36.4	+0.3
HTY	Hatay	3.70	196	Pn	Pn	09 45 36.4	+0.3
SAFT	Safranbolu	3.93	295	*e*PN	Pn	09 45 39.3	+0.1
SAFT	Safranbolu	3.93	295	Pn	Pn	09 45 39.3	+0.2
SGKT	Sivrigoynuk	4.20	284	*i* P	Pn	09 45 43.5	+0.6
SGKT				*i* S	Sb	09 46 44.3	+0.6
WRDH	Warideh	4.25	191	⇑P	Pn	09 45 44.4	+0.7
WRDH				⇑S	Sn	09 46 31.2	-2.0
WRDH	Warideh	4.25	191	⇑*i*P	Pn	09 45 44.3	+0.7
WRDH				⇑*i*S	Sn	09 46 31.2	-2.1
KIZT	Kizilcal	4.37	261	*e*PN	Pn	09 45 46.1	+0.8
KIZT	Kizilcal	4.37	261	Pn	Pn	09 45 46.1	+0.8
IKL	Isikli	4.54	222	*e*PN	Pn	09 45 48.6	+1.1
IKL	Isikli	4.54	222	Pn	Pn	09 45 48.7	+1.1
MZRK	Al-Mazaregh	4.63	145	⇑P	Pn	09 45 47.1	-1.7
MZRK	Al-Mazaregh	4.63	145	⇑*i*P	Pn	09 45 47.1	-1.7
BIDA	Albida	4.75	191	⇑P	Pn	09 45 50.7	+0.2
BIDA				⇑S	Sn	09 46 42.5	-3.1
BIDA	Albida	4.75	191	⇑*i*P	Pn	09 45 50.7	+0.2
BIDA				⇑*i*S	Sn	09 46 42.5	-3.1
MDU	Mudurnu	4.82	281	*e*PN	Pn	09 45 52.1	+0.6
MDU	Mudurnu	4.82	281	Pn	Pn	09 45 51.6	+0.1
ESKT	Eskisehir	5.08	270	*i* P	Pn	09 45 53.5	-1.5
ESKT				*i* S	Sn	09 46 55.8	+2.2
SEYT	Eskypehyr	5.08	270	*i* P	Pn	09 45 53.5	-1.5
SEYT				*i* S	Sn	09 46 55.8	+2.2
MSL	Mosul	5.62	125	*e*x	x	09 46 24.5	
MSL				*e*x	x	09 47 43.0	
GNI	Garni	5.65	83	*e*Pg	Pg	09 46 25.8	-1.2
	20nm,0.9s						
CSS	Prodhromos	5.73	216	*e*Pn	Pn	09 46 02.5	-1.5
CSS	Prodhromos	5.73	216	*e*Pn	Pn	09 46 02.5	-1.5
ZEI	Tsey	5.77	56	*e*P	Pn	09 46 08.9	+4.4
ZEI				*e*		09 47 22.2	
ASF	Jabal al Asfar	7.51	183	Lg		09 48 34.6	
	0.7nm,0.3s,baz=238,slow=17,SNR=2.6						
TIRR	Tirgusor	8.22	308	⇓*i*P	Pn	09 46 36.8	-1.3
TIRR	Tirgusor	8.22	308	*e*Pn	Pn	09 46 36.4	-1.7
TIRR	Tirgusor	8.22	308	*e*P	Pn	09 46 36.4	-1.7
CFR	Carcaliu	8.78	312	⇑*i*P	Pn	09 46 44.2	-1.6
MLR	Muntele Rosu	10.25	308	Pn	Pn	09 47 06.8	+0.8
	0.6nm,0.3s,baz=135,slow=12,SNR=3.9						
VRAC	Vranov	17.64	310	LR	LR	09 55 51.7	
	comp=Z,40nm,21.5s,baz=120,slow=38						
AKTK	Aktyubinsk	18.02	47	P	Pn	09 48 50.6	+1.2
AKTO	Aktyubinsk	18.02	47	P	Pn	09 48 50.6	+1.2
	0.1nm,0.3s,baz=178,slow=10.0,SNR=4.5						
GERES	GERESS Array B	19.23	306	P	Pn	09 49 04.6	+0.5
	0.2nm,0.3s,baz=110,slow=12,SNR=6.2						
GERES				LR	LR	09 57 54.6	
	comp=Z,40nm,18.5s,baz=328,slow=41						
FINES	FINESS Array B	22.87	346	P	P	09 49 47.5	+5.1
	1.0nm,0.3s,mb3.7,baz=191,slow=19,SNR=4.3						
JOF	Joensuu	23.55	353	*e*p	P	09 49 48.3	-1.2
HFS	Hagfors	25.28	332	P	P	09 50 07.4	+2.1
	2.9nm,0.7s,mb3.9,baz=138,slow=14,SNR=3.7						
MKAR	Makanchi Array	33.08	63	P	P	09 51 14.8	+0.1
	0.5nm,0.6s,mb3.6,baz=294,slow=9.1,SNR=5.6						
TORD	Torodi Ar. Bea	41.06	240	P	P	09 52 21.4	-1.1
	0.8nm,0.9s,baz=28,slow=7.8,SNR=3.8						

*ISCJB **05** 10:23:35.4±1.5, 61.14N±0.08×30.3E±0.1, h0km, Error ellipse: s-maj=12.6km s-min=7.2km az=108.7*
*NAO **05** 10:23:35.9±2.5, 61.05N×30.13E, ML2.1*
*IDC **05** 10:23:36.4±2.3, 61.02N×30.09E, h0km, mb1 3.4/2, mb1mx3.1/20, mbtmp3.3/2, ML2.7/2, Error ellipse: s-maj=25.4km s-min=12.5km az=172.0*
*HEL **05** 10:23:36.9±0.2, 61.12N×30.28E, h0km, ML1.9, ML2.1(NAO), Explosion*
*BER **05** 10:23:36.9±4.1, 61.10N×30.22E, h0km, ML2.1(NAO), Suspected explosion*
ISC 05 10:23:36.3±1.3**, 61.18N**±0.07×**30.2E**±0.1**, h0**km**, n16, σ0.93**/20**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOF	Joensuu	1.82	16	*e*P	Pn	10 24 10.1	+1.3
JOF				*e*S	Sn	10 24 33.6	+1.0
FIA0	FINESS Array S	2.02	279	*e*P	Pn	10 24 12.7	+1.1
FIA0				*e*S	Sn	10 24 38.7	+1.1
FIA0	FINESS Array S	2.02	279	Pn	Pn	10 24 12.7	+1.1
	baz=111,slow=14						
FIA0				Lg		10 24 38.8	
	baz=95,slow=37						
FINES	FINESS Array B	2.02	279	Pn	Pn	10 24 12.7	+1.0
	0.7nm,0.3s,baz=100,slow=15,SNR=40						
FINES				Lg		10 24 38.9	
	1.7nm,0.3s,baz=99,slow=27,SNR=19						
KAF	Kangasniemi	2.10	298	*e*PB	Pb	10 24 14.7	-0.5
KAF				*e*SB	Sb	10 24 41.9	+0.2
KAF				MSG		10 24 44.1	
	comp=Z,9.3nm,0.1s						
PVF	Pernaja	2.23	255	*e*P	Pn	10 24 14.6	+0.1
PVF				*e*S	Sn	10 24 43.0	+0.3
SUF	Sumiainen	2.47	311	*e*PB	Pb	10 24 20.4	-1.3
SUF				*e*SB	Sb	10 24 52.8	+0.1
KEF	Keuruu	2.74	294	MSG		10 24 59.4	
	comp=Z,2.7nm,0.1s						
HFS	Hagfors	8.19	270	*e*S	Sn	10 27 02.6	-7.1
HFS	Hagfors	8.19	270	Sn	Sn	10 27 02.6	-7.1
	baz=98,slow=28						
ARA0	ARCESS Array S	8.62	349	Pn	Pn	10 25 40.8	-1.5
	baz=164,slow=14						
ARA0	ARCESS Array S	8.62	349	*e*P	Pn	10 25 40.8	-1.5
ARCES	ARCESS Array B	8.62	349	Pn	Pn	10 25 41.6	-0.7
	comp=Z,0.0nm,0.3s,baz=165,slow=14,SNR=6.2						
NB2	NORSAR Subarra	9.21	277	Pn	Pn	10 25 49.4	-0.9
	baz=84,slow=11						
NB2	NORSAR Subarra	9.21	277	*e*P	Pn	10 25 49.4	-0.9
NOA	NORSAR Array B	9.21	277	Pn	Pn	10 25 48.1	-2.2
	comp=Z,0.1nm,0.3s,baz=71,slow=12,SNR=2.6						

JMA 05 10:35:41.7±0.7**, 4549N×14986E, h30**km**, M4.3, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.63	236	P	Pn	10 36 34.9	-1.0
NEM2				*e*S	Sn	10 37 14.6	-3.2
JRA	Rausu	3.72	247	P	Pn	10 36 39.1	+2.1
JNK	Nakash	4.14	244	P	Pn	10 36 44.0	+1.2
JNK				*e*S	Sn	10 37 31.1	+0.9
JAK	Akkeshi	4.47	238	P	Pn	10 36 46.5	-0.9
JTKR	Abashiri--Toko	4.50	252	P	Pn	10 36 49.0	+1.1
JMP	Maruseppu	4.86	255	P	Pn	10 36 55.0	+2.2
JAR	Ashorobuto	4.88	245	P	Pn	10 36 54.7	+1.6
JAR				*e*S	Sn	10 37 50.1	+1.5
JOB	Onbets	5.04	241	P	Pn	10 36 55.8	+0.5
JKK2	Kamakawa 2	5.32	255	P	Pn	10 37 01.2	+2.1
ASAJ	Asahikawa	5.35	258	P	Pn	10 37 02.8	+3.4
JCH	Churui	5.49	241	P	Pn	10 37 00.8	-0.7
JCH				*e*S	Sn	10 37 59.5	-4.1
JFR	Furan	5.71	249	P	Pn	10 37 06.1	+1.7
JBT2	Biratori 2	6.04	246	P	Pn	10 37 09.2	+0.3
JNBK	Urakawa-nobuka	6.05	241	P	Pn	10 37 08.1	-1.1
JNBK				*e*S	Sn	10 38 11.3	-6.1
JNB	Noboribetsu	7.04	248	P	Pn	10 37 22.7	0.0
JNB				*e*S	Sn	10 38 40.6	-1.2
JKB	Kayabe	7.34	244	P	Pn	10 37 26.0	-0.8
JYM2	Yakumo 2	7.65	247	P	Pn	10 37 30.5	-0.5
JTM	Tenmabayashi	7.96	237	P	Pn	10 37 33.9	-1.4

*ISCJB **05** 11:54:10.2±1.1, 60.90N±0.06×29.0E±0.1, h0km, Error ellipse: s-maj=9.5km s-min=5.9km az=112.2*
*HEL **05** 11:54:12.3±0.3, 60.91N×29.03E, h0km, ML2.1, Explosion*
*IDC **05** 11:54:14.0±1.7, 60.96N×28.89E, h0km, mb1 3.3/3, mb1mx3.1/21, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=17.5km s-min=11.7km az=173.0*
ISC 05 11:54:11.8±1.1**, 60.93N**±0.06×**28.93E**±0.10**, h0**km**, n11, σ0.77**/18**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.48	292	*e*P	Pn	11 54 38.7	-0.9
FIA0				*e*S	Sg	11 54 59.6	+0.3
FINES	FINESS Array B	1.48	292	Pg	Pg	11 54 39.0	-1.2
	1.5nm,0.3s,baz=113,slow=16,SNR=39						
FINES				Lg		11 54 59.4	
	3.3nm,0.3s,baz=107,slow=30,SNR=27						
FINES				Rg		11 55 06.8	
	27nm,0.7s,baz=118,slow=30,SNR=26						
PVF	Pernaja	1.56	257	*e*P	Pn	11 54 40.5	-0.3
PVF				*e*S	Sn	11 55 01.7	+0.1
KAF	Kangasniemi	1.73	314	*e*P	Pn	11 54 43.9	+0.8
KAF				*e*S	Sn	11 55 06.0	+0.1
SUF	Sumiainen	2.23	325	*e*PB	Pb	11 54 51.9	-1.0
SUF				*e*SB	Sb	11 55 20.9	-0.2
SUF				MSG		11 55 22.8	
	comp=Z,9.9nm,0.2s						
JOF	Joensuu	2.29	28	*e*P	Pn	11 54 51.1	+0.3
JOF				*e*S	Sn	11 55 18.9	-0.9
JOF				MSG		11 55 22.0	
	comp=Z,6.9nm,0.2s						
KEF	Keuruu	2.31	304	*e*P	Pn	11 54 52.5	+1.4
KEF				*e*SB	Sb	11 55 23.0	-0.3
KEF				MSG		11 55 25.5	
	comp=Z,7.3nm,0.3s						
KJN	Kajaani	3.22	350	*e*P	Pn	11 55 05.2	+1.6
KJN				*e*S	Sn	11 55 43.5	+0.8
KJN				MSG		11 55 51.7	
	comp=Z,5.1nm,0.3s						
HFS	Hagfors	7.56	271	Pn	Pn	11 56 03.3	+0.1
	comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=4.1						
NOA	NORSAR Array B	8.61	278	Pn	Pn	11 56 18.0	+0.3
	comp=Z,0.1nm,0.3s,baz=108,slow=8.0,SNR=2.7						
ARCES	ARCESS Array B	8.76	352	Pn	Pn	11 56 18.9	-0.8
	comp=Z,0.4nm,0.3s,baz=172,slow=12,SNR=19						

*IDC **05** 12:37:57.4±1.3, 3261N×7360E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.8/6, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/41, Error ellipse: s-maj=31.2km s-min=27.7km az=32.0*
*ISCJB **05** 12:37:59.6±0.5, 3277N±005×7343E±004, h10km, mb3.9/5, MS2.9/1, Error ellipse: s-maj=7.2km s-min=4.4km az=67.0*
ISC 05 12:38:00.1±1.0**, 3271N**±004×**7347E**±004**, h5**km±7km**, n22, σ1.53**/30**, mb3.9**/5**, MS2.9**/1**, 1C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	Chirah Chowk	0.96	350	P	Pg	12 38 18.3	-0.2
SARP	Sargodha	1.04	221	P	Pg	12 38 19.7	-0.3
THW	Thamme Wali	1.45	274	⇓P	Pn	12 38 28.2	+1.3
CEP	Cherat	1.71	311	⇑P	Pn	12 38 32.2	+1.7
THN	Thein Dam	1.92	98	*e*P	Pn	12 38 34.1	+0.7
THN				*e*x	Sb	12 39 00.8	+1.0
DLH	Dalhousie	2.12	94	*e*x	Pg	12 38 41.0	+0.3
DLH				*e*x	Sg	12 39 07.0	-1.1
SBDP	Sheikh Budin	2.28	260	P	Pn	12 38 41.2	+2.9
BHK	Bhakra	2.82	116	*e*P	Pn	12 38 50.0	+4.3
BHK				*e*x	Sb	12 39 24.9	-0.8
SDNR	Sundarnagar	3.21	111	*e*P	Pn	12 38 51.1	0.0
SDNR				*e*x	Sn	12 39 32.9	+3.2
SMLA	Simla	3.52	116	*e*P	Pn	12 38 57.5	+2.1
SMLA				*e*x	Sn	12 39 45.7	+8.3
	1μm,0.3s						
KLP	Kalpa	4.23	105	*e*P	Pn	12 39 05.7	+0.6
KLP				*e*x	Sb	12 40 08.4	+2.2
KLP				AML	AML	12 40 11.8	
	comp=E,418nm,0.6s						
KLP				AML	AML	12 40 13.1	
	comp=N,440nm,0.9s						
KHET	Khetri	5.05	156	*e*P	Pn	12 39 12.4	-3.9
KHET				*e*S	Sb	12 40 28.8	-0.9
KHET				AML	AML	12 40 42.9	
	comp=N,27nm,0.5s						
KHET				AML	AML	12 40 48.1	
	comp=E,39nm,0.6s						
KUDL	Kundal	5.25	149	*e*P	Pn	12 39 15.6	-3.5
KUDL				*e*S	Sb	12 40 38.4	+2.8
KUDL				AML	AML	12 40 57.0	
	comp=N,38nm,0.8s						
KUDL				AML	AML	12 40 57.2	
	comp=E,58nm,0.6s						
SONA	Sohna	5.43	144	*e*P	Pn	12 39 19.7	-2.0
SONA				*e*x	Sn	12 40 21.9	-2.6
SONA				AML	AML	12 41 03.4	
	comp=E,58nm,0.6s						
SONA				AML	AML	12 41 06.5	
	comp=N,90nm,0.4s						
LGTI	Lohaghat	6.66	117	*e*x	Pg	12 40 03.5	-4.2
MKAR	Makanchi Array	15.60	23	Pn	Pn	12 41 38.5	-2.0
	comp=N,0.2nm,0.3s,baz=206,slow=13,SNR=3.5						
BVAR	Borovoye Array	20.42	355	LR	LR	12 51 22.3	
	comp=N,53nm,21.2s,MS2.9,baz=314,slow=39						
AKTO	Aktyubinsk	21.07	332	P	P	12 42 44.4	-0.6
	comp=N,5.2nm,0.6s,mb4.0,baz=147,slow=11,SNR=25						
ZAL	Zalesovo	22.70	18	P	P	12 43 01.0	-1.5
	comp=N,2.0nm,0.3s,mb4.0,baz=262,slow=3.7,SNR=3.8						
BRTR	Keskin Array B	32.68	294	P	P	12 44 34.0	+0.8
	comp=N,1.0nm,0.7s,mb3.9,baz=104,slow=10,SNR=5.5						
TORD	Torodi Ar. Bea	67.76	272	P	P	12 48 57.2	-1.4
	comp=N,1.1nm,0.7s,mb4.0,baz=51,slow=5.6,SNR=8.0						
WRA	Warramunga Arr	78.25	123	P	P	12 49 58.7	-2.0
	comp=N,0.6nm,1.0s,mb3.5,baz=325,slow=5.1,SNR=6.8						

ISCJB ***05*** *12:40:06.4±0.6, 5966N±003×2446E±007, h0km, Error ellipse: s-maj=5.2km s-min=4.7km az=144.7*
CSEM ***05*** *12:40:08.3±0.3, 5963N×2444E, h2km, ML2.5, Error ellipse: s-maj=6.9km s-min=5.4km az=20.0, Mining explosion.*
NAO ***05*** *12:40:09.3±1.0, 5972N×2473E, ML2.7*
HEL ***05*** *12:40:09.5±0.1, 5970N×2457E, h0km, ML2.5, ML2.7(NAO), Explosion*
BER ***05*** *12:40:09.9±4.1, 5972N×2467E, h0km, ML2.7(NAO), Suspected explosion*
IDC ***05*** *12:40:10.6±1.0, 5978N×2465E, h0km, mb1 3.5/4, mb1mx3.3/22, mbtmp3.5/4, ML3.8/4, Error ellipse: s-maj=12.1km s-min=6.8km az=131.0*
ISC 05 12:40:08.0±0.6**, 5969N**±003×**2459E**±007**, h0km, n26, σ0s87**/39**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.54**	**350**	eP	**Pg**	**12 40 18.6**	**+0.3**
MEF				eS	**Sg**	**12 40 25.4**	**+0.1**
PVF	**Pernaja**	**1.07**	**36**	eP	**Pg**	**12 40 28.5**	**-0.1**
PVF				eS	**Sg**	**12 40 42.4**	**-0.1**
VSU	**Vasula**	**1.66**	**137**	eP	**Pn**	**12 40 39.1**	**+0.8**
VSU				eS	**Sn**	**12 41 00.6**	**+0.3**
VSU	**Vasula**	**1.66**	**137**	Pn	**Pn**	**12 40 39.1**	**+0.8**
VSU				Lg		12 41 00.6	
FIA0	**FINESS Array S**	**1.91**	**22**	eP	**Pn**	**12 40 43.3**	**+1.5**
FIA0				eS	**Sn**	**12 41 07.7**	**+1.2**
FIA0	**FINESS Array S**	**1.91**	**22**	Pn	**Pn**	**12 40 43.3**	**+1.5**
	baz=190,slow=18						
FIA0				Lg		12 41 07.5	
	baz=184,slow=37						
FINES	**FINESS Array B**	**1.91**	**22**	Pn	**Pn**	**12 40 43.3**	**+1.5**
	9.8nm,0.3s,baz=204,slow=16,SNR=264						
FINES				Lg		12 41 07.8	
	17nm,0.3s,baz=189,slow=28,SNR=26						
RAF	**Rauma**	**1.94**	**315**	eP	**Pn**	**12 40 43.4**	**+1.2**
RAF				eS	**Sn**	**12 41 08.4**	**+1.1**
KEF	**Keuruu**	**2.49**	**3**	ePB	**Pb**	**12 40 52.4**	**-1.3**
KEF				eSB	**Sb**	**12 41 24.6**	**-0.2**
KEF				MSG		12 41 26.8	
	comp=Z,30nm,0.2s						
KAF	**Kangasniemi**	**2.57**	**18**	MSG		12 41 28.5	
	comp=Z,16nm,0.3s						
SUF	**Sumiainen**	**3.13**	**13**	MSG		12 41 42.7	
	comp=Z,9.7nm,0.3s						
HFS	**Hagfors**	**5.50**	**279**	eP	**Pn**	**12 41 32.0**	**+0.9**
HFS				eS	**Sn**	**12 42 35.0**	**-0.1**
HFS	**Hagfors**	**5.50**	**279**	Pn	**Pn**	**12 41 31.6**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=96,slow=15,SNR=31						
HFS				Sn	**Sn**	**12 42 34.2**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=93,slow=26,SNR=6.7						
HFS				Lg		12 42 56.8	
	comp=Z,3.9nm,0.3s,baz=84,slow=30,SNR=7.4						
HFS	**Hagfors**	**5.50**	**279**	Pn	**Pn**	**12 41 32.0**	**+0.9**
	baz=80,slow=12						
HFS				Sn	**Sn**	**12 42 35.0**	**-0.1**
	baz=98,slow=28						
HFS	**Hagfors**	**5.50**	**279**	P	**Pn**	**12 41 32.0**	**+0.8**
HFS				S	**Sn**	**12 42 35.0**	**-0.1**
NB2	**NORSAR Subarra**	**6.77**	**287**	eP	**Pn**	**12 41 47.4**	**-1.2**
NB2				eSG		12 43 37.3	
NB2	**NORSAR Subarra**	**6.77**	**287**	Pn	**Pn**	**12 41 47.4**	**-1.2**
	baz=96,slow=14						
NB2				Lg		12 43 37.3	
	baz=90,slow=28						
NOA	**NORSAR Array B**	**6.77**	**287**	Pn	**Pn**	**12 41 47.4**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=84,slow=14,SNR=4.4						
NOA				Sn	**Sn**	**12 43 06.4**	**0.0**
	comp=Z,1.5nm,0.3s,baz=81,slow=9.4,SNR=4.8						
NOA				Lg		12 43 36.7	
	comp=Z,2.1nm,0.3s,baz=125,slow=21,SNR=5.4						
APA0	**Apatity Array**	**8.77**	**22**	Pn	**Pn**	**12 42 15.2**	**-0.8**
	baz=219,slow=11						
APA0	**Apatity Array**	**8.77**	**22**	eP	**Pn**	**12 42 15.2**	**-0.8**
APA0	**Apatity Array**	**8.77**	**22**	Pn	**Pn**	**12 42 15.2**	**-0.9**
	SNR=7.3						
AKASG	**Malin Array Be**	**9.39**	**162**	Pn	**Pn**	**12 42 23.8**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=340,slow=13,SNR=4.4						
ARA0	**ARCESS Array S**	**9.89**	**2**	Pn	**Pn**	**12 42 30.2**	**-1.3**
	baz=176,slow=16						
ARA0				Sn	**Sn**	**12 44 16.2**	**-7.0**
	baz=183,slow=28						
ARA0				Lg		12 45 14.5	
	baz=169,slow=37						
ARA0	**ARCESS Array S**	**9.89**	**2**	eP	**Pn**	**12 42 30.2**	**-1.3**
ARA0				eS	**Sn**	**12 44 16.2**	**-7.0**
ARA0				eSG		12 45 14.5	
ARA0	**ARCESS Array S**	**9.89**	**2**	Pn	**Pn**	**12 42 30.2**	**-1.3**
	SNR=132						
ARA0				Sn	**Sn**	**12 44 16.2**	**-7.1**
	SNR=5.4						
ARCES	**ARCESS Array B**	**9.89**	**2**	Pn	**Pn**	**12 42 30.3**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=179,slow=11,SNR=62						
ARCES				Sn	**Sn**	**12 44 17.4**	**-5.9**
	comp=Z,0.4nm,0.3s,baz=182,slow=24,SNR=3.9						

ISCJB ***05*** *12:54:51.7±0.6, 5972N±004×2442E±008, h0km, Error ellipse: s-maj=5.6km s-min=5.4km az=97.1*
IDC ***05*** *12:54:54.2±2.1, 5974N×2477E, h0km, mb1 3.5/3, mb1mx3.2/21, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=24.4km s-min=7.2km az=141.0*
NAO ***05*** *12:54:54.1±1.0, 5974N×2470E, ML2.4*
HEL ***05*** *12:54:54.4±0.1, 5973N×2456E, h0km, ML2.4, ML2.4(NAO), Explosion*
BER ***05*** *12:54:55.5±2.6, 5973N×2463E, h0km, ML2.4(NAO), Suspected explosion*
ISC 05 12:54:53.1±0.6**, 5974N**±004×**2453E**±007**, h0km, n22, σ1s12**/32**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.48**	**352**	eP	**Pg**	**12 55 03.0**	**+0.6**
MEF				eS	**Sg**	**12 55 09.4**	**+0.7**
PVF	**Pernaja**	**1.05**	**39**	eP	**Pg**	**12 55 12.9**	**-0.3**
PVF				eS	**Sg**	**12 55 26.6**	**-0.2**
VSU	**Vasula**	**1.71**	**137**	eP	**Pn**	**12 55 24.7**	**+0.5**
VSU				eS	**Sn**	**12 55 46.1**	**-0.6**
VSU	**Vasula**	**1.71**	**137**	Pn	**Pn**	**12 55 24.8**	**+0.6**
VSU				Lg		12 55 46.3	
FIA0	**FINESS Array S**	**1.87**	**23**	eP	**Pn**	**12 55 27.8**	**+1.3**
FIA0				eS	**Sn**	**12 55 51.4**	**+0.6**
FIA0	**FINESS Array S**	**1.87**	**23**	Pn	**Pn**	**12 55 27.9**	**+1.4**
	baz=200,slow=16						
FIA0				Lg		12 55 51.6	
	baz=199,slow=37						
FINES	**FINESS Array B**	**1.87**	**23**	Pn	**Pn**	**12 55 27.8**	**+1.3**
	12nm,0.3s,baz=198,slow=16,SNR=217						
FINES				Lg		12 55 51.2	
	14nm,0.3s,baz=192,slow=31,SNR=31						
RAF	**Rauma**	**1.89**	**314**	eP	**Pn**	**12 55 28.1**	**+1.6**
RAF				eS	**Sn**	**12 55 53.0**	**+2.0**
KEF	**Keuruu**	**2.44**	**4**	ePB	**Pb**	**12 55 36.9**	**-1.1**
KEF				eSG	**Sg**	**12 56 09.2**	**-2.4**
KEF				MSG		12 56 11.7	
	comp=Z,18nm,0.2s						
KAF	**Kangasniemi**	**2.54**	**19**	MSG		12 56 12.9	
	comp=Z,18nm,0.2s						
SUF	**Sumiainen**	**3.09**	**14**	MSG		12 56 31.2	
	comp=Z,7.8nm,0.2s						
HFS	**Hagfors**	**5.46**	**279**	eP	**Pn**	**12 56 16.3**	**+0.5**
HFS				eS	**Sn**	**12 57 18.7**	**-0.7**
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**12 56 16.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=104,slow=13,SNR=19						
HFS				Sn	**Sn**	**12 57 18.5**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=91,slow=29,SNR=11						
HFS				Lg		12 57 41.5	
	comp=Z,2.1nm,0.3s,baz=101,slow=30,SNR=7.3						
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**12 56 16.3**	**+0.5**
	baz=102,slow=12						
HFS				Sn	**Sn**	**12 57 18.7**	**-0.7**
	baz=88,slow=28						
NB2	**NORSAR Subarra**	**6.73**	**287**	Pn	**Pn**	**12 56 33.3**	**+0.1**
	baz=93,slow=14						
NB2				Sn	**Sn**	**12 57 48.3**	**-2.2**
	baz=95,slow=22						
NB2				Lg		12 58 23.2	
	baz=96,slow=37						
NB2	**NORSAR Subarra**	**6.73**	**287**	eP	**Pn**	**12 56 33.3**	**+0.1**
NB2				eS	**Sn**	**12 57 48.3**	**-2.2**
NB2				eSG		12 58 23.2	
NOA	**NORSAR Array B**	**6.73**	**287**	Pn	**Pn**	**12 56 33.0**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=96,slow=13,SNR=3.1						
NOA				Sn	**Sn**	**12 57 48.6**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=125,slow=22,SNR=3.0						
NOA				Lg		12 58 19.4	
	comp=Z,1.4nm,0.3s,baz=42,slow=8.7,SNR=4.8						
APA0	**Apatity Array**	**8.74**	**22**	Pn	**Pn**	**12 57 01.7**	**+1.0**
	baz=216,slow=12						
APA0	**Apatity Array**	**8.74**	**22**	eP	**Pn**	**12 57 01.7**	**+1.0**
ARA0	**ARCESS Array S**	**9.85**	**2**	Pn	**Pn**	**12 57 14.8**	**-1.2**
	baz=175,slow=16						
ARA0	**ARCESS Array S**	**9.85**	**2**	eP	**Pn**	**12 57 14.8**	**-1.2**
ARCES	**ARCESS Array B**	**9.85**	**2**	Pn	**Pn**	**12 57 14.9**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=183,slow=14,SNR=37						

ISCJB ***05*** *13:03:13.2±0.6, 2629S±003×6846W±007, h92km±11km, mb3.9/6, Error ellipse: s-maj=11.0km s-min=5.3km az=175.7*
IDC ***05*** *13:03:14.7±2.2, 2625S×6843W, h87km±19km, mb3.7/5, mb1 3.9/10, mb1mx3.7/20, mbtmp4.1/10, Error ellipse: s-maj=27.4km s-min=17.8km az=98.0*
NEIC ***05*** *13:03:14.7±0.6, 2625S×6846W, h95km±14km, MD4.4(GUC), Error ellipse: s-maj=13.7km s-min=8.2km az=106.0*
GUC ***05*** *13:03:16.9±0.6, 2626S×6898W, h140km, MD4.4, ML4.7*
ISC 05 13:03:14.5±0.5**, 2629S**±003×**6849W**±007**, h87km**±10km**, n27, σ1s15**/37**, mb3.9**/6**, 2C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.98**	**237**⇓	iP	**Pn**	**13 03 46.0**	**-0.3**
CPCH				iS	**Sn**	**13 04 09.6**	**-0.9**
CPCH				AML	AML	13 04 13.8	
	comp=N,10µm,0.1s						
CPCH	**Copiapo**	**1.98**	**237**⇓	iP	**Pn**	**13 03 46.0**	**-0.3**
CPCH				iS	**Sn**	**13 04 09.6**	**-0.9**
CDCH	**Caldera**	**2.23**	**249**	eP	**Pn**	**13 03 49.7**	**0.0**
CDCH				iS	**Sn**	**13 04 14.9**	**-1.7**
CDCH				AML	AML	13 04 22.1	
	comp=E,964nm,0.5s						
CDCH	**Caldera**	**2.23**	**249**	eP	**Pn**	**13 03 49.7**	**0.0**
CDCH				iS	**Sn**	**13 04 14.9**	**-1.7**
CPN1	**Cerro Paranal**	**2.39**	**313**	eP	**Pn**	**13 03 53.5**	**+1.7**
CPN1				iS	**Sn**	**13 04 21.3**	**+0.9**
CPN1				AML	AML	13 04 28.2	
	comp=E,9µm,0.6s						
VACH	**Vallenar**	**3.04**	**221**	eP	**Pn**	**13 04 03.9**	**+3.3**
VACH				iS	**Sn**	**13 04 37.9**	**+1.8**
VACH				AML	AML	13 04 42.8	
	comp=N,3µm,0.5s						
VACH				AML	AML	13 04 47.6	
	comp=E,3µm,0.2s						
VACH	**Vallenar**	**3.04**	**221**	eP	**Pn**	**13 04 03.9**	**+3.3**
VACH				iS	**Sn**	**13 04 37.9**	**+1.8**
ANCH	**Antofagasta**	**3.12**	**326**⇑	iP	**Pn**	**13 04 02.9**	**+1.2**
ANCH				iS	**Sn**	**13 04 37.5**	**-0.5**
ANCH				AML	AML	13 04 44.6	
	comp=E,1µm,0.3s						
ANCH	**Antofagasta**	**3.12**	**326**⇑	iP	**Pn**	**13 04 02.9**	**+1.2**
ANCH				iS	**Sn**	**13 04 37.5**	**-0.5**
CEN1	**Los Morros**	**3.28**	**331**⇓	iP	**Pn**	**13 04 03.9**	**+0.3**
CEN1				iS	**Sn**	**13 04 39.1**	**-2.5**
CEN1				AML	AML	13 04 46.3	
	comp=E,1µm,0.6s						
TLL	**Tololo Astrono**	**4.37**	**207**	eP	**Pn**	**13 04 19.4**	**+0.8**
CFAA	**Coronel Fontan**	**5.30**	**178**	P	**Pn**	**13 04 33.1**	**+1.9**
	comp=E,7.6nm,0.3s,baz=355,slow=14,SNR=408						
CFAA				S	**Sn**	**13 05 29.8**	**-1.2**
	comp=E,4.1nm,0.3s,baz=254,slow=18,SNR=8.1						
CHNG	**Los Chungos**	**6.17**	**205**	eP	**Pn**	**13 04 40.9**	**-2.0**
FCH	**Farellones**	**7.19**	**192**	eP	**Pn**	**13 04 57.2**	**+0.3**
LPAZ	**La Paz**	**9.96**	**2**	P	**Pn**	**13 05 35.0**	**+0.4**
	comp=E,2.7nm,0.3s,baz=195,slow=8.2,SNR=64						
CPUP	**Villa Florida**	**10.01**	**93**	P	**Pn**	**13 05 35.9**	**+0.5**
	comp=E,0.7nm,0.3s,baz=261,slow=14,SNR=4.9						
SIV	**San Ignacio**	**12.36**	**35**	P	**Pn**	**13 06 05.5**	**-1.7**
	comp=E,0.8nm,0.3s,baz=244,slow=11,SNR=16						
TRQA	**Tornquist**	**12.96**	**156**	ePn	**Pn**	**13 06 15.1**	**-0.1**
	comp=E,7.0nm,0.6s						
PLCA	**Paso Flores**	**14.51**	**186**	P	**Pn**	**13 06 35.0**	**-0.4**
	comp=E,0.3nm,0.3s,baz=14,slow=12,SNR=7.5						
BDFB	**Brasilia**	**21.83**	**65**	P	**P**	**13 07 58.4**	**-1.2**
	comp=E,3.8nm,0.4s,mb4.1,baz=222,slow=7.8,SNR=4.8						
SNAA	**Sanae**	**57.66**	**160**	P	**P**	**13 12 55.1**	**-0.6**
	comp=E,0.4nm,0.7s,mb3.5,baz=279,slow=9.4,SNR=18						
DBIC	**Dimbokro**	**69.80**	**71**	P	**P**	**13 14 16.3**	**+0.8**
	comp=E,2.0nm,0.3s,mb4.4,baz=246,slow=2.0,SNR=11						
DBIC	**Dimbokro**	**69.80**	**71**	P	**P**	**13 14 16.3**	**+0.8**
PDAR	**Pinedale Array**	**78.44**	**330**	P	**P**	**13 15 06.0**	**+0.3**
	comp=E,0.2nm,0.5s,mb3.1,baz=125,slow=7.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**78.64**	**69**	P	**P**	**13 15 07.4**	**+0.5**
	comp=E,2.7nm,0.6s,mb4.3,baz=265,slow=5.4,SNR=22						
BOSA	**Boshof**	**80.89**	**117**	P	**P**	**13 15 24.9**	**+5.9**
	comp=E,0.7nm,0.5s,mb3.8,baz=196,slow=4.3,SNR=4.5						
MKAR	**Makanchi Array**	**149.13**	**41**	PKPbc	PKPbc	13 22 52.5	-0.1
	comp=E,0.6nm,0.6s,baz=276,slow=3.3,SNR=6.5						

CASC ***05*** *13:24:54.3±2.2, 1509N×9179W, h194km±6km, MD4.3, mb4.5(NEIC)*
ISCJB ***05*** *13:24:56.3±0.3, 1514N±003×9182W±003, h176km±3km, mb4.2/16, Error ellipse: s-maj=6.7km s-min=3.6km az=76.4*
NEIC ***05*** *13:24:57.3±0.5, 1502N×9171W, mb4.5/10, MD4.5(MEX), Error ellipse: s-maj=10.0km s-min=7.0km az=206.0*
IDC ***05*** *13:24:59.0±0.9, 1525N×9125W, h174km±7km, mb3.8/11, mb1 4.0/12, mb1mx3.8/21, mbtmp4.4/12, MS3.2/2, Ms1 3.2/2, ms1mx2.4/32, Error ellipse: s-maj=24.7km s-min=11.2km az=62.0*
MEX ***05*** *13:24:59.9±1.2, 1531N×9200W, h183km±13km, MD4.6*
ISC 05 13:24:57.2±0.3**, 1512N**±003×**9183W**±003**, h169km**±3km**, h174km**±2.8km**: pP-P, n81, σ1s22**/93**, mb4.2**/16**, 8C-8D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**0.82**	**167**⇓	eP	**Pn**	**13 25 23.1**	**+0.6**
FUG	**Fuego 3**	**1.17**	**125**⇓	eP	**Pn**	**13 25 25.1**	**-0.1**
CCIG	**Comitan**	**1.19**	**346**	iP	**Pn**	**13 25 25.9**	**+0.5**
CCIG				iS	**Sn**	**13 25 47.3**	**+0.3**
SCX	**San Cristobal**	**1.78**	**334**	iP	**Pn**	**13 25 32.0**	**+0.9**
SCX				iS	**Sn**	**13 25 57.0**	**-0.3**
MTO2	**Montecristo 2**	**2.49**	**106**⇓	eP	x	13 25 43.7	
MTO2				eS	x	13 26 17.9	
CMIG	**Matias Romero**	**3.53**	**304**	P	**Pn**	**13 25 52.6**	**+0.7**
	77nm,0.3s,baz=107,slow=8.6,SNR=360						
CMIG				S	**Sn**	**13 26 32.2**	**-2.4**
	73nm,0.3s,baz=101,slow=11,SNR=18						
CMIG	**Matias Romero**	**3.53**	**304**	iP	**Pn**	**13 25 52.5**	**+0.6**
CMIG				iS	**Sn**	**13 26 30.6**	**-3.9**
CMIG	**Matias Romero**	**3.53**	**304**	iP	**Pn**	**13 25 52.5**	**+0.6**
CMIG				P		13 25 52.6	
CMIG				iS	**Sn**	**13 26 30.6**	**-3.9**
CMIG				S	**Sn**	**13 26 32.2**	**-2.4**
SCIG	**Sabancuy, Camp**	**3.87**	**9**	iP	**Pn**	**13 25 55.8**	**-0.6**
SCIG				iS	**Sn**	**13 26 39.9**	**-2.5**
HUIG	**Huatulco**	**4.18**	**279**⇑	iP	**Pn**	**13 26 00.2**	**0.0**
HUIG				iS	**Sn**	**13 26 44.7**	**-4.6**
OXX	**Oaxaca**	**5.09**	**293**	iP	**Pn**	**13 26 15.0**	**+2.9**
OXX				iS	**Sn**	**13 27 10.0**	**-0.8**
VHO	**Vista Hermosa**	**5.10**	**293**	iP	**Pn**	**13 26 13.6**	**+1.4**
VHO				iS	**Sn**	**13 27 06.5**	**-4.4**
LEON	**Leon**	**5.50**	**119**	eP	**Pn**	**13 26 17.7**	**+0.3**
CNGN	**Cerro Negro**	**5.62**	**117**	eP	**Pn**	**13 26 19.0**	**-0.1**
MIRN	**Miramar**	**5.64**	**118**	eP	**Pn**	**13 26 20.5**	**+1.1**
MOMJ	**Momotombo**	**5.80**	**117**⇑	eP	**Pn**	**13 26 23.1**	**+1.6**
COPN	**Copaltepe**	**5.87**	**119**⇑	eP	**Pn**	**13 26 22.7**	**+0.4**
APYN	**Apoyeque**	**6.05**	**118**	eP	**Pn**	**13 26 24.1**	**-0.6**
TEIG	**Tepich**	**6.10**	**33**	ePn	**Pn**	**13 26 23.6**	**-1.8**
	130nm,0.3s						
TEIG				eSn	**Sn**	**13 27 33.6**	**-1.0**
PNIG	**Pinotepa**	**6.19**	**283**	iP	**Pn**	**13 26 27.2**	**+0.6**
PNIG				iS	**Sn**	**13 27 32.0**	**-4.9**
TPIG	**Tehuac#an**	**6.23**	**303**	iP	**Pn**	**13 26 27.3**	**+0.2**
TPIG				iS	**Sn**	**13 27 32.0**	**-5.7**
TICN	**Ticuantepe**	**6.25**	**119**	eP	**Pn**	**13 26 28.5**	**+1.1**
UTMO	**Huajuapan**	**6.33**	**296**	eP	**Pn**	**13 26 30.4**	**+2.0**
UTMO				iS	**Sn**	**13 27 38.3**	**-1.9**
SSNN	**San Juan del S**	**6.96**	**122**	eP	**Pn**	**13 26 37.1**	**+0.4**
PPM	**Popocatepetl**	**7.59**	**302**	eP	**Pn**	**13 26 45.0**	**-0.1**
PPM				iS	**Sn**	**13 28 06.1**	**-4.0**
PPM	**Popocatepetl**	**7.59**	**302**	iP	**Pn**	**13 26 50.0**	**+4.9**
PPM				iS	**Sn**	**13 28 09.6**	**-0.6**
RIN3	**Volcan Rincon**	**7.62**	**124**	eP	**Pn**	**13 26 45.4**	**0.0**
VCR	**Vista de Mar**	**7.82**	**129**⇑	eP	**Pn**	**13 26 48.0**	**-0.2**
ACX	**Acapulco**	**7.97**	**284**	iP	**Pn**	**13 26 52.0**	**+1.9**
MEIG	**Mezcala**	**7.97**	**292**	iP	**Pn**	**13 26 48.9**	**-1.3**
MEIG				eS	**Sn**	**13 28 14.6**	**-4.7**
PLIG	**Platanillo**	**8.04**	**295**	iP	**Pn**	**13 26 50.9**	**-0.1**
PLIG	**Platanillo**	**8.04**	**295**⇑	iP	**Pn**	**13 26 55.0**	**+4.0**
IIZ	**Mezontepec**	**8.16**	**301**	eP	**Pn**	**13 26 50.8**	**-1.8**
UNM	**Universidad Na**	**8.17**	**302**	eP	**Pn**	**13 26 47.5**	**-5.3**
JTS	**JuntasAbangare**	**8.25**	**125**	P	**Pn**	**13 26 52.4**	**-1.4**
	12nm,0.3s,baz=325,slow=18,SNR=14						
JTS				S	**Sn**	**13 28 16.0**	**-10**
	2.7nm,0.3s,baz=270,slow=20,SNR=2.3						
JTS	**JuntasAbangare**	**8.25**	**125**	P	**Pn**	**13 26 52.4**	**-1.4**
JTS				S	**Sn**	**13 28 16.0**	**-10**
CAIG	**El Cayaco**	**8.33**	**284**	iP	**Pn**	**13 26 53.2**	**-1.7**
CAIG	**El Cayaco**	**8.33**	**284**	iP	**Pn**	**13 26 57.6**	**+2.7**
JCR	**Jicaral**	**8.39**	**128**⇑	eP	**Pn**	**13 26 55.5**	**-0.2**
CAO	**Cobano**	**8.49**	**129**⇓	eP	**Pn**	**13 26 56.2**	**-0.8**
EPA	**Esparza**	**8.71**	**125**⇑	eP	**Pn**	**13 27 00.4**	**+0.5**
CGA2	**Cerro Gallo 2**	**8.80**	**124**	eP	**Pn**	**13 27 01.3**	**+0.2**
POA2	**Poas 2**	**8.88**	**123**	eP	**Pn**	**13 27 02.3**	**+0.2**
PRS1	**Puriscal**	**8.94**	**124**⇓	eP	**Pn**	**13 27 03.4**	**+0.5**
LAJ	**Bijagual**	**9.16**	**124**⇓	eP	**Pn**	**13 27 02.0**	**-3.8**
IRZ2	**Volcan Irazu 2**	**9.28**	**123**⇓	eP	**Pn**	**13 27 06.6**	**-0.9**
LCR2	**La Lucha 2**	**9.33**	**124**⇑	eP	**Pn**	**13 27 07.5**	**-0.5**
BUS	**Buena Vista**	**9.63**	**124**⇓	eP	**Pn**	**13 27 12.0**	**0.0**
DWPF	**Disney**	**16.13**	**35**	P	**Pn**	**13 28 36.3**	**+1.8**
	28nm,0.8s						
LRAL	**Lakeview Retre**	**18.37**	**13**	eP	**P**	**13 29 01.1**	**+2.0**
	9.8nm,0.4s						
MIAR	**Mount Ida**	**19.41**	**356**	eP	**P**	**13 29 11.6**	**+1.3**
	16nm,1.0s						
UALR	**University of**	**19.58**	**359**	eP	**P**	**13 29 13.8**	**+1.6**
	21nm,1.0s						
SDDR	**Presa de Saban**	**20.01**	**76**	eP	**P**	**13 29 17.8**	**+1.0**
MNTX	**Cornudas Mount**	**20.63**	**325**	eP	**P**	**13 29 26.1**	**+2.7**
	2.9nm,0.9s						
SWET	**Sewanee**	**20.70**	**14**	eP	**P**	**13 29 25.2**	**+1.0**
MYNC	**Murphy**	**21.04**	**18**	eP	**P**	**13 29 28.5**	**+0.7**
	18nm,0.6s,mb4.6						
CPCT	**Cooper Cave**	**21.28**	**17**	eP	**P**	**13 29 30.4**	**0.0**
SDV	**Santo Domingo**	**21.63**	**104**	P	**P**	**13 29 31.5**	**-2.6**
	19nm,0.7s,mb4.7,baz=275,slow=5.5,SNR=6.0						
BLA	**Blacksburg**	**24.23**	**23**	eP	**P**	**13 29 59.0**	**+0.6**
	3.0nm,1.5s,mb3.6						
SSPA	**Standing Stone**	**28.17**	**23**	eP	**P**	**13 30 34.0**	**+0.2**
	14nm,1.3s,mb4.5						
BINY	**Binghamton**	**30.25**	**24**	eP	**P**	**13 30 52.6**	**+0.5**
	8.5nm,0.8s,mb4.5						
SADO	**Sadowa**	**31.45**	**17**	P	**P**	**13 31 02.1**	**-0.6**
	6.8nm,0.6s,mb4.5,baz=208,slow=9.9,SNR=7.1						
SADO				pP	pP	13 31 39.0	+1.1
	4.1nm,0.8s,baz=241,slow=8.1,SNR=2.4						
PDAR	**Pinedale Array**	**31.48**	**335**	pP	pP	13 31 41.1	+3.0
	0.4nm,0.8s,baz=143,slow=15,SNR=3.2						
PDAR				ScP	ScP	13 37 20.3	+1.3
	0.4nm,0.8s,baz=144,slow=3.5,SNR=3.8						
NVAR	**Mina Array Bea**	**32.92**	**320**	P	**P**	**13 31 20.2**	**+4.8**
	0.6nm,0.6s,mb3.5,baz=134,slow=8.1,SNR=7.3						
NVAR				pP	pP	13 31 56.1	+5.2
	4.0nm,0.9s,baz=134,slow=8.4,SNR=12						
NVAR				ScP	ScP	13 37 26.4	+2.5
	1.0nm,0.7s,baz=119,slow=4.9,SNR=12						
NVAR	**Mina Array Bea**	**32.92**	**320**	P	**P**	**13 31 20.2**	**+4.8**
NVAR				pP	pP	13 31 56.1	+5.2
NVAR				ScP	ScP	13 37 26.4	+2.5
ULM	**Lac du Bonnet**	**35.19**	**355**	LR	LR	13 50 41.1	
	comp=Z,35nm,19.0s,baz=336,slow=44						
SAML	**Samuel**	**37.12**	**128**	eP	**P**	**13 31 49.0**	**-2.4**
	13nm,1.4s,mb4.4						
LPAZ	**La Paz**	**39.01**	**142**	P	**P**	**13 32 08.1**	**+0.8**
	3.0nm,0.6s,mb4.1,baz=326,slow=7.1,SNR=20						
LPAZ				ScP	ScP	13 37 48.8	+2.5
	0.9nm,0.7s,baz=354,slow=9.2,SNR=4.8						
LPAZ				LR	LR	13 48 41.2	
	comp=Z,35nm,18.4s,baz=346,slow=37						
SIV	**San Ignacio**	**43.34**	**134**	P	**P**	**13 32 41.5**	**-1.0**
	11nm,0.7s,mb4.6,baz=312,slow=10,SNR=47						
SCHQ	**Schefferville**	**44.12**	**21**	P	**P**	**13 32 46.5**	**-2.3**
	3.1nm,0.8s,mb4.0,baz=227,slow=16,SNR=3.2						
SCHQ				pP	pP	13 33 25.3	-0.5
	4.8nm,0.8s,baz=198,slow=7.8,SNR=3.8						
SCHQ	**Schefferville**	**44.12**	**21**	P	**P**	**13 32 46.5**	**-2.3**
SCHQ				pP	pP	13 33 25.3	-0.5
YKA	**Yellowknife Ar**	**49.98**	**346**	P	**P**	**13 33 34.8**	**+0.7**
	1.3nm,0.6s,mb3.7,baz=145,slow=7.6,SNR=4.3						
YKA				pP	pP	13 34 12.8	+0.8
	2.3nm,0.7s,baz=150,slow=7.5,SNR=4.6						
YKA	**Yellowknife Ar**	**49.98**	**346**	P	**P**	**13 33 34.8**	**+0.7**
YKA				pP	pP	13 34 12.8	+0.8
BDFB	**Brasilia**	**52.99**	**123**	P	**P**	**13 33 54.5**	**-2.0**
	2.3nm,0.6s,mb4.1,baz=254,slow=7.4,SNR=3.0						
CPUP	**Villa Florida**	**53.13**	**141**	P	**P**	**13 33 55.1**	**-2.4**
	3.2nm,0.8s,mb4.1,baz=297,slow=8.7,SNR=5.6						
PLCA	**Paso Flores**	**58.97**	**161**	P	**P**	**13 34 40.4**	**+1.4**
	0.8nm,0.5s,mb3.8,baz=317,slow=11,SNR=3.8						
EKA	**Eskdalemuir Ar**	**76.97**	**36**	P	**P**	**13 36 29.6**	**-1.6**
	1.6nm,0.6s,mb3.8,baz=283,slow=5.6,SNR=5.8						
ARCES	**ARCESS Array B**	**85.03**	**18**	pP	pP	13 37 56.2	+0.6
	1.8nm,1.0s,baz=278,slow=6.1,SNR=4.1						
GERES	**GERESS Array B**	**88.64**	**40**	pP	pP	13 38 13.2	-0.1
	0.3nm,0.3s,baz=308,slow=7.2,SNR=4.4						
MAW	**Mawson**	**125.03**	**168**	PKP	PKPdf	13 43 37.1	-0.3
	0.8nm,0.7s,baz=246,slow=4.6,SNR=4.1						
WRA	**Warramunga Arr**	**135.82**	**257**	PKP	PKPdf	13 44 00.4	+2.7
	0.4nm,0.6s,baz=84,slow=2.0,SNR=8.0						

FUNV 05 13:37:01.0, 759N×7316W, h152km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.88**	**72**	eP	Pn	13 37 24.0	-1.0
CAPV				eS	Sn	13 37 42.3	-1.0
VIGV	**El Vigia**	**2.17**	**55**	eP	Pn	13 37 38.1	0.0
VIGV				eS	Sn	13 38 04.1	-2.6
SOCV	**Socops**	**2.38**	**73**	eP	Pn	13 37 40.0	-0.7
SOCV				eS	Sn	13 38 08.4	-2.9
VIRV	**Villa del Rosa**	**2.98**	**14**	eP	Pn	13 37 47.3	-0.9
VIRV				eS	Sn	13 38 20.8	-4.0
ELOV	**Elorza**	**3.69**	**99**	eP	Pn	13 37 55.8	-1.5
ELOV				eS	Sn	13 38 36.8	-4.2
CURV	**Curarigua**	**3.97**	**53**	eP	Pn	13 38 00.5	-0.3
BAUV	**El Baul**	**5.24**	**75**	eP	Pn	13 38 14.8	-2.8
BAUV				eS	Sn	13 39 11.1	-6.2

ISCJB ***05*** *13:59:16.5±1.2, 685S±007×1268E±0.1, h406km±14km, mb3.8/5, Error ellipse: s-maj=23.1km s-min=9.6km az=145.8*
NEIC ***05*** *13:59:18.9±1.6, 685S×12692E, h419km±24km, mb4.2/5, Error ellipse: s-maj=22.5km s-min=14.5km az=91.0*
IDC ***05*** *13:59:20.2±2.7, 693S×12697E, h437km±35km, mb3.4/5, mb1 3.5/8, mb1mx3.3/15, mbtmp4.3/8, Error ellipse: s-maj=33.2km s-min=12.4km az=74.0*
ISC 05 13:59:20.2±1.0**, 696S**±008×**1270E**±02**, h436km**±12km**, n16, σ0s98**/23**, mb3.8**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.83**	**137**	eP	**P**	**14 01 13.9**	**+0.3**
	6.7nm,0.4s						
KNA	**Kununurra**	**8.91**	**169**	eP	**P**	**14 01 26.0**	**+0.7**
	8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.16**	**187**	eP	**P**	**14 01 49.4**	**-0.6**
	4.1nm,0.7s						
FITZ				eS	**S**	**14 03 50.0**	**-3.5**
FITZ	**Fitzroy Crossi**	**11.16**	**187**	P	**P**	**14 01 49.9**	**-0.1**
	0.4nm,0.3s,baz=21,slow=9.4,SNR=21						
FITZ				S	**S**	**14 03 50.7**	**-2.8**
	0.2nm,0.3s,baz=135,slow=12,SNR=4.1						
WRAB	**Tennant Creek**	**14.74**	**152**	eP	**P**	**14 02 29.4**	**+0.5**
	8.7nm,0.7s						
WRA	**Warramunga Arr**	**14.74**	**152**	P	**P**	**14 02 29.2**	**+0.4**
	1.3nm,0.3s,baz=324,slow=11,SNR=86						
WRA				S	**S**	**14 05 03.1**	**-1.7**
	0.4nm,0.3s,baz=327,slow=17,SNR=7.8						
WB2	**Warramunga Arr**	**14.75**	**152**	eP	**P**	**14 02 28.7**	**-0.2**
WB2				eS	**S**	**14 05 02.7**	**-2.2**

AS31	**Alice Springs**	**17.89**	**159**	*e*P	**P**	**14 03 02.9**	**+0.7**
AS31				*e*S	**S**	**14 06 06.0**	**+0.7**
ASAR	**Alice Springs**	**17.89**	**159**	P	**P**	**14 03 02.8**	**+0.6**
	2.6nm,0.3s,baz=328,slow=8.8,SNR=107						
ASAR				S	**S**	**14 06 05.3**	**-0.1**
	0.2nm,0.3s,baz=344,slow=25,SNR=7.1						
ASPA	**Alice Springs**	**17.89**	**159**	*e*P	**P**	**14 03 02.9**	**+0.7**
ASPA				*e*S	**S**	**14 06 06.0**	**+0.6**
NWAO	**Narrogin (SRO)**	**27.39**	**198**	P	**P**	**14 04 28.8**	**+0.1**
	6.5nm,1.0s,mb4.0,baz=354,slow=13,SNR=4.0						
STKA	**Stephens Creek**	**28.29**	**153**	*e*P	**P**	**14 04 38.1**	**+1.6**
	2.8nm,0.5s,mb3.9						
STKA				*e*		14 05 52.4	
STKA	**Stephens Creek**	**28.29**	**153**	P	**P**	**14 04 38.4**	**+1.9**
	4.1nm,0.6s,mb4.0,baz=322,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**44.52**	**13**	P	**P**	**14 06 50.0**	**-1.4**
	2.5nm,0.9s,mb3.6,baz=180,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**66.59**	**328**	P	**P**	**14 09 25.8**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=116,slow=7.2,SNR=8.5						
ZAL	**Zalesovo**	**70.26**	**335**	P	**P**	**14 09 47.6**	**-0.5**
	1.4nm,0.5s,mb3.8,baz=63,slow=4.5,SNR=5.3						

---

*IDC **05** 14:08:52.4±7.4,3226N×4692E,h0^{km},mb3.8/5,mb1 3.8/6, mb1mx3.5/23,mbtmp3.8/6,ML3.7/1,Error ellipse: s-maj=136.9km s-min=35.9km az=7.0*
*THR **05** 14:08:53.9±0.3,3223N×4677E,h15^{km},ML3.3*
*NEIC **05** 14:08:55.5,3233N×4690E,h14^{km},ML3.3(THR),After THR.*
*ISCJB **05** 14:08:56.5±0.6,3242N±003×4675E±008,h33^{km},mb3.7/5, Error ellipse: s-maj=10.0km s-min=4.6km az=177.4*
*CSEM **05** 14:08:56.3±0.9,3238N×4696E,h15^{km},ML3.3,Error ellipse: s-maj=29.7km s-min=5.7km az=41.0*
*KISR **05** 14:08:57.9±0.7,3230N×4707E,h43^{km}±931^{km},ML2.8*
ISC 05 14:08:58.3±0.6,**3242N**±003×**4680E**±008,**h35**^{km}**,n22,** σ**0^{s}97**/28**,mb3.7**/5**,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.72**	**100**	*e*Pg	**Pn**	**14 09 25.4**	**-0.3**
SHGR				*e*SG	**Sn**	**14 09 48.5**	**+2.0**
SHGR				AML	AML	14 09 59.7	
	comp=E,650nm,0.8s						
SHGR				AML	AML	14 10 01.8	
	comp=N,329nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.72**	**100**	*e*P	**Pn**	**14 09 24.0**	**-1.7**
SHGR				*e*Sg	**Sn**	**14 09 47.0**	**+0.5**
SHGR	**Shooshtar-Gavs**	**1.72**	**100**	*e*Pg	**Pn**	**14 09 25.5**	**-0.2**
	SNR=90						
SHGR				*e*Sg	**Sn**	**14 09 47.0**	**+0.5**
BHD	**Baghdad**	**2.21**	**293**	*e*x	x	14 09 51.0	
BHD				*e*x	x	14 10 18.0	
SNGE	**Sanandaj**	**2.71**	**9**	*e*Pn	**Pn**	**14 09 41.7**	**+2.3**
SNGE				AML	AML	14 09 51.9	
	comp=N,60nm,0.1s						
SNGE	**Sanandaj**	**2.71**	**9**	*e*Pn	**Pn**	**14 09 41.0**	**+1.7**
RST	**Umm Al-Ruwaisa**	**2.91**	**177**	*e*P	**Pn**	**14 09 42.6**	**+0.5**
RST				*e*S	**Sn**	**14 10 16.2**	**+0.3**
RST				AML	AML	14 10 20.8	
	comp=Z,20nm,0.2s						
UMR	**Umm Al-Rimmam**	**2.96**	**164**	*e*P	**Pn**	**14 09 42.5**	**-0.3**
UMR				*e*S	**Sn**	**14 10 16.0**	**-1.1**
UMR				AML	AML	14 10 18.9	
	comp=Z,36nm,0.4s						
NAY	**Al-Naaiem**	**3.18**	**173**	*e*P	**Pn**	**14 09 46.1**	**+0.3**
NAY				*e*S	**Sn**	**14 10 22.2**	**-0.3**
NAY				AML	AML	14 10 27.9	
	comp=Z,14nm,0.5s						
KBD	**Kabd**	**3.32**	**166**	*e*P	**Pn**	**14 09 47.9**	**+0.2**
ASAO	**Ashtian**	**3.43**	**51**	*e*Pn	**Pn**	**14 09 51.1**	**+1.8**
ASAO				AML	AML	14 10 50.9	
	comp=E,55nm,0.7s						
ASAO	**Ashtian**	**3.43**	**51**	*e*Pn	**Pn**	**14 09 50.0**	**+0.7**
RDF	**Al-Radifah**	**3.54**	**169**	*e*P	**Pn**	**14 09 51.3**	**+0.5**
RDF				*e*S	**Sn**	**14 10 31.4**	**+0.1**
RDF				AML	AML	14 10 36.1	
	comp=Z,42nm,0.3s						
AKTK	**Aktyubinsk**	**19.83**	**22**	P	**Pn**	**14 13 25.6**	**-2.2**
AKTK	**Aktyubinsk**	**19.83**	**22**	P	**Pn**	**14 13 25.5**	**-2.2**
AKTO	**Aktyubinsk**	**19.83**	**22**	P	**Pn**	**14 13 25.6**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=210,slow=13,SNR=4.2						
BVAR	**Borovoye Array**	**26.70**	**33**	P	**P**	**14 14 34.2**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.0,baz=245,slow=9.4,SNR=5.5						
MKAR	**Makanchi Array**	**30.59**	**52**	P	**P**	**14 15 07.9**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.5,baz=251,slow=9.7,SNR=7.5						
FINES	**FINESS Array B**	**32.01**	**341**	P	**P**	**14 15 21.4**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=133,slow=8.6,SNR=5.9						
HFS	**Hagfors**	**35.27**	**332**	P	**P**	**14 15 50.0**	**+0.4**
	comp=Z,5.0nm,1.0s,mb4.4,baz=123,slow=10,SNR=6.3						
ARCES	**ARCESS Array B**	**39.05**	**348**	P	**P**	**14 16 22.2**	**+0.5**
	comp=Z,1.5nm,1.1s,mb3.6,baz=164,slow=10,SNR=4.8						
ARCES	**ARCESS Array B**	**39.05**	**348**	P	**P**	**14 16 22.2**	**+0.4**

---

*NIED **05** 14:13:00,2870N×13020E,h29^{km},Mw3.8 Best double couple: $M_0$5.54000×10^{14} NP1:ϕ_s74.00000°,δ80.00000°, λ84.00000°. NP2:ϕ_s286.00000°,δ12.00000°,λ122.00000°.*
*IDC **05** 14:13:40.2±1.3,2876N×130.13E,h0^{km},mb3.9/4, mb1 4.1/5,mb1mx3.7/23,mbtmp3.9/5,ML3.7/1,MS4.0/2, Ms1 4.1/2,ms1mx3.1/30,Error ellipse: s-maj=42.0km s-min=21.8km az=85.0*
*JMA **05** 14:13:43.9±0.2,2869N×13022E,h58^{km}±4^{km},M3.5*
*ISCJB **05** 14:13:44.3±0.8,2870N±006×1302E±0.1,h49^{km}±9^{km}, mb4.1/5,MS4.1/2,Error ellipse: s-maj=21.0km s-min=5.3km az=54.4*
*NEIC **05** 14:13:45.7±0.9,2871N×130.10E,h40^{km},mb4.4/1,Error ellipse: s-maj=28.4km s-min=15.5km az=85.0*
ISC 05 14:13:45.2±0.9,**2871N**±006×**1302E**±01**,h36**^{km}±11^{km}**,n18,** σ**0^{s}73**/21**,mb4.1**/5**,MS4.1**/2**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.46**	**209**	P	**Pn**	**14 13 55.0**	**-0.2**
JAM	**Amami Oshima**	**0.62**	**241**	P	**Pn**	**14 13 56.6**	**-0.9**
JAM				S	**Sn**	**14 14 07.0**	**+0.7**
JNN	**Nakanoshima**	**1.17**	**345**	P	**Pn**	**14 14 04.7**	**-0.3**
JTK	**Tokunoshima**	**1.46**	**231**	P	**Pn**	**14 14 09.1**	**+0.1**
JTK				*e*S	**Sn**	**14 14 28.6**	**+1.8**
JKC	**Kuchinoerabu**	**1.74**	**359**	P	**Pn**	**14 14 13.1**	**+0.2**
JTN	**Tanegashima 3**	**2.04**	**19**	P	**Pn**	**14 14 16.8**	**-0.2**
JTN				*e*S	**Sn**	**14 14 42.5**	**+1.2**
JTSR	**Tashiro 2**	**2.52**	**14**	P	**Pn**	**14 14 23.5**	**-0.1**
JTSR				*e*S	**Sn**	**14 14 52.6**	**-0.4**
JOW	**Kunigami**	**2.55**	**223**	Pn	**Pn**	**14 14 23.4**	**-0.6**
	28nm,0.3s,baz=102,slow=20,SNR=23						
JOW				Sn	**Sn**	**14 14 53.0**	**-0.8**
	11nm,0.3s,baz=132,slow=19,SNR=3.8						
JOW	**Kunigami**	**2.55**	**223**	P	**Pn**	**14 14 23.4**	**-0.6**
JIH	**Iheya**	**2.61**	**231**	P	**Pn**	**14 14 24.3**	**-0.5**
WRAB	**Tennant Creek**	**48.52**	**175**	P	**P**	**14 22 24.1**	**-0.5**
	3.3nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**48.53**	**175**	P	**P**	**14 22 24.8**	**+0.2**
	1.8nm,0.7s,mb4.2,baz=353,slow=8.4,SNR=20						
BVAR	**Borovoye Array**	**49.65**	**317**	P	**P**	**14 22 32.6**	**-0.6**
	1.0nm,0.5s,mb4.1,baz=104,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**52.20**	**176**	P	**P**	**14 22 53.7**	**+1.4**
	0.6nm,0.5s,mb3.8,baz=8.5,slow=14,SNR=19						
ARCES	**ARCESS Array B**	**68.35**	**339**	P	**P**	**14 24 42.4**	**-0.4**
	1.8nm,0.9s,mb4.1,baz=52,slow=8.1,SNR=3.7						
ARCES	**ARCESS Array B**	**68.35**	**339**	P	**P**	**14 24 42.4**	**-0.4**
RAO	**Raoul Island**	**76.01**	**135**	LR	LR	14 52 42.0	
	comp=Z,158nm,22.0s,MS4.3,baz=70,slow=31						
ESDC	**Sonseca Array**	**99.71**	**326**	LR	LR	15 21 36.0	
	comp=Z,43nm,18.4s,MS4.0,baz=145,slow=41						

---

*BJI **05** 14:15:20.4,4375S×8593W,h10^{km},mB5.4,Ms5.2,Msz5.1*
*IDC **05** 14:15:20.7±0.6,4283S×8592W,h0^{km},mb4.5/12, mb1 4.6/12,mb1mx4.6/15,mbtmp4.5/12,ML2.7/1,MS4.0/13, Ms1 4.0/13,ms1mx3.8/21,Error ellipse: s-maj=25.6km s-min=17.4km az=108.0*
*ISCJB **05** 14:15:21.7±0.3,4286S±006×858W±0.1,h10^{km},mb4.9/41, MS4.2/13,Error ellipse: s-maj=12.1km s-min=8.5km az=131.9*
*GCMT **05** 14:15:22.6±0.5,4292S×86.17W,h17^{km}±1^{km},MW4.8/47, Moment Tensor Solution. s16,c16; s47,c64; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18±.13; $M_{\theta\theta}$-0.37±.12; $M_{\phi\phi}$0.19±.13; $M_{r\theta}$-0.09±.27; $M_{\theta\phi}$2.09±.09; $M_{\phi r}$-0.04±.29; Best double couple: $M_0$2.11200×10^{16} NP1:ϕ_s176.00000°,δ87.00000°,λ179.00000°. NP2: ϕ_s266.00000°,δ89.00000°,λ3.00000°. Principal axes: T 2.0230, Plg3.0000°, Azm131.0000°; N 0.1780, Plg87.0000°, Azm290.0000°; P -2.2010, Plg1.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 14:15:22.6±0.3,4290S×8582W,h10^{km},mb5.1/29 Error ellipse: s-maj=11.9km s-min=8.8km az=73.0*
*MOS **05** 14:15:24.8±0.8,4285S×8585W,h33^{km},mb5.2/10,Error ellipse: s-maj=20.4km s-min=13.8km az=87.9*
ISC 05 14:15:22.8±0.3,**4286S**±006×**858W**±01**,h10**^{km}**,n110,** σ**0^{s}90**/82**,mb4.9**/41**,MS4.2**/13**,1C-2D,West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**11.59**	**85**	Pn	**Pn**	**14 18 13.0**	**+4.7**
	0.1nm,0.3s,baz=250,slow=13,SNR=12						
PLCA				LR	LR	14 21 39.7	
	comp=Z,454nm,19.8s,baz=258,slow=32						
CFAA	**Coronel Fontan**	**17.91**	**57**	P	**Pn**	**14 19 33.6**	**+1.7**
	0.0nm,0.3s,baz=227,slow=11,SNR=12						
CFAA				LR	LR	14 25 07.6	
	comp=Z,84nm,21.8s,baz=219,slow=33						
EFI	**East Falkland**	**20.69**	**125**	*i* P	**P**	**14 20 01.1**	**-1.9**
RPN	**Rapa Nui**	**24.73**	**302**	LR	LR	14 27 32.6	
	comp=Z,676nm,18.8s,MS4.2,baz=318,slow=30						
PMSA	**Palmer Station**	**25.18**	**158**	P	**P**	**14 20 49.5**	**+1.2**
	15nm,1.1s,mb4.4,baz=341,slow=11,SNR=4.1						
PMSA				LR	LR	14 28 30.1	
	comp=Z,220nm,20.1s,MS3.7,baz=37,slow=31						
PMSA	**Palmer Station**	**25.18**	**158**	*e*P	**P**	**14 20 49.2**	**+0.8**
	23nm,1.3s,mb4.5						
CPUP	**Villa Florida**	**28.48**	**64**	P	**P**	**14 21 18.0**	**-0.1**
	1.6nm,0.6s,mb3.8,baz=232,slow=2.6,SNR=4.4						
CPUP				LR	LR	14 31 59.8	
	comp=Z,426nm,19.2s,MS4.1,baz=218,slow=35						
LPAZ	**La Paz**	**30.49**	**35**	P	**P**	**14 21 37.6**	**+1.7**
	2.5nm,0.8s,mb4.0,baz=208,slow=6.4,SNR=12						
LPAZ				PcP	PcP	14 24 35.2	+0.2
	2.3nm,0.9s,baz=194,slow=2.7,SNR=5.4						
LPAZ				LR	LR	14 31 19.0	
	comp=Z,167nm,19.9s,MS3.7,baz=98,slow=31						
LPAZ	**La Paz**	**30.49**	**35**	P	**P**	**14 21 37.6**	**+1.7**
LPAZ						14 24 35.2	
LPAZ	**La Paz**	**30.49**	**35**	P	**P**	**14 21 37.6**	**+1.7**
LPAZ				PcP	PcP	14 24 35.2	+0.2
LPAZ				LR	LR	14 31 19.0	
SAML	**Samuel**	**39.17**	**37**	*e*P	**P**	**14 22 50.4**	**-0.4**
	9.6nm,1.1s,mb4.4						
BDFB	**Brasilia**	**42.15**	**62**	P	**P**	**14 23 14.9**	**-0.5**
	2.6nm,0.6s,mb4.1,baz=246,slow=10.0,SNR=2.3						
BDFB				LR	LR	14 40 58.4	
	comp=Z,472nm,18.5s,MS4.4,baz=228,slow=36						
RKT	**Rikitea**	**44.99**	**280**	*e*LR	LR	14 36 14.7	
	234nm,27.5s						
VNA1	**Neumayer--Stat**	**46.23**	**153**	*e*P	**P**	**14 23 49.7**	**+1.6**
VNA1				*e*	pP	14 23 52.3	+1.1
VNA1				*e*	pP	14 23 53.2	+2.0
VNA1				*e*		14 23 55.6	
QSPA	**South Pole Qui**	**47.38**	**180**	*e*P	**P**	**14 23 57.7**	**+0.6**
	7.6nm,1.1s,mb4.5						
SNAA	**Sanae**	**47.83**	**155**	*e*P	**P**	**14 24 00.8**	**+0.2**
SNAA				*e*	pP	14 24 03.7	0.0
SNAA				*e*	pP	14 24 04.9	+1.2
SNAA				*e*		14 24 08.1	
SNAA	**Sanae**	**47.83**	**155**	*d i*P	**P**	**14 24 00.9**	**+0.3**
SNAA	**Sanae**	**47.83**	**155**	*e*P	**P**	**14 23 59.6**	**-0.9**
	14nm,1.0s,mb5.0						
ROSC	**El Rosal**	**48.62**	**15**	P	**P**	**14 24 10.0**	**+3.3**
	3.9nm,0.3s,mb4.9,baz=90,slow=20,SNR=4.7						
VNDA	**Vanda**	**53.08**	**195**	P	**P**	**14 24 39.9**	**-0.4**
	2.8nm,1.0s,mb4.2,baz=122,slow=7.1,SNR=13						
VNDA				PcP	PcP	14 25 47.2	-1.5
	1.6nm,0.8s,baz=131,slow=4.6,SNR=3.7						
VNDA				LR	LR	14 43 23.9	
	comp=Z,134nm,20.9s,MS4.0,baz=130,slow=32						
VNDA	**Vanda**	**53.08**	**195**	P	**P**	**14 24 39.9**	**-0.4**
VNDA						14 25 47.2	
VNDA	**Vanda**	**53.08**	**195**	P	**P**	**14 24 39.9**	**-0.4**
VNDA				PcP	PcP	14 25 47.2	-1.5
VNDA				LR	LR	14 43 23.9	
TAOE	**Nuku Hiva Isla**	**58.18**	**289**	*e*LR	LR	14 42 21.9	
	414nm,25.4s						
SYO	**Syowa Base**	**61.40**	**160**	⇓*e*pP	pP	14 25 38.0	-4.3
MAW	**Mawson**	**67.34**	**168**	P	**P**	**14 26 17.0**	**-1.0**
	8.0nm,0.8s,mb4.8,baz=206,slow=8.6,SNR=18						
MAW				LR	LR	14 55 07.7	
	comp=Z,138nm,19.5s,MS4.2,baz=57,slow=35						
JCT	**Junction City**	**74.10**	**347**	*e*P	**P**	**14 26 58.0**	**-1.2**
JCT				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
JCT	**Junction City**	**74.10**	**347**	*e*P	**P**	**14 26 58.0**	**-1.2**
	comp=Z,12nm,1.2s,mb4.7						
LRAL	**Lakeview Retre**	**75.53**	**359**	*e*P	**P**	**14 27 06.8**	**-0.7**
	comp=Z,8.4nm,0.9s,mb4.7						
MYNC	**Murphy**	**77.57**	**1**	*e*P	**P**	**14 27 18.3**	**-0.7**
MYNC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
MYNC	**Murphy**	**77.57**	**1**	*e*P	**P**	**14 27 18.3**	**-0.7**
	comp=Z,14nm,1.0s,mb4.8						
CPCT	**Cooper Cave**	**77.94**	**1**	*e*P	**P**	**14 27 20.1**	**-1.0**
LPM	**Los Pinos Moun**	**79.13**	**343**	*e*P	**P**	**14 27 27.8**	**+0.2**
LAZ	**Ladron**	**79.33**	**342**	*e*P	**P**	**14 27 29.3**	**+0.6**
ANMO	**Albuquerque**	**79.70**	**343**	*c i*P	**P**	**14 27 30.8**	**0.0**
ANMO	**Albuquerque**	**79.70**	**343**	*e*P	**P**	**14 27 30.6**	**-0.2**
	comp=Z,14nm,1.4s,mb4.7						
PV01	**Paradox Valley**	**83.23**	**342**	*e*P	**P**	**14 27 49.7**	**+0.2**
PV10	**Paradox Valley**	**83.56**	**342**	*e*P	**P**	**14 27 51.2**	**0.0**
CCUT	**Cedar City**	**83.87**	**338**	*e*P	**P**	**14 27 53.5**	**+0.7**
SMCO	**Snowmass**	**83.88**	**344**	*e*P	**P**	**14 27 53.4**	**+0.6**
	comp=Z,18nm,1.1s,mb5.1						
DAC	**Darwin (Calif)**	**83.92**	**335**	*e*P	**P**	**14 27 53.0**	**0.0**
DAC				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
DAC	**Darwin (Calif)**	**83.92**	**335**	*e*P	**P**	**14 27 53.0**	**0.0**
	comp=Z,8.4nm,1.1s,mb4.8						
PTRM	**Twissleman Ran**	**84.21**	**332**	*e*P	**P**	**14 27 54.7**	**+0.2**
MSU	**Marysvale**	**84.46**	**340**	*e*P	**P**	**14 27 55.9**	**+0.2**
SRU	**San Rafael**	**84.61**	**341**	*e*P	**P**	**14 27 56.2**	**-0.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
SRU	**San Rafael**	**84.61**	**341**	*e*P	**P**	**14 27 56.2**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.6						
BOSA	**Boshof**	**84.81**	**125**	P	**P**	**14 27 57.7**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.8,baz=243,slow=4.6,SNR=6.0						
BOSA				LR	LR	14 59 35.2	
	comp=Z,126nm,18.5s,MS4.3,baz=65,slow=31						
BOSA	**Boshof**	**84.81**	**125**	P	**P**	**14 27 57.7**	**+0.2**
BOSA				LR	LR	14 59 35.2	
JFWS	**Jewell Farm**	**85.48**	**357**	*e*P	**P**	**14 27 58.7**	**-2.2**
JFWS				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.3						
JFWS	**Jewell Farm**	**85.48**	**357**	*e*P	**P**	**14 27 58.7**	**-2.1**
	comp=Z,26nm,1.0s,mb5.3						
PHWY	**Pilot Hill**	**85.63**	**345**	*e*P	**P**	**14 28 01.8**	**+0.2**
MPU	**Maple Canyon**	**85.74**	**340**	*e*P	**P**	**14 28 03.4**	**+1.3**
	comp=Z,31nm,1.1s,mb5.5						
NLU	**North Lily Min**	**85.79**	**340**	*e*P	**P**	**14 28 03.5**	**+1.0**
NVAR	**Mina Array Bea**	**86.12**	**335**	P	**P**	**14 28 04.4**	**+0.3**
	comp=Z,4.5nm,1.0s,mb4.6,baz=152,slow=6.2,SNR=21						
RWWY	**Rawlins**	**86.35**	**344**	*e*P	**P**	**14 28 05.1**	**-0.1**
	comp=Z,12nm,1.0s,mb5.1						
TCUT	**Toone Canyon**	**86.73**	**341**	*e*P	**P**	**14 28 07.1**	**+0.1**
ECSD	**EROS,Sioux Fal**	**86.75**	**352**	*e*P	**P**	**14 28 05.2**	**-1.9**
SPUT	**South Promonto**	**87.16**	**340**	*e*P	**P**	**14 28 07.9**	**-1.3**
HWUT	**Hardware Ranch**	**87.23**	**341**	*e*P	**P**	**14 28 08.8**	**-0.7**
	comp=Z,20nm,1.1s,mb5.3						
HVU	**Hansel Valley**	**87.69**	**340**	*e*P	**P**	**14 28 11.0**	**-0.7**
HVU				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.3						
HVU	**Hansel Valley**	**87.69**	**340**	*e*P	**P**	**14 28 11.0**	**-0.7**
	comp=Z,21nm,1.1s,mb5.3						
PDAR	**Pinedale Array**	**87.87**	**343**	P	**P**	**14 28 12.4**	**-0.2**
	comp=Z,13nm,0.9s,mb5.2,baz=163,slow=5.4,SNR=91						
DBIC	**Dimbokro**	**87.90**	**79**	P	**P**	**14 28 12.5**	**-0.2**
	comp=Z,4.7nm,0.9s,mb4.7,baz=212,slow=7.9,SNR=4.1						
DBIC				LR	LR	15 03 45.8	
	comp=Z,40nm,19.4s,MS3.9,baz=351,slow=33						
RSSD	**Black Hills**	**88.12**	**347**	*e*P	**P**	**14 28 12.9**	**-0.8**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
RSSD	**Black Hills**	**88.12**	**347**	*e*P	**P**	**14 28 12.9**	**-0.8**
	comp=Z,7.1nm,0.8s,mb5.0						
REDW	**Red Top Meadow**	**88.73**	**342**	*e*P	**P**	**14 28 16.2**	**-0.4**
	comp=Z,26nm,1.2s,mb5.4						
RRI2	**Red Ridge**	**88.82**	**342**	*e*P	**P**	**14 28 16.6**	**-0.5**
	comp=Z,22nm,1.4s,mb5.3						
TPAW	**Teton Pass**	**88.87**	**342**	*e*P	**P**	**14 28 17.2**	**-0.1**
	comp=Z,32nm,1.1s,mb5.6						
LOHW	**Long Hollow**	**88.91**	**342**	*e*P	**P**	**14 28 16.9**	**-0.5**
	comp=Z,17nm,1.1s,mb5.3						
IMW	**Indian Meadow**	**89.25**	**342**	*e*P	**P**	**14 28 19.0**	**-0.1**
	comp=Z,27nm,1.3s,mb5.4						
FLWY	**Flagg Ranch**	**89.38**	**342**	*e*P	**P**	**14 28 19.7**	**+0.1**
	comp=Z,41nm,1.0s,mb5.7						
YFT	**Old Faithful**	**89.76**	**342**	*e*P	**P**	**14 28 23.1**	**+1.7**
HLID	**Hailey**	**89.78**	**340**	*e*P	**P**	**14 28 22.0**	**+0.5**
	comp=Z,6.3nm,1.1s,mb4.9						
WVOR	**Wild Horse Val**	**89.89**	**336**	*e*P	**P**	**14 28 21.9**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.1						
WVOR	**Wild Horse Val**	**89.89**	**336**	*e*P	**P**	**14 28 21.9**	**-0.2**
	comp=Z,11nm,1.0s,mb5.2						
YMR	**Madison River**	**89.99**	**342**	*e*P	**P**	**14 28 23.0**	**+0.5**
	comp=Z,34nm,1.1s,mb5.6						
QLMT	**Earthquake Lak**	**90.25**	**342**	*e*P	**P**	**14 28 25.0**	**+1.3**
MAUI	**Maui**	**90.48**	**298**	*i* P	**P**	**14 28 26.4**	**+1.6**
MCMT	**McKenzie Canyo**	**90.58**	**341**	*e*P	**P**	**14 28 25.9**	**+0.7**
DLMT	**Dillon**	**91.02**	**341**	*e*P	**P**	**14 28 27.8**	**+0.4**
	comp=Z,14nm,1.3s,mb5.1						
BOZ	**Bozeman (W)**	**91.07**	**342**	*e*P	**P**	**14 28 26.9**	**-0.7**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.9						
BOZ	**Bozeman (W)**	**91.07**	**342**	*e*P	**P**	**14 28 26.9**	**-0.7**
	comp=Z,7.3nm,1.2s,mb4.9						
BMO	**Blue Mountains**	**91.74**	**338**	*e*P	**P**	**14 28 30.8**	**+0.2**
	comp=Z,1.6nm,1.0s,mb4.3						
ULM	**Lac du Bonnet**	**93.14**	**354**	P	**P**	**14 28 33.9**	**-3.2**
	comp=Z,2.6nm,0.7s,mb4.8,baz=136,slow=6.6,SNR=3.4						
ULM	**Lac du Bonnet**	**93.14**	**354**	P	**P**	**14 28 33.9**	**-3.2**
STKA	**Stephens Creek**	**93.85**	**219**	LR	LR	15 00 29.5	
	comp=Z,99nm,21.2s,MS4.2,baz=25,slow=29						
TORD	**Torodi Ar. Bea**	**97.01**	**79**	P	**P**	**14 28 54.2**	**-0.6**
	comp=Z,0.7nm,0.8s,mb4.2,baz=230,slow=3.6,SNR=3.2						
TORD				LR	LR	15 06 43.7	
	comp=Z,54nm,18.5s,MS4.1,baz=165,slow=32						
TORD	**Torodi Ar. Bea**	**97.01**	**79**	P	**P**	**14 28 54.2**	**-0.6**
TORD				LR	LR	15 06 43.7	
COLA	**College**	**117.75**	**335**	*i* PKIKP	PKPdf	14 34 10.7	+1.4
GERES	**GERESS Array B**	**126.09**	**54**	PKP	PKPdf	14 34 23.5	-1.8
	comp=Z,0.9nm,0.5s,baz=203,slow=2.8,SNR=7.7						
ARCES	**ARCESS Array B**	**136.76**	**29**	PKP	PKPdf	14 34 42.0	-3.5
	comp=Z,2.3nm,0.9s,baz=264,slow=2.3,SNR=4.5						
OBN	**Obninsk**	**141.35**	**51**	*e*PKIKP	PKPdf	14 34 51.2	-2.7
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**143.07**	**70**	*i* PKIKP	PKPdf	14 34 55.3	-1.6
MJAR	**Matsushiro Arr**	**145.85**	**274**	PKPbc	PKPbc	14 35 00.1	-2.2
	comp=Z,7.5nm,1.1s,baz=157,slow=2.8,SNR=10						
MAT	**Matsushiro**	**145.85**	**274**	PKP	PKPdf	14 34 59.4	-2.4
TIXI	**Tiksi**	**146.55**	**341**	*e*PKIKP	PKPdf	14 35 00.1	-2.9
TIXI				pmax	pmax		
	comp=Z,30nm,1.0s						
YAK	**Yakutsk**	**151.63**	**325**	*e*PKIKP	PKPdf	14 35 14.1	+3.0
ARU	**Arti**	**153.58**	**47**	*e*PKIKP	PKPbc	14 35 18.5	-3.2
AKTK	**Aktyubinsk**	**154.24**	**60**	PKPbc	PKPbc	14 35 20.4	-2.8
AKTO	**Aktyubinsk**	**154.24**	**60**	PKPbc	PKPbc	14 35 20.4	-2.8
	comp=Z,1.4nm,0.7s,baz=313,slow=1.7,SNR=6.4						
MDJ	**Mudanjiang**	**154.48**	**286**	PKP	PKPdf	14 35 14.4	-0.9
MDJ				PP	PP	14 39 12.3	-0.8
MDJ				SS	SS	14 58 53.4	-0.2
MDJ				PP	PP		
	comp=Z,94nm,5.2s						
MDJ				LR	LR		
	comp=N,50nm,19.2s,MS4.7						
MDJ				LR	LR		
	comp=E,83nm,18.0s,MS4.7						
MDJ				LR	LR		
	comp=Z,72nm,17.4s,MS4.5						
SVE	**Sverdlovsk**	**154.56**	**45**	*e*PKP2	PKPab	14 35 40.3	+1.9
SSE	**Sheshan**	**155.55**	**250**	PKP	PKPdf	14 35 13.2	-3.5
CN2	**Changchun**	**157.31**	**283**	*e*PKP	PKPdf	14 35 21.0	+2.0
NJ2	**Nanjing**	**157.72**	**249**	*e*PKP	PKPdf	14 35 16.4	-3.1
NJ2				PKP2	PKPab	14 35 52.1	+0.2
NJ2				PKS		14 38 49.0	
NJ2				PP	PP	14 39 33.0	+1.9
NJ2				SKS	SKSdf	14 42 18.0	-7.4
NJ2				SKKS	SKKSac	14 46 17.0	-3.6
NJ2				PP	PP		
	comp=Z,390nm,8.0s						
NJ2				LR	LR		
	comp=N,480nm,26.6s,MS5.3						
NJ2				LR	LR		
	comp=E,530nm,30.8s,MS5.3						
NJ2				LR	LR		
	comp=Z,540nm,30.9s,MS5.2						
KMI	**Kunming**	**160.96**	**204**	PKP	PKPdf	14 35 23.8	+0.5
CD2	**Chengdu**	**165.84**	**216**	*e*PKP	PKPdf	14 35 25.9	-2.0
CD2				PKP2	PKPab	14 36 27.3	-0.1
CD2				PP	PP	14 40 16.6	+2.1
CD2				SKS	SKSdf	14 42 24.6	-7.5
CD2				SKKS	SKKSac	14 46 58.5	-3.8
CD2				PP	PP		
	comp=Z,110nm,10.2s						
CD2				LR	LR		
	comp=N,90nm,26.2s						
CD2				LR	LR		
	comp=Z,80nm,24.0s						
HHC	**Hu-ho-hao-te**	**166.89**	**267**	*e*PKP	PKPdf	14 35 29.0	+0.3
HHC				PKP2	PKPab	14 36 34.6	+2.5
HHC				PKS		14 39 00.2	
HHC				PP	PP	14 40 24.1	+4.2
HHC				SKS	SKSdf	14 42 29.5	-3.2
HHC				SKKS	SKKSac	14 47 07.8	+0.2
HHC				SS	SS	15 01 05.2	+1.4
HHC				LR	LR		
	comp=N,90nm,7.4s						
HHC				LR	LR		
	comp=E,149nm,8.3s						
HHC				LR	LR		
	comp=Z,221nm,9.2s						
LZH	**Lanzhou**	**169.93**	**231**	*e*PKP	PKPdf	14 35 28.0	-2.7
LZH				APKP		14 35 31.3	
LZH				XPKP		14 35 34.0	
LZH				PP	PP	14 40 37.1	+1.7
LZH				SKKS	SKKSac	14 47 18.0	-4.6
LZH				SS	SS	15 01 30.0	-4.3
LZH				PP	PP		
	comp=Z,151nm,5.9s						
LZH				LR	LR		
	comp=E,209nm,19.9s						
LZH				LR	LR		
	comp=Z,235nm,20.8s						
MKAR	**Makanchi Array**	**170.68**	**61**	PKP	PKPdf	14 35 28.5	-2.7
	comp=Z,1.3nm,1.1s,baz=253,slow=2.0,SNR=5.5						
MKAR				PKPab	PKPab	14 36 48.0	-0.8
	comp=Z,0.5nm,0.8s,baz=316,slow=4.0,SNR=3.2						
WMQ	**Urumqi**	**175.17**	**76**	*e*PKP	PKPdf	14 35 32.0	-1.0
WMQ				PKS		14 39 03.0	
WMQ				PP	PP	14 41 02.0	+0.8
WMQ				SKS	SKSdf	14 42 34.0	-2.0
WMQ				SKKS	SKKSac	14 47 45.0	-2.7
WMQ				PP	PP		
	comp=Z,208nm,5.4s						
WMQ				LR	LR		
	comp=N,226nm,17.4s						
WMQ				LR	LR		
	comp=E,165nm,20.0s						
WMQ				LR	LR		
	comp=Z,250nm,18.5s						

---

*NEIC **05** 14:34:46.4,3227S×7079W,h64^{km},MD3.7(GUC),After GUC.*
GUC 05 14:34:46.4±0.7**,3227S**×**7079W,h64**^{km}±4^{km}**,MD3.2, ML2.8,3C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.45**	**158**	*e*P	Pn	14 34 58.5	+0.3
JACH				*i* S	Sn	14 35 07.8	+1.1
PACH	**Papudo**	**0.61**	**243**	⇓*i*P	Pn	14 35 00.6	+0.8
PACH				*i* S	Sn	14 35 10.7	+1.0
CHNG	**Los Chungos**	**0.71**	**302**	*e*P	Pn	14 35 02.0	+1.0
CHNG				*i* S	Sn	14 35 13.3	+1.5
ROCH	**El Roble**	**0.73**	**195**	*e*P	Pn	14 35 01.6	+0.4
PEL	**Peldehue**	**0.88**	**174**	⇑*i*P	Pn	14 35 03.5	+0.4
PEL				*i* S	Sn	14 35 16.2	+0.9
PEL				AML	AML	14 35 17.6	
	comp=N,502nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PEL	Peldehue	0.88	174	⇑iP	Pn	14 35 03.5	+0.4
PEL				iS	Sn	14 35 16.2	+0.9
FCH	Farellones	1.14	158	⇓iP	Pn	14 35 07.6	+1.2
FCH				iS	Sn	14 35 23.8	+2.5
FCH				AML	AML	14 35 26.0	
	comp=N,223nm,0.1s						
RCDM	Rinconada Maip	1.22	181	eP	Pn	14 35 07.7	+0.3
RCDM				iS	Sn	14 35 24.0	+0.8
RCDM				AML	AML	14 35 26.4	
	comp=E,459nm,0.1s						
RCDM	Rinconada Maip	1.22	181	eP	Pn	14 35 07.7	+0.3
RCDM				iS	Sn	14 35 24.0	+0.8
LCCH	Las Cruces	1.37	208	eP	Pn	14 35 10.5	+1.0
TACH	Talagante	1.39	185	eP	Pn	14 35 09.9	+0.2
TACH				iS	Sn	14 35 27.8	+0.6
LMEL	Las Melosas	1.65	163	eP	Pn	14 35 14.4	+1.2
LMEL				iS	Sn	14 35 36.2	+2.7
LMEL				AML	AML	14 35 39.7	
	comp=N,205nm,0.1s						
LMEL	Las Melosas	1.65	163	eP	Pn	14 35 14.4	+1.2
LMEL				S	Sn	14 35 36.2	+2.7
CHCH	Chadas Angostu	1.67	176	⇑iP	Pn	14 35 13.9	+0.5
CHCH				iS	Sn	14 35 35.0	+1.1
LNV	Longovilo	1.76	197	eP	Pn	14 35 15.0	+0.3
CACH	El Canelo	1.85	175	⇓iP	Pn	14 35 17.3	+1.4
CACH				iS	Sn	14 35 40.9	+2.6
TLL	Tololo Astrono	2.09	360	eP	Pn	14 35 20.1	+1.0
TLL				iS	Sn	14 35 45.8	+1.7
TLL				AML	AML	14 35 51.1	
	comp=E,45nm,0.2s						
TLL	Tololo Astrono	2.09	360	eP	Pn	14 35 20.1	+1.0
TLL				iS	Sn	14 35 45.8	+1.7

---

*ISCJB **05** 14:34:57.4±0.6, 5965N±003×2446E±007, h0km, Error ellipse: s-maj=5.4km s-min=4.6km az=139.9*
*CSEM **05** 14:34:58.8±0.2, 5963N×2443E, h2km, ML2.5, Error ellipse: s-maj=6.9km s-min=5.2km az=25.0, Mining explosion.*
*NAO **05** 14:34:59.8±0.9, 5970N×2474E, ML2.7*
*HEL **05** 14:35:00.0±0.1, 5968N×2453E, h0km, ML2.5, ML2.7(NAO), Explosion*
*BER **05** 14:35:00.9±3.5, 5971N×2466E, h0km, ML2.7(NAO), Suspected explosion*
*IDC **05** 14:35:01.6±1.0, 5985N×2444E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.7/4, Error ellipse: s-maj=11.5km s-min=6.5km az=137.0*
ISC 05 14:34:58.8±0.6**, 5968N**±003×**2454E**±007**, h0**km**, n28, σ0s95**/45**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.54	353	eP	Pg	14 35 09.4	+0.2
MEF				eS	Sg	14 35 16.5	+0.3
PVF	Pernaja	1.09	37	eP	Pg	14 35 19.3	-0.4
PVF				eS	Sg	14 35 33.6	-0.3
VSU	Vasula	1.67	136	eP	Pn	14 35 29.8	+0.5
VSU				eS	Sn	14 35 51.1	-0.3
VSU	Vasula	1.67	136	Pn	Pn	14 35 29.9	+0.6
VSU				Lg		14 35 51.3	
VSU	Vasula	1.67	136	P	Pn	14 35 29.8	+0.5
VSU				S	Sn	14 35 51.1	-0.3
FIA0	FINESS Array S	1.93	23	eP	Pn	14 35 34.1	+1.3
FIA0				eS	Sn	14 35 58.9	+1.1
FIA0	FINESS Array S	1.93	23	Pn	Pn	14 35 34.1	+1.3
	baz=189,slow=18						
FIA0				Lg		14 35 58.6	
	baz=192,slow=28						
FIA0	FINESS Array S	1.93	23	P	Pn	14 35 34.0	+1.2
FIA0				S	Sn	14 35 58.8	+1.1
FINES	FINESS Array B	1.93	23	Pn	Pn	14 35 34.1	+1.3
	9.0nm,0.3s,baz=193,slow=17,SNR=285						
FINES				Lg		14 35 58.2	
	13nm,0.3s,baz=187,slow=29,SNR=17						
RAF	Rauma	1.93	316	eP	Pn	14 35 34.3	+1.4
RAF				eS	Sn	14 35 58.2	+0.5
RAF	Rauma	1.93	316	P	Pn	14 35 34.2	+1.4
RAF				S	Sn	14 35 58.2	+0.5
KEF	Keuruu	2.50	4	ePB	Pb	14 35 43.2	-1.4
KEF				eSB	Sb	14 36 15.5	-0.4
KEF				MSG		14 36 17.6	
	comp=Z,26nm,0.2s						
KAF	Kangasniemi	2.59	19	MSG		14 36 19.9	
	comp=Z,14nm,0.2s						
SUF	Sumiainen	3.15	14	MSG		14 36 39.1	
	comp=Z,11nm,0.3s						
HFS	Hagfors	5.47	279	eP	Pn	14 36 22.1	+0.5
HFS				eS	Sn	14 37 26.1	+0.8
HFS	Hagfors	5.47	279	Pn	Pn	14 36 22.3	+0.7
	comp=Z,1.1nm,0.3s,baz=108,slow=13,SNR=32						
HFS				Sn	Sn	14 37 25.3	0.0
	comp=Z,1.5nm,0.3s,baz=93,slow=27,SNR=6.9						
HFS				Lg		14 37 47.5	
	comp=Z,2.3nm,0.3s,baz=95,slow=33,SNR=5.3						
HFS	Hagfors	5.47	279	Pn	Pn	14 36 22.1	+0.5
	baz=95,slow=14						
HFS				Sn	Sn	14 37 26.1	+0.8
	baz=102,slow=28						
HFS	Hagfors	5.47	279	P	Pn	14 36 22.1	+0.5
HFS				S	Sn	14 37 26.1	+0.8
NB2	NORSAR Subarra	6.75	287	Pn	Pn	14 36 38.4	-0.7
	baz=99,slow=14						
NB2				Sn	Sn	14 37 54.4	-2.2
	baz=98,slow=22						
NB2				Lg		14 38 28.3	
	baz=91,slow=28						
NB2	NORSAR Subarra	6.75	287	eP	Pn	14 36 38.4	-0.7
NB2				eS	Sn	14 37 54.4	-2.2
NB2				eSG		14 38 28.3	
NB2	NORSAR Subarra	6.75	287	Pn	Pn	14 36 38.3	-0.8
	SNR=0.5						
NB2				Sg		14 38 28.3	
NOA	NORSAR Array B	6.75	287	Pn	Pn	14 36 36.5	-2.6
	comp=Z,1.0nm,0.3s,baz=91,slow=14,SNR=4.5						
NOA				Sn	Sn	14 37 56.9	+0.3
	comp=Z,1.3nm,0.3s,baz=84,slow=17,SNR=4.7						
NOA				Lg		14 38 30.6	
	comp=Z,2.0nm,0.3s,baz=125,slow=21,SNR=5.1						
APA0	Apatity Array	8.79	22	Pn	Pn	14 37 08.4	+1.3
	baz=209,slow=16						
APA0	Apatity Array	8.79	22	eP	Pn	14 37 08.4	+1.3
AKASG	Malin Array Be	9.39	161	Pn	Pn	14 37 15.2	-0.2
	comp=Z,1.7nm,0.3s,baz=339,slow=13,SNR=6.2						
ARA0	ARCESS Array S	9.90	2	Pn	Pn	14 37 21.0	-1.4
	baz=176,slow=16						
ARA0				Sn	Sn	14 39 06.8	-7.5
	baz=185,slow=28						
ARA0	ARCESS Array S	9.90	2	eP	Pn	14 37 21.0	-1.4
ARA0				eS	Sn	14 39 06.8	-7.5
ARCES	ARCESS Array B	9.90	2	Pn	Pn	14 37 21.1	-1.3
	comp=Z,1.6nm,0.3s,baz=180,slow=12,SNR=82						
ARCES				Sn	Sn	14 39 08.9	-5.4
	comp=Z,0.5nm,0.3s,baz=184,slow=24,SNR=3.7						

IDC 05 14:50:49.7±60.0**, 1643S**×**17544W, h0**km**, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.9**/13**, mbtmp4.2**/3**, MS3.6**/1**, Ms1 3.6**/1**, ms1mx2.7**/23**, Error ellipse: s-maj=1137.0km s-min=168.2km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	15.57	110	LR	LR	14 58 36.4	
	comp=Z,252nm,21.8s,baz=44,slow=30						
STKA	Stephens Creek	41.82	240	eP	P	14 58 41.7	+0.5
	3.0nm,1.0s						
STKA	Stephens Creek	41.82	240	P	P	14 58 41.7	+0.6
	1.7nm,0.5s,baz=102,slow=9.3,SNR=5.5						
WB2	Warramunga Arr	47.69	258	eP	P	14 59 28.1	+0.1
WRA	Warramunga Arr	47.70	258	P	P	14 59 28.6	+0.5
	0.7nm,0.3s,baz=95,slow=7.2,SNR=15						
ASAR	Alice Springs	47.93	253	P	P	14 59 29.8	0.0
	2.8nm,0.6s,baz=91,slow=7.9,SNR=22						
ASPA	Alice Springs	47.93	253	eP	P	14 59 29.7	-0.1

---

*ISCJB **05** 14:50:55.3±1.4, 201S±02×1777W±0.1, h498km±18km, mb3.8/8, Error ellipse: s-maj=33.9km s-min=12.8km az=118.5*
*IDC **05** 14:50:57.6±2.5, 2012S×17766W, h517km±25km, mb3.3/6, mb1 3.6/7, mb1mx3.4/13, mbtmp4.2/7, Error ellipse: s-maj=52.4km s-min=14.9km az=149.0*
*NEIC **05** 14:50:58.3±1.2, 2007S×17763W, h528km±13km, mb4.2/4, Error ellipse: s-maj=27.6km s-min=10.3km az=151.0*
ISC 05 14:50:57.9±1.4**, 201S**±02×**1777W**±01**, h516**km±18km**, n25, σ0s86**/23**, mb3.8**/8**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.36	43	P	P	14 52 57.4	-0.9
	4.3nm,0.3s,baz=45,slow=8.2,SNR=8.2						
AFI				S	S	14 54 32.5	-4.7
	11nm,0.3s,baz=42,slow=20,SNR=8.8						
AFI	Afiamalu	8.36	43	eP	P	14 52 57.4	-0.9
AFI				eS	S	14 54 30.9	-6.3
AFI				S	S	14 54 32.5	-4.7
DZM	Mont Dzumac	14.94	260	P	P	14 54 10.3	+3.3
	0.4nm,0.3s,baz=72,slow=18,SNR=8.1						
CTA	Charters Tower	33.82	264	⇑iP	P	14 56 57.5	+0.8
	4.7nm,0.4s,mb4.4						
CTAO	Charters Tower	33.82	264	eP	P	14 56 57.5	+0.8
	6.2nm,0.5s,mb4.4						
STKA	Stephens Creek	38.22	244	⇓iP	P	14 57 33.5	+0.4
	1.5nm,0.5s,mb3.8						
STKA	Stephens Creek	38.22	244	P	P	14 57 33.5	+0.4
	1.8nm,0.5s,mb3.9,baz=80,slow=12,SNR=7.9						
AS31	Alice Springs	44.89	256	eP	P	14 58 26.2	+0.3
ASAR	Alice Springs	44.89	256	P	P	14 58 26.1	+0.2
	2.5nm,0.7s,mb3.8,baz=86,slow=8.1,SNR=53						
ASAR				PcP	PcP	14 59 56.2	-0.3
	0.6nm,0.6s,baz=108,slow=4.5,SNR=5.6						
ASAR				S	S	15 04 23.8	-2.0
	1.4nm,1.0s,baz=91,slow=16,SNR=8.9						
ASPA	Alice Springs	44.90	256	eP	P	14 58 26.2	+0.2
WB2	Warramunga Arr	44.93	262	eP	P	14 58 25.7	-0.6
WRAB	Tennant Creek	44.93	262	eP	P	14 58 25.9	-0.4
	2.7nm,0.5s,mb4.0						
WRA	Warramunga Arr	44.94	262	P	P	14 58 26.3	-0.1
	2.3nm,0.6s,mb3.9,baz=97,slow=7.9,SNR=78						
WRA				S	S	15 04 24.1	-2.5
	1.0nm,1.0s,baz=102,slow=12,SNR=4.6						
VNDA	Vanda	58.33	185	eP	P	15 00 02.5	-0.6
MJAR	Matsushiro Arr	70.06	323	P	P	15 01 17.7	+0.1
	1.9nm,0.6s,mb3.8,baz=151,slow=5.5,SNR=6.2						
NVAR	Mina Array Bea	80.54	43	P	P	15 02 17.1	+1.0
	0.8nm,0.7s,mb3.2,baz=210,slow=7.4,SNR=7.2						
MCMT	McKenzie Canyo	87.47	40	eP	P	15 02 50.9	+0.6
PDAR	Pinedale Array	88.48	43	P	P	15 02 54.7	-0.2
	0.7nm,0.6s,mb3.5,baz=235,slow=2.7,SNR=7.7						
ARCES	ARCESS Array B	128.59	350	PKP	PKPdf	15 09 03.4	-2.6
	2.2nm,0.9s,baz=306,slow=4.1,SNR=6.9						
AKASG	Malin Array Be	142.81	332	PKhKP		15 09 27.9	
	1.7nm,0.4s,baz=42,slow=4.3,SNR=17						
AKASG	Malin Array Be	142.81	332	PKP	PKPdf	15 09 27.9	-4.3
EKA	Eskdalemuir Ar	144.59	5	PKP	PKPdf	15 09 33.7	-1.6
	1.2nm,0.7s,baz=15,slow=2.9,SNR=3.8						
BRTR	Keskin Array B	146.79	313	PKPbc	PKPbc	15 09 41.2	-0.6
	1.2nm,0.6s,baz=143,slow=4.4,SNR=5.9						
CLL	Collm	147.75	347	⇓iPKPbc	PKPbc	15 09 43.5	-0.8
	comp=Z,7.0nm,0.6s						
GERES	GERESS Array B	149.90	345	PKPbc	PKPbc	15 09 49.0	-0.5
	comp=Z,1.2nm,0.7s,baz=40,slow=2.3,SNR=8.4						

---

*CSEM **05** 15:24:41.3, 37.15N×21.50E, h8km, MD3.6/6, After ATH*
*NEIC **05** 15:24:41.3, 37.15N×21.50E, h8km, MD3.6(ATH), After ATH.*
ATH 05 15:24:41.3, 3715N×**2150E, h8**km±4km**, MD3.6**/6**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.34	85	ePG	Pg	15 24 47.9	-0.1
ITM				eSB	Sg	15 24 52.7	+0.2
RLS	Riolos of Patr	0.91	358	ePN	Pn	15 24 59.2	-1.1
VLI	Veliai	1.23	110	ePB	Pb	15 25 04.6	-0.2
VLS	Valsamata	1.25	325	ePG	Pg	15 25 04.7	-0.7
KYTH	Kithira	1.51	125	ePB	Pb	15 25 10.0	+0.5
NAIG	Nisos Aigina	1.69	68	ePN	Pn	15 25 13.0	+1.8
EVR	Evrytania	1.78	8	ePG	Pg	15 25 14.4	-1.0

IDC 05 15:31:05.2±1.2**, 012N**×**12062E, h0**km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, MS3.7**/1**, Ms1 3.7**/1**, ms1mx2.6**/23**, Error ellipse: s-maj=242.4km s-min=21.5km az=59.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.04	147	P	P	15 36 21.2	-0.6
	1.9nm,0.8s,baz=328,slow=9.9,SNR=11						
ASAR	Alice Springs	26.93	152	P	P	15 36 49.4	+1.3
	0.3nm,0.8s,baz=340,slow=14,SNR=4.5						
JOW	Kunigami	27.57	15	LR	LR	15 48 56.7	
	comp=Z,172nm,19.9s,baz=145,slow=39						
MKAR	Makanchi Array	57.28	330	P	P	15 40 53.3	-1.3
	0.3nm,0.6s,baz=124,slow=7.7,SNR=3.2						
BVAR	Borovoye Array	67.17	330	P	P	15 42 02.7	+1.9
	0.5nm,0.6s,baz=120,slow=8.5,SNR=4.1						

CASC 05 15:40:37.4±3.2**, 852N**×**8306W, h10**km±8km**, MD3.9, 5C-7D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.17	321	⇓iP	Pg	15 40 42.6	+1.4
ACR				eS	Sg	15 40 46.8	+3.1
CTCR	Cotoan	0.48	38	⇓iP	Pg	15 40 47.5	+0.7
BRU	Baru	0.57	59	⇓eP	Pg	15 40 49.2	+0.8
DVD	David	0.60	98	eP	Pg	15 40 49.1	0.0
CNI	Changuinola	1.04	31	⇓iP	Pg	15 40 56.1	-1.3
BUS	Buena Vista	1.24	326	⇑eP	Pn	15 40 58.7	-2.1
LCR2	La Lucha 2	1.54	323	⇑eP	Pn	15 41 02.7	-2.1
LCR2				eS	Sn	15 41 25.7	+1.0
OCM	Ochomogo	1.64	327	eP	Pn	15 41 04.7	-1.5
OCM				eS	Sn	15 41 27.5	+0.3
VTU	Volcan Turrial	1.65	335	⇓eP	Pn	15 41 05.7	-0.6
VTU				eS	Sn	15 41 28.2	+0.6
IRZ2	Volcan Irazu 2	1.67	330	⇓eP	Pn	15 41 05.2	-1.4
IRZ2				eS	Sn	15 41 32.1	+4.1
LAJ	Bijagual	1.70	322	eP	Pn	15 41 08.2	+1.1
PRS1	Puriscal	1.91	320	⇓eP	Pn	15 41 08.2	-1.8
PRS1				eS	Sn	15 41 33.9	-0.3
POA2	Poas 2	2.03	325	eP	Pn	15 41 10.8	-0.7
CGA2	Cerro Gallo 2	2.04	317	eP	Pn	15 41 11.9	+0.2
CGA2				eS	Sn	15 41 37.9	+0.7
EPA	Esparza	2.11	314	⇑eP	Pn	15 41 12.4	-0.3
EPA				eS	Sn	15 41 40.9	+1.9
CAO	Cobano	2.34	300	⇑eP	Pn	15 41 13.2	-2.7
FORC	Fortuna	2.51	321	eP	Pn	15 41 19.1	+0.9
VACR	Volcan Arenal	2.52	321	eP	Pn	15 41 19.6	+1.3
ACH	Altos	3.10	87	eP	Pn	15 41 27.4	+1.1
ACH				eS	Sn	15 42 05.7	+2.4
PTP	Ponta Puerca	19.51	59	⇑iP		15 40 45.1	

---

*IDC **05** 15:45:49.0±1.4, 2610N×12982E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=38.9km s-min=21.6km az=62.0*
*NEIC **05** 15:45:50.3±0.8, 2613N×12985E, h10km, mb3.7/1, Error ellipse: s-maj=16.3km s-min=13.7km az=115.0*
*ISCJB **05** 15:45:52.9±0.6, 2574N±004×129.18E±004, h33km, mb3.7/4, Error ellipse: s-maj=5.9km s-min=5.3km az=29.9*
*JMA **05** 15:45:53.1±0.2, 2573N×12921E, h50km, M3.7*
ISC 05 15:45:54.0±0.7**, 2575N**±004×**12918E**±004**, h35**km**, n21, σ1s10**/33**, mb3.7**/4**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	1.34	287	P	Pn	15 46 16.6	+0.4
JJT2				eS	Sn	15 46 33.3	+0.5
JOW	Kunigami	1.35	323	Pn	Pn	15 46 16.9	+0.6
	318nm,0.3s,baz=114,slow=22,SNR=389						
JOW				Sn	Sn	15 46 32.2	-0.7
	64nm,0.3s,baz=121,slow=25,SNR=6.5						
JOW	Kunigami	1.35	323	P	Pn	15 46 16.8	+0.5
JOW				eS	Sn	15 46 32.5	-0.5
NAH1	Naha	1.41	289	P	Pn	15 46 17.4	+0.2
NAH1				eS	Sn	15 46 34.8	+0.3
JIH	Iheya	1.68	320	P	Pn	15 46 21.7	+0.9
JIH				S	Sn	15 46 41.2	+0.1
JMZ	Minamidaito 2	1.85	87	P	Pn	15 46 22.2	-0.9
JMZ				eS	Sn	15 46 41.4	-3.8
JAGN	Aguni-jima	1.93	296	P	Pn	15 46 24.7	+0.4
JAGN				eS	Sn	15 46 47.3	0.0
JTK	Tokunoshima	2.04	354	P	Pn	15 46 26.4	+0.6
JTK				eS	Sn	15 46 48.9	-1.1
JKE	Kume jima 2	2.23	286	P	Pn	15 46 28.1	-0.2
JKE				eS	Sn	15 46 53.3	-1.3
JAM	Amami Oshima	2.68	8	P	Pn	15 46 35.3	+0.7
JAM				eS	Sn	15 47 05.5	-0.4
JMJ	Miyako jima 2	3.63	256	P	Pn	15 46 47.6	-0.1
JTJ	Tarama	4.20	256	P	Pn	15 46 54.7	-0.8
JTJ				eS	Sn	15 47 39.3	-4.0
JIJ	Ishigaki jima	4.77	254	P	Pn	15 47 02.4	-0.9
JIJ				eS	Sn	15 47 53.1	-4.2
IRIF	Iriomote-Funau	5.13	255	P	Pn	15 47 08.3	0.0
NACB	Ninganchiao	7.05	259	eP	Pn	15 47 32.7	-2.0
MAJO	Matsushiro	13.24	33	eP	Pn	15 48 49.1	-10
MJAR	Matsushiro Arr	13.24	34	Pn	Pn	15 48 49.5	-10
	1.4nm,0.3s,baz=196,slow=9.4,SNR=22						
MKAR	Makanchi Array	42.49	312	P	P	15 53 48.5	+2.8
	0.3nm,0.3s,mb3.5,baz=96,slow=8.1,SNR=4.1						
WRA	Warramunga Arr	45.69	173	P	P	15 54 13.4	+2.0
	1.3nm,0.9s,mb3.9,baz=354,slow=8.6,SNR=9.9						
ASAR	Alice Springs	49.33	174	P	P	15 54 42.8	+3.1
	0.4nm,0.6s,mb3.6,baz=5.5,slow=14,SNR=6.1						
ZRNK	Zerenda	52.02	318	eP	P	15 55 01.8	+1.9
	0.8nm,0.8s,mb3.7						

---

*ISCJB **05** 16:08:33.4±3.5, 66S±02×1504E±0.1, h58km±27km, mb4.0/6, MS3.5/6, Error ellipse: s-maj=36.5km s-min=19.2km az=152.5*
*IDC **05** 16:08:34.8±5.6, 658S×15039E, h59km±46km, mb3.9/7, mb1 4.1/8, mb1mx3.8/16, mbtmp4.2/8, ML3.2/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/22, Error ellipse: s-maj=40.4km s-min=22.1km az=6.0*
*NEIC **05** 16:08:34.6±2.7, 654S×15039E, h60km±22km, mb4.4/2, Error ellipse: s-maj=25.7km s-min=14.1km az=179.0*
ISC 05 16:08:35.4±3.3**, 66S**±02×**1504E**±01**, h61**km±25km**, n20, σ0s68**/17**, mb4.0**/6**, 3C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.25	228	P	Pn	16 09 37.3	-0.3
	11nm,0.3s,baz=38,slow=9.5,SNR=37						
PMG				S	Sn	16 10 26.2	+0.3
	11nm,0.3s,baz=104,slow=20,SNR=6.8						
PMG	Port Moresby	4.25	228	eP	Pn	16 09 37.0	-0.6
PMG				eS	Sn	16 10 26.2	+0.2
HNR	Honiara	9.89	107	LR	LR	16 14 00.7	
	comp=Z,72nm,20.6s,baz=360,slow=33						
CTA	Charters Tower	14.01	196	LR	LR	16 16 20.1	
	comp=Z,136nm,21.0s,baz=145,slow=33						
WRAB	Tennant Creek	20.46	228	eP	P	16 13 08.1	+0.1
	21nm,0.7s						
WB2	Warramunga Arr	20.46	228	⇑iP	P	16 13 08.2	+0.2
WRA	Warramunga Arr	20.47	228	P	P	16 13 08.0	0.0
	17nm,0.9s,baz=52,slow=11,SNR=74						
DZM	Mont Dzumac	21.86	136	P	P	16 13 23.9	+1.0
	4.4nm,1.0s,mb3.8,baz=50,slow=20,SNR=2.4						
DZM				LR	LR	16 20 57.9	
	comp=Z,132nm,18.2s,baz=238,slow=34						
AS31	Alice Springs	23.23	221	⇑iP	P	16 13 37.2	-0.1
ASAR	Alice Springs	23.23	221	P	P	16 13 37.1	-0.1
	3.0nm,0.9s,mb3.7,baz=55,slow=8.6,SNR=18						
ASAR				LR	LR	16 22 17.5	
	comp=Z,89nm,19.6s,baz=169,slow=35						
ASPA	Alice Springs	23.23	221	⇑iP	P	16 13 37.2	-0.1
STKA	Stephens Creek	26.47	197	eP	P	16 14 07.5	+0.7
	3.8nm,1.0s,mb3.9						
STKA	Stephens Creek	26.47	197	P	P	16 14 07.5	+0.8
	4.2nm,0.9s,mb4.0,baz=50,slow=15,SNR=4.9						
STKA				LR	LR	16 25 11.3	
	comp=Z,154nm,20.0s,baz=26,slow=38						
FITZ	Fitzroy Crossi	26.70	242	eP	P	16 14 08.8	-0.1
	3.6nm,0.5s,mb4.2						
FITZ	Fitzroy Crossi	26.70	242	P	P	16 14 08.5	-0.4
	2.8nm,0.8s,mb3.8,baz=71,slow=10,SNR=3.6						
FITZ				LR	LR	16 26 21.6	
	comp=Z,67nm,18.9s,baz=164,slow=40						
URZ	Urewera	39.76	146	P	P	16 16 00.0	-2.2
	8.7nm,0.9s,mb4.5,baz=320,slow=17,SNR=2.6						
NWAO	Narrogin (SRO)	40.43	225	LR	LR	16 34 43.5	
	comp=Z,96nm,18.2s,baz=359,slow=39						
ZAL	Zalesovo	81.31	327	LR	LR	16 55 34.0	
	comp=Z,61nm,18.5s,baz=125,slow=35						
NVAR	Mina Array Bea	95.07	52	P	P	16 21 52.1	+0.4
	0.5nm,0.8s,mb4.0,baz=260,slow=5.2,SNR=4.4						
TORD	Torodi Ar. Bea	148.49	284	PKPbc	PKPbc	16 28 15.6	+0.4
	1.6nm,0.7s,baz=56,slow=3.2,SNR=11						

---

*ISCJB **05** 16:24:10.0±0.5, 5793S±007×7.1W±02, h10km, mb4.4/13, MS4.3/21, Error ellipse: s-maj=14.5km s-min=9.7km az=143.4*
*IDC **05** 16:24:10.1±0.6, 5789S×708W, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, ML4.5/1, MS4.3/20, Ms1 4.2/20, ms1mx4.2/24, Error ellipse: s-maj=20.6km s-min=16.7km az=43.0*
*NEIC **05** 16:24:14.0±4.9, 5792S×7.18W, h26km±34km, mb4.9/3, Error ellipse: s-maj=14.2km s-min=10.6km az=57.0*
*BJI **05** 16:24:13.9, 5790S×720W, h25km, mB5.4, Ms5.1, Msz4.9*
*GCMT **05** 16:24:14.0±0.2, 58.11S×692W, h13km±1km, MW5.1/85, Moment Tensor Solution. s43,c53; s85,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.00±.14; $M_{\theta\theta}$-1.03±.16; $M_{\phi\phi}$2.03±.15; $M_{r\theta}$0.13±.31; $M_{\theta\phi}$4.78±.12; $M_{\phi r}$-0.33±.29; Best double couple: $M_0$5.03400×10^{16} NP1:ϕ_s261.00000°, δ85.00000°, λ-2.00000°. NP2: ϕ_s351.00000°, δ88.00000°, λ-175.00000°. Principal axes: T 5.5240, Plg2.0000°, Azm126.0000°; N -0.9790, Plg85.0000°, Azm17.0000°; P -4.5440, Plg5.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 16:24:10.6±7.0**, 5794S**±009×**70W**±02**, h4**km±43km**, n46, σ0s68**/28**, mb4.4**/13**, MS4.3**/21**, 2D, East of South Sandwich Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.78	182	e	Pn	16 27 13.0	0.0
VNA1				e		16 27 15.7	
VNA1				e		16 27 16.8	
VNA1				e		16 27 24.8	
VNA1				e		16 27 36.4	
VNA1				e		16 29 24.6	
VNA1				e		16 29 27.5	
VNA1				e		16 29 33.4	
SNAA	Sanae	13.90	174	Pn	Pn	16 27 28.4	0.0
	2.3nm,0.3s,baz=350,slow=16,SNR=134						
SNAA				Sn	Sn	16 29 49.6	-14
	1.3nm,0.3s,baz=181,slow=22,SNR=7.0						
SNAA				LR	LR	16 31 23.5	
	comp=Z,415nm,20.3s,baz=0.7,slow=31						
SNAA	Sanae	13.90	174	e	Pn	16 27 28.2	-0.2
SNAA				e		16 27 30.4	
SNAA				e		16 27 32.3	
SNAA				e		16 27 44.4	
SNAA				e		16 27 49.3	
SNAA				e		16 27 59.2	
SNAA				e		16 29 46.0	
SNAA				e		16 29 51.1	
SNAA				e		16 30 04.5	
SNAA	Sanae	13.90	174	ePn	Pn	16 27 28.2	-0.2
	30nm,1.8s						
SNAA				eS	Sn	16 29 48.4	-15
SYO	Syowa Base	22.93	138	⇓eP	P	16 29 14.6	-1.0
SYO	Syowa Base	22.93	138	⇓iP	pP	16 29 22.0	+5.3
PMSA	Palmer Station	27.29	232	LR	LR	16 38 21.6	
	comp=Z,462nm,21.2s,MS4.0,baz=108,slow=31						
MAW	Mawson	31.63	137	eP	P	16 30 35.3	+0.6
	9.0nm,0.9s,mb4.6						
MAW	Mawson	31.63	137	P	P	16 30 35.2	+0.5
	9.4nm,0.8s,mb4.7,baz=261,slow=10,SNR=17						
MAW				LR	LR	16 41 19.0	
	comp=Z,307nm,20.0s,MS4.0,baz=262,slow=32						
SUR	Sutherland	31.80	49	LR	LR	16 40 28.5	
	comp=Z,464nm,19.7s,MS4.2,baz=206,slow=31						
QSPA	South Pole Qui	32.30	180	eP	P	16 30 41.1	+0.5
	12nm,0.8s,mb4.8						
BOSA	Boshof	36.93	51	P	P	16 31 21.7	+1.1
	6.2nm,0.8s,mb4.5,baz=217,slow=9.5,SNR=9.0						
BOSA				LR	LR	16 43 36.0	
	comp=Z,271nm,18.7s,MS4.1,baz=208,slow=32						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	Boshof	36.93	51	P	P	16 31 21.7	+1.1
BOSA				LR	LR	16 43 36.0	
PLCA	Paso Flores	43.06	265	LR	LR	16 46 58.7	
	comp=Z,143nm,18.7s,MS3.9,baz=128,slow=32						
VNDA	Vanda	44.63	177	P	P	16 32 24.4	+0.3
	2.5nm,0.7s,mb4.1,baz=192,slow=6.8,SNR=13						
VNDA				LR	LR	16 50 33.9	
	comp=Z,300nm,18.1s,MS4.3,baz=194,slow=36						
VNDA	Vanda	44.63	177	P	P	16 32 24.4	+0.3
VNDA				LR	LR	16 50 33.9	
CPUP	Villa Florida	47.23	290	P	P	16 32 43.2	-1.4
	2.8nm,0.9s,mb4.2,baz=72,slow=4.7,SNR=3.3						
CPUP				LR	LR	16 48 59.2	
	comp=Z,386nm,21.7s,MS4.3,baz=129,slow=32						
CASY	Casey	47.65	151	eP	P	16 32 48.7	+0.7
CFAA	Coronel Fontan	48.67	275	P	P	16 32 55.9	+0.1
	1.5nm,0.9s,mb4.0,baz=145,slow=7.1,SNR=8.0						
LSZ	Lusaka	50.06	47	P	P	16 33 05.4	-1.0
	3.5nm,0.6s,mb4.6,baz=203,slow=10,SNR=8.6						
LSZ	Lusaka	50.06	47	eP	P	16 33 07.0	+0.5
	24nm,1.5s,mb5.0						
BDFB	Brasilia	52.07	307	P	P	16 33 22.1	+0.6
	7.4nm,0.9s,mb4.6,baz=108,slow=10,SNR=3.8						
BDFB				LR	LR	16 50 40.9	
	comp=Z,389nm,20.5s,MS4.4,baz=188,slow=31						
LPAZ	La Paz	61.09	286	P	P	16 34 26.8	+1.0
	3.7nm,0.9s,mb4.5,baz=131,slow=4.8,SNR=15						
LPAZ				LR	LR	16 58 53.0	
	comp=Z,144nm,18.2s,MS4.2,baz=284,slow=34						
LPAZ	La Paz	61.09	286	P	P	16 34 26.8	+1.0
LPAZ				LR	LR	16 58 53.0	
DBIC	Dimbokro	64.41	2	LR	LR	16 57 00.1	
	comp=Z,221nm,18.3s,MS4.4,baz=163,slow=31						
KMBO	Kilima Mbogo	66.53	50	LR	LR	17 01 30.6	
	comp=Z,478nm,19.4s,MS4.7,baz=86,slow=34						
TOA0	Torodi Ar. Sit	71.19	9	eP	P	16 35 29.9	-0.7
TORD	Torodi Ar. Bea	71.19	9	P	P	16 35 30.6	-0.1
	1.8nm,0.8s,mb4.0,baz=194,slow=6.5,SNR=12						
TORD				LR	LR	17 01 02.1	
	comp=Z,146nm,18.8s,MS4.3,baz=190,slow=31						
RPN	Rapa Nui	73.60	245	LR	LR	16 59 28.1	
	comp=Z,189nm,19.1s,MS4.4,baz=276,slow=29						
NWAO	Narrogin (SRO)	78.18	135	P	P	16 36 11.0	-0.2
RPZ	Rata Peaks	78.70	179	LR	LR	17 10 21.7	
	comp=Z,271nm,18.5s,MS4.6,baz=179,slow=35						
ROSC	El Rosal	82.29	292	LR	LR	17 13 22.5	
	comp=Z,116nm,20.4s,MS4.2,baz=19,slow=36						
STKA	Stephens Creek	86.73	154	P	P	16 36 55.8	0.0
	3.7nm,0.8s,mb4.7,baz=171,slow=6.3,SNR=3.9						
STKA				LR	LR	17 13 01.2	
	comp=Z,263nm,19.2s,MS4.7,baz=204,slow=34						
RKT	Rikitea	88.38	227	eLR	LR	17 05 06.7	
	202nm,30.2s						
ASAR	Alice Springs	92.42	145	P	P	16 37 22.4	-0.1
	1.6nm,0.8s,mb4.4,baz=195,slow=4.8,SNR=16						
ASAR				LR	LR	17 14 41.5	
	comp=Z,151nm,19.2s,MS4.5,baz=178,slow=33						
WRA	Warramunga Arr	96.05	144	P	P	16 37 38.4	-0.9
	0.5nm,0.9s,mb3.9,baz=205,slow=4.3,SNR=5.1						
WRA				LR	LR	17 13 59.6	
	comp=Z,148nm,20.8s,MS4.4,baz=165,slow=31						
PPT	Papeete	98.64	216	eLR	LR	17 09 52.8	
	184nm,29.5s						
PPT	Papeete	98.64	216	LR	LR	17 18 39.1	
	comp=Z,135nm,18.5s,MS4.5,baz=124,slow=33						
TAOE	Nuku Hiva Isla	103.35	228	eSS	SS	16 57 10.9	-0.6
	908nm,38.0s						
TAOE				eLR	LR	17 12 05.1	
	465nm,31.9s						
KMI	Kunming	121.39	92	PKP	PKPdf	16 43 05.7	+0.6
CD2	Chengdu	126.53	89	ePKP	PKPdf	16 43 12.4	-2.6
CD2				PP	PP	16 45 14.5	+3.8
CD2				PKS		16 46 47.7	
CD2				SKS	SKSdf	16 50 19.0	-8.6
CD2				SKKS	SKKSac	16 52 02.5	-7.1
CD2				SS	SS	17 02 17.5	+1.4
CD2				PP	PP		
	comp=Z,80nm,8.2s						
WMQ	Urumqi	127.99	66	ePKP	PKPdf	16 43 15.0	-2.8
WMQ				XPKP		16 43 26.0	
WMQ				PP	PP	16 45 23.0	+2.6
WMQ				PKS		16 46 50.0	
WMQ				SKS	SKSdf	16 50 23.0	-7.3
WMQ				PP	PP		
	comp=Z,146nm,5.0s						
WMQ				LR	LR		
	comp=N,290nm,32.0s,MS5.0						
WMQ				LR	LR		
	comp=E,412nm,32.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,216nm,25.9s						
HHC	Hu-ho-hao-te	138.15	87	ePKP	PKPdf	16 43 36.8	-0.1
HHC				PP	PP	16 46 31.2	+5.8
HHC				PKS		16 47 12.4	
HHC				SKS	SKSdf	16 50 45.9	-2.4
HHC				SKKS	SKKSac	16 53 21.1	+0.4
HHC				SS	SS	17 04 41.9	+4.4
HHC				LR	LR		
	comp=Z,129nm,6.5s						
YKA	Yellowknife Ar	145.47	309	PKPbc	PKPbc	16 43 45.6	-4.3
	comp=Z,1.2nm,0.8s,baz=104,slow=17,SNR=2.9						
MJAR	Matsushiro Arr	148.70	118	PKPbc	PKPbc	16 43 58.4	-0.8
	comp=Z,5.1nm,0.9s,baz=194,slow=2.8,SNR=9.4						
MDJ	Mudanjiang	150.34	98	PKP	PKPdf	16 43 56.7	-1.3
MDJ				APKP		16 44 06.7	
MDJ				XPKP		16 44 10.8	
MDJ				PP	PP	16 47 37.3	-1.1
MDJ				SS	SS	17 07 00.3	+2.7
MDJ				PP	PP		
	comp=Z,185nm,11.3s						
MDJ				LR	LR		
	comp=N,62nm,23.9s						
MDJ				LR	LR		
	comp=E,78nm,15.9s						
MDJ				LR	LR		
	comp=Z,89nm,24.9s,MS4.5						

*ISCJB **05** 16:30:58.8±0.6, 5144N±003×16.14E±004, h0km, Error ellipse: s-maj=4.7km s-min=3.0km az=38.9*
*NEIC **05** 16:30:60.0±0.6, 5149N×16.17E, h5km, ML2.8(SZGRF), Error ellipse: s-maj=6.6km s-min=4.5km az=205.0*
*VIE **05** 16:31:01.6±0.4, 5133N×1622E, h0km, mb2.2/3, ML2.6/4, Error ellipse: s-maj=2.7km s-min=2.3km az=54.0 61 km WNW of Breslau Suspected Mining induced.*
*WAR **05** 16:31:01.4, 5145N×16.17E, ML2.6, Mining Induced*
*CSEM **05** 16:31:01.5±0.3, 5143N×16.16E, h1km, ML3.2/5, Error ellipse: s-maj=4.7km s-min=2.4km az=15.0, Suspected Mining induced.*
*PRU **05** 16:31:01.4, 5143N×16.14E, h0km*
ISC 05 16:30:59.6±0.6**, 5149N**±003×**1616E**±004**, h0km, n22, σ0s86**/47**, 3C-2D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	173⇓	iPg	Pg	16 31 12.5	+0.3
KSP				eSg	Sg	16 31 20.2	-0.5
UPC	Upice	0.99	186	ePg	Pg	16 31 18.8	+0.2
UPC				eSg	Sg	16 31 33.1	+1.6
DPC	Dobruska-Polom	1.15	175	ePG	Pg	16 31 21.4	-0.2
DPC				eSG	Sg	16 31 36.0	-0.5
	28nm,0.5s						
PVCC	Panska Ves	1.40	227	ePG	Pg	16 31 26.9	+0.5
PVCC				eSG	Sg	16 31 45.5	+1.0
BRG	Berggiesshubel	1.53	247	PN	Pn	16 31 28.5	+0.3
BRG				PG	Pg	16 31 29.2	+0.3
BRG				SG	Sg	16 31 49.3	+0.5
	28nm,0.6s						
PRU	Pruhonice	1.82	215	ePG	Pg	16 31 33.8	-0.8
PRU				ex	x	16 31 51.9	
PRU				eSG	Sg	16 31 57.2	-1.1
	32nm,0.4s						
MORC	Moravsky Berou	1.93	152	ePn	Pn	16 31 33.2	-0.5
MORC				eS	Sn	16 31 59.7	+1.1
MORC	Moravsky Berou	1.93	152	ePn	Pn	16 31 33.2	-0.5
MORC				eSg	Sn	16 31 59.7	+1.1
CLL	Collm	1.99	266	i Pg	Pg	16 31 37.3	-0.4
CLL				i Sg	Sg	16 32 04.6	+1.1
	comp=Z,15nm,0.5s						
OKC	Ostrava-Krasne	2.08	142	ePG	Pg	16 31 40.0	+0.4
OKC				eSG	Sg	16 32 07.1	+0.5
	comp=Z,16nm,0.4s						
TREC	Trest	2.24	191	ePG	Pg	16 31 41.5	-1.1
TREC				eSG	Sg	16 32 10.4	-1.3
OJC	Ojcow	2.63	118	ePg	Pg	16 31 50.3	+0.2
OJC				eSg	Sg	16 32 24.7	+0.5
NKC	Novy Kostel	2.67	243	ePN	Pn	16 31 43.9	0.0
NKC				ePG	Pg	16 31 50.7	-0.1
NKC				ex	x	16 32 13.0	
NKC				eSG	Sg	16 32 25.4	0.0
	comp=Z,40nm,0.3s						
NKC	Novy Kostel	2.67	243	ePg	Pg	16 31 50.7	-0.1
NKC				eSn	Sn	16 32 13.0	-3.9
NKC				eSg	Sg	16 32 25.4	0.0
	comp=Z,40nm,0.3s						
KHC	Kasperske Hory	2.89	216	ePN	Pn	16 31 46.8	0.0
KHC				ePG	Pg	16 31 53.3	-1.7
KHC				eSN	Sn	16 32 20.6	-1.7
KHC				eSG	Sg	16 32 30.7	-1.7
	comp=Z,18nm,1.2s						
MOX	Moxa	2.99	255	ePG	Pg	16 31 57.6	+0.6
MOX				eSG	Sg	16 32 37.0	+1.3
MOX	Moxa	2.99	255	ePg	Pg	16 31 57.6	+0.6
MOX				eSg	Sg	16 32 37.0	+1.3
GEC2	GERESS Array S	3.09	212	ePn	Pn	16 31 50.4	+0.8
WET	Wettzell	3.16	223	ePn	Pn	16 31 50.9	+0.4
CONA	Conrad Observa	3.57	183⇓	iPn	Pn	16 31 56.2	-0.1
CONA			⇑	iSg	Sg	16 32 54.6	+0.1
	comp=Z,8.1nm,0.5s						
BSD	Bornholm Skovb	3.70	349	i P	Pn	16 31 57.5	-0.6
BSD				i S	Sn	16 32 39.1	-3.3
BSD				e		16 45 38.4	
MOA	Molln	3.85	199⇑	iPn	Pn	16 32 00.6	+0.6
MOA			⇑	iSg	Sg	16 33 04.2	+0.9
	comp=Z,5.4nm,0.4s						

MAN 05 17:08:38.4, 1363N×12354E, h33km, mb2.7, ML4.2, MS5.2, 2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.60	93⇓	eP	Pb	17 08 51.5	+1.0
PVCP				eS	Sb	17 09 00.2	+1.4
PVCP	Virac	0.60	93	eP	Pb	17 08 51.5	+1.0
PVCP				eS	Sb	17 09 03.8	+5.0
GQP	Guinayangan	1.10	285⇓	eP	Pn	17 08 52.8	-4.6
GQP				eS	Sn	17 09 04.2	-7.2
BOAC	Boac	1.66	264	eP	Pn	17 09 02.1	-2.9
BOAC				eS	Sn	17 09 22.1	-3.1
POLP	Polilio Island	1.90	305	eP	Pn	17 09 08.9	+0.5
POLP				eS	Sn	17 09 29.8	-1.4
OTRP	Odiongan	1.94	230	eP	Pn	17 09 09.7	+0.6

*CSEM **05** 17:35:40.0±0.5, 3821N×928W, h10km, ML1.9, Error ellipse: s-maj=12.7km s-min=5.1km az=74.0*
*IGIL **05** 17:35:40.5, 3828N×929W, h2km, ML2.1*
*ISCJB **05** 17:35:41.1±0.9, 3830N±003×924W±008, h15km±9km, Error ellipse: s-maj=11.0km s-min=4.6km az=157.7*
*MDD **05** 17:35:41.4±1.1, 3827N×927W, h0km, mbLg2.1/6, Error ellipse: s-maj=12.2km s-min=4.3km az=77.0, PRXIMO*
*INMG **05** 17:35:41.3±1.1, 3828N×932W, h18km±4km, ML1.9, Error ellipse: s-maj=7.5km s-min=1.9km az=89.0*
ISC 05 17:35:40.8±0.9**, 3829N**±003×**924W**±010**, h10km**±6km**, n17, σ1s20**/33**, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLOU	Loures	0.60	6	ePg	Pg	17 35 52.8	+0.4
PLOU				eSg	Sg	17 36 01.1	+0.8
PLOU							
	32nm,0.1s						
PLOU	Loures	0.60	6	ePg	Pg	17 35 52.8	+0.4
PLOU				eSg	Sg	17 36 01.1	+0.8
	32nm,0.1s						
PMAFR	Mafra	0.67	357	ePg	Pg	17 35 54.1	+0.4
PMAFR				eSg	Sg	17 36 02.7	+0.2
PTEO	Sao Teotonio	0.84	151	eP	Pg	17 35 57.0	0.0
PTEO				eS	Sg	17 36 08.8	+0.8
PTEO							
	37nm,0.2s						
PTEO	Sao Teotonio	0.84	151	eP	Pg	17 35 57.0	0.0
PTEO				eS	Sg	17 36 08.8	+0.8
	37nm,0.2s						
MORF	Marmelete	1.08	154	eP	Pg	17 36 00.1	-1.5
MORF				eS	Sg	17 36 14.5	-1.2
MORF				eS	Sg	17 36 14.5	-1.2
MORF				AML	AML	17 36 17.2	
	comp=E,34nm,0.1s						
MORF	Marmelete	1.08	154	eP	Pg	17 36 00.1	-1.5
MORF				eS	Sg	17 36 14.5	-1.2
PBEJ	Beja	1.11	103	eP	Pb	17 36 01.8	-0.3
PBEJ				eS	Sg	17 36 16.4	-0.2
PBEJ							
	comp=E,9.8nm,0.1s						
PBEJ	Beja	1.11	103	eP	Pb	17 36 01.8	-0.3
PBEJ				eS	Sg	17 36 16.4	-0.2
	comp=E,9.8nm,0.1s						
PESTR	Estremoz	1.42	65	eP	Pn	17 36 05.5	-1.1
PESTR				eS	Sn	17 36 23.8	-1.5
PESTR							
	comp=E,11nm,0.2s						
PTOM	Tomar	1.48	26	eS	Sn	17 36 25.1	-1.8
EGRO	El Granado	1.58	118	P	Pn	17 36 09.9	+1.1
	comp=E,1.2nm,0.1s,SNR=7.9						
EGRO				S	Sn	17 36 30.4	+1.1
	comp=E,2.8nm,0.1s,SNR=6.7						
EBAD	Badajoz	1.81	74	P	Pn	17 36 12.6	+0.6
	comp=E,1.3nm,0.5s,SNR=5.6						
EBAD				S	Sn	17 36 35.3	+0.3
	comp=E,15nm,0.1s,SNR=23						
EBAD	Badajoz	1.81	74	P	Pn	17 36 13.3	+1.3
	comp=E,1.3nm,0.5s,SNR=5.6						
EBAD				S	Sn	17 36 35.3	+0.3
	comp=E,15nm,0.1s,SNR=23						
EMIN	Mina Concepcio	2.09	104	P	Pn	17 36 18.0	+2.1
	comp=E,1.1nm,0.7s,SNR=6.6						
EMIN				S	Sn	17 36 44.6	+2.6
	comp=E,1.0nm,0.1s,SNR=14						
EMIN	Mina Concepcio	2.09	104	S	Sn	17 36 45.0	+3.0
	comp=E,1.0nm,0.1s,SNR=14						
EADA	Adamuz	3.67	90	P	Pn	17 36 35.1	-2.6
	comp=E,0.1nm,0.1s,SNR=4.0						
EADA				S	Sn	17 37 16.4	-4.6
	comp=E,0.8nm,0.1s,SNR=7.9						

MAN 05 17:41:28.5, 1138N×12517E, h121km, mb2.7, ML4.2, MS1.9, Samar

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	0.29	221	eP	Pn	17 41 47.6	+2.2
PLP				eS	Sn	17 41 55.5	-2.8
BESP	Borongan	0.34	51	eP	Pn	17 41 47.2	+1.5
BESP				eS	Sn	17 41 54.2	-4.5
MSLP	Maasin	1.28	194	eP	Pn	17 41 54.6	+1.1
PVCP	Virac	2.41	336	eP	Pn	17 42 08.1	+0.9

*NEIC **05** 17:59:37.5, 3942S×17682E, h53km, ML4.0(WEL), After WEL.*
WEL 05 17:59:38.2±0.1**, 3936S×17681E, h45km**±1km**, ML3.9**/16**, 1D, Error ellipse: s-maj=1.2km s-min=0.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.31	309	eP	Pn	17 59 46.2	-0.9
BKZ				S	Sn	17 59 52.5	-0.8
BKZ	Black Stump Fm	0.31	309	ePN	Pn	17 59 46.2	-0.9
BKZ				SN	Sn	17 59 52.5	-0.8
PXZ	Pawanui	0.67	176	PN	Pn	17 59 50.7	-0.7
PXZ				SN	Sn	18 00 01.6	+0.7
HATZ	Hinemaiaia	0.73	310	P	Pn	17 59 52.0	-0.2
HATZ	Hinemaiaia	0.73	310	PN	Pn	17 59 52.0	-0.2
HATZ				SN	Sn	18 00 02.1	-0.1
KNZ	Kokohu	0.76	63	P	Pn	17 59 52.6	+0.1
KNZ	Kokohu	0.76	63	PN	Pn	17 59 52.6	0.0
MOVZ	Moawhango	0.82	267	P	Pn	17 59 53.1	-0.3
MOVZ	Moawhango	0.82	267	PN	Pn	17 59 53.1	-0.2
MOVZ				SN	Sn	18 00 04.1	-0.2
RITZ	Rihia Road	0.83	297	P	Pn	17 59 53.6	+0.1
RITZ	Rihia Road	0.83	297	PN	Pn	17 59 53.6	0.0
TUVZ	Tukino	0.90	276	P	Pn	17 59 54.4	-0.1
TUVZ	Tukino	0.90	276	PN	Pn	17 59 54.4	-0.1
OTVZ	Oturere	0.91	282	PN	Pn	17 59 54.5	-0.1
WNVZ	Wahianoa	0.94	272	P	Pn	17 59 54.8	-0.2
WNVZ	Wahianoa	0.94	272	PN	Pn	17 59 54.8	-0.2
KRVZ	Karewarewa	0.94	286	PN	Pn	17 59 54.8	-0.2
RATZ	Rangitukua	0.94	301	P	Pn	17 59 54.8	-0.3
RATZ	Rangitukua	0.94	301	PN	Pn	17 59 54.8	-0.3
KATZ	Kakaramea	0.95	294	P	Pn	17 59 55.0	-0.1
KATZ	Kakaramea	0.95	294	PN	Pn	17 59 55.0	-0.1
NGZ	Ngauruhoe	0.95	281	PN	Pn	17 59 55.0	-0.2
TSZ	Takapari Road	0.95	223	P	Pn	17 59 53.9	-1.3
TSZ	Takapari Road	0.95	223 ⇓	PN	Pn	17 59 53.9	-1.3
WHTZ	Whakaora	0.96	316	P	Pn	17 59 55.2	-0.1
WHTZ	Whakaora	0.96	316	PN	Pn	17 59 55.2	0.0
DRZ	Dome Shelter	0.97	275	P	Pn	17 59 55.4	0.0
DRZ	Dome Shelter	0.97	275	PN	Pn	17 59 55.4	0.0
WTVZ	West Tongariro	0.98	284	P	Pn	17 59 55.3	-0.2
WTVZ	West Tongariro	0.98	284	PN	Pn	17 59 55.3	-0.2
TRVZ	Turoa	0.98	273	PN	Pn	17 59 55.5	-0.1
FWVZ	Far West T-bar	0.98	276	P	Pn	17 59 55.2	-0.4
FWVZ	Far West T-bar	0.98	276	PN	Pn	17 59 55.2	-0.3
WPVZ	Whakapapa	0.99	279	P	Pn	17 59 55.5	-0.2
WPVZ	Whakapapa	0.99	279	PN	Pn	17 59 55.5	-0.2
WATZ	Wairara	1.06	308	P	Pn	17 59 56.0	-0.7
WATZ	Wairara	1.06	308	PN	Pn	17 59 56.0	-0.7
PATZ	Paeroa	1.07	336	P	Pn	17 59 57.2	+0.4
TWVZ	Taurewa	1.10	285	P	Pn	17 59 56.5	-0.7
URZ	Urewera	1.13	12	P	Pn	17 59 57.3	-0.3
URZ	Urewera	1.13	12	PN	Pn	17 59 57.3	-0.3
TAZ	Tarawera	1.15	348	P	Pn	17 59 58.0	+0.1
MWZ	Matawai	1.17	29	P	Pn	17 59 58.3	+0.1
EDRZ	Edgecumbe	1.25	358	P	Pn	17 59 59.1	-0.2
BFZ	Birch Farm	1.39	198	P	Pn	17 59 59.1	-2.0
BFZ	Birch Farm	1.39	198	PN	Pn	17 59 59.1	-2.0
KARZ	Kaharoa	1.41	342	P	Pn	18 00 01.2	-0.2
WAZ	Wanganui	1.46	254	P	Pn	18 00 02.2	+0.1
WAZ	Wanganui	1.46	254	PN	Pn	18 00 02.2	+0.1
MRZ	Mangatainoka R	1.60	216	P	Pn	18 00 01.9	-2.2
VRZ	Vera Road	1.61	278	P	Pn	18 00 03.7	-0.4
VRZ	Vera Road	1.61	278	PN	Pn	18 00 03.7	-0.5
PUZ	Puketiti	1.72	42	P	Pn	18 00 05.0	-0.6
HIZ	Hauiti	1.74	299	eP	Pn	18 00 05.5	-0.5
HIZ	Hauiti	1.74	299	PN	Pn	18 00 05.5	-0.4
RAEZ	Rainy Point	1.87	272	P	Pn	18 00 07.7	-0.1
TOZ	Tahuroa Road	1.92	327	P	Pn	18 00 07.9	-0.6
KIW	Kapiti Island	2.09	224	P	Pn	18 00 08.3	-2.4
KIW	Kapiti Island	2.09	224	PN	Pn	18 00 08.3	-2.4
NEZ	North Egmont	2.10	272	P	Pn	18 00 11.9	+0.9
MXZ	Matakaoa Point	2.15	34	P	Pn	18 00 11.5	-0.1
MXZ	Matakaoa Point	2.15	34	PN	Pn	18 00 11.5	0.0
CAW	Cannon Point	2.19	217	P	Pn	18 00 09.1	-3.1
CAW	Cannon Point	2.19	217	PN	Pn	18 00 09.1	-3.1
PKE	Pukeiti	2.19	273	P	Pn	18 00 12.5	+0.3
TRWZ	Traveller	2.21	202	PN	Pn	18 00 09.1	-3.2
NRZ	Ngariki Road	2.23	270	P	Pn	18 00 12.9	+0.3
NWEZ	Newall Road	2.28	271	P	Pn	18 00 13.9	+0.5
MSWZ	Moikau Station	2.37	210	P	Pn	18 00 11.0	-3.6
MRW	Makara Radio	2.46	220	P	Pn	18 00 12.6	-3.3
WEL	Wellington	2.47	218	P	Pn	18 00 12.8	-3.2
BHW	Baring Head	2.52	215	P	Pn	18 00 12.9	-3.8
SNZO	South Karori	2.52	219	ePn	Pn	18 00 13.4	-3.3
SNZO				eS	Sn	18 00 42.5	-3.7
TCW	Tory Channel	2.68	226	P	Pn	18 00 15.4	-3.4
KUZ	Kuaotunu	2.75	341	eP	Pn	18 00 17.7	-2.1
NNZ	Nelson	3.21	234	eP	Pn	18 00 23.0	-3.1
THZ	Tophouse	3.82	230	eP	Pn	18 00 30.9	-3.6
KHZ	Kahutara	3.93	218	eP	Pn	18 00 31.5	-4.5
LTZ	Lake Taylor	4.84	224	eP	Pn	18 00 43.2	-5.3
MQZ	McQueen's Vall	5.34	214	eP	Pn	18 00 50.9	-4.5
ODZ	Otahua Downs	7.29	217	eP	Pn	18 01 16.3	-5.8

*IDC **05** 18:01:31.1±3.4, 4047S×17676E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.8/14, mbtmp3.7/5, Error ellipse: s-maj=71.4km s-min=25.2km az=123.0*
*ISCJB **05** 18:01:32.8±1.3, 4067S±006×177.1E±0.1, h46km±10km, mb3.9/4, Error ellipse: s-maj=17.2km s-min=8.5km az=32.8*
*NEIC **05** 18:01:34.2, 4057S×17667E, h5km, mb4.2/1, ML4.1(WEL), After WEL.*
*WEL **05** 18:01:34.1±0.7, 4058S×17671E, h5km, ML4.0/13, Error ellipse: s-maj=10.4km s-min=1.6km az=90.0*
ISC 05 18:01:33.4±1.6**, 4068S**±006×**1771E**±01**, h31km**±13km**, n33, σ1s10**/36**, mb3.9**/4**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRWZ	Traveller	1.27	235	P*	Pb	18 01 55.4	-1.2
MOVZ	Moawhango	1.63	321	P	Pn	18 01 58.5	-1.4
MOVZ	Moawhango	1.63	321	PN	Pn	18 01 58.5	-1.3
DRZ	Dome Shelter	1.82	320	P	Pn	18 02 02.2	-0.3
DRZ	Dome Shelter	1.82	320	PN	Pn	18 02 02.7	+0.2
DRZ				SN	Sn	18 02 23.2	-1.4
OTVZ	Oturere	1.86	324	PN	Pn	18 02 02.6	-0.5
OTVZ				SN	Sn	18 02 24.8	-0.7
NGZ	Ngauruhoe	1.88	323	PN	Pn	18 02 03.3	-0.1
SNZO	South Karori	1.90	250	ePn	Pn	18 02 02.6	-1.0
HATZ	Hinemaiaia	1.94	337	PN	Pn	18 02 05.3	+1.1
RITZ	Rihia Road	1.94	331	P	Pn	18 02 04.5	+0.3
RITZ	Rihia Road	1.94	331	PN	Pn	18 02 04.5	+0.4
KATZ	Kakaramea	2.01	328	P	Pn	18 02 05.6	+0.5
KATZ	Kakaramea	2.01	328	PN	Pn	18 02 05.6	+0.5
TWVZ	Taurewa	2.04	321	P	Pn	18 02 05.3	-0.3
TWVZ	Taurewa	2.04	321	PN	Pn	18 02 05.6	0.0
RATZ	Rangitukua	2.07	331	P	Pn	18 02 07.0	+1.0
RATZ	Rangitukua	2.07	331	PN	Pn	18 02 06.6	+0.6
WATZ	Wairara	2.23	332	P	Pn	18 02 09.9	+1.8
VRZ	Vera Road	2.36	310	eP	Pn	18 02 12.2	+2.2
VRZ	Vera Road	2.36	310	ePN	Pn	18 02 09.2	-0.8
MWZ	Matawai	2.37	9	eP	Pn	18 02 09.1	-1.0
MWZ	Matawai	2.37	9	PN	Pn	18 02 09.3	-0.7
URZ	Urewera	2.42	1	Pn	Pn	18 02 09.3	-1.5
	5.9nm,0.3s,baz=214,slow=3.2,SNR=4.8						
URZ				Sn	Sn	18 02 38.7	-0.6
	9.8nm,0.3s,baz=302,slow=0.8,SNR=5.4						
RAEZ	Rainy Point	2.48	303	P	Pn	18 02 11.5	-0.1
NEZ	North Egmont	2.69	301	P	Pn	18 02 17.0	+2.6
NRZ	Ngariki Road	2.76	298	P	Pn	18 02 18.8	+3.4
PKE	Pukeiti	2.80	301	P	Pn	18 02 18.1	+2.1
RPZ	Rata Peaks	5.40	234	Pn	Pn	18 02 52.4	+0.7
	baz=86,slow=16,SNR=1.5						
RPZ				Sn	Sn	18 03 49.2	-3.6
	1.4nm,0.3s,baz=334,slow=22,SNR=8.4						
ASAR	Alice Springs	39.85	282	P	P	18 09 03.9	-0.1
	0.2nm,0.3s,mb3.4,baz=119,slow=6.9,SNR=12						
WRAB	Tennant Creek	41.78	287	eP	P	18 09 19.8	-0.1
	3.5nm,0.7s,mb4.1						
WRA	Warramunga Arr	41.78	287	P	P	18 09 20.0	+0.2
	1.0nm,0.3s,mb4.0,baz=125,slow=8.2,SNR=35						
FITZ	Fitzroy Crossi	49.35	281	P	P	18 10 19.9	+0.2
	0.9nm,0.6s,mb4.0,baz=100,slow=6.1,SNR=5.5						
ARCES	ARCESS Array B	147.47	342	PKPbc	PKPbc	18 21 14.2	+0.1
	1.2nm,0.7s,baz=35,slow=3.3,SNR=4.6						

CASC 05 18:07:51.8±3.3**, 1397N×9120W, h20km**±42km**, MD3.6, 1C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RBDL	Robledal	1.48	84⇓	eP	x	18 08 25.9	
RBDL				eS	x	18 08 46.5	
RTR	El Retiro	1.51	92	eP	x	18 08 26.0	
RTR				eS	x	18 08 47.1	
SBLS	San Blas	1.54	95⇑	eP	x	18 08 25.6	
SBLS				eS	x	18 08 45.4	
SNJE	San Jose	1.55	93	eP	x	18 08 26.9	
SNJE				eS	x	18 08 45.3	
BOQS	Boqueron	1.88	97	eP	x	18 08 34.0	
LFRS	El Faro	2.10	99	eP	x	18 08 33.3	
LFRS				eS	x	18 08 59.4	
LCBS	La Ceiba	2.18	98⇓	eP	x	18 08 35.2	
LCBS				eS	x	18 09 02.5	

WEL 05 18:18:38.4±0.3**, 4049S×17693E, h41km**±6km**, ML3.6**/12**, Error ellipse: s-maj=4.2km s-min=2.4km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PXZ	Pawanui	0.46	354	P*	Pn	18 18 48.3	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PXZ				S*	Sn	18 18 56.1	+0.1
BFZ	**Birch Farm**	**0.55**	**250**	P*	Pn	18 18 49.7	-0.2
BFZ				S*	Sn	18 18 57.7	-0.3
TIWZ	**Tintock**	**0.84**	**250**	P*	Pn	18 18 53.7	-0.1
TIWZ				S*	Sn	18 19 05.6	+0.6
TSZ	**Takapari Road**	**0.86**	**300**	P*	Pn	18 18 53.4	-0.6
TSZ				S*	Sn	18 19 04.4	-0.9
MRZ	**Mangatainoka R**	**1.04**	**260**	PN	Pn	18 18 56.1	-0.4
MRZ				S*	Sn	18 19 10.0	+0.1
MTW	**Mount Morrison**	**1.27**	**238**	PN	Pn	18 18 59.1	-0.6
TRWZ	**Traveller**	**1.30**	**226**	PN	Pn	18 18 59.7	-0.5
BKZ	**Black Stump Fm**	**1.37**	**346**	PN	Pn	18 19 01.5	+0.5
MOVZ	**Moawhango**	**1.41**	**320**	PN	Pn	18 19 02.2	+0.6
CAW	**Cannon Point**	**1.54**	**246**	PN	Pn	18 19 02.8	-0.6
MSWZ	**Moikau Station**	**1.57**	**234**	PN	Pn	18 19 03.0	-0.7
WAZ	**Wanganui**	**1.66**	**296**	PN	Pn	18 19 06.1	+1.0
BHW	**Baring Head**	**1.81**	**239**	PN	Pn	18 19 06.3	-0.7

*ISCJB **05** 18:52:05.6±0.5, 24.1S±0.1×69.8E±0.1, h10km, mb4.1/12, MS4.0/4, Error ellipse: s-maj=19.8km s-min=15.0km az=126.2*
*IDC **05** 18:52:05.8±0.8, 24.04S×69.68E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, MS4.0/4, Ms1 3.9/4, ms1mx3.3/24, Error ellipse: s-maj=29.8km s-min=20.5km az=59.0*
*NEIC **05** 18:52:07.5±0.4, 24.06S×69.74E, h10km, mb4.5/4, Error ellipse: s-maj=15.5km s-min=11.7km az=62.0*
ISC 05 18:52:07.7±0.5**, 24.1S**±0.1×**69.7E**±0.1**, h10km, n18, σ0.75**/15**, mb4.1**/12**, MS4.0**/4**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**39.94**	**254**	LR	LR	19 13 23.2	
	comp=Z,170nm,18.5s,MS3.9,baz=60,slow=32						
MAW	**Mawson**	**43.73**	**184**	P	**P**	**19 00 12.9**	**-0.2**
	2.3nm,0.9s,mb3.9,baz=343,slow=13,SNR=4.3						
MAW				LR	LR	19 13 57.5	
	comp=Z,136nm,21.2s,MS3.8,baz=257,slow=30						
ASAR	**Alice Springs**	**58.19**	**104**	P	**P**	**19 02 02.6**	**+0.8**
	1.8nm,0.7s,mb4.2,baz=253,slow=6.3,SNR=34						
WRA	**Warramunga Arr**	**59.58**	**100**	P	**P**	**19 02 12.1**	**+0.6**
	2.2nm,0.8s,mb4.2,baz=256,slow=6.8,SNR=18						
WRAB	**Tennant Creek**	**59.60**	**100**	*e*P	**P**	**19 02 10.8**	**-0.8**
	4.8nm,0.8s,mb4.6						
SNAA	**Sanae**	**61.86**	**200**	*e*P	**P**	**19 02 26.8**	**-0.2**
	3.9nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**62.92**	**115**	*e*P	**P**	**19 02 34.5**	**+0.4**
VNDA	**Vanda**	**67.12**	**166**	P	**P**	**19 03 00.9**	**-0.5**
	3.2nm,0.9s,mb4.3,baz=270,slow=6.9,SNR=17						
VNDA	**Vanda**	**67.12**	**166**	P	**P**	**19 03 00.9**	**-0.5**
VNDA				*e*		19 03 08.0	
SBA	**Scott Base**	**68.10**	**167**	*e*P	**P**	**19 03 07.6**	**-0.1**
	3.9nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**71.45**	**9**	P	**P**	**19 03 28.9**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=191,slow=5.8,SNR=6.1						
BRTR	**Keskin Array B**	**71.86**	**331**	P	**P**	**19 03 29.5**	**-1.3**
	0.4nm,0.7s,mb3.4,baz=127,slow=2.2,SNR=2.3						
TOA0	**Torodi Ar. Sit**	**76.04**	**291**	*e*P	**P**	**19 03 56.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.04**	**291**	P	**P**	**19 03 55.9**	**+0.7**
	1.7nm,1.0s,mb3.9,baz=121,slow=5.9,SNR=6.5						
ZRNK	**Zerenda**	**76.71**	**360**	*e*P	**P**	**19 03 59.5**	**+0.5**
	7.2nm,1.5s,mb4.4						
ZAL	**Zalesovo**	**78.78**	**9**	P	**P**	**19 04 09.0**	**-1.6**
	0.8nm,0.3s,mb4.1,baz=14,slow=2.2,SNR=3.6						
DBIC	**Dimbokro**	**78.79**	**283**	LR	LR	19 37 05.1	
	comp=Z,56nm,18.1s,MS3.9,baz=100,slow=34						
MJAR	**Matsushiro Arr**	**88.31**	**49**	LR	LR	19 43 07.3	
	comp=Z,138nm,18.7s,MS4.4,baz=100,slow=35						

MAN 05 18:54:29.8, 16.57N×120.12E, h53km, mb3.0, ML4.4, MS4.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.28**	**226**	*e*P	Pn	18 54 41.4	+2.3
BOLP				*e*S	Sn	18 54 50.5	+4.9
BCPH	**Baguio City Da**	**0.48**	**113**	⇑*i*P	Pn	18 54 45.7	+4.7
BCPH				*i* S	Sn	18 54 52.6	+3.5
SCZP	**Santa Cruz**	**0.82**	**194**	*e*P	Pn	18 54 46.8	+1.6
SCZP				*e*S	Sn	18 55 00.3	+3.9
ABRA	**Dolores**	**1.21**	**28**	*e*P	Pn	18 54 50.7	+0.3
ABRA				*e*S	Sn	18 55 06.5	+0.8
BALP	**Baler**	**1.62**	**120**	*e*P	Pn	18 54 57.7	+1.7
BALP				*e*S	Sn	18 55 20.0	+4.1
CAUP	**Cauayan**	**1.67**	**77**	*e*P	Pn	18 54 58.7	+2.0
POLP	**Polilio Island**	**2.54**	**136**	*e*P	Pn	18 55 09.5	+1.0
LUBP	**Lubang**	**2.83**	**178**	*e*P	Pn	18 55 13.0	+0.5
ENPP	**El Nido**	**5.38**	**187**	*e*P	Pn	18 55 47.5	+0.1

*NEIC **05** 19:05:23.0, 40.73S×73.86W, h30km, ML4.1(GUC), After GUC.*
NEIC Felt [IV] at Puyehue and [II] at Puerto Octay.
GUC 05 19:05:23.0±0.8**, 40.73S×73.86W, h30km**±12km**, ML4.1, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**1.04**	**27**	*e*P	Pn	19 05 39.9	-1.6
VLCH				*i* S	Sn	19 05 53.9	-1.0
VLCH				AML	AML	19 05 57.9	
	comp=N,12µm,0.3s						
VLCH	**Valdivia**	**1.04**	**27**	*e*P	Pn	19 05 39.9	-1.6
VLCH				*i* S	Sn	19 05 53.9	-1.0
PMCH	**Puerto Montt**	**1.05**	**136**	*e*P	Pn	19 05 41.8	+0.1
PMCH				*i* S	Sn	19 05 55.4	+0.1
PMCH				AML	AML	19 06 02.9	
	comp=E,6µm,0.2s						
PMCH	**Puerto Montt**	**1.05**	**136**	*e*P	Pn	19 05 41.8	+0.1
PMCH				*i* S	Sn	19 05 55.4	+0.1
TMU	**Temuco**	**2.22**	**26**	*e*P	Pn	19 05 58.9	+1.2
TMU				*i* S	Sn	19 06 25.9	+1.7
CCHI	**Chillan**	**4.35**	**19**	*e*P	Pn	19 06 28.2	+1.2
CCHI				*e*S	Sn	19 07 18.1	+1.4

OTT 05 19:17:40.8±0.2**, 64.68N×84.04W, h18km, MN3.0**/7**, 75km northwest from Coral Harbour, Nu Boothia Ungava Seismic Zone., Northwest Territories**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**2.21**	**335**	PN	Pn	19 18 16.7	+0.2
QILN				PG	Pg	19 18 19.7	-3.5
QILN				SN	Sn	19 18 42.6	-0.7
QILN				SG	Sg	19 18 47.0	-4.9
QILN				Trac		19 18 55.3	
	comp=Z,19nm,0.1s						
WAGN	**Wager Bay**	**2.57**	**300**	PN	Pn	19 18 18.3	-3.2
WAGN				SN	Sn	19 18 52.7	+0.3
SEDN	**First Sedna Si**	**3.47**	**249**	PN	Pn	19 18 33.2	-0.6
SEDN				SN	Sn	19 19 12.7	-1.8
SEDN				SG	Sg	19 19 24.1	-8.2
SEDN				Trac		19 19 29.4	
	comp=Z,11nm,0.2s						
JOSN	**Second Sedna S**	**3.64**	**249**	PN	Pn	19 18 36.0	-0.3
JOSN				SN	Sn	19 19 17.9	-0.8
JOSN				SG	Sg	19 19 28.2	-10
JOSN				Trac		19 19 34.4	
	comp=Z,9.7nm,0.2s						
SRLN	**Sarcpa Lake, N**	**3.90**	**4**	PN	Pn	19 18 40.1	+0.2
SRLN				SN	Sn	19 19 23.1	-2.1
SRLN				SG	Sg	19 19 37.6	-8.6
SRLN				Trac		19 19 44.3	
	comp=Z,23nm,0.5s						
ILON	**Igloolik, Nuna**	**4.80**	**9**	SN	Sn	19 19 43.3	-3.9
ILON				SG	Sg	19 20 07.0	-7.8
ILON				Trac		19 20 14.3	
	comp=Z,4.9nm,0.1s						
AP3N	**Apex site 3 Nu**	**4.81**	**358**	PN	Pn	19 18 51.4	-0.9
AP3N				PG	Pg	19 19 04.3	-8.6
AP3N				SN	Sn	19 19 45.0	-2.5
AP3N				Trac		19 20 09.7	
	comp=Z,8.4nm,0.3s						
GIFN	**Gifford Fjord,**	**5.42**	**9**	PN	Pn	19 19 00.2	-0.5
GIFN				SN	Sn	19 19 58.4	-4.3
GIFN				SG	Sg	19 20 25.2	-10
GIFN				Trac		19 20 31.9	
	comp=Z,23nm,0.3s						
ARVN	**Arviat, NU**	**5.82**	**236**	SN	Sn	19 20 39.0	+26
ARVN				SG	Sg	19 21 10.3	+23
FRB	**Frobisher Bay**	**6.83**	**91**	SN	Sn	19 20 31.1	-6.1
SILO	**Sutton Inlier**	**10.24**	**183**	PN	Pn	19 20 03.9	-2.9
SILO				SN	Sn	19 21 53.5	-7.7

*ISCJB **05** 19:17:59.0±1.0, 44.00N±0.03×7.71E±0.07, h2km, Error ellipse: s-maj=7.1km s-min=3.6km az=34.9*
*LDG **05** 19:18:00.3±0.2, 43.96N×7.70E, h2km, Md1.9/3, Ml2.0/8, Error ellipse: s-maj=3.6km s-min=1.7km az=106.0*
*STR **05** 19:18:01.5±0.3, 43.93N×7.62E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 05 19:18:00.1±1.1**, 43.96N**±0.03×**7.65E**±0.08**, h17km**±4km**, n19, σ0.54**/34**, Near south coast of France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.07**	**288**	Pg	**Pg**	**19 18 03.6**	**+0.2**
SAOF				Sg	**Sg**	**19 18 05.2**	**-0.5**
AUTN	**L'Aution**	**0.17**	**281**	Pg	**Pg**	**19 18 05.0**	**+0.5**
AUTN				Sg	**Sg**	**19 18 07.9**	**+0.5**
SBF	**Sospel**	**0.19**	**238**	*e*Pg	**Pg**	**19 18 04.7**	**-0.1**
SBF				*e*Sg	**Sg**	**19 18 06.9**	**-1.1**
	57nm,0.2s						
LUCF	**Luceram**	**0.23**	**252**	Pg	**Pg**	**19 18 05.8**	**+0.3**
LUCF				Sg	**Sg**	**19 18 09.3**	**+0.2**
TOUF	**Mont Tournerai**	**0.30**	**280**	Pg	**Pg**	**19 18 07.6**	**+1.1**
TOUF				Sg	**Sg**	**19 18 11.4**	**+0.5**
REVF	**Revere**	**0.30**	**223**	Pg	**Pg**	**19 18 06.7**	**0.0**
MVIF	**Mont Vial**	**0.37**	**260**	Pg	**Pg**	**19 18 08.3**	**+0.5**
MVIF				Sg	**Sg**	**19 18 12.9**	**0.0**
FRF	**La Foret Royal**	**0.83**	**241**	*e*Pg	**Pg**	**19 18 16.2**	**-0.2**
FRF				*e*Sg	**Sg**	**19 18 27.0**	**-0.4**
	7.5nm,0.2s						
MBDF	**Montbardon**	**0.99**	**321**	*e*Pg	**Pg**	**19 18 19.7**	**+0.3**
MBDF				*e*Sg	**Sg**	**19 18 32.4**	**0.0**
	2.6nm,0.2s						
LMR	**La Mourre**	**1.04**	**233**	*e*Pg	**Pg**	**19 18 19.8**	**-0.5**
LMR				*e*Sg	**Sg**	**19 18 33.4**	**-0.6**
	5.9nm,0.2s						
TAVF	**Tavernes**	**1.21**	**254**	Pg	**Pg**	**19 18 24.2**	**+0.8**
TAVF				Sg	**Sg**	**19 18 40.2**	**+1.0**
VILF	**Villemus**	**1.41**	**266**	Pg	**Pg**	**19 18 28.2**	**+1.0**
PUYF	**Puyloubier**	**1.48**	**254**	Pg	**Pg**	**19 18 28.3**	**-0.3**
SMRF	**Simiane la Rot**	**1.50**	**271**	*e*Pg	**Pg**	**19 18 28.2**	**-0.8**
SMRF				*e*Sg	**Sg**	**19 18 48.1**	**-0.5**
	7.4nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.59**	**308**	*e*Pg	**Pg**	**19 18 30.3**	**-0.4**
ORIF				*e*Sg	**Sg**	**19 18 51.1**	**-0.3**
	4.1nm,0.4s						
LPG	**La Plagne**	**1.66**	**338**	*e*Pg	**Pg**	**19 18 32.0**	**-0.1**
LPG				*e*Sg	**Sg**	**19 18 53.6**	**-0.1**
	1.1nm,0.3s						
LPL	**La Plagne**	**1.69**	**337**	*e*Pg	**Pg**	**19 18 32.3**	**-0.2**
LPL				*e*Sg	**Sg**	**19 18 54.2**	**-0.3**
	1.3nm,0.4s						
VIVF	**Saint-Julien-l**	**2.31**	**294**	*e*Pn	**Pn**	**19 18 38.0**	**+0.6**
VIVF	**Saint-Julien-l**	**2.31**	**294**	*e*Pg	**Pg**	**19 18 43.5**	**-1.0**
VIVF				*e*Sn	**Sn**	**19 19 05.3**	**-0.1**
	0.6nm,0.2s						

*IDC **05** 19:35:10.5±1.2, 7.44S×112.17E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, Error ellipse: s-maj=44.4km s-min=24.1km az=49.0*
*NEIC **05** 19:35:18.9±3.8, 7.58S×112.09E, h66km±34km, mb4.3/3, Error ellipse: s-maj=26.5km s-min=19.3km az=212.0*
ISC 05 19:35:18.3±4.7**, 7.5S**±0.2×**112.1E**±0.2**, h57km**±42km**, n11, σ0.75**/13**, mb4.3**/7**, 1C, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.42**	**152**	*e*Pn	**Pn**	**19 38 51.2**	**-0.9**
	9.3nm,0.7s						
MBWA				*e*Sn	**Sn**	**19 41 26.4**	**-15**
FITZ	**Fitzroy Crossi**	**16.85**	**130**	Pn	**Pn**	**19 39 11.8**	**+1.6**
	0.5nm,0.3s,baz=326,slow=9.2,SNR=18						
FITZ				Sn	**Sn**	**19 42 07.6**	**-8.9**
	0.2nm,0.3s,baz=166,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**24.83**	**122**	P	**P**	**19 40 34.8**	**-0.3**
	4.2nm,0.5s,mb4.2,baz=297,slow=11,SNR=65						
WRAB	**Tennant Creek**	**24.83**	**122**	*e*Pn	**P**	**19 40 35.1**	**0.0**
	10nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**24.84**	**122**	⇑*i*P	**P**	**19 40 35.2**	**0.0**
ASAR	**Alice Springs**	**26.35**	**130**	P	**P**	**19 40 48.7**	**-0.2**
	2.4nm,0.5s,mb4.0,baz=303,slow=8.2,SNR=54						
STKA	**Stephens Creek**	**36.61**	**135**	P	**P**	**19 42 18.7**	**-0.2**
	2.4nm,0.7s,mb4.1,baz=321,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**60.24**	**337**	P	**P**	**19 45 20.1**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=151,slow=7.4,SNR=7.3						
MAW	**Mawson**	**68.38**	**198**	P	**P**	**19 46 14.3**	**+0.5**
	1.3nm,0.5s,mb4.2,baz=76,slow=8.3,SNR=9.3						
MAW	**Mawson**	**68.38**	**198**	*e*P	**P**	**19 46 12.7**	**-1.1**
	1.7nm,0.5s,mb4.3						
SUR	**Sutherland**	**87.11**	**238**	P	**P**	**19 47 59.0**	**+1.1**
	58nm,1.5s,mb5.6						

*ISCJB **05** 19:48:40.9±0.5, 65.35S±0.07×73.6W±0.2, h10km, mb4.3/18, MS4.0/14, Error ellipse: s-maj=10.7km s-min=8.7km az=88.4*
*IDC **05** 19:48:40.6±0.7, 65.40S×74.45W, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/17, mbtmp4.1/10, MS3.9/13, Ms1 3.9/13, ms1mx3.8/19, Error ellipse: s-maj=32.6km s-min=16.7km az=93.0*
*NEIC **05** 19:48:42.3±0.5, 65.36S×73.93W, h10km, mb4.7/13, Error ellipse: s-maj=16.9km s-min=9.8km az=105.0*
*BJI **05** 19:48:42.2, 65.40S×73.90W, h10km, mB5.2, Ms5.0, Msz4.9*
ISC 05 19:48:42.1±0.5**, 65.38S**±0.07×**73.7W**±0.2**, h10km, n44, σ1.13**/30**, mb4.3**/18**, MS4.0**/14**, 2C, Southern Pacific Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**4.13**	**86**	Pn	**Pn**	**19 49 45.3**	**0.0**
	29nm,0.3s,baz=256,slow=11,SNR=336						
PMSA				Sn	**Sn**	**19 50 32.5**	**-1.1**
	36nm,0.3s,baz=159,slow=21,SNR=9.9						
PMSA				LR	LR	19 51 11.0	
	comp=Z,1µm,19.5s,baz=242,slow=34						
PMSA	**Palmer Station**	**4.13**	**86**	*e*Pn	**Pn**	**19 49 44.8**	**-0.4**
PMSA				*e*Sn	**Sn**	**19 50 31.9**	**-1.7**
EFI	**East Falkland**	**15.91**	**38**	Pn	**Pn**	**19 52 26.8**	**+0.7**
	55nm,0.9s						
VNA1	**Neumayer--Stat**	**23.91**	**132**	⇑*i*	**P**	**19 53 59.0**	**+2.9**
VNA1				*e*		19 54 00.8	
VNA1				*e*		19 54 02.5	
PLCA	**Paso Flores**	**24.76**	**6**	P	**P**	**19 54 03.5**	**-0.4**
	3.1nm,0.9s,mb3.9,baz=194,slow=10,SNR=7.7						
PLCA				LR	LR	20 02 18.5	
	comp=Z,278nm,19.3s,MS3.8,baz=187,slow=33						
PLCA	**Paso Flores**	**24.76**	**6**	*e*P	**P**	**19 54 02.2**	**-1.7**
	5.2nm,1.0s,mb4.0						
QSPA	**South Pole Qui**	**24.82**	**180**	*e*P	**P**	**19 54 05.8**	**+1.4**
	27nm,1.1s,mb4.7						
SNAA	**Sanae**	**25.20**	**135**	P	**P**	**19 54 10.1**	**+2.3**
	13nm,0.9s,mb4.5,baz=257,slow=6.5,SNR=62						
SNAA				LR	LR	20 04 16.1	
	comp=Z,79nm,20.1s,MS3.2,baz=224,slow=37						
SNAA	**Sanae**	**25.20**	**135**	⇑*i*	**P**	**19 54 09.9**	**+2.1**
SNAA				*e*	pP	19 54 11.5	+0.6
SNAA				*e*	pP	19 54 13.3	+2.4
SNAA	**Sanae**	**25.20**	**135**	*e*P	**P**	**19 54 09.6**	**+1.8**
	56nm,1.0s,mb5.0						
TRQA	**Tornquist**	**28.21**	**20**	*e*P	**P**	**19 54 35.7**	**+0.7**
	4.8nm,0.9s,mb4.1						
SBA	**Scott Base**	**32.47**	**200**	*e*P	**P**	**19 55 16.7**	**+4.1**
	2.8nm,0.8s,mb4.1						
VNDA	**Vanda**	**33.41**	**199**	LR	LR	20 08 55.3	
	comp=Z,275nm,19.0s,MS4.0,baz=44,slow=36						
VNDA	**Vanda**	**33.41**	**199**	*e*P	**P**	**19 55 10.7**	**-10**
	4.4nm,1.0s,mb4.3						
CFAA	**Coronel Fontan**	**33.97**	**8**	P	**P**	**19 55 25.2**	**-0.5**
	0.4nm,0.8s,mb3.4,baz=203,slow=9.3,SNR=5.3						
CPUP	**Villa Florida**	**40.42**	**23**	LR	LR	20 11 55.3	
	comp=Z,81nm,18.7s,MS3.6,baz=175,slow=34						
MAW	**Mawson**	**43.77**	**158**	P	**P**	**19 56 46.5**	**-1.3**
	1.2nm,0.6s,mb3.8,baz=188,slow=12,SNR=6.9						
MAW				PcP	PcP	19 58 34.9	+0.4
	5.8nm,1.0s,baz=244,slow=3.5,SNR=8.4						
MAW				LR	LR	20 18 15.9	
	comp=Z,166nm,18.4s,MS4.0,baz=318,slow=40						
CASY	**Casey**	**48.59**	**182**	*e*P	**P**	**19 57 25.7**	**-0.1**
	19nm,1.3s,mb5.0						
LPAZ	**La Paz**	**49.20**	**7**	P	**P**	**19 57 31.6**	**+1.1**
	2.0nm,0.7s,mb4.2,baz=178,slow=8.3,SNR=12						
LPAZ				LR	LR	20 18 54.3	
	comp=Z,76nm,19.6s,MS3.7,baz=274,slow=37						
LPAZ	**La Paz**	**49.20**	**7**	*e*P	**P**	**19 57 31.4**	**+1.0**
	16nm,1.3s,mb4.9						
BDFB	**Brasilia**	**52.63**	**32**	P	**P**	**19 57 57.2**	**+1.0**
	0.9nm,0.3s,mb4.2,baz=233,slow=5.1,SNR=2.0						
BDFB				LR	LR	20 18 22.9	
	comp=Z,98nm,21.5s,MS3.8,baz=193,slow=34						
SAML	**Samuel**	**56.83**	**12**	*e*P	**P**	**19 58 26.3**	**-0.4**
	3.3nm,0.7s,mb4.5						
BOSA	**Boshof**	**67.96**	**110**	P	**P**	**19 59 41.7**	**+0.5**
	2.3nm,0.9s,mb4.2,baz=154,slow=8.1,SNR=3.7						
BOSA				LR	LR	20 24 18.0	
	comp=Z,88nm,18.8s,MS4.0,baz=109,slow=31						
BOSA	**Boshof**	**67.96**	**110**	*e*P	**P**	**19 59 41.8**	**+0.6**
	24nm,1.5s,mb5.0						
PPT	**Papeete**	**68.29**	**275**	LR	LR	20 22 29.0	
	comp=Z,148nm,18.6s,MS4.2,baz=117,slow=30						
LBTB	**Lobatse**	**71.31**	**109**	P	**P**	**19 59 58.1**	**-3.7**
	4.5nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**79.26**	**210**	P	**P**	**20 00 46.1**	**-1.6**
	2.8nm,0.9s,mb4.2,baz=139,slow=12,SNR=3.0						
STKA				LR	LR	20 35 46.5	
	comp=Z,87nm,18.5s,MS4.1,baz=21,slow=36						
STKA	**Stephens Creek**	**79.26**	**210**	P	**P**	**20 00 47.5**	**-0.2**
ASAR	**Alice Springs**	**88.73**	**205**	P	**P**	**20 01 35.4**	**-0.6**
	1.0nm,0.7s,mb4.2,baz=165,slow=4.4,SNR=14						
WRA	**Warramunga Arr**	**92.29**	**206**	P	**P**	**20 01 51.6**	**-0.9**
	0.4nm,0.6s,mb3.9,baz=169,slow=4.2,SNR=6.6						
WRAB	**Tennant Creek**	**92.30**	**206**	P	**P**	**20 01 51.5**	**-1.0**
	17nm,1.5s,mb5.2						
TORD	**Torodi Ar. Bea**	**95.87**	**71**	LR	LR	20 39 21.8	
	comp=Z,39nm,19.6s,MS3.9,baz=115,slow=32						
KMBO	**Kilima Mbogo**	**97.58**	**110**	LR	LR	20 43 36.6	
	comp=Z,101nm,19.4s,MS4.3,baz=98,slow=34						
CD2	**Chengdu**	**145.47**	**176**	*e*PKP	PKPdf	20 08 18.2	-2.2
MJAR	**Matsushiro Arr**	**145.56**	**229**	PKPbc	PKPbc	20 08 17.8	-2.9
	0.5nm,0.6s,baz=151,slow=46,SNR=3.2						
NJ2	**Nanjing**	**145.76**	**199**	*e*PKP	PKPdf	20 08 18.2	-2.7
FINES	**FINESS Array B**	**146.15**	**58**	PKPbc	PKPbc	20 08 21.4	-1.2
	2.0nm,0.7s,baz=241,slow=1.8,SNR=7.3						
KAF	**Kangasniemi**	**146.68**	**57**	*e*p	PKPdf	20 08 24.4	+1.9
	4.0nm,0.6s						
JOF	**Joensuu**	**148.98**	**59**	*e*p	PKPdf	20 08 26.7	+0.4
	3.7nm,0.7s						
LZH	**Lanzhou**	**150.63**	**176**	*e*PKP	PKPdf	20 08 34.5	+5.6
LZH				APKP		20 08 37.6	
LZH				LR	LR		
	comp=N,136nm,19.6s						
LZH				LR	LR		
	comp=Z,278nm,20.5s,MS5.0						
ARCES	**ARCESS Array B**	**150.88**	**46**	PKPbc	PKPbc	20 08 35.2	+0.3
	comp=Z,2.1nm,0.8s,baz=306,slow=2.9,SNR=8.9						
HHC	**Hu-ho-hao-te**	**155.24**	**190**	*e*PKP	PKPdf	20 08 35.5	-0.1
HHC				PKP2	PKPab	20 09 02.8	+2.3
HHC				PKS		20 12 08.7	
HHC				PP	PP	20 12 40.9	+4.2
HHC				SKS	SKSdf	20 15 40.7	-1.4
HHC				SKKS	SKKSac	20 19 26.3	-0.4
HHC				SS	SS	20 32 21.7	+0.6
HHC				LR	LR		
	comp=N,85nm,4.7s						
HHC				LR	LR		
	comp=E,118nm,5.5s						
HHC				LR	LR		
	comp=Z,116nm,6.5s						
MDJ	**Mudanjiang**	**155.56**	**223**	PKP	PKPdf	20 08 35.0	-1.0
WMQ	**Urumqi**	**156.04**	**145**	*e*PKP	PKPdf	20 08 35.5	-1.2
WMQ				XPKP		20 08 46.0	
WMQ				PKS		20 12 10.5	
WMQ				PP	PP	20 12 44.0	+2.8
WMQ				SKS	SKSdf	20 15 38.0	-5.0
WMQ				PP	PP		
	comp=Z,140nm,4.4s						
WMQ				LR	LR		
	comp=N,128nm,20.2s,MS4.8						
WMQ				LR	LR		
	comp=E,78nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,86nm,18.8s,MS4.6						

*CSEM **05** 19:52:47.1, 43.47N×45.23E, h18km, mb3.6, After OBN*
*MOS **05** 19:52:47.9±0.7, 43.47N×45.23E, h18km, mb3.6/1, Error ellipse: s-maj=11.0km s-min=8.2km az=173.7*
*ISCJB **05** 19:52:49.1±0.7, 43.52N±0.03×45.23E±0.04, h20km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=89.0*
ISC 05 19:52:47.9±0.8**, 43.53N**±0.03×**45.25E**±0.04**, h8km**±4km**, n21, σ1.16**/39**, 1C-1D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.42**	**297**	*i* Pg	**Pg**	**19 52 57.5**	**+1.3**
TRKR				*i* Sg	**Sg**	**19 53 05.3**	**+3.6**
SNJR	**Sundja**	**0.56**	**215**	*i* Pg	**Pg**	**19 52 58.0**	**-0.8**
SNJR				*i* Sg	**Sg**	**19 53 06.2**	**0.0**
VLKR	**Vladikavkaz**	**0.64**	**221**	*i* Pg	**Pg**	**19 52 59.6**	**-0.7**
VLKR				*i* Sg	**Sg**	**19 53 08.9**	**+0.2**
KMSR	**Komsomolskaya**	**0.72**	**257**	*i* Pg	**Pg**	**19 53 01.8**	**+0.1**
KMSR				*i* Sg	**Sg**	**19 53 12.7**	**+1.6**
PRTR	**Priterechnaya**	**0.74**	**288**	*i* Pg	**Pg**	**19 53 03.0**	**+0.9**
PRTR				*i* Sg	**Sg**	**19 53 14.8**	**+3.1**
ARNR	**Ardon**	**0.79**	**245**	*i* Pg	**Pg**	**19 53 02.7**	**-0.4**
ARNR				*i* Sg	**Sg**	**19 53 14.4**	**+1.1**
KORR	**Kora**	**0.97**	**243**	*i* Pg	**Pg**	**19 53 06.0**	**-0.6**
KORR				*i* Sg	**Sg**	**19 53 20.0**	**+0.7**
ZEI	**Tsey**	**1.25**	**233**	*e*Pg	**Pg**	**19 53 09.6**	**-2.3**
ZEI				*e*Sg	**Sg**	**19 53 25.7**	**-2.4**
DBC	**Dubki**	**1.26**	**113**	*i* PG	**Pg**	**19 53 10.5**	**-1.6**
DBC				*i* S	**Sb**	**19 53 29.0**	**+0.8**
KUBR	**Kubataba**	**1.36**	**282**	*i* Pg	**Pg**	**19 53 13.4**	**-0.7**
KUBR				*e*Sg	**Sg**	**19 53 32.4**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.38**	**243**	*i* Pg	**Pn**	**19 53 11.6**	**-1.7**
DIGR				*i* Sg	**Sb**	**19 53 28.9**	**-2.7**
DUS	**Dusheti**	**1.50**	**196**	P	**Pn**	**19 53 16.6**	**+1.6**
DUS				S	**Sn**	**19 53 36.1**	**+1.5**
ONI	**Oni**	**1.63**	**235**	P	**Pn**	**19 53 15.8**	**-1.0**
ONI				S	**Sn**	**19 53 36.0**	**-1.9**
PYA	**Pyatigorsk**	**1.67**	**288**	*e*PN	**Pn**	**19 53 16.7**	**-0.6**
PYA				*e*S	**Sn**	**19 53 39.3**	**+0.4**
TBLG	**Delisi**	**1.84**	**192**	P	**Pn**	**19 53 19.8**	**+0.1**
TBLG				S	**Sn**	**19 53 43.9**	**+0.7**
MTA	**Mtatsminda**	**1.87**	**191**	P	**Pn**	**19 53 21.1**	**+1.0**
MTA				S	**Sn**	**19 53 44.7**	**+0.8**
SHAR	**Shatzhatmas**	**1.89**	**277**	⇑*e*PN	**Pn**	**19 53 20.4**	**0.0**
KIV0	**Kislovodsk Arr**	**1.90**	**284**	*e*Pn	**Pn**	**19 53 19.9**	**-0.7**
KIV	**Kislovodsk**	**1.91**	**284**	⇓*e*PN	**Pn**	**19 53 19.9**	**-0.8**
DGRG	**David-gareji**	**2.08**	**178**	P	**Pb**	**19 53 26.3**	**+0.4**
DGRG				S	**Sb**	**19 53 52.9**	**+1.0**
DGRG	**David-gareji**	**2.08**	**178**	P	**Pb**	**19 53 26.3**	**+0.4**
DGRG				S	**Sb**	**19 53 52.9**	**+1.0**

KRSC 05 19:59:20, 52.69N×160.35E, h22km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.45**	**334**	*i* P	Pb	19 59 30.5	+1.2
SPN				*i* S	Sb	19 59 37.9	+2.2
NLC	**Nalytchevo**	**0.78**	**309**	*i* P	Pb	19 59 35.0	+0.2
NLC				*i* S	Sb	19 59 46.1	+1.2
PET	**Petropavlovsk**	**1.08**	**289**	*i* P	Pn	19 59 39.8	0.0
PET				*i* S	Sb	19 59 54.2	+0.5
AVH	**Avacha**	**1.13**	**301**	*e*P	Pn	19 59 40.8	+0.3
AVH				*i* S	Sb	19 59 56.0	+0.8
RUS	**Russkaya**	**1.15**	**258**	*i* P	Pn	19 59 40.5	-0.3
RUS				*i* S	Sb	19 59 54.5	-1.2
GRL	**Gorelyy**	**1.40**	**265**	*i* P	Pn	19 59 44.9	+0.8
GRL				*i* S	Sn	20 00 03.2	+1.3
KII	**Karymskiy**	**1.45**	**339**	*i* P	Pn	19 59 46.0	+1.1
KII				*i* S	Sn	20 00 04.3	+1.0
GNL	**Ganaly**	**1.76**	**306**	*i* P	Pn	19 59 50.8	+1.6
GNL				*i* S	Sn	20 00 13.7	+2.7
MKZ	**Mys Kozlova**	**2.04**	**23**	*e*P	Pn	19 59 52.8	-0.2
MKZ				*i* S	Sn	20 00 16.7	-1.1
MIPR	**Malaya Ipel'ka**	**2.23**	**261**	*e*P	Pn	19 59 57.3	+1.6
MIPR				*i* S	Sn	20 00 24.1	+1.5
TUMR	**Tumrok**	**2.60**	**357**	*e*P	Pn	20 00 02.4	+1.7
TUMR				*i* S	Sn	20 00 33.4	+1.8
KMNR	**Kamenistaya**	**3.07**	**359**	*i* P	Pn	20 00 09.9	+2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMNR				*i* S	Sn	20 00 46.6	+3.3
ZLN	**Zelenaya**	**3.34**	**4**	*e*P	Pn	20 00 12.7	+1.8
ZLN				*i* S	Sn	20 00 50.7	+0.7
SRDR	**Sredinnyy**	**3.65**	**354**	*e*P	Pn	20 00 17.3	+2.1
KBTR	**Krutoberegovo**	**3.81**	**21**	*e*P	Pn	20 00 18.0	+0.7
KBTR				*i* S	Sn	20 00 59.9	-1.5
SMKR	**Semkarok**	**3.95**	**9**	*i* P	Pn	20 00 21.8	+2.5
SMKR				*i* S	Sn	20 01 05.6	+0.6
SRKR	**Sorokina**	**4.00**	**6**	*e*P	Pn	20 00 22.1	+2.1
SRKR				*i* S	Sn	20 01 06.5	+0.3

MAN 05 20:01:47.6, 1094N×12480E, h1^{km}, mb2.9, ML4.3, MS2.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.22**	**301**	*e*P	Pg	20 01 52.7	+0.9
OCLP				*e*S	Sg	20 01 56.6	+2.0
PLP	**Palo**	**0.29**	**38**	*i* P	Pg	20 01 54.0	+0.9
PLP				*i* S	Sg	20 01 57.6	+0.8
MSLP	**Maasin**	**0.80**	**176**	*e*P	Pg	20 02 04.2	+1.2
MSLP				*e*S	Sg	20 02 18.2	+4.8
BESP	**Borongan**	**0.91**	**44**	*e*P	Pg	20 02 04.8	-0.2
LLP	**Lapu-Lapu**	**1.02**	**233**	*e*P	Pg	20 02 06.8	-0.5
LLP				*e*S	Sg	20 02 21.2	+0.6
SCPH	**Surigao**	**1.33**	**149**	*e*P	Pg	20 02 13.1	-0.1
SCPH				*e*S	Sg	20 02 34.8	+4.3
TBP	**Tagbilaran**	**1.54**	**217**	*e*P	Pn	20 02 18.6	+2.3
TBP				*e*S	Sn	20 02 38.4	+1.4
RCP	**Roxas**	**2.11**	**287**⇓	*e*P	Pn	20 02 24.5	+0.5
GUIM	**Jordan**	**2.19**	**262**	*e*P	Pn	20 02 25.3	+0.1
GUIM				*e*S	Sn	20 02 53.4	+0.4
PVCP	**Virac**	**2.72**	**347**	*e*P	Pn	20 02 33.3	+0.9
BUKP	**Musuan**	**3.05**	**175**	*e*P	Pn	20 02 39.0	+2.0

IDC 05 20:35:23.1±70.0**, 2176S×17972E, h0^{km}, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.8**/12**, mbtmp3.9**/3**, Error ellipse: s-maj=1247.0km s-min=154.4km az=84.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.32**	**245**	P	P	20 42 18.7	-1.2
	2.2nm,0.7s,baz=106,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**42.16**	**258**	P	P	20 43 17.4	+0.1
	0.3nm,0.3s,baz=93,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**42.33**	**264**	P	P	20 43 20.2	+1.5
	0.7nm,0.4s,baz=93,slow=8.4,SNR=28						

CASC 05 21:36:13.6±3.7**, 1297N×8878W, h32^{km}**±17^{km}**, MD3.6, ML3.1, 6C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.64**	**355**	*e*P	x	21 36 35.6	
SNVI				*e*S	x	21 36 45.4	
VSM	**San Miguel**	**0.67**	**47**⇓	*e*P	x	21 36 35.9	
VSM				*e*S	x	21 36 46.9	
LFRS	**El Faro**	**0.70**	**337**⇑	*e*P	x	21 36 36.5	
LFRS				*e*S	x	21 36 46.6	
BLLM	**Bellamira**	**0.70**	**48**⇓	*e*P	x	21 36 35.9	
BLLM				*e*S	x	21 36 46.9	
LCBS	**La Ceiba**	**0.71**	**344**⇓	*e*P	x	21 36 36.4	
LCBS				*e*S	x	21 36 49.1	
LBRS	**Las Brisas**	**0.80**	**341**⇑	*e*P	x	21 36 38.2	
LBRS				*e*S	x	21 36 49.4	
LFU	**La Fuente**	**0.84**	**337**⇓	*e*P	x	21 36 38.6	
LFU				*e*S	x	21 36 51.5	
PICS	**Picacho**	**0.89**	**329**	*e*P	x	21 36 39.4	
PICS				*e*S	x	21 36 52.4	
BOQS	**Boqueron**	**0.90**	**327**⇓	*e*P	x	21 36 39.4	
BOQS				*e*S	x	21 36 52.4	
CNCH	**Conchagua**	**0.97**	**72**⇑	*e*P	x	21 36 39.2	
CNCH				*e*S	x	21 36 52.8	
SBLS	**San Blas**	**1.19**	**317**	*e*P	x	21 36 43.4	
SBLS				*e*S	x	21 36 59.5	
SNJE	**San Jose**	**1.20**	**318**	*e*P	x	21 36 43.3	
SNJE				*e*S	x	21 37 01.6	
RTR	**El Retiro**	**1.25**	**318**	*e*P	x	21 36 44.2	
RTR				*e*S	x	21 37 03.8	
RBDL	**Robledal**	**1.44**	**322**⇑	*e*P	x	21 36 46.8	
RBDL				*e*S	x	21 37 04.3	
MTO2	**Montecristo 2**	**1.53**	**338**⇓	*i*P	x	21 36 47.7	
MTO2				*e*S	x	21 37 05.3	
CRIN	**San Cristobal**	**1.71**	**99**	*e*P	Pn	21 36 41.7	+0.6
CRIN				*e*S	Sn	21 37 03.8	+1.9
LEON	**Leon**	**1.92**	**106**	*e*P	Pn	21 36 44.0	-0.1
TELN	**Telica**	**1.94**	**101**	*e*P	Pn	21 36 43.1	-1.2
CNGN	**Cerro Negro**	**2.08**	**103**	*e*P	Pn	21 36 46.3	0.0
MOMJ	**Momotombo**	**2.26**	**104**⇑	*e*P	Pn	21 36 49.5	+0.8
MOMJ				*e*S	Sn	21 37 15.6	+0.2
COPN	**Copaltepe**	**2.28**	**110**⇑	*e*P	Pn	21 36 48.9	0.0
COPN				*e*S	Sn	21 37 16.7	+0.8
COPN				*i*		21 37 18.7	
	comp=Z,151nm,0.4s						
TICN	**Ticuantepe**	**2.66**	**110**	*e*P	Pn	21 36 55.6	+1.4

*IDC **05** 21:37:37.5±3.0, 276S×14554E, h0^{km}, mb4.6/6, mb1 4.7/7, mb1mx4.3/15, mbtmp4.6/7, ML4.0/1, MS3.2/2, Ms1 3.2/2, ms1mx3.1/14, Error ellipse: s-maj=60.5km s-min=32.7km az=174.0*

*MOS **05** 21:37:45.8±1.7, 357S×14570E, h33^{km}, mb4.7/10, Error ellipse: s-maj=20.2km s-min=9.9km az=114.0*

*ISCJB **05** 21:37:47.1±2.3, 364S±007×14567E±008, h40^{km}±22^{km}, mb4.7/31, MS4.6/6, Error ellipse: s-maj=13.4km s-min=11.2km az=35.0*

*NEIC **05** 21:37:47.8±1.6, 354S×14565E, h42^{km}±15^{km}, mb4.8/13, Error ellipse: s-maj=11.8km s-min=8.6km az=156.0*

*BJI **05** 21:37:47.4, 353S×14563E, h40^{km}, mB5.1, mb4.7, Ms5.0, Msz4.8*

ISC 05 21:37:49.2±1.9**, 367S**±007×**14567E**±008**, h42^{km}**±20^{km}**, h61^{km}**±.9^{km}**: pP-P, n72, σ1ṡ54**/67**, mb4.7**/31**, MS4.6**/6**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.89**	**166**	Pn	**Pn**	**21 39 14.5**	**+0.6**
	4.3nm,0.3s,baz=347,slow=12,SNR=11						
PMG	**Port Moresby**	**5.89**	**166**	*e*P	**Pn**	**21 39 14.6**	**+0.7**
PMG				pmax	pmax		
	comp=Z,88nm,0.8s						
PMG	**Port Moresby**	**5.89**	**166**	*e*Pn	**Pn**	**21 39 14.6**	**+0.7**
	comp=Z,88nm,0.8s						
HNR	**Honiara**	**15.29**	**113**	Pn	**Pn**	**21 41 24.7**	**+2.6**
	comp=Z,12nm,0.3s,baz=261,slow=4.2,SNR=6.1						
HNR	**Honiara**	**15.29**	**113**	P	**Pn**	**21 41 21.4**	**-0.7**
HNR				pmax	pmax		
	comp=Z,169nm,1.0s						
HNR	**Honiara**	**15.29**	**113**	Pn	**Pn**	**21 41 21.4**	**-0.7**
	comp=Z,169nm,1.0s						
KAKA	**Kakadu**	**15.87**	**235**	*e*P	**Pn**	**21 41 28.3**	**-1.3**
	comp=Z,62nm,0.9s						
CTA	**Charters Tower**	**16.33**	**178**	*e*P	**Pn**	**21 41 41.0**	**+5.6**
	comp=Z,6.6nm,0.8s						
CTA	**Charters Tower**	**16.33**	**178**	P	**Pn**	**21 41 40.4**	**+5.0**
	comp=Z,0.3nm,0.3s,baz=345,slow=9.7,SNR=11						
CTA	**Charters Tower**	**16.33**	**178**	*e*P	**Pn**	**21 41 41.0**	**+5.6**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	**Charters Tower**	**16.33**	**178**	*e*P	**Pn**	**21 41 36.2**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,22nm,1.2s						
CTAO	**Charters Tower**	**16.33**	**178**	*e*Pn	**Pn**	**21 41 36.2**	**+0.8**
	comp=Z,22nm,1.2s						
WRAB	**Tennant Creek**	**19.57**	**213**	*e*P	**Pn**	**21 42 13.8**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,140nm,1.0s						
WRAB	**Tennant Creek**	**19.57**	**213**	*e*P	**Pn**	**21 42 13.8**	**-1.4**
	comp=Z,140nm,1.0s						
WRAB				*e*pP	pP	21 42 23.9	+0.1
WB2	**Warramunga Arr**	**19.58**	**213**	*e*P	**Pn**	**21 42 14.2**	**-1.1**
WB2	**Warramunga Arr**	**19.58**	**213**	*e*P	**Pn**	**21 42 13.6**	**-1.6**
WRA	**Warramunga Arr**	**19.59**	**213**	P	**Pn**	**21 42 13.9**	**-1.4**
	comp=Z,65nm,0.9s,baz=37,slow=12,SNR=135						
AS31	**Alice Springs**	**22.90**	**209**	*e*P	**P**	**21 42 49.8**	**+0.6**
ASAR	**Alice Springs**	**22.90**	**209**	P	**P**	**21 42 50.2**	**+0.9**
	comp=Z,13nm,0.8s,mb4.4,baz=36,slow=8.5,SNR=72						
ASPA	**Alice Springs**	**22.90**	**209**	*e*P	**P**	**21 42 50.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**24.30**	**232**	*e*P	**P**	**21 43 01.8**	**-0.9**
	comp=Z,56nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**24.30**	**232**	P	**P**	**21 43 01.5**	**-1.2**
	comp=Z,26nm,1.0s,mb4.6,baz=61,slow=9.9,SNR=26						
DZM	**Mont Dzumac**	**27.22**	**134**	P	**P**	**21 43 30.3**	**+1.2**
	comp=Z,10nm,0.9s,mb4.3,baz=59,slow=19,SNR=7.2						
STKA	**Stephens Creek**	**28.32**	**187**	P	**P**	**21 43 42.6**	**+3.7**
	comp=Z,5.2nm,0.9s,mb4.2,baz=19,slow=9.1,SNR=4.4						
STKA	**Stephens Creek**	**28.32**	**187**	*e*P	**P**	**21 43 39.1**	**+0.1**
TGY	**Tagaytay City**	**30.22**	**306**	LR	LR	21 54 50.1	
	comp=Z,5.6nm,19.8s,baz=280,slow=35						
CBIJ	**Chichi jima**	**30.77**	**354**	LR	LR	21 52 51.6	
	comp=Z,441nm,19.4s,MS4.1,baz=147,slow=31						
FORT	**Forrest**	**31.68**	**210**	*e*P	**P**	**21 44 10.8**	**+2.2**
	comp=Z,22nm,0.7s,mb5.1						
KSM	**Kuching**	**35.71**	**278**	*e*P	**P**	**21 44 43.1**	**-0.6**
NJ2	**Nanjing**	**43.72**	**326**	*e*P	**P**	**21 45 51.5**	**+1.2**
NJ2				AP	pP	21 46 06.0	+4.1
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,370nm,6.1s						
NJ2				LR	LR		
	comp=N,1µm,26.4s,MS4.8						
NJ2				LR	LR		
	comp=E,1µm,26.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,1µm,24.5s,MS4.7						
NST	**Nakhon Sawan**	**48.98**	**294**	P	**P**	**21 46 33.0**	**+1.4**
MDJ	**Mudanjiang**	**50.18**	**345**	P	**P**	**21 46 40.7**	**0.0**
MDJ				AP	pP	21 46 56.2	+3.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,91nm,8.9s						
MDJ				LR	LR		
	comp=N,273nm,22.9s,MS4.6						
MDJ				LR	LR		
	comp=E,648nm,19.9s,MS4.6						
MDJ				LR	LR		
	comp=Z,395nm,20.5s,MS4.4						
YSS	**Yuzh-Sakhalins**	**50.47**	**357**	P	**P**	**21 46 44.4**	**+1.5**
KMI	**Kunming**	**50.54**	**307**	P	**P**	**21 46 44.0**	**+0.6**
KMI				AP	pP	21 46 49.7	-5.6
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
CN2	**Changchun**	**50.64**	**341**	*e*P	**P**	**21 46 46.3**	**+2.1**
CM31	**Chiang Mai Arr**	**51.00**	**297**	*e*P	**P**	**21 46 48.5**	**+1.7**
	comp=Z,11nm,1.1s,mb4.7						
CM31				*e*		21 47 52.2	
CHTO	**Chiang Mai**	**51.12**	**298**	*e*P	**P**	**21 46 49.2**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.8						
CHTO	**Chiang Mai**	**51.12**	**298**	*e*P	**P**	**21 46 49.2**	**+1.4**
	comp=Z,20nm,1.8s,mb4.8						
CD2	**Chengdu**	**52.71**	**314**	*e*P	**P**	**21 46 59.9**	**+0.3**
CD2				AP	pP	21 47 15.7	+4.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
KLR	**Kul'dur**	**54.06**	**349**	*e*P	**P**	**21 47 06.3**	**-3.2**
KLR				*e*		21 48 10.2	
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
HHC	**Hu-ho-hao-te**	**54.17**	**328**	*e*P	**P**	**21 47 11.5**	**+1.2**
HHC				PCP	PcP	21 48 14.7	+0.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,92nm,4.6s						
HHC				LR	LR		
	comp=N,587nm,21.6s,MS4.8						
HHC				LR	LR		
	comp=E,653nm,23.0s,MS4.8						
HHC				LR	LR		
	comp=Z,966nm,23.5s,MS4.8						
LZH	**Lanzhou**	**55.59**	**319**	*e*P	**P**	**21 47 23.6**	**+3.0**
LZH				PCP	PcP	21 48 21.9	+2.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,120nm,5.2s						
LZH				LR	LR		
	comp=E,729nm,16.4s						
LZH				LR	LR		
	comp=Z,1µm,17.6s,MS5.0						
GTA	**Gaotai**	**60.11**	**320**	*e*P	**P**	**21 47 50.9**	**-1.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**61.44**	**331**	*e*P	**P**	**21 47 59.4**	**-1.9**
ULN				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.8						
ULN	**Ulaanbaatar**	**61.44**	**331**	*e*P	**P**	**21 47 59.4**	**-1.9**
	comp=Z,10nm,1.5s,mb4.8						
ZAK	**Zakamensk**	**64.97**	**332**	*e*P	**P**	**21 48 22.2**	**-2.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
TLY	**Talaya**	**65.68**	**333**	*e*P	**P**	**21 48 26.4**	**-2.9**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
BOD	**Bodaibo**	**66.37**	**342**	*e*P	**P**	**21 48 32.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.1s,mb4.1						
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.5						
WMQ	**Urumqi**	**70.17**	**319**	*e*P	**P**	**21 48 57.5**	**0.0**
WMQ				AP	pP	21 49 14.0	+4.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,97nm,4.4s						
WMQ				LR	LR		
	comp=N,324nm,26.2s,MS4.6						
WMQ				LR	LR		
	comp=E,216nm,22.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,235nm,27.0s,MS4.3						
VNDA	**Vanda**	**74.30**	**176**	P	**P**	**21 49 20.4**	**-1.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=342,slow=7.6,SNR=13						
VNDA	**Vanda**	**74.30**	**176**	*e*P	**P**	**21 49 20.1**	**-2.1**
MK31	**Makanchi Array**	**74.87**	**320**	P	**P**	**21 49 25.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,54nm,1.5s,mb5.3						
MKAR	**Makanchi Array**	**74.87**	**320**	*i* P	**P**	**21 49 27.7**	**+2.2**
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KSH	**Kashi**	**76.84**	**312**	*e*P	**P**	**21 49 39.3**	**+2.5**
KSH				*e*PCP	PcP	21 49 49.4	+1.6
KSH				AMB	AMB		
	comp=Z,133nm,3.9s						
KSH				LR	LR		
	comp=N,282nm,4.5s						
KSH				LR	LR		
	comp=E,499nm,5.6s						
KSH				LR	LR		
	comp=Z,319nm,5.6s						
NVS	**Novosibirsk**	**77.57**	**328**	*e*P	**P**	**21 49 39.9**	**-0.9**
NVS				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
AAK	**Ala-Archa**	**78.77**	**315**	P	**P**	**21 49 46.0**	**-1.5**
KK31	**Karatay Array**	**81.72**	**314**	*i* P	**P**	**21 50 04.5**	**+1.1**
KK31				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KKAR	**Karatay Array**	**81.72**	**314**	P	**P**	**21 50 04.5**	**+1.1**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
VOSK	**Vostochnaya**	**83.69**	**324**	P	**P**	**21 50 14.2**	**+0.6**
VOSK				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
BVA0	**Borovoye Array**	**84.12**	**324**	*i* P	**P**	**21 50 18.4**	**+2.6**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6						
CHKZ	**Chkalovo**	**84.14**	**325**	*e*P	**P**	**21 50 14.3**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7						
CHKZ	**Chkalovo**	**84.14**	**325**	*e*P	**P**	**21 50 14.3**	**-1.6**
	comp=Z,8.7nm,1.3s,mb4.7						
BRVK	**Borovoye**	**84.19**	**324**	P	**P**	**21 50 08.3**	**-7.8**
ZRNK	**Zerenda**	**84.91**	**324**	*e*P	**P**	**21 50 17.2**	**-2.6**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
ZRNK	**Zerenda**	**84.91**	**324**	*e*P	**P**	**21 50 17.2**	**-2.6**
	comp=Z,4.6nm,1.2s,mb4.5						
EGAK	**Eagle**	**86.20**	**24**	*e*P	**P**	**21 50 23.8**	**-2.4**
QSPA	**South Pole Qui**	**86.28**	**180**	*e*P	**P**	**21 50 30.1**	**+3.5**
	comp=Z,3.4nm,0.9s,mb4.6						
DAWY	**Dawson**	**86.74**	**25**	*e*P	**P**	**21 50 27.4**	**-1.4**
AB31	**Akbulak array**	**89.96**	**319**	*i* P	**P**	**21 50 40.9**	**-3.2**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
TORD	**Torodi Ar. Bea**	**143.19**	**287**	PKP	PKPdf	21 57 15.8	-3.0
	comp=Z,1.2nm,1.1s,baz=35,slow=1.9,SNR=3.1						
SDV	**Santo Domingo**	**143.56**	**80**	*e*PKPdf	PKPdf	21 57 19.1	-0.3
DBIC	**Dimbokro**	**150.50**	**277**	*e*PKIKP	PKPdf	21 57 32.6	+1.7

*IDC **05** 21:38:45.9±0.8, 323S×14555E, h0^{km}, mb4.6/10, mb1 4.8/11, mb1mx4.7/15, mbtmp4.7/11, ML4.6/1, MS4.6/8, Ms1 4.6/8, ms1mx4.2/12, Error ellipse: s-maj=26.4km s-min=16.2km az=86.0*

*ISCJB **05** 21:38:47.7±1.5, 349S±004×14574E±006, h13^{km}±9^{km}, mb5.1/48, MS4.7/14, Error ellipse: s-maj=10.1km s-min=6.7km az=7.4*

*MOS **05** 21:38:50.6±2.0, 334S×14565E, h33^{km}, mb5.3/18, Error ellipse: s-maj=13.7km s-min=8.6km az=101.1*

*BJI **05** 21:38:50.6, 361S×14564E, h37^{km}, mB5.3, mb4.8, Ms5.0, Msz4.8*

*NEIC **05** 21:38:51.9±3.8, 352S×14575E, h34^{km}±27^{km}, mb5.2/23, Error ellipse: s-maj=10.4km s-min=8.9km az=91.0*

*GCMT **05** 21:38:51.9±0.1, 334S×14572E, h12^{km}, MW5.3/97, Moment Tensor Solution. s63,c95; s97,c175; Duration: 1ṡ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.11±.02; $M_{\theta\theta}$-0.08±.01; $M_{\phi\phi}$-0.02±.02; $M_{r\theta}$-0.01±.04; $M_{\theta\phi}$1.00±.01; $M_{\phi r}$-0.04±.04; Best double couple: $M_0$0.99700×10^{17} NP1:ϕ_s269.00000°, δ87.00000°, λ1.00000°. NP2: ϕ_s179.00000°, δ89.00000°, λ177.00000°. Principal axes: T 0.9440, Plg2.0000°, Azm134.0000°; N 0.1060, Plg87.0000°, Azm341.0000°; P -1.0510, Plg1.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 21:38:52.6±1.3**, 359S**±004×**14577E**±006**, h36^{km}**±11^{km}**, h36^{km}**±3.5^{km}**: pP-P, n122, σ1ṡ17**/116**, mb5.1**/48**, MS4.7**/14**, 2C-2D, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.23**	**113**	Pn	**Pn**	**21 42 24.6**	**-0.3**
	12nm,0.3s,baz=236,slow=4.5,SNR=4.2						
HNR				LR	LR	21 47 21.1	
	comp=Z,2µm,21.9s,baz=356,slow=33						
HNR	**Honiara**	**15.23**	**113**	*e*P	**Pn**	**21 42 24.3**	**-0.6**
HNR				pmax	pmax		
	comp=Z,607nm,1.2s						
HNR	**Honiara**	**15.23**	**113**	*e*P	**Pn**	**21 42 24.3**	**-0.6**
	comp=Z,607nm,1.2s						
CTA	**Charters Tower**	**16.41**	**178**	*e*P	**Pn**	**21 42 46.8**	**+6.8**
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**16.41**	**178**	Pn	**Pn**	**21 42 46.1**	**+6.1**
	comp=Z,0.3nm,0.3s,baz=351,slow=12,SNR=8.1						
CTA				LR	LR	21 48 16.5	
	comp=Z,1µm,21.9s,baz=2.8,slow=34						
CTAO	**Charters Tower**	**16.41**	**178**	*e*P	**Pn**	**21 42 46.5**	**+6.5**
CTAO				pmax	pmax		
	comp=Z,102nm,1.5s						
CTAO	**Charters Tower**	**16.41**	**178**	*e*P	**Pn**	**21 42 46.5**	**+6.5**
	comp=Z,102nm,1.5s						
GUMO	**Guam**	**17.09**	**357**	LR	LR	21 47 46.9	
	comp=Z,478nm,18.2s,baz=180,slow=32						
WRAB	**Tennant Creek**	**19.70**	**214**	P	**Pn**	**21 43 18.0**	**-2.3**
	comp=Z,1µm,1.1s,SNR=10						
WRAB	**Tennant Creek**	**19.70**	**214**	*e*P	**Pn**	**21 43 18.9**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,503nm,1.2s						
WRAB	**Tennant Creek**	**19.70**	**214**	*e*P	**Pn**	**21 43 18.9**	**-1.4**
	comp=Z,503nm,1.2s						
WB2	**Warramunga Arr**	**19.70**	**214**	*e*P	**Pn**	**21 43 19.1**	**-1.3**
WB2	**Warramunga Arr**	**19.70**	**214**	*e*P	**Pn**	**21 43 19.0**	**-1.4**
WRA	**Warramunga Arr**	**19.71**	**214**	P	**Pn**	**21 43 18.7**	**-1.7**
	comp=Z,2.1nm,0.3s,baz=37,slow=12,SNR=28						
WRA				S	**S**	**21 46 58.6**	**-0.5**
	baz=37,slow=23,SNR=6.8						
WRA				LR	LR	21 51 19.3	
	comp=Z,3µm,20.6s,baz=35,slow=38						
WRA	**Warramunga Arr**	**19.71**	**214**	P	**Pn**	**21 43 18.7**	**-1.8**
WRA				S	**S**	**21 46 58.6**	**-0.5**
DAV	**Davao City (W)**	**22.76**	**298**	P	**P**	**21 43 52.9**	**+1.3**
AS31	**Alice Springs**	**23.02**	**209**	*e*P	**P**	**21 43 55.1**	**+0.7**
ASAR	**Alice Springs**	**23.02**	**209**	P	**P**	**21 43 55.2**	**+0.9**
	comp=Z,56nm,0.9s,mb5.0,baz=34,slow=10,SNR=17						
ASAR				LR	LR	21 53 50.8	
	comp=Z,2µm,18.1s,MS4.7,baz=40,slow=39						
ASPA	**Alice Springs**	**23.02**	**209**	*e*P	**P**	**21 43 56.7**	**+2.3**
FITZ	**Fitzroy Crossi**	**24.43**	**232**	*e*P	**P**	**21 44 07.1**	**-0.6**
	comp=Z,120nm,1.0s,mb5.3						
FITZ	**Fitzroy Crossi**	**24.43**	**232**	P	**P**	**21 44 06.9**	**-0.8**
	comp=Z,80nm,1.1s,mb5.1,baz=69,slow=8.5,SNR=11						
FITZ				LR	LR	21 54 27.1	
	comp=Z,2µm,18.4s,MS4.7,baz=51,slow=38						
KAPI	**Kappang**	**25.98**	**266**	P	**P**	**21 44 23.6**	**+1.8**
	comp=Z,401nm,1.4s,mb5.8,SNR=5.4						
DZM	**Mont Dzumac**	**27.20**	**134**	*e*P	**P**	**21 44 32.5**	**-0.3**
DZM	**Mont Dzumac**	**27.20**	**134**	P	**P**	**21 44 35.8**	**+3.0**
	comp=Z,30nm,1.1s,mb4.8,baz=333,slow=11,SNR=12						
DZM				LR	LR	21 54 24.5	
	comp=Z,2µm,18.4s,MS4.8,baz=22,slow=34						
STKA	**Stephens Creek**	**28.41**	**187**	*e*P	**P**	**21 44 47.2**	**+3.6**
	comp=Z,12nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**28.41**	**187**	*e*P	**P**	**21 44 47.0**	**+3.4**
MBWA	**Marble Bar**	**30.75**	**233**	*e*P	**P**	**21 45 05.5**	**+1.1**
	comp=Z,36nm,1.1s,mb5.1						
KSM	**Kuching**	**35.80**	**277**	*e*P	**P**	**21 45 47.6**	**-0.7**
MJAR	**Matsushiro Arr**	**40.54**	**351**	P	**P**	**21 46 22.6**	**-5.6**
	comp=Z,3.2nm,1.2s,baz=189,slow=15,SNR=3.1						
MJAR				LR	LR	22 01 20.9	
	comp=Z,352nm,22.0s,MS4.2,baz=155,slow=34						
MAJO	**Matsushiro**	**40.54**	**351**	*e*P	**P**	**21 46 27.4**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,98nm,1.8s,mb5.1						
MAJO	**Matsushiro**	**40.54**	**351**	*e*P	**P**	**21 46 27.4**	**-0.8**
	comp=Z,98nm,1.8s,mb5.1						
MAT	**Matsushiro**	**40.54**	**351**	P	**P**	**21 46 27.9**	**-0.4**
MAT				S	**S**	**21 52 35.0**	**0.0**
NJ2	**Nanjing**	**43.70**	**326**	*e*P	**P**	**21 46 53.6**	**-0.4**
NJ2				AP	pP	21 47 08.0	+3.5
NJ2				PP	PP	21 48 37.4	+1.3
NJ2				S	**S**	**21 53 18.0**	**-3.6**
NJ2				XS	sS	21 53 41.0	+2.0
NJ2				AMB	AMB		
	comp=Z,160nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,470nm,7.2s						
NJ2				LR	LR		
	comp=N,1µm,26.4s,MS4.8						
NJ2				LR	LR		
	comp=E,1µm,27.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,1µm,25.5s,MS4.8						
PSI	**Prapat**	**47.25**	**277**	P	**P**	**21 47 19.9**	**-2.1**
	comp=Z,6.4nm,1.0s,mb4.5,baz=85,slow=6.1,SNR=5.3						
ASAJ	**Asahikawa**	**47.57**	**357**	P	**P**	**21 47 21.1**	**-3.6**
	comp=Z,14nm,1.0s,mb4.9,baz=76,slow=8.3,SNR=2.1						
ASAJ	**Asahikawa**	**47.57**	**357**	P	**P**	**21 47 21.1**	**-3.5**
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ	**Mudanjiang**	**50.13**	**345**	P	**P**	**21 47 45.7**	**+1.5**
MDJ				AP	pP	21 47 54.4	-0.5
MDJ				XP	sP	21 47 58.5	-0.6
MDJ				PP	PP	21 49 41.2	+1.7
MDJ				SCP	ScP	21 52 57.5	+1.2
MDJ				PCS	PcS	21 53 01.3	+0.9
MDJ				S	**S**	**21 54 56.9**	**+3.6**
MDJ				XS	sS	21 55 12.5	+1.6
MDJ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,80nm,6.5s						
MDJ				LR	LR		
	comp=N,273nm,25.5s,MS4.6						
MDJ				LR	LR		
	comp=E,648nm,25.5s,MS4.6						
MDJ				LR	LR		
	comp=Z,395nm,23.9s,MS4.3						
KMI	**Kunming**	**50.57**	**307**	P	**P**	**21 47 49.2**	**+1.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI				AP	pP	21 47 57.2	-1.0
KMI				XP	sP	21 48 00.2	-2.3
KMI				PP	PP	21 49 44.2	+0.7
KMI				XS	sS	21 55 21.6	+4.6
KMI				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,150nm,3.3s						
KMI				LR	LR		
	comp=N,425nm,19.0s,MS4.5						
KMI				LR	LR		
	comp=E,313nm,23.4s,MS4.5						
KMI				LR	LR		
	comp=Z,634nm,24.1s,MS4.5						
CN2	**Changchun**	**50.59**	**341**	*e*P	**P**	**21 47 48.3**	**+0.6**
CN2				*e*S	**S**	**21 54 58.7**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.7						
XAN	**Xi'an**	**51.05**	**320**	P	**P**	**21 47 49.8**	**-1.4**
XAN				AP	pP	21 47 56.9	-5.0
XAN				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
CHG	**Chiang Mai**	**51.17**	**298**	⇓P	**P**	**21 47 53.5**	**+1.4**
	comp=Z,22nm,1.3s,mb4.9						
CHTO	**Chiang Mai**	**51.17**	**298**	P	**P**	**21 47 54.0**	**+1.9**
	SNR=8.7						
CHTO	**Chiang Mai**	**51.17**	**298**	*e*P	**P**	**21 47 52.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
CHTO	**Chiang Mai**	**51.17**	**298**	*e*P	**P**	**21 47 52.8**	**+0.8**
	comp=Z,32nm,1.3s,mb5.1						
BJI	**Beijing**	**51.21**	**331**	P	**P**	**21 47 51.2**	**-1.2**
BJI				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.6						
BJI				LR	LR		
	comp=N,894nm,19.7s,MS4.9						
BJI				LR	LR		
	comp=E,644nm,19.8s,MS4.9						
BJI				LR	LR		
	comp=Z,1μm,23.2s,MS4.8						
CD2	**Chengdu**	**52.73**	**314**	*e*P	**P**	**21 48 03.6**	**0.0**
CD2				AP	pP	21 48 14.2	-0.2
CD2				XP	sP	21 48 18.1	-0.5
CD2				PCP	PcP	21 49 13.4	+0.4
CD2				PP	PP	21 50 05.0	+1.9
CD2				SCP	ScP	21 53 06.7	-0.8
CD2				PCS	PcS	21 53 10.8	-0.8
CD2				S	**S**	**21 55 28.8**	**-0.3**
CD2				XS	sS	21 55 45.4	-1.4
CD2				SCS	ScS	21 57 49.3	-1.2
CD2				SS	SS	21 59 06.6	-1.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CD2				AMB	AMB		
	comp=Z,60nm,6.2s						
CD2				LR	LR		
	comp=N,320nm,20.4s						
CD2				LR	LR		
	comp=Z,350nm,18.0s,MS4.5						
HHC	**Hu-ho-hao-te**	**54.15**	**328**	*e*P	**P**	**21 48 16.5**	**+2.4**
HHC				PCP	PcP	21 49 19.7	+1.3
HHC				PP	PP	21 50 20.6	+4.7
HHC				SCP	ScP	21 53 11.8	-1.9
HHC				PCS	PcS	21 53 18.0	+0.2
HHC				S	**S**	**21 55 48.1**	**-0.3**
HHC				SCS	ScS	21 57 57.0	-3.6
HHC				SS	SS	21 59 29.6	-0.7
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,168nm,3.9s						
HHC				LR	LR		
	comp=N,587nm,23.5s,MS4.8						
HHC				LR	LR		
	comp=E,653nm,21.6s,MS4.8						
HHC				LR	LR		
	comp=Z,966nm,22.5s,MS4.8						
BTO	**Baotou**	**54.80**	**327**	*e*P	**P**	**21 48 19.0**	**+0.2**
LZH	**Lanzhou**	**55.59**	**319**	*e*P	**P**	**21 48 26.1**	**+1.6**
LZH				AP	pP	21 48 38.9	+3.6
LZH				XP	sP	21 48 43.5	+4.0
LZH				PCP	PcP	21 49 25.3	+1.4
LZH				PP	PP	21 50 32.1	+3.3
LZH				SCP	ScP	21 53 19.5	-0.5
LZH				*e*S	**S**	**21 56 07.3**	**-0.5**
LZH				XS	sS	21 56 28.0	+2.4
LZH				SS	SS	21 59 53.1	0.0
LZH				AMB	AMB		
	comp=Z,44nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,220nm,6.0s						
LZH				LR	LR		
	comp=E,729nm,16.4s						
LZH				LR	LR		
	comp=Z,1μm,17.6s,MS5.0						
HIA	**Hailar**	**57.28**	**340**	*e*P	**P**	**21 48 37.2**	**+0.7**
HIA				pmax	pmax		
	comp=Z,56nm,1.4s						
HIA	**Hailar**	**57.28**	**340**	*e*P	**P**	**21 48 37.1**	**+0.6**
	comp=Z,56nm,1.4s,mb5.4						
GTA	**Gaotai**	**60.11**	**320**	*e*P	**P**	**21 48 56.7**	**+0.4**
GTA				AP	pP	21 49 05.7	-1.4
GTA				XP	sP	21 49 10.9	-0.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,118nm,5.0s						
GTA				LR	LR		
	comp=N,269nm,18.0s,MS4.6						
GTA				LR	LR		
	comp=E,357nm,22.9s,MS4.6						
GTA				LR	LR		
	comp=Z,386nm,22.5s,MS4.5						
ULN	**Ulaanbaatar**	**61.42**	**331**	P	**P**	**21 49 07.1**	**+2.0**
	SNR=7.5						
ULN	**Ulaanbaatar**	**61.42**	**331**	*e*P	**P**	**21 49 04.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.4						
ULN	**Ulaanbaatar**	**61.42**	**331**	*e*P	**P**	**21 49 04.1**	**-1.0**
	comp=Z,47nm,1.6s,mb5.4						
SONM	**Songino Array**	**61.71**	**331**	P	**P**	**21 49 03.7**	**-3.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=51,SNR=2.1						
LSA	**Lhasa**	**61.82**	**306**	P	**P**	**21 49 09.0**	**+1.1**
LSA	**Lhasa**	**61.82**	**306**	*e*P	**P**	**21 49 09.2**	**+1.3**
LSA				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2						
LSA	**Lhasa**	**61.82**	**306**	*e*P	**P**	**21 49 09.2**	**+1.3**
	comp=Z,22nm,1.2s,mb5.2						
PPT	**Papeete**	**64.78**	**108**	*e*S	**S**	**21 58 08.1**	**+2.5**
	comp=Z,538nm,28.5s						
PPT				*e*LR	LR	22 08 48.5	
	comp=Z,431nm,30.2s						
TBI	**Tubuai**	**65.45**	**114**	*e*S	S	21 58 17.1	+3.2
	comp=Z,380nm,31.0s						
TBI				*e*LQ		22 06 28.6	
	comp=Z,776nm,33.2s						
TBI				*e*LR	LR	22 09 19.3	
	comp=Z,843nm,38.5s						
GUN	**Gumba**	**65.53**	**303**	*e*P	**P**	**21 49 33.6**	**+1.3**
	comp=Z,206nm,1.2s,mb6.0						
TLY	**Talaya**	**65.65**	**333**	*e*P	**P**	**21 49 34.0**	**+0.9**
TLY				*e*S	S	21 58 12.9	-3.4
TLY				*e*SS	SS	22 02 25.0	-5.7
TLY				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.1						
TLY	**Talaya**	**65.65**	**333**	*e*P	**P**	**21 49 32.6**	**-0.4**
	comp=Z,24nm,1.3s,mb5.1						
PKI	**Pulchoki**	**65.82**	**302**	*e*P	**P**	**21 49 34.8**	**+0.6**
	comp=Z,84nm,1.2s,mb5.6						
KKN	**Kakani**	**66.00**	**302**	*e*P	**P**	**21 49 35.9**	**+0.6**
	comp=Z,91nm,0.9s,mb5.8						
DMN	**Daman**	**66.09**	**302**	*e*P	**P**	**21 49 36.6**	**+0.7**
	comp=Z,125nm,1.0s,mb5.9						
YAK	**Yakutsk**	**66.59**	**352**	*e*P	**P**	**21 49 38.4**	**-0.7**
YAK				pmax	pmax		
	comp=Z,62nm,1.9s,mb5.3						
YAK	**Yakutsk**	**66.59**	**352**	*e*P	**P**	**21 49 38.4**	**-0.7**
	comp=Z,62nm,1.9s,mb5.3						
GKN	**Gorkha**	**66.61**	**302**	*e*P	**P**	**21 49 39.8**	**+0.6**
	comp=Z,72nm,0.9s,mb5.7						
MOY	**Mondy**	**66.88**	**332**	*e*P	**P**	**21 49 41.4**	**+0.4**
MOY				pmax	pmax		
	comp=Z,50nm,2.1s,mb5.2						
CASY	**Casey**	**67.25**	**195**	*e*P	**P**	**21 49 42.0**	**-1.4**
	comp=Z,20nm,1.4s,mb5.0						
KOLN	**Koldanda**	**67.41**	**302**	*e*P	**P**	**21 49 43.9**	**-0.4**
	comp=Z,82nm,0.8s,mb5.8						
HYB	**Hyderabad**	**69.48**	**290**	*i* P	**P**	**21 49 56.5**	**-0.7**
HYB	**Hyderabad**	**69.48**	**290**	*e*P	**P**	**21 49 56.5**	**-0.7**
WMQ	**Urumqi**	**70.17**	**319**⇓	*i*P	**P**	**21 50 01.8**	**+0.3**
WMQ				AP	pP	21 50 12.0	-0.6
WMQ				XP	sP	21 50 16.0	-0.7
WMQ				PCP	PcP	21 50 24.0	+0.7
WMQ				PP	PP	21 52 39.0	+2.0
WMQ				S	S	21 59 09.5	-0.9
WMQ				XS	sS	21 59 26.0	-2.6
WMQ				SCS	ScS	21 59 58.0	-3.3
WMQ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,196nm,3.7s						
WMQ				LR	LR		
	comp=N,706nm,22.3s,MS4.9						
WMQ				LR	LR		
	comp=E,447nm,25.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,565nm,28.0s,MS4.7						
MIR	**Mirnyy**	**72.62**	**199**	*e*P	**P**	**21 50 17.0**	**+0.7**
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8						
SDPT	**Sand Point**	**73.38**	**29**	P	**P**	**21 50 20.1**	**-0.6**
TAOE	**Nuku Hiva Isla**	**73.74**	**98**	*e*LR	LR	22 13 10.3	
	comp=Z,2μm,29.7s						
POO	**Poona**	**74.08**	**290**	*e*P	**P**	**21 50 21.0**	**-3.9**
VNDA	**Vanda**	**74.38**	**176**	P	**P**	**21 50 26.8**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=310,slow=7.2,SNR=6.0						
VNDA	**Vanda**	**74.38**	**176**	*e*P	**P**	**21 50 26.5**	**-0.1**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
VNDA	**Vanda**	**74.38**	**176**	*e*P	**P**	**21 50 26.5**	**-0.1**
	comp=Z,7.4nm,1.2s,mb4.5						
MKAR	**Makanchi Array**	**74.87**	**320**	P	**P**	**21 50 26.1**	**-3.3**
	comp=Z,4.6nm,1.1s,mb4.3,baz=121,slow=6.9,SNR=4.7						
SBA	**Scott Base**	**75.04**	**175**	*e*P	**P**	**21 50 31.5**	**+1.0**
SBA				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
SBA	**Scott Base**	**75.04**	**175**	*e*P	**P**	**21 50 31.5**	**+1.1**
	comp=Z,12nm,1.4s,mb4.6						
ZAL	**Zalesovo**	**76.33**	**328**	P	**P**	**21 50 36.9**	**-1.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=1.8,slow=6.7,SNR=15						
KSH	**Kashi**	**76.86**	**312**	P	**P**	**21 50 39.1**	**-1.7**
KSH				*e*AP	pP	21 50 52.0	0.0
KSH				*e*PCP	PcP	21 50 53.1	+1.2
KSH				*e*XP	sP	21 50 56.3	+0.2
KSH				*e*PP	PP	21 53 36.0	+2.0
KSH				*e*PPP		21 55 24.2	
KSH				*e*S	S	22 00 18.3	-7.7
KSH				*e*XS	sS	22 00 42.6	-1.8
KSH				*e*SCS	ScS	22 00 52.3	-2.5
KSH				*e*PS		22 01 08.0	
KSH				*e*SS	SS	22 05 24.4	+1.7
KSH				AMB	AMB		
	comp=Z,424nm,6.2s						
KSH				LR	LR		
	comp=N,309nm,4.5s						
KSH				LR	LR		
	comp=E,451nm,5.2s						
KSH				LR	LR		
	comp=Z,329nm,6.1s						
KURK	**Kurchatov**	**78.55**	**323**	P	**P**	**21 50 50.4**	**+0.1**
	comp=Z,170nm,1.2s,mb5.8,SNR=16						
SVW2	**Sparrevohn**	**78.58**	**25**	*e*P	**P**	**21 50 52.4**	**+2.0**
RKT	**Rikitea**	**78.73**	**113**	*e*LR	LR	22 15 22.6	
	comp=Z,764nm,31.5s						
AAK	**Ala-Archa**	**78.78**	**315**	*e*P	**P**	**21 50 50.3**	**-1.2**
AAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**78.78**	**315**	*e*P	**P**	**21 50 50.3**	**-1.2**
	comp=Z,14nm,1.3s,mb4.7						
TTA	**Tatalina**	**79.33**	**23**	*e*P	**P**	**21 50 54.0**	**-0.5**
TTA				pmax	pmax		
	comp=Z,69nm,1.9s,mb5.3						
TTA	**Tatalina**	**79.33**	**23**	*e*P	**P**	**21 50 54.0**	**-0.5**
	comp=Z,69nm,1.9s,mb5.3						
MCK	**McKinley**	**82.53**	**24**	*e*P	**P**	**21 51 11.5**	**-0.1**
MCK				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
MCK	**McKinley**	**82.53**	**24**	*e*P	**P**	**21 51 11.5**	**-0.1**
	comp=Z,25nm,1.5s,mb5.0						
MAW	**Mawson**	**83.99**	**202**	P	**P**	**21 51 19.4**	**+0.3**
	comp=Z,5.4nm,1.1s,mb4.6,baz=66,slow=6.8,SNR=4.4						
MAW	**Mawson**	**83.99**	**202**	*e*P	**P**	**21 51 17.6**	**-1.5**
MAW				pmax	pmax		
	comp=Z,13nm,1.3s						
MAW	**Mawson**	**83.99**	**202**	*e*P	**P**	**21 51 17.6**	**-1.5**
	comp=Z,14nm,1.3s,mb4.9						
CHKZ	**Chkalovo**	**84.13**	**325**	*e*P	**P**	**21 51 18.2**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.3						
CHKZ	**Chkalovo**	**84.13**	**325**	*e*P	**P**	**21 51 18.1**	**-1.7**
	comp=Z,39nm,1.4s,mb5.3						
BRVK	**Borovoye**	**84.18**	**324**	P	**P**	**21 51 23.6**	**+3.6**
	SNR=9.4						
BRVK	**Borovoye**	**84.18**	**324**	*e*P	**P**	**21 51 19.2**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.1						
BRVK	**Borovoye**	**84.18**	**324**	*e*P	**P**	**21 51 19.2**	**-0.9**
	comp=Z,22nm,1.4s,mb5.1						
ZRNK	**Zerenda**	**84.91**	**324**	*e*P	**P**	**21 51 23.6**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.3						
ZRNK	**Zerenda**	**84.91**	**324**	*e*P	**P**	**21 51 23.6**	**-0.1**
	comp=Z,38nm,1.6s,mb5.3						
EGAK	**Eagle**	**86.08**	**24**	*e*P	**P**	**21 51 28.7**	**-0.9**
DAWY	**Dawson**	**86.62**	**25**	*e*P	**P**	**21 51 31.6**	**-0.7**
ARU	**Arti**	**91.41**	**326**	*e*P	**P**	**21 51 55.6**	**+0.7**
ARU				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2						
ARU	**Arti**	**91.41**	**326**	*e*P	**P**	**21 51 55.6**	**+0.8**
	comp=Z,16nm,1.4s,mb5.2						
SYO	**Syowa Base**	**92.42**	**200**⇑	*e*PcP	PcP	21 52 00.5	+0.3
SYO	**Syowa Base**	**92.42**	**200**⇑	*e*sP	sP	21 52 15.8	+0.8
PLCA	**Paso Flores**	**124.80**	**147**	PKP	PKPdf	21 57 49.4	+0.9
	comp=Z,2.3nm,0.8s,baz=225,slow=5.9,SNR=5.9						
LPAZ	**La Paz**	**141.10**	**121**	PKP	PKPdf	21 58 19.9	+0.9
	comp=Z,0.7nm,0.6s,baz=225,slow=8.6,SNR=2.8						
CPUP	**Villa Florida**	**142.80**	**144**	PKP	PKPdf	21 58 22.6	+0.6
	comp=Z,3.0nm,0.8s,baz=83,slow=1.4,SNR=5.8						
TOA0	**Torodi Ar. Sit**	**143.26**	**287**	*e*PKPdf	PKPdf	21 58 18.6	-4.3
TORD	**Torodi Ar. Bea**	**143.26**	**287**	PKP	PKPdf	21 58 20.7	-2.1
	comp=Z,4.0nm,1.1s,baz=77,slow=4.4,SNR=5.6						
SDV	**Santo Domingo**	**143.45**	**80**	*e*PKPdf	PKPdf	21 58 25.0	+1.8
DBIC	**Dimbokro**	**150.59**	**277**	PKPbc	PKPbc	21 58 38.3	-2.2
	comp=Z,6.8nm,0.9s,baz=117,slow=23,SNR=3.2						
DBIC	**Dimbokro**	**150.59**	**277**	PKIKP	PKPdf	21 58 38.3	+3.2
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DBIC	**Dimbokro**	**150.59**	**277**	*e*PKPbc	PKPbc	21 58 41.9	+1.3

MAN 05 21:50:45.8, 1001N×12626E, h1^{km}, mb2.1, ML3.8, MS4.1, Philippine Islands region

WEL 05 21:57:56.6±0.4**, 3963S×17403E, h190^{km}**±3^{km}**, ML3.8**/9**, Error ellipse: s-maj=3.4km s-min=1.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.74**	**100**	PN	Pn	21 58 24.2	+0.5
WAZ				SN	Sn	21 58 44.9	+0.3
VRZ	**Vera Road**	**0.76**	**48**	PN	Pn	21 58 23.7	-0.1
VRZ				SN	Sn	21 58 44.1	-0.7
PKVZ	**Pokaka**	**1.07**	**72**	PN	Pn	21 58 25.9	+0.1
DUWZ	**D'Urville Isla**	**1.17**	**184**	PN	Pn	21 58 26.8	+0.2
DUWZ				SN	Sn	21 58 48.5	-1.3
TRVZ	**Turoa**	**1.22**	**75**	PN	Pn	21 58 27.5	+0.5
TRVZ				SN	Sn	21 58 49.0	-1.5
TWVZ	**Taurewa**	**1.22**	**63**	PN	Pn	21 58 26.7	-0.3
FWVZ	**Far West T-bar**	**1.23**	**73**	PN	Pn	21 58 27.3	+0.2
FWVZ				SN	Sn	21 58 49.6	-1.1
WPVZ	**Whakapapa**	**1.25**	**70**	PN	Pn	21 58 27.4	+0.2
WNVZ	**Wahianoa**	**1.25**	**76**	PN	Pn	21 58 27.5	+0.3
HIZ	**Hauiti**	**1.29**	**30**	PN	Pn	21 58 27.4	-0.2
WTVZ	**West Tongariro**	**1.31**	**67**	PN	Pn	21 58 27.8	0.0
OTVZ	**Oturere**	**1.35**	**70**	PN	Pn	21 58 28.4	+0.3
MOVZ	**Moawhango**	**1.35**	**81**	PN	Pn	21 58 27.8	-0.3
KRVZ	**Karewarewa**	**1.36**	**67**	PN	Pn	21 58 28.2	+0.1
KIW	**Kapiti Island**	**1.40**	**152**	PN	Pn	21 58 28.4	-0.1
TSZ	**Takapari Road**	**1.54**	**107**	PN	Pn	21 58 29.6	-0.2
MRZ	**Mangatainoka R**	**1.57**	**131**	PN	Pn	21 58 29.7	-0.3
TCW	**Tory Channel**	**1.59**	**173**	PN	Pn	21 58 30.5	+0.3
QRZ	**Quartz Range**	**1.66**	**223**	PN	Pn	21 58 30.5	-0.4
NNZ	**Nelson**	**1.66**	**197**	PN	Pn	21 58 30.8	-0.1

*ISCJB **05** 22:07:48.8±0.7, 21.1S±0.1×179.4W±0.1, h650^{km}, mb3.5/10, Error ellipse: s-maj=17.4km s-min=16.0km az=10.5*
*IDC **05** 22:07:48.7±6.7, 20.99S×179.27W, h631^{km}±80^{km}, mb2.9/5, mb1 3.2/5, mb1mx3.1/12, mbtmp3.9/5, Error ellipse: s-maj=39.2km s-min=24.9km az=61.0*
*NEIC **05** 22:07:51.9±2.9, 21.01S×179.42W, h671^{km}±37^{km}, mb3.8/6, Error ellipse: s-maj=23.0km s-min=14.4km az=73.0*
ISC 05 22:07:50.2±0.7**, 21.1S**±0.1×**179.3W**±0.1**, h650^{km}, n20, σ0^{s}65**/16**, mb3.5**/10**, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**32.22**	**266**	*e*P	**P**	**22 13 28.4**	**+0.3**
	1.2nm,0.3s,mb3.9						
PMG	**Port Moresby**	**34.30**	**285**	P	**P**	**22 13 44.8**	**-0.6**
STKA	**Stephens Creek**	**36.43**	**245**	*e*P	**P**	**22 14 02.9**	**0.0**
ASAR	**Alice Springs**	**43.20**	**258**	P	**P**	**22 14 57.0**	**+0.4**
	0.9nm,0.6s,mb3.4,baz=94,slow=7.5,SNR=12						
WB2	**Warramunga Arr**	**43.30**	**263**	*e*P	**P**	**22 14 57.4**	**+0.1**
WRA	**Warramunga Arr**	**43.31**	**263**	P	**P**	**22 14 57.2**	**-0.2**
	0.7nm,0.5s,mb3.4,baz=97,slow=6.8,SNR=13						
MBWA	**Marble Bar**	**56.53**	**258**	P	**P**	**22 16 33.5**	**+0.3**
SBA	**Scott Base**	**57.20**	**183**	*e*P	**P**	**22 16 39.2**	**+1.4**
	3.3nm,0.8s,mb3.5						
VNDA	**Vanda**	**57.21**	**185**	P	**P**	**22 16 38.2**	**+0.3**
	0.8nm,0.5s,mb3.1,baz=12,slow=5.8,SNR=8.0						
VNDA	**Vanda**	**57.21**	**185**	*e*P	**P**	**22 16 38.1**	**+0.3**
	1.0nm,0.7s,mb3.0						
CASY	**Casey**	**62.91**	**205**	*e*P	**P**	**22 17 14.8**	**-0.5**
	3.0nm,0.8s,mb3.6						
QSPA	**South Pole Qui**	**68.97**	**180**	*e*P	**P**	**22 17 52.2**	**-0.4**
	6.3nm,1.0s,mb3.9						
MJAR	**Matsushiro Arr**	**69.97**	**325**	P	**P**	**22 17 58.8**	**+0.2**
	1.8nm,0.6s,mb3.7,baz=166,slow=6.4,SNR=6.3						
NVAR	**Mina Array Bea**	**82.30**	**44**	P	**P**	**22 19 05.2**	**-0.5**
	0.3nm,0.5s,mb3.1,baz=226,slow=3.9,SNR=4.0						
WVOR	**Wild Horse Val**	**84.37**	**40**	P	**P**	**22 19 16.7**	**+0.7**
	2.1nm,0.5s,mb3.9						
SYO	**Syowa Base**	**85.88**	**193**⇑	*e*P	**P**	**22 19 21.7**	**-1.5**
AKASG	**Malin Array Be**	**142.93**	**330**	PKP	PKPdf	22 26 09.4	-2.2
	2.0nm,0.5s,baz=43,slow=4.2,SNR=24						
EKA	**Eskdalemuir Ar**	**145.69**	**4**	PKPbc	PKPbc	22 26 17.3	-0.9
	1.5nm,0.8s,baz=348,slow=3.5,SNR=3.8						
BRTR	**Keskin Array B**	**146.32**	**311**	PKPbc	PKPbc	22 26 20.4	+0.5
	0.6nm,0.6s,baz=126,slow=4.5,SNR=4.7						
GERES	**GERESS Array B**	**150.42**	**342**	PKPbc	PKPbc	22 26 30.0	0.0
	0.6nm,0.6s,baz=5.7,slow=2.7,SNR=7.6						

*CSEM **05** 22:10:24.0, 43.48N×45.30E, h22^{km}, mb3.6, After OBN*
*MOS **05** 22:10:24.3±0.5, 43.48N×45.30E, h22^{km}, mb3.6/1, Error ellipse: s-maj=13.6km s-min=8.1km az=0.7*
*ISCJB **05** 22:10:25.5±0.7, 43.54N±0.03×45.26E±0.04, h21^{km}±5^{km}, Error ellipse: s-maj=6.3km s-min=4.8km az=76.6*
*TIF **05** 22:10:25.2, 43.53N×45.03E, h20^{km}±6^{km}*
ISC 05 22:10:24.4±0.8**, 43.55N**±0.03×**45.29E**±0.04**, h10^{km}**±4^{km}**, n21, σ1^{s}18**/37**, 3C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.44**	**294**	*i* Pg	**Pg**	**22 10 34.4**	**+1.4**
TRKR				*i* Sg	**Sg**	**22 10 41.9**	**+3.1**
SNJR	**Sundja**	**0.59**	**216**	*i* Pg	**Pg**	**22 10 36.1**	**+0.2**
SNJR				*i* Sg	**Sg**	**22 10 44.6**	**+1.0**
VLKR	**Vladikavkaz**	**0.67**	**222**	*i* Pg	**Pg**	**22 10 37.3**	**-0.1**
VLKR				*i* Sg	**Sg**	**22 10 46.8**	**+0.7**
KMSR	**Komsomolskaya**	**0.74**	**257**	*i* Pg	**Pg**	**22 10 38.7**	**-0.1**
KMSR				*i* Sg	**Sg**	**22 10 49.2**	**+0.7**
PRTR	**Priterechnaya**	**0.76**	**286**	*i* Pg	**Pg**	**22 10 39.4**	**+0.4**
PRTR				*i* Sg	**Sg**	**22 10 50.3**	**+1.4**
ARNR	**Ardon**	**0.82**	**244**	*i* Pg	**Pg**	**22 10 39.7**	**-0.4**
ARNR				*i* Sg	**Sg**	**22 10 51.0**	**+0.2**
KORR	**Kora**	**1.00**	**243**	*i* Pg	**Pg**	**22 10 42.7**	**-1.0**
KORR				*i* Sg	**Sg**	**22 10 56.0**	**-0.7**
DBC	**Dubki**	**1.25**	**115**	*i* PG	**Pg**	**22 10 46.2**	**-2.1**
DBC				*i* S	**Sb**	**22 11 04.5**	**+0.4**
ZEI	**Tsey**	**1.28**	**233**	*e*Pg	**Pg**	**22 10 46.0**	**-3.0**
ZEI				*e*Sg	**Sg**	**22 11 02.7**	**-2.9**
KUBR	**Kubataba**	**1.39**	**281**	*i* Pg	**Pg**	**22 10 50.1**	**-0.9**
KUBR				*i* Sg	**Sg**	**22 11 09.3**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.41**	**243**	*i* Pg	**Pn**	**22 10 48.3**	**-1.8**
DIGR				*i* Sg	**Sn**	**22 11 05.8**	**-2.9**
DUS	**Dusheti**	**1.52**	**197**	P	**Pn**	**22 10 53.0**	**+1.4**
DUS				S	**Sn**	**22 11 13.9**	**+2.4**
ONI	**Oni**	**1.66**	**235**	P	**Pn**	**22 10 52.5**	**-1.0**
ONI				S	**Sn**	**22 11 12.8**	**-2.1**
PYA	**Pyatigorsk**	**1.69**	**287**⇑	*e*PN	**Pn**	**22 10 53.7**	**-0.2**
BEYR	**Belyy Ugol+**	**1.85**	**285**	*e*Pn	**Pn**	**22 10 55.8**	**-0.4**
TBLG	**Delisi**	**1.86**	**193**	P	**Pn**	**22 10 57.8**	**+1.5**
TBLG				S	**Sn**	**22 11 21.0**	**+1.1**
MTA	**Mtatsminda**	**1.89**	**191**	P	**Pn**	**22 10 57.6**	**+0.9**
MTA				S	**Sn**	**22 11 21.0**	**+0.4**
SHAR	**Shatzhatmas**	**1.91**	**277**⇑	*e*PN	**Pn**	**22 10 57.3**	**+0.3**
KIV0	**Kislovodsk Arr**	**1.92**	**283**	*e*Pn	**Pn**	**22 10 56.8**	**-0.4**
KIV	**Kislovodsk**	**1.93**	**283**⇑	*e*PN	**Pn**	**22 10 56.8**	**-0.5**
DGRG	**David-gareji**	**2.10**	**178**	P	**Pb**	**22 11 03.1**	**+0.6**
DGRG				S	**Sg**	**22 11 30.9**	**-0.9**

*ISCJB **05** 22:15:43.6±0.7, 43.55N±0.04×45.28E±0.03, h7^{km}±4^{km}, Error ellipse: s-maj=7.3km s-min=3.6km az=37.6*
*CSEM **05** 22:15:44.1, 43.48N×45.17E, h16^{km}, mb3.6, After OBN*
*MOS **05** 22:15:44.7±0.9, 43.48N×45.17E, h16^{km}, mb3.6/1, Error ellipse: s-maj=11.2km s-min=8.0km az=11.3*
ISC 05 22:15:44.5±0.7**, 43.51N**±0.04×**45.29E**±0.04**, h11^{km}**±4^{km}**, n16, σ1^{s}19**/32**, 2C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.46**	**298**	*e*Pg	**Pg**	**22 15 53.3**	**-0.1**
TRKR				*i* Sg	**Sg**	**22 16 01.4**	**+1.9**
SNJR	**Sundja**	**0.56**	**218**	*i* Pg	**Pg**	**22 15 54.6**	**-0.8**
SNJR				*i* Sg	**Sg**	**22 16 03.5**	**+0.7**
VLKR	**Vladikavkaz**	**0.64**	**224**	*e*Pg	**Pg**	**22 15 56.1**	**-0.9**
VLKR				*i* Sg	**Sg**	**22 16 06.3**	**+0.9**
KMSR	**Komsomolskaya**	**0.74**	**259**	*i* Pg	**Pg**	**22 15 58.3**	**-0.5**
KMSR				*i* Sg	**Sg**	**22 16 10.0**	**+1.6**
PRTR	**Priterechnaya**	**0.77**	**289**	*e*Pg	**Pg**	**22 15 59.0**	**-0.4**
PRTR				*e*Sg	**Sg**	**22 16 11.4**	**+2.0**
ARNR	**Ardon**	**0.80**	**247**	*e*Pg	**Pg**	**22 15 59.3**	**-0.7**
ARNR				*e*Sg	**Sg**	**22 16 11.8**	**+1.3**
KORR	**Kora**	**0.99**	**245**	*i* Pg	**Pg**	**22 16 02.5**	**-1.0**
KORR				*i* Sg	**Sg**	**22 16 17.4**	**+1.1**
BTLR	**Botlikh**	**1.09**	**141**	PG	**Pg**	**22 16 05.5**	**+0.1**
BTLR				*e*S	**Sb**	**22 16 19.5**	**0.0**
DBC	**Dubki**	**1.23**	**113**	*e*PG	**Pg**	**22 16 07.0**	**-1.1**
DBC				*e*S	**Sb**	**22 16 26.0**	**+2.4**
ZEI	**Tsey**	**1.26**	**234**	*e*Pg	**Pg**	**22 16 06.0**	**-2.7**
ZEI				*e*Sg	**Sg**	**22 16 22.3**	**-2.7**
KRNR	**Karanay**	**1.37**	**119**	*e*PG	**Pg**	**22 16 12.0**	**+1.2**
KRNR				*e*S	**Sg**	**22 16 32.0**	**+3.5**
KUBR	**Kubataba**	**1.39**	**283**	*e*Pg	**Pg**	**22 16 09.5**	**-1.8**
KUBR				*e*Sg	**Sg**	**22 16 28.7**	**-0.7**
BEYR	**Belyy Ugol+**	**1.86**	**287**	*e*Pn	**Pn**	**22 16 15.4**	**-0.9**
BEYR				*e*Sg	**Sn**	**22 16 40.1**	**+0.4**
SHAR	**Shatzhatmas**	**1.92**	**278**⇑	*e*PN	**Pn**	**22 16 16.5**	**-0.5**
SHAR				*e*S	**Sn**	**22 16 41.9**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.93**	**284**	*e*Pn	**Pn**	**22 16 16.1**	**-1.2**
KIV0				*e*Sg	**Sn**	**22 16 42.1**	**+0.6**
KIV	**Kislovodsk**	**1.94**	**284**⇑	*e*PN	**Pn**	**22 16 16.2**	**-1.1**
KIV				*e*S	**Sn**	**22 16 42.1**	**+0.4**

*CSEM **05** 22:19:45.5, 43.45N×45.19E, h20^{km}, mb3.6, After OBN*
MOS 05 22:19:45.5±1.0**, 43.45N×45.19E, h20^{km}, mb3.6**/1**, 2C,**

Error ellipse: s-maj=11.8km s-min=8.2km az=5.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	Terskaya	0.43	310	*i* Pg	Pb	22 19 54.4	-0.1
TRKR				*i* Sg	Sb	22 20 02.4	+1.9
SNJR	Sundja	0.47	216	*i* Pg	Pb	22 19 55.3	+0.2
SNJR				*i* Sg	Sb	22 20 04.1	+2.5
VLKR	Vladikavkaz	0.55	223	*i* Pg	Pb	22 19 56.9	+0.5
VLKR				*i* Sg	Sb	22 20 06.8	+2.9
KMSR	Komsomolskaya	0.66	264	*i* Pg	Pb	22 19 59.1	+0.8
KMSR				*i* Sg	Sb	22 20 10.5	+3.4
ARNR	Ardon	0.71	249	*i* Pg	Pb	22 20 00.1	+0.9
ARNR				*i* Sg	Sb	22 20 12.2	+3.6
KORR	Kora	0.90	247	*i* Pg	Pb	22 20 03.1	+0.7
KORR				*i* Sg	Sb	22 20 17.6	+3.7
BTLR	Botlikh	1.09	136	PG	Pn	22 20 04.5	-1.1
BTLR				*e*S	Sb	22 20 19.5	+0.1
BTLR				pmax	pmax		
	comp=Z,13nm,0.3s						
BTLR	Botlikh	1.09	136	Pg	Pn	22 20 04.5	-1.1
	comp=Z,13nm,0.3s						
BTLR				*e*Sg	Sb	22 20 19.5	+0.1
ZEI	Tsey	1.16	235	*e*Pg	Pn	22 20 06.8	+0.2
ZEI				*e*Sg	Sb	22 20 23.0	+1.4
DBC	Dubki	1.27	109	*i* PG	Pn	22 20 07.2	-0.9
DBC				*e*S	Sn	22 20 25.0	+0.4
DIGR	Digorskoe uzhe	1.30	246	*i* Pg	Pn	22 20 08.4	-0.1
DIGR				*i* Sg	Sn	22 20 26.0	+0.7
KUBR	Kubataba	1.34	286	*i* Pg	Pn	22 20 10.4	+1.3
KUBR				*e*Sg	Sn	22 20 29.6	+3.3
KRNR	Karanay	1.40	116	*e*PG	Pn	22 20 12.5	+2.6
KRNR				*e*S	Sn	22 20 32.5	+4.8
BEYR	Belyy Ugol+	1.81	289	*e*Pn	Pn	22 20 16.0	+0.5
SHAR	Shatzhatmas	1.86	280	⇑*e*PN	Pn	22 20 17.5	+1.3
SHAR				*e*S	Sn	22 20 43.1	+4.1
KIV0	Kislovodsk Arr	1.88	287	*e*Pn	Pn	22 20 16.9	+0.4
KIV	Kislovodsk	1.89	286	⇑*e*PN	Pn	22 20 17.4	+0.8

NIED 05 22:42:00, 3680N×14180E, h20km, Mw3.8 Best double couple: M0 6.33000×10^14 NP1: φs 347.00000°, δ76.00000°, λ75.00000°. NP2: φs 215.00000°, δ20.00000°, λ136.00000°.
IDC 05 22:42:25.2±2.3, 3670N×14207E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=41.4km s-min=26.7km az=71.0
ISCJB 05 22:42:26.8±1.1, 3672N±004×14215E±009, h44km±10km, mb3.5/3, Error ellipse: s-maj=12.4km s-min=6.4km az=9.1
NEIC 05 22:42:28.1±0.9, 3676N×14214E, h35km, MG3.8(JMA), Error ellipse: s-maj=17.7km s-min=16.1km az=95.0
JMA 05 22:42:29.8±0.3, 3678N×14179E, h53km±5km, M3.8
ISC 05 22:42:28.3±1.2, 3676N±004×14210E±010, h37km±10km, n26, σ1s27/35, mb3.5/3, 6D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	1.10	289	⇓P	Pn	22 42 45.6	-1.6
JFK	Kawauchi	1.16	302	P	Pn	22 42 46.8	-1.2
JFK				*e*S	Sn	22 42 59.5	-3.0
JHO	Hitachi	1.24	264	⇓P	Pn	22 42 47.4	-1.7
JMM	Marumori	1.52	317	⇓P	Pn	22 42 52.9	-0.1
JMM				*e*S	Sn	22 43 09.4	-2.2
JFT	Otama	1.60	299	⇓P	Pn	22 42 54.3	+0.2
JIO	Ouri	1.80	341	P	Pn	22 42 57.7	+0.9
JIO				*e*S	Sn	22 43 18.2	-0.2
JOU	Okura	1.97	325	P	Pn	22 43 00.4	+1.2
JOU				*e*S	Sn	22 43 23.4	+0.7
JFY	Yanaizu	2.02	289	P	Pn	22 43 00.5	+0.6
JAG	Ashikaga	2.16	262	⇓P	Pn	22 43 01.1	-0.6
JYS	Shirataka	2.18	313	⇓P	Pn	22 43 03.2	+1.1
JYS				*e*S	Sn	22 43 28.4	+0.5
JKT	Katashina	2.29	271	P	Pn	22 43 04.0	+0.4
MJAR	Matsushiro Arr	3.14	267	Pn	Pn	22 43 15.6	+0.4
	19nm,0.3s,baz=111,slow=11,SNR=120						
MJAR				Sn	Sn	22 43 54.0	+2.6
	8.1nm,0.3s,baz=184,slow=17,SNR=5.4						
MAJO	Matsushiro	3.14	267	*e*Pn	Pn	22 43 15.9	+0.7
MAJO				*e*Sn	Sn	22 43 48.3	-3.2
MAT	Matsushiro	3.14	267	P	Pn	22 43 16.1	+0.9
MAT				S	Sn	22 43 53.5	+2.0
JHJ	Hachijo jima 2	4.10	208	Pn	Pn	22 43 28.9	+0.5
	26nm,0.3s,baz=78,slow=23,SNR=14						
JHJ				Sn	Sn	22 44 14.2	-0.9
	42nm,0.3s,baz=260,slow=23,SNR=7.5						
ASAJ	Asahikawa	7.36	3	Pn	Pn	22 44 20.4	+7.2
	0.6nm,0.3s,baz=24,slow=31,SNR=2.8						
NACB	Ninganchiao	21.62	240	P	P	22 47 13.7	-1.5
YAK	Yakutsk	26.46	347	*e*P	P	22 48 00.7	-1.1
SONM	Songino Array	28.40	304	P	P	22 48 21.1	+2.0
	1.6nm,0.6s,mb3.8,baz=106,slow=9.9,SNR=4.3						
MKAR	Makanchi Array	44.73	302	P	P	22 50 40.0	+2.0
	0.4nm,0.6s,mb3.4,baz=91,slow=7.8,SNR=4.0						
CHKZ	Chkalovo	50.91	313	P	P	22 51 24.2	-1.5
ZRNK	Zerenda	52.00	313	P	P	22 51 33.0	-0.9
INK	Inuvik	54.38	27	P	P	22 51 51.1	-0.3
WB2	Warramunga Arr	56.86	189	P	P	22 52 09.1	-0.1
WRA	Warramunga Arr	56.87	189	P	P	22 52 11.3	+2.0
	0.2nm,0.5s,mb3.4,baz=6.8,slow=7.5,SNR=4.6						
STKA	Stephens Creek	68.28	180	*e*P	P	22 53 24.7	-0.7

PGC 05 23:11:42.9, 5312N×11700W, h1km, MN2.9/3, 77km northeast of Jasper, Alberta Near Coal Valley, Alberta., Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOWB	Downie Slide	1.85	211	Pn	Pn	23 12 16.0	+0.2
DOWB				Sg	Sg	23 12 40.9	-1.6
DOWB				Trac		23 12 44.9	
	comp=Z,467nm,0.3s						
SLEB	Sale Mountain	2.08	200	Pn	Pn	23 12 19.5	+0.7
SLEB				Sg	Sg	23 12 48.4	-1.2
SLEB				Trac		23 12 52.0	
	comp=Z,248nm,0.6s						
EDM	Edmonton	2.20	86	Pn	Pn	23 12 19.8	-0.7
EDM				Sg	Sg	23 12 51.1	-2.5
EDM				Trac		23 12 52.9	
	comp=Z,48nm,0.4s						
EDM				Trac		23 12 52.9	
	comp=Z,48nm,0.4s						
LLLB	Lillooet	3.93	232	Pn	Pn	23 12 44.4	0.0
LLLB				Pg	Pg	23 12 53.1	-5.2
LLLB				Sg	Sg	23 13 43.5	-5.8
LLLB				Trac		23 13 49.5	
	comp=Z,30nm,0.7s						
PNT	Penticton	4.15	204	Pn	Pn	23 12 46.9	-0.4
PNT				Pg	Pg	23 12 57.9	-4.5
PNT				Sg	Sg	23 13 51.9	-4.2
PNT				Trac		23 13 55.0	
	comp=Z,50nm,0.6s						
BMBC	Bull Mountain	4.19	317	Pn	Pn	23 12 47.4	-0.5
BMBC				Pg	Pg	23 12 57.6	-5.5
BMBC				Sn	Sn	23 13 34.8	-2.6
BMBC				Sg	Sg	23 13 51.5	-5.9
BMBC				Trac		23 13 59.4	
	comp=Z,35nm,0.6s						
BMBC				Trac		23 13 59.4	
	comp=Z,35nm,0.6s						
WALA	Waterton Lakes	4.50	153	Pn	Pn	23 12 52.9	+0.6
WALA				Pg	Pg	23 13 02.1	-7.1
WALA				Sn	Sn	23 13 43.4	-1.9
WALA				Sg	Sg	23 14 02.0	-5.6
WALA				Trac		23 14 06.8	
	comp=Z,21nm,0.5s						
FSB	Fort Saint Jam	4.55	290	Pn	Pn	23 12 51.7	-1.2
FSB				Pg	Pg	23 13 04.9	-5.3
FSB				Sg	Sg	23 14 03.8	-5.4
FSB				Trac		23 14 08.3	
	comp=Z,6.0nm,0.5s						
HOPB	Hope	4.65	218	Trac		23 14 12.4	
	comp=Z,23nm,0.3s						
HOPB	Hope	4.65	218	Sg	Sg	23 14 07.0	-5.4
WSLR	Whistler	4.75	233	Pg	Pg	23 13 07.4	-6.5
WSLR				Sg	Sg	23 14 09.7	-5.8
WSLR				Trac		23 14 11.8	
	comp=Z,10.0nm,0.5s						
HNB	Haney	5.21	225	Trac		23 14 28.5	
	comp=Z,9.0nm,0.6s						
HNB	Haney	5.21	225	Sg	Sg	23 14 23.4	-6.8
VDB	Vedder Mountai	5.21	220	Pn	Pn	23 13 01.5	-0.4
VDB				Pg	Pg	23 13 17.1	-5.6
VDB				Sg	Sg	23 14 24.8	-5.4
VDB				Trac		23 14 34.9	
	comp=Z,22nm,0.5s						
WPB	Watts Point	5.21	231	Pg	Pg	23 13 17.3	-5.4
WPB				Sg	Sg	23 14 23.8	-6.4
WPB				Trac		23 14 28.8	
	comp=Z,6.0nm,0.5s						
BIB	Bowen Island	5.43	229	Pg	Pg	23 13 20.9	-6.0
BIB				Trac		23 14 33.7	
	comp=Z,3.0nm,0.4s						
FNBB	Fort Nelson	6.70	332	Pn	Pn	23 13 20.2	-2.1
FNBB				Sn	Sn	23 14 32.6	-6.6
FNBB				Trac		23 14 39.0	
	comp=Z,2.0nm,0.2s						
FNBB				Trac		23 14 39.0	
	comp=Z,2.0nm,0.2s						
FNBB				Sg	Sg	23 15 11.3	-6.6
YKW3	Yellowknife Ar	9.55	7	Pn	Pn	23 13 56.8	-4.8
YKW3				Pn	Pn	23 13 57.0	-4.6
YKW3				Sn	Sn	23 15 36.8	-13
YKW3				Trac		23 15 45.2	
	comp=Z,1.0nm,0.2s						
YKW3				Sg	Sn	23 16 33.9	+44
YKW3				Sg	Sn	23 16 34.4	+45
YKW3				Trac		23 16 41.8	
	comp=Z,4.0nm,0.6s						
ULM	Lac du Bonnet	13.41	94	Pn	Pn	23 14 49.6	-4.7

WEL 05 23:21:28.7±0.2, 3718S×17951E, h12km, ML3.7/13, Error ellipse: s-maj=2.0km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.03	248	P*	Pb	23 21 47.4	-1.1
MXZ				S*	Sb	23 22 01.5	-0.5
PUZ	Puketiti	1.34	228	PN	Pn	23 21 52.5	-0.6
PUZ				SN	Sn	23 22 10.2	-0.7
MWZ	Matawai	1.95	233	PN	Pn	23 22 00.8	-0.8
MWZ				SN	Sn	23 22 24.3	-1.7
URZ	Urewera	2.19	240	PN	Pn	23 22 04.2	-0.7
URZ				SN	Sn	23 22 30.6	-1.2
BKZ	Black Stump Fm	3.10	229	PN	Pn	23 22 16.1	-1.3
BKZ				SN	Sn	23 22 52.4	-2.0
PXZ	Pawanui	3.53	215	PN	Pn	23 22 20.8	-2.4
MRZ	Mangatainoka R	4.64	220	PN	Pn	23 22 35.4	-3.1
MTW	Mount Morrison	5.05	217	PN	Pn	23 22 39.7	-4.6

ISCJB 05 23:26:42.0±0.5, 3930N±002×2080E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.5km az=168.3
THE 05 23:26:42.4, 3929N×2078E, h10km, ML2.6
NEIC 05 23:26:42.4, 3929N×2078E, h0km, MD3.5(ATH), After THE.
ATH 05 23:26:42.2, 3934N×2090E, h21km±12km, MD3.5/4
CSEM 05 23:26:42.4±0.1, 3930N×2080E, h1km±1km, MD3.5, Error ellipse: s-maj=2.2km s-min=2.0km az=87.0
ISC 05 23:26:42.3±0.6, 3928N±003×2078E±004, h1km±6km, n26, σ1s07/36, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.38	8	*e*PB	Pg	23 26 48.3	-1.2
JAN				*e*SB	Sg	23 26 54.2	-0.1
IGT	Igoumenitsa	0.43	306	*e*Pg	Pg	23 26 50.0	-0.4
IGT				*e*Sg	Sg	23 26 56.8	+0.8
LKD	Levkas	0.58	190	*e*Pg	Pg	23 26 53.9	+0.4
LKD				*e*Sg	Sg	23 27 02.4	+1.3
KEK	Kerkira	0.87	300	*e*PN	Pn	23 27 00.1	-1.5
LSK	Leskovik	0.88	351	*i* Pg	Pg	23 26 59.3	+0.3
EVR	Evrytania	0.88	114	*e*PN	Pg	23 26 58.2	-0.9
VLS	Valsamata	1.12	188	*e*PN	Pn	23 27 05.3	+0.3
AGG	Agios Georgios	1.23	102	*e*Pg	Pg	23 27 05.1	-0.7
AGG				*e*Sg	Sg	23 27 23.8	+2.0
RLS	Riolos of Patr	1.34	156	*e*PN	Pn	23 27 07.5	-0.5
LIT	Litokhoron	1.55	58	*e*Pg	Pg	23 27 10.7	-1.3
LIT				*e*Sg	Sg	23 27 31.8	-0.3
FNA	Florina	1.57	17	*e*Pg	Pg	23 27 10.2	-2.0
BIA	Bitola	1.78	13	*e*Pb	Pb	23 27 14.3	-1.3
BIA	Bitola	1.78	13	*i* Pn	Pb	23 27 15.5	-0.2
BIA				*i* Sn	Sg	23 27 42.0	+2.4
BIA	Bitola	1.78	13	*i* Pn	Pb	23 27 15.5	-0.2
BIA				*i* Sn	Sg	23 27 41.9	+2.4
OHR	Ohrid	1.82	0	*i* Pn	Pg	23 27 17.7	+0.4
OHR				*i* Sn	Sg	23 27 43.3	+2.4
OHR	Ohrid	1.82	0	*i* Pn	Pg	23 27 17.6	+0.4
OHR				*i* Sn	Sg	23 27 43.2	+2.3
GRG	Griva	2.08	36	*e*Pn	Pn	23 27 17.9	-0.3
KRUS	Krusevo	2.11	10	*i* Pn	Pg	23 27 22.1	-0.7
KRUS	Krusevo	2.11	10	*i* Pn	Pg	23 27 22.0	-0.8
HORT	Hortiatis	2.21	53	*e*Pn	Pn	23 27 19.1	-0.9
PAIG	Paliouri	2.33	73	*e*Pn	Pn	23 27 21.6	-0.1
KNT	Kendrikon	2.48	40	*e*Pn	Pn	23 27 23.1	-0.6
KNT	Kendrikon	2.48	40	*e*Pn	Pn	23 27 23.0	-0.7
SOH	Sokhos	2.50	51	*e*Pn	Pn	23 27 24.6	+0.6
SOH				*e*Sn	Sn	23 27 56.5	+1.4
STIP	Stip	2.63	24	*i* Pn	Pn	23 27 27.1	+1.2
STIP	Stip	2.63	24	*i* Pn	Pn	23 27 27.0	+1.2

IDC 05 23:43:43.3±4.2, 859S×14728E, h0km, mb1 3.6/2, mb1mx3.4/11, mbtmp3.3/2, ML3.1/1, Error ellipse: s-maj=130.9km s-min=55.8km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.86	227	Pn	Pn	23 47 42.6	+1.9
	baz=50,slow=9.7,SNR=13						
ASAR	Alice Springs	19.72	219	P	Pn	23 48 13.6	-2.1
	0.1nm,0.3s,baz=54,slow=9.3,SNR=4.5						
TORD	Torodi Ar. Bea	145.92	281	PKPbc	PKPbc	00 03 25.1	+0.5
	0.2nm,0.5s,baz=95,slow=1.6,SNR=4.2						

LDG 05 23:54:49.0±0.6, 1500S×16794E, h33km, Mb4.4/2, Error ellipse: s-maj=79.2km s-min=12.9km az=92.0
IDC 05 23:55:02.8±3.0, 1623S×16795E, h179km±23km, mb4.0/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.5/10, Error ellipse: s-maj=27.8km s-min=16.3km az=48.0
ISCJB 05 23:55:04.1±2.7, 163S±0.1×1679E±0.1, h205km±20km, mb4.2/14, Error ellipse: s-maj=29.6km s-min=14.0km az=83.6
NEIC 05 23:55:05.7±2.4, 1641S×16779E, h193km±20km, mb4.3/7, Error ellipse: s-maj=18.3km s-min=12.1km az=217.0
ISC 05 23:55:04.3±2.6, 163S±01×1680E±01, h196km±20km, n42, σ0s53/29, mb4.2/14, 1C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.93	194	P	Pn	23 56 30.4	-0.2
	1.9nm,0.3s,baz=40,slow=20,SNR=15						
CTA	Charters Tower	20.99	256	*e*P	P	23 59 33.2	+0.8
	5.4nm,0.6s						
CTA	Charters Tower	20.99	256	P	P	23 59 32.0	-0.4
	6.1nm,0.6s,baz=80,slow=12,SNR=9.5						
CTAO	Charters Tower	20.99	256	*e*P	P	23 59 31.8	-0.7
	8.2nm,0.7s						
PMG	Port Moresby	21.42	286	*e*P	P	23 59 37.9	+0.9
	23nm,0.8s,mb4.8						
URZ	Urewera	23.31	162	P	P	23 59 55.1	+0.3
	13nm,0.8s,mb4.5,baz=95,slow=1.9,SNR=3.2						
RPZ	Rata Peaks	27.46	175	P	P	00 00 32.1	0.0
	9.5nm,0.8s,mb4.5,baz=0.0,slow=11,SNR=4.3						
STKA	Stephens Creek	28.55	232	*e*P	P	00 00 42.4	+0.6
STKA	Stephens Creek	28.55	232	P	P	00 00 42.2	+0.4
	3.3nm,0.3s,mb4.4,baz=79,slow=9.5,SNR=13						
STKA	Stephens Creek	28.55	232	*e*P	P	00 00 42.6	+0.8
WB2	Warramunga Arr	32.15	258	⇓*i*P	P	00 01 13.1	-0.3
WRAB	Tennant Creek	32.15	258	*e*P	P	00 01 13.1	-0.3
	2.2nm,0.4s,mb4.0						
WRA	Warramunga Arr	32.16	258	P	P	00 01 12.9	-0.6
	1.2nm,0.3s,mb3.9,baz=80,slow=6.1,SNR=70						
AS31	Alice Springs	32.81	252	⇓*i*P	P	00 01 19.0	-0.1
ASAR	Alice Springs	32.81	252	P	P	00 01 19.0	-0.1
	21nm,0.5s,mb4.9,baz=76,slow=9.0,SNR=353						
ASAR				ScP	ScP	00 07 27.3	+2.6
	1.2nm,0.9s,baz=108,slow=3.0,SNR=7.4						
ASPA	Alice Springs	32.81	252	⇓*i*P	P	00 01 19.0	-0.2
KAKA	Kakadu	34.58	271	⇓*i*P	P	00 01 33.9	-0.5
FORT	Forrest	39.13	241	*e*P	P	00 02 13.0	+0.2
FITZ	Fitzroy Crossi	40.44	261	⇓*i*P	P	00 02 23.9	+0.4
FITZ	Fitzroy Crossi	40.44	261	P	P	00 02 23.9	+0.3
	18nm,0.7s,mb4.6,baz=90,slow=8.7,SNR=70						
MBWA	Marble Bar	45.83	256	*e*P	P	00 03 07.3	+0.6
	8.0nm,0.4s,mb4.4						
NWAO	Narrogin (SRO)	48.57	240	P	P	00 03 27.7	-0.1
MJAR	Matsushiro Arr	59.60	332	P	P	00 04 46.9	-0.6
	1.4nm,0.5s,mb3.8,baz=167,slow=3.3,SNR=5.6						
VNDA	Vanda	61.33	182	P	P	00 04 59.4	+0.2
	1.3nm,0.7s,mb3.7,baz=345,slow=8.6,SNR=11						
SBA	Scott Base	61.59	180	*e*P	P	00 05 01.8	+0.8
	3.3nm,0.7s,mb4.1						
CASY	Casey	62.36	203	P	P	00 05 05.6	-0.4
SYO	Syowa Base	87.42	196	⇑*e*P	P	00 07 29.6	+0.2
SNAA	Sanae	92.03	183	*e*P	P	00 07 49.6	-1.4
	0.8nm,0.5s,mb3.9						
MKAR	Makanchi Array	98.81	316	P	P	00 08 22.4	+0.6
	0.2nm,0.4s,mb3.8,baz=65,slow=6.8,SNR=5.0						
CDF	Champ du Feu	144.28	338	*e*PKP1	PKPdf	00 14 16.4	-0.5
HINF	Hinteralfeld	144.93	338	*e*PKP1	PKPdf	00 14 18.3	+0.3
	2.8nm,0.6s						
HAU	Haudompre	144.95	338	*e*PKP1	PKPdf	00 14 18.6	+0.6
	4.4nm,0.6s						
FLN	La Foliniere	146.27	346	*e*PKP1	PKPbc	00 14 21.3	-0.5
	3.2nm,0.4s						
LDF	La Druitiere	146.35	346	*e*PKP1	PKPbc	00 14 22.8	+0.8
LOR	Lormes	146.44	340	*e*PKP1	PKPbc	00 14 22.3	+0.1
	2.6nm,0.6s						
GRR	Gorron	146.71	346	*e*PKP1	PKPbc	00 14 23.5	+0.5
LPL	La Plagne	146.90	336	*e*PKP1	PKPbc	00 14 24.9	+1.4
	4.4nm,0.8s						
LPG	La Plagne	146.90	336	*e*PKP1	PKPbc	00 14 25.0	+1.4
	3.9nm,0.6s						
BGF	Bois d'Agland	147.39	341	*e*PKP1	PKPbc	00 14 24.9	0.0
ORIF	Oris-en-Rattie	147.73	336	*e*PKP1	PKPbc	00 14 26.8	+1.0
	3.6nm,0.7s						
TCF	Toulx Ste Croi	147.83	341	*e*PKP1	PKPbc	00 14 26.8	+0.7
MFF	Saint Martin d	148.21	344	*e*PKP1	PKPbc	00 14 27.6	+0.6

IGQ 06 00:00:31.4, 259S×7916W, h12km±5km, Mb4.0, Ms3.8, 5C-3D, Error ellipse: s-maj=10.4km s-min=1.8km az=39.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	Igualata	1.21	26	⇑P	Pn	00 00 54.4	+0.3
IGUA				S	Sb	00 01 11.2	+1.4
ARRY	Arrayan	1.29	33	⇓P	Pn	00 00 55.7	+0.6
ARRY				S	Sb	00 01 12.7	+0.7
PATA	Patacocha	1.30	34	P	Pn	00 00 56.3	+0.9
RETU	Refugio	1.34	32	⇑P	Pn	00 00 57.3	+1.4
RETU				S	Sb	00 01 16.2	+2.7
ULBA	Ulba	1.36	34	⇑P	Pn	00 00 57.6	+1.4
ULBA				S	Sb	00 01 16.5	+2.4
RUN5	Runtun	1.38	32	⇑P	Pn	00 00 57.8	+1.3
RUN5				S	Sn	00 01 16.9	+2.3
PISA	Pisayambo	1.71	27	⇓P	Pn	00 01 03.5	+2.5
CAMI	Rancho Maria	2.01	19	⇑P	Pn	00 01 08.0	+2.9
NAS1	Nasa	2.06	19	P	Pn	00 01 09.4	+3.6
VC1	Cotopaxi 1	2.08	21	P	Pn	00 01 09.5	+3.4
ANTI	Antisana	2.35	25	P	Pn	00 01 14.8	+5.1
JUA2	San Juan 2	2.42	13	P	Pn	00 01 14.4	+3.6
TERV	Terraza Guagua	2.46	13	P	Pn	00 01 14.6	+3.3
GGP	Refugio Guagua	2.46	13	⇓P	Pn	00 01 14.7	+3.3
PINO	Pino	2.48	13	P	Pn	00 01 15.0	+3.5

WEL 06 00:27:47.5±0.7, 4743S×16575E, h12km, ML3.6/4, 1D, Error ellipse: s-maj=6.6km s-min=5.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	1.64	70	PN	Pn	00 28 15.1	-1.1
APZ				SN	Sn	00 28 34.9	-2.3
APZ				SN	Sn	00 28 35.2	-2.0
WHZ	Wether Hill Ro	2.16	45	⇓PN	Pn	00 28 22.1	-1.2
WHZ				SN	Sn	00 28 47.8	-2.1
WHZ				*e*SN	Sn	00 28 47.8	-2.1
SYZ	Scrubby Hill	2.49	70	PN	Pn	00 28 27.8	0.0
SYZ				SN	Sn	00 28 57.2	-0.8
MLZ	Mavora Lakes	2.67	40	PN	Pn	00 28 29.5	-0.9
MLZ				SN	Sn	00 29 00.4	-2.3
TUZ	Tuapeka	3.05	63	PN	Pn	00 28 35.1	-0.5
TUZ				SN	Sn	00 29 11.2	-0.8
EAZ	Earnscleugh	3.30	50	PN	Pn	00 28 37.8	-1.2
EAZ				SN	Sn	00 29 17.0	-1.3

GUC 06 01:01:17.7±0.5, 3428S×7008W, h21km±2km, MD3.7, ML2.1, 3C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.28	261	⇑*i*P	Pb	01 01 24.1	-0.1
CICH				*i* S	Sb	01 01 28.8	+0.2
CACH	El Canelo	0.46	290	⇓*i*P	Pb	01 01 26.8	-0.3
CACH				*i* S	Sb	01 01 33.3	-0.1
CHCH	Chadas Angostu	0.58	306	⇓*i*P	Pb	01 01 28.9	-0.3
CHCH				*i* S	Sb	01 01 37.5	+0.4
SFDO	San Fernando	0.84	246	*i* P	Pb	01 01 33.5	-0.1
TACH	Talagante	0.95	311	*i* P	Pb	01 01 35.4	0.0
TACH				*i* S	Sb	01 01 48.4	+0.9
CLCH	Cerro Calan	0.96	337	⇑*i*P	Pb	01 01 35.5	0.0
CLCH				*i* S	Sb	01 01 49.0	+1.2
CLCH				AML	AML	01 01 58.1	
	comp=N,76nm,0.6s						
FCH	Farellones	0.96	349	*e*P	Pb	01 01 35.3	-0.4
FCH				*i* S	Sb	01 01 49.1	+1.2
FCH				AML	AML	01 01 50.2	
	comp=N,70nm,0.3s						
RCDM	Rinconada Maip	0.99	322	⇓*e*P	Pb	01 01 36.0	-0.2
RCDM				*i* S	Sb	01 01 49.7	+0.9
RCDM				AML	AML	01 01 50.2	
	comp=E,121nm,0.4s						
LNV	Longovilo	1.15	286	*e*P	Pn	01 01 38.2	-0.4
LNV				*i* S	Sb	01 01 54.3	+1.0
PEL	Peldehue	1.24	336	⇑*e*P	Pn	01 01 39.9	+0.1
PEL				*i* S	Sn	01 01 57.3	+1.5
PEL				AML	AML	01 01 58.4	
	comp=E,108nm,0.6s						
LCCH	Las Cruces	1.47	302	*e*P	Pn	01 01 44.1	+1.1
LCCH				*i* S	Sn	01 02 04.2	+2.6

NAO 06 01:03:26.6, 3801N×2354E, h33km, mb3.5
IDC 06 01:03:43.7±1.2, 3985N×2076E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.6/23, mbtmp3.6/8, ML2.7/2, Error ellipse: s-maj=30.7km s-min=19.8km az=104.0
ATH 06 01:03:45.8, 3981N×2078E, h21km, MD3.8/15, ML3.9
ISCJB 06 01:03:45.4±0.3, 3982N±001×2076E±002, h8km±2km, mb3.5/5, Error ellipse: s-maj=2.4km s-min=2.3km az=96.7
NEIC 06 01:03:45.8, 3981N×2078E, h21km, MD3.0(SOF), MD3.4(PDG), ML3.9(ATH), After ATH.
PDG 06 01:03:46.4±0.5, 3984N×2071E, h11km±1km
THE 06 01:03:46.3, 3983N×2080E, h1km, ML3.4
CSEM 06 01:03:46.5±0.1, 3986N×2077E, h8km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.2km az=21.0
SOF 06 01:03:54.5, 4015N×2153E, h9km, MD3.0
ISC 06 01:03:46.5±0.3, 3980N±001×2078E±002, h8km±2km, n114, σ1s03/157, mb3.5/5, 13C-7D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.15	158	*e*PB	Pg	01 03 50.6	+0.8
JAN				*e*SB	Sg	01 03 53.9	+1.9
IGT	Igoumenitsa	0.43	232	*e*Pg	Pg	01 03 54.7	-0.2
IGT				*e*Sg	Sg	01 04 02.2	+1.6
KEK	Kerkira	0.76	264	*e*PN	Pg	01 04 00.3	-0.8
KEK				*e*SN	Sg	01 04 11.8	+0.9
TPE	Tepelena	0.77	310	*i* Pg	Pg	01 04 01.0	-0.3
TPE				*i* Sg	Sg	01 04 14.4	+3.1
KBN	Korca	0.82	1	*i* Pg	Pg	01 04 01.2	-1.1
KBN				*i* Sg	Sg	01 04 15.2	+2.2
KZN	Kozani	0.92	56	*e*PN	Pg	01 04 03.3	-0.8
KZN				*e*SN	Sg	01 04 16.0	0.0
FNA	Florina	1.08	25	*e*Pg	Pg	01 04 06.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FNA				eSg	Sg	01 04 21.4	0.0
LKD	Levkas	1.09	185	ePg	Pg	01 04 06.8	-0.7
LKD				eSg	Sg	01 04 24.1	+2.3
EVR	Evrytania	1.19	137	ePN	Pn	01 04 08.2	-1.2
BIA	Bitola	1.29	19	ePg	Pg	01 04 08.7	-2.5
BIA				eSg	Sg	01 04 27.3	-0.6
BIA	Bitola	1.29	19	i Pg	Pg	01 04 09.4	-1.8
BIA				i Sg	Sg	01 04 27.6	-0.3
OHR	Ohrid	1.31	1	ePg	Pg	01 04 10.0	-1.7
OHR				eSg	Sg	01 04 29.4	+0.8
OHR	Ohrid	1.31	1	i Pn	Pn	01 04 10.3	-0.7
OHR				eSn	Sn	01 04 30.4	+1.6
OHR	Ohrid	1.31	1	ePg	Pg	01 04 10.0	-1.6
OHR				eSg	Sg	01 04 29.4	+0.8
OHR				eSn	Sn	01 04 30.3	+1.6
LIT	Litokhoron	1.35	77	ePg	Pg	01 04 10.5	-1.9
LIT				eSg	Sg	01 04 30.1	+0.1
AGG	Agios Georgios	1.43	122	ePg	Pg	01 04 13.0	-1.0
AGG				eSg	Sg	01 04 33.2	+0.6
VLS	Valsamata	1.63	185	ePN	Pn	01 04 15.8	+0.4
VLS				eSN	Sn	01 04 37.5	+1.0
GRG	Griva	1.70	47	ePb	Pb	01 04 16.5	-1.4
RLS	Riolos of Patr	1.82	163	ePN	Pn	01 04 19.2	+1.1
RLS				eSN	Sn	01 04 41.7	+0.4
THE	Thessaloniki	1.87	63	ePb	Pn	01 04 18.5	-0.3
XOR	Xorichti	1.92	102	ePb	Pn	01 04 19.9	+0.5
HORT	Hortiatis	1.95	65	ePb	Pn	01 04 19.6	-0.3
LKR	Lokris	2.07	123	ePN	Pn	01 04 22.7	+1.1
LKR				eSN	Sn	01 04 48.0	+0.4
LCI	Lecce	2.11	286	Pn	Pn	01 04 21.4	-0.7
KNT	Kendrikon	2.12	49	ePn	Pn	01 04 21.6	-0.5
PLG	Polygyros	2.13	74	ePB	Pn	01 04 22.0	-0.3
PLG				eSN	Sn	01 04 48.5	-0.4
STIP	Stip	2.17	29	ePn	Pn	01 04 23.0	0.0
STIP	Stip	2.17	29	i Pn	Pn	01 04 25.6	+2.6
SOH	Sokhos	2.22	62	ePn	Pn	01 04 24.0	+0.4
SKO	Skopje	2.23	13	i Pn	Pn	01 04 25.3	+1.6
SKO	Skopje	2.23	13	i Pn	Pn	01 04 25.2	+1.5
PAIG	Paliouri	2.24	86	ePn	Pn	01 04 23.0	-0.9
AOS	Alonnisos	2.48	104	ePn	Pn	01 04 27.3	+0.1
OUR	Ouranopolis	2.52	77	ePn	Pn	01 04 27.5	-0.2
BCI	Bajram Curri	2.62	348	i Pn	Pn	01 04 31.3	+2.2
BCI				i Sn	Sb	01 05 05.8	-0.2
KKB	Krupnik	2.71	40	i P	Pn	01 04 31.7	+1.4
KKB				i Sg	Sn	01 05 03.0	-0.2
PE1	Pezze di Greco	2.75	292	ePn	Pn	01 04 29.8	-1.1
ITM	Ithomi	2.77	161	ePN	Pn	01 04 32.0	+0.9
NVR	Nevrokopi	2.81	56	ePN	Pn	01 04 31.8	+0.1
PVY	Plav	2.86	348	⇑iPn	Pn	01 04 33.3	+0.9
PVY				eSn	Sn	01 05 08.0	+1.1
TTG	Podgorica	2.87	337	⇑iPn	Pn	01 04 33.0	+0.6
TTG				eSn	Sn	01 05 08.2	+1.1
MMB	Musomiste	2.87	51	ePn	Pn	01 04 32.6	+0.1
MMB				eSn	Sn	01 05 07.3	+0.1
MMB	Musomiste	2.87	51	Sg	Sn	01 05 07.5	+0.3
MMB				i P		01 04 32.6	
MMB	Musomiste	2.87	51	i P	Pn	01 04 32.6	+0.1
BUM	Brajici-Budva	2.87	331	⇑iPn	Pn	01 04 32.6	0.0
BUM				eSn	Sn	01 05 08.2	+0.9
ATH	Athens Observa	2.93	128	ePN	Pn	01 04 34.2	+0.8
PTL	Penteli	2.98	125	ePN	Pn	01 04 34.0	0.0
BARS	Barje	3.12	14	i Pn	Pn	01 04 37.1	+1.2
IVA	Berane	3.14	348	⇑iPn	Pn	01 04 37.0	+0.8
IVA				eSn	Sn	01 05 15.0	+1.1
HCY	Herceg Novi	3.15	328	⇑iPn	Pn	01 04 35.7	-0.7
HCY				eSn	Sn	01 05 14.2	0.0
BAI	Bari	3.25	295	ePn	Pn	01 04 36.6	-1.1
NKY	Niksic	3.29	337	⇑iPn	Pn	01 04 38.4	0.0
NKY				eSn	Sn	01 05 18.4	+0.7
SG1	Sgolgore (BA)	3.30	290	ePn	Pn	01 04 37.3	-1.1
LOS	Limnos	3.32	86	ePn	Pn	01 04 38.1	-0.5
VTS	Vitosha	3.34	33	⇓iP	Pn	01 04 38.1	-0.9
VTS	Vitosha	3.34	33	i P	Pn	01 04 40.8	+1.8
VTS				S	Sn	01 05 21.6	+2.8
VTS	Vitosha	3.34	33	ePn	Pn	01 04 39.9	+0.9
VTS	Vitosha	3.34	33	i P	Pn	01 04 40.8	+1.8
VTS				S	Sn	01 05 18.1	-0.7
LIA	Limnos Island	3.39	87	ePN	Pn	01 04 39.6	-0.1
VLI	Veliai	3.52	150	ePN	Pn	01 04 42.0	+0.6
GRI	Girifalco	3.52	255	Pn	Pn	01 04 40.4	-1.0
BRY	Bratogost	3.52	332	⇑iPn	Pn	01 04 41.8	+0.3
BRY				eSn	Sn	01 05 23.6	+0.3
RZN	Rozhen	3.54	57	P	Pn	01 04 42.3	+0.6
RZN				S	Sn	01 05 24.5	+0.8
CDT	Castel del Mon	3.67	292	ePn	Pn	01 04 42.4	-1.1
PLE	Pljevlja	3.68	344	⇑iPn	Pn	01 04 44.3	+0.7
PLE				eSn	Sn	01 05 27.6	+0.5
UPM	Unac-Piva	3.68	338	⇑iPn	Pn	01 04 44.1	+0.5
UPM				eSn	Sn	01 05 27.9	+0.7
CUC	Castrocucco	3.82	274	Pn	Pn	01 04 45.9	+0.3
RDO	Rodhopi	3.87	68	ePN	Pn	01 04 45.8	-0.5
SLCN	Sala Consilina	3.99	280	Pn	Pn	01 04 48.0	+0.1
SOI	Samo	4.07	246	Pn	Pn	01 04 48.0	-0.9
CEL	Celeste	4.10	250	Pn	Pn	01 04 48.4	-1.0
FGMS	Monte Sant'Ang	4.13	299	Pn	Pn	01 04 48.6	-1.2
MS1	Monte Sant'Ang	4.13	299	ePn	Pn	01 04 48.1	-1.8
MRLC	Muro Lucano	4.16	285	Pn	Pn	01 04 50.1	-0.1
ALN	Alexandroupoli	4.17	73	ePn	Pn	01 04 50.3	-0.1
FG4	Candela	4.23	290	Pn	Pn	01 04 51.0	-0.1
DIVS	Divcibare	4.33	353	i Pn	Pn	01 04 53.0	+0.4
DIVS				Sn	Sn	01 05 42.3	-1.1
DIVS	Divcibare	4.33	353	ePn	Pn	01 04 53.0	+0.3
DIVS	Divcibare	4.33	353	ePn	Pn	01 04 53.0	+0.4
DIVS				Sn	Sn	01 05 42.3	-1.1
CHOS	Chios island	4.34	107	ePn	Pn	01 04 53.2	+0.5
CHOS	Chios island	4.34	107	ePn	Pn	01 04 53.2	+0.4
RGNG	Rignano Grg	4.36	297	Pn	Pn	01 04 51.7	-1.3
FG5	Orsara di Pugl	4.45	291	Pn	Pn	01 04 55.0	+0.8
APE	Apeiranthos	4.62	125	ePn	Pn	01 04 57.6	+1.0
FG2	Serracapriola	4.71	297	Pn	Pn	01 04 56.8	-1.0
CIGN	Sant'Elia a Pi	4.83	294	Pn	Pn	01 04 59.3	-0.1
MIDA	Miranda	5.29	292	Pn	Pn	01 05 06.1	+0.4
	26nm,0.6s						
RNI2	Rionero Sannit	5.38	293	Pn	Pn	01 05 07.6	+0.6
	30nm,0.6s						
IDI	Anoyia	5.56	143	Pn	Pn	01 05 08.2	-1.4
	0.7nm,0.3s,baz=319,slow=14,SNR=9.3						
IDI				Sn	Sn	01 06 10.8	-2.9
	2.6nm,0.3s,baz=312,slow=14,SNR=10						
VVLD	Villa Vallelon	5.81	293	Pn	Pn	01 05 13.0	+0.1
	24nm,0.6s						
BZS	Buzias	5.85	6	⇓iP	Pn	01 05 04.5	-8.9
BZS	Buzias	5.85	6	S	Sn	01 06 11.7	-8.9
TERO	Teramo	6.10	300	Pn	Pn	01 05 16.4	-0.5
	12nm,0.7s						
CERT	Cerreto	6.29	292	Pn	Pn	01 05 20.6	+1.2
	11nm,0.5s						
FIAM	Fiamignano	6.29	296	Pn	Pn	01 05 20.3	+0.7
	13nm,0.7s						
NVLJ	Novalja	6.47	319	i Pn	Pn	01 05 20.9	-1.1
NVLJ				i Sn	Sn	01 06 30.9	-5.1
MLR	Muntele Rosu	6.84	32	Pn	Pn	01 05 30.0	+2.9
	0.3nm,0.3s,baz=153,slow=18,SNR=3.3						
MLR	Muntele Rosu	6.84	32	⇓iP	Pn	01 05 33.6	+6.5
MLR	Muntele Rosu	6.84	32	Pn	Pn	01 05 30.0	+2.8
MLR				⇓P		01 05 33.6	
DRGR		7.13	11	⇑iP	Pn	01 05 20.1	-11
VOY	Vojsko	8.02	323	ePn	Pn	01 05 42.2	-1.0
VOY				eSn	Sn	01 07 04.6	-9.4
OBKA	Obir	8.10	328	⇓iPn	Pn	01 05 44.1	-0.3
OBKA				⇑iSn	Sn	01 07 07.9	-8.3
KECS	Kecovo	8.68	359	e	Pn	01 05 53.6	+1.2
MOA	Molln	9.32	332	⇑iPn	Pn	01 06 01.8	+0.7
MOA				⇓iSn	Sn	01 07 37.3	-8.7
MOA	Molln	9.32	332	⇑iPn	Pn	01 06 01.8	+0.7
MOA				i Sn	Sn	01 07 37.3	-8.7
KEST	Kesra	9.92	249	Pn	Pn	01 06 07.8	-1.5
	0.0nm,0.3s,baz=114,slow=18,SNR=3.5						
WTTA	Wattenberg	9.98	321	⇓iPn	Pn	01 06 10.9	+0.8
HFS	Hagfors	20.84	350	P	P	01 08 26.0	-2.5
	1.4nm,0.5s,baz=153,slow=10.0,SNR=10						
FINES	FINESS Array B	21.92	7	P	P	01 08 37.5	-2.7
	0.9nm,0.7s,mb3.3,baz=197,slow=10.0,SNR=4.6						
NB2	NORSAR Subarra	22.07	348	P	P	01 08 40.2	-1.6
	comp=Z,1.0nm,0.6s,mb3.4,baz=156,slow=10						
NOA	NORSAR Array B	22.07	348	P	P	01 08 40.1	-1.7
	comp=Z,1.9nm,0.6s,mb3.7,baz=164,slow=11,SNR=6.0						
ARCES	ARCESS Array B	29.90	3	P	P	01 09 51.6	-3.0
	comp=Z,1.6nm,0.9s,mb3.8,baz=189,slow=12,SNR=4.7						
TORD	Torodi Ar. Bea	31.42	218	P	P	01 10 06.9	-1.2
	comp=Z,0.5nm,0.6s,mb3.5,baz=32,slow=9.3,SNR=11						
MKAR	Makanchi Array	44.30	60	P	P	01 11 55.3	-1.5
	comp=Z,0.3nm,0.4s,mb3.4,baz=289,slow=6.6,SNR=4.9						

---

*NEIC **06** 01:04:13.6, 1576N×6152W, h11km, MD3.5(FDF), After FDF.*
NEIC Felt [III] on Guadeloupe.
TRN 06 01:04:14.6, 1577N×6152W, h3km, M3.3(FDF), 5C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.15	303	⇓iP	Pg	01 04 17.5	0.0
MGG	Marie-Galante	0.24	53	⇑iP	Pg	01 04 19.3	0.0
BBL	Barber's Block	0.25	170	eP	Pg	01 04 18.9	-0.5
PHG	Guadaloupe-2	0.27	333	eP	Pg	01 04 20.2	+0.4
HMG	Houelmont	0.28	320	eP	Pg	01 04 19.9	0.0
HMG				eS	Sg	01 04 24.4	+0.9
DOG	Dongo Capester	0.28	339	⇑iP	Pg	01 04 20.2	+0.2
SCG	Saint Claude	0.30	328	⇑iP	Pg	01 04 20.5	+0.1
LZG	Guadaloupe-1	0.45	326	⇑iP	Pg	01 04 22.8	-0.3
SEG	Port Louis	0.63	1	⇑iP	Pg	01 04 25.9	-0.8
FDF	Fort de France	1.09	161	⇓eP	Pg	01 04 32.8	-2.7
FDF				eS	Sg	01 04 47.3	-2.3
MVM	Montagne Vaucl	1.35	154	eP	Pn	01 04 36.6	-3.7

---

*ISCJB **06** 01:14:09.9±0.4, 3982N±002×2080E±004, h5km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=11.1*
*THE **06** 01:14:10.9, 3983N×2077E, h5km, ML2.7*
*NEIC **06** 01:14:10.9, 3983N×2077E, h5km, MD3.4(ATH), After THE.*
*ATH **06** 01:14:10.1, 3985N×2074E, h13km±2km, MD3.4/5*
*CSEM **06** 01:14:10.5±0.1, 3984N×2073E, h8km, MD3.4, Error ellipse: s-maj=2.0km s-min=1.4km az=112.0*
ISC 06 01:14:10.8±0.4**, 3981N**±002×**2079E**±004**, h10**km±4km**, n32,** σ1ˢ01/48**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAN	Janina	0.16	163	ePG	Pg	01 14 14.7	+0.4
JAN				eSG	Sg	01 14 18.0	+1.4
IGT	Igoumenitsa	0.45	232	ePg	Pg	01 14 19.0	-0.5
IGT				eSg	Sg	01 14 26.6	+1.1
TPE	Tepelena	0.77	309	i Pg	Pg	01 14 25.9	+0.3
KEK	Kerkira	0.77	263	ePB	Pg	01 14 24.2	-1.4
KZN	Kozani	0.90	56	ePB	Pb	01 14 27.6	-0.9
FNA	Florina	1.07	25	ePg	Pg	01 14 30.7	-0.6
FNA				eSg	Sg	01 14 46.7	+1.4
LKD	Levkas	1.11	186	ePg	Pg	01 14 31.7	-0.4
LKD				eSg	Sg	01 14 48.4	+1.9
EVR	Evrytania	1.19	138	ePN	Pn	01 14 32.6	-0.9
BIA	Bitola	1.27	18	ePg	Pg	01 14 33.5	-1.7
BIA				eSg	Sg	01 14 52.0	+0.2
BIA	Bitola	1.27	18	i Pg	Pg	01 14 33.5	-1.8
BIA				eSn	Sn	01 14 51.5	-0.3
BIA	Bitola	1.27	18	ePg	Pg	01 14 33.5	-1.7
BIA				eSn	Sn	01 14 51.5	-0.3
BIA				eSg	Sg	01 14 52.0	+0.2
OHR	Ohrid	1.30	0	ePg	Pg	01 14 34.5	-1.2
OHR				eSg	Sg	01 14 53.5	+0.9
OHR	Ohrid	1.30	0	ePn	Pn	01 14 35.6	+0.6
OHR				eSn	Sn	01 14 52.9	+0.5
OHR	Ohrid	1.30	0	ePn	Pn	01 14 35.6	+0.6
OHR				eSn	Sn	01 14 52.9	+0.5
OHR				eSg	Sg	01 14 53.5	+0.9
LIT	Litokhoron	1.34	77	ePg	Pg	01 14 34.9	-1.5
LIT				eSg	Sg	01 14 54.7	+0.9
AGG	Agios Georgios	1.43	123	ePg	Pg	01 14 37.0	-1.2
AGG				eSg	Sg	01 14 57.2	+0.5
AGG	Agios Georgios	1.43	123	ePg	Pg	01 14 37.0	-1.2
AGG				eSg	Sg	01 14 57.2	+0.5
KRUS	Krusevo	1.59	12	ePn	Pn	01 14 40.2	+1.1
VLS	Valsamata	1.64	186	ePG	Pg	01 14 41.0	-1.2
GRG	Griva	1.68	47	ePb	Pb	01 14 40.8	-1.0
RLS	Riolos of Patr	1.83	163	ePG	Pg	01 14 45.1	-0.7
XOR	Xorichti	1.91	103	ePb	Pb	01 14 44.3	-1.3
VAY	Valandovo	2.03	41	ePn	Pb	01 14 48.0	+0.3
PLG	Polygyros	2.11	74	ePN	Pn	01 14 47.0	+0.8
STIP	Stip	2.16	29	ePn	Pn	01 14 49.7	+2.9
STIP	Stip	2.16	29	ePn	Pn	01 14 49.6	+2.8
SOH	Sokhos	2.20	62	ePn	Pn	01 14 47.7	+0.2
PAIG	Paliouri	2.23	86	ePn	Pn	01 14 47.4	-0.3
AOS	Alonnisos	2.47	104	ePn	Pn	01 14 52.6	+1.4
OUR	Ouranopolis	2.50	77	ePn	Pn	01 14 51.3	-0.2
DIVS	Divcibare	4.33	352	ePn	Pn	01 15 17.2	+0.6
NVLJ	Novalja	6.47	319	e(Pn)	Pn	01 15 45.5	-0.6
NVLJ				i Sn	Sn	01 16 55.5	-4.5

---

*IDC **06** 01:21:16.4±3.2, 3577N×7148E, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.6/24, mbtmp3.7/7, Error ellipse: s-maj=68.7km s-min=28.5km az=135.0*
*NEIC **06** 01:21:22.4±1.6, 3593N×7138E, h35km, mb3.3/2, Error ellipse: s-maj=27.4km s-min=14.8km az=142.0*
*ISCJB **06** 01:21:29.3±0.6, 3629N±004×7155E±008, h133km±12km, mb3.5/3, Error ellipse: s-maj=11.1km s-min=6.3km az=151.0*
*DMN **06** 01:23:31.4±38.0, 3092N×8099E, h10km, Error ellipse: s-maj=1055.9km s-min=54.7km az=134.0*
ISC 06 01:21:30.5±0.5**, 3629N**±004×**7164E**±009**, h118**km±10km**, n27,** σ1ˢ19/31**, mb3.6**/3**, 2C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.47	175	⇓P	Pn	01 22 10.5	+0.7
CHCP	Chirah Chowk	2.95	153	⇓P	Pn	01 22 18.4	+2.4
THW	Thamme Wali	3.49	179	⇑P	Pn	01 22 23.4	+0.3
SBDP	Sheikh Budin	4.04	190	⇓P	Pn	01 22 29.8	-0.7
SARP	Sargodha	4.44	169	P	Pn	01 22 35.7	-0.2
DRP	Derazinda	4.69	195	P	Pn	01 22 39.6	+0.4
AAK	Ala-Archa	6.71	18	ePn	Pn	01 23 07.6	+1.2
	5.1nm,0.6s						
AAK				eSn	Sn	01 24 21.4	0.0
KK31	Karatay Array	6.86	353	⇓P	Pn	01 23 08.1	-0.3
	5.1nm,0.4s,baz=174,slow=13,SNR=49						
KK31				⇑S	Sn	01 24 21.2	-3.8
	8.2nm,0.4s,baz=171,slow=21						
MKAR	Makanchi Array	13.17	34	Pn	Pn	01 24 33.0	+0.1
	0.1nm,0.3s,baz=211,slow=18,SNR=2.1						
KOLN	Koldanda	13.23	127	eP	Pn	01 24 32.9	-0.7
	5.1nm,0.4s						
GKN	Gorkha	13.76	123	eP	Pn	01 24 38.9	-1.6
KKN	Kakani	14.33	122	eP	Pn	01 24 46.9	-1.0
PKI	Pulchoki	14.56	123	eP	Pn	01 24 50.2	-0.5
GUN	Gumba	14.67	121	eP	Pn	01 24 51.9	-0.2
AB31	Akbulak array	15.52	330	⇓P	Pn	01 25 00.3	-2.4
	0.6nm,0.3s,baz=144,slow=12,SNR=46						
BVAR	Borovoye Array	16.75	357	P	Pn	01 25 17.6	-0.4
	0.1nm,0.3s,baz=165,slow=14,SNR=4.0						
ZRNK	Zerenda	16.76	354	ePn	Pn	01 25 18.6	+0.5
	1.1nm,0.3s						
BRVK	Borovoye	16.79	357	P	Pn	01 25 22.3	+3.8
	0.8nm,0.5s						
AKTK	Aktyubinsk	17.22	329	P	Pn	01 25 22.6	-1.1
AKTK				S	S	01 28 25.2	-10
AKTO	Aktyubinsk	17.22	329	P	Pn	01 25 22.6	-1.1
	0.4nm,0.3s,baz=140,slow=11,SNR=8.5						
AKTO				S	S	01 28 25.2	-10
	0.1nm,0.3s,baz=128,slow=19,SNR=2.8						
CHKZ	Chkalovo	17.40	358	eP	Pn	01 25 26.6	+0.8
ZAL	Zalesovo	19.88	23	P	P	01 25 54.4	+2.0
	7.7nm,0.3s,baz=257,slow=5.6,SNR=16						
ARCES	ARCESS Array B	41.53	338	P	P	01 29 08.8	+2.6
	2.6nm,0.9s,mb4.0,baz=120,slow=9.4,SNR=6.8						
ARCES	ARCESS Array B	41.53	338	P	P	01 29 08.8	+2.6
NB2	NORSAR Subarra	44.85	323	P	P	01 29 35.1	+2.2
	comp=Z,0.4nm,0.4s,mb3.5,baz=99,slow=7.9						
NOA	NORSAR Array B	44.85	323	P	P	01 29 35.1	+2.2
	comp=Z,0.4nm,0.5s,mb3.5,baz=96,slow=7.7,SNR=3.1						
TORD	Torodi Ar. Bea	66.23	269	P	P	01 32 05.4	-0.3
	comp=Z,0.3nm,0.6s,mb3.3,baz=48,slow=5.5,SNR=7.0						

---

*NEIC **06** 01:48:12.0, 32.11S×7181W, h26km, ML3.2(GUC), After GUC.*
GUC 06 01:48:12.0±0.6**, 3211S**×**7181W, h26**km±3km**, MD3.9, ML3.2, 7C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.35	50	⇓iP	Pb	01 48 19.8	-0.1
CHNG				i S	Sb	01 48 25.4	+0.2
PTCH	Petorca	0.77	102	⇓iP	Pb	01 48 26.3	-0.4
PTCH				i S	Sb	01 48 36.7	0.0
PTCH				AML	AML	01 48 39.9	
	comp=N,1μm,0.2s						
PTCH	Petorca	0.77	102	⇓iP	Pb	01 48 26.3	-0.4
PTCH				i S	Sb	01 48 36.7	0.0
ROCH	El Roble	1.09	142	⇑iP	Pn	01 48 31.6	0.0
CMCH	Combarbala	1.16	37	⇑iP	Pn	01 48 32.0	-0.6
CMCH				i S	Sn	01 48 48.0	+0.3
CMCH				AML	AML	01 48 52.8	
	comp=E,2μm,0.7s						
CMCH	Combarbala	1.16	37	⇑iP	Pn	01 48 32.0	-0.6
CMCH				i S	Sn	01 48 48.0	+0.3
JACH	Jahuel	1.18	119	⇑iP	Pn	01 48 32.9	+0.1
JACH				i S	Sn	01 48 48.5	+0.4
LCCH	Las Cruces	1.38	171	⇑iP	Pn	01 48 35.6	0.0
PEL	Peldehue	1.40	138	eP	Pn	01 48 36.3	+0.4
PEL				i S	Sn	01 48 54.7	+1.2
PEL				AML	AML	01 48 57.8	
	comp=N,832nm,0.3s						
PEL	Peldehue	1.40	138	eP	Pn	01 48 36.3	+0.4
PEL				i S	Sn	01 48 54.7	+1.2
RCDM	Rinconada Maip	1.61	149	eP	Pn	01 48 39.6	+0.8
RCDM				i S	Sn	01 49 00.2	+1.4
RCDM				AML	AML	01 49 01.5	
	comp=E,290nm,0.6s						
RCDM	Rinconada Maip	1.61	149	eP	Pn	01 48 39.6	+0.8
RCDM				i S	Sn	01 49 00.2	+1.4
CLCH	Cerro Calan	1.67	140	eP	Pn	01 48 40.6	+1.0
CLCH				i S	Sn	01 49 02.3	+2.0
TACH	Talagante	1.71	155	eP	Pn	01 48 40.8	+0.7
TACH				i S	Sn	01 49 02.8	+1.8
FCH	Farellones	1.77	134	⇑eP	Pn	01 48 42.1	+1.2
FCH				i S	Sn	01 49 05.4	+2.9
FCH				AML	AML	01 49 08.8	
	comp=E,187nm,0.2s						
LNV	Longovilo	1.87	170	⇑iP	Pn	01 48 43.7	+1.3
CHCH	Chadas Angostu	2.06	152	⇓iP	Pn	01 48 46.5	+1.6
TLL	Tololo Astrono	2.12	24	eP	Pn	01 48 47.9	+2.1
TLL				i S	Sn	01 49 16.5	+5.2
TLL				AML	AML	01 49 20.4	
	comp=E,374nm,0.3s						
TLL	Tololo Astrono	2.12	24	eP	Pn	01 48 47.9	+2.1
TLL				S	Sn	01 49 16.5	+5.2
CACH	El Canelo	2.25	153	eP	Pn	01 48 49.5	+2.0
SFDO	San Fernando	2.58	165	⇓iP	Pn	01 48 53.3	+1.2

---

*ISCJB **06** 02:00:13.9±2.5, 360N±0.1×710E±02, h146km±23km, mb3.5/4, Error ellipse: s-maj=29.0km s-min=16.7km az=104.1*
*NEIC **06** 02:00:18.7±3.5, 3626N×7072E, h154km±31km, mb3.6/3, Error ellipse: s-maj=33.8km s-min=26.4km az=151.0*
*IDC **06** 02:00:24.6±8.0, 3636N×7095E, h217km±89km, mb3.1/5, mb1 3.2/8, mb1mx2.9/24, mbtmp3.7/8, Error ellipse: s-maj=50.2km s-min=37.1km az=94.0*
ISC 06 02:00:20.7±1.9**, 364N**±01×**707E**±02**, h166**km±18km**, n17,** σ0ˢ69/20**, mb3.5**/4**, 1C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.68	359	P	Pn	02 01 56.7	+0.3
	2.6nm,0.4s,baz=176,slow=13,SNR=115						
KK31				⇓S	Sn	02 03 06.3	-5.4
	24nm,0.5s,baz=186,slow=24						
AAK	Ala-Archa	6.86	24	ePn	Pn	02 01 58.0	-0.9
MKAR	Makanchi Array	13.49	36	P	Pn	02 03 27.3	+1.8
	0.0nm,0.3s,baz=219,slow=15,SNR=3.2						
AB31	Akbulak array	15.04	332	⇑P	Pn	02 03 44.1	-0.7
	1.3nm,0.7s,baz=146,slow=12,SNR=19						
ZRNK	Zerenda	16.57	356	eP	Pn	02 04 03.0	-0.5
	1.7nm,0.5s						
BVAR	Borovoye Array	16.61	359	P	Pn	02 04 04.6	+0.7
	0.3nm,0.3s,baz=163,slow=12,SNR=3.4						
BRVK	Borovoye	16.64	359	eP	Pn	02 04 03.9	-0.4
	1.2nm,0.4s						
AKTK	Aktyubinsk	16.74	331	P	Pn	02 04 06.2	+0.8
AKTK				S	S	02 07 11.2	+0.1
AKTO	Aktyubinsk	16.74	331	P	Pn	02 04 06.2	+0.8
	0.8nm,0.3s,baz=138,slow=12,SNR=14						
AKTO				S	S	02 07 11.2	+0.1
	0.1nm,0.3s,baz=217,slow=20,SNR=3.2						
CHKZ	Chkalovo	17.26	360	eP	Pn	02 04 10.7	-1.0
	1.3nm,0.6s						
ZAL	Zalesovo	20.07	25	P	P	02 04 40.5	-0.6
	2.1nm,0.5s,baz=208,slow=2.9,SNR=5.7						
ZAL	Zalesovo	20.07	25	P	P	02 04 40.5	-0.6
FINES	FINESS Array B	37.42	326	P	P	02 07 17.9	+0.2
	1.7nm,0.9s,mb3.7,baz=116,slow=8.7,SNR=4.4						
FINES	FINESS Array B	37.42	326	P	P	02 07 17.9	+0.2
ARCES	ARCESS Array B	41.13	338	P	P	02 07 48.3	-0.1
	2.0nm,1.0s,mb3.7,baz=107,slow=7.8,SNR=4.4						
NOA	NORSAR Array B	44.31	323	P	P	02 08 13.8	-0.1
	0.7nm,0.6s,mb3.5,baz=95,slow=7.8,SNR=3.7						
TORD	Torodi Ar. Bea	65.49	268	P	P	02 10 45.8	-0.2
	0.1nm,0.5s,mb3.0,baz=50,slow=6.3,SNR=5.9						

---

*STR **06** 02:42:38.9±1.1, 4324N×787E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 06 02:42:41.0±0.5**, 4343N**×**797E, h10**km**, Md2.4**/3**, Ml2.3**/8**, Error ellipse: s-maj=8.6km s-min=5.9km az=102.0, Near south coast of France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBF	Sospel	0.58	319	ePg	Pg	02 42 52.6	+0.3
SBF				eSg	Sg	02 42 59.8	-0.2
SBF				eSn	Sg	02 43 02.1	+2.1
	37nm,0.2s						
LUCF	Luceram	0.65	316	Pg	Pg	02 42 53.7	+0.1
AUTN	L'Aution	0.69	326	Pg	Pg	02 42 54.2	-0.2
AUTN				Sg	Sg	02 43 05.0	+1.6
MVIF	Mont Vial	0.76	309	Pg	Pg	02 42 55.6	0.0
MVIF				Sg	Sg	02 43 06.9	+1.5
TOUF	Mont Tournerai	0.79	319	Pg	Pg	02 42 55.8	-0.4
FRF	La Foret Royal	0.97	278	ePn	Pn	02 42 58.5	-2.2
FRF	La Foret Royal	0.97	278	ePg	Pg	02 42 59.5	-0.2
FRF				eSn	Sn	02 43 11.7	-2.8
	19nm,0.2s						
LMR	La Mourre	1.07	266	ePn	Pn	02 42 59.8	-2.2
LMR				eSn	Sn	02 43 14.1	-2.8
	12nm,0.2s						
TAVF	Tavernes	1.40	279	Pg	Pg	02 43 05.8	-2.1
TAVF				Sg	Sg	02 43 24.0	-2.1
MBDF	Montbardon	1.56	327	ePn	Pn	02 43 06.6	-2.2
MBDF				eSn	Sn	02 43 25.6	-3.5
	3.5nm,0.2s						
STOF	St-Etienne Org	1.60	292	Pg	Pg	02 43 09.7	-2.0
SMRF	Simiane la Rot	1.82	288	ePn	Pn	02 43 11.6	-0.7
SMRF				eSn	Sn	02 43 32.1	-3.3
	3.0nm,0.3s						
TREF	Trevaresse	1.89	277	Pg	Pg	02 43 12.8	-4.4
ORIF	Oris-en-Rattie	2.12	316	ePn	Pn	02 43 14.5	-1.9
ORIF				eSn	Sn	02 43 38.9	-3.9
	2.9nm,0.5s						
LPL	La Plagne	2.27	338	ePn	Pn	02 43 14.7	-3.8
VIVF	Saint-Julien-l	2.77	302	ePn	Pn	02 43 23.8	-1.6
VIVF				eSn	Sn	02 43 55.6	-3.3
	1.3nm,0.2s						
MTLF	Montolieu	4.19	271	ePn	Pn	02 43 43.9	-1.1
MTLF				eSn	Sn	02 44 29.6	-4.4
	1.3nm,0.3s						
CAF	Calviac	4.50	291	ePn	Pn	02 43 48.1	-1.1
CAF				eSn	Sn	02 44 36.7	-4.9
	0.7nm,0.3s						

---

*ISCJB **06** 02:44:00.1±0.5, 5969N±003×2432E±007, h0km, mb3.1/1, Error ellipse: s-maj=5.4km s-min=4.5km az=72.1*
*CSEM **06** 02:44:02.9±0.2, 5957N×2430E, h1km, ML2.5, Error ellipse: s-maj=7.5km s-min=5.2km az=22.0, Mining explosion.*
*HEL **06** 02:44:03.7±0.2, 5973N×2453E, h0km, ML2.5, ML2.4(NAO), Explosion*
*IDC **06** 02:44:03.6±1.6, 5974N×2474E, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.2/20, mbtmp3.5/3, Error ellipse: s-maj=18.7km*

s-min=9.3km az=136.0
*NAO **06** 02:44:03.4±1.0, 5976N×2460E, ML2.4*
*BER **06** 02:44:04.1±4.4, 5977N×2456E, h0km±19km, ML2.4(NAO)*
ISC 06 02:44:02.2±0.5**, 5972N**±003×**2448E**±007**, h0km, n27, σ1s02**/39**, mb3.1**/1**, Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MEF Metsahovi 0.50 355 eP **Pg 02 44 12.5 +0.6**
MEF eS **Sg 02 44 18.9 +0.4**
PVF Pernaja 1.08 39 eP **Pg 02 44 22.4 -0.6**
PVF eS **Sg 02 44 36.1 -0.9**
VSU Vasula 1.71 136 eP **Pn 02 44 34.0 +0.7**
VSU eS **Sn 02 44 55.8 -0.2**
VSU Vasula 1.71 136 Pn **Pn 02 44 34.1 +0.8**
VSU Lg 02 44 55.8
VSU Vasula 1.71 136 P **Pn 02 44 34.0 +0.7**
VSU S **Sn 02 44 55.7 -0.2**
RAF Rauma 1.88 315 eP **Pn 02 44 37.4 +1.8**
FIA0 FINESS Array S 1.91 24 eP **Pn 02 44 37.1 +1.1**
FIA0 eS **Sn 02 45 00.7 +0.1**
FIA0 MSG 02 45 05.2
comp=Z,33nm,0.2s
FIA0 FINESS Array S 1.91 24 Pn **Pn 02 44 37.4 +1.4**
baz=195,slow=18
FIA0 Lg 02 45 01.3
baz=194,slow=37
FIA0 FINESS Array S 1.91 24 Pn **Pn 02 44 37.3 +1.4**
SNR=739
FINES FINESS Array B 1.91 24 Pn **Pn 02 44 37.3 +1.3**
comp=Z,14nm,0.3s,baz=198,slow=13,SNR=698
FINES Lg 02 45 01.0
comp=Z,16nm,0.3s,baz=208,slow=33,SNR=22
KEF Keuruu 2.47 4 MSG 02 45 19.6
comp=Z,22nm,0.2s
KAF Kangasniemi 2.56 20 MSG 02 45 22.1
comp=Z,15nm,0.3s
HFS Hagfors 5.44 279 Pn **Pn 02 45 25.7 +1.1**
baz=76,slow=14
HFS Sn **Sn 02 46 28.2 +0.3**
baz=80,slow=28
HFS Lg 02 46 51.5
baz=99,slow=56
HFS Hagfors 5.44 279 eP **Pn 02 45 25.7 +1.1**
HFS eS **Sn 02 46 28.2 +0.3**
HFS eSG 02 46 51.5
HFS Hagfors 5.44 279 P **Pn 02 45 25.7 +1.1**
HFS S **Sn 02 46 28.2 +0.3**
HFS Sg **Sg 02 46 51.4 -5.6**
NB2 NORSAR Subarra 6.71 287 eP **Pn 02 45 42.0 0.0**
NB2 eSG 02 47 30.1
NB2 NORSAR Subarra 6.71 287 Pn **Pn 02 45 42.0 0.0**
baz=93,slow=14
NB2 Lg 02 47 30.1
NOA NORSAR Array B 6.71 287 Pn **Pn 02 45 42.5 +0.6**
comp=Z,0.9nm,0.3s,baz=91,slow=13,SNR=6.1
NOA Sn **Sn 02 46 56.5 -2.7**
comp=Z,0.8nm,0.3s,baz=126,slow=23,SNR=2.9
NOA Lg 02 47 30.6
comp=Z,1.5nm,0.3s,baz=133,slow=17,SNR=4.3
BSD Bornholm Skovb 6.92 232 i P **Pn 02 45 45.3 +0.4**
BSD i S **Sn 02 47 01.2 -3.2**
APA0 Apatity Array 8.77 22 Pn **Pn 02 46 10.4 +0.2**
baz=219,slow=11
APA0 Apatity Array 8.77 22 eP **Pn 02 46 10.4 +0.2**
AKASG Malin Array Be 9.43 161 Pn **Pn 02 46 19.6 +0.3**
comp=Z,1.4nm,0.3s,baz=339,slow=13,SNR=6.0
ARA0 ARCESS Array S 9.87 2 Pn **Pn 02 46 24.3 -1.0**
baz=175,slow=16
ARA0 Sn **Sn 02 48 09.9 -6.9**
baz=178,slow=28
ARA0 Lg 02 49 04.7
baz=184,slow=37
ARA0 ARCESS Array S 9.87 2 eP **Pn 02 46 24.3 -1.0**
ARA0 eS **Sn 02 48 09.9 -6.9**
ARA0 eSG 02 49 04.7
ARA0 ARCESS Array S 9.87 2 Pn **Pn 02 46 24.3 -1.0**
SNR=144
ARA0 Sn **Sn 02 48 09.9 -6.9**
ARCES ARCESS Array B 9.87 2 Pn **Pn 02 46 24.3 -1.0**
comp=Z,1.7nm,0.3s,baz=180,slow=12,SNR=79
MKAR Makanchi Array 35.72 85 P **P 02 51 02.1 -0.4**
comp=Z,0.1nm,0.3s,mb3.1,baz=320,slow=6.6,SNR=4.3

---

*NEIC **06** 02:56:17.6, 1781N×6231W, h35km, MD3.3(TRN), After TRN.*
TRN 06 02:56:17.7, 1787N×6228W, h35km, MD3.3, M3.8(FDF)**, 4C-3D, Leeward Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CPB Codrington 0.49 118⇑iP Pn 02 56 29.6 +1.4
CPB eS Sn 02 56 37.6 +2.1
CPB Codrington 0.49 118⇑iP Pn 02 56 29.6 +1.4
CPB eS Sn 02 56 37.6 +2.1
STAT Sint Eustatius 0.77 241⇑eP Pn 02 56 33.9 +1.9
STAT eS Sn 02 56 42.8 +0.4
STMA St. Maarten, A 0.81 282⇑iP Pn 02 56 34.3 +1.7
STMA eS Sn 02 56 45.1 +1.7
BPA Boggy Peak 0.92 154 eP Pn 02 56 35.5 +1.5
BPA eS Sn 02 56 47.8 +1.8
SEG Port Louis 1.64 153⇓eP Pn 02 56 45.6 +1.6
LZG Guadaloupe-1 1.79 164⇓eP Pn 02 56 47.5 +1.4
SCG Saint Claude 1.92 163 eP Pn 02 56 49.8 +1.9
DOG Dongo Capester 1.94 161 eP Pn 02 56 50.2 +2.1
DEG La Desirade 1.94 143⇓eP Pn 02 56 49.9 +1.7
DEG eS Sn 02 57 13.3 +2.1
PHG Guadaloupe-2 1.95 162 eP Pn 02 56 50.3 +2.1
HMG Houelmont 1.96 164 eP Pn 02 56 50.7 +2.2
TBG Guadaloupe-3 2.10 163 eP Pn 02 56 52.2 +1.8
MGG Marie-Galante 2.15 155 eP Pn 02 56 53.2 +2.2
BBL Barber's Block 2.46 162 eP Pn 02 56 57.2 +1.9
SJG San Juan 3.69 274 ePn Pn 02 57 14.5 +2.2

---

*ISCJB **06** 03:18:35.2±0.4, 080N±005×9743E±005, h25km, mb4.6/38, MS4.3/18, Error ellipse: s-maj=8.8km s-min=5.9km az=101.5*
*BJI **06** 03:18:35.9, 059N×9762E, h42km, mB5.1, mb4.8, Ms4.8, Msz4.6*
*IDC **06** 03:18:36.8±0.6, 083N×9745E, h24km±3km, mb4.0/13, mb1 4.2/14, mb1mx4.0/23, mbtmp4.2/14, ML3.8/1, MS4.1/12, Ms1 4.1/12, ms1mx3.9/22, Error ellipse: s-maj=29.8km s-min=10.1km az=44.0*
*MOS **06** 03:18:36.5±0.8, 088N×9741E, h33km, mb4.9/10, Error ellipse: s-maj=15.8km s-min=10.0km az=105.1*
*NEIC **06** 03:18:36.9±0.3, 087N×9742E, mb4.4/11, Error ellipse: s-maj=9.3km s-min=5.9km az=53.0*
ISC 06 03:18:37.6±0.4**, 082N**±005×**9741E**±005**, h27km, h27km**±.7km**:pP-P, n91, σ0s99**/91**, mb4.6**/38**, MS4.3**/18**, 4C-1D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PSI Prapat 2.48 37 Pn **Pn 03 19 15.1 -1.1**
21nm,0.3s,baz=206,slow=9.1,SNR=44
IPM Ipoh 5.12 45 P **Pn 03 19 53.7 +1.2**
KULM Kulim 5.49 36 ePn **Pn 03 19 57.2 -0.4**
KGM Kluang 6.02 79 P **Pn 03 20 05.6 +0.8**
SNG Songkhla 7.08 27 P **Pn 03 20 19.0 -0.3**
220nm,0.9s
CM31 Chiang Mai Arr 17.59 5 eP **Pn 03 22 39.5 -1.2**
11nm,0.7s
CHG Chiang Mai 17.94 5 ⇓P **Pn 03 22 45.2 +0.1**
CHTO Chiang Mai 17.94 5 eP **Pn 03 22 43.0 -2.1**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 17.94 5 eP **Pn 03 22 43.0 -2.1**
comp=Z,8.6nm,0.8s
NANT Nan 18.16 10 P **Pn 03 22 47.0 -0.7**
comp=Z,64nm,0.9s
KKM Kota Kinabalu 19.46 74 P **Pn 03 23 03.1 -0.4**
KKM Kota Kinabalu 19.46 74 eP **Pn 03 23 01.4 -2.2**
TSM Tawau 20.72 80 P **P 03 23 16.7 +0.8**
QIZ Qiongzhong 21.82 33 P **P 03 23 27.2 -0.5**
QIZ XP sP 03 23 37.4 -1.0
QIZ XS sS 03 27 40.0 +0.8
QIZ AMB AMB
comp=Z,17nm,1.4s,mb4.3
QIZ LR LR
comp=E,642nm,13.0s
QIZ LR LR
comp=Z,799nm,12.5s,MS4.3
KMI Kunming 24.70 12 P **P 03 23 57.9 +1.5**
KMI AP 03 24 04.4
KMI PP 03 24 35.2
KMI PPP 03 24 46.2
KMI S **S 03 28 17.1 +0.5**
KMI XS sS 03 28 27.6 -1.9
KMI SS 03 29 14.9
KMI SSS 03 29 31.4
KMI AMB AMB
comp=Z,25nm,1.4s,mb4.5
KMI AMB AMB
comp=Z,249nm,6.4s
KMI LR LR
comp=N,1μm,13.2s,MS4.7
KMI LR LR
comp=E,1μm,13.5s,MS4.7
KMI LR LR
comp=Z,1μm,13.2s,MS4.7
HYB Hyderabad 24.82 313 i P **P 03 24 01.5 +4.0**
HYB e 03 24 05.0
HYB eS **S 03 28 28.0 +9.5**
HYB Hyderabad 24.82 313 eP **P 03 24 05.0 +7.5**
SHL Shillong 25.17 348 eP **P 03 24 01.0 +0.3**
SHL eS **S 03 28 24.0 -0.1**
GYA Guiyang 27.00 19⇑iP **P 03 24 17.4 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
JIRN Jiri 28.77 339 eP **P 03 24 34.5 +1.5**
PKI Pulchoki 28.98 338 eP **P 03 24 37.7 +2.8**
GUN Gumba 29.11 339 eP **P 03 24 37.0 +0.9**
comp=Z,40nm,0.8s,mb5.2
DMN Daman 29.13 337 eP **P 03 24 39.3 +3.1**
comp=Z,20nm,0.7s,mb5.0
KKN Kakani 29.23 338 eP **P 03 24 37.8 +0.7**
comp=Z,33nm,0.9s,mb5.0
LSA Lhasa 29.33 349 eP **P 03 24 38.3 +0.3**
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.7
LSA Lhasa 29.33 349 eP **P 03 24 38.3 +0.3**
comp=Z,12nm,0.7s,mb4.7
GKN Gorkha 29.67 337 eP **P 03 24 41.8 +0.8**
comp=Z,22nm,0.8s,mb5.0
KOLN Koldanda 29.89 335 eP **P 03 24 43.9 +1.0**
comp=Z,23nm,0.7s,mb5.0
FITZ Fitzroy Crossi 33.53 125 eP **P 03 25 14.5 -0.5**
comp=Z,8.6nm,0.8s,mb4.7
FITZ Fitzroy Crossi 33.53 125 P **P 03 25 14.9 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=324,slow=4.5,SNR=6.7
FITZ pP pP 03 25 21.5 -1.4
comp=Z,5.7nm,0.9s,baz=271,slow=5.3,SNR=10.0
XAN Xi'an 34.76 17 P **P 03 25 24.8 -0.8**
XAN AMB AMB
comp=Z,22nm,0.9s,mb5.1
LZH Lanzhou 35.59 9 eP **P 03 25 32.5 -0.3**
LZH AP pP 03 25 40.0 -0.7
LZH XP sP 03 25 45.0 +1.0
LZH PP PP 03 26 53.8 0.0
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
NJ2 Nanjing 37.08 31 eP **P 03 25 45.6 +0.2**
NJ2 AP pP 03 25 55.3 +1.9
NJ2 XP sP 03 25 59.3 +2.6
NJ2 PP PP 03 27 11.1 +1.0
NJ2 S **S 03 31 31.0 +1.3**
NJ2 XS sS 03 31 49.0 +6.1
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,420nm,5.2s
NJ2 LR LR
comp=N,940nm,17.3s,MS4.9
NJ2 LR LR
comp=E,2μm,18.2s,MS4.9
NJ2 LR LR
comp=Z,2μm,18.2s,MS4.9
WRA Warramunga Arr 41.65 122 P **P 03 26 23.6 0.0**
comp=Z,4.6nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=16
WRA pP pP 03 26 31.0 -0.7
comp=Z,10.0nm,0.8s,baz=300,slow=9.2,SNR=18
WRA LR LR 03 47 34.8
comp=Z,266nm,19.2s,MS4.1,baz=300,slow=42
WRA Warramunga Arr 41.65 122 P **P 03 26 23.6 0.0**
WRA *PP pP 03 26 31.0 -0.7
WRA Warramunga Arr 41.65 122 P **P 03 26 23.6 0.0**
WRA pP pP 03 26 31.0 -0.7
WRA LR LR 03 47 34.8
WRAB Tennant Creek 41.66 122 eP **P 03 26 23.1 -0.6**
WRAB e*PP pP 03 26 30.7 -1.0
WRAB pmax pmax
comp=Z,16nm,0.8s,mb4.7
WRAB Tennant Creek 41.66 122 eP **P 03 26 23.1 -0.5**
comp=Z,16nm,0.8s,mb4.7
WRAB epP pP 03 26 30.7 -1.1
WB2 Warramunga Arr 41.66 122 eP **P 03 26 22.7 -1.0**
HHC Hu-ho-hao-te 41.86 16 eP **P 03 26 27.6 +2.3**
HHC AMB AMB
comp=Z,12nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,99nm,4.0s
HHC LR LR
comp=N,698nm,16.1s,MS4.8
HHC LR LR
comp=E,795nm,15.1s,MS4.8
HHC LR LR
comp=Z,600nm,15.7s,MS4.6
ASPA Alice Springs 42.99 127 eP **P 03 26 35.3 +0.8**
AS31 Alice Springs 43.00 127 eP **P 03 26 35.3 +0.8**
ASAR Alice Springs 43.00 127 P **P 03 26 34.8 +0.3**
comp=Z,2.2nm,0.6s,mb4.1,baz=297,slow=7.9,SNR=27
ASAR pP pP 03 26 41.5 -1.2
comp=Z,1.9nm,0.5s,baz=298,slow=7.7,SNR=10
ASAR S **S 03 32 56.4 -1.9**
comp=Z,0.7nm,0.9s,baz=295,slow=13,SNR=5.7
ASAR LR LR 03 46 11.1
comp=Z,240nm,21.9s,MS4.0,baz=326,slow=38
ASAR Alice Springs 43.00 127 P **P 03 26 34.8 +0.3**
ASAR *PP pP 03 26 41.5 -1.1
ASAR S **S 03 32 56.4 -1.9**
WMQ Urumqi 43.68 350 eP **P 03 26 41.0 +0.9**
WMQ AP pP 03 26 48.5 +0.3
WMQ XP sP 03 26 52.0 +0.6
WMQ PP PP 03 28 24.0 +2.1
WMQ PPP 03 29 01.0
WMQ S **S 03 33 08.5 +0.2**
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,123nm,3.7s
WMQ LR LR
comp=N,402nm,24.6s,MS4.4
WMQ LR LR
comp=E,407nm,23.3s,MS4.4
WMQ LR LR
comp=Z,394nm,25.8s,MS4.2
MJAR Matsushiro Arr 51.83 42 P **P 03 27 43.1 -0.1**
comp=Z,1.5nm,0.6s,mb4.1,baz=229,slow=6.5,SNR=7.2
MJAR LR LR 03 49 48.0
comp=Z,167nm,19.3s,MS4.1,baz=240,slow=36
CTAO Charters Tower 52.14 116 eP **P 03 27 46.2 +0.6**
CTAO pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CTAO Charters Tower 52.14 116 eP **P 03 27 46.1 +0.6**
comp=Z,3.0nm,0.7s,mb4.3
STKA Stephens Creek 52.94 132 P **P 03 27 52.8 +1.3**
comp=Z,3.0nm,0.5s,mb4.5,baz=344,slow=7.0,SNR=3.5
STKA LR LR 03 52 24.2
comp=Z,422nm,20.1s,MS4.5,baz=115,slow=38
STKA Stephens Creek 52.94 132 eP **P 03 27 53.1 +1.6**
KLR Kul'dur 56.49 26 eP **P 03 28 13.8 -3.4**
BVAR Borovoye Array 56.68 341 P **P 03 28 17.6 -1.0**
comp=Z,2.2nm,0.7s,mb4.3,baz=134,slow=8.5,SNR=6.6
BVAR pP pP 03 28 24.9 -2.0
comp=Z,3.2nm,0.7s,baz=147,slow=8.2,SNR=7.7
BRVK Borovoye 56.74 341 eP **P 03 28 16.2 -2.8**
BRVK e*PP pP 03 28 24.7 -2.6
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BRVK Borovoye 56.74 341 eP **P 03 28 16.2 -2.8**
comp=Z,1.9nm,0.7s,mb4.2
BRVK epP pP 03 28 24.7 -2.6
ZRNK Zerenda 57.08 340 eP **P 03 28 20.5 -0.9**
ZRNK e*PP pP 03 28 29.0 -0.7
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ZRNK Zerenda 57.08 340 eP **P 03 28 20.5 -0.9**
comp=Z,2.6nm,0.7s,mb4.4
ZRNK epP pP 03 28 28.9 -0.8
CHKZ Chkalovo 57.15 341 eP **P 03 28 21.4 -0.5**
CHKZ e*PP pP 03 28 29.1 -1.1
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CHKZ Chkalovo 57.15 341 eP **P 03 28 21.4 -0.5**
comp=Z,5.6nm,0.8s,mb4.7
CHKZ epP pP 03 28 29.1 -1.1
AKTK Aktyubinsk 59.66 332 P **P 03 28 38.9 -0.5**
AKTO Aktyubinsk 59.66 332 P **P 03 28 38.9 -0.5**
comp=Z,1.1nm,0.8s,mb4.0,baz=97,slow=8.1,SNR=2.5
KMBO Kilima Mbogo 60.19 268 LR LR 03 51 20.3
comp=Z,142nm,18.9s,MS4.1,baz=276,slow=33
YSS Yuzh-Sakhalins 60.54 34 eP **P 03 28 53.0 +7.6**
ARU Arti 63.61 337⇑iP **P 03 29 05.5 -0.6**
ARU e 03 29 38.0
ARU e 03 31 23.6
ARU ePPP 03 32 59.7
ARU eS **S 03 37 39.4 +1.1**
ARU eSS SS 03 41 41.8 -4.1
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KIV Kislovodsk 64.73 319 P **P 03 29 10.0 -3.4**
KIV e 03 29 25.0
KIV 03 29 42.0
KIV S 03 38 03.0
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
YAK Yakutsk 65.72 16⇑eP **P 03 29 19.3 -0.5**
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.3
BR131 Keskin Array S 69.52 312 eP **P 03 29 43.7 -0.1**
comp=Z,1.9nm,0.8s,mb4.1
BR131 epP pP 03 29 51.6 -0.6
BRTR Keskin Array B 69.52 312 P **P 03 29 43.5 -0.4**
comp=Z,1.4nm,0.8s,mb4.0,baz=129,slow=6.5,SNR=9.8
BRTR pP pP 03 29 51.2 -1.0
comp=Z,1.4nm,0.8s,baz=130,slow=6.1,SNR=5.6
BRTR LR LR 03 59 47.3
comp=Z,47nm,19.5s,MS3.7,baz=259,slow=36
BRTR Keskin Array B 69.52 312 P **P 03 29 43.5 -0.3**
BRTR *PP pP 03 29 51.3 -1.0
MA2 Magadan 71.58 25 eP **P 03 29 56.4 +0.1**
MA2 pmax pmax
comp=Z,34nm,1.9s,mb5.0
MAW Mawson 72.39 193 pP pP 03 30 10.2 +0.4
comp=Z,1.1nm,0.6s,baz=55,slow=5.3,SNR=2.8
MAW LR LR 03 58 12.6
comp=Z,120nm,18.1s,MS4.2,baz=57,slow=33
OBN Obninsk 73.05 328 eP **P 03 30 03.9 -1.2**
OBN e pP 03 30 11.7 -2.0
OBN 03 30 20.0
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
SEY Seymchan 74.02 23⇑eP **P 03 30 10.8 -0.1**
AKASG Malin Array Be 75.69 322 P **P 03 30 19.7 -0.8**
comp=Z,2.5nm,0.7s,mb4.3,baz=94,slow=5.1,SNR=12
AKASG Malin Array Be 75.69 322 P **P 03 30 19.7 -0.8**
FINES FINESS Array B 80.43 333 P **P 03 30 46.3 -0.5**
comp=Z,2.0nm,0.7s,mb4.1,baz=88,slow=9.7,SNR=5.4
FINES pP pP 03 30 54.0 -1.5
comp=Z,1.4nm,0.7s,baz=111,slow=11,SNR=2.4
FINES LR LR 04 09 26.3
comp=Z,108nm,21.6s,MS4.2,baz=126,slow=38
FINES FINESS Array B 80.43 333 P **P 03 30 46.3 -0.5**
FINES *PP pP 03 30 54.0 -1.4
KAF Kangasniemi 80.52 333 ep **P 03 30 46.5 -0.7**
ARCES ARCESS Array B 82.96 340 P **P 03 30 59.7 -0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=101,slow=3.8,SNR=6.0
ARCES LR LR 04 11 54.2
comp=Z,155nm,20.5s,MS4.4,baz=228,slow=38
GERES GERESS Array B 85.24 319 P **P 03 31 12.3 +0.6**
comp=Z,1.0nm,0.8s,mb4.0,baz=96,slow=4.0,SNR=9.7
GERES pP pP 03 31 20.2 -0.2
comp=Z,1.6nm,0.9s,baz=90,slow=4.3,SNR=5.8
VNDA Vanda 85.41 169 LR LR 04 07 20.0
comp=Z,105nm,18.2s,MS4.3,baz=314,slow=34
NB2 NORSAR Subarra 87.44 331 P **P 03 31 22.1 -0.4**
comp=Z,0.2nm,0.7s,mb3.5,baz=94,slow=5.9
NOA NORSAR Array B 87.44 331 P **P 03 31 22.4 -0.1**
comp=Z,1.8nm,0.8s,mb4.4,baz=95,slow=4.9,SNR=5.6
NOA LR LR 04 17 54.5
comp=Z,63nm,18.3s,MS4.1,baz=75,slow=41
NOA NORSAR Array B 87.44 331 P **P 03 31 22.4 -0.1**
NOA LR LR 04 17 54.5
LPG La Plagne 89.89 315 eP **P 03 31 34.5 +0.4**
comp=Z,4.3nm,0.8s,mb4.5
LPG La Plagne 89.89 315 eP **P 03 31 34.5 +0.4**
LPG pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
LPG La Plagne 89.89 315 eP **P 03 31 34.5 +0.4**
comp=Z,2.2nm,0.8s,mb4.5
TORD Torodi Ar. Bea 95.39 283 LR LR 04 11 52.9
comp=Z,89nm,18.3s,MS4.3,baz=95,slow=34
PPT Papeete 112.16 109 eLR LR 04 10 47.2
comp=Z,100nm,22.8s
RKT Rikitea 124.57 118 eLR LR 04 16 32.2
comp=Z,113nm,24.8s
CPUP Villa Florida 144.87 222 PKP PKPdf 03 38 12.9 +0.9
comp=Z,0.4nm,0.4s,baz=72,slow=4.6,SNR=4.4
CPUP pPKP pPKPdf 03 38 21.3 +0.3
comp=Z,5.4nm,0.8s,baz=101,slow=3.3,SNR=6.9
CPUP Villa Florida 144.87 222 PKP PKPdf 03 38 12.9 +0.9
CPUP pPKP pPKPdf 03 38 21.3 +0.2

---

*ISCJB **06** 03:22:13.9±0.5, 4790N±007×9551E±006, h10km, mb3.8/7, Error ellipse: s-maj=10.0km s-min=6.1km az=11.2*
*IDC **06** 03:22:14.7±0.9, 4783N×9554E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, ML3.3/3, MS2.7/4, Ms1 2.7/4, ms1mx2.6/31, Error ellipse: s-maj=32.3km s-min=13.9km az=19.0*
*MOS **06** 03:22:15.2±1.9, 4803N×9577E, h25km, mb4.5/1, Error ellipse: s-maj=13.4km s-min=9.8km az=129.2*
*NEIC **06** 03:22:18.1±3.0, 4794N×9543E, h25km±23km, mb3.7/3, Error ellipse: s-maj=21.2km s-min=8.1km az=197.0*
*BJI **06** 03:22:19.8, 4742N×9552E, h27km, mB4.7, mb4.2, ML4.1, Ms4.1, Msz3.6*
ISC 06 03:22:15.1±0.5**, 4799N**±007×**9567E**±006**, h10km, n33, σ1s28**/32**, mb3.9**/7**, Mongolia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
MOY Mondy 5.04 41 ePN **Pb 03 23 44.1 +0.8**
MOY e 03 23 50.1
MOY pmax pmax
comp=Z,135nm,0.5s
ZAK Zakamensk 5.53 62 ePN **Pn 03 23 40.4 +2.9**
ZAK e 03 23 57.2
ZAK pmax pmax
comp=Z,15nm,0.4s
AKAR Aktash 5.77 297 ePN **Pn 03 23 42.6 +1.9**
AKAR e 03 24 01.1
AKAR e 03 25 11.0
TLY Talaya 6.34 51 i PN **Pn 03 23 46.5 -2.1**
TLY i 03 24 13.0
SONM Songino Array 7.21 87 Pn **Pn 03 24 04.5 +3.9**
comp=Z,1.1nm,0.3s,baz=272,slow=15,SNR=19
SONM Pg **Pg 03 24 28.2 -5.0**
comp=Z,3.7nm,0.3s,baz=275,slow=19,SNR=15
SONM Lg 03 26 03.9
comp=Z,17nm,0.3s,baz=276,slow=29,SNR=14
SONM LR LR 03 27 04.7
comp=Z,43nm,18.1s,baz=58,slow=40
ULN Ulaanbaatar 7.65 87 i P **Pn 03 24 04.9 -1.7**
KRAR Krasnoyarsk 8.21 349 i P **Pn 03 24 15.5 +1.2**
ZAL Zalesovo 9.07 315 Pg Px 03 24 54.6
comp=Z,2.4nm,0.3s,baz=347,slow=10,SNR=3.2
ZAL Lg 03 27 02.7
comp=Z,1.3nm,0.3s,baz=254,slow=21,SNR=10
ZAL LR LR 03 28 44.3
comp=Z,63nm,20.7s,baz=149,slow=43
GTA Gaotai 9.09 159 eP **Pn 03 24 25.4 -0.9**
GTA AP 03 24 29.3
GTA XP 03 24 31.8
GTA LG2 03 26 53.8
GTA AMB AMB
comp=Z,4.0nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA				AMB	AMB		
	comp=Z,106nm,4.2s						
GTA				LR	LR		
	comp=N,182nm,10.6s						
GTA				LR	LR		
	comp=E,381nm,10.7s						
GTA				LR	LR		
	comp=Z,279nm,10.2s						
MKAR	Makanchi Array	9.16	267	Pn	Pn	03 24 27.4	+0.3
	comp=Z,0.1nm,0.3s,baz=75,slow=17,SNR=3.4						
MKAR				Sn	Sn	03 26 10.1	-0.2
	comp=Z,0.7nm,0.3s,baz=68,slow=22,SNR=3.6						
MKAR				Lg		03 27 02.4	
	comp=Z,2.7nm,0.3s,baz=72,slow=32,SNR=7.3						
MKAR	Makanchi Array	9.16	267	P	Pn	03 24 27.5	+0.3
MKAR						03 26 10.1	
HHC	Hu-ho-hao-te	13.41	116	eP	Pn	03 25 30.7	+5.3
HHC				AP		03 25 34.1	
HHC				XP		03 25 37.3	
HHC				PP		03 25 41.4	
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,106nm,5.6s						
HHC				LR	LR		
	comp=N,148nm,5.2s						
HHC				LR	LR		
	comp=E,187nm,4.6s						
HHC				LR	LR		
	comp=Z,112nm,5.7s						
AAK	Ala-Archa	15.81	258	eP	Pn	03 26 00.0	+2.3
HIA	Hailar	15.96	76	eP	Pn	03 25 56.2	-3.4
CHKZ	Chkalovo	16.77	299	eP	Pn	03 26 09.1	-0.9
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	Chkalovo	16.77	299	eP	Pn	03 26 09.1	-0.9
	comp=Z,1.7nm,0.5s						
BVAR	Borovoye Array	16.81	297	Pn	Pn	03 26 09.5	-1.0
	comp=Z,0.2nm,0.3s,baz=93,slow=10,SNR=7.8						
BVAR				LR	LR	03 33 03.0	
	comp=Z,46nm,18.8s,baz=304,slow=39						
BRVK	Borovoye	16.88	297	eP	Pn	03 26 10.5	-0.8
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	Borovoye	16.88	297	eP	Pn	03 26 10.5	-0.9
	comp=Z,5.5nm,0.8s						
ZRNK	Zerenda	17.63	296	eP	Pn	03 26 19.9	-0.9
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZRNK	Zerenda	17.63	296	eP	Pn	03 26 19.9	-0.9
	comp=Z,5.2nm,0.6s						
SVE	Sverdlovsk	22.90	306	eP	P	03 27 19.0	+0.1
ARU	Arti	23.99	304	eP	P	03 27 28.2	-1.6
AKTK	Aktyubinsk	24.55	290	P	P	03 27 34.5	-0.4
AKTO	Aktyubinsk	24.55	290	P	P	03 27 34.5	-0.4
	comp=Z,1.5nm,0.6s,mb3.7,baz=97,slow=14,SNR=6.0						
MDRS	Chennai	37.12	205	ex	x	03 29 44.9	
MDRS				ex	x	03 33 38.9	
JOF	Joensuu	37.65	318	ep	P	03 29 27.0	-3.3
	comp=Z,1.0nm,0.4s,mb3.9						
ARCES	ARCESS Array B	39.32	329	P	P	03 29 45.4	+1.1
	comp=Z,2.2nm,0.8s,mb3.9,baz=57,slow=8.8,SNR=5.5						
TGY	Tagaytay City	39.76	140	LR	LR	03 47 02.2	
	comp=Z,3.3nm,18.2s,baz=55,slow=38						
FITZ	Fitzroy Crossi	71.06	150	P	P	03 33 33.4	+0.1
	comp=Z,2.0nm,1.0s,mb4.0,baz=0.0,slow=14,SNR=3.9						
WRA	Warramunga Arr	75.98	143	P	P	03 34 03.2	+0.9
	comp=Z,1.2nm,0.9s,mb3.8,baz=341,slow=6.2,SNR=7.4						
ASAR	Alice Springs	79.16	145	P	P	03 34 21.1	+1.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=352,slow=5.4,SNR=11						
TORD	Torodi Ar. Bea	82.99	282	P	P	03 34 41.0	+0.6
	comp=Z,0.8nm,1.0s,mb3.7,baz=30,slow=3.7,SNR=3.4						

KRSC 06 04:03:55,5269N×15966E,h52km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.46	28	eP	Pn	04 04 07.2	+1.2
SPN				i S	Sn	04 04 14.9	+1.1
NLC	Nalytchevo	0.52	339	eP	Pn	04 04 07.7	+1.1
NLC				i S	Sn	04 04 16.4	+1.5
PET	Petropavlovsk	0.70	299	eP	Pn	04 04 09.9	+1.1
PET				i S	Sn	04 04 19.6	+0.8
RUS	Russkaya	0.75	250	eP	Pn	04 04 10.6	+1.2
RUS				i S	Sn	04 04 20.8	+0.9
AVH	Avacha	0.80	316	eP	Pn	04 04 11.8	+1.7
AVH				i S	Sn	04 04 23.5	+2.3
GRL	Gorelyy	0.98	262	eP	Pn	04 04 14.4	+2.0
GRL				i S	Sn	04 04 27.7	+2.4
GNL	Ganaly	1.44	315	eP	Pn	04 04 21.1	+2.4
GNL				i S	Sn	04 04 39.9	+3.3
MKZ	Mys Kozlova	2.24	33	eP	Pn	04 04 31.1	+1.5
MKZ				i S	Sn	04 04 57.5	+1.4
TUMR	Tumrok	2.61	6	eP	Pn	04 04 37.0	+2.3
TUMR				i S	Sn	04 05 07.6	+2.3
ZLN	Zelenaya	3.40	11	eP	Pn	04 04 47.8	+2.3
ZLN				i S	Sn	04 05 25.6	+1.0
KBTR	Krutoberegovo	3.98	26	eP	Pn	04 04 56.9	+3.5
KBTR				i S	Sn	04 05 42.5	+3.7
SMKR	Semkarok	4.04	14	eP	Pn	04 04 57.6	+3.3
SMKR				i S	Sn	04 05 43.5	+3.2
SRKR	Sorokina	4.07	12	eP	Pn	04 04 57.1	+2.4
SRKR				i S	Sn	04 05 42.7	+1.7

IDC 06 04:06:15.5±8.6,629S×15021E,h53km±67km,mb3.5/3, mb1 3.8/4,mb1mx3.5/14,mbtmp3.8/4,ML2.7/1,Error ellipse: s-maj=71.7km s-min=51.8km az=152.0

NEIC 06 04:06:15.0±3.8,631S×15036E,h57km±26km,mb4.0/2, Error ellipse: s-maj=56.7km s-min=30.3km az=147.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.42	226	P	Pn	04 07 19.6	+0.1
	3.2nm,0.3s,baz=42,slow=9.5,SNR=6.7						
PMG				S	Sn	04 08 08.3	-1.3
	4.1nm,0.3s,baz=100,slow=17,SNR=5.1						
WRAB	Tennant Creek	20.62	227	eP	P	04 10 49.8	+0.2
	5.6nm,0.7s						
WB2	Warramunga Arr	20.62	227	eP	P	04 10 50.0	+0.4
WRA	Warramunga Arr	20.63	227	P	P	04 10 49.6	-0.1
	7.1nm,0.7s,baz=51,slow=10,SNR=46						
ASAR	Alice Springs	23.41	221	P	P	04 11 19.4	+0.4
	1.1nm,0.9s,baz=55,slow=9.3,SNR=10						
FITZ	Fitzroy Crossi	26.81	242	eP	P	04 11 50.4	+0.6
	3.5nm,0.9s						
FITZ	Fitzroy Crossi	26.81	242	P	P	04 11 50.5	+0.7
	0.7nm,0.6s,baz=50,slow=10,SNR=6.2						
TORD	Torodi Ar. Bea	148.40	285	PKPbc	PKPbc	04 25 56.4	+1.4
	0.9nm,0.7s,baz=93,slow=2.6,SNR=13						
TORD	Torodi Ar. Bea	148.40	285	PKPbc	PKPbc	04 25 56.4	+1.4
BDFB	Brasilia	151.60	140	PKPbc	PKPbc	04 26 04.2	+1.4
	1.5nm,0.4s,baz=209,slow=6.5,SNR=3.5						

IDC 06 04:08:08.9±3.5,600S×150.16E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.7/14,mbtmp3.8/4,ML2.8/1,MS3.4/1,Ms1 3.4/1, ms1mx2.5/17,Error ellipse: s-maj=115.9km s-min=42.4km az=119.0

NEIC 06 04:08:11.3±2.0,659S×15095E,h35km,mb3.8/1,Error ellipse: s-maj=89.2km s-min=23.9km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.68	233	Pn	Pn	04 09 19.9	+0.5
	3.5nm,0.3s,baz=45,slow=2.9,SNR=2.4						
PMG				Sn	Sn	04 10 10.3	-2.2
	0.4nm,0.3s,baz=263,slow=8.8,SNR=1.9						
CTA	Charters Tower	14.17	198	LR	LR	04 17 14.3	
	comp=Z,128nm,18.3s,baz=350,slow=38						
WRAB	Tennant Creek	20.87	229	eP	P	04 12 50.1	-0.1
	2.5nm,0.5s						
WB2	Warramunga Arr	20.88	229	eP	P	04 12 50.5	+0.2
WRA	Warramunga Arr	20.89	229	P	P	04 12 50.2	-0.2
	4.8nm,0.8s,baz=51,slow=11,SNR=10						
ASAR	Alice Springs	23.59	222	P	P	04 13 19.8	+0.9
	1.0nm,0.8s,baz=53,slow=10.0,SNR=4.2						
FITZ	Fitzroy Crossi	27.20	243	P	P	04 13 52.1	+0.5
	0.8nm,0.7s,baz=80,slow=9.0,SNR=3.2						
TORD	Torodi Ar. Bea	149.04	285	PKPbc	PKPbc	04 27 57.1	+1.5
	0.4nm,0.8s,baz=97,slow=2.5,SNR=9.0						

ISCJB 06 04:39:44.2±1.1,2500S±008×1792W±0.1,h392km±10km, mb3.8/13,Error ellipse: s-maj=15.8km s-min=12.2km az=133.2

IDC 06 04:39:45.3±2.0,2468S×17929W,h388km±19km,mb3.4/7, mb1 3.7/7,mb1mx3.6/11,mbtmp4.2/7,Error ellipse: s-maj=21.4km s-min=15.1km az=170.0

NEIC 06 04:39:45.8±0.5,2482S×179.14W,h400km,mb4.0/9,Error ellipse: s-maj=14.2km s-min=11.6km az=214.0

ISC 06 04:39:45.1±1.1,2503S±008×1792W±0.1,h386km±10km, n44,σ1s10/43,mb3.8/13,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.35	166	P	Pn	04 41 02.5	+2.8
	278nm,0.3s,baz=93,slow=11,SNR=10						
RAO				S	S	04 41 59.7	-0.4
	179nm,0.3s,baz=90,slow=20,SNR=3.5						
RAO	Raoul Island	4.35	166	P	Pn	04 41 02.5	+2.8
RAO				S	S	04 41 59.7	-0.4
AFI	Afiamalu	13.06	33	P	P	04 42 29.0	-7.9
	5.4nm,0.3s,baz=211,slow=14,SNR=4.9						
AFI				S	S	04 44 41.9	-17
	3.4nm,0.3s,baz=221,slow=19,SNR=4.4						
PUZ	Puketiti	13.19	189	PN	Pn	04 42 36.9	-3.2
DZM	Mont Dzumac	13.54	280	P	P	04 42 44.2	+2.0
	0.5nm,0.3s,baz=118,slow=18,SNR=6.0						
MWZ	Matawai	13.56	191	PN	P	04 42 41.3	-1.1
URZ	Urewera	13.57	193	P	P	04 42 43.2	+0.8
	27nm,0.3s,baz=314,slow=1.7,SNR=106						
URZ				S	S	04 45 09.2	-0.1
	1.9nm,0.3s,baz=76,slow=19,SNR=8.0						
URZ	Urewera	13.57	193	ePN	P	04 42 41.0	-1.5
KNZ	Kokohu	14.21	190	PN	P	04 42 49.2	-0.2
PXZ	Pawanui	15.33	192	PN	P	04 42 58.1	-3.5
TSZ	Takapari Road	15.54	194	PN	P	04 43 03.8	-0.1
BFZ	Birch Farm	16.08	193	PN	P	04 43 10.6	+0.9
THZ	Tophouse	17.95	200	PN	P	04 43 28.8	-0.9
CTA	Charters Tower	32.27	272	eP	P	04 45 39.6	+0.2
	10nm,0.4s,mb4.5						
CTAO	Charters Tower	32.27	272	eP	P	04 45 39.8	+0.3
	12nm,0.4s,mb4.6						
STKA	Stephens Creek	35.04	250	eP	P	04 46 03.6	+0.5
	2.0nm,0.6s,mb3.6						
STKA	Stephens Creek	35.04	250	P	P	04 46 03.1	+0.1
	1.4nm,0.4s,mb3.6,baz=112,slow=18,SNR=4.8						
AS31	Alice Springs	42.63	262	eP	P	04 47 05.7	+0.5
ASAR	Alice Springs	42.63	262	P	P	04 47 05.0	-0.1
	2.2nm,0.3s,mb4.0,baz=91,slow=6.7,SNR=52						
ASAR				PcP	PcP	04 48 49.7	+0.6
	0.5nm,0.4s,baz=105,slow=3.9,SNR=4.7						
ASAR				S	S	04 52 58.8	+0.2
	0.2nm,0.6s,baz=91,slow=17,SNR=3.3						
ASPA	Alice Springs	42.63	262	eP	P	04 47 05.7	+0.5
WB2	Warramunga Arr	43.10	267	eP	P	04 47 08.0	-1.0
WRAB	Tennant Creek	43.11	267	eP	P	04 47 08.2	-0.8
	12nm,0.4s,mb4.6						
WRA	Warramunga Arr	43.12	267	P	P	04 47 08.3	-0.7
	5.9nm,0.3s,mb4.4,baz=100,slow=6.9,SNR=86						
WRA				S	S	04 53 03.0	-2.7
	0.5nm,0.9s,baz=101,slow=13,SNR=3.1						
WRA	Warramunga Arr	43.12	267	P	P	04 47 08.3	-0.7
WRA				S	S	04 53 03.0	-2.7
FITZ	Fitzroy Crossi	51.52	266	eP	P	04 48 13.9	+0.9
	7.8nm,0.8s,mb4.0						
VNDA	Vanda	53.33	185	P	P	04 48 28.4	+2.3
	0.5nm,0.6s,mb2.9,baz=354,slow=8.8,SNR=6.6						
VNDA	Vanda	53.33	185	eP	P	04 48 28.4	+2.3
	0.7nm,0.7s,mb3.0						
MBWA	Marble Bar	55.95	261	eP	P	04 48 44.0	-0.6
	1.4nm,0.3s,mb3.8						
CASY	Casey	59.45	206	eP	P	04 49 08.9	+0.2
	1.5nm,0.5s,mb3.6						
QSPA	South Pole Qui	65.06	180	eP	P	04 49 47.3	+1.8
	2.1nm,0.7s,mb3.9						
KKM	Kota Kinabalu	69.97	287	eP	P	04 50 15.2	-0.8
KSM	Kuching	73.06	280	eP	P	04 50 33.8	-0.3
MAW	Mawson	76.97	200	P	P	04 50 57.6	+1.4
	2.3nm,0.6s,mb4.0,baz=149,slow=7.8,SNR=17						
NVAR	Mina Array Bea	85.03	44	P	P	04 51 38.2	0.0
	0.3nm,0.6s,mb3.2,baz=219,slow=6.9,SNR=5.2						
NVAR	Mina Array Bea	85.03	44	P	P	04 51 38.2	0.0
PDAR	Pinedale Array	92.96	44	P	P	04 52 13.8	-1.6
	0.5nm,0.8s,mb3.5,baz=75,slow=1.7,SNR=4.8						
ARCES	ARCESS Array B	133.14	348	PKP	PKPdf	04 58 14.1	-1.3
	1.5nm,0.9s,baz=68,slow=2.2,SNR=5.1						
FINES	FINESS Array B	139.76	342	PKhKP		04 58 18.4	
	1.9nm,1.0s,baz=67,slow=4.7,SNR=4.5						
NB2	NORSAR Subarra	143.31	352	PKPa	PKP	04 58 29.3	
	comp=Z,0.8nm,0.7s,baz=10,slow=3.5						
NOA	NORSAR Array B	143.31	352	PKhKP		04 58 25.9	
	comp=Z,1.3nm,0.8s,baz=16,slow=2.4,SNR=4.8						
AKASG	Malin Array Be	146.34	327	PKPbc	PKPbc	04 58 38.5	-2.6
	comp=Z,0.6nm,0.3s,baz=46,slow=3.9,SNR=7.1						
BRTR	Keskin Array B	148.87	306	PKPbc	PKPbc	04 58 46.8	-1.0
	comp=Z,1.1nm,0.5s,baz=120,slow=5.3,SNR=6.5						
BRTR				PKPab	PKPab	04 58 52.6	-0.5
	comp=Z,1.2nm,0.6s,baz=104,slow=4.6,SNR=7.8						
TORD	Torodi Ar. Bea	168.16	184	PKP	PKPdf	04 59 04.9	-1.0
	comp=Z,1.3nm,1.1s,baz=208,slow=4.2,SNR=4.8						
TORD				PKPab	PKPab	05 00 17.2	+0.6
	comp=Z,0.5nm,0.6s,baz=171,slow=2.8,SNR=9.8						
TORD	Torodi Ar. Bea	168.16	184	PKP	PKPdf	04 59 04.9	-1.0
TORD				PKPab	PKPab	05 00 17.2	+0.6

IDC 06 04:48:58.9±1.7,076N×9738E,h0km,mb3.7/4,mb1 3.8/5, mb1mx3.6/21,mbtmp3.6/5,ML3.1/1,Error ellipse: s-maj=48.5km s-min=23.7km az=65.0

ISCJB 06 04:49:01.8±1.2,08N±0.1×974E±02,h33km,mb3.7/6,Error ellipse: s-maj=25.2km s-min=15.1km az=152.9

NEIC 06 04:49:03.5±0.7,081N×9742E,h30km,mb4.0/2,Error ellipse: s-maj=17.0km s-min=11.2km az=80.0

ISC 06 04:49:04.5±1.2,09N±01×974E±02,h35km,n10,σ0s24/8, mb3.7/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.43	37	Pn	Pn	04 49 41.6	0.0
	3.7nm,0.3s,baz=251,slow=7.0,SNR=16						
KULM	Kulim	5.44	36	ePn	Pn	04 50 23.1	0.0
WRA	Warramunga Arr	41.65	122	P	P	04 56 49.4	0.0
	0.6nm,0.6s,mb3.4,baz=301,slow=9.0,SNR=4.9						
WRAB	Tennant Creek	41.66	122	eP	P	04 56 49.8	+0.4
	2.6nm,0.8s,mb3.9						
ASAR	Alice Springs	43.00	127	P	P	04 57 00.0	-0.3
	0.3nm,0.5s,mb3.3,baz=302,slow=8.0,SNR=5.7						
SONM	Songino Array	47.43	8	P	P	04 57 35.3	-0.2
	0.8nm,0.8s,mb3.7,baz=194,slow=9.8,SNR=3.8						
MKAR	Makanchi Array	47.63	346	P	P	04 57 37.4	+0.4
	1.2nm,0.5s,mb4.2,baz=162,slow=8.1,SNR=10						
CHKZ	Chkalovo	57.12	341	eP	P	04 58 47.3	-0.2
	0.6nm,0.5s,mb3.9						
CPUP	Villa Florida	144.92	222	PKP	PKPdf	05 08 39.2	+1.4
	2.1nm,1.0s,baz=93,slow=2.1,SNR=3.5						
CPUP	Villa Florida	144.92	222	PKP	PKPdf	05 08 39.2	+1.4

KRSC 06 05:00:24,6154N×16906E,h10km,ML5.2

MOS 06 05:00:26.7±0.9,6163N×16868E,h11km,mb5.5/126, MS5.0/78,Error ellipse: s-maj=7.5km s-min=3.3km az=91.9

BJI 06 05:00:26.5,6175N×16824E,h4km,mB5.3,mb5.2,Ms5.7, Msz5.2

IDC 06 05:00:26.6±0.4,6160N×16858E,h0km,mb5.2/27, mb1 5.3/28,mb1mx5.3/29,mbtmp5.2/28,ML4.3/1,MS4.8/32, Ms1 4.8/32,ms1mx4.7/44,Error ellipse: s-maj=13.6km s-min=10.3km az=167.0

ISCJB 06 05:00:27.0±0.1,6162N±002×16865E±003,h12km, mb5.4/329,MS5.0/184,Error ellipse: s-maj=2.5km s-min=1.8km az=150.9

NEIC 06 05:00:28.0±0.1,6163N×16864E,h7km,mb5.5/228,ME5.2, MS5.0/117,MW5.3,Error ellipse: s-maj=3.2km s-min=1.8km az=13.0,Moment Tensor Solution. s49 Moment tensor: Scale 10^17Nm; Mrr1.08; Mθθ-0.14; Mφφ-0.94; Mrθ-0.15; Mθφ-0.17; Mφr-0.32; Best double couple: M0 1.10000×10^17 NP1:φs195.00000°,δ54.00000°, λ95.00000°. NP2:φs8.00000°,δ36.00000°,λ84.00000°. Principal axes: T 1.1400, Plg80.0000°, Azm124.0000°; N -0.1100, Plg4.0000°, Azm13.0000°; P -1.0300, Plg9.0000°, Azm282.0000°; Broadband fault plane solution: P waves. NP1:φs355.00000°,δ22.00000°,λ90.00000°. NP2: φs175.00000°,δ68.00000°,λ90.00000°. Principal axes: T Plg67.0000°, Azm85.0000°; N Plg0.0000°, Azm0.0000°; P Plg23.0000°, Azm265.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

GCMT 06 05:00:28.5±0.1,6148N×16864E,h12km,MW5.4/94, Moment Tensor Solution. s71,c126; s94,c190; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.77±.02; Mθθ0.10±.02; Mφφ-0.87±.01; Mrθ0.41±.05; Mθφ-0.76±.01; Mφr-0.63±.04; Best double couple: M0 1.35000×10^17 NP1:φs61.00000°,δ47.00000°, λ145.00000°. NP2:φs176.00000°,δ65.00000°,λ48.00000°. Principal axes: T 1.3470, Plg51.0000°, Azm38.0000°; N 0.0050, Plg37.0000°, Azm197.0000°; P -1.3520, Plg11.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

SZGRF 06 05:00:30.2,6131N×167.11E,h33km,mb5.4,MS4.7, Eastern Siberia, Russia

ISC 06 05:00:28.8±0.1,6168N±002×16865E±003,h13km, h13km±1.5km:pP-P,n952,σ0s93/939,mb5.4/329,MS5.0/184, 132C-15D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	6.26	211	eP	Pn	05 01 59.9	-0.9
KBTR				i S	Sn	05 03 09.3	-2.9
SMKR	Semkarok	6.30	219	eP	Pn	05 02 01.9	+0.5
SMKR				i S	Sn	05 03 12.8	-0.5
SRKR	Sorokina	6.33	221	eP	Pn	05 02 02.2	+0.4
SRKR				i S	Sn	05 03 13.1	-1.0
BDR	Baidarnaya	6.39	220	eP	Pn	05 02 03.2	+0.5
BILL	Bilibino	6.47	352α	iPN	Pn	05 02 05.6	+1.9
BILL				i		05 03 32.1	
BILL				pmax	pmax		
	comp=Z,200nm,0.7s						
BILL				pmax	pmax		
	comp=Z,158nm,0.7s						
BILL				smax			
	comp=E,444nm,1.3s						
BILL	Bilibino	6.47	352	ePn	Pn	05 02 04.5	+0.8
	comp=E,202nm,0.6s						
BILL				ePg	Pg	05 02 32.1	-0.6
BILL				eSg	Sg	05 03 53.6	-2.8
KLY	Klyuchi	6.78	221	eP	Pn	05 02 07.7	-0.2
KLY				i S	Sn	05 03 22.3	-2.7
KRSR	Krestovskiy	6.88	221	eP	Pn	05 02 10.5	+1.1
ZLN	Zelenaya	6.98	219	eP	Pn	05 02 12.0	+1.3
SRDR	Sredinnyy	7.08	225	eP	Pn	05 02 13.8	+1.7
KPT	Kopyto	7.20	221	eP	Pn	05 02 15.5	+1.8
KMNR	Kamenistaya	7.37	220	eP	Pn	05 02 17.8	+1.7
SEY	Seymchan	7.68	287⇑	iPN	Pn	05 02 22.0	+1.6
TUMR	Tumrok	7.80	219	eP	Pn	05 02 24.3	+2.3
MKZ	Mys Kozlova	8.02	210	eP	Pn	05 02 24.6	-0.4
MA2	Magadan	9.03	264c	iPN	Pn	05 02 39.4	+0.5
MA2				pmax	pmax		
	comp=Z,135nm,1.3s						
MA2	Magadan	9.03	264	ePn	Pn	05 02 38.4	-0.5
MA2	Magadan	9.03	264	eP	Pn	05 02 38.7	-0.2
SMY	Shemya	9.44	159	ePN	Pn	05 02 41.8	-2.7
SMY				pmax	pmax		
	comp=Z,76nm,0.9s						
SMY	Shemya	9.44	159	eP	Pn	05 02 41.8	-2.7
	comp=Z,76nm,0.9s						
SPN	Mys Shipunski	9.77	212	eP	Pn	05 02 48.2	-0.8
GNL	Ganaly	9.83	220	eP	Pn	05 02 52.0	+2.2
NLC	Nalytchevo	9.88	215	eP	Pn	05 02 52.3	+1.8
INSR	Institute	10.18	217	eP	Pn	05 02 55.1	+0.5
INSR				i S	Sn	05 04 44.6	-4.0
PET	Petropavlovsk	10.20	216⇓	iPN	Pn	05 02 57.2	+2.3
PET				eS	Sn	05 05 02.2	+13
PET				pmax	pmax		
	comp=Z,500nm,3.9s						
PET				pmax	pmax		
	comp=E,110nm,1.8s						
PET				pmax	pmax		
	comp=Z,222nm,1.7s						
PET				pmax	pmax		
	comp=Z,2μm,5.4s						
PET				MLR	MLR		
	comp=Z,20μm,15.0s						
PET				MLR	MLR		
	comp=Z,21μm,17.0s						
PET	Petropavlovsk	10.20	216	ePn	Pn	05 02 55.2	+0.3
PET	Petropavlovsk	10.20	216	eP	Pn	05 02 55.2	+0.3
RUS	Russkaya	10.77	215	eP	Pn	05 03 03.5	+0.8
GRL	Gorelyy	10.79	217	eP	Pn	05 03 04.1	+1.2
SPIA	Saint Paul Isl	11.63	103	ePn	Pn	05 03 13.1	-1.4
SKR	Severo-Kuril's	13.01	218	ePN	Pn	05 03 30.7	-2.6
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				MLR	MLR		
	comp=N,13μm,16.0s						
SKR				MLR	MLR		
	comp=Z,14μm,16.0s						
SKR				MLR	MLR		
	comp=E,13μm,14.0s						
NIKO	Nikolski	14.88	116	ePn	Pn	05 03 59.9	+1.1
AKUT	Akutan	15.46	108	eP	Pn	05 04 07.9	+1.3
	comp=E,305nm,1.2s						
TTA	Tatalina	16.35	70	eP	Pn	05 04 18.9	+0.9
SVW2	Sparrevohn	17.01	76	eP	Pn	05 04 26.5	+0.1
SDPT	Sand Point	17.20	98	eP	Pn	05 04 29.4	+0.6
	comp=E,647nm,1.8s						
YAK	Yakutsk	18.20	288	eP	Pn	05 04 45.4	+4.2
YAK				eS	Sn	05 08 09.8	+5.6
YAK				pmax	pmax		
	comp=Z,109nm,1.1s						
YAK				pmax	pmax		
	comp=N,61nm,1.5s						
YAK				smax			
	comp=N,375nm,16.2s						
YAK				smax			
	comp=Z,549nm,15.7s						
YAK				MLR	MLR		
	comp=Z,4μm,15.0s						
YAK				MLR	MLR		
	comp=N,721nm,13.0s						
YAK	Yakutsk	18.20	288	ePn	Pn	05 04 41.1	-0.1
TIXI	Tiksi	18.24	320	eP	Pn	05 04 43.8	+2.2
TIXI				eS	Sn	05 08 02.4	-2.6
TIXI				pmax	pmax		
	comp=Z,58nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,6μm,11.0s						
TIXI	Tiksi	18.24	320⇑	iP	Pn	05 04 43.9	+2.3
MCK	McKinley	19.30	65	eP	Pn	05 04 53.8	-0.7
COLA	College	19.52	62	eP	Pn	05 04 56.4	-0.7
COLA				pmax	pmax		
	comp=Z,207nm,1.0s						
COLA	College	19.52	62	eP	Pn	05 04 56.4	-0.8
	comp=Z,207nm,1.0s						
SLKM	Skilak Lake	19.69	75	eP	Pn	05 04 57.7	-1.4
KDAK	Kodiak Island	19.71	84	P	Pn	05 04 57.0	-2.4
	comp=Z,384nm,0.7s,SNR=7.5						
KDAK	Kodiak Island	19.71	84	P	Pn	05 04 56.8	-2.6
	comp=Z,0.9nm,0.3s,baz=347,slow=3.2,SNR=20						
KDAK				LR	LR	05 13 40.2	
	comp=Z,9μm,18.4s,baz=306,slow=40						
KDAK	Kodiak Island	19.71	84	eP	Pn	05 04 57.2	-2.2
	comp=Z,49nm,0.8s						
PMR	Palmer	19.81	71	eP	Pn	05 04 58.9	-1.6
PMR				pmax	pmax		
	comp=Z,258nm,1.6s						
PMR	Palmer	19.81	71	eP	Pn	05 04 58.9	-1.6
	comp=Z,258nm,1.6s						
KUR	Kuril'sk	20.44	226	eP	P	05 05 04.0	-1.9
KUR				MLR	MLR		
	comp=N,11μm,15.0s,MS5.4						
KUR				MLR	MLR		
	comp=E,8μm,15.0s,MS5.4						
KUR				MLR	MLR		
	comp=Z,14μm,15.0s,MS5.4						
YSS	Yuzh-Sakhalins	20.90	237⇑	eP	P	05 05 11.1	+0.3
YSS				e*SP	sP	05 05 15.0	-1.0
YSS				i		05 05 37.0	
YSS				ePPP		05 05 48.2	
YSS				eS	S	05 08 57.0	-6.5
YSS				e		05 09 06.0	
YSS				eSS		05 09 28.0	
YSS				pmax	pmax		
	comp=Z,300nm,1.2s						

YSS pmax pmax
comp=N,280nm,1.3s
YSS pmax pmax
comp=E,160nm,1.1s
YSS MLR MLR
comp=N,7µm,13.0s,MS5.3
YSS MLR MLR
comp=E,5µm,13.0s,MS5.3
YSS MLR MLR
comp=Z,7µm,13.0s,MS5.2
YSS Yuzh-Sakhalins 20.90 237 *eP* **P 05 05 10.5 -0.3**
comp=Z,459nm,1.3s
YSS LR LR
comp=Z,3µm,20.0s,MS4.6
DIV Divide 21.49 71 *eP* **P 05 05 17.0 -0.2**
comp=Z,321nm,1.1s,mb5.6
DIV LR LR
comp=Z,10µm,20.0s,MS5.2
EYAK Cordova Ski Ar 21.72 73 *eP* **P 05 05 19.5 -0.2**
comp=Z,348nm,1.0s,mb5.7
MENT Mentasta 21.78 66 *eP* **P 05 05 19.7 -0.6**
EGAK Eagle 22.33 60 *eP* **P 05 05 25.1 -1.1**
comp=Z,389nm,1.0s,mb5.8
CLNS Chul'man 22.54 277 *eP* **P 05 05 27.6 -0.8**
CLNS *e**PP 05 05 35.4
CLNS *e*PPP 05 05 58.8
CLNS *e* 05 09 19.7
CLNS *e*S **S 05 09 29.8 -5.8**
CLNS *e*SS 05 10 11.5
CLNS *e*SSS 05 10 21.5
CLNS pmax pmax
comp=Z,216nm,1.3s,mb5.4
CLNS pmax pmax
comp=N,39nm,0.8s
CLNS pmax pmax
comp=E,160nm,1.2s
CLNS smax
comp=N,589nm,12.1s
CLNS smax
comp=Z,1µm,13.1s
CLNS smax
comp=E,2µm,12.7s
CLNS MLR MLR
comp=E,9µm,11.0s,MS5.4
CLNS MLR MLR
comp=Z,11µm,11.0s,MS5.5
CLNS MLR MLR
comp=N,1µm,16.0s,MS5.4
NRGR Nerungri 22.71 277 *eP* **P 05 05 31.9 +1.7**
NRGR S **S 05 09 33.5 -5.3**
NRGR smax
comp=N,13nm,0.4s
HABR Khabarovsk 23.01 250⇑*iP* **P 05 05 34.3 +0.9**
HABR *e*S **S 05 09 47.7 +4.0**
HABR pmax pmax
comp=Z,151nm,0.9s,mb5.4
HABR MLR MLR
comp=Z,8µm,14.0s,MS5.3
DAWY Dawson 23.27 61 *eP* **P 05 05 35.4 -0.8**
ASAJ Asahikawa 23.32 233 P **P 05 05 35.4 -1.2**
comp=Z,63nm,1.0s,mb5.0,baz=346,slow=9.6,SNR=8.7
ASAJ LR LR 05 14 50.9
comp=Z,2µm,19.4s,MS4.5,baz=217,slow=37
ASAJ Asahikawa 23.32 233 P **P 05 05 35.4 -1.2**
ASAJ pmax pmax
comp=Z,63nm,1.0s
ASAJ MLR MLR
comp=Z,2µm,19.4s
KLR Kul'dur 23.97 256 *eP* **P 05 05 39.0 -3.9**
KLR *e* 05 05 39.0
KLR *e* 05 06 26.5
KLR *e*S **S 05 10 03.0 +3.8**
KLR *e* 05 10 58.0
KLR smax
comp=N,5µm,10.0s
KLR smax
comp=E,4µm,10.0s
KLR MLR MLR
comp=N,4µm,12.0s
KLR MLR MLR
comp=Z,6µm,12.0s,MS5.3
INK Inuvik 24.45 50 P **P 05 05 47.3 +0.1**
comp=Z,306nm,0.9s,mb5.7,baz=294,slow=8.5,SNR=197
INK PcP PcP 05 09 24.7 -1.2
comp=Z,5.5nm,0.8s,baz=331,slow=6.8,SNR=3.0
INK LR LR 05 15 52.6
comp=Z,2µm,20.5s,MS4.5,baz=274,slow=38
INK Inuvik 24.45 50 P **P 05 05 47.3 +0.1**
INK 05 09 24.7
INK pmax pmax
comp=Z,306nm,0.9s
INK MLR MLR
comp=Z,2µm,20.5s
INK Inuvik 24.45 50⇑*iP* **P 05 05 47.2 0.0**
comp=Z,13µm,1.0s
ERM Erimo 24.92 230 P **P 05 05 51.3 -0.2**
comp=Z,1µm,1.3s,mb6.3,SNR=7.3
ERM Erimo 24.92 230 *eP* **P 05 05 50.7 -0.8**
ERM pmax pmax
comp=Z,336nm,1.2s,mb5.8
ERM MLR MLR
comp=Z,910nm,19.0s,MS4.3
ERM Erimo 24.92 230 *eP* **P 05 05 50.7 -0.8**
comp=Z,350nm,1.2s,mb5.8
ERM LR LR
comp=Z,913nm,19.0s,MS4.3
SKAG Skagway 26.90 69 *eP* **P 05 06 09.6 +0.1**
comp=Z,311nm,1.8s,mb5.5
SKAG LR LR
comp=Z,4µm,17.0s,MS5.0
SIT Sitka 28.14 74 *eP* **P 05 06 21.1 +0.5**
SIT pmax pmax
comp=Z,232nm,0.9s,mb5.8
SIT MLR MLR
comp=Z,2µm,17.0s,MS4.9
SIT Sitka 28.14 74 *eP* **P 05 06 21.1 +0.5**
comp=Z,232nm,0.9s,mb5.8
SIT LR LR
comp=Z,2µm,17.0s,MS4.9
MDJ Mudanjiang 28.39 251 P **P 05 06 22.7 -0.1**
MDJ AP pP 05 06 25.6 -1.1
MDJ XP sP 05 06 26.9 -1.4
MDJ PCP PcP 05 09 34.7 -0.4
MDJ S **S 05 11 09.1 -0.3**
MDJ SCP ScP 05 13 16.1 +0.2
MDJ PCS PcS 05 13 17.4 0.0
MDJ AMB AMB
comp=Z,11nm,1.4s,mb4.3
MDJ AMB AMB
comp=Z,228nm,8.3s
MDJ LR LR
comp=N,4µm,16.4s,MS5.2
MDJ LR LR
comp=E,3µm,17.5s,MS5.2
MDJ LR LR
comp=Z,2µm,18.1s,MS4.8
MDJ Mudanjiang 28.39 251 *eP* **P 05 06 22.9 0.0**
comp=Z,45nm,1.4s,mb4.9
MDJ LR LR
comp=Z,3µm,20.0s,MS4.9
VLA Vladivostok 28.55 246 P **P 05 06 25.0 +0.8**
VLA *e*S **S 05 11 12.6 +0.7**
VLA pmax pmax
comp=Z,104nm,1.7s,mb5.3
VLA MLR MLR
comp=Z,4µm,12.7s,MS5.3
HIA Hailar 29.60 268 *eP* **P 05 06 34.0 +0.4**
HIA MLR MLR
comp=Z,3µm,20.0s
DLBC Dease Lake 29.78 68 P **P 05 06 36.6 +1.4**
comp=Z,60nm,0.8s,mb5.4,baz=295,slow=8.6,SNR=73
DLBC LR LR 05 20 18.8
comp=Z,3µm,19.1s,MS5.0,baz=301,slow=40
WRAK Wrangell Islan 29.86 73⇑*iP* **P 05 06 36.8 +0.9**
comp=Z,93nm,0.9s,mb5.5
CRAG Craig 30.06 75 *eP* **P 05 06 39.4 +1.8**
comp=Z,84nm,1.0s,mb5.4
CRAG LR LR
comp=Z,2µm,17.0s,MS4.7
CIT Chita 30.72 277 *eP* **P 05 06 45.3 +1.8**
CIT pmax pmax
comp=Z,109nm,1.4s,mb5.5
CN2 Changchun 30.91 255 *eP* **P 05 06 43.7 -1.5**
CN2 *e*XP sP 05 06 51.0 +0.4
CN2 *e*S **S 05 11 48.8 -0.2**
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,5µm,15.0s,MS5.4
CN2 LR LR
comp=E,3µm,15.0s,MS5.4
CN2 LR LR
comp=Z,3µm,15.0s,MS5.0
MAJO Matsushiro 31.55 231 *eP* **P 05 06 49.3 -1.5**
MAJO *e* 05 09 42.9
MAJO pmax pmax
comp=Z,342nm,1.1s,mb6.1
MAJO MLR MLR
comp=Z,2µm,20.0s,MS4.9
MAJO Matsushiro 31.55 231 *eP* **P 05 06 49.3 -1.4**
comp=Z,353nm,1.1s,mb6.1
MAJO *e*PcP PcP 05 09 42.9 -0.3
MAJO LR LR
comp=Z,2µm,20.0s,MS4.9
MAT Matsushiro 31.55 231 P **P 05 06 50.0 -0.8**
MAT S **S 05 11 56.0 -2.9**
MJAR Matsushiro Arr 31.55 231 P **P 05 06 50.4 -0.4**
comp=Z,211nm,1.0s,mb5.9,baz=15,slow=7.6,SNR=154
MJAR PcP PcP 05 09 41.7 -1.6
comp=Z,8.4nm,1.0s,baz=16,slow=1.5,SNR=7.0
MJAR LR LR 05 20 10.8
comp=Z,2µm,20.1s,MS4.9,baz=40,slow=38
MJAR Matsushiro Arr 31.55 231 P **P 05 06 50.4 -0.4**
MJAR 05 09 41.7
SNY Shenyang 33.31 254⇑P **P 05 07 06.7 +0.5**
SNY AP pP 05 07 11.1 +1.0
SNY XP sP 05 07 13.4 +1.7
SNY PP PP 05 08 19.5 -2.0
SNY S **S 05 12 25.3 -1.1**
SNY XS sS 05 12 32.3 -0.5
SNY SS SS 05 14 23.3 -27
SNY AMB AMB
comp=Z,54nm,1.2s,mb5.3
SNY AMB AMB
comp=Z,280nm,5.9s
SNY LR LR
comp=N,4µm,16.2s
SNY LR LR
comp=E,5µm,10.8s
SNY LR LR
comp=Z,3µm,11.4s,MS5.3
ALE Alert 33.71 11 P **P 05 07 10.0 +0.3**
comp=Z,181nm,0.8s,mb6.0,SNR=10
YKW3 Yellowknife Ar 33.94 54 *eP* **P 05 07 11.4 -0.3**
YKA Yellowknife Ar 33.98 54 P **P 05 07 11.6 -0.4**
comp=Z,21nm,0.7s,mb5.2,baz=304,slow=8.2,SNR=52
YKA PP PP 05 08 32.0 +3.0
comp=Z,3.0nm,0.9s,baz=301,slow=8.0,SNR=2.2
YKA PcP PcP 05 09 48.9 -1.1
comp=Z,9.5nm,0.8s,baz=311,slow=3.1,SNR=12
YKA Yellowknife Ar 33.98 54 P **P 05 07 11.6 -0.5**
YKA 05 08 32.0
YKA 05 09 48.9
YKA pmax pmax
comp=Z,21nm,0.7s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 33.98 54 P **P 05 07 11.7 -0.4**
YKA PP PP 05 08 32.0 +3.0
YKA PcP PcP 05 09 48.9 -1.1
IRK Irkutsk 34.92 284 *eP* **P 05 07 19.4 -0.8**
IRK pmax pmax
comp=Z,140nm,1.4s,mb5.7
INCN Inchon 35.47 247 PFAKE
INCN LR LR 05 07 30.0 +5.1
comp=Z,2µm,19.0s,MS4.8
TLY Talaya 35.58 284 P **P 05 07 26.7 +0.8**
comp=Z,284nm,0.9s,mb6.2,SNR=13
TLY Talaya 35.58 284 *eP* **P 05 07 26.2 +0.3**
TLY *e* 05 08 50.3
TLY *e*S **S 05 13 02.3 +0.8**
TLY pmax pmax
comp=Z,92nm,1.5s,mb5.5
TLY MLR MLR
comp=Z,5µm,15.0s,MS5.4
TLY Talaya 35.58 284 *eP* **P 05 07 26.3 +0.4**
comp=Z,89nm,1.3s,mb5.5
TLY LR LR
comp=Z,717nm,20.0s,MS4.4
DL2 Dalian 36.54 253 P **P 05 07 35.0 +0.9**
DL2 S **S 05 13 18.4 +2.3**
DL2 AMB AMB
comp=Z,30nm,1.1s,mb5.0
DL2 AMB AMB
comp=Z,220nm,5.2s
DL2 LR LR
comp=N,2µm,17.7s,MS5.1
DL2 LR LR
comp=E,2µm,18.3s,MS5.1
DL2 LR LR
comp=Z,2µm,13.2s
ULN Ulaanbaatar 36.62 277 PFAKE
ULN LR LR 05 07 40.0 +5.2
comp=Z,3µm,19.0s,MS5.2
ZAK Zakamensk 36.63 283⇑*iP* **P 05 07 35.5 +0.6**
ZAK *e* 05 09 59.0
ZAK pmax pmax
comp=Z,25nm,1.3s,mb4.9
MOY Mondy 36.81 286 *eP* **P 05 07 37.9 +1.5**
MOY pmax pmax
comp=Z,115nm,2.2s,mb5.3
SONM Songino Array 36.96 277 P **P 05 07 38.0 +0.4**
comp=Z,42nm,1.1s,mb5.2,baz=51,slow=6.1,SNR=62
SONM PcP PcP 05 09 58.5 -0.2
comp=Z,8.3nm,0.8s,baz=52,slow=1.6,SNR=9.2
SONM ScP ScP 05 13 45.3 -0.1
comp=Z,1.4nm,1.0s,baz=331,slow=5.8,SNR=4.8
SONM LR LR 05 23 49.9
comp=Z,5µm,19.8s,MS5.3,baz=47,slow=38
SONM Songino Array 36.96 277 P **P 05 07 38.0 +0.4**
SONM 05 09 58.5
KRAR Krasnoyarsk 37.53 297 *eP* **P 05 07 42.1 -0.4**
KRAR pmax pmax
comp=Z,127nm,1.2s,mb5.5
KRAR MLR MLR
comp=Z,7µm,20.0s,MS5.4
BJI Beijing 38.16 260 P **P 05 07 47.4 -0.5**
BJI S **S 05 13 36.4 -4.4**
BJI AMB AMB
comp=Z,22nm,1.5s,mb4.7
BJI LR LR
comp=N,2µm,12.7s
BJI LR LR
comp=E,2µm,9.8s
BJI LR LR
comp=Z,1µm,33.6s
BJT Baijiatuau 38.19 260 *eP* **P 05 07 49.3 +1.3**
BJT pmax pmax
comp=Z,24nm,1.1s
BJT MLR MLR
comp=Z,3µm,19.0s
BJT Baijiatuau 38.19 260 *eP* **P 05 07 49.3 +1.2**
comp=Z,24nm,1.1s,mb4.8
BJT LR LR
comp=Z,3µm,19.0s,MS5.1
CBIJ Chichi jima 38.85 219 LR LR 05 21 42.8
comp=Z,510nm,19.8s,MS4.3,baz=356,slow=33
KBS Kingsbay 38.95 353 *eP* **P 05 07 55.2 +0.7**
KBS *e*PP PP 05 09 23.6 -0.1
KBS *e*S **S 05 13 54.5 +1.8**
KBS *e*SS SS 05 16 46.7 +2.2
KBS AMS AMS 05 28 01.6
comp=Z,496nm,14.0s,MS4.5
SPB4 Spitsbergen Ar 39.38 351 *eP* **P 05 07 57.0 -1.0**
SPB4 *e*PcP PcP 05 10 05.2 -1.1
VDB Vedder Mountai 39.38 76 P **P 05 07 58.3 +0.2**
MBW Mount Baker 39.65 76 P **P 05 08 00.9 +0.6**
HHC Hu-ho-hao-te 39.71 265 *eP* **P 05 08 00.4 -0.4**
HHC AP pP 05 08 04.9 +0.1
HHC XP sP 05 08 07.5 +1.2
HHC PP PP 05 09 35.5 +3.5
HHC PCP PcP 05 10 08.0 +0.7
HHC SCP ScP 05 13 54.8 -1.0
HHC PCS PcS 05 13 56.8 -0.5
HHC S **S 05 14 02.3 -1.8**
HHC XS sS 05 14 09.9 -0.7
HHC SS SS 05 16 50.2 -9.5
HHC SCS ScS 05 18 05.9 -2.5
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.7
HHC AMB AMB
comp=Z,280nm,7.3s
HHC LR LR
comp=N,5µm,8.0s
HHC LR LR
comp=E,3µm,8.8s
HHC LR LR
comp=Z,4µm,9.4s
CMW Cultus Mountai 39.81 77 P **P 05 08 02.6 +1.0**
HDW Hoodsport 39.93 78 P **P 05 08 03.6 +1.0**
JCW Jim Creek 40.06 77 P **P 05 08 04.4 +0.6**
RPW Rockport 40.07 76 P **P 05 08 04.2 +0.4**
GNW Green Mountain 40.10 78 *eP* **P 05 08 05.0 +1.0**
GNW *e*PcP PcP 05 10 09.8 +1.3
PNT Penticton 40.32 74 P **P 05 08 06.3 +0.4**
EDM Edmonton 40.37 65⇑*iP* **P 05 08 06.5 +0.2**
BTO Baotou 40.63 267 *eP* **P 05 08 07.4 -1.1**
TIA Tai'an 40.80 256 *eP* **P 05 08 10.5 +0.6**
TIA S **S 05 14 16.5 -4.0**
TIA LR LR
comp=N,2µm,15.0s,MS5.3
TIA LR LR
comp=E,1µm,14.0s,MS5.3
TBM Table Mountain 41.42 77 P **P 05 08 15.4 +0.4**
EBG Ellensburg 41.63 77 P **P 05 08 17.3 +0.6**
DAG Danmarks Havn 41.72 3⇓*iP* **P 05 08 17.1 -0.3**
comp=E,30nm,1.0s,mb4.9
DAG *i* 05 10 13.2
DAG Danmarks Havn 41.72 3⇓*eP* **P 05 08 17.1 -0.3**
DAG *i* 05 10 13.2
DAG pmax pmax
comp=Z,30nm,1.0s,mb4.9
DAG Danmarks Havn 41.72 3⇓*eP* **P 05 08 17.1 -0.3**
comp=Z,30nm,1.0s,mb4.9
DAG *i* 05 10 13.2
COR Corvallis 42.07 82 *eP* **P 05 08 21.4 +1.1**
COR pmax pmax
comp=Z,277nm,1.2s,mb5.8
COR MLR MLR
comp=Z,3µm,20.0s,MS5.1
COR Corvallis 42.07 82 *eP* **P 05 08 21.4 +1.1**
comp=Z,277nm,1.2s,mb5.8
COR LR LR
comp=Z,3µm,20.0s,MS5.1
OD2 Odessa Site #2 42.13 75 P **P 05 08 20.7 -0.1**
HOOD Mount Hood Mea 42.30 79 *eP* **P 05 08 17.2 -5.0**
ZAL Zalesovo 42.35 299 P **P 05 08 23.3 +0.7**
comp=Z,7.0nm,0.8s,mb4.3,baz=76,slow=8.6,SNR=24
ZAL PcP PcP 05 10 15.7 -0.2
comp=Z,3.4nm,0.8s,baz=103,slow=3.4,SNR=3.0
ZAL LR LR 05 28 43.2
comp=Z,5µm,18.5s,MS5.4,baz=61,slow=40
ZAL Zalesovo 42.35 299 *iP* **P 05 08 25.6 +3.1**
ZAL pmax pmax
comp=Z,7.0nm,0.8s
ZAL Zalesovo 42.35 299 P **P 05 08 23.3 +0.7**
ZAL PcP PcP 05 10 15.7 -0.2
ZAL LR LR 05 28 43.2
NVS Novosibirsk 42.35 301 *iP* **P 05 08 22.3 -0.3**
NVS *e* 05 10 04.7
NVS *i*S **S 05 14 44.9 +1.5**
NVS pmax pmax
comp=N,94nm,1.6s
NVS pmax pmax
comp=Z,130nm,1.6s,mb5.3
NVS pmax pmax
comp=E,98nm,1.5s
NVS pmax pmax
comp=N,94nm,1.7s
NVS pmax pmax
comp=Z,57nm,1.7s,mb4.9
NVS smax
comp=E,140nm,2.6s
NVS smax
comp=N,66nm,2.3s
GBL Gable Mountain 42.37 77 P **P 05 08 22.8 +0.1**
VFP Flag Point 42.39 79 P **P 05 08 23.2 +0.3**
HAWA Hanford 42.49 77⇑*iP* **P 05 08 23.6 -0.1**
comp=N,105nm,1.2s,mb5.3
HAWA LR LR
comp=Z,2µm,19.0s,MS4.9
KEBM Edson Butte 42.88 84 *eP* **P 05 08 27.4 +0.5**
WALA Waterton Lakes 43.09 70⇑*iP* **P 05 08 28.9 +0.3**
comp=Z,213nm,1.1s,mb5.8
WALA *e*PcP PcP 05 10 17.7 -0.7
SSE Sheshan 43.26 247 P **P 05 08 29.2 -0.7**
SSE AP pP 05 08 32.3 -1.6
SSE XP sP 05 08 33.7 -1.7
SSE S **S 05 14 54.9 -1.8**
SSE AMB AMB
comp=Z,34nm,1.0s,mb5.0
SSE AMB AMB
comp=Z,383nm,6.0s
SSE LR LR
comp=N,623nm,22.0s,MS4.7
SSE LR LR
comp=E,761nm,22.0s,MS4.7
SSE LR LR
comp=Z,1µm,17.5s,MS4.8
NJ2 Nanjing 43.48 250 *eP* **P 05 08 31.9 +0.2**
NJ2 AP pP 05 08 36.5 +0.8
NJ2 XP sP 05 08 38.7 +1.5
NJ2 PP PP 05 10 14.9 +2.1
NJ2 S **S 05 14 57.0 -3.0**
NJ2 XS sS 05 15 05.0 -1.5
NJ2 AMB AMB
comp=Z,60nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,680nm,9.5s
NJ2 LR LR
comp=N,11µm,16.7s,MS6.0
NJ2 LR LR
comp=E,10µm,14.6s,MS6.0
NJ2 LR LR
comp=Z,11µm,14.0s,MS5.9
BSMT Bassoo Peak 43.59 72 *eP* **P 05 08 32.6 0.0**
BBOR Butler Butte 43.66 83 P **P 05 08 34.0 +0.8**
JOW Kunigami 44.01 236 LR LR 05 30 24.6
comp=Z,1µm,18.3s,MS4.9,baz=96,slow=41
FFC Flin Flon 44.03 57 *eP* **P 05 08 35.5 -0.6**
FFC *e* 05 10 20.3
FFC pmax pmax
comp=Z,193nm,1.6s,mb5.6
FFC MLR MLR
comp=Z,314nm,19.0s,MS4.2
FFC Flin Flon 44.03 57 *eP* **P 05 08 35.5 -0.7**
comp=Z,193nm,1.6s,mb5.6
FFC *e*PcP PcP 05 10 20.3 -1.2
FFC LR LR
comp=Z,314nm,19.0s,MS4.2
FCC Fort Churchill 44.05 48 *eP* **P 05 08 35.3 -1.0**
comp=Z,163nm,1.1s,mb5.7
KRMB Red Mountain 44.12 85 *eP* **P 05 08 37.8 +0.9**
YBH Yreka Blue Hor 44.53 84 P **P 05 08 40.9 +0.8**
comp=Z,72nm,0.9s,mb5.5,baz=277,slow=1.9,SNR=93
YBH Yreka Blue Hor 44.53 84 *eP* **P 05 08 40.9 +0.8**
YBH pmax pmax
comp=Z,84nm,1.0s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 44.53 84 *eP* **P 05 08 40.9 +0.7**
comp=Z,84nm,1.0s,mb5.5
YBH LR LR
comp=Z,2µm,20.0s,MS5.0
BMO Blue Mountains 44.68 77⇑*iP* **P 05 08 41.5 +0.1**
comp=Z,135nm,1.1s,mb5.7
BMO LR LR
comp=Z,1µm,19.0s,MS4.9
KHMM Horse Mountain 44.71 85 *eP* **P 05 08 42.4 +0.8**
MSO Missoula 44.73 72⇑*iP* **P 05 08 41.6 -0.2**
comp=Z,58nm,1.1s,mb5.3
MSO *e*PcP PcP 05 10 23.0 -1.0
MSO LR LR
comp=Z,2µm,19.0s,MS5.0
SUMG Summit 44.75 11 *eP* **P 05 08 42.5 +0.6**
comp=Z,152nm,1.1s,mb5.7
CHMT Chamberlain Mo 44.98 72 *eP* **P 05 08 43.7 0.0**
WDC Whiskeytown Da 45.51 85⇑*iP* **P 05 08 48.0 +0.1**
WDC pmax pmax
comp=Z,61nm,1.0s,mb5.5
WDC MLR MLR
comp=Z,2µm,22.0s,MS5.1
WDC Whiskeytown Da 45.51 85⇑*iP* **P 05 08 48.0 +0.1**
comp=Z,61nm,1.0s,mb5.5

WDC LR LR
comp=Z,2µm,22.0s,MS5.1
MOD Modoc 45.54 82⇓*iP* **P 05 08 48.6 +0.4**
comp=Z,112nm,1.1s,mb5.7
MOD *e*PcP PcP 05 10 26.7 0.0
MOD LR LR
comp=Z,2µm,20.0s,MS5.1
KIPM Iron Peak 45.66 86 *eP* **P 05 08 49.7 +0.6**
EGMT Eagleton 45.72 68 *eP* **P 05 08 49.4 -0.1**
comp=Z,174nm,0.9s,mb6.0
EGMT *e*PcP PcP 05 10 26.8 -0.5
EGMT LR LR
comp=Z,3µm,21.0s,MS5.1
HRY Holter Researc 45.78 71 *eP* **P 05 08 49.7 -0.3**
HRY *e*PcP PcP 05 10 27.1 -0.4
LBCM Butte Creek Ri 45.87 83 P **P 05 08 51.1 +0.3**
WVOR Wild Horse Val 45.91 80⇑*iP* **P 05 08 51.5 +0.4**
WVOR pmax pmax
comp=Z,139nm,1.3s,mb5.7
WVOR MLR MLR
comp=Z,2µm,20.0s,MS5.1
WVOR Wild Horse Val 45.91 80⇑*iP* **P 05 08 51.5 +0.4**
comp=Z,129nm,1.3s,mb5.7
WVOR LR LR
comp=Z,2µm,20.0s,MS5.0
KEV Kevo 46.07 343 *eP* **P 05 08 51.9 -0.4**
KEV MLR MLR
comp=Z,1µm,19.0s,MS4.9
LRM Limekiln Ridge 46.17 72 *eP* **P 05 08 53.5 +0.4**
KIP Kipapa 46.34 135 *eP* **P 05 08 53.7 -0.7**
KIP pmax pmax
comp=Z,70nm,0.9s,mb5.6
KIP MLR MLR
comp=Z,2µm,19.0s,MS5.0
KIP Kipapa 46.34 135 *eP* **P 05 08 53.7 -0.8**
comp=Z,70nm,0.9s,mb5.6
KIP LR LR
comp=Z,2µm,19.0s,MS5.0
XAN Xi'an 46.42 262 P **P 05 08 55.3 +0.2**
XAN PP PP 05 10 38.7 -5.3
XAN PPP 05 11 18.0
XAN S **S 05 15 36.9 -5.6**
XAN AMB AMB
comp=Z,13nm,1.4s,mb4.7
XAN AMB AMB
comp=Z,164nm,7.8s
XAN LR LR
comp=N,1µm,17.2s,MS5.4
XAN LR LR
comp=E,3µm,13.5s,MS5.4
XAN LR LR
comp=Z,3µm,14.3s,MS5.4
GTA Gaotai 46.44 274 P **P 05 08 55.1 -0.1**
GTA AP pP 05 08 59.5 +0.3
GTA XP sP 05 09 02.1 +1.3
GTA PCP PcP 05 10 30.2 +0.3
GTA PP PP 05 10 45.0 +0.8
GTA PPP 05 11 29.2
GTA SCP ScP 05 14 22.7 -0.3
GTA PCS PcS 05 14 25.0 +0.5
GTA S **S 05 15 42.9 +0.1**
GTA XS sS 05 15 50.3 +1.0
GTA SCS ScS 05 18 48.1 -2.1
GTA SS SS 05 19 01.3 -7.2
GTA AMB AMB
comp=Z,40nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,263nm,6.1s
GTA LR LR
comp=N,5µm,16.8s,MS5.7
GTA LR LR
comp=E,5µm,17.6s,MS5.7
GTA LR LR
comp=Z,6µm,16.8s,MS5.6
DLMT Dillon 46.46 73 *eP* **P 05 08 55.5 +0.1**
comp=Z,102nm,1.1s,mb5.7
DLMT *e*PcP PcP 05 10 29.8 -0.1
ARCES ARCESS Array B 46.48 343 P **P 05 08 55.1 -0.5**
comp=Z,12nm,0.9s,mb4.8,baz=26,slow=5.6,SNR=13
ARCES PcP PcP 05 10 29.1 -0.9
comp=Z,17nm,0.8s,baz=5.7,slow=3.7,SNR=9.9
ARCES LR LR 05 30 17.5
comp=Z,1µm,18.6s,MS4.9,baz=21,slow=38
ARCES ARCESS Array B 46.48 343 P **P 05 08 55.1 -0.5**
ARCES
ARCES ARCESS Array S 46.48 343 *eP* **P 05 08 55.2 -0.4**
ARE0 *e*PcP PcP 05 10 29.1
ARE0 *e*PcP PcP 05 10 29.4 -0.6
HOPS Hopland 46.50 86 PFAKE 05 09 10.0 +14
HOPS LR LR
comp=Z,2µm,20.0s,MS5.0
LVZ Lovozero 46.51 338⇑*eP* **P 05 08 55.9 +0.1**
LVZ *e* 05 10 47.4
LVZ *e*PPP 05 11 31.2
LVZ *e*S **S 05 15 42.1 -1.8**
LVZ pmax pmax
comp=Z,50nm,1.0s,mb5.4
LVZ smax
comp=N,241nm,2.7s
LVZ smax
comp=E,351nm,5.8s
LVZ MLR MLR
comp=Z,1µm,20.0s,MS4.8
LVZ MLR MLR
comp=N,445nm,16.0s,MS4.9
LVZ MLR MLR
comp=E,1µm,18.0s,MS4.9
BOZ Bozeman (W) 46.68 72 *eP* **P 05 08 57.4 +0.3**
BOZ *e* 05 10 31.1
BOZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
BOZ MLR MLR
comp=Z,2µm,19.0s,MS5.1
BOZ Bozeman (W) 46.68 72 *eP* **P 05 08 57.4 +0.2**
comp=Z,53nm,1.0s,mb5.4
BOZ *e*PcP PcP 05 10 31.1 +0.4
BOZ LR LR
comp=Z,2µm,19.0s,MS5.1
MCMT McKenzie Canyo 46.75 73 *eP* **P 05 08 57.6 -0.1**
MCMT *e*PcP PcP 05 10 30.8 -0.1
WHN Wuhan 46.80 254 P **P 05 08 59.0 +0.9**
OHCM Honcut 46.98 85 *eP* **P 05 08 59.0 -0.5**
HLID Hailey 47.01 76⇑*eP* **P 05 08 59.8 +0.1**
comp=Z,46nm,0.9s,mb5.4
HLID *e*PcP PcP 05 10 32.3 +0.4
HLID LR LR
comp=Z,1µm,20.0s,MS4.8
APA Apatity 47.03 338⇑*iP* **P 05 09 03.5 +3.6**
APA *i* 05 09 09.5
APA *i* 05 10 45.0
APA *i*S **S 05 15 52.0 +0.8**
NSHM Saint Helena R 47.10 86 *eP* **P 05 09 00.5 +0.1**
NSHM *e*PcP PcP 05 10 32.8 +0.6
LZH Lanzhou 47.16 268⇑**P P 05 09 00.5 -0.4**
LZH AP pP 05 09 06.9 +2.0
LZH XP sP 05 09 09.6 +3.1
LZH PP PP 05 10 50.1 -1.7
LZH S **S 05 15 53.0 -0.2**
LZH XS sS 05 16 03.0 +3.2
LZH SS SS 05 19 14.0 -6.3
LZH AMB AMB
comp=Z,140nm,1.2s,mb5.8
LZH AMB AMB
comp=Z,580nm,4.2s
LZH LR LR
comp=E,16µm,14.4s
LZH LR LR
comp=Z,16µm,15.9s,MS6.1
TRO Tromso 47.23 346 *eP* **P 05 09 01.0 -0.4**
TRO *e*S **S 05 15 55.7 +1.6**
TRO *e*SS SS 05 19 25.1 +3.8
TRO AMS AMS 05 34 05.9
comp=Z,347nm,21.4s,MS4.3
KTK1 Kautokeino 47.28 344 *eP* **P 05 09 01.5 -0.3**
KTK1 AMb AMB 05 09 05.8
comp=Z,117nm,1.9s,mb5.5
KTK1 Kautokeino 47.28 344 *eP* **P 05 09 01.5 -0.3**
comp=Z,117nm,1.9s,mb5.5
KURK Kurchatov 47.29 300 P **P 05 09 01.1 -0.8**
comp=Z,564nm,0.9s,SNR=77
QLMT Earthquake Lak 47.40 72 *eP* **P 05 09 03.0 +0.3**
QLMT *e*PcP PcP 05 10 33.3 +0.1
GCMT Greycliff 47.45 70 *eP* **P 05 09 03.8 +0.6**
GCMT *e*PcP PcP 05 10 33.0 -0.4
JMIC Jan Mayen 47.60 359 *eP* **P 05 09 06.5 +2.2**
JMIC AMS AMS 05 33 56.4
comp=Z,351nm,17.1s,MS4.4
PAHR Pah Rah Range 47.69 83⇑*iP* **P 05 09 05.1 +0.1**
comp=Z,87nm,1.1s,mb5.7
YMR Madison River 47.73 72 *eP* **P 05 09 05.7 +0.4**
comp=Z,118nm,1.2s,mb5.8
YMR *e*PcP PcP 05 10 32.0 -2.4
YMR LR LR
comp=Z,2µm,19.0s,MS5.0
YNR Norris Junctio 47.82 72 *eP* **P 05 09 07.1 +1.1**
YFT Old Faithful 47.96 72 *eP* **P 05 09 08.6 +1.5**
YFT *e*PcP PcP 05 10 37.0 +1.8
LKWY Lake 48.07 72 *eP* **P 05 09 10.0 +2.1**
LKWY *e* 05 10 37.3
LKWY pmax pmax
comp=Z,113nm,0.9s,mb5.9
LKWY MLR MLR
comp=Z,3µm,20.0s,MS5.3
LKWY Lake 48.07 72 *eP* **P 05 09 10.0 +2.1**
comp=Z,85nm,0.9s,mb5.8
LKWY *e*PcP PcP 05 10 37.3 +1.7
LKWY LR LR
comp=Z,3µm,20.0s,MS5.2
BMN Battle Mountai 48.14 80⇑*iP* **P 05 09 08.7 +0.2**
BMN *e* 05 10 37.8
BMN pmax pmax
comp=Z,64nm,1.2s,mb5.5
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.2
BMN Battle Mountai 48.14 80⇑*iP* **P 05 09 08.7 +0.2**
comp=Z,64nm,1.2s,mb5.5
BMN *e*PcP PcP 05 10 37.8 +1.9
BMN LR LR
comp=Z,2µm,20.0s,MS5.2
CHKZ Chkalovo 48.18 308 P **P 05 09 07.4 -1.4**
CHKZ pmax pmax
comp=Z,61nm,1.1s,mb5.5
CHKZ Chkalovo 48.18 308⇑*eP* **P 05 09 08.4 -0.4**
comp=Z,90nm,1.3s,mb5.6
SOKR Solikamsk 48.23 321⇑*iP* **P 05 09 10.1 +0.9**
SOKR S **S 05 16 09.7 +1.4**
SOKR pmax pmax
comp=Z,60nm,1.7s,mb5.3
SOKR MLR MLR
comp=Z,1µm,16.0s,MS4.9
LAO LASA Array 48.29 67⇑*iP* **P 05 09 10.1 +0.4**
comp=Z,149nm,1.0s,mb6.0
LAO *e*PcP PcP 05 10 36.7 +0.3
LAO LR LR
comp=Z,2µm,19.0s,MS5.2
FLWY Flagg Ranch 48.30 72⇑*iP* **P 05 09 10.9 +1.1**
comp=Z,252nm,1.0s,mb6.2
FLWY *e*PcP PcP 05 10 36.0 -0.5
IMW Indian Meadow 48.34 73⇑*iP* **P 05 09 11.0 +0.9**
comp=Z,84nm,1.0s,mb5.7
IMW *e*PcP PcP 05 10 37.5 +0.9
DCID1 Drake Creek 48.46 73 *eP* **P 05 09 11.7 +0.7**
SFJD Kangerlussuaq 48.47 19⇑*iP* **P 05 09 10.3 -0.7**
comp=Z,56nm,1.3s,mb5.4
SFJD *i*S **S 05 16 12.6 +0.9**
SFJD
comp=Z,740nm,17.0s
SFJD Kangerlussuaq 48.47 19⇑*iP* **P 05 09 10.3 -0.7**
SFJD *i*S **S 05 16 12.6 +0.9**
SFJD pmax pmax
comp=Z,56nm,1.3s,mb5.4
SFJD MLR MLR
comp=Z,750nm,17.0s,MS4.7
CMB Columbia Colle 48.54 85⇑*iP* **P 05 09 11.6 0.0**
CMB *e* 05 10 37.8
CMB pmax pmax
comp=Z,40nm,1.1s,mb5.4
CMB MLR MLR
comp=Z,3µm,21.0s,MS5.2
CMB Columbia Colle 48.54 85⇑*iP* **P 05 09 11.6 0.0**
comp=Z,39nm,1.1s,mb5.3
CMB *e*PcP PcP 05 10 37.8 +0.5
CMB LR LR
comp=Z,3µm,21.0s,MS5.2
MOOW Moose Ponds 48.54 73 *eP* **P 05 09 11.5 -0.1**
RRI2 Red Ridge 48.59 73 *eP* **P 05 09 12.9 +0.9**
WAKR Walker 48.62 84 *eP* **P 05 09 12.8 +0.6**
WMQ Urumqi 48.65 288 P **P 05 09 13.5 +1.1**
WMQ XP sP 05 09 21.0 +3.0
WMQ PCP PcP 05 10 39.0 +1.3
WMQ PP PP 05 11 06.0 +0.7
WMQ PPP 05 11 38.0
WMQ PCS PcS 05 14 32.0 -1.8
WMQ S **S 05 16 15.0 +0.8**
WMQ SCS ScS 05 19 03.0 -1.8
WMQ SS SS 05 19 36.0 -8.3
WMQ AMB AMB
comp=Z,53nm,1.4s,mb5.4
WMQ AMB AMB
comp=Z,378nm,3.7s
WMQ LR LR
comp=N,2µm,14.8s,MS5.4
WMQ LR LR
comp=E,2µm,18.4s,MS5.4
WMQ LR LR
comp=Z,2µm,19.6s,MS5.2
TPAW Teton Pass 48.65 73 *eP* **P 05 09 13.4 +1.0**
comp=Z,90nm,0.9s,mb5.8
TPAW *e*PcP PcP 05 10 38.1 +0.4
LOHW Long Hollow 48.71 73⇑*iP* **P 05 09 13.6 +0.6**
comp=Z,82nm,0.9s,mb5.8
POHA Pohakuloa 48.73 133 PFAKE 05 09 20.0 +6.9
POHA LR LR
comp=Z,1µm,22.0s,MS4.9
MK31 Makanchi Array 48.74 294 P **P 05 09 11.4 -1.8**
MK31 pmax pmax
comp=Z,19nm,1.0s,mb5.1
MKAR Makanchi Array 48.74 294 P **P 05 09 12.4 -0.7**
comp=Z,10nm,0.8s,mb4.9,baz=41,slow=7.4,SNR=29
SNOW Snow King Moun 48.76 73⇑*iP* **P 05 09 14.2 +0.9**
comp=Z,142nm,1.3s,mb5.8
SNOW *e*PcP PcP 05 10 38.5 +0.3
BVA0 Borovoye Array 48.77 307 P **P 05 09 12.6 -0.8**
BVA0 pmax pmax
comp=Z,11nm,0.9s,mb4.9
VOSK Vostochnaya 48.78 307 P **P 05 09 12.7 -0.7**
VOSK pmax pmax
comp=Z,34nm,0.8s,mb5.4
BRVK Borovoye 48.78 307 *eP* **P 05 09 13.5 0.0**
BRVK pmax pmax
comp=Z,59nm,1.1s,mb5.5
BRVK MLR MLR
comp=Z,282nm,19.0s,MS4.3
BRVK Borovoye 48.78 307 *eP* **P 05 09 13.5 0.0**
comp=Z,94nm,1.1s,mb5.7
BRVK LR LR
comp=Z,456nm,19.0s,MS4.5
REDW Red Top Meadow 48.80 73 *eP* **P 05 09 14.5 +0.9**
comp=Z,147nm,1.3s,mb5.8
SAO San Andreas Ge 49.05 87⇑*iP* **P 05 09 15.2 -0.3**
SAO pmax pmax
comp=Z,39nm,0.9s,mb5.4
SAO MLR MLR
comp=Z,2µm,20.0s,MS5.0
SAO San Andreas Ge 49.05 87⇑*iP* **P 05 09 15.2 -0.3**
comp=Z,39nm,0.9s,mb5.4
SAO LR LR
comp=Z,2µm,20.0s,MS5.0
AHID Auburn Hatcher 49.15 74 *eP* **P 05 09 16.1 -0.2**
comp=Z,83nm,1.6s,mb5.5
AHID LR LR
comp=Z,963nm,19.0s,MS4.8
HVU Hansel Valley 49.15 76 P **P 05 09 17.0 +0.7**
HVU pmax pmax
comp=Z,130nm,1.2s,mb5.8
HVU Hansel Valley 49.15 76⇑*iP* **P 05 09 16.8 +0.5**
comp=Z,68nm,0.9s,mb5.7
TMCR Tamitsa 49.15 334 *eP* **P 05 09 15.5 -0.8**
TMCR pmax pmax
comp=Z,50nm,1.1s,mb5.5
NVAR Mina Array Bea 49.21 83 P **P 05 09 17.2 +0.5**
comp=Z,32nm,0.9s,mb5.3,baz=312,slow=6.0,SNR=131
NVAR PcP PcP 05 10 41.2 +1.5
comp=Z,5.9nm,0.8s,baz=306,slow=1.8,SNR=5.6
SVE Sverdlovsk 49.22 316⇑*eP* **P 05 09 16.8 0.0**
SVE *e* 05 10 38.0
SVE *e*S **S 05 16 22.0 -0.3**
SVE *e* 05 19 08.0
SVE pmax pmax
comp=Z,136nm,1.8s,mb5.7
SVE MLR MLR
comp=N,3µm,13.0s,MS5.5
SVE MLR MLR
comp=E,1µm,13.0s,MS5.5
SVE MLR MLR
comp=Z,3µm,13.0s,MS5.5
ZRNK Zerenda 49.35 308 P **P 05 09 17.3 -0.5**
ZRNK pmax pmax
comp=Z,69nm,1.2s,mb5.6
ZRNK Zerenda 49.35 308 *eP* **P 05 09 17.6 -0.2**
comp=Z,57nm,1.1s,mb5.5
LRV Little Rabbit 49.53 87 *eP* **P 05 09 20.3 +1.2**
SPUT South Promonto 49.67 76⇑*iP* **P 05 09 20.0 -0.3**
SPUT *e*PcP PcP 05 10 40.9 -0.6
BGU Big Grassy Mou 49.71 77⇑*iP* **P 05 09 20.7 +0.1**
QZH Quanzhou 49.72 246 *eP* **P 05 09 21.7 +1.1**
QZH S **S 05 16 23.0 -6.2**
QZH LR LR
comp=N,3µm,13.3s,MS5.6
QZH LR LR
comp=E,3µm,13.0s,MS5.6
QZH LR LR
comp=Z,4µm,13.2s,MS5.6
HWUT Hardware Ranch 49.85 75⇑*iP* **P 05 09 21.9 +0.3**
comp=Z,158nm,1.2s,mb5.9
HWUT *e*PcP PcP 05 10 42.4 +0.3
HWUT LR LR
comp=Z,2µm,19.0s,MS5.1
BW06 Boulder Array 49.85 72⇑*iP* **P 05 09 21.9 +0.2**
comp=Z,114nm,1.0s,mb5.9
BW06 *e*PcP PcP 05 10 41.6 -0.5
BW06 LR LR
comp=Z,1µm,19.0s,MS5.0
PDAR Pinedale Array 49.85 72 P **P 05 09 21.9 +0.3**
comp=Z,72nm,0.9s,mb5.7,baz=329,slow=2.7,SNR=305
PDAR PcP PcP 05 10 41.6 -0.5
comp=Z,7.8nm,0.8s,baz=81,slow=1.3,SNR=8.4
PDAR LR LR 05 30 28.0
comp=Z,1µm,19.3s,MS4.9,baz=163,slow=36
ULM Lac du Bonnet 49.86 57 P **P 05 09 21.2 -0.5**
comp=Z,120nm,0.9s,mb5.9,baz=320,slow=8.1,SNR=79
ULM PcP PcP 05 10 41.4 -0.7
comp=Z,24nm,0.9s,baz=295,slow=4.5,SNR=4.0
ULM LR LR 05 32 49.5
comp=Z,1µm,18.3s,MS4.9,baz=139,slow=39
ULM Lac du Bonnet 49.86 57 *eP* **P 05 09 21.2 -0.5**
comp=Z,144nm,1.0s,mb6.0
ULM *e*PcP PcP 05 10 41.3 -0.8
ULM LR LR
comp=Z,2µm,19.0s,MS5.0
MTUM Tungsten Hills 49.95 84 *eP* **P 05 09 23.1 +0.7**
MTUM *e*PcP PcP 05 10 43.4 +1.0
TPH Tonopah 50.01 82⇑*iP* **P 05 09 22.9 +0.1**
TPH *e* 05 10 42.5
TPH pmax pmax
comp=Z,108nm,1.0s,mb5.8
TPH MLR MLR
comp=Z,2µm,19.0s,MS5.0
TPH Tonopah 50.01 82⇑*iP* **P 05 09 22.9 +0.1**
comp=Z,108nm,1.0s,mb5.8
TPH *e*PcP PcP 05 10 42.5 -0.1
TPH LR LR
comp=Z,2µm,19.0s,MS5.0
ARU Arti 50.22 317 P **P 05 09 24.4 0.0**
comp=Z,207nm,1.1s,mb6.1,SNR=5.1
ARU Arti 50.22 317*e iP* **P 05 09 24.5 +0.1**
ARU pmax pmax
comp=Z,87nm,1.7s,mb5.5
ARU MLR MLR
comp=Z,2µm,19.0s,MS5.1
ARU Arti 50.22 317 *eP* **P 05 09 23.9 -0.5**
ARU LR LR
comp=Z,437nm,19.0s,MS4.5
NOQ North Oquirrh 50.34 76 *eP* **P 05 09 25.4 0.0**
comp=Z,80nm,0.9s,mb5.8
DUG Dugway 50.39 77⇑*iP* **P 05 09 25.9 +0.2**
DUG pmax pmax
comp=Z,110nm,1.2s,mb5.8
DUG MLR MLR
comp=Z,1µm,19.0s,MS5.0
DUG Dugway 50.39 77⇑*iP* **P 05 09 25.9 +0.3**
comp=Z,110nm,1.2s,mb5.8
DUG LR LR
comp=Z,1µm,19.0s,MS5.0
CTU Camp Tracy 50.48 76 *eP* **P 05 09 26.4 0.0**
CTU *e*PcP PcP 05 10 44.5 +0.1
PTRM Twissleman Ran 50.53 87 *eP* **P 05 09 27.2 +0.4**
PTRM *e*PcP PcP 05 10 45.4 +0.7
TRCR Troy Canyon 50.56 81 *eP* **P 05 09 26.9 -0.1**
NLU North Lily Min 50.92 77⇑*iP* **P 05 09 30.2 +0.5**
GUMO Guam 50.98 210 LR LR 05 32 39.4
comp=Z,769nm,18.1s,MS4.8,baz=53,slow=38
MPU Maple Canyon 51.08 76 *eP* **P 05 09 31.5 +0.6**
comp=Z,56nm,0.9s,mb5.5
MPU LR LR
comp=Z,2µm,22.0s,MS5.1
RSSD Black Hills 51.26 67⇑*iP* **P 05 09 32.4 +0.2**
RSSD *e* 05 10 47.2
RSSD pmax pmax
comp=Z,122nm,1.1s,mb5.7
RSSD MLR MLR
comp=Z,3µm,20.0s,MS5.2
RSSD Black Hills 51.26 67⇑*iP* **P 05 09 32.4 +0.1**
comp=Z,110nm,1.1s,mb5.7
RSSD *e*PcP PcP 05 10 47.2 -0.1
RSSD LR LR
comp=Z,2µm,20.0s,MS5.2
DAC Darwin (Calif) 51.28 84⇑*iP* **P 05 09 32.8 +0.4**
DAC *e* 05 10 47.5
DAC pmax pmax
comp=Z,122nm,1.5s,mb5.6
DAC MLR MLR
comp=Z,2µm,20.0s,MS5.0
DAC Darwin (Calif) 51.28 84⇑*iP* **P 05 09 32.8 +0.4**
comp=Z,122nm,1.5s,mb5.6
DAC *e*PcP PcP 05 10 47.5 +0.1
DAC LR LR
comp=Z,2µm,20.0s,MS5.0
ISA Isabella 51.35 85⇑*iP* **P 05 09 32.6 -0.4**
comp=Z,20nm,0.9s,mb5.0
ISA LR LR
comp=Z,2µm,20.0s,MS5.1
CD2 Chengdu 51.45 264 P **P 05 09 32.8 -0.9**
CD2 AP pP 05 09 36.4 -1.3
CD2 XP sP 05 09 39.7 +0.4
CD2 PCP PcP 05 10 47.5 -0.5
CD2 PP PP 05 11 30.7 -0.2
CD2 PPP 05 12 31.8
CD2 PCS PcS 05 14 43.8 -2.0
CD2 S **S 05 16 50.3 -3.0**
CD2 XS sS 05 16 59.2 -0.7
CD2 SCS ScS 05 19 19.6 -4.3
CD2 SS SS 05 20 22.8 -6.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,90nm,6.4s
CD2 LR LR
comp=E,3µm,13.8s
CD2 LR LR
comp=Z,1µm,10.8s,MS5.2
JOF Joensuu 51.62 337 *ep* **P 05 09 33.3 -1.6**
comp=Z,27nm,0.9s,mb5.2
RWWY Rawlins 51.77 72⇑*iP* **P 05 09 36.0 0.0**
RWWY *e*PcP PcP 05 10 49.0 -0.2
TMUT Trail Mountain 51.85 76⇑*eP* **P 05 09 37.5 +0.8**
ARUT Antelope Range 52.02 79 *eP* **P 05 09 38.2 +0.3**
MSU Marysvale 52.03 78 *eP* **P 05 09 39.2 +1.2**
MSU *e* 05 10 51.0
SHPR Sheep Range 52.24 82 *eP* **P 05 09 40.0 +0.4**
CCUT Cedar City 52.24 80⇑*iP* **P 05 09 40.3 +0.7**
SRU San Rafael 52.31 76 *eP* **P 05 09 41.0 +0.9**
GSC Goldstone 52.44 84 *eP* **P 05 09 41.4 +0.4**
comp=Z,98nm,0.9s,mb5.7
MWC Mount Wilson 52.72 86 *eP* **P 05 09 44.2 +1.0**
SNCC San Nicolas Is 52.82 88 PFAKE 05 09 50.0 +6.1
SNCC LR LR
comp=Z,1µm,22.0s,MS5.0
PHWY Pilot Hill 52.87 70⇑*iP* **P 05 09 44.0 -0.2**
PHWY *e*PcP PcP 05 10 53.6 +0.2
KAF Kangasniemi 53.26 339 *ep* **P 05 09 45.2 -1.9**
comp=Z,30nm,0.9s,mb5.2,baz=19,slow=7.0
KAF Kangasniemi 53.26 339 *eP* **P 05 09 45.2 -1.9**
KAF pmax pmax
comp=Z,31nm,0.9s,mb5.2
EYMN Ely 53.43 56⇑*iP* **P 05 09 47.9 -0.6**
comp=Z,163nm,1.0s,mb5.9

EYMN LR LR
comp=Z,1µm,19.0s,MS5.0
PV10 Paradox Valley 53.59 75 *eP* **P 05 09 50.9 +1.3**
BORG Borgarnes 53.67 5 *eP* **P 05 09 50.3 +0.2**
comp=Z,41nm,1.0s,mb5.3
BORG LR LR
comp=Z,251nm,20.0s,MS4.3
GYA Guiyang 53.82 259⇑ *iP* **P 05 09 50.0 -1.2**
GYA AP pP 05 10 01.4 +6.1
GYA XP sP 05 10 04.8 +8.0
GYA PCP PcP 05 10 53.2 -3.7
GYA PP PP 05 11 53.6 +1.3
GYA PPP 05 13 04.8
GYA S **S 05 17 25.1 -0.6**
GYA PS 05 17 40.9
GYA SS SS 05 21 08.1 +1.5
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.6
GYA AMB AMB
comp=Z,340nm,7.8s
GYA LR LR
comp=N,2µm,16.7s,MS5.2
GYA LR LR
comp=E,480nm,14.6s,MS5.2
GYA LR LR
comp=Z,2µm,15.8s,MS5.2
SMCO Snowmass 53.89 73⇑ *iP* **P 05 09 52.4 +0.6**
comp=Z,35nm,0.8s,mb5.3
SMCO *e*PcP PcP 05 10 57.4 +0.2
FIA1 FINESS Array S 53.92 339 *eP* **P 05 09 50.9 -1.2**
FINES FINESS Array B 53.93 339 P **P 05 09 51.1 -0.9**
comp=Z,9.7nm,0.8s,mb4.8,baz=28,slow=7.9,SNR=42
FINES LR LR 05 35 07.4
comp=Z,836nm,19.5s,MS4.8,baz=178,slow=38
FINES FINESS Array B 53.93 339 *i* P **P 05 09 51.0 -1.0**
FINES pmax pmax
comp=Z,10.0nm,0.9s
PFO Pinyon Flat Ob 53.99 85 P **P 05 09 52.0 -0.5**
comp=Z,289nm,1.0s,mb6.2,SNR=7.4
PFO Pinyon Flat Ob 53.99 85⇑ *iP* **P 05 09 52.1 -0.4**
PFO pmax pmax
comp=Z,70nm,1.1s,mb5.5
PFO MLR MLR
comp=Z,638nm,20.0s,MS4.7
PFO Pinyon Flat Ob 53.99 85⇑ *iP* **P 05 09 52.1 -0.3**
comp=Z,69nm,1.1s,mb5.5
PFO LR LR
comp=Z,628nm,20.0s,MS4.7
PV01 Paradox Valley 54.00 75 *eP* **P 05 09 53.0 +0.4**
ISCO Idaho Springs 54.01 72⇑ *iP* **P 05 09 53.5 +0.9**
ISCO *e* 05 10 58.1
ISCO pmax pmax
comp=Z,37nm,0.9s,mb5.3
ISCO MLR MLR
comp=Z,3µm,19.0s,MS5.4
ISCO Idaho Springs 54.01 72⇑ *iP* **P 05 09 53.5 +0.9**
comp=Z,34nm,0.9s,mb5.3
ISCO *e*PcP PcP 05 10 58.1 +0.4
ISCO LR LR
comp=Z,2µm,19.0s,MS5.3
PECR Pechory 54.61 326 *eP* **P 05 09 58.0 +1.0**
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.8
PECR pmax pmax
comp=Z,300nm,3.4s
PECR MLR MLR
comp=Z,2µm,18.0s,MS5.1
BAR Barrett 54.65 86 *eP* **P 05 09 57.7 +0.4**
PUL Pulkovo 54.70 336⇓ *eP* **P 05 09 57.9 +0.2**
PUL *eS* **S 05 17 35.1 -2.5**
PUL pmax pmax
comp=Z,64nm,0.7s,mb5.8
PUL pmax pmax
comp=N,43nm,0.5s
PUL pmax pmax
comp=E,57nm,0.6s
PUL MLR MLR
comp=Z,854nm,14.0s,MS5.0
PUL MLR MLR
comp=N,952nm,18.0s
PUL Pulkovo 54.70 336⇑ *eP* **P 05 09 58.2 +0.5**
TKM2 Tokmak 2 54.71 296 P **P 05 09 58.6 +0.8**
SNR=26
TKM2 Tokmak 2 54.71 296 P **P 05 09 56.1 -1.6**
TKM2 pmax pmax
comp=Z,90nm,1.6s,mb5.5
TKM2 Tokmak 2 54.71 296 *i* P **P 05 09 56.2 -1.5**
ECSD EROS,Sioux Fal 54.77 62⇑ *iP* **P 05 09 57.5 -0.7**
comp=Z,168nm,1.4s,mb5.9
WUAZ Wupatki 54.83 79⇑ *iP* **P 05 09 59.5 +0.9**
comp=Z,105nm,0.9s,mb5.9
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.1
USP Ospenovka 54.90 297 P **P 05 10 00.1 +1.0**
SNR=29
ULHL Ulahol 54.98 295 P **P 05 10 00.6 +0.9**
SNR=15
CHMS Chumysh 55.01 297 P **P 05 10 00.9 +1.0**
SNR=17
FRU Bishkek 55.20 297 *i* P **P 05 10 02.0 +0.7**
FRU *e* 05 21 28.0
FRU pmax pmax
comp=Z,180nm,1.4s,mb5.9
KBK Karagaybulak 55.20 296 P **P 05 10 02.4 +1.1**
SNR=9.1
GLA Glamis 55.22 84⇑ *iP* **P 05 10 02.0 +0.6**
comp=Z,159nm,1.0s,mb6.0
AKTK Aktyubinsk 55.37 313 *i* P **P 05 10 02.1 -0.4**
AKTO Aktyubinsk 55.37 313 P **P 05 10 02.0 -0.5**
AKTO pmax pmax
comp=Z,13nm,1.5s,mb4.7
AAK Ala-Archa 55.41 297 P **P 05 10 03.6 +0.8**
SNR=17
AAK Ala-Archa 55.41 297 P **P 05 10 02.3 -0.5**
comp=Z,191nm,1.2s,mb6.0,SNR=12
AAK Ala-Archa 55.41 297 *eP* **P 05 10 02.2 -0.6**
AAK *e* 05 12 05.5
AAK pmax pmax
comp=Z,36nm,1.0s,mb5.4
AAK MLR MLR
comp=Z,643nm,19.0s,MS4.7
AAK Ala-Archa 55.41 297 *eP* **P 05 10 02.2 -0.6**
comp=Z,36nm,1.0s,mb5.4
AAK *e*PP PP 05 12 05.5 -1.2
AAK LR LR
comp=Z,643nm,19.0s,MS4.7
KZA Kyzart 55.54 296 P **P 05 10 04.8 +1.0**
SNR=18
AB31 Akbulak array 55.68 311 *i* P **P 05 10 04.4 -0.3**
EKS2 Erkin-Say 55.70 297 P **P 05 10 05.3 +0.4**
SNR=37
UCH Uchtor 55.74 296 P **P 05 10 08.5 +3.4**
SNR=13
SCHQ Schefferville 55.91 35 P **P 05 10 05.2 -1.2**
comp=Z,35nm,1.0s,mb5.4,baz=343,slow=5.9,SNR=25
SCHQ PcP PcP 05 11 04.5 -0.5
comp=Z,16nm,0.9s,baz=331,slow=4.0,SNR=4.4
SCHQ LR LR 05 37 05.5
comp=Z,494nm,18.4s,MS4.6,baz=349,slow=39
SCHQ Schefferville 55.91 35 *eP* **P 05 10 05.1 -1.2**
comp=Z,78nm,1.1s,mb5.7
SCHQ *e*PcP PcP 05 11 04.5 -0.4
SCHQ LR LR
comp=Z,890nm,20.0s,MS4.8
AML Almayashu 56.17 297 P **P 05 10 09.8 +1.6**
SNR=23
NB2 NORSAR Subarra 56.40 347 P **P 05 10 09.2 -0.6**
comp=Z,28nm,1.0s,mb5.2,baz=13,slow=7.4
NOA NORSAR Array B 56.40 347 P **P 05 10 09.2 -0.7**
comp=Z,14nm,0.9s,mb5.0,baz=12,slow=7.2,SNR=16
NOA PcP PcP 05 11 06.0 -0.8
comp=Z,12nm,0.9s,baz=15,slow=2.8,SNR=11
NOA LR LR 05 36 46.9
comp=Z,333nm,19.8s,MS4.4,baz=10.0,slow=39
NOA NORSAR Array B 56.40 347 P **P 05 10 09.2 -0.6**
NOA 05 11 06.0
VSU Vasula 56.60 337 *eP* **P 05 10 11.7 +0.4**
NAO01 NORSAR Array S 56.62 347 *eP* **P 05 10 10.6 -0.9**
comp=Z,11nm,1.0s,mb4.8
KK31 Karatay Array 56.70 300 *i* P **P 05 10 11.8 -0.2**
KKAR Karatay Array 56.70 300 *i* P **P 05 10 11.8 -0.2**
KKAR pmax pmax
comp=Z,117nm,1.3s,mb5.8
MOS Moscow 56.78 329 *eP* **P 05 10 11.2 -1.4**
MOS *e* 05 12 25.4
MOS *eS* **S 05 18 00.8 -4.6**
MOS pmax pmax
comp=Z,300nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,115nm,1.6s,mb5.7
MOS MLR MLR
comp=E,1µm,17.5s
MOS MLR MLR
comp=Z,2µm,17.5s,MS5.3
MOS Moscow 56.78 329 *eP* **P 05 10 12.1 -0.5**
KMI Kunming 56.80 261 P **P 05 10 12.2 -0.5**
KMI AP pP 05 10 18.4 +1.6
KMI XP sP 05 10 20.4 +2.1
KMI PP PP 05 12 21.0 +2.0
KMI PPP 05 13 36.8
KMI S **S 05 18 04.6 -1.0**
KMI XS sS 05 18 14.1 +1.9
KMI SS SS 05 21 52.0 -1.5
KMI SSS 05 24 05.3
KMI AMB AMB
comp=Z,49nm,1.0s,mb5.5
KMI AMB AMB
comp=Z,284nm,4.2s
KMI LR LR
comp=N,2µm,13.4s,MS5.7
KMI LR LR
comp=E,3µm,14.5s,MS5.7
KMI LR LR
comp=Z,1µm,16.5s,MS5.2
HFS Hagfors 57.00 345 LR LR 05 33 23.8
comp=Z,624nm,21.4s,MS4.7,baz=152,slow=35
KSH Kashi 57.33 293 *eP* **P 05 10 19.0 +2.5**
KSH *e*AP pP 05 10 23.1 +2.6
KSH *e*XP sP 05 10 26.3 +4.2
KSH *e*PCP PcP 05 11 12.0 +1.5
KSH *e*PP PP 05 12 28.1 +4.4
KSH *e*PPP 05 13 40.2
KSH *e*SCP ScP 05 15 10.1 +0.1
KSH *e*PCS PcS 05 15 12.0 +0.4
KSH *e*S **S 05 18 13.7 +1.1**
KSH *e*XS sS 05 18 21.1 +1.8
KSH *e*PS 05 18 27.2
KSH *e*SCS ScS 05 20 04.1 -1.6
KSH AMB AMB
comp=Z,140nm,1.4s,mb5.8
KSH LR LR
comp=N,4µm,7.4s
KSH LR LR
comp=E,10µm,10.6s
KSH LR LR
comp=Z,4µm,7.5s
ANMO Albuquerque 57.58 76*c iP* **P 05 10 18.9 +0.7**
ANMO Albuquerque 57.58 76⇑ *iP* **P 05 10 19.0 +0.7**
comp=Z,60nm,1.0s,mb5.6
ANMO *e*PcP PcP 05 11 11.4 -0.1
ANMO LR LR
comp=Z,1µm,21.0s,MS4.9
OBN Obninsk 57.61 330*c iP* **P 05 10 18.2 -0.2**
OBN *e**PP pP 05 10 19.8 -2.7
OBN *e* 05 11 11.7
OBN *e* 05 13 44.6
OBN *e*S **S 05 18 20.7 +4.5**
OBN *e*SS SS 05 22 08.2 +2.0
OBN pmax pmax
comp=Z,200nm,1.9s,mb5.8
OBN pmax pmax
comp=Z,115nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,2µm,20.0s,MS5.2
OBN Obninsk 57.61 330 *eP* **P 05 10 18.1 -0.3**
comp=Z,156nm,1.5s,mb5.8
OBN LR LR
comp=Z,321nm,19.0s,MS4.5
SCIA State Center 57.69 61 *eP* **P 05 10 18.5 -0.5**
comp=Z,284nm,0.9s,mb6.3
LAZ Ladron 57.72 77 *eP* **P 05 10 20.4 +1.2**
TUC Tucson 57.74 81⇑ *iP* **P 05 10 20.2 +0.8**
comp=Z,66nm,1.1s,mb5.6
TUC LR LR
comp=Z,847nm,19.0s,MS4.9
KONO Kongsberg 57.93 348 *eP* **P 05 10 20.9 +0.2**
KONO *eS* **S 05 18 21.3 +0.9**
KONO Kongsberg 57.93 348⇑ *eP* **P 05 10 20.0 -0.7**
KONO LR LR
comp=Z,801nm,19.0s,MS4.8
LENM Lemitar 57.99 77 *eP* **P 05 10 22.4 +1.3**
LPM Los Pinos Moun 58.03 76 *eP* **P 05 10 22.1 +0.7**
JFWS Jewell Farm 58.07 58 *eP* **P 05 10 20.7 -1.0**
JFWS Jewell Farm 58.07 58⇑ *iP* **P 05 10 20.4 -1.3**
comp=Z,30nm,0.5s,mb5.6
JFWS LR LR
comp=Z,2µm,22.0s,MS5.1
LSA Lhasa 58.46 275 P **P 05 10 25.4 +1.0**
LSA S **S 05 18 21.2 -6.2**
LSA LR LR
comp=N,2µm,19.0s,MS5.6
LSA LR LR
comp=E,4µm,16.8s,MS5.6
LSA LR LR
comp=Z,4µm,12.4s,MS5.8
LSA Lhasa 58.46 275 *eP* **P 05 10 25.6 +1.2**
LSA pmax pmax
comp=Z,79nm,1.1s,mb5.7
LSA MLR MLR
comp=Z,2µm,21.0s,MS5.3
LSA Lhasa 58.46 275 *eP* **P 05 10 25.6 +1.2**
comp=Z,79nm,1.1s,mb5.7
LSA LR LR
comp=Z,2µm,21.0s,MS5.3
KSU1 Kansas State U 58.57 65 *eP* **P 05 10 24.3 -0.9**
comp=Z,190nm,0.9s,mb6.1
QIZ Qiongzhong 58.77 251 P **P 05 10 25.8 -0.7**
QIZ PCP PcP 05 11 15.4 -0.8
QIZ S **S 05 18 24.6 -6.7**
QIZ SS SS 05 22 27.3 +2.9
QIZ AMB AMB
comp=Z,222nm,5.8s
QIZ LR LR
comp=E,2µm,16.8s
QIZ LR LR
comp=Z,2µm,13.5s,MS5.4
QIZ Qiongzhong 58.77 251 PFAKE 05 10 40.0 +13
QIZ LR LR
comp=Z,1µm,20.0s,MS5.0
MNK Minsk 60.11 335 *eP* **P 05 10 32.0 -3.8**
MNK pmax pmax
comp=Z,400nm,2.0s,mb6.1
VRSR Storozhevoye 60.48 326 *eP* **P 05 10 38.1 -0.3**
VRSR pmax pmax
comp=N,100nm,1.0s
VRSR pmax pmax
comp=Z,90nm,1.0s,mb5.8
VRSR pmax pmax
comp=E,40nm,1.1s
VRSR MLR MLR
comp=N,510nm,17.0s
VRSR MLR MLR
comp=Z,1µm,17.0s,MS5.1
MNTX Cornudas Mount 60.78 77⇑ *iP* **P 05 10 41.0 +0.6**
comp=Z,107nm,0.9s,mb6.0
MNTX LR LR
comp=Z,1µm,20.0s,MS5.1
GDL2 Guadalupe Moun 60.83 76 *eP* **P 05 10 41.4 +0.6**
MUD Monsted U'grnd 61.12 347 *i* P **P 05 10 43.4 +0.7**
comp=Z,30nm,1.2s,mb5.3
MUD LR LR
comp=Z,510nm,16.0s
MUD Monsted U'grnd 61.12 347 *i* P **P 05 10 43.4 +0.7**
MUD pmax pmax
comp=Z,30nm,1.2s,mb5.3
MUD MLR MLR
comp=Z,510nm,16.0s,MS4.8
AAM Ann Arbor 61.20 54 *eP* **P 05 10 41.9 -1.3**
AAM pmax pmax
comp=Z,126nm,1.2s,mb5.9
AAM MLR MLR
comp=Z,1µm,19.0s,MS5.0
AAM Ann Arbor 61.20 54 *eP* **P 05 10 41.9 -1.3**
comp=Z,126nm,1.2s,mb5.9
AAM LR LR
comp=Z,1µm,19.0s,MS5.0
WMOK Wichita Mounta 61.25 70⇑ *iP* **P 05 10 43.4 -0.2**
WMOK *e* 05 11 25.9
WMOK pmax pmax
comp=Z,133nm,1.0s,mb6.0
WMOK MLR MLR
comp=Z,1µm,19.0s,MS5.1
WMOK Wichita Mounta 61.25 70⇑ *iP* **P 05 10 43.4 -0.2**
comp=Z,133nm,1.0s,mb6.0
WMOK *e*PcP PcP 05 11 25.9 -0.2
WMOK LR LR
comp=Z,1µm,19.0s,MS5.1
IMP Imphal 61.27 269 *eP* **P 05 10 43.0 -0.7**
SUW Suwalki 61.47 338 *eP* **P 05 10 45.7 +0.6**
SUW *e*pP pP 05 10 47.7 -1.5
SUW L 05 35 17.4
comp=Z,0.9nm,26.1s
SUW Suwalki 61.47 338 *eP* **P 05 10 45.7 +0.6**
SUW *e*pP pP 05 10 47.7 -1.5
COP Copenhagen 61.49 345 *i* P **P 05 10 46.3 +1.1**
COP
comp=Z,410nm,18.0s
COP Copenhagen 61.49 345 *eP* **P 05 10 46.3 +1.1**
COP LR LR
comp=Z,410nm,18.0s,MS4.6
SHL Shillong 61.59 271 *eP* **P 05 10 44.0 -1.9**
SHL *ex* x 05 19 04.5
SLM Saint Louis 61.67 61 *eP* **P 05 10 45.3 -1.1**
SLM pmax pmax
comp=Z,69nm,0.9s,mb5.8
SLM Saint Louis 61.67 61 *eP* **P 05 10 45.3 -1.2**
comp=Z,69nm,0.9s,mb5.8
BSD Bornholm Skovb 61.73 343 *i* P **P 05 10 44.9 -1.9**
BSD *eS* **S 05 19 16.9 +7.5**
BSD
comp=Z,470nm,18.0s
BSD Bornholm Skovb 61.73 343 *i* P **P 05 10 44.9 -1.9**
BSD *eS* **S 05 19 16.9 +7.5**
MSNY Massena 62.07 46 *eP* **P 05 10 47.4 -1.7**
FVM French Village 62.15 61⇑ *iP* **P 05 10 48.6 -1.0**
FVM pmax pmax
comp=Z,123nm,0.9s,mb6.0
FVM French Village 62.15 61⇑ *iP* **P 05 10 48.6 -1.1**
comp=Z,135nm,0.9s,mb6.1
GUN Gumba 62.46 278 *eP* **P 05 10 51.3 -0.4**
comp=Z,326nm,0.9s
LONY Lake Ozonia 62.49 46 *eP* **P 05 10 50.1 -1.9**
comp=Z,57nm,1.1s,mb5.6
JIRN Jiri 62.52 278 *eP* **P 05 10 52.1 -0.1**
comp=Z,352nm,1.4s,mb6.3
FRNY Flat Rock 62.64 45 *eP* **P 05 10 51.4 -1.6**
comp=Z,29nm,1.0s,mb5.4
BLO Bloomington 62.74 58 *eP* **P 05 10 52.0 -1.6**
BLO pmax pmax
comp=Z,64nm,0.9s,mb5.8
BLO Bloomington 62.74 58 *eP* **P 05 10 52.0 -1.6**
comp=Z,64nm,0.9s,mb5.8
ERPA Erie 62.74 51 *eP* **P 05 10 52.3 -1.3**
comp=Z,43nm,0.7s,mb5.7
ERPA LR LR
comp=Z,744nm,22.0s,MS4.8
KKN Kakani 62.84 278 *eP* **P 05 10 53.8 -0.5**
comp=Z,67nm,0.7s,mb5.9
SIUC Southern Illin 62.88 61 *eP* **P 05 10 53.5 -1.1**
GKN Gorkha 62.97 279 *eP* **P 05 10 54.5 -0.6**
comp=Z,378nm,1.2s,mb6.4
PKI Pulchoki 62.97 278 *eP* **P 05 10 54.5 -0.6**
comp=Z,114nm,1.1s,mb5.9
ALLY Alegheny Colle 63.09 52 *eP* **P 05 10 55.0 -1.0**
comp=Z,138nm,1.1s,mb6.0
ESK Eskdalemuir 63.17 355 *eP* **P 05 10 56.0 -0.5**
ESK pmax pmax
comp=Z,16nm,0.8s,mb5.2
ESK MLR MLR
comp=Z,95nm,20.0s,MS4.0
ESK Eskdalemuir 63.17 355 *eP* **P 05 10 56.0 -0.5**
comp=Z,16nm,0.8s,mb5.2
ESK LR LR
comp=Z,95nm,20.0s,MS4.0
NANT Nan 63.18 260⇑ P **P 05 10 53.0 -3.5**
comp=Z,388nm,1.0s
NCB Newcomb 63.19 46 *eP* **P 05 10 55.3 -1.3**
comp=Z,24nm,0.9s,mb5.3
NCB *e*PcP PcP 05 11 33.5 -0.5
NCB LR LR
comp=Z,938nm,19.0s,MS5.0
ACSO Alum Creek Sta 63.23 54⇑ *iP* **P 05 10 55.3 -1.6**
comp=Z,123nm,1.3s,mb5.9
ACSO LR LR
comp=Z,1µm,21.0s,MS5.0
USIN University of 63.30 59 *eP* **P 05 10 55.9 -1.4**
comp=Z,52nm,0.6s,mb5.8
AKASG Malin Array Be 63.39 332 P **P 05 10 57.3 -0.6**
comp=Z,55nm,0.9s,mb5.7,baz=22,slow=6.3,SNR=84
AKASG LR LR 05 43 17.2
comp=Z,645nm,18.7s,MS4.8,baz=30,slow=40
AKASG Malin Array Be 63.39 332 *i* P **P 05 10 57.2 -0.7**
AKASG pmax pmax
comp=Z,55nm,0.9s
AKBB Malin Array Si 63.39 332 *eP* **P 05 10 57.0 -0.9**
NIL Nilore 63.43 292 P **P 05 11 00.6 +2.4**
comp=Z,106nm,1.7s,mb5.7,SNR=5.4
NIL Nilore 63.43 292 P **P 05 11 00.3 +2.1**
BSEG Bad Segeberg 63.47 346 *eP* **P 05 10 58.5 +0.1**
comp=Z,20nm,1.1s,mb5.2
BSEG *e*PcP PcP 05 11 34.4 -0.7
BSEG *eS* **S 05 19 34.1 +2.9**
PARMO Parma 63.55 62 *eP* **P 05 10 58.0 -1.0**
PARMO *e*PcP PcP 05 11 34.6 -0.8
WCI Wyandotte Cave 63.64 58 *eP* **P 05 10 58.4 -1.2**
WCI pmax pmax
comp=Z,51nm,0.8s,mb5.6
WCI MLR MLR
comp=Z,1µm,20.0s,MS5.1
WCI Wyandotte Cave 63.64 58 *eP* **P 05 10 58.4 -1.2**
comp=Z,52nm,0.8s,mb5.6
WCI LR LR
comp=Z,1µm,20.0s,MS5.1
KOLN Koldanda 63.65 280 *eP* **P 05 10 59.2 -0.4**
comp=Z,279nm,1.2s,mb6.2
MIAR Mount Ida 63.71 66⇑ *iP* **P 05 10 59.4 -0.7**
MIAR pmax pmax
comp=Z,74nm,1.0s,mb5.7
MIAR MLR MLR
comp=Z,2µm,19.0s,MS5.3
MIAR Mount Ida 63.71 66⇑ *iP* **P 05 10 59.4 -0.6**
comp=Z,74nm,1.0s,mb5.7
MIAR LR LR
comp=Z,2µm,19.0s,MS5.3
LBNH Lisbon 63.73 44 *eP* **P 05 10 59.8 -0.3**
LBNH pmax pmax
comp=Z,78nm,1.0s,mb5.7
LBNH MLR MLR
comp=Z,1µm,20.0s,MS5.0
LBNH Lisbon 63.73 44 *eP* **P 05 10 59.8 -0.4**
comp=Z,78nm,1.0s,mb5.7
LBNH LR LR
comp=Z,898nm,20.0s,MS5.0
SMLA Simla 63.80 287 *eP* **P 05 10 59.9 -0.7**
SMLA AMb AMB 05 11 04.4
comp=Z,94nm,1.5s,mb5.6
ACCN Adirondack Com 63.90 46 *eP* **P 05 10 60.0 -1.3**
comp=Z,17nm,0.7s,mb5.2
ACCN *e*PcP PcP 05 11 36.1 -0.8
CHG Chiang Mai 63.99 261 P **P 05 11 01.7 -0.2**
comp=Z,32nm,0.9s,mb5.3
CHTO Chiang Mai 63.99 261 P **P 05 11 01.7 -0.3**
SNR=18
CHTO Chiang Mai 63.99 261 *eP* **P 05 11 01.3 -0.6**
CHTO pmax pmax
comp=Z,45nm,1.3s,mb5.3
CHTO MLR MLR
comp=Z,739nm,20.0s,MS4.9
CHTO Chiang Mai 63.99 261 *eP* **P 05 11 01.3 -0.6**
comp=Z,46nm,1.3s,mb5.3
CHTO LR LR
comp=Z,751nm,20.0s,MS4.9
UALR University of 64.05 65⇑ *iP* **P 05 11 01.2 -1.1**
comp=Z,33nm,0.8s,mb5.4
GLAT Glass 64.08 61 *eP* **P 05 11 01.6 -0.8**
HNH Hanover 64.08 45 *eP* **P 05 11 02.5 +0.1**
comp=Z,79nm,1.0s,mb5.7
HBAR Harrisburg 64.11 63 *eP* **P 05 11 01.9 -0.7**
BINY Binghamton 64.13 48 PFAKE 05 11 10.0 +7.2
BINY LR LR
comp=Z,1µm,21.0s,MS5.0
WVL Waterville 64.18 43 *eP* **P 05 11 03.1 0.0**
UTMT University of 64.19 61 *eP* **P 05 11 02.3 -0.9**
CM31 Chiang Mai Arr 64.30 261 PFAKE 05 11 10.0 +6.1
CM31 LR LR
comp=Z,935nm,19.0s,MS5.0
KKTK Khon Kaen 64.33 256 P **P 05 11 05.0 +0.9**

comp=Z,309nm,0.8s,mb6.4
HALT Halls 64.36 62 *e*P **P 05 11 03.6 -0.8**
JCT Junction City 64.38 73⇑*i*P **P 05 11 04.1 -0.3**
JCT pmax pmax
comp=Z,117nm,0.8s,mb6.0
JCT MLR MLR
comp=Z,1μm,20.0s,MS5.2
JCT Junction City 64.38 73⇑*i*P **P 05 11 04.1 -0.3**
comp=Z,117nm,0.8s,mb6.0
JCT LR LR
comp=Z,1μm,20.0s,MS5.2
FFD Franklin Falls 64.50 44 *e*P **P 05 11 04.8 -0.4**
comp=Z,97nm,1.2s,mb5.7
EMMW East Machias 64.75 41 *e*P **P 05 11 06.5 -0.4**
comp=Z,51nm,1.1s,mb5.5
WVT Waverly 64.81 60⇑*i*P **P 05 11 06.3 -0.9**
WVT pmax pmax
comp=Z,135nm,1.0s,mb5.9
WVT MLR MLR
comp=Z,2μm,19.0s,MS5.3
WVT Waverly 64.81 60⇑*i*P **P 05 11 06.3 -0.9**
comp=Z,135nm,1.0s,mb5.9
WVT LR LR
comp=Z,2μm,19.0s,MS5.3
SSPA Standing Stone 64.81 50 *e*P **P 05 11 05.7 -1.6**
comp=Z,39nm,0.9s,mb5.4
SSPA LR LR
comp=Z,705nm,21.0s,MS4.8
LPIG La Paz 64.86 86 P **P 05 11 08.3 +0.7**
comp=Z,59nm,0.9s,mb5.6,baz=315,slow=0.3,SNR=13
NRDL Niedersach Rie 64.91 346 *e*P **P 05 11 08.7 +0.8**
comp=Z,25nm,1.3s,mb5.1
NRDL *e*S **S 05 19 48.5 -0.5**
MCWV Mont Chateau 64.93 52 PFAKE 05 11 20.0 +12
MCWV LR LR
comp=Z,2μm,19.0s,MS5.3
DCN Croghan 65.28 357 *e*P **P 05 11 09.0 -1.3**
DLF Lyons Farm 65.31 357 *e*P **P 05 11 09.4 -1.1**
IBBN Ibbenburen 65.35 347 *e*P **P 05 11 10.8 0.0**
comp=Z,90nm,1.5s,mb5.6
IBBN *e*S S 05 19 56.1 +1.6
HRV Harvard--Oak R 65.39 45 *e*P **P 05 11 10.3 -0.7**
HRV pmax pmax
comp=Z,50nm,1.0s,mb5.5
HRV MLR MLR
comp=Z,853nm,19.0s,MS5.0
HRV Harvard--Oak R 65.39 45 *e*P **P 05 11 10.3 -0.7**
comp=Z,50nm,1.0s,mb5.5
HRV LR LR
comp=Z,853nm,19.0s,MS5.0
MAK Makhachkala 65.43 316 *e*P **P 05 11 09.6 -1.7**
MAK *e* 05 11 37.5
MAK *e*S S 05 19 49.9 -5.6
MAK pmax pmax
comp=Z,167nm,1.3s,mb5.9
WES Weston 65.58 45 *e*P **P 05 11 12.0 -0.2**
WES pmax pmax
comp=Z,97nm,1.0s,mb5.8
WES MLR MLR
comp=Z,943nm,20.0s,MS5.0
WES Weston 65.58 45 *e*P **P 05 11 12.0 -0.2**
comp=Z,117nm,1.0s,mb5.9
WES LR LR
comp=Z,943nm,20.0s,MS5.0
NATX Nacogdoches 65.60 68 *e*P **P 05 11 12.4 0.0**
comp=Z,94nm,0.9s,mb5.8
NATX LR LR
comp=Z,1μm,19.0s,MS5.2
KSP Ksiaz 65.68 341 *e*P **P 05 11 12.4 -0.5**
KSP *e*S S 05 19 58.0 -0.5
KSP MLR MLR
comp=Z,1μm,21.6s,MS5.1
PLAL Pickwick Lake 65.69 61⇑*i*P **P 05 11 11.4 -1.5**
comp=Z,65nm,0.8s,mb5.7
PLAL LR LR
comp=Z,1μm,19.0s,MS5.1
CLL Collm 65.70 344 *e*P **P 05 11 12.2 -0.8**
comp=Z,40nm,1.2s,mb5.3
CLL *e*S S 05 19 55.2 -3.6
CLL Collm 65.70 344⇓*i*P **P 05 11 13.4 +0.4**
comp=Z,39nm,1.2s,mb5.3
CLL *i* pP pP 05 11 15.3 -1.9
CLL *i* PcP PcP 05 11 44.9 +0.6
CLL *e*PP PP 05 13 39.0 +1.4
CLL *e*S S 05 19 58.0 -0.8
CLL *e*PS 05 20 24.0
CLL *e*ScS ScS 05 21 08.0 -0.6
CLL *e*SS SS 05 23 48.0 -25
CLL *e*SSS 05 27 28.0
CLL Collm 65.70 344⇓*i*P **P 05 11 13.4 +0.4**
CLL *i* *PP pP 05 11 15.3 -1.9
CLL *i* 05 11 44.9
CLL *e*S S 05 19 58.0 -0.8
CLL *e* 05 21 08.0
CLL pmax pmax
comp=Z,39nm,1.2s,mb5.3
CLL MLR MLR
comp=Z,700nm,11.9s,MS5.1
CLL Collm 65.70 344⇓*i*P **P 05 11 13.4 +0.4**
comp=Z,39nm,1.2s,mb5.3
CLL *i* pP pP 05 11 15.3 -1.9
CLL *i* PcP PcP 05 11 44.9 +0.6
CLL *e*S S 05 19 58.0 -0.8
CLL *e*ScS ScS 05 21 08.0 -0.6
CLL LR LR
comp=Z,700nm,11.9s,MS5.1
OJC Ojcow 65.71 339 *e*P **P 05 11 12.9 -0.2**
OJC *e*S S 05 19 58.7 -0.2
OJC *e*SS SS 05 24 11.5 -1.6
OJC L 05 43 10.9
comp=Z,6.9nm,17.9s
KWP Kalwaria 65.74 336 *e*P **P 05 11 13.7 +0.4**
KWP *e*pP pP 05 11 15.3 -2.1
KWP L 05 39 42.5
comp=Z,1.0nm,25.9s
KWP Kalwaria 65.74 336 P **P 05 11 13.9 +0.6**
KWP pmax pmax
comp=Z,230nm,1.0s,mb6.2
KWP Kalwaria 65.74 336 *e*P **P 05 11 13.7 +0.4**
KWP *e*pP pP 05 11 15.3 -2.1
WTSB Winterswijk 65.79 348 *e*P **P 05 11 13.9 +0.3**
comp=Z,34nm,1.3s,mb5.2
NDI New Delhi 65.84 286 *e*P **P 05 11 12.6 -1.4**
PAL Palisades 65.91 47 *e*P **P 05 11 13.3 -1.1**
PAL pmax pmax
comp=Z,72nm,1.0s,mb5.7
PAL Palisades 65.91 47 *e*P **P 05 11 13.2 -1.1**
comp=Z,85nm,1.0s,mb5.7
MVL Millersville 65.93 50 *e*P **P 05 11 13.3 -1.2**
comp=Z,20nm,0.9s,mb5.1
BOK Bokaro 65.94 276 *e*P **P 05 11 15.5 +0.9**
BOK AMb AMB 05 11 18.2
comp=Z,68nm,1.8s,mb5.4
BRG Berggiesshubel 66.00 343 *e*P **P 05 11 14.3 -0.6**
comp=Z,39nm,1.7s,mb5.2
BRG *e*PcP PcP 05 11 44.1 -1.4
BRG *e*S S 05 20 01.4 -1.0
BRG Berggiesshubel 66.00 343 *e*P **P 05 11 14.9 0.0**
comp=Z,8.4nm,1.0s,mb4.7
BRG *i* 05 11 45.1
comp=Z,13nm,1.3s
BRG PP PP 05 13 39.0 -1.2
BRG S S 05 20 04.0 +1.6
BRG
comp=N,491nm,17.0s
BRG
comp=E,420nm,12.3s
BRG
comp=Z,492nm,13.9s
BRG Berggiesshubel 66.00 343 *e*P **P 05 11 14.9 0.0**
BRG *i* 05 11 45.1
BRG 05 13 39.0
BRG S S 05 20 04.0 +1.6
BRG Berggiesshubel 66.00 343 *e*P **P 05 11 14.9 0.0**
comp=Z,8.4nm,1.0s,mb4.7
BRG *i* 05 11 45.1
BRG PP PP 05 13 39.0 -1.2
BRG S S 05 20 04.0 +1.6
BRG LR LR
comp=Z,490nm,13.9s,MS4.9
FBE Freiberg 66.03 343 *e*P **P 05 11 14.7 -0.5**
comp=Z,48nm,1.3s,mb5.4
FBE *e*PcP PcP 05 11 43.2 -2.5
UPC Upice 66.05 341 *e*P **P 05 11 15.8 +0.5**
ABKT Ailbek 66.06 306 P **P 05 11 17.0 +1.7**
comp=Z,192nm,0.7s,mb6.2,SNR=5.6
ABKT Ailbek 66.06 306 P **P 05 11 17.3 +1.9**
KIV Kislovodsk 66.07 320*c*P **P 05 11 16.7 +1.3**
KIV *e**PP pP 05 11 20.4 +0.9
KIV *e* 05 11 44.1
KIV *i*S S 05 20 09.6 +6.3
KIV *e*PS 05 20 31.0
KIV pmax pmax
comp=Z,100nm,1.6s,mb5.6
KIV pmax pmax
comp=Z,68nm,1.7s,mb5.4
KIV MLR MLR
comp=Z,700nm,16.0s,MS5.0
KIV Kislovodsk 66.07 320 *e*P **P 05 11 16.1 +0.7**
comp=Z,47nm,0.8s,mb5.6
KIV LR LR
comp=Z,218nm,19.0s,MS4.4
CPNY Central Park 66.08 48 *e*P **P 05 11 14.6 -0.9**
DPC Dobruska-Polom 66.15 341 *e*P **P 05 11 16.2 +0.3**
DPC AMS AMS 05 44 40.0
comp=Z,1μm,17.9s
STHS Stebnicka Huta 66.22 337 *e*P **P 05 11 17.1 +0.7**
STHS pmax pmax
comp=Z,31nm,0.9s,mb5.3
PVCC Panska Ves 66.24 342 *e*P **P 05 11 18.6 +2.1**
BUG Bochum--Univer 66.26 347 *e*P **P 05 11 16.6 0.0**
comp=Z,57nm,1.7s,mb5.3
BUG *e*S S 05 20 05.2 -0.4
OKC Ostrava-Krasne 66.36 340 *e*P **P 05 11 18.4 +1.1**
OKC AMS AMS 05 44 50.0
comp=Z,900nm,16.8s
FWV Forest Hill 66.37 54 *e*P **P 05 11 15.9 -1.4**
SWET Sewanee 66.38 59⇑*i*P **P 05 11 15.8 -1.5**
NIE Niedzica 66.39 338 *e*P **P 05 11 19.0 +1.6**
KOLS Kolonicke sedl 66.49 337 *e*P **P 05 11 18.2 +0.1**
KOLS *e* 05 11 37.8
MORC Moravsky Berou 66.52 340⇑*i*P **P 05 11 18.0 -0.3**
MORC Moravsky Berou 66.52 340 *e*P **P 05 11 17.8 -0.4**
comp=Z,53nm,1.5s,mb5.3
MOX Moxa 66.54 344 *e*P **P 05 11 18.0 -0.4**
comp=Z,29nm,1.2s,mb5.2
MOX *e*S S 05 20 08.4 -0.5
MOX Moxa 66.54 344 *e*P **P 05 11 18.0 -0.4**
comp=Z,43nm,1.5s,mb5.3
MOX *e*S S 05 20 12.0 +3.1
MOX LR LR
comp=Z,800nm,16.0s,MS5.0
UBBA Unterbreizbach 66.57 345 *e*P **P 05 11 18.1 -0.5**
comp=Z,45nm,1.8s,mb5.2
UBBA *e*S S 05 20 09.0 -0.3
HKT Hockley 66.62 70⇑*i*P **P 05 11 18.7 -0.2**
HKT pmax pmax
comp=Z,123nm,1.7s,mb5.7
HKT MLR MLR
comp=Z,2μm,21.0s,MS5.3
HKT Hockley 66.62 70⇑*i*P **P 05 11 18.7 -0.3**
comp=Z,123nm,1.7s,mb5.7
HKT LR LR
comp=Z,2μm,21.0s,MS5.3
WERD Werda 66.64 344 *e*P **P 05 11 18.8 -0.2**
comp=Z,38nm,1.1s,mb5.3
WERD *e*PcP PcP 05 11 46.0 -2.2
TANN Tannenbergstha 66.65 344 *e*P **P 05 11 18.9 -0.2**
comp=Z,40nm,1.4s,mb5.3
TANN *e*S S 05 20 07.8 -2.5
CRVS Cervenica-Dubn 66.68 337 *e*P **P 05 11 20.5 +1.2**
CRVS *e* 05 11 37.5
ELN Prospectdale 66.70 54 *e*P **P 05 11 17.9 -1.6**
GUNZ Gunzen 66.72 344 *e*P **P 05 11 19.5 0.0**
comp=Z,44nm,1.4s,mb5.3
CPCT Cooper Cave 66.75 58 *e*P **P 05 11 18.5 -1.3**
CPCT *e*PcP PcP 05 11 48.3 -0.4
ZEI Tsey 66.77 319 *e*P **P 05 11 20.1 +0.2**
ZEI *e**PP pP 05 11 23.5 -0.5
ZEI *e* 05 11 47.9
ZEI pmax pmax
comp=Z,28nm,1.0s,mb5.2
PRU Pruhonice 66.77 342 *e*P **P 05 11 20.4 +0.5**
PRU AMS AMS 05 44 20.0
comp=Z,1μm,17.7s
UZH Uzhgorod 66.78 336 *e*P **P 05 11 19.3 -0.7**
UZH *i* 05 11 20.8
UZH *i* pP 05 11 23.5 -0.6
UZH *e*S S 05 20 11.5 -0.4
UZH MLR MLR
comp=Z,1μm,16.0s,MS5.2
WERN Wernitzgruen 66.79 344 *e*P **P 05 11 19.9 -0.1**
comp=Z,61nm,1.6s,mb5.4
ANN Anapa 66.83 324 *e*P **P 05 11 18.5 -1.8**
ANN *e*S S 05 20 11.7 -0.8
ANN pmax pmax
comp=Z,72nm,1.3s,mb5.5
ANN MLR MLR
comp=Z,668nm,19.0s,MS4.9
NKC Novy Kostel 66.83 344 *e*P **P 05 11 20.2 -0.1**
BLA Blacksburg 66.84 54 *e*P **P 05 11 19.0 -1.4**
BLA pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BLA MLR MLR
comp=Z,77nm,20.0s
BLA Blacksburg 66.84 54 *e*P **P 05 11 19.0 -1.3**
comp=Z,68nm,0.9s,mb5.7
BLA LR LR
comp=Z,1μm,20.0s,MS5.0
KIS Kishinev 66.96 331 *e*P **P 05 11 20.0 -1.1**
KIS *e* 05 11 44.0
KIS *e* 05 13 58.0
KIS *e* 05 20 34.0
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.5
KIS MLR MLR
comp=N,1μm,14.0s,MS5.4
KIS MLR MLR
comp=E,1μm,13.0s,MS5.4
KIS MLR MLR
comp=Z,2μm,16.0s
HGN Heimansgroeve 67.06 348⇑*e*P **P 05 11 21.1 -0.7**
comp=Z,34nm,2.4s,mb4.9
HGN *e*S S 05 20 20.7 +5.4
MANZ Manzenberg 67.12 344 *e*P **P 05 11 21.8 -0.3**
comp=Z,26nm,1.3s,mb5.1
MANZ *e*S S 05 20 14.7 -1.2
VRAC Vranov 67.12 341 LR LR 05 46 07.4
comp=Z,1μm,18.3s,MS5.2,baz=132,slow=41
VRAC Vranov 67.12 341⇑*i*P **P 05 11 22.2 +0.1**
VRAC Vranov 67.12 341 P **P 05 11 22.7 +0.5**
CBN Corbin 67.13 51 *e*P **P 05 11 21.1 -1.1**
comp=Z,56nm,0.9s,mb5.6
CBN LR LR
comp=Z,948nm,20.0s,MS5.0
BURAR Bucovina Array 67.17 334⇑*i*P **P 05 11 22.5 +0.1**
BURAR Bucovina Array 67.17 334⇑P **P 05 11 22.4 0.0**
MEM Membach 67.21 348 P **P 05 11 22.4 -0.3**
MYNC Murphy 67.23 58 PFAKE 05 11 30.0 +7.2
MYNC LR LR
comp=Z,988nm,19.0s,MS5.0
KECS Kecovo 67.26 338 *e*P **P 05 11 23.0 0.0**
KECS pmax pmax
comp=Z,19nm,1.1s,mb5.0
TREC Trest 67.31 341 *e*P **P 05 11 23.5 +0.2**
ROTZ Rotzenmuhle 67.32 344 *e*P **P 05 11 23.4 0.0**
comp=Z,41nm,1.5s,mb5.2
ROTZ *e*S S 05 20 17.3 -1.1
TNS Taunus Mts 67.33 346 *e*P **P 05 11 23.3 -0.2**
comp=Z,17nm,1.2s,mb5.0
TNS *e*S S 05 20 19.1 +0.5
TNS Taunus Mts 67.33 346 *e*P **P 05 11 23.3 -0.2**
TNS *e*S S 05 20 19.1 +0.5
TNS pmax pmax
comp=Z,17nm,1.2s,mb5.0
BCLA Clavier 67.46 349 P **P 05 11 25.0 +0.7**
SNF Seneffe 67.47 349 P **P 05 11 25.0 +0.7**
GRA1 Grafenberg Arr 67.52 344 *e*P **P 05 11 24.7 0.0**
comp=Z,34nm,1.1s,mb5.3
GRA1 *e*S S 05 20 19.9 -0.9
GRA1 LR LR
comp=Z,400nm,20.3s,MS4.6
GRF Grafenberg Arr 67.52 344 *e*P **P 05 11 24.7 0.0**
comp=Z,34nm,1.1s,mb5.3
GRF *e*S S 05 20 19.9 -0.9
GRF *e*L 05 46 55.2
comp=Z,431nm,20.3s
GRF Grafenberg Arr 67.52 344 *e*P **P 05 11 24.7 0.0**
GRF *e*S S 05 20 19.9 -0.9
GRF pmax pmax
comp=Z,34nm,1.1s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.6
SIM Simferopol' 67.58 327 *e*P **P 05 11 26.8 +1.7**
SIM *e*S S 05 20 23.7 +2.1
SIM pmax pmax
comp=Z,35nm,1.2s,mb5.3
SIM MLR MLR
comp=Z,2μm,16.9s,MS5.3
KKM Kota Kinabalu 67.60 239 *e*P **P 05 11 25.5 +0.4**
KHC Kasperske Hory 67.75 343 *e*P **P 05 11 26.2 +0.1**
KHC *ex* x 05 11 46.4
KHC *e*PCP PcP 05 11 54.4 +1.6
KHC AMS AMS 05 46 40.0
comp=Z,1μm,15.9s
KHC Kasperske Hory 67.75 343⇑*e*P **P 05 11 26.0 -0.1**
KHC Kasperske Hory 67.75 343 *e*P **P 05 11 26.2 +0.1**
KHC *e*PcP PcP 05 11 46.4 -6.4
KHC *e* 05 11 54.4
LRAL Lakeview Retre 67.82 62 *e*P **P 05 11 24.8 -1.8**
comp=Z,63nm,0.9s,mb5.7
LRAL LR LR
comp=Z,2μm,19.0s,MS5.3
GIVF Givet 67.82 349 *e*P **P 05 11 25.6 -1.0**
WET Wettzell 67.84 343 *e*P **P 05 11 26.6 0.0**
comp=Z,48nm,1.3s,mb5.4
WET *e*S S 05 20 24.6 0.0
WET Wettzell 67.84 343 *e*P **P 05 11 26.6 0.0**
WET *e*S S 05 20 24.6 0.0
WET pmax pmax
comp=Z,48nm,1.3s,mb5.4
DOU Dourbes 67.85 349 P **P 05 11 26.1 -0.7**
TOD Tromm 67.90 346 *e*P **P 05 11 26.9 -0.1**
PSZ Piszkesteto 67.91 338‖*e*P **P 05 11 29.0 +1.9**
PSZ Piszkesteto 67.91 338⇑*i*P **P 05 11 27.8 +0.7**
PSZ Piszkesteto 67.91 338 *e*P **P 05 11 27.4 +0.3**
PSZ pmax pmax
comp=Z,75nm,1.3s,mb5.6
PSZ Piszkesteto 67.91 338 *e*P **P 05 11 27.4 +0.3**
comp=Z,75nm,1.3s,mb5.6
BAIF Baives 67.92 349 *e*P **P 05 11 26.5 -0.7**
comp=Z,46nm,1.2s,mb5.1
BAIF Baives 67.92 349 *e*P **P 05 11 26.5 -0.7**
BAIF pmax pmax
comp=Z,23nm,1.2s,mb5.1
BAIF Baives 67.92 349 *e*P **P 05 11 26.5 -0.7**
comp=Z,23nm,1.2s,mb5.1
GEC2 GERESS Array S 68.01 342 *e*P **P 05 11 27.3 -0.4**
comp=Z,27nm,1.2s,mb5.2
GEC2 *e*PcP PcP 05 11 54.6 +0.7
GEC2 *e*S S 05 20 24.0 -2.7
GEC2 GERESS Array S 68.01 342 *e*P **P 05 11 27.4 -0.4**
GEC2 *e* 05 11 54.6
GEC2 *e*S S 05 20 24.0 -2.7
GEC2 pmax pmax
comp=Z,27nm,1.2s,mb5.2
GERES GERESS Array B 68.01 342 P **P 05 11 27.4 -0.3**
comp=Z,7.3nm,0.9s,mb4.7,baz=22,slow=4.3,SNR=34
GERES LR LR 05 45 07.8
comp=Z,927nm,19.5s,MS5.0,baz=12,slow=39
ZST Bratislava 68.12 340 *e*P **P 05 11 29.0 +0.6**
ZST *e*PP PP 05 14 00.2 +1.5
ZST Bratislava 68.12 340 *e*P **P 05 11 29.0 +0.6**
ZST pmax pmax
comp=Z,32nm,1.0s,mb5.3
WLF Walferdange 68.13 348 *e*P **P 05 11 28.3 -0.2**
comp=Z,40nm,1.5s,mb5.2
WLF *e*S S 05 20 30.0 +1.9
WLF Walferdange 68.13 348 P **P 05 11 29.4 +0.9**
DRGR 68.46 336⇑*i*P **P 05 11 30.6 0.0**
DRGR 68.46 336⇑P **P 05 11 30.7 +0.1**
DRGR 68.46 336 P **P 05 11 30.9 +0.3**
BUD Budapest 68.48 338‖*e*P **P 05 11 32.4 +1.7**
VRI Vrincioaia 68.50 332‖*i*P **P 05 11 32.6 +1.8**
VRI Vrincioaia 68.50 332 P **P 05 11 32.6 +1.8**
CONA Conrad Observa 68.58 341⇑*i*P **P 05 11 31.7 +0.4**
SNR=13
LANF Langenberg 68.63 347 *e*P **P 05 11 32.1 +0.5**
STU Stuttgart 68.68 346 *e*P **P 05 11 28.9 -3.0**
SOP Sopron 68.71 340⇑*e*P **P 05 11 33.9 +1.8**
GNI Garni 68.87 317 LR LR 05 46 27.5
comp=Z,1μm,20.1s,MS5.1,baz=11,slow=40
GNI Garni 68.87 317 *e*P **P 05 11 34.5 +1.4**
GNI pmax pmax
comp=Z,105nm,1.4s
GNI MLR MLR
comp=Z,1μm,19.0s
GNI Garni 68.87 317 *e*P **P 05 11 34.5 +1.4**
comp=Z,106nm,1.4s,mb5.6
GNI LR LR
comp=Z,1μm,19.0s,MS5.1
MOA Molln 68.90 342⇑*i*P **P 05 11 32.6 -0.7**
comp=Z,433nm,4.6s,SNR=11
AJM Ajmer 68.91 287 *e*P **P 05 11 32.0 -1.3**
AJM AMb AMB 05 11 36.9
comp=Z,47nm,1.5s,mb5.2
MLR Muntele Rosu 69.03 333⇓*i*P **P 05 11 35.1 +1.0**
MLR Muntele Rosu 69.03 333 P **P 05 11 36.1 +1.9**
JSC Jenkinsville 69.08 56 *e*P **P 05 11 33.2 -1.2**
BFO Black Forest 69.21 346 *e*P **P 05 11 34.6 -0.6**
comp=Z,19nm,1.2s,mb4.9
BFO *e*PcP PcP 05 11 56.1 -2.9
BFO Black Forest 69.21 346 *e*P **P 05 11 34.6 -0.6**
BFO *e* 05 11 56.1
BFO pmax pmax
comp=Z,19nm,1.2s,mb4.9
WLS Welschbruch 69.24 347 *e*P **P 05 11 35.3 -0.1**
CDF Champ du Feu 69.25 347 *e*P **P 05 11 34.6 -0.9**
comp=Z,38nm,1.4s,mb4.8
CDF Champ du Feu 69.25 347 *e*P **P 05 11 34.6 -0.9**
CDF pmax pmax
comp=Z,19nm,1.4s,mb4.8
CDF Champ du Feu 69.25 347 *e*P **P 05 11 34.6 -0.9**
comp=Z,19nm,1.4s,mb4.8
SNX Sinaia 69.25 333⇑*i*P **P 05 11 37.4 +1.9**
VOIR 69.28 333⇑*i*P **P 05 11 36.6 +1.0**
ARSA Arzberg 69.29 341⇑*i*P **P 05 11 35.9 +0.2**
comp=Z,150nm,2.4s,mb5.5,SNR=11
TIRR Tirgusor 69.45 331⇑*i*P **P 05 11 37.1 +0.4**
TIRR Tirgusor 69.45 331 *e*P **P 05 11 37.1 +0.3**
comp=Z,74nm,1.0s,mb5.6
ECH Echery 69.46 347 *e*P **P 05 11 36.6 -0.1**
THEF They Montfort 69.57 348 *e*P **P 05 11 36.9 -0.5**
FLN La Foliniere 69.57 352 *e*P **P 05 11 36.0 -1.4**
comp=Z,58nm,1.2s,mb5.1
FLN *e*R
comp=Z,510nm,21.0s
FLN La Foliniere 69.57 352 *e*P **P 05 11 36.0 -1.4**
FLN pmax pmax
comp=Z,29nm,1.2s,mb5.1
FLN MLR MLR
comp=Z,510nm,21.0s,MS4.7
FLN La Foliniere 69.57 352 *e*P **P 05 11 36.0 -1.4**
comp=Z,29nm,1.2s,mb5.1
FLN LR LR
comp=Z,510nm,21.0s,MS4.7
FELD Feldberg im Sc 69.70 346 *e*P **P 05 11 37.7 -0.5**
LDF La Druitiere 69.71 352 *e*P **P 05 11 36.8 -1.5**
comp=Z,77nm,1.5s,mb5.1
LDF La Druitiere 69.71 352 *e*P **P 05 11 36.8 -1.5**
LDF pmax pmax
comp=Z,39nm,1.5s,mb5.1
LDF La Druitiere 69.71 352 *e*P **P 05 11 36.8 -1.5**
comp=Z,39nm,1.5s,mb5.1
HAU Haudompre 69.75 347 *e*P **P 05 11 37.7 -0.9**
comp=Z,61nm,1.3s,mb5.1
HAU *e*R
comp=Z,753nm,19.8s
HAU Haudompre 69.75 347 *e*P **P 05 11 37.7 -0.9**
HAU pmax pmax
comp=Z,30nm,1.3s,mb5.1
HAU MLR MLR
comp=Z,750nm,19.8s,MS4.9
HAU Haudompre 69.75 347 *e*P **P 05 11 37.7 -0.9**
comp=Z,30nm,1.3s,mb5.1
HAU LR LR
comp=Z,750nm,19.8s,MS4.9
PKSM Moragy 69.78 338⇑*i*P **P 05 11 38.9 +0.1**
PKSM Moragy 69.78 338 P **P 05 11 38.7 -0.1**
WATA Walderalm 69.79 344⇑*i*P **P 05 11 39.5 +0.7**
comp=Z,20nm,1.1s,mb5.0
WATA Walderalm 69.79 344⇑*i*P **P 05 11 39.5 +0.7**
WATA pmax pmax
comp=Z,21nm,1.1s,mb5.0
GZR Gura Zlata 69.79 335⇓*i*P **P 05 11 39.2 +0.4**

GZR **Gura Zlata** 69.79 335 P P 05 11 39.3 +0.5
KBA **Koelnbreinsper** 69.79 342⇑ *i*P P 05 11 39.4 +0.6
comp=Z,158nm,1.8s,mb5.6,SNR=11
KBA **Koelnbreinsper** 69.79 342⇑ *i*P P 05 11 39.4 +0.6
KBA pmax pmax
comp=Z,158nm,1.8s,mb5.6
BZS **Buzias** 69.80 336⇑ *i*P P 05 11 38.8 -0.1
BZS **Buzias** 69.80 336 P P 05 11 39.1 +0.3
MOF **Molkenrain** 69.82 347 *e*P P 05 11 38.4 -0.6
MOTA **Moosalm** 69.84 344⇑ *i*P P 05 11 38.9 -0.3
comp=Z,19nm,1.1s,mb4.9
MOTA **Moosalm** 69.84 344⇑ *i*P P 05 11 38.9 -0.2
MOTA pmax pmax
comp=Z,19nm,1.1s,mb4.9
WTTA **Wattenberg** 69.85 344⇑ *i*P P 05 11 39.3 +0.2
comp=Z,127nm,1.9s,mb5.5,SNR=7.8
WTTA **Wattenberg** 69.85 344⇑ *i*P P 05 11 39.3 +0.1
WTTA pmax pmax
comp=Z,127nm,1.9s,mb5.5
HINF **Hinteralfeld** 69.88 347 *e*P P 05 11 38.2 -1.2
comp=Z,27nm,1.2s,mb4.8
HINF **Hinteralfeld** 69.88 347 *e*P P 05 11 38.2 -1.2
HINF pmax pmax
comp=Z,14nm,1.2s,mb4.8
HINF **Hinteralfeld** 69.88 347 *e*P P 05 11 38.2 -1.2
comp=Z,14nm,1.2s,mb4.8
SQTA **Sankt Quirin** 69.95 344⇑ *i*P P 05 11 39.9 +0.2
comp=Z,27nm,1.1s,mb5.1
SQTA **Sankt Quirin** 69.95 344⇑ *i*P P 05 11 39.9 +0.1
SQTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
PERS **Pernice** 69.95 341 *i*P P 05 11 39.8 0.0
PERS *e*PP PP 05 14 17.9 +3.4
PERS *e*S S 05 20 51.9 +2.1
KOGS **Kog** 69.96 340 *e*P P 05 11 39.7 -0.2
GRR **Gorron** 69.97 353 *e*P P 05 11 38.6 -1.3
comp=Z,40nm,1.2s,mb4.9
GRR **Gorron** 69.97 353 *e*P P 05 11 38.6 -1.3
GRR pmax pmax
comp=Z,20nm,1.2s,mb4.9
GRR **Gorron** 69.97 353 *e*P P 05 11 38.6 -1.3
comp=Z,20nm,1.2s,mb4.9
DAVA **Damuels** 70.05 345⇓ *i*P P 05 11 40.2 -0.2
comp=Z,200nm,3.7s
ROSF **Rostrenen** 70.15 354 *e*P P 05 11 39.9 -1.1
comp=Z,30nm,1.2s,mb4.8
ROSF **Rostrenen** 70.15 354 *e*P P 05 11 39.9 -1.1
ROSF pmax pmax
comp=Z,15nm,1.2s,mb4.8
ROSF **Rostrenen** 70.15 354 *e*P P 05 11 39.9 -1.1
comp=Z,15nm,1.2s,mb4.8
BBS **Basel-Blauen** 70.16 347 *e*P P 05 11 41.2 +0.1
GRSN **GIRESUNGRSN** 70.16 322 *i*P P 05 11 40.9 -0.1
ERZM **Erzurum** 70.16 319 *i*P P 05 11 43.9 +2.8
OBKA **Obir** 70.17 341⇑ *i*P P 05 11 41.5 +0.4
comp=Z,154nm,1.4s,mb5.8,SNR=22
SGMF **Saint Gilles** 70.20 354 *e*P P 05 11 40.1 -1.2
comp=Z,53nm,1.6s,mb4.9
SGMF **Saint Gilles** 70.20 354 *e*P P 05 11 40.1 -1.2
SGMF pmax pmax
comp=Z,27nm,1.6s,mb4.9
SGMF **Saint Gilles** 70.20 354 *e*P P 05 11 40.1 -1.2
comp=Z,27nm,1.6s,mb4.9
LOMF **Lomont** 70.35 347 *e*P P 05 11 42.0 -0.2
BHPL **Bhopal** 70.40 283 *e*P P 05 11 41.8 -0.8
BHPL AMb AMB 05 11 45.6
comp=Z,124nm,1.3s,mb5.7
PTCC **Patocco-Chiusa** 70.45 342 P P 05 11 42.6 -0.2
comp=Z,25nm,1.1s,mb5.1
QUIF **Quistinic** 70.56 354 *e*P P 05 11 42.3 -1.2
comp=Z,32nm,1.2s,mb4.8
QUIF **Quistinic** 70.56 354 *e*P P 05 11 42.3 -1.2
QUIF pmax pmax
comp=Z,16nm,1.2s,mb4.8
QUIF **Quistinic** 70.56 354 *e*P P 05 11 42.3 -1.2
comp=Z,16nm,1.2s,mb4.8
CADS **Cadrg** 70.56 342 *e*P P 05 11 42.7 -0.9
KELT **Kelkit** 70.58 321 *i*P P 05 11 45.2 +1.6
GMNA **Gemona** 70.59 342 P P 05 11 43.6 -0.1
comp=Z,157nm,0.9s,mb5.9
BOYT **Boyabat** 70.66 325 *i*P P 05 11 45.4 +1.3
CRES **Cresnjev** 70.69 340 *e*P P 05 11 44.4 +0.1
LOR **Lormes** 70.72 349 *e*P P 05 11 43.5 -1.0
comp=Z,113nm,1.4s,mb5.3
LOR *e*R
comp=Z,573nm,18.5s
LOR **Lormes** 70.72 349 *e*P P 05 11 43.5 -1.0
LOR pmax pmax
comp=Z,56nm,1.4s,mb5.3
LOR MLR MLR
comp=Z,570nm,18.5s,MS4.9
LOR **Lormes** 70.72 349 *e*P P 05 11 43.5 -1.0
comp=Z,56nm,1.4s,mb5.3
LOR LR LR
comp=Z,570nm,18.5s,MS4.9
VOY **Vojsko** 70.73 342 *e*P P 05 11 44.1 -0.5
BEO **Belgrade** 70.79 337 *i*P P 05 11 44.3 -0.7
PRD **Provadia** 70.88 331 *e*P P 05 11 47.0 +1.5
ZIMR 70.91 333 P P 05 11 45.7 +0.1
BALT **Daday** 70.96 326 *i*P P 05 11 48.3 +2.3
BOJS **Bojanci** 71.04 341 *i*P P 05 11 46.0 -0.4
BOJS *e*S S 05 21 02.9 +0.6
BOJS *e* 05 21 50.6
BNGL **BINGOL** 71.10 319 *i*P P 05 11 51.8 +5.0
SVIS **Svilajnac** 71.15 336 *i*P P 05 11 46.6 -0.5
CABF **La Chapelle** 71.16 347 *e*P P 05 11 46.5 -0.6
comp=Z,104nm,1.5s,mb5.2
CABF **La Chapelle** 71.16 347 *e*P P 05 11 46.5 -0.6
CABF pmax pmax
comp=Z,52nm,1.5s,mb5.2
CABF **La Chapelle** 71.16 347 *e*P P 05 11 46.5 -0.6
comp=Z,52nm,1.5s,mb5.2
HNR **Honiara** 71.21 189 LR LR 05 37 25.4
comp=Z,609nm,21.4s,MS4.8,baz=359,slow=31
HNR **Honiara** 71.21 189 PFAKE 05 12 00.0 +13
HNR LR LR
comp=Z,858nm,22.0s,MS5.0
AVF **Avril sur Loir** 71.24 349 *e*P P 05 11 46.7 -1.0
comp=Z,69nm,1.3s,mb5.1
AVF **Avril sur Loir** 71.24 349 *e*P P 05 11 46.7 -1.0
AVF pmax pmax
comp=Z,35nm,1.3s,mb5.1
AVF **Avril sur Loir** 71.24 349 *e*P P 05 11 46.7 -1.0
comp=Z,35nm,1.3s,mb5.1
PVL **Pavlikeni** 71.33 333 *e*P P 05 11 49.7 +1.5
SMF **Signal de Mont** 71.34 349 *e*P P 05 11 47.1 -1.2
comp=Z,50nm,1.3s,mb5.0
SMF **Signal de Mont** 71.34 349 *e*P P 05 11 47.1 -1.2
SMF pmax pmax
comp=Z,25nm,1.3s,mb5.0
SMF **Signal de Mont** 71.34 349 *e*P P 05 11 47.1 -1.2
comp=Z,25nm,1.3s,mb5.0
CTKT **Corum** 71.43 325 *i*P P 05 11 49.9 +1.1
NGP **Nagpur** 71.43 280 *ex* x 05 11 43.8
NGP AMb AMB 05 11 48.8
comp=Z,88nm,1.4s,mb5.5
BGF **Bois d'Agland** 71.52 350 *e*P P 05 11 48.3 -1.0
comp=Z,33nm,1.2s,mb4.8
BGF **Bois d'Agland** 71.52 350 *e*P P 05 11 48.3 -1.0
BGF pmax pmax
comp=Z,17nm,1.2s,mb4.8
BGF **Bois d'Agland** 71.52 350 *e*P P 05 11 48.3 -1.0
comp=Z,16nm,1.2s,mb4.8
DIVS **Divcibare** 71.58 337 *i*P P 05 11 49.0 -0.7
DIVS **Divcibare** 71.58 337 *e*P P 05 11 49.6 -0.1
GRUS **Gruza** 71.64 336 *i*P P 05 11 49.2 -0.9
MFF **Saint Martin d** 71.70 352 *e*P P 05 11 49.5 -0.9
comp=Z,58nm,1.5s,mb5.0
MFF **Saint Martin d** 71.70 352 *e*P P 05 11 49.5 -0.9
MFF pmax pmax
comp=Z,29nm,1.5s,mb5.0
MFF **Saint Martin d** 71.70 352 *e*P P 05 11 49.5 -0.9
comp=Z,29nm,1.5s,mb5.0
JMB **Yambol** 71.77 331 *e*P P 05 11 51.7 +0.9
TCF **Toulx Ste Croi** 71.84 350 *e*P P 05 11 50.4 -0.9
comp=Z,24nm,1.0s,mb4.8
TCF **Toulx Ste Croi** 71.84 350 *e*P P 05 11 50.4 -0.9
TCF pmax pmax
comp=Z,12nm,1.0s,mb4.8
TCF **Toulx Ste Croi** 71.84 350 *e*P P 05 11 50.4 -0.9
comp=Z,12nm,1.0s,mb4.8
ELDT **Eldivan** 71.92 326 *i*P P 05 11 53.5 +1.8
AGO **Saint Agoulin** 71.99 349 *e*P P 05 11 52.7 +0.5
PLDF **La Plantade** 72.03 349 *e*P P 05 11 52.8 +0.4
LPL **La Plagne** 72.17 347 *e*P P 05 11 53.2 0.0
comp=Z,39nm,1.2s,mb4.9
LPL **La Plagne** 72.17 347 *e*P P 05 11 53.2 0.0
LPL pmax pmax
comp=Z,19nm,1.2s,mb4.9
LPL **La Plagne** 72.17 347 *e*P P 05 11 53.2 0.0
comp=Z,19nm,1.2s,mb4.9
ELZG **Elazig** 72.18 321 *i*P P 05 11 55.7 +2.4
LPG **La Plagne** 72.19 347 *e*P P 05 11 53.6 +0.3
comp=Z,76nm,1.4s,mb5.1
LPG **La Plagne** 72.19 347 *e*P P 05 11 53.6 +0.3
LPG pmax pmax
comp=Z,38nm,1.4s,mb5.1
LPG **La Plagne** 72.19 347 *e*P P 05 11 53.6 +0.3
comp=Z,38nm,1.4s,mb5.1
SGKT **Sivrigoynuk** 72.21 327 *i*P P 05 11 55.2 +1.7
PGB **Panagyurishte** 72.22 333 *e*P P 05 11 53.0 -0.6
HENT **Hendek** 72.28 328 *i*P P 05 11 53.0 -0.9
PYM **Petit Puy Mans** 72.30 349 *e*P P 05 11 54.4 +0.4
VIS **Vishakhapatnam** 72.36 275 *e*P P 05 11 54.0 -0.4
VIS AMb AMB 05 11 58.5
comp=Z,68nm,1.7s,mb5.3
VTS **Vitosha** 72.39 334 *e*P P 05 11 54.2 -0.4
VTS **Vitosha** 72.39 334⇑ *i*P P 05 11 54.0 -0.5
VTS **Vitosha** 72.39 334 *e*P P 05 11 54.0 -0.5
BARS **Barje** 72.45 335 *e*P P 05 11 55.8 +0.9
COLF **Collangettes** 72.47 349 *e*P P 05 11 54.7 -0.4
MALT **Malatya** 72.52 321⇑ *i*P P 05 11 57.0 +1.6
MALT **Malatya** 72.52 321 *e*P P 05 11 56.3 +0.9
MALT pmax pmax
comp=Z,45nm,1.4s,mb5.2
MALT **Malatya** 72.52 321 *e*P P 05 11 56.3 +0.9
comp=Z,45nm,1.4s,mb5.2
PLD **Plovdiv** 72.53 333 *e*P P 05 11 55.4 0.0
PLD **Plovdiv** 72.53 325 *e*P P 05 11 54.0 -1.4
BR131 **Keskin Array S** 72.58 325 *e*P P 05 11 56.5 +0.8
comp=Z,29nm,1.0s,mb5.2
BR131 LR LR
comp=Z,500nm,22.0s,MS4.8
BRTR **Keskin Array B** 72.58 325 P P 05 11 56.4 +0.7
comp=Z,21nm,0.9s,mb5.0,baz=44,slow=3.4,SNR=46
BRTR LR LR 05 51 00.2
comp=Z,395nm,18.5s,MS4.7,baz=158,slow=42
BRTR **Keskin Array B** 72.58 325 *i*P P 05 11 56.7 +1.0
BRTR pmax pmax
comp=Z,21nm,1.0s
BOB **Bobbio (Coli)** 72.59 345 P P 05 11 56.0 +0.2
BNI **Bardonecchia** 72.63 347 P P 05 11 57.6 +1.6
BNI pmax pmax
comp=Z,37nm,1.6s,mb5.1
BNI **Bardonecchia** 72.63 347 *e*P P 05 11 56.5 +0.4
comp=Z,19nm,1.2s,mb4.9
ANTO **Ankara** 72.67 326⇑ *i*P P 05 11 57.7 +1.4
ANTO **Ankara** 72.67 326 P P 05 11 58.0 +1.7
SNR=8.5
ANTO **Ankara** 72.67 326 *e*P P 05 11 56.2 0.0
comp=Z,63nm,1.2s,mb5.4
ANTO LR LR
comp=Z,611nm,20.0s,MS4.9
AKL **Akola** 72.77 282 *e*P P 05 11 56.0 -0.9
AKL AMb AMB 05 12 00.9
comp=Z,79nm,1.9s,mb5.3
KDZ **Kurdzhali** 72.81 332 *e*P P 05 11 57.0 -0.1
PMG **Port Moresby** 72.83 202 *e*P P 05 11 56.1 -1.1
PMG pmax pmax
comp=Z,71nm,1.1s
PMG MLR MLR
comp=Z,258nm,19.0s
PMG **Port Moresby** 72.83 202 *e*P P 05 11 56.1 -1.1
comp=Z,71nm,1.1s,mb5.5
PMG LR LR
comp=Z,258nm,19.0s,MS4.5
ORIF **Oris-en-Rattie** 72.85 347 *e*P P 05 11 57.1 -0.2
comp=Z,69nm,1.6s,mb5.0
ORIF *e*R
comp=Z,569nm,22.2s
ORIF **Oris-en-Rattie** 72.85 347 *e*P P 05 11 57.1 -0.2
ORIF pmax pmax
comp=Z,35nm,1.6s,mb5.0
ORIF **Oris-en-Rattie** 72.85 347 *e*P P 05 11 57.1 -0.2
comp=Z,35nm,1.6s,mb5.0
RJF **Les Rejaudoux** 72.87 351 *e*P P 05 11 56.5 -0.9
comp=Z,33nm,1.3s,mb4.8
RJF *e*R
comp=Z,510nm,19.2s
RJF **Les Rejaudoux** 72.87 351 *e*P P 05 11 56.5 -0.9
RJF pmax pmax
comp=Z,17nm,1.3s,mb4.8
RJF MLR MLR
comp=Z,510nm,19.3s,MS4.8
RJF **Les Rejaudoux** 72.87 351 *e*P P 05 11 56.5 -0.9
comp=Z,16nm,1.3s,mb4.8
RJF LR LR
comp=Z,510nm,19.3s,MS4.8
MSL **Mosul** 72.91 317 *ex* x 05 12 03.5
MSL *ex* x 05 21 31.0
MBDF **Montbardon** 72.94 347 *e*P P 05 11 57.7 -0.2
comp=Z,16nm,0.9s,mb4.6
MBDF **Montbardon** 72.94 347 *e*P P 05 11 57.7 -0.2
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF **Montbardon** 72.94 347 *e*P P 05 11 57.7 -0.2
comp=Z,8.1nm,0.9s,mb4.7
FNVD **Fontana Vidola** 72.95 343 P P 05 11 58.8 +0.9
VIVF **Saint-Julien-I** 73.03 348 *e*P P 05 11 57.9 -0.5
comp=Z,33nm,1.3s,mb4.9
VIVF **Saint-Julien-I** 73.03 348 *e*P P 05 11 57.9 -0.5
VIVF pmax pmax
comp=Z,21nm,1.3s,mb4.9
VIVF **Saint-Julien-I** 73.03 348 *e*P P 05 11 57.9 -0.5
comp=Z,21nm,1.3s,mb4.9
VLC **Villacollemand** 73.06 344 *e*P P 05 11 58.8 +0.2
comp=Z,16nm,0.9s,mb5.0
KKB **Krupnik** 73.11 334 *e*P P 05 11 58.0 -0.8
AVNT **Avonos** 73.13 324 *i*P P 05 12 00.0 +1.1
PBA **Port Blair** 73.13 263 *ex* x 05 11 43.7
BDI **Bagni Di Lucca** 73.13 344 P P 05 11 58.6 -0.4
CAF **Calviac** 73.20 350 *e*P P 05 11 59.0 -0.4
comp=Z,60nm,1.3s,mb5.1
CAF **Calviac** 73.20 350 *e*P P 05 11 59.0 -0.4
CAF pmax pmax
comp=Z,30nm,1.3s,mb5.1
CAF **Calviac** 73.20 350 *e*P P 05 11 59.0 -0.4
comp=Z,30nm,1.3s,mb5.1
MMB **Musomiste** 73.24 333 *e*P P 05 12 00.1 +0.5
MMB **Musomiste** 73.24 333 *e*P P 05 12 00.0 +0.4
RDO **Rodhopi** 73.26 332 *e*PB P 05 12 00.5 +0.8
RDO **Rodhopi** 73.26 332 *e*Pb P 05 12 00.0 +0.3
LFF **La Frestale** 73.29 351 *e*P P 05 11 59.2 -0.7
comp=Z,70nm,1.3s,mb5.1
LFF **La Frestale** 73.29 351 *e*P P 05 11 59.2 -0.7
LFF pmax pmax
comp=Z,35nm,1.3s,mb5.1
LFF **La Frestale** 73.29 351 *e*P P 05 11 59.2 -0.7
comp=Z,35nm,1.3s,mb5.1
SKO **Skopje** 73.34 335 *e*P P 05 12 01.9 +1.7
SKO **Skopje** 73.34 335 *i*P P 05 12 00.3 +0.1
ULDT **Uludag** 73.36 329 *i*P P 05 12 00.8 +0.4
ALN **Alexandroupoli** 73.38 331 *e*P P 05 12 00.8 +0.4
CING **Cingoli** 73.43 342 P P 05 12 00.8 0.0
NVR **Nevrokopi** 73.44 333 *e*PB P 05 12 02.0 +1.2
BADI **Badiali** 73.44 342 P P 05 12 02.6 +1.8
STIP **Stip** 73.46 334 *i*P P 05 12 01.2 +0.3
ESKT **Eskisehir** 73.51 327 *i*P P 05 12 01.7 +0.4
SAOF **Saorge** 73.59 346 *e*P P 05 12 00.6 -1.1
AUTN **L'Aution** 73.59 346 *e*P P 05 12 01.6 -0.1
TOUF **Mont Tournerai** 73.59 346 *e*P P 05 12 01.6 -0.1
IMI **Imperia** 73.62 346 P P 05 12 02.2 +0.3
comp=Z,22nm,1.0s,mb5.0
GZT **Gaziantep** 73.66 321 *i*P P 05 12 02.5 +0.4
LUCF **Luceram** 73.70 346 *e*P P 05 12 02.3 0.0
MVIF **Mont Vial** 73.72 346 *e*P P 05 12 02.1 -0.4
SBF **Sospel** 73.72 346 *e*P P 05 12 01.6 -0.9
comp=Z,45nm,1.0s,mb5.0
SBF **Sospel** 73.72 346 *e*P P 05 12 01.6 -0.9
SBF pmax pmax
comp=Z,22nm,1.0s,mb5.0
SBF **Sospel** 73.72 346 *e*P P 05 12 01.6 -0.9
comp=Z,22nm,1.0s,mb5.0
VAY **Valandovo** 73.74 334 *e*P P 05 12 02.3 -0.3
VAY **Valandovo** 73.74 334 *i*P P 05 12 02.2 -0.4
STOF **St-Etienne Org** 73.76 347 *e*P P 05 12 02.2 -0.5
SMRF **Simiane la Rot** 73.81 347 *e*P P 05 12 03.0 0.0
comp=Z,80nm,1.5s,mb5.1
SMRF **Simiane la Rot** 73.81 347 *e*P P 05 12 03.0 0.0
comp=Z,80nm,1.5s,mb5.4
ASS **Assisi** 73.82 342 P P 05 12 04.3 +1.3
comp=Z,4.8nm,1.2s,mb4.3
KNT **Kendrikon** 73.82 334 *e*P P 05 12 03.5 +0.5
REVF **Revere** 73.85 346 *e*P P 05 12 03.4 +0.2
VILF **Villemus** 73.92 347 *e*P P 05 12 04.6 +1.0
KRUS **Krusevo** 73.96 335 *i*P P 05 12 04.1 +0.2
GRFL **Gerfalco** 73.98 343 P P 05 12 03.8 -0.2
comp=Z,44nm,1.2s,mb5.3
BTOK **Tokmak** 73.99 329 *i*P P 05 12 05.0 +0.9
PRAF **Pradon** 74.03 348 *e*P P 05 12 05.1 +0.9
SOH **Sokhos** 74.05 333 *e*P P 05 12 04.6 +0.2
FRF **Le Foret Royal** 74.11 346 *e*P P 05 12 03.6 -1.1
TAVF **Tavernes** 74.12 347 *e*P P 05 12 05.1 +0.3
KDHN **Kadinhani** 74.12 326 *i*P P 05 12 04.7 -0.1
GRG **Griva** 74.12 334 *e*P P 05 12 05.5 +0.7
KSM **Kuching** 74.17 242 *e*P P 05 12 05.0 -0.1
TREF **Trevaresse** 74.18 347 *e*P P 05 12 06.1 +0.9
PUYF **Puyloubier** 74.24 347 *e*P P 05 12 05.7 +0.2
TIR **Tirane** 74.26 336 *e*P P 05 12 03.5 -2.1
GDZ **Gediz** 74.27 328 *i*P P 05 12 05.8 +0.2
BIA **Bitola** 74.28 335 *i*P P 05 12 06.1 +0.4
OHR **Ohrid** 74.30 335 *e*P P 05 12 04.8 -1.0
OHR **Ohrid** 74.30 335 *i*P P 05 12 04.1 -1.8
THE **Thessaloniki** 74.32 334 *e*P P 05 12 05.1 -0.9
HORT **Hortiatis** 74.32 333 *e*P P 05 12 06.1 +0.2
LMR **La Mourre** 74.35 347 *e*P P 05 12 05.2 -0.9
comp=Z,41nm,1.2s,mb4.9
LMR **La Mourre** 74.35 347 *e*P P 05 12 05.2 -0.9
comp=Z,20nm,1.2s,mb4.9
OUR **Ouranopolis** 74.38 333 *e*P P 05 12 06.8 +0.4
GELF **Grande-Etoile** 74.42 347 *e*P P 05 12 07.2 +0.7
DWPF **Disney** 74.43 60 *e*P P 05 12 06.1 -0.5
comp=Z,46nm,0.8s,mb5.5
DWPF LR LR
comp=Z,1μm,20.0s,MS5.2
BERF **Bertagne** 74.46 347 *e*P P 05 12 08.1 +1.3
PLG **Polygyros** 74.46 333 *e*PB P 05 12 06.6 -0.2
MNS **Montasola** 74.48 342 P P 05 12 06.0 -0.9
FNA **Florina** 74.50 335 *e*P P 05 12 07.0 0.0
MTLF **Montolieu** 74.76 350 *e*P P 05 12 08.2 -0.3
comp=Z,38nm,1.3s,mb4.9
MTLF **Montolieu** 74.76 350 *e*P P 05 12 08.2 -0.3
comp=Z,19nm,1.3s,mb4.9
COBT **Iskenderun** 74.83 322 *i*P P 05 12 10.1 +1.2
PAIG **Paliouri** 74.84 333 *e*P P 05 12 08.6 -0.4
HYB **Hyderabad** 74.89 279 *i*P P 05 12 08.0 -1.2
HYB *e*S S 05 21 44.0 -2.1
HYB **Hyderabad** 74.89 279 *e*P P 05 12 08.0 -1.2
PRK **Paraskevi** 74.90 331 *e*Pn P 05 12 08.0 -1.3
LIT **Litokhoron** 74.93 334 *e*P P 05 12 09.6 +0.2
MIDA **Miranda** 74.96 340 P P 05 12 11.0 +1.3
KULM **Kulim** 75.02 253 *e*P P 05 12 09.7 -0.3
TKTP **Tekketepe** 75.05 327 *i*P P 05 12 11.0 +0.9
FG5 **Orsara di Pugl** 75.15 340 P P 05 12 13.3 +1.6
comp=Z,97nm,1.2s,mb5.6
ISP **Isparta** 75.18 327 *e*P P 05 12 11.3 +0.4
EPF **Esparros** 75.22 351 *e*P P 05 12 09.9 -1.3
comp=Z,20nm,1.3s,mb4.6
EPF **Esparros** 75.22 351 *e*P P 05 12 09.9 -1.3
comp=Z,9.9nm,1.3s,mb4.6
BHD **Baghdad** 75.23 314 *ex* x 05 12 07.0
BHD *ex* x 05 21 50.0
ELAN **Lanestosa** 75.25 354 P P 05 12 11.7 +0.3
comp=Z,24nm,1.1s,mb5.0
EARI **Arriondas** 75.26 355 P P 05 12 11.4 0.0
comp=Z,36nm,1.3s,mb5.2
RFI **Roccamonfina** 75.34 341 P P 05 12 12.8 +1.0
comp=Z,16nm,1.3s,mb4.8
ETSF **Etsaut** 75.41 352 *e*P P 05 12 12.0 -0.3
comp=Z,36nm,1.5s,mb4.8
ETSF **Etsaut** 75.41 352 *e*P P 05 12 12.0 -0.3
comp=Z,18nm,1.5s,mb4.8
KDAG **Bornova** 75.47 330 *i*P P 05 12 12.8 +0.2
AOS **Alonnisos** 75.52 332 *e*P P 05 12 11.4 -1.4
EBIE **Bielsa** 75.58 351 P P 05 12 14.1 +0.9
comp=Z,12nm,1.1s,mb4.7
EJON **La Jonquera** 75.59 349 P P 05 12 13.7 +0.4
comp=Z,22nm,1.5s,mb4.9
ERMK **Ermenek** 75.67 325 *i*P P 05 12 14.1 +0.3
URLA **Izmir** 75.67 330 *i*P P 05 12 13.4 -0.3
DNZL **Cakiroluk** 75.70 328 *i*P P 05 12 14.6 +0.7
CHOS **Chios island** 75.77 330 *e*P P 05 12 12.8 -1.6
IGT **Igoumenitsa** 75.92 335 *e*P P 05 12 15.1 -0.1
AGG **Agios Georgios** 76.00 334 *e*P P 05 12 15.8 +0.1
GOLH **Golhisar** 76.00 327 *i*P P 05 12 16.6 +0.9
AYDN **Tasoluk** 76.02 329 *i*P P 05 12 16.6 +0.8
POO **Poona** 76.13 283 *ex* x 05 12 12.0
EVR **Evrytania** 76.21 334 *e*Pn P 05 12 10.8 +1.2
ESAC **San Caprasio** 76.58 352 P P 05 12 19.6 +0.7
comp=Z,10nm,0.4s,mb5.1
LKD **Levkas** 76.65 335 *e*P P 05 12 21.2 +1.9
ECAL **Calabor** 76.67 356 P P 05 12 19.1 -0.3
comp=Z,46nm,2.0s,mb5.1
EPOB **Poblet** 76.83 350 P P 05 12 19.5 -0.8
comp=Z,25nm,1.8s,mb4.8
BBSR **BB Station** 76.86 44 *e*P P 05 12 19.8 -0.7
comp=Z,52nm,1.0s,mb5.4
BBSR LR LR
comp=Z,538nm,19.0s,MS4.9
AKAS **Kas** 76.94 327 *i*P P 05 12 20.5 -0.5
KAD **Karad** 77.03 282 *e*P P 05 12 20.9 -0.6
KAD AMb AMB 05 12 25.2
comp=Z,131nm,1.3s,mb5.7
CSS **Prodhromos** 77.12 324 *e*P P 05 12 21.9 -0.1
ERTA **Horta de San J** 77.28 351 P P 05 12 23.2 +0.4
comp=Z,55nm,1.7s,mb5.2
PVRL **Vila Real** 77.36 357 *e*P P 05 12 23.0 -0.3
comp=Z,19nm,1.3s,mb4.9
VSL **Villasalto** 77.78 344 *e*P P 05 12 25.4 -0.3
comp=Z,26nm,1.4s,mb5.0
GUD **Guadarrama** 77.87 354 P P 05 12 24.9 -1.2
comp=Z,3.9nm,0.9s,mb4.3
EMOS **Mosqueruela** 77.93 352 P P 05 12 27.3 +0.8
comp=Z,28nm,1.3s,mb5.0
PSI **Prapat** 78.01 253 LR LR 05 47 30.0
comp=Z,905nm,18.6s,MS5.1,baz=11,slow=36
ETOS **Mallorca** 78.25 349 P P 05 12 28.5 +0.2
comp=Z,50nm,1.4s,mb5.2
TEIG **Tepich** 78.42 69⇑ *i*P P 05 12 29.0 -0.2
comp=Z,139nm,1.5s,mb5.7
TEIG LR LR
comp=Z,605nm,22.0s,MS4.9
ASF **Jabal al Asfar** 78.67 320 LR LR 05 54 03.2
comp=Z,502nm,18.7s,MS4.9,baz=16,slow=41
ECHE **Chera** 78.73 352 P P 05 12 30.1 -0.8
ECHE pmax pmax
comp=Z,11nm,0.9s,mb4.8
ECHE **Chera** 78.73 352 P P 05 12 30.1 -0.8
comp=Z,11nm,0.9s,mb4.8
PCBR **Castelo Branco** 78.79 357 *e*P P 05 12 30.9 -0.3
comp=Z,33nm,1.5s,mb5.0
ESDC **Sonseca Array** 78.82 354 P P 05 12 30.7 -0.8
comp=Z,10nm,1.1s,mb4.7,baz=0.8,slow=6.0,SNR=22
ESDC **Sonseca Array** 78.82 354 P P 05 12 30.8 -0.6
comp=Z,17nm,1.3s,mb4.8
ESLA **Sonseca Array** 78.82 354 *e*P P 05 12 30.9 -0.6
comp=Z,2.3nm,1.0s
ESLA LR LR
comp=Z,3μm,20.0s,MS5.6
VAE **Valguarnera** 79.00 339 LR LR 05 55 01.3
comp=Z,749nm,19.1s,MS5.0,baz=50,slow=41
IDI **Anoyia** 79.00 330 LR LR 05 52 08.7
comp=Z,615nm,19.4s,MS5.0,baz=175,slow=39
KAKA **Kakadu** 79.44 216 *e*P P 05 12 33.3 -1.5
comp=Z,54nm,1.0s,mb5.4
EBEN **Benitarda** 79.56 351 P P 05 12 36.6 +1.1
comp=Z,89nm,1.9s,mb5.4
GVD **Gavdhos** 79.62 331 *e*P P 05 12 35.9 +0.1
comp=Z,440nm,1.5s,mb6.2
ETOB **Tobarra** 79.71 352 P P 05 12 37.3 +1.0
comp=Z,33nm,1.5s,mb5.0
PESTR **Estremoz** 79.76 357 *e*P P 05 12 36.5 -0.1
comp=Z,26nm,1.3s,mb5.0
JMDO **Jabal Madar** 79.77 298 P P 05 12 36.4 -0.2
SNR=6.1
EVIA **Vianos** 79.78 353 P P 05 12 38.0 +1.4
EVIA pmax pmax
comp=Z,11nm,0.9s,mb4.8
EVIA **Vianos** 79.78 353 P P 05 12 38.0 +1.4
comp=Z,10nm,0.9s,mb4.8
BSY **Bisya** 79.81 299 P P 05 12 37.7 +0.8
SNR=5.2
EBAD **Badajoz** 79.86 357 P P 05 12 37.0 0.0
comp=Z,30nm,1.2s,mb5.1
EVO **Evora** 80.11 357 *e*P P 05 12 38.6 +0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,46nm,1.3s,mb5.0						
EVO				eR			
	comp=Z,536nm,19.2s						
EBAN	Banos Encina	80.32	354	P	P	05 12 41.0	+1.4
	comp=Z,1.3nm,0.6s						
MGV	Manicaragua	80.34	61	eP	P	05 12 41.1	+1.4
EADA	Adamuz	80.35	355	P	P	05 12 40.4	+0.6
	comp=Z,38nm,1.6s,mb5.1						
EHUE	Huescar	80.60	353	P	P	05 12 42.2	+1.1
EHUE				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
EHUE	Huescar	80.60	353	P	P	05 12 42.2	+1.1
	comp=Z,22nm,1.4s,mb4.9						
PBEJ	Beja	80.61	357	eP	P	05 12 40.9	-0.2
	comp=Z,19nm,1.1s,mb4.9						
EQES	Quesada	80.64	353	P	P	05 12 40.6	-0.7
	comp=Z,30nm,1.7s,mb5.0						
TAOE	Nuku Hiva Isla	80.74	129	eLR	LR	05 37 49.8	
	comp=Z,2μm,31.9s,baz=346						
EMIN	Mina Concepcio	80.83	356	P	P	05 12 42.7	+0.3
	comp=Z,33nm,1.2s,mb5.1						
ECOG	Cogollos-Vega	81.19	354	P	P	05 12 44.8	+0.6
ECOG				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ECOG	Cogollos-Vega	81.19	354	P	P	05 12 44.8	+0.6
	comp=Z,9.9nm,0.8s,mb4.8						
ELOJ	Sierra Loja	81.35	354	P	P	05 12 46.4	+1.3
ELOJ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
ELOJ	Sierra Loja	81.35	354	P	P	05 12 46.4	+1.3
	comp=Z,5.8nm,0.7s,mb4.6						
KEST	Kesra	81.49	343	P	P	05 12 46.7	+0.9
	comp=Z,2.2nm,1.1s,baz=295,slow=1.8,SNR=8.9						
KEST				LR	LR	05 54 00.4	
	comp=Z,208nm,19.8s,MS4.5,baz=345,slow=39						
EIL	Elat	81.60	321	eP	P	05 12 47.9	+1.4
	comp=Z,347nm,1.3s,mb6.1						
ESPR	Espera	81.70	356	P	P	05 12 47.5	+0.5
	comp=Z,34nm,1.1s,mb5.2						
PALK	Pallekele	82.67	272	eP	P	05 12 51.7	-0.3
	comp=Z,48nm,1.5s,mb5.3						
PALK				LR	LR		
	comp=Z,147nm,20.0s,MS4.3						
CTA	Charters Tower	83.43	201	eP	P	05 12 54.4	-1.6
	comp=Z,22nm,1.4s,mb5.0						
CTA	Charters Tower	83.43	201	eP	P	05 12 54.4	-1.6
CTA				pmax	pmax		
	comp=Z,22nm,1.4s						
CTAO	Charters Tower	83.43	201	eP	P	05 12 54.5	-1.5
CTAO				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.5						
CTAO				MLR	MLR		
	comp=Z,330nm,19.0s,MS4.7						
CTAO	Charters Tower	83.43	201	eP	P	05 12 54.5	-1.5
	comp=Z,77nm,1.4s,mb5.5						
CTAO				LR	LR		
	comp=Z,330nm,19.0s,MS4.7						
DZM	Mont Dzumac	83.47	182	P	P	05 12 55.8	-0.4
	comp=Z,6.4nm,0.8s,mb4.7,baz=26,slow=4.9,SNR=7.6						
PMOR	Pomariorio Ree	83.77	138	eP	P	05 12 58.1	+0.4
	comp=Z,33nm,0.8s,mb5.5						
RCC	Rio Carpintero	84.00	58	eP	P	05 12 58.4	-0.5
VAH	Vaihoa	84.08	138	eP	P	05 12 59.6	+0.3
	comp=Z,91nm,0.9s,mb5.9						
PPT	Papeete	85.66	140	eS	S	05 23 36.5	-2.8
	comp=Z,105nm,24.8s						
PPT				eLQ		05 36 04.9	
	comp=Z,868nm,31.0s						
PPT				eLR	LR	05 39 55.7	
	comp=Z,2μm,26.2s,baz=346						
PPT	Papeete	85.66	140	LR	LR	05 45 41.0	
	comp=Z,784nm,18.7s,MS5.1,baz=320,slow=32						
WRAB	Tennant Creek	85.82	212	P	P	05 13 06.0	-2.0
	SNR=23						
WRAB	Tennant Creek	85.82	212c	iP	P	05 13 06.3	-1.7
WRAB	Tennant Creek	85.82	212	eP	P	05 13 06.0	-2.1
	comp=Z,66nm,1.0s,mb5.8						
WB2	Warramunga Arr	85.83	212	eP	P	05 13 06.3	-1.8
WRA	Warramunga Arr	85.83	212	P	P	05 13 06.4	-1.7
	comp=Z,32nm,0.9s,mb5.5,baz=19,slow=5.3,SNR=68						
FITZ	Fitzroy Crossi	86.54	221	eP	P	05 13 09.8	-1.8
	comp=Z,51nm,0.9s,mb5.8						
SDDR	Presa de Saban	86.67	55	eP	P	05 13 12.3	+0.1
	comp=Z,106nm,1.3s,mb5.9						
SJG	San Juan	89.42	51	P	P	05 13 25.9	+0.6
SJG				pmax	pmax		
	comp=Z,58nm,1.3s						
SJG	San Juan	89.42	51	eP	P	05 13 25.8	+0.4
	comp=Z,58nm,1.4s,mb5.7						
SJG				LR	LR		
	comp=Z,622nm,22.0s,MS5.0						
HUMP	Col San Antoni	89.50	51	eP	P	05 13 26.8	+1.0
AS31	Alice Springs	89.51	212	eP	P	05 13 25.5	-0.3
ASAR	Alice Springs	89.51	212	P	P	05 13 24.5	-1.3
	comp=Z,7.1nm,0.9s,mb5.0,baz=14,slow=4.4,SNR=35						
ASAR				LR	LR	05 52 55.9	
	comp=Z,143nm,18.7s,MS4.4,baz=99,slow=35						
ASPA	Alice Springs	89.51	212	eP	P	05 13 25.5	-0.3
TBI	Tubuai	91.15	142	eLQ		05 38 12.9	
	comp=Z,571nm,33.8s						
TBI				eLR	LR	05 42 31.5	
	comp=Z,1μm,23.0s,baz=338						
MBWA	Marble Bar	91.31	225	eP	P	05 13 32.3	-1.8
	comp=Z,36nm,1.0s,mb5.7						
RKT	Rikitea	95.74	130	eSS	SS	05 31 41.6	+0.6
	comp=Z,224nm,28.8s						
RKT				eLQ		05 40 28.2	
	comp=Z,382nm,32.8s						
RKT				eLR	LR	05 44 56.0	
	comp=Z,1μm,25.8s,baz=336						
STKA	Stephens Creek	95.77	203	eP	P	05 13 53.9	-0.8
	comp=Z,5.5nm,1.0s,mb4.9						
STKA	Stephens Creek	95.77	203	P	P	05 13 53.7	-1.0
	comp=Z,3.6nm,0.7s,mb4.9,baz=220,slow=2.7,SNR=5.5						
STKA				LR	LR	05 53 25.3	
	comp=Z,229nm,20.2s,MS4.6,baz=23,slow=33						
SDV	Santo Domingo	96.08	59	P	P	05 13 55.9	-0.2
	comp=Z,6.4nm,0.8s,mb5.1,baz=356,slow=2.8,SNR=10						
SDV				PP	PP	05 17 45.8	-2.9
	comp=Z,5.4nm,0.9s,baz=20,slow=4.2,SNR=3.9						
SDV	Santo Domingo	96.08	59	eP	P	05 13 56.4	+0.3
	comp=Z,7.7nm,0.8s,mb5.2						
SDV				ePP	PP	05 17 44.4	-4.2
SDV				LR	LR		
	comp=Z,356nm,21.0s,MS4.8						
PCRV	Puerto La Cruz	97.26	53	LR	LR	06 04 34.1	
	comp=Z,306nm,19.0s,MS4.8,baz=64,slow=40						
ROSC	El Rosal	98.16	64	P	P	05 14 06.5	+1.0
	comp=Z,8.4nm,0.8s,mb5.3,baz=119,slow=7.6,SNR=8.7						
TORD	Torodi Ar. Bea	104.71	347	Pdiff	Pdif	05 14 34.5	-0.1
	comp=Z,0.5nm,1.0s,baz=308,slow=4.7,SNR=3.1						
TORD				PP	PP	05 18 46.9	-7.2
	comp=Z,1.0nm,0.9s,baz=2.1,slow=5.5,SNR=4.3						
TORD				PKKPbc	PKKPbc	05 30 17.4	-1.1
	comp=Z,0.5nm,0.8s,baz=180,slow=2.1,SNR=4.1						
DBIC	Dimbokro	111.67	353	PFAKE		05 19 10.0	+6.9
DBIC				LR	LR		
	comp=Z,345nm,20.0s,MS4.9						
NNA	Nana	112.02	74	PFAKE		05 19 10.0	+6.2
NNA				LR	LR		
	comp=Z,56nm,19.0s,MS4.2						
SAML	Samuel	115.28	59	PFAKE		05 19 20.0	+10
SAML				LR	LR		
	comp=Z,300nm,20.0s,MS4.9						
LPAZ	La Paz	119.73	68	PKP	PKPdf	05 19 18.1	-0.5
	comp=Z,0.9nm,0.9s,baz=32,slow=11,SNR=4.8						
LPAZ				PP	PP	05 20 38.6	-2.9
	comp=Z,5.7nm,1.0s,baz=173,slow=2.6,SNR=6.9						
LPAZ				PKKPbc	PKKPbc	05 29 29.8	+1.3
	comp=Z,0.7nm,0.8s,baz=104,slow=6.5,SNR=4.3						
LPAZ	La Paz	119.73	68	ePKPdf	PKPdf	05 19 18.3	-0.3
LPAZ				ePP	PP	05 20 39.1	-2.4
LPAZ				LR	LR		
	comp=Z,315nm,20.0s,MS5.0						
RCBR	Riachuelo	121.35	29	PFAKE		05 19 30.0	+8.3
RCBR				LR	LR		
	comp=Z,465nm,22.0s,MS5.1						
SIV	San Ignacio	122.49	60	PKP	PKPdf	05 19 22.6	-1.4
	comp=Z,3.1nm,0.8s,baz=328,slow=0.4,SNR=21						
SIV				PP	PP	05 20 57.0	-3.4
	comp=Z,11nm,0.9s,baz=350,slow=6.6,SNR=14						
LSZ	Lusaka	125.81	311	ePKIKP	PKPdf	05 19 29.4	-0.9
LSZ				MLR	MLR		
	comp=Z,531nm,20.0s,MS5.2						
BDFB	Brasilia	127.16	46	PKP	PKPdf	05 19 31.1	-1.7
	comp=Z,4.2nm,0.9s,baz=218,slow=1.8,SNR=4.2						
CFAA	Coronel Fontan	132.90	77	PKhKP		05 19 39.5	
	comp=Z,0.4nm,0.6s,baz=339,slow=2.7,SNR=11						
CFAA				PP	PP	05 22 10.3	+1.3
	comp=Z,0.4nm,0.9s,baz=302,slow=2.8,SNR=4.9						
CFAA	Coronel Fontan	132.90	77	PKP		05 19 39.5	
CFAA				PP	PP	05 22 10.3	+1.3
TSUM	Tsumeb	132.99	321	PFAKE		05 19 50.0	+6.1
TSUM				LR	LR		
	comp=Z,595nm,22.0s,MS5.3						
CPUP	Villa Florida	133.25	62	PKP	PKPdf	05 19 43.8	-0.6
	comp=Z,1.4nm,0.8s,baz=99,slow=1.7,SNR=5.2						
CASY	Casey	134.58	209	eP	PKPdf	05 19 46.4	-0.5
LBTB	Lobatse	135.68	309	ePKIKP	PKPdf	05 19 48.3	-0.6
LBTB				MLR	MLR		
	comp=Z,477nm,19.0s,MS5.2						
VNDA	Vanda	139.01	182	PKhKP		05 19 45.5	
	comp=Z,1.7nm,0.7s,baz=320,slow=3.8,SNR=15						
VNDA	Vanda	139.01	182	i PKHKP		05 19 45.5	
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	Vanda	139.01	182	ePKPpre		05 19 45.7	
VNDA				ePKPdf	PKPdf	05 19 53.1	-2.0
BOSA	Boshof	139.06	307	PKhKP		05 19 58.1	
	comp=Z,4.4nm,0.9s,baz=324,slow=2.1,SNR=3.8						
PLCA	Paso Flores	139.19	87	PKhKP		05 19 45.4	
	comp=Z,2.3nm,1.0s,baz=283,slow=2.7,SNR=4.2						
PLCA				PKP	PKPdf	05 19 54.6	-0.8
	comp=Z,6.9nm,0.8s,baz=287,slow=2.7,SNR=10						
PLCA	Paso Flores	139.19	87	PKP		05 19 45.4	
PLCA				ePKPdf	PKPdf	05 19 54.4	-1.1
SBA	Scott Base	139.29	181	ePKIKP		05 19 48.9	
SBA				e		05 19 54.3	
TRQA	Tornquist	141.11	76	ePKPpre		05 19 50.5	
TRQA				ePKPdf	PKPdf	05 19 57.6	-1.3
TRQA				LR	LR		
	comp=Z,308nm,20.0s,MS5.1						
SUR	Sutherland	144.10	310	PKP	PKPdf	05 20 02.9	-1.3
	comp=Z,12nm,0.8s,baz=1.1,slow=5.6,SNR=4.4						
SUR	Sutherland	144.10	310	ePKPdf	PKPdf	05 20 03.5	-0.7
MAW	Mawson	149.49	227	eP	PKPdf	05 20 11.6	-1.7
	comp=Z,43nm,1.2s						
MAW	Mawson	149.49	227	PKPbc	PKPbc	05 20 15.2	-2.6
	comp=Z,29nm,0.7s,baz=39,slow=1.9,SNR=86						
MAW	Mawson	149.49	227	eP	PKPdf	05 20 11.6	-1.7
MAW				PKPbc	PKPbc	05 20 15.2	-2.6
MAW				LR	LR		
	comp=Z,461nm,19.0s,MS5.3						
QSPA	South Pole Qui	151.45	180	eP	PKPdf	05 20 19.6	+3.3
PMSA	Palmer Station	156.64	121	PKPab	PKPab	05 20 51.3	-1.4
	comp=Z,16nm,0.9s,baz=304,slow=7.4,SNR=6.3						
PMSA	Palmer Station	156.64	121	PKPab	PKPab	05 20 51.3	-1.4
PMSA				LR	LR		
	comp=Z,714nm,21.0s,MS5.5						
SYO	Syowa Base	158.15	229⇑	eX		05 20 22.0	
SNAA	Sanae	169.43	195	PKP	PKPdf	05 20 32.4	-3.5
	comp=Z,0.4nm,0.8s,baz=317,slow=5.0,SNR=4.2						
SNAA				PKPab	PKPab	05 21 44.0	-4.8
	comp=Z,1.1nm,0.8s,baz=222,slow=2.5,SNR=4.1						
SNAA	Sanae	169.43	195	ePKPdf	PKPdf	05 20 33.4	-2.5
SNAA				ePKPab	PKPab	05 21 46.2	-2.5
SNAA				ePP	PP	05 25 36.4	-2.0

MAN ***06*** *05:21:05.7, 1201N×12529E, h12km, mb4.4, ML5.2*
ISCJB ***06*** *05:21:06.0±0.6, 1199N±003×12543E±005, h48km±4km, mb4.6/35, Error ellipse: s-maj=8.4km s-min=4.9km az=139.1*
IDC ***06*** *05:21:09.6±3.1, 1191N×12536E, h65km±25km, mb4.1/13, mb1 4.3/14, mb1mx4.1/20, mbtmp4.4/14, Error ellipse: s-maj=55.2km s-min=10.6km az=71.0*
BJI ***06*** *05:21:09.3, 1161N×12540E, h104km, mB5.3, mb4.6*
NEIC ***06*** *05:21:12.2±1.7, 1188N×12530E, h90km±15km, mb4.7/13, Error ellipse: s-maj=20.1km s-min=5.3km az=69.0*
ISC 06 05:21:07.3±0.6**, 1198N**±003×**12543E**±005**, h43**km±5km**, h105**km±5.3km**:pP-P, n76,** σ1s**04**/85**, mb4.6**/35**, 2C-3D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.38	179	eP	Pn	05 21 14.9	-1.8
BESP				eS	Sn	05 21 22.0	-1.2
PLP	Palo	0.93	209	eP	Pn	05 21 22.0	-1.8
PLP				eS	Sn	05 21 35.5	-0.5
OCLP	Ormoc	1.23	221	eP	Pn	05 21 27.2	-0.7
OCLP				eS	Sn	05 21 44.0	+0.6
MMPH	Masbate	1.81	282	eP	Pn	05 21 35.5	-0.4
MSLP	Maasin	1.92	197	eP	Pn	05 21 38.6	+1.1
MSLP				eS	Sn	05 22 05.1	+4.7
PVCP	Virac	2.03	322	eP	Pn	05 21 37.3	-1.6
PVCP				eS	Sn	05 22 06.8	+3.8
SCPH	Surigao	2.19	179	i P	Pn	05 21 42.8	+1.7
SCPH				i S	Sn	05 22 13.3	+6.4
LLP	Lapu-Lapu	2.19	221	eP	Pn	05 21 40.6	-0.5
LLP				eS	Sn	05 22 04.7	-2.4
RCP	Roxas	2.66	261⇓	eP	Pn	05 21 47.9	+0.3
TBP	Tagbilaran	2.75	214	eP	Pn	05 21 51.9	+3.1
BUTP	Butuan	3.00	176	eP	Pn	05 21 55.1	+2.9
KALP	Kalibo	3.04	265⇑	eP	Sn	05 22 32.2	+4.1
GUIM	Jordan	3.10	244	eP	Pn	05 21 53.9	+0.3
GUIM				eS	Sn	05 22 29.5	+0.1
OTRP	Odiongan	3.36	277	eP	Pn	05 21 56.3	-0.9
SNPH	Sibulan	3.40	220	eP	Pn	05 21 58.0	+0.3
GQP	Guinayangan	3.48	304	eP	Pn	05 22 00.1	+1.2
CGP	Cagayan de Oro	3.58	192⇑	iP	Pn	05 21 56.2	-4.0
CGP				i S	Sn	05 22 46.3	+5.1
BOAC	Boac	3.79	293	eP	Pn	05 22 01.7	-1.5
DCPH	Dipolog City	3.95	211⇓	eP	Pn	05 22 06.9	+1.6
BUKP	Musuan	4.09	185	eP	Pn	05 22 09.2	+1.9
POLP	Polilio Island	4.36	309	eP	Pn	05 22 11.6	+0.7
CUYO	Cuyo Island	4.47	256	eP	Pn	05 22 13.0	+0.5
TGY	Tagaytay City	4.86	296	P	Pn	05 22 21.8	+4.0
	baz=111,slow=14,SNR=2.0						
BUSP	Coron	5.12	271	eP	Pn	05 22 21.6	+0.2
CVP	Callao Caves	6.67	329	eP	Pn	05 22 42.0	-0.7
KKM	Kota Kinabalu	10.85	238	ePn	Pn	05 23 43.1	+3.3
KMI	Kunming	25.12	305	P	P	05 26 28.8	+0.8
KMI				AP	pP	05 26 48.9	+9.4
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
KAKA	Kakadu	25.50	164	eP	P	05 26 30.8	-0.7
	comp=Z,12nm,0.6s,mb4.6						
XAN	Xi'an	26.62	328	P	P	05 26 41.4	-0.2
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.6						
FITZ	Fitzroy Crossi	29.89	180	eP	P	05 27 10.0	-0.8
	comp=Z,5.1nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	29.89	180	P	P	05 27 09.8	-1.0
	comp=Z,2.7nm,0.8s,mb4.0,baz=7.5,slow=11,SNR=12						
LZH	Lanzhou	30.91	325	eP	P	05 27 24.1	+4.3
LZH				AP	pP	05 27 48.5	+17
LZH				XP	sP	05 28 01.8	+25
LZH				PP	PP	05 28 29.5	-0.5
LZH				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.8						
HHC	Hu-ho-hao-te	31.23	339	eP	P	05 27 27.9	+5.3
HHC				AP	pP	05 27 52.5	+18
HHC				XP	sP	05 28 05.6	+26
HHC				PP	PP	05 28 35.9	+2.3
HHC				PCP	PcP	05 30 18.7	+2.3
HHC				S	S	05 32 26.2	+0.2
HHC				XS	sS	05 33 09.1	+24
HHC				SCP	ScP	05 33 49.7	-6.1
HHC				SS	SS	05 34 21.4	-19
HHC				AMB	AMB		
	comp=Z,24nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,2μm,10.4s						
HHC				LR	LR		
	comp=N,344nm,8.3s						
HHC				LR	LR		
	comp=E,523nm,12.3s						
HHC				LR	LR		
	comp=Z,447nm,12.9s						
WRAB	Tennant Creek	32.91	164	eP	P	05 27 37.1	-0.2
	comp=Z,13nm,1.1s,mb4.8						
WRA	Warramunga Arr	32.91	164	P	P	05 27 36.2	-1.1
	comp=Z,6.2nm,1.1s,mb4.5,baz=342,slow=10.0,SNR=15						
WRA				PcP	PcP	05 30 23.5	+2.5
	comp=Z,1.0nm,0.7s,baz=336,slow=3.1,SNR=5.4						
WRA				S	S	05 32 50.4	-1.8
	comp=Z,0.6nm,0.8s,baz=342,slow=14,SNR=2.7						
WB2	Warramunga Arr	32.92	164	eP	P	05 27 36.4	-1.0
AS31	Alice Springs	36.38	167	eP	P	05 28 08.5	+1.2
ASAR	Alice Springs	36.39	167	P	P	05 28 07.4	+0.1
	comp=Z,5.7nm,0.7s,mb4.6,baz=353,slow=7.4,SNR=52						
ASAR				S	S	05 33 45.6	0.0
	comp=Z,0.7nm,0.8s,baz=354,slow=19,SNR=5.1						
ASPA	Alice Springs	36.39	167	eP	P	05 28 08.5	+1.2
ULN	Ulaanbaatar	38.94	340	eP	P	05 28 29.6	+0.7
	comp=Z,9.1nm,1.3s,mb4.3						
SONM	Songino Array	39.14	340	P	P	05 28 31.1	+0.5
	comp=Z,1.4nm,0.5s,mb3.9,baz=160,slow=9.6,SNR=7.3						
JIRN	Jiri	39.87	299	eP	P	05 28 37.2	+0.5
	comp=Z,20nm,0.6s,mb5.0						
GUN	Gumba	40.20	299	eP	P	05 28 39.6	+0.2
	comp=Z,29nm,0.8s,mb5.1						
PKI	Pulchoki	40.52	299	eP	P	05 28 41.9	-0.2
	comp=Z,11nm,0.6s,mb4.6						
KKN	Kakani	40.69	299	eP	P	05 28 43.0	-0.4
DMN	Daman	40.79	298	eP	P	05 28 44.0	-0.3
GKN	Gorkha	41.29	299	eP	P	05 28 48.0	-0.4
	comp=Z,7.7nm,0.4s,mb4.6						
KOLN	Koldanda	42.13	298	eP	P	05 28 55.0	-0.2
	comp=Z,16nm,0.8s,mb4.7						
FORT	Forrest	42.59	177	eP	P	05 28 58.9	-0.1
	comp=Z,26nm,0.7s,mb5.1						
WMQ	Urumqi	45.38	322	eP	P	05 29 23.5	+2.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,92nm,4.1s						
STKA	Stephens Creek	46.28	161	eP	P	05 29 29.1	+0.6
	comp=Z,9.0nm,0.9s,mb4.7						
STKA	Stephens Creek	46.28	161	P	P	05 29 29.2	+0.7
	comp=Z,10nm,0.8s,mb4.8,baz=335,slow=8.7,SNR=12						
TRD	Trivandrum	47.78	271⇓	eP	P	05 29 35.1	-5.1
MKAR	Makanchi Array	50.17	322	P	P	05 29 59.2	+0.7
	comp=Z,5.7nm,0.6s,mb4.8,baz=113,slow=8.3,SNR=32						
MKAR				PcP	PcP	05 31 17.6	+0.3
	comp=Z,1.7nm,0.8s,baz=103,slow=4.6,SNR=2.5						
MKAR	Makanchi Array	50.17	322	P	P	05 29 59.2	+0.7
MKAR				PcP	PcP	05 31 17.6	+0.3
ZAL	Zalesovo	52.74	331	P	P	05 30 18.0	+0.3
	comp=Z,2.0nm,0.3s,mb4.5,baz=25,slow=3.6,SNR=6.6						
BRVK	Borovoye	59.87	325	eP	P	05 31 08.9	+0.4
	comp=Z,5.8nm,0.9s,mb4.6						
CHKZ	Chkalovo	59.92	326	eP	P	05 31 08.7	-0.1
	comp=Z,17nm,1.4s,mb4.9						
ZRNK	Zerenda	60.55	325	eP	P	05 31 13.2	+0.1
	comp=Z,11nm,0.6s,mb5.2						
ARU	Arti	67.35	326	eP	P	05 31 57.4	-0.4
	comp=Z,10nm,0.4s,mb5.2						
MCK	McKinley	77.42	27	eP	P	05 32 58.4	+0.6
	comp=Z,13nm,1.2s,mb4.7						
COLA	College	77.85	26	eP	P	05 33 00.6	+0.4
	comp=Z,3.8nm,0.9s,mb4.3						
JOF	Joensuu	81.30	332	ep	P	05 33 17.1	-1.9
	comp=Z,2.8nm,0.6s,mb4.4						
ARCES	ARCESS Array B	82.31	340	P	P	05 33 24.4	+0.1
	comp=Z,10nm,0.9s,mb4.8,baz=78,slow=6.5,SNR=27						
ARCES	ARCESS Array B	82.31	340	P	P	05 33 24.4	+0.1
INK	Inuvik	83.00	22	eP	P	05 33 28.6	+0.7
	comp=Z,3.4nm,0.8s,mb4.4						
KAF	Kangasniemi	83.74	332	ep	P	05 33 30.0	-1.7
	baz=73,slow=4.5						
BRTR	Keskin Array B	83.82	309	P	P	05 33 31.6	-0.4
	comp=Z,0.8nm,0.6s,mb4.0,baz=116,slow=4.1,SNR=4.4						
FINES	FINESS Array B	84.00	332	P	P	05 33 33.0	-0.1
	comp=Z,8.3nm,1.1s,mb4.8,baz=60,slow=4.6,SNR=9.2						
AKASG	Malin Array Be	84.73	321	P	P	05 33 35.6	-1.1
	comp=Z,1.9nm,0.6s,mb4.4,baz=64,slow=4.8,SNR=8.4						
NB2	NORSAR Subarra	90.87	334	P	P	05 34 05.1	-1.1
	comp=Z,0.7nm,0.6s,mb4.2,baz=62,slow=4.6						
NOA	NORSAR Array B	90.87	334	P	P	05 34 05.1	-1.1
	comp=Z,1.0nm,0.7s,mb4.2,baz=64,slow=4.8,SNR=4.0						
VNDA	Vanda	91.72	173	P	P	05 34 10.1	-0.1
	comp=Z,1.0nm,0.9s,mb4.1,baz=335,slow=7.0,SNR=4.4						
PLCA	Paso Flores	148.10	157	PKPbc	PKPbc	05 40 48.2	0.0
	comp=Z,0.9nm,0.7s,baz=228,slow=3.1,SNR=2.2						
PLCA	Paso Flores	148.10	157	PKPbc	PKPbc	05 40 48.2	0.0
SDV	Santo Domingo	153.83	38	PKPbc	PKPbc	05 41 03.4	+1.7
	comp=Z,1.1nm,0.3s,baz=205,slow=9.4,SNR=6.2						

ISCJB ***06*** *05:34:59.2±0.6, 5971N±004×2444E±008, h0km, Error ellipse: s-maj=6.0km s-min=5.2km az=156.2*
NAO ***06*** *05:35:01.9±1.0, 5974N×2458E, ML2.4*
HEL ***06*** *05:35:02.7±0.1, 5974N×2458E, h0km, ML2.4, ML2.4(NAO), Explosion*
BER ***06*** *05:35:02.7±5.2, 5973N×2454E, h0km±26km, ML2.4(NAO)*
IDC ***06*** *05:35:04.2±1.0, 5986N×2444E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.7/4, Error ellipse: s-maj=11.4km s-min=6.0km az=137.0*
ISC 06 05:35:01.1±0.6**, 5973N**±004×**2455E**±008**, h0**km**, n23,** σ0s**81**/32**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.50	351	eP	Pg	05 35 11.2	+0.6
MEF				eS	Sg	05 35 17.6	+0.5
PVF	Pernaja	1.05	38	eP	Pg	05 35 21.1	-0.2
PVF				eS	Sg	05 35 34.7	-0.3
VSU	Vasula	1.70	137	eP	Pn	05 35 32.7	+0.8
VSU				eS	Sn	05 35 54.4	0.0
VSU	Vasula	1.70	137	Pn	Pn	05 35 32.7	+0.8
VSU				Lg		05 35 54.6	
FIA0	FINESS Array S	1.88	23	eP	Pn	05 35 35.9	+1.4
FIA0				eS	Sn	05 35 59.5	+0.6
FIA0				MSG		05 36 03.9	
	comp=Z,34nm,0.2s						
FIA0	FINESS Array S	1.88	23	Pn	Pn	05 35 36.1	+1.6
	baz=195,slow=18						
FIA0				Lg		05 35 59.9	
	baz=192,slow=37						
FINES	FINESS Array B	1.88	23	Pg	Pg	05 35 36.0	-1.2
	comp=Z,11nm,0.3s,baz=199,slow=17,SNR=436						
FINES				Lg		05 35 59.6	
	comp=Z,15nm,0.3s,baz=196,slow=28,SNR=29						
FINES				Sn	Sn	05 36 02.2	+3.3
	comp=Z,14nm,0.3s,baz=205,slow=23,SNR=20						
RAF	Rauma	1.90	314	eP	Pn	05 35 36.0	+1.3
KAF	Kangasniemi	2.54	19	MSG		05 36 20.7	
	comp=Z,13nm,0.2s						
HFS	Hagfors	5.47	279	eP	Pn	05 36 23.8	0.0
HFS				eS	Sn	05 37 27.3	-0.2
HFS				eSG		05 37 48.3	
HFS	Hagfors	5.47	279	Pn	Pn	05 36 24.1	+0.3
	comp=Z,1.2nm,0.3s,baz=82,slow=12,SNR=30						
HFS				Sn	Sn	05 37 27.1	-0.4
	comp=Z,2.2nm,0.3s,baz=95,slow=28,SNR=12						
HFS				Lg		05 37 52.1	
	comp=Z,2.2nm,0.3s,baz=91,slow=33,SNR=7.2						
HFS	Hagfors	5.47	279	Pn	Pn	05 36 23.8	0.0
	baz=106,slow=10						
HFS				Sn	Sn	05 37 27.3	-0.2
	baz=110,slow=22						
HFS				Lg		05 37 48.3	
	baz=100,slow=37						
NB2	NORSAR Subarra	6.74	287	eP	Pn	05 36 40.6	-0.6
NB2				eSG		05 38 30.3	
NB2	NORSAR Subarra	6.74	287	Pn	Pn	05 36 40.6	-0.6
	baz=93,slow=14						
NB2				Lg		05 38 30.3	
	baz=98,slow=37						
NOA	NORSAR Array B	6.74	287	Pn	Pn	05 36 40.2	-1.0
	comp=Z,0.9nm,0.3s,baz=100,slow=12,SNR=4.1						
NOA				Sn	Sn	05 37 49.0	-10
	comp=Z,0.4nm,0.3s,baz=81,slow=18,SNR=2.2						
NOA				Lg		05 38 30.5	
	comp=Z,1.4nm,0.3s,baz=168,slow=15,SNR=4.6						
APA0	Apatity Array	8.75	22	Pn	Pn	05 37 08.3	-0.4
	baz=220,slow=16						
APA0	Apatity Array	8.75	22	eP	Pn	05 37 08.3	-0.4
AKASG	Malin Array Be	9.43	162	Pn	Pn	05 37 17.9	-0.2
	comp=Z,1.2nm,0.3s,baz=338,slow=13,SNR=5.0						
ARA0	ARCESS Array S	9.86	2	Pn	Pn	05 37 22.9	-1.2
	baz=189,slow=12						
ARA0	ARCESS Array S	9.86	2	eP	Pn	05 37 22.9	-1.2
ARCES	ARCESS Array B	9.86	2	Pn	Pn	05 37 22.9	-1.1
	comp=Z,1.4nm,0.3s,baz=189,slow=11,SNR=51						
ARCES				Sn	Sn	05 39 10.5	-4.9
	comp=Z,0.3nm,0.3s,baz=186,slow=23,SNR=3.7						
SPA0	Spitsbergen Ar	18.73	355	P	Pn	05 39 21.7	+0.1
	baz=127,slow=9.3						
SPA0	Spitsbergen Ar	18.73	355	eP	Pn	05 39 21.7	+0.1

ISCJB ***06*** *05:49:29.2±0.7, 5976N±004×2438E±008, h0km, Error*

ellipse: s-maj=6.0km s-min=5.6km az=98.3
*CSEM **06** 05:49:30.8±0.2,5981N×2459E,h1km,ML2.5,Error ellipse: s-maj=5.6km s-min=4.0km az=40.0,Mining explosion.*
*HEL **06** 05:49:31.4±0.1,5977N×2446E,h0km,ML2.5, ML2.5(NAO),Explosion*
*BER **06** 05:49:31.8±4.8,5982N×2453E,h0km±21km,ML2.5(NAO)*
*NAO **06** 05:49:31.0±1.0,5980N×2455E,ML2.5*
*IDC **06** 05:49:31.5±1.9,5979N×2462E,h0km,mb1 3.9/2, mb1mx3.2/20,mbtmp3.7/2,ML3.9/2,Error ellipse: s-maj=19.9km s-min=8.2km az=142.0*

ISC 06 05:49:30.1±0.6,**5977N**±004×**2442E**±007,**h0**km,**n24**, σ**1s07**/39,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.45**	**359**	*e*P	**Pg**	**05 49 39.4**	**+0.6**
MEF				*e*S	**Sg**	**05 49 45.1**	**+0.4**
PVF	**Pernaja**	**1.06**	**42**	*e*P	**Pg**	**05 49 49.8**	**-0.7**
PVF				*e*S	**Sg**	**05 50 03.6**	**-0.7**
PVF	**Pernaja**	**1.06**	**42**	P	**Pg**	**05 49 49.7**	**-0.8**
PVF				S	**Sg**	**05 50 03.6**	**-0.7**
VSU	**Vasula**	**1.77**	**137**	*e*P	**Pn**	**05 50 02.6**	**+0.6**
VSU				*e*S	**Sn**	**05 50 25.0**	**-0.3**
VSU	**Vasula**	**1.77**	**137**	Pn	**Pn**	**05 50 02.7**	**+0.7**
VSU				Lg		05 50 25.0	
VSU	**Vasula**	**1.77**	**137**	P	**Pn**	**05 50 02.6**	**+0.6**
VSU				S	**Sn**	**05 50 24.9**	**-0.3**
RAF	**Rauma**	**1.82**	**315**	*e*P	**Pn**	**05 50 04.0**	**+1.3**
RAF				*e*S	**Sn**	**05 50 27.3**	**+0.8**
FIA0	**FINESS Array S**	**1.87**	**25**	*e*P	**Pn**	**05 50 04.5**	**+1.1**
FIA0				*e*S	**Sn**	**05 50 27.5**	**-0.2**
FIA0				MSG		05 50 32.6	
	comp=Z,37nm,0.2s						
FIA0	**FINESS Array S**	**1.87**	**25**	Pn	**Pn**	**05 50 04.6**	**+1.3**
	baz=196,slow=16						
FIA0				Lg		05 50 27.9	
	baz=198,slow=28						
FIA0	**FINESS Array S**	**1.87**	**25**	P	**Pn**	**05 50 04.4**	**+1.0**
FIA0				S	**Sn**	**05 50 27.4**	**-0.3**
	comp=Z,37nm,0.2s						
FINES	**FINESS Array B**	**1.87**	**25**	Pn	**Pn**	**05 50 04.7**	**+1.3**
	comp=Z,9.5nm,0.3s,baz=202,slow=16,SNR=362						
FINES				Lg		05 50 27.7	
	comp=Z,18nm,0.3s,baz=208,slow=30,SNR=20						
FINES				Sn	**Sn**	**05 50 30.5**	**+2.8**
	comp=Z,18nm,0.3s,baz=204,slow=25,SNR=22						
KEF	**Keuruu**	**2.42**	**5**	MSG		05 50 49.0	
	comp=Z,32nm,0.2s						
KAF	**Kangasniemi**	**2.53**	**21**	MSG		05 50 50.9	
	comp=Z,21nm,0.2s						
HFS	**Hagfors**	**5.40**	**279**	Pn	**Pn**	**05 50 53.4**	**+1.4**
	baz=80,slow=11						
HFS				Sn	**Sn**	**05 51 53.7**	**-1.1**
	baz=72,slow=37						
HFS				Lg		05 52 16.3	
	baz=94,slow=37						
HFS	**Hagfors**	**5.40**	**279**	*e*P	**Pn**	**05 50 53.4**	**+1.4**
HFS				*e*S	**Sn**	**05 51 53.7**	**-1.1**
HFS				*e*SG		05 52 16.3	
HFS	**Hagfors**	**5.40**	**279**	Pn	**Pn**	**05 50 53.4**	**+1.5**
	SNR=3.4						
HFS				Sn	**Sn**	**05 51 53.7**	**-1.1**
	SNR=8.0						
NB2	**NORSAR Subarra**	**6.67**	**287**	Pn	**Pn**	**05 51 09.8**	**+0.5**
	baz=94,slow=14						
NB2				Sn	**Sn**	**05 52 23.8**	**-2.1**
	baz=92,slow=28						
NB2				Lg		05 52 58.5	
	baz=103,slow=37						
NB2	**NORSAR Subarra**	**6.67**	**287**	*e*P	**Pn**	**05 51 09.8**	**+0.5**
NB2				*e*S	**Sn**	**05 52 23.8**	**-2.1**
NB2				*e*SG		05 52 58.5	
NB2	**NORSAR Subarra**	**6.67**	**287**	Pn	**Pn**	**05 51 09.8**	**+0.5**
	SNR=5.7						
NB2				Sn	**Sn**	**05 52 23.8**	**-2.1**
	SNR=3.1						
NOA	**NORSAR Array B**	**6.67**	**287**	Pn	**Pn**	**05 51 09.2**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=69,slow=19,SNR=23						
NOA				Sn	**Sn**	**05 52 23.3**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=120,slow=21,SNR=2.6						
NOA				Lg		05 52 57.0	
	comp=Z,1.6nm,0.3s,baz=113,slow=18,SNR=5.0						
ARA0	**ARCESS Array S**	**9.82**	**2**	*e*P	**Pn**	**05 51 51.2**	**-1.3**
ARA0				*e*SG		05 54 30.6	
ARA0	**ARCESS Array S**	**9.82**	**2**	Pn	**Pn**	**05 51 51.2**	**-1.3**
	baz=176,slow=16						
ARA0				Lg		05 54 30.6	
	baz=171,slow=37						
ARA0	**ARCESS Array S**	**9.82**	**2**	Pn	**Pn**	**05 51 51.2**	**-1.3**
	SNR=102						
ARCES	**ARCESS Array B**	**9.82**	**2**	Pn	**Pn**	**05 51 51.3**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=179,slow=14,SNR=72						
ARCES				Sn	**Sn**	**05 53 38.3**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=182,slow=24,SNR=3.7						

---

*ISCJB **06** 05:52:38.0±1.2,2157S±006×68.1W±02,h114km±15km, mb4.1/3,Error ellipse: s-maj=30.4km s-min=9.2km az=5.7*
*IDC **06** 05:52:38.5±2.0,2156S×68.16W,h107km±18km,mb3.9/3, mb1 3.9/5,mb1mx3.5/16,mbtmp4.2/5,Error ellipse: s-maj=36.8km s-min=15.9km az=90.0*
*NEIC **06** 05:52:39.6±1.2,2146S×6809W,h113km±11km,mb3.4/2, Error ellipse: s-maj=26.3km s-min=10.6km az=96.0*

ISC 06 05:52:39.1±1.0,**2158S**±005×**681W**±02,**h109**km±13km,**n11**, σ**1s14**/13,**mb4.1**/3,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.26**	**360**	P	**Pn**	**05 53 55.9**	**+0.5**
	1.1nm,0.3s,baz=188,slow=8.3,SNR=28						
LPAZ				S	**Sn**	**05 54 55.2**	**+0.4**
	baz=66,slow=20,SNR=2.1						
LPAZ	**La Paz**	**5.26**	**360**	P	**Pn**	**05 53 55.9**	**+0.5**
LPAZ				S	**Sn**	**05 54 55.2**	**+0.4**
SIV	**San Ignacio**	**8.67**	**51**	P	**Pn**	**05 54 40.6**	**-1.0**
	1.9nm,0.3s,baz=247,slow=14,SNR=80						
CFAA	**Coronel Fontan**	**9.99**	**181**	P	**Pn**	**05 55 00.7**	**+1.2**
	baz=345,slow=14,SNR=2.1						
CFAA				S	**Sn**	**05 56 48.0**	**-1.5**
	0.0nm,0.3s,baz=274,slow=19,SNR=4.0						
SAML	**Samuel**	**13.42**	**21**	*e*Pn	**Pn**	**05 55 44.4**	**-0.7**
	0.7nm,0.5s						
TRQA	**Tornquist**	**17.25**	**164**	*e*P	**Pn**	**05 56 36.4**	**+3.3**
	1.6nm,0.6s						
DBIC	**Dimbokro**	**68.03**	**73**	P	**P**	**06 03 27.6**	**+1.0**
	3.9nm,0.8s,mb4.3,baz=212,slow=8.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.67**	**70**	P	**P**	**06 04 18.4**	**+0.4**
	1.0nm,0.8s,mb3.6,baz=251,slow=5.3,SNR=21						
YKA	**Yellowknife Ar**	**91.51**	**340**	P	**P**	**06 05 31.8**	**-1.5**
	1.1nm,0.6s,mb4.3,baz=134,slow=4.8,SNR=7.7						
YKA	**Yellowknife Ar**	**91.51**	**340**	P	**P**	**06 05 31.8**	**-1.5**
MKAR	**Makanchi Array**	**145.25**	**37**	PKPbc	PKPbc	06 12 03.3	-0.5
	0.7nm,0.8s,baz=349,slow=4.4,SNR=4.3						

---

*IDC **06** 05:53:14.6±2.7,520S×15252E,h0km,mb4.3/3,mb1 4.5/3, mb1mx3.9/13,mbtmp4.3/3,Error ellipse: s-maj=94.2km s-min=42.3km az=113.0*

NEIC 06 05:53:20.4±2.1,**507S**×**15224E**,**h35**km,**mb4.2**/1,**Error ellipse: s-maj=45.1km s-min=34.8km az=123.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.97**	**247**	*e*P	P	05 58 01.0	+0.6
	18nm,0.6s						
WB2	**Warramunga Arr**	**22.84**	**228**	*e*P	P	05 58 20.4	0.0
WRA	**Warramunga Arr**	**22.85**	**228**	P	P	05 58 20.4	0.0
	9.2nm,0.7s,baz=53,slow=9.9,SNR=40						
AS31	**Alice Springs**	**25.58**	**222**	*e*P	P	05 58 48.8	+2.7
ASAR	**Alice Springs**	**25.58**	**222**	P	P	05 58 46.5	+0.5
	5.2nm,0.6s,baz=59,slow=8.7,SNR=55						
ASPA	**Alice Springs**	**25.58**	**222**	*e*P	P	05 58 48.8	+2.7
STKA	**Stephens Creek**	**28.48**	**199**	P	P	05 59 11.3	-0.8
	1.4nm,0.7s,baz=31,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**29.04**	**241**	*e*P	P	05 59 16.8	-0.4
	5.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**149.86**	**287**	PKPbc	PKPbc	06 13 08.3	+1.6
	0.5nm,0.5s,baz=76,slow=2.8,SNR=13						

---

*ISCJB **06** 05:57:17.1±0.4,7098N±007×6.19W±008,h10km,mb3.8/2, Error ellipse: s-maj=9.7km s-min=3.8km az=14.7*
*IDC **06** 05:57:18.5±1.3,7093N×642W,h0km,mb3.7/2,mb1 3.6/6, mb1mx3.4/25,mbtmp3.6/6,ML3.3/3,MS3.1/1,Ms1 3.2/1, ms1mx2.6/36,Error ellipse: s-maj=42.5km s-min=8.4km az=10.0*
*NEIC **06** 05:57:19.2±0.7,7096N×644W,h10km,Error ellipse: s-maj=12.0km s-min=8.1km az=32.0*
*BER **06** 05:57:19.5±1.1,7133N×653W,h10km,MD4.3,ML3.0*

ISC 06 05:57:19.0±0.4,**7095N**±007×**640W**±008,**h10**km,**n27**, σ**1s15**/32,**mb3.8**/2,**4C,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.62**	**275**⇑	*i*P	**Pg**	**05 57 31.3**	**+0.1**
JNW	**Jan Mayen West**	**0.67**	**278**⇑	*i*P	**Pg**	**05 57 31.9**	**-0.1**
JMIC	**Jan Mayen**	**0.70**	**275**	Pg	**Pg**	**05 57 32.1**	**-0.4**
	208nm,0.3s,baz=8.3,slow=2.8,SNR=861						
JMIC				Lg		05 57 41.0	
	349nm,0.3s,baz=16,slow=21,SNR=70						
JMIC	**Jan Mayen**	**0.70**	**275**⇑	*i*P	**Pg**	**05 57 32.0**	**-0.5**
JMIC				*e*S	**Sg**	**05 57 41.1**	**-0.5**
JMIC				AML	AML	05 57 42.8	
	comp=Z,1μm,0.5s						
JMI	**Jan Mayen**	**0.77**	**270**⇑	*i*P	**Pg**	**05 57 33.6**	**-0.3**
JMI				*e*S	**Sg**	**05 57 44.2**	**+0.4**
JMI				AML	AML	05 57 46.4	
	comp=Z,1μm,0.4s						
DAG	**Danmarks Havn**	**6.76**	**335**	*i* P	**Pn**	**05 58 57.0**	**-1.3**
	comp=Z,2.8nm,0.5s						
DAG	**Danmarks Havn**	**6.76**	**335**	*e*P	**Pn**	**05 58 57.0**	**-1.3**
	comp=Z,2.8nm,0.5s						
LOF	**Lofoten**	**7.52**	**102**	*e*Pn	**Pn**	**05 59 08.8**	**+0.1**
LOF				*e*Sn	**Sn**	**06 00 28.9**	**-5.0**
STOK	**Stokkvaagen**	**8.43**	**114**	*e*Pn	**Pn**	**05 59 22.0**	**+0.8**
STOK				*e*S	**Sn**	**06 00 48.8**	**-7.7**
STOK				AML	AML	06 00 58.9	
	comp=Z,6.5nm,1.1s						
STOK	**Stokkvaagen**	**8.43**	**114**	*e*P	**Pn**	**05 59 22.0**	**+0.8**
STOK				*e*S	**Sn**	**06 00 48.8**	**-7.7**
TRO	**Tromso**	**8.63**	**87**	*e*P	**Pn**	**05 59 21.1**	**-2.8**
MOR8	**Moi Rana**	**8.97**	**112**	*e*Pn	**Pn**	**05 59 29.4**	**+0.8**
MOR8				AML	AML	06 01 07.3	
	comp=Z,5.0nm,0.5s						
KBS	**Kingsbay**	**9.26**	**22**	*e*Pn	**Pn**	**05 59 34.1**	**+1.5**
SPB4	**Spitsbergen Ar**	**9.36**	**29**	*e*Pn	**Pn**	**05 59 34.5**	**+0.5**
NSS	**Namsos**	**9.45**	**124**	*e*P	**Pn**	**05 59 34.2**	**-0.9**
SUMG	**Summit**	**10.10**	**294**	*e*Pn	**Pn**	**05 59 47.6**	**+3.5**
KTK1	**Kautokeino**	**10.28**	**87**	*e*Pn	**Pn**	**05 59 45.2**	**-1.4**
ARCES	**ARCESS Array B**	**10.81**	**82**	Pn	**Pn**	**05 59 53.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=289,slow=12,SNR=14						
NOA	**NORSAR Array B**	**12.19**	**136**	Pn	**Pn**	**06 00 13.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=341,slow=13,SNR=3.0						
NOA				LR	LR	06 04 47.3	
	comp=Z,91nm,18.2s,baz=115,slow=37						
HFS	**Hagfors**	**13.57**	**133**	Pn	**Pn**	**06 00 31.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=357,slow=11,SNR=8.2						
KAF	**Kangasniemi**	**15.52**	**108**	*e*p	**Pn**	**06 00 55.5**	**-2.4**
FINES	**FINESS Array B**	**15.96**	**110**	Pn	**Pn**	**06 01 04.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=324,slow=9.4,SNR=7.5						
JOF	**Joensuu**	**16.52**	**100**	*e*p	**Pn**	**06 01 07.8**	**-3.0**
AKTK	**Aktyubinsk**	**35.23**	**91**	P	**P**	**06 04 15.1**	**+1.6**
AKTO	**Aktyubinsk**	**35.23**	**91**	P	**P**	**06 04 15.1**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=352,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**57.98**	**171**	P	**P**	**06 07 12.0**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=341,slow=8.9,SNR=4.2						
TORD	**Torodi Ar. Bea**	**57.98**	**171**	P	**P**	**06 07 12.0**	**+0.3**

---

*ISCJB **06** 06:30:00.4±0.7,5969N±004×2392E±007,h0km,Error ellipse: s-maj=6.6km s-min=5.0km az=150.7*
*NAO **06** 06:30:02.9±1.0,5967N×24.10E,ML2.1*
*IDC **06** 06:30:03.7±1.8,5969N×2423E,h0km,mb1 3.1/3, mb1mx3.0/21,mbtmp3.1/3,ML2.8/3,Error ellipse: s-maj=20.7km s-min=7.0km az=147.0*
*HEL **06** 06:30:03.3±0.2,5967N×2409E,h0km,ML2.2, ML2.1(NAO),Explosion*
*BER **06** 06:30:04.1±3.5,5967N×24.11E,h0km±15km,ML2.1(NAO)*

ISC 06 06:30:02.1±0.7,**5968N**±004×**2407E**±007,**h0**km,**n19**, σ**1s14**/33,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.56**	**17**	*e*P	**Pg**	**06 30 13.3**	**+0.4**
MEF				*e*S	**Sg**	**06 30 20.8**	**+0.6**
PVF	**Pernaja**	**1.25**	**45**	*e*P	**Pg**	**06 30 25.4**	**-0.7**
PVF				*e*S	**Sg**	**06 30 40.9**	**-1.3**
RAF	**Rauma**	**1.77**	**321**	*e*P	**Pn**	**06 30 35.3**	**+1.4**
RAF				*e*S	**Sn**	**06 30 58.4**	**+1.2**
VSU	**Vasula**	**1.84**	**130**	*e*P	**Pn**	**06 30 35.8**	**+0.8**
VSU				*e*S	**Sn**	**06 30 58.9**	**0.0**
VSU	**Vasula**	**1.84**	**130**	Pn	**Pn**	**06 30 35.6**	**+0.7**
VSU				Lg		06 30 59.1	
FIA0	**FINESS Array S**	**2.03**	**28**	*e*P	**Pn**	**06 30 39.0**	**+1.5**
FIA0				*e*S	**Sn**	**06 31 05.2**	**+1.7**
FIA0				MSG		06 31 08.5	
	comp=Z,14nm,0.2s						
FIA0	**FINESS Array S**	**2.03**	**28**	Pn	**Pn**	**06 30 39.1**	**+1.6**
	baz=206,slow=14						
FIA0				Lg		06 31 06.2	
	baz=217,slow=28						
FINES	**FINESS Array B**	**2.03**	**28**	Pg	**Pg**	**06 30 39.1**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=208,slow=14,SNR=279						
FINES				Pn	**Pn**	**06 30 40.0**	**+2.5**
	comp=Z,2.5nm,0.3s,baz=206,slow=12,SNR=286						
FINES				Lg		06 31 05.9	
	comp=Z,3.4nm,0.3s,baz=206,slow=28,SNR=22						
FINES				Sn	**Sn**	**06 31 06.7**	**+3.1**
	comp=Z,3.4nm,0.3s,baz=211,slow=24,SNR=26						
KEF	**Keuruu**	**2.53**	**9**	MSG		06 31 21.9	
	comp=Z,12nm,0.2s						
KAF	**Kangasniemi**	**2.67**	**23**	MSG		06 31 28.4	
	comp=Z,6.8nm,0.2s						
HFS	**Hagfors**	**5.24**	**279**	*e*P	**Pn**	**06 31 21.8**	**+0.1**
HFS				*e*S	**Sn**	**06 32 21.9**	**-1.0**
HFS				*e*SG		06 32 43.3	
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**	**06 31 22.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=114,slow=14,SNR=13						
HFS				Sn	**Sn**	**06 32 23.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=84,slow=27,SNR=5.1						
HFS				Lg		06 32 42.8	
	comp=Z,0.6nm,0.3s,baz=101,slow=37,SNR=6.2						
HFS	**Hagfors**	**5.24**	**279**	Pn	**Pn**	**06 31 21.8**	**+0.1**
	baz=85,slow=12						
HFS				Sn	**Sn**	**06 32 21.9**	**-1.0**
	baz=85,slow=28						
HFS				Lg		06 32 43.3	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**6.52**	**288**	Pn	**Pn**	**06 31 39.4**	**+0.1**
	baz=96,slow=14						
NB2				Sn	**Sn**	**06 32 52.9**	**-1.5**
	baz=96,slow=22						
NB2				Lg		06 33 26.0	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.52**	**288**	*e*P	**Pn**	**06 31 39.4**	**+0.1**
NB2				*e*S	**Sn**	**06 32 52.9**	**-1.5**
NB2				*e*SG		06 33 26.0	
NOA	**NORSAR Array B**	**6.52**	**288**	Pn	**Pn**	**06 31 38.7**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=97,slow=12,SNR=2.6						
NOA				Sn	**Sn**	**06 32 52.1**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=2.7						
NOA				Lg		06 33 26.2	
	comp=Z,0.4nm,0.3s,baz=46,slow=14,SNR=3.1						
ARA0	**ARCESS Array S**	**9.91**	**3**	Pn	**Pn**	**06 32 25.4**	**-0.4**
	baz=177,slow=14						
ARA0				Sn	**Sn**	**06 34 11.3**	**-6.5**
	baz=174,slow=22						
ARA0	**ARCESS Array S**	**9.91**	**3**	*e*P	**Pn**	**06 32 25.4**	**-0.4**
ARA0				*e*S	**Sn**	**06 34 11.3**	**-6.5**
ARCES	**ARCESS Array B**	**9.91**	**3**	Pn	**Pn**	**06 32 24.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=12						
ARCES				Sn	**Sn**	**06 34 11.4**	**-6.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=22,SNR=4.2						

---

*ISCJB **06** 06:34:10.4±0.5,2807S±004×6909W±009,h98km±9km, mb3.9/5,Error ellipse: s-maj=12.7km s-min=5.9km az=180.0*
*IDC **06** 06:34:11.4±3.1,2804S×6909W,h88km±19km,mb3.7/5, mb1 3.5/9,mb1mx3.4/20,mbtmp3.8/9,Error ellipse: s-maj=52.2km s-min=15.0km az=98.0*
*NEIC **06** 06:34:13.2,28.11S×6949W,h121km,MG4.0(GUC),After GUC.*
*GUC **06** 06:34:13.2±0.8,28.11S×6949W,h121km±14km,MD4.0, ML4.0*

ISC 06 06:34:11.6±0.5,**2807S**±004×**6911W**±007,**h92**km±9km,**n28**, σ**1s16**/43,**mb3.9**/5,**8C-3D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.31**	**303**⇑	*i*P	**Pn**	**06 34 36.4**	**+1.3**
CPCH				*i* S	**Sn**	**06 34 53.5**	**+0.8**
CPCH				AML	AML	06 34 56.0	
	comp=E,17μm,0.1s						
CPCH	**Copiapo**	**1.31**	**303**⇑	*i*P	**Pn**	**06 34 36.4**	**+1.3**
CPCH				*i* S	**Sn**	**06 34 53.5**	**+0.8**
VACH	**Vallenar**	**1.54**	**250**⇑	*i*P	**Pn**	**06 34 40.7**	**+2.8**
VACH				*i* S	**Sn**	**06 34 59.3**	**+1.5**
VACH				AML	AML	06 35 01.1	
	comp=N,9μm,0.1s						
VACH	**Vallenar**	**1.54**	**250**⇑	*i*P	**Pn**	**06 34 40.7**	**+2.8**
VACH				*i* S	**Sn**	**06 34 59.3**	**+1.5**
LCO	**Las Campanas**	**1.68**	**236**⇑	*i*P	**Pn**	**06 34 40.2**	**+0.5**
LCO				*i* S	**Sn**	**06 35 01.3**	**+0.2**
LCO				AML	AML	06 35 03.0	
	comp=E,2μm,0.5s						
LCO	**Las Campanas**	**1.68**	**236**⇑	*i*P	**Pn**	**06 34 40.2**	**+0.5**
LCO				*i* S	**Sn**	**06 35 01.3**	**+0.2**
CDCH	**Caldera**	**1.82**	**303**⇓	*i*P	**Pn**	**06 34 41.9**	**+0.4**
CDCH				*i* S	**Sn**	**06 35 03.3**	**-0.9**
CDCH				AML	AML	06 35 04.3	
	comp=N,2μm,0.4s						
CDCH	**Caldera**	**1.82**	**303**⇓	*i*P	**Pn**	**06 34 41.9**	**+0.4**
CDCH				*i* S	**Sn**	**06 35 03.3**	**-0.9**
TLL	**Tololo Astrono**	**2.56**	**215**⇑	*e*P	**Pn**	**06 34 52.0**	**+0.7**
TLL				*i* S	**Sn**	**06 35 21.4**	**-0.2**
TLL				AML	AML	06 35 31.6	
	comp=N,809nm,0.6s						
TLL	**Tololo Astrono**	**2.56**	**215**⇑	*e*P	**Pn**	**06 34 52.0**	**+0.7**
TLL				*i* S	**Sn**	**06 35 21.4**	**-0.2**
LSCH	**La Serena**	**2.62**	**225**	*i* P	**Pn**	**06 34 51.6**	**-0.4**
LSCH				*i* S	**Sn**	**06 35 20.7**	**-2.3**
LSCH				AML	AML	06 35 22.0	
	comp=E,33nm,0.3s						
LSCH	**La Serena**	**2.62**	**225**	*i* P	**Pn**	**06 34 51.6**	**-0.4**
LSCH				*i* S	**Sn**	**06 35 20.7**	**-2.3**
OVCH	**Ovalle**	**3.12**	**215**	*e*P	**Pn**	**06 34 58.0**	**-0.7**
OVCH				*i* S	**Sn**	**06 35 32.1**	**-3.0**
OVCH				AML	AML	06 35 33.5	
	comp=E,842nm,0.3s						
OVCH	**Ovalle**	**3.12**	**215**	*e*P	**Pn**	**06 34 58.0**	**-0.7**
OVCH				*i* S	**Sn**	**06 35 32.1**	**-3.0**
CMCH	**Combarbala**	**3.50**	**208**⇓	*e*P	**Pn**	**06 35 03.1**	**-0.8**
CFAA	**Coronel Fontan**	**3.60**	**168**	P	**Pn**	**06 35 07.3**	**+2.0**
	comp=E,0.4nm,0.3s,baz=344,slow=12,SNR=103						
CFAA				S	**Sn**	**06 35 47.5**	**+0.6**
	comp=E,1.1nm,0.3s,baz=150,slow=17,SNR=22						
PTCH	**Petorca**	**4.46**	**200**	*e*P	**Pn**	**06 35 15.8**	**-1.2**
CEN1	**Los Morros**	**4.76**	**348**	*e*P	**Pn**	**06 35 19.2**	**-1.8**
FCH	**Farellones**	**5.34**	**191**	*e*P	**Pn**	**06 35 29.7**	**+1.0**
CLCH	**Cerro Calan**	**5.45**	**193**	*e*P	**Pn**	**06 35 29.5**	**-0.8**
CPUP	**Villa Florida**	**10.63**	**83**	P	**Pn**	**06 36 40.1**	**-0.8**
	comp=E,0.7nm,0.3s,baz=247,slow=12,SNR=8.4						
LPAZ	**La Paz**	**11.76**	**5**	P	**Pn**	**06 36 56.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=199,slow=13,SNR=2.6						
SIV	**San Ignacio**	**14.14**	**33**	P	**Pn**	**06 37 25.5**	**-2.1**
	comp=E,0.1nm,0.3s,baz=213,slow=17,SNR=4.1						
SNAA	**Sanae**	**56.18**	**160**	P	**P**	**06 43 41.6**	**-0.2**
	comp=E,0.3nm,0.9s,mb3.3,baz=316,slow=15,SNR=5.9						
DBIC	**Dimbokro**	**70.90**	**71**	P	**P**	**06 45 19.9**	**+1.2**
	comp=E,2.3nm,0.9s,mb4.0,baz=223,slow=8.1,SNR=4.2						
MAW	**Mawson**	**78.12**	**163**	P	**P**	**06 46 00.3**	**-0.2**
	comp=E,5.2nm,1.3s,mb4.1,baz=226,slow=4.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**79.80**	**69**	P	**P**	**06 46 10.7**	**+1.0**
	comp=E,1.2nm,0.6s,mb3.9,baz=270,slow=6.1,SNR=19						
BOSA	**Boshof**	**80.57**	**117**	P	**P**	**06 46 14.5**	**+0.6**
	comp=E,2.7nm,0.9s,mb4.1,baz=225,slow=2.9,SNR=2.9						

---

*SZGRF **06** 06:35:53.9,58.16N×14981W,h33km,mb4.7,Gulf of Alaska*
*MOS **06** 06:36:09.9±1.0,6186N×15033W,h19km,mb4.9/12,Error ellipse: s-maj=19.3km s-min=6.6km az=95.3*
*BJI **06** 06:36:12.0,6160N×14990W,h39km,mB5.1,mb4.9,Ms4.8, Msz4.3*
*ISCJB **06** 06:36:13.1±0.2,6173N±002×15007W±005,h47km, mb4.6/79,MS3.6/4,Error ellipse: s-maj=3.8km s-min=3.2km az=115.7*
*IDC **06** 06:36:15.7±0.7,6168N×150.18W,h61km±6km,mb4.0/21, mb1 4.0/26,mb1mx4.0/29,mbtmp4.2/26,MS3.3/7, Ms1 3.3/7,ms1mx3.1/25,Error ellipse: s-maj=12.4km s-min=10.6km az=70.0*
*NEIC **06** 06:36:16.0,6161N×14992W,h39km,mb4.5/13, ML4.1(AEIC),ML4.3(PMR),After AEIC.*
NEIC Felt [IV] at Willow and [III] at Anchorage, Chugiak, Eagle River, Elmendorf AFB, Fort Richardson, Girdwood, Palmer, Talkeetna and Wasilla. Also felt at Indian, Kenai and Valdez.

ISC 06 06:36:14.5±0.2,**6169N**±002×**15002W**±005,**h49**km, **h49**km±4.8km**:pP-P**,**n169**,σ**0s99**/177,**mb4.6**/79,**MS3.6**/4, **9C-9D,Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.43**	**102**	P	**Pn**	**06 36 24.1**	**-0.8**
PMR				S	**Sn**	**06 36 31.9**	**-0.5**
FIB	**Fire Island**	**0.53**	**188**	P	**Pn**	**06 36 26.4**	**+0.4**
FIB				S	**Sn**	**06 36 35.5**	**+1.2**
GHO	**Glory Hole Cre**	**0.53**	**80**	P	**Pn**	**06 36 26.2**	**+0.2**
GHO				S	**Sn**	**06 36 34.5**	**+0.2**
RC01	**Rabbit Creek A**	**0.61**	**167**	P	**Pn**	**06 36 26.0**	**-1.1**
RC01				S	**Sn**	**06 36 35.4**	**-0.8**
KNK	**Knik Glacier**	**0.80**	**109**	P	**Pn**	**06 36 29.5**	**0.0**
SLKM	**Skilak Lake**	**1.19**	**185**	P	**Pn**	**06 36 34.4**	**-0.3**
SEW	**Seward**	**1.61**	**170**	P	**Pn**	**06 36 39.7**	**-0.9**
TRF	**Thorofare Moun**	**1.78**	**356**	P	**Pn**	**06 36 45.1**	**+2.3**
KTH	**Kantishna Hill**	**1.92**	**348**	P	**Pn**	**06 36 47.1**	**+2.4**
MCK	**McKinley**	**2.11**	**13**	P	**Pn**	**06 36 50.0**	**+2.6**
DIV	**Divide**	**2.12**	**103**	P	**Pn**	**06 36 47.4**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.37**	**117**	P	**Pn**	**06 36 50.5**	**-0.4**
BMRM	**Bremner River**	**2.71**	**103**	P	**Pn**	**06 36 55.0**	**-0.6**
SVW2	**Sparrevohn**	**2.74**	**260**	P	**Pn**	**06 36 57.0**	**+1.0**
MID	**Middleton Isla**	**2.90**	**140**	P	**Pn**	**06 36 58.3**	**+0.1**
RAGM	**Ragged Mountai**	**2.91**	**114**	P	**Pn**	**06 36 57.6**	**-0.7**
TTA	**Tatalina**	**3.06**	**297**	P	**Pn**	**06 37 01.9**	**+1.5**
MENT	**Mentasta**	**3.20**	**64**	*e*P	**Pn**	**06 37 03.3**	**+1.0**
COLA	**College**	**3.35**	**16**⇓	*i*P	**Pn**	**06 37 04.7**	**+0.4**
COLA	**College**	**3.35**	**16**	P	**Pn**	**06 37 05.8**	**+1.5**
KDAK	**Kodiak Island**	**4.12**	**199**	P	**Pn**	**06 37 13.9**	**-1.1**
	6.6nm,0.3s,baz=28,slow=9.8,SNR=23						
KDAK				S	**Sn**	**06 38 02.9**	**+0.9**
	9.4nm,0.3s,baz=137,slow=18,SNR=3.4						
KDAK	**Kodiak Island**	**4.12**	**199**	P	**Pn**	**06 37 14.6**	**-0.4**
GCSA	**Galena City Sc**	**4.37**	**318**	P	**Pn**	**06 37 20.2**	**+1.9**
EGAK	**Eagle**	**5.07**	**48**	*e*Pn	**Pn**	**06 37 29.1**	**+1.2**
DAWY	**Dawson**	**5.42**	**59**	P	**Pn**	**06 37 33.1**	**+0.4**
COLD	**Coldfoot**	**5.56**	**359**	P	**Pn**	**06 37 37.1**	**+2.3**
PNL	**Peninsula**	**5.60**	**106**	P	**Pn**	**06 37 34.3**	**-0.9**
CHGN	**Chignik**	**6.92**	**222**	*e*P	**Pn**	**06 37 55.7**	**+2.4**
SKAG	**Skagway**	**7.57**	**101**	P	**Pn**	**06 38 00.7**	**-1.5**
SIT	**Sitka**	**8.81**	**115**	P	**Pn**	**06 38 17.4**	**-1.8**
TNA	**Tin City**	**8.85**	**304**	*e*Pn	**Pn**	**06 38 20.8**	**+1.0**
TNA				*e*Sn	**Sn**	**06 39 55.0**	**-3.1**
INK	**Inuvik**	**9.61**	**39**	P	**Pn**	**06 38 31.0**	**+0.9**
	0.7nm,0.3s,baz=235,slow=16,SNR=22						
INK				S	**Sn**	**06 40 19.6**	**+3.0**
	2.6nm,0.3s,baz=146,slow=6.0,SNR=6.4						
INK				LR	LR	06 42 34.9	
	comp=Z,208nm,19.3s,baz=82,slow=39						
INK	**Inuvik**	**9.61**	**39**	*e*Pn	**Pn**	**06 38 31.1**	**+0.9**
INK				*e*Sn	**Sn**	**06 40 20.1**	**+3.4**
DLBC	**Dease Lake**	**10.50**	**99**	P	**Pn**	**06 38 43.0**	**+0.7**
	0.2nm,0.3s,baz=253,slow=12,SNR=5.0						
DLBC				LR	LR	06 43 33.9	
	comp=Z,129nm,21.4s,baz=19,slow=42						
DLBC	**Dease Lake**	**10.50**	**99**	P	**Pn**	**06 38 43.0**	**+0.7**
DLBC				LR	LR	06 43 33.9	
BBB	**Bella Bella**	**15.20**	**119**	P	**Pn**	**06 39 46.1**	**+0.2**
	0.1nm,0.3s,baz=298,slow=15,SNR=3.0						
BBB				LR	LR	06 44 40.8	
	comp=Z,94nm,18.7s,baz=47,slow=33						
YKA	**Yellowknife Ar**	**16.48**	**72**	P	**Pn**	**06 40 04.5**	**+2.3**
	baz=277,slow=9.8,SNR=20						
YKA				LR	LR	06 46 28.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,56nm,21.6s,baz=90,slow=37						
YKA	**Yellowknife Ar**	**16.48**	**72**	P	**Pn**	**06 40 04.5**	**+2.3**
YKA				LR	LR	06 46 28.9	
EDM	**Edmonton**	**21.20**	**97**	*e*P	**P**	**06 40 57.2**	**+1.2**
NEW	**Newport**	**22.86**	**111**	P	**P**	**06 41 14.3**	**+0.8**
	2.1nm,0.8s,mb3.6,baz=308,slow=16,SNR=4.9						
NEW	**Newport**	**22.86**	**111**	P	**P**	**06 41 14.3**	**+0.7**
BMO	**Blue Mountains**	**25.42**	**116**	*e*P	**P**	**06 41 38.0**	**+0.5**
	1.1nm,0.7s,mb3.5						
YBH	**Yreka Blue Hor**	**25.84**	**128**	LR	LR	06 49 58.7	
	comp=Z,80nm,18.5s,MS3.3,baz=28,slow=32						
SEY	**Seymchan**	**26.04**	**298⇓**	*e*P	**P**	**06 41 41.4**	**-1.7**
RRI2	**Red Ridge**	**29.23**	**111**	*e*P	**P**	**06 42 13.2**	**+1.5**
	3.0nm,0.6s,mb4.2						
TPAW	**Teton Pass**	**29.28**	**110**	*e*P	**P**	**06 42 11.9**	**-0.2**
	2.1nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**30.39**	**125**	P	**P**	**06 42 23.0**	**+1.1**
	0.3nm,0.6s,baz=334,slow=9.6,SNR=4.3						
NVAR				pP	pP	06 42 37.6	+3.0
	0.7nm,0.6s,baz=326,slow=8.9,SNR=6.5						
NVAR				PcP	PcP	06 45 20.2	-0.6
	0.4nm,0.5s,baz=18,slow=1.6,SNR=5.6						
NVAR	**Mina Array Bea**	**30.39**	**125**	P	**P**	**06 42 23.0**	**+1.1**
NVAR				pP	pP	06 42 37.6	+3.0
NVAR				PcP	PcP	06 45 20.2	-0.6
PDAR	**Pinedale Array**	**30.48**	**110**	P	**P**	**06 42 23.4**	**+0.7**
	0.6nm,0.6s,mb3.5,baz=347,slow=3.8,SNR=6.4						
PDAR				PcP	PcP	06 45 19.9	-1.1
	0.7nm,0.8s,baz=5.7,slow=1.5,SNR=5.8						
ULM	**Lac du Bonnet**	**31.43**	**86**	P	**P**	**06 42 31.0**	**-0.1**
	2.3nm,0.5s,mb4.2,baz=313,slow=11,SNR=4.3						
ULM				LR	LR	06 55 56.1	
	comp=Z,58nm,18.2s,MS3.3,baz=107,slow=38						
MSU	**Marysvale**	**32.81**	**117**	*e*P	**P**	**06 42 44.1**	**+0.9**
WUAZ	**Wupatki**	**35.69**	**119**	*e*P	**P**	**06 43 10.3**	**+2.2**
	3.4nm,0.8s,mb4.3						
SFJD	**Kangerlussuaq**	**38.95**	**38**	P	**P**	**06 43 35.9**	**+0.2**
	6.5nm,0.6s,mb4.6,baz=322,slow=11,SNR=2.9						
SCHQ	**Schefferville**	**41.44**	**60**	P	**P**	**06 43 56.0**	**-0.3**
	2.1nm,0.7s,mb3.9,baz=319,slow=11,SNR=3.2						
WMOK	**Wichita Mounta**	**41.89**	**106**	*e*P	**P**	**06 44 00.7**	**+0.7**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
WMOK	**Wichita Mounta**	**41.89**	**106**	*e*P	**P**	**06 44 00.7**	**+0.7**
	comp=Z,2.2nm,0.7s,mb3.9						
BOD	**Bodaibo**	**44.28**	**310**	*e*P	**P**	**06 44 15.1**	**-4.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
JCT	**Junction City**	**45.01**	**110**	*e*P	**P**	**06 44 25.9**	**+0.8**
JCT				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
JCT	**Junction City**	**45.01**	**110**	*e*P	**P**	**06 44 25.9**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.2						
MDJ	**Mudanjiang**	**47.77**	**288**	P	**P**	**06 44 49.2**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,163nm,6.3s						
VLA	**Vladivostok**	**47.88**	**285**	*e*P	**P**	**06 44 51.3**	**+3.7**
VLA				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.3						
ARCES	**ARCESS Array B**	**49.03**	**2**	P	**P**	**06 44 54.9**	**-1.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=5.5,slow=7.2,SNR=12						
ARCES				PcP	PcP	06 46 18.6	-1.1
	comp=Z,4.6nm,0.9s,baz=343,slow=3.8,SNR=5.3						
CN2	**Changchun**	**50.27**	**290**	*e*P	**P**	**06 45 10.0**	**+4.1**
ULN	**Ulaanbaatar**	**54.69**	**306⇑**	*e*P	**P**	**06 45 38.8**	**+0.2**
ULN	**Ulaanbaatar**	**54.69**	**306**	*e*P	**P**	**06 45 39.0**	**+0.4**
	comp=Z,8.6nm,0.9s,mb4.8						
SONM	**Songino Array**	**54.96**	**307**	P	**P**	**06 45 41.1**	**+0.5**
	comp=Z,5.7nm,0.8s,mb4.7,baz=35,slow=7.7,SNR=24						
SONM				pP	pP	06 45 57.4	+3.3
	comp=Z,2.5nm,0.7s,baz=36,slow=7.5,SNR=5.0						
JOF	**Joensuu**	**55.71**	**359**	*e*p	**P**	**06 45 44.5**	**-1.5**
	comp=Z,1.1nm,0.4s,mb4.2						
NVS	**Novosibirsk**	**56.49**	**326**	*e*P	**P**	**06 45 49.5**	**-2.1**
NOA	**NORSAR Array B**	**56.76**	**11**	P	**P**	**06 45 52.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=48,slow=22,SNR=3.1						
ZAL	**Zalesovo**	**56.88**	**325**	P	**P**	**06 45 53.2**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=9.7,SNR=7.2						
ZAL	**Zalesovo**	**56.88**	**325**	P	**P**	**06 45 53.2**	**-1.1**
FINES	**FINESS Array B**	**57.16**	**2**	P	**P**	**06 45 55.1**	**-1.2**
	comp=Z,1.8nm,0.8s,mb4.2,baz=351,slow=6.7,SNR=7.7						
HHC	**Hu-ho-hao-te**	**58.68**	**299**	*e*P	**P**	**06 46 11.5**	**+4.5**
HHC				AP	pP	06 46 23.0	+2.4
HHC				XP	sP	06 46 27.5	+1.4
HHC				PCP	PcP	06 47 01.7	+5.2
HHC				PP	PP	06 48 22.5	+5.4
HHC				SCP	ScP	06 50 57.6	+4.8
HHC				PCS	PcS	06 51 01.9	+3.7
HHC				S	**S**	**06 54 10.8**	**+2.8**
HHC				XS	sS	06 54 28.9	-1.9
HHC				SCS	ScS	06 55 54.6	+2.0
HHC				SS	SS	06 58 04.6	+3.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,122nm,4.9s						
HHC				LR	LR		
	comp=N,127nm,4.5s						
HHC				LR	LR		
	comp=E,178nm,4.9s						
HHC				LR	LR		
	comp=Z,151nm,5.9s						
SVE	**Sverdlovsk**	**59.42**	**341**	*e*P	**P**	**06 46 11.0**	**-1.0**
ARU	**Arti**	**60.11**	**342**	*e*P	**P**	**06 46 15.8**	**-1.0**
ARU	**Arti**	**60.11**	**342**	*e*P	**P**	**06 46 15.8**	**-1.0**
EKA	**Eskdalemuir Ar**	**60.45**	**21**	P	**P**	**06 46 18.6**	**-0.5**
	comp=Z,10.0nm,0.8s,mb4.9,baz=327,slow=5.5,SNR=28						
CHKZ	**Chkalovo**	**60.58**	**334**	*e*P	**P**	**06 46 18.3**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**60.58**	**334**	*e*P	**P**	**06 46 18.3**	**-1.7**
	comp=Z,5.1nm,0.9s,mb4.7						
BVAR	**Borovoye Array**	**61.23**	**333**	P	**P**	**06 46 23.3**	**-1.1**
	comp=Z,4.6nm,0.7s,mb4.8,baz=42,slow=6.8,SNR=22						
BVAR				PcP	PcP	06 47 05.1	-1.6
	comp=Z,1.9nm,0.7s,baz=11,slow=3.0,SNR=3.9						
ZRNK	**Zerenda**	**61.59**	**334**	*e*P	**P**	**06 46 25.7**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
ZRNK	**Zerenda**	**61.59**	**334**	*e*P	**P**	**06 46 25.7**	**-1.2**
	comp=Z,6.3nm,0.9s,mb4.8						
SSE	**Sheshan**	**62.59**	**285**	P	**P**	**06 46 36.4**	**+2.8**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,137nm,3.8s						
NJ2	**Nanjing**	**62.85**	**287**	*e*P	**P**	**06 46 41.8**	**+6.5**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.6						
OBN	**Obninsk**	**63.43**	**356κ**	*e*P	**P**	**06 46 38.5**	**-0.6**
OBN				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.5						
MKAR	**Makanchi Array**	**64.00**	**323**	P	**P**	**06 46 41.1**	**-1.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=39,slow=7.8,SNR=13						
MKAR				pP	pP	06 46 57.2	+0.6
	comp=Z,1.0nm,0.6s,baz=39,slow=7.8,SNR=3.4						
MKAR				PcP	PcP	06 47 15.4	-2.5
	comp=Z,0.8nm,0.5s,baz=48,slow=6.4,SNR=2.5						
MKAR	**Makanchi Array**	**64.00**	**323**	P	**P**	**06 46 41.1**	**-1.7**
MKAR				pP	pP	06 46 57.2	+0.6
MKAR				PcP	PcP	06 47 15.4	-2.5
GTA	**Gaotai**	**64.63**	**306**	*e*P	**P**	**06 46 46.6**	**-0.4**
GTA				AP	pP	06 46 56.7	-4.1
GTA				XP	sP	06 47 00.9	-5.4
GTA				PP	PP	06 49 10.4	+0.9
GTA				PPP		06 50 43.9	
GTA				S	**S**	**06 55 19.7**	**-3.5**
GTA				SS	SS	06 59 32.0	-2.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,83nm,5.3s						
GTA				LR	LR		
	comp=N,404nm,21.4s,MS4.8						
GTA				LR	LR		
	comp=E,674nm,24.5s,MS4.8						
GTA				LR	LR		
	comp=Z,118nm,22.6s,MS4.0						
WMQ	**Urumqi**	**65.03**	**318**	*e*P	**P**	**06 46 55.5**	**+5.9**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**65.91**	**302**	*e*P	**P**	**06 46 55.3**	**0.0**
LZH				AP	pP	06 47 05.6	-3.5
LZH				XP	sP	06 47 09.5	-5.2
LZH				PP	PP	06 49 22.6	+1.8
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
AKTK	**Aktyubinsk**	**66.01**	**341**	P	**P**	**06 46 54.4**	**-1.5**
AKTO	**Aktyubinsk**	**66.01**	**341**	P	**P**	**06 46 54.4**	**-1.5**
	comp=Z,4.2nm,0.7s,mb4.6,baz=23,slow=5.9,SNR=17						
CLL	**Collm**	**66.55**	**12**	*e*P	**P**	**06 46 59.0**	**-0.4**
BAIF	**Baives**	**66.71**	**18**	*e*P	**P**	**06 47 00.0**	**-0.4**
	comp=Z,7.8nm,0.5s,mb4.7						
GIVF	**Givet**	**66.76**	**17**	*e*P	**P**	**06 47 00.1**	**-0.6**
MOX	**Moxa**	**67.06**	**13**	*e*P	**P**	**06 47 02.6**	**-0.1**
ROSF	**Rostrenen**	**67.13**	**23**	*e*P	**P**	**06 47 02.6**	**-0.5**
	comp=Z,16nm,0.8s,mb4.8						
VRSR	**Storozhevoye**	**67.21**	**354**	*e*P	**P**	**06 47 02.9**	**-0.7**
VRSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
FLN	**La Foliniere**	**67.22**	**21**	*e*P	**P**	**06 47 03.0**	**-0.7**
	comp=E,9.7nm,0.5s,mb4.8						
SGMF	**Saint Gilles**	**67.34**	**23**	*e*P	**P**	**06 47 03.9**	**-0.5**
LDF	**La Druitiere**	**67.45**	**21**	*e*P	**P**	**06 47 04.4**	**-0.7**
	comp=E,12nm,0.6s,mb4.8						
GRR	**Gorron**	**67.52**	**22**	*e*P	**P**	**06 47 04.0**	**-1.5**
	comp=E,18nm,0.8s,mb4.8						
QUIF	**Quistinic**	**67.55**	**23**	*e*P	**P**	**06 47 05.3**	**-0.4**
UPC	**Upice**	**67.60**	**10**	*e*P	**P**	**06 47 06.3**	**+0.2**
DPC	**Dobruska-Polom**	**67.78**	**9**	*e*P	**P**	**06 47 07.5**	**+0.3**
GRF	**Grafenberg Arr**	**67.96**	**13**	*e*P	**P**	**06 47 08.9**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.6						
GRF	**Grafenberg Arr**	**67.96**	**13**	*e*P	**P**	**06 47 08.9**	**+0.6**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**67.96**	**1**	P	**P**	**06 47 07.4**	**-1.0**
	comp=Z,6.4nm,0.5s,mb5.0,baz=0.1,slow=6.2,SNR=35						
AKASG				pP	pP	06 47 23.6	+1.4
	comp=Z,0.9nm,0.4s,baz=1.1,slow=5.9,SNR=2.8						
AKASG	**Malin Array Be**	**67.96**	**1**	*i* P	**P**	**06 47 07.4**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AKBB	**Malin Array Si**	**67.96**	**1**	*e*P	**P**	**06 47 07.5**	**-0.8**
AKBB				*e*	pP	06 47 17.9	-4.3
PRU	**Pruhonice**	**67.99**	**11**	*e*P	**P**	**06 47 08.8**	**+0.3**
MORC	**Moravsky Berou**	**68.44**	**9⇓**	*i*P	**P**	**06 47 11.2**	**-0.1**
MORC	**Moravsky Berou**	**68.44**	**9**	*e*P	**P**	**06 47 11.4**	**+0.1**
MORC				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
MORC	**Moravsky Berou**	**68.44**	**9**	*e*P	**P**	**06 47 11.4**	**+0.1**
	comp=Z,5.8nm,0.7s,mb4.7						
CDF	**Champ du Feu**	**68.75**	**16**	*e*P	**P**	**06 47 12.9**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.4						
KHC	**Kasperske Hory**	**68.75**	**11**	*e*P	**P**	**06 47 13.8**	**+0.5**
KHC	**Kasperske Hory**	**68.75**	**11⇑**	*i*P	**P**	**06 47 13.3**	**0.0**
VRAC	**Vranov**	**68.84**	**9⇓**	*i*P	**P**	**06 47 14.1**	**+0.3**
HAU	**Haudompre**	**69.02**	**17**	*e*P	**P**	**06 47 14.5**	**-0.5**
	comp=Z,13nm,0.6s,mb4.7						
STHS	**Stebnicka Huta**	**69.03**	**6**	*e*P	**P**	**06 47 15.7**	**+0.7**
STHS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
GERES	**GERESS Array B**	**69.05**	**11**	P	**P**	**06 47 15.1**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=353,slow=3.2,SNR=10						
HINF	**Hinteralfeld**	**69.28**	**16**	*e*P	**P**	**06 47 15.9**	**-0.6**
	comp=Z,8.6nm,0.6s,mb4.6						
MFF	**Saint Martin d**	**69.37**	**22**	*e*P	**P**	**06 47 16.7**	**-0.4**
	comp=Z,8.8nm,0.7s,mb4.5						
LOR	**Lormes**	**69.38**	**19**	*e*P	**P**	**06 47 16.7**	**-0.5**
	comp=Z,19nm,0.7s,mb4.8						
KOLS	**Kolonicke sedl**	**69.56**	**5**	*e*P	**P**	**06 47 19.0**	**+0.7**
AVF	**Avril sur Loir**	**69.77**	**19**	*e*P	**P**	**06 47 18.9**	**-0.7**
	comp=Z,11nm,0.6s,mb4.7						
BGF	**Bois d'Agland**	**69.92**	**20**	*e*P	**P**	**06 47 19.9**	**-0.6**
	comp=Z,5.7nm,0.5s,mb4.5						
KECS	**Kecovo**	**69.92**	**7**	*e*P	**P**	**06 47 19.8**	**-0.7**
KECS				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**69.99**	**19**	*e*P	**P**	**06 47 20.1**	**-0.8**
	comp=Z,6.3nm,0.5s,mb4.5						
TCF	**Toulx Ste Croi**	**70.08**	**20**	*e*P	**P**	**06 47 20.7**	**-0.7**
	comp=Z,3.5nm,0.5s,mb4.2						
CONA	**Conrad Observa**	**70.15**	**10⇑**	*i*P	**P**	**06 47 21.9**	**0.0**
	comp=Z,3.7nm,0.9s,mb4.3						
DAVA	**Damuels**	**70.18**	**14⇑**	*i*P	**P**	**06 47 25.7**	**+3.6**
	comp=Z,2.4nm,0.5s,mb4.4						
MOTA	**Moosalm**	**70.27**	**14⇑**	*i*P	**P**	**06 47 23.1**	**+0.5**
	comp=Z,3.9nm,1.2s,mb4.2						
CABF	**La Chapelle**	**70.35**	**17**	*e*P	**P**	**06 47 23.1**	**0.0**
	comp=Z,17nm,0.6s,mb4.8						
PSZ	**Piszkesteto**	**70.45**	**7⇓**	*i*P	**P**	**06 47 24.8**	**+1.1**
PSZ	**Piszkesteto**	**70.45**	**7**	*e*P	**P**	**06 47 24.2**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
PSZ	**Piszkesteto**	**70.45**	**7**	*e*P	**P**	**06 47 24.2**	**+0.4**
	comp=Z,7.7nm,0.8s,mb4.7						
KBA	**Koelnbreinsper**	**70.76**	**12⇑**	*i*P	**P**	**06 47 26.1**	**+0.5**
	comp=Z,12nm,0.7s,mb4.9						
RJF	**Les Rejaudoux**	**70.92**	**21**	*e*P	**P**	**06 47 25.7**	**-0.9**
BURAR	**Bucovina Array**	**70.99**	**3⇓**	*i*P	**P**	**06 47 26.9**	**-0.1**
OBKA	**Obir**	**71.44**	**11⇑**	*i*P	**P**	**06 47 29.8**	**0.0**
	comp=Z,19nm,0.9s,mb5.0						
LPG	**La Plagne**	**71.54**	**17**	*e*P	**P**	**06 47 31.2**	**+0.9**
VIVF	**Saint-Julien-l**	**71.86**	**19**	*e*P	**P**	**06 47 32.0**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**71.98**	**18**	*e*P	**P**	**06 47 32.9**	**-0.1**
MBDF	**Montbardon**	**72.30**	**17**	*e*P	**P**	**06 47 35.1**	**+0.2**
	comp=Z,5.8nm,0.6s,mb4.4						
SMRF	**Simiane la Rot**	**72.86**	**18**	*e*P	**P**	**06 47 38.7**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.4						
ETSF	**Etsaut**	**72.88**	**23**	*e*P	**P**	**06 47 38.5**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.2						
MTLF	**Montolieu**	**72.94**	**21**	*e*P	**P**	**06 47 38.5**	**-0.2**
	comp=Z,10nm,0.9s,mb4.4						
GZR	**Gura Zlata**	**73.12**	**5⇓**	*i*P	**P**	**06 47 40.1**	**+0.4**
SBF	**Sospel**	**73.23**	**17**	*e*P	**P**	**06 47 40.1**	**-0.3**
	comp=Z,21nm,0.8s,mb4.8						
FRF	**La Foret Royal**	**73.42**	**17**	*e*P	**P**	**06 47 41.2**	**-0.3**
LMR	**La Mourre**	**73.62**	**18**	*e*P	**P**	**06 47 42.5**	**-0.2**
KIV	**Kislovodsk**	**74.21**	**350⇑**	*e*P	**P**	**06 47 46.3**	**+0.1**
KIV					pP	06 48 00.0	-0.2
KIV				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
ESDC	**Sonseca Array**	**75.31**	**26**	P	**P**	**06 47 52.8**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=350,slow=5.4,SNR=6.8						
LSA	**Lhasa**	**76.51**	**308**	*e*P	**P**	**06 48 01.0**	**+1.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
LSA	**Lhasa**	**76.51**	**308**	*e*P	**P**	**06 48 01.0**	**+1.7**
	comp=Z,8.1nm,0.5s,mb4.9						
BR131	**Keskin Array S**	**78.90**	**357**	*e*P	**P**	**06 48 12.6**	**0.0**
	comp=Z,5.0nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**78.90**	**357**	P	**P**	**06 48 12.2**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.4,baz=11,slow=3.9,SNR=15						
BRTR				LR	LR	07 25 16.7	
	comp=Z,28nm,20.9s,MS3.6,baz=278,slow=37						
BRTR	**Keskin Array B**	**78.90**	**357⇑**	*e*P	**P**	**06 48 12.3**	**-0.3**
GUN	**Gumba**	**80.05**	**312**	*e*P	**P**	**06 48 19.3**	**+0.4**
JIRN	**Jiri**	**80.17**	**312**	*e*P	**P**	**06 48 20.1**	**+0.5**
	comp=Z,46nm,0.7s,mb5.5						
KKN	**Kakani**	**80.38**	**312**	*e*P	**P**	**06 48 20.4**	**-0.3**
	comp=Z,19nm,0.6s,mb5.2						
GKN	**Gorkha**	**80.41**	**313**	*e*P	**P**	**06 48 20.7**	**-0.1**
	comp=Z,26nm,0.8s,mb5.2						
PKI	**Pulchoki**	**80.53**	**312**	*e*P	**P**	**06 48 21.4**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
DMN	**Daman**	**80.60**	**312**	*e*P	**P**	**06 48 22.0**	**+0.1**
	comp=Z,21nm,0.7s,mb5.2						
KOLN	**Koldanda**	**80.98**	**314**	*e*P	**P**	**06 48 23.6**	**-0.3**
	comp=Z,17nm,0.9s,mb5.0						
KEST	**Kesra**	**81.49**	**17**	P	**P**	**06 48 26.8**	**+0.2**
	comp=Z,3.3nm,1.1s,mb4.2,baz=311,slow=3.5,SNR=7.9						
MDT	**Midelt**	**81.74**	**29**	P	**P**	**06 48 28.4**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=359,slow=3.9,SNR=5.3						
BOSA	**Boshof**	**146.78**	**8**	PKPbc	PKPbc	06 55 50.2	-0.9
	comp=Z,3.4nm,0.7s,baz=19,slow=3.8,SNR=8.0						

*IDC **06** 06:36:33.8±0.9, 54.35S×129.76W, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, MS3.8/1, Ms1 3.8/1, ms1mx3.1/20, Error ellipse: s-maj=60.0km s-min=21.0km az=161.0*
*ISCJB **06** 06:36:34.4±0.7, 54.7S±0.2×129.5W±0.3, h10km, mb4.0/9, Error ellipse: s-maj=33.0km s-min=16.1km az=116.0*
*NEIC **06** 06:36:35.7±0.5, 54.52S×129.67W, h10km, mb4.4/2, Error ellipse: s-maj=25.9km s-min=13.6km az=149.0*
ISC 06 06:36:35.9±0.7**, 54.6S**±0.2×**129.6W**±0.3**, h10km, n15,** σ0.63/9**, mb4.0**/9**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.70**	**351**	*e*T		07 16 27.6	
	6.3nm,0.2s						
SBA	**Scott Base**	**31.82**	**201**	*e*P	**P**	**06 43 00.8**	**0.0**
	6.9nm,1.4s,mb4.3						
VNDA	**Vanda**	**32.84**	**202**	P	**P**	**06 43 10.2**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=94,slow=8.9,SNR=5.5						
TBI	**Tubuai**	**34.56**	**327**	*e*T		07 20 01.1	
	44nm,0.3s						
VAH	**Vaihoa**	**41.71**	**333**	*e*T		07 28 58.5	
	56nm,0.2s						
PMOR	**Pomariorio Ree**	**42.00**	**333**	*e*T		07 29 20.6	
	1.6nm,0.2s						
CFAA	**Coronel Fontan**	**48.56**	**88**	P	**P**	**06 45 18.6**	**-0.8**
	0.1nm,0.4s,mb3.2,baz=204,slow=10.0,SNR=3.0						
LPAZ	**La Paz**	**60.45**	**76**	P	**P**	**06 46 46.5**	**+0.8**
	1.3nm,0.9s,mb4.0,baz=202,slow=9.0,SNR=4.0						
SIV	**San Ignacio**	**64.71**	**82**	P	**P**	**06 47 13.7**	**-0.5**
	2.4nm,1.0s,mb4.2,baz=238,slow=8.0,SNR=7.1						
ASAR	**Alice Springs**	**74.66**	**251**	P	**P**	**06 48 15.0**	**-0.5**
	1.4nm,1.1s,mb3.8,baz=100,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**77.39**	**253**	P	**P**	**06 48 30.3**	**-0.8**
	0.9nm,0.9s,mb3.7,baz=140,slow=5.3,SNR=6.1						
FITZ	**Fitzroy Crossi**	**83.65**	**248**	P	**P**	**06 49 05.2**	**+0.5**
	2.9nm,0.5s,mb4.7,baz=149,slow=5.9,SNR=4.1						
MNTX	**Cornudas Mount**	**88.46**	**21**	*e*P	**P**	**06 49 29.1**	**+0.7**
	2.6nm,1.2s,mb4.3						
SONM	**Songino Array**	**145.09**	**282**	PKP	PKPdf	06 56 10.8	-2.7
	1.6nm,0.9s,baz=114,slow=1.8,SNR=5.7						
GERES	**GERESS Array B**	**156.77**	**89**	PKP	PKPdf	06 56 30.0	-1.4
	0.3nm,0.3s,baz=256,slow=2.2,SNR=3.8						

*IDC **06** 06:44:30.0±16.0, 9.52N×126.92E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=747.0km s-min=128.4km az=28.0*
*ISCJB **06** 06:44:36.2±1.4, 9.47N±0.04×126.4E±0.1, h3km±13km, mb4.1/4, Error ellipse: s-maj=17.6km s-min=6.0km az=23.1*
*MAN **06** 06:44:38.5, 9.49N×126.27E, h11km, mb3.8, ML4.9, MS1.7*
ISC 06 06:44:37.3±1.4**, 9.48N**±0.04×**126.36E**±0.09**, h3km**±8km**, n20,** σ0.74/28**, mb4.1**/4**, 2C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.89**	**235**	*e*P	**Pg**	**06 44 53.8**	**-0.6**
BUTP				*e*S	**Sg**	**06 45 06.6**	**+0.6**
MSLP	**Maasin**	**1.62**	**294**	*e*P	**Pn**	**06 45 05.9**	**-0.8**
MSLP				*e*S	**Sn**	**06 45 28.5**	**+0.5**
BUKP	**Musuan**	**2.05**	**219**	*e*P	**Pn**	**06 45 12.1**	**-0.5**
BUKP				*e*S	**Sn**	**06 45 39.4**	**+0.8**
PLP	**Palo**	**2.16**	**321**	*i* P	**Pn**	**06 45 13.2**	**-0.9**
PLP				*i* S	**Sn**	**06 45 40.6**	**-0.7**
BESP	**Borongan**	**2.29**	**337**	*e*P	**Pn**	**06 45 15.8**	**-0.2**
BESP				*e*S	**Sn**	**06 45 45.0**	**+0.3**
OCLP	**Ormoc**	**2.33**	**312**	*e*P	**Pn**	**06 45 17.3**	**+0.9**
TBP	**Tagbilaran**	**2.48**	**275**	*e*P	**Pn**	**06 45 19.9**	**+1.4**
LLP	**Lapu-Lapu**	**2.50**	**290**	*e*P	**Pn**	**06 45 18.6**	**-0.2**
LLP				*e*S	**Sn**	**06 45 45.2**	**-4.7**
DAV	**Davao City (W)**	**2.52**	**198**	*e*P	**Pg**	**06 45 25.0**	**-0.6**
SNPH	**Sibulan**	**3.09**	**268**	*e*P	**Pn**	**06 45 27.0**	**+0.1**
DCPH	**Dipolog City**	**3.10**	**254⇓**	*e*P	**Pn**	**06 45 27.3**	**+0.2**
DCPH				*i* S	**Sn**	**06 46 03.2**	**-1.5**
PAGZ	**Pagadian**	**3.37**	**241**	*e*P	**Pn**	**06 45 31.6**	**+0.9**
PAGZ				*e*S	**Sn**	**06 46 10.9**	**-0.2**
GUIM	**Jordan**	**3.89**	**287**	*e*P	**Pn**	**06 45 37.3**	**-0.6**
RCP	**Roxas**	**4.11**	**300⇑**	*e*P	**Pn**	**06 45 41.5**	**+0.5**
PVCP	**Virac**	**4.62**	**332⇑**	*e*P	**Pn**	**06 45 49.0**	**+0.9**
PVCP	**Virac**	**4.62**	**332**	*e*P	**Pn**	**06 45 48.4**	**+0.3**
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**06 53 48.5**	**-4.5**
	1.0nm,0.5s,mb4.0,baz=115,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**62.36**	**326**	P	**P**	**06 54 56.5**	**-4.6**
	0.7nm,0.5s,mb4.0,baz=116,slow=9.8,SNR=5.0						
ARCES	**ARCESS Array B**	**84.96**	**340**	P	**P**	**06 57 07.6**	**-6.2**
	0.7nm,0.4s,mb4.1,baz=88,slow=7.3,SNR=8.3						
FINES	**FINESS Array B**	**86.62**	**332**	P	**P**	**06 57 16.3**	**-5.8**
	2.2nm,1.0s,mb4.4,baz=85,slow=6.1,SNR=3.6						

*NEIC **06** 06:45:34.1±2.7, 6.87S×130.01E, h60km±23km, mb3.9/2, Error ellipse: s-maj=22.4km s-min=16.2km az=171.0*
*ISCJB **06** 06:45:38.3±2.4, 7.1S±0.1×130.1E±0.1, h115km±28km, mb4.2/2, Error ellipse: s-maj=20.2km s-min=16.8km az=167.4*
*IDC **06** 06:45:43.5±4.1, 7.36S×129.28E, h135km±32km, mb4.1/2, mb1 3.8/4, mb1mx3.6/13, mbtmp4.2/4, Error ellipse: s-maj=77.4km s-min=21.7km az=66.0*
ISC 06 06:45:33.1±3.1**, 6.8S**±0.2×**130.0E**±0.1**, h38km**±31km**, n14,** σ0.52/13**, mb4.3**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.99**	**200**	P	**Pn**	**06 48 20.9**	**-0.5**
	0.8nm,0.3s,baz=32,slow=8.5,SNR=44						
FITZ				S	**Sn**	**06 50 19.4**	**-14**
	1.5nm,0.3s,baz=72,slow=13,SNR=6.8						
WRAB	**Tennant Creek**	**13.69**	**163**	*e*Pn	**Pn**	**06 48 44.5**	**-0.1**
	6.2nm,0.6s						
WRA	**Warramunga Arr**	**13.70**	**163**	P	**Pn**	**06 48 44.4**	**-0.3**
	1.2nm,0.3s,baz=344,slow=14,SNR=32						
WRA				S	**Sn**	**06 51 05.1**	**-10**
	2.2nm,0.3s,baz=331,slow=22,SNR=14						
WB2	**Warramunga Arr**	**13.70**	**163**	*e*Pn	**Pn**	**06 48 44.9**	**+0.2**
AS31	**Alice Springs**	**17.16**	**168**	*e*P	**Pn**	**06 49 31.0**	**+1.2**
ASAR	**Alice Springs**	**17.16**	**168**	P	**Pn**	**06 49 29.5**	**-0.3**
	0.5nm,0.3s,baz=338,slow=9.3,SNR=23						
ASAR				S	**S**	**06 52 28.9**	**-19**
	0.4nm,0.3s,baz=359,slow=26,SNR=7.5						
ASAR				ScP	ScP	06 57 32.3	-12
	0.1nm,0.3s,baz=2.7,slow=2.0,SNR=4.8						
PMG	**Port Moresby**	**17.16**	**100**	*e*Pn	**Pn**	**06 49 30.1**	**+0.2**
	21nm,1.0s						
MBWA	**Marble Bar**	**17.38**	**214**	*e*Pn	**Pn**	**06 49 33.2**	**+0.5**
	2.9nm,0.6s						
STKA	**Stephens Creek**	**27.17**	**158**	P	**P**	**06 51 12.2**	**-0.7**
	1.5nm,0.3s,mb3.9,baz=336,slow=16,SNR=3.7						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**06 56 28.9**	**0.0**
	2.7nm,0.4s,mb4.6,baz=115,slow=8.4,SNR=16						
TORD	**Torodi Ar. Bea**	**128.79**	**281**	PKP	PKPdf	07 04 34.4	-2.0
	0.3nm,0.5s,baz=126,slow=1.2,SNR=5.1						
CPUP	**Villa Florida**	**146.28**	**168**	PKPbc	PKPbc	07 05 07.6	-2.0
	1.3nm,0.5s,baz=134,slow=1.2,SNR=7.9						
CPUP	**Villa Florida**	**146.28**	**168**	PKPbc	PKPbc	07 05 07.6	-2.0
LPAZ	**La Paz**	**150.84**	**142**	PKPbc	PKPbc	07 05 22.2	+0.8
	1.1nm,0.7s,baz=49,slow=2.0,SNR=7.1						

*NEIC **06** 07:18:28.0, 8.79N×82.89W, h6km, mb4.6/1, MD4.2(UPA), MD4.3(CASC), After CASC.*
CASC 06 07:18:28.9±2.4**, 8.96N**×**82.88W, h0km**±4km**, MD4.1, mb4.6**(NEIC)**, 14C-7D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.13**	**117⇑**	*i*P	Pg	07 18 33.5	+2.0
BRU2	**Volcan**	**0.25**	**131⇑**	*i*P	Pg	07 18 35.3	+1.6
BRU	**Baru**	**0.35**	**115⇑**	*i*P	Pg	07 18 37.2	+1.7
ACR	**Cerro Adams**	**0.42**	**223⇓**	*e*P	Pg	07 18 37.7	+0.8
ACR				*e*S	Sg	07 18 44.1	+1.9
CNI	**Changuinola**	**0.58**	**38⇓**	*i*P	Pg	07 18 41.1	+1.1
DVD	**David**	**0.67**	**141⇓**	*i*P	Pg	07 18 42.0	+0.3
BUS	**Buena Vista**	**1.05**	**304⇑**	*e*P	Pg	07 18 49.1	0.0
QCR	**Quepos**	**1.35**	**290**	*e*P	Pg	07 18 53.2	-1.6
LCR2	**La Lucha 2**	**1.35**	**305⇑**	*e*P	Pg	07 18 54.0	-0.9
VTU	**Volcan Turrial**	**1.37**	**321⇑**	*e*P	Pg	07 18 54.6	-0.5
VTU				*e*S	Sg	07 19 15.1	+2.2
ICR	**Volcan Irazu**	**1.38**	**317⇓**	*e*P	Pg	07 18 55.4	0.0
ICR				*e*S	Sg	07 19 15.7	+2.4
ICR	**Volcan Irazu**	**1.38**	**317⇓**	*e*P	Pg	07 18 55.3	-0.1
ICR				*e*S	Sg	07 19 16.4	+3.1
OCM	**Ochomogo**	**1.42**	**311⇑**	*e*P	Pn	07 18 55.2	-0.7
OCM				*e*S	Sg	07 19 16.7	+2.3
IRZ2	**Volcan Irazu 2**	**1.42**	**315⇑**	*e*P	Pn	07 18 55.4	-0.6
SJS	**Escuela Geolog**	**1.51**	**310⇓**	*e*P	Pn	07 18 57.0	-0.3
SJS				*e*S	Sg	07 19 18.1	+0.5
SJS	**Escuela Geolog**	**1.51**	**310**	*e*P	Pn	07 18 57.5	+0.3
SJS				*e*S	Sg	07 19 18.1	+0.5
LAJ	**Bijagual**	**1.52**	**306**	*e*P	Pn	07 19 01.4	+4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LAJ				eS	Sg	07 19 25.7	+7.9
LAJ	Bijagual	1.52	306	eP	Pn	07 19 01.4	+4.0
PRS1	Puriscal	1.74	306	⇓eP	Pn	07 18 59.6	-0.7
PRS1	Puriscal	1.74	306	⇑iP	Pn	07 18 59.5	-0.9
PRS1				eS	Sn	07 19 23.0	-0.2
TRTC	Tortuguero	1.81	333	⇑eP	Pn	07 19 00.9	-0.4
TRTC				eS	Sn	07 19 26.1	+1.2
POA2	Poas 2	1.81	312	⇑eP	Pn	07 19 01.0	-0.4
POA2				eS	Sn	07 19 29.3	+4.2
CGA2	Cerro Gallo 2	1.89	304	⇑eP	Pn	07 19 02.3	-0.1
CGA2				eS	Sn	07 19 27.3	+0.5
CGA2	Cerro Gallo 2	1.89	304	eP	Pn	07 19 02.2	-0.2
CGA2				eS	Sn	07 19 27.5	+0.7
EPA	Esparza	1.98	301	⇑eP	Pn	07 19 03.2	-0.4
EPA				eS	Sn	07 19 29.4	+0.3
CAO	Cobano	2.31	289	eP	Pn	07 19 07.2	-1.0
FORC	Fortuna	2.32	311	i P	Pn	07 19 08.7	+0.4
FORC				i S	Sn	07 19 39.5	+2.0
VACR	Volcan Arenal	2.33	310	eP	Pn	07 19 08.3	-0.1
JCR	Jicaral	2.37	292	eP	Pn	07 19 08.8	-0.3
JCR				eS	Sn	07 19 40.1	+1.2
JCR	Jicaral	2.37	292	eP	Pn	07 19 08.8	-0.3
JCR				eS	Sn	07 19 36.5	-2.4
AZU	Azuero	2.83	114	eP	Pn	07 19 16.3	+1.0
ACH	Altos	2.93	96	⇑eP	Pn	07 19 17.5	+0.7
VCR	Vista de Mar	2.95	293	eP	Pn	07 19 17.8	+0.7
VCR	Vista de Mar	2.95	293	eP	Pn	07 19 17.6	+0.6
UPA	Univ. de Panam	3.31	89	eS	Sn	07 20 02.5	+0.6
LRAL	Lakeview Retre	24.26	352	eP	P	07 23 47.9	+0.3
	20nm,1.4s						

*CSEM **06** 07:20:10.9±0.2, 35.88N×0.84W, h30km, ML2.5, Error ellipse: s-maj=11.4km s-min=4.7km az=58.0*
*ISCJB **06** 07:20:11.6±1.0, 36.0N±0.1×0.93W±0.08, h16km±30km, Error ellipse: s-maj=24.6km s-min=7.9km az=145.8*
*MDD **06** 07:20:11.4±0.5, 35.93N×0.97W, h0km, mbLg2.0/7, Error ellipse: s-maj=8.1km s-min=4.5km az=57.0, PRXIMO*
*CRAAG **06** 07:20:12.4, 35.48N×0.73W, Ml2.5*

ISC 06 07:20:10.8±1.0, 36.01N±0.06×0.96W±0.05, h1km±10km, n19, σ1.02/30, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
USTO	Oran	0.44	129	P	Pg	07 20 19.0	-0.1
ODZI	Dziouia	0.75	197	P	Pg	07 20 23.0	-2.2
ODJA	Bouhanifia	0.95	136	P	Pg	07 20 29.0	0.0
ENIJ	Nijar	1.39	314	P	Pn	07 20 38.1	+0.9
	1.4nm,0.1s,SNR=4.0						
ENIJ				S	Sg	07 20 54.5	-0.8
	6.0nm,0.1s,SNR=7.9						
EBER	Berja	1.79	300	S	Sn	07 21 04.9	-1.1
	5.8nm,0.2s,SNR=7.9						
EBER	Berja	1.79	300	S	Sn	07 21 04.9	-1.1
	5.8nm,0.2s,SNR=7.9						
EMUR	La Murta	1.84	353	P	Pn	07 20 44.1	+0.6
	SNR=7.9						
EMUR				S	Sn	07 21 06.6	-0.8
	2.6nm,0.2s,SNR=7.9						
EMUR	La Murta	1.84	353	P	Pn	07 20 44.1	+0.6
	SNR=7.9						
EMUR				S	Sn	07 21 06.8	-0.6
	2.6nm,0.2s,SNR=7.9						
EHUE	Huescar	2.22	325	P	Pn	07 20 49.6	+0.9
	0.3nm,0.1s,SNR=4.0						
EHUE				S	Sn	07 21 16.5	-0.3
	0.5nm,0.4s,SNR=4.0						
EQUE	Quentar	2.32	302	P	Pn	07 20 50.5	+0.5
	0.7nm,0.1s,SNR=7.9						
EQUE				S	Sn	07 21 18.7	-0.5
	1.3nm,0.2s,SNR=7.9						
EQUE	Quentar	2.32	302	P	Pn	07 20 50.9	+0.8
	0.7nm,0.1s,SNR=7.9						
EQES	Quesada	2.46	317	P	Pn	07 20 53.8	+1.8
	1.5nm,0.1s,SNR=10						
EQES				S	Sn	07 21 23.0	+0.3
	3.5nm,0.3s,SNR=5.0						
EQES	Quesada	2.46	317	P	Pn	07 20 54.4	+2.4
	1.5nm,0.1s,SNR=10						
EQES				S	Sn	07 21 24.3	+1.7
	3.5nm,0.3s,SNR=5.0						
ETOB	Tobarra	2.67	350	P	Pn	07 20 56.5	+1.6
	1.2nm,0.1s,SNR=13						
ETOB				S	Sn	07 21 27.7	-0.1
	0.8nm,0.1s,SNR=5.0						
ETOB	Tobarra	2.67	350	P	Pn	07 20 56.8	+1.9
	1.2nm,0.1s,SNR=13						
ETOB				S	Sn	07 21 27.7	-0.1
	0.8nm,0.1s,SNR=5.0						
EBEN	Beniarda	2.75	12	S	Sn	07 21 28.7	-1.1
	0.4nm,0.1s,SNR=7.9						
EBEN	Beniarda	2.75	12	S	Sn	07 21 28.7	-1.1
	0.4nm,0.1s,SNR=7.9						
EVIA	Vianos	2.90	335	P	Pn	07 20 58.5	+0.6
	0.5nm,0.1s,SNR=7.9						
EVIA				S	Sn	07 21 32.6	-0.8
	1.6nm,0.3s,SNR=7.9						
EIBI	Ibiza	3.52	31	P	Pn	07 21 07.4	+0.7
	4.1nm,0.1s,SNR=8.8						
EIBI				S	Sn	07 21 47.7	-1.3
	4.6nm,0.3s						

IDC 06 07:40:02.6±3.0, 3.27N×123.87E, h322km±30km, mb3.3/5, mb1 3.4/5, mb1mx3.1/18, mbtmp4.0/5, 1C, Error ellipse: s-maj=141.2km s-min=11.9km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	18.02	152	eP	P	07 43 50.6	-0.5
	6.6nm,0.5s						
WRA	Warramunga Arr	25.26	156	P	P	07 44 59.9	-0.3
	2.1nm,0.3s,baz=333,slow=11,SNR=38						
WRA				PcP	PcP	07 48 24.4	+0.7
	0.2nm,0.4s,baz=321,slow=2.5,SNR=4.1						
WRA				S	S	07 49 00.7	-0.8
	0.4nm,0.7s,baz=338,slow=16,SNR=3.0						
WB2	Warramunga Arr	25.26	156	⇑iP	P	07 45 00.3	+0.1
ASAR	Alice Springs	28.50	160	P	P	07 45 30.1	+1.1
	0.4nm,0.5s,baz=342,slow=8.3,SNR=7.4						
ASAR				PcP	PcP	07 48 32.2	+0.7
	0.3nm,0.6s,baz=340,slow=2.0,SNR=4.3						
ASAR				S	S	07 49 55.2	+2.7
	0.2nm,0.7s,baz=343,slow=17,SNR=4.1						
STKA	Stephens Creek	38.80	156	P	P	07 46 56.9	-0.2
	1.0nm,0.5s,baz=331,slow=10,SNR=2.8						
MKAR	Makanchi Array	56.34	327	P	P	07 49 10.6	-0.1
	0.9nm,0.5s,baz=123,slow=8.3,SNR=8.5						
AKTO	Aktyubinsk	72.25	322	P	P	07 50 53.2	0.0
	1.0nm,0.6s,baz=84,slow=8.3,SNR=5.3						
TORD	Torodi Ar. Bea	120.34	287	PKP	PKPdf	07 58 16.3	+0.7
	0.2nm,0.4s,baz=85,slow=1.4,SNR=10						

*IDC **06** 07:51:40.7±0.7, 40.06N×76.95E, h0km, mb4.5/21, mb1 4.6/25, mb1mx4.5/31, mbtmp4.5/25, ML3.5/4, MS3.9/16, Ms1 3.9/16, ms1mx3.6/39, Error ellipse: s-maj=14.1km s-min=12.4km az=173.0*
*LDG **06** 07:51:40.1±0.4, 40.06N×76.79E, h10km, Mb5.0/36, Ms3.7/7, Error ellipse: s-maj=16.9km s-min=5.1km az=157.0*
*BJI **06** 07:51:44.2, 40.39N×76.96E, h27km, mB4.8, mb4.6, ML4.3, Ms4.3, Msz4.0*
*ISCJB **06** 07:51:45.5±0.4, 40.23N±0.02×76.94E±0.03, h45km±3km, mb4.8/139, MS4.0/35, Error ellipse: s-maj=3.7km s-min=3.2km az=55.7*
*GCMT **06** 07:51:46.4±0.6, 40.20N×76.87E, h32km±1km, MW4.7/34, Moment Tensor Solution. s9,c11; s34,c40; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.37±.20; $M_{\theta\theta}$-1.48±.12; $M_{\phi\phi}$0.10±.11; $M_{r\theta}$0.43±.13; $M_{\theta\phi}$-0.36±.08; $M_{\phi r}$0.10±.14; Best double couple: $M_0$1.53100×10^{16} NP1:ϕ_s258.00000°,δ37.00000°,λ91.00000°. NP2: ϕ_s77.00000°,δ53.00000°,λ90.00000°. Principal axes: T 1.4370, Plg82.0000°, Azm346.0000°; N 0.1860, Plg0.0000°, Azm78.0000°; P -1.6260, Plg8.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 07:51:46.0±0.9, 40.45N×76.93E, h37km, mb5.0/17, MS4.1/9 Error ellipse: s-maj=9.4km s-min=5.0km az=118.9*
*NEIC **06** 07:51:46.4±1.5, 40.28N×76.92E, h34km±10km, mb5.0/90, Error ellipse: s-maj=6.1km s-min=3.3km az=193.0*
*NNC **06** 07:51:46.1±2.4, 40.43N×76.80E, h0km, mb4.9, mpv4.8, Error ellipse: s-maj=22.8km s-min=15.5km az=130.0*
*SZGRF **06** 07:51:48.9, 40.35N×76.46E, h33km, mb5.0, MS4.0, Kyrgyzstan-Xinjiang border region*

ISC 06 07:51:47.2±0.3, 40.24N±0.02×76.93E±0.03, h44km±3km, h25km±7.5km:pP-P, n329, σ0.94/344, mb4.8/139, MS4.0/35, 70C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.03	226	i PNR	Pn	07 52 04.6	-0.6
KSH				eS	Sn	07 52 18.6	+0.1
KSH				Smax			
	comp=N,58μm,1.6s						
KSH				Smax			
	comp=E,55μm,1.0s						
ULHL	Ulahol	2.08	346	P	Pn	07 52 19.6	0.0
	SNR=1750						
KZA	Kyzart	2.24	326	P	Pn	07 52 22.4	+0.7
	SNR=2524						
UCH	Uchtor	2.70	318	P	Pn	07 52 29.4	+1.3
	SNR=17						
KBK	Karagaybulak	2.84	329	P	Pn	07 52 31.8	+1.7
	SNR=417						
TKM2	Tokmak 2	2.86	340	P	Pn	07 52 32.2	+1.8
	SNR=724						
TKM2	Tokmak 2	2.86	340	⇓Pn	Pn	07 52 32.1	+1.7
	comp=E,91nm,0.7s						
TKM2				⇓Lg		07 53 09.9	
	comp=E,94nm,0.6s						
TKM2	Tokmak 2	2.86	340	PN	Pn	07 52 32.1	+1.7
TKM2						07 53 09.8	
TKM2				pmax	pmax		
	comp=Z,572nm,0.7s						
TKM2				smax			
	comp=Z,594nm,0.6s						
KNDC	Almaty	2.98	0	⇑Pg	Pn	07 52 36.4	+4.5
	comp=Z,3μm,1.1s						
KNDC				⇓Lg		07 53 15.2	
	comp=Z,8μm,1.5s						
AAK	Ala-Archa	3.02	323	P	Pn	07 52 34.0	+1.6
	SNR=191						
AAK	Ala-Archa	3.02	323	ePn	Pn	07 52 32.9	+0.5
AAK				eSn	Sn	07 53 10.7	+3.3
AAA	Alma-Ata	3.03	0	i PN	Pn	07 52 36.4	+3.7
AAA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AML	Almayashu	3.09	309	P	Pn	07 52 35.3	+1.8
	SNR=291						
FRU	Bishkek	3.12	327	⇓iPN	Pn	07 52 35.0	+1.0
FRU				i S	Sn	07 53 16.0	+6.0
FRU				pmax	pmax		
	comp=Z,6μm,2.0s						
FRU				smax			
	comp=E,8μm,2.0s						
CHMS	Chumysh	3.21	330	P	Pn	07 52 36.8	+1.6
	SNR=254						
EKS2	Erkin-Say	3.39	317	P	Pn	07 52 39.4	+1.7
	SNR=211						
USP	Ospenovka	3.53	330	P	Pn	07 52 40.8	+1.2
	SNR=127						
KK31	Karatay Array	5.60	303	Pn	Pn	07 53 08.1	+0.2
	comp=E,37nm,0.8s,baz=186,slow=45,SNR=185						
KK31				Pg	Pn	07 53 25.2	+17
	comp=E,375nm,0.8s,baz=119,slow=14,SNR=45						
KK31				⇑Lg		07 54 36.6	
	comp=E,311nm,0.6s,baz=119,slow=28						
KK31	Karatay Array	5.60	303	i PN	Pn	07 53 08.1	+0.2
KK31				pmax	pmax		
	comp=Z,7.0nm,0.2s						
KKAR	Karatay Array	5.60	303	PN	Pn	07 53 08.1	+0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,92nm,0.4s						
CHCP	Chirah Chowk	7.19	205	P	Pn	07 53 32.1	+2.3
CEP	Cherat	7.55	214	⇑P	Pn	07 53 36.0	+1.2
CEP				S	Sn	07 54 58.0	-1.1
MK02	Makanchi Array	7.61	29	⇑Pn	Pn	07 53 35.5	0.0
	comp=Z,30nm,0.8s,baz=213,slow=12						
MK02				⇓Lg		07 55 44.1	
	comp=Z,60nm,0.8s,baz=218,slow=25						
MK31	Makanchi Array	7.62	29	P	Pn	07 53 35.5	-0.2
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31				pmax	pmax		
	comp=Z,118nm,1.0s						
MKAR	Makanchi Array	7.62	29	Pn	Pn	07 53 36.0	+0.3
	comp=Z,1.3nm,0.3s,baz=218,slow=13,SNR=27						
MKAR				Sn	Sn	07 55 01.0	+0.2
	comp=Z,1.5nm,0.3s,baz=217,slow=18,SNR=5.2						
MKAR				Lg		07 55 37.9	
	comp=Z,1.9nm,0.3s,baz=205,slow=24,SNR=2.9						
MKAR	Makanchi Array	7.62	29	P	Pn	07 53 36.0	+0.3
MKAR						07 55 01.0	
MKAR	Makanchi Array	7.62	29	Pn	Pn	07 53 36.0	+0.3
MKAR				Sn	Sn	07 55 01.0	+0.2
MKAR				Lg		07 55 37.9	
THN	Thein Dam	7.85	188	eP	Pn	07 53 38.4	-0.4
THN				ex	x	07 55 13.8	
THW	Thamme Wali	8.52	211	⇑P	Pn	07 53 48.2	+0.2
SDNR	Sundarnagar	8.72	180	eP	Pn	07 53 52.0	+1.3
SDNR				eS	Sn	07 55 25.6	-2.0
WMQ	Urumqi	8.77	62	eP	Pn	07 53 52.2	+0.7
WMQ				AP		07 53 57.5	
WMQ				XP		07 54 01.5	
WMQ				S	Sn	07 55 31.0	+2.0
WMQ				XS		07 55 38.5	
WMQ				AMB	AMB		
	comp=Z,15nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,120nm,3.5s						
WMQ				Smax			
	comp=N,236nm,1.2s						
WMQ				Smax			
	comp=E,159nm,1.0s						
WMQ				LR	LR		
	comp=N,2μm,3.8s						
WMQ				LR	LR		
	comp=E,993nm,4.2s						
WMQ				LR	LR		
	comp=Z,1μm,6.7s						
BHK	Bhakra	8.81	183	ex	x	07 53 56.2	
BHK				ex	x	07 55 33.8	
SBDP	Sheikh Budin	9.33	214	⇑P	Pn	07 53 59.4	+0.2
DRP	Derazinda	10.07	215	⇓P	Pn	07 54 10.4	+1.1
KURK	Kurchatov	10.55	6	Pn	Pn	07 54 14.6	-1.2
	comp=Z,98nm,0.8s,SNR=10						
LGTI	Lohaghat	11.10	165	eP	Pn	07 54 25.5	+2.2
LGTI				ex	x	07 56 26.0	
NDI	New Delhi	11.53	179	eP	Pn	07 54 27.5	-1.6
NDI				ex	x	07 56 27.0	
VOSK	Vostochnaya	13.14	344	⇓P	Pn	07 54 49.8	-1.4
	comp=Z,32nm,1.0s						
VOSK	Vostochnaya	13.14	344	P	Pn	07 54 49.3	-1.9
VOSK				pmax	pmax		
	comp=Z,17nm,0.9s						
BVA0	Borovoye Array	13.55	343	⇑P	Pn	07 54 54.8	-2.0
	comp=Z,6.7nm,0.9s						
BVA0	Borovoye Array	13.55	343	P	Pn	07 54 54.1	-2.7
BVA0				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	Borovoye Array	13.55	343	Pn	Pn	07 54 54.7	-2.1
	comp=Z,0.8nm,0.3s,baz=150,slow=12,SNR=156						
BVAR				Sn	Sn	07 57 21.3	-4.6
	comp=Z,0.4nm,0.3s,baz=168,slow=16,SNR=2.6						
BVAR				Lg		07 58 43.2	
	comp=Z,0.7nm,0.3s,baz=145,slow=30,SNR=3.7						
BVAR				LR	LR	08 00 20.5	
	comp=Z,634nm,20.7s,baz=141,slow=38						
BVAR	Borovoye Array	13.55	343	P	Pn	07 54 54.7	-2.1
BVAR						07 57 21.3	
KOLN	Koldanda	13.60	154	eP	Pn	07 54 54.3	-3.2
	comp=Z,24nm,0.3s						
BRVK	Borovoye	13.61	343	eP	Pn	07 54 55.5	-2.0
BRVK				e		07 57 23.2	
BRVK				pmax	pmax		
	comp=Z,39nm,1.0s						
BRVK	Borovoye	13.61	343	ePn	Pn	07 54 55.5	-2.0
	comp=Z,39nm,1.0s						
BRVK				eSn	Sn	07 57 23.2	-4.1
GKN	Gorkha	13.76	150	eP	Pn	07 54 56.8	-2.8
	comp=Z,24nm,0.3s						
ZRNK	Zerenda	13.82	340	⇓P	Pn	07 54 59.0	-1.5
	comp=Z,29nm,1.0s						
ZRNK	Zerenda	13.82	340	eP	Pn	07 54 58.1	-2.4
ZRNK				pmax	pmax		
	comp=Z,28nm,0.8s						
ZRNK	Zerenda	13.82	340	ePn	Pn	07 54 58.1	-2.4
	comp=Z,28nm,0.8s						
AJM	Ajmer	13.85	189	eP	Pn	07 54 59.0	-1.8
AJM				AMb	AMB	07 55 05.9	
	comp=Z,39nm,1.5s						
CHKZ	Chkalovo	14.11	344	⇓P	Pn	07 55 02.5	-2.0
	comp=Z,17nm,1.0s						
CHKZ	Chkalovo	14.11	344	ePn	Pn	07 55 01.9	-2.5
KKN	Kakani	14.20	148	eP	Pn	07 55 02.1	-3.6
	comp=Z,12nm,0.4s						
DMN	Daman	14.29	149	eP	Pn	07 55 04.1	-2.8
GUN	Gumba	14.34	146	eP	Pn	07 55 04.5	-3.1
	comp=Z,37nm,0.6s						
PKI	Pulchoki	14.45	148	eP	Pn	07 55 05.7	-3.3
	comp=Z,26nm,0.5s						
JIRN	Jiri	14.70	146	eP	Pn	07 55 09.2	-3.0
	comp=Z,18nm,0.4s						
ZAL	Zalesovo	14.70	19	Pn	Pn	07 55 10.7	-1.7
	comp=Z,0.2nm,0.3s,baz=273,slow=9.5,SNR=12						
ZAL				Lg		07 59 20.2	
	baz=167,slow=18,SNR=1.6						
ZAL				LR	LR	08 01 45.5	
	comp=Z,393nm,19.0s,baz=263,slow=41						
ZAL	Zalesovo	14.70	19	Pn	Pn	07 55 10.7	-1.7
ZAL				Lg		07 59 20.2	
ZAL				LR	LR	08 01 45.5	
AB31	Akbulak array	15.04	312	⇑P	Pn	07 55 14.8	-2.0
	comp=Z,9.3nm,0.6s,baz=119,slow=13,SNR=117						
AB31	Akbulak array	15.04	312	i P	Pn	07 55 13.5	-3.3
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AB31				pmax	pmax		
	comp=Z,30nm,1.2s						
NVS	Novosibirsk	15.21	14	eP	Pn	07 55 17.4	-1.6
NVS				e		07 57 58.9	
LSA	Lhasa	15.67	128	ePn	Pn	07 55 26.2	+1.2
LSA				epP	pP	07 55 35.3	-3.5
AKTK	Aktyubinsk	16.71	314	Pn	Pn	07 55 36.4	-1.8
AKTK				Lg		08 00 36.5	
AKTK				LR	LR	08 02 34.6	
AKTO	Aktyubinsk	16.71	314	⇑P	Pn	07 55 36.8	-1.4
	comp=Z,1.9nm,1.1s						
AKTO	Aktyubinsk	16.71	314	Pn	Pn	07 55 36.4	-1.8
	comp=Z,0.4nm,0.3s,baz=115,slow=14,SNR=40						
AKTO				Lg		08 00 36.5	
	comp=Z,0.2nm,0.3s,baz=19,slow=22,SNR=2.9						
AKTO				LR	LR	08 02 34.6	
	comp=Z,585nm,19.9s,baz=125,slow=39						
BHPL	Bhopal	16.95	178	eP	Pn	07 55 41.9	+0.8
BHPL				ex	x	07 58 37.5	
GTA	Gaotai	17.59	85	eP	Pn	07 55 48.1	-1.0
GTA				AP	pP	07 55 53.8	-6.3
GTA				XP	sP	07 55 58.6	-7.1
GTA				PP		07 56 02.5	
GTA				PPP		07 56 12.4	
GTA				S	S	07 59 02.7	-7.4
GTA				XS	sS	07 59 10.7	-16
GTA				SS		07 59 21.4	
GTA				PCP	PcP	08 00 29.1	+2.4
GTA				SCP	ScP	08 03 59.8	+1.6
GTA				PCS	PcS	08 04 02.7	-0.3
GTA				AMB	AMB		
	comp=Z,134nm,5.0s						
GTA				LR	LR		
	comp=N,309nm,16.8s						
GTA				LR	LR		
	comp=E,453nm,18.3s						
GTA				LR	LR		
	comp=Z,444nm,17.2s						
BOK	Bokaro	18.05	153	eP	Pn	07 55 55.0	+0.4
SHL	Shillong	19.23	135	eP	Pn	07 56 11.0	+2.0
SHL				ex	x	07 59 35.0	
SVE	Sverdlovsk	19.71	333	eP	Pn	07 56 12.2	-2.5
SVE				MLR	MLR		
	comp=N,500nm,10.0s						
SVE				MLR	MLR		
	comp=E,300nm,10.0s						
SVE				MLR	MLR		
	comp=Z,700nm,10.0s						
CAL	Calcutta	20.11	148	ex	x	07 58 22.5	
CAL				ex	x	08 03 42.5	
ARU	Arti	20.18	330	⇓iP	P	07 56 18.1	0.0
ARU				eS	S	08 00 03.2	+1.0
ARU				pmax	pmax		
	comp=Z,37nm,0.8s						
ARU				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.7						
ARU				MLR	MLR		
	comp=N,100nm,16.0s,MS3.6						
ARU				MLR	MLR		
	comp=E,200nm,15.0s,MS3.6						
ARU	Arti	20.18	330	ePn	P	07 56 18.2	+0.2
	comp=E,41nm,0.8s						
ZAK	Zakamensk	21.02	52	eP	P	07 56 27.1	0.0
ZAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.0						
LZH	Lanzhou	21.53	92	eP	P	07 56 33.5	+0.9
LZH				AP		07 56 43.0	
LZH				XP	sP	07 56 47.0	-1.7
LZH				PP		07 57 01.0	
LZH				eS	S	08 00 29.0	+0.3
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,130nm,4.1s						
LZH				LR	LR		
	comp=E,710nm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.0s,MS4.5						
TLY	Talaya	21.68	49	eP	P	07 56 33.1	-1.1
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
TLY	Talaya	21.68	49	eP	P	07 56 33.1	-1.1
	comp=Z,5.6nm,1.0s,mb4.0						
MAK	Makhachkala	22.13	287	eP	P	07 56 37.9	-1.1
MAK				e		07 57 00.2	
MAK				i S	S	08 00 39.2	-1.1
MAK				eSS		08 01 09.7	
MAK				eSSS		08 01 28.5	
MAK				pmax	pmax		
	comp=Z,266nm,1.5s,mb5.5						
MAK				MLR	MLR		
	comp=Z,848nm,15.0s,MS4.3						
SONM	Songino Array	22.40	60	P	P	07 56 42.1	+0.2
	comp=Z,4.7nm,0.9s,mb3.9,baz=265,slow=8.1,SNR=17						
SONM				LR	LR	08 06 17.1	
	comp=Z,393nm,19.1s,MS3.9,baz=61,slow=39						
HYB	Hyderabad	22.78	176	i P	P	07 56 46.5	+0.6
HYB				e		07 56 56.5	
ULN	Ulaanbaatar	22.85	60	eP	P	07 56 46.6	0.0
ULN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.2						
ULN	Ulaanbaatar	22.85	60	eP	P	07 56 46.6	0.0
	comp=Z,12nm,1.1s,mb4.2						
SOKR	Solikamsk	23.12	333c	iP	P	07 56 50.1	+0.6
SOKR				pmax	pmax		
	comp=Z,50nm,1.5s,mb4.7						
SOKR				MLR	MLR		
	comp=Z,660nm,21.0s,MS4.1						
CD2	Chengdu	23.65	105	eP	P	07 56 52.7	-1.8
CD2				AP		07 56 59.7	
CD2				XP	sP	07 57 03.2	-8.0
CD2				PP		07 57 25.3	
CD2				S	S	08 01 02.1	-3.9
CD2				SS		08 01 50.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,40nm,6.2s						
CD2				LR	LR		
	comp=E,100nm,14.4s						
CD2				LR	LR		
	comp=Z,120nm,13.2s,MS3.5						
GNI	Garni	24.52	280	P	P	07 57 03.8	+1.3
	comp=Z,7.6nm,0.6s,mb4.4,baz=131,slow=21,SNR=6.0						
GNI	Garni	24.52	280	eP	P	07 57 02.8	+0.3
GNI				pmax	pmax		
	comp=Z,45nm,1.1s						
GNI	Garni	24.52	280	eP	P	07 57 02.8	+0.2
	comp=Z,45nm,1.1s,mb4.9						
ZEI	Tsey	24.78	287	eP	P	07 57 06.1	+1.2

ZEI e*PP 07 57 14.5
ZEI e 07 57 37.2
ZEI pmax pmax
comp=Z,6.0nm,0.5s,mb4.4
KIV Kislovodsk 25.57 290 κeP **P 07 57 14.2 +2.1**
KIV e 07 57 20.3
KIV 07 57 49.6
KIV pmax pmax
comp=Z,25nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,200nm,14.0s,MS3.8
HHC Hu-ho-hao-te 26.23 77 eP **P 07 57 19.0 +1.0**
HHC AP pP 07 57 26.1 -3.5
HHC XP sP 07 57 29.6 -5.2
HHC PP 07 58 01.0
HHC PCP PcP 08 00 47.1 +3.3
HHC S **S 08 01 47.1 -0.1**
HHC XS sS 08 01 58.1 -8.6
HHC SS 08 02 54.0
HHC SCP ScP 08 04 23.3 +3.3
HHC PCS PcS 08 04 26.5 +1.7
HHC SCS ScS 08 08 12.1 +2.2
HHC AMB AMB
comp=Z,20nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,185nm,7.4s
HHC LR LR
comp=N,158nm,7.7s
HHC LR LR
comp=E,311nm,6.9s
HHC LR LR
comp=Z,298nm,9.8s
KMI Kunming 26.31 117 P **P 07 57 19.9 +1.1**
KMI AP pP 07 57 27.6 -2.8
KMI XP sP 07 57 30.9 -4.7
KMI PP 07 58 04.3
KMI PPP 07 58 16.0
KMI S **S 08 01 52.9 +4.4**
KMI XS sS 08 02 04.2 -3.9
KMI SS 08 02 57.8
KMI SSS 08 03 15.0
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
KMI AMB AMB
comp=Z,98nm,5.8s
KMI LR LR
comp=N,198nm,15.1s,MS3.9
KMI LR LR
comp=E,145nm,15.1s,MS3.9
KMI LR LR
comp=Z,188nm,13.9s,MS3.8
ANN Anapa 29.27 292 eP **P 07 57 41.6 -3.6**
ANN eS **S 08 02 28.4 -6.7**
ANN pmax pmax
comp=Z,50nm,1.0s,mb5.2
ANN MLR MLR
comp=N,197nm,12.0s,MS4.1
ANN MLR MLR
comp=E,169nm,12.0s,MS4.1
ANN MLR MLR
comp=Z,187nm,12.0s,MS3.9
BOD Bodaibo 29.50 41 eP **P 07 57 39.2 -8.0**
MALT Malatya 29.72 279 eP **P 07 57 49.4 +0.2**
MALT pmax pmax
comp=Z,13nm,1.1s,mb4.6
MALT Malatya 29.72 279 eP **P 07 57 49.4 +0.3**
comp=Z,13nm,1.1s,mb4.6
BJI Beijing 29.84 77 P **P 07 57 50.9 +0.7**
BJI S **S 08 02 38.5 -5.5**
BJI AMB AMB
comp=Z,3.0nm,0.5s,mb4.3
BJI LR LR
comp=N,325nm,19.9s,MS4.2
BJI LR LR
comp=E,382nm,15.4s,MS4.2
BJI LR LR
comp=Z,233nm,28.8s
MOS Moscow 30.05 314 eP **P 07 57 51.5 -0.6**
MOS pmax pmax
comp=Z,57nm,1.0s,mb5.3
OBN Obninsk 30.49 313 κeP **P 07 57 56.1 +0.1**
OBN 07 58 53.0
OBN pmax pmax
comp=Z,47nm,1.5s,mb5.0
OBN MLR MLR
comp=Z,300nm,14.0s,MS4.1
SIM Simferopol' 31.60 293 eP **P 07 58 06.3 +0.6**
SIM pmax pmax
comp=Z,17nm,0.7s,mb5.0
TMCR Tamitsa 32.92 330 eP **P 07 58 17.1 -0.3**
TMCR pmax pmax
comp=Z,60nm,1.4s,mb5.3
BR131 Keskin Array S 32.94 283 eP **P 07 58 17.9 +0.4**
comp=Z,14nm,0.7s,mb5.0
BRTR Keskin Array B 32.94 283 P **P 07 58 18.0 +0.5**
comp=Z,17nm,0.7s,mb5.1,baz=92,slow=8.7,SNR=71
AKASG Malin Array Be 34.50 304 P **P 07 58 30.0 -1.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=77,slow=8.2,SNR=26
AKASG Malin Array Be 34.50 304 *i* P **P 07 58 30.6 -0.5**
AKASG pmax pmax
comp=Z,8.0nm,0.9s
NJ2 Nanjing 34.56 90 eP **P 07 58 34.1 +2.5**
NJ2 AP pP 07 58 41.3 -2.1
NJ2 XP sP 07 58 45.0 -3.6
NJ2 PP PP 07 59 50.7 +0.2
NJ2 S **S 08 04 01.0 +3.4**
NJ2 XS sS 08 04 15.0 -2.4
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,180nm,6.6s
NJ2 LR LR
comp=N,710nm,22.2s,MS4.6
NJ2 LR LR
comp=E,770nm,18.0s,MS4.6
NJ2 LR LR
comp=Z,680nm,17.2s,MS4.5
QIZ Qiongzhong 35.26 117 P **P 07 58 38.7 +1.0**
QIZ eS **S 08 04 11.6 +3.2**
QIZ AMB AMB
comp=Z,9.0nm,1.6s,mb4.5
QIZ LR LR
comp=Z,169nm,14.2s,MS3.9
CN2 Changchun 35.81 68 eP **P 07 58 43.5 +1.1**
LVZ Lovozero 35.92 334⇓ eP **P 07 58 42.0 -1.3**
LVZ pmax pmax
comp=Z,50nm,1.2s,mb5.3
LVZ pmax pmax
comp=N,10.0nm,1.1s
LVZ pmax pmax
comp=E,8.0nm,0.9s
LVZ MLR MLR
comp=Z,691nm,13.0s,MS4.6
LVZ MLR MLR
comp=N,189nm,11.0s,MS4.4
LVZ MLR MLR
comp=E,305nm,11.0s,MS4.4
VRI Vrincioaia 36.62 296⇑ *i*P **P 07 58 50.3 +1.0**
SSE Sheshan 36.77 90 P **P 07 58 50.4 -0.2**
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,204nm,5.4s
SSE LR LR
comp=N,51nm,16.7s,MS3.6
SSE LR LR
comp=E,61nm,16.7s,MS3.6
SSE LR LR
comp=Z,91nm,15.4s,MS3.7
FIA1 FINESS Array S 37.21 322 eP **P 07 58 53.7 -0.5**
FINES FINESS Array B 37.21 322 P **P 07 58 54.2 -0.1**
comp=Z,6.0nm,0.7s,mb4.5,baz=105,slow=12,SNR=8.5
FINES LR LR 08 14 52.3
comp=Z,316nm,19.1s,MS4.1,baz=122,slow=37
MLR Muntele Rosu 37.22 295 P **P 07 58 55.4 +1.0**
comp=Z,14nm,0.9s,mb4.8,baz=110,slow=2.3,SNR=13
MLR Muntele Rosu 37.22 295⇓ *i*P **P 07 58 56.4 +2.0**
BURAR Bucovina Array 37.38 299⇑ *i*P **P 07 58 56.2 +0.5**
LVV L'vov 37.88 303⇑ *i*P **P 07 58 59.5 -0.5**
MDJ Mudanjiang 38.56 66 P **P 07 59 04.8 -0.9**
MDJ AMB AMB
comp=Z,5.0nm,2.3s,mb3.8
MDJ AMB AMB
comp=Z,92nm,5.2s
MDJ LR LR
comp=N,94nm,22.1s,MS3.6
MDJ LR LR
comp=E,38nm,23.4s,MS3.6
MDJ LR LR
comp=Z,128nm,16.9s
KWP Kalwaria 38.76 303 eP **P 07 59 08.3 +1.0**
KOLS Kolonicke sedl 39.13 302 *e* **P 07 59 08.0 -2.5**
DRGR 39.20 298⇑ *i*P **P 07 59 11.0 0.0**
ARCES ARCESS Array B 39.63 334 P **P 07 59 14.9 +0.3**
comp=Z,20nm,0.9s,mb4.8,baz=106,slow=8.6,SNR=31
ARCES LR LR 08 16 15.1
comp=Z,250nm,21.2s,MS4.0,baz=236,slow=37
STHS Stebnicka Huta 39.73 302 eP **P 07 59 15.0 -0.5**
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
STHS Stebnicka Huta 39.73 302 eP **P 07 59 15.0 -0.5**
comp=Z,3.8nm,0.7s,mb4.2
STHS e 07 59 43.0
VTS Vitosha 39.80 292⇑ *i*P **P 07 59 17.1 +1.1**
NIE Niedzica 40.33 303 eP **P 07 59 21.5 +1.1**
KECS Kecovo 40.37 301 eP **P 07 59 21.1 +0.3**
KECS pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
KECS Kecovo 40.37 301 eP **P 07 59 21.1 +0.3**
comp=Z,6.9nm,0.9s,mb4.4
OJC Ojcow 40.54 304 eP **P 07 59 22.3 +0.1**
TIXI Tiksi 40.56 23 eP **P 07 59 21.0 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
IDI Anoyia 40.96 280 P **P 07 59 24.8 -0.7**
comp=Z,13nm,0.8s,mb4.6,baz=40,slow=8.4,SNR=4.3
HABR Khabarovsk 41.47 59 eP **P 07 59 29.6 -0.2**
HABR eS **S 08 05 42.3 +0.2**
MORC Moravsky Berou 42.05 304 eP **P 07 59 34.7 +0.2**
MORC e 07 59 41.7
MORC eSP sP 07 59 44.5 -7.2
PKSM Moragy 42.07 298⇓ *i*P **P 07 59 34.9 +0.2**
VRAC Vranov 42.74 303 P **P 07 59 40.7 +0.5**
comp=Z,16nm,0.9s,mb4.7,baz=74,slow=8.0,SNR=11
VRAC LR LR 08 19 20.3
comp=Z,113nm,19.5s,MS3.8,baz=171,slow=39
HFS Hagfors 43.15 319 P **P 07 59 43.4 -0.1**
comp=Z,7.2nm,0.7s,mb4.5,baz=115,slow=14,SNR=9.6
HFS LR LR 08 18 18.5
comp=Z,225nm,21.9s,MS4.0,baz=107,slow=37
CONA Conrad Observa 43.52 301⇑ *i*P **P 07 59 47.1 +0.6**
comp=Z,21nm,1.1s,mb4.8
ARSA Arzberg 43.90 300⇓ *i*P **P 07 59 49.7 +0.2**
comp=Z,10nm,1.1s,mb4.5
BRG Berggiesshubel 44.11 306 eP **P 07 59 51.1 -0.1**
comp=Z,22nm,1.3s,mb4.7
BRG Berggiesshubel 44.11 306 eP **P 07 59 51.4 +0.3**
comp=Z,13nm,1.3s,mb4.5
BRG *e* pP 08 00 05.9 +2.7
BRG comp=Z,3.0nm,1.0s
BRG comp=N,69nm,16.0s
BRG comp=E,262nm,14.3s
BRG comp=Z,378nm,16.9s
BRG Berggiesshubel 44.11 306 eP **P 07 59 51.4 +0.2**
BRG *e* pP 08 00 05.9 +2.6
BRG pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.6
BRG MLR MLR
comp=N,3μm,16.0s
BRG MLR MLR
comp=E,69nm,14.4s
BRG MLR MLR
comp=Z,262nm,16.9s,MS4.2
BRG Berggiesshubel 44.11 306 eP **P 07 59 51.4 +0.3**
comp=Z,13nm,1.3s,mb4.5
BRG *e* pP 08 00 05.9 +2.7
BRG LR LR
comp=Z,380nm,16.9s,MS4.4
CRES Cresnjev 44.31 298 *i* P **P 07 59 53.0 +0.2**
PERS Pernice 44.32 300 *i* P **P 07 59 53.1 +0.2**
NB2 NORSAR Subarra 44.34 321 P **P 07 59 52.5 -0.5**
comp=Z,15nm,0.9s,mb4.7,baz=88,slow=7.9
NOA NORSAR Array B 44.34 321 P **P 07 59 52.5 -0.5**
comp=Z,12nm,0.9s,mb4.6,baz=88,slow=7.9,SNR=18
NAO01 NORSAR Array S 44.51 320 eP **P 07 59 53.3 -1.1**
comp=Z,8.4nm,0.8s,mb4.6
BOJS Bojanci 44.54 298 *i* P **P 07 59 55.0 +0.4**
MOA Molln 44.58 302⇑ *i*P **P 07 59 55.1 +0.2**
comp=Z,13nm,1.0s,mb4.7,SNR=5.2
CLL Collm 44.60 307 eP **P 07 59 54.9 -0.2**
comp=Z,19nm,1.0s,mb4.9
CLL Collm 44.60 307⇑ *i*P **P 07 59 55.2 +0.1**
comp=Z,18nm,1.0s,mb4.9
CLL epP pP 08 00 04.0 -3.2
CLL *i* PP PP 08 01 40.4 +0.7
CLL Collm 44.60 307⇑ *i*P **P 07 59 55.2 +0.1**
CLL pmax pmax
comp=Z,18nm,1.0s,mb4.9
CLL MLR MLR
comp=Z,300nm,15.1s,MS4.3
CLL Collm 44.60 307⇑ *i*P **P 07 59 55.2 +0.1**
comp=Z,18nm,1.0s,mb4.9
CLL epP pP 08 00 00.0 -7.2
CLL LR LR
comp=Z,300nm,15.1s,MS4.3
GEC2 GERESS Array S 44.70 303 eP **P 07 59 56.6 +0.7**
comp=Z,33nm,1.0s,mb5.1
GEC2 GERESS Array S 44.70 303 eP **P 07 59 56.6 +0.7**
GEC2 pmax pmax
comp=Z,33nm,1.0s,mb5.1
GERES GERESS Array B 44.70 303 P **P 07 59 56.6 +0.7**
comp=Z,18nm,0.8s,mb4.9,baz=75,slow=7.1,SNR=101
GERES LR LR 08 21 14.2
comp=Z,116nm,19.0s,MS3.8,baz=78,slow=40
KHC Kasperske Hory 44.71 303 *c* iP **P 07 59 56.5 +0.5**
OBKA Obir 44.73 300⇑ *i*P **P 07 59 56.6 +0.5**
comp=Z,20nm,1.1s,mb4.9,SNR=7.1
LJU Ljubljana 44.88 299 *i* P **P 07 59 57.8 +0.5**
KNDS Knezji Dol 45.12 298 *i* P **P 07 59 59.5 +0.3**
TANN Tannenbergstha 45.13 305 eP **P 07 59 59.2 -0.1**
comp=Z,14nm,1.0s,mb4.8
WET Wettzell 45.16 304 eP **P 08 00 00.1 +0.6**
comp=Z,18nm,1.1s,mb4.8
CADS Conrad 45.35 299 *i* P **P 08 00 00.5 -0.6**
KBA Koelnbreinsper 45.38 301⇑ *i*P **P 08 00 01.4 +0.1**
comp=Z,6.0nm,1.0s,mb4.4
ROTZ Rotzenmuhle 45.43 305 eP **P 08 00 01.7 0.0**
comp=Z,12nm,1.3s,mb4.6
MANZ Manzenberg 45.45 305 eP **P 08 00 02.4 +0.6**
comp=Z,12nm,1.2s,mb4.6
MOX Moxa 45.60 306 eP **P 08 00 03.1 +0.1**
comp=Z,13nm,0.9s,mb4.9
MOX Moxa 45.60 306 eP **P 08 00 03.2 +0.2**
comp=Z,19nm,1.3s,mb4.9
MOX comp=Z,400nm,17.0s
BSEG Bad Segeberg 45.69 311 eP **P 08 00 04.4 +0.6**
comp=Z,21nm,0.9s,mb5.1
GRA1 Grafenberg Arr 46.07 305 eP **P 08 00 07.8 +1.0**
comp=Z,43nm,0.9s,mb5.4
GRA1 LR LR
comp=Z,200nm,18.5s,MS4.1
GRF Grafenberg Arr 46.07 305 eP **P 08 00 07.8 +1.0**
comp=Z,43nm,0.9s,mb5.4
GRF eL 08 21 07.4
comp=Z,161nm,18.5s
NRDL Niedersach Rie 46.11 309 eP **P 08 00 07.7 +0.7**
comp=Z,29nm,1.1s,mb5.1
FUR Furstenfeldbru 46.43 303 eP **P 08 00 10.4 +0.8**
comp=Z,44nm,0.7s,mb5.5
WTTA Wattenberg 46.45 301⇑ *i*P **P 08 00 09.6 -0.2**
comp=Z,19nm,1.3s,mb4.8
UBBA Unterbreizbach 46.56 307 eP **P 08 00 10.1 -0.5**
comp=Z,6.0nm,0.9s,mb4.5
MOTA Moosalm 46.77 302⇑ *i*P **P 08 00 11.9 -0.4**
comp=Z,13nm,1.3s,mb4.7
SNTG Esanatoglia 46.80 296 P **P 08 00 13.2 +0.7**
MAJO Matsushiro 47.33 74 eP **P 08 00 16.5 -0.2**
comp=Z,2.3nm,0.3s,mb4.6
MJAR Matsushiro Arr 47.34 74 P **P 08 00 16.8 +0.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=282,slow=9.2,SNR=5.8
SFI Santa Sofia 47.34 297 P **P 08 00 17.9 +1.2**
comp=Z,18nm,0.8s,mb5.0
DAVA Damuels 47.59 302⇑ *i*P **P 08 00 18.6 0.0**
comp=Z,40nm,0.9s,mb5.4,SNR=12
STU Stuttgart 47.60 304 eP **P 08 00 18.8 +0.1**
comp=Z,28nm,0.8s,mb5.3
TNS Taunus Mts 47.67 306 eP **P 08 00 19.4 +0.2**
comp=Z,8.0nm,0.8s,mb4.8
DAVOX Davos 47.74 301 LR LR 08 23 04.9
comp=Z,156nm,18.8s,MS4.0,baz=64,slow=39
GSCL Gusciola 48.04 298 P **P 08 00 23.7 +1.6**
comp=Z,26nm,0.8s,mb5.3
BUG Bochum--Univer 48.06 308 eP **P 08 00 23.3 +1.0**
comp=Z,11nm,0.6s,mb5.1
ERBM Eremo 48.14 298 P **P 08 00 24.4 +1.5**
comp=Z,153nm,2.0s,mb5.7
GRFL Gerfalco 48.19 296 P **P 08 00 23.4 +0.1**
BFO Black Forest 48.28 304 eP **P 08 00 23.8 -0.1**
comp=Z,11nm,0.9s,mb4.9
FELD Feldberg im Sc 48.62 303 eP **P 08 00 26.4 -0.2**
BOB Bobbio (Coli) 48.67 299 P **P 08 00 27.9 +0.9**
comp=Z,36nm,0.8s,mb5.5
CDF Champ du Feu 48.92 304⇑ *i*P **P 08 00 28.8 -0.1**
comp=Z,38nm,1.0s,mb5.1
CDF Champ du Feu 48.92 304⇑ *i*P **P 08 00 28.8 -0.1**
comp=Z,19nm,1.0s,mb5.1
KKM Kota Kinabalu 48.96 123 eP **P 08 00 30.5 +1.3**
KSM Kuching 49.04 133 eP **P 08 00 31.2 +1.4**
ECH Echery 49.06 304 eP **P 08 00 30.1 +0.2**
MOF Molkenrain 49.19 303 eP **P 08 00 30.9 0.0**
WLF Walferdange 49.25 306 eP **P 08 00 31.9 +0.5**
comp=Z,18nm,0.9s,mb5.1
HINF Hinteralfeld 49.38 303⇑ *i*P **P 08 00 32.2 -0.2**
comp=Z,44nm,0.9s,mb5.2
HINF Hinteralfeld 49.38 303⇑ *i*P **P 08 00 32.2 -0.2**
comp=Z,22nm,0.9s,mb5.2
HAU Haudompre 49.64 304⇑ *i*P **P 08 00 34.1 -0.3**
comp=Z,48nm,1.1s,mb5.1
HAU eR
comp=Z,158nm,21.5s
HAU Haudompre 49.64 304⇑ *i*P **P 08 00 34.1 -0.3**
comp=Z,24nm,1.1s,mb5.1
HAU LR LR
comp=Z,160nm,21.5s,MS4.0
THEF They Montfort 49.80 304 eP **P 08 00 35.7 +0.1**
GIVF Givet 49.93 307 eP **P 08 00 36.8 +0.2**
comp=Z,33nm,0.9s,mb5.0
GIVF Givet 49.93 307 eP **P 08 00 36.8 +0.2**
comp=Z,16nm,0.9s,mb5.1
IMI Imperia 50.02 298 P **P 08 00 37.7 +0.4**
LPG La Plagne 50.22 301⇑ *i*P **P 08 00 39.1 +0.3**
comp=Z,33nm,1.0s,mb5.0
LPG La Plagne 50.22 301⇑ *i*P **P 08 00 39.1 +0.3**
comp=Z,16nm,1.0s,mb5.0
SAOF Saorge 50.22 298 eP **P 08 00 38.8 0.0**
LPL La Plagne 50.22 301⇑ *i*P **P 08 00 39.1 +0.3**
comp=Z,55nm,1.1s,mb5.2
LPL La Plagne 50.22 301⇑ *i*P **P 08 00 39.1 +0.3**
comp=Z,28nm,1.1s,mb5.2
RSL Roselend 50.23 301 eP **P 08 00 38.8 -0.1**
DOI San Damiano 50.24 299 P **P 08 00 38.4 -0.5**
comp=Z,30nm,1.1s,mb5.2
CABF La Chapelle 50.27 302⇑ *i*P **P 08 00 38.8 -0.3**
comp=Z,33nm,1.0s,mb5.0
CABF La Chapelle 50.27 302⇑ *i*P **P 08 00 38.8 -0.3**
comp=Z,17nm,1.0s,mb5.0
MEZF Maizieres J'vi 50.30 305 eP **P 08 00 39.6 +0.2**
comp=Z,66nm,0.9s,mb5.3
MEZF Maizieres J'vi 50.30 305 eP **P 08 00 39.6 +0.2**
comp=Z,66nm,0.9s,mb5.7
AUTN L'Aution 50.30 299 eP **P 08 00 40.4 +1.0**
BAIF Baives 50.33 307 eP **P 08 00 39.9 +0.3**
comp=Z,29nm,1.0s,mb5.0
BAIF Baives 50.33 307 eP **P 08 00 39.9 +0.3**
comp=Z,14nm,1.0s,mb5.0
SBF Sospel 50.34 298⇑ *i*P **P 08 00 39.8 +0.1**
comp=Z,87nm,1.0s,mb5.5
SBF Sospel 50.34 298⇑ *i*P **P 08 00 39.8 +0.1**
comp=Z,44nm,1.0s,mb5.4
LUCF Luceram 50.39 298 eP **P 08 00 40.2 +0.1**
BNI Bardonecchia 50.42 300 eP **P 08 00 40.2 0.0**
comp=Z,41nm,1.1s,mb5.4
MBDF Montbardon 50.48 300⇑ *i*P **P 08 00 40.1 -0.6**
comp=Z,37nm,0.9s,mb5.1
MBDF Montbardon 50.48 300⇑ *i*P **P 08 00 40.1 -0.6**
comp=Z,19nm,0.9s,mb5.1
MVIF Mont Vial 50.52 298 eP **P 08 00 41.4 +0.3**
FRF La Foret Royal 50.98 298⇑ *i*P **P 08 00 44.2 -0.4**
comp=Z,34nm,0.8s,mb5.0
FRF La Foret Royal 50.98 298⇑ *i*P **P 08 00 44.2 -0.4**
comp=Z,17nm,0.8s,mb5.0
ORIF Oris-en-Rattie 51.00 300⇑ *i*P **P 08 00 44.1 -0.5**
comp=Z,17nm,0.8s,mb4.7
ORIF eR
comp=Z,328nm,19.2s
ORIF Oris-en-Rattie 51.00 300⇑ *i*P **P 08 00 44.1 -0.5**
comp=Z,8.4nm,0.8s,mb4.7
LMR La Mourre 51.16 298 eP **P 08 00 45.5 -0.4**
comp=Z,43nm,1.2s,mb5.0
LMR La Mourre 51.16 298 eP **P 08 00 45.5 -0.4**
comp=Z,22nm,1.2s,mb5.0
STOF St-Etienne Org 51.32 299 eP **P 08 00 47.5 +0.5**
TAVF Tavernes 51.36 299 eP **P 08 00 47.6 +0.2**
LOR Lormes 51.47 304⇑ *i*P **P 08 00 47.3 -0.9**
comp=Z,19nm,1.0s,mb4.7
LOR eR
comp=Z,114nm,21.8s
LOR Lormes 51.47 304⇑ *i*P **P 08 00 47.3 -0.9**
comp=Z,9.6nm,1.0s,mb4.7
LOR LR LR
comp=Z,110nm,21.8s,MS3.8
OCF Saint Nazaire 51.51 300 eP **P 08 00 48.6 +0.1**
OG26 St.-Nazaire-De 51.51 300 eP **P 08 00 48.6 +0.1**
SMRF Simiane la Rot 51.55 299⇑ *i*P **P 08 00 48.7 -0.1**
comp=Z,27nm,0.9s,mb4.9
SMRF Simiane la Rot 51.55 299⇑ *i*P **P 08 00 48.7 -0.1**
comp=Z,27nm,0.9s,mb5.2
PUYF Puyloubier 51.63 299 eP **P 08 00 49.1 -0.3**
SMF Signal de Mont 51.70 303 eP **P 08 00 49.4 -0.5**
comp=Z,48nm,1.0s,mb5.1
SMF Signal de Mont 51.70 303 eP **P 08 00 49.4 -0.5**
comp=Z,24nm,1.0s,mb5.1
BERF Bertagne 51.72 298 eP **P 08 00 50.8 +0.7**
TREF Trevaresse 51.81 299 eP **P 08 00 51.5 +0.8**
VIVF Saint-Julien-I 51.82 300⇑ *i*P **P 08 00 50.6 -0.2**
comp=Z,32nm,0.8s,mb5.0
VIVF Saint-Julien-I 51.82 300⇑ *i*P **P 08 00 50.6 -0.2**
comp=Z,16nm,0.8s,mb5.0
GELF Grande-Etoile 51.87 298 eP **P 08 00 51.5 +0.3**
PRAF Pradon 51.89 299 eP **P 08 00 52.2 +0.9**
AVF Avril sur Loir 51.97 303⇑ *i*P **P 08 00 51.4 -0.5**
comp=Z,80nm,0.9s,mb5.4
AVF Avril sur Loir 51.97 303⇑ *i*P **P 08 00 51.4 -0.5**
comp=Z,40nm,0.9s,mb5.3
KEST Kesra 52.30 288 P **P 08 00 54.2 -0.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=307,slow=3.0,SNR=5.5
BGF Bois d'Agland 52.38 303 eP **P 08 00 54.4 -0.5**
TCF Toulx Ste Croi 52.88 303⇑ *i*P **P 08 00 58.5 -0.2**
comp=Z,40nm,1.0s,mb5.0
TCF Toulx Ste Croi 52.88 303⇑ *i*P **P 08 00 58.5 -0.2**
comp=Z,20nm,1.0s,mb5.0
EKA Eskdalemuir Ar 52.90 315 P **P 08 00 57.7 -1.1**
comp=Z,2.8nm,0.8s,mb4.3,baz=77,slow=8.6,SNR=5.2
LDF La Druitiere 53.49 306⇑ *i*P **P 08 01 02.4 -0.7**
comp=Z,49nm,1.1s,mb5.0
LDF La Druitiere 53.49 306⇑ *i*P **P 08 01 02.4 -0.7**
comp=Z,25nm,1.1s,mb5.0
CAF Calviac 53.50 301 eP **P 08 01 03.4 +0.2**
comp=Z,34nm,1.0s,mb4.9
CAF Calviac 53.50 301 eP **P 08 01 03.4 +0.2**
comp=Z,17nm,1.0s,mb4.9
FLN La Foliniere 53.65 307 eP **P 08 01 03.4 -0.9**
comp=Z,28nm,1.1s,mb4.8
FLN eR
comp=Z,148nm,19.5s
FLN La Foliniere 53.65 307 eP **P 08 01 03.4 -0.9**
comp=Z,14nm,1.1s,mb4.8
FLN LR LR
comp=Z,150nm,19.5s,MS4.1
RJF Les Rejaudoux 53.71 302⇑ *i*P **P 08 01 05.0 +0.2**
comp=Z,29nm,0.9s,mb4.9
RJF eR
comp=Z,89nm,22.0s
RJF Les Rejaudoux 53.71 302⇑ *i*P **P 08 01 05.0 +0.2**
comp=Z,14nm,0.9s,mb4.9
RJF LR LR
comp=Z,90nm,22.0s,MS3.8
EJON La Jonquera 53.96 298 P **P 08 01 05.7 -0.9**
comp=Z,13nm,0.9s,mb4.9
GRR Gorron 54.02 306 eP **P 08 01 06.2 -0.8**
comp=Z,44nm,0.9s,mb5.1
GRR Gorron 54.02 306 eP **P 08 01 06.2 -0.8**
comp=Z,22nm,0.9s,mb5.1

MTLF	Montolieu	54.04	300	⇑iP	P	08 01 07.1	-0.1
	comp=Z,20nm,0.8s,mb4.8						
MTLF	Montolieu	54.04	300	⇑iP	P	08 01 07.1	-0.1
	comp=Z,10.0nm,0.8s,mb4.8						
MFF	Saint Martin d	54.27	304	⇑iP	P	08 01 08.0	-0.8
	comp=Z,30nm,1.0s,mb4.9						
MFF	Saint Martin d	54.27	304	⇑iP	P	08 01 08.0	-0.8
	comp=Z,15nm,1.0s,mb4.9						
LFF	La Frestale	54.36	302	eP	P	08 01 09.6	+0.1
	comp=Z,56nm,1.0s,mb5.1						
LFF	La Frestale	54.36	302	eP	P	08 01 09.6	+0.1
	comp=Z,28nm,1.0s,mb5.2						
KMBO	Kilima Mbogo	54.80	231	P	P	08 01 11.8	-0.9
	comp=Z,2.3nm,0.9s,mb4.2,baz=220,slow=24,SNR=4.1						
SGMF	Saint Gilles	55.12	307	⇑iP	P	08 01 14.5	-0.5
	comp=Z,44nm,1.0s,mb5.1						
SGMF	Saint Gilles	55.12	307	⇑iP	P	08 01 14.5	-0.5
	comp=Z,22nm,1.0s,mb5.1						
ETOS	Mallorca	55.15	295	P	P	08 01 15.0	-0.3
	comp=Z,15nm,1.2s,mb4.9						
EPF	Esparros	55.42	300	eP	P	08 01 16.0	-1.1
	comp=Z,5.0nm,0.5s,mb4.5						
EPF	Esparros	55.42	300	eP	P	08 01 16.0	-1.1
	comp=Z,2.5nm,0.5s,mb4.5						
ROSF	Rostrenen	55.52	307	⇑iP	P	08 01 17.3	-0.6
	comp=Z,24nm,0.9s,mb5.0						
ROSF	Rostrenen	55.52	307	⇑iP	P	08 01 17.3	-0.6
	comp=Z,12nm,0.9s,mb4.9						
EPOB	Poblet	55.65	298	P	P	08 01 18.3	-0.5
	comp=Z,12nm,0.8s,mb5.0						
EBIE	Bielsa	55.70	300	P	P	08 01 19.1	-0.1
	comp=Z,17nm,1.2s,mb5.0						
ETSF	Etsaut	56.07	300	⇑iP	P	08 01 21.9	+0.1
	comp=Z,24nm,1.0s,mb4.9						
ETSF	Etsaut	56.07	300	⇑iP	P	08 01 21.9	+0.1
	comp=Z,12nm,1.0s,mb4.9						
ERTA	Horta de San J	56.33	298	P	P	08 01 23.1	-0.5
	comp=Z,20nm,0.9s,mb5.1						
SJPF	Ste Jean	56.41	301	eP	P	08 01 23.7	-0.6
	comp=Z,7.4nm,0.8s,mb4.5						
SJPF	Ste Jean	56.41	301	eP	P	08 01 23.7	-0.6
	comp=Z,3.7nm,0.8s,mb4.5						
EIBI	Ibiza	56.50	295	P	P	08 01 24.1	-0.8
	comp=Z,34nm,1.3s,mb5.2						
ESAC	San Caprasio	56.53	299	P	P	08 01 24.8	-0.2
	comp=Z,41nm,1.0s,mb5.4						
EALK	Alkurruntz	56.55	301	P	P	08 01 25.0	-0.3
	comp=Z,23nm,1.0s,mb5.2						
ELIZ	Elizondo	56.59	301	P	P	08 01 25.1	-0.4
	comp=Z,7.2nm,0.9s,mb4.7						
EMOS	Mosqueruela	57.14	297	P	P	08 01 29.5	+0.1
	comp=Z,16nm,0.9s,mb5.0						
BORG	Borgarnes	57.72	330	LR	LR	08 26 16.3	
	comp=Z,89nm,19.3s,MS3.9,baz=324,slow=36						
ELAN	Lanestosa	57.81	302	P	P	08 01 34.1	0.0
	comp=Z,33nm,0.9s,mb5.4						
EMUR	La Murta	58.85	295	P	P	08 01 41.2	-0.2
	comp=Z,14nm,0.7s,mb5.1						
EARI	Arriondas	58.93	302	P	P	08 01 41.2	-0.7
	comp=Z,22nm,1.4s,mb5.0						
SUMG	Summit	59.03	341	eP	P	08 01 42.0	-0.6
	comp=Z,11nm,1.0s,mb4.8						
EVIA	Vianos	59.34	296	P	P	08 01 44.3	-0.4
	comp=Z,9.7nm,0.8s,mb4.9						
ESDC	Sonseca Array	59.83	298	P	P	08 01 47.8	-0.3
	comp=Z,3.4nm,0.6s,mb4.5,baz=58,slow=7.6,SNR=14						
ESDC				LR	LR	08 32 24.4	
	comp=Z,73nm,19.2s,MS3.8,baz=65,slow=41						
ESDC	Sonseca Array	59.83	298	P	P	08 01 47.8	-0.3
ESDC				LR	LR	08 32 24.4	
ESLA	Sonseca Array	59.83	298	eP	P	08 01 47.8	-0.3
	comp=Z,3.5nm,1.0s,mb4.3						
EQES	Quesada	60.13	296	P	P	08 01 49.9	-0.4
	comp=Z,8.6nm,0.9s,mb4.8						
EBAN	Banos Encina	60.45	297	P	P	08 01 51.7	-0.7
	comp=Z,7.4nm,0.6s,mb4.9						
ECAL	Calabor	60.57	302	P	P	08 01 53.3	+0.1
	comp=Z,20nm,1.2s,mb5.1						
EBAD	Badajoz	62.34	299	P	P	08 02 04.9	-0.3
	comp=Z,14nm,1.0s,mb5.0						
EMIN	Mina Concepcio	62.62	298	P	P	08 02 06.1	-0.9
	comp=Z,10nm,0.8s,mb5.0						
INK	Inuvik	69.40	12	eP	P	08 02 50.1	-0.5
	comp=Z,12nm,1.0s,mb4.8						
COLA	College	69.53	19	eP	P	08 02 50.9	-0.4
	comp=Z,11nm,1.4s,mb4.6						
MCK	McKinley	70.19	20	eP	P	08 02 55.2	-0.2
	comp=Z,3.5nm,0.3s,mb4.8						
TOA0	Torodi Ar. Sit	70.40	271	eP	P	08 02 56.0	-0.7
TOA0				ePP	PP	08 05 34.9	+1.9
TORD	Torodi Ar. Bea	70.40	271	P	P	08 02 55.8	-0.9
	comp=Z,5.3nm,0.8s,mb4.5,baz=43,slow=5.7,SNR=34						
TORD				LR	LR	08 39 19.2	
	comp=Z,33nm,19.0s,MS3.6,baz=120,slow=41						
DAWY	Dawson	72.14	16	eP	P	08 03 06.6	-0.7
YKA	Yellowknife Ar	77.20	5	P	P	08 03 35.7	-0.8
	comp=Z,5.5nm,1.1s,mb4.4,baz=343,slow=5.4,SNR=3.4						
YKA	Yellowknife Ar	77.20	5	P	P	08 03 35.7	-0.8
WRAB	Tennant Creek	80.22	126	eP	P	08 03 53.6	+0.4
	comp=Z,9.4nm,1.2s,mb4.6						
WRAB				ePcP	PcP	08 04 01.4	+1.2
WRA	Warramunga Arr	80.22	126	P	P	08 03 52.9	-0.3
	comp=Z,2.2nm,1.2s,mb4.0,baz=323,slow=4.4,SNR=5.9						
ASAR	Alice Springs	82.77	129	P	P	08 04 06.8	+0.2
	comp=Z,1.1nm,0.9s,mb3.9,baz=331,slow=5.4,SNR=9.6						
BOSA	Boshof	83.64	224	LR	LR	08 40 39.7	
	comp=Z,69nm,18.5s,MS4.1,baz=180,slow=35						
EDM	Edmonton	86.50	6	eP	P	08 04 25.2	-0.2
ULM	Lac du Bonnet	89.67	355	LR	LR	08 50 17.4	
	comp=Z,43nm,19.4s,MS3.9,baz=53,slow=39						
BSMT	Bassoo Peak	91.68	8	eP	P	08 04 50.8	+0.9
DLMT	Dillon	94.36	7	eP	P	08 05 03.2	+1.0
	comp=Z,21nm,0.4s,mb5.9						
MCMT	McKenzie Canyo	94.86	7	eP	P	08 05 05.1	+0.6
PDAR	Pinedale Array	97.17	5	LR	LR	08 54 21.6	
	comp=Z,44nm,18.1s,MS4.0,baz=63,slow=39						
OHCM	Honcut	99.04	14	eP	P	08 05 23.0	-0.4
PLCA	Paso Flores	155.34	258	PKP	PKPdf	08 11 36.8	+1.0
	comp=Z,1.9nm,1.0s,baz=65,slow=4.5,SNR=3.1						

*ISCJB **06** 07:57:59.9±0.6, 5971N±004×2443E±007, h0^{km}, Error ellipse: s-maj=5.6km s-min=5.3km az=60.6*
*CSEM **06** 07:58:01.8±0.1, 5981N×2481E, h2^{km}, ML2.4, Error ellipse: s-maj=4.7km s-min=3.3km az=31.0, Mining explosion.*
*NAO **06** 07:58:02.2±1.0, 5973N×2464E, ML2.6*
*HEL **06** 07:58:02.5±0.1, 5972N×2455E, h0^{km}, ML2.4, ML2.6(NAO), Explosion*
*BER **06** 07:58:03.2±4.2, 5974N×2460E, h0^{km}±17^{km}, ML2.6(NAO)*
*IDC **06** 07:58:03.4±2.0, 5982N×2462E, h0^{km}, mb1 3.6/3, mb1mx3.3/21, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=23.4km s-min=6.9km az=141.0*
ISC 06 07:58:01.3±0.6, **5971N**±004×**2454E**±007, **h0**^{km}, **n25**, σ**1ˢ00**/42, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.51	352	eP	Pg	07 58 11.4	+0.3
MEF				eS	Sg	07 58 18.1	+0.3
PVF	Pernaja	1.07	38	eP	Pg	07 58 21.1	-0.6
PVF				eS	Sg	07 58 35.0	-0.6
VSU	Vasula	1.69	137	eP	Pn	07 58 32.8	+0.7
VSU				eS	Sn	07 58 54.2	-0.3
VSU	Vasula	1.69	137	Pn	Pn	07 58 32.8	+0.8
VSU				Lg		07 58 54.3	
VSU	Vasula	1.69	137	P	Pn	07 58 32.7	+0.6
VSU				S	Sn	07 58 54.1	-0.3
FIA0	FINESS Array S	1.90	23	eP	Pn	07 58 35.9	+1.0
FIA0				eS	Sn	07 58 59.9	+0.4
FIA0				MSG		07 59 03.2	
	comp=Z,27nm,0.2s						
FIA0	FINESS Array S	1.90	23	Pn	Pn	07 58 36.0	+1.1
	baz=194,slow=18						
FIA0				Lg		07 59 00.1	
	baz=189,slow=37						
FIA0	FINESS Array S	1.90	23	P	Pn	07 58 35.9	+1.0
FIA0				S	Sn	07 58 59.8	+0.3
	comp=Z,27nm,0.2s						
FINES	FINESS Array B	1.90	23	Pn	Pn	07 58 36.1	+1.2
	comp=Z,16nm,0.3s,baz=200,slow=16,SNR=579						
FINES				Lg		07 58 59.4	
	comp=Z,15nm,0.3s,baz=199,slow=29,SNR=24						
RAF	Rauma	1.91	315	eP	Pn	07 58 36.5	+1.4
RAF				eS	Sn	07 59 01.2	+1.4
RAF	Rauma	1.91	315	P	Pn	07 58 36.4	+1.4
RAF				S	Sn	07 59 01.1	+1.4
KAF	Kangasniemi	2.56	19	MSG		07 59 23.8	
	comp=Z,15nm,0.2s						
HFS	Hagfors	5.47	279	eP	Pn	07 59 24.9	+0.8
HFS				eS	Sn	08 00 27.3	-0.4
HFS				eSG		08 00 50.6	
HFS	Hagfors	5.47	279	Pn	Pn	07 59 25.2	+1.2
	comp=Z,0.9nm,0.3s,baz=110,slow=13,SNR=27						
HFS				Sn	Sn	08 00 26.4	-1.3
	comp=Z,2.4nm,0.3s,baz=87,slow=28,SNR=13						
HFS				Lg		08 00 54.1	
	comp=Z,2.5nm,0.3s,baz=90,slow=33,SNR=9.9						
HFS	Hagfors	5.47	279	Pn	Pn	07 59 24.9	+0.8
	baz=76,slow=12						
HFS				Sn	Sn	08 00 27.3	-0.4
	baz=94,slow=37						
HFS				Lg		08 00 50.6	
	baz=96,slow=37						
HFS	Hagfors	5.47	279	Pn	Pn	07 59 24.9	+0.8
	SNR=9.2						
HFS				Sn	Sn	08 00 27.3	-0.4
	SNR=9.6						
NB2	NORSAR Subarra	6.74	287	Pn	Pn	07 59 41.5	0.0
	baz=92,slow=14						
NB2				Sn	Sn	08 00 56.8	-2.2
	baz=95,slow=22						
NB2				Lg		08 01 29.7	
	baz=90,slow=37						
NB2	NORSAR Subarra	6.74	287	eP	Pn	07 59 41.5	0.0
NB2				eS	Sn	08 00 56.8	-2.2
NB2				eSG		08 01 29.7	
NB2	NORSAR Subarra	6.74	287	Pn	Pn	07 59 41.5	0.0
	SNR=9.5						
NB2				Sn	Sn	08 00 56.8	-2.2
	SNR=3.1						
NOA	NORSAR Array B	6.74	287	Pn	Pn	07 59 41.1	-0.3
	comp=Z,0.7nm,0.3s,baz=100,slow=13,SNR=3.3						
NOA				Lg		08 01 28.7	
	comp=Z,1.3nm,0.3s,baz=92,slow=11,SNR=3.7						
APA0	Apatity Array	8.76	22	Pn	Pn	08 00 09.8	+0.6
	baz=200,slow=10						
APA0	Apatity Array	8.76	22	eP	Pn	08 00 09.8	+0.6
ARA0	ARCESS Array S	9.87	2	Pn	Pn	08 00 22.7	-1.8
	baz=175,slow=16						
ARA0				Sn	Sn	08 02 09.2	-6.9
	baz=184,slow=28						
ARA0	ARCESS Array S	9.87	2	eP	Pn	08 00 22.7	-1.8
ARA0				eS	Sn	08 02 09.2	-6.9
ARCES	ARCESS Array B	9.87	2	Pn	Pn	08 00 23.1	-1.3
	comp=Z,1.3nm,0.3s,baz=188,slow=12,SNR=46						
ARCES				Sn	Sn	08 02 07.2	-8.8
	comp=Z,0.2nm,0.3s,baz=189,slow=17,SNR=2.7						

*ISCJB **06** 08:19:43.7±0.7, 5969N±004×2397E±008, h0^{km}, Error ellipse: s-maj=6.5km s-min=5.4km az=138.8*
*NAO **06** 08:19:46.2±1.0, 5970N×2421E, ML2.2*
*HEL **06** 08:19:46.6±0.1, 5968N×24.15E, h0^{km}, ML2.3, ML2.2(NAO), Explosion*
*BER **06** 08:19:46.9±4.7, 5970N×24.12E, h0^{km}, ML2.2(NAO), Suspected explosion*
*IDC **06** 08:19:47.3±2.0, 5974N×2421E, h0^{km}, mb1 3.2/3, mb1mx3.0/21, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=24.1km s-min=8.4km az=155.0*
ISC 06 08:19:45.4±0.7, **5968N**±004×**2410E**±007, **h0**^{km}, **n21**, σ**1ˢ02**/32, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.56	15	eP	Pg	08 19 56.3	+0.2
MEF				eS	Sg	08 20 03.3	0.0
PVF	Pernaja	1.24	45	eP	Pg	08 20 08.3	-0.8
PVF				eS	Sg	08 20 24.1	-1.0
RAF	Rauma	1.78	320	eP	Pn	08 20 18.1	+0.8
RAF				eS	Sn	08 20 41.6	+1.0
VSU	Vasula	1.83	131	eP	Pn	08 20 18.4	+0.4
VSU				eS	Sn	08 20 41.8	0.0
VSU	Vasula	1.83	131	Pn	Pn	08 20 18.3	+0.3
VSU				Lg		08 20 42.0	
FIA0	FINESS Array S	2.02	28	eP	Pn	08 20 22.1	+1.4
FIA0				eS	Sn	08 20 47.4	+0.8
FIA0				MSG		08 20 53.1	
	comp=Z,14nm,0.2s						
FIA0	FINESS Array S	2.02	28	Pn	Pn	08 20 22.0	+1.3
	baz=206,slow=14						
FIA0				Lg		08 20 48.1	
	baz=221,slow=28						
FINES	FINESS Array B	2.02	28	Pn	Pn	08 20 22.6	+2.0
	comp=Z,4.1nm,0.3s,baz=209,slow=14,SNR=346						
FINES				Sn	Sn	08 20 48.8	+2.2
	comp=Z,5.3nm,0.3s,baz=213,slow=25,SNR=26						
KAF	Kangasniemi	2.67	23	MSG		08 21 09.8	
	comp=Z,10nm,0.2s						
SUF	Sumiainen	3.21	17	MSG		08 21 29.0	
	comp=Z,9.2nm,0.2s						
HFS	Hagfors	5.26	279	eP	Pn	08 21 06.5	+1.3
HFS				eS	Sn	08 22 05.4	-1.1
HFS				eSG		08 22 26.3	
HFS	Hagfors	5.26	279	Pn	Pn	08 21 06.4	+1.2
	comp=Z,0.3nm,0.3s,baz=116,slow=13,SNR=24						
HFS				Sn	Sn	08 22 05.9	-0.5
	comp=Z,0.4nm,0.3s,baz=105,slow=28,SNR=6.5						
HFS				Lg		08 22 34.6	
	comp=Z,0.9nm,0.3s,baz=94,slow=31,SNR=5.1						
HFS	Hagfors	5.26	279	Pn	Pn	08 21 06.5	+1.3
	baz=113,slow=10						
HFS				Sn	Sn	08 22 05.4	-1.1
	baz=101,slow=37						
HFS				Lg		08 22 26.3	
	baz=90,slow=37						
NB2	NORSAR Subarra	6.54	288	eP	Pn	08 21 22.0	-0.7
NB2				eSG		08 23 09.0	
NB2	NORSAR Subarra	6.54	288	Pn	Pn	08 21 22.0	-0.7
	baz=95,slow=14						
NB2				Lg		08 23 09.0	
	baz=88,slow=37						
NOA	NORSAR Array B	6.54	288	Pn	Pn	08 21 22.4	-0.4
	comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=2.6						
NOA				Sn	Sn	08 22 34.4	-3.6
	comp=Z,0.4nm,0.3s,baz=132,slow=20,SNR=2.4						
NOA				Lg		08 23 10.9	
	comp=Z,0.7nm,0.3s,baz=136,slow=22,SNR=3.5						
APA0	Apatity Array	8.87	23	Pn	Pn	08 21 55.1	+0.3
	baz=233,slow=11						
APA0	Apatity Array	8.87	23	eP	Pn	08 21 55.1	+0.3
ARA0	ARCESS Array S	9.91	3	Pn	Pn	08 22 08.0	-1.1
	baz=175,slow=14						
ARA0				Sn	Sn	08 23 52.2	-8.8
	baz=188,slow=28						
ARA0	ARCESS Array S	9.91	3	eP	Pn	08 22 08.0	-1.1
ARA0				eS	Sn	08 23 52.2	-8.8
ARCES	ARCESS Array B	9.91	3	Pn	Pn	08 22 07.5	-1.5
	comp=Z,0.3nm,0.3s,baz=182,slow=14,SNR=18						
ARCES				Sn	Sn	08 23 53.9	-7.1
	comp=Z,0.2nm,0.3s,baz=185,slow=23,SNR=4.9						

*ISCJB **06** 08:25:06.8±0.5, 3692N±003×2779E±003, h5^{km}, Error ellipse: s-maj=4.4km s-min=3.6km az=162.3*
*CSEM **06** 08:25:06.0±0.1, 3692N×2782E, h5^{km}, MD2.7, Error ellipse: s-maj=2.3km s-min=1.6km az=157.0*
*ISK **06** 08:25:06.2, 3692N×2783E, h7^{km}, MD2.7*
*ATH **06** 08:25:07.1, 3682N×2765E, h10^{km}, MD2.9/3*
ISC 06 08:25:07.0±0.5, **3691N**±003×**2781E**±004, **h1**^{km}±9^{km}, **n15**, σ**0ˢ89**/22, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	Datca	0.26	225	iPG	Pg	08 25 12.2	+0.2
DAT				iSG	Sg	08 25 16.7	+1.3
BDRM	Kayabasi	0.33	298	iP	Pg	08 25 13.1	-0.2
BDRM				iS	Sg	08 25 18.4	+0.9
MLSB	Milas	0.38	357	PG	Pg	08 25 14.4	0.0
BODT	Bodrum	0.42	291	PG	Pg	08 25 15.0	-0.1
YER	Yerkesik	0.44	60	PG	Pg	08 25 14.9	-0.6
YER				SG	Sg	08 25 21.1	-0.1
DALT	Dalyan (Mudla)	0.68	102	PG	Pg	08 25 19.5	-0.6
ARG	Arkhangelos	0.74	160	ePB	Pg	08 25 20.9	-0.3
AYDN	Tasoluk	0.75	4	iP	Pg	08 25 20.8	-0.6
AYDN				iS	Sg	08 25 31.0	-0.1
FETY	Fethiye	1.06	105	ePG	Pg	08 25 27.0	-0.4
SMG	Samos	1.11	316	ePB	Pg	08 25 27.8	-0.5
DNZL	Cakiroluk	1.26	52	iP	Pg	08 25 30.2	-0.9
DNZL				iS	Sg	08 25 48.2	+0.8
GOLH	Golhisar	1.44	77	iP	Pn	08 25 35.5	+1.3
GOLH				iS	Sb	08 25 55.0	+1.5
GOLH	Golhisar	1.44	77	iS	Sb	08 25 55.0	+1.6
KARP	Karpathos	1.46	201	ePB	Pn	08 25 32.2	-2.2
AKAS	Kas	1.60	115	iP	Pg	08 25 37.8	+0.2
AKAS				iS	Sg	08 26 02.4	+4.0

*ISCJB **06** 08:41:16.1±1.1, 56N±0.1×1267E±02, h75^{km}±11^{km}, mb3.9/9, Error ellipse: s-maj=38.6km s-min=11.2km az=132.6*
*IDC **06** 08:41:17.5±10.0, 537N×12626E, h65^{km}±90^{km}, mb3.7/7, mb1 3.8/7, mb1mx3.5/20, mbtmp4.0/7, Error ellipse: s-maj=111.5km s-min=19.5km az=64.0*
*NEIC **06** 08:41:17.8±1.3, 541N×12628E, h68^{km}±13^{km}, mb4.1/4, Error ellipse: s-maj=78.3km s-min=8.4km az=68.0*
ISC 06 08:41:17.3±1.2, **56N**±01×**1267E**±02, **h66**^{km}±12^{km}, **n22**, σ**1ˢ08**/24, **mb3.9**/9, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.45	343	eP	Pn	08 41 39.1	-2.4
MATI				eS	Sn	08 42 00.7	+1.0
DAV	Davao City (W)	1.87	324	eP	Pn	08 41 47.0	-0.1
DAV	Davao City (W)	1.87	324	ePn	Pn	08 41 46.5	-0.5
DAV				eSn	Sn	08 42 15.1	+5.4
BUKP	Musuan	2.82	325	eP	Pn	08 41 59.1	-0.9
BUKP				eS	Sn	08 42 35.8	+3.0
BUTP	Butuan	3.56	343	eP	Pn	08 42 04.9	-5.1
BUTP				eS	Sn	08 43 06.1	+15
PAGZ	Pagadian	4.00	305	eP	Pn	08 42 15.8	-0.2
KAKA	Kakadu	19.02	163	eP	Pn	08 45 29.9	-5.2
	5.4nm,0.6s						
FITZ	Fitzroy Crossi	23.52	182	eP	P	08 46 21.0	-0.3
	2.6nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	23.52	182	P	P	08 46 19.7	-1.6
	1.6nm,0.7s,mb3.5,baz=17,slow=8.9,SNR=9.7						
WRAB	Tennant Creek	26.42	164	eP	P	08 46 48.2	+0.6
	8.2nm,0.8s,mb4.2						
WRA	Warramunga Arr	26.42	164	P	P	08 46 47.8	+0.1
	1.5nm,0.4s,mb3.7,baz=344,slow=10,SNR=28						
WB2	Warramunga Arr	26.43	164	eP	P	08 46 48.4	+0.7
ASAR	Alice Springs	29.88	167	P	P	08 47 18.4	0.0
	0.5nm,0.7s,mb3.3,baz=351,slow=7.9,SNR=9.8						
ASAR				PcP	PcP	08 50 20.1	+0.2
	0.4nm,0.6s,baz=346,slow=2.8,SNR=6.1						
STKA	Stephens Creek	39.84	160	P	P	08 48 45.5	+1.4
	1.5nm,0.4s,mb4.2,baz=341,slow=9.5,SNR=3.9						
MKAR	Makanchi Array	56.05	325	P	P	08 50 48.7	-0.6
	1.5nm,0.6s,mb4.2,baz=115,slow=8.1,SNR=7.6						
MKAR				PcP	PcP	08 51 46.9	+0.1
	0.4nm,0.4s,baz=74,slow=4.3,SNR=4.1						
MKAR	Makanchi Array	56.05	325	P	P	08 50 48.7	-0.6
MKAR				PcP	PcP	08 51 46.9	+0.1
BVAR	Borovoye Array	65.79	327	P	P	08 51 56.2	+0.9
	2.2nm,0.7s,mb4.1,baz=126,slow=7.7,SNR=12						
BRVK	Borovoye	65.86	327	eP	P	08 51 56.0	+0.3
	2.3nm,0.8s,mb4.1						
AKTK	Aktyubinsk	72.22	321	P	P	08 52 34.2	-1.0
AKTO	Aktyubinsk	72.22	321	P	P	08 52 34.2	-1.0
	1.1nm,0.6s,mb3.9,baz=94,slow=11,SNR=6.4						
TORD	Torodi Ar. Bea	122.30	289	PKP	PKPdf	09 00 05.1	+0.5
	0.3nm,0.5s,baz=54,slow=3.1,SNR=4.8						
TORD	Torodi Ar. Bea	122.30	289	PKP	PKPdf	09 00 05.1	+0.4

*ISCJB **06** 08:41:51.1±0.6, 5966N±004×2437E±007, h0^{km}, Error ellipse: s-maj=5.5km s-min=5.1km az=131.0*
*NAO **06** 08:41:54.4±1.0, 5971N×2468E, ML2.7*
*CSEM **06** 08:41:54.0±0.1, 5969N×2472E, h1^{km}, ML2.5, Error ellipse: s-maj=2.8km s-min=1.8km az=40.0, Mining explosion.*
*HEL **06** 08:41:54.5±0.1, 5969N×2455E, h0^{km}, ML2.5, ML2.7(NAO), Explosion*
*BER **06** 08:41:55.2±3.0, 5970N×2460E, h0^{km}, ML2.7(NAO), Suspected explosion*
*IDC **06** 08:41:56.5±0.8, 5983N×2454E, h0^{km}, mb1 3.6/4, mb1mx3.3/22, mbtmp3.5/4, ML3.8/4, Error ellipse: s-maj=9.5km s-min=6.2km az=125.0*
ISC 06 08:41:52.9±0.5, **5967N**±003×**2451E**±007, **h0**^{km}, **n28**, σ**1ˢ08**/44, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.56	354	eP	Pg	08 42 04.2	+0.6
MEF				eS	Sg	08 42 10.7	0.0
MEF	Metsahovi	0.56	354	P	Pg	08 42 04.1	+0.6
PVF	Pernaja	1.11	37	eP	Pg	08 42 13.8	-0.4
PVF				eS	Sg	08 42 27.7	-0.9
PVF	Pernaja	1.11	37	P	Pg	08 42 13.7	-0.5
VSU	Vasula	1.67	135	eP	Pn	08 42 24.1	+0.7
VSU				eS	Sn	08 42 45.3	-0.1
VSU	Vasula	1.67	135	Pn	Pn	08 42 24.2	+0.9
VSU				Lg		08 42 45.4	
VSU	Vasula	1.67	135	P	Pn	08 42 24.0	+0.7
VSU				S	Sn	08 42 45.2	-0.2
RAF	Rauma	1.93	316	eP	Pn	08 42 29.1	+2.1
RAF	Rauma	1.93	316	P	Pn	08 42 29.0	+2.1
FIA0	FINESS Array S	1.94	23	eP	Pn	08 42 28.5	+1.4
FIA0				eS	Sn	08 42 52.5	+0.2
FIA0				MSG		08 42 56.3	
	comp=Z,27nm,0.2s						
FIA0	FINESS Array S	1.94	23	Pn	Pn	08 42 28.8	+1.7
	baz=201,slow=16						
FIA0				Lg		08 42 52.9	
	baz=206,slow=37						
FIA0	FINESS Array S	1.94	23	P	Pn	08 42 28.5	+1.4
FIA0				S	Sn	08 42 52.4	+0.1
	comp=Z,27nm,0.2s						
FINES	FINESS Array B	1.94	23	Pn	Pn	08 42 28.8	+1.6
	comp=Z,14nm,0.3s,baz=203,slow=16,SNR=239						
FINES				Lg		08 42 52.7	
	comp=Z,20nm,0.3s,baz=202,slow=28,SNR=16						
FINES				Sn	Sn	08 42 55.6	+3.3
	comp=Z,20nm,0.3s,baz=196,slow=24,SNR=18						
KAF	Kangasniemi	2.61	19	MSG		08 43 14.2	
	comp=Z,31nm,0.3s						
SUF	Sumiainen	3.17	14	MSG		08 43 34.2	
	comp=Z,11nm,0.3s						
HFS	Hagfors	5.47	280	eP	Pn	08 43 17.1	+1.5
HFS				eS	Sn	08 44 18.8	-0.4
HFS	Hagfors	5.47	280	Pn	Pn	08 43 17.1	+1.5
	comp=Z,1.7nm,0.3s,baz=78,slow=13,SNR=23						
HFS				Sn	Sn	08 44 18.5	-0.7
	comp=Z,1.6nm,0.3s,baz=87,slow=26,SNR=7.7						
HFS				Lg		08 44 42.2	
	comp=Z,2.3nm,0.3s,baz=95,slow=32,SNR=5.3						
HFS	Hagfors	5.47	280	Pn	Pn	08 43 17.1	+1.5
	baz=98,slow=14						
HFS				Sn	Sn	08 44 18.8	-0.4
	baz=96,slow=28						
NB2	NORSAR Subarra	6.74	288	Pn	Pn	08 43 33.0	0.0
	baz=94,slow=14						
NB2				Sn	Sn	08 44 48.5	-2.0
	baz=96,slow=22						
NB2				Lg		08 45 21.8	
	baz=83,slow=28						
NB2	NORSAR Subarra	6.74	288	eP	Pn	08 43 33.0	0.0
NB2				eS	Sn	08 44 48.5	-2.0
NB2				eSG		08 45 21.8	
NB2	NORSAR Subarra	6.74	288	Pn	Pn	08 43 33.0	-0.1
	SNR=4.5						
NB2				Sn	Sn	08 44 48.5	-2.0
	SNR=3.7						
NOA	NORSAR Array B	6.74	288	Pn	Pn	08 43 33.6	+0.5
	comp=Z,1.3nm,0.3s,baz=96,slow=14,SNR=5.4						
NOA				Sn	Sn	08 44 48.0	-2.5
	comp=Z,1.1nm,0.3s,baz=114,slow=21,SNR=4.1						
NOA				Lg		08 45 22.7	
	comp=Z,2.0nm,0.3s,baz=85,slow=18,SNR=5.2						
APA0	Apatity Array	8.81	22	Pn	Pn	08 44 01.9	+0.5
	baz=209,slow=14						
APA0	Apatity Array	8.81	22	eP	Pn	08 44 01.9	+0.5
AKASG	Malin Array Be	9.38	161	Pn	Pn	08 44 09.7	+0.5
	comp=Z,1.6nm,0.3s,baz=340,slow=13,SNR=4.8						
AKASG				Sn	Sn	08 45 54.2	-1.2
	comp=Z,0.6nm,0.3s,baz=342,slow=18,SNR=5.5						
ARA0	ARCESS Array S	9.92	2	Pn	Pn	08 44 15.6	-1.1
	baz=174,slow=14						
ARA0				Sn	Sn	08 46 02.5	-6.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=186,slow=28						
ARA0	ARCESS Array S	9.92	2	eP	Pn	08 44 15.6	-1.1
ARA0				eS	Sn	08 46 02.5	-6.2
ARCES	ARCESS Array B	9.92	2	Pn	Pn	08 44 15.2	-1.5
	comp=Z,1.9nm,0.3s,baz=178,slow=12,SNR=74						
ARCES				Sn	Sn	08 46 02.8	-5.9
	comp=Z,0.4nm,0.3s,baz=182,slow=24,SNR=3.1						

ISCJB 06 08:48:58.4±0.6,5975N±004×2444E±008,h0km,Error ellipse: s-maj=5.7km s-min=5.4km az=129.0
NAO 06 08:49:01.3±1.0,5979N×2455E,ML2.7
HEL 06 08:49:01.4±0.2,5977N×2450E,h0km,ML2.6, ML2.7(NAO),Explosion
CSEM 06 08:49:01.7±0.4,5983N×2430E,h1km,ML2.5,Error ellipse: s-maj=10.6km s-min=8.3km az=173.0,Mining explosion.
BER 06 08:49:02.0±4.8,5977N×2448E,h0km,ML2.7(NAO), Suspected explosion
IDC 06 08:49:02.9±1.0,5988N×2456E,h0km,mb1 3.7/4, mb1mx3.3/22,mbtmp3.6/4,ML3.9/3,Error ellipse: s-maj=11.3km s-min=6.3km az=134.0
ISC 06 08:49:00.2±0.6,5978N±004×2451E±007,h0km,n27, σ1s04/41,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.44	353	eP	Pg	08 49 09.4	+0.7
MEF				eS	Sg	08 49 15.0	+0.6
PVF	Pernaja	1.02	41	eP	Pg	08 49 19.8	0.0
PVF				eS	Sg	08 49 31.7	-1.4
VSU	Vasula	1.75	138	Pn	Pn	08 49 33.2	+1.4
VSU				Lg		08 49 55.2	
VSU	Vasula	1.75	138	eS	Sn	08 49 54.8	0.0
FIA0	FINESS Array S	1.84	24	eP	Pn	08 49 34.5	+1.5
FIA0				eS	Sn	08 49 57.3	+0.3
FIA0				MSG		08 50 02.1	
	comp=Z,27nm,0.2s						
FIA0	FINESS Array S	1.84	24	Pn	Pn	08 49 34.6	+1.6
	baz=196,slow=16						
FIA0				Lg		08 49 57.9	
	baz=197,slow=28						
FIA0	FINESS Array S	1.84	24	P	Pn	08 49 34.5	+1.5
FIA0				S	Sn	08 49 57.2	+0.2
	comp=Z,27nm,0.2s						
FINES	FINESS Array B	1.84	24	Pn	Pn	08 49 34.5	+1.5
	comp=Z,9.3nm,0.3s,baz=203,slow=14,SNR=210						
FINES				Lg		08 49 57.8	
	comp=Z,17nm,0.3s,baz=208,slow=29,SNR=22						
FINES				Sn	Sn	08 50 00.6	+3.5
	comp=Z,17nm,0.3s,baz=200,slow=24,SNR=23						
RAF	Rauma	1.85	314	eP	Pn	08 49 34.2	+1.1
RAF				eS	Sn	08 49 58.1	+1.0
RAF	Rauma	1.85	314	P	Pn	08 49 34.2	+1.1
RAF				S	Sn	08 49 58.1	+0.9
KEF	Keuruu	2.40	4	MSG		08 50 17.8	
	comp=Z,32nm,0.2s						
KAF	Kangasniemi	2.50	20	MSG		08 50 20.9	
	comp=Z,35nm,0.2s						
SUF	Sumiainen	3.06	14	MSG		08 50 38.8	
	comp=Z,15nm,0.2s						
HFS	Hagfors	5.45	278	eP	Pn	08 50 23.5	+0.9
HFS				eS	Sn	08 51 25.0	-1.0
HFS				eSG		08 51 46.8	
HFS	Hagfors	5.45	278	Pn	Pn	08 50 23.5	+0.9
	comp=Z,0.9nm,0.3s,baz=98,slow=11,SNR=20						
HFS				Sn	Sn	08 51 25.9	0.0
	comp=Z,1.6nm,0.3s,baz=92,slow=26,SNR=9.0						
HFS				Lg		08 51 46.2	
	comp=Z,2.0nm,0.3s,baz=104,slow=31,SNR=6.8						
HFS	Hagfors	5.45	278	Pn	Pn	08 50 23.5	+0.9
	baz=113,slow=12						
HFS				Sn	Sn	08 51 25.0	-1.0
	baz=98,slow=28						
HFS				Lg		08 51 46.8	
	baz=90,slow=37						
HFS	Hagfors	5.45	278	P	Pn	08 50 23.5	+0.9
HFS				Sg		08 51 46.7	
NB2	NORSAR Subarra	6.71	287	Pn	Pn	08 50 39.1	-0.8
	baz=93,slow=14						
NB2				Sn	Sn	08 51 53.9	-3.1
	baz=96,slow=22						
NB2				Lg		08 52 26.8	
	baz=97,slow=37						
NB2	NORSAR Subarra	6.71	287	eP	Pn	08 50 39.1	-0.8
NB2				eS	Sn	08 51 53.9	-3.1
NB2				eSG		08 52 26.8	
NOA	NORSAR Array B	6.71	287	Pn	Pn	08 50 39.6	-0.3
	comp=Z,1.7nm,0.3s,baz=94,slow=14,SNR=6.5						
NOA				Sn	Sn	08 51 55.0	-2.0
	comp=Z,0.7nm,0.3s,baz=127,slow=22,SNR=2.5						
NOA				Lg		08 52 28.4	
	comp=Z,1.6nm,0.3s,baz=113,slow=18,SNR=5.3						
BSD	Bornholm Skovb	6.97	232	i P	Pb	08 51 07.2	+5.0
BSD				i S	Sn	08 51 58.6	-4.9
APA0	Apatity Array	8.70	22	Pn	Pn	08 51 07.0	-0.3
	baz=226,slow=12						
APA0	Apatity Array	8.70	22	eP	Pn	08 51 07.0	-0.3
AKASG	Malin Array Be	9.48	161	Pn	Pn	08 51 17.2	-0.8
	comp=Z,1.9nm,0.3s,baz=339,slow=12,SNR=5.2						
ARA0	ARCESS Array S	9.81	2	Pn	Pn	08 51 21.5	-0.9
	baz=174,slow=16						
ARA0				Sn	Sn	08 53 08.2	-5.1
	baz=203,slow=18						
ARA0	ARCESS Array S	9.81	2	eP	Pn	08 51 21.5	-0.9
ARA0				eS	Sn	08 53 08.2	-5.1
ARCES	ARCESS Array B	9.81	2	Pn	Pn	08 51 21.1	-1.3
	comp=Z,1.1nm,0.3s,baz=180,slow=14,SNR=49						
ARCES				Sn	Sn	08 53 06.9	-6.4
	comp=Z,0.2nm,0.3s,baz=177,slow=25,SNR=3.1						

IDC 06 08:58:35.6±0.7,676N×7299W,h158km±10km,mb3.4/3, mb1 3.7/5,mb1mx3.3/22,mbtmp4.0/5,1D,Error ellipse: s-maj=37.0km s-min=7.5km az=131.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.31	215	P	Pn	08 59 16.9	+2.1
	38nm,0.3s,baz=284,slow=3.9,SNR=199						
ROSC				S	Sn	08 59 46.2	+1.0
	130nm,0.3s,baz=90,slow=18,SNR=17						
SDV	Santo Domingo	3.15	48	P	Pn	08 59 26.4	+1.4
	40nm,0.3s,baz=223,slow=12,SNR=162						
SDV				S	Sn	09 00 03.9	+0.5
	26nm,0.3s,baz=68,slow=21,SNR=16						
ULM	Lac du Bonnet	47.39	340	P	P	09 06 53.3	-0.5
	1.0nm,0.4s,baz=153,slow=9.0,SNR=5.5						
PDAR	Pinedale Array	48.21	324	P	P	09 07 00.7	+0.6
	0.5nm,0.6s,baz=122,slow=8.4,SNR=5.6						
YKA	Yellowknife Ar	63.37	340	P	P	09 08 47.7	-0.3
	0.7nm,0.5s,baz=130,slow=6.6,SNR=4.1						
ASAR	Alice Springs	149.18	234	PKPbc	PKPbc	09 18 05.9	+0.6
	0.2nm,0.5s,baz=123,slow=4.3,SNR=7.0						
WB2	Warramunga Arr	150.41	241	⇓iP	PKPdf	09 18 09.1	+6.3
WRA	Warramunga Arr	150.42	241	PKPbc	PKPbc	09 18 08.9	+0.6
	0.3nm,0.4s,baz=109,slow=2.6,SNR=21						

IDC 06 09:13:42.0±17.0,1713S×17684W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.9/15,mbtmp4.0/5,Error ellipse: s-maj=337.0km s-min=49.2km az=61.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	21.71	193	P	P	09 18 34.5	-0.1
	3.1nm,0.4s,baz=35,slow=16,SNR=4.8						
STKA	Stephens Creek	40.32	241	P	P	09 21 21.4	+0.3
	1.6nm,0.9s,baz=84,slow=10,SNR=2.7						
WB2	Warramunga Arr	46.24	259	eP	P	09 22 09.0	+0.1
WRA	Warramunga Arr	46.25	259	P	P	09 22 09.2	+0.2
	0.4nm,0.2s,baz=91,slow=8.3,SNR=28						
ASAR	Alice Springs	46.45	253	P	P	09 22 10.7	+0.2
	1.8nm,0.4s,baz=90,slow=8.5,SNR=58						
ASPA	Alice Springs	46.45	253	eP	P	09 22 10.8	+0.3
FITZ	Fitzroy Crossi	54.64	260	P	P	09 23 13.3	+0.9
	1.4nm,1.0s,baz=114,slow=10.0,SNR=4.1						

IDC 06 09:22:27.9±37.0,517N×12790E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=619.9km s-min=109.0km az=155.0,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	23.23	185	eP	P	09 27 38.6	+1.9
	4.4nm,1.5s						
FITZ	Fitzroy Crossi	23.23	185	P	P	09 27 37.7	+1.1
	0.5nm,0.5s,baz=12,slow=14,SNR=5.1						
WRA	Warramunga Arr	25.75	166	P	P	09 27 59.7	-0.4
	0.7nm,0.4s,baz=345,slow=9.8,SNR=25						
WB2	Warramunga Arr	25.75	166	eP	P	09 28 00.6	+0.5
ASAR	Alice Springs	29.25	169	P	P	09 28 31.7	+0.2
	0.4nm,0.5s,baz=356,slow=7.9,SNR=17						
STKA	Stephens Creek	39.08	161	P	P	09 29 57.1	+0.5
	1.1nm,0.5s,baz=338,slow=11,SNR=4.5						

NEIC 06 09:25:58.9,3231S×7088W,h75km,MG3.2(GUC),After GUC.
GUC 06 09:25:58.9±0.6,3231S×7088W,h75km±2km,MD3.7, ML3.2,9C-6D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTCH	Petorca	0.06	317	eP	Pn	09 26 09.8	+0.1
PTCH				i S	Sn	09 26 18.2	+0.5
PTCH				AML	AML	09 26 19.4	
	comp=E,7μm,0.3s						
PTCH	Petorca	0.06	317	eP	Pn	09 26 09.8	+0.1
PTCH				i S	Sn	09 26 18.2	+0.5
JACH	Jahuel	0.45	147	⇑iP	Pn	09 26 12.3	+0.5
JACH				i S	Sn	09 26 22.2	+1.0
CHNG	Los Chungos	0.67	309	eP	Pn	09 26 14.3	+0.4
CHNG				i S	Sn	09 26 25.6	+0.7
ROCH	El Roble	0.67	189	⇑iP	Pn	09 26 14.3	+0.4
ROCH				i S	Sn	09 26 24.9	-0.1
PEL	Peldehue	0.85	169	⇓eP	Pn	09 26 16.1	+0.2
PEL				i S	Sn	09 26 29.3	+0.8
PEL				AML	AML	09 26 30.5	
	comp=E,1μm,0.3s						
PEL	Peldehue	0.85	169	⇓eP	Pn	09 26 16.1	+0.2
PEL				i S	Sn	09 26 29.3	+0.8
IHA	Instituto Hidr	0.96	221	⇓iP	Pn	09 26 17.2	0.0
CLCH	Cerro Calan	1.13	165	⇓iP	Pn	09 26 20.0	+0.8
CLCH				i S	Sn	09 26 35.4	+1.0
CLCH				AML	AML	09 26 37.9	
	comp=E,403nm,0.8s						
CMCH	Combarbala	1.13	355	⇓iP	Pn	09 26 19.7	+0.4
CMCH				i S	Sn	09 26 35.4	+0.8
CMCH				AML	AML	09 26 37.4	
	comp=N,1μm,0.9s						
CMCH	Combarbala	1.13	355	⇓iP	Pn	09 26 19.7	+0.4
CMCH				i S	Sn	09 26 35.4	+0.8
FCH	Farellones	1.14	154	i P	Pn	09 26 20.6	+1.3
FCH				i S	Sn	09 26 37.0	+2.4
FCH				AML	AML	09 26 37.8	
	comp=E,546nm,0.2s						
STL	Santa Lucia	1.15	170	eP	Pn	09 26 19.6	+0.1
STL				i S	Sn	09 26 35.5	+0.6
RCDM	Rinconada Maip	1.18	177	eP	Pn	09 26 20.3	+0.4
RCDM				i S	Sn	09 26 36.8	+1.1
RCDM				AML	AML	09 26 40.6	
	comp=E,1μm,0.4s						
RCDM	Rinconada Maip	1.18	177	eP	Pn	09 26 20.3	+0.4
RCDM				i S	Sn	09 26 36.8	+1.1
ANTU	Antumapu	1.28	171	⇑iP	Pn	09 26 21.6	+0.5
ANTU				i S	Sn	09 26 39.1	+1.2
ANTU				AML	AML	09 26 41.2	
	comp=N,599nm,0.3s						
ANTU	Antumapu	1.28	171	⇑iP	Pn	09 26 21.6	+0.5
ANTU				i S	Sn	09 26 39.1	+1.2
LCCH	Las Cruces	1.30	206	eP	Pn	09 26 21.8	+0.3
TACH	Talagante	1.34	182	⇑iP	Pn	09 26 22.3	+0.3
TACH				i S	Sn	09 26 40.1	+0.8
SJCH	San Jose de Ma	1.41	162	eP	Pn	09 26 23.2	+0.5
SJCH				i S	Sn	09 26 42.1	+1.4
SJCH				AML	AML	09 26 44.2	
	comp=E,206nm,0.3s						
SJCH	San Jose de Ma	1.41	162	eP	Pn	09 26 23.2	+0.5
SJCH				i S	Sn	09 26 42.1	+1.4
CHCH	Chadas Angostu	1.64	173	⇑iP	Pn	09 26 26.3	+0.5
LNV	Longovilo	1.71	195	⇑iP	Pn	09 26 26.6	-0.1
CACH	El Canelo	1.82	173	eP	Pn	09 26 29.3	+1.0
TLL	Tololo Astrono	2.13	2	eP	Pn	09 26 34.1	+1.7
TLL				i S	Sn	09 27 00.1	+2.1
TLL				AML	AML	09 27 08.0	
	comp=E,245nm,0.4s						
TLL	Tololo Astrono	2.13	2	eP	Pn	09 26 34.1	+1.7
TLL				i S	Sn	09 27 00.1	+2.1
SFDO	San Fernando	2.31	183	eP	Pn	09 26 35.3	+0.6
LCO	Las Campanas	3.29	3	⇑eP	Pn	09 26 49.3	+1.3
LCO				i S	Sn	09 27 27.4	+1.4
LCO				AML	AML	09 27 40.1	
	comp=E,74nm,0.3s						
LCO	Las Campanas	3.29	3	⇑eP	Pn	09 26 49.3	+1.3
LCO				i S	Sn	09 27 27.4	+1.4

NAO 06 09:29:57.7±2.2,6096N×3000E,ML2.3
HEL 06 09:29:58.7±0.3,61.12N×30.16E,h0km,ML2.3(NAO), Explosion
BER 06 09:29:57.4±4.3,6092N×3015E,h0km,ML2.3(NAO), Suspected explosion,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FIA0	FINESS Array S	2.04	287	eP	Pn	09 30 33.5	+0.5
FIA0				eSG	Sg	09 31 00.2	-2.8
FIA0	FINESS Array S	2.04	287	Pn	Pn	09 30 33.7	+0.7
	baz=104,slow=16						
FIA0				Lg		09 30 59.6	
	baz=110,slow=28						
HFS	Hagfors	8.15	272	Pn	Pn	09 31 55.0	-2.0
	baz=90,slow=10						
HFS				Sn	Sn	09 33 22.0	-7.9
	baz=99,slow=28						
HFS				Lg		09 34 08.9	
	baz=70,slow=37						
HFS	Hagfors	8.15	272	eP	Pn	09 31 55.0	-2.0
HFS				e		09 33 22.0	
HFS				eSG	Sg	09 34 08.9	-10
ARA0	ARCESS Array S	8.86	349	Pn	Pn	09 32 03.4	-3.3
	baz=159,slow=14						
ARA0	ARCESS Array S	8.86	349	eP	Pn	09 32 03.4	-3.3
NB2	NORSAR Subarra	9.20	279	Pn	Pn	09 32 10.4	-1.0
	baz=96,slow=16						
NB2	NORSAR Subarra	9.20	279	eP	Pn	09 32 10.4	-1.0

NAO 06 09:47:24.0,37.16N×2192E,h33km,mb3.7
THE 06 09:47:33.6,3836N×2147E,h2km,ML3.8
ATH 06 09:47:35.3,3856N×2143E,h18km±1km,MD3.8/13,ML3.8
SOF 06 09:47:35.1,3854N×2173E,h2km,MD3.2
NEIC 06 09:47:35.1,3854N×2140E,h17km,MD3.9(PDG), ML3.8(ATH),ML4.0(CSEM),After ATH.
ISCJB 06 09:47:36.2±0.4,3862N±002×2136E±002,h22km±5km, mb3.7/6,Error ellipse: s-maj=3.4km s-min=3.0km az=21.4
MOS 06 09:47:36.4±1.0,3848N×2137E,h39km,mb3.9/4,Error ellipse: s-maj=8.4km s-min=4.1km az=83.6
PDG 06 09:47:37.8±0.7,3869N×2129E,h21km±2km
CSEM 06 09:47:37.4±0.1,3857N×2147E,h15km,ML3.8,Error ellipse: s-maj=1.8km s-min=1.4km az=18.0
IDC 06 09:47:40.0±2.3,3875N×2136E,h53km±29km,mb3.5/6, mb1 3.6/9,mb1mx3.5/24,mbtmp3.7/9,ML3.8/3,MS3.0/2, Ms1 3.0/2,ms1mx2.3/31,Error ellipse: s-maj=25.0km s-min=13.5km az=68.0
ISC 06 09:47:36.4±0.4,3861N±002×2140E±002,h12km±3km, n120,σ1s23/160,mb3.6/6,13C-20D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.44	46	ePB	Pg	09 47 44.1	-1.0
EVR				eSB	Sg	09 47 51.1	+0.1
EVR	Evrytania	0.44	46	ePb	Pg	09 47 44.1	-1.0
EVR				eSb	Sg	09 47 51.8	+0.8
RLS	Riolos of Patr	0.55	175	ePN	Pg	09 47 45.5	-1.7
RLS				eSN	Sg	09 47 53.3	-1.2
LKD	Levkas	0.60	280	ePg	Pg	09 47 47.2	-0.8
LKD				eSg	Sg	09 47 58.1	+2.2
VLS	Valsamata	0.77	236	ePB	Pg	09 47 49.5	-1.8
VLS				eSN	Sg	09 48 01.8	+0.4
AGG	Agios Georgios	0.83	60	ePg	Pg	09 47 50.9	-1.5
JAN	Janina	1.13	338	ePN	Pn	09 47 58.2	+0.2
IGT	Igoumenitsa	1.24	318	ePg	Pg	09 47 59.7	-0.5
IGT				eSg	Sg	09 48 20.3	+4.0
LKR	Lokris	1.25	88	ePN	Pn	09 47 58.8	-0.8
ITM	Ithomi	1.49	164	ePN	Pn	09 48 02.0	-0.9
XOR	Xorichti	1.59	61	ePb	Pb	09 48 03.5	-2.1
MGER	Gerania Oros	1.59	113	ePN	Pn	09 48 04.0	-0.3
KEK	Kerkira	1.66	312	ePN	Pn	09 48 06.0	+0.7
SRN	Sarande	1.67	320	i Pn	Pn	09 48 05.9	+0.5
SRN				i Sn	Sg	09 48 35.2	+5.1
LIT	Litokhoron	1.71	29	ePb	Pn	09 48 06.3	+0.3
LIT				eSb	Sg	09 48 32.0	+0.6
KZN	Kozani	1.72	9	ePN	Pn	09 48 07.7	+1.7
NAIG	Nisos Aigina	1.85	117	ePN	Pn	09 48 08.0	+0.1
ATH	Athens Observa	1.93	109	ePN	Pn	09 48 09.0	0.0
AOS	Alonnisos	2.01	73	ePn	Pn	09 48 08.9	-1.2
AOS	Alonnisos	2.01	73	ePn	Pn	09 48 08.9	-1.2
KVR	Kavouri	2.02	112	ePN	Pn	09 48 10.5	+0.3
FNA	Florina	2.17	359	ePn	Pn	09 48 13.8	+1.5
PAIG	Paliouri	2.20	53	ePn	Pn	09 48 11.5	-1.2
VLI	Veliai	2.25	147	ePN	Pn	09 48 13.5	+0.2
THE	Thessaloniki	2.35	30	ePn	Pn	09 48 14.6	-0.2
PLG	Polygyros	2.37	41	ePN	Pn	09 48 15.5	+0.5
HORT	Hortiatis	2.38	33	ePn	Pn	09 48 15.9	+0.8
BIA	Bitola	2.41	359	ePn	Pn	09 48 16.7	+1.2
BIA				eSn	Sg	09 48 50.7	-3.0
BIA	Bitola	2.41	359	i Pn	Pn	09 48 17.8	+2.3
BIA				eSn	Sg	09 48 50.7	-3.0
GRG	Griva	2.47	18	ePn	Pn	09 48 17.4	+1.0
OHR	Ohrid	2.54	350	i Pn	Pn	09 48 18.9	+1.5
OHR				i Sn	Sg	09 48 57.8	-0.2
OHR	Ohrid	2.54	350	ePn	Pn	09 48 18.7	+1.3
OUR	Ouranopolis	2.64	48	ePn	Pn	09 48 18.0	-0.7
KYTH	Kithira	2.66	150	ePN	Pn	09 48 19.0	-0.1
SOH	Sokhos	2.67	34	ePn	Pn	09 48 19.7	+0.5
KNT	Kendrikon	2.80	24	ePn	Pn	09 48 22.5	+1.6
VAY	Valandovo	2.85	18	ePn	Pn	09 48 23.2	+1.5
VAY	Valandovo	2.85	18	i Pn	Pn	09 48 23.2	+1.5
VAY				i Sn	Sn	09 48 57.5	+1.6
VAY	Valandovo	2.85	18	ePn	Pn	09 48 23.2	+1.6
VAY				i Sn	Sn	09 48 57.5	+1.6
TIR	Tirane	2.98	337	ePn	Pn	09 48 25.2	+1.8
STIP	Stip	3.14	11	ePn	Pn	09 48 27.7	+2.2
STIP	Stip	3.14	11	i Pn	Pn	09 48 27.8	+2.3
SKO	Skopje	3.36	0	i Pn	Pn	09 48 31.4	+2.8
SKO				i Sn	Sn	09 49 12.3	+4.0
SKO	Skopje	3.36	0	i Pn	Pn	09 48 31.3	+2.7
SKO				i Sn	Sn	09 49 12.3	+3.9
MMB	Musomiste	3.47	30	i P	Pn	09 48 30.6	+0.5
MMB				i S	Sn	09 49 12.2	+1.1
MMB	Musomiste	3.47	30	ePn	Pn	09 48 30.2	+0.1
KKB	Krupnik	3.50	21	i P	Pn	09 48 32.1	+1.6
KKB				i S	Sn	09 49 10.6	-1.2
APE	Apeiranthos	3.61	114	⇓iP	Pn	09 48 31.5	-0.6
CHOS	Chios island	3.66	92	ePn	Pn	09 48 32.6	-0.1
ULC	Ulcinj	3.73	335	⇓iPn	Pn	09 48 34.9	+1.1
ULC				eSn	Sn	09 49 16.5	-1.1
ULC	Ulcinj	3.73	335	⇓iPn	Pn	09 48 34.8	+1.1
ULC				eSn	Sn	09 49 16.5	-1.1
RZN	Rozhen	3.99	39	i P	Pn	09 48 38.0	+0.8
ORI	Oriolo Calabro	4.11	292	Pn	Pn	09 48 39.8	+0.9
ORI				Sn	Sn	09 49 27.2	+0.4
PVY	Plav	4.13	345	⇓iPn	Pn	09 48 39.3	+0.1
PVY				eSn	Sn	09 49 26.7	-0.7
TTG	Podgorica	4.15	338	⇓iPn	Pn	09 48 39.1	-0.4
TTG				eSn	Sn	09 49 27.2	-0.7
BUM	Brajici-Budva	4.15	333	⇓iPn	Pn	09 48 39.2	-0.3
BUM				eSn	Sn	09 49 27.4	-0.5
VTS	Vitosha	4.21	18	⇓iP	Pn	09 48 43.1	+2.8
VTS	Vitosha	4.21	18	i P	Pn	09 48 42.0	+1.7
VTS	Vitosha	4.21	18	⇓P	Pn	09 48 43.1	+2.8
BARS	Barje	4.22	4	i Pn	Pn	09 48 40.4	0.0
SOI	Samo	4.24	264	Pn	Pn	09 48 41.5	+0.8
ALN	Alexandroupoli	4.25	56	ePn	Pn	09 48 40.6	-0.2
IDI	Anoyia	4.34	139	P	Pn	09 48 45.7	+3.6
	1.6nm,0.3s,baz=335,slow=13,SNR=7.3						
IDI				S	Sn	09 49 36.4	+3.9
	1.9nm,0.3s,baz=287,slow=20,SNR=3.0						
CEL	Celeste	4.34	267	Pn	Pn	09 48 43.1	+1.0
IVA	Berane	4.41	345	⇓iPn	Pn	09 48 42.9	-0.2
IVA				eSn	Sn	09 49 34.0	-0.3
IVA	Berane	4.41	345	⇓iPn	Pn	09 48 42.8	-0.2
IVA				eSn	Sn	09 49 34.0	-0.3
HCY	Herceg Novi	4.42	331	⇓iPn	Pn	09 48 42.3	-1.0
HCY				eSn	Sn	09 49 33.2	-1.5
MTTG	Motta San Giov	4.53	264	Pn	Pn	09 48 45.5	+0.8
MTTG				Sn	Sn	09 49 37.2	-0.1
CUC	Castrocucco	4.55	289	Pn	Pn	09 48 46.7	+1.7
NKY	Niksic	4.58	337	⇓iPn	Pn	09 48 45.0	-0.3
NKY				eSn	Sn	09 49 37.5	-0.9
TREB	Trebinje	4.71	331	P	Pn	09 48 46.1	-1.1
SLCN	Sala Consilina	4.80	294	Pn	Pn	09 48 50.2	+1.7
SLCN				Sn	Sn	09 49 44.7	+0.7
BRY	Bratogost	4.80	334	⇓iPn	Pn	09 48 47.8	-0.7
BRY				eSn	Sn	09 49 42.6	-1.4
PLE	Pljevlja	4.95	343	⇓iPn	Pn	09 48 50.5	-0.1
PLE				eSn	Sn	09 49 46.7	-1.1
UPM	Unac-Piva	4.96	338	⇓iPn	Pn	09 48 50.7	+0.1
UPM				eSn	Sn	09 49 46.9	-1.0
MRLC	Muro Lucano	5.04	297	Pn	Pn	09 48 52.6	+0.9
	57nm,0.6s						
FGMS	Monte Sant'Ang	5.20	308	Pn	Pn	09 48 53.6	-0.3
FGMS				Sn	Sn	09 49 52.9	-0.8
GRUS	Gruza	5.30	355	i Pn	Pn	09 48 53.9	-1.4
BBLS	Bajina Basta -	5.46	345	i Pn	Pn	09 48 57.3	-0.2
DIVS	Divcibare	5.58	350	i Pn	Pn	09 48 58.4	-0.8
CIGN	Sant'Elia a Pi	5.83	303	Pn	Pn	09 49 03.2	+0.6
	37nm,0.6s						
MIDA	Miranda	6.26	301	Pn	Pn	09 49 10.3	+1.8
	80nm,0.6s						
USI	Ustica	6.44	273	Pn	Pn	09 49 10.1	-0.8
	15nm,0.3s						
INTR	Introdacqua	6.66	303	Pn	Pn	09 49 14.3	+0.3
	61nm,0.6s						
VVLD	Villa Vallelon	6.78	301	Pn	Pn	09 49 17.6	+1.9
	47nm,0.7s						
GZR	Gura Zlata	6.86	8	⇑iP	Pn	09 49 19.5	+2.9
GZR	Gura Zlata	6.86	8	⇑P	Pn	09 49 19.4	+2.8
BZS	Buzias	7.00	1	⇑iP	Pn	09 49 21.0	+2.3
TERO	Teramo	7.16	307	Pn	Pn	09 49 21.2	+0.4
	22nm,0.5s						
VOIR		7.34	21	⇑iP	Pn	09 49 25.7	+2.4
VOIR		7.34	21	⇑P	Pn	09 49 25.7	+2.4
MLR	Muntele Rosu	7.66	25	P	Pn	09 49 32.5	+4.8
	1.6nm,0.3s,baz=194,slow=4.2,SNR=8.6						
MLR	Muntele Rosu	7.66	25	⇑iP	Pn	09 49 32.4	+4.7
NVLJ	Novalja	7.70	323	i Pn	Pn	09 49 27.3	-1.0
NVLJ				i Sn	Sn	09 50 51.0	-4.4
SNTG	Esanatoglia	7.91	309	Pn	Pn	09 49 31.3	+0.2
	7.5nm,0.3s						
VRI	Vrincioaia	8.26	27	⇑iP	Pn	09 49 39.6	+3.7
VRI	Vrincioaia	8.26	27	⇑P	Pn	09 49 39.6	+3.7
PSZ	Piszkesteto	9.37	354	⇓e	Pn	09 49 55.0	+3.9
PSZ	Piszkesteto	9.37	354	⇓iP	Pn	09 49 54.8	+3.7
PSZ	Piszkesteto	9.37	354	⇓P	Pn	09 49 54.9	+3.7
PSZ	Piszkesteto	9.37	354	P	Pn	09 49 54.9	+3.8
OBKA	Obir	9.37	330	⇑iSn	Sn	09 51 30.2	-6.2
OBKA	Obir	9.37	330	⇑iPn	Pn	09 49 50.3	-0.8
OBKA				⇓iSn	Sn	09 51 32.8	-3.7
OBKA	Obir	9.37	330	⇑iPn	Pn	09 49 49.0	-2.2
OBKA				i Sn	Sn	09 51 30.2	-6.2
BRTR	Keskin Array B	9.57	79	P	Pn	09 49 55.8	+1.9
	0.6nm,0.3s,baz=260,slow=12,SNR=11						
KBA	Koelnbreinsper	10.32	328	⇑iSn	Sn	09 51 53.6	-6.1
KBA	Koelnbreinsper	10.32	328	⇑iPn	Pn	09 50 02.2	-1.9
KBA				⇓iSn	Sn	09 51 57.2	-2.5
GERES	GERESS Array B	11.64	334	P	Pn	09 50 20.8	-1.4
	0.5nm,0.3s,baz=164,slow=15,SNR=3.8						
GERES				S	Sn	09 52 29.7	-2.4
	0.5nm,0.3s,baz=151,slow=24,SNR=3.7						
GERES				LR	LR	09 54 56.6	
	comp=Z,24nm,18.0s,baz=132,slow=38						
GERES	GERESS Array B	11.64	334	P	Pn	09 50 20.8	-1.5
GERES				S	Sn	09 52 29.7	-2.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				smax			
	comp=N,1.0nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES				MLR	MLR		
	comp=Z,24nm,18.0s						
HFS	Hagfors	22.09	350	P	P	09 52 28.7	-2.6
	comp=Z,1.8nm,0.5s,mb3.8,baz=163,slow=11,SNR=7.4						
HFS	Hagfors	22.09	350	P	P	09 52 28.7	-2.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	23.04	6	P	P	09 52 38.0	-3.4
	comp=Z,1.9nm,0.8s,mb3.6,baz=183,slow=9.7,SNR=4.0						
FINES	FINESS Array B	23.04	6	P	P	09 52 38.0	-3.4
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NB2	NORSAR Subarra	23.34	347	P	P	09 52 42.5	-2.0
	comp=Z,1.3nm,0.6s,mb3.5,baz=159,slow=10						
NOA	NORSAR Array B	23.34	347	P	P	09 52 42.5	-2.0
	comp=Z,1.5nm,0.6s,mb3.6,baz=160,slow=9.1,SNR=7.6						
NOA	NORSAR Array B	23.34	347	P	P	09 52 42.5	-2.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TORD	Torodi Ar. Bea	30.80	220	P	P	09 53 51.4	-0.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=35,slow=8.3,SNR=2.7						
ARCES	ARCESS Array B	31.06	3	P	P	09 53 52.2	-2.0
	comp=Z,2.3nm,0.9s,mb4.0,baz=197,slow=12,SNR=4.1						
ARCES	ARCESS Array B	31.06	3	P	P	09 53 52.2	-2.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	Makanchi Array	44.49	59	P	P	09 55 45.2	-2.2
	comp=Z,0.4nm,0.4s,mb3.5,baz=280,slow=7.3,SNR=5.9						

---

*THE **06** 09:53:02.8, 3849N×2146E, h10km, ML3.5*
*ISCJB **06** 09:53:03.9±0.6, 3853N±003×2147E±004, h15km±8km, Error ellipse: s-maj=5.0km s-min=4.5km az=75.1*
*NEIC **06** 09:53:03.0, 3854N×2148E, h21km, ML3.2(CSEM), ML3.6(ATH), After ATH.*
*ATH **06** 09:53:03.0, 3854N×2148E, h21km±1km, MD3.6/14, ML3.6*
*CSEM **06** 09:53:03.0±0.1, 3854N×2146E, h2km, ML3.6, Error ellipse: s-maj=1.6km s-min=1.2km az=39.0*

ISC 06 09:53:03.6±0.6, 3853N±003×2148E±004, h6km±5km, n46, σ1s01/52, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	Evrytania	0.47	33	ePB	Pg	09 53 11.5	-1.1
EVR				eSB	Sg	09 53 19.7	+1.0
RLS	Riolos of Patr	0.47	181	ePB	Pg	09 53 13.3	+0.7
LKD	Levkas	0.67	286	ePg	Pg	09 53 15.0	-1.5
LKD				eSg	Sg	09 53 25.8	+0.5
VLS	Valsamata	0.78	244	ePB	Pg	09 53 18.0	-0.6
VLS				eSN	Sg	09 53 30.1	+1.4
AGG	Agios Georgios	0.83	53	ePg	Pg	09 53 18.2	-1.3
AGG				eSg	Sg	09 53 32.2	+2.0
LKR	Lokris	1.20	84	ePN	Pn	09 53 25.1	-1.7
JAN	Janina	1.23	337	ePN	Pn	09 53 26.4	-0.9
MEV	Metsovon	1.27	351	ePg	Pg	09 53 26.6	-1.3
IGT	Igoumenitsa	1.34	319	ePg	Pg	09 53 27.6	-1.8
IGT				eSg	Sg	09 53 48.4	+1.6
ITM	Ithomi	1.39	165	ePN	Pn	09 53 29.8	+0.3
MGER	Gerania Oros	1.50	111	ePN	Pn	09 53 31.2	+0.2
XOR	Xorichti	1.58	57	ePg	Pn	09 53 31.1	-0.9
XOR	Xorichti	1.58	57	ePg	Pn	09 53 31.1	-1.0
LIT	Litokhoron	1.76	26	ePb	Pn	09 53 33.9	-0.7
LIT				eSb	Sb	09 53 58.8	+0.4
NAIG	Nisos Aigina	1.76	115	ePN	Pn	09 53 35.0	+0.4
KEK	Kerkira	1.77	313	ePN	Pn	09 53 34.2	-0.4
KZN	Kozani	1.79	7	ePN	Pn	09 53 34.5	-0.5
ATH	Athens Observa	1.85	107	ePN	Pn	09 53 36.0	+0.2
KVR	Kavouri	1.93	110	ePN	Pn	09 53 37.0	0.0
PTL	Penteli	1.94	104	ePN	Pn	09 53 37.0	0.0
AOS	Alonnisos	1.98	70	ePn	Pn	09 53 36.8	-0.8
VLI	Veliai	2.14	147	ePN	Pn	09 53 40.0	+0.1
PAIG	Paliouri	2.21	50	ePn	Pn	09 53 39.9	-0.9
FNA	Florina	2.26	358	ePn	Pn	09 53 41.9	+0.5
PLG	Polygyros	2.39	39	ePN	Pn	09 53 42.0	-1.3
HORT	Hortiatis	2.42	31	ePn	Pn	09 53 43.3	-0.3
BIA	Bitola	2.49	357	ePn	Pn	09 53 43.1	-1.5
BIA	Bitola	2.49	357	ePn	Pn	09 53 43.1	-1.6
GRG	Griva	2.53	16	ePn	Pn	09 53 46.0	+0.9
GRG	Griva	2.53	16	ePn	Pn	09 53 46.0	+0.8
KYTH	Kithira	2.56	151	ePN	Pn	09 53 45.3	-0.3
OHR	Ohrid	2.63	349	i Pn	Pn	09 53 45.9	-0.7
OHR	Ohrid	2.63	349	i Pn	Pn	09 53 45.8	-0.8
OUR	Ouranopolis	2.65	46	ePn	Pn	09 53 46.7	-0.1
SOH	Sokhos	2.71	32	ePn	Pn	09 53 48.0	+0.3
KNT	Kendrikon	2.85	22	ePn	Pn	09 53 50.5	+0.9
VAY	Valandovo	2.92	16	i Pn	Pn	09 53 52.9	+2.4
VAY	Valandovo	2.92	16	i Pn	Pn	09 53 52.8	+2.3
STIP	Stip	3.21	9	ePn	Pn	09 53 56.7	+2.2
STIP	Stip	3.21	9	ePn	Pn	09 53 56.6	+2.1
SKO	Skopje	3.44	360	ePn	Pn	09 53 59.3	+1.6
MMB	Musomiste	3.51	29	ePn	Pn	09 53 58.5	-0.1
APE	Apeiranthos	3.52	113	ePn	Pn	09 53 59.2	+0.4
CHOS	Chios island	3.59	91	ePn	Pn	09 54 00.5	+0.7
VTS	Vitosha	4.27	17	ePn	Pn	09 54 10.0	+0.9
BR131	Keskin Array S	9.53	79	ePn	Pn	09 55 15.2	-6.0
	2.9nm,0.4s						

ISC 06 09:59:00.8±0.9, 3816N±004×2670E±006, h10km, n8, σ0s80/14, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.21	337	i P	Pg	09 59 04.9	-0.3
URLA				i S	Sg	09 59 08.4	+0.1
BLCB	Balcova	0.35	50	i PG	Pg	09 59 06.9	-0.8
BLCB				i SG	Sg	09 59 11.3	-1.0
KDAG	Bornova	0.51	62	i P	Pg	09 59 10.3	-0.3
KDAG				i S	Sg	09 59 17.2	-0.1
AYDN	Tasoluk	1.06	118	i P	Pg	09 59 21.5	+0.3
AKHS	Akhisar	1.13	50	i P	Pb	09 59 25.3	+2.9
AKHS				i S	Sb	09 59 38.0	+0.9
AKS	Akhisar	1.13	50	ePG	Pg	09 59 18.3	-4.2
AYVA	Ayvalik	1.14	360	i P	Pb	09 59 22.2	-0.4
AYVA				i S	Sb	09 59 38.2	+0.6
BDRM	Kayabasi	1.25	151	i P	Pn	09 59 23.8	-0.5
BDRM				i S	Sb	09 59 40.8	+0.3

---

*NEIC **06** 10:00:48.1, 3145S×6943W, h113km, MD3.6(GUC), After GUC.*

GUC 06 10:00:48.1±0.7, 3145S×6943W, h113km±17km, MD3.6, ML3.2, 5C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	Combarbala	1.38	281	⇓iP	Pn	10 01 14.2	+0.5
CMCH				i S	Sn	10 01 34.1	+1.1
CMCH				AML	AML	10 01 35.5	
	comp=N,926nm,0.6s						
CMCH	Combarbala	1.38	281	⇓iP	Pn	10 01 14.2	+0.5
CMCH				i S	Sn	10 01 34.1	+1.1
PTCH	Petorca	1.51	237	eP	Pn	10 01 15.1	-0.2
PTCH				i S	Sn	10 01 35.7	-0.2
PTCH				AML	AML	10 01 38.6	
	comp=N,372nm,0.5s						
PTCH	Petorca	1.51	237	eP	Pn	10 01 15.1	-0.2
PTCH				i S	Sn	10 01 35.7	-0.2
JACH	Jahuel	1.58	219	⇓iP	Pn	10 01 17.0	+1.0
TLL	Tololo Astrono	1.74	317	eP	Pn	10 01 19.2	+1.2
TLL				i S	Sn	10 01 42.1	+1.3
TLL				AML	AML	10 01 47.5	
	comp=N,156nm,1.1s						
TLL	Tololo Astrono	1.74	317	eP	Pn	10 01 19.2	+1.2
TLL				i S	Sn	10 01 42.1	+1.3
CHNG	Los Chungos	1.82	256	eP	Pn	10 01 19.2	+0.2
CHNG				i S	Sn	10 01 40.8	-1.7
PEL	Peldehue	2.00	212	⇑eP	Pn	10 01 21.7	+0.5
PEL				i S	Sn	10 01 46.4	0.0
PEL				AML	AML	10 01 48.4	
	comp=E,171nm,0.3s						
PEL	Peldehue	2.00	212	⇑eP	Pn	10 01 21.7	+0.5
PEL				S	Sn	10 01 46.4	0.0
FCH	Farellones	2.01	201	⇑iP	Pn	10 01 22.6	+1.3
FCH				i S	Sn	10 01 48.5	+1.8
FCH				AML	AML	10 01 50.1	
	comp=N,108nm,0.2s						
CLCH	Cerro Calan	2.15	206	eP	Pn	10 01 23.6	+0.5
CLCH				i S	Sn	10 01 50.8	+0.7
CLCH				AML	AML	10 01 52.6	
	comp=E,183nm,0.5s						
LSCH	La Serena	2.19	314	⇑eP	Pn	10 01 24.1	+0.4
LSCH				i S	Sn	10 01 51.3	+0.3
RCDM	Rinconada Maip	2.34	209	eP	Pn	10 01 25.5	-0.1
RCDM				i S	Sn	10 01 54.4	0.0
RCDM				AML	AML	10 01 55.3	
	comp=E,218nm,0.4s						
RCDM	Rinconada Maip	2.34	209	eP	Pn	10 01 25.5	-0.1
RCDM				i S	Sn	10 01 54.4	0.0
LCO	Las Campanas	2.67	335	eP	Pn	10 01 30.9	+1.0
LCO				i S	Sn	10 02 02.7	+0.8
LCO				AML	AML	10 02 04.5	
	comp=E,81nm,0.5s						
LCO	Las Campanas	2.67	335	eP	Pn	10 01 30.9	+1.0
LCO				S	Sn	10 02 02.7	+0.8
CHCH	Chadas Angostu	2.68	202	⇑iP	Pn	10 01 30.5	+0.5
CHCH				i S	Sn	10 02 02.3	+0.1
CACH	El Canelo	2.84	200	⇓iP	Pn	10 01 32.7	+0.7

---

*IDC **06** 10:03:47.1±1.4, 088N×97.14E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.9/22, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=47.7km s-min=18.0km az=58.0*
*BJI **06** 10:03:49.7, 049N×9708E, h59km, mB5.2, mb4.8*
*ISCJB **06** 10:03:50.3±0.8, 098N±009×972E±0.1, h33km, mb4.2/13, Error ellipse: s-maj=19.7km s-min=11.0km az=129.8*
*NEIC **06** 10:03:51.7±0.6, 097N×9722E, h30km, mb4.3/4, Error ellipse: s-maj=14.2km s-min=8.1km az=62.0*

ISC 06 10:03:52.8±0.8, 101N±009×973E±01, h35km, n16, σ0s61/16, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.44	43	Pn	Pn	10 04 29.8	-0.5
	7.2nm,0.3s,baz=229,slow=8.9,SNR=24						
KULM	Kulim	5.44	39	ePn	Pn	10 05 11.0	-0.4
KMI	Kunming	24.55	12	P	P	10 09 10.5	+1.3
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.3						
FITZ	Fitzroy Crossi	33.78	126	P	P	10 10 30.3	-1.0
	comp=Z,1.1nm,0.9s,mb3.8,baz=301,slow=5.9,SNR=5.2						
LZH	Lanzhou	35.43	9	eP	P	10 10 45.5	0.0
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
WRA	Warramunga Arr	41.90	122	P	P	10 11 39.7	-0.1
	comp=Z,0.6nm,0.6s,mb3.4,baz=300,slow=9.1,SNR=10						
WRAB	Tennant Creek	41.90	122	eP	P	10 11 40.4	+0.6
	comp=Z,9.4nm,1.3s,mb4.3						
WB2	Warramunga Arr	41.91	122	eP	P	10 11 40.1	+0.3
ASAR	Alice Springs	43.24	127	P	P	10 11 51.1	+0.4
	comp=Z,1.0nm,0.9s,mb3.6,baz=298,slow=7.2,SNR=11						
SONM	Songino Array	47.31	8	P	P	10 12 23.3	+0.4
	comp=Z,2.7nm,0.5s,mb4.4,baz=187,slow=9.7,SNR=16						
SONM				PcP	PcP	10 13 54.2	+0.7
	comp=Z,0.5nm,0.5s,baz=191,slow=4.0,SNR=4.2						
MKAR	Makanchi Array	47.43	346	P	P	10 12 24.6	+0.7
	comp=Z,2.6nm,0.7s,mb4.3,baz=154,slow=7.6,SNR=19						
ULN	Ulaanbaatar	47.44	9	eP	P	10 12 24.3	+0.3
	comp=Z,1.7nm,0.5s,mb4.2						
ZAL	Zalesovo	53.74	351	P	P	10 13 11.6	+0.1
	comp=Z,3.0nm,0.4s,mb4.6,baz=307,slow=6.7,SNR=7.5						
ZRNK	Zerenda	56.84	340	eP	P	10 13 33.3	-0.5
	comp=Z,1.6nm,0.6s,mb4.2						
CHKZ	Chkalovo	56.92	341	eP	P	10 13 33.2	-1.2
	comp=Z,2.9nm,0.8s,mb4.4						
ARCES	ARCESS Array B	82.73	340	P	P	10 16 12.5	-0.5
	comp=Z,6.0nm,1.1s,mb4.5,baz=90,slow=3.6,SNR=5.8						

---

*ISCJB **06** 10:10:22.7±0.4, 308S±0.1×5950E±0.10, h10km, mb4.2/17, MS3.6/3, Error ellipse: s-maj=16.3km s-min=10.0km az=67.8*
*IDC **06** 10:10:22.9±0.6, 3072S×5953E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/30, mbtmp4.1/15, ML4.5/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/32, Error ellipse: s-maj=23.4km s-min=15.5km az=32.0*
*NEIC **06** 10:10:24.7±0.3, 3073S×5947E, h10km, mb4.6/9, Error ellipse: s-maj=11.4km s-min=6.9km az=212.0*

ISC 06 10:10:24.7±0.4, 308S±01×5945E±010, h10km, n31, σ0s75/29, mb4.2/17, MS3.6/3, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.45	315	Pn	Pn	10 14 15.8	+0.1
	2.0nm,0.3s,baz=121,slow=13,SNR=10						
OPO				Sn	Sn	10 17 04.4	-14
	1.3nm,0.3s,baz=36,slow=14,SNR=3.8						
BOSA	Boshof	29.72	265	LR	LR	10 26 14.2	
	comp=Z,49nm,18.5s,MS3.2,baz=330,slow=32						
LSZ	Lusaka	32.50	291	P	P	10 16 56.2	+0.7
	2.0nm,0.7s,mb4.1,baz=121,slow=12,SNR=4.3						
MAW	Mawson	36.94	178	P	P	10 17 34.0	+0.1
	2.2nm,0.7s,mb4.1,baz=318,slow=7.4,SNR=10						
MAW	Mawson	36.94	178	eP	P	10 17 34.3	+0.4
	4.9nm,1.1s,mb4.2						
TSUM	Tsumeb	39.45	277	P	P	10 17 57.0	+2.0
	1.8nm,0.6s,mb4.0,baz=133,slow=5.4,SNR=3.8						
TSUM	Tsumeb	39.45	277	eP	P	10 17 57.0	+2.0
	1.7nm,0.5s,mb4.0						
SNAA	Sanae	52.46	201	P	P	10 19 36.6	-1.0
	0.4nm,0.5s,mb3.6,baz=340,slow=20,SNR=4.6						
MBWA	Marble Bar	54.48	95	eP	P	10 19 52.2	-0.3
	4.9nm,0.8s,mb4.5						
QSPA	South Pole Qui	59.41	180	eP	P	10 20 26.9	-0.5
	5.4nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	60.81	95	eP	P	10 20 37.6	+0.6
	5.8nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	60.81	95	P	P	10 20 37.0	0.0
	3.6nm,0.8s,mb4.5,baz=233,slow=5.5,SNR=9.6						
VNDA	Vanda	62.85	166	P	P	10 20 49.7	-1.0
	1.0nm,0.7s,mb4.0,baz=272,slow=7.3,SNR=6.2						
VNDA	Vanda	62.85	166	eP	P	10 20 49.6	-1.1
	1.1nm,0.8s,mb4.0						
ASPA	Alice Springs	65.50	104	eP	P	10 21 08.2	+0.1
ASAR	Alice Springs	65.50	104	P	P	10 21 08.4	+0.3
	3.7nm,0.8s,mb4.5,baz=241,slow=6.1,SNR=52						
AS31	Alice Springs	65.50	104	eP	P	10 21 08.2	+0.1
ASF	Jabal al Asfar	66.13	339	LR	LR	10 46 37.9	
	comp=Z,43nm,20.3s,MS3.6,baz=3.6,slow=33						
WRA	Warramunga Arr	67.44	100	P	P	10 21 21.1	+0.5
	7.0nm,0.8s,mb4.7,baz=245,slow=5.4,SNR=43						
WB2	Warramunga Arr	67.45	100	eP	P	10 21 21.1	+0.5
WRAB	Tennant Creek	67.45	100	eP	P	10 21 21.2	+0.6
	19nm,1.1s,mb5.0						
STKA	Stephens Creek	68.44	115	P	P	10 21 27.2	+0.4
	1.5nm,0.7s,mb4.2,baz=315,slow=8.6,SNR=3.0						
TORD	Torodi Ar. Bea	70.58	299	P	P	10 21 40.1	+0.1
	0.9nm,0.8s,mb3.7,baz=121,slow=5.6,SNR=5.8						
BRTR	Keskin Array B	74.11	340	P	P	10 22 01.1	0.0
	0.5nm,0.5s,mb3.7,baz=289,slow=4.4,SNR=3.2						
CTA	Charters Tower	77.36	106	eP	P	10 22 20.9	+1.2
	4.1nm,0.7s,mb4.5						
CTA	Charters Tower	77.36	106	P	P	10 22 18.9	-0.9
	6.5nm,0.8s,mb4.6,baz=259,slow=6.3,SNR=9.6						
CTAO	Charters Tower	77.36	106	eP	P	10 22 20.7	+1.0
	3.9nm,0.5s,mb4.6						
AKTK	Aktyubinsk	80.84	359	P	P	10 22 37.8	-1.0
AKTO	Aktyubinsk	80.84	359	P	P	10 22 37.8	-1.0
	0.8nm,0.5s,mb3.9,baz=284,slow=4.2,SNR=3.9						
AKASG	Malin Array Be	85.39	341	P	P	10 23 01.0	-1.3
	0.3nm,0.4s,mb3.8,baz=172,slow=4.7,SNR=3.4						
HNR	Honiara	94.12	103	LR	LR	11 02 47.2	
	comp=Z,55nm,20.1s,MS4.0,baz=169,slow=33						

MAN 06 10:14:23.1, 1072N×12608E, h13km, mb3.5, ML4.7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.10	212	i P	Pb	10 14 41.6	-2.4
SCPH				i S	Sb	10 14 59.3	+1.1
PLP	Palo	1.17	292	eP	Pn	10 14 43.4	-1.8
PLP				eS	Sb	10 15 01.0	+0.8
MSLP	Maasin	1.34	244	eP	Pn	10 14 47.4	-0.1
MSLP				eS	Sb	10 15 08.6	+3.5
OCLP	Ormoc	1.48	283	eP	Pn	10 14 52.2	+2.7
BUTP	Butuan	1.80	195	eP	Pn	10 14 54.0	+0.1
BUTP				eS	Sn	10 15 17.4	+0.8
BUKP	Musuan	3.00	200	eP	Pn	10 15 11.6	+1.3
BUKP				eS	Sn	10 15 50.4	+4.3

---

*ISCJB **06** 10:24:59.2±0.6, 5970N±004×2440E±007, h0km, Error ellipse: s-maj=5.4km s-min=5.1km az=130.6*
*NAO **06** 10:25:02.0±1.0, 5976N×2462E, ML2.0*
*HEL **06** 10:25:02.1±0.1, 5972N×2453E, h0km, ML2.4, ML2.0(NAO), Explosion*
*BER **06** 10:25:02.9±4.8, 5975N×2459E, h0km, ML2.0(NAO), Suspected explosion*
*IDC **06** 10:25:03.7±1.1, 5983N×2465E, h0km, mb1 3.4/4, mb1mx3.2/22, mbtmp3.3/4, ML3.7/3, Error ellipse: s-maj=12.3km s-min=6.7km az=132.0*

ISC 06 10:25:00.9±0.6, 5972N±004×2450E±007, h0km, n22, σ0s87/31, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.51	354	eP	Pg	10 25 11.0	+0.5
MEF				eS	Sg	10 25 17.6	+0.6
PVF	Pernaja	1.07	39	eP	Pg	10 25 20.8	-0.6
PVF				eS	Sg	10 25 34.8	-0.6
VSU	Vasula	1.71	137	eP	Pn	10 25 32.1	+0.3
VSU				eS	Sn	10 25 54.3	-0.1
VSU	Vasula	1.71	137	Pn	Pn	10 25 32.6	+0.7
VSU				Lg		10 25 54.5	
RAF	Rauma	1.89	315	eP	Pn	10 25 35.1	+0.7
FIA0	FINESS Array S	1.90	23	eP	Pn	10 25 35.7	+1.2
FIA0				eS	Sn	10 25 59.4	+0.2
FIA0				MSG		10 26 02.9	
	comp=Z,25nm,0.2s						
FIA0	FINESS Array S	1.90	23	Pn	Pn	10 25 35.8	+1.3
	baz=197,slow=18						
FIA0				Lg		10 25 59.2	
	baz=191,slow=37						
FINES	FINESS Array B	1.90	23	Pn	Pn	10 25 35.8	+1.2
	comp=Z,15nm,0.3s,baz=204,slow=15,SNR=553						
FINES				Lg		10 25 59.5	
	comp=Z,13nm,0.3s,baz=196,slow=30,SNR=23						
KAF	Kangasniemi	2.56	19	MSG		10 26 21.5	
	comp=Z,17nm,0.2s						
SUF	Sumiainen	3.12	14	MSG		10 26 43.9	
	comp=Z,8.8nm,0.2s						
HFS	Hagfors	5.45	279	eP	Pn	10 26 24.6	+1.3
HFS				eS	Sn	10 27 25.9	-0.9
HFS				eSG		10 27 50.4	
HFS	Hagfors	5.45	279	Pn	Pn	10 26 24.7	+1.3
	comp=Z,0.7nm,0.3s,baz=93,slow=15,SNR=31						
HFS				Sn	Sn	10 27 27.7	+0.8
	comp=Z,2.4nm,0.3s,baz=87,slow=28,SNR=14						
HFS				Lg		10 27 51.8	
	comp=Z,2.1nm,0.3s,baz=91,slow=33,SNR=8.3						
HFS	Hagfors	5.45	279	Pn	Pn	10 26 24.6	+1.3
	baz=96,slow=14						
HFS				Sn	Sn	10 27 25.9	-0.9
	baz=88,slow=28						
HFS				Lg		10 27 50.4	
	baz=82,slow=37						
NB2	NORSAR Subarra	6.72	287	Pn	Pn	10 26 41.1	+0.3
	baz=90,slow=14						
NB2				Sn	Sn	10 27 56.2	-1.9
	baz=96,slow=22						
NB2				Lg		10 28 29.6	
	baz=93,slow=37						
NB2	NORSAR Subarra	6.72	287	eP	Pn	10 26 41.1	+0.3
NB2				eS	Sn	10 27 56.2	-1.9
NB2				eSG		10 28 29.6	
NOA	NORSAR Array B	6.72	287	Pn	Pn	10 26 41.2	+0.5
	comp=Z,0.7nm,0.3s,baz=98,slow=12,SNR=3.3						
NOA				Sn	Sn	10 27 57.4	-0.7
	comp=Z,0.8nm,0.3s,baz=101,slow=19,SNR=3.2						
NOA				Lg		10 28 33.0	
	comp=Z,1.4nm,0.3s,baz=64,slow=14,SNR=4.0						
APA0	Apatity Array	8.76	22	Pn	Pn	10 27 09.5	+0.7
	baz=245,slow=16						
APA0	Apatity Array	8.76	22	eP	Pn	10 27 09.5	+0.7
AKASG	Malin Array Be	9.43	161	Pn	Pn	10 27 17.5	-0.4
	comp=Z,1.0nm,0.3s,baz=339,slow=13,SNR=4.0						
ARA0	ARCESS Array S	9.87	2	Pn	Pn	10 27 22.6	-1.4
	baz=175,slow=16						
ARA0	ARCESS Array S	9.87	2	eP	Pn	10 27 22.6	-1.4
ARCES	ARCESS Array B	9.87	2	Pn	Pn	10 27 22.6	-1.4
	comp=Z,1.1nm,0.3s,baz=175,slow=16,SNR=52						
ARCES				Sn	Sn	10 29 08.6	-6.8
	comp=Z,0.3nm,0.3s,baz=184,slow=23,SNR=3.8						

IDC 06 10:25:56.4±3.9, 571S×15105E, h0km, mb2.9/2, mb1 3.2/2, mb1mx3.2/12, mbtmp3.0/2, Error ellipse: s-maj=159.5km s-min=51.4km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.55	227	P	P	10 30 47.6	+0.3
	0.2nm,0.5s,baz=54,slow=10,SNR=5.6						
ASAR	Alice Springs	24.32	221	P	P	10 31 16.0	+0.4
	0.2nm,0.6s,baz=57,slow=8.9,SNR=6.7						
TORD	Torodi Ar. Bea	148.91	286	PKPbc	PKPbc	10 45 46.7	+0.7
	0.4nm,0.6s,baz=76,slow=2.8,SNR=5.3						

---

*BJI **06** 10:59:19.9, 6490N×13350W, h5km, mB5.1, mb4.7, Ms4.3, Msz4.0*
*IDC **06** 10:59:21.7±4.3, 6573N×13291W, h0km, mb3.2/2, mb1 4.0/3, mb1mx3.5/22, mbtmp3.5/3, ML4.5/1, Error ellipse: s-maj=82.4km s-min=24.1km az=173.0*
*NEIC **06** 10:59:21.9, 6495N×13352W, h1km, mb3.8/1, MW4.2(PGC), After PGC.*
*PGC **06** 10:59:21.9, 6495N×13352W, h1km, ML4.0/4, Mw4.2, 280km southeast of Ft. McPherson, Nt Mackenzie Mountains, Yukon Territory*

ISC 06 10:59:19.6±0.5, 6487N±003×13350W±007, h10km, n31, σ1s72/60, mb4.6/3, 2D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAWY	Dawson	2.68	255	Pn	Pn	11 00 05.7	+2.9
DAWY				Pg	Pg	11 00 10.0	-1.0
DAWY				Sg	Sg	11 00 44.8	-0.9
DAWY				Trac		11 00 48.1	
	comp=Z,295nm,0.5s						
DAWY	Dawson	2.68	255	ePn	Pn	11 00 05.9	+3.1
DAWY				ePg	Pg	11 00 10.1	-0.9
DAWY				eSg	Sg	11 00 45.2	-0.5
EGAK	Eagle	3.28	272	ePn	Pn	11 00 14.5	+3.5
EGAK				ePg	Pg	11 00 24.3	+1.9
EGAK				eSg	Sg	11 01 05.0	+0.1
INK	Inuvik	3.45	360	Pn	Pn	11 00 14.6	+1.1
INK				Pg	Pg	11 00 23.1	-2.6
INK				Sn	Sn	11 00 54.5	+0.2
INK				Sg	Sg	11 01 07.9	-2.5
INK				Trac		11 01 16.9	
	comp=Z,99nm,0.5s						
INK	Inuvik	3.45	360	ePn	Pn	11 00 14.8	+1.4
INK				ePg	Pg	11 00 24.1	-1.6
INK				eSg	Sg	11 01 08.0	-2.4
WHY	Whitehorse	4.28	189	Pn	Pn	11 00 28.1	+3.3
WHY				Pg	Pg	11 00 41.4	-0.2
WHY				Sg	Sg	11 01 34.7	-2.3
WHY				Trac		11 01 42.2	
	comp=Z,112nm,0.5s						
WHY	Whitehorse	4.28	189	Pn	Pn	11 00 28.1	+3.3
WHY				Pg	Pg	11 00 41.4	-0.2
WHY				eSg	Sg	11 01 34.7	-2.3
HYT	Haines Junctio	4.46	206	⇓Pn	Pn	11 00 30.9	+3.7
HYT				Sn	Sn	11 01 20.9	+1.6
HYT				Sg	Sg	11 01 38.9	-3.9
HYT				Trac		11 01 42.6	
	comp=Z,150nm,0.5s						
HYT	Haines Junctio	4.46	206	⇓iPn	Pn	11 00 30.9	+3.7
HYT				eSn	Sn	11 01 20.9	+1.6
HYT				eSg	Sg	11 01 38.9	-3.9
SKAG	Skagway	5.50	190	ePn	Pn	11 00 45.1	+3.5
SKAG				eS	Sg	11 02 09.8	-6.4
PLBC	Pleasant Camp	5.60	195	Pn	Pn	11 00 47.2	+4.2
PLBC				eSg	Sg	11 02 17.9	-1.6
COLA	College	6.12	276	ePg	Pg	11 01 14.4	-2.4
	21nm,0.9s						
COLA				eSg	Sg	11 02 35.0	-0.9
DLBC	Dease Lake	6.67	164	Pn	Pn	11 01 01.3	+3.7
DLBC				Sn	Sn	11 02 14.8	+1.2
DLBC				Sg	Sg	11 02 51.1	-2.5
DLBC				Trac		11 02 56.8	
	comp=Z,87nm,0.7s						
DLBC	Dease Lake	6.67	164	Pn	Pn	11 01 01.3	+3.7
DLBC				eSn	Sn	11 02 14.8	+1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DLBC				eSg	Sg	11 02 51.1	-2.5
FNBB	Fort Nelson	7.77	136	Trac		11 03 40.4	
	comp=Z,26nm,0.8s						
FNBB	Fort Nelson	7.77	136	Sg	Sx	11 03 26.8	
WRAK	Wrangell Islan	8.50	176	ePn	Pn	11 01 25.7	+2.9
YKW3	Yellowknife Ar	8.68	97	Pn	Pn	11 01 25.0	-0.3
YKW3				Pn	Pn	11 01 25.2	-0.1
YKW3				Sn	Sn	11 02 55.5	-7.8
YKW3				Sn	Sn	11 02 55.5	-7.7
YKW3				Trac		11 03 14.3	
	comp=Z,11nm,0.3s						
YKW3				Trac		11 03 14.4	
	comp=Z,13nm,0.4s						
YKW3	Yellowknife Ar	8.68	97	Pn	Pn	11 01 25.0	-0.3
YKW3				eSn	Sn	11 02 55.5	-7.8
YKA	Yellowknife Ar	8.72	97	Pn	Pn	11 01 25.2	-0.5
	baz=294,slow=13,SNR=49						
YKA				Sn	Sn	11 02 59.9	-4.2
	baz=296,slow=21,SNR=5.7						
YKA				Lg		11 03 52.9	
	baz=291,slow=30,SNR=2.5						
YKA	Yellowknife Ar	8.72	97	Pn	Pn	11 01 25.2	-0.5
YKA				Sn	Sn	11 02 59.9	-4.2
YKA				Lg		11 03 52.9	
BMBC	Bull Mountain	10.46	142	Pn	Pn	11 01 54.0	+4.3
BMBC				Sg	Sn	11 04 49.3	+62
BMBC				Trac		11 04 53.3	
	comp=Z,28nm,1.0s						
BMBC	Bull Mountain	10.46	142	ePn	Pn	11 01 54.0	+4.3
BMBC				eSg	Sn	11 04 49.3	+62
EDM	Edmonton	15.52	129	ePn	Pn	11 02 59.4	+0.9
FFC	Flin Flon	18.61	108	eP	Pn	11 03 35.5	-1.9
	5.6nm,0.8s						
PDAR	Pinedale Array	25.95	137	P	sP	11 05 00.1	+3.6
	0.5nm,0.6s,baz=5.1,slow=7.5,SNR=5.5						
NVAR	Mina Array Bea	27.95	154	P	sP	11 05 20.2	+5.7
	0.1nm,0.5s,baz=348,slow=7.5,SNR=2.3						
HHC	Hu-ho-hao-te	63.09	310	eP	P	11 09 51.9	+4.7
HHC				PCP	PcP	11 10 30.1	+5.2
HHC				PP	PP	11 12 11.7	+5.8
HHC				SCP	ScP	11 14 32.0	+4.8
HHC				S	S	11 18 20.5	+2.4
HHC				SKS		11 19 42.1	
HHC				SS	SS	11 22 27.2	+3.4
HHC				AMB	AMB		
	comp=Z,12nm,0.4s						
HHC				AMB	AMB		
	comp=Z,147nm,5.2s						
HHC				LR	LR		
	comp=N,65nm,5.1s						
HHC				LR	LR		
	comp=E,93nm,5.1s						
HHC				LR	LR		
	comp=Z,84nm,6.5s						
WMQ	Urumqi	66.96	329	eP	P	11 10 17.0	+4.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
LZH	Lanzhou	69.90	313	eP	P	11 10 32.5	+1.7
LZH				AP	pP	11 10 37.2	+3.1
LZH				XP	sP	11 10 39.5	+4.2
LZH				PP	PP	11 13 08.9	+3.5
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
KMI	Kunming	80.40	310	P	P	11 11 35.3	+3.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						

---

*BJI **06** 11:42:39.8, 6051S×3350W, h10km, mB5.5, Ms5.6, Msz5.4*

*IDC **06** 11:42:39.5±0.4, 6091S×34.11W, h0km, mb5.0/22, mb1 5.1/23, mb1mx5.1/24, mbtmp5.0/23, ML6.7/1, MS5.2/25, Ms1 5.2/25, ms1mx5.1/28, Error ellipse: s-maj=16.7km s-min=11.5km az=32.0*

*ISCJB **06** 11:42:39.2±0.2, 6083S±005×34.1W±0.1, h10km, mb5.3/34, MS5.3/153, Error ellipse: s-maj=8.8km s-min=5.2km az=97.4*

*GCMT **06** 11:42:41.5±0.1, 6109S×3409W, h13km, MW5.8/96, Moment Tensor Solution. s92,c188; s96,c282; Duration: $1^{s}8$ Moment tensor: Scale 10^{17}Nm; M_{rr}-0.36±.04; $M_{\theta\theta}$-1.96±.05; $M_{\phi\phi}$2.32±.05; $M_{r\theta}$0.50±.11; $M_{\theta\phi}$4.80±.05; $M_{\phi r}$0.53±.11; Best double couple: $M_0$5.30000×10^{17} NP1:ϕ_s348.00000°, δ84.00000°, λ176.00000°. NP2:ϕ_s78.00000°, δ86.00000°, λ6.00000°. Principal axes: T 5.5210, Plg7.0000°, Azm303.0000°; N -0.4440, Plg83.0000°, Azm110.0000°; P -5.0790, Plg2.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 11:42:41.5±0.2, 6084S×34.17W, h10km, mb5.6/20, MS5.3/123, MW5.7 Error ellipse: s-maj=8.5km s-min=6.0km az=47.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}0.96; $M_{\theta\theta}$-2.47; $M_{\phi\phi}$1.52; $M_{r\theta}$0.06; $M_{\theta\phi}$3.18; $M_{\phi r}$0.43; Best double couple: $M_0$3.80000×10^{17} NP1:ϕ_s343.00000°, δ84.00000°, λ172.00000°. NP2:ϕ_s74.00000°, δ82.00000°, λ6.00000°. Principal axes: T 3.3400, Plg10.0000°, Azm299.0000°; N 0.8900, Plg80.0000°, Azm129.0000°; P -4.2300, Plg2.0000°, Azm29.0000°;*

*MOS **06** 11:42:44.1±1.8, 6093S×3420W, h33km, mb5.7/13, MS5.2/26 Error ellipse: s-maj=26.0km s-min=10.7km az=105.2*

ISC 06 11:42:42.0±3.0**, 6088S**±005×**342W**±01**, h18**km±18km**, n361,** σ**$0^{s}97$**/99**, mb5.3**/34**, MS5.3**/153**, 9C-3D, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	Hope Point	6.73	348	Pn	Pn	11 44 20.4	+0.5
	4µm,0.4s,SNR=73						
HOPE	Hope Point	6.73	348	Pn	Pn	11 44 20.3	+0.4
PMSA	Palmer Station	14.10	241	Pn	Pn	11 46 01.7	+0.9
	31nm,0.3s,baz=90,slow=15,SNR=108						
PMSA	Palmer Station	14.10	241	ePn	Pn	11 46 01.5	+0.7
	188nm,0.6s						
VNA3	Neumayer Olymp	14.24	147	ePn	Pn	11 45 57.6	-5.1
VNA3				e		11 45 59.6	
VNA3				e		11 46 01.4	
VNA3				e		11 46 02.6	
VNA3				e		11 46 04.0	
VNA3				e		11 46 05.8	
VNA3				e		11 46 07.6	
VNA3				e		11 46 09.9	
VNA3				e		11 46 16.6	
VNA3				e		11 46 21.6	
VNA3				e		11 48 24.7	
VNA3				e		11 48 30.7	
VNA3				e		11 48 43.7	
VNA3				e		11 48 53.3	
VNA1	Neumayer--Stat	14.31	144	ePn	Pn	11 45 58.7	-5.0
VNA1				e		11 46 00.4	
VNA1				e		11 46 02.0	
VNA1				e		11 46 02.9	
VNA1				e		11 46 05.7	
VNA1				e		11 46 19.8	
VNA1				e		11 48 20.8	
VNA1				e		11 48 32.0	
VNA1				e		11 48 47.3	
EFI	East Falkland	16.05	294	Pn	Pn	11 46 27.6	+0.8
	8µm,0.8s,SNR=80						
EFI	East Falkland	16.05	294	Pn	Pn	11 46 27.2	+0.4
EFI				eP		11 46 31.2	
SNAA	Sanae	16.35	144	Pn	Pn	11 46 25.9	-4.7
	0.5nm,0.3s,baz=310,slow=11,SNR=54						
SNAA				LR	LR	11 51 30.1	
	comp=Z,5µm,18.4s,baz=296,slow=33						
SNAA				T		12 01 18.9	
	0.5nm,0.3s,baz=287,slow=15,SNR=3.5						
SNAA	Sanae	16.35	144	ePn	Pn	11 46 28.0	-2.6
SNAA				e		11 46 29.3	
SNAA				e		11 46 33.1	
SNAA				e		11 46 37.5	
SNAA				e		11 46 39.8	
SNAA				e		11 46 49.0	
SNAA				e		11 47 00.7	
SNAA				e		11 49 17.5	
SNAA				e		11 49 26.3	
SNAA	Sanae	16.35	144	eP	Pn	11 46 25.7	-4.9
SNAA				pmax	pmax		
	comp=Z,277nm,0.6s						
SNAA	Sanae	16.35	144	eP	Pn	11 46 25.6	-4.9
	comp=Z,277nm,0.6s						
MAIT	Maitri	20.66	138	⇑iP	P	11 47 21.3	+0.5
NVL	N'lazarevskaya	20.69	138	c iP	P	11 47 19.8	-1.3
NVL				iS	S	11 51 12.7	+1.2
NVL				iSS		11 51 36.6	
NVL				pmax	pmax		
	comp=Z,569nm,1.6s						
NVL				MLR	MLR		
	comp=Z,15µm,19.2s,MS5.4						
TRQA	Tornquist	28.72	310	eP	P	11 48 37.6	-0.5
TRQA				e		11 49 20.5	
TRQA				LR	LR		
	comp=Z,4µm,19.0s,MS5.0						
QSPA	South Pole Qui	29.35	180	eP	P	11 48 44.7	+0.9
	comp=Z,100nm,1.0s,mb5.5						
PLCA	Paso Flores	29.97	296	P	P	11 48 49.0	-0.2
	comp=Z,12nm,0.7s,mb4.7,baz=150,slow=5.8,SNR=25						
PLCA				LR	LR	11 59 56.3	
	comp=Z,5µm,20.5s,MS5.2,baz=150,slow=34						
PLCA	Paso Flores	29.97	296	eP	P	11 48 48.6	-0.7
PLCA				pmax	pmax		
	comp=Z,88nm,1.5s						
PLCA				MLR	MLR		
	comp=Z,5µm,21.0s						
PLCA	Paso Flores	29.97	296	eP	P	11 48 48.6	-0.7
	comp=Z,88nm,1.5s,mb5.3						
PLCA				LR	LR		
	comp=Z,5µm,21.0s,MS5.2						
LPA	La Plata	30.13	319	c eP	P	11 48 49.0	-1.7
LPA				esP	sP	11 48 58.0	-0.5
LPA							
	comp=Z,6µm,20.0s						
SYO	Syowa Base	30.36	137	⇓eP	P	11 48 50.6	-2.2
SYO	Syowa Base	30.36	137	⇓epP	pP	11 48 52.8	-5.5
SFDO	San Fernando	35.30	301	eP	P	11 49 34.5	-1.4
CICH	Cipreses	35.31	302	eP	P	11 49 35.6	-0.4
CACH	El Canelo	35.56	302	eP	P	11 49 37.4	-0.7
LNV	Longovilo	36.03	301	eP	P	11 49 41.2	-1.0
TACH	Talagante	36.10	302	⇑eP	P	11 49 41.8	-0.9
FCH	Farellones	36.11	303	⇑eP	P	11 49 42.6	-0.3
FCH				AMb	AMB	11 50 03.6	
	comp=Z,166nm,2.1s,mb5.6						
CLCH	Cerro Calan	36.16	303	⇑eP	P	11 49 43.0	-0.2
PEL	Peldehue	36.44	303	⇓eP	P	11 49 45.5	-0.1
LCCH	Las Cruces	36.51	301	eP	P	11 49 45.5	-0.8
JACH	Jahuel	36.80	303	eP	P	11 49 48.0	-0.7
CFAA	Coronel Fontan	36.81	307	P	P	11 49 48.3	-0.5
	comp=Z,12nm,1.0s,mb4.7,baz=159,slow=8.2,SNR=8.7						
CFAA				LR	LR	12 04 57.3	
	comp=Z,337nm,18.1s,MS4.2,baz=155,slow=36						
CPUP	Villa Florida	37.96	325	P	P	11 49 59.2	+0.6
	comp=Z,71nm,0.7s,mb5.5,baz=145,slow=7.5,SNR=196						
CPUP				LR	LR	12 04 33.2	
	comp=Z,3µm,19.1s,MS5.1,baz=148,slow=35						
CPUP	Villa Florida	37.96	325	eP	P	11 49 59.3	+0.7
CPUP				LR	LR		
	comp=Z,671nm,21.0s,MS4.4						
MAW	Mawson	38.50	142	eP	P	11 50 02.3	-0.8
	comp=Z,19nm,0.8s,mb4.9						
MAW	Mawson	38.50	142	P	P	11 50 02.3	-0.8
	comp=Z,18nm,1.0s,mb4.8,baz=227,slow=8.7,SNR=32						
MAW				LR	LR	12 03 06.7	
	comp=Z,5µm,20.2s,MS5.3,baz=241,slow=32						
MAW	Mawson	38.50	142	eP	P	11 50 02.2	-0.9
MAW				e*PP	pP	11 50 11.8	+3.1
MAW				pmax	pmax		
	comp=Z,27nm,0.8s						
TLL	Tololo Astrono	39.09	305	⇑eP	P	11 50 08.4	+0.3
TLL				AMb	AMB	11 50 29.4	
	comp=E,317nm,1.9s						
LCO	Las Campanas	40.08	306	⇑eP	P	11 50 16.3	0.0
LCO				AMb	AMB	11 50 36.6	
	comp=Z,131nm,1.4s,mb5.5						
SBA	Scott Base	40.91	187	eP	P	11 50 24.7	+1.5
SBA				MLR	MLR		
	comp=Z,1µm,19.0s,MS4.9						
VNDA	Vanda	41.49	185	P	P	11 50 28.7	+0.7
	comp=Z,21nm,1.1s,mb4.7,baz=183,slow=7.0,SNR=39						
VNDA				LR	LR	12 06 19.1	
	comp=Z,1µm,20.7s,MS4.8,baz=359,slow=34						
VNDA	Vanda	41.49	185	eP	P	11 50 28.7	+0.7
VNDA				LR	LR		
	comp=Z,2µm,19.0s,MS4.9						
SUR	Sutherland	45.40	77	P	P	11 51 00.5	+1.0
	comp=Z,432nm,0.9s,mb6.3,SNR=7.4						
SUR	Sutherland	45.40	77	P	P	11 50 59.1	-0.4
	comp=Z,16nm,0.7s,mb5.0,baz=186,slow=10.0,SNR=13						
SUR				LR	LR	12 05 27.0	
	comp=Z,5µm,20.0s,MS5.4,baz=218,slow=30						
SUR	Sutherland	45.40	77	eP	P	11 51 00.3	+0.8
	comp=Z,105nm,1.1s,mb5.6						
SUR				e		11 51 09.8	
SUR				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
BDFB	Brasilia	46.27	341	P	P	11 51 06.7	+0.4
	comp=Z,12nm,0.9s,mb4.8,baz=148,slow=4.6,SNR=9.0						
BDFB				LR	LR	12 07 22.9	
	comp=Z,2µm,18.8s,MS5.0,baz=340,slow=32						
MIR	Mirnyy	47.08	154	eP	P	11 51 13.0	+0.3
MIR				pmax	pmax		
	comp=Z,300nm,2.0s,mb5.9						
CASY	Casey	50.50	162	eP	P	11 51 39.1	+0.2
BOSA	Boshof	50.65	78	P	P	11 51 40.1	+0.1
	comp=Z,45nm,0.8s,mb5.5,baz=209,slow=8.0,SNR=44						
BOSA				LR	LR	12 08 26.6	
	comp=Z,2µm,19.3s,MS5.2,baz=217,slow=31						
BOSA	Boshof	50.65	78	eP	P	11 51 40.1	0.0
BOSA				e		11 51 48.8	
BOSA				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.6						
BOSA				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.3						
BOSA	Boshof	50.65	78	eP	P	11 51 40.1	0.0
	comp=Z,69nm,0.9s,mb5.6						
BOSA				e		11 51 48.8	
BOSA				LR	LR		
	comp=Z,3µm,19.0s,MS5.3						
LPAZ	La Paz	50.74	316	P	P	11 51 42.2	+1.4
	comp=Z,19nm,0.8s,mb5.1,baz=146,slow=6.1,SNR=76						
LPAZ				LR	LR	12 14 17.7	
	comp=Z,2µm,18.3s,MS5.2,baz=25,slow=37						
LPAZ	La Paz	50.74	316	eP	P	11 51 42.2	+1.4
LPAZ				pmax	pmax		
	comp=Z,44nm,1.1s						
LPAZ				MLR	MLR		
	comp=Z,2µm,19.0s						
LPAZ	La Paz	50.74	316	eP	P	11 51 42.2	+1.4
	comp=Z,44nm,1.1s,mb5.3						
LPAZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.2						
ARE	Arequipa	51.76	312	eP	P	11 51 50.0	+1.6
DRV	Dumont d'Urvil	52.69	177	S	S	11 59 20.0	-2.1
DRV				SS	SS	12 03 01.0	+0.4
DRV				R		12 08 00.0	
LBTB	Lobatse	53.84	76	LR	LR	12 10 41.7	
	comp=Z,5µm,19.5s,MS5.6,baz=228,slow=31						
LBTB	Lobatse	53.84	76	eP	P	11 52 03.2	-0.6
LBTB				e		11 52 12.0	
LBTB				pmax	pmax		
	comp=Z,178nm,1.3s,mb5.8						
LBTB				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.6						
LBTB	Lobatse	53.84	76	eP	P	11 52 03.2	-0.6
	comp=Z,178nm,1.3s,mb5.8						
LBTB				e		11 52 12.0	
LBTB				LR	LR		
	comp=Z,5µm,20.0s,MS5.6						
RCBR	Riachuelo	54.95	358	eP	P	11 52 12.0	+0.1
	comp=Z,62nm,1.3s,mb5.5						
RCBR				LR	LR		
	comp=Z,3µm,20.0s,MS5.3						
TSUM	Tsumeb	55.17	65	P	P	11 52 13.7	+0.2
	comp=Z,8.0nm,1.0s,mb4.7,baz=191,slow=7.9,SNR=16						
TSUM				LR	LR	12 10 38.1	
	comp=Z,2µm,21.5s,MS5.2,baz=74,slow=30						
TSUM	Tsumeb	55.17	65	eP	P	11 52 13.3	-0.1
TSUM				LR	LR		
	comp=Z,3µm,21.0s,MS5.4						
SAML	Samuel	56.12	325	eP	P	11 52 19.7	-0.6
	comp=Z,60nm,1.0s,mb5.6						
SAML				e		11 52 28.9	
SAML				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
NNA	Nana	57.86	308	P	P	11 52 32.7	+0.1
	comp=Z,51nm,1.1s,mb5.5,baz=157,slow=5.7,SNR=12						
NNA	Nana	57.86	308	eP	P	11 52 32.1	-0.5
NNA				LR	LR		
	comp=Z,653nm,21.0s,MS4.7						
ATAH	Atahualpa	63.02	309	P	P	11 53 10.1	+2.2
	comp=Z,35nm,1.2s,mb5.4,baz=170,slow=4.7,SNR=28						
LSZ	Lusaka	63.44	73	P	P	11 53 10.4	-0.3
	comp=Z,32nm,0.9s,mb5.5,baz=187,slow=6.8,SNR=55						
LSZ	Lusaka	63.44	73	eP	P	11 53 10.2	-0.4
LSZ				e		11 53 18.8	
LSZ				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.8						
LSZ				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.6						
LSZ	Lusaka	63.44	73	eP	P	11 53 10.2	-0.5
	comp=Z,77nm,1.0s,mb5.8						
LSZ				e		11 53 18.8	
LSZ				LR	LR		
	comp=Z,4µm,20.0s,MS5.6						
OPO	Ambohidratompo	69.78	92	P	P	11 53 52.5	+1.3
	comp=Z,2.0nm,0.7s,baz=192,slow=5.8,SNR=3.0						
DBIC	Dimbokro	71.16	31	P	P	11 53 59.8	+0.2
	comp=Z,8.4nm,0.6s,mb4.8,baz=179,slow=6.5,SNR=19						
DBIC				LR	LR	12 19 01.3	
	comp=Z,862nm,20.1s,MS5.0,baz=170,slow=31						
DBIC	Dimbokro	71.16	31	eP	P	11 54 00.0	+0.4
DBIC				e		11 54 08.9	
DBIC				pmax	pmax		
	comp=Z,58nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,901nm,20.0s						
DBIC	Dimbokro	71.16	31	eP	P	11 53 60.0	+0.4
	comp=Z,58nm,0.9s,mb5.5						
DBIC				e		11 54 08.9	
DBIC				LR	LR		
	comp=Z,901nm,20.0s,MS5.0						
ROSC	El Rosal	72.59	318	P	P	11 54 09.5	+1.4
	comp=Z,6.4nm,0.5s,mb4.8,baz=98,slow=24,SNR=8.6						
ROSC	El Rosal	72.59	318	eP	P	11 54 09.7	+1.6
RKT	Rikitea	75.15	249	eS	S	12 04 02.1	+1.2
	comp=Z,1µm,30.0s						
RKT				eSS	SS	12 08 52.7	+2.6
	comp=Z,182nm,25.2s						
RKT				eLQ		12 14 22.3	
	comp=Z,4µm,33.5s						
RKT				eLR	LR	12 17 51.9	
	comp=Z,3µm,25.2s,baz=148						
SDV	Santo Domingo	75.23	323	P	P	11 54 24.3	+0.7
	comp=Z,12nm,0.6s,mb5.0,baz=212,slow=5.1,SNR=15						
SDV	Santo Domingo	75.23	323	eP	P	11 54 24.0	+0.4
	comp=Z,40nm,0.8s,mb5.4						
SDV				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
SNZO	South Karori	75.46	202	PFAKE		11 54 40.0	+15
SNZO				LR	LR		
	comp=Z,2µm,19.0s,MS5.4						
TOA0	Torodi Ar. Sit	79.11	36	eP	P	11 54 45.6	+0.1
TORD	Torodi Ar. Bea	79.11	36	P	P	11 54 45.9	+0.4
	comp=Z,12nm,0.9s,mb4.8,baz=199,slow=6.9,SNR=70						
TORD				LR	LR	12 22 39.8	
	comp=Z,2µm,20.8s,MS5.5,baz=215,slow=30						
KMBO	Kilima Mbogo	80.06	74	P	P	11 54 54.5	+4.0
	comp=Z,1.6nm,0.7s,baz=229,slow=5.0,SNR=4.4						
KMBO				LR	LR	12 27 35.8	
	comp=Z,3µm,18.2s,MS5.6,baz=103,slow=34						
TBI	Tubuai	81.27	237	eS	S	12 05 08.3	+1.7
	comp=Z,561nm,27.0s						
TBI				eSS	SS	12 10 26.4	+4.2
	comp=Z,356nm,26.8s						
TBI				eLQ		12 16 43.9	
	comp=Z,3µm,33.5s						
TBI				eLR	LR	12 20 23.9	
	comp=Z,3µm,23.2s,baz=157						
JTS	JuntasAbangare	81.39	310	P	P	11 54 57.0	-0.7
	comp=Z,10nm,0.8s,mb4.8,baz=110,slow=13,SNR=6.1						
TOO	Toolangi	81.90	180	eP	P	11 55 00.1	-0.3
	comp=Z,21nm,0.8s,mb5.1						
TOO	Toolangi	81.90	180	eP	P	11 55 00.1	-0.3
TOO				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
SJG	San Juan	82.81	330	PFAKE		11 55 20.0	+15
SJG				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
NWAO	Narrogin (SRO)	83.65	156	LR	LR	12 27 45.6	
	comp=Z,2µm,19.5s,MS5.4,baz=90,slow=32						
NWAO	Narrogin (SRO)	83.65	156	PFAKE		11 55 20.0	+11
NWAO				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
CNB	Canberra Magne	84.10	183	eP	P	11 55 12.6	+0.8
	comp=Z,120nm,2.0s,mb5.7						
MUN	Mundaring	84.36	155	eP	P	11 55 12.1	-1.0
KLBR	Kellerberrin	85.05	156	eP	P	11 55 18.2	+1.6
	comp=Z,43nm,1.1s,mb5.5						
PPT	Papeete	86.47	240	eS	S	12 05 59.8	+0.9
	comp=Z,1µm,27.8s						
PPT				eSS	SS	12 11 43.9	+4.8
	comp=Z,794nm,24.2s						
PPT				eLQ		12 18 36.8	
	comp=Z,5µm,33.2s						
PPT				eLR	LR	12 22 54.7	
	comp=Z,6µm,27.8s,baz=157						
PPT	Papeete	86.47	240	LR	LR	12 24 14.9	
	comp=Z,1µm,20.6s,MS5.4,baz=156,slow=29						
STKA	Stephens Creek	87.51	176	eP	P	11 55 28.1	-0.6
	comp=Z,6.2nm,0.8s,mb4.9						
STKA	Stephens Creek	87.51	176	P	P	11 55 27.9	-0.8
	comp=Z,7.5nm,0.9s,mb4.9,baz=173,slow=3.1,SNR=7.3						
STKA				LR	LR	12 34 06.7	
	comp=Z,1µm,18.2s,MS5.4,baz=180,slow=35						
PMOR	Pomariorio Ree	88.03	242	eP	P	11 55 33.6	+2.4
	comp=Z,62nm,1.2s,mb5.7						
TAOE	Nuku Hiva Isla	89.97	252	eS	S	12 06 33.0	+0.8
	comp=Z,2µm,28.2s						
TAOE				eSS	SS	12 12 31.9	+1.7
	comp=Z,1µm,27.2s						
TAOE				eLQ		12 20 57.5	
	comp=Z,6µm,29.5s						
TAOE				eLR	LR	12 24 32.1	
	comp=Z,6µm,22.9s,baz=169						
DGAR	Diego Garcia	91.56	108	PFAKE		11 56 00.0	+12
DGAR				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
TEIG	Tepich	91.74	310	eP	P	11 55 48.6	+0.1
	comp=Z,46nm,1.5s,mb5.6						
TEIG				LR	LR		
	comp=Z,366nm,20.0s,MS4.8						
ATD	Arta Tunnel	93.77	73	LR	LR	12 34 22.3	
	comp=Z,861nm,19.6s,MS5.2,baz=30,slow=33						
ASPA	Alice Springs	95.20	169	eP	P	11 56 05.2	+0.8
ASAR	Alice Springs	95.20	169	P	P	11 56 03.3	-1.1
	comp=Z,4.3nm,0.9s,mb4.9,baz=188,slow=3.9,SNR=21						
ASAR				PP	PP	11 59 51.5	-2.8
	comp=Z,3.7nm,1.2s,baz=176,slow=6.7,SNR=5.3						
ASAR				PKKPbc	PKKPbc	12 13 05.7	+7.8
	comp=Z,0.5nm,0.8s,baz=5.7,slow=2.4,SNR=4.9						
ASAR				LR	LR	12 37 51.7	
	comp=Z,1µm,18.7s,MS5.4,baz=95,slow=35						
ASAR	Alice Springs	95.20	169	P	P	11 56 03.3	-1.1
ASAR						11 59 51.5	
AS31	Alice Springs	95.20	169	eP	P	11 56 05.2	+0.8
MBWA	Marble Bar	95.57	156	PFAKE		11 56 20.0	+14
MBWA				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
DZM	Mont Dzumac	95.67	199	LR	LR	12 37 16.1	
	comp=Z,775nm,18.3s,MS5.2,baz=180,slow=34						
BBSR	BB Station	96.21	334	PFAKE		11 56 20.0	+11
BBSR				LR	LR		
	comp=Z,1µm,20.0s,MS5.3						
DWPF	Disney	96.63	319	PFAKE		11 56 20.0	+9.1
DWPF				LR	LR		
	comp=Z,656nm,19.0s,MS5.1						
COCO	West Island	97.52	132	PFAKE		11 56 30.0	+15
COCO				LR	LR		
	comp=Z,289nm,19.0s,MS4.8						
AFI	Afiamalu	98.18	221	LR	LR	12 33 08.2	
	comp=Z,783nm,20.4s,MS5.2,baz=108,slow=31						
WRA	Warramunga Arr	98.93	169	P	P	11 56 19.4	-1.9
	comp=Z,2.3nm,0.7s,mb4.8,baz=191,slow=4.0,SNR=20						
WRA				PP	PP	12 00 26.9	+3.9
	comp=Z,1.7nm,0.9s,baz=190,slow=5.7,SNR=4.8						
WRA				LR	LR	12 41 38.9	
	comp=Z,1µm,18.5s,MS5.5,baz=185,slow=36						
WRA	Warramunga Arr	98.93	169	P	P	11 56 19.4	-1.9
WRA						12 00 26.9	
WB2	Warramunga Arr	98.93	169	eP	P	11 56 21.3	0.0
WRAB	Tennant Creek	98.94	169	eP	P	11 56 20.1	-1.2
WRAB				pmax	pmax		
	comp=Z,22nm,1.8s,mb5.4						
WRAB				MLR	MLR		

comp=Z,445nm,19.0s,MS5.0
WRAB Tennant Creek 98.94 169 *e*P **P 11 56 20.1 -1.2**
comp=Z,22nm,1.8s,mb5.4
WRAB LR LR
comp=Z,445nm,19.0s,MS5.0
CTA Charters Tower 99.32 180 LR LR 12 43 14.3
comp=Z,1μm,18.1s,MS5.4,baz=181,slow=37
CTAO Charters Tower 99.32 180 PFAKE 11 56 40.0 +17
CTAO LR LR
comp=Z,1μm,20.0s,MS5.4
FITZ Fitzroy Crossi 99.63 161 LR LR 12 39 09.4
comp=Z,2μm,19.4s,MS5.5,baz=163,slow=34
KEST Kesra 102.63 35 PP PP 12 00 58.1 +7.0
comp=Z,1.1nm,1.0s,baz=165,slow=6.7,SNR=5.4
LRAL Lakeview Retre 103.00 317 PFAKE 11 56 50.0 +11
LRAL LR LR
comp=Z,1μm,22.0s,MS5.3
ESLA Sonseca Array 103.21 24 PFAKE 11 56 50.0 +10
ESLA LR LR
comp=Z,7μm,20.0s,MS6.2
HKT Hockley 103.39 308 PFAKE 11 56 50.0 +8.9
HKT LR LR
comp=Z,476nm,21.0s,MS5.0
MYNC Murphy 103.93 320 PFAKE 11 56 50.0 +6.5
MYNC LR LR
comp=Z,417nm,19.0s,MS5.0
NATX Nacogdoches 104.57 310 PFAKE 11 57 00.0 +14
NATX LR LR
comp=Z,366nm,21.0s,MS4.9
BLA Blacksburg 104.78 323 PFAKE 11 57 00.0 +13
BLA LR LR
comp=Z,64nm,22.0s
CBN Corbin 104.85 326 PFAKE 11 57 00.0 +12
CBN LR LR
comp=Z,2μm,22.0s,MS5.6
PLAL Pickwick Lake 105.13 317 PFAKE 12 01 10.0 +6.7
PLAL LR LR
comp=Z,902nm,22.0s,MS5.3
JCT Junction City 105.42 305 PFAKE 12 01 20.0 +16
JCT LR LR
comp=Z,354nm,20.0s,MS4.9
FUNA Funafuti 105.99 214 PFAKE 12 01 20.0 +15
FUNA LR LR
comp=Z,6μm,20.0s,MS6.2
WVT Waverly 106.10 317 PFAKE 12 01 20.0 +15
WVT LR LR
comp=Z,1μm,22.0s,MS5.4
MIAR Mount Ida 106.66 312 PFAKE 12 01 20.0 +14
MIAR LR LR
comp=Z,630nm,19.0s,MS5.2
MCWV Mont Chateau 106.89 325 PFAKE 12 01 20.0 +13
MCWV LR LR
comp=Z,1μm,22.0s,MS5.4
SSPA Standing Stone 107.26 327 PFAKE 12 01 20.0 +13
SSPA LR LR
comp=Z,944nm,22.0s,MS5.3
WES Weston 107.27 332 PFAKE 12 01 20.0 +13
WES LR LR
comp=Z,861nm,21.0s,MS5.3
HRV Harvard--Oak R 107.44 332 PFAKE 12 01 20.0 +12
HRV LR LR
comp=Z,955nm,22.0s,MS5.3
WCI Wyandotte Cave 107.51 319 PFAKE 12 01 20.0 +12
WCI LR LR
comp=Z,825nm,21.0s,MS5.3
BINY Binghamton 108.22 329 PFAKE 12 01 20.0 +11
BINY LR LR
comp=Z,1μm,22.0s,MS5.5
PALK Pallekele 108.30 109 PFAKE 12 01 20.0 +11
PALK LR LR
comp=Z,453nm,21.0s,MS5.0
ACSO Alum Creek Sta 108.33 323 PFAKE 12 01 20.0 +11
ACSO LR LR
comp=Z,572nm,22.0s,MS5.1
MNTX Cornudas Mount 108.76 302 PFAKE 12 01 20.0 +10
MNTX LR LR
comp=Z,2μm,21.0s,MS5.6
WMOK Wichita Mounta 108.78 308 PFAKE 12 01 20.0 +10
WMOK LR LR
comp=Z,471nm,20.0s,MS5.0
HNR Honiara 109.02 195 PFAKE 12 01 20.0 +9.5
HNR LR LR
comp=Z,739nm,20.0s,MS5.2
LBNH Lisbon 109.17 332 PFAKE 12 01 20.0 +9.2
LBNH LR LR
comp=Z,1μm,22.0s,MS5.4
ERPA Erie 109.21 326 PFAKE 12 01 20.0 +9.1
ERPA LR LR
comp=Z,656nm,22.0s,MS5.2
NCB Newcomb 109.45 330 PFAKE 12 01 20.0 +8.7
NCB LR LR
comp=Z,809nm,21.0s,MS5.3
PMG Port Moresby 109.93 181 PFAKE 12 01 20.0 +7.8
PMG LR LR
comp=Z,1μm,20.0s,MS5.4
AAM Ann Arbor 110.43 323 PFAKE 12 01 20.0 +6.9
AAM LR LR
comp=Z,1μm,22.0s,MS5.4
TUC Tucson 111.59 298 PFAKE 12 01 30.0 +15
TUC LR LR
comp=Z,839nm,20.0s,MS5.3
ANMO Albuquerque 112.03 302 PFAKE 12 01 30.0 +14
ANMO LR LR
comp=Z,2μm,20.0s,MS5.6
JFWS Jewell Farm 113.02 319 PFAKE 12 01 30.0 +12
JFWS LR LR
comp=Z,884nm,20.0s,MS5.3
LJU Ljubljana 113.65 35 *e*PP PP 12 02 10.1 -1.4
BFO Black Forest 114.14 30 *e*SS SS 12 18 10.3 +5.5
ANTO Ankara 114.19 51 PFAKE 12 01 30.0 +10
ANTO LR LR
comp=Z,510nm,22.0s,MS5.1
BR131 Keskin Array S 114.39 52 PFAKE 12 01 30.0 +9.3
BR131 LR LR
comp=Z,417nm,21.0s,MS5.0
BRTR Keskin Array B 114.39 52 PP PP 12 02 23.6 +6.9
comp=Z,1.7nm,0.9s,baz=183,slow=4.9,SNR=5.0
WUAZ Wupatki 114.58 299 PFAKE 12 01 30.0 +9.0
WUAZ LR LR
comp=Z,737nm,19.0s,MS5.3
STU Stuttgart 114.77 30 *e*SS SS 12 18 19.8 +6.8
PFO Pinyon Flat Ob 115.19 294 PFAKE 12 01 30.0 +7.8
PFO LR LR
comp=Z,270nm,22.0s,MS4.8
ISCO Idaho Springs 115.85 306 *e*PKIKP PKPdf 12 01 22.0 -1.5
ISCO MLR MLR
comp=Z,953nm,22.0s,MS5.4
TNS Taunus Mts 115.94 29 *e*SS SS 12 18 34.9 +6.6
GEC2 GERESS Array S 115.99 33 *e*SS SS 12 18 33.7 +4.7
GERES GERESS Array B 115.99 33 PP PP 12 02 26.2 -1.8
comp=Z,0.6nm,0.2s,baz=191,slow=6.1,SNR=6.5
WET Wettzell 116.04 32 *e*SP SP 12 12 18.1 +11
WET *e*SS SS 12 18 35.3 +5.6
GRF Grafenberg Arr 116.12 31 *e*PP PP 12 02 29.1 +0.2
GRF *e*SP SP 12 12 17.7 +9.5
GRF *e*SS SS 12 18 37.3 +6.6
GRF *e*L 12 46 28.6
comp=Z,458nm,19.4s
KHC Kasperske Hory 116.22 33 AMS AMS 12 44 40.0
comp=Z,1μm,21.5s
SNCC San Nicolas Is 116.27 291 PFAKE 12 01 40.0 +16
SNCC LR LR
comp=Z,917nm,20.0s,MS5.4
ROTZ Rotzenmuhle 116.44 32 *e*SP SP 12 12 21.5 +10
ROTZ *e*SS SS 12 18 40.5 +5.6
MANZ Manzenberg 116.62 31 *e*SP SP 12 12 24.1 +11
MANZ *e*SS SS 12 18 43.7 +6.5
BUG Bochum--Univer 116.80 28 *e*SS SS 12 18 47.5 +7.9
UBBA Unterbreizbach 116.86 30 *e*SP SP 12 12 26.6 +12
UBBA *e*SS SS 12 18 47.6 +7.2
TREC Trest 116.88 34 AMS AMS 12 42 30.0
comp=Z,1μm,26.8s
MOX Moxa 117.10 31 *e*SP SP 12 12 26.8 +10
MOX *e*SS SS 12 18 50.9 +7.4
TANN Tannenbergstha 117.10 32 *e*SP SP 12 12 25.8 +8.7
TANN *e*SS SS 12 18 50.7 +7.2
PRU Pruhonice 117.26 33 AMS AMS 12 43 10.0
comp=Z,1μm,24.4s
SRU San Rafael 117.26 302 *e*PKIKP PKPdf 12 01 25.7 -0.5
MSU Marysvale 117.45 300 *e*PKIKP PKPdf 12 01 28.0 +1.4
ISA Isabella 117.81 294 *e*PKIKP PKPdf 12 01 32.2 +4.9
ISA Isabella 117.81 294 PFAKE 12 01 40.0 +13
ISA LR LR
comp=Z,192nm,21.0s,MS4.7
MORC Moravsky Berou 117.89 35 *e*PKIKP PKPdf 12 01 22.0 -5.4

BRG Berggiesshubel 117.91 32 *e*SP SP 12 12 36.4 +12
BRG *e*SS SS 12 19 01.3 +7.3
EYMN Ely 117.91 320 PFAKE 12 01 40.0 +13
EYMN LR LR
comp=Z,85nm,22.0s,MS4.3
DAC Darwin (Calif) 117.93 295 *e*PKIKP PKPdf 12 01 36.1 +8.6
DAC MLR MLR
comp=Z,581nm,22.0s,MS5.2
CLL Collm 118.06 31 *e*SP SP 12 12 34.7 +8.9
CLL *e*SS SS 12 19 03.9 +7.9
CLL Collm 118.06 31 *e*PP PP 12 02 41.0 -1.4
CLL *e*SP SP 12 12 23.0 -2.8
CLL *e*SKSP 12 12 33.0
CLL *e*PPS 12 13 45.0
CLL *e*SS SS 12 19 19.0 +23
CLL *e*SSS 12 23 21.0
CLL *e*SSSS 12 26 54.0
DPC Dobruska-Polom 118.07 34 AMS AMS 12 41 30.0
comp=Z,1μm,30.1s
SCHQ Schefferville 118.24 339 PFAKE 12 01 40.0 +12
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.5
ESK Eskdalemuir 118.42 20 PFAKE 12 01 40.0 +12
ESK LR LR
comp=Z,167nm,20.0s,MS4.7
NRDL Niedersach Rie 118.44 29 *e*SP SP 12 12 38.8 +10
NRDL *e*SS SS 12 19 12.1 +11
MPU Maple Canyon 118.48 301 PFAKE 12 01 40.0 +11
MPU LR LR
comp=Z,907nm,21.0s,MS5.4
NLU North Lily Min 118.62 301 *e*PKPdf PKPdf 12 01 31.0 +2.2
RSSD Black Hills 118.93 309 *e*PKIKP PKPdf 12 01 36.6 +7.2
RSSD Black Hills 118.93 309 PFAKE 12 01 40.0 +11
RSSD LR LR
comp=Z,1μm,19.0s,MS5.5
DUG Dugway 119.13 301 *e*PKIKP PKPdf 12 01 30.4 +0.6
DUG MLR MLR
comp=Z,558nm,21.0s,MS5.2
GNI Garni 119.22 60 *i* PKIKP PKPdf 12 01 24.5 -5.5
GNI MLR MLR
comp=Z,800nm,18.0s
GNI Garni 119.22 60 PFAKE 12 01 40.0 +10
GNI LR LR
comp=Z,954nm,19.0s,MS5.5
TPH Tonopah 119.26 296 PFAKE 12 01 40.0 +10
TPH LR LR
comp=Z,499nm,20.0s,MS5.1
HWUT Hardware Ranch 119.79 303 *e*PKPdf PKPdf 12 01 31.4 +0.3
HWUT *e*PP PP 12 03 00.6 +6.3
HWUT LR LR
comp=Z,1μm,21.0s,MS5.5
BSEG Bad Segeberg 119.81 29 *e*SP SP 12 12 51.6 +10
BGU Big Grassy Mou 119.83 301 *e*PKPdf PKPdf 12 01 31.1 0.0
BW06 Boulder Array 119.94 305 *e*PKPdf PKPdf 12 01 37.2 +5.8
BW06 LR LR
comp=Z,2μm,21.0s,MS5.7
PDAR Pinedale Array 119.94 305 PKP PKPdf 12 01 30.5 -0.9
comp=Z,1.1nm,1.0s,baz=149,slow=3.5,SNR=3.9
PDAR PP PP 12 03 00.0 +4.6
comp=Z,2.3nm,1.1s,baz=134,slow=4.3,SNR=5.3
PDAR PKKPbc PKKPbc 12 11 41.0 +0.9
comp=Z,0.2nm,0.6s,baz=318,slow=6.2,SNR=3.9
NVAR Mina Array Bea 120.03 296 PKP PKPdf 12 01 31.1 -0.4
comp=Z,1.3nm,0.9s,baz=142,slow=3.5,SNR=4.1
SAO San Andreas Ge 120.06 292 PFAKE 12 01 40.0 +8.4
SAO LR LR
comp=Z,527nm,21.0s,MS5.2
ANN Anapa 120.18 51 *i* PKIKP PKPdf 12 01 30.7 -1.1
ANN *e* 12 08 26.8
ANN pmax pmax
comp=Z,103nm,1.0s
AHID Auburn Hatcher 120.56 304 PFAKE 12 01 40.0 +7.4
AHID LR LR
comp=Z,1μm,20.0s,MS5.5
WAKR Walker 120.59 295 *e*PKPdf PKPdf 12 01 39.6 +7.0
ELK Elko 120.61 299 PFAKE 12 01 40.0 +7.3
ELK LR LR
comp=Z,844nm,21.0s,MS5.4
CMB Columbia Colle 120.63 294 *e*PKIKP PKPdf 12 01 33.1 +0.4
CMB MLR MLR
comp=Z,1μm,22.0s,MS5.4
REDW Red Top Meadow 120.96 304 *e*PKPdf PKPdf 12 01 34.9 +1.6
REDW *e*PP PP 12 03 02.2 -0.2
LOHW Long Hollow 121.07 304 *e*PKPdf PKPdf 12 01 33.4 -0.1
TPAW Teton Pass 121.11 304 *e*PKPdf PKPdf 12 01 34.7 +1.1
RRI2 Red Ridge 121.14 304 *e*PKPdf PKPdf 12 01 35.2 +1.5
RRI2 *e*PP PP 12 03 03.7 +0.1
BMN Battle Mountai 121.21 298 PFAKE 12 01 50.0 +16
BMN LR LR
comp=Z,652nm,21.0s,MS5.2
ULM Lac du Bonnet 121.32 319 PKP PKPdf 12 01 33.0 -1.0
comp=Z,3.7nm,0.9s,baz=128,slow=1.8,SNR=4.1
ULM PP PP 12 03 06.1 +1.2
comp=Z,6.8nm,1.2s,baz=157,slow=6.3,SNR=5.0
ULM Lac du Bonnet 121.32 319 PKP PKPdf 12 01 33.0 -1.0
ULM PP PP 12 03 06.1 +1.2
ULM LR LR
comp=Z,1μm,19.0s,MS5.5
IMW Indian Meadow 121.44 304 *e*PKPdf PKPdf 12 01 34.9 +0.7
FLWY Flagg Ranch 121.50 305 *e*PKPdf PKPdf 12 01 34.6 +0.3
KIV Kislovodsk 121.54 56 *i* PKIKP PKPdf 12 01 33.0 -1.4
KIV *e* 12 01 41.5
KIV *e*SS SS 12 19 56.3 +16
KIV MLR MLR
comp=Z,700nm,17.0s,MS5.4
KIV Kislovodsk 121.54 56 PFAKE 12 01 50.0 +16
KIV LR LR
comp=Z,203nm,19.0s,MS4.8
LKWY Lake 121.78 305 PFAKE 12 01 50.0 +15
LKWY LR LR
comp=Z,1μm,19.0s,MS5.7
YFT Old Faithful 121.86 305 *e*PKPdf PKPdf 12 01 36.4 +1.3
LAO LASA Array 121.92 310 *e*PKPdf PKPdf 12 01 35.6 +0.4
LAO LR LR
comp=Z,687nm,21.0s,MS5.3
POHA Pohakuloa 122.19 252 PFAKE 12 01 50.0 +14
POHA LR LR
comp=Z,1μm,19.0s,MS5.6
AKASG Malin Array Be 122.27 42 PKP PKPdf 12 01 33.8 -2.0
comp=Z,0.8nm,0.5s,baz=244,slow=2.3,SNR=6.4
AKASG PP PP 12 03 10.7 -0.6
comp=Z,0.3nm,0.3s,baz=218,slow=6.2,SNR=5.4
QLMT Earthquake Lak 122.41 305 *e*PKPdf PKPdf 12 01 38.8 +2.6
GCMT Greycliff 122.50 307 *e*PKPdf PKPdf 12 01 37.5 +1.2
HLID Hailey 122.59 302 *e*PKPdf PKPdf 12 01 40.8 +4.4
HLID *e*PP PP 12 03 21.1 +7.6
HLID LR LR
comp=Z,692nm,22.0s,MS5.3
HOPS Hopland 122.62 292 PFAKE 12 01 50.0 +13
HOPS LR LR
comp=Z,1μm,21.0s,MS5.5
MAK Makhachkala 122.71 60 *i* PKIKP PKPdf 12 01 45.2 +8.5
MAK *e* 12 03 17.8
MAK MLR MLR
comp=Z,1μm,17.0s,MS5.6
MCMT McKenzie Canyo 122.98 304 *e*PKPdf PKPdf 12 01 39.7 +2.5
BOZ Bozeman (W) 123.16 305 *e*PKIKP PKPdf 12 01 38.8 +1.3
BOZ MLR MLR
comp=Z,1μm,21.0s,MS5.6
DLMT Dillon 123.32 304 *e*PKPdf PKPdf 12 01 37.9 +0.1
WVOR Wild Horse Val 123.46 298 *e*PKIKP PKPdf 12 01 38.9 +0.8
WVOR MLR MLR
comp=Z,875nm,22.0s,MS5.4
LRM Limekiln Ridge 123.63 305 *e*PKPdf PKPdf 12 01 40.2 +1.8
WDC Whiskeytown Da 123.67 294 PFAKE 12 01 50.0 +11
WDC LR LR
comp=Z,423nm,19.0s,MS5.1
MOD Modoc 123.75 296 *e*PKPdf PKPdf 12 01 38.9 +0.2
MOD LR LR
comp=Z,483nm,20.0s,MS5.2
HRY Holter Researc 124.11 306 *e*PKPdf PKPdf 12 01 38.7 -0.7
DAV Davao City (W) 124.20 155 PFAKE 12 01 50.0 +10
DAV LR LR
comp=Z,1μm,22.0s,MS5.6
EGMT Eagleton 124.38 308 *e*PKPdf PKPdf 12 01 39.8 -0.1
EGMT LR LR
comp=Z,654nm,22.0s,MS5.2
YBH Yreka Blue Hor 124.68 295 PFAKE 12 01 50.0 +10
YBH LR LR
comp=Z,574nm,20.0s,MS5.2
BMO Blue Mountains 124.84 301 *e*PKIKP PKPdf 12 01 40.3 -0.5
BMO MLR MLR
comp=Z,980nm,22.0s,MS5.4
CHMT Chamberlain Mo 124.85 305 *e*PKPdf PKPdf 12 01 41.5 +0.7

KONO Kongsberg 124.90 25 *e*PP PP 12 03 28.5 -0.5
KONO *e*SS SS 12 20 29.7 +6.4
KONO Kongsberg 124.90 25 PFAKE 12 01 50.0 +9.1
KONO LR LR
comp=Z,793nm,20.0s,MS5.4
MSO Missoula 125.05 304 *e*PKPdf PKPdf 12 01 41.2 0.0
MSO LR LR
comp=Z,581nm,22.0s,MS5.2
BORG Borgarnes 125.69 7 PFAKE 12 01 50.0 +7.6
BORG LR LR
comp=Z,179nm,19.0s,MS4.8
BSMT Bassoo Peak 126.22 305 *e*PKPdf PKPdf 12 01 50.5 +7.1
CM31 Chiang Mai Arr 126.29 121 PFAKE 12 02 00.0 +16
CM31 LR LR
comp=Z,663nm,19.0s,MS5.3
NB2 NORSAR Subarra 126.50 26 PKPd PKPdf 12 01 43.3 -0.6
comp=Z,11nm,1.2s,baz=206,slow=2.0
NB2 NORSAR Subarra 126.50 26 PKPd PKPdf 12 01 43.3 -0.6
baz=206,slow=2.0
NOA NORSAR Array B 126.50 26 PKP PKPdf 12 01 42.0 -1.9
comp=Z,0.8nm,0.8s,baz=207,slow=2.1,SNR=3.1
CHG Chiang Mai 126.61 121 P PKPdf 12 01 52.9 +8.8
CHTO Chiang Mai 126.61 121 *e*PKIKP PKPdf 12 01 45.2 +1.1
CHTO MLR MLR
comp=Z,681nm,19.0s,MS5.3
HAWA Hanford 127.02 300 *e*PKPdf PKPdf 12 01 53.2 +8.3
HAWA LR LR
comp=Z,62nm,22.0s,MS4.2
HOOD Mount Hood Mea 127.07 298 *e*PKPdf PKPdf 12 01 53.5 +8.4
FFC Flin Flon 127.10 318 PFAKE 12 02 00.0 +15
FFC LR LR
comp=Z,172nm,20.0s,MS4.7
COR Corvallis 127.21 296 PFAKE 12 02 00.0 +15
COR LR LR
comp=Z,562nm,21.0s,MS5.2
KOLN Koldanda 127.33 100 *e*P PKPdf 12 01 44.9 -0.6
comp=Z,68nm,1.3s
NANT Nan 127.33 122 P PKPdf 12 01 47.0 +1.5
DMN Daman 127.92 101 *e*P PKPdf 12 01 46.8 +0.2
comp=Z,28nm,0.9s
GKN Gorkha 128.02 100 *e*P PKPdf 12 01 47.3 +0.5
comp=Z,32nm,0.9s
PKI Pulchoki 128.03 102 *e*P PKPdf 12 01 47.7 +0.8
comp=Z,43nm,1.0s
KKN Kakani 128.15 101 *e*P PKPdf 12 01 48.0 +0.9
comp=Z,17nm,0.7s
OBN Obninsk 128.41 44 *i* PKIKP PKPdf 12 01 48.0 +0.4
OBN *e* 12 01 55.6
OBN *i* 12 02 02.8
OBN 12 04 01.0
OBN *e*SSS 12 25 54.8
OBN pmax pmax
comp=Z,31nm,1.6s
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.9
OBN Obninsk 128.41 44 PFAKE 12 02 00.0 +12
OBN LR LR
comp=Z,120nm,22.0s,MS4.5
JIRN Jiri 128.48 102 *e*P PKPdf 12 01 49.1 +1.4
comp=Z,27nm,0.8s
GUN Gumba 128.54 102 *e*P PKPdf 12 01 49.9 +2.1
comp=Z,37nm,0.9s
MOS Moscow 129.27 44 *e*PKIKP PKPdf 12 01 43.1 -6.1
GNW Green Mountain 129.33 299 *e*PKPdf PKPdf 12 01 57.7 +8.3
EDM Edmonton 129.91 310 *e*PKIKP PKPdf 12 01 50.0 -0.4
FINES FINESS Array B 130.42 33 PKP PKPdf 12 01 50.7 -0.7
comp=Z,5.3nm,0.9s,baz=186,slow=7.0,SNR=5.8
FIA1 FINESS Array S 130.42 33 *e*PKPdf PKPdf 12 01 51.3 -0.1
KAF Kangasniemi 131.04 33 *e*pkp PKPdf 12 01 54.7 +2.1
QIZ Qiongzhong 131.09 133 PKP PKPdf 12 01 50.8 -1.9
QIZ PP PP 12 04 15.9 +6.2
QIZ LR LR
comp=N,492nm,27.7s
QIZ LR LR
comp=Z,1μm,40.7s
QIZ Qiongzhong 131.09 133 PFAKE 12 02 00.0 +7.3
QIZ LR LR
comp=Z,884nm,21.0s,MS5.4
LSA Lhasa 132.54 106 PFAKE 12 02 10.0 +15
LSA LR LR
comp=Z,1μm,20.0s,MS5.6
JMIC Jan Mayen 132.81 11 AMS AMS 12 53 40.0
comp=Z,367nm,20.7s,MS5.1
JOF Joensuu 133.06 35 *e*pkp PKPdf 12 01 51.5 -4.9
KMI Kunming 133.80 121 PDIF Pdif 11 58 57.8 +1.5
KMI PKP PKPdf 12 01 58.5 +0.7
KMI XPKP 12 02 05.3
KMI PP PP 12 04 30.1 +3.0
KMI PPP 12 07 29.7
KMI SS SS 12 22 17.0 +3.8
KMI SSS 12 27 13.1
KMI PP PP
comp=Z,179nm,7.8s
KMI LR LR
comp=N,436nm,19.0s,MS5.3
KMI LR LR
comp=E,392nm,23.8s,MS5.3
KMI LR LR
comp=Z,850nm,34.9s
AAK Ala-Archa 134.77 80 *e*PKIKP PKPdf 12 01 57.7 -1.9
AAK MLR MLR
comp=Z,300nm,22.0s,MS5.0
TRO Tromso 135.58 24 *e*PP PP 12 04 35.5 -2.9
TRO AMS AMS 12 54 29.9
comp=Z,231nm,24.4s,MS4.8
ARCES ARCESS Array B 136.86 26 PKP PKPdf 12 02 00.9 -2.6
comp=Z,2.8nm,0.9s,baz=192,slow=1.6,SNR=3.4
APA Apatity 137.22 31 *i* PKIKP PKPdf 12 02 04.2 +0.1
APA pmax pmax
comp=Z,13nm,1.0s
APA MLR MLR
comp=Z,600nm,18.0s,MS5.4
YKA Yellowknife Ar 137.28 318 PKP PKPdf 12 02 02.8 -1.5
comp=Z,2.1nm,0.7s,baz=131,slow=2.3,SNR=6.2
KEV Kevo 137.36 27 PFAKE 12 02 20.0 +16
KEV LR LR
comp=Z,580nm,20.0s,MS5.3
ARU Arti 137.59 55 *i* PKIKP PKPdf 12 02 02.7 -2.1
ARU MLR MLR
comp=N,400nm,20.0s,MS5.2
ARU MLR MLR
comp=Z,700nm,20.0s,MS5.4
ARU MLR MLR
comp=E,200nm,21.0s,MS5.2
ARU Arti 137.59 55 *e*PKPdf PKPdf 12 02 04.7 -0.2
ARU LR LR
comp=Z,191nm,21.0s,MS4.8
SVE Sverdlovsk 138.70 56 *i* PKIKP PKPdf 12 02 05.8 -1.1
SVE *e* 12 05 01.0
SVE *e* 12 17 18.0
SVE *e*SS SS 12 23 10.0 -1.6
SVE MLR MLR
comp=N,400nm,17.0s,MS5.3
SVE MLR MLR
comp=E,200nm,17.0s,MS5.3
SVE MLR MLR
comp=Z,500nm,17.0s,MS5.3
CD2 Chengdu 139.29 118 *e*PKP PKPdf 12 02 07.3 -0.7
CD2 XPKP 12 02 14.2
CD2 PP PP 12 05 04.7 +3.2
CD2 PKS 12 05 41.9
CD2 SKS SKSdf 12 09 14.3 -3.2
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=E,370nm,24.0s
CD2 LR LR
comp=Z,270nm,19.2s,MS5.0
QZH Quanzhou 139.52 140 *e*PKP PKPdf 12 02 07.3 -1.1
QZH LR LR
comp=Z,2μm,24.5s,MS5.7
ZRNK Zerenda 139.64 65 *e*PKIKP PKPdf 12 02 08.6 0.0
BRVK Borovoye 140.28 66 *e*PKIKP PKPdf 12 02 08.7 -1.1
BRVK MLR MLR
comp=Z,140nm,19.0s,MS4.7
CHKZ Chkalovo 140.84 66 *i* PKHKP 12 02 03.8
CHKZ Chkalovo 140.84 66 *e*PKPdf PKPdf 12 02 02.9 -7.8
SIT Sitka 141.46 301 PFAKE 12 02 20.0 +8.1
SIT LR LR
comp=Z,1μm,19.0s,MS5.7
MKAR Makanchi Array 141.59 82 PKhKP 12 02 04.7
comp=Z,2.8nm,0.9s,baz=264,slow=4.5,SNR=8.5
MKAR PKP PKPdf 12 02 11.8 -0.4
comp=Z,3.5nm,0.8s,baz=251,slow=2.6,SNR=11
MKAR Makanchi Array 141.59 82 *i* PKHKP 12 02 04.7

MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 141.59 82 PKP PKPdf 12 02 11.8 -0.4
WMQ Urumqi 142.08 90 PKP PKPdf 12 02 10.5 -2.5
WMQ PP PP 12 05 20.0 +1.4
WMQ PKS 12 05 45.0
WMQ SS SS 12 23 50.0 -1.2
WMQ PP PP
comp=Z,334nm,8.2s
WMQ LR LR
comp=N,601nm,23.0s,MS5.4
WMQ LR LR
comp=E,400nm,18.6s,MS5.4
WMQ LR LR
comp=Z,706nm,29.3s
KBS Kingsbay 142.21 13 *e*P PKPdf 12 02 16.2 +3.0
KBS *e*SS SS 12 23 56.5 +3.8
KBS Kingsbay 142.21 13 *e*P PKPdf 12 02 16.2 +3.0
KBS *e* 12 24 01.1
KBS LR LR
comp=Z,513nm,19.0s,MS5.3
LZH Lanzhou 143.71 114 *e*PKP PKPdf 12 02 14.0 -1.9
LZH APKP 12 02 21.0
LZH PP PP 12 05 29.2 +0.7
LZH SKS SKSdf 12 09 18.0 -6.6
LZH PP PP
comp=Z,410nm,8.0s
LZH LR LR
comp=E,1μm,18.0s
LZH LR LR
comp=Z,2μm,20.2s,MS5.9
XAN Xi'an 144.18 122 PKP PKPdf 12 02 14.0 -2.7
XAN PP PP
comp=Z,141nm,8.8s
XAN LR LR
comp=N,310nm,31.2s,MS5.0
XAN LR LR
comp=E,255nm,29.1s,MS5.0
XAN LR LR
comp=Z,849nm,28.8s,MS5.3
GTA Gaotai 144.56 106 PKP PKPdf 12 02 15.8 -1.6
GTA PP PP 12 05 33.7 +0.1
GTA PKS 12 05 49.5
GTA PPP 12 08 48.1
GTA SKS SKSdf 12 09 23.9 -1.9
GTA SKKS SKKSac 12 12 21.8 -3.6
GTA SS SS 12 24 20.6 +0.7
GTA PP PP
comp=Z,261nm,8.4s
GTA LR LR
comp=N,396nm,23.6s,MS5.2
GTA LR LR
comp=E,404nm,25.9s,MS5.2
GTA LR LR
comp=Z,732nm,25.1s,MS5.3
SSE Sheshan 146.07 140 PKP PKPdf 12 02 22.0 +2.0
SSE PP PP 12 05 48.4 +5.9
SSE SS SS 12 24 41.4 +4.4
SSE PP PP
comp=Z,59nm,11.4s
SSE LR LR
comp=N,282nm,27.5s,MS5.1
SSE LR LR
comp=E,355nm,27.5s,MS5.1
SSE LR LR
comp=Z,567nm,28.8s,MS5.2
NJ2 Nanjing 146.19 136 *e*PKP PKPdf 12 02 17.7 -2.5
NJ2 PKP2 PKPab 12 02 21.8 -0.1
NJ2 PP PP 12 05 45.0 +1.8
NJ2 PKS 12 05 53.0
NJ2 SKS SKSdf 12 09 22.0 -6.2
NJ2 PP PP
comp=Z,690nm,5.2s
NJ2 LR LR
comp=N,1μm,22.0s,MS5.8
NJ2 LR LR
comp=E,1μm,24.9s,MS5.8
NJ2 LR LR
comp=Z,1μm,23.6s,MS5.6
INK Inuvik 147.05 318 PKPbc PKPbc 12 02 21.7 -2.0
comp=Z,6.9nm,0.7s,baz=132,slow=4.7,SNR=14
INK Inuvik 147.05 318 *e*PKPdf PKPdf 12 02 21.3 -0.4
DAWY Dawson 147.11 309 *e*PKPdf PKPdf 12 02 21.3 -0.4
NVS Novosibirsk 147.33 72 *e*PKIKP PKPdf 12 02 21.7 -0.4
NVS pmax pmax
comp=N,64nm,1.6s
NVS pmax pmax
comp=E,64nm,1.6s
NVS pmax pmax
comp=Z,151nm,1.6s
ZAL Zalesovo 147.52 74 PKPbc PKPbc 12 02 23.3 -1.7
comp=Z,4.2nm,0.8s,baz=271,slow=3.8,SNR=18
ZAL Zalesovo 147.52 74 PKP2 PKPab 12 02 23.3 -3.8
ZAL pmax pmax
comp=Z,4.0nm,0.8s
EYAK Cordova Ski Ar 147.90 300 *e*PKPab PKPab 12 02 30.6 +2.0
EGAK Eagle 148.13 309 *e*PKPdf PKPdf 12 02 23.1 -0.3
EGAK *e*PKPbc PKPbc 12 02 26.4 -0.2
EGAK *e*PKPab PKPab 12 02 29.8 +0.3
DIV Divide 148.20 301 *e*PKPbc PKPbc 12 02 26.8 0.0
DIV LR LR
comp=Z,1μm,19.0s,MS5.8
TIA Tai'an 149.32 130 *e*PKP PKPbc 12 02 29.4 -0.3
KDAK Kodiak Island 149.44 292 PKPbc PKPbc 12 02 28.5 -1.5
comp=Z,5.8nm,0.6s,baz=161,slow=5.8,SNR=4.2
KDAK Kodiak Island 149.44 292 PFAKE 12 02 40.0 +14
KDAK LR LR
comp=Z,195nm,21.0s,MS4.9
SLKM Skilak Lake 149.79 298 *e*PKPbc PKPbc 12 02 30.7 -0.1
SLKM *e*PKPab PKPab 12 02 36.7 +0.5
PMR Palmer 149.84 300 *e*PKHKP 12 02 25.4
PMR *e* 12 02 30.9
PMR MLR MLR
comp=Z,1μm,22.0s,MS5.7
PMR Palmer 149.84 300 *e*PKPdf PKPdf 12 02 25.4 -0.7
PMR *e*PKPbc PKPbc 12 02 30.9 -0.1
PMR *e*PKPab PKPab 12 02 37.5 +1.0
PMR LR LR
comp=Z,1μm,22.0s,MS5.7
MCK McKinley 150.72 304 *e*PKIKP PKPdf 12 02 28.5 +1.0
MCK *e* 12 02 40.5
MCK McKinley 150.72 304 *e*PKPbc PKPbc 12 02 32.9 -0.2
MCK *e*PKPab PKPab 12 02 40.1 +0.1
MCK LR LR
comp=Z,144nm,21.0s,MS4.8
COLA College 150.75 307 *i* PKIKP PKPdf 12 02 28.1 +0.5
COLA College 150.75 307 *e*PKPbc PKPbc 12 02 32.5 -0.6
COLA *e*PKPab PKPab 12 02 39.3 -0.9
COLA LR LR
comp=Z,744nm,22.0s,MS5.5
HHC Hu-ho-hao-te 151.05 118 *e*PKP PKPdf 12 02 29.3 +1.3
HHC PKP2 PKPab 12 02 45.2 +3.8
HHC PKS 12 06 02.7
HHC PP PP 12 06 16.8 +5.3
HHC SKS SKSdf 12 09 33.3 -1.5
HHC SKKS SKKSac 12 13 03.5 +1.9
HHC SS SS 12 25 35.4 +2.5
HHC LR LR
comp=N,504nm,19.0s,MS5.4
HHC LR LR
comp=E,310nm,17.2s,MS5.4
HHC LR LR
comp=Z,556nm,20.1s,MS5.4
BJT Baijiatuan 152.27 125 *e*PKIKP PKPbc 12 02 36.2 -0.4
BJT MLR MLR
comp=Z,578nm,21.0s
SVW2 Sparrevohn 152.39 297 *e*PKPbc PKPbc 12 02 34.5 -2.4
SVW2 *e*PKPab PKPab 12 02 43.3 -3.7
TTA Tatalina 153.32 300 PKP2 PKPab 12 02 53.2 +2.2
INCN Inchon 153.64 144 PFAKE 12 02 40.0 +8.1
INCN LR LR
comp=Z,624nm,21.0s,MS5.4
UNV Unalaska Valle 153.86 276 PFAKE 12 02 40.0 +7.8
UNV LR LR
comp=Z,2μm,21.0s,MS5.9
SONM Songino Array 154.04 102 PKP PKPdf 12 02 32.4 -0.1
comp=Z,1.4nm,0.8s,baz=276,slow=1.9,SNR=5.5
SONM PKPbc PKPbc 12 02 40.4 -0.1
comp=Z,2.3nm,0.7s,baz=191,slow=2.3,SNR=10
ZAK Zakamensk 154.26 95 *e*PKIKP PKPdf 12 02 33.4 +0.6
ZAK *e* 12 02 40.0
ZAK pmax pmax
comp=Z,4.0nm,1.8s
ZAK pmax pmax
comp=Z,13nm,1.2s
ZAK pmax pmax
comp=Z,3.0nm,1.7s
ULN Ulaanbaatar 154.38 103 *e*PKIKP PKPbc 12 02 40.8 -0.5
ULN MLR MLR
comp=Z,725nm,20.0s,MS5.5
MJAR Matsushiro Arr 155.16 165 PKPbc PKPdf 12 02 41.3 +7.3
comp=Z,3.1nm,0.9s,baz=194,slow=2.0,SNR=6.8
MJAR PKPab PKPab 12 02 57.6 -1.2
comp=Z,5.7nm,0.9s,baz=152,slow=1.9,SNR=4.5
MJAR Matsushiro Arr 155.16 165 PKP2 PKPab 12 02 57.6 -1.2
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MAJO Matsushiro 155.16 165 PFAKE 12 02 50.0 +16
MAJO LR LR
comp=Z,653nm,20.0s,MS5.5
MAT Matsushiro 155.16 165 PKP PKPdf 12 02 39.3 +5.3
TLY Talaya 155.27 93 *i* PKIKP PKPdf 12 02 35.3 +1.1
TLY *e* 12 02 54.6
TLY *e* 12 06 33.4
TLY pmax pmax
comp=Z,25nm,2.5s
TLY Talaya 155.27 93 PFAKE 12 02 40.0 +5.8
TLY LR LR
comp=Z,162nm,20.0s,MS4.8
CN2 Changchun 159.01 135 *e*PKP PKPdf 12 02 40.6 +1.7
CN2 PP PP 12 06 57.1 +1.1
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,20.0s,MS5.5
CN2 LR LR
comp=E,500nm,20.0s,MS5.5
CN2 LR LR
comp=Z,500nm,21.0s,MS5.3
TNA Tin City 159.04 303 PFAKE 12 02 50.0 +11
TNA LR LR
comp=Z,75nm,21.0s,MS4.5
VLA Vladivostok 160.33 148 *i* PKP2 PKPab 12 03 28.6 +7.5
MDJ Mudanjiang 161.07 142 PKP PKPdf 12 02 41.5 +0.3
MDJ XPKP 12 02 47.1
MDJ PP PP 12 07 08.4 +1.2
MDJ SS SS 12 27 23.7 +2.7
MDJ PP PP
comp=Z,43nm,18.8s
MDJ LR LR
comp=N,160nm,53.6s
MDJ LR LR
comp=E,839nm,49.6s
MDJ LR LR
comp=Z,482nm,55.6s
MDJ Mudanjiang 161.07 142 PFAKE 12 02 50.0 +8.8
MDJ LR LR
comp=Z,648nm,21.0s
HIA Hailar 161.23 117 PFAKE 12 02 50.0 +8.6
HIA LR LR
comp=Z,1μm,20.0s
SMY Shemya 162.61 255 PFAKE 12 02 50.0 +7.2
SMY LR LR
comp=Z,1μm,20.0s
BOD Bodaibo 163.59 87 *e*PKIKP PKPdf 12 02 40.7 -3.0
BOD *e* 12 02 47.4
BOD pmax pmax
comp=Z,8.0nm,1.2s
BOD pmax pmax
comp=Z,17nm,1.1s
KLR Kul'dur 165.86 139 *e*PKIKP PKPdf 12 02 41.2 -4.5
YSS Yuzh-Sakhalins 165.93 171 *i* PKIKP PKPdf 12 02 44.2 -1.6
YSS *e* 12 02 50.2
YSS Yuzh-Sakhalins 165.93 171 PFAKE 12 03 00.0 +14
YSS LR LR
comp=Z,540nm,20.0s
TIXI Tiksi 167.30 25 PFAKE 12 03 00.0 +13
TIXI LR LR
comp=Z,775nm,20.0s
BILL Bilibino 168.68 318 *i* PKP2 PKPab 12 04 06.0 +8.2
BILL Bilibino 168.68 318 PFAKE 12 03 00.0 +12
BILL LR LR
comp=Z,663nm,20.0s
PET Petropavlovsk 169.47 227 PFAKE 12 03 00.0 +12
PET LR LR
comp=Z,1μm,20.0s
YAK Yakutsk 172.19 75 *i* PKIKP PKPdf 12 02 54.3 +4.6
YAK Yakutsk 172.19 75 PFAKE 12 03 00.0 +10
YAK LR LR
comp=Z,610nm,21.0s
SEY Seymchan 176.27 306 *i* PKIKP PKPdf 12 02 51.1 0.0
MA2 Magadan 177.20 244 PFAKE 12 03 00.0 +8.8
MA2 LR LR
comp=Z,812nm,20.0s

*NEIC **06** 11:46:31.5,3127S×6952W,h146km,MG3.5(GUC),After GUC.*

GUC 06 11:46:31.5±0.7,3127S×6952W,h146km±11km,ML3.5, 8C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**1.56**	**315**	*i*P		Pn	11 47 02.5	+1.1
TLL				*i* S		Sn	11 47 25.7	+1.4
TLL				AML	AML	11 47 29.6	
comp=N,642nm,0.4s							
TLL	**Tololo Astrono**	**1.56**	**315**	⇑*i*P		Pn	11 47 02.5	+1.1
TLL				*i* S		Sn	11 47 25.7	+1.4
JACH	**Jahuel**	**1.67**	**213**	*e*P		Pn	11 47 03.1	+0.5
MDZ	**Mendoza**	**1.70**	**161**	*e*P		Pn	11 46 59.2	-3.7
MDZ				*i* S		Sn	11 47 10.9	-16
CHNG	**Los Chungos**	**1.79**	**250**	*e*P		Pn	11 47 04.2	+0.2
CHNG				*i* S		Sn	11 47 29.1	+0.2
LSCH	**La Serena**	**2.02**	**312**	⇑*i*P		Pn	11 47 07.3	+0.8
LSCH				*i* S		Sn	11 47 33.7	+0.3
PEL	**Peldehue**	**2.11**	**208**	⇓*e*P		Pn	11 47 08.2	+0.5
PEL				*i* S		Sn	11 47 36.0	+0.5
PEL				AML	AML	11 47 39.7	
comp=E,282nm,0.2s							
PEL	**Peldehue**	**2.11**	**208**	⇓*e*P		Pn	11 47 08.2	+0.5
PEL				*i* S		Sn	11 47 36.0	+0.5
FCH	**Farellones**	**2.15**	**197**	⇑*i*P		Pn	11 47 09.3	+1.1
FCH				*i* S		Sn	11 47 38.3	+2.0
FCH				AML	AML	11 47 39.9	
comp=E,306nm,0.3s							
RCDM	**Rinconada Maip**	**2.46**	**206**	⇑*i*P		Pn	11 47 12.6	+0.7
RCDM				*i* S		Sn	11 47 43.4	+0.3
RCDM				AML	AML	11 47 45.2	
comp=E,252nm,0.7s							
RCDM	**Rinconada Maip**	**2.46**	**206**	⇑*i*P		Pn	11 47 12.6	+0.7
RCDM				S		Sn	11 47 43.4	+0.3
LCO	**Las Campanas**	**2.48**	**335**	⇑*i*P		Pn	11 47 12.9	+0.8
LCO				*i* S		Sn	11 47 43.3	-0.1
LCO				AML	AML	11 47 49.2	
comp=E,105nm,0.4s							
LCO	**Las Campanas**	**2.48**	**335**	⇑*i*P		Pn	11 47 12.9	+0.8
LCO				S		Sn	11 47 43.3	-0.1

*ISCJB **06** 12:08:40.3±2.5,363N±02×706E±02,h185km±20km, mb3.4/4,Error ellipse: s-maj=30.9km s-min=14.1km az=81.3*

*IDC **06** 12:08:43.0±7.1,3630N×7073E,h195km±66km,mb3.3/5, mb1 3.3/8,mb1mx3.1/24,mbtmp3.8/8,MS3.0/1,Ms1 3.0/1, ms1mx2.6/22,Error ellipse: s-maj=38.5km s-min=26.3km az=15.0*

ISC 06 12:08:44.0±2.1,365N±01×707E±02,h203km±17km,n19, σ0§80/21,mb3.3/4,1C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.09**	**22**	P		**Pn**	**12 10 12.3**	**-0.1**
SNR=195							
UCH	**Uchtor**	**6.44**	**26**	P		**Pn**	**12 10 17.2**	**+0.1**
SNR=35							
KK31	**Karatay Array**	**6.59**	**359**	⇓P		**Pn**	**12 10 18.4**	**-0.6**
11nm,0.5s,baz=177,slow=14,SNR=62							
KK31				⇑S		**Sn**	**12 11 29.0**	**-5.3**
16nm,0.4s							
EKS2	**Erkin-Say**	**6.60**	**20**	P		**Pn**	**12 10 19.1**	**0.0**
SNR=5.4							
KZA	**Kyzart**	**6.60**	**31**	P		**Pn**	**12 10 18.5**	**-0.6**
SNR=19							
AAK	**Ala-Archa**	**6.80**	**25**	P		**Pn**	**12 10 21.7**	**+0.1**
SNR=17							
KBK	**Karagaybulak**	**6.97**	**27**	P		**Pn**	**12 10 24.0**	**+0.1**
SNR=9.6							
ULHL	**Ulahol**	**7.17**	**35**	P		**Pn**	**12 10 26.2**	**-0.3**
SNR=7.0							
CHMS	**Chumysh**	**7.21**	**25**	P		**Pn**	**12 10 26.8**	**-0.1**
SNR=9.1							
USP	**Ospenovka**	**7.37**	**22**	P		**Pn**	**12 10 28.4**	**-0.6**
SNR=11							
TKM2	**Tokmak 2**	**7.45**	**29**	P		**Pn**	**12 10 29.9**	**-0.1**
SNR=24							
MKAR	**Makanchi Array**	**13.44**	**37**	P		**Pn**	**12 11 48.0**	**+1.1**
0.3nm,0.3s,baz=207,slow=11,SNR=5.5							
BVAR	**Borovoye Array**	**16.52**	**359**	P		**P**	**12 12 25.3**	**+1.8**
0.4nm,0.3s,baz=164,slow=10,SNR=4.1							
BVAR				LR	LR	12 19 57.4	
comp=Z,52nm,19.5s,baz=345,slow=40							
AKTO	**Aktyubinsk**	**16.65**	**331**	P		**P**	**12 12 26.9**	**+2.0**
0.3nm,0.3s,baz=132,slow=10,SNR=6.1							
AKTO				S		**S**	**12 15 26.7**	**-1.7**
0.1nm,0.3s,baz=239,slow=18,SNR=2.8							
ZAL	**Zalesovo**	**20.01**	**25**	P		**P**	**12 13 01.5**	**+0.3**
3.7nm,0.3s,baz=229,slow=6.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**65.46**	**268**	P		**P**	**12 19 05.3**	**0.0**
0.3nm,0.5s,mb3.2,baz=44,slow=5.1,SNR=4.6							
INK	**Inuvik**	**73.95**	**9**	P		**P**	**12 19 57.5**	**+0.4**
0.7nm,0.5s,mb3.6,baz=310,slow=5.3,SNR=5.3							
WRA	**Warramunga Arr**	**82.21**	**122**	P		**P**	**12 20 41.8**	**-0.7**
0.4nm,0.7s,mb3.2,baz=321,slow=4.5,SNR=5.5							
ASAR	**Alice Springs**	**84.47**	**125**	P		**P**	**12 20 53.2**	**-0.7**
0.3nm,0.5s,mb3.2,baz=302,slow=4.8,SNR=5.1							

IDC 06 12:13:45.5±3.7,550N×9466E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/20,mbtmp3.7/5,MS3.7/1,Ms1 3.7/1, ms1mx3.0/23,Error ellipse: s-maj=157.9km s-min=22.8km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.50**	**347**	P		P	12 21 42.1	-0.3
1.9nm,0.7s,baz=168,slow=7.4,SNR=11							
SONM	**Songino Array**	**43.36**	**12**	P		P	12 21 49.7	+0.2
0.4nm,0.5s,baz=195,slow=9.0,SNR=2.9							
SONM				LR	LR	12 42 22.1	
comp=Z,110nm,21.6s,baz=191,slow=40							
WRA	**Warramunga Arr**	**46.49**	**124**	P		P	12 22 14.8	+0.5
0.6nm,0.5s,baz=304,slow=8.9,SNR=5.9							
ASAR	**Alice Springs**	**48.02**	**129**	P		P	12 22 26.6	+0.3
0.3nm,0.6s,baz=303,slow=8.2,SNR=6.6							
ZAL	**Zalesovo**	**48.95**	**352**	P		P	12 22 33.7	+0.2
1.6nm,0.3s,baz=251,slow=2.8,SNR=3.2							

*MOS **06** 13:15:48.2±1.0,4597N×14943E,h159km,mb3.8/7,Error ellipse: s-maj=18.8km s-min=17.5km az=99.4*

*ISCJB **06** 13:15:51.9±1.0,4559N±010×1489E±01,h189km±9km, mb3.7/10,Error ellipse: s-maj=17.7km s-min=13.0km az=107.5*

*IDC **06** 13:15:54.9±2.9,4594N×14871E,h187km±26km,mb3.4/10, mb1 3.5/11,mb1mx3.4/21,mbtmp3.9/11,Error ellipse: s-maj=24.9km s-min=21.3km az=61.0*

*JMA **06** 13:15:56.1±0.4,4513N×14885E,h184km,M3.6*

ISC 06 13:15:51.5±0.9,4564N±010×1491E±01,h175km±7km,n47, σ1§35/54,mb3.7/10,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.93**	**245**	⇑*i*PN		**Pn**	**13 16 17.0**	**-1.2**
KUR				*e*S		**Sn**	**13 16 37.0**	**-1.8**
KUR				pmax	pmax		
comp=N,190nm,0.5s							
KUR				pmax	pmax		
comp=E,80nm,0.5s							
KUR				pmax	pmax		
comp=Z,460nm,0.5s							
KUR				smax			
comp=N,170nm,0.7s							
KUR				smax			
comp=E,520nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**2.78**	**236**	⇑*i*PN		**Pn**	**13 16 38.5**	**+1.2**
YUK				*i* S		**Sn**	**13 17 12.6**	**-0.2**
YUK				pmax	pmax		
comp=E,430nm,0.5s							
YUK				pmax	pmax		
comp=Z,1μm,0.5s							
YUK				smax			
comp=N,390nm,0.5s							
YUK				smax			
comp=E,630nm,0.7s							
JRA	**Rausu**	**3.28**	**240**	P		**Pn**	**13 16 44.6**	**+1.3**
NEM2	**Nemuro 2**	**3.29**	**227**	P		**Pn**	**13 16 43.1**	**-0.3**
NEM2				*e*S		**Sn**	**13 17 19.8**	**-4.1**
JNK	**Nakash**	**3.72**	**238**	P		**Pn**	**13 16 49.8**	**+0.9**
JTKR	**Abashiri--Toko**	**4.03**	**247**	P		**Pn**	**13 16 54.0**	**+1.2**
JTKR				*e*S		**Sn**	**13 17 39.4**	**-1.2**
JAK	**Akkeshi**	**4.09**	**231**	P		**Pn**	**13 16 53.6**	**-0.1**
JAK				*e*S		**Sn**	**13 17 38.3**	**-3.9**
JMP	**Maruseppu**	**4.37**	**250**	P		**Pn**	**13 16 58.4**	**+1.2**
JAR	**Ashorobuto**	**4.45**	**240**	P		**Pn**	**13 16 59.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.56**	**289**	*e*PN		**Pn**	**13 17 00.0**	**+0.3**
YSS				*e*			13 17 51.0	
JOB	**Onbets**	**4.64**	**236**	P		**Pn**	**13 17 01.2**	**+0.5**
JOB				*e*S		**Sn**	**13 17 51.8**	**-3.1**
JKK2	**Kamakawa 2**	**4.83**	**251**	P		**Pn**	**13 17 04.7**	**+1.6**
ASAJ	**Asahikawa**	**4.84**	**254**	P		**Pn**	**13 17 05.0**	**+1.8**
comp=E,1.4nm,0.3s,baz=71,slow=15,SNR=16							
ASAJ				S		**Sn**	**13 18 00.1**	**+0.7**
comp=E,0.3nm,0.3s,baz=194,slow=18,SNR=3.1							
ASAJ	**Asahikawa**	**4.84**	**254**	P		**Pn**	**13 17 05.2**	**+2.0**
ASAJ	**Asahikawa**	**4.84**	**254**	PN		**Pn**	**13 17 05.1**	**+1.9**
ASAJ				S		**Sn**	**13 18 00.2**	**+0.8**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
JWK2	**Keihoku**	**5.05**	**269**	P		**Pn**	**13 17 08.6**	**+2.7**
JCH	**Churui**	**5.09**	**236**	P		**Pn**	**13 17 06.4**	**-0.2**
JCH				*e*S		**Sn**	**13 18 00.4**	**-5.0**
JFR	**Furan**	**5.25**	**244**	P		**Pn**	**13 17 10.0**	**+1.4**
JFR				*e*S		**Sn**	**13 18 07.0**	**-2.1**
JEM	**Erimo**	**5.60**	**232**	P		**Pn**	**13 17 13.6**	**+0.5**
JEM				*e*S		Sx	13 18 13.9	
JNBK	**Urakawa-nobuka**	**5.65**	**236**	P		**Pn**	**13 17 13.7**	**-0.2**
JNBK				*e*S		Sx	13 18 13.4	
JNB	**Noboribetsu**	**6.59**	**244**	P		**Pn**	**13 17 27.2**	**+1.0**
JNB				*e*S		Sx	13 18 38.9	
JKB	**Kayabe**	**6.91**	**240**	P		**Pn**	**13 17 29.4**	**-1.0**
JKB				*e*S		Sx	13 18 41.7	
JYM2	**Yakumo 2**	**7.20**	**244**	P		**Pn**	**13 17 34.6**	**+0.4**
JTM	**Tenmabayashi**	**7.58**	**233**	P		**Pn**	**13 17 37.1**	**-2.2**
JTM				*e*S		Sx	13 18 56.0	
JANG	**Nango**	**7.63**	**229**	P		**Pn**	**13 17 37.7**	**-2.2**
JANG				*e*S		Sx	13 18 56.9	
JTH	**Tanohata**	**7.77**	**225**	*e*S		Sx	13 18 59.6	
JRG	**Rokugo**	**8.81**	**228**	*e*S		Sx	13 19 27.0	
JIO	**Ouri**	**9.18**	**221**	*e*S		Sx	13 19 34.6	
SONM	**Songino Array**	**29.05**	**290**	P		**P**	**13 21 36.0**	**+0.7**
comp=Z,0.2nm,0.3s,mb3.3,baz=94,slow=7.5,SNR=2.9							
MKAR	**Makanchi Array**	**44.93**	**297**	P		**P**	**13 23 49.0**	**+0.2**
comp=Z,0.6nm,0.6s,mb3.4,baz=73,slow=5.7,SNR=3.8							
MKAR	**Makanchi Array**	**44.93**	**297**	P		**P**	**13 23 49.1**	**+0.2**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
ARCES	**ARCESS Array B**	**57.95**	**340**	P		**P**	**13 25 24.1**	**-1.3**
comp=Z,2.3nm,0.9s,mb4.0,baz=41,slow=9.7,SNR=3.1							
ARCES	**ARCESS Array B**	**57.95**	**340**	P		**P**	**13 25 24.1**	**-1.3**
ARCES				pmax	pmax		
comp=Z,2.0nm,0.9s							
JOF	**Joensuu**	**61.05**	**332**	*e*p		**P**	**13 25 44.9**	**-1.7**
FINES	**FINESS Array B**	**63.80**	**333**	P		**P**	**13 26 03.0**	**-1.9**
comp=Z,1.3nm,0.6s,mb3.9,baz=35,slow=7.0,SNR=12							
FINES	**FINESS Array B**	**63.80**	**333**	P		**P**	**13 26 03.1**	**-1.8**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
NVAR	**Mina Array Bea**	**65.44**	**60**	P		**P**	**13 26 19.1**	**+3.6**
comp=Z,0.5nm,0.4s,mb3.7,baz=293,slow=7.6,SNR=7.1							
NB2	**NORSAR Subarra**	**68.32**	**339**	P		**P**	**13 26 32.0**	**-1.7**
comp=Z,1.1nm,0.5s,mb3.8,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.32**	**339**	P		**P**	**13 26 32.7**	**-1.0**
comp=Z,1.2nm,0.5s,mb3.9,baz=29,slow=6.6,SNR=6.1							
NOA	**NORSAR Array B**	**68.32**	**339**	P		**P**	**13 26 32.7**	**-1.0**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**70.34**	**195**	P		**P**	**13 26 49.1**	**+3.0**
comp=Z,0.3nm,0.5s,mb3.3,baz=9.4,slow=6.3,SNR=7.5							
AKASG	**Malin Array Be**	**70.85**	**324**	P		**P**	**13 26 48.1**	**-1.1**
comp=Z,2.0nm,0.5s,mb4.1,baz=37,slow=6.2,SNR=7.6							
AKASG	**Malin Array Be**	**70.85**	**324**	P		**P**	**13 26 48.1**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	77.21	314	P	P	13 27 26.7	+0.7
	comp=Z,1.0nm,0.7s,mb3.5,baz=68,slow=3.9,SNR=4.2						
BRTR	Keskin Array B	77.21	314	P	P	13 27 26.7	+0.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	78.16	332	P	P	13 27 31.6	+0.3
	comp=Z,0.5nm,0.4s,mb3.5,baz=33,slow=5.9,SNR=2.9						
GERES	GERESS Array B	78.16	332	P	P	13 27 31.6	+0.3
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						

ISCJB ***06*** *13:21:26.7±1.0, 4975N±007×15600E±009, h72km±6km, mb4.5/45, Error ellipse: s-maj=13.3km s-min=6.8km az=105.9*
MOS ***06*** *13:21:26.3±0.7, 4980N×15580E, h62km, mb4.9/18, Error ellipse: s-maj=16.5km s-min=8.2km az=107.0*
BJI ***06*** *13:21:28.1, 4969N×15629E, h105km, mB5.0, mb4.7*
IDC ***06*** *13:21:30.9±4.8, 4981N×15602E, h101km±43km, mb3.7/12, mb1 3.8/14, mb1mx3.7/24, mbtmp4.0/14, Error ellipse: s-maj=19.9km s-min=18.2km az=89.0*
NEIC ***06*** *13:21:30.3±1.1, 4976N×15607E, h92km±8km, mb4.5/21, Error ellipse: s-maj=12.5km s-min=7.8km az=134.0*
ISC 06 13:21:28.7±0.9**, 4982N**±007×**15596E**±009**, h75**km±6km**, n104,** σ1s**03**/112**, mb4.5**/45**, 6C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.87	7	ePN	Pn	13 21 44.0	-1.8
SKR				i S	Sn	13 21 58.6	0.0
SKR				pmax	pmax		
	comp=Z,320nm,0.5s						
SKR				pmax	pmax		
	comp=N,220nm,0.3s						
SKR				pmax	pmax		
	comp=E,130nm,0.3s						
SKR				smax			
	comp=N,980nm,0.4s						
SKR				smax			
	comp=E,3µm,0.4s						
SKR				smax			
	comp=N,12µm,0.2s						
SKR				smax			
	comp=N,7µm,0.4s						
SKR				smax			
	comp=E,5µm,0.4s						
SKR				smax			
	comp=Z,3µm,0.4s						
PET	Petropavlovsk	3.62	27	⇓iPN	Pn	13 22 22.8	+0.4
PET				i S	Sn	13 23 04.2	+0.2
PET				pmax	pmax		
	comp=Z,110nm,0.4s						
PET				pmax	pmax		
	comp=N,54nm,0.4s						
PET				smax			
	comp=E,513nm,0.5s						
PET				smax			
	comp=N,490nm,0.5s						
PET	Petropavlovsk	3.62	27	ePn	Pn	13 22 22.9	+0.5
PET				eSn	Sn	13 23 05.0	+1.0
YSS	Yuzh-Sakhalins	9.24	257	ePN	Pn	13 23 44.0	+4.9
YSS				eS	Sn	13 25 29.0	+7.5
YSS	Yuzh-Sakhalins	9.24	257	ePn	Pn	13 23 43.6	+4.4
MA2	Magadan	10.22	345	ePN	Pn	13 23 55.9	+3.4
ASAJ	Asahikawa	10.76	243	P	Pn	13 24 02.5	+2.7
	comp=N,0.5nm,0.3s,baz=102,slow=7.6,SNR=5.6						
ASAJ	Asahikawa	10.76	243	PN	Pn	13 24 02.6	+2.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HABR	Khabarovsk	13.75	272	eP	Pn	13 24 38.3	-1.9
HABR				eS	Sn	13 27 10.1	-1.2
KLR	Kul'dur	15.72	277	eP	Pn	13 25 07.2	+1.6
MJAR	Matsushiro Arr	18.48	231	P	Pn	13 25 38.1	-1.4
	comp=Z,0.3nm,0.3s,baz=30,slow=12,SNR=5.4						
YAK	Yakutsk	18.97	320	d iP	Pn	13 25 44.6	-0.8
YAK				pmax	pmax		
	comp=Z,25nm,1.2s						
YAK	Yakutsk	18.97	320	eP	Pn	13 25 44.4	-1.0
	comp=Z,22nm,0.7s						
BILL	Bilibino	18.98	12	P	Pn	13 25 53.0	+7.5
HIA	Hailar	23.37	283	eP	P	13 26 30.3	-0.3
HIA				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HIA	Hailar	23.37	283	eP	P	13 26 30.2	-0.4
	comp=Z,5.6nm,0.3s,mb4.4						
INCN	Inchon	24.37	251	eP	P	13 26 39.1	-0.7
	comp=Z,14nm,0.3s,mb4.8						
TIXI	Tiksi	25.14	340	⇑eP	P	13 26 45.0	-1.7
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
HHC	Hu-ho-hao-te	32.06	271	eP	P	13 27 50.9	+2.6
HHC				AP	pP	13 28 13.3	+7.3
HHC				XP	sP	13 28 24.6	+10
HHC				PP	PP	13 29 01.2	-0.8
HHC				PCP	PcP	13 30 37.2	+0.9
HHC				S	S	13 32 55.9	+1.0
HHC				XS	sS	13 33 34.5	+9.3
HHC				SCP	ScP	13 34 11.3	-1.8
HHC				PCS	PcS	13 34 21.4	+0.3
HHC				SS	SS	13 34 56.5	-19
HHC				SCS	ScS	13 38 08.4	-3.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,112nm,5.5s						
HHC				LR	LR		
	comp=N,185nm,5.4s						
HHC				LR	LR		
	comp=E,214nm,6.9s						
HHC				LR	LR		
	comp=Z,299nm,11.8s						
SONM	Songino Array	32.22	286	P	P	13 27 49.7	0.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=67,slow=8.6,SNR=5.1						
NJ2	Nanjing	32.75	251	eP	P	13 27 53.0	-1.4
NJ2				PP	PP	13 29 04.0	-5.6
NJ2				S	S	13 33 04.0	-1.7
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,410nm,5.3s						
NJ2				LR	LR		
	comp=N,540nm,16.5s						
NJ2				LR	LR		
	comp=E,740nm,27.1s						
NJ2				LR	LR		
	comp=Z,730nm,23.3s						
ZAK	Zakamensk	33.21	292	eP	P	13 27 58.4	0.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
LZH	Lanzhou	39.74	270	eP	P	13 28 55.9	+2.0
LZH				AP	pP	13 29 21.4	+9.4
LZH				XP	sP	13 29 34.5	+14
LZH				PP	PP	13 30 33.4	+6.9
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.8						
ZAL	Zalesovo	42.43	304	P	P	13 29 16.6	+0.6
	comp=Z,2.9nm,0.4s,mb4.4,baz=62,slow=7.0,SNR=8.1						
NVS	Novosibirsk	42.88	306	eP	P	13 29 19.2	-0.5
CD2	Chengdu	43.06	264	eP	P	13 29 19.9	-1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
MKAR	Makanchi Array	47.26	296	P	P	13 29 53.8	-0.5
	comp=Z,2.3nm,0.5s,mb4.1,baz=56,slow=9.0,SNR=20						
MKAR	Makanchi Array	47.26	296	⇑eP	P	13 29 54.4	+0.1
KMI	Kunming	47.68	259	P	P	13 29 58.3	+0.7
KMI				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.8						
CHKZ	Chkalovo	49.94	309	eP	P	13 30 14.3	-0.6
CHKZ				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
CHKZ	Chkalovo	49.94	309	eP	P	13 30 14.3	-0.6
	comp=Z,11nm,0.6s,mb5.0						
BVAR	Borovoye Array	50.40	309	P	P	13 30 18.2	-0.2
	comp=Z,3.9nm,0.6s,mb4.5,baz=57,slow=9.0,SNR=24						
BRVK	Borovoye	50.44	309	eP	P	13 30 18.6	-0.1
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	Borovoye	50.44	309	eP	P	13 30 18.6	-0.1
	comp=Z,3.3nm,0.8s,mb4.3						
ZRNK	Zerenda	51.14	309	eP	P	13 30 23.3	-0.7
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ZRNK	Zerenda	51.14	309	eP	P	13 30 23.3	-0.7
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	Arti	54.04	317	⇑iP	P	13 30 44.0	-1.4
ARU				e		13 32 48.2	
ARU				eS	S	13 38 15.6	-0.3
ARU				eSS	SS	13 42 01.8	+3.6
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ARU	Arti	54.04	317	eP	P	13 30 44.6	-0.8
	comp=Z,6.4nm,0.7s,mb4.8						
ARCES	ARCESS Array B	55.57	341	P	P	13 30 54.1	-2.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=44,slow=7.3,SNR=7.7						
JIRN	Jiri	56.60	274	eP	P	13 31 04.0	+0.2
KKN	Kakani	57.10	275	eP	P	13 31 09.0	+1.7
	comp=Z,9.9nm,0.6s,mb5.0						
DMN	Daman	57.33	275	eP	P	13 31 10.5	+1.5
	comp=Z,14nm,0.9s,mb5.0						
GKN	Gorkha	57.37	276	eP	P	13 31 10.3	+1.1
	comp=Z,7.2nm,0.5s,mb5.0						
KOLN	Koldanda	58.19	276	eP	P	13 31 16.0	+1.0
	comp=Z,7.3nm,0.7s,mb4.8						
NVAR	Mina Array Bea	59.38	66	P	P	13 31 22.8	-0.4
	comp=Z,0.8nm,0.8s,mb3.8,baz=299,slow=6.5,SNR=6.2						
NVAR	Mina Array Bea	59.38	66	P	P	13 31 22.8	-0.4
PDAR	Pinedale Array	61.43	57	P	P	13 31 36.8	-0.4
	comp=Z,0.9nm,0.9s,mb3.8,baz=336,slow=3.3,SNR=5.7						
FINES	FINESS Array B	62.06	335	P	P	13 31 39.1	-2.3
	comp=Z,0.8nm,0.5s,mb4.0,baz=37,slow=7.6,SNR=6.8						
FINES	FINESS Array B	62.06	335	⇑eP	P	13 31 40.7	-0.7
MAK	Makhachkala	68.48	312	eP	P	13 32 16.4	-6.5
FITZ	Fitzroy Crossi	72.75	210	P	P	13 32 47.5	-1.3
	comp=Z,0.7nm,0.7s,mb3.6,baz=342,slow=9.6,SNR=4.5						
ASAR	Alice Springs	75.74	201	P	P	13 33 05.6	-0.6
	comp=Z,0.4nm,0.5s,mb3.4,baz=15,slow=4.8,SNR=9.9						
KHC	Kasperske Hory	76.26	336	⇑eP	P	13 33 09.5	+0.3
MALT	Malatya	76.42	314	eP	P	13 33 11.4	+1.3
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
MALT	Malatya	76.42	314	eP	P	13 33 11.4	+1.3
	comp=Z,1.8nm,0.8s,mb3.9						
GERES	GERESS Array B	76.49	335	P	P	13 33 09.8	-0.7
	comp=Z,0.5nm,0.4s,mb3.6,baz=320,slow=4.0,SNR=5.1						
BR131	Keskin Array S	77.41	318	eP	P	13 33 15.6	-0.1
	comp=Z,3.2nm,0.8s,mb4.1						
BRTR	Keskin Array B	77.41	318	P	P	13 33 15.9	+0.2
	comp=Z,2.8nm,0.9s,mb4.0,baz=46,slow=3.6,SNR=8.4						
BRTR	Keskin Array B	77.41	318	⇑eP	P	13 33 16.2	+0.5
BAIF	Baives	77.60	342	eP	P	13 33 16.6	-0.1
CDF	Champ du Feu	78.49	339	eP	P	13 33 21.6	-0.1
	comp=Z,15nm,0.8s,mb4.4						
CDF	Champ du Feu	78.49	339	eP	P	13 33 21.6	-0.1
CDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
CDF	Champ du Feu	78.49	339	eP	P	13 33 21.6	-0.1
	comp=Z,7.3nm,0.8s,mb4.5						
MIB	Mutribah	78.64	303	eP	P	13 33 22.7	+0.2
MIB				AMb	AMB	13 33 24.0	
	comp=Z,22nm,1.0s,mb5.0						
RST	Umm Al-Ruwaisa	79.06	303	eP	P	13 33 24.6	-0.2
RST				AMb	AMB	13 33 26.1	
	comp=Z,33nm,0.8s,mb5.2						
HAU	Haudompre	79.09	340	eP	P	13 33 24.6	-0.3
	comp=Z,8.6nm,0.7s,mb4.4						
HAU	Haudompre	79.09	340	eP	P	13 33 24.6	-0.3
HAU				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
HAU	Haudompre	79.09	340	eP	P	13 33 24.6	-0.3
	comp=Z,4.3nm,0.7s,mb4.4						
NAY	Al-Naaiem	79.12	303	eP	P	13 33 25.0	-0.1
NAY				AMb	AMB	13 33 28.1	
	comp=Z,12nm,0.9s,mb4.7						
FLN	La Foliniere	79.72	344	eP	P	13 33 28.1	-0.3
LDF	La Druitiere	79.83	344	eP	P	13 33 28.6	-0.3
GRR	Gorron	80.15	345	eP	P	13 33 30.7	0.0
	comp=Z,34nm,0.9s,mb4.9						
GRR	Gorron	80.15	345	eP	P	13 33 30.7	0.0
GRR				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.9						
GRR	Gorron	80.15	345	eP	P	13 33 30.7	0.0
	comp=Z,17nm,0.9s,mb4.9						
LOR	Lormes	80.33	341	eP	P	13 33 31.4	-0.2
	comp=Z,13nm,0.8s,mb4.5						
LOR	Lormes	80.33	341	eP	P	13 33 31.4	-0.2
LOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
LOR	Lormes	80.33	341	eP	P	13 33 31.4	-0.2
	comp=Z,6.4nm,0.8s,mb4.5						
CABF	La Chapelle	80.46	339	eP	P	13 33 32.5	+0.1
SGMF	Saint Gilles	80.56	346	eP	P	13 33 33.0	+0.1
	comp=Z,15nm,0.8s,mb4.6						
SGMF	Saint Gilles	80.56	346	eP	P	13 33 33.0	+0.1
SGMF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
SGMF	Saint Gilles	80.56	346	eP	P	13 33 33.0	+0.1
	comp=Z,7.5nm,0.8s,mb4.6						
ROSF	Rostrenen	80.60	346	eP	P	13 33 33.2	+0.1
	comp=Z,23nm,1.0s,mb4.7						
ROSF	Rostrenen	80.60	346	eP	P	13 33 33.2	+0.1
ROSF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
ROSF	Rostrenen	80.60	346	eP	P	13 33 33.2	+0.1
	comp=Z,11nm,1.0s,mb4.7						
AVF	Avril sur Loir	80.89	341	eP	P	13 33 34.6	0.0
	comp=Z,9.3nm,0.8s,mb4.3						
AVF	Avril sur Loir	80.89	341	eP	P	13 33 34.6	0.0
AVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
AVF	Avril sur Loir	80.89	341	eP	P	13 33 34.6	0.0
	comp=Z,4.7nm,0.8s,mb4.4						
SMF	Signal de Mont	80.92	341	eP	P	13 33 34.9	+0.1
	comp=Z,8.0nm,0.8s,mb4.3						
SMF	Signal de Mont	80.92	341	eP	P	13 33 34.9	+0.1
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SMF	Signal de Mont	80.92	341	eP	P	13 33 34.9	+0.1
	comp=Z,4.0nm,0.8s,mb4.3						
LPL	La Plagne	81.35	339	eP	P	13 33 37.9	+0.8
LPG	La Plagne	81.36	339	eP	P	13 33 38.4	+1.3
	comp=Z,14nm,0.7s,mb4.6						
LPG	La Plagne	81.36	339	eP	P	13 33 38.4	+1.3
LPG				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
LPG	La Plagne	81.36	339	eP	P	13 33 38.4	+1.3
	comp=Z,6.8nm,0.7s,mb4.6						
MFF	Saint Martin d	81.75	344	eP	P	13 33 39.6	+0.4
	comp=Z,12nm,0.9s,mb4.4						
MFF	Saint Martin d	81.75	344	eP	P	13 33 39.6	+0.4
MFF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MFF	Saint Martin d	81.75	344	eP	P	13 33 39.6	+0.4
	comp=Z,6.2nm,0.9s,mb4.4						
ORIF	Oris-en-Rattie	82.11	339	eP	P	13 33 41.8	+0.7
VIVF	Saint-Julien-l	82.44	340	eP	P	13 33 43.4	+0.6
	comp=Z,12nm,1.1s,mb4.4						
VIVF	Saint-Julien-l	82.44	340	eP	P	13 33 43.4	+0.6
VIVF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
VIVF	Saint-Julien-l	82.44	340	eP	P	13 33 43.4	+0.6
	comp=Z,6.1nm,1.1s,mb4.3						
ETSF	Etsaut	85.40	343	eP	P	13 33 58.9	+1.0
	comp=Z,3.2nm,0.6s,mb4.1						
ETSF	Etsaut	85.40	343	eP	P	13 33 58.9	+1.0
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ETSF	Etsaut	85.40	343	eP	P	13 33 58.9	+1.0
	comp=Z,1.6nm,0.6s,mb4.1						

PGC 06 13:26:45.6, 4991N×13003W, h10km, MLSn3.0/1, Mw3.6, 1C-1D, 205km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.42	58	Pn	Pn	13 27 09.5	-2.0
HOLB				Sn	Sn	13 27 26.7	-3.5
HOLB				Trac		13 27 27.6	
	comp=Z,41nm,0.3s						
BPBC	Brooks Peninsu	1.48	80	Pn	Pn	13 27 09.7	-2.5
BPBC				Trac		13 27 30.1	
	comp=Z,26nm,0.2s						
PHC	Port Hardy	1.85	63	⇑Pn	Pn	13 27 15.6	-1.7
PHC				Sn	Sn	13 27 37.0	-3.7
PHC				Trac		13 27 38.9	
	comp=Z,35nm,0.2s						
EDB	Eliza Dome	1.88	90	Trac		13 27 38.6	
	comp=Z,5.0nm,0.1s						
EDB	Eliza Dome	1.88	90	Pn	Pn	13 27 15.4	-2.3
EDB				Sn	Sn	13 27 37.4	-4.2
MAYB	Maynard	1.90	74	Pn	Pn	13 27 16.0	-2.1
MAYB				Trac		13 27 49.5	
	comp=Z,11nm,0.3s						
WOSB	Woss	2.24	82	Pn	Pn	13 27 21.8	-1.0
BBB	Bella Bella	2.58	27	⇓Pn	Pn	13 27 26.1	-1.3
BBB				Sn	Sn	13 27 54.5	-4.3
BBB				Trac		13 27 56.5	
	comp=Z,36nm,0.4s						
GDR	Gold River	2.59	91	Pn	Pn	13 27 23.7	-3.9
NCRB	Newcastle Ridg	2.60	78	Pn	Pn	13 27 27.1	-0.6
OZB	Mount Ozzard	3.11	106	Pn	Pn	13 27 35.2	+0.6
OZB				Sn	Sn	13 28 09.0	-2.9
OZB				Trac		13 28 10.8	
	comp=Z,2.0nm,0.1s						
MOBC	Moresby Island	3.49	341	Pn	Pn	13 27 37.5	-2.5
BNAB	Bonilla	3.61	354	Pn	Pn	13 27 39.2	-2.3
BNAB				Sn	Sn	13 28 19.8	-4.4
BNAB				Trac		13 28 20.7	
	comp=Z,1.0nm,0.2s						
TXB	Texada	3.63	91	Pn	Pn	13 27 42.5	+0.7
SHB	Sechelt	4.00	92	Pn	Pn	13 27 47.8	+0.8
SHB				Trac		13 28 36.1	
	comp=Z,6.0nm,0.4s						
GOBB	Galiano Island	4.36	100	Pn	Pn	13 27 53.2	+1.3
RUBB	Prince Rupert	4.42	358	Pn	Pn	13 27 51.3	-1.5
FSB	Fort Saint Jam	5.76	35	Pn	Pn	13 28 11.9	+0.8

ISCJB ***06*** *13:45:01.9±0.6, 5971N±004×2445E±008, h0km, Error ellipse: s-maj=5.8km s-min=5.4km az=113.5*
CSEM ***06*** *13:45:03.5±0.3, 5978N×2476E, h1km, ML2.5, Error ellipse: s-maj=7.2km s-min=5.5km az=29.0, Mining explosion.*
IDC ***06*** *13:45:03.8±1.9, 5971N×2480E, h0km, mb1 3.6/3, mb1mx3.2/20, mbtmp3.5/3, ML3.7/3, Error ellipse: s-maj=19.9km s-min=7.0km az=143.0*
HEL ***06*** *13:45:04.5±0.1, 5973N×2459E, h0km, ML2.5, ML2.6(NAO), Explosion*
NAO ***06*** *13:45:04.1±1.0, 5973N×2467E, ML2.6*
BER ***06*** *13:45:05.0±4.1, 5973N×2459E, h0km, ML2.6(NAO), Suspected explosion*
ISC 06 13:45:03.1±0.6**, 5971N**±004×**2456E**±007**, h0**km**, n27,** σ1s**01**/44**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.51	351	eP	Pg	13 45 13.2	+0.3
MEF				eS	Sg	13 45 19.9	+0.3
MEF	Metsahovi	0.51	351	P	Pg	13 45 13.2	+0.3
PVF	Pernaja	1.06	37	eP	Pg	13 45 22.9	-0.6
PVF				eS	Sg	13 45 37.2	0.0
PVF	Pernaja	1.06	37	P	Pg	13 45 22.8	-0.6
PVF				S	Sg	13 45 37.2	0.0
VSU	Vasula	1.68	137	eP	Pn	13 45 34.4	+0.7
VSU				eS	Sn	13 45 55.9	-0.1
VSU	Vasula	1.68	137	Pn	Pn	13 45 34.5	+0.8
VSU				Lg		13 45 56.3	
FIA0	FINESS Array S	1.89	23	eP	Pn	13 45 37.7	+1.1
FIA0				eS	Sn	13 46 01.2	0.0
FIA0				MSG		13 46 05.8	
	comp=Z,31nm,0.2s						
FIA0	FINESS Array S	1.89	23	Pn	Pn	13 45 37.8	+1.2
	baz=190,slow=18						
FIA0				Lg		13 46 01.8	
	baz=211,slow=37						
FIA0	FINESS Array S	1.89	23	P	Pn	13 45 37.6	+1.0
FIA0				S	Sn	13 46 01.2	0.0
	comp=Z,31nm,0.2s						
FINES	FINESS Array B	1.89	23	Pn	Pn	13 45 37.9	+1.2
	comp=Z,17nm,0.3s,baz=196,slow=14,SNR=427						
FINES				Lg		13 46 01.8	
	comp=Z,16nm,0.3s,baz=197,slow=32,SNR=21						
RAF	Rauma	1.91	315	eP	Pn	13 45 38.2	+1.3
RAF				eS	Sn	13 46 03.5	+1.9
RAF	Rauma	1.91	315	P	Pn	13 45 38.1	+1.2
RAF				S	Sn	13 46 03.4	+1.8
KEF	Keuruu	2.47	3	MSG		13 46 21.4	
	comp=Z,30nm,0.3s						
KAF	Kangasniemi	2.56	19	MSG		13 46 23.4	
	comp=Z,19nm,0.3s						
HFS	Hagfors	5.48	279	eP	Pn	13 46 27.2	+1.2
HFS				eS	Sn	13 47 29.2	-0.4
HFS				eSG		13 47 55.2	
HFS	Hagfors	5.48	279	Pn	Pn	13 46 26.3	+0.4
	comp=Z,1.4nm,0.3s,baz=93,slow=15,SNR=22						
HFS				Sn	Sn	13 47 29.8	+0.1
	comp=Z,2.7nm,0.3s,baz=91,slow=29,SNR=12						
HFS				Lg		13 47 58.8	
	comp=Z,3.0nm,0.3s,baz=86,slow=27,SNR=4.8						
HFS	Hagfors	5.48	279	Pn	Pn	13 46 27.2	+1.2
	baz=92,slow=7.9						
HFS				Sn	Sn	13 47 29.2	-0.4
	baz=96,slow=28						
HFS				Lg		13 47 55.2	
	baz=105,slow=37						
HFS	Hagfors	5.48	279	P	Pn	13 46 27.1	+1.2
HFS				Sn	Sn	13 47 29.2	-0.5
	SNR=9.1						
HFS				Sg		13 47 55.1	
NB2	NORSAR Subarra	6.75	287	Pn	Pn	13 46 42.5	-0.8
	baz=92,slow=14						
NB2				Sn	Sn	13 47 58.4	-2.5
	baz=100,slow=22						
NB2				Lg		13 48 29.1	
NB2	NORSAR Subarra	6.75	287	eP	Pn	13 46 42.5	-0.8
NB2				eS	Sn	13 47 58.4	-2.5
NB2				eSG		13 48 29.1	
NB2	NORSAR Subarra	6.75	287	Pn	Pn	13 46 42.5	-0.8
	SNR=2.6						
NB2				Sn	Sn	13 47 58.4	-2.5
	SNR=3.5						
NOA	NORSAR Array B	6.75	287	Pn	Pn	13 46 43.4	0.0
	comp=Z,1.1nm,0.3s,baz=92,slow=14,SNR=5.1						
NOA				Sn	Sn	13 47 57.6	-3.3
	comp=Z,1.3nm,0.3s,baz=128,slow=19,SNR=4.5						
NOA				Lg		13 48 32.6	
	comp=Z,1.9nm,0.3s,baz=96,slow=13,SNR=5.1						
ARA0	ARCESS Array S	9.87	2	Pn	Pn	13 47 24.8	-1.5
	baz=172,slow=16						
ARA0				Sn	Sn	13 49 11.7	-6.1
	baz=184,slow=28						
ARA0	ARCESS Array S	9.87	2	eP	Pn	13 47 24.8	-1.5
ARA0				eS	Sn	13 49 11.7	-6.1
ARCES	ARCESS Array B	9.87	2	Pn	Pn	13 47 24.8	-1.4
	comp=Z,1.3nm,0.3s,baz=186,slow=11,SNR=54						
ARCES				Sn	Sn	13 49 10.8	-7.0
	comp=Z,0.3nm,0.3s,baz=180,slow=25,SNR=2.9						
SPA0	Spitsbergen Ar	18.75	355	P	Pn	13 49 23.4	-0.4
	baz=157,slow=22						
SPA0	Spitsbergen Ar	18.75	355	eP	Pn	13 49 23.4	-0.4

IDC 06 13:48:30.1±3.4**, 646S**×**15030E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/14**, mbtmp3.6**/4**, ML2.6**/1**, Error ellipse: s-maj=111.4km s-min=40.2km az=125.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.28	227	Pn	Pn	13 49 38.6	+2.2
	2.3nm,0.3s,baz=135,slow=19,SNR=8.1						
PMG				Sn	Sn	13 50 27.3	+0.3
	4.5nm,0.3s,baz=119,slow=19,SNR=7.9						
WRA	Warramunga Arr	20.49	228	P	P	13 53 09.4	-0.2
	1.2nm,0.6s,baz=53,slow=11,SNR=9.5						
ASAR	Alice Springs	23.27	221	P	P	13 53 38.6	-0.6
	0.6nm,0.6s,baz=59,slow=8.6,SNR=11						
FITZ	Fitzroy Crossi	26.69	242	eP	P	13 54 11.3	+0.4
	2.3nm,0.5s						
FITZ	Fitzroy Crossi	26.69	242	P	P	13 54 11.3	+0.5
	0.7nm,0.5s,baz=75,slow=10,SNR=10						
TORD	Torodi Ar. Bea	148.39	285	PKPbc	PKPbc	14 08 19.4	+1.0
	0.4nm,0.6s,baz=46,slow=3.1,SNR=2.8						

NEIC ***06*** *13:56:20.2, 3269S×7183W, h31km, ML3.2(GUC), After GUC.*
GUC 06 13:56:20.2±0.4**, 3269S**×**7183W, h31**km±1km**, MD3.5,**

ML3.2, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.37	65	⇓iP	Pb	13 56 28.4	-0.3
PACH				iS	Sb	13 56 35.1	+0.7
ROCH	El Roble	0.74	112	eP	Pn	13 56 34.4	-0.1
ROCH				iS	Sb	13 56 45.5	+0.9
LCCH	Las Cruces	0.81	164	iP	Pn	13 56 35.1	-0.4
LCCH				iS	Sb	13 56 46.3	-0.2
CHNG	Los Chungos	0.85	19	⇓iP	Pn	13 56 35.9	-0.2
CHNG				iS	Sn	13 56 47.2	-0.3
PTCH	Petorca	0.87	61	eP	Pn	13 56 36.4	+0.1
PTCH				iS	Sn	13 56 48.4	+0.4
PTCH				AML	AML	13 56 52.2	
	comp=E,1μm,0.1s						
PTCH	Petorca	0.87	61	eP	Pn	13 56 36.4	+0.1
PTCH				iS	Sn	13 56 48.4	+0.4
JACH	Jahuel	1.04	90	⇑iP	Pn	13 56 39.1	+0.4
JACH				iS	Sn	13 56 53.2	+1.0
PEL	Peldehue	1.06	115	iP	Pn	13 56 39.4	+0.4
PEL				iS	Sn	13 56 53.8	+1.1
PEL				AML	AML	13 56 57.6	
	comp=E,2μm,0.3s						
PEL	Peldehue	1.06	115	iP	Pn	13 56 39.4	+0.4
PEL				iS	Sn	13 56 53.8	+1.1
RCDM	Rinconada Maip	1.17	133	eP	Pn	13 56 40.8	+0.3
RCDM				iS	Sn	13 56 56.4	+1.1
TACH	Talagante	1.22	142	iP	Pn	13 56 41.5	+0.5
TACH				iS	Sn	13 56 57.8	+1.3
CLCH	Cerro Calan	1.29	123	iP	Pn	13 56 42.8	+0.7
CLCH				iS	Sn	13 57 00.1	+1.7
CLCH				AML	AML	13 57 06.8	
	comp=E,463nm,0.4s						
LNV	Longovilo	1.31	165	iP	Pn	13 56 42.9	+0.6
LNV				iS	Sn	13 57 00.1	+1.3
FCH	Farellones	1.44	117	⇓iP	Pn	13 56 45.6	+1.5
FCH				iS	Sn	13 57 05.0	+3.0
FCH				AML	AML	13 57 05.8	
	comp=E,361nm,0.2s						
CHCH	Chadas Angostu	1.58	142	iP	Pn	13 56 47.5	+1.4
CHCH				iS	Sn	13 57 08.0	+2.5
CMCH	Combarbala	1.67	25	⇓iP	Pn	13 56 49.0	+1.7
CMCH				iS	Sn	13 57 10.6	+2.9
CMCH				AML	AML	13 57 16.3	
	comp=E,946nm,0.7s						
CMCH	Combarbala	1.67	25	⇓iP	Pn	13 56 49.0	+1.7
CMCH				iS	Sn	13 57 10.6	+2.9
CACH	El Canelo	1.75	144	iP	Pn	13 56 50.8	+2.4
CACH				iS	Sn	13 57 13.9	+4.2
LMEL	Las Melosas	1.79	131	⇑iP	Pn	13 56 50.4	+1.5
LMEL				iS	Sn	13 57 13.7	+3.2
LMEL				AML	AML	13 57 19.5	
	comp=N,364nm,0.2s						
LMEL	Las Melosas	1.79	131	⇑iP	Pn	13 56 50.4	+1.5
LMEL				iS	Sn	13 57 13.7	+3.2
CICH	Cipreses	2.01	144	iP	Pn	13 56 54.8	+2.9
CICH				iS	Sn	13 57 20.3	+4.4
SFDO	San Fernando	2.04	161	iP	Pn	13 56 53.8	+1.5
SFDO				iS	Sn	13 57 19.5	+2.8
TLL	Tololo Astrono	2.67	19	iP	Pn	13 57 03.0	+2.0
TLL				iS	Sn	13 57 35.4	+3.2
TLL				AML	AML	13 57 45.1	
	comp=E,105nm,0.4s						
TLL	Tololo Astrono	2.67	19	iP	Pn	13 57 03.0	+2.0
TLL				iS	Sn	13 57 35.4	+3.2

---

*ISCJB **06** 13:59:01.6±0.9, 3.1N±0.1×65.5E±0.2, h10km, mb4.2/14, MS3.5/5, Error ellipse: s-maj=27.4km s-min=16.1km az=106.8*
*IDC **06** 13:59:01.9±1.1, 3.02N×65.45E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, MS3.5/5, Ms1 3.6/5, ms1mx3.2/28, Error ellipse: s-maj=34.7km s-min=20.0km az=49.0*
*NEIC **06** 13:59:04.1±0.9, 3.10N×65.57E, h10km, mb4.7/4, Error ellipse: s-maj=31.6km s-min=10.6km az=58.0*
ISC 06 13:59:04.2±0.9, 3.1N±0.1×65.5E±0.2, h10km, n17, σ0s59/15, mb4.2/14, MS3.5/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	28.52	262	LR	LR	14 15 11.4	
	comp=Z,105nm,19.0s,MS3.5,baz=94,slow=34						
MKAR	Makanchi Array	45.90	16	P	P	14 07 26.7	-0.1
	0.5nm,0.4s,mb3.8,baz=191,slow=6.8,SNR=5.5						
MKAR				PcP	PcP	14 09 04.0	+0.2
	0.3nm,0.5s,baz=222,slow=1.6,SNR=4.6						
BRTR	Keskin Array B	46.48	326	P	P	14 07 32.3	+0.9
	1.9nm,0.8s,mb4.1,baz=140,slow=11,SNR=8.6						
BRTR				LR	LR	14 27 29.9	
	comp=Z,68nm,18.5s,MS3.6,baz=131,slow=37						
AKTK	Aktyubinsk	47.57	354	P	P	14 07 40.4	+0.4
AKTO	Aktyubinsk	47.57	354	P	P	14 07 40.4	+0.4
	2.8nm,0.7s,mb4.4,baz=161,slow=8.7,SNR=11						
ZRNK	Zerenda	49.76	3	eP	P	14 07 56.9	+0.1
	6.0nm,0.9s,mb4.6						
BVAR	Borovoye Array	49.91	4	P	P	14 07 57.8	-0.1
	0.4nm,0.6s,mb3.6,baz=158,slow=9.6,SNR=5.5						
CHKZ	Chkalovo	50.58	4	eP	P	14 08 02.9	0.0
	3.2nm,0.8s,mb4.3						
ZAL	Zalesovo	53.08	14	P	P	14 08 21.5	-0.1
	1.4nm,0.3s,mb4.3,baz=259,slow=5.8,SNR=5.5						
ZAL				LR	LR	14 31 32.4	
	comp=Z,82nm,19.4s,MS3.8,baz=259,slow=37						
ARU	Arti	53.45	355	eP	P	14 08 24.2	-0.1
	30nm,2.3s,mb4.8						
SONM	Songino Array	56.76	32	P	P	14 08 48.4	+0.1
	1.6nm,1.0s,mb4.0,baz=240,slow=7.8,SNR=8.0						
VRAC	Vranov	61.92	326	LR	LR	14 38 17.8	
	comp=Z,41nm,19.6s,MS3.6,baz=98,slow=38						
TORD	Torodi Ar. Bea	63.77	283	P	P	14 09 36.4	+0.1
	0.8nm,0.9s,mb3.7,baz=102,slow=4.5,SNR=3.8						
NOA	NORSAR Array B	70.67	335	P	P	14 10 17.9	-2.2
	1.9nm,0.8s,mb4.1,baz=114,slow=6.7,SNR=4.5						
NOA				LR	LR	14 40 22.1	
	comp=Z,17nm,20.1s,MS3.3,baz=70,slow=35						
WRA	Warramunga Arr	71.31	112	P	P	14 10 24.0	0.0
	5.1nm,0.9s,mb4.4,baz=287,slow=5.7,SNR=22						
WRAB	Tennant Creek	71.32	112	eP	P	14 10 24.3	+0.2
	8.8nm,0.9s,mb4.7						
ASAR	Alice Springs	71.64	116	P	P	14 10 25.9	-0.1
	2.6nm,0.9s,mb4.2,baz=284,slow=6.0,SNR=21						

IDC 06 14:47:59.1±3.5, 5.83S×149.83E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.4/14, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=110.4km s-min=37.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.43	217	Pn	Pn	14 49 09.5	+1.9
	1.4nm,0.3s,baz=329,slow=5.9,SNR=9.0						
PMG				Sn	Sn	14 49 58.4	-1.5
	2.2nm,0.3s,baz=149,slow=19,SNR=6.0						
WRA	Warramunga Arr	20.58	226	P	P	14 52 39.8	+0.2
	1.2nm,0.8s,baz=52,slow=11,SNR=13						
ASAR	Alice Springs	23.44	219	P	P	14 53 10.6	+0.4
	0.3nm,0.7s,baz=56,slow=9.9,SNR=7.5						
FITZ	Fitzroy Crossi	26.58	241	P	P	14 53 38.9	+0.1
	0.6nm,0.7s,baz=136,slow=15,SNR=3.7						
TORD	Torodi Ar. Bea	147.77	285	PKPbc	PKPbc	15 07 46.1	+0.3
	0.1nm,0.3s,baz=79,slow=2.8,SNR=5.3						

IDC 06 14:51:34.6±3.7, 5.85S×149.79E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML2.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/12, Error ellipse: s-maj=113.6km s-min=39.0km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.39	216	Pn	Pn	14 52 43.8	+1.3
	1.8nm,0.3s,baz=313,slow=19,SNR=8.3						
PMG				Sn	Sn	14 53 34.0	-0.5
	2.9nm,0.3s,baz=79,slow=19,SNR=5.6						
PMG				LR	LR	14 54 31.4	
	comp=Z,141nm,18.3s,baz=250,slow=40						
WB2	Warramunga Arr	20.53	226	eP	P	14 56 14.3	-0.2
WRA	Warramunga Arr	20.54	226	P	P	14 56 14.2	-0.4
	2.2nm,0.9s,baz=51,slow=11,SNR=16						
ASAR	Alice Springs	23.41	219	P	P	14 56 44.9	-0.3
	0.8nm,0.9s,baz=57,slow=9.5,SNR=4.6						
FITZ	Fitzroy Crossi	26.54	241	P	P	14 57 15.1	+1.2
	0.6nm,0.8s,baz=48,slow=7.7,SNR=4.2						
STKA	Stephens Creek	27.01	195	LR	LR	15 07 06.0	
	comp=Z,90nm,18.2s,baz=25,slow=34						
TORD	Torodi Ar. Bea	147.74	285	PKPbc	PKPbc	15 11 21.4	+0.2
	0.4nm,0.7s,baz=73,slow=2.7,SNR=3.5						

---

*ISCJB **06** 14:58:53.3±0.6, 32.29N±0.08×138.4E±0.2, h369km±9km, mb3.3/9, Error ellipse: s-maj=30.7km s-min=9.8km az=146.1*
*IDC **06** 14:58:54.4±1.0, 32.24N×137.86E, h343km±18km, mb3.1/7, mb1 3.1/9, mb1mx3.0/22, mbtmp3.8/9, Error ellipse: s-maj=44.8km s-min=14.3km az=72.0*
*NEIC **06** 14:58:54.4±1.2, 32.23N×137.89E, h342km±18km, mb3.5/2, Error ellipse: s-maj=48.4km s-min=14.9km az=69.0*
*JMA **06** 14:58:54.9±0.4, 32.47N×138.45E, h361km, M3.5*
ISC 06 14:58:54.4±0.6, 32.30N±0.08×138.3E±0.2, h359km±9km, n23, σ0s97/30, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.50	57	P	Pn	14 59 43.8	+0.4
	22nm,0.3s,baz=214,slow=21,SNR=12						
JHJ				S	S	15 00 24.4	+1.8
	34nm,0.3s,baz=89,slow=20,SNR=6.0						
JHJ2	Mitsune	1.52	57	P	Pn	14 59 43.6	+0.1
JOD2	Odawara 2	3.03	12	P	Pn	14 59 54.4	-0.2
JOD2				eS	S	15 00 43.1	0.0
JYN	Shimob	3.19	4	P	Pn	14 59 57.0	+0.9
BSO1	Boso 1	3.24	43	P	Pn	14 59 55.6	-1.0
BSO1				eS	S	15 00 41.3	-5.4
JRY	Ryogami san	3.74	8	P	Pn	15 00 01.6	+0.3
JRY				eS	S	15 00 54.0	-1.3
JAG	Ashikaga	4.22	13	P	Pn	15 00 04.9	-1.3
JAG				eS	S	15 00 59.9	-4.2
MJAR	Matsushiro Arr	4.23	359	P	Pn	15 00 06.0	-0.3
	2.3nm,0.3s,baz=172,slow=11,SNR=24						
MAJO	Matsushiro	4.23	359	ePn	Pn	15 00 06.2	-0.1
MAT	Matsushiro	4.23	359	P	Pn	15 00 06.2	-0.1
MAT				eS	S	15 01 05.6	+1.3
CBIJ	Chichi jima	6.19	146	P	Pn	15 00 25.5	-2.2
CBIJ				eS	S	15 01 36.0	-7.4
JMK	Ichinoseki	7.05	19	P	Pn	15 00 37.1	-0.4
ASAJ	Asahikawa	12.27	15	P	P	15 01 39.3	+0.7
	0.2nm,0.3s,baz=336,slow=18,SNR=3.5						
ULN	Ulaanbaatar	28.27	312	eP	P	15 04 16.9	+0.9
	1.2nm,0.4s,mb3.5						
SONM	Songino Array	28.67	312	P	P	15 04 18.3	-1.2
	0.6nm,0.7s,mb3.0,baz=115,slow=8.0,SNR=4.6						
ZAL	Zalesovo	43.39	316	P	P	15 06 21.2	-1.6
	0.8nm,0.4s,mb3.2,baz=36,slow=6.3,SNR=3.2						
MKAR	Makanchi Array	44.63	306	P	P	15 06 32.5	-0.1
	0.7nm,0.3s,mb3.3,baz=76,slow=10,SNR=7.4						
CHKZ	Chkalovo	51.77	316	eP	P	15 07 26.1	-0.5
	1.5nm,0.8s,mb3.4						
WRA	Warramunga Arr	52.08	185	P	P	15 07 29.1	+0.2
	0.2nm,0.3s,mb2.9,baz=1.1,slow=7.9,SNR=8.4						
ASAR	Alice Springs	55.81	185	P	P	15 07 57.1	+1.6
	0.1nm,0.5s,mb2.4,baz=22,slow=12,SNR=4.7						
ARCES	ARCESS Array B	67.52	339	P	P	15 09 14.2	+1.3
	3.6nm,0.9s,mb4.1,baz=39,slow=7.8,SNR=4.1						
ARCES	ARCESS Array B	67.52	339	P	P	15 09 14.2	+1.3
FINES	FINESS Array B	71.79	332	P	P	15 09 39.2	+0.5
	3.1nm,1.0s,mb4.0,baz=77,slow=6.3,SNR=9.0						

---

*ISCJB **06** 16:09:57.5±0.5, 59.63N±0.03×24.28E±0.07, h0km, Error ellipse: s-maj=5.4km s-min=4.8km az=35.8*
*CSEM **06** 16:09:58.9±0.3, 59.58N×24.27E, h1km, ML2.5, Error ellipse: s-maj=8.7km s-min=7.6km az=12.0, Mining explosion.*
*HEL **06** 16:10:00.6±0.2, 59.69N×24.51E, h0km, ML2.5, ML2.6(NAO), Explosion*
*NAO **06** 16:10:00.4±1.0, 59.72N×24.62E, ML2.6*
*BER **06** 16:10:01.2±4.2, 59.73N×24.58E, h0km±17km, ML2.6(NAO)*
*IDC **06** 16:10:02.2±0.9, 59.82N×24.53E, h0km, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, ML3.8/4, Error ellipse: s-maj=10.3km s-min=6.4km az=132.0*
ISC 06 16:09:59.2±0.5, 59.65N±0.03×24.45E±0.07, h0km, n26, σ1s20/43, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.57	357	eP	Pg	16 10 10.3	+0.1
MEF				eS	Sg	16 10 17.1	-0.5
PVF	Pernaja	1.15	37	eP	Pg	16 10 19.9	-1.3
VSU	Vasula	1.67	134	eP	Pn	16 10 30.8	+1.1
VSU				eS	Sn	16 10 51.9	0.0
VSU	Vasula	1.67	134	Pn	Pn	16 10 30.8	+1.1
VSU				Lg		16 10 52.4	
VSU	Vasula	1.67	134	P	Pn	16 10 30.8	+1.0
VSU				S	Sn	16 10 51.8	-0.1
RAF	Rauma	1.92	317	eP	Pn	16 10 34.6	+1.5
RAF				eS	Sn	16 10 59.9	+1.9
FIA0	FINESS Array S	1.97	23	eP	Pn	16 10 34.8	+0.9
FIA0				eS	Sn	16 10 58.7	-0.6
FIA0				MSG		16 11 02.3	
	comp=Z,21nm,0.2s						
FIA0	FINESS Array S	1.97	23	Pn	Pn	16 10 34.9	+1.0
	baz=191,slow=18						
FIA0				Lg		16 10 59.2	
	baz=194,slow=37						
FINES	FINESS Array B	1.97	23	Pn	Pn	16 10 34.8	+1.0
	comp=Z,19nm,0.3s,baz=203,slow=14,SNR=824						
FINES				Lg		16 10 58.7	
	comp=Z,8.8nm,0.3s,baz=203,slow=30,SNR=13						
FINES				Sn	Sn	16 11 01.4	+2.1
	comp=Z,16nm,0.3s,baz=208,slow=24,SNR=16						
KAF	Kangasniemi	2.63	19	MSG		16 11 20.7	
	comp=Z,24nm,0.2s						
SUF	Sumiainen	3.19	14	MSG		16 11 43.1	
	comp=Z,16nm,0.3s						
HFS	Hagfors	5.44	280	eP	Pn	16 11 23.0	+1.5
HFS				eS	Sn	16 12 24.4	-0.4
HFS				eSG		16 12 47.0	
HFS	Hagfors	5.44	280	Pn	Pn	16 11 22.7	+1.2
	comp=Z,1.4nm,0.3s,baz=95,slow=16,SNR=36						
HFS				Sn	Sn	16 12 25.5	+0.7
	comp=Z,2.6nm,0.3s,baz=89,slow=26,SNR=9.5						
HFS				Lg		16 12 47.1	
	comp=Z,4.8nm,0.3s,baz=96,slow=30,SNR=8.8						
HFS	Hagfors	5.44	280	Pn	Pn	16 11 23.0	+1.5
	baz=94,slow=12						
HFS				Sn	Sn	16 12 24.4	-0.4
	baz=90,slow=28						
HFS				Lg		16 12 47.0	
	baz=105,slow=37						
HFS	Hagfors	5.44	280	P	Pn	16 11 23.0	+1.5
HFS				S	Sn	16 12 24.3	-0.5
HFS				Sg		16 12 46.9	
NB2	NORSAR Subarra	6.72	288	Pn	Pn	16 11 39.5	+0.4
	baz=99,slow=14						
NB2				Sn	Sn	16 12 54.0	-2.3
	baz=99,slow=22						
NB2				Lg		16 13 29.8	
	baz=100,slow=37						
NB2	NORSAR Subarra	6.72	288	eP	Pn	16 11 39.5	+0.4
NB2				eS	Sn	16 12 54.0	-2.3
NB2				eSG		16 13 29.8	
NB2	NORSAR Subarra	6.72	288	P	Pn	16 11 39.4	+0.3
NB2				Sg		16 13 29.8	
NOA	NORSAR Array B	6.72	288	Pn	Pn	16 11 39.2	+0.1
	comp=Z,1.3nm,0.3s,baz=91,slow=14,SNR=5.9						
NOA				Sn	Sn	16 12 52.4	-4.0
	comp=Z,1.9nm,0.3s,baz=123,slow=19,SNR=7.8						
NOA				Lg		16 13 25.8	
	comp=Z,2.2nm,0.3s,baz=62,slow=12,SNR=6.6						
BSD	Bornholm Skovb	6.87	233	iP	Pn	16 11 41.8	+0.6
BSD				e		16 12 08.3	
BSD				iS	Sn	16 12 58.2	-1.8
BSD	Bornholm Skovb	6.87	233	eP	Pn	16 11 41.8	+0.6
BSD				iS	Sn	16 12 58.2	-1.8
AKASG	Malin Array Be	9.37	161	Pn	Pn	16 12 15.4	-0.1
	comp=Z,2.1nm,0.3s,baz=342,slow=13,SNR=8.0						
ARA0	ARCESS Array S	9.94	2	Pn	Pn	16 12 21.7	-1.6
	baz=180,slow=16						
ARA0				Sn	Sn	16 14 07.1	-8.4
	baz=191,slow=28						
ARA0				Lg		16 15 03.0	
	baz=177,slow=37						
ARA0	ARCESS Array S	9.94	2	eP	Pn	16 12 21.7	-1.6
ARA0				eS	Sn	16 14 07.1	-8.4
ARA0				eSG		16 15 03.0	
ARA0	ARCESS Array S	9.94	2	Pn	Pn	16 12 21.7	-1.6
	SNR=108						
ARA0				Sn	Sn	16 14 07.1	-8.4
	SNR=4.5						
ARCES	ARCESS Array B	9.94	2	Pn	Pn	16 12 21.8	-1.5
	comp=Z,1.8nm,0.3s,baz=182,slow=10,SNR=66						
ARCES				Sn	Sn	16 14 07.7	-7.8
	comp=Z,0.3nm,0.3s,baz=184,slow=21,SNR=2.8						

---

*ISCJB **06** 16:15:39.0±1.7, 21.2S±0.2×66.6W±0.2, h250km±20km, mb3.3/1, Error ellipse: s-maj=37.2km s-min=16.1km az=101.5*
*IDC **06** 16:15:38.9±9.1, 21.18S×66.51W, h231km±76km, mb3.1/1, mb1 3.3/2, mb1mx3.1/15, mbtmp3.8/2, Error ellipse: s-maj=108.1km s-min=86.0km az=34.0*
*NEIC **06** 16:15:39.5±1.4, 21.18S×66.60W, h242km±15km, Error ellipse: s-maj=30.2km s-min=13.4km az=45.0*
ISC 06 16:15:39.8±1.7, 21.2S±0.2×66.6W±0.2, h236km±20km, n8, σ0s40/8, mb3.3/1, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.11	343	P	Pn	16 16 55.9	-0.5
	2.5nm,0.3s,baz=150,slow=8.9,SNR=60						
LPAZ				S	S	16 17 57.9	+0.5
	0.3nm,0.3s,baz=291,slow=17,SNR=5.4						
LPAZ	La Paz	5.11	343	ePn	Pn	16 16 55.8	-0.6
LPAZ				eS	S	16 17 57.3	-0.1
CPUP	Villa Florida	9.90	123	P	Pn	16 17 57.2	+0.1
SAML	Samuel	12.62	16	eP	Pn	16 18 31.4	+0.1
NNA	Nana	13.43	311	P	Pn	16 18 41.5	+0.2
TORD	Torodi Ar. Bea	75.22	69	P	P	16 26 56.4	-0.1
	0.3nm,0.4s,mb3.3,baz=256,slow=4.5,SNR=6.4						
MKAR	Makanchi Array	144.11	37	PKP	PKPdf	16 34 45.9	-1.2
	0.3nm,0.4s,baz=290,slow=3.5,SNR=3.6						
MKAR	Makanchi Array	144.11	37	PKP	PKPdf	16 34 45.9	-1.2

---

*STR **06** 16:33:17.0±0.4, 44.48N×7.41E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 06 16:33:13.7±0.1, 44.57N×7.52E, h12km, Ml1.9/7, Error ellipse: s-maj=2.8km s-min=1.3km az=80.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	Montbardon	0.56	287	ePg	Pg	16 33 24.8	+0.2
MBDF	Montbardon	0.56	287	ePn	Pg	16 33 26.3	+1.7
MBDF				eSg	Sg	16 33 32.5	+0.5
	8.2nm,0.3s						
AUTN	L'Aution	0.57	187	Pg	Pg	16 33 26.4	+1.5
AUTN				Sg	Sg	16 33 33.5	+1.0
SAOF	Saorge	0.58	177	Pg	Pg	16 33 26.6	+1.6
SAOF				Sg	Sg	16 33 33.4	+0.7
TOUF	Mont Tournerai	0.59	200	Pg	Pg	16 33 26.4	+1.3
LUCF	Luceram	0.69	191	Pg	Pg	16 33 28.0	+1.0
LUCF				Sg	Sg	16 33 36.4	+0.4
SBF	Sospel	0.70	185	ePg	Pg	16 33 27.4	0.0
SBF				eSg	Sg	16 33 36.7	+0.1
	5.5nm,0.2s						
MVIF	Mont Vial	0.72	202	Pg	Pg	16 33 28.2	+0.5
LPG	La Plagne	1.08	330	ePg	Pg	16 33 34.3	-0.2
LPG				eSg	Sg	16 33 48.3	-0.2
	3.1nm,0.2s						
LPL	La Plagne	1.10	330	ePg	Pg	16 33 34.7	-0.2
LPL				eSg	Sg	16 33 49.1	-0.2
	2.2nm,0.3s						
FRF	La Foret Royal	1.19	212	ePg	Pg	16 33 36.2	-0.3
FRF				eSg	Sg	16 33 50.9	-1.0
	1.9nm,0.2s						
ORIF	Oris-en-Rattie	1.22	287	ePg	Pg	16 33 36.9	-0.3
ORIF				eSg	Sg	16 33 52.7	-0.4
	2.2nm,0.4s						
LMR	La Mourre	1.43	211	ePg	Pg	16 33 39.3	-1.9
LMR				eSg	Sg	16 33 58.0	-1.8
	2.9nm,0.3s						
SMRF	Simiane la Rot	1.52	248	ePg	Pg	16 33 42.2	-0.6
SMRF				eSg	Sg	16 34 02.3	-0.2
	2.5nm,0.3s						
VIVF	Saint-Julien-l	2.05	279	ePg	Pg	16 33 51.7	-1.3
VIVF				eSg	Sg	16 34 17.9	-1.7
	1.0nm,0.2s						

---

*LDG **06** 16:36:57.6±0.1, 43.08N×0.36W, h8km, Md1.9/3, Ml1.9/4, Error ellipse: s-maj=1.4km s-min=0.8km az=165.0*
*STR **06** 16:36:57.3±0.3, 43.12N×0.36W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 06 16:36:57.9±0.3, 43.08N×0.36W, h10km±2km, mbLg0.9/6, Error ellipse: s-maj=4.0km s-min=1.9km az=11.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.03	256	Pg	Pg	16 36 59.5	-0.2
REYF				Sg	Sg	16 37 00.7	-0.2
REYF	Montagne du Re	0.03	256	P	Pg	16 36 59.6	-0.1
REYF				S	Sg	16 37 00.7	-0.2
ETSF	Etsaut	0.23	220	ePg	Pg	16 37 02.3	-0.3
ETSF				eSg	Sg	16 37 05.6	-0.2
	3.9nm,0.3s						
ETSF	Etsaut	0.23	220	Pg	Pg	16 37 02.3	-0.3
ETSF				Lg		16 37 05.6	
	1.9nm,0.3s						
ATE	Arette	0.25	272	Pg	Pg	16 37 02.9	-0.1
ATE				Sg	Sg	16 37 06.1	-0.3
ATE	Arette	0.25	272	P	Pg	16 37 02.8	-0.2
ATE				S	Sg	16 37 06.5	0.0
VIEF	Viey	0.34	124	Pg	Pg	16 37 04.7	+0.1
VIEF				Sg	Sg	16 37 09.6	+0.4
VIEF	Viey	0.34	124	P	Pg	16 37 04.7	+0.1
VIEF				S	Sg	16 37 09.3	+0.1
LARF	Larrau	0.46	266	P	Pg	16 37 07.0	0.0
LARF				S	Sg	16 37 13.8	+0.7
EPF	Esparros	0.51	95	ePg	Pg	16 37 07.4	-0.5
EPF				eSg	Sg	16 37 14.6	-0.1
	2.3nm,0.2s						
EPF	Esparros	0.51	95	Pg	Pg	16 37 07.4	-0.5
EPF				Lg		16 37 14.6	
	1.1nm,0.2s						
EBIE	Bielsa	0.54	136	Pg	Pg	16 37 08.2	-0.1
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		16 37 15.3	
	1.3nm,0.1s,SNR=9.6						
SJPF	Ste Jean	0.64	274	ePg	Pg	16 37 09.7	-0.5
SJPF				eSg	Sg	16 37 18.0	-0.5
	1.6nm,0.2s						
SJPF	Ste Jean	0.64	274	Pg	Pg	16 37 09.7	-0.5
SJPF				Lg		16 37 18.0	
	0.8nm,0.2s						
EALK	Alkurruntz	0.85	280	Lg		16 37 25.3	
	1.3nm,0.2s,SNR=7.9						
MTLF	Montolieu	1.90	81	ePg	Pg	16 37 32.8	-1.6
MTLF				eSg	Sg	16 37 57.8	-1.3
	0.7nm,0.3s						
MTLF	Montolieu	1.90	81	Pg	Pg	16 37 32.8	-1.6
MTLF				Lg		16 37 57.8	
	0.3nm,0.3s						
LFF	La Frestale	2.02	23	ePg	Pg	16 37 35.5	-1.2
LFF				eSg	Sg	16 38 01.2	-1.8
	3.4nm,0.2s						
LFF	La Frestale	2.02	23	Pg	Pg	16 37 35.5	-1.2
LFF				Lg		16 38 01.2	
	1.7nm,0.2s						
ERTA	Horta de San J	2.18	166	Sn	Sn	16 37 58.7	-2.6
	0.3nm,0.1s,SNR=7.9						
RJF	Les Rejaudoux	2.60	31	ePn	Pn	16 37 38.4	-1.7
RJF	Les Rejaudoux	2.60	31	ePg	Pg	16 37 47.5	-0.3
RJF				eSg	Sg	16 38 19.4	-2.2
	2.6nm,0.3s						
RJF	Les Rejaudoux	2.60	31	Pn	Pn	16 37 38.4	-1.7
RJF				Pg	Pg	16 37 47.5	-0.3
RJF				Lg		16 38 19.4	
	1.3nm,0.3s						
LASF	Ste Croix	3.22	70	ePg	Pg	16 37 57.3	-2.4
LASF				eSg	Sg	16 38 38.6	-2.8
	0.6nm,0.2s						
LASF	Ste Croix	3.22	70	Pg	Pg	16 37 57.3	-2.4
LASF				Lg		16 38 38.6	
	0.3nm,0.2s						

AVF	Avril sur Loir	4.55	34	*e*Pn	Pn	16 38 04.5	-2.4

*ISCJB **06** 17:12:00.6±0.6, 5970N±004×2435E±008, h0^{km}, Error ellipse: s-maj=5.7km s-min=5.5km az=114.6*
*CSEM **06** 17:12:02.6±0.5, 5959N×2425E, h1^{km}, ML2.5, Error ellipse: s-maj=15.0km s-min=10.6km az=22.0, Mining explosion.*
*NAO **06** 17:12:03.5±1.0, 5975N×2453E, ML2.6*
*HEL **06** 17:12:04.1±0.2, 5973N×2453E, h0^{km}, ML2.5, ML2.6(NAO), Explosion*
*BER **06** 17:12:04.5±4.1, 5973N×2450E, h0^{km}±17^{km}, ML2.6(NAO)*
*IDC **06** 17:12:05.5±0.9, 5988N×2454E, h0^{km}, mb1 3.5/4, mb1mx3.3/21, mbtmp3.4/4, ML3.9/3, Error ellipse: s-maj=10.5km s-min=6.2km az=133.0*
ISC 06 17:12:02.7±0.6, **5971N**±004×**2449E**±007, **h0^{km}, n27, σ1^{s}13**/42, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.52	355	*e*P	Pg	17 12 12.9	+0.4
MEF				*e*S	Sg	17 12 19.4	+0.1
PVF	Pernaja	1.09	39	*e*P	Pg	17 12 22.8	-0.8
PVF				*e*S	Sg	17 12 36.1	-1.6
VSU	Vasula	1.70	136	*e*P	Pn	17 12 34.7	+1.1
VSU				*e*S	Sn	17 12 56.1	0.0
VSU	Vasula	1.70	136	Pn	Pn	17 12 34.6	+1.0
VSU				Lg		17 12 56.5	
VSU	Vasula	1.70	136	P	Pn	17 12 34.6	+1.0
VSU				S	Sn	17 12 56.0	-0.1
RAF	Rauma	1.89	316	*e*P	Pn	17 12 37.9	+1.7
RAF				*e*S	Sn	17 13 02.2	+1.4
RAF	Rauma	1.89	316	P	Pn	17 12 37.9	+1.7
RAF				S	Sn	17 13 02.1	+1.3
FIA0	FINESS Array S	1.91	24	*e*P	Pn	17 12 37.6	+1.1
FIA0				MSG		17 13 04.2	
	comp=Z,44nm,0.3s						
FIA0	FINESS Array S	1.91	24	Pn	Pn	17 12 37.6	+1.1
	baz=197,slow=18						
FIA0				Lg		17 13 01.4	
	baz=200,slow=37						
FIA0	FINESS Array S	1.91	24	P	Pn	17 12 37.5	+1.0
	comp=Z,44nm,0.3s						
FINES	FINESS Array B	1.91	24	Pn	Pn	17 12 37.7	+1.2
	comp=Z,14nm,0.3s,baz=202,slow=16,SNR=798						
FINES				Lg		17 12 59.6	
	comp=Z,20nm,0.3s,baz=206,slow=31,SNR=31						
FINES				Sn	Sn	17 13 04.0	+2.8
	comp=Z,20nm,0.3s,baz=208,slow=24,SNR=26						
KEF	Keuruu	2.48	4	MSG		17 13 20.6	
	comp=Z,24nm,0.2s						
KAF	Kangasniemi	2.58	19	MSG		17 13 24.7	
	comp=Z,15nm,0.3s						
HFS	Hagfors	5.45	279	*e*P	Pn	17 13 25.3	+0.2
HFS				*e*S	Sn	17 14 26.6	-1.8
HFS				*e*SB		17 14 48.0	
HFS	Hagfors	5.45	279	Pn	Pn	17 13 25.7	+0.6
	comp=Z,0.9nm,0.3s,baz=96,slow=15,SNR=33						
HFS				Sn	Sn	17 14 27.9	-0.6
	comp=Z,1.5nm,0.3s,baz=90,slow=30,SNR=9.2						
HFS	Hagfors	5.45	279	Pn	Pn	17 13 25.3	+0.2
	baz=86,slow=14						
HFS				Sn	Sn	17 14 26.6	-1.8
	baz=102,slow=28						
HFS				Lg		17 14 48.0	
	baz=84,slow=22						
NB2	NORSAR Subarra	6.72	287	Pn	Pn	17 13 42.5	0.0
	baz=92,slow=14						
NB2				Sn	Sn	17 14 58.0	-1.7
	baz=95,slow=22						
NB2				Lg		17 15 31.4	
	baz=99,slow=37						
NB2	NORSAR Subarra	6.72	287	*e*P	Pn	17 13 42.5	0.0
NB2				*e*S	Sn	17 14 58.0	-1.7
NB2				*e*SG		17 15 31.4	
NB2	NORSAR Subarra	6.72	287	P	Pn	17 13 42.5	0.0
NB2				Sg		17 15 31.3	
NOA	NORSAR Array B	6.72	287	Pn	Pn	17 13 42.9	+0.3
	comp=Z,0.8nm,0.3s,baz=93,slow=14,SNR=4.4						
NOA				Sn	Sn	17 14 55.7	-4.0
	comp=Z,0.9nm,0.3s,baz=137,slow=21,SNR=3.1						
APA0	Apatity Array	8.78	22	Pn	Pn	17 14 11.2	+0.4
	baz=206,slow=12						
APA0	Apatity Array	8.78	22	*e*P	Pn	17 14 11.2	+0.4
AKASG	Malin Array Be	9.42	161	Pn	Pn	17 14 19.2	-0.4
	comp=Z,1.5nm,0.3s,baz=338,slow=12,SNR=7.3						
ARA0	ARCESS Array S	9.88	2	Pn	Pn	17 14 24.6	-1.3
	baz=176,slow=16						
ARA0				Sn	Sn	17 16 10.8	-6.8
	baz=186,slow=22						
ARA0	ARCESS Array S	9.88	2	*e*P	Pn	17 14 24.6	-1.3
ARA0				*e*S	Sn	17 16 10.8	-6.8
ARA0	ARCESS Array S	9.88	2	Pn	Pn	17 14 24.6	-1.3
	SNR=158						
ARA0				Sn	Sn	17 16 10.8	-6.8
	SNR=4.7						
ARCES	ARCESS Array B	9.88	2	Pn	Pn	17 14 24.6	-1.3
	comp=Z,2.2nm,0.3s,baz=184,slow=12,SNR=86						
ARCES				Sn	Sn	17 16 09.6	-8.0
	comp=Z,0.3nm,0.3s,baz=186,slow=22,SNR=3.2						

*LDG **06** 17:44:03.9±0.1, 4581N×300E, h20^{km}, Md2.0/3, Ml1.9/11, Error ellipse: s-maj=1.4km s-min=1.1km az=67.0*
STR 06 17:44:05.2±0.2, **4580N**×**301E, h5^{km}**±1^{km}, **Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYM	Petit Puy Mans	0.05	182	Pg	Pg	17 44 08.1	+1.6
AGO	Saint Agoulin	0.27	18	Pg	Pg	17 44 10.4	0.0
AGO				Sg	Sg	17 44 14.6	+0.7
VERF	Verneugheol	0.37	262	Pg	Pg	17 44 12.7	+0.3
VERF				Sg	Sg	17 44 17.6	+0.4
PLDF	La Plantade	0.46	68	Pg	Pg	17 44 14.0	0.0
COLF	Collangettes	0.56	120	Pg	Pg	17 44 16.0	+0.1
COLF				Sg	Sg	17 44 23.6	+0.5
LBL	Lubilhac	0.59	164	Pg	Pg	17 44 16.2	-0.4
LBL				Sg	Sg	17 44 24.3	0.0
TCF	Toulx Ste Croi	0.74	312	*e*Pg	Pg	17 44 17.9	-1.5
TCF				*e*Sg	Sg	17 44 27.2	-1.8
	1.5nm,0.1s						
BGF	Bois d'Agland	0.77	352	*e*Pg	Pg	17 44 18.8	-1.1
BGF				*e*Sg	Sg	17 44 28.4	-1.5
	7.0nm,0.4s						
AVF	Avril sur Loir	1.02	13	*e*Pg	Pg	17 44 23.2	-1.5
AVF				*e*Sg	Sg	17 44 36.3	-1.7
	1.7nm,0.2s						
SMF	Signal de Mont	1.02	34	*e*Pg	Pg	17 44 23.5	-1.3
SMF				*e*Sg	Sg	17 44 36.6	-1.5
	2.6nm,0.3s						
CAF	Calviac	1.10	218	*e*Pg	Pg	17 44 24.1	-2.2
CAF				*e*Sg	Sg	17 44 38.4	-2.1
	2.4nm,0.2s						
HYF	Humbligny	1.49	350	*e*Pg	Pg	17 44 31.6	-2.2
HYF				*e*Sg	Sg	17 44 50.7	-2.4
VIVF	Saint-Julien-l	1.51	128	*e*Pg	Pg	17 44 32.1	-2.0
VIVF				*e*Sg	Sg	17 44 51.7	-1.9
	1.4nm,0.3s						
LOR	Lormes	1.58	21	*e*Pg	Pg	17 44 33.3	-2.2
LOR				*e*Sg	Sg	17 44 53.5	-2.5
	1.7nm,0.2s						
LASF	Ste Croix	1.83	160	*e*Pg	Pg	17 44 37.5	-2.7
LASF				*e*Sg	Sg	17 45 01.0	-2.9
	0.4nm,0.2s						
ORIF	Oris-en-Rattie	2.21	113	*e*Pg	Pg	17 44 44.6	-2.9
ORIF				*e*Sg	Sg	17 45 13.6	-2.5
	0.5nm,0.3s						
CABF	La Chapelle	2.29	68	*e*Pg	Pg	17 44 46.4	-2.6
CABF				*e*Sg	Sg	17 45 16.1	-2.5
	0.7nm,0.3s						
MFF	Saint Martin d	2.33	291	*e*Pg	Pg	17 44 47.0	-2.9
MFF				*e*Sg	Sg	17 45 16.9	-3.3
	1.3nm,0.3s						
MEZF	Maizieres J'vi	3.04	27	*e*Pg	Pg	17 45 00.3	-3.2
MEZF				*e*Sg	Sg	17 45 39.6	-3.3
	6.6nm,0.4s						
CDF	Champ du Feu	3.91	47	*e*Pg	Pg	17 45 16.1	-4.1
CDF				*e*Sg	Sg	17 46 06.9	-4.0
	0.7nm,0.2s						

*ISCJB **06** 17:44:32.5±5.5, 370N±03×71.1E±05, h33^{km}, Error ellipse: s-maj=65.1km s-min=23.0km az=109.5*
*NNC **06** 17:44:35.0±14.0, 3708N×7108E, h197^{km}±218^{km}, mb2.2, mpv3.1, Error ellipse: s-maj=162.7km s-min=113.9km az=14.0*
ISC 06 17:44:33.6±5.3, **369N**±03×**711E**±05, **h35^{km}, n7, σ0^{s}45**/8, **1C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.61	20	P	Pn	17 45 55.3	+0.9
	SNR=31						
EKS2	Erkin-Say	6.12	19	P	Pn	17 46 01.7	+0.2
	SNR=9.1						
KK31	Karatay Array	6.21	356	⇓P	Pn	17 46 02.5	-0.2
	1.9nm,0.5s,baz=171,slow=12,SNR=56						
KK31				⇑S	Sn	17 47 12.4	0.0
	12nm,0.7s,baz=177,slow=22						
AAK	Ala-Archa	6.31	24	P	Pn	17 46 04.2	+0.2
	SNR=5.0						
USP	Ospenovka	6.88	21	P	Pn	17 46 11.5	-0.5
	SNR=6.8						
TKM2	Tokmak 2	6.95	29	P	Pn	17 46 12.4	-0.5
	SNR=5.2						
TKM2	Tokmak 2	6.95	29	⇓P	Pn	17 46 12.2	-0.7
	0.5nm,0.7s						

MAN 06 17:46:00.3, 925N×12238E, h15^{km}, mb2.6, ML4.1, MS2.8, 2C, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.85	83	⇑*i*P	Pb	17 46 15.5	-1.2
SNPH				*i* S	Sb	17 46 25.5	-2.4
DCPH	Dipolog City	1.16	124	⇑*i*P	Pn	17 46 20.0	-2.0
DCPH				*e*S	Sb	17 46 33.8	-3.2
GUIM	Jordan	1.39	8	*e*P	Pn	17 46 25.2	+0.1
GUIM				*e*S	Sn	17 46 43.0	-0.1
IPIL	Ipil	1.46	173	*e*P	Pn	17 46 25.7	-0.4
IPIL				*e*S	Sn	17 46 42.4	-2.6
PAGZ	Pagadian	1.70	144	*e*P	Pn	17 46 30.7	+1.3
CUYO	Cuyo Island	2.08	320	*e*P	Pn	17 46 35.5	+0.8
CUYO				*e*S	Sn	17 46 59.6	-0.7
MSLP	Maasin	2.60	70	*e*P	Pn	17 46 42.5	+0.8
MSLP				*e*S	Sn	17 47 14.6	+1.6
BUSP	Coron	3.48	322	*e*P	Pn	17 46 54.4	+0.5
ENPP	El Nido	3.50	304	*e*P	Pn	17 46 55.1	+0.9

BJI 06 17:57:05.2, 4031N×10648E, h23^{km}, ML3.7, Ms3.3, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	2.72	83	*e*P	Pn	17 57 49.4	+2.0
BTO				PG	Pn	17 57 53.6	+6.2
BTO				SG	Sn	17 58 28.6	+9.0
HHC	Hu-ho-hao-te	3.91	80	*e*PG	Pn	17 58 15.5	+12
HHC				SG	Sn	17 59 05.4	+16
HHC				Smax			
	comp=N,581nm,0.5s						
HHC				Smax			
	comp=E,394nm,0.3s						
LZH	Lanzhou	4.70	207	PG	Pn	17 58 30.1	+15
LZH				S	Sn	17 59 11.2	+2.7
LZH				SG	Sn	17 59 28.8	+20
LZH				Smax			
	comp=N,48nm,0.6s						
LZH				Smax			
	comp=E,17nm,0.6s						
LZH				LR	LR		
	comp=E,219nm,4.9s						
GTA	Gaotai	5.21	262	P	Pn	17 58 23.4	+1.7
GTA				PG	Pn	17 58 37.9	+16
GTA				S	Sn	17 59 22.0	+1.0
GTA				SG	Sn	17 59 45.4	+24
GTA				Smax			
	comp=N,127nm,0.9s						
GTA				Smax			
	comp=E,67nm,0.7s						
BJI	Beijing	7.43	89	PG	Pn	17 59 14.6	+22
BJI				SG	Sn	18 00 50.3	+35
BJI				Smax			
	comp=N,28nm,0.9s						
BJI				Smax			
	comp=E,23nm,1.4s						
WMQ	Urumqi	14.39	290	*e*P	Pn	18 00 32.7	+5.3

*NIED **06** 18:06:00, 3560N×14120E, h38^{km}, Mw5.2 Best double couple: M₀6.46000×10^{16} NP1:φs5.00000°, δ80.00000°, λ88.00000°. NP2:φs197.00000°, δ10.00000°, λ102.00000°.*
*BJI **06** 18:06:30.9, 3561N×14090E, h53^{km}, mB5.0, mb4.8, Ms4.7, Msz4.7*
*ISCJB **06** 18:06:31.7±0.3, 3550N±002×14097E±003, h46^{km}±2^{km}, mb5.0/161, MS4.7/56, Error ellipse: s-maj=4.4km s-min=3.5km az=61.6*
*MOS **06** 18:06:31.9±0.8, 3593N×14080E, h30^{km}, mb5.4/65, MS4.6/27, Error ellipse: s-maj=10.5km s-min=4.2km az=112.0*
*JMA **06** 18:06:31.2±0.1, 3559N×14106E, h38^{km}±1^{km}, M5.1 Broadband fault plane solution: P waves. NP1: φs198.00000°, δ27.00000°, λ118.00000°. NP2: φs347.00000°, δ66.00000°, λ76.00000°. Principal axes: T Plg66.0000°, Azm233.0000°; N Plg12.0000°, Azm352.0000°; P Plg20.0000°, Azm87.0000°;*
JMA Felt III J1.
*SZGRF **06** 18:06:32.7, 3580N×14097E, h33^{km}, mb5.3, MS4.8, Near east coast of eastern Honshu, Japan*
*IDC **06** 18:06:32.7±2.0, 3544N×14086E, h43^{km}±19^{km}, mb4.4/25, mb1 4.6/28, mb1mx4.5/31, mbtmp4.7/28, ML4.6/3, MS4.6/23, Ms1 4.6/23, ms1mx4.4/29, Error ellipse: s-maj=16.7km s-min=11.6km az=68.0*
*GCMT **06** 18:06:33.6±0.2, 3552N×14127E, h44^{km}, MW5.2/68, Moment Tensor Solution. s54,c94; s68,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.84±.19; $M_{\theta\theta}$-0.41±.12; $M_{\phi\phi}$-5.44±.12; $M_{r\theta}$0.84±.12; $M_{\theta\phi}$-1.15±.08; $M_{\phi r}$2.93±.10; Best double couple: M₀6.52200×10^{16} NP1:φs191.00000°, δ31.00000°, λ87.00000°. NP2: φs14.00000°, δ59.00000°, λ92.00000°. Principal axes: T 6.5990, Plg76.0000°, Azm289.0000°; N -0.1610, Plg2.0000°, Azm193.0000°; P -6.4440, Plg14.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 18:06:33.6±0.6, 3548N×14084E, h50^{km}±5^{km}, mb5.2/87, MW5.1(NIED) Error ellipse: s-maj=4.1km s-min=3.8km az=72.0*
NEIC Recorded [3 JMA] in Chiba, [2 JMA] in Ibaraki and [1 JMA] in Kanagawa, Saitama, Tochigi and Tokyo Prefectures.
ISC 06 18:06:32.5±0.3, **3553N**±002×**14099E**±003, **h40^{km}**±2^{km}, **h49^{km}**±3.9^{km}**:pP-P, n488, σ1^{s}01**/502, **mb5.0**/161, **MS4.7**/56, **42C-31D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.21	329	⇓P	Pn	18 06 38.2	-1.6
CHOJ				S	Sn	18 06 42.8	-2.2
JCN	Nagara	0.65	261	⇓P	Pn	18 06 45.8	+0.5
KTR	Katsuura	0.67	236	⇓P	Pn	18 06 45.2	-0.3
BSO4	Boso 4	0.76	225	⇓P	Pn	18 06 46.5	-0.2
BSO3	Boso 3	0.82	209	⇓P	Pn	18 06 47.2	-0.4
BSO1	Boso 1	0.87	181	⇑P	Pn	18 06 47.1	-1.1
JYT	Yasato	0.95	318	⇓P	Pn	18 06 48.2	-1.2
TOK	Tokyo	1.02	279	⇓P	Pn	18 06 51.1	+0.9
JHO	Hitachi	1.14	343	⇓P	Pn	18 06 50.4	-1.5
JHO				S	Sn	18 07 07.4	+1.2
JIM2	Oshima 3	1.51	238	P	Pn	18 06 55.6	-1.4
JIM2				S	Sn	18 07 16.7	+1.2
JAG	Ashikaga	1.54	306	⇓P	Pn	18 06 56.5	-0.9
JOD2	Odawara 2	1.58	261	⇓P	Pn	18 06 57.7	-0.2
ONAJ	Iwakimizuishiy	1.58	354	P	Pn	18 06 56.5	-1.5
JSB	Shiboa	1.68	329	P	Pn	18 06 59.0	-0.3
JRY	Ryogami san	1.77	287	⇓P	Pn	18 07 01.1	+0.6
NJJJ	Nii jima 2	1.79	232	P	Pn	18 07 00.5	-0.4
JFK	Kawauchi	1.84	357	⇓P	Pn	18 07 00.1	-1.4
JKT	Katashina	1.88	312	P	Pn	18 07 02.0	0.0
JIZS	Izushimoda	1.91	246	P	Pn	18 07 01.6	-0.9
JYN	Shimob	2.00	270	⇓P	Pn	18 07 04.1	+0.4
JKO	Kozu shima	2.03	229	P	Pn	18 07 03.3	-0.8
JGK	Kuni	2.17	299	P	Pn	18 07 07.4	+1.3
SHZ3	Shizuoka 3	2.32	259	P	Pn	18 07 09.4	+1.3
JMM	Marumori	2.34	356	⇑P	Pn	18 07 07.8	-0.6
JHK	Hiroka	2.34	318	⇓P	Pn	18 07 09.0	+0.5
JNT	Takato	2.35	279	P	Pn	18 07 10.3	+1.8
JSG	Sagara	2.45	251	P	Pn	18 07 11.5	+1.6
MJAR	Matsushiro Arr	2.47	295	P	Pn	18 07 10.0	-0.2
	72nm,0.3s,baz=100,slow=14,SNR=438						
MJAR				LR	LR	18 08 17.5	
	comp=Z,14μm,20.7s,baz=105,slow=44						
MAJO	Matsushiro	2.47	295	*e*P	Pn	18 07 11.4	+1.1
MAT	Matsushiro	2.47	295	P	Pn	18 07 11.4	+1.1
MAT				S	Sn	18 07 41.7	+2.5
MAT	Matsushiro	2.47	295	P	Pn	18 07 11.5	+1.2
JNG	Nsakai	2.50	291	⇓P	Pn	18 07 12.0	+1.3
JHJ	Hachijo jima 2	2.60	203	P	Pn	18 07 10.8	-1.2
	99nm,0.3s,baz=92,slow=4.4,SNR=25						
JHJ				S	Sn	18 07 39.6	-2.7
	486nm,0.3s,baz=250,slow=23,SNR=4.2						
JNS	Sasagawa	2.66	330	P	Pn	18 07 14.3	+1.6
JIZZ	Izumozaki	2.72	318	P	Pn	18 07 16.5	+2.9
JYZW	Yoshizawa	2.72	260	P	Pn	18 07 14.9	+1.3
HMMJ	Hamamatsu 2	2.76	257	P	Pn	18 07 15.2	+1.0
JJN	Nakama	2.77	305	P	Pn	18 07 16.1	+1.7
JYS	Shirataka	2.79	345	⇑P	Pn	18 07 15.1	+0.5
JGF	Kuroka	2.96	273	P	Pn	18 07 19.1	+2.1
JAO	Obara	3.06	266	P	Pn	18 07 19.9	+1.6
JGN	Niukaw	3.06	284	⇑P	Pn	18 07 20.4	+2.0
JTT	Ttatey	3.15	291	P	Pn	18 07 21.5	+1.9
JAW	Awa shima	3.24	335	P	Pn	18 07 21.3	+0.5
JSD	Sado	3.33	320	P	Pn	18 07 23.1	+1.1
JYK	Kaneyama	3.42	352	P	Pn	18 07 23.6	+0.3
JGM	Miyama	3.48	274	P	Pn	18 07 27.0	+2.8
JJH	Hakui	3.68	294	P	Pn	18 07 28.4	+1.6
JKG	Kaga	3.85	283	P	Pn	18 07 31.7	+2.5
JHG	Hegura jima	4.01	307	P	Pn	18 07 32.9	+1.5
JKZ	Kuzumaki	4.46	3	P	Pn	18 07 37.2	-0.3
JTH	Tanohata	4.46	9	P	Pn	18 07 36.6	-0.9
JIW	Iwasaki	5.12	352	P	Pn	18 07 46.9	+0.3
CBIJ	Chichi jima	8.46	173	P	Pn	18 08 30.4	-2.1
	57nm,0.3s,baz=326,slow=6.3,SNR=17						
CBIJ				S	Sn	18 09 57.2	-10
	43nm,0.3s,baz=131,slow=18,SNR=7.6						
ASAJ	Asahikawa	8.67	8	P	Pn	18 08 32.4	-2.9
	6.0nm,0.3s,baz=231,slow=15,SNR=25						
ASAJ				S	Sn	18 10 05.8	-5.9
	1.5nm,0.3s,baz=230,slow=32,SNR=2.2						
ASAJ				LR	LR	18 13 02.3	
	comp=Z,2μm,19.6s,baz=192,slow=44						
ASAJ	Asahikawa	8.67	8	P	Pn	18 08 32.4	-2.9
ASAJ				S	Sn	18 10 05.9	-5.8
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,19.6s						
YUK	Yuzh-Kuril'sk	9.29	22	*e*P	Pn	18 08 40.5	-3.3
YUK				*e*S	Sn	18 10 16.8	-10
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=E,280nm,0.4s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,1.2s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,330nm,0.5s						
YUK				MLR	MLR		
	comp=Z,3μm,15.5s						
YUK				MLR	MLR		
	comp=N,3μm,17.0s						
YUK				MLR	MLR		
	comp=E,3μm,16.0s						
VLA	Vladivostok	10.35	320	*e*P	Pn	18 08 58.2	-0.1
VLA				pmax	pmax		
	comp=Z,91nm,2.0s						
VLA				MLR	MLR		
	comp=Z,3μm,17.7s						
VLA	Vladivostok	10.35	320	⇓*i*P	Pn	18 08 58.4	+0.1
KUR	Kuril'sk	11.02	26	*e*P	Pn	18 09 03.5	-4.0
KUR				pmax	pmax		
	comp=Z,230nm,1.0s						
YSS	Yuzh-Sakhalins	11.49	6	⇑*i*P	Pn	18 09 11.0	-3.0
YSS				*e*S	Sn	18 11 14.0	-7.0
YSS				pmax	pmax		
	comp=N,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2μm,17.0s						
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,17.0s						
YSS	Yuzh-Sakhalins	11.49	6	*e*Pn	Pn	18 09 10.2	-3.8
	comp=E,55nm,0.7s						
MDJ	Mudanjiang	12.58	320	P	Pn	18 09 29.8	+0.9
MDJ				AMB	AMB		
	comp=Z,32nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,240nm,6.8s						
MDJ				LR	LR		
	comp=N,2μm,27.1s						
MDJ				LR	LR		
	comp=E,1μm,23.7s						
MDJ				LR	LR		
	comp=Z,3μm,23.7s						
MDJ	Mudanjiang	12.58	320	*e*P	Pn	18 09 29.6	+0.7
	comp=Z,58nm,1.3s						
HABR	Khabarovsk	13.66	343	*e*P	Pn	18 09 39.7	-3.9
HABR				*e*S	Sn	18 12 10.8	-3.2
JOW	Kunigami	13.90	235	LR	LR	18 15 01.4	
	comp=Z,1μm,20.1s,baz=294,slow=37						
CN2	Changchun	14.53	309	*e*P	Pn	18 09 53.8	-1.6
CN2				*e*AP	pP	18 10 04.1	-7.0
CN2				*e*S	Sn	18 12 32.7	-2.4
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,1μm,21.0s						
CN2				LR	LR		
	comp=E,1μm,21.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
SNY	Shenyang	14.97	300	⇑P	Pn	18 10 00.8	-0.5
SNY				AP	pP	18 10 10.9	-5.2
SNY				PP		18 10 15.3	
SNY				XP	sP	18 10 20.1	-1.1
SNY				S	Sn	18 12 44.4	-1.5
SNY				XS	sS	18 12 57.2	-21
SNY				SS		18 13 01.8	
SNY				AMB	AMB		
	comp=Z,32nm,1.1s						
SNY				AMB	AMB		
	comp=Z,324nm,12.0s						
SNY				LR	LR		
	comp=N,871nm,21.0s						
SNY				LR	LR		
	comp=E,2μm,19.8s						
SNY				LR	LR		
	comp=Z,2μm,19.8s						
KLR	Kul'dur	15.29	336	*e*P	Pn	18 09 56.8	-8.5
KLR				MLR	MLR		
	comp=N,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s						
DL2	Dalian	15.79	288	⇑P	Pn	18 10 12.7	+0.8
DL2				AP	pP	18 10 24.8	-0.3
DL2				S	S	18 13 09.1	-10
DL2				AMB	AMB		
	comp=Z,20nm,0.9s						
DL2				AMB	AMB		
	comp=Z,280nm,5.1s						
DL2				LR	LR		
	comp=N,520nm,19.3s						
DL2				LR	LR		

DL2 LR LR
comp=E,2µm,17.3s
comp=Z,2µm,19.9s
SSE Sheshan 17.13 261 P **Pn** **18 10 27.7 -1.1**
SSE AP pP 18 10 40.7 +0.7
SSE XP sP 18 10 47.4 +2.3
SSE S **S** **18 13 35.1 -11**
SSE AMB AMB
comp=Z,35nm,0.6s
SSE AMB AMB
comp=Z,579nm,7.7s
SSE LR LR
comp=N,1µm,20.0s
SSE LR LR
comp=E,360nm,20.0s
SSE LR LR
comp=Z,2µm,16.2s
NJ2 Nanjing 18.72 266 *e*P **Pn** **18 10 49.6 +1.4**
NJ2 AP pP 18 10 59.2 +1.7
NJ2 XP sP 18 11 05.7 +3.1
NJ2 S **S** **18 14 13.0 -4.8**
NJ2 XS sS 18 14 28.0 -6.4
NJ2 AMB AMB
comp=Z,40nm,0.6s
NJ2 AMB AMB
comp=Z,480nm,5.9s
NJ2 LR LR
comp=N,4µm,20.6s
NJ2 LR LR
comp=E,4µm,19.0s
NJ2 LR LR
comp=Z,4µm,22.0s
TIA Tai'an 19.35 279 ⇓P **Pn** **18 10 52.5 -3.3**
TIA AMB AMB
comp=Z,26nm,1.2s
TIA LR LR
comp=N,464nm,14.0s
TIA LR LR
comp=E,822nm,14.0s
BJI Beijing 20.10 290 P **P** **18 10 59.8 -2.9**
BJI S **S** **18 14 42.2 -4.1**
BJI AMB AMB
comp=Z,33nm,1.3s
BJI LR LR
comp=N,1µm,28.3s,MS4.3
BJI LR LR
comp=E,2µm,25.5s,MS4.3
BJI LR LR
comp=Z,2µm,28.3s,MS4.4
BJT Baijiatuau 20.11 290 *e*P **P** **18 11 00.6 -2.1**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 20.11 290 *e*P **P** **18 11 00.6 -2.2**
comp=Z,18nm,0.6s
HIA Hailar 20.76 318 *e*P **P** **18 11 05.6 -4.2**
HIA pmax pmax
comp=Z,11nm,0.7s
HIA Hailar 20.76 318 *e*P **P** **18 11 05.6 -4.2**
comp=Z,11nm,0.7s
PET Petropavlovsk 21.48 30 *e*P pP 18 11 28.2 +0.5
PET *e*S **S** **18 15 13.9 +0.3**
PET pmax pmax
comp=Z,300nm,8.9s
PET smax
comp=E,800nm,18.9s
PET smax
comp=N,900nm,10.2s
PET MLR MLR
comp=Z,1µm,18.0s,MS4.4
GUMO Guam 22.12 170 P **P** **18 11 24.2 -0.2**
comp=Z,58nm,1.0s,mb5.0,baz=156,slow=6.4,SNR=2.6
GUMO Guam 22.12 170 P **P** **18 11 24.2 -0.2**
HHC Hu-ho-hao-te 23.67 292 *e*P **P** **18 11 37.6 -2.7**
HHC AP 18 11 52.1
HHC XP sP 18 11 59.3 +3.3
HHC PP 18 12 10.7
HHC PCP PcP 18 15 24.2 +0.4
HHC S **S** **18 15 42.5 -10**
HHC XS sS 18 16 05.7 -4.7
HHC SS 18 16 33.9
HHC PCS PcS 18 19 01.9 -1.3
HHC AMB AMB
comp=Z,21nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,213nm,4.0s
HHC LR LR
comp=N,513nm,19.2s,MS4.3
HHC LR LR
comp=E,850nm,20.0s,MS4.3
HHC LR LR
comp=Z,1µm,25.0s,MS4.2
NRGR Nerungri 23.84 337 *e*P **P** **18 11 41.9 +0.1**
NRGR S PcP 18 15 26.0 +1.9
NRGR pmax pmax
comp=Z,71nm,0.5s,mb5.3
CLNS Chul'man 23.93 338 *e*P **P** **18 11 40.4 -2.3**
CLNS *e*PPP 18 12 16.0
CLNS *e* 18 15 20.1
CLNS *e*S **S** **18 15 56.1 -0.4**
CLNS *e*SS 18 16 45.8
CLNS pmax pmax
comp=Z,34nm,1.0s,mb4.7
CLNS pmax pmax
comp=N,34nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=Z,22nm,1.1s,mb4.5
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS smax
comp=E,12nm,1.4s
CLNS smax
comp=Z,3.0nm,0.6s
CLNS smax
comp=N,10.0nm,1.0s
CLNS MLR MLR
comp=N,400nm,16.0s,MS4.1
CLNS MLR MLR
comp=Z,1µm,16.0s,MS4.5
CLNS MLR MLR
comp=E,200nm,12.0s,MS4.1
MA2 Magadan 24.90 12 *e*P **P** **18 11 52.7 +1.2**
MA2 18 12 31.4
MA2 *e*S **S** **18 16 09.5 -2.5**
MA2 *e* 18 16 23.3
MA2 pmax pmax
comp=N,80nm,1.3s
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.2
MA2 MLR MLR
comp=Z,500nm,17.6s,MS4.1
CIT Chita 25.56 319 *e*P **P** **18 11 55.1 -2.4**
XAN Xi'an 26.32 276 P **P** **18 12 02.4 -2.0**
XAN S **S** **18 16 37.8 +3.3**
XAN AMB AMB
comp=Z,23nm,1.7s,mb4.4
XAN LR LR
comp=N,1µm,18.0s,MS4.6
XAN LR LR
comp=E,1µm,21.0s,MS4.6
XAN LR LR
comp=Z,2µm,21.0s,MS4.7
GZH Guangzhou 27.01 250 P **P** **18 12 09.8 -0.8**
GZH S **S** **18 16 45.5 +0.1**
GZH LR LR
comp=N,806nm,15.5s,MS4.7
GZH LR LR
comp=E,1µm,15.2s,MS4.7
GZH LR LR
comp=Z,2µm,15.5s,MS4.8
YAK Yakutsk 27.47 348 *e*P **P** **18 12 14.1 -0.6**
YAK *i* *PP pP 18 12 24.2 -1.5
YAK *e*S **S** **18 16 53.5 +0.9**
YAK pmax pmax
comp=Z,71nm,1.3s,mb5.0
YAK pmax pmax
comp=N,71nm,1.4s
YAK pmax pmax
comp=N,23nm,1.3s
YAK smax
comp=N,68nm,17.4s
YAK smax
comp=Z,101nm,22.2s
YAK MLR MLR
comp=N,872nm,23.0s
YAK MLR MLR
comp=Z,727nm,23.0s,MS4.2
YAK Yakutsk 27.47 348 *e*P **P** **18 12 13.6 -1.1**
comp=Z,98nm,0.8s,mb5.4
SEY Seymchan 28.33 11⇑ *i*P **P** **18 12 22.9 +0.5**
SONM Songino Array 28.37 306 P **P** **18 12 22.1 -0.7**
comp=Z,8.5nm,0.7s,mb4.5,baz=111,slow=9.4,SNR=33
SONM LR LR 18 24 06.8
comp=Z,1µm,18.0s,MS4.5,baz=103,slow=37
BOD Bodaibo 28.64 330 *e*P **P** **18 12 24.0 -1.2**
BOD pmax pmax
comp=Z,25nm,1.3s,mb4.8
LZH Lanzhou 30.02 282⇑P **P** **18 12 36.6 -0.8**
LZH AP pP 18 12 48.4 0.0
LZH XP sP 18 12 56.0 +2.7
LZH PP PP 18 13 39.3 -6.2
LZH S **S** **18 17 34.2 +1.5**
LZH AMB AMB
comp=Z,70nm,1.1s,mb5.3
LZH AMB AMB
comp=Z,290nm,4.7s
LZH LR LR
comp=E,4µm,14.8s
LZH LR LR
comp=Z,4µm,15.1s,MS5.2
GYA Guiyang 30.66 262⇑ *i*P **P** **18 12 41.1 -1.9**
GYA AP pP 18 12 53.0 -1.1
GYA PP PP 18 13 43.6 -9.1
GYA PCP PcP 18 15 37.6 -2.8
GYA S **S** **18 17 39.7 -3.0**
GYA SCP ScP 18 19 15.3 -4.5
GYA SCS ScS 18 23 10.5 -5.7
GYA AMB AMB
comp=Z,20nm,1.3s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.5s
GYA LR LR
comp=N,960nm,17.6s,MS4.6
GYA LR LR
comp=E,560nm,18.0s,MS4.6
GYA LR LR
comp=Z,2µm,16.4s,MS4.8
ZAK Zakamensk 30.96 310 *e*P **P** **18 12 44.1 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
TLY Talaya 31.08 313 *e*P **P** **18 12 47.2 +0.4**
TLY *e* 18 14 00.0
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
TLY MLR MLR
comp=Z,851nm,16.0s,MS4.5
TLY Talaya 31.08 313⇑ *i*P **P** **18 12 46.9 +0.1**
CD2 Chengdu 31.36 272 *e*P **P** **18 12 47.2 -2.1**
CD2 AP pP 18 13 04.0 +3.7
CD2 XP sP 18 13 10.1 +4.9
CD2 PP PP 18 13 50.5 -10
CD2 S **S** **18 17 45.0 -8.8**
CD2 XS sS 18 18 12.1 -0.1
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,70nm,5.4s
CD2 LR LR
comp=E,2µm,18.6s
CD2 LR LR
comp=Z,2µm,18.0s,MS4.9
QIZ Qiongzhong 32.02 247 P **P** **18 12 55.2 +0.2**
QIZ XP sP 18 13 15.1 +4.2
QIZ PP PP 18 14 03.3 -4.4
QIZ SCP ScP 18 19 16.3 -8.0
QIZ AMB AMB
comp=Z,7.0nm,1.3s,mb4.3
QIZ AMB AMB
comp=Z,76nm,6.2s
QIZ LR LR
comp=N,690nm,20.2s
QIZ LR LR
comp=Z,690nm,23.0s,MS4.3
GTA Gaotai 32.71 289 P **P** **18 13 01.2 +0.1**
GTA AP pP 18 13 14.8 +2.6
GTA XP sP 18 13 19.8 +2.8
GTA PP PP 18 14 13.2 -2.2
GTA PPP 18 14 28.4
GTA PCP PcP 18 15 47.1 +1.1
GTA S **S** **18 18 13.5 -1.2**
GTA XS sS 18 18 37.9 +4.7
GTA SCP ScP 18 19 21.7 -5.0
GTA PCS PcS 18 19 30.5 -0.7
GTA SS SS 18 20 14.8 -22
GTA SCS ScS 18 23 21.5 -5.0
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,119nm,8.0s
GTA LR LR
comp=N,713nm,22.0s,MS4.6
GTA LR LR
comp=E,1µm,21.3s,MS4.6
GTA LR LR
comp=Z,1µm,22.8s,MS4.6
KMI Kunming 34.42 263 P **P** **18 13 15.7 -0.2**
KMI AP pP 18 13 33.4 +6.3
KMI XP sP 18 13 39.1 +7.2
KMI PP PP 18 14 33.1 -1.3
KMI PPP 18 14 52.3
KMI S **S** **18 18 37.9 -3.3**
KMI XS sS 18 19 06.4 +6.6
KMI SS SS 18 20 52.9 -18
KMI SSS 18 21 16.3
KMI AMB AMB
comp=Z,14nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,133nm,7.1s
KMI LR LR
comp=N,821nm,17.1s,MS4.9
KMI LR LR
comp=E,2µm,17.1s,MS4.9
KMI LR LR
comp=Z,2µm,12.4s,MS5.0
BILL Bilibino 35.57 16κ *i*P **P** **18 13 26.1 +0.3**
BILL *e* pP 18 13 34.0 -3.0
BILL 18 14 38.0
BILL pmax pmax
comp=Z,37nm,1.3s,mb5.2
BILL MLR MLR
comp=Z,800nm,22.0s,MS4.4
BILL Bilibino 35.57 16⇑ *i*P **P** **18 13 25.6 -0.2**
TIXI Tiksi 36.75 354 *e*P **P** **18 13 34.9 -1.0**
TIXI *e*S **S** **18 19 14.2 -2.7**
TIXI pmax pmax
comp=Z,27nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,599nm,18.0s,MS4.4
TIXI Tiksi 36.75 354⇑ *i*P **P** **18 13 35.3 -0.6**
KRAR Krasnoyarsk 38.33 318⇓ *i*P **P** **18 13 49.5 +0.2**
KRAR pmax pmax
comp=Z,87nm,1.6s,mb5.2
KRAR MLR MLR
comp=Z,700nm,15.0s,MS4.6
WMQ Urumqi 41.23 298⇑ *i*P **P** **18 14 14.2 +0.8**
WMQ AP pP 18 14 29.0 +4.2
WMQ XP sP 18 14 36.0 +6.5
WMQ PP PP 18 15 53.0 +3.9
WMQ PPP 18 16 24.0
WMQ PCS PcS 18 20 03.0 +0.1
WMQ S **S** **18 20 23.0 -1.4**
WMQ XS sS 18 20 47.0 +3.8
WMQ SS SS 18 23 24.0 -4.6
WMQ AMB AMB
comp=Z,40nm,1.6s,mb4.8
WMQ AMB AMB
comp=Z,321nm,4.5s
WMQ LR LR
comp=N,906nm,18.6s,MS4.9
WMQ LR LR
comp=E,1µm,21.4s,MS4.9
WMQ LR LR
comp=Z,2µm,23.0s,MS4.9
LSA Lhasa 42.02 277 P **P** **18 14 21.0 +1.1**
LSA Lhasa 42.02 277 *e*P **P** **18 14 20.4 +0.5**
LSA pmax pmax
comp=Z,17nm,0.9s,mb4.7
LSA Lhasa 42.02 277 *e*P **P** **18 14 20.4 +0.5**
comp=Z,17nm,0.9s,mb4.7
ZAL Zalesovo 42.70 314 P **P** **18 14 25.5 0.0**
comp=Z,10nm,0.7s,mb4.7,baz=10.0,slow=8.2,SNR=47
ZAL LR LR 18 33 24.9
comp=Z,463nm,18.9s,MS4.4,baz=20,slow=38
ZAL Zalesovo 42.70 314 *i* P **P** **18 14 25.7 +0.3**
ZAL pmax pmax
comp=Z,10.0nm,0.7s
NVS Novosibirsk 43.65 315 *e*P **P** **18 14 32.0 -1.1**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,41nm,1.0s
NVS pmax pmax
comp=Z,44nm,1.0s,mb5.1
MKAR Makanchi Array 44.65 303 P **P** **18 14 40.9 -0.1**
comp=Z,16nm,0.8s,mb4.9,baz=83,slow=9.9,SNR=80
MKAR Makanchi Array 44.65 303 P **P** **18 14 40.9 -0.1**
KURK Kurchatov 46.61 309 P **P** **18 14 56.2 -0.3**
comp=Z,361nm,0.9s,SNR=60
TTA Tatalina 46.86 34 P **P** **18 14 58.8 +0.3**
TTA pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
TTA Tatalina 46.86 34 P **P** **18 14 58.8 +0.3**
comp=Z,0.9nm,0.3s,mb4.2
SVW2 Sparrevohn 46.93 36 *e*P **P** **18 15 01.4 +2.3**
GUN Gumba 46.98 277 *e*P **P** **18 14 59.8 +0.3**
comp=Z,76nm,1.0s,mb5.6
PKI Pulchoki 47.50 277 *e*P **P** **18 15 03.9 +0.4**
comp=Z,20nm,0.7s,mb5.1
KKN Kakani 47.51 277 *e*P **P** **18 15 03.6 0.0**
comp=Z,52nm,0.9s,mb5.5
DMN Daman 47.73 277 *e*P **P** **18 15 05.1 -0.2**
comp=Z,26nm,0.8s,mb5.3
GKN Gorkha 47.95 278 *e*P **P** **18 15 06.7 -0.3**
comp=Z,146nm,1.2s,mb5.9
KDAK Kodiak Island 48.45 41 P **P** **18 15 12.0 +1.1**
comp=Z,14nm,0.8s,mb5.0,baz=142,slow=8.2,SNR=5.8
KAKA Kakadu 48.65 191 *e*P **P** **18 15 12.1 -0.3**
comp=Z,74nm,1.4s,mb5.5
KOLN Koldanda 48.88 278 *e*P **P** **18 15 14.1 -0.1**
comp=Z,65nm,1.1s,mb5.6
TKM2 Tokmak 2 50.06 299 P **P** **18 15 24.1 +0.9**
SNR=27
KZA Kyzart 50.53 298 P **P** **18 15 28.4 +1.7**
SNR=14
COLA College 50.54 32⇑ *i*P **P** **18 15 26.5 -0.3**
KBK Karagaybulak 50.59 299 P **P** **18 15 27.8 +0.7**
SNR=17
CHMS Chumysh 50.64 300 P **P** **18 15 28.3 +0.7**
SNR=6.2
KSH Kashi 50.72 295 *e*P **P** **18 15 26.0 -2.2**
KSH *e*AP pP 18 15 41.5 +1.8
KSH *e*XP sP 18 15 48.2 +3.8
KSH *e*PCP PcP 18 16 44.3 -0.6
KSH PP PP 18 17 22.3 -2.1
KSH *e*PPP 18 18 20.3
KSH *e*SCP ScP 18 20 33.0 -4.8
KSH *e*PCS PcS 18 20 40.0 -2.3
KSH *e*S **S** **18 22 31.7 -9.0**
KSH *e*PS 18 22 50.4
KSH *e*XS sS 18 22 59.2 -0.6
KSH *e*SCS ScS 18 25 08.2 -7.4
KSH AMB AMB
comp=Z,279nm,3.1s
KSH LR LR
comp=N,466nm,5.9s
KSH LR LR
comp=E,409nm,7.4s
KSH LR LR
comp=Z,626nm,13.8s,MS4.8
FRU Bishkek 50.78 300 *e*P **P** **18 15 29.0 +0.4**
FRU *e* 18 16 50.0
CHKZ Chkalovo 51.10 314 *e*P **P** **18 15 30.2 -0.8**
CHKZ pmax pmax
comp=Z,30nm,0.9s,mb5.2
CHKZ Chkalovo 51.10 314 *e*P **P** **18 15 30.2 -0.8**
comp=Z,30nm,0.9s,mb5.2
BVAR Borovoye Array 51.34 313 P **P** **18 15 32.4 -0.4**
comp=Z,3.1nm,0.4s,mb4.6,baz=79,slow=7.7,SNR=48
BVAR LR LR 18 37 37.7
comp=Z,440nm,21.5s,MS4.5,baz=319,slow=36
EKS2 Erkin-Say 51.42 300 P **P** **18 15 33.6 +0.3**
SNR=8.0
AML Almayashu 51.62 299 P **P** **18 15 36.3 +1.4**
SNR=10
ZRNK Zerenda 52.18 313 *e*P **P** **18 15 38.8 -0.3**
ZRNK pmax pmax
comp=Z,55nm,1.2s,mb5.4
ZRNK Zerenda 52.18 313 *e*P **P** **18 15 38.8 -0.3**
comp=Z,55nm,1.2s,mb5.4
SDNR Sundarnagar 52.70 285 *e*x x 18 15 43.0
THN Thein Dam 53.32 287 *e*P **P** **18 15 46.0 -1.5**
EGAK Eagle 53.40 31 *e*P **P** **18 15 47.8 -0.3**
NDI New Delhi 53.63 282 *e*P **P** **18 15 48.0 -1.8**
FITZ Fitzroy Crossi 55.28 198⇑ *i*P **P** **18 16 01.9 +0.1**
comp=Z,24nm,1.2s,mb5.1
WRAB Tennant Creek 55.51 188 *e*P **P** **18 16 02.6 -0.8**
WRAB pmax pmax
comp=Z,155nm,1.4s,mb5.8
WRAB Tennant Creek 55.51 188 *e*P **P** **18 16 02.6 -0.8**
comp=Z,155nm,1.4s,mb5.8
WB2 Warramunga Arr 55.52 188⇑ *i*P **P** **18 16 02.8 -0.7**
WB2 *e*S **S** **18 23 48.4 +2.5**
WRA Warramunga Arr 55.52 188 P **P** **18 16 02.9 -0.6**
comp=Z,26nm,0.9s,mb5.3,baz=5.1,slow=7.5,SNR=124
INK Inuvik 55.89 27 P **P** **18 16 06.4 +0.3**
comp=Z,4.6nm,0.8s,mb4.6,baz=338,slow=2.8,SNR=5.3
SVE Sverdlovsk 56.06 319⇑ *e*P **P** **18 16 06.3 -1.0**
SVE *e* 18 16 21.2
SVE *e*S **S** **18 24 00.0 +6.9**
SVE pmax pmax
comp=Z,80nm,1.2s,mb5.6
SVE MLR MLR
comp=N,300nm,14.0s,MS4.8
SVE MLR MLR
comp=E,400nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,900nm,14.0s,MS5.0
ARU Arti 57.27 319⇑ *i*P **P** **18 16 15.2 -0.7**
ARU *e* 18 17 05.2
ARU *e*PPP 18 19 36.5
ARU *e*S **S** **18 24 11.0 +1.9**
ARU *e*SS SS 18 27 55.2 -3.4
ARU pmax pmax
comp=Z,57nm,1.3s,mb5.4
ARU MLR MLR
comp=Z,600nm,17.0s,MS4.8
ARU MLR MLR
comp=N,100nm,16.0s,MS4.7
ARU MLR MLR
comp=E,500nm,18.0s,MS4.7
ARU Arti 57.27 319 *e*P **P** **18 16 15.3 -0.6**
comp=E,72nm,1.1s,mb5.6
SOKR Solikamsk 57.32 323 *d* *i*P **P** **18 16 16.2 -0.1**
SOKR pmax pmax
comp=Z,30nm,1.4s,mb5.1
SOKR MLR MLR
comp=Z,1µm,19.0s,MS5.0
HYB Hyderabad 57.83 269 *i* P **P** **18 16 20.0 +0.1**
HYB Hyderabad 57.83 269 *e*P **P** **18 16 20.0 +0.1**
AS31 Alice Springs 59.25 188 *e*P **P** **18 16 29.6 -0.1**
AS31 *e*S **S** **18 24 40.9 +6.0**
ASPA Alice Springs 59.25 188 *e*P **P** **18 16 29.6 -0.2**
ASPA *e*S **S** **18 24 40.9 +6.0**
AKTK Aktyubinsk 59.43 313 P **P** **18 16 30.1 -0.9**
AKTO Aktyubinsk 59.43 313 P **P** **18 16 30.1 -0.9**
comp=Z,19nm,0.9s,mb5.0,baz=80,slow=7.2,SNR=22
MBWA Marble Bar 59.87 203 *e*P **P** **18 16 32.9 -1.1**
comp=Z,35nm,1.1s,mb5.3
DLBC Dease Lake 60.03 37 P **P** **18 16 39.0 +3.9**
comp=Z,3.7nm,0.9s,mb4.4,baz=239,slow=11,SNR=3.6
KBS Kingsbay 62.08 350⇓ *i*P **P** **18 16 49.2 +0.2**
KBS Kingsbay 62.08 350 P **P** **18 16 48.0 -1.1**
comp=Z,34nm,1.4s,mb5.3
TMCR Tamitsa 63.91 332 *e*P **P** **18 17 00.3 -0.9**
TMCR pmax pmax
comp=Z,40nm,1.5s,mb5.2
APA Apatity 63.92 336⇑ *i*P **P** **18 17 04.8 +3.5**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
APA MLR MLR
comp=Z,2µm,18.0s,MS5.2
KEV Kevo 64.73 339 *e*p **P** **18 17 04.5 -2.1**
comp=Z,2.0nm,0.5s,mb4.4

KEV Kevo 64.73 339 *e*P P 18 17 04.5 -2.1
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
YKA Yellowknife Ar 65.28 30 P P 18 17 10.5 +0.4
comp=Z,3.2nm,0.8s,mb4.4,baz=292,slow=6.4,SNR=5.8
ARCES ARCESS Array B 65.29 340 P P 18 17 10.0 -0.2
comp=Z,3.6nm,0.7s,mb4.5,baz=54,slow=7.7,SNR=12
ARCES LR LR 18 49 00.1
comp=Z,765nm,20.3s,MS4.9,baz=48,slow=39
STKA Stephens Creek 67.05 179 *e*P P 18 17 21.8 +0.3
comp=Z,4.7nm,0.8s,mb4.6
STKA Stephens Creek 67.05 179 P P 18 17 21.9 +0.4
comp=Z,4.0nm,0.8s,mb4.5,baz=3.1,slow=12,SNR=7.4
STKA LR LR 18 45 36.4
comp=Z,276nm,20.2s,MS4.5,baz=20,slow=35
FORT Forrest 67.06 192 *e*P P 18 17 21.6 0.0
comp=Z,24nm,0.6s,mb5.4
JOF Joensuu 67.13 332 *e*p P 18 17 20.7 -1.3
comp=Z,6.5nm,0.3s,mb5.1
DAG Danmarks Havn 67.25 355⇓ *i*P P 18 17 22.6 -0.1
comp=Z,5.1nm,1.1s,mb4.5
DAG Danmarks Havn 67.25 355⇓ *e*P P 18 17 22.6 -0.1
DAG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
DAG Danmarks Havn 67.25 355⇓ *e*P P 18 17 22.6 -0.1
comp=Z,5.1nm,1.1s,mb4.5
MOS Moscow 68.26 324 *e*P P 18 17 27.9 -1.2
MOS *e* 18 17 52.8
MOS *e* 18 19 58.9
MOS pmax pmax
comp=Z,300nm,3.3s
MOS MLR MLR
comp=Z,800nm,21.0s,MS4.9
OBN Obninsk 69.10 323⇓ *e*P P 18 17 34.1 -0.2
OBN *e* pP 18 17 43.3 -3.0
OBN *e* 18 17 52.7
OBN *e* 18 27 06.8
OBN pmax pmax
comp=Z,46nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,500nm,19.0s,MS4.8
OBN Obninsk 69.10 323⇑ *i*P P 18 17 34.1 -0.2
OBN LR LR
comp=Z,500nm,19.0s,MS4.8
KAF Kangasniemi 69.49 333 *e*p P 18 17 35.1 -1.7
comp=Z,8.2nm,0.4s,mb5.0,baz=50,slow=5.8
KAF Kangasniemi 69.49 333 *e*P P 18 17 35.1 -1.7
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
VRSR Storozhevoye 69.83 319*c i*P P 18 17 38.1 -0.7
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR MLR MLR
comp=Z,350nm,17.0s,MS4.7
VRSR MLR MLR
comp=N,280nm,18.0s,MS4.7
VRSR MLR MLR
comp=E,290nm,19.0s,MS4.7
FIA1 FINESS Array S 69.99 332 *e*P P 18 17 39.3 -0.5
FINES FINESS Array B 69.99 332 P P 18 17 39.3 -0.5
comp=E,7.0nm,0.7s,mb4.7,baz=52,slow=7.1,SNR=27
FINES LR LR 18 50 41.5
comp=E,396nm,18.6s,MS4.7,baz=45,slow=38
FINES FINESS Array B 69.99 332 *i*P P 18 17 39.2 -0.6
FINES pmax pmax
comp=Z,7.0nm,0.7s
KLBR Kellerberrin 70.24 201 *e*P P 18 17 40.5 -0.8
comp=Z,17nm,1.1s,mb4.9
GOF Gofitskoye 70.85 312 *e*P pP 18 17 58.5 +1.4
BIDO Bidbid 71.18 286 P P 18 17 48.4 +1.3
SNR=6.4
SMDO Samad 71.48 285 P P 18 17 50.0 +1.2
SNR=6.7
ZEI Tsey 71.50 310 *e*P P 18 17 47.9 -1.1
ZEI pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
KIV Kislovodsk 71.64 311 P P 18 17 50.7 +0.9
SNR=6.1
KIV Kislovodsk 71.64 311α *i*P P 18 17 50.4 +0.6
KIV *e* pP 18 18 02.0 +0.1
KIV *e* 18 27 26.7
KIV pmax pmax
comp=Z,73nm,1.4s,mb5.4
KIV Kislovodsk 71.64 311 *e*P P 18 17 49.9 0.0
comp=Z,31nm,0.8s,mb5.3
SUMG Summit 72.19 360 *e*P P 18 17 54.1 +1.0
comp=Z,36nm,1.1s,mb5.2
ASHO Ashiyiah 72.19 288 P P 18 17 53.9 +0.8
SNR=8.7
GNI Garni 72.33 307 P P 18 17 54.6 +0.6
comp=Z,6.2nm,0.6s,mb4.7,baz=268,slow=3.9,SNR=6.5
GNI Garni 72.33 307*c i*P P 18 17 55.1 +1.1
GNI pmax pmax
comp=Z,35nm,1.2s
GNI MLR MLR
comp=Z,500nm,21.0s
GNI Garni 72.33 307 *e*P P 18 17 52.6 -1.4
comp=Z,41nm,1.1s,mb5.3
ARQ Araqi 72.53 286 P P 18 17 56.2 +1.0
SNR=5.8
WALA Waterton Lakes 72.79 42 P P 18 17 56.2 -0.5
comp=Z,9.5nm,1.1s,mb4.6
BMO Blue Mountains 73.21 47 P P 18 18 00.1 +0.9
comp=Z,7.0nm,1.1s,mb4.5
MSO Missoula 74.04 44 P P 18 18 03.3 -0.8
comp=Z,3.6nm,0.9s,mb4.3
AKASG Malin Array Be 75.28 322 P P 18 18 10.7 -0.5
comp=Z,4.2nm,0.5s,mb4.7,baz=46,slow=6.0,SNR=42
AKASG LR LR 18 54 13.6
comp=Z,780nm,19.7s,MS5.0,baz=45,slow=38
AKASG Malin Array Be 75.28 322 *i*P P 18 18 10.6 -0.7
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 75.28 322 *e*P P 18 18 10.6 -0.7
HFS Hagfors 75.32 336 P P 18 18 11.2 -0.3
comp=Z,5.4nm,0.6s,mb4.7,baz=66,slow=3.7,SNR=18
HFS LR LR 18 53 43.8
comp=Z,1μm,20.5s,MS5.1,baz=30,slow=38
NB2 NORSAR Subarra 75.44 337 P P 18 18 11.7 -0.5
comp=Z,30nm,1.1s,mb5.1,baz=41,slow=5.9
NOA NORSAR Array B 75.44 337 P P 18 18 12.0 -0.2
comp=Z,9.2nm,0.7s,mb4.8,baz=40,slow=5.8,SNR=20
NOA LR LR 18 54 20.8
comp=Z,686nm,19.2s,MS5.0,baz=20,slow=38
NOA NORSAR Array B 75.44 337 P P 18 18 12.0 -0.2
NOA LR LR 18 54 20.8
EGMT Eagleton 75.63 41 P P 18 18 13.2 0.0
comp=Z,19nm,1.3s,mb4.9
DLMT Dillon 75.66 44 *e*P P 18 18 14.9 +1.5
comp=Z,17nm,1.1s,mb4.9
SUW Suwalki 75.97 327 *e*P P 18 18 15.5 +0.3
SUW L 18 48 49.8
comp=Z,0.2nm,29.0s
BOZ Bozeman (W) 76.03 44 *e*P P 18 18 16.7 +1.1
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BOZ Bozeman (W) 76.03 44 *e*P P 18 18 16.7 +1.1
comp=Z,5.1nm,0.8s,mb4.5
SIM Simferopol' 76.16 316 *e*P P 18 18 15.6 -0.7
SIM pmax pmax
comp=Z,11nm,1.1s,mb4.7
SIM MLR MLR
comp=Z,340nm,17.5s,MS4.7
NVAR Mina Array Bea 76.17 53 P P 18 18 18.2 +1.9
comp=Z,3.7nm,0.8s,mb4.3,baz=288,slow=3.7,SNR=16
MALT Malatya 77.43 308⇓ *i*P P 18 18 25.4 +1.9
MALT Malatya 77.43 308 *e*P P 18 18 24.8 +1.4
comp=Z,10nm,1.1s,mb4.7
IMW Indian Meadow 77.48 45 *e*P P 18 18 25.8 +2.0
comp=Z,12nm,1.0s,mb4.8
RRI2 Red Ridge 77.59 45 P P 18 18 26.6 +2.2
comp=Z,10nm,1.1s,mb4.7
TPAW Teton Pass 77.72 45 *e*P P 18 18 27.9 +2.8
comp=Z,12nm,1.1s,mb4.7
BGU Big Grassy Mou 78.03 48 *e*P P 18 18 28.1 +1.3
LVV L'vov 78.39 324 *e*P P 18 18 27.3 -1.5
HWUT Hardware Ranch 78.51 47 *e*P P 18 18 30.4 +1.0
comp=Z,10nm,1.1s,mb4.7
DUG Dugway 78.61 49 P P 18 18 30.4 +0.4
DUG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
DUG Dugway 78.61 49 P P 18 18 30.4 +0.4
comp=Z,9.4nm,1.0s,mb4.7

PDAR Pinedale Array 78.97 45 P P 18 18 32.7 +0.7
comp=Z,1.1nm,0.6s,mb4.0,baz=302,slow=1.4,SNR=14
BORG Borgarnes 79.10 352 LR LR 18 55 25.0
comp=Z,97nm,21.0s,MS4.1,baz=220,slow=37
KWP Kalwaria 79.16 324 *e*P P 18 18 33.5 +0.5
KWP L 18 52 52.0
comp=Z,0.3nm,28.6s
BURAR Bucovina Array 79.28 322⇑ *i*P P 18 18 34.7 +1.0
BURAR Bucovina Array 79.28 322⇑ P P 18 18 34.7 +1.1
KOLS Kolonicke sedl 79.84 324 *e*P P 18 18 36.8 +0.1
STHS Stebnicka Huta 79.99 325 *e*P P 18 18 38.1 +0.6
STHS *e* pP 18 18 49.9 +0.2
STHS Stebnicka Huta 79.99 325 *e*P P 18 18 38.1 +0.6
STHS *e* pP 18 18 49.9 +0.2
STHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MSU Marysvale 80.02 50 *e*P P 18 18 40.0 +2.4
UZH Uzhgorod 80.04 324 *e*P P 18 18 35.5 -2.3
UZH *e*S S 18 28 33.0 -6.0
UZH MLR MLR
comp=Z,500nm,19.0s,MS4.9
OJC Ojcow 80.10 326 *e*P P 18 18 38.3 +0.2
PFO Pinyon Flat Ob 80.17 56 *e*P P 18 18 40.2 +1.7
PFO pmax pmax
comp=Z,13nm,0.9s,mb4.9
PFO Pinyon Flat Ob 80.17 56 *e*P P 18 18 40.2 +1.7
comp=Z,13nm,0.9s,mb4.9
CRVS Cervenica-Dubn 80.25 324 *e*P P 18 18 37.8 -1.1
MLR Muntele Rosu 80.31 320 P P 18 18 39.2 0.0
comp=Z,3.1nm,0.9s,mb4.2,baz=19,slow=7.7,SNR=4.1
MLR LR LR 18 57 24.6
comp=Z,825nm,18.4s,MS5.1,baz=52,slow=38
NIE Niedzica 80.43 325 *e*P P 18 18 40.8 +0.9
SRU San Rafael 80.67 48 *e*P P 18 18 43.2 +2.1
SRU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SRU San Rafael 80.67 48 *e*P P 18 18 43.2 +2.0
comp=Z,9.1nm,0.8s,mb4.8
RWWY Rawlins 81.00 45 P P 18 18 40.4 -2.6
comp=Z,7.2nm,0.8s,mb4.7
KECS Kecovo 81.00 325 *e*P P 18 18 43.9 +0.9
KECS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
RUE Ruedersdorf 81.03 330 *e*P P 18 18 43.6 +0.5
OKC Ostrava-Krasne 81.12 327 *e*P P 18 18 44.0 +0.4
KSP Ksiaz 81.20 328 *e*P P 18 18 44.6 +0.6
KSP L 18 57 53.7
comp=Z,0.8nm,19.3s
KSP Ksiaz 81.20 328 *e*P P 18 18 44.4 +0.4
BSEG Bad Segeberg 81.25 333 *e*P P 18 18 44.2 -0.1
comp=Z,45nm,1.4s,mb5.2
MORC Moravsky Berou 81.43 327⇑ *i*P P 18 18 45.9 +0.7
MORC Moravsky Berou 81.43 327 *e*P P 18 18 45.5 +0.2
comp=Z,15nm,1.3s,mb4.8
DPC Dobruska-Polom 81.55 328 *e*P P 18 18 46.4 +0.5
UPC Upice 81.57 328 *e*P P 18 18 46.5 +0.5
PSZ Piszkesteto 81.68 324⇑ *e*P P 18 18 47.2 +0.6
PSZ Piszkesteto 81.68 324 ⇓ *i*P P 18 18 47.7 +1.1
PSZ Piszkesteto 81.68 324 *e*P P 18 18 47.1 +0.6
comp=Z,29nm,1.3s,mb5.0
PV10 Paradox Valley 82.03 48 *e*P P 18 18 50.5 +2.1
ASF Jabal al Asfar 82.06 304 P P 18 18 48.2 -0.4
comp=Z,7.7nm,1.0s,mb4.6,baz=0.4,slow=2.1,SNR=11
ASF LR LR 18 58 55.8
comp=Z,129nm,20.9s,MS4.3,baz=116,slow=38
BRG Berggiesshubel 82.17 329 *e*P P 18 18 49.0 -0.1
comp=Z,12nm,1.1s,mb4.7
BRG Berggiesshubel 82.17 329 *e*P P 18 18 49.4 +0.2
comp=Z,7.3nm,1.1s,mb4.5
BRG *e* 18 29 03.0
BRG
comp=N,384nm,20.6s
BRG
comp=E,335nm,20.4s
BRG
comp=Z,367nm,22.7s
BRG Berggiesshubel 82.17 329 *e*P P 18 18 49.4 +0.3
BRG *e* 18 29 03.0
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BRG MLR MLR
comp=N,7μm,20.6s
BRG MLR MLR
comp=E,384nm,20.5s
BRG MLR MLR
comp=Z,335nm,22.7s,MS4.7
BRG Berggiesshubel 82.17 329 *e*P P 18 18 49.4 +0.2
comp=Z,7.3nm,1.1s,mb4.5
BRG *e* 18 29 03.0
BRG LR LR
comp=Z,370nm,22.7s,MS4.7
VRAC Vranov 82.20 327 P P 18 18 50.0 +0.7
comp=Z,6.6nm,0.9s,mb4.6,baz=59,slow=7.1,SNR=13
VRAC LR LR 19 01 36.2
comp=Z,442nm,20.5s,MS4.8,baz=41,slow=40
CLL Collm 82.23 330 *e*P P 18 18 49.0 -0.4
comp=Z,40nm,1.3s,mb5.2
CLL Collm 82.23 330⇑ *i*P P 18 18 49.2 -0.2
comp=Z,39nm,1.3s,mb5.2
CLL *i* PcP PcP 18 18 53.1 -1.6
CLL *e*pP pP 18 19 05.0 +3.3
CLL *e*S S 18 29 00.0 -1.8
CLL *e*ScS ScS 18 29 19.0 +1.5
CLL Collm 82.23 330⇑ *i*P P 18 18 49.2 -0.2
CLL *e*S S 18 29 00.0 -1.8
CLL pmax pmax
comp=Z,39nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,500nm,17.7s,MS4.9
CLL Collm 82.23 330⇑ *i*P P 18 18 49.2 -0.2
comp=Z,39nm,1.3s,mb5.2
CLL *i* 18 18 53.1
CLL *e*S S 18 29 00.0 -1.8
CLL *e*ScS ScS 18 29 19.0 +1.5
CLL LR LR
comp=Z,500nm,17.7s,MS4.9
FBE Freiberg 82.38 330 *e*P P 18 18 50.3 +0.1
comp=Z,38nm,1.2s,mb5.2
NRDL Niedersach Rie 82.45 332 *e*P P 18 18 51.4 +0.8
comp=Z,16nm,1.3s,mb4.8
PV01 Paradox Valley 82.47 48 P P 18 18 52.0 +1.4
PRU Pruhonice 82.59 328 *e*P P 18 18 51.3 0.0
TREC Trest 82.70 327 *e*P P 18 18 52.2 +0.3
ZST Bratislava 82.78 326 *e*P P 18 18 53.4 +1.1
TANN Tannenbergstha 83.14 330 *e*P P 18 18 54.2 +0.1
comp=Z,14nm,1.4s,mb4.8
WERD Werda 83.17 330 *e*P P 18 18 54.3 0.0
comp=Z,27nm,1.6s,mb5.0
GUNZ Gunzen 83.23 330 *e*P P 18 18 54.8 +0.2
comp=Z,24nm,1.3s,mb5.1
PGB Pangyurishte 83.24 318 *e*P P 18 19 03.0 +8.3
GTTG Gyttingen 83.25 332 *e*P P 18 18 55.1 +0.4
comp=Z,21nm,1.2s,mb5.0
WERN Wernitzgruen 83.27 330 *e*P P 18 18 55.0 +0.2
comp=Z,24nm,1.3s,mb5.1
NKC Novy Kostel 83.28 330 *e*P P 18 18 55.5 +0.6
MOX Moxa 83.30 330 *e*P P 18 18 55.0 0.0
comp=Z,27nm,1.6s,mb5.0
MOX Moxa 83.30 330 *e*P P 18 18 54.9 -0.1
comp=Z,32nm,1.6s,mb5.1
MOX
comp=Z,400nm,20.0s
MOX Moxa 83.30 330 *e*P P 18 18 54.9 -0.1
MOX pmax pmax
comp=Z,1.0nm,1.6s
MOX MLR MLR
comp=Z,32μm,20.0s
SOP Sopron 83.41 326⇑ *e*P P 18 18 56.2 +0.7
IBBN Ibbenburen 83.48 333 *e*P P 18 18 55.6 -0.3
comp=Z,21nm,0.7s,mb5.3
PKSM Moragy 83.50 324 ⇓ *i*P P 18 18 56.1 +0.1
PKSM Moragy 83.50 324 ⇓ P P 18 18 56.1 0.0
RZN Rozhen 83.52 317 *e*P P 18 18 57.0 +0.9
CONA Conrad Observa 83.55 326⇑ *i*P P 18 18 56.8 +0.6
comp=Z,18nm,1.3s,mb5.0
BEO Belgrade 83.60 322 *i*P P 18 18 55.4 -1.1
MANZ Manzenberg 83.61 330 *e*P P 18 18 56.8 +0.2
comp=Z,12nm,1.3s,mb4.9
KHC Kasperske Hory 83.65 328 *e*P P 18 18 57.0 +0.2
VTS Vitosha 83.73 319 ⇓ *i*P P 18 18 58.4 +1.2
VTS Vitosha 83.73 319 *e*P P 18 18 57.0 -0.2
ROTZ Rotzenmuhle 83.74 329 *e*P P 18 18 57.8 +0.6
comp=Z,41nm,1.4s,mb5.4
GEC2 GERESS Array S 83.81 328 *e*P P 18 18 57.4 -0.2
comp=Z,15nm,1.3s,mb5.0

GEC2 GERESS Array S 83.81 328 *e*P P 18 18 57.4 -0.2
GEC2 pmax pmax
comp=Z,15nm,1.3s,mb5.0
GERES GERESS Array B 83.81 328 P P 18 18 57.5 -0.1
comp=Z,6.7nm,1.1s,mb4.7,baz=46,slow=4.6,SNR=28
GERES PP PP 18 22 10.4 -0.7
comp=Z,1.0nm,0.9s,baz=42,slow=4.2,SNR=4.3
GERES LR LR 19 03 18.2
comp=Z,301nm,18.2s,MS4.7,baz=25,slow=41
GERES GERESS Array B 83.81 328 P P 18 18 57.5 -0.1
GERES 18 22 10.4
UBBA Unterbreizbach 83.81 331 *e*P P 18 18 57.3 -0.3
comp=Z,23nm,1.6s,mb5.1
PMOR Pomariorio Ree 83.90 113 *e*T 19 51 14.8
comp=Z,15nm,0.2s
WET Wettzell 83.94 329 *e*P P 18 18 58.5 +0.3
comp=Z,23nm,1.4s,mb5.1
WET Wettzell 83.94 329 *e*P P 18 18 58.5 +0.3
WET pmax pmax
comp=Z,23nm,1.4s,mb5.1
ARSA Arzberg 84.20 326⇑ *i*P P 18 19 00.1 +0.5
comp=Z,38nm,1.6s,mb5.3
GRA1 Grafenberg Arr 84.20 330 *e*P P 18 19 00.1 +0.5
comp=Z,63nm,1.3s,mb5.6
GRA1 LR LR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.20 330 *e*P P 18 19 00.1 +0.5
comp=Z,63nm,1.3s,mb5.6
GRF *e*L 19 00 40.4
comp=Z,404nm,21.0s
GRF Grafenberg Arr 84.20 330 *e*P P 18 19 00.1 +0.5
GRF pmax pmax
comp=Z,63nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,400nm,21.0s,MS4.8
PPT Papeete 84.27 116 *e*LR LR 18 45 14.8
comp=Z,607nm,22.0s,baz=315
PPT Papeete 84.27 116 LR LR 18 49 00.4
comp=Z,475nm,19.5s,MS4.9,baz=316,slow=30
KKB Krupnik 84.29 318 *e*P P 18 19 00.0 -0.1
MOA Molln 84.32 327⇑ *i*P P 18 19 00.2 0.0
comp=Z,50nm,1.8s,mb5.4,SNR=12
DIVS Divcibare 84.35 322 *i*P P 18 18 59.8 -0.5
BUG Bochum--Univer 84.36 333 *e*P P 18 19 00.5 +0.1
EKA Eskdalemuir Ar 84.44 340 P P 18 19 00.5 -0.3
comp=Z,2.5nm,1.0s,mb4.3,baz=46,slow=4.8,SNR=5.7
TUC Tucson 84.74 54 *e*P P 18 19 03.3 +1.0
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
TUC Tucson 84.74 54 *e*P P 18 19 03.3 +1.0
comp=Z,3.9nm,0.8s,mb4.6
PERS Pernice 84.85 326 *i*P P 18 19 02.8 0.0
TNS Taunus Mts 84.89 332 *e*P P 18 19 03.1 0.0
comp=Z,21nm,1.3s,mb5.1
TNS Taunus Mts 84.89 332 *e*P P 18 19 03.1 0.0
TNS pmax pmax
comp=Z,21nm,1.3s,mb5.1
EIL Elat 84.91 303 *e*P P 18 19 03.3 +0.1
comp=Z,616nm,1.3s
DOBS Dobrina 85.05 325 *i*P P 18 19 03.5 -0.3
TOD Tromm 85.24 331 *e*P P 18 19 04.6 -0.2
CRES Cresnjev 85.30 325 *i*P P 18 19 04.8 -0.3
KBA Koelnbreinsper 85.31 327⇑ *i*P P 18 19 05.0 -0.1
comp=Z,35nm,2.0s,mb5.1
KBA Koelnbreinsper 85.31 327⇑ *i*P P 18 19 05.1 -0.1
KBA pmax pmax
comp=Z,35nm,2.0s,mb5.1
ECSD EROS,Sioux Fal 85.31 38 *e*P P 18 19 04.5 -0.7
FUR Furstenfeldbru 85.37 329 *e*P P 18 19 05.9 +0.4
comp=Z,39nm,1.1s,mb5.5
FUR Furstenfeldbru 85.37 329 *e*P P 18 19 05.9 +0.4
FUR pmax pmax
comp=Z,39nm,1.1s,mb5.5
HGN Heimansgroeve 85.40 333 *e*P P 18 19 05.1 -0.5
comp=Z,30nm,1.7s,mb5.2
BEBN Eben Emael 85.47 333 P P 18 19 06.0 0.0
MEM Membach 85.50 333 P P 18 19 06.3 +0.1
ABH Alteburg 85.51 332 *e*P P 18 19 06.3 +0.1
LJU Ljubljana 85.56 326 *e*P P 18 19 05.9 -0.5
BOJS Bojanci 85.63 325 *i*P P 18 19 06.6 -0.1
STU Stuttgart 85.75 330 *e*P P 18 19 07.2 -0.2
comp=Z,84nm,1.6s,mb5.7
ANMO Albuquerque 85.82 50 *e*P P 18 19 09.6 +1.9
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 85.82 50 *e*P P 18 19 09.6 +1.9
comp=Z,3.8nm,1.1s,mb4.5
CEY Cerknica 85.84 326 *i*P P 18 19 07.2 -0.5
WTTA Wattenberg 85.91 328⇑ *i*P P 18 19 08.3 +0.1
comp=Z,114nm,3.3s
WTTA Wattenberg 85.91 328⇑ *i*P P 18 19 08.3 +0.1
WTTA pmax pmax
comp=Z,114nm,3.3s
BCLA Clavier 85.92 333 P P 18 19 08.4 +0.2
UCC Uccle 85.94 334 P P 18 19 08.5 +0.2
MOTA Moosalm 86.08 328⇑ *i*P P 18 19 08.7 -0.3
comp=Z,20nm,1.5s,mb5.1
MOTA Moosalm 86.08 328⇑ *i*P P 18 19 08.7 -0.3
MOTA pmax pmax
comp=Z,20nm,1.5s,mb5.1
LANF Langenberg 86.14 331 *e*P P 18 19 09.6 +0.3
SNF Seneffe 86.21 334 P P 18 19 09.9 +0.2
WLF Walferdange 86.22 332 *e*P P 18 19 10.0 +0.3
comp=Z,44nm,1.4s,mb5.5
WLF Walferdange 86.22 332 P P 18 19 10.5 +0.9
WLF Walferdange 86.22 332 *e*P P 18 19 09.7 0.0
WLF pmax pmax
comp=Z,46nm,1.5s,mb5.5
WLF Walferdange 86.22 332 *e*P P 18 19 09.7 +0.1
comp=Z,46nm,1.5s,mb5.5
GIVF Givet 86.35 333 *e*P P 18 19 09.7 -0.6
comp=Z,44nm,1.4s,mb5.2
GIVF Givet 86.35 333 *e*P P 18 19 09.7 -0.6
GIVF pmax pmax
comp=Z,22nm,1.4s,mb5.2
GIVF Givet 86.35 333 *e*P P 18 19 09.7 -0.6
comp=Z,22nm,1.4s,mb5.2
DOU Dourbes 86.44 334 P P 18 19 10.8 +0.1
BFO Black Forest 86.45 331 *e*P P 18 19 10.5 -0.3
comp=Z,34nm,1.2s,mb5.5
BFO Black Forest 86.45 331 *e*P P 18 19 10.5 -0.3
BFO pmax pmax
comp=Z,34nm,1.2s,mb5.5
BAIF Baives 86.61 334 *e*P P 18 19 11.1 -0.5
comp=Z,29nm,1.3s,mb5.0
BAIF Baives 86.61 334 *e*P P 18 19 11.1 -0.5
BAIF pmax pmax
comp=Z,15nm,1.3s,mb5.1
BAIF Baives 86.61 334 *e*P P 18 19 11.1 -0.5
comp=Z,15nm,1.3s,mb5.0
DAVA Damuels 86.64 329⇑ *i*P P 18 19 11.2 -0.6
comp=Z,55nm,1.6s,mb5.5
WLS Welschbruch 86.77 331 *e*P P 18 19 12.2 -0.2
CDF Champ du Feu 86.80 331 *e*P P 18 19 12.2 -0.3
comp=Z,61nm,1.3s,mb5.4
CDF Champ du Feu 86.80 331 *e*P P 18 19 12.2 -0.3
CDF pmax pmax
comp=Z,30nm,1.3s,mb5.4
CDF Champ du Feu 86.80 331 *e*P P 18 19 12.2 -0.3
comp=Z,30nm,1.3s,mb5.4
SCHQ Schefferville 86.88 16 P P 18 19 11.9 -1.0
comp=Z,7.5nm,1.0s,mb4.9,baz=265,slow=6.6,SNR=4.2
SCHQ LR LR 18 59 58.2
comp=Z,151nm,19.7s,MS4.4,baz=292,slow=37
FELD Feldberg im Sc 86.94 330 *e*P P 18 19 12.8 -0.4
ECH Echery 87.01 331 *e*P P 18 19 12.8 -0.7
HINF Hinteralfeld 87.45 331 *e*P P 18 19 14.9 -0.8
comp=Z,16nm,1.1s,mb4.8
HINF Hinteralfeld 87.45 331 *e*P P 18 19 14.9 -0.8
HINF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
HINF Hinteralfeld 87.45 331 *e*P P 18 19 14.9 -0.8
comp=Z,8.0nm,1.1s,mb4.9
HAU Haudompre 87.50 331 *e*P P 18 19 15.2 -0.7
HAU *e*R
comp=Z,331nm,19.2s
HAU Haudompre 87.50 331 *e*P P 18 19 15.2 -0.7
HAU LR LR
comp=Z,330nm,19.3s,MS4.8
MEZF Maizieres J'vi 87.59 332 *e*P P 18 19 16.2 -0.1
comp=Z,90nm,1.4s,mb5.5
MEZF Maizieres J'vi 87.59 332 *e*P P 18 19 16.2 -0.1
comp=Z,90nm,1.4s,mb5.8
IDI Anoyia 87.76 313 LR LR 19 04 20.4
comp=Z,103nm,21.9s,MS4.2,baz=263,slow=40
TBI Tubuai 88.05 120 *e*LR LR 18 46 54.8

comp=Z,685nm,22.0s,baz=302
TBI Tubuai 88.05 120 *e*T 19 56 37.8
comp=Z,9.8nm,0.3s
CABF La Chapelle 88.73 331 *e*P **P 18 19 21.3 -0.5**
JFWS Jewell Farm 89.01 35 P **P 18 19 23.7 +0.6**
JFWS pmax pmax
comp=Z,92nm,0.9s,mb6.1
JFWS Jewell Farm 89.01 35 P **P 18 19 23.7 +0.6**
comp=Z,92nm,0.9s,mb6.1
LOR Lormes 89.06 332 *e*P **P 18 19 22.8 -0.5**
comp=Z,50nm,1.4s,mb5.3
LOR *e*R
comp=Z,402nm,20.5s
LOR Lormes 89.06 332 *e*P **P 18 19 22.8 -0.5**
LOR pmax pmax
comp=Z,25nm,1.4s,mb5.3
LOR MLR MLR
comp=Z,400nm,20.5s,MS4.8
LOR Lormes 89.06 332 *e*P **P 18 19 22.8 -0.5**
comp=Z,25nm,1.4s,mb5.4
LOR LR LR
comp=Z,400nm,20.5s,MS4.8
FLN La Foliniere 89.34 336 *e*P **P 18 19 24.2 -0.4**
comp=Z,32nm,1.3s,mb5.2
FLN *e*R
comp=Z,802nm,20.8s
FLN La Foliniere 89.34 336 *e*P **P 18 19 24.2 -0.4**
FLN pmax pmax
comp=Z,16nm,1.3s,mb5.2
FLN MLR MLR
comp=Z,800nm,20.8s,MS5.1
FLN La Foliniere 89.34 336 *e*P **P 18 19 24.2 -0.4**
comp=Z,16nm,1.3s,mb5.2
FLN LR LR
comp=Z,800nm,20.8s,MS5.1
LPL La Plagne 89.36 330 *e*P **P 18 19 24.7 0.0**
comp=Z,16nm,1.0s,mb5.0
LPL La Plagne 89.36 330 *e*P **P 18 19 24.7 0.0**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
LPL La Plagne 89.36 330 *e*P **P 18 19 24.7 0.0**
comp=Z,8.0nm,1.0s,mb5.0
LDF La Druitiere 89.37 335 *e*P **P 18 19 24.2 -0.5**
comp=Z,114nm,1.9s,mb5.6
LDF La Druitiere 89.37 335 *e*P **P 18 19 24.2 -0.5**
LDF pmax pmax
comp=Z,57nm,1.9s,mb5.6
LDF La Druitiere 89.37 335 *e*P **P 18 19 24.2 -0.5**
comp=Z,57nm,1.9s,mb5.6
LPG La Plagne 89.37 330 *e*P **P 18 19 24.9 +0.1**
SMF Signal de Mont 89.58 332 *e*P **P 18 19 25.5 -0.3**
comp=Z,57nm,1.4s,mb5.4
SMF Signal de Mont 89.58 332 *e*P **P 18 19 25.5 -0.3**
SMF pmax pmax
comp=Z,29nm,1.4s,mb5.4
SMF Signal de Mont 89.58 332 *e*P **P 18 19 25.5 -0.3**
comp=Z,29nm,1.4s,mb5.4
AVF Avril sur Loir 89.65 332 *e*P **P 18 19 25.8 -0.3**
comp=Z,64nm,1.3s,mb5.5
AVF Avril sur Loir 89.65 332 *e*P **P 18 19 25.8 -0.3**
AVF pmax pmax
comp=Z,32nm,1.3s,mb5.5
AVF Avril sur Loir 89.65 332 *e*P **P 18 19 25.8 -0.3**
comp=Z,32nm,1.3s,mb5.5
GRR Gorron 89.79 336 *e*P **P 18 19 26.5 -0.2**
comp=Z,76nm,1.4s,mb5.5
GRR Gorron 89.79 336 *e*P **P 18 19 26.5 -0.2**
GRR pmax pmax
comp=Z,38nm,1.4s,mb5.5
GRR Gorron 89.79 336 *e*P **P 18 19 26.5 -0.2**
comp=Z,38nm,1.4s,mb5.5
MBDF Montbardon 89.99 329 *e*P **P 18 19 26.8 -0.9**
comp=Z,24nm,1.2s,mb5.1
MBDF Montbardon 89.99 329 *e*P **P 18 19 26.8 -0.9**
MBDF pmax pmax
comp=Z,12nm,1.2s,mb5.1
MBDF Montbardon 89.99 329 *e*P **P 18 19 26.8 -0.9**
comp=Z,12nm,1.2s,mb5.1
BGF Bois d'Agland 90.03 333 *e*P **P 18 19 27.7 -0.2**
ORIF Oris-en-Rattie 90.20 330 *e*P **P 18 19 28.4 -0.2**
comp=Z,25nm,1.4s,mb5.1
ORIF *e*R
comp=Z,406nm,19.0s
ORIF Oris-en-Rattie 90.20 330 *e*P **P 18 19 28.4 -0.2**
ORIF pmax pmax
comp=Z,13nm,1.4s,mb5.1
ORIF Oris-en-Rattie 90.20 330 *e*P **P 18 19 28.4 -0.2**
comp=Z,12nm,1.4s,mb5.0
PLDF La Plantade 90.23 332 *e*P **P 18 19 29.4 +0.6**
AUTN L'Aution 90.31 328 *e*P **P 18 19 28.2 -0.9**
AGO Saint Agoulin 90.35 332 *e*P **P 18 19 30.3 +1.0**
SBF Sospel 90.41 328 *e*P **P 18 19 28.4 -1.2**
comp=Z,59nm,1.2s,mb5.5
SBF Sospel 90.41 328 *e*P **P 18 19 28.4 -1.2**
SBF pmax pmax
comp=Z,29nm,1.2s,mb5.5
SBF Sospel 90.41 328 *e*P **P 18 19 28.4 -1.2**
comp=Z,29nm,1.2s,mb5.5
LUCF Luceram 90.42 328 *e*P **P 18 19 29.1 -0.6**
SGMF Saint Gilles 90.47 337 *e*P **P 18 19 29.9 0.0**
comp=Z,65nm,1.4s,mb5.5
SGMF Saint Gilles 90.47 337 *e*P **P 18 19 29.9 0.0**
SGMF pmax pmax
comp=Z,33nm,1.4s,mb5.5
SGMF Saint Gilles 90.47 337 *e*P **P 18 19 29.9 0.0**
comp=Z,32nm,1.4s,mb5.5
TCF Toulx Ste Croi 90.50 333 *e*P **P 18 19 30.0 0.0**
comp=Z,59nm,1.5s,mb5.4
TCF Toulx Ste Croi 90.50 333 *e*P **P 18 19 30.0 0.0**
TCF pmax pmax
comp=Z,29nm,1.5s,mb5.4
TCF Toulx Ste Croi 90.50 333 *e*P **P 18 19 30.0 0.0**
comp=Z,29nm,1.5s,mb5.4
MVIF Mont Vial 90.50 329 *e*P **P 18 19 29.9 -0.1**
WMOK Wichita Mounta 90.58 45 *e*P **P 18 19 31.2 +0.8**
WMOK pmax pmax
comp=Z,4.0nm,1.2s,mb4.6
WMOK Wichita Mounta 90.58 45 *e*P **P 18 19 31.2 +0.8**
comp=Z,3.9nm,1.2s,mb4.6
ROSF Rostrenen 90.63 337 *e*P **P 18 19 30.6 0.0**
comp=Z,86nm,1.7s,mb5.5
ROSF Rostrenen 90.63 337 *e*P **P 18 19 30.6 0.0**
ROSF pmax pmax
comp=Z,43nm,1.7s,mb5.5
ROSF Rostrenen 90.63 337 *e*P **P 18 19 30.6 0.0**
comp=Z,43nm,1.7s,mb5.5
VIVF Saint-Julien-l 90.74 331 *e*P **P 18 19 30.9 -0.3**
comp=Z,36nm,1.3s,mb5.2
VIVF Saint-Julien-l 90.74 331 *e*P **P 18 19 30.9 -0.3**
VIVF pmax pmax
comp=Z,18nm,1.3s,mb5.2
VIVF Saint-Julien-l 90.74 331 *e*P **P 18 19 30.9 -0.3**
comp=Z,18nm,1.3s,mb5.2
QUIF Quistinic 90.96 337 *e*P **P 18 19 32.1 -0.1**
FRF La Foret Royal 90.99 329 *e*P **P 18 19 31.3 -1.0**
comp=Z,32nm,1.1s,mb5.2
FRF La Foret Royal 90.99 329 *e*P **P 18 19 31.3 -1.0**
FRF pmax pmax
comp=Z,16nm,1.1s,mb5.3
FRF La Foret Royal 90.99 329 *e*P **P 18 19 31.3 -1.0**
comp=Z,16nm,1.1s,mb5.3
LBL Lubilhac 90.99 332 *e*P **P 18 19 32.6 +0.3**
MFF Saint Martin d 91.09 334 *e*P **P 18 19 32.9 +0.1**
comp=Z,50nm,1.2s,mb5.4
MFF Saint Martin d 91.09 334 *e*P **P 18 19 32.9 +0.1**
MFF pmax pmax
comp=Z,25nm,1.2s,mb5.4
MFF Saint Martin d 91.09 334 *e*P **P 18 19 32.9 +0.1**
comp=Z,25nm,1.2s,mb5.4
SMRF Simiane la Rot 91.10 330 *e*P **P 18 19 32.6 -0.2**
comp=Z,43nm,1.4s,mb5.3
SMRF Simiane la Rot 91.10 330 *e*P **P 18 19 32.6 -0.2**
comp=Z,43nm,1.4s,mb5.6
VILF Villemus 91.14 329 *e*P **P 18 19 34.2 +1.2**
TAVF Tavernes 91.19 329 *e*P **P 18 19 33.0 -0.2**
LMR La Mourre 91.23 329 *e*P **P 18 19 32.6 -0.8**
comp=Z,75nm,1.3s,mb5.6
LMR La Mourre 91.23 329 *e*P **P 18 19 32.6 -0.8**
LMR pmax pmax
comp=Z,38nm,1.3s,mb5.6
LMR La Mourre 91.23 329 *e*P **P 18 19 32.6 -0.8**
comp=Z,38nm,1.3s,mb5.6
PRAF Pradon 91.41 330 *e*P **P 18 19 34.9 +0.7**
PUYF Puyloubier 91.41 329 *e*P **P 18 19 34.7 +0.4**
TREF Trevaresse 91.47 329 *e*P **P 18 19 35.7 +1.2**
RJF Les Rejaudoux 91.59 333 *e*P **P 18 19 35.2 +0.1**
comp=Z,54nm,1.3s,mb5.4
RJF *e*R
comp=Z,425nm,21.5s
RJF Les Rejaudoux 91.59 333 *e*P **P 18 19 35.2 +0.1**
RJF pmax pmax
comp=Z,27nm,1.3s,mb5.4
RJF MLR MLR
comp=Z,420nm,21.5s,MS4.8
RJF Les Rejaudoux 91.59 333 *e*P **P 18 19 35.2 +0.1**
comp=Z,27nm,1.3s,mb5.4
RJF LR LR
comp=Z,420nm,21.5s,MS4.8
CAF Calviac 91.70 332 *e*P **P 18 19 36.0 +0.4**
comp=Z,42nm,1.2s,mb5.3
CAF Calviac 91.70 332 *e*P **P 18 19 36.0 +0.4**
CAF pmax pmax
comp=Z,21nm,1.2s,mb5.3
CAF Calviac 91.70 332 *e*P **P 18 19 36.0 +0.4**
comp=Z,21nm,1.2s,mb5.3
LASF Ste Croix 91.72 331 *e*P **P 18 19 35.6 -0.1**
comp=Z,45nm,1.3s,mb5.3
VAE Valguarnera 92.08 320 LR LR 19 05 59.2
comp=Z,422nm,18.3s,MS4.9,baz=70,slow=39
LFF La Frestale 92.19 333 *e*P **P 18 19 38.1 +0.2**
comp=Z,55nm,1.2s,mb5.5
LFF La Frestale 92.19 333 *e*P **P 18 19 38.1 +0.2**
LFF pmax pmax
comp=Z,28nm,1.2s,mb5.5
LFF La Frestale 92.19 333 *e*P **P 18 19 38.1 +0.2**
comp=Z,28nm,1.2s,mb5.5
MTLF Montolieu 92.98 331 *e*P **P 18 19 41.6 +0.1**
comp=Z,36nm,1.2s,mb5.4
MTLF Montolieu 92.98 331 *e*P **P 18 19 41.6 +0.1**
MTLF pmax pmax
comp=Z,18nm,1.2s,mb5.4
MTLF Montolieu 92.98 331 *e*P **P 18 19 41.6 +0.1**
comp=Z,18nm,1.2s,mb5.4
EPF Esparros 93.97 332 *e*P **P 18 19 45.7 -0.4**
comp=Z,9.6nm,1.1s,mb4.8
EPF Esparros 93.97 332 *e*P **P 18 19 45.7 -0.4**
EPF pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
EPF Esparros 93.97 332 *e*P **P 18 19 45.7 -0.4**
comp=Z,4.8nm,1.1s,mb4.8
ETSF Etsaut 94.42 333 *e*P **P 18 19 48.9 +0.8**
comp=Z,25nm,1.4s,mb5.1
ETSF Etsaut 94.42 333 *e*P **P 18 19 48.9 +0.8**
ETSF pmax pmax
comp=Z,12nm,1.4s,mb5.1
ETSF Etsaut 94.42 333 *e*P **P 18 19 48.9 +0.8**
comp=Z,12nm,1.4s,mb5.1
SJPF Ste Jean 94.48 333 *e*P **P 18 19 48.3 -0.1**
comp=Z,16nm,1.1s,mb5.0
SJPF Ste Jean 94.48 333 *e*P **P 18 19 48.3 -0.1**
SJPF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
SJPF Ste Jean 94.48 333 *e*P **P 18 19 48.3 -0.1**
comp=Z,7.9nm,1.1s,mb5.1
KEST Kesra 96.01 322 LR LR 19 09 56.7
comp=Z,188nm,19.7s,MS4.6,baz=351,slow=40
ESDC Sonseca Array 98.49 333 LR LR 19 08 33.6
comp=Z,294nm,21.2s,MS4.8,baz=25,slow=38
RKT Rikitea 98.50 112 *e*SS SS 18 38 30.1 +13
comp=Z,167nm,30.2s
RKT *e*LR LR 18 52 11.9
comp=Z,557nm,23.8s,baz=309
TORD Torodi Ar. Bea 118.14 314 PKP PKPdf 18 25 14.9 -0.2
comp=Z,1.8nm,0.9s,baz=26,slow=1.9,SNR=8.4
TORD PP PP 18 26 22.8 -7.7
comp=Z,0.7nm,0.8s,baz=32,slow=6.8,SNR=4.4
TORD Torodi Ar. Bea 118.14 314 PKP PKPdf 18 25 14.9 -0.2
TORD PP PP 18 26 22.8 -7.7
QSPA South Pole Qui 125.27 180 *e*P PKPdf 18 25 27.2 -1.6
DBIC Dimbokro 127.14 316 PKP PKPdf 18 25 33.2 +0.8
comp=Z,2.4nm,0.8s,baz=80,slow=4.1,SNR=3.4
DBIC Dimbokro 127.14 316 PKP PKPdf 18 25 33.2 +0.8
SAML Samuel 145.55 46 *e*PKPdf PKPdf 18 26 06.9 +0.7
LPAZ La Paz 147.74 61 PKPbc PKPbc 18 26 12.6 -0.2
comp=Z,11nm,1.1s,baz=355,slow=6.4,SNR=24
LPAZ La Paz 147.74 61 *e*PKPdf PKPdf 18 26 12.6 +2.6

---

*ISCJB **06** 18:08:46.6±0.5, 5965N±003×2426E±006, h0km, Error ellipse: s-maj=4.9km s-min=4.3km az=82.7*
*CSEM **06** 18:08:48.8±0.3, 5961N×2432E, h1km, ML2.6, Error ellipse: s-maj=8.7km s-min=6.9km az=18.0, Mining explosion.*
*HEL **06** 18:08:50.6±0.1, 5969N×2453E, h0km, ML2.6, ML2.7(NAO), Explosion*
*BER **06** 18:08:50.9±4.7, 5971N×2451E, h0km±21km, ML2.7(NAO)*
*NAO **06** 18:08:50.2±1.0, 5973N×2458E, ML2.7*
*IDC **06** 18:08:51.9±0.8, 5983N×2447E, h0km, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML4.1/3, Error ellipse: s-maj=9.2km s-min=6.2km az=139.0*
ISC 06 18:08:48.9±0.5, **5966N**±003×**2448E**±007, **h0**km, **n36**, σ**1s18**/53, **Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MEF Metsahovi 0.56 356 *e*P **Pg 18 09 00.0 +0.4**
MEF *e*S **Sg 18 09 06.8 0.0**
PVF Pernaja 1.12 37 *e*P **Pg 18 09 09.7 -0.8**
PVF *e*S **Sg 18 09 24.0 -1.0**
VSU Vasula 1.68 135 *e*P **Pn 18 09 20.6 +1.1**
VSU *e*S **Sn 18 09 41.9 +0.2**
VSU Vasula 1.68 135 Pn **Pn 18 09 20.6 +1.2**
VSU Lg 18 09 42.1
VSU Vasula 1.68 135 P **Pn 18 09 20.5 +1.0**
VSU S **Sn 18 09 41.8 +0.1**
RAF Rauma 1.92 316 *e*P **Pn 18 09 24.8 +2.0**
FIA0 FINESS Array S 1.95 23 *e*P **Pn 18 09 24.5 +1.2**
FIA0 *e*S **Sn 18 09 48.5 -0.1**
FIA0 MSG 18 09 50.9
comp=Z,36nm,0.2s
FIA0 FINESS Array S 1.95 23 Pn **Pn 18 09 24.7 +1.4**
baz=197,slow=18
FIA0 Lg 18 09 48.7
baz=196,slow=37
FIA0 FINESS Array S 1.95 23 P **Pn 18 09 24.4 +1.1**
FIA0 S **Sn 18 09 48.4 -0.1**
comp=Z,36nm,0.2s
FINES FINESS Array B 1.95 23 Pn **Pn 18 09 24.7 +1.4**
comp=Z,23nm,0.3s,baz=197,slow=14,SNR=989
FINES Lg 18 09 48.2
comp=Z,18nm,0.3s,baz=209,slow=30,SNR=8.1
FINES Sn **Sn 18 09 50.1 +1.6**
comp=Z,17nm,0.3s,baz=203,slow=24,SNR=18
KAF Kangasniemi 2.62 19 MSG 18 10 10.1
comp=Z,33nm,0.2s
SUF Sumiainen 3.17 14 MSG 18 10 34.5
comp=Z,18nm,0.2s
HFS Hagfors 5.45 280 *e*P **Pn 18 10 12.8 +1.4**
HFS *e*S **Sn 18 11 14.7 -0.1**
HFS *e*SG 18 11 35.3
HFS Hagfors 5.45 280 Pn **Pn 18 10 12.3 +1.0**
comp=Z,1.2nm,0.3s,baz=95,slow=14,SNR=51
HFS Sn **Sn 18 11 14.9 +0.1**
comp=Z,3.5nm,0.3s,baz=89,slow=26,SNR=14
HFS Lg 18 11 37.7
comp=Z,4.6nm,0.3s,baz=89,slow=28,SNR=6.8
HFS Hagfors 5.45 280 Pn **Pn 18 10 12.8 +1.4**
baz=80,slow=16
HFS Sn **Sn 18 11 14.7 -0.1**
baz=83,slow=28
HFS Lg 18 11 35.3
baz=110,slow=37
HFS Hagfors 5.45 280 P **Pn 18 10 12.7 +1.3**
HFS S **Sn 18 11 14.7 -0.1**
NB2 NORSAR Subarra 6.72 288 Pn **Pn 18 10 29.1 +0.2**
baz=94,slow=14
NB2 Sn **Sn 18 11 43.4 -2.8**
baz=96,slow=22
NB2 Lg 18 12 17.4
baz=106,slow=37
NB2 NORSAR Subarra 6.72 288 *e*P **Pn 18 10 29.1 +0.2**
NB2 *e*S **Sn 18 11 43.4 -2.8**
NB2 *e*SG 18 12 17.4
NB2 NORSAR Subarra 6.72 288 P **Pn 18 10 29.1 +0.2**
NB2 Sg 18 12 17.4
NOA NORSAR Array B 6.72 288 Pn **Pn 18 10 29.5 +0.6**
comp=Z,1.6nm,0.3s,baz=90,slow=14,SNR=7.5
NOA Sn **Sn 18 11 42.2 -4.0**
comp=Z,2.0nm,0.3s,baz=126,slow=20,SNR=7.2
NOA Lg 18 12 17.9
comp=Z,2.9nm,0.3s,baz=126,slow=10,SNR=5.2
BSD Bornholm Skovb 6.89 233 *i* P **Pn 18 10 31.4 +0.3**
BSD *i* S **Sn 18 11 47.4 -2.8**
BSD *e*S **Sg 18 12 24.9 -5.3**
KONO Kongsberg 7.54 276 *e*S **Sn 18 12 01.8 -4.4**
KONO AML AML 18 12 51.4
comp=Z,3.6nm,0.4s
DOMB Dombas 7.89 294 *e*P **Pn 18 10 45.5 +0.6**
DOMB *e*S **Sn 18 12 10.7 -4.2**
DOMB AML AML 18 13 02.8
comp=Z,7.9nm,0.2s
MOR8 Moi Rana 7.97 329 *e*P **Pn 18 10 47.8 +1.9**
MOR8 *e*S **Sn 18 12 16.4 -0.3**
MOR8 AML AML 18 12 57.5
comp=Z,4.9nm,0.6s
STOK Stokkvaagen 8.47 327 *e*P **Pn 18 10 54.4 +1.6**
APA0 Apatity Array 8.82 22 Pn **Pn 18 10 57.4 -0.2**
baz=210,slow=14
APA0 Apatity Array 8.82 22 *e*P **Pn 18 10 57.4 -0.2**
APA0 Apatity Array 8.82 22 Pn **Pn 18 10 57.3 -0.3**
SNR=9.4
AKASG Malin Array Be 9.38 161 Pn **Pn 18 11 04.7 -0.7**
comp=Z,2.5nm,0.3s,baz=342,slow=13,SNR=13
AKASG Lg 18 13 44.4
comp=Z,1.2nm,0.3s,baz=239,slow=27,SNR=4.1
KTK1 Kautokeino 9.40 357 *e*P **Pn 18 11 06.5 +0.8**
ARA0 ARCESS Array S 9.92 2 Pn **Pn 18 11 11.5 -1.3**
baz=178,slow=14
ARA0 ARCESS Array S 9.92 2 *e*P **Pn 18 11 11.5 -1.3**
ARCES ARCESS Array B 9.92 2 Pn **Pn 18 11 11.6 -1.2**
comp=Z,2.1nm,0.3s,baz=180,slow=11,SNR=87
ARCES Sn **Sn 18 12 58.0 -6.9**
comp=Z,0.5nm,0.3s,baz=187,slow=22,SNR=3.2
ARCES Lg 18 13 53.4
comp=Z,1.1nm,0.3s,baz=184,slow=25,SNR=5.7
TRO Tromso 10.28 349 *e*P **Pn 18 11 16.7 -1.0**
SPA0 Spitsbergen Ar 18.79 355 P **Pn 18 13 08.5 -1.7**
baz=163,slow=11
SPA0 Spitsbergen Ar 18.79 355 *e*P **Pn 18 13 08.5 -1.7**

---

*ISCJB **06** 18:44:01.0±0.4, 5973N±003×2458E±007, h0km, mb3.5/1, Error ellipse: s-maj=5.0km s-min=4.6km az=19.1*
*NAO **06** 18:44:02.5±1.0, 5975N×2462E, ML2.4*
*CSEM **06** 18:44:02.1±0.1, 5976N×2449E, h1km, ML2.5, Error ellipse: s-maj=3.0km s-min=2.4km az=130.0, Mining explosion.*
*HEL **06** 18:44:03.1±0.1, 5974N×2453E, h0km, ML2.5, ML2.0(UPP), ML2.4(NAO), Explosion*
*BER **06** 18:44:03.5±4.4, 5974N×2453E, h0km±20km, ML2.4(NAO)*
*IDC **06** 18:44:03.4±1.3, 5980N×2466E, h0km, mb3.4/1, mb1 3.6/4, mb1mx3.3/19, mbtmp3.5/4, ML3.9/2, Error ellipse: s-maj=14.6km s-min=6.8km az=144.0*
*UPP **06** 18:44:08.4, 5980N×2375E, h0km, ML2.0, Suspected Mining explosion.*
ISC 06 18:44:02.3±0.4, **5975N**±003×**2461E**±007, **h0**km, **n50**, σ**0s78**/59, **mb3.5**/1, **Baltic States - Belarus - Northwestern Russia**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MEF Metsahovi 0.48 347 *e*P **Pg 18 44 11.8 +0.3**
MEF *e*S **Sg 18 44 18.1 +0.4**
PVF Pernaja 1.01 38 *e*P **Pg 18 44 21.8 0.0**
PVF Pernaja 1.01 38 P **Pg 18 44 21.7 0.0**
VSU Vasula 1.69 139 *e*P **Pn 18 44 33.6 +0.5**
VSU *e*S **Sn 18 44 55.0 -0.5**
VSU Vasula 1.69 139 Pn **Pn 18 44 33.6 +0.5**
VSU Lg 18 44 55.2
VSU Vasula 1.69 139 P **Pn 18 44 33.5 +0.4**
VSU S **Sn 18 44 55.0 -0.5**
FIA0 FINESS Array S 1.85 22 *e*P **Pn 18 44 36.4 +1.2**
FIA0 *e*S **Sn 18 44 59.8 +0.5**
FIA0 MSG 18 45 03.3
comp=Z,40nm,0.3s
FIA0 FINESS Array S 1.85 22 Pn **Pn 18 44 36.6 +1.4**
baz=196,slow=18
FIA0 Lg 18 45 00.3
baz=198,slow=37
FIA0 FINESS Array S 1.85 22 P **Pn 18 44 36.3 +1.1**
FIA0 S **Sn 18 44 59.7 +0.5**
comp=Z,40nm,0.3s
FINES FINESS Array B 1.85 22 Pn **Pn 18 44 36.7 +1.5**
comp=Z,17nm,0.3s,baz=201,slow=16,SNR=918
FINES Lg 18 44 58.9
comp=Z,20nm,0.3s,baz=204,slow=33,SNR=33
FINES Sn **Sn 18 45 02.4 +3.1**
comp=Z,20nm,0.3s,baz=207,slow=24,SNR=28
RAF Rauma 1.90 313 *e*P **Pn 18 44 36.8 +0.8**
AAL Aland 2.36 282 *e*P **Pn 18 44 42.8 +0.5**
KEF Keuruu 2.43 3 MSG 18 45 18.8
comp=Z,32nm,0.2s
KAF Kangasniemi 2.51 19 MSG 18 45 21.7
comp=Z,21nm,0.2s
NRTU Norrtaelje 3.03 271 *e*P **Pn 18 44 51.4 0.0**
SUF Sumiainen 3.07 13 MSG 18 45 39.5
comp=Z,9.0nm,0.2s
GRAU Graesoe 3.10 284 *e*P **Pn 18 44 52.0 -0.4**
FLYU Flymyra 3.40 279 *e*P **Pn 18 44 56.5 -0.1**
NYNU Nynaeshamn 3.46 260 *e*P **Pn 18 44 57.9 +0.5**
NYNU Nynaeshamn 3.46 260 P **Pn 18 44 57.8 +0.4**
GOTU Gotland 3.77 239 *e*P **Pn 18 45 02.2 +0.6**
GOTU Gotland 3.77 239 P **Pn 18 45 02.1 +0.5**
OSTU Oestervaala 3.79 281 *e*P **Pn 18 45 01.8 0.0**
ESKU Eskilstuna 4.22 266 *e*P **Pn 18 45 08.1 +0.3**
HEMU Hemsoen 4.33 316 *e*P **Pn 18 45 10.6 +1.4**
FALU Falun 4.45 283 *e*P **Pn 18 45 11.3 +0.3**
HASU Hassela 4.58 305 *e*P **Pn 18 45 13.1 +0.3**
BYXU Byxelkrok 4.69 242 *e*P **Pn 18 45 15.1 +0.9**
VSTU Vaestervik 4.70 247 *e*P **Pn 18 45 14.9 +0.5**
NRAU Nora 4.86 272 *e*P **Pn 18 45 16.1 -0.5**
LNKU Linkoeping 4.95 256 *e*P **Pn 18 45 18.9 +1.0**
HFS Hagfors 5.50 279 *e*P **Pn 18 45 25.0 -0.4**
HFS *e*S **Sn 18 46 27.3 -2.1**
HFS *e*SB 18 46 47.0
HFS Hagfors 5.50 279 Pn **Pn 18 45 24.7 -0.7**
comp=Z,0.9nm,0.3s,baz=95,slow=13,SNR=24
HFS Sn **Sn 18 46 27.3 -2.0**
comp=Z,1.5nm,0.3s,baz=89,slow=28,SNR=8.7
HFS Hagfors 5.50 279 Pn **Pn 18 45 25.0 -0.4**
baz=83,slow=16
HFS Sn **Sn 18 46 27.3 -2.1**
baz=94,slow=28
HFS Lg 18 46 47.0
baz=82,slow=28
HFS Hagfors 5.50 279 P **Pn 18 45 24.9 -0.5**
UDD Uddeholm 5.54 278 *e*P **Pn 18 45 25.2 -0.9**
VXJU Vaexsjoe 5.83 245 *e*P **Pn 18 45 30.2 +0.3**
NB2 NORSAR Subarra 6.76 287 Pn **Pn 18 45 41.9 -0.8**
baz=92,slow=14
NB2 Sn **Sn 18 46 56.5 -3.9**
baz=92,slow=22
NB2 Lg 18 47 30.6
baz=94,slow=37
NB2 NORSAR Subarra 6.76 287 *e*P **Pn 18 45 41.9 -0.8**
NB2 *e*S **Sn 18 46 56.5 -3.9**
NB2 *e*SG 18 47 30.6
NOA NORSAR Array B 6.76 287 Pn **Pn 18 45 41.9 -0.8**
comp=Z,0.8nm,0.3s,baz=86,slow=13,SNR=5.1
NOA Sn **Sn 18 46 55.3 -5.2**
comp=Z,1.0nm,0.3s,baz=127,slow=24,SNR=3.1
APA0 Apatity Array 8.71 22 Pn **Pn 18 46 09.3 -0.2**
baz=215,slow=14
APA0 Apatity Array 8.71 22 *e*P **Pn 18 46 09.3 -0.2**
AKASG Malin Array Be 9.44 162 Pn **Pn 18 46 19.1 -0.4**
comp=Z,1.4nm,0.3s,baz=339,slow=13,SNR=4.7
ARA0 ARCESS Array S 9.83 2 Pn **Pn 18 46 23.3 -1.6**
baz=174,slow=16
ARA0 ARCESS Array S 9.83 2 *e*P **Pn 18 46 23.3 -1.6**
ARCES ARCESS Array B 9.83 2 Pn **Pn 18 46 23.7 -1.2**
comp=Z,2.2nm,0.3s,baz=188,slow=11,SNR=133
SPA0 Spitsbergen Ar 18.71 355 P **Pn 18 48 21.4 -1.1**
baz=155,slow=16
SPA0 Spitsbergen Ar 18.71 355 *e*P **Pn 18 48 21.4 -1.1**
MAL Malaga 29.64 232 *i* P **P 18 50 09.4 +0.1**
MKAR Makanchi Array 35.66 85 P **P 18 51 01.4 -0.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=321,slow=6.7,SNR=7.0

---

*IDC **06** 18:47:00.6±1.9, 3900N×3363E, h0km, mb3.6/3, mb1 3.7/7, mb1mx3.6/20, mbtmp3.6/7, ML3.4/3, MS2.5/1, Ms1 2.5/1, ms1mx2.3/26, Error ellipse: s-maj=33.2km s-min=20.6km az=119.0*

*MOS **06** 18:47:02.6±2.8, 3929N×3323E, h10^{km}, mb3.9/1, Error ellipse: s-maj=15.9km s-min=10.9km az=93.2*
*ISK **06** 18:47:02.1, 3941N×3313E, h5^{km}, ML4.0*
*NEIC **06** 18:47:03.6±0.6, 3930N×3327E, h10^{km}, mb3.8/1, ML3.9(ISK), Error ellipse: s-maj=11.9km s-min=8.1km az=122.0*
CSEM 06 18:47:02.2±0.1**, 3945N**×**3314E, h5^{km}, mb3.8**/1**, 1C-2D, Error ellipse: s-maj=1.4km s-min=1.2km az=33.0, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.45**	**100**	*i* PG	Pg	18 47 10.8	-0.1
BR131	**Keskin Array S**	**0.47**	**54**	*e*P	Pg	18 47 11.4	+0.1
BR131				*e*S	Sg	18 47 18.4	+1.0
BR131	**Keskin Array S**	**0.47**	**54**	*e*P	Pg	18 47 11.4	+0.1
ANTO	**Ankara**	**0.50**	**327**	*i* P	Pg	18 47 12.5	+0.7
ANTO				*i* S	Sg	18 47 20.6	+2.3
ANTO	**Ankara**	**0.50**	**327**	*e*P	Pg	18 47 11.9	+0.2
ANTO	**Ankara**	**0.50**	**327**	*e*P	Pg	18 47 11.9	+0.1
ANTO	**Ankara**	**0.50**	**327**	*i* Pg	Pg	18 47 12.3	+0.5
ANTO				*i* Sg	Sg	18 47 20.2	+2.0
ANTO				*i* S	Sg	18 47 20.5	+2.3
ELDT	**Eldivan**	**1.06**	**12**	*i* P	Pg	18 47 22.8	+0.3
ELDT				*i* S	Sg	18 47 38.8	+2.5
KIZT	**Kizilcal**	**1.14**	**240**	*i* PN	Pg	18 47 22.9	-1.1
KIZT				*i* SN	Sg	18 47 38.9	+0.2
CANT	**Cankiri**	**1.21**	**17**	*i* PN	Pg	18 47 26.2	+0.8
KDHN	**Kadinhani**	**1.23**	**221**	*i* P	Pg	18 47 24.5	-1.2
KDHN				*i* S	Sg	18 47 41.4	-0.2
CORM	**Corum**	**1.36**	**57**	*i* PN	Pn	18 47 28.2	+0.4
SGKT	**Sivrigoynuk**	**1.40**	**324**	*i* P	Pn	18 47 29.1	+0.7
SGKT				*i* S	Sb	18 47 48.3	+1.4
AVNT	**Avonos**	**1.49**	**116**	*i* P	Pn	18 47 30.0	+0.4
AVNT				*i* S	Sg	18 47 50.7	+0.6
KONT	**Konya--Tatoy**	**1.62**	**202**	*i* PN	Pn	18 47 32.0	+0.5
KONT				*i* SN	Sn	18 47 52.3	-0.4
BSTP	**Nigde**	**1.68**	**153**	*i* P	Pn	18 47 33.8	+1.6
BSTP				*i* S	Sg	18 47 58.0	+1.8
YOZ	**Yozgat**	**1.69**	**83**	*i* PN	Pn	18 47 33.3	+0.9
TOS	**Tosya**	**1.72**	**23**	*i* PN	Pn	18 47 33.8	+1.0
CTKT	**Corum**	**1.72**	**47**	*i* P	Pn	18 47 34.0	+1.2
CTKT				*i* S	Sg	18 47 58.6	+1.1
ESKT	**Eskisehir**	**1.78**	**273**	*i* P	Pn	18 47 33.3	-0.2
ESKT				*i* S	Sg	18 48 00.0	+0.8
ESKT	**Eskisehir**	**1.78**	**273**	*i* Pn	Pn	18 47 34.3	+0.8
SEYT	**Eskypehyr**	**1.78**	**273**	*i* P	Pn	18 47 33.3	-0.2
SEYT				*i* S	Sg	18 48 00.0	+0.7
MDU	**Mudurnu**	**1.79**	**305**	*i* PN	Pn	18 47 35.6	+1.8
SAFT	**Safranbolu**	**1.82**	**349**	*i* PN	Pn	18 47 35.9	+1.8
BALT	**Daday**	**2.09**	**5**	*i* P	Pb	18 47 41.8	+1.2
BALT				*i* S	Sg	18 48 10.5	+1.2
BORA	**Eskisehir**	**2.12**	**283**	*i* P	Pn	18 47 38.1	-0.2
BORA				*i* S	Sg	18 48 11.7	+1.4
BNN	**Bunyan**	**2.19**	**105**	*i* PN	Pn	18 47 40.6	+1.4
HENT	**Hendek**	**2.20**	**309**	*i* P	Pg	18 47 46.0	+1.7
HENT				*i* S	Sg	18 48 12.6	-0.3
KDZE	**Karadeniz Ereo**	**2.27**	**326**	PN	Pn	18 47 42.1	+1.8
GPA	**Golpazari**	**2.33**	**292**	*e*PN	Pn	18 47 43.1	+1.9
BYBT	**Boyabat**	**2.37**	**31**	PN	Pn	18 47 42.9	+1.3
BOYT	**Boyabat**	**2.38**	**34**	*i* P	Pn	18 47 43.0	+1.1
BOYT				*i* S	Sb	18 48 16.6	+1.3
HDMB	**Hadim**	**2.54**	**192**	PN	Pn	18 47 44.3	+0.3
BZK	**Bozkurt**	**2.59**	**14**	*e*PN	Pn	18 47 46.6	+1.9
ISP	**Isparta**	**2.61**	**233**	PN	Pn	18 47 46.1	+1.0
ISP	**Isparta**	**2.61**	**233**	*e*P	Pn	18 47 45.0	-0.1
ISP	**Isparta**	**2.61**	**233**	*e*P	Pn	18 47 45.0	-0.1
ISP	**Isparta**	**2.61**	**233**	*e*Pn	Pn	18 47 46.1	+1.0
TKTP	**Tekketepe**	**2.62**	**238**	*i* P	Pn	18 47 45.7	+0.6
TKTP				*i* S	Sb	18 48 19.5	-2.5
KARA	**Karaisali**	**2.65**	**145**	*e*PN	Pn	18 47 47.3	+1.7
DIKM	**Dikmen**	**2.72**	**36**	*e*PN	Pn	18 47 49.1	+2.5
KVT	**Kavak**	**2.75**	**53**	*e*PN	Pn	18 47 48.6	+1.6
TOKT	**Tokat**	**2.76**	**71**	PN	Pn	18 47 48.1	+1.1
ADVT	**Abdulvahap**	**2.79**	**292**	*e*PN	Pn	18 47 49.3	+1.7
MERS	**Mersin**	**2.80**	**157**	PN	Pn	18 47 48.9	+1.3
ERMK	**Ermenek**	**2.81**	**184**	*i* P	Pn	18 47 48.3	+0.5
ERMK				*i* S	Sg	18 48 32.1	-0.4
GDZ	**Gediz**	**2.87**	**264**	*i* P	Pb	18 47 54.9	+1.1
GDZ				*i* S	Sg	18 48 35.6	+1.4
KOZT	**Kozan**	**2.88**	**132**	*e*PN	Pn	18 47 49.6	+0.8
HRT	**Hereke**	**3.00**	**298**	*e*PN	Pn	18 47 52.5	+2.2
SVSK	**Karacayir**	**3.01**	**80**	*e*PN	Pn	18 47 52.9	+2.4
YLV	**Yalova**	**3.10**	**292**	*e*PN	Pn	18 47 53.1	+1.3
ULDT	**Uludag**	**3.16**	**284**	*i* P	Pn	18 47 52.6	0.0
ULDT				*i* S	Sg	18 48 44.4	+0.6
ULDT	**Uludag**	**3.16**	**284**	*i* P	Pn	18 47 52.6	0.0
ULDT				*i* S	Sb	18 48 35.6	-2.1
CEYT	**Ceyhan**	**3.19**	**139**	*e*PN	Pn	18 47 54.3	+1.4
GEMT	**Gemlik**	**3.19**	**289**	*e*PN	Pn	18 47 54.4	+1.4
ANTB	**Antalya**	**3.21**	**218**	*e*PN	Pn	18 47 55.0	+1.7
IKL	**Isikli**	**3.24**	**172**	*e*PN	Pn	18 47 55.2	+1.6
ISK	**Istanbul-Kandi**	**3.52**	**299**	*e*PN	Pn	18 47 59.5	+2.0
KMRS	**Kahramanmaras**	**3.53**	**122**	*e*PN	Pn	18 47 59.7	+2.0
GOLH	**Golhisar**	**3.58**	**233**	*i* P	Pn	18 47 59.2	+0.8
GOLH				*i* S	Sg	18 48 59.8	+2.6
ELL	**Elmali**	**3.71**	**224**	*e*PN	Pn	18 48 01.3	+1.1
GAZ	**Gaziantep**	**3.93**	**124**	*e*PN	Pn	18 48 05.2	+2.1
HTY	**Hatay**	**4.08**	**144**	*e*PN	Pn	18 48 07.4	+2.1
AKHS	**Akhisar**	**4.18**	**264**	*i* P	Pg	18 48 20.8	-1.6
AKHS				*i* S	Sg	18 49 21.6	+5.1
AKAS	**Kas**	**4.26**	**222**	*i* P	Pn	18 48 10.8	+3.1
AKAS				*i* S	Sn	18 49 02.2	+4.4
FETY	**Fethiye**	**4.26**	**230**	*e*PN	Pn	18 48 09.7	+2.0
MYA	**Malataya**	**4.27**	**104**	*e*PN	Pn	18 48 09.8	+1.9
MALT	**Malatya**	**4.28**	**104**	⇓*i*P	Pb	18 48 17.4	-0.5
MALT	**Malatya**	**4.28**	**104**	P	Pn	18 48 07.5	-0.4
CSS	**Prodhromos**	**4.48**	**178**	*e*P	Pn	18 48 05.6	-5.1
CSS	**Prodhromos**	**4.48**	**178**	*e*P	Pn	18 48 05.6	-5.2
ELZG	**Elazig**	**4.65**	**100**	*i* P	Pn	18 48 15.0	+1.9
ELZG				*i* S	Sb	18 49 26.9	+6.4
IDI	**Anoyia**	**7.77**	**240**	Pn	Pn	18 48 57.6	+1.6
	0.3nm,0.3s,baz=55,slow=15,SNR=3.2						
IDI				LR	LR	18 51 25.8	
	comp=Z,33nm,20.0s,baz=202,slow=34						
ASF	**Jabal al Asfar**	**7.88**	**156**	Pn	Pn	18 48 56.8	-0.6
	0.2nm,0.3s,baz=54,slow=12,SNR=2.5						
MLR	**Muntele Rosu**	**8.04**	**321**	Pn	Pn	18 49 09.6	+10
	0.2nm,0.3s,baz=266,slow=12,SNR=1.9						
MLR	**Muntele Rosu**	**8.04**	**321**	⇓*i*P	Pb	18 49 17.3	-4.7
KIV	**Kislovodsk**	**8.44**	**55**	P	Pn	18 49 07.6	+2.5
KIV	**Kislovodsk**	**8.44**	**55**	P	Pn	18 49 07.6	+2.5
VOIR		**8.46**	**318**	⇑*i*P	Pb	18 49 26.7	-2.4
EIL	**Elat**	**9.87**	**171**	P	Pn	18 49 22.9	-1.9
AKASG	**Malin Array Be**	**11.58**	**348**	Pn	Pn	18 49 52.1	+4.0
	0.3nm,0.3s,baz=156,slow=13,SNR=2.9						
KEST	**Kesra**	**19.21**	**266**	P	Pn	18 51 28.9	+1.1
	0.2nm,0.3s,baz=217,slow=2.7,SNR=6.1						
AKTK	**Aktyubinsk**	**20.65**	**50**	P	P	18 51 42.6	-0.1
AKTO	**Aktyubinsk**	**20.65**	**50**	P	P	18 51 42.6	-0.1
	1.6nm,0.6s,baz=233,slow=10,SNR=9.1						
FINES	**FINESS Array B**	**22.45**	**351**	P	P	18 52 05.7	+3.7
	1.8nm,0.7s,baz=161,slow=10,SNR=6.7						
ARU	**Arti**	**23.84**	**36**	P	P	18 52 17.8	+1.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	**Arti**	**23.84**	**36**	P	P	18 52 17.8	+1.6
	comp=Z,2.5nm,0.8s						
ARU	**Arti**	**23.84**	**36**	P	P	18 52 17.8	+1.6
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**36.12**	**62**	P	P	18 54 09.3	+4.2
	comp=Z,0.4nm,0.7s,baz=273,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**36.12**	**62**	P	P	18 54 09.3	+4.2
TORD	**Torodi Ar. Bea**	**38.14**	**235**	P	P	18 54 22.0	-0.3
	comp=Z,1.1nm,1.0s,baz=29,slow=8.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**38.14**	**235**	P	P	18 54 22.0	-0.3
SONM	**Songino Array**	**51.83**	**55**	P	P	18 56 14.4	+3.2
	comp=Z,0.2nm,0.5s,baz=294,slow=9.0,SNR=2.7						

---

*ISCJB **06** 18:50:31.5±1.0, 3678N±003×3887E±003, h2^{km}±7^{km}, Error ellipse: s-maj=4.8km s-min=3.8km az=10.6*
*CSEM **06** 18:50:32.2±0.1, 3673N×3890E, h15^{km}, Mc1.7, Error ellipse: s-maj=2.8km s-min=1.8km az=161.0*
*NSSC **06** 18:50:33.0, 3678N×3889E, h16^{km}±2^{km}*
*ISK **06** 18:50:38.3, 3738N×3843E, h30^{km}, MD2.8*
ISC 06 18:50:32.3±0.5**, 3679N**±003×**3888E**±003**, h9^{km}**±4^{km}**, n24,** σ**1^{s}16**/45**, 10D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.66**	**356**	PG	**Pg**	**18 50 46.8**	**+1.9**
URFA				SG	**Sg**	**18 50 52.3**	**-1.2**
DRBT	**Darb Altahta**	**0.75**	**85**	⇓P	**Pg**	**18 50 41.7**	**-5.0**
DRBT				⇓S	**Sg**	**18 50 48.2**	**-8.4**
ATAB	**Bozova**	**0.83**	**326**	*i* P	**Pg**	**18 50 47.9**	**-0.3**
ATAB				*i* S	**Sg**	**18 50 58.8**	**-0.2**
MNKR	**ALMNKUR**	**0.90**	**159**	⇑P	**Pg**	**18 50 50.2**	**+0.6**
MNKR				⇑S	**Sg**	**18 51 02.7**	**+1.4**
MNKR	**ALMNKUR**	**0.90**	**159**	⇑*i*P	**Pg**	**18 50 50.2**	**+0.6**
MNKR				⇑*i*S	**Sg**	**18 51 02.7**	**+1.4**
SLMH	**Al Salmeh**	**0.95**	**234**	⇑*i*P	**Pg**	**18 50 50.9**	**+0.2**
SLMH				⇑*i*S	**Sg**	**18 51 02.8**	**-0.3**
SFNV	**Sufian**	**1.06**	**110**	⇑P	**Pg**	**18 50 52.0**	**-0.6**
SFNV				⇑S	**Sg**	**18 51 06.6**	**+0.2**
SFNV	**Sufian**	**1.06**	**110**	⇑*i*P	**Pg**	**18 50 52.0**	**-0.6**
SFNV				⇑*i*S	**Sg**	**18 51 06.6**	**+0.2**
JHLN	**Al Jahlan**	**1.17**	**198**	⇓P	**Pb**	**18 50 53.5**	**-1.1**
JHLN				⇓S	**Sb**	**18 51 09.5**	**-0.3**
JHLN	**Al Jahlan**	**1.17**	**198**	⇓*i*P	**Pb**	**18 50 53.5**	**-1.1**
JHLN				⇓*i*S	**Sb**	**18 51 09.5**	**-0.3**
GZT	**Gaziantep**	**1.19**	**299**	*i* P	**Pb**	**18 50 54.2**	**-0.8**
GZT				*i* S	**Sb**	**18 51 11.6**	**+1.0**
KBSD	**Kabsdagh**	**1.35**	**80**	⇑P	**Pn**	**18 50 56.6**	**-0.7**
KBSD				⇑S	**Sb**	**18 51 14.0**	**-1.1**
KBSD	**Kabsdagh**	**1.35**	**80**	⇑*i*P	**Pn**	**18 50 56.6**	**-0.7**
KBSD				⇑*i*S	**Sb**	**18 51 14.0**	**-1.1**
GAZ	**Gaziantep**	**1.39**	**287**	PG	**Pn**	**18 50 56.4**	**-1.4**
MYA	**Malataya**	**1.58**	**347**	*e*PG	**Pn**	**18 50 55.8**	**-4.6**
MARD	**Mardin**	**1.61**	**70**	*i* P	**Pn**	**18 51 00.8**	**-0.1**
MARD				*i* S	**Sn**	**18 51 21.8**	**+0.2**
ELZG	**Elazig**	**1.71**	**3**	*i* P	**Pn**	**18 51 04.8**	**+2.7**
ELZG				*i* S	**Sn**	**18 51 27.1**	**+2.9**
ELZG	**Elazig**	**1.71**	**3**	*i* P	**Pn**	**18 51 04.8**	**+2.6**
ELZG				*i* S	**Sn**	**18 51 27.1**	**+3.0**
KMRS	**Kahramanmaras**	**1.74**	**295**	*e*PN	**Pn**	**18 51 00.2**	**-2.3**
DRWC	**Darouich**	**1.79**	**265**	⇑P	**Pn**	**18 51 02.9**	**-0.3**
DRWC				⇑S	**Sn**	**18 51 25.7**	**-0.3**
DRWC	**Darouich**	**1.79**	**265**	⇑*i*P	**Pn**	**18 51 02.9**	**-0.3**
DRWC				⇑*i*S	**Sn**	**18 51 25.7**	**-0.3**
BTCH	**Batrach**	**2.09**	**250**	⇓P	**Pn**	**18 51 07.8**	**+0.4**
BTCH				⇓S	**Sn**	**18 51 33.0**	**-0.5**
BTCH	**Batrach**	**2.09**	**250**	⇓*i*P	**Pn**	**18 51 07.8**	**+0.4**
BTCH				⇓*i*S	**Sn**	**18 51 33.0**	**-0.5**
COBT	**Iskenderun**	**2.13**	**264**	*i* P	**Pn**	**18 51 10.9**	**+3.0**
COBT				*i* S	**Sn**	**18 51 37.6**	**+3.2**

---

*NEIC **06** 18:51:44.8, 17.10N×101.08W, h14^{km}, MD4.0(MEX), After MEX.*
MEX 06 18:51:42.8±1.2**, 1710N**×**10121W, h20^{km}**±45^{km}**, MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.57**	**334**	*i* P	Pb	18 51 51.7	-2.3
ZIIG				*i* S	Sb	18 51 59.2	-2.5
CAIG	**El Cayaco**	**0.90**	**93**	*i* P	Pb	18 51 56.8	-2.9
CAIG				*i* S	Sb	18 52 06.7	-4.6
ACX	**Acapulco**	**1.25**	**100**	*i* P	Pn	18 52 03.0	-2.2
ACX				*i* S	Sn	18 52 18.0	-3.5
MEIG	**Mezcala**	**1.73**	**61**	*i* P	Pn	18 52 08.9	-2.7
MEIG				*i* S	Sn	18 52 29.0	-4.1
PLIG	**Platanillo**	**2.07**	**51**	*i* P	Pn	18 52 15.5	-0.9
PLIG				*i* S	Sn	18 52 38.3	-3.4
MOIG	**Morelia**	**2.57**	**0**	*i* P	Pn	18 52 22.4	-0.8
MOIG				*i* S	Sn	18 52 52.0	-1.9
MOIG	**Morelia**	**2.57**	**0**	*i* P	Pn	18 52 23.6	+0.4
MOIG				*i* S	Sn	18 52 52.0	-1.9
IIZ	**Mezontepec**	**2.80**	**42**	*i* P	Pn	18 52 22.7	-3.7
IIZ				*i* S	Sn	18 52 56.0	-3.6
PPM	**Popocatepetl**	**3.14**	**51**	*i* P	Pn	18 52 30.2	-1.0
PPM				*i* S	Sn	18 53 05.7	-2.4
UTMO	**Huajuapan**	**3.33**	**77**	*e*P	Pn	18 52 32.2	-1.6
UTMO				*e*S	Sn	18 53 08.8	-3.9
TPIG	**Tehuac#an**	**3.89**	**70**	*i* S	Sn	18 53 23.4	-3.2
VHO	**Vista Hermosa**	**4.28**	**90**	*i* S	Sn	18 53 34.1	-2.0
OXX	**Oaxaca**	**4.29**	**90**	*e*P	Pn	18 52 46.0	-0.9

IDC 06 18:58:15.9±5.7**, 2285N**×**14444E, h58^{km}**±41^{km}**, mb3.5**/5**, mb1 3.6**/6**, mb1mx3.4**/18**, mbtmp3.8**/6**, ML3.7**/1**, Error ellipse: s-maj=119.5km s-min=26.4km az=78.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.70**	**335**	P	Pn	18 59 24.4	+0.1
	7.7nm,0.3s,baz=281,slow=22,SNR=3.8						
CBIJ				S	Sn	19 00 14.0	-3.4
	baz=272,slow=20,SNR=3.1						
SONM	**Songino Array**	**39.22**	**319**	P	P	19 05 38.7	+0.2
	0.5nm,0.6s,baz=130,slow=7.2,SNR=7.9						
WRA	**Warramunga Arr**	**43.65**	**194**	P	P	19 06 15.0	+0.2
	0.2nm,0.3s,baz=17,slow=9.0,SNR=5.2						
MKAR	**Makanchi Array**	**54.79**	**312**	P	P	19 07 39.5	-0.2
	1.0nm,0.4s,baz=78,slow=9.1,SNR=23						
BVAR	**Borovoye Array**	**62.56**	**319**	P	P	19 08 33.7	-0.1
	1.3nm,0.6s,baz=88,slow=7.9,SNR=12						
FINES	**FINESS Array B**	**82.65**	**335**	P	P	19 10 33.1	+0.1
	2.1nm,0.9s,baz=69,slow=6.5,SNR=4.7						

---

*ISCJB **06** 19:30:00.3±3.2, 507N±006×7280W±008, h20^{km}±28^{km}, mb3.6/4, MS3.0/1, Error ellipse: s-maj=15.7km s-min=8.1km az=63.8*
*IDC **06** 19:30:00.8±2.7, 507N×7292W, h16^{km}±19^{km}, mb3.6/4, mb1 4.0/7, mb1mx3.7/20, mbtmp4.0/7, ML4.2/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/33, Error ellipse: s-maj=21.5km s-min=13.6km az=135.0*
*NEIC **06** 19:30:00.2±0.7, 505N×7291W, h10^{km}, mb4.5/1, Error ellipse: s-maj=13.7km s-min=11.1km az=133.0*
ISC 06 19:29:59.6±2.5**, 509N**±006×**729W**±01**, h2^{km}**±20^{km}**, n16,** σ**0^{s}96**/13**, mb3.6**/4**, MS3.0**/1**, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.46**	**261**	Pg	**Pg**	**19 30 26.9**	**-0.7**
	451nm,0.3s,baz=92,slow=8.5,SNR=239						
ROSC				Lg		19 30 45.8	
	533nm,0.3s,baz=61,slow=19,SNR=24						
SDV	**Santo Domingo**	**4.38**	**31**	Pn	**Pn**	**19 31 08.5**	**+1.3**
	36nm,0.3s,baz=246,slow=4.2,SNR=96						
SDV				Sn	**Sn**	**19 31 57.8**	**-1.0**
	36nm,0.3s,baz=286,slow=20,SNR=9.3						
SDV				Lg		19 32 20.8	
	38nm,0.3s,baz=256,slow=23,SNR=4.2						
PCRV	**Puerto La Cruz**	**9.61**	**58**	Pn	**Pn**	**19 32 19.0**	**+0.1**
	2.2nm,0.3s,baz=268,slow=2.8,SNR=14						
PCRV				Sn	**Sn**	**19 34 07.7**	**+0.2**
	1.4nm,0.3s,baz=140,slow=22,SNR=2.7						
PCRV				Lg		19 35 14.7	
	1.2nm,0.3s,baz=210,slow=16,SNR=2.3						
PCRV				LR	LR	19 35 51.5	
	comp=Z,80nm,21.4s,baz=228,slow=36						
ATAH	**Atahualpa**	**13.21**	**205**	Pn	**Pn**	**19 33 08.6**	**+0.3**
	0.5nm,0.3s,baz=349,slow=6.2,SNR=2.9						
SJG	**San Juan**	**14.52**	**26**	LR	LR	19 39 45.9	
	comp=Z,117nm,19.2s,baz=90,slow=40						
MTP	**Monte Pirata**	**14.78**	**28**	P	**Pn**	**19 33 30.3**	**+0.6**
SAML	**Samuel**	**16.97**	**145**	*e*P	**Pn**	**19 33 56.9**	**-1.3**
	44nm,1.1s						
LPAZ	**La Paz**	**21.76**	**168**	P	**P**	**19 34 54.1**	**+1.7**
	4.2nm,0.6s,mb4.1,baz=338,slow=9.4,SNR=24						
LPAZ				Lg		19 41 25.4	
	2.6nm,0.8s,baz=134,slow=14,SNR=3.5						
LPAZ	**La Paz**	**21.76**	**168**	P	**P**	**19 34 54.1**	**+1.7**
LPAZ				Lg		19 41 25.4	
SIV	**San Ignacio**	**23.99**	**151**	P	**P**	**19 35 15.5**	**-0.1**
	1.1nm,0.6s,mb3.5,baz=316,slow=10.0,SNR=9.1						
SIV				Lg		19 42 31.2	
	7.9nm,0.9s,baz=272,slow=20,SNR=3.0						
CMIG	**Matias Romero**	**24.62**	**301**	LR	LR	19 46 08.7	
	comp=Z,53nm,21.9s,MS3.0,baz=346,slow=39						
BDFB	**Brasilia**	**32.11**	**130**	Lg		19 46 45.6	
	1.1nm,0.3s,baz=180,slow=23,SNR=1.9						
YKA	**Yellowknife Ar**	**64.96**	**340**	P	**P**	**19 40 41.3**	**+0.5**
	0.8nm,0.6s,mb3.9,baz=135,slow=6.1,SNR=7.4						
TORD	**Torodi Ar. Bea**	**73.86**	**78**	P	**P**	**19 41 34.1**	**-1.8**
	0.1nm,0.4s,mb3.1,baz=282,slow=5.6,SNR=4.2						
WB2	**Warramunga Arr**	**149.67**	**238**	*e*P	PKPdf	19 49 49.0	+2.7
WRA	**Warramunga Arr**	**149.68**	**238**	PKPbc	PKPbc	19 49 48.5	-2.4
	1.7nm,0.5s,baz=112,slow=2.6,SNR=12						

---

*ISCJB **06** 19:49:02.9±1.0, 3699N±005×827W±005, h10^{km}, Error ellipse: s-maj=8.9km s-min=3.5km az=59.7*
*MDD **06** 19:49:02.9±0.4, 3688N×855W, h0^{km}, mbLg2.4/11, Error ellipse: s-maj=3.7km s-min=1.7km az=52.0, PRXIMO*
*INMG **06** 19:49:02.7±1.1, 3683N×849W, h14^{km}±5^{km}, ML2.2, Error ellipse: s-maj=10.2km s-min=3.2km az=62.0*
*IGIL **06** 19:49:03.5, 3690N×830W, h5^{km}, ML2.2*
ISC 06 19:49:03.4±1.1**, 3690N**±006×**846W**±008**, h27^{km}**±8^{km}**, n21,** σ**0^{s}78**/39**, 2D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**0.43**	**340**	*e*P	**Pb**	**19 49 12.4**	**-0.1**
MORF				*e*S	**Sb**	**19 49 18.8**	**0.0**
MORF				*e*S	**Sb**	**19 49 18.8**	**0.0**
MORF				AML	AML	19 49 21.3	
	comp=N,154nm,0.1s						
MORF	**Marmelete**	**0.43**	**340**	*e*P	**Pb**	**19 49 12.4**	**-0.1**
MORF				*e*S	**Sb**	**19 49 18.8**	**0.0**
PTEO	**Sao Teotonio**	**0.67**	**342**	*e*P	**Pb**	**19 49 16.1**	**-0.5**
PTEO				*e*S	**Sb**	**19 49 26.2**	**+0.6**
PTEO							
	comp=N,27nm,0.1s						
EGRO	**El Granado**	**1.00**	**51**	P	**Pn**	**19 49 21.1**	**-0.6**
	comp=N,11nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**19 49 36.4**	**+1.5**
	comp=N,6.7nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.22**	**23**	*e*P	**Pn**	**19 49 24.4**	**-0.2**
PBEJ				*e*S	**Sn**	**19 49 41.1**	**+0.9**
EMIN	**Mina Concepcio**	**1.67**	**58**	P	**Pn**	**19 49 30.9**	**+0.1**
	comp=N,0.8nm,0.4s,SNR=15						
EMIN				S	**Sn**	**19 49 52.2**	**+0.9**
	comp=N,1.7nm,0.1s,SNR=9.2						
PESTR	**Estremoz**	**2.08**	**19**	*e*Pn	**Pn**	**19 49 36.0**	**-0.4**
PESTR				*e*Sn	**Sn**	**19 50 01.7**	**+0.3**
PESTR							
	comp=N,0.9nm,0.1s						
ESPR	**Espera**	**2.09**	**90**	⇓P	**Pn**	**19 49 36.8**	**+0.2**
	comp=N,2.0nm,0.3s,SNR=18						
ESPR				S	**Sn**	**19 50 01.7**	**0.0**
	comp=N,8.0nm,0.2s,SNR=4.9						
PMAFR	**Mafra**	**2.15**	**343**	*e*Sn	**Sn**	**19 50 03.6**	**+0.5**
EBAD	**Badajoz**	**2.18**	**31**	P	**Pn**	**19 49 37.5**	**-0.2**
	comp=N,4.9nm,0.2s,SNR=29						
EBAD				S	**Sn**	**19 50 04.5**	**+0.7**
	comp=N,1.5nm,0.0s						
PTOM	**Tomar**	**2.71**	**1**	*e*Pn	**Pn**	**19 49 45.1**	**0.0**
PTOM				*e*Sn	**Sn**	**19 50 16.8**	**-0.2**
PTOM							
	comp=N,11nm,0.1s						
EMIJ	**Mijas**	**2.98**	**95**	S	**Sn**	**19 50 25.5**	**+1.7**
	comp=N,0.2nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**3.03**	**15**	*e*Pn	**Pn**	**19 49 49.4**	**-0.2**
PCBR				*e*Sn	**Sn**	**19 50 24.5**	**-0.5**
PCBR							
	comp=N,6.3nm,0.1s						
EADA	**Adamuz**	**3.34**	**67**	P	**Pn**	**19 49 54.1**	**+0.3**
	comp=N,2.2nm,0.8s,SNR=20						
EADA				S	**Sn**	**19 50 31.0**	**-1.4**
	comp=N,1.7nm,0.1s						
ELUQ	**Luque**	**3.41**	**78**	P	**Pn**	**19 49 54.4**	**-0.3**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**19 50 33.8**	**-0.5**
	comp=N,1.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.03**	**84**	P	**Pn**	**19 50 04.7**	**+1.4**
	comp=N,0.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**19 50 49.5**	**0.0**
	comp=N,0.1nm,0.0s,SNR=7.9						
EQES	**Quesada**	**4.39**	**77**	P	**Pn**	**19 50 07.6**	**-0.6**
	comp=N,0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 50 58.5**	**+0.1**
	comp=N,1.6nm,0.1s,SNR=6.5						
ESDC	**Sonseca Array**	**4.49**	**51**	⇓P	**Pn**	**19 50 09.8**	**+0.2**
	comp=N,1.1nm,0.2s,baz=238,slow=13,SNR=18						
ESDC				S	**Sn**	**19 51 01.2**	**+0.3**
	comp=N,0.3nm,0.2s,baz=234,slow=24,SNR=5.0						
EHUE	**Huescar**	**4.76**	**77**	S	**Sn**	**19 51 07.0**	**-0.7**
	comp=N,1.2nm,0.1s,SNR=9.1						
ECAL	**Calabor**	**5.21**	**14**	S	**Sn**	**19 51 15.6**	**-2.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.75**	**70**	P	**Pn**	**19 50 26.8**	**0.0**
	comp=N,0.4nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**19 51 29.9**	**-2.0**
	comp=N,0.5nm,0.1s,SNR=7.9						

---

*IDC **06** 19:49:09.2±1.4, 1044S×16056E, h0^{km}, mb4.0/6, mb1 4.2/8, mb1mx4.1/14, mbtmp4.1/8, ML3.9/2, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=41.1km s-min=19.0km az=77.0*
*ISCJB **06** 19:49:12.6±0.8, 1053S±006×1603E±0.1, h33^{km}, mb4.1/8, MS3.7/2, Error ellipse: s-maj=14.1km s-min=7.9km az=0.6*
*NEIC **06** 19:49:12.7±4.8, 1039S×16053E, h24^{km}±35^{km}, mb4.3/5, Error ellipse: s-maj=24.0km s-min=16.7km az=72.0*
ISC 06 19:49:13.9±0.9**, 1041S**±007×**1605E**±01**, h35^{km}, n20,** σ**1^{s}17**/21**, mb4.1**/8**, MS3.7**/2**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.11**	**331**	Pn	**Pn**	**19 49 32.2**	**-0.7**
	616nm,0.3s,baz=130,slow=1.4,SNR=177						
HNR				Sn	**Sn**	**19 49 46.2**	**-0.7**
	4µm,0.3s,baz=267,slow=17,SNR=42						
DZM	**Mont Dzumac**	**12.93**	**155**	Pn	**Pn**	**19 52 14.3**	**-0.8**
	0.6nm,0.3s,baz=346,slow=19,SNR=7.8						
DZM				Sn	**Sn**	**19 54 30.9**	**-6.7**
	0.2nm,0.3s,baz=268,slow=23,SNR=2.0						
CTA	**Charters Tower**	**16.76**	**233**	*e*P	**Pn**	**19 53 08.1**	**+2.3**
	7.4nm,0.8s						
CTA	**Charters Tower**	**16.76**	**233**	Pn	**Pn**	**19 53 07.8**	**+1.9**
	0.2nm,0.3s,baz=51,slow=13,SNR=6.0						
CTA				Sn	**Sn**	**19 56 05.0**	**-5.8**
	0.1nm,0.3s,baz=140,slow=22,SNR=3.2						
CTA				LR	LR	19 58 39.3	
	comp=Z,158nm,18.9s,baz=54,slow=34						
CTAO	**Charters Tower**	**16.76**	**233**	*e*P	**Pn**	**19 53 07.9**	**+2.0**
	28nm,1.3s						
WRAB	**Tennant Creek**	**26.91**	**246**	*e*P	**P**	**19 54 51.6**	**0.0**
	8.5nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**26.91**	**246**	*e*P	**P**	**19 54 52.0**	**+0.3**
WRA	**Warramunga Arr**	**26.92**	**246**	P	**P**	**19 54 52.3**	**+0.5**
	2.7nm,0.8s,mb3.8,baz=73,slow=9.6,SNR=12						
STKA	**Stephens Creek**	**27.60**	**216**	*e*P	**P**	**19 55 01.8**	**+3.9**
	3.8nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**27.60**	**216**	P	**P**	**19 54 59.0**	**+1.1**
	2.0nm,0.6s,mb4.0,baz=348,slow=11,SNR=7.9						
AS31	**Alice Springs**	**28.56**	**239**	*e*P	**P**	**19 55 04.6**	**-1.8**
ASPA	**Alice Springs**	**28.57**	**239**	*e*P	**P**	**19 55 04.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**34.58**	**253**	*e*P	**P**	**19 55 59.2**	**-0.1**
	6.5nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**34.58**	**253**	LR	LR	20 08 08.9	
	comp=Z,75nm,21.0s,MS3.4,baz=335,slow=33						
MBWA	**Marble Bar**	**40.54**	**250**	*e*P	**P**	**19 56 49.2**	**-0.5**
VNDA	**Vanda**	**67.10**	**180**	P	**P**	**20 00 03.3**	**-0.5**
	1.4nm,0.8s,mb4.0,baz=335,slow=7.3,SNR=8.7						
SONM	**Songino Array**	**75.16**	**326**	P	**P**	**20 00 54.4**	**+1.8**
	0.4nm,0.6s,mb3.5,baz=141,slow=6.0,SNR=4.5						
MAW	**Mawson**	**83.35**	**202**	P	**P**	**20 01 37.4**	**+0.1**
	1.5nm,0.8s,mb4.1,baz=105,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**89.55**	**318**	P	**P**	**20 02 10.0**	**+2.4**
	0.3nm,0.2s,mb4.2,baz=77,slow=6.5,SNR=3.6						
ZAL	**Zalesovo**	**90.06**	**325**	LR	LR	20 39 12.0	
	comp=Z,52nm,19.0s,MS4.0,baz=323,slow=33						

---

*ISCJB **06** 19:53:52.7±1.3, 3546S±005×1786E±02, h10^{km}, mb4.3/5, MS3.8/2, Error ellipse: s-maj=24.3km s-min=6.8km az=170.7*
*NEIC **06** 19:53:54.8±1.2, 3540S×17853E, h10^{km}, mb4.5/3, Error ellipse: s-maj=26.4km s-min=13.1km az=69.0*
*IDC **06** 19:54:00.2±7.3, 3559S×17869E, h63^{km}±57^{km}, mb3.8/3, mb1 4.1/4, mb1mx3.7/11, mbtmp4.2/4, ML4.2/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/18, Error ellipse: s-maj=58.5km s-min=33.7km az=57.0*
ISC 06 19:53:55.2±2.9**, 3542S**±005×**1787E**±03**, h17^{km}**±22^{km}**, h21^{km}**±.5^{km}**:pP-P, n31,** σ**0^{s}76**/29**, mb4.3**/5**, MS3.8**/2**, 1C, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.16**	**188**	⇑P*	**Pb**	**19 54 28.8**	**-5.1**

MXZ T 19 56 34.0
PUZ Puketiti 2.67 188 PN **Pn 19 54 38.3 +1.0**
PUZ SN **Sn 19 55 16.1 +6.8**
MWZ Matawai 3.05 198 P* **Pb 19 54 43.0 -6.1**
URZ Urewera 3.10 204 P **Pn 19 54 43.5 +0.1**
30nm,0.3s,baz=22,slow=5.6,SNR=105
URZ S **Sn 19 55 20.0 -0.1**
1.6nm,0.3s,baz=296,slow=22,SNR=4.0
URZ LR LR 19 56 06.0
comp=Z,472nm,19.9s,baz=116,slow=43
URZ Urewera 3.10 204 P* **Pb 19 54 43.5 -6.4**
KNZ Kokohu 3.68 193 PN **Pn 19 54 51.8 +0.4**
KNZ *e*SN **Sn 19 55 39.8 +5.5**
BKZ Black Stump Fm 4.13 205 P* **Pb 19 54 58.3 -9.1**
HIZ Hauiti 4.36 224 PN **Pn 19 55 02.6 +2.0**
NGZ Ngauruhoe 4.49 212 P* **Pb 19 55 04.6 -8.9**
TUVZ Tukino 4.54 211 P* **Pb 19 55 05.6 -8.8**
WNVZ Wahianoa 4.61 211 P* **Pb 19 55 06.5 -9.1**
PXZ Pawanui 4.83 197 PN **Pn 19 55 05.6 -1.4**
PXZ *e*SN **Sn 19 56 02.5 0.0**
TSZ Takapari Road 5.11 204 PN **Pn 19 55 10.5 -0.5**
BFZ Birch Farm 5.59 199 PN **Pn 19 55 16.1 -1.5**
BFZ SN **Sn 19 56 21.5 0.0**
RPZ Rata Peaks 10.16 213 LR LR 20 00 39.1
comp=Z,278nm,20.0s,baz=26,slow=40
TBI Tubuai 30.11 75 *e*LR LR 20 07 38.0
195nm,29.8s
TBI Tubuai 30.11 75 *e*T 20 30 59.0
31nm,0.4s
STKA Stephens Creek 30.97 266 LR LR 20 10 10.4
comp=Z,178nm,21.4s,MS3.7,baz=34,slow=31
CTA Charters Tower 32.34 290 P **P 20 00 24.1 +0.5**
2.4nm,0.7s,mb4.1,baz=143,slow=12,SNR=3.5
AS31 Alice Springs 40.38 274 *e*P **P 20 01 32.2 +0.1**
ASPA Alice Springs 40.38 274 *e*P **P 20 01 32.4 +0.2**
ASPA *e* pP 20 01 38.2 +0.7
WB2 Warramunga Arr 41.83 280 *e*P **P 20 01 43.8 -0.3**
WB2 *e* pP 20 01 49.3 -0.1
WB2 Warramunga Arr 41.83 280 *e*P **P 20 01 43.5 -0.6**
WRAB Tennant Creek 41.84 280 *e*P **P 20 01 43.6 -0.5**
6.7nm,0.6s,mb4.5
WRA Warramunga Arr 41.84 280 P **P 20 01 43.9 -0.2**
2.0nm,0.6s,mb3.9,baz=120,slow=7.5,SNR=10
WRA LR LR 20 20 48.3
comp=Z,120nm,18.4s,MS3.8,baz=205,slow=38
RKT Rikitea 41.88 86 *e*LR LR 20 12 53.6
193nm,29.8s
FITZ Fitzroy Crossi 49.83 276 *e*P **P 20 02 47.0 -0.2**
3.5nm,0.9s,mb4.4
FITZ *e* pP 20 02 53.2 +0.5
FITZ Fitzroy Crossi 49.83 276 P **P 20 02 46.8 -0.4**
1.8nm,0.8s,mb4.2,baz=101,slow=14,SNR=4.3
QSPA South Pole Qui 54.70 180 *e*P **P 20 03 24.1 +0.7**
6.7nm,0.7s,mb4.8
FINES FINESS Array B 148.71 335 PKPbc PKPbc 20 13 41.3 -0.2
0.9nm,0.8s,baz=48,slow=4.1,SNR=5.5
TORD Torodi Ar. Bea 157.66 188 PKPab PKPab 20 14 19.4 -3.4
1.0nm,0.9s,baz=170,slow=4.9,SNR=4.3

---

*ISCJB **06** 20:07:58.7±0.7, 18.45S±0.04×177.97W±0.05, h545km±9km, mb5.1/60, Error ellipse: s-maj=7.2km s-min=5.7km az=75.6*
*MOS **06** 20:07:58.9±1.4, 18.21S×178.02W, h535km, mb5.3/7, Error ellipse: s-maj=15.1km s-min=12.1km az=27.9*
*BJI **06** 20:07:58.8, 18.12S×177.67W, h547km, mB4.9, mb5.0*
*IDC **06** 20:07:59.6±0.9, 18.43S×177.91W, h544km±9km, mb4.5/14, mb1 4.6/17, mb1mx4.5/20, mbtmp5.4/17, Error ellipse: s-maj=10.7km s-min=8.6km az=115.0*
*BGS **06** 20:08:00.6±5.8, 18.36S×177.89W, h551km, mb5.1(NEIC)*
*NEIC **06** 20:08:00.1±0.6, 18.36S×177.89W, h551km±6km, mb5.1/32, Error ellipse: s-maj=7.0km s-min=5.1km az=149.0*
*GCMT **06** 20:08:00.1±0.5, 18.11S×177.90W, h579km±2km, MW5.4/53, Moment Tensor Solution. s53,c67; Duration: 1.2s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25±.04; $M_{\theta\theta}$0.96±.06; $M_{\phi\phi}$-0.70±.06; $M_{r\theta}$-0.48±.06; $M_{\theta\phi}$0.39±.06; $M_{\phi r}$-0.95±.06; Best double couple: $M_0$1.42000×10^{17} NP1:ϕ_s298.00000°, δ41.00000°, λ-11.00000°. NP2: ϕ_s36.00000°, δ83.00000°, λ-131.00000°. Principal axes: T 1.3880, Plg27.0000°, Azm157.0000°; N 0.0640, Plg40.0000°, Azm42.0000°; P -1.4520, Plg38.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s.*
*SZGRF **06** 20:08:01.0, 18.94S×177.49W, h574km, Fiji Islands region*
ISC 06 20:07:60.0±0.7**, 18.45S**±0.04×**177.87W**±0.04**, h548**km±8km**,**
h562km±9.9km**:pP-P, n493,** σ0.99/164**, mb5.1**/60**, 18C-88D, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 7.39 53 P **P 20 09 50.8 -0.8**
86nm,0.3s,baz=21,slow=0.9,SNR=44
AFI S **S 20 11 17.0 -6.0**
17nm,0.3s,baz=53,slow=20,SNR=5.8
AFI Afiamalu 7.39 53 P **P 20 09 50.8 -0.8**
AFI S **S 20 11 17.0 -6.0**
AFI pmax pmax
comp=Z,86nm,0.3s
AFI smax
comp=N,17nm,0.3s
FUNA Funafuti 10.27 343 *e*P **P 20 10 19.8 -0.7**
RAO Raoul Island 10.76 180 S **S 20 12 21.9 -3.4**
comp=N,106nm,0.3s,baz=270,slow=20,SNR=3.2
DZM Mont Dzumac 15.15 254 *e*P **P 20 11 11.4 +0.4**
DZM Mont Dzumac 15.15 254 P **P 20 11 11.0 0.0**
comp=N,7.7nm,0.3s,baz=90,slow=12,SNR=43
DZM S **S 20 13 49.7 +1.4**
baz=128,slow=18,SNR=4.9
DZM ScP ScP 20 18 22.3 +1.6
comp=N,0.2nm,0.3s,baz=173,slow=19,SNR=3.3
RAR Rarotonga 17.25 102 P **P 20 11 31.7 +0.7**
comp=N,1.5nm,0.3s,baz=255,slow=5.7,SNR=6.7
RAR Rarotonga 17.25 102 P **P 20 11 31.7 +0.7**
RAR pmax pmax
comp=Z,2.0nm,0.3s
OUZ Omahuta 18.34 203 PN **P 20 11 44.2 +3.2**
MWZ Matawai 20.22 191 PN **P 20 11 56.7 -1.3**
URZ Urewera 20.22 192 P **P 20 11 56.1 -1.9**
comp=Z,109nm,0.3s,baz=341,slow=2.9,SNR=95
URZ S **S 20 15 03.6 -7.4**
comp=Z,11nm,0.6s,baz=204,slow=19,SNR=6.2
BFZ Birch Farm 22.73 192 *e*SN **S 20 15 48.6 -2.0**
MRZ Mangatainoka R 22.85 193 PN **P 20 12 20.2 -1.4**
MRZ SN **S 20 15 47.7 -4.7**
KIW Kapiti Island 23.18 194 SN **S 20 15 51.3 -6.5**
HNR Honiara 23.30 290 P **P 20 12 25.3 -0.4**
comp=Z,127nm,0.7s,mb5.6,baz=280,slow=0.2,SNR=3.2
HNR Honiara 23.30 290 P **P 20 12 25.3 -0.4**
HNR pmax pmax
comp=Z,127nm,0.7s,mb5.7
SNZO South Karori 23.66 194 *e*P **P 20 12 27.9 -0.9**
comp=Z,177nm,1.0s,mb5.7
TCW Tory Channel 23.67 195 PN **P 20 12 28.0 -1.0**
QRZ Quartz Range 23.78 198 PN **P 20 12 30.6 +0.7**
THZ Tophouse 24.54 197 PN **P 20 12 35.7 -1.0**
KHZ Kahutara 24.99 195 PN **P 20 12 39.7 -0.9**
LTZ Lake Taylor 25.66 197 PN **P 20 12 45.2 -1.4**
RPZ Rata Peaks 26.87 198 P **P 20 12 56.6 -0.6**
comp=Z,42nm,0.5s,mb5.3,baz=2.9,slow=1.0,SNR=21
RPZ S **S 20 16 51.6 -3.9**
comp=Z,21nm,0.9s,baz=144,slow=20,SNR=4.5
TVO Taravao 27.20 93 *e*P **P 20 13 01.0 +0.9**
comp=Z,84nm,0.8s,mb5.4
JCZ Jackson Bay 27.91 201 PN **P 20 13 06.5 +0.2**
PMOR Pomariorio Ree 28.89 88 *e*P **P 20 13 15.4 +0.5**
comp=Z,118nm,1.4s,mb5.3
MLZ Mavora Lakes 29.23 200 PN **P 20 13 18.5 +0.7**
ARMA Armidale 30.12 241⇓*i*P **P 20 13 27.4 +1.9**
CNB Canberra Magne 33.51 233⇓*i*P **P 20 13 56.1 +1.7**
comp=Z,256nm,1.0s,mb5.7
CTA Charters Tower 33.87 261 P **P 20 13 58.2 +0.8**
comp=Z,230nm,0.6s,mb5.9,baz=92,slow=10,SNR=451
CTA PcP PcP 20 16 20.6 +0.6
comp=Z,14nm,1.0s,baz=108,slow=2.6,SNR=3.2
CTA ScP ScP 20 19 14.2 +1.2
comp=Z,21nm,1.0s,baz=82,slow=2.9,SNR=9.5
CTA Charters Tower 33.87 261 P **P 20 13 58.2 +0.8**
CTA 20 16 20.6
CTA pmax pmax
comp=Z,231nm,0.6s
CTA pmax pmax
comp=Z,14nm,1.0s
CTA pmax pmax
comp=N,21nm,1.0s
CTA Charters Tower 33.87 261 P **P 20 13 58.2 +0.8**
CTA PcP PcP 20 16 20.6 +0.6
CTA ScP ScP 20 19 14.2 +1.2
CTAO Charters Tower 33.87 261 *e*P **P 20 13 58.0 +0.6**
comp=N,257nm,0.7s,mb5.9
PMG Port Moresby 35.06 280⇑*e*P **P 20 14 07.7 +0.4**
PMG *i* *PP 20 15 45.4
PMG Port Moresby 35.06 280 *e*P **P 20 14 08.4 +1.1**
comp=N,493nm,0.9s,mb6.0
TOO Toolangi 37.23 232⇓*i*P **P 20 14 26.6 +1.4**
comp=N,99nm,1.2s,mb5.2
STKA Stephens Creek 38.83 242 *e*P **P 20 14 39.7 +1.5**
comp=N,93nm,0.5s,mb5.6
STKA *e*SCP ScP 20 19 33.6 +2.1
STKA *e*S **S 20 19 56.8 -0.1**
STKA Stephens Creek 38.83 242 P **P 20 14 39.7 +1.6**
comp=N,170nm,0.7s,mb5.7,baz=89,slow=9.3,SNR=432
STKA ScP ScP 20 19 33.0 +1.5
comp=N,11nm,0.8s,baz=40,slow=2.7,SNR=4.9
WB2 Warramunga Arr 45.03 260⇓*i*P **P 20 15 26.8 -0.2**
WB2 *e*S **S 20 21 23.2 -2.7**
WB2 *e*SCS ScS 20 24 23.6 +0.3
WRAB Tennant Creek 45.03 260*d i*P **P 20 15 27.0 0.0**
WRAB Tennant Creek 45.03 260 *e*P **P 20 15 26.6 -0.4**
comp=N,420nm,1.0s,mb5.9
WRA Warramunga Arr 45.04 260 P **P 20 15 26.8 -0.3**
comp=N,132nm,0.6s,mb5.6,baz=93,slow=7.1,SNR=291
WRA PcP PcP 20 16 56.5 +0.4
comp=N,11nm,0.5s,baz=90,slow=4.0,SNR=5.9
WRA ScP ScP 20 19 57.3 +0.7
comp=N,3.1nm,0.8s,baz=88,slow=3.9,SNR=5.4
WRA S **S 20 21 23.8 -2.2**
comp=N,7.0nm,1.1s,baz=94,slow=13,SNR=5.6
WRA Warramunga Arr 45.04 260 P **P 20 15 26.8 -0.3**
WRA 20 16 56.5
WRA S **S 20 21 23.8 -2.3**
WRA pmax pmax
comp=Z,132nm,0.6s
WRA pmax pmax
comp=Z,11nm,0.5s
WRA pmax pmax
comp=N,3.0nm,0.8s
WRA smax
comp=N,7.0nm,1.1s
AS31 Alice Springs 45.14 255⇓*i*P **P 20 15 28.4 +0.6**
AS31 *e*PcP PcP 20 16 56.2 -0.3
AS31 *e*S **S 20 21 25.7 -1.8**
AS31 *e*ScS ScS 20 24 24.3 +0.3
ASPA Alice Springs 45.15 255⇓*i*P **P 20 15 28.4 +0.5**
ASPA *e*PCP PcP 20 16 56.2 -0.3
ASPA *e*S **S 20 21 25.7 -1.8**
ASPA *e*SCS ScS 20 24 24.3 +0.2
KAKA Kakadu 48.09 269 *e*P **P 20 15 50.1 0.0**
comp=N,199nm,0.4s,mb6.0
KAKA *e*SCP ScP 20 20 10.1 +0.7
KAKA *e*S **S 20 22 07.4 -1.0**
GUMO Guam 48.61 308 P **P 20 15 53.9 0.0**
comp=N,347nm,0.8s,mb6.0,baz=159,slow=7.9,SNR=25
GUMO Guam 48.61 308 P **P 20 15 53.9 -0.1**
GUMO pmax pmax
comp=Z,347nm,0.8s,mb5.9
FORT Forrest 50.24 245⇓*i*P **P 20 16 05.9 -0.1**
comp=Z,142nm,0.5s,mb5.7
FITZ Fitzroy Crossi 53.45 261⇓*i*P **P 20 16 29.5 +0.5**
comp=Z,48nm,0.5s,mb5.1
MBWA Marble Bar 58.44 256 P **P 20 17 03.8 +0.3**
SNR=11
MBWA Marble Bar 58.44 256 *e*P **P 20 17 03.4 -0.1**
comp=Z,68nm,0.7s,mb5.0
KLBR Kellerberrin 59.05 244⇓*i*P **P 20 17 07.4 -0.2**
comp=Z,156nm,0.7s,mb5.3
NWAO Narrogin (SRO) 59.41 242 *e*P **P 20 17 10.0 -0.1**
comp=Z,48nm,1.1s,mb4.6
SBA Scott Base 59.92 184 *e*P **P 20 17 15.4 +2.1**
comp=Z,55nm,1.0s,mb4.8
VNDA Vanda 59.95 185 P **P 20 17 14.9 +1.3**
comp=Z,10.0nm,0.6s,mb4.3,baz=355,slow=7.5,SNR=64
VNDA ScP ScP 20 21 01.6 +0.3
comp=Z,3.1nm,0.9s,baz=352,slow=4.4,SNR=3.7
VNDA Vanda 59.95 185 P **P 20 17 14.9 +1.3**
VNDA pmax pmax
comp=Z,10.0nm,0.6s
VNDA pmax pmax
comp=N,3.0nm,0.9s
MUN Mundaring 60.34 243⇑*i*P **P 20 17 16.7 +0.5**
MATI Mati 60.60 289 *e*P **P 20 17 16.2 -1.7**
BUTP Butuan 62.05 291 *e*P **P 20 17 27.6 +0.2**
BUKP Musuan 62.07 290 *e*P **P 20 17 27.8 +0.3**
KAPI Kappang 62.24 274 P **P 20 17 28.0 -0.6**
comp=N,251nm,0.6s,mb5.8,SNR=6.6
MSLP Maasin 63.24 292 *e*P **P 20 17 35.0 0.0**
PAGZ Pagadian 63.56 289 *e*P **P 20 17 37.6 +0.5**
OCLP Ormoc 63.87 293 *e*P **P 20 17 39.0 0.0**
IPIL Ipil 64.27 288 *e*P **P 20 17 41.6 0.0**
PVCP Virac 65.42 295 *e*P **P 20 17 49.2 +0.4**
GUIM Jordan 65.45 291 *e*P **P 20 17 47.9 -1.1**
CASY Casey 65.86 205 *e*P **P 20 17 51.4 -0.2**
comp=N,10nm,1.0s,mb4.3
AUQP San Andres 66.57 294 *e*P **P 20 17 58.0 +1.9**
OTRP Odiongan 66.72 293 *e*P **P 20 17 56.5 -0.4**
CUYO Cuyo Island 66.94 291 *e*P **P 20 17 57.9 -0.3**
TSM Tawau 67.19 283 P **P 20 18 00.6 +0.8**
BUSP Coron 68.16 292 *e*P **P 20 18 05.8 +0.1**
ENPP El Nido 68.51 290 *e*P **P 20 18 08.0 +0.2**
BALP Baler 68.62 296 *e*P **P 20 18 08.3 -0.2**
MJAR Matsushiro Arr 68.64 323 P **P 20 18 07.8 -0.8**
comp=N,35nm,0.5s,mb5.1,baz=155,slow=5.8,SNR=129
MJAR pP pP 20 20 04.0 +3.3
comp=N,6.7nm,1.2s,baz=162,slow=4.7,SNR=4.8
MJAR Matsushiro Arr 68.64 323 P **P 20 18 07.8 -0.8**
MJAR *PP pP 20 20 04.0 +3.3
MJAR pmax pmax
comp=Z,35nm,0.5s
MJAR pmax pmax
comp=N,7.0nm,1.2s
MAJO Matsushiro 68.64 323 *e*P **P 20 18 07.8 -0.8**
comp=N,44nm,0.5s,mb5.2
MAT Matsushiro 68.64 323 P **P 20 18 07.9 -0.8**
LUBP Lubang 68.87 293 *e*P **P 20 18 07.8 -2.2**
JOW Kunigami 68.96 309 P **P 20 18 10.3 -0.2**
baz=137,slow=8.9
CAUP Cauayan 68.97 297 *e*P **P 20 18 11.1 +0.5**
BATP Bataraza 68.98 287 *e*P **P 20 18 11.0 +0.3**
KKM Kota Kinabalu 69.37 284 P **P 20 18 13.7 +0.7**
KKM Kota Kinabalu 69.37 284 *e*P **P 20 18 13.3 +0.3**
ABRA Dolores 70.23 297 *e*P **P 20 18 18.3 +0.2**
QSPA South Pole Qui 71.61 180⇑*i*P **P 20 18 27.2 +1.0**
comp=N,59nm,0.9s,mb5.0
ASAJ Asahikawa 71.99 331 P **P 20 18 28.8 +0.3**
comp=N,32nm,0.7s,mb4.9,baz=224,slow=5.6
ASAJ Asahikawa 71.99 331 P **P 20 18 28.8 +0.3**
ASAJ pmax pmax
comp=Z,32nm,0.7s
NACB Ninganchiao 72.64 304 *e*P **P 20 18 31.4 -0.8**
YHNB Yeheng 73.06 304 *e*P **P 20 18 34.3 -0.3**
KSM Kuching 73.26 277 *e*P **P 20 18 36.5 +0.7**
YSS Yuzh-Sakhalins 74.13 333⇓*i*P **P 20 18 40.2 -0.5**
YSS *e*S S 20 27 26.0 -3.8
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.0
YSS pmax pmax
comp=E,50nm,1.2s
YSS smax
comp=E,300nm,7.0s
YSS Yuzh-Sakhalins 74.13 333 *e*P **P 20 18 40.4 -0.3**
comp=E,67nm,1.0s,mb5.0
QZH Quanzhou 75.40 303⇓*i*P **P 20 18 48.2 +0.4**
QZH AMB AMB
comp=Z,130nm,0.6s,mb5.5
INCN Inchon 76.28 318 *e*P **P 20 18 52.8 +0.1**
comp=Z,26nm,0.7s,mb4.8
NJ2 Nanjing 78.68 309 *e*P **P 20 19 06.3 +0.7**
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb4.7
NJ2 AMB AMB
comp=Z,300nm,9.4s
MTUM Tungsten Hills 78.69 44 *e*P **P 20 19 07.0 +1.3**
HABR Khabarovsk 78.73 330⇓*i*P **P 20 19 06.6 +0.7**
HABR *e*S S 20 28 15.0 -3.8
HABR pmax pmax
comp=Z,117nm,1.1s,mb5.1
GZH Guangzhou 78.83 299 P **P 20 19 04.6 -1.9**
MDJ Mudanjiang 78.92 325 P **P 20 19 07.0 +0.1**
MDJ AMB AMB
comp=Z,67nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,70nm,8.0s
NVAR Mina Array Bea 79.46 44 P **P 20 19 10.5 +0.8**
comp=Z,3.2nm,0.6s,baz=216,slow=7.2,SNR=32
NVAR Mina Array Bea 79.46 44 P **P 20 19 10.5 +0.8**
KGM Kluang 80.03 275 P **P 20 19 14.0 +1.3**
MOD Modoc 80.17 40 *e*P **P 20 19 13.8 +0.3**
comp=Z,3.0nm,0.5s
SNY Shenyang 80.73 320 ⇓P **P 20 19 16.1 -0.3**
SNY AMB AMB
comp=Z,21nm,0.6s,mb4.7
CN2 Changchun 80.76 322 ⇓P **P 20 19 16.5 0.0**
CN2 AMB AMB
comp=Z,70nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
KLR Kul'dur 80.83 329 *e*P **P 20 19 12.0 -4.9**
WHN Wuhan 81.34 306 ⇓P **P 20 19 20.0 +0.5**
MA2 Magadan 81.85 344 *e*P **P 20 19 19.8 -2.3**
MA2 pmax pmax
comp=Z,30nm,0.7s,mb4.8
CCUT Cedar City 82.31 46 *e*P **P 20 19 25.5 +1.0**
CCUT *e* 20 19 48.6
TTA Tatalina 82.91 10 *e*P **P 20 19 26.3 -1.2**
comp=Z,41nm,1.4s,mb4.8
IPM Ipoh 83.00 277 P **P 20 19 29.3 +1.4**
MAW Mawson 83.53 200 *e*P **P 20 19 30.7 +0.1**
comp=Z,2.6nm,0.4s,mb4.1
MAW Mawson 83.53 200 P **P 20 19 30.9 +0.3**
comp=Z,3.0nm,0.4s,mb4.2,baz=152,slow=2.7,SNR=59
MAW Mawson 83.53 200 P **P 20 19 30.9 +0.3**
MAW pmax pmax
comp=Z,3.0nm,0.4s
MSU Marysvale 83.60 46 *e*P **P 20 19 31.7 +0.8**
KULM Kulim 83.61 278 *e*P **P 20 19 31.2 +0.2**
BMO Blue Mountains 83.64 39 *e*P **P 20 19 30.5 -0.6**
comp=Z,14nm,1.7s,mb4.2
SNG Songkhla 84.26 279 P **P 20 19 36.0 +1.8**
comp=Z,256nm,1.0s,mb5.7
SEY Seymchan 84.41 347*d i*P **P 20 19 33.4 -1.5**
BJT Baijiatuau 84.52 315 *e*P **P 20 19 35.5 0.0**
comp=Z,38nm,0.8s,mb5.0
HLID Hailey 84.70 41 *e*P **P 20 19 37.1 +0.7**
comp=Z,2.7nm,0.7s
MCK McKinley 84.95 12 *e*P **P 20 19 35.7 -1.8**
comp=Z,18nm,1.0s,mb4.6
KKTK Khon Kaen 85.34 289 ⇓P **P 20 19 40.0 +0.5**
comp=Z,309nm,0.5s,mb6.1
GYA Guiyang 85.75 300⇓*i*P **P 20 19 41.9 +0.5**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,130nm,4.2s
ANMO Albuquerque 86.03 51⇑*e*P **P 20 19 43.9 +1.2**
COLA College 86.19 12 *e*P **P 20 19 41.5 -2.0**
comp=Z,48nm,1.3s,mb5.0
XAN Xi'an 86.99 307 P **P 20 19 47.9 +0.6**
XAN AMB AMB
comp=Z,81nm,1.2s,mb5.2
BILL Bilibino 87.02 354⇓*e*P **P 20 19 47.1 -0.3**
BILL pmax pmax
comp=Z,25nm,1.4s,mb4.7
BILL MLR MLR
comp=Z,300nm,21.0s
HIA Hailar 87.10 324 *e*P **P 20 19 47.4 -0.4**
comp=Z,28nm,1.3s,mb4.7
LOHW Long Hollow 87.12 42 *e*P **P 20 19 48.0 +0.1**
comp=Z,3.5nm,0.8s,mb4.0
QLMT Earthquake Lak 87.19 41 *e*P **P 20 19 49.6 +1.4**
PDAR Pinedale Array 87.39 43 P **P 20 19 49.2 +0.1**
comp=Z,2.1nm,0.7s,baz=226,slow=2.2,SNR=17
PDAR pP pP 20 21 54.5 +5.9
comp=Z,0.6nm,0.7s,baz=216,slow=4.5,SNR=3.9
EGAK Eagle 87.60 15 *e*P **P 20 19 48.9 -1.2**
NANT Nan 88.10 290 ⇑P **P 20 19 51.0 -1.4**
comp=Z,169nm,1.0s,mb5.7
KMI Kunming 88.53 297 P **P 20 19 55.1 +0.6**
KMI AMB AMB
comp=Z,35nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,165nm,4.6s
CLNS Chul'man 88.88 332 *e*P **P 20 19 49.1 -7.0**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CHG Chiang Mai 89.67 290 ⇓P **P 20 20 00.8 +1.1**
comp=E,44nm,0.9s,mb5.3
CHTO Chiang Mai 89.67 290 P **P 20 20 01.1 +1.4**
SNR=14
CHTO Chiang Mai 89.67 290 *e*P **P 20 20 00.6 +0.9**
comp=E,37nm,0.8s,mb5.3
CD2 Chengdu 89.79 303 *e*P **P 20 20 00.7 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
SNAA Sanae 90.05 178 *e*P **P 20 20 00.7 -0.8**
SNAA *e* 20 20 01.9
SNAA Sanae 90.05 178 *e*P **P 20 20 00.6 -0.9**
comp=Z,5.7nm,0.6s,mb4.6
PLCA Paso Flores 90.59 133 *e*P **P 20 20 05.3 +1.3**
comp=Z,4.1nm,0.4s,mb4.7
LZH Lanzhou 91.62 307 *e*P **P 20 20 09.7 +0.9**
LZH AP pP 20 22 09.5 +0.5
LZH XP sP 20 23 02.7 -1.3
LZH PP PP 20 23 59.6 +2.8
LZH S S 20 30 20.9 -1.3
LZH XS sS 20 33 53.5 -4.2
LZH *e*SS SS 20 36 47.0 +1.3
LZH AMB AMB
comp=Z,80nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,250nm,4.5s
INK Inuvik 92.27 15 *e*P **P 20 20 09.6 -2.1**
comp=Z,26nm,1.4s,mb5.1
YKA Yellowknife Ar 94.61 25 P **P 20 20 20.9 -1.5**
comp=Z,2.7nm,0.9s,mb4.4,baz=238,slow=4.5,SNR=7.4
YKA Yellowknife Ar 94.61 25 P **P 20 20 20.9 -1.5**
YKA pmax pmax
comp=Z,3.0nm,0.9s
GTA Gaotai 95.77 309 *e*P **P 20 20 27.5 -0.2**
GTA LG2 20 22 52.6
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
LPAZ La Paz 102.72 112 Pdiff Pdif 20 21 04.3 +5.7
comp=Z,1.0nm,0.7s,baz=326,slow=3.6,SNR=6.8
LPAZ PKKPbc PKKPbc 20 36 55.4 +0.5
comp=Z,0.3nm,0.4s,baz=0.0,slow=5.1,SNR=5.4
GUN Gumba 103.77 295 *e*P PKiKP 20 25 16.2 -1.5
comp=Z,8.5nm,0.4s
KKN Kakani 104.25 295 *e*P PKiKP 20 25 18.2 -0.4
comp=Z,5.3nm,0.4s
DMN Daman 104.36 295 *e*P PKiKP 20 25 17.9 -0.9
GKN Gorkha 104.86 295 *e*P PKiKP 20 25 18.5 -1.2
comp=Z,48nm,1.4s
KOLN Koldanda 105.70 294 *e*P PKiKP 20 25 20.5 -0.8
ZAL Zalesovo 108.98 322 PKiKP PKiKP 20 25 25.8 -1.6
comp=Z,1.1nm,0.6s,baz=1.0,slow=3.6,SNR=5.9
ZAL PP PP 20 25 59.4 -6.6
comp=Z,0.9nm,0.2s,baz=20,slow=4.6,SNR=3.2
ZAL Zalesovo 108.98 322 PKPdf PKiKP 20 25 25.8 -1.6
ZAL PP PP 20 25 59.4 -6.6
MKAR Makanchi Array 109.88 314 Pdiff Pdif 20 21 29.7 -0.8
comp=Z,0.3nm,0.3s,baz=69,slow=6.6,SNR=4.2
MKAR PKiKP PKiKP 20 25 27.4 -1.8
comp=Z,2.5nm,0.5s,baz=290,slow=0.2,SNR=21
MKAR PP PP 20 26 08.7 -3.7
comp=Z,0.4nm,0.3s,baz=81,slow=7.5,SNR=4.6
MKAR PKKPbc PKKPbc 20 36 33.5 +0.3
comp=Z,1.0nm,0.7s,baz=256,slow=4.9,SNR=5.1
MKAR Makanchi Array 109.88 314 Pdif Pdif 20 21 29.7 -0.8
MKAR PKPdf PKiKP 20 25 27.4 -1.8
MKAR PP PP 20 26 08.7 -3.7
MKAR PKKPbc PKKPbc 20 36 33.5 +0.3
CHKZ Chkalovo 117.38 321 *e*P PKPdf 20 25 41.0 -2.5
BVAR Borovoye Array 117.59 321 PKP PKPdf 20 25 42.2 -1.7
comp=Z,5.0nm,0.5s,baz=106,slow=2.2,SNR=33
BVAR PP PP 20 26 58.9 -7.2
comp=Z,1.5nm,0.8s,baz=92,slow=8.9,SNR=4.4
BVAR Borovoye Array 117.59 321 PKIKP PKPdf 20 25 42.2 -1.7
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR pmax pmax
comp=Z,2.0nm,0.8s

BRVK	**Borovoye**	**117.65**	**321**	*e*P	PKPdf	20 25 42.1	-1.9
ZRNK	**Zerenda**	**118.43**	**321**	*e*P	PKPdf	20 25 43.7	-1.8
SFJD	**Kangerlussuaq**	**121.00**	**21**	PKP	PKPdf	20 25 48.7	-1.8
	comp=Z,8.7nm,0.6s,baz=125,slow=3.9,SNR=5.4						
SFJD	**Kangerlussuaq**	**121.00**	**21**	PKIKP	PKPdf	20 25 48.7	-1.7
SFJD				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SVE	**Sverdlovsk**	**122.37**	**326**	*e*PKIKP	PKPdf	20 25 49.8	-3.3
SVE				*e*		20 27 34.7	
SVE				pmax	pmax		
	comp=Z,20nm,1.1s						
ARU	**Arti**	**123.58**	**326**	*i* PKIKP	PKPdf	20 25 53.1	-2.3
ARU	**Arti**	**123.58**	**326**	*e*P	PKPdf	20 25 53.9	-1.5
AKTK	**Aktyubinsk**	**125.61**	**319**	PKP	PKPdf	20 25 58.0	-1.3
AKTO	**Aktyubinsk**	**125.61**	**319**	PKP	PKPdf	20 25 58.0	-1.3
	comp=Z,6.5nm,0.8s,baz=51,slow=1.9,SNR=16						
AKTO	**Aktyubinsk**	**125.61**	**319**	PKIKP	PKPdf	20 25 58.0	-1.3
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KEV	**Kevo**	**126.49**	**350**	*e*pkp	PKPdf	20 25 58.0	-2.9
ARCES	**ARCESS Array B**	**126.93**	**350**	PKhKP		20 25 52.5	
	comp=Z,2.1nm,0.9s,baz=9.5,slow=1.5,SNR=3.9						
ARCES				PKP	PKPdf	20 26 00.1	-1.7
	comp=Z,6.5nm,0.4s,baz=23,slow=1.5,SNR=34						
ARCES	**ARCESS Array B**	**126.93**	**350**	PKIKP	PKPdf	20 26 00.1	-1.7
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.4s						
JOF	**Joensuu**	**131.22**	**343**	*e*pkp	PKPdf	20 26 07.2	-2.7
KAF	**Kangasniemi**	**133.22**	**345**	*e*pkp	PKPdf	20 26 10.8	-2.9
FINES	**FINESS Array B**	**133.84**	**344**	PKhKP		20 25 59.9	
	comp=Z,0.5nm,0.4s,baz=72,slow=2.6,SNR=3.3						
FINES				PKP	PKPdf	20 26 12.7	-2.1
	comp=Z,5.4nm,0.6s,baz=90,slow=3.9,SNR=12						
FINES				SKPbc	SKPbc	20 28 52.9	+0.1
	comp=Z,3.1nm,0.7s,baz=66,slow=3.5,SNR=5.3						
FINES	**FINESS Array B**	**133.84**	**344**	*i* PKHKP		20 25 59.9	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**133.84**	**344**	PKP		20 25 59.9	
FINES				PKP	PKPdf	20 26 12.7	-2.1
FINES				SKPbc	SKPbc	20 28 52.9	+0.1
OBN	**Obninsk**	**135.01**	**333**	*i* PKIKP	PKPdf	20 26 16.0	-1.0
OBN						20 28 59.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NB2	**NORSAR Subarra**	**136.97**	**354**	PKPd	PKPdf	20 26 21.0	+0.3
	comp=Z,2.3nm,0.7s,baz=14,slow=1.8						
NOA	**NORSAR Array B**	**136.97**	**354**	PKhKP		20 26 07.8	
	comp=Z,2.0nm,0.8s,baz=17,slow=4.6,SNR=6.2						
NOA				PKP	PKPdf	20 26 21.1	+0.5
	comp=Z,2.2nm,0.7s,baz=30,slow=2.0,SNR=8.2						
NOA				SKPbc	SKPbc	20 29 01.5	-0.8
	comp=Z,1.4nm,0.8s,baz=14,slow=4.5,SNR=4.6						
NOA	**NORSAR Array B**	**136.97**	**354**	PKIKP	PKPdf	20 26 21.2	+0.5
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA				pmax	pmax		
	comp=N,1.0nm,0.8s						
NOA	**NORSAR Array B**	**136.97**	**354**	PKP		20 26 07.8	
NOA				PKP	PKPdf	20 26 21.1	+0.5
NOA				SKPbc	SKPbc	20 29 01.5	-0.8
GNI	**Garni**	**137.52**	**310**	*i* PKIKP	PKPdf	20 26 20.9	-0.8
HFS	**Hagfors**	**137.54**	**351**	PKhKP		20 26 09.4	
	comp=N,2.6nm,0.4s,baz=62,slow=3.5,SNR=13						
HFS				SKPbc	SKPbc	20 29 03.1	-0.9
	comp=N,5.1nm,0.9s,baz=46,slow=4.2,SNR=4.5						
HFS	**Hagfors**	**137.54**	**351**	*i* PKHKP		20 26 09.4	
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HFS				pmax	pmax		
	comp=N,5.0nm,0.9s						
KMBO	**Kilima Mbogo**	**140.37**	**244**	PKhKP		20 26 22.0	
	comp=N,3.2nm,0.7s,baz=70,slow=6.2,SNR=9.8						
KMBO				SKPbc	SKPbc	20 29 14.2	+2.5
	comp=N,5.6nm,1.0s,baz=32,slow=3.0,SNR=5.6						
KMBO	**Kilima Mbogo**	**140.37**	**244**	*i* PKHKP		20 26 22.0	
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMBO				pmax	pmax		
	comp=N,6.0nm,1.0s						
AKASG	**Malin Array Be**	**141.27**	**332**	PKhKP		20 26 21.9	
	comp=N,11nm,0.5s,baz=43,slow=4.1,SNR=70						
AKASG	**Malin Array Be**	**141.27**	**332**	*i* PKHKP		20 26 21.9	
AKASG				pmax	pmax		
	comp=Z,11nm,0.5s						
MARD	**Mardin**	**141.35**	**307**	*i* P	PKPdf	20 26 23.3	-5.3
MUD	**Monsted U'grnd**	**141.69**	**354**	*i* P	PKPdf	20 26 23.9	-5.3
	comp=Z,9.0nm,0.5s						
MUD	**Monsted U'grnd**	**141.69**	**354**	*i* PKHKP		20 26 23.9	
MUD				pmax	pmax		
	comp=Z,9.0nm,0.5s						
EAB	**Aberfoyle**	**142.01**	**6**	*e*P	PKPdf	20 26 24.8	-5.0
EAB	**Aberfoyle**	**142.01**	**6**	*e*P	PKPdf	20 26 24.8	-5.0
BSD	**Bornholm Skovb**	**142.12**	**348**	⇓*i*P	PKPdf	20 26 24.9	-5.1
	comp=Z,25nm,0.8s						
BSD	**Bornholm Skovb**	**142.12**	**348**	⇓*i*PKHKP		20 26 24.9	
BSD				pmax	pmax		
	comp=Z,25nm,0.8s						
PGBU	**Glenifferbraes**	**142.36**	**6**	⇓*e*P	PKPdf	20 26 25.7	-4.7
PGBU	**Glenifferbraes**	**142.36**	**6**	⇓*e*P	PKPdf	20 26 25.7	-4.7
EAU	**Auchinoon**	**142.43**	**5**	⇓*e*P	PKPdf	20 26 26.7	-3.9
EAU	**Auchinoon**	**142.43**	**5**	⇓*e*P	PKPdf	20 26 26.7	-3.9
SIM	**Simferopol'**	**142.49**	**322**	*d i*PKHKP		20 26 27.2	
SIM				pmax	pmax		
	comp=Z,63nm,0.8s						
EBL	**Broad Law**	**142.53**	**5**	*e*P	PKPdf	20 26 26.2	-4.5
EBL	**Broad Law**	**142.53**	**5**	*e*P	PKPdf	20 26 26.2	-4.5
MALT	**Malatya**	**142.75**	**310**	⇑*i*P	PKPdf	20 26 29.3	-1.8
MALT	**Malatya**	**142.75**	**310**	⇑P	PKPdf	20 26 29.3	-1.9
EKA	**Eskdalemuir Ar**	**142.96**	**5**	PKhKP		20 26 27.5	
	comp=Z,6.2nm,0.5s,baz=322,slow=2.6,SNR=63						
EKA	**Eskdalemuir Ar**	**142.96**	**5**	*i* PKHKP		20 26 27.5	
EKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ESK	**Eskdalemuir**	**142.97**	**5**	*e*P	PKPdf	20 26 27.6	-3.9
ESK	**Eskdalemuir**	**142.97**	**5**	*e*P	PKPdf	20 26 27.6	-3.9
WAR	**Warsaw**	**143.16**	**341**	*e*PKP	PKPdf	20 26 29.8	-2.0
GAL1	**Galloway**	**143.27**	**7**	*e*P	PKPdf	20 26 28.1	-3.9
GAL1	**Galloway**	**143.27**	**7**	*e*P	PKPdf	20 26 28.1	-3.9
GKP	**Gorka Klasztor**	**143.31**	**345**	*e*PKP	PKPdf	20 26 29.3	-2.8
GZT	**Gaziantep**	**143.74**	**309**	*i* P	PKPdf	20 26 32.1	-0.7
XDE	**Dent Fell**	**143.75**	**6**	⇓*e*P	PKPdf	20 26 30.2	-2.6
XDE	**Dent Fell**	**143.75**	**6**	⇓*e*P	PKPdf	20 26 30.2	-2.6
BOYT	**Boyabat**	**143.86**	**316**	*i* P	PKPdf	20 26 32.9	-0.1
WIM	**Isle of Man**	**143.98**	**7**	⇓*e*P	PKPdf	20 26 31.2	-2.1
WIM	**Isle of Man**	**143.98**	**7**	⇓*e*P	PKPdf	20 26 31.2	-2.1
BSEG	**Bad Segeberg**	**144.02**	**352**	*e*PKPbc	PKPdf	20 26 31.7	-1.6
BSEG				*e*		20 26 55.0	
LVV	**L'vov**	**144.11**	**336**	⇓*i*PKIKP	PKPdf	20 26 31.9	-1.6
CTKT	**Corum**	**144.32**	**315**	*i* P	PKPdf	20 26 34.0	+0.2
DCN	**Croghan**	**144.41**	**10**	*e*P	PKPdf	20 26 31.4	-2.6
DCN	**Croghan**	**144.41**	**10**	⇓*i*P	PKPdf	20 26 32.8	-1.2
DCN	**Croghan**	**144.41**	**10**	⇓*i*P	PKPdf	20 26 32.8	-1.2
DLF	**Lyons Farm**	**144.57**	**9**	*e*P	PKPdf	20 26 32.0	-2.3
DLF	**Lyons Farm**	**144.57**	**9**	⇓*i*P	PKPdf	20 26 33.3	-1.0
DLF	**Lyons Farm**	**144.57**	**9**	⇓*i*P	PKPdf	20 26 33.3	-1.0
WCB1	**Church Bay**	**144.75**	**7**	⇓*e*P	PKPdf	20 26 33.3	-1.3
WCB1	**Church Bay**	**144.75**	**7**	⇓*e*P	PKPdf	20 26 33.3	-1.3
KWP	**Kalwaria**	**144.77**	**337**	*i* PKPd	PKPdf	20 26 34.6	0.0
KWP	**Kalwaria**	**144.77**	**337**	*i* PKPd	PKPdf	20 26 34.6	0.0
BALT	**Daday**	**144.79**	**318**	*i* P	PKPdf	20 26 35.6	+1.0
RUE	**Ruedersdorf**	**144.83**	**348**	*e*P	PKPdf	20 26 34.5	-0.2
WLF1	**Llynfaes**	**144.86**	**7**	*e*P	PKPdf	20 26 34.0	-0.8
WLF1	**Llynfaes**	**144.86**	**7**	*e*P	PKPdf	20 26 34.0	-0.8
YRC	**Rhoscolyn**	**144.88**	**7**	⇓*e*P	PKPdf	20 26 33.9	-0.9
YRC	**Rhoscolyn**	**144.88**	**7**	⇓*e*P	PKPdf	20 26 33.9	-0.9
WPM1	**Penmaenmawr**	**144.94**	**6**	⇓*e*P	PKPdf	20 26 34.4	-0.6
WPM1	**Penmaenmawr**	**144.94**	**6**	⇓*e*P	PKPdf	20 26 34.4	-0.6
COBT	**Iskenderun**	**145.02**	**308**	*i* P	PKPdf	20 26 36.1	+1.0
YRE	**Yr Eifl**	**145.16**	**7**	⇓*e*P	PKPdf	20 26 34.7	-0.6
YRE	**Yr Eifl**	**145.16**	**7**	⇓*e*P	PKPdf	20 26 34.7	-0.6
ELDT	**Eldivan**	**145.29**	**316**	*i* P	PKPdf	20 26 36.6	+1.1
OJC	**Ojcow**	**145.29**	**340**	*e*PKP	PKPdf	20 26 35.7	+0.2
BURAR	**Bucovina Array**	**145.33**	**332**	⇓*i*P	PKPdf	20 26 36.7	+1.1
BURAR	**Bucovina Array**	**145.33**	**332**	⇓P	PKPdf	20 26 36.7	+1.1
SBD1	**Bryn Du**	**145.36**	**6**	*e*P	PKPdf	20 26 35.8	+0.2
SBD1	**Bryn Du**	**145.36**	**6**	*e*P	PKPdf	20 26 35.8	+0.2
STHS	**Stebnicka Huta**	**145.48**	**338**	*e*PKP	PKPdf	20 26 36.7	+0.9
KOLS	**Kolonicke sedl**	**145.50**	**336**	*e*PKP	PKPdf	20 26 36.7	+0.8
WIT	**Witteveen**	**145.52**	**355**	*e*PKP	PKPdf	20 26 37.3	+1.4
CFR	**Carcaliu**	**145.67**	**327**	⇑*i*P	PKPdf	20 26 37.4	+1.3
CFR	**Carcaliu**	**145.67**	**327**	⇑P	PKPdf	20 26 37.4	+1.3
UZH	**Uzhgorod**	**145.74**	**336**	*e*PKIKP	PKPdf	20 26 35.9	-0.4
UZH				*e*		20 26 37.9	
UZH				*i*		20 28 33.7	
KSP	**Ksiaz**	**145.77**	**344**	*e*PKP	PKPdf	20 26 37.7	+1.4
KSP	**Ksiaz**	**145.77**	**344**	*i* PKIKP	PKPdf	20 26 37.5	+1.2
KSP	**Ksiaz**	**145.77**	**344**	*e*PKPdf	PKPdf	20 26 37.5	+1.2
KSP				*e*		20 27 00.8	
KSP				*e*pPKP	pPKPdf	20 28 49.6	+4.9
HLM1	**Long Mynd**	**145.77**	**5**	⇓*e*P	PKPdf	20 26 36.8	+0.5
HLM1	**Long Mynd**	**145.77**	**5**	⇓*e*P	PKPdf	20 26 36.8	+0.5
NIE	**Niedzica**	**145.81**	**339**	*e*PKP	PKPdf	20 26 38.1	+1.7
CRVS	**Cervenica-Dubn**	**145.83**	**337**	*e*PKP	PKPdf	20 26 37.0	+0.6
AEU	**East Anglia Un**	**145.89**	**1**	*e*P	PKPdf	20 26 37.2	+0.7
AEU	**East Anglia Un**	**145.89**	**1**	*e*P	PKPdf	20 26 37.2	+0.7
ASF	**Jabal al Asfar**	**145.89**	**300**	PKPbc	PKPbc	20 26 38.7	+0.3
	comp=Z,28nm,0.8s,baz=333,slow=2.1,SNR=46						
ASF				SKPbc	SKPbc	20 29 25.9	+1.0
	comp=Z,3.4nm,0.9s,baz=49,slow=4.5,SNR=3.9						
ASF	**Jabal al Asfar**	**145.89**	**300**	PKP2	PKPab	20 26 38.7	-1.5
ASF				pmax	pmax		
	comp=Z,28nm,0.9s						
ASF				pmax	pmax		
	comp=N,3.0nm,0.9s						
VRI	**Vrincioaia**	**145.91**	**329**	⇓*i*P	PKPdf	20 26 37.6	+1.1
VRI	**Vrincioaia**	**145.91**	**329**	⇓P	PKPdf	20 26 37.6	+1.1
IBBN	**Ibbenburen**	**145.92**	**354**	*e*PKPbc	PKPbc	20 26 37.8	-0.6
PLOR	**Plostina**	**145.95**	**329**	⇓*i*P	PKPdf	20 26 37.4	+0.8
TIRR	**Tirgusor**	**146.00**	**325**	⇓*i*P	PKPdf	20 26 37.9	+1.2
TIRR	**Tirgusor**	**146.00**	**325**	⇓P	PKPdf	20 26 37.9	+1.1
ANTO	**Ankara**	**146.02**	**315**	P	PKPdf	20 26 37.0	+0.2
	SNR=11						
ANTO	**Ankara**	**146.02**	**315**	*e*P	PKPdf	20 26 38.4	+1.6
CLL	**Collm**	**146.10**	**348**	*e*PKPbc	PKPbc	20 26 38.0	-0.9
CLL				*e*		20 27 01.2	
CLL	**Collm**	**146.10**	**348**	*i* PKPdf	PKPdf	20 26 36.1	-0.8
	comp=Z,13nm,1.3s						
CLL				⇓*i*PKPbc	PKPbc	20 26 38.3	-0.6
	comp=Z,131nm,0.8s						
CLL				*i* PKPab	PKPab	20 26 39.9	-1.1
	comp=Z,46nm,0.6s						
CLL				*i* pPKPbc		20 27 01.4	
CLL	**Collm**	**146.10**	**348**	⇓*i*PKIKP	PKPdf	20 26 36.1	-0.8
CLL				*i*		20 26 39.9	
CLL				pmax	pmax		
	comp=Z,13nm,1.3s						
CLL				pmax	pmax		
	comp=Z,131nm,0.8s						
CLL				pmax	pmax		
	comp=Z,46nm,0.6s						
HARR	**Harsova**	**146.10**	**326**	⇓*i*P	PKPdf	20 26 38.9	+2.0
HARR	**Harsova**	**146.10**	**326**	⇓P	PKPdf	20 26 38.9	+2.1
SGKT	**Sivrigoynuk**	**146.15**	**317**	*i* P	PKPdf	20 26 38.6	+1.7
OKC	**Ostrava-Krasne**	**146.15**	**341**	*e*PKP	PKPdf	20 26 36.7	-0.3
OKC				*e*x	x	20 26 38.5	
UPC	**Upice**	**146.15**	**344**	*e*PKP	PKPdf	20 26 36.9	-0.1
UPC				*e*x	x	20 26 38.9	
HTR	**Trewern Hill**	**146.17**	**6**	⇓*e*P	PKPdf	20 26 37.7	+0.7
HTR	**Trewern Hill**	**146.17**	**6**	⇓*e*P	PKPdf	20 26 37.7	+0.7
DPC	**Dobruska-Polom**	**146.21**	**344**	*e*PKP	PKPdf	20 26 36.6	-0.5
DPC				*e*x	x	20 26 39.0	
MCH1	**Michaelchurch**	**146.28**	**6**	P	PKPdf	20 26 38.0	+0.9
MCH1	**Michaelchurch**	**146.28**	**6**	⇓*e*P	PKPdf	20 26 37.8	+0.7
MCH1				*e*P		20 26 38.0	
MCH1	**Michaelchurch**	**146.28**	**6**	⇓*e*P	PKPdf	20 26 37.8	+0.7
MCH1				*e*P		20 26 38.0	
BRG	**Berggiesshubel**	**146.31**	**346**	*e*PKPbc	PKPbc	20 26 38.8	-0.7
BRG				*e*		20 27 02.0	
BRG				*e*pPKPbc		20 28 50.0	
BRG	**Berggiesshubel**	**146.31**	**346**	⇑*i*PKPB	PKPdf	20 26 39.1	+1.8
	comp=Z,32nm,0.7s						
BRG				*i* PKPpB		20 26 41.1	
	comp=Z,20nm,0.8s						
BRG				*i*		20 27 02.1	
	comp=Z,7.9nm,0.7s						
BRG	**Berggiesshubel**	**146.31**	**346**	*i* PKIKP	PKPdf	20 26 36.9	-0.3
BRG				*i*		20 26 41.1	
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRG				pmax	pmax		
	comp=Z,32nm,0.8s						
BRG				pmax	pmax		
	comp=Z,20nm,0.7s						
BRG	**Berggiesshubel**	**146.31**	**346**	*i* PKPdf	PKPdf	20 26 36.9	-0.3
BRG				*i* PKPbc	PKPbc	20 26 39.1	-0.4
BRG				*i* PKPab	PKPab	20 26 41.1	-0.8
BRG				*i*		20 27 02.1	
WTSB	**Winterswijk**	**146.35**	**355**	*e*PKP	PKPdf	20 26 38.7	+1.4
	comp=Z,32nm,0.8s						
MORC	**Moravsky Berou**	**146.38**	**342**	⇓*i*P	PKPdf	20 26 35.7	-1.7
MORC	**Moravsky Berou**	**146.38**	**342**	⇓P	PKPdf	20 26 35.7	-1.6
BHL	**Bhannes**	**146.39**	**304**	*e*P	PKPdf	20 26 39.8	+2.4
SSW	**Stow on the Wo**	**146.41**	**4**	*e*P	PKPdf	20 26 39.0	+1.6
SSW	**Stow on the Wo**	**146.41**	**4**	*e*P	PKPdf	20 26 39.0	+1.6
PVCC	**Panska Ves**	**146.49**	**346**	*e*PKP	PKPdf	20 26 38.9	+1.4
PVCC				*e*x	x	20 26 39.9	
KECS	**Kecovo**	**146.54**	**338**	*e*PKP	PKPdf	20 26 40.0	+2.4
KECS				*e*		20 28 50.2	
MLR	**Muntele Rosu**	**146.56**	**329**	PKPbc	PKPbc	20 26 39.5	-0.7
	comp=Z,31nm,0.8s,baz=334,slow=6.5,SNR=28						
MLR	**Muntele Rosu**	**146.56**	**329**	⇓*i*P	PKPdf	20 26 39.6	+2.0
MLR	**Muntele Rosu**	**146.56**	**329**	⇓P	PKPdf	20 26 39.6	+1.9
HGH	**Gray Hill**	**146.65**	**6**	⇓*e*P	PKPdf	20 26 39.1	+1.3
HGH	**Gray Hill**	**146.65**	**6**	⇓*e*P	PKPdf	20 26 39.1	+1.3
SKP1	**Kophill**	**146.72**	**3**	⇓*e*P	PKPdf	20 26 39.2	+1.3
SKP1	**Kophill**	**146.72**	**3**	⇓*e*P	PKPdf	20 26 39.2	+1.3
HENT	**Hendek**	**146.75**	**318**	*i* P	PKPdf	20 26 40.3	+2.3
BUG	**Bochum--Univer**	**146.83**	**354**	*e*PKPbc	PKPbc	20 26 40.1	-0.8
SWN1	**Swindon**	**146.86**	**4**	⇓*e*P	PKPdf	20 26 39.9	+1.8
SWN1	**Swindon**	**146.86**	**4**	⇓*e*P	PKPdf	20 26 39.9	+1.8
PRA	**Prague**	**146.95**	**345**	PKP	PKPdf	20 26 39.0	+0.7
PRU	**Pruhonice**	**147.00**	**345**	*e*PKP	PKPdf	20 26 38.5	+0.1
PRU				*e*x	x	20 26 40.9	
MOX	**Moxa**	**147.00**	**349**	*e*PKPdf	PKPdf	20 26 37.8	-0.6
MOX				*e*PKPbc	PKPbc	20 26 40.4	-1.0
MOX				*e*pPKPbc	pPKPbc	20 28 51.6	+4.1
MOX	**Moxa**	**147.00**	**349**	*e*PKP	PKPdf	20 26 37.9	-0.5
MOX				*e*		20 26 40.6	
	comp=Z,62nm,1.4s						
DRGR		**147.05**	**334**	⇑*i*P	PKPbc	20 26 41.3	-0.2
DRGR		**147.05**	**334**	⇑P	PKPbc	20 26 41.3	-0.2
TANN	**Tannenbergstha**	**147.06**	**348**	*e*PKPdf	PKPdf	20 26 37.1	-1.4
TANN				*e*PKPbc	PKPbc	20 26 40.6	-0.9
TANN				*e*		20 27 04.1	
VRAC	**Vranov**	**147.08**	**342**	PKPbc	PKPbc	20 26 41.1	-0.5
	comp=Z,36nm,0.9s,baz=50,slow=2.0,SNR=21						
VRAC	**Vranov**	**147.08**	**342**	⇓*i*P	PKPbc	20 26 41.4	-0.2
VRAC	**Vranov**	**147.08**	**342**	⇓P	PKPbc	20 26 41.4	-0.2
UBBA	**Unterbreizbach**	**147.10**	**351**	*e*PKPbc	PKPbc	20 26 40.5	-1.1
KDHN	**Kadinhani**	**147.14**	**314**	*i* P	PKPdf	20 26 41.0	+2.3
SWK	**Warminster**	**147.19**	**5**	⇓*e*P	PKPdf	20 26 40.6	+1.9
SWK	**Warminster**	**147.19**	**5**	⇓*e*P	PKPdf	20 26 40.6	+1.9
PSZ	**Piszkesteto**	**147.23**	**338**	⇓*e*PKP/B	PKPbc	20 26 41.4	-0.6
PSZ	**Piszkesteto**	**147.23**	**338**	⇑*i*P	PKPbc	20 26 41.9	-0.1
PSZ	**Piszkesteto**	**147.23**	**338**	⇑P	PKPbc	20 26 41.9	-0.1
NKC	**Novy Kostel**	**147.23**	**348**	*e*PKP	PKPdf	20 26 38.9	+0.1
NKC				*e*x	x	20 26 41.6	
PRD	**Provadia**	**147.38**	**325**	*e*P	PKPbc	20 26 42.2	-0.2
ERMK	**Ermenek**	**147.44**	**310**	*i* P	PKPbc	20 26 42.2	-0.3
ESKT	**Eskisehir**	**147.49**	**316**	*i* P	PKPdf	20 26 42.0	+2.8
MANZ	**Manzenberg**	**147.53**	**348**	*e*PKPdf	PKPdf	20 26 38.4	-0.9
MANZ				*e*PKPbc	PKPbc	20 26 42.5	-0.3
SMOL	**Smolenice**	**147.54**	**341**	*e*PKP	PKPbc	20 26 42.8	0.0
BORA	**Eskisehir**	**147.55**	**317**	*i* P	PKPbc	20 26 42.3	-0.5
BEBN	**Eben Emael**	**147.60**	**356**	PKPbc	PKPbc	20 26 42.7	-0.3
HGN	**Heimansgroeve**	**147.62**	**355**	*e*PKP	PKPdf	20 26 42.1	+2.7
	comp=Z,6.2nm,0.9s						
UCC	**Uccle**	**147.67**	**357**	PKPbc	PKPbc	20 26 42.3	-0.8
DYA	**Yadsworthy**	**147.72**	**7**	⇓*e*P	PKPdf	20 26 41.6	+2.0
DYA	**Yadsworthy**	**147.72**	**7**	⇓*e*P	PKPdf	20 26 41.6	+2.0
ROTZ	**Rotzenmuhle**	**147.72**	**348**	*e*PKPbc	PKPbc	20 26 42.8	-0.5
ROTZ				*e*pPKPbc	pPKPbc	20 28 53.3	+3.6
MEM	**Membach**	**147.76**	**355**	PKPbc	PKPbc	20 26 42.7	-0.7
CSS	**Prodhromos**	**147.81**	**307**	*e*P	PKPdf	20 26 42.6	+2.9
CRQ2	**Rosemanowes 2**	**147.82**	**9**	*e*P	PKPdf	20 26 42.1	+2.4
CRQ2	**Rosemanowes 2**	**147.82**	**9**	*e*P	PKPdf	20 26 42.1	+2.4
TNS	**Taunus Mts**	**147.90**	**352**	*e*PKPbc	PKPbc	20 26 42.7	-1.0
BUD	**Budapest**	**147.91**	**338**	⇓*e*PKP/B	PKPbc	20 26 43.0	-0.7
ZST	**Bratislava**	**147.92**	**341**	*e*PKP	PKPbc	20 26 43.6	-0.2
SNF	**Seneffe**	**147.97**	**357**	PKPbc	PKPbc	20 26 43.1	-0.7
GRA1	**Grafenberg Arr**	**147.98**	**349**	*e*PKPbc	PKPbc	20 26 43.2	-0.7
GRA1				*e*PKPab	PKPab	20 26 48.2	-0.4
GRA1				*e*pPKPbc	pPKPbc	20 28 54.8	+4.4
GRF	**Grafenberg Arr**	**147.98**	**349**	*e*PKPbc	PKPbc	20 26 43.2	-0.7
GRF				*e*PKPab	PKPab	20 26 48.2	-0.4
GRF				*e*pPKPbc	pPKPbc	20 28 54.8	+4.4
GRF	**Grafenberg Arr**	**147.98**	**349**	*e*PKP2	PKPab	20 26 48.2	-0.4
BCLA	**Clavier**	**148.00**	**356**	PKPbc	PKPbc	20 26 43.0	-0.9
KHC	**Kasperske Hory**	**148.03**	**346**	*e*PKP	PKPdf	20 26 39.5	-0.6
KHC				*e*x	x	20 26 43.7	
GZR	**Gura Zlata**	**148.11**	**332**	⇓*i*P	PKPbc	20 26 43.7	-0.5
GZR	**Gura Zlata**	**148.11**	**332**	⇓P	PKPbc	20 26 43.7	-0.6
EIL	**Elat**	**148.12**	**297**	*e*P	PKPbc	20 26 43.7	-0.6
ZIMR		**148.15**	**327**	⇑*i*P	PKPbc	20 26 43.8	-0.5
ZIMR		**148.15**	**327**	⇑P	PKPbc	20 26 43.8	-0.6
WET	**Wettzell**	**148.17**	**347**	*e*PKPdf	PKPdf	20 26 39.9	-0.4
WET				*e*PKPbc	PKPbc	20 26 43.7	-0.7
ULDT	**Uludag**	**148.25**	**319**	*i* P	PKPbc	20 26 44.4	-0.2
GEC2	**GERESS Array S**	**148.26**	**345**	*e*PKPbc	PKPbc	20 26 44.0	-0.6
GEC2				*e*pPKPbc	pPKPbc	20 28 54.6	+3.4
GEC2	**GERESS Array S**	**148.26**	**345**	*e*P	PKPdf	20 26 43.8	+3.3
GEC2				*e*PKPbc	PKPbc	20 26 44.0	-0.6
GEC2				*e*pPKPbc	pPKPbc	20 28 54.6	+3.4
GERES	**GERESS Array B**	**148.26**	**345**	PKP	PKPdf	20 26 39.5	-0.9
	comp=Z,25nm,0.7s,baz=48,slow=2.0,SNR=74						
GERES				PKPbc	PKPbc	20 26 43.8	-0.8
	comp=Z,26nm,0.7s,baz=26,slow=2.7,SNR=188						
JMB	**Yambol**	**148.32**	**324**	*e*P	PKPbc	20 26 43.9	-0.9
JMB	**Yambol**	**148.32**	**324**	*e*P	PKPbc	20 26 44.0	-0.7
ABH	**Alteburg**	**148.34**	**353**	PKP	PKPbc	20 26 44.3	-0.5
DOU	**Dourbes**	**148.37**	**357**	PKPbc	PKPbc	20 26 44.3	-0.6
BZS	**Buzias**	**148.44**	**333**	⇑*i*P	PKPdf	20 26 39.9	-0.8
BZS	**Buzias**	**148.44**	**333**	⇑P	PKPdf	20 26 39.9	-0.8
TOD	**Tromm**	**148.46**	**352**	PKP	PKPdf	20 26 44.3	+3.5
CONA	**Conrad Observa**	**148.53**	**342**	*i* PKPbc	PKPbc	20 26 45.0	-0.3
	comp=Z,49nm,1.2s,SNR=28						
SOP	**Sopron**	**148.54**	**341**	⇓*e*PKP/p	PKPbc	20 26 45.1	-0.2
ISP	**Isparta**	**148.58**	**314**	*e*P	PKPdf	20 26 43.6	+2.6
TKTP	**Tekketepe**	**148.61**	**314**	*i* P	PKPdf	20 26 44.6	+3.6
GDZ	**Gediz**	**148.61**	**317**	*i* P	PKPdf	20 26 44.8	+3.7
WLF	**Walferdange**	**148.69**	**355**	*e*PKPbc	PKPbc	20 26 45.1	-0.6
WLF				*e*PKPab	PKPab	20 26 50.9	-0.7
WLF				*e*		20 27 09.0	
WLF				*e*pPKPbc	pPKPbc	20 28 56.0	+3.6
WLF	**Walferdange**	**148.69**	**355**	PKPbc	PKPbc	20 26 45.6	-0.1
WLF	**Walferdange**	**148.69**	**355**	*e*P	PKPbc	20 26 45.4	-0.2
MOA	**Molln**	**149.04**	**344**	*i* P	PKPbc	20 26 45.8	-0.7
	comp=Z,29nm,1.2s,SNR=14						
PKSM	**Moragy**	**149.13**	**337**	⇓*i*P	PKPdf	20 26 40.8	-1.0
PKSM	**Moragy**	**149.13**	**337**	⇓P	PKPdf	20 26 40.8	-1.0
BTOK	**Tokmak**	**149.16**	**319**	*i* P	PKPbc	20 26 46.1	-0.7
DIM	**Dimitrovgrad**	**149.17**	**325**	*e*P	PKPbc	20 26 46.5	-0.3
LANF	**Langenberg**	**149.20**	**353**	PKP	PKPbc	20 26 46.2	-0.7
STU	**Stuttgart**	**149.21**	**351**	*e*PKPdf	PKPdf	20 26 41.5	-0.5
STU				*e*PKPbc	PKPbc	20 26 46.4	-0.5
STU	**Stuttgart**	**149.21**	**351**	*e*P	PKPbc	20 26 46.6	-0.3
ARSA	**Arzberg**	**149.24**	**342**	⇓*i*P	PKPbc	20 26 46.2	-0.8
	comp=Z,16nm,0.9s,SNR=10						
FUR	**Furstenfeldbru**	**149.44**	**348**	*e*PKPbc	PKPbc	20 26 46.8	-0.7
FUR				*e*		20 27 10.2	
KDZ	**Kurdzhali**	**149.51**	**324**	*e*P	PKPdf	20 26 46.0	+3.6
PGB	**Panagyurishte**	**149.56**	**327**	*e*P	PKPbc	20 26 47.0	-0.8
BEO	**Belgrade**	**149.57**	**334**	*i* PKP	PKPbc	20 26 46.5	-1.3
PLD	**Plovdiv**	**149.59**	**326**	*e*P	PKPbc	20 26 46.7	-1.1
ALN	**Alexandroupoli**	**149.65**	**323**	*e*P	PKPdf	20 26 44.8	+2.2
DNZL	**Cakiroluk**	**149.65**	**315**	*i* P	PKPbc	20 26 48.2	+0.2
SVIS	**Svilajnac**	**149.66**	**332**	*i* PKP	PKPdf	20 26 46.0	+3.4
FLN	**La Foliniere**	**149.69**	**3**	*e*PKIKP	PKPdf	20 26 42.2	-0.5
	comp=Z,17nm,0.8s						
KOGS	**Kog**	**149.74**	**340**	*i* PKPbc	PKPbc	20 26 47.0	-1.2
BFO	**Black Forest**	**149.77**	**352**	*e*PKPdf	PKPdf	20 26 41.8	-1.0
BFO				*e*PKPbc	PKPbc	20 26 47.4	-0.9
BFO				*e*PKPab	PKPab	20 26 54.6	-1.4
BFO				*e*		20 27 10.8	
BFO	**Black Forest**	**149.77**	**352**	*e*PKP2	PKPab	20 26 54.6	-1.4
WLS	**Welschbruch**	**149.81**	**353**	PKP	PKPbc	20 26 47.3	-1.1
CDF	**Champ du Feu**	**149.82**	**353**	*e*PKIKP	PKPdf	20 26 43.2	+0.3
ROSF	**Rostrenen**	**149.87**	**7**	*e*PKIKP	PKPdf	20 26 42.2	-0.8
	comp=Z,6.3nm,0.8s						
RZN	**Rozhen**	**149.87**	**325**	*e*P	PKPdf	20 26 45.0	+2.0
LDF	**La Druitiere**	**149.88**	**3**	*e*PKIKP	PKPdf	20 26 42.3	-0.7
	comp=Z,11nm,0.8s						
PERS	**Pernice**	**149.92**	**342**	*i* PKPdf	PKPdf	20 26 41.7	-1.3
PERS				*i* PKPbc	PKPbc	20 26 47.4	-1.2
PERS				*i* PKPab	PKPab	20 26 55.8	-0.8
MEZF	**Maizieres J'vi**	**149.93**	**356**	*e*PKIKP	PKPdf	20 26 43.2	+0.1
KBA	**Koelnbreinsper**	**150.00**	**345**	*i* P	PKPbc	20 26 47.6	-1.2
	comp=Z,30nm,1.0s,SNR=34						
AKAS	**Kas**	**150.00**	**312**	*i* P	PKPbc	20 26 47.9	-0.9
VTS	**Vitosha**	**150.02**	**328**	*e*P	PKPbc	20 26 48.2	-0.6
VTS	**Vitosha**	**150.02**	**328**	⇓*i*P	PKPbc	20 26 48.6	-0.2
VTS	**Vitosha**	**150.02**	**328**	*e*P	PKPbc	20 26 48.5	-0.3
SGMF	**Saint Gilles**	**150.03**	**6**	*e*PKIKP	PKPdf	20 26 42.7	-0.5
ECH	**Echery**	**150.03**	**353**	PKP	PKPbc	20 26 47.5	-1.4
GRR	**Gorron**	**150.04**	**4**	*e*PKIKP	PKPdf	20 26 42.1	-1.2
THEF	**They Montfort**	**150.13**	**355**	PKP	PKPdf	20 26 47.5	+4.1
WATA	**Walderalm**	**150.16**	**347**	*i* P	PKPbc	20 26 48.4	-0.7
	comp=Z,33nm,1.2s,SNR=10						
OBKA	**Obir**	**150.20**	**343**	*i* P	PKPbc	20 26 48.2	-1.0
	comp=Z,24nm,1.4s,SNR=7.0						
WTTA	**Wattenberg**	**150.22**	**347**	*i* P	PKPbc	20 26 48.8	-0.5
	comp=Z,53nm,0.9s,SNR=34						
MOTA	**Moosalm**	**150.25**	**348**	⇓*i*P	PKPbc	20 26 48.6	-0.8
	comp=Z,31nm,1.0s						
FELD	**Feldberg im Sc**	**150.26**	**352**	PKP	PKPdf	20 26 46.0	+2.4
AYVA	**Ayvalik**	**150.26**	**319**	*i* P	PKPbc	20 26 48.5	-0.9
QUIF	**Quistinic**	**150.29**	**7**	*e*PKIKP	PKPdf	20 26 43.1	-0.5
BOZC	**Bozcaada**	**150.32**	**321**	*i* P	PKPbc	20 26 48.3	-1.3
HAU	**Haudompre**	**150.32**	**354**	*e*PKIKP	PKPdf	20 26 43.2	-0.5
DIVS	**Divcibare**	**150.35**	**333**	*i* PKP	PKPbc	20 26 48.9	-0.7
DIVS	**Divcibare**	**150.35**	**333**	*e*P	PKPbc	20 26 49.0	-0.6
SQTA	**Sankt Quirin**	**150.35**	**347**	*i* P	PKPbc	20 26 49.1	-0.5
	comp=Z,23nm,0.8s,SNR=20						
MOF	**Molkenrain**	**150.39**	**353**	PKP	PKPbc	20 26 48.8	-0.9
KDAG	**Bornova**	**150.43**	**317**	*i* P	PKPbc	20 26 48.9	-0.9
AYDN	**Tasoluk**	**150.45**	**316**	*i* P	PKPbc	20 26 49.9	+0.1
HINF	**Hinteralfeld**	**150.46**	**354**	*e*PKIKP	PKPdf	20 26 43.4	-0.5
MMB	**Musomiste**	**150.47**	**326**	*e*P	PKPbc	20 26 49.0	-0.9
BARS	**Barje**	**150.53**	**330**	*i* PKP	PKPdf	20 26 48.3	+4.2
DAVA	**Damuels**	**150.54**	**349**	*i* P	PKPbc	20 26 49.4	-0.7
	comp=Z,58nm,1.2s,SNR=18						
CRES	**Cresnjev**	**150.54**	**341**	*i* PKPbc	PKPbc	20 26 49.3	-0.8
KKB	**Krupnik**	**150.61**	**327**	*e*P	PKPbc	20 26 49.0	-1.2
LJU	**Ljubljana**	**150.63**	**342**	*e*PKPdf	PKPdf	20 26 43.5	-0.7
LJU				*i* PKPbc	PKPbc	20 26 49.5	-0.8
LJU				*i* PKPab	PKPab	20 26 58.1	-1.5
SRS	**Serrai**	**150.87**	**325**	*e*P	PKPbc	20 26 49.0	-1.8
BOJS	**Bojanci**	**150.90**	**341**	*e*PKPdf	PKPdf	20 26 43.9	-0.6
BOJS				*i* PKPbc	PKPbc	20 26 50.5	-0.4
BOJS				*i* pPKPbc	pPKPbc	20 29 02.1	+4.0
LOMF	**Lomont**	**150.92**	**353**	PKP	PKPbc	20 26 49.7	-1.2
KNDS	**Knezji Dol**	**151.14**	**342**	*i* PKPbc	PKPbc	20 26 50.6	-0.8
SOH	**Sokhos**	**151.21**	**325**	*e*P	PKPbc	20 26 49.6	-2.0
KNT	**Kendrikon**	**151.21**	**326**	*e*P	PKPbc	20 26 49.6	-2.0
CHOS	**Chios island**	**151.21**	**319**	*e*P	PKPbc	20 26 49.8	-1.8
LOR	**Lormes**	**151.22**	**358**	*e*PKIKP	PKPdf	20 26 45.0	-0.1
	comp=Z,7.6nm,0.8s						
VAY	**Valandovo**	**151.27**	**327**	*e*P	PKPdf	20 26 48.9	+3.8
SKO	**Skopje**	**151.35**	**329**	*e*P	PKPbc	20 26 51.5	-0.4
GRG	**Griva**	**151.62**	**326**	*e*P	PKPbc	20 26 50.9	-1.6
PAIG	**Paliouri**	**151.64**	**324**	*e*P	PKPbc	20 26 50.2	-2.3
AVF	**Avril sur Loir**	**151.72**	**358**	*e*PKIKP	PKPdf	20 26 45.4	-0.4
SMF	**Signal de Mont**	**151.84**	**358**	*e*PKIKP	PKPdf	20 26 46.0	0.0
MFF	**Saint Martin d**	**151.86**	**3**	*e*PKIKP	PKPdf	20 26 45.5	-0.5
	comp=Z,22nm,1.0s						
LIT	**Litokhoron**	**152.18**	**325**	*e*P	PKPbc	20 26 52.1	-1.7
TCF	**Toulx Ste Croi**	**152.24**	**360**	*e*PKIKP	PKPdf	20 26 46.1	-0.5
	comp=Z,12nm,1.0s						
FNA	**Florina**	**152.28**	**327**	*e*P	PKPbc	20 26 53.4	-0.6
XOR	**Xorichti**	**152.30**	**323**	*e*P	PKPbc	20 26 52.0	-2.0
AGO	**Saint Agoulin**	**152.46**	**358**	PKP	PKPdf	20 26 47.9	+1.0
PLDF	**La Plantade**	**152.53**	**358**	PKP	PKPdf	20 26 49.4	+2.4
LPL	**La Plagne**	**152.74**	**353**	*e*PKIKP	PKPdf	20 26 48.0	+0.7
LPG	**La Plagne**	**152.75**	**353**	*e*PKIKP	PKPdf	20 26 48.1	+0.8
PYM	**Petit Puy Mans**	**152.76**	**359**	PKP	PKPdf	20 26 47.4	+0.1
AGG	**Agios Georgios**	**153.02**	**324**	*e*P	PKPbc	20 26 54.0	-1.6
MEV	**Metsovon**	**153.08**	**326**	*e*P	PKPbc	20 26 55.9	+0.2
BNI	**Bardonecchia**	**153.20**	**353**	*e*P	PKPbc	20 26 55.8	-0.1
RJF	**Les Rejaudoux**	**153.22**	**1**	*e*PKIKP	PKPdf	20 26 47.8	-0.2
LBL	**Lubilhac**	**153.28**	**358**	PKP	PKPdf	20 26 47.7	-0.4
MBDF	**Montbardon**	**153.51**	**353**	*e*PKIKP	PKPdf	20 26 48.9	+0.5
LFF	**La Frestale**	**153.56**	**2**	*e*PKIKP	PKPdf	20 26 48.3	-0.2
VIVF	**Saint-Julien-l**	**153.58**	**356**	*e*PKIKP	PKPdf	20 26 49.3	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAF	Calviac	153.60	0	ePKIKP	PKPdf	20 26 48.5	0.0
	comp=Z,18nm,1.3s						
IDI	Anoyia	153.76	314	PKPbc	PKPbc	20 26 57.3	+0.2
	comp=Z,10nm,0.6s,baz=88,slow=19,SNR=7.5						
LKD	Levkas	154.17	325	eP	PKPbc	20 26 57.1	-0.9
SMRF	Simiane la Rot	154.38	354	ePKIKP	PKPdf	20 26 50.2	+0.6
LASF	Ste Croix	154.41	357	ePKIKP	PKPdf	20 26 50.0	+0.4
MTLF	Montolieu	155.18	360	ePKIKP	PKPdf	20 26 50.9	+0.2
SJPF	Ste Jean	155.25	6	ePKIKP	PKPdf	20 26 50.8	0.0
	comp=Z,8.6nm,1.0s						
EPF	Esparros	155.45	3	ePKIKP	PKPdf	20 26 51.3	+0.3
ETSF	Etsaut	155.52	5	ePKIKP	PKPdf	20 26 51.3	+0.2
ESDC	Sonseca Array	158.20	13	PKPab	PKPab	20 27 31.0	-1.1
	comp=Z,2.6nm,0.8s,baz=348,slow=3.9,SNR=13						
KEST	Kesra	161.64	341	PKP	PKPdf	20 26 58.2	-0.1
	comp=Z,0.6nm,0.8s,baz=334,slow=3.3,SNR=3.6						
KEST				PKPab	PKPab	20 27 46.9	-0.3
	comp=Z,5.8nm,0.7s,baz=341,slow=1.4,SNR=18						
MDT	Midelt	164.46	22	PKP	PKPdf	20 27 02.2	+1.2
	comp=Z,3.9nm,0.9s,baz=176,slow=1.9,SNR=10.0						
MDT				PKPab	PKPab	20 27 59.9	+0.3
	comp=Z,0.9nm,0.8s,baz=328,slow=14,SNR=3.7						
LIC	Lamto	165.99	149	ePKIKP	PKPdf	20 27 00.6	-1.6
DBIC	Dimbokro	166.46	149	PKP	PKPdf	20 27 02.3	-0.3
	comp=Z,3.3nm,1.0s,baz=181,slow=7.7,SNR=3.3						
DBIC				PKPab	PKPab	20 28 09.5	+1.1
	comp=Z,6.5nm,0.8s,baz=177,slow=7.1,SNR=7.3						
DBIC	Dimbokro	166.46	149	PKP	PKPdf	20 27 02.3	-0.3
DBIC				PKPab	PKPab	20 28 09.5	+1.1
TOA0	Torodi Ar. Sit	174.71	175	eP	PKPdf	20 27 06.4	-0.6
TORD	Torodi Ar. Bea	174.71	175	PKP	PKPdf	20 27 06.5	-0.5
	comp=Z,3.4nm,1.0s,baz=340,slow=0.8,SNR=14						
TORD				PKPab	PKPab	20 28 45.9	+0.8
	comp=Z,1.9nm,0.7s,baz=173,slow=4.5,SNR=14						
TORD				PP	PP	20 32 37.9	-0.1
	comp=Z,1.3nm,0.8s,baz=183,slow=4.8,SNR=4.8						
TORD	Torodi Ar. Bea	174.71	175	PKP	PKPdf	20 27 06.5	-0.5
TORD				PKPab	PKPab	20 28 45.9	+0.8
TORD				PP	PP	20 32 37.9	-0.1

*ISCJB **06** 20:13:55.3±0.5,5969N±003×2435E±007,h0^{km},Error ellipse: s-maj=5.4km s-min=4.9km az=29.1*
*NAO **06** 20:13:57.9±1.0,5976N×2455E,ML2.2*
*HEL **06** 20:13:58.6±0.2,5974N×2453E,h0^{km},ML2.4, ML2.2(NAO),Explosion*
*IDC **06** 20:13:59.9±1.0,5985N×2460E,h0^{km},mb1 3.4/4, mb1mx3.2/20,mbtmp3.3/4,ML3.7/3,Error ellipse: s-maj=12.1km s-min=6.7km az=133.0*
*BER **06** 20:13:59.0±3.8,5976N×2456E,h0^{km}±16^{km},ML2.2(NAO)*
ISC 06 20:13:57.1±0.5**,5972N**±003×**2447E**±007**,h0^{km},n24, σ1^{s}06**/34**,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.50	356	eP	Pg	20 14 07.1	+0.4
MEF				eS	Sg	20 14 13.3	+0.1
PVF	Pernaja	1.08	39	eP	Pg	20 14 16.9	-0.9
VSU	Vasula	1.72	136	eP	Pn	20 14 29.0	+0.8
VSU				eS	Sn	20 14 50.8	0.0
VSU	Vasula	1.72	136	Pn	Pn	20 14 29.2	+1.0
VSU				Lg		20 14 51.3	
RAF	Rauma	1.88	315	eP	Pn	20 14 32.0	+1.6
RAF				eS	Sn	20 14 55.7	+0.9
FIA0	FINESS Array S	1.91	24	eP	Pn	20 14 31.9	+1.1
FIA0				eS	Sn	20 14 55.0	-0.4
FIA0				MSG		20 14 59.3	
	comp=Z,28nm,0.2s						
FIA0	FINESS Array S	1.91	24	Pn	Pn	20 14 32.0	+1.2
	baz=194,slow=18						
FIA0				Lg		20 14 55.5	
	baz=196,slow=37						
FINES	FINESS Array B	1.91	24	Pn	Pn	20 14 31.9	+1.1
	comp=Z,9.7nm,0.3s,baz=203,slow=16,SNR=458						
FINES				Lg		20 14 55.5	
	comp=Z,14nm,0.3s,baz=196,slow=28,SNR=23						
KEF	Keuruu	2.47	4	MSG		20 15 14.9	
	comp=Z,17nm,0.2s						
KAF	Kangasniemi	2.57	20	MSG		20 15 18.8	
	comp=Z,20nm,0.2s						
SUF	Sumiainen	3.12	14	MSG		20 15 36.9	
	comp=Z,7.3nm,0.2s						
HFS	Hagfors	5.44	279	eP	Pn	20 15 19.2	-0.1
HFS				eS	Sn	20 16 22.5	-0.1
HFS				eSG		20 16 44.9	
HFS	Hagfors	5.44	279	Pn	Pn	20 15 20.2	+0.8
	comp=Z,0.5nm,0.3s,baz=99,slow=12,SNR=14						
HFS				Sn	Sn	20 16 23.8	+1.1
	comp=Z,1.0nm,0.3s,baz=95,slow=30,SNR=8.0						
HFS				Lg		20 16 45.3	
	comp=Z,1.4nm,0.3s,baz=90,slow=28,SNR=6.1						
HFS	Hagfors	5.44	279	Pn	Pn	20 15 19.2	-0.1
	baz=91,slow=11						
HFS				Sn	Sn	20 16 22.5	-0.1
	baz=99,slow=37						
HFS				Lg		20 16 44.9	
	baz=90,slow=28						
NB2	NORSAR Subarra	6.71	287	Pn	Pn	20 15 37.3	+0.6
	baz=93,slow=14						
NB2				Sn	Sn	20 16 51.8	-2.0
	baz=95,slow=22						
NB2				Lg		20 17 26.4	
	baz=101,slow=28						
NB2	NORSAR Subarra	6.71	287	eP	Pn	20 15 37.3	+0.6
NB2				eS	Sn	20 16 51.8	-2.0
NB2				eSG		20 17 26.4	
NOA	NORSAR Array B	6.71	287	Pn	Pn	20 15 37.1	+0.3
	comp=Z,0.5nm,0.3s,baz=94,slow=13,SNR=3.6						
NOA				Sn	Sn	20 16 52.7	-1.2
	comp=Z,0.6nm,0.3s,baz=127,slow=24,SNR=3.1						
NOA				Lg		20 17 23.2	
	comp=Z,0.9nm,0.3s,baz=166,slow=14,SNR=4.9						
BSD	Bornholm Skovb	6.92	232	i P	Pn	20 15 41.6	+1.9
BSD				i S	Sn	20 16 56.9	-2.2
APA0	Apatity Array	8.77	22	Pn	Pn	20 16 05.2	+0.1
	baz=220,slow=14						
APA0	Apatity Array	8.77	22	eP	Pn	20 16 05.2	+0.1
AKASG	Malin Array Be	9.43	161	Pn	Pn	20 16 13.7	-0.5
	comp=Z,1.3nm,0.3s,baz=338,slow=13,SNR=5.3						
ARA0	ARCESS Array S	9.87	2	Pn	Pn	20 16 18.8	-1.4
	baz=177,slow=16						
ARA0				Sn	Sn	20 18 03.9	-7.8
	baz=187,slow=28						
ARA0	ARCESS Array S	9.87	2	eP	Pn	20 16 18.8	-1.4
ARA0				eS	Sn	20 18 03.9	-7.8
ARCES	ARCESS Array B	9.87	2	Pn	Pn	20 16 18.9	-1.2
	comp=Z,1.2nm,0.3s,baz=184,slow=12,SNR=98						

*ISCJB **06** 20:19:15.8±0.6,5965N±004×2438E±008,h0^{km},Error ellipse: s-maj=6.2km s-min=5.0km az=112.0*
*CSEM **06** 20:19:18.0±0.3,5970N×2466E,h1^{km},ML2.4,Error ellipse: s-maj=7.8km s-min=5.5km az=40.0,Mining explosion.*
*HEL **06** 20:19:18.7±0.1,5970N×2456E,h0^{km},ML2.4, ML2.5(NAO),Explosion*
*NAO **06** 20:19:19.5±2.3,5979N×2458E,ML2.5*
*BER **06** 20:19:19.3±3.8,5973N×2468E,h0^{km}±20^{km},ML2.5(NAO)*
*IDC **06** 20:19:20.6±0.9,5985N×2444E,h0^{km},mb1 3.5/4, mb1mx3.3/20,mbtmp3.4/4,ML3.7/4,Error ellipse: s-maj=11.1km s-min=6.4km az=138.0*
ISC 06 20:19:17.3±0.6**,5968N**±004×**2452E**±008**,h0^{km},n25, σ0^{s}95**/38**,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.54	353	eP	Pg	20 19 28.1	+0.4
MEF				eS	Sg	20 19 34.9	+0.2
MEF	Metsahovi	0.54	353	P	Pg	20 19 28.0	+0.3
PVF	Pernaja	1.10	37	eP	Pg	20 19 37.8	-0.6
VSU	Vasula	1.68	136	eP	Pn	20 19 48.6	+0.7
VSU				eS	Sn	20 20 09.6	-0.5
VSU	Vasula	1.68	136	P	Pn	20 19 48.5	+0.6
VSU				S	Sn	20 20 09.5	-0.6
RAF	Rauma	1.92	316	eP	Pn	20 19 52.9	+1.6
RAF				eS	Sn	20 20 17.2	+1.1
RAF	Rauma	1.92	316	P	Pn	20 19 52.8	+1.5
RAF				S	Sn	20 20 17.1	+1.0
FIA0	FINESS Array S	1.93	23	eP	Pn	20 19 52.6	+1.2
FIA0				eS	Sn	20 20 16.0	-0.3
FIA0	FINESS Array S	1.93	23	Pn	Pn	20 19 52.8	+1.4
	baz=187,slow=18						
FIA0				Lg		20 20 16.9	
	baz=195,slow=37						
FIA0	FINESS Array S	1.93	23	P	Pn	20 19 52.5	+1.1
FIA0				S	Sn	20 20 16.0	-0.3
FINES	FINESS Array B	1.93	23	Pn	Pn	20 19 52.6	+1.3
	13nm,0.3s,baz=195,slow=14,SNR=169						
FINES				Lg		20 20 17.3	
	11nm,0.3s,baz=197,slow=28,SNR=17						
KEF	Keuruu	2.50	4	MSG		20 20 37.0	
	comp=Z,20nm,0.2s						
KAF	Kangasniemi	2.59	19	MSG		20 20 40.2	
	comp=Z,17nm,0.2s						
SUF	Sumiainen	3.15	14	MSG		20 20 58.5	
	comp=Z,8.2nm,0.3s						
HFS	Hagfors	5.47	279	eP	Pn	20 20 41.0	+1.0
HFS				eS	Sn	20 21 43.0	-0.6
HFS	Hagfors	5.47	279	Pn	Pn	20 20 40.8	+0.8
	comp=Z,1.3nm,0.3s,baz=104,slow=13,SNR=22						
HFS				Sn	Sn	20 21 42.3	-1.3
	comp=Z,2.6nm,0.3s,baz=83,slow=25,SNR=12						
HFS				Lg		20 22 06.9	
	comp=Z,2.3nm,0.3s,baz=85,slow=31,SNR=6.8						
HFS	Hagfors	5.47	279	Pn	Pn	20 20 41.0	+1.0
	baz=97,slow=14						
HFS				Sn	Sn	20 21 43.0	-0.6
	baz=84,slow=28						
NB2	NORSAR Subarra	6.74	287	Pn	Pn	20 20 57.5	0.0
	baz=92,slow=14						
NB2				Sn	Sn	20 22 12.9	-2.1
	baz=102,slow=22						
NB2				Lg		20 22 47.6	
	baz=88,slow=28						
NB2	NORSAR Subarra	6.74	287	eP	Pn	20 20 57.5	0.0
NB2				eS	Sn	20 22 12.9	-2.1
NB2				eSG		20 22 47.6	
NB2	NORSAR Subarra	6.74	287	Pn	Pn	20 20 57.5	0.0
	SNR=1.5						
NB2				Sn	Sn	20 22 12.9	-2.1
	SNR=3.9						
NOA	NORSAR Array B	6.74	287	Pn	Pn	20 20 57.6	+0.1
	comp=Z,0.9nm,0.3s,baz=6.8,slow=6.8,SNR=4.2						
NOA				Sn	Sn	20 22 10.8	-4.1
	comp=Z,1.0nm,0.3s,baz=153,slow=20,SNR=3.9						
AKASG	Malin Array Be	9.39	161	Pn	Pn	20 21 34.2	+0.3
	comp=Z,1.9nm,0.3s,baz=338,slow=12,SNR=6.9						
ARA0	ARCESS Array S	9.90	2	Pn	Pn	20 21 39.6	-1.3
	baz=176,slow=14						
ARA0				Sn	Sn	20 23 24.5	-8.3
	baz=182,slow=37						
ARA0	ARCESS Array S	9.90	2	eP	Pn	20 21 39.6	-1.3
ARA0				eS	Sn	20 23 24.5	-8.3
ARCES	ARCESS Array B	9.90	2	Pn	Pn	20 21 39.7	-1.2
	comp=Z,1.2nm,0.3s,baz=178,slow=12,SNR=34						

KRSC 06 20:25:46,5108N×15796E,h46^{km},ML3.8,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.40	14	eP	Pn	20 26 11.3	+2.3
RUS				eS	Sn	20 26 28.9	+2.6
MIPR	Malaya Ipel'ka	1.41	328	eS	Sn	20 26 31.1	+4.4
GRL	Gorelyy	1.48	3	eP	Pn	20 26 13.4	+3.3
GRL				eS	Sn	20 26 32.0	+3.8
ALID	Alaid	1.54	263	eP	Pn	20 26 12.1	+1.1
ALID				eS	Sn	20 26 30.4	+0.7
PET	Petropavlovsk	1.99	12	eP	Pn	20 26 20.0	+2.8
PET				eS	Sn	20 26 44.9	+4.0
NLC	Nalytchevo	2.26	22	eP	Pn	20 26 23.4	+2.5
NLC				eS	Sn	20 26 49.8	+2.3
SPN	Mys Shipunski	2.39	31	eP	Pn	20 26 25.5	+2.9
SPN				eS	Sn	20 26 54.0	+3.3
GNL	Ganaly	2.62	360	eP	Pn	20 26 29.5	+3.7
GNL				eS	Sn	20 27 01.0	+4.7
MKZ	Mys Kozlova	4.17	32	eP	Pn	20 26 49.5	+2.5
MKZ				eS	Sn	20 27 36.3	+1.9

CASC 06 20:38:49.6±1.5**,1354N×9046W,h32^{km}**±4^{km}**,MD3.6, 8C-4D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TER	Terranova	0.79	344	eP	Pn	20 39 02.6	-1.9
TER				eS	Sn	20 39 16.0	+0.9
SBLS	San Blas	0.87	70	eP	x	20 39 06.0	
SBLS				eS	x	20 39 18.2	
RTR	El Retiro	0.87	66	⇑eP	x	20 39 06.2	
RTR				eS	x	20 39 18.9	
SNJE	San Jose	0.89	69	⇑eP	x	20 39 06.3	
SNJE				eS	x	20 39 18.6	
RBDL	Robledal	0.94	53	⇓eP	x	20 39 06.8	
RBDL				eS	x	20 39 20.4	
FUG	Fuego 3	0.97	338	⇑eP	Pn	20 39 07.4	+0.4
BOQS	Boqueron	1.16	80	⇑eP	x	20 39 09.8	
BOQS				eS	x	20 39 25.8	
LFRS	El Faro	1.36	86	⇑eP	x	20 39 12.4	
LFRS				eS	x	20 39 30.0	
JAT	Jato	1.38	304	⇓eP	Pn	20 39 13.5	+0.9
LBRS	Las Brisas	1.39	82	⇑eP	x	20 39 12.9	
LBRS				eS	x	20 39 31.1	
LCBS	La Ceiba	1.45	85	eP	x	20 39 13.3	
LCBS				eS	x	20 39 33.0	
SNVI	San Vicente	1.58	87	⇓eP	x	20 39 15.7	
SNVI				eS	x	20 39 35.3	
VSM	San Miguel	2.13	93	⇑eP	x	20 39 23.4	
BLLM	Bellamira	2.17	92	⇑eP	x	20 39 23.6	
BLLM				eS	x	20 39 50.8	
CNCH	Conchagua	2.57	96	⇓eP	x	20 39 28.8	
CNCH				eS	x	20 40 00.7	

MAN 06 21:35:59.5,1706N×12239E,h29^{km},mb1.8,ML3.6,MS1.3, 1D,Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.04	79	⇓eP	Pb	21 36 05.1	+0.7
PALP				eS	Sb	21 36 10.3	+2.6
PALP	Palanan	0.04	79	eP	Pb	21 36 05.1	+0.7
PALP				eS	Sb	21 36 09.5	+1.8
BALP	Baler	1.52	211	eP	Pn	21 36 24.8	0.0
BALP				eS	Sn	21 36 44.2	+0.5

*ISCJB **06** 21:48:50.2±0.8,11.1N±0.1×918E±02,h27^{km},mb3.8/10, MS3.3/1,Error ellipse: s-maj=34.3km s-min=10.5km az=119.2*
*IDC **06** 21:48:52.5±0.8,1120N×9189E,h26^{km}±4^{km},mb3.6/10, mb1 3.8/10,mb1mx3.6/19,mbtmp3.8/10,MS3.3/1, Ms1 3.3/1,ms1mx2.5/19,Error ellipse: s-maj=36.6km s-min=14.5km az=53.0*
*NEIC **06** 21:48:52.1±0.8,11.10N×9192E,mb4.0/2,Error ellipse: s-maj=36.6km s-min=14.3km az=57.0*
ISC 06 21:48:52.7±0.8**,112N**±01×**917E**±02**,h29^{km}, h29^{km}**±1.0^{km}**:pP-P,n21,**σ**0^{s}95**/20**,mb3.8**/10**,MS3.3**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	10.43	310	i P	Pn	21 51 14.0	-6.3
VIS				i S	Sn	21 53 04.3	-12
DMN	Daman	17.52	340	eP	Pn	21 52 54.1	-0.6
	3.1nm,0.2s						
KKN	Kakani	17.63	341	eP	Pn	21 52 54.7	-1.4
	2.5nm,0.2s						
GKN	Gorkha	18.04	339	eP	Pn	21 53 00.4	-0.8
	6.6nm,0.3s						
KOLN	Koldanda	18.21	336	eP	Pn	21 53 04.0	+0.7
	16nm,0.5s						
LSA	Lhasa	18.46	358	P	Pn	21 53 08.1	+1.8
	3.2nm,0.7s						
MKAR	Makanchi Array	36.41	349	P	P	21 55 56.1	+1.5
	0.3nm,0.2s,mb3.8,baz=158,slow=6.7,SNR=4.2						
MKAR				pP	pP	21 56 03.0	-0.1
	2.8nm,0.7s,baz=160,slow=7.6,SNR=5.7						
SONM	Songino Array	38.59	16	P	P	21 56 12.5	-0.6
	0.1nm,0.4s,mb2.9,baz=216,slow=8.9,SNR=3.0						
SONM				pP	pP	21 56 20.5	-1.1
	0.4nm,0.5s,baz=204,slow=8.3,SNR=4.3						
ZAL	Zalesovo	43.03	354	pP	pP	21 56 57.4	-0.9
	1.1nm,0.6s,baz=292,slow=6.4,SNR=2.8						
ZAL				LR	LR	22 16 34.7	
	comp=Z,34nm,18.7s,MS3.3,baz=178,slow=39						
FITZ	Fitzroy Crossi	44.33	131	eP	P	21 56 59.2	-0.9
	4.3nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	44.33	131	P	P	21 56 59.8	-0.3
	2.0nm,0.5s,mb4.1,baz=320,slow=7.3,SNR=15						
BVAR	Borovoye Array	45.15	342	pP	pP	21 57 14.9	-0.4
	0.7nm,0.7s,baz=116,slow=6.9,SNR=3.4						
AKTK	Aktyubinsk	47.95	331	P	P	21 57 28.2	-0.4
AKTK				pP	pP	21 57 37.4	0.0
AKTO	Aktyubinsk	47.95	331	P	P	21 57 28.2	-0.4
	0.3nm,0.3s,mb3.9,baz=62,slow=8.2,SNR=2.0						
AKTO				pP	pP	21 57 37.4	0.0
	0.9nm,0.6s,baz=113,slow=12,SNR=2.2						
WRA	Warramunga Arr	52.09	126	P	P	21 57 59.8	-0.3
	2.4nm,0.6s,mb4.3,baz=305,slow=8.6,SNR=9.2						
WRA				pP	pP	21 58 08.0	-0.8
	1.5nm,0.4s,baz=307,slow=8.1,SNR=5.8						
WB2	Warramunga Arr	52.10	126	eP	P	21 57 56.0	-4.1
STKA	Stephens Creek	64.07	134	P	P	21 59 24.6	+0.7
	1.1nm,0.7s,mb4.0,baz=355,slow=13,SNR=3.1						
FINES	FINESS Array B	68.72	332	P	P	21 59 53.8	+0.1
	1.5nm,0.8s,mb4.0,baz=112,slow=8.8,SNR=5.7						
FINES				pP	pP	22 00 01.6	-1.0
	0.6nm,0.6s,baz=114,slow=4.8,SNR=2.1						
GERES	GERESS Array B	73.82	318	P	P	22 00 25.0	+0.5
	0.2nm,0.5s,mb3.3,baz=117,slow=5.6,SNR=3.5						
GERES				pP	pP	22 00 33.6	0.0
	0.3nm,0.5s,baz=77,slow=5.8,SNR=3.1						
NOA	NORSAR Array B	75.73	330	P	P	22 00 34.9	-0.6
	0.7nm,0.8s,mb3.6,baz=96,slow=6.8,SNR=2.6						
TORD	Torodi Ar. Bea	87.55	283	P	P	22 01 40.8	+2.9
	0.4nm,0.8s,mb3.7,baz=81,slow=5.9,SNR=5.0						

NEIC 06 22:18:01.5,3318N×11604W,h13^{km},ML3.6(PAS)**,1D, After PAS.,Southern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PFO	Pinyon Flat Ob	0.55	322	⇓iP	Pg	22 18 11.5	-0.8
PFO				eS	Sg	22 18 18.6	-1.1
GSC	Goldstone	2.21	344	ePn	Pn	22 18 37.9	0.0
GSC				ePg	Pg	22 18 41.5	-2.5
GSC				eS	Sn	22 19 10.9	+5.8
ISA	Isabella	3.19	322	ePn	Pn	22 18 53.8	+2.4
ISA				ePg	Pg	22 18 59.4	-3.3
ISA				eS	Sn	22 19 40.8	+11
DAC	Darwin (Calif)	3.35	338	eP	Pn	22 18 59.9	+6.4
DAC				eS	Sn	22 19 46.0	+13
TUC	Tucson	4.51	100	Pn	Pn	22 19 07.8	-1.7
TUC				ePg	Pg	22 19 28.4	+0.5
TUC				eSg	Sg	22 20 27.8	+1.3
CCUT	Cedar City	4.88	26	ePn	Pn	22 19 14.2	-0.4
CCUT				eSg	Sg	22 20 35.8	-2.5
ARUT	Antelope Range	5.07	24	ePn	Pn	22 19 25.5	+8.3
ARUT				ePg	Pg	22 19 36.2	-2.3
ARUT				eS	Sn	22 20 30.1	+15
MSU	Marysvale	6.18	29	ePn	Pn	22 19 37.5	+5.0
MSU				ePg	Pg	22 19 55.4	-4.4
MSU				eSg	Sg	22 21 17.0	-2.9

*BJI **06** 22:24:32.9,2370N×122.16E,h30^{km},mB4.6,mb4.3,Ms4.0, Msz3.6*
*ISCJB **06** 22:24:37.8±0.9,2409N±006×1218E±01,h38^{km}±7^{km}, mb4.2/5,MS3.5/1,Error ellipse: s-maj=16.9km s-min=10.1km az=159.8*
*NEIC **06** 22:24:38.8,2422N×12175E,h25^{km},mb4.2/3,ML4.0(TAP), After TAP.*
NEIC Recorded [3 TAP] in Hua-lien and I-lan Counties.
ISC 06 22:24:39.1±1.1**,2417N**±006×**1218E**±01**,h29^{km}**±7^{km}**,n14, **σ**0^{s}88**/18**,mb4.2**/5**,MS3.5**/1**,2D,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.19	272	⇓iP	Pb	22 24 45.1	+0.1
NACB				eS	Sb	22 24 48.4	-0.5
YHNB	Yeheng	0.63	322	⇓iP	Pb	22 24 52.0	+0.4
YHNB				eS	Sb	22 24 59.8	-0.3
TATO	Taipei	0.85	341	eP	Pn	22 24 56.2	+1.0
TATO				eS	Sb	22 25 06.9	+0.5
QIZ	Qiongzhong	12.24	248	P	Pn	22 27 31.0	-0.4
HHC	Hu-ho-hao-te	18.71	335	eP	Pn	22 28 56.4	+0.6
HHC				AP		22 29 02.5	
HHC				XP	sP	22 29 06.4	-0.2
HHC				PP		22 29 12.3	
HHC				S	Sn	22 32 20.9	-3.4
HHC				SCP	ScP	22 36 56.6	+0.6
HHC				PCS	PcS	22 36 59.8	+0.5
HHC				AMB	AMB		
	comp=Z,9.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,79nm,5.8s						
HHC				LR	LR		
	comp=N,123nm,5.0s						
HHC				LR	LR		
	comp=E,105nm,2.7s						
HHC				LR	LR		
	comp=Z,70nm,5.7s						
MAJO	Matsushiro	18.74	45	P	Pn	22 28 56.4	+0.3
LZH	Lanzhou	19.52	312	eP	Pn	22 29 09.2	+3.8
LZH				AP	pP	22 29 15.5	+3.8
LZH				XP	sP	22 29 19.5	+4.2
LZH				PP		22 29 27.5	
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
MDJ	Mudanjiang	21.37	15	P	P	22 29 21.5	-2.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,63nm,4.8s						
ULN	Ulaanbaatar	26.39	337	P	P	22 30 12.4	-0.6
YSS	Yuzh-Sakhalins	28.25	31	eP	P	22 30 29.3	-0.3
	comp=Z,8.2nm,0.4s,mb4.7						
TLY	Talaya	30.80	338	eP	P	22 30 51.8	-0.5
	comp=Z,1.2nm,0.4s,mb4.1						
WMQ	Urumqi	34.07	314	eP	P	22 31 22.0	+1.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,74nm,3.8s						
WMQ				LR	LR		
	comp=Z,87nm,18.6s,MS3.5						
YAK	Yakutsk	38.22	6	P	P	22 31 56.6	+0.2
WRAB	Tennant Creek	45.51	163	eP	P	22 32 56.3	+0.4
	comp=Z,0.5nm,0.5s,mb3.7						

*IDC **06** 23:14:02.2±6.1,2365S×17978W,h507^{km}±70^{km},mb3.4/5, mb1 3.6/6,mb1mx3.4/11,mbtmp4.3/6,Error ellipse: s-maj=37.9km s-min=28.0km az=33.0*
*ISCJB **06** 23:14:03.7±3.3,237S±0.1×1799W±02,h540^{km}±37^{km}, mb4.2/13,Error ellipse: s-maj=25.3km s-min=13.3km az=103.0*
*NEIC **06** 23:14:03.1±1.9,2366S×17982W,h521^{km}±21^{km},mb4.5/10, Error ellipse: s-maj=17.3km s-min=8.8km az=217.0*
ISC 06 23:14:04.0±3.1**,238S**±01×**1798W**±01**,h526^{km}**±33^{km}**,n25, **σ**0^{s}55**/26**,mb4.2**/13**,2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.63	190	P	P	23 17 10.1	+0.2
	1.8nm,0.3s,baz=245,slow=3.5,SNR=8.0						
URZ				S	S	23 19 42.1	-1.0
	0.6nm,0.3s,baz=212,slow=19,SNR=4.1						
RPZ	Rata Peaks	21.22	198	P	P	23 18 12.7	+0.5
	2.4nm,0.4s,mb4.2,baz=0.0,slow=5.1,SNR=4.6						
CTA	Charters Tower	31.62	270	⇓iP	P	23 19 44.3	+0.7
	18nm,0.4s,mb5.0						
CTAO	Charters Tower	31.62	270	eP	P	23 19 44.2	+0.6
	17nm,0.5s,mb4.8						
CTAO				epP		23 21 05.1	
PMG	Port Moresby	34.60	289	eP	P	23 20 08.5	-0.3
	12nm,0.7s,mb4.5						
STKA	Stephens Creek	34.89	248	eP	P	23 20 11.9	+0.7
	3.3nm,0.5s,mb4.1						
STKA	Stephens Creek	34.89	248	P	P	23 20 12.5	+1.3
	4.7nm,0.6s,mb4.2,baz=76,slow=9.2,SNR=14						
AS31	Alice Springs	42.19	260	eP	P	23 21 10.6	+0.2
ASPA	Alice Springs	42.19	260	eP	P	23 21 10.6	+0.2
WB2	Warramunga Arr	42.55	266	⇓iP	P	23 21 12.7	-0.5
WRAB	Tennant Creek	42.55	266	eP	P	23 21 12.9	-0.4
	13nm,0.8s,mb4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**23 21 12.9**	**-0.4**
	13nm,0.6s,mb4.6,baz=102,slow=8.1,SNR=60						
FORT	**Forrest**	**46.48**	**249**	*e*P	**P**	**23 21 43.3**	**-0.2**
	29nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	*e*P	**P**	**23 22 16.9**	**0.0**
	8.4nm,0.8s,mb4.1						
SBA	**Scott Base**	**54.47**	**183**	*e*P	**P**	**23 22 42.3**	**+0.5**
VNDA	**Vanda**	**54.48**	**185**	P	**P**	**23 22 42.6**	**+0.7**
KLBR	**Kellerberrin**	**55.16**	**247**	*e*P	**P**	**23 22 46.4**	**-0.2**
	75nm,1.7s,mb4.7						
MBWA	**Marble Bar**	**55.53**	**260**	*e*P	**P**	**23 22 49.1**	**-0.2**
	4.0nm,0.4s,mb4.0						
MUN	**Mundaring**	**56.40**	**246**	*e*P	**P**	**23 22 51.7**	**-3.6**
CASY	**Casey**	**60.25**	**206**	*e*P	**P**	**23 23 21.4**	**+0.1**
	1.3nm,0.4s,mb3.6						
MAW	**Mawson**	**77.88**	**200**	P	**P**	**23 25 07.7**	**+0.5**
	0.9nm,0.5s,mb3.3,baz=131,slow=9.5,SNR=4.0						
NVAR	**Mina Array Bea**	**84.59**	**44**	P	**P**	**23 25 41.4**	**-0.3**
	0.3nm,0.5s,mb3.1,baz=226,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**84.59**	**44**	P	**P**	**23 25 41.4**	**-0.3**
PLCA	**Paso Flores**	**88.22**	**134**	P	**P**	**23 25 58.5**	**-0.5**
TRQA	**Tornquist**	**95.25**	**136**	P	**P**	**23 26 31.2**	**-0.1**

*ISCJB **06** 23:38:51.8±0.5, 5964N±003×2435E±008, h0km, mb3.2/1, Error ellipse: s-maj=5.7km s-min=4.9km az=168.6*
*CSEM **06** 23:38:53.2±0.2, 5962N×2439E, h2km, ML2.4, Error ellipse: s-maj=6.0km s-min=5.5km az=1.0, Mining explosion.*
*NAO **06** 23:38:54.4±1.0, 5971N×2464E, ML2.5*
*IDC **06** 23:38:54.1±1.5, 5966N×2474E, h0km, mb2.8/1, mb1 3.4/3, mb1mx3.2/18, mbtmp3.3/3, ML3.9/2, Error ellipse: s-maj=18.7km s-min=8.7km az=133.0*
*HEL **06** 23:38:54.7±0.2, 5969N×2454E, h0km, ML2.4, ML2.5(NAO), Explosion*
*BER **06** 23:38:55.0±4.4, 5972N×2459E, h0km±18km, ML2.5(NAO)*
ISC 06 23:38:53.3±0.5**, 5967N**±003×**2452E**±008**, h0**km**, n27,** σ**1^{s}15**/42**, mb3.2**/1**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.55**	**354**	*e*P	**Pg**	**23 39 04.2**	**+0.4**
MEF				*e*S	**Sg**	**23 39 11.1**	**+0.2**
PVF	**Pernaja**	**1.10**	**37**	*e*P	**Pg**	**23 39 13.9**	**-0.6**
VSU	**Vasula**	**1.67**	**136**	*e*P	**Pn**	**23 39 24.6**	**+0.8**
VSU				*e*S	**Sn**	**23 39 46.0**	**+0.2**
VSU	**Vasula**	**1.67**	**136**	Pn	**Pn**	**23 39 24.7**	**+1.0**
VSU				Lg		23 39 46.2	
VSU	**Vasula**	**1.67**	**136**	P	**Pn**	**23 39 24.5**	**+0.7**
VSU				S	**Sn**	**23 39 46.0**	**+0.1**
RAF	**Rauma**	**1.93**	**316**	*e*P	**Pn**	**23 39 29.0**	**+1.7**
RAF				*e*S	**Sn**	**23 39 54.0**	**+1.7**
RAF	**Rauma**	**1.93**	**316**	P	**Pn**	**23 39 28.9**	**+1.6**
RAF				S	**Sn**	**23 39 53.9**	**+1.7**
FIA0	**FINESS Array S**	**1.94**	**23**	*e*P	**Pn**	**23 39 28.7**	**+1.2**
FIA0				*e*S	**Sn**	**23 39 52.8**	**+0.3**
FIA0				MSG		23 39 54.9	
	comp=Z,23nm,0.2s						
FIA0	**FINESS Array S**	**1.94**	**23**	Pn	**Pn**	**23 39 28.9**	**+1.4**
	baz=188,slow=18						
FIA0				Lg		23 39 53.2	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**1.94**	**23**	P	**Pn**	**23 39 28.6**	**+1.1**
FIA0				S	**Sn**	**23 39 52.8**	**+0.3**
	comp=Z,23nm,0.2s						
FINES	**FINESS Array B**	**1.94**	**23**	Pn	**Pn**	**23 39 28.8**	**+1.4**
	comp=Z,10nm,0.3s,baz=201,slow=16,SNR=437						
FINES				Lg		23 39 53.9	
	comp=Z,13nm,0.3s,baz=202,slow=29,SNR=23						
KAF	**Kangasniemi**	**2.60**	**19**	MSG		23 40 15.1	
	comp=Z,16nm,0.2s						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**23 40 16.9**	**+0.9**
	baz=94,slow=14						
HFS				Sn	**Sn**	**23 41 19.6**	**0.0**
	baz=90,slow=28						
HFS				Lg		23 41 42.8	
	baz=105,slow=28						
HFS	**Hagfors**	**5.47**	**280**	*e*P	**Pn**	**23 40 16.9**	**+0.9**
HFS				*e*S	**Sn**	**23 41 19.6**	**0.0**
HFS				*e*SG		23 41 42.8	
HFS	**Hagfors**	**5.47**	**280**	P	**Pn**	**23 40 16.9**	**+0.9**
HFS				S	**Sn**	**23 41 19.6**	**0.0**
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**23 40 32.5**	**-0.9**
	baz=98,slow=14						
NB2				Sn	**Sn**	**23 41 48.0**	**-2.9**
	baz=98,slow=22						
NB2				Lg		23 42 21.6	
	baz=100,slow=37						
NB2	**NORSAR Subarra**	**6.74**	**287**	*e*P	**Pn**	**23 40 32.5**	**-0.9**
NB2				*e*S	**Sn**	**23 41 48.0**	**-2.9**
NB2				*e*SG		23 42 21.6	
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**23 40 32.5**	**-1.0**
	SNR=8.5						
NB2				Sg		23 42 21.6	
NOA	**NORSAR Array B**	**6.74**	**287**	Pn	**Pn**	**23 40 33.6**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=92,slow=13,SNR=6.5						
NOA				Sn	**Sn**	**23 41 47.6**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=117,slow=20,SNR=3.4						
NOA				Lg		23 42 22.4	
	comp=Z,1.8nm,0.3s,baz=247,slow=3.3,SNR=4.3						
BSD	**Bornholm Skovb**	**6.91**	**233**	*i* P	**Pn**	**23 40 36.1**	**+0.3**
BSD				*i*		23 40 44.3	
BSD				*i* S	**Sn**	**23 41 51.7**	**-3.4**
BSD				*e*LG		23 42 27.4	
APA0	**Apatity Array**	**8.80**	**22**	Pn	**Pn**	**23 40 59.4**	**-2.3**
	baz=200,slow=14						
APA0	**Apatity Array**	**8.80**	**22**	*e*P	**Pn**	**23 40 59.4**	**-2.3**
AKASG	**Malin Array Be**	**9.38**	**161**	Pn	**Pn**	**23 41 09.7**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=338,slow=12,SNR=4.8						
ARA0	**ARCESS Array S**	**9.91**	**2**	Pn	**Pn**	**23 41 15.7**	**-1.3**
	baz=174,slow=16						
ARA0				Sn	**Sn**	**23 43 00.7**	**-8.2**
ARA0	**ARCESS Array S**	**9.91**	**2**	*e*P	**Pn**	**23 41 15.7**	**-1.3**
ARA0				*e*S	**Sn**	**23 43 00.7**	**-8.2**
ARCES	**ARCESS Array B**	**9.91**	**2**	Pn	**Pn**	**23 41 15.7**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=180,slow=11,SNR=84						
TORD	**Torodi Ar. Bea**	**49.43**	**210**	P	**P**	**23 47 45.3**	**+0.4**
	comp=Z,0.1nm,0.4s,mb3.2,baz=15,slow=7.0,SNR=4.5						

*ISCJB **06** 23:58:54.6±1.1, 491N±008×1260E±02, h107km±12km, mb4.0/15, Error ellipse: s-maj=31.1km s-min=10.2km az=148.3*
*IDC **06** 23:58:57.9±7.8, 481N×12586E, h118km±72km, mb3.7/8, mb1 3.9/8, mb1mx3.7/15, mbtmp4.1/8, Error ellipse: s-maj=94.5km s-min=16.9km az=70.0*
*NEIC **06** 23:58:59.8±5.2, 484N×12588E, h140km±48km, mb4.1/7, Error ellipse: s-maj=27.6km s-min=10.2km az=64.0*
ISC 06 23:58:57.6±1.2**, 488N**±008×**1260E**±02**, h121**km±11km**, n24,** σ**1^{s}09**/25**, mb4.0**/15**, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**2.07**	**8**	*e*P	**Pn**	**23 59 27.6**	**-4.4**
BUKP	**Musuan**	**3.11**	**343**	*e*P	**Pn**	**23 59 43.7**	**-1.7**
BUKP				*e*S	**Sn**	**00 00 24.8**	**+2.6**
BUTP	**Butuan**	**4.08**	**355**	*e*P	**Pn**	**23 59 55.7**	**-2.4**
BUTP				*e*S	**Sn**	**00 00 49.5**	**+4.4**
FITZ	**Fitzroy Crossi**	**22.84**	**181**	P	**P**	**00 03 50.1**	**-0.3**
	1.5nm,0.6s,mb3.5,baz=17,slow=11,SNR=5.5						
KULM	**Kulim**	**25.22**	**272**	P	**P**	**00 04 11.5**	**-0.6**
WRAB	**Tennant Creek**	**26.00**	**162**	*e*P	**P**	**00 04 19.4**	**+0.3**
	5.0nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**26.00**	**162**	P	**P**	**00 04 19.2**	**0.0**
	3.2nm,0.6s,mb4.0,baz=344,slow=10,SNR=12						
WB2	**Warramunga Arr**	**26.01**	**162**	*e*P	**P**	**00 04 19.3**	**+0.1**
MBWA	**Marble Bar**	**26.59**	**193**	P	**P**	**00 04 26.8**	**+2.4**
NWAO	**Narrogin (SRO)**	**38.50**	**192**	*e*P	**P**	**00 06 07.0**	**-1.0**
	2.5nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**39.47**	**159**	*e*P	**P**	**00 06 17.4**	**+1.4**
	4.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**39.47**	**159**	P	**P**	**00 06 17.4**	**+1.4**
	3.1nm,0.5s,mb4.4,baz=338,slow=6.8,SNR=7.5						
SONM	**Songino Array**	**45.97**	**342**	P	**P**	**00 07 09.8**	**+1.3**
	0.7nm,0.6s,mb3.6,baz=155,slow=7.0,SNR=6.1						
MKAR	**Makanchi Array**	**56.18**	**325**	P	**P**	**00 08 25.6**	**+0.8**
	1.5nm,0.4s,mb4.3,baz=118,slow=8.0,SNR=20						
MKAR				PcP	PcP	00 09 22.4	+1.2
	0.8nm,0.6s,baz=109,slow=2.4,SNR=4.5						
BRVK	**Borovoye**	**66.02**	**327**	*e*P	**P**	**00 09 31.4**	**+0.2**
	1.6nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**66.11**	**328**	*e*P	**P**	**00 09 32.0**	**+0.2**
	0.4nm,0.4s,mb3.6						
ZRNK	**Zerenda**	**66.67**	**326**	*e*P	**P**	**00 09 35.4**	**0.0**
	2.4nm,0.7s,mb4.1						
VNDA	**Vanda**	**84.66**	**173**	P	**P**	**00 11 17.2**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=315,slow=5.7,SNR=3.2						
VNDA	**Vanda**	**84.66**	**173**	P	**P**	**00 11 17.2**	**-0.6**
JOF	**Joensuu**	**87.82**	**333**	*e*p	**P**	**00 11 32.3**	**-0.9**
	2.8nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**89.11**	**340**	P	**P**	**00 11 38.6**	**-0.6**
	3.6nm,0.8s,mb4.4,baz=60,slow=7.2,SNR=6.6						
KAF	**Kangasniemi**	**90.23**	**332**	*e*p	**P**	**00 11 43.8**	**-0.7**
	1.7nm,0.4s,mb4.5,baz=76,slow=4.3						
FINES	**FINESS Array B**	**90.47**	**332**	P	**P**	**00 11 45.2**	**-0.4**
	0.7nm,0.5s,mb4.0,baz=82,slow=4.6,SNR=10						
TORD	**Torodi Ar. Bea**	**121.84**	**289**	PKP	PKPdf	00 17 39.5	+2.0
	0.2nm,0.3s,baz=66,slow=1.6,SNR=13						

*IDC **07** 00:09:40.4±7.2, 163N×9735E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=153.1km s-min=39.1km az=172.0*
*ISCJB **07** 00:09:43.3±1.1, 16N±0.1×974E±0.1, h33km, mb3.9/4, Error ellipse: s-maj=18.4km s-min=13.0km az=97.0*
*NEIC **07** 00:09:44.6±1.2, 170N×9732E, h30km, mb4.1/1, Error ellipse: s-maj=23.6km s-min=17.9km az=203.0*
ISC 07 00:09:45.5±1.1**, 16N**±01×**974E**±01**, h35**km**, n9,** σ**0^{s}97**/10**, mb3.9**/4**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.94**	**52**	Pn	**Pn**	**00 10 14.6**	**-1.4**
	7.1nm,0.3s,baz=201,slow=4.9,SNR=14						
KULM	**Kulim**	**4.90**	**42**	*e*Pn	**Pn**	**00 10 56.6**	**0.0**
KULM				*e*Sn	**Sn**	**00 11 53.4**	**+1.4**
KKM	**Kota Kinabalu**	**19.29**	**76**	P	**Pn**	**00 14 07.4**	**-1.1**
LSA	**Lhasa**	**28.56**	**349**	P	**P**	**00 15 38.4**	**+0.4**
MBWA	**Marble Bar**	**31.46**	**137**	P	**P**	**00 16 05.0**	**+1.4**
SONM	**Songino Array**	**46.70**	**8**	P	**P**	**00 18 10.0**	**-0.8**
	0.5nm,0.4s,mb3.8,baz=187,slow=8.9,SNR=6.3						
MKAR	**Makanchi Array**	**46.89**	**346**	P	**P**	**00 18 12.8**	**+0.5**
	1.6nm,0.5s,mb4.2,baz=158,slow=9.0,SNR=26						
CHKZ	**Chkalovo**	**56.40**	**341**	*e*P	**P**	**00 19 19.4**	**-3.9**
	1.5nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**79.72**	**332**	P	**P**	**00 21 49.8**	**0.0**
	0.5nm,0.7s,mb3.6,baz=91,slow=8.6,SNR=4.8						

*IDC **07** 00:18:31.4±1.4, 15.11S×17250W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/14, mbtmp4.1/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/18, Error ellipse: s-maj=66.9km s-min=17.9km az=125.0*
*NEIC **07** 00:18:35.7±0.8, 15.18S×17233W, h35km, mb4.0/1, Error ellipse: s-maj=29.9km s-min=12.9km az=120.0*
*ISCJB **07** 00:18:36.2±3.6, 15.1S±03×1722W±04, h67km±57km, mb4.1/4, Error ellipse: s-maj=64.2km s-min=37.1km az=122.1*
ISC 07 00:18:33.4±7.0**, 153S**±01×**1723W**±02**, h19**km±45km**, n10,** σ**0^{s}85**/8**, mb4.1**/4**, MS3.5**/3**, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.41**	**19**	Pn	**Pn**	**00 18 58.0**	**-0.1**
	40nm,0.3s,baz=46,slow=2.3,SNR=27						
AFI				Sn	**Sn**	**00 19 16.3**	**+0.2**
	417nm,0.3s,baz=356,slow=24,SNR=34						
URZ	**Urewera**	**24.77**	**200**	P	**P**	**00 23 55.0**	**+1.1**
	4.5nm,0.5s,mb4.3,baz=352,slow=4.0,SNR=6.6						
STKA	**Stephens Creek**	**45.07**	**240**	P	**P**	**00 26 47.6**	**-0.5**
	2.6nm,0.8s,mb4.1,baz=101,slow=9.6,SNR=3.6						
STKA				LR	LR	00 41 26.9	
	comp=Z,69nm,20.3s,MS3.6,baz=204,slow=31						
WRAB	**Tennant Creek**	**50.95**	**257**	*e*P	**P**	**00 27 33.3**	**-0.4**
	0.8nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**50.96**	**257**	P	**P**	**00 27 33.5**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=92,slow=7.4,SNR=4.6						
AS31	**Alice Springs**	**51.21**	**252**	*e*P	**P**	**00 27 36.3**	**+0.8**
SBA	**Scott Base**	**63.49**	**185**	P	**P**	**00 29 01.4**	**-0.8**
ATAH	**Atahualpa**	**91.88**	**98**	LR	LR	01 04 21.6	
	comp=Z,43nm,18.3s,MS3.9,baz=142,slow=30						
CFAA	**Coronel Fontan**	**93.62**	**124**	LR	LR	01 06 32.7	
	comp=Z,5.8nm,19.4s,MS3.0,baz=160,slow=31						
GERES	**GERESS Array B**	**146.15**	**353**	PKPbc	PKPbc	00 38 13.5	+1.2
	0.5nm,0.7s,baz=25,slow=4.4,SNR=5.2						

*LDG **07** 00:39:13.4±0.0, 4579N×301E, h14km, Md1.6/3, Ml1.4/10, Error ellipse: s-maj=0.9km s-min=0.6km az=104.0*
STR 07 00:39:15.3±0.2**, 4580N**×**313E, h5**km±1km**, Ml1.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.10**	**240**	Pg	Pg	00 39 17.8	+0.4
AGO	**Saint Agoulin**	**0.25**	**0**	Pg	Pg	00 39 20.1	-0.1
AGO				Sg	Sg	00 39 24.4	+0.9
PLDF	**La Plantade**	**0.38**	**63**	Pg	Pg	00 39 23.8	+1.1
LBL	**Lubilhac**	**0.57**	**172**	Pg	Pg	00 39 26.0	-0.3
LBL				Sg	Sg	00 39 33.9	+0.1
BGF	**Bois d'Agland**	**0.78**	**346**	*e*Pg	Pg	00 39 28.4	-1.9
BGF				*e*Sg	Sg	00 39 38.2	-2.3
	2.9nm,0.4s						
TCF	**Toulx Ste Croi**	**0.81**	**308**	*e*Pg	Pg	00 39 27.8	-3.0
TCF				*e*Sg	Sg	00 39 37.3	-3.9
	0.7nm,0.2s						
SMF	**Signal de Mont**	**0.98**	**30**	*e*Pg	Pg	00 39 33.2	-0.9
SMF				*e*Sg	Sg	00 39 46.2	-0.6
	0.8nm,0.3s						
AVF	**Avril sur Loir**	**1.00**	**9**	*e*Pg	Pg	00 39 32.8	-1.7
AVF				*e*Sg	Sg	00 39 45.9	-1.6
	1.1nm,0.2s						
CAF	**Calviac**	**1.15**	**221**	*e*Pg	Pg	00 39 33.8	-3.6
CAF				*e*Sg	Sg	00 39 48.2	-4.2
	0.9nm,0.2s						
RJF	**Les Rejaudoux**	**1.24**	**247**	*e*Pg	Pg	00 39 34.8	-4.2
RJF				*e*Sg	Sg	00 39 50.0	-5.1
	1.2nm,0.3s						
VIVF	**Saint-Julien-l**	**1.44**	**130**	*e*Pg	Pg	00 39 41.5	-1.4
VIVF				*e*Sg	Sg	00 40 00.9	-0.7
	0.4nm,0.2s						
HYF	**Humbligny**	**1.51**	**347**	*e*Pg	Pg	00 39 41.8	-2.4
HYF				*e*Sg	Sg	00 40 01.1	-2.6
LOR	**Lormes**	**1.55**	**19**	*e*Pg	Pg	00 39 42.9	-2.2
LOR				*e*Sg	Sg	00 40 03.4	-1.8
	0.7nm,0.2s						
LASF	**Ste Croix**	**1.80**	**163**	*e*Pg	Pg	00 39 47.2	-2.6
LASF				*e*Sg	Sg	00 40 10.6	-2.5
	0.2nm,0.2s						
LFF	**La Frestale**	**1.89**	**244**	*e*Pg	Pg	00 39 47.1	-4.5
LFF				*e*Sg	Sg	00 40 10.5	-5.6
	0.7nm,0.2s						
CABF	**La Chapelle**	**2.21**	**67**	*e*Pg	Pg	00 39 56.1	-1.5
CABF				*e*Sg	Sg	00 40 25.7	-0.5
	0.5nm,0.2s						
MTLF	**Montolieu**	**2.54**	**195**	*e*Pg	Pg	00 39 59.8	-4.2
MTLF				*e*Sg	Sg	00 40 32.2	-4.8
	0.5nm,0.4s						

*ISCJB **07** 00:44:42.5±0.4, 5028N±004×1884E±003, h0km, Error ellipse: s-maj=5.8km s-min=2.2km az=23.3*
*IPEC **07** 00:44:43.5±0.3, 5030N×1892E, h0km, ML2.1/2, Error ellipse: s-maj=2.7km s-min=2.0km az=177.0*
*NEIC **07** 00:44:44.8±0.6, 50.19N×1894E, h5km, MG2.6(WAR), Error ellipse: s-maj=11.9km s-min=5.1km az=6.0*
*WAR **07** 00:44:44.2, 5024N×1896E, ML2.6, Mining Induced*
*CSEM **07** 00:44:44.3±0.2, 5026N×1890E, h1km, ML2.1/2, Error ellipse: s-maj=5.2km s-min=2.2km az=6.0*
*VIE **07** 00:44:47.0±0.4, 4990N×1885E, h0km, mb1.9/3, ML2.2/4, Error ellipse: s-maj=2.7km s-min=2.6km az=159.0 40 km SSW of Kattowitz Suspected Mining induced.*
ISC 07 00:44:43.9±0.4**, 5026N**±004×**1887E**±002**, h0**km**, n39,** σ**1^{s}23**/60**, 6C-8D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.47**	**248**	*e*Pg	**Pg**	**00 44 54.6**	**+1.7**
RAC				*e*Sg	**Sg**	**00 45 02.5**	**+3.5**
OJC	**Ojcow**	**0.60**	**93**	*e*Pg	**Pg**	**00 44 54.6**	**-0.8**
OJC				*e*Sg	**Sg**	**00 45 02.7**	**-0.4**
OKC	**Ostrava-Krasne**	**0.63**	**228**	*e*PG	**Pg**	**00 44 56.8**	**+0.8**
OKC				*e*SG	**Sg**	**00 45 06.2**	**+2.1**
	63nm,1.1s						
MORC	**Moravsky Berou**	**0.98**	**241**	⇓*i*P	**Pg**	**00 45 03.0**	**+0.2**
MORC	**Moravsky Berou**	**0.98**	**241**	⇓P	**Pg**	**00 45 03.0**	**+0.3**
MORC	**Moravsky Berou**	**0.98**	**241**	*e*Pg	**Pg**	**00 45 02.7**	**-0.1**
MORC				*e*Sg	**Sg**	**00 45 16.5**	**+1.0**
NIE	**Niedzica**	**1.26**	**131**	*e*Pg	**Pg**	**00 45 07.1**	**-0.9**
NIE				*e*Sg	**Sg**	**00 45 23.8**	**-0.5**
JAVC	**Velka Javorina**	**1.60**	**210**	*e*Pn	**Pn**	**00 45 14.3**	**+0.8**
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*PG	**Pg**	**00 45 13.8**	**-1.5**
DPC				*e*SG	**Sg**	**00 45 36.0**	**-0.5**
	26nm,0.6s						
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*Pn	**Pn**	**00 45 13.6**	**-0.3**
DPC	**Dobruska-Polom**	**1.64**	**274**	*e*Pg	**Pg**	**00 45 13.8**	**-1.5**
DPC				*e*Sg	**Sg**	**00 45 36.0**	**-0.5**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**	**00 45 17.4**	**0.0**
KSP				*e*Sg	**Sg**	**00 45 40.9**	**+0.9**
STHS	**Stebnicka Huta**	**1.75**	**118**	*e*PN	**Pn**	**00 45 16.3**	**+0.8**
STHS				*e*SN	**Sn**	**00 45 39.4**	**+0.9**
VRAC	**Vranov**	**1.76**	**238**	⇓*i*P	**Pn**	**00 45 16.2**	**+0.6**
VRAC	**Vranov**	**1.76**	**238**	⇓P	**Pn**	**00 45 16.2**	**+0.6**
VRAC	**Vranov**	**1.76**	**238**	*e*Pn	**Pn**	**00 45 15.7**	**+0.1**
VRAC				*e*Sg	**Sg**	**00 45 39.0**	**-1.3**
UPC	**Upice**	**1.85**	**279**	*e*PG	**Pg**	**00 45 18.6**	**-0.7**
UPC				*e*SG	**Sg**	**00 45 43.9**	**+0.6**
SMOL	**Smolenice**	**1.98**	**209**	*e*PN	**Pn**	**00 45 22.0**	**+3.3**
SMOL				*e*SN	**Sn**	**00 45 47.5**	**+3.2**
KRUC	**Moravsky**	**2.01**	**234**	*e*Pn	**Pn**	**00 45 19.2**	**+0.2**
KECS	**Kecovo**	**2.07**	**149**	*e*	**Pn**	**00 45 18.5**	**-1.4**
KECS	**Kecovo**	**2.07**	**149**	*e*PG	**Pg**	**00 45 22.0**	**-1.5**
KECS				*e*SN	**Sn**	**00 45 48.2**	**+1.9**
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN	**Pn**	**00 45 23.2**	**+2.0**
CRVS				*e*SN	**Sn**	**00 45 51.0**	**+2.3**
TREC	**Trest**	**2.40**	**248**	*e*PG	**Pg**	**00 45 29.2**	**-0.6**
TREC				*e*SG	**Sg**	**00 45 59.0**	**-1.9**
PSZ	**Piszkesteto**	**2.44**	**164**	⇑*i*P	**Pn**	**00 45 30.7**	**+5.8**
PSZ	**Piszkesteto**	**2.44**	**164**	⇑P	**Pn**	**00 45 30.7**	**+5.7**
KWP	**Kalwaria**	**2.56**	**103**	*e*Pg	**Pg**	**00 45 32.9**	**0.0**
KWP				*e*Sg	**Sg**	**00 46 12.1**	**+6.0**
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*	**Pn**	**00 45 25.6**	**-1.3**
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*PG	**Pg**	**00 45 32.9**	**-0.5**
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*Pg	**Pg**	**00 45 32.9**	**-0.5**
PRU	**Pruhonice**	**2.80**	**266**	*e*PG	**Pg**	**00 45 35.2**	**-2.4**
PRU				*e*SG	**Sg**	**00 46 12.8**	**-1.1**
	8.0nm,1.0s						
CONA	**Conrad Observa**	**3.06**	**221**	⇓*i*Pn	**Pn**	**00 45 32.7**	**-0.8**
CONA				⇓*i*Sg	**Sg**	**00 46 19.5**	**-2.7**
	2.6nm,0.4s						
BRG	**Berggiesshubel**	**3.20**	**283**	PG	**Pg**	**00 45 44.6**	**-0.7**
BRG				SG	**Sg**	**00 46 28.2**	**+1.4**
	4.3nm,0.9s						
KHC	**Kasperske Hory**	**3.62**	**254**	*e*PG	**Pg**	**00 45 48.9**	**-4.3**
KHC				*e*SG	**Sg**	**00 46 39.8**	**-0.3**
	7.2nm,0.6s						
CLL	**Collm**	**3.87**	**288**	*e*Sg	**Sg**	**00 46 51.0**	**+2.8**
	comp=Z,7.0nm,1.0s						
MOA	**Molln**	**3.87**	**233**	⇑*i*Pn	**Pn**	**00 45 45.0**	**+0.3**
MOA				⇑*i*Sg	**Sg**	**00 46 47.9**	**-0.3**
	comp=Z,2.6nm,0.5s						
DRGR		**4.31**	**142**	⇓*i*P	**Pn**	**00 45 50.0**	**-0.6**
DRGR		**4.31**	**142**	⇓P	**Pn**	**00 45 50.0**	**-0.7**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑*i*P	**Pn**	**00 45 59.7**	**+0.2**
BURAR	**Bucovina Array**	**4.95**	**120**	⇑P	**Pn**	**00 45 59.6**	**+0.2**

*ISCJB **07** 01:02:46.2±0.5, 686N±005×7298W±005, h173km±4km, mb3.8/8, Error ellipse: s-maj=9.9km s-min=6.2km az=69.4*
*IDC **07** 01:02:46.6±0.7, 676N×7294W, h161km±7km, mb3.6/7, mb1 3.7/9, mb1mx3.5/19, mbtmp4.1/9, Error ellipse: s-maj=19.8km s-min=7.3km az=130.0*
*NEIC **07** 01:02:47.6±0.8, 673N×7294W, h173km±8km, mb3.9/3, Error ellipse: s-maj=15.7km s-min=10.0km az=100.0*
*FUNV **07** 01:02:47.8, 690N×73.17W, h169km, MW4.1*
ISC 07 01:02:47.3±0.5**, 681N**±005×**7294W**±005**, h167**km±4km**, n24,** σ**1^{s}02**/35**, mb3.8**/8**, 1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**31**	⇓*i*P	**Pn**	**01 03 16.2**	**+0.6**
CAPV				*e*S	**Sn**	**01 03 37.5**	**+0.2**
ROSC	**El Rosal**	**2.38**	**216**	P	**Pn**	**01 03 28.1**	**+0.2**
	56nm,0.3s,baz=105,slow=22,SNR=126						
ROSC				S	**Sn**	**01 03 58.0**	**-1.2**
	351nm,0.3s,baz=104,slow=15,SNR=23						
SOCV	**Socops**	**2.53**	**55**	*e*P	**Pn**	**01 03 30.9**	**+1.2**
SOCV				*e*S	**Sn**	**01 04 02.6**	**0.0**
VIGV	**El Vigia**	**2.55**	**38**	*e*P	**Pn**	**01 03 30.7**	**+0.8**
VIGV				*e*S	**Sn**	**01 04 02.1**	**-0.8**
SDV	**Santo Domingo**	**3.08**	**48**	P	**Pn**	**01 03 37.8**	**+1.4**
	13nm,0.3s,baz=234,slow=2.4,SNR=37						
SDV				S	**Sn**	**01 04 14.2**	**-0.2**
	26nm,0.3s,baz=228,slow=11,SNR=20						
ELOV	**Elorza**	**3.44**	**87**	*e*P	**Pn**	**01 03 42.3**	**+1.4**
ELOV				*e*S	**Sn**	**01 04 24.0**	**+1.5**
VIRV	**Villa del Rosa**	**3.71**	**8**	*i* P	**Pn**	**01 03 43.0**	**-1.3**
VIRV				*e*S	**Sn**	**01 04 23.6**	**-5.1**
SANV	**Sanarito**	**4.30**	**51**	*e*P	**Pn**	**01 03 52.1**	**+0.1**
SANV				*e*S	**Sn**	**01 04 41.1**	**-1.3**
CURV	**Curarigua**	**4.34**	**43**	*e*P	**Pn**	**01 03 53.0**	**+0.6**
CURV				*e*S	**Sn**	**01 04 41.0**	**-2.1**
DABV	**Dabajuro**	**4.68**	**29**	*e*P	**Pn**	**01 03 57.2**	**+0.4**
DABV				*e*S	**Sn**	**01 04 46.7**	**-4.4**
SIQV	**Siquisique**	**4.91**	**39**	*e*P	**Pn**	**01 04 00.1**	**+0.2**
SIQV				*e*S	**Sn**	**01 04 52.7**	**-3.9**
BAUV	**El Baul**	**5.30**	**66**	*e*S	**Sn**	**01 05 04.3**	**-1.4**
SAML	**Samuel**	**18.43**	**148**	*e*P	**P**	**01 06 50.3**	**+0.4**
	3.2nm,0.5s						
SAML				*e*S	**S**	**01 10 10.3**	**-1.3**
NNA	**Nana**	**19.07**	**192**	P	**P**	**01 06 56.3**	**-0.6**
LPAZ	**La Paz**	**23.43**	**168**	P	**P**	**01 07 43.0**	**+1.6**
	1.2nm,0.7s,mb3.4,baz=335,slow=8.4,SNR=7.2						
LPAZ	**La Paz**	**23.43**	**168**	*e*P	**P**	**01 07 41.8**	**+0.5**
	3.8nm,1.2s,mb3.7						
BDFB	**Brasilia**	**33.27**	**132**	*e*P	**P**	**01 09 07.3**	**-1.5**
	2.0nm,0.6s,mb4.0						
ULM	**Lac du Bonnet**	**47.36**	**340**	P	**P**	**01 11 03.2**	**-1.1**
	1.5nm,0.4s,mb4.0,baz=208,slow=6.8,SNR=4.8						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**01 11 11.7**	**+1.4**
	6.3nm,0.8s,mb4.3,baz=201,slow=14,SNR=6.7						
YKA	**Yellowknife Ar**	**63.34**	**340**	P	**P**	**01 12 58.4**	**-0.1**
	2.0nm,0.6s,mb4.2,baz=135,slow=6.4,SNR=12						
DBIC	**Dimbokro**	**67.56**	**86**	P	**P**	**01 13 25.8**	**+0.2**
	2.2nm,0.9s,mb3.9,baz=254,slow=10,SNR=4.5						
TORD	**Torodi Ar. Bea**	**73.56**	**78**	P	**P**	**01 14 01.8**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=284,slow=6.7,SNR=12						
NOA	**NORSAR Array B**	**81.25**	**29**	P	**P**	**01 14 45.8**	**+1.2**
	1.0nm,1.0s,mb3.4,baz=24,slow=9.5,SNR=2.4						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	PKPbc	01 22 19.6	+0.5
	1.3nm,0.5s,baz=105,slow=2.6,SNR=6.2						

*ISCJB **07** 01:03:39.6±1.2, 4395N±003×770E±007, h5km, Error ellipse: s-maj=8.0km s-min=4.1km az=36.2*
*STR **07** 01:03:40.9±0.2, 4392N×765E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 01:03:41.2±0.1, 4392N×764E, h3km, Md1.8/3, Ml1.3/6, Error ellipse: s-maj=1.0km s-min=0.3km az=107.0*
ISC 07 01:03:40.5±1.4**, 4392N**±003×**765E**±009**, h14**km±6km**, n12,** σ**0^{s}29**/24**, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.09**	**313**	Pg	**Pg**	**01 03 43.4**	**-0.1**
SAOF				Sg	**Sg**	**01 03 45.1**	**-0.6**
SBF	**Sospel**	**0.17**	**249**	*e*Pg	**Pg**	**01 03 44.7**	**+0.2**
SBF				*e*Sg	**Sg**	**01 03 46.9**	**-0.4**
	6.4nm,0.2s						
AUTN	**L'Aution**	**0.18**	**295**	Pg	**Pg**	**01 03 45.0**	**+0.3**
AUTN				Sg	**Sg**	**01 03 47.7**	**+0.1**
LUCF	**Luceram**	**0.22**	**263**	Pg	**Pg**	**01 03 45.6**	**+0.2**
LUCF				Sg	**Sg**	**01 03 49.1**	**+0.4**
TOUF	**Mont Tournerai**	**0.30**	**288**	Pg	**Pg**	**01 03 47.1**	**+0.3**
TOUF				Sg	**Sg**	**01 03 51.8**	**+0.7**
FRF	**La Foret Royal**	**0.81**	**244**	*e*Pg	**Pg**	**01 03 56.3**	**0.0**
FRF				*e*Sg	**Sg**	**01 04 06.9**	**0.0**
	0.7nm,0.2s						
LMR	**La Mourre**	**1.02**	**235**	*e*Pg	**Pg**	**01 04 00.1**	**0.0**
LMR				*e*Sg	**Sg**	**01 04 13.1**	**-0.3**
	1.1nm,0.2s						
MBDF	**Montbardon**	**1.02**	**322**	*e*Pg	**Pg**	**01 04 00.6**	**+0.3**
MBDF				*e*Sg	**Sg**	**01 04 13.7**	**+0.1**
	0.3nm,0.2s						
SMRF	**Simiane la Rot**	**1.50**	**273**	*e*Pg	**Pg**	**01 04 09.1**	**-0.3**

SMRF				eSg	Sg	01 04 28.6	-0.3
	0.8nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.61**	**309**	ePg	**Pg**	**01 04 11.4**	**-0.1**
ORIF				eSg	**Sg**	**01 04 32.1**	**-0.4**
	0.4nm,0.2s						
LPG	**La Plagne**	**1.70**	**338**	ePg	**Pg**	**01 04 13.3**	**+0.1**
LPG				eSg	**Sg**	**01 04 35.2**	**-0.1**
	0.4nm,0.3s						
LPL	**La Plagne**	**1.72**	**338**	ePg	**Pg**	**01 04 13.7**	**+0.1**
LPL				eSg	**Sg**	**01 04 35.8**	**-0.2**
	0.3nm,0.2s						

---

*ISCJB **07** 01:29:59.8±0.5, 5975N±003×2453E±006, h0^{km}, Error ellipse: s-maj=5.0km s-min=4.2km az=87.1*
*CSEM **07** 01:30:00.3±0.1, 5973N×2451E, h1^{km}, ML2.6, Error ellipse: s-maj=2.8km s-min=2.3km az=20.0, Mining explosion.*
*NAO **07** 01:30:01.0±1.0, 5977N×2458E, ML2.4*
*UPP **07** 01:30:01.4, 5986N×2455E, h0^{km}, ML2.8, Suspected Mining explosion.*
*BER **07** 01:30:01.9±4.5, 5975N×2454E, h0^{km}±19^{km}, ML2.4(NAO)*
*HEL **07** 01:30:01.4±0.1, 5974N×2451E, h0^{km}, ML2.6, ML2.8(UPP), ML2.4(NAO), Explosion*
ISC 07 01:30:00.8±0.5**, 5976N**±003×**2456E**±006**, h0^{km}, n43, σ0^{s}70**/57**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.47**	**350**	eP	**Pg**	**01 30 09.9**	**+0.1**
MEF				eS	**Sg**	**01 30 16.4**	**+0.5**
PVF	**Pernaja**	**1.02**	**39**	eP	**Pg**	**01 30 19.9**	**-0.5**
PVF				eS	**Sg**	**01 30 33.7**	**0.0**
PVF	**Pernaja**	**1.02**	**39**	P	**Pg**	**01 30 19.9**	**-0.6**
VSU	**Vasula**	**1.72**	**138**	eP	**Pn**	**01 30 31.8**	**-0.2**
VSU				eS	**Sn**	**01 30 54.2**	**-0.4**
VSU	**Vasula**	**1.72**	**138**	Pn	**Pn**	**01 30 32.0**	**+0.1**
VSU				Lg		01 30 54.1	
VSU	**Vasula**	**1.72**	**138**	P	**Pn**	**01 30 31.8**	**-0.2**
VSU				S	**Sn**	**01 30 54.1**	**-0.5**
FIA0	**FINESS Array S**	**1.85**	**23**	eP	**Pn**	**01 30 34.7**	**+0.9**
FIA0				eS	**Sn**	**01 30 58.3**	**+0.4**
FIA0				MSG		01 31 02.3	
	comp=Z,40nm,0.3s						
FIA0	**FINESS Array S**	**1.85**	**23**	Pn	**Pn**	**01 30 34.8**	**+0.9**
	baz=197,slow=18						
FIA0				Lg		01 30 58.1	
	baz=194,slow=37						
FIA0	**FINESS Array S**	**1.85**	**23**	P	**Pn**	**01 30 34.7**	**+0.9**
FIA0				S	**Sn**	**01 30 58.3**	**+0.4**
	comp=Z,40nm,0.3s						
RAF	**Rauma**	**1.88**	**314**	eP	**Pn**	**01 30 35.0**	**+0.7**
RAF				eS	**Sn**	**01 30 59.1**	**+0.5**
RAF				MSG		01 31 03.0	
	comp=Z,50nm,0.3s						
RAF	**Rauma**	**1.88**	**314**	P	**Pn**	**01 30 34.9**	**+0.6**
RAF				S	**Sn**	**01 30 59.1**	**+0.4**
	comp=Z,50nm,0.3s						
AAL	**Aland**	**2.34**	**282**	eP	**Pn**	**01 30 41.0**	**+0.5**
KAF	**Kangasniemi**	**2.51**	**19**	MSG		01 31 20.3	
	comp=Z,28nm,0.2s						
NRTU	**Norrtaelje**	**3.01**	**271**	eP	**Pn**	**01 30 49.7**	**0.0**
GRAU	**Graesoe**	**3.08**	**283**	eP	**Pn**	**01 30 50.4**	**-0.2**
FLYU	**Flymyra**	**3.38**	**279**	eP	**Pn**	**01 30 54.7**	**-0.1**
NYNU	**Nynaeshamn**	**3.44**	**260**	eP	**Pn**	**01 30 56.0**	**+0.4**
GOTU	**Gotland**	**3.75**	**239**	eP	**Pn**	**01 31 00.0**	**0.0**
OSTU	**Oestervaala**	**3.76**	**280**	eP	**Pn**	**01 31 00.1**	**0.0**
BACU	**Backbrunna**	**3.77**	**275**	eP	**Pn**	**01 31 00.1**	**-0.1**
ESKU	**Eskilstuna**	**4.20**	**266**	eP	**Pn**	**01 31 06.3**	**+0.2**
VIKU	**Vikbolandet**	**4.24**	**256**	eP	**Pn**	**01 31 07.4**	**+0.7**
VIKU	**Vikbolandet**	**4.24**	**256**	P	**Pn**	**01 31 07.3**	**+0.6**
FALU	**Falun**	**4.43**	**283**	eP	**Pn**	**01 31 09.4**	**+0.2**
BYXU	**Byxelkrok**	**4.67**	**241**	eP	**Pn**	**01 31 13.7**	**+1.1**
BYXU	**Byxelkrok**	**4.67**	**241**	P	**Pn**	**01 31 13.6**	**+1.0**
VSTU	**Vaestervik**	**4.68**	**247**	eP	**Pn**	**01 31 13.4**	**+0.6**
VSTU	**Vaestervik**	**4.68**	**247**	P	**Pn**	**01 31 13.3**	**+0.5**
NRAU	**Nora**	**4.83**	**272**	eP	**Pn**	**01 31 14.4**	**-0.4**
NRAU	**Nora**	**4.83**	**272**	P	**Pn**	**01 31 14.4**	**-0.4**
LNKU	**Linkoeping**	**4.93**	**256**	eP	**Pn**	**01 31 17.0**	**+0.8**
HFS	**Hagfors**	**5.48**	**279**	Pn	**Pn**	**01 31 23.2**	**-0.4**
	baz=89,slow=16						
HFS				Sn	**Sn**	**01 32 25.8**	**-1.5**
	baz=94,slow=28						
HFS				Lg		01 32 45.1	
	baz=90,slow=37						
HFS	**Hagfors**	**5.48**	**279**	eP	**Pn**	**01 31 23.2**	**-0.4**
HFS				eS	**Sn**	**01 32 25.8**	**-1.5**
HFS				eSB		01 32 45.1	
HFS	**Hagfors**	**5.48**	**279**	P	**Pn**	**01 31 23.2**	**-0.5**
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**01 31 40.1**	**-0.9**
	baz=90,slow=14						
NB2				Sn	**Sn**	**01 32 55.0**	**-3.5**
	baz=99,slow=22						
NB2				Lg		01 33 29.8	
	baz=97,slow=37						
NB2	**NORSAR Subarra**	**6.74**	**287**	eP	**Pn**	**01 31 40.1**	**-0.9**
NB2				eS	**Sn**	**01 32 55.0**	**-3.5**
NB2				eSG		01 33 29.8	
NB2	**NORSAR Subarra**	**6.74**	**287**	Pn	**Pn**	**01 31 40.1**	**-0.9**
	SNR=8.0						
NB2				Sg		01 33 29.8	
BSD	**Bornholm Skovb**	**6.98**	**232**	i P	**Pn**	**01 31 40.2**	**-4.1**
BSD				i S	**Sn**	**01 32 57.0**	**-7.4**
APA0	**Apatity Array**	**8.71**	**22**	Pn	**Pn**	**01 32 08.0**	**-0.2**
	baz=217,slow=12						
APA0	**Apatity Array**	**8.71**	**22**	eP	**Pn**	**01 32 08.0**	**-0.2**
APA0	**Apatity Array**	**8.71**	**22**	Pn	**Pn**	**01 32 07.9**	**-0.2**
	SNR=6.9						
ARA0	**ARCESS Array S**	**9.83**	**2**	Pn	**Pn**	**01 32 21.6**	**-1.8**
	baz=176,slow=16						
ARA0				Sn	**Sn**	**01 34 07.6**	**-6.8**
	baz=183,slow=28						
ARA0	**ARCESS Array S**	**9.83**	**2**	eP	**Pn**	**01 32 21.6**	**-1.8**
ARA0				eS	**Sn**	**01 34 07.6**	**-6.8**

NEIC 07 01:38:59.9, 3731N×11828W, h8^{km}, MW3.5(BRK)**, 4C-2D, After NCEDC., California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	**Tungsten Hills**	**0.23**	**281**	⇑iP	Pg	01 39 04.8	+0.2
TPH	**Tonopah**	**1.14**	**48**	⇓iP	Pg	01 39 21.6	-0.1
TPH				eS	Sg	01 39 37.0	+0.5
DAC	**Darwin (Calif)**	**1.17**	**152**	⇑iP	Pb	01 39 21.3	-1.1
DAC				eS	Sg	01 39 37.7	+0.1
ISA	**Isabella**	**1.65**	**185**	ePn	Pn	01 39 30.2	+1.0
ISA				eSg	Sg	01 39 51.2	-1.8
CMB	**Columbia Colle**	**1.82**	**294**	⇑ePn	Pn	01 39 32.3	+0.8
CMB				eSn	Sn	01 39 55.4	+0.7
GSC	**Goldstone**	**2.33**	**149**	ePn	Pn	01 39 39.2	+0.6
GSC				eSn	Sn	01 40 08.4	+1.0
TRCR	**Troy Canyon**	**2.37**	**63**	ePn	Pn	01 39 39.8	+0.7
TRCR				⇑iPg	Pg	01 39 43.4	-2.0
TRCR				eSn	Sn	01 40 09.3	+0.9
TRCR				eSg	Sg	01 40 15.9	-0.3
PAHR	**Pah Rah Range**	**2.54**	**340**	ePn	Pn	01 39 42.6	+1.1
PAHR				ePg	Pg	01 39 47.5	-1.2
PAHR				eSn	Sn	01 40 15.7	+3.2
PAHR				eSg	Sg	01 40 22.1	+0.5
SAO	**San Andreas Ge**	**2.59**	**259**	ePn	Pn	01 39 43.9	+1.8
SAO				ePg	Pg	01 39 49.2	-0.3
SAO				eSn	Sn	01 40 12.8	-0.9
SAO				eSg	Sg	01 40 23.1	0.0
BMN	**Battle Mountai**	**3.22**	**15**	ePn	Pn	01 39 51.9	+1.0
BMN				i Pg	Pg	01 40 00.4	-1.3
BMN				eSn	Sn	01 40 31.8	+2.4
BMN				eSg	Sg	01 40 42.1	-1.4
SAC	**San Andreas**	**3.30**	**276**	ePn	Pn	01 39 54.1	+2.2
SAC				eSn	Sn	01 40 28.0	-3.3
MCCM	**Marconi Confer**	**3.74**	**284**	ePn	Pn	01 40 00.4	+2.5
MCCM				Pg	Pg	01 40 04.4	-7.1
MCCM				eSn	Sn	01 40 49.2	+7.1
MCCM				eSg	Sg	01 40 57.2	-2.8
ARUT	**Antelope Range**	**3.88**	**81**	ePn	Pn	01 40 00.1	+0.3
ARUT				⇓iPg	Pg	01 40 13.3	-0.9
ARUT				eSn	Sn	01 40 49.3	+3.8
ARUT				eSg	Sg	01 41 03.9	-0.6
CCUT	**Cedar City**	**3.92**	**85**	ePn	Pn	01 40 01.6	+1.1
CCUT				ePg	Pg	01 40 13.9	-1.2
CCUT				Sn	Sn	01 40 47.5	+0.9
CCUT				eSg	Sg	01 41 04.1	-1.8
PFO	**Pinyon Flat Ob**	**3.98**	**157**	ePn	Pn	01 40 02.4	+1.2
PFO				ePg	Pg	01 40 14.2	-2.1
PFO				eSn	Sn	01 40 49.8	+1.6
MOD	**Modoc**	**4.84**	**342**	ePn	Pn	01 40 14.9	+1.8
MOD				ePg	Pg	01 40 31.4	-1.3
MOD				eSg	Sg	01 41 36.0	+0.6
MSU	**Marysvale**	**4.97**	**74**	ePn	Pn	01 40 25.3	+10
MSU				ePg	Pg	01 40 33.5	-1.7
MSU				eSn	Sn	01 41 10.9	-1.7
MSU				eSg	Sg	01 41 39.1	-0.6
GLA	**Glamis**	**5.11**	**145**	ePn	Pn	01 40 17.9	+1.2
GLA				ePg	Pg	01 40 36.5	-1.2
GLA				eSn	Sn	01 41 19.7	+3.9
WVOR	**Wild Horse Val**	**5.12**	**357**	Pn	Pn	01 40 16.4	-0.5
	9.0nm,1.1s						
WVOR				Pg	Pg	01 40 39.1	+1.1
DUG	**Dugway**	**5.15**	**54**	Pn	Pn	01 40 15.8	-1.5
	13nm,0.8s						
DUG				ePg	Pg	01 40 36.5	-2.2
DUG				eSg	Sg	01 41 43.6	-1.8
BGU	**Big Grassy Mou**	**5.45**	**47**	ePn	Pn	01 40 24.0	+2.6
BGU				ePg	Pg	01 40 39.2	-5.1
BGU				eSg	Sg	01 41 52.6	-2.3
WUAZ	**Wupatki**	**5.85**	**106**	ePg	Pg	01 40 46.9	-5.1
	10nm,0.8s						
WUAZ				eSg	Sg	01 42 02.2	-5.6
SPUT	**South Promonto**	**6.03**	**47**	ePn	Pn	01 40 30.4	+1.0
SPUT				ePg	Pg	01 40 48.6	-6.9
SPUT				eSn	Sn	01 41 43.5	+4.9
SPUT				eSg	Sg	01 42 10.3	-3.2
HLID	**Hailey**	**6.91**	**24**	ePn	Pn	01 40 45.6	+4.2
	4.1nm,0.6s						
HLID				ePg	Pg	01 41 10.4	-1.7
HLID				eSg	Sg	01 42 41.7	+0.2

---

*IDC **07** 01:40:05.0±0.8, 6.17S×147.13E, h39^{km}±5^{km}, mb4.2/8, mb1 4.3/11, mb1mx4.3/14, mbtmp4.4/11, ML4.1/3, MS3.7/5, Ms1 3.7/5, ms1mx3.3/24, Error ellipse: s-maj=25.2km s-min=11.7km az=104.0*
*BJI **07** 01:40:05.5, 620S×14720E, h61^{km}, mB5.0, mb4.7, Ms4.7, Msz4.3*
*ISCJB **07** 01:40:06.0±1.6, 625S±006×1474E±0.1, h63^{km}±16^{km}, mb4.6/22, Error ellipse: s-maj=20.4km s-min=8.1km az=40.3*
*NEIC **07** 01:40:07.6±1.5, 6.18S×14721E, h61^{km}±14^{km}, mb4.6/11, Error ellipse: s-maj=16.1km s-min=8.9km az=92.0*
ISC 07 01:40:08.5±1.6**, 628S**±007×**1472E**±01**, h63^{km}**±16^{km}**, h47^{km}**±.2^{km}**:pP-P, n51, σ1^{s}25**/52**, mb4.6**/22**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.11**	**181**	Pn	**Pn**	**01 40 54.3**	**-0.8**
	35nm,0.3s,baz=346,slow=7.2,SNR=70						
PMG				Sn	**Sn**	**01 41 32.1**	**+1.1**
	49nm,0.3s,baz=88,slow=6.8,SNR=8.2						
PMG				LR	LR	01 42 21.4	
	comp=Z,889nm,20.3s,baz=45,slow=42						
PMG	**Port Moresby**	**3.11**	**181**	ePn	**Pn**	**01 40 54.6**	**-0.5**
PMG				eSn	**Sn**	**01 41 36.3**	**+5.3**
CTA	**Charters Tower**	**13.76**	**184**	eP	**Pn**	**01 43 21.5**	**+1.0**
	5.4nm,0.7s						
CTA	**Charters Tower**	**13.76**	**184**	Pn	**Pn**	**01 43 20.5**	**+0.1**
	0.6nm,0.3s,baz=1.7,slow=14,SNR=16						
CTA				LR	LR	01 48 13.0	
	comp=Z,318nm,21.4s,baz=40,slow=35						
CTAO	**Charters Tower**	**13.76**	**184**	ePn	**Pn**	**01 43 21.4**	**+0.9**
	7.9nm,0.7s						
WRAB	**Tennant Creek**	**18.45**	**221**	P	**Pn**	**01 44 19.4**	**-0.3**
	23nm,0.8s						
WB2	**Warramunga Arr**	**18.46**	**221**	eP	**Pn**	**01 44 18.9**	**-0.8**
WB2	**Warramunga Arr**	**18.46**	**221**	eP	**Pn**	**01 44 19.0**	**-0.7**
WB2				eS	**S**	**01 47 41.0**	**-5.1**
WRA	**Warramunga Arr**	**18.46**	**221**	P	**Pn**	**01 44 19.6**	**-0.2**
	1.6nm,0.3s,baz=44,slow=11,SNR=16						
WRA				S	**S**	**01 47 43.7**	**-2.5**
	0.2nm,0.3s,baz=45,slow=20,SNR=3.6						
WRA				ScP	ScP	01 52 18.5	+1.6
	0.1nm,0.3s,baz=45,slow=2.5,SNR=3.6						
GUMO	**Guam**	**19.87**	**353**	LR	LR	01 50 39.1	
	comp=Z,173nm,18.6s,baz=50,slow=32						
AS31	**Alice Springs**	**21.51**	**215**	eP	**P**	**01 44 53.5**	**+1.4**
AS31				eS	**S**	**01 48 55.5**	**+8.6**
ASPA	**Alice Springs**	**21.52**	**215**	eP	**P**	**01 44 53.5**	**+1.4**
ASPA				eS	**S**	**01 48 55.5**	**+8.5**
FITZ	**Fitzroy Crossi**	**24.11**	**239**	eP	**P**	**01 45 19.1**	**+1.0**
	48nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**24.11**	**239**	P	**P**	**01 45 18.4**	**+0.3**
	8.5nm,0.7s,mb4.3,baz=79,slow=9.8,SNR=31						
FITZ				LR	LR	01 55 55.5	
	comp=Z,154nm,20.4s,baz=65,slow=40						
STKA	**Stephens Creek**	**26.01**	**191**	eP	**P**	**01 45 35.1**	**-0.3**
	4.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.01**	**191**	P	**P**	**01 45 35.7**	**+0.4**
	4.6nm,0.6s,mb4.2,baz=357,slow=9.2,SNR=12						
STKA				LR	LR	01 56 32.9	
	comp=Z,323nm,18.6s,baz=24,slow=38						
STKA	**Stephens Creek**	**26.01**	**191**	eP	**P**	**01 45 35.9**	**+0.5**
FORT	**Forrest**	**30.29**	**214**	eP	**P**	**01 46 14.4**	**+0.9**
	9.0nm,0.6s,mb4.7						
MBWA	**Marble Bar**	**30.44**	**238**	eP	**P**	**01 46 15.5**	**+0.6**
KKM	**Kota Kinabalu**	**33.27**	**291**	P	**P**	**01 46 36.4**	**-3.4**
KLBR	**Kellerberrin**	**37.32**	**224**	eP	**P**	**01 47 14.4**	**-0.1**
	60nm,1.7s,mb5.2						
KSM	**Kuching**	**37.64**	**281**	P	**P**	**01 47 12.3**	**-4.9**
NWAO	**Narrogin (SRO)**	**38.47**	**222**	P	**P**	**01 47 23.4**	**-0.7**
NACB	**Ninganchiao**	**39.24**	**321**	eP	**P**	**01 47 30.3**	**-0.3**
RAO	**Raoul Island**	**40.05**	**129**	P	**P**	**01 47 42.8**	**+5.4**
MJAR	**Matsushiro Arr**	**43.42**	**349**	P	**P**	**01 48 03.0**	**-1.9**
	6.9nm,0.8s,mb4.5,baz=173,slow=7.5,SNR=15						
MAJO	**Matsushiro**	**43.42**	**349**	eP	**P**	**01 48 05.7**	**+0.8**
	9.3nm,0.6s,mb4.7						
MAT	**Matsushiro**	**43.42**	**349**	P	**P**	**01 48 03.5**	**-1.4**
KULM	**Kulim**	**47.88**	**283**	P	**P**	**01 48 41.1**	**+1.1**
KMI	**Kunming**	**53.33**	**308**	P	**P**	**01 49 24.1**	**+3.0**
KMI				AP	pP	01 49 36.7	-0.9
KMI				XP	sP	01 49 42.4	-2.4
KMI				PP	PP	01 51 23.9	+2.1
KMI				PPP		01 52 29.8	
KMI				S	**S**	**01 56 49.2**	**+1.1**
KMI				XS	sS	01 57 10.9	-5.1
KMI				SS	SS	02 00 25.5	-3.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,93nm,4.7s						
KMI				LR	LR		
	comp=N,157nm,23.8s						
KMI				LR	LR		
	comp=E,124nm,25.6s						
KMI				LR	LR		
	comp=Z,166nm,36.6s						
CN2	**Changchun**	**53.59**	**341**	eP	**P**	**01 49 26.9**	**+3.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
XAN	**Xi'an**	**54.03**	**321**	P	**P**	**01 49 28.2**	**+2.0**
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
XAN				LR	LR		
	comp=N,128nm,18.7s						
XAN				LR	LR		
	comp=E,100nm,19.6s						
XAN				LR	LR		
	comp=Z,217nm,27.8s						
LZH	**Lanzhou**	**58.55**	**319**	eP	**P**	**01 50 01.3**	**+2.9**
LZH				AP	pP	01 50 14.1	-1.0
LZH				XP	sP	01 50 19.5	-2.8
LZH				PP	PP	01 52 12.5	+4.0
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,91nm,4.6s						
HIA	**Hailar**	**60.28**	**340**	eP	**P**	**01 50 10.1**	**-0.3**
	comp=Z,5.9nm,0.3s,mb5.1						
GTA	**Gaotai**	**63.09**	**320**	eP	**P**	**01 50 32.4**	**+3.2**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**64.45**	**331**	eP	**P**	**01 50 38.0**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.4						
SONM	**Songino Array**	**64.75**	**331**	P	**P**	**01 50 39.2**	**-0.9**
	comp=Z,1.4nm,0.4s,mb4.3,baz=140,slow=5.2,SNR=9.5						
CASY	**Casey**	**65.05**	**195**	eP	**P**	**01 50 42.1**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.6						
VNDA	**Vanda**	**71.63**	**177**	P	**P**	**01 51 22.6**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.6,baz=333,slow=6.6,SNR=45						
WMQ	**Urumqi**	**73.14**	**319**	eP	**P**	**01 51 34.0**	**+1.9**
WMQ				AP	pP	01 51 47.0	-2.4
WMQ				XP	sP	01 51 52.0	-4.4
WMQ				PP	PP	01 54 17.0	+1.4
WMQ				eS	S	02 01 00.0	+5.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,78nm,3.6s						
WMQ				LR	LR		
	comp=N,273nm,24.4s						
WMQ				LR	LR		
	comp=E,201nm,27.6s						
WMQ				LR	LR		
	comp=Z,192nm,24.6s						
MKAR	**Makanchi Array**	**77.84**	**320**	P	**P**	**01 51 58.1**	**-0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=93,slow=8.5,SNR=8.0						
AAK	**Ala-Archa**	**81.68**	**315**	eP	**P**	**01 52 19.8**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0						
MAW	**Mawson**	**82.08**	**203**	P	**P**	**01 52 20.4**	**-1.5**
	comp=Z,1.4nm,0.7s,mb4.0,baz=92,slow=7.0,SNR=4.8						
MAW	**Mawson**	**82.08**	**203**	eP	**P**	**01 52 22.1**	**+0.1**
	comp=Z,3.3nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**87.11**	**324**	P	**P**	**01 52 44.9**	**-2.4**
	comp=Z,1.1nm,0.6s,mb4.3,baz=104,slow=6.3,SNR=8.8						
ZRNK	**Zerenda**	**87.91**	**324**	eP	**P**	**01 52 50.1**	**-1.1**
	comp=Z,0.9nm,0.4s,mb4.3						
GERES	**GERESS Array B**	**122.25**	**325**	PKP	PKPdf	01 58 54.6	-1.5
	comp=Z,0.6nm,0.5s,baz=100,slow=1.4,SNR=10						
GERES				pPKP	pPKPdf	01 59 07.7	-6.9
	comp=Z,0.3nm,0.4s,baz=127,slow=2.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.36**	**284**	PKPbc	PKPbc	01 59 39.5	+0.5
	comp=Z,11nm,0.7s,baz=71,slow=3.9,SNR=115						
TORD				pPKPbc	pPKPbc	01 59 51.2	-6.0
	comp=Z,7.7nm,0.7s,baz=81,slow=4.9,SNR=12						
TORD	**Torodi Ar. Bea**	**145.36**	**284**	PKPbc	PKPbc	01 59 39.5	+0.5
TORD				pPKPbc	pPKPbc	01 59 51.2	-6.0
DBIC	**Dimbokro**	**152.25**	**272**	PKPbc	PKPbc	01 59 56.9	0.0
	comp=Z,2.9nm,0.5s,baz=140,slow=3.9,SNR=16						
DBIC				pPKPbc	pPKPbc	02 00 09.0	-6.3
	comp=Z,6.0nm,0.7s,baz=73,slow=2.5,SNR=5.0						
BDFB	**Brasilia**	**153.51**	**145**	PKPbc	PKPbc	02 00 00.6	+0.9
	comp=Z,4.3nm,0.8s,baz=276,slow=4.6,SNR=5.3						

---

*ISCJB **07** 01:50:30.4±0.8, 3680N±003×3887E±003, h5^{km}±6^{km}, Error ellipse: s-maj=4.7km s-min=3.4km az=10.5*
*CSEM **07** 01:50:30.1±0.2, 3678N×3887E, h8^{km}, MD3.2, Error ellipse: s-maj=4.5km s-min=3.8km az=169.0*
*NSSC **07** 01:50:32.5, 3675N×3892E, h22^{km}±3^{km}*
*ISK **07** 01:50:32.1, 3687N×3878E, h16^{km}, MD3.2*
ISC 07 01:50:31.1±0.5**, 3679N**±002×**3889E**±003**, h12^{km}**±4^{km}**, n31, σ0^{s}88**/54**, 4D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.66**	**355**	PG	**Pg**	**01 50 43.7**	**-0.1**
URFA				SG	**Sg**	**01 50 52.5**	**0.0**
DRBT	**Darb Altahta**	**0.74**	**85**	⇑P	**Pg**	**01 50 40.9**	**-4.7**
DRBT				⇑S	**Sg**	**01 50 47.5**	**-7.8**
DRBT	**Darb Altahta**	**0.74**	**85**	⇑iP	**Pg**	**01 50 40.8**	**-4.7**
ATAB	**Bozova**	**0.83**	**325**	i P	**Pg**	**01 50 47.0**	**-0.2**
ATAB				i S	**Sg**	**01 50 58.1**	**+0.1**
MNKR	**ALMNKUR**	**0.90**	**160**	⇑P	**Pg**	**01 50 49.4**	**+0.9**
MNKR				⇑S	**Sg**	**01 51 01.2**	**+1.0**
MNKR	**ALMNKUR**	**0.90**	**160**	⇑iP	**Pg**	**01 50 49.4**	**+1.0**
MNKR				⇑iS	**Sg**	**01 51 01.2**	**+1.0**
SLMH	**Al Salmeh**	**0.96**	**234**	⇑iP	**Pg**	**01 50 49.8**	**+0.1**
SLMH				⇑iS	**Sg**	**01 51 01.5**	**-0.7**
SFNV	**Sufian**	**1.05**	**110**	⇑P	**Pb**	**01 50 51.3**	**+0.1**
SFNV				⇑S	**Sb**	**01 51 04.9**	**-0.1**
SFNV	**Sufian**	**1.05**	**110**	⇑iP	**Pb**	**01 50 51.3**	**0.0**
SFNV				⇑iS	**Sb**	**01 51 04.9**	**-0.1**
JHLN	**Al Jahlan**	**1.17**	**198**	⇑P	**Pb**	**01 50 53.8**	**+0.5**
JHLN				⇑S	**Sb**	**01 51 07.6**	**-0.8**
JHLN	**Al Jahlan**	**1.17**	**198**	⇑iP	**Pb**	**01 50 53.8**	**+0.5**
JHLN				⇑iS	**Sb**	**01 51 07.6**	**-0.8**
GZT	**Gaziantep**	**1.20**	**299**	i P	**Pn**	**01 50 53.2**	**-0.5**
GZT				i S	**Sb**	**01 51 09.4**	**+0.1**
KBSD	**Kabsdagh**	**1.34**	**80**	⇓P	**Pn**	**01 50 55.5**	**-0.2**
KBSD				⇓S	**Sb**	**01 51 12.4**	**-1.1**
KBSD	**Kabsdagh**	**1.34**	**80**	⇓iP	**Pn**	**01 50 55.5**	**-0.2**
KBSD				⇓iS	**Sb**	**01 51 12.4**	**-1.1**
GAZ	**Gaziantep**	**1.40**	**286**	PN	**Pn**	**01 50 55.7**	**-0.8**
GAZ				SN	**Sn**	**01 51 14.3**	**-0.5**
DIY	**Diyarbakir**	**1.54**	**44**	PN	**Pn**	**01 50 59.9**	**+1.5**
MYA	**Malataya**	**1.58**	**347**	PN	**Pn**	**01 50 58.5**	**-0.5**
MARD	**Mardin**	**1.60**	**70**	i P	**Pn**	**01 50 59.7**	**+0.4**
MARD				i S	**Sn**	**01 51 21.1**	**+1.2**
ELZG	**Elazig**	**1.71**	**3**	i P	**Pg**	**01 51 03.4**	**-0.5**
ELZG				i S	**Sg**	**01 51 26.1**	**-0.1**
MZRK	**Al-Mazaregh**	**1.72**	**123**	⇑P	**Pn**	**01 50 59.7**	**-1.2**
MZRK				⇑S	**Sn**	**01 51 19.9**	**-2.8**
MZRK	**Al-Mazaregh**	**1.72**	**123**	⇑iP	**Pn**	**01 50 59.7**	**-1.2**
MZRK				⇑iS	**Sn**	**01 51 19.9**	**-2.9**
KMRS	**Kahramanmaras**	**1.74**	**295**	ePN	**Pn**	**01 51 01.3**	**+0.1**
DRWC	**Darouich**	**1.79**	**265**	⇑P	**Pn**	**01 51 03.3**	**+1.4**
DRWC				⇑S	**Sn**	**01 51 24.0**	**-0.6**
DRWC	**Darouich**	**1.79**	**265**	⇑iP	**Pn**	**01 51 03.3**	**+1.4**
DRWC				⇑iS	**Sn**	**01 51 24.0**	**-0.6**
BTCH	**Batrach**	**2.10**	**250**	⇑P	**Pn**	**01 51 07.1**	**+1.0**
BTCH				⇑S	**Sn**	**01 51 32.0**	**-0.1**
BTCH	**Batrach**	**2.10**	**250**	⇑iP	**Pn**	**01 51 07.1**	**+1.0**
BTCH				⇑iS	**Sn**	**01 51 32.0**	**-0.1**
COBT	**Iskenderun**	**2.13**	**264**	i P	**Pg**	**01 51 10.9**	**-1.2**
COBT				i S	**Sn**	**01 51 35.9**	**+2.9**
BINT	**Bingol**	**2.44**	**31**	ePN	**Pn**	**01 51 12.0**	**+1.2**
BTMT	**Batman**	**2.50**	**55**	ePN	**Pn**	**01 51 10.8**	**-0.8**
KOZT	**Kozan**	**2.54**	**287**	ePN	**Pn**	**01 51 12.5**	**+0.3**
CUKT	**Cukurca**	**3.81**	**82**	ePN	**Pn**	**01 51 33.5**	**+3.9**

---

*IDC **07** 01:53:08.9±10.0, 3608N×71.13E, h184^{km}±110^{km}, mb3.3/4, mb1 3.3/6, mb1mx3.1/19, mbtmp3.8/6, Error ellipse: s-maj=79.2km s-min=48.7km az=97.0*
*NEIC **07** 01:53:09.1±3.0, 36.10N×7108E, h184^{km}±29^{km}, mb3.5/3, Error ellipse: s-maj=28.4km s-min=12.4km az=224.0*
*ISCJB **07** 01:53:14.1±0.4, 3649N±004×7127E±008, h234^{km}±7^{km}, mb3.4/4, Error ellipse: s-maj=11.3km s-min=6.0km az=139.2*
*NNC **07** 01:53:15.8±3.3, 37.14N×7065E, h0^{km}, mb3.8, mpv3.3, Error ellipse: s-maj=33.8km s-min=22.3km az=49.0*
ISC 07 01:53:15.0±0.4**, 3650N**±004×**7127E**±008**, h225^{km}**±7^{km}**, n34, σ0^{s}92**/39**, mb3.4**/4**, 5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.72**	**169**	⇑P	**Pn**	**01 54 04.1**	**+1.3**
CEP				S	**S**	**01 54 39.0**	**-1.4**
CHCP	**Chirah Chowk**	**3.27**	**149**	⇓P	**Pn**	**01 54 10.5**	**+1.5**
CHCP				S	**S**	**01 54 49.0**	**-2.6**
THW	**Thamme Wali**	**3.71**	**174**	⇑P	**Pn**	**01 54 15.2**	**+1.0**
SBDP	**Sheikh Budin**	**4.20**	**185**	P	**Pn**	**01 54 20.5**	**+0.3**
SARP	**Sargodha**	**4.71**	**165**	P	**Pn**	**01 54 26.5**	**+0.1**
AML	**Almayashu**	**5.93**	**18**	P	**Pn**	**01 54 41.4**	**-0.4**
	SNR=64						
UCH	**Uchtor**	**6.25**	**23**	P	**Pn**	**01 54 45.8**	**0.0**
	SNR=22						
KZA	**Kyzart**	**6.37**	**28**	P	**Pn**	**01 54 46.9**	**-0.4**
	SNR=7.5						
AAK	**Ala-Archa**	**6.62**	**21**	P	**Pn**	**01 54 50.0**	**-0.5**
	SNR=7.3						
AAK	**Ala-Archa**	**6.62**	**21**	ePn	**Pn**	**01 54 49.8**	**-0.7**
	7.2nm,0.4s						
AAK				eSn	**S**	**01 55 59.2**	**-7.4**
KK31	**Karatay Array**	**6.62**	**355**	Pn	**Pn**	**01 54 49.8**	**-0.8**
	3.2nm,0.5s,baz=155,slow=25,SNR=28						
KK31				⇑Sn	**S**	**01 56 00.7**	**-6.2**
	4.9nm,0.3s,baz=186,slow=25,SNR=9.7						
TKM2	**Tokmak 2**	**7.23**	**26**	P	**Pn**	**01 54 58.3**	**0.0**
	SNR=9.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**7.23**	**26**	⇓Pn	**Pn**	**01 54 58.1**	**-0.2**
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**13.17**	**35**	P	**Pn**	**01 56 13.9**	**+0.2**
	0.2nm,0.3s,baz=219,slow=8.9,SNR=5.9						
KOLN	**Koldanda**	**13.59**	**126**	*e*P	**Pn**	**01 56 19.7**	**+0.9**
	8.3nm,0.2s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**Pn**	**01 56 25.7**	**+0.3**
	19nm,0.3s						
DMN	**Daman**	**14.69**	**123**	*e*P	**Pn**	**01 56 32.6**	**+0.3**
	18nm,0.5s						
KKN	**Kakani**	**14.69**	**122**	*e*P	**Pn**	**01 56 32.3**	**-0.1**
	29nm,0.5s						
PKI	**Pulchoki**	**14.92**	**123**	*e*P	**Pn**	**01 56 34.9**	**-0.2**
	14nm,0.3s						
GUN	**Gumba**	**15.03**	**121**	*e*P	**Pn**	**01 56 37.0**	**+0.6**
	17nm,0.4s						
AB31	**Akbulak array**	**15.19**	**331**	⇑Pn	**Pn**	**01 56 39.8**	**+1.3**
	1.6nm,0.7s,baz=152,slow=11,SNR=11						
AB31				⇑Sn	**S**	**01 59 21.4**	**-5.1**
	0.4nm,0.5s,baz=157,slow=24,SNR=4.7						
JIRN	**Jiri**	**15.40**	**121**	*e*P	**Pn**	**01 56 41.5**	**+0.6**
	19nm,0.4s						
ZRNK	**Zerenda**	**16.53**	**355**	*e*P	**P**	**01 56 54.0**	**+0.9**
	0.6nm,0.4s						
BRVK	**Borovoye**	**16.58**	**358**	*e*P	**P**	**01 56 54.6**	**+1.0**
	0.7nm,0.5s						
AKTK	**Aktyubinsk**	**16.89**	**330**	P	**P**	**01 56 57.0**	**0.0**
AKTO	**Aktyubinsk**	**16.89**	**330**	P	**P**	**01 56 57.0**	**0.0**
	0.5nm,0.3s,baz=148,slow=8.8,SNR=9.7						
LSA	**Lhasa**	**17.97**	**106**	P	**P**	**01 57 06.8**	**-1.9**
JOF	**Joensuu**	**35.98**	**330**	*e*p	**P**	**01 59 54.3**	**-0.1**
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**02 00 08.0**	**-0.1**
	0.6nm,0.6s,mb3.3,baz=121,slow=7.4,SNR=4.4						
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**02 00 38.2**	**+0.2**
	3.6nm,0.9s,mb3.8,baz=119,slow=9.4,SNR=3.5						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**02 01 03.3**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.0,baz=95,slow=8.6						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**02 01 02.7**	**-1.6**
	comp=Z,0.7nm,0.6s,mb3.2,baz=96,slow=7.6,SNR=3.3						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**02 01 02.7**	**-1.6**
TORD	**Torodi Ar. Bea**	**65.94**	**269**	P	**P**	**02 03 34.8**	**-2.1**
	comp=Z,0.4nm,0.4s,mb3.4,baz=52,slow=6.1,SNR=7.1						

---

*NIED **07** 01:57:00, 35.60N×140.20E, h68km, Mw4.8 Best double couple: $M_0$1.58000×10^{16} NP1:φs351.00000°, δ71.00000°, λ77.00000°. NP2:φs206.00000°, δ23.00000°, λ123.00000°.*

*MOS **07** 01:57:34.6±0.9, 35.58N×140.05E, h33km, mb4.8/36, Error ellipse: s-maj=12.8km s-min=5.6km az=113.6*

*ISCJB **07** 01:57:38.2±0.2, 35.56N±0.02×140.19E±0.03, h66km, mb4.5/76, Error ellipse: s-maj=4.0km s-min=3.5km az=178.0*

*JMA **07** 01:57:38.7±0.2, 35.66N×140.18E, h69km±2km, M4.6 Broadband fault plane solution: P waves. NP1: φs173.00000°, δ1.00000°, λ63.00000°. NP2:φs19.00000°, δ89.00000°, λ90.00000°. Principal axes: T Plg46.0000°, Azm290.0000°; N Plg0.0000°, Azm19.0000°; P Plg44.0000°, Azm109.0000°;*

JMA Felt III J1.

*BJI **07** 01:57:38.7, 35.60N×140.10E, h66km, mB5.0, mb4.7, Ms4.1, Msz3.7*

*SZGRF **07** 01:57:38.7, 35.45N×139.28E, h33km, mb4.9, Near south coast of eastern Honshu, Japan*

*NEIC **07** 01:57:39.8±0.2, 35.59N×140.13E, mb4.7/35, MW4.7(NIED), Error ellipse: s-maj=5.8km s-min=4.8km az=89.0*

NEIC Recorded [3 JMA] in Ibaraki and Kanagawa; [2 JMA] in Chiba, Saitama, Shizuoka, Tochigi, Tokyo and Yamanashi; [1 JMA] in Fukushima, Gumma and Nagano Prefectures.

*IDC **07** 01:57:39.8±1.7, 35.55N×140.05E, h69km±16km, mb4.1/15, mb1 4.2/16, mb1mx4.1/22, mbtmp4.4/16, MS3.7/8, Ms1 3.7/8, ms1mx3.3/29, Error ellipse: s-maj=19.7km s-min=10.6km az=69.0*

*GCMT **07** 01:57:39.8±0.5, 35.54N×140.31E, h60km±2km, MW4.8/56, Moment Tensor Solution. s29,c33; s56,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.79±.14; $M_{\theta\theta}$0.54±.10; $M_{\phi\phi}$-2.33±.08; $M_{r\theta}$-0.35±.07; $M_{\theta\phi}$-0.47±.07; $M_{\phi r}$0.91±.07; Best double couple: $M_0$2.34000×10^{16} NP1:φs208.00000°, δ37.00000°, λ119.00000°. NP2: φs353.00000°, δ58.00000°, λ70.00000°. Principal axes: T 2.1090, Plg69.0000°, Azm219.0000°; N 0.4610, Plg17.0000°, Azm4.0000°; P -2.5710, Plg11.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 01:57:39.9±0.2**, 35.57N**±0.02×**140.12E**±0.04**, h68**km**, h68**km±2.0km**: pP-P, n214, σ0.91**/221**, mb4.5**/76**, 14C-14D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.17**	**156**	⇑P	**Pn**	**01 57 50.0**	**-0.1**
JCN				*e*S	**Sn**	**01 57 58.9**	**+1.4**
TOK	**Tokyo**	**0.32**	**292**	⇓P	**Pn**	**01 57 50.7**	**-0.3**
TOK				*e*S	**Sn**	**01 58 00.0**	**+1.0**
BSO3	**Boso 3**	**0.83**	**157**	⇑P	**Pn**	**01 57 55.6**	**-0.6**
JOD2	**Odawara 2**	**0.90**	**250**	⇓P	**Pn**	**01 57 56.8**	**-0.2**
JOD2				*e*S	**Sn**	**01 58 09.7**	**+0.1**
JAG	**Ashikaga**	**1.01**	**328**	⇓P	**Pn**	**01 57 57.3**	**-1.1**
JAG				*e*S	**Sn**	**01 58 10.8**	**-1.4**
JIM2	**Oshima 3**	**1.02**	**214**	P	**Pn**	**01 57 57.8**	**-0.7**
JIM2				*e*S	**Sn**	**01 58 12.4**	**0.0**
JRY	**Ryogami san**	**1.09**	**295**	⇓P	**Pn**	**01 57 59.4**	**0.0**
BSO1	**Boso 1**	**1.15**	**142**	⇑P	**Pn**	**01 57 58.5**	**-1.7**
JYN	**Shimob**	**1.29**	**267**	P	**Pn**	**01 58 01.7**	**-0.2**
JYN				*e*S	**Sn**	**01 58 19.5**	**+1.0**
JIZS	**Izushimoda**	**1.32**	**230**	⇓P	**Pn**	**01 58 02.3**	**-0.2**
JIZS				*e*S	**Sn**	**01 58 19.6**	**+0.2**
JKT	**Katashina**	**1.39**	**330**	⇓P	**Pn**	**01 58 02.1**	**-1.2**
JKT				*e*S	**Sn**	**01 58 19.9**	**-1.0**
MJAR	**Matsushiro Arr**	**1.83**	**303**	P	**Pn**	**01 58 08.1**	**-1.0**
	226nm,0.3s,baz=104,slow=13,SNR=571						
MAJO	**Matsushiro**	**1.83**	**303**	⇓*i*Pn	**Pn**	**01 58 09.3**	**+0.1**
MAJO				*e*S	Sn	01 58 53.4	+22
MAT	**Matsushiro**	**1.83**	**303**	P	**Pn**	**01 58 09.3**	**+0.1**
MAT				S	**Sn**	**01 58 32.7**	**+1.3**
JHJ	**Hachijo jima 2**	**2.46**	**187**	P	**Pn**	**01 58 16.8**	**-0.9**
	500nm,0.3s,baz=150,slow=2.6,SNR=66						
JHJ				S	**Sn**	**01 58 46.5**	**-0.2**
	534nm,0.3s,baz=268,slow=24,SNR=9.9						
ERM	**Erimo**	**6.86**	**19**	*e*P	**Pn**	**01 59 14.8**	**-3.0**
ERM				pmax	pmax		
	comp=Z,48nm,0.6s						
ERM	**Erimo**	**6.86**	**19**	*e*Pn	**Pn**	**01 59 14.8**	**-3.0**
	comp=Z,48nm,0.6s						
CBIJ	**Chichi jima**	**8.63**	**168**	P	**Pn**	**01 59 38.7**	**-3.3**
	comp=Z,164nm,0.3s,baz=333,slow=8.5,SNR=30						
CBIJ				S	**Sn**	**02 01 09.1**	**-8.6**
	comp=Z,39nm,0.3s,baz=305,slow=22,SNR=3.6						
ASAJ	**Asahikawa**	**8.75**	**12**	P	**Pn**	**01 59 40.1**	**-3.4**
	comp=Z,4.6nm,0.3s,baz=233,slow=11,SNR=10						
ASAJ				S	**Sn**	**02 01 15.5**	**-5.1**
	comp=Z,5.9nm,0.3s,baz=74,slow=30,SNR=4.7						
YSS	**Yuzh-Sakhalins**	**11.54**	**9**	*e*P	**Pn**	**02 00 18.5**	**-3.3**
YSS				MLR	MLR		
	comp=N,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**11.54**	**9**	Pn	**Pn**	**02 00 14.3**	**-7.5**
MDJ	**Mudanjiang**	**12.10**	**322**	*e*Pn	**Pn**	**02 00 31.6**	**+2.3**
	comp=Z,5.8nm,0.4s						
JOW	**Kunigami**	**13.36**	**233**	P	**Pn**	**02 00 50.1**	**+3.8**
	comp=Z,0.9nm,0.3s,baz=63,slow=14,SNR=3.3						
JOW				LR	LR	02 05 54.0	
	comp=Z,158nm,19.7s,baz=44,slow=37						
HABR	**Khabarovsk**	**13.43**	**345**	*e*P	**Pn**	**02 00 39.8**	**-7.6**
CN2	**Changchun**	**13.96**	**311**	*e*P	**Pn**	**02 00 57.0**	**+2.7**
CN2				*e*AP		02 01 08.2	
CN2				*e*XP		02 01 19.5	
CN2				*e*S	**Sn**	**02 03 30.9**	**+3.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,200nm,13.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
KLR	**Kul'dur**	**14.97**	**338**	*e*P	**Pn**	**02 01 08.0**	**+0.5**
SSE	**Sheshan**	**16.44**	**260**	P	**Pn**	**02 01 31.6**	**+5.5**
SSE				S	**S**	**02 04 30.7**	**-5.4**
SSE				AMB	AMB		
	comp=Z,54nm,0.7s						
SSE				AMB	AMB		
	comp=Z,206nm,10.8s						
SSE				LR	LR		
	comp=N,164nm,25.0s						
SSE				LR	LR		
	comp=E,170nm,25.0s						
SSE				LR	LR		
	comp=Z,171nm,25.0s						
NJ2	**Nanjing**	**18.01**	**265**	*e*P	**Pn**	**02 01 51.1**	**+5.6**
NJ2				AP	pP	02 01 59.1	-0.1
NJ2				PP		02 02 05.8	
NJ2				S	**S**	**02 05 03.0**	**-3.8**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,460nm,5.2s						
NJ2				LR	LR		
	comp=N,670nm,22.9s						
NJ2				LR	LR		
	comp=E,580nm,18.0s						
NJ2				LR	LR		
	comp=Z,670nm,25.9s						
TATO	**Taipei**	**19.21**	**242**	*e*P	**Pn**	**02 01 59.0**	**-0.9**
	comp=Z,35nm,0.3s						
BJT	**Baijiatuau**	**19.42**	**290**	*e*P	**Pn**	**02 02 01.5**	**-0.9**
YHNB	**Yeheng**	**19.48**	**241**	*e*P	**Pn**	**02 02 03.7**	**+0.6**
NACB	**Ninganchiao**	**19.64**	**240**	*e*P	**Pn**	**02 02 03.3**	**-1.6**
CLNS	**Chul'man**	**23.63**	**339**	*e*P	**P**	**02 02 44.1**	**-0.7**
CLNS				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.4						
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
MA2	**Magadan**	**25.01**	**13**	*e*P	**P**	**02 02 57.1**	**-0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
MA2	**Magadan**	**25.01**	**13**	*e*P	**P**	**02 02 56.1**	**-1.3**
	comp=Z,16nm,0.6s,mb4.6						
YAK	**Yakutsk**	**27.29**	**349**	*i* P	**P**	**02 03 14.4**	**-3.5**
YAK				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s						
ULN	**Ulaanbaatar**	**27.35**	**307**	*e*P	**P**	**02 03 17.6**	**-0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
ULN	**Ulaanbaatar**	**27.35**	**307**	*e*P	**P**	**02 03 17.6**	**-0.9**
	comp=Z,1.7nm,0.4s,mb3.9						
SONM	**Songino Array**	**27.78**	**307**	P	**P**	**02 03 21.6**	**-0.7**
	comp=Z,1.8nm,0.5s,mb3.9,baz=108,slow=9.3,SNR=19						
BOD	**Bodaibo**	**28.24**	**330**	*e*P	**P**	**02 03 24.1**	**-2.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.2						
SEY	**Seymchan**	**28.43**	**12**	⇑*i*P	**P**	**02 03 28.2**	**+0.1**
LZH	**Lanzhou**	**29.31**	**282**	*e*P	**P**	**02 03 35.5**	**-0.4**
LZH				AP	pP	02 03 53.0	+0.8
LZH				XP	sP	02 03 58.5	-1.7
LZH				PP	PP	02 04 32.7	-10
LZH				*e*S	**S**	**02 08 21.1**	**-3.1**
LZH				XS	sS	02 08 51.8	-0.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,129nm,4.6s						
LZH				LR	LR		
	comp=N,1µm,13.5s						
GYA	**Guiyang**	**29.96**	**262**	⇑*i*P	**P**	**02 03 41.0**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**30.39**	**311**	*e*P	**P**	**02 03 49.3**	**+3.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
QIZ	**Qiongzhong**	**31.38**	**246**	P	**P**	**02 03 53.9**	**-0.2**
QIZ				AP	pP	02 04 09.0	-1.5
QIZ				XP	sP	02 04 21.1	+2.6
QIZ				S	**S**	**02 09 02.2**	**+5.6**
QIZ				XS	sS	02 09 26.2	+1.6
QIZ				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,106nm,8.8s						
QIZ				LR	LR		
	comp=E,154nm,10.5s						
QIZ				LR	LR		
	comp=Z,146nm,18.0s						
GTA	**Gaotai**	**32.02**	**289**	*e*P	**P**	**02 04 01.5**	**+1.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
KMI	**Kunming**	**33.72**	**262**	P	**P**	**02 04 13.8**	**-0.8**
KMI				AP	pP	02 04 32.2	+1.1
KMI				S	**S**	**02 09 31.7**	**-1.3**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=Z,144nm,34.1s						
BILL	**Bilibino**	**35.73**	**16**	*e*P	**P**	**02 04 32.9**	**+1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
WMQ	**Urumqi**	**40.59**	**298**	*e*P	**P**	**02 05 13.5**	**+0.7**
WMQ				AP	pP	02 05 32.0	+2.4
WMQ				PP	PP	02 06 51.0	+3.6
WMQ				PPP		02 07 21.0	
WMQ				*e*S	**S**	**02 11 17.0**	**-0.3**
WMQ				XS	sS	02 11 49.0	+3.1
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,126nm,5.4s						
WMQ				LR	LR		
	comp=N,256nm,22.6s						
WMQ				LR	LR		
	comp=E,137nm,23.0s						
WMQ				LR	LR		
	comp=Z,182nm,22.7s						
NVS	**Novosibirsk**	**43.11**	**315**	*e*P	**P**	**02 05 32.7**	**-0.7**
NVS				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
MK31	**Makanchi Array**	**44.03**	**303**	P	**P**	**02 05 40.2**	**-0.5**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**02 05 40.9**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.4,baz=76,slow=10,SNR=67						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**02 05 40.9**	**+0.2**
PMG	**Port Moresby**	**45.22**	**170**	P	**P**	**02 05 50.7**	**+0.5**
JIRN	**Jiri**	**46.12**	**276**	*e*P	**P**	**02 05 58.3**	**+1.0**
	comp=Z,33nm,0.7s,mb5.2						
GUN	**Gumba**	**46.27**	**276**	*e*P	**P**	**02 05 59.4**	**+0.9**
	comp=Z,18nm,0.5s,mb5.1						
PKI	**Pulchoki**	**46.79**	**276**	*e*P	**P**	**02 06 02.9**	**+0.4**
	comp=Z,15nm,0.7s,mb4.8						
KKN	**Kakani**	**46.80**	**277**	*e*P	**P**	**02 06 03.3**	**+0.7**
GKN	**Gorkha**	**47.24**	**277**	*e*P	**P**	**02 06 06.5**	**+0.5**
	comp=Z,47nm,0.9s,mb5.2						
KOLN	**Koldanda**	**48.17**	**277**	*e*P	**P**	**02 06 13.3**	**0.0**
	comp=Z,12nm,0.6s,mb4.9						
KAKA	**Kakadu**	**48.56**	**190**	*e*P	**P**	**02 06 16.5**	**+0.2**
	comp=Z,49nm,1.2s,mb5.3						
KDAK	**Kodiak Island**	**48.89**	**41**	P	**P**	**02 06 18.6**	**-0.2**
	comp=Z,9.2nm,0.7s,mb4.8,baz=121,slow=23,SNR=6.0						
TKM2	**Tokmak 2**	**49.42**	**299**	*i* P	**P**	**02 06 23.4**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,29nm,1.6s,mb5.0						
FRU	**Bishkek**	**50.14**	**299**	*e*P	**P**	**02 06 28.0**	**-0.3**
CHKZ	**Chkalovo**	**50.56**	**314**	*e*P	**P**	**02 06 31.1**	**-0.4**
CHKZ				*e**PP	pP	02 06 49.5	+0.7
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**50.56**	**314**	*e*P	**P**	**02 06 31.1**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.8						
CHKZ				*e*pP	pP	02 06 49.5	+0.7
BVA0	**Borovoye Array**	**50.79**	**313**	*i* P	**P**	**02 06 34.2**	**+1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**50.79**	**313**	P	**P**	**02 06 32.5**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.5,baz=77,slow=7.6,SNR=11						
BRVK	**Borovoye**	**50.85**	**313**	*e*P	**P**	**02 06 34.7**	**+1.0**
BRVK				*e**PP	pP	02 06 52.1	+1.1
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**50.85**	**313**	*e*P	**P**	**02 06 34.7**	**+1.0**
	comp=Z,2.3nm,0.6s,mb4.4						
BRVK				*e*pP	pP	02 06 52.1	+1.1
ZRNK	**Zerenda**	**51.63**	**313**	*e*P	**P**	**02 06 39.1**	**-0.4**
ZRNK				*e**PP	pP	02 06 57.3	+0.4
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ZRNK	**Zerenda**	**51.63**	**313**	*e*P	**P**	**02 06 39.1**	**-0.4**
	comp=Z,4.5nm,0.5s,mb4.8						
ZRNK				*e*pP	pP	02 06 57.3	+0.5
KK31	**Karatay Array**	**52.96**	**301**	*i* P	**P**	**02 06 50.5**	**+1.2**
KK31				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
KKAR	**Karatay Array**	**52.96**	**301**	P	**P**	**02 06 50.5**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.11**	**197**	*e*P	**P**	**02 07 05.3**	**+0.3**
	comp=Z,39nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**55.47**	**187**	*e*P	**P**	**02 07 07.6**	**0.0**
WRAB				*e**PP	pP	02 07 26.1	+1.0
WRAB				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**55.47**	**187**	*e*P	**P**	**02 07 07.6**	**+0.1**
	comp=Z,26nm,0.8s,mb5.3						
WRAB				*e*pP	pP	02 07 26.1	+1.0
WB2	**Warramunga Arr**	**55.48**	**187**	*e*P	**P**	**02 07 07.1**	**-0.5**
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**02 07 07.1**	**-0.6**
	comp=Z,6.8nm,0.5s,mb4.9,baz=3.2,slow=7.6,SNR=44						
WRA				LR	LR	02 30 15.3	
	comp=Z,77nm,20.8s,baz=160,slow=35						
SVE	**Sverdlovsk**	**55.56**	**319**	*e*P	**P**	**02 07 07.0**	**-1.2**
SVE				MLR	MLR		
	comp=N,100nm,10.0s						
SVE				MLR	MLR		
	comp=E,100nm,10.0s						
SVE				MLR	MLR		
	comp=Z,200nm,10.0s						
INK	**Inuvik**	**56.16**	**27**	P	**P**	**02 07 11.7**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.3,baz=311,slow=6.8,SNR=5.1						
INK	**Inuvik**	**56.16**	**27**	*e*P	**P**	**02 07 12.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**56.16**	**27**	*e*P	**P**	**02 07 12.6**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.4						
ARU	**Arti**	**56.77**	**319**	⇑*i*P	**P**	**02 07 16.4**	**-0.4**
ARU				*e*		02 08 13.7	
ARU				*e*		02 09 19.8	
ARU				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
ARU	**Arti**	**56.77**	**319**	*e*P	**P**	**02 07 16.1**	**-0.7**
	comp=Z,14nm,0.6s,mb5.2						
ARU				*e*pP	pP	02 07 32.8	-1.7
HYB	**Hyderabad**	**57.12**	**269**	*i* P	**P**	**02 07 20.0**	**+0.7**
HYB	**Hyderabad**	**57.12**	**269**	*e*P	**P**	**02 07 20.0**	**+0.7**
AB31	**Akbulak array**	**58.09**	**310**	*i* P	**P**	**02 07 26.1**	**0.0**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AKTK	**Aktyubinsk**	**58.88**	**312**	P	**P**	**02 07 31.2**	**-0.4**
AKTO	**Aktyubinsk**	**58.88**	**312**	P	**P**	**02 07 31.2**	**-0.4**
	comp=Z,2.3nm,0.6s,mb4.4,baz=72,slow=8.5,SNR=12						
AS31	**Alice Springs**	**59.20**	**187**	*e*P	**P**	**02 07 33.9**	**0.0**
ASPA	**Alice Springs**	**59.20**	**187**	*e*P	**P**	**02 07 33.9**	**0.0**
MBWA	**Marble Bar**	**59.64**	**202**	*e*P	**P**	**02 07 37.2**	**+0.4**
	comp=Z,48nm,0.7s,mb5.6						
KEV	**Kevo**	**64.44**	**339**	*e*p	**P**	**02 08 07.3**	**-1.7**
	comp=Z,0.7nm,0.4s,mb3.8						
KEV	**Kevo**	**64.44**	**339**	*e*P	**P**	**02 08 07.3**	**-1.7**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**65.00**	**339**	P	**P**	**02 08 11.9**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.1,baz=55,slow=7.7,SNR=14						
ARCES				LR	LR	02 37 47.2	
	comp=Z,58nm,20.4s,baz=41,slow=37						
YKA	**Yellowknife Ar**	**65.60**	**29**	LR	LR	02 38 22.1	
	comp=Z,33nm,18.8s,baz=270,slow=37						
JOF	**Joensuu**	**66.76**	**332**	*e*p	**P**	**02 08 22.8**	**-1.2**
	comp=Z,3.5nm,0.4s,mb4.5						
FORT	**Forrest**	**66.96**	**191**	*e*P	**P**	**02 08 25.5**	**+0.2**
	comp=Z,22nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**67.10**	**179**	*e*P	**P**	**02 08 26.4**	**+0.2**
	comp=Z,2.9nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**67.10**	**179**	P	**P**	**02 08 26.4**	**+0.3**
	comp=Z,1.8nm,0.5s,mb4.2,baz=339,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**67.10**	**179**	*e*P	**P**	**02 08 26.6**	**+0.5**
OBN	**Obninsk**	**68.64**	**323**	*e*P	**P**	**02 08 35.8**	**0.0**
OBN				*e*		02 11 04.5	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
KAF	**Kangasniemi**	**69.13**	**333**	*e*p	**P**	**02 08 37.5**	**-1.3**
	comp=Z,3.7nm,0.6s,mb4.4,baz=50,slow=5.9						
KAF	**Kangasniemi**	**69.13**	**333**	*e*P	**P**	**02 08 37.5**	**-1.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
VRSR	**Storozhevoye**	**69.33**	**319**	*e*P	**P**	**02 08 39.6**	**-0.5**
VRSR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
FINES	**FINESS Array B**	**69.62**	**332**	P	**P**	**02 08 41.5**	**-0.4**
	comp=E,2.8nm,0.6s,mb4.3,baz=88,slow=7.4,SNR=17						
KLBR	**Kellerberrin**	**70.03**	**200**	*e*P	**P**	**02 08 44.1**	**-0.3**
	comp=E,15nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**71.07**	**311**	⇑*e*P	**P**	**02 08 51.8**	**+1.1**
KIV				pmax	pmax		
	comp=Z,33nm,2.0s,mb4.8						
KIV	**Kislovodsk**	**71.07**	**311**	*e*P	**P**	**02 08 52.1**	**+1.4**
	comp=Z,7.3nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**71.43**	**200**	*e*P	**P**	**02 08 53.1**	**+0.2**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**71.43**	**200**	*e*P	**P**	**02 08 53.1**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.7						
HAWA	**Hanford**	**71.54**	**46**	P	**P**	**02 08 53.9**	**+0.3**
	comp=Z,0.2nm,0.9s						
GNI	**Garni**	**71.74**	**307**	LR	LR	02 42 58.1	
	comp=Z,82nm,18.2s,baz=157,slow=38						
ANN	**Anapa**	**73.79**	**314**	*e*P	**P**	**02 09 04.8**	**-2.1**
ANN				pmax	pmax		
	comp=Z,102nm,1.4s,mb5.4						
MSO	**Missoula**	**74.50**	**43**	*e*P	**P**	**02 09 12.0**	**+1.0**
	comp=Z,1.3nm,0.8s,mb3.7						
MSO				*e*PcP	PcP	02 09 26.1	+0.9
AKASG	**Malin Array Be**	**74.81**	**322**	P	**P**	**02 09 12.4**	**-0.5**
	comp=Z,3.3nm,0.4s,mb4.4,baz=48,slow=6.0,SNR=30						
AKASG				LR	LR	02 45 17.5	
	comp=Z,46nm,19.9s,baz=90,slow=38						
AKASG	**Malin Array Be**	**74.81**	**322**	*i* P	**P**	**02 09 12.3**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AKBB	**Malin Array Si**	**74.81**	**322**	*e*P	**P**	**02 09 12.6**	**-0.2**
AKBB				*e*	pP	02 09 26.3	-4.9
NB2	**NORSAR Subarra**	**75.13**	**337**	P	**P**	**02 09 14.0**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.0,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**75.13**	**337**	P	**P**	**02 09 14.3**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.0,baz=41,slow=5.7,SNR=12						
NOA				LR	LR	02 44 17.8	
	comp=Z,37nm,21.3s,baz=10.0,slow=37						
HRY	**Holter Researc**	**75.74**	**42**	*e*P	**P**	**02 09 19.2**	**+1.0**
EGMT	**Eagleton**	**76.06**	**40**	*e*P	**P**	**02 09 20.7**	**+0.7**
	comp=Z,14nm,1.1s,mb4.6						
EGMT				*e*PcP	PcP	02 09 33.1	+1.1
EGMT				*e*pP	pP	02 09 37.8	-0.6
DLMT	**Dillon**	**76.12**	**44**	*e*P	**P**	**02 09 21.7**	**+1.4**
	comp=Z,20nm,1.0s,mb4.8						
DLMT				*e*pP	pP	02 09 38.8	0.0
BOZ	**Bozeman (W)**	**76.49**	**43**	*e*P	**P**	**02 09 23.7**	**+1.3**
BOZ				*e**PP	pP	02 09 40.6	-0.3
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
BOZ	**Bozeman (W)**	**76.49**	**43**	*e*P	**P**	**02 09 23.7**	**+1.3**
	comp=Z,5.1nm,0.9s,mb4.2						
BOZ				*e*pP	pP	02 09 40.6	-0.2
NVAR	**Mina Array Bea**	**76.71**	**52**	P	**P**	**02 09 24.4**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.7,baz=301,slow=6.0,SNR=7.1						
MALT	**Malatya**	**76.85**	**308**	⇓*i*P	**P**	**02 09 26.4**	**+2.0**
MALT	**Malatya**	**76.85**	**308**	⇓P	**P**	**02 09 26.4**	**+2.0**
KWP	**Kalwaria**	**78.70**	**324**	*e*P	**P**	**02 09 35.4**	**+0.7**
BURAR	**Bucovina Array**	**78.81**	**321**	⇑*i*P	**P**	**02 09 35.8**	**+0.5**
BURAR	**Bucovina Array**	**78.81**	**321**	⇑P	**P**	**02 09 35.8**	**+0.5**
DUG	**Dugway**	**79.11**	**48**	*e*P	**P**	**02 09 38.4**	**+1.4**

DUG				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
DUG	Dugway	79.11	48	eP	P	02 09 38.4	+1.5
	comp=Z,2.4nm,0.9s,mb4.0						
KOLS	Kolonicke sedl	79.39	324	eP	P	02 09 39.5	+1.0
PDAR	Pinedale Array	79.44	45	P	P	02 09 39.5	+0.7
	comp=Z,1.8nm,0.5s,mb4.1,baz=283,slow=1.3,SNR=27						
STHS	Stebnicka Huta	79.55	324	eP	P	02 09 38.7	-0.7
STHS				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
OJC	Ojcow	79.67	326	eP	P	02 09 40.3	+0.3
CRVS	Cervenica-Dubn	79.80	324	eP	P	02 09 41.1	+0.4
NIE	Niedzica	79.98	325	eP	P	02 09 42.5	+0.8
MORC	Moravsky Berou	81.01	326	⇓iP	P	02 09 47.5	+0.3
DPC	Dobruska-Polom	81.13	327	epP	pP	02 10 06.5	0.0
PSZ	Piszkesteto	81.23	324	⇓iP	P	02 09 49.6	+1.2
PSZ	Piszkesteto	81.23	324	⇓P	P	02 09 49.6	+1.2
VRAC	Vranov	81.77	327	⇑iP	P	02 09 52.8	+1.6
VRAC	Vranov	81.77	327	⇑P	P	02 09 52.8	+1.5
CLL	Collm	81.84	330	⇑iP	P	02 09 51.2	-0.4
	comp=Z,7.0nm,0.9s,mb4.5						
CLL				i pP	pP	02 10 09.5	-0.7
CLL				i pPcP	pP	02 10 14.2	+4.0
CLL				i (sP)	sP	02 10 20.1	+2.5
CLL	Collm	81.84	330	⇑iP	P	02 09 51.2	-0.4
CLL				i	pP	02 10 09.5	-0.7
CLL				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
PRU	Pruhonice	82.18	328	eP	P	02 09 53.9	+0.5
TREC	Trest	82.28	327	epP	pP	02 10 11.7	-0.8
VTS	Vitosha	83.22	318	⇓iP	P	02 10 00.1	+1.3
VTS	Vitosha	83.22	318	⇓P	P	02 10 00.1	+1.3
KHC	Kasperske Hory	83.23	328	eP	P	02 09 58.4	-0.4
KHC	Kasperske Hory	83.23	328	⇑eP	P	02 09 59.5	+0.7
GERES	GERESS Array B	83.40	328	P	P	02 09 59.0	-0.7
	comp=Z,0.7nm,0.4s,mb3.8,baz=37,slow=6.7,SNR=9.1						
GERES				LR	LR	02 50 55.6	
	comp=Z,71nm,18.2s,baz=255,slow=38						
GRA1	Grafenberg Arr	83.81	329	eP	P	02 10 02.3	+0.5
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	83.81	329	eP	P	02 10 02.3	+0.5
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	83.81	329	eP	P	02 10 02.3	+0.5
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	83.81	329	eP	P	02 10 02.3	+0.5
GRF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
EIL	Elat	84.29	302	eP	P	02 10 05.1	+0.8
	comp=Z,208nm,1.0s						
EIL				epP	pP	02 10 23.6	+0.7
PERS	Pernice	84.41	325	i P	P	02 10 05.0	+0.2
GOLS	Golise	84.64	325	i P	P	02 10 05.9	-0.1
LEGS	Legarje	84.83	325	i P	P	02 10 06.6	-0.4
LEGS				e	pP	02 10 24.7	-1.0
PPT	Papeete	84.93	116	eLR	LR	02 36 50.2	
	comp=Z,243nm,29.5s						
LJU	Ljubljana	85.12	325	eP	P	02 10 07.8	-0.6
BOJS	Bojanci	85.19	325	eP	P	02 10 08.6	-0.2
BOJS				e	pP	02 10 27.0	-0.5
TUC	Tucson	85.29	53	eP	P	02 10 11.2	+2.0
TUC				e*PP	pP	02 10 27.9	-0.1
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TUC	Tucson	85.29	53	eP	P	02 10 11.2	+1.9
	comp=Z,5.1nm,1.0s,mb4.4						
TUC				epP	pP	02 10 27.9	-0.1
JAVS	Javornik	85.45	325	eP	P	02 10 07.3	-2.7
BAIF	Baives	86.25	333	eP	P	02 10 13.7	-0.3
CDF	Champ du Feu	86.42	331	eP	P	02 10 14.6	-0.2
LOR	Lormes	88.69	332	eP	P	02 10 25.2	-0.5
LOR				eR			
	comp=Z,47nm,22.2s						
LOR	Lormes	88.69	332	eP	P	02 10 25.2	-0.5
LOR				LR	LR		
	comp=Z,50nm,22.3s						
LPL	La Plagne	88.97	329	eP	P	02 10 26.5	-0.5
LPG	La Plagne	88.97	329	eP	P	02 10 26.7	-0.4
	comp=Z,3.1nm,0.5s,mb4.3						
LPG	La Plagne	88.97	329	eP	P	02 10 26.7	-0.4
LPG				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
LPG	La Plagne	88.97	329	eP	P	02 10 26.7	-0.4
	comp=Z,1.5nm,0.5s,mb4.3						
FLN	La Foliniere	89.01	335	eP	P	02 10 27.1	-0.1
	comp=Z,11nm,0.9s,mb4.6						
FLN				eR			
	comp=Z,52nm,18.5s						
FLN	La Foliniere	89.01	335	eP	P	02 10 27.1	-0.1
FLN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
FLN				MLR	MLR		
	comp=Z,50nm,18.5s						
FLN	La Foliniere	89.01	335	eP	P	02 10 27.1	-0.1
	comp=Z,5.7nm,0.9s,mb4.6						
FLN				LR	LR		
	comp=Z,50nm,18.5s						
LDF	La Druitiere	89.03	335	eP	P	02 10 27.4	+0.1
	comp=Z,7.8nm,0.8s,mb4.5						
LDF	La Druitiere	89.03	335	eP	P	02 10 27.4	+0.1
LDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LDF	La Druitiere	89.03	335	eP	P	02 10 27.4	+0.1
	comp=Z,3.9nm,0.8s,mb4.5						
AVF	Avril sur Loir	89.28	332	eP	P	02 10 28.2	-0.3
	comp=Z,5.5nm,0.6s,mb4.4						
AVF	Avril sur Loir	89.28	332	eP	P	02 10 28.2	-0.3
AVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AVF	Avril sur Loir	89.28	332	eP	P	02 10 28.2	-0.3
	comp=Z,2.8nm,0.6s,mb4.5						
GRR	Gorron	89.46	335	eP	P	02 10 29.3	0.0
MBDF	Montbardon	89.59	329	eP	P	02 10 29.3	-0.6
ORIF	Oris-en-Rattie	89.81	329	eP	P	02 10 31.4	+0.4
	comp=Z,2.5nm,0.6s,mb4.2						
ORIF				eR			
	comp=Z,62nm,23.0s						
ORIF	Oris-en-Rattie	89.81	329	eP	P	02 10 31.4	+0.4
ORIF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
ORIF	Oris-en-Rattie	89.81	329	eP	P	02 10 31.4	+0.4
	comp=Z,1.3nm,0.6s,mb4.2						
TCF	Toulx Ste Croi	90.13	332	eP	P	02 10 32.2	-0.3
FRF	La Foret Royal	90.58	328	eP	P	02 10 33.9	-0.7
	comp=Z,4.7nm,0.8s,mb4.4						
FRF	La Foret Royal	90.58	328	eP	P	02 10 33.9	-0.7
FRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
FRF	La Foret Royal	90.58	328	eP	P	02 10 33.9	-0.7
	comp=Z,2.3nm,0.8s,mb4.4						
MFF	Saint Martin d	90.74	334	eP	P	02 10 35.1	-0.2
LMR	La Mourre	90.82	328	eP	P	02 10 35.1	-0.6
CAF	Calviac	91.33	332	eP	P	02 10 38.7	+0.7
LFF	La Frestale	91.83	332	eP	P	02 10 40.9	+0.6
	comp=Z,8.0nm,0.6s,mb4.8						
LFF	La Frestale	91.83	332	eP	P	02 10 40.9	+0.6
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
LFF	La Frestale	91.83	332	eP	P	02 10 40.9	+0.6
	comp=Z,4.0nm,0.6s,mb4.8						
EPF	Esparros	93.60	332	eP	P	02 10 48.3	-0.2
	comp=Z,2.7nm,0.7s,mb4.4						
EPF	Esparros	93.60	332	eP	P	02 10 48.3	-0.2
EPF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
EPF	Esparros	93.60	332	eP	P	02 10 48.3	-0.2
	comp=Z,1.4nm,0.7s,mb4.4						
ETSF	Etsaut	94.05	332	eP	P	02 10 51.3	+0.7
	comp=Z,1.9nm,0.6s,mb4.3						
ETSF	Etsaut	94.05	332	eP	P	02 10 51.3	+0.7
ETSF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.3						
ETSF	Etsaut	94.05	332	eP	P	02 10 51.3	+0.7
	comp=Z,0.9nm,0.6s,mb4.3						
RKT	Rikitea	99.18	112	eLR	LR	02 43 27.3	
	comp=Z,134nm,28.2s						
TORD	Torodi Ar. Bea	117.59	313	PKP	PKPdf	02 16 17.2	-0.8
	comp=Z,0.8nm,0.6s,baz=9.4,slow=1.8,SNR=23						
TORD	Torodi Ar. Bea	117.59	313	PKP	PKPdf	02 16 17.2	-0.8
QSPA	South Pole Qui	125.31	180	eP	PKPdf	02 16 31.7	-1.1
DBIC	Dimbokro	126.61	315	PKP	PKPdf	02 16 34.8	-0.6
	comp=Z,1.9nm,0.6s,baz=20,slow=4.8,SNR=5.2						
SAML	Samuel	146.02	44	ePKPdf	PKPdf	02 17 12.3	+1.3
LPAZ	La Paz	148.33	60	PKPbc	PKPbc	02 17 19.1	+0.8
	comp=Z,1.1nm,0.6s,baz=339,slow=2.7,SNR=7.2						

*ISCJB **07** 02:41:06.6±0.6,5964N±003×2450E±007,h0km,Error ellipse: s-maj=5.4km s-min=4.8km az=161.6*
*CSEM **07** 02:41:07.6±0.1,5957N×2442E,h1km,ML2.5,Error ellipse: s-maj=4.5km s-min=3.8km az=37.0,Mining explosion.*
*HEL **07** 02:41:09.2±0.1,5966N×2457E,h0km,ML2.6, ML2.5(NAO),Explosion*
*NAO **07** 02:41:09.5±1.0,5970N×2469E,ML2.5*
*BER **07** 02:41:10.5±4.6,5970N×2462E,h0km±19km,ML2.5(NAO)*
*IDC **07** 02:41:11.2±1.0,5982N×2459E,h0km,mb1 3.5/4, mb1mx3.3/19,mbtmp3.4/4,ML3.7/4,Error ellipse: s-maj=11.7km s-min=6.7km az=134.0*
ISC 07 02:41:08.2±0.5,**5966N**±003×**2459E**±007,**h0**km,**n28**, σ**0.94**/43,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.56	350	eP	Pg	02 41 19.2	+0.2
MEF				eS	Sg	02 41 26.4	0.0
PVF	Pernaja	1.09	35	eP	Pg	02 41 28.9	-0.3
PVF				eS	Sg	02 41 42.7	-0.6
VSU	Vasula	1.64	136	eP	Pn	02 41 37.9	-0.4
VSU				eS	Sn	02 41 59.8	-0.2
VSU	Vasula	1.64	136	Pn	Pn	02 41 39.5	+1.2
VSU				Lg		02 42 00.6	
FIA0	FINESS Array S	1.93	22	eP	Pn	02 41 43.8	+1.4
FIA0				eS	Sn	02 42 07.6	+0.3
FIA0				MSG		02 42 11.3	
	comp=Z,26nm,0.2s						
FIA0	FINESS Array S	1.93	22	Pn	Pn	02 41 43.9	+1.5
	baz=197,slow=16						
FIA0				Lg		02 42 07.9	
	baz=199,slow=28						
FIA0	FINESS Array S	1.93	22	P	Pn	02 41 43.7	+1.4
FINES	FINESS Array B	1.93	22	Pn	Pn	02 41 43.8	+1.5
	comp=Z,11nm,0.3s,baz=201,slow=16,SNR=500						
FINES				Lg		02 42 07.8	
	comp=Z,14nm,0.3s,baz=198,slow=27,SNR=18						
RAF	Rauma	1.96	315	eP	Pn	02 41 44.1	+1.4
RAF				eS	Sn	02 42 08.8	+0.9
RAF				MSG		02 42 12.5	
	comp=Z,39nm,0.2s						
RAF	Rauma	1.96	315	P	Pn	02 41 44.1	+1.4
RAF				S	Sn	02 42 08.8	+0.9
	comp=Z,39nm,0.2s						
KAF	Kangasniemi	2.60	18	MSG		02 42 29.9	
	comp=Z,38nm,0.3s						
HFS	Hagfors	5.50	280	eP	Pn	02 42 32.2	+0.8
HFS				eS	Sn	02 43 36.0	+0.6
HFS				eSG		02 43 57.4	
HFS	Hagfors	5.50	280	Pn	Pn	02 42 31.6	+0.2
	comp=Z,1.4nm,0.3s,baz=109,slow=13,SNR=53						
HFS				Sn	Sn	02 43 34.3	-1.1
	comp=Z,2.3nm,0.3s,baz=80,slow=25,SNR=12						
HFS				Lg		02 43 58.2	
	comp=Z,3.0nm,0.3s,baz=77,slow=33,SNR=8.3						
HFS	Hagfors	5.50	280	Pn	Pn	02 42 32.2	+0.8
	baz=89,slow=16						
HFS				Sn	Sn	02 43 36.0	+0.6
	baz=103,slow=28						
HFS				Lg		02 43 57.4	
	baz=69,slow=37						
HFS	Hagfors	5.50	280	P	Pn	02 42 32.2	+0.8
HFS				S	Sn	02 43 35.9	+0.5
NB2	NORSAR Subarra	6.78	287	Pn	Pn	02 42 48.5	-0.5
	baz=99,slow=14						
NB2				Sn	Sn	02 44 03.6	-3.2
	baz=98,slow=22						
NB2				Lg		02 44 39.2	
	baz=87,slow=28						
NB2	NORSAR Subarra	6.78	287	eP	Pn	02 42 48.5	-0.5
NB2				eS	Sn	02 44 03.6	-3.2
NB2				eSG		02 44 39.2	
NB2	NORSAR Subarra	6.78	287	P	Pn	02 42 48.4	-0.5
NB2				Sg		02 44 39.2	
NOA	NORSAR Array B	6.78	287	Pn	Pn	02 42 48.9	0.0
	comp=Z,1.1nm,0.3s,baz=90,slow=14,SNR=7.0						
NOA				Sn	Sn	02 44 04.3	-2.5
	comp=Z,1.4nm,0.3s,baz=98,slow=14,SNR=5.1						
NOA				Lg		02 44 39.2	
	comp=Z,2.1nm,0.3s,baz=70,slow=17,SNR=5.0						
BSD	Bornholm Skovb	6.93	233	i P	Pn	02 42 50.7	-0.4
BSD				i S	Sn	02 44 06.4	-4.2
BSD				e		02 44 33.2	
BSD	Bornholm Skovb	6.93	233	eP	Pn	02 42 50.7	-0.4
APA0	Apatity Array	8.80	21	Pn	Pn	02 43 17.2	+0.6
	baz=213,slow=14						
APA0	Apatity Array	8.80	21	eP	Pn	02 43 17.2	+0.6
APA0	Apatity Array	8.80	21	Pn	Pn	02 43 17.2	+0.6
	SNR=1.6						
AKASG	Malin Array Be	9.36	162	Pn	Pn	02 43 24.6	+0.2
	comp=Z,1.4nm,0.3s,baz=338,slow=12,SNR=6.0						
ARA0	ARCESS Array S	9.92	2	Pn	Pn	02 43 30.7	-1.3
	baz=174,slow=16						
ARA0				Sn	Sn	02 45 17.5	-6.6
	baz=178,slow=28						
ARA0	ARCESS Array S	9.92	2	eP	Pn	02 43 30.7	-1.3
ARA0				eS	Sn	02 45 17.5	-6.6
ARCES	ARCESS Array B	9.92	2	Pn	Pn	02 43 30.5	-1.6
	comp=Z,1.5nm,0.3s,baz=183,slow=9.3,SNR=59						

NEIC 07 03:01:13.1,6422N×14769W,h18km**,ML3.7**(AEIC), **ML3.9**(PMR)**,After AEIC.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
COLA	College	0.66	354	P	Pg	03 01 25.8	-0.2
COLA				S	Sg	03 01 36.9	+2.0
MCK	McKinley	0.74	229	P	Pb	03 01 27.1	-0.4
MCK				S	Sb	03 01 36.8	-0.4
TRF	Thorofare Moun	1.39	237	P	Pn	03 01 37.6	0.0
TRF				S	Sn	03 01 56.7	+1.2
KTH	Kantishna Hill	1.58	246	P	Pn	03 01 39.8	-0.4
KTH				S	Sn	03 02 00.7	+0.5
DOT	Dot Lake	1.70	108	P	Pn	03 01 41.7	-0.2
MENT	Mentasta	2.19	124	P	Pn	03 01 48.4	-0.3
GHO	Glory Hole Cre	2.52	193	P	Pn	03 01 54.0	+0.8
PMR	Palmer	2.72	195	eP	Pn	03 02 02.5	+6.6
EGAK	Eagle	2.88	76	ePn	Pn	03 01 58.8	+0.7
EGAK				ePg	Pg	03 02 05.5	-2.8
EGAK				eSn	Sn	03 02 32.1	-0.3
EGAK				eSg	Sg	03 02 41.6	-4.0
IMA2	Indian Mountai	3.14	309	eP	Pn	03 02 01.8	+0.1
COLD	Coldfoot	3.19	342	P	Pn	03 02 03.1	+0.7
DIV	Divide	3.23	163	P	Pn	03 02 05.9	+3.0
RC01	Rabbit Creek A	3.28	198	P	Pn	03 02 06.0	+2.4
BMRM	Bremner River	3.56	155	P	Pn	03 02 11.1	+3.5
DAWY	Dawson	3.64	89	P	Pn	03 02 09.6	+1.0
EYAK	Cordova Ski Ar	3.80	165	ePn	Pn	03 02 10.1	-0.6
EYAK				ePg	Pg	03 02 19.8	-6.0
EYAK				eSg	Sg	03 03 14.0	-1.0
SLKM	Skilak Lake	3.91	199	ePn	Pn	03 02 15.3	+3.0
SLKM				ePg	Pg	03 02 25.3	-2.7
SLKM				eSg	Sg	03 03 16.3	-2.3
TTA	Tatalina	3.94	255	ePn	Pn	03 02 11.3	-1.4
TTA				ePg	Pg	03 02 24.7	-3.9
TTA				eSg	Sg	03 03 11.3	-8.4
SEW	Seward	4.21	192	P	Pn	03 02 19.7	+3.2
SVW2	Sparrevohn	4.80	233	eP	Pn	03 02 31.9	+7.3
INK	Inuvik	7.03	48	ePn	Pn	03 02 55.8	+0.7

WEL 07 03:03:47.6±0.1**,3834S×17722E,h45**km±2km**,ML3.6**/6, **2C-1D,Error ellipse: s-maj=1.3km s-min=1.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.12	313	PN	Pn	03 03 54.5	-0.4
URZ				SN	Sn	03 03 59.7	-0.3
MWZ	Matawai	0.24	89	⇑PN	Pn	03 03 55.4	-0.3
EDRZ	Edgecumbe	0.44	301	⇓PN	Pn	03 03 58.0	+0.1
MARZ	Manawahe	0.56	309	PN	Pn	03 03 58.3	-0.9
TAZ	Tarawera	0.57	281	⇑PN	Pn	03 03 59.7	+0.2
MKRZ	Makatiti	0.62	288	PN	Pn	03 03 60.0	-0.2
PATZ	Paeroa	0.76	267	PN	Pn	03 04 01.7	-0.2
KNZ	Kokohu	0.77	152	PN	Pn	03 04 01.9	-0.2
WIZ	White Island	0.81	358	PN	Pn	03 04 01.6	-1.0
UTU	Utuhina	0.82	281	PN	Pn	03 04 02.9	+0.1
KARZ	Kaharoa	0.83	292	PN	Pn	03 04 02.5	-0.4
PUZ	Puketiti	0.86	72	PN	Pn	03 04 03.7	+0.3
TGRZ	Tauranga	0.97	309	PN	Pn	03 04 04.1	-0.8
BKZ	Black Stump Fm	1.00	214	PN	Pn	03 04 04.9	-0.4
HATZ	Hinemaiaia	1.04	238	PN	Pn	03 04 05.1	-0.6
HATZ				SN	Sn	03 04 18.3	-0.9
RATZ	Rangitukua	1.25	245	PN	Pn	03 04 08.6	0.0
KATZ	Kakaramea	1.35	242	PN	Pn	03 04 10.1	+0.1
KRVZ	Karewarewa	1.45	238	PN	Pn	03 04 11.2	-0.1
OTVZ	Oturere	1.47	235	PN	Pn	03 04 11.5	-0.1
TOZ	Tahuroa Road	1.49	294	PN	Pn	03 04 11.5	-0.4
WTVZ	West Tongariro	1.49	238	PN	Pn	03 04 11.8	-0.1
NGZ	Ngauruhoe	1.52	236	PN	Pn	03 04 12.1	-0.1
TUVZ	Tukino	1.53	232	PN	Pn	03 04 12.4	-0.1
MOVZ	Moawhango	1.56	227	PN	Pn	03 04 12.4	-0.5
WPVZ	Whakapapa	1.57	236	PN	Pn	03 04 13.0	0.0
WNVZ	Wahianoa	1.60	232	PN	Pn	03 04 13.3	-0.2
PXZ	Pawanui	1.71	189	PN	Pn	03 04 13.4	-1.6
MTVZ	Mangateitei	1.72	232	PN	Pn	03 04 14.7	-0.3
HIZ	Hauiti	1.86	264	PN	Pn	03 04 17.5	+0.5
BFZ	Birch Farm	2.46	198	PN	Pn	03 04 22.7	-2.4
MRZ	Mangatainoka R	2.64	208	ePN	Pn	03 04 25.3	-2.4
PKE	Pukeiti	2.67	250	ePN	Pn	03 04 29.7	+1.7

*LDG **07** 03:19:22.9±0.2,4465N×1039E,h10km,Ml2.6/21,Error ellipse: s-maj=4.8km s-min=2.7km az=113.0*
*ISCJB **07** 03:19:23.7±0.2,4466N±002×1021E±002,h33km,Error ellipse: s-maj=2.7km s-min=2.1km az=17.1*
*CSEM **07** 03:19:23.8±0.0,4457N×1042E,h40km,ML2.7/20,Error ellipse: s-maj=1.2km s-min=0.9km az=166.0*
*STR **07** 03:19:23.5±0.7,4335N×986E,h5km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **07** 03:19:24.1±0.1,4460N×1024E,h33km±2km,Md2.7/27, Ml2.2/13,Error ellipse: s-maj=3.7km s-min=3.4km az=44.0*
*GEN **07** 03:19:24.7,4457N×1028E,h28km,ML2.0*
*NEIC **07** 03:19:24.1,4460N×1024E,h33km,ML2.2(ROM), ML2.6(STR),ML2.6(LDG),After ROM.*
ISC 07 03:19:24.3±0.3,**4464N**±002×**1027E**±002,**h32**km±3km, **n103**,σ**1.02**/164,**7C-8D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERBM	Eremo	0.24	154	⇓iPg	Pb	03 19 31.1	-0.1
VALM		0.29	183	P	Pb	03 19 30.9	-0.9
GSCL	Gusciola	0.37	141	⇓iPg	Pb	03 19 32.4	-0.4
GSCL				Sg	Sb	03 19 38.9	+0.2
	40nm,0.3s						
BACM		0.38	201	P	Pb	03 19 32.2	-0.9
SARO	Sassorosso	0.46	168	P	Pb	03 19 33.1	-1.1
VLC	Villacollemand	0.48	170	⇓ePg	Pb	03 19 33.5	-1.0
VLC				Sg	Sb	03 19 41.7	+0.1
	146nm,0.8s						
VLC	Villacollemand	0.48	170	ePg	Pb	03 19 33.2	-1.4
VLC				eSg	Sb	03 19 41.4	-0.2
VINC	Vinca	0.50	189	P	Pb	03 19 33.7	-1.1
SC2M	Scurtabr	0.57	247	P	Pb	03 19 35.5	-0.5
ZCCA	Zocca	0.58	119	Pg	Pb	03 19 36.8	+0.7
	3.0nm,0.3s						
BOB	Bobbio (Coli)	0.60	283	⇓ePn	Pn	03 19 37.0	+0.5
	101nm,0.8s						
BDI	Bagni Di Lucca	0.62	157	Pg	Pb	03 19 35.9	-0.9
	140nm,0.3s						
RAVA	Ravarino	0.62	78	Pg	Pb	03 19 37.7	+0.9
RAVA				Sg	Sb	03 19 48.4	+3.2
SBPO	S.Benedetto Po	0.62	48	Pn	Pn	03 19 38.0	+1.1
PZZT	Monte Pizzetto	0.66	139	Pg	Pn	03 19 36.6	-0.8
PZZT				Sg	Sb	03 19 46.6	+0.3
	104nm,0.5s						
FNVD	Fontana Vidola	0.77	127	Pn	Pn	03 19 38.8	-0.1
	64nm,0.2s						
PII	Pisa	0.93	168	Pn	Pn	03 19 41.3	+0.2
	81nm,0.2s						
GENL	Genova Univers	0.95	257	P	Pn	03 19 40.7	-0.7
SEI	Scarperia	0.97	126	Pn	Pn	03 19 43.9	+2.2
	123nm,0.5s						
SALO	Salr	1.00	10	⇑ePn	Pn	03 19 42.6	+0.6
SALO				Sn	Sn	03 19 58.3	+3.3
	812nm,0.4s						
MAGA	Magasa	1.17	13	Pn	Pn	03 19 44.2	-0.2
	310nm,0.4s						
TEOL	Teolo	1.23	53	⇑iPg	Pn	03 19 44.7	-0.5
TEOL				i Sg	Sn	03 20 03.7	+3.0
PCP	Pian Castagno	1.23	266	P	Pn	03 19 45.4	+0.1
GROG	Isola di Gorgo	1.24	193	⇑ePn	Pn	03 19 44.9	-0.4
	20nm,0.3s						
SFI	Santa Sofia	1.35	122	Pn	Pn	03 19 48.4	+1.5
	7.0nm,0.4s						
CSNT	Castellina Chi	1.38	147	Pn	Pn	03 19 47.7	+0.5
	24nm,0.5s						
MABI	Malga Bissina	1.43	7	Pn	Pn	03 19 48.2	+0.2
	17nm,0.3s						
FIN	Finale Ligure	1.54	255	Pn	Pn	03 19 50.0	+0.6
	22nm,0.3s						
FIN	Finale Ligure	1.54	255	P	Pn	03 19 48.8	-0.6
FIN	Finale Ligure	1.54	255	Pn	Pn	03 19 50.0	+0.6
	22nm,0.3s						
MUGIO	Muggio	1.55	327	Pn	Pn	03 19 49.7	+0.1
CRE	Caprese Michel	1.58	129	Pn	Pn	03 19 51.5	+1.5
	7.0nm,0.2s						
RORO		1.66	252	P	Pn	03 19 50.7	-0.4
CTI	Castel Tesino	1.72	34	Pn	Pn	03 19 51.7	-0.2
	30nm,0.3s						
ROB	Roburent	1.75	260	P	Pn	03 19 52.4	+0.1
BRMO	Bormio	1.84	2	Pn	Pn	03 19 54.5	+0.9
	16nm,0.6s						
IMI	Imperia	1.85	248	Pn	Pn	03 19 54.2	+0.4
	12nm,0.2s						
MONE	Monesi	1.89	254	P	Pn	03 19 54.4	+0.2
ORX	Oropa	1.90	302	P	Pn	03 19 54.2	-0.2
TUE	Stuetta	1.95	341	Pn	Pn	03 19 56.1	+1.0
	26nm,0.4s						
APPI	Appiano	1.96	20	Pn	Pn	03 19 55.9	+0.6
NEGI	Negi	2.00	248	P	Pn	03 19 55.2	-0.6
SAOF	Saorge	2.05	253	Pg	Pn	03 19 57.4	+0.9
SAOF				Sg	Sn	03 20 22.3	+1.3
AUTN	L'Aution	2.14	254	Pg	Pn	03 19 58.9	+1.2
AUTN				Sg	Sn	03 20 24.6	+1.6
DAVOX	Davos	2.16	353	Pn	Pn	03 19 59.9	+1.9
SBF	Sospel	2.18	250	ePn	Pn	03 19 58.3	+0.1
SBF				eSn	Sn	03 20 24.5	+0.5
	15nm,0.2s						
SBF	Sospel	2.18	250	ePn	Pn	03 19 58.3	+0.1
SBF				eSn	Sn	03 20 24.5	+0.5
	7.6nm,0.2s						
LUCF	Luceram	2.23	252	Pg	Pn	03 19 59.7	+0.8
TOUF	Mont Tournerai	2.25	255	Pg	Pn	03 20 00.8	+1.5
PZZ	Prazzo	2.27	268	P	Pn	03 19 59.3	-0.1
MVIF	Mont Vial	2.36	253	Pg	Pn	03 20 01.8	+1.1
MBDF	Montbardon	2.50	273	ePn	Pn	03 20 03.1	+0.5
MBDF				eSn	Sn	03 20 32.4	+0.5
	3.0nm,0.3s						
MBDF	Montbardon	2.50	273	ePn	Pn	03 20 03.1	+0.5
MBDF				eSn	Sn	03 20 32.4	+0.5
	1.5nm,0.3s						
LPG	La Plagne	2.64	290	ePn	Pn	03 20 04.4	-0.1
LPG				eSn	Sn	03 20 35.9	+0.5
	4.5nm,0.4s						
LPG	La Plagne	2.64	290	ePn	Pn	03 20 04.4	-0.1
LPG				eSn	Sn	03 20 35.9	+0.5
	2.2nm,0.4s						
LPL	La Plagne	2.65	291	ePn	Pn	03 20 05.2	+0.4
LPL				eSn	Sn	03 20 36.3	+0.4
	3.3nm,0.3s						
LPL	La Plagne	2.65	291	ePn	Pn	03 20 05.2	+0.4
LPL				eSn	Sn	03 20 36.3	+0.4
	1.6nm,0.3s						
DAVA	Damuels	2.67	354	⇓iPn	Pn	03 20 06.8	+1.8
DAVA				⇓iSn	Sn	03 20 40.6	+4.4
SQTA	Sankt Quirin	2.67	14	⇓iPn	Pn	03 20 07.0	+2.0
SQTA				⇑iSn	Sn	03 20 41.2	+5.0
MOTA	Moosalm	2.77	12	⇑iPn	Pn	03 20 08.8	+2.4
MOTA				⇓iSn	Sn	03 20 43.0	+4.2
WTTA	Wattenberg	2.80	19	⇑iPn	Pn	03 20 09.1	+2.3
WTTA				⇑iSn	Sn	03 20 44.3	+5.0
WTTA	Wattenberg	2.80	19	Pn	Pn	03 20 09.1	+2.3
WTTA				Sn	Sn	03 20 44.3	+4.9
FRF	La Foret Royal	2.82	249	ePn	Pn	03 20 07.4	+0.3
FRF				eSn	Sn	03 20 39.9	0.0
	11nm,0.2s						
FRF	La Foret Royal	2.82	249	ePn	Pn	03 20 07.4	+0.3
FRF				eSn	Sn	03 20 39.9	0.0
	5.3nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VOJS	Vojsko	2.91	60	i Pn	Pn	03 20 07.4	-0.9
VOJS				i Sn	Sn	03 20 41.4	-0.7
JAVS	Javornik	2.96	64	ePn	Pn	03 20 07.7	-1.3
JAVS				eSn	Sn	03 20 42.2	-1.2
LMR	La Mourre	3.01	246	ePn	Pn	03 20 09.7	+0.1
LMR				eSn	Sn	03 20 44.2	-0.4
	16nm,0.4s						
LMR	La Mourre	3.01	246	ePn	Pn	03 20 09.7	+0.1
LMR				eSn	Sn	03 20 44.2	-0.4
	7.8nm,0.4s						
ORIF	Oris-en-Rattie	3.14	277	ePn	Pn	03 20 11.7	+0.3
ORIF				eSn	Sn	03 20 47.8	+0.1
	3.2nm,0.3s						
ORIF	Oris-en-Rattie	3.14	277	ePn	Pn	03 20 11.7	+0.3
ORIF				eSn	Sn	03 20 47.8	+0.1
	1.6nm,0.3s						
CEY	Cerknica	3.14	68	i Pn	Pn	03 20 10.5	-1.0
CEY				i Sn	Sn	03 20 46.6	-1.3
CEY							
	comp=Z,3.0nm,0.1s						
CEY	Cerknica	3.14	68	i Pn	Pn	03 20 10.5	-1.0
CEY				i Sn	Sn	03 20 46.6	-1.3
CEY	Cerknica	3.14	68	i Pn	Pn	03 20 10.5	-1.0
CEY				i Sn	Sn	03 20 46.6	-1.3
NVLJ	Novalja	3.29	90	i Pn	Pn	03 20 12.8	-0.7
NVLJ				i Sn	Sn	03 20 48.4	-3.2
NVLJ	Novalja	3.29	90	i Pn	Pn	03 20 12.8	-0.7
NVLJ				i Sn	Sn	03 20 48.3	-3.2
SMRF	Simiane la Rot	3.43	261	ePn	Pn	03 20 16.0	+0.5
SMRF				eSn	Sn	03 20 54.8	-0.2
	comp=Z,2.7nm,0.3s						
SMRF	Simiane la Rot	3.43	261	ePn	Pn	03 20 16.0	+0.5
SMRF				eSn	Sn	03 20 54.8	-0.2
	comp=Z,1.4nm,0.3s						
VISS	Visnje	3.44	69	i Pn	Pn	03 20 14.8	-0.8
VISS				eSn	Sn	03 20 52.6	-2.5
VISS							
	comp=Z,1.0nm,0.1s						
VISS	Visnje	3.44	69	i Pn	Pn	03 20 14.8	-0.7
VISS				eSn	Sn	03 20 52.7	-2.4
	comp=Z,1.0nm,0.1s						
CABF	La Chapelle	3.54	305	ePn	Pn	03 20 17.4	+0.5
CABF				eSn	Sn	03 20 57.5	-0.1
	comp=Z,0.9nm,0.2s						
CABF	La Chapelle	3.54	305	ePn	Pn	03 20 17.4	+0.5
CABF				eSn	Sn	03 20 57.5	-0.1
	comp=Z,0.4nm,0.2s						
BOJS	Bojanci	3.64	74	i Sn	Sn	03 20 57.4	-2.7
HINF	Hinteralfeld	3.97	325	ePn	Pn	03 20 22.8	0.0
HINF				eSn	Sn	03 21 06.8	-1.4
	comp=Z,4.1nm,0.2s						
HINF	Hinteralfeld	3.97	325	ePn	Pn	03 20 22.8	0.0
HINF				eSn	Sn	03 21 06.8	-1.4
	comp=Z,2.0nm,0.2s						
VIVF	Saint-Julien-l	3.99	275	ePn	Pn	03 20 23.5	+0.3
VIVF				eSn	Sn	03 21 08.2	-0.6
	comp=Z,1.2nm,0.2s						
VIVF	Saint-Julien-l	3.99	275	ePn	Pn	03 20 23.5	+0.3
VIVF				eSn	Sn	03 21 08.2	-0.6
	comp=Z,0.6nm,0.2s						
CDF	Champ du Feu	4.30	332	ePn	Pn	03 20 27.3	-0.2
CDF				eSn	Sn	03 21 15.7	-0.9
	comp=Z,1.9nm,0.2s						
CDF	Champ du Feu	4.30	332	ePn	Pn	03 20 27.3	-0.2
CDF				eSn	Sn	03 21 15.7	-0.9
	comp=Z,0.9nm,0.2s						
HAU	Haudompre	4.33	323	ePn	Pn	03 20 27.9	+0.1
HAU				eSn	Sn	03 21 15.8	-1.3
	comp=Z,16nm,0.4s						
HAU	Haudompre	4.33	323	ePn	Pn	03 20 27.9	+0.1
HAU				eSn	Sn	03 21 15.8	-1.3
	comp=Z,8.1nm,0.4s						
LASF	Ste Croix	4.63	265	ePn	Pn	03 20 31.9	-0.1
LASF				eSn	Sn	03 21 22.9	-1.7
	comp=Z,0.8nm,0.3s						
LASF	Ste Croix	4.63	265	ePn	Pn	03 20 31.9	-0.1
LASF				eSn	Sn	03 21 22.9	-1.7
	comp=Z,0.4nm,0.3s						
SMF	Signal de Mont	4.93	296	ePn	Pn	03 20 36.3	+0.2
SMF				eSn	Sn	03 21 30.7	-1.4
	comp=Z,1.9nm,0.3s						
SMF	Signal de Mont	4.93	296	ePn	Pn	03 20 36.3	+0.2
SMF				eSn	Sn	03 21 30.7	-1.4
	comp=Z,0.9nm,0.3s						
LOR	Lormes	5.19	303	ePn	Pn	03 20 39.8	+0.2
LOR				eSn	Sn	03 21 36.6	-1.7
	comp=Z,3.1nm,0.3s						
LOR	Lormes	5.19	303	ePn	Pn	03 20 39.8	+0.2
LOR				eSn	Sn	03 21 36.6	-1.7
	comp=Z,1.5nm,0.3s						
AVF	Avril sur Loir	5.30	296	ePn	Pn	03 20 41.0	-0.2
AVF				eSn	Sn	03 21 39.5	-1.6
	comp=Z,0.7nm,0.3s						
AVF	Avril sur Loir	5.30	296	ePn	Pn	03 20 41.0	-0.2
AVF				eSn	Sn	03 21 39.5	-1.6
	comp=Z,0.3nm,0.3s						
BGF	Bois d'Agland	5.55	293	ePn	Pn	03 20 44.4	-0.2
BGF				eSn	Sn	03 21 45.3	-2.0
	comp=Z,2.3nm,0.3s						
BGF	Bois d'Agland	5.55	293	ePn	Pn	03 20 44.4	-0.2
BGF				eSn	Sn	03 21 45.3	-2.0
	comp=Z,1.1nm,0.3s						
TCF	Toulx Ste Croi	5.90	289	ePn	Pn	03 20 49.3	-0.1
TCF				eSn	Sn	03 21 54.0	-2.0
	comp=Z,0.7nm,0.3s						
TCF	Toulx Ste Croi	5.90	289	ePn	Pn	03 20 49.3	-0.1
TCF				eSn	Sn	03 21 54.0	-2.0
	comp=Z,0.3nm,0.3s						
HYF	Humbligny	5.93	299	ePn	Pn	03 20 49.9	0.0

---

*ISCJB **07** 03:43:39.9±0.4, 5139N±002×16.10E±002, h0km, Error ellipse: s-maj=3.1km s-min=1.9km az=29.7*
*IPEC **07** 03:43:40.9±0.4, 5147N×16.19E, h2km±2km, ML2.5/3, Error ellipse: s-maj=2.7km s-min=1.3km az=22.0*
*NEIC **07** 03:43:40.5±0.4, 5153N×16.19E, h5km, ML3.0(SZGRF), Error ellipse: s-maj=4.8km s-min=4.4km az=77.0*
*BGR **07** 03:43:41.5±0.5, 5147N×16.10E, h1km, ML3.0, Error ellipse: s-maj=7.8km s-min=4.4km az=161.0*
*PRU **07** 03:43:42.6, 5141N×16.10E, h0km*
*WAR **07** 03:43:42.3, 5144N×16.12E, ML2.8, Mining Induced*
*IDC **07** 03:43:42.3±0.7, 5144N×1597E, h0km, mb1 3.3/7, mb1mx3.3/22, mbtmp3.2/7, ML3.0/7, Error ellipse: s-maj=13.4km s-min=6.3km az=105.0*
*VIE **07** 03:43:42.7±0.5, 5128N×1609E, h0km, mb2.5/4, ML2.9/5, Error ellipse: s-maj=2.9km s-min=1.9km az=13.0 67 km WNW of Breslau Suspected Mining induced.*
*CSEM **07** 03:43:42.8±0.1, 5139N×1609E, h1km, ML3.4/9, Error ellipse: s-maj=2.4km s-min=1.5km az=11.0*
ISC 07 03:43:40.6±0.3, **5147N**±002×**1612E**±002, **h0**km, **n72**, σ1§**01**/137, **3C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	i Pgd	Pg	03 43 53.5	
KSP				eSg	Sg	03 44 00.8	-0.1
KSP	Ksiaz	0.63	170	ePg	Pg	03 43 53.5	+0.8
KSP				eSg	Sg	03 44 00.8	-0.1
UPC	Upice	0.96	184	ePG	Pg	03 43 59.6	+0.6
UPC				eSG	Sg	03 44 13.8	+2.4
DPC	Dobruska-Polom	1.12	173	ePG	Pg	03 44 02.3	+0.2
DPC				eSG	Sg	03 44 16.9	+0.2
	71nm,0.4s						
PVCC	Panska Ves	1.36	227	ePG	Pg	03 44 07.1	+0.6
PVCC				eSG	Sg	03 44 26.4	+2.3
	250nm,0.4s						
PVCC	Panska Ves	1.36	227	ePn	Pn	03 44 06.9	+0.2
PVCC	Panska Ves	1.36	227	ePg	Pg	03 44 07.1	+0.6
PVCC				eSg	Sg	03 44 24.8	+0.7
BRG	Berggiesshubel	1.49	247	ePn	Pn	03 44 08.3	-0.3
BRG				eSg	Sg	03 44 29.7	+1.2
BRG	Berggiesshubel	1.49	247	PN	Pn	03 44 08.2	-0.4
BRG				PG	Pg	03 44 09.5	+0.3
BRG				SG	Sg	03 44 29.7	+1.2
	47nm,0.4s						
RUE	Ruedersdorf	1.77	306	ePn	Pn	03 44 10.4	-2.0
RUE				eSn	Sn	03 44 35.5	0.0
RUE	Ruedersdorf	1.77	306	ePn	Pn	03 44 10.4	-2.0
RUE				eSn	Sn	03 44 35.5	-0.1
PRU	Pruhonice	1.79	215	ePN	Pn	03 44 12.5	-0.1
PRU				ePG	Pg	03 44 14.5	-0.3
PRU				ex	x	03 44 31.4	
PRU				eSG	Sg	03 44 38.7	+0.8
	60nm,0.8s						
PRU	Pruhonice	1.79	215	ePn	Pn	03 44 12.4	-0.2
FBE	Freiberg	1.82	254	ePn	Pn	03 44 14.5	+1.3
FBE				eSg	Sg	03 44 38.4	-0.7
RAC	Raciborz	1.91	136	ePg	Pg	03 44 17.3	+0.1
RAC				eSg	Sg	03 44 41.5	-0.5
MORC	Moravsky Berou	1.92	151	ePn	Pn	03 44 14.2	-0.3
MORC				eSg	Sg	03 44 41.0	-1.2
MORC	Moravsky Berou	1.92	151	ePn	Pn	03 44 14.4	-0.1
MORC				eSg	Sg	03 44 41.0	-1.2
CLL	Collm	1.96	267	ePn	Pn	03 44 14.7	-0.3
CLL				i Pg	Pg	03 44 17.8	-0.3
CLL				eSg	Sg	03 44 44.8	+1.3
CLL	Collm	1.96	267	i Pn	Pn	03 44 14.8	-0.2
CLL				i Pg	Pg	03 44 17.8	-0.3
CLL				i x	x	03 44 19.7	
CLL				i x	x	03 44 22.3	
CLL				i x	x	03 44 32.8	
CLL				i Sg	Sg	03 44 44.6	+1.1
	comp=Z,32nm,0.6s						
CLL				i x	x	03 44 51.0	
CLL	Collm	1.96	267	i Pn	Pn	03 44 14.8	-0.2
CLL				i Pg	Pg	03 44 17.8	-0.3
CLL				i Sg	Sg	03 44 44.6	+1.1
OKC	Ostrava-Krasne	2.08	141	ePG	Pg	03 44 19.4	-1.0
OKC				eSG	Sg	03 44 46.1	-1.3
	comp=Z,42nm,0.4s						
VRAC	Vranov	2.18	172	Pn	Pn	03 44 19.3	+1.2
	comp=Z,1.8nm,0.3s,baz=336,slow=14,SNR=15						
VRAC				Lg		03 44 51.0	
	comp=Z,11nm,0.3s,baz=94,slow=19,SNR=11						
VRAC	Vranov	2.18	172	ePn	Pn	03 44 18.8	+0.7
VRAC				eSg	Sg	03 44 48.1	-2.5
	comp=Z,24nm,0.3s						
TREC	Trest	2.21	191	ePG	Pg	03 44 22.3	-0.6
TREC				eSG	Sg	03 44 49.9	-1.7
	comp=Z,55nm,1.0s						
TREC	Trest	2.21	191	ePn	Pn	03 44 19.1	+0.6
TREC	Trest	2.21	191	ePg	Pg	03 44 22.3	-0.6
TREC				eSg	Sg	03 44 49.9	-1.7
	comp=Z,55nm,1.0s						
KRUC	Moravsky	2.41	176	ePg	Pg	03 44 25.2	-1.6
KRUC				eSg	Sg	03 44 57.3	-0.8
	comp=Z,14nm,0.4s						
TANN	Tannenbergstha	2.54	247	ePn	Pn	03 44 23.7	+0.7
TANN				eSg	Sg	03 45 01.4	-0.8
WERD	Werda	2.62	249	ePn	Pn	03 44 24.4	+0.3
WERD				eSg	Sg	03 45 03.5	-1.1
NKC	Novy Kostel	2.63	243	ePN	Pn	03 44 24.8	+0.5
NKC				ePG	Pg	03 44 31.3	+0.3
NKC				eSN	Sn	03 44 56.6	-0.3
NKC				eSG	Sg	03 45 06.2	+1.0
	comp=Z,47nm,0.4s						
NKC	Novy Kostel	2.63	243	ePn	Pn	03 44 24.7	+0.4
GUNZ	Gunzen	2.64	247	ePn	Pn	03 44 24.9	+0.6
GUNZ				eSg	Sg	03 45 04.5	-0.8
OJC	Ojcow	2.65	117	ePn	Pn	03 44 23.5	-1.0
OJC				ePg	Pg	03 44 32.2	+0.9
OJC				eSg	Sg	03 45 06.5	+0.9
WERN	Wernitzgruen	2.65	245	ePn	Pn	03 44 25.1	+0.6
WERN				eSg	Sg	03 45 05.4	-0.2
KHC	Kasperske Hory	2.85	216	ePN	Pn	03 44 28.0	+0.8
KHC				ePG	Pg	03 44 34.0	-1.1
KHC				eSN	Sn	03 45 00.3	-1.9
KHC				eSG	Sg	03 45 10.5	-1.6
	comp=Z,57nm,1.4s						
KHC	Kasperske Hory	2.85	216	ePn	Pn	03 44 27.8	+0.6
MANZ	Manzenberg	2.95	241	ePn	Pn	03 44 29.3	+0.7
MOX	Moxa	2.96	256	ePn	Pn	03 44 29.1	+0.4
MOX				ePg	Pg	03 44 37.4	+0.2
MOX				eSg	Sg	03 45 14.7	-0.9
MOX	Moxa	2.96	256	ePN	Pn	03 44 29.8	+1.1
MOX				ePG	Pg	03 44 37.4	+0.2
MOX				eSG	Sg	03 45 17.0	+1.4
ROTZ	Rotzenmuhle	3.02	237	ePn	Pn	03 44 30.4	+0.9
ROTZ				eSg	Sg	03 45 16.9	-0.6
GEC2	GERESS Array S	3.05	212	ePn	Pn	03 44 31.3	+1.3
GEC2				eSg	Sg	03 45 18.6	+0.1
GEC2	GERESS Array S	3.05	212	ePn	Pn	03 44 31.3	+1.3
GEC2				eSg	Sg	03 45 18.6	+0.1
GERES	GERESS Array B	3.05	212	Pn	Pn	03 44 31.3	+1.3
	comp=Z,1.1nm,0.3s,baz=33,slow=13,SNR=11						
GERES				Pg	Pg	03 44 36.9	-2.1
	comp=Z,5.1nm,0.3s,baz=30,slow=17,SNR=42						
GERES				Sn	Sn	03 45 06.6	-0.6
	comp=Z,3.3nm,0.3s,baz=20,slow=29,SNR=5.9						
GERES				Lg		03 45 15.9	
	comp=Z,5.9nm,0.3s,baz=33,slow=27,SNR=8.4						
GERES	GERESS Array B	3.05	212	Pg	Pg	03 44 36.9	-2.1
SMOL	Smolenice	3.07	164	ePG	Pg	03 44 39.7	+0.2
SMOL				eSG	Sg	03 45 20.2	+0.9
SMOL	Smolenice	3.07	164	ePg	Pg	03 44 39.7	+0.2
SMOL				eSg	Sg	03 45 20.3	+1.0
WET	Wettzell	3.12	223	ePn	Pn	03 44 31.4	+0.5
WET	Wettzell	3.12	223	ePn	Pn	03 44 31.4	+0.5
ZST	Bratislava	3.33	169	eSG	Sg	03 45 27.2	-0.5
NIE	Niedzica	3.37	126	ePg	Pg	03 44 40.7	-4.5
NIE				eSg	Sg	03 45 25.8	-3.2
CONA	Conrad Observa	3.54	183	⇓iPn	Pn	03 44 37.0	+0.2
CONA				⇑iSg	Sg	03 45 34.1	-0.4
	comp=Z,14nm,0.3s						
GRA1	Grafenberg Arr	3.59	242	ePn	Pn	03 44 38.3	+0.9
GRA1				eSg	Sg	03 45 35.1	-0.8
GRF	Grafenberg Arr	3.59	242	ePn	Pn	03 44 38.3	+0.9
GRF				eSg	Sg	03 45 35.1	-0.8
BSD	Bornholm Skovb	3.73	349	i P	Pn	03 44 38.2	-1.1
BSD				i		03 44 44.6	
BSD				i S	Sn	03 45 19.7	-4.2
BSD				i		03 45 22.6	
MOA	Molln	3.81	199	⇑iPn	Pn	03 44 41.0	+0.5
	SNR=6.0						
MOA				⇑iSg	Sg	03 45 42.7	-0.3
	comp=Z,18nm,0.6s						
MOA	Molln	3.81	199	Pn	Pn	03 44 41.0	+0.5
MOA				i Sg	Sg	03 45 42.8	-0.3
STHS	Stebnicka Huta	3.87	120	ePN	Pn	03 44 42.9	+1.7
STHS				ePG	Pg	03 44 55.0	+0.4
STHS				eSG	Sg	03 45 49.7	+5.0
STHS	Stebnicka Huta	3.87	120	ePn	Pn	03 44 43.0	+1.8
STHS				ePg	Pg	03 44 55.0	+0.4
STHS				eSg	Sg	03 45 49.7	+5.0
KECS	Kecovo	4.11	135	ePG	Pg	03 44 59.8	+0.6
KECS				e		03 45 50.5	
ARSA	Arzberg	4.24	185	⇓iPn	Pn	03 44 46.2	-0.2
ARSA				⇓iSg	Sg	03 45 56.6	-0.1
	comp=Z,21nm,0.5s						
CRVS	Cervenica-Dubn	4.29	125	ePG	Pg	03 45 03.3	+0.6
CRVS				eSG	Sg	03 46 01.3	+3.0
KWP	Kalwaria	4.58	111	ePg	Pg	03 45 06.5	-1.9
KWP	Kalwaria	4.58	111	ePg	Pg	03 45 06.5	-1.9
KOLS	Kolonicke sedl	4.70	120	ePN	Pn	03 44 53.1	+0.5
KOLS				ePG	Pg	03 45 11.8	+1.2
PDKS	Podkum	5.46	188	i Pn	Pn	03 45 05.0	+1.9
VISS	Visnje	5.73	189	i Pn	Pn	03 45 08.0	+1.1
BOJS	Bojanci	5.99	186	ePn	Pn	03 45 11.7	+1.2
AKASG	Malin Array Be	8.29	90	Pn	Pn	03 45 41.6	-0.4
	comp=Z,0.6nm,0.3s,baz=277,slow=13,SNR=5.4						
HFS	Hagfors	8.79	352	Pn	Pn	03 45 48.4	-0.5
	comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=8.3						
NOA	NORSAR Array B	9.97	346	Pn	Pn	03 46 03.6	-1.5
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=2.7						
FINES	FINESS Array B	11.40	25	Pn	Pn	03 46 22.6	-2.1
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=9.3						
FINES				Sn	Sn	03 48 26.3	-6.4
	comp=Z,0.1nm,0.3s,baz=204,slow=20,SNR=5.1						
ARCES	ARCESS Array B	18.67	10	Pn	Pn	03 47 56.1	-4.2
	comp=Z,0.2nm,0.3s,baz=195,slow=12,SNR=9.4						

---

*NIED **07** 03:45:00, 3530N×14120E, h32km, Mw4.1 Best double couple: $M_0$1.76000×10^{15} NP1:φs326.00000°, δ80.00000°, λ137.00000°. NP2:φs65.00000°, δ48.00000°, λ13.00000°.*
*IDC **07** 03:45:39.8±1.8, 35.13N×14097E, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.7/22, mbtmp3.9/7, ML3.6/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/27, Error ellipse: s-maj=43.6km s-min=18.3km az=79.0*
*ISCJB **07** 03:45:42.0±0.9, 3525N±004×14122E±009, h42km±8km, mb4.0/6, MS2.9/1, Error ellipse: s-maj=12.5km s-min=6.1km az=172.2*
*JMA **07** 03:45:42.5±0.1, 3532N×141.18E, h33km±2km, M3.6*
*NEIC **07** 03:45:45.7±10.0, 3509N×14090E, h48km±54km, mb4.2/3, Error ellipse: s-maj=208.9km s-min=17.6km az=68.0*
ISC 07 03:45:42.9±0.9, **3526N**±003×**14117E**±008, **h29**km±5km, **n22**, σ1§**03**/28, **mb4.0**/6, **MS2.9**/1, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.51	331	P	Pb	03 45 52.3	-1.1
CHOJ				S	Sb	03 45 59.0	-1.6
BSO2	Boso 2	0.61	214	S	Sb	03 46 05.4	+2.2
BSO1	Boso 1	0.62	195	P	Pb	03 45 55.4	+0.2
BSO3	Boso 3	0.70	230	P	Pb	03 45 56.8	+0.2
KTR	Katsuura	0.71	262	P	Pb	03 45 56.3	-0.3
KTR				S	Sb	03 46 06.2	+0.2
BSO4	Boso 4	0.73	249	P	Pb	03 45 57.1	+0.1
JCN	Nagara	0.81	282	P	Pn	03 45 58.2	-0.1
JYT	Yasato	1.25	321	P	Pn	03 46 04.3	-0.1
JYT				S	Sn	03 46 19.9	-0.4
JHO	Hitachi	1.44	340	P	Pn	03 46 06.9	-0.1
JIM2	Oshima 3	1.52	250	P	Pn	03 46 07.0	-1.1
JHJ	Hachijo jima 2	2.42	209	Pn	Pn	03 46 17.1	-3.4
	10nm,0.3s,baz=70,slow=18,SNR=3.8						
JHJ				Pg	Pn	03 46 24.2	+3.8
	31nm,0.3s,baz=78,slow=11,SNR=16						
JHJ				Sn	Sn	03 46 47.2	-1.9
	62nm,0.3s,baz=94,slow=23,SNR=8.1						
MJAR	Matsushiro Arr	2.72	299	Pn	Pn	03 46 25.2	+0.6
	5.5nm,0.3s,baz=94,slow=14,SNR=25						
MAJO	Matsushiro	2.73	299	ePn	Pn	03 46 26.2	+1.5
MAT	Matsushiro	2.73	299	P	Pn	03 46 26.3	+1.6
MAT				eS	Sn	03 46 56.6	-0.1
CBIJ	Chichi jima	8.18	174	Pn	Pn	03 47 39.0	-0.6
	5.8nm,0.3s,baz=270,slow=15,SNR=3.1						
ASAJ	Asahikawa	8.92	7	Pn	Pn	03 47 51.9	+2.2
	0.9nm,0.3s,baz=192,slow=19,SNR=5.5						
ASAJ				LR	LR	03 51 43.0	
	comp=Z,118nm,18.4s,baz=170,slow=40						
SONM	Songino Array	28.65	307	P	P	03 51 36.4	-0.5
	0.2nm,0.4s,mb3.2,baz=352,slow=40,SNR=3.1						
SONM				LR	LR	04 04 04.3	
	comp=Z,28nm,20.2s,MS2.9,baz=41,slow=39						
MKAR	Makanchi Array	44.92	304	P	P	03 53 55.7	+0.7
	0.6nm,0.6s,mb3.6,baz=87,slow=8.6,SNR=6.2						
CHKZ	Chkalovo	51.39	314	eP	P	03 54 45.2	+0.2
	1.0nm,0.6s,mb3.9						
ZRNK	Zerenda	52.47	313	eP	P	03 54 53.3	+0.3
	2.1nm,0.8s,mb4.1						
WRAB	Tennant Creek	55.26	188	eP	P	03 55 11.8	-1.7
	5.6nm,0.7s,mb4.7						
WRA	Warramunga Arr	55.27	188	P	P	03 55 13.9	+0.4
	2.9nm,0.8s,mb4.4,baz=4.4,slow=7.5,SNR=11						

---

*ISCJB **07** 04:06:56.7±2.1, 3176S±005×1786W±02, h21km±16km, mb4.6/13, Error ellipse: s-maj=23.3km s-min=6.4km az=22.1*
*IDC **07** 04:07:03.0±2.6, 3130S×17832W, h72km±23km, mb4.4/3, mb1 4.4/5, mb1mx4.1/11, mbtmp4.6/5, MS3.5/3, Ms1 3.5/3, ms1mx3.1/18, Error ellipse: s-maj=30.4km s-min=18.9km az=121.0*
*NEIC **07** 04:07:03.0±1.4, 3133S×17841W, h75km±12km, mb4.6/8, Error ellipse: s-maj=17.4km s-min=12.2km az=116.0*
*BJI **07** 04:07:02.9, 3130S×17840W, h75km, mB5.5, mb5.1, Ms4.9, Msz4.6*
ISC 07 04:06:58.2±2.2, **3170S**±005×**1785W**±02, **h22**km±16km, **n64**, σ1§**27**/49, **mb4.6**/13, **2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.49	12	P	Pn	04 07 36.4	-1.0
	188nm,0.3s,baz=89,slow=19,SNR=6.7						
RAO				S	Sn	04 08 00.9	-6.2
	426nm,0.3s,baz=100,slow=22,SNR=7.4						
RAO	Raoul Island	2.49	12	ePn	Pn	04 07 36.4	-1.0
RAO				eSn	Sn	04 07 55.5	-12
MXZ	Matakaoa Point	6.41	203	ePN	Pn	04 08 32.8	+1.5
PUZ	Puketiti	6.89	202	PN	Pn	04 08 39.2	+1.4
PUZ				SN	Sn	04 09 54.3	-1.2
WCZ	Waipu Caves	7.29	233	PN	Pn	04 08 53.0	+10
MWZ	Matawai	7.37	205	PN	Pn	04 08 45.4	+0.9
OUZ	Omahuta	7.46	240	PN	Pn	04 08 54.5	+8.9
URZ	Urewera	7.46	207	P	Pn	04 08 47.3	+1.6
	3.9nm,0.3s,baz=284,slow=4.1,SNR=11						
URZ				S	Sn	04 10 15.4	+5.7
	12nm,0.3s,baz=250,slow=21,SNR=14						
URZ	Urewera	7.46	207	PN	Pn	04 08 47.2	+1.5
URZ				SN	Sn	04 10 11.8	+2.1
KNZ	Kokohu	7.94	202	PN	Pn	04 08 52.9	+0.7
KNZ				SN	Sn	04 10 21.5	+0.1
PXZ	Pawanui	9.12	203	SN	Sn	04 10 50.4	0.0
BFZ	Birch Farm	9.91	204	PN	Pn	04 09 18.6	-0.7
BFZ				SN	Sn	04 11 06.5	-3.3
TIWZ	Tintock	10.12	205	SN	Sn	04 11 14.1	-0.9
MRZ	Mangatainoka R	10.13	206	ePN	Pn	04 09 19.3	-3.1
KIW	Kapiti Island	10.57	208	PN	Pn	04 09 26.3	-1.9
MSWZ	Moikau Station	10.91	206	SN	Sx	04 11 31.0	
MRW	Makara Radio	10.96	208	SN	Sx	04 11 33.0	
TCW	Tory Channel	11.12	209	SN	Sx	04 11 36.5	
NNZ	Nelson	11.52	212	SN	Sx	04 11 46.1	
QRZ	Quartz Range	11.62	216	SN	Sx	04 11 51.2	
THZ	Tophouse	12.17	212	ePN	Pn	04 09 47.9	-2.2
KHZ	Kahutara	12.43	208	PN	Pn	04 09 50.4	-3.4
KHZ				SN	Sn	04 12 06.0	-5.5
MQZ	McQueen's Vall	13.87	208	SN	Sx	04 12 37.8	
RPZ	Rata Peaks	14.54	211	P	Pn	04 10 28.6	+6.0
	0.9nm,0.3s,baz=324,slow=1.1,SNR=4.1						
DZM	Mont Dzumac	16.46	302	LR	LR	04 14 58.1	
	comp=Z,105nm,20.9s,baz=299,slow=29						
RAR	Rarotonga	19.74	63	LR	LR	04 16 47.3	
	comp=Z,126nm,20.8s,baz=291,slow=30						
PPT	Papeete	29.73	69	eLR	LR	04 20 28.8	
	106nm,29.5s						
CTA	Charters Tower	33.59	282	eP	P	04 13 39.3	+2.7
	9.8nm,0.6s,mb4.9						
CTA	Charters Tower	33.59	282	P	P	04 13 38.2	+1.6
	18nm,0.7s,mb5.1,baz=110,slow=10,SNR=6.7						
CTAO	Charters Tower	33.59	282	eP	P	04 13 38.1	+1.5
	13nm,0.6s,mb5.0						
STKA	Stephens Creek	33.77	259	P	P	04 13 40.5	+2.3
	11nm,1.0s,mb4.7,baz=97,slow=16,SNR=4.3						
STKA				LR	LR	04 25 20.2	
	comp=Z,138nm,21.8s,baz=28,slow=32						
STKA	Stephens Creek	33.77	259	P	P	04 13 40.5	+2.3
STKA				LR	LR	04 25 20.2	
RKT	Rikitea	39.39	89	eLR	LR	04 25 03.1	
	80nm,25.5s						
AS31	Alice Springs	42.61	269	eP	P	04 14 53.2	+0.6
ASPA	Alice Springs	42.61	269	eP	P	04 14 53.2	+0.5
WB2	Warramunga Arr	43.70	274	eP	P	04 15 01.5	0.0
WRAB	Tennant Creek	43.71	274	eP	P	04 15 01.7	+0.2
	53nm,0.5s,mb5.5						
WRA	Warramunga Arr	43.71	274	P	P	04 15 01.7	+0.1
	49nm,0.5s,mb5.5,baz=111,slow=8.1,SNR=107						
VNDA	Vanda	46.77	186	eP	P	04 15 29.7	+3.9
	0.5nm,0.6s,mb3.6						
KAKA	Kakadu	48.73	281	eP	P	04 15 39.8	-1.2
	4.8nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	51.92	271	eP	P	04 16 04.8	-0.4
	7.3nm,0.9s,mb4.6						
CASY	Casey	53.79	208	eP	P	04 16 18.7	-0.3
	3.4nm,0.7s,mb4.4						
MBWA	Marble Bar	55.65	265	eP	P	04 16 31.1	-1.3
	3.9nm,0.9s,mb4.4						
QSPA	South Pole Qui	58.42	180	eP	P	04 16 54.6	+2.5
	5.0nm,0.8s,mb4.6						
MAW	Mawson	70.94	201	P	P	04 18 14.7	+0.9
	1.2nm,0.4s,mb4.2,baz=144,slow=7.7,SNR=9.8						
SYO	Syowa Base	75.76	193	⇓eP	P	04 18 41.5	-0.7
SYO	Syowa Base	75.76	193	⇓ePcP	PcP	04 18 53.2	-1.6
SNAA	Sanae	76.88	179	eP	P	04 18 53.3	+4.8
	1.9nm,0.6s,mb4.2						
CN2	Changchun	90.90	323	eP	P	04 19 58.6	-1.5
KMI	Kunming	94.00	297	P	P	04 20 15.5	+1.0
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.9						
HHC	Hu-ho-hao-te	96.81	314	eP	P	04 20 26.1	-1.2
HHC				AP	pP	04 20 52.2	+18
HHC				PP	PP	04 24 24.1	+1.8
HHC				SKS		04 30 52.7	
HHC				S	S	04 31 35.9	-12
HHC				SS	SS	04 38 16.3	-6.9

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,83nm,4.0s						
HHC				LR	LR		
	comp=N,66nm,4.2s						
HHC				LR	LR		
	comp=E,72nm,4.3s						
HHC				LR	LR		
	comp=Z,79nm,5.5s						
LZH	Lanzhou	99.13	307	eP	P	04 20 38.1	+0.4
LZH				PP	PP	04 24 43.4	+3.3
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
WMQ	Urumqi	113.67	308	ePKP	PKiKP	04 25 31.5	-3.3
MKAR	Makanchi Array	118.25	310	PKiKP	PKiKP	04 25 40.6	-3.1
	comp=Z,0.4nm,0.4s,baz=289,slow=0.7,SNR=7.6						
ZRNK	Zerenda	127.83	315	ePKPdf	PKPdf	04 25 58.5	-3.5
ARCES	ARCESS Array B	139.75	347	PKhKP		04 26 13.8	
	comp=Z,2.9nm,1.0s,baz=5.7,slow=3.7,SNR=3.9						
ARCES				PKP	PKPdf	04 26 20.5	-3.8
	comp=Z,2.0nm,0.7s,baz=72,slow=4.0,SNR=3.8						
ARCES	ARCESS Array B	139.75	347	PKP		04 26 13.8	
ARCES				PKP	PKPdf	04 26 20.5	-3.8
JOF	Joensuu	143.44	338	epkp	PKPdf	04 26 23.7	-7.2
KAF	Kangasniemi	145.61	340	epkp	PKPdf	04 26 30.2	-4.5
FINES	FINESS Array B	146.19	339	PKPbc	PKPbc	04 26 32.5	-4.2
	comp=Z,5.7nm,0.6s,baz=54,slow=4.5,SNR=40						
NB2	NORSAR Subarra	149.96	351	PKPa	PKPdf	04 26 43.4	+1.5
	comp=Z,1.5nm,0.6s,baz=15,slow=4.3						
NOA	NORSAR Array B	149.96	351	PKPbc	PKPbc	04 26 43.6	-3.1
	comp=Z,1.3nm,0.5s,baz=15,slow=4.1,SNR=6.6						
AKASG	Malin Array Be	152.03	321	PKPbc	PKPbc	04 26 47.6	-4.0
	comp=Z,0.6nm,0.4s,baz=48,slow=3.1,SNR=6.7						
TORD	Torodi Ar. Bea	161.54	181	PKP	PKPdf	04 26 58.3	+1.1
	comp=Z,0.7nm,0.8s,baz=177,slow=0.6,SNR=7.3						
TORD				PKPab	PKPab	04 27 42.2	+0.3
	comp=Z,2.2nm,0.7s,baz=183,slow=2.5,SNR=19						

IDC 07 04:53:36.4±2.2, 050N×9881E, h0^{km}, mb3.9/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=101.8km s-min=23.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.30	122	P	P	05 01 17.2	+1.8
	1.5nm,0.8s,baz=302,slow=9.0,SNR=4.7						
SONM	Songino Array	47.60	7	P	P	05 02 14.2	+0.1
	0.6nm,0.5s,baz=182,slow=8.8,SNR=2.7						
MKAR	Makanchi Array	48.32	345	P	P	05 02 19.0	-0.6
	2.1nm,0.5s,baz=156,slow=8.4,SNR=24						
STKA	Stephens Creek	51.70	133	P	P	05 02 43.9	-1.3
	1.0nm,0.4s,baz=306,slow=8.7,SNR=4.4						
FINES	FINESS Array B	81.36	332	P	P	05 05 55.8	+0.9
	1.2nm,0.8s,baz=116,slow=6.3,SNR=3.3						

*IGIL **07** 05:10:05.6, 3658N×754W, h2^{km}, ML1.7*
*INMG **07** 05:10:08.2±1.4, 3669N×758W, h18^{km}±6^{km}, ML1.6, Error ellipse: s-maj=7.5km s-min=5.3km az=107.0*
MDD 07 05:10:08.1±1.4, 3664N×753W, h29^{km}±29^{km}, mbLg1.9/9, 2D, Error ellipse: s-maj=16.1km s-min=6.8km az=10.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ERIP	Rio Piedras	0.77	17	⇓P	Pb	05 10 22.0	-0.9
	9.7nm,0.1s,SNR=18						
ERIP				S	Sb	05 10 31.8	-1.1
	43nm,0.1s,SNR=7.9						
EGRO	El Granado	0.89	3	⇓P	Pn	05 10 23.7	-0.9
	4.4nm,0.1s,SNR=18						
EGRO				S	Sb	05 10 34.8	-1.7
	7.7nm,0.1s,SNR=8.1						
MORF	Marmelete	1.12	307	eP	Pn	05 10 26.1	-1.5
MORF				eS	Sn	05 10 41.2	-0.9
MORF				eS	Sn	05 10 41.2	-0.8
MORF				AML	AML	05 10 49.0	
	comp=N,13nm,0.3s						
MORF	Marmelete	1.12	307	eP	Pn	05 10 26.1	-1.6
MORF				eS	Sn	05 10 41.2	-0.8
PTEO	Sao Teotonio	1.31	314	eP	Pn	05 10 29.3	-1.1
PTEO				eS	Sn	05 10 45.4	-1.5
PTEO							
	comp=N,2.0nm,0.1s						
EMIN	Mina Concepcio	1.32	31	P	Pn	05 10 29.4	-1.1
	comp=N,0.1nm,0.0s,SNR=9.1						
EMIN				S	Sn	05 10 44.6	-2.4
	comp=N,0.9nm,0.0s,SNR=6.8						
ESPR	Espera	1.37	80	P	Pn	05 10 29.6	-1.5
	comp=N,0.4nm,0.1s,SNR=7.9						
ESPR				S	Sn	05 10 47.3	-0.9
	comp=N,22nm,0.2s,SNR=7.9						
PBEJ	Beja	1.41	349	eP	Pn	05 10 30.8	-0.9
PBEJ				eS	Sn	05 10 47.3	-2.0
PBEJ							
	comp=N,2.4nm,0.1s						
EBAD	Badajoz	2.15	11	P	Pn	05 10 40.7	-1.2
	comp=N,0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	05 11 06.4	-1.2
	comp=N,0.7nm,0.3s,SNR=5.7						
PESTR	Estremoz	2.23	359	ePn	Pn	05 10 41.9	-1.0
PESTR				eSn	Sn	05 11 07.5	-1.9
PESTR							
	comp=N,1.9nm,0.1s						
EADA	Adamuz	2.81	56	P	Pn	05 10 50.5	-0.4
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	05 11 20.6	-3.1
	comp=N,1.5nm,0.9s,SNR=6.4						
PTOM	Tomar	3.05	347	ePn	Pn	05 10 53.7	-0.6
PTOM				eSn	Sn	05 11 27.2	-2.7
PTOM							
	comp=N,3.0nm,0.1s						
PCBR	Castelo Branco	3.20	1	eSn	Sn	05 11 30.5	-2.9
PCBR							
	comp=N,1.9nm,0.1s						
PCBR	Castelo Branco	3.20	1	S	Sn	05 11 30.5	-2.9
	comp=N,0.9nm,0.1s						
PVIS	Viseu	4.08	356	eSn	Sn	05 11 51.8	-3.4
PCAB	Cabril	5.08	356	ePn	Pn	05 11 21.0	-1.2
PBRG	Braganca	5.20	7	eSn	Sn	05 12 17.9	-4.8
PBRG							
	comp=N,0.9nm,0.1s						
PBRG	Braganca	5.20	7	S	Sn	05 12 17.9	-4.8
	comp=N,0.4nm,0.1s						

*NEIC **07** 05:33:09.3, 29.13S×69.77W, h135^{km}, MG3.6(GUC), After GUC.*
GUC 07 05:33:09.3±0.8, 2913S×6977W, h135^{km}±17^{km}, ML3.6, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.02	302	eP	Pn	05 33 33.5	+0.7
VACH				i S	Sn	05 33 51.0	+0.3
VACH				AML	AML	05 33 53.2	
	comp=E,3μm,0.1s						
VACH	Vallenar	1.02	302	eP	Pn	05 33 33.5	+0.7
VACH				i S	Sn	05 33 51.0	+0.3
TLL	Tololo Astrono	1.37	221	eP	Pn	05 33 37.1	+0.8
TLL				i S	Sn	05 33 58.4	+1.5
TLL				AML	AML	05 34 02.5	
	comp=E,276nm,0.2s						
TLL	Tololo Astrono	1.37	221	eP	Pn	05 33 37.1	+0.8
TLL				i S	Sn	05 33 58.4	+1.5
LSCH	La Serena	1.50	238	⇑iP	Pn	05 33 37.8	+0.1
LSCH				i S	Sn	05 33 59.6	+0.3
CDCH	Caldera	2.25	335	eP	Pn	05 33 45.0	-1.6
CDCH				i S	Sn	05 34 11.3	-3.9
CMCH	Combarbala	2.30	207	⇓iP	Pn	05 33 47.6	+0.4
CMCH				i S	Sn	05 34 17.4	+1.2
CMCH				AML	AML	05 34 21.4	
	comp=E,462nm,0.6s						
CMCH	Combarbala	2.30	207	⇓iP	Pn	05 33 47.6	+0.4
CMCH				i S	Sn	05 34 17.4	+1.2

*ISCJB **07** 05:34:23.0±0.6, 5967N±004×2446E±008, h0^{km}, Error ellipse: s-maj=5.9km s-min=5.1km az=150.2*
*NAO **07** 05:34:25.4±1.0, 5970N×2463E, ML2.6*
*CSEM **07** 05:34:25.4±0.3, 5966N×2457E, h2^{km}, ML2.4, Error ellipse: s-maj=7.8km s-min=5.5km az=23.0, Mining explosion.*
*HEL **07** 05:34:25.9±0.2, 5969N×2455E, h0^{km}, ML2.4, ML2.6(NAO), Explosion*
*BER **07** 05:34:26.5±3.4, 5970N×2459E, h0^{km}±14^{km}, ML2.6(NAO)*
*IDC **07** 05:34:27.6±1.1, 5982N×2453E, h0^{km}, mb1 3.4/3, mb1mx3.2/19, mbtmp3.4/3, ML3.8/3, Error ellipse: s-maj=11.2km s-min=6.4km az=142.0*
ISC 07 05:34:24.7±0.6, 5969N±003×2458E±008, h0^{km}, n24, σ0^{s}98/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.54	350	eP	Pg	05 34 35.6	+0.5
MEF				eS	Sg	05 34 42.6	+0.5
MEF	Metsahovi	0.54	350	P	Pg	05 34 35.5	+0.4
PVF	Pernaja	1.07	36	eP	Pg	05 34 45.0	-0.3
PVF				eS	Sg	05 34 58.1	-1.2
VSU	Vasula	1.66	137	eP	Pn	05 34 55.5	+0.5
VSU				eS	Sn	05 35 17.5	+0.5
VSU	Vasula	1.66	137	Pn	Pn	05 34 55.5	+0.5
VSU				Lg		05 35 16.9	
FIA0	FINESS Array S	1.91	22	eP	Pn	05 35 00.1	+1.5
FIA0				eS	Sn	05 35 23.8	+0.5
FIA0				MSG		05 35 27.7	
	comp=Z,22nm,0.2s						
FIA0	FINESS Array S	1.91	22	Pn	Pn	05 35 00.1	+1.5
	baz=200,slow=16						
FIA0				Lg		05 35 24.2	
	baz=211,slow=28						
FIA0	FINESS Array S	1.91	22	P	Pn	05 35 00.0	+1.5
FIA0				S	Sn	05 35 23.7	+0.4
	comp=Z,22nm,0.2s						
FINES	FINESS Array B	1.91	22	Pg	Pg	05 35 00.1	-1.3
	comp=Z,14nm,0.3s,baz=202,slow=16,SNR=496						
FINES				Lg		05 35 24.4	
	comp=Z,17nm,0.3s,baz=203,slow=29,SNR=11						
RAF	Rauma	1.94	315	eP	Pn	05 35 00.3	+1.5
RAF				eS	Sn	05 35 25.1	+1.2
RAF				MSG		05 35 29.7	
	comp=Z,28nm,0.2s						
RAF	Rauma	1.94	315	P	Pn	05 35 00.3	+1.4
RAF				S	Sn	05 35 25.1	+1.2
	comp=Z,28nm,0.2s						
KAF	Kangasniemi	2.58	18	MSG		05 35 46.2	
	comp=Z,25nm,0.3s						
HFS	Hagfors	5.50	279	eP	Pn	05 35 48.0	+0.2
HFS				eS	Sn	05 36 49.9	-1.8
HFS				eSG		05 37 13.9	
HFS	Hagfors	5.50	279	Pn	Pn	05 35 48.2	+0.4
	comp=Z,1.8nm,0.3s,baz=91,slow=12,SNR=48						
HFS				Sn	Sn	05 36 51.3	-0.4
	comp=Z,1.7nm,0.3s,baz=86,slow=26,SNR=9.1						
HFS				Lg		05 37 15.0	
	comp=Z,2.5nm,0.3s,baz=91,slow=36,SNR=6.1						
HFS	Hagfors	5.50	279	Pn	Pn	05 35 48.0	+0.2
	baz=95,slow=14						
HFS				Sn	Sn	05 36 49.9	-1.8
	baz=95,slow=28						
HFS				Lg		05 37 13.9	
	baz=96,slow=37						
HFS	Hagfors	5.50	279	P	Pn	05 35 48.0	+0.2
HFS				Sn	Sn	05 36 49.9	-1.8
	SNR=7.9						
HFS				Sg		05 37 13.9	
NB2	NORSAR Subarra	6.77	287	Pn	Pn	05 36 04.6	-0.7
	baz=100,slow=14						
NB2				Sn	Sn	05 37 19.2	-3.9
	baz=98,slow=22						
NB2				Lg		05 37 55.7	
	baz=93,slow=37						
NB2	NORSAR Subarra	6.77	287	eP	Pn	05 36 04.6	-0.7
NB2				eS	Sn	05 37 19.2	-3.9
NB2				eSG		05 37 55.7	
NOA	NORSAR Array B	6.77	287	Pn	Pn	05 36 04.8	-0.5
	comp=Z,1.4nm,0.3s,baz=90,slow=13,SNR=6.3						
NOA				Sn	Sn	05 37 19.3	-3.7
	comp=Z,1.3nm,0.3s,baz=84,slow=14,SNR=4.7						
NOA				Lg		05 37 58.0	
	comp=Z,2.0nm,0.3s,baz=124,slow=14,SNR=5.9						
APA0	Apatity Array	8.78	22	Pn	Pn	05 36 33.3	+0.5
	baz=225,slow=11						
APA0	Apatity Array	8.78	22	eP	Pn	05 36 33.3	+0.5
AKASG	Malin Array Be	9.38	162	Pn	Pn	05 36 40.5	-0.7
	comp=Z,1.6nm,0.3s,baz=339,slow=13,SNR=4.4						
ARA0	ARCESS Array S	9.90	2	Pn	Pn	05 36 46.9	-1.3
	baz=175,slow=12						
ARA0				Sn	Sn	05 38 32.6	-7.5
	baz=183,slow=28						
ARA0	ARCESS Array S	9.90	2	eP	Pn	05 36 46.9	-1.3
ARA0				eS	Sn	05 38 32.6	-7.5

*NEIC **07** 06:09:25.7, 1635N×9484W, h65^{km}, MD4.0(MEX), After MEX.*
MEX 07 06:09:27.4±1.4, 1636N×9489W, h45^{km}±34^{km}, MD4.0, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.73	0	i P	Pn	06 09 39.3	-2.1
CMIG				i S	Sn	06 09 50.0	-1.4
CMIG	Matias Romero	0.73	0	⇓iP	Pn	06 09 39.3	-2.0
CMIG				i S	Sn	06 09 50.0	-1.4
HUIG	Huatulco	1.31	244	i P	Pn	06 09 46.7	-2.6
HUIG				i S	Sn	06 10 04.6	-0.9
HUIG	Huatulco	1.31	244	⇑iP	Pn	06 09 46.7	-2.5
HUIG				i S	Sn	06 10 04.3	-1.2
OXX	Oaxaca	1.90	293	i P	Pn	06 09 56.5	-0.8
OXX				i S	Sn	06 10 19.0	-1.0
VHO	Vista Hermosa	1.91	292	i P	Pn	06 09 56.5	-0.9
VHO				i S	Sn	06 10 18.3	-1.8
SCX	San Cristobal	2.19	80	eP	Pn	06 10 00.5	-0.9
SCX				i S	Sn	06 10 29.5	+2.2
SCX	San Cristobal	2.19	80	eP	Pn	06 10 00.5	-0.9
SCX				i S	Sn	06 10 31.5	+4.2
CCIG	Comitan	2.64	91	i P	Pn	06 10 07.2	-0.3
CCIG				i S	Sn	06 10 36.9	-1.4
UTMO	Huajuapan	3.15	298	i P	Pn	06 10 13.4	-1.0
UTMO				i S	Sn	06 10 48.2	-2.6
TEIG	Tepich	7.37	57	eP	Pn	06 11 06.5	-5.8
TEIG				i S	Sn	06 12 25.4	-9.2
TEIG	Tepich	7.37	57	i P	Pn	06 11 06.4	-6.0
TEIG				i S	Sn	06 12 24.3	-10

*NIED **07** 06:29:00, 2220N×14360E, h250^{km}, Mw4.9 Best double couple: $M_0$2.36000×10^{16} NP1:ϕ_s341.00000°, δ72.00000°, λ112.00000°. NP2:ϕ_s110.00000°, δ28.00000°, λ42.00000°.*
*ISCJB **07** 06:29:12.3±0.6, 2186N±003×14294E±004, h260^{km}±5^{km}, mb4.6/104, Error ellipse: s-maj=6.0km s-min=5.2km az=2.7*
*IDC **07** 06:29:15.1±1.1, 2194N×14302E, h273^{km}±10^{km}, mb4.3/19, mb1 4.3/23, mb1mx4.3/28, mbtmp4.9/23, Error ellipse: s-maj=12.8km s-min=7.5km az=87.0*
*MOS **07** 06:29:15.6±0.9, 2194N×14294E, h289^{km}, mb4.7/30, Error ellipse: s-maj=10.9km s-min=6.4km az=110.4*
*JMA **07** 06:29:15.8±0.2, 2224N×14360E, h284^{km}, M4.8*
*BJI **07** 06:29:15.4, 22.14N×142.80E, h272^{km}, mB4.6, mb4.5*
*NEIC **07** 06:29:16.8±1.2, 2188N×14290E, h292^{km}±11^{km}, mb4.5/46, Error ellipse: s-maj=7.0km s-min=6.0km az=81.0*
ISC 07 06:29:14.2±0.6, 2191N±003×14297E±004, h263^{km}±5^{km}, n223, σ1^{s}08/241, mb4.6/103, 10C-8D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	4.75	351	P	Pn	06 30 28.1	+0.7
JHHJ				S	S	06 31 23.7	-2.1
CBIJ	Chichi jima	5.21	352	P	Pn	06 30 33.2	+0.4
	142nm,0.3s,baz=225,slow=5.0,SNR=54						
CBIJ				S	S	06 31 34.8	-1.1
	91nm,0.3s,baz=100,slow=24,SNR=12						
CBIJ	Chichi jima	5.21	352	P	Pn	06 30 33.0	+0.1
CBIJ				eS	S	06 31 34.4	-1.4
GUMO	Guam	8.47	167	P	Pn	06 31 16.5	+3.2
	6.2nm,0.3s,baz=232,slow=5.5,SNR=4.8						
GUMO	Guam	8.47	167	P	Pn	06 31 16.5	+3.2
BSO1	Boso 1	12.82	353	P	Pn	06 32 07.5	+0.1
BSO1				eS	S	06 34 33.3	+3.5
BSO3	Boso 3	13.03	351	P	Pn	06 32 09.0	-0.9
BSO3				eS	S	06 34 36.0	+1.5
BSO4	Boso 4	13.23	351	P	Pn	06 32 12.1	-0.4
BSO4				eS	S	06 34 35.2	-4.1
JIE	Ise	13.60	337	P	Pn	06 32 18.2	+1.2
JIE				eS	S	06 34 48.7	+1.2
JOD2	Odawara 2	13.73	347	P	Pn	06 32 18.5	0.0
JOD2				eS	S	06 34 42.5	-8.0
JNY	Yasuok	14.13	343	P	Pn	06 32 24.1	+0.8
JTO	Tosashimizu	14.15	323	P	Pn	06 32 28.0	+4.4
JOW	Kunigami	14.25	293	P	Pn	06 32 27.5	+2.6
	2.2nm,0.3s,baz=133,slow=19,SNR=5.8						
JHU	Hanno	14.26	348	P	Pn	06 32 24.1	-0.8
JHU				eS	S	06 34 53.4	-9.0
JRY	Ryogami san	14.50	347	P	Pn	06 32 27.7	-0.1
JRY				S	S	06 35 04.6	-3.1
JAG	Ashikaga	14.78	349	P	Pn	06 32 30.3	-0.9
JAG				eS	S	06 35 08.4	-5.7
JHO	Hitachi	14.80	352	P	Pn	06 32 31.5	+0.1
JHO				eS	S	06 35 07.3	-7.0
MJAR	Matsushiro Arr	15.16	345	P	Pn	06 32 36.9	+1.3
	3.2nm,0.3s,baz=5.0,slow=33,SNR=11						
MJAR				S	S	06 35 12.7	-8.9
	0.6nm,0.3s,baz=152,slow=9.7,SNR=4.6						
MAJO	Matsushiro	15.16	345	eP	Pn	06 32 32.6	-3.1
MAT	Matsushiro	15.16	345	P	Pn	06 32 36.4	+0.7
MAT				S	S	06 35 18.0	-3.6
MAT	Matsushiro	15.16	345	P	Pn	06 32 35.9	+0.2
MAT				eS	S	06 35 16.2	-5.4
JHS	Saijyo	15.64	329	P	Pn	06 32 43.2	+1.8
JMK	Ichinoseki	17.05	355	P	P	06 32 55.0	-0.6
JMK				eS	S	06 36 02.6	+2.9
YHNB	Yeheng	20.02	282	eP	P	06 33 25.6	-1.9
KS15	Wonju Array Si	20.24	323	eP	P	06 33 29.6	-0.1
INCN	Inchon	20.98	321	eP	P	06 33 35.6	-1.9
	22nm,0.5s						
SSE	Sheshan	21.50	300	P	P	06 33 40.5	-1.9
SSE				AMB	AMB		
	comp=Z,58nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,80nm,4.4s						
TGY	Tagaytay City	22.32	253	P	P	06 33 52.0	+2.1
	comp=Z,120nm,0.4s,baz=319,slow=22,SNR=6.0						
NJ2	Nanjing	23.70	300	eP	P	06 34 02.9	+0.5
NJ2				SCP	ScP	06 40 54.3	+2.8
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,290nm,5.7s						
NJ2				LR	LR		
	comp=N,260nm,19.8s						
NJ2				LR	LR		
	comp=E,240nm,17.9s						
NJ2				LR	LR		
	comp=Z,210nm,16.9s						
DL2	Dalian	24.91	318	P	P	06 34 15.8	+2.4
DL2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.0						
MDJ	Mudanjiang	25.19	337	P	P	06 34 15.4	-0.5
MDJ				S	S	06 38 20.8	-0.3
MDJ				SCS	ScS	06 44 47.2	+2.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,41nm,5.6s						
MDJ				LR	LR		
	comp=N,31nm,19.7s						
MDJ				LR	LR		
	comp=E,29nm,18.3s						
MDJ				LR	LR		
	comp=Z,35nm,19.7s						
SNY	Shenyang	25.69	325	⇓P	P	06 34 20.3	-0.1
SNY				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
CN2	Changchun	26.22	330	eP	P	06 34 25.0	-0.1
CN2				PCP	PcP	06 37 45.0	+0.7
CN2				eS	S	06 38 39.3	+1.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
HABR	Khabarovsk	27.25	348	eP	P	06 34 30.4	-3.9
HABR				eS	S	06 38 55.1	+1.5
KLR	Kul'dur	28.68	345	eP	P	06 34 43.8	-3.2
KLR				e		06 35 43.7	
KLR				e		06 37 46.9	
BJT	Baijiatuau	29.05	315	eP	P	06 34 49.5	-0.7
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	Baijiatuau	29.05	315	eP	P	06 34 49.5	-0.7
	comp=Z,6.7nm,0.6s,mb4.2						
KKM	Kota Kinabalu	30.29	243	eP	P	06 34 59.8	-1.3
QIZ	Qiongzhong	31.13	271	P	P	06 35 08.2	-0.3
XAN	Xi'an	32.26	299	P	P	06 35 17.8	-0.5
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.4						
HHC	Hu-ho-hao-te	32.54	313	eP	P	06 35 20.6	-0.1
HHC				PP	PP	06 36 38.7	-1.6
HHC				PCP	PcP	06 38 01.5	+0.9
HHC				S	S	06 40 18.7	+2.6
HHC				SCP	ScP	06 41 22.9	+3.9
HHC				PCS	PcS	06 41 46.1	+0.1
HHC				SS	SS	06 42 34.7	-10
HHC				SCS	ScS	06 45 21.1	+2.0
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,82nm,5.9s						
HHC				LR	LR		
	comp=N,94nm,4.7s						
HHC				LR	LR		
	comp=E,136nm,5.9s						
HHC				LR	LR		
	comp=Z,88nm,6.1s						
GYA	Guiyang	33.35	285	⇑iP	P	06 35 28.5	+0.8
GYA				S	S	06 40 27.6	-1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,70nm,3.4s						
CD2	Chengdu	36.09	293	eP	P	06 35 49.0	-2.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
LZH	Lanzhou	36.76	301	eP	P	06 35 58.0	+1.2
LZH				PP	PP	06 37 30.7	+4.1
LZH				eS	S	06 41 24.5	+3.9
LZH				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.6						
LZH				AMB	AMB		
	comp=Z,148nm,5.1s						
KMI	Kunming	36.93	283	P	P	06 35 57.6	-0.6
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.0						
ULN	Ulaanbaatar	38.67	321	eP	P	06 36 12.6	-0.1
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	38.67	321	eP	P	06 36 12.6	-0.1
	comp=Z,8.1nm,0.8s,mb4.2						
SONM	Songino Array	39.05	320	P	P	06 36 16.6	+0.8
	comp=Z,8.5nm,0.6s,mb4.4,baz=123,slow=6.9,SNR=77						
SONM				PcP	PcP	06 38 20.4	+0.4
	comp=Z,2.6nm,0.7s,baz=118,slow=2.6,SNR=5.1						
SONM				ScP	ScP	06 41 41.8	-1.1
	comp=Z,1.4nm,0.9s,baz=134,slow=2.4,SNR=5.1						
SONM	Songino Array	39.05	320	P	P	06 36 16.6	+0.8
SONM						06 38 20.4	
GTA	Gaotai	40.59	305	⇑P	P	06 36 29.5	+1.1
GTA				PP	PP	06 38 11.2	+3.3
GTA				PCP	PcP	06 38 25.9	+0.9
GTA				PPP		06 38 49.6	
GTA				SCP	ScP	06 41 53.3	+4.4
GTA				PCS	PcS	06 42 13.4	-2.7
GTA				S	S	06 42 25.2	+7.5
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,36nm,6.8s						
GTA				LR	LR		
	comp=N,187nm,19.8s						
GTA				LR	LR		
	comp=E,232nm,19.8s						
GTA				LR	LR		
	comp=Z,70nm,19.0s						

YAK Yakutsk 41.13 351⇓ *eP* **P 06 36 32.1 -0.7**
YAK pmax pmax
comp=Z,35nm,1.2s,mb4.5
CHTO Chiang Mai 41.28 274 *eP* **P 06 36 33.4 -0.7**
CHTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.0
CHTO Chiang Mai 41.28 274 *eP* **P 06 36 33.4 -0.6**
comp=Z,9.0nm,0.9s,mb4.0
SEY Seymchan 41.50 6⇑ *eP* **P 06 36 36.1 +0.3**
CTA Charters Tower 41.86 175 P **P 06 36 38.9 +0.2**
comp=Z,3.7nm,0.7s,mb3.7,baz=324,slow=9.1,SNR=6.8
CTA Charters Tower 41.86 175 P **P 06 36 38.9 +0.2**
CTAO Charters Tower 41.86 175 *eP* **P 06 36 37.8 -0.9**
CTAO pmax pmax
comp=Z,4.0nm,0.7s,mb3.8
CTAO Charters Tower 41.86 175 *eP* **P 06 36 37.8 -0.9**
comp=Z,4.1nm,0.7s,mb3.8
ZAK Zakamensk 42.05 322⇑ *iP* **P 06 36 41.1 +0.8**
ZAK pmax pmax
comp=Z,14nm,0.9s,mb4.2
WRAB Tennant Creek 42.43 192 *ceP* **P 06 36 43.3 0.0**
WRAB Tennant Creek 42.43 192 *eP* **P 06 36 41.7 -1.6**
comp=Z,16nm,0.6s,mb4.4
WB2 Warramunga Arr 42.44 192⇑ *iP* **P 06 36 43.6 +0.2**
WRA Warramunga Arr 42.44 192 P **P 06 36 43.7 +0.3**
comp=Z,8.7nm,0.6s,mb4.2,baz=13,slow=8.6,SNR=47
WRA PcP PcP 06 38 31.7 +0.6
comp=Z,4.4nm,0.7s,baz=4.0,slow=3.4,SNR=9.7
WRA ScP ScP 06 41 57.2 +0.9
comp=Z,1.5nm,0.8s,baz=8.5,slow=4.2,SNR=6.1
WRA S **S 06 42 42.6 -2.2**
comp=Z,1.4nm,0.8s,baz=12,slow=15,SNR=6.2
WRA Warramunga Arr 42.44 192 P **P 06 36 43.7 +0.3**
WRA 06 38 31.7
WRA S **S 06 42 42.6 -2.2**
TLY Talaya 42.47 324 *eP* **P 06 36 44.6 +1.0**
TLY *e* 06 38 24.4
TLY *eS* **S 06 42 36.7 -8.6**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.2
TLY Talaya 42.47 324 *eP* **P 06 36 43.0 -0.7**
comp=Z,6.2nm,0.7s,mb4.0
FITZ Fitzroy Crossi 43.23 204⇑ *iP* **P 06 36 50.1 +0.4**
comp=Z,14nm,0.5s,mb4.4
FITZ Fitzroy Crossi 43.23 204 P **P 06 36 50.2 +0.6**
comp=Z,11nm,0.7s,mb4.2,baz=26,slow=10,SNR=52
AS31 Alice Springs 46.15 192 *eP* **P 06 37 12.0 -0.6**
LSA Lhasa 46.97 291 P **P 06 37 21.1 +2.1**
LSA Lhasa 46.97 291 *eP* **P 06 37 21.2 +2.2**
LSA pmax pmax
comp=Z,32nm,0.6s,mb4.8
LSA Lhasa 46.97 291 *eP* **P 06 37 21.2 +2.2**
comp=Z,32nm,0.6s,mb4.8
BILL Bilibino 48.35 11 *eP* **P 06 37 29.1 -0.5**
BILL *eS* **S 06 44 10.8 +1.6**
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.0
BILL MLR MLR
comp=Z,100nm,15.0s
MBWA Marble Bar 48.44 209 *eP* **P 06 37 29.5 -0.8**
comp=Z,15nm,0.8s,mb4.4
KRAR Krasnoyarsk 50.09 326⇑ *eP* **P 06 37 42.4 -0.3**
WMQ Urumqi 50.29 309⇓ *iP* **P 06 37 45.4 +1.3**
WMQ S **S 06 44 40.0 +4.0**
WMQ AMB AMB
comp=Z,27nm,0.9s,mb4.6
WMQ AMB AMB
comp=Z,152nm,4.4s
TIXI Tiksi 50.42 354 *i* P **P 06 37 46.6 +1.5**
JIRN Jiri 51.49 289 *eP* **P 06 37 54.8 +1.7**
comp=Z,144nm,0.6s,mb5.5
GUN Gumba 51.74 289 *eP* **P 06 37 56.4 +1.5**
comp=Z,60nm,0.6s,mb5.1
PKI Pulchoki 52.19 289 *eP* **P 06 37 59.1 +0.9**
comp=Z,49nm,0.6s,mb5.0
KKN Kakani 52.28 289 *eP* **P 06 37 59.9 +1.1**
DMN Daman 52.45 289 *eP* **P 06 38 01.2 +1.1**
comp=Z,56nm,0.7s,mb5.0
GKN Gorkha 52.81 289 *eP* **P 06 38 03.8 +1.0**
comp=Z,119nm,0.7s,mb5.3
STKA Stephens Creek 53.50 181 P **P 06 38 07.6 -0.1**
comp=Z,6.0nm,0.6s,mb4.1,baz=341,slow=7.2,SNR=15
STKA Stephens Creek 53.50 181 *eP* **P 06 38 07.7 0.0**
comp=Z,4.6nm,0.6s,mb4.0
STKA *eP* 06 38 08.0
KOLN Koldanda 53.76 289 *eP* **P 06 38 10.7 +1.1**
FORT Forrest 54.31 196 *eP* **P 06 38 13.5 0.0**
comp=Z,26nm,0.6s,mb4.7
MK31 Makanchi Array 54.41 313 P **P 06 38 14.7 +0.4**
MK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
MKAR Makanchi Array 54.41 313 P **P 06 38 14.9 +0.6**
comp=Z,8.3nm,0.7s,mb4.2,baz=86,slow=9.1,SNR=62
MKAR PcP PcP 06 39 14.5 +0.1
comp=Z,6.7nm,0.6s,baz=78,slow=6.3,SNR=12
MKAR S **S 06 45 31.3 -0.5**
comp=Z,0.4nm,0.6s,baz=90,slow=16,SNR=3.8
MKAR Makanchi Array 54.41 313 P **P 06 38 14.9 +0.6**
MKAR PcP PcP 06 39 14.5 +0.1
MKAR S **S 06 45 31.3 -0.5**
NVS Novosibirsk 55.01 322 *eP* **P 06 38 18.3 -0.3**
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,16nm,0.5s
NVS pmax pmax
comp=Z,20nm,0.5s,mb4.8
SVW2 Sparrevohn 57.33 30 *eP* **P 06 38 35.5 +0.6**
SVW2 *e* 06 39 24.9
KDAK Kodiak Island 58.14 35 P **P 06 38 40.4 -0.2**
comp=Z,7.9nm,0.4s,mb4.5,baz=224,slow=8.0,SNR=17
SLKM Skilak Lake 59.78 32 *eP* **P 06 38 51.7 -0.1**
NWAO Narrogin (SRO) 59.81 205 *eP* **P 06 38 49.6 -2.4**
NWAO pmax pmax
comp=Z,23nm,1.3s
NWAO Narrogin (SRO) 59.81 205 *eP* **P 06 38 49.6 -2.3**
comp=Z,23nm,1.3s,mb4.5
MCK McKinley 60.90 28 *eP* **P 06 38 58.6 -0.7**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
MCK McKinley 60.90 28 *eP* **P 06 38 58.6 -0.7**
comp=Z,4.1nm,0.8s,mb4.0
COLA College 61.55 27 *i* P **P 06 39 03.4 -0.3**
VOSK Vostochnaya 62.02 319 P **P 06 39 06.4 -0.4**
VOSK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
CHKZ Chkalovo 62.25 320 *i* P **P 06 39 07.8 -0.5**
CHKZ pmax pmax
comp=Z,16nm,0.7s,mb4.8
BVA0 Borovoye Array 62.38 319 *i* P **P 06 39 09.3 +0.2**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
BVAR Borovoye Array 62.38 319 P **P 06 39 09.5 +0.4**
comp=Z,23nm,0.5s,mb5.0,baz=91,slow=7.7,SNR=129
KK31 Karatay Array 62.77 308 *i* P **P 06 39 12.2 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
KKAR Karatay Array 62.77 308 P **P 06 39 12.2 +0.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
ZRNK Zerenda 63.22 319 *i* P **P 06 39 14.5 -0.2**
ZRNK pmax pmax
comp=Z,28nm,1.2s,mb4.8
POO Poona 64.45 281 *ex* x 06 39 20.0
INK Inuvik 67.46 24 P **P 06 39 40.8 -0.9**
comp=Z,4.0nm,0.8s,mb4.2,baz=349,slow=3.4,SNR=17
INK Inuvik 67.46 24 *eP* **P 06 39 41.2 -0.5**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 67.46 24 *eP* **P 06 39 41.2 -0.5**
comp=Z,2.9nm,0.6s,mb4.2
SVE Sverdlovsk 67.79 324 *eP* **P 06 39 43.8 0.0**
SVE pmax pmax
comp=Z,60nm,0.8s,mb5.4
ARU Arti 68.97 324⇓ *iP* **P 06 39 50.8 -0.3**
ARU *e* 06 40 11.7
ARU *eS* S 06 48 40.0 +6.0
ARU *eSS* SS 06 53 10.0 +4.8
ARU pmax pmax
comp=Z,34nm,0.7s,mb5.2
ARU Arti 68.97 324 *eP* **P 06 39 50.9 -0.2**
comp=Z,42nm,0.7s,mb5.3
AB31 Akbulak array 69.26 316 *i* P **P 06 39 52.6 -0.3**
AB31 pmax pmax
comp=Z,9.0nm,0.5s,mb4.8

AKTK Aktyubinsk 70.28 317 P **P 06 39 58.8 -0.3**
AKTO Aktyubinsk 70.28 317 P **P 06 39 58.8 -0.3**
comp=Z,6.8nm,0.6s,mb4.6,baz=94,slow=8.8,SNR=17
YKA Yellowknife Ar 76.36 28 P **P 06 40 33.8 -0.6**
comp=Z,4.8nm,0.4s,mb4.4,baz=292,slow=5.9,SNR=22
YKA Yellowknife Ar 76.36 28 *i* P **P 06 40 33.7 -0.8**
YKA pmax pmax
comp=Z,5.0nm,0.4s
TMCR Tamitsa 76.78 334 *eP* **P 06 40 36.1 -0.7**
TMCR pmax pmax
comp=Z,40nm,0.8s,mb5.2
KEV Kevo 78.10 341 *ep* **P 06 40 42.9 -1.2**
comp=Z,3.3nm,0.4s,mb4.4
KEV Kevo 78.10 341 *eP* **P 06 40 42.9 -1.2**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
ARCES ARCESS Array B 78.66 341 P **P 06 40 46.7 -0.5**
comp=Z,10nm,0.6s,mb4.7,baz=73,slow=8.0,SNR=86
ARCES ARCESS Array B 78.66 341 P **P 06 40 46.7 -0.5**
ARE0 ARCESS Array S 78.66 341 *eP* **P 06 40 47.0 -0.1**
YBH Yreka Blue Hor 78.84 50 *eP* **P 06 40 48.4 +0.3**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 78.84 50 *eP* **P 06 40 48.4 +0.3**
comp=Z,3.5nm,0.8s,mb4.1
HAWA Hanford 79.41 44 *eP* **P 06 40 51.8 +0.6**
JOF Joensuu 80.04 334 *ep* **P 06 40 52.8 -1.8**
comp=Z,38nm,0.4s,mb5.5
OBN Obninsk 81.20 326⇓ *eP* **P 06 41 00.8 +0.1**
OBN *e* 06 44 09.3
OBN pmax pmax
comp=Z,43nm,1.3s,mb5.0
VRSR Storozhevoye 81.41 322 *eP* **P 06 41 01.6 -0.2**
VRSR pmax pmax
comp=Z,40nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,0.9s
BMO Blue Mountains 81.42 45 *eP* **P 06 40 59.0 -2.9**
comp=E,15nm,1.4s,mb4.5
BMO *eP* PcP PcP 06 41 02.2 -4.9
WVOR Wild Horse Val 81.43 48 *eP* **P 06 40 58.0 -3.9**
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WVOR Wild Horse Val 81.43 48 *eP* **P 06 40 58.0 -3.9**
comp=Z,4.2nm,0.9s,mb4.2
WVOR *eP* PcP PcP 06 41 02.5 -4.7
ZEI Tsey 81.77 313 *eP* **P 06 41 04.0 +0.4**
ZEI *e* 06 44 13.5
ZEI pmax pmax
comp=Z,19nm,0.5s,mb5.1
CMB Columbia Colle 81.79 52 *eP* **P 06 41 04.2 +0.4**
CMB pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
CMB Columbia Colle 81.79 52 *eP* **P 06 41 04.2 +0.4**
comp=Z,9.3nm,0.7s,mb4.6
BSMT Bassoo Peak 81.86 42 *eP* **P 06 41 04.9 +0.7**
WALA Waterton Lakes 81.91 40 *eP* **P 06 41 04.9 +0.5**
comp=Z,19nm,1.2s,mb4.7
KIV Kislovodsk 82.13 314 *c iP* **P 06 41 06.5 +1.0**
KIV pmax pmax
comp=Z,37nm,0.6s,mb5.3
KIV Kislovodsk 82.13 314 *eP* **P 06 41 05.9 +0.3**
comp=Z,62nm,1.0s,mb5.3
GNI Garni 82.16 310 P **P 06 41 06.4 +0.7**
comp=Z,4.2nm,0.3s,mb4.7,baz=324,slow=19,SNR=5.8
GNI Garni 82.16 310⇓ *eP* **P 06 41 07.5 +1.8**
GNI pmax pmax
comp=Z,41nm,1.7s
WAKR Walker 82.32 52 *eP* **P 06 41 07.0 +0.4**
KAF Kangasniemi 82.44 335 *ep* **P 06 41 05.0 -2.2**
comp=Z,6.4nm,0.5s,mb4.6,baz=55,slow=4.9
KAF Kangasniemi 82.44 335 *eP* **P 06 41 05.0 -2.2**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
FIA1 FINESS Array S 82.90 334 *eP* **P 06 41 08.2 -1.3**
FINES FINESS Array B 82.90 334 P **P 06 41 08.2 -1.3**
comp=Z,25nm,0.5s,mb5.3,baz=69,slow=5.2,SNR=264
FINES FINESS Array B 82.90 334 *i* P **P 06 41 08.1 -1.4**
FINES pmax pmax
comp=Z,25nm,0.5s
NVAR Mina Array Bea 83.17 51 P **P 06 41 11.7 +0.8**
comp=Z,7.7nm,0.7s,mb4.6,baz=267,slow=5.6,SNR=56
CHMT Chamberlain Mo 83.20 42 *eP* **P 06 41 11.0 0.0**
UMR Umm Al-Rimmam 83.80 299 *eP* **P 06 41 13.5 -0.6**
UMR AMb AMB 06 41 15.2
comp=Z,54nm,0.8s,mb5.5
HLID Hailey 83.84 46 *eP* **P 06 41 14.8 +0.6**
comp=Z,7.2nm,1.2s,mb4.4
KBD Kabd 83.96 299 *eP* **P 06 41 14.0 -0.9**
KBD AMb AMB 06 41 16.1
comp=Z,80nm,0.8s,mb5.6
TPH Tonopah 84.09 51 *eP* **P 06 41 16.2 +0.7**
TPH pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
TPH Tonopah 84.09 51 *eP* **P 06 41 16.1 +0.6**
comp=Z,4.6nm,0.5s,mb4.6
LRM Limekiln Ridge 84.16 43 *eP* **P 06 41 16.3 +0.4**
RDF Al-Radifah 84.17 299 *eP* **P 06 41 15.2 -0.7**
RDF AMb AMB 06 41 17.9
comp=Z,54nm,0.7s,mb5.5
HRY Holter Researc 84.17 42 *eP* **P 06 41 16.4 +0.5**
DLMT Dillon 84.27 43 *eP* **P 06 41 16.9 +0.4**
comp=Z,4.4nm,0.5s,mb4.5
NAY Al-Naaiem 84.30 299 *eP* **P 06 41 16.4 -0.2**
NAY AMb AMB 06 41 18.5
comp=Z,51nm,0.7s,mb5.5
BOZ Bozeman (W) 84.76 43 *eP* **P 06 41 19.3 +0.4**
BOZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
BOZ Bozeman (W) 84.76 43 *eP* **P 06 41 19.3 +0.4**
comp=Z,6.9nm,0.6s,mb4.7
EGMT Eagleton 84.85 40 *eP* **P 06 41 16.5 -2.8**
comp=Z,11nm,1.1s,mb4.6
EGMT *eP* PcP PcP 06 41 19.3 -2.9
ANN Anapa 85.21 317 *eP* **P 06 41 20.1 -1.0**
ANN *eS* S 06 51 25.1 -3.4
ANN pmax pmax
comp=Z,85nm,1.3s,mb5.4
GSC Goldstone 85.50 54 *eP* **P 06 41 23.0 +0.5**
SUMG Summit 85.75 0 *eP* **P 06 41 23.6 -0.2**
SUMG *eP* 06 41 24.3
YNR Norris Junctio 85.77 43 *eP* **P 06 41 26.7 +2.8**
YFT Old Faithful 85.79 44 *eP* **P 06 41 26.2 +2.2**
RRI2 Red Ridge 85.97 45 *eP* **P 06 41 25.6 +0.8**
comp=Z,4.4nm,0.7s,mb4.4
FLWY Flagg Ranch 86.05 44 *eP* **P 06 41 25.7 +0.5**
comp=Z,11nm,0.9s,mb4.7
TPAW Teton Pass 86.15 44 *eP* **P 06 41 26.3 +0.6**
comp=Z,6.0nm,1.1s,mb4.3
MOOW Moose Ponds 86.17 44 *eP* **P 06 41 22.6 -3.2**
comp=Z,13nm,1.1s,mb4.7
MOOW *e* 06 41 29.0
SHPR Sheep Range 86.23 52 *eP* **P 06 41 27.2 +1.2**
REDW Red Top Meadow 86.27 45 *eP* **P 06 41 26.1 -0.2**
comp=Z,6.4nm,1.3s,mb4.3
LOHW Long Hollow 86.32 44 *eP* **P 06 41 26.9 +0.4**
comp=Z,5.2nm,1.1s,mb4.3
DUG Dugway 86.35 48 *eP* **P 06 41 27.2 +0.5**
DUG pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
DUG Dugway 86.35 48 *eP* **P 06 41 27.2 +0.5**
comp=Z,10nm,0.8s,mb4.7
PFO Pinyon Flat Ob 86.44 55 *eP* **P 06 41 27.4 +0.3**
PFO pmax pmax
comp=Z,11nm,0.9s,mb4.7
PFO Pinyon Flat Ob 86.44 55 *eP* **P 06 41 27.4 +0.3**
comp=Z,11nm,0.9s,mb4.7
HWUT Hardware Ranch 86.58 46 *eP* **P 06 41 28.2 +0.4**
comp=Z,8.5nm,1.3s,mb4.4
CTU Camp Tracy 86.86 47 *eP* **P 06 41 29.2 +0.1**
ARUT Antelope Range 86.94 50 *eP* **P 06 41 29.3 -0.2**
ARUT *eP* PcP PcP 06 41 30.9 -0.5
NLU North Lily Min 86.96 48 *eP* **P 06 41 29.7 +0.1**
CCUT Cedar City 87.09 51 *eP* **P 06 41 27.8 -2.4**
CCUT *eP* PcP PcP 06 41 30.9 -1.2
AKASG Malin Array Be 87.22 324 P **P 06 41 29.3 -1.5**
comp=Z,4.5nm,0.5s,mb4.5,baz=56,slow=5.1,SNR=20
MALT Malatya 87.38 310 *eP* **P 06 41 32.2 +0.6**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
MALT Malatya 87.38 310 *eP* **P 06 41 32.2 +0.6**
comp=Z,4.4nm,0.8s,mb4.3
PDAR Pinedale Array 87.39 45 P **P 06 41 30.6 -1.0**
comp=Z,0.8nm,0.5s,mb3.8,baz=234,slow=1.5,SNR=8.6
MSU Marysvale 87.52 49 *eP* **P 06 41 32.9 +0.6**
LAO LASA Array 87.60 40 *eP* **P 06 41 33.2 +0.6**
comp=Z,14nm,1.0s,mb4.7
TMUT Trail Mountain 87.85 48 *eP* **P 06 41 29.9 -3.9**
GLA Glamis 87.91 55 *eP* **P 06 41 34.7 +0.6**
SRU San Rafael 88.41 48 *eP* **P 06 41 36.7 +0.2**
SRU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
SRU San Rafael 88.41 48 *eP* **P 06 41 36.7 +0.2**
comp=Z,7.4nm,0.7s,mb4.6
SUW Suwalki 88.44 329 *eP* **P 06 41 35.8 -0.8**
SUW pmax pmax
comp=Z,67nm,0.8s,mb5.5
SUW Suwalki 88.44 329 *eP* **P 06 41 35.8 -0.8**
comp=Z,67nm,0.8s,mb5.5
NB2 NORSAR Subarra 88.68 339 P **P 06 41 35.9 -1.8**
comp=Z,10.0nm,0.8s,mb4.7,baz=44,slow=4.8
NOA NORSAR Array B 88.68 339 P **P 06 41 35.8 -1.9**
comp=Z,8.1nm,0.7s,mb4.7,baz=46,slow=4.5,SNR=21
WUAZ Wupatki 89.42 52 *eP* **P 06 41 41.9 +0.7**
comp=Z,8.4nm,1.2s,mb4.5
PV10 Paradox Valley 89.78 48 *eP* **P 06 41 41.4 -1.5**
PV10 *eP* PcP PcP 06 41 43.7 -0.2
PV01 Paradox Valley 90.22 48 *eP* **P 06 41 41.0 -3.9**
PV01 *eP* PcP PcP 06 41 44.8 -1.1
RSSD Black Hills 90.23 42 *eP* **P 06 41 42.7 -2.2**
RSSD pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
RSSD Black Hills 90.23 42 *eP* **P 06 41 42.7 -2.3**
comp=Z,4.3nm,0.8s,mb4.3
RSSD *eP* PcP PcP 06 41 44.9 -1.0
SMCO Snowmass 90.81 47 *eP* **P 06 41 49.0 +1.3**
comp=Z,9.8nm,0.9s,mb4.6
ISCO Idaho Springs 91.42 46 *eP* **P 06 41 51.5 +1.0**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ISCO Idaho Springs 91.42 46 *eP* **P 06 41 51.5 +1.1**
comp=Z,4.2nm,0.8s,mb4.3
BORG Borgarnes 92.77 353 *eP* **P 06 41 54.6 -2.1**
comp=Z,188nm,1.6s,mb5.8
ANMO Albuquerque 93.24 50 *eP* **P 06 41 59.1 +0.3**
ANMO *eP* 06 41 59.7
KSP Ksiaz 93.71 329 *eP* **P 06 42 00.2 -0.8**
EIL Elat 93.86 304 *eP* **P 06 42 01.3 -0.4**
CLL Collm 94.91 331⇓ *iP* **P 06 42 05.7 -0.8**
CLL pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
CLL Collm 94.91 331⇓ *iP* **P 06 42 05.7 -0.8**
comp=Z,7.0nm,1.1s,mb4.7
CLL *i* 06 42 10.3
SYO Syowa Base 115.05 203⇑ *eP* PKiKP PcP 06 47 22.2 -1.7
LSZ Lusaka 118.21 264 *ePKiKP* PKPdf 06 47 31.2 +1.3
SNAA Sanae 126.51 193 *ePKiKP* PKPdf 06 47 44.9 -1.0
TORD Torodi Ar. Bea 128.45 309 PKP PKPdf 06 47 50.4 +0.9
comp=Z,1.4nm,0.5s,baz=54,slow=1.2,SNR=34
TORD Torodi Ar. Bea 128.45 309 PKP PKPdf 06 47 50.4 +0.9
SDV Santo Domingo 135.02 51 *ePKPdf* PKPdf 06 48 02.9 +1.0
DBIC Dimbokro 137.56 308 *ePKiKP* PKPdf 06 48 07.2 +0.5
PLCA Paso Flores 146.05 131 *ePKiKP* PKPdf 06 48 21.9 +0.1
LPAZ La Paz 150.12 85 PKP PKPdf 06 48 29.9 +1.5
comp=Z,11nm,0.5s,baz=337,slow=3.2,SNR=4.6
LPAZ PKPbc PKPbc 06 48 35.6 +1.9
comp=Z,11nm,0.5s,baz=313,slow=2.4,SNR=94
LPAZ La Paz 150.12 85 *ePKPdf* PKPdf 06 48 30.5 +2.1
LPAZ *ePKPbc* PKPbc 06 48 35.6 +1.9
SAML Samuel 151.75 67 *ePKPdf* PKPdf 06 48 31.8 +0.9
SAML *ePKPbc* PKPbc 06 48 37.8 +0.3
SAML *ePKPab* PKPab 06 48 46.7 -0.8

MAN 07 06:55:41.7, 1757N×12045E, h12km, mb2.7, ML4.1, MS4.3, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.77**	**12**	*eP*	Pg	06 55 57.0	+0.4
PIP				*eS*	Sg	06 55 57.0	-10
CVP	**Callao Caves**	**1.31**	**84**	*eP*	Pn	06 56 03.0	-2.8
CVP				*eS*	Sb	06 56 25.0	+1.9
SCZP	**Santa Cruz**	**1.85**	**196**	*eP*	Pn	06 56 13.1	-0.2

NIED ***07*** *07:13:00, 29.70N×142.30E, h53km, Mw4.1 Best double couple: M0 1.77000×10^15 NP1:φs315.00000°, δ81.00000°, λ-84.00000°. NP2:φs103.00000°, δ10.00000°, λ-122.00000°.*
IDC ***07*** *07:13:04.6±1.1, 29.66N×142.84E, h0km, mb3.9/5, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, ML3.9/2, Error ellipse: s-maj=34.7km s-min=21.3km az=86.0*
ISCJB ***07*** *07:13:07.5±0.8, 29.64N±006×142.6E±02, h33km, mb3.9/5, Error ellipse: s-maj=27.0km s-min=8.8km az=178.7*
NEIC ***07*** *07:13:10.2±0.8, 29.69N×142.70E, h40km, MG4.0(JMA), Error ellipse: s-maj=27.3km s-min=15.2km az=75.0*

ISC 07 07:13:07.5±6.3, 2962N±007×1427E±02, h19km±40km, n9, σ0s76/10, mb3.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.55**	**190**	Pn	**Pn**	**07 13 48.2**	**+0.4**
	39nm,0.3s,baz=279,slow=17,SNR=16						
CBIJ				Sn	**Sn**	**07 14 17.6**	**-0.8**
	35nm,0.3s,baz=52,slow=22,SNR=5.9						
MJAR	**Matsushiro Arr**	**7.87**	**333**	Pn	**Pn**	**07 14 59.9**	**-0.9**
	0.7nm,0.3s,baz=153,slow=10,SNR=7.3						
MJAR	**Matsushiro Arr**	**7.87**	**333**	Pn	**Pn**	**07 14 59.9**	**-0.9**
SONM	**Songino Array**	**33.27**	**313**	P	**P**	**07 19 43.5**	**-0.1**
	0.3nm,0.3s,mb3.7,baz=94,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**49.26**	**308**	P	**P**	**07 21 56.1**	**+1.3**
	1.5nm,0.6s,mb4.2,baz=83,slow=9.9,SNR=9.4						
WB2	**Warramunga Arr**	**49.92**	**190**	*eP*	**P**	**07 21 59.9**	**0.0**
WRA	**Warramunga Arr**	**49.92**	**190**	P	**P**	**07 22 00.4**	**+0.5**
	3.6nm,0.7s,mb4.5,baz=11,slow=8.2,SNR=29						
YKA	**Yellowknife Ar**	**69.72**	**29**	P	**P**	**07 24 14.9**	**-1.1**
	1.1nm,0.8s,mb3.9,baz=139,slow=40,SNR=2.5						
NVAR	**Mina Array Bea**	**78.61**	**52**	P	**P**	**07 25 08.7**	**+0.7**
	0.4nm,0.7s,mb3.4,baz=288,slow=6.6,SNR=3.7						

NEIC ***07*** *07:54:52.9, 3148S×7187W, h42km, MG2.9(GUC), After GUC.*

GUC 07 07:54:52.9±0.5, 3148S×7187W, h42km±2km, MD3.6, ML2.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.51**	**142⇓**	*iP*	Pn	07 55 04.0	+0.1
CHNG				*i* S	Sn	07 55 12.0	+0.4
CMCH	**Combarbala**	**0.80**	**68⇑**	*iP*	Pn	07 55 08.3	+0.5
CMCH				*i* S	Sn	07 55 19.9	+1.4
CMCH				AML	AML	07 55 21.1	
	comp=N,1μm,0.7s						
CMCH	**Combarbala**	**0.80**	**68⇑**	*iP*	Pn	07 55 08.3	+0.5
CMCH				*i* S	Sn	07 55 19.9	+1.4
PTCH	**Petorca**	**1.12**	**135⇓**	*iP*	Pn	07 55 13.1	+1.0
PTCH				*i* S	Sn	07 55 28.2	+1.9
PTCH				AML	AML	07 55 29.6	
	comp=E,318nm,0.1s						
PTCH	**Petorca**	**1.12**	**135⇓**	*iP*	Pn	07 55 13.1	+1.0
PTCH				*i* S	Sn	07 55 28.2	+1.9
JACH	**Jahuel**	**1.62**	**138**	*i* P	Pn	07 55 20.7	+1.7
RCDM	**Rinconada Maip**	**2.20**	**156**	*eP*	Pn	07 55 27.7	+0.8
RCDM				*i* S	Sn	07 55 54.5	+1.6
RCDM				AML	AML	07 55 58.1	
	comp=N,76nm,0.1s						
RCDM	**Rinconada Maip**	**2.20**	**156**	*eP*	Pn	07 55 27.7	+0.8
RCDM				*i* S	Sn	07 55 54.5	+1.6
FCH	**Farellones**	**2.28**	**145**	*eP*	Sn	07 55 30.0	+2.0
FCH				*eS*	Sn	07 55 57.7	+2.9

HEL ***07*** *08:01:18.6, 5925N×2762E, h0km, ML1.8(FIA0), Explosion*

IDC 07 08:01:26.2±1.3, 5969N×2731E, h0km, mb1 3.2/4, mb1mx3.1/20, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=18.4km s-min=8.7km az=81.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FIA0	**FINESS Array S**	**1.86**	**341**	PN	Pn	08 01 58.3	-1.0
FIA0				S	Sn	08 02 04.3	-19
FIA0				LG		08 02 31.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	FINESS Array B	1.86	341	Pg	Pg	08 01 58.3	-3.5
	1.0nm,0.3s,baz=156,slow=15,SNR=30						
FINES				Lg		08 02 25.8	
	0.8nm,0.3s,baz=248,slow=22,SNR=8.5						
HFS	Hagfors	6.86	280	Pn	Pn	08 03 04.6	-3.4
	0.1nm,0.3s,baz=90,slow=16,SNR=2.4						
HFS				Lg		08 05 01.1	
	0.3nm,0.3s,baz=99,slow=37,SNR=3.6						
NOA	NORSAR Array B	8.09	287	Pn	Pn	08 03 21.5	-3.3
	0.2nm,0.3s,baz=94,slow=12,SNR=2.2						
AKASG	Malin Array Be	9.08	172	Pn	Pn	08 03 34.0	-4.4
	1.0nm,0.3s,baz=357,slow=36,SNR=4.3						
ARCES	ARCESS Array B	9.91	356	Pn	Pn	08 03 46.2	-3.7
	0.1nm,0.3s,baz=170,slow=15,SNR=5.7						

*IDC **07** 08:02:53.6±0.9, 996N×12647E, h0^{km}, mb4.2/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.2/9, Error ellipse: s-maj=60.4km s-min=15.2km az=73.0*
*NEIC **07** 08:02:55.7±0.7, 996N×12646E, h15^{km}, mb4.5/5, Error ellipse: s-maj=26.8km s-min=8.2km az=64.0*
*MAN **07** 08:02:59.9, 980N×12650E, h54^{km}, mb3.5, ML4.6, MS5.9*
*ISCJB **07** 08:03:01.0±1.5, 983N±005×1264E±0.1, h71^{km}±14^{km}, mb4.2/14, Error ellipse: s-maj=18.1km s-min=8.8km az=170.0*
ISC 07 08:03:02.7±1.5**, 990N**±006×**1264E**±01**, h74**^{km}±13^{km}**, n28,** σ**0**^{s}**89**/31**, mb4.2**/14**, 3C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLP	Palo	1.90	312	eP	Pn	08 03 32.7	-0.3
PLP				iS	Sn	08 03 57.8	+1.8
CGP	Cagayan de Oro	2.23	230	iS	Sn	08 03 59.6	-4.4
LLP	Lapu-Lapu	2.45	280	eP	Pn	08 03 39.9	-0.5
LLP				eS	Sn	08 04 04.8	-4.7
TBP	Tagbilaran	2.53	266	eP	Pn	08 03 42.1	+0.6
TBP				eS	Sn	08 04 11.7	+0.3
DCPH	Dipolog City	3.30	247	⇓eP	Pn	08 03 50.1	-1.8
RCP	Roxas	3.97	295	⇑eP	Pn	08 04 01.3	+0.2
PVCP	Virac	4.29	329	⇑eP	Pn	08 04 05.3	-0.2
ENPP	El Nido	7.00	281	eP	Pn	08 04 42.9	+0.4
QIZ	Qiongzhong	18.43	301	eP	Pn	08 07 10.3	-2.6
	12nm,1.3s						
KAKA	Kakadu	23.25	165	eP	P	08 08 02.5	-1.0
	9.0nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	27.83	182	eP	P	08 08 44.9	-0.1
	8.7nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	27.83	182	P	P	08 08 45.3	+0.2
	6.6nm,0.6s,mb4.4,baz=18,slow=9.3,SNR=21						
WRA	Warramunga Arr	30.66	165	P	P	08 09 10.3	+0.2
	0.3nm,0.3s,mb3.5,baz=346,slow=9.3,SNR=7.1						
CTA	Charters Tower	35.62	147	P	P	08 09 53.7	+0.4
	1.3nm,0.5s,mb4.1,baz=306,slow=10,SNR=6.5						
FORT	Forrest	40.47	178	eP	P	08 10 34.2	+0.1
	16nm,0.8s,mb4.9						
SONM	Songino Array	41.41	340	P	P	08 10 41.1	-0.7
	0.6nm,0.5s,mb3.6,baz=90,slow=5.8,SNR=2.4						
KLBR	Kellerberrin	42.08	191	⇑iP	P	08 10 47.3	+0.1
	11nm,0.4s,mb4.9						
MUN	Mundaring	42.77	193	⇓iP	P	08 10 53.7	+0.9
NWAO	Narrogin (SRO)	43.48	191	P	P	08 10 59.6	+1.1
	33nm,0.7s,mb5.2,baz=14,slow=8.1,SNR=24						
STKA	Stephens Creek	44.01	161	eP	P	08 11 03.0	+0.2
	1.9nm,0.4s,mb4.2						
STKA	Stephens Creek	44.01	161	P	P	08 11 03.0	+0.3
	2.5nm,0.5s,mb4.2,baz=340,slow=6.9,SNR=10						
MKAR	Makanchi Array	52.41	323	P	P	08 12 08.0	+0.5
	0.6nm,0.6s,mb3.8,baz=116,slow=8.2,SNR=5.1						
MKAR	Makanchi Array	52.41	323	P	P	08 12 08.0	+0.5
JOF	Joensuu	83.59	333	ep	P	08 15 21.9	-0.9
ARCES	ARCESS Array B	84.59	340	P	P	08 15 28.9	+0.9
	0.9nm,0.4s,mb4.1,baz=81,slow=6.2,SNR=14						
KAF	Kangasniemi	86.02	332	ep	P	08 15 33.7	-1.3
	1.5nm,0.4s,mb4.3,baz=75,slow=4.5						
FINES	FINESS Array B	86.29	332	P	P	08 15 36.9	+0.6
	1.2nm,0.5s,mb4.1,baz=70,slow=4.9,SNR=16						
MAW	Mawson	89.40	200	P	P	08 15 51.5	+0.3
	0.8nm,0.5s,mb4.0,baz=44,slow=4.6,SNR=5.7						

*ISCJB **07** 08:04:55.4±0.7, 5974N±004×2446E±008, h0^{km}, Error ellipse: s-maj=5.8km s-min=5.6km az=69.5*
*CSEM **07** 08:04:56.9±0.3, 5968N×2442E, h2^{km}, ML2.5, Error ellipse: s-maj=9.3km s-min=7.4km az=20.0, Mining explosion.*
*NAO **07** 08:04:57.4±1.0, 5976N×2463E, ML2.6*
*HEL **07** 08:04:58.2±0.1, 5976N×2459E, h0^{km}, ML2.5, ML2.6(NAO), Explosion*
*BER **07** 08:04:58.2±4.2, 5974N×2458E, h0^{km}, ML2.6(NAO), Suspected explosion*
*IDC **07** 08:05:00.9±2.4, 5997N×2438E, h0^{km}, mb1 3.7/3, mb1mx3.3/19, mbtmp3.6/3, ML3.6/3, Error ellipse: s-maj=27.4km s-min=5.9km az=147.0*
ISC 07 08:04:56.7±0.6**, 5975N**±004×**2454E**±007**, h0**^{km}**, n25,** σ**0**^{s}**99**/40**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.47	351	eP	Pg	08 05 06.3	+0.6
MEF				eS	Sg	08 05 12.7	+0.9
MEF	Metsahovi	0.47	351	P	Pg	08 05 06.3	+0.5
PVF	Pernaja	1.03	39	eP	Pg	08 05 16.1	-0.4
PVF				eS	Sg	08 05 28.9	-1.0
VSU	Vasula	1.72	138	eP	Pn	08 05 28.2	+0.3
VSU				eS	Sn	08 05 50.9	+0.4
VSU	Vasula	1.72	138	Pn	Pn	08 05 28.3	+0.4
VSU				Lg		08 05 50.0	
FIA0	FINESS Array S	1.86	23	eP	Pn	08 05 31.0	+1.2
FIA0				eS	Sn	08 05 54.9	+0.9
FIA0				MSG		08 05 59.5	
	comp=Z,22nm,0.2s						
FIA0	FINESS Array S	1.86	23	Pn	Pn	08 05 31.1	+1.3
	baz=197,slow=18						
FIA0				Lg		08 05 54.5	
	baz=194,slow=37						
FIA0	FINESS Array S	1.86	23	P	Pn	08 05 30.9	+1.1
FIA0				S	Sn	08 05 54.8	+0.8
	comp=Z,22nm,0.2s						
FINES	FINESS Array B	1.86	23	Pg	Pn	08 05 30.9	+1.1
	comp=Z,17nm,0.3s,baz=201,slow=16,SNR=385						
FINES				Lg		08 05 54.4	
	comp=Z,18nm,0.3s,baz=198,slow=30,SNR=32						
RAF	Rauma	1.88	314	eP	Pn	08 05 31.4	+1.4
RAF				eS	Sn	08 05 55.3	+0.8
RAF				MSG		08 05 59.1	
	comp=Z,39nm,0.2s						
RAF	Rauma	1.88	314	P	Pn	08 05 31.4	+1.3
RAF				S	Sn	08 05 55.2	+0.7
	comp=Z,39nm,0.2s						
KAF	Kangasniemi	2.52	19	MSG		08 06 16.6	
	comp=Z,28nm,0.2s						
HFS	Hagfors	5.47	279	eP	Pn	08 06 20.1	+0.7
HFS				eS	Sn	08 07 22.5	-0.5
HFS				eSB		08 07 43.2	
HFS	Hagfors	5.47	279	Pn	Pn	08 06 20.4	+0.9
	comp=Z,1.1nm,0.3s,baz=100,slow=12,SNR=14						
HFS				Sn	Sn	08 07 22.8	-0.2
	comp=Z,1.7nm,0.3s,baz=86,slow=28,SNR=8.4						
HFS				Lg		08 07 46.4	
	comp=Z,3.3nm,0.3s,baz=93,slow=30,SNR=7.0						
HFS	Hagfors	5.47	279	Pn	Pn	08 06 20.1	+0.7
	baz=98,slow=14						
HFS				Sn	Sn	08 07 22.5	-0.5
	baz=104,slow=28						
HFS				Lg		08 07 43.2	
	baz=104,slow=28						
HFS	Hagfors	5.47	279	P	Pn	08 06 20.1	+0.7
HFS				S	Sn	08 07 22.5	-0.5
NB2	NORSAR Subarra	6.73	287	Pn	Pn	08 06 35.8	-1.0
	baz=92,slow=14						
NB2				Sn	Sn	08 07 50.9	-3.2
	baz=98,slow=22						
NB2				Lg		08 08 26.5	
	baz=100,slow=37						
NB2	NORSAR Subarra	6.73	287	eP	Pn	08 06 35.8	-1.0
NB2				eS	Sn	08 07 50.9	-3.2
NB2				eSG		08 08 26.5	
NB2	NORSAR Subarra	6.73	287	Pn	Pn	08 06 35.8	-1.0
	SNR=1.6						
NB2				Sg		08 08 26.4	
NOA	NORSAR Array B	6.73	287	Pn	Pn	08 06 36.6	-0.1
	comp=Z,1.2nm,0.3s,baz=93,slow=14,SNR=5.0						
NOA				Sn	Sn	08 07 51.7	-2.4
	comp=Z,1.1nm,0.3s,baz=127,slow=24,SNR=3.7						
NOA				Lg		08 08 24.0	
	comp=Z,2.5nm,0.3s,baz=132,slow=17,SNR=7.3						
APA0	Apatity Array	8.72	22	Pn	Pn	08 07 03.5	-0.6
	baz=218,slow=12						
APA0	Apatity Array	8.72	22	eP	Pn	08 07 03.5	-0.6
ARA0	ARCESS Array S	9.83	2	Pn	Pn	08 07 18.0	-1.3
	baz=175,slow=16						
ARA0				Sn	Sn	08 09 04.4	-6.0
	baz=188,slow=22						
ARA0	ARCESS Array S	9.83	2	eP	Pn	08 07 18.0	-1.3
ARA0				eS	Sn	08 09 04.4	-6.0
ARCES	ARCESS Array B	9.83	2	Pn	Pn	08 07 17.9	-1.4
	comp=Z,1.1nm,0.3s,baz=178,slow=15,SNR=41						

*ISCJB **07** 08:43:45.4±0.6, 5969N±004×2440E±007, h0^{km}, Error ellipse: s-maj=5.5km s-min=5.1km az=65.2*
*CSEM **07** 08:43:45.6±0.3, 5976N×2441E, h1^{km}, ML2.3, Error ellipse: s-maj=8.1km s-min=7.3km az=152.0, Mining explosion.*
*HEL **07** 08:43:48.7±0.2, 5969N×2454E, h0^{km}, ML2.3, ML2.8(NAO), Explosion*
*NAO **07** 08:43:48.3±1.0, 5972N×2458E, ML2.8*
*BER **07** 08:43:49.1±4.5, 5970N×2452E, h0^{km}, ML2.8(NAO), Suspected explosion*
*IDC **07** 08:43:50.0±1.0, 5981N×2449E, h0^{km}, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML4.0/3, Error ellipse: s-maj=11.2km s-min=6.9km az=144.0*
ISC 07 08:43:47.1±0.5**, 5968N**±003×**2456E**±007**, h0**^{km}**, n30,** σ**1**^{s}**04**/49**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.55	352	eP	Pg	08 43 58.1	+0.5
MEF				eS	Sg	08 44 05.0	+0.3
PVF	Pernaja	1.09	36	eP	Pg	08 44 07.8	-0.1
PVF				eS	Sg	08 44 21.6	-0.5
PVF	Pernaja	1.09	36	P	Pg	08 44 07.8	-0.1
PVF				S	Sg	08 44 21.5	-0.6
VSU	Vasula	1.66	136	eP	Pn	08 44 18.4	+1.0
VSU				eS	Sn	08 44 40.1	+0.7
VSU	Vasula	1.66	136	Pn	Pn	08 44 18.5	+1.1
VSU				Lg		08 44 40.2	
VSU	Vasula	1.66	136	P	Pn	08 44 18.4	+1.0
VSU				S	Sn	08 44 40.0	+0.6
FIA0	FINESS Array S	1.93	22	eP	Pn	08 44 22.6	+1.6
FIA0				eS	Sn	08 44 46.4	+0.4
FIA0				MSG		08 44 50.3	
	comp=Z,19nm,0.1s						
FIA0	FINESS Array S	1.93	22	Pn	Pn	08 44 22.7	+1.6
	baz=200,slow=18						
FIA0				Lg		08 44 47.1	
	baz=182,slow=37						
FINES	FINESS Array B	1.93	22	Pg	Pg	08 44 22.7	-1.3
	comp=Z,18nm,0.3s,baz=196,slow=14,SNR=350						
FINES				Lg		08 44 47.1	
	comp=Z,12nm,0.3s,baz=193,slow=24,SNR=3.4						
RAF	Rauma	1.94	315	eP	Pn	08 44 22.9	+1.6
RAF				eS	Sn	08 44 47.6	+1.4
RAF				MSG		08 44 52.7	
	comp=Z,20nm,0.1s						
HFS	Hagfors	5.49	279	eP	Pn	08 45 10.9	+0.9
HFS				eS	Sn	08 46 13.3	-0.5
HFS				eSB		08 46 32.8	
HFS	Hagfors	5.49	279	Pn	Pn	08 45 11.0	+0.9
	comp=Z,1.3nm,0.3s,baz=96,slow=14,SNR=33						
HFS				Pg	Pg	08 45 24.1	-8.1
	comp=Z,0.7nm,0.3s,baz=99,slow=16,SNR=7.6						
HFS				Sn	Sn	08 46 12.9	-0.9
	comp=Z,2.7nm,0.3s,baz=89,slow=26,SNR=9.7						
HFS				Lg		08 46 37.0	
	comp=Z,3.0nm,0.3s,baz=74,slow=26,SNR=6.2						
HFS	Hagfors	5.49	279	Pn	Pn	08 45 10.9	+0.9
	baz=100,slow=12						
HFS				Sn	Sn	08 46 13.3	-0.5
	baz=86,slow=28						
HFS				Lg		08 46 32.8	
	baz=72,slow=37						
HFS	Hagfors	5.49	279	P	Pn	08 45 10.9	+0.9
HFS				S	Sn	08 46 13.3	-0.6
HFS				Sb		08 46 32.7	
NB2	NORSAR Subarra	6.76	287	Pn	Pn	08 45 27.2	-0.3
	baz=95,slow=14						
NB2				Sn	Sn	08 46 42.3	-2.9
	baz=97,slow=22						
NB2				Lg		08 47 15.4	
	baz=93,slow=37						
NB2	NORSAR Subarra	6.76	287	eP	Pn	08 45 27.2	-0.3
NB2				eS	Sn	08 46 42.3	-2.9
NB2				eSG		08 47 15.4	
NB2	NORSAR Subarra	6.76	287	P	Pn	08 45 27.2	-0.3
NB2				S	Sn	08 46 42.2	-3.0
NB2				Sg		08 47 15.4	
NOA	NORSAR Array B	6.76	287	Pn	Pn	08 45 27.4	-0.1
	comp=Z,1.3nm,0.3s,baz=90,slow=14,SNR=5.1						
NOA				Sn	Sn	08 46 40.8	-4.4
	comp=Z,2.0nm,0.3s,baz=127,slow=14,SNR=7.0						
NOA				Lg		08 47 16.4	
	comp=Z,3.1nm,0.3s,baz=125,slow=21,SNR=5.5						
BSD	Bornholm Skovb	6.93	233	iP	Pn	08 45 30.0	+0.1
BSD				iS	Sn	08 46 37.6	-12
BSD				i		08 46 46.1	
BSD	Bornholm Skovb	6.93	233	eP	Pn	08 45 30.0	+0.1
APA0	Apatity Array	8.79	22	Pn	Pn	08 45 55.7	+0.3
	baz=216,slow=12						
APA0	Apatity Array	8.79	22	eP	Pn	08 45 55.7	+0.3
APA0	Apatity Array	8.79	22	P	Pn	08 45 55.6	+0.2
AKASG	Malin Array Be	9.38	161	Pn	Pn	08 46 01.8	-1.7
	comp=Z,1.9nm,0.3s,baz=338,slow=12,SNR=5.4						
ARA0	ARCESS Array S	9.91	2	Pn	Pn	08 46 09.5	-1.2
	baz=178,slow=16						
ARA0				Sn	Sn	08 47 55.9	-6.7
	baz=187,slow=28						
ARA0	ARCESS Array S	9.91	2	eP	Pn	08 46 09.5	-1.2
ARA0				eS	Sn	08 47 55.9	-6.7
ARA0	ARCESS Array S	9.91	2	P	Pn	08 46 09.4	-1.3
ARCES	ARCESS Array B	9.91	2	Pn	Pn	08 46 09.5	-1.2
	comp=Z,2.1nm,0.3s,baz=180,slow=11,SNR=81						
ARCES				Lg		08 48 53.6	
	comp=Z,1.1nm,0.3s,baz=177,slow=30,SNR=5.4						
SPA0	Spitsbergen Ar	18.78	355	P	Pn	08 48 07.7	-0.6
	baz=155,slow=8.6						
SPA0	Spitsbergen Ar	18.78	355	eP	Pn	08 48 07.7	-0.6

*NEIC **07** 08:52:57.0, 1904N×6826W, h14^{km}, MD3.7(RSPR), After RSPR.*
RSPR 07 08:52:58.2, 1924N×6805W, h9^{km}±12^{km}**, MD3.5**/12**, MD3.5**/12**, 37C-2D, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	1.39	139	⇑eP	Pn	08 53 19.6	-4.2
LSP	Las Mesas	1.39	139	eS	Sb	08 53 37.7	-4.6
LSP	Las Mesas	1.39	139	⇑eP	Pn	08 53 20.7	-3.1
LSP	Las Mesas	1.39	139	eS	Sb	08 53 38.4	-3.9
LSP	Las Mesas	1.39	139	⇑eP	Pn	08 53 20.7	-3.1
LSP				eS	Sb	08 53 38.4	-3.9
LRS	Lares	1.48	129	⇑eP	Pn	08 53 21.1	-3.9
LRS				eS	Sn	08 53 40.2	-4.2
LRS	Lares	1.48	129	⇑eP	Pn	08 53 21.6	-3.3
LRS				eS	Sn	08 53 40.3	-4.1
LRS	Lares	1.48	129	⇑eP	Pn	08 53 21.6	-3.3
LRS				eS	Sn	08 53 40.3	-4.1
AOPR	Arecibo Observ	1.51	126	⇑eP	Pn	08 53 21.9	-3.5
AOPR	Arecibo Observ	1.51	126	eS	Sn	08 53 40.9	-4.4
AOPR	Arecibo Observ	1.51	126	⇑eP	Pn	08 53 22.0	-3.5
AOPR	Arecibo Observ	1.51	126	eS	Sn	08 53 41.5	-3.7
AOPR	Arecibo Observ	1.51	126	⇑eP	Pn	08 53 22.0	-3.5
AOPR				eS	Sn	08 53 41.5	-3.7
CRPR	Cabo Rojo, PR	1.51	144	⇓eP	Pn	08 53 20.2	-5.3
CRPR	Cabo Rojo, PR	1.51	144	eS	Sn	08 53 38.7	-6.6
CRPR	Cabo Rojo, PR	1.51	144	⇑eP	Pn	08 53 22.6	-2.9
CRPR	Cabo Rojo, PR	1.51	144	eS	Sn	08 53 41.2	-4.0
CRPR	Cabo Rojo, PR	1.51	144	⇑eP	Pn	08 53 22.6	-2.9
CRPR				eS	Sn	08 53 41.2	-4.0
MGP	Maguayo	1.52	143	⇓eP	Pn	08 53 20.7	-4.9
CELP	Cerrillos	1.81	129	⇑eP	Pn	08 53 26.8	-2.8
CELP				eS	Sn	08 53 48.5	-4.1
CELP	Cerrillos	1.81	129	⇑eP	Pn	08 53 26.6	-2.9
CELP				eS	Sn	08 53 48.5	-4.1
CELP	Cerrillos	1.81	129	⇑eP	Pn	08 53 26.6	-2.9
CELP				eS	Sn	08 53 48.5	-4.1
OBIP	Obispado Ponce	1.81	131	⇑eP	Pn	08 53 26.8	-2.7
OBIP	Obispado Ponce	1.81	131	eS	Sn	08 53 48.6	-4.0
OBIP	Obispado Ponce	1.81	131	⇑eP	Pn	08 53 26.9	-2.7
OBIP	Obispado Ponce	1.81	131	eS	Sn	08 53 48.9	-3.7
OBIP	Obispado Ponce	1.81	131	⇑eP	Pn	08 53 26.9	-2.7
OBIP				eS	Sn	08 53 48.9	-3.7
ICM	Isla Caja Muer	1.97	132	⇑eP	Pn	08 53 29.7	-2.1
ICM	Isla Caja Muer	1.97	132	eS	Sn	08 53 51.6	-5.0
ICM	Isla Caja Muer	1.97	132	⇑eP	Pn	08 53 29.3	-2.5
ICM	Isla Caja Muer	1.97	132	eS	Sn	08 53 52.8	-3.8
ICM	Isla Caja Muer	1.97	132	⇑eP	Pn	08 53 29.3	-2.5
ICM				eS	Sn	08 53 52.8	-3.8
SJG	San Juan	2.12	122	eS	Sn	08 53 56.3	-3.9
SJG	San Juan	2.12	122	⇑eP	Pn	08 53 31.1	-2.7
SJG				eS	Sn	08 53 56.3	-3.9
CBYP	Canovanas	2.29	114	⇑eP	Pn	08 53 34.1	-2.0
CBYP	Canovanas	2.29	114	⇑eP	Pn	08 53 33.5	-2.7
CBYP	Canovanas	2.29	114	eS	Sn	08 54 01.1	-3.3
CBYP	Canovanas	2.29	114	⇑eP	Pn	08 53 33.5	-2.7
CBYP				eS	Sn	08 54 01.1	-3.3
CPD	Cerro la Pandu	2.35	120	⇑eP	Pn	08 53 34.5	-2.4
CPD	Cerro la Pandu	2.35	120	eS	Sn	08 54 03.4	-2.5
CPD	Cerro la Pandu	2.35	120	eS	Sn	08 54 02.1	-3.8
CPD	Cerro la Pandu	2.35	120	ePu		08 53 34.5	
CPD				eS	Sn	08 54 02.1	-3.8
HUMP	Col San Antoni	2.35	117	⇑eP	Pn	08 53 34.4	-2.6
HUMP	Col San Antoni	2.35	117	eS	Sn	08 54 02.9	-3.1
HUMP	Col San Antoni	2.35	117	⇑eP	Pn	08 53 34.3	-2.7
HUMP	Col San Antoni	2.35	117	eS	Sn	08 54 02.0	-3.9
HUMP	Col San Antoni	2.35	117	⇑eP	Pn	08 53 34.3	-2.7
HUMP				eS	Sn	08 54 02.0	-3.9
MTP	Monte Pirata	2.62	115	⇑eP	Pn	08 53 38.1	-2.6
MTP	Monte Pirata	2.62	115	eS	Sn	08 54 10.9	-1.7
MTP	Monte Pirata	2.62	115	⇑eP	Pn	08 53 38.4	-2.4
MTP	Monte Pirata	2.62	115	eS	Sn	08 54 09.5	-3.2
MTP	Monte Pirata	2.62	115	⇑eP	Pn	08 53 38.4	-2.4
MTP				eS	Sn	08 54 09.5	-3.2
STVI	Saint Thomas	3.06	106	⇑eP	Pn	08 53 45.0	-1.7
STVI	Saint Thomas	3.06	106	eS	Sn	08 54 21.5	-1.9
STVI	Saint Thomas	3.06	106	⇑eP	Pn	08 53 43.7	-3.0
STVI	Saint Thomas	3.06	106	eS	Sn	08 54 20.4	-3.1
STVI	Saint Thomas	3.06	106	⇑eP	Pn	08 53 43.7	-3.0
STVI				eS	Sn	08 54 20.4	-3.1
SDDR	Presa de Saban	3.07	266	ePn	Pn	08 53 50.0	+3.0
SDDR				eSn	Sn	08 54 33.5	+10
TBVI	Tortola	3.35	104	⇑eP	Pn	08 53 48.5	-2.3
TBVI	Tortola	3.35	104	⇑eP	Pn	08 53 48.3	-2.5
TBVI	Tortola	3.35	104	eS	Sn	08 54 27.2	-3.4
TBVI	Tortola	3.35	104	⇑eP	Pn	08 53 48.3	-2.5
TBVI				eS	Sn	08 54 27.2	-3.4

*ISCJB **07** 10:14:13.2±0.5, 3988N±004×4843E±005, h10^{km}, Error ellipse: s-maj=5.9km s-min=5.4km az=8.1*
*CSEM **07** 10:14:15.3±0.1, 3974N×4828E, h20^{km}, ML3.6, Error ellipse: s-maj=2.8km s-min=1.9km az=163.0*
*TEH **07** 10:14:16.2, 3987N×4826E, h21^{km}, Mn3.9*
*THR **07** 10:14:17.5±0.7, 3968N×4853E, h21^{km}±16^{km}, ML3.6*
ISC 07 10:14:15.5±0.5**, 3981N**±004×**4841E**±005**, h10**^{km}**, n25,** σ**1**^{s}**14**/32**, 4C, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRMI	Germi	1.07	202	ePG	Pg	10 14 36.1	0.0
GRMI				eSg	Sg	10 14 49.7	-0.4
GRMI				AML	AML	10 14 52.2	
	comp=N,1μm,0.3s						
GRMI				AML	AML	10 14 52.6	
	comp=E,1μm,0.2s						
GRMI	Germi	1.07	202	ePg	Pg	10 14 36.1	-0.1
	SNR=93						
GRMI				eSg	Sg	10 14 49.7	-0.4
	SNR=93						
IHRS	Heris	1.83	216	ePn	Pn	10 14 45.9	-1.1
ISRB	Sarab	2.06	196	ePn	Pn	10 14 49.7	-0.5
ISRB				eSn	Sn	10 15 14.9	-1.1
DGRG	David-gareji	2.83	306	P	Pn	10 15 01.9	+1.1
IAZR	Azarshahr	2.85	222	ePn	Pn	10 14 59.7	-1.4
MTA	Mtatsminda	3.33	306	P	Pg	10 15 19.4	+0.1
TBLG	Delisi	3.38	306	P	Pg	10 15 20.6	+0.3
IGZV	Gazvin	3.71	157	ePn	Pn	10 15 12.1	-0.7
THKV	Tehran--Karaj	4.35	153	ePn	Pn	10 15 22.9	+1.2
THKV				AML	AML	10 16 12.6	
	comp=E,119nm,0.3s						
THKV				AML	AML	10 16 13.2	
	comp=N,60nm,0.3s						
CHTH	Charan	4.45	150	ePN	Pn	10 15 23.6	+0.6
IAFJ	Afjeh	4.74	145	ePn	Pn	10 15 27.9	+0.9
SNGE	Sanandaj	4.78	190	ePn	Pn	10 15 29.3	+1.7
DAMV	Damavand	5.04	145	ePn	Pn	10 15 32.4	+1.2
DAMV				AML	AML	10 16 30.0	
	comp=E,41nm,0.5s						
DAMV				AML	AML	10 16 38.0	
	comp=N,42nm,0.5s						
IDMV	Damavand	5.11	145	ePn	Pn	10 15 33.5	+1.4
IDMV				eSn	Sn	10 16 28.7	-2.5
IFIR	Firoozkooh	5.40	139	ePn	Pn	10 15 37.6	+1.5
IVRN	Varamin	5.48	150	ePn	Pn	10 15 37.9	+0.7
IKIA	Kiasar	5.50	129	ePn	Pn	10 15 38.0	+0.5
ISHM	Shahmirzad	5.56	134	ePn	Pn	10 15 39.4	+1.1
IANJ	Anjiloo	6.16	133	ePn	Pn	10 15 47.3	+0.8
IANJ				eSn	Sn	10 16 54.2	-2.7
ISFR	Esferayen	8.02	107	ePn	Pn	10 16 11.8	-0.3
IEMG	Emamqoli	8.37	103	ePn	Pn	10 16 16.2	-0.7
IPAY	Payeh	8.99	109	ePn	Pn	10 16 25.1	-0.3
AB31	Akbulak array	12.51	37	⇑Pn	Pn	10 17 12.6	-1.0
	comp=N,0.4nm,0.3s,baz=223,slow=14,SNR=26						
AB31				⇑Sn	Sn	10 19 23.9	-9.1
	comp=N,0.4nm,0.3s,baz=214,slow=25,SNR=3.4						
AKTO	Aktyubinsk	12.59	29	⇑Pn	Pn	10 17 12.2	-2.5
	comp=N,0.1nm,1.1s						
AKTO				⇑Sn	Sn	10 19 23.2	-12

*NEIC **07** 10:59:33.5, 1807N×9864W, h50^{km}, MD4.1(MEX), After MEX.*
MEX 07 10:59:33.4±1.0**, 1806N×9863W, h52**^{km}±16^{km}**, MD4.1, Central Mexico**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UTMO	Huajuapan	0.82	106	iP	Pn	10 59 47.5	-1.3
UTMO				iS	Sn	10 59 58.6	-1.4
PLIG	Platanillo	0.89	292	iP	Pn	10 59 48.5	-1.2
PLIG				iS	Sn	10 59 59.8	-1.8
YAIG	Yautepec	0.89	333	iP	Pn	10 59 48.2	-1.5
YAIG				iS	Sn	11 00 00.0	-1.7
YAIG	Yautepec	0.89	333	iP	Pn	10 59 48.2	-1.5
YAIG				iS	Sn	10 59 59.8	-2.0
MEIG	Mezcala	0.95	262	iP	Pn	10 59 49.0	-1.5
MEIG				iS	Sn	11 00 01.7	-1.3
PPM	Popocatepetl	1.00	0	iP	Pn	10 59 50.2	-0.9
PPM				iS	Sn	11 00 03.1	-1.1
TPIG	Tehuac#an	1.26	73	iP	Pn	10 59 53.8	-0.8
TPIG				iS	Sn	11 00 07.4	-3.0
UNM	Universidad Na	1.36	338	iP	Pn	10 59 56.5	+0.5
ACX	Acapulco	1.71	226	iP	Pn	10 59 57.5	-3.2
PNIG	Pinotepa	1.73	164	iP	Pn	10 59 58.8	-2.2
PNIG				iS	Sn	11 00 19.7	-2.3
VHO	Vista Hermosa	2.06	118	iP	Pn	11 00 06.2	+0.6
VHO				iS	Sn	11 00 29.2	-1.0
OXX	Oaxaca	2.07	118	iP	Pn	11 00 05.5	-0.1
OXX				iS	Sn	11 00 29.0	-1.2
CMIG	Matias Romero	3.71	105	iP	Pn	11 00 27.2	-0.9
CMIG				iS	Sn	11 01 06.8	-3.7
CMIG	Matias Romero	3.71	105	iP	Pn	11 00 27.4	-0.7
CMIG				iS	Sn	11 01 06.7	-3.8

*ISCJB **07** 11:11:27.7±0.6, 5965N±004×2436E±007, h0^{km}, Error ellipse: s-maj=5.4km s-min=5.3km az=47.3*
*NAO **07** 11:11:30.0±1.0, 5970N×2469E, ML2.3*
*HEL **07** 11:11:30.2±0.1, 5968N×2453E, h0^{km}, ML1.9, ML2.3(NAO), Explosion*
*BER **07** 11:11:30.8±2.6, 5971N×2466E, h0^{km}, ML2.3(NAO), Suspected explosion*
*IDC **07** 11:11:31.3±2.1, 5977N×2459E, h0^{km}, mb1 3.6/3,*

mb1mx3.3/19, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=22.4km s-min=6.5km az=145.0

ISC 07 11:11:29.1±0.6**, 5968N**±004×**2451E**±007**, h0km, n22, σ1ˢ30**/38**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.55	354	eP	Pg	11 11 39.8	+0.3
MEF				eS	Sg	11 11 46.9	+0.3
PVF	Pernaja	1.10	37	eP	Pg	11 11 49.5	-0.7
PVF				eSN	Sn	11 12 09.4	+1.7
VSU	Vasula	1.67	136	eP	Pn	11 11 59.8	+0.2
VSU				eS	Sn	11 12 21.0	-0.8
VSU	Vasula	1.67	136	Pn	Pn	11 11 59.9	+0.4
VSU				Lg		11 12 21.1	
RAF	Rauma	1.92	316	eP	Pn	11 12 04.4	+1.4
RAF				eS	Sn	11 12 29.1	+1.2
RAF				MSG		11 12 33.4	
	comp=Z,12nm,0.2s						
FIA0	FINESS Array S	1.93	23	eP	Pn	11 12 04.2	+1.0
FIA0				eS	Sn	11 12 28.4	+0.2
FIA0				MSG		11 12 33.5	
	comp=Z,4.8nm,0.1s						
FIA0	FINESS Array S	1.93	23	Pn	Pn	11 12 04.5	+1.3
	baz=199,slow=16						
FIA0				Lg		11 12 28.6	
	baz=203,slow=37						
FINES	FINESS Array B	1.93	23	Pg	Pg	11 12 04.4	-1.8
	comp=Z,8.5nm,0.3s,baz=202,slow=16,SNR=345						
FINES				Lg		11 12 28.7	
	comp=Z,9.0nm,0.3s,baz=203,slow=30,SNR=14						
KEF	Keuruu	2.51	4	eP	Pn	11 12 13.5	+2.5
KEF				eSG	Sg	11 12 46.8	-2.8
KAF	Kangasniemi	2.60	19	eP	Pn	11 12 14.0	+1.7
KAF				eSB	Sb	11 12 48.5	-0.5
SUF	Sumiainen	3.15	14	eP	Pn	11 12 21.2	+1.2
HFS	Hagfors	5.46	279	eP	Pn	11 12 52.6	+0.8
HFS				eS	Sn	11 13 54.1	-1.2
HFS	Hagfors	5.46	279	Pn	Pn	11 12 52.2	+0.5
	comp=Z,1.1nm,0.3s,baz=98,slow=15,SNR=35						
HFS				Pg	Pg	11 13 06.1	-7.7
	comp=Z,0.5nm,0.3s,baz=95,slow=16,SNR=5.8						
HFS				Sn	Sn	11 13 56.2	+0.9
	comp=Z,1.3nm,0.3s,baz=84,slow=26,SNR=8.7						
HFS	Hagfors	5.46	279	Pn	Pn	11 12 52.6	+0.8
	baz=89,slow=16						
HFS				Sn	Sn	11 13 54.1	-1.2
	baz=88,slow=28						
NB2	NORSAR Subarra	6.74	287	Pn	Pn	11 13 08.9	-0.3
	baz=99,slow=14						
NB2				Sn	Sn	11 14 24.3	-2.3
	baz=98,slow=22						
NB2				Lg		11 14 59.7	
	baz=85,slow=37						
NB2	NORSAR Subarra	6.74	287	eP	Pn	11 13 08.9	-0.3
NB2				eS	Sn	11 14 24.3	-2.3
NB2				eSG		11 14 59.7	
NOA	NORSAR Array B	6.74	287	Pn	Pn	11 13 08.9	-0.3
	comp=Z,0.8nm,0.3s,baz=97,slow=14,SNR=3.7						
NOA				Sn	Sn	11 14 22.6	-4.0
	comp=Z,0.6nm,0.3s,baz=134,slow=26,SNR=2.8						
NOA				Lg		11 15 01.9	
	comp=Z,1.2nm,0.3s,baz=139,slow=20,SNR=4.4						
APA0	Apatity Array	8.80	22	Pn	Pn	11 13 36.0	-1.4
	baz=201,slow=9.3						
APA0	Apatity Array	8.80	22	eP	Pn	11 13 36.0	-1.4
ARA0	ARCESS Array S	9.91	2	Pn	Pn	11 13 51.2	-1.5
	baz=172,slow=16						
ARA0				Sn	Sn	11 15 37.3	-7.3
	baz=189,slow=22						
ARA0	ARCESS Array S	9.91	2	eP	Pn	11 13 51.2	-1.5
ARA0				eS	Sn	11 15 37.3	-7.3
ARCES	ARCESS Array B	9.91	2	Pn	Pn	11 13 51.1	-1.6
	comp=Z,1.4nm,0.3s,baz=176,slow=15,SNR=72						

---

*CSEM **07** 11:24:50.3, 3536N×2275E, h24km, MD3.5/4, After ATH*
*NEIC **07** 11:24:50.3, 3536N×2275E, h24km, MD3.5(ATH), After ATH.*

ATH 07 11:24:50.3, 3536N×2275E, h24km±1km**, MD3.5**/4**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	Kithira	0.95	14	ePN	Pn	11 25 08.5	+0.4
VAM	Vamos	1.19	87	ePN	Pn	11 25 13.3	+1.9
VAM				eSN	Sn	11 25 29.7	+3.0
GVD	Gavdhos	1.21	115	ePN	Pn	11 25 13.5	+1.8
VLI	Veliai	1.36	6	ePN	Pn	11 25 15.6	+1.8
VLI				eSN	Sn	11 25 34.5	+3.4

---

*NIED **07** 11:46:00, 2480N×14330E, h5km, Mw4.6 Best double couple: M₀9.88000×10¹⁵ NP1:φₛ332.00000°, δ85.00000°, λ91.00000°. NP2:φₛ144.00000°, δ5.00000°, λ82.00000°.*
*ISCJB **07** 11:46:51.6±1.7, 2456N±006×1430E±01, h53km±15km, mb4.3/19, MS3.7/1, Error ellipse: s-maj=18.9km s-min=10.3km az=167.6*
*IDC **07** 11:46:52.9±2.1, 2459N×14294E, h45km±19km, mb3.9/12, mb1 4.0/14, mb1mx3.9/22, mbtmp4.1/14, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/22, Error ellipse: s-maj=29.9km s-min=13.1km az=85.0*
*NEIC **07** 11:46:55.6±1.9, 2455N×14288E, h72km±17km, mb4.4/5, Error ellipse: s-maj=23.0km s-min=10.7km az=86.0*

ISC 07 11:46:53.3±1.5**, 2460N**±006×**1431E**±01**, h51km**±13km**, n37, σ0ˢ99**/33**, mb4.3**/19**, MS3.7**/1**, 1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.62	342	P	Pn	11 47 34.0	+0.8
	24nm,0.3s,baz=118,slow=21,SNR=9.3						
CBIJ				S	Sn	11 48 03.0	-0.7
	133nm,0.3s,baz=277,slow=24,SNR=12						
GUMO	Guam	11.08	171	LR	LR	11 53 32.5	
	comp=Z,157nm,18.9s,baz=329,slow=36						
MJAR	Matsushiro Arr	12.63	342	P	Pn	11 49 50.0	-0.1
	0.5nm,0.3s,baz=280,slow=22,SNR=4.7						
MAJO	Matsushiro	12.63	342	Pn	Pn	11 49 54.4	+4.3
JOW	Kunigami	13.55	283	LR	LR	11 55 19.2	
	comp=Z,100nm,18.2s,baz=12,slow=38						
ASAJ	Asahikawa	19.48	359	LR	LR	11 58 59.6	
	comp=Z,76nm,18.5s,baz=262,slow=37						
CTA	Charters Tower	44.52	176 ⇓	iP	pP	11 55 10.2	-3.1
	3.7nm,0.8s						
CTA	Charters Tower	44.52	176	P	P	11 55 00.1	+0.3
	2.8nm,0.8s,mb4.1,baz=22,slow=13,SNR=2.8						
WRAB	Tennant Creek	45.07	192	eP	P	11 55 03.4	-0.8
	4.7nm,0.6s,mb4.5						
WB2	Warramunga Arr	45.08	192	eP	P	11 55 03.6	-0.6
WRA	Warramunga Arr	45.09	192	P	P	11 55 03.7	-0.5
	2.1nm,0.6s,mb4.2,baz=12,slow=8.6,SNR=26						
FITZ	Fitzroy Crossi	45.73	203	eP	P	11 55 09.2	-0.1
	5.8nm,1.1s,mb4.4						
FITZ	Fitzroy Crossi	45.73	203	P	P	11 55 08.8	-0.6
	1.6nm,0.7s,mb4.1,baz=341,slow=11,SNR=7.7						
AS31	Alice Springs	48.80	191	eP	P	11 55 33.0	-0.2
ASPA	Alice Springs	48.80	191	eP	P	11 55 33.3	+0.1
JIRN	Jiri	50.81	286	eP	P	11 55 49.4	+0.9
	18nm,0.6s,mb5.2						
GUN	Gumba	51.04	287	eP	P	11 55 51.4	+1.2
KKN	Kakani	51.58	287	eP	P	11 55 56.3	+2.0
DMN	Daman	51.77	287	eP	P	11 55 57.6	+2.0
ZAL	Zalesovo	51.93	320	P	P	11 55 56.1	-0.7
	1.2nm,0.3s,mb4.3,baz=284,slow=12,SNR=3.0						
ZAL				LR	LR	12 19 13.4	
	comp=Z,66nm,19.1s,MS3.7,baz=309,slow=37						
GKN	Gorkha	52.10	287	eP	P	11 55 58.3	+0.2
MKAR	Makanchi Array	52.72	311	P	P	11 56 02.6	-0.1
	0.4nm,0.4s,mb3.7,baz=81,slow=4.8,SNR=2.9						
KOLN	Koldanda	53.05	287	eP	P	11 56 04.4	-0.7
STKA	Stephens Creek	56.17	182	P	P	11 56 27.6	-0.1
	2.5nm,1.1s,mb4.2,baz=35,slow=18,SNR=3.7						
BVAR	Borovoye Array	60.45	318	P	P	11 56 55.9	-1.7
	2.4nm,0.8s,mb4.3,baz=95,slow=9.1,SNR=9.2						
INK	Inuvik	64.96	24	P	P	11 57 27.0	-0.6
	1.6nm,0.6s,mb4.2,baz=319,slow=9.2,SNR=8.9						
ARU	Arti	66.91	323	P	P	11 57 38.3	-1.8
	2.8nm,0.5s,mb4.5						
ARCES	ARCESS Array B	76.16	341	P	P	11 58 36.5	+0.6
	2.9nm,0.7s,mb4.3,baz=71,slow=9.1,SNR=8.7						
JOF	Joensuu	77.68	334	ep	P	11 58 43.4	-1.0
	1.9nm,0.4s,mb4.4						
CMB	Columbia Colle	80.07	53	eP	P	11 58 58.0	+0.6
	2.3nm,0.5s,mb4.4						
KAF	Kangasniemi	80.08	335	ep	P	11 58 56.3	-1.2
	2.4nm,0.5s,mb4.4						
FINES	FINESS Array B	80.55	334	P	P	11 58 59.1	-1.0
	1.3nm,0.5s,mb4.2,baz=69,slow=5.9,SNR=15						
NVAR	Mina Array Bea	81.41	52	P	P	11 59 05.5	+0.8
	0.7nm,0.6s,mb3.8,baz=276,slow=6.0,SNR=5.9						
NVAR	Mina Array Bea	81.41	52	P	P	11 59 05.5	+0.8
DUG	Dugway	84.47	48	eP	P	11 59 22.1	+1.6
	0.7nm,0.5s,mb4.0						
AKASG	Malin Array Be	85.12	324	P	P	11 59 25.3	+1.6
	0.9nm,0.5s,mb4.1,baz=50,slow=4.9,SNR=5.9						
LPAZ	La Paz	149.64	80	PKPbc	PKPbc	12 06 41.3	+4.2
	0.7nm,0.7s,baz=142,slow=7.8,SNR=4.5						

---

*NEIC **07** 12:02:43.1, 4543S×16728E, h18km, ML4.1(WEL), After WEL.*

WEL 07 12:02:38.2±0.8**, 4531S×16681E, h12km, ML2.9**/10**, Error ellipse: s-maj=8.5km s-min=3.5km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.30	126	P	Pg	12 02 44.3	0.0
DCZ				S	Sg	12 02 49.5	+1.1
DCZ	Deep Cove	0.30	126	P*	Pg	12 02 44.2	0.0
DCZ				S*	Sg	12 02 49.2	+0.8
MLZ	Mavora Lakes	0.96	93	eP	Pg	12 02 55.0	-1.8
MLZ	Mavora Lakes	0.96	93	P*	Pb	12 02 54.9	-2.0
WHZ	Wether Hill Ro	0.99	127	eP	Pb	12 02 55.9	-1.4
WHZ	Wether Hill Ro	0.99	127	P*	Pb	12 02 55.7	-1.6
WKZ	Wanaka	1.63	74	eP	Pn	12 03 07.1	+0.3
WKZ	Wanaka	1.63	74	PN	Pn	12 03 06.9	+0.1
EAZ	Earnscleugh	1.76	89	eP	Pn	12 03 08.7	+0.1
EAZ	Earnscleugh	1.76	89	PN	Pn	12 03 08.6	0.0
JCZ	Jackson Bay	1.85	49	eP	Pn	12 03 12.2	+2.4
SYZ	Scrubby Hill	2.04	128	PN	Pn	12 03 11.7	-0.7
LBZ	Lake Benmore	2.57	70	eP	Pn	12 03 20.3	+0.7
LBZ	Lake Benmore	2.57	70	ePN	Pn	12 03 19.8	+0.2
ODZ	Otahua Downs	2.72	86	eP	Pn	12 03 20.7	-1.1
ODZ	Otahua Downs	2.72	86	ePN	Pn	12 03 20.4	-1.4

---

*ISCJB **07** 12:05:11.1±1.4, 4015N±003×1954E±008, h0km±6km, Error ellipse: s-maj=10.2km s-min=5.4km az=16.4*
*NEIC **07** 12:05:11.6, 4006N×1944E, h35km, MD3.2(ATH), After ATH.*
*ATH **07** 12:05:11.6, 4006N×1944E, h35km±2km, MD3.2/3*
*CSEM **07** 12:05:11.2±0.6, 4017N×1952E, h8km, MD3.2, Error ellipse: s-maj=10.5km s-min=4.4km az=98.0*
*THE **07** 12:05:12.7, 4016N×1957E, h10km, ML3.1*

ISC 07 12:05:11.6±1.4**, 4015N**±003×**1950E**±009**, h4km**±6km**, n22, σ1ˢ13**/32**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TPE	Tepelena	0.42	70	i Pg	Pg	12 05 18.7	-1.0
TPE				i Sg	Sg	12 05 22.9	-2.2
SRN	Sarande	0.47	125	i Pg	Pg	12 05 19.8	-0.9
SRN				i Sg	Sg	12 05 26.4	-0.4
KEK	Kerkira	0.49	152	ePB	Pg	12 05 21.7	+0.6
KEK				eSB	Sg	12 05 29.1	+1.5
IGT	Igoumenitsa	0.89	134	ePg	Pg	12 05 28.3	-0.4
JAN	Janina	1.15	115	ePN	Pn	12 05 33.5	-1.0
JAN				eSN	Sn	12 05 48.7	-2.0
OHR	Ohrid	1.38	45	ePg	Pg	12 05 37.3	-0.8
OHR				eSg	Sg	12 05 57.9	+1.9
OHR	Ohrid	1.38	45	ePn	Pg	12 05 41.2	+3.1
MEV	Metsovon	1.38	105	ePg	Pg	12 05 38.5	+0.4
MEV				eSg	Sg	12 05 56.6	+0.6
FNA	Florina	1.57	66	ePg	Pn	12 05 40.0	-0.3
FNA				eSg	Sg	12 06 01.9	-0.1
BIA	Bitola	1.64	57	ePg	Pn	12 05 41.0	-0.3
BIA				eSg	Sg	12 06 04.3	0.0
BIA	Bitola	1.64	57	i Pn	Pn	12 05 41.1	-0.1
LKD	Levkas	1.69	148	ePb	Pb	12 05 42.6	-0.7
LKD				eSb	Sb	12 06 06.2	+1.2
KZN	Kozani	1.75	84	ePN	Pn	12 05 42.2	-0.5
VLS	Valsamata	2.15	156	ePN	Pn	12 05 46.5	-1.7
EVR	Evrytania	2.17	124	ePN	Pn	12 05 47.2	-1.3
LIT	Litokhoron	2.29	90	ePn	Pn	12 05 53.0	+2.7
GRG	Griva	2.35	69	ePn	Pn	12 05 52.9	+1.8
AGG	Agios Georgios	2.46	116	ePn	Pn	12 05 53.6	+1.0
AGG				eSn	Sn	12 06 24.1	+1.0
AGG	Agios Georgios	2.46	116	S	Sn	12 06 24.1	+1.0
VAY	Valandovo	2.61	62	ePn	Pn	12 05 54.8	+0.2
HORT	Hortiatis	2.79	80	ePn	Pn	12 05 57.1	0.0
XOR	Xorichti	2.95	104	ePn	Pn	12 05 59.8	+0.5

CSEM 07 12:23:05.0±0.8**, 4303N×644W, h0km, mb3.5**/1**, Error ellipse: s-maj=11.2km s-min=5.5km az=149.0, After MDD, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EARI	Arriondas	0.94	73	Pg	Pg	12 23 21.6	-1.4
	3.9nm,0.3s,SNR=19						
EARI				Lg		12 23 36.9	
	5.2nm,0.4s,SNR=4.6						
ECAL	Calabor	1.11	191	Pg	Pg	12 23 25.5	-0.8
	11nm,0.2s,SNR=55						
ECAL				Lg		12 23 40.3	
	27nm,0.3s,SNR=9.7						
EMAZ	Mazaricos	1.86	268	Pg	Pg	12 23 39.0	-1.7
	2.8nm,0.4s,SNR=4.7						
EMAZ				Lg		12 24 05.0	
	38nm,1.5s						
ELAN	Lanestosa	2.21	84	Pn	Pn	12 23 41.3	-1.6
	7.1nm,0.7s,SNR=10.0						
ELAN				Sn	Sn	12 24 09.9	-1.1
	5.1nm,0.5s,SNR=4.6						

---

*ISCJB **07** 12:24:28.6±0.4, 5972N±003×2449E±006, h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=59.2*
*CSEM **07** 12:24:29.1±0.1, 5971N×2449E, h1km, ML2.7, Error ellipse: s-maj=2.7km s-min=2.1km az=135.0, Mining explosion.*
*NAO **07** 12:24:29.9±1.0, 5976N×2460E, ML2.7*
*HEL **07** 12:24:30.2±0.1, 5972N×2453E, h0km, ML2.7, ML2.8(UPP), ML2.7(NAO), Explosion*
*BER **07** 12:24:30.8±4.2, 5976N×2460E, h0km, ML2.7(NAO), Suspected explosion*
*IDC **07** 12:24:31.0±2.1, 5979N×2467E, h0km, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, ML3.8/3, Error ellipse: s-maj=22.9km s-min=6.6km az=144.0*
*UPP **07** 12:24:34.4, 5979N×2392E, h0km, ML2.8, Suspected Mining explosion.*

ISC 07 12:24:29.7±0.4**, 5975N**±003×**2456E**±006**, h0km, n65, σ1ˢ04**/84**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.48	350	eP	Pg	12 24 38.9	0.0
MEF				eS	Sg	12 24 45.4	+0.3
PVF	Pernaja	1.03	39	eP	Pg	12 24 48.8	-0.7
VSU	Vasula	1.71	138	eP	Pn	12 25 00.2	-0.6
VSU				eS	Sn	12 25 21.9	-1.3
VSU	Vasula	1.71	138	Pn	Pn	12 25 00.9	+0.1
VSU				Lg		12 25 22.5	
VSU	Vasula	1.71	138	P	Pn	12 25 00.1	-0.6
VSU				S	Sn	12 25 21.9	-1.4
FIA0	FINESS Array S	1.86	23	eP	Pn	12 25 03.8	+0.9
FIA0				eS	Sn	12 25 27.5	+0.4
FIA0	FINESS Array S	1.86	23	Pn	Pn	12 25 03.9	+1.0
	baz=193,slow=18						
FIA0				Lg		12 25 27.6	
	baz=193,slow=37						
FIA0	FINESS Array S	1.86	23	P	Pn	12 25 03.7	+0.9
FIA0				S	Sn	12 25 27.4	+0.4
FINES	FINESS Array B	1.86	23	Pg	Pn	12 25 03.8	+0.9
	24nm,0.3s,baz=198,slow=16,SNR=611						
FINES				Lg		12 25 27.1	
	32nm,0.3s,baz=199,slow=33,SNR=29						
FINES				Rg		12 25 39.3	
	5.7nm,0.3s,baz=198,slow=31,SNR=5.8						
RAF	Rauma	1.89	314	eP	Pn	12 25 03.9	+0.7
RAF				eSG	Sg	12 25 29.2	-1.3
RAF	Rauma	1.89	314	P	Pn	12 25 03.9	+0.7
RAF				Sg	Sg	12 25 29.1	-1.4
AAL	Aland	2.34	283	eP	Pn	12 25 09.9	+0.5
KEF	Keuruu	2.44	3	ePB	Pb	12 25 12.7	-1.7
KEF				eSB	Sb	12 25 44.0	-1.0
KAF	Kangasniemi	2.52	19	eP	Pn	12 25 13.6	+1.6
KAF				eSB	Sb	12 25 46.9	-0.6
NRTU	Norrtaelje	3.00	271	eP	Pn	12 25 18.3	-0.3
NRTU	Norrtaelje	3.00	271	P	Pn	12 25 18.2	-0.4
GRAU	Graesoe	3.08	284	eP	Pn	12 25 19.3	-0.3
SUF	Sumiainen	3.08	14	eP	Pn	12 25 21.1	+1.5
SUF				MSG		12 26 08.8	
	comp=Z,25nm,0.3s						
SUF	Sumiainen	3.08	14	P	Pn	12 25 21.0	+1.4
	comp=Z,25nm,0.3s						
FLYU	Flymyra	3.38	279	eP	Pn	12 25 23.4	-0.4
VAF	Ylistaro	3.43	345	eSG	Sg	12 26 16.3	-3.7
VAF				MSG		12 26 18.9	
	comp=Z,18nm,0.3s						
NYNU	Nynaeshamn	3.44	260	eP	Pn	12 25 25.1	+0.6
NYNU	Nynaeshamn	3.44	260	P	Pn	12 25 25.0	+0.5
GOTU	Gotland	3.75	239	eP	Pn	12 25 29.1	+0.4
OSTU	Oestervaala	3.76	281	eP	Pn	12 25 28.9	0.0
BACU	Backbrunna	3.77	275	eP	Pn	12 25 29.1	+0.1
HUDU	Hudiksvall	4.16	302	P	Pn	12 25 34.7	+0.2
ESKU	Eskilstuna	4.20	266	eP	Pn	12 25 35.1	+0.1
VIKU	Vikbolandet	4.24	256	eP	Pn	12 25 36.1	+0.6
HEMU	Hemsoen	4.31	316	eP	Pn	12 25 37.8	+1.2
HEMU	Hemsoen	4.31	316	P	Pn	12 25 37.7	+1.2
HUSU	Husum	4.42	327	eP	Pn	12 25 38.9	+0.9
FALU	Falun	4.43	284	eP	Pn	12 25 38.5	+0.3
HASU	Hassela	4.56	305	eP	Pn	12 25 40.7	+0.7
VSTU	Vaestervik	4.68	247	eP	Pn	12 25 42.0	+0.5
VSTU	Vaestervik	4.68	247	P	Pn	12 25 42.0	+0.4
NRAU	Nora	4.83	272	eP	Pn	12 25 43.2	-0.5
LNKU	Linkoeping	4.93	256	eP	Pn	12 25 45.8	+0.8
SOLU	Sollefteaa	4.96	318	eP	Pn	12 25 46.1	+0.7
BREU	Bredtraesk	5.03	328	eP	Pn	12 25 48.7	+2.3
BURU	Burvik	5.08	344	eP	Pn	12 25 48.8	+1.7
BURU	Burvik	5.08	344	P	Pn	12 25 48.7	+1.6
SVAU	Svanoeiden	5.31	336	eP	Pn	12 25 52.8	+2.6
HFS	Hagfors	5.48	279	eP	Pn	12 25 52.3	-0.3
HFS				eS	Sn	12 26 53.6	-2.6
HFS				eSG		12 27 19.0	
HFS	Hagfors	5.48	279	Pn	Pn	12 25 52.6	0.0
	comp=Z,1.2nm,0.3s,baz=110,slow=11,SNR=29						
HFS				Sn	Sn	12 26 54.5	-1.8
	comp=Z,2.3nm,0.3s,baz=96,slow=30,SNR=9.1						
HFS				Lg		12 27 26.0	
	comp=Z,5.5nm,0.3s,baz=87,slow=28,SNR=7.1						
HFS	Hagfors	5.48	279	Pn	Pn	12 25 52.3	-0.3
	baz=112,slow=14						
HFS				Sn	Sn	12 26 53.6	-2.6
	baz=100,slow=28						
HFS				Lg		12 27 19.0	
	baz=94,slow=37						
HFS	Hagfors	5.48	279	P	Pn	12 25 52.2	-0.4
HFS				Sg		12 27 18.9	
VXJU	Vaexsjoe	5.80	245	eP	Pn	12 25 57.4	+0.4
NASU	Vaermlandsnaes	5.88	267	P	Pn	12 25 58.2	+0.1
SJUU	Sjulsmark	5.94	348	eP	Pn	12 25 59.8	+0.8
LILU	Lilltraesk	5.97	341	eP	Pn	12 25 59.6	+0.3
DEL	Delary	6.55	245	eP	Pn	12 26 07.0	-0.3
NB2	NORSAR Subarra	6.74	287	Pn	Pn	12 26 09.0	-0.9
	baz=96,slow=16						
NB2				Sn	Sn	12 27 23.9	-3.5
NB2				Lg		12 27 57.7	
NB2	NORSAR Subarra	6.74	287	eP	Pn	12 26 09.0	-0.9
NB2				eS	Sn	12 27 23.9	-3.5
NB2				eSG		12 27 57.7	
NB2	NORSAR Subarra	6.74	287	P	Pn	12 26 09.0	-0.9
NB2				Sg		12 27 57.7	
NOA	NORSAR Array B	6.74	287	Pn	Pn	12 26 08.9	-1.0
	comp=Z,1.2nm,0.3s,baz=93,slow=14,SNR=4.9						
NOA				Sn	Sn	12 27 22.6	-4.7
	comp=Z,1.1nm,0.3s,baz=126,slow=23,SNR=3.0						
NOA				Lg		12 27 57.2	
	comp=Z,2.4nm,0.3s,baz=96,slow=17,SNR=5.0						
STRU	Stroemstad	6.87	270	P	Pn	12 26 10.4	-1.3
ERTU	Ertsjaerv	6.92	352	eP	Pn	12 26 13.5	+1.2
BSD	Bornholm Skovb	6.97	232	i P	Pn	12 26 11.7	-1.4
BSD				i S	Sn	12 27 28.0	-5.1
NIKU	Nikkaluokta	8.51	346	eP	Pn	12 26 34.1	0.0
APA0	Apatity Array	8.72	22	Pn	Pn	12 26 37.0	-0.2
	baz=194,slow=12						
APA0	Apatity Array	8.72	22	eP	Pn	12 26 37.0	-0.2
ARA0	ARCESS Array S	9.84	2	Pn	Pn	12 26 50.6	-1.8
	baz=175,slow=14						
ARA0				Sn	Sn	12 28 34.2	-9.4
	baz=180,slow=28						
ARA0	ARCESS Array S	9.84	2	eP	Pn	12 26 50.6	-1.8
ARA0				eS	Sn	12 28 34.2	-9.4
ARCES	ARCESS Array B	9.84	2	Pn	Pn	12 26 50.6	-1.8
	comp=Z,2.1nm,0.3s,baz=186,slow=11,SNR=99						
ARCES				Sn	Sn	12 28 41.0	-2.6
	comp=Z,1.0nm,0.3s,baz=186,slow=23,SNR=6.5						

---

*NEIC **07** 12:41:19.9, 5739N×13261W, h1km, ML3.5(AEIC), ML3.6(PGC), After PGC.*

PGC 07 12:41:19.9, 5739N×13261W, h1km, ML3.6/8**, 147km southeast of Juneau, Ak Northeast of Petersburg, Alaska - British Columbia border., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAK	Wrangell Islan	0.99	171	ePn	Pn	12 41 37.9	-3.0
WRAK				eSn	Sn	12 41 50.4	-5.1
SIT	Sitka	1.51	258	P	Pn	12 41 47.1	-1.0
SIT				S	Sb	12 42 08.1	-0.4
DLBC	Dease Lake	1.73	52	Pn	Pn	12 41 49.9	-1.3
DLBC				Sg	Sg	12 42 14.5	-1.1
DLBC				Trac		12 42 15.9	
	comp=Z,465nm,0.2s						
DLBC	Dease Lake	1.73	52	Pn	Pn	12 41 49.9	-1.3
DLBC				Sg	Sg	12 42 14.5	-1.1
CRAG	Craig	1.95	189	P	Pn	12 41 52.7	-1.5
CRAG				S	Sn	12 42 17.2	-2.0
SKAG	Skagway	2.52	327	P	Pn	12 42 02.3	+0.3
SKAG				S	Sn	12 42 32.1	-1.2
PLBC	Pleasant Camp	2.86	318	Pn	Pn	12 42 05.9	-0.7
PLBC				Pg	Pg	12 42 09.5	-5.3
PLBC				Sg	Sg	12 42 48.6	-3.2
RUBB	Prince Rupert	3.35	156	Pn	Pn	12 42 11.9	-1.5
RUBB				Pg	Pg	12 42 19.2	-4.9
RUBB				Sn	Sn	12 42 50.5	-3.3
RUBB				Sg	Sg	12 43 03.0	-4.6
RUBB				Trac		12 43 06.4	
	comp=Z,138nm,0.2s						
RUBB	Prince Rupert	3.35	156	Pn	Pn	12 42 11.9	-1.5
RUBB				Pg	Pg	12 42 19.2	-4.9
RUBB				Sn	Sn	12 42 50.5	-3.3
RUBB				Sg	Sg	12 43 03.0	-4.6
NDB	Naden	3.45	183	Pn	Pn	12 42 13.7	-1.1
NDB				Pg	Pg	12 42 25.8	-0.3
NDB				Trac		12 43 11.6	
	comp=Z,56nm,0.3s						
NDB	Naden	3.45	183	Pn	Pn	12 42 13.7	-1.1
NDB				Pg	Pg	12 42 25.8	-0.3
WHY	Whitehorse	3.48	341	Pn	Pn	12 42 15.0	-0.2
WHY				Sg	Sg	12 43 07.5	-4.2
WHY				Trac		12 43 15.8	
	comp=Z,54nm,0.2s						
WHY	Whitehorse	3.48	341	Pn	Pn	12 42 15.0	-0.2
WHY				Sg	Sg	12 43 07.5	-4.2
BNAB	Bonilla	4.07	163	Pn	Pn	12 42 22.0	-1.3
BNAB				Pg	Pg	12 42 32.5	-5.4
BNAB				Sn	Sn	12 43 09.3	-2.2
BNAB				Sg	Sg	12 43 24.1	-6.6
BNAB				Trac		12 43 30.7	
	comp=Z,20nm,0.3s						
BNAB	Bonilla	4.07	163	Pn	Pn	12 42 22.0	-1.3
BNAB				Pg	Pg	12 42 32.5	-5.4
BNAB				Sn	Sn	12 43 09.3	-2.2
BNAB				Sg	Sg	12 43 24.1	-6.6
VIB	Van Inlet	4.15	179	Pn	Pn	12 42 24.3	-0.1
VIB				Sn	Sn	12 43 11.3	-2.2
VIB				Trac		12 43 14.0	
	comp=Z,44nm,0.3s						
VIB	Van Inlet	4.15	179	Pn	Pn	12 42 24.3	-0.1
VIB				Sn	Sn	12 43 11.3	-2.2
PNL	Peninsula	4.22	306	P	Pn	12 42 24.6	-0.8

MOBC	Moresby Island	4.23	174	Pn	Pn	12 42 25.3	-0.1
MOBC				Sn	Sn	12 43 14.3	-1.1
MOBC				Trac		12 43 50.3	
	comp=Z,37nm,0.7s						
MOBC	Moresby Island	4.23	174	Pn	Pn	12 42 25.3	-0.1
MOBC				Sn	Sn	12 43 14.3	-1.1
HYT	Haines Junctio	4.27	326	Pn	Pn	12 42 26.4	+0.4
HYT				Pg	Pg	12 42 37.0	-4.7
HYT				Sg	Sg	12 43 32.4	-4.7
HYT				Trac		12 43 39.0	
	comp=Z,49nm,0.4s						
HYT	Haines Junctio	4.27	326	Pn	Pn	12 42 26.4	+0.4
HYT				Pg	Pg	12 42 37.0	-4.7
HYT				Sg	Sg	12 43 32.4	-4.7
BNB	Barry Inlet	4.85	174	Pn	Pn	12 42 33.9	-0.2
BNB				Sn	Sn	12 43 27.5	-3.4
BNB				Trac		12 43 31.3	
	comp=Z,347nm,0.3s						
BNB	Barry Inlet	4.85	174	Pn	Pn	12 42 33.9	-0.2
BNB				Sn	Sn	12 43 27.4	-3.5
FNBB	Fort Nelson	5.30	70	Pn	Pn	12 42 39.7	-0.6
FNBB				Pg	Pg	12 42 54.1	-7.5
FNBB				Sg	Sg	12 44 03.6	-6.8
FNBB				Trac		12 44 23.9	
	comp=Z,28nm,0.9s						
FNBB	Fort Nelson	5.30	70	Pn	Pn	12 42 39.7	-0.6
FNBB				Pg	Pg	12 42 54.1	-7.5
FNBB				Sg	Sg	12 44 03.6	-6.8
FSB	Fort Saint Jam	5.50	119	Pn	Pn	12 42 41.7	-1.2
FSB				Pg	Pg	12 42 58.8	-6.5
FSB				Sg	Sg	12 44 11.9	-4.6
FSB				Trac		12 44 20.5	
	comp=Z,34nm,0.7s						
FSB	Fort Saint Jam	5.50	119	Pn	Pn	12 42 41.7	-1.2
FSB				Pg	Pg	12 42 58.8	-6.5
FSB				Sg	Sg	12 44 11.9	-4.6
BBB	Bella Bella	5.83	152	Pn	Pn	12 42 46.8	-0.7
BBB				Pg	Pg	12 43 02.6	-9.1
BBB				Sn	Sn	12 43 53.4	-1.6
BBB				Sg	Sg	12 44 18.9	-8.3
BBB				Trac		12 44 28.6	
	comp=Z,30nm,0.6s						
BBB	Bella Bella	5.83	152	Pn	Pn	12 42 46.8	-0.7
BBB				Pg	Pg	12 43 02.6	-9.1
BBB				Sn	Sn	12 43 53.4	-1.6
BBB				Sg	Sg	12 44 18.9	-8.3
BMBC	Bull Mountain	5.93	99	Pn	Pn	12 42 49.1	+0.2
BMBC				Pg	Pg	12 43 06.2	-7.4
BMBC				Sg	Sg	12 44 24.6	-5.7
BMBC				Trac		12 44 48.4	
	comp=Z,31nm,0.7s						
BMBC	Bull Mountain	5.93	99	Pn	Pn	12 42 49.1	+0.2
BMBC				Pg	Pg	12 43 06.2	-7.4
BMBC				Sg	Sg	12 44 24.6	-5.7
HOLB	Holberg	7.26	157	Pn	Pn	12 43 06.8	-0.3
HOLB				Sn	Sn	12 44 27.9	-2.4
HOLB				Trac		12 44 30.4	
	comp=Z,4.0nm,0.4s						
HOLB	Holberg	7.26	157	Pn	Pn	12 43 06.8	-0.3
HOLB				Sn	Sn	12 44 27.9	-2.4
PHC	Port Hardy	7.36	153	Pn	Pn	12 43 08.0	-0.5
PHC				Sn	Sn	12 44 29.5	-3.1
PHC				Trac		12 44 33.5	
	comp=Z,3.0nm,0.3s						
PHC	Port Hardy	7.36	153	Pn	Pn	12 43 08.0	-0.5
PHC				Sn	Sn	12 44 29.5	-3.1
DAWY	Dawson	7.47	336	Pn	Pn	12 43 09.8	-0.3
DAWY				Pg	Pg	12 43 34.7	-8.3
DAWY				Sg	Sg	12 45 10.8	-9.0
DAWY				Trac		12 45 30.1	
	comp=Z,28nm,0.7s						
DAWY	Dawson	7.47	336	Pn	Pn	12 43 09.8	-0.3
DAWY				Pg	Pg	12 43 34.7	-8.3
DAWY				Sg	Sg	12 45 10.8	-9.0
MAYB	Maynard	7.70	153	Pn	Pn	12 43 12.9	-0.3
MAYB				Sn	Sn	12 44 40.0	-1.1
MAYB				Sg	Sg	12 45 13.6	-14
MAYB				Trac		12 45 30.8	
	comp=Z,12nm,0.9s						
MAYB	Maynard	7.70	153	Pn	Pn	12 43 12.9	-0.3
MAYB				Sn	Sn	12 44 40.0	-1.1
MAYB				Sg	Sg	12 45 13.6	-14
BPBC	Brooks Peninsu	7.79	156	Pn	Pn	12 43 15.3	+0.8
BPBC				Sn	Sn	12 44 40.3	-3.0
BPBC				Trac		12 44 45.2	
	comp=Z,6.0nm,0.3s						
BPBC	Brooks Peninsu	7.79	156	Pn	Pn	12 43 15.3	+0.8
BPBC				Sn	Sn	12 44 40.3	-3.0
LLLB	Lillooet	9.27	133	Trac		12 46 17.9	
	comp=Z,3.0nm,0.5s						
LLLB	Lillooet	9.27	133	Sg	Sn	12 46 06.8	+47
DOWB	Downie Slide	10.09	120	Pn	Pn	12 43 46.8	+0.9
DOWB				Trac		12 46 58.3	
	comp=Z,19nm,0.5s						
SLEB	Sale Mountain	10.50	120	Pn	Pn	12 43 52.3	+0.7
INK	Inuvik	10.96	358	Pn	Pn	12 43 57.9	-0.1
INK				Sg	Sn	12 47 09.3	+68
INK				Trac		12 47 18.1	
	comp=Z,4.0nm,1.1s						
INK	Inuvik	10.96	358	Pn	Pn	12 43 57.9	-0.1
INK				Sg	Sn	12 47 09.3	+68

*NIED **07** 12:43:00, 4320N×14630E, h62km, Mw3.8 Best double couple: $M_0$4.74000×10^14 NP1:ϕ_s85.00000°, δ88.00000°, λ136.00000°. NP2:ϕ_s177.00000°, δ46.00000°, λ3.00000°.*
*MOS **07** 12:43:05.0±1.8, 4303N×14677E, h40km, mb4.4/2, Error ellipse: s-maj=25.6km s-min=14.6km az=85.6*
*ISCJB **07** 12:43:07.9±0.9, 4321N±005×14645E±008, h70km±8km, mb4.1/2, Error ellipse: s-maj=11.8km s-min=5.8km az=85.9*
*JMA **07** 12:43:09.8±0.1, 43.18N×14632E, h68km±1km, M3.7*
JMA Felt I J1.
*SKHL **07** 12:43:09.4±0.6, 4320N×14650E, h54km±15km, mb5.4/2*
*NEIC **07** 12:43:10.8±2.2, 43.14N×14631E, h86km±21km, mb4.1/3, Error ellipse: s-maj=37.0km s-min=13.7km az=111.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.

ISC 07 12:43:08.9±0.8, 4321N±005×14646E±008, h63km±9km, n23, σ0s98/38, mb4.3/2, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.55	287	P	Pn	12 43 22.2	+0.7
NEM2				eS	Sn	12 43 31.1	+0.4
YUK	Yuzh-Kuril'sk	0.93	333	⇓iP	Pn	12 43 26.0	-0.1
YUK				AMB	AMB	12 43 26.5	
	4μm,0.7s						
YUK				AMB	AMB	12 43 26.7	
	710nm,0.2s						
YUK				AMB	AMB	12 43 26.7	
	640nm,0.2s						
YUK				AMB	AMB	12 43 26.7	
	4μm,0.2s						
YUK				iS	Sn	12 43 38.9	0.0
YUK				A		12 43 39.5	
	4μm,0.8s						
YUK				A		12 43 39.5	
	8μm,0.8s						
YUK				A		12 43 44.5	
	8μm,0.4s						
YUK				A		12 43 44.5	
	4μm,0.4s						
YUK	Yuzh-Kuril'sk	0.93	333	⇓iPN	Pn	12 43 26.0	-0.1
YUK				iS	Sn	12 43 38.9	0.0
YUK				pmax	pmax		
	comp=Z,4μm,0.7s						
YUK				pmax	pmax		
	comp=Z,4μm,0.2s						
YUK				pmax	pmax		
	comp=N,710nm,0.2s						
YUK				pmax	pmax		
	comp=E,640nm,0.3s						
YUK				smax			
	comp=N,4μm,0.8s						
YUK				smax			
	comp=E,8μm,0.8s						
YUK				smax			
	comp=N,8μm,0.5s						
YUK				smax			
	comp=E,4μm,0.3s						
JRA	Rausu	1.21	307	P	Pn	12 43 30.3	+0.5
JRA				eS	Sn	12 43 46.2	+0.8
JAK	Akkeshi	1.31	261	P	Pn	12 43 31.0	0.0
JAK				eS	Sn	12 43 46.7	-0.9
JNK	Nakash	1.32	287	P	Pn	12 43 31.1	-0.1
JNK				eS	Sn	12 43 46.8	-1.2
JOB	Onbets	1.95	262	P	Pn	12 43 39.7	+0.1
JOB				eS	Sn	12 44 01.7	-1.3
JAR	Ashorobuto	1.97	274	P	Pn	12 43 40.2	+0.3
JAR				eS	Sn	12 44 02.8	-0.7
JTKR	Abashiri--Toko	2.00	293	P	Pn	12 43 41.3	+0.9
JTKR				eS	Sn	12 44 04.6	+0.2
KUR	Kuril'sk	2.27	26	iP	Pn	12 43 42.6	-1.3
KUR				AMB	AMB	12 43 44.0	
	comp=E,180nm,0.5s						
KUR				AMB	AMB	12 43 44.0	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	12 43 44.0	
	comp=E,240nm,0.5s						
KUR				iS	Sn	12 44 08.9	-1.9
KUR				A		12 44 10.0	
	comp=E,1μm,0.7s						
KUR				A		12 44 10.0	
	comp=E,840nm,0.7s						
KUR	Kuril'sk	2.27	26	⇑iPN	Pn	12 43 42.6	-1.3
KUR				iS	Sn	12 44 08.9	-1.9
KUR				pmax	pmax		
	comp=E,150nm,0.5s						
KUR				smax			
	comp=N,1μm,0.7s						
KUR				smax			
	comp=E,840nm,0.7s						
JCH	Churui	2.35	256	P	Pn	12 43 44.8	-0.3
JCH				eS	Sn	12 44 11.0	-1.8
JMP	Maruseppu	2.39	291	P	Pn	12 43 46.5	+0.9
ERM	Erimo	2.71	245	ePn	Pn	12 43 51.5	+1.5
ERM				eSn	Sn	12 44 23.0	+1.3
YSS	Yuzh-Sakhalins	4.57	326	⇑eP	Pn	12 44 16.9	+1.4
YSS				eS	Sn	12 45 06.0	-1.3
YSS				A		12 45 07.0	
	comp=E,30nm,0.6s						
YSS	Yuzh-Sakhalins	4.57	326	ePn	Pn	12 44 16.9	+1.4
YSS				eSn	Sn	12 45 08.6	+1.3
MAJO	Matsushiro	9.19	226	ePN	Pn	12 45 18.2	-0.4
MA2	Magadan	16.60	8	eP	Pn	12 46 59.4	+1.9
MA2				pmax	pmax		
	comp=Z,14nm,1.1s						
MA2	Magadan	16.60	8	eP	Pn	12 46 59.4	+2.0
	comp=Z,14nm,1.1s						
INK	Inuvik	47.13	30	eP	P	12 51 34.5	-0.2
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	47.13	30	eP	P	12 51 34.5	-0.2
	comp=Z,2.8nm,0.6s,mb4.4						
ZRNK	Zerenda	50.27	310	eP	P	12 51 57.9	-0.9
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ZRNK	Zerenda	50.27	310	eP	P	12 51 57.9	-0.9
	comp=Z,0.8nm,0.4s,mb4.1						

*NIED **07** 12:58:00, 4240N×14060E, h150km, Mw4.0 Best double couple: $M_0$1.24000×10^15 NP1:ϕ_s231.00000°, δ80.00000°, λ88.00000°. NP2:ϕ_s61.00000°, δ10.00000°, λ100.00000°.*
*ISCJB **07** 12:58:34.3±0.2, 4240N±003×14061E±004, h154km±2km, mb4.0/21, Error ellipse: s-maj=5.9km s-min=4.4km az=74.2*
*MOS **07** 12:58:34.9±1.1, 4248N×14060E, h164km, mb4.2/8, Error ellipse: s-maj=13.6km s-min=8.3km az=108.6*
*JMA **07** 12:58:35.9±0.1, 4240N×14062E, h145km±1km, M3.5*
*IDC **07** 12:58:35.7±1.2, 4244N×14059E, h150km±10km, mb3.8/13, mb1 3.9/15, mb1mx3.8/24, mbtmp4.2/15, Error ellipse: s-maj=15.5km s-min=13.1km az=132.0*
*NEIC **07** 12:58:36.1±0.7, 4246N×14057E, h154km±8km, mb4.3/7, Error ellipse: s-maj=12.3km s-min=8.7km az=105.0*

ISC 07 12:58:35.4±0.2, 4240N±003×14061E±004, h150km±2km, n60, σ0s89/79, mb4.0/21, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.32	78	P	Pn	12 58 55.8	-0.2
JNB				eS	Sn	12 59 10.8	-0.8
JYM2	Yakumo 2	0.34	213	P	Pn	12 58 56.2	+0.2
JYM2				S	Sn	12 59 11.3	-0.4
JSH	Shimam	0.48	300	P	Pn	12 58 56.5	-0.1
JSH				eS	Sn	12 59 12.9	+0.1
JKB	Kayabe	0.60	149	P	Pn	12 58 57.2	0.0
JKB				eS	Sn	12 59 13.2	-0.7
JEW	Eniwo	0.76	54	P	Pn	12 58 58.7	+0.5
JEW				eS	Sn	12 59 16.2	+0.5
JSR	Shiriuchi	0.88	190	P	Pn	12 58 59.2	0.0
JSR				eS	Sn	12 59 16.5	-0.8
JOSM	Okushiri--Mats	0.90	250	P	Pn	12 58 59.4	+0.1
JOSM				eS	Sn	12 59 17.0	-0.6
JSK	Shakotan	0.96	354	P	Pn	12 59 00.0	+0.2
JSK				eS	Sn	12 59 18.5	+0.1
JOT	Ohata	1.07	162	P	Pn	12 59 00.6	-0.1
JOT				eS	Sn	12 59 19.8	-0.3
JHR	Hokuryu	1.57	31	P	Pn	12 59 06.8	+1.2
JHR				eS	Sn	12 59 31.1	+2.3
JNBK	Urakawa-nobuka	1.59	94	P	Pn	12 59 05.8	-0.1
JNBK				eS	Sn	12 59 29.1	-0.1
JFR	Furan	1.65	62	P	Pn	12 59 06.2	-0.3
JFR				eS	Sn	12 59 29.9	-0.4
ERM	Erimo	1.93	101	ePn	Pn	12 59 10.1	+0.5
ERM				eSn	Sn	12 59 36.2	+0.2
JCH	Churui	2.04	83	P	Pn	12 59 11.0	0.0
JCH				eS	Sn	12 59 37.3	-1.1
JYG	Yagishiri	2.11	16	P	Pn	12 59 12.2	+0.4
JANG	Nango	2.14	161	P	Pn	12 59 11.2	-0.9
JANG				eS	Sn	12 59 38.4	-1.9
JKK2	Kamakawa 2	2.15	46	P	Pn	12 59 12.9	+0.7
JKK2				eS	Sn	12 59 39.9	-0.6
ASAJ	Asahikawa	2.25	40	P	Pn	12 59 14.2	+0.9
	4.7nm,0.3s,baz=230,slow=17,SNR=63						
ASAJ				S	Sn	12 59 42.9	+0.3
	8.7nm,0.3s,baz=63,slow=27,SNR=15						
YUK	Yuzh-Kuril'sk	4.17	65	PN	Pn	12 59 38.8	+1.0
YUK				eS	Sn	13 00 25.2	-1.1
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				smax			
	comp=E,400nm,0.6s						
YUK				smax			
	comp=N,710nm,0.4s						
YSS	Yuzh-Sakhalins	4.80	18	⇓iPN	Pn	12 59 46.8	+0.7
YSS	Yuzh-Sakhalins	4.80	18	ePn	Pn	12 59 47.1	+1.0
YSS				e		13 00 06.9	
MAJO	Matsushiro	6.14	198	ePN	Pn	13 00 05.7	+1.8
MAT	Matsushiro	6.14	198	P	Pn	13 00 05.0	+1.1
MAT				S	Sn	13 01 14.6	+1.5
MJAR	Matsushiro Arr	6.14	198	P	Pn	13 00 05.8	+1.9
	comp=N,0.8nm,0.3s,baz=7.8,slow=14,SNR=7.5						
VLA	Vladivostok	6.46	279	ePN	Pn	13 00 08.7	+0.6
VLA				e		13 01 22.4	
VLA				pmax	pmax		
	comp=Z,20nm,1.4s						
KLR	Kul'dur	9.21	321	ePN	Pn	13 00 41.8	-3.0
YAK	Yakutsk	20.71	345	eP	P	13 03 00.7	-3.1
YAK				pmax	pmax		
	comp=Z,18nm,0.8s						
YAK	Yakutsk	20.71	345	eP	P	13 03 00.7	-3.2
	comp=Z,18nm,0.8s						
BOD	Bodaibo	22.79	322	eP	P	13 03 21.7	-3.3
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
ULN	Ulaanbaatar	24.17	295	eP	P	13 03 37.7	0.0
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	Ulaanbaatar	24.17	295	eP	P	13 03 37.7	0.0
	comp=Z,2.4nm,0.6s,mb3.9						
SONM	Songino Array	24.62	295	P	P	13 03 41.1	-0.5
	comp=Z,2.7nm,0.5s,mb4.0,baz=79,slow=8.1,SNR=22						
ZAK	Zakamensk	26.73	300	eP	P	13 04 00.7	0.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ZAL	Zalesovo	38.01	307	P	P	13 05 39.1	+0.3
	comp=Z,8.2nm,0.5s,mb4.6,baz=27,slow=8.6,SNR=26						
NVS	Novosibirsk	38.83	309	iP	P	13 05 45.3	-0.3
MKAR	Makanchi Array	40.94	297	P	P	13 06 03.4	+0.4
	comp=Z,3.1nm,0.5s,mb4.2,baz=77,slow=10,SNR=26						
MKAR	Makanchi Array	40.94	297	P	P	13 06 03.4	+0.4
BVAR	Borovoye Array	46.62	309	P	P	13 06 48.7	+0.3
	comp=Z,2.6nm,0.3s,mb4.3,baz=74,slow=9.2,SNR=17						
ZRNK	Zerenda	47.45	309	eP	P	13 06 55.2	+0.4
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
ZRNK	Zerenda	47.45	309	eP	P	13 06 55.2	+0.5
	comp=Z,6.8nm,0.7s,mb4.4						
INK	Inuvik	49.95	29	P	P	13 07 13.1	-0.7
	comp=Z,2.2nm,0.8s,mb3.8,baz=347,slow=7.1,SNR=13						
INK	Inuvik	49.95	29	eP	P	13 07 14.4	+0.6
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	Inuvik	49.95	29	eP	P	13 07 14.4	+0.5
	comp=Z,2.0nm,0.5s,mb4.0						
ARU	Arti	52.01	316	eP	P	13 07 29.0	-0.3
ARU	Arti	52.01	316	eP	P	13 07 29.3	0.0
	comp=Z,13nm,1.4s,mb4.4						
AKTK	Aktyubinsk	54.72	309	P	P	13 07 49.4	+0.3
AKTO	Aktyubinsk	54.72	309	P	P	13 07 49.4	+0.3
	comp=Z,0.7nm,0.4s,mb3.8,baz=57,slow=12,SNR=3.4						
ARCES	ARCESS Array B	58.78	338	P	P	13 08 16.3	-1.3
	comp=Z,2.9nm,0.9s,mb4.1,baz=36,slow=6.3,SNR=6.2						
JOF	Joensuu	60.97	330	ep	P	13 08 31.3	-1.3
	comp=Z,1.3nm,0.3s,mb4.2						
WRAB	Tennant Creek	62.29	187	eP	P	13 08 40.9	-0.5
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
WRAB	Tennant Creek	62.29	187	eP	P	13 08 40.9	-0.5
	comp=Z,2.3nm,0.7s,mb4.1						
WRA	Warramunga Arr	62.30	187	P	P	13 08 41.4	-0.1
	comp=Z,1.3nm,0.5s,mb4.0,baz=5.5,slow=6.8,SNR=16						
KAF	Kangasniemi	63.28	331	ep	P	13 08 46.3	-1.7
	comp=Z,2.1nm,0.5s,mb4.2,baz=47,slow=6.2						
KAF	Kangasniemi	63.28	331	eP	P	13 08 46.3	-1.7
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
FINES	FINESS Array B	63.81	331	P	P	13 08 50.5	-0.9
	comp=Z,2.9nm,0.6s,mb4.3,baz=50,slow=8.3,SNR=20						
HFS	Hagfors	68.97	335	P	P	13 09 23.6	-0.6
	comp=Z,1.7nm,0.3s,mb4.2,baz=42,slow=6.5,SNR=13						
NB2	NORSAR Subarra	69.02	336	P	P	13 09 24.0	-0.6
	comp=Z,1.0nm,0.6s,mb3.7,baz=37,slow=6.2						
NOA	NORSAR Array B	69.02	336	P	P	13 09 24.2	-0.3
	comp=Z,2.0nm,0.6s,mb4.0,baz=38,slow=6.1,SNR=5.2						
NVAR	Mina Array Bea	72.30	54	P	P	13 09 46.2	+1.8
	comp=Z,0.6nm,0.7s,mb3.4,baz=284,slow=5.4,SNR=6.6						
PDAR	Pinedale Array	74.37	46	P	P	13 09 57.8	+1.3
	comp=Z,0.6nm,0.6s,mb3.5,baz=302,slow=2.1,SNR=6.9						

*ISCJB **07** 13:05:09.6±2.8, 350N±04×780E±02, h33km, mb3.9/7, Error ellipse: s-maj=54.2km s-min=24.7km az=177.9*
*IDC **07** 13:05:18.3±16.0, 35.17N×7806E, h92km±132km, mb3.6/7, mb1 3.7/8, mb1mx3.4/21, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=110.4km s-min=28.5km az=2.0*

ISC 07 13:05:10.9±2.6, 349N±04×780E±02, h35km, n9, σ0s73/9, mb3.8/7, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVAR	Borovoye Array	18.90	346	P	Pn	13 09 29.9	+0.6
	0.2nm,0.3s,baz=144,slow=15,SNR=5.4						
AKTO	Aktyubinsk	21.27	323	P	P	13 09 54.4	+0.3
	2.1nm,0.7s,mb3.6,baz=126,slow=6.1,SNR=6.0						
SONM	Songino Array	24.76	50	P	P	13 10 29.5	+0.3
	1.1nm,0.6s,mb3.5,baz=240,slow=11,SNR=7.3						
JOF	Joensuu	40.14	329	ep	P	13 12 43.0	-0.4
MLR	Muntele Rosu	40.50	301	P	P	13 12 48.0	+1.6
	1.9nm,0.5s,mb4.0,baz=216,slow=5.2,SNR=4.9						
FINES	FINESS Array B	42.00	326	P	P	13 12 57.7	-1.0
	1.0nm,0.5s,mb3.7,baz=97,slow=9.8,SNR=6.2						
ARCES	ARCESS Array B	44.83	337	P	P	13 13 21.4	-0.1
	1.3nm,0.8s,mb3.8,baz=129,slow=9.6,SNR=4.5						
HFS	Hagfors	47.82	323	P	P	13 13 44.5	-0.5
	1.5nm,0.6s,mb4.2,baz=85,slow=9.1,SNR=4.9						
NOA	NORSAR Array B	49.06	324	P	P	13 13 53.9	-0.7
	1.1nm,0.6s,mb4.1,baz=92,slow=7.6,SNR=3.5						

*NEIC **07** 13:11:06.2, 3206S×6984W, h127km, MD3.8(GUC), After GUC.*

GUC 07 13:11:06.2±0.7, 3206S×6984W, h127km±6km, MD3.8, ML3.8, 9C-2D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JACH	Jahuel	0.89	226	⇑iP	Pn	13 11 28.2	+0.4
JACH				iS	Sn	13 11 45.0	+1.0
PEL	Peldehue	1.29	213	⇑iP	Pn	13 11 32.0	+0.3
PEL				iS	Sn	13 11 51.5	+0.3
PEL				AML	AML	13 11 53.7	
	comp=E,2μm,0.4s						
PEL	Peldehue	1.29	213	⇑iP	Pn	13 11 32.0	+0.3
PEL				iS	Sn	13 11 51.5	+0.3
FCH	Farellones	1.32	197	⇓iP	Pn	13 11 32.9	+0.9
FCH				iS	Sn	13 11 53.4	+1.8
FCH				AML	AML	13 11 54.5	
	comp=E,1μm,0.2s						
ROCH	El Roble	1.34	227	⇑iP	Pn	13 11 33.0	+0.7
ROCH				iS	Sn	13 11 52.7	+0.6
CHNG	Los Chungos	1.42	277	eP	Pn	13 11 33.7	+0.5
CHNG				iS	Sn	13 11 53.9	+0.1
STL	Santa Lucia	1.53	206	iP	Pn	13 11 34.1	-0.2
STL				iS	Sn	13 11 55.8	0.0
SAN	Santiago	1.55	206	eP	Pn	13 11 35.2	+0.6
SAN				iS	Sn	13 11 56.6	+0.3
RCDM	Rinconada Maip	1.64	210	iP	Pn	13 11 36.1	+0.5
RCDM				iS	Sn	13 11 58.9	+0.8
RCDM				AML	AML	13 11 59.8	
	comp=E,2μm,0.3s						
RCDM	Rinconada Maip	1.64	210	iP	Pn	13 11 36.1	+0.5
RCDM				iS	Sn	13 11 58.9	+0.8
ANTU	Antumapu	1.64	204	eP	Pn	13 11 36.1	+0.4
ANTU				iS	Sn	13 11 59.0	+0.8
ANTU				AML	AML	13 12 00.4	
	comp=N,1μm,0.4s						
ANTU	Antumapu	1.64	204	eP	Pn	13 11 36.1	+0.4
ANTU				iS	Sn	13 11 59.0	+0.8
TACH	Talagante	1.83	210	eP	Pn	13 11 38.4	+0.4
TACH				iS	Sn	13 12 02.6	+0.4
CHCH	Chadas Angostu	1.99	200	⇑iP	Pn	13 11 40.5	+0.7
CHCH				iS	Sn	13 12 06.4	+0.8
LCCH	Las Cruces	2.03	226	⇑iP	Pn	13 11 40.8	+0.5
TLL	Tololo Astrono	2.06	336	⇑eP	Pn	13 11 41.7	+1.0
TLL				iS	Sn	13 12 08.6	+1.3
TLL				AML	AML	13 12 10.9	
	comp=E,458nm,0.7s						
TLL	Tololo Astrono	2.06	336	⇑eP	Pn	13 11 41.7	+1.0
TLL				iS	Sn	13 12 08.6	+1.3
CACH	El Canelo	2.15	197	iP	Pn	13 11 43.0	+1.3
CACH				iS	Sn	13 12 10.6	+1.6
CICH	Cipreses	2.30	192	eP	Pn	13 11 44.1	+0.3
CICH				iS	Sn	13 12 15.6	+3.0
LNV	Longovilo	2.30	215	⇑iP	Pn	13 11 43.4	-0.3
LNV				iS	Sn	13 12 11.8	-0.8
SFDO	San Fernando	2.73	201	⇓iP	Pn	13 11 49.5	+0.3

NEIC 07 13:43:47.0, 5555N×14247W, h12km, ML3.5(AEIC), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIT	Sitka	4.26	66	P	Pn	13 44 45.0	-6.6
SIT				S	Sn	13 45 32.5	-8.7
PNL	Peninsula	4.45	21	P	Pn	13 44 49.3	-4.9
PNL				S	Sn	13 45 38.1	-7.8
EYAK	Cordova Ski Ar	5.30	342	P	Pn	13 44 56.3	-10
SKAG	Skagway	5.49	42	P	Pn	13 45 05.0	-3.5
BMRM	Bremner River	5.55	349	P	Pn	13 45 02.3	-7.0
SEW	Seward	5.89	324	P	Pn	13 45 03.9	-10
KDAK	Kodiak Island	6.01	296	P	Pn	13 45 05.5	-10
KDAK				S	Sn	13 46 07.6	-17
WHY	Whitehorse	6.51	35	P	Pn	13 45 19.7	-2.9

NEIC 07 13:51:13.0, 3627N×8950W, h7km, MD3.3(CERI), After CERI., New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLAT	Glass	0.17	90	ePg	Pg	13 51 16.6	+0.1
GLAT				eSg	Sg	13 51 19.0	+0.1
HALT	Halls	0.38	160	ePg	Pg	13 51 19.5	-0.9
PARMO	Parma	0.44	333	ePg	Pg	13 51 21.7	+0.1
PARMO				eSg	Sg	13 51 25.6	-1.7

UTMT	**University of**	**0.52**	**82**	*e*Pg	Pg	13 51 23.9	+0.8
HBAR	**Harrisburg**	**1.18**	**233**	*e*Pg	Pg	13 51 34.3	-1.4
HBAR				*e*Sg	Sg	13 51 50.1	-0.8
WVT	**Waverly**	**1.36**	**95**	*e*Pn	Pn	13 51 36.9	-1.5
WVT				*e*Sn	Sn	13 51 54.0	-2.6
SIUC	**Southern Illin**	**1.46**	**9**	*e*Pn	Pn	13 51 38.8	-1.0
SIUC				*e*Sn	Sn	13 51 56.1	-3.0
PLAL	**Pickwick Lake**	**1.73**	**137**	*e*Pn	Pn	13 51 42.4	-1.1
PLAL				*e*S	Sn	13 52 05.8	0.0
FVM	**French Village**	**1.86**	**337**	*e*Pn	Pn	13 51 45.5	+0.2
FVM				*e*Sn	Sn	13 52 09.6	+0.5
USIN	**University of**	**2.24**	**40**	*e*Pn	Pn	13 51 50.2	-0.2
USIN				*e*Sn	Sn	13 52 18.3	0.0
SLM	**Saint Louis**	**2.43**	**346**	*e*Pn	Pn	13 51 53.5	+0.3
SLM				*e*Sn	Sn	13 52 26.3	+3.1
UALR	**University of**	**2.76**	**238**	*e*Pn	Pn	13 51 56.0	-1.6
UALR				*e*Pg	Pg	13 52 03.1	-2.8
UALR				*e*Sg	Sg	13 52 38.1	-3.5
SWET	**Sewanee**	**3.09**	**109**	*e*Pn	Pn	13 52 02.2	+0.1
SWET				*e*S	Sn	13 52 45.2	+6.0
WCI	**Wyandotte Cave**	**3.22**	**52**	*e*Pn	Pn	13 52 03.5	-0.4
WCI				*e*Sn	Sn	13 52 44.9	+2.3
BLO	**Bloomington**	**3.74**	**38**	*e*Pn	Pn	13 52 16.9	+5.8
BLO				*e*Sn	Sn	13 53 04.9	+10
MIAR	**Mount Ida**	**3.75**	**244**	*e*Pn	Pn	13 52 10.3	-0.9
MIAR				*e*Pg	Pg	13 52 24.9	+0.1
MIAR				*e*Sn	Sn	13 53 06.0	+10
LRAL	**Lakeview Retre**	**3.83**	**147**	*e*Pn	Pn	13 52 10.8	-1.6
LRAL				*e*S	Sn	13 53 10.2	+13
FWV	**Forest Hill**	**7.08**	**77**	*e*Pn	Pn	13 52 58.4	+1.4
FWV				*e*S	Sn	13 54 50.4	+33
WMOK	**Wichita Mounta**	**7.72**	**261**	*e*Pn	Pn	13 53 03.7	-2.1
	3.7nm,0.3s						
ISCO	**Idaho Springs**	**13.18**	**290**	*e*Pn	Pn	13 54 17.7	-2.9
	2.9nm,0.5s						

MAN 07 14:05:27.2, 1839N×11989E, h39km, MS3.9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.69**	**95**	*e*P	Pn	14 05 41.5	+1.0
ABRA	**Dolores**	**1.07**	**133**	*e*P	Pn	14 05 45.6	0.0
SGCP	**Mt. Cagua**	**2.05**	**94**	*e*P	Pn	14 06 14.6	+15

*ISCJB **07** 14:06:38.7±0.9, 14S±02×244W±01, h10km, mb4.2/7, MS3.9/22, Error ellipse: s-maj=32.7km s-min=14.2km az=129.1*

*NEIC **07** 14:06:40.6±0.9, 104S×2449W, h10km, mb4.6/2, Error ellipse: s-maj=41.7km s-min=15.0km az=155.0*

*GCMT **07** 14:06:40.6±0.3, 1.10S×24.11W, h13km±1km, MW4.9/71, Moment Tensor Solution. s29,c41; s71,c108; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.73±.09; Mθθ0.36±.09; Mφφ0.37±.08; Mrθ0.28±.19; Mθφ-2.67±.08; Mφr0.17±.20; Best double couple: Mo2.70300×10^16 NP1:φs180.00000°,δ81.00000°,λ-7.00000°. NP2: φs271.00000°,δ83.00000°,λ-171.00000°. Principal axes: T 3.0370, Plg1.0000°, Azm45.0000°; N -0.6680, Plg79.0000°, Azm309.0000°; P -2.3690, Plg11.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 14:06:44.5±1.2, 124S×2357W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/19, mbtmp4.2/6, MS3.9/22, Ms1 3.9/22, ms1mx3.8/25 Error ellipse: s-maj=57.2km s-min=24.8km az=145.0*

ISC 07 14:06:41.3±0.8, 13S±02×244W±01, h10km, n28, σ1s51/11, mb4.2/7, MS3.9/22, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.31**	**248**	*e*Pn	**Pn**	**14 09 35.7**	**-0.8**
RCBR				*e*Sn	**Sn**	**14 11 41.8**	**-12**
DBIC	**Dimbokro**	**21.07**	**68**	P	**P**	**14 11 23.5**	**-2.0**
	20nm,1.0s,mb4.4,baz=231,slow=14,SNR=5.5						
DBIC				LR	LR	14 16 47.8	
	comp=Z,286nm,20.4s,MS3.6,baz=232,slow=30						
DBIC	**Dimbokro**	**21.07**	**68**	*e*P	**P**	**14 11 23.4**	**-2.2**
	34nm,1.1s,mb4.6						
DBIC				P		14 11 23.5	
DBIC				LR	LR	14 16 47.8	
BDFB	**Brasilia**	**27.28**	**237**	LR	LR	14 22 17.8	
	comp=Z,792nm,20.2s,MS4.3,baz=58,slow=33						
TOA0	**Torodi Ar. Sit**	**29.62**	**60**	*e*P	**P**	**14 12 45.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**29.62**	**60**	P	**P**	**14 12 46.0**	**-0.6**
	11nm,1.1s,mb4.5,baz=258,slow=5.5,SNR=20						
TORD				LR	LR	14 22 04.4	
	comp=Z,102nm,21.1s,MS3.4,baz=245,slow=32						
TSUM	**Tsumeb**	**44.78**	**116**	P	**P**	**14 14 57.0**	**+1.9**
	9.2nm,1.5s,mb4.4						
ESDC	**Sonseca Array**	**44.90**	**22**	P	**P**	**14 14 57.7**	**+1.7**
	0.2nm,0.2s,mb3.5,baz=212,slow=9.4,SNR=6.1						
ESDC				LR	LR	14 31 26.1	
	comp=Z,72nm,21.1s,MS3.6,baz=270,slow=33						
LPAZ	**La Paz**	**45.55**	**248**	P	**P**	**14 15 15.0**	**+14**
	1.3nm,0.9s,mb3.9,baz=84,slow=22,SNR=4.5						
LPAZ				LR	LR	14 33 30.6	
	comp=Z,124nm,18.2s,MS3.9,baz=306,slow=35						
KEST	**Kesra**	**48.48**	**37**	LR	LR	14 36 43.6	
	comp=Z,160nm,18.6s,MS4.0,baz=199,slow=38						
ROSC	**El Rosal**	**50.25**	**277**	LR	LR	14 34 32.7	
	comp=Z,140nm,20.5s,MS4.0,baz=49,slow=33						
CFAA	**Coronel Fontan**	**51.14**	**229**	LR	LR	14 36 59.3	
	comp=Z,19nm,19.2s,MS3.1,baz=76,slow=35						
NNA	**Nana**	**53.05**	**256**	LR	LR	14 37 54.0	
	comp=Z,260nm,19.9s,MS4.3,baz=188,slow=35						
ATAH	**Atahualpa**	**54.11**	**262**	LR	LR	14 41 42.2	
	comp=Z,163nm,18.4s,MS4.1,baz=262,slow=38						
GERES	**GERESS Array B**	**59.85**	**28**	LR	LR	14 40 27.9	
	comp=Z,97nm,21.3s,MS3.9,baz=40,slow=34						
KMBO	**Kilima Mbogo**	**61.64**	**91**	LR	LR	14 40 24.4	
	comp=Z,221nm,19.7s,MS4.3,baz=280,slow=33						
MLR	**Muntele Rosu**	**64.39**	**37**	P	**P**	**14 17 20.0**	**+2.6**
	6.8nm,1.1s,mb4.6,baz=197,slow=6.8,SNR=3.7						
SCHQ	**Schefferville**	**65.91**	**335**	LR	LR	14 42 40.5	
	comp=Z,99nm,18.4s,MS4.0,baz=101,slow=33						
AKASG	**Malin Array Be**	**68.95**	**33**	P	**P**	**14 17 46.2**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=237,slow=7.0,SNR=8.7						
AKASG				LR	LR	14 48 15.2	
	comp=Z,40nm,20.6s,MS3.6,baz=215,slow=36						
PMSA	**Palmer Station**	**69.47**	**197**	LR	LR	14 41 59.1	
	comp=Z,103nm,20.2s,MS4.1,baz=46,slow=30						
SNAA	**Sanae**	**71.58**	**173**	LR	LR	14 43 26.4	
	comp=Z,27nm,21.3s,MS3.5,baz=29,slow=31						
FINES	**FINESS Array B**	**73.42**	**23**	LR	LR	14 52 40.5	
	comp=Z,58nm,18.9s,MS3.9,baz=325,slow=38						
GNI	**Garni**	**75.05**	**48**	LR	LR	14 53 49.0	
	comp=Z,65nm,22.0s,MS3.9,baz=78,slow=38						
AKTO	**Aktyubinsk**	**86.18**	**39**	LR	LR	15 04 12.2	
	comp=Z,43nm,18.1s,MS3.9,baz=120,slow=40						
PDAR	**Pinedale Array**	**87.33**	**313**	LR	LR	14 52 45.5	
	comp=Z,86nm,21.8s,MS4.1,baz=337,slow=31						
MAW	**Mawson**	**87.73**	**157**	LR	LR	14 49 19.3	
	comp=Z,63nm,21.9s,MS4.0,baz=73,slow=29						
BVAR	**Borovoye Array**	**93.95**	**37**	LR	LR	15 05 25.2	
	comp=Z,52nm,20.8s,MS4.0,baz=319,slow=38						
WRA	**Warramunga Arr**	**150.31**	**136**	PKPbc	PKPbc	14 26 35.3	+2.6
	1.0nm,1.0s,baz=233,slow=2.4,SNR=5.9						

IDC 07 14:31:06.3±3.8, 672S×10447E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, Error ellipse: s-maj=155.2km s-min=21.8km az=50.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.54**	**121**	P	P	14 36 18.4	0.0
	1.1nm,0.7s,baz=292,slow=5.1,SNR=6.1						
WRA	**Warramunga Arr**	**31.83**	**117**	P	P	14 37 33.3	+0.5
	1.4nm,0.6s,baz=290,slow=10.0,SNR=19						
SONM	**Songino Array**	**54.34**	**2**	P	P	14 40 34.9	+0.3
	0.4nm,0.4s,baz=181,slow=9.6,SNR=6.1						
MKAR	**Makanchi Array**	**56.80**	**342**	P	P	14 40 52.5	+0.2
	0.8nm,0.4s,baz=154,slow=8.8,SNR=6.4						
ZAL	**Zalesovo**	**62.66**	**347**	P	P	14 41 32.3	-0.3
	1.7nm,0.4s,baz=23,slow=0.7,SNR=6.4						

*ISCJB **07** 14:33:43.7±0.8, 2206S±005×6723W±009, h172km±13km, mb4.4/3, Error ellipse: s-maj=13.6km s-min=8.2km az=147.8*

*IDC **07** 14:33:45.9±2.0, 2205S×67.18W, h180km±24km, mb4.3/1, mb1 3.6/5, mb1mx3.4/16, mbtmp4.2/5, MS3.7/2, Ms1 3.7/2, ms1mx2.9/21, Error ellipse: s-maj=38.9km s-min=19.8km az=92.0*

*NEIC **07** 14:33:45.1±1.0, 2202S×67.18W, h169km±15km, mb4.2/7, Error ellipse: s-maj=15.1km s-min=10.2km az=81.0*

ISC 07 14:33:44.7±0.8, 2203S±006×6722W±009, h161km±13km, n17, σ1s09/21, mb4.4/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.78**	**351**	P	**Pn**	**14 35 12.7**	**+4.2**
	1.5nm,0.3s,baz=162,slow=8.4,SNR=36						
LPAZ				S	**Sn**	**14 36 17.3**	**+3.1**
	1.0nm,0.3s,baz=12,slow=13,SNR=6.6						
LPAZ	**La Paz**	**5.78**	**351**	*e*Pn	**Pn**	**14 35 12.3**	**+3.8**
LPAZ				*e*Sn	**Sn**	**14 36 16.8**	**+2.6**
ARE	**Arequipa**	**6.86**	**323**	*e*P	**Pn**	**14 35 22.0**	**-0.8**
ARE				*e*S	**Sn**	**14 36 39.0**	**-0.9**
SIV	**San Ignacio**	**8.36**	**45**	P	**Pn**	**14 35 42.5**	**-0.2**
	17nm,0.3s,baz=256,slow=12,SNR=277						
SIV				S	**Sn**	**14 37 09.2**	**-6.7**
	2.1nm,0.3s,baz=135,slow=23,SNR=6.9						
CFAA	**Coronel Fontan**	**9.58**	**185**	P	**Pn**	**14 35 59.2**	**+0.4**
	0.1nm,0.3s,baz=359,slow=13,SNR=9.8						
CFAA				S	**Sn**	**14 37 40.7**	**-4.5**
	0.2nm,0.3s,baz=262,slow=22,SNR=6.8						
CFAA	**Coronel Fontan**	**9.58**	**185**	P	**Pn**	**14 35 59.2**	**+0.4**
CFAA				S	**Sn**	**14 37 40.7**	**-4.5**
CPUP	**Villa Florida**	**9.99**	**117**	*e*Pn	**Pn**	**14 36 04.0**	**-0.2**
	14nm,0.5s						
SAML	**Samuel**	**13.58**	**17**	*e*Pn	**Pn**	**14 36 50.3**	**-0.4**
	5.3nm,0.8s						
SAML				*e*		14 37 01.2	
NNA	**Nana**	**13.58**	**316**	*e*Pn	**Pn**	**14 36 51.3**	**+0.6**
	19nm,0.8s						
TRQA	**Tornquist**	**16.59**	**165**	*e*P	**Pn**	**14 37 26.1**	**-1.9**
	6.1nm,1.0s						
PLCA	**Paso Flores**	**18.86**	**188**	*e*P	**P**	**14 37 53.5**	**+1.1**
	5.7nm,0.8s						
BDFB	**Brasilia**	**19.25**	**74**	P	**P**	**14 37 57.5**	**+0.9**
	0.6nm,0.3s,baz=251,slow=12,SNR=5.6						
ROSC	**El Rosal**	**27.62**	**345**	LR	LR	14 51 26.4	
	comp=Z,64nm,19.0s,baz=200,slow=38						
BBSR	**BB Station**	**54.15**	**3**	P	**P**	**14 42 52.1**	**-1.1**
	29nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**68.16**	**180**	*e*P	**P**	**14 44 28.8**	**+1.4**
	1.8nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**76.06**	**69**	P	**P**	**14 45 13.6**	**-0.7**
	4.9nm,0.6s,mb4.3,baz=256,slow=5.5,SNR=38						
FRB	**Frobisher Bay**	**85.50**	**359**	LR	LR	15 23 14.8	
	comp=Z,66nm,18.1s,baz=164,slow=35						

ISC 07 15:06:18.3±0.6, 3914N±004×3122E±005, h10km, n8, σ0s82/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESKT	**Eskisehir**	**0.47**	**323**	*e*PG	**Pg**	**15 06 26.7**	**-0.8**
ESKT				*e*SG	**Sg**	**15 06 34.7**	**+1.0**
ESKT	**Eskisehir**	**0.47**	**323**	*i* P	**Pg**	**15 06 26.4**	**-1.1**
ESKT				*i* S	**Sg**	**15 06 33.8**	**+0.1**
KIZT	**Kizilcal**	**0.58**	**117**	*i* PG	**Pg**	**15 06 29.1**	**-0.4**
KIZT				*i* SG	**Sg**	**15 06 36.9**	**-0.3**
KDHN	**Kadinhani**	**0.94**	**131**	*i* P	**Pg**	**15 06 35.4**	**-0.9**
KDHN				*i* S	**Sg**	**15 06 49.5**	**+1.0**
BORA	**Eskisehir**	**0.94**	**322**	*i* P	**Pg**	**15 06 35.5**	**-1.0**
BORA				*i* S	**Sg**	**15 06 53.5**	**+4.8**
TKTP	**Tekketepe**	**1.30**	**213**	*i* P	**Pn**	**15 06 41.8**	**-0.7**
TKTP				*i* S	**Sb**	**15 07 00.4**	**+0.7**
SGKT	**Sivrigoynuk**	**1.57**	**24**	*i* P	**Pn**	**15 06 47.8**	**+1.6**
SGKT				*i* S	**Sn**	**15 07 13.7**	**+7.2**
ULDT	**Uludag**	**1.89**	**303**	*i* P	**Pn**	**15 06 50.6**	**0.0**
ULDT				*i* S	**Sn**	**15 07 14.9**	**+0.4**

*PRU **07** 15:25:21.1, 5025N×1877E, h0km*

*VIE **07** 15:25:26.9±0.8, 50.10N×1828E, h0km, mb1.8/2, ML2.4/3, Error ellipse: s-maj=5.5km s-min=4.9km az=142.0 30 km N of Ostrava Suspected Mining induced.*

WAR 07 15:25:20.2, 5025N×1889E, ML2.5, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.58**	**93**	*e*Pg	Pg	15 25 31.7	+0.3
OJC				*e*Sg	Sg	15 25 39.4	+0.5
OKC	**Ostrava-Krasne**	**0.64**	**229**	*e*PG	Pg	15 25 33.1	+0.7
OKC				*e*SG	Sg	15 25 40.7	+0.1
NIE	**Niedzica**	**1.24**	**132**	*e*Pg	Pg	15 25 44.0	0.0
NIE				*e*Sg	Sg	15 26 00.8	+0.7
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	Pg	15 25 49.2	-2.6
DPC				*e*SG	Sg	15 26 11.2	-2.1
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*PN	Pn	15 25 53.3	+1.7
STHS				*e*SN	Sn	15 26 18.2	+3.7
KSP	**Ksiaz**	**1.76**	**291**	*e*Pg	Pg	15 25 52.8	-1.1
KSP				*e*Sg	Sg	15 26 15.8	-1.0
VYHS	**Vyhne**	**1.76**	**181**	*e*PN	Pn	15 25 50.8	-1.1
VYHS				*e*SN	Sn	15 26 14.9	-0.1
UPC	**Upice**	**1.86**	**279**	*e*PG	Pg	15 25 54.5	-1.4
UPC				*e*SG	Sg	15 26 18.5	-1.5
KECS	**Kecovo**	**2.05**	**149**	*e*PN	Pn	15 25 57.5	+1.5
KECS				*e*SN	Sn	15 26 24.3	+2.0
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*PN	Pn	15 25 59.9	+2.6
CRVS				*e*SN	Sn	15 26 26.5	+1.8
TREC	**Trest**	**2.41**	**248**	*e*SG	Sg	15 26 33.7	-3.8
KOLS	**Kolonicke sedl**	**2.57**	**120**	*e*PN	Pn	15 26 07.4	+4.4
PVCC	**Panska Ves**	**2.78**	**277**	*e*SG	Sg	15 26 49.2	-0.4
PRU	**Pruhonice**	**2.81**	**266**	*e*SG	Sg	15 26 46.7	-3.9
BRG	**Berggiesshubel**	**3.22**	**283**	SG	Sg	15 27 01.3	-2.3
	3.2nm,0.4s						
KHC	**Kasperske Hory**	**3.63**	**254**	*e*SG	Sg	15 27 14.0	-2.8
MOA	**Molln**	**3.88**	**233**	⇓*i*Pn	Pn	15 26 22.1	+1.1
MOA				⇑*i*Sg	Sg	15 27 20.2	-4.6
	comp=Z,4.3nm,0.6s						
WTSB	**Winterswijk**	**7.80**	**287**	*e*Pg	Pn	15 27 15.2	+0.2
	25nm,0.3s						
MEM	**Membach**	**8.24**	**277**	P	Pn	15 27 27.5	+6.5
HGN	**Heimansgroeve**	**8.28**	**279**	*e*Pg	Pn	15 27 26.0	+4.5
	13nm,0.1s,baz=50						

*THE **07** 15:31:40.3, 4073N×1601E, h10km, ML4.2*

*MOS **07** 15:31:40.5±1.9, 4069N×1602E, h10km, mb3.6/1, Error ellipse: s-maj=4.8km s-min=3.7km az=112.5*

*IDC **07** 15:31:41.0±1.0, 4074N×1600E, h0km, mb3.6/5, mb1 3.9/10, mb1mx3.8/21, mbtmp3.7/10, ML4.1/3, MS3.0/7, Ms1 3.0/7, ms1mx2.8/24, Error ellipse: s-maj=19.6km s-min=13.8km az=94.0*

*CSEM **07** 15:31:42.9±0.1, 4060N×16.13E, h27km, ML4.0/3, Error ellipse: s-maj=1.4km s-min=1.1km az=165.0*

*LDG **07** 15:31:42.0±0.1, 4063N×1621E, h10km, Ml3.9/8, Error ellipse: s-maj=2.7km s-min=2.0km az=15.0*

*PDG **07** 15:31:43.0±0.9, 4062N×1624E, h20km±2km*

*NEIC **07** 15:31:43.8, 4059N×16.16E, h27km, mb3.5/1, ML3.9(ROM), ML4.2(PDG), After ROM.*

*ROM **07** 15:31:43.8±0.1, 4059N×16.16E, h27km±1km, Md3.5/87, Ml3.9/62, Error ellipse: s-maj=1.5km s-min=1.2km az=60.0*

*ISCJB **07** 15:31:43.5±0.1, 4067N±001×16.14E±002, h27km, mb3.7/7, MS3.0/3, Error ellipse: s-maj=1.7km s-min=1.6km az=70.6*

ISC 07 15:31:44.6±0.2, 4063N±001×1611E±002, h27km±2km, n233, σ1s13/295, mb3.7/7, MS3.0/3, 35C-22D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIGL	**Miglionico**	**0.25**	**95**	⇓*i*Pg	**Pb**	**15 31 50.1**	**-1.0**
MIGL				Sg	**Sb**	**15 31 55.3**	**-0.2**
	55µm,0.5s						
PALZ	**Palazzo San Ge**	**0.34**	**340**	⇓*e*Pg	**Pb**	**15 31 52.5**	**+0.2**
PALZ				Sg	**Sb**	**15 31 59.1**	**+1.6**
	18µm,0.7s						
SCHR	**S. Chirico Rap**	**0.43**	**184**	⇑*i*Pg	**Pb**	**15 31 52.3**	**-1.4**
SCHR				Sg	**Sb**	**15 31 59.3**	**-0.6**
	8µm,0.3s						
SLCN	**Sala Consilina**	**0.43**	**237**	⇑*e*Pg	**Pb**	**15 31 53.1**	**-0.7**
SLCN				Sg	**Sb**	**15 32 01.6**	**+1.5**
	19µm,0.4s						
MTSN	**Montesano sull**	**0.45**	**217**	⇑*e*Pg	**Pb**	**15 31 52.9**	**-1.2**
MTSN				Sg	**Sb**	**15 32 00.7**	**+0.2**
	11µm,0.4s						
AMUR	**Altamura**	**0.47**	**53**	⇓*e*Pg	**Pb**	**15 31 53.4**	**-0.9**
AMUR				Sg	**Sb**	**15 32 01.0**	**+0.1**
	13µm,0.3s						
CDT	**Castel del Mon**	**0.47**	**15**	*e*Pg	**Pb**	**15 31 54.1**	**-0.3**
CDT				*e*Sg	**Sb**	**15 32 01.7**	**+0.7**
SG1	**Sgolgore (BA)**	**0.48**	**64**	*e*Pg	**Pb**	**15 31 53.5**	**-1.1**
SIRI	**Monte Sirino -**	**0.48**	**203**	⇑*e*Pg	**Pb**	**15 31 53.0**	**-1.6**
SIRI				Sg	**Sb**	**15 32 00.9**	**-0.4**
	16µm,0.2s						
MRLC	**Muro Lucano**	**0.49**	**286**	⇑*e*Pg	**Pb**	**15 31 55.4**	**+0.7**
MRLC				Sg	**Sb**	**15 32 03.4**	**+1.8**
VULT	**Monte Vulture**	**0.50**	**311**	⇑*e*Pg	**Pb**	**15 31 55.4**	**+0.6**
VULT				Sg	**Sb**	**15 32 03.3**	**+1.5**
	9µm,0.5s						
ORI	**Oriolo Calabro**	**0.62**	**155**	⇑*e*Pg	**Pb**	**15 31 55.9**	**-1.0**
ORI				Sg	**Sb**	**15 32 06.3**	**+1.1**
	18µm,0.4s						
CDRU	**Civita di Ruta**	**0.63**	**258**	Pg	**Pb**	**15 31 56.2**	**-0.8**
CDRU				Sg	**Sb**	**15 32 07.3**	**+1.8**
	7µm,0.4s						
CUC	**Castrocucco**	**0.67**	**200**	Pg	**Pb**	**15 31 56.0**	**-1.7**
	9µm,0.6s						
FG4	**Candela**	**0.68**	**318**	Pg	**Pb**	**15 31 58.0**	**+0.2**
CMPR	**Campora**	**0.69**	**244**	Pg	**Pb**	**15 31 56.9**	**-1.1**
	6µm,0.4s						
MCRV	**Calabrutti - M**	**0.73**	**283**	Pg	**Pb**	**15 31 58.8**	**0.0**
	4µm,0.4s						
NOCI	**Noci**	**0.74**	**77**	Pg	**Pb**	**15 31 57.7**	**-1.2**
NOCI				Sg	**Sb**	**15 32 08.9**	**+0.2**
	30µm,0.3s						
SNAL	**S. Angelo Dei**	**0.75**	**294**	Pg	**Pb**	**15 31 59.0**	**0.0**
	3µm,0.6s						
BAI	**Bari**	**0.76**	**50**	*e*Pg	**Pb**	**15 31 58.3**	**-0.8**
BAI				*e*Sg	**Sb**	**15 32 09.7**	**+0.7**
SGTA	**Sant Agata di**	**0.76**	**312**	Pg	**Pb**	**15 31 59.8**	**+0.6**
CAFE	**Carife**	**0.78**	**301**	Pg	**Pb**	**15 31 59.5**	**0.0**
	3µm,0.5s						
CSSN	**Cassano Irpino**	**0.86**	**286**	Pg	**Pb**	**15 32 00.7**	**-0.2**
FG5	**Orsara di Pugl**	**0.92**	**316**	Pg	**Pn**	**15 32 02.0**	**+0.3**
PE1	**Pezze di Greco**	**1.01**	**79**	*e*Pg	**Pn**	**15 32 01.5**	**-1.6**
PE1				*e*Sg	**Sb**	**15 32 16.2**	**-0.2**
MS1	**Monte Sant'Ang**	**1.08**	**353**	*e*Pg	**Pn**	**15 32 03.3**	**-0.8**
MS1				*e*Sg	**Sn**	**15 32 21.2**	**+3.0**
FGMS	**Monte Sant'Ang**	**1.09**	**354**	Pg	**Pn**	**15 32 03.2**	**-0.9**
MSAG	**Monte S. Angel**	**1.09**	**352**	Pg	**Pn**	**15 32 03.4**	**-0.8**
	10µm,0.4s						
RGNG	**Rignano Grg**	**1.12**	**339**	⇑*i*Pg	**Pn**	**15 32 04.1**	**-0.4**
PSB1	**Pescosannita**	**1.15**	**302**	Pg	**Pn**	**15 32 05.7**	**+0.7**
	970nm,0.7s						
SGRT	**San Giovanni R**	**1.16**	**346**	Pg	**Pn**	**15 32 04.4**	**-0.7**
	4µm,0.4s						
SACR	**S. Croce Del S**	**1.31**	**306**	Pg	**Pn**	**15 32 08.0**	**+0.8**
	2µm,1.5s						
CIGN	**Sant'Elia a Pi**	**1.37**	**319**	Pg	**Pn**	**15 32 08.7**	**+0.7**
	923nm,0.6s						
FG2	**Serracapriola**	**1.38**	**329**	Pg	**Pn**	**15 32 08.1**	**0.0**
BSSO	**Busso**	**1.47**	**309**	Pg	**Pn**	**15 32 10.4**	**+1.1**
	767nm,0.5s						
TIP	**Timpagrande**	**1.53**	**161**	*e*Pn	**Pn**	**15 32 12.2**	**+2.0**
TIP	**Timpagrande**	**1.53**	**161**	*e*Pn	**Pn**	**15 32 12.2**	**+2.0**
LCI	**Lecce**	**1.55**	**100**	Pg	**Pn**	**15 32 09.3**	**-1.2**
	748nm,0.4s						
VAGA	**Valle Agricola**	**1.62**	**300**	Pg	**Pn**	**15 32 12.4**	**+0.9**
	773nm,0.5s						
TRIV	**Trivento**	**1.64**	**315**	Pg	**Pn**	**15 32 12.3**	**+0.6**
	2µm,1.0s						
SERS	**Sersale**	**1.65**	**164**	Pg	**Pn**	**15 32 12.1**	**+0.3**
	1µm,0.9s						
MOCO	**Biccari - m.te**	**1.65**	**297**	Pg	**Pn**	**15 32 03.6**	**-8.3**
	1µm,0.6s						
MIDA	**Miranda**	**1.73**	**306**	Pg	**Pn**	**15 32 14.9**	**+2.0**
	539nm,0.7s						
RFI	**Roccamonfina**	**1.75**	**293**	Pg	**Pn**	**15 32 14.5**	**+1.4**
	79nm,0.7s						
GRI	**Girifalco**	**1.82**	**172**	Pg	**Pn**	**15 32 14.6**	**+0.5**
	970nm,0.7s						
RNI2	**Rionero Sannit**	**1.83**	**307**	Pg	**Pn**	**15 32 16.1**	**+1.8**
	663nm,0.5s						
CERA	**Filignano**	**1.85**	**302**	Pg	**Pn**	**15 32 15.8**	**+1.2**
	833nm,0.7s						
SCTE	**Santa Cesarea**	**1.88**	**106**	Pg	**Pn**	**15 32 14.1**	**-1.0**
	3µm,0.9s						
VENT	**Ventotene**	**2.05**	**276**	Pg	**Pn**	**15 32 17.0**	**-0.3**
	505nm,1.0s						
INTR	**Introdacqua**	**2.16**	**310**	Pg	**Pn**	**15 32 19.5**	**+0.6**
	1µm,0.7s						
PLAC	**Placanica**	**2.19**	**173**	Pg	**Pn**	**15 32 20.3**	**+1.1**
	253nm,0.7s						
VVLD	**Villa Vallelon**	**2.25**	**304**	Pg	**Pn**	**15 32 21.3**	**+1.2**
	446nm,0.5s						
SLNA	**Salina**	**2.29**	**206**	Pg	**Pn**	**15 32 20.3**	**-0.3**
	427nm,0.3s						
GIUL	**Giuliano Di Ro**	**2.35**	**294**	Pg	**Pn**	**15 32 21.8**	**+0.3**
	164nm,0.9s						
LLI	**Lipari**	**2.36**	**203**	Pg	**Pn**	**15 32 22.3**	**+0.7**
	2µm,0.7s						
CEL	**Celeste**	**2.37**	**184**	Pg	**Pn**	**15 32 20.7**	**-1.0**
	593nm,1.0s						
IFIL	**Filicudi I Eol**	**2.38**	**211**	Pg	**Pn**	**15 32 21.1**	**-0.8**
SCLL	**Scilla**	**2.39**	**188**	Pg	**Pn**	**15 32 21.3**	**-0.7**
	90nm,0.2s						
MSRU	**Castanea**	**2.41**	**191**	Pg	**Pn**	**15 32 21.3**	**-0.9**
	802nm,0.4s						
VPL	**Vulcano Piano**	**2.41**	**202**	Pg	**Pn**	**15 32 22.4**	**+0.1**
	478nm,0.4s						
GUAR	**Guarcino**	**2.41**	**300**	Pg	**Pn**	**15 32 23.1**	**+0.8**
	230nm,1.0s						
VCEL	**Villa Celiera**	**2.46**	**317**	Pg	**Pn**	**15 32 24.3**	**+1.4**
	581nm,0.6s						
SOI	**Samo**	**2.55**	**181**	Pg	**Pn**	**15 32 23.8**	**-0.4**
	272nm,0.8s						
HCY	**Herceg Novi**	**2.55**	**44**	⇑*i*Pn	**Pn**	**15 32 23.6**	**-0.6**
HCY				*e*Sn	**Sn**	**15 32 55.0**	**+0.5**
MTTG	**Motta San Giov**	**2.64**	**187**	Pg	**Pn**	**15 32 25.5**	**0.0**
	285nm,0.6s						
TREB	**Trebinje**	**2.68**	**38**	P	**Pn**	**15 32 25.7**	**-0.3**
TREB				S	**Sn**	**15 32 58.2**	**+0.7**
BUM	**Brajici-Budva**	**2.68**	**50**	⇓*i*Pn	**Pn**	**15 32 25.5**	**-0.5**
BUM				*e*Sn	**Sn**	**15 32 58.1**	**+0.5**
CERT	**Cerreto**	**2.70**	**300**	Pg	**Pn**	**15 32 27.2**	**+0.9**
	150nm,0.6s						
ULC	**Ulcinj**	**2.72**	**60**	⇓*i*Pn	**Pn**	**15 32 25.8**	**-0.7**
ULC				*e*Sn	**Sn**	**15 32 58.6**	**+0.1**
TERO	**Teramo**	**2.74**	**318**	Pg	**Pn**	**15 32 28.1**	**+1.3**
	388nm,0.5s						
MMME	**Mongiuffi-Meli**	**2.77**	**194**	Pg	**Pn**	**15 32 26.9**	**-0.3**
	457nm,0.8s						
FIAM	**Fiamignano**	**2.78**	**307**	Pg	**Pn**	**15 32 30.2**	**+2.8**
MNO	**Monte Soro**	**2.91**	**203**	Pg	**Pn**	**15 32 30.7**	**+1.6**
	132nm,0.2s						
BRY	**Bratogost**	**2.91**	**38**	⇓*i*Pn	**Pn**	**15 32 28.5**	**-0.7**
BRY				*e*Sn	**Sn**	**15 33 04.1**	**+0.9**
TIR	**Tirane**	**2.93**	**75**	*e*Pn	**Pn**	**15 32 28.4**	**-1.0**
OFFI	**Offida**	**2.93**	**323**	Pg	**Pn**	**15 32 31.9**	**+2.4**
	1µm,0.6s						
USI	**Ustica**	**2.96**	**231**	Pg	**Pn**	**15 32 29.6**	**-0.3**
	65nm,0.2s						
TTG	**Podgorica**	**2.97**	**52**	⇑*i*Pn	**Pn**	**15 32 29.3**	**-0.7**
TTG				*e*Sn	**Sn**	**15 33 04.5**	**-0.3**
LNSS	**Leonessa**	**3.03**	**312**	Pg	**Pn**	**15 32 33.4**	**+2.6**
	466nm,0.7s						
NKY	**Niksic**	**3.07**	**44**	⇑*i*Pn	**Pn**	**15 32 31.2**	**-0.2**
NKY				*e*Sn	**Sn**	**15 33 07.9**	**+0.7**
GIB	**Gibilmanna**	**3.09**	**212**	Pg	**Pn**	**15 32 31.7**	**+0.1**
	66nm,0.2s						
MNS	**Montasola**	**3.12**	**305**	Pg	**Pn**	**15 32 33.5**	**+1.5**
	104nm,0.7s						
UPM	**Unac-Piva**	**3.31**	**38**	⇑*i*Pn	**Pn**	**15 32 34.8**	**0.0**
UPM				*e*Sn	**Sn**	**15 33 13.6**	**+0.3**
VAE	**Valguarnera**	**3.41**	**203**	Pn	**Pn**	**15 32 39.1**	**+3.0**
	8.7nm,0.3s,baz=279,slow=5.2,SNR=5.4						
VAE				LR	LR	15 34 22.5	
	comp=Z,391nm,18.8s,baz=107,slow=46						
VAE	**Valguarnera**	**3.41**	**203**	Pn	**Pn**	**15 32 39.1**	**+3.0**
VAE				LR	LR	15 34 22.5	
IGT	**Igoumenitsa**	**3.42**	**107**	*e*Pn	**Pn**	**15 32 36.2**	**+0.1**
HAGA	**Augusta**	**3.42**	**193**	Pg	**Pn**	**15 32 36.0**	**-0.2**
	237nm,0.5s						
AGST	**Augusta-Monte**	**3.44**	**192**	Pg	**Pn**	**15 32 36.2**	**-0.2**
	119nm,0.2s						
AOI	**Ancona**	**3.47**	**328**	Pg	**Pn**	**15 32 37.0**	**+0.2**
	318nm,0.7s						
CORL	**Corleone**	**3.49**	**220**	Pg	**Pn**	**15 32 38.4**	**+1.2**
	76nm,0.6s						
PVY	**Plav**	**3.50**	**55**	⇓*i*Pn	**Pn**	**15 32 37.0**	**-0.2**

PVY				eSn	Sn	15 33 17.7	-0.1
CING	Cingoli	3.50	323	Pg	Pn	15 32 38.1	+0.8
	237nm,0.7s						
SNTG	Esanatoglia	3.53	319	Pg	Pn	15 32 38.8	+1.1
	48nm,0.4s						
ASS	Assisi	3.55	314	Pg	Pn	15 32 40.4	+2.4
	4.0nm,0.5s						
SSY	Sortino	3.56	193	Pg	Pn	15 32 38.3	+0.2
	287nm,0.4s						
OHR	Ohrid	3.59	81	ePn	Pn	15 32 40.3	+1.8
OHR	Ohrid	3.59	81	ePn	Pn	15 32 40.2	+1.7
HVZN	Vizzini	3.61	198	Pg	Pn	15 32 40.0	+1.2
	479nm,0.7s						
IVA	Berane	3.61	50⇑	iPn	Pn	15 32 39.1	+0.3
IVA				eSn	Sn	15 33 20.6	0.0
PLE	Pljevlja	3.65	41⇑	iPn	Pn	15 32 39.4	+0.2
PLE				eSn	Sn	15 33 21.5	+0.1
RAFF	Raffo Rosso	3.66	202	Pg	Pn	15 32 41.4	+1.9
HAVL	Avola	3.74	192	Pg	Pn	15 32 40.4	-0.2
	188nm,0.3s						
CLTB	Caltabellotta	3.79	217	Pg	Pn	15 32 43.8	+2.6
SACS	San Casciano d	3.85	307	Pg	Pn	15 32 44.0	+1.9
	180nm,1.4s						
FAVR	Favara	3.86	210	Pg	Pn	15 32 46.4	+4.2
FSSB	Fossombrone	3.94	322	Pg	Pn	15 32 44.1	+0.8
	213nm,0.4s						
BIA	Bitola	3.98	83	ePn	Pn	15 32 43.8	0.0
BIA	Bitola	3.98	83	ePn	Pn	15 32 44.3	+0.5
LKD	Levkas	3.99	117	ePn	Pn	15 32 44.3	+0.3
FNA	Florina	4.00	86	ePn	Pn	15 32 43.9	-0.3
FNA				eSn	Sn	15 33 33.7	+3.4
NVLJ	Novalja	4.04	347	i Pn	Pn	15 32 44.2	-0.5
NVLJ				i Sn	Sn	15 33 30.6	-0.5
NVLJ	Novalja	4.04	347	i Pn	Pn	15 32 44.1	-0.6
NVLJ				i Sn	Sn	15 33 30.5	-0.6
BADI	Badiali	4.07	316	Pg	Pn	15 32 48.1	+3.0
	104nm,0.6s						
MAON	Monte Argentar	4.15	297	Pg	Pn	15 32 46.5	+0.3
	27nm,0.6s						
BLY	Banja Luka	4.20	11	P	Pn	15 32 47.2	+0.4
BLY				S	Sn	15 33 35.2	+0.3
SKO	Skopje	4.23	70	ePn	Pn	15 32 50.7	+3.4
RSM	Repubblica di	4.28	322	Pg	Pn	15 32 49.1	+1.2
	90nm,0.8s						
CRE	Caprese Michel	4.30	315	Pg	Pn	15 32 49.9	+1.6
	16nm,0.3s						
SFI	Santa Sofia	4.55	317	Pg	Pn	15 32 54.1	+2.3
	20nm,0.3s						
STIP	Stip	4.71	75	ePn	Pn	15 32 53.8	-0.1
GRG	Griva	4.79	84	ePn	Pn	15 32 54.9	-0.1
LIT	Litokhoron	4.90	94	ePn	Pn	15 32 57.0	+0.4
BOJS	Bojanci	4.92	353	ePn	Pn	15 32 56.8	0.0
BOJS				i Sn	Sn	15 33 50.5	-2.2
BOJS							
	comp=Z,132nm,0.8s						
BOJS	Bojanci	4.92	353	ePn	Pn	15 32 56.8	+0.1
BOJS				i Sn	Sn	15 33 50.5	-2.2
	comp=Z,132nm,0.8s						
DGI	Dorgali Grotta	4.97	269	Pg	Pn	15 32 56.5	-1.0
	comp=Z,8.0nm,0.7s						
AGG	Agios Georgios	5.05	106	ePn	Pn	15 32 59.8	+1.2
KNT	Kendrikon	5.17	82	ePn	Pn	15 32 59.9	-0.3
GCIS	Gornji Cirnik	5.25	356	i Pn	Pn	15 33 01.6	+0.3
GCIS	Gornji Cirnik	5.25	356	i Pn	Pn	15 33 01.6	+0.3
CEY	Cerknica	5.26	347	i Pn	Pn	15 33 01.0	-0.4
CEY				eSn	Sn	15 34 00.3	-0.8
VSL	Villasalto	5.29	260	Pg	Pn	15 33 00.3	-1.5
VSL	Villasalto	5.29	260	ePn	Pn	15 33 00.2	-1.6
	comp=Z,16nm,0.6s						
VSL				eSn	Sn	15 33 59.1	-2.8
VSL	Villasalto	5.29	260	ePn	Pn	15 33 00.2	-1.6
	comp=Z,16nm,0.6s						
VSL				eSn	Sn	15 33 59.1	-2.8
HORT	Hortiatis	5.32	88	ePn	Pn	15 33 02.4	+0.1
CESS	Cesta pri Krsk	5.37	355	i Pn	Pn	15 33 03.3	+0.4
KKB	Krupnik	5.40	74	eP	Pn	15 33 07.7	+4.3
SOH	Sokhos	5.51	86	ePn	Pn	15 33 05.0	+0.2
VLC	Villacollemand	5.51	312	Pn	Pn	15 33 05.5	+0.5
LJU	Ljubljana	5.54	348	i Pn	Pn	15 33 05.1	-0.2
LJU				eSn	Sn	15 34 05.0	-3.1
LJU							
	comp=Z,120nm,0.8s						
LJU	Ljubljana	5.54	348	i Pn	Pn	15 33 05.1	-0.2
LJU				eSn	Sn	15 34 05.0	-3.1
LJU	Ljubljana	5.54	348	i Pn	Pn	15 33 05.1	-0.2
LJU				eSn	Sn	15 34 05.0	-3.0
XOR	Xorichti	5.58	101	ePn	Pn	15 33 05.9	+0.1
VOY	Vojsko	5.64	344	ePn	Pn	15 33 06.0	-0.7
VOY				eSn	Sn	15 34 08.5	-2.0
VTS	Vitosha	5.67	67	ePn	Pn	15 33 07.2	+0.1
VTS	Vitosha	5.67	67⇑	iP	Pn	15 33 07.0	-0.1
SRS	Serrai	5.69	83	ePn	Pn	15 33 07.6	+0.2
PAIG	Paliouri	5.83	94	ePn	Pn	15 33 08.1	-1.2
MMB	Musomiste	5.83	78	ePn	Pn	15 33 09.3	0.0
MMB	Musomiste	5.83	78	P	Pn	15 33 11.8	+2.5
CADS	Cadrg	5.86	344	i Pn	Pn	15 33 09.2	-0.5
PKSM	Moragy	5.88	17⇓	iP	Pn	15 33 09.2	-0.8
PKSM	Moragy	5.88	17⇓	eP	Pn	15 33 08.9	-1.1
OBKA	Obir	5.99	350⇓	iPn	Pn	15 33 11.0	-0.5
	SNR=12						
OBKA			⇑	iSn	Sn	15 34 19.0	-0.1
OBKA	Obir	5.99	350⇓	iPn	Pn	15 33 10.9	-0.6
OUR	Ouranopolis	6.01	90	ePn	Pn	15 33 12.1	+0.3
PTCC	Patocco-Chiusa	6.11	342	Pg	Pn	15 33 12.4	-0.8
CTI	Castel Tesino	6.32	331	Pg	Pn	15 33 15.3	-0.7
BZS	Buzias	6.41	37⇑	iP	Pn	15 33 23.2	+5.9
SALO	Salr	6.45	323	Pg	Pn	15 33 17.6	-0.2
	comp=Z,368nm,0.6s						
MAGA	Magasa	6.52	324	Pg	Pn	15 33 17.8	-1.0
RZN	Rozhen	6.58	78	eP	Pn	15 33 22.1	+2.5
ARSA	Arzberg	6.63	357⇑	iSn	Sn	15 34 35.0	-0.1
ARSA	Arzberg	6.63	357⇑	iPn	Pn	15 33 19.3	-1.0
	SNR=5.5						
ARSA			⇑	iSn	Sn	15 34 35.0	-0.1
ARSA	Arzberg	6.63	357⇑	iPn	Pn	15 33 19.3	-1.0
ARSA				i Sn	Sn	15 34 35.0	-0.1
ARSA	Arzberg	6.63	357	Pn	Pn	15 33 19.3	-1.1
	comp=Z,5.0nm,5.0s						
KBA	Koelnbreinsper	6.75	344⇑	iSn	Sn	15 34 37.1	-0.9
KBA	Koelnbreinsper	6.75	344⇑	iPn	Pn	15 33 21.5	-0.4
	SNR=12						
KBA			⇑	iSn	Sn	15 34 37.1	-0.9
KBA	Koelnbreinsper	6.75	344	Pn	Pn	15 33 21.5	-0.5
	comp=Z,12nm,2.0s						
MABI	Malga Bissina	6.79	325	Pg	Pn	15 33 22.0	-0.4
GZR	Gura Zlata	6.82	44⇑	iP	Pn	15 33 23.2	+0.3
KDZ	Kurdzhali	7.10	79	eP	Pn	15 33 28.0	+1.3
SCE	Schlegeis	7.15	335⇓	iPn	Pn	15 33 27.3	-0.2
SBF	Sospel	7.20	300	ePn	Pn	15 33 26.0	-2.1
KEST	Kesra	7.23	230	Pn	Pn	15 33 32.0	+3.6
	comp=Z,0.7nm,0.3s,baz=333,slow=5.2,SNR=17						
CONA	Conrad Observa	7.30	359⇓	iPn	Pn	15 33 28.8	-0.7
	SNR=17						
CONA			⇑	iSn	Sn	15 34 52.0	+0.5
MOA	Molln	7.34	350⇑	iSn	Sn	15 34 52.4	-0.1
MOA	Molln	7.34	350⇑	iPn	Pn	15 33 29.4	-0.7
	SNR=14						
MOA			⇑	iSn	Sn	15 34 52.4	-0.1
MOA	Molln	7.34	350	Pn	Pn	15 33 29.4	-0.6
	comp=Z,14nm,2.0s						
PVL	Pavlikeni	7.35	66	eP	Pn	15 33 31.0	+0.9
WTTA	Wattenberg	7.38	336⇑	iPn	Pn	15 33 29.7	-0.9
WTTA			⇑	iSn	Sn	15 34 53.9	+0.5
WATA	Walderalm	7.46	336⇑	iPn	Pn	15 33 30.7	-1.0
WATA			⇓	iSn	Sn	15 34 56.9	+1.6
SQTA	Sankt Quirin	7.48	333⇑	iPn	Pn	15 33 31.4	-0.5
SQTA			⇓	iSn	Sn	15 34 56.6	+0.7
MOTA	Moosalm	7.62	333⇓	iPn	Pn	15 33 33.8	-0.1
MOTA			⇓	iSn	Sn	15 34 59.7	+0.3
FRF	La Foret Royal	7.62	296	ePn	Pn	15 33 31.8	-2.1
LMR	La Mourre	7.65	294	ePn	Pn	15 33 31.8	-2.4
PSZ	Piszkesteto	7.78	19⇓	iP	Pn	15 33 29.8	-6.2
PSZ	Piszkesteto	7.78	19	Pn	Pn	15 33 33.8	-2.3
PSZ	Piszkesteto	7.78	19	Pn	Pn	15 33 33.8	-2.2
DAVA	Damuels	8.03	328⇓	iPn	Pn	15 33 39.9	+0.4
DAVA			⇓	iSn	Sn	15 35 09.9	+0.4
VYHS	Vyhne	8.10	13	e	Pn	15 33 42.1	+1.6
VYHS				e		15 35 38.0	
VOIR		8.12	51⇓	iP	Pn	15 33 42.1	+1.4
SNX	Sinaia	8.36	52⇑	iP	Pn	15 33 44.8	+0.8
GEC2	GERESS Array S	8.39	349	ePn	Pn	15 33 42.4	-2.1
GEC2				eSn	Sn	15 35 13.3	-5.1
GEC2	GERESS Array S	8.39	349	ePn	Pn	15 33 42.3	-2.2
GERES	GERESS Array B	8.39	349	Pn	Pn	15 33 43.6	-0.9
	comp=Z,1.6nm,0.3s,baz=171,slow=13,SNR=21						
GERES				Sn	Sn	15 35 15.4	-3.0
	comp=Z,2.3nm,0.3s,baz=170,slow=24,SNR=6.7						
GERES				LR	LR	15 37 22.8	
	comp=Z,53nm,20.7s,baz=279,slow=41						
GERES	GERESS Array B	8.39	349	P	Pn	15 33 43.6	-0.9
GERES						15 35 15.4	
LPG	La Plagne	8.40	308	ePn	Pn	15 33 42.5	-2.1
LPG				eSn	Sn	15 35 12.6	-6.0
	comp=Z,1.7nm,0.3s						
LPL	La Plagne	8.42	309	ePn	Pn	15 33 42.7	-2.2
LPL				eSn	Sn	15 35 13.5	-5.6
	comp=Z,3.2nm,0.3s						
KECS	Kecovo	8.45	20	ePN	Pn	15 33 47.0	+1.7
ORIF	Oris-en-Rattie	8.66	303	ePn	Pn	15 33 45.8	-2.3
MLR	Muntele Rosu	8.68	53	Pn	Pn	15 33 49.1	+0.6
	comp=Z,0.5nm,0.3s,baz=155,slow=17,SNR=5.0						
MLR	Muntele Rosu	8.68	53⇑	iP	Pn	15 33 50.8	+2.3
VRAC	Vranov	8.69	2	LR	LR	15 37 16.9	
	comp=Z,54nm,20.7s,baz=247,slow=39						
IDI	Anoyia	8.74	125	Sn	Sn	15 35 21.6	-5.3
	comp=Z,4.2nm,0.3s,baz=294,slow=19,SNR=6.5						
BURAR	Bucovina Array	9.57	40⇓	iP	Pn	15 34 02.9	+2.3
LASF	Ste Croix	9.70	295	ePn	Pn	15 33 59.9	-2.5
HINF	Hinteralfeld	9.78	320	ePn	Pn	15 34 01.1	-2.4
HINF				eSn	Sn	15 35 45.3	-7.2
	comp=Z,8.1nm,0.4s						
HINF	Hinteralfeld	9.78	320	ePn	Pn	15 34 01.1	-2.4
HINF				eSn	Sn	15 35 45.3	-7.2
	comp=Z,4.1nm,0.4s						
CDF	Champ du Feu	10.01	324	ePn	Pn	15 34 04.5	-2.2
CDF				eSn	Sn	15 35 50.6	-7.5
	comp=Z,7.6nm,0.5s						
CDF	Champ du Feu	10.01	324	ePn	Pn	15 34 04.5	-2.2
CDF				eSn	Sn	15 35 50.6	-7.5
	comp=Z,3.8nm,0.5s						
HAU	Haudompre	10.16	320	ePn	Pn	15 34 06.3	-2.4
HAU				eSn	Sn	15 35 54.7	-7.0
	comp=Z,17nm,0.4s						
HAU	Haudompre	10.16	320	ePn	Pn	15 34 06.3	-2.4
HAU				eSn	Sn	15 35 54.7	-7.0
	comp=Z,8.7nm,0.4s						
LOR	Lormes	11.04	311	ePn	Pn	15 34 18.1	-2.7
CAF	Calviac	11.18	297	ePg	Pn	15 35 07.9	+45
CAF				eSn	Sn	15 36 19.0	-7.7
	comp=Z,2.2nm,0.4s						
CAF	Calviac	11.18	297	ePn	Pn	15 34 20.5	-2.2
CAF				ePg	Pn	15 35 07.9	+45
CAF				eSn	Sn	15 36 19.0	-7.7
CAF	Calviac	11.18	297	ePn	Pn	15 34 20.5	-2.2
CAF				eSn	Sn	15 36 19.0	-7.7
	comp=Z,1.1nm,0.4s						
LFF	La Frestale	12.09	296	ePn	Pn	15 34 32.5	-2.5
SGKT	Sivrigoynuk	12.12	85	i S	Sn	15 36 50.7	+0.8
GIVF	Givet	12.35	324	ePn	Pn	15 34 35.8	-2.8
GIVF				eSn	Sn	15 36 46.4	-8.9
	comp=Z,2.7nm,0.2s						
GIVF	Givet	12.35	324	ePn	Pn	15 34 35.8	-2.8
GIVF				eSn	Sn	15 36 46.4	-8.9
	comp=Z,1.4nm,0.2s						
ETSF	Etsaut	12.65	286	ePn	Pn	15 34 40.1	-2.7
AKASG	Malin Array Be	13.60	38	Pn	Pn	15 34 55.4	-0.4
	baz=227,slow=27,SNR=3.4						
HFS	Hagfors	19.59	356	P	Pn	15 36 10.6	-1.4
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=3.4						
HFS				LR	LR	15 43 53.8	
	comp=Z,34nm,19.2s,baz=26,slow=38						
NOA	NORSAR Array B	20.66	353	LR	LR	15 45 29.1	
	comp=Z,49nm,18.1s,MS2.9,baz=180,slow=40						
FINES	FINESS Array B	21.72	13	P	P	15 36 32.2	-1.4
	comp=Z,2.4nm,0.6s,mb3.8,baz=192,slow=9.4,SNR=9.6						
FINES				LR	LR	15 46 15.4	
	comp=Z,36nm,18.3s,MS2.8,baz=345,slow=40						
KAF	Kangasniemi	22.38	13	ep	P	15 36 37.1	-3.7
	comp=Z,0.5nm,0.3s,mb3.4,baz=195,slow=9.9						
KAF	Kangasniemi	22.38	13	eP	P	15 36 37.1	-3.7
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
JOF	Joensuu	24.10	17	ep	P	15 36 54.7	-3.2
	comp=Z,3.9nm,0.7s,mb4.0						
ARCES	ARCESS Array B	29.39	7	LR	LR	15 51 00.0	
	comp=Z,64nm,18.1s,MS3.3,baz=9.0,slow=40						
TORD	Torodi Ar. Bea	30.15	209	P	P	15 37 52.8	+0.5
	comp=Z,0.3nm,0.7s,mb3.1,baz=9.8,slow=9.9,SNR=3.2						
MKAR	Makanchi Array	46.96	59	P	P	15 40 13.0	-0.2
	comp=Z,0.3nm,0.5s,mb3.5,baz=291,slow=9.1,SNR=3.5						
SONM	Songino Array	61.53	50	P	P	15 41 58.7	-0.5
	comp=Z,0.8nm,0.8s,mb3.9,baz=287,slow=8.0,SNR=5.2						
PDAR	Pinedale Array	83.57	323	P	P	15 44 10.5	+0.2
	comp=Z,0.7nm,0.8s,mb3.8,baz=35,slow=5.4,SNR=4.9						

CASC 07 16:04:26.4±3.5, 15.30N×90.44W, h4km±11km, MD3.9, 8C-7D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GCG	Guatemala City	0.71	187⇓	eP	Pg	16 04 40.6	+0.5
GCG				eS	Sg	16 04 51.3	+1.9
NBG	Las Nubes	0.71	172⇓	eP	Pg	16 04 44.1	+4.0
FUG	Fuego 3	0.93	204⇓	iP	Pg	16 04 44.9	+0.7
TER	Terranova	1.02	193⇑	eP	Pg	16 04 46.0	+0.1
TER				eS	Sg	16 05 00.4	+1.2
MTO2	Montecristo 2	1.38	130⇓	eP	x	16 04 49.9	
RBDL	Robledal	1.39	148⇑	eP	x	16 04 50.8	
RBDL				eS	x	16 05 11.6	
JAT	Jato	1.51	230⇑	eP	Pn	16 04 56.2	+1.9
RTR	El Retiro	1.59	151⇑	eP	x	16 04 54.7	
RTR				eS	x	16 05 16.6	
SNJE	San Jose	1.64	150⇑	iP	x	16 04 55.6	
SBLS	San Blas	1.66	151⇑	eP	x	16 04 55.8	
SBLS				eS	x	16 05 18.6	
BOQS	Boqueron	1.92	144⇑	eP	x	16 04 59.9	
BOQS				eS	x	16 05 26.1	
SNET	Serv Nac Est T	1.99	144	eP	x	16 04 59.8	
SNET				eS	x	16 05 26.5	
LFU	La Fuente	2.01	140⇑	iP	x	16 05 00.4	
LFU				eS	x	16 05 28.1	
LBRS	Las Brisas	2.06	139⇓	eP	x	16 05 01.8	
LBRS				eS	x	16 05 29.8	
LFRS	El Faro	2.14	141⇓	eP	x	16 05 03.1	
LFRS				eS	x	16 05 32.4	
LCBS	La Ceiba	2.17	139⇓	eP	x	16 05 03.4	
LCBS				eS	x	16 05 32.1	
VSM	San Miguel	2.81	131	eP	x	16 05 13.4	
BLLM	Bellamira	2.83	131	eS	x	16 05 52.4	
CNCH	Conchagua	3.23	128	eP	x	16 05 19.4	

---

*ISCJB **07** 16:09:53.0±2.3, 34.14N±0.07×142.0E±0.1, h25km±23km, mb3.6/2, Error ellipse: s-maj=16.5km s-min=11.4km az=45.4*
*JMA **07** 16:09:52.5±0.6, 34.07N×142.15E, h58km, M3.4*
*IDC **07** 16:10:21.3±1.7, 34.87N×137.41E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=41.9km s-min=27.4km az=93.0*
ISC 07 16:09:52.7±2.2**, 34.12N**±0.07×**142.0E**±0.1**, h12**km±19km**, n18, σ0.65**/23**, mb3.6**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.01	302	P	Pb	16 10 12.3	+0.2
BSO3	Boso 3	1.42	299	P	Pn	16 10 18.6	+0.3
BSO4	Boso 4	1.64	303	P	Pn	16 10 22.1	+0.8
KTR	Katsuura	1.74	307	P	Pn	16 10 22.9	+0.2
CHOJ	Chosi	1.85	329	P	Pn	16 10 23.8	-0.4
JMY	Miyakejima3	2.08	270	P	Pn	16 10 26.3	-1.0
JHJ2	Mitsune	2.09	242	P	Pn	16 10 27.7	+0.2
JHJ2				eS	Sn	16 10 52.9	-0.5
JIM2	Oshima 3	2.22	286	P	Pn	16 10 28.8	-0.5
JIZS	Izushimoda	2.66	284	P	Pn	16 10 35.1	-0.3
JIZS				eS	Sn	16 11 07.6	+0.1
JOD2	Odawara 2	2.67	296	P	Pn	16 10 35.2	-0.3
JOD2				eS	Sn	16 11 07.9	+0.2
JAG	Ashikaga	3.12	318	P	Pn	16 10 41.4	-0.2
JYN	Shimob	3.17	297	P	Pn	16 10 42.5	+0.1
JRY	Ryogami san	3.18	308	P	Pn	16 10 42.8	+0.3
JMM	Marumori	3.87	346	P	Pn	16 10 50.1	-1.9
JMM				eS	Sn	16 11 32.1	-5.3
MJAR	Matsushiro Arr	3.94	309	Pn	Pn	16 10 53.4	+0.4
	2.7nm,0.3s,baz=116,slow=9.6,SNR=26						
MAT	Matsushiro	3.94	309	P	Pn	16 10 53.7	+0.7
MAT				S	Sn	16 11 38.7	-0.5
SONM	Songino Array	29.89	308	P	P	16 16 01.7	+1.6
	0.6nm,0.7s,mb3.5,baz=99,slow=7.7,SNR=4.4						
MKAR	Makanchi Array	46.13	305	P	P	16 18 16.9	0.0
	0.3nm,0.2s,mb3.8,baz=80,slow=8.9,SNR=4.5						

---

*ISCJB **07** 17:04:14.6±3.2, 5.98S±0.09×152.4E±0.1, h34km±27km, mb4.5/19, MS3.7/7, Error ellipse: s-maj=17.2km s-min=15.3km az=24.5*
*IDC **07** 17:04:17.8±0.8, 6.02S×152.35E, h44km±6km, mb4.0/10, mb1 4.3/11, mb1mx4.2/14, mbtmp4.4/11, ML3.9/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/22, Error ellipse: s-maj=19.4km s-min=14.1km az=111.0*
*NEIC **07** 17:04:17.5±0.3, 5.99S×152.35E, mb4.7/15, Error ellipse: s-maj=11.4km s-min=7.4km az=123.0*
ISC 07 17:04:17.7±2.5**, 5.99S**±0.09×**152.4E**±0.1**, h46**km±22km**, h47**km±.7km**:pP-P, n38, σ0.88**/34**, mb4.5**/19**, MS3.7**/7**, 1C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.21	237	P	Pn	17 05 46.4	-0.3
	18nm,0.3s,baz=45,slow=8.1,SNR=42						
PMG				S	Sn	17 06 57.1	+0.7
	8.4nm,0.3s,baz=142,slow=19,SNR=4.6						
HNR	Honiara	8.22	115	LR	LR	17 08 28.8	
	comp=Z,78nm,18.3s,baz=90,slow=30						
CTA	Charters Tower	15.24	203	eP	Pn	17 07 55.8	+6.2
	11nm,0.9s						
CTA	Charters Tower	15.24	203	P	Pn	17 07 55.4	+5.8
	0.3nm,0.3s,baz=25,slow=9.7,SNR=11						
CTA				LR	LR	17 12 41.3	
	comp=Z,188nm,21.5s,baz=37,slow=33						
CTAO	Charters Tower	15.24	203	P	Pn	17 07 55.8	+6.2
	15nm,0.8s						
KAKA	Kakadu	20.79	250	eP	P	17 08 54.7	-0.2
	34nm,0.6s						
DZM	Mont Dzumac	20.97	141	P	P	17 08 56.7	-0.1
	2.3nm,0.8s,baz=348,slow=17,SNR=2.5						
DZM				LR	LR	17 15 37.0	
	comp=Z,242nm,18.8s,MS3.6,baz=12,slow=32						
WRAB	Tennant Creek	22.36	230	eP	P	17 09 11.4	-0.3
	21nm,0.9s,mb4.6						
WB2	Warramunga Arr	22.37	230	eP	P	17 09 12.3	+0.6
WRA	Warramunga Arr	22.38	230	P	P	17 09 10.9	-0.9
	6.7nm,0.8s,mb4.1,baz=51,slow=11,SNR=16						
AS31	Alice Springs	25.02	223	eP	P	17 09 37.0	-0.2
ASPA	Alice Springs	25.02	223	eP	P	17 09 37.1	-0.1
STKA	Stephens Creek	27.67	200	P	P	17 10 01.1	0.0
	6.0nm,1.0s,mb4.2,baz=25,slow=14,SNR=5.7						
STKA				LR	LR	17 22 04.3	
	comp=Z,120nm,18.6s,MS3.5,baz=26,slow=39						
STKA	Stephens Creek	27.67	200	eP	P	17 10 00.6	-0.5
STKA				LR	LR	17 22 04.3	
FITZ	Fitzroy Crossi	28.76	243⇑	iP	P	17 10 10.7	-0.2
	25nm,0.6s,mb5.1						
FITZ	Fitzroy Crossi	28.76	243	P	P	17 10 10.9	0.0
	13nm,0.6s,mb4.8,baz=72,slow=7.6,SNR=79						
FITZ				pP	pP	17 10 22.8	-0.2
	8.5nm,0.5s,baz=83,slow=12,SNR=9.4						
FITZ				LR	LR	17 22 55.9	
	comp=Z,136nm,21.0s,MS3.5,baz=305,slow=39						
MBWA	Marble Bar	35.05	241	eP	P	17 11 06.0	0.0
	5.5nm,0.7s,mb4.6						
RPZ	Rata Peaks	41.00	159	LR	LR	17 27 16.6	
	comp=Z,215nm,18.6s,MS4.0,baz=338,slow=34						
ULN	Ulaanbaatar	66.80	329	eP	P	17 15 04.5	+0.2
	4.4nm,1.1s,mb4.4						
SONM	Songino Array	67.12	328	P	P	17 15 06.9	+0.5
	2.1nm,0.7s,mb4.3,baz=148,slow=3.6,SNR=12						
SONM				pP	pP	17 15 20.6	+0.9
	1.1nm,0.5s,baz=146,slow=5.8,SNR=4.7						
SONM				LR	LR	17 42 23.3	
	comp=Z,40nm,18.4s,MS3.7,baz=237,slow=34						
LSA	Lhasa	68.59	305	P	P	17 15 17.3	+1.7
	4.2nm,0.7s,mb4.5						
VNDA	Vanda	71.66	178	P	P	17 15 34.3	-0.2
	1.2nm,0.8s,mb3.9,baz=321,slow=8.4,SNR=5.7						
VNDA				pP	pP	17 15 47.5	-0.4
	1.9nm,0.8s,baz=311,slow=5.2,SNR=6.5						
SLKM	Skilak Lake	79.90	25	eP	P	17 16 21.1	-0.5
MKAR	Makanchi Array	80.96	319	P	P	17 16 27.5	+0.3
	1.4nm,0.6s,mb4.1,baz=92,slow=4.1,SNR=12						
MKAR				pP	pP	17 16 40.9	+0.1
	1.7nm,0.7s,baz=104,slow=5.1,SNR=4.0						
MKAR	Makanchi Array	80.96	319	P	P	17 16 27.5	+0.3
MKAR				pP	pP	17 16 40.9	+0.1
ZAL	Zalesovo	81.93	326	P	P	17 16 32.3	0.0
	1.7nm,0.4s,mb4.3,baz=0.9,slow=5.8,SNR=8.1						
ZAL				pP	pP	17 16 45.1	-0.8
	1.8nm,0.3s,baz=11,slow=5.2,SNR=3.0						
ZAL				LR	LR	17 50 21.6	
	comp=Z,23nm,18.6s,MS3.6,baz=267,slow=34						
MCK	McKinley	82.10	23	eP	P	17 16 33.4	+0.1
	14nm,1.0s,mb4.9						
QSPA	South Pole Qui	83.98	180	eP	P	17 16 43.4	+0.4
	7.6nm,1.1s,mb4.7						
MAW	Mawson	84.33	203	P	P	17 16 45.3	+0.6
	1.9nm,0.8s,mb4.3,baz=108,slow=9.8,SNR=4.9						
AAK	Ala-Archa	85.19	314	eP	P	17 16 49.2	+0.1
	3.9nm,0.7s,mb4.7						
AAK				epP	pP	17 17 02.1	-0.6
DAWY	Dawson	86.02	24	eP	P	17 16 54.5	+1.3
INK	Inuvik	89.70	21	P	P	17 17 08.4	-2.3
	12nm,1.3s,mb5.1						
CHKZ	Chkalovo	89.93	324	eP	P	17 17 10.1	-1.8
	5.2nm,0.8s,mb4.9						
ZRNK	Zerenda	90.77	323	eP	P	17 17 14.2	-1.5
	3.5nm,0.8s,mb4.7						
NVAR	Mina Array Bea	93.12	52	P	P	17 17 29.1	+2.5
	2.3nm,0.8s,mb4.7,baz=259,slow=6.4,SNR=6.4						
YKA	Yellowknife Ar	96.65	28	LR	LR	17 54 55.5	
	comp=Z,43nm,20.1s,MS3.9,baz=270,slow=31						
TOA0	Torodi Ar. Sit	150.28	286	ePKPbc	PKPbc	17 24 04.7	+1.1
TORD	Torodi Ar. Bea	150.28	286	PKPbc	PKPbc	17 24 05.1	+1.5
	11nm,0.8s,baz=70,slow=2.5,SNR=58						

---

*ISCJB **07** 17:15:29.2±0.7, 59.68N±0.04×23.94E±0.08, h0km, Error ellipse: s-maj=6.0km s-min=5.1km az=93.9*
*HEL **07** 17:15:32.0±0.2, 59.68N×24.13E, h0km, ML2.3, ML2.3(NAO), Explosion*
*IDC **07** 17:15:33.6±2.7, 59.76N×24.21E, h0km, mb1 3.5/2, mb1mx3.2/16, mbtmp3.4/2, ML3.2/2, Error ellipse: s-maj=29.3km s-min=9.2km az=146.0*
*NAO **07** 17:15:33.8±1.8, 59.86N×23.93E, ML2.3*
*BER **07** 17:15:34.3±4.6, 59.80N×23.94E, h0km±21km, ML2.3(NAO)*
ISC 07 17:15:31.2±0.7**, 59.70N**±0.04×**24.15E**±0.08**, h0**km**, n20, σ1.11**/34**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.54	13	eP	Pg	17 15 41.6	+0.1
MEF				eS	Sg	17 15 48.7	+0.2
PVF	Pernaja	1.21	44	eP	Pg	17 15 53.6	-0.8
PVF				eS	Sg	17 16 09.0	-1.0
RAF	Rauma	1.78	319	eP	Pn	17 16 03.7	+0.4
RAF				eS	Sn	17 16 27.5	+0.9
RAF				MSG		17 16 32.2	
	comp=Z,15nm,0.1s						
VSU	Vasula	1.82	132	eP	Pn	17 16 04.0	+0.2
VSU				eS	Sn	17 16 27.1	-0.4
FIA0	FINESS Array S	2.00	28	eP	Pn	17 16 07.8	+1.6
FIA0				eS	Sn	17 16 33.0	+1.1
FIA0				MSG		17 16 36.3	
	comp=Z,19nm,0.2s						
FIA0	FINESS Array S	2.00	28	Pn	Pn	17 16 07.3	+1.1
	baz=205,slow=16						
FIA0				Lg		17 16 33.7	
	baz=219,slow=28						
FINES	FINESS Array B	2.00	28	Pg	Pg	17 16 08.1	-1.4
	comp=Z,5.7nm,0.3s,baz=209,slow=14,SNR=316						
FINES				Lg		17 16 33.8	
	comp=Z,5.3nm,0.3s,baz=206,slow=31,SNR=26						
KEF	Keuruu	2.50	8	ePB	Pb	17 16 15.7	-1.4
KEF				eSB	Sb	17 16 47.5	-1.0
KEF				MSG		17 16 51.1	
	comp=Z,14nm,0.2s						
KAF	Kangasniemi	2.64	23	eP	Pn	17 16 16.8	+1.7
KAF				eSB	Sb	17 16 52.6	+0.2
SUF	Sumiainen	3.18	17	eP	Pn	17 16 24.2	+1.6
HFS	Hagfors	5.28	279	Pn	Pn	17 16 52.1	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=110,slow=14						
HFS				Sn	Sn	17 17 49.0	-3.9
	baz=100,slow=28						
HFS				Lg		17 18 09.5	
	baz=98,slow=37						
HFS	Hagfors	5.28	279	eP	Pn	17 16 52.1	+0.8
HFS				eS	Sn	17 17 49.0	-3.9
HFS				eSB		17 18 09.5	
NB2	NORSAR Subarra	6.56	287	Pn	Pn	17 17 07.2	-1.7
	baz=96,slow=14						
NB2				Sn	Sn	17 18 20.2	-4.1
	baz=97,slow=22						
NB2				Lg		17 18 53.4	
	baz=97,slow=37						
NB2	NORSAR Subarra	6.56	287	eP	Pn	17 17 07.2	-1.7
NB2				eS	Sn	17 18 20.2	-4.1
NB2				eSG		17 18 53.4	
NOA	NORSAR Array B	6.56	287	Pn	Pn	17 17 08.2	-0.7
	comp=Z,0.3nm,0.3s,baz=32,slow=20,SNR=3.0						
NOA				Sn	Sn	17 18 20.6	-3.8
	comp=Z,0.4nm,0.3s,baz=291,slow=5.0,SNR=2.6						
APA0	Apatity Array	8.85	23	Pn	Pn	17 17 41.9	+1.5
	baz=221,slow=14						
APA0	Apatity Array	8.85	23	eP	Pn	17 17 41.9	+1.5
ARA0	ARCESS Array S	9.90	3	Pn	Pn	17 17 53.8	-1.0
	baz=179,slow=16						
ARA0				Sn	Sn	17 19 39.2	-7.3
	baz=180,slow=22						
ARA0	ARCESS Array S	9.90	3	eP	Pn	17 17 53.8	-1.0
ARA0				eS	Sn	17 19 39.2	-7.3
ARCES	ARCESS Array B	9.90	3	Pn	Pn	17 17 54.4	-0.4
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=26						

NEIC 07 17:19:39.0,37.78S×176.81E,h5km,ML3.8(WEL),After WEL.

NEIC Felt along the coast from Tauranga to Whakatane.

WEL 07 17:19:39.0±0.1,37.78S×176.81E,h5km,ML3.6/9,1C-1D, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.23	208	P	Pg	17 19 43.8	+0.3
MARZ				S	Sg	17 19 47.6	+1.1
MARZ	Manawahe	0.23	208	PG	Pg	17 19 43.8	+0.3
MARZ				SG	Sg	17 19 47.2	+0.7
EDRZ	Edgecumbe	0.33	190	P	Pg	17 19 45.6	+0.3
EDRZ	Edgecumbe	0.33	190	PG	Pg	17 19 45.6	+0.3
WIZ	White Island	0.39	50	P	Pg	17 19 47.1	+0.5
WIZ	White Island	0.39	50	PG	Pg	17 19 47.1	+0.5
LIRZ	Lichensteins R	0.40	236	P	Pg	17 19 47.3	+0.6
LIRZ	Lichensteins R	0.40	236	PG	Pg	17 19 47.3	+0.5
TGRZ	Tauranga	0.44	277	P	Pg	17 19 47.9	+0.5
TGRZ				S	Sg	17 19 53.8	+0.7
TGRZ	Tauranga	0.44	277	⇑PG	Pg	17 19 47.8	+0.4
TGRZ				SG	Sg	17 19 53.7	+0.6
MKRZ	Makatiti	0.45	217	PG	Pg	17 19 48.4	+0.8
KARZ	Kaharoa	0.51	242	P	Pg	17 19 49.2	+0.5
KARZ	Kaharoa	0.51	242	⇓PG	Pg	17 19 49.2	+0.4
TAZ	Tarawera	0.51	208	P	Pg	17 19 49.7	+0.9
TAZ	Tarawera	0.51	208	PG	Pg	17 19 49.7	+1.0
UTU	Utuhina	0.63	231	P	Pg	17 19 51.7	+0.7
UTU	Utuhina	0.63	231	P*	Pb	17 19 51.7	-0.7
MYRZ	Mayor Island	0.67	318	P*	Pb	17 19 52.1	-1.1
PATZ	Paeroa	0.74	216	P*	Pb	17 19 53.7	-0.6
MKAZ	Moumakai	1.47	297	P	Pn	17 20 05.7	-0.4
MKAZ	Moumakai	1.47	297	PN	Pn	17 20 05.6	-0.5
OTAZ	Otara	1.72	298	P	Pn	17 20 08.1	-1.4
TUVZ	Tukino	1.74	211	P	Pn	17 20 10.9	+1.1
MTAZ	Motutapu	1.81	303	P	Pn	17 20 09.2	-1.6
WNVZ	Wahianoa	1.81	211	P	Pn	17 20 11.5	+0.7

ISCJB 07 17:31:15.9±0.5,39.12S±0.04×175.31E±0.09,h164km±5km, mb3.6/2,Error ellipse: s-maj=12.0km s-min=5.3km az=25.8

NEIC 07 17:31:16.5,39.05S×175.30E,h163km,mb4.2/1,After WEL.

WEL 07 17:31:18.4±0.3,39.03S×175.27E,h146km±2km,ML5.0/13, Error ellipse: s-maj=1.7km s-min=1.6km az=0.0

WEL Felt from Bay of Plenty to Wellington, maximum reported intensity MM 4.

IDC 07 17:31:18.4±2.1,38.79S×175.60E,h160km±18km,mb3.1/1, mb1 3.5/1,mb1mx3.1/8,mbtmp3.6/1,MS3.5/1,Ms1 3.4/1, ms1mx3.0/5,Error ellipse: s-maj=61.9km s-min=32.7km az=3.0

ISC 07 17:31:16.3±0.5,39.12S±0.04×175.28E±0.09,h163km±5km, n106,σ0.87/101,mb3.6/2,11C-1D,North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	Taurewa	0.13	68	P	Pn	17 31 38.1	0.0
TWVZ	Taurewa	0.13	68	⇑PN	Pn	17 31 38.0	0.0
TWVZ				SN	Sn	17 31 52.6	-2.1
PKVZ	Pokaka	0.18	164	⇑PN	Pn	17 31 38.3	+0.1
WPVZ	Whakapapa	0.22	112	P	Pn	17 31 38.5	+0.3
WPVZ	Whakapapa	0.22	112	PN	Pn	17 31 38.4	+0.2
WTVZ	West Tongariro	0.24	89	P	Pn	17 31 38.3	0.0
WTVZ	West Tongariro	0.24	89	⇑PN	Pn	17 31 38.2	0.0
FWVZ	Far West T-bar	0.25	123	P	Pn	17 31 38.7	+0.4
FWVZ	Far West T-bar	0.25	123	PN	Pn	17 31 38.7	+0.4
NGZ	Ngauruhoe	0.25	103	PN	Pn	17 31 38.3	0.0
DRZ	Dome Shelter	0.27	125	P	Pn	17 31 38.9	+0.5
DRZ	Dome Shelter	0.27	125	PN	Pn	17 31 38.8	+0.5
TRVZ	Turoa	0.27	131	⇑PN	Pn	17 31 38.8	+0.5
KRVZ	Karewarewa	0.28	85	PN	Pn	17 31 38.3	-0.1
OTVZ	Oturere	0.30	98	PN	Pn	17 31 38.3	-0.1
MTVZ	Mangateitei	0.30	151	⇑PN	Pn	17 31 38.8	+0.4
WNVZ	Wahianoa	0.32	130	P	Pn	17 31 38.8	+0.3
WNVZ	Wahianoa	0.32	130	⇑PN	Pn	17 31 38.8	+0.3
TUVZ	Tukino	0.32	117	⇑PN	Pn	17 31 39.0	+0.5
KATZ	Kakaramea	0.35	66	P	Pn	17 31 38.5	-0.1
KATZ	Kakaramea	0.35	66	PN	Pn	17 31 38.4	-0.2
RATZ	Rangitukua	0.46	57	P	Pn	17 31 38.8	-0.2
RATZ	Rangitukua	0.46	57	⇑PN	Pn	17 31 38.7	-0.2
MOVZ	Moawhango	0.46	128	P	Pn	17 31 39.2	+0.2
MOVZ	Moawhango	0.46	128	⇑PN	Pn	17 31 39.2	+0.2
RITZ	Rihia Road	0.47	73	P	Pn	17 31 39.2	+0.2
RITZ	Rihia Road	0.47	73	PN	Pn	17 31 39.0	-0.1
WATZ	Wairara	0.54	41	P	Pn	17 31 39.4	0.0
WATZ	Wairara	0.54	41	⇑PN	Pn	17 31 39.4	0.0
HATZ	Hinemaiaia	0.67	70	PN	Pn	17 31 39.8	-0.3
WHTZ	Whakaora	0.69	50	P	Pn	17 31 40.3	+0.1
RAEZ	Rainy Point	0.71	256	P	Pn	17 31 40.5	+0.2
RAEZ	Rainy Point	0.71	256	PN	Pn	17 31 40.5	+0.2
NEZ	North Egmont	0.93	260	P	Pn	17 31 42.4	+0.6
NEZ	North Egmont	0.93	260	PN	Pn	17 31 42.4	+0.5
DFE	Dawson Falls	0.94	257	P	Pn	17 31 36.4	-5.5
PKE	Pukeiti	1.01	265	P	Pn	17 31 42.6	+0.2
PKE	Pukeiti	1.01	265	⇑PN	Pn	17 31 42.6	+0.1
PATZ	Paeroa	1.06	46	P	Pn	17 31 43.0	+0.1
PATZ	Paeroa	1.06	46	PN	Pn	17 31 42.9	+0.1
NRZ	Ngariki Road	1.07	258	P	Pn	17 31 43.2	+0.3
NRZ	Ngariki Road	1.07	258	PN	Pn	17 31 43.0	0.0
NWEZ	Newall Road	1.11	262	P	Pn	17 31 43.5	+0.2
NWEZ	Newall Road	1.11	262	PN	Pn	17 31 43.4	+0.2
UTU	Utuhina	1.18	37	P	Pn	17 31 44.0	+0.1
UTU				S	Sn	17 31 47.5	-18
UTU	Utuhina	1.18	37	PN	Pn	17 31 43.9	0.0
TAZ	Tarawera	1.31	48	P	Pn	17 31 43.3	-1.7
KARZ	Kaharoa	1.33	35	P	Pn	17 31 45.1	-0.2
KARZ	Kaharoa	1.33	35	PN	Pn	17 31 45.0	-0.2
TGRZ	Tauranga	1.59	29	P	Pn	17 31 47.7	-0.1
TGRZ	Tauranga	1.59	29	PN	Pn	17 31 47.6	-0.2
URZ	Urewera	1.67	60	P	Pn	17 31 48.3	-0.3
	146nm,0.3s,baz=255,slow=7.3,SNR=850						
URZ				S	Sn	17 32 08.2	-5.3
	189nm,0.3s,baz=129,slow=21,SNR=40						
KIW	Kapiti Island	1.76	189	P	Pn	17 31 50.4	+0.8
KIW	Kapiti Island	1.76	189	PN	Pn	17 31 50.4	+0.7
DUWZ	D'Urville Isla	1.98	211	PN	Pn	17 31 52.3	+0.3
CAW	Cannon Point	1.99	185	P	Pn	17 31 53.0	+0.8
CAW	Cannon Point	1.99	185	PN	Pn	17 31 53.0	+0.8
MKAZ	Moumakai	2.01	357	PN	Pn	17 31 52.3	-0.1
MTW	Mount Morrison	2.04	175	P	Pn	17 31 53.4	+0.7
MTW	Mount Morrison	2.04	175	PN	Pn	17 31 53.3	+0.6
MRW	Makara Radio	2.15	192	P	Pn	17 31 54.7	+0.7
MRW	Makara Radio	2.15	192	PN	Pn	17 31 54.6	+0.6
OTAZ	Otara	2.19	352	P	Pn	17 31 54.5	+0.1
OTAZ	Otara	2.19	352	PN	Pn	17 31 54.2	-0.2
WEL	Wellington	2.20	190	P	Pn	17 31 55.1	+0.6
WEL	Wellington	2.20	190	PN	Pn	17 31 54.9	+0.4
TCW	Tory Channel	2.23	200	P	Pn	17 31 55.5	+0.6
TCW	Tory Channel	2.23	200	PN	Pn	17 31 55.5	+0.6
SNZO	South Karori	2.23	191	P	Pn	17 31 55.4	+0.5
SNZO				eSn	Sn	17 32 22.4	-2.3
SNZO	South Karori	2.23	191	PN	Pn	17 31 55.3	+0.4
WTAZ	Waiatarua	2.25	345	P	Pn	17 31 55.4	+0.2
WTAZ	Waiatarua	2.25	345	PN	Pn	17 31 55.5	+0.4
MSWZ	Moikau Station	2.29	181	P	Pn	17 31 56.2	+0.6
MSWZ	Moikau Station	2.29	181	⇓PN	Pn	17 31 56.2	+0.6
TRWZ	Traveller	2.30	172	PN	Pn	17 31 56.2	+0.6
BHW	Baring Head	2.31	188	P	Pn	17 31 56.3	+0.5
BHW	Baring Head	2.31	188	PN	Pn	17 31 56.3	+0.5
KAAZ	Kauri Point	2.34	349	P	Pn	17 31 56.6	+0.4
KAAZ	Kauri Point	2.34	349	PN	Pn	17 31 56.3	+0.1
MTAZ	Motutapu	2.35	353	P	Pn	17 31 56.3	0.0
MTAZ	Motutapu	2.35	353	PN	Pn	17 31 56.3	0.0
TUWZ	Tuamarina	2.52	204	PN	Pn	17 31 58.4	0.0
CMWZ	Cape Campbell	2.75	197	P	Pn	17 32 02.1	+1.0
CMWZ	Cape Campbell	2.75	197	PN	Pn	17 32 02.0	+0.9
BSWZ	Blackbirch Sta	2.81	202	P	Pn	17 32 02.2	+0.4
BSWZ	Blackbirch Sta	2.81	202	PN	Pn	17 32 02.1	+0.3
CRLZ	Canterbury Las	4.88	203	P	Pn	17 32 26.9	-1.5
FOZ	Fox Glacier	6.12	222	eP	Pn	17 32 41.0	-3.6
LBZ	Lake Benmore	6.50	214	eP	Pn	17 32 47.0	-2.7
JCZ	Jackson Bay	6.96	223	eP	Pn	17 32 52.8	-3.0
WKZ	Wanaka	7.37	217	eP	Pn	17 32 58.4	-2.8
EAZ	Earnscleugh	7.55	214	eP	Pn	17 33 01.8	-1.8
RAO	Raoul Island	11.34	32	ePn	Pn	17 34 01.0	+7.5
STKA	Stephens Creek	28.25	274	LR	LR	17 47 12.6	
	comp=Z,92nm,19.4s,baz=22,slow=34						
FUNA	Funafuti	30.66	8	eP	P	17 37 14.0	-1.4
AS31	Alice Springs	38.19	281	eP	P	17 38 23.4	+3.5
WRAB	Tennant Creek	40.02	287	P	P	17 38 35.1	0.0
	5.5nm,1.1s,mb4.1						
WRA	Warramunga Arr	40.02	287	P	P	17 38 38.4	+3.3
	0.2nm,0.3s,mb3.2,baz=125,slow=8.2,SNR=13						
KEV	Kevo	145.03	341	ep	PKPbc	17 50 33.9	+0.1
ARCES	ARCESS Array B	145.55	342	PKPbc	PKPbc	17 50 36.1	+0.7
	1.7nm,0.3s,baz=68,slow=3.0,SNR=28						
JOF	Joensuu	147.85	330	ep	PKPdf	17 50 41.1	+2.3
FINES	FINESS Array B	150.71	330	PKPbc	PKPbc	17 50 49.0	-0.1
	2.5nm,1.0s,baz=45,slow=3.0,SNR=5.0						
FINES				PKPab	PKPab	17 50 57.3	+0.7
	0.7nm,0.6s,baz=82,slow=1.8,SNR=7.7						
FINES	FINESS Array B	150.71	330	PKPbc	PKPbc	17 50 49.0	-0.1
FINES				PKPab	PKPab	17 50 57.3	+0.7
TORD	Torodi Ar. Bea	153.51	194	PKPbc	PKPbc	17 50 58.7	+3.4
	0.3nm,0.3s,baz=179,slow=4.4,SNR=6.9						
TORD	Torodi Ar. Bea	153.51	194	PKPbc	PKPbc	17 50 58.7	+3.4
CLL	Collm	162.61	320	ePKPab	PKPab	17 51 48.0	+0.2

ISCJB 07 17:49:02.8±0.6,29.29S±0.03×71.41W±0.10,h69km±7km, mb3.5/2,Error ellipse: s-maj=14.2km s-min=4.2km az=15.3

NEIC 07 17:49:03.2,29.24S×71.25W,h55km,MD4.2(GUC),After GUC.

GUC 07 17:49:03.2±0.9,29.24S×71.25W,h55km±10km,MD4.2, ML4.1

IDC 07 17:49:06.0±3.8,29.23S×71.19W,h73km±32km,mb3.4/2, mb1 3.6/5,mb1mx3.4/16,mbtmp3.7/5,Error ellipse: s-maj=47.0km s-min=21.3km az=68.0

ISC 07 17:49:03.8±0.7,29.26S±0.03×71.44W±0.10,h57km±9km,n30, σ0.82/48,mb3.6/2,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.67	165	⇑iP	Pn	17 49 17.3	-0.1
LSCH				iS	Sn	17 49 27.2	-0.1
VACH	Vallenar	0.91	41	eP	Pn	17 49 21.8	+1.3
VACH				iS	Sn	17 49 33.6	+0.8
VACH				AML	AML	17 49 35.0	
	comp=N,36μm,0.1s						
VACH	Vallenar	0.91	41	eP	Pn	17 49 21.8	+1.3
VACH				iS	Sn	17 49 33.6	+0.8
TLL	Tololo Astrono	1.06	149	eP	Pn	17 49 22.1	-0.3
TLL				iS	Sn	17 49 36.4	+0.1
TLL				AML	AML	17 49 36.9	
	comp=E,3μm,0.3s						
TLL	Tololo Astrono	1.06	149	eP	Pn	17 49 22.1	-0.3
TLL				iS	Sn	17 49 36.4	+0.1
OVCH	Ovalle	1.36	171	⇓iP	Pn	17 49 26.1	-0.4
OVCH				iS	Sn	17 49 43.4	-0.1
OVCH				AML	AML	17 49 44.6	
	comp=N,2μm,0.4s						
OVCH	Ovalle	1.36	171	⇓iP	Pn	17 49 26.1	-0.4
OVCH				iS	Sn	17 49 43.4	-0.1
CMCH	Combarbala	1.94	169	⇑iP	Pn	17 49 34.1	-0.2
CMCH				iS	Sn	17 49 57.7	+0.1
CMCH				AML	AML	17 50 12.3	
	comp=E,3μm,0.5s						
CMCH	Combarbala	1.94	169	⇑iP	Pn	17 49 34.1	-0.2
CMCH				iS	Sn	17 49 57.7	+0.1
CPCH	Copiapo	2.13	27	⇓iP	Pn	17 49 35.2	-1.7
CPCH				iS	Sn	17 50 00.0	-2.1
CPCH				AML	AML	17 50 09.2	
	comp=E,6μm,0.1s						
CPCH	Copiapo	2.13	27	⇓iP	Pn	17 49 35.2	-1.7
CPCH				iS	Sn	17 50 00.0	-2.1
CHNG	Los Chungos	2.61	181	⇑iP	Pn	17 49 43.1	-0.4
CHNG				iS	Sn	17 50 13.3	-0.7
CHNG				AML	AML	17 50 34.5	
	comp=E,241nm,0.6s						
PTCH	Petorca	3.02	172	eP	Pn	17 49 49.1	0.0
PTCH				iS	Sn	17 50 23.7	-0.5
PTCH				AML	AML	17 50 46.5	
	comp=E,946nm,0.2s						
PTCH	Petorca	3.02	172	eP	Pn	17 49 49.1	0.0
PTCH				iS	Sn	17 50 23.7	-0.5
JACH	Jahuel	3.48	168	eP	Pn	17 49 55.9	+0.5
CFAA	Coronel Fontan	3.62	131	P	Pn	17 49 58.2	+0.9
	comp=E,0.6nm,0.3s,baz=316,slow=12,SNR=33						
CFAA				S	Sn	17 50 38.5	-0.2
	comp=E,2.5nm,0.3s,baz=41,slow=20,SNR=6.5						
PEL	Peldehue	3.92	171	eP	Pn	17 50 01.4	-0.1
PEL				iS	Sn	17 50 45.6	-0.6
FCH	Farellones	4.17	167	eP	Pn	17 50 06.0	+1.1
FCH				iS	Sn	17 50 52.8	+0.5
LCCH	Las Cruces	4.20	181	⇑iP	Pn	17 50 04.6	-0.7
MDZ	Mendoza	4.24	149	eP	Pn	17 50 08.7	+2.9
RCDM	Rinconada Maip	4.25	173	eP	Pn	17 50 06.4	+0.4
RCDM				iS	Sn	17 50 54.1	-0.1
TACH	Talagante	4.40	175	⇑iP	Pn	17 50 08.3	+0.3
TACH				iS	Sn	17 50 57.3	-0.6
LMEL	Las Melosas	4.69	167	eP	Pn	17 50 12.5	+0.5
LMEL				eS	Sn	17 51 05.1	0.0
SFDO	San Fernando	5.35	176	eP	Pn	17 50 21.0	0.0
LPAZ	La Paz	13.27	14	P	Pn	17 52 10.8	+1.6
	comp=E,0.2nm,0.3s,baz=188,slow=7.1,SNR=8.1						
SIV	San Ignacio	16.30	38	P	Pn	17 52 47.3	-1.5
	comp=E,0.2nm,0.3s,baz=223,slow=10,SNR=8.3						
PDAR	Pinedale Array	79.79	332	P	P	18 01 06.9	+1.0
	comp=E,0.2nm,0.6s,mb3.2,baz=133,slow=8.8,SNR=2.7						
TORD	Torodi Ar. Bea	82.12	70	P	P	18 01 17.9	-0.4
	comp=E,1.1nm,0.6s,mb4.0,baz=231,slow=9.1,SNR=10						
WRA	Warramunga Arr	125.12	210	PKP	PKPdf	18 07 57.9	+0.1
	comp=E,0.4nm,0.4s,baz=157,slow=1.7,SNR=9.1						
ZAL	Zalesovo	149.89	28	PKPbc	PKPbc	18 08 47.8	+0.3
	comp=E,1.8nm,0.5s,baz=151,slow=3.4,SNR=6.1						

ISCJB 07 18:05:42.8±1.4,6.50S±0.06×128.92E±0.10,h196km±14km, mb4.2/16,Error ellipse: s-maj=16.8km s-min=7.7km az=141.1

IDC 07 18:05:44.6±3.7,6.46S×128.98E,h197km±37km,mb3.7/9, mb1 4.0/11,mb1mx3.9/14,mbtmp4.4/11,Error ellipse: s-maj=26.0km s-min=12.8km az=81.0

NEIC 07 18:05:45.6±1.9,6.46S×128.98E,h209km±20km,mb5.1/6, Error ellipse: s-maj=17.3km s-min=11.0km az=83.0

ISC 07 18:05:46.8±1.3,6.56S±0.06×129.1E±0.1,h221km±13km,n30, σ1.00/37,mb4.2/16,2C,Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.96	152	eP	Pn	18 07 26.9	+0.2
	56nm,0.2s						
KAKA				eS	S	18 08 41.1	-5.3
FITZ	Fitzroy Crossi	11.95	196	eP	Pn	18 08 28.6	-1.9
	89nm,0.3s						
FITZ				eS	S	18 10 36.0	-7.9
FITZ	Fitzroy Crossi	11.95	196	P	Pn	18 08 29.4	-1.0
	13nm,0.3s,baz=26,slow=12,SNR=456						
FITZ				S	S	18 10 37.9	-6.0
	5.9nm,0.3s,baz=108,slow=21,SNR=8.9						
WRAB	Tennant Creek	14.26	159	eP	Pn	18 08 58.2	-0.9
	63nm,0.4s						
WRAB				eS	S	18 11 20.5	-17
WRA	Warramunga Arr	14.26	159	P	Pn	18 08 58.2	-0.9
	8.0nm,0.3s,baz=343,slow=12,SNR=163						
WRA				S	S	18 11 31.9	-5.5
	4.0nm,0.3s,baz=335,slow=22,SNR=6.3						
WB2	Warramunga Arr	14.27	159	eP	Pn	18 08 58.2	-0.9
MBWA	Marble Bar	17.10	211	eP	P	18 09 31.7	+0.4
	5.9nm,0.3s						
AS31	Alice Springs	17.64	165	⇑iP	P	18 09 39.2	+2.0
AS31				eS	S	18 12 47.8	-0.9
ASPA	Alice Springs	17.64	165	⇑iP	P	18 09 39.2	+2.0
ASPA				eS	S	18 12 47.8	-1.0
CTA	Charters Tower	21.43	131	eP	P	18 10 19.8	+2.0
	8.5nm,0.8s,mb4.3						
CTA	Charters Tower	21.43	131	P	P	18 10 19.9	+2.1
	10nm,0.7s,mb4.5,baz=299,slow=12,SNR=23						
CTAO	Charters Tower	21.43	131	eP	P	18 10 19.7	+1.9
FORT	Forrest	24.12	182	eP	P	18 10 42.5	+0.1
	15nm,0.4s,mb5.0						
STKA	Stephens Creek	27.78	157	P	P	18 11 16.5	+1.3
	4.7nm,0.6s,mb4.3,baz=325,slow=9.1,SNR=15						
STKA	Stephens Creek	27.78	157	eP	P	18 11 16.2	+1.0
MUN	Mundaring	28.00	204	eP	P	18 11 17.5	+0.4
NWAO	Narrogin (SRO)	28.45	201	P	P	18 11 21.9	+0.8
	5.8nm,0.7s,mb4.3,baz=107,slow=8.7,SNR=8.2						
MJAR	Matsushiro Arr	43.72	11	P	P	18 13 28.6	-1.5
	2.6nm,0.7s,mb3.7,baz=188,slow=8.7,SNR=10						
LSA	Lhasa	51.23	317	eP	P	18 14 29.0	+1.1
	1.6nm,0.5s,mb3.7						
GUN	Gumba	53.96	312	eP	P	18 14 48.2	+0.4
	27nm,0.5s,mb5.0						
KKN	Kakani	54.34	311	eP	P	18 14 50.4	-0.2
	9.3nm,0.6s,mb4.5						
DMN	Daman	54.38	311	eP	P	18 14 50.9	+0.1
	11nm,0.7s,mb4.5						
GKN	Gorkha	54.94	311	eP	P	18 14 54.8	0.0
	17nm,0.3s,mb5.0						
KOLN	Koldanda	55.60	310	eP	P	18 14 59.3	-0.3
	12nm,0.7s,mb4.5						
SONM	Songino Array	57.73	342	P	P	18 15 14.8	+0.2
	0.9nm,0.7s,mb3.5,baz=153,slow=6.8,SNR=6.1						
MKAR	Makanchi Array	67.35	327	P	P	18 16 18.0	0.0
	3.2nm,0.6s,mb4.1,baz=120,slow=7.3,SNR=30						
VNDA	Vanda	73.00	173	P	P	18 16 52.1	-0.2
	1.4nm,0.6s,mb3.8,baz=332,slow=6.7,SNR=11						
MAW	Mawson	75.02	201	P	P	18 17 04.5	+0.5
	0.8nm,0.5s,mb3.6,baz=87,slow=9.1,SNR=6.8						
BVAR	Borovoye Array	77.19	328	P	P	18 17 15.7	-0.5
	0.5nm,0.6s,mb3.3,baz=123,slow=5.5,SNR=5.1						
ZRNK	Zerenda	77.89	328	eP	P	18 17 17.4	-2.7

IDC 07 18:19:45.5±2.1,43.72N×105.40W,h0km,mb4.3/2, mb1 4.3/3,mb1mx3.7/19,mbtmp4.1/3,ML4.3/1,MS2.8/1, Ms1 2.8/1,ms1mx1.8/30,Error ellipse: s-maj=61.6km s-min=11.8km az=153.0

NEIC 07 18:19:47.4±0.5,43.78N×105.22W,h0km,ML3.3,Error ellipse: s-maj=6.0km s-min=5.4km az=126.0,Suspected Mining explosion.,Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.92	68	ePg	Pg	18 20 06.0	+0.9
PHWY	Pilot Hill	2.48	184	ePn	Pn	18 20 29.1	0.0
RWWY	Rawlins	2.55	216	eP	Pn	18 20 30.1	+0.1
RWWY				eS	Sn	18 21 01.4	-0.3
PDAR	Pinedale Array	3.32	254	Pn	Pn	18 20 40.2	-0.4
	4.3nm,0.3s,baz=70,slow=18,SNR=100						
PDAR				Lg		18 21 24.9	
	10nm,0.3s,baz=74,slow=33,SNR=9.4						
GCMT	Greycliff	3.75	304	eP	Pn	18 20 46.8	+0.3
LOHW	Long Hollow	3.91	269	eP	Pn	18 20 49.5	+0.8
FLWY	Flagg Ranch	3.97	276	P	Pn	18 20 48.2	-1.3
ISCO	Idaho Springs	3.98	184	eP	Pn	18 20 50.1	+0.4
SNOW	Snow King Moun	4.03	267	P	Pn	18 20 52.6	+2.2
YNR	Norris Junctio	4.03	285	eP	Pb	18 21 01.1	+1.8
YFT	Old Faithful	4.10	281	eP	Pn	18 20 53.8	+2.5
REDW	Red Top Meadow	4.11	266	eP	Pn	18 20 51.1	-0.4
IMW	Indian Meadow	4.14	274	eP	Pn	18 20 53.2	+1.4
TPAW	Teton Pass	4.17	268	eP	Pn	18 20 52.4	+0.1
AHID	Auburn Hatcher	4.41	259	eP	Pn	18 20 54.6	-0.9
RRI2	Red Ridge	4.45	267	eP	Pn	18 20 56.6	+0.4
SMCO	Snowmass	4.78	197	eP	Pb	18 21 11.8	-0.2
BOZ	Bozeman (W)	4.94	294	eP	Pn	18 21 02.4	-0.4
HWUT	Hardware Ranch	5.15	247	eP	Pn	18 21 05.6	-0.2
	14nm,0.6s						
TCUT	Toone Canyon	5.29	242	eP	Pn	18 21 07.5	-0.2
EGMT	Eagleton	5.30	325	eP	Pn	18 21 07.8	0.0
	9.7nm,0.4s						
HRY	Holter Researc	5.51	304	eP	Pn	18 21 10.9	+0.1
MCMT	McKenzie Canyo	5.57	284	eP	Pn	18 21 17.3	+5.8
PV10	Paradox Valley	6.12	209	eP	Pn	18 21 19.6	+0.6
SRU	San Rafael	6.13	222	eP	Pn	18 21 18.2	-1.0
	9.7nm,0.4s						
ECSD	EROS,Sioux Fal	6.24	87	P	Pn	18 21 16.5	-4.2
TMUT	Trail Mountain	6.34	227	eP	Pn	18 21 22.8	+0.8
BGU	Big Grassy Mou	6.45	246	eP	Pn	18 21 23.6	+0.1
CHMT	Chamberlain Mo	6.47	302	eP	Pn	18 21 23.8	-0.1
HLID	Hailey	6.67	271	eP	Pn	18 21 29.1	+2.4
	0.7nm,0.5s						
DUG	Dugway	6.69	240	eP	Pn	18 21 27.3	+0.4
	4.3nm,0.4s						
MSU	Marysvale	7.43	227	eP	Pn	18 21 37.1	0.0
YBH	Yreka Blue Hor	13.02	267	LR	LR	18 28 27.1	
	comp=Z,41nm,19.1s,baz=245,slow=40						
ARCES	ARCESS Array B	61.37	18	P	P	18 30 02.8	-2.3
	7.1nm,1.1s,baz=332,slow=5.3,SNR=6.6						
FINES	FINESS Array B	67.98	23	P	P	18 30 47.5	-0.8
	2.3nm,1.0s,baz=334,slow=9.3,SNR=3.8						

WEL 07 18:20:19.8±0.4,37.48S×176.71E,h315km±3km,ML3.8/8, Error ellipse: s-maj=8.1km s-min=2.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WPVZ	Whakapapa	1.96	208	PN	Pn	18 21 07.7	+0.1
TUVZ	Tukino	1.98	205	PN	Pn	18 21 08.1	+0.4
WNVZ	Wahianoa	2.05	205	PN	Pn	18 21 08.6	+0.3
MOVZ	Moawhango	2.07	201	PN	Pn	18 21 08.4	-0.1
KIW	Kapiti Island	3.66	202	PN	Pn	18 21 23.4	+0.2
KIW				SN	S	18 22 13.1	-1.0
MTW	Mount Morrison	3.80	194	PN	Pn	18 21 24.7	0.0
CAW	Cannon Point	3.85	199	PN	Pn	18 21 25.3	+0.1
CAW				SN	S	18 22 16.0	-1.7
DUWZ	D'Urville Isla	3.97	212	PN	Pn	18 21 26.5	0.0
MRW	Makara Radio	4.06	202	PN	Pn	18 21 27.8	+0.3
MSWZ	Moikau Station	4.09	196	PN	Pn	18 21 28.0	+0.2
SNZO	South Karori	4.13	201	PN	Pn	18 21 28.3	0.0
TCW	Tory Channel	4.18	206	PN	Pn	18 21 29.2	+0.4
TCW				SN	S	18 22 22.2	-2.0
TUWZ	Tuamarina	4.49	208	PN	Pn	18 21 32.4	+0.2
BSWZ	Blackbirch Sta	4.77	206	PN	Pn	18 21 35.5	+0.2

MAN 07 18:27:42.0,12.79N×126.03E,h1km,mb3.7,ML4.8,1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.32	206	eP	Pg	18 28 06.7	-0.6
PVCP	Virac	2.00	294	⇑eP	Pn	18 28 16.3	-0.6
OCLP	Ormoc	2.22	219	eP	Pn	18 28 21.3	+1.3
MSLP	Maasin	2.88	204	eP	Pn	18 28 29.7	+0.7
GUIM	Jordan	4.00	238	eP	Pn	18 28 45.3	+0.9

MAN 07 20:02:54.1,15.22N×123.87E,h1km,mb2.6,ML4.1,MS4.6, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.64	170	⇓eP	Pn	20 03 23.7	-0.3
POLP	Polilio Island	1.93	256	eP	Pn	20 03 28.7	+0.7
BALP	Baler	2.27	283	eP	Pn	20 03 31.6	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAUP	Cauayan	2.61	311	eP	Pn	20 03 37.8	+0.5
BOAC	Boac	2.64	229	eP	Pn	20 03 38.3	+0.6
OTRP	Odiongan	3.37	213	eP	Pn	20 03 49.1	+1.4
LUBP	Lubang	3.81	248	eP	Pn	20 03 53.2	-0.7

NNC 07 20:41:50.8±4.6,**3802N×7264E,h0km,mb3.2,mpv2.8,8C, Error ellipse: s-maj=39.1km s-min=33.8km az=162.0, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KK31	Karatay Array	5.33	343	⇑Pn	Pn	20 43 13.3	+1.7
	1.2nm,0.3s,baz=176,slow=11,SNR=39						
KK31				⇑Sn	Sn	20 44 21.3	+7.6
	3.5nm,0.5s,baz=192,slow=71,SNR=3.7						
TKM2	Tokmak 2	5.39	24	⇑Pn	Pn	20 43 11.5	-0.9
	0.3nm,0.7s						
TKM2				⇑Lg		20 44 40.2	
	0.7nm,0.6s						
AB31	Akbulak array	14.49	325	⇑P	Pn	20 45 15.8	-1.2
	0.7nm,0.5s,baz=132,slow=13,SNR=7.6						
AB31				⇑S	Sn	20 47 55.8	-2.5
	1.0nm,0.6s						
BVA0	Borovoye Array	15.09	355	⇑P	Pn	20 45 28.1	+2.9
	0.4nm,0.8s,baz=165,slow=10,SNR=11						
AKTO	Aktyubinsk	16.20	325	⇑P	Pn	20 45 41.0	+1.2
	0.2nm,1.5s						

IDC 07 20:50:16.8±4.1,16.19S×177.44W,h0km,mb4.5/2, mb1 4.6/2,mb1mx4.0/11,mbtmp4.5/2,Error ellipse: s-maj=175.5km s-min=46.6km az=137.0

NEIC 07 20:51:21.7±1.4,**1745S×17870W,h600km,mb4.3**/6,**Error ellipse: s-maj=40.3km s-min=22.4km az=128.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNB	Canberra Magne	33.49	232	eP	P	20 57 13.1	+0.2
	14nm,0.7s						
TOO	Toolangi	37.25	230	eP	P	20 57 44.2	+0.3
	6.2nm,1.0s						
STKA	Stephens Creek	38.62	241	eP	P	20 57 55.6	+0.7
	3.2nm,0.6s						
STKA	Stephens Creek	38.62	241	P	P	20 57 55.8	+0.8
	3.2nm,0.5s,baz=90,slow=9.1,SNR=15						
WB2	Warramunga Arr	44.44	259	eP	P	20 58 40.8	+0.1
WRAB	Tennant Creek	44.44	259	eP	P	20 58 40.9	+0.2
WRA	Warramunga Arr	44.45	259	P	P	20 58 41.1	+0.3
	3.4nm,0.5s,baz=93,slow=7.0,SNR=48						
AS31	Alice Springs	44.65	254	eP	P	20 58 42.8	+0.4
ASPA	Alice Springs	44.66	254	eP	P	20 58 43.1	+0.8
KAKA	Kakadu	47.32	269	eP	P	20 59 03.7	+1.3
	5.5nm,0.4s						
FORT	Forrest	49.96	244	eP	P	20 59 21.7	-0.2
	13nm,0.6s						
FITZ	Fitzroy Crossi	52.84	260	eP	P	20 59 43.3	+0.7
	3.1nm,0.7s						
MBWA	Marble Bar	57.92	256	eP	P	21 00 17.9	+0.1
CLL	Collm	144.96	347	ePKPdf	PKPdf	21 09 52.0	+0.6
GERES	GERESS Array B	147.10	345	PKPbc	PKPbc	21 09 58.4	+0.2
	0.5nm,0.5s,baz=2.9,slow=2.7,SNR=6.8						

NEIC 07 21:12:24.0±0.8,757S×11168E,h10km,mb3.9/2,Error ellipse: s-maj=40.9km s-min=10.6km az=54.0

ISCJB 07 21:12:26.2±0.7,75S±02×1119E±02,h33km,mb4.3/11, Error ellipse: s-maj=34.8km s-min=9.3km az=101.2

IDC 07 21:12:49.7±15.0,800S×11188E,h265km±171km,mb3.5/7, mb1 3.5/8,mb1mx3.3/16,mbtmp4.1/8,Error ellipse: s-maj=54.1km s-min=40.0km az=72.0

ISC 07 21:12:28.4±0.7,**76S**±02×**1119E**±02,**h35km,n20,σ1§33**/22,**mb4.3**/11,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBWA	Marble Bar	15.52	151	eP	Pn	21 16 05.0	+0.5
FITZ	Fitzroy Crossi	17.03	129	eP	Pn	21 16 25.0	+1.2
	4.8nm,1.5s						
FITZ				eS	S	21 19 20.8	-20
FITZ	Fitzroy Crossi	17.03	129	P	Pn	21 16 26.4	+2.6
	0.1nm,0.3s,baz=313,slow=8.7,SNR=3.5						
FITZ				S	S	21 19 20.7	-20
	0.4nm,0.3s,baz=150,slow=19,SNR=8.4						
WRA	Warramunga Arr	25.03	122	P	P	21 17 48.6	-0.6
	0.7nm,0.6s,mb3.4,baz=295,slow=11,SNR=4.9						
WRAB	Tennant Creek	25.03	122	eP	P	21 17 48.6	-0.6
LSA	Lhasa	42.05	333	eP	P	21 20 19.5	+2.9
	4.5nm,0.7s,mb4.2						
GUN	Gumba	43.28	326	eP	P	21 20 28.3	+1.7
	17nm,0.6s,mb4.9						
DMN	Daman	43.49	325	eP	P	21 20 29.4	+1.1
KKN	Kakani	43.53	325	eP	P	21 20 29.6	+1.0
GKN	Gorkha	44.06	324	eP	P	21 20 33.7	+0.8
	7.8nm,0.3s,mb4.9						
KOLN	Koldanda	44.49	323	eP	P	21 20 36.8	+0.5
	16nm,0.6s,mb4.9						
MJAR	Matsushiro Arr	50.35	28	P	P	21 21 22.1	+0.2
	1.1nm,0.5s,mb4.1,baz=203,slow=8.1,SNR=4.9						
SONM	Songino Array	55.36	356	P	P	21 22 00.1	+1.3
	3.0nm,0.5s,mb4.5,baz=177,slow=8.4,SNR=23						
MKAR	Makanchi Array	60.16	337	P	P	21 22 32.6	+0.1
	4.4nm,0.5s,mb4.7,baz=149,slow=7.2,SNR=70						
ZAL	Zalesovo	65.37	343	P	P	21 23 06.8	-0.5
	2.1nm,0.6s,mb4.4,baz=313,slow=6.1,SNR=11						
BVAR	Borovoye Array	69.84	335	P	P	21 23 33.5	-2.0
	1.1nm,0.6s,mb3.9,baz=134,slow=10,SNR=5.0						
CHKZ	Chkalovo	70.21	335	eP	P	21 23 36.4	-1.3
ZRNK	Zerenda	70.38	334	eP	P	21 23 37.6	-1.2
AKTK	Aktyubinsk	74.11	328	P	P	21 23 58.5	-2.6
AKTO	Aktyubinsk	74.11	328	P	P	21 23 58.5	-2.6
	0.5nm,0.3s,mb3.9,baz=108,slow=3.5,SNR=3.9						

ISCJB 07 21:16:31.4±0.2,4932N±001×680E±002,h0km,Error ellipse: s-maj=2.1km s-min=1.7km az=48.9

BGR 07 21:16:33.9±0.5,4940N×692E,h1km,ML2.4/4,Error ellipse: s-maj=5.6km s-min=5.6km az=156.0

CSEM 07 21:16:34.0±0.1,4937N×691E,h1km,ML3.0/27,Error ellipse: s-maj=1.1km s-min=0.8km az=106.0

LDG 07 21:16:34.4±0.1,4938N×688E,h1km,Md2.9/3,Ml3.0/35, Error ellipse: s-maj=1.2km s-min=1.1km az=127.0, Suspected Mining induced.

BNS 07 21:16:34.0±0.8,4938N×699E,h1km,ML2.0

STR 07 21:16:34.6±0.5,4935N×696E,h1km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

NEIC 07 21:16:34.4,4938N×688E,h1km,ML2.4(SZGRF), ML2.8(STR),ML3.0(LDG),After LDG.

ISC 07 21:16:32.6±0.2,**4935N**±001×**683E**±002,**h0km,n117, σ1§20**/243,**5C-3D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.54	306	ePg	Pg	21 16 44.8	+1.8
	SNR=11						
WLF				eSg	Sg	21 16 52.7	+2.7
WLF	Walferdange	0.54	306	P	Pg	21 16 44.9	+1.9
ABH	Alteburg	0.71	41	Pg	Pg	21 16 46.3	+0.1
LANF	Langenberg	0.74	120	Pg	Pg	21 16 47.6	+0.9
BGG	Burgeitz	0.92	21	ePg	Pg	21 16 50.2	0.0
BGG				eSg	Sg	21 17 02.2	+0.1
HILG	Hillesheim	0.95	354	ePg	Pg	21 16 51.5	+0.7
CDF	Champ du Feu	0.98	162	ePg	Pg	21 16 53.3	+1.9
	SNR=1.0						
CDF				eSg	Sg	21 17 05.6	+1.4
	55nm,0.2s,SNR=1.0						
CDF	Champ du Feu	0.98	162	ePg	Pg	21 16 53.3	+1.9
	SNR=1.0						
CDF				eSg	Sg	21 17 05.6	+1.4
	27nm,0.2s,SNR=1.0						
WLS	Welschbruch	1.00	160	Pg	Pg	21 16 53.6	+1.9
RFYF	Reffroy	1.15	232	ePg	Pg	21 16 56.7	+2.1
	baz=48						
RFYF				eSg	Sg	21 17 11.9	+2.4
	86nm,0.3s						
RFYF	Reffroy	1.15	232	ePg	Pg	21 16 56.7	+2.1
RFYF				eSg	Sg	21 17 11.9	+2.4
	43nm,0.3s						
STB	Steinbach	1.25	0	ePg	Pg	21 16 57.2	+0.8
STB				eSg	Sg	21 17 13.4	+0.8
	25nm,0.6s						
STB	Steinbach	1.25	0	Pg	Pg	21 16 57.2	+0.7
STB				Sg	Sg	21 17 13.4	+0.8
	25nm,0.6s						
THEF	They Montfort	1.25	207	Pn	Pn	21 16 58.0	+0.6
TOD	Tromm	1.31	78	Pn	Pn	21 16 57.4	-0.8
TOD				Sg	Sg	21 17 15.1	+0.3
KLL	Kalltalsperre	1.34	346	ePg	Pg	21 16 57.5	-0.8
KLL	Kalltalsperre	1.34	346	Pg	Pg	21 16 57.5	-0.8
TNS	Taunus Mts	1.36	50	ePg	Pg	21 16 57.6	-1.2
	SNR=9.9						
TNS				eSg	Sg	21 17 15.9	-0.5
	SNR=3.0						
TNS	Taunus Mts	1.36	50	ePg	Pg	21 16 58.1	-0.7
TNS				eSg	Sg	21 17 16.7	+0.3
TNS	Taunus Mts	1.36	50	ePg	Pg	21 16 58.1	-0.7
TNS				Sg	Sg	21 17 15.9	-0.5
	SNR=3.0						
MEM	Membach	1.37	337	P	Pg	21 16 58.6	-0.2
DREG	Dreilaegerbach	1.37	344	ePg	Pg	21 16 58.5	-0.3
HAU	Haudompre	1.38	194	ePg	Pg	21 17 00.6	+1.5
	SNR=1.0						
HAU				eSn	Sn	21 17 17.3	-0.8
	72nm,0.3s,SNR=1.0						
HAU	Haudompre	1.38	194	ePn	Pn	21 16 59.3	+0.2
HAU				ePg	Pg	21 17 00.6	+1.5
HAU				eSn	Sn	21 17 17.3	-0.8
HAU	Haudompre	1.38	194	ePg	Pg	21 17 00.6	+1.5
	SNR=1.0						
HAU				eSn	Sn	21 17 17.3	-0.8
	36nm,0.3s,SNR=1.0						
BFO	Black Forest	1.42	135	ePn	Pn	21 16 59.7	0.0
	SNR=1.8						
BFO				eSg	Sg	21 17 19.1	+0.9
	SNR=9.9						
BFO	Black Forest	1.42	135	ePg	Pg	21 17 00.0	+0.2
BFO				eSg	Sg	21 17 19.6	+1.3
BFO	Black Forest	1.42	135	ePg	Pg	21 17 00.0	+0.2
BFO				eSg	Sg	21 17 19.6	+1.3
MEZF	Maizieres J'vi	1.45	235	ePn	Pn	21 17 00.0	0.0
	baz=58,SNR=1.0						
MEZF	Maizieres J'vi	1.45	235	ePg	Pg	21 17 01.3	+1.0
	baz=57,SNR=1.0						
MEZF				eSg	Sg	21 17 21.0	+1.9
	44nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	1.45	235	ePn	Pn	21 17 00.0	0.0
MEZF				ePg	Pg	21 17 01.3	+1.0
MEZF				eSg	Sg	21 17 21.0	+1.9
MEZF	Maizieres J'vi	1.45	235	ePg	Pg	21 17 01.3	+1.0
	SNR=1.0						
MEZF				eSg	Sg	21 17 21.0	+1.9
	22nm,0.4s,SNR=1.0						
BCLA	Clavier	1.46	318	P	Pn	21 17 00.3	+0.2
GIVF	Givet	1.50	301	ePg	Pg	21 17 03.1	+1.7
GIVF				eSn	Sn	21 17 20.8	-0.3
	80nm,0.6s,SNR=1.0						
GIVF	Givet	1.50	301	ePn	Pn	21 17 01.2	+0.4
GIVF				ePg	Pg	21 17 03.1	+1.7
GIVF				eSn	Sn	21 17 20.8	-0.3
GIVF	Givet	1.50	301	ePg	Pg	21 17 03.1	+1.7
GIVF				eSn	Sn	21 17 20.8	-0.3
	40nm,0.6s,SNR=1.0						
MOF	Molkenrain	1.51	172	Sg	Sg	21 17 23.3	+2.1
HGN	Heimansgroeve	1.53	338	ePg	Pg	21 17 00.9	-1.0
	6.8nm,0.2s						
HGN				eSg	Sg	21 17 22.0	+0.2
HGN				eRg		21 17 42.1	
HGN	Heimansgroeve	1.53	338	ePg	Pg	21 17 00.9	-1.0
	6.8nm,0.2s						
HGN				eSg	Sg	21 17 22.0	+0.2
HINF	Hinteralfeld	1.53	179	ePg	Pg	21 17 03.4	+1.4
	SNR=1.0						
HINF				eSg	Sg	21 17 23.5	+1.6
	128nm,0.2s						
HINF	Hinteralfeld	1.53	179	ePn	Pn	21 17 01.1	-0.1
HINF				ePg	Pg	21 17 03.4	+1.4
HINF				eSg	Sg	21 17 23.5	+1.6
HINF	Hinteralfeld	1.53	179	ePg	Pg	21 17 03.4	+1.4
	SNR=1.0						
HINF				eSg	Sg	21 17 23.5	+1.6
	64nm,0.2s						
DOU	Dourbes	1.63	298	P	Pn	21 17 03.1	+0.6
DOU	Dourbes	1.63	298	P	Pn	21 17 03.1	+0.5
SFTF	Sexfontaines	1.65	227	ePn	Pn	21 17 03.3	+0.5
	baz=50						
SFTF				eSg	Sg	21 17 27.2	+1.6
	36nm,0.3s						
SFTF	Sexfontaines	1.65	227	ePn	Pn	21 17 03.3	+0.5
SFTF				eSg	Sg	21 17 27.2	+1.6
	18nm,0.3s						
FELD	Feldberg im Sc	1.67	152	Sg	Sg	21 17 26.7	+0.5
HOBG	Hohbusch	1.67	11	ePg	Pg	21 17 02.0	-2.5
BAIF	Baives	1.84	294	ePg	Pg	21 17 08.8	+0.8
BAIF				eSn	Sn	21 17 28.9	-0.6
	17nm,0.3s,SNR=1.0						
BAIF	Baives	1.84	294	ePn	Pn	21 17 06.2	+0.7
BAIF				ePg	Pg	21 17 08.8	+0.8
BAIF				eSn	Sn	21 17 28.9	-0.6
BAIF	Baives	1.84	294	ePg	Pg	21 17 08.8	+0.8
BAIF				eSn	Sn	21 17 28.9	-0.6
	8.6nm,0.3s,SNR=1.0						
LOMF	Lomont	2.00	180	Pn	Pn	21 17 09.2	+1.6
CABF	La Chapelle	2.79	191	ePg	Pg	21 17 26.6	+0.6
	SNR=1.0						
CABF				eSn	Sn	21 17 51.6	-1.1
	SNR=1.0						
CABF				eSg	Sg	21 18 02.6	+0.5
	23nm,0.5s,SNR=1.0						
CABF	La Chapelle	2.79	191	ePn	Pn	21 17 18.6	+0.2
CABF				ePg	Pg	21 17 26.6	+0.6
CABF				eSn	Sn	21 17 51.6	-1.1
CABF				eSg	Sg	21 18 02.6	+0.5
CABF	La Chapelle	2.79	191	ePg	Pg	21 17 26.6	+0.6
	SNR=1.0						
CABF				eSn	Sn	21 17 51.6	-1.1
	SNR=1.0						
CABF				eSg	Sg	21 18 02.6	+0.5
	12nm,0.5s,SNR=1.0						
LOR	Lormes	2.88	225	ePn	Pn	21 17 19.6	-0.1
	baz=45,SNR=1.0						
LOR				eSg	Sg	21 18 05.6	+0.6
	13nm,0.3s,SNR=1.0						
LOR	Lormes	2.88	225	ePn	Pn	21 17 19.6	-0.1
	SNR=1.0						
LOR				eSg	Sg	21 18 05.6	+0.6
	6.3nm,0.3s,SNR=1.0						
GRF	Grafenberg Arr	2.88	82	ePg	Pg	21 17 26.3	-1.5
DAVA	Damuels	2.90	134	⇑iPn	Pn	21 17 21.5	+1.5
DAVA				⇓iSn	Sn	21 17 57.2	+1.7
DAVA	Damuels	2.90	134	Pn	Pn	21 17 21.5	+1.5
DAVA				Sn	Sn	21 17 57.2	+1.7
MOX	Moxa	3.35	65	ePg	Pg	21 17 35.0	-1.7
	SNR=1.6						
SMF	Signal de Mont	3.37	218	ePg	Pg	21 17 37.5	+0.3
	SNR=1.0						
SMF				eSn	Sn	21 18 05.0	-2.1
	SNR=1.0						
SMF				eSg	Sg	21 18 20.9	+0.1
	9.2nm,0.3s,SNR=1.0						
SMF	Signal de Mont	3.37	218	ePn	Pn	21 17 26.4	0.0
SMF				ePg	Pg	21 17 37.5	+0.3
SMF				eSn	Sn	21 18 05.0	-2.1
SMF				eSg	Sg	21 18 20.9	+0.1
SMF	Signal de Mont	3.37	218	ePg	Pg	21 17 37.5	+0.3
	SNR=1.0						
SMF				eSn	Sn	21 18 05.0	-2.1
	SNR=1.0						
SMF				eSg	Sg	21 18 20.9	+0.1
	4.6nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	3.46	224	ePg	Pg	21 17 39.1	+0.1
	SNR=1.0						
AVF				eSn	Sn	21 18 07.2	-2.2
	4.6nm,0.4s						
AVF				eSg	Sg	21 18 23.7	-0.2
	14nm,0.6s						
AVF	Avril sur Loir	3.46	224	ePn	Pn	21 17 27.3	-0.4
AVF				ePg	Pg	21 17 39.1	+0.1
AVF				eSn	Sn	21 18 07.2	-2.2
AVF				eSg	Sg	21 18 23.7	-0.2
AVF	Avril sur Loir	3.46	224	ePg	Pg	21 17 39.1	+0.1
	SNR=1.0						
AVF				eSn	Sn	21 18 07.2	-2.2
	2.3nm,0.4s						
AVF				eSg	Sg	21 18 23.7	-0.2
	6.9nm,0.6s						
HYF	Humbligny	3.49	235	ePn	Pn	21 17 28.5	+0.4
HYF				ePg	Pg	21 17 39.8	+0.4
HYF				eSg	Sg	21 18 24.6	0.0
SQTA	Sankt Quirin	3.62	124	⇑iPn	Pn	21 17 31.7	+1.8
SQTA				⇓iSn	Sn	21 18 14.0	+0.8
GUNZ	Gunzen	3.70	72	ePg	Pg	21 17 42.9	-0.7
	SNR=1.9						
GUNZ				eSg	Sg	21 18 29.3	-2.2
	SNR=2.3						
TANN	Tannenbergstha	3.79	72	ePg	Pg	21 17 43.1	-2.2
	SNR=1.8						
TANN				eSg	Sg	21 18 31.9	-2.6
	SNR=2.7						
LPL	La Plagne	3.84	181	ePg	Pg	21 17 46.5	+0.4
	SNR=1.0						
LPL				eSn	Sn	21 18 15.7	-2.9
	5.2nm,0.4s,SNR=1.0						
LPL				eSg	Sg	21 18 35.5	-0.3
	6.1nm,0.5s						
LPL	La Plagne	3.84	181	ePn	Pn	21 17 33.3	+0.4
LPL				ePg	Pg	21 17 46.5	+0.4
LPL				eSn	Sn	21 18 15.7	-2.9
LPL				eSg	Sg	21 18 35.5	-0.3
LPL	La Plagne	3.84	181	ePg	Pg	21 17 46.5	+0.4
	SNR=1.0						
LPL				eSn	Sn	21 18 15.7	-2.9
	2.6nm,0.4s,SNR=1.0						
LPL				eSg	Sg	21 18 35.5	-0.3
	3.0nm,0.5s						
LPG	La Plagne	3.85	181	ePn	Pn	21 17 33.7	+0.6
LPG				eSn	Sn	21 18 16.8	-2.3
	1.7nm,0.3s						
LPG				eSg	Sg	21 18 36.2	-0.2
	4.7nm,0.5s						
LPG	La Plagne	3.85	181	ePn	Pn	21 17 33.7	+0.6
LPG				eSn	Sn	21 18 16.8	-2.3
	0.9nm,0.3s						
LPG				eSg	Sg	21 18 36.2	-0.2
	2.3nm,0.5s						
BGF	Bois d'Agland	3.87	225	ePn	Pn	21 17 33.4	+0.1
BGF				eSn	Sn	21 18 17.0	-2.5
	27nm,0.4s,SNR=1.0						
BGF	Bois d'Agland	3.87	225	ePn	Pn	21 17 33.4	+0.1
BGF				eSn	Sn	21 18 17.0	-2.5
	14nm,0.4s,SNR=1.0						
WET	Wettzell	3.97	91	ePn	Pn	21 17 34.5	-0.2
	SNR=2.6						
TCF	Toulx Ste Croi	4.37	227	ePg	Pg	21 17 56.0	-0.3
	SNR=1.0						
TCF				eSg	Sg	21 18 53.9	+1.0
	4.8nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	4.37	227	ePg	Pg	21 17 56.0	-0.3
	SNR=1.0						
TCF				eSg	Sg	21 18 53.9	+1.0
	2.4nm,0.4s,SNR=1.0						
CLL	Collm	4.41	61	eSg	Sg	21 19 02.0	+7.6
	comp=Z,8.0nm,1.0s						
ORIF	Oris-en-Rattie	4.48	189	ePn	Pn	21 17 41.9	+0.2
ORIF				eSn	Sn	21 18 31.5	-3.0
ORIF				eSg	Sg	21 18 55.5	-1.0
	comp=Z,11nm,0.7s						
ORIF	Oris-en-Rattie	4.48	189	ePn	Pn	21 17 41.9	+0.2
ORIF				eSn	Sn	21 18 31.5	-3.0
ORIF				eSg	Sg	21 18 55.5	-1.0
	comp=Z,5.5nm,0.7s						
GEC2	GERESS Array S	4.54	94	ePn	Pn	21 17 43.4	+0.9
	SNR=9.1						
MBDF	Montbardon	4.62	181	ePn	Pn	21 17 43.8	+0.1
MBDF				eSn	Sn	21 18 34.9	-3.2
MBDF				eSg	Sg	21 18 59.9	-1.3
	comp=Z,7.1nm,0.7s						
MBDF	Montbardon	4.62	181	ePn	Pn	21 17 43.8	+0.1
MBDF				eSn	Sn	21 18 34.9	-3.2
MBDF				eSg	Sg	21 18 59.9	-1.3
	comp=Z,3.5nm,0.7s						
LDF	La Druitiere	4.64	263	ePg	Pg	21 18 01.2	-0.4
LDF				eSg	Sg	21 19 00.6	-1.1
	comp=Z,6.3nm,0.5s						
LDF	La Druitiere	4.64	263	ePn	Pn	21 17 44.5	+0.6
LDF				ePg	Pg	21 18 01.2	-0.4
LDF				eSg	Sg	21 19 00.6	-1.1
LDF	La Druitiere	4.64	263	ePg	Pg	21 18 01.2	-0.4
LDF				eSg	Sg	21 19 00.6	-1.1
	comp=Z,3.2nm,0.5s						
VIVF	Saint-Julien-l	4.73	199	ePn	Pn	21 17 44.8	-0.4
VIVF				eSn	Sn	21 18 37.4	-3.3
VIVF				eSg	Sg	21 19 02.2	-2.4
	comp=Z,5.1nm,0.4s						
VIVF	Saint-Julien-l	4.73	199	ePn	Pn	21 17 44.8	-0.4
VIVF				eSn	Sn	21 18 37.4	-3.3
VIVF				eSg	Sg	21 19 02.2	-2.4
	comp=Z,2.5nm,0.4s						
BRG	Berggiesshubel	4.82	69	SG	Sg	21 19 12.4	+4.8
	comp=Z,6.1nm,1.3s						
FLN	La Foliniere	4.84	266	ePn	Pn	21 17 47.0	+0.3
	baz=87						
FLN	La Foliniere	4.84	266	ePg	Pg	21 18 05.1	-0.3
	baz=84,SNR=1.0						
FLN				eSn	Sn	21 18 40.6	-2.9
	comp=Z,4.6nm,0.4s,SNR=1.0						
FLN	La Foliniere	4.84	266	ePn	Pn	21 17 47.0	+0.3
FLN				ePg	Pg	21 18 05.1	-0.3
FLN				eSn	Sn	21 18 40.6	-2.9
FLN	La Foliniere	4.84	266	ePg	Pg	21 18 05.1	-0.3
	SNR=1.0						
FLN				eSn	Sn	21 18 40.6	-2.9
	comp=Z,2.3nm,0.4s,SNR=1.0						
KBA	Koelnbreinsper	4.91	115	⇑iPn	Pn	21 17 48.5	+0.8
KBA				⇑iSn	Sn	21 18 44.8	-0.3
MOA	Molln	5.16	104	⇑iPn	Pn	21 17 51.8	+0.8
MOA				⇓iSn	Sn	21 18 50.5	-0.7
GRR	Gorron	5.17	262	ePn	Pn	21 17 51.3	+0.2
GRR				eSn	Sn	21 18 47.9	-3.5
	comp=Z,4.9nm,0.4s,SNR=1.0						
GRR	Gorron	5.17	262	ePn	Pn	21 17 51.3	+0.2
GRR				eSn	Sn	21 18 47.9	-3.5
	comp=Z,2.5nm,0.4s,SNR=1.0						
RJF	Les Rejaudoux	5.42	224	ePn	Pn	21 17 54.5	-0.2
RJF				eSn	Sn	21 18 54.3	-3.5
	comp=Z,3.9nm,0.6s						
RJF	Les Rejaudoux	5.42	224	ePn	Pn	21 17 54.5	-0.2
RJF				eSn	Sn	21 18 54.3	-3.5
	comp=Z,2.0nm,0.6s						
MFF	Saint Martin d	5.43	242	ePn	Pn	21 17 54.8	0.0
MFF				eSn	Sn	21 18 54.5	-3.5
	comp=Z,2.3nm,0.4s						
MFF	Saint Martin d	5.43	242	ePn	Pn	21 17 54.8	0.0
MFF				eSn	Sn	21 18 54.5	-3.5
	comp=Z,1.1nm,0.4s						
SMRF	Simiane la Rot	5.44	190	ePn	Pn	21 17 55.1	+0.1
	SNR=1.0						
SMRF				eSn	Sn	21 18 54.5	-3.8
	comp=Z,0.7nm,0.4s						
SMRF	Simiane la Rot	5.44	190	ePn	Pn	21 17 55.1	+0.1
	SNR=1.0						
SMRF				eSn	Sn	21 18 54.5	-3.8
	comp=Z,0.3nm,0.4s						
CAF	Calviac	5.49	218	ePn	Pn	21 17 55.3	-0.3
	SNR=1.0						
CAF				eSn	Sn	21 18 55.8	-3.6
CAF				eSg	Sg	21 19 27.0	-2.0
	comp=Z,9.0nm,0.7s						
CAF	Calviac	5.49	218	ePn	Pn	21 17 55.3	-0.3
	SNR=1.0						
CAF				eSn	Sn	21 18 55.8	-3.6
CAF				eSg	Sg	21 19 27.0	-2.0
	comp=Z,4.5nm,0.7s						
SBF	Sospel	5.50	175	ePn	Pn	21 17 56.0	+0.2
SBF				eSn	Sn	21 18 56.2	-3.6
	comp=Z,2.2nm,0.2s						
SBF	Sospel	5.50	175	ePn	Pn	21 17 56.0	+0.2
SBF				eSn	Sn	21 18 56.2	-3.6
	comp=Z,1.1nm,0.2s						
FRF	La Foret Royal	5.79	181	ePn	Pn	21 17 59.6	-0.1
FRF				eSn	Sn	21 19 02.8	-4.1
	comp=Z,0.5nm,0.3s						
FRF	La Foret Royal	5.79	181	ePn	Pn	21 17 59.6	-0.1
FRF				eSn	Sn	21 19 02.8	-4.1
	comp=Z,0.2nm,0.3s						
LFF	La Frestale	6.06	226	ePn	Pn	21 18 03.5	+0.1
LFF				eSg	Sg	21 19 44.9	-2.3
	comp=Z,9.2nm,0.6s						
LFF	La Frestale	6.06	226	ePn	Pn	21 18 03.5	+0.1
LFF				eSg	Sg	21 19 44.9	-2.3
	comp=Z,4.6nm,0.6s						
MTLF	Montolieu	6.80	210	ePn	Pn	21 18 13.1	-0.5
MTLF				eSg	Sg	21 20 08.0	-3.1
	comp=Z,5.6nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTLF	Montolieu	6.80	210	ePn	Pn	21 18 13.1	-0.5
MTLF				eSg	Sg	21 20 08.0	-3.1
	comp=Z,2.8nm,0.8s						

GUC 07 21:22:01.8±0.8,2758S×6914W,h110km,ML4.1,3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.10	281	⇑iP	Pn	21 22 23.3	-0.7
CPCH				iS	Sn	21 22 40.9	0.0
CPCH				AML	AML	21 22 42.2	
	comp=E,7μm,0.1s						
CDCH	Caldera	1.58	288	⇑iP	Pn	21 22 29.9	+0.3
CDCH				iS	Sn	21 22 51.1	+0.4
VACH	Vallenar	1.74	235	⇓iP	Pn	21 22 32.2	+0.7
VACH				iS	Sn	21 22 54.5	+0.3
VACH				AML	AML	21 22 56.6	
	comp=E,2μm,0.1s						
CPN1	Cerro Paranal	3.15	339	iP	Pn	21 22 52.1	+2.3
CPN1				iS	Sn	21 23 28.8	+2.0
CEN1	Los Morros	4.28	347	⇑iP	Pn	21 23 03.6	-1.3
CEN1				iS	Sn	21 23 50.6	-3.3

*ISCJB **07** 21:22:58.5±0.6,21.12S±0.04×179.14W±0.04,h582km±8km, mb5.0/61,Error ellipse: s-maj=7.1km s-min=5.1km az=75.5*

*SZGRF **07** 21:22:58.2,22.89S×179.07W,h618km,South of Fiji Islands*

*BJI **07** 21:22:59.3,20.57S×179.02W,h582km,mB4.9,mb5.1*

*MOS **07** 21:23:00.2±3.1,21.01S×179.17W,h577km,mb5.2/12, Error ellipse: s-maj=9.8km s-min=9.5km az=127.7*

*NEIC **07** 21:23:00.7±0.6,21.11S×179.08W,h600km±6km,mb5.0/22, Error ellipse: s-maj=7.7km s-min=6.2km az=149.0*

*GCMT **07** 21:23:00.7±0.4,21.18S×178.78W,h630km±3km,MW5.3/53, Moment Tensor Solution. s53,c74; Duration: 1ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.47±.03; $M_{\theta\theta}$-0.05±.05; $M_{\phi\phi}$-0.41±.05; $M_{r\theta}$-0.70±.04; $M_{\theta\phi}$-0.17±.05; $M_{\phi r}$-0.43±.05; Best double couple: $M_0$0.94200×10^{17} NP1:ϕ_s4.00000°,δ20.00000°,λ44.00000°. NP2: ϕ_s232.00000°,δ76.00000°,λ105.00000°. Principal axes: T 1.0020, Plg56.0000°, Azm160.0000°; N -0.1200, Plg14.0000°, Azm48.0000°; P -0.8820, Plg30.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s.*

*IDC **07** 21:23:02.2±1.1,21.09S×179.18W,h614km±11km,mb4.5/21, mb1 4.4/22,mb1mx4.4/24,mbtmp5.4/22 Error ellipse: s-maj=10.7km s-min=9.4km az=113.0*

ISC 07 21:22:59.6±0.6,21.12S±0.04×179.08W±0.04,h581km±7km, h621km±4.8km:pP-P,n401,σ1ˢ18/171,mb5.0/61,60C-35D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	8.17	173	P	P	21 24 59.4	-0.5
	401nm,0.3s,baz=99,slow=8.1,SNR=18						
RAO				S	S	21 26 37.6	-0.9
	303nm,0.3s,baz=105,slow=22,SNR=14						
RAO	Raoul Island	8.17	173	P	P	21 24 59.4	-0.5
RAO				S	S	21 26 37.6	-0.9
AFI	Afiamalu	9.99	45	P	P	21 25 17.3	-0.6
	18nm,0.3s,baz=38,slow=11,SNR=20						
AFI				S	S	21 27 08.7	-2.7
	8.1nm,0.3s,baz=358,slow=22,SNR=8.4						
FUNA	Funafuti	12.63	352	eP	P	21 25 44.5	-0.1
DZM	Mont Dzumac	13.50	263	eP	P	21 25 55.3	+1.9
DZM	Mont Dzumac	13.50	263	P	P	21 25 55.1	+1.7
	7.9nm,0.3s,baz=85,slow=15,SNR=51						
OUZ	Omahuta	15.46	203	PN	P	21 26 16.3	+3.6
	132nm,0.6s						
MTAZ	Motutapu	16.47	197	PN	P	21 26 24.9	+2.9
OTAZ	Otara	16.62	197	PN	P	21 26 26.6	+3.2
WTAZ	Waiatarua	16.70	198	PN	P	21 26 27.0	+2.9
MKAZ	Moumakai	16.71	196	PN	P	21 26 26.8	+2.6
URZ	Urewera	17.40	190	P	P	21 26 28.1	-2.4
	30nm,0.3s,baz=306,slow=1.7,SNR=60						
URZ				S	S	21 29 15.6	-6.4
	2.7nm,0.3s,baz=191,slow=22,SNR=9.0						
URZ				ScP	ScP	21 33 13.6	-4.9
	1.8nm,0.3s,baz=345,slow=3.0,SNR=6.4						
MWZ	Matawai	17.41	189	PN	P	21 26 29.0	-1.5
RAR	Rarotonga	18.01	94	P	P	21 26 35.0	-1.0
	1.6nm,0.3s,baz=297,slow=5.0,SNR=4.2						
RAR	Rarotonga	18.01	94	P	P	21 26 35.0	-1.0
KNZ	Kokohu	18.06	188	ePN	P	21 26 36.6	0.0
BKZ	Black Stump Fm	18.39	191	PN	P	21 26 37.9	-1.6
PXZ	Pawanui	19.17	190	PN	P	21 26 45.4	-1.2
MRZ	Mangatainoka R	20.01	192	PN	P	21 26 52.7	-1.5
KIW	Kapiti Island	20.34	193	ePN	P	21 26 56.3	-0.9
CAW	Cannon Point	20.54	193	PN	P	21 26 57.9	-1.1
SNZO	South Karori	20.81	193	P	P	21 27 00.7	-0.7
SNZO	South Karori	20.81	193	PN	P	21 27 00.5	-0.9
TCW	Tory Channel	20.81	194	PN	P	21 27 00.9	-0.5
QRZ	Quartz Range	20.90	198	PN	P	21 27 03.2	+1.0
NNZ	Nelson	21.04	196	PN	P	21 27 03.0	-0.4
TUWZ	Tuamarina	21.10	195	ePN	P	21 27 03.1	-0.9
THZ	Tophouse	21.67	196	PN	P	21 27 08.4	-0.7
THZ				SN	S	21 30 24.0	-6.1
DSZ	Denniston Nort	21.96	198	PN	P	21 27 11.7	0.0
KHZ	Kahutara	22.13	195	PN	P	21 27 12.4	-0.8
LTZ	Lake Taylor	22.79	197	PN	P	21 27 17.8	-1.2
HNR	Honiara	23.30	297	P	P	21 27 23.6	+0.1
	161nm,0.7s,mb5.8,baz=74,slow=0.7,SNR=12						
WVZ	Waitaha Valley	23.50	199	PN	P	21 27 25.1	-0.3
RPZ	Rata Peaks	23.99	198	P	P	21 27 29.2	-0.5
	25nm,0.5s,mb5.1,baz=20,slow=4.0,SNR=31						
RPZ				ScP	ScP	21 33 30.5	-4.2
	12nm,0.9s,baz=4.7,slow=11,SNR=3.6						
LBZ	Lake Benmore	24.86	199	eP	P	21 27 36.2	-1.2
LBZ	Lake Benmore	24.86	199	PN	P	21 27 35.9	-1.5
JCZ	Jackson Bay	25.03	201	P	P	21 27 39.1	+0.2
JCZ	Jackson Bay	25.03	201	PN	P	21 27 39.0	+0.1
WHZ	Wether Hill Ro	26.91	200	PN	P	21 27 55.7	+0.3
TBI	Tubuai	27.49	100	eP	P	21 28 02.1	+1.6
	14nm,0.4s,mb5.0						
ARMA	Armidale	27.89	245	eP	P	21 28 06.1	+2.1
PAE	Paea	28.02	88	eP	P	21 28 06.3	+1.2
	62nm,0.9s,mb5.2						
PAE	Paea	28.02	88	eP	P	21 28 06.3	+1.2
PAE				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.2						
PPT	Papeete	28.04	88	eP	P	21 28 06.5	+1.2
	comp=Z,94nm,1.4s,mb5.2						
PPT	Papeete	28.04	88	eP	P	21 28 06.5	+1.2
PPT				pmax	pmax		
	comp=Z,94nm,1.4s						
TVO	Taravao	28.30	88	eP	P	21 28 08.5	+0.9
	comp=Z,16nm,0.4s,mb5.0						
PMOR	Pomariorio Ree	30.23	84	eP	P	21 28 25.3	+1.1
	comp=Z,6.4nm,0.4s,mb4.7						
CNB	Canberra Magne	31.05	236	eP	P	21 28 33.1	+1.9
	comp=Z,70nm,1.5s,mb5.1						
CTA	Charters Tower	32.43	266	eP	P	21 28 43.9	+1.0
	comp=Z,104nm,0.5s,mb5.7						
CTA				eS	S	21 33 16.1	-1.2
CTA				eSCP	ScP	21 34 01.2	-0.2
CTA	Charters Tower	32.43	266	P	P	21 28 43.9	+1.0
	comp=Z,139nm,0.5s,mb5.8,baz=93,slow=10,SNR=126						
CTA	Charters Tower	32.43	266	eP	P	21 28 43.9	+1.0
CTA				eS	S	21 33 16.1	-1.2
CTA				pmax	pmax		
	comp=Z,104nm,0.5s						
CTAO	Charters Tower	32.43	266	eP	P	21 28 43.9	+1.0
PMG	Port Moresby	34.51	285	P	P	21 29 01.3	+1.0
	comp=Z,225nm,0.7s,mb5.9,baz=110,slow=6.1,SNR=55						
PMG	Port Moresby	34.51	285	eP	P	21 29 01.0	+0.6
TOO	Toolangi	34.72	234	eP	P	21 29 03.5	+1.4
	comp=Z,6.7nm,0.7s,mb4.4						
TOO	Toolangi	34.72	234	eP	P	21 29 03.5	+1.4
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
STKA	Stephens Creek	36.61	245	⇓iP	P	21 29 19.1	+1.4
	comp=Z,18nm,1.0s,mb4.5						
STKA				eSCP	ScP	21 34 15.8	-0.8
STKA	Stephens Creek	36.61	245	P	P	21 29 19.0	+1.3
	comp=Z,22nm,0.8s,mb4.7,baz=89,slow=9.1,SNR=26						
STKA				ScP	ScP	21 34 14.9	-1.7
	comp=Z,7.4nm,0.8s,baz=71,slow=6.1,SNR=6.6						
RKT	Rikitea	40.80	101	eP	P	21 29 52.7	+1.3
	comp=Z,4.7nm,0.5s,mb4.3						
RKT	Rikitea	40.80	101	eP	P	21 29 52.7	+1.3
RKT				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
AS31	Alice Springs	43.40	257	eP	P	21 30 12.4	+0.6
AS31				eScP	ScP	21 34 43.0	-0.3
AS31				eS	S	21 35 55.4	-3.0
ASPA	Alice Springs	43.40	257	eP	P	21 30 12.4	+0.6
ASPA				eSCP	ScP	21 34 43.0	-0.3
ASPA				eS	S	21 35 55.4	-3.0
WB2	Warramunga Arr	43.51	263	eP	P	21 30 12.4	-0.2
WB2				eSCP	ScP	21 34 43.4	-0.3
WB2				eS	S	21 35 55.6	-4.4
WRA	Warramunga Arr	43.52	263	P	P	21 30 12.6	-0.1
	comp=Z,88nm,0.8s,mb5.4,baz=95,slow=8.2,SNR=299						
WRA				ScP	ScP	21 34 41.7	-2.1
	comp=Z,5.3nm,0.8s,baz=93,slow=4.5,SNR=8.3						
WRA				S	S	21 35 55.4	-4.7
	comp=Z,13nm,1.0s,baz=99,slow=13,SNR=12						
KAKA	Kakadu	46.98	272	eP	P	21 30 39.2	+0.1
	comp=Z,191nm,0.8s,mb5.7						
KAKA				eSCP	ScP	21 34 56.9	-1.3
KAKA				eS	S	21 36 44.8	-3.8
FORT	Forrest	48.12	247	eP	P	21 30 47.6	0.0
	comp=Z,39nm,0.5s,mb5.2						
FORT				eS	S	21 36 55.9	-8.4
GUMO	Guam	49.43	311	P	P	21 30 57.3	+0.1
	comp=Z,170nm,0.6s,mb5.7,baz=166,slow=8.3,SNR=16						
FITZ	Fitzroy Crossi	51.95	263	⇓iP	P	21 31 16.0	+0.5
	comp=Z,35nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	51.95	263	P	P	21 31 16.2	+0.6
	comp=Z,17nm,0.5s,mb4.6,baz=128,slow=4.5,SNR=163						
FITZ				ScP	ScP	21 35 18.8	-0.8
	comp=Z,5.3nm,1.0s,baz=328,slow=20,SNR=4.1						
FITZ				S	S	21 37 52.9	-3.0
	comp=Z,4.5nm,1.1s,baz=275,slow=21,SNR=6.1						
MBWA	Marble Bar	56.74	258	eP	P	21 31 49.1	+0.1
	comp=Z,63nm,0.7s,mb5.0						
KLBR	Kellerberrin	56.88	245	eP	P	21 31 50.1	+0.1
	comp=Z,29nm,0.8s,mb4.6						
NWAO	Narrogin (SRO)	57.19	244	P	P	21 31 52.5	+0.4
	comp=Z,7.2nm,0.8s,mb4.0,baz=120,slow=8.1,SNR=3.5						
SBA	Scott Base	57.20	184	eP	P	21 31 54.3	+2.2
VNDA	Vanda	57.21	185	P	P	21 31 53.2	+1.0
	comp=Z,21nm,0.7s,mb4.5,baz=354,slow=7.5,SNR=188						
VNDA				ScP	ScP	21 35 40.4	-2.3
	comp=Z,5.0nm,0.9s,baz=333,slow=5.5,SNR=3.6						
VNDA	Vanda	57.21	185	eP	P	21 31 53.6	+1.3
MUN	Mundaring	58.15	245	eP	P	21 31 59.3	+0.7
CBIJ	Chichi jima	60.86	320	P	P	21 32 16.2	-0.4
	comp=Z,143nm,0.5s,mb5.5,baz=300,slow=16,SNR=18						
CASY	Casey	62.98	205	eP	P	21 32 30.3	0.0
TSM	Tawau	66.71	285	P	P	21 32 55.3	+1.5
JHJ	Hachijo jima 2	66.71	323	P	P	21 32 53.2	-0.6
	comp=Z,148nm,0.5s,mb5.7,baz=237,slow=21,SNR=12						
TGY	Tagaytay City	68.50	295	P	P	21 33 05.6	+1.0
	comp=Z,202nm,0.4s,baz=66,slow=8.0,SNR=6.4						
KKM	Kota Kinabalu	68.94	286	P	P	21 33 08.7	+1.4
QSPA	South Pole Qui	68.95	180	⇑iP	P	21 33 08.1	+0.7
	comp=Z,192nm,1.2s,mb5.4						
JOW	Kunigami	69.79	311	P	P	21 33 12.8	+0.4
	comp=Z,62nm,0.8s,mb5.1,baz=146,slow=8.4,SNR=22						
MIR	Mirnyy	70.01	205	c iP	P	21 33 15.0	+1.3
MIR				pmax	pmax		
	comp=Z,400nm,1.0s,mb5.8						
MJAR	Matsushiro Arr	70.11	324	P	P	21 33 13.5	-0.8
	comp=Z,54nm,0.8s,mb5.0,baz=156,slow=5.5,SNR=136						
MJAR				PKP2bc		22 01 05.4	
	comp=Z,0.5nm,0.3s,baz=346,slow=3.1,SNR=4.4						
MJAR	Matsushiro Arr	70.11	324	P	P	21 33 13.5	-0.8
MJAR				⇑e		22 01 05.4	
MAJO	Matsushiro	70.11	324	eP	P	21 33 13.8	-0.5
MAJO				pmax	pmax		
	comp=Z,55nm,0.8s,mb5.0						
MAJO	Matsushiro	70.11	324	eP	P	21 33 13.8	-0.5
	comp=Z,55nm,0.8s,mb5.0						
MAT	Matsushiro	70.11	324	P	P	21 33 13.5	-0.8
TATO	Taipei	73.71	305	eP	P	21 33 34.8	-0.3
ASAJ	Asahikawa	73.79	332	P	P	21 33 36.5	+0.9
	comp=Z,56nm,0.8s,mb5.2,baz=220,slow=7.7,SNR=38						
QZH	Quanzhou	75.91	304	⇓iP	P	21 33 47.5	+0.1
QZH				AMB	AMB		
	comp=Z,140nm,0.8s,mb5.4						
YSS	Yuzh-Sakhalins	76.00	334	⇓eP	P	21 33 47.9	0.0
YSS				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.8						
YSS	Yuzh-Sakhalins	76.00	334	eP	P	21 33 48.2	+0.3
	comp=Z,37nm,0.8s,mb4.9						
PET	Petropavlovsk	76.32	346	⇑eP	P	21 33 48.2	-1.4
PET				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.8						
KS15	Wonju Array Si	76.70	319	eP	P	21 33 52.4	+0.6
SSE	Sheshan	77.31	311	P	P	21 33 53.1	-1.9
SSE				AP	pP	21 35 57.6	+1.2
SSE				XP	sP	21 36 59.1	+3.3
SSE				S	S	21 42 56.4	-2.0
SSE				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,85nm,7.3s						
VLA	Vladivostok	78.21	326	⇓eP	P	21 34 00.1	+0.3
VLA				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.0						
GZH	Guangzhou	79.14	300	P	P	21 34 02.0	-2.8
KGM	Kluang	79.17	276	P	P	21 34 06.3	+1.3
NJ2	Nanjing	79.50	310	eP	P	21 34 05.5	-1.2
NJ2				AP	pP	21 36 12.6	+3.6
NJ2				XP	sP	21 37 12.3	+4.2
NJ2				PP	PP	21 37 15.3	-2.6
NJ2				S	S	21 43 20.0	-1.1
NJ2				SKS		21 43 24.0	
NJ2				AMB	AMB		
	comp=Z,320nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,580nm,5.2s						
MDJ	Mudanjiang	80.45	326	P	P	21 34 11.7	+0.1
MDJ				AMB	AMB		
	comp=Z,47nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,60nm,3.5s						
MDJ	Mudanjiang	80.45	326	eP	P	21 34 11.8	+0.2
	comp=Z,46nm,0.9s,mb4.8						
HABR	Khabarovsk	80.48	331	⇓iP	P	21 34 12.2	+0.4
HABR				pmax	pmax		
	comp=Z,116nm,1.4s,mb5.0						
MAW	Mawson	80.64	200	⇑iP	P	21 34 12.1	-0.5
	comp=Z,18nm,0.9s,mb4.5						
MAW	Mawson	80.64	200	P	P	21 34 12.3	-0.4
	comp=Z,20nm,0.8s,mb4.6,baz=121,slow=6.9,SNR=60						
MAW	Mawson	80.64	200	⇑iP	P	21 34 12.1	-0.5
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
YBH	Yreka Blue Hor	81.40	39	eP	P	21 34 17.9	+1.4
GLA	Glamis	81.59	50	eP	P	21 34 19.1	+1.6
KDAK	Kodiak Island	81.65	14	P	P	21 34 16.6	-1.2
	comp=Z,14nm,0.8s,mb4.5,baz=252,slow=5.8,SNR=9.6						
KDAK	Kodiak Island	81.65	14	P	P	21 34 16.6	-1.2
KDAK				epP	pP	21 36 27.8	+6.8
WHN	Wuhan	82.00	307	⇓P	P	21 34 19.5	-0.1
NVAR	Mina Array Bea	82.16	44	P	P	21 34 20.9	+0.5
	comp=Z,2.6nm,0.9s,baz=226,slow=9.3,SNR=12						
NVAR				pP	pP	21 36 31.0	+7.2
	comp=Z,0.8nm,0.8s,baz=226,slow=8.6,SNR=3.6						
NVAR				PKKPbc	PKKPbc	21 52 44.7	+1.1
	comp=Z,0.8nm,0.7s,baz=83,slow=3.4,SNR=5.9						
NVAR				PKPPKP		22 00 53.2	
	comp=Z,0.2nm,0.3s,baz=111,slow=3.3,SNR=4.6						
NVAR	Mina Array Bea	82.16	44	P	P	21 34 20.9	+0.5
NVAR				pP	pP	21 36 31.0	+7.2
NVAR				PKKPbc	PKKPbc	21 52 44.7	+1.1
NVAR				P'P'		22 00 53.2	
CN2	Changchun	82.17	323	eP	P	21 34 19.9	-0.6
CN2				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.9						
IPM	Ipoh	82.21	278	P	P	21 34 22.3	+1.6
KLR	Kul'dur	82.55	330	eP	P	21 34 18.7	-3.6
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
PSI	Prapat	83.54	275	P	P	21 34 26.9	-0.4
	comp=Z,21nm,0.8s,mb4.7						
MA2	Magadan	84.11	345	eP	P	21 34 28.2	-1.9
MA2				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
MA2	Magadan	84.11	345	eP	P	21 34 28.1	-2.0
	comp=Z,37nm,0.9s,mb4.9						
KKTK	Khon Kaen	85.14	289	P	P	21 34 36.0	+0.9
	comp=Z,309nm,0.8s,mb6.0						
BJT	Baijiatuau	85.62	316	eP	P	21 34 37.2	-0.2
BJT				pmax	pmax		
	comp=Z,29nm,0.8s						
BJT	Baijiatuau	85.62	316	eP	P	21 34 37.2	-0.2
	comp=Z,29nm,0.8s,mb5.0						
BJI	Beijing	85.62	316	eP	P	21 34 37.1	-0.3
BJI				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.0						
PMR	Palmer	85.85	14	eP	P	21 34 37.3	-1.2
PMR				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.0						
PMR	Palmer	85.85	14	eP	P	21 34 37.3	-1.2
	comp=Z,40nm,1.1s,mb5.0						
SYO	Syowa Base	85.91	193	⇓iP	P	21 34 36.8	-2.0
GYA	Guiyang	86.08	300	P	P	21 34 39.6	0.0
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
DIV	Divide	86.24	15	eP	P	21 34 40.3	0.0
SEY	Seymchan	86.75	347	deP	P	21 34 41.5	-1.2
TMUT	Trail Mountain	87.31	46	eP	P	21 34 47.4	+2.0
TMUT				ePKKPbc	PKKPdf	21 52 21.9	-2.9
HVU	Hansel Valley	87.54	43	eP	P	21 34 47.4	+0.9
HVU				ePKKPbc	PKKPdf	21 52 18.8	-5.6
SRU	San Rafael	87.67	46	eP	P	21 34 48.0	+0.9
SRU				ePKKPbc	PKKPbc	21 52 28.3	-2.5
MCK	McKinley	87.79	13	eP	P	21 34 45.8	-1.8
MCK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
MCK	McKinley	87.79	13	eP	P	21 34 45.8	-1.8
	comp=Z,16nm,0.8s,mb4.8						
MNTX	Cornudas Mount	87.93	55	eP	P	21 34 49.5	+1.2
MNTX				epP	pP	21 37 02.7	+8.8
NANT	Nan	87.97	291	⇑P	P	21 34 50.0	+1.6
	comp=Z,112nm,0.9s,mb5.6						
NVL	N'lazarevskaya	88.05	184	c iP	P	21 34 46.8	-2.0
NVL				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.4						
NVL				pmax	pmax		
	comp=N,16nm,0.8s						
NVL				pmax	pmax		
	comp=E,12nm,0.9s						
VNA1	Neumayer--Stat	88.26	177	eP	P	21 34 48.9	-0.9
VNA1				e		21 34 50.5	
ANMO	Albuquerque	88.58	52	c iP	P	21 34 51.4	+0.1
ANMO	Albuquerque	88.58	52	eP	P	21 34 52.0	+0.8
HIA	Hailar	88.61	325	d iP	P	21 34 50.5	-0.9
HIA	Hailar	88.61	325	eP	P	21 34 50.6	-0.8
	comp=E,13nm,0.8s,mb4.8						
KMI	Kunming	88.73	297	P	P	21 34 53.8	+1.8
KMI				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
GDL2	Guadalupe Moun	88.93	55	eP	P	21 34 54.1	+1.2
IMA2	Indian Mountai	89.02	10	eP	P	21 34 51.6	-1.7
COLA	College	89.03	13	d iP	P	21 34 51.0	-2.4
RRI2	Red Ridge	89.26	42	eP	P	21 34 55.4	+0.9
RRI2				ePKKPbc	PKKPbc	21 52 28.0	+1.1
CHG	Chiang Mai	89.50	290	⇓P	P	21 34 56.7	+1.1
	comp=Z,24nm,0.9s,mb5.0						
BILL	Bilibino	89.55	355	⇑eP	P	21 34 54.4	-1.4
BILL				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.8						
PDAR	Pinedale Array	90.10	44	P	P	21 34 58.3	0.0
	comp=Z,2.1nm,0.9s,mb4.0,baz=222,slow=2.0,SNR=15						
PDAR				pP	pP	21 37 14.2	+10
	comp=Z,0.7nm,0.8s,baz=27,slow=0.3,SNR=3.7						
PDAR				PKKPbc	PKKPbc	21 52 24.9	0.0
	comp=Z,0.4nm,0.7s,baz=76,slow=6.3,SNR=4.4						
YAK	Yakutsk	92.31	338	d iP	P	21 35 06.5	-2.0
YAK				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
LZH	Lanzhou	92.34	308	⇓P	P	21 35 09.0	+0.3
LZH				PP	PP	21 39 01.6	+1.9
LZH				SKS		21 44 50.3	
LZH				eS	S	21 45 24.3	+1.7
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,191nm,6.1s						
WMOK	Wichita Mounta	94.22	54	ePKKPbc	PKKPbc	21 52 09.1	-5.4
INK	Inuvik	95.13	15	P	P	21 35 19.4	-1.9
	comp=Z,4.8nm,0.9s,mb4.6,baz=245,slow=0.9,SNR=5.3						
INK				pP	pP	21 37 32.8	+4.8
	comp=Z,4.9nm,1.1s,baz=304,slow=4.5,SNR=4.1						
SONM	Songino Array	95.56	319	P	P	21 35 22.2	-1.1
	comp=Z,1.1nm,0.6s,mb4.2,baz=123,slow=3.7,SNR=9.6						
SONM				pP	pP	21 37 39.2	+9.2
	comp=Z,2.7nm,1.1s,baz=107,slow=5.0,SNR=6.6						
SONM				PP	PP	21 39 20.6	-3.7
	comp=Z,1.9nm,1.0s,baz=122,slow=7.2,SNR=4.5						
SONM				PKKPbc	PKKPbc	21 52 10.5	-0.5
	comp=Z,1.5nm,0.8s,baz=244,slow=4.1,SNR=6.4						
SONM	Songino Array	95.56	319	P	P	21 35 22.2	-1.1
SONM						21 39 20.6	
LPAZ	La Paz	102.75	113	P	Pdif	21 35 59.0	+3.7
	comp=Z,1.9nm,0.8s,baz=205,slow=6.8,SNR=9.4						
LPAZ				PP	PP	21 40 17.6	-0.6
	comp=Z,0.5nm,0.4s,baz=256,slow=2.5,SNR=4.6						
LPAZ	La Paz	102.75	113	ePdif	Pdif	21 35 59.9	+4.5
MKAR	Makanchi Array	110.88	313	Pdiff	Pdif	21 36 32.4	+0.9
	comp=Z,0.8nm,0.6s,baz=75,slow=5.3,SNR=6.0						
MKAR				PKiKP	PKiKP	21 40 25.5	-1.8
	comp=Z,0.4nm,0.4s,baz=81,slow=1.2,SNR=8.5						
MKAR				PP	PP	21 41 07.6	-9.0
	comp=Z,1.7nm,1.0s,baz=122,slow=5.9,SNR=3.5						
MKAR				PKKPbc	PKKPbc	21 51 26.1	-0.3
	comp=Z,3.8nm,0.8s,baz=298,slow=2.5,SNR=16						
MKAR	Makanchi Array	110.88	313	P	Pdif	21 36 32.4	+0.9
MKAR						21 40 25.5	
MKAR	Makanchi Array	110.88	313	Pdif	Pdif	21 36 32.4	+0.9
MKAR				PKPdf	PKiKP	21 40 25.5	-1.8
MKAR				PP	PP	21 41 07.6	-9.0
MKAR				PKKPbc	PKKPbc	21 51 26.1	-0.3
HUMP	Col San Antoni	117.45	80	ePKPdf	PKPdf	21 40 38.9	-1.0
BVAR	Borovoye Array	118.90	320	PKP	PKPdf	21 40 40.3	-2.4
	comp=Z,2.2nm,0.4s,baz=122,slow=1.8,SNR=19						
BVAR				PP	PP	21 42 06.9	-5.2
	comp=Z,1.5nm,0.7s,baz=99,slow=8.3,SNR=4.4						
BVAR				PKKPbc	PKKPbc	21 50 58.8	-0.6
	comp=Z,0.8nm,0.5s,baz=282,slow=2.9,SNR=7.6						
BDFB	Brasilia	119.67	123	PKP	PKPdf	21 40 42.4	-1.7
	comp=Z,2.4nm,0.5s,baz=259,slow=1.3,SNR=3.9						
BDFB	Brasilia	119.67	123	PKP	PKPdf	21 40 42.4	-1.7
BDFB				ePKKPbc	PKKPdf	21 50 46.4	-39
ARU	Arti	125.13	325	ePKIKP	PKPdf	21 40 53.3	-1.3
ARU				e		21 42 58.1	
ARU	Arti	125.13	325	ePKPdf	PKPdf	21 40 53.3	-1.3
ARU				ePP	PP	21 42 58.1	+4.5
AKTK	Aktyubinsk	126.85	318	PKP	PKPdf	21 40 56.1	-1.8
AKTO	Aktyubinsk	126.85	318	PKP	PKPdf	21 40 56.1	-1.8
	comp=Z,1.7nm,0.8s,baz=48,slow=2.3,SNR=7.4						
ARCES	ARCESS Array B	129.34	349	PKhKP		21 40 48.6	
	comp=Z,4.7nm,1.0s,baz=100,slow=0.4,SNR=7.7						
ARCES				PKP	PKPdf	21 40 59.9	-2.7
	comp=Z,2.3nm,0.5s,baz=26,slow=1.3,SNR=17						
ARCES				SKPbc	SKPbc	21 43 27.1	-3.4
	comp=Z,28nm,0.9s,baz=23,slow=4.3,SNR=24						
ARE0	ARCESS Array S	129.34	349	ePP	PP	21 43 27.9	+7.1
LSZ	Lusaka	135.01	219	ePKPdf	PKPdf	21 41 13.0	-0.4
LSZ				eSKPbc	SKPbc	21 43 49.1	-0.8
FINES	FINESS Array B	136.07	343	PKhKP		21 41 01.2	
	comp=Z,1.1nm,0.6s,baz=50,slow=3.3,SNR=8.4						
FINES				PKP	PKPdf	21 41 11.8	-3.5
	comp=Z,1.0nm,0.4s,baz=42,slow=3.1,SNR=7.7						
FINES				SKPbc	SKPbc	21 43 49.7	-3.4
	comp=Z,11nm,0.7s,baz=62,slow=4.5,SNR=23						
FINES	FINESS Array B	136.07	343	PKHKP		21 41 01.2	
FINES						21 41 11.8	
FINES	FINESS Array B	136.07	343	PKP		21 41 01.2	
FINES				PKP	PKPdf	21 41 11.8	-3.5
FINES				SKPbc	SKPbc	21 43 49.7	-3.4
TSUM	Tsumeb	136.74	203	ePKPdf	PKPdf	21 41 16.2	-0.3
TSUM				eSKPbc	SKPbc	21 43 53.9	-1.2
OBN	Obninsk	136.81	331	ePKIKP	PKPdf	21 41 13.6	-3.1
OBN				e		21 47 26.7	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
OBN	Obninsk	136.81	331	eSKPbc	SKPbc	21 43 52.4	-2.9
KMBO	Kilima Mbogo	138.16	243	SKPbc	SKPbc	21 43 58.3	-0.9
	comp=Z,6.1nm,1.0s,baz=198,slow=3.3,SNR=9.5						
GNI	Garni	138.28	307	SKPbc	SKPbc	21 44 00.9	+1.4
	comp=Z,8.0nm,0.8s,baz=351,slow=17,SNR=3.1						
GNI	Garni	138.28	307	i PKIKP	PKPdf	21 41 17.3	-2.1

KIV	**Kislovodsk**	**138.65**	**313**	*e*PKIKP	PKPdf	21 41 16.4	-3.6
KIV				*e*		21 47 25.1	
KIV				*e*SS	SS	22 01 46.9	-1.1
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**138.65**	**313**	*e*SKPbc	SKPbc	21 43 58.3	-2.2
NB2	**NORSAR Subarra**	**139.46**	**352**	PKPd		21 41 12.6	
	comp=Z,1.2nm,0.5s,baz=14,slow=1.8						
NOA	**NORSAR Array B**	**139.46**	**352**	PKhKP		21 41 10.6	
	comp=Z,1.3nm,0.5s,baz=14,slow=4.3,SNR=15						
NOA				SKPbc	SKPbc	21 43 59.5	-3.3
	comp=Z,11nm,1.0s,baz=13,slow=4.4,SNR=10						
NOA				SKPab		21 44 10.9	
	comp=Z,6.7nm,0.9s,baz=14,slow=3.2,SNR=8.5						
NOA	**NORSAR Array B**	**139.46**	**352**	PKP		21 41 10.6	
NOA				SKPbc	SKPbc	21 43 59.5	-3.3
NOA				SKPab		21 44 10.9	
NAO01	**NORSAR Array S**	**139.69**	**352**	*e*SKPbc	SKPbc	21 44 01.2	-2.1
ERZM	**Erzurum**	**140.84**	**308**	*i* P	PKPdf	21 41 18.5	-5.5
ANN	**Anapa**	**141.79**	**317**	*i* PKIKP	PKPdf	21 41 33.9	+8.2
ANN				*e**PP		21 43 44.6	
ANN				pmax	pmax		
	comp=Z,27nm,1.0s						
ELZG	**Elazig**	**143.02**	**306**	*i* P	PKPdf	21 41 26.8	-1.0
SUW	**Suwalki**	**143.04**	**338**	*e*PKP	PKPdf	21 41 24.3	-3.6
SUW				*e*		21 41 26.5	
MVH1	**Achvaich**	**143.05**	**5**	*e*P	PKPdf	21 41 24.0	-3.9
MVH1	**Achvaich**	**143.05**	**5**	*e*P	PKPdf	21 41 24.0	-3.9
AKASG	**Malin Array Be**	**143.05**	**330**	PKhKP	PKPdf	21 41 23.9	-4.0
	comp=Z,32nm,0.4s,baz=44,slow=4.4,SNR=336						
AKASG				SKPbc	SKPbc	21 44 07.7	-4.1
	comp=Z,3.5nm,0.7s,baz=42,slow=2.3,SNR=18						
KSK	**Scoval**	**143.27**	**7**	*e*P	PKPdf	21 41 25.2	-3.0
KSK	**Scoval**	**143.27**	**7**	*e*P	PKPdf	21 41 25.2	-3.0
KAC	**Achnashellach**	**143.38**	**6**	*e*P	PKPdf	21 41 25.4	-3.1
KAC	**Achnashellach**	**143.38**	**6**	*e*P	PKPdf	21 41 25.4	-3.1
MCD	**Coleburn Disti**	**143.45**	**4**	*e*P	PKPdf	21 41 25.2	-3.4
MCD	**Coleburn Disti**	**143.45**	**4**	*e*P	PKPdf	21 41 25.2	-3.4
KPL	**Plockton**	**143.50**	**6**	*e*P	PKPdf	21 41 25.4	-3.2
KPL	**Plockton**	**143.50**	**6**	*e*P	PKPdf	21 41 25.4	-3.2
KSB	**Sheil Bridge**	**143.65**	**6**	*e*P	PKPdf	21 41 26.2	-2.8
KSB	**Sheil Bridge**	**143.65**	**6**	*e*P	PKPdf	21 41 26.2	-2.8
SIM	**Simferopol'**	**143.80**	**319**	*de*PKHKP	PKPdf	21 41 28.0	-1.2
SIM				pmax	pmax		
	comp=Z,81nm,0.8s						
MUD	**Monsted U'grnd**	**144.18**	**352**	*i* P	PKPdf	21 41 28.1	-1.8
	comp=Z,44nm,0.8s						
COP	**Copenhagen**	**144.42**	**349**	*i* P	PKPdf	21 41 27.6	-2.7
	comp=Z,42nm,0.9s						
COP	**Copenhagen**	**144.42**	**349**	*e*P	PKPdf	21 41 27.6	-2.7
GZT	**Gaziantep**	**144.42**	**305**	*i* P	PKPdf	21 41 30.0	-0.3
BSD	**Bornholm Skovb**	**144.45**	**346**	*i* P	PKPdf	21 41 28.6	-1.7
	comp=Z,34nm,0.7s						
EAB	**Aberfoyle**	**144.76**	**5**	*e*P	PKPdf	21 41 29.4	-1.4
EAB	**Aberfoyle**	**144.76**	**5**	*e*P	PKPdf	21 41 29.4	-1.4
BOYT	**Boyabat**	**144.91**	**313**	*i* P	PKPdf	21 41 31.6	+0.5
EDI	**Edinburgh**	**145.11**	**4**	*e*P	PKPdf	21 41 31.6	+0.1
EDI	**Edinburgh**	**145.11**	**4**	*e*P	PKPdf	21 41 31.6	+0.1
ESY	**Stoneypath**	**145.15**	**3**	*e*P	PKPdf	21 41 30.6	-0.9
ESY	**Stoneypath**	**145.15**	**3**	*e*P	PKPdf	21 41 30.6	-0.9
EAU	**Auchinoon**	**145.17**	**4**	*e*P	PKPdf	21 41 31.1	-0.5
EAU	**Auchinoon**	**145.17**	**4**	*e*P	PKPdf	21 41 31.1	-0.5
EBL	**Broad Law**	**145.27**	**4**	*e*P	PKPdf	21 41 30.9	-0.8
EBL	**Broad Law**	**145.27**	**4**	*e*P	PKPdf	21 41 30.9	-0.8
CTKT	**Corum**	**145.32**	**312**	*i* P	PKPdf	21 41 32.8	+1.0
GKP	**Gorka Klasztor**	**145.54**	**343**	*e*PKP	PKPdf	21 41 32.6	+0.4
GKP				*e*		21 41 34.3	
ESK	**Eskdalemuir**	**145.71**	**4**	*e*P	PKPdf	21 41 32.5	0.0
ESK	**Eskdalemuir**	**145.71**	**4**	*e*P	PKPdf	21 41 32.5	0.0
BWH	**Wardlaw**	**145.82**	**5**	*e*P	PKPdf	21 41 32.5	-0.2
BWH	**Wardlaw**	**145.82**	**5**	*e*P	PKPdf	21 41 32.5	-0.2
BALT	**Daday**	**145.89**	**314**	*i* P	PKPdf	21 41 34.1	+1.3
BHH	**Howats Hill**	**145.93**	**4**	*e*P	PKPdf	21 41 32.6	-0.3
BHH	**Howats Hill**	**145.93**	**4**	*e*P	PKPdf	21 41 32.6	-0.3
AVNT	**Avonos**	**145.98**	**309**	*i* P	PKPdf	21 41 34.6	+1.6
LVV	**L'vov**	**146.01**	**333**	*e*PKIKP	PKPdf	21 41 33.8	+0.8
ASF	**Jabal al Asfar**	**146.16**	**297**	PKPbc	PKPbc	21 41 35.2	-0.2
	comp=Z,12nm,1.0s,baz=31,slow=1.3,SNR=17						
ASF				pPKPbc		21 43 56.8	
	comp=Z,8.9nm,1.0s,baz=332,slow=1.8,SNR=8.5						
ELDT	**Eldivan**	**146.32**	**312**	*i* P	PKPdf	21 41 34.9	+1.4
CKE	**Keswick**	**146.44**	**4**	*e*P	PKPdf	21 41 33.8	+0.1
CKE	**Keswick**	**146.44**	**4**	*e*P	PKPdf	21 41 33.8	+0.1
BSEG	**Bad Segeberg**	**146.46**	**350**	*e*PKPbc	PKPbc	21 41 35.1	-1.2
XDE	**Dent Fell**	**146.50**	**5**	*e*P	PKPdf	21 41 34.3	+0.5
XDE	**Dent Fell**	**146.50**	**5**	*e*P	PKPdf	21 41 34.3	+0.5
GIM	**North Isle of**	**146.62**	**6**	*e*P	PKPdf	21 41 35.1	+1.1
GIM	**North Isle of**	**146.62**	**6**	*e*P	PKPdf	21 41 35.1	+1.1
KWP	**Kalwaria**	**146.70**	**334**	*e*PKP	PKPdf	21 41 36.0	+1.8
WIM	**Isle of Man**	**146.75**	**6**	*e*P	PKPdf	21 41 35.8	+1.5
WIM	**Isle of Man**	**146.75**	**6**	*e*P	PKPdf	21 41 35.8	+1.5
ANTO	**Ankara**	**147.03**	**312**	⇑*i*P	PKPdf	21 41 37.5	+2.8
BURAR	**Bucovina Array**	**147.09**	**329**	⇓*i*P	PKPdf	21 41 37.6	+2.8
CFR	**Carcaliu**	**147.19**	**323**	⇑*i*P	PKPdf	21 41 37.4	+2.4
DCN	**Croghan**	**147.22**	**9**	⇑*i*P	PKPdf	21 41 37.1	+2.1
DCN	**Croghan**	**147.22**	**9**	⇑*i*P	PKPbc	21 41 40.6	+2.3
SGKT	**Sivrigoynuk**	**147.22**	**313**	*i* P	PKPdf	21 41 37.6	+2.6
OJC	**Ojcow**	**147.35**	**337**	*e*PKPdf	PKPdf	21 41 37.9	+2.7
OJC				*e*PKPbc	PKPbc	21 41 41.7	+3.1
DLF	**Lyons Farm**	**147.37**	**8**	*e*P	PKPdf	21 41 37.7	+2.4
DLF	**Lyons Farm**	**147.37**	**8**	⇑*i*P	PKPbc	21 41 41.3	+2.6
KOLS	**Kolonicke sedl**	**147.42**	**334**	*e*PKP	PKPbc	21 41 38.6	-0.2
KOLS				*e*		21 41 43.0	
STHS	**Stebnicka Huta**	**147.46**	**335**	*e*PKP	PKPbc	21 41 38.6	-0.3
STHS				*e*		21 41 43.7	
STHS				*e*		21 43 58.8	
STHS	**Stebnicka Huta**	**147.46**	**335**	*e*PKP	PKPbc	21 41 38.6	-0.3
STHS				*e*		21 41 43.7	
TIRR	**Tirgusor**	**147.47**	**322**	⇓*i*P	PKPdf	21 41 38.0	+2.6
HARR	**Harsova**	**147.60**	**323**	⇓*i*P	PKPdf	21 41 26.8	-8.8
WLF1	**Llynfaes**	**147.62**	**6**	*e*P	PKPdf	21 41 37.7	+2.1
WLF1	**Llynfaes**	**147.62**	**6**	*e*P	PKPdf	21 41 37.7	+2.1
UZH	**Uzhgorod**	**147.65**	**333**	*e*PKIKP	PKPdf	21 41 38.0	+2.3
UZH				*i*		21 41 40.0	
UZH				pmax	pmax		
	comp=Z,136nm,1.0s						
CRVS	**Cervenica-Dubn**	**147.78**	**334**	*e*PKP	PKPbc	21 41 39.1	-0.6
CRVS				*e*		21 41 43.9	
CRVS				*e*		21 44 01.1	
CRVS	**Cervenica-Dubn**	**147.78**	**334**	*e*PKP	PKPbc	21 41 39.1	-0.6
CRVS				*e*		21 41 43.9	
NIE	**Niedzica**	**147.82**	**336**	*e*PKPdf	PKPdf	21 41 39.4	+3.4
NIE				*e*PKPbc	PKPbc	21 41 44.4	+4.6
NRDL	**Niedersach Rie**	**147.88**	**349**	*e*PKPab	PKPab	21 41 44.4	-0.3
KSP	**Ksiaz**	**147.97**	**342**	*e*PKP	PKPbc	21 41 39.5	-0.7
KSP				*e*		21 41 44.6	
KSP	**Ksiaz**	**147.97**	**342**	*e*PKHKP	PKPbc	21 41 39.4	-0.8
KSP				*e*		21 41 44.0	
KSP	**Ksiaz**	**147.97**	**342**	*e*PKPdf	PKPbc	21 41 39.4	-0.8
KSP				*e*PKPab	PKPab	21 41 44.0	-1.1
KSP				*e*pPKP	pPKPdf	21 44 00.0	+8.6
PSN	**Preselentsi**	**148.06**	**321**	*e*P	PKPbc	21 41 40.0	-0.4
SBD1	**Bryn Du**	**148.10**	**5**	*e*P	PKPdf	21 41 39.3	+2.8
SBD1	**Bryn Du**	**148.10**	**5**	*e*P	PKPdf	21 41 39.3	+2.8
MLR	**Muntele Rosu**	**148.18**	**326**	PKPbc	PKPbc	21 41 39.5	-1.2
	comp=Z,8.5nm,0.6s,baz=97,slow=1.3,SNR=22						
MLR	**Muntele Rosu**	**148.18**	**326**	⇓*i*P	PKPdf	21 41 39.3	+2.7
ERMK	**Ermenek**	**148.18**	**306**	*i* P	PKPbc	21 41 40.9	+0.2
OKC	**Ostrava-Krasne**	**148.25**	**339**	*e*PKPbc	PKPbc	21 41 40.0	-0.9
OKC				*e*PKPab	PKPab	21 41 45.6	-0.6
UPC	**Upice**	**148.35**	**342**	*e*PKPbc	PKPbc	21 41 40.6	-0.5
UPC				*e*PKPab	PKPab	21 41 46.3	-0.3
DPC	**Dobruska-Polom**	**148.39**	**341**	*e*PKPbc	PKPbc	21 41 40.6	-0.7
DPC				*e*PKPab	PKPab	21 41 46.8	0.0
CLL	**Collm**	**148.42**	**345**	*e*PKPbc	PKPbc	21 41 40.2	-1.1
CLL				*e*PKPab	PKPab	21 41 45.8	-1.1
CLL				*e*pPKPbc	pPKPbc	21 43 59.8	+5.2
CLL	**Collm**	**148.42**	**345**	⇓*i*PKPbc	PKPbc	21 41 40.1	-1.2
	comp=Z,28nm,0.9s						
CLL				⇑*i*PKPab	PKPab	21 41 45.8	-1.1
	comp=Z,28nm,0.8s						
CLL				*e*pPKPab	pPKPab	21 43 59.0	+3.1
CLL	**Collm**	**148.42**	**345**	⇓*i*PKP	PKPbc	21 41 40.1	-1.2
CLL				⇑*i*PKP	PKPab	21 41 45.8	-1.1
MORC	**Moravsky Berou**	**148.51**	**339**	⇓*i*P	PKPbc	21 41 40.9	-0.6
KECS	**Kecovo**	**148.51**	**335**	*e*PKP	PKPbc	21 41 41.1	-0.4
KECS				*e*		21 41 46.6	
KECS				*e*		21 43 59.7	
KECS	**Kecovo**	**148.51**	**335**	*e*PKP	PKPbc	21 41 41.1	-0.4
KECS				*e*		21 41 46.7	
ESKT	**Eskisehir**	**148.53**	**312**	*i* P	PKPdf	21 41 40.4	+3.3
BRG	**Berggiesshubel**	**148.59**	**344**	*e*PKPbc	PKPbc	21 41 40.8	-0.9
BRG				*e*PKPab	PKPab	21 41 46.7	-0.9
BRG	**Berggiesshubel**	**148.59**	**344**	⇑*i*PKPB	PKPbc	21 41 40.8	-0.9
	comp=Z,7.8nm,0.8s						
BRG				*i* PKPpB		21 41 46.7	
	comp=Z,18nm,1.2s						
BRG				*e*pPKP	pPKPdf	21 44 02.4	+10
	comp=Z,18nm,1.5s						
BRG	**Berggiesshubel**	**148.59**	**344**	*i* PKPDF	PKPdf	21 41 32.4	-4.8
	comp=Z,6.6nm,1.9s						
BRG	**Berggiesshubel**	**148.59**	**344**	⇑*i*PKPB	PKPbc	21 41 40.8	-0.9
	comp=Z,7.8nm,0.8s						
BRG				*i* PKPpB		21 41 46.7	
	comp=Z,18nm,1.2s						
BRG				*e*pPKP	pPKPdf	21 44 02.4	+10
	comp=Z,18nm,1.5s						
BRG	**Berggiesshubel**	**148.59**	**344**	*i* PKIKP	PKPdf	21 41 32.4	-4.8
BRG				*i*		21 41 40.8	
BRG				*i*		21 41 46.7	
BRG	**Berggiesshubel**	**148.59**	**344**	*i* PKPdf	PKPdf	21 41 32.4	-4.8
BRG				*i* PKPbc	PKPbc	21 41 40.8	-0.9
BRG				*i* PKPab	PKPab	21 41 46.7	-0.9
BRG				*e*pPKP	pPKPdf	21 44 02.4	+10
BRG	**Berggiesshubel**	**148.59**	**344**	*e*PKPDF	PKPdf	21 41 32.4	-4.8
	comp=Z,6.6nm,1.9s						
VOIR		**148.68**	**326**	⇓*i*P	PKPbc	21 41 41.3	-0.7
PVCC	**Panska Ves**	**148.74**	**343**	*e*PKPbc	PKPbc	21 41 41.7	-0.4
PVCC				*e*PKPab	PKPab	21 41 48.3	0.0
DRGR		**148.86**	**330**	⇓*i*P	PKPdf	21 41 41.3	+3.6
VYHS	**Vyhne**	**149.13**	**336**	*e*PKP	PKPbc	21 41 42.2	-0.9
VYHS				*e*		21 41 49.8	
VYHS				*e*		21 44 01.6	
VYHS	**Vyhne**	**149.13**	**336**	*e*PKP	PKPbc	21 41 42.2	-0.9
VYHS				*e*		21 41 49.8	
VRAC	**Vranov**	**149.22**	**340**	⇑*i*P	PKPbc	21 41 42.4	-0.9
PRU	**Pruhonice**	**149.23**	**343**	*e*PKPbc	PKPbc	21 41 42.3	-1.0
PRU				*e*PKPab	PKPab	21 41 49.8	-0.5
MOX	**Moxa**	**149.35**	**347**	*e*PKPbc	PKPbc	21 41 41.6	-2.0
MOX				*e*PKPab	PKPab	21 41 49.7	-1.1
MOX	**Moxa**	**149.35**	**347**	*e*P	PKPdf	21 41 42.2	+3.8
	comp=Z,10.0nm,0.9s						
MOX				*e*		21 41 49.6	
TANN	**Tannenbergstha**	**149.37**	**345**	*e*PKPbc	PKPbc	21 41 42.7	-0.9
TANN				*e*PKPab	PKPab	21 41 50.1	-0.8
TANN				*e*pPKPbc	pPKPbc	21 44 06.3	+9.1
ULDT	**Uludag**	**149.39**	**315**	*i* P	PKPbc	21 41 42.8	-0.9
UBBA	**Unterbreizbach**	**149.51**	**349**	*e*PKPbc	PKPbc	21 41 42.8	-1.2
NKC	**Novy Kostel**	**149.55**	**345**	*e*PKPbc	PKPbc	21 41 43.3	-0.7
NKC				*e*PKPab	PKPab	21 41 50.6	-1.0
SMOL	**Smolenice**	**149.63**	**338**	*e*PKP	PKPbc	21 41 44.0	-0.2
SMOL				*e*		21 41 51.9	
JMB	**Yambol**	**149.73**	**321**	*e*P	PKPbc	21 41 43.4	-1.0
GZR	**Gura Zlata**	**149.85**	**329**	⇑*i*P	PKPdf	21 41 31.5	-7.7
MANZ	**Manzenberg**	**149.86**	**346**	*e*PKPbc	PKPbc	21 41 44.1	-0.7
MANZ				*e*PKPab	PKPab	21 41 52.2	-0.7
MANZ				*e*pPKPbc	pPKPbc	21 44 04.2	+5.7
PVL	**Pavlikeni**	**149.99**	**323**	*e*P	PKPbc	21 41 45.0	-0.1
ZST	**Bratislava**	**150.01**	**338**	*e*PKP	PKPbc	21 41 44.4	-0.7
ZST				*e*		21 41 53.2	
ZST				*e*		21 44 07.8	
ZST	**Bratislava**	**150.01**	**338**	*e*PKHKP	PKPbc	21 41 44.4	-0.7
ZST				*e*		21 41 53.2	
ROTZ	**Rotzenmuhle**	**150.04**	**345**	*e*PKPbc	PKPbc	21 41 44.3	-0.9
ROTZ				*e*PKPab	PKPab	21 41 53.1	-0.6
HGN	**Heimansgroeve**	**150.15**	**354**	*e*x	PKPab	21 41 52.8	-1.3
	comp=Z,44nm,0.8s						
BZS	**Buzias**	**150.24**	**330**	⇓*i*P	PKPbc	21 41 44.7	-1.0
KHC	**Kasperske Hory**	**150.28**	**343**	*e*PKPbc	PKPbc	21 41 45.0	-0.8
KHC				*e*PKPab	PKPab	21 41 54.1	-0.6
GRA1	**Grafenberg Arr**	**150.33**	**346**	*e*PKPbc	PKPbc	21 41 44.2	-1.7
GRA1				*e*PKPab	PKPab	21 41 54.3	-0.6
GRF	**Grafenberg Arr**	**150.33**	**346**	*e*PKPbc	PKPbc	21 41 44.2	-1.7
GRF				*e*PKPab	PKPab	21 41 54.3	-0.6
TNS	**Taunus Mts**	**150.35**	**350**	*e*PKPbc	PKPbc	21 41 45.0	-0.9
TNS				*e*PKPab	PKPab	21 41 53.9	-1.1
TNS				*e*PKPab	PKPab	21 41 53.9	-1.1
TNS	**Taunus Mts**	**150.35**	**350**	*e*PKPbc	PKPbc	21 41 45.0	-0.9
WET	**Wettzell**	**150.45**	**344**	*e*PKPbc	PKPbc	21 41 44.6	-1.6
WET				*e*PKPab	PKPab	21 41 54.9	-0.5
WET				*e*pPKPbc	pPKPbc	21 44 07.3	+7.3
WET	**Wettzell**	**150.45**	**344**	*e*PKIKP	PKPbc	21 41 44.6	-1.6
WET				*e*		21 41 54.9	
GEC2	**GERESS Array S**	**150.50**	**343**	*e*PKPbc	PKPbc	21 41 44.8	-1.5
GEC2				*e*PKPab	PKPab	21 41 54.6	-1.0
GEC2				*e*pPKPbc	pPKPbc	21 44 04.4	+4.3
GEC2	**GERESS Array S**	**150.50**	**343**	*e*PKIKP	PKPbc	21 41 44.8	-1.5
GEC2				*e*		21 41 54.6	
GERES	**GERESS Array B**	**150.50**	**343**	PKPbc	PKPbc	21 41 45.3	-1.0
	comp=Z,4.8nm,0.6s,baz=32,slow=2.4,SNR=61						
GERES				PKPab	PKPab	21 41 54.5	-1.1
	comp=Z,1.5nm,0.4s,baz=39,slow=4.3,SNR=5.8						
GERES				pPKPbc	pPKPbc	21 44 05.6	+5.5
	comp=Z,3.7nm,0.8s,baz=29,slow=3.0,SNR=6.2						
GERES	**GERESS Array B**	**150.50**	**343**	PKIKP	PKPbc	21 41 45.3	-1.0
GERES						21 41 54.5	
DIM	**Dimitrovgrad**	**150.60**	**321**	*e*P	PKPbc	21 41 46.0	-0.5
DNZL	**Cakiroluk**	**150.61**	**310**	*i* P	PKPbc	21 41 47.2	+0.7
CONA	**Conrad Observa**	**150.66**	**339**	⇓*i*PKiKP	PKiKP	21 41 46.2	-0.9
	comp=Z,9.7nm,0.6s						
CONA				⇑*i*PKPab	PKPab	21 41 56.5	+0.2
	comp=Z,17nm,1.1s						
CONA				⇑*i*pPKPab	pPKPab	21 44 05.7	+0.9
	comp=Z,13nm,1.4s						
GIVF	**Givet**	**150.91**	**355**	⇑*i*PKP1	PKPbc	21 41 46.5	-0.7
	comp=Z,39nm,0.7s						
KDZ	**Kurdzhali**	**150.91**	**320**	*e*P	PKPbc	21 41 46.0	-1.2
ALN	**Alexandroupoli**	**150.97**	**318**	*e*P	PKPdf	21 41 45.7	+4.7
BAIF	**Baives**	**151.00**	**356**	⇑*i*PKP1	PKPbc	21 41 46.7	-0.7
	comp=Z,31nm,1.0s						
WLF	**Walferdange**	**151.21**	**353**	*e*PKPbc	PKPbc	21 41 47.1	-0.8
WLF				*e*PKPab	PKPab	21 41 57.6	-1.0
MOA	**Molln**	**151.24**	**341**	⇑*i*	PKPab	21 41 58.5	-0.2
	comp=Z,30nm,1.7s						
MOA	**Molln**	**151.24**	**341**	⇑*i*PKPbc	PKPbc	21 41 47.0	-1.0
	comp=Z,4.5nm,0.5s						
MOA				⇑*i*PKPab	PKPab	21 41 58.5	-0.2
	comp=Z,30nm,1.7s						
MOA				⇓*i*pPKPab	pPKPab	21 44 11.2	+4.1
	comp=Z,13nm,1.4s						
ARSA	**Arzberg**	**151.37**	**339**	⇑*i*	PKPab	21 41 58.9	-0.4
	comp=Z,9.6nm,1.0s						
ARSA	**Arzberg**	**151.37**	**339**	⇑*i*PKPbc	PKPbc	21 41 46.8	-1.4
	comp=Z,4.5nm,1.0s						
ARSA				⇑*i*PKPab	PKPab	21 41 58.9	-0.4
	comp=Z,9.6nm,1.0s						
ARSA				⇓*i*pPKPab	pPKPab	21 44 11.4	+3.8
	comp=Z,5.9nm,1.0s						
VTS	**Vitosha**	**151.58**	**324**	*e*P	PKPab	21 42 00.3	+0.2
VTS	**Vitosha**	**151.58**	**324**	⇓*i*P	PKPdf	21 41 42.3	+0.4
FUR	**Furstenfeldbru**	**151.75**	**345**	*e*PKPbc	PKPbc	21 41 47.9	-1.2
FUR				*e*PKPab	PKPab	21 42 00.2	-0.7
KOGS	**Kog**	**151.81**	**337**	*i* PKPbc	PKPbc	21 41 47.7	-1.6
KOGS				*i* PKPab	PKPab	21 41 60.0	-1.1
KOGS				*e*pPKPbc	pPKPbc	21 44 12.0	+8.7
MMB	**Musomiste**	**151.94**	**322**	*e*P	PKPab	21 42 01.7	0.0
MMB	**Musomiste**	**151.94**	**322**	*e*P	PKPbc	21 41 48.0	-1.5
PERS	**Pernice**	**152.04**	**339**	*i* PKPbc	PKPbc	21 41 48.1	-1.6
PERS				*i* PKPab	PKPab	21 42 01.3	-0.8
BFO	**Black Forest**	**152.20**	**349**	*e*PKPbc	PKPbc	21 41 48.7	-1.4
BFO				*e*PKPab	PKPab	21 42 01.6	-1.2
BFO				*e*pPKPbc	pPKPbc	21 44 09.0	+4.8
BFO				*e*PKPab	PKPab	21 42 01.6	-1.2
BFO				*e*pPKPbc	pPKPbc	21 44 09.0	+4.8
BFO	**Black Forest**	**152.20**	**349**	*e*PKPbc	PKPbc	21 41 48.7	-1.4
KBA	**Koelnbreinsper**	**152.21**	**342**	⇑*i*	PKPab	21 42 02.9	+0.1
	comp=Z,8.5nm,0.6s						
KBA	**Koelnbreinsper**	**152.21**	**342**	⇑*i*PKPbc	PKPbc	21 41 46.9	-3.2
	comp=Z,6.8nm,0.9s						
KBA				⇑*i*PKPab	PKPab	21 42 02.9	+0.1
	comp=Z,8.5nm,0.6s						
KBA				⇑*i*pPKiKP		21 44 09.6	
	comp=Z,6.6nm,0.8s						
KBA	**Koelnbreinsper**	**152.21**	**342**	⇑*i*PKIKP	PKPdf	21 41 46.9	+4.1
KBA				*i*		21 42 02.9	
CDF	**Champ du Feu**	**152.29**	**351**	⇑*i*PKP1	PKPbc	21 41 49.4	-0.9
	comp=Z,11nm,0.7s						
OBKA	**Obir**	**152.34**	**339**	⇑*i*	PKPab	21 42 02.2	-1.1
	comp=Z,11nm,0.8s						
OBKA	**Obir**	**152.34**	**339**	⇑*i*PKPbc	PKPbc	21 41 47.2	-3.1
	comp=Z,3.3nm,0.6s						
OBKA				⇑*i*PKPab	PKPab	21 42 02.2	-1.1
	comp=Z,11nm,0.8s						
DOBS	**Dobrina**	**152.34**	**338**	*i* PKPbc	PKPbc	21 41 48.8	-1.6
WATA	**Walderalm**	**152.45**	**344**	⇑*i*	PKPab	21 42 03.3	-0.6
	comp=Z,13nm,1.0s						
WATA	**Walderalm**	**152.45**	**344**	⇓*i*PKPbc	PKPbc	21 41 49.3	-1.3
	comp=Z,5.3nm,1.1s						
WATA				⇑*i*PKPab	PKPab	21 42 03.3	-0.6
	comp=Z,13nm,1.0s						
WATA				⇑*i*pPKPab	pPKPab	21 44 13.6	+1.5
	comp=Z,11nm,1.3s						
MEZF	**Maizieres J'vi**	**152.48**	**354**	*e*PKP1	PKPbc	21 41 50.2	-0.5
WTTA	**Wattenberg**	**152.50**	**344**	⇓*i*	PKPab	21 42 03.5	-0.6
	comp=Z,19nm,0.8s						
WTTA	**Wattenberg**	**152.50**	**344**	⇑*i*PKPbc	PKPbc	21 41 49.7	-1.1
	comp=Z,7.9nm,0.5s						
WTTA				⇓*i*PKPab	PKPab	21 42 03.5	-0.6
	comp=Z,19nm,0.8s						
WTTA				⇓*i*pPKiKP		21 44 10.5	
	comp=Z,23nm,1.2s						
MOTA	**Moosalm**	**152.56**	**345**	⇓*i*	PKPab	21 42 03.4	-0.9
	comp=Z,17nm,1.0s						
MOTA	**Moosalm**	**152.56**	**345**	⇑*i*PKPbc	PKPbc	21 41 49.9	-1.0
	comp=Z,4.3nm,0.9s						
MOTA				⇓*i*PKPab	PKPab	21 42 03.4	-0.9
	comp=Z,17nm,1.0s						
MOTA				⇑*i*pPKPab	pPKPab	21 44 11.5	-1.1
	comp=Z,13nm,1.2s						
OUR	**Ouranopolis**	**152.57**	**319**	*e*P	PKPab	21 42 03.9	-0.4
CRES	**Cresnjev**	**152.62**	**338**	*i* PKPbc	PKPbc	21 41 49.8	-1.2
CRES				*i* PKPab	PKPab	21 42 03.4	-1.2
SOH	**Sokhos**	**152.65**	**321**	*e*P	PKPab	21 42 04.0	-0.7
SQTA	**Sankt Quirin**	**152.65**	**345**	⇑*i*	PKPab	21 42 04.2	-0.5
	comp=Z,8.7nm,1.0s						
SQTA	**Sankt Quirin**	**152.65**	**345**	⇑*i*PKPbc	PKPbc	21 41 50.1	-1.0
	comp=Z,4.9nm,1.0s						
SQTA				⇑*i*PKPab	PKPab	21 42 04.2	-0.5
	comp=Z,8.7nm,1.0s						
SQTA				⇑*i*pPKPab	pPKPab	21 44 13.8	+0.9
	comp=Z,9.6nm,1.1s						
KNT	**Kendrikon**	**152.69**	**322**	*e*P	PKPab	21 42 04.5	-0.4
STIP	**Stip**	**152.74**	**324**	*e*P	PKPab	21 42 04.4	-0.7
STIP	**Stip**	**152.74**	**324**	⇑*i*PKP	PKPab	21 42 04.4	-0.7
LJU	**Ljubljana**	**152.75**	**339**	*i* PKPbc	PKPbc	21 41 50.2	-1.1
LJU				*i* PKPab	PKPab	21 42 03.9	-1.3
VAY	**Valandovo**	**152.78**	**323**	*e*P	PKPab	21 42 04.4	-0.9
VAY	**Valandovo**	**152.78**	**323**	⇑*i*PKP	PKPab	21 42 04.5	-0.8
PTCC	**Patocco-Chiusa**	**152.81**	**341**	PKP	PKPdf	21 41 47.6	+3.9
HAU	**Haudompre**	**152.82**	**352**	*e*PKP1	PKPbc	21 41 50.4	-1.0
DAVA	**Damuels**	**152.90**	**347**	⇑*i*	PKPab	21 42 05.2	-0.6
	comp=Z,21nm,0.8s						
DAVA	**Damuels**	**152.90**	**347**	⇑*i*PKPbc	PKPbc	21 41 50.7	-0.9
	comp=Z,1.7nm,0.5s						
DAVA				⇑*i*PKPab	PKPab	21 42 05.2	-0.6
	comp=Z,21nm,0.8s						
DAVA				⇑*i*pPKPab	pPKPab	21 44 14.4	+0.4
	comp=Z,11nm,1.1s						
HINF	**Hinteralfeld**	**152.93**	**351**	*e*PKP1	PKPbc	21 41 50.5	-1.2
	comp=Z,3.5nm,0.7s						
SKO	**Skopje**	**152.96**	**325**	⇑*i*PKP	PKPab	21 42 06.9	+0.8
BOJS	**Bojanci**	**152.97**	**337**	*i* PKPbc	PKPbc	21 41 50.9	-0.9
BOJS				*e*PKPab	PKPab	21 42 04.9	-1.2
BOJS				*e*pPKPbc	pPKPbc	21 44 11.1	+5.1
GRG	**Griva**	**153.11**	**322**	*e*P	PKPab	21 42 06.0	-0.7
LIT	**Litokhoron**	**153.61**	**321**	*e*P	PKPab	21 42 08.1	-0.7
BIA	**Bitola**	**153.68**	**323**	⇑*i*PKP	PKPab	21 42 07.8	-1.3
LOR	**Lormes**	**153.80**	**355**	*e*PKP1	PKPbc	21 41 52.0	-1.5
	comp=Z,5.5nm,0.5s						
FNA	**Florina**	**153.81**	**323**	*e*P	PKPbc	21 41 51.8	-1.7
OHR	**Ohrid**	**153.90**	**324**	⇑*i*PKP	PKPab	21 42 08.0	-2.1
CABF	**La Chapelle**	**154.22**	**352**	⇑*i*PKP1	PKPbc	21 41 54.2	-0.2
AGG	**Agios Georgios**	**154.38**	**319**	*e*P	PKPbc	21 41 53.4	-1.3
IGT	**Igoumenitsa**	**155.24**	**322**	*e*P	PKPab	21 42 14.9	-0.9
LKD	**Levkas**	**155.60**	**320**	*e*P	PKPab	21 42 16.9	-0.4
BNI	**Bardonecchia**	**155.66**	**350**	*e*PKP2	PKPab	21 42 17.5	-0.1
VLC	**Villacollemand**	**155.71**	**343**	*e*PKPab	PKPab	21 42 17.0	-0.8
VSL	**Villasalto**	**160.30**	**340**	*e*PKPab	PKPab	21 42 36.6	-1.3
ESDC	**Sonseca Array**	**161.03**	**12**	PKPab	PKPab	21 42 39.8	-1.3
	comp=Z,3.7nm,0.8s,baz=344,slow=4.2,SNR=17						
ESLA	**Sonseca Array**	**161.03**	**12**	*e*PKPab	PKPab	21 42 40.4	-0.7
KEST	**Kesra**	**163.67**	**335**	PKPab	PKPab	21 42 52.3	-0.4
	comp=Z,8.3nm,0.9s,baz=153,slow=0.3,SNR=28						
LIC	**Lamto**	**164.12**	**158**	*e*PKIKP	PKPdf	21 41 56.1	-0.8
	comp=Z,28nm,0.8s						
DBIC	**Dimbokro**	**164.59**	**158**	PKP	PKPdf	21 41 56.4	-0.9
	comp=Z,6.3nm,0.7s,baz=106,slow=2.7,SNR=12						
DBIC				PKPab	PKPab	21 42 57.5	+0.8
	comp=Z,11nm,0.6s,baz=190,slow=6.1,SNR=18						
DBIC	**Dimbokro**	**164.59**	**158**	PKP	PKPdf	21 41 56.4	-0.9
DBIC				PKPab	PKPab	21 42 57.5	+0.8
DBIC				*e*PKPab	PKPab	21 42 57.6	+0.9
TORD	**Torodi Ar. Bea**	**172.04**	**185**	PKP	PKPdf	21 42 00.7	-1.5
	comp=Z,5.0nm,0.9s,baz=339,slow=0.7,SNR=26						
TORD				PKPab	PKPab	21 43 29.4	-0.3
	comp=Z,9.4nm,0.9s,baz=174,slow=4.2,SNR=22						
TORD				pPKPab	pPKPab	21 45 45.5	+8.5
	comp=Z,1.9nm,0.9s,baz=178,slow=2.7,SNR=5.5						
TORD				PP	PP	21 47 20.2	-1.6
	comp=Z,5.3nm,1.0s,baz=174,slow=3.5,SNR=7.8						
TORD	**Torodi Ar. Bea**	**172.04**	**185**	PKP	PKPdf	21 42 00.7	-1.5
TORD				PKPab	PKPab	21 43 29.4	-0.3
TORD				pPKPab	pPKPab	21 45 45.5	+8.5
TORD				PP	PP	21 47 20.2	-1.6

IDC 07 21:52:57.4±1.6**,5993S**×**2638W,h0**km**,mb4.1**/2**, mb1 4.2**/3**,mb1mx3.8**/13**,mbtmp4.1**/3**,ML4.1**/1**,MS2.8**/1**, Ms1 2.8**/1**,ms1mx2.7**/14**,Error ellipse: s-maj=59.0km s-min=38.6km az=42.0,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.06**	**151**	Pn	Pn	21 56 32.8	+1.3
	0.7nm,0.3s,baz=327,slow=15,SNR=29						
SNAA				Sn	Sn	21 59 07.0	-12
	0.0nm,0.3s,baz=330,slow=20,SNR=4.3						
SNAA				LR	LR	22 00 38.7	
	comp=Z,35nm,20.9s,baz=29,slow=31						
LPAZ	**La Paz**	**53.01**	**307**	P	P	22 02 16.6	+0.6
	0.8nm,0.5s,baz=130,slow=6.7,SNR=5.7						
TORD	**Torodi Ar. Bea**	**76.26**	**28**	P	P	22 04 47.9	+0.1
	2.0nm,0.6s,baz=197,slow=6.6,SNR=49						
SONM	**Songino Array**	**150.32**	**93**	PKPbc	PKPbc	22 12 48.4	-2.2
	1.0nm,0.7s,baz=212,slow=3.0,SNR=6.2						

---

*MOS **07** 21:55:59.0±1.2, 35.17N×22.20E, h15km, mb4.1/4, Error ellipse: s-maj=10.3km s-min=4.5km az=88.8*
*IDC **07** 21:56:01.2±1.2, 35.56N×22.62E, h0km, mb4.0/10, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, ML3.8/2, MS2.8/2, Ms1 2.9/2, ms1mx2.4/31, Error ellipse: s-maj=24.7km s-min=21.2km az=135.0*
*ISCJB **07** 21:56:05.5±0.4, 35.43N±0.03×22.34E±0.04, h69km±5km, mb3.8/13, Error ellipse: s-maj=6.9km s-min=3.8km az=99.7*
*THE **07** 21:56:05.8, 35.41N×22.43E, h21km, ML4.0*
*CSEM **07** 21:56:06.6±0.1, 35.52N×22.42E, h65km, ML3.8, Error ellipse: s-maj=3.1km s-min=1.6km az=31.0*
*HLW **07** 21:56:06.5, 35.66N×23.07E, h33km, Mb4.3*
*NEIC **07** 21:56:06.8, 35.54N×22.54E, h84km, mb4.1/2, After ATH.*
*ATH **07** 21:56:06.8, 35.54N×22.54E, h84km±3km, ML3.8*
*NAO **07** 21:56:44.0, 40.22N×25.00E, h33km, mb3.3*

ISC 07 21:56:07.2±0.4**,35.45N**±0.03×**22.40E**±0.04**,h61**km±5km**, n102,**σ0.88/108**,mb3.9**/13**,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.98**	**32**	*e*P	**Pn**	**21 56 25.1**	**+0.1**
VLI	**Veliai**	**1.34**	**19**	*e*P	**Pn**	**21 56 30.1**	**+0.3**
VAM	**Vamos**	**1.47**	**91**	*e*P	**Pn**	**21 56 31.7**	**+0.2**
GVD	**Gavdhos**	**1.51**	**113**	*e*P	**Pn**	**21 56 32.0**	**-0.1**
ITM	**Ithomi**	**1.77**	**348**	*e*P	**Pn**	**21 56 36.4**	**+0.9**
IDI	**Anoyia**	**2.04**	**94**	Pn	**Pn**	**21 56 39.8**	**+0.6**
	9.8nm,0.3s,baz=277,slow=15,SNR=190						
IDI				Sn	**Sn**	**21 57 05.1**	**+1.4**
	35nm,0.3s,baz=44,slow=20,SNR=6.7						
NAIG	**Nisos Aigina**	**2.47**	**21**	*e*P	**Pn**	**21 56 45.0**	**0.0**
KVR	**Kavouri**	**2.62**	**25**	*e*P	**Pn**	**21 56 46.0**	**-1.1**
MGER	**Gerania Oros**	**2.63**	**15**	*e*P	**Pn**	**21 56 47.0**	**-0.2**
NPS	**Neapolis**	**2.64**	**93**	*e*P	**Pn**	**21 56 47.6**	**+0.3**
RLS	**Riolos of Patr**	**2.71**	**344**	*e*P	**Pn**	**21 56 50.0**	**+1.7**
ATH	**Athens Observa**	**2.73**	**22**	*e*P	**Pn**	**21 56 48.3**	**-0.4**
XRY	**Khrisi**	**2.76**	**101**	*e*P	**Pn**	**21 56 50.0**	**+1.0**
PTL	**Penteli**	**2.85**	**24**	*e*P	**Pn**	**21 56 50.0**	**-0.3**
APE	**Apeiranthos**	**3.01**	**57**	*e*P	**Pn**	**21 56 52.1**	**-0.3**
VLS	**Valsamata**	**3.09**	**333**	*e*P	**Pn**	**21 56 54.5**	**+1.0**

LKR	Lokris	3.23	8	eP	Pn	21 56 55.9	+0.4
EVR	Evrytania	3.50	352	eP	Pn	21 57 00.9	+1.9
EVR				eS	Sn	21 57 38.2	-1.0
LKD	Levkas	3.54	337	ePn	Pn	21 57 00.5	+0.8
AGG	Agios Georgios	3.57	359	ePn	Pn	21 57 00.2	+0.1
AGG				eSn	Sn	21 57 42.2	+1.3
KARP	Karpathos	3.89	87	eP	Pn	21 57 03.8	-0.6
AOS	Alonnisos	3.90	17	ePn	Pn	21 57 04.6	0.0
NEO	Neokhori	3.91	9	eP	Pn	21 57 05.0	+0.3
XOR	Xorichti	3.96	9	ePn	Pn	21 57 05.9	+0.5
CHOS	Chios island	4.15	44	ePn	Pn	21 57 07.3	-0.7
JAN	Janina	4.38	344	eP	Pn	21 57 11.8	+0.7
JAN				eS	Sn	21 57 59.1	-1.7
IGT	Igoumenitsa	4.40	339	ePn	Pn	21 57 10.7	-0.7
MEV	Metsovon	4.43	348	ePn	Pn	21 57 13.1	+1.2
MEV				eSn	Sn	21 58 02.8	+0.8
PAIG	Paliouri	4.59	12	ePn	Pn	21 57 13.9	-0.1
LIT	Litokhoron	4.65	1	ePn	Pn	21 57 14.9	+0.1
LIT				eSn	Sn	21 58 08.1	+0.7
ARG	Arkhangelos	4.72	79	eP	Pn	21 57 15.3	-0.5
KEK	Kerkira	4.73	335	eP	Pn	21 57 16.6	+0.6
KZN	Kozani	4.88	354	eP	Pn	21 57 18.6	+0.6
LSK	Leskovik	4.91	344	i Pg	Pn	21 57 19.1	+0.7
PLG	Polygyros	4.99	9	eP	Pn	21 57 19.0	-0.5
OUR	Ouranopolis	5.04	14	ePn	Pn	21 57 20.2	0.0
HORT	Hortiatis	5.17	6	ePn	Pn	21 57 21.8	-0.2
THE	Thessaloniki	5.20	5	ePn	Pn	21 57 21.6	-0.7
FNA	Florina	5.39	352	ePn	Pn	21 57 25.1	+0.1
SOH	Sokhos	5.42	8	ePn	Pn	21 57 25.3	-0.1
GRG	Griva	5.50	0	ePn	Pn	21 57 26.2	-0.3
BIA	Bitola	5.63	352	ePn	Pn	21 57 27.9	-0.4
BIA	Bitola	5.63	352	i Pn	Pn	21 57 27.9	-0.3
KNT	Kendrikon	5.72	4	ePn	Pn	21 57 29.5	0.0
OHR	Ohrid	5.79	348	ePn	Pn	21 57 29.7	-0.8
VAY	Valandovo	5.87	1	i Pn	Pn	21 57 30.8	-0.7
CEL	Celeste	5.92	300	Pn	Pn	21 57 32.1	-0.1
	19nm,0.6s						
LCI	Lecce	5.94	327	P	Pn	21 57 32.0	-0.5
LCI				pmax	pmax		
	comp=Z,22nm,0.4s						
LCI	Lecce	5.94	327	Pn	Pn	21 57 32.0	-0.5
	comp=Z,22nm,0.4s						
MTTG	Motta San Giov	5.96	297	Pn	Pn	21 57 32.7	0.0
	comp=Z,10.0nm,0.4s						
HAVL	Avola	6.07	287	Pn	Pn	21 57 33.7	-0.6
TIR	Tirane	6.22	342	ePn	Pn	21 57 36.3	0.0
STIP	Stip	6.24	359	ePn	Pn	21 57 36.4	-0.2
STIP	Stip	6.24	359	i Pn	Pn	21 57 37.0	+0.3
SKO	Skopje	6.56	354	ePn	Pn	21 57 41.0	0.0
SKO	Skopje	6.56	354	ePn	Pn	21 57 40.9	-0.1
SWA2		6.71	156	P	Pn	21 57 43.0	0.0
SWA1		6.77	155	P	Pn	21 57 44.1	+0.2
CUC	Castrocucco	6.91	313	Pn	Pn	21 57 46.8	+1.0
	comp=Z,28nm,1.0s						
SLCN	Sala Consilina	7.27	315	Pn	Pn	21 57 52.3	+1.5
	comp=Z,26nm,0.3s						
FG5	Orsara di Pugl	8.08	318	P	Pn	21 58 01.9	+0.1
FG5				pmax	pmax		
	comp=Z,37nm,0.7s						
FG5	Orsara di Pugl	8.08	318	Pn	Pn	21 58 01.9	+0.1
	comp=Z,37nm,0.7s						
RGNG	Rignano Grg	8.19	321	Pn	Pn	21 58 02.5	-0.8
HFRF	Wahat Farafira	9.69	147	P	Pn	21 58 22.6	-1.2
AMAG	Maghara	10.26	115	P	Pn	21 58 27.1	-4.4
KEST	Kesra	10.63	275	LR	LR	22 02 42.5	
	comp=Z,25nm,20.8s,baz=172,slow=37						
BOJS	Bojanci	11.42	334	i Pn	Pn	21 58 45.1	-2.3
BOJS				eSn	Sn	22 00 43.7	-10
HDK1	Dakhla	11.57	147	P	Pn	21 58 49.1	-0.3
CRES	Cresnjev	11.62	335	i Pn	Pn	21 58 47.5	-2.7
VISS	Visnje	11.82	333	i Pn	Pn	21 58 52.7	-0.2
AKRG	Al Kharijah	12.12	143	P	Pn	21 58 56.1	-0.9
VOJS	Vojsko	12.38	331	i Pn	Pn	21 59 00.1	-0.4
VYHS	Vyhne	13.30	350	ePN	Pn	21 59 10.8	-2.3
GERES	GERESS Array B	14.85	337	Pn	Pn	21 59 30.6	-2.9
	comp=Z,0.1nm,0.3s,baz=152,slow=12,SNR=5.6						
KHC	Kasperske Hory	15.13	337	i P	Pn	21 59 43.4	+6.2
AKASG	Malin Array Be	16.03	16	Pn	Pn	21 59 44.4	-4.3
	comp=Z,0.9nm,0.3s,baz=205,slow=12,SNR=4.2						
AKASG	Malin Array Be	16.03	16	i P	Pn	21 59 45.0	-3.7
OBN	Obninsk	21.97	22	eP	P	22 00 52.1	-3.8
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
HFS	Hagfors	25.34	350	P	P	22 01 28.6	+0.3
	comp=Z,2.1nm,0.3s,mb4.1,baz=158,slow=11,SNR=23						
HFS	Hagfors	25.34	350	P	P	22 01 28.6	+0.3
FINES	FINESS Array B	26.12	4	P	P	22 01 36.0	+0.6
	comp=Z,1.7nm,0.6s,mb3.8,baz=172,slow=9.9,SNR=8.2						
FINES	FINESS Array B	26.12	4	P	P	22 01 36.0	+0.6
FINES	FINESS Array B	26.12	4	eP	P	22 01 35.9	+0.5
EKA	Eskdalemuir Ar	26.53	327	P	P	22 01 41.6	+2.6
	comp=Z,2.4nm,0.7s,mb3.8,baz=122,slow=12,SNR=7.4						
NB2	NORSAR Subarra	26.59	348	P	P	22 01 40.0	+0.4
	comp=Z,0.8nm,0.6s,mb3.4,baz=152,slow=10						
NOA	NORSAR Array B	26.59	348	P	P	22 01 40.0	+0.4
	comp=Z,0.8nm,0.5s,mb3.5,baz=148,slow=8.9,SNR=3.3						
KAF	Kangasniemi	26.80	4	ep	P	22 01 41.1	-0.4
	baz=182,slow=9.4						
JOF	Joensuu	28.05	9	ep	P	22 01 51.5	-1.2
TORD	Torodi Ar. Bea	29.01	225	P	P	22 02 04.5	+3.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=34,slow=9.3,SNR=17						
AKTK	Aktyubinsk	29.74	49	P	P	22 02 06.4	-1.2
AKTO	Aktyubinsk	29.74	49	P	P	22 02 06.4	-1.2
	comp=Z,1.0nm,0.5s,mb3.8,baz=251,slow=8.3,SNR=4.9						
ARU	Arti	32.19	38	i P	P	22 02 29.5	+0.2
ARCES	ARCESS Array B	34.19	2	P	P	22 02 47.0	+0.3
	comp=Z,1.3nm,0.6s,mb4.0,baz=193,slow=8.7,SNR=13						
ARCES				LR	LR	22 17 55.3	
	comp=Z,38nm,18.5s,baz=353,slow=39						
KEV	Kevo	34.46	3	ep	P	22 02 48.6	-0.4
CHKZ	Chkalovo	38.03	46	eP	P	22 03 19.8	+0.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
CHKZ	Chkalovo	38.03	46	eP	P	22 03 19.8	+0.4
	comp=Z,0.6nm,0.4s,mb3.7						
MKAR	Makanchi Array	45.50	56	P	P	22 04 20.9	+0.5
	comp=Z,1.3nm,0.4s,mb4.3,baz=270,slow=7.6,SNR=37						
MKAR	Makanchi Array	45.50	56	i P	P	22 04 20.8	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	46.43	46	P	P	22 04 27.3	-0.4
	comp=Z,1.0nm,0.4s,mb4.1,baz=180,slow=4.4,SNR=4.4						
SONM	Songino Array	61.04	50	P	P	22 06 15.4	+0.9
	comp=Z,1.0nm,0.6s,mb4.2,baz=285,slow=7.7,SNR=8.1						
ULN	Ulaanbaatar	61.44	50	eP	P	22 06 18.6	+1.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ULN	Ulaanbaatar	61.44	50	eP	P	22 06 18.6	+1.4
	comp=Z,1.5nm,0.7s,mb4.2						

*NEIC **07** 22:09:59.1, 1872N×6419W, h33^{km}, MD3.5(RSPR), After RSPR.*

RSPR 07 22:09:59.1, 1872N×6419W, h33^{km}±1^{km}, MD3.5/16, **MD3.5**/16**, 15C-2D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.13	276	⇑eP	Pb	22 10 04.6	-0.5
ABV	Anegada	0.13	276	eS	Sb	22 10 09.0	-0.2
TBVI	Tortola	0.50	234	eS	Sb	22 10 15.9	-1.1
TBVI	Tortola	0.50	234	⇑iP	Pb	22 10 08.6	-1.1
TBVI	Tortola	0.50	234	⇑iP	Pb	22 10 08.6	-1.1
TBVI				eS	Sb	22 10 15.9	-1.1
STVI	Saint Thomas	0.81	243	⇑eP	Pn	22 10 12.7	-1.5
STVI				eS	Sn	22 10 23.5	-1.5
CDVI	St. Croix	1.10	210	⇑eP	Pn	22 10 18.2	0.0
CDVI				eS	Sn	22 10 31.6	-0.8
MTP	Monte Pirata	1.43	245	⇑eP	Pn	22 10 21.3	-1.4
MTP				eS	Sn	22 10 38.4	-2.0
CBYP	Canovanas	1.64	255	⇓eP	Pn	22 10 23.7	-1.9
CBYP				eS	Sn	22 10 43.5	-2.1
HUMP	Col San Antoni	1.68	250	⇑eP	Pn	22 10 24.4	-1.7
HUMP				eS	Sn	22 10 44.4	-2.0
CPD	Cerro la Pandu	1.77	248	⇓eP	Pn	22 10 26.2	-1.2
CPD				eS	Sn	22 10 46.6	-2.1
SJG	San Juan	1.95	252	ePn	Pn	22 10 27.6	-2.3
SJG				eSn	Sn	22 10 51.4	-1.9
CELP	Cerrillos	2.35	255	⇑eP	Pn	22 10 34.6	-0.9
CELP				eS	Sn	22 11 01.1	-2.0
ICM	Isla Caja Muer	2.36	250	⇑eP	Pn	22 10 35.4	-0.1
ICM				eS	Sn	22 11 01.9	-1.4
OBIP	Obispado Ponce	2.39	254	⇑eP	Pn	22 10 35.0	-0.9
OBIP				eS	Sn	22 11 02.3	-1.7
AOPR	Arecibo Observ	2.46	262	⇑eP	Pn	22 10 35.6	-1.3
AOPR				eS	Sn	22 11 04.2	-1.6
LRS	Lares	2.55	261	⇑eP	Pn	22 10 36.9	-1.3
LRS				eS	Sn	22 11 06.6	-1.5
AGPR	Aguadilla, PR	2.78	265	⇑eP	Pn	22 10 40.1	-1.2
AGPR				eS	Sn	22 11 11.9	-1.8
LSP	Las Mesas	2.80	259	⇑eP	Pn	22 10 40.3	-1.2
LSP				eS	Sn	22 11 13.2	-0.9
MGP	Maguayo	2.84	256	⇑eP	Pn	22 10 41.4	-0.7
MGP				eS	Sn	22 11 13.9	-1.3
CRPR	Cabo Rojo, PR	2.86	256	⇑eP	Pn	22 10 41.4	-1.0
CRPR				eS	Sn	22 11 14.6	-1.1

*ISCJB **07** 22:24:40.9±0.6, 4324N±004×7278E±005, h10^{km}, Error ellipse: s-maj=7.2km s-min=4.0km az=68.6*
*KNET **07** 22:24:42.4±0.8, 4291N×7286E, h21^{km}±4^{km}, ml2.6, Error ellipse: s-maj=4.7km s-min=3.4km az=118.0*
*NNC **07** 22:24:44.8±2.6, 43.18N×72.72E, h24^{km}±17^{km}, mb3.6, mpv3.1, Error ellipse: s-maj=9.7km s-min=7.2km az=176.0*

ISC 07 22:24:41.6±0.6**, 4312N**±004×**7280E**±005**, h10**^{km}**, n15,** σ**1**^{s}**18**/23**, 22C-7D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	Erkin-Say	0.85	122	⇑P	Pg	22 24 56.5	-1.5
	22nm,0.1s,SNR=43						
EKS2				⇓S	Sg	22 25 07.7	-1.4
	72nm,0.1s						
AML	Almayashu	1.19	146	⇑P	Pb	22 25 01.3	-2.9
	8.9nm,0.2s,SNR=9.8						
AML				⇑S	Sb	22 25 15.4	-4.1
	41nm,0.2s						
USP	Ospenovka	1.25	82	⇓P	Pn	22 25 05.1	0.0
	22nm,0.1s,SNR=48						
USP				⇓S	Sb	22 25 22.4	+0.8
	113nm,0.2s						
AAK	Ala-Archa	1.34	111	⇓P	Pn	22 25 06.0	-0.3
	43nm,0.1s,SNR=16						
AAK				⇑S	Sb	22 25 23.2	-0.7
	43nm,0.2s						
CHMS	Chumysh	1.44	94	⇑P	Pn	22 25 07.8	+0.1
	39nm,0.2s,SNR=32						
CHMS				⇑S	Sn	22 25 26.7	+0.1
	50nm,0.1s						
KBK	Karagaybulak	1.65	105	⇑P	Pn	22 25 11.4	+0.9
	31nm,0.2s,SNR=53						
KBK				⇓S	Sn	22 25 33.1	+1.3
	112nm,0.3s						
KK31	Karatay Array	1.67	270	⇑P	Pn	22 25 11.7	+0.8
	19nm,0.3s,baz=36,slow=11,SNR=310						
KK31				⇑S	Sn	22 25 33.1	+0.7
	36nm,0.5s,baz=256,slow=5.7,SNR=12						
TKM2	Tokmak 2	2.06	94	⇑P	Pn	22 25 18.3	+2.0
	49nm,0.3s,SNR=59						
TKM2				⇑S	Sn	22 25 45.9	+3.9
	114nm,0.2s						
TKM2	Tokmak 2	2.06	94	⇑P	Pn	22 25 18.3	+2.0
	0.8nm,0.3s						
TKM2				⇑S	Sn	22 25 45.9	+3.9
	4.8nm,0.4s						
KNDC	Almaty	3.05	87	⇑Lg		22 26 16.6	
	46nm,0.6s						
MK02	Makanchi Array	7.67	58	⇑Pn	Pn	22 26 36.2	+2.8
	3.0nm,1.1s,baz=236,slow=13						
MK02				⇓Lg		22 28 43.6	
	3.5nm,0.8s,baz=238,slow=29						
VOSK	Vostochnaya	9.69	353	⇑Sn	Sn	22 28 49.3	-0.6
	0.5nm,0.4s						
VOSK				⇓Lg		22 29 47.5	
	3.9nm,0.9s						
BVA0	Borovoye Array	10.05	352	⇑Sn	Sn	22 28 58.1	-0.5
	0.3nm,0.9s,baz=160,slow=24,SNR=4.7						
BVA0				⇑Lg		22 30 00.4	
	0.4nm,0.8s						
ZRNK	Zerenda	10.16	347	⇑Sn	Sn	22 29 00.3	-1.2
	1.2nm,0.9s						
ZRNK				⇑Lg		22 30 11.1	
	2.3nm,1.1s						
CHKZ	Chkalovo	10.67	353	⇑Sn	Sn	22 29 13.3	-0.6
	0.6nm,0.5s						
CHKZ				⇑Lg		22 30 18.7	
	4.6nm,1.5s						

*ISCJB **07** 22:28:05.4±0.6, 4778N±007×1544E±0.1, h33^{km}, mb4.3/19, MS3.6/2, Error ellipse: s-maj=13.6km s-min=4.9km az=91.1*
*MOS **07** 22:28:06.5±2.0, 4779N×15452E, h53^{km}, mb4.3/4, Error ellipse: s-maj=15.7km s-min=9.4km az=87.9*
*NEIC **07** 22:28:09.7±1.2, 4749N×15425E, h64^{km}±11^{km}, mb4.2/8, Error ellipse: s-maj=10.6km s-min=6.6km az=139.0*
*IDC **07** 22:28:10.1±4.7, 4749N×15429E, h68^{km}±49^{km}, mb3.6/8, mb1 3.8/10, mb1mx3.6/21, mbtmp3.9/10, ML3.5/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/34, Error ellipse: s-maj=52.7km s-min=28.1km az=168.0*

ISC 07 22:28:07.8±0.6**, 4784N**±007×**1543E**±01**, h35**^{km}**, n51,** σ**1**^{s}**15**/53**, mb4.3**/19**, MS3.6**/2**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.08	22	ePN	Pn	22 28 51.4	-2.4
SKR				eS	Sn	22 29 29.4	0.0
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				smax			
	comp=Z,90nm,0.5s						
SKR				smax			
	comp=N,150nm,0.4s						
KUR	Kuril'sk	5.16	242	ePN	Pn	22 29 17.0	-5.5
KUR				S	Sn	22 30 23.0	+2.1
KUR				pmax	pmax		
	comp=Z,150nm,1.0s						
KUR				smax			
	comp=N,260nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
PET	Petropavlovsk	5.88	26	ePN	Pn	22 29 29.2	-3.1
PET				eS	Sn	22 30 41.2	+2.7
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				smax			
	comp=E,86nm,0.7s						
YSS	Yuzh-Sakhalins	7.90	268	i PN	Pn	22 30 04.8	+4.6
ASAJ	Asahikawa	8.98	250	P	Pn	22 30 15.6	+0.7
	comp=E,0.6nm,0.3s,baz=220,slow=24,SNR=3.8						
ASAJ				LR	LR	22 33 22.3	
	comp=E,102nm,19.0s,baz=106,slow=35						
MA2	Magadan	11.94	351	PN	Pn	22 31 01.9	+6.4
SEY	Seymchan	15.17	357	i P	Pn	22 31 37.4	-1.9
MJAR	Matsushiro Arr	16.40	232	P	Pn	22 31 52.4	-2.8
	baz=31,slow=12,SNR=2.7						
MAJO	Matsushiro	16.40	232	eP	Pn	22 31 52.5	-2.7
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAJO	Matsushiro	16.40	232	ePn	Pn	22 31 52.5	-2.7
	comp=Z,2.1nm,0.5s						
MDJ	Mudanjiang	17.39	268	P	Pn	22 32 06.7	-0.9
YAK	Yakutsk	19.88	325	P	Pn	22 32 38.1	+0.4
BILL	Bilibino	21.14	12	eP	P	22 32 47.6	-2.1
BILL				eS	S	22 36 30.7	-12
BILL				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb3.8						
HIA	Hailar	22.82	287	P	P	22 33 07.5	-0.1
TLY	Talaya	32.43	296	P	P	22 34 34.2	-0.2
TATO	Taipei	34.51	240	eP	P	22 34 49.0	-3.5
	comp=Z,11nm,0.4s,mb5.1						
YHNB	Yeheng	34.81	240	P	P	22 34 53.2	-1.9
INK	Inuvik	40.29	33	P	P	22 35 42.3	+0.8
	comp=Z,0.6nm,0.4s,mb3.7,baz=148,slow=5.9,SNR=4.6						
INK	Inuvik	40.29	33	eP	P	22 35 43.0	+1.6
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	40.29	33	eP	P	22 35 43.0	+1.5
	comp=Z,0.7nm,0.5s,mb3.6						
MKAR	Makanchi Array	47.18	297	P	P	22 36 35.9	-0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=66,slow=6.9,SNR=9.3						
MKAR	Makanchi Array	47.18	297	eP	P	22 36 36.2	-0.6
CHKZ	Chkalovo	50.36	310	eP	P	22 37 00.4	-0.9
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	50.36	310	eP	P	22 37 00.4	-0.9
	comp=Z,1.5nm,0.5s,mb4.3						
LSA	Lhasa	51.04	273	eP	P	22 37 08.1	+1.7
LSA				e		22 37 22.6	
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSA	Lhasa	51.04	273	eP	P	22 37 08.1	+1.7
	comp=Z,4.2nm,0.6s,mb4.5						
LSA				e		22 37 22.6	
ZRNK	Zerenda	51.56	310	P	P	22 37 09.9	-0.4
ARU	Arti	54.77	317	eP	P	22 37 33.3	-0.6
ARU				e*PP	pP	22 37 50.1	+5.7
ARU	Arti	54.77	317	eP	P	22 37 33.3	-0.6
ARU				epP	pP	22 37 50.1	+5.6
HAWA	Hanford	55.61	57	P	P	22 37 40.2	+0.2
GUN	Gumba	55.73	275	eP	P	22 37 41.1	+0.3
KKN	Kakani	56.21	275	eP	P	22 37 44.8	+0.6
	comp=Z,8.5nm,0.6s,mb5.0						
PKI	Pulchoki	56.26	275	eP	P	22 37 45.3	+0.7
DMN	Daman	56.44	275	eP	P	22 37 46.6	+0.7
	comp=Z,12nm,0.7s,mb5.1						
GKN	Gorkha	56.50	276	eP	P	22 37 46.8	+0.5
	comp=Z,16nm,0.8s,mb5.1						
ARCES	ARCESS Array B	57.09	341	P	P	22 37 51.0	+0.5
	comp=Z,2.7nm,1.0s,mb4.2,baz=30,slow=9.3,SNR=4.2						
WALA	Waterton Lakes	57.11	52	eP	P	22 37 51.3	+0.6
	comp=Z,1.5nm,0.7s,mb4.1						
KOLN	Koldanda	57.35	277	eP	P	22 37 53.0	+0.7
KAF	Kangasniemi	62.80	335	ep	P	22 38 30.4	+0.7
HWUT	Hardware Ranch	63.08	57	eP	P	22 38 32.2	+0.6
	comp=Z,1.2nm,0.4s,mb4.4						
FINES	FINESS Array B	63.40	335	P	P	22 38 33.9	+0.2
	comp=Z,1.4nm,0.4s,mb4.4,baz=37,slow=7.5,SNR=25						
FINES				LR	LR	23 09 29.6	
	comp=Z,35nm,21.4s,MS3.5,baz=199,slow=39						
PDAR	Pinedale Array	63.44	55	P	P	22 38 33.9	0.0
	comp=Z,0.4nm,0.7s,mb3.6,baz=316,slow=2.5,SNR=3.4						
RSSD	Black Hills	65.49	51	P	P	22 38 47.7	+0.3
NOA	NORSAR Array B	67.46	342	P	P	22 39 00.7	+0.7
	comp=Z,0.4nm,0.5s,mb3.7,baz=27,slow=6.5,SNR=2.4						
AKASG	Malin Array Be	71.09	327	P	P	22 39 21.8	-0.7
	comp=Z,0.5nm,0.4s,mb3.8,baz=30,slow=5.4,SNR=4.4						
AKASG	Malin Array Be	71.09	327	eP	P	22 39 22.4	0.0
GNI	Garni	72.45	311	LR	LR	23 15 54.6	
	comp=Z,32nm,18.2s,MS3.6,baz=348,slow=39						
CLL	Collm	75.81	336	i P	P	22 39 50.4	+0.2
	comp=Z,5.0nm,0.7s,mb4.5						
GERES	GERESS Array B	77.83	335	P	P	22 40 02.2	+0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=31,slow=5.3,SNR=15						
BR131	Keskin Array S	78.16	317	eP	P	22 40 03.9	+0.5
	comp=Z,2.0nm,0.9s,mb4.0						
TORD	Torodi Ar. Bea	114.57	331	PKP	PKiKP	22 46 43.5	-0.6
	comp=Z,0.2nm,0.4s,baz=12,slow=1.3,SNR=4.7						

*NIED **07** 22:35:00, 2550N×12860E, h5^{km}, Mw3.8 Best double couple: M₀6.17000×10^{14} NP1:ϕ_s221.00000°, δ68.00000°, λ-92.00000°. NP2:ϕ_s46.00000°, δ22.00000°, λ-85.00000°.*
*MOS **07** 22:35:22.2±2.2, 2545N×12903E, h33^{km}, mb4.6/4, Error ellipse: s-maj=26.3km s-min=15.2km az=95.9*
*NEIC **07** 22:35:24.2±1.7, 2547N×12873E, h40^{km}±15^{km}, mb4.2/5, Error ellipse: s-maj=22.0km s-min=10.9km az=135.0*
*ISCJB **07** 22:35:24.2±0.6, 2553N±004×12863E±004, h65^{km}±7^{km}, mb4.1/8, Error ellipse: s-maj=8.1km s-min=4.4km az=102.2*
*JMA **07** 22:35:25.3±0.3, 2555N×12861E, h50^{km}, M4.2*
*IDC **07** 22:35:29.2±1.1, 2598N×12809E, h0^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/33, Error ellipse: s-maj=36.6km s-min=15.5km az=92.0*

ISC 07 22:35:25.4±0.6**, 2554N**±004×**12863E**±004**, h55**^{km}±8^{km}**, n42,** σ**0**^{s}**94**/51**, mb4.1**/8**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.99	307	P	Pn	22 35 43.1	0.0
NAH1	Naha	1.07	308	P	Pn	22 35 44.0	-0.2
NAH1				eS	Sn	22 35 57.2	-0.9
JOW	Kunigami	1.32	346	Pn	Pn	22 35 48.0	+0.4
	199nm,0.3s,baz=153,slow=15,SNR=746						
JOW				Sn	Sn	22 36 03.6	-0.5
	259nm,0.3s,baz=128,slow=26,SNR=33						
JOW	Kunigami	1.32	346	P	Pn	22 35 48.0	+0.4
JOW				eS	Sn	22 36 03.0	-1.1
JIH	Iheya	1.60	338	P	Pn	22 35 52.3	+1.0
JIH				eS	Sn	22 36 10.8	-0.1
JAGN	Aguni-jima	1.63	310	P	Pn	22 35 52.1	+0.4
JAGN				eS	Sn	22 36 11.8	+0.3
JKE	Kume jima 2	1.83	296	P	Pn	22 35 54.4	-0.1
JTK	Tokunoshima	2.25	7	P	Pn	22 36 01.2	+1.0
JTK				S	Sn	22 36 25.8	-1.0
JMZ	Minamidaito 2	2.35	83	P	Pn	22 36 01.6	0.0
JMZ				eS	Sn	22 36 27.8	-1.5
JAM	Amami Oshima	2.99	17	P	Pn	22 36 11.0	+0.7
JAM				eS	Sn	22 36 44.3	-0.5
JZK	Kikaishima	3.01	23	P	Pn	22 36 13.5	+2.9
JZK				eS	Sn	22 36 46.8	+1.4
JOGS	Gusukube	3.02	256	P	Pn	22 36 11.2	+0.4
JOGS				eS	Sn	22 36 45.9	+0.2
JMJ	Miyako jima 2	3.11	257	P	Pn	22 36 12.3	+0.4
JTJ	Tarama	3.67	257	P	Pn	22 36 19.4	-0.3
JIJ	Ishigaki jima	4.24	255	P	Pn	22 36 26.7	-0.7
JIJ				eS	Sn	22 37 12.6	-3.0
JKRS	Kuro-shima	4.39	254	P	Pn	22 36 29.4	-0.1
JNN	Nakanoshima	4.42	14	P	Pn	22 36 31.5	+1.6
JNN				eS	Sn	22 37 19.2	-0.9
IRIF	Iriomote-Funau	4.61	256	P	Pn	22 36 33.3	+0.8
TATO	Taipei	6.49	267	ePn	Pn	22 36 58.0	-0.3
NACB	Ninganchiao	6.53	259	ePn	Pn	22 36 57.7	-1.2
YHNB	Yeheng	6.63	264	ePn	Pn	22 37 01.6	+1.4
MAJO	Matsushiro	13.69	34	P	Pn	22 38 36.2	-0.4
MJAR	Matsushiro Arr	13.69	34	Pn		22 38 50.1	
	0.2nm,0.3s,baz=217,slow=9.3,SNR=5.8						
QIZ	Qiongzhong	18.55	253	Pn	Pn	22 39 37.9	-0.3
MDJ	Mudanjiang	19.05	2	eP	Pn	22 39 43.1	-1.1
	2.4nm,0.3s						
ULN	Ulaanbaatar	28.03	328	P	P	22 41 13.3	+2.0
SONM	Songino Array	28.32	327	P	P	22 41 20.8	+6.9
	0.9nm,0.5s,mb3.6,baz=142,slow=10,SNR=13						
PET	Petropavlovsk	35.49	31	P	P	22 42 16.6	-0.1
MA2	Magadan	37.34	18	eP	P	22 42 31.6	-0.9
MA2				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.9						
MA2	Magadan	37.34	18	eP	P	22 42 31.6	-0.9
	comp=Z,5.9nm,0.3s,mb4.9						
MKAR	Makanchi Array	42.26	312	P	P	22 43 17.3	+4.0
	comp=Z,1.0nm,0.5s,mb3.7,baz=107,slow=9.2,SNR=24						
FITZ	Fitzroy Crossi	43.48	184	P	pP	22 43 37.6	+0.2
	comp=Z,0.9nm,0.7s,baz=23,slow=15,SNR=5.4						
WRAB	Tennant Creek	45.54	172	eP	P	22 43 40.4	+0.8
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
WRAB	Tennant Creek	45.54	172	eP	P	22 43 40.4	+0.8
	comp=Z,1.4nm,0.6s,mb4.1						
WRA	Warramunga Arr	45.55	172	P	pP	22 43 54.7	+0.6
	comp=Z,1.6nm,0.6s,baz=353,slow=8.5,SNR=5.4						
BVAR	Borovoye Array	51.03	319	P	P	22 44 27.8	+5.9
	comp=Z,0.6nm,0.4s,mb3.9,baz=95,slow=10,SNR=4.3						
ZRNK	Zerenda	51.84	318	eP	P	22 44 32.5	+4.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
ZRNK	Zerenda	51.84	318	eP	P	22 44 32.5	+4.5
	comp=Z,2.1nm,0.7s,mb4.2						
ARU	Arti	58.15	322	eP	P	22 45 13.0	-0.5
ARU				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARU	Arti	58.15	322	eP	P	22 45 13.0	-0.5
	comp=Z,0.8nm,0.4s,mb4.1						
COLA	College	64.45	28	P	P	22 45 55.2	-0.9
FINES	FINESS Array B	73.64	331	P	P	22 47 01.1	+8.1
	comp=Z,1.9nm,0.9s,mb4.0,baz=90,slow=8.2,SNR=5.0						

*ISCJB **07** 22:50:48.5±0.5, 3562N±004×140.12E±006, h83^{km}±4^{km}, mb3.8/9, Error ellipse: s-maj=8.9km s-min=5.2km az=122.2*
*JMA **07** 22:50:48.9±0.2, 3568N×140.15E, h76^{km}±2^{km}, M3.7 Broadband fault plane solution: P waves. NP1: ϕ_s102.00000°, δ71.00000°, λ-15.00000°. NP2:*

φ$_s$197.00000°,δ75.00000°,λ-160.00000°. Principal axes: T Plg3.0000°, Azm329.0000°; N Plg66.0000°, Azm232.0000°; P Plg24.0000°, Azm60.0000°;

JMA Felt I J1.

*IDC **07** 22:50:49.4±1.8, 3561N×14007E, h76km±18km, mb3.5/7, mb1 3.8/8, mb1mx3.6/20, mbtmp3.9/8 Error ellipse: s-maj=27.6km s-min=6.9km az=65.0*

*NEIC **07** 22:50:50.8±1.2, 3566N×14001E, h86km±10km, mb4.3/3, Error ellipse: s-maj=15.2km s-min=12.4km az=86.0*

*NIED **07** 22:51:00, 3570N×14020E, h71km, Mw3.8 Best double couple: M$_0$6.34000×10^{14} NP1:φ$_s$99.00000°,δ68.00000°, λ-47.00000°. NP2:φ$_s$211.00000°,δ47.00000°, λ-150.00000°.*

ISC 07 22:50:49.3±0.5**, 3564N**±004×**14016E**±006**, h74**km±5km**, n28, σ0^{s}84**/41**, mb3.8**/9**, 3C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.23**	**171**	⇓P	**Pn**	**22 51 01.1**	**+0.6**
TOK	**Tokyo**	**0.33**	**278**	⇓P	**Pn**	**22 51 01.5**	**+0.4**
BSO3	**Boso 3**	**0.89**	**161**	⇑P	**Pn**	**22 51 06.2**	**-0.4**
BSO3				S	**Sn**	**22 51 20.4**	**+0.9**
JOD2	**Odawara 2**	**0.95**	**247**	⇓P	**Pn**	**22 51 07.2**	**-0.2**
JOD2				S	**Sn**	**22 51 20.5**	**-0.4**
JAG	**Ashikaga**	**0.97**	**324**	⇑P	**Pn**	**22 51 07.3**	**-0.3**
JAG				S	**Sn**	**22 51 21.3**	**+0.1**
JRY	**Ryogami san**	**1.09**	**290**	⇓P	**Pn**	**22 51 09.6**	**+0.6**
JRY				*e*S	**Sn**	**22 51 24.6**	**+0.8**
JIM2	**Oshima 3**	**1.10**	**213**	P	**Pn**	**22 51 08.6**	**-0.6**
JIM2				S	**Sn**	**22 51 23.8**	**-0.3**
BSO1	**Boso 1**	**1.20**	**145**	P	**Pn**	**22 51 09.3**	**-1.1**
JYN	**Shimob**	**1.32**	**264**	⇓P	**Pn**	**22 51 12.2**	**+0.1**
JYN				S	**Sn**	**22 51 29.8**	**+0.6**
JKT	**Katashina**	**1.34**	**327**	⇑P	**Pn**	**22 51 12.2**	**-0.1**
JIZS	**Izushimoda**	**1.40**	**229**	P	**Pn**	**22 51 12.9**	**-0.1**
JIZS				S	**Sn**	**22 51 30.7**	**-0.2**
MJAR	**Matsushiro Arr**	**1.81**	**300**	P	**Pn**	**22 51 18.8**	**+0.3**
	30nm,0.3s,baz=100,slow=15,SNR=176						
MJAR				S	**Sn**	**22 51 39.2**	**-1.5**
	30nm,0.3s,baz=146,slow=18,SNR=18						
MAJO	**Matsushiro**	**1.82**	**300**	*e*Pn	**Pn**	**22 51 19.3**	**+0.8**
MAJO				*e*Sn	**Sn**	**22 51 37.9**	**-2.9**
MAT	**Matsushiro**	**1.82**	**300**	P	**Pn**	**22 51 19.1**	**+0.6**
MAT				S	**Sn**	**22 51 43.7**	**+2.9**
JHJ	**Hachijo jima 2**	**2.54**	**187**	P	**Pn**	**22 51 28.2**	**0.0**
	141nm,0.3s,baz=350,slow=3.7,SNR=59						
JHJ				S	**Sn**	**22 51 57.6**	**-0.5**
	203nm,0.3s,baz=246,slow=23,SNR=12						
ASAJ	**Asahikawa**	**8.67**	**12**	P	**Pn**	**22 52 49.1**	**-2.8**
	1.3nm,0.3s,baz=212,slow=10,SNR=5.1						
ASAJ				S	**Sn**	**22 54 22.1**	**-5.9**
	0.7nm,0.3s,baz=108,slow=20,SNR=3.5						
CBIJ	**Chichi jima**	**8.70**	**168**	P	**Pn**	**22 52 47.3**	**-4.9**
	26nm,0.3s,baz=112,slow=22,SNR=14						
CBIJ				S	**Sn**	**22 54 20.9**	**-7.8**
	8.4nm,0.3s,baz=130,slow=24,SNR=4.0						
SONM	**Songino Array**	**27.76**	**306**	P	**P**	**22 56 30.3**	**-0.6**
	0.3nm,0.5s,mb3.1,baz=110,slow=8.9,SNR=2.8						
MKAR	**Makanchi Array**	**44.01**	**303**	P	**P**	**22 58 49.3**	**0.0**
	0.5nm,0.6s,mb3.4,baz=82,slow=8.7,SNR=6.0						
CHKZ	**Chkalovo**	**50.53**	**314**	P	**P**	**22 59 39.1**	**-0.9**
WRAB	**Tennant Creek**	**55.54**	**187**	*e*P	**P**	**23 00 17.4**	**+0.5**
	3.8nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**55.55**	**187**	P	**P**	**23 00 17.1**	**+0.2**
	1.2nm,0.3s,mb4.4,baz=3.3,slow=7.7,SNR=7.3						
WRA				pP	pP	23 00 35.4	-0.4
	1.8nm,0.6s,baz=3.5,slow=7.7,SNR=3.7						
INK	**Inuvik**	**56.08**	**27**	P	**P**	**23 00 20.2**	**-0.5**
	1.7nm,0.9s,mb4.1,baz=277,slow=5.9,SNR=3.3						
INK	**Inuvik**	**56.08**	**27**	*e*P	**P**	**23 00 20.9**	**+0.2**
	1.9nm,0.6s,mb4.3						
NOA	**NORSAR Array B**	**75.07**	**337**	P	**P**	**23 02 22.5**	**-0.6**
	1.9nm,1.0s,mb3.8,baz=30,slow=13,SNR=2.8						
DLMT	**Dillon**	**76.04**	**44**	*e*P	**P**	**23 02 29.5**	**+0.9**
	1.8nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**76.64**	**52**	P	**P**	**23 02 33.1**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=292,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**79.37**	**45**	P	**P**	**23 02 47.5**	**+0.5**
	0.7nm,0.5s,mb3.7,baz=274,slow=2.4,SNR=8.5						

---

*IDC **07** 23:01:07.4±1.5, 460N×9292E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=57.8km s-min=19.5km az=53.0*

*ISCJB **07** 23:01:10.3±0.6, 462N±008×9302E±007, h30km, mb4.0/11, Error ellipse: s-maj=13.8km s-min=7.2km az=70.2*

*NEIC **07** 23:01:12.2±0.5, 465N×9302E, h30km, mb4.1/5, Error ellipse: s-maj=13.4km s-min=6.7km az=50.0*

ISC 07 23:01:09.2±4.6**, 462N**±009×**9296E**±007**, h9**km±29km**, n27, σ0^{s}87**/28**, mb4.0**/11**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.22**	**107**	Pn	**Pn**	**23 02 41.8**	**+0.5**
	2.8nm,0.3s,baz=295,slow=7.5,SNR=12						
KULM	**Kulim**	**7.69**	**85**	*e*Pn	**Pn**	**23 03 01.4**	**-0.1**
KULM				*e*Sn	**Sn**	**23 04 28.9**	**+0.1**
CHTO	**Chiang Mai**	**15.27**	**22**	*e*Pn	**Pn**	**23 04 43.9**	**-1.1**
	6.9nm,1.1s						
VIS	**Vishakhapatnam**	**16.07**	**325**	*i* P	**Pn**	**23 05 02.4**	**+6.9**
VIS				*i* S	**Sn**	**23 07 40.8**	**-13**
QIZ	**Qiongzhong**	**21.84**	**48**	P	**P**	**23 06 01.8**	**-0.2**
KKM	**Kota Kinabalu**	**23.20**	**85**	*e*P	**P**	**23 06 16.7**	**+0.2**
PKI	**Pulchoki**	**23.93**	**343**	*e*P	**P**	**23 06 25.3**	**+1.7**
DMN	**Daman**	**24.05**	**343**	*e*P	**P**	**23 06 27.6**	**+2.8**
GUN	**Gumba**	**24.12**	**345**	*e*P	**P**	**23 06 21.5**	**-3.9**
KKN	**Kakani**	**24.18**	**343**	*e*P	**P**	**23 06 25.0**	**-0.9**
GKN	**Gorkha**	**24.57**	**342**	*e*P	**P**	**23 06 30.0**	**+0.6**
KOLN	**Koldanda**	**24.69**	**340**	*e*P	**P**	**23 06 39.3**	**+8.8**
LSA	**Lhasa**	**25.00**	**356**	*e*P	**P**	**23 06 35.9**	**+2.5**
	7.6nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**36.68**	**135**	P	**P**	**23 08 16.0**	**-0.5**
MKAR	**Makanchi Array**	**43.02**	**349**	P	**P**	**23 09 08.6**	**-0.5**
	0.6nm,0.6s,mb3.5,baz=169,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**44.58**	**13**	P	**P**	**23 09 21.5**	**-0.2**
	1.5nm,0.8s,mb3.9,baz=199,slow=9.2,SNR=10						
SONM				PcP	PcP	23 11 04.7	+0.1
	0.8nm,0.7s,baz=182,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**47.43**	**122**	P	**P**	**23 09 43.7**	**-0.5**
	2.5nm,0.8s,mb4.2,baz=300,slow=8.6,SNR=7.4						
WRAB	**Tennant Creek**	**47.44**	**122**	*e*P	**P**	**23 09 44.2**	**+0.1**
	3.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**47.44**	**122**	*e*P	**P**	**23 09 43.9**	**-0.4**
ZAL	**Zalesovo**	**49.62**	**354**	P	**P**	**23 10 00.7**	**-0.3**
	1.2nm,0.5s,mb4.2,baz=308,slow=2.2,SNR=5.1						
BVAR	**Borovoye Array**	**51.70**	**343**	P	**P**	**23 10 15.6**	**-1.1**
	0.8nm,0.7s,mb3.8,baz=157,slow=7.8,SNR=5.2						
ZRNK	**Zerenda**	**52.06**	**342**	*e*P	**P**	**23 10 18.7**	**-0.7**
	1.2nm,0.7s,mb3.9						
CHKZ	**Chkalovo**	**52.21**	**343**	*e*P	**P**	**23 10 20.0**	**-0.5**
	1.0nm,0.6s,mb3.9						
CHKZ				*e*		23 10 27.6	
PMG	**Port Moresby**	**55.78**	**105**	P	**P**	**23 10 47.3**	**+0.7**
STKA	**Stephens Creek**	**58.78**	**132**	P	**P**	**23 11 08.0**	**+0.2**
	1.3nm,0.6s,mb4.2,baz=358,slow=13,SNR=4.7						
GERES	**GERESS Array B**	**79.47**	**319**	P	**P**	**23 13 16.1**	**0.0**
	0.5nm,0.6s,mb3.6,baz=84,slow=4.2,SNR=5.2						

---

*NEIC **07** 23:15:10.8, 3890N×0.18E, h7km, ML2.7(LDG), MN2.6(MDD), After MDD.*

*CSEM **07** 23:15:11.4±0.1, 3893N×009E, h8km, ML2.7/11, Error ellipse: s-maj=2.9km s-min=1.3km az=127.0*

*LDG **07** 23:15:11.4±0.2, 3887N×0.18E, h10km, Ml2.7/8, Error ellipse: s-maj=5.2km s-min=2.4km az=137.0*

MDD 07 23:15:10.7±0.4**, 3890N**×**018E, h7**km±4km**, mbLg2.5**/17**, 3C, Error ellipse: s-maj=5.2km s-min=3.0km az=142.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.37**	**238**	⇑Pg	Pg	23 15 17.8	-0.2
	32nm,0.1s,SNR=18						
EBEN				Lg		23 15 23.0	
	308nm,0.3s,SNR=5.0						
EBEN	**Beniarda**	**0.37**	**238**	Pg	Pg	23 15 17.8	-0.2
	32nm,0.1s,SNR=18						
EIBI	**Ibiza**	**0.92**	**82**	Pg	Pg	23 15 27.3	-1.1
	6.8nm,0.2s,SNR=37						
EIBI				Lg		23 15 39.3	
	113nm,0.3s,SNR=6.8						
EIBI	**Ibiza**	**0.92**	**82**	Pg	Pg	23 15 27.3	-1.1
	6.8nm,0.2s,SNR=37						
ECHE	**Chera**	**1.12**	**308**	Pg	Pg	23 15 30.6	-1.7
	31nm,0.2s,SNR=7.9						
ECHE				Lg		23 15 47.5	
	21nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.37**	**260**	⇑Pn	Pn	23 15 35.3	-0.9
	6.2nm,0.1s,SNR=18						
ETOB				Lg		23 15 53.4	
	43nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**1.37**	**260**	Pn	Pn	23 15 35.3	-1.0
	6.2nm,0.1s,SNR=18						
EMUR	**La Murta**	**1.54**	**227**	Pn	Pn	23 15 36.3	-2.2
	8.3nm,0.3s,SNR=19						
EMUR				Sn	Sn	23 15 54.7	-4.1
	45nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**1.54**	**227**	Pn	Pn	23 15 36.3	-2.2
EMUR				Lg		23 15 54.7	
EMUR	**La Murta**	**1.54**	**227**	Pn	Pn	23 15 36.3	-2.2
	8.3nm,0.3s,SNR=19						
EMOS	**Mosqueruela**	**1.54**	**341**	⇑Pn	Pn	23 15 37.6	-1.0
	4.2nm,0.2s,SNR=18						
EMOS				Pg	Pg	23 15 44.1	+3.7
	21nm,0.2s						
EMOS				Sn	Sn	23 15 57.4	-1.5
	12nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**1.54**	**341**	Pn	Pn	23 15 37.6	-1.0
	4.2nm,0.2s,SNR=18						
ERTA	**Horta de San J**	**2.06**	**3**	Pn	Pn	23 15 44.7	-1.0
	0.6nm,0.1s,SNR=7.9						
ERTA				Sn	Sn	23 16 09.4	-2.2
	7.5nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**2.06**	**3**	Pn	Pn	23 15 44.6	-1.0
ERTA				Lg		23 16 09.3	
ERTA	**Horta de San J**	**2.06**	**3**	Pn	Pn	23 15 44.7	-1.0
	0.6nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**2.11**	**264**	Pn	Pn	23 15 44.5	-1.9
	4.5nm,0.1s,SNR=16						
EVIA				Pg	Pg	23 15 49.3	-1.9
	3.1nm,0.2s,SNR=8.9						
EVIA				Sn	Sn	23 16 08.5	-4.4
	5.6nm,0.2s,SNR=6.4						
EVIA				Lg		23 16 16.4	
	17nm,0.2s,SNR=5.0						
EVIA	**Vianos**	**2.11**	**264**	Pn	Pn	23 15 44.5	-1.9
EVIA				Pg	Pg	23 15 49.3	-1.9
EVIA				Sn	Sn	23 16 08.6	-4.4
EVIA				Lg		23 16 16.4	
EVIA	**Vianos**	**2.11**	**264**	Pg	Pg	23 15 49.3	-1.9
	3.1nm,0.2s,SNR=8.9						
EVIA				Sn	Sn	23 16 08.5	-4.4
	5.6nm,0.2s,SNR=6.4						
ETOS	**Mallorca**	**2.22**	**66**	Pn	Pn	23 15 46.1	-1.8
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	23 16 15.1	-0.5
	1.3nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.22**	**66**	Pn	Pn	23 15 46.1	-1.8
	0.5nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	23 16 15.1	-0.5
	1.3nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.43**	**244**	Pn	Pn	23 15 49.8	-1.1
	1.5nm,0.2s,SNR=7.7						
EHUE				Sn	Sn	23 16 17.6	-3.3
	1.3nm,0.2s,SNR=7.9						
EHUE				Lg		23 16 25.4	
	4.0nm,0.2s,SNR=6.3						
EHUE	**Huescar**	**2.43**	**244**	Pn	Pn	23 15 49.8	-1.1
	1.5nm,0.2s,SNR=7.7						
EHUE				Sn	Sn	23 16 17.6	-3.3
	1.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.54**	**15**	Pn	Pn	23 15 50.9	-1.5
	1.1nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	23 16 19.0	-4.6
	2.7nm,0.2s,SNR=7.9						
EPOB				Lg		23 16 32.1	
	2.2nm,0.3s,SNR=4.0						
EPOB	**Poblet**	**2.54**	**15**	Pn	Pn	23 15 50.9	-1.5
	1.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.78**	**248**	Pn	Pn	23 15 55.2	-0.4
	0.6nm,0.1s,SNR=7.9						
EQES				Pg	Pg	23 16 02.9	-1.1
	2.9nm,0.1s,SNR=11						
EQES				Sn	Sn	23 16 28.0	-1.4
	7.7nm,0.3s,SNR=7.9						
EQES				Lg		23 16 38.2	
	20nm,0.3s,SNR=5.0						
EQES	**Quesada**	**2.78**	**248**	Pn	Pn	23 15 55.2	-0.4
	0.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.78**	**248**	Pg	Pg	23 16 02.9	-1.1
	2.9nm,0.1s,SNR=11						
EQES				Sn	Sn	23 16 28.0	-1.4
	7.7nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**2.86**	**350**	Pn	Pn	23 15 58.0	+1.2
	0.5nm,0.1s,SNR=4.0						
ESAC				Pg	Pg	23 16 03.6	-2.0
	6.3nm,0.2s,SNR=4.0						
ESAC				Lg		23 16 33.6	
	31nm,0.4s,SNR=4.0						
ESAC	**San Caprasio**	**2.86**	**350**	Pn	Pn	23 15 58.0	+1.3
	0.5nm,0.1s,SNR=4.0						
ESAC	**San Caprasio**	**2.86**	**350**	Pg	Pg	23 16 03.6	-1.9
	6.3nm,0.2s,SNR=4.0						
EBER	**Berja**	**3.15**	**231**	Pn	Pn	23 16 00.5	-0.2
	0.2nm,0.1s,SNR=7.9						
EBER				Sn	Sn	23 16 36.4	-2.0
	1.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.15**	**231**	Pn	Pn	23 16 00.5	-0.2
EBER				Sn	Sn	23 16 38.3	-0.1
EBER	**Berja**	**3.15**	**231**	Pn	Pn	23 16 00.5	-0.1
	0.2nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.19**	**258**	Pn	Pn	23 15 59.0	-2.3
	5.7nm,0.1s,SNR=22						
EBAN				Sn	Sn	23 16 33.5	-6.1
	2.8nm,0.2s,SNR=7.9						
EBAN				Lg		23 16 50.1	
	5.4nm,0.2s,SNR=5.0						
EBAN	**Banos Encina**	**3.19**	**258**	Pn	Pn	23 15 59.0	-2.3
	5.7nm,0.1s,SNR=22						
EBAN				Sn	Sn	23 16 33.5	-6.1
	2.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.30**	**285**	Pn	Pn	23 16 01.9	-1.0
	6.1nm,0.1s,baz=94,slow=14,SNR=56						
ESDC				Pg	Pg	23 16 09.2	-4.9
	2.3nm,0.2s,baz=100,slow=14,SNR=7.6						
ESDC				Sn	Sn	23 16 40.6	-1.7
	1.9nm,0.2s,baz=101,slow=24,SNR=4.0						
ESDC				Lg		23 16 52.6	
	3.3nm,0.3s,baz=100,slow=30,SNR=6.5						
ESDC	**Sonseca Array**	**3.30**	**285**	Pn	Pn	23 16 01.9	-1.0
ESDC				Pg	Pg	23 16 09.2	-4.9
ESDC				Sn	Sn	23 16 40.6	-1.7
ESDC				Lg		23 16 52.6	
ESDC	**Sonseca Array**	**3.30**	**285**	Pn	Pn	23 16 01.9	-0.9
	6.1nm,0.1s,SNR=56						
ESDC	**Sonseca Array**	**3.30**	**285**	Pg	Pg	23 16 09.2	-4.9
	2.3nm,0.2s,SNR=7.6						
ESDC				Sn	Sn	23 16 40.6	-1.8
	1.9nm,0.2s,SNR=4.0						
EQUE	**Quentar**	**3.32**	**240**	Pn	Pn	23 16 03.4	+0.3
	0.2nm,0.1s,SNR=7.9						
EQUE				Sn	Sn	23 16 40.9	-1.8
	2.3nm,0.3s,SNR=7.9						
EQUE				Lg		23 16 55.6	
	5.4nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**3.76**	**299**	Pn	Pn	23 16 08.1	-1.0
	1.4nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**3.78**	**360**	Pn	Pn	23 16 10.0	+0.6
	0.1nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**3.78**	**360**	Pn	Pn	23 16 10.0	+0.6
	SNR=4.0						
EADA	**Adamuz**	**3.80**	**260**	Pn	Pn	23 16 07.7	-2.0
	1.2nm,0.1s,SNR=7.9						
EADA				Pg	Pg	23 16 21.6	-1.9
	1.4nm,0.2s,SNR=7.9						
EADA				Sn	Sn	23 16 50.7	-3.9
	2.3nm,0.1s,SNR=7.9						
EADA				Lg		23 17 07.9	
	6.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.80**	**260**	Pn	Pn	23 16 07.7	-2.0
EADA				Pg	Pg	23 16 21.6	-1.9
EADA				Sn	Sn	23 16 50.7	-3.9
EADA				Lg		23 17 07.9	
EADA	**Adamuz**	**3.80**	**260**	Pn	Pn	23 16 07.7	-2.0
	1.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.80**	**260**	Pg	Pg	23 16 21.6	-1.9
	1.4nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**4.03**	**352**	*e*Pn	Pn	23 16 11.4	-1.4
ETSF				*e*Sg	Sg	23 17 18.1	-2.1
	27nm,1.1s						
ETSF	**Etsaut**	**4.03**	**352**	*e*Pn	Pn	23 16 11.4	-1.4
ETSF				*e*Sg	Sg	23 17 18.1	-2.1
	13nm,1.1s						
EPF	**Esparros**	**4.13**	**2**	*e*Pn	Pn	23 16 14.2	+0.1
EPF				*e*Sn	Sn	23 16 59.3	-3.3
	2.1nm,0.3s						
EPF				*e*Sg	Sg	23 17 21.1	-2.2
	7.0nm,0.6s						
EPF	**Esparros**	**4.13**	**2**	*e*Pn	Pn	23 16 14.2	+0.1
EPF				*e*Sn	Sn	23 16 59.3	-3.3
	1.0nm,0.3s						
EPF				*e*Sg	Sg	23 17 21.1	-2.2
	3.5nm,0.6s						
SJPF	**Ste Jean**	**4.34**	**346**	*e*Pn	Pn	23 16 17.2	+0.1
SJPF				*e*Sg	Sg	23 17 27.6	-2.5
	10nm,0.7s						
SJPF	**Ste Jean**	**4.34**	**346**	*e*Pn	Pn	23 16 17.2	+0.1
SJPF				*e*Sg	Sg	23 17 27.6	-2.5
	5.1nm,0.7s						
ELIZ	**Elizondo**	**4.45**	**344**	Pn	Pn	23 16 17.8	-0.8
	2.5nm,0.3s,SNR=9.6						
ELIZ				Sn	Sn	23 17 06.3	-4.3
	0.2nm,0.2s,SNR=7.9						
ELIZ				Lg		23 17 31.8	
	0.7nm,0.2s,SNR=4.0						
ELIZ	**Elizondo**	**4.45**	**344**	Pn	Pn	23 16 17.8	-0.8
ELIZ				Lg		23 17 31.8	
EALK	**Alkurruntz**	**4.50**	**344**	Pn	Pn	23 16 19.6	+0.3
	0.5nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**4.70**	**18**	*e*Pn	Pn	23 16 21.1	-0.9
MTLF				*e*Sn	Sn	23 17 12.5	-4.1
	0.5nm,0.3s						
MTLF				*e*Sg	Sg	23 17 38.5	-3.0
	1.1nm,0.4s						
MTLF	**Montolieu**	**4.70**	**18**	*e*Pn	Pn	23 16 21.1	-0.9
MTLF				*e*Sn	Sn	23 17 12.5	-4.1
	0.2nm,0.3s						
MTLF				*e*Sg	Sg	23 17 38.5	-3.0
	0.6nm,0.4s						
ELAN	**Lanestosa**	**5.11**	**329**	Pn	Pn	23 16 28.0	+0.3
	0.4nm,0.1s,SNR=14						
ELAN				Sn	Sn	23 17 20.7	-6.3
	2.0nm,0.4s,SNR=4.0						
ELAN	**Lanestosa**	**5.11**	**329**	Pn	Pn	23 16 28.0	+0.3
ELAN				Sn	Sn	23 17 18.2	-8.8
ELAN	**Lanestosa**	**5.11**	**329**	Pn	Pn	23 16 28.0	+0.3
ELAN				Sn	Sn	23 17 18.2	-8.8
EMIN	**Mina Concepcio**	**5.50**	**260**	Pn	Pn	23 16 30.9	-2.2
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	23 17 31.0	-5.6
	0.4nm,0.2s,SNR=7.9						
EMIN				Lg		23 18 01.1	
	1.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.50**	**260**	Pn	Pn	23 16 30.9	-2.2
EMIN				Sn	Sn	23 17 31.0	-5.6
EBAD	**Badajoz**	**5.62**	**271**	Pn	Pn	23 16 32.7	-2.0
	0.5nm,0.1s,SNR=4.0						
EBAD				Sn	Sn	23 17 33.4	-6.0
	2.1nm,0.3s,SNR=4.0						
EBAD				Lg		23 18 06.8	
	2.1nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**5.62**	**271**	Pn	Pn	23 16 32.6	-2.0
EBAD				Sn	Sn	23 17 33.4	-6.0
EBAD				Lg		23 18 06.8	
EBAD	**Badajoz**	**5.62**	**271**	Pn	Pn	23 16 32.7	-1.9
EBAD				Sn	Sn	23 17 33.4	-6.0
LASF	**Ste Croix**	**5.86**	**27**	*e*Pn	Pn	23 16 36.6	-1.4
EARI	**Arriondas**	**5.99**	**319**	Pn	Pn	23 16 40.1	+0.3
	0.5nm,0.2s,SNR=9.6						
EARI				Sn	Sn	23 17 45.6	-2.9
	0.1nm,0.1s,SNR=4.0						
EARI	**Arriondas**	**5.99**	**319**	Pn	Pn	23 16 40.1	+0.4
EARI				Sn	Sn	23 17 45.6	-2.9
ECAL	**Calabor**	**6.09**	**302**	Pn	Pn	23 16 39.9	-1.1
	9.7nm,0.3s,SNR=30						
ECAL				Sn	Sn	23 17 44.9	-6.1
	1.3nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.09**	**302**	Pn	Pn	23 16 39.9	-1.2
ECAL				Sn	Sn	23 17 44.9	-6.1
CAF	**Calviac**	**6.18**	**13**	*e*Pn	Pn	23 16 41.6	-0.8
EPON	**Pontenova**	**7.08**	**311**	Pn	Pn	23 16 53.7	-1.0
	1.4nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**7.08**	**311**	Pn	Pn	23 16 53.7	-1.0
MBDF	**Montbardon**	**7.62**	**38**	*e*Pn	Pn	23 16 59.2	-3.0
MBDF				*e*Sg	Sg	23 19 09.5	-5.9
	0.8nm,0.3s						
MBDF	**Montbardon**	**7.62**	**38**	Pn	Pn	23 16 59.2	-3.0
MBDF				Lg		23 19 09.5	
	0.4nm,0.3s						
BGF	**Bois d'Agland**	**7.90**	**14**	*e*Sn	Sn	23 18 29.0	-6.6
	1.7nm,0.4s						
BGF	**Bois d'Agland**	**7.90**	**14**	*e*Sn	Sn	23 18 29.0	-6.6
	0.9nm,0.4s						
LOR	**Lormes**	**8.78**	**17**	*e*Pn	Pn	23 17 16.2	-1.9

---

*GII **07** 23:27:56.2±1.0, 3397N×3394E, h13km±26km, ML2.5/7, Mw2.7/8*

*ISCJB **07** 23:28:09.3±0.7, 34.15N±003×3377E±003, h24km±8km, Error ellipse: s-maj=5.6km s-min=4.2km az=78.0*

*HLW **07** 23:28:10.7, 3423N×3372E, h33km, Mb3.0*

*CSEM **07** 23:28:10.6±0.1, 3424N×3377E, h30km, Mw2.5, Error ellipse: s-maj=2.5km s-min=1.5km az=59.0*

*NIC **07** 23:28:10.4±0.2, 3424N×3379E, h16km, ML3.3, MW2.9*

*GRAL **07** 23:28:11.1±0.8, 34.12N×3391E, h34km±161km, MD3.4*

ISC 07 23:28:09.0±0.7**, 3419N**±003×**3386E**±003**, h13**km±6km**, n39, σ0^{s}99**/62**, 2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.83**	**10**	P	**Pg**	**23 28 25.8**	**+0.8**
PHNC				S	**Sg**	**23 28 36.7**	**+0.9**
CSS	**Prodhromos**	**0.89**	**331**	⇑*i*P	**Pg**	**23 28 24.8**	**-1.3**
	6.4nm,0.5s						
CSS				S	**Sg**	**23 28 37.6**	**-0.1**
MAMC	**Mammari**	**1.11**	**332**	P	**Pb**	**23 28 29.8**	**-0.3**
ALFC	**Alevga**	**1.42**	**313**	⇑*i*P	**Pn**	**23 28 33.7**	**-0.7**
	9.4nm,0.2s						
ALFC				S	**Sn**	**23 28 51.7**	**-1.3**
PPCY	**Paphos**	**1.43**	**300**	P	**Pn**	**23 28 33.5**	**-1.1**
BHL	**Bhannes**	**1.52**	**100**	*e*Pg	**Pg**	**23 28 36.1**	**-2.0**
BHL				*e*Sg	**Sg**	**23 28 55.1**	**-2.8**
HNTI	**Hanita**	**1.56**	**135**	Pn	**Pn**	**23 28 36.6**	**+0.2**
HNTI				Sn	**Sn**	**23 28 56.0**	**-0.4**
HNTI	**Hanita**	**1.56**	**135**	Pn	**Pn**	**23 28 37.1**	**+0.8**
HNTI				Sn	**Sn**	**23 28 56.3**	**-0.1**
HNTI	**Hanita**	**1.56**	**135**	Pn	**Pn**	**23 28 37.1**	**+0.7**
HNTI				Sn	**Sn**	**23 28 56.3**	**-0.1**
HWQ	**Hawqa**	**1.73**	**86**	*e*Pg	**Pb**	**23 28 40.4**	**-0.3**
HWQ				*e*Sg	**Sn**	**23 29 01.0**	**+0.2**
MMA0B	**Mount Meron ar**	**1.74**	**132**	Pn	**Pn**	**23 28 39.6**	**+0.6**
MMA0B				Sn	**Sn**	**23 29 00.6**	**-0.4**
RCY	**Rachaya**	**1.78**	**113**	*e*Pg	**Pb**	**23 28 40.4**	**-1.0**
RCY				*e*Sg	**Sn**	**23 29 02.2**	**+0.3**
KSDI	**Kefar Szold**	**1.80**	**123**	Pn	**Pn**	**23 28 40.7**	**+1.0**
KSDI				Sn	**Sn**	**23 29 01.9**	**-0.5**
HRI	**Mount Hermon**	**1.81**	**120**	Pn	**Pg**	**23 28 42.2**	**-1.6**
OFRI	**'Ofer**	**1.83**	**149**	Pn	**Pn**	**23 28 40.1**	**0.0**
OFRI				Sn	**Sn**	**23 29 02.0**	**-1.0**
KSHT	**Keshet**	**2.03**	**126**	Pn	**Pn**	**23 28 44.9**	**+2.1**
KSHT				Sn	**Sn**	**23 29 08.7**	**+0.6**
SLTI	**Sal'it**	**2.18**	**153**	Pn	**Pn**	**23 28 44.9**	**-0.1**
SLTI				Sn	**Sn**	**23 29 11.0**	**-0.8**
MMLI	**Mount Malkishu**	**2.18**	**143**	Pn	**Pn**	**23 28 46.1**	**+1.1**
MMLI				Sn	**Sn**	**23 29 10.8**	**-1.0**
HMDT	**Nahal Hemdat**	**2.38**	**144**	Pn	**Pn**	**23 28 49.2**	**+1.5**
HMDT				Sn	**Sn**	**23 29 16.2**	**-0.6**
DRGI	**Dragot**	**2.89**	**153**	Pn	**Pn**	**23 28 56.0**	**+1.3**
DSI	**Dead Sea**	**2.91**	**153**	Pn	**Pn**	**23 28 55.4**	**+0.4**
DSI	**Dead Sea**	**2.91**	**153**	Pn	**Pn**	**23 28 55.3**	**+0.3**
YTIR	**Yattir**	**3.01**	**159**	Pn	**Pn**	**23 28 57.8**	**+1.4**
MZDA	**Masada**	**3.14**	**156**	Pn	**Pn**	**23 28 59.7**	**+1.6**
MZDA				Sn	**Sn**	**23 29 34.5**	**-1.0**
RTMI	**Retamim**	**3.20**	**167**	Pn	**Pn**	**23 29 00.1**	**+1.1**
RTMI				Sn	**Sn**	**23 29 35.7**	**-1.3**
MASH	**Mash'abbe Sade**	**3.28**	**166**	Pn	**Pn**	**23 29 01.3**	**+1.3**
KZIT	**Kziot**	**3.30**	**172**	Pn	**Pn**	**23 29 01.4**	**+1.0**
KZIT				Sn	**Sn**	**23 29 39.0**	**-0.5**
SVTA	**Shivta**	**3.31**	**169**	Pn	**Pn**	**23 29 00.6**	**+0.1**
AMAG	**Maghara**	**3.58**	**189**	P	**Pn**	**23 29 04.3**	**+0.2**

PRNI	**Paran**	**3.95**	**165**	Pn	**Pn**	**23 29 10.5**	**+1.3**
PRNI				Sn	**Sn**	**23 29 54.9**	**-0.5**
HNKL	**Nakhl**	**4.25**	**179**	P	**Pn**	**23 29 13.8**	**+0.4**
HRFI	**Mount Harif**	**4.26**	**166**	Pn	**Pn**	**23 29 14.6**	**+1.1**
HRFI				Sn	**Sn**	**23 30 01.9**	**-1.2**
SUZ		**4.42**	**192**	P	**Pn**	**23 29 15.9**	**+0.1**
MBH	**Mount Berech**	**4.47**	**168**	Pn	**Pn**	**23 29 17.6**	**+1.1**
EIL	**Elat**	**4.60**	**168**	Pn	**Pn**	**23 29 19.4**	**+1.2**
EIL				Sn	**Sn**	**23 30 10.8**	**-0.7**
EIL	**Elat**	**4.60**	**168**	Pn	**Pn**	**23 29 19.4**	**+1.2**
EIL				Sn	**Sn**	**23 30 10.7**	**-0.8**
HFRF	**Wahat Farafira**	**8.49**	**216**	P	**Pn**	**23 30 10.3**	**-1.3**
SWA1		**8.50**	**237**	P	**Pn**	**23 30 11.2**	**-0.6**
SWA2		**8.69**	**238**	P	**Pn**	**23 30 13.9**	**-0.4**

*NEIC **08** 00:03:34.8, 3554N×2244E, h58^{km}, MD3.7(ATH), After ATH.*
*ATH **08** 00:03:34.8, 3554N×2244E, h58^{km}±15^{km}, MD3.7/15, ML3.8*
*CSEM **08** 00:03:34.5±0.1, 3552N×2240E, h60^{km}, ML3.8, Error ellipse: s-maj=3.8km s-min=1.7km az=38.0*
*ISCJB **08** 00:03:35.2±0.7, 3560N±005×2241E±006, h70^{km}±8^{km}, mb3.5/6, Error ellipse: s-maj=10.3km s-min=5.4km az=88.9*
*IDC **08** 00:03:37.2±2.9, 3558N×2259E, h72^{km}±33^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.4/20, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=29.4km s-min=23.7km az=109.0*
*THE **08** 00:03:38.2, 3577N×2243E, h22^{km}, ML3.3*
ISC 08 00:03:36.5±0.7**, 3558N**±005×**2245E**±006**, h63**^{km}±8^{km}**, n57, σ0^{s}82**/65**, mb3.6**/6**, 1D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.85**	**34**	*e*P	**Pn**	**00 03 51.5**	**-1.2**
VLI	**Veliai**	**1.20**	**19**	*e*P	**Pn**	**00 03 57.8**	**+0.5**
VAM	**Vamos**	**1.44**	**96**	*e*P	**Pn**	**00 03 59.6**	**-0.8**
GVD	**Gavdhos**	**1.53**	**118**	*e*P	**Pn**	**00 04 01.0**	**-0.7**
ITM	**Ithomi**	**1.65**	**345**	*e*P	**Pn**	**00 04 04.1**	**+0.9**
IDI	**Anoyia**	**2.02**	**98**	P	**Pn**	**00 04 07.5**	**-0.7**
	1.7nm,0.3s,baz=287,slow=16,SNR=72						
NAIG	**Nisos Aigina**	**2.33**	**21**	*e*P	**Pn**	**00 04 13.5**	**+1.1**
KVR	**Kavouri**	**2.48**	**25**	*e*P	**Pn**	**00 04 15.0**	**+0.5**
MGER	**Gerania Oros**	**2.49**	**15**	*e*P	**Pn**	**00 04 15.1**	**+0.5**
RLS	**Riolos of Patr**	**2.59**	**343**	*e*P	**Pn**	**00 04 16.7**	**+0.7**
ATH	**Athens Observa**	**2.60**	**23**	*e*P	**Pn**	**00 04 16.5**	**+0.5**
NPS	**Neapolis**	**2.61**	**96**	*e*P	**Pn**	**00 04 15.9**	**-0.3**
PTL	**Penteli**	**2.71**	**24**	*e*P	**Pn**	**00 04 18.3**	**+0.6**
VLS	**Valsamata**	**2.99**	**331**	⇓*i*P	**Pn**	**00 04 21.3**	**-0.1**
VLS				*e*S	**Sn**	**00 04 56.1**	**+0.1**
LKR	**Lokris**	**3.10**	**8**	*e*P	**Pn**	**00 04 23.0**	**+0.1**
EVR	**Evrytania**	**3.37**	**352**	*e*P	**Pn**	**00 04 27.4**	**+0.8**
LKD	**Levkas**	**3.43**	**336**	*e*Pn	**Pn**	**00 04 27.4**	**-0.1**
LKD				*e*Sn	**Sn**	**00 05 05.7**	**-1.3**
AGG	**Agios Georgios**	**3.44**	**358**	*e*Pn	**Pn**	**00 04 28.8**	**+1.2**
AGG				*e*Sn	**Sn**	**00 05 04.9**	**-2.1**
AGG	**Agios Georgios**	**3.44**	**358**	P	**Pn**	**00 04 24.8**	**-2.8**
AGG				S	**Sn**	**00 05 04.9**	**-2.1**
AOS	**Alonnisos**	**3.76**	**17**	*e*Pn	**Pn**	**00 04 32.1**	**+0.1**
NEO	**Neokhori**	**3.77**	**9**	*e*P	**Pn**	**00 04 32.8**	**+0.7**
KARP	**Karpathos**	**3.84**	**89**	*e*P	**Pn**	**00 04 33.0**	**-0.1**
CHOS	**Chios island**	**4.02**	**45**	*e*Pn	**Pn**	**00 04 36.0**	**+0.4**
JAN	**Janina**	**4.26**	**343**	*e*P	**Pn**	**00 04 39.9**	**+1.1**
IGT	**Igoumenitsa**	**4.29**	**338**	*e*Pn	**Pn**	**00 04 38.6**	**-0.6**
IGT				*e*Sn	**Sn**	**00 05 26.0**	**-1.9**
PAIG	**Paliouri**	**4.45**	**12**	*e*Pn	**Pn**	**00 04 41.6**	**+0.3**
LIT	**Litokhoron**	**4.51**	**0**	*e*Pn	**Pn**	**00 04 42.6**	**+0.4**
KEK	**Kerkira**	**4.63**	**334**	*e*P	**Pn**	**00 04 44.4**	**+0.6**
KZN	**Kozani**	**4.75**	**354**	*e*P	**Pn**	**00 04 46.5**	**+1.0**
LSK	**Leskovik**	**4.79**	**343**	*e*Pg	**Pn**	**00 04 46.5**	**+0.5**
LSK				*i* Sg	**Sn**	**00 05 42.2**	**+2.0**
PLG	**Polygyros**	**4.85**	**9**	*e*P	**Pn**	**00 04 47.1**	**+0.2**
OUR	**Ouranopolis**	**4.90**	**14**	*e*Pn	**Pn**	**00 04 47.2**	**-0.3**
HORT	**Hortiatis**	**5.04**	**6**	*e*Pn	**Pn**	**00 04 49.3**	**-0.1**
THE	**Thessaloniki**	**5.06**	**4**	*e*Pn	**Pn**	**00 04 49.0**	**-0.8**
FNA	**Florina**	**5.26**	**351**	*e*Pn	**Pn**	**00 04 52.5**	**0.0**
FNA				*e*Sn	**Sn**	**00 05 50.4**	**-1.4**
SOH	**Sokhos**	**5.28**	**8**	*e*Pn	**Pn**	**00 04 52.7**	**0.0**
GRG	**Griva**	**5.37**	**360**	*e*Pn	**Pn**	**00 04 53.9**	**-0.1**
BIA	**Bitola**	**5.50**	**351**	*e*Pn	**Pn**	**00 04 55.4**	**-0.4**
BIA	**Bitola**	**5.50**	**351**	*i* Pn	**Pn**	**00 04 55.4**	**-0.3**
KNT	**Kendrikon**	**5.58**	**4**	*e*Pn	**Pn**	**00 04 57.1**	**+0.2**
VAY	**Valandovo**	**5.73**	**1**	*e*Pn	**Pn**	**00 04 58.2**	**-0.7**
LCI	**Lecce**	**5.85**	**325**	Pn	**Pn**	**00 04 59.5**	**-1.1**
CEL	**Celeste**	**5.89**	**299**	Pn	**Pn**	**00 04 59.7**	**-1.4**
CEL				Sn	**Sn**	**00 06 01.0**	**-6.2**
ALN	**Alexandroupoli**	**6.02**	**27**	*e*Pn	**Pn**	**00 05 04.1**	**+1.2**
MMB	**Musomiste**	**6.08**	**9**	*e*Pn	**Pn**	**00 05 03.3**	**-0.5**
STIP	**Stip**	**6.11**	**358**	*e*Pn	**Pn**	**00 05 04.4**	**+0.3**
STIP	**Stip**	**6.11**	**358**	*i* Pn	**Pn**	**00 05 04.5**	**+0.5**
SKO	**Skopje**	**6.43**	**353**	*i* Pn	**Pn**	**00 05 08.7**	**+0.2**
CUC	**Castrocucco**	**6.85**	**312**	Pn	**Pn**	**00 05 14.4**	**+0.1**
SLCN	**Sala Consilina**	**7.21**	**314**	Pn	**Pn**	**00 05 19.1**	**-0.1**
GERES	**GERESS Array B**	**14.74**	**337**	P	**Pn**	**00 07 03.0**	**+1.7**
	0.1nm,0.3s,baz=143,slow=12,SNR=2.5						
HFS	**Hagfors**	**25.21**	**350**	P	**P**	**00 08 55.2**	**-1.0**
	0.8nm,0.3s,mb3.7,baz=151,slow=10,SNR=11						
FINES	**FINESS Array B**	**25.99**	**4**	P	**P**	**00 09 02.7**	**-0.5**
	2.6nm,1.0s,mb3.7,baz=171,slow=13,SNR=4.5						
NOA	**NORSAR Array B**	**26.47**	**348**	P	**P**	**00 09 08.1**	**+0.5**
	0.6nm,0.6s,mb3.3,baz=154,slow=9.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**29.14**	**225**	P	**P**	**00 09 32.3**	**+0.9**
	0.3nm,0.8s,mb3.1,baz=33,slow=8.9,SNR=4.9						
ARCES	**ARCESS Array B**	**34.05**	**2**	P	**P**	**00 10 14.5**	**0.0**
	3.9nm,1.1s,mb4.3,baz=192,slow=9.9,SNR=12						
MKAR	**Makanchi Array**	**45.39**	**57**	P	**P**	**00 11 47.7**	**-1.0**
	0.6nm,0.5s,mb3.6,baz=264,slow=8.2,SNR=9.2						

*NEIC **08** 01:02:38.0±0.9, 85.15N×308W, h10^{km}, MD3.3(BER), Error ellipse: s-maj=22.1km s-min=14.8km az=47.0*
*IDC **08** 01:02:44.9±1.2, 85.10N×889E, h0^{km}, mb3.8/10, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, ML4.3/1, MS3.4/8, Ms1 3.4/8, ms1mx3.2/21, Error ellipse: s-maj=31.8km s-min=20.3km az=68.0*
*NAO **08** 01:02:48.3±13.0, 8494N×1659E, h10^{km}±92^{km}*
*ISCJB **08** 01:02:52.0±1.2, 8443N±007×16E±, h10^{km}, mb3.9/14, MS3.4/7, Error ellipse: s-maj=22.4km s-min=9.0km az=33.2*
ISC 08 01:02:49.5±3.0**, 8460N**±007×**14E**±**, h1**^{km}±20^{km}**, n35, σ0^{s}96**/39**, mb3.9**/14**, MS3.4**/7**, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.72**	**184**	*e*P	**Pn**	**01 04 10.4**	**-5.1**
KBS				*e*S	**Sn**	**01 05 22.9**	**+1.2**
KBS				AML	AML	01 05 28.0	
	comp=Z,19nm,0.2s						
KBS	**Kingsbay**	**5.72**	**184**	*e*P	**Pn**	**01 04 10.4**	**-5.1**
KBS				*e*S	**Sn**	**01 05 22.9**	**+1.2**
SPA0	**Spitsbergen Ar**	**6.47**	**176**	Pn	**Pn**	**01 04 26.3**	**+0.4**
	baz=359,slow=12						
SPA0				Sn	**Sn**	**01 05 40.4**	**+0.1**
	baz=28,slow=14						
HOPEN	**Hopen**	**8.31**	**162**	*e*P	**Pn**	**01 04 51.9**	**+0.9**
HOPEN				*e*S	**Sn**	**01 06 24.3**	**-1.1**
HOPEN				AML	AML	01 06 30.7	
	comp=E,61nm,0.4s						
TRO	**Tromso**	**15.09**	**173**	*e*Pn	**Pn**	**01 06 24.1**	**+0.4**
KEV	**Kevo**	**15.12**	**162**	*e*p	**Pn**	**01 06 21.8**	**-2.4**
	comp=E,2.7nm,0.3s						
ARA0	**ARCESS Array S**	**15.30**	**165**	Pn	**Pn**	**01 06 25.0**	**-1.6**
	slow=11						
ARCES	**ARCESS Array B**	**15.30**	**165**	Pn	**Pn**	**01 06 25.9**	**-0.7**
	comp=E,1.9nm,0.3s,baz=1.8,slow=10,SNR=24						
ARCES				Sn	**Sn**	**01 09 10.6**	**-6.1**
	comp=E,0.3nm,0.3s,baz=9.3,slow=23,SNR=3.9						
ARCES				LR	LR	01 12 37.3	
	comp=E,46nm,18.7s,baz=169,slow=37						
ARCES	**ARCESS Array B**	**15.30**	**165**	Pn	**Pn**	**01 06 25.9**	**-0.7**
ARCES				Sn	**Sn**	**01 09 10.6**	**-6.1**
ARCES				LR	LR	01 12 37.3	
ARE0	**ARCESS Array S**	**15.30**	**165**	*e*Pn	**Pn**	**01 06 28.6**	**+2.0**
KTK1	**Kautokeino**	**15.78**	**168**	*e*Pn	**Pn**	**01 06 32.9**	**+0.1**
APA0	**Apatity Array**	**17.48**	**155**	P	**Pn**	**01 06 54.6**	**+0.2**
	slow=12						
JOF	**Joensuu**	**22.11**	**159**	*e*p	**P**	**01 07 45.4**	**-0.7**
	comp=E,18nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**22.76**	**165**	*e*p	**P**	**01 07 52.8**	**-0.4**
	comp=E,7.5nm,0.7s,mb4.2						
FIA0	**FINESS Array S**	**23.43**	**165**	P	**P**	**01 08 00.5**	**+0.3**
	slow=10						
FINES	**FINESS Array B**	**23.43**	**165**	P	**P**	**01 08 00.6**	**+0.4**
	comp=E,3.6nm,0.6s,mb4.0,baz=14,slow=9.9,SNR=15						
FINES				LR	LR	01 17 43.9	
	comp=E,33nm,18.0s,MS2.8,baz=226,slow=37						
NB2	**NORSAR Subarra**	**23.70**	**183**	P	**P**	**01 08 03.3**	**+0.4**
	baz=341,slow=8.6						
NB2	**NORSAR Subarra**	**23.70**	**183**	P	**P**	**01 08 03.0**	**+0.2**
	comp=Z,4.4nm,1.0s,mb3.8,baz=360,slow=9.3						
NOA	**NORSAR Array B**	**23.70**	**183**	P	**P**	**01 08 02.7**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.7,baz=358,slow=8.9,SNR=4.7						
NOA				LR	LR	01 16 16.5	
	comp=Z,22nm,21.8s,MS2.6,baz=190,slow=34						
NOA	**NORSAR Array B**	**23.70**	**183**	P	**P**	**01 08 02.7**	**-0.1**
NOA				LR	LR	01 16 16.5	
HFS	**Hagfors**	**24.60**	**180**	P	**P**	**01 08 10.6**	**-0.5**
	baz=11,slow=10						
HFS	**Hagfors**	**24.60**	**180**	P	**P**	**01 08 10.8**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.8,baz=2.8,slow=8.8,SNR=6.1						
INK	**Inuvik**	**26.56**	**333**	P	**P**	**01 08 17.6**	**-11**
	comp=Z,2.4nm,0.8s,mb3.8,baz=12,slow=16,SNR=6.3						
INK				LR	LR	01 17 26.5	
	comp=Z,66nm,21.2s,MS3.2,baz=329,slow=34						
YKA	**Yellowknife Ar**	**31.32**	**316**	LR	LR	01 21 23.9	
	comp=Z,54nm,18.6s,MS3.2,baz=30,slow=36						
CHKZ	**Chkalovo**	**33.78**	**117**	*e*P	**P**	**01 09 33.0**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.1						
AKASG	**Malin Array Be**	**34.27**	**163**	P	**P**	**01 09 36.9**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=354,slow=8.7,SNR=6.0						
AKASG	**Malin Array Be**	**34.27**	**163**	P	**P**	**01 09 36.9**	**-0.1**
BVAR	**Borovoye Array**	**34.41**	**117**	P	**P**	**01 09 37.8**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=350,slow=7.5,SNR=5.5						
GERES	**GERESS Array B**	**35.91**	**180**	P	**P**	**01 09 51.5**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=17,slow=4.4,SNR=4.5						
GERES				LR	LR	01 24 02.1	
	comp=Z,38nm,19.5s,MS3.2,baz=66,slow=35						
AKTK	**Aktyubinsk**	**36.01**	**131**	P	**P**	**01 09 52.6**	**+0.6**
AKTO	**Aktyubinsk**	**36.01**	**131**	P	**P**	**01 09 52.6**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=351,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**41.64**	**106**	P	**P**	**01 10 39.8**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.1,baz=350,slow=12,SNR=3.7						
BR131	**Keskin Array S**	**45.37**	**159**	*e*P	**P**	**01 11 10.8**	**+1.4**
	comp=Z,1.2nm,0.8s,mb3.8						
TORD	**Torodi Ar. Bea**	**71.63**	**193**	P	**P**	**01 14 10.2**	**-2.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=350,slow=6.1,SNR=8.4						
TORD				LR	LR	01 47 10.4	
	comp=Z,168nm,20.2s,MS4.3,baz=230,slow=37						
KMBO	**Kilima Mbogo**	**86.13**	**157**	LR	LR	01 55 59.6	
	comp=Z,194nm,19.0s,MS4.5,baz=95,slow=37						

*ISCJB **08** 01:05:05.5±1.1, 4396N±003×768E±007, h10^{km}, Error ellipse: s-maj=7.7km s-min=3.8km az=30.3*
*STR **08** 01:05:06.9±0.2, 4393N×765E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 01:05:06.1±0.1, 4391N×772E, h4^{km}, Md1.8/3, Ml1.7/8, Error ellipse: s-maj=2.2km s-min=1.0km az=109.0*
ISC 08 01:05:05.9±1.2**, 4393N**±003×**768E**±008**, h16**^{km}±3^{km}**, n15, σ0^{s}39**/29**, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAOF	**Saorge**	**0.11**	**303**	Pg	**Pg**	**01 05 09.4**	**0.0**
SAOF				Sg	**Sg**	**01 05 11.1**	**-0.7**
SBF	**Sospel**	**0.19**	**251**	*e*Pg	**Pg**	**01 05 10.5**	**0.0**
SBF				*e*Sg	**Sg**	**01 05 13.3**	**-0.3**
	30nm,0.2s						
AUTN	**L'Aution**	**0.20**	**291**	Pg	**Pg**	**01 05 11.0**	**+0.4**
AUTN				Sg	**Sg**	**01 05 13.9**	**+0.1**
LUCF	**Luceram**	**0.25**	**262**	Pg	**Pg**	**01 05 11.4**	**0.0**
LUCF				Sg	**Sg**	**01 05 15.0**	**-0.1**
REVF	**Revere**	**0.29**	**231**	Pg	**Pg**	**01 05 12.8**	**+0.6**
MVIF	**Mont Vial**	**0.39**	**266**	Pg	**Pg**	**01 05 14.1**	**+0.3**
MVIF				Sg	**Sg**	**01 05 19.6**	**+0.5**
FRF	**La Foret Royal**	**0.83**	**244**	*e*Pg	**Pg**	**01 05 22.2**	**+0.1**
FRF				*e*Sg	**Sg**	**01 05 33.2**	**+0.1**
	2.9nm,0.2s						
MBDF	**Montbardon**	**1.03**	**321**	*e*Pg	**Pg**	**01 05 26.0**	**+0.1**
MBDF				*e*Sg	**Sg**	**01 05 39.8**	**+0.3**
	0.9nm,0.2s						
LMR	**La Mourre**	**1.04**	**236**	*e*Pg	**Pg**	**01 05 25.8**	**-0.2**
LMR				*e*Sg	**Sg**	**01 05 39.3**	**-0.3**
	2.9nm,0.2s						
SMRF	**Simiane la Rot**	**1.52**	**273**	*e*Pg	**Pg**	**01 05 34.1**	**-1.1**
SMRF				*e*Sg	**Sg**	**01 05 55.6**	**+0.6**
	2.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.63**	**308**	*e*Pg	**Pg**	**01 05 36.6**	**-0.6**
ORIF				*e*Sg	**Sg**	**01 05 58.4**	**0.0**
	1.4nm,0.3s						
LPG	**La Plagne**	**1.71**	**337**	*e*Pg	**Pg**	**01 05 38.7**	**0.0**
LPG				*e*Sg	**Sg**	**01 06 01.0**	**+0.1**
	1.1nm,0.4s						
LPL	**La Plagne**	**1.73**	**337**	*e*Pg	**Pg**	**01 05 39.1**	**0.0**
LPL				*e*Sg	**Sg**	**01 06 01.5**	**-0.1**
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**2.35**	**294**	*e*Pn	**Pn**	**01 05 44.4**	**+0.6**
VIVF				*e*Sn	**Sn**	**01 06 12.2**	**-0.1**
	0.4nm,0.2s						
LASF	**Ste Croix**	**2.77**	**274**	*e*Pn	**Pn**	**01 05 49.6**	**+0.1**
LASF				*e*Sn	**Sn**	**01 06 21.9**	**-0.6**
	0.3nm,0.2s						

*IDC **08** 01:17:33.4±38.0, 3008S×17898E, h520^{km}±374^{km}, mb2.9/2, mb1 3.1/2, mb1mx2.8/8, mbtmp3.9/2, Error ellipse: s-maj=229.4km s-min=139.7km az=77.0*
ISC 08 01:17:13.8±3.3**, 317S**±01×**1793W**±05**, h400**^{km}**, n18, σ1^{s}26**/13**, mb3.4**/2**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.14**	**198**	*e*PN	**Pn**	**01 18 47.7**	**-0.2**
PUZ	**Puketiti**	**6.63**	**197**	*e*PN	**Pn**	**01 18 51.9**	**-1.4**
PUZ				SN	**S**	**01 20 14.6**	**+0.1**
MWZ	**Matawai**	**7.08**	**201**	*e*PN	**Pn**	**01 18 59.0**	**+0.7**
URZ	**Urewera**	**7.14**	**203**	*e*PN	**Pn**	**01 18 58.6**	**-0.5**
KNZ	**Kokohu**	**7.68**	**198**	*e*PN	**Pn**	**01 19 07.3**	**+2.2**
BKZ	**Black Stump Fm**	**8.17**	**204**	*e*PN	**Pn**	**01 19 12.1**	**+1.4**
WNVZ	**Wahianoa**	**8.64**	**207**	*e*PN	**Pn**	**01 19 14.9**	**-1.1**
MRZ	**Mangatainoka R**	**9.82**	**203**	*e*PN	**Pn**	**01 19 29.1**	**-0.6**
KIW	**Kapiti Island**	**10.23**	**205**	*e*PN	**Pn**	**01 19 35.6**	**+1.1**
THZ	**Tophouse**	**11.79**	**210**	*e*PN	**Pn**	**01 19 50.5**	**-2.0**
STKA	**Stephens Creek**	**33.11**	**259**	P	**P**	**01 23 16.3**	**+2.1**
	0.8nm,0.4s,mb3.4,baz=96,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**43.05**	**274**	P	**P**	**01 24 34.9**	**-1.2**
	0.7nm,0.3s,mb3.5,baz=112,slow=8.0,SNR=3.7						
JOF	**Joensuu**	**143.22**	**337**	*e*pkp	PKPdf	01 35 56.7	-4.3
KAF	**Kangasniemi**	**145.41**	**339**	*e*pkp	PKPdf	01 36 04.3	-0.5
FINES	**FINESS Array B**	**145.99**	**338**	PKP	PKPdf	01 36 07.7	+1.9
	5.9nm,0.7s,baz=61,slow=4.5,SNR=32						
NB2	**NORSAR Subarra**	**149.88**	**350**	PKPa	PKPbc	01 36 17.9	+0.5
	comp=Z,1.5nm,0.6s,baz=20,slow=2.6						
NOA	**NORSAR Array B**	**149.88**	**350**	PKPbc	PKPbc	01 36 19.1	+1.7
	comp=Z,1.7nm,0.7s,baz=22,slow=4.6,SNR=6.7						
AKASG	**Malin Array Be**	**151.64**	**320**	PKPbc	PKPbc	01 36 22.6	+1.1
	comp=Z,0.7nm,0.4s,baz=54,slow=2.6,SNR=5.0						

*THR **08** 01:18:43.9±0.3, 2866N×5127E, h18^{km}±8^{km}, ML3.2*
*KISR **08** 01:18:47.2±1.4, 3088N×51.16E, h15^{km}±999^{km}, ML2.4*
CSEM 08 01:18:43.9, 2866N×**5127E, h18**^{km}**, ML3.2, After THR, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.55**	**103**	*e*PG	Pg	01 19 12.5	-1.3
GHIR				*e*SG	Sg	01 19 33.4	-0.6
GHIR				AML	AML	01 19 40.9	
	comp=E,424nm,0.4s						
GHIR				AML	AML	01 19 43.3	
	comp=N,209nm,0.6s						
GHIR	**Ghir-Karzin**	**1.55**	**103**	*e*Pg	Pg	01 19 12.5	-1.3
	SNR=92						
GHIR				*e*Sg	Sg	01 19 33.4	-0.7
	comp=N,209nm,0.6s,SNR=92						
NAY	**Al-Naaiem**	**3.58**	**280**	*e*P	Pg	01 19 49.1	-3.4
NAY				*e*S	Sg	01 20 33.8	-5.1
NAY				AML	AML	01 20 35.3	
	comp=Z,3.4nm,0.4s						
MIB	**Mutribah**	**3.62**	**289**	*e*P	Pb	01 19 43.8	-3.6
MIB				*e*S	Sb	01 20 27.1	-3.9
MIB				AML	AML	01 20 30.9	
	comp=Z,8.1nm,0.5s						
RST	**Umm Al-Ruwaisa**	**3.83**	**284**	*e*P	Pb	01 19 49.4	-1.6
RST				*e*S	Sb	01 20 36.9	-0.2
RST				AML	AML	01 20 43.7	
	comp=Z,8.0nm,0.5s						
NASN	**Na'in**	**4.34**	**17**	*e*PN	Pn	01 19 51.5	+2.6
KRBR	**Kerman**	**4.97**	**73**	*e*PN	Pn	01 20 00.2	+2.6
KRBR				AML	AML	01 20 60.0	
	comp=N,14nm,0.4s						
ASAO	**Ashtian**	**5.97**	**350**	*e*PN	Pn	01 20 13.9	+2.6

PRE 08 01:35:28.1±1.2**, 2628S**×**2829E, h2**^{km}**, ML3.7, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.54**	**359**	*e*P	Pg	01 35 39.0	+0.6
SLR				*e*S	Sg	01 35 45.5	+0.1
SLR				AML	AML	01 35 46.4	
	comp=Z,605nm,0.3s						
KSR	**Koster**	**1.32**	**288**	*e*P	Pg	01 35 53.3	-0.2
KSR				*e*S	Sg	01 36 11.7	+1.1
KSR				AML	AML	01 36 13.4	
	comp=Z,902nm,0.2s						
LBTB	**Lobatse**	**2.74**	**297**	*e*P	Pn	01 36 14.4	+1.3
LBTB				*e*S	Sn	01 36 47.6	+0.9
LBTB				AML	AML	01 36 53.0	
	comp=Z,180nm,0.3s						
POGA	**Pongola**	**3.16**	**111**	*e*P	Pn	01 36 21.0	+2.2
POGA				*e*S	Sn	01 36 58.6	+1.5
POGA				AML	AML	01 37 16.7	
	comp=Z,221nm,0.6s						
BOSA	**Boshof**	**3.56**	**229**	*e*P	Pn	01 36 24.7	+0.3
BOSA				*e*S	Sn	01 37 07.3	+0.2
BOSA				AML	AML	01 37 20.9	
	comp=Z,101nm,0.4s						
MSNA	**Messina**	**4.22**	**22**	*e*P	Pn	01 36 32.4	-1.0
MSNA				*e*S	Sn	01 37 20.0	-3.2
MSNA				AML	AML	01 37 43.6	
	comp=Z,74nm,0.2s						
UPI	**Upington**	**6.60**	**250**	*e*P	Pn	01 37 06.8	+0.7
UPI				*e*S	Sn	01 38 19.6	-2.3
UPI				AML	AML	01 38 53.8	
	comp=Z,24nm,0.6s						
GRM	**Grahamstown**	**7.18**	**192**	*e*P	Pn	01 37 14.8	+0.7
GRM				*e*S	Sn	01 38 33.6	-2.7
GRM				AML	AML	01 39 25.7	
	comp=Z,14nm,0.5s						
CVNA	**Calvinia**	**9.10**	**233**	*e*P	Pn	01 37 41.2	+0.8
CVNA				*e*S	Sn	01 39 18.8	-4.6
CVNA				AML	AML	01 40 20.1	
	comp=Z,30nm,0.5s						

MEX 08 02:05:25.8±0.4**, 1547N**×**9480W, h23**^{km}±20^{km}**, MD4.2, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.29**	**283**	*i* P	Pn	02 05 45.8	-2.6
HUIG				*i* S	Sn	02 06 00.8	-4.2
CMIG	**Matias Romero**	**1.61**	**357**	*i* P	Pn	02 05 50.1	-2.6
CMIG				*i* S	Sn	02 06 09.2	-3.5
SCX	**San Cristobal**	**2.43**	**59**	*e*P	Pn	02 06 03.0	-1.1
OXX	**Oaxaca**	**2.44**	**311**	*e*P	Pn	02 06 08.0	+3.8
VHO	**Vista Hermosa**	**2.44**	**311**	*i* P	Pn	02 06 02.8	-1.5
VHO				*i* S	Sn	02 06 31.0	-2.4
CCIG	**Comitan**	**2.69**	**72**	*i* P	Pn	02 06 05.6	-2.0
CCIG				*i* S	Sn	02 06 36.5	-2.8

*ISCJB **08** 02:06:41.9±0.7, 5367N±003×16146E±009, h67^{km}±5^{km}, mb3.9/12, Error ellipse: s-maj=10.3km s-min=3.3km az=53.7*
*MOS **08** 02:06:42.1±1.8, 5376N×16127E, h57^{km}, mb4.4/5, Error ellipse: s-maj=17.9km s-min=9.0km az=77.7*
*KRSC **08** 02:06:42, 5373N×16129E, h24^{km}, ML4.4*
*NEIC **08** 02:06:47.5±1.6, 5402N×16045E, h69^{km}±16^{km}, mb4.1/1, Error ellipse: s-maj=16.5km s-min=15.2km az=138.0*
*IDC **08** 02:06:57.7±13.0, 5397N×16039E, h166^{km}±125^{km}, mb3.4/9, mb1 3.7/9, mb1mx3.5/18, mbtmp3.9/9, Error ellipse: s-maj=21.2km s-min=19.1km az=154.0*
ISC 08 02:06:42.9±0.7**, 5366N**±003×**16144E**±010**, h61**^{km}±6^{km}**, n44, σ0^{s}99**/64**, mb4.0**/12**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.91**	**11**	*e*P	**Pn**	**02 06 58.5**	**-1.3**
MKZ				*i* S	**Sn**	**02 07 10.3**	**-2.0**
SPN	**Mys Shipunski**	**1.02**	**237**	*e*P	**Pn**	**02 07 00.9**	**-0.4**
SPN				*i* S	**Sn**	**02 07 14.1**	**-0.8**
KII	**Karymskiy**	**1.24**	**288**	*e*P	**Pn**	**02 07 02.7**	**-1.4**
NLC	**Nalytchevo**	**1.35**	**249**	*e*P	**Pn**	**02 07 05.1**	**-0.5**
NLC				*i* S	**Sn**	**02 07 21.2**	**-1.4**
AVH	**Avacha**	**1.67**	**257**	*e*P	**Pn**	**02 07 10.2**	**+0.3**
AVH				*i* S	**Sn**	**02 07 30.1**	**-0.1**
TUMR	**Tumrok**	**1.79**	**335**	*e*P	**Pn**	**02 07 11.4**	**-0.1**
TUMR				*i* S	**Sn**	**02 07 32.1**	**-1.1**
PET	**Petropavlovsk**	**1.79**	**250**	*e*Pn	**Pn**	**02 07 11.8**	**+0.2**
PET	**Petropavlovsk**	**1.79**	**250**	*e*P	**Pn**	**02 07 11.6**	**+0.1**
PET				*i* S	**Sn**	**02 07 33.2**	**-0.1**
GNL	**Ganaly**	**2.08**	**272**	*e*P	**Pn**	**02 07 16.0**	**+0.5**
GNL				*i* S	**Sn**	**02 07 40.6**	**+0.3**
RUS	**Russkaya**	**2.16**	**236**	*e*P	**Pn**	**02 07 16.7**	**+0.2**
RUS				*i* S	**Sn**	**02 07 41.2**	**-0.9**
KMNR	**Kamenistaya**	**2.21**	**342**	*e*P	**Pn**	**02 07 18.1**	**+0.9**
KMNR				*i* S	**Sn**	**02 07 45.1**	**+1.7**
GRL	**Gorelyy**	**2.32**	**243**	*e*P	**Pn**	**02 07 19.8**	**+1.1**
GRL				*i* S	**Sn**	**02 07 47.9**	**+1.9**
ZLN	**Zelenaya**	**2.39**	**351**	*e*P	**Pn**	**02 07 20.2**	**+0.6**
ZLN				*i* S	**Sn**	**02 07 48.3**	**+0.6**
KPT	**Kopyto**	**2.41**	**343**	*e*P	**Pn**	**02 07 20.2**	**+0.2**
KOZ	**Kozyrevsk**	**2.56**	**340**	*e*P	**Pn**	**02 07 22.6**	**+0.5**
KOZ				*i* S	**Sn**	**02 07 52.3**	**+0.2**
KOZR	**Kozyr**	**2.57**	**340**	PN	**Pn**	**02 07 22.6**	**+0.5**
KOZR				S	**Sn**	**02 07 52.3**	**+0.1**
KRSR	**Krestovskiy**	**2.61**	**349**	*e*P	**Pn**	**02 07 23.7**	**+1.0**
KRSR				*i* S	**Sn**	**02 07 54.0**	**+0.8**
KBTR	**Krutoberegovo**	**2.67**	**17**	*e*P	**Pn**	**02 07 23.4**	**-0.1**
KBTR				*i* S	**Sn**	**02 07 54.2**	**-0.5**
KLY	**Klyuchi**	**2.69**	**351**	*e*P	**Pn**	**02 07 23.5**	**-0.3**
KLY				*i* S	**Sn**	**02 07 54.0**	**-1.2**
SRDR	**Sredinnyy**	**2.84**	**340**	*e*P	**Pn**	**02 07 25.8**	**0.0**
SRDR				*i* S	**Sn**	**02 07 57.6**	**-1.2**
BDR	**Baidarnaya**	**2.91**	**357**	*e*P	**Pn**	**02 07 27.4**	**+0.6**
BDR				*i* S	**Sn**	**02 08 00.7**	**+0.1**
SMKR	**Semkarok**	**2.92**	**0**	*e*P	**Pn**	**02 07 27.6**	**+0.6**
SMKR				*i* S	**Sn**	**02 08 01.9**	**+1.0**
SRKR	**Sorokina**	**3.00**	**357**	*e*P	**Pn**	**02 07 28.6**	**+0.6**
SRKR				*i* S	**Sn**	**02 08 03.4**	**+0.6**
MIPR	**Malaya Ipel'ka**	**3.16**	**246**	*e*P	**Pn**	**02 07 32.1**	**+2.0**
SKR	**Severo-Kuril's**	**4.43**	**230**	*e*PN	**Pn**	**02 07 45.4**	**-2.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ALID	**Alaid**	**4.58**	**235**	*e*P	**Pn**	**02 07 50.5**	**+0.9**
MJAR	**Matsushiro Arr**	**23.54**	**233**	P	**P**	**02 11 50.6**	**+3.0**
	comp=Z,1.7nm,0.6s,mb3.6,baz=17,slow=9.4,SNR=4.9						
MKAR	**Makanchi Array**	**48.63**	**296**	P	**P**	**02 15 18.3**	**-2.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=53,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**48.63**	**296**	*i* P	**P**	**02 15 19.7**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**50.15**	**309**	*e*P	**P**	**02 15 30.9**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	**Chkalovo**	**50.15**	**309**	*e*P	**P**	**02 15 30.9**	**-1.2**
	comp=Z,1.1nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**52.99**	**342**	P	**P**	**02 15 52.5**	**-0.8**
	comp=Z,3.2nm,0.9s,mb4.2,baz=34,slow=8.8,SNR=6.4						
NVAR	**Mina Array Bea**	**54.79**	**71**	P	**P**	**02 16 13.6**	**+7.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=289,slow=5.4,SNR=2.8						
PDAR	**Pinedale Array**	**56.54**	**62**	P	**P**	**02 16 25.7**	**+6.7**
	comp=Z,0.3nm,0.7s,mb3.4,baz=342,slow=5.7,SNR=2.7						
JOF	**Joensuu**	**57.39**	**335**	*e*p	**P**	**02 16 24.1**	**-0.9**
	comp=Z,0.9nm,0.3s,mb4.3						
KAF	**Kangasniemi**	**59.27**	**337**	*e*p	**P**	**02 16 37.1**	**-1.0**
	comp=Z,3.1nm,0.4s,mb4.7,baz=29,slow=6.4						
KAF	**Kangasniemi**	**59.27**	**337**	*e*P	**P**	**02 16 37.1**	**-1.0**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
FINES	**FINESS Array B**	**59.91**	**337**	P	**P**	**02 16 42.1**	**-0.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=44,slow=7.5,SNR=23						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**59.91**	**337**	*i* P	**P**	**02 16 42.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**63.22**	**344**	P	**P**	**02 17 04.4**	**-0.4**
	comp=Z,1.2nm,0.6s,mb4.2,baz=19,slow=6.5						
NOA	**NORSAR Array B**	**63.22**	**344**	P	**P**	**02 17 04.3**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.3,baz=20,slow=6.5,SNR=4.8						
GERES	**GERESS Array B**	**74.28**	**339**	P	**P**	**02 18 14.1**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=38,slow=6.8,SNR=4.7						
WRA	**Warramunga Arr**	**76.94**	**206**	P	**P**	**02 18 31.4**	**+2.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=19,slow=6.0,SNR=5.9						
WRA	**Warramunga Arr**	**76.94**	**206**	*i* P	**P**	**02 18 31.7**	**+2.9**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.5s						

*HLW **08** 02:15:18.2, 3506N×2356E, h33^{km}, Mb3.1*
*CSEM **08** 02:15:19.8, 3567N×2364E, h43^{km}, MD3.1/4, After ATH*
*NEIC **08** 02:15:19.8, 3567N×2364E, h43^{km}, MD3.1(ATH), After ATH.*
ATH 08 02:15:19.8, 3567N×2364E, h43^{km}±3^{km}, MD3.1/4, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.53**	**120**	*e*P	Pn	02 15 31.8	+0.8
KYTH	**Kithira**	**0.78**	**321**	*e*P	Pn	02 15 36.0	+1.6
GVD	**Gavdhos**	**0.91**	**156**	*e*P	Pn	02 15 37.2	+1.1
VLI	**Veliai**	**1.19**	**332**	*e*P	Pn	02 15 40.8	+0.8
VLI				*e*S	Sn	02 15 55.9	+0.9
SWA2		**6.59**	**166**	P	Pn	02 16 45.5	-8.6
SWA2				S	Sn	02 17 49.0	-19
SWA1		**6.62**	**164**	P	Pn	02 16 45.6	-8.9
AWBH		**8.58**	**147**	P	Pn	02 17 14.5	-6.9
HFRF	**Wahat Farafira**	**9.38**	**154**	P	Pn	02 17 24.9	-7.5

NEIC 08 02:50:27.6, 6309N×15093W, h134^{km}, MG3.1(AEIC), After AEIC., Central Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.46**	**0**	P	Pn	02 50 47.0	+0.1
KTH				S	Sn	02 51 00.6	-0.9
TRF	**Thorofare Moun**	**0.46**	**39**	P	Pn	02 50 47.3	+0.4
TRF				S	Sn	02 51 01.9	+0.4
MCK	**McKinley**	**1.10**	**54**	P	Pn	02 50 52.0	+0.2
MCK				S	Sn	02 51 09.8	-0.4
GHO	**Glory Hole Cre**	**1.62**	**144**	P	Pn	02 50 57.7	+0.3
PMR	**Palmer**	**1.73**	**150**	P	Pn	02 50 58.1	-0.4
PMR				S	Sn	02 51 21.2	-0.9
RC01	**Rabbit Creek A**	**2.09**	**164**	P	Pn	02 51 02.6	-0.3
RC01				S	Sn	02 51 28.9	-1.0
COLA	**College**	**2.24**	**36**	P	Pn	02 51 04.7	0.0
SLKM	**Skilak Lake**	**2.62**	**172**	P	Pn	02 51 09.2	-0.2
SVW2	**Sparrevohn**	**2.97**	**230**	P	Pn	02 51 13.1	-0.8
SEW	**Seward**	**3.08**	**166**	P	Pn	02 51 14.8	-0.6
DOT	**Dot Lake**	**3.14**	**77**	P	Pn	02 51 16.0	-0.2
IMA2	**Indian Mountai**	**3.21**	**340**	*e*Pn	Pn	02 51 16.3	-0.8
EYAK	**Cordova Ski Ar**	**3.54**	**134**	*e*Pn	Pn	02 51 21.3	-0.2
EYAK				*e*Sn	Sn	02 52 04.7	+1.6
COLD	**Coldfoot**	**4.16**	**4**	P	Pn	02 51 29.6	0.0
EGAK	**Eagle**	**4.63**	**64**	*e*Pn	Pn	02 51 35.6	-0.2
EGAK				*e*Sn	Sn	02 52 29.5	+0.6
DAWY	**Dawson**	**5.25**	**74**	P	Pn	02 51 43.9	-0.1
WRAK	**Wrangell Islan**	**11.48**	**117**	*e*Pn	Pn	02 53 02.0	-5.4

*NEIC **08** 03:00:29.3, 1666N×10057W, h5^{km}, MD4.1(MEX), After MEX.*
MEX 08 03:00:29.8±1.2, 1666N×10054W, h5^{km}±10^{km}, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.47**	**34**	*e*P	Pg	03 00 37.8	-1.1
CAIG				*i* S	Sg	03 00 45.3	+0.4
CAIG	**El Cayaco**	**0.47**	**34**	*i* P	Pg	03 00 38.0	-0.8
CAIG				*i* S	Sg	03 00 45.3	+0.4
ACX	**Acapulco**	**0.63**	**71**	*i* P	Pg	03 00 41.0	-1.0
ACX				*i* S	Sg	03 00 50.5	+0.3
MEIG	**Mezcala**	**1.54**	**35**	*i* P	Pn	03 00 54.3	-3.5
MEIG				*i* S	Sn	03 01 12.8	-5.5
PLIG	**Platanillo**	**1.99**	**30**	*i* P	Pn	03 01 01.5	-2.6
PLIG				*i* S	Sn	03 01 24.4	-4.9
IIZ	**Mezontepec**	**2.80**	**26**	*i* P	Pn	03 01 13.8	-1.5
IIZ				*i* S	Sn	03 01 45.8	-3.6
UTMO	**Huajuapan**	**2.86**	**66**	*i* P	Pn	03 01 13.3	-2.8
UTMO				*i* S	Sn	03 01 48.0	-2.9
SZVM	**Salazar**	**2.87**	**22**	*i* P	Pn	03 01 15.9	-0.3
SZVM				*i* S	Sn	03 01 50.6	-0.6
UNM	**Universidad Na**	**2.96**	**26**	*e*P	Pn	03 01 15.0	-2.4
PPM	**Popocatepetl**	**3.01**	**37**	*i* P	Pn	03 01 15.5	-2.6
PPM				*i* S	Sn	03 01 54.1	-0.4
MOIG	**Morelia**	**3.07**	**349**	*i* P	Pn	03 01 15.4	-3.4
MOIG				*i* S	Sn	03 01 51.7	-4.2
MRX	**Morelia**	**3.09**	**349**	*e*P	Pn	03 01 15.0	-4.2
MRX	**Morelia**	**3.09**	**349**	*e*P	Pn	03 01 14.0	-5.2
OXX	**Oaxaca**	**3.68**	**83**	*e*P	Pn	03 01 28.0	+0.7

*RSPR **08** 03:11:11.3, 1958N×6340W, h7^{km}±12^{km}, MD3.1/4, MD3.1/4*
*NEIC **08** 03:11:11.3, 1958N×6340W, h7^{km}, MD3.2(RSPR), After RSPR.*
TRN 08 03:11:09.0, 1817N×6294W, h73^{km}, 3C, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SABT	**Saba**	**0.62**	**208**	*e*P	Pn	03 11 25.0	+1.7
SABT				*e*S	Sn	03 11 35.9	+2.1
TBVI	**Tortola**	**1.61**	**279**	⇑*i*P	Pn	03 11 37.4	+1.9
TBVI				*e*S	Sn	03 11 57.8	+2.2
STVI	**Saint Thomas**	**1.92**	**276**	⇑*e*P	Pn	03 11 41.0	+1.4
STVI				*e*S	Sn	03 12 04.4	+1.5
MTP	**Monte Pirata**	**2.48**	**269**	*e*P	Pn	03 11 48.2	+1.0
MTP				*e*S	Sn	03 12 18.1	+1.5
HUMP	**Col San Antoni**	**2.77**	**270**	⇑*e*P	Pn	03 11 52.9	+1.8
HUMP				*e*S	Sn	03 12 25.2	+1.8

*ISCJB **08** 03:23:07.8±0.8, 3998N±007×130E±02, h494^{km}±13^{km}, mb3.4/3, Error ellipse: s-maj=20.1km s-min=10.2km az=37.3*
*IDC **08** 03:23:08.6±1.6, 3990N×1315E, h486^{km}±28^{km}, mb2.8/4, mb1 2.7/7, mb1mx2.6/21, mbtmp3.6/7, Error ellipse: s-maj=41.7km s-min=13.4km az=116.0*
*CSEM **08** 03:23:08.8, 3996N×1299E, h492^{km}±10^{km}, mb3.6/11, After NEIC*
*NEIC **08** 03:23:08.8±0.7, 3996N×1299E, h492^{km}±10^{km}, mb3.6/11, Error ellipse: s-maj=14.8km s-min=7.8km az=122.0*
ISC 08 03:23:08.8±0.8, 3997N±008×130E±02, h491^{km}±13^{km}, n40, σ0^{s}70/40, mb3.4/3, 2C-2D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSL	**Villasalto**	**2.84**	**262**	*e*Pn	**P**	**03 24 17.8**	**-0.1**
VSL	**Villasalto**	**2.84**	**262**	*e*Pn	**P**	**03 24 17.8**	**-0.1**
KEST	**Kesra**	**5.13**	**216**	P	**P**	**03 24 36.1**	**-0.3**
	0.1nm,0.3s,baz=5.8,slow=2.7,SNR=4.8						
SBF	**Sospel**	**5.69**	**315**	*e*P	**P**	**03 24 40.1**	**-1.6**
LMR	**La Mourre**	**5.91**	**307**	*e*P	**P**	**03 24 43.8**	**0.0**
	7.6nm,0.8s						
LMR	**La Mourre**	**5.91**	**307**	*e*P	**P**	**03 24 43.8**	**0.0**
	3.8nm,0.8s						
FRF	**La Foret Royal**	**5.95**	**309**	*e*P	**P**	**03 24 44.6**	**+0.4**
	10.0nm,0.6s						
FRF	**La Foret Royal**	**5.95**	**309**	*e*P	**P**	**03 24 44.6**	**+0.4**
	5.0nm,0.6s						
MBDF	**Montbardon**	**6.62**	**318**	*e*P	**P**	**03 24 51.8**	**+1.0**
	7.8nm,0.6s						
MBDF	**Montbardon**	**6.62**	**318**	*e*P	**P**	**03 24 51.8**	**+1.0**
	3.9nm,0.6s						
OBKA	**Obir**	**6.63**	**9**	⇑*i*P	**P**	**03 24 50.4**	**-0.5**
	comp=Z,4.4nm,0.8s						
SMRF	**Simiane la Rot**	**6.83**	**308**	*e*P	**P**	**03 24 53.6**	**+0.7**
BNI	**Bardonecchia**	**6.90**	**319**	*e*Pn	**P**	**03 24 54.9**	**+1.3**
BNI	**Bardonecchia**	**6.90**	**319**	*e*Pn	**P**	**03 24 54.9**	**+1.3**
LPG	**La Plagne**	**7.19**	**322**	*e*P	**P**	**03 24 56.5**	**0.0**
	7.3nm,0.6s						
LPG	**La Plagne**	**7.19**	**322**	*e*P	**P**	**03 24 56.5**	**0.0**
	3.7nm,0.6s						
LPL	**La Plagne**	**7.21**	**322**	*e*P	**P**	**03 24 56.7**	**-0.1**
	3.3nm,0.4s						
LPL	**La Plagne**	**7.21**	**322**	*e*P	**P**	**03 24 56.7**	**-0.1**
	1.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**7.22**	**316**	*e*P	**P**	**03 24 57.6**	**+0.7**
	5.8nm,0.8s						
ORIF	**Oris-en-Rattie**	**7.22**	**316**	*e*P	**P**	**03 24 57.6**	**+0.7**
	2.9nm,0.8s						
WTTA	**Wattenberg**	**7.36**	**353**	⇓*i*P	**P**	**03 24 58.4**	**+0.1**
	comp=Z,12nm,0.8s						
MOTA	**Moosalm**	**7.50**	**350**	⇓*i*P	**P**	**03 24 59.3**	**-0.4**
	comp=Z,2.3nm,0.7s						
MOA	**Molln**	**7.93**	**6**	⇑*i*P	**P**	**03 25 04.4**	**+0.2**
	comp=Z,3.1nm,0.5s						
GEC2	**GERESS Array S**	**8.89**	**3**	*e*P	**P**	**03 25 14.1**	**-0.1**
GERES	**GERESS Array B**	**8.89**	**3**	P	**P**	**03 25 14.1**	**-0.1**
	1.8nm,0.3s,baz=179,slow=10,SNR=52						
HINF	**Hinteralfeld**	**9.01**	**333**	*e*P	**P**	**03 25 14.6**	**-0.9**
	4.1nm,0.6s						
HINF	**Hinteralfeld**	**9.01**	**333**	*e*P	**P**	**03 25 14.6**	**-0.9**
	2.0nm,0.6s						
WET	**Wettzell**	**9.17**	**359**	*e*P	**P**	**03 25 17.0**	**-0.2**
HAU	**Haudompre**	**9.35**	**331**	*e*P	**P**	**03 25 18.0**	**-1.1**
GRA1	**Grafenberg Arr**	**9.80**	**353**	*e*P	**P**	**03 25 24.1**	**+0.2**
GRF	**Grafenberg Arr**	**9.80**	**353**	*e*P	**P**	**03 25 24.1**	**+0.2**
MOX	**Moxa**	**10.72**	**355**	*e*P	**P**	**03 25 34.5**	**+0.9**
CLL	**Collm**	**11.34**	**360**	*i* P	**P**	**03 25 40.8**	**+0.6**
	comp=Z,8.0nm,1.1s						
BAIF	**Baives**	**11.84**	**331**	*e*P	**P**	**03 25 44.0**	**-1.6**
AKASG	**Malin Array Be**	**15.62**	**41**	P	**P**	**03 26 26.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=233,slow=8.7,SNR=5.6						
HFS	**Hagfors**	**20.19**	**1**	P	**P**	**03 27 09.9**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=195,slow=15,SNR=3.5						
TORD	**Torodi Ar. Bea**	**28.52**	**204**	P	**P**	**03 28 23.8**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.4,baz=7.0,slow=9.8,SNR=14						
TORD	**Torodi Ar. Bea**	**28.52**	**204**	P	**P**	**03 28 23.8**	**+0.1**
DBIC	**Dimbokro**	**36.83**	**211**	P	**P**	**03 29 34.6**	**+0.2**
	comp=Z,4.7nm,1.1s,mb3.8,baz=23,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**49.33**	**58**	P	**P**	**03 31 11.4**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.1,baz=284,slow=6.6,SNR=3.8						

*ISCJB **08** 03:43:07.9±1.6, 2226N±006×1437E±02, h140^{km}±15^{km}, mb4.1/20, Error ellipse: s-maj=23.7km s-min=10.3km az=171.8*
*IDC **08** 03:43:07.8±2.5, 2226N×14361E, h124^{km}±22^{km}, mb3.8/9, mb1 3.9/11, mb1mx3.8/20, mbtmp4.2/11, Error ellipse: s-maj=28.2km s-min=13.8km az=90.0*
*NEIC **08** 03:43:11.4±2.0, 2229N×14359E, h158^{km}±19^{km}, mb4.1/9, Error ellipse: s-maj=17.3km s-min=7.5km az=89.0*
*BJI **08** 03:43:12.9, 2236N×14391E, h190^{km}, mB4.7, mb4.4*
ISC 08 03:43:09.0±1.5, 2230N±006×1438E±02, h135^{km}±14^{km}, n33, σ1^{s}12/33, mb4.1/20, Volcano Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.99**	**344**	P	**Pn**	**03 44 22.4**	**+0.4**
	18nm,0.3s,baz=246,slow=14,SNR=9.8						
CBIJ				S	**Sn**	**03 45 16.8**	**-2.0**
	52nm,0.3s,baz=290,slow=23,SNR=17						
MJAR	**Matsushiro Arr**	**14.99**	**342**	P	**Pn**	**03 46 33.4**	**-0.5**
	0.9nm,0.3s,baz=167,slow=9.9,SNR=14						
MAJO	**Matsushiro**	**14.99**	**342**	*e*P	**Pn**	**03 46 36.4**	**+2.5**
	5.1nm,0.4s						
MAT	**Matsushiro**	**14.99**	**342**	P	**Pn**	**03 46 37.0**	**+3.1**
NJ2	**Nanjing**	**24.15**	**299**	*e*P	**P**	**03 48 15.1**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**25.13**	**336**	P	**P**	**03 48 21.7**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,62nm,5.6s						
CN2	**Changchun**	**26.26**	**329**	*e*P	**P**	**03 48 31.9**	**+0.3**
CN2				*e*S	**S**	**03 52 46.2**	**-7.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
LZH	**Lanzhou**	**37.20**	**301**	*e*P	**P**	**03 50 07.4**	**+0.3**
LZH				AP	pP	03 50 54.1	+17
LZH				PP	PP	03 51 41.7	+7.1
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
CTA	**Charters Tower**	**42.20**	**177**	*e*P	**P**	**03 50 49.1**	**+0.7**
	comp=Z,4.2nm,0.9s,mb4.1						
CTA	**Charters Tower**	**42.20**	**177**	P	**P**	**03 50 48.5**	**+0.2**
	comp=Z,6.2nm,1.1s,mb4.2,baz=359,slow=6.7,SNR=4.1						
CTAO	**Charters Tower**	**42.20**	**177**	*e*P	**P**	**03 50 48.8**	**+0.4**
	comp=Z,8.1nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**42.97**	**193**	*e*P	**P**	**03 50 54.1**	**-0.5**
	comp=Z,3.2nm,0.3s,mb4.4						
WB2	**Warramunga Arr**	**42.98**	**193**	*e*P	**P**	**03 50 55.1**	**+0.4**
WRA	**Warramunga Arr**	**42.98**	**193**	P	**P**	**03 50 54.4**	**-0.3**
	comp=Z,1.2nm,0.3s,mb3.9,baz=15,slow=8.7,SNR=10						
FITZ	**Fitzroy Crossi**	**43.89**	**205**	*e*P	**P**	**03 51 01.5**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.1						
KULM	**Kulim**	**44.95**	**254**	*e*P	**P**	**03 51 11.0**	**+0.6**
AS31	**Alice Springs**	**46.68**	**192**	*e*P	**P**	**03 51 23.8**	**-0.2**
PSI	**Prapat**	**47.61**	**252**	P	**P**	**03 51 31.6**	**+0.4**
	comp=Z,0.8nm,0.3s,mb3.8,baz=275,slow=6.4,SNR=3.8						
MBWA	**Marble Bar**	**49.15**	**210**	*e*P	**P**	**03 51 43.3**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.7						
WMQ	**Urumqi**	**50.62**	**309**	*e*P	**P**	**03 51 55.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,71nm,3.6s						
STKA	**Stephens Creek**	**53.91**	**182**	*e*P	**P**	**03 52 17.4**	**-1.0**
	comp=Z,1.4nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**53.91**	**182**	P	**P**	**03 52 16.8**	**-1.6**
	comp=Z,1.8nm,0.5s,mb4.1,baz=352,slow=8.3,SNR=9.3						
MKAR	**Makanchi Array**	**54.69**	**312**	P	**P**	**03 52 24.3**	**+0.3**
	comp=Z,1.0nm,0.5s,mb3.8,baz=81,slow=8.5,SNR=7.2						
CHKZ	**Chkalovo**	**62.42**	**320**	*e*P	**P**	**03 53 15.2**	**-2.4**
	comp=Z,1.7nm,0.6s,mb4.0						
ZRNK	**Zerenda**	**63.41**	**319**	*e*P	**P**	**03 53 22.7**	**-1.4**
	comp=Z,1.0nm,0.6s,mb3.8						
INK	**Inuvik**	**66.81**	**24**	P	**P**	**03 53 46.5**	**+0.5**
	comp=Z,2.6nm,1.1s,mb4.0,baz=121,slow=5.0,SNR=5.4						
ARCES	**ARCESS Array B**	**78.53**	**342**	P	**P**	**03 54 54.5**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.0,baz=62,slow=10,SNR=4.9						
JOF	**Joensuu**	**80.01**	**335**	*e*p	**P**	**03 55 02.2**	**-1.1**
	comp=Z,1.7nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**82.35**	**52**	P	**P**	**03 55 17.6**	**+1.9**
	comp=Z,0.4nm,0.6s,mb3.2,baz=281,slow=5.9,SNR=5.6						
FINES	**FINESS Array B**	**82.88**	**335**	P	**P**	**03 55 17.3**	**-1.1**
	comp=Z,0.8nm,0.4s,mb3.9,baz=60,slow=4.7,SNR=16						
FINES	**FINESS Array B**	**82.88**	**335**	P	**P**	**03 55 17.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**128.78**	**310**	PKP	PKPdf	04 02 01.0	+0.6
	comp=Z,0.5nm,1.2s,baz=40,slow=1.5,SNR=7.2						
LPAZ	**La Paz**	**149.34**	**84**	PKPbc	PKPbc	04 02 44.2	+2.3
	comp=Z,0.5nm,0.5s,baz=323,slow=1.6,SNR=7.3						

IGQ 08 04:47:46.4, 279S×7882W, h26^{km}±8^{km}, Mb4.4, Ms4.2, 12C-4D, Error ellipse: s-maj=19.9km s-min=6.4km az=10.8, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.30**	**8**	⇓P	Pn	04 48 09.6	+0.7
IGUA				S	Sn	04 48 27.2	+1.7
ARRY	**Arrayan**	**1.33**	**16**	⇓P	Pn	04 48 10.6	+1.4
PATA	**Patacocha**	**1.33**	**17**	P	Pn	04 48 11.6	+2.3
BILB	**Tungurahua vol**	**1.38**	**13**	P	Pn	04 48 11.8	+1.8
RETU	**Refugio**	**1.38**	**16**	⇓P	Pn	04 48 12.3	+2.3
ULBA	**Ulba**	**1.39**	**17**	⇑P	Pn	04 48 12.6	+2.4
JUIV	**Juive**	**1.40**	**15**	P	Pn	04 48 12.0	+1.7
RUN5	**Runtun**	**1.42**	**16**	P	Pn	04 48 12.5	+2.0
PISA	**Pisayambo**	**1.77**	**14**	⇑P	Pn	04 48 18.5	+3.1
CAMI	**Rancho Maria**	**2.12**	**9**	⇑P	Pn	04 48 23.2	+3.0
TAMB	**Tambo**	**2.13**	**12**	⇑P	Pn	04 48 23.9	+3.7
NAS1	**Nasa**	**2.17**	**9**	⇑P	Pn	04 48 24.1	+3.2
VC1	**Cotopaxi 1**	**2.17**	**11**	⇑P	Pn	04 48 24.5	+3.6
ANTI	**Antisana**	**2.42**	**16**	⇑P	Pn	04 48 28.9	+4.7
JUA2	**San Juan 2**	**2.57**	**5**	⇑P	Pn	04 48 29.7	+3.4
TERV	**Terraza Guagua**	**2.61**	**5**	⇑P	Pn	04 48 29.6	+2.8
TERV				S	Sn	04 49 03.9	+6.3
GGP	**Refugio Guagua**	**2.61**	**5**	⇑P	Pn	04 48 29.6	+2.8
GGP				S	Sn	04 49 03.4	+5.7
PINO	**Pino**	**2.62**	**5**	⇑P	Pn	04 48 29.8	+2.8
YANA	**Yana**	**2.67**	**5**	⇑P	Pn	04 48 30.3	+2.7
CAYR	**Refugio Cayamb**	**2.90**	**16**	P	Pn	04 48 37.1	+6.3
CONE	**Cono NE Rev Vo**	**2.95**	**24**	P	Pn	04 48 40.1	+8.6
CAYA	**Cayambe**	**2.96**	**16**	P	Pn	04 48 37.1	+5.4
COTA	**Cotacachi**	**3.14**	**9**	⇓P	Pn	04 48 40.1	+6.0

*ISCJB **08** 05:03:29.8±0.5, 5843N±003×13349W±006, h1^{km}, Error ellipse: s-maj=5.1km s-min=3.5km az=90.4*
*NEIC **08** 05:03:32.0, 5837N×13348W, h1^{km}, ML3.0(AEIC), ML3.2(PGC), After PGC.*
*PGC **08** 05:03:32.0, 5837N×13348W, h1^{km}, ML3.2/3, 55km northeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border.*
ISC 08 05:03:30.9±0.4, 5840N±003×13349W±005, h1^{km}, n16, σ1^{s}05/31, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.43**	**319**	P	**Pn**	**05 03 57.9**	**0.0**
SKAG				S	**Sg**	**05 04 17.4**	**+0.7**
SIT	**Sitka**	**1.67**	**217**	P	**Pn**	**05 04 00.1**	**-1.1**
SIT				S	**Sn**	**05 04 22.2**	**-1.1**
DLBC	**Dease Lake**	**1.82**	**87**	Pn	**Pn**	**05 04 03.3**	**-0.1**
DLBC				Pg	**Pg**	**05 04 04.9**	**-0.9**
DLBC				Sn	**Sn**	**05 04 28.1**	**+1.1**
DLBC				Sg	**Sg**	**05 04 29.5**	**0.0**
DLBC				Trac		05 04 35.3	
	comp=Z,280nm,0.7s						
PLBC	**Pleasant Camp**	**1.83**	**307**	Pn	**Pn**	**05 04 05.1**	**+1.7**
PLBC				Sg	**Sg**	**05 04 30.0**	**+0.4**
WRAK	**Wrangell Islan**	**2.08**	**162**	*e*Pn	**Pn**	**05 04 05.6**	**-1.4**
WRAK				*e*Sn	**Sn**	**05 04 34.5**	**+1.0**
WHY	**Whitehorse**	**2.37**	**343**	Pn	**Pn**	**05 04 11.7**	**+0.8**
WHY				Pg	**Pg**	**05 04 16.4**	**0.0**
WHY				Sn	**Sn**	**05 04 40.0**	**-0.6**
WHY				Sg	**Sg**	**05 04 46.0**	**-1.1**
WHY				Trac		05 04 56.5	
	comp=Z,54nm,0.7s						
WHY	**Whitehorse**	**2.37**	**343**	P	**Pn**	**05 04 11.5**	**+0.6**
HYT	**Haines Junctio**	**3.17**	**322**	Pn	**Pn**	**05 04 24.1**	**+2.2**
HYT				Pg	**Pg**	**05 04 29.9**	**-1.7**
HYT				Sg	**Sg**	**05 05 12.2**	**-0.6**
HYT				Trac		05 05 17.7	
	comp=Z,39nm,0.7s						
PNL	**Peninsula**	**3.31**	**295**	P	**Pn**	**05 04 24.2**	**+0.5**
RUBB	**Prince Rupert**	**4.47**	**155**	Trac		05 05 53.2	
	comp=Z,58nm,0.8s						
RUBB	**Prince Rupert**	**4.47**	**155**	Sg	**Sg**	**05 05 49.1**	**-5.2**
FNBB	**Fort Nelson**	**5.50**	**80**	Pn	**Pn**	**05 04 59.3**	**+5.4**
FNBB				Sg	**Sg**	**05 06 26.3**	**-1.2**
FNBB				Trac		05 06 37.7	
	comp=Z,22nm,0.9s						
DAWY	**Dawson**	**6.35**	**336**	Pn	**Pn**	**05 05 06.2**	**+0.6**
DAWY				Pg	**Pg**	**05 05 29.1**	**-3.6**
DAWY				Sg	**Sg**	**05 06 54.7**	**-0.3**
DAWY				Trac		05 06 55.8	
	comp=Z,22nm,0.8s						
DAWY	**Dawson**	**6.35**	**336**	*e*Pn	**Pn**	**05 05 06.7**	**+1.1**
DAWY				*e*Pg	**Pg**	**05 05 29.7**	**-2.9**
FSB	**Fort Saint Jam**	**6.42**	**124**	Sg	**Sg**	**05 06 57.9**	**+0.6**
FSB				Trac		05 06 59.4	
	comp=Z,9.0nm,0.8s						
INK	**Inuvik**	**9.94**	**360**	Pn	**Pn**	**05 05 56.4**	**+1.5**
INK				Sg	Sn	05 08 44.2	+57
INK				Trac		05 09 04.9	
	comp=Z,3.0nm,1.1s						

*ISCJB **08** 05:20:04.1±0.7, 5962N±004×2441E±008, h0^{km}, Error ellipse: s-maj=5.7km s-min=5.5km az=53.2*
*IDC **08** 05:20:06.5±2.1, 5960N×2483E, h0^{km}, mb1 3.5/3, mb1mx3.2/17, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=23.5km s-min=7.8km az=140.0*
*NAO **08** 05:20:06.7±1.0, 5964N×2465E, ML2.4*
*HEL **08** 05:20:07.2±0.2, 5964N×2462E, h0^{km}, ML2.4, ML2.4(NAO), Explosion*
*BER **08** 05:20:07.3±5.2, 5964N×2463E, h0^{km}±24^{km}, ML2.4(NAO)*
ISC 08 05:20:05.8±0.6, 5964N±004×2460E±007, h0^{km}, n19, σ1^{s}33/31, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.59**	**350**	*e*P	**Pg**	**05 20 17.7**	**+0.6**
MEF				*e*S	**Sg**	**05 20 25.5**	**+0.7**
PVF	**Pernaja**	**1.11**	**34**	*e*P	**Pg**	**05 20 26.8**	**-0.2**
PVF				*e*S	**Sg**	**05 20 41.0**	**-0.4**
VSU	**Vasula**	**1.61**	**136**	*e*P	**Pn**	**05 20 35.7**	**+0.3**
VSU				*e*S	**Sn**	**05 20 56.6**	**-0.3**
VSU	**Vasula**	**1.61**	**136**	Pn	**Pn**	**05 20 35.8**	**+0.3**
VSU				Lg		05 20 56.3	
FIA0	**FINESS Array S**	**1.96**	**21**	*e*P	**Pn**	**05 20 41.8**	**+1.6**
FIA0				*e*S	**Sn**	**05 21 05.4**	**0.0**
FIA0	**FINESS Array S**	**1.96**	**21**	Pn	**Pn**	**05 20 42.1**	**+1.9**
	baz=196,slow=18						
FIA0				Lg		05 21 07.3	
	baz=183,slow=28						
FINES	**FINESS Array B**	**1.96**	**21**	Pn	**Pn**	**05 20 42.0**	**+1.8**
	8.6nm,0.3s,baz=202,slow=17,SNR=409						
FINES				Lg		05 21 07.0	
	5.6nm,0.3s,baz=185,slow=21,SNR=10.0						
RAF	**Rauma**	**1.98**	**316**	*e*P	**Pn**	**05 20 42.3**	**+1.8**
RAF				*e*S	**Sn**	**05 21 08.3**	**+2.2**
RAF				MSG		05 21 10.5	
	comp=Z,25nm,0.1s						
KEF	**Keuruu**	**2.54**	**3**	MSG		05 21 25.9	
	comp=Z,19nm,0.2s						
KAF	**Kangasniemi**	**2.62**	**18**	*e*P	**Pn**	**05 20 51.3**	**+2.0**
KAF				*e*SG	**Sg**	**05 21 27.3**	**-2.7**
KAF				MSG		05 21 28.1	
	comp=Z,16nm,0.2s						
HFS	**Hagfors**	**5.52**	**280**	*e*P	**Pn**	**05 21 29.9**	**+0.8**
HFS				*e*S	**Sn**	**05 22 31.8**	**-1.5**
HFS				*e*SG		05 22 54.5	
HFS	**Hagfors**	**5.52**	**280**	Pn	**Pn**	**05 21 29.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=106,slow=14,SNR=27						
HFS				Sn	**Sn**	**05 22 33.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=82,slow=33,SNR=5.8						
HFS				Lg		05 22 54.7	
	comp=Z,1.6nm,0.3s,baz=85,slow=33,SNR=8.4						
HFS	**Hagfors**	**5.52**	**280**	Pn	**Pn**	**05 21 29.9**	**+0.8**
	baz=89,slow=18						
HFS				Sn	**Sn**	**05 22 31.8**	**-1.5**
	baz=107,slow=28						
HFS				Lg		05 22 54.5	
	baz=80,slow=37						
NB2	**NORSAR Subarra**	**6.79**	**288**	*e*P	**Pn**	**05 21 45.8**	**-0.9**
NB2				*e*SG		05 23 38.1	
NB2	**NORSAR Subarra**	**6.79**	**288**	Pn	**Pn**	**05 21 45.8**	**-0.9**
	baz=97,slow=14						
NB2				Lg		05 23 38.1	
	baz=109,slow=37						
NOA	**NORSAR Array B**	**6.79**	**288**	Pn	**Pn**	**05 21 46.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=91,slow=17,SNR=2.8						
NOA				Sn	**Sn**	**05 23 01.9**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=100,slow=16,SNR=2.6						
NOA				Lg		05 23 35.9	
	comp=Z,1.1nm,0.3s,baz=167,slow=11,SNR=4.8						
ARA0	**ARCESS Array S**	**9.95**	**2**	Pn	**Pn**	**05 22 28.6**	**-1.4**
	baz=171,slow=16						
ARA0				Sn	**Sn**	**05 24 14.4**	**-7.8**
	baz=187,slow=22						
ARA0	**ARCESS Array S**	**9.95**	**2**	*e*P	**Pn**	**05 22 28.6**	**-1.4**
ARA0				*e*S	**Sn**	**05 24 14.4**	**-7.8**
ARCES	**ARCESS Array B**	**9.95**	**2**	Pn	**Pn**	**05 22 28.6**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=181,slow=13,SNR=29						
ARCES				Sn	**Sn**	**05 24 17.6**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=176,slow=22,SNR=4.8						

*NIED **08** 05:20:00, 2530N×128.10E, h5^{km}, Mw4.0 Best double couple: $M_0$1.10000×10^{15} NP1:ϕ_s226.00000°, δ74.00000°, λ-82.00000°. NP2:ϕ_s19.00000°, δ18.00000°, λ-116.00000°.*
*IDC **08** 05:20:17.8±1.1, 2524N×12830E, h0^{km}, mb4.1/7, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, MS2.8/2, Ms1 2.8/2, ms1mx2.2/20, Error ellipse: s-maj=53.1km s-min=16.5km az=74.0*
*ISCJB **08** 05:20:20.0±1.6, 2521N±003×12808E±004, h30^{km}±13^{km}, mb4.0/10, Error ellipse: s-maj=7.1km s-min=5.0km az=74.4*
*JMA **08** 05:20:21.7±0.2, 2531N×128.10E, h66^{km}±4^{km}, M3.7*
*NEIC **08** 05:20:22.7±0.6, 2529N×12831E, h35^{km}, mb4.1/3, Error*

ellipse: s-maj=34.0km s-min=9.1km az=75.0

ISC 08 05:20:21.5±1.4, 2527N±004×12805E±004, h27^{km}±10^{km}, n29, σ0^{s}97/40, mb4.0/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JJT2	Tamagusuku 2	0.90	343	P	Pn	05 20 38.8	+0.4
NAH1	Naha	0.98	341	P	Pn	05 20 39.6	+0.1
NAH1				eS	Sb	05 20 52.7	+0.3
JAGN	Aguni-jima	1.50	331	P	Pn	05 20 47.3	+0.7
JAGN				eS	Sn	05 21 05.7	+0.4
JKE	Kume jima 2	1.55	313	P	Pn	05 20 47.7	+0.4
JKE				eS	Sn	05 21 07.2	+0.7
JOW	Kunigami	1.56	7	Pn	Pn	05 20 47.2	-0.3
	91nm,0.3s,baz=174,slow=14,SNR=340						
JOW				Sn	Sn	05 21 05.0	-1.9
	74nm,0.3s,baz=30,slow=26,SNR=16						
JOW	Kunigami	1.56	7	P	Pn	05 20 47.2	-0.4
JOW				eS	Sn	05 21 05.6	-1.3
JIH	Iheya	1.75	358	P	Pn	05 20 50.0	-0.2
JIH				eS	Sn	05 21 10.5	-1.1
JMJ	Miyako jima 2	2.54	260	P	Pn	05 21 01.6	+0.6
JMJ				eS	Sn	05 21 31.5	+0.5
JTK	Tokunoshima	2.63	18	P	Pn	05 21 01.6	-0.6
JTK				eS	Sn	05 21 29.8	-3.4
JMZ	Minamidaito 2	2.92	79	P	Pn	05 21 03.0	-3.1
JTJ	Tarama	3.10	259	P	Pn	05 21 08.9	+0.2
JTJ				eS	Sn	05 21 44.5	-0.4
JAM	Amami Oshima	3.42	24	P	Pn	05 21 13.3	+0.2
JAM				eS	Sn	05 21 49.0	-3.7
JIJ	Ishigaki jima	3.66	256	P	Pn	05 21 16.1	-0.3
JIJ				eS	Sn	05 21 56.4	-2.3
JKRS	Kuro-shima	3.81	255	P	Pn	05 21 18.3	-0.2
JKRS				eS	Sn	05 22 01.9	-0.5
IRIF	Iriomote-Funau	4.03	258	P	Pn	05 21 21.2	-0.3
HATJ	Hateruma jima	4.05	253	P	Pn	05 21 21.6	-0.1
HATJ				eS	Sn	05 22 05.9	-2.3
JNN	Nakanoshima	4.83	19	P	Pn	05 21 32.9	+0.5
CBIJ	Chichi jima	12.82	79	LR	LR	05 26 25.7	
	comp=Z,34nm,21.0s,baz=148,slow=29						
GUMO	Guam	19.64	123	LR	LR	05 30 11.0	
	comp=Z,44nm,21.5s,baz=280,slow=30						
MKAR	Makanchi Array	42.05	313	P	P	05 28 12.1	+1.2
	1.9nm,0.6s,mb3.9,baz=101,slow=10,SNR=14						
FITZ	Fitzroy Crossi	43.18	183	P	P	05 28 20.2	+0.3
	1.7nm,0.6s,mb4.0,baz=2.7,slow=20,SNR=7.6						
WRAB	Tennant Creek	45.35	172	eP	P	05 28 37.4	0.0
	2.5nm,0.8s,mb4.1						
WRA	Warramunga Arr	45.36	172	P	P	05 28 36.9	-0.5
	2.1nm,0.5s,mb4.2,baz=354,slow=8.5,SNR=11						
BVAR	Borovoye Array	50.88	319	P	P	05 29 22.1	+2.0
	0.6nm,0.4s,mb3.8,baz=91,slow=9.1,SNR=3.5						
BRVK	Borovoye	50.95	319	eP	P	05 29 20.6	0.0
	0.9nm,0.5s,mb4.0						
ZRNK	Zerenda	51.70	319	eP	P	05 29 27.0	+0.8
	1.1nm,0.6s,mb4.0						
STKA	Stephens Creek	58.28	166	P	P	05 30 14.2	+0.4
	1.2nm,0.5s,mb4.2,baz=347,slow=11,SNR=4.3						
FINES	FINESS Array B	73.61	331	P	P	05 31 53.8	+1.4
	1.9nm,0.9s,mb4.0,baz=45,slow=12,SNR=3.4						
AKASG	Malin Array Be	76.15	320	P	P	05 32 08.2	+1.1
	0.3nm,0.4s,mb3.6,baz=56,slow=5.9,SNR=4.4						

MDD 08 05:33:46.6±2.1, 3877N×796W, h0^{km}, mbLg1.3/2, Error ellipse: s-maj=16.7km s-min=6.7km az=135.0, PRXIMO SIN SOLUCIN

INMG 08 05:33:46.7±0.4, 3875N×796W, h8^{km}±7^{km}, ML1.1, Error ellipse: s-maj=2.3km s-min=1.4km az=122.0, Portugal

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PESTR	Estremoz	0.31	68	ePg	Pg	05 33 52.4	-0.3
PESTR				eSg	Sg	05 33 56.8	0.0
PESTR							
	1.5nm,0.1s						
PBEJ	Beja	0.73	174	ePg	Pg	05 34 00.1	-0.7
PBEJ				eSg	Sg	05 34 10.1	-0.2
PBEJ							
	2.0nm,0.1s						
EBAD	Badajoz	0.74	90	Pg	Pg	05 34 00.2	-0.7
	1.2nm,0.1s,SNR=7.9						
EBAD				Lg		05 34 10.2	
	4.6nm,0.1s,SNR=7.9						
EGRO	El Granado	1.27	163	Pg	Pg	05 34 10.6	-0.6
	0.2nm,0.1s,SNR=7.9						
EGRO				Lg		05 34 29.1	
	0.6nm,0.2s,SNR=7.9						
PTEO	Sao Teotonio	1.35	207	eSg	Sg	05 34 29.7	-0.4
EMIN	Mina Concepcio	1.41	134	Pg	Pg	05 34 12.3	-1.4
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		05 34 31.6	
	0.2nm,0.1s,SNR=7.9						

NEIC 08 06:32:20.8, 16.11N×97.54W, h35^{km}, MD4.0(MEX), After MEX.

MEX 08 06:32:20.3±0.8, 1613N×9755W, h7^{km}±13^{km}, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.62	295	i P	Pg	06 32 31.3	-0.9
PNIG				i S	Sg	06 32 40.1	-0.1
VHO	Vista Hermosa	1.22	40	i P	Pg	06 32 40.0	-3.7
VHO				i S	Sg	06 32 55.4	-4.1
VHO	Vista Hermosa	1.22	40	i P	Pg	06 32 40.0	-3.7
VHO				i S	Sg	06 32 54.8	-4.8
OXX	Oaxaca	1.23	40	eP	Pb	06 32 40.0	-3.9
OXX				i S	Sg	06 32 56.0	-3.9
HUIG	Huatulco	1.43	104	i P	Pn	06 32 44.2	-2.5
HUIG				i S	Sb	06 33 01.0	-4.7
HUIG	Huatulco	1.43	104	i P	Pn	06 32 44.2	-2.5
HUIG				i S	Sb	06 32 58.6	-7.1
UTMO	Huajuapan	1.71	352	i P	Pn	06 32 48.8	-1.8
UTMO				i S	Sn	06 33 08.0	-4.7
TPIG	Tehuac#an	2.29	4	i P	Pn	06 32 53.7	-4.8
TPIG				i S	Sn	06 33 22.4	-4.5
ACX	Acapulco	2.39	288	eP	Pn	06 33 02.5	+2.6
MEIG	Mezcala	2.67	312	eP	Pn	06 33 01.2	-2.5
MEIG				i S	Sn	06 33 32.4	-4.0
PLIG	Platanillo	2.93	321	i P	Pn	06 33 05.3	-2.0
PLIG				i S	Sn	06 33 39.5	-3.2
PLIG	Platanillo	2.93	321	i S	Sn	06 33 37.5	-5.2
PPM	Popocatepetl	3.10	341	i P	Pn	06 33 08.3	-1.3
PPM				i S	Sn	06 33 44.7	-2.2
PPM	Popocatepetl	3.10	341	i P	Pn	06 33 12.2	+2.5
PPM				i S	Sn	06 33 42.6	-4.3
IIZ	Mezontepec	3.44	332	i P	Pn	06 33 09.4	-5.0
IIZ				i S	Sn	06 33 50.2	-5.2

MEX 08 07:25:26.9±1.1, 1693N×10047W, h10^{km}, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.22	59	i P	Pg	07 25 30.4	-1.0
CAIG				i S	Sg	07 25 34.3	-0.3
ACX	Acapulco	0.53	97	i P	Pg	07 25 36.0	-1.2
ACX				i S	Sg	07 25 44.5	+0.3
MEIG	Mezcala	1.27	39	i P	Pn	07 25 48.2	-2.5
MEIG				i S	Sb	07 26 04.1	-3.3

ATH 08 07:29:50.1, 41.10N×23.29E, h22^{km}±3^{km}, MD3.2/3
ISCJB 08 07:29:51.6±0.4, 4101N±002×2351E±003, h1^{km}, Error ellipse: s-maj=3.5km s-min=2.8km az=60.9
CSEM 08 07:29:52.5±0.1, 4102N×2348E, h12^{km}, ML2.5, Error ellipse: s-maj=1.5km s-min=1.2km az=126.0
THE 08 07:29:52.6, 4100N×2348E, h1^{km}, ML2.5
NEIC 08 07:29:52.6, 4100N×2348E, h1^{km}, MD3.2(ATH), ML3.1(ROM), After THE.
SKO 08 07:29:53.1, 4100N×2349E, h0^{km}, M0.6, ML2.3

ISC 08 07:29:52.4±0.4, 4101N±002×2349E±003, h11^{km}±6^{km}, n20, σ0^{s}57/35, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.14	36	ePg	Pg	07 29 55.5	-0.1
SRS				eSg	Sg	07 29 57.5	-0.3
SOH	Sokhos	0.21	209	ePg	Pg	07 29 56.8	-0.1
SOH				eSg	Sg	07 29 59.9	0.0
SOH	Sokhos	0.21	209	ePg	Pg	07 29 56.8	-0.1
SOH				eSg	Sg	07 29 59.8	-0.1
NVR	Nevrokopi	0.44	39	ePN	Pg	07 30 01.1	0.0
NVR				eSN	Sg	07 30 07.3	+0.3
KNT	Kendrikon	0.47	289	ePg	Pg	07 30 01.5	-0.1
KNT				eSg	Sg	07 30 08.1	+0.2
HORT	Hortiatis	0.51	216	ePg	Pg	07 30 02.3	0.0
HORT				eSg	Sg	07 30 09.1	+0.2
THE	Thessaloniki	0.55	227	ePg	Pg	07 30 03.0	-0.1
THE				eSg	Sg	07 30 09.9	-0.4
MMB	Musomiste	0.61	17	ePg	Pg	07 30 03.6	-0.6
PLG	Polygyros	0.63	183	ePN	Pg	07 30 03.9	-0.8
PLG				eSN	Sg	07 30 14.2	+1.2
VAY	Valandovo	0.76	295	i Pg	Pg	07 30 07.0	-0.1
VAY				i Sg	Sg	07 30 17.4	+0.4
VAY				eLg		07 30 17.9	
	comp=N,46nm,0.3s						
VAY				eLg		07 30 17.9	
	comp=E,75nm,0.2s						
VAY	Valandovo	0.76	295	ePg	Pg	07 30 06.7	-0.4
VAY				eSg	Sg	07 30 17.3	+0.3
OUR	Ouranopolis	0.77	151	ePg	Pg	07 30 07.0	-0.2
GRG	Griva	0.82	267	ePg	Pg	07 30 08.2	-0.1
PAIG	Paliouri	1.09	172	ePg	Pg	07 30 12.3	-1.0
PAIG				eSg	Sg	07 30 28.2	+0.7
STIP	Stip	1.20	305	ePg	Pg	07 30 14.7	-0.6
STIP				eSg	Sg	07 30 32.1	+1.1
STIP	Stip	1.20	305	i Pg	Pg	07 30 14.9	-0.4
PLD	Plovdiv	1.43	39	ePg	Pg	07 30 18.4	-1.4
PLD				eSg	Sg	07 30 39.4	+1.1
RDO	Rodhopi	1.56	84	ePB	Pn	07 30 19.8	-0.2
RDO				eSN	Sg	07 30 43.1	+0.7
VTS	Vitosha	1.60	353	ePg	Pb	07 30 21.9	0.0
VTS				eSg	Sg	07 30 43.8	0.0
XOR	Xorichti	1.66	188	ePb	Pn	07 30 21.5	+0.2

ISCJB 08 07:31:51.3±0.5, 4186N±003×1589E±004, h25^{km}±2^{km}, Error ellipse: s-maj=5.4km s-min=3.6km az=85.8
NEIC 08 07:31:51.6, 4180N×1589E, h24^{km}, ML3.0(ROM), After ROM.
CSEM 08 07:31:51.8±0.1, 4182N×1584E, h21^{km}, ML4.4/10, Error ellipse: s-maj=2.4km s-min=1.4km az=24.0
ROM 08 07:31:51.6±0.2, 4180N×1589E, h24^{km}±2^{km}, Md2.9/36, Ml3.0/26, Error ellipse: s-maj=2.9km s-min=2.4km az=74.0

ISC 08 07:31:51.7±0.5, 4185N±003×1588E±004, h24^{km}±2^{km}, n42, σ1^{s}01/65, 5C-2D, Southern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSAG	Monte S. Angel	0.14	171	⇓ePg	Pb	07 31 56.5	0.0
MSAG				Sg	Sb	07 31 59.8	+0.1
	13µm,0.1s						
SGRT	San Giovanni R	0.14	228	⇑iPg	Pb	07 31 56.5	0.0
SGRT				Sg	Sb	07 31 59.8	+0.1
	9µm,0.2s						
FGMS	Monte Sant'Ang	0.15	158	⇑iPg	Pb	07 31 56.6	0.0
FGMS				Sg	Sb	07 31 59.8	-0.1
MS1	Monte Sant'Ang	0.15	162	eSg	Sb	07 31 59.9	0.0
RGNG	Rignano Grg	0.28	232	⇑iPg	Pb	07 31 58.0	-0.2
RGNG				Sg	Sb	07 32 02.4	-0.3
FG2	Serracapriola	0.54	266	⇓iPg	Pb	07 32 02.3	-0.2
FG2				Sg	Sb	07 32 10.0	+0.2
FG5	Orsara di Pugl	0.73	219	Pg	Pb	07 32 06.0	+0.4
FG5				Sg	Sb	07 32 16.3	+1.1
	326nm,0.4s						
CIGN	Sant'Elia a Pi	0.75	256	Pn	Pn	07 32 06.3	-0.5
	116nm,0.4s						
FG4	Candela	0.76	201	⇑iPg	Pb	07 32 05.6	-0.7
FG4				Sg	Sb	07 32 16.8	+0.6
SGTA	Sant Agata di	0.81	209	Pn	Pn	07 32 06.5	-1.1
SGTA				Sn	Sn	07 32 16.4	-2.4
	1µm,0.4s						
CDT	Castel del Mon	0.82	159	ePg	Pb	07 32 06.4	-0.8
CDT				eSg	Sb	07 32 17.7	-0.1
PALZ	Palazzo San Ge	0.90	176	Pn	Pn	07 32 07.8	-1.1
PALZ				Sn	Sn	07 32 20.2	-0.9
	855nm,0.3s						
FRES	Fresagrandinar	0.91	278	Pn	Pn	07 32 08.7	-0.3
	465nm,0.6s						
VULT	Monte Vulture	0.91	193	Pn	Pn	07 32 08.3	-0.7
VULT				Sn	Sn	07 32 21.4	0.0
	1µm,0.3s						
CAFE	Carife	0.95	211	Pn	Pn	07 32 09.1	-0.4
CAFE				Sn	Sn	07 32 22.9	+0.6
	401nm,0.2s						
SACR	S. Croce Del S	0.99	243	Pn	Pn	07 32 10.1	+0.1
	91nm,0.3s						
TRIV	Trivento	1.00	266	Pn	Pn	07 32 11.4	+1.3
	97nm,0.7s						
BSSO	Busso	1.01	253	Pn	Pn	07 32 10.8	+0.5
SNAL	S. Angelo Dei	1.05	209	Pn	Pn	07 32 09.7	-1.2
SNAL				Sn	Sn	07 32 25.3	+0.6
	401nm,0.2s						
BAI	Bari	1.05	134	ePg	Pn	07 32 10.8	-0.1
BAI				eSg	Sb	07 32 26.4	+1.9
AMUR	Altamura	1.08	150	Pn	Pn	07 32 09.7	-1.7
AMUR				Sn	Sn	07 32 25.3	-0.3
	527nm,0.2s						
MRLC	Muro Lucano	1.13	195	Pn	Pn	07 32 10.1	-1.8
MRLC				Sn	Sn	07 32 27.9	+1.2
	277nm,0.3s						
SG1	Sgolgore (BA)	1.17	149	ePg	Pn	07 32 11.0	-1.5
SG1				eSg	Sn	07 32 28.5	+0.7
CSSN	Cassano Irpino	1.18	213	Pn	Pn	07 32 12.2	-0.4
	66nm,0.3s						
MCRV	Calabrutti - M	1.19	207	Pn	Pn	07 32 11.7	-1.1
MCRV				Sn	Sn	07 32 28.6	+0.4
	296nm,0.3s						
RNI2	Rionero Sannit	1.30	264	Pn	Pn	07 32 15.8	+1.5
VAGA	Valle Agricola	1.31	251	Pn	Pn	07 32 15.4	+1.0
	115nm,0.4s						
MIGL	Miglionico	1.31	161	Pn	Pn	07 32 14.9	+0.4
MIGL				Sn	Sn	07 32 32.9	+1.7
	960nm,0.3s						
MOCO	Biccari - m.te	1.38	250	⇑ePg	Pn	07 32 05.2	-10
MOCO				Sg	Sn	07 32 14.5	-18
	302nm,0.5s						
NOCI	Noci	1.38	139	Pn	Pn	07 32 16.4	+0.9
NOCI				Sn	Sn	07 32 35.3	+2.3
	648nm,0.3s						
CERA	Filignano	1.42	261	Pn	Pn	07 32 18.6	+2.7
CDRU	Civita di Ruta	1.42	198	Pn	Pn	07 32 14.1	-1.9
INTR	Introdacqua	1.48	277	Pn	Pn	07 32 17.6	+0.8
	201nm,0.8s						
PE1	Pezze di Greco	1.56	131	ePg	Pn	07 32 19.1	+1.2
PE1				eSg	Sn	07 32 40.5	+3.2
CMPR	Campora	1.59	196	Pn	Pn	07 32 18.0	-0.3
	117nm,0.7s						
VCEL	Villa Celiera	1.61	291	Pn	Pn	07 32 19.4	+0.8
	215nm,1.0s						
SCHR	S. Chirico Rap	1.65	175	Pn	Pn	07 32 18.2	-1.0
	79nm,0.4s						
SIRI	Monte Sirino -	1.66	180	Pn	Pn	07 32 18.2	-1.1
	201nm,0.2s						
VVLD	Villa Vallelon	1.69	272	Pn	Pn	07 32 21.5	+1.9
	111nm,0.8s						
CUC	Castrocucco	1.85	182	Pn	Pn	07 32 20.5	-1.4
	135nm,0.7s						
TERO	Teramo	1.86	295	Pn	Pn	07 32 22.3	+0.3
	45nm,0.4s						
NVLJ	Novalja	2.81	345	i Pn	Pn	07 32 34.5	-0.6
NVLJ				i Sn	Sn	07 33 07.3	-1.0

NEIC 08 07:47:39.5, 1688N×10043W, h6^{km}, MD4.0(MEX), After MEX.

MEX 08 07:47:39.4±0.8, 1688N×10044W, h5^{km}, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.23	44	i P	Pg	07 47 42.9	-1.1
CAIG				i S	Sg	07 47 47.4	+0.4
ACX	Acapulco	0.50	91	i P	Pg	07 47 48.5	-0.5
ACX				i S	Sg	07 47 56.5	+1.1
ZIIG	Zihuatanejo	1.22	307	i P	Pg	07 47 58.9	-4.0
ZIIG				i S	Sg	07 48 15.7	-3.0
MEIG	Mezcala	1.30	37	i P	Pn	07 48 00.8	-3.4
MEIG				i S	Sg	07 48 17.5	-3.7
PLIG	Platanillo	1.75	30	i P	Pn	07 48 08.2	-2.2
PLIG				i S	Sn	07 48 28.8	-4.2
IIZ	Mezontepec	2.56	26	eP	Pn	07 48 17.8	-3.7
IIZ				i S	Sn	07 48 49.9	-3.2
UTMO	Huajuapan	2.69	69	i P	Pn	07 48 22.1	-1.1
UTMO				i S	Sn	07 48 51.9	-4.2
PPM	Popocatepetl	2.77	38	i P	Pn	07 48 23.4	-1.1
PPM				i S	Sn	07 48 55.1	-3.3
PPM	Popocatepetl	2.77	38	i P	Pn	07 48 23.4	-1.1
PPM				i S	Sn	07 48 53.2	-5.2
MOIG	Morelia	2.88	346	i P	Pn	07 48 21.8	-4.1
MOIG				i S	Sn	07 48 57.7	-3.1
MRX	Morelia	2.90	346	eP	Pn	07 48 26.5	+0.3
TPIG	Tehuac#an	3.31	62	i S	Sn	07 49 07.5	-4.0
VHO	Vista Hermosa	3.55	86	i P	Pn	07 48 33.4	-1.7
VHO				i S	Sn	07 49 14.0	-3.4
VHO	Vista Hermosa	3.55	86	i P	Pn	07 48 36.8	+1.6
VHO				i S	Sn	07 49 16.0	-1.4
OXX	Oaxaca	3.56	86	eP	Pn	07 48 36.0	+0.8

ISCJB 08 08:00:24.0±1.7, 4054N±006×777E±0.1, h10^{km}, Error ellipse: s-maj=15.3km s-min=6.6km az=47.9
BJI 08 08:00:23.0, 4078N×7758E, h14^{km}, ML3.0
NNC 08 08:00:29.2±4.2, 41.12N×78.34E, h0^{km}, mb3.8, mpv3.4, Error ellipse: s-maj=49.8km s-min=36.9km az=30.0

ISC 08 08:00:23.4±1.4, 4052N±006×778E±0.1, h10^{km}, n13, σ1^{s}66/17, 3C, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	Kashi	1.73	235	ePG	Pg	08 00 54.8	-1.8
KSH				SG	Sg	08 01 20.1	+1.0
KSH				Smax			
	comp=N,274nm,0.9s						
KSH				Smax			
	comp=E,358nm,0.4s						
ULHL	Ulahol	2.09	326	P	Pn	08 00 55.0	-3.5
	SNR=41						
KZA	Kyzart	2.48	310	P	Pn	08 01 02.4	-1.4
	SNR=20						
KNDC	Almaty	2.77	347	P	Pn	08 01 09.0	+1.3
	comp=E,68nm,0.6s						
KNDC				S	Sn	08 01 40.4	-0.8
	comp=E,340nm,0.8s						
TKM2	Tokmak 2	2.92	326	P	Pn	08 01 10.3	+0.6
	SNR=8.4						
TKM2	Tokmak 2	2.92	326	⇑Pn	Pn	08 01 09.9	+0.1
	comp=E,0.8nm,0.2s						
TKM2				⇑Sn	Sn	08 01 45.7	+0.8
	comp=E,1.2nm,0.3s						
KBK	Karagaybulak	3.03	316	P	Pn	08 01 12.6	+1.2
	SNR=9.1						
AAK	Ala-Archa	3.26	311	P	Pn	08 01 16.4	+1.9
	SNR=13						
CHMS	Chumysh	3.37	318	P	Pn	08 01 18.2	+2.2
	SNR=17						
USP	Ospenovka	3.69	319	P	Pn	08 01 23.9	+3.4
	SNR=58						
EKS2	Erkin-Say	3.71	307	P	Pn	08 01 24.3	+3.7
	SNR=21						
KK31	Karatay Array	6.03	298	Pn	Pb	08 02 06.4	-2.2
	comp=E,2.8nm,0.8s,baz=116,slow=16,SNR=18						
KK31				⇑Sn	Sb	08 03 18.9	-2.0
	comp=E,3.5nm,0.4s						
MK06	Makanchi Array	7.05	26	Pn	Pn	08 02 04.8	-1.9
	baz=204,slow=18						
MK06				Lg		08 03 52.9	
	comp=E,1.5nm,0.5s,baz=204,slow=28						

NIED 08 08:51:00, 3190N×13100E, h11^{km}, Mw3.9 Best double couple: M$_0$8.52000×10^{14} NP1:ϕ_s118.00000°, δ70.00000°, λ-22.00000°. NP2:ϕ_s216.00000°, δ69.00000°, λ-158.00000°.

JMA 08 08:51:38.3, 3190N×13102E, h11^{km}±1^{km}, M3.8, 4C-2D Broadband fault plane solution: P waves. NP1: ϕ_s117.00000°, δ49.00000°, λ-15.00000°. **NP2:** ϕ_s217.00000°, δ79.00000°, λ-138.00000°. **Principal axes:** T Plg19.0000°, Azm341.0000°; N Plg47.0000°, Azm229.0000°; P Plg37.0000°, Azm86.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTZ	Takazaki	0.06	89	⇑P	Pg	08 51 40.3	-0.2
JTZ				S	Sg	08 51 42.2	+0.1
JNAR	Kushima--Naru	0.43	150	⇑P	Pg	08 51 46.8	+0.1
JZO	Okuchi	0.43	304	⇑P	Pg	08 51 46.8	0.0
JZO				S	Sg	08 51 52.7	+0.2
JTSN	Tsuno	0.54	50	⇓P	Pg	08 51 48.4	-0.4
JTSN				S	Sg	08 51 55.9	+0.1
JSU	Suzuyama	0.62	231	⇓P	Pg	08 51 50.2	-0.2
JSU				S	Sg	08 51 58.5	0.0
JIU2	Izumi 2	0.67	345	⇑P	Pg	08 51 51.4	+0.2

IDC 08 08:55:04.0±3.5, 396N×7712W, h132^{km}±28^{km}, mb3.1/4, mb1 3.3/6, mb1mx3.2/19, mbtmp3.6/6 Error ellipse: s-maj=42.2km s-min=22.4km az=22.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.92	72	P	Pn	08 55 48.3	-1.3
	7.4nm,0.3s,baz=274,slow=19,SNR=19						
ROSC				S	Sn	08 56 27.2	+2.5
	8.1nm,0.3s,baz=265,slow=23,SNR=4.8						
SDV	Santo Domingo	8.09	52	P	Pn	08 56 57.6	-1.0
	0.7nm,0.3s,baz=234,slow=19,SNR=3.5						
SDV				S	Sn	08 58 27.9	-0.6
	0.4nm,0.3s,baz=221,slow=20,SNR=2.8						
ANMO	Albuquerque	41.11	322	P	P	09 02 35.0	+0.3
	0.8nm,0.7s,baz=144,slow=10,SNR=5.0						
PDAR	Pinedale Array	48.21	328	P	P	09 03 31.7	+0.6
	0.4nm,1.0s,baz=115,slow=25,SNR=3.9						
NVAR	Mina Array Bea	50.80	318	P	P	09 03 51.3	+0.7
	0.1nm,0.5s,baz=131,slow=6.1,SNR=3.5						
TORD	Torodi Ar. Bea	78.22	77	P	P	09 06 49.6	+0.8
	0.5nm,0.5s,baz=286,slow=6.3,SNR=10						
WRA	Warramunga Arr	145.47	240	PKPbc	PKPbc	09 14 26.7	+0.2
	1.6nm,1.1s,baz=107,slow=2.8,SNR=7.5						

ISCJB 08 08:57:32.3±1.3, 61.11N±006×303E±0.1, h0^{km}, Error ellipse: s-maj=10.4km s-min=6.3km az=92.2
HEL 08 08:57:34.8±0.2, 61.12N×30.22E, h0^{km}, ML2.3, ML2.6(NAO), Explosion
CSEM 08 08:57:34.1±0.4, 61.11N×30.21E, h1^{km}, ML2.6, Error ellipse: s-maj=12.7km s-min=3.6km az=142.0, Mining explosion.
BER 08 08:57:35.5±2.0, 6100N×3007E, h0^{km}, ML2.6(NAO), Suspected explosion
NAO 08 08:57:37.1±2.1, 6096N×2982E, ML2.6
IDC 08 08:57:37.4±2.0, 6121N×2991E, h0^{km}, mb1 3.4/3, mb1mx3.2/18, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=21.4km s-min=10.6km az=162.0

ISC 08 08:57:34.7±1.1, 6117N±006×301E±0.1, h0^{km}, n22, σ1^{s}17/35, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOF	Joensuu	1.84	17	eP	Pn	08 58 08.1	+0.6
JOF				eS	Sn	08 58 31.9	+0.5
JOF	Joensuu	1.84	17	P	Pn	08 58 08.1	+0.6
JOF				S	Sn	08 58 31.9	+0.5
FIA0	FINESS Array S	1.97	280	eP	Pn	08 58 10.0	+0.6
FIA0				eS	Sn	08 58 36.3	+1.5
FIA0	FINESS Array S	1.97	280	Pg	Pg	08 58 09.7	-2.8
	baz=109,slow=16						
FIA0				Lg		08 58 36.2	
	baz=95,slow=37						
FIA0	FINESS Array S	1.97	280	P	Pn	08 58 09.9	+0.6
FIA0				S	Sn	08 58 36.2	+1.5
FINES	FINESS Array B	1.97	280	Pg	Pg	08 58 09.8	-2.7
	4.2nm,0.3s,baz=95,slow=17,SNR=113						
FINES				Lg		08 58 36.1	
	6.4nm,0.3s,baz=95,slow=31,SNR=20						
KAF	Kangasniemi	2.05	299	eP	Pn	08 58 12.2	+1.8
KAF				eSB	Sb	08 58 39.2	+0.3
KAF				MSG		08 58 41.8	
	comp=Z,16nm,0.2s						
PVF	Pernaja	2.18	255	eP	Pn	08 58 12.3	+0.2
PVF				eS	Sn	08 58 40.4	+0.5
PVF	Pernaja	2.18	255	P	Pn	08 58 12.3	+0.1

PVF				S	Sn	08 58 40.3	+0.4
SUF	Sumiainen	2.44	311	ePB	Pb	08 58 18.2	-1.1
SUF				eSB	Sb	08 58 50.2	+0.3
SUF				MSG		08 58 52.9	
	comp=Z,15nm,0.2s						
KEF	Keuruu	2.70	294	MSG		08 58 57.7	
	comp=Z,8.4nm,0.2s						
KJN	Kajaani	3.13	340	ePB	Pb	08 58 28.9	-2.2
KJN				eSB	Sb	08 59 09.6	-0.3
HFS	Hagfors	8.14	270	eP	Pn	08 59 33.1	-0.9
HFS				eS	Sn	09 01 01.2	-5.5
HFS				eSG		09 01 45.7	
HFS	Hagfors	8.14	270	Pn	Pn	08 59 33.1	-1.0
	comp=Z,0.6nm,0.3s,baz=73,slow=10,SNR=9.6						
HFS				Sn	Sn	09 01 01.3	-5.4
	comp=Z,0.5nm,0.3s,baz=73,slow=30,SNR=4.8						
HFS				Lg		09 01 49.0	
	comp=Z,1.0nm,0.3s,baz=82,slow=31,SNR=4.8						
HFS	Hagfors	8.14	270	Pn	Pn	08 59 33.1	-0.9
	baz=84,slow=14						
HFS				Sn	Sn	09 01 01.2	-5.5
	baz=78,slow=28						
HFS				Lg		09 01 45.7	
	baz=79,slow=37						
HFS	Hagfors	8.14	270	Pn	Pn	08 59 33.2	-0.9
	SNR=1.7						
HFS				Sn	Sn	09 01 01.2	-5.6
	SNR=4.2						
ARA0	ARCESS Array S	8.61	349	Pn	Pn	08 59 42.4	+1.8
	baz=166,slow=12						
ARA0	ARCESS Array S	8.61	349	eP	Pn	08 59 42.4	+1.8
ARCES	ARCESS Array B	8.61	349	Pn	Pn	08 59 39.8	-0.8
	comp=Z,0.3nm,0.3s,baz=164,slow=10,SNR=10						
NB2	NORSAR Subarra	9.15	277	Pn	Pn	08 59 46.8	-1.2
	baz=80,slow=12						
NB2	NORSAR Subarra	9.15	277	eP	Pn	08 59 46.8	-1.2
NOA	NORSAR Array B	9.15	277	Pn	Pn	08 59 47.0	-1.0
	comp=Z,0.6nm,0.3s,baz=78,slow=14,SNR=3.2						
NOA				Sn	Sn	09 01 24.6	-7.2
	comp=Z,0.3nm,0.3s,baz=123,slow=20,SNR=2.1						
NOA				Lg		09 02 16.6	
	comp=Z,0.5nm,0.3s,baz=322,slow=12,SNR=2.6						

NNC 08 09:00:42.9±5.3, 5343N×8688E, h0^{km}, mb3.5, mpv3.6, 2C-4D, Error ellipse: s-maj=46.4km s-min=20.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK05	Makanchi Array	7.26	206	⇓Pn	Pn	09 02 28.8	-1.5
	2.8nm,0.8s,baz=30,slow=13						
MK05				⇓Sn	Sn	09 03 55.9	+2.4
	6.4nm,1.1s						
MK05				⇑Lg		09 04 31.4	
	6.1nm,0.8s						
VOSK	Vostochnaya	9.60	272	⇓Pn	Pn	09 03 03.2	+0.8
	0.2nm,0.2s						
VOSK				⇓Sn	Sn	09 04 51.3	+0.4
	5.1nm,0.8s						
CHKZ	Chkalovo	9.69	278	Pn	Pn	09 03 04.9	+1.4
CHKZ				Sn	Sn	09 04 51.7	-1.4
BVA0	Borovoye Array	9.90	274	Pn	Pn	09 03 06.8	+0.3
	0.2nm,0.6s,baz=287,slow=38,SNR=4.9						
BVA0				⇑Sn	Sn	09 05 00.2	+1.9
	0.6nm,0.8s,baz=265,slow=40,SNR=6.5						
ZRNK	Zerenda	10.74	275	Sn	Sn	09 05 19.1	+0.2

*ISCJB **08** 09:16:30.9±1.4, 1057N±005×9182E±004, h6^{km}±9^{km}, mb4.5/47, MS4.1/25, Error ellipse: s-maj=8.3km s-min=5.1km az=55.2*

*IDC **08** 09:16:31.9±0.5, 1074N×9183E, h0^{km}, mb4.2/20, mb1 4.3/21, mb1mx4.3/25, mbtmp4.2/21, ML3.3/1, MS4.0/16, Ms1 4.0/16, ms1mx3.8/28, Error ellipse: s-maj=20.8km s-min=13.1km az=49.0*

*MOS **08** 09:16:34.2±1.5, 1057N×9186E, h29^{km}, mb5.0/15, Error ellipse: s-maj=13.8km s-min=7.9km az=102.7*

*BJI **08** 09:16:34.6, 1040N×9170E, h42^{km}, mB4.9, mb4.6, Ms4.4, Msz4.2*

*NEIC **08** 09:16:36.2±0.4, 1058N×9173E, h30^{km}, mb4.7/8, Error ellipse: s-maj=12.1km s-min=6.8km az=52.0*

*SZGRF **08** 09:16:41.1, 1002N×9287E, h33^{km}, mb4.9, Andaman Islands, India, region*

ISC 08 09:16:36.4±1.5, 1063N±005×9180E±004, h29^{km}±11^{km}, h32^{km}±1.2^{km}:pP-P, n119, σ1.17/106, mb4.5/47, MS4.1/25, 6C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	1.37	42	eP	Px	09 16 42.8	
PBA				eS	Sx	09 16 59.7	
PBA				ex	x	09 17 02.6	
	comp=E,22μm,0.7s						
PBA				ex	x	09 17 02.8	
	comp=N,26μm,0.6s						
NNT	Nongplab	8.01	75	P	Pn	09 18 31.0	+0.1
NST	Nakhon Sawan	9.54	57	P	Pn	09 18 51.0	-0.8
KULM	Kulim	10.25	121	ePn	Pn	09 19 03.1	+1.6
KULM				eSn	Sn	09 20 53.7	-1.7
PSI	Prapat	10.51	137	Pn	Pn	09 19 04.2	-0.9
	comp=N,0.2nm,0.3s,baz=50,slow=17,SNR=2.3						
CHG	Chiang Mai	10.67	40	P	Pn	09 19 15.3	+8.0
CHTO	Chiang Mai	10.67	40	eP	Pn	09 19 09.1	+1.8
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	Chiang Mai	10.67	40	ePn	Pn	09 19 09.1	+1.8
	comp=Z,6.5nm,1.1s						
VIS	Vishakhapatnam	10.82	312	eP	Pn	09 19 08.0	-1.3
VIS				AMb	AMB	09 19 15.6	
	comp=Z,126nm,0.7s						
VIS				eS	Sn	09 20 58.2	-11
MDRS	Chennai	11.56	283	eP	Pn	09 19 19.0	-0.5
MDRS				AMb	AMB	09 19 20.9	
	comp=Z,219nm,0.2s						
MDRS				eS	Sn	09 21 16.3	-11
NANT	Nan	11.83	46	P	Pn	09 19 33.0	+10
CAL	Calcutta	12.29	345	ex	x	09 22 05.5	
CAL				ex	x	09 23 36.5	
BOK	Bokaro	14.25	337	eS	Sn	09 22 22.9	-10
HYB	Hyderabad	14.51	299	i P	Pn	09 20 08.0	+8.2
HYB				e		09 22 33.0	
HYB				eS	Sn	09 22 38.0	-1.6
HYB	Hyderabad	14.51	299	eP	Pn	09 20 08.0	+8.2
HYB				eS	Sn	09 22 33.0	-6.6
TRD	Trivandrum	14.79	263⇑	ex	Pn	09 20 17.1	+14
TRD				ex	Sn	09 23 23.1	+37
NGP	Nagpur	16.10	312	eP	Pn	09 20 17.9	-2.8
NGP				ex	x	09 20 34.2	
	comp=Z,34nm,1.3s						
NGP				ex	x	09 23 04.7	
AKL	Akola	17.39	307	eP	Pn	09 20 36.1	-0.8
AKL				AMb	AMB	09 20 40.1	
	comp=Z,42nm,0.2s						
AKL				ex	x	09 23 33.0	
JIRN	Jiri	17.74	343	eP	Pn	09 20 40.7	-0.6
	comp=Z,26nm,0.6s						
PKI	Pulchoki	17.89	341	eP	Pn	09 20 43.0	-0.1
	comp=Z,18nm,0.4s						
DMN	Daman	18.02	340	eP	Pn	09 20 45.8	+1.1
GUN	Gumba	18.07	343	eP	Pn	09 20 44.2	-1.1
KKN	Kakani	18.13	341	eP	Pn	09 20 47.3	+1.2
KAD	Karad	18.33	293	eP	Pn	09 20 47.6	-0.9
KAD				AMb	AMB	09 21 02.9	
	comp=Z,39nm,1.7s						
KAD				ex	x	09 23 53.2	
GKN	Gorkha	18.54	340	eP	Pn	09 20 51.6	+0.5
	comp=Z,16nm,0.3s						
BHPL	Bhopal	18.59	314	eP	Pn	09 20 52.6	+1.0
BHPL				AMb	AMB	09 21 07.3	
	comp=Z,32nm,1.8s						
KOLN	Koldanda	18.71	337	eP	Pn	09 20 56.4	+3.3
	comp=Z,10.0nm,0.3s						
LSA	Lhasa	18.98	358	eP	Pn	09 20 58.2	+1.8
LSA				pmax	pmax		
	comp=Z,88nm,1.4s						
LSA	Lhasa	18.98	358	eP	Pn	09 20 58.2	+1.8
	comp=Z,88nm,1.4s						
POO	Poona	19.05	296	ex	Pn	09 21 00.0	+2.8
POO				ex	x	09 21 15.5	
POO				i x	x	09 24 08.0	
POO				i x	Sn	09 24 28.0	-1.7
QIZ	Qiongzhong	19.32	62	P	Pn	09 20 59.7	-0.8
QIZ				XP	sP	09 21 14.2	+3.6
QIZ				S	Sn	09 24 33.3	-3.0
QIZ				AMB	AMB		
	comp=Z,12nm,0.8s						
QIZ				AMB	AMB		
	comp=Z,175nm,4.6s						
QIZ				LR	LR		
	comp=N,575nm,19.1s						
QIZ				LR	LR		
	comp=Z,700nm,14.5s						
KSM	Kuching	20.52	115	eP	P	09 21 13.9	+1.6
KSM				epP		09 21 24.0	
GYA	Guiyang	21.09	40⇑	iP	P	09 21 17.7	-0.8
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.6						
NDI	New Delhi	22.56	325	eP	P	09 21 34.0	-0.2
AJM	Ajmer	22.60	317	eP	P	09 21 35.3	+0.6
AJM				AMb	AMB	09 21 48.1	
	comp=Z,43nm,1.7s,mb4.6						
GZH	Guangzhou	24.01	56	P	P	09 21 52.4	+3.7
GZH				LR	LR		
	comp=N,360nm,15.2s,MS4.1						
GZH				LR	LR		
	comp=E,379nm,19.0s,MS4.1						
GZH				LR	LR		
	comp=Z,657nm,17.4s,MS4.2						
SMLA	Simla	24.50	329	eP	P	09 21 53.7	+0.5
SMLA				AMb	AMB	09 22 06.1	
	comp=Z,28nm,1.4s,mb4.5						
SMLA				ex	x	09 26 28.7	
SDNR	Sundarnagar	24.89	329	ex	P	09 22 01.0	+4.2
XAN	Xi'an	28.08	31	P	P	09 22 23.7	-1.8
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.3						
XAN				LR	LR		
	comp=N,275nm,17.4s,MS4.1						
XAN				LR	LR		
	comp=E,346nm,18.9s,MS4.1						
XAN				LR	LR		
	comp=Z,495nm,19.6s,MS4.1						
GTA	Gaotai	29.53	13	P	P	09 22 39.6	+1.2
GTA				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,72nm,6.1s						
GTA				LR	LR		
	comp=N,206nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,262nm,17.5s,MS4.0						
GTA				LR	LR		
	comp=Z,259nm,16.3s,MS3.9						
WMQ	Urumqi	33.26	355	eP	P	09 23 15.4	+4.3
WMQ				AP	pP	09 23 25.0	+5.4
WMQ				XP	sP	09 23 29.0	+5.9
WMQ				PP	PP	09 24 28.0	+1.4
WMQ				eS	S	09 28 33.8	+4.3
WMQ				XS	sS	09 28 50.8	+7.4
WMQ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,176nm,4.3s						
WMQ				LR	LR		
	comp=N,774nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=E,623nm,19.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,578nm,20.0s,MS4.3						
SSE	Sheshan	34.00	49	eP	P	09 23 23.8	+6.1
SSE				AP	pP	09 23 32.7	+6.6
SSE				XP	sP	09 23 37.5	+7.9
SSE				S	S	09 28 41.2	+0.1
SSE				XS	sS	09 29 00.6	+5.6
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,57nm,3.6s						
SSE				LR	LR		
	comp=N,168nm,22.6s,MS3.9						
SSE				LR	LR		
	comp=E,194nm,22.6s,MS3.9						
SSE				LR	LR		
	comp=Z,222nm,21.3s,MS3.9						
AAK	Ala-Archa	35.28	338	P	pP	09 23 39.8	+2.7
	comp=Z,92nm,1.4s,SNR=5.8						
AAK	Ala-Archa	35.28	338	eP	P	09 23 29.4	+0.7
AAK				e	pP	09 23 39.2	+2.1
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
AAK	Ala-Archa	35.28	338	eP	P	09 23 29.4	+0.7
	comp=Z,10nm,1.3s,mb4.6						
AAK				e	pP	09 23 39.2	+2.1
FRU	Bishkek	35.41	338	eP	P	09 23 32.5	+2.7
FRU				e	pP	09 23 40.0	+1.8
BJT	Baijiatuau	36.38	32	eP	P	09 23 38.5	+0.4
BJT				e	pP	09 23 48.0	+1.4
BJT				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BJT	Baijiatuau	36.38	32	eP	P	09 23 38.5	+0.4
	comp=Z,7.1nm,0.5s,mb4.8						
BJT				e	pP	09 23 48.0	+1.4
BJI	Beijing	36.40	32	eP	P	09 23 38.7	+0.4
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
BJI				LR	LR		
	comp=N,385nm,16.9s,MS4.5						
BJI				LR	LR		
	comp=E,546nm,18.0s,MS4.5						
BJI				LR	LR		
	comp=Z,510nm,18.0s,MS4.3						
MK31	Makanchi Array	36.93	349	P	pP	09 23 51.9	+0.6
MK31				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
MKAR	Makanchi Array	36.93	349	P	P	09 23 42.3	-0.5
	comp=Z,2.7nm,0.8s,mb4.1,baz=163,slow=8.7,SNR=12						
JOW	Kunigami	37.94	60	P	P	09 23 51.4	0.0
	comp=Z,3.1nm,0.4s,mb4.4,baz=283,slow=6.7,SNR=4.7						
SONM	Songino Array	39.06	16	P	P	09 24 00.3	-0.5
	comp=Z,1.9nm,0.8s,mb3.9,baz=192,slow=7.9,SNR=8.7						
SONM				PcP	PcP	09 26 09.8	-0.6
	comp=Z,0.6nm,0.5s,baz=189,slow=4.7,SNR=2.6						
SONM				LR	LR	09 42 34.5	
	comp=Z,258nm,20.4s,MS4.0,baz=248,slow=40						
SONM	Songino Array	39.06	16	P	P	09 24 00.3	-0.5
SONM						09 26 09.8	
ULN	Ulaanbaatar	39.27	16	eP	P	09 24 04.5	+2.0
ULN				e	pP	09 24 11.6	+0.6
ULN				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
ULN	Ulaanbaatar	39.27	16	eP	P	09 24 04.5	+1.9
	comp=Z,21nm,1.3s,mb4.7						
ULN				e	pP	09 24 11.6	+0.5
TLY	Talaya	42.06	11	eP	pP	09 24 32.9	-1.2
TLY				e		09 26 36.1	
TLY				eS	S	09 30 45.3	+2.4
TLY				eSS	SS	09 33 49.2	-1.5
TLY				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
TLY				MLR	MLR		
	comp=Z,144nm,20.0s,MS3.9						
ZAL	Zalesovo	43.55	354	LR	LR	09 46 42.4	
	comp=Z,200nm,21.1s,MS4.0,baz=292,slow=42						
FITZ	Fitzroy Crossi	43.95	130⇓	iP	P	09 24 40.8	0.0
	comp=Z,32nm,0.9s,mb5.1						
FITZ	Fitzroy Crossi	43.95	130	P	P	09 24 40.8	0.0
	comp=Z,3.9nm,0.5s,mb4.4,baz=329,slow=7.7,SNR=23						
CN2	Changchun	44.03	35	eP	P	09 24 41.1	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NVS	Novosibirsk	44.61	353	eP	pP	09 24 54.5	-0.3
BVA0	Borovoye Array	45.66	342	i P	pP	09 25 03.4	+0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	Borovoye Array	45.66	342	P	P	09 24 53.9	-0.6
	comp=Z,0.5nm,0.5s,mb3.7,baz=116,slow=3.4,SNR=3.7						
BVAR				LR	LR	09 46 32.9	
	comp=Z,152nm,20.6s,MS3.9,baz=303,slow=40						
ZRNK	Zerenda	46.03	341	eP	P	09 24 57.6	+0.2
ZRNK				e	pP	09 25 06.6	+0.6
ZRNK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
ZRNK	Zerenda	46.03	341	eP	P	09 24 57.6	+0.3
	comp=Z,9.7nm,1.4s,mb4.5						
ZRNK				e	pP	09 25 06.6	+0.6
CHKZ	Chkalovo	46.16	343	eP	P	09 24 58.4	0.0
CHKZ				e	pP	09 25 07.9	+0.9
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
CHKZ	Chkalovo	46.16	343	eP	P	09 24 58.4	0.0
	comp=Z,1.6nm,0.5s,mb4.2						
CHKZ				e	pP	09 25 07.9	+0.9
AB31	Akbulak array	46.72	332	i P	P	09 25 03.2	+0.4
AB31				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
AKTK	Aktyubinsk	48.44	332	P	P	09 25 15.8	-0.3
AKTO	Aktyubinsk	48.44	332	P	P	09 25 15.8	-0.3
	comp=Z,1.2nm,0.5s,mb4.2,baz=124,slow=13,SNR=4.9						
MJAR	Matsushiro Arr	49.11	50	P	P	09 25 21.5	+0.1
	comp=Z,1.3nm,0.9s,mb4.0,baz=230,slow=8.6,SNR=4.6						
MJAR				LR	LR	09 48 15.4	
	comp=Z,195nm,18.9s,MS4.1,baz=240,slow=39						
BOD	Bodaibo	50.06	15	eP	P	09 25 27.6	-1.0
BOD				e	pP	09 25 37.4	+0.1
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BOD				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
GNI	Garni	50.87	314	P	P	09 25 35.8	+1.1
	comp=Z,2.4nm,0.4s,mb4.5,baz=34,slow=12,SNR=5.5						
GNI				LR	LR	09 49 56.2	
	comp=Z,59nm,21.8s,MS3.6,baz=11,slow=39						
GNI	Garni	50.87	314	eP	P	09 25 34.6	-0.1
GNI				e		09 25 47.1	
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI	Garni	50.87	314	eP	P	09 25 34.6	-0.1
	comp=Z,6.8nm,0.7s,mb4.7						
GNI				e		09 25 47.1	
WRA	Warramunga Arr	51.74	126	P	P	09 25 41.6	+0.4
	comp=Z,4.5nm,0.8s,mb4.4,baz=306,slow=8.5,SNR=44						
WRAB	Tennant Creek	51.74	126	P	P	09 25 42.0	+0.8
	comp=Z,127nm,0.9s,SNR=5.1						
WRAB	Tennant Creek	51.74	126	eP	P	09 25 41.4	+0.2
WRAB				e	pP	09 25 50.4	+0.5
WRAB				e		09 25 56.2	
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WRAB	Tennant Creek	51.74	126	eP	P	09 25 41.4	+0.2
	comp=Z,5.9nm,0.6s,mb4.7						
WRAB				e	pP	09 25 50.4	+0.5
WRAB				e		09 25 56.2	
WB2	Warramunga Arr	51.75	126	eP	P	09 25 40.2	-1.0
SVE	Sverdlovsk	52.01	339	eP	P	09 25 44.0	+0.8
SVE				e		09 33 20.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.8s,mb5.0						
SVE				MLR	MLR		
	comp=N,200nm,18.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,100nm,18.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.5						
HABR	Khabarovsk	52.17	35	eP	pP	09 25 52.8	-0.3
HABR				eS	S	09 33 16.3	+9.3
HABR				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
ZEI	Tsey	52.46	316	eP	P	09 25 49.0	+2.5
ZEI				e*PP	pP	09 25 57.8	+2.5
ASPA	Alice Springs	53.45	130	eP	P	09 25 53.9	+0.1
AS31	Alice Springs	53.45	130	eP	P	09 25 53.9	+0.1
KIV	Kislovodsk	53.73	317⇑	eP	pP	09 26 06.3	+1.6
KIV				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
ASF	Jabal al Asfar	54.80	302	LR	LR	09 54 00.8	
	comp=Z,125nm,18.0s,MS4.0,baz=34,slow=41						
KMBO	Kilima Mbogo	55.49	261	LR	LR	09 46 00.2	
	comp=Z,205nm,18.4s,MS4.2,baz=84,slow=32						
YSS	Yuzh-Sakhalins	56.10	40	P	P	09 26 10.0	-3.0
YSS				e		09 26 21.0	
YAK	Yakutsk	58.16	20	eP	pP	09 26 36.3	-0.2
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,93nm,9.5s						
OBN	Obninsk	61.83	328	eP	pP	09 27 02.5	+0.8
OBN				eS	S	09 35 21.2	+6.9
OBN				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.5						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
STKA	Stephens Creek	63.67	134	eP	P	09 27 01.8	-3.2
	comp=Z,7.1nm,0.6s,mb4.9						
STKA	Stephens Creek	63.67	134	P	P	09 27 05.8	+0.8
	comp=Z,1.2nm,0.4s,mb4.3,baz=267,slow=20,SNR=5.4						
STKA				LR	LR	09 55 11.5	
	comp=Z,230nm,21.1s,MS4.3,baz=213,slow=36						
STKA	Stephens Creek	63.67	134	eP	P	09 27 05.1	+0.1
STKA				e		09 27 15.7	
AKASG	Malin Array Be	64.57	321	P	P	09 27 09.6	-1.3
	comp=Z,0.2nm,0.3s,mb3.6,baz=90,slow=4.3,SNR=7.7						
TIXI	Tiksi	65.02	12⇑	eP	pP	09 27 22.2	-0.6
TIXI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
MLR	Muntele Rosu	65.60	315	P	P	09 27 17.8	+0.2
	comp=Z,4.6nm,0.8s,mb4.5,baz=85,slow=5.3,SNR=8.0						
MLR				LR	LR	09 56 43.1	
	comp=Z,73nm,19.5s,MS3.9,baz=183,slow=37						
SEY	Seymchan	67.42	26⇑	eP	pP	09 27 37.3	-1.0
LSZ	Lusaka	68.06	249	P	P	09 27 35.6	+2.3
	comp=Z,1.5nm,0.5s,mb4.3,baz=226,slow=15,SNR=3.2						
FINES	FINESS Array B	69.21	332	P	P	09 27 40.0	-0.5
	comp=Z,4.3nm,0.9s,mb4.4,baz=108,slow=6.2,SNR=6.0						
ARCES	ARCESS Array B	71.90	340	P	P	09 27 55.9	-1.0
	comp=Z,4.9nm,1.1s,mb4.3,baz=83,slow=3.9,SNR=5.0						
ARCES				LR	LR	10 03 54.8	
	comp=Z,122nm,18.4s,MS4.2,baz=115,slow=40						
GERES	GERESS Array B	74.24	318	P	P	09 28 09.0	-1.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=85,slow=4.3,SNR=5.7						
WET	Wettzell	74.79	318	eP	pP	09 28 23.5	+0.5
GRF	Grafenberg Arr	75.88	319	eP	pP	09 28 31.0	+1.7
	comp=Z,9.0nm,1.1s						
GRF	Grafenberg Arr	75.88	319	eP	pP	09 28 31.0	+1.7
GRF				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.5						
NB2	NORSAR Subarra	76.21	330	P	P	09 28 20.7	-1.3
	comp=Z,3.6nm,1.0s,mb4.3,baz=94,slow=5.9						
NOA	NORSAR Array B	76.21	330	P	P	09 28 20.3	-1.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=93,slow=5.7,SNR=2.8						
KBS	Kingsbay	77.68	349⇑	eP	pP	09 28 39.6	+0.2
KEST	Kesra	77.78	304	P	P	09 28 31.9	+1.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=301,slow=4.7,SNR=3.3						
KEST				LR	LR	10 05 50.5	
	comp=Z,33nm,21.6s,MS3.6,baz=330,slow=38						
MAW	Mawson	80.77	191	P	P	09 28 48.5	+1.3
	comp=Z,1.3nm,0.6s,mb4.0,baz=22,slow=9.6,SNR=7.2						
MAW				LR	LR	10 01 27.6	
	comp=Z,108nm,18.6s,MS4.2,baz=256,slow=33						
JMIC	Jan Mayen	83.37	341	LR	LR	10 09 27.7	
	comp=Z,54nm,19.2s,MS3.9,baz=77,slow=38						
TORD	Torodi Ar. Bea	87.73	283	P	P	09 29 21.8	-0.8
	comp=Z,0.8nm,0.9s,mb4.0,baz=114,slow=3.8,SNR=4.7						
TORD				LR	LR	10 09 27.1	
	comp=Z,77nm,19.8s,MS4.1,baz=110,slow=36						
TORD	Torodi Ar. Bea	87.73	283	P	P	09 29 21.8	-0.8
TORD				LR	LR	10 09 27.1	
MCK	McKinley	92.85	23	P	P	09 29 45.8	-0.6
DBIC	Dimbokro	95.28	278	LR	LR	10 15 20.4	
	comp=Z,58nm,18.5s,MS4.1,baz=76,slow=37						
VNDA	Vanda	96.08	168	LR	LR	10 10 38.1	
	comp=Z,130nm,19.5s,MS4.4,baz=269,slow=34						
YMR	Madison River	121.22	19	ePKPdf	PKPdf	09 35 26.6	+0.1
NVAR	Mina Array Bea	123.67	28	PKP	PKPdf	09 35 32.8	+1.5
	comp=Z,0.5nm,0.8s,baz=320,slow=2.9,SNR=4.4						

*MDD **08** 09:17:51.6±5.5, 3537N×603E, h0^{km}, mb3.6/2, Error ellipse: s-maj=48.6km s-min=10.8km az=176.0, PRXIMO*

CRAAG 08 09:17:47.4, 3522N×603E, Ml2.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMER	Merouana	0.41	345	P	Pg	09 17 56.0	+0.7
CTEI	Djebel Teioual	0.90	20	P	Pg	09 18 05.0	+0.4
SET	Setif	1.10	333	P	Pg	09 18 10.0	+1.5
CASM	Ain Smara	1.10	20	P	Pg	09 18 09.5	+0.9
CKFL	Kef-Lekhel	1.30	25	P	Pg	09 18 13.0	+0.6
DFRA	Djebel Bou Aff	1.33	355	P	Pg	09 18 14.0	+1.1
EMHD	Djebel Mahouad	2.69	292	P	Pg	09 18 40.0	+1.1
ETOS	Mallorca	5.21	332	P	Pn	09 19 07.9	+1.4
	0.3nm,0.2s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EIBI	**Ibiza**	**5.33**	**317**	P	Pn	09 19 09.6	+1.4
	1.1nm,0.2s,SNR=7.9						

---

*BER **08** 09:27:17.7±3.0, 6092N×3029E, h0km, ML2.5(NAO), Suspected explosion*
*CSEM **08** 09:27:19.1±0.9, 61.13N×3020E, h1km, ML2.1, Error ellipse: s-maj=22.8km s-min=9.5km az=141.0, Mining explosion.*
*NAO **08** 09:27:20.8±2.2, 6106N×2991E, ML2.5*
*IDC **08** 09:27:22.6±2.1, 6128N×2984E, h0km, mb1 3.6/3, mb1mx3.3/18, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=19.9km s-min=10.5km az=146.0*
HEL 08 09:27:19.8±0.3**, 6116N×3012E, h0km, ML2.1, ML2.5**(NAO)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**1.85**	**17**	*e*P	Pn	09 27 52.3	-0.5
JOF				*e*S	Sn	09 28 16.0	-0.8
JOF				MSG		09 28 17.8	
	comp=Z,13nm,0.2s						
JOF	**Joensuu**	**1.85**	**17**	P	Pn	09 27 52.2	-0.6
JOF				S	Sn	09 28 16.0	-0.8
	comp=Z,13nm,0.2s						
FIA0	**FINESS Array S**	**1.97**	**280**	*e*P	Pn	09 27 54.2	-0.2
FIA0				*e*S	Sn	09 28 18.9	-0.9
FIA0				MSG		09 28 22.3	
	comp=Z,5.9nm,0.2s						
FIA0	**FINESS Array S**	**1.97**	**280**	Pg	Pg	09 27 54.2	-3.4
	baz=108,slow=16						
FIA0				Lg		09 28 20.4	
	baz=102,slow=28						
FIA0	**FINESS Array S**	**1.97**	**280**	P	Pn	09 27 54.2	-0.2
FIA0				S	Sn	09 28 18.8	-1.0
	comp=Z,5.9nm,0.2s						
FINES	**FINESS Array B**	**1.97**	**280**	Pg	Pg	09 27 54.4	-3.2
	comp=Z,3.8nm,0.3s,baz=93,slow=17,SNR=89						
FINES				Lg		09 28 20.2	
	comp=Z,2.3nm,0.3s,baz=93,slow=28,SNR=4.0						
KAF	**Kangasniemi**	**2.06**	**299**	*e*PG	Pg	09 27 57.0	-2.2
KAF				*e*S	Sn	09 28 21.9	0.0
KAF				MSG		09 28 25.9	
	comp=Z,6.1nm,0.1s						
KAF	**Kangasniemi**	**2.06**	**299**	Pg	Pg	09 27 57.0	-2.2
KAF				S	Sn	09 28 21.9	0.0
	comp=Z,6.1nm,0.1s						
PVF	**Pernaja**	**2.17**	**255**	*e*PG	Pg	09 27 58.6	-2.9
PVF				MSG		09 28 28.5	
	comp=Z,9.5nm,0.1s						
SUF	**Sumiainen**	**2.44**	**312**	*e*PG	Pg	09 28 03.2	-3.4
SUF				MSG		09 28 37.1	
	comp=Z,13nm,0.2s						
SUF	**Sumiainen**	**2.44**	**312**	Pg	Pg	09 28 03.1	-3.5
KJN	**Kajaani**	**3.14**	**340**	*e*PB	Pb	09 28 13.3	-3.1
KJN				MSG		09 28 55.7	
	comp=Z,13nm,0.3s						
HFS	**Hagfors**	**8.14**	**270**	*e*P	Pn	09 29 17.3	-1.9
HFS				*e*S	Sn	09 30 45.2	-6.6
HFS	**Hagfors**	**8.14**	**270**	Pn	Pn	09 29 17.9	-1.2
	comp=Z,0.9nm,0.3s,baz=75,slow=12,SNR=11						
HFS				Sn	Sn	09 30 46.9	-4.9
	comp=Z,0.4nm,0.3s,baz=72,slow=28,SNR=4.4						
HFS				Lg		09 31 33.9	
	comp=Z,1.1nm,0.3s,baz=78,slow=31,SNR=5.6						
HFS	**Hagfors**	**8.14**	**270**	Pn	Pn	09 29 17.3	-1.9
	baz=86,slow=18						
HFS				Sn	Sn	09 30 45.2	-6.6
	baz=69,slow=28						
ARA0	**ARCESS Array S**	**8.62**	**349**	Pn	Pn	09 29 24.4	-1.5
	baz=171,slow=14						
ARA0				Sn	Sn	09 31 01.3	-2.5
	baz=157,slow=28						
ARA0	**ARCESS Array S**	**8.62**	**349**	*e*P	Pn	09 29 24.4	-1.5
ARA0				*e*S	Sn	09 31 01.3	-2.5
ARCES	**ARCESS Array B**	**8.62**	**349**	Pn	Pn	09 29 24.2	-1.6
	comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=6.0						
ARCES				Sn	Sn	09 30 56.3	-7.4
	comp=Z,0.2nm,0.3s,baz=164,slow=24,SNR=2.9						
NB2	**NORSAR Subarra**	**9.15**	**278**	Pn	Pn	09 29 31.3	-1.8
	baz=79,slow=14						
NB2				Lg		09 32 05.4	
NB2	**NORSAR Subarra**	**9.15**	**278**	*e*P	Pn	09 29 31.3	-1.8
NB2				*e*		09 32 05.4	
NOA	**NORSAR Array B**	**9.15**	**278**	Pn	Pn	09 29 31.0	-2.0
	comp=Z,0.6nm,0.3s,baz=78,slow=14,SNR=3.3						
NOA				Sn	Sn	09 31 08.8	-8.0
	comp=Z,0.3nm,0.3s,baz=88,slow=18,SNR=2.3						
NOA				Lg		09 32 05.5	
	comp=Z,0.5nm,0.3s,baz=134,slow=6.1,SNR=3.1						

---

*MOS **08** 09:37:17.5±1.9, 5398N×10927E, h15km, mb4.3/1, Error ellipse: s-maj=15.9km s-min=8.5km az=54.1*
BYKL 08 09:37:17.8±0.2**, 5399N×10922E, h13km**±15km**, 4C-6D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYVR	**Suvo**	**0.57**	**125**	⇑*i*Pg	Pg	09 37 28.4	-0.5
SYVR				*e*Sg	Sg	09 37 36.0	-0.5
SYVR				*e*		09 37 40.6	
SYVR				Pmax			
	1μm,0.3s						
SYVR				Smax			
	2μm,0.2s						
SYVR	**Suvo**	**0.57**	**125**	*e*PG	Pg	09 37 28.3	-0.6
SYVR				*e*		09 37 35.2	
SYVR				pmax	pmax		
	comp=Z,1μm,0.4s						
SYVR				smax			
	comp=N,2μm,0.2s						
MXMB	**Maximikha**	**0.78**	**201**	⇓*i*Pg	Pg	09 37 32.5	-0.4
MXMB				*e*Sg	Sg	09 37 43.5	+0.3
MXMB				Pmax			
	comp=N,249nm,0.1s						
MXMB				Smax			
	comp=N,4μm,0.4s						
OGRR	**Ongureny**	**1.02**	**251**	⇓*i*Pg	Pg	09 37 36.7	-0.9
OGRR				*e*Sg	Sg	09 37 50.0	-0.9
OGRR				Pmax			
	comp=N,53nm,0.2s						
OGRR				Smax			
	comp=N,912nm,0.8s						
OGRR	**Ongureny**	**1.02**	**251**	*e*PG	Pg	09 37 36.9	-0.7
OGRR				*e*		09 37 50.7	
OGRR				pmax	pmax		
	comp=Z,51nm,0.1s						
OGRR				smax			
	comp=N,805nm,0.8s						
KELR	**Kotokel**	**1.41**	**209**	*e*Pg	Pg	09 37 43.3	-1.6
KELR				*e*Sg	Sg	09 38 02.4	-0.8
YLYR	**Ulyunkhan**	**1.44**	**51**	⇓*i*Pg	Pg	09 37 43.6	-1.9
	comp=N,37nm,0.3s						
YLYR				⇓*i*Pg	Pg	09 37 43.6	-1.9
	comp=N,47nm,0.3s						
YLYR				⇓*i*Pg	Pg	09 37 43.6	-1.9
	comp=N,47nm,0.3s						
YLYR				*e*Sg	Sg	09 38 03.1	-1.1
YLYR				Pmax			
	comp=N,165nm,0.3s						
YLYR				Smax			
	comp=N,741nm,0.6s						
YLYR	**Ulyunkhan**	**1.44**	**51**	⇑*i*PN	Pn	09 37 43.5	-0.1
YLYR				*e*		09 38 02.7	
YLYR				pmax	pmax		
	comp=Z,169nm,0.3s						
YLYR				smax			
	comp=N,812nm,0.2s						
NIZ	**Nizh Angarsk**	**1.80**	**6**	*e*Pn	Pn	09 37 49.9	+1.4
NIZ				⇑*i*Pg	Pg	09 37 50.4	-1.9
NIZ				*e*Sg	Sg	09 38 14.1	-1.6
NIZ				Pmax			
	comp=N,116nm,0.3s						
NIZ				Smax			
	comp=N,679nm,0.4s						
NIZ	**Nizh Angarsk**	**1.80**	**6**	*e*PN	Pn	09 37 49.7	+1.2
NIZ				*e*		09 37 50.4	
NIZ				*e*		09 38 14.3	
NIZ				pmax	pmax		
	comp=Z,116nm,0.4s						
NIZ				smax			
	comp=N,707nm,0.3s						
TRTB	**Turuntaevo**	**2.01**	**209**	*e*Pn	Pn	09 37 51.7	+0.3
TRTB				⇑*i*Pg	Pg	09 37 53.4	-2.9
TRTB				*i* Sg	Sg	09 38 20.3	-2.0
TRTB				Pmax			
	comp=N,50nm,0.2s						
TRTB				Smax			
	comp=N,756nm,0.6s						
TRG	**Tyrgan**	**2.12**	**236**	*e*Pn	Pn	09 37 53.2	+0.3
TRG				*e*Pg	Pg	09 37 55.3	-3.1
TRG				*e*Sn	Sn	09 38 19.4	+0.4
TRG				*e*Sg	Sg	09 38 23.3	-2.5
TRG				Pmax			
	comp=N,39nm,0.3s						
TRG				Smax			
	comp=N,433nm,0.2s						
TRG	**Tyrgan**	**2.12**	**236**	*e*PN	Pn	09 37 52.7	-0.2
TRG				*e*		09 37 55.2	
TRG				*e*S	Sn	09 38 20.1	+1.1
TRG				*e*		09 38 23.2	
TRG				pmax	pmax		
	comp=Z,40nm,0.3s						
TRG				smax			
	comp=N,433nm,0.3s						
KMO	**Kumora**	**2.22**	**30**	*e*Pn	Pn	09 37 55.0	+0.7
KMO				*e*Pg	Pg	09 37 57.8	-2.5
KMO				*e*Sn	Sn	09 38 23.5	+2.0
KMO				*e*Sg	Sg	09 38 27.5	-1.6
KMO				Pmax			
	comp=N,164nm,0.4s						
KMO				Smax			
	comp=N,419nm,1.1s						
KMO	**Kumora**	**2.22**	**30**	*e*PN	Pn	09 37 55.0	+0.7
KMO				*e*		09 37 57.9	
KMO				*e*S	Sn	09 38 23.1	+1.6
KMO				*e*		09 38 26.9	
KMO				pmax	pmax		
	comp=Z,163nm,0.4s						
KMO				smax			
	comp=E,374nm,0.4s						
FFNB	**Fofonovo**	**2.45**	**218**	*e*Pn	Pn	09 37 57.4	0.0
FFNB				*e*Pg	Pg	09 38 00.9	-3.8
FFNB				*e*Sg	Sg	09 38 33.3	-3.2
FFNB				Pmax			
	comp=E,101nm,0.1s						
FFNB				Smax			
	comp=E,697nm,0.3s						
KAB	**Kabansk**	**2.49**	**220**	*e*Sg	Sg	09 38 35.2	-2.5
KAB				Smax			
	comp=E,654nm,0.4s						
UKT	**Uakit**	**2.96**	**58**	⇓*i*Pn	Pn	09 38 04.8	+0.3
UKT				*e*Pg	Pg	09 38 10.9	-3.7
UKT				*e*Sg	Sg	09 38 48.8	-4.2
UKT				Pmax			
	comp=E,46nm,0.4s						
UKT				Smax			
	comp=E,98nm,0.4s						
UKT	**Uakit**	**2.96**	**58**	*e*PN	Pn	09 38 10.5	+6.0
UKT				*e*		09 38 48.8	
UKT				pmax	pmax		
	comp=Z,46nm,0.4s						
UKT				smax			
	comp=N,97nm,0.4s						
CIT	**Chita**	**3.28**	**125**	*e*Pn	Pn	09 38 07.9	-0.9
CIT				*e*Pg	Pg	09 38 16.4	-4.2
CIT				*e*Sn	Sn	09 38 44.8	-2.9
CIT				*e*Sg	Sg	09 38 57.1	-6.0
CIT				Pmax			
	comp=N,35nm,0.4s						
CIT				Smax			
	comp=N,224nm,0.6s						
CIT	**Chita**	**3.28**	**125**	*e*PN	Pn	09 38 07.8	-1.0
CIT				*e*		09 38 16.4	
CIT				*e*S	Sn	09 38 44.6	-3.1
CIT				*e*		09 38 56.7	
CIT				pmax	pmax		
	comp=Z,38nm,0.6s						
CIT				smax			
	comp=N,322nm,1.7s						
SVKR	**Severomuysk**	**3.28**	**48**	*e*Pg	Pg	09 38 18.0	-2.7
SVKR				*e*Sn	Sn	09 38 49.1	+1.3
SVKR				*e*Sg	Sg	09 39 00.7	-2.5
SVKR				Pmax			
	comp=N,62nm,0.4s						
SVKR				Smax			
	comp=N,583nm,0.7s						
LSTR	**Listvyanka**	**3.40**	**233**	*e*Pg	Pg	09 38 18.9	-4.1
LSTR				*e*Sg	Sg	09 39 02.5	-4.5
LSTR				Pmax			
	comp=N,27nm,1.0s						
LSTR				Smax			
	comp=N,70nm,0.6s						
LSTR	**Listvyanka**	**3.40**	**233**	*e*PN	Pn	09 38 18.8	+8.3
LSTR				*e*		09 39 02.4	
LSTR				pmax	pmax		
	comp=Z,28nm,0.8s						
LSTR				smax			
	comp=E,85nm,0.5s						
IRK	**Irkutsk**	**3.46**	**242**	*e*Sg	Sg	09 39 05.4	-3.4
IRK				Smax			
	comp=E,447nm,0.4s						
IRK	**Irkutsk**	**3.46**	**242**	*e*PN	Pn	09 38 20.8	+9.5
IRK				*e*		09 39 05.4	
IRK				pmax	pmax		
	comp=Z,135nm,0.1s						
IRK				smax			
	comp=N,448nm,0.5s						
TLY	**Talaya**	**4.10**	**238**	*e*Pn	Pn	09 38 20.7	+0.6
TLY				*e*Pg	Pg	09 38 31.1	-5.2
TLY				*e*Sn	Sn	09 39 08.1	+0.2
TLY				*e*		09 39 20.6	
TLY				*e*Sg	Sg	09 39 23.7	-5.6
TLY				Pmax			
	comp=N,8.0nm,0.3s						
TLY				Smax			
	comp=N,47nm,0.3s						
TLY	**Talaya**	**4.10**	**238**	*e*PN	Pn	09 38 19.8	-0.3
TLY				*e*		09 38 30.9	
NLYR	**Nelyaty**	**4.48**	**53**	*e*Pn	Pn	09 38 25.3	0.0
NLYR				*e*Pg	Pg	09 38 38.8	-4.8
NLYR				*e*Sg	Sg	09 39 36.0	-5.6
NLYR	**Nelyaty**	**4.48**	**53**	*e*PN	Pn	09 38 25.0	-0.3
NLYR				*e*		09 38 36.7	
NLYR				*e*		09 39 33.3	
NLYR				pmax	pmax		
	comp=Z,19nm,0.6s						
NLYR				smax			
	comp=N,99nm,0.7s						
ARS	**Arshan**	**4.60**	**246**	*e*Pn	Pn	09 38 27.9	+0.8
ARS				*e*Pg	Pg	09 38 41.0	-5.0
ARS				*e*Sn	Sn	09 39 18.7	-1.7
ARS				*e*Sg	Sg	09 39 38.5	-7.1
ARS				Pmax			
	comp=N,26nm,0.6s						
ARS				Smax			
	comp=N,269nm,0.5s						
ARS	**Arshan**	**4.60**	**246**	*e*PN	Pn	09 38 41.2	+14
BOD	**Bodaibo**	**4.69**	**33**	*e*Pn	Pn	09 38 29.4	+1.2
BOD				*e*		09 38 37.1	
BOD				*e*Sg	Sg	09 39 41.9	-6.4
BOD				max			
	comp=N,14nm,0.6s						
BOD				Smax			
	comp=N,127nm,0.9s						
BOD	**Bodaibo**	**4.69**	**33**	*e*PN	Pn	09 38 27.7	-0.5
BOD				*e*		09 38 39.4	
BOD				*e*		09 39 40.7	
BOD				pmax	pmax		
	comp=Z,9.0nm,0.3s						
BOD				smax			
	comp=E,95nm,0.9s						
KPC	**Khapcheranga**	**4.72**	**154**	*e*Pg	Pg	09 38 41.6	-6.6
KPC				*e*Sn	Sn	09 39 18.6	-4.6
KPC				*e*Sg	Sg	09 39 43.1	-6.2
KPC				Pmax			
	comp=E,13nm,0.4s						
KPC				Smax			
	comp=E,108nm,1.0s						
ZAK	**Zakamensk**	**5.14**	**228**	*e*Pg	Pg	09 38 50.9	-5.3
ZAK				*e*Sg	Sg	09 39 57.7	-5.0
ZAK				Pmax			
	comp=E,3.0nm,0.3s						
ZAK				Smax			
	comp=E,41nm,1.5s						
MOY	**Mondy**	**5.50**	**248**	*e*Pn	Pn	09 38 41.7	+2.3
MOY				*e*Pg	Pg	09 38 56.0	-7.2
MOY				*e*Sn	Sn	09 39 43.7	+1.1
MOY				*e*Sg	Sg	09 40 06.6	-7.9
MOY				Pmax			
	comp=E,21nm,0.9s						
MOY				Smax			
	comp=E,68nm,1.3s						
MOY	**Mondy**	**5.50**	**248**	*e*PN	Pn	09 38 56.3	+17
ORL	**Orlik**	**5.83**	**259**	*e*Pn	Pn	09 38 45.5	+1.6
ORL				*e*		09 38 53.3	
ORL				*e*Sn	Sn	09 39 51.8	+1.1
ORL				*e*Sg	Sg	09 40 18.5	-6.5
ORL				max			
	comp=E,8.0nm,0.5s						
ORL				Smax			
	comp=E,87nm,0.9s						
ORL	**Orlik**	**5.83**	**259**	*e*PN	Pn	09 38 45.4	+1.5
ORL				*e*S	Sn	09 40 20.0	+29
ORL				smax			
	comp=N,86nm,1.0s						
CRS	**Chara**	**5.92**	**57**	*e*Pn	Pn	09 38 45.8	+0.7
CRS				*e*Pg	Pg	09 39 04.8	-6.3
CRS				*e*Sn	Sn	09 39 54.4	+1.6
CRS				*e*Sg	Sg	09 40 20.6	-7.1
CRS				Pmax			
	comp=N,11nm,0.6s						
CRS				Smax			
	comp=N,84nm,1.4s						
ULN	**Ulaanbaatar**	**6.28**	**193**	*e*Pg	Pg	09 39 11.5	-6.6
ULN				*e*Sg	Sg	09 40 33.3	-6.2
TUP	**Tupik**	**6.32**	**82**	*e*PN	Pn	09 38 51.0	+0.4
TUP				*e*		09 39 10.9	
TUP				*e*		09 40 32.3	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TUP				smax			
	comp=N,108nm,1.2s						

---

*NEIC **08** 09:38:18.1, 1686N×10048W, h5km, MD3.6(MEX), After MEX.*
MEX 08 09:38:18.6±0.5**, 1689N×10045W, h5km, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**49**	*i* P	Pg	09 38 22.5	-0.7
CAIG				*i* S	Sg	09 38 26.3	+0.1
ACX	**Acapulco**	**0.51**	**93**	*i* P	Pg	09 38 28.0	-0.4
ACX				*i* S	Sg	09 38 36.5	+1.4
MEIG	**Mezcala**	**1.30**	**38**	*i* P	Pn	09 38 40.2	-3.2
MEIG				*i* S	Sg	09 38 56.6	-3.7
PLIG	**Platanillo**	**1.74**	**31**	*i* P	Pn	09 38 46.0	-3.4
PLIG				*i* S	Sn	09 39 07.2	-4.8
IIZ	**Mezontepec**	**2.55**	**27**	*e*P	Pn	09 38 58.2	-2.4
IIZ				*i* S	Sn	09 39 27.9	-4.2
UTMO	**Huajuapan**	**2.69**	**69**	*i* P	Pn	09 39 00.3	-2.3
UTMO				*i* S	Sn	09 39 32.7	-2.9
PPM	**Popocatepetl**	**2.77**	**38**	*i* P	Pn	09 39 00.5	-3.2
PPM				*i* S	Sn	09 39 35.0	-2.5
PPM	**Popocatepetl**	**2.77**	**38**	*i* P	Pn	09 38 56.7	-6.9
PPM				*e*S	Sn	09 39 42.3	+4.9

---

*NEIC **08** 09:40:03.8, 1695N×10047W, h5km, MD4.1(MEX), After MEX.*
MEX 08 09:40:03.2±1.0**, 1691N×10048W, h2km**±9km**, MD4.1, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.25**	**55**	*i* P	Pg	09 40 07.0	-1.0
CAIG				*i* S	Sg	09 40 11.6	+0.3
ACX	**Acapulco**	**0.54**	**94**	*i* P	Pg	09 40 14.5	+0.9
ACX				*i* S	Sg	09 40 21.0	+0.3
ZIIG	**Zihuatanejo**	**1.17**	**307**	*i* P	Pg	09 40 22.8	-2.8
ZIIG				*i* S	Sg	09 40 37.3	-3.5
MEIG	**Mezcala**	**1.31**	**39**	*i* P	Pg	09 40 24.6	-3.6
MEIG				*i* S	Sg	09 40 42.3	-2.9
PLIG	**Platanillo**	**1.75**	**32**	*i* P	Pn	09 40 31.1	-3.5
PLIG				*i* S	Sn	09 40 53.8	-3.5
PLIG	**Platanillo**	**1.75**	**32**	*i* P	Pn	09 40 31.1	-3.5
PLIG				*i* S	Sn	09 40 57.2	-0.2
PNIG	**Pinotepa**	**2.31**	**102**	*i* S	Sn	09 41 06.8	-4.5
PNIG	**Pinotepa**	**2.31**	**102**	*i* S	Sn	09 40 59.4	-12
YAIG	**Yautepec**	**2.37**	**35**	*i* P	Pn	09 40 39.6	-3.4
YAIG				*i* S	Sn	09 41 09.2	-3.4
YAIG	**Yautepec**	**2.37**	**35**	*i* P	Pn	09 40 43.1	+0.1
YAIG				*i* S	Sn	09 41 09.2	-3.4
IIZ	**Mezontepec**	**2.56**	**27**	*e*P	Pn	09 40 42.5	-3.2
IIZ				*i* S	Sn	09 41 11.5	-5.8
UNM	**Universidad Na**	**2.71**	**27**	*i* P	Pn	09 40 45.6	-2.2
UNM				*e*P		09 40 46.5	
UNM				*i* S	Sn	09 41 17.0	-4.1
UNM	**Universidad Na**	**2.71**	**27**	*e*P	Pn	09 40 54.0	+6.3
UNM				*i* S	Sn	09 41 28.9	+7.8
UTMO	**Huajuapan**	**2.72**	**70**	*e*P	Pn	09 40 43.4	-4.4
UTMO				*i* S	Sn	09 41 17.4	-3.9
PPM	**Popocatepetl**	**2.78**	**39**	*e*P	Pn	09 40 45.9	-2.8
PPM				*i* S	Sn	09 41 20.2	-2.6
PPM	**Popocatepetl**	**2.78**	**39**	*i* P	Pn	09 40 49.1	+0.4
PPM				*i* S	Sn	09 41 28.4	+5.6
MOIG	**Morelia**	**2.84**	**346**	*i* P	Pn	09 40 45.2	-4.3
MOIG				*i* S	Sn	09 41 20.5	-3.7
MOIG	**Morelia**	**2.84**	**346**	*i* P	Pn	09 40 42.1	-7.3
MOIG				*i* S	Sn	09 41 26.3	+2.1
MRX	**Morelia**	**2.87**	**347**	*e*P	Pn	09 40 44.0	-5.8
TPIG	**Tehuac#an**	**3.33**	**63**	*i* S	Sn	09 41 31.5	-5.0
VHO	**Vista Hermosa**	**3.59**	**87**	*i* S	Sn	09 41 39.3	-3.5
VHO	**Vista Hermosa**	**3.59**	**87**	*i* S	Sn	09 41 33.1	-10
OXX	**Oaxaca**	**3.60**	**87**	*e*P	Pn	09 41 00.0	0.0
ZAIG	**Zacatecas**	**6.15**	**342**	*i* S	Sn	09 42 41.4	-4.6
ZAIG	**Zacatecas**	**6.15**	**342**	*i* S	Sn	09 42 55.7	+10

---

*ISCJB **08** 09:48:26.6±1.2, 6103N±007×302E±0.1, h0km, mb3.5/1, Error ellipse: s-maj=12.6km s-min=6.3km az=99.0*
*HEL **08** 09:48:30.4±0.4, 61.13N×30.12E, h0km, ML2.3, ML2.7(NAO), Explosion*
*BER **08** 09:48:30.2±3.2, 61.12N×3023E, h0km, ML2.7(NAO), Suspected explosion*
*CSEM **08** 09:48:30.7±0.3, 6121N×3009E, h1km, ML2.7, Error ellipse: s-maj=9.6km s-min=3.7km az=142.0, Mining explosion.*
*IDC **08** 09:48:32.4±1.5, 6097N×2983E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/18, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=18.3km s-min=11.0km az=8.0*
*NAO **08** 09:48:33.0±2.1, 6122N×2987E, ML2.7*
ISC 08 09:48:29.5±1.2**, 6114N**±007**×300E**±01**, h0km, n23, σ1§40**/36**, mb3.5**/1**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**1.89**	**18**	*e*P	**Pn**	**09 49 03.3**	**+0.3**
JOF				*e*S	**Sn**	**09 49 27.4**	**-0.2**
JOF				MSG		09 49 29.1	
	comp=Z,26nm,0.2s						
JOF	**Joensuu**	**1.89**	**18**	P	**Pn**	**09 49 03.2**	**+0.2**
JOF				S	**Sn**	**09 49 27.3**	**-0.3**
	comp=Z,26nm,0.2s						
FIA0	**FINESS Array S**	**1.93**	**281**	*e*P	**Pn**	**09 49 05.0**	**+1.5**
FIA0				*e*S	**Sn**	**09 49 30.9**	**+2.4**
FIA0				MSG		09 49 32.7	
	comp=Z,9.1nm,0.2s						
FIA0	**FINESS Array S**	**1.93**	**281**	Pg	**Pg**	**09 49 05.2**	**-1.4**
	baz=108,slow=16						
FIA0				Lg		09 49 31.1	
	baz=94,slow=28						
FIA0	**FINESS Array S**	**1.93**	**281**	P	**Pn**	**09 49 05.0**	**+1.4**
FIA0				S	**Sn**	**09 49 30.8**	**+2.3**
	comp=Z,9.1nm,0.2s						
FINES	**FINESS Array B**	**1.93**	**281**	Pg	**Pg**	**09 49 05.2**	**-1.3**
	comp=Z,4.5nm,0.3s,baz=100,slow=16,SNR=88						
FINES				Lg		09 49 31.0	
	comp=Z,11nm,0.3s,baz=104,slow=34,SNR=40						
KAF	**Kangasniemi**	**2.03**	**301**	*e*P	**Pn**	**09 49 06.9**	**+2.0**
KAF				*e*S	**Sn**	**09 49 32.2**	**+1.2**
KAF				MSG		09 49 36.8	
	comp=Z,23nm,0.2s						
KAF	**Kangasniemi**	**2.03**	**301**	P	**Pn**	**09 49 06.8**	**+1.9**
KAF				S	**Sn**	**09 49 32.1**	**+1.1**
	comp=Z,23nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVF	**Pernaja**	**2.12**	**256**	ePG	**Pg**	**09 49 08.8**	**-1.4**
PVF				eS	**Sn**	**09 49 34.4**	**+1.1**
PVF				MSG		09 49 39.6	
	comp=Z,16nm,0.1s						
PVF	**Pernaja**	**2.12**	**256**	Pg	**Pg**	**09 49 08.7**	**-1.5**
SUF	**Sumiainen**	**2.42**	**313**	ePG	**Pg**	**09 49 14.1**	**-1.9**
SUF				MSG		09 49 48.1	
	comp=Z,9.9nm,0.2s						
SUF	**Sumiainen**	**2.42**	**313**	Pg	**Pg**	**09 49 14.1**	**-1.9**
	comp=Z,9.9nm,0.2s						
KJN	**Kajaani**	**3.15**	**341**	ePB	**Pb**	**09 49 25.2**	**-1.1**
KJN				MSG		09 50 06.7	
	comp=Z,18nm,0.3s						
HFS	**Hagfors**	**8.09**	**270**	eP	**Pn**	**09 50 28.7**	**+0.5**
HFS				eS	**Sn**	**09 51 57.8**	**-2.6**
HFS				e		09 52 44.5	
HFS	**Hagfors**	**8.09**	**270**	Pn	**Pn**	**09 50 28.4**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=74,slow=15,SNR=14						
HFS				Sn	**Sn**	**09 51 56.3**	**-4.0**
	comp=Z,0.8nm,0.3s,baz=80,slow=25,SNR=8.0						
HFS				Lg		09 52 44.1	
	comp=Z,0.9nm,0.3s,baz=76,slow=31,SNR=5.0						
HFS	**Hagfors**	**8.09**	**270**	Pn	**Pn**	**09 50 28.7**	**+0.5**
	baz=91,slow=14						
HFS				Sn	**Sn**	**09 51 57.8**	**-2.6**
	baz=76,slow=28						
HFS				Lg		09 52 44.5	
	baz=76,slow=28						
ARA0	**ARCESS Array S**	**8.64**	**349**	Pn	**Pn**	**09 50 35.9**	**+0.1**
	baz=163,slow=14						
ARA0				Sn	**Sn**	**09 52 09.6**	**-4.4**
	baz=160,slow=28						
ARA0				Lg		09 52 56.5	
	baz=169,slow=28						
ARA0	**ARCESS Array S**	**8.64**	**349**	eP	**Pn**	**09 50 35.9**	**+0.1**
ARA0				eS	**Sn**	**09 52 09.6**	**-4.4**
ARA0				eSG		09 52 56.5	
ARCES	**ARCESS Array B**	**8.64**	**349**	Pn	**Pn**	**09 50 37.8**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=163,slow=13,SNR=5.6						
ARCES				Sn	**Sn**	**09 52 06.0**	**-7.9**
	comp=Z,0.2nm,0.3s,baz=169,slow=20,SNR=2.3						
ARCES				Lg		09 52 56.1	
	comp=Z,0.9nm,0.3s,baz=168,slow=30,SNR=5.0						
NB2	**NORSAR Subarra**	**9.11**	**278**	Pn	**Pn**	**09 50 41.7**	**-0.5**
	baz=81,slow=14						
NB2	**NORSAR Subarra**	**9.11**	**278**	eP	**Pn**	**09 50 41.7**	**-0.5**
NOA	**NORSAR Array B**	**9.11**	**278**	Pn	**Pn**	**09 50 41.9**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=82,slow=15,SNR=2.8						
TORD	**Torodi Ar. Bea**	**52.14**	**216**	P	**P**	**09 57 41.0**	**-0.6**
	comp=Z,0.6nm,1.1s,mb3.5,baz=21,slow=6.7,SNR=4.5						

*NEIC **08** 09:53:41.2, 16.88N×100.48W, h5km, MD4.1(MEX), After MEX.*

MEX 08 09:53:41.9±0.9**, 16.86N×100.43W, h4**km±8km**, MD4.2, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.24**	**41**	iP	Pg	09 53 45.8	-0.8
CAIG				iS	Sg	09 53 50.0	+0.2
ACX	**Acapulco**	**0.49**	**90**	iP	Pg	09 53 51.0	-0.4
ACX				iS	Sg	09 53 59.0	+1.1
ZIIG	**Zihuatanejo**	**1.23**	**307**	iP	Pg	09 54 01.8	-3.8
ZIIG				iS	Sg	09 54 18.5	-3.0
MEIG	**Mezcala**	**1.31**	**36**	iP	Pn	09 54 03.3	-3.7
MEIG				iS	Sg	09 54 20.9	-3.1
PLIG	**Platanillo**	**1.76**	**30**	iP	Pn	09 54 10.1	-3.1
PLIG				iS	Sn	09 54 30.8	-5.3
IIZ	**Mezontepec**	**2.58**	**26**	eP	Pn	09 54 22.2	-2.2
IIZ				iS	Sn	09 54 52.6	-3.6
UTMO	**Huajuapan**	**2.69**	**69**	eP	Pn	09 54 22.7	-3.3
UTMO				iS	Sn	09 54 54.4	-4.6
UNM	**Universidad Na**	**2.73**	**26**	eP	Pn	09 54 24.0	-2.5
UNM	**Universidad Na**	**2.73**	**26**	eP	Pg	09 54 33.0	-1.2
PPM	**Popocatepetl**	**2.79**	**38**	eP	Pn	09 54 23.9	-3.4
PPM				iS	Sn	09 54 58.1	-3.3
MOIG	**Morelia**	**2.89**	**346**	iP	Pn	09 54 23.2	-5.5
MOIG				iS	Sn	09 54 59.3	-4.6
MOIG	**Morelia**	**2.89**	**346**	iP	Pn	09 54 23.2	-5.5
MOIG				iS	Sn	09 54 55.5	-8.4
MRX	**Morelia**	**2.92**	**346**	eP	Pn	09 54 30.5	+1.4
MRX	**Morelia**	**2.92**	**346**	eP	Pn	09 54 32.0	+2.9
TPIG	**Tehuac#an**	**3.31**	**62**	eP	Pn	09 54 30.2	-4.4
TPIG				iS	Sn	09 55 10.5	-3.9
VHO	**Vista Hermosa**	**3.55**	**86**	iP	Pn	09 54 33.7	-4.0
VHO				iS	Sn	09 55 16.0	-4.2
OXX	**Oaxaca**	**3.56**	**86**	iP	Pn	09 54 44.0	+6.1
OXX				iS	Sn	09 55 14.0	-6.4

*ISCJB **08** 10:15:07.8±1.1, 5.52S±0.04×149.79E±0.05, h136km±11km, mb4.8/44, Error ellipse: s-maj=7.9km s-min=6.1km az=46.4*

*BJI **08** 10:15:08.7, 5.48S×150.05E, h150km, mB4.9, mb4.9*

*MOS **08** 10:15:09.1±1.0, 5.54S×149.83E, h150km, mb4.9/12, Error ellipse: s-maj=13.6km s-min=7.4km az=89.1*

*IDC **08** 10:15:09.2±0.7, 5.57S×149.74E, h136km±5km, mb4.5/14, mb1 4.5/17, mb1mx4.5/19, mbtmp4.9/17, MS3.9/10, Ms1 3.9/10, ms1mx3.7/17, Error ellipse: s-maj=11.2km s-min=9.3km az=103.0*

*NEIC **08** 10:15:10.3±1.1, 5.55S×149.80E, h149km±10km, mb5.1/16, Error ellipse: s-maj=8.5km s-min=6.6km az=97.0*

*GCMT **08** 10:15:10.3±0.2, 5.66S×149.82E, h140km±1km, MW5.2/93, Moment Tensor Solution. s55,c77; s93,c155; Duration: 1.0s Moment tensor: Scale 10^{16}Nm; M_{rr}-3.73±.20; $M_{\theta\theta}$3.90±.23; $M_{\phi\phi}$-0.17±.23; $M_{r\theta}$-7.23±.14; $M_{\theta\phi}$0.04±.25; $M_{\phi r}$-0.53±.15; Best double couple: $M_0$8.19200×10^{16} NP1:ϕ_s273.00000°, δ14.00000°, λ-83.00000°. NP2: ϕ_s86.00000°, δ76.00000°, λ-92.00000°. Principal axes: T 8.2710, Plg31.0000°, Azm178.0000°; N -0.1620, Plg2.0000°, Azm87.0000°; P -8.1140, Plg59.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 10:15:10.7±0.9**, 5.58S**±0.04×**149.82E**±0.05**, h148**km±9km**, h139**km±2.5km**:pP-P, n101, σ1.01**/100**, mb4.8**/44**, 13C-8D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.63**	**215**	eP	**Pn**	**10 16 18.5**	**-0.5**
HNR	**Honiara**	**10.74**	**111**	P	**Pn**	**10 17 39.5**	**-0.7**
	2.9nm,0.3s,baz=250,slow=1.9,SNR=8.5						
HNR				S	**Sn**	**10 19 39.7**	**+0.5**
	3.1nm,0.3s,baz=90,slow=19,SNR=2.0						
CTA	**Charters Tower**	**14.83**	**193⇑**	iP	**Pn**	**10 18 33.8**	**+0.8**
	60nm,0.9s						
CTA				eS	**Sn**	**10 21 20.0**	**+2.4**
CTA	**Charters Tower**	**14.83**	**193**	P	**Pn**	**10 18 34.0**	**+0.9**
	3.5nm,0.3s,baz=25,slow=13,SNR=29						
CTA				LR	LR	10 24 27.4	
	comp=Z,226nm,18.1s,baz=5.2,slow=38						
CTA	**Charters Tower**	**14.83**	**193⇑**	iP	**Pn**	**10 18 33.8**	**+0.8**
CTA				eS	**Sn**	**10 21 20.0**	**+2.4**
CTA				pmax	pmax		
	comp=Z,60nm,0.9s						
CTAO	**Charters Tower**	**14.83**	**193**	eP	**Pn**	**10 18 33.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,158nm,1.1s						
CTAO	**Charters Tower**	**14.83**	**193**	eP	**Pn**	**10 18 33.7**	**+0.7**
	comp=Z,158nm,1.1s						
KAKA	**Kakadu**	**18.56**	**246**	eP	**P**	**10 19 14.9**	**-1.2**
	comp=Z,38nm,0.5s						
KAKA				eS	**S**	**10 22 36.1**	**-3.8**
GUMO	**Guam**	**19.67**	**346**	P	**P**	**10 19 26.9**	**-1.2**
	comp=Z,3.9nm,0.3s,baz=117,slow=12,SNR=5.1						
GUMO	**Guam**	**19.67**	**346**	P	**P**	**10 19 26.9**	**-1.2**
WRAB	**Tennant Creek**	**20.73**	**225d**	iP	**P**	**10 19 39.3**	**-0.3**
WRAB	**Tennant Creek**	**20.73**	**225**	eP	**P**	**10 19 39.1**	**-0.4**
	comp=Z,50nm,0.6s						
WB2	**Warramunga Arr**	**20.74**	**225⇓**	iP	**P**	**10 19 39.4**	**-0.2**
WB2				epP		10 20 05.8	
WB2				eS	**S**	**10 23 21.7**	**-1.2**
WRA	**Warramunga Arr**	**20.75**	**225**	P	**P**	**10 19 39.5**	**-0.2**
	comp=Z,24nm,0.4s,baz=49,slow=10,SNR=317						
WRA				pP		10 20 04.1	
	comp=Z,32nm,0.7s,baz=50,slow=11,SNR=9.0						
WRA				S	**S**	**10 23 22.2**	**-0.8**
	comp=Z,19nm,0.8s,baz=39,slow=19,SNR=12						
WRA				ScP	ScP	10 27 06.5	+0.8
	comp=Z,6.0nm,1.1s,baz=41,slow=2.6,SNR=9.9						
WRA	**Warramunga Arr**	**20.75**	**225**	P	**P**	**10 19 39.5**	**-0.2**
WRA				*PP		10 20 04.1	
WRA				S	**S**	**10 23 22.2**	**-0.8**
DZM	**Mont Dzumac**	**22.96**	**137**	eP	**P**	**10 20 02.4**	**+0.2**
DZM	**Mont Dzumac**	**22.96**	**137**	P	**P**	**10 20 02.4**	**+0.3**
	comp=Z,164nm,1.0s,mb5.4,baz=342,slow=8.9,SNR=88						
AS31	**Alice Springs**	**23.63**	**219**	eP	**P**	**10 20 08.6**	**+0.4**
ASPA	**Alice Springs**	**23.63**	**219**	eP	**P**	**10 20 08.7**	**+0.4**
ASPA				eS	**S**	**10 24 11.3**	**-0.5**
ARMA	**Armidale**	**24.77**	**176**	eP	**P**	**10 20 19.9**	**+1.3**
ARMA				epP		10 20 48.6	
FITZ	**Fitzroy Crossi**	**26.69**	**240⇓**	iP	**P**	**10 20 35.3**	**-0.6**
	comp=Z,41nm,0.5s,mb5.3						
FITZ				epP	pP	10 21 05.3	-1.6
FITZ				eS	**S**	**10 25 00.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**26.69**	**240**	P	**P**	**10 20 35.5**	**-0.5**
	comp=Z,22nm,0.5s,mb5.0,baz=71,slow=8.3,SNR=175						
FITZ				pP	pP	10 21 04.6	-2.4
	comp=Z,37nm,0.7s,baz=76,slow=8.2,SNR=9.2						
FITZ				S	**S**	**10 25 01.2**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=198,slow=20,SNR=3.2						
FITZ				LR	LR	10 31 49.1	
	comp=Z,289nm,18.2s,baz=189,slow=38						
STKA	**Stephens Creek**	**27.27**	**195⇑**	iP	**P**	**10 20 40.5**	**-0.6**
	comp=Z,14nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**27.27**	**195**	P	**P**	**10 20 40.3**	**-0.8**
	comp=Z,7.2nm,0.5s,mb4.5,baz=358,slow=9.0,SNR=10						
STKA				pP	pP	10 21 10.5	-1.7
	comp=Z,13nm,0.8s,baz=28,slow=10.0,SNR=3.9						
STKA				LR	LR	10 33 12.1	
	comp=Z,321nm,18.4s,baz=29,slow=40						
STKA	**Stephens Creek**	**27.27**	**195**	eP	**P**	**10 20 40.3**	**-0.8**
CNB	**Canberra Magne**	**29.59**	**181**	eP	**P**	**10 21 02.3**	**+0.6**
	comp=Z,52nm,1.0s,mb5.2						
TOO	**Toolangi**	**32.09**	**186⇑**	iP	**P**	**10 21 24.4**	**+0.8**
	comp=Z,22nm,0.8s,mb4.9						
TOO	**Toolangi**	**32.09**	**186⇑**	iP	**P**	**10 21 24.4**	**+0.8**
TOO				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.9						
FORT	**Forrest**	**32.35**	**217**	eP	**P**	**10 21 25.3**	**-0.6**
	comp=Z,30nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**33.02**	**239**	eP	**P**	**10 21 31.0**	**-0.8**
	comp=Z,31nm,0.6s,mb5.2						
CBIJ	**Chichi jima**	**33.31**	**348**	P	**P**	**10 21 33.5**	**-0.7**
	comp=Z,61nm,0.5s,mb5.6,baz=84,slow=22,SNR=5.4						
KLBR	**Kellerberrin**	**39.63**	**225**	eP	**P**	**10 22 26.8**	**-1.0**
	comp=Z,27nm,0.6s,mb5.0						
YHNB	**Yeheng**	**40.88**	**319**	eP	**P**	**10 22 39.9**	**+1.8**
URZ	**Urewera**	**40.89**	**147**	P	**P**	**10 22 37.7**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.3,baz=295,slow=10,SNR=6.4						
MUN	**Mundaring**	**40.94**	**226⇓**	iP	**P**	**10 22 38.0**	**-0.6**
RPZ	**Rata Peaks**	**42.33**	**157**	P	**P**	**10 22 50.4**	**+0.4**
	comp=Z,51nm,0.8s,mb5.2,baz=16,slow=1.6,SNR=22						
MJAR	**Matsushiro Arr**	**43.29**	**346**	P	**P**	**10 22 57.0**	**-0.7**
	comp=Z,15nm,0.8s,mb4.7,baz=166,slow=5.0,SNR=54						
MJAR				LR	LR	10 38 24.8	
	comp=Z,132nm,19.4s,baz=185,slow=32						
MAJO	**Matsushiro**	**43.29**	**346**	eP	**P**	**10 22 58.8**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**43.29**	**346**	eP	**P**	**10 22 58.8**	**+1.1**
	comp=Z,18nm,0.6s,mb4.9						
MAT	**Matsushiro**	**43.29**	**346**	P	**P**	**10 22 57.2**	**-0.4**
SSE	**Sheshan**	**45.59**	**325**	eP	**P**	**10 23 15.2**	**-0.7**
SSE				AP	pP	10 23 47.2	-1.9
SSE				XP	sP	10 24 06.5	+0.8
SSE				PP	PP	10 25 06.3	+0.8
SSE				S	**S**	**10 29 48.1**	**+1.1**
SSE				XS	sS	10 30 50.7	+6.0
SSE				SCS	ScS	10 32 58.2	+1.6
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,22nm,3.5s						
SSE				LR	LR		
	comp=N,119nm,34.6s						
SSE				LR	LR		
	comp=E,127nm,34.9s						
SSE				LR	LR		
	comp=Z,218nm,34.5s						
NJ2	**Nanjing**	**47.65**	**324**	eP	**P**	**10 23 31.5**	**-0.4**
NJ2				PP	PP	10 25 24.3	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,430nm,4.5s						
NJ2				LR	LR		
	comp=N,550nm,18.0s						
NJ2				LR	LR		
	comp=E,370nm,18.9s						
NJ2				LR	LR		
	comp=Z,290nm,19.2s						
WHN	**Wuhan**	**49.42**	**319**	P	**P**	**10 23 47.3**	**+1.9**
VLA	**Vladivostok**	**51.13**	**343c**	iP	**P**	**10 23 59.7**	**+1.4**
VLA				pmax	pmax		
	comp=Z,133nm,1.7s,mb5.3						
YSS	**Yuzh-Sakhalins**	**52.68**	**354⇑**	eP	**P**	**10 24 09.9**	**+0.1**
YSS				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.8						
YSS	**Yuzh-Sakhalins**	**52.68**	**354**	eP	**P**	**10 24 10.2**	**+0.4**
	comp=Z,34nm,0.9s,mb5.1						
MDJ	**Mudanjiang**	**53.17**	**342**	P	**P**	**10 24 13.4**	**0.0**
MDJ				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,157nm,7.8s						
BJI	**Beijing**	**54.95**	**329**	eP	**P**	**10 24 26.9**	**+0.6**
BJI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.6						
BJI				LR	LR		
	comp=Z,96nm,21.3s						
XAN	**Xi'an**	**55.19**	**319**	P	**P**	**10 24 28.3**	**+0.3**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
HABR	**Khabarovsk**	**55.36**	**348⇓**	iP	**P**	**10 24 30.4**	**+1.2**
HABR				eS	**S**	**10 32 04.7**	**+2.7**
HABR				pmax	pmax		
	comp=Z,238nm,1.7s,mb5.7						
KLR	**Kul'dur**	**56.81**	**346**	eP	**P**	**10 24 35.4**	**-4.1**
KLR				pmax	pmax		
	comp=Z,97nm,0.6s,mb5.8						
KLR				pmax	pmax		
	comp=E,40nm,1.6s						
PET	**Petropavlovsk**	**58.86**	**6⇑**	eP	**P**	**10 24 53.7**	**-0.1**
PET				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
LZH	**Lanzhou**	**59.76**	**318**	eP	**P**	**10 25 02.0**	**+2.0**
LZH				AP	pP	10 25 35.0	+0.2
LZH				XP	sP	10 25 51.5	+0.5
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,161nm,5.0s						
HIA	**Hailar**	**60.58**	**338**	eP	**P**	**10 25 06.0**	**+0.5**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	**Hailar**	**60.58**	**338**	eP	**P**	**10 25 06.0**	**+0.4**
	comp=Z,10nm,0.5s,mb4.9						
DRV	**Dumont d'Urvil**	**61.36**	**184**	S	**S**	**10 33 27.0**	**+7.3**
GTA	**Gaotai**	**64.25**	**319**	eP	**P**	**10 25 31.4**	**+1.5**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,100nm,4.6s						
GTA				LR	LR		
	comp=N,139nm,21.3s						
GTA				LR	LR		
	comp=E,180nm,22.8s						
GTA				LR	LR		
	comp=Z,87nm,17.9s						
ULN	**Ulaanbaatar**	**65.13**	**330⇑**	eP	**P**	**10 25 35.8**	**+0.2**
SONM	**Songino Array**	**65.44**	**329**	P	**P**	**10 25 37.9**	**+0.3**
	comp=Z,6.2nm,0.6s,mb4.6,baz=143,slow=5.3,SNR=34						
SONM				LR	LR	10 55 19.4	
	comp=Z,92nm,18.9s,baz=232,slow=37						
CLNS	**Chul'man**	**65.46**	**345**	eP	**P**	**10 25 38.1**	**+0.4**
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.7s						
SEY	**Seymchan**	**68.35**	**1⇑**	eP	**P**	**10 25 55.9**	**-0.1**
ZAK	**Zakamensk**	**68.65**	**330**	eP	**P**	**10 25 57.3**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
YAK	**Yakutsk**	**69.18**	**350⇑**	eP	**P**	**10 26 01.5**	**+0.3**
YAK				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8						
TLY	**Talaya**	**69.30**	**331**	eP	**P**	**10 26 04.3**	**+2.4**
TLY				eS	S	10 35 01.3	+4.9
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
TLY				MLR	MLR		
	comp=Z,60nm,19.0s						
BOD	**Bodaibo**	**69.49**	**340**	eP	**P**	**10 26 02.1**	**-1.0**
BOD				e	pP	10 26 35.1	-3.8
BOD				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.2						
MIR	**Mirnyy**	**72.14**	**201c**	iP	**P**	**10 26 20.5**	**+1.4**
MIR				pmax	pmax		
	comp=Z,190nm,1.5s,mb5.6						
VNDA	**Vanda**	**72.18**	**177**	P	**P**	**10 26 19.4**	**+0.2**
	comp=Z,4.8nm,0.9s,mb4.2,baz=325,slow=6.3,SNR=26						
VNDA				pP	pP	10 26 52.0	-3.4
	comp=Z,5.5nm,0.8s,baz=330,slow=7.8,SNR=7.5						
VNDA				LR	LR	10 56 10.5	
	comp=Z,126nm,21.9s,baz=327,slow=34						
VNDA	**Vanda**	**72.18**	**177**	P	**P**	**10 26 19.5**	**+0.2**
VNDA				*PP	pP	10 26 52.0	-3.4
BILL	**Bilibino**	**74.36**	**6**	eP	**P**	**10 26 32.7**	**+0.6**
BILL				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
KRAR	**Krasnoyarsk**	**77.00**	**331**	eP	**P**	**10 26 47.4**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,48nm,0.5s,mb5.4						
MKAR	**Makanchi Array**	**78.98**	**320**	P	**P**	**10 26 56.7**	**-1.3**
	comp=Z,0.8nm,0.4s,mb3.7,baz=128,slow=5.1,SNR=4.3						
MKAR	**Makanchi Array**	**78.98**	**320⇑**	eP	**P**	**10 26 58.2**	**+0.2**
MKAR	**Makanchi Array**	**78.98**	**320**	P	**P**	**10 26 56.7**	**-1.3**
ZAL	**Zalesovo**	**80.18**	**327**	P	**P**	**10 27 04.2**	**-0.2**
	comp=Z,3.9nm,0.5s,mb4.3,baz=342,slow=6.0,SNR=7.1						
ZAL				LR	LR	10 59 50.6	
	comp=Z,87nm,21.8s,baz=154,slow=34						
ZAL	**Zalesovo**	**80.18**	**327**	P	**P**	**10 27 04.2**	**-0.3**
ZAL				LR	LR	10 59 50.6	
MCK	**McKinley**	**82.73**	**23**	eP	**P**	**10 27 15.2**	**-2.7**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MCK	**McKinley**	**82.73**	**23**	eP	**P**	**10 27 15.2**	**-2.7**
	comp=Z,5.5nm,0.9s,mb4.3						
COLA	**College**	**83.69**	**22**	eP	**P**	**10 27 20.5**	**-2.3**
MAW	**Mawson**	**83.71**	**203⇓**	iP	**P**	**10 27 22.0**	**-0.9**
	comp=Z,6.6nm,0.9s,mb4.4						
MAW				i pP	pP	10 27 55.1	-4.9
MAW	**Mawson**	**83.71**	**203**	P	**P**	**10 27 22.6**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.4,baz=79,slow=6.6,SNR=20						
MAW				LR	LR	11 00 04.0	
	comp=Z,80nm,19.4s,baz=79,slow=32						
MAW	**Mawson**	**83.71**	**203⇓**	iP	**P**	**10 27 22.0**	**-0.9**
MAW				i *PP	pP	10 27 55.1	-4.9
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
QSPA	**South Pole Qui**	**84.38**	**180**	eP	**P**	**10 27 26.4**	**+0.1**
	comp=Z,40nm,1.1s,mb5.1						
EGAK	**Eagle**	**86.25**	**24**	eP	**P**	**10 27 34.4**	**-1.1**
EGAK				e		10 27 53.0	
DAWY	**Dawson**	**86.72**	**25**	eP	**P**	**10 27 37.3**	**-0.6**
DAWY				e		10 27 57.1	
BVAR	**Borovoye Array**	**88.09**	**324**	P	**P**	**10 27 41.4**	**-3.0**
	comp=Z,1.5nm,0.6s,mb4.0,baz=106,slow=5.7,SNR=7.8						
BVAR				pP	pP	10 28 17.6	-4.3
	comp=Z,2.2nm,0.7s,baz=111,slow=6.5,SNR=6.0						
INK	**Inuvik**	**90.25**	**21**	eP	**P**	**10 27 52.5**	**-2.0**
SYO	**Syowa Base**	**91.94**	**200⇓**	eP	pP	10 28 34.0	-5.9
NVAR	**Mina Array Bea**	**94.90**	**52**	P	**P**	**10 28 15.9**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.7,baz=234,slow=7.1,SNR=5.7						
ARU	**Arti**	**95.31**	**326**	eP	**P**	**10 28 17.3**	**-0.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
AKTO	**Aktyubinsk**	**95.41**	**320**	LR	LR	11 10 09.5	
	comp=Z,46nm,20.9s,baz=141,slow=35						
YKA	**Yellowknife Ar**	**97.50**	**28**	LR	LR	11 09 45.2	
	comp=Z,53nm,18.4s,baz=270,slow=34						
ARCES	**ARCESS Array B**	**106.72**	**342**	PKKPbc	PKKPbc	10 44 36.0	-1.1
	comp=Z,1.0nm,0.4s,baz=266,slow=1.5,SNR=11						
ROSC	**El Rosal**	**136.03**	**89**	PKP	PKPdf	10 34 14.9	+0.8
	comp=Z,13nm,0.6s,baz=99,slow=19,SNR=6.7						
ROSC				SKPbc	SKPbc	10 37 36.3	+4.2
	comp=Z,3.7nm,0.5s,baz=94,slow=18,SNR=4.2						
LPAZ	**La Paz**	**136.62**	**121**	PKP	PKPdf	10 34 17.4	+2.3
	comp=Z,2.2nm,0.6s,baz=201,slow=3.2,SNR=8.0						
LPAZ				SKPbc	SKPbc	10 37 38.0	+4.0
	comp=Z,2.0nm,0.9s,baz=214,slow=3.0,SNR=5.1						
LPAZ	**La Paz**	**136.62**	**121**	ePKHKP		10 34 05.5	
LPAZ				e		10 34 17.4	
LPAZ	**La Paz**	**136.62**	**121**	ePKPpre		10 34 05.5	
LPAZ				ePKPdf	PKPdf	10 34 17.4	+2.2
LPAZ				SKPbc	SKPbc	10 37 38.0	+4.0
CPUP	**Villa Florida**	**138.78**	**142**	ePKIKP	PKPdf	10 34 18.3	-0.9
SDV	**Santo Domingo**	**139.75**	**83**	ePKPdf	PKPdf	10 34 22.1	+1.2
TORD	**Torodi Ar. Bea**	**147.69**	**286**	PKPbc	PKPbc	10 34 37.6	-0.2
	comp=Z,2.0nm,0.6s,baz=74,slow=2.3,SNR=26						
TORD				pPKPbc	pPKPbc	10 35 13.8	-2.8
	comp=Z,1.3nm,0.3s,baz=94,slow=2.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**147.69**	**286**	PKPbc	PKPbc	10 34 37.6	-0.2
TORD				pPKPbc	pPKPbc	10 35 13.8	-2.8
BDFB	**Brasilia**	**152.49**	**140**	PKP	PKPdf	10 34 43.7	+1.4
	comp=Z,4.5nm,0.8s,baz=167,slow=5.5,SNR=4.9						
BDFB				PKPbc	PKPbc	10 34 50.1	+0.7
	comp=Z,12nm,0.6s,baz=223,slow=2.7,SNR=15						

*IDC **08** 10:15:53.9±3.2, 35.88N×71.14E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.7/20, mbtmp3.9/8, ML3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/19, Error ellipse: s-maj=64.6km s-min=28.0km az=137.0*

*ISCJB **08** 10:16:06.8±0.6, 36.42N±0.04×71.1E±0.1, h104km±12km, mb3.7/4, Error ellipse: s-maj=14.9km s-min=5.8km az=19.7*

*NEIC **08** 10:16:07.3±2.0, 36.38N×71.22E, h100km, mb3.8/4, Error ellipse: s-maj=34.0km s-min=16.8km az=145.0*

*NNC **08** 10:16:12.4±9.5, 36.80N×70.72E, h103km±173km, mb3.1, mpv3.8, Error ellipse: s-maj=77.7km s-min=66.1km az=19.0*

ISC 08 10:16:08.0±0.5**, 36.43N**±0.04×**71.1E**±0.1**, h101**km±10km**, n32, σ0.90**/36**, mb3.7**/4**, 6C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.69**	**165**	⇓P	**Pn**	**10 16 50.8**	**+1.1**
CHCP	**Chirah Chowk**	**3.31**	**146**	P	**Pn**	**10 16 58.1**	**+0.2**
THW	**Thamme Wali**	**3.67**	**171**	⇑P	**Pn**	**10 17 03.4**	**+0.7**
SBDP	**Sheikh Budin**	**4.12**	**183**	P	**Pn**	**10 17 08.7**	**-0.1**
SBDP				S	**Sn**	**10 17 55.0**	**-1.0**
SARP	**Sargodha**	**4.69**	**163**	P	**Pn**	**10 17 15.7**	**-0.8**
AML	**Almayashu**	**6.05**	**19**	P	**Pn**	**10 17 35.8**	**+0.8**
	SNR=37						
KZA	**Kyzart**	**6.52**	**29**	P	**Pn**	**10 17 41.6**	**+0.4**
	SNR=15						
EKS2	**Erkin-Say**	**6.57**	**18**	P	**Pn**	**10 17 42.6**	**+0.6**
	SNR=21						
KK31	**Karatay Array**	**6.68**	**357**	P	**Pn**	**10 17 43.7**	**+0.1**
	7.0nm,0.2s,baz=241,slow=6.7,SNR=89						
KK31				⇑S	**Sn**	**10 18 54.4**	**-3.7**
	6.1nm,0.4s,baz=184,slow=22,SNR=5.6						
AAK	**Ala-Archa**	**6.75**	**22**	P	**Pn**	**10 17 44.8**	**+0.4**
	SNR=38						
AAK	**Ala-Archa**	**6.75**	**22**	eP	**Pn**	**10 17 43.8**	**-0.6**
	38nm,0.4s						
AAK				eS	**Sn**	**10 18 56.5**	**-3.2**
ULHL	**Ulahol**	**7.07**	**33**	P	**Pn**	**10 17 49.0**	**+0.3**
	SNR=6.9						
CHMS	**Chumysh**	**7.16**	**22**	P	**Pn**	**10 17 50.4**	**+0.4**
	SNR=23						
USP	**Ospenovka**	**7.33**	**20**	P	**Pn**	**10 17 52.5**	**+0.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.37**	**27**	P	**Pn**	**10 17 53.5**	**+0.6**
	SNR=11						
TKM2	**Tokmak 2**	**7.37**	**27**	⇑P	**Pn**	**10 17 53.4**	**+0.5**
	1.1nm,0.6s						
TKM2				⇑S	**Sn**	**10 19 15.5**	**+0.6**
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**13.33**	**36**	Pn	**Pn**	**10 19 11.6**	**-1.4**
	0.2nm,0.3s,baz=220,slow=10,SNR=3.3						
AB31	**Akbulak array**	**15.17**	**331**	⇑P	**Pn**	**10 19 35.5**	**-1.2**
	1.9nm,0.5s,baz=159,slow=14,SNR=37						

AB31 ⇓S S 10 22 13.0 -21
1.6nm,0.6s,baz=151,slow=22,SNR=5.2
ZRNK Zerenda 16.59 356 *eP* **Pn 10 19 54.4 0.0**
6.9nm,0.9s
ZRNK *e* 10 20 03.7
BVAR Borovoye Array 16.60 359 P **Pn 10 19 53.2 -1.4**
0.5nm,0.3s,baz=159,slow=13,SNR=7.8
BRVK Borovoye 16.64 358 *eP* **Pn 10 19 54.6 -0.5**
5.2nm,0.9s
AKTK Aktyubinsk 16.86 330 P **Pn 10 19 57.6 -0.2**
AKTO Aktyubinsk 16.86 330 ⇑P **Pn 10 19 58.0 +0.2**
0.1nm,0.8s
AKTO Aktyubinsk 16.86 330 P **Pn 10 19 57.6 -0.2**
0.3nm,0.3s,baz=132,slow=13,SNR=7.3
CHKZ Chkalovo 17.25 359 *eP* **Pn 10 20 01.8 -0.7**
3.0nm,0.8s
ZAL Zalesovo 19.95 24 P **P 10 20 31.8 -0.2**
3.1nm,0.5s,baz=250,slow=6.0,SNR=7.9
ZAL LR LR 10 28 54.5
comp=Z,38nm,21.0s,baz=179,slow=38
FINES FINESS Array B 37.57 326 P **P 10 23 14.3 +1.8**
3.0nm,0.9s,mb4.1,baz=115,slow=9.3,SNR=3.4
ARCES ARCESS Array B 41.23 338 P **P 10 23 44.6 +1.7**
1.2nm,0.7s,mb3.8,baz=113,slow=8.0,SNR=6.0
ARCES ARCESS Array B 41.23 338 P **P 10 23 44.6 +1.7**
MDJ Mudanjiang 44.41 61 P **P 10 24 07.9 -0.6**
17nm,0.8s
NOA NORSAR Array B 44.46 323 P **P 10 24 10.3 +1.3**
0.9nm,0.8s,mb3.5,baz=122,slow=8.8,SNR=3.5
TORD Torodi Ar. Bea 65.76 269 P **P 10 26 41.2 -0.8**
0.3nm,0.4s,mb3.5,baz=49,slow=5.7,SNR=6.3

*NAO **08** 11:07:07.9±2.0, 6764N×34.10E, ML2.6*
*ISCJB **08** 11:07:09.5±1.5, 6774N±005×338E±02, h0km, Error ellipse: s-maj=12.8km s-min=6.9km az=15.7*
*HEL **08** 11:07:10.1±0.4, 6770N×3397E, h0km, ML2.4, ML2.0(BER), ML2.6(NAO), Explosion*
*CSEM **08** 11:07:10.4±0.6, 6774N×3369E, h2km, ML2.4, Error ellipse: s-maj=13.8km s-min=5.9km az=89.0, Mining explosion.*

ISC 08 11:07:10.5±1.5, 6771N±005×338E±02, h0km, n18, σ0§66/27, Baltic States - Belarus - Northwestern Russia

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
APA0 Apatity Array 0.34 252 *i* P **Pg** **11 07 15.7 -1.3**
APA0 *i* S **Sg** **11 07 22.1 +0.6**
APA0 *e*RG 11 07 24.5
APA0 Apatity Array 0.34 252 Pg **Pg** **11 07 15.7 -1.3**
baz=87,slow=16
APA0 Lg 11 07 22.1
baz=80,slow=37
APA0 Rg 11 07 24.5
baz=84,slow=37
KU4 Liikasenvaara 2.15 233 *eP* **Pn** **11 07 47.3 -0.3**
KU4 *e*S **Sn** **11 08 15.3 +0.4**
KU4 MSG 11 08 20.3
comp=Z,21nm,0.1s
KU4 Liikasenvaara 2.15 233 P **Pn** **11 07 47.3 -0.3**
KU4 S **Sn** **11 08 15.3 +0.4**
comp=Z,21nm,0.1s
MSF Maaselka 2.62 229 *eP* **Pn** **11 07 54.3 +0.2**
MSF *e*S **Sn** **11 08 26.2 -0.4**
MSF MSG 11 08 32.6
comp=Z,10nm,0.1s
MSF Maaselka 2.62 229 P **Pn** **11 07 54.2 +0.1**
MSF S **Sn** **11 08 26.1 -0.5**
comp=Z,10nm,0.1s
SGF Sodankyl 2.81 268 *eP* **Pn** **11 07 57.5 +0.7**
SGF *e*S **Sn** **11 08 31.7 +0.3**
SGF MSG 11 08 38.4
comp=Z,34nm,0.2s
SGF Sodankyl 2.81 268 P **Pn** **11 07 57.4 +0.6**
SGF S **Sn** **11 08 31.6 +0.2**
comp=Z,34nm,0.2s
KEV Kevo 3.23 313 *eP* **Pn** **11 08 02.9 +0.5**
KEV *e*S **Sn** **11 08 41.9 +0.4**
KEV MSG 11 08 58.5
comp=Z,12nm,0.2s
KEV Kevo 3.23 313 P **Pn** **11 08 02.8 +0.4**
KEV S **Sn** **11 08 41.8 +0.3**
comp=Z,12nm,0.2s
ARA0 ARCESS Array S 3.56 305 Pn **Pn** **11 08 06.6 -0.4**
baz=122,slow=16
ARA0 Sn **Sn** **11 08 48.5 -1.3**
baz=122,slow=28
ARA0 Lg 11 09 00.4
baz=106,slow=37
ARA0 ARCESS Array S 3.56 305 *eP* **Pn** **11 08 06.6 -0.4**
ARA0 *e*S **Sn** **11 08 48.5 -1.3**
ARA0 *e*SG 11 09 00.4
ARA0 ARCESS Array S 3.56 305 P **Pn** **11 08 06.6 -0.4**
ARA0 S **Sn** **11 08 48.4 -1.3**
KTK1 Kautokeino 4.13 293 *eP* **Pn** **11 08 15.9 +1.0**
KTK1 AML AML 11 09 25.2
comp=Z,7.4nm,0.2s
OUL Oulu 4.14 234 *eP* **Pn** **11 08 14.8 -0.2**
OUL MSG 11 09 21.5
comp=Z,6.0nm,0.2s
FIA0 FINESS Array S 7.12 212 Lg 11 10 46.2
baz=14,slow=28
FIA0 FINESS Array S 7.12 212 *e*SG 11 10 46.2
FIA0 FINESS Array S 7.12 212 Lg 11 10 46.2
baz=14,slow=28

*HLW **08** 11:33:42.5, 2972N×3758E, h15km, Mb3.5*
*GII **08** 11:33:54.5±2.4, 2992N×3619E, h0km, ML2.2/4*
*ISCJB **08** 11:33:55.6±1.2, 2986N±005×3614E±009, h10km, Error ellipse: s-maj=11.2km s-min=7.6km az=20.0*

ISC 08 11:33:55.8±1.2, 2986N±005×3616E±008, h10km, n20, σ1§08/23, 2C, Western Arabian Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AQBJ Aqaba 0.98 262 Pg **Pg** **11 34 15.1 +0.5**
HRFI Mount Harif 0.99 280 Pg **Pg** **11 34 13.9 -1.0**
HRFI Sg **Sg** **11 34 31.9 +4.1**
EIL Elat 1.07 260 Pg **Pg** **11 34 16.8 +0.4**
MBH Mount Berech 1.09 267 Pg **Pg** **11 34 16.1 -0.7**
ZFRI Zfri 1.10 309 Pg **Pg** **11 34 15.2 -1.6**
PRNI Paran 1.12 296 Pg **Pg** **11 34 15.9 -1.3**
PRNI Sg **Sg** **11 34 33.0 +1.2**
KMTI Karmit 1.27 281 Pg **Pg** **11 34 18.9 -1.3**
HBST Basata 1.40 243 P **Pn** **11 34 22.3 +0.9**
MZDA Masada 1.60 335 Pn **Pn** **11 34 23.8 -0.3**
MASH Mash'abbe Sade 1.64 314 Pn **Pn** **11 34 24.1 -0.6**
SVTA Shivta 1.71 309 Pn **Pn** **11 34 25.8 +0.2**
YTIR Yattir 1.75 329 Pn **Pn** **11 34 25.7 -0.5**
HDHB Dhahab 1.76 230 P **Pn** **11 34 26.2 -0.1**
DSI Dead Sea 1.83 339 Pn **Pn** **11 34 27.3 0.0**
KZIT Kziot 1.85 305 Pn **Pn** **11 34 28.8 +1.2**
HNKL Nakhl 1.90 273 P **Pn** **11 34 30.6 +2.4**
HKAT Jabal Katrina 2.32 235 ⇑P **Pn** **11 34 34.0 -0.1**
TR2 2.59 236 P **Pn** **11 34 37.5 -0.3**
TR2 S **Sg** **11 35 18.1 -1.0**
AMAG Maghara 2.67 288 ⇑P **Pn** **11 34 41.1 +2.2**
SUZ 2.90 270 P **Pn** **11 34 45.7 +3.8**

*IGIL **08** 11:49:37.5, 3871N×784W, h2km, ML1.9*
*MDD **08** 11:49:39.4±0.6, 3873N×785W, h21km±5km, mbLg2.0/6, Error ellipse: s-maj=5.3km s-min=4.2km az=88.0, PRXIMO*

INMG 08 11:49:39.7±1.1, 3870N×785W, h21km±2km, ML1.9, Error ellipse: s-maj=2.1km s-min=1.7km az=115.0, Portugal

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PESTR Estremoz 0.26 51 *i* Pg Pb 11 49 45.4 -0.4
PESTR *e*Sg Sb 11 49 49.7 -0.3
PESTR
41nm,0.1s
EBAD Badajoz 0.66 85 Pg Pb 11 49 51.5 -0.9
SNR=7.9
EBAD Lg 11 50 00.4
95nm,0.2s,SNR=7.9
PBEJ Beja 0.68 181 *e*Pg Pb 11 49 52.5 -0.3
PBEJ *e*Sg Sb 11 50 01.4 -0.3
PBEJ
46nm,0.2s
PTOM Tomar 1.01 335 *e*P Pb 11 49 57.3 -1.2
PTOM *e*S Sb 11 50 10.4 -1.0
PTOM
38nm,0.1s
PLOU Loures 1.03 281 *e*S Sb 11 50 11.8 -0.2
PLOU
11nm,0.1s
PLOU Loures 1.03 281 Lg 11 50 11.8
5.7nm,0.1s
PMAFR Mafra 1.15 283 *e*S Sb 11 50 14.2 -1.1
PCBR Castelo Branco 1.17 14 *e*P Pn 11 50 00.2 -0.6
PCBR *e*S Sb 11 50 14.6 -1.4
PCBR
7.9nm,0.2s
EGRO El Granado 1.20 166 Pg Pn 11 50 02.3 +1.0
3.0nm,0.9s,SNR=10
EGRO Lg 11 50 17.4
SNR=7.9
EMIN Mina Concepcio 1.32 135 Pg Pn 11 50 03.0 +0.2
1.0nm,0.3s,SNR=17
EMIN Lg 11 50 20.3
SNR=7.9
PTEO Sao Teotonio 1.35 211 *e*Pg Pn 11 50 03.6 +0.4
PTEO *e*Sg Sn 11 50 21.7 +1.2
PTEO
3.7nm,0.2s
MORF Marmelete 1.53 205 *e*P Pn 11 50 04.2 -1.6
MORF *e*S Sn 11 50 23.5 -1.6
MORF *e*S Sn 11 50 23.5 -1.6
MORF AML AML 11 50 29.0
comp=N,12nm,0.1s
MORF Marmelete 1.53 205 *e*P Pn 11 50 04.2 -1.6
MORF *e*S Sn 11 50 23.5 -1.5
EADA Adamuz 2.62 101 Lg 11 51 01.0
SNR=7.9

IDC 08 12:04:42.3±67.0, 2081S×17887W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/11, mbtmp3.9/3, Error ellipse: s-maj=1217.0km s-min=168.4km az=83.0, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
STKA Stephens Creek 37.60 244 P P 12 11 58.0 -0.6
3.3nm,1.1s,baz=90,slow=11,SNR=3.5
ASAR Alice Springs 44.38 257 P P 12 12 55.0 +0.4
1.1nm,0.8s,baz=100,slow=7.0,SNR=12
WRA Warramunga Arr 44.49 262 P P 12 12 56.1 +0.7
0.4nm,0.3s,baz=95,slow=8.3,SNR=34

*ISCJB **08** 12:08:53.1±0.5, 2819N±007×1404E±02, h442km±8km, mb3.5/8, Error ellipse: s-maj=34.4km s-min=7.5km az=155.2*
*IDC **08** 12:08:53.5±0.8, 2814N×140.11E, h422km±17km, mb3.2/6, mb1 3.3/9, mb1mx3.1/20, mbtmp4.0/9, Error ellipse: s-maj=59.4km s-min=10.3km az=77.0*
*NEIC **08** 12:08:54.8±1.5, 2810N×14006E, h439km±19km, mb3.5/2, Error ellipse: s-maj=62.4km s-min=13.1km az=80.0*
*JMA **08** 12:08:54.5±0.3, 2832N×14057E, h435km±5km, M3.5*

ISC 08 12:08:54.1±0.5, 2821N±007×1405E±03, h438km±8km, n28, σ0§92/32, mb3.5/8, Bonin Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CBIJ Chichi jima 1.88 126 P **P** **12 09 53.1 +0.2**
27nm,0.3s,baz=332,slow=4.8,SNR=16
CBIJ S **S** **12 10 40.0 -0.6**
42nm,0.3s,baz=287,slow=22,SNR=14
CBIJ Chichi jima 1.88 126 P **P** **12 09 53.4 +0.5**
CBIJ *e*S **S** **12 10 39.1 -1.5**
JHHJ Haha-jima-NKT 2.19 136 P **P** **12 09 55.2 +0.5**
JHHJ S **S** **12 10 43.9 +0.2**
JHJ2 Mitsune 4.92 354 P **P** **12 10 17.7 +0.6**
JHJ Hachijo jima 2 4.93 353 P **P** **12 10 15.6 -1.7**
9.5nm,0.3s,baz=95,slow=20,SNR=6.4
JHJ S **S** **12 11 22.8 -2.1**
11nm,0.3s,baz=52,slow=20,SNR=4.2
BSO1 Boso 1 6.44 4 *e*S **S** **12 11 52.2 -0.9**
BSO3 Boso 3 6.57 0 P **P** **12 10 35.2 +1.2**
BSO3 *e*S **S** **12 11 52.0 -3.6**
BSO4 Boso 4 6.76 359 P **P** **12 10 36.9 +0.9**
JIE Ise 6.95 333 P **P** **12 10 38.9 +0.9**
JKN2 Miekihoku 7.00 330 P **P** **12 10 39.1 +0.5**
JNY Yasuok 7.46 343 P **P** **12 10 44.5 +1.0**
JHU Hanno 7.69 353 P **P** **12 10 45.3 -0.6**
JRY Ryogami san 7.90 351 P **P** **12 10 48.3 +0.1**
JYT Yasato 8.00 358 P **P** **12 10 48.5 -0.8**
JAG Ashikaga 8.24 354 P **P** **12 10 51.3 -0.6**
JHO Hitachi 8.38 1 P **P** **12 10 54.5 +1.0**
MJAR Matsushiro Arr 8.53 348 P **P** **12 10 56.1 +1.0**
0.8nm,0.3s,baz=353,slow=17,SNR=8.6
MAT Matsushiro 8.53 348 P **P** **12 10 55.9 +0.8**
JFK Kawauchi 9.14 2 P **P** **12 11 03.4 +1.6**
WRA Warramunga Arr 48.23 188 P **P** **12 16 53.0 -0.4**
0.5nm,0.5s,mb3.1,baz=3.2,slow=7.7,SNR=17
WRA PcP PcP 12 18 13.6 +1.2
0.5nm,0.4s,baz=359,slow=3.8,SNR=12
MKAR Makanchi Array 48.59 309 PcP PcP 12 18 14.1 +0.3
0.3nm,0.4s,baz=58,slow=3.0,SNR=4.0
ASAR Alice Springs 51.96 188 P **P** **12 17 20.6 -0.3**
0.2nm,0.5s,mb2.6,baz=357,slow=5.5,SNR=9.3
BVAR Borovoye Array 56.20 317 P **P** **12 17 50.6 -0.4**
2.1nm,0.5s,mb3.8,baz=88,slow=9.5,SNR=15
BRVK Borovoye 56.26 317 *eP* **P** **12 17 50.9 -0.5**
2.4nm,1.0s,mb3.5
ZRNK Zerenda 57.03 317 *eP* **P** **12 17 55.4 -1.4**
1.3nm,0.5s,mb3.5
ARCES ARCESS Array B 71.99 340 P **P** **12 19 32.4 +0.3**
2.9nm,1.0s,mb3.8,baz=64,slow=8.5,SNR=7.1
FINES FINESS Array B 76.28 333 P **P** **12 19 56.5 0.0**
0.9nm,0.4s,mb3.8,baz=71,slow=5.3,SNR=13
NOA NORSAR Array B 82.01 338 P **P** **12 20 26.9 -0.2**
0.8nm,0.8s,mb3.5,baz=180,slow=4.8,SNR=2.6

*BJI **08** 12:13:27.6, 5220N×17040W, h19km, mB4.9, mb4.7, Ms4.6, Msz4.3*
*MOS **08** 12:13:29.2±0.9, 5256N×17069W, h33km, mb4.6/8, Error ellipse: s-maj=15.4km s-min=10.6km az=88.6*
*ISCJB **08** 12:13:32.4±0.6, 5259N±008×17062W±005, h61km±5km, mb4.4/32, Error ellipse: s-maj=13.2km s-min=4.6km az=154.6*
*IDC **08** 12:13:32.2±3.7, 5245N×17079W, h48km±34km, mb4.0/17, mb1 4.2/18, mb1mx4.0/26, mbtmp4.2/18, ML4.3/1, MS3.3/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=19.8km s-min=14.3km az=158.0*
*NEIC **08** 12:13:32.6, 5223N×17044W, h20km, mb4.4/8, ML4.0(AEIC), After AEIC.*

ISC 08 12:13:34.5±0.6, 5260N±008×17068W±005, h69km±5km, n76, σ1§09/81, mb4.4/32, Fox Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIKO Nikolski 1.17 71 P **Pn** **12 13 51.3 -3.8**
NIKO S **Sn** **12 14 05.0 -5.5**
OKCD Okmok Cone D 1.76 61 P **Pn** **12 14 02.3 -0.6**
OKCD S **Sn** **12 14 26.0 +1.6**
ATKA Atka Island 2.19 261 P **Pn** **12 14 07.8 -0.9**
ATKA S **Sn** **12 14 34.1 -0.7**
AKUT Akutan 3.32 60 *eP* **Pn** **12 14 24.6 +0.6**
AKUT *e*S **Sn** **12 15 04.1 +1.8**
SPIA Saint Paul Isl 4.59 3 P **Pn** **12 14 43.9 +2.5**
AMKA Amchitka 6.31 263 *eP* **Pn** **12 15 04.7 -0.2**
AMKA *e*S **Sn** **12 16 17.9 +2.3**
SDPT Sand Point 6.62 61 P **Pn** **12 15 08.6 -0.5**
KDAK Kodiak Island 11.55 56 P **Pn** **12 16 15.1 -1.4**
1.8nm,0.3s,baz=263,slow=4.4,SNR=8.0
KDAK Kodiak Island 11.55 56 *e*S **Pn** **12 16 16.0 -0.5**
PMR Palmer 14.70 44 *eP* **Pn** **12 16 57.2 -1.5**
MCK McKinley 15.90 37 P **Pn** **12 17 18.3 +4.4**
COLA College 16.94 35 *eP* **Pn** **12 17 25.8 -1.2**
COLA College 16.94 35 *eP* **Pn** **12 17 24.0 -3.0**
BILL Bilibino 19.03 333 *eP* **Pn** **12 17 52.6 +0.3**
BILL pmax pmax
comp=Z,6.0nm,1.3s
EGAK Eagle 19.36 40 *eP* **Pn** **12 17 54.7 -1.6**
DAWY Dawson 19.79 42 *eP* **Pn** **12 17 59.2 -2.2**
SKAG Skagway 20.71 57 *eP* **P** **12 18 10.2 +1.0**
SEY Seymchan 21.93 313 *eP* **P** **12 18 22.6 +0.5**
DLBC Dease Lake 23.45 59 P **P** **12 18 40.0 +2.3**
comp=Z,11nm,1.1s,mb4.1,baz=283,slow=9.5,SNR=14
INK Inuvik 23.60 34 P **P** **12 18 39.1 +0.1**
comp=Z,3.3nm,0.5s,mb3.9,baz=250,slow=7.8,SNR=38
INK PcP PcP 12 22 22.6 +0.5
comp=Z,0.8nm,0.5s,baz=328,slow=2.9,SNR=5.1
INK Inuvik 23.60 34 P **P** **12 18 39.1 0.0**
INK 12 22 22.6
INK pmax pmax
comp=Z,3.0nm,0.5s
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 23.60 34 *eP* **P** **12 18 38.2 -0.9**
comp=Z,3.2nm,0.6s,mb3.8
YKA Yellowknife Ar 30.69 49 LR LR 12 33 09.3
comp=Z,31nm,19.4s,baz=260,slow=38
NEW Newport 33.73 75 *eP* **P** **12 20 09.7 +0.4**
NEW pmax pmax
comp=Z,5.0nm,0.8s
NEW Newport 33.73 75 *eP* **P** **12 20 09.7 +0.5**
comp=Z,4.8nm,0.8s,mb4.4
EDM Edmonton 33.78 66 *eP* **P** **12 20 10.2 +0.5**
HABR Khabarovsk 34.05 285 *eP* **P** **12 20 11.0 -1.1**
HABR *e*S **S** **12 25 35.5 +2.8**
BOZ Bozeman (W) 38.30 76 *eP* **P** **12 20 48.8 +0.5**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BOZ Bozeman (W) 38.30 76 *eP* **P** **12 20 48.8 +0.5**
comp=Z,1.6nm,0.6s,mb4.0
NVAR Mina Array Bea 38.47 90 P **P** **12 20 51.1 +1.4**
comp=Z,1.3nm,0.8s,mb3.8,baz=295,slow=8.3,SNR=12
NVAR PcP PcP 12 23 02.5 +1.0
comp=Z,0.8nm,0.7s,baz=306,slow=3.2,SNR=5.3
MAJO Matsushiro 38.91 266 *eP* **P** **12 20 53.5 +0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
MAJO Matsushiro 38.91 266 *eP* **P** **12 20 53.5 +0.1**
comp=Z,9.8nm,0.6s,mb4.8
MAT Matsushiro 38.91 266 P **P** **12 20 53.5 +0.1**
MJAR Matsushiro Arr 38.91 266 P **P** **12 20 53.8 +0.4**
comp=Z,2.3nm,0.5s,mb4.2,baz=48,slow=7.5,SNR=14
MJAR LR LR 12 34 15.8
comp=Z,66nm,21.3s,baz=100,slow=32
MDJ Mudanjiang 39.26 283 P **P** **12 21 00.0 +3.6**
MDJ PP PP 12 22 30.1 +2.6
MDJ AMB AMB
comp=Z,4.0nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,19nm,4.0s
PDAR Pinedale Array 41.14 79 P **P** **12 21 12.3 +0.4**
comp=Z,2.9nm,0.6s,mb4.3,baz=309,slow=5.0,SNR=29
BOD Bodaibo 41.22 308 *eP* **P** **12 21 12.1 -0.5**
BOD pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
CN2 Changchun 42.18 284 *eP* **P** **12 21 26.1 +5.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
TMUT Trail Mountain 42.24 84 *eP* **P** **12 21 20.2 -0.7**
HIA Hailar 42.43 294 *eP* **P** **12 21 22.5 +0.1**
SRU San Rafael 42.77 84 *eP* **P** **12 21 25.8 +0.6**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
SRU San Rafael 42.77 84 *eP* **P** **12 21 25.8 +0.6**
comp=Z,4.9nm,0.8s,mb4.3
WUAZ Wupatki 44.58 88 *eP* **P** **12 21 40.4 +0.8**
comp=Z,3.4nm,0.8s,mb4.1
PV01 Paradox Valley 44.58 83 *eP* **P** **12 21 39.6 -0.1**
ANMO Albuquerque 47.95 85 *eP* **P** **12 22 05.5 -0.6**
ULN Ulaanbaatar 50.13 300 *eP* **P** **12 22 22.4 -0.3**
SONM Songino Array 50.49 300 P **P** **12 22 26.3 +0.8**
comp=Z,0.8nm,0.4s,mb4.0,baz=56,slow=6.1,SNR=7.4
SONM PcP PcP 12 23 43.3 +0.6
comp=Z,1.4nm,0.7s,baz=59,slow=2.0,SNR=7.9
HHC Hu-ho-hao-te 52.09 290 *eP* **P** **12 22 42.9 +5.4**
HHC AP pP 12 22 50.5 -4.5
HHC XP sP 12 22 53.8 -9.0
HHC PCP PcP 12 23 54.4 +5.8
HHC PP PP 12 24 42.3 +6.1
HHC SCP ScP 12 27 48.3 +8.8
HHC PCS PcS 12 27 51.4 +4.5
HHC S **S** **12 30 04.5 +8.2**
HHC XS sS 12 30 17.2 -8.9
HHC SCS ScS 12 32 28.0 +7.0
HHC SS SS 12 33 39.9 +5.7
HHC AMB AMB
comp=Z,8.0nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,79nm,4.5s
HHC LR LR
comp=N,65nm,5.7s
HHC LR LR
comp=E,68nm,4.3s
HHC LR LR
comp=Z,61nm,5.5s
GUMO Guam 52.53 239 P **P** **12 22 37.7 -3.0**
comp=Z,21nm,0.4s,baz=192,slow=18,SNR=3.8
WMOK Wichita Mounta 52.73 80 *eP* **P** **12 22 41.7 -0.5**
WMOK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WMOK Wichita Mounta 52.73 80 *eP* **P** **12 22 41.7 -0.4**
comp=Z,5.5nm,0.8s,mb4.6
SSE Sheshan 52.98 274 *eP* **P** **12 22 47.6 +3.6**
SSE AMB AMB
comp=Z,19nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,56nm,4.3s
NJ2 Nanjing 53.73 277 *eP* **P** **12 22 54.9 +5.4**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
SCHQ Schefferville 55.81 43 P **P** **12 23 03.8 -0.8**
comp=Z,4.7nm,0.8s,mb4.6,baz=304,slow=6.8,SNR=4.3
KEV Kevo 57.28 353 *ep* **P** **12 23 13.3 -1.7**
ARCES ARCESS Array B 57.60 353 P **P** **12 23 17.4 +0.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=17,slow=6.1,SNR=15
ARCES PcP PcP 12 24 08.8 -1.0
comp=Z,1.8nm,0.6s,baz=358,slow=6.1,SNR=7.1
LZH Lanzhou 59.76 291 *eP* **P** **12 23 38.2 +6.0**
LZH AP pP 12 23 45.8 -4.4
LZH XP sP 12 23 49.1 -8.8
LZH PP PP 12 25 52.5 +7.8
LZH AMB AMB
comp=Z,19nm,1.3s,mb5.0
WMQ Urumqi 62.76 307 *eP* **P** **12 24 00.0 +7.5**
WMQ AMB AMB
comp=Z,5.0nm,1.2s,mb4.3
BVAR Borovoye Array 63.05 324 P **P** **12 23 55.0 +0.6**
comp=Z,2.4nm,0.5s,mb4.4,baz=55,slow=7.1,SNR=15
BVAR PcP PcP 12 24 32.0 +0.3
comp=Z,1.4nm,0.6s,baz=9.8,slow=2.5,SNR=5.1
JOF Joensuu 63.53 349 *ep* **P** **12 23 56.6 -1.0**
ZRNK Zerenda 63.60 324 *eP* **P** **12 23 58.6 +0.5**
ZRNK pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ZRNK Zerenda 63.60 324 *eP* **P** **12 23 58.6 +0.5**
comp=Z,4.5nm,0.6s,mb4.5
KAF Kangasniemi 64.84 351 *ep* **P** **12 24 05.5 -0.7**
baz=9.0,slow=6.0
FINES FINESS Array B 65.53 351 P **P** **12 24 10.5 -0.1**
comp=Z,1.4nm,0.6s,mb4.0,baz=6.7,slow=8.3,SNR=9.8
NB2 NORSAR Subarra 66.70 359 P **P** **12 24 17.7 -0.5**
comp=Z,1.9nm,0.5s,mb4.2,baz=1.9,slow=6.9
NOA NORSAR Array B 66.70 359 P **P** **12 24 18.5 +0.4**
comp=Z,2.3nm,0.5s,mb4.2,baz=1.5,slow=6.3,SNR=9.3
NOA NORSAR Array B 66.70 359 P **P** **12 24 18.5 +0.4**
KMI Kunming 68.44 283 P **P** **12 24 34.2 +5.1**
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.4
GERES GERESS Array B 78.86 357 P **P** **12 25 30.4 +0.2**
comp=Z,0.3nm,0.3s,mb3.6,baz=22,slow=4.3,SNR=4.3
WRA Warramunga Arr 86.53 231 P **P** **12 26 07.9 -2.1**
comp=Z,0.1nm,0.4s,baz=36,slow=5.6,SNR=6.4
WRA Warramunga Ar 86.53 231 *i* P **P** **12 26 11.5 +1.6**
ESDC Sonseca Array 87.38 10 P **P** **12 26 14.2 +0.1**
comp=Z,0.2nm,0.4s,mb3.4,baz=340,slow=4.0,SNR=5.0
PSI Prapat 88.04 272 P **P** **12 26 17.4 +0.2**
comp=Z,12nm,0.8s,mb5.0,baz=23,slow=7.4,SNR=6.4
ASAR Alice Springs 89.94 229 P **P** **12 26 25.4 -0.7**
comp=Z,2.0nm,0.8s,mb4.3,baz=23,slow=5.0,SNR=34
KEST Kesra 92.04 360 P **P** **12 26 35.9 0.0**
comp=Z,0.4nm,0.6s,mb3.9,baz=99,slow=13,SNR=2.8
MAW Mawson 150.55 219 PKPbc PKPbc 12 33 16.3 -2.1
comp=Z,3.3nm,0.7s,baz=162,slow=2.1,SNR=19

JMA 08 12:58:31.4±0.1, 2771N×14084E, h492km, M3.6, Bonin Islands region

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CBIJ	**Chichi jima**	**1.34**	**117**	P	P	12 59 33.3	+0.4
CBIJ				*e*S	S	13 00 22.5	-0.4
JHHJ	**Haha-jima-NKT**	**1.61**	**132**	P	P	12 59 34.4	+0.5
JHHJ				*e*S	S	13 00 24.6	-0.1
BSO1	**Boso 1**	**6.92**	**1**	P	P	13 00 18.9	+2.4
JIE	**Ise**	**7.54**	**333**	P	P	13 00 24.6	+1.8
JKN2	**Miekihoku**	**7.60**	**330**	P	P	13 00 24.7	+1.3
JRY	**Ryogami san**	**8.44**	**349**	P	P	13 00 33.7	+1.5
JAG	**Ashikaga**	**8.77**	**353**	P	P	13 00 36.0	+0.4
JHO	**Hitachi**	**8.88**	**359**	P	P	13 00 39.0	+2.3

*BJI **08** 12:59:05.4, 1063S×10826E, h33km, mB4.9, mb4.8, Ms4.1*
*IDC **08** 12:59:08.2±0.7, 979S×10797E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML3.9/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=26.9km s-min=15.1km az=56.0*
*ISCJB **08** 12:59:11.4±0.5, 989S±0.10×1080E±0.1, h33km, mb4.4/22, MS3.7/4, Error ellipse: s-maj=20.8km s-min=7.4km az=101.5*
*NEIC **08** 12:59:13.6±8.2, 983S×10796E, h34km±57km, mb4.5/6, Error ellipse: s-maj=23.0km s-min=10.4km az=63.0*
ISC 08 12:59:13.6±0.5**, 99S**±01**×1079E**±01**, h35km, (h31km**±6.5km**:pP-P), n47,** σ0.81/38**, mb4.4**/22**, MS3.7**/4**, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.49**	**324**	LR	LR	13 10 11.5	
	comp=Z,123nm,19.8s,baz=131,slow=43						
MBWA	**Marble Bar**	**15.94**	**136**	*e*P	**Pn**	**13 02 49.9**	**-5.2**
	5.9nm,0.6s						
MBWA				*e*S	S	13 05 28.6	-35
FITZ	**Fitzroy Crossi**	**19.01**	**117**	*e*P	**Pn**	**13 03 35.1**	**+1.8**
	4.9nm,0.6s						
FITZ				*e*S	**S**	**13 06 44.9**	**-21**
FITZ	**Fitzroy Crossi**	**19.01**	**117**	P	**Pn**	**13 03 33.1**	**-0.1**
	0.3nm,0.3s,baz=330,slow=10,SNR=14						
NWAO	**Narrogin (SRO)**	**24.45**	**161**	LR	LR	13 12 09.3	
	comp=Z,98nm,22.0s,MS3.2,baz=119,slow=32						
WRA	**Warramunga Arr**	**27.37**	**114**	P	**P**	**13 04 55.3**	**-0.3**
	1.8nm,0.5s,mb3.9,baz=291,slow=11,SNR=16						
WRAB	**Tennant Creek**	**27.38**	**114**	*e*P	**P**	**13 04 55.2**	**-0.4**
ASPA	**Alice Springs**	**28.32**	**122**	*e*P	**P**	**13 05 03.9**	**-0.1**
AS31	**Alice Springs**	**28.32**	**122**	*e*P	**P**	**13 05 03.9**	**-0.1**
ASAR	**Alice Springs**	**28.32**	**122**	P	**P**	**13 05 04.0**	**+0.1**
	1.4nm,0.8s,mb3.7,baz=304,slow=8.8,SNR=18						
KMI	**Kunming**	**35.21**	**352**	P	**P**	**13 06 06.6**	**+2.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,148nm,18.1s,MS4.0						
KMI				LR	LR		
	comp=E,149nm,17.0s,MS4.0						
GYA	**Guiyang**	**36.20**	**358**	P	**P**	**13 06 13.5**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**38.05**	**130**	*e*P	**P**	**13 06 28.9**	**+0.3**
	comp=Z,3.5nm,0.4s,mb4.4						
STKA				*e*	pP	13 06 40.0	+1.2
STKA	**Stephens Creek**	**38.05**	**130**	P	**P**	**13 06 29.3**	**+0.7**
	comp=Z,5.7nm,0.5s,mb4.6,baz=315,slow=7.2,SNR=19						
STKA	**Stephens Creek**	**38.05**	**130**	*e*P	**P**	**13 06 29.2**	**+0.5**
LSA	**Lhasa**	**42.58**	**338**	P	**P**	**13 07 07.2**	**+1.1**
LSA	**Lhasa**	**42.58**	**338**	*e*P	**P**	**13 07 07.0**	**+0.8**
	comp=Z,9.6nm,0.5s,mb4.8						
JIRN	**Jiri**	**42.89**	**331**	*e*P	**P**	**13 07 09.1**	**+0.5**
PKI	**Pulchoki**	**43.19**	**330**	*e*P	**P**	**13 07 11.3**	**+0.3**
GUN	**Gumba**	**43.24**	**331**	*e*P	**P**	**13 07 10.9**	**-0.6**
	comp=Z,17nm,0.5s,mb5.0						
DMN	**Daman**	**43.37**	**330**	*e*P	**P**	**13 07 12.7**	**+0.2**
	comp=Z,25nm,0.8s,mb5.0						
KKN	**Kakani**	**43.43**	**330**	*e*P	**P**	**13 07 13.1**	**+0.1**
XAN	**Xi'an**	**43.74**	**1**	P	**P**	**13 07 14.7**	**-0.8**
XAN				AP	pP	13 07 24.5	-1.3
XAN				XP	sP	13 07 28.8	-1.2
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
GKN	**Gorkha**	**43.93**	**330**	*e*P	**P**	**13 07 16.4**	**-0.6**
KOLN	**Koldanda**	**44.26**	**328**	*e*P	**P**	**13 07 19.7**	**0.0**
	comp=Z,16nm,0.7s,mb4.8						
GTA	**Gaotai**	**49.66**	**352**	*e*P	**P**	**13 08 03.6**	**+1.7**
GTA				AP	pP	13 08 09.7	-2.6
GTA				XP	sP	13 08 12.9	-3.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
MJAR	**Matsushiro Arr**	**54.31**	**30**	P	**P**	**13 08 34.0**	**-2.5**
	comp=Z,2.6nm,0.8s,mb4.2,baz=207,slow=7.3,SNR=8.5						
MJAR	**Matsushiro Arr**	**54.31**	**30**	P	**P**	**13 08 34.0**	**-2.5**
SONM	**Songino Array**	**57.53**	**359**	P	**P**	**13 08 59.8**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.8,baz=176,slow=7.6,SNR=40						
ULN	**Ulaanbaatar**	**57.55**	**359**	*e*P	**P**	**13 08 59.6**	**0.0**
	comp=Z,11nm,1.0s,mb4.9						
MKAR	**Makanchi Array**	**60.93**	**340**	P	**P**	**13 09 22.6**	**-0.4**
	comp=Z,1.6nm,0.5s,mb4.4,baz=145,slow=7.7,SNR=8.7						
MAW	**Mawson**	**64.84**	**197**	P	**P**	**13 09 49.7**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=31,slow=8.9,SNR=6.1						
CHKZ	**Chkalovo**	**70.82**	**338**	*e*P	**P**	**13 10 26.2**	**-0.4**
	comp=Z,8.5nm,1.1s,mb4.6						
ZRNK	**Zerenda**	**70.89**	**336**	*e*P	**P**	**13 10 26.7**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2						
VNDA	**Vanda**	**72.94**	**169**	P	**P**	**13 10 39.1**	**-0.2**
	comp=Z,0.8nm,1.0s,mb3.6,baz=300,slow=6.1,SNR=4.0						
AKTK	**Aktyubinsk**	**74.09**	**329**	P	**P**	**13 10 45.6**	**-0.5**
AKTO	**Aktyubinsk**	**74.09**	**329**	P	**P**	**13 10 45.6**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.2,baz=104,slow=15,SNR=6.8						
BOSA	**Boshof**	**78.90**	**243**	LR	LR	13 39 07.3	
	comp=Z,44nm,20.4s,MS3.8,baz=359,slow=30						
BRTR	**Keskin Array B**	**84.44**	**312**	P	**P**	**13 11 42.7**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.3,baz=144,slow=6.1,SNR=7.3						
AKASG	**Malin Array Be**	**90.53**	**321**	P	**P**	**13 12 10.4**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.9,baz=90,slow=3.9,SNR=4.7						
ARCES	**ARCESS Array B**	**96.58**	**339**	LR	LR	14 05 55.7	
	comp=Z,29nm,19.1s,MS3.8,baz=298,slow=42						
MSNY	**Massena**	**144.98**	**3**	*e*P	PKPdf	13 18 46.8	-0.3
BDFB	**Brasilia**	**145.15**	**223**	PKPbc	PKPbc	13 18 48.6	+1.7
	comp=Z,4.0nm,0.7s,baz=291,slow=3.9,SNR=4.5						
WMOK	**Wichita Mounta**	**145.31**	**41**	*e*P	PKPbc	13 18 48.7	+1.3
NCB	**Newcomb**	**146.04**	**3**	*e*P	PKPdf	13 18 50.4	+1.5
JCT	**Junction City**	**147.09**	**48**	*e*PKPbc	PKPbc	13 18 54.7	+1.9
LPAZ	**La Paz**	**153.65**	**189**	PKPbc	PKPbc	13 19 12.1	+3.5
	comp=Z,0.3nm,0.3s,baz=209,slow=17,SNR=3.7						

*ISCJB **08** 13:39:24.6±0.3, 5496N±002×11168E±003, h10km, mb3.7/3, MS3.4/1, Error ellipse: s-maj=3.5km s-min=2.0km az=97.5*
*MOS **08** 13:39:26.3±1.6, 5497N×11176E, h14km, mb4.2/4, Error ellipse: s-maj=12.5km s-min=7.5km az=69.9*
MOS Felt (II-III) at Ulyunkhan.
*BYKL **08** 13:39:27.9±0.2, 5504N×11166E, h11km±3km, FELT I=III-IV MSK at Ulyunkhan*
ISC 08 13:39:26.7±0.2**, 5500N**±002**×11167E**±003**, h10km, n60,** σ1.58/119**, mb3.7**/3**, MS3.4**/1**, 7C-1D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**246**	*e*Pg	**Pg**	**13 39 34.3**	**+1.3**
YLYR				Pmax		13 39 35.1	
	429nm,0.1s						
YLYR				*e*Sg	**Sg**	**13 39 39.4**	**+2.1**
YLYR				Smax		13 39 39.8	
	20µm,0.1s						
YLYR	**Ulyunkhan**	**0.32**	**246**	*e*PG	**Pg**	**13 39 34.3**	**+1.3**
YLYR				*e*		13 39 39.4	
YLYR				pmax	pmax		
	comp=Z,460nm,0.1s						
YLYR				smax			
	comp=N,20µm,0.1s						
KMO	**Kumora**	**0.92**	**344**	⇑*i*Pg	**Pg**	**13 39 43.5**	**-1.0**
KMO				Pmax		13 39 44.2	
	comp=N,888nm,0.3s						
KMO				*e*Sg	**Sg**	**13 39 54.8**	**-1.7**
KMO				Smax		13 40 01.9	
	comp=N,7µm,1.0s						
KMO	**Kumora**	**0.92**	**344**	*e*PG	**Pg**	**13 39 43.5**	**-1.0**
KMO				*e*		13 39 54.9	
KMO				pmax	pmax		
	comp=Z,894nm,0.3s						
KMO				smax			
	comp=N,7µm,1.0s						
YOA	**Uoyan**	**1.13**	**2**	⇑*i*Pg	**Pg**	**13 39 47.8**	**-0.6**
YOA				Pmax		13 39 48.4	
	comp=N,1µm,0.3s						
YOA				*i* Sg	**Sg**	**13 40 03.3**	**+0.2**
YOA				*e*		13 40 08.2	
YOA				max		13 40 09.3	
	comp=N,16µm,0.5s						
YOA	**Uoyan**	**1.13**	**2**	⇓*i*PG	**Pg**	**13 39 47.8**	**-0.6**
YOA				*e*		13 40 03.3	
YOA				pmax	pmax		
	comp=Z,1µm,0.3s						
YOA				smax			
	comp=N,6µm,0.4s						
UKT	**Uakit**	**1.22**	**66**	⇑*i*Pg	**Pg**	**13 39 49.2**	**-1.0**
UKT				*e*Pb	**Pb**	**13 39 51.5**	**+1.6**
UKT				max		13 39 51.9	
	comp=N,961nm,0.4s						
UKT				*i* Sg	**Sg**	**13 40 05.9**	**-0.2**
UKT				*e*Sb	**Sb**	**13 40 09.5**	**+3.8**
UKT				max		13 40 10.6	
	comp=N,4µm,0.4s						
UKT	**Uakit**	**1.22**	**66**	*e*PG	**Pg**	**13 39 49.3**	**-0.9**
UKT				*e*		13 40 05.8	
UKT				pmax	pmax		
	comp=Z,961nm,0.2s						
UKT				smax			
	comp=N,4µm,0.3s						
NIZ	**Nizh Angarsk**	**1.44**	**303**	⇑*i*Pg	**Pg**	**13 39 53.1**	**-1.2**
NIZ				Pmax		13 39 53.9	
	comp=N,1µm,0.8s						
NIZ				*i* Sg	**Sg**	**13 40 12.8**	**-0.1**
NIZ				Smax		13 40 13.4	
	comp=N,2µm,0.4s						
NIZ	**Nizh Angarsk**	**1.44**	**303**	*e*PN	**Pn**	**13 39 53.0**	**+0.2**
NIZ				*e*		13 40 13.0	
NIZ				pmax	pmax		
	comp=Z,900nm,0.3s						
NIZ				smax			
	comp=N,2µm,0.4s						
SVKR	**Severomuysk**	**1.55**	**43**	*e*Pg	**Pg**	**13 39 56.1**	**-0.3**
SVKR				Pmax		13 39 57.3	
	comp=N,2µm,0.3s						
SVKR				*e*Sg	**Sg**	**13 40 17.0**	**+0.5**
SVKR				*e*		13 40 19.8	
SVKR				max		13 40 20.6	
	comp=N,10µm,0.6s						
SVKR	**Severomuysk**	**1.55**	**43**	*e*PN	**Pg**	**13 39 56.1**	**-0.3**
SVKR				*e*		13 39 56.8	
SVKR				*e*		13 40 16.9	
SVKR				pmax	pmax		
	comp=Z,2µm,0.4s						
SVKR				smax			
	comp=N,10µm,0.6s						
SYVR	**Suvo**	**1.67**	**217**	*e*Pg	**Pg**	**13 39 57.9**	**-0.7**
SYVR				*e*		13 40 02.7	
SYVR				max		13 40 04.2	
	comp=N,1µm,0.8s						
SYVR				*e*Sg	**Sg**	**13 40 21.7**	**+1.5**
SYVR				Smax		13 40 23.5	
	comp=N,2µm,1.4s						
SYVR	**Suvo**	**1.67**	**217**	*e*PN	**Pn**	**13 39 58.3**	**+2.4**
SYVR				*e*		13 40 21.5	
SYVR				pmax	pmax		
	comp=Z,876nm,0.7s						
SYVR				smax			
	comp=N,1µm,0.7s						
MXMB	**Maximikha**	**2.45**	**226**	*e*Pn	**Pn**	**13 40 10.4**	**+3.7**
MXMB				*e*Pg	**Pg**	**13 40 12.2**	**-1.4**
MXMB				Pmax		13 40 17.5	
	comp=N,276nm,0.7s						
MXMB				*e*Sn	**Sn**	**13 40 40.1**	**+3.5**
MXMB				*e*Sg	**Sg**	**13 40 45.4**	**+0.1**
MXMB				Smax		13 40 47.9	
	comp=N,2µm,0.7s						
NLYR	**Nelyaty**	**2.73**	**55**	*e*Pn	**Pn**	**13 40 11.6**	**+1.1**
NLYR				⇑*i*Pg	**Pg**	**13 40 16.3**	**-2.6**
NLYR				*e*Sn	**Sn**	**13 40 44.3**	**+0.8**
NLYR				*e*Sg	**Sg**	**13 40 51.8**	**-2.5**
NLYR	**Nelyaty**	**2.73**	**55**	*e*PN	**Pn**	**13 40 11.2**	**+0.7**
NLYR				*e*		13 40 15.9	
NLYR				*e*		13 40 50.6	
NLYR				pmax	pmax		
	comp=Z,27nm,0.8s						
NLYR				smax			
	comp=E,182nm,1.2s						
OGRR	**Ongureny**	**2.75**	**242**	⇑*i*Pn	**Pn**	**13 40 12.9**	**+2.1**
OGRR				⇑*i*Pg	**Pg**	**13 40 16.5**	**-2.8**
OGRR				Pmax		13 40 21.9	
	comp=E,167nm,0.6s						
OGRR				*e*Sn	**Sn**	**13 40 45.8**	**+1.8**
OGRR				*i* Sg	**Sg**	**13 40 53.1**	**-1.8**
OGRR				Smax		13 40 56.1	
	comp=E,575nm,0.6s						
OGRR	**Ongureny**	**2.75**	**242**	*e*PN	**Pn**	**13 40 12.9**	**+2.1**
OGRR				*e*		13 40 17.0	
OGRR				*e*S	**Sn**	**13 40 45.8**	**+1.8**
OGRR				*e*		13 40 53.1	
OGRR				pmax	pmax		
	comp=Z,167nm,1.1s						
OGRR				smax			
	comp=E,635nm,1.3s						
KELR	**Kotokel**	**3.09**	**225**	*e*Pn	**Pn**	**13 40 18.1**	**+2.6**
KELR				*e*Pg	**Pg**	**13 40 24.4**	**-1.5**
KELR				Pmax		13 40 40.7	
	comp=E,162nm,0.3s						
KELR				*e*Sn	**Sn**	**13 40 54.1**	**+1.6**
KELR				*e*Sg	**Sg**	**13 41 05.4**	**-0.6**
KELR				Smax		13 41 08.3	
	comp=E,1µm,0.3s						
BOD	**Bodaibo**	**3.11**	**24**	*e*Pn	**Pn**	**13 40 16.2**	**+0.5**
BOD				*e*Pg	**Pg**	**13 40 22.6**	**-3.6**
BOD				Pmax		13 40 30.9	
	comp=E,78nm,0.4s						
BOD				*e*Sn	**Sn**	**13 40 53.3**	**+0.4**
BOD				*e*Sg	**Sg**	**13 41 02.1**	**-4.4**
BOD				Smax		13 41 08.8	
	comp=E,715nm,1.2s						
BOD	**Bodaibo**	**3.11**	**24**	*e*PN	**Pn**	**13 40 15.9**	**+0.2**
BOD				*e*		13 40 22.1	
BOD				*e*		13 41 01.7	
BOD				pmax	pmax		
	comp=Z,78nm,0.3s						
BOD				smax			
	comp=E,710nm,0.8s						
CIT	**Chita**	**3.19**	**159**	*e*Pn	**Pn**	**13 40 18.0**	**+1.1**
CIT				*e*Pg	**Pg**	**13 40 26.5**	**-1.4**
CIT				Pmax		13 40 32.9	
	comp=E,170nm,1.4s						
CIT				*e*Sn	**Sn**	**13 40 57.2**	**+2.2**
CIT				*e*Sg	**Sg**	**13 41 07.1**	**-2.2**
CIT				Smax		13 41 14.1	
	comp=E,1µm,0.9s						
CIT	**Chita**	**3.19**	**159**	*e*PN	**Pg**	**13 40 25.7**	**-2.2**
CIT				*e*		13 41 07.3	
CIT				pmax	pmax		
	comp=Z,181nm,1.4s						
CIT				smax			
	comp=E,1µm,1.0s						
TRTB	**Turuntaevo**	**3.67**	**222**	*e*Pn	**Pn**	**13 40 26.1**	**+2.6**
TRTB				*e*Pg	**Pg**	**13 40 34.9**	**-2.2**
TRTB				*e*		13 40 39.8	
TRTB				max		13 40 41.2	
	comp=E,137nm,0.8s						
TRTB				*e*Sn	**Sn**	**13 41 07.5**	**+0.6**
TRTB				*e*Sg	**Sg**	**13 41 22.2**	**-2.5**
TRTB				Smax		13 41 30.2	
	comp=E,606nm,1.8s						
TRG	**Tyrgan**	**3.87**	**237**	*e*Pn	**Pn**	**13 40 28.3**	**+2.1**
TRG				*e*Pg	**Pg**	**13 40 37.1**	**-3.7**
TRG				Pmax		13 40 44.4	
	comp=E,57nm,1.2s						
TRG				*e*Sn	**Sn**	**13 41 12.3**	**+0.7**
TRG				*e*Sg	**Sg**	**13 41 26.9**	**-4.0**
TRG				Smax		13 41 31.6	
	comp=E,388nm,0.7s						
TRG	**Tyrgan**	**3.87**	**237**	*e*PN	**Pn**	**13 40 28.5**	**+2.3**
TRG				*e*		13 40 37.7	
TRG				*e*S	**Sn**	**13 41 13.1**	**+1.5**
TRG				*e*		13 41 27.4	
TRG				pmax	pmax		
	comp=Z,57nm,1.2s						
TRG				smax			
	comp=E,315nm,0.5s						
FFNB	**Fofonovo**	**4.16**	**227**	Smax		13 40 43.6	
FFNB				*e*Sg	**Sg**	**13 41 37.6**	**-2.7**
FFNB				Smax		13 41 44.5	
	comp=E,1µm,0.8s						
CRS	**Chara**	**4.17**	**60**	*e*Pn	**Pn**	**13 40 31.7**	**+1.4**
CRS				*e*Pg	**Pg**	**13 40 42.8**	**-3.8**
CRS				Pmax		13 40 50.0	
	comp=E,190nm,1.0s						
CRS				*e*Sn	**Sn**	**13 41 19.4**	**+0.3**
CRS				*e*Sg	**Sg**	**13 41 36.4**	**-4.2**
CRS				Smax		13 41 39.7	
	comp=E,2µm,1.4s						
KAB	**Kabansk**	**4.21**	**227**	*e*Sn	**Sn**	**13 41 20.6**	**+0.6**
KAB				*e*Sg	**Sg**	**13 41 38.3**	**-3.5**
KAB				Smax		13 42 01.8	
	comp=E,2µm,1.8s						
TUP	**Tupik**	**4.84**	**93**	*e*Pn	**Pn**	**13 40 40.7**	**+1.1**
TUP				*e*Pg	**Pg**	**13 40 54.0**	**-5.4**
TUP				Pmax		13 40 56.3	
	comp=E,81nm,0.8s						
TUP				*e*Sn	**Sn**	**13 41 34.4**	**-1.3**
TUP				*e*Sg	**Sg**	**13 41 57.6**	**-4.5**
TUP				Smax		13 42 06.1	
	comp=E,1µm,0.9s						
TUP	**Tupik**	**4.84**	**93**	*e*PN	**Pn**	**13 40 40.4**	**+0.8**
TUP				*e*		13 40 53.3	
TUP				*e*S	**Sn**	**13 41 34.2**	**-1.5**
TUP				*e*		13 41 56.0	
TUP				pmax	pmax		
	comp=Z,78nm,0.4s						
TUP				smax			
	comp=E,1µm,0.8s						
KHNR	**Khani**	**5.05**	**64**	*e*Pn	**Pn**	**13 40 45.0**	**+2.6**
KHNR				*e*Sn	**Sn**	**13 41 41.1**	**+0.3**
KHNR				*e*Sg	**Sg**	**13 42 02.6**	**-6.2**
LSTR	**Listvyanka**	**5.15**	**235**	*e*Pn	**Pn**	**13 40 45.7**	**+1.9**
LSTR				*e*Pg	**Pg**	**13 41 01.6**	**-3.8**
LSTR				Pmax		13 41 12.9	
	comp=E,37nm,0.9s						
LSTR				*e*Sn	**Sn**	**13 41 44.1**	**+0.8**
LSTR				*e*Sg	**Sg**	**13 42 06.7**	**-5.4**
LSTR				Smax		13 42 09.9	
	comp=E,247nm,1.2s						
IRK	**Irkutsk**	**5.20**	**241**	*e*Pg	**Pg**	**13 41 02.2**	**-4.0**
IRK				Pmax		13 41 04.3	
	comp=E,82nm,0.1s						
IRK				*e*Sg	**Sg**	**13 42 09.1**	**-4.4**
IRK				Smax		13 42 15.0	
	comp=E,944nm,1.1s						
IRK	**Irkutsk**	**5.20**	**241**	*e*PN	**Pb**	**13 41 01.2**	**+3.6**
IRK				*e*		13 42 08.7	
IRK				pmax	pmax		
	comp=Z,85nm,0.1s						
IRK				smax			
	comp=N,944nm,1.3s						
KPC	**Khapcheranga**	**5.33**	**175**	*e*Sg	**Sg**	**13 42 13.8**	**-3.9**
KPC				Smax		13 42 24.9	
	comp=N,585nm,1.0s						
TLY	**Talaya**	**5.84**	**239**	*e*Pg	**Pg**	**13 41 13.9**	**-4.7**
TLY				*e*Sn	**Sb**	**13 42 13.2**	**-5.5**
TLY				*e*		13 42 26.0	
TLY				*e*Sg	**Sg**	**13 42 29.9**	**-4.4**
TLY	**Talaya**	**5.84**	**239**	*e*PN	**Pn**	**13 40 53.1**	**-0.2**
ARS	**Arshan**	**6.32**	**245**	*e*Pn	**Pn**	**13 41 02.4**	**+2.5**
ARS				*e*Pg	**Pg**	**13 41 21.1**	**-6.7**
ARS				Pmax		13 41 34.2	
	comp=N,54nm,0.6s						
ARS				*e*Sn	**Sn**	**13 42 13.6**	**+1.4**
ARS				*e*Sg	**Sg**	**13 42 42.1**	**-7.6**
ARS				Smax		13 42 59.2	
	comp=N,946nm,0.9s						
ARS	**Arshan**	**6.32**	**245**	*e*PG	**Pg**	**13 41 22.0**	**-5.8**
ARS				*e*		13 42 41.9	
ARS				pmax	pmax		
	comp=Z,55nm,0.6s						
ARS				smax			
	comp=E,940nm,0.9s						
ZAK	**Zakamensk**	**6.88**	**231**	*e*Pg	**Pg**	**13 41 31.7**	**-6.8**
ZAK				Pmax		13 41 35.1	
	comp=E,52nm,1.2s						
ZAK				*e*Sg	**Sg**	**13 43 02.4**	**-5.2**
ZAK				Smax		13 43 17.3	
	comp=E,228nm,1.7s						
MOY	**Mondy**	**7.21**	**247**	*e*Pn	**Pn**	**13 41 15.1**	**+3.0**
MOY				max		13 41 51.6	
	comp=E,35nm,1.0s						
MOY				*e*Sn	Pg	13 42 11.9	+27
MOY				*e*Sg	**Sg**	**13 43 11.5**	**-6.6**
MOY				Smax		13 43 27.7	
	comp=E,402nm,1.1s						
MOY	**Mondy**	**7.21**	**247**	*e*PN	**Pn**	**13 41 14.6**	**+2.5**
MOY				*e*		13 41 36.0	
ORL	**Orlik**	**7.45**	**256**	*e*Pn	**Pn**	**13 41 17.1**	**+1.7**
ORL				max		13 41 21.7	
	comp=E,54nm,1.3s						
ORL				*e*Sn	**Sn**	**13 42 37.8**	**-2.1**
ORL				*e*Sg	**Sg**	**13 43 18.1**	**-7.6**
ORL				Smax		13 43 28.2	
	comp=E,564nm,1.5s						
NRGR	**Nerungri**	**7.54**	**72**	*e*PN	**Pb**	**13 41 30.1**	**-7.4**
IENR	**Iengra**	**7.58**	**75**	*e*	x	13 40 40.6	
IENR				*e*Sg	Sx	13 43 22.2	
HIA	**Hailar**	**7.59**	**136**	*e*PN	**Pn**	**13 41 16.6**	**-0.8**
CLNS	**Chul'man**	**7.66**	**71**	*e*Pn	**Pn**	**13 41 19.0**	**+0.8**
CLNS				*e*Sg	**Sg**	**13 43 25.7**	**-6.7**
ULN	**Ulaanbaatar**	**7.71**	**204**	*e*Sg	**Sg**	**13 43 28.8**	**-5.2**
ULN	**Ulaanbaatar**	**7.71**	**204**	*i* PN	**Pn**	**13 41 19.2**	**+0.3**
KRAR	**Krasnoyarsk**	**10.71**	**283**	*e*P	**Pn**	**13 41 57.4**	**-2.6**
YAK	**Yakutsk**	**11.73**	**46**	*e*P	**Pn**	**13 42 13.4**	**-0.6**
NVS	**Novosibirsk**	**16.30**	**281**	*e*P	**Pn**	**13 43 14.7**	**-0.9**
NVS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
VOSK	**Vostochnaya**	**23.86**	**281**	P	**P**	**13 44 41.1**	**+0.9**
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
BVA0	**Borovoye Array**	**24.09**	**282**	*i* P	**P**	**13 44 48.0**	**+5.7**
BVA0						13 48 26.0	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.2						
ZRNK	**Zerenda**	**24.89**	**283**	P	**P**	**13 44 50.3**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.0						
ARU	**Arti**	**29.33**	**295**	*e*P	**P**	**13 45 33.7**	**+4.2**
ARU				*e*		13 46 25.4	
ARU				*e*PPP		13 46 45.1	
ARU				*e*S	**S**	**13 50 31.6**	**+8.8**
ARU				*e*		13 56 07.2	
ARU				MLR	MLR		
	comp=Z,70nm,16.0s,MS3.4						
FINES	**FINESS Array B**	**42.43**	**315**	*i* P	**P**	**13 47 26.3**	**+4.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**47.23**	**301**	*i* P	**P**	**13 48 05.5**	**+5.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

NNC 08 13:41:54.3±5.8**, 4207N×7915E, h0km, mb3.5, mpv3.1, 5C-4D, Error ellipse: s-maj=51.4km s-min=20.6km az=160.0, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.98**	**306**	⇓P	Pn	13 42 30.1	+1.1
	34nm,0.5s						
KNDC				⇑S	Sn	13 42 58.6	+4.1
	132nm,0.4s						
TKM2	**Tokmak 2**	**2.76**	**289**	⇑Pn	Pn	13 42 39.9	+0.1
	0.6nm,0.5s						
TKM2				⇑Lg		13 43 18.2	
	14nm,0.5s						
MK03	**Makanchi Array**	**5.21**	**25**	⇓Pn	Pn	13 43 14.3	+0.8
	1.3nm,0.4s,baz=199,slow=14						
MK03				⇑Sn	Sn	13 44 15.8	+1.5
	7.6nm,0.7s,baz=191,slow=24						
MK03				⇓Lg		13 44 37.2	
	9.3nm,0.7s,baz=201,slow=24						
KK31	**Karatay Array**	**6.46**	**282**	⇓Pg	Pg	13 43 48.6	-9.5
	1.4nm,0.5s,baz=84,slow=15,SNR=12						
KK31				⇑Lg		13 45 10.9	
	3.6nm,0.5s,baz=353,slow=32,SNR=9.1						

*NEIC **08** 13:54:34.9, 1722N×9506W, h128km, MD4.1(MEX), After MEX.*
MEX 08 13:54:35.1±1.2**, 1722N×9507W, h127km**±9km**, MD4.1,**

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.21	126	i P	Pn	13 54 51.0	-1.6
CMIG				i S	Sn	13 55 03.7	-2.2
OXX	Oaxaca	1.59	265	i P	Pn	13 55 04.0	0.0
OXX				i S	Sn	13 55 25.5	-0.6
VHO	Vista Hermosa	1.60	265	i P	Pn	13 55 02.9	-1.2
VHO				i S	Sn	13 55 25.8	-0.5
HUIG	Huatulco	1.76	215	i P	Pn	13 55 03.7	-2.2
HUIG				i S	Sn	13 55 28.4	-1.2
SCX	San Cristobal	2.38	101	i P	Pn	13 55 13.0	-0.6
SCX				i S	Sn	13 55 42.0	-1.1
TPIG	Tehuac#an	2.49	299	i P	Pn	13 55 13.1	-2.0
TPIG				i S	Sn	13 55 42.9	-2.8
UTMO	Huajuapan	2.68	283	i P	Pn	13 55 15.8	-1.7
UTMO				i S	Sn	13 55 47.5	-2.6
CCIG	Comitan	2.96	108	i P	Pn	13 55 20.2	-0.8
CCIG				i S	Sn	13 55 55.5	-0.9
PPM	Popocatepetl	3.85	299	i P	Pn	13 55 33.4	+0.5
PPM				i S	Sn	13 56 17.3	-0.2
PLIG	Platanillo	4.38	286	i P	Pn	13 55 38.4	-1.5
PLIG				i S	Sn	13 56 26.6	-3.6

ISCJB ***08*** *14:11:30.4±0.1, 18.02S±0.04×174.59W±0.04, h132km, mb5.0/99, Error ellipse: s-maj=6.2km s-min=3.9km az=98.2*

BJI ***08*** *14:11:30.4, 17.51S×173.85W, h138km, mB5.2, mb5.1*

MOS ***08*** *14:11:31.0±1.1, 17.86S×174.61W, h131km, mb5.1/34, Error ellipse: s-maj=9.5km s-min=7.5km az=49.1*

NEIC ***08*** *14:11:31.6±0.1, 18.03S×174.57W, mb5.0/72, Error ellipse: s-maj=5.4km s-min=3.0km az=150.0*

GCMT ***08*** *14:11:31.6±0.2, 17.86S×174.07W, h141km±1km, MW5.2/84, Moment Tensor Solution. s58,c88; s84,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.72±.16; $M_{\theta\theta}$1.19±.16; $M_{\phi\phi}$1.53±.17; $M_{r\theta}$-1.33±.12; $M_{\theta\phi}$0.57±.20; $M_{\phi r}$-5.96±.11; Best double couple: $M_0$6.52000×10^{16} NP1:ϕ_s215.00000°,δ11.00000°,λ-69.00000°. NP2: ϕ_s14.00000°,δ80.00000°,λ-94.00000°. Principal axes: T 6.0470, Plg35.0000°, Azm108.0000°; N 0.9470, Plg4.0000°, Azm15.0000°; P -6.9940, Plg55.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

SZGRF ***08*** *14:11:32.0, 18.58S×174.80W, h139km, Tonga Islands*

IDC ***08*** *14:11:32.6±0.6, 17.95S×174.59W, h137km±4km, mb4.7/16, mb1 4.8/17, mb1mx4.8/18, mbtmp5.1/17, MS3.9/15, Ms1 3.9/15, ms1mx3.8/24, Error ellipse: s-maj=14.0km s-min=9.8km az=148.0*

ISC 08 14:11:32.2±0.1**, 18.03S**±0.04×**174.53W**±0.04**, h134km, h134km**±.8km**:pP-P, n459,** σ0.90/243**, mb5.0**/99**, 26C-43D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.88	33	P	Pn	14 12 35.7	-8.0
	78nm,0.3s,baz=179,slow=1.8,SNR=83						
AFI				S	Sn	14 13 23.0	-16
	223nm,0.3s,baz=33,slow=23,SNR=14						
AFI	Afiamalu	4.88	33	ePn	Pn	14 12 35.0	-8.7
AFI				eSn	Sn	14 13 22.4	-17
RAO	Raoul Island	11.59	195	S	Sn	14 16 16.0	-5.3
	89nm,0.3s,baz=235,slow=22,SNR=4.8						
RAR	Rarotonga	14.26	105	P	Pn	14 14 45.6	-2.3
	3.1nm,0.3s,baz=270,slow=13,SNR=11						
RAR				S	Sn	14 17 15.2	-10
	2.8nm,0.3s,baz=168,slow=21,SNR=3.6						
RAR				LR	LR	14 19 07.3	
	comp=Z,321nm,19.3s,baz=277,slow=32						
RAR	Rarotonga	14.26	105	P	Pn	14 14 45.6	-2.3
RAR				S	Sn	14 17 15.2	-10
RAR				LR	LR	14 19 07.3	
DZM	Mont Dzumac	18.32	254	eP	P	14 15 37.3	+1.4
DZM	Mont Dzumac	18.32	254	P	P	14 15 38.0	+2.1
	1.2nm,0.3s,baz=80,slow=18,SNR=40						
DZM				LR	LR	14 20 41.1	
	comp=Z,515nm,18.5s,baz=37,slow=30						
KUZ	Kuaotunu	20.53	203	ePN	P	14 16 01.0	+1.1
PUZ	Puketiti	20.94	196	ePN	P	14 16 04.4	+0.1
MWZ	Matawai	21.39	197	ePN	P	14 16 08.3	-0.8
URZ	Urewera	21.44	198	P	P	14 16 09.5	-0.1
	68nm,0.6s,mb5.2,baz=22,slow=4.4,SNR=31						
URZ				S	S	14 19 57.9	-1.8
	5.2nm,0.5s,baz=76,slow=21,SNR=5.6						
PAE	Paea	23.75	93	eP	P	14 16 32.0	-0.1
	205nm,1.1s,mb5.6						
PAE	Paea	23.75	93	eP	P	14 16 32.0	-0.1
PAE				pmax	pmax		
	comp=Z,205nm,1.1s,mb5.6						
PPT	Papeete	23.77	93	eP	P	14 16 32.3	+0.1
	comp=Z,115nm,1.3s,mb5.3						
PPT	Papeete	23.77	93	eLR	LR	14 21 50.8	
	comp=Z,1μm,34.5s						
PPT	Papeete	23.77	93	P	P	14 16 31.5	-0.7
	comp=Z,71nm,0.9s,mb5.2,baz=235,slow=5.6,SNR=3.6						
PPT				LR	LR	14 24 20.8	
	comp=Z,218nm,18.7s,baz=269,slow=32						
PPT	Papeete	23.77	93	P	P	14 16 31.5	-0.7
PPT				LR	LR	14 24 20.8	
TBI	Tubuai	24.03	107	eP	P	14 16 34.1	-0.5
	comp=Z,541nm,1.2s,mb6.0						
TBI				eLR	LR	14 22 02.4	
	comp=Z,897nm,37.0s						
TVO	Taravao	24.05	93	eP	P	14 16 35.2	+0.3
	comp=Z,266nm,1.0s,mb5.7						
TVO	Taravao	24.05	93	eP	P	14 16 35.2	+0.3
TVO				pmax	pmax		
	comp=Z,266nm,1.0s,mb5.7						
SNZO	South Karori	24.97	199	eP	P	14 16 42.4	-0.8
	comp=Z,1.0nm,1.0s						
QRZ	Quartz Range	25.30	203	ePN	P	14 16 46.8	+0.7
NNZ	Nelson	25.33	202	ePN	P	14 16 45.1	-1.4
THZ	Tophouse	25.98	202	PN	P	14 16 51.8	-0.5
HNR	Honiara	26.19	286	P	P	14 16 55.5	+1.3
	comp=Z,218nm,0.9s,mb5.8,baz=158,slow=0.6,SNR=26						
HNR				LR	LR	14 25 56.8	
	comp=Z,184nm,18.6s,baz=178,slow=33						
HNR	Honiara	26.19	286	eP	P	14 16 55.0	+0.8
HNR				pmax	pmax		
	comp=Z,212nm,0.9s,mb5.8						
HNR	Honiara	26.19	286	eP	P	14 16 55.0	+0.7
	comp=Z,212nm,0.9s,mb5.8						
DSZ	Denniston Nort	26.37	203	PN	P	14 16 55.4	-0.4
LTZ	Lake Taylor	27.10	202	PN	P	14 17 00.7	-1.7
RPZ	Rata Peaks	28.35	202	P	P	14 17 14.0	+0.5
	comp=Z,26nm,0.7s,mb5.1,baz=317,slow=6.4,SNR=19						
JCZ	Jackson Bay	29.53	205	ePN	P	14 17 23.3	-0.6
ARMA	Armidale	33.10	242	eP	P	14 17 55.7	+0.5
TAOE	Nuku Hiva Isla	34.61	79	eLR	LR	14 26 37.0	
	comp=Z,1μm,36.2s						
CNB	Canberra Magne	36.32	234	eP	P	14 18 22.9	+0.1
	comp=Z,40nm,1.0s,mb5.0						
CTA	Charters Tower	37.06	260	eP	P	14 18 28.9	-0.3
	comp=Z,54nm,0.9s,mb5.2						
CTA				e	pP	14 19 00.0	+1.4
CTA	Charters Tower	37.06	260	P	P	14 18 29.1	0.0
	comp=Z,68nm,0.8s,mb5.3,baz=92,slow=10,SNR=54						
CTA				pP	pP	14 18 59.6	+1.0
	comp=Z,22nm,0.8s,baz=82,slow=8.9,SNR=3.7						
CTA	Charters Tower	37.06	260	eP	P	14 18 28.9	-0.3
CTA				e	pP	14 19 00.0	+1.4
CTA				pmax	pmax		
	comp=Z,54nm,0.9s						
CTAO	Charters Tower	37.06	260	eP	P	14 18 28.0	-1.2
CTAO				e*PP	pP	14 18 59.8	+1.2
CTAO				pmax	pmax		
	comp=Z,67nm,0.8s,mb5.3						
CTAO	Charters Tower	37.06	260	eP	P	14 18 28.0	-1.1
	comp=Z,66nm,0.8s,mb5.3						
CTAO				epP	pP	14 18 59.8	+1.2
RKT	Rikitea	37.30	105	eLR	LR	14 28 10.4	
	comp=Z,532nm,34.2s						
PMG	Port Moresby	38.12	278⇓	eP	P	14 18 38.3	+0.2
PMG				e*PP	pP	14 19 09.8	+2.2
PMG				pmax	pmax		
	comp=Z,44nm,0.9s						
PMG	Port Moresby	38.12	278⇓	eP	P	14 18 38.3	+0.2
	comp=Z,44nm,0.9s,mb5.1						
PMG				epP	pP	14 19 09.8	+2.2
TOO	Toolangi	39.99	233	eP	P	14 18 53.3	-0.3
	comp=Z,16nm,0.9s,mb4.7						
TOO	Toolangi	39.99	233	eP	P	14 18 53.3	-0.3
TOO				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
STKA	Stephens Creek	41.82	242	eP	P	14 19 08.2	-0.4
	comp=Z,29nm,1.2s,mb4.8						
STKA	Stephens Creek	41.82	242	P	P	14 19 09.0	+0.4
	comp=Z,43nm,1.1s,mb5.0,baz=88,slow=8.0,SNR=26						
STKA				LR	LR	14 34 40.5	
	comp=Z,132nm,19.3s,baz=208,slow=33						
WB2	Warramunga Arr	48.22	259	eP	P	14 19 58.6	-0.6
WRAB	Tennant Creek	48.23	259	P	P	14 19 58.0	-1.2
	comp=Z,590nm,1.0s,SNR=84						
WRAB	Tennant Creek	48.23	259⇓	eP	P	14 19 58.1	-1.1
WRAB				pmax	pmax		
	comp=Z,175nm,0.9s,mb5.7						
WRAB	Tennant Creek	48.23	259⇓	eP	P	14 19 58.1	-1.1
	comp=Z,174nm,0.9s,mb5.7						
WRA	Warramunga Arr	48.23	259	P	P	14 19 58.1	-1.2
	comp=Z,72nm,0.7s,mb5.4,baz=98,slow=6.7,SNR=753						
WRA				PcP	PcP	14 21 26.0	+1.7
	comp=Z,10.0nm,0.8s,baz=93,slow=3.8,SNR=4.7						
AS31	Alice Springs	48.31	254⇓	iP	P	14 19 59.5	-0.3
ASAR	Alice Springs	48.31	254	P	P	14 19 59.5	-0.3
	comp=Z,382nm,0.8s,baz=89,slow=8.0,SNR=1503						
ASAR				PcP	PcP	14 21 26.1	+1.5
	comp=Z,11nm,0.6s,baz=106,slow=3.8,SNR=4.5						
ASAR				S	S	14 26 47.3	-2.2
	comp=Z,3.3nm,0.8s,baz=90,slow=16,SNR=12						
ASAR				LR	LR	14 37 39.0	
	comp=Z,155nm,19.3s,baz=155,slow=32						
ASAR	Alice Springs	48.31	254	P	P	14 19 59.6	-0.2
ASAR						14 21 26.1	
ASAR				S	S	14 26 47.3	-2.2
ASPA	Alice Springs	48.31	254⇓	iP	P	14 19 59.5	-0.3
KAKA	Kakadu	51.27	268	eP	P	14 20 21.5	-0.7
	comp=Z,84nm,1.0s,mb5.3						
FORT	Forrest	53.29	245	eP	P	14 20 35.7	-1.4
	comp=Z,98nm,0.8s,mb5.6						
FITZ	Fitzroy Crossi	56.64	260	eP	P	14 21 01.2	0.0
	comp=Z,25nm,0.5s,mb5.3						
SBA	Scott Base	60.56	184	eP	P	14 21 30.6	+2.3
SBA				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.8						
SBA	Scott Base	60.56	184	eP	P	14 21 30.6	+2.3
	comp=Z,21nm,1.2s,mb4.8						
VNDA	Vanda	60.66	186	P	P	14 21 30.8	+1.8
	comp=Z,4.9nm,0.8s,mb4.4,baz=359,slow=6.8,SNR=29						
VNDA	Vanda	60.66	186	eP	P	14 21 30.6	+1.5
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VNDA	Vanda	60.66	186	eP	P	14 21 30.6	+1.5
	comp=Z,10nm,1.1s,mb4.6						
MBWA	Marble Bar	61.62	255	P	P	14 21 35.6	+0.2
	SNR=9.2						
MBWA	Marble Bar	61.62	255⇓	iP	P	14 21 34.8	-0.7
	comp=Z,100nm,1.2s,mb5.5						
KLBR	Kellerberrin	62.08	243	eP	P	14 21 37.9	-0.6
	comp=Z,83nm,1.4s,mb5.4						
NWAO	Narrogin (SRO)	62.41	242	P	P	14 21 40.8	0.0
	comp=Z,38nm,1.1s,mb5.1,baz=94,slow=5.9,SNR=6.2						
NWAO	Narrogin (SRO)	62.41	242	P	P	14 21 40.8	+0.1
NWAO				pmax	pmax		
	comp=Z,39nm,1.1s						
NWAO	Narrogin (SRO)	62.41	242	eP	P	14 21 39.5	-1.2
	comp=Z,36nm,1.1s,mb5.1						
MUN	Mundaring	63.35	243⇑	iP	P	14 21 47.0	0.0
CASY	Casey	67.58	205	P	P	14 22 14.6	+0.5
	comp=Z,33nm,1.0s,mb5.0						
TSM	Tawau	70.20	282	P	P	14 22 32.1	+1.7
MJAR	Matsushiro Arr	70.26	321	P	P	14 22 30.1	-0.7
	comp=Z,17nm,0.9s,mb4.8,baz=156,slow=5.8,SNR=39						
MJAR				pP	pP	14 23 05.2	+1.5
	comp=Z,4.9nm,1.0s,baz=157,slow=5.3,SNR=2.7						
MJAR				LR	LR	14 46 39.1	
	comp=Z,58nm,21.5s,baz=105,slow=30						
MJAR	Matsushiro Arr	70.26	321	P	P	14 22 30.1	-0.7
MJAR				*PP	pP	14 23 05.2	+1.6
MAJO	Matsushiro	70.26	321⇓	iP	P	14 22 29.9	-0.9
MAJO				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
MAJO	Matsushiro	70.26	321⇓	iP	P	14 22 29.9	-0.9
	comp=Z,26nm,1.0s,mb4.9						
MAT	Matsushiro	70.26	321	P	P	14 22 29.1	-1.7
QSPA	South Pole Qui	72.03	180	eP	P	14 22 42.6	+1.2
	comp=Z,19nm,0.9s,mb4.8						
KKM	Kota Kinabalu	72.36	283	P	P	14 22 44.1	+0.7
KKM	Kota Kinabalu	72.36	283	eP	P	14 22 43.5	+0.1
SKR	Severo-Kuril's	73.12	341	eP	P	14 22 42.5	-5.4
SKR				pmax	pmax		
	comp=Z,80nm,0.5s,mb5.7						
SAO	San Andreas Ge	74.00	42	eP	P	14 22 53.4	+0.4
SAO				e*PP	pP	14 23 25.7	-0.5
SAO				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.8						
SAO	San Andreas Ge	74.00	42	eP	P	14 22 53.4	+0.4
	comp=Z,26nm,1.3s,mb4.8						
SAO				epP	pP	14 23 25.7	-0.5
LRV	Little Rabbit	74.07	42	eP	P	14 22 54.0	+0.6
PTRM	Twissleman Ran	74.13	43	eP	P	14 22 53.9	+0.2
PET	Petropavlovsk	74.47	344⇑	eP	P	14 22 55.1	-0.6
PET				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.9						
NACB	Ninganchiao	75.08	302	eP	P	14 22 58.7	-0.5
YSS	Yuzh-Sakhalins	75.24	331⇓	iP	P	14 23 00.0	-0.1
YSS				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.0						
YSS	Yuzh-Sakhalins	75.24	331⇓	iP	P	14 22 60.0	-0.2
	comp=Z,28nm,0.7s,mb5.0						
ISA	Isabella	75.28	44⇓	eP	P	14 23 00.6	+0.2
ISA				e*PP	pP	14 23 33.3	-0.3
LPIG	La Paz	75.33	58	LR	LR	14 52 25.7	
	comp=Z,14nm,18.2s,baz=229,slow=33						
CMB	Columbia Colle	75.44	41⇓	eP	P	14 23 01.0	-0.3
CMB				e*PP	pP	14 23 34.8	+0.2
CMB				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.8						
CMB	Columbia Colle	75.44	41⇓	eP	P	14 23 01.0	-0.3
	comp=Z,21nm,0.9s,mb4.8						
CMB				epP	pP	14 23 34.8	+0.2
YHNB	Yeheng	75.49	302	eP	P	14 23 01.0	-0.6
PFO	Pinyon Flat Ob	75.50	47	eP	P	14 23 01.0	-0.6
PFO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.4						
PFO	Pinyon Flat Ob	75.50	47	eP	P	14 23 01.0	-0.6
	comp=Z,11nm,1.0s,mb4.5						
KRMB	Red Mountain	75.52	37	eP	P	14 23 02.5	+0.8
OHCM	Honcut	75.56	40	eP	P	14 23 01.9	0.0
OHCM				e	pP	14 23 35.4	+0.1
WDC	Whiskeytown Da	75.70	38	eP	P	14 23 03.0	+0.2
WDC				e*PP	pP	14 23 36.0	-0.1
WDC				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
WDC	Whiskeytown Da	75.70	38	eP	P	14 23 03.0	+0.2
	comp=Z,21nm,1.0s,mb4.7						
WDC				epP	pP	14 23 36.0	-0.1
MTUM	Tungsten Hills	76.20	43	eP	P	14 23 06.5	+0.8
MTUM				epP	pP	14 23 38.6	-0.3
YBH	Yreka Blue Hor	76.34	37	eP	P	14 23 06.1	-0.3
YBH				e*PP	pP	14 23 39.5	-0.2
YBH				pmax	pmax		
	comp=Z,45nm,1.3s						
YBH	Yreka Blue Hor	76.34	37	eP	P	14 23 06.1	-0.3
	comp=Z,45nm,1.3s,mb4.9						
YBH				epP	pP	14 23 39.5	-0.3
KSM	Kuching	76.36	276⇓	eP	P	14 23 07.3	+0.8
KSM				epP	pP	14 23 44.0	+4.1
LBCM	Butte Creek Ri	76.57	39	P	P	14 23 08.2	+0.5
LASM	Arnica Sink	76.91	38	P	P	14 23 10.3	+0.7
BUOR	Burton Butte	76.95	37	P	P	14 23 10.4	+0.6
NVAR	Mina Array Bea	77.00	42	P	P	14 23 10.6	+0.5
	comp=Z,18nm,0.7s,mb4.8,baz=224,slow=9.0,SNR=135						
NVAR				pP	pP	14 23 43.7	+0.2
	comp=Z,11nm,1.0s,baz=228,slow=9.2,SNR=4.4						
PAHR	Pah Rah Range	77.07	41	eP	P	14 23 10.8	+0.3
	comp=Z,42nm,1.3s,mb4.9						
PAHR				epP	pP	14 23 43.8	-0.1
TPH	Tonopah	77.49	43	eP	P	14 23 13.2	+0.4
TPH				e*PP	pP	14 23 45.6	-0.6
TPH				pmax	pmax		
	comp=Z,25nm,0.8s,mb4.9						
TPH	Tonopah	77.49	43	eP	P	14 23 13.2	+0.4
	comp=Z,25nm,0.8s,mb4.9						
TPH				epP	pP	14 23 45.6	-0.6
MOD	Modoc	77.85	38	eP	P	14 23 14.5	-0.3
	comp=Z,20nm,1.2s,mb4.6						
MOD				epP	pP	14 23 48.7	+0.5
QZH	Quanzhou	77.86	301	P	P	14 23 16.4	+1.5
QZH				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.4						
KMOR	Kings Mountain	78.43	34	P	P	14 23 18.2	+0.2
SSE	Sheshan	78.69	308	eP	P	14 23 18.8	-0.6
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,105nm,9.9s						
SSE				LR	LR		
	comp=Z,73nm,45.4s						
TRCR	Troy Canyon	78.71	43	eP	P	14 23 19.9	+0.3
TRCR				epP	pP	14 23 52.8	-0.2
BMN	Battle Mountai	78.84	41	eP	P	14 23 20.6	+0.3
BMN				e*PP	pP	14 23 54.4	+0.6
BMN				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.0						
BMN	Battle Mountai	78.84	41	eP	P	14 23 20.6	+0.3
	comp=Z,52nm,1.2s,mb5.0						
BMN				epP	pP	14 23 54.4	+0.6
TUC	Tucson	78.89	51	eP	P	14 23 20.4	-0.1
TUC				e*PP	pP	14 23 54.7	+0.6
TUC				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
TUC	Tucson	78.89	51	eP	P	14 23 20.4	-0.2
	comp=Z,13nm,1.0s,mb4.5						
TUC				epP	pP	14 23 54.7	+0.6
WVOR	Wild Horse Val	79.16	39	eP	P	14 23 21.8	-0.2
WVOR				e*PP	pP	14 23 55.8	+0.3
WVOR				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.9						
WVOR	Wild Horse Val	79.16	39	eP	P	14 23 21.8	-0.2
	comp=Z,29nm,1.0s,mb4.9						
WVOR				epP	pP	14 23 55.8	+0.3
VFP	Flag Point	79.32	35	P	P	14 23 22.9	0.0
CCUT	Cedar City	79.75	45	eP	P	14 23 26.4	+1.2
CCUT				epP	pP	14 23 59.0	+0.2
OSD	Olympics--Snow	79.76	32	P	P	14 23 25.7	+0.4
ARUT	Antelope Range	79.82	45	eP	P	14 23 26.3	+0.7
ARUT				e*PP	pP	14 24 00.3	+1.1
HABR	Khabarovsk	79.99	329	eP	P	14 23 27.0	+0.5
HABR				eS	S	14 33 21.7	+2.4
HABR				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.1						
WUAZ	Wupatki	80.06	48	eP	P	14 23 28.0	+1.1
	comp=Z,20nm,1.3s,mb4.6						
WUAZ				epP	pP	14 24 01.9	+1.4
GSM	Grass Mountain	80.34	33	P	P	14 23 28.5	+0.1
MDJ	Mudanjiang	80.45	323	P	P	14 23 29.3	+0.3
MDJ				XP	sP	14 24 15.4	-1.5
MDJ				PP	PP	14 26 33.4	-0.4
MDJ				S	S	14 33 28.2	+4.1
MDJ				XS	sS	14 34 23.0	+0.8
MDJ				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,92nm,8.8s						
MDJ				LR	LR		
	comp=N,75nm,28.7s						
MDJ				LR	LR		
	comp=E,23nm,30.7s						
MDJ				LR	LR		
	comp=Z,101nm,38.6s						
MDJ	Mudanjiang	80.45	323	ePn	P	14 23 29.4	+0.4
	comp=Z,7.1nm,0.7s,mb4.4						
RMW	Rattlesnake Mo	80.50	33	P	P	14 23 29.3	+0.1
NJ2	Nanjing	80.89	308	eP	P	14 23 33.2	+1.9
NJ2				AP	pP	14 24 04.9	-0.1
NJ2				XP	sP	14 24 18.7	-0.5
NJ2				S	S	14 33 29.0	+0.2
NJ2				SKS		14 33 34.0	
NJ2				XS	sS	14 34 25.0	-1.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,300nm,5.4s						
NJ2				LR	LR		
	comp=N,480nm,22.4s						
NJ2				LR	LR		
	comp=E,310nm,25.9s						
NJ2				LR	LR		
	comp=Z,310nm,13.8s						
HAWA	Hanford	81.04	35	eP	P	14 23 31.8	-0.3
	comp=Z,2.7nm,1.4s						
HAWA				epP	pP	14 24 04.5	-1.3
MSU	Marysvale	81.05	45	eP	P	14 23 33.5	+1.4
MSU				e*PP	pP	14 24 05.3	-0.5
GBL	Gable Mountain	81.21	35	P	P	14 23 33.1	+0.1
ETW	Entiat	81.36	34	P	P	14 23 33.8	0.0
DUG	Dugway	81.52	43	eP	P	14 23 34.0	-0.6
DUG				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
DUG	Dugway	81.52	43	eP	P	14 23 34.0	-0.7
	comp=Z,3.6nm,0.4s,mb4.3						
EPH	Ephrata	81.60	34	P	P	14 23 34.8	-0.3
PMR	Palmer	81.90	12	eP	P	14 23 35.3	-1.3
PMR				pmax	pmax		
	comp=Z,57nm,1.4s,mb5.0						
PMR	Palmer	81.90	12	eP	P	14 23 35.3	-1.3
	comp=Z,57nm,1.4s,mb5.0						
TTA	Tatalina	82.00	8	eP	P	14 23 36.6	-0.5
TMUT	Trail Mountain	82.10	44	eP	P	14 23 38.9	+1.2
TMUT				epP	pP	14 24 11.7	+0.2
KLR	Kul'dur	82.14	328	eP	P	14 23 33.7	-4.2
DIV	Divide	82.19	14	eP	P	14 23 37.7	-0.4
	comp=Z,151nm,1.0s,mb5.6						
DIV				epP	pP	14 24 10.5	-1.4
HLID	Hailey	82.34	39	eP	P	14 23 39.0	+0.1
	comp=Z,59nm,1.4s,mb5.0						
HLID				epP	pP	14 24 13.3	+0.7
MA2	Magadan	82.34	343	eP	P	14 23 37.2	-1.7
MA2				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
MA2	Magadan	82.34	343	eP	P	14 23 37.2	-1.7
	comp=Z,12nm,0.6s,mb4.7						
HVU	Hansel Valley	82.38	42	eP	P	14 23 39.3	+0.2
HVU				e*PP	pP	14 24 13.8	+0.9
HVU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
HVU	Hansel Valley	82.38	42	eP	P	14 23 39.3	+0.1
	comp=Z,12nm,0.9s,mb4.5						
HVU				epP	pP	14 24 13.8	+0.9
CN2	Changchun	82.41	321	eP	P	14 23 39.8	+0.5
CN2				eAP	pP	14 24 15.1	+2.0
CN2				eS	S	14 33 41.4	-2.9
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
SRU	San Rafael	82.46	45	eP	P	14 23 40.1	+0.5
SRU				e*PP	pP	14 24 13.3	-0.1
SRU				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.9						
SRU	San Rafael	82.46	45	eP	P	14 23 40.1	+0.5
	comp=Z,36nm,1.2s,mb4.9						
SRU				epP	pP	14 24 13.2	-0.1
LAZ	Ladron	82.56	50	eP	P	14 23 41.4	+1.4
LAZ				epP	pP	14 24 12.9	-0.9
QIZ	Qiongzhong	82.89	293	P	P	14 23 41.8	0.0
QIZ				XP	sP	14 24 30.8	+1.0
QIZ				S	S	14 33 46.6	-2.6
QIZ				SS	SS	14 39 15.7	+0.6
QIZ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,75nm,8.0s						
LPM	Los Pinos Moun	82.89	51	eP	P	14 23 43.3	+1.5
LPM				epP	pP	14 24 15.3	-0.3
TCUT	Toone Canyon	82.91	43	eP	P	14 23 41.0	-0.9
TCUT				epP	pP	14 24 14.3	-1.3
HWUT	Hardware Ranch	83.06	42	eP	P	14 23 42.5	-0.2
	comp=Z,10nm,0.8s,mb4.6						
PV10	Paradox Valley	83.11	46	eP	P	14 23 43.5	+0.7
KGM	Kluang	83.16	274	P	P	14 23 44.9	+1.7
PV01	Paradox Valley	83.31	46	eP	P	14 23 44.2	+0.3
PV01				epP	pP	14 24 17.1	-0.6
ANMO	Albuquerque	83.31	50	eP	P	14 23 44.9	+1.0
ANMO				e*PP	pP	14 24 15.3	-2.5
ANMO				pmax	pmax		

comp=Z,19nm,1.3s
ANMO Albuquerque 83.31 50 *e*P **P 14 23 44.9 +1.0**
comp=Z,19nm,1.3s,mb4.7
ANMO *e*pP pP 14 24 15.3 -2.5
NEW Newport 83.48 35 LR LR 14 58 33.1
comp=Z,59nm,18.8s,baz=181,slow=34
NEW Newport 83.48 35 *e*P **P 14 23 43.8 -1.0**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 83.48 35 *e*P **P 14 23 43.8 -1.0**
comp=Z,6.2nm,0.9s,mb4.3
SKAG Skagway 83.57 19 *e*P **P 14 23 45.1 -0.1**
comp=Z,18nm,1.0s,mb4.8
WHN Wuhan 83.68 305 ⇓P **P 14 23 47.4 +1.6**
MCK McKinley 83.89 11 *e*P **P 14 23 45.2 -1.7**
MCK *e**PP pP 14 24 18.6 -2.2
MCK pmax pmax
comp=Z,26nm,1.1s,mb4.9
MCK McKinley 83.89 11 *e*P **P 14 23 45.2 -1.7**
comp=Z,26nm,1.1s,mb4.9
MCK *e*pP pP 14 24 18.6 -2.2
AHID Auburn Hatcher 83.96 41 *e*P **P 14 23 47.2 -0.1**
comp=Z,26nm,1.0s,mb4.9
AHID *e*pP pP 14 24 20.8 -0.3
MCMT McKenzie Canyo 83.97 39 *e*P **P 14 23 47.6 +0.3**
MCMT *e*pP pP 14 24 21.8 +0.6
RRI2 Red Ridge 84.12 41 *e*P **P 14 23 48.7 +0.6**
comp=Z,43nm,1.0s,mb5.1
RRI2 *e*pP pP 14 24 21.5 -0.5
MENT Mentasta 84.25 14 *e*P **P 14 23 48.0 -0.7**
DLMT Dillon 84.41 39 *e*P **P 14 23 49.8 +0.3**
comp=Z,31nm,1.1s,mb5.0
DLMT *e*pP pP 14 24 23.6 +0.2
REDW Red Top Meadow 84.42 41 *e*P **P 14 23 49.4 -0.1**
comp=Z,40nm,1.1s,mb5.1
REDW *e*pP pP 14 24 24.4 +0.9
MSO Missoula 84.42 37 *e*P **P 14 23 48.4 -1.2**
comp=Z,15nm,1.4s,mb4.5
MSO *e*pP pP 14 24 23.1 -0.4
TPAW Teton Pass 84.42 41 *e*P **P 14 23 49.7 +0.1**
comp=Z,41nm,1.1s,mb5.1
TPAW *e*pP pP 14 24 23.8 +0.3
BSMT Bassoo Peak 84.52 36 P **P 14 23 49.8 -0.3**
SNOW Snow King Moun 84.53 41 *e*P **P 14 23 50.5 +0.4**
comp=Z,46nm,1.1s,mb5.1
SNOW *e*pP pP 14 24 24.7 +0.7
IMW Indian Meadow 84.64 41 *e*P **P 14 23 51.2 +0.5**
comp=Z,28nm,0.9s,mb5.0
IMW *e*pP pP 14 24 25.6 +0.9
LOHW Long Hollow 84.70 41 *e*P **P 14 23 50.8 -0.2**
comp=Z,16nm,1.1s,mb4.7
LOHW *e*pP pP 14 24 24.3 -0.6
SEY Seymchan 84.77 345⇑ *e*P **P 14 23 50.2 -1.1**
QLMT Earthquake Lak 84.83 40 *e*P **P 14 23 52.2 +0.6**
QLMT *e*pP pP 14 24 25.6 0.0
CHMT Chamberlain Mo 84.87 37 *e*P **P 14 23 51.0 -0.8**
CHMT *e*pP pP 14 24 25.8 +0.1
FLWY Flagg Ranch 84.89 40 *e*P **P 14 23 52.6 +0.7**
comp=Z,36nm,1.0s,mb5.0
FLWY *e*pP pP 14 24 26.5 +0.6
SMCO Snowmass 84.91 46 *e*P **P 14 23 52.2 +0.2**
comp=Z,8.0nm,1.0s,mb4.4
SMCO *e*pP pP 14 24 26.7 +0.8
PDAR Pinedale Array 84.94 42 P **P 14 23 52.0 -0.1**
comp=Z,6.7nm,0.9s,mb4.4,baz=204,slow=3.3,SNR=46
PDAR pP pP 14 24 25.4 -0.8
comp=Z,6.7nm,0.8s,baz=212,slow=4.1,SNR=7.9
PDAR LR LR 14 56 45.1
comp=Z,58nm,18.3s,baz=4.7,slow=32
MAW Mawson 84.97 199 *e*P **P 14 23 52.3 0.0**
comp=Z,5.5nm,0.8s,mb4.3
MAW Mawson 84.97 199 P **P 14 23 52.6 +0.3**
comp=Z,7.7nm,0.8s,mb4.5,baz=118,slow=6.2,SNR=12
MAW LR LR 15 00 37.1
comp=Z,63nm,19.4s,baz=250,slow=35
MAW Mawson 84.97 199 P **P 14 23 52.6 +0.3**
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW MLR MLR
comp=Z,63nm,19.4s
COLA College 85.13 11*d i*P **P 14 23 51.3 -1.8**
COLA *e**PP pP 14 24 25.1 -2.0
COLA College 85.13 11 *e*P **P 14 23 51.5 -1.6**
comp=Z,49nm,0.8s,mb5.3
COLA *e*pP pP 14 24 24.7 -2.5
IMA2 Indian Mountai 85.30 8 *e*P **P 14 23 53.2 -0.8**
HRY Holter Researc 85.58 38 *e*P **P 14 23 54.3 -1.0**
HRY *e*pP pP 14 24 28.3 -1.1
WALA Waterton Lakes 85.68 35 *e*P **P 14 23 55.1 -0.8**
comp=Z,7.2nm,0.9s,mb4.4
WALA *e*pP pP 14 24 29.6 -0.3
IPM Ipoh 86.10 276 P **P 14 23 59.7 +1.8**
DAWY Dawson 86.22 15 *e*P **P 14 23 57.6 -0.9**
DAWY *e*pP pP 14 24 31.0 -1.6
GCMT Greycliff 86.39 39 *e*P **P 14 23 59.4 +0.1**
GCMT *e*pP pP 14 24 32.4 -1.0
EGAK Eagle 86.42 14 *e*P **P 14 23 58.0 -1.4**
EGAK *e*pP pP 14 24 30.4 -3.2
BJI Beijing 86.49 314 *e*P **P 14 24 00.8 +1.0**
BJI S S 14 34 22.6 -2.2
BJI AMB AMB
comp=Z,20nm,0.8s,mb4.9
JCT Junction City 86.50 57 *e*P **P 14 23 59.9 0.0**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
JCT Junction City 86.50 57 *e*P **P 14 23 59.9 +0.1**
comp=Z,9.2nm,0.8s,mb4.6
KULM Kulim 86.71 277 *e*P **P 14 24 01.9 +1.0**
BILL Bilibino 86.96 353 *e*P **P 14 24 00.9 -1.2**
BILL pmax pmax
comp=Z,27nm,0.8s,mb5.1
BILL Bilibino 86.96 353 *e*P **P 14 24 00.9 -1.2**
comp=Z,27nm,0.8s,mb5.1
EDM Edmonton 88.28 32 *e*P **P 14 24 07.1 -1.3**
EDM *e*pP pP 14 24 41.0 -1.6
GYA Guiyang 88.32 298 P **P 14 24 09.9 +1.3**
GYA AP pP 14 24 45.8 +3.0
GYA XP sP 14 25 01.8 +4.9
GYA PP PP 14 27 43.1 +5.3
GYA SKS 14 34 23.9
GYA S S 14 34 43.0 +0.7
GYA XS sS 14 35 45.6 +4.2
GYA SS SS 14 40 41.5 +6.8
GYA AMB AMB
comp=Z,20nm,1.3s,mb4.8
GYA AMB AMB
comp=Z,130nm,3.9s
GYA LR LR
comp=N,380nm,19.4s
GYA LR LR
comp=E,370nm,18.9s
GYA LR LR
comp=Z,410nm,19.8s
PLCA Paso Flores 88.55 132 P **P 14 24 10.0 +0.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=324,slow=13,SNR=2.7
PLCA LR LR 14 56 09.0
comp=Z,100nm,20.1s,baz=80,slow=30
PLCA Paso Flores 88.55 132 P **P 14 24 10.0 +0.4**
PLCA LR LR 14 56 09.0
RSSD Black Hills 89.12 43 *e*P **P 14 24 11.0 -1.3**
RSSD *e**PP pP 14 24 45.7 -0.9
RSSD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
RSSD Black Hills 89.12 43 *e*P **P 14 24 11.0 -1.3**
comp=Z,8.2nm,1.0s,mb4.6
RSSD *e*pP pP 14 24 45.7 -0.9
XAN Xi'an 89.29 306 P **P 14 24 13.8 +0.7**
XAN AMB AMB
comp=Z,19nm,1.4s,mb4.8
SYO Syowa Base 89.82 192⇓ *e*P **P 14 24 15.0 -0.6**
CLNS Chul'man 90.00 331 *e*P **P 14 24 15.6 -0.8**
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,23nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,11nm,0.7s
HHC Hu-ho-hao-te 90.02 313 *e*P **P 14 24 17.2 +0.7**
HHC AP pP 14 24 51.0 +0.2
HHC XP sP 14 25 04.2 -0.7
HHC PP PP 14 27 54.2 +2.9
HHC SKS 14 34 34.0
HHC S S 14 34 56.4 -1.7
HHC XS sS 14 35 56.0 -1.4
HHC SS SS 14 41 01.4 +2.1
HHC AMB AMB
comp=Z,12nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,68nm,4.3s
HHC LR LR
comp=N,98nm,4.9s
HHC LR LR
comp=E,92nm,4.5s
HHC LR LR
comp=Z,94nm,5.5s
SNAA Sanae 90.35 177⇑ *i*P **P 14 24 18.2 +0.1**
SNAA *e* 14 24 19.3
SNAA *e* 14 24 22.0
SNAA *e* 14 24 26.9
SNAA *e* pP 14 24 50.7 -1.6
VNA3 Neumayer Olymp 90.35 175⇑ *i*P **P 14 24 18.6 +0.5**
VNA3 *e* 14 24 19.2
VNA3 *e* 14 24 22.6
VNA3 *e* 14 24 27.3
VNA3 *e* pP 14 24 52.4 +0.1
VNA3 *e* pP 14 24 57.7 +5.4
NANT Nan 90.94 289⇑ P **P 14 24 23.0 +2.2**
comp=Z,112nm,0.9s,mb5.9
INK Inuvik 91.07 14 *e*P **P 14 24 19.6 -1.8**
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 91.07 14 *e*P **P 14 24 19.6 -1.8**
comp=Z,15nm,1.1s,mb4.9
YAK Yakutsk 91.09 337 *i* P **P 14 24 19.2 -2.3**
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
YAK Yakutsk 91.09 337 *e*P **P 14 24 18.8 -2.7**
comp=Z,15nm,0.7s,mb5.1
KMI Kunming 91.19 296 ⇓P **P 14 24 24.4 +2.5**
KMI AP pP 14 24 56.0 -0.2
KMI XP sP 14 25 11.6 +1.3
KMI PP PP 14 28 02.8 +2.2
KMI PPP 14 30 05.3
KMI S S 14 35 07.3 -1.5
KMI XS sS 14 36 07.9 -0.3
KMI SS SS 14 41 17.7 +1.6
KMI SSS 14 44 55.5
KMI AMB AMB
comp=Z,16nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,118nm,4.3s
KMI LR LR
comp=N,120nm,24.1s
KMI LR LR
comp=E,95nm,17.7s
KMI LR LR
comp=Z,110nm,19.9s
EFI East Falkland 91.34 146 *e*P **P 14 24 22.5 -0.2**
EFI pmax pmax
comp=Z,95nm,1.4s,mb5.6
EFI East Falkland 91.34 146 *e*P **P 14 24 22.5 -0.2**
comp=Z,95nm,1.4s,mb5.6
CHG Chiang Mai 92.52 289 ⇓P **P 14 24 29.8 +1.7**
comp=Z,22nm,0.8s,mb5.3
CHTO Chiang Mai 92.52 289 P **P 14 24 30.3 +2.2**
SNR=7.5
CHTO Chiang Mai 92.52 289⇓ *i*P **P 14 24 29.5 +1.4**
CHTO pmax pmax
comp=Z,12nm,0.6s,mb5.2
CHTO Chiang Mai 92.52 289⇓ *i*P **P 14 24 29.5 +1.4**
comp=Z,12nm,0.6s,mb5.2
JTS JuntasAbangare 92.74 80 LR LR 14 58 11.2
comp=Z,73nm,19.1s,baz=56,slow=30
MIAR Mount Ida 92.88 55 *e*P **P 14 24 30.3 +0.5**
MIAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MIAR Mount Ida 92.88 55 *e*P **P 14 24 30.3 +0.6**
comp=Z,7.5nm,0.9s,mb4.8
YKA Yellowknife Ar 92.93 24 P **P 14 24 29.0 -0.9**
comp=Z,6.4nm,1.0s,mb4.7,baz=244,slow=4.0,SNR=5.5
ATAH Atahualpa 93.66 99 LR LR 14 58 48.9
comp=Z,75nm,20.4s,baz=184,slow=30
LZH Lanzhou 93.91 307 *e*P **P 14 24 35.1 +0.6**
LZH AP pP 14 25 07.7 -1.1
LZH XP sP 14 25 21.1 -1.8
LZH PP PP 14 28 25.2 +3.3
LZH *e*SKS 14 34 56.5
LZH *e*S S 14 35 31.1 -1.8
LZH *e*SS SS 14 41 57.6 +2.5
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,132nm,6.1s
ULN Ulaanbaatar 95.67 318⇑ *e*P **P 14 24 41.4 -1.1**
ULN Ulaanbaatar 95.67 318 *e*P **P 14 24 41.6 -0.9**
comp=Z,1.5nm,0.4s,mb4.7
TRQA Tornquist 95.70 133 P **P 14 24 43.2 +0.5**
comp=Z,2.8nm,1.0s,mb4.5
SONM Songino Array 96.07 318 P **P 14 24 44.0 -0.4**
comp=Z,0.9nm,0.8s,mb4.2,baz=176,slow=2.8,SNR=5.7
GTA Gaotai 97.97 309 *e*P **P 14 24 51.4 -1.5**
GTA AP pP 14 25 25.8 -1.6
GTA XP sP 14 25 39.4 -2.0
GTA PP PP 14 28 55.7 +2.4
GTA PPP 14 31 03.5
GTA SKS 14 35 15.6
GTA S S 14 36 05.1 -2.8
GTA XS sS 14 37 03.2 -4.7
GTA PS PS 14 37 51.1 +2.3
GTA SS SS 14 42 55.7 +3.2
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,58nm,8.8s
GTA LR LR
comp=N,320nm,13.3s
GTA LR LR
comp=E,217nm,16.7s
GTA LR LR
comp=Z,204nm,17.9s
TLY Talaya 99.00 321 *e*P **P 14 25 03.5 +6.0**
TLY *e* 14 38 43.4
TLY pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
LPAZ La Paz 99.92 111 LR LR 15 01 11.7
comp=Z,56nm,20.9s,baz=103,slow=30
WMQ Urumqi 107.78 311 PDIF Pdif 14 25 32.5 -4.1
WMQ PP PP 14 30 05.0 -1.5
WMQ PP PP
comp=Z,136nm,5.4s
WMQ LR LR
comp=N,534nm,19.8s
WMQ LR LR
comp=E,820nm,24.0s
WMQ LR LR
comp=Z,634nm,24.1s
ZAL Zalesovo 110.62 322 PKiKP PKiKP 14 29 48.2 -0.6
comp=Z,1.1nm,0.6s,baz=325,slow=4.8,SNR=4.8
MKAR Makanchi Array 111.87 314 PKiKP PKiKP 14 29 50.4 -0.8
comp=Z,1.5nm,0.6s,baz=60,slow=1.4,SNR=8.7
CHKZ Chkalovo 119.02 322 *e*PKIKP PKPdf 14 30 03.2 -1.7
ZRNK Zerenda 120.10 321 *e*PKIKP PKPdf 14 30 05.7 -1.3
SVE Sverdlovsk 123.76 327 *e*PKIKP PKPdf 14 30 12.8 -1.2
SVE pmax pmax
comp=Z,20nm,1.1s
SOKR Solikamsk 124.57 331*c i*PKIKP PKPdf 14 30 14.0 -1.6
SOKR pmax pmax
comp=Z,20nm,0.9s
ARU Arti 124.97 327 *i* PKIKP PKPdf 14 30 14.9 -1.4
ARU *e* 14 37 04.6
ARCES ARCESS Array B 127.04 351 PKP PKPdf 14 30 19.1 -1.2
comp=Z,6.9nm,0.7s,baz=3.6,slow=1.0,SNR=24
BOSA Boshof 129.84 203 PKP PKPdf 14 30 25.9 +0.2
comp=Z,4.4nm,0.9s,baz=94,slow=4.9,SNR=4.6
JOF Joensuu 131.72 344 *ep* PKPdf 14 30 28.3 -0.9
comp=Z,4.1nm,0.5s
FINES FINESS Array B 134.25 346 PKP PKPdf 14 30 32.2 -1.7
comp=Z,3.1nm,0.7s,baz=90,slow=2.7,SNR=7.6
FINES FINESS Array B 134.25 346 PKP PKPdf 14 30 32.2 -1.7
OBN Obninsk 136.04 335 *i* PKIKP PKPdf 14 30 36.4 -0.9
OBN pmax pmax
comp=Z,28nm,1.4s
NB2 NORSAR Subarra136.84 356 PKPd PKPdf 14 30 39.6 +0.8
comp=Z,4.1nm,0.9s,baz=14,slow=1.8
NOA NORSAR Array B136.84 356 PKP PKPdf 14 30 37.9 -0.8
comp=Z,4.4nm,1.0s,baz=13,slow=4.1,SNR=3.6
NOA NORSAR Array B136.84 356 PKP PKPdf 14 30 37.9 -0.8
KIV Kislovodsk 139.46 318⇑ *i*PKIKP PKPdf 14 30 43.7 +0.1
LSZ Lusaka 140.04 215 *e*PKIKP PKPdf 14 30 43.3 -1.3
AKASG Malin Array Be 142.30 335 PKhKP 14 30 43.1
comp=Z,3.0nm,0.6s,baz=39,slow=4.1,SNR=14
AKASG PKP PKPdf 14 30 47.5 -1.2
comp=Z,4.0nm,0.8s,baz=40,slow=4.0,SNR=10
AKBB Malin Array Si 142.30 335 *e*PKHKP 14 30 43.0
KMBO Kilima Mbogo 143.38 242 PKP PKPdf 14 30 51.3 +0.7
comp=Z,6.4nm,0.9s,baz=54,slow=5.1,SNR=15
KMBO Kilima Mbogo 143.38 242⇑ *i*PKIKP PKPdf 14 30 57.0 +6.4
ELZG Elazig 144.41 312 *i* P PKPdf 14 30 53.1 +0.8
MALT Malatya 144.88 312⇑ *i*P PKPdf 14 30 54.7 +1.5
MALT Malatya 144.88 312 *e*PKPdf PKPdf 14 30 53.8 +0.6
LVV L'vov 144.95 339 *e*PKIKP PKPdf 14 30 51.9 -1.4
WIT Witteveen 145.28 359 *e*PKP PKPdf 14 30 54.6 +0.7
KIS Kishinev 145.31 332 *e*PKHKP 14 30 50.0
NRDL Niedersach Rie 145.41 355 *e*PKPbc PKPbc 14 30 54.8 +0.4
KWP Kalwaria 145.55 340 *e*PKP PKPdf 14 30 54.7 +0.3
BOYT Boyabat 145.69 319 *i* P PKPdf 14 30 56.0 +1.5
IBBN Ibbenburen 145.75 358 *e*PKPbc PKPbc 14 30 55.4 0.0
IBBN *ep*PKPbc pPKPbc 14 31 31.4 +0.7
OJC Ojcow 145.89 344 *i* PKPd PKPdf 14 30 55.6 +0.7
GZT Gaziantep 145.91 311 *i* P PKPdf 14 30 56.8 +1.9
WTSB Winterswijk 146.12 359 *e*PKP PKPdf 14 30 55.9 +0.6
comp=Z,108nm,1.1s
KSP Ksiaz 146.14 348 *e*PKP PKPdf 14 30 56.8 +1.4
KSP Ksiaz 146.14 348 *e*PKP PKPdf 14 30 55.9 +0.5
KSP *ep*PKP pPKPdf 14 31 32.7 +1.4
STHS Stebnicka Huta 146.20 341 *e*PKP PKPdf 14 30 57.1 +1.6
CLL Collm 146.26 351 *e*PKPbc PKPbc 14 30 56.5 -0.4
CLL Collm 146.26 351⇓ *i*PKPbc PKPbc 14 30 56.4 -0.5
comp=Z,101nm,1.0s
CLL *ep*PKPbc pPKPbc 14 31 32.0 -0.3
CLL *i* SKPdf SKPdf 14 34 16.0 -1.2
comp=Z,29nm,2.0s
KOLS Kolonicke sedl 146.30 340 *e*PKP PKPdf 14 30 56.3 +0.7
KOLS Kolonicke sedl 146.30 340 *e*PKP PKPdf 14 30 56.4 +0.8
BURAR Bucovina Array 146.35 336⇓ *i*P PKPdf 14 30 57.5 +1.8
BURAR Bucovina Array 146.35 336 ⇓P PKPdf 14 30 57.5 +1.7
GTTG Gyttingen 146.37 355 *e*PKPbc PKPbc 14 30 56.7 -0.5
GTTG *ep*PKPbc pPKPbc 14 31 32.9 +0.3
NIE Niedzica 146.47 342 *e*PKP PKPdf 14 30 57.6 +1.7
UPC Upice 146.52 348 *e*PKP PKPbc 14 30 58.0 +0.3
UPC *ep*PKP pPKPdf 14 31 33.8 +1.9
BRG Berggiesshubel 146.54 350 *e*PKPbc PKPbc 14 30 57.4 -0.3
BRG Berggiesshubel 146.54 350 *e*PKP PKPdf 14 30 56.6 +0.6
comp=Z,18nm,0.9s
BRG *e* 14 31 05.1
comp=Z,14nm,1.4s
BRG *e* 14 31 33.5
comp=Z,17nm,1.3s
UZH Uzhgorod 146.55 340⇓ *i*PKP2 PKPbc 14 30 57.8 0.0
UZH pmax pmax
comp=Z,105nm,1.0s
BALT Daday 146.56 320 *i* P PKPbc 14 30 58.0 +0.3
CRVS Cervenica-Dubn 146.58 341 *e*PKP PKPdf 14 30 56.5 +0.4
FBE Freiberg 146.59 351 *e*PKPbc PKPbc 14 30 57.7 -0.1
DPC Dobruska-Polom 146.60 347 *e*PKP PKPbc 14 30 58.1 +0.2
DPC *ep*PKP pPKPdf 14 31 33.6 +1.5
BUG Bochum--Univer 146.63 358 *e*PKPbc PKPbc 14 30 57.8 -0.2
BUG *ep*PKPbc pPKPbc 14 31 33.6 +0.2
OKC Ostrava-Krasne 146.67 345 *e*PKP PKPdf 14 30 57.4 +1.1
OKC *ep*PKP pPKPdf 14 31 34.5 +2.3
PVCC Panska Ves 146.77 349 *e*PKP PKPbc 14 30 58.6 +0.2
PVCC *ep*PKP pPKPdf 14 31 35.0 +2.7
MORC Moravsky Berou 146.87 346⇓ *i*P PKPbc 14 30 58.4 -0.3
MORC Moravsky Berou 146.87 346 *e*PKIKP PKPdf 14 30 56.6 0.0
MORC *e* 14 30 58.8
MORC Moravsky Berou 146.87 346 *e*PKPdf PKPdf 14 30 56.5 0.0
MORC *e*PKPbc PKPbc 14 30 58.8 +0.2
MORC P 14 30 59.6
CFR Carcaliu 146.98 330⇓ *i*P PKPbc 14 30 59.7 +0.7
CFR Carcaliu 146.98 330 P PKPbc 14 30 59.6 +0.6
UBBA Unterbreizbach 147.09 355 *ep*PKPbc pPKPbc 14 31 35.1 +0.3
MOX Moxa 147.09 353 *e*PKP PKPbc 14 30 59.1 -0.2
comp=Z,38nm,1.1s
VRI Vrincioaia 147.11 332⇑ *i*P PKPbc 14 30 59.2 -0.1
VRI Vrincioaia 147.11 332 P PKPbc 14 30 59.7 +0.4
AVNT Avonos 147.13 315 *i* P PKPbc 14 30 59.8 +0.4
ELDT Eldivan 147.13 319 *i* P PKPbc 14 30 59.9 +0.5
PLOR Plostina 147.15 332⇓ *i*P PKPbc 14 30 59.9 +0.5
WERD Werda 147.20 352 *e*PKPbc PKPbc 14 30 59.4 -0.2
TANN Tannenbergstha 147.21 352 *e*PKPdf PKPdf 14 30 57.5 +0.3
TANN *e*PKPbc PKPbc 14 30 59.7 +0.1
COBT Iskenderun 147.22 310 *i* P PKPbc 14 31 00.8 +1.2
KECS Kecovo 147.26 341 *e*PKP PKPbc 14 30 59.7 0.0
GUNZ Gunzen 147.28 352 *e*PKPbc PKPbc 14 30 59.7 -0.1
PRU Pruhonice 147.29 349 *e*PKP PKPbc 14 31 00.2 +0.4
PRU *ep*PKP pPKPdf 14 31 36.5 +3.3
HGN Heimansgroeve 147.34 359 *e*PKP PKPbc 14 30 59.7 -0.3
comp=Z,20nm,1.7s
HGN *ep*PKP pPKPdf 14 31 37.5 +4.2
WERN Wernitzgruen 147.34 352 *e*PKPbc PKPbc 14 31 00.0 0.0
TIRR Tirgusor 147.37 329⇑ *i*P PKPbc 14 31 00.5 +0.5
TIRR Tirgusor 147.37 329 P PKPbc 14 31 00.2 +0.2
NKC Novy Kostel 147.39 352 *e*PKP PKPbc 14 31 00.2 +0.1
NKC *ep*PKP pPKPdf 14 31 35.4 +2.0
BR131 Keskin Array S 147.43 317 *e*PKPdf PKPdf 14 30 57.2 -0.4
BR131 *e*PKPbc PKPbc 14 31 00.8 +0.6
BR131 *e*SKP 14 34 11.5
BRTR Keskin Array B 147.43 317 PKP PKPdf 14 30 56.6 -0.9
comp=Z,18nm,0.9s,baz=198,slow=1.4,SNR=16
BRTR PKPbc PKPbc 14 31 00.8 +0.7
comp=Z,18nm,0.9s,baz=136,slow=3.1,SNR=63
BRTR pPKPbc pPKPbc 14 31 37.0 +1.2
comp=Z,4.0nm,0.8s,baz=88,slow=4.0,SNR=2.0
HARR Harsova 147.44 330⇓ *i*P PKPbc 14 31 01.2 +1.0
HARR Harsova 147.44 330 P PKPbc 14 31 01.0 +0.8
MEM Membach 147.49 359 PKPbc PKPbc 14 31 00.3 -0.1
VRAC Vranov 147.53 346⇑ *i*P PKPbc 14 31 01.0 +0.5
VRAC Vranov 147.53 346 P PKPbc 14 31 01.0 +0.5
SNF Seneffe 147.58 1 PKPbc PKPbc 14 31 00.7 +0.1
MANZ Manzenberg 147.68 352 *e*PKPdf PKPdf 14 30 58.4 +0.5
MANZ *e*PKPbc PKPbc 14 31 01.0 +0.1
MANZ *ep*PKPbc pPKPbc 14 31 36.5 +0.1
BCLA Clavier 147.69 0 PKPbc PKPbc 14 30 59.7 -1.2
VYHS Vyhne 147.72 343 *e*PKP PKPbc 14 31 01.0 0.0
VYHS *e* 14 31 33.3
MLR Muntele Rosu 147.74 333 PKPbc PKPbc 14 31 01.4 +0.3
comp=Z,27nm,1.0s,baz=101,slow=2.7,SNR=22
MLR Muntele Rosu 147.74 333⇓ *i*P PKPbc 14 31 02.0 +1.0
MLR Muntele Rosu 147.74 333 P PKPbc 14 31 01.8 +0.7
TREC Trest 147.78 348 *e*PKP PKPbc 14 31 01.1 0.0
TNS Taunus Mts 147.79 356 *e*PKPdf PKPdf 14 30 58.5 +0.4
TNS *e*PKPbc PKPbc 14 31 01.1 -0.1
TNS *e*PKPab PKPab 14 31 04.2 +0.3
TNS Taunus Mts 147.79 356 *e*PKIKP PKPdf 14 30 58.5 +0.4
TNS *e* 14 31 01.1
ROTZ Rotzenmuhle 147.88 352 *e*PKPdf PKPdf 14 30 58.6 +0.3
ROTZ *e*PKPbc PKPbc 14 31 01.7 +0.3
ANTO Ankara 147.89 318⇓ *i*P PKPbc 14 31 02.0 +0.6
ANTO Ankara 147.89 318 P PKPbc 14 31 02.4 +1.0
SNR=8.6
ANTO Ankara 147.89 318 *e*PKPbc PKPbc 14 31 02.2 +0.8
SGKT Sivrigoynuk 147.94 320 *i* P PKPbc 14 31 01.8 +0.3
PSZ Piszkesteto 147.94 342⇓ *e*PKP/p PKPbc 14 31 01.8 +0.2
PSZ Piszkesteto 147.94 342⇑ *i*P PKPbc 14 31 02.0 +0.4
PSZ Piszkesteto 147.94 342 *e*PKPdf PKPdf 14 30 58.3 -0.1
PSZ *e*PKPbc PKPbc 14 31 01.8 +0.3
PSZ *ep*PKPdf pPKPdf 14 31 37.6 +3.3
DRGR 147.98 337⇑ *i*P PKPbc 14 31 02.1 +0.4
DRGR 147.98 337 P PKPbc 14 31 01.8 +0.1
GIVF Givet 148.00 1 *e*PKIKP PKPdf 14 30 58.5 0.0
DOU Dourbes 148.00 1 PKPbc PKPbc 14 31 01.7 0.0
BAIF Baives 148.03 2 *e*PKIKP PKPdf 14 30 58.4 -0.1
SNX Sinaia 148.04 333⇓ *i*P PKPbc 14 31 03.0 +1.2
SMOL Smolenice 148.07 345 *e*PKP PKPbc 14 31 02.9 +1.0
GRA1 Grafenberg Arr 148.08 353 *e*PKPbc PKPbc 14 31 02.3 +0.4
GRA1 *ep*PKPbc pPKPbc 14 31 38.8 +1.3
GRF Grafenberg Arr 148.08 353 *e*PKPbc PKPbc 14 31 02.3 +0.4
GRF *ep*PKPbc pPKPbc 14 31 38.8 +1.3
ABH Alteburg 148.18 357 PKP PKPbc 14 31 02.0 -0.2
KHC Kasperske Hory 148.29 350 *e*PKP PKPbc 14 31 02.7 +0.2
KHC *ep*PKP pPKPdf 14 31 38.8 +3.9
ASF Jabal al Asfar 148.38 302 PKPbc PKPbc 14 31 03.9 +1.1
comp=Z,13nm,0.9s,baz=312,slow=2.2,SNR=27
TOD Tromm 148.39 356 PKP2 PKPbc 14 31 02.7 0.0
WET Wettzell 148.39 351 *e*PKPbc PKPbc 14 31 02.8 +0.1
WET *ep*PKPbc pPKPbc 14 31 38.8 +0.5
WLF Walferdange 148.44 359 *e*PKPbc PKPbc 14 31 03.3 +0.4
WLF Walferdange 148.44 359 P PKPbc 14 31 03.7 +0.8
WLF Walferdange 148.44 359 *e*PKPbc PKPbc 14 31 03.5 +0.6
WLF *ep*PKPdf pPKPdf 14 31 40.0 +4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**148.45**	**345**	*e*PKP	PKPbc	14 31 03.7	+0.8
ZST				*e*		14 35 14.5	
ZST				*e*		14 44 57.6	
ZST				*e*		14 56 59.2	
GEC2	**GERESS Array S**	**148.54**	**350**	*e*PKPdf	PKPdf	14 30 59.7	+0.3
GEC2				*e*PKPbc	PKPbc	14 31 03.2	+0.1
GEC2				*e*pPKPbc	pPKPbc	14 31 39.8	+1.1
GERES	**GERESS Array B**	**148.54**	**350**	PKPbc	PKPbc	14 31 02.3	-0.8
	comp=Z,16nm,0.9s,baz=38,slow=2.4,SNR=56						
GERES				pPKPbc	pPKPbc	14 31 38.8	+0.1
	comp=Z,6.6nm,1.0s,baz=33,slow=3.2,SNR=2.9						
FLN	**La Foliniere**	**148.97**	**8**	*e*PKIKP	PKPdf	14 30 59.7	-0.3
CONA	**Conrad Observa**	**148.99**	**346**	⇓*i*PKiKP	PKiKP	14 31 05.0	-0.5
	comp=Z,37nm,1.4s						
SOP	**Sopron**	**149.06**	**345**	⇓*e*PKP/p	PKPbc	14 31 04.6	+0.2
LANF	**Langenberg**	**149.07**	**357**	PKP	PKPbc	14 31 05.0	+0.5
GZR	**Gura Zlata**	**149.13**	**336**	⇓*i*P	PKPbc	14 31 05.1	+0.5
GZR	**Gura Zlata**	**149.13**	**336**	P	PKPbc	14 31 05.1	+0.4
LDF	**La Druitiere**	**149.18**	**7**	*e*PKIKP	PKPdf	14 30 59.9	-0.5
	comp=Z,45nm,1.2s						
STU	**Stuttgart**	**149.19**	**355**	*e*PKPdf	PKPdf	14 31 01.1	+0.7
STU				*e*PKPbc	PKPbc	14 31 05.0	+0.2
STU	**Stuttgart**	**149.19**	**355**	*e*PKHKP		14 30 51.1	
GRR	**Gorron**	**149.28**	**8**	*e*PKIKP	PKPdf	14 31 00.4	-0.1
BORA	**Eskisehir**	**149.33**	**320**	*i* P	PKPbc	14 31 05.3	+0.2
BZS	**Buzias**	**149.38**	**337**	⇓*i*P	PKPbc	14 31 05.0	-0.2
BZS	**Buzias**	**149.38**	**337**	P	PKPbc	14 31 05.3	0.0
MOA	**Molln**	**149.40**	**348**	⇓*i*P	PKPbc	14 31 05.4	+0.1
	comp=Z,18nm,1.0s						
ZIMR		**149.43**	**331**	⇓*i*P	PKPbc	14 31 05.6	+0.2
ZIMR		**149.43**	**331**	P	PKPbc	14 31 06.0	+0.6
FUR	**Furstenfeldbru**	**149.57**	**352**	*e*PKPdf	PKPdf	14 31 00.5	-0.5
FUR				*e*PKPab	PKPab	14 31 11.0	-0.1
WLS	**Welschbruch**	**149.66**	**358**	PKP	PKPbc	14 31 06.7	+0.8
BFO	**Black Forest**	**149.69**	**356**	*e*PKPdf	PKPdf	14 30 59.8	-1.4
BFO				*e*PKPbc	PKPbc	14 31 05.9	-0.1
BFO				*e*PKPab	PKPab	14 31 11.1	-0.5
BFO				*e*pPKPbc	pPKPbc	14 31 42.7	+1.1
BFO	**Black Forest**	**149.69**	**356**	*e*PKIKP	PKPdf	14 30 59.8	-1.4
BFO				*e*		14 31 11.1	
ARSA	**Arzberg**	**149.71**	**346**	⇑*i*P	PKPbc	14 31 06.1	+0.1
	comp=Z,14nm,1.1s						
PKSM	**Moragy**	**149.85**	**342**	⇓*i*P	PKPbc	14 31 06.8	+0.4
PKSM	**Moragy**	**149.85**	**342**	P	PKPbc	14 31 06.5	+0.2
ECH	**Echery**	**149.86**	**358**	PKP	PKPbc	14 31 06.4	0.0
THEF	**They Montfort**	**149.88**	**359**	PKP	PKPbc	14 31 06.9	+0.5
SPAK	**Spaichingen-Ko**	**149.88**	**356**	PKP	PKPbc	14 31 06.5	0.0
ULDT	**Uludag**	**149.95**	**322**	*i* P	PKPbc	14 31 07.0	+0.4
CSS	**Prodhromos**	**150.04**	**310**	*e*PKPbc	PKPbc	14 31 07.0	+0.1
FELD	**Feldberg im Sc**	**150.16**	**357**	*e*P	PKPbc	14 31 07.2	+0.1
MOF	**Molkenrain**	**150.22**	**358**	PKP	PKPbc	14 31 07.6	+0.3
KBA	**Koelnbreinsper**	**150.31**	**349**	⇑*i*P	PKPbc	14 31 07.3	-0.2
	comp=Z,22nm,1.1s						
WATA	**Walderalm**	**150.34**	**352**	⇓*i*P	PKPbc	14 31 07.4	-0.2
	comp=Z,22nm,1.1s						
PERS	**Pernice**	**150.38**	**346**	*i* PKPdf	PKPdf	14 31 01.4	-0.9
PERS				*i* PKPbc	PKPbc	14 31 07.0	-0.7
MOTA	**Moosalm**	**150.40**	**352**	⇓*i*P	PKPbc	14 31 07.6	-0.1
	comp=Z,33nm,1.0s						
WTTA	**Wattenberg**	**150.41**	**351**	⇑*i*P	PKPbc	14 31 07.8	+0.1
	comp=Z,54nm,1.2s						
SQTA	**Sankt Quirin**	**150.51**	**352**	⇑*i*P	PKPbc	14 31 08.1	+0.1
	comp=Z,25nm,1.0s						
BBS	**Basel-Blauen**	**150.60**	**357**	PKIKP	PKPbc	14 31 07.6	-0.6
DAVA	**Damuels**	**150.60**	**354**	⇑*i*P	PKPbc	14 31 08.8	+0.6
	comp=Z,57nm,1.1s						
EIL	**Elat**	**150.74**	**299**	*e*PKPbc	PKPbc	14 31 09.2	+0.7
LOMF	**Lomont**	**150.74**	**358**	PKP	PKPbc	14 31 08.8	+0.3
LOR	**Lormes**	**150.81**	**2**	*e*PKIKP	PKPdf	14 31 03.2	+0.3
LJU	**Ljubljana**	**151.07**	**347**	*i* PKPdf	PKPdf	14 31 03.3	0.0
LJU				*i* PKPbc	PKPbc	14 31 09.0	-0.2
MFF	**Saint Martin d**	**151.13**	**8**	*e*PKIKP	PKPdf	14 31 03.2	-0.2
	comp=Z,28nm,1.1s						
VTS	**Vitosha**	**151.24**	**332**	⇑*i*P	PKPbc	14 31 10.4	+0.7
VTS	**Vitosha**	**151.24**	**332**	P	PKPbc	14 31 10.2	+0.5
AVF	**Avril sur Loir**	**151.26**	**3**	*e*PKIKP	PKPdf	14 31 03.5	-0.1
DIVS	**Divcibare**	**151.28**	**338**	*i* PKP	PKPbc	14 31 09.7	-0.1
BOJS	**Bojanci**	**151.42**	**346**	*e*PKPdf	PKPdf	14 31 03.9	0.0
BOJS				*i* PKPbc	PKPbc	14 31 10.2	+0.1
BOJS				*e*pPKPbc	pPKPbc	14 31 46.5	+0.7
SMF	**Signal de Mont**	**151.43**	**2**	*e*PKIKP	PKPdf	14 31 03.9	0.0
BBLS	**Bajina Basta -**	**151.69**	**338**	*i* PKP	PKPbc	14 31 11.2	+0.5
TCF	**Toulx Ste Croi**	**151.69**	**5**	*e*PKIKP	PKPdf	14 31 04.1	-0.2
	comp=Z,23nm,1.2s						
AGO	**Saint Agoulin**	**151.99**	**3**	PKP	PKPbc	14 31 11.4	0.0
AKAS	**Kas**	**152.01**	**315**	*i* P	PKPbc	14 31 11.3	-0.1
PLDF	**La Plantade**	**152.10**	**3**	PKP	PKPbc	14 31 12.1	+0.5
PYM	**Petit Puy Mans**	**152.28**	**4**	PKP	PKPbc	14 31 12.8	+0.8
STIP	**Stip**	**152.42**	**332**	⇑*i*PKP	PKPbc	14 31 11.8	-0.5
SKO	**Skopje**	**152.51**	**334**	⇑*i*PKP	PKPbc	14 31 13.3	+0.7
VAY	**Valandovo**	**152.54**	**331**	⇑*i*PKP	PKPbc	14 31 11.7	-0.9
LPG	**La Plagne**	**152.59**	**358**	*e*PKIKP	PKPdf	14 31 05.5	-0.1
RJF	**Les Rejaudoux**	**152.60**	**6**	*e*PKIKP	PKPdf	14 31 05.6	0.0
	comp=Z,12nm,0.8s						
LBL	**Lubilhac**	**152.81**	**3**	PKP	PKPbc	14 31 13.7	+0.5
LFF	**La Frestale**	**152.88**	**7**	*e*PKIKP	PKPdf	14 31 06.1	+0.1
CAF	**Calviac**	**153.03**	**5**	*e*PKIKP	PKPdf	14 31 06.3	0.0
BNI	**Bardonecchia**	**153.04**	**358**	*e*PKPdf	PKPdf	14 31 07.1	+0.9
BNI				*e*PKPbc	PKPbc	14 31 14.5	+0.8
BNI				*e*PKPab	PKPab	14 31 26.0	+0.4
ORIF	**Oris-en-Rattie**	**153.19**	**359**	*e*PKIKP	PKPdf	14 31 05.8	-0.7
	comp=Z,8.9nm,0.9s						
VIVF	**Saint-Julien-l**	**153.25**	**1**	*e*PKIKP	PKPdf	14 31 06.0	-0.6
MBDF	**Montbardon**	**153.36**	**358**	*e*PKIKP	PKPdf	14 31 06.0	-0.7
	comp=Z,7.7nm,0.9s						
OHR	**Ohrid**	**153.49**	**333**	⇑*i*PKP	PKPbc	14 31 14.6	-0.1
PCAB	**Cabril**	**153.72**	**23**	*e*PKPbc	PKPbc	14 31 15.2	0.0
LASF	**Ste Croix**	**154.00**	**3**	*e*PKIKP	PKPdf	14 31 07.2	-0.4
TOUF	**Mont Tournerai**	**154.05**	**357**	PKP	PKPbc	14 31 16.2	+0.3
SAOF	**Saorge**	**154.06**	**357**	PKP	PKPbc	14 31 15.8	-0.1
PBRG	**Braganca**	**154.10**	**21**	*e*PKPbc	PKPbc	14 31 15.7	-0.3
SBF	**Sospel**	**154.19**	**357**	*e*PKIKP	PKPdf	14 31 07.8	-0.1
PVRL	**Vila Real**	**154.22**	**23**	*e*PKPbc	PKPbc	14 31 16.3	0.0
PVRL	**Vila Real**	**154.22**	**23**	*e*PKPab	PKPab	14 31 29.9	-0.7
SJPF	**Ste Jean**	**154.36**	**11**	*e*PKIKP	PKPdf	14 31 07.7	-0.5
MTLF	**Montolieu**	**154.62**	**6**	*e*PKIKP	PKPdf	14 31 07.9	-0.6
PVIS	**Viseu**	**154.63**	**24**	*e*PKPab	PKPab	14 31 31.7	-0.7
EPF	**Esparros**	**154.70**	**9**	*e*PKIKP	PKPdf	14 31 08.0	-0.6
LMR	**La Mourre**	**154.76**	**358**	*e*PKIKP	PKPdf	14 31 08.2	-0.5
	comp=Z,7.6nm,0.8s						
MTE	**Manteigas**	**155.04**	**24**	*e*PKPbc	PKPdf	14 31 17.8	+8.7
PTOM	**Tomar**	**155.35**	**26**	*e*PKPab	PKPab	14 31 34.7	-0.8
PESTR	**Estremoz**	**156.33**	**26**	*e*PKPab	PKPab	14 31 38.9	-0.8
EVO	**Evora**	**156.43**	**27**	*e*PKP2	PKPab	14 31 39.6	-0.5
	comp=Z,19nm,0.9s						
ESDC	**Sonseca Array**	**156.93**	**19**	PKP	PKPdf	14 31 12.3	+0.7
	comp=Z,0.2nm,0.3s,baz=356,slow=6.3,SNR=4.2						
ESDC				PKPab	PKPab	14 31 42.0	-0.3
	comp=Z,4.3nm,0.9s,baz=320,slow=3.6,SNR=11						
DBIC	**Dimbokro**	**164.87**	**137**	PKP	PKPdf	14 31 20.2	+0.1
	comp=Z,6.3nm,0.9s,baz=314,slow=1.8,SNR=4.3						
DBIC	**Dimbokro**	**164.87**	**137**	PKP	PKPdf	14 31 20.2	+0.1
TORD	**Torodi Ar. Bea**	**173.94**	**143**	PKP	PKPdf	14 31 25.7	+0.1
	comp=Z,5.1nm,0.9s,baz=326,slow=1.3,SNR=21						
TORD				PKPab	PKPab	14 32 58.6	+1.5
	comp=Z,1.5nm,0.8s,baz=219,slow=4.1,SNR=5.6						
TORD				pPKPab	pPKPab	14 33 33.1	+1.5
	comp=Z,1.9nm,0.9s,baz=248,slow=2.9,SNR=3.3						

*TIR **08** 14:12:20.4, 4179N×1954E, h28km*
*ISCJB **08** 14:12:22.2±0.7, 4181N±003×1954E±004, h10km, Error ellipse: s-maj=5.3km s-min=3.4km az=85.2*
*NEIC **08** 14:12:23.1, 4186N×1955E, h11km, MD2.5(PDG), After PDG.*
*PDG **08** 14:12:23.1±0.1, 4186N×1955E, h11km*
ISC 08 14:12:23.0±0.7**, 4180N**±003×**1953E**±004**, h10**km**, n14, σ0ˢ97**/27**, 4C-6D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDA	**Shkodra**	**0.25**	**355**	*i* Pg	**Pg**	**14 12 27.8**	**-0.3**
SDA				*i* Sg	**Sg**	**14 12 32.2**	**+0.7**
ULC	**Ulcinj**	**0.26**	**308**	⇑*i*Pg	**Pg**	**14 12 27.9**	**-0.4**
ULC				*e*Sg	**Sg**	**14 12 32.2**	**+0.4**
TTG	**Podgorica**	**0.66**	**342**	⇑*i*Pg	**Pg**	**14 12 34.6**	**-1.1**
TTG				*e*Sg	**Sg**	**14 12 44.4**	**+0.1**
BUM	**Brajici-Budva**	**0.68**	**317**	⇑*i*Pg	**Pg**	**14 12 35.4**	**-0.8**
BUM				*e*Sg	**Sg**	**14 12 46.0**	**+0.9**
BCI	**Bajram Curri**	**0.69**	**35**	*i* Pg	**Pg**	**14 12 35.1**	**-1.3**
BCI				*i* Sg	**Sg**	**14 12 46.2**	**+0.8**
PVY	**Plav**	**0.86**	**23**	⇑*i*Pg	**Pg**	**14 12 38.1**	**-1.4**
PVY				*e*Sg	**Sg**	**14 12 50.7**	**0.0**
HCY	**Herceg Novi**	**1.00**	**310**	⇓*i*Pg	**Pg**	**14 12 40.9**	**-1.4**
HCY				*e*Sg	**Sg**	**14 12 56.3**	**+1.1**
NKY	**Niksic**	**1.08**	**339**	⇓*i*Pg	**Pg**	**14 12 42.7**	**-1.1**
NKY				*e*Sg	**Sg**	**14 12 58.8**	**+1.0**
IVA	**Berane**	**1.10**	**14**	⇓*i*Pg	**Pg**	**14 12 42.6**	**-1.6**
IVA				*e*Sg	**Sg**	**14 12 58.7**	**+0.2**
OHR	**Ohrid**	**1.18**	**125**	*e*Pg	**Pg**	**14 12 47.3**	**+1.6**
OHR				*e*Sg	**Sg**	**14 13 02.5**	**+1.5**
BRY	**Bratogost**	**1.32**	**327**	⇓*i*Pg	**Pg**	**14 12 47.0**	**-1.2**
BRY				*e*Sg	**Sg**	**14 13 07.1**	**+1.8**
UPM	**Unac-Piva**	**1.47**	**342**	⇓*i*Pg	**Pn**	**14 12 49.2**	**-0.4**
UPM				*e*Sg	**Sg**	**14 13 11.3**	**+1.0**
PLE	**Pljevlja**	**1.53**	**356**	⇓*i*Pg	**Pn**	**14 12 50.4**	**+0.1**
PLE				*e*Sg	**Sg**	**14 13 12.3**	**+0.1**
BIA	**Bitola**	**1.56**	**120**	*e*Pg	**Pg**	**14 12 52.7**	**-0.3**

*NEIC **08** 14:14:10.6, 34.14S×7065W, h91km, MD3.7(GUC), After GUC.*
GUC 08 14:14:10.6±0.6**, 3414S**×**7065W, h91**km±2km**, MD3.7, ML3.6, 4C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.21**	**359**	⇑*i*P	Pn	14 14 23.6	-0.1
CHCH				*i* S	Sn	14 14 33.4	0.0
CICH	**Cipreses**	**0.26**	**133**	⇑*i*P	Pn	14 14 24.0	+0.1
CICH				*i* S	Sn	14 14 34.4	+0.6
LMEL	**Las Melosas**	**0.47**	**52**	⇓*i*P	Pn	14 14 25.4	+0.2
LMEL				*i* S	Sn	14 14 36.9	+0.8
LMEL				AML	AML	14 14 38.7	
	comp=N,2μm,0.4s						
LMEL	**Las Melosas**	**0.47**	**52**	⇓*i*P	Pn	14 14 25.4	+0.2
LMEL				*i* S	Sn	14 14 36.9	+0.8
TACH	**Talagante**	**0.55**	**334**	⇓*i*P	Pn	14 14 25.9	+0.1
TACH				*i* S	Sn	14 14 37.2	+0.2
SFDO	**San Fernando**	**0.56**	**213**	⇑*i*P	Pn	14 14 26.2	+0.3
SFDO				*i* S	Sn	14 14 37.9	+0.6
SJCH	**San Jose de Ma**	**0.56**	**26**	⇓*i*P	Pn	14 14 25.4	-0.4
SJCH				*i* S	Sn	14 14 37.5	+0.2
ANTU	**Antumapu**	**0.57**	**1**	*e*P	Pn	14 14 26.1	+0.1
ANTU				*i* S	Sn	14 14 38.0	+0.5
LNV	**Longovilo**	**0.66**	**286**	⇑*i*P	Pn	14 14 26.6	-0.1
LNV				*i* S	Sn	14 14 38.8	0.0
RCDM	**Rinconada Maip**	**0.67**	**349**	*e*P	Pn	14 14 26.9	0.0
RCDM				*i* S	Sn	14 14 38.9	0.0
RCDM				AML	AML	14 14 40.9	
	comp=E,3μm,0.1s						
RCDM	**Rinconada Maip**	**0.67**	**349**	*e*P	Pn	14 14 26.9	0.0
RCDM				*i* S	Sn	14 14 38.9	0.0
SAN	**Santiago**	**0.69**	**359**	*i* P	Pn	14 14 26.8	-0.2
SAN				*i* S	Sn	14 14 39.7	+0.3
STL	**Santa Lucia**	**0.71**	**1**	⇓*i*P	Pn	14 14 26.8	-0.4
STL				*i* S	Sn	14 14 39.2	-0.4
FCH	**Farellones**	**0.87**	**20**	*e*P	Pn	14 14 29.5	+0.6
FCH				*i* S	Sn	14 14 43.5	+1.0
NICH	**Los Niches**	**0.98**	**209**	⇓*e*P	Pn	14 14 30.2	+0.1
NICH				*i* S	Sn	14 14 45.0	+0.3
PEL	**Peldehue**	**1.00**	**358**	*e*P	Pn	14 14 30.8	+0.5
PEL				*i* S	Sn	14 14 45.9	+0.8
PEL				AML	AML	14 14 48.0	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.00**	**358**	*e*P	Pn	14 14 30.8	+0.5
PEL				*i* S	Sn	14 14 45.9	+0.8
LCCH	**Las Cruces**	**1.02**	**311**	⇓*i*P	Pn	14 14 30.4	-0.1
JACH	**Jahuel**	**1.46**	**2**	*i* P	Pn	14 14 36.4	+0.6
JACH				*i* S	Sn	14 14 55.9	+0.9
TALC	**Talca**	**1.49**	**213**	⇓*i*P	Pn	14 14 35.8	-0.4
TALC				*i* S	Sn	14 14 55.0	-0.7
TALC				AML	AML	14 14 55.6	
	comp=E,3μm,0.4s						
TALC	**Talca**	**1.49**	**213**	⇓*i*P	Pn	14 14 35.8	-0.4
TALC				*i* S	Sn	14 14 55.0	-0.7
CHNG	**Los Chungos**	**2.37**	**342**	*e*P	Pn	14 14 48.1	+0.5
TLL	**Tololo Astrono**	**3.97**	**358**	*e*P	Pn	14 15 09.1	0.0

*IDC **08** 14:50:18.3±0.6, 3741N×7458E, h0km, mb4.3/20, mb1 4.5/24, mb1mx4.5/27, mbtmp4.4/24, ML4.2/4, MS3.6/8, Ms1 3.6/8, ms1mx3.3/25, Error ellipse: s-maj=15.2km s-min=12.5km az=20.0*
*NNC **08** 14:50:19.6±5.2, 3740N×7408E, h0km, mb4.7, mpv4.7, Error ellipse: s-maj=44.2km s-min=33.5km az=10.0*
*MOS **08** 14:50:20.4±1.2, 3745N×7463E, h24km, mb4.8/32, Error ellipse: s-maj=7.9km s-min=4.6km az=109.8*
*NEIC **08** 14:50:21.5±2.2, 3751N×7467E, h20km±16km, mb4.5/35, Error ellipse: s-maj=6.8km s-min=4.6km az=205.0*
*BJI **08** 14:50:21.5, 3751N×7472E, h20km, mB4.7, mb4.6, ML4.6, Ms4.2, Msz4.0*
*ISCJB **08** 14:50:23.6±0.4, 3743N±002×7465E±004, h55km±4km, mb4.5/71, MS3.8/18, Error ellipse: s-maj=4.7km s-min=3.0km az=158.5*
*SZGRF **08** 14:50:28.0, 3801N×7459E, h33km, mb4.6, Tajikistan-Xinjiang border region*
ISC 08 14:50:25.7±0.3**, 3745N**±002×**7467E**±003**, h56**km±3km**, h33**km±1.0km**: pP-P, n226, σ1ˢ17**/245**, mb4.5**/71**, MS3.8**/18**, 19C-16D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.30**	**26**	⇓*i*PG	**Pn**	**14 51 03.0**	**+1.8**
KSH				SG	**Sn**	**14 51 29.4**	**+1.0**
KSH				Smax			
	comp=N,6μm,0.6s						
KSH				Smax			
	comp=E,9μm,0.7s						
CHCP	**Chirah Chowk**	**3.95**	**197**	⇓P	**Pn**	**14 51 25.6**	**+1.8**
CEP	**Cherat**	**4.26**	**213**	⇑P	**Pn**	**14 51 28.7**	**+0.7**
KZA	**Kyzart**	**4.64**	**5**	P	**Pn**	**14 51 34.2**	**+1.0**
	SNR=216						
AML	**Almayashu**	**4.74**	**351**	P	**Pn**	**14 51 35.1**	**+0.6**
	SNR=55						
ULHL	**Ulahol**	**4.94**	**14**	P	**Pn**	**14 51 38.7**	**+1.4**
	SNR=17						
THN	**Thein Dam**	**5.08**	**170**	*e*P	**Pn**	**14 51 40.3**	**+1.1**
THN				*e*x	x	14 52 38.2	
AAK	**Ala-Archa**	**5.18**	**359**	P	**Pn**	**14 51 41.7**	**+1.1**
	SNR=66						
KBK	**Karagaybulak**	**5.21**	**2**	P	**Pn**	**14 51 42.2**	**+1.3**
	SNR=30						
THW	**Thamme Wali**	**5.23**	**208**	P	**Pn**	**14 51 41.3**	**0.0**
EKS2	**Erkin-Say**	**5.25**	**353**	P	**Pn**	**14 51 42.6**	**+1.0**
	SNR=32						
FRU	**Bishkek**	**5.38**	**360**	*e*PN	**Pn**	**14 51 44.0**	**+0.7**
FRU				*i*		14 51 57.5	
FRU				pmax	pmax		
	comp=Z,228nm,1.8s						
TKM2	**Tokmak 2**	**5.51**	**7**	P	**Pn**	**14 51 46.4**	**+1.3**
	SNR=428						
TKM2	**Tokmak 2**	**5.51**	**7**	⇓Pn	**Pn**	**14 51 46.4**	**+1.3**
	comp=Z,12nm,0.5s						
TKM2				⇓Sn	**Sn**	**14 52 50.6**	**+3.5**
	comp=Z,11nm,0.5s						
TKM2	**Tokmak 2**	**5.51**	**7**	*i* PN	**Pn**	**14 51 46.4**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,198nm,0.5s						
CHMS	**Chumysh**	**5.54**	**1**	P	**Pn**	**14 51 46.4**	**+0.9**
	SNR=57						
SARP	**Sargodha**	**5.75**	**197**	⇓P	**Pn**	**14 51 48.4**	**-0.1**
USP	**Ospenovka**	**5.81**	**359**	P	**Pn**	**14 51 50.3**	**+1.1**
	SNR=9.1						
KNDC	**Almaty**	**6.02**	**16**	⇑Pn	**Pn**	**14 51 53.2**	**+1.1**
	comp=Z,274nm,0.9s						
KNDC				⇑Lg		14 53 26.4	
	comp=Z,576nm,0.8s						
SBDP	**Sheikh Budin**	**6.04**	**213**	⇓P	**Pn**	**14 51 51.9**	**-0.5**
AAA	**Alma-Ata**	**6.07**	**16**	*i* PN	**Pn**	**14 51 57.9**	**+5.1**
BHK	**Bhakra**	**6.19**	**166**	*e*P	**Pn**	**14 52 00.2**	**+5.8**
BHK				*e*S	**Sn**	**14 53 04.5**	**+0.7**
SDNR	**Sundarnagar**	**6.23**	**162**	*e*P	**Pn**	**14 51 55.0**	**0.0**
SDNR				*e*x	x	14 53 37.6	
KK31	**Karatay Array**	**6.48**	**332**	⇓Pn	**Pn**	**14 51 57.5**	**-0.9**
	comp=Z,28nm,0.5s,baz=145,slow=12,SNR=551						
KK31				⇑Sn	**Sn**	**14 53 10.9**	**0.0**
	comp=Z,126nm,0.6s,baz=302,slow=126,SNR=7.2						
KK31	**Karatay Array**	**6.48**	**332**	*i* PN	**Pn**	**14 51 57.4**	**-1.0**
KK31				pmax	pmax		
	comp=Z,22nm,0.2s						
KKAR	**Karatay Array**	**6.48**	**332**	PN	**Pn**	**14 51 57.4**	**-1.0**
KKAR				S	**Sn**	**14 53 10.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KKAR				smax			
	comp=Z,20nm,0.3s						
KLP	**Kalpa**	**6.60**	**152**	*e*P	**Pn**	**14 52 00.9**	**+0.9**
KLP				*e*x	x	14 52 43.6	
KLP				AML	AML	14 53 51.2	
	comp=E,337nm,0.5s						
KLP				AML	AML	14 54 02.6	
	comp=N,389nm,0.9s						
SMLA	**Simla**	**6.63**	**161**	*e*P	**Pn**	**14 52 00.8**	**+0.3**
SMLA				*e*S	**Sn**	**14 53 10.4**	**-4.4**
DRP	**Derazinda**	**6.78**	**214**	P	**Pn**	**14 52 03.2**	**+0.7**
DDI	**Dehra Dun**	**7.64**	**157**	*e*x	x	14 52 11.0	
DDI				*e*S	**Sn**	**14 53 36.0**	**-3.6**
NDI	**New Delhi**	**9.00**	**166**	*e*P	**Pn**	**14 52 33.0**	**+0.1**
NDI				*e*x	x	14 54 09.3	
AYAN	**Aya Nagar**	**9.18**	**166**	*e*P	**Pn**	**14 52 34.6**	**-0.7**
LGTI	**Lohaghat**	**9.24**	**148**	*e*P	**Pn**	**14 52 37.5**	**+1.3**
LGTI				*e*x	x	14 54 26.5	
SONA	**Sohna**	**9.40**	**167**	*e*P	**Pn**	**14 52 36.8**	**-1.6**
SONA				*e*S	**Sn**	**14 54 14.7**	**-7.7**
KHET	**Khetri**	**9.40**	**174**	*e*P	**Pn**	**14 52 36.1**	**-2.3**
KHET				*e*S	**Sn**	**14 54 14.4**	**-8.1**
KUDL	**Kundal**	**9.40**	**170**	*e*P	**Pn**	**14 52 38.0**	**-0.5**
KUDL				*e*S	**Sn**	**14 54 15.2**	**-7.5**
MK31	**Makanchi Array**	**10.91**	**29**	P	**Pn**	**14 52 59.0**	**0.0**
MK31				pmax	pmax		
	comp=Z,75nm,1.2s						
MKAR	**Makanchi Array**	**10.91**	**29**	Pn	**Pn**	**14 52 59.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=212,slow=11,SNR=25						
MK05	**Makanchi Array**	**10.91**	**29**	⇑Pn	**Pn**	**14 52 59.1**	**0.0**
	comp=Z,32nm,0.9s,baz=216,slow=13						
AJM	**Ajmer**	**10.94**	**180**	*e*P	**Pn**	**14 52 57.8**	**-1.6**
AJM				*e*x	x	14 54 48.9	
WMQ	**Urumqi**	**11.76**	**53**	*e*P	**Pn**	**14 53 09.0**	**-1.6**
WMQ				LR	LR		
	comp=N,730nm,5.0s						
WMQ				LR	LR		
	comp=E,535nm,5.0s						
WMQ				LR	LR		
	comp=Z,634nm,8.2s						
KOLN	**Koldanda**	**12.23**	**140**	*e*P	**Pn**	**14 53 14.4**	**-2.7**
	comp=Z,74nm,0.7s						
KOLN				*e*S	**Sn**	**14 55 27.5**	**-4.3**
GKN	**Gorkha**	**12.61**	**135**	*e*P	**Pn**	**14 53 19.1**	**-3.1**
	comp=Z,44nm,0.4s						
GKN				*e*S	**Sn**	**14 55 34.2**	**-6.7**
KKN	**Kakani**	**13.13**	**134**	*e*P	**Pn**	**14 53 25.6**	**-3.7**
	comp=Z,61nm,0.6s						
KKN				*e*S	**Sn**	**14 55 46.0**	**-7.8**
DMN	**Daman**	**13.17**	**135**	*e*P	**Pn**	**14 53 26.9**	**-3.0**
	comp=Z,25nm,0.4s						
DMN				*e*S	**Sn**	**14 55 47.4**	**-7.3**
PKI	**Pulchoki**	**13.37**	**134**	*e*P	**Pn**	**14 53 29.2**	**-3.4**
	comp=Z,45nm,0.6s						
PKI				*e*S	**Sn**	**14 55 51.8**	**-7.8**
GUN	**Gumba**	**13.39**	**132**	*e*P	**Pn**	**14 53 28.0**	**-4.9**
BHPL	**Bhopal**	**14.36**	**170**	*e*S	**Sn**	**14 56 25.0**	**+1.4**
VOSK	**Vostochnaya**	**15.49**	**352**	⇓Pn	**Pn**	**14 53 55.6**	**-4.9**
	comp=Z,14nm,0.8s						
VOSK	**Vostochnaya**	**15.49**	**352**	P	**Pn**	**14 53 56.6**	**-3.9**
VOSK				pmax	pmax		
	comp=Z,12nm,0.9s						
LSA	**Lhasa**	**15.75**	**115**	P	**Pn**	**14 54 02.7**	**-1.1**
LSA	**Lhasa**	**15.75**	**115**	*e*P	**Pn**	**14 54 02.6**	**-1.2**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**15.75**	**115**	*e*P	**Pn**	**14 54 02.6**	**-1.2**
	comp=Z,12nm,0.8s						
BVA0	**Borovoye Array**	**15.86**	**351**	Pn	**Pn**	**14 54 01.6**	**-3.7**
	comp=Z,7.8nm,0.9s,baz=162,slow=12,SNR=226						
BVA0	**Borovoye Array**	**15.86**	**351**	*i* P	**Pn**	**14 54 05.6**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BVAR	**Borovoye Array**	**15.86**	**351**	Pn	**Pn**	**14 54 02.1**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=166,slow=13,SNR=12						
BVAR				LR	LR	15 00 13.5	
	comp=Z,244nm,20.1s,baz=142,slow=38						
AB31	**Akbulak array**	**15.90**	**323**	⇑Pn	**Pn**	**14 54 00.3**	**-5.5**
	baz=135,slow=11,SNR=195						
AB31				⇓Sn	**Sn**	**14 56 51.7**	**-9.3**
	comp=Z,24nm,0.7s						
AB31	**Akbulak array**	**15.90**	**323**	*e*P	**Pn**	**14 54 01.0**	**-4.8**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZRNK	**Zerenda**	**16.00**	**347**	⇑Pn	**Pn**	**14 54 04.0**	**-3.0**
	comp=Z,32nm,0.8s						
ZRNK				⇓Sn	**Sn**	**14 57 09.1**	**+5.8**
	comp=Z,8.9nm,0.9s						
ZRNK				⇓Lg		14 58 52.6	
	comp=Z,60nm,2.1s						
ZRNK	**Zerenda**	**16.00**	**347**	*e*P	**Pn**	**14 54 03.3**	**-3.7**
ZRNK				pmax	pmax		
	comp=Z,44nm,0.8s						
ZRNK	**Zerenda**	**16.00**	**347**	*e*Pn	**Pn**	**14 54 03.3**	**-3.7**
	comp=Z,44nm,0.8s						
ZRNK				*e*		14 54 08.8	
ZRNK				*e*		14 54 16.0	
ZRNK				*e*S	**S**	**14 57 15.4**	**+1.0**
CHKZ	**Chkalovo**	**16.47**	**351**	⇓Pn	**Pn**	**14 54 08.7**	**-4.2**
	comp=Z,25nm,1.6s						
CHKZ	**Chkalovo**	**16.47**	**351**	*i* P	**Pn**	**14 54 10.0**	**-2.9**
CHKZ				pmax	pmax		
	comp=Z,25nm,1.6s						
CHKZ	**Chkalovo**	**16.47**	**351**	*e*P	**Pn**	**14 54 09.2**	**-3.8**
	comp=Z,19nm,1.0s						
BOK	**Bokaro**	**16.67**	**142**	*e*x	x	14 54 19.4	
AKTK	**Aktyubinsk**	**17.62**	**323**	P	**Pn**	**14 54 24.4**	**-2.8**
AKTO	**Aktyubinsk**	**17.62**	**323**	⇓Pn	**Pn**	**14 54 23.9**	**-3.2**
	comp=Z,0.4nm,0.7s						
AKTO				⇑Sn	**Sn**	**14 57 33.0**	**-10**
	comp=Z,2.1nm,1.7s						
AKTO	**Aktyubinsk**	**17.62**	**323**	P	**Pn**	**14 54 24.4**	**-2.8**
	comp=Z,1.7nm,0.3s,baz=125,slow=13,SNR=83						
ZAL	**Zalesovo**	**17.91**	**20**	P	**Pn**	**14 54 28.9**	**-1.8**
	comp=Z,2.6nm,0.3s,baz=262,slow=11,SNR=76						
ZAL				LR	LR	15 02 27.4	
	comp=Z,281nm,19.4s,baz=147,slow=41						
ZAL	**Zalesovo**	**17.91**	**20**	*i* P	**Pn**	**14 54 28.8**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,28nm,0.9s						
NVS	**Novosibirsk**	**18.35**	**16**	⇑*i*P	**Pn**	**14 54 34.8**	**-1.3**
NVS				*e*S	**S**	**14 57 59.7**	**-1.7**
NVS				pmax	pmax		
	comp=Z,79nm,1.1s						
NVS				pmax	pmax		
	comp=N,60nm,1.2s						
NVS				smax			
	comp=N,38nm,2.0s						
NVS				smax			
	comp=E,14nm,1.6s						
SHL	**Shillong**	**18.83**	**124**	*e*P	**Pn**	**14 54 41.0**	**-0.8**
SHL				*e*x	x	14 57 59.0	
POO	**Poona**	**18.86**	**182**	*e*x	x	14 54 29.0	
GTA	**Gaotai**	**19.78**	**77**	⇓P	**Pn**	**14 54 52.4**	**-0.7**
GTA				AP	pP	14 54 58.5	-5.1
GTA				XP	sP	14 55 01.4	-9.3
GTA				PP		14 55 16.4	
GTA				PPP		14 55 24.4	
GTA				AMB	AMB		
	comp=Z,17nm,0.9s						
GTA				AMB	AMB		
	comp=Z,256nm,5.7s						
GTA				LR	LR		
	comp=N,287nm,12.6s						
GTA				LR	LR		
	comp=E,233nm,11.8s						
GTA				LR	LR		
	comp=Z,283nm,13.7s						
KAD	**Karad**	**20.07**	**181**	*e*P	**P**	**14 54 54.4**	**+0.1**
HYB	**Hyderabad**	**20.25**	**169**	*i* P	**P**	**14 54 56.0**	**-0.2**
HYB				*e*S	**S**	**14 58 42.5**	**+2.3**
HYB	**Hyderabad**	**20.25**	**169**	*e*P	**P**	**14 54 56.0**	**-0.2**
JMDO	**Jabal Madar**	**20.74**	**228**	P	**P**	**14 55 03.1**	**+1.6**
	SNR=7.1						
ARQ	**Araqi**	**20.99**	**233**	P	**P**	**14 55 09.8**	**+5.5**
	SNR=5.1						
VIS	**Vishakhapatnam**	**21.08**	**156**	*e*P	**P**	**14 55 05.6**	**+0.4**
VIS				AMb	AMB	14 55 12.9	
	comp=Z,34nm,0.9s,mb4.7						
VIS				*e*x	x	14 59 15.0	
SVE	**Sverdlovsk**	**21.53**	**339**	*e*P	**P**	**14 55 08.3**	**-1.7**
SVE				*e*S	**S**	**14 59 10.0**	**+4.6**
SVE				pmax	pmax		

comp=Z,28nm,1.4s,mb4.5
SVE MLR MLR
comp=N,400nm,12.0s,MS4.2
SVE MLR MLR
comp=E,400nm,12.0s,MS4.2
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.0
ARU Arti 21.84 336 ⇓*i*P **P 14 55 11.9 -1.4**
ARU *e*PPP 14 55 40.9
ARU *e*S **S 14 59 04.0 -7.5**
ARU pmax pmax
comp=Z,22nm,0.8s,mb4.6
ARU MLR MLR
comp=N,100nm,17.0s,MS3.4
ARU MLR MLR
comp=Z,200nm,17.0s,MS3.6
ARU MLR MLR
comp=E,80nm,16.0s,MS3.4
ARU Arti 21.84 336 *e*P **P 14 55 12.0 -1.3**
comp=E,21nm,0.8s,mb4.6
DGRG David-gareji 22.92 289 P **P 14 55 26.9 +2.1**
MTA Mtatsminda 23.36 290 P **P 14 55 28.5 -0.6**
MOY Mondy 23.37 44 *e*P **P 14 55 30.7 +1.5**
MOY pmax pmax
comp=Z,31nm,2.8s,mb4.2
LZH Lanzhou 23.37 84 *e*P **P 14 55 32.1 +2.8**
LZH AP 14 55 40.5
LZH XP sP 14 55 45.0 -4.4
LZH PP 14 56 04.1
LZH *e*S **S 14 59 39.2 +1.3**
LZH XS sS 14 59 54.4 -7.0
LZH *e*SS 15 00 28.2
LZH AMB AMB
comp=Z,28nm,1.2s,mb4.6
LZH AMB AMB
comp=Z,131nm,4.3s
LZH LR LR
comp=E,2μm,14.6s
LZH LR LR
comp=Z,2μm,18.0s,MS4.6
TBLG Delisi 23.40 290 P **P 14 55 22.9 -6.7**
GNI Garni 23.43 286 P **P 14 55 27.9 -2.0**
comp=Z,3.6nm,0.4s,mb4.1,baz=204,slow=20,SNR=2.3
GNI Garni 23.43 286⇑ *e*P **P 14 55 33.1 +3.3**
GNI pmax pmax
comp=Z,42nm,1.1s
ZEI Tsey 24.05 292 *e*P **P 14 55 36.0 +0.5**
ZAK Zakamensk 24.16 49⇑ *i*P **P 14 55 37.2 +0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
ONI Oni 24.37 292 P **P 14 55 40.6 +2.2**
TLY Talaya 24.86 46 *e*P pP 14 55 58.9 +2.0
TLY *e* 14 56 20.6
TLY *e*S **S 15 00 08.7 +6.8**
TLY *e*SS 15 00 53.7
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
TLY MLR MLR
comp=Z,137nm,15.0s,MS3.6
SOKR Solikamsk 24.94 338 ⇓*i*P **P 14 55 44.4 +0.8**
SOKR pmax pmax
comp=Z,40nm,1.8s,mb4.7
KIV Kislovodsk 25.00 295⇑ *e*P **P 14 55 45.5 +1.4**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.4
KIV MLR MLR
comp=Z,100nm,19.0s,MS3.3
KIV Kislovodsk 25.00 295 *e*P **P 14 55 45.2 +1.1**
comp=Z,9.0nm,0.6s,mb4.5
SONM Songino Array 25.38 56 P **P 14 55 48.8 +1.3**
comp=Z,8.8nm,0.8s,mb4.3,baz=256,slow=8.6,SNR=46
SONM LR LR 15 07 30.0
comp=Z,168nm,18.5s,MS3.6,baz=342,slow=40
ULN Ulaanbaatar 25.82 56⇑ *e*P **P 14 55 52.4 +0.9**
ULN Ulaanbaatar 25.82 56 *e*P **P 14 55 52.1 +0.6**
comp=Z,6.1nm,0.8s,mb4.2
WHFO Wadi Hawf 26.74 229 P **P 14 56 03.7 +3.8**
SNR=5.5
KMI Kunming 26.85 109 P **P 14 56 03.9 +3.1**
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.4
XAN Xi'an 27.92 87 P **P 14 56 11.0 +0.6**
XAN AP pP 14 56 19.7 -4.8
XAN AMB AMB
comp=Z,3.0nm,1.1s,mb3.8
XAN LR LR
comp=E,151nm,12.8s
XAN LR LR
comp=Z,182nm,14.8s,MS3.8
MALT Malatya 28.51 283 P **P 14 56 16.4 +0.7**
MALT pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
MALT Malatya 28.51 283 P **P 14 56 16.4 +0.7**
comp=Z,3.0nm,0.4s,mb4.4
VRSR Storozhevoye 28.56 310 *e*P **P 14 56 15.6 -0.5**
VRSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=N,9.0nm,1.9s
VRSR pmax pmax
comp=E,8.0nm,0.8s
HHC Hu-ho-hao-te 28.68 72 *e*P **P 14 56 22.3 +5.1**
HHC AP pP 14 56 31.6 +0.3
HHC PP pP 14 57 15.1 -7.6
HHC S **S 15 01 04.4 +2.3**
HHC XS sS 15 01 20.8 -5.2
HHC SS sS 15 02 29.0 -36
HHC SCP ScP 15 03 13.4 +10
HHC AMB AMB
comp=Z,11nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,87nm,6.9s
HHC LR LR
comp=N,219nm,11.0s
HHC LR LR
comp=E,300nm,8.0s
HHC LR LR
comp=Z,246nm,15.7s,MS3.9
ANN Anapa 28.80 297 *e*P **P 14 56 12.9 -5.4**
ANN pmax pmax
comp=Z,28nm,1.3s,mb4.8
GYA Guiyang 29.14 103 P **P 14 56 22.6 +1.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
OBN Obninsk 31.20 317 *e*P **P 14 56 38.9 -0.6**
OBN pmax pmax
comp=Z,15nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.6
ASF Jabal al Asfar 31.31 272 P **P 14 56 41.0 +0.5**
comp=Z,1.0nm,0.4s,mb4.0,baz=23,slow=10,SNR=2.1
BR131 Keskin Array S 31.96 287 *e*P **P 14 56 46.6 +0.4**
comp=Z,2.6nm,0.5s,mb4.3
BRTR Keskin Array B 31.96 287 P **P 14 56 46.7 +0.6**
comp=Z,4.3nm,0.7s,mb4.4,baz=107,slow=8.3,SNR=11
BRTR Keskin Array B 31.96 287⇑ *e*P **P 14 56 49.2 +3.1**
BOD Bodaibo 32.76 39 *e*P **P 14 56 52.8 -0.4**
BOD pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
AKASG Malin Array Be 34.68 307 P **P 14 57 09.1 -0.7**
comp=Z,0.5nm,0.4s,mb3.8,baz=80,slow=6.1,SNR=4.3
AKASG Malin Array Be 34.68 307 *i*P **P 14 57 05.3 -4.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
NJ2 Nanjing 36.45 85 *e*P **P 14 57 23.5 -1.5**
NJ2 AP pP 14 57 33.1 -6.2
NJ2 XP sP 14 57 37.3 -8.7
NJ2 PP PP 14 58 45.9 -2.9
NJ2 S **S 15 02 58.0 -4.7**
NJ2 XS sS 15 03 15.0 -12
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,260nm,4.6s
NJ2 LR LR
comp=N,330nm,13.6s,MS4.5
NJ2 LR LR
comp=E,330nm,11.2s,MS4.5
NJ2 LR LR
comp=Z,390nm,13.1s,MS4.4
JOF Joensuu 36.56 328 *e*p **P 14 57 24.5 -1.5**
comp=Z,6.6nm,0.4s,mb4.8
MLR Muntele Rosu 36.90 298 P **P 14 57 29.9 +1.0**
comp=Z,8.0nm,0.8s,mb4.6,baz=143,slow=5.7,SNR=10
LVZ Lovozero 37.71 337⇑ *e*P **P 14 57 35.5 -0.2**
LVZ pmax pmax
comp=Z,29nm,0.9s,mb5.0
FIA1 FINESS Array S 38.38 325 *e*P **P 14 57 41.0 -0.3**
FINES FINESS Array B 38.38 325 P **P 14 57 39.5 -1.9**
comp=Z,3.5nm,0.5s,mb4.4,baz=113,slow=10,SNR=24
FINES FINESS Array B 38.38 325 *i*P **P 14 57 40.9 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 38.38 325 P **P 14 57 39.5 -1.9**
KAF Kangasniemi 38.46 326 *e*p **P 14 57 42.4 +0.3**
SSE Sheshan 38.65 85 *e*P **P 14 57 45.2 +1.6**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,74nm,4.7s
SSE LR LR
comp=N,50nm,22.2s,MS3.4
SSE LR LR
comp=E,33nm,22.3s,MS3.4
SSE LR LR
comp=Z,74nm,19.2s,MS3.5
STHS Stebnicka Huta 39.80 305 *e*P **P 14 57 54.2 +1.0**
STHS pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
STHS Stebnicka Huta 39.80 305 *e*P **P 14 57 54.2 +1.0**
comp=Z,2.3nm,0.6s,mb4.1
KECS Kecovo 40.37 304 *e*P **P 14 57 58.0 +0.1**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KECS Kecovo 40.37 304 *e*P **P 14 57 58.0 +0.1**
comp=Z,1.6nm,0.7s,mb3.9
OJC Ojcow 40.69 306 *e*P **P 14 58 00.8 +0.2**
KEV Kevo 41.05 337 *e*p **P 14 58 02.5 -1.0**
comp=Z,4.7nm,0.6s,mb4.3
KEV Kevo 41.05 337 *e*P **P 14 58 02.5 -1.0**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
PSI Prapat 41.05 141 P **P 14 58 05.9 +2.3**
comp=Z,1.6nm,0.4s,mb4.0,baz=322,slow=19,SNR=2.3
ARCES ARCESS Array B 41.42 336 P **P 14 58 06.5 -0.1**
comp=Z,14nm,0.7s,mb4.7,baz=112,slow=8.9,SNR=56
ARCES LR LR 15 15 04.7
comp=Z,52nm,18.0s,MS3.5,baz=189,slow=36
ARE0 ARCESS Array S 41.42 336 *e*P **P 14 58 06.1 -0.5**
VYHS Vyhne 41.46 304 *e*P **P 14 58 08.5 +1.6**
VYHS Vyhne 41.46 304 *e*P **P 14 58 08.6 +1.7**
YAK Yakutsk 41.49 36⇑ *e*P **P 14 58 07.0 -0.1**
YAK pmax pmax
comp=Z,13nm,0.7s,mb4.7
YAK MLR MLR
comp=Z,300nm,19.0s,MS4.2
YAK Yakutsk 41.49 36 *e*P **P 14 58 06.2 -0.9**
comp=Z,14nm,0.8s,mb4.7
MORC Moravsky Berou 42.18 306 *e*P **P 14 58 12.5 -0.3**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
MORC Moravsky Berou 42.18 306 *e*P **P 14 58 12.5 -0.2**
comp=Z,5.0nm,1.0s,mb4.1
KLR Kul'dur 42.20 55 *e*P **P 14 58 10.8 -2.2**
BRG Berggiesshubel 44.36 308 *e*P **P 14 58 27.7 -2.6**
comp=Z,2.4nm,0.7s,mb4.0
BRG *e* 14 58 30.8
comp=Z,3.9nm,1.0s
BRG Berggiesshubel 44.36 308 *e*P **P 14 58 27.7 -2.6**
BRG *e* 14 58 30.8
BRG pmax pmax
comp=Z,17nm,0.7s,mb4.9
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
GERES GERESS Array B 44.79 305 P **P 14 58 33.7 0.0**
comp=Z,0.3nm,0.4s,mb3.5,baz=63,slow=9.1,SNR=5.0
KHC Kasparske Hory 44.83 305⇑ *e*P **P 14 58 34.7 +0.6**
CLL Collm 44.89 308⇑ *i*P **P 14 58 34.6 0.0**
NB2 NORSAR Subarra 45.41 322 P **P 14 58 37.6 -1.1**
comp=Z,2.4nm,0.5s,mb4.3,baz=91,slow=7.9
NOA NORSAR Array B 45.41 322 P **P 14 58 38.0 -0.7**
comp=Z,3.7nm,0.6s,mb4.4,baz=92,slow=7.7,SNR=9.6
NOA LR LR 15 20 29.8
comp=Z,37nm,18.2s,MS3.4,baz=85,slow=40
NAO01 NORSAR Array S 45.57 322 P **P 14 58 35.5 -4.5**
comp=Z,5.0nm,0.8s,mb4.5
GRA1 Grafenberg Arr 46.25 306 *e*P **P 14 58 46.3 +1.0**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 46.25 306 *e*P **P 14 58 46.3 +1.0**
comp=Z,6.0nm,0.9s,mb4.5
GRF Grafenberg Arr 46.25 306 *e*P **P 14 58 46.3 +1.0**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRF Grafenberg Arr 46.25 306 *e*P **P 14 58 46.3 +1.0**
GRF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HINF Hinteralfeld 49.47 305 *e*P **P 14 59 09.5 -0.7**
YSS Yuzh-Sakhalins 49.87 56⇑ *e*P **P 14 59 14.0 +0.8**
YSS pmax pmax
comp=Z,18nm,1.5s,mb4.9
YSS MLR MLR
comp=Z,100nm,21.0s,MS3.8
YSS Yuzh-Sakhalins 49.87 56 P **P 14 59 13.5 +0.3**
comp=Z,21nm,1.1s,mb5.1
MAJO Matsushiro 49.87 71 *e*P **P 14 59 12.8 -0.4**
MAJO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MAJO Matsushiro 49.87 71 *e*P **P 14 59 12.8 -0.5**
comp=Z,10nm,0.8s,mb4.9
MAT Matsushiro 49.87 71 P **P 14 59 13.4 +0.2**
MJAR Matsushiro Arr 49.87 71 P **P 14 59 13.9 +0.7**
comp=Z,6.8nm,0.8s,mb4.7,baz=291,slow=9.5,SNR=21
MJAR LR LR 15 22 17.5
comp=Z,41nm,19.3s,MS3.4,baz=255,slow=38
SBF Sospel 50.15 300 *e*P **P 14 59 15.4 +0.1**
LPG La Plagne 50.15 302 *e*P **P 14 59 16.3 +1.0**
comp=Z,20nm,0.9s,mb4.9
LPG La Plagne 50.15 302 *e*P **P 14 59 16.3 +1.0**
LPG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LPG La Plagne 50.15 302 *e*P **P 14 59 16.3 +1.0**
comp=Z,10nm,0.9s,mb4.8
LPL La Plagne 50.15 302 *e*P **P 14 59 15.7 +0.3**
comp=Z,13nm,0.6s,mb4.8
LPL La Plagne 50.15 302 *e*P **P 14 59 15.7 +0.3**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
LPL La Plagne 50.15 302 *e*P **P 14 59 15.7 +0.3**
comp=Z,6.4nm,0.6s,mb4.8
CABF La Chapelle 50.29 303 *e*P **P 14 59 16.3 -0.1**
MBDF Montbardon 50.35 301 *e*P **P 14 59 16.9 0.0**
comp=Z,6.4nm,0.6s,mb4.5
MBDF Montbardon 50.35 301 *e*P **P 14 59 16.9 0.0**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MBDF Montbardon 50.35 301 *e*P **P 14 59 16.9 0.0**
comp=Z,3.2nm,0.6s,mb4.5
FRF La Foret Royal 50.78 300 *e*P **P 14 59 20.3 +0.2**
comp=Z,14nm,0.9s,mb4.6
FRF La Foret Royal 50.78 300 *e*P **P 14 59 20.3 +0.2**
FRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
FRF La Foret Royal 50.78 300 *e*P **P 14 59 20.3 +0.2**
comp=Z,6.9nm,0.9s,mb4.6
ORIF Oris-en-Rattie 50.90 301 *e*P **P 14 59 21.1 +0.1**
comp=Z,5.3nm,0.6s,mb4.3
ORIF Oris-en-Rattie 50.90 301 *e*P **P 14 59 21.1 +0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ORIF Oris-en-Rattie 50.90 301 *e*P **P 14 59 21.1 +0.1**
comp=Z,2.7nm,0.6s,mb4.3
SMRF Simiane la Rot 51.39 300 *e*P **P 14 59 24.7 0.0**
comp=Z,4.2nm,0.6s,mb4.2
SMRF Simiane la Rot 51.39 300 *e*P **P 14 59 24.7 0.0**
comp=Z,4.2nm,0.6s,mb4.5
KMBO Kilima Mbogo 51.67 231 P **P 14 59 28.0 +1.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=40,slow=14,SNR=4.3
VIVF Saint-Julien-l 51.74 302 *e*P **P 14 59 27.1 -0.2**
comp=Z,3.5nm,0.6s,mb4.2
VIVF Saint-Julien-l 51.74 302 *e*P **P 14 59 27.1 -0.2**
VIVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VIVF Saint-Julien-l 51.74 302 *e*P **P 14 59 27.1 -0.2**
comp=Z,1.8nm,0.6s,mb4.2
AVF Avril sur Loir 52.04 304 *e*P **P 14 59 28.7 -0.9**
comp=Z,12nm,0.8s,mb4.6
AVF Avril sur Loir 52.04 304 *e*P **P 14 59 28.7 -0.9**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 52.04 304 *e*P **P 14 59 28.7 -0.9**
comp=Z,6.2nm,0.8s,mb4.6
TCF Toulx Ste Croi 52.95 304 *e*P **P 14 59 36.2 0.0**
comp=Z,13nm,0.9s,mb4.5
TCF Toulx Ste Croi 52.95 304 *e*P **P 14 59 36.2 0.0**
TCF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 52.95 304 *e*P **P 14 59 36.2 0.0**
comp=Z,6.5nm,0.9s,mb4.6
LDF La Druitiere 53.74 307 *e*P **P 14 59 41.8 -0.3**
comp=Z,8.4nm,0.6s,mb4.5
LDF La Druitiere 53.74 307 *e*P **P 14 59 41.8 -0.3**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LDF La Druitiere 53.74 307 *e*P **P 14 59 41.8 -0.3**
comp=Z,4.2nm,0.6s,mb4.5
GRR Gorron 54.27 307 *e*P **P 14 59 45.0 -1.0**
QUIF Quistinic 55.89 307 *e*P **P 14 59 56.5 -1.1**
BILL Bilibino 56.45 27 *e*P **P 14 59 58.4 -3.2**
BILL pmax pmax
comp=Z,19nm,1.7s,mb4.8
ESDC Sonseca Array 59.60 299 P **P 15 00 23.2 -0.5**
comp=Z,0.9nm,0.6s,mb4.0,baz=88,slow=7.8,SNR=4.8
ESLA Sonseca Array 59.60 299 P **P 15 00 22.9 -0.7**
SUMG Summit 61.11 342 *e*P **P 15 00 24.1 -10**
comp=Z,36nm,0.8s,mb5.5
TOA0 Torodi Ar. Sit 68.66 270 *e*P **P 15 01 22.2 -0.8**
TORD Torodi Ar. Bea 68.66 270 P **P 15 01 22.1 -0.9**
comp=Z,3.5nm,0.6s,mb4.5,baz=46,slow=5.9,SNR=20
INK Inuvik 72.47 11 *e*P **P 15 01 45.5 -0.7**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 72.47 11 *e*P **P 15 01 45.5 -0.7**
comp=Z,7.6nm,1.1s,mb4.5
COLA College 72.72 18 *e*P **P 15 01 46.2 -1.5**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 72.72 18 *e*P **P 15 01 46.2 -1.5**
comp=Z,8.5nm,0.8s,mb4.7
FITZ Fitzroy Crossi 73.16 129 *e*P **P 15 01 51.5 +1.2**
comp=Z,4.5nm,1.0s,mb4.3
DAWY Dawson 75.29 15 *e*P **P 15 02 02.3 -0.4**
DBIC Dimbokro 77.67 269 P **P 15 02 15.0 -1.2**
comp=Z,3.1nm,0.6s,mb4.4,baz=12,slow=6.3,SNR=6.3
DBIC LR LR 15 40 13.1
comp=Z,39nm,18.3s,MS3.8,baz=285,slow=39
DBIC Dimbokro 77.67 269 *e*P **P 15 02 15.7 -0.4**
WRA Warramunga Arr 80.05 124 P **P 15 02 29.6 +0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=328,slow=5.2,SNR=14
WRA Warramunga Arr 80.05 124 *i*P **P 15 02 30.5 +1.3**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 80.05 124 *e*P **P 15 02 28.8 -0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WRAB Tennant Creek 80.05 124 *e*P **P 15 02 28.8 -0.4**
comp=Z,9.2nm,0.9s,mb4.7
YKA Yellowknife Ar 80.12 4 P **P 15 02 29.2 -0.3**
comp=Z,3.7nm,0.7s,mb4.4,baz=344,slow=5.7,SNR=5.4
YKA LR LR 15 41 41.9
comp=Z,32nm,18.4s,MS3.7,baz=140,slow=38
BOSA Boshof 80.40 223 P **P 15 02 32.1 +1.0**
comp=Z,3.7nm,0.8s,mb4.4,baz=2.2,slow=7.3,SNR=6.8
ASAR Alice Springs 82.44 127 P **P 15 02 42.5 +0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=310,slow=5.1,SNR=12
FFC Flin Flon 88.15 358 *e*P **P 15 03 10.1 -0.2**
FFC pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
FFC Flin Flon 88.15 358 *e*P **P 15 03 10.1 -0.3**
comp=Z,4.9nm,1.0s,mb4.7
CTAO Charters Tower 88.31 117 *e*P **P 15 03 11.6 +0.5**
CTAO pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
CTAO Charters Tower 88.31 117 *e*P **P 15 03 11.6 +0.5**
comp=Z,9.2nm,1.2s,mb4.9
JCT Junction City 112.23 355 *e*P Pdif 15 04 58.0 -1.0
TRQA Tornquist 145.95 255 *e*PKPbc PKPbc 15 09 59.6 +0.7
PLCA Paso Flores 152.91 252 PKPbc PKPbc 15 10 17.4 +1.0
comp=Z,2.6nm,1.0s,baz=40,slow=1.5,SNR=3.6
PLCA Paso Flores 152.91 252 PKPbc PKPbc 15 10 17.4 +0.9

GUC 08 15:15:31.2±0.3, 3319S×7028W, h7km±1km, MD3.5, ML1.7, 2C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.13**	**182**⇑	*i*P	Pg	15 15 34.6	+0.6
FCH				*i* S	Sg	15 15 37.3	+1.4
FCH				AML	AML	15 15 37.6	
	comp=E,401nm,0.3s						
PEL	**Peldehue**	**0.34**	**278**⇓	*i*P	Pg	15 15 37.8	0.0
PEL				*i* S	Sg	15 15 43.0	+0.7
PEL				AML	AML	15 15 44.5	
	comp=E,111nm,0.4s						
RCDM	**Rinconada Maip**	**0.53**	**236**	*e*P	Pg	15 15 41.5	+0.1
RCDM				*i* S	Sg	15 15 49.3	+1.1
RCDM				AML	AML	15 15 52.6	
	comp=E,71nm,1.0s						
LMEL	**Las Melosas**	**0.66**	**174**	*e*P	Pg	15 15 43.8	0.0
LMEL				*i* S	Sg	15 15 53.3	+1.0
LMEL				AML	AML	15 15 55.9	
	comp=N,79nm,0.2s						
CHCH	**Chadas Angostu**	**0.80**	**203**⇑	*i*P	Pg	15 15 46.1	-0.4
CHCH				*i* S	Sg	15 15 57.3	+0.4
CACH	**El Canelo**	**0.96**	**196**⇓	*i*P	Pg	15 15 49.8	+0.2
CACH				*i* S	Sg	15 16 03.7	+1.7
CICH	**Cipreses**	**1.13**	**186**	*e*P	Pg	15 15 52.2	-0.7
LNV	**Longovilo**	**1.21**	**231**⇓	*i*P	Pg	15 15 53.5	-0.9
LNV				*i* S	Sg	15 16 10.0	-0.1

*NEIC **08** 15:27:53.5, 3846N×2557E, h63km, MG3.4(ATH), After ATH.*
*ISK **08** 15:27:53.0, 3841N×2527E, h29km, MD3.3*
*ATH **08** 15:27:53.5, 3846N×2557E, h63km±11km, ML3.4*
*ISCJB **08** 15:27:54.2±0.6, 3846N±002×2543E±003, h20km±6km, Error ellipse: s-maj=4.0km s-min=3.8km az=26.1*
*CSEM **08** 15:27:54.4±0.1, 3845N×2547E, h25km, ML3.7, Error ellipse: s-maj=2.1km s-min=1.7km az=159.0*
*THE **08** 15:27:55.2, 3848N×2555E, h19km, ML3.7*
ISC 08 15:27:53.4±0.6, 3847N±002×2544E±003, h8km±4km, n46, σ0s88/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOS	**Chios island**	**0.49**	**100**	*e*Pg	**Pg**	**15 28 03.8**	**+0.8**
CHOS				*e*Sg	**Sg**	**15 28 10.2**	**+0.7**
URLA	**Izmir**	**0.92**	**97**	*i* P	**Pg**	**15 28 11.4**	**+0.4**
URLA				*i* S	**Sg**	**15 28 23.1**	**+0.2**
URLA	**Izmir**	**0.92**	**97**	*i* P	**Pg**	**15 28 11.4**	**+0.4**
URLA				*i* S	**Sg**	**15 28 23.1**	**+0.1**
PRK	**Paraskevi**	**1.01**	**40**	*e*P	**Pg**	**15 28 12.2**	**-0.6**
BLCB	**Balcova**	**1.27**	**93**	PN	**Pn**	**15 28 16.4**	**-1.0**
BLCB				SN	**Sn**	**15 28 33.7**	**-0.8**
AYVA	**Ayvalik**	**1.29**	**49**	*i* P	**Pn**	**15 28 16.2**	**-1.5**
AYVA				*i* S	**Sb**	**15 28 35.2**	**+0.6**
PTL	**Penteli**	**1.31**	**252**	*e*P	**Pn**	**15 28 17.8**	**-0.1**
SMG	**Samos**	**1.34**	**124**	*e*P	**Pn**	**15 28 15.5**	**-3.0**
APE	**Apeiranthos**	**1.40**	**177**	*e*Pg	**Pn**	**15 28 18.5**	**-0.8**
APE				*e*Sg	**Sg**	**15 28 38.0**	**-0.6**
APE	**Apeiranthos**	**1.40**	**177**	*e*P	**Pn**	**15 28 18.0**	**-1.3**
APE	**Apeiranthos**	**1.40**	**177**	*e*Pg	**Pn**	**15 28 18.5**	**-0.8**
APE				*e*Sg	**Sg**	**15 28 38.0**	**-0.5**
IZM	**Izmir**	**1.44**	**92**	PN	**Pn**	**15 28 19.2**	**-0.5**
IZM				SN	**Sn**	**15 28 39.9**	**+1.1**
KDAG	**Bornova**	**1.44**	**92**	*i* P	**Pn**	**15 28 19.2**	**-0.6**
KDAG				*i* S	**Sn**	**15 28 39.1**	**+0.2**
ATH	**Athens Observa**	**1.44**	**250**	*e*P	**Pn**	**15 28 20.0**	**+0.2**
LOS	**Limnos**	**1.48**	**349**	*e*Pg	**Pg**	**15 28 20.3**	**-1.6**
EZN	**Ezine**	**1.52**	**27**	PN	**Pn**	**15 28 19.8**	**-1.0**
EZN				SN	**Sn**	**15 28 40.8**	**0.0**
NAIG	**Nisos Aigina**	**1.69**	**246**	*e*P	**Pn**	**15 28 24.0**	**+0.7**
GADA	**Gvkgeada**	**1.75**	**12**	PN	**Pn**	**15 28 23.2**	**-0.9**
GADA				SN	**Sn**	**15 28 45.5**	**-1.1**
MGER	**Gerania Oros**	**1.78**	**255**	*e*P	**Pn**	**15 28 24.5**	**0.0**
AKHS	**Akhisar**	**1.91**	**77**	*i* P	**Pg**	**15 28 29.8**	**-0.1**
AKHS				*i* S	**Sg**	**15 28 54.4**	**-0.3**
NEO	**Neokhori**	**1.92**	**296**	*e*P	**Pn**	**15 28 26.5**	**+0.2**
XOR	**Xorichti**	**1.96**	**298**	*e*Pn	**Pn**	**15 28 27.3**	**+0.3**
PAIG	**Paliouri**	**1.99**	**317**	*e*Pn	**Pn**	**15 28 28.2**	**+0.9**
CANB	**Canakkale**	**1.99**	**39**	*e*PN	**Pn**	**15 28 28.3**	**+0.9**
CANB				*e*SN	**Sn**	**15 28 52.4**	**-0.1**
BODT	**Bodrum**	**2.05**	**133**	*e*PN	**Pn**	**15 28 27.2**	**-0.9**
AYDN	**Tasoluk**	**2.09**	**112**	*i* P	**Pg**	**15 28 33.0**	**-0.5**
AYDN				*i* S	**Sg**	**15 29 02.4**	**+1.7**
SANT	**Santorini**	**2.10**	**179**	*e*Pn	**Pn**	**15 28 27.9**	**-0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**2.12**	**131**	*i* P	**Pn**	**15 28 31.1**	**+1.9**
BDRM				*i* S	**Sn**	**15 28 55.8**	**0.0**
OUR	**Ouranopolis**	**2.17**	**329**	*e*Pn	**Pn**	**15 28 30.1**	**+0.2**
ENEZ	**Enez**	**2.33**	**14**	*e*PN	**Pn**	**15 28 32.0**	**0.0**
DAT	**Datca**	**2.44**	**135**	*e*PN	**Pn**	**15 28 32.4**	**-1.1**
ALN	**Alexandroupoli**	**2.47**	**11**	*e*Pn	**Pn**	**15 28 33.1**	**-0.8**
AGG	**Agios Georgios**	**2.49**	**284**	*e*Pn	**Pn**	**15 28 35.8**	**+1.6**
SART	**Tekirdag**	**2.59**	**31**	*i* P	**Pb**	**15 28 40.9**	**+0.8**
SART				*i* S	**Sg**	**15 29 15.4**	**-1.2**
YER	**Yerkesik**	**2.62**	**120**	*e*PN	**Pn**	**15 28 36.5**	**+0.5**
VLI	**Veliai**	**2.65**	**229**	*e*P	**Pn**	**15 28 36.0**	**-0.4**
RDO	**Rodhopi**	**2.67**	**2**	*e*P	**Pn**	**15 28 36.0**	**-0.7**
MRMT	**Marmara Adasi**	**2.71**	**37**	*e*PN	**Pn**	**15 28 38.3**	**+1.1**
MFT	**Murefte**	**2.71**	**31**	*e*PN	**Pn**	**15 28 38.3**	**+1.0**
HORT	**Hortiatis**	**2.79**	**320**	*e*Pn	**Pn**	**15 28 39.2**	**+1.0**
LIT	**Litokhoron**	**2.80**	**306**	*e*Pn	**Pn**	**15 28 39.5**	**+0.9**
KARP	**Karpathos**	**3.23**	**154**	*e*P	**Pn**	**15 28 43.2**	**-1.2**
ULDT	**Uludag**	**3.32**	**59**	*e*P	**Pb**	**15 28 52.9**	**+0.3**
FETY	**Fethiye**	**3.43**	**121**	*e*PN	**Pn**	**15 28 47.8**	**+0.6**
EDRB	**Edirne**	**3.52**	**16**	*e*PN	**Pn**	**15 28 49.1**	**+0.8**
YLV	**Yalova**	**3.69**	**54**	*e*PN	**Pn**	**15 28 52.0**	**+1.2**

ISC 08 15:39:24.4±0.8**, 4828N**±004×**2293E**±008**, h10^{km}, n11, σ1^{s}24**/16**, 1C-2D, Ukraine - Moldova - Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOLS	**Kolonicke sedl**	**0.78**	**326**	*e*PG	**Pg**	**15 39 38.4**	**-1.1**
KOLS				*e*SG	**Sg**	**15 39 50.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**1.15**	**303**	*e*PN	**Pn**	**15 39 45.2**	**-1.4**
CRVS				*e*		15 40 02.5	
CRVS				*e*		16 18 01.2	
DRGR		**1.50**	**186**	⇓*i*P	**Pn**	**15 39 52.1**	**+0.7**
DRGR		**1.50**	**186**	S	**Sn**	**15 40 14.4**	**+3.4**
STHS	**Stebnicka Huta**	**1.59**	**316**	*e*PN	**Pn**	**15 39 51.4**	**-1.2**
STHS				*e*SN	**Sn**	**15 40 15.3**	**+2.2**
KECS	**Kecovo**	**1.64**	**278**	*e*PN	**Pn**	**15 39 52.4**	**-0.9**
KECS				*e*SN	**Sn**	**15 40 17.5**	**+3.1**
BURAR	**Bucovina Array**	**1.68**	**113**	⇑*i*P	**Pn**	**15 39 54.2**	**+0.4**
VYHS	**Vyhne**	**2.73**	**276**	*e*PN	**Pn**	**15 40 07.6**	**-0.7**
VYHS				*e*PG	**Sn**	**15 40 41.6**	**+0.2**
VYHS				*e*SG	**Sg**	**15 40 51.4**	**-0.8**
BZS	**Buzias**	**2.82**	**199**	⇓*i*P	**Pn**	**15 40 14.1**	**+4.7**
BZS	**Buzias**	**2.82**	**199**	S	**Sg**	**15 40 55.4**	**+0.5**
GZR	**Gura Zlata**	**2.89**	**182**	S	**Sg**	**15 40 56.4**	**-1.0**

IDC 08 16:08:40.5±3.1**, 1227N**×**14381E, h0^{km}, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.6**/18**, mbtmp3.7**/3**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/31**, Error ellipse: s-maj=199.5km s-min=18.5km az=120.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.67**	**38**	Pn	Pn	16 09 11.4	+0.3
	57nm,0.3s,baz=199,slow=6.0,SNR=98						
GUMO				Sn	Sn	16 09 32.9	-0.3
	67nm,0.3s,baz=18,slow=22,SNR=10						
PMG	**Port Moresby**	**21.79**	**171**	LR	LR	16 20 29.0	
	comp=Z,58nm,18.0s,baz=58,slow=32						
WRA	**Warramunga Arr**	**33.34**	**196**	P	P	16 15 19.3	-0.8
	0.9nm,0.6s,baz=19,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**37.00**	**195**	P	P	16 15 52.9	+1.2
	0.2nm,0.5s,baz=21,slow=12,SNR=6.5						
NVAR	**Mina Array Bea**	**88.55**	**51**	P	P	16 21 36.0	+0.9
	0.6nm,0.6s,baz=256,slow=7.1,SNR=4.3						

*PRU **08** 16:17:25.5, 5027N×1885E, h0^{km}*

WAR 08 16:17:25.5, 5024N×1896E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**92**	*i* Pgd	Pg	16 17 35.6	-0.3
OJC				*i* Sg	Sg	16 17 43.5	+0.6
OKC	**Ostrava-Krasne**	**0.66**	**232**	*e*PG	Pg	16 17 37.2	-1.0
OKC				*e*SG	Sg	16 17 46.7	-0.1
	41nm,1.1s						
NIE	**Niedzica**	**1.21**	**133**	*e*Pg	Pg	16 17 48.4	-0.2
NIE				*e*Sg	Sg	16 18 06.1	+1.8
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	Pg	16 17 54.3	-3.6
DPC				*e*SG	Sg	16 18 16.2	-3.7
	20nm,0.5s						
STHS	**Stebnicka Huta**	**1.70**	**118**	*e*PN	Pn	16 17 57.2	+0.8
STHS				*e*SN	Sn	16 18 22.0	+3.2
VYHS	**Vyhne**	**1.75**	**183**	*e*PN	Pn	16 17 55.4	-1.7
VYHS				*e*SN	Sn	16 18 18.3	-1.9
KSP	**Ksiaz**	**1.80**	**290**	*e*Pg	Pg	16 17 58.3	-1.7
KSP				*e*Sg	Sg	16 18 22.3	-1.1
UPC	**Upice**	**1.90**	**279**	*e*SG	Sg	16 18 24.4	-2.3
KECS	**Kecovo**	**2.03**	**150**	*e*	Pn	16 17 59.3	-1.6
KECS	**Kecovo**	**2.03**	**150**	*e*PG	Pg	16 18 02.6	-1.7
KECS				*e*SN	Sn	16 18 28.9	+2.0
CRVS	**Cervenica-Dubn**	**2.11**	**129**	*e*PG	Pg	16 18 04.1	-1.9
KWP	**Kalwaria**	**2.50**	**103**	*e*Pn	Pn	16 18 14.0	+6.6
KOLS	**Kolonicke sedl**	**2.53**	**120**	*e*PG	Pg	16 18 14.8	+0.9
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	Sg	16 18 53.4	-3.8
	3.8nm,0.5s						
BRG	**Berggiesshubel**	**3.26**	**283**	SG	Sg	16 19 07.0	-3.2
	1.9nm,0.4s						
KHC	**Kasperske Hory**	**3.67**	**254**	*e*SG	Sg	16 19 20.3	-3.0
	6.3nm,0.6s						

*IDC **08** 16:20:35.7±3.3, 699S×12993E, h82^{km}±30^{km}, mb4.2/11, mb1 4.3/14, mb1mx4.2/18, mbtmp4.5/14, Error ellipse: s-maj=32.9km s-min=12.8km az=73.0*
*NEIC **08** 16:20:37.1±1.2, 705S×12975E, h95^{km}±12^{km}, mb4.4/13, Error ellipse: s-maj=13.2km s-min=7.8km az=67.0*
*BJI **08** 16:20:37.0, 7.10S×12970E, h94^{km}, mB5.0, mb4.7*
*ISCJB **08** 16:20:38.1±1.3, 721S±005×12973E±008, h120^{km}±14^{km}, mb4.4/26, Error ellipse: s-maj=14.4km s-min=7.7km az=144.4*

ISC 08 16:20:38.0±1.2**, 714S**±006×**12974E**±009**, h100**^{km}±13^{km}**, n55, σ1^{s}29**/61**, mb4.4**/25**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.14**	**155**	*e*P	**Pn**	**16 22 08.3**	**+2.2**
	177nm,0.6s						
KAKA				*e*S	**Sn**	**16 23 13.8**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.61**	**200**	*e*P	**Pn**	**16 23 19.8**	**-0.5**
	24nm,0.2s						
FITZ				*e*S	**Sn**	**16 25 20.7**	**-7.2**
FITZ	**Fitzroy Crossi**	**11.61**	**200**	P	**Pn**	**16 23 19.7**	**-0.7**
	0.4nm,0.3s,baz=20,slow=14,SNR=11						
FITZ				S	**Sn**	**16 25 20.9**	**-6.9**
	6.2nm,0.3s,baz=179,slow=21,SNR=7.3						
WRAB	**Tennant Creek**	**13.48**	**161**	*e*Pn	**Pn**	**16 23 43.9**	**-1.2**
	16nm,0.6s						
WRAB				*e*Sn	**Sn**	**16 26 01.1**	**-12**
WRA	**Warramunga Arr**	**13.49**	**161**	P	**Pn**	**16 23 43.1**	**-2.1**
	1.1nm,0.3s,baz=349,slow=12,SNR=72						
WRA				S	**Sn**	**16 26 02.8**	**-11**
	12nm,0.3s,baz=332,slow=22,SNR=19						
WB2	**Warramunga Arr**	**13.49**	**161**	*e*P	**Pn**	**16 23 44.6**	**-0.6**
WB2				*e*S	**Sn**	**16 25 56.5**	**-17**
WB2	**Warramunga Arr**	**13.49**	**161**	*e*Pn	**Pn**	**16 23 44.5**	**-0.7**
WB2				*e*Sn	**Sn**	**16 26 03.1**	**-10**
AS31	**Alice Springs**	**16.91**	**167**	*e*Pn	**Pn**	**16 24 29.1**	**+0.6**
AS31				*e*Sn	**Sn**	**16 27 28.4**	**-7.8**
ASAR	**Alice Springs**	**16.91**	**167**	P	**Pn**	**16 24 29.8**	**+1.4**
	1.2nm,0.3s,baz=334,slow=9.3,SNR=69						
ASAR				S	**S**	**16 27 24.1**	**-16**
	1.1nm,0.3s,baz=344,slow=20,SNR=6.7						
ASPA	**Alice Springs**	**16.91**	**167**	*e*P	**Pn**	**16 24 29.1**	**+0.7**
ASPA				*e*S	**S**	**16 27 25.1**	**-15**
MBWA	**Marble Bar**	**16.97**	**214**	*e*Pn	**Pn**	**16 24 30.2**	**+1.1**
	17nm,0.7s						
MBWA				*e*Sn	**Sn**	**16 27 26.4**	**-11**
PMG	**Port Moresby**	**17.39**	**99**	*e*Pn	**Pn**	**16 24 35.8**	**+1.6**
	16nm,0.8s						
KKM	**Kota Kinabalu**	**18.80**	**314**	*e*Pn	**Pn**	**16 24 50.6**	**-0.6**
KSM	**Kuching**	**21.19**	**293**	*e*P	**P**	**16 25 14.3**	**-1.1**
TGY	**Tagaytay City**	**22.84**	**338**	P	**P**	**16 25 32.8**	**+0.1**
	63nm,0.3s,baz=141,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**26.98**	**157**	*e*P	**P**	**16 26 11.5**	**+1.2**
	3.6nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**26.98**	**157**	P	**P**	**16 26 11.6**	**+1.3**
	3.6nm,0.4s,mb4.3,baz=318,slow=7.5,SNR=14						
STKA	**Stephens Creek**	**26.98**	**157**	*e*P	**P**	**16 26 11.3**	**+1.0**
PSI	**Prapat**	**32.30**	**287**	P	**P**	**16 26 59.5**	**+2.2**
	7.9nm,0.8s,mb4.5,baz=204,slow=5.1,SNR=6.2						
PSI	**Prapat**	**32.30**	**287**	P	**P**	**16 26 59.5**	**+2.2**
QIZ	**Qiongzhong**	**32.57**	**323**	P	**P**	**16 27 01.1**	**+1.4**
NJ2	**Nanjing**	**40.33**	**346**	*e*P	**P**	**16 28 06.5**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
KMI	**Kunming**	**41.46**	**322**	P	**P**	**16 28 18.1**	**+3.2**
KMI				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**44.17**	**10**	P	**P**	**16 28 34.5**	**-2.3**
	comp=Z,3.0nm,0.9s,mb4.0,baz=189,slow=8.4,SNR=9.0						
MAJO	**Matsushiro**	**44.17**	**10**	*e*P	**P**	**16 28 34.4**	**-2.4**
	comp=Z,4.4nm,0.8s,mb4.2						
CD2	**Chengdu**	**45.28**	**328**	*e*P	**P**	**16 28 45.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**48.57**	**346**	P	**P**	**16 29 10.1**	**-1.1**
	comp=Z,18nm,1.3s,mb4.8						
LZH	**Lanzhou**	**49.41**	**332**	*e*P	**P**	**16 29 18.6**	**+1.1**
LZH				AP	pP	16 29 41.9	+0.6
LZH				XP	sP	16 29 53.3	+0.8
LZH				PP	PP	16 31 15.3	+2.9
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.59**	**342**	*e*P	**P**	**16 29 29.0**	**+2.5**
HHC				AP	pP	16 29 49.9	-0.5
HHC				XP	sP	16 30 01.0	-0.5
HHC				PCP	PcP	16 30 45.0	+2.2
HHC				PP	PP	16 31 27.3	+4.1
HHC				SCP	ScP	16 34 31.2	+1.5
HHC				PCS	PcS	16 34 41.2	+0.9
HHC				S	**S**	**16 36 36.3**	**+2.8**
HHC				XS	sS	16 37 13.0	-1.4
HHC				SCS	ScS	16 39 06.5	-1.1
HHC				SS	SS	16 40 08.2	-0.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,50nm,5.2s						
HHC				LR	LR		
	comp=N,72nm,5.5s						
HHC				LR	LR		
	comp=E,102nm,3.9s						
HHC				LR	LR		
	comp=Z,117nm,5.1s						
CN2	**Changchun**	**50.85**	**356**	*e*P	**P**	**16 29 30.0**	**+1.6**
MDJ	**Mudanjiang**	**51.52**	**360**	P	**P**	**16 29 34.4**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,10.0nm,20.5s						
MDJ				LR	LR		
	comp=N,14nm,28.7s						
MDJ				LR	LR		
	comp=E,19nm,24.1s						
MDJ				LR	LR		
	comp=Z,17nm,21.8s						
ULN	**Ulaanbaatar**	**58.31**	**342**	*e*P	**P**	**16 30 22.2**	**-0.2**
	comp=Z,5.4nm,0.7s,mb4.7						
SONM	**Songino Array**	**58.49**	**342**	P	**P**	**16 30 23.3**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.3,baz=153,slow=6.5,SNR=14						
WMQ	**Urumqi**	**63.37**	**327**	P	**P**	**16 30 57.8**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,108nm,5.9s						
WMQ				LR	LR		
	comp=Z,138nm,20.2s						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**16 31 27.9**	**+0.2**
	comp=Z,7.3nm,0.5s,mb4.8,baz=119,slow=8.2,SNR=66						
ZAL	**Zalesovo**	**71.59**	**334**	P	**P**	**16 31 46.9**	**-1.5**
	comp=Z,2.3nm,0.6s,mb4.2,baz=345,slow=6.0,SNR=12						
ZAL	**Zalesovo**	**71.59**	**334**	P	**P**	**16 31 46.9**	**-1.5**
VNDA	**Vanda**	**72.34**	**173**	P	**P**	**16 31 51.6**	**-1.3**
	comp=Z,0.8nm,0.8s,mb3.6,baz=328,slow=4.2,SNR=6.0						
VNDA	**Vanda**	**72.34**	**173**	*e*P	**P**	**16 31 52.9**	**0.0**
	comp=Z,1.4nm,1.0s,mb3.8						
MAW	**Mawson**	**74.73**	**201**	P	**P**	**16 32 07.6**	**+0.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=88,slow=7.2,SNR=7.2						
MAW	**Mawson**	**74.73**	**201**	*e*P	**P**	**16 32 07.5**	**+0.6**
	comp=Z,6.5nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**78.04**	**328**	P	**P**	**16 32 25.0**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.2,baz=136,slow=5.1,SNR=21						
CHKZ	**Chkalovo**	**78.24**	**329**	*e*P	**P**	**16 32 25.2**	**-1.5**
	comp=Z,6.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**78.74**	**327**	*e*P	**P**	**16 32 28.2**	**-1.2**
	comp=Z,6.9nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**82.84**	**180**	*e*P	**P**	**16 32 51.3**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.1						
AKTK	**Aktyubinsk**	**84.02**	**322**	P	**P**	**16 32 56.1**	**-1.2**
AKTO	**Aktyubinsk**	**84.02**	**322**	P	**P**	**16 32 56.1**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.0,baz=116,slow=6.8,SNR=12						
ARU	**Arti**	**85.69**	**328**	*e*P	**P**	**16 33 03.4**	**-2.2**
	comp=Z,3.4nm,0.8s,mb4.3						
SNAA	**Sanae**	**95.47**	**194**	P	**P**	**16 33 51.8**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.5						
LBTB	**Lobatse**	**99.67**	**243**	*e*P	Pdif	16 34 11.6	+1.2
	comp=Z,6.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**128.58**	**281**	PKP	PKPdf	16 39 33.4	+0.1
	comp=Z,0.6nm,0.5s,baz=69,slow=2.7,SNR=10						
CPUP	**Villa Florida**	**146.03**	**169**	PKPbc	PKPbc	16 40 07.5	+1.3
	comp=Z,6.4nm,0.7s,baz=156,slow=1.4,SNR=13						
CPUP	**Villa Florida**	**146.03**	**169**	PKPbc	PKPbc	16 40 07.5	+1.3
LPAZ	**La Paz**	**150.77**	**143**	PKPbc	PKPbc	16 40 20.7	+2.1
	comp=Z,3.0nm,0.4s,baz=43,slow=2.5,SNR=28						
LPAZ	**La Paz**	**150.77**	**143**	*e*PKPbc	PKPbc	16 40 21.1	+2.5

*CSEM **08** 16:38:12.3±0.1, 3948N×4420E, h8^{km}, MD3.5, Error ellipse: s-maj=4.0km s-min=2.3km az=108.0*
*ISCJB **08** 16:38:13.4±0.6, 3949N±003×4424E±007, h10^{km}, Error ellipse: s-maj=8.1km s-min=3.4km az=55.6*
*ISK **08** 16:38:13.2, 3949N×4422E, h14^{km}, MD3.5*

ISC 08 16:38:13.5±0.7**, 3947N**±004×**4416E**±007**, h2**^{km}±6^{km}**, n18, σ1^{s}14**/27**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.38**	**211**	PG	**Pg**	**16 38 21.0**	**+0.3**
CLDR				SG	**Sg**	**16 38 28.9**	**+3.3**
GNI	**Garni**	**0.81**	**33**	PG	**Pg**	**16 38 29.1**	**0.0**
VANB	**Van**	**1.06**	**215**	PN	**Pn**	**16 38 35.2**	**-0.1**
VANB				SN	**Sn**	**16 38 51.0**	**+0.4**
TVAN	**Van**	**1.11**	**212**	*i* P	**Pg**	**16 38 35.3**	**+0.5**
TVAN				*i* S	**Sg**	**16 38 50.4**	**+1.3**
VANT	**Van**	**1.19**	**211**	*e*PN	**Pn**	**16 38 37.0**	**-0.1**
HKR	**Hakkari**	**1.92**	**190**	*e*PN	**Pn**	**16 38 46.0**	**-1.1**
DGRG	**David-gareji**	**2.19**	**25**	P	**Pg**	**16 38 54.8**	**-0.6**
DGRG				S	**Sg**	**16 39 25.1**	**+1.3**
ERZM	**Erzurum**	**2.20**	**282**	*i* P	**Pn**	**16 38 48.9**	**-2.1**
ERZM				*i* S	**Sn**	**16 39 18.9**	**+0.1**
EZM	**Erzurum**	**2.21**	**282**	*e*PN	**Pn**	**16 38 50.7**	**-0.4**
CUKT	**Cukurca**	**2.26**	**191**	*e*PN	**Pn**	**16 38 51.4**	**-0.4**
MTA	**Mtatsminda**	**2.28**	**12**	P	**Pn**	**16 38 50.4**	**-1.6**
MTA				S	**Sb**	**16 39 23.9**	**0.0**
TBLG	**Delisi**	**2.30**	**11**	P	**Pn**	**16 38 52.1**	**-0.3**
TBLG				S	**Sn**	**16 39 24.5**	**+3.2**
BNGL	**BINGOL**	**2.40**	**259**	*i* P	**Pn**	**16 38 55.1**	**+1.3**
BNGL				*i* S	**Sn**	**16 39 26.3**	**+2.7**
BCA	**Borcka**	**2.77**	**316**	*e*PN	**Pn**	**16 38 58.4**	**-0.4**
ONI	**Oni**	**3.16**	**350**	P	**Pb**	**16 39 11.6**	**+1.4**
EZC	**Erzincan**	**3.37**	**276**	*e*PN	**Pb**	**16 39 12.8**	**-1.1**
MARD	**Mardin**	**3.42**	**232**	*e*P	**Pg**	**16 39 17.8**	**-1.2**
MARD				*i* S	**Sg**	**16 40 01.6**	**-1.8**
PTK	**Pertek**	**3.75**	**263**	*e*PN	**Pn**	**16 39 12.8**	**+0.5**

*ISCJB **08** 16:48:14.9±0.3, 4195N±003×14232E±004, h71^{km}±3^{km}, mb3.7/11, Error ellipse: s-maj=6.0km s-min=3.9km az=94.6*
*JMA **08** 16:48:15.2±0.2, 4194N×14233E, h67^{km}±3^{km}, M3.4 Broadband fault plane solution: P waves. NP1: ϕ_s163.00000°, δ15.00000°, λ44.00000°. NP2:ϕ_s30.00000°, δ80.00000°, λ101.00000°. Principal axes: T Plg54.0000°, Azm313.0000°; N Plg11.0000°, Azm208.0000°; P Plg34.0000°, Azm111.0000°;*
JMA Felt I J1.
*MOS **08** 16:48:15.2±1.1, 4200N×14246E, h82^{km}, mb4.0/1 Error ellipse: s-maj=18.9km s-min=10.2km az=85.0*
*NEIC **08** 16:48:16.8±0.7, 4204N×14248E, h77^{km}±9^{km}, mb4.1/1, Error ellipse: s-maj=19.2km s-min=9.7km az=102.0*
*IDC **08** 16:48:17.6±1.7, 4206N×14233E, h80^{km}±16^{km}, mb3.6/10, mb1 3.6/12, mb1mx3.5/23, mbtmp3.8/12, Error ellipse: s-maj=31.8km s-min=13.5km az=91.0*

ISC 08 16:48:15.6±0.4**, 4194N**±003×**14231E**±004**, h65**^{km}±4^{km}**, n35, σ0^{s}71**/51**, mb3.7**/11**, 3C-10D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.47**	**44**	⇑P	**Pn**	**16 48 26.8**	**-0.9**
JNBK				*e*S	**Sn**	**16 48 35.8**	**-0.7**
ERM	**Erimo**	**0.64**	**83**	*e*P	**Pn**	**16 48 29.1**	**-0.3**
JEM	**Erimo**	**0.64**	**83**	⇑P	**Pn**	**16 48 29.3**	**-0.1**
JEM				*e*S	**Sn**	**16 48 38.8**	**-0.7**
JBT2	**Biratori 2**	**0.84**	**3**	⇓P	**Pn**	**16 48 31.4**	**-0.4**
JBT2				*e*S	**Sn**	**16 48 43.7**	**0.0**
JKB	**Kayabe**	**0.96**	**267**	⇓P	**Pn**	**16 48 33.0**	**-0.3**
JKB				*e*S	**Sn**	**16 48 46.2**	**-0.2**
JCH	**Churui**	**1.03**	**49**	⇑P	**Pn**	**16 48 34.1**	**-0.1**
JCH				*e*S	**Sn**	**16 48 47.9**	**-0.1**
JNB	**Noboribetsu**	**1.08**	**299**	⇓P	**Pn**	**16 48 34.2**	**-0.7**
JNB				*e*S	**Sn**	**16 48 48.8**	**-0.4**
JEW	**Eniwo**	**1.10**	**325**	⇓P	**Pn**	**16 48 35.3**	**+0.2**
JEW				*e*S	**Sn**	**16 48 49.6**	**-0.1**
JOT	**Ohata**	**1.10**	**240**	⇓P	**Pn**	**16 48 35.0**	**-0.1**
JOT				*e*S	**Sn**	**16 48 49.5**	**-0.2**
JFR	**Furan**	**1.24**	**10**	⇓P	**Pn**	**16 48 36.5**	**-0.4**
JFR				*e*S	**Sn**	**16 48 52.7**	**-0.2**
JYM2	**Yakumo 2**	**1.46**	**278**	⇓P	**Pn**	**16 48 39.6**	**-0.2**
JSR	**Shiriuchi**	**1.48**	**254**	P	**Pn**	**16 48 40.0**	**-0.1**
JSR				*e*S	**Sn**	**16 48 58.9**	**+0.4**
JOB	**Onbets**	**1.48**	**49**	⇓P	**Pn**	**16 48 40.9**	**+0.7**
JANG	**Nango**	**1.68**	**201**	P	**Pn**	**16 48 43.1**	**+0.3**
JANG				*e*S	**Sn**	**16 49 03.9**	**+0.5**
JAR	**Ashorobuto**	**1.73**	**38**	⇓P	**Pn**	**16 48 43.4**	**-0.1**
JAR				*e*S	**Sn**	**16 49 05.1**	**+0.5**
JHR	**Hokuryu**	**1.85**	**347**	⇓P	**Pn**	**16 48 46.0**	**+0.9**
JHR				*e*S	**Sn**	**16 49 08.9**	**+1.4**
ASAJ	**Asahikawa**	**2.18**	**5**	P	**Pn**	**16 48 50.4**	**+0.7**
	14nm,0.3s,baz=210,slow=10,SNR=120						
ASAJ				S	**Sn**	**16 49 15.8**	**+0.2**
	11nm,0.3s,baz=319,slow=30,SNR=14						
ASAJ	**Asahikawa**	**2.18**	**5**	P	**Pn**	**16 48 50.4**	**+0.8**
ASAJ				S	**Sn**	**16 49 15.8**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax			
	comp=N,11nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.34**	**50**	*e*P	**Pn**	**16 49 05.9**	**+0.5**
YUK				*e*S	**Sn**	**16 49 44.0**	**+0.2**
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.02**	**3**	*e*P	**Pn**	**16 49 29.8**	**+1.4**
MAJO	**Matsushiro**	**6.26**	**212**	P	**Pn**	**16 49 48.8**	**+3.4**
MJAR	**Matsushiro Arr**	**6.26**	**212**	P	**Pn**	**16 49 48.8**	**+3.5**
	comp=E,0.4nm,0.3s,baz=22,slow=13,SNR=7.9						
SONM	**Songino Array**	**25.95**	**295**	P	**P**	**16 53 41.7**	**-0.2**
	comp=E,0.9nm,0.5s,mb3.4,baz=79,slow=8.7,SNR=7.4						
ZAL	**Zalesovo**	**39.29**	**308**	P	**P**	**16 55 38.1**	**+0.1**
	comp=E,0.9nm,0.7s,mb3.7,baz=78,slow=4.3,SNR=4.0						
MKAR	**Makanchi Array**	**42.27**	**298**	P	**P**	**16 56 02.7**	**+0.1**
	comp=E,0.6nm,0.3s,mb3.8,baz=82,slow=8.8,SNR=8.1						
BVAR	**Borovoye Array**	**47.89**	**309**	P	**P**	**16 56 47.1**	**-0.1**
	comp=E,1.4nm,0.3s,mb4.2,baz=78,slow=9.2,SNR=16						
ZRNK	**Zerenda**	**48.71**	**310**	*e*P	**P**	**16 56 52.9**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZRNK	**Zerenda**	**48.71**	**310**	*e*P	**P**	**16 56 52.9**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**62.01**	**188**	P	**P**	**16 58 28.5**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=6.6,slow=6.8,SNR=6.4						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**16 58 46.5**	**-1.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=59,slow=6.6,SNR=19						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**16 58 46.5**	**-1.1**
ASAR	**Alice Springs**	**65.74**	**188**	P	**P**	**16 58 56.2**	**+2.7**
	comp=Z,0.3nm,0.9s,mb3.1,baz=5.8,slow=7.4,SNR=3.0						
HFS	**Hagfors**	**69.91**	**335**	P	**P**	**16 59 19.0**	**-0.8**
	comp=Z,1.0nm,0.3s,mb4.1,baz=34,slow=6.0,SNR=12						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**16 59 19.3**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.5,baz=7.8,slow=18,SNR=3.4						
AKASG	**Malin Array Be**	**70.86**	**322**	P	**P**	**16 59 24.8**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=45,slow=5.7,SNR=4.5						

*NEIC **08** 16:56:30.9±0.8, 189N×9763E, h30^{km}, mb4.2/2, Error ellipse: s-maj=16.2km s-min=11.6km az=58.0*
*ISCJB **08** 16:56:34.6±4.9, 2.1N±02×979E±03, h71^{km}±37^{km}, mb3.8/7, Error ellipse: s-maj=62.1km s-min=18.2km az=112.9*
*IDC **08** 16:56:36.1±5.0, 213N×9796E, h67^{km}±38^{km}, mb3.4/5, mb1 3.5/5, mb1mx3.2/21, mbtmp3.7/5, Error ellipse: s-maj=56.5km s-min=18.9km az=57.0*

ISC 08 16:56:35.8±5.0**, 21N**±02×**980E**±03**, h62**^{km}±39^{km}**, n10, σ0^{s}59**/11**, mb3.8**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.18**	**56**	P	**Pn**	**16 56 56.0**	**-0.3**
	12nm,0.3s,baz=273,slow=4.6,SNR=35						
PSI				S	**Sn**	**16 57 11.1**	**-0.5**
	31nm,0.3s,baz=293,slow=13,SNR=13						
KULM	**Kulim**	**4.14**	**41**	*e*Pn	**Pn**	**16 57 37.7**	**+1.2**
WRA	**Warramunga Arr**	**41.90**	**123**	P	**P**	**17 04 19.6**	**-0.5**
	1.1nm,0.4s,mb3.8,baz=302,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**41.91**	**123**	P	**P**	**17 04 20.1**	**0.0**
	12nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**43.37**	**128**	P	**P**	**17 04 32.5**	**+0.6**
	0.5nm,0.9s,mb3.2,baz=300,slow=7.2,SNR=5.1						
SONM	**Songino Array**	**46.11**	**8**	P	**P**	**17 04 54.0**	**+0.3**
	0.2nm,0.3s,mb3.5,baz=179,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**46.53**	**345**	P	**P**	**17 04 57.4**	**+0.4**
	0.9nm,0.7s,mb3.8,baz=159,slow=8.7,SNR=6.3						
MKAR	**Makanchi Array**	**46.53**	**345**	P	**P**	**17 04 57.4**	**+0.4**
BVAR	**Borovoye Array**	**55.63**	**340**	P	**P**	**17 06 04.3**	**-0.9**
	1.1nm,0.6s,mb4.1,baz=144,slow=8.6,SNR=10.0						
ZRNK	**Zerenda**	**56.05**	**339**	P	**P**	**17 06 08.0**	**-0.2**
	0.8nm,0.6s,mb3.9						

*IDC **08** 17:07:42.9±1.6, 977S×10904E, h0^{km}, mb3.8/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.8/6, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/31, Error ellipse: s-maj=74.6km s-min=19.9km az=45.0*
*NEIC **08** 17:07:43.6±0.4, 10.13S×108.74E, h10^{km}, mb4.3/8, Error ellipse: s-maj=19.5km s-min=8.7km az=49.0*
*ISCJB **08** 17:07:45.3±0.6, 10.1S±0.1×1088E±0.1, h33^{km}, mb4.2/13, Error ellipse: s-maj=26.5km s-min=9.3km az=93.1*

ISC 08 17:07:47.6±0.6**, 102S**±01×**1088E**±01**, h35**^{km}**, n23, σ0^{s}71**/22**, mb4.2**/13**, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.18**	**137**	*e*P	**Pn**	**17 11 13.4**	**-5.8**
	7.3nm,0.9s						
MBWA				*e*Sn	**Sn**	**17 13 47.1**	**-19**
FITZ	**Fitzroy Crossi**	**18.14**	**118**	P	**Pn**	**17 11 56.8**	**+0.2**
	0.2nm,0.3s,baz=288,slow=8.1,SNR=15						
WRA	**Warramunga Arr**	**26.49**	**114**	P	**P**	**17 13 21.8**	**+0.3**
	1.4nm,0.8s,mb3.5,baz=286,slow=11,SNR=6.4						
WRAB	**Tennant Creek**	**26.50**	**114**	*e*P	**P**	**17 13 21.8**	**+0.2**
	5.6nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**27.47**	**122**	P	**P**	**17 13 30.1**	**-0.2**
	0.1nm,0.4s,baz=311,slow=38,SNR=3.7						
LSA	**Lhasa**	**43.12**	**337**	P	**P**	**17 15 45.6**	**+1.2**
	3.9nm,0.7s,mb4.2						
PKI	**Pulchoki**	**43.82**	**329**	*e*P	**P**	**17 15 50.7**	**+0.6**
GUN	**Gumba**	**43.87**	**330**	*e*P	**P**	**17 15 50.9**	**+0.4**
	18nm,0.6s						
DMN	**Daman**	**44.00**	**329**	*e*P	**P**	**17 15 52.2**	**+0.7**
KKN	**Kakani**	**44.06**	**329**	*e*P	**P**	**17 15 52.3**	**+0.3**
GKN	**Gorkha**	**44.56**	**329**	*e*P	**P**	**17 15 56.4**	**+0.4**
	4.4nm,0.5s,mb4.6						
KOLN	**Koldanda**	**44.91**	**328**	*e*P	**P**	**17 15 59.1**	**+0.3**
	6.0nm,0.6s,mb4.6						
SONM	**Songino Array**	**57.78**	**358**	P	**P**	**17 17 34.1**	**-1.1**
	0.6nm,0.5s,mb3.9,baz=174,slow=7.8,SNR=5.6						
ULN	**Ulaanbaatar**	**57.80**	**359**	P	**P**	**17 17 35.3**	**0.0**
	2.0nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**61.45**	**340**	P	**P**	**17 17 59.1**	**-1.3**
	0.6nm,0.5s,mb4.0,baz=148,slow=8.1,SNR=8.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**64.88**	**198**	eP	**P**	**17 18 22.0**	**-1.2**
	1.6nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**70.95**	**337**	P	**P**	**17 19 01.2**	**-0.2**
	baz=131,slow=8.7						
CHKZ	**Chkalovo**	**71.36**	**337**	eP	**P**	**17 19 03.5**	**-0.4**
	3.6nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**71.45**	**336**	eP	**P**	**17 19 03.4**	**-0.9**
	3.7nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**85.23**	**312**	P	**P**	**17 20 19.9**	**-0.6**
	1.1nm,0.7s,mb4.1,baz=116,slow=7.0,SNR=6.7						
SNAA	**Sanae**	**87.04**	**197**	P	**P**	**17 20 30.7**	**+1.3**
	3.0nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**144.91**	**42**	ePKPdf	PKPdf	17 27 21.4	+0.5
WMOK				e		17 27 33.0	
JCT	**Junction City**	**146.60**	**49**	ePKPbc	PKPbc	17 27 27.2	+1.9
JCT				e		17 27 39.1	

SKO 08 17:13:47.2, 4133N×2088E, h21km, M1.3, ML2.2
NEIC 08 17:13:48.4, 4137N×2090E, h0km, MD2.7(SOF), MD2.7(PDG), After THE.
THE 08 17:13:48.4, 4137N×2090E, h10km, ML3.0
PDG 08 17:13:49.1±0.3, 4141N×2098E, h8km±1km
ISCJB 08 17:13:49.4±0.3, 4135N±002×2101E±002, h10km, Error ellipse: s-maj=3.3km s-min=2.3km az=58.7
CSEM 08 17:13:50.5±0.1, 4139N×2108E, h10km, ML2.2, Error ellipse: s-maj=2.2km s-min=1.6km az=26.0
SOF 08 17:13:51.1, 4165N×2112E, h10km, MD2.7
ISC 08 17:13:50.0±0.3, 4133N±002×2099E±002, h10km, n38, σ1s26/66, 9C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.26**	**213**	ePg	**Pg**	**17 13 53.2**	**-2.1**
OHR				eSg	**Sg**	**17 13 57.5**	**-1.4**
OHR	**Ohrid**	**0.26**	**213**	⇑iPg	**Pg**	**17 13 53.1**	**-2.2**
OHR				i Sg	**Sg**	**17 13 57.9**	**-1.0**
OHR				eLg		17 13 58.1	
	comp=E,759nm,0.6s						
OHR				eLg		17 13 58.2	
	comp=N,350nm,0.3s						
OHR	**Ohrid**	**0.26**	**213**	ePg	**Pg**	**17 13 53.2**	**-2.1**
OHR				i Sg	**Sg**	**17 13 57.9**	**-1.0**
OHR				eLg		17 13 58.1	
	comp=N,759nm,0.6s						
BIA	**Bitola**	**0.40**	**141**	ePg	**Pg**	**17 13 57.0**	**-0.9**
BIA				eSg	**Sg**	**17 14 05.1**	**+1.8**
BIA	**Bitola**	**0.40**	**141**	i Pg	**Pg**	**17 13 57.0**	**-0.9**
BIA				i Sg	**Sg**	**17 14 05.1**	**+1.9**
BIA	**Bitola**	**0.40**	**141**	i Pg	**Pg**	**17 13 56.9**	**-1.0**
BIA				i Sg	**Sg**	**17 14 05.1**	**+1.8**
FNA	**Florina**	**0.62**	**152**	ePg	**Pg**	**17 14 01.2**	**-0.8**
FNA				eSg	**Sg**	**17 14 11.8**	**+1.6**
SKO	**Skopje**	**0.72**	**28**	⇑iPg	**Pg**	**17 14 02.6**	**-1.3**
SKO				i Sg	**Sg**	**17 14 12.4**	**-1.0**
SKO	**Skopje**	**0.72**	**28**	ePg	**Pg**	**17 14 02.7**	**-1.2**
TIR	**Tirane**	**0.84**	**271**	ePg	**Pg**	**17 14 03.1**	**-3.2**
STIP	**Stip**	**0.97**	**68**	ePg	**Pg**	**17 14 07.4**	**-1.3**
STIP				eSg	**Sg**	**17 14 21.8**	**+0.5**
STIP	**Stip**	**0.97**	**68**	⇑iPg	**Pg**	**17 14 07.5**	**-1.1**
STIP	**Stip**	**0.97**	**68**	⇑iPg	**Pg**	**17 14 07.5**	**-1.1**
STIP				eSg	**Sg**	**17 14 21.8**	**+0.5**
GRG	**Griva**	**1.13**	**109**	ePg	**Pg**	**17 14 10.9**	**-0.9**
GRG				eSg	**Sg**	**17 14 28.4**	**+2.0**
VAY	**Valandovo**	**1.19**	**90**	ePg	**Pg**	**17 14 11.3**	**-1.5**
VAY	**Valandovo**	**1.19**	**90**	⇑iPg	**Pg**	**17 14 11.4**	**-1.5**
VAY				i Sg	**Sg**	**17 14 28.6**	**+0.2**
VAY	**Valandovo**	**1.19**	**90**	⇑iPg	**Pg**	**17 14 11.3**	**-1.6**
VAY				i Sg	**Sg**	**17 14 28.6**	**+0.2**
KNT	**Kendrikon**	**1.45**	**96**	ePg	**Pg**	**17 14 16.7**	**-1.1**
KNT				eSg	**Sg**	**17 14 36.9**	**+0.2**
PVY	**Plav**	**1.47**	**329**	⇓iPg	**Pn**	**17 14 15.4**	**-1.1**
PVY				eSg	**Sg**	**17 14 36.4**	**-0.9**
PVY	**Plav**	**1.47**	**329**	⇓iPg	**Pn**	**17 14 15.4**	**-1.1**
PVY				eSg	**Sg**	**17 14 36.3**	**-1.0**
KKB	**Krupnik**	**1.66**	**71**	i P	**Pn**	**17 14 18.6**	**-0.5**
KKB				Sg	**Sg**	**17 14 42.0**	**-1.4**
LIT	**Litokhoron**	**1.68**	**137**	ePb	**Pb**	**17 14 19.9**	**-1.0**
LIT				eSb	**Sb**	**17 14 44.2**	**+2.1**
TTG	**Podgorica**	**1.69**	**311**	⇑iPn	**Pn**	**17 14 18.4**	**-1.2**
TTG				eSn	**Sn**	**17 14 43.4**	**+2.1**
IVA	**Berane**	**1.74**	**333**	⇓iPn	**Pn**	**17 14 19.6**	**-0.6**
IVA				eSn	**Sn**	**17 14 43.3**	**+0.9**
HORT	**Hortiatis**	**1.76**	**114**	ePb	**Pn**	**17 14 20.6**	**+0.1**
BUM	**Brajici-Budva**	**1.84**	**302**	⇑iPn	**Pn**	**17 14 20.7**	**-0.8**
BUM				eSn	**Sn**	**17 14 47.2**	**+2.3**
SOH	**Sokhos**	**1.86**	**105**	ePb	**Pb**	**17 14 24.5**	**+0.5**
IGT	**Igoumenitsa**	**1.87**	**196**	ePb	**Pn**	**17 14 21.3**	**-0.7**
MMB	**Musomiste**	**2.08**	**82**	i P	**Pn**	**17 14 27.2**	**+2.4**
MMB				Sg	**Sg**	**17 14 57.5**	**+0.8**
MMB	**Musomiste**	**2.08**	**82**	ePn	**Pn**	**17 14 25.4**	**+0.6**
VTS	**Vitosha**	**2.08**	**52**	ePn	**Pn**	**17 14 24.9**	**0.0**
VTS				eSn	**Sn**	**17 14 52.8**	**+1.9**
VTS	**Vitosha**	**2.08**	**52**	i P	**Pn**	**17 14 24.8**	**-0.1**
VTS				Sg	**Sn**	**17 14 52.6**	**+1.7**
NKY	**Niksic**	**2.09**	**316**	⇓iPn	**Pn**	**17 14 25.3**	**+0.2**
NKY				eSn	**Sn**	**17 14 53.2**	**+2.1**
HCY	**Herceg Novi**	**2.17**	**302**	⇓iPn	**Pn**	**17 14 25.6**	**-0.4**
HCY				eSn	**Sn**	**17 14 54.7**	**+1.7**
BRY	**Bratogost**	**2.40**	**312**	⇑iPn	**Pn**	**17 14 28.8**	**-0.5**
BRY				eSn	**Sn**	**17 15 00.1**	**+1.4**
UPM	**Unac-Piva**	**2.42**	**321**	⇓iPn	**Pn**	**17 14 29.7**	**+0.1**
UPM				eSn	**Sn**	**17 15 00.8**	**+1.5**
LKD	**Levkas**	**2.63**	**186**	ePn	**Pn**	**17 14 33.5**	**+0.9**
DIVS	**Divcibare**	**2.86**	**345**	ePn	**Pn**	**17 14 33.7**	**-1.9**

IDC 08 17:19:09.8±15.0, 1566S×16875E, h611km±77km, mb2.9/4, mb1 3.2/6, mb1mx2.9/16, mbtmp4.2/6, Error ellipse: s-maj=310.5km s-min=36.7km az=74.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.74**	**199**	eP	P	17 20 57.8	-0.1
DZM	**Mont Dzumac**	**6.74**	**199**	P	P	17 20 57.8	-0.1
	2.4nm,0.3s,baz=284,slow=20,SNR=58						
HNR	**Honiara**	**10.59**	**305**	P	P	17 21 34.8	+0.3
	4.6nm,0.3s,baz=100,slow=3.0,SNR=5.7						
STKA	**Stephens Creek**	**29.51**	**232**	P	P	17 24 26.5	-0.2
	2.7nm,0.9s,baz=40,slow=8.4,SNR=8.6						
WRA	**Warramunga Arr**	**33.00**	**257**	P	P	17 24 56.6	+0.3
	0.7nm,0.3s,baz=89,slow=9.0,SNR=35						
ASAR	**Alice Springs**	**33.69**	**251**	P	P	17 25 02.8	+0.7
	1.6nm,0.4s,baz=74,slow=9.9,SNR=77						
FITZ	**Fitzroy Crossi**	**41.25**	**260**	P	P	17 26 03.3	-0.1
	0.8nm,0.3s,baz=91,slow=10,SNR=16						

LDG 08 17:34:42.7±0.1, 4292N×022E, h10km, Md1.8/2, Ml1.8/2, Error ellipse: s-maj=5.0km s-min=2.0km az=158.0
STR 08 17:34:42.9±3.1, 4299N×000E, h10km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 08 17:34:43.0±0.3, 4302N×016E, h11km±2km, mbLg1.0/3, 1D, Error ellipse: s-maj=2.8km s-min=2.6km az=124.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**298**	Pg	Pg	17 34 46.7	+1.3
LABF	**Labassere**	**0.07**	**298**	Pg	Pg	17 34 45.1	-0.3
LABF	**Labassere**	**0.07**	**298**	P	Pg	17 34 45.2	-0.2
LABF				S	Sg	17 34 46.8	-0.3
EPF	**Esparros**	**0.13**	**83**	ePg	Pg	17 34 46.0	-0.2
EPF				eSg	Sg	17 34 48.5	0.0
	2.9nm,0.2s						
EPF	**Esparros**	**0.13**	**83**	Pg	Pg	17 34 46.0	-0.2
EPF				Lg		17 34 48.5	
	1.4nm,0.2s						
VIEF	**Viey**	**0.16**	**217**	Pg	Pg	17 34 46.4	-0.3
VIEF				Sg	Sg	17 34 49.0	-0.2
VIEF	**Viey**	**0.16**	**217**	P	Pg	17 34 46.5	-0.2
VIEF				S	Sg	17 34 49.1	-0.1
EBIE	**Bielsa**	**0.33**	**182**	⇓Pg	Pg	17 34 49.5	-0.1
	0.2nm,0.1s,SNR=18						
EBIE				Lg		17 34 54.0	
	1.0nm,0.1s,SNR=11						
ETSF	**Etsaut**	**0.54**	**258**	ePg	Pg	17 34 53.4	-0.2
ETSF				eSg	Sg	17 35 00.4	-0.3
	0.8nm,0.2s						
ETSF	**Etsaut**	**0.54**	**258**	Pg	Pg	17 34 53.4	-0.2
ETSF				Lg		17 35 00.4	
	0.4nm,0.2s						
EARA	**Aranguren**	**1.30**	**260**	Lg		17 35 23.5	
	2.3nm,0.0s,SNR=7.9						
MTLF	**Montolieu**	**1.54**	**77**	ePn	Pn	17 35 08.5	-1.9
MTLF				eSn	Sn	17 35 26.7	-3.7
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.54**	**77**	Pn	Pn	17 35 08.5	-1.9
MTLF				Sn	Sn	17 35 26.7	-3.7
	0.4nm,0.3s						
LFF	**La Frestale**	**1.97**	**12**	ePn	Pn	17 35 15.5	-0.8
LFF				eSn	Sn	17 35 39.9	-1.1
	5.9nm,0.5s						
LFF	**La Frestale**	**1.97**	**12**	Pn	Pn	17 35 15.5	-0.8
LFF				Sn	Sn	17 35 39.9	-1.1
	3.0nm,0.5s						

MAN 08 17:37:35.0, 1766N×12262E, h15km, mb3.3, ML4.5, MS3.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.76**	**273**	⇓eP	Pg	17 37 49.5	-0.3
CVP				eS	Sg	17 37 59.5	-0.3

NIED 08 17:40:00, 3520N×14020E, h14km, Mw3.5 Best double couple: $M_0$2.19000×10^{14} NP1: ϕ_s265.00000°, δ73.00000°, λ-98.00000°. NP2: ϕ_s110.00000°, δ19.00000°, λ-66.00000°.
ISCJB 08 17:40:35.3±0.6, 35.12N±0.07×140.21E±0.07, h37km±6km, mb3.7/3, Error ellipse: s-maj=13.5km s-min=6.6km az=83.0
IDC 08 17:40:35.9±10.0, 35.11N×140.32E, h31km±56km, mb3.5/3, mb1 3.7/6, mb1mx3.4/22, mbtmp3.8/6, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/21, Error ellipse: s-maj=146.7km s-min=20.6km az=65.0
JMA 08 17:40:36.3±0.2, 3521N×14020E, h24km±2km, M4.0
JMA Felt II J1.
ISC 08 17:40:35.9±0.5, 3512N±006×14019E±008, h31km±5km, n16, σ0s81/19, mb3.7/3, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.10**	**76**	⇓P	**Pb**	**17 40 40.7**	**-0.6**
KTR				S	**Sb**	**17 40 44.5**	**-0.5**
BSO4	**Boso 4**	**0.18**	**138**	⇑P	**Pb**	**17 40 42.8**	**+0.9**
TATJ	**Tateyama 2**	**0.26**	**250**	⇑P	**Pb**	**17 40 43.7**	**+0.8**
JCN	**Nagara**	**0.29**	**2**	⇓P	**Pb**	**17 40 42.5**	**-0.8**
BSO3	**Boso 3**	**0.41**	**141**	P	**Pb**	**17 40 45.9**	**+0.9**
JIM2	**Oshima 3**	**0.74**	**237**	⇑P	**Pn**	**17 40 49.3**	**-0.9**
BSO1	**Boso 1**	**0.80**	**126**	⇓P	**Pn**	**17 40 50.3**	**-0.7**
BSO1				S	**Sb**	**17 41 02.3**	**+0.6**
JOD2	**Odawara 2**	**0.91**	**279**	P	**Pn**	**17 40 51.4**	**-1.2**
JIZS	**Izushimoda**	**1.15**	**250**	⇑P	**Pn**	**17 40 55.2**	**-0.7**
JHJ	**Hachijo jima 2**	**2.03**	**190**	Pn	**Pn**	**17 41 08.4**	**+0.5**
	61nm,0.3s,baz=88,slow=16,SNR=51						
JHJ				LR	LR	17 41 36.6	
	comp=Z,726nm,19.8s,baz=135,slow=30						
MJAR	**Matsushiro Arr**	**2.14**	**312**	Pn	**Pn**	**17 41 09.3**	**-0.2**
	7.5nm,0.3s,baz=123,slow=2.6,SNR=76						
MAT	**Matsushiro**	**2.15**	**312**	P	**Pn**	**17 41 09.5**	**0.0**
MAT				S	**Sn**	**17 41 36.7**	**+1.6**
CBIJ	**Chichi jima**	**8.18**	**167**	Pn	**Pn**	**17 42 32.1**	**-0.3**
	6.7nm,0.3s,baz=282,slow=21,SNR=7.5						
MKAR	**Makanchi Array**	**44.32**	**304**	P	**P**	**17 48 44.4**	**+1.4**
	0.5nm,0.5s,mb3.5,baz=253,slow=4.2,SNR=3.7						
WRA	**Warramunga Arr**	**55.04**	**187**	P	**P**	**17 50 03.8**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=4.3,slow=7.6,SNR=28						
ASAR	**Alice Springs**	**58.77**	**187**	P	**P**	**17 50 31.2**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=23,slow=11,SNR=14						

HLW 08 17:40:54.7, 3637N×2928E, h33km, Mb4.0
ISCJB 08 17:40:55.9±0.2, 36.17N±0.02×29.39E±0.02, h46km±6km, Error ellipse: s-maj=3.9km s-min=2.7km az=82.3
ATH 08 17:40:55.6, 3628N×2938E, h37km±1km, MD4.0/9
CSEM 08 17:40:55.9±0.1, 3627N×2938E, h25km, MD4.0, Error ellipse: s-maj=1.7km s-min=1.2km az=32.0
NEIC 08 17:40:56.0, 3635N×2932E, h22km, MD4.0(ATH), ML3.6(ISK), After ISK.
ISK 08 17:40:56.6, 3635N×2931E, h25km, ML3.7
GRAL 08 17:41:01.2±5.6, 3650N×2993E, h0km±999km, MD4.1
GII 08 17:41:02.2±0.5, 3576N×2955E, h21km±3km, ML3.3/5
ISC 08 17:40:57.3±0.4, 3621N±002×2936E±002, h31km±3km, n97, σ1s09/126, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.19**	**109**	ePB	**Pb**	**17 41 03.0**	**-0.5**
AKAS	**Kas**	**0.20**	**83**	i P	**Pb**	**17 41 03.5**	**-0.1**
AKAS				i S	**Sb**	**17 41 09.1**	**+1.2**
FETY	**Fethiye**	**0.48**	**332**	i PG	**Pb**	**17 41 04.3**	**-3.1**
FETY				i SG	**Sb**	**17 41 10.5**	**-3.9**
ELL	**Elmali**	**0.69**	**39**	i PG	**Pb**	**17 41 09.7**	**-1.2**
ELL				i SG	**Sb**	**17 41 19.8**	**-0.4**
DALT	**Dalyan (Mudla)**	**0.81**	**314**	i PG	**Pn**	**17 41 09.8**	**-2.7**
DALT				i SG	**Sb**	**17 41 21.9**	**-1.5**
ARG	**Arkhangelos**	**1.00**	**271**	ePN	**Pn**	**17 41 14.4**	**-0.8**
ARG				eSN	**Sn**	**17 41 29.3**	**+1.1**
GOLH	**Golhisar**	**1.04**	**9**	i P	**Pn**	**17 41 14.4**	**-1.2**
GOLH				i S	**Sn**	**17 41 29.1**	**0.0**
ANTB	**Antalya**	**1.25**	**56**	PN	**Pn**	**17 41 19.4**	**+0.8**
YER	**Yerkesik**	**1.27**	**317**	i PN	**Pn**	**17 41 17.6**	**-1.2**
YER				i SN	**Sn**	**17 41 33.1**	**-1.7**
DNZL	**Cakiroluk**	**1.50**	**350**	i P	**Pn**	**17 41 21.8**	**-0.2**
DNZL				i S	**Sn**	**17 41 42.7**	**+2.2**
DAT	**Datca**	**1.53**	**290**	PN	**Pn**	**17 41 22.3**	**-0.1**
DAT				SN	**Sn**	**17 41 41.2**	**0.0**
DENT	**Denizli**	**1.56**	**350**	PN	**Pn**	**17 41 21.1**	**-1.8**
BCK	**Bucak**	**1.59**	**38**	PN	**Pn**	**17 41 22.6**	**-0.7**
MLSB	**Milas**	**1.67**	**311**	PN	**Pn**	**17 41 24.0**	**-0.4**
BDRM	**Kayabasi**	**1.76**	**300**	i P	**Pn**	**17 41 25.3**	**-0.3**
BDRM				i S	**Sn**	**17 41 48.5**	**+1.4**
BODT	**Bodrum**	**1.86**	**298**	PN	**Pn**	**17 41 26.3**	**-0.6**
ISP	**Isparta**	**1.87**	**29**	PN	**Pn**	**17 41 26.0**	**-1.1**
ISP	**Isparta**	**1.87**	**29**	ePn	**Pn**	**17 41 27.5**	**+0.4**
AYDN	**Tasoluk**	**1.87**	**321**	i P	**Pn**	**17 41 28.1**	**+0.9**
AYDN				i S	**Sn**	**17 41 51.7**	**+2.0**
KARP	**Karpathos**	**1.91**	**250**	ePN	**Pn**	**17 41 28.3**	**+0.7**
TKTP	**Tekketepe**	**1.98**	**22**	i P	**Pn**	**17 41 28.7**	**+0.1**
TKTP				i S	**Sn**	**17 41 53.2**	**+0.8**
SMG	**Samos**	**2.52**	**307**	ePN	**Pn**	**17 41 35.2**	**-0.8**
SMG				eSN	**Sn**	**17 42 05.1**	**-0.5**
HDMB	**Hadim**	**2.62**	**72**	PN	**Pn**	**17 41 38.9**	**+1.4**
IZM	**Izmir**	**2.75**	**323**	PN	**Pn**	**17 41 37.8**	**-1.4**
KDAG	**Bornova**	**2.75**	**323**	i P	**Pn**	**17 41 39.4**	**+0.1**
KDAG				i S	**Sn**	**17 42 18.6**	**+7.2**
KDAG	**Bornova**	**2.75**	**323**	i P	**Pn**	**17 41 39.3**	**0.0**
BLCB	**Balcova**	**2.85**	**320**	PN	**Pn**	**17 41 39.7**	**-0.9**
GDZ	**Gediz**	**2.88**	**2**	i P	**Pn**	**17 41 40.6**	**-0.3**
GDZ				i S	**Sb**	**17 42 26.0**	**+3.4**
ERMK	**Ermenek**	**2.90**	**80**	i P	**Pn**	**17 41 44.6**	**+3.4**
ERMK				i S	**Sn**	**17 42 18.9**	**+3.9**
AKHS	**Akhisar**	**2.93**	**336**	i P	**Pn**	**17 41 40.0**	**-1.8**
AKHS				i S	**Sb**	**17 42 26.3**	**+2.0**
AKS	**Akhisar**	**2.94**	**336**	ePN	**Pn**	**17 41 40.3**	**-1.5**
KONT	**Konya--Tatoy**	**2.96**	**53**	ePN	**Pn**	**17 41 42.6**	**+0.5**
URLA	**Izmir**	**3.08**	**315**	i P	**Pn**	**17 41 44.6**	**+0.9**
URLA				i S	**Sb**	**17 42 30.9**	**+2.4**
NPS	**Neapolis**	**3.19**	**254**	ePN	**Pn**	**17 41 45.5**	**+0.2**
APE	**Apeiranthos**	**3.20**	**287**	ePN	**Pn**	**17 41 46.2**	**+0.8**
XRY	**Khrisi**	**3.27**	**247**	ePN	**Pn**	**17 41 47.3**	**+0.9**
KIZT	**Kizilcal**	**3.33**	**36**	ePN	**Pn**	**17 41 47.1**	**-0.1**
DST	**Dursunbey**	**3.44**	**350**	ePN	**Pn**	**17 41 47.7**	**-1.0**
CSS	**Prodhromos**	**3.47**	**110**	ePn	**Pn**	**17 41 48.8**	**-0.3**
CSS	**Prodhromos**	**3.47**	**110**	ePn	**Pn**	**17 41 48.8**	**-0.3**
IKL	**Isikli**	**3.50**	**88**	ePN	**Pn**	**17 41 51.4**	**+1.9**
ESKT	**Eskisehir**	**3.51**	**19**	ePN	**Pn**	**17 41 49.2**	**-0.4**
ESKT	**Eskisehir**	**3.51**	**19**	i P	**Pn**	**17 41 49.7**	**+0.1**
SEYT	**Eskypehyr**	**3.51**	**19**	i P	**Pn**	**17 41 49.7**	**+0.1**
MERS	**Mersin**	**4.21**	**80**	ePN	**Pn**	**17 42 01.1**	**+1.9**
VAM	**Vamos**	**4.27**	**261**	ePN	**Pn**	**17 42 01.3**	**+1.1**
YLV	**Yalova**	**4.35**	**0**	ePN	**Pn**	**17 42 00.7**	**-0.5**
MDU	**Mudurnu**	**4.49**	**18**	ePN	**Pn**	**17 42 03.0**	**-0.2**
GVD	**Gavdhos**	**4.51**	**254**	ePN	**Pn**	**17 42 04.0**	**+0.5**
KAMT	**Kaman**	**4.67**	**46**	ePN	**Pn**	**17 42 06.4**	**+0.8**
SGKT	**Sivrigoynuk**	**4.84**	**25**	i P	**Pn**	**17 42 08.8**	**+0.8**
BR131	**Keskin Array S**	**4.87**	**43**	ePn	**Pn**	**17 42 08.6**	**+0.2**
BR131	**Keskin Array S**	**4.87**	**43**	ePn	**Pn**	**17 42 08.6**	**+0.2**
DABA	**Dabaa**	**5.26**	**190**	⇑P	**Pn**	**17 42 14.0**	**+0.2**
MATL	**Matirih**	**5.61**	**117**	eP	**Pn**	**17 42 25.1**	**+6.6**
HBRG	**Burj al ‘Arab**	**5.63**	**176**	P	**Pn**	**17 42 18.0**	**-0.9**
BHL	**Bhannes**	**5.65**	**112**	eP	**Pn**	**17 42 18.0**	**-1.1**
BHL				eS	**Sn**	**17 43 17.7**	**-5.2**
HNTI	**Hanita**	**5.72**	**121**	Pn	**Pn**	**17 42 20.4**	**+0.4**
HNTI				Sn	**Sn**	**17 43 22.1**	**-2.5**
HNTI	**Hanita**	**5.72**	**121**	Pn	**Pn**	**17 42 20.3**	**+0.3**
HNTI				Sn	**Sn**	**17 43 22.1**	**-2.4**
HWQ	**Hawqa**	**5.72**	**108**	eP	**Pn**	**17 42 21.2**	**+1.1**
HWQ				eS	**Sn**	**17 43 21.8**	**-2.9**
OFRI	**‘Ofer**	**5.87**	**126**	Pn	**Pn**	**17 42 22.9**	**+0.8**
OFRI	**‘Ofer**	**5.87**	**126**	Pn	**Pn**	**17 42 22.8**	**+0.8**
MMC7	**Mount Meron ar**	**5.90**	**121**	Pn	**Pn**	**17 42 22.6**	**0.0**
MMA0	**Mount Meron ar**	**5.91**	**121**	Pn	**Pn**	**17 42 22.8**	**+0.1**
MMA0				Sn	**Sn**	**17 43 26.8**	**-2.6**
RCY	**Rachaya**	**5.96**	**115**	eS	**Sn**	**17 43 28.5**	**-2.1**
KSDI	**Kefar Szold**	**6.00**	**118**	Pn	**Pn**	**17 42 24.6**	**+0.8**
HRI	**Mount Hermon**	**6.01**	**117**	Pn	**Pn**	**17 42 24.3**	**+0.2**
AANS		**6.14**	**163**	P	**Pn**	**17 42 25.5**	**-0.4**
SLTI	**Sal’it**	**6.15**	**128**	Pn	**Pn**	**17 42 26.8**	**+0.9**
SLTI				Sn	**Sn**	**17 43 31.8**	**-3.4**
KSHT	**Keshet**	**6.22**	**119**	Pn	**Pn**	**17 42 27.1**	**+0.2**
MMLI	**Mount Malkishu**	**6.27**	**125**	Pn	**Pn**	**17 42 28.6**	**+1.1**
HMDT	**Nahal Hemdat**	**6.45**	**126**	Pn	**Pn**	**17 42 31.0**	**+0.9**
KOT	**Kottamia**	**6.60**	**161**	P	**Pn**	**17 42 33.0**	**+0.9**
HHAG	**Hagoal**	**6.65**	**159**	P	**Pn**	**17 42 33.6**	**+0.8**
FYM	**Al Fayyum**	**6.65**	**167**	P	**Pn**	**17 42 33.8**	**+0.9**
KZIT	**Kziot**	**6.75**	**140**	Pn	**Pn**	**17 42 34.8**	**+0.5**
KZIT				Sn	**Sn**	**17 43 46.8**	**-3.3**
RTMI	**Retamim**	**6.79**	**138**	Pn	**Pn**	**17 42 35.0**	**+0.2**
DRGI	**Dragot**	**6.81**	**131**	Pn	**Pn**	**17 42 36.5**	**+1.5**
DSI	**Dead Sea**	**6.81**	**131**	Pn	**Pn**	**17 42 35.1**	**+0.1**
DSI	**Dead Sea**	**6.81**	**131**	Pn	**Pn**	**17 42 35.1**	**0.0**
HSAF	**As Saff**	**6.83**	**164**	P	**Pn**	**17 42 35.5**	**+0.2**
SVTA	**Shivta**	**6.85**	**139**	Pn	**Pn**	**17 42 35.6**	**0.0**
GLL	**Jalalah**	**6.90**	**163**	P	**Pn**	**17 42 36.7**	**+0.4**
HNKL	**Nakhl**	**7.37**	**147**	P	**Pn**	**17 42 42.9**	**+0.2**
PRNI	**Paran**	**7.51**	**139**	Pn	**Pn**	**17 42 44.3**	**-0.3**
PRNI				Sn	**Sn**	**17 44 04.7**	**-4.0**
KMTI	**Karmit**	**7.57**	**142**	Pn	**Pn**	**17 42 45.0**	**-0.4**
SWA1		**7.58**	**205**	P	**Pn**	**17 42 45.2**	**-0.4**
HRFI	**Mount Harif**	**7.78**	**141**	Pn	**Pn**	**17 42 48.1**	**-0.3**
HRFI				Sn	**Sn**	**17 44 11.8**	**-3.6**
AWBH		**7.88**	**183**	P	**Pn**	**17 42 49.0**	**-0.6**
MBH	**Mount Berech**	**7.92**	**142**	Pn	**Pn**	**17 42 50.0**	**-0.3**
MBH	**Mount Berech**	**7.92**	**142**	Pn	**Pn**	**17 42 49.9**	**-0.3**
EIL	**Elat**	**8.04**	**143**	ePn	**Pn**	**17 42 51.6**	**-0.2**
	111nm,0.6s						
EIL				eSn	**Sn**	**17 44 18.5**	**-3.1**
EIL	**Elat**	**8.04**	**143**	ePn	**Pn**	**17 42 51.6**	**-0.2**
	111nm,0.6s						
EIL				eSn	**Sn**	**17 44 18.5**	**-3.1**
HKAT	**Jabal Katrina**	**8.61**	**152**	P	**Pn**	**17 42 59.8**	**+0.1**
TR2		**8.63**	**153**	P	**Pn**	**17 43 00.1**	**+0.1**
HFRF	**Wahat Farafira**	**9.08**	**186**	P	**Pn**	**17 43 05.5**	**-0.6**
HDK1	**Dakhla**	**10.63**	**180**	P	**Pn**	**17 43 27.6**	**+0.2**

IDC 08 18:01:24.6±2.0, 286N×9541E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=67.8km s-min=19.7km az=52.0
ISCJB 08 18:01:27.4±1.4, 28N±02×954E±02, h33km, mb3.8/8, Error ellipse: s-maj=38.5km s-min=13.5km az=86.0
NEIC 08 18:01:29.1±1.1, 287N×9548E, h30km, mb4.0/2, Error ellipse: s-maj=31.9km s-min=10.4km az=224.0
ISC 08 18:01:30.2±1.4, 29N±02×955E±02, h35km, n10, σ0s70/10, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.42**	**92**	Pn	**Pn**	**18 02 20.8**	**-0.3**
	3.5nm,0.3s,baz=302,slow=6.8,SNR=9.4						
LSA	**Lhasa**	**26.97**	**352**	eP	**P**	**18 07 09.6**	**+1.2**
WRA	**Warramunga Arr**	**44.38**	**122**	P	**P**	**18 09 38.5**	**+1.4**
	0.3nm,0.8s,mb3.1,baz=299,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**45.20**	**347**	P	**P**	**18 09 43.8**	**+0.1**
	2.2nm,0.5s,mb4.2,baz=162,slow=7.9,SNR=22						
SONM	**Songino Array**	**45.74**	**10**	P	**P**	**18 09 47.7**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=190,slow=8.8,SNR=9.0						
ASAR	**Alice Springs**	**45.77**	**127**	P	**P**	**18 09 47.4**	**-0.9**
	0.1nm,0.6s,mb2.9,baz=311,slow=8.5,SNR=4.6						
ZAL	**Zalesovo**	**51.62**	**352**	P	**P**	**18 10 33.3**	**+0.1**
	2.3nm,0.4s,mb4.5,baz=289,slow=6.5,SNR=6.0						
BVAR	**Borovoye Array**	**54.10**	**342**	P	**P**	**18 10 50.8**	**-0.7**
	0.7nm,0.6s,mb3.8,baz=148,slow=8.7,SNR=7.0						
ZRNK	**Zerenda**	**54.48**	**341**	eP	**P**	**18 10 53.8**	**-0.5**
	1.2nm,0.8s,mb3.9						
CHKZ	**Chkalovo**	**54.59**	**342**	eP	**P**	**18 10 54.9**	**-0.1**
	1.0nm,0.6s,mb4.0						

LDG 08 18:07:24.8±0.4, 4307N×153W, h5km, Md1.8/2, Ml1.8/1, Error ellipse: s-maj=5.8km s-min=4.1km az=65.0
STR 08 18:07:25.1±0.7, 4313N×148W, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 08 18:07:25.9±0.1, 4311N×150W, h0km, mbLg1.3/8, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELIZ	**Elizondo**	**0.06**	**341**	Pg	Pg	18 07 26.6	-0.4
	25nm,0.2s,SNR=72						
ELIZ				Lg		18 07 28.4	
	54nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.11**	**358**	Pg	Pg	18 07 28.4	+0.3
	9.2nm,0.1s,SNR=114						
EALK				Lg		18 07 30.6	
	46nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.16**	**192**	Pg	Pg	18 07 28.6	-0.3
	4.0nm,0.1s,SNR=7.9						
IUSE				Lg		18 07 31.2	
	18nm,0.1s,SNR=17						
SJPF	**Ste Jean**	**0.20**	**88**	ePg	Pg	18 07 29.5	-0.2
SJPF				eSg	Sg	18 07 32.5	+0.1
	22nm,0.2s						
SJPF	**Ste Jean**	**0.20**	**88**	Pg	Pg	18 07 29.5	-0.2
SJPF				Lg		18 07 32.5	
	11nm,0.2s						
OSSF	**Osses**	**0.23**	**49**	Pg	Pg	18 07 30.0	-0.3
OSSF				Sg	Sg	18 07 33.4	+0.1
OSSF	**Osses**	**0.23**	**49**	P	Pg	18 07 30.0	-0.2
OSSF				S	Sg	18 07 33.5	+0.2
IPRE	**Itoiz**	**0.32**	**160**	Pg	Pg	18 07 31.4	-0.6
	0.9nm,0.1s,SNR=7.9						
IPRE				Lg		18 07 36.0	
	5.0nm,0.2s,SNR=7.1						
EARA	**Aranguren**	**0.34**	**190**	Pg	Pg	18 07 31.8	-0.5
	1.9nm,0.1s,SNR=7.9						
EARA				Lg		18 07 36.9	
	3.8nm,0.1s,SNR=7.9						
LARF	**Larrau**	**0.38**	**100**	Pg	Pg	18 07 32.5	-0.7
LARF				Sg	Sg	18 07 38.0	-0.2
LARF	**Larrau**	**0.38**	**100**	P	Pg	18 07 32.6	-0.6
LARF				S	Sg	18 07 38.1	-0.1
ORDF	**Ordiarp**	**0.43**	**75**	Pg	Pg	18 07 33.7	-0.4
ORDF				Sg	Sg	18 07 39.8	+0.2
ORDF	**Ordiarp**	**0.43**	**75**	P	Pg	18 07 33.8	-0.2
ORDF				S	Sg	18 07 39.3	-0.3
ATE	**Arette**	**0.59**	**92**	P	Pg	18 07 36.4	-0.7
ATE				S	Sg	18 07 44.7	0.0
ETSF	**Etsaut**	**0.72**	**106**	ePg	Pg	18 07 38.2	-1.5
ETSF				eSg	Sg	18 07 47.8	-1.3
	2.8nm,0.2s						
ETSF	**Etsaut**	**0.72**	**106**	Pg	Pg	18 07 38.2	-1.5
ETSF				Lg		18 07 47.8	
	1.4nm,0.2s						
EBIE	**Bielsa**	**1.28**	**109**	Pg	Pg	18 07 48.5	-1.8
	0.1nm,0.1s,SNR=7.2						
EBIE				Lg		18 08 07.3	
	1.3nm,0.2s,SNR=7.6						
EPF	**Esparros**	**1.35**	**93**	ePg	Pg	18 07 50.8	-1.0
EPF				eSg	Sg	18 08 08.3	-1.0
	1.5nm,0.2s						
EPF	**Esparros**	**1.35**	**93**	Pg	Pg	18 07 50.8	-1.0
EPF				Lg		18 08 08.3	
	0.8nm,0.2s						

*ISCJB **08** 18:22:00.9±0.6, 3560N±007×2661E±005, h5km, Error ellipse: s-maj=10.6km s-min=5.1km az=133.7*
*ATH **08** 18:22:02.2, 3575N×2656E, h28km±2km, MD3.5/5*
*NEIC **08** 18:22:02.2, 3575N×2656E, h28km, MD3.5(ATH), After ATH.*
*CSEM **08** 18:22:02.0±0.2, 3578N×2653E, h5km, MD3.5, Error ellipse: s-maj=7.0km s-min=4.2km az=165.0*
ISC 08 18:22:03.1±1.4, **3567N**±009×**2653E**±007, **h17**km±11km, **n10**, σ1.**08**/14, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.53	103	ePN	Pg	18 22 12.8	-0.9
KARP				eSN	Sg	18 22 21.8	+1.0
NPS	Neapolis	0.85	242	ePN	Pn	18 22 19.8	-0.5
NPS				eSN	Sn	18 22 32.1	-0.3
XRY	Khrisi	1.05	221	ePN	Pn	18 22 24.0	+1.0
DAT	Datca	1.35	39	PN	Pn	18 22 25.2	-2.0
DAT				SN	Sn	18 22 46.1	+1.3
ARG	Arkhangelos	1.41	67	ePN	Pn	18 22 27.1	-0.9
ARG				eSN	Sn	18 22 45.6	-0.5
BODT	Bodrum	1.52	24	ePN	Pn	18 22 31.5	+1.9
APE	Apeiranthos	1.61	330	ePN	Pn	18 22 30.3	-0.4
VAM	Vamos	1.92	263	ePN	Pn	18 22 35.6	+0.6
DALT	Dalyan (Mudla)	2.03	57	ePN	Pn	18 22 28.2	-8.3
YER	Yerkesik	2.03	44	eP	Pn	18 22 32.3	-4.3

---

*ISCJB **08** 18:38:58.4±0.3, 4140N±001×2086E±002, h8km±2km, mb3.9/4, MS2.8/1, Error ellipse: s-maj=2.2km s-min=1.7km az=81.2*
*TIR **08** 18:38:58.4, 4140N×2078E, h4km*
*PDG **08** 18:38:58.7±0.9, 4135N×2087E, h7km±2km*
*SKO **08** 18:38:58.3, 4133N×2091E, h21km, M2.4, ML3.1*
*THE **08** 18:38:58.7, 4139N×2090E, h10km, ML3.8*
*NEIC **08** 18:38:58.7, 4139N×2090E, h0km, ML4.0(PDG), ML4.1(ATH), After THE.*
*CSEM **08** 18:38:58.9±0.0, 4143N×2090E, h2km, Ms2.5, Error ellipse: s-maj=1.1km s-min=0.8km az=26.0*
*ATH **08** 18:38:59.1, 4143N×2091E, h22km±5km, MD4.1/11*
*LDG **08** 18:39:01.8±0.8, 4096N×1960E, h10km, Mb5.0/13, Ms2.5/6, Error ellipse: s-maj=33.4km s-min=11.1km az=55.0*
*MOS **08** 18:39:01.1±0.8, 4135N×2085E, h33km, mb4.0/1, Error ellipse: s-maj=5.4km s-min=3.7km az=119.4*
*ROM **08** 18:39:02.4±0.7, 4131N×2057E, h10km, Ml4.0/42, Error ellipse: s-maj=10.9km s-min=3.2km az=101.0*
*PRU **08** 18:39:04.3, 4148N×2028E, h0km*
*IDC **08** 18:39:05.0±2.0, 4132N×2078E, h57km±25km, mb3.6/6, mb1 3.7/13, mb1mx3.6/27, mbtmp3.8/13, ML3.5/7, MS2.9/4, Ms1 2.9/4, ms1mx2.4/35, Error ellipse: s-maj=19.8km s-min=12.7km az=84.0*
*NAO **08** 18:39:06.7, 4232N×2314E, h33km, mb3.4*
ISC 08 18:38:59.0±0.3, **4136N**±001×**2089E**±002, **h0**km±2km, **n253**, σ1.**04**/323, **mb3.9**/4, **MS2.8**/1, **26C-23D**, **Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.26	196	ePg	Pg	18 39 03.7	-0.2
OHR				eSg	Sg	18 39 08.6	+1.3
OHR	Ohrid	0.26	196	iPg	Pg	18 39 04.1	+0.1
OHR				iSg	Sg	18 39 08.6	+1.3
OHR				eLg		18 39 08.8	
	comp=E,9μm,0.5s						
OHR				eLg		18 39 09.4	
	comp=N,5μm,0.4s						
OHR	Ohrid	0.26	196	iPg	Pg	18 39 04.0	+0.1
OHR				eSg	Sg	18 39 08.6	+1.3
BIA	Bitola	0.47	136	ePg	Pg	18 39 07.5	-0.5
BIA				eSg	Sg	18 39 15.7	+1.6
BIA	Bitola	0.47	136	iPg	Pg	18 39 07.8	-0.2
BIA	Bitola	0.47	136	iPg	Pg	18 39 07.8	-0.2
BIA				eSg	Sg	18 39 15.7	+1.5
FNA	Florina	0.69	147	ePg	Pg	18 39 11.9	-0.1
FNA				eSg	Sg	18 39 22.8	+1.8
FNA	Florina	0.69	147	ePg	Pg	18 39 11.9	-0.2
FNA				eSg	Sg	18 39 22.8	+1.8
SKO	Skopje	0.73	34	ePg	Pg	18 39 12.9	-0.2
SKO	Skopje	0.73	34	iPg	Pg	18 39 13.6	+0.5
KBN	Korca	0.74	186	iPg	Pg	18 39 13.5	+0.3
KBN				iSg	Sg	18 39 28.0	+5.2
KBN	Korca	0.74	186	ePg	Pg	18 39 13.5	+0.3
KBN				iSg	Sg	18 39 28.0	+5.2
TIR	Tirane	0.77	269	Pn	Pg	18 39 12.7	-1.1
	comp=N,4μm,0.7s						
TIR	Tirane	0.77	269	ePg	Pg	18 39 12.7	-1.1
TIR				eSg	Sg	18 39 24.9	+1.1
KKS	Kukesi	0.80	333	iPg	Pg	18 39 14.9	+0.6
KKS				iSg	Sg	18 39 26.3	+1.7
KKS	Kukesi	0.80	333	ePg	Pg	18 39 14.9	+0.6
KKS				iSg	Sg	18 39 26.3	+1.7
STIP	Stip	1.03	71	ePg	Pg	18 39 17.9	-0.7
STIP				eSg	Sg	18 39 32.4	+0.5
STIP	Stip	1.03	71	iPg	Pg	18 39 18.2	-0.5
BCI	Bajram Curri	1.18	329	iPg	Pg	18 39 20.5	-1.0
BCI				iSg	Sg	18 39 38.5	+1.7
BCI	Bajram Curri	1.18	329	ePg	Pg	18 39 20.5	-1.0
BCI				iSg	Sg	18 39 38.5	+1.7
GRG	Griva	1.21	109	ePg	Pg	18 39 21.6	-0.5
GRG				eSg	Sg	18 39 39.4	+1.6
LSK	Leskovik	1.23	190	iPn	Pn	18 39 23.0	-0.4
LSK				iSn	Sn	18 39 41.5	+0.8
LSK	Leskovik	1.23	190	ePn	Pn	18 39 23.0	-0.4
LSK				iSn	Sn	18 39 41.5	+0.8
KZN	Kozani	1.25	147	ePN	Pn	18 39 23.7	+0.1
KZN				eSN	Sn	18 39 42.3	+1.2
SDA	Shkodra	1.25	304	iPg	Pg	18 39 21.9	-1.0
SDA	Shkodra	1.25	304	ePn	Pg	18 39 21.9	-1.0
SDA				iSn	Sn	18 39 43.5	+2.4
TPE	Tepelena	1.26	212	iPn	Pn	18 39 24.3	+0.5
TPE				iSn	Sg	18 39 46.4	+7.0
TPE	Tepelena	1.26	212	ePn	Pn	18 39 24.3	+0.5
TPE				iSn	Sg	18 39 46.4	+7.0
VAY	Valandovo	1.27	91	ePg	Pg	18 39 22.1	-1.1
VAY				eSg	Sg	18 39 40.3	+0.7
VAY	Valandovo	1.27	91	⇑iPg	Pg	18 39 22.2	-1.0
ULC	Ulcinj	1.37	297	⇓iPg	Pg	18 39 23.1	-2.1
ULC				eSg	Sg	18 39 44.9	+1.9
PVY	Plav	1.41	331	⇑iPg	Pg	18 39 24.1	-1.9
PVY				eSg	Sg	18 39 46.7	+2.5
KNT	Kendrikon	1.53	97	ePg	Pg	18 39 26.5	-1.7
MEV	Metsovon	1.60	171	ePg	Pg	18 39 28.6	-1.0
BARS	Barje	1.61	25	iPg	Pg	18 39 29.9	0.0
BARS				Sg	Sg	18 39 47.9	-2.9
TTG	Podgorica	1.62	312	⇑iPn	Pn	18 39 27.7	-1.0
TTG				eSn	Sn	18 39 52.7	+2.5
SRN	Sarande	1.63	205	iPn	Pn	18 39 30.1	+1.3
SRN				iSn	Sn	18 39 53.5	+3.0
SRN	Sarande	1.63	205	ePn	Pn	18 39 30.1	+1.3
SRN				iSn	Sn	18 39 53.5	+3.0
IVA	Berane	1.68	334	⇓iPn	Pn	18 39 29.3	-0.2
IVA				eSn	Sn	18 39 54.3	+2.5
JAN	Janina	1.70	181	ePN	Pn	18 39 31.0	+1.1
THE	Thessaloniki	1.73	114	ePb	Pb	18 39 29.5	-2.1
LIT	Litokhoron	1.75	136	ePb	Pb	18 39 30.2	-1.7
LIT				eSb	Sb	18 39 53.3	-1.2
BUM	Brajici-Budva	1.76	303	⇓iPn	Pn	18 39 30.3	-0.4
BUM				eSn	Sn	18 39 56.2	+2.5
HORT	Hortiatis	1.84	114	ePb	Pn	18 39 30.5	-1.2
KEK	Kerkira	1.85	207	ePN	Pn	18 39 32.7	+0.9
KEK				eSN	Sn	18 39 57.3	+1.4
IGT	Igoumenitsa	1.88	193	ePb	Pb	18 39 33.6	-0.5
SOH	Sokhos	1.94	105	ePb	Pn	18 39 32.2	-0.9
SOH				eSb	Sb	18 39 58.5	-1.3
SOH	Sokhos	1.94	105	ePb	Pn	18 39 32.2	-0.9
SOH				eSb	Sb	18 39 58.5	-1.3
NKY	Niksic	2.02	316	⇑iPn	Pn	18 39 34.8	+0.6
NKY				eSn	Sn	18 40 02.8	+2.6
SJES	Sjenica	2.03	340	Pn	Pn	18 39 34.6	+0.2
SJES				Sn	Sn	18 39 58.9	-1.5
SRS	Serrai	2.05	96	ePn	Pn	18 39 33.9	-0.8
HCY	Herceg Novi	2.09	302	⇑iPn	Pn	18 39 35.9	+0.7
HCY				eSn	Sn	18 40 04.0	+2.2
VTS	Vitosha	2.12	54	ePn	Pn	18 39 34.8	-0.8
VTS				eSn	Sn	18 40 02.5	-0.2
VTS	Vitosha	2.12	54	⇑iP	Pg	18 39 39.8	+0.2
VTS	Vitosha	2.12	54	P	Pn	18 39 34.8	-0.8
VTS				⇑P	Pg	18 39 39.8	+0.2
VTS				S	Sn	18 40 02.5	-0.2
MMB	Musomiste	2.14	83	ePn	Pn	18 39 35.8	-0.1
PLG	Polygyros	2.17	116	ePB	Pn	18 39 36.5	+0.1
NVR	Nevrokopi	2.24	89	ePB	Pn	18 39 37.6	+0.4
SCTE	Santa Cesarea	2.25	236	Pn	Pn	18 39 37.2	-0.2
	comp=N,561nm,0.4s						
PLE	Pljevlja	2.26	331	⇓iPn	Pn	18 39 38.0	+0.5
PLE				eSn	Sn	18 40 08.4	+2.4
BRY	Bratogost	2.33	312	⇓iPn	Pn	18 39 39.2	+0.8
BRY				eSn	Sn	18 40 10.1	+2.4
TREB	Trebinje	2.33	306	P	Pn	18 39 38.9	+0.4
TREB				S	Sn	18 40 08.8	+1.1
LCI	Lecce	2.34	245	Pn	Pn	18 39 38.3	-0.4
	comp=N,101nm,0.4s						
UPM	Unac-Piva	2.35	322	⇓iPn	Pn	18 39 39.9	+1.0
UPM				eSn	Sn	18 40 11.2	+2.8
GRUS	Gruza	2.53	357	iPn	Pb	18 39 45.2	0.0
GRUS				Sg	Sg	18 40 22.8	+2.6
EVR	Evrytania	2.54	164	ePN	Pn	18 39 42.2	+0.8
OUR	Ouranopolis	2.56	113	ePn	Pn	18 39 41.2	-0.5
PAIG	Paliouri	2.56	123	ePn	Pn	18 39 41.1	-0.6
AGG	Agios Georgios	2.58	154	ePn	Pn	18 39 42.2	+0.2
LKD	Levkas	2.66	184	ePn	Pn	18 39 43.7	+0.7
XOR	Xorichti	2.66	138	ePn	Pn	18 39 42.6	-0.4
PE1	Pezze di Greco	2.68	259	ePn	Pn	18 39 42.6	-0.7
NEO	Neokhori	2.72	138	ePN	Pn	18 39 43.8	0.0
BBLS	Bajina Basta -	2.73	337	iPn	Pn	18 39 45.7	+1.7
DIVS	Divcibare	2.81	347	iPn	Pn	18 39 45.7	+0.6
DIVS	Divcibare	2.81	347	ePn	Pn	18 39 44.6	-0.5
SVIS	Svilajnac	2.94	5	iPn	Pn	18 39 47.4	+0.5
SVIS				Sn	Sn	18 40 23.8	+0.8
PLD	Plovdiv	2.95	74	ePn	Pn	18 39 47.2	+0.2
NOCI	Noci	2.95	260	Pn	Pn	18 39 46.1	-0.9
BAI	Bari	3.04	266	ePn	Pn	18 39 47.4	-0.8
LKR	Lokris	3.16	148	ePN	Pn	18 39 50.5	+0.7
AOS	Alonnisos	3.17	133	ePn	Pn	18 39 49.3	-0.7
VLS	Valsamata	3.19	184	ePN	Pn	18 39 50.8	+0.5
SG1	Sgolgore (BA)	3.23	262	ePn	Pn	18 39 50.2	-0.6
AMUR	Altamura	3.27	263	Pn	Pn	18 39 50.6	-0.8
	comp=N,188nm,0.5s						
RLS	Riolos of Patr	3.33	172	ePN	Pn	18 39 54.1	+1.9
MIGL	Miglionico	3.45	259	Pn	Pn	18 39 53.7	-0.2
	comp=N,902nm,0.7s						
DJES	Djerdap	3.48	20	iPn	Pn	18 39 54.7	+0.3
DJES				Sn	Sn	18 40 36.0	-0.2
CDT	Castel del Mon	3.49	267	ePn	Pn	18 39 54.0	-0.5
RDO	Rodhopi	3.51	92	ePN	Pn	18 39 54.3	-0.4
ORI	Oriolo Calabro	3.62	250	Pn	Pn	18 39 55.6	-0.6
	comp=N,313nm,0.4s						
FGMS	Monte Sant'Ang	3.72	277	Pn	Pn	18 39 57.0	-0.6
	comp=N,105nm,0.4s						
MS1	Monte Sant'Ang	3.73	277	ePn	Pn	18 39 57.2	-0.6
PALZ	Palazzo San Ge	3.75	265	Pn	Pn	18 39 57.5	-0.5
	comp=N,482nm,1.0s						
MSAG	Monte S. Angel	3.76	277	Pn	Pn	18 39 57.1	-1.0
	comp=N,241nm,0.6s						
SCHR	S. Chirico Rap	3.84	254	Pn	Pn	18 39 58.7	-0.5
	comp=N,116nm,0.7s						
FGSL	Fruska Gora	3.87	349	Pn	Pn	18 39 59.1	-0.6
FGSL				Sn	Sn	18 40 44.0	-1.9
SGRT	San Giovanni R	3.88	277	Pn	Pn	18 39 58.8	-1.0
	comp=N,158nm,0.8s						
ALN	Alexandroupoli	3.92	95	ePn	Pn	18 40 00.4	+0.1
SERS	Sersale	3.97	236	Pn	Pn	18 40 00.1	-0.9
	comp=N,77nm,0.7s						
SIRI	Monte Sirino -	3.99	254	Pn	Pn	18 40 00.5	-0.9
	comp=N,155nm,0.7s						
RGNG	Rignano Grg	4.00	276	Pn	Pn	18 40 00.5	-0.9
VULT	Monte Vulture	4.00	266	Pn	Pn	18 40 01.0	-0.5
	comp=N,204nm,0.6s						
MTSN	Montesano sull	4.05	256	Pn	Pn	18 40 01.7	-0.5
	comp=N,212nm,0.5s						
FG4	Candela	4.06	269	Pn	Pn	18 40 02.1	-0.2
	comp=N,113nm,0.4s						
CUC	Castrocucco	4.09	252	Pn	Pn	18 40 02.6	-0.2
	comp=N,210nm,0.5s						
SLCN	Sala Consilina	4.10	258	Pn	Pn	18 40 02.7	-0.2
	comp=N,212nm,0.5s						
MRLC	Muro Lucano	4.13	263	Pn	Pn	18 40 03.3	+0.1
	comp=N,109nm,0.8s						
FG5	Orsara di Pugl	4.24	271	Pn	Pn	18 40 05.0	+0.3
	comp=N,174nm,0.8s						
GZR	Gura Zlata	4.26	18	⇑iP	Pn	18 40 05.4	+0.4
GZR	Gura Zlata	4.26	18	⇑P	Pn	18 40 05.4	+0.4
CAFE	Carife	4.28	267	Pn	Pn	18 40 05.1	-0.2
	comp=N,166nm,0.9s						
BZS	Buzias	4.29	7	⇑iP	Pn	18 40 05.8	+0.4
BZS	Buzias	4.29	7	⇑P	Pn	18 40 05.8	+0.4
SNAL	S. Angelo Dei	4.31	266	Pn	Pn	18 40 05.2	-0.6
	comp=N,163nm,0.7s						
CDRU	Civita di Ruta	4.32	260	Pn	Pn	18 40 05.2	-0.7
	comp=N,96nm,0.5s						
FG2	Serracapriola	4.32	278	Pn	Pn	18 40 05.6	-0.3
	comp=N,411nm,0.1s						
MCRV	Calabrutti - M	4.36	264	Pn	Pn	18 40 06.0	-0.5
	comp=N,121nm,0.6s						
CMPR	Campora	4.37	258	Pn	Pn	18 40 06.1	-0.4
	comp=N,101nm,0.5s						
JMB	Yambol	4.39	74	ePn	Pn	18 40 06.0	-0.8
PLAC	Placanica	4.49	231	Pn	Pn	18 40 07.2	-1.0
	comp=N,120nm,0.8s						
CIGN	Sant'Elia a Pi	4.50	276	Pn	Pn	18 40 08.2	-0.2
	comp=N,69nm,0.6s						
PSB1	Pescosannita	4.58	270	Pn	Pn	18 40 09.7	+0.2
	comp=N,91nm,0.8s						
SACR	S. Croce Del S	4.65	272	Pn	Pn	18 40 10.3	-0.1
	comp=N,77nm,0.7s						
FRES	Fresagrandinar	4.70	280	Pn	Pn	18 40 11.1	0.0
	comp=N,253nm,0.6s						
BSSO	Busso	4.74	274	Pn	Pn	18 40 11.7	+0.1
	comp=N,101nm,0.6s						
TRIV	Trivento	4.77	277	Pn	Pn	18 40 12.2	+0.1
	comp=N,152nm,0.9s						
RHK3	Tenkes	4.91	338	⇓iP	Pn	18 40 13.2	-0.8
CEL	Celeste	4.94	233	Pn	Pn	18 40 14.1	-0.3
	comp=N,203nm,1.1s						
CHOS	Chios island	4.96	125	ePn	Pn	18 40 15.0	+0.4
SOI	Samo	4.97	230	Pn	Pn	18 40 15.2	+0.4
	comp=N,293nm,0.9s						
MIDA	Miranda	4.99	275	Pn	Pn	18 40 15.0	-0.1
	comp=N,94nm,0.6s						
VAGA	Valle Agricola	5.01	273	Pn	Pn	18 40 15.7	+0.4
	comp=N,212nm,0.9s						
MOCO	Biccari - m.te	5.07	272	Pn	Pn	18 40 05.9	-10
	comp=N,169nm,1.1s						
RNI2	Rionero Sannit	5.07	276	Pn	Pn	18 40 16.2	0.0
	comp=N,155nm,1.0s						
PKSM	Moragy	5.11	342	⇓iP	Pn	18 40 15.9	-0.9
PKSM	Moragy	5.11	342	⇓P	Pn	18 40 15.9	-0.8
PKSM	Moragy	5.11	342	P	Pn	18 40 16.0	-0.8
CERA	Filignano	5.17	275	Pn	Pn	18 40 18.3	+0.8
	comp=N,265nm,0.8s						
RFI	Roccamonfina	5.20	272	Pn	Pn	18 40 18.5	+0.5
	comp=N,8.0nm,0.5s						
INTR	Introdacqua	5.27	279	Pn	Pn	18 40 17.8	-1.1
	comp=N,186nm,0.9s						
PKS6	Bocsa	5.32	350	eP	Pn	18 40 20.6	+1.0
VCEL	Villa Celiera	5.36	283	Pn	Pn	18 40 20.1	-0.1
	comp=N,106nm,0.5s						
LLI	Lipari	5.42	239	Pn	Pn	18 40 20.2	-0.8
	comp=N,392nm,0.6s						
VPL	Vulcano Piano	5.43	239	Pn	Pn	18 40 20.8	-0.4
	comp=N,190nm,0.6s						
NVLJ	Novalja	5.45	308	iPn	Pn	18 40 21.3	-0.2
NVLJ				iSn	Sn	18 41 22.6	-2.3
NVLJ	Novalja	5.45	308	iPn	Pn	18 40 21.2	-0.2
MLR	Muntele Rosu	5.53	40	P	Pn	18 40 27.5	+5.0
	comp=N,0.7nm,0.3s,baz=174,slow=9.0,SNR=7.7						
MLR				S	Sn	18 41 28.4	+1.7
	comp=N,0.6nm,0.3s,baz=281,slow=19,SNR=3.1						
MLR	Muntele Rosu	5.53	40	⇑iP	Pn	18 40 25.5	+3.0
MLR	Muntele Rosu	5.53	40	P	Pn	18 40 27.5	+5.0
MLR				S	Sn	18 41 28.4	+1.7
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR	Muntele Rosu	5.53	40	⇑P	Pn	18 40 25.5	+3.0
MLR				S	Sn	18 41 28.4	+1.7
	comp=N,1.0nm,0.3s						
FAGN	Fagnano	5.54	282	Pn	Pn	18 40 22.3	-0.2
	comp=N,193nm,0.6s						
TERO	Teramo	5.57	285	Pn	Pn	18 40 22.9	-0.2
	comp=N,107nm,0.7s						
OFFI	Offida	5.58	289	Pn	Pn	18 40 23.7	+0.5
	comp=N,230nm,0.6s						
APE	Apeiranthos	5.60	138	ePn	Pn	18 40 24.1	+0.7
AQU	L'Aquila	5.68	283	eP	Pn	18 40 24.6	+0.1
AQU				pmax	pmax		
	comp=Z,47nm,0.6s						
AQU	L'Aquila	5.68	283	eP	Pn	18 40 24.6	+0.1
	comp=Z,48nm,0.6s						
AQU	L'Aquila	5.68	283	eP	Pn	18 40 24.6	+0.1
	comp=Z,48nm,0.6s						
GIUL	Giuliano Di Ro	5.74	274	Pn	Pn	18 40 24.5	-0.9
	comp=Z,33nm,0.6s						
AOI	Ancona	5.82	294	Pn	Pn	18 40 26.1	-0.3
	comp=Z,119nm,1.0s						
BOJS	Bojanci	5.83	317	iPn	Pn	18 40 25.3	-1.3
BOJS				iSn	Sn	18 41 32.6	-1.5
FIAM	Fiamignano	5.88	281	Pn	Pn	18 40 27.5	+0.2
	comp=Z,78nm,0.5s						
CERT	Cerreto	5.95	278	Pn	Pn	18 40 28.6	+0.3
	comp=Z,33nm,0.5s						
CING	Cingoli	6.04	292	Pn	Pn	18 40 29.0	-0.6
	comp=Z,38nm,0.7s						
HARR	Harsova	6.14	55	⇓iP	Pn	18 40 31.2	+0.4
HARR	Harsova	6.14	55	⇓P	Pn	18 40 31.2	+0.3
SNTG	Esanatoglia	6.19	290	Pn	Pn	18 40 30.9	-0.7
	comp=Z,17nm,0.4s						
MNS	Montasola	6.21	282	Pn	Pn	18 40 32.3	+0.4
	comp=Z,69nm,0.8s						
ARV	Arcevia	6.26	293	Pn	Pn	18 40 31.9	-0.6
	comp=Z,11nm,0.8s						
TIRR	Tirgusor	6.33	58	⇑iP	Pn	18 40 33.3	-0.2
TIRR	Tirgusor	6.33	58	⇑P	Pn	18 40 33.4	-0.1
TIRR	Tirgusor	6.33	58	P	Pn	18 40 33.4	-0.1
ASS	Assisi	6.35	288	Pn	Pn	18 40 33.5	-0.2
	comp=Z,2.0nm,0.4s						
KARN	Karanos	6.41	157	ePn	Pn	18 40 35.5	+1.0
FSSB	Fossombrone	6.43	294	Pn	Pn	18 40 34.3	-0.6
	comp=Z,104nm,0.4s						
MURB	Monte Urbino	6.49	290	Pn	Pn	18 40 35.6	0.0
	comp=Z,102nm,0.4s						
CFR	Carcaliu	6.52	52	⇓iP	Pn	18 40 42.0	+5.9
CFR	Carcaliu	6.52	52	⇓P	Pn	18 40 42.0	+5.9
PSZ	Piszkesteto	6.59	354	ePn	Pn	18 40 39.9	+2.8
PSZ				eSn	Sn	18 41 52.2	-0.7
PSZ	Piszkesteto	6.59	354	⇓iP	Pn	18 40 40.0	+2.9
PSZ	Piszkesteto	6.59	354	⇓P	Pn	18 40 40.0	+2.9
JAVS	Javornik	6.71	315	iPn	Pn	18 40 38.8	+0.1
JAVS				iSn	Sn	18 41 55.8	0.0
PERS	Pernice	6.72	324	iPn	Pn	18 40 39.3	+0.5
PERS				eSn	Sn	18 41 52.7	-3.3
BADI	Badiali	6.75	291	Pn	Pn	18 40 40.4	+1.2
	comp=Z,46nm,0.7s						
IDI	Anoyia	6.83	151	P	Pn	18 40 41.0	+0.7
	comp=Z,0.9nm,0.3s,baz=27,slow=17,SNR=10.0						
IDI				S	Sn	18 42 01.3	+2.5
	comp=Z,0.7nm,0.3s,baz=142,slow=23,SNR=3.4						
IDI				LR	LR	18 43 30.4	
	comp=Z,59nm,21.2s,baz=225,slow=39						
IDI	Anoyia	6.83	151	P	Pn	18 40 41.0	+0.7
IDI				S	Sn	18 42 01.3	+2.5
OBKA	Obir	6.88	320	⇓iPn	Pn	18 40 41.6	+0.5
OBKA				⇓iSn	Sn	18 41 59.3	-0.9
VOY	Vojsko	6.89	315	ePn	Pn	18 40 41.3	+0.1
VOY				eSn	Sn	18 41 54.7	-5.6
ARSA	Arzberg	7.03	329	⇓iPn	Pn	18 40 43.2	+0.1
ARSA				⇑iSn	Sn	18 42 03.2	-0.6
KECS	Kecovo	7.13	358	ePN	Pn	18 40 45.5	+1.1
KECS				eSN	Sn	18 42 04.5	-1.6
VYHS	Vyhne	7.28	349	eP	Pn	18 40 46.8	+0.3
VYHS				eSn	Sn	18 42 02.9	-6.9
CONA	Conrad Observa	7.48	333	⇑iPn	Pn	18 40 50.0	+0.8
KBA	Koelnbreinsper	7.87	319	⇑iPn	Pn	18 40 55.8	+1.1
KBA				⇓iSn	Sn	18 42 24.5	0.0
MOA	Molln	8.02	326	⇓iPn	Pn	18 40 56.9	+0.2
MOA				⇑iSn	Sn	18 42 27.6	-0.6
STHS	Stebnicka Huta	8.06	2	ePN	Pn	18 41 01.9	+4.7
STHS				eSN	Sn	18 42 35.1	+6.1
VRAC	Vranov	8.50	341	P	Pn	18 41 05.1	+1.9
	comp=Z,0.2nm,0.3s,baz=169,slow=12,SNR=3.8						
VRAC				LR	LR	18 44 41.1	
	comp=Z,52nm,20.9s,baz=161,slow=40						
WTTA	Wattenberg	8.88	315	⇑iPn	Pn	18 41 09.4	+1.0
WTTA				⇓iSn	Sn	18 42 48.4	-0.7
WATA	Walderalm	8.95	315	⇑iPn	Pn	18 41 09.8	+0.4
WATA				⇑iSn	Sn	18 42 50.7	-0.2
GEC2	GERESS Array S	9.04	328	eP	Pn	18 41 13.7	+3.0
GERES	GERESS Array B	9.04	328	P	Pn	18 41 13.8	+3.1
	comp=Z,0.4nm,0.3s,baz=152,slow=14,SNR=4.1						
GERES				LR	LR	18 45 13.2	
	comp=Z,140nm,18.6s,baz=240,slow=41						
GERES	GERESS Array B	9.04	328	P	Pn	18 41 13.8	+3.1
GERES				LR	LR	18 45 13.2	
SQTA	Sankt Quirin	9.08	313	⇑iPn	Pn	18 41 11.8	+0.6
SQTA				⇑iSn	Sn	18 42 53.4	-0.7
MOTA	Moosalm	9.21	314	⇓iPn	Pn	18 41 13.3	+0.3
MOTA				⇑iSn	Sn	18 42 56.0	-1.4
KHC	Kasperske Hory	9.32	329	eP	Pn	18 41 16.9	+2.4
KHC				AMS	AMS	18 45 10.0	
	comp=Z,300nm,8.0s						
KHC	Kasperske Hory	9.32	329	eP	Pn	18 41 17.5	+3.0
DPC	Dobruska-Polom	9.54	342	AMS	AMS	18 45 20.0	
	comp=Z,200nm,11.9s						
PRU	Pruhonice	9.70	335	eP	Pn	18 41 24.4	+4.7
PRU				AMS	AMS	18 45 20.0	
	comp=Z,300nm,9.8s						
BRTR	Keskin Array B	9.84	95	P	Pn	18 41 25.1	+3.4
	comp=Z,0.1nm,0.3s,baz=286,slow=16,SNR=3.1						
DAVA	Damuels	9.86	311	⇑iPn	Pn	18 41 22.6	+0.7
DAVA				⇓iSn	Sn	18 43 12.8	-0.5
SBF	Sospel	10.23	289	eP	Pn	18 41 21.4	-5.6
	comp=Z,20nm,0.7s						
SBF	Sospel	10.23	289	eP	Pn	18 41 21.4	-5.6
	comp=Z,10.0nm,0.7s						
FRF	La Foret Royal	10.75	287	eP	Pn	18 41 28.6	-5.5
	comp=Z,8.9nm,0.6s						
FRF	La Foret Royal	10.75	287	eP	Pn	18 41 28.6	-5.5
	comp=Z,4.4nm,0.6s						
LMR	La Mourre	10.83	285	eP	Pn	18 41 29.5	-5.7
MBDF	Montbardon	10.87	293	eP	Pn	18 41 28.4	-7.3
	comp=Z,8.0nm,0.5s						
MBDF	Montbardon	10.87	293	eP	Pn	18 41 28.4	-7.3
	comp=Z,4.0nm,0.5s						
BNI	Bardonecchia	11.01	294	eP	Pn	18 41 37.2	-0.4
BNI				pmax	pmax		
	comp=Z,12nm,1.3s						
BNI	Bardonecchia	11.01	294	eP	Pn	18 41 37.2	-0.4
	comp=Z,12nm,1.3s						
LPG	La Plagne	11.08	297	eP	Pn	18 41 33.5	-5.1
	comp=Z,12nm,0.5s						
LPG	La Plagne	11.08	297	eP	Pn	18 41 33.5	-5.1
	comp=Z,5.9nm,0.5s						
LPL	La Plagne	11.10	297	eP	Pn	18 41 33.9	-5.0
	comp=Z,13nm,0.6s						
LPL	La Plagne	11.10	297	eP	Pn	18 41 33.9	-5.0
	comp=Z,6.6nm,0.6s						
ORIF	Oris-en-Rattie	11.53	293	eP	Pn	18 41 39.7	-5.0
	comp=Z,6.5nm,0.6s						
ORIF				eR			
	comp=Z,59nm,17.5s						
ORIF	Oris-en-Rattie	11.53	293	eP	Pn	18 41 39.7	-5.0
	comp=Z,3.2nm,0.6s						
CABF	La Chapelle	11.88	301	eP	Pn	18 41 46.7	-2.8
	comp=Z,12nm,0.6s						
CABF	La Chapelle	11.88	301	eP	Pn	18 41 46.7	-2.8
	comp=Z,6.1nm,0.6s						
HINF	Hinteralfeld	11.90	308	eP	Pn	18 41 48.9	-0.9
	comp=Z,12nm,0.7s						
HINF	Hinteralfeld	11.90	308	eP	Pn	18 41 48.9	-0.9
	comp=Z,6.1nm,0.7s						
CDF	Champ du Feu	11.95	311	eP	Pn	18 41 50.2	-0.2
HAU	Haudompre	12.29	308	eP	Pn	18 41 52.3	-2.8
	comp=Z,6.8nm,0.4s						
HAU				eR			
	comp=Z,43nm,18.8s						
HAU	Haudompre	12.29	308	eP	Pn	18 41 52.3	-2.8
	comp=Z,3.4nm,0.4s						
VIVF	Saint-Julien-l	12.36	292	eP	Pn	18 41 50.9	-5.2
SMF	Signal de Mont	13.35	299	eP	Pn	18 42 05.6	-4.1
	comp=Z,15nm,0.8s						
SMF	Signal de Mont	13.35	299	eP	Pn	18 42 05.6	-4.1
	comp=Z,7.4nm,0.8s						
LOR	Lormes	13.54	302	eP	Pn	18 42 08.1	-4.1
	comp=Z,11nm,0.7s						
LOR				eR			
	comp=Z,54nm,20.2s						
LOR	Lormes	13.54	302	eP	Pn	18 42 08.1	-4.1

	comp=Z,5.5nm,0.7s						
TCF	Toulx Ste Croi	14.35	296	eP	Pn	18 42 18.4	-4.9
	comp=Z,8.6nm,0.8s						
TCF	Toulx Ste Croi	14.35	296	eP	Pn	18 42 18.4	-4.9
	comp=Z,4.3nm,0.8s						
ASF	Jabal al Asfar	15.75	121	P	Pn	18 42 45.0	+2.9
	comp=Z,0.2nm,0.3s,baz=190,slow=3.9,SNR=3.5						
OBN	Obninsk	17.21	32	eP	Pn	18 42 59.7	-1.0
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
OBN	Obninsk	17.21	32	eP	Pn	18 42 59.7	-1.0
	comp=Z,11nm,1.0s						
HFS	Hagfors	19.32	349	P	Pn	18 43 26.3	-0.2
	comp=Z,0.3nm,0.3s,baz=174,slow=14,SNR=7.7						
KONO	Kongsberg	19.61	343	eP	Pn	18 43 28.8	-1.3
FINES	FINESS Array B	20.36	7	P	P	18 43 37.2	+0.4
	comp=Z,4.5nm,0.9s,baz=175,slow=12,SNR=5.7						
FINES	FINESS Array B	20.36	7	eP	P	18 43 38.5	+1.6
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	20.36	7	eP	P	18 43 38.5	+1.6
	comp=Z,5.0nm,0.9s						
NB2	NORSAR Subarra	20.57	347	P	P	18 43 37.0	-2.2
	comp=Z,1.2nm,0.6s,baz=154,slow=11						
NOA	NORSAR Array B	20.57	347	P	P	18 43 39.2	0.0
	comp=Z,1.8nm,0.7s,baz=154,slow=10,SNR=4.8						
EKA	Eskdalemuir Ar	21.09	320	P	P	18 43 43.4	-1.5
	comp=Z,2.6nm,0.7s,mb3.7,baz=117,slow=10,SNR=12						
AKTO	Aktyubinsk	27.14	58	LR	LR	18 56 26.1	
	comp=Z,23nm,18.4s,MS2.8,baz=63,slow=38						
ARCES	ARCESS Array B	28.34	3	P	P	18 44 54.0	-0.5
	comp=Z,2.4nm,0.9s,mb4.0,baz=185,slow=9.4,SNR=4.7						
TORD	Torodi Ar. Bea	32.72	216	P	P	18 45 31.1	-2.1
	comp=Z,1.9nm,0.8s,mb4.1,baz=32,slow=8.8,SNR=14						
ZAL	Zalesovo	43.39	51	P	P	18 47 02.0	-1.1
	comp=Z,0.9nm,0.4s,mb3.9,baz=210,slow=8.9,SNR=5.5						

IDC 08 18:43:11.2±1.2, 033S×12516E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=149.6km s-min=20.2km az=66.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.46	156	P	P	18 48 02.7	+1.6
	0.7nm,0.4s,baz=334,slow=9.5,SNR=12						
ASAR	Alice Springs	24.70	161	P	P	18 48 33.1	-0.7
	0.4nm,0.4s,baz=350,slow=10,SNR=8.5						
SONM	Songino Array	50.68	344	P	P	18 52 12.1	-0.2
	1.0nm,0.7s,baz=159,slow=7.6,SNR=7.8						
MKAR	Makanchi Array	60.04	327	P	P	18 53 20.4	+0.7
	1.0nm,0.6s,baz=123,slow=8.0,SNR=13						
AKTO	Aktyubinsk	75.88	323	P	P	18 54 59.5	0.0
	1.9nm,0.7s,baz=96,slow=6.0,SNR=8.8						

MAN 08 18:45:48.2, 838N×12325E, h32km, mb2.5, ML4.1, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.23	27	⇓iP	Pb	18 45 56.5	+1.6
DCPH				iS	Sb	18 46 02.0	+2.5

IDC 08 18:46:17.1±10.0, 1405S×17385E, h590km±74km, mb3.2/5, mb1 3.5/6, mb1mx3.2/14, mbtmp4.4/6, Error ellipse: s-maj=137.3km s-min=31.2km az=38.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.41	233	P	P	18 52 16.7	+0.2
	8.5nm,0.5s,baz=56,slow=8.0,SNR=28						
WRA	Warramunga Arr	38.17	256	P	P	18 52 47.1	-0.3
	2.3nm,0.6s,baz=89,slow=8.6,SNR=22						
ASAR	Alice Springs	38.88	250	P	P	18 52 53.0	-0.1
	6.6nm,0.6s,baz=77,slow=9.2,SNR=132						
FITZ	Fitzroy Crossi	46.40	258	P	P	18 53 52.8	+1.1
	1.2nm,0.6s,baz=106,slow=8.5,SNR=8.2						
VNDA	Vanda	63.77	183	P	P	18 55 51.6	-0.6
	0.5nm,0.7s,baz=17,slow=6.6,SNR=5.5						

ISCJB 08 18:47:15.6±1.0, 1652S±008×1682E±02, h10km, mb4.2/7, Error ellipse: s-maj=26.3km s-min=10.7km az=19.9
IDC 08 18:47:16.5±1.6, 1634S×168.13E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/14, mbtmp4.2/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=57.7km s-min=26.7km az=140.0
NEIC 08 18:47:16.9±0.9, 1658S×16832E, h10km, mb4.5/1, Error ellipse: s-maj=30.9km s-min=19.9km az=137.0
ISC 08 18:47:17.4±1.0, 1649S±008×1683E±02, h10km, n15, σ1s17/12, mb4.2/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.82	197	eP	Pn	18 48 42.2	-1.5
DZM	Mont Dzumac	5.82	197	P	Pn	18 48 42.7	-1.0
	17nm,0.3s,baz=58,slow=19,SNR=51						
DZM	Mont Dzumac	5.82	197	LR	LR	18 50 30.7	
	comp=Z,63nm,19.7s,baz=16,slow=33						
DZM	Mont Dzumac	5.82	197	eS	Sn	18 49 51.5	+1.1
HNR	Honiara	10.75	310	LR	LR	18 53 08.5	
	comp=Z,132nm,18.1s,baz=180,slow=34						
STKA	Stephens Creek	28.67	233	P	P	18 53 14.6	+0.3
	4.5nm,0.9s,mb4.2,baz=24,slow=6.5,SNR=3.2						
STKA	Stephens Creek	28.67	233	P	P	18 53 14.6	+0.3
AS31	Alice Springs	33.02	252	eP	P	18 53 53.0	+0.3
ASAR	Alice Springs	33.02	252	P	P	18 53 53.2	+0.5
	8.9nm,0.8s,mb4.8,baz=79,slow=8.9,SNR=30						
FITZ	Fitzroy Crossi	40.70	261	P	P	18 54 57.4	-0.6
	4.4nm,1.1s,mb4.0,baz=136,slow=23,SNR=4.0						
MJAR	Matsushiro Arr	59.92	332	P	P	18 57 22.2	-1.3
	2.8nm,1.1s,mb4.2,baz=168,slow=6.8,SNR=5.8						
QSPA	South Pole Qui	73.54	180	eP	P	18 58 48.1	-2.3
	5.1nm,1.1s,mb4.4						
SONM	Songino Array	84.50	323	P	P	18 59 51.4	+1.0
	0.4nm,0.8s,mb3.6,baz=152,slow=7.6,SNR=4.2						
NVAR	Mina Array Bea	87.67	49	P	P	19 00 07.9	+1.8
	1.3nm,0.9s,mb4.2,baz=234,slow=9.1,SNR=6.8						
ARCES	ARCESS Array B	122.20	345	PKP	PKPdf	19 06 11.2	-1.2
	4.0nm,0.9s,baz=54,slow=6.2,SNR=4.7						

IDC 08 18:51:42.9±0.8, 2.14N×8463W, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.4/23, mbtmp4.4/15, ML3.9/3, MS4.2/20, Ms1 4.2/20, ms1mx4.2/24, Error ellipse: s-maj=25.6km s-min=13.6km az=52.0
NEIC 08 18:51:43.8±0.4, 240N×8382W, h10km, mb4.9/16, Error ellipse: s-maj=13.7km s-min=6.9km az=49.0
GCMT 08 18:51:43.8±0.2, 2.15N×8467W, h12km, MW5.2/83, Moment Tensor Solution. s69,c105; s83,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.07±.14; $M_{\theta\theta}$6.02±.10; $M_{\phi\phi}$0.04±.16; $M_{r\theta}$3.26±.31; $M_{\theta\phi}$0.32±.11; $M_{\phi r}$2.02±.44; Best double couple: $M_0$7.15700×10^{16} NP1:ϕ_s100.00000°,δ32.00000°,λ-67.00000°. NP2: ϕ_s253.00000°,δ61.00000°,λ-104.00000°. Principal axes: T 6.9410, Plg15.0000°, Azm353.0000°; N 0.4300, Plg12.0000°, Azm260.0000°; P -7.3720, Plg71.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 08 18:51:43.7, 240N×8380W, h10km, mB5.3, Ms5.0, Msz4.7
ISCJB 08 18:51:44.6±0.4, 277N±005×8385W±008, h10km, mb4.6/25, MS4.2/17, Error ellipse: s-maj=12.5km s-min=5.2km az=133.6
ISC 08 18:51:46.4±0.5, 271N±005×8387W±009, h10km, (h29km±3.1km:pP-P), n95, σ1s16/70, mb4.6/25, MS4.2/17, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTCR	Cotoan	6.24	10	eP	Pn	18 53 19.8	+1.4
BUS	Buena Vista	6.80	1	eP	Pn	18 53 26.2	+0.1
CAO	Cobano	7.05	350	⇓eP	Pn	18 53 28.1	-1.5
LAJ	Bijagual	7.11	358	eP	Pn	18 53 27.4	-3.0
OCM	Ochomogo	7.13	359	eP	Pn	18 53 29.8	-1.0
OCM				⇓iP		18 53 31.8	
JCR	Jicaral	7.20	350	eP	Pn	18 53 31.1	-0.5
IRZ2	Volcan Irazu 2	7.21	360	eP	Pn	18 53 32.8	+1.1
PRS1	Puriscal	7.24	357	eP	Pn	18 53 30.8	-1.3
EPA	Esparza	7.26	354	eP	Pn	18 53 32.0	-0.5
JTS	JuntasAbangare	7.61	352	Pn	Pn	18 53 34.9	-2.3
	9.9nm,0.3s,baz=105,slow=23,SNR=27						
JTS				Sn	Sn	18 55 04.5	+1.1
	0.5nm,0.3s,baz=311,slow=22,SNR=1.2						
VACR	Volcan Arenal	7.75	354	eP	Pn	18 53 40.2	+1.0
LIM1	Limonal	8.05	350	eP	Pn	18 53 43.0	-0.3
RIN3	Volcan Rincon	8.16	349	eP	Pn	18 53 44.4	-0.5
ROSC	El Rosal	9.75	77	Pn	Pn	18 54 20.4	+14
	0.5nm,0.3s,baz=87,slow=19,SNR=15						
ROSC	El Rosal	9.75	77	P	Pn	18 54 12.8	+6.2
ATAH	Atahualpa	11.09	151	Pn	Pn	18 54 24.7	-0.2
	0.4nm,0.3s,baz=308,slow=15,SNR=2.2						
ATAH				Sn	Sn	18 56 31.9	+2.9
	1.0nm,0.3s,baz=5.8,slow=18,SNR=2.2						
ATAH				LR	LR	18 58 16.9	
	comp=Z,2μm,19.4s,baz=145,slow=35						
LCBS	La Ceiba	11.99	335	eP	x	18 54 47.4	
LFRS	El Faro	12.00	335	eP	x	18 54 47.3	
SBLS	San Blas	12.43	333	eP	x	18 54 53.1	
SNJE	San Jose	12.45	333	eP	x	18 54 53.3	
RBDL	Robledal	12.70	333	eP	x	18 54 57.6	
SDV	Santo Domingo	14.52	64	Pn	Pn	18 55 23.6	+12
	0.9nm,0.3s,baz=356,slow=22,SNR=6.9						
SDV				LR	LR	19 00 54.6	
	comp=Z,763nm,19.9s,baz=75,slow=36						
SDV	Santo Domingo	14.52	64	P	Pn	18 55 11.8	0.0
	41nm,0.9s						
SDV				e		18 55 29.1	
CMIG	Matias Romero	17.93	324	P	Pn	18 55 55.4	-0.3
	0.4nm,0.3s,baz=145,slow=10.0,SNR=7.3						
CMIG				S	Sn	18 59 25.5	+10
	baz=335,slow=15,SNR=1.9						
CMIG				LR	LR	19 01 28.1	
	comp=Z,1μm,20.2s,baz=140,slow=33						
CMIG	Matias Romero	17.93	324	P	Pn	18 55 55.4	-0.3
CMIG				S	Sn	18 59 25.5	+10
CMIG				LR	LR	19 01 28.1	
TEIG	Tepich	17.93	346	eP	Pn	18 56 00.2	+4.4
RCC	Rio Carpintero	18.94	24	eP	Pn	18 56 16.1	+8.1
	baz=211						
RCC				eS	Sn	19 00 01.6	+22
	comp=N,388nm,17.9s						
RCC				e			
	comp=E,544nm,18.6s						
PCRV	Puerto La Cruz	20.48	68	P	P	18 56 32.4	+8.2
	comp=E,14nm,0.8s,baz=305,slow=16,SNR=4.3						
SJG	San Juan	23.15	47	P	P	18 57 01.0	+8.2
	comp=E,24nm,0.9s,mb4.6,baz=1.4,slow=19,SNR=7.9						
SJG				LR	LR	19 06 29.3	
	comp=E,185nm,18.7s,MS3.6,baz=270,slow=37						
MTP	Monte Pirata	23.58	48	P	P	18 56 55.7	-1.6
MTP				e		18 57 05.1	
SAML	Samuel	23.65	120	eP	P	18 56 53.5	-4.4
	comp=E,51nm,1.4s,mb4.8						
SAML				epP		18 56 59.9	
LPAZ	La Paz	24.46	141	P	P	18 57 01.2	-4.1
	comp=E,2.7nm,0.9s,mb3.6,baz=338,slow=12,SNR=7.6						
LPAZ	La Paz	24.46	141	eP	P	18 57 00.0	-5.3
	comp=E,45nm,1.3s,mb4.7						
LPAZ				e		18 57 08.2	
SIV	San Ignacio	29.21	130	P	P	18 57 48.6	+0.5
	comp=E,2.7nm,1.0s,mb3.9,baz=312,slow=9.2,SNR=7.5						
HKT	Hockley	29.37	338	eP	P	18 57 49.9	+0.4
	comp=E,62nm,1.8s,mb5.0						
JCT	Junction City	31.47	333	P	P	18 58 08.7	+0.7
WMOK	Wichita Mounta	34.76	338	eP	P	18 58 38.3	+1.6
WMOK				epP	pP	18 58 45.7	+5.9
MNTX	Cornudas Mount	35.24	327	eP	P	18 58 40.5	-0.4
	comp=E,52nm,1.8s,mb5.2						
MNTX				epP	pP	18 58 50.7	+6.6
CFAA	Coronel Fontan	37.22	158	P	P	18 58 54.8	-3.1
	comp=E,0.6nm,1.1s,baz=304,slow=10,SNR=5.5						
ANMO	Albuquerque	38.34	329	P	P	18 59 07.0	-0.4
	comp=E,4.9nm,0.9s,mb4.2,baz=151,slow=11,SNR=16						
ANMO	Albuquerque	38.34	329	eP	P	18 59 06.9	-0.4
	comp=E,27nm,1.6s,mb4.7						
RPN	Rapa Nui	38.52	218	LR	LR	19 10 14.5	
	comp=E,1μm,21.0s,MS4.6,baz=99,slow=30						
BDFB	Brasilia	39.88	118	P	P	18 59 23.2	+3.0
	comp=E,5.0nm,0.4s,mb4.6,baz=227,slow=26,SNR=11						
BDFB				LR	LR	19 16 13.6	
	comp=E,552nm,20.9s,MS4.4,baz=123,slow=36						
SDCO	Great Sand Dun	40.12	333	eP	P	18 59 22.8	+0.6
	comp=E,57nm,1.8s,mb5.0						
WUAZ	Wupatki	41.41	325	eP	P	18 59 33.2	+0.3
	comp=E,30nm,1.4s,mb4.7						
ISCO	Idaho Springs	41.86	335	eP	P	18 59 38.4	+1.8
	comp=E,11nm,1.3s,mb4.3						
SMCO	Snowmass	41.95	333	eP	P	18 59 38.5	+1.2
	comp=E,6.1nm,0.8s,mb4.3						
SMCO				e		18 59 48.7	
ECSD	EROS,Sioux Fal	42.39	346	eP	P	18 59 41.4	+0.6
ECSD				e		18 59 50.8	
CCUT	Cedar City	43.98	326	eP	P	18 59 54.5	+0.7
MSU	Marysvale	44.02	328	eP	P	18 59 55.2	+1.1
MSU				epP	pP	19 00 02.1	+4.9
ARUT	Antelope Range	44.19	326	P	P	18 59 56.1	+0.6
ARUT				e		19 00 03.6	
PKME	Peaks-Kenny Pk	44.27	15	P	P	18 59 54.7	-1.4
PKME				e		19 00 01.3	
PLCA	Paso Flores	44.92	166	P	P	18 59 55.8	-5.4
	comp=E,1.2nm,0.7s,mb3.9,baz=343,slow=8.2,SNR=3.0						
PLCA				LR	LR	19 15 27.9	
	comp=E,315nm,18.3s,MS4.3,baz=2.9,slow=32						
RSSD	Black Hills	44.93	339	P	P	19 00 01.0	-0.4
	comp=E,3.6nm,0.9s,mb4.2						
RSSD				e		19 00 10.6	
PDAR	Pinedale Array	46.00	334	P	P	19 00 09.6	-0.3
	comp=E,2.4nm,1.0s,mb4.1,baz=120,slow=8.7,SNR=3.8						
PDAR				LR	LR	19 20 37.7	
	comp=E,510nm,18.2s,MS4.5,baz=153,slow=38						
NVAR	Mina Array Bea	47.46	323	P	P	19 00 20.6	-0.6
	comp=E,2.9nm,1.0s,mb4.2,baz=143,slow=8.1,SNR=14						
NVAR				PcP	PcP	19 01 50.2	-1.3
	comp=E,1.6nm,0.8s,baz=132,slow=3.8,SNR=4.8						
BOZ	Bozeman (W)	49.19	334	eP	P	19 00 34.3	-0.3
	comp=E,37nm,1.9s,mb5.1						
DLMT	Dillon	49.39	333	eP	P	19 00 36.9	+0.8
	comp=E,31nm,1.8s,mb5.0						
WVOR	Wild Horse Val	50.28	327	eP	P	19 00 41.7	-1.2
	comp=E,30nm,1.4s,mb5.1						
CHMT	Chamberlain Mo	50.88	334	P	P	19 00 45.6	-1.8
WALA	Waterton Lakes	52.83	336	eP	P	19 01 01.9	-0.1
	comp=E,12nm,1.1s,mb4.7						
SCHQ	Schefferville	53.78	12	LR	LR	19 24 48.8	
	comp=E,342nm,19.0s,MS4.4,baz=191,slow=36						
RKT	Rikitea	56.01	240	eS	S	19 09 03.8	-10
	comp=E,82nm,32.8s						
RKT				eLR	LR	19 17 37.6	
	comp=E,404nm,38.8s						
TAOE	Nuku Hiva Isla	57.26	258	eLR	LR	19 18 21.2	
	comp=E,1μm,26.4s						
YKA	Yellowknife Ar	63.88	345	P	P	19 02 18.3	-0.9
	comp=E,5.4nm,0.9s,mb4.6,baz=139,slow=6.7,SNR=6.0						
PPT	Papeete	67.80	250	eS	S	19 11 34.0	-8.5
	comp=E,55nm,25.5s						
PPT				eLR	LR	19 23 05.5	
	comp=E,686nm,25.5s,baz=82						
PPT	Papeete	67.80	250	LR	LR	19 24 20.1	
	comp=E,243nm,20.8s,MS4.4,baz=56,slow=29						
SFJD	Kangerlussuaq	68.19	13	iP	PcP	19 03 16.6	+3.9
SFJD				eS	S	19 11 53.7	+6.6
SFJD							
	comp=Z,420nm,18.0s						
TBI	Tubuai	68.85	244	eLR	LR	19 23 36.4	
	comp=Z,432nm,28.0s,baz=77						
DAWY	Dawson	73.09	338	eP	P	19 03 16.1	-0.7
INK	Inuvik	73.50	343	eP	P	19 03 19.2	+0.1
	comp=Z,83nm,2.1s,mb5.3						
INK				e		19 03 28.4	
EGAK	Eagle	74.11	338	P	P	19 03 23.0	+0.2
RAR	Rarotonga	77.88	248	LR	LR	19 29 15.7	
	comp=Z,1μm,18.7s,MS5.2,baz=262,slow=29						
DBIC	Dimbokro	78.78	84	P	P	19 03 52.8	+3.5
	comp=Z,7.1nm,0.9s,mb4.6,baz=74,slow=1.9,SNR=4.8						
DBIC				LR	LR	19 36 49.0	
	comp=Z,56nm,21.9s,MS3.9,baz=228,slow=34						
MDT	Midelt	79.50	57	P	P	19 03 57.6	+4.4
	baz=262,slow=6.6						
ESDC	Sonseca Array	80.50	50	P	P	19 04 02.6	+4.0
	comp=Z,3.1nm,0.9s,mb4.2,baz=275,slow=5.0,SNR=11						
ESDC				LR	LR	19 34 07.7	
	comp=Z,56nm,20.4s,MS3.9,baz=255,slow=31						
TORD	Torodi Ar. Bea	85.07	77	P	P	19 04 24.5	+2.2
	comp=Z,3.4nm,0.9s,mb4.5,baz=264,slow=4.1,SNR=13						
TORD				LR	LR	19 41 07.6	
	comp=Z,59nm,18.4s,MS4.0,baz=240,slow=34						
TORD	Torodi Ar. Bea	85.07	77	P	P	19 04 24.5	+2.2
TORD				LR	LR	19 41 07.6	
NOA	NORSAR Array B	90.11	29	LR	LR	19 41 13.2	
	comp=Z,82nm,21.3s,MS4.1,baz=275,slow=33						
KEST	Kesra	91.04	54	LR	LR	19 38 15.4	
	comp=Z,24nm,20.8s,MS3.6,baz=360,slow=30						
CLL	Collm	92.20	39	i (pP)	pP	19 04 59.3	-0.3
	comp=Z,16nm,1.6s						
CLL				Lm		19 38 00.0	
	comp=Z,200nm,21.7s						
GERES	GERESS Array B	92.96	41	LR	LR	19 45 07.2	
	comp=Z,105nm,18.8s,MS4.3,baz=277,slow=34						
ARCES	ARCESS Array B	94.16	19	LR	LR	19 44 23.3	
	comp=Z,78nm,18.5s,MS4.2,baz=107,slow=33						
FINES	FINESS Array B	97.03	27	LR	LR	19 43 33.7	
	comp=Z,94nm,21.6s,MS4.2,baz=168,slow=32						
VNDA	Vanda	97.77	192	LR	LR	19 40 00.2	
	comp=Z,122nm,21.9s,MS4.3,baz=136,slow=30						
ULN	Ulaanbaatar	128.73	351	PKPdf	PKPdf	19 10 52.8	-1.1
ULN				e		19 11 08.4	
SONM	Songino Array	128.87	351	PKP	PKPdf	19 10 52.6	-1.6
	comp=Z,0.8nm,0.9s,baz=8.1,slow=1.4,SNR=8.1						
PMG	Port Moresby	128.87	260	eP	Pdif	19 07 35.9	-4.2
KOLN	Koldanda	147.38	21	eP	PKPdf	19 11 28.9	+1.0
	comp=Z,80nm,1.4s						
GKN	Gorkha	147.52	19	eP	PKPdf	19 11 26.7	-1.4
	comp=Z,67nm,1.2s						
KKN	Kakani	147.92	18	eP	PKPdf	19 11 28.0	-0.8
GUN	Gumba	147.99	17	eP	PKPdf	19 11 27.4	-1.5
DMN	Daman	148.04	19	eP	PKPdf	19 11 29.9	+1.0
PKI	Pulchoki	148.17	18	eP	PKPdf	19 11 29.5	+0.3
KMI	Kunming	151.60	347	PKP	PKPdf	19 11 34.4	-0.2
KMI				APKP		19 11 40.4	
KMI				PKP2	PKPab	19 11 50.6	+1.2
KMI				PP	PP	19 15 21.4	+1.1
KMI				PPP		19 18 42.9	
KMI				SS	SS	19 34 47.3	+1.8
KMI				SSS		19 40 37.5	
KMI				PP	PP		
	comp=Z,82nm,3.8s						
KMI				LR	LR		
	comp=N,123nm,17.5s						
KMI				LR	LR		
	comp=E,134nm,30.3s						
KMI				LR	LR		
	comp=Z,175nm,31.9s						

BJI 08 19:03:35.6, 560S×12894E, h328km, mB4.4, mb4.6
ISCJB 08 19:03:36.9±0.6, 564S±003×12866E±004, h331km±6km, mb4.6/76, Error ellipse: s-maj=7.0km s-min=3.9km az=142.7
MOS 08 19:03:36.3±0.9, 564S×12863E, h326km, mb4.6/17, Error ellipse: s-maj=13.4km s-min=6.7km az=114.2
IDC 08 19:03:37.6±1.0, 563S×12866E, h322km±10km, mb4.1/23, mb1 4.1/26, mb1mx4.1/28, mbtmp4.8/26, Error ellipse: s-maj=12.1km s-min=7.5km az=72.0
NEIC 08 19:03:38.2±0.7, 566S×12866E, h330km±7km, mb4.6/18, Error ellipse: s-maj=6.9km s-min=4.0km az=68.0
ISC 08 19:03:38.5±0.5, 571S±003×12868E±004, h333km±5km, n192, σ0s94/170, mb4.6/75, 15C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	2.07	346	P	Pn	19 04 29.2	+0.5
	282nm,1.1s						
SWI	Sorong	5.46	28	P	Pn	19 05 00.6	-1.9
	541nm,0.7s						
KAKA	Kakadu	7.88	152	⇑iP	Pn	19 05 30.5	-0.4
	62nm,0.3s						
KAKA				eS	S	19 06 51.4	-11
WSI	Waingapu	9.19	244	P	Pn	19 05 45.5	-1.2
	875nm,0.6s						
PCI	Palu	10.04	298	P	Pn	19 05 59.2	+2.3
	573nm,1.0s						
JAY	Jayapura	12.40	76	P	Pn	19 06 25.9	+0.7
	145nm,0.9s						
FITZ	Fitzroy Crossi	12.67	193	eP	Pn	19 06 28.0	-0.4
	54nm,0.6s						
FITZ				eS	S	19 08 47.4	-1.2
FITZ	Fitzroy Crossi	12.67	193	P	Pn	19 06 28.2	-0.1
	4.9nm,0.3s,baz=25,slow=11,SNR=192						
FITZ				S	S	19 08 46.6	-2.0
	2.7nm,0.3s,baz=114,slow=15,SNR=7.3						
KMMI	Kalianget	14.69	264	P	P	19 06 55.2	+4.8
	1μm,0.9s						
WRAB	Tennant Creek	15.17	159	⇓iP	P	19 06 58.1	+2.4
WRAB	Tennant Creek	15.17	159	eP	P	19 06 56.3	+0.6
	36nm,0.6s						
WRA	Warramunga Arr	15.18	159	P	P	19 06 55.8	0.0
	2.9nm,0.3s,baz=334,slow=13,SNR=147						
WRA				S	S	19 09 37.9	-1.5
	0.8nm,0.3s,baz=337,slow=21,SNR=11						
WB2	Warramunga Arr	15.18	159	⇑iP	P	19 06 56.3	+0.5
WB2				eS	S	19 09 37.4	-2.1
WB2	Warramunga Arr	15.18	159	eP	P	19 06 56.0	+0.2
KKM	Kota Kinabalu	17.07	313	P	P	19 07 17.2	+0.9
KKM	Kota Kinabalu	17.07	313	eP	P	19 07 16.8	+0.5
MBWA	Marble Bar	17.64	209	eP	P	19 07 22.9	+0.5
	26nm,0.8s						
AS31	Alice Springs	18.54	165	⇑iP	P	19 07 33.1	+1.1
AS31				eS	S	19 10 44.6	-1.1
AS31				eS	ScS	19 18 26.3	-3.3
ASPA	Alice Springs	18.54	165	⇑iP	P	19 07 33.1	+1.1
ASPA				eS	S	19 10 44.6	-1.1
ASPA				eS	ScS	19 18 26.3	-3.3
ASAR	Alice Springs	18.54	165	P	P	19 07 33.0	+1.0
	5.4nm,0.3s,baz=344,slow=12,SNR=322						
ASAR				S	S	19 10 45.5	-0.2
	3.0nm,0.3s,baz=346,slow=22,SNR=35						
PMG	Port Moresby	18.68	102	⇑iP	P	19 07 34.8	+1.3
BJII	Banjamegara	18.92	264	P	P	19 07 33.7	-2.3
	65nm,1.1s						
KSM	Kuching	19.69	291	eP	P	19 07 44.0	-0.2
JCJI	Jatiwangi	20.31	267	P	P	19 07 50.0	-0.5
	225nm,0.8s						
LEM	Lembang	20.97	266	P	P	19 07 56.1	-0.4
	110nm,1.4s						
TGY	Tagaytay City	21.13	339	P	P	19 07 57.0	-1.0
	231nm,0.5s,baz=199,slow=1.8,SNR=18						
CBJI	Citeko	21.72	267	P	P	19 08 02.1	-1.3
	117nm,0.7s,mb5.2						
CTA	Charters Tower	22.27	132	P	P	19 08 10.0	+1.7
	2.6nm,0.3s,mb3.9,baz=309,slow=9.4,SNR=4.3						
CTA				pP		19 09 00.1	
	12nm,0.8s,baz=311,slow=13,SNR=5.1						
FORT	Forrest	24.94	181	eP	P	19 08 32.7	+0.2
	20nm,0.5s,mb4.6						
GUMO	Guam	25.02	40	P	P	19 08 32.6	-0.6
	15nm,0.3s,mb4.6,baz=203,slow=13,SNR=4.2						
GUMO	Guam	25.02	40	P	P	19 08 32.6	-0.6
KGM	Kluang	26.47	286	P	P	19 08 44.9	-1.1
KLBR	Kellerberrin	27.71	200	eP	P	19 08 57.2	+0.2
	6.7nm,0.4s,mb4.2						
MUN	Mundaring	28.62	203	eP	P	19 09 05.4	+0.3
STKA	Stephens Creek	28.70	157	eP	P	19 09 06.6	+0.8
	6.0nm,1.0s,mb3.8						
STKA	Stephens Creek	28.70	157	P	P	19 09 06.6	+0.8
	4.6nm,0.5s,mb3.9,baz=345,slow=8.8,SNR=19						
STKA				pP		19 10 07.7	
	9.3nm,0.8s,baz=331,slow=11,SNR=5.0						
NWAO	Narrogin (SRO)	29.10	200	P	P	19 09 10.1	+0.7
	11nm,0.9s,mb4.1,baz=25,slow=9.2,SNR=14						
NWAO				pP		19 10 11.1	
	22nm,1.0s,baz=32,slow=13,SNR=2.8						
NWAO	Narrogin (SRO)	29.10	200	P	P	19 09 10.1	+0.7
NWAO				pP		19 10 11.1	
PSI	Prapat	30.90	285	P	P	19 09 24.1	-1.0
	16nm,0.7s,mb4.4,baz=113,slow=5.3,SNR=9.7						
HNR	Honiara	31.20	99	P	P	19 09 27.9	+0.2
	77nm,0.8s,mb5.0,baz=252,slow=1.5,SNR=10						
JOW	Kunigami	32.35	359	P	P	19 09 37.9	+0.2
	21nm,0.8s,mb4.4,baz=167,slow=6.2,SNR=7.4						
CBIJ	Chichi jima	35.13	21	P	P	19 10 00.8	-0.7
	39nm,0.6s,mb4.8,baz=263,slow=20,SNR=3.3						
SSE	Sheshan	37.30	349	eP	P	19 10 17.9	-1.7
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.5						
SSE				AMB	AMB		
	comp=Z,37nm,5.5s						
CHTO	Chiang Mai	38.12	310	P	P	19 10 27.4	+1.0
	SNR=9.6						

CHTO Chiang Mai 38.12 310 eP P 19 10 27.1 +0.7
CHTO pmax pmax
comp=Z,29nm,0.8s,mb4.6
CHTO Chiang Mai 38.12 310 eP P 19 10 27.1 +0.6
comp=Z,29nm,0.8s,mb4.6
GYA Guiyang 38.45 327⥣iP P 19 10 29.2 0.0
GYA AMB AMB
comp=Z,20nm,0.7s,mb4.5
GYA AMB AMB
comp=Z,270nm,5.7s
WHN Wuhan 38.58 340 ⥣P P 19 10 30.6 +0.4
NJ2 Nanjing 38.70 347 eP P 19 10 29.1 -2.2
NJ2 AP pP 19 11 38.4 +1.9
NJ2 PP PP 19 12 09.1 +1.0
NJ2 XP sP 19 12 17.2 +2.7
NJ2 SCP ScP 19 15 47.7 -3.5
NJ2 S S 19 15 59.0 -3.8
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.5
NJ2 AMB AMB
comp=Z,460nm,5.2s
NJ2 LR LR
comp=N,230nm,17.2s
NJ2 LR LR
comp=E,200nm,21.6s
NJ2 LR LR
comp=Z,290nm,17.6s
KMI Kunming 39.70 322 ⥣P P 19 10 40.6 +1.2
KMI AMB AMB
comp=Z,17nm,1.2s,mb4.2
DZM Mont Dzumac 39.94 118 P P 19 10 42.3 +0.9
comp=Z,2.6nm,0.9s,baz=187,slow=17,SNR=4.2
MJAR Matsushiro Arr 42.97 11 P P 19 11 04.3 -1.4
comp=Z,2.3nm,0.7s,baz=189,slow=8.9,SNR=9.0
CD2 Chengdu 43.52 328 eP P 19 11 09.8 -0.4
XAN Xi'an 43.73 336 P P 19 11 10.3 -1.5
XAN AMB AMB
comp=Z,24nm,0.9s,mb4.3
BJT Baijiatuau 46.95 347 eP P 19 11 36.3 -0.5
BJT pmax pmax
comp=Z,16nm,0.6s
BJT Baijiatuau 46.95 347 eP P 19 11 36.2 -0.5
comp=Z,16nm,0.6s,mb4.4
BJI Beijing 46.96 347 eP P 19 11 36.4 -0.5
BJI AMB AMB
comp=Z,31nm,0.7s,mb4.7
SHL Shillong 47.37 313 ex x 19 11 36.0
LZH Lanzhou 47.66 333 eP P 19 11 42.5 +0.2
LZH AMB AMB
comp=Z,43nm,1.4s,mb4.5
LZH AMB AMB
comp=Z,171nm,4.1s
CN2 Changchun 49.37 357 eP P 19 11 54.2 -1.0
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.3
PALK Pallekele 49.58 285 eP P 19 11 56.2 -0.5
MDJ Mudanjiang 50.10 1 eP P 19 12 00.6 0.0
LSA Lhasa 50.37 317 P P 19 12 04.1 +1.5
LSA Lhasa 50.37 317 eP P 19 12 03.8 +1.2
VIS Vishakhapatnam 50.46 298 eP P 19 12 02.9 -0.4
VIS AMb AMB 19 12 05.2
comp=Z,93nm,0.7s,mb5.1
BOK Bokaro 51.01 307 eP P 19 12 06.6 -0.8
BOK AMb AMB 19 12 10.8
comp=Z,20nm,1.5s,mb4.1
GTA Gaotai 52.22 332 P P 19 12 16.1 -0.2
GTA AP pP 19 13 23.9 -1.9
GTA XP sP 19 13 58.5 -4.2
GTA PP PP 19 14 18.7 +0.1
GTA PPP 19 15 34.7
GTA SCP ScP 19 16 49.4 +2.2
GTA S S 19 19 13.0 -1.8
GTA SCS ScS 19 21 28.8 -1.9
GTA SS SS 19 22 53.1 -4.1
GTA AMB AMB
comp=Z,27nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,66nm,8.7s
GTA LR LR
comp=N,93nm,15.2s
GTA LR LR
comp=E,137nm,17.5s
GTA LR LR
comp=Z,58nm,16.0s
RPZ Rata Peaks 53.05 142 P P 19 12 22.8 +0.6
comp=Z,3.5nm,0.6s,mb3.9,baz=275,slow=9.6,SNR=5.1
GUN Gumba 53.13 311 eP P 19 12 23.3 +0.5
comp=Z,165nm,0.5s,mb5.7
PKI Pulchoki 53.30 311 eP P 19 12 24.2 +0.1
comp=Z,53nm,0.6s,mb5.1
KKN Kakani 53.51 311 eP P 19 12 25.9 +0.3
comp=Z,73nm,0.5s,mb5.2
DMN Daman 53.55 310 eP P 19 12 26.4 +0.5
comp=Z,49nm,0.5s,mb5.1
GKN Gorkha 54.11 311 eP P 19 12 30.2 +0.3
comp=Z,134nm,0.4s,mb5.6
HABR Khabarovsk 54.25 5 eP P 19 12 31.0 +0.1
HYB Hyderabad 54.58 296 i P P 19 12 33.0 -0.2
HYB Hyderabad 54.58 296 eP P 19 12 33.0 -0.2
KOLN Koldanda 54.78 310 eP P 19 12 35.2 +0.6
comp=Z,77nm,0.7s,mb5.2
KLR Kul'dur 54.78 2 eP P 19 12 31.0 -3.7
HIA Hailar 55.30 353 eP P 19 12 38.8 +0.4
NGP Nagpur 55.52 300 eP P 19 12 36.7 -3.2
NGP AMb AMB 19 12 39.5
comp=Z,21nm,2.5s,mb4.0
ULN Ulaanbaatar 56.65 343 P P 19 12 48.9 +1.0
SNR=6.1
ULN Ulaanbaatar 56.65 343 eP P 19 12 48.5 +0.7
ULN pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
ULN Ulaanbaatar 56.65 343 eP P 19 12 48.5 +0.7
comp=Z,10.0nm,0.6s,mb4.3
SONM Songino Array 56.82 342 P P 19 12 49.5 +0.5
comp=Z,7.7nm,0.6s,mb4.2,baz=158,slow=6.4,SNR=45
SONM PcP PcP 19 13 40.5 0.0
comp=Z,2.4nm,0.7s,baz=141,slow=4.0,SNR=4.6
AKL Akola 57.11 299 eP P 19 12 50.7 -0.3
AKL AMb AMB 19 12 51.6
comp=Z,29nm,1.4s,mb4.4
BHPL Bhopal 57.72 302 eP P 19 12 54.7 -0.6
BHPL AMb AMB 19 12 55.8
comp=Z,17nm,0.4s,mb4.7
KAD Karad 58.48 294 eP P 19 12 59.8 -0.7
KAD AMb AMB 19 13 01.0
comp=Z,30nm,0.7s,mb4.8
NDI New Delhi 60.17 308 eP P 19 13 10.5 -1.4
NDI AMb AMB 19 13 11.2
comp=Z,39nm,0.0s
TLY Talaya 61.06 342 eP P 19 13 17.8 -0.1
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
SMLA Simla 61.30 310 eP P 19 13 19.9 +0.4
SMLA AMb AMB 19 13 21.0
comp=Z,93nm,0.7s,mb5.3
AJM Ajmer 61.32 304 eP P 19 13 19.3 -0.3
AJM AMb AMB 19 13 20.1
comp=Z,20nm,0.5s,mb4.8
WMQ Urumqi 61.61 327⥣iP P 19 13 22.1 +0.5
WMQ AMB AMB
comp=Z,49nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,146nm,4.2s
MOY Mondy 61.88 341 eP P 19 13 24.2 +0.9
MOY pmax pmax
comp=Z,19nm,1.6s,mb4.4
THN Thein Dam 63.00 311 eP P 19 13 29.0 -1.7
BOD Bodaibo 64.43 351 eP P 19 13 39.4 -0.6
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.5
MK31 Makanchi Array 66.44 327 P P 19 13 52.9 +0.2
MK31 pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
MKAR Makanchi Array 66.44 327 P P 19 13 53.0 +0.3
comp=Z,20nm,0.4s,mb5.2,baz=113,slow=8.7,SNR=278
MKAR PcP PcP 19 14 19.2 -0.4
comp=Z,3.5nm,0.6s,baz=115,slow=5.1,SNR=6.2
MKAR Makanchi Array 66.44 327 P P 19 13 53.0 +0.3
MKAR PcP PcP 19 14 19.2 -0.4
YAK Yakutsk 67.55 1 eP P 19 13 59.5 -0.2
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,25nm,0.9s,mb4.9
YAK Yakutsk 67.55 1 eP P 19 13 59.1 -0.6
comp=Z,48nm,0.8s,mb5.3
KZA Kyzart 67.96 320 P P 19 14 03.8 +1.7
SNR=7.3
TKM2 Tokmak 2 68.17 321 P P 19 14 04.4 +0.9
SNR=14
TKM2 Tokmak 2 68.17 321 i P P 19 14 04.2 +0.7
TKM2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
KBK Karagaybulak 68.44 320 P P 19 14 06.4 +1.2
SNR=5.2
AAK Ala-Archa 68.72 320 P P 19 14 08.1 +1.2
SNR=6.6
AAK Ala-Archa 68.72 320c iP P 19 14 06.9 0.0
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
AAK Ala-Archa 68.72 320 eP P 19 14 06.8 -0.1
comp=Z,14nm,1.0s,mb4.7
AML Almayashu 68.99 319 P P 19 14 10.0 +1.5
SNR=12
USP Ospenovka 69.03 321 P P 19 14 09.5 +0.7
SNR=14
EKS2 Erkin-Say 69.19 320 P P 19 14 10.8 +1.1
SNR=13
ZAL Zalesovo 69.86 334 P P 19 14 13.4 -0.4
comp=Z,9.4nm,0.6s,mb4.7,baz=339,slow=5.7,SNR=31
NVS Novosibirsk 71.15 334⥣iP P 19 14 20.2 -1.3
NVS eS S 19 23 07.1 -3.5
NVS pmax pmax
comp=Z,20nm,1.0s,mb4.8
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,16nm,1.3s
NVS smax
comp=N,15nm,2.0s
NVS smax
comp=E,23nm,2.5s
NVS smax
comp=N,14nm,1.6s
KK31 Karatay Array 71.52 319 i P P 19 14 23.8 +0.1
KK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
KKAR Karatay Array 71.52 319 P P 19 14 23.8 +0.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
WBK Wadi Bani Khal 73.68 295 ⥣P P 19 14 37.4 +1.1
VNDA Vanda 73.88 173 P P 19 14 37.1 -0.3
comp=Z,3.3nm,0.6s,mb4.3,baz=321,slow=6.5,SNR=37
JMDO Jabal Madar 74.41 295 P P 19 14 41.5 +1.0
SNR=11
SMDO Samad 74.61 296 P P 19 14 43.1 +1.4
SNR=6.1
BIDO Bidbid 74.64 296 P P 19 14 43.2 +1.3
SNR=8.2
SBA Scott Base 74.78 172 eP P 19 14 43.2 +0.6
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SBA Scott Base 74.78 172 eP P 19 14 43.2 +0.6
comp=Z,3.5nm,0.8s,mb4.1
BSY Bisya 75.30 295 P P 19 14 46.6 +1.0
SNR=7.1
HOQ Hoqain 75.39 296 P P 19 14 47.8 +1.6
SNR=5.2
MAW Mawson 75.67 201 eP P 19 14 47.3 -0.4
comp=Z,2.6nm,1.0s,mb3.9
MAW Mawson 75.67 201 P P 19 14 47.9 +0.2
comp=Z,1.9nm,0.4s,mb4.2,baz=62,slow=8.1,SNR=13
MAW Mawson 75.67 201 eP P 19 14 47.3 -0.4
MAW pmax pmax
comp=Z,3.0nm,1.0s
ARQ Araqi 76.04 296 P P 19 14 50.8 +1.0
SNR=6.9
BVA0 Borovoye Array 76.28 328 i P P 19 14 50.9 -0.2
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
BVAR Borovoye Array 76.28 328 P P 19 14 50.9 -0.2
comp=Z,7.8nm,0.8s,mb4.5,baz=130,slow=6.0,SNR=39
BRVK Borovoye 76.36 328 eP P 19 14 51.1 -0.5
CHKZ Chkalovo 76.49 329 eP P 19 14 51.6 -0.7
CHKZ pmax pmax
comp=Z,14nm,0.9s,mb4.7
CHKZ Chkalovo 76.49 329 eP P 19 14 51.6 -0.7
comp=Z,14nm,0.9s,mb4.7
ASHO Ashiyiah 76.75 297 ⥥P P 19 14 54.6 +0.8
BANOM Banah 76.81 298 ⥣P P 19 14 55.1 +1.0
ZRNK Zerenda 76.98 328 eP P 19 14 54.5 -0.5
ZRNK pmax pmax
comp=Z,18nm,0.8s,mb4.8
ZRNK Zerenda 76.98 328 eP P 19 14 54.5 -0.5
comp=Z,18nm,0.8s,mb4.9
RBK Rabkut 77.02 289 ⥣P P 19 14 56.1 +0.8
TIXI Tiksi 77.21 0 eP P 19 14 54.4 -1.9
TIXI pmax pmax
comp=Z,12nm,1.0s,mb4.6
WHFO Wadi Hawf 77.50 290 ⥥P P 19 14 58.3 +0.4
SNR=13
ABTO Aybut 77.85 289 ⥥P P 19 15 00.6 +0.8
BILL Bilibino 78.17 14 eP P 19 15 01.4 -0.2
BILL pmax pmax
comp=Z,20nm,1.7s,mb4.6
OPO Ambohidratompo 80.16 252 P P 19 15 13.8 +1.6
comp=Z,6.3nm,0.8s,mb4.4,baz=55,slow=5.7,SNR=9.1
AKTK Aktyubinsk 82.26 322 P P 19 15 23.0 -0.2
AKTO Aktyubinsk 82.26 322 P P 19 15 23.0 -0.2
comp=Z,6.8nm,0.5s,mb4.7,baz=106,slow=7.0,SNR=30
SVE Sverdlovsk 83.00 329⥣eP P 19 15 34.0 +7.0
SVE pmax pmax
comp=Z,46nm,1.5s,mb5.1
ARU Arti 83.93 328 eP P 19 15 30.4 -1.3
ARU pmax pmax
comp=Z,15nm,0.8s,mb4.9
ARU Arti 83.93 328 eP P 19 15 30.4 -1.3
comp=Z,15nm,0.8s,mb4.9
QSPA South Pole Qui 84.25 180 eP P 19 15 32.8 -0.5
comp=Z,5.0nm,0.7s,mb4.5
SYO Syowa Base 84.38 201⥥eP P 19 15 33.2 -0.7
QRN Al-Qurain 84.67 299 eP P 19 15 35.1 -0.2
QRN AMb AMB 19 15 36.2
comp=Z,86nm,0.6s,mb5.7
UMR Umm Al-Rimmam 84.97 300 eP P 19 15 36.9 +0.1
UMR AMb AMB 19 15 37.8
comp=Z,50nm,0.5s,mb5.6
RDF Al-Radifah 85.02 300 eP P 19 15 36.9 -0.2
RDF AMb AMB 19 15 37.9
comp=Z,45nm,0.5s,mb5.5
NAY Al-Naaiem 85.33 300 eP P 19 15 38.4 -0.2
NAY AMb AMB 19 15 40.1
comp=Z,55nm,0.8s,mb5.5
MIB Mutribah 85.34 300 eP P 19 15 38.4 -0.2
MIB AMb AMB 19 15 39.5
comp=Z,60nm,0.6s,mb5.6
RST Umm Al-Ruwaisa 85.58 300 eP P 19 15 40.0 +0.1
RST AMb AMB 19 15 41.1
comp=Z,93nm,0.6s
KMBO Kilima Mbogo 91.31 269 P P 19 16 08.4 +1.6
comp=Z,1.0nm,0.6s,mb4.0,baz=34,slow=3.6,SNR=3.8
ASF Jabal al Asfar 94.51 302 P P 19 16 21.3 -0.2
comp=Z,2.4nm,1.0s,mb4.2,baz=291,slow=4.7,SNR=5.5
SNAA Sanae 96.60 194 eP P 19 16 31.8 +0.9
BRTR Keskin Array B 97.49 309 P P 19 16 33.9 -1.1
comp=Z,0.9nm,0.8s,mb4.0,baz=115,slow=6.8,SNR=5.3
JOF Joensuu 98.42 333 ep P 19 16 35.9 -3.2
comp=Z,3.5nm,0.5s,mb4.8
VNA3 Neumayer Olymp 98.45 193 eP P 19 16 39.5 +0.2
VNA3 e 19 16 57.7
ARCES ARCESS Array B 99.92 340 P Pdif 19 16 44.0 -1.9
comp=Z,1.7nm,0.5s,baz=81,slow=6.1,SNR=18
KAF Kangasniemi 100.81 332 ep Pdif 19 16 46.7 -3.0
FINES FINESS Array B 101.02 331 P Pdif 19 16 48.5 -2.1
comp=Z,0.8nm,0.5s,baz=46,slow=6.3,SNR=4.9
FINES FINESS Array B 101.02 331 i P Pdif 19 16 49.2 -1.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
CDF Champ du Feu 114.79 321 ePKIKP PKiKP 19 21 39.5 -0.2
HINF Hinteralfeld 115.26 321 ePKIKP PKPdf 19 21 39.7 -0.9
comp=Z,3.6nm,0.6s
LPG La Plagne 116.13 318 ePKIKP PKPdf 19 21 42.3 0.0
comp=Z,1.9nm,0.5s
LPL La Plagne 116.14 318 ePKIKP PKPdf 19 21 42.2 -0.1
comp=Z,1.7nm,0.4s
CABF La Chapelle 116.18 320 ePKIKP PKPdf 19 21 42.2 -0.2
comp=Z,13nm,0.7s
MBDF Montbardon 116.38 318 ePKIKP PKPdf 19 21 42.7 -0.1
comp=Z,4.8nm,0.8s
FRF La Foret Royal 116.85 316 ePKIKP PKPdf 19 21 43.2 -0.5
PDAR Pinedale Array 116.91 45 PKP PKPdf 19 21 44.2 +0.4
comp=Z,0.4nm,0.5s,baz=320,slow=4.4,SNR=5.3
ORIF Oris-en-Rattie 116.91 318 ePKIKP PKPdf 19 21 43.4 -0.4
comp=Z,2.0nm,0.5s
LMR La Mourre 117.02 316 ePKIKP PKPdf 19 21 43.8 -0.2
comp=Z,3.2nm,0.8s
SMRF Simiane la Rot 117.44 317 ePKIKP PKPdf 19 21 45.0 +0.2
comp=Z,2.0nm,0.6s
AVF Avril sur Loir 117.86 321 ePKIKP PKPdf 19 21 44.8 -0.8
comp=Z,1.9nm,0.4s
BGF Bois d'Agland 118.27 321 ePKIKP PKPdf 19 21 46.2 -0.2
comp=Z,15nm,0.7s
TCF Toulx Ste Croi 118.78 320 ePKIKP PKPdf 19 21 47.2 -0.2
comp=Z,3.7nm,0.6s
LDF La Druitiere 119.21 324 ePKIKP PKPdf 19 21 48.3 +0.1
MTLF Montolieu 119.94 317 ePKIKP PKPdf 19 21 49.3 -0.3
MFF Saint Martin d 120.12 322 ePKIKP PKPdf 19 21 49.6 -0.3
comp=Z,5.0nm,0.5s
EPF Esparros 121.33 318 ePKIKP PKPdf 19 21 52.7 +0.4
comp=Z,2.5nm,0.5s
SJPF Ste Jean 122.33 318 ePKIKP PKPdf 19 21 53.9 -0.3
TORD Torodi Ar. Bea 127.27 282 PKP PKPdf 19 22 04.5 +0.8
comp=Z,2.8nm,0.7s,baz=81,slow=2.3,SNR=23
TORD Torodi Ar. Bea 127.27 282 PKP PKPdf 19 22 04.5 +0.8
SCHQ Schefferville 129.45 12 PKP PKPdf 19 22 08.1 +0.3
comp=Z,1.5nm,0.5s,baz=236,slow=17,SNR=3.6
PLCA Paso Flores 130.52 161 PKP PKPdf 19 22 10.8 +1.0
comp=Z,1.1nm,0.6s,baz=155,slow=7.4,SNR=3.7
DBIC Dimbokro 133.81 274 PKP PKPdf 19 22 18.1 +2.0
comp=Z,2.8nm,0.7s,baz=76,slow=4.2,SNR=4.9
CPUP Villa Florida 147.62 170 PKPbc PKPbc 19 22 44.5 +0.6
comp=Z,5.4nm,0.5s,baz=184,slow=0.9,SNR=30
LPAZ La Paz 152.53 143 PKP PKPdf 19 22 51.0 +2.6
comp=Z,0.5nm,0.6s,baz=164,slow=2.3,SNR=4.6
LPAZ PKPbc PKPbc 19 22 58.1 +2.6
comp=Z,1.8nm,0.4s,baz=43,slow=3.0,SNR=15
LPAZ La Paz 152.53 143 PKP PKPdf 19 22 51.0 +2.6
LPAZ PKPbc PKPbc 19 22 58.1 +2.6

IDC 08 19:27:08.4±1.7,489N×12653E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.7/4,Error ellipse: s-maj=145.4km s-min=25.5km az=65.0,Talaud Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 25.84 163 P P 19 32 42.4 +0.8
1.6nm,0.4s,baz=343,slow=10.0,SNR=33
ASAR Alice Springs 29.28 166 P P 19 33 12.1 -0.3
0.4nm,0.9s,baz=351,slow=7.4,SNR=9.2
ASAR PcP PcP 19 36 18.4 -0.7
0.2nm,0.5s,baz=345,slow=2.0,SNR=5.0
STKA Stephens Creek 39.28 160 P P 19 34 39.6 +0.7
3.6nm,1.0s,baz=346,slow=5.9,SNR=4.7
MKAR Makanchi Array 56.49 325 P P 19 36 52.7 +0.4
0.3nm,0.5s,baz=126,slow=7.7,SNR=4.6

---

*MOS **08** 19:37:59.7±1.1,5502N×11171E,h12km,mb4.4/1,Error ellipse: s-maj=17.4km s-min=9.0km az=73.3*
BYKL 08 19:38:00.9±0.2,5504N×11165E,h15km±3km,5C-3D, Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YLYR Ulyunkhan 0.33 240 ePg Pg 19 38 07.4 -0.3
YLYR eSg Sg 19 38 12.6 +0.4
YLYR Pmax
179nm,0.1s
YLYR Smax
3μm,0.1s
YLYR Ulyunkhan 0.33 240 ePG Pg 19 38 07.5 -0.2
YLYR e 19 38 12.3
YLYR pmax pmax
comp=Z,183nm,0.1s
YLYR smax
comp=E,3μm,0.1s
KMO Kumora 0.89 343⥣iPg Pg 19 38 16.7 -1.4
KMO eSg Sg 19 38 27.8 -1.9
KMO Pmax
comp=E,288nm,0.5s
KMO Smax
comp=E,2μm,0.9s
KMO Kumora 0.89 343 ePG Pg 19 38 16.7 -1.4
KMO e 19 38 28.3
KMO pmax pmax
comp=Z,282nm,0.4s
KMO smax
comp=N,2μm,0.9s
YOA Uoyan 1.10 2⥥iPg Pg 19 38 20.9 -1.2
YOA eSg Sg 19 38 36.2 -0.2
YOA Uoyan 1.10 2⥥iPG Pg 19 38 20.9 -1.2
YOA e 19 38 36.2
YOA pmax pmax
comp=Z,515nm,0.3s
YOA smax
comp=N,8μm,0.4s
UKT Uakit 1.22 68⥣iPg Pg 19 38 22.5 -1.9
comp=N,28nm,0.5s
UKT ⥣iPg Pg 19 38 22.5 -1.9
comp=N,105nm,0.5s
UKT ⥣iPg Pg 19 38 22.5 -1.9
comp=N,97nm,0.5s
UKT ePb Pb 19 38 24.5 +0.9
UKT i Sg Sg 19 38 38.8 -1.5
UKT eSb Sb 19 38 41.9 +2.8
UKT max
comp=N,281nm,0.2s
UKT Smax
comp=N,1μm,0.4s
UKT Uakit 1.22 68 ePG Pg 19 38 22.5 -1.9
UKT e 19 38 38.8
UKT pmax pmax
comp=Z,279nm,0.2s
UKT smax
comp=N,1μm,0.3s
NIZ Nizh Angarsk 1.41 302⥣iPg Pg 19 38 26.3 -1.7
NIZ ⥥i 19 38 26.6
NIZ eSg Sg 19 38 45.3 -1.1
NIZ e 19 38 49.5
NIZ max
comp=N,333nm,0.5s
NIZ Smax
comp=N,807nm,0.5s
NIZ Nizh Angarsk 1.41 302 ePG Pg 19 38 26.1 -1.9
NIZ e 19 38 45.2
NIZ pmax pmax
comp=Z,331nm,0.8s
NIZ smax
comp=N,813nm,0.5s
SVKR Severomuysk 1.53 44 ePg Pg 19 38 29.4 -0.9
SVKR eSg Sg 19 38 50.1 -0.1
SVKR e 19 38 52.6
SVKR Pmax
comp=N,317nm,0.3s
SVKR max
comp=N,3μm,0.6s
SVKR Severomuysk 1.53 44 ePN Pn 19 38 29.1 +1.4
SVKR e 19 38 30.0
SVKR e 19 38 50.0
SVKR pmax pmax
comp=Z,375nm,0.4s
SVKR smax
comp=N,3μm,0.5s
SYVR Suvo 1.69 216 ePn Pn 19 38 28.8 -1.0
SYVR ePg Pg 19 38 31.5 -1.8
SYVR e 19 38 36.4
SYVR eSg Sg 19 38 53.7 -1.6
SYVR max
comp=N,221nm,0.7s
SYVR Smax
comp=N,352nm,1.0s
SYVR Suvo 1.69 216 ePN Pn 19 38 31.5 +1.7
SYVR e 19 38 54.9
SYVR pmax pmax
comp=Z,198nm,0.6s
SYVR smax
comp=E,286nm,0.6s
MXMB Maximikha 2.47 225 ePn Pn 19 38 41.2 +0.6
MXMB ePg Pg 19 38 46.8 -1.4
MXMB eSn Sn 19 39 11.7 +1.3
MXMB eSg Sg 19 39 18.1 -2.1
MXMB Pmax
comp=E,80nm,0.5s
MXMB Smax
comp=E,573nm,0.6s
NLYR Nelyaty 2.71 56 ePn Pn 19 38 44.7 +0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NLYR				ePg	Pg	19 38 50.7	-2.2
NLYR				eSn	Sn	19 39 17.2	+0.7
NLYR				eSg	Sg	19 39 24.7	-3.4
NLYR	Nelyaty	2.71	56	ePN	Pn	19 38 43.3	-0.6
NLYR				e		19 38 47.9	
NLYR				e		19 39 22.3	
NLYR				pmax	pmax		
	comp=Z,11nm,0.6s						
NLYR				smax			
	comp=N,320nm,0.6s						
OGRR	Ongureny	2.76	241	ePn	Pn	19 38 45.8	+1.3
OGRR				ePg	Pg	19 38 49.7	-4.0
OGRR				eSn	Sn	19 39 18.3	+0.8
OGRR				eSg	Sg	19 39 25.8	-3.6
OGRR				e		19 39 31.2	
OGRR				Pmax			
	comp=N,34nm,0.5s						
OGRR				max			
	comp=N,133nm,0.4s						
OGRR	Ongureny	2.76	241	ePN	Pn	19 38 45.8	+1.3
OGRR				e		19 38 50.8	
OGRR				e		19 39 26.8	
OGRR				pmax	pmax		
	comp=Z,34nm,0.5s						
OGRR				smax			
	comp=N,128nm,0.5s						
BOD	Bodaibo	3.08	24	ePN	Pn	19 38 49.0	+0.1
BOD				e		19 38 54.7	
BOD				eS	Sn	19 39 24.6	-0.9
CIT	Chita	3.23	159	ePn	Pn	19 38 51.2	+0.1
CIT				ePg	Pg	19 38 59.0	-3.8
CIT				eSn	Sn	19 39 29.0	-0.2
CIT				eSg	Sg	19 39 40.4	-4.3
CIT				Pmax			
	comp=N,45nm,0.6s						
CIT				Smax			
	comp=N,327nm,0.7s						
CIT	Chita	3.23	159	ePN	Pn	19 38 57.6	+6.5
CIT				e		19 39 40.5	
CIT				pmax	pmax		
	comp=Z,45nm,1.6s						
CIT				smax			
	comp=E,328nm,0.9s						
ZRHB	Zarechye	3.65	229	eSn	Sn	19 39 40.0	+0.4
ZRHB				eSg	Sg	19 39 54.0	-4.1
ZRHB				Smax			
	comp=E,280nm,1.3s						
TRTB	Turuntaevo	3.69	222	ePn	Pn	19 38 59.1	+1.7
TRTB				ePg	Pg	19 39 09.0	-2.7
TRTB				e		19 39 13.4	
TRTB				eSn	Sn	19 39 38.5	-2.2
TRTB				eSg	Sg	19 39 55.6	-4.0
TRTB				Pmax			
	comp=E,43nm,1.1s						
TRTB				Smax			
	comp=E,111nm,1.0s						
TRG	Tyrgan	3.88	236	ePn	Pn	19 39 02.2	+2.2
TRG				ePg	Pg	19 39 11.1	-4.1
TRG				eSn	Sn	19 39 45.0	-0.3
TRG				eSg	Sg	19 40 01.2	-4.3
TRG				Pmax			
	comp=E,17nm,1.0s						
TRG				Smax			
	comp=E,79nm,1.0s						
CRS	Chara	4.16	61	ePn	Pn	19 39 04.4	+0.6
CRS				ePg	Pg	19 39 15.4	-5.2
CRS				eSn	Sn	19 39 51.7	-0.5
CRS				eSg	Sg	19 40 09.8	-4.7
CRS				Pmax			
	comp=E,48nm,0.9s						
CRS				Smax			
	comp=E,342nm,1.3s						
CRS	Chara	4.16	61	ePN	Pg	19 39 16.5	-4.1
CRS				e		19 40 10.0	
CRS				pmax	pmax		
	comp=Z,48nm,0.8s						
CRS				smax			
	comp=E,336nm,0.8s						
KAB	Kabansk	4.22	227	eSg	Sg	19 40 10.9	-5.7
KAB				Smax			
	comp=E,349nm,1.3s						
TUP	Tupik	4.85	94	ePn	Pn	19 39 13.5	+0.2
TUP				ePg	Pg	19 39 28.4	-5.4
TUP				eSn	Sn	19 40 08.0	-1.3
TUP				eSg	Sg	19 40 30.2	-6.5
TUP				Pmax			
	comp=E,20nm,0.8s						
TUP				Smax			
	comp=E,331nm,0.8s						
TUP	Tupik	4.85	94	ePN	Pn	19 39 13.5	+0.2
TUP				e		19 39 26.9	
TUP				eS	Sn	19 40 08.3	-1.0
TUP				e		19 40 30.4	
TUP				pmax	pmax		
	comp=Z,20nm,0.5s						
TUP				smax			
	comp=E,333nm,0.8s						
LSTR	Listvyanka	5.17	235	ePg	Pg	19 39 34.6	-5.2
LSTR				eSn	Sn	19 40 16.0	-1.0
LSTR				eSg	Sg	19 40 41.0	-5.7
LSTR				Pmax			
	comp=E,10.0nm,1.0s						
LSTR				Smax			
	comp=E,47nm,1.3s						
IRK	Irkutsk	5.21	240	eSg	Sg	19 40 42.9	-5.1
IRK				Smax			
	comp=E,225nm,0.8s						
KPC	Khapcheranga	5.36	175	ePn	Pn	19 39 20.3	-0.1
KPC				ePg	Pg	19 39 38.0	-5.6
KPC				eSn	Sn	19 40 19.9	-2.0
KPC				eSg	Sg	19 40 46.5	-6.6
KPC				Pmax			
	comp=E,9.0nm,1.6s						
KPC				Smax			
	comp=E,91nm,0.8s						
KPC	Khapcheranga	5.36	175	ePN	Pn	19 39 20.5	+0.1
KPC				e		19 39 39.0	
KPC				e		19 40 47.6	
KPC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KPC				smax			
	comp=E,93nm,0.7s						
TLY	Talaya	5.86	238	eSg	Sg	19 41 00.1	-8.7
TLY				Smax			
	comp=E,24nm,0.7s						
ARS	Arshan	6.33	244	ePg	Pg	19 39 54.4	-7.7
ARS				eSg	Sg	19 41 15.1	-9.0
ARS				Pmax			
	comp=E,16nm,0.5s						
ARS				Smax			
	comp=E,161nm,0.8s						
ARS	Arshan	6.33	244	ePG	Pg	19 39 54.5	-7.6
ARS				e		19 41 15.2	
ARS				pmax	pmax		
	comp=Z,17nm,0.4s						
ARS				smax			
	comp=E,194nm,0.9s						
ZAK	Zakamensk	6.90	231	ePN	Pn	19 39 50.1	+8.7
ZAK				eS	Sn	19 41 35.4	+36
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAK				smax			
	comp=N,36nm,1.8s						
MOY	Mondy	7.22	246	ePn	Pn	19 39 47.4	+1.6
MOY				eSn	Sn	19 41 04.0	-3.5
MOY				eSg	Sn	19 41 43.2	+36
MOY				max			
	comp=N,9.0nm,1.2s						
MOY				Smax			
	comp=N,82nm,1.4s						
MOY	Mondy	7.22	246	ePN	Pn	19 39 47.6	+1.8
MOY				e		19 40 10.1	
ORL	Orlik	7.45	255	ePn	Pn	19 39 50.2	+1.2
ORL				eSn	Sn	19 41 10.5	-2.7
ORL				eSg	Sn	19 41 51.0	+38
ORL				max			
	comp=N,12nm,1.3s						
ORL				Smax			
	comp=N,85nm,1.4s						
CLNS	Chul'man	7.65	71	ePG	Px	19 40 19.3	
CLNS				pmax	pmax		
	comp=Z,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,60nm,13.0s						

*MOS **08** 19:39:18.5±1.2,55.01N×111.68E,h16km,mb4.2/1,Error ellipse: s-maj=41.0km s-min=23.2km az=89.5*

BYKL 08 19:39:19.4±0.3,55.05N×111.65E,h23km±7km,2D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.33	238	ePg	Pb	19 39 26.2	-0.5
YLYR				e		19 39 30.4	
YLYR				eSg	Sb	19 39 31.1	-0.6
YLYR				Pmax			
	55nm,0.1s						
YLYR				Smax			
	2µm,0.1s						
YLYR	Ulyunkhan	0.33	238	ePG	Pb	19 39 26.4	-0.3
YLYR				e		19 39 31.4	
YLYR				pmax	pmax		
	comp=Z,76nm,0.1s						
YLYR				smax			
	comp=E,2µm,0.1s						
KMO	Kumora	0.88	343	ePg	Pb	19 39 35.2	-0.7
KMO				eSg	Sb	19 39 47.0	-0.2
KMO				Pmax			
	comp=E,100nm,0.5s						
KMO				Smax			
	comp=E,304nm,1.1s						
KMO	Kumora	0.88	343	ePG	Pb	19 39 34.9	-1.0
KMO				e		19 39 46.4	
KMO				pmax	pmax		
	comp=Z,51nm,0.3s						
KMO				smax			
	comp=N,307nm,1.1s						
YOA	Uoyan	1.09	2	ePg	Pn	19 39 39.2	0.0
YOA				eSg	Sb	19 39 54.3	+1.1
YOA				e		19 39 59.6	
YOA				Pmax			
	comp=N,161nm,0.2s						
YOA				Smax			
	comp=N,1µm,0.6s						
YOA	Uoyan	1.09	2	⇓iPG	Pn	19 39 39.7	+0.5
YOA				i		19 39 55.1	
YOA				pmax	pmax		
	comp=Z,379nm,0.3s						
YOA				smax			
	comp=N,1µm,0.5s						
UKT	Uakit	1.21	68	ePg	Pn	19 39 41.0	+0.1
UKT				ePb	Pb	19 39 43.0	+1.3
UKT				eSg	Sn	19 39 57.1	+0.4
UKT				eSb	Sb	19 40 00.0	+3.1
UKT				max			
	comp=N,79nm,0.3s						
UKT				max			
	comp=N,427nm,0.4s						
UKT	Uakit	1.21	68	ePG	Pn	19 39 40.9	0.0
UKT				e		19 39 57.3	
UKT				pmax	pmax		
	comp=Z,72nm,0.2s						
UKT				smax			
	comp=N,426nm,0.2s						
NIZ	Nizh Angarsk	1.41	302	⇓iPg	Pn	19 39 45.3	+1.7
NIZ				eSg	Sn	19 40 04.4	+3.0
NIZ				Pmax			
	comp=N,125nm,0.2s						
NIZ				Smax			
	comp=N,222nm,0.2s						
NIZ	Nizh Angarsk	1.41	302	ePN	Pn	19 39 45.3	+1.7
NIZ				e		19 40 04.3	
NIZ				pmax	pmax		
	comp=Z,126nm,0.3s						
NIZ				smax			
	comp=E,223nm,0.3s						
SYVR	Suvo	1.70	215	ePg	Pn	19 39 50.1	+2.5
SYVR				eSg	Sn	19 40 12.9	+4.3
SYVR				Pmax			
	comp=E,38nm,0.4s						
SYVR				Smax			
	comp=E,72nm,0.2s						
MXMB	Maximikha	2.48	225	eSg	Sn	19 40 37.8	+10
MXMB				Smax			
	comp=E,182nm,0.7s						
NLYR	Nelyaty	2.71	56	ePg	Pn	19 40 08.0	+6.5
NLYR				eSg	Sn	19 40 43.5	+10
OGRR	Ongureny	2.76	241	ePg	Pn	19 40 09.1	+6.9
OGRR				eSn	Sn	19 40 37.2	+2.4
OGRR				eSg	Sn	19 40 44.4	+10
OGRR				Pmax			
	comp=E,30nm,0.8s						
OGRR				Smax			
	comp=E,43nm,0.4s						
BOD	Bodaibo	3.07	24	eSg	Sn	19 40 53.3	+11
BOD				Smax			
	comp=E,38nm,0.4s						
CIT	Chita	3.24	159	eSg	Sn	19 40 59.4	+13
CIT				Smax			
	comp=E,60nm,0.6s						
TRTB	Turuntaevo	3.70	222	ePg	Pn	19 40 26.7	+12
TRTB				eSg	Sn	19 41 14.7	+17
TRTB				Pmax			
	comp=E,32nm,0.8s						
TRTB				Smax			
	comp=E,30nm,0.6s						
TRG	Tyrgan	3.88	236	ePg	Pn	19 40 28.7	+11
TRG				eSg	Sn	19 41 18.9	+16
TRG				Pmax			
	comp=E,22nm,0.7s						
TRG				Smax			
	comp=E,32nm,0.3s						
CRS	Chara	4.16	61	ePg	Pn	19 40 34.3	+13
CRS				eSg	Sn	19 41 27.9	+19
CRS				Pmax			
	comp=E,83nm,1.5s						
CRS				Smax			
	comp=E,86nm,1.3s						
TUP	Tupik	4.85	94	eSg	Sn	19 41 48.2	+22
TUP				Smax			
	comp=E,70nm,0.6s						
KHNR	Khani	5.04	65	eSg	Sn	19 41 56.6	+26
LSTR	Listvyanka	5.17	235	eSg	Sn	19 42 00.2	+26
LSTR				Smax			
	comp=E,19nm,1.0s						
KPC	Khapcheranga	5.37	175	ePg	Pn	19 40 55.9	+18
KPC				eSg	Sn	19 42 06.3	+27
KPC				Pmax			
	comp=E,69nm,1.1s						
KPC				Smax			
	comp=E,20nm,0.8s						
TLY	Talaya	5.86	238	eSg	Sn	19 42 21.9	+31
ARS	Arshan	6.34	244	eSg	Sn	19 42 33.8	+31
ARS				Smax			
	comp=E,62nm,0.9s						

*MOS **08** 19:49:40.8±1.0,5.97S×128.64E,h308km,mb4.8/29,Error ellipse: s-maj=13.3km s-min=6.0km az=112.5*

*BJI **08** 19:49:40.3,6.02S×128.90E,h316km,mB4.5,mb4.9*

*ISCJB **08** 19:49:41.5±0.2,5.98S±0.02×128.75E±0.04,h317km, mb4.9/85,Error ellipse: s-maj=5.5km s-min=2.6km az=143.8*

*NEIC **08** 19:49:42.5±0.7,5.97S×128.71E,h312km±7km,mb4.9/27, Error ellipse: s-maj=7.4km s-min=4.0km az=62.0*

*GCMT **08** 19:49:42.5±0.5,5.77S×128.82E,h321km±3km,MW5.2/42, Moment Tensor Solution. s42,c57; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.34; $M_{\theta\theta}$4.69±.46; $M_{\phi\phi}$-2.96±.55; $M_{r\theta}$2.38±.47; $M_{\theta\phi}$1.60±.47; $M_{\phi r}$5.43±.39; Best double couple: $M_0$7.34100×10^{16} NP1:ϕ_s115.00000°, δ36.00000°,λ-14.00000°. NP2:ϕ_s216.00000°,δ82.00000°, λ-126.00000°. Principal axes: T 6.8590, Plg28.0000°, Azm334.0000°; N 0.9640, Plg35.0000°, Azm222.0000°; P -7.8230, Plg42.0000°, Azm93.0000°; nsta1 refers to body waves, cutoff=40s.*

*IDC **08** 19:49:43.4±0.7,6.02S×128.68E,h320km±6km,mb4.4/13, mb1 4.5/17,mb1mx4.5/20,mbtmp5.2/17 Error ellipse: s-maj=10.9km s-min=6.6km az=57.0*

ISC 08 19:49:43.2±0.2**,6.02S**±0.02×**128.78E**±0.04**,h319**km**, h319**km±2.2km**:pP-P,n254,**σ**0.99**/266**,mb4.8**/85**,30C-12D,**

Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	2.39	346	P	Pn	19 50 33.6	-1.1
	1µm,1.0s						
SWI	Sorong	5.69	26	P	Pn	19 51 07.2	-2.2
	1µm,0.7s						
KAKA	Kakadu	7.57	152	⇑iP	Pn	19 51 31.1	-0.6
	1µm,0.7s						
KAKA				eS	S	19 52 51.7	-8.1
PCI	Palu	10.27	299	P	Pn	19 52 06.2	+1.8
	1µm,1.1s						
MMPI	Merauke	11.77	103	P	Pn	19 52 24.1	+1.5
	4µm,0.8s						
FITZ	Fitzroy Crossi	12.39	194	⇑iP	Pn	19 52 29.3	-0.8
	152nm,0.6s						
FITZ				eS	S	19 54 45.3	-2.3
FITZ	Fitzroy Crossi	12.39	194	P	Pn	19 52 29.4	-0.7
	10.0nm,0.3s,baz=26,slow=10,SNR=233						
FITZ				S	S	19 54 42.8	-4.8
	6.4nm,0.3s,baz=343,slow=15,SNR=3.3						
JAY	Jayapura	12.39	74	P	Pn	19 52 29.9	-0.2
	576nm,0.9s						
MATI	Mati	13.12	349	eP	Pn	19 52 39.0	+0.2
DAV	Davao City (W)	13.39	346	eP	Pn	19 52 42.0	+0.1
DAV	Davao City (W)	13.39	346	P	Pn	19 52 42.4	+0.4
	SNR=21						
DAV	Davao City (W)	13.39	346	eP	Pn	19 52 42.1	+0.2
	631nm,0.8s						
DMPH	Davao City--Mi	13.42	346	eP	Pn	19 52 42.1	-0.2
KCP	Kidapawan	13.45	344	⇓eP	Pn	19 52 45.6	+2.9
BUKP	Musuan	14.29	345	eP	P	19 52 52.1	+0.6
BUKP				eS	S	19 55 29.3	+1.6
TARAI	Tarakan	14.54	309	P	P	19 52 53.3	-0.9
	534nm,1.2s						
KMMI	Kalianget	14.75	265	P	P	19 53 01.3	+4.8
	329nm,0.9s						
PAGZ	Pagadian	14.79	339	eP	P	19 52 58.2	+1.3
WRAB	Tennant Creek	14.85	159	eP	P	19 52 58.0	+0.4
WRAB				pmax	pmax		
	comp=Z,443nm,0.6s						
WRAB	Tennant Creek	14.85	159	eP	P	19 52 58.0	+0.3
	comp=Z,443nm,0.6s						
WRAB				eS	S	19 55 23.4	-16
WRA	Warramunga Arr	14.86	159	P	P	19 52 57.2	-0.4
	comp=Z,43nm,0.3s,baz=340,slow=12,SNR=693						
WRA				S	S	19 55 35.7	-3.4
	comp=Z,5.2nm,0.3s,baz=342,slow=20,SNR=10						
WRA				ScP	ScP	20 00 48.4	-0.1
	baz=316,slow=2.4,SNR=4.6						
WRA	Warramunga Arr	14.86	159	P	P	19 52 57.2	-0.5
WRA				S	S	19 55 35.7	-3.4
WB2	Warramunga Arr	14.86	159	⇑iP	P	19 52 58.0	+0.3
WB2				eS	S	19 55 35.0	-4.2
CGP	Cagayan de Oro	14.94	344	⇓iP	P	19 52 58.8	+0.2
TSM	Tawau	14.95	313	P	P	19 52 59.2	+0.5
IPIL	Ipil	15.05	336	eP	P	19 53 00.8	+1.0
BUTP	Butuan	15.22	348	eP	P	19 53 03.0	+1.4
DCPH	Dipolog City	15.48	340	⇑eP	P	19 53 06.7	+2.2
SCPH	Surigao	16.04	348	eP	P	19 53 11.2	+0.7
KRKI	Karangkates	16.34	262	P	P	19 53 20.6	+6.8
	comp=Z,166nm,0.9s						
TBP	Tagbilaran	16.36	343	eP	P	19 53 14.7	+0.7
MSLP	Maasin	16.51	346	eP	P	19 53 17.0	+1.2
LLP	Lapu-Lapu	16.92	344	⇑eP	P	19 53 20.4	+0.2
	comp=Z,374µm,0.9s						
KKM	Kota Kinabalu	17.34	313	P	P	19 53 24.9	+0.2
KKM	Kota Kinabalu	17.34	313	eP	P	19 53 24.7	0.0
MBWA	Marble Bar	17.42	209	eP	P	19 53 25.2	-0.2
	comp=Z,36nm,0.8s						
OCLP	Ormoc	17.46	346	eP	P	19 53 26.7	+0.8
PLP	Palo	17.48	348	eP	P	19 53 27.8	+1.6
GUIM	Jordan	17.64	340	eP	P	19 53 27.0	-0.9
AS31	Alice Springs	18.23	165	eP	P	19 53 34.9	+0.8
AS31				eS	S	19 56 43.8	-1.9
ASAR	Alice Springs	18.23	165	P	P	19 53 35.0	+0.8
	comp=Z,24nm,0.3s,baz=344,slow=11,SNR=1280						
ASAR				S	S	19 56 45.0	-0.8
	comp=Z,8.5nm,0.3s,baz=345,slow=20,SNR=45						
ASAR				ScP	ScP	20 00 55.5	+0.2
	comp=Z,1.6nm,0.3s,baz=355,slow=2.0,SNR=8.7						
ASAR	Alice Springs	18.23	165	P	P	19 53 35.0	+0.9
ASAR				S	S	19 56 45.0	-0.8
ASPA	Alice Springs	18.23	165	eP	P	19 53 34.9	+0.8
ASPA				eS	S	19 56 43.8	-2.0
BATP	Bataraza	18.34	323	eP	P	19 53 35.1	-0.2
CUYO	Cuyo Island	18.45	335	eP	P	19 53 36.7	+0.2
PMG	Port Moresby	18.52	102	P	P	19 53 39.2	+1.8
	comp=Z,15nm,0.3s,baz=297,slow=5.3,SNR=51						
PMG				S	S	19 56 54.9	+3.4
	comp=Z,0.4nm,0.3s,baz=119,slow=19,SNR=1.7						
PMG	Port Moresby	18.52	102	d iP	P	19 53 40.0	+2.7
PMG	Port Moresby	18.52	102	eP	P	19 53 38.0	+0.7
	comp=Z,332nm,0.9s						
BJII	Banjamegara	18.98	265	P	P	19 53 47.1	+4.9
	comp=Z,67nm,1.3s						
OTRP	Odiongan	19.46	340	eP	P	19 53 47.9	+0.8
ENPP	El Nido	19.48	331	eP	P	19 53 47.1	-0.3
BUSP	Coron	19.83	335	eP	P	19 53 50.8	-0.3
KSM	Kuching	19.89	291	eP	P	19 53 51.0	-0.7
PVCP	Virac	20.02	347	eP	P	19 53 52.0	-1.1
JCJI	Jatiwangi	20.39	268	P	P	19 53 58.0	+1.1
	comp=Z,231nm,0.9s						
BOAC	Boac	20.54	340	eP	P	19 53 57.1	-1.2
LEM	Lembang	21.04	267	P	P	19 54 07.4	+4.5
	comp=Z,136nm,0.8s,mb5.2						
LUBP	Lubang	21.37	337	eP	P	19 54 04.7	-1.3
TGY	Tagaytay City	21.45	339	P	P	19 54 06.3	-0.3
	comp=Z,510nm,0.5s,baz=179,slow=9.9,SNR=24						
POLP	Polilio Island	21.70	342	eP	P	19 54 07.7	-1.2
CBJI	Citeko	21.80	268	P	P	19 54 10.8	+1.0
	comp=Z,183nm,0.9s,mb5.3						
CTA	Charters Tower	22.00	131	eP	P	19 54 13.6	+2.0
	comp=Z,41nm,0.7s,mb4.8						
CTA				epP		19 55 01.5	
CTA				eS	S	19 58 01.8	+11
CTA	Charters Tower	22.00	131	P	P	19 54 13.6	+2.0
	comp=Z,57nm,0.7s,mb4.9,baz=312,slow=12,SNR=80						
CTA				pP		19 55 02.9	
	comp=Z,46nm,1.0s,baz=311,slow=13,SNR=4.6						
CTA	Charters Tower	22.00	131	eP	P	19 54 13.6	+2.0
CTA				eS	S	19 58 01.8	+11
CTA				pmax	pmax		
	comp=Z,41nm,0.7s						
CTAO	Charters Tower	22.00	131	eP	P	19 54 13.1	+1.5
CTAO				pmax	pmax		
	comp=Z,123nm,1.1s,mb5.0						
CTAO	Charters Tower	22.00	131	eP	P	19 54 13.1	+1.4
	comp=Z,123nm,1.1s,mb5.0						
CTAO				epP		19 55 01.4	
BALP	Baler	22.77	342	eP	P	19 54 17.1	-1.6
SCZP	Santa Cruz	23.37	338	eP	P	19 54 21.9	-2.1
PALP	Palanan	23.78	345	eP	P	19 54 27.4	-0.4
CAUP	Cauayan	23.83	343	eP	P	19 54 27.2	-1.0
BOLP	Bolinao	23.92	339	eP	P	19 54 27.7	-1.4
FORT	Forrest	24.64	181	eP	P	19 54 37.1	+1.6
	comp=Z,21nm,0.5s,mb4.6						
ABRA	Dolores	24.83	341	eP	P	19 54 34.8	-2.5
KGM	Kluang	26.64	287	P	P	19 54 54.6	+1.2
KLBR	Kellerberrin	27.45	201	eP	P	19 55 00.9	+0.3
	comp=Z,32nm,1.3s,mb4.4						
MUN	Mundaring	28.37	203	eP	P	19 55 09.0	+0.3
STKA	Stephens Creek	28.38	157	eP	P	19 55 09.5	+0.7
	comp=Z,17nm,0.7s,mb4.4						
STKA				epP		19 56 09.6	
STKA	Stephens Creek	28.38	157	P	P	19 55 09.8	+1.0
	comp=Z,23nm,0.7s,mb4.5,baz=324,slow=7.8,SNR=43						
STKA				pP		19 56 09.9	
	comp=Z,92nm,0.9s,baz=328,slow=10,SNR=11						
STKA				ScP	ScP	20 01 22.6	+0.2
	comp=Z,12nm,0.6s,baz=48,slow=4.2,SNR=4.4						
NWAO	Narrogin (SRO)	28.85	200	P	P	19 55 13.8	+0.9
	comp=Z,5.3nm,0.5s,mb4.0,baz=56,slow=7.3,SNR=9.0						
NWAO				pP		19 56 12.9	
	comp=Z,20nm,0.7s,baz=29,slow=10,SNR=4.6						
IPM	Ipoh	29.61	290	P	P	19 55 19.4	-0.1
KULM	Kulim	30.24	291	eP	P	19 55 24.1	-1.0
KULM				pP	pP	19 56 23.6	-2.3
HNR	Honiara	31.07	98	P	P	19 55 32.7	+0.3
	comp=Z,231nm,0.6s,mb5.6,baz=143,slow=0.4,SNR=29						
HNR	Honiara	31.07	98	eP	P	19 55 32.8	+0.4
HNR				pmax	pmax		
	comp=Z,410nm,1.1s,mb5.6						
HNR	Honiara	31.07	98	eP	P	19 55 32.8	+0.4

comp=Z,410nm,1.1s,mb5.6
PSI Prapat 31.07 286 P **P** **19 55 31.6 -0.7**
comp=Z,44nm,0.9s,mb4.7,baz=162,slow=2.4,SNR=18
PSI pP pP 19 56 33.4 +0.1
comp=Z,13nm,1.0s,baz=164,slow=5.5,SNR=1.9
QIZ Qiongzhong 31.11 324 P **P** **19 55 32.1 -0.6**
QIZ PP PP 19 56 48.1 -2.4
QIZ XP sP 19 57 09.7 -0.8
QIZ S **S** **20 00 05.7 -8.5**
QIZ SCP ScP 20 01 28.9 -2.4
QIZ SS SS 20 02 36.1 -6.9
QIZ AMB AMB
comp=Z,37nm,1.0s,mb4.6
QIZ AMB AMB
comp=Z,85nm,6.8s
QIZ Qiongzhong 31.11 324 *e*P **P** **19 55 32.3 -0.4**
comp=Z,39nm,1.2s,mb4.5
YHNB Yeheng 31.34 347 *e*P **P** **19 55 33.0 -1.7**
QZH Quanzhou 32.33 343⇑ *i*P **P** **19 55 42.4 -0.9**
QZH AMB AMB
comp=Z,110nm,0.7s,mb5.2
ARMA Armidale 32.42 141 *e*P **P** **19 55 45.9 +1.8**
GZH Guangzhou 32.62 333 P **P** **19 55 47.0 +1.1**
GZH S **S** **20 00 40.6 +3.0**
GZH LR LR
comp=N,98nm,11.2s
GZH LR LR
comp=E,205nm,16.5s
GZH LR LR
comp=Z,310nm,19.0s
KKTK Khon Kaen 33.95 311⇑P **P** **19 55 57.5 +0.2**
comp=Z,1μm,0.8s
TOO Toolangi 34.90 156 *e*P **P** **19 56 07.7 +2.3**
comp=Z,7.5nm,0.5s,mb4.2
TOO Toolangi 34.90 156 *e*P **P** **19 56 07.7 +2.3**
TOO pmax pmax
comp=Z,8.0nm,0.5s,mb4.2
NST Nakhon Sawan 35.62 308⇓P **P** **19 56 11.8 +0.3**
comp=Z,68nm,0.7s,mb5.0
NANT Nan 37.07 312⇑P **P** **19 56 24.0 +0.4**
comp=Z,2μm,0.4s
SSE Sheshan 37.61 349⇑P **P** **19 56 28.0 -0.1**
SSE AMB AMB
comp=Z,72nm,1.0s,mb4.9
SSE AMB AMB
comp=Z,89nm,4.3s
SSE LR LR
comp=Z,78nm,21.8s
CHG Chiang Mai 38.38 311⇑P **P** **19 56 35.0 +0.5**
comp=Z,150nm,0.8s,mb5.3
CHTO Chiang Mai 38.38 311 P **P** **19 56 35.2 +0.7**
SNR=50
CHTO Chiang Mai 38.38 311 *e*P **P** **19 56 34.8 +0.3**
CHTO *e* 20 01 58.7
CHTO pmax pmax
comp=Z,138nm,0.8s,mb5.2
CHTO Chiang Mai 38.38 311 *e*P **P** **19 56 34.8 +0.3**
comp=Z,138nm,0.8s,mb5.2
CHTO *e*ScP ScP 20 01 58.7 +1.1
GYA Guiyang 38.75 327⇑ *i*P **P** **19 56 37.6 0.0**
GYA AP pP 19 57 41.2 +0.7
GYA XP sP 19 58 16.9 0.0
GYA PCP PcP 19 58 43.4 +1.6
GYA S **S** **20 02 10.1 -0.4**
GYA XS sS 20 04 02.2 -1.6
GYA AMB AMB
comp=Z,60nm,0.7s,mb4.9
GYA AMB AMB
comp=Z,110nm,3.5s
GYA LR LR
comp=N,390nm,17.4s
GYA LR LR
comp=E,410nm,17.0s
GYA LR LR
comp=Z,380nm,16.8s
WHN Wuhan 38.89 340⇑P **P** **19 56 39.0 +0.3**
WHN AP pP 19 57 45.5 +3.8
WHN PCP PcP 19 58 38.5 -3.8
NJ2 Nanjing 39.02 347 *e*P **P** **19 56 40.5 +0.7**
NJ2 AP pP 19 57 44.7 +1.9
NJ2 PP PP 19 58 18.0 +1.1
NJ2 XP sP 19 58 20.3 +1.1
NJ2 SCP ScP 20 02 01.3 +1.3
NJ2 S **S** **20 02 17.0 +2.6**
NJ2 XS sS 20 04 09.0 +1.1
NJ2 AMB AMB
comp=Z,140nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,250nm,7.8s
NJ2 LR LR
comp=N,220nm,13.6s
NJ2 LR LR
comp=E,230nm,18.6s
NJ2 LR LR
comp=Z,190nm,13.3s
DZM Mont Dzumac 39.72 117 P **P** **19 56 46.7 +1.2**
comp=Z,18nm,0.9s,mb4.3,baz=296,slow=9.6,SNR=18
DZM pP pP 19 57 51.7 +2.9
comp=Z,13nm,1.0s,baz=344,slow=5.3,SNR=3.3
KMI Kunming 40.00 322⇑P **P** **19 56 48.8 +1.1**
KMI AP pP 19 57 52.4 +1.3
KMI XP sP 19 58 27.6 +0.2
KMI PP PP 19 58 31.4 +4.0
KMI PCP PcP 19 58 49.2 +3.4
KMI PPP 19 59 12.1
KMI SCP ScP 20 02 05.2 +1.4
KMI S **S** **20 02 28.2 -0.7**
KMI PCS PcS 20 02 35.0 -1.6
KMI XS sS 20 04 25.7 +2.9
KMI SS SS 20 05 36.4 -4.2
KMI SCS ScS 20 06 18.3 +0.1
KMI SSS 20 06 43.2
KMI AMB AMB
comp=Z,57nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,173nm,4.1s
KMI LR LR
comp=N,114nm,15.4s
KMI LR LR
comp=E,98nm,16.0s
KMI LR LR
comp=Z,156nm,22.6s
MJAR Matsushiro Arr 43.25 11 P **P** **19 57 12.9 -1.0**
comp=Z,27nm,0.9s,mb4.4,baz=188,slow=8.8,SNR=92
MJAR ScP ScP 20 02 16.6 -0.2
comp=Z,2.2nm,0.9s,baz=191,slow=5.5,SNR=4.3
MAJO Matsushiro 43.25 11 *e*P **P** **19 57 12.5 -1.4**
MAJO pmax pmax
comp=Z,39nm,0.9s,mb4.5
MAJO Matsushiro 43.25 11 *e*P **P** **19 57 12.5 -1.4**
comp=Z,39nm,0.9s,mb4.5
MAT Matsushiro 43.25 11 P **P** **19 57 12.4 -1.5**
MAT S **S** **20 03 14.0 -2.4**
CD2 Chengdu 43.83 328 *e*P **P** **19 57 19.0 +0.5**
CD2 AP pP 19 58 23.9 +0.9
CD2 XP sP 19 58 59.3 +0.3
CD2 PP PP 19 59 08.2 +0.2
CD2 S **S** **20 03 26.5 +1.7**
CD2 XS sS 20 05 21.4 +1.1
CD2 SS SS 20 06 44.8 -5.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.0
CD2 AMB AMB
comp=Z,40nm,5.2s
XAN Xi'an 44.05 336 P **P** **19 57 18.9 -1.3**
XAN S **S** **20 03 22.2 -5.7**
XAN AMB AMB
comp=Z,65nm,0.9s,mb4.8
XAN LR LR
comp=N,121nm,23.5s
XAN LR LR
comp=Z,194nm,26.3s
IMP Imphal 45.69 313 *ex* x 19 56 33.0
BJT Baijiatuau 47.26 347 *e*P **P** **19 57 44.4 -0.8**
BJT pmax pmax
comp=Z,50nm,0.7s
BJT Baijiatuau 47.26 347 *e*P **P** **19 57 44.4 -0.7**
comp=Z,50nm,0.7s,mb4.8
BJI Beijing 47.28 347 *e*P **P** **19 57 44.7 -0.6**
BJI AMB AMB
comp=Z,96nm,0.7s,mb5.1
SHL Shillong 47.65 313 *i* P **P** **19 57 47.0 -1.1**
SHL *ex* x 20 04 17.0
LZH Lanzhou 47.98 333⇑P **P** **19 57 51.0 +0.4**
LZH AP pP 19 58 59.0 +2.6
LZH PCP PcP 19 59 16.0 +2.8
LZH XP sP 19 59 30.5 -1.5
LZH PP PP 19 59 46.0 0.0
LZH SCP ScP 20 02 37.5 +1.0
LZH PCS PcS 20 03 10.0 +0.6
LZH S **S** **20 04 21.0 -2.5**
LZH XS sS 20 06 18.0 -2.9
LZH SCS ScS 20 07 06.5 -2.5
LZH *e*SS SS 20 07 52.0 -4.9
LZH AMB AMB
comp=Z,130nm,1.1s,mb5.1
LZH AMB AMB
comp=Z,370nm,5.0s
LZH LR LR
comp=E,1μm,14.0s
LZH LR LR
comp=Z,2μm,15.0s
VLA Vladivostok 48.99 3 *i*P **P** **19 57 59.4 +1.1**
HHC Hu-ho-hao-te 49.24 343 *e*P **P** **19 58 00.1 -0.1**
HHC PCP PcP 19 59 17.8 0.0
HHC XP sP 19 59 41.7 -0.2
HHC PP PP 19 59 58.7 +1.2
HHC SCP ScP 20 02 40.4 -1.5
HHC PCS PcS 20 03 13.4 -1.4
HHC S **S** **20 04 41.4 +0.3**
HHC XS sS 20 06 38.7 -0.4
HHC SCS ScS 20 07 15.6 -2.0
HHC SS SS 20 08 16.2 -0.8
HHC AMB AMB
comp=Z,28nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,87nm,4.1s
HHC LR LR
comp=N,117nm,6.5s
HHC LR LR
comp=E,151nm,4.7s
HHC LR LR
comp=Z,116nm,11.8s
CN2 Changchun 49.68 357 *e*P **P** **19 58 02.8 -0.6**
CN2 *e*S **S** **20 04 46.4 -0.7**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
MDJ Mudanjiang 50.41 1 P **P** **19 58 09.0 +0.1**
MDJ AP pP 19 59 13.8 -1.6
MDJ PCP PcP 19 59 22.2 +0.1
MDJ XP sP 19 59 48.3 -2.5
MDJ SCP ScP 20 02 47.5 +0.6
MDJ S **S** **20 04 56.9 -0.2**
MDJ XS sS 20 06 54.3 -1.3
MDJ AMB AMB
comp=Z,30nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,92nm,4.6s
LSA Lhasa 50.65 317 P **P** **19 58 11.3 +0.6**
LSA Lhasa 50.65 317 *e*P **P** **19 58 11.7 +1.0**
LSA pmax pmax
comp=Z,61nm,0.8s,mb4.9
LSA Lhasa 50.65 317 *e*P **P** **19 58 11.7 +1.0**
comp=Z,61nm,0.8s,mb4.9
VIS Vishakhapatnam 50.69 299 *e*P **P** **19 58 11.9 +1.0**
BOK Bokaro 51.27 307 *e*P **P** **19 58 15.4 +0.1**
BOK AMb AMB 19 58 19.1
comp=Z,50nm,0.9s,mb4.7
GTA Gaotai 52.53 332 P **P** **19 58 24.2 -0.3**
GTA AP pP 19 59 31.5 -0.2
GTA XP sP 20 00 06.8 -0.1
GTA PP PP 20 00 27.6 +0.5
GTA PPP 20 01 45.2
GTA SCP ScP 20 02 56.8 +0.7
GTA S **S** **20 05 23.7 -2.3**
GTA XS sS 20 07 22.0 -3.5
GTA SCS ScS 20 07 38.9 -1.5
GTA SS SS 20 09 05.8 -3.1
GTA AMB AMB
comp=Z,76nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,174nm,5.2s
GTA LR LR
comp=N,102nm,17.9s
GTA LR LR
comp=E,108nm,16.7s
GTA LR LR
comp=Z,65nm,16.8s
RPZ Rata Peaks 52.75 142 P **P** **19 58 27.1 +1.0**
comp=Z,55nm,0.7s,mb5.0,baz=278,slow=1.8,SNR=45
GUN Gumba 53.40 311 *e*P **P** **19 58 31.2 +0.5**
comp=Z,435nm,0.6s
PKI Pulchoki 53.57 311 *e*P **P** **19 58 32.2 +0.2**
comp=Z,148nm,0.6s,mb5.5
TRD Trivandrum 53.64 285 *ex* **P** **19 58 32.3 -0.3**
TRD AMb AMB 19 58 37.0
comp=Z,40nm,0.4s,mb5.1
KKN Kakani 53.78 311 *e*P **P** **19 58 33.6 +0.1**
comp=Z,181nm,0.6s,mb5.6
DMN Daman 53.82 311 *e*P **P** **19 58 33.9 +0.1**
comp=Z,280nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 54.18 12 *e*P **P** **19 58 36.0 -0.4**
GKN Gorkha 54.38 311 *e*P **P** **19 58 37.8 0.0**
comp=Z,267nm,0.6s,mb5.7
HABR Khabarovsk 54.54 5⇑ *i*P **P** **19 58 38.9 -0.1**
HABR *e*S **S** **20 05 55.7 +2.9**
HABR pmax pmax
comp=Z,54nm,1.6s,mb4.6
HYB Hyderabad 54.79 296 *i* P **P** **19 58 40.0 -0.8**
comp=Z,114nm,0.8s,mb5.2
HYB *e* 19 59 06.5
HYB Hyderabad 54.79 296 *e*P **P** **19 58 40.0 -0.8**
HYB pmax pmax
comp=Z,114nm,0.8s,mb5.2
HYB Hyderabad 54.79 296 *e*P **P** **19 58 40.0 -0.8**
comp=Z,114nm,0.8s,mb5.2
KOLN Koldanda 55.04 310 *e*P **P** **19 58 42.8 +0.3**
comp=Z,165nm,0.7s,mb5.5
KLR Kul'dur 55.08 2 *e*P **P** **19 58 39.2 -3.6**
KLR pmax pmax
comp=Z,48nm,1.4s,mb4.6
HIA Hailar 55.62 353 *c i*P **P** **19 58 46.3 -0.3**
NGP Nagpur 55.75 301 *e*P **P** **19 58 44.1 -3.5**
ULN Ulaanbaatar 56.97 343 P **P** **19 58 57.0 +0.9**
SNR=19
ULN Ulaanbaatar 56.97 343⇑ *e*P **P** **19 58 56.5 +0.4**
SONM Songino Array 57.14 342 P **P** **19 58 57.7 +0.4**
comp=Z,15nm,0.6s,mb4.5,baz=155,slow=6.7,SNR=106
AKL Akola 57.34 299 *e*P **P** **19 58 58.4 -0.3**
AKL AMb AMB 19 58 59.1
comp=Z,117nm,1.0s,mb5.2
BHPL Bhopal 57.96 302 *e*P **P** **19 59 02.6 -0.3**
BHPL AMb AMB 19 59 05.0
comp=Z,66nm,0.9s,mb5.0
LGTI Lohaghat 58.43 310 *i* P **P** **19 59 06.0 -0.2**
KAD Karad 58.69 294 *e*P **P** **19 59 07.4 -0.6**
CIT Chita 59.26 349 *e*P **P** **19 59 12.1 +0.3**
POO Poona 59.38 296⇑ *i x* x 19 59 08.0
comp=Z,100nm,1.0s
ZAK Zakamensk 60.35 342⇓ *i*P **P** **19 59 19.0 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.0
NDI New Delhi 60.42 308 *e*P **P** **19 59 18.4 -1.4**
NDI AMb AMB 19 59 19.5
comp=Z,74nm,0.8s,mb5.2
TLY Talaya 61.37 342 *c i*P **P** **19 59 25.8 -0.2**
TLY pmax pmax
comp=Z,20nm,1.0s,mb4.5
TLY Talaya 61.37 342 *e*P **P** **19 59 26.5 +0.5**
comp=Z,8.7nm,0.7s,mb4.3
AJM Ajmer 61.57 304 *e*P **P** **19 59 27.0 -0.3**
AJM AMb AMB 19 59 28.6
comp=Z,49nm,0.7s,mb5.1
SMLA Simla 61.57 310 *e*P **P** **19 59 27.7 +0.3**
IRK Irkutsk 61.69 343 *e*P **P** **19 59 28.1 0.0**
IRK pmax pmax
comp=Z,69nm,0.8s,mb5.2
SDNR Sundarnagar 61.89 310 *e*P **P** **19 59 30.0 +0.5**
WMQ Urumqi 61.91 327⇑ *i*P **P** **19 59 29.9 +0.3**
WMQ PCP PcP 20 00 08.0 +0.9
WMQ AP pP 20 00 39.0 -0.3
WMQ XP sP 20 01 14.5 +0.6
WMQ PPP 20 01 53.0
WMQ SCP ScP 20 03 37.0 -0.5
WMQ *e*S **S** **20 07 27.0 -0.6**
WMQ AMB AMB
comp=Z,81nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,190nm,3.6s
MOY Mondy 62.19 341 *e*P **P** **19 59 32.3 +0.8**
MOY pmax pmax
comp=Z,62nm,0.8s,mb5.2
CLNS Chul'man 62.72 358 *e*P **P** **19 59 32.8 -2.1**
CLNS pmax pmax
comp=N,12nm,1.0s
CLNS pmax pmax
comp=Z,16nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,9.0nm,0.9s
THN Thein Dam 63.27 311 *e*P **P** **19 59 37.4 -1.1**
BOD Bodaibo 64.74 351⇑ *i*P **P** **19 59 48.0 0.0**
BOD pmax pmax
comp=Z,23nm,1.0s,mb4.8
MK31 Makanchi Array 66.75 327 P **P** **20 00 00.8 +0.1**
MK31 pmax pmax
comp=Z,14nm,0.5s,mb5.0
MKAR Makanchi Array 66.75 327 P **P** **20 00 00.8 0.0**
comp=Z,58nm,0.7s,mb5.4,baz=116,slow=8.6,SNR=245
MKAR Makanchi Array 66.75 327 P **P** **20 00 00.8 0.0**
ULHL Ulahol 67.70 320 P **P** **20 00 07.7 +1.0**
SNR=6.1
YAK Yakutsk 67.85 0 *e*P **P** **20 00 07.7 +0.1**
YAK *e*S S 20 08 41.4 +1.8
YAK *e* 20 09 25.2
YAK pmax pmax
comp=Z,43nm,1.0s,mb5.1
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,1.6s
YAK smax
comp=N,11nm,1.5s
YAK smax
comp=Z,6.0nm,1.4s
YAK Yakutsk 67.85 0 *e*P **P** **20 00 06.9 -0.7**
comp=Z,74nm,0.8s,mb5.5
KZA Kyzart 68.25 320 P **P** **20 00 11.6 +1.5**
SNR=5.1
TKM2 Tokmak 2 68.46 321 P **P** **20 00 12.0 +0.6**
SNR=22
TKM2 Tokmak 2 68.46 321 *i* P **P** **20 00 11.8 +0.4**
TKM2 pmax pmax
comp=Z,20nm,0.6s,mb5.0
KRAR Krasnoyarsk 68.52 339 *e*P **P** **20 00 10.1 -1.6**
KRAR pmax pmax
comp=Z,12nm,1.3s,mb4.5
KBK Karagaybulak 68.73 320 P **P** **20 00 14.2 +1.2**
SNR=9.2
AAK Ala-Archa 69.01 320 P **P** **20 00 15.5 +0.8**
SNR=14
AAK Ala-Archa 69.01 320 P **P** **20 00 15.0 +0.2**
SNR=14
AAK Ala-Archa 69.01 320 *e*P **P** **20 00 14.2 -0.5**
AAK pmax pmax
comp=Z,39nm,1.2s,mb5.0
AAK Ala-Archa 69.01 320 *e*P **P** **20 00 14.2 -0.6**
comp=Z,39nm,1.2s,mb5.0
FRU Bishkek 69.03 320 *e*P **P** **20 00 15.0 +0.1**
AML Almayashu 69.28 319 P **P** **20 00 17.6 +1.2**
SNR=20
USP Ospenovka 69.33 321 P **P** **20 00 17.1 +0.4**
SNR=42
EKS2 Erkin-Say 69.48 320 P **P** **20 00 18.6 +0.9**
SNR=24
ZAL Zalesovo 70.17 334 P **P** **20 00 21.4 -0.4**
comp=Z,14nm,0.8s,mb4.8,baz=343,slow=5.1,SNR=79
ZAL Zalesovo 70.17 334 *i* P **P** **20 00 21.3 -0.5**
ZAL pmax pmax
comp=Z,14nm,0.8s
ZAL Zalesovo 70.17 334 P **P** **20 00 21.4 -0.4**
SEY Seymchan 71.08 11⇑ *e*P **P** **20 00 27.7 +0.5**
NVS Novosibirsk 71.46 334⇑ *i*P **P** **20 00 28.4 -1.1**
NVS *e* 20 00 54.0
NVS *i* S S 20 09 16.8 -4.6
NVS pmax pmax
comp=Z,51nm,1.4s,mb5.1
NVS pmax pmax
comp=N,33nm,1.5s
NVS pmax pmax
comp=E,26nm,1.2s
NVS smax
comp=N,48nm,2.3s
NVS smax
comp=E,68nm,2.0s
KK31 Karatay Array 71.81 319 *i* P **P** **20 00 31.5 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
KKAR Karatay Array 71.81 319 *i* P **P** **20 00 31.5 0.0**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
VNDA Vanda 73.56 173 P **P** **20 00 41.3 -0.5**
comp=Z,8.2nm,0.7s,mb4.5,baz=319,slow=6.3,SNR=34
VNDA Vanda 73.56 173 *e*P **P** **20 00 41.4 -0.4**
VNDA *e**PP pP 20 01 54.2 +0.1
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 73.56 173 *e*P **P** **20 00 41.4 -0.5**
comp=Z,5.7nm,0.8s,mb4.3
VNDA *e*pP pP 20 01 54.2 +0.1
WBK Wadi Bani Khal 73.89 295⇑P **P** **20 00 44.3 +0.6**
SNR=9.7
JMDO Jabal Madar 74.62 295⇓P **P** **20 00 49.1 +1.2**
SNR=8.9
SMDO Samad 74.82 296 P **P** **20 00 50.2 +1.2**
SNR=18
BIDO Bidbid 74.86 296 P **P** **20 00 50.5 +1.3**
SNR=12
MAW Mawson 75.42 201 *e*P **P** **20 00 52.5 +0.1**
comp=Z,1.9nm,0.6s,mb4.0
MAW Mawson 75.42 201 P **P** **20 00 52.5 +0.1**
comp=Z,2.7nm,0.8s,mb4.0,baz=61,slow=8.6,SNR=6.5
MAW Mawson 75.42 201 *e*P **P** **20 00 52.5 +0.1**
MAW pmax pmax
comp=Z,2.0nm,0.6s
BSY Bisya 75.51 295⇓P **P** **20 00 53.8 +0.8**
SNR=8.4
HOQ Hoqain 75.60 296⇑P **P** **20 00 54.5 +1.1**
SNR=13
VOSK Vostochnaya 76.13 328 P **P** **20 00 55.5 -0.9**
VOSK pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
ARQ Araqi 76.25 296⇓P **P** **20 00 57.8 +0.7**
SNR=14
BVA0 Borovoye Array 76.59 328 *i* P **P** **20 00 58.2 -0.8**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
BRVK Borovoye 76.66 328 P **P** **20 00 59.0 -0.4**
SNR=9.1
BRVK Borovoye 76.66 328 *e*P **P** **20 00 59.1 -0.3**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
BRVK Borovoye 76.66 328 *e*P **P** **20 00 59.1 -0.3**
comp=Z,10nm,0.8s,mb4.6
CHKZ Chkalovo 76.80 329 *i* P **P** **20 00 59.5 -0.6**
CHKZ pmax pmax
comp=Z,17nm,1.0s,mb4.7
CHKZ Chkalovo 76.80 329 *e*P **P** **20 00 59.2 -0.9**
comp=Z,17nm,0.9s,mb4.8
ASHO Ashiyiah 76.97 297⇓P **P** **20 01 01.9 +0.8**
BANOM Banah 77.03 298⇑P **P** **20 01 02.4 +1.0**
RBK Rabkut 77.21 289⇓P **P** **20 01 02.8 +0.4**
ZRNK Zerenda 77.29 328 *i* P **P** **20 01 02.3 -0.5**
ZRNK pmax pmax
comp=Z,15nm,0.6s,mb4.9
ZRNK Zerenda 77.29 328 *e*P **P** **20 01 02.1 -0.8**
comp=Z,31nm,0.8s,mb5.1
TIXI Tiksi 77.51 0 *e*P **P** **20 01 03.0 -1.1**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
WHFO Wadi Hawf 77.69 290⇓P **P** **20 01 05.3 +0.2**
SNR=8.2
ABTO Aybut 78.04 289⇓P **P** **20 01 07.0 +0.1**
BILL Bilibino 78.45 14 *e*P **P** **20 01 10.8 +1.6**
BILL pmax pmax
comp=Z,24nm,1.7s,mb4.7

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AB31	Akbulak array	80.99	322	i P	P	20 01 22.1	-0.6
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
AKTO	Aktyubinsk	82.56	322	i P	P	20 01 30.4	-0.5
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
SVE	Sverdlovsk	83.31	329⇑	eP	P	20 01 33.0	-1.7
SVE				e	pP	20 02 45.0	-3.9
SVE				e		20 11 19.0	
SVE				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.1						
QSPA	South Pole Qui	83.95	180	eP	P	20 01 37.5	-0.4
	comp=Z,9.8nm,0.7s,mb4.8						
SYO	Syowa Base	84.13	201⇑	eP	P	20 01 38.3	-0.5
ARU	Arti	84.24	328	eP	P	20 01 38.4	-1.0
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
ARU	Arti	84.24	328	eP	P	20 01 38.4	-0.9
	comp=Z,18nm,0.9s,mb4.9						
RDF	Al-Radifah	85.25	300	eP	P	20 01 44.1	-0.2
RDF				AMb	AMB	20 01 46.5	
	comp=Z,26nm,0.5s,mb5.3						
NAY	Al-Naaiem	85.56	300	eP	P	20 01 45.5	-0.5
NAY				AMb	AMB	20 01 47.4	
	comp=Z,30nm,0.9s,mb5.1						
MIB	Mutribah	85.57	300	eP	P	20 01 45.6	-0.3
MIB				AMb	AMB	20 01 46.8	
	comp=Z,41nm,0.6s,mb5.4						
RST	Umm Al-Ruwaisa	85.82	300	eP	P	20 01 46.7	-0.4
RST				AMb	AMB	20 01 48.3	
	comp=Z,49nm,0.6s,mb5.5						
KIV	Kislovodsk	91.32	314⇑	eP	P	20 02 12.5	-0.5
KIV				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
OBN	Obninsk	96.16	325	eP	P	20 02 32.4	-2.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
SNAA	Sanae	96.32	194	eP	P	20 02 36.0	+0.1
SNAA				e		20 02 39.4	
BRTR	Keskin Array B	97.76	309	P	P	20 02 41.2	-1.1
	comp=Z,0.6nm,0.7s,mb4.0,baz=101,slow=6.7,SNR=4.2						
BRTR				PP	PP	20 06 42.0	-2.9
	comp=Z,1.7nm,1.0s,baz=123,slow=8.9,SNR=5.4						
VNA3	Neumayer Olymp	98.17	193	eP	P	20 02 43.4	-0.8
VNA3				e		20 02 47.0	
VNA3				e		20 02 57.1	
VNA1	Neumayer--Stat	98.30	193	eP	P	20 02 43.4	-1.4
ARCES	ARCESS Array B	100.24	340	P	Pdif	20 02 51.2	-2.2
	comp=Z,2.2nm,0.7s,baz=85,slow=5.8,SNR=12						
GERES	GERESS Array B	110.89	320	PKiKP	PKiKP	20 07 36.8	-1.8
	comp=Z,0.4nm,0.5s,baz=50,slow=2.1,SNR=4.8						
LPG	La Plagne	116.42	318	ePKP1	PKPdf	20 07 50.5	+1.4
	comp=Z,7.2nm,1.0s						
LPL	La Plagne	116.43	318	ePKP1	PKPdf	20 07 50.4	+1.3
MBDF	Montbardon	116.67	317	ePKP1	PKPdf	20 07 51.6	+2.0
PDAR	Pinedale Array	117.06	45	PKP	PKPdf	20 07 50.8	+0.4
	comp=Z,1.1nm,0.7s,baz=336,slow=1.2,SNR=10						
MFF	Saint Martin d	120.42	322	ePKP1	PKPdf	20 07 56.8	0.0
	comp=Z,7.4nm,0.7s						
ANMO	Albuquerque	121.69	52⇑	iPKIKP	PKPdf	20 08 00.0	+0.8
TORD	Torodi Ar. Bea	127.42	282	PKP	PKPdf	20 08 11.6	+1.4
	comp=Z,0.8nm,0.5s,baz=73,slow=2.1,SNR=8.5						
TORD				SKPbc		20 10 58.0	
	comp=Z,7.0nm,0.8s,baz=82,slow=3.4,SNR=17						
TORD				PKKPbc		20 17 38.2	
	comp=Z,0.6nm,1.1s,baz=284,slow=3.3,SNR=4.3						
TORD	Torodi Ar. Bea	127.42	282	PKP	PKPdf	20 08 11.6	+1.4
TORD				SKPbc		20 10 58.0	
TORD				PKKPbc		20 17 38.2	
PLCA	Paso Flores	130.20	161	PKP	PKPdf	20 08 16.6	+1.1
	comp=Z,2.9nm,0.7s,baz=205,slow=3.4,SNR=12						
PLCA				SKPbc	SKPbc	20 11 08.8	+0.8
	comp=Z,3.4nm,0.8s,baz=144,slow=4.4,SNR=7.9						
DBIC	Dimbokro	133.92	273	SKPbc	SKPbc	20 11 20.7	-0.3
	comp=Z,4.5nm,0.6s,baz=58,slow=4.1,SNR=9.2						
CPUP	Villa Florida	147.30	170	PKP	PKPdf	20 08 48.0	+1.5
	comp=Z,13nm,0.6s,baz=172,slow=1.9,SNR=52						
CPUP				PKPbc	PKPbc	20 08 50.6	+1.3
	comp=Z,13nm,0.6s,baz=180,slow=1.7,SNR=50						
CPUP	Villa Florida	147.30	170	ePKPdf	PKPdf	20 08 46.0	-0.5
CPUP				ePKPbc	PKPbc	20 08 48.2	-1.1
CPUP				ePKPab	PKPab	20 08 50.6	-1.4
LPAZ	La Paz	152.23	143	ePKPdf	PKPdf	20 08 57.2	+3.0
LPAZ				ePKPbc	PKPbc	20 09 03.5	+2.3
SAML	Samuel	160.94	141	ePKPdf	PKPdf	20 09 06.8	+1.4
SAML				ePKPab	PKPab	20 09 50.4	+0.4

*ROM **08** 21:01:59.3±1.1, 3696N×1856E, h10km, Md3.2/1, Ml3.4/17, Error ellipse: s-maj=17.8km s-min=4.3km az=50.0*
*NEIC **08** 21:02:05.1±0.5, 3729N×1814E, h10km, MD3.2(ROM), MD3.7(PDG), MD3.9(ATH), Error ellipse: s-maj=8.1km s-min=3.7km az=169.0*
*CSEM **08** 21:02:06.0±0.1, 3727N×1822E, h15km, ML3.2, Error ellipse: s-maj=3.4km s-min=1.9km az=1.0*
*ISCJB **08** 21:02:07.4±0.6, 3762N±004×1826E±003, h10km, Error ellipse: s-maj=6.1km s-min=3.8km az=170.5*
*PDG **08** 21:02:08.4±0.2, 3771N×1733E, h24km±11km*
*THE **08** 21:02:13.3, 3764N×1865E, h18km, ML3.2*
ISC 08 21:02:08.2±0.5, **3758N**±004×**1821E**±004, **h10**km, **n61**, σ**0.99**/76, **1C-6D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PLAC	Placanica	1.65	302	Pn	Pn	21 02 36.8	-0.4
	59nm,0.5s						
SOI	Samo	1.78	287	Pn	Pn	21 02 37.8	-1.1
	42nm,0.5s						
GRI	Girifalco	1.88	312	Pn	Pn	21 02 41.2	+0.8
	710nm,2.1s						
SERS	Sersale	1.89	321	Pn	Pn	21 02 40.5	+0.1
	56nm,0.3s						
CEL	Celeste	1.96	291	Pn	Pn	21 02 40.7	-0.7
	161nm,0.6s						
VLS	Valsamata	1.98	72	eP	Pn	21 02 39.9	-1.8
MTTG	Motta San Giov	2.04	283	Pn	Pn	21 02 40.9	-1.6
	44nm,0.4s						
LKD	Levkas	2.23	59	ePb	Pn	21 02 45.1	-0.1
LKD				eSb	Sn	21 03 08.4	-4.3
MSRU	Castanea	2.24	289	Pn	Pn	21 02 44.5	-0.9
AGST	Augusta-Monte	2.40	263	Pn	Pn	21 02 42.8	-4.7
	19nm,0.1s						
KEK	Kerkira	2.47	30	i P	Pn	21 02 48.7	+0.2
SCTE	Santa Cesarea	2.50	5	Pn	Pn	21 02 49.9	+1.0
	65nm,0.1s						
SSY	Sortino	2.54	261	Pn	Pn	21 02 44.4	-5.0
	91nm,0.2s						
HAVL	Avola	2.54	257	Pn	Pn	21 02 43.9	-5.5
	142nm,0.2s						
IGT	Igoumenitsa	2.56	40	ePn	Pn	21 02 49.9	+0.1
IGT				eSn	Sn	21 03 19.1	-2.0
IGT	Igoumenitsa	2.56	40	ePn	Pn	21 02 49.9	+0.1
IGT				S	Sn	21 03 19.0	-2.0
VPL	Vulcano Piano	2.67	288	Pn	Pn	21 02 49.9	-1.4
	90nm,0.3s						
SRN	Sarande	2.69	31	ePn	Pn	21 02 52.1	+0.6
SRN				i Sn	Sn	21 03 24.0	-0.2
LCI	Lecce	2.75	358	Pn	Pn	21 02 53.4	+1.0
	144nm,0.2s						
HMDC	Modica	2.80	258	Pn	Pn	21 02 47.8	-5.3
	225nm,0.5s						
ORI	Oriolo Calabro	2.84	332	Pn	Pn	21 02 54.4	+0.9
	102nm,0.3s						
JAN	Janina	2.93	44	eP	Pn	21 02 55.8	+1.0
ITM	Ithomi	2.99	97	eP	Pn	21 02 52.7	-2.9
IFIL	Filicudi I Eol	3.04	290	Pn	Pn	21 02 55.5	-0.8
	162nm,0.3s						
CUC	Castrocucco	3.05	323	Pn	Pn	21 02 57.1	+0.6
	36nm,0.5s						
EVR	Evrytania	3.13	64	eP	Pn	21 02 58.0	+0.4
SIRI	Monte Sirino -	3.18	326	Pn	Pn	21 02 59.7	+1.5
	29nm,0.3s						
PE1	Pezze di Greco	3.28	349	ePn	Pn	21 02 59.7	+0.1
MIGL	Miglionico	3.32	336	Pn	Pn	21 03 00.6	+0.4
	85nm,0.4s						
NOCI	Noci	3.33	345	Pn	Pn	21 03 00.2	-0.1
	80nm,0.2s						
SLCN	Sala Consilina	3.45	325	Pn	Pn	21 03 04.6	+2.6
SG1	Sgolgore (BA)	3.47	340	ePn	Pn	21 03 02.1	-0.1
AGG	Agios Georgios	3.55	65	ePn	Pn	21 03 03.5	+0.3
AGG				eSn	Sn	21 03 41.1	-4.1
AGG	Agios Georgios	3.55	65	ePn	Pn	21 03 03.5	+0.2
AGG				eSn	Sn	21 03 41.1	-4.2
AMUR	Altamura	3.55	340	Pn	Pn	21 03 03.2	-0.1
	87nm,0.4s						
BAI	Bari	3.67	344	ePn	Pn	21 03 05.6	+0.6
CDT	Castel del Mon	3.81	337	ePn	Pn	21 03 06.9	0.0
FNA	Florina	4.04	37	ePn	Pn	21 03 11.7	+1.7
SGTA	Sant Agata di	4.18	329	Pn	Pn	21 03 14.9	+2.9
LIT	Litokhoron	4.18	52	ePn	Pn	21 03 12.8	+0.7
LIT				eSn	Sn	21 03 57.4	-3.6
BIA	Bitola	4.20	34	ePn	Pn	21 03 13.1	+0.8
NEO	Neokhori	4.30	65	eP	Pn	21 03 13.8	+0.2
XOR	Xorichti	4.30	64	ePn	Pn	21 03 13.6	0.0
RGNG	Rignano Grg	4.56	334	Pn	Pn	21 03 17.6	+0.3
GRG	Griva	4.69	43	ePn	Pn	21 03 19.2	+0.2
AOS	Alonnisos	4.73	69	ePn	Pn	21 03 18.9	-0.6
BUM	Brajici-Budva	4.75	6⇓	iPn	Pn	21 03 20.2	+0.4
BUM				eSn	Sn	21 04 14.4	-0.4
HORT	Hortiatis	4.85	50	ePn	Pn	21 03 20.9	-0.3
HCY	Herceg Novi	4.87	3⇓	iPn	Pn	21 03 20.7	-0.8
HCY				eSn	Sn	21 04 15.4	-2.5
PAIG	Paliouri	4.88	60	ePn	Pn	21 03 20.9	-0.6
TTG	Podgorica	4.91	9⇓	iPn	Pn	21 03 22.4	+0.3
TTG				eSn	Sn	21 04 18.5	-0.5
KNT	Kendrikon	5.10	44	ePn	Pn	21 03 25.0	+0.4
SOH	Sokhos	5.14	49	ePn	Pn	21 03 25.7	+0.5
PVY	Plav	5.19	15⇑	iPn	Pn	21 03 27.4	+1.5
PVY				eSn	Sn	21 04 26.7	+0.9
NKY	Niksic	5.26	6	ePn	Pn	21 03 26.6	-0.3
NKY				eSn	Sn	21 04 26.7	-0.9
OUR	Ouranopolis	5.27	57	ePn	Pn	21 03 26.9	-0.1
BRY	Bratogost	5.32	3⇓	iPn	Pn	21 03 27.3	-0.4
BRY				eSn	Sn	21 04 27.0	-2.0
IVA	Berane	5.44	13⇓	iPn	Pn	21 03 31.4	+2.0
IVA				eSn	Sn	21 04 32.1	+0.1
SRS	Serrai	5.47	48	ePn	Pn	21 03 29.8	+0.1
UPM	Unac-Piva	5.64	5⇓	iPn	Pn	21 03 32.1	-0.1
UPM				eSn	Sn	21 04 35.5	-1.5
MMB	Musomiste	5.85	45	ePn	Pn	21 03 35.2	+0.3

*ISCJB **08** 21:08:43.4±0.5, 4307N±006×095E±003, h12km±8km, Error ellipse: s-maj=10.6km s-min=4.0km az=173.0*
*MDD **08** 21:08:44.9±0.4, 4302N×095E, h11km±1km, mbLg0.5/5, Error ellipse: s-maj=4.4km s-min=2.6km az=3.0, PRXIMO*
*STR **08** 21:08:44.9±0.3, 4300N×096E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **08** 21:08:44.7±0.0, 4303N×096E, h5km, Md1.6/3, Ml1.4/5, Error ellipse: s-maj=0.9km s-min=0.7km az=177.0*
ISC 08 21:08:44.0±0.5, **4305N**±006×**096E**±003, **h14**km±8km, **n20**, σ**0.36**/33, **France**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MLS	Moulis	0.13	132	Pg	Pg	21 08 47.5	0.0
MLS				Sg	Sg	21 08 49.4	-0.6
MLS	Moulis	0.13	132	P	Pg	21 08 47.6	+0.1
MLS				S	Sg	21 08 49.3	-0.7
MELF	Melles	0.23	220	Pg	Pg	21 08 49.4	+0.4
MELF				Sg	Sg	21 08 52.1	-0.3
MELF	Melles	0.23	220	P	Pg	21 08 49.3	+0.4
MELF				S	Sg	21 08 52.1	-0.3
SALF	Salau	0.33	149	Pg	Pg	21 08 51.1	+0.3
SALF				Sg	Sg	21 08 55.3	-0.1
SALF	Salau	0.33	149	P	Pg	21 08 51.1	+0.4
SALF				S	Sg	21 08 55.3	0.0
EPF	Esparros	0.45	268	ePg	Pg	21 08 53.5	+0.5
EPF				eSg	Sg	21 08 59.3	+0.2
	1.9nm,0.2s						
EPF	Esparros	0.45	268	Pg	Pg	21 08 53.5	+0.5
EPF				Lg		21 08 59.3	
	0.9nm,0.2s						
EBIE	Bielsa	0.70	239	Pg	Pg	21 08 56.8	-0.8
	0.0nm,0.0s,SNR=7.9						
EBIE				Lg		21 09 06.2	
	0.3nm,0.1s,SNR=7.9						
MTLF	Montolieu	0.97	72	ePg	Pg	21 09 03.0	+0.3
MTLF				eSg	Sg	21 09 15.5	+0.2
	0.9nm,0.3s						
MTLF	Montolieu	0.97	72	Pg	Pg	21 09 03.0	+0.3
MTLF				Lg		21 09 15.5	
	0.4nm,0.3s						
ETSF	Etsaut	1.12	263	ePg	Pg	21 09 06.2	+0.5
ETSF				eSg	Sg	21 09 20.2	-0.1
	0.3nm,0.3s						
ETSF	Etsaut	1.12	263	Pg	Pg	21 09 06.2	+0.5
ETSF				Lg		21 09 20.2	
	0.2nm,0.3s						
SJPF	Ste Jean	1.60	273	ePn	Pn	21 09 12.1	+0.2
SJPF				eSg	Sg	21 09 35.3	-0.3
	0.9nm,0.3s						
SJPF	Ste Jean	1.60	273	Pn	Pn	21 09 12.1	+0.2
SJPF				Lg		21 09 35.3	
	0.4nm,0.3s						
EPOB	Poblet	1.69	177	Lg		21 09 36.9	
	0.1nm,0.1s,SNR=7.9						
LFF	La Frestale	1.90	355	ePn	Pn	21 09 16.2	+0.2
LFF				eSn	Sn	21 09 39.4	-0.3
	0.9nm,0.2s						
LFF	La Frestale	1.90	355	Pn	Pn	21 09 16.2	+0.2
LFF				Sn	Sn	21 09 39.4	-0.3
	0.4nm,0.2s						
CAF	Calviac	2.04	23	ePn	Pn	21 09 17.9	0.0
CAF				eSn	Sn	21 09 42.8	-0.4
	0.4nm,0.3s						
CAF	Calviac	2.04	23	Pn	Pn	21 09 17.9	0.0
CAF				Sn	Sn	21 09 42.8	-0.4
	0.2nm,0.3s						

*MOS **08** 21:15:08.5±0.9, 5497N×11171E, h14km, mb4.3/1, Error ellipse: s-maj=69.4km s-min=36.3km az=60.6*
BYKL 08 21:15:08.3±0.2, **5504N**×**11163E**, **h8**km±4km, **5C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.32	239⇑	iPg	Pg	21 15 14.9	+0.4
YLYR				e		21 15 15.8	
YLYR				eSg	Sg	21 15 19.7	+1.0
YLYR				max			
	81nm,0.1s						
YLYR				Smax			
	3µm,0.2s						
KMO	Kumora	0.88	344	ePg	Pg	21 15 24.7	-0.6
KMO				eSg	Sg	21 15 36.5	-0.3
KMO				e		21 15 43.2	
KMO				Pmax			
	57nm,0.4s						
KMO				max			
	169nm,0.3s						
YOA	Uoyan	1.10	3⇓	iPG	Pg	21 15 29.3	-0.1
YOA				e		21 15 44.5	
YOA				pmax	pmax		
	comp=Z,175nm,0.2s						
YOA				smax			
	comp=N,810nm,0.4s						
UKT	Uakit	1.23	68⇑	iPg	Pg	21 15 30.1	-1.8
UKT				ePb	Pb	21 15 32.3	+0.5
UKT				eSg	Sg	21 15 46.4	-1.4
UKT				e		21 15 50.0	
UKT				max			
	comp=N,91nm,0.2s						
UKT				Smax			
	comp=N,474nm,0.3s						
UKT	Uakit	1.23	68	ePG	Pg	21 15 30.1	-1.8
UKT				e		21 15 46.4	
UKT				pmax	pmax		
	comp=Z,92nm,0.2s						
UKT				smax			
	comp=N,482nm,0.3s						
SVKR	Severomuysk	1.54	45	ePg	Pg	21 15 36.0	-1.8
SVKR				eSg	Sg	21 15 57.7	0.0
SYVR	Suvo	1.68	215⇑	iPn	Pn	21 15 38.5	+0.5
SYVR				⇑iPg	Pg	21 15 39.3	-1.3
	comp=N,39nm,0.7s						
SYVR				⇑iPg	Pg	21 15 39.3	-1.3
	comp=N,65nm,0.7s						
SYVR				⇓iPg	Pg	21 15 39.3	-1.3
	comp=N,99nm,0.7s						
SYVR				eSg	Sg	21 16 00.2	-2.2
SYVR				Pmax			
	comp=N,82nm,0.5s						
SYVR				Smax			
	comp=N,235nm,0.4s						
MXMB	Maximikha	2.46	225	ePn	Pn	21 15 49.3	+0.6
MXMB				ePg	Pg	21 15 52.2	-3.2
MXMB				eSn	Sn	21 16 20.7	+1.8
MXMB				eSg	Sg	21 16 26.0	-1.3
MXMB				Pmax			
	comp=N,22nm,0.5s						
MXMB				Smax			
	comp=N,297nm,0.6s						
NLYR	Nelyaty	2.72	56⇓	iPn	Pn	21 15 52.5	+0.2
NLYR				ePg	Pg	21 15 56.8	-3.7
NLYR				eSn	Sn	21 16 26.1	+0.7
NLYR				eSg	Sg	21 16 32.4	-3.4
NLYR	Nelyaty	2.72	56	ePN	Pn	21 15 52.0	-0.3
NLYR				e		21 15 56.5	
NLYR				e		21 16 31.2	
NLYR				pmax	pmax		
	comp=Z,36nm,0.3s						
NLYR				smax			
	comp=E,169nm,0.4s						
OGRR	Ongureny	2.75	241	ePn	Pn	21 15 53.4	+0.8
OGRR				ePg	Pg	21 15 57.1	-3.8
OGRR				eSn	Sn	21 16 27.6	+1.6
OGRR				eSg	Sg	21 16 33.4	-3.1
OGRR				Pmax			
	comp=E,17nm,0.3s						
OGRR				Smax			
	comp=E,59nm,0.6s						
BOD	Bodaibo	3.08	24	ePn	Pn	21 15 57.2	0.0
BOD				ePg	Pg	21 16 02.8	-4.6
BOD				eSn	Sn	21 16 34.2	-0.1
BOD				eSg	Sg	21 16 42.5	-4.8
BOD				Pmax			
	comp=E,11nm,0.3s						
BOD				Smax			
	comp=E,63nm,0.3s						
CIT	Chita	3.23	158	eSg	Sg	21 16 47.7	-4.5
CIT				Smax			
	comp=E,43nm,0.4s						
TRTB	Turuntaevo	3.69	222	ePn	Pn	21 16 06.2	+0.6
TRTB				ePg	Pg	21 16 14.9	-4.0
TRTB				eSn	Sn	21 16 47.1	-2.1
TRTB				eSg	Sg	21 17 03.0	-3.7
TRTB				Pmax			
	comp=E,10.0nm,0.6s						
TRTB				Smax			
	comp=E,54nm,0.9s						
TRG	Tyrgan	3.87	236	ePn	Pn	21 16 09.1	+1.0
TRG				ePg	Pg	21 16 17.8	-4.6
TRG				eSn	Sn	21 16 53.1	-0.6
TRG				eSg	Sg	21 17 07.2	-5.4
TRG				Pmax			
	comp=E,5.0nm,0.3s						
TRG				Smax			
	comp=E,44nm,0.4s						
CRS	Chara	4.17	61	ePn	Pn	21 16 12.8	+0.6
CRS				ePg	Pg	21 16 24.1	-4.1
CRS				eSn	Sn	21 17 00.3	-0.8
CRS				eSg	Sg	21 17 17.3	-4.9
CRS				Pmax			
	comp=E,21nm,1.2s						
CRS				Smax			
	comp=E,162nm,1.4s						
CRS	Chara	4.17	61	ePN	Pg	21 16 25.0	-3.2
CRS				e		21 17 17.8	
CRS				pmax	pmax		
	comp=Z,21nm,1.3s						
CRS				smax			
	comp=E,160nm,1.3s						
TUP	Tupik	4.86	94	ePn	Pn	21 16 21.5	-0.2
TUP				ePg	Pg	21 16 35.5	-6.0
TUP				eSn	Sn	21 17 15.3	-2.9
TUP				eSg	Sg	21 17 37.7	-6.8
TUP				Pmax			
	comp=E,3.0nm,0.3s						
TUP				Smax			
	comp=E,81nm,0.5s						
TUP	Tupik	4.86	94	ePN	Pn	21 16 21.6	-0.1
TUP				e		21 16 35.3	
TUP				eS	Sn	21 17 16.7	-1.5
TUP				e		21 17 37.3	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.4s						
TUP				pmax	pmax		
	comp=N,83nm,0.8s						
LSTR	Listvyanka	5.16	235	eSg	Sg	21 17 46.0	-7.9
LSTR				Smax			
	comp=N,29nm,1.3s						
KPC	Khapcheranga	5.37	175	ePn	Pn	21 16 30.9	+2.3
KPC				ePg	Pg	21 16 45.5	-5.6
KPC				eSn	Sn	21 17 27.8	-2.8
KPC				eSg	Sg	21 17 53.3	-7.3
KPC				Pmax			
	comp=N,8.0nm,2.0s						
KPC				Smax			
	comp=N,23nm,0.7s						
ARS	Arshan	6.32	244	ePg	Pg	21 17 01.3	-8.1
ARS				eSg	Sg	21 18 22.5	-8.7
ARS				Pmax			
	comp=N,3.0nm,0.1s						
ARS				Smax			
	comp=N,65nm,0.9s						
MOY	Mondy	7.21	246	ePn	Pn	21 16 55.1	+1.2
MOY				eSg	Sg	21 18 49.9	-10
MOY				max			
	comp=N,3.0nm,0.6s						
MOY				Smax			
	comp=N,19nm,1.5s						
ORL	Orlik	7.44	255	ePn	Pn	21 16 58.0	+0.9
ORL				eSn	Sn	21 18 20.0	-1.6
ORL				eSg	Sg	21 18 58.5	-8.5
ORL				max			
	comp=N,3.0nm,0.9s						
ORL				Smax			
	comp=N,27nm,1.3s						

*ISCJB **08** 21:15:07.9±1.3, 1453S±0.10×17358E±007, h618km±18km, mb4.3/29, Error ellipse: s-maj=15.5km s-min=9.6km az=143.7*
*BJI **08** 21:15:07.9, 1426S×17366E, h598km, mB4.5, mb4.3*
*NEIC **08** 21:15:08.3±1.2, 1449S×17364E, h609km±16km, mb4.5/16, Error ellipse: s-maj=12.8km s-min=8.2km az=168.0*
*IDC **08** 21:15:10.4±1.7, 1454S×17358E, h638km±23km, mb3.7/11, mb1 3.9/12, mb1mx3.7/17, mbtmp4.8/12, Error ellipse: s-maj=14.5km s-min=11.7km az=173.0*
ISC 08 21:15:10.2±1.2, **1457S**±0.10×**17363E**±007, **h631**km±15km, **n74**, σ**0.87**/51, **mb4.3**/29, **1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.11	221	eP	P	21 17 30.6	0.0
DZM				eS	S	21 19 28.1	+2.3
DZM	Mont Dzumac	10.11	221	P	P	21 17 30.5	-0.1
	9.1nm,0.3s,baz=55,slow=16,SNR=109						
DZM				S	S	21 19 27.1	+1.4
	baz=349,slow=17,SNR=6.5						
AFI	Afiamalu	14.17	89	P	P	21 18 06.9	-2.5
	2.4nm,0.3s,baz=118,slow=2.5,SNR=6.0						
AFI	Afiamalu	14.17	89	eP	P	21 18 07.4	-2.0
	87nm,1.1s						
URZ	Urewera	23.80	173	P	P	21 19 34.6	-1.7
	7.3nm,0.5s,mb4.6,baz=328,slow=8.1,SNR=10						
PMG	Port Moresby	26.38	278	P	P	21 19 58.6	-0.4
	17nm,0.8s,mb4.7,baz=155,slow=8.5,SNR=4.0						
CTA	Charters Tower	26.68	254	eP	P	21 20 01.5	-0.1
	8.4nm,0.6s,mb4.5						
CTA	Charters Tower	26.68	254	P	P	21 20 01.7	+0.1
	11nm,0.7s,mb4.6,baz=85,slow=10,SNR=16						
CTAO	Charters Tower	26.68	254	eP	P	21 20 00.6	-1.0
	11nm,0.7s,mb4.6						
RPZ	Rata Peaks	29.14	184	P	P	21 20 21.3	-1.5
	13nm,0.6s,mb4.7,baz=332,slow=4.5,SNR=11						
TOO	Toolangi	33.88	222	eP	P	21 21 04.3	+1.3
	14nm,0.6s,mb4.8						
STKA	Stephens Creek	33.93	234	eP	P	21 21 04.4	+1.0
	13nm,0.4s,mb4.9						
STKA	Stephens Creek	33.93	234	P	P	21 21 04.5	+1.1
	14nm,0.4s,mb4.9,baz=57,slow=8.1,SNR=84						
WB2	Warramunga Arr	37.83	256⇓	iP	P	21 21 34.7	-0.6
WRAB	Tennant Creek	37.83	256	eP	P	21 21 34.5	-0.8
	35nm,1.0s,mb4.8						
WRA	Warramunga Arr	37.84	256	P	P	21 21 34.9	-0.4
	16nm,0.7s,mb4.7,baz=88,slow=8.7,SNR=171						
WRA				S	S	21 26 41.9	-1.3
	8.5nm,1.4s,baz=79,slow=15,SNR=6.8						

AS31	Alice Springs	38.50	250	eP	P	21 21 40.8	+0.1
ASAR	Alice Springs	38.50	250	P	P	21 21 40.9	+0.2
	25nm,0.5s,mb5.0,baz=76,slow=9.2,SNR=574						
ASAR				S	S	21 26 51.7	-1.3
	1.1nm,0.7s,baz=82,slow=14,SNR=6.0						
ASPA	Alice Springs	38.50	250	eP	P	21 21 40.8	+0.1
KAKA	Kakadu	40.03	267	eP	P	21 21 52.6	-0.3
	10nm,0.5s,mb4.6						
FITZ	Fitzroy Crossi	46.09	259	eP	P	21 22 40.4	+0.7
	10nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	46.09	259	P	P	21 22 40.6	+0.9
	baz=89,slow=11						
MBWA	Marble Bar	51.52	254	eP	P	21 23 19.7	+0.2
	7.6nm,0.8s,mb4.1						
NWAO	Narrogin (SRO)	54.13	240	eP	P	21 23 37.0	-1.0
	4.8nm,0.6s,mb4.0						
MJAR	Matsushiro Arr	60.83	328	P	P	21 24 21.9	-1.3
	4.3nm,0.8s,mb3.7,baz=157,slow=6.4,SNR=12						
MJAR	Matsushiro Arr	60.83	328	P	P	21 24 21.9	-1.3
VNDA	Vanda	63.25	183	P	P	21 24 39.5	+0.7
	2.2nm,0.5s,mb3.7,baz=353,slow=7.0,SNR=34						
NJ2	Nanjing	69.98	312	eP	P	21 25 23.4	+3.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
MDJ	Mudanjiang	71.20	328	P	P	21 25 27.3	+0.1
MDJ				PCP	PcP	21 25 42.9	+0.4
MDJ				XP	sP	21 28 26.1	-12
MDJ				S	S	21 33 59.2	+3.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.9s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,41nm,5.9s						
CN2	Changchun	72.83	326	eP	P	21 25 35.8	-0.8
QSPA	South Pole Qui	75.47	180	eP	P	21 25 52.1	+0.7
	comp=Z,7.0nm,0.8s,mb4.2						
KMI	Kunming	79.52	299	P	P	21 26 13.8	+0.7
KMI				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb3.7						
HHC	Hu-ho-hao-te	79.55	317	eP	P	21 26 13.1	-0.2
HHC				PCP	PcP	21 26 19.2	+0.5
HHC				AP	pP	21 28 16.3	-7.7
HHC				PP	PP	21 29 26.0	0.0
HHC				S	S	21 35 26.2	+1.5
HHC				SKS		21 35 29.5	
HHC				SCS	ScS	21 35 40.5	+0.1
HHC				XS	sS	21 39 08.0	-9.5
HHC				SS	SS	21 40 55.8	+4.0
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,77nm,4.4s						
CMB	Columbia Colle	80.92	47	eP	P	21 26 20.6	+0.2
	comp=Z,9.2nm,1.0s,mb4.2						
YBH	Yreka Blue Hor	81.03	43	eP	P	21 26 21.1	+0.2
	comp=Z,7.6nm,1.1s,mb4.0						
MTUM	Tungsten Hills	81.93	48	eP	P	21 26 26.4	+0.9
NVAR	Mina Array Bea	82.57	47	P	P	21 26 29.2	+0.5
	comp=Z,3.7nm,0.7s,mb4.0,baz=226,slow=8.7,SNR=20						
MOD	Modoc	82.71	43	eP	P	21 26 29.3	-0.1
	comp=Z,10nm,1.3s,mb4.2						
LZH	Lanzhou	82.85	310	eP	P	21 26 34.4	+4.3
LZH				PP	PP	21 29 56.8	+4.2
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
CCUT	Cedar City	85.80	50	eP	P	21 26 44.9	+0.4
BGU	Big Grassy Mou	87.29	47	eP	P	21 26 52.0	+0.5
HLID	Hailey	87.34	44	eP	P	21 26 52.5	+0.8
	comp=Z,7.0nm,1.0s,mb4.3						
SPUT	South Promonto	87.84	46	eP	P	21 26 53.9	-0.1
ANMO	Albuquerque	90.18	54	eP	P	21 27 05.5	+0.6
	comp=Z,6.9nm,1.1s,mb4.4						
PDAR	Pinedale Array	90.37	46	P	P	21 27 05.5	-0.2
	comp=Z,0.6nm,0.5s,mb3.7,baz=200,slow=2.3,SNR=8.4						
SYO	Syowa Base	90.54	195	⇑eP	P	21 27 06.6	+0.1
WMQ	Urumqi	97.05	313	eP	P	21 27 42.0	+5.9
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,81nm,3.9s						
ARCES	ARCESS Array B	121.54	347	PKP	PKPdf	21 32 51.9	-1.6
	comp=Z,0.8nm,0.5s,baz=29,slow=2.8,SNR=9.2						
BAIF	Baives	143.56	349	ePKP1	PKPdf	21 33 33.5	-1.0
CDF	Champ du Feu	144.41	344	ePKP1	PKPdf	21 33 36.3	+0.3
	comp=Z,18nm,1.0s						
MEZF	Maizieres J'vi	144.87	347	ePKP1	PKPdf	21 33 38.0	+1.3
	comp=Z,12nm,0.7s						
HAU	Haudompre	145.03	345	ePKP1	PKPbc	21 33 38.0	0.0
HINF	Hinteralfeld	145.07	344	ePKP1	PKPbc	21 33 38.0	-0.2
	comp=Z,5.1nm,0.8s						
FLN	La Foliniere	145.56	353	ePKP1	PKPbc	21 33 39.2	-0.4
	comp=Z,37nm,1.0s						
LDF	La Druitiere	145.68	353	ePKP1	PKPbc	21 33 39.5	-0.4
GRR	Gorron	145.97	353	ePKP1	PKPbc	21 33 40.6	-0.1
	comp=Z,6.9nm,0.6s						
CABF	La Chapelle	146.39	344	ePKP1	PKPbc	21 33 42.5	+0.6
	comp=Z,11nm,0.8s						
SMF	Signal de Mont	146.89	347	ePKP1	PKPbc	21 33 43.9	+0.7
BGF	Bois d'Agland	147.18	348	ePKP1	PKPbc	21 33 44.1	+0.1
	comp=Z,7.5nm,0.6s						
LPL	La Plagne	147.22	343	ePKP1	PKPbc	21 33 44.9	+0.8
	comp=Z,6.8nm,0.7s						
LPG	La Plagne	147.23	343	ePKP1	PKPbc	21 33 45.1	+1.0
	comp=Z,6.2nm,0.7s						
TCF	Toulx Ste Croi	147.56	349	ePKP1	PKPbc	21 33 45.0	+0.1
	comp=Z,13nm,0.8s						
MFF	Saint Martin d	147.64	352	ePKP1	PKPbc	21 33 45.2	+0.1
	comp=Z,11nm,0.9s						
MBDF	Montbardon	147.93	342	ePKP1	PKPbc	21 33 46.1	+0.2
	comp=Z,5.0nm,0.7s						
ORIF	Oris-en-Rattie	148.01	343	ePKP1	PKPbc	21 33 46.5	+0.4
	comp=Z,4.4nm,0.6s						
VIVF	Saint-Julien-l	148.38	345	ePKP1	PKPbc	21 33 47.5	+0.5
	comp=Z,4.2nm,0.7s						
SBF	Sospel	148.50	341	ePKP1	PKPbc	21 33 48.0	+0.7
	comp=Z,16nm,0.9s						
SMRF	Simiane la Rot	148.96	343	ePKP1	PKPbc	21 33 49.1	+0.7
	comp=Z,8.6nm,0.8s						
FRF	La Foret Royal	149.03	341	ePKP1	PKPbc	21 33 48.4	-0.2
	comp=Z,21nm,1.1s						
LMR	La Mourre	149.27	341	ePKP1	PKPbc	21 33 49.1	0.0
	comp=Z,14nm,1.0s						
LASF	Ste Croix	149.32	345	ePKP1	PKPbc	21 33 49.8	+0.5
	comp=Z,6.1nm,0.8s						
MTLF	Montolieu	150.39	347	ePKP1	PKPbc	21 33 52.1	+0.3
	comp=Z,7.9nm,0.9s						
EPF	Esparros	151.05	350	ePKP1	PKPbc	21 33 54.1	+0.8
	comp=Z,3.2nm,0.5s						
ETSF	Etsaut	151.32	351	ePKP1	PKPbc	21 33 54.7	+0.8
	comp=Z,9.3nm,0.7s						

---

*SZGRF **08** 21:42:43.0, 21.45S×171.78W, h33km, Tonga Islands region*
*ISCJB **08** 21:43:56.5±0.8, 18.0S±0.1×178.5W±0.1, h593km±14km, mb4.4/17, Error ellipse: s-maj=19.6km s-min=11.5km az=109.2*
*IDC **08** 21:43:57.7±1.4, 17.92S×178.38W, h595km±16km, mb3.9/11, mb1 3.9/13, mb1mx3.7/19, mbtmp4.8/13, Error ellipse: s-maj=22.0km s-min=11.4km az=151.0*
*BJI **08** 21:43:57.0, 17.90S×178.50W, h596km, mb4.2*
*NEIC **08** 21:43:58.1±0.8, 17.88S×178.47W, h597km±8km, mb4.3/7, Error ellipse: s-maj=15.6km s-min=7.2km az=152.0*
ISC 08 21:43:56.9±0.8**, 18.0S**±0.1×**178.4W**±0.1**, h584**km±13km**, n90,** σ**0.78**/29**, mb4.4**/17**, 12C-8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.54	58	P	P	21 45 52.9	+1.7
	3.6nm,0.3s,baz=90,slow=22,SNR=4.8						
AFI				S	S	21 47 24.1	-0.7
	1.5nm,0.3s,baz=189,slow=22,SNR=2.7						
RAO	Raoul Island	11.17	178	P	P	21 46 25.2	-2.0
	123nm,0.3s,baz=241,slow=19,SNR=4.6						
DZM	Mont Dzumac	14.84	252	P	P	21 47 05.3	+1.1
	0.6nm,0.3s,baz=74,slow=18,SNR=11						
CTA	Charters Tower	33.48	261	eP	P	21 49 48.7	-0.3
	6.5nm,0.6s,mb4.4						
CTA	Charters Tower	33.48	261	P	P	21 49 49.3	+0.3
	7.9nm,0.6s,mb4.5,baz=96,slow=11,SNR=17						
CTAO	Charters Tower	33.48	261	eP	P	21 49 48.9	-0.1
PMG	Port Moresby	34.53	280	P	P	21 49 58.7	+1.0
	56nm,0.9s,mb5.2,baz=72,slow=2.1,SNR=11						
STKA	Stephens Creek	38.62	241	eP	P	21 50 32.4	+1.2
	4.6nm,0.6s,mb4.2						
STKA	Stephens Creek	38.62	241	P	P	21 50 32.1	+1.0
	5.8nm,0.5s,mb4.4,baz=92,slow=10.0,SNR=26						
WB2	Warramunga Arr	44.65	260	eP	P	21 51 18.0	-0.6
WRA	Warramunga Arr	44.66	260	P	P	21 51 18.3	-0.4
	7.4nm,0.3s,mb4.6,baz=95,slow=7.5,SNR=276						
WRA				PcP	PcP	21 52 48.4	0.0
	1.3nm,0.3s,baz=90,slow=3.8,SNR=6.9						
AS31	Alice Springs	44.81	254	⇓iP	P	21 51 20.1	+0.3
ASAR	Alice Springs	44.81	254	P	P	21 51 20.2	+0.4
	39nm,0.5s,mb5.2,baz=86,slow=8.6,SNR=526						
ASAR				PcP	PcP	21 52 48.3	-0.6
	3.1nm,0.5s,baz=104,slow=4.0,SNR=8.6						
ASPA	Alice Springs	44.81	254	⇓iP	P	21 51 20.1	+0.3
KAKA	Kakadu	47.64	269	eP	P	21 51 41.1	-0.1
	16nm,0.3s,mb5.0						
GUMO	Guam	48.00	308	P	P	21 51 43.2	-0.6
	29nm,0.4s,mb5.2,baz=222,slow=12,SNR=3.2						
FORT	Forrest	50.00	245	eP	P	21 51 58.1	-0.5
	16nm,0.6s,mb4.6						
FITZ	Fitzroy Crossi	53.06	261	eP	P	21 52 20.7	+0.1
	3.2nm,0.4s,mb4.0						
KLBR	Kellerberrin	58.82	244	eP	P	21 52 59.9	-0.4
	14nm,0.8s,mb4.1						
MJAR	Matsushiro Arr	68.04	323	P	P	21 53 58.0	-1.0
	4.8nm,0.5s,mb4.2,baz=152,slow=5.5,SNR=19						
MAT	Matsushiro	68.04	323	P	P	21 53 58.0	-1.0
QSPA	South Pole Qui	72.02	180	eP	P	21 54 23.4	+0.8
	3.3nm,0.8s,mb3.9						
YBH	Yreka Blue Hor	78.58	39	P	P	21 54 59.3	+0.3
	1.8nm,0.5s,mb3.7,baz=196,slow=2.3,SNR=4.7						
NVAR	Mina Array Bea	79.47	44	P	P	21 55 04.2	+0.6
	1.1nm,0.6s,mb3.3,baz=218,slow=8.3,SNR=7.3						
NVAR	Mina Array Bea	79.47	44	P	P	21 55 04.2	+0.6
MAW	Mawson	83.76	200	P	P	21 55 25.6	+0.1
	2.1nm,0.7s,mb3.8,baz=142,slow=9.1,SNR=6.5						
PSI	Prapat	83.95	275	P	P	21 55 25.6	-0.8
	20nm,1.2s,mb4.5,baz=82,slow=7.0,SNR=6.4						
XAN	Xi'an	86.38	307	P	P	21 55 38.3	+0.2
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.3						
BVAR	Borovoye Array	116.98	321	PKP	PKPdf	22 01 34.4	-1.6
	comp=Z,1.5nm,0.4s,baz=135,slow=1.9,SNR=13						
ZRNK	Zerenda	117.82	321	ePKPdf	PKPdf	22 01 35.7	-2.0
AKTK	Aktyubinsk	125.00	319	PKP	PKPdf	22 01 50.2	-1.3
AKTO	Aktyubinsk	125.00	319	PKP	PKPdf	22 01 50.2	-1.3
	comp=Z,0.9nm,0.6s,baz=303,slow=2.2,SNR=4.9						
ARCES	ARCESS Array B	126.45	350	PKP	PKPdf	22 01 52.0	-2.3
	comp=Z,2.8nm,1.0s,baz=112,slow=1.3,SNR=6.2						
ARCES	ARCESS Array B	126.45	350	PKP	PKPdf	22 01 52.0	-2.3
FINES	FINESS Array B	133.32	344	PKP	PKPdf	22 02 06.5	-0.8
	comp=Z,1.3nm,0.8s,baz=122,slow=2.5,SNR=5.1						
AKASG	Malin Array Be	140.70	332	PKhKP		22 02 13.1	
	comp=Z,0.5nm,0.4s,baz=46,slow=4.4,SNR=4.5						
AKASG				PKP	PKPdf	22 02 21.5	+0.7
	comp=Z,0.7nm,0.3s,baz=38,slow=3.1,SNR=4.5						
AKASG	Malin Array Be	140.70	332	PKP		22 02 13.1	
AKASG				PKP	PKPdf	22 02 21.5	+0.7
BSEG	Bad Segeberg	143.54	351	ePKPbc	PKPdf	22 02 23.8	-2.1
KWP	Kalwaria	144.21	336	ePKPdf	PKPdf	22 02 25.9	-1.1
OJC	Ojcow	144.75	340	eP	PKPdf	22 02 27.7	-0.2
BURAR	Bucovina Array	144.75	332	⇑iP	PKPdf	22 02 28.8	+0.9
BURAR	Bucovina Array	144.75	332	⇑P	PKPdf	22 02 28.8	+0.8
BR131	Keskin Array S	144.91	315	ePKPdf	PKPdf	22 02 28.4	+0.2
BRTR	Keskin Array B	144.91	315	PKP	PKPdf	22 02 28.6	+0.3
	comp=Z,2.6nm,0.4s,baz=113,slow=3.3,SNR=23						
STHS	Stebnicka Huta	144.93	338	ePKP	PKPdf	22 02 28.8	+0.6
KOLS	Kolonicke sedl	144.94	336	ePKP	PKPdf	22 02 28.4	+0.1
NRDL	Niedersach Rie	144.98	351	ePKPbc	PKPdf	22 02 27.8	-0.5
CFR	Carcaliu	145.07	327	⇓iP	PKPdf	22 02 29.9	+1.4
CFR	Carcaliu	145.07	327	⇓P	PKPdf	22 02 29.9	+1.4
NIE	Niedzica	145.26	338	ePd	PKPdf	22 02 29.8	+1.0
CRVS	Cervenica-Dubn	145.27	337	ePKP	PKPdf	22 02 29.2	+0.4
ASF	Jabal al Asfar	145.29	301	PKPbc	PKPbc	22 02 29.5	-0.6
	comp=Z,3.6nm,0.8s,baz=358,slow=1.2,SNR=8.2						
CLL	Collm	145.60	347	ePKPbc	PKPbc	22 02 30.0	-1.0
CLL	Collm	145.60	347	i PKPbc	PKPbc	22 02 29.9	-1.1
	comp=Z,11nm,0.9s						
UPC	Upice	145.62	344	eP	PKPdf	22 02 30.6	+1.2
DPC	Dobruska-Polom	145.68	343	ePKP	PKPdf	22 02 30.9	+1.4
BRG	Berggiesshubel	145.80	346	ePKPbc	PKPbc	22 02 31.0	-0.5
BRG	Berggiesshubel	145.80	346	eP	PKPdf	22 02 31.1	+1.4
	comp=Z,6.9nm,1.3s						
FBE	Freiberg	145.89	347	ePKPbc	PKPbc	22 02 31.2	-0.6
GTTG	Gvttingen	145.92	351	ePKPbc	PKPbc	22 02 30.1	-1.8
MLR	Muntele Rosu	145.97	329	⇑iP	PKPdf	22 02 31.4	+1.4
MLR	Muntele Rosu	145.97	329	⇑P	PKPdf	22 02 31.4	+1.4
KECS	Kecovo	145.98	337	ePKP	PKPdf	22 02 31.8	+1.8
DRGR		146.47	333	⇓iP	PKPbc	22 02 33.4	0.0
DRGR		146.47	333	⇓P	PKPbc	22 02 33.4	0.0
PRU	Pruhonice	146.48	345	ePKP	PKPdf	22 02 32.7	+1.8
MOX	Moxa	146.50	348	ePKPbc	PKPbc	22 02 31.7	-1.8
MOX	Moxa	146.50	348	eP	PKPbc	22 02 34.5	+1.0
VRAC	Vranov	146.55	342	⇑iP	PKPab	22 02 36.2	-0.2
VRAC	Vranov	146.55	342	⇑P	PKPab	22 02 36.2	-0.2
TANN	Tannenbergstha	146.55	347	ePKPbc	PKPbc	22 02 32.7	-0.9
VYHS	Vyhne	146.55	339	ePKP	PKPbc	22 02 33.0	-0.6
WERD	Werda	146.56	348	ePKPbc	PKPbc	22 02 32.8	-0.8
GUNZ	Gunzen	146.63	348	ePKPbc	PKPbc	22 02 33.3	-0.5
PSZ	Piszkesteto	146.67	337	⇑iP	PKPbc	22 02 33.6	-0.3
PSZ	Piszkesteto	146.67	337	⇑P	PKPbc	22 02 33.6	-0.4
WERN	Wernitzgruen	146.69	347	ePKPbc	PKPbc	22 02 32.9	-1.1
TREC	Trest	146.87	343	ePKP	PKPdf	22 02 31.7	+0.2
GRA1	Grafenberg Arr	147.49	348	ePKPbc	PKPbc	22 02 34.7	-1.4
GRF	Grafenberg Arr	147.49	348	ePKPbc	PKPbc	22 02 34.7	-1.4
KHC	Kasperske Hory	147.51	345	eP	PKPbc	22 02 35.6	-0.5
GEC2	GERESS Array S	147.75	345	ePKPbc	PKPbc	22 02 36.0	-0.7
GERES	GERESS Array B	147.75	345	PKPbc	PKPbc	22 02 36.1	-0.6
	comp=Z,4.0nm,0.6s,baz=26,slow=2.9,SNR=34						
BZS	Buzias	147.87	333	⇓iP	PKPbc	22 02 36.2	-0.8
BZS	Buzias	147.87	333	⇓P	PKPbc	22 02 36.2	-0.8
PKSM	Moragy	148.57	337	⇑iP	PKPbc	22 02 37.9	-0.9
PKSM	Moragy	148.57	337	⇑P	PKPbc	22 02 37.9	-0.9
VTS	Vitosha	149.42	328	⇑iP	PKPbc	22 02 40.6	-0.2
VTS	Vitosha	149.42	328	⇑P	PKPbc	22 02 40.6	-0.2
TORD	Torodi Ar. Bea	175.14	181	PKPab	PKPab	22 04 40.3	-0.3
	comp=Z,0.3nm,0.8s,baz=236,slow=5.0,SNR=4.1						

---

*IDC **08** 22:22:49.7±4.7, 29.5S×148.81E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/13, mbtmp3.6/5, ML2.5/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/16, Error ellipse: s-maj=157.5km s-min=24.4km az=96.0*
NEIC 08 22:22:58.4±1.8**, 28.5S**×**148.02E, h35**km**, mb3.6**/1**, Error ellipse: s-maj=57.8km s-min=13.4km az=92.0, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.57	187	Pn	Pn	22 24 29.2	-3.2
	0.6nm,0.3s,baz=27,slow=13,SNR=1.9						
PMG	Port Moresby	6.57	187	Pn	Pn	22 24 29.2	-3.2
PMG				ePn	Pn	22 24 32.7	+0.3
GUMO	Guam	16.63	349	LR	LR	22 31 06.3	
	comp=Z,25nm,21.7s,baz=66,slow=29						
CTA	Charters Tower	17.22	186	LR	LR	22 32 12.4	
	comp=Z,92nm,19.3s,baz=229,slow=33						
WRAB	Tennant Creek	21.59	217	eP	P	22 27 45.7	+0.6
	1.6nm,0.6s						
WRA	Warramunga Arr	21.61	217	P	P	22 27 45.8	+0.5
	2.2nm,0.9s,baz=44,slow=11,SNR=5.8						
ASAR	Alice Springs	24.79	212	P	P	22 28 16.6	-0.4
	0.6nm,0.7s,baz=48,slow=9.1,SNR=6.6						
ASAR				LR	LR	22 37 31.0	
	comp=Z,64nm,19.8s,baz=31,slow=35						
STKA	Stephens Creek	29.50	191	LR	LR	22 39 34.4	
	comp=Z,96nm,21.7s,baz=25,slow=34						
MJAR	Matsushiro Arr	40.25	348	LR	LR	22 45 07.1	
	comp=Z,52nm,21.1s,baz=180,slow=33						
SONM	Songino Array	62.19	330	P	P	22 33 16.8	+0.5
	0.6nm,0.7s,baz=149,slow=8.1,SNR=4.1						
MKAR	Makanchi Array	75.75	320	P	P	22 34 40.6	+0.1
	0.2nm,0.4s,baz=109,slow=6.0,SNR=3.0						

---

*ISCJB **08** 22:27:55.7±0.6, 67.20N±0.03×20.7E±0.1, h0km, Error ellipse: s-maj=7.0km s-min=4.7km az=20.6*
*CSEM **08** 22:27:56.4±0.5, 67.17N×20.56E, h1km, ML1.4, Error ellipse: s-maj=16.5km s-min=9.9km az=94.0, Mining explosion.*
*UPP **08** 22:27:56.1, 67.19N×20.67E, h2km, ML2.6, Mining explosion.*
*HEL **08** 22:27:56.6±0.1, 67.18N×20.63E, h0km, ML1.4, ML2.6(UPP), Explosion*
ISC 08 22:27:56.2±0.5**, 67.17N**±0.03×**20.79E**±0.10**, h0**km**, n19,** σ**1.21**/26**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DUNU	Dundret	0.10	242	i P	Pg	22 27 57.8	-0.3
DUNU	Dundret	0.10	242	P	Pg	22 27 57.7	-0.4
KUA	Kurravaara	0.81	348	i P	Pg	22 28 10.5	-1.3
ERTU	Ertsjaerv	0.83	138	i P	Pg	22 28 12.8	+0.7
PAJU	Pajala	0.92	98	eP	Pg	22 28 13.7	-0.1
NIKU	Nikkaluokta	0.97	317	eP	Pg	22 28 13.3	-1.6
LANU	Lannavaara	1.00	27	eP	Pg	22 28 14.5	-0.8
SJUU	Sjulsmark	1.70	169	eP	Pn	22 28 27.1	0.0
SJUU	Sjulsmark	1.70	169	P	Pn	22 28 27.0	-0.1
KIF	Kilpisjarvi	1.85	0	eP	Pn	22 28 29.5	+0.4
KIF				eS	Sn	22 28 53.8	+0.6
KIF	Kilpisjarvi	1.85	0	P	Pn	22 28 29.5	+0.4
KIF				S	Sn	22 28 53.7	+0.6
LILU	Lilltraesk	1.93	192	eP	Pn	22 28 30.6	+0.4
LILU				eS	Sn	22 28 56.5	+1.3
SGF	Sodankyl	2.24	80	eP	Pn	22 28 36.2	+1.6
SGF				eS	Sn	22 29 04.8	+1.9
SGF	Sodankyl	2.24	80	P	Pn	22 28 36.1	+1.6
SGF				S	Sn	22 29 04.7	+1.8
OUL	Oulu	2.95	133	eSG	Sg	22 29 28.4	-2.5
OUL				MSG		22 29 36.7	
	comp=Z,1.1nm,0.2s						
KEV	Kevo	3.46	39	eP	Pn	22 28 52.4	+1.0
KEV				eS	Sn	22 29 33.2	+0.1
KEV				MSG		22 29 46.7	
	comp=Z,0.6nm,0.3s						
KEV	Kevo	3.46	39	P	Pn	22 28 52.4	+1.0
KEV				S	Sn	22 29 33.1	0.0
	comp=Z,0.6nm,0.3s						
MSF	Maaselka	3.53	107	eSG	Sg	22 29 46.9	-2.8
MSF				MSG		22 29 51.8	
	comp=Z,0.6nm,0.2s						
KJN	Kajaani	4.22	134	eSG	Sg	22 30 07.7	-4.0
KJN				MSG		22 30 09.8	
	comp=Z,0.5nm,0.2s						

---

*NAO **08** 22:38:56.5, 35.22N×27.42E, h33km, mb4.4*
*MOS **08** 22:39:04.3±2.0, 35.97N×27.70E, h33km, mb4.7/26, Error ellipse: s-maj=6.0km s-min=2.5km az=122.1*
*CSEM **08** 22:39:08.4±0.0, 36.28N×27.93E, h96km, mb4.4/9, Mw4.0, Error ellipse: s-maj=1.4km s-min=0.9km az=32.0*
*ISCJB **08** 22:39:09.4±0.1, 36.29N±0.01×27.80E±0.01, h90km±1km, mb4.3/68, Error ellipse: s-maj=2.2km s-min=1.6km az=69.4*
*ISK **08** 22:39:10.8, 36.45N×27.72E, h81km, ML4.5*
*IDC **08** 22:39:10.1±1.1, 36.44N×27.63E, h69km±10km, mb3.9/18, mb1 4.1/21, mb1mx4.0/27, mbtmp4.2/21, MS2.8/4, Ms1 2.9/4, ms1mx2.5/25, Error ellipse: s-maj=12.9km s-min=7.8km az=149.0*
*NEIC **08** 22:39:10.4, 36.37N×27.71E, h77km, mb4.5/68, After ATH.*
*ATH **08** 22:39:10.4, 36.37N×27.71E, h77km±1km, ML4.3*
*HLW **08** 22:39:11.0, 36.17N×27.84E, h33km, Mb5.0*
*GRAL **08** 22:39:12.7±2.2, 36.04N×28.23E, h0km±999km, MD4.5*
*NIC **08** 22:39:13.6±0.2, 36.57N×28.12E, h25km, mb4.5, ML4.2, MW3.9*
*THE **08** 22:39:13.6, 36.39N×27.67E, h20km, ML4.2*
*SOF **08** 22:39:15.3, 37.01N×27.74E, h2km, MD3.3*
*GII **08** 22:39:16.2±0.4, 35.74N×28.38E, h7km±28km, mb4.7/15, ML4.6/15, Mw4.5/6*
ISC 08 22:39:10.7±0.1**, 36.30N**±0.01×**27.78E**±0.01**, h86**km±1km**, n557,** σ**1.09**/614**, mb4.3**/67**, 22C-17D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.29	106	⇑iP	Pn	22 39 23.8	+0.2
ARG				eS	Sn	22 39 33.0	-0.1
DAT	Datca	0.46	339	i PG	Pn	22 39 23.5	-1.2
DAT				i SG	Sn	22 39 32.8	-2.3
NISR	Nisiros	0.61	301	eP	Pn	22 39 24.6	-1.4
BDRM	Kayabasi	0.81	341	i P	Pn	22 39 26.8	-1.2
BDRM				i S	Sn	22 39 37.8	-3.1
DALT	Dalyan (Mudla)	0.84	56	i PG	Pn	22 39 28.7	+0.4
DALT				i SG	Sn	22 39 40.9	-0.5
BODT	Bodrum	0.85	334	i PG	Pn	22 39 27.3	-1.1
BODT				i SG	Sn	22 39 39.2	-2.4
KARP	Karpathos	0.90	214	⇓iP	Pn	22 39 29.5	+0.5
KARP				eS	Sn	22 39 42.8	+0.2
YER	Yerkesik	0.93	26	i PG	Pn	22 39 29.0	-0.3
MLSB	Milas	1.00	360	i PG	Pn	22 39 29.1	-1.0
MLSB				i SG	Sn	22 39 41.8	-2.7
FETY	Fethiye	1.10	72	PN	Pn	22 39 31.7	+0.4
FETY				SN	Sn	22 39 46.9	+0.1
AYDN	Tasoluk	1.36	3	i P	Pn	22 39 34.2	-0.3
AYDN				i S	Sn	22 39 50.1	-2.4
KSL	Kastellorizon	1.47	95	eP	Pn	22 39 36.8	+1.0
AKAS	Kas	1.48	92	i P	Pn	22 39 37.3	+1.3
AKAS				i S	Sn	22 39 53.9	-1.1
SMG	Samos	1.60	332	eP	Pn	22 39 36.5	-1.0
SMG				eS	Sn	22 39 55.7	-2.1
GOLH	Golhisar	1.71	56	i P	Pn	22 39 40.3	+1.3
GOLH				i S	Sn	22 40 01.9	+1.4
DNZL	Cakiroluk	1.72	36	i P	Pn	22 39 39.3	+0.2
ZKR	Zakros	1.73	228	ePb	Pn	22 39 40.3	+1.1
ZKR				eSb	Sn	22 40 01.5	+0.6
DENT	Denizli	1.77	34	PN	Pn	22 39 39.8	+0.1
ELL	Elmali	1.77	75	PN	Pn	22 39 41.4	+1.6
ELL				SN	Sn	22 40 03.3	+1.4
SANT	Santorini	1.87	273	ePb	Pn	22 39 41.1	0.0
SANT				eSb	Sn	22 40 02.2	-2.0
SANT	Santorini	1.87	273	ePn	Pn	22 39 41.3	+0.2
SANT	Santorini	1.87	273	ePn	Pn	22 39 41.3	+0.2
APE	Apeiranthos	1.96	294	ePb	Pn	22 39 42.4	+0.1
APE				eSb	Sn	22 40 04.4	-2.0
APE	Apeiranthos	1.96	294	⇑iP	Pn	22 39 42.4	+0.1
APE	Apeiranthos	1.96	294	⇑iP	Pn	22 39 42.5	+0.2
APE	Apeiranthos	1.96	294	P	Pn	22 39 42.3	0.0
APE				S	Sn	22 40 04.4	-1.9
NPS	Neapolis	2.04	240	⇓iP	Pn	22 39 43.7	+0.4
NPS				eS	Sn	22 40 08.0	-0.2
IZM	Izmir	2.14	349	PN	Pn	22 39 43.9	-0.7
IZM				SN	Sn	22 40 08.4	-2.0
KDAG	Bornova	2.14	349	i P	Pn	22 39 44.0	-0.6
KDAG				i S	Sn	22 40 06.6	-3.9
BLCB	Balcova	2.17	344	PN	Pn	22 39 44.1	-0.8
BLCB				SN	Sn	22 40 08.4	-2.7
XRY	Khrisi	2.21	231	eP	Pn	22 39 47.0	+1.4
URLA	Izmir	2.26	336	i P	Pn	22 39 45.3	-0.9
URLA				i S	Sn	22 40 11.9	-1.5
ANTB	Antalya	2.39	75	PN	Pn	22 39 50.2	+2.3
CHOS	Chios island	2.50	327	ePn	Pn	22 39 49.0	-0.4
CHOS				eSn	Sn	22 40 16.6	-2.4
BCK	Bucak	2.54	62	PN	Pn	22 39 51.4	+1.5
IDI	Anoyia	2.56	248	P	Pn	22 39 50.0	-0.2
	118nm,0.3s,baz=62,slow=15,SNR=524						
IDI				S	Sn	22 40 18.1	-2.3
	149nm,0.3s,baz=44,slow=20,SNR=9.7						
AKHS	Akhisar	2.58	1	i P	Pn	22 39 49.8	-0.6
AKHS				i S	Sn	22 40 18.4	-2.6
AKS	Akhisar	2.58	1	PN	Pn	22 39 49.7	-0.7
TKTP	Tekketepe	2.67	49	i P	Pn	22 39 51.9	+0.2
ISP	Isparta	2.67	54	PN	Pn	22 39 51.7	0.0
ISP	Isparta	2.67	54	ePn	Pn	22 39 52.0	+0.2
ISP	Isparta	2.67	54	eP	Pn	22 39 52.0	+0.3
SIVA	Sivas	2.73	243	ePn	Pn	22 39 53.8	+1.2
SIVA				eSn	Sn	22 40 25.0	+0.3
VAM	Vamos	3.04	254	eP	Pn	22 39 57.5	+0.8
GDZ	Gediz	3.10	25	i P	Pn	22 39 57.3	-0.1
GDZ				i S	Sn	22 40 26.9	-6.6
AYVA	Ayvalik	3.13	344	i P	Pn	22 39 57.3	-0.6
PRK	Paraskevi	3.18	338	eP	Pn	22 39 58.2	-0.3
KARN	Karanos	3.26	255	ePn	Pn	22 40 00.5	+0.8
KARN				eSn	Sn	22 40 37.7	+0.2
GVD	Gavdhos	3.34	245	ePn	Pn	22 40 02.2	+1.5
GVD				eSn	Sn	22 40 40.2	+0.7
GVD	Gavdhos	3.34	245	eP	Pn	22 40 02.0	+1.2
GVD	Gavdhos	3.34	245	ePn	Pn	22 40 02.1	+1.3
GVD	Gavdhos	3.34	245	ePn	Pn	22 40 02.1	+1.3
GVD				eSn	Sn	22 40 40.2	+0.8
DST	Dursunbey	3.37	11	PN	Pn	22 40 01.0	-0.1
BTOK	Tokmak	3.46	3	i P	Pn	22 40 01.7	-0.7
BTOK				i S	Sn	22 40 38.6	-3.8
KVR	Kavouri	3.55	297	eP	Pn	22 40 04.3	+0.7

Sta	Name	Dist	Az	Phase	ISC	Time	Res
ATH	Athens Observa	3.65	298	eP	Pn	22 40 05.8	+0.9
NAIG	Nisos Aigina	3.73	294	eP	Pn	22 40 06.5	+0.5
CANB	Canakkale	3.76	352	PN	Pn	22 40 05.9	-0.5
BOZC	Bozcaada	3.79	339	i P	Pn	22 40 06.3	-0.6
KYTH	Kithira	3.83	271	eP	Pn	22 40 08.5	+1.1
HDMB	Hadim	3.84	79	PN	Pn	22 40 09.9	+2.3
VLI	Veliai	3.92	278	eP	Pn	22 40 09.9	+1.3
PPCY	Paphos	3.98	109	P	Pn	22 40 09.9	+0.5
ULDT	Uludag	3.98	15	i P	Pn	22 40 09.6	+0.1
ULDT				i S	Sn	22 40 43.1	-12
KCT	Karacabey	3.99	6	PN	Pn	22 40 09.3	-0.2
KONT	Konya--Tatoy	4.01	64	PN	Pn	22 40 11.4	+1.5
ESKT	Eskisehir	4.03	36	PN	Pn	22 40 10.5	+0.4
ALFC	Alevga	4.08	105	P	Pn	22 40 10.5	-0.3
	55nm,0.2s						
ALFC				S	Sn	22 40 55.8	-1.6
LIA	Limnos Island	4.14	331	⇑iP	Pn	22 40 11.8	+0.3
BORA	Eskisehir	4.15	30	i P	Pn	22 40 11.9	+0.2
BORA	Eskisehir	4.15	30	i P	Pn	22 40 11.9	+0.2
ERMK	Ermenek	4.15	84	i P	Pn	22 40 13.4	+1.7
ERMK				i S	Sn	22 41 00.2	+1.2
GADA	Gvkgeada	4.16	340	PN	Pn	22 40 11.1	-0.7
LOS	Limnos	4.21	330	ePn	Pn	22 40 13.3	+0.8
AOS	Alonnisos	4.22	314	ePn	Pn	22 40 13.5	+0.9
GEMT	Gemlik	4.28	15	PN	Pn	22 40 13.2	-0.2
MRMT	Marmara Adasi	4.30	358	PN	Pn	22 40 13.4	-0.4
ADVT	Abdulvahap	4.41	20	PN	Pn	22 40 15.2	0.0
RKY	Sarkoy-Tekirda	4.41	354	PN	Pn	22 40 14.8	-0.4
SART	Tekirdag	4.41	354	i P	Pn	22 40 14.9	-0.4
SART				i S	Sn	22 41 03.1	-2.2
YLV	Yalova	4.44	16	PN	Pn	22 40 15.2	-0.5
GPA	Golpazari	4.45	26	PN	Pn	22 40 16.1	+0.3
LKR	Lokris	4.47	303	eP	Pn	22 40 17.2	+1.2
MFT	Murefte	4.50	355	PN	Pn	22 40 15.3	-1.2
MAMC	Mammari	4.56	103	P	Pn	22 40 17.6	+0.2
ENEZ	Enez	4.61	344	PN	Pn	22 40 17.2	-0.8
NEO	Neokhori	4.69	311	⇑iP	Pn	22 40 20.4	+1.3
CSS	Prodhromos	4.71	105	P	Pn	22 40 19.6	+0.2
	21nm,0.4s						
CSS				S	Sn	22 41 11.4	-1.4
CSS	Prodhromos	4.71	105	ePn	Pn	22 40 19.1	-0.3
CSS	Prodhromos	4.71	105	ePn	Pn	22 40 19.1	-0.3
CSS				S	Sn	22 41 11.4	-1.4
XOR	Xorichti	4.75	312	ePn	Pn	22 40 20.9	+1.1
HRT	Hereke	4.75	18	PN	Pn	22 40 19.2	-0.7
IKL	Isikli	4.77	89	PN	Pn	22 40 21.8	+1.6
ITM	Ithomi	4.78	282	eP	Pn	22 40 22.3	+2.0
ALN	Alexandroupoli	4.79	344	ePn	Pn	22 40 21.0	+0.6
PAIG	Paliouri	4.86	320	ePn	Pn	22 40 21.9	+0.6
ISK	Istanbul-Kandi	4.87	11	ePN	Pn	22 40 21.0	-0.4
MDU	Mudurnu	4.96	32	ePN	Pn	22 40 23.2	+0.5
OUR	Ouranopolis	5.01	325	ePn	Pn	22 40 24.2	+0.7
KLYT	Kilyos	5.04	11	ePN	Pn	22 40 23.0	-0.9
AGG	Agios Georgios	5.11	304	ePn	Pn	22 40 26.6	+1.9
AGG	Agios Georgios	5.11	304	ePn	Pn	22 40 26.6	+1.9
RDO	Rodhopi	5.15	341	eP	Pn	22 40 25.4	+0.1
PHNC	Paralimni	5.25	102	P	Pn	22 40 28.5	+1.8
DABA	Dabaa	5.29	175	P	Pn	22 40 26.9	-0.3
PLG	Polygyros	5.31	321	eP	Pn	22 40 28.1	+0.7
ANTO	Ankara	5.33	46	ePN	Pn	22 40 28.0	+0.3
ANTO	Ankara	5.33	46	⇓iP	Pn	22 40 29.4	+1.7
ANTO	Ankara	5.33	46	⇓iPn	Pn	22 40 29.1	+1.4
	190nm,0.6s						
SGKT	Sivrigoynuk	5.43	37	i P	Pn	22 40 30.2	+1.1
MERS	Mersin	5.46	82	ePN	Pn	22 40 31.3	+1.8
EDRB	Edirne	5.60	352	ePN	Pn	22 40 30.7	-0.7
KAMT	Kaman	5.61	55	ePN	Pn	22 40 32.2	+0.6
LIT	Litokhoron	5.63	314	ePn	Pn	22 40 33.3	+1.4
HORT	Hortiatis	5.65	321	ePn	Pn	22 40 33.6	+1.5
KDZ	Kurdzhali	5.65	342	i P	Pn	22 40 32.7	+0.5
KDZ				S	Sn	22 41 31.0	-4.7
SOH	Sokhos	5.69	324	ePn	Pn	22 40 34.1	+1.4
THE	Thessaloniki	5.74	320	ePn	Pn	22 40 35.1	+1.7
BR131	Keskin Array S	5.75	52	ePn	Pn	22 40 34.6	+1.1
BR131	Keskin Array S	5.75	52	ePn	Pn	22 40 34.6	+1.1
BRTR	Keskin Array B	5.75	52	P	Pn	22 40 34.5	+1.0
	9.8nm,0.3s,baz=223,slow=14,SNR=462						
BRTR				S	Sn	22 41 38.4	+0.2
	2.3nm,0.3s,baz=221,slow=23,SNR=5.9						
BRTR	Keskin Array B	5.75	52	S	Sn	22 41 38.4	+0.2
KDZE	Karadeniz Ereo	5.77	29	ePN	Pn	22 40 33.3	-0.4
SRS	Serrai	5.82	327	ePn	Pn	22 40 35.0	+0.5
RZN	Rozhen	5.89	337	i P	Pn	22 40 36.0	+0.6
NVR	Nevrokopi	5.90	330	eP	Pn	22 40 36.4	+0.9
HBRG	Burj al ‘Arab	5.96	163	P	Pn	22 40 35.1	-1.3
DIM	Dimitrovgrad	6.00	344	i P	Pn	22 40 37.2	+0.3
DIM				S	Sn	22 41 41.0	-3.2
VLS	Valsamata	6.03	290	eP	Pn	22 40 39.2	+1.8
ELDT	Eldivan	6.10	45	i P	Pn	22 40 39.4	+1.2
MMB	Musomiste	6.15	330	ePn	Pn	22 40 39.6	+0.6
MMB	Musomiste	6.15	330	i P	Pn	22 40 39.3	+0.3
LKD	Levkas	6.16	295	ePn	Pn	22 40 41.1	+2.1
KNT	Kendrikon	6.17	323	ePn	Pn	22 40 41.0	+1.7
JMB	Yambol	6.23	352	i P	Pn	22 40 40.5	+0.5
SAFT	Safranbolu	6.25	36	ePN	Pn	22 40 40.9	+0.6
PLD	Plovdiv	6.27	339	ePn	Pn	22 40 41.5	+0.9
PLD	Plovdiv	6.27	339	i P	Pn	22 40 42.2	+1.6
GRG	Griva	6.27	319	ePn	Pn	22 40 42.6	+2.0
CANT	Cankiri	6.29	45	ePN	Pn	22 40 41.0	+0.2
VAY	Valandovo	6.46	323	ePn	Pn	22 40 43.9	+0.8
VAY	Valandovo	6.46	323	i Pn	Pn	22 40 44.2	+1.1
CORM	Corum	6.64	52	ePN	Pn	22 40 46.0	+0.4
KKB	Krupnik	6.65	328	i P	Pn	22 40 47.6	+1.8
AANS		6.71	152	P	Pn	22 40 45.8	-0.8
IGT	Igoumenitsa	6.71	301	ePn	Pn	22 40 48.4	+1.8
FNA	Florina	6.72	314	ePn	Pn	22 40 49.2	+2.4
TOS	Tosya	6.80	44	ePN	Pn	22 40 47.8	0.0
MATL	Matirih	6.81	112	ePn	Pn	22 40 46.9	-1.0
BALT	Daday	6.81	38	i P	Pn	22 40 49.6	+1.6
COBT	Iskenderun	6.84	86	i P	Pn	22 40 48.7	+0.4
COBT				i S	Sn	22 42 00.6	-4.0
BHL	Bhannes	6.88	108	ePn	Pn	22 40 47.4	-1.5
BHL				Sn	Sn	22 41 57.2	-8.5
HNTI	Hanita	6.88	116	Pn	Pn	22 40 48.2	-0.7
HNTI				Sn	Sn	22 42 00.7	-5.0
BIA	Bitola	6.91	315	ePn	Pn	22 40 51.3	+2.0
STIP	Stip	6.93	323	ePn	Pn	22 40 51.5	+2.0
STIP	Stip	6.93	323	i Pn	Pn	22 40 52.1	+2.5
HWQ	Hawqa	6.98	104	ePn	Pn	22 40 50.0	-0.2
HWQ				Sn	Sn	22 42 02.0	-6.0
HWQ	Hawqa	6.98	104	ePn	Pn	22 40 50.0	-0.2
HWQ				Sn	Sn	22 42 02.0	-6.0
OFRI	‘Ofer	6.99	120	Pn	Pn	22 40 49.8	-0.6
CTKT	Corum	6.99	50	i P	Pn	22 40 51.5	+1.1
MMA0	Mount Meron ar	7.08	115	Pn	Pn	22 40 51.3	-0.4
SZH	Strazhica	7.10	349	i P	Pn	22 40 53.4	+1.5
FYM	Al Fayyum	7.13	156	P	Pn	22 40 52.5	+0.1
AYT	Al ‘Ayyat	7.16	156	P	Pn	22 40 52.4	-0.3
KEK	Kerkira	7.16	301	eP	Pn	22 40 54.8	+2.1
RCY	Rachaya	7.18	111	ePn	Pn	22 40 52.6	-0.3
RCY				Sn	Sn	22 42 07.0	-5.9
KSDI	Kefar Szold	7.19	113	Pn	Pn	22 40 52.6	-0.5
KOT	Kottamia	7.20	151	P	Pn	22 40 52.8	-0.5
HRI	Mount Hermon	7.21	112	Pn	Pn	22 40 52.5	-0.9
VTS	Vitosha	7.21	332	⇑iP	Pn	22 40 55.4	+2.0
VTS	Vitosha	7.21	332	i P	Pn	22 40 54.6	+1.2
VTS	Vitosha	7.21	332	⇑P	Pn	22 40 55.4	+2.0
SWA1		7.23	195	P	Pn	22 40 53.5	-0.1
SLTI	Sal’it	7.25	122	Pn	Pn	22 40 52.3	-1.6
SLTI				Sn	Sn	22 42 09.5	-5.1
OHR	Ohrid	7.27	313	i Pn	Pn	22 40 56.8	+2.6
HHAG	Hagoal	7.29	149	P	Pn	22 40 54.1	-0.4
SWA2		7.30	196	P	Pn	22 40 54.4	-0.3
HSAF	As Saff	7.38	153	P	Pn	22 40 55.4	-0.3
KSHT	Keshet	7.40	114	Pn	Pn	22 40 55.2	-0.8
MMLI	Mount Malkishu	7.40	119	Pn	Pn	22 40 55.6	-0.4
GLH	Golan-Tel Qazi	7.42	117	Pn	Pn	22 40 56.7	+0.5
GLL	Jalalah	7.47	153	P	Pn	22 40 56.8	-0.2
SKO	Skopje	7.51	321	i Pn	Pn	22 41 00.5	+3.1
BOYT	Boyabat	7.55	45	i P	Pn	22 40 59.2	+1.2
HMDT	Nahal Hemdat	7.58	120	Pn	Pn	22 40 57.4	-0.9
AMAZ	Amatzia	7.60	127	Pn	Pn	22 40 58.0	-0.7
AMAZ				Sn	Sn	22 42 17.8	-5.4
KZIT	Kziot	7.71	132	Pn	Pn	22 40 59.6	-0.5
KZIT				Sn	Sn	22 42 19.4	-6.4
SUZ		7.71	145	P	Pn	22 40 59.9	-0.3
RTMI	Retamim	7.78	130	Pn	Pn	22 41 00.3	-0.8
SVTA	Shivta	7.82	131	Pn	Pn	22 41 01.1	-0.6
YTIR	Yattir	7.84	127	Pn	Pn	22 41 00.6	-1.4
DRGI	Dragot	7.87	124	Pn	Pn	22 41 01.6	-0.8
MASH	Mash‘abbe Sade	7.88	130	Pn	Pn	22 41 01.9	-0.5
DSI	Dead Sea	7.88	125	Pn	Pn	22 41 00.8	-1.7
TIR	Tirane	7.97	312	ePn	Pn	22 41 04.7	+0.9
AWBH		8.01	173	P	Pn	22 41 04.1	-0.2
MZDA	Masada	8.04	126	Pn	Pn	22 41 04.1	-0.5
MZDA				Sn	Sn	22 42 28.6	-5.3
ZAF		8.06	149	P	Pn	22 41 04.8	-0.2
ZNM		8.12	147	P	Pn	22 41 06.2	+0.3
TIRR	Tirgusor	8.17	3	⇑iP	Pn	22 41 06.5	+0.1
TIRR	Tirgusor	8.17	3	⇑P	Pn	22 41 06.5	+0.1
HNKL	Nakhl	8.21	139	P	Pn	22 41 06.5	-0.5
ZFRI	Zfri	8.43	131	Pn	Pn	22 41 09.1	-0.9
PRNI	Paran	8.47	132	Pn	Pn	22 41 09.5	-1.0
PRNI				Sn	Sn	22 42 37.5	-6.9
KMTI	Karmit	8.48	135	Pn	Pn	22 41 09.0	-1.8
ASF	Jabal al Asfar	8.60	116	P	Pn	22 41 12.7	+0.4
	3.1nm,0.3s,baz=158,slow=12,SNR=22						
ASF				S	Sn	22 42 50.7	+3.1
	6.6nm,0.3s,baz=30,slow=20,SNR=6.9						
LCI	Lecce	8.60	301	Pn	Pn	22 41 13.7	+1.4
HRFI	Mount Harif	8.71	134	Pn	Pn	22 41 13.4	-0.5
HRFI				Sn	Sn	22 42 43.6	-6.9
MALT	Malatya	8.72	73	⇓iP	Pn	22 41 15.4	+1.4
MALT	Malatya	8.72	73	ePn	Pn	22 41 15.0	+1.0
MALT	Malatya	8.72	73	ePn	Pn	22 41 15.0	+1.0
MBH	Mount Berech	8.83	135	Pn	Pn	22 41 15.1	-0.4
CFR	Carcaliu	8.88	2	⇓iP	Pn	22 41 16.1	0.0
CFR	Carcaliu	8.88	2	⇓P	Pn	22 41 16.1	0.0
EIL	Elat	8.94	136	Pn	Pn	22 41 16.5	-0.5
EIL	Elat	8.94	136	ePn	Pn	22 41 15.9	-1.1
AQBJ	Aqaba	8.95	135	Pn	Pn	22 41 16.8	-0.3
HFRF	Wahat Farafira	9.13	177	P	Pn	22 41 18.7	-0.9
HBST	Basata	9.17	138	P	Pn	22 41 19.8	-0.3
PE1	Pezze di Greco	9.28	302	ePn	Pn	22 41 22.1	+0.6
MLR	Muntele Rosu	9.29	352	P	Pn	22 41 23.3	+1.6
	0.4nm,0.3s,baz=153,slow=7.0,SNR=8.3						
MLR				S	Sn	22 43 03.4	-1.0
	0.6nm,0.3s,baz=242,slow=22,SNR=8.4						
MLR	Muntele Rosu	9.29	352	⇑iP	Pn	22 41 23.5	+1.8
TR2		9.35	146	P	Pn	22 41 22.6	0.0
HKAT	Jabal Katrina	9.36	144	P	Pn	22 41 22.7	0.0
GRI	Girifalco	9.37	289	Pn	Pn	22 41 24.1	+1.3
ASUT		9.44	159	P	Pn	22 41 23.7	-0.1
HDHB	Dhahab	9.51	141	P	Pn	22 41 24.7	0.0
SOI	Samo	9.52	284	Pn	Pn	22 41 24.5	-0.4
CEL	Celeste	9.67	285	Pn	Pn	22 41 25.2	-1.8
TR1		9.78	146	P	Pn	22 41 28.4	-0.1
SG1	Sgolgore (BA)	9.80	301	ePn	Pn	22 41 28.2	-0.5
GZR	Gura Zlata	9.84	339	⇑iP	Pn	22 41 29.5	+0.2
GZR	Gura Zlata	9.84	339	⇑P	Pn	22 41 29.5	+0.3
SHRM		9.96	146	P	Pn	22 41 30.8	-0.1
AGST	Augusta-Monte	10.12	279	Pn	Pn	22 41 32.5	-0.5
CUC	Castrocucco	10.12	295	Pn	Pn	22 41 32.7	-0.3
HAVL	Avola	10.19	277	Pn	Pn	22 41 33.0	-1.0
SSY	Sortino	10.24	279	Pn	Pn	22 41 33.8	-0.8
HHRG	Al Ghardaqah	10.30	150	P	Pn	22 41 35.4	-0.2
SLCN	Sala Consilina	10.38	297	Pn	Pn	22 41 36.6	+0.1
BZS	Buzias	10.41	335	⇓iP	Pn	22 41 36.8	-0.1
BZS	Buzias	10.41	335	⇓P	Pn	22 41 36.8	-0.2
VAE	Valguarnera	10.77	280	P	Pn	22 41 43.4	+1.5
	0.5nm,0.3s,baz=282,slow=2.5,SNR=2.4						
VAE				S	Sn	22 43 35.3	-5.3
	4.3nm,0.3s,baz=168,slow=8.7,SNR=6.2						
BURAR	Bucovina Array	11.47	351	⇑iP	Pn	22 41 53.3	+1.9
BURAR	Bucovina Array	11.47	351	⇑P	Pn	22 41 53.3	+1.9
PKSM	Moragy	12.05	328	⇓iP	Pn	22 41 59.6	+0.3
PKSM	Moragy	12.05	328	⇓P	Pn	22 41 59.6	+0.3
AQU	L’Aquila	12.66	303	eP	Pn	22 42 18.4	+11
PSZ	Piszkesteto	12.99	336	⇑iP	Pn	22 42 20.7	+8.8
PSZ	Piszkesteto	12.99	336	ePn	Pn	22 42 13.8	+1.9
PSZ	Piszkesteto	12.99	336	ePn	Pn	22 42 13.8	+1.9
BOJS	Bojanci	13.19	318	i Pn	Pn	22 42 17.7	+3.2
BOJS				i Sn	Sn	22 44 41.3	+1.9
VISS	Visnje	13.60	318	i Pn	Pn	22 42 22.2	+2.3
VISS	Visnje	13.60	318	i Pn	Pn	22 42 22.2	+2.3
KIV	Kislovodsk	13.72	52	eP	Pn	22 42 29.8	+8.3
KIV				pmax	pmax		
	comp=Z,12nm,1.3s						
KIV	Kislovodsk	13.72	52	ePn	Pn	22 42 29.8	+8.4
	comp=Z,12nm,1.3s						
VYHS	Vyhne	13.85	334	eP	Pn	22 42 29.5	+6.4
GNI	Garni	13.88	69	P	Pn	22 42 30.5	+6.9
	comp=Z,0.3nm,0.3s,baz=339,slow=22,SNR=3.5						
GNI	Garni	13.88	69	P	Pn	22 42 25.3	+1.8
GNI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
GNI	Garni	13.88	69	Pn	Pn	22 42 25.3	+1.7
	comp=Z,4.3nm,0.6s						
STHS	Stebnicka Huta	13.95	342	eP	Pn	22 42 31.9	+7.4
PERS	Pernice	14.01	321	i Pn	Pn	22 42 27.2	+2.0
ZEI	Tsey	14.01	58	eP	Pn	22 42 31.4	+6.2
ARSA	Arzberg	14.24	324	⇑iP	Pn	22 42 33.6	+5.3
	comp=Z,7.1nm,0.5s						
VOY	Vojsko	14.26	317	ePn	Pn	22 42 29.3	+0.8
AKASG	Malin Array Be	14.44	4	P	Pn	22 42 35.2	+4.5
	comp=Z,3.8nm,0.3s,baz=194,slow=11,SNR=26						
AKASG	Malin Array Be	14.44	4	P	Pn	22 42 35.2	+4.5
VSL	Villasalto	14.88	288	ePn	Pn	22 42 39.1	+2.7
VSL	Villasalto	14.88	288	ePn	Pn	22 42 39.1	+2.7
KEST	Kesra	14.93	273	P	Pn	22 42 38.9	+1.7
	comp=Z,0.2nm,0.3s,baz=48,slow=2.2,SNR=21						
OJC	Ojcow	15.07	340	eP	Pn	22 42 43.9	+5.1
KBA	Koelnbreinsper	15.21	320	⇑iP	Pn	22 42 44.3	+3.5
	comp=Z,12nm,0.5s,SNR=8.6						
KBA	Koelnbreinsper	15.21	320	⇑iP	Pn	22 42 44.3	+3.6
KBA				pmax	pmax		
	comp=Z,12nm,0.5s						
OKC	Ostrava-Krasne	15.23	336	eP	Pn	22 42 48.0	+7.0
VRAC	Vranov	15.35	331	P	Pn	22 42 45.6	+3.1
	comp=Z,2.3nm,0.3s,baz=142,slow=9.7,SNR=32						
VRAC				LR	LR	22 49 14.0	
	comp=Z,34nm,18.7s,baz=168,slow=40						
VRAC	Vranov	15.35	331	⇑iP	Pn	22 42 46.6	+4.1
MORC	Moravsky Berou	15.39	334	eP	Pn	22 42 46.7	+3.8
MORC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MORC	Moravsky Berou	15.39	334	eP	Pn	22 42 46.7	+3.8
	comp=Z,4.2nm,0.6s						
GRAM		15.76	307	P	Pn	22 42 48.0	+0.4
TREC	Trest	15.79	329	eP	Pn	22 42 50.7	+2.8
CODM		15.86	306	P	Pn	22 42 49.0	+0.1
SC2M	Scurtabr	16.07	306	P	Pn	22 42 50.5	-1.0
GEC2	GERESS Array S	16.24	325	eP	Pn	22 42 55.0	+1.4
GEC2	GERESS Array S	16.24	325	ePn	Pn	22 42 54.9	+1.4
GEC2	GERESS Array S	16.24	325	eP	Pn	22 42 54.9	+1.3
GERES	GERESS Array B	16.24	325	P	Pn	22 42 54.5	+1.0
	comp=Z,0.9nm,0.3s,baz=138,slow=12,SNR=34						
WTTA	Wattenberg	16.25	317	⇓iP	Pn	22 42 55.9	+2.2
	comp=Z,8.8nm,0.5s						
WTTA	Wattenberg	16.25	317	⇓iP	Pn	22 42 55.9	+2.2
WTTA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
DPC	Dobruska-Polom	16.30	333	eP	Pn	22 42 55.9	+1.5
WATA	Walderalm	16.32	318	⇓iP	Pn	22 42 56.6	+2.0
	comp=Z,8.6nm,0.5s,SNR=8.9						
WATA	Walderalm	16.32	318	⇓iP	Pn	22 42 56.6	+2.0
WATA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SQTA	Sankt Quirin	16.45	317	⇑iP	Pn	22 42 58.1	+1.9
	comp=Z,7.8nm,0.4s						
KHC	Kasperske Hory	16.50	325	eP	Pn	22 42 57.9	+1.1
KHC				ex	x	22 43 00.0	
UPC	Upice	16.55	333	eP	Pn	22 42 58.5	+1.1
MOTA	Moosalm	16.59	317	⇑iP	Pn	22 42 59.4	+1.5
	comp=Z,13nm,0.6s,SNR=9.0						
MOTA	Moosalm	16.59	317	⇑iP	Pn	22 42 59.4	+1.5
MOTA				pmax	pmax		
	comp=Z,13nm,0.6s						
PRU	Pruhonice	16.71	329	eP	Pn	22 42 59.9	+0.4
PCP	Pian Castagno	16.77	305	P	Pn	22 42 59.6	-0.6
WET	Wettzell	16.83	324	eP	Pn	22 43 01.9	+1.0
FIN	Finale Ligure	16.88	304	P	Pn	22 43 00.6	-0.9
RORO		16.94	303	P	Pn	22 43 01.2	-1.0
VRSR	Storozhevoye	17.01	25	eP	Pn	22 43 04.5	+1.4
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,6.0nm,0.8s						
NEGI	Negi	17.09	302	P	Pn	22 43 02.4	-1.7
PVCC	Panska Ves	17.12	330	eP	Pn	22 43 07.6	+3.1
ROB	Roburent	17.13	304	P	Pn	22 43 03.4	-1.2
MONE	Monesi	17.13	303	P	Pn	22 43 03.5	-1.1
DAVA	Damuels	17.24	315	i P	Pn	22 43 06.9	+1.0
	comp=E,13nm,0.4s,SNR=13						
SBF	Sospel	17.28	302	eP	Pn	22 43 06.8	+0.4
	comp=E,42nm,0.7s						
SBF	Sospel	17.28	302	eP	Pn	22 43 06.8	+0.4
SBF				pmax	pmax		
	comp=Z,21nm,0.7s						
SBF	Sospel	17.28	302	eP	Pn	22 43 06.8	+0.4
	comp=Z,21nm,0.7s						
LUCF	Luceram	17.35	302	eP	Pn	22 43 08.2	+0.9
ENR	Entracque	17.41	303	P	Pn	22 43 07.5	-0.5
TOUF	Mont Tournerai	17.46	302	eP	Pn	22 43 09.8	+1.2
STV	Sta Anna Valdi	17.48	303	P	Pn	22 43 08.5	-0.4
MVIF	Mont Vial	17.48	302	eP	Pn	22 43 10.3	+1.4
ROTZ	Rotzenmuhle	17.58	325	eP	Pn	22 43 10.7	+0.6
ORX	Oropa	17.58	308	P	Pn	22 43 08.4	-1.7
BRG	Berggiesshubel	17.64	330	eP	Pn	22 43 10.8	0.0
BRG	Berggiesshubel	17.64	330	eP	Pn	22 43 11.1	+0.4
	comp=Z,10nm,1.3s						
BRG	Berggiesshubel	17.64	330	eP	Pn	22 43 11.1	+0.3
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
PZZ	Prazzo	17.72	304	P	Pn	22 43 10.3	-1.5
FRF	La Foret Royal	17.73	301	eP	Pn	22 43 11.3	-0.6
	comp=Z,22nm,0.8s						
FRF	La Foret Royal	17.73	301	eP	Pn	22 43 11.3	-0.6
FRF				pmax	pmax		
	comp=Z,11nm,0.8s						
FRF	La Foret Royal	17.73	301	eP	Pn	22 43 11.3	-0.6
	comp=Z,11nm,0.8s						
LMR	La Mourre	17.76	300	eP	Pn	22 43 11.1	-1.2
	comp=Z,16nm,0.8s						
LMR	La Mourre	17.76	300	eP	Pn	22 43 11.1	-1.2
LMR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LMR	La Mourre	17.76	300	eP	Pn	22 43 11.1	-1.2
	comp=Z,7.9nm,0.8s						
MANZ	Manzenberg	17.78	325	eP	Pn	22 43 11.7	-0.8
NKC	Novy Kostel	17.80	326	eP	Pn	22 43 13.3	+0.6
FBE	Freiberg	17.92	329	eP	Pn	22 43 14.2	+0.1
TANN	Tannenbergstha	17.92	327	eP	Pn	22 43 13.4	-0.8
GUNZ	Gunzen	17.95	326	eP	Pn	22 43 15.5	+1.0
GRA1	Grafenberg Arr	18.00	323	eP	Pn	22 43 15.1	0.0
GRF	Grafenberg Arr	18.00	323	eP	Pn	22 43 15.1	0.0
WERD	Werda	18.02	327	eP	Pn	22 43 15.0	-0.4
MBDF	Montbardon	18.02	304	eP	Pn	22 43 14.0	-1.4
	comp=Z,41nm,0.6s						
MBDF	Montbardon	18.02	304	eP	Pn	22 43 14.0	-1.4
MBDF				pmax	pmax		
	comp=Z,21nm,0.6s						
MBDF	Montbardon	18.02	304	eP	Pn	22 43 14.0	-1.4
	comp=Z,21nm,0.6s						
LSD	Ceresole Reale	18.04	307	P	Pn	22 43 13.9	-1.8
RRL	Cesana Torines	18.08	305	P	Pn	22 43 15.3	-0.8
TAVF	Tavernes	18.16	300	eP	Pn	22 43 16.7	-0.3
BNI	Bardonecchia	18.20	305	eP	Pn	22 43 17.8	+0.2
BNI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNI	Bardonecchia	18.20	305	ePn	Pn	22 43 17.8	+0.3
	comp=Z,10nm,0.6s						
BNI	Bardonecchia	18.20	305	eP	Pn	22 43 17.8	+0.2
	comp=Z,10.0nm,0.6s						
LPG	La Plagne	18.32	307	eP	Pn	22 43 18.7	-0.3
	comp=Z,37nm,0.5s						
LPG	La Plagne	18.32	307	eP	Pn	22 43 18.7	-0.3
LPG				pmax	pmax		
	comp=Z,18nm,0.5s						
LPG	La Plagne	18.32	307	eP	Pn	22 43 18.7	-0.3
	comp=Z,18nm,0.5s						
BERF	Bertagne	18.33	299	eP	Pn	22 43 17.8	-1.3
LPL	La Plagne	18.34	307	eP	Pn	22 43 18.2	-1.0
	comp=Z,90nm,0.6s						
LPL	La Plagne	18.34	307	eP	Pn	22 43 18.2	-1.0
LPL				pmax	pmax		
	comp=Z,45nm,0.6s						
LPL	La Plagne	18.34	307	eP	Pn	22 43 18.2	-1.0
	comp=Z,45nm,0.6s						
CLL	Collm	18.35	329	eP	Pn	22 43 19.3	-0.1
CLL	Collm	18.35	329	i P	Pn	22 43 19.4	0.0
	comp=Z,25nm,0.8s						
CLL				i x	x	22 43 25.3	
CLL				i pP	pP	22 43 32.3	-2.8
CLL	Collm	18.35	329	i P	Pn	22 43 19.4	0.0
CLL				pmax	pmax		
	comp=Z,11nm,0.8s						
STOF	St-Etienne Org	18.37	301	eP	Pn	22 43 20.3	+0.7
PUYF	Puyloubier	18.38	300	eP	Pn	22 43 18.0	-1.8
STU	Stuttgart	18.46	318	eP	Pn	22 43 21.2	+0.5
STU	Stuttgart	18.46	318	eP	Pn	22 43 10.8	-10
STU				pmax	pmax		
	comp=Z,38nm,0.8s						
STU	Stuttgart	18.46	318	eP	Pn	22 43 10.8	-10
	comp=Z,38nm,0.8s						
VILF	Villemus	18.46	301	eP	Pn	22 43 20.3	-0.4
MOX	Moxa	18.47	326	eP	Pn	22 43 20.8	0.0
MOX	Moxa	18.47	326	eP	Pn	22 43 20.7	-0.1
	comp=Z,21nm,1.1s						
GELF	Grande-Etoile	18.54	299	eP	Pn	22 43 19.8	-1.8
SMRF	Simiane la Rot	18.59	301	eP	Pn	22 43 21.0	-1.3
	comp=Z,32nm,0.9s						
SMRF	Simiane la Rot	18.59	301	eP	Pn	22 43 21.0	-1.3
	comp=Z,16nm,0.9s						
BFO	Black Forest	18.68	316	eP	Pn	22 43 24.2	+0.8
BBS	Basel-Blauen	18.71	313	eP	Pn	22 43 23.7	0.0
NEUB	Neuenburg	18.80	327	eP	Pn	22 43 24.4	-0.3
PRAF	Pradon	18.83	300	eP	Pn	22 43 23.4	-1.7
LOMF	Lomont	19.06	312	eP	Pn	22 43 25.8	-2.1
MOF	Molkenrain	19.12	314	eP	Pn	22 43 28.3	-0.3
TOD	Tromm	19.16	320	eP	Pn	22 43 27.1	-1.9
CABF	La Chapelle	19.19	309	eP	Pn	22 43 26.8	-2.6
	comp=Z,70nm,0.8s						
CABF	La Chapelle	19.19	309	eP	Pn	22 43 26.8	-2.6
CABF				pmax	pmax		
	comp=Z,35nm,0.8s						
CABF	La Chapelle	19.19	309	eP	Pn	22 43 26.8	-2.6
	comp=Z,35nm,0.8s						
HINF	Hinteralfeld	19.27	313	eP	Pn	22 43 28.6	-1.7
	comp=Z,10nm,0.4s						
HINF	Hinteralfeld	19.27	313	eP	Pn	22 43 28.6	-1.7
	comp=Z,5.1nm,0.4s						
WLS	Welschbruch	19.28	315	eP	Pn	22 43 29.2	-1.2
ECH	Echery	19.29	315	eP	Pn	22 43 30.5	0.0
CDF	Champ du Feu	19.32	315	eP	Pn	22 43 29.2	-1.7
	comp=Z,116nm,0.8s						
CDF	Champ du Feu	19.32	315	eP	Pn	22 43 29.2	-1.7
CDF				pmax	pmax		
	comp=Z,58nm,0.8s						
CDF	Champ du Feu	19.32	315	eP	Pn	22 43 29.2	-1.7
	comp=Z,58nm,0.8s						
LANF	Langenberg	19.33	317	eP	Pn	22 43 29.8	-1.2
VIVF	Saint-Julien-l	19.47	303	eP	Pn	22 43 30.3	-2.4
	comp=Z,76nm,0.7s						
VIVF	Saint-Julien-l	19.47	303	eP	Pn	22 43 30.3	-2.4
VIVF				pmax	pmax		
	comp=Z,38nm,0.7s						
VIVF	Saint-Julien-l	19.47	303	eP	Pn	22 43 30.3	-2.4
	comp=Z,38nm,0.7s						
HAU	Haudompre	19.66	313	eP	Pn	22 43 32.7	-2.2
TNS	Taunus Mts	19.71	321	eP	Pn	22 43 34.2	-1.3
OBN	Obninsk	19.76	15	d iP	Pn	22 43 34.1	-2.0
OBN				e		22 43 49.1	
OBN				pmax	pmax		
	comp=Z,26nm,0.7s						
OBN	Obninsk	19.76	15	eP	Pn	22 43 34.0	-2.1
OBN	Obninsk	19.76	15	eP	Pn	22 43 34.0	-2.1
LASF	Ste Croix	19.81	300	eP	Pn	22 43 33.1	-3.6
	comp=Z,29nm,0.8s						
LASF	Ste Croix	19.81	300	eP	Pn	22 43 33.1	-3.6
	comp=Z,15nm,0.8s						
ETOS	Mallorca	19.95	288	P	Pn	22 43 36.1	-2.1
	comp=Z,13nm,1.1s						
ETOS	Mallorca	19.95	288	P	Pn	22 43 36.1	-2.2
	comp=Z,13nm,1.1s						
THEF	They Montfort	19.98	313	eP	Pn	22 43 36.4	-2.2
EMHD	Djebel Mahouad	20.01	277	P	P	22 43 37.0	+0.5
SJAF	Saint Jean de	20.17	295	eP	P	22 43 37.2	-1.0
FILF	Fillols	20.42	296	eP	P	22 43 41.0	+0.1
NRDL	Niedersach Rie	20.44	328	eP	P	22 43 40.9	-0.3
LRDF	Laroque-de-Fa	20.50	297	eP	P	22 43 41.0	-0.8
PLDF	La Plantade	20.53	306	eP	P	22 43 41.4	-0.7
LBL	Lubilhac	20.55	303	eP	P	22 43 42.9	+0.6
WLF	Walferdange	20.61	317	eP	P	22 43 48.6	+5.6
SMF	Signal de Mont	20.63	307	eP	P	22 43 42.6	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,90nm,0.9s						
SMF	**Signal de Mont**	**20.63**	**307**	*e*P	**P**	**22 43 42.6**	**-0.5**
SMF				pmax	pmax		
	comp=Z,45nm,0.9s						
SMF	**Signal de Mont**	**20.63**	**307**	*e*P	**P**	**22 43 42.6**	**-0.5**
	comp=Z,45nm,0.9s						
MEZF	**Maizieres J'vi**	**20.66**	**313**	*e*P	**P**	**22 43 43.3**	**-0.2**
	comp=Z,62nm,0.6s						
MEZF	**Maizieres J'vi**	**20.66**	**313**	*e*P	**P**	**22 43 43.3**	**-0.2**
	comp=Z,31nm,0.6s						
BSD	**Bornholm Skovb**	**20.79**	**339**	*i* P	**P**	**22 43 43.1**	**-1.8**
	comp=Z,7.2nm,0.4s						
BSD	**Bornholm Skovb**	**20.79**	**339**	*e*P	**P**	**22 43 43.1**	**-1.8**
BSD				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BSD	**Bornholm Skovb**	**20.79**	**339**	*e*P	**P**	**22 43 43.1**	**-1.8**
	comp=Z,7.0nm,0.4s						
VALF	**Valcebollere**	**20.79**	**295**	*e*P	**P**	**22 43 44.6**	**-0.3**
MTLF	**Montolieu**	**20.81**	**298**	*e*P	**P**	**22 43 44.5**	**-0.6**
	comp=Z,67nm,0.6s						
MTLF	**Montolieu**	**20.81**	**298**	*e*P	**P**	**22 43 44.5**	**-0.6**
MTLF				pmax	pmax		
	comp=Z,33nm,0.6s						
MTLF	**Montolieu**	**20.81**	**298**	*e*P	**P**	**22 43 44.5**	**-0.6**
	comp=Z,33nm,0.6s						
LOR	**Lormes**	**20.85**	**309**	*e*P	**P**	**22 43 44.9**	**-0.7**
	comp=Z,36nm,0.7s						
LOR	**Lormes**	**20.85**	**309**	*e*P	**P**	**22 43 44.9**	**-0.7**
LOR				pmax	pmax		
	comp=Z,18nm,0.7s						
LOR	**Lormes**	**20.85**	**309**	*e*P	**P**	**22 43 44.9**	**-0.7**
	comp=Z,18nm,0.7s						
PYM	**Petit Puy Mans**	**20.87**	**305**	*e*P	**P**	**22 43 45.9**	**+0.2**
AGO	**Saint Agoulin**	**20.88**	**305**	*e*P	**P**	**22 43 46.1**	**+0.2**
AVF	**Avril sur Loir**	**20.99**	**308**	*e*P	**P**	**22 43 46.1**	**-1.0**
	comp=Z,54nm,0.8s						
AVF	**Avril sur Loir**	**20.99**	**308**	*e*P	**P**	**22 43 46.1**	**-1.0**
AVF				pmax	pmax		
	comp=Z,27nm,0.8s						
AVF	**Avril sur Loir**	**20.99**	**308**	*e*P	**P**	**22 43 46.1**	**-1.0**
	comp=Z,27nm,0.8s						
EIBI	**Ibiza**	**21.08**	**285**	P	**P**	**22 43 48.4**	**+0.4**
	comp=Z,16nm,0.9s,mb4.4						
EIBI	**Ibiza**	**21.08**	**285**	P	**P**	**22 43 48.4**	**+0.4**
	comp=Z,16nm,0.9s,mb4.4						
MEM	**Membach**	**21.21**	**319**	P	**P**	**22 43 50.0**	**+0.6**
BGF	**Bois d'Agland**	**21.24**	**307**	*e*P	**P**	**22 43 49.2**	**-0.5**
	comp=Z,54nm,0.6s,mb4.7						
BGF	**Bois d'Agland**	**21.24**	**307**	*e*P	**P**	**22 43 49.2**	**-0.5**
BGF				pmax	pmax		
	comp=Z,27nm,0.6s,mb4.8						
BGF	**Bois d'Agland**	**21.24**	**307**	*e*P	**P**	**22 43 49.2**	**-0.5**
	comp=Z,27nm,0.6s,mb4.8						
CAF	**Calviac**	**21.27**	**302**	*e*P	**P**	**22 43 50.2**	**+0.1**
	comp=Z,51nm,0.9s,mb4.5						
CAF	**Calviac**	**21.27**	**302**	*e*P	**P**	**22 43 50.2**	**+0.1**
CAF				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.5						
CAF	**Calviac**	**21.27**	**302**	*e*P	**P**	**22 43 50.2**	**+0.1**
	comp=Z,25nm,0.9s,mb4.5						
EPOB	**Poblet**	**21.37**	**292**	P	**P**	**22 43 50.7**	**-0.4**
	comp=Z,8.5nm,0.5s,mb4.3						
BSEG	**Bad Segeberg**	**21.41**	**331**	*e*P	**P**	**22 43 51.6**	**0.0**
SALF	**Salau**	**21.45**	**296**	*e*P	**P**	**22 43 52.0**	**0.0**
BCLA	**Clavier**	**21.48**	**318**	P	**P**	**22 43 52.4**	**+0.2**
MLS	**Moulis**	**21.55**	**296**	*e*P	**P**	**22 43 52.4**	**-0.6**
TCF	**Toulx Ste Croi**	**21.57**	**305**	*e*P	**P**	**22 43 52.4**	**-0.8**
	comp=Z,23nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**21.57**	**305**	*e*P	**P**	**22 43 52.4**	**-0.8**
TCF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**21.57**	**305**	*e*P	**P**	**22 43 52.4**	**-0.8**
	comp=Z,12nm,0.7s,mb4.3						
GIVF	**Givet**	**21.57**	**317**	*e*P	**P**	**22 43 51.8**	**-1.5**
HYF	**Humbligny**	**21.62**	**308**	*e*P	**P**	**22 43 54.6**	**+0.8**
DOU	**Dourbes**	**21.70**	**317**	P	**P**	**22 43 53.8**	**-0.8**
RJF	**Les Rejaudoux**	**21.75**	**303**	*e*P	**P**	**22 43 54.8**	**-0.3**
	comp=Z,26nm,0.6s,mb4.4						
RJF	**Les Rejaudoux**	**21.75**	**303**	*e*P	**P**	**22 43 54.8**	**-0.3**
RJF				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.4						
RJF	**Les Rejaudoux**	**21.75**	**303**	*e*P	**P**	**22 43 54.8**	**-0.3**
	comp=Z,13nm,0.6s,mb4.4						
BAIF	**Baives**	**21.89**	**316**	*e*P	**P**	**22 43 55.1**	**-1.6**
	comp=Z,22nm,0.6s,mb4.4						
BAIF	**Baives**	**21.89**	**316**	*e*P	**P**	**22 43 55.1**	**-1.6**
BAIF				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.4						
BAIF	**Baives**	**21.89**	**316**	*e*P	**P**	**22 43 55.1**	**-1.6**
	comp=Z,11nm,0.6s,mb4.4						
ERTA	**Horta de San J**	**21.90**	**291**	P	**P**	**22 43 56.7**	**-0.1**
	comp=Z,14nm,0.5s,mb4.5						
RESF	**Ens**	**22.08**	**296**	*e*P	**P**	**22 43 58.3**	**-0.3**
EPF	**Esparros**	**22.11**	**296**	*e*P	**P**	**22 43 57.3**	**-1.6**
	comp=Z,18nm,0.7s,mb4.2						
EPF	**Esparros**	**22.11**	**296**	*e*P	**P**	**22 43 57.3**	**-1.6**
EPF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.2						
EPF	**Esparros**	**22.11**	**296**	*e*P	**P**	**22 43 57.3**	**-1.6**
	comp=Z,9.1nm,0.7s,mb4.2						
LFF	**La Frestale**	**22.19**	**301**	*e*P	**P**	**22 43 59.3**	**-0.5**
	comp=Z,27nm,0.7s,mb4.4						
LFF	**La Frestale**	**22.19**	**301**	*e*P	**P**	**22 43 59.3**	**-0.5**
LFF				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.4						
LFF	**La Frestale**	**22.19**	**301**	*e*P	**P**	**22 43 59.3**	**-0.5**
	comp=Z,14nm,0.7s,mb4.4						
EBIE	**Bielsa**	**22.20**	**295**	P	**P**	**22 43 60.0**	**0.0**
	comp=Z,15nm,0.7s,mb4.4						
LABF	**Labassere**	**22.30**	**296**	*e*P	**P**	**22 44 00.9**	**-0.1**
VIEF	**Viey**	**22.32**	**296**	*e*P	**P**	**22 44 00.6**	**-0.6**
EMOS	**Mosqueruela**	**22.49**	**289**	P	**P**	**22 44 03.6**	**+0.7**
	comp=Z,5.0nm,0.7s,mb4.0						
ETSF	**Etsaut**	**22.74**	**296**	*e*P	**P**	**22 44 05.0**	**-0.6**
	comp=Z,14nm,0.5s,mb4.2						
ETSF	**Etsaut**	**22.74**	**296**	*e*P	**P**	**22 44 05.0**	**-0.6**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
ETSF	**Etsaut**	**22.74**	**296**	*e*P	**P**	**22 44 05.0**	**-0.6**
	comp=Z,7.3nm,0.5s,mb4.3						
ECHE	**Chera**	**22.86**	**287**	P	**P**	**22 44 07.2**	**+0.3**
ECHE				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
ECHE	**Chera**	**22.86**	**287**	P	**P**	**22 44 07.2**	**+0.2**
	comp=Z,5.1nm,0.5s,mb4.1						
LARF	**Larrau**	**23.07**	**296**	*e*P	**P**	**22 44 09.4**	**+0.5**
MFF	**Saint Martin d**	**23.21**	**305**	*e*P	**P**	**22 44 09.5**	**-0.7**
	comp=Z,47nm,0.5s,mb4.7						
MFF	**Saint Martin d**	**23.21**	**305**	*e*P	**P**	**22 44 09.5**	**-0.7**
MFF				pmax	pmax		
	comp=Z,23nm,0.5s,mb4.8						
MFF	**Saint Martin d**	**23.21**	**305**	*e*P	**P**	**22 44 09.5**	**-0.7**
	comp=Z,24nm,0.5s,mb4.8						
SJPF	**Ste Jean**	**23.25**	**296**	*e*P	**P**	**22 44 11.1**	**+0.5**
	comp=Z,36nm,0.7s,mb4.5						
SJPF	**Ste Jean**	**23.25**	**296**	*e*P	**P**	**22 44 11.1**	**+0.5**
SJPF				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.5						
SJPF	**Ste Jean**	**23.25**	**296**	*e*P	**P**	**22 44 11.1**	**+0.5**
	comp=Z,18nm,0.7s,mb4.5						
ETOB	**Tobarra**	**23.35**	**285**	P	**P**	**22 44 13.2**	**+1.7**
EALK	**Alkurruntz**	**23.47**	**296**	P	**P**	**22 44 13.1**	**+0.6**
	comp=Z,21nm,1.0s,mb4.4						
ELIZ	**Elizondo**	**23.48**	**296**	P	**P**	**22 44 12.8**	**+0.2**
ELIZ				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.4						
ELIZ	**Elizondo**	**23.48**	**296**	P	**P**	**22 44 12.8**	**+0.2**
	comp=Z,12nm,0.7s,mb4.3						
LDF	**La Druitiere**	**23.83**	**310**	*e*P	**P**	**22 44 14.9**	**-0.9**
	comp=Z,101nm,0.6s,mb5.0						
LDF	**La Druitiere**	**23.83**	**310**	*e*P	**P**	**22 44 14.9**	**-0.9**
LDF				pmax	pmax		
	comp=Z,51nm,0.6s,mb5.0						
LDF	**La Druitiere**	**23.83**	**310**	*e*P	**P**	**22 44 14.9**	**-0.9**
	comp=Z,51nm,0.6s,mb5.0						
EVIA	**Vianos**	**24.10**	**285**	P	**P**	**22 44 18.5**	**+0.2**
EVIA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
EVIA	**Vianos**	**24.10**	**285**	P	**P**	**22 44 18.5**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.1						
FLN	**La Foliniere**	**24.11**	**310**	*e*P	**P**	**22 44 17.4**	**-1.0**
	comp=Z,128nm,0.6s,mb5.2						
FLN	**La Foliniere**	**24.11**	**310**	*e*P	**P**	**22 44 17.4**	**-1.0**
FLN				pmax	pmax		
	comp=Z,64nm,0.6s,mb5.1						
FLN	**La Foliniere**	**24.11**	**310**	*e*P	**P**	**22 44 17.4**	**-1.0**
	comp=Z,64nm,0.6s,mb5.1						
GRR	**Gorron**	**24.22**	**309**	*e*P	**P**	**22 44 18.4**	**-1.0**
	comp=Z,174nm,0.7s,mb5.2						
GRR	**Gorron**	**24.22**	**309**	*e*P	**P**	**22 44 18.4**	**-1.0**
GRR				pmax	pmax		
	comp=Z,87nm,0.7s,mb5.2						
GRR	**Gorron**	**24.22**	**309**	*e*P	**P**	**22 44 18.4**	**-1.0**
	comp=Z,87nm,0.7s,mb5.2						
EBER	**Berja**	**24.58**	**281**	P	**P**	**22 44 23.9**	**+1.3**
	comp=Z,17nm,0.8s,mb4.5						
EQES	**Quesada**	**24.62**	**283**	P	**P**	**22 44 23.6**	**+0.7**
	comp=Z,23nm,0.8s,mb4.7						
ELAN	**Lanestosa**	**24.87**	**296**	P	**P**	**22 44 25.9**	**+0.6**
	comp=Z,41nm,0.8s,mb4.9						
ESDC	**Sonseca Array**	**25.18**	**287**	P	**P**	**22 44 28.8**	**+0.8**
	comp=Z,6.5nm,0.6s,mb4.2,baz=84,slow=9.6,SNR=58						
ESLA	**Sonseca Array**	**25.18**	**287**	*e*P	**P**	**22 44 28.9**	**+0.9**
FINES	**FINESS Array B**	**25.19**	**358**	P	**P**	**22 44 27.2**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.1,baz=158,slow=12,SNR=17						
FINES				PcP	PcP	22 48 00.2	+0.4
	comp=Z,2.2nm,0.7s,baz=136,slow=0.6,SNR=5.9						
GUD	**Guadarrama**	**25.30**	**290**	P	**P**	**22 44 29.2**	**+0.1**
GUD				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
GUD	**Guadarrama**	**25.30**	**290**	P	**P**	**22 44 29.2**	**0.0**
	comp=Z,6.6nm,0.5s,mb4.3						
HFS	**Hagfors**	**25.52**	**344**	P	**P**	**22 44 30.5**	**-0.6**
	comp=Z,19nm,0.8s,mb4.6,baz=153,slow=9.5,SNR=41						
HFS				LR	LR	22 54 56.0	
	comp=Z,35nm,19.0s,baz=68,slow=37						
QUIF	**Quistinic**	**25.55**	**307**	*e*P	**P**	**22 44 30.3**	**-1.2**
	comp=Z,30nm,0.6s,mb4.6						
QUIF	**Quistinic**	**25.55**	**307**	*e*P	**P**	**22 44 30.3**	**-1.2**
QUIF				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
QUIF	**Quistinic**	**25.55**	**307**	*e*P	**P**	**22 44 30.3**	**-1.2**
	comp=Z,15nm,0.6s,mb4.6						
ROSF	**Rostrenen**	**25.74**	**308**	*e*P	**P**	**22 44 31.9**	**-1.2**
	comp=Z,48nm,0.7s,mb4.7						
ROSF	**Rostrenen**	**25.74**	**308**	*e*P	**P**	**22 44 31.9**	**-1.2**
ROSF				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.7						
ROSF	**Rostrenen**	**25.74**	**308**	*e*P	**P**	**22 44 31.9**	**-1.2**
	comp=Z,24nm,0.7s,mb4.7						
EADA	**Adamuz**	**25.76**	**284**	P	**P**	**22 44 34.0**	**+0.6**
	comp=Z,2.4nm,0.6s,mb3.8						
KAF	**Kangasniemi**	**25.86**	**358**	*e*p	**P**	**22 44 33.3**	**-0.9**
	baz=176,slow=9.8						
AKTK	**Aktyubinsk**	**25.91**	**47**	P	**P**	**22 44 34.7**	**0.0**
AKTO	**Aktyubinsk**	**25.91**	**47**	P	**P**	**22 44 34.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.5,baz=261,slow=7.3,SNR=6.4						
EMIJ	**Mijas**	**26.13**	**280**	P	**P**	**22 44 36.6**	**0.0**
	comp=Z,8.3nm,0.6s,mb4.3						
KONO	**Kongsberg**	**26.17**	**339**	P	**P**	**22 44 37.4**	**+0.4**
KONO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
KONO	**Kongsberg**	**26.17**	**339**	P	**P**	**22 44 37.4**	**+0.4**
	comp=Z,14nm,1.0s,mb4.4						
EARI	**Arriondas**	**26.17**	**296**	P	**P**	**22 44 37.6**	**+0.5**
	comp=Z,71nm,1.2s,mb5.0						
EJIF	**Jimena Fronter**	**26.70**	**280**	P	**P**	**22 44 40.2**	**-1.6**
EJIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
EJIF	**Jimena Fronter**	**26.70**	**280**	P	**P**	**22 44 40.2**	**-1.6**
	comp=Z,2.9nm,0.6s,mb4.0						
JOF	**Joensuu**	**26.74**	**4**	*e*p	**P**	**22 44 40.8**	**-1.3**
NAO01	**NORSAR Array S**	**26.82**	**342**	*e*P	**P**	**22 44 42.5**	**-0.4**
	comp=Z,15nm,0.8s,mb4.6						
MDT	**Midelt**	**26.84**	**272**	P	**P**	**22 44 43.1**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.5,baz=70,slow=12,SNR=4.5						
NB2	**NORSAR Subarra**	**26.91**	**342**	P	**P**	**22 44 42.4**	**-1.3**
	comp=Z,3.4nm,0.6s,mb4.0,baz=151,slow=9.3						
NOA	**NORSAR Array B**	**26.91**	**342**	P	**P**	**22 44 42.5**	**-1.2**
	comp=Z,6.6nm,0.8s,mb4.2,baz=146,slow=8.6,SNR=4.1						
NOA				LR	LR	22 56 14.9	
	comp=Z,9.4nm,18.9s,baz=180,slow=38						
ESPR	**Espera**	**26.94**	**281**	P	**P**	**22 44 44.1**	**+0.2**
	comp=Z,9.5nm,0.6s,mb4.5						
ECAL	**Calabor**	**27.24**	**293**	P	**P**	**22 44 46.0**	**-0.7**
	comp=Z,3.1nm,0.5s,mb4.1						
PBRG	**Braganca**	**27.25**	**292**	*e*P	**P**	**22 44 46.8**	**+0.1**
	comp=Z,21nm,1.5s,mb4.4						
EMIN	**Mina Concepcio**	**27.45**	**283**	P	**P**	**22 44 48.9**	**+0.3**
	comp=Z,9.4nm,0.7s,mb4.4						
EPON	**Pontenova**	**27.59**	**296**	P	**P**	**22 44 49.6**	**-0.2**
	comp=Z,17nm,0.7s,mb4.7						
EBAD	**Badajoz**	**27.61**	**286**	P	**P**	**22 44 50.4**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.1						
MTE	**Manteigas**	**27.89**	**289**	*e*P	**P**	**22 44 50.5**	**-1.9**
	comp=Z,8.5nm,1.2s,mb4.2						
PESTR	**Estremoz**	**28.04**	**286**	*e*P	**P**	**22 44 54.3**	**+0.5**
	comp=Z,9.8nm,1.3s,mb4.2						
PCAB	**Cabril**	**28.21**	**292**	*e*P	**P**	**22 44 55.9**	**+0.6**
	comp=Z,27nm,1.6s,mb4.5						
PBEJ	**Beja**	**28.36**	**284**	*e*P	**P**	**22 44 56.3**	**-0.3**
	comp=Z,15nm,1.5s,mb4.3						
EKA	**Eskdalemuir Ar**	**28.40**	**322**	P	**P**	**22 44 57.6**	**+0.6**
	comp=Z,3.0nm,0.6s,mb4.0,baz=117,slow=9.5,SNR=14						
EKA				PcP	PcP	22 48 08.0	+0.6
	comp=Z,0.2nm,0.4s,baz=128,slow=2.0,SNR=6.6						
EKA				ScP	ScP	22 51 41.5	+0.7
	comp=Z,0.6nm,0.5s,baz=124,slow=5.2,SNR=4.5						
EKA	**Eskdalemuir Ar**	**28.40**	**322**	P	**P**	**22 44 57.7**	**+0.7**
EKA						22 48 08.0	
EVO	**Evora**	**28.41**	**285**	*e*P	**P**	**22 44 58.4**	**+1.3**
	comp=Z,6.6nm,0.8s,mb3.9						
ESK	**Eskdalemuir**	**28.42**	**322**	*e*P	**P**	**22 44 56.4**	**-0.7**
ESK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
ESK	**Eskdalemuir**	**28.42**	**322**	*e*P	**P**	**22 44 56.4**	**-0.7**
	comp=Z,4.0nm,0.5s,mb4.2						
ARU	**Arti**	**28.88**	**36**⇓	*i*P	**P**	**22 45 08.0**	**+6.7**
ARU				*e*		22 46 01.2	
ARU				*e*S	**S**	**22 49 56.0**	**+11**
ARU				*e*SS	SS	22 51 23.3	-27
ARU				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
EMAZ	**Mazaricos**	**28.91**	**295**	P	**P**	**22 45 01.4**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**32.86**	**232**	P	**P**	**22 45 37.9**	**+1.6**
	comp=Z,2.4nm,0.3s,mb4.4,baz=32,slow=8.8,SNR=97						
ARCES	**ARCESS Array B**	**33.32**	**359**	P	**P**	**22 45 39.2**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.4,baz=176,slow=8.6,SNR=33						
ARCES				LR	LR	22 59 31.1	
	comp=Z,26nm,18.8s,baz=27,slow=37						
ARCES	**ARCESS Array B**	**33.32**	**359**	P	**P**	**22 45 39.2**	**-1.1**
ARE0	**ARCESS Array S**	**33.32**	**359**	*e*P	**P**	**22 45 39.6**	**-0.6**
ARE0	**ARCESS Array S**	**33.32**	**359**	*e*P	**P**	**22 45 39.6**	**-0.7**
KEV	**Kevo**	**33.52**	**360**	*e*p	**P**	**22 45 41.7**	**-0.3**
MKAR	**Makanchi Array**	**41.37**	**58**	P	**P**	**22 46 49.6**	**+1.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=278,slow=7.6,SNR=7.5						
MKAR				ScP	ScP	22 52 28.4	+1.2
	comp=Z,0.5nm,0.6s,baz=270,slow=4.1,SNR=4.3						
MKAR	**Makanchi Array**	**41.37**	**58**	*i* P	**P**	**22 46 49.5**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.37**	**58**	P	**P**	**22 46 49.6**	**+1.3**
MKAR				ScP	ScP	22 52 28.4	+1.2
NVS	**Novosibirsk**	**41.78**	**46**	*e*P	**P**	**22 46 47.1**	**-4.5**
DBIC	**Dimbokro**	**41.95**	**233**	P	**P**	**22 46 54.0**	**+1.0**
	comp=Z,1.5nm,0.4s,mb4.1,baz=243,slow=17,SNR=9.6						
LIC	**Lamto**	**42.39**	**233**	*e*P	**P**	**22 46 57.8**	**+1.2**
	comp=Z,31nm,1.2s,mb4.6						
LIC	**Lamto**	**42.39**	**233**	*e*P	**P**	**22 46 57.8**	**+1.2**
	comp=Z,15nm,1.2s,mb4.6						
ZAL	**Zalesovo**	**42.66**	**47**	P	**P**	**22 47 00.2**	**+1.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=346,slow=5.0,SNR=4.0						
LSZ	**Lusaka**	**51.29**	**179**	P	**P**	**22 48 08.8**	**+2.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=17,slow=15,SNR=3.3						
SONM	**Songino Array**	**57.11**	**52**	P	**P**	**22 48 50.3**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=292,slow=7.4,SNR=4.7						
SCHQ	**Schefferville**	**63.70**	**320**	P	**P**	**22 49 31.9**	**-1.2**
	comp=Z,5.3nm,0.5s,mb4.6,baz=46,slow=4.7,SNR=14						
BOSA	**Boshof**	**64.61**	**182**	P	**P**	**22 49 41.6**	**+2.5**
	comp=Z,1.4nm,0.5s,mb4.0,baz=19,slow=2.8,SNR=5.9						
INK	**Inuvik**	**74.77**	**353**	P	**P**	**22 50 40.6**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.0,baz=69,slow=2.9,SNR=4.8						
PARMO	**Parma**	**87.12**	**314**	*e*P	**P**	**22 51 48.2**	**+1.2**
PDAR	**Pinedale Array**	**92.22**	**330**	P	**P**	**22 52 09.8**	**-1.1**
	comp=Z,0.4nm,0.7s,mb3.8,baz=50,slow=4.6,SNR=4.7						

*NEIC **08** 22:39:56.5, 3539S×7144W, h101^{km}, MD3.7(GUC), After GUC.*

GUC 08 22:39:56.5±0.6**, 3539S**×**7144W, h101**^{km}±3^{km}**, MD3.7, ML3.8, 8C-6D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.16**	**266**⇑	*i*P	Pn	22 40 10.4	-0.3
TALC				*i* S	Sn	22 40 21.5	+0.3
TALC				AML	AML	22 40 22.1	
	comp=N,14μm,0.1s						
TALC	**Talca**	**0.16**	**266**⇑	*i*P	Pn	22 40 10.4	-0.3
TALC				*i* S	Sn	22 40 21.5	+0.3
SFDO	**San Fernando**	**0.84**	**24**	*i* P	Pn	22 40 15.9	+0.5
SFDO				*i* S	Sn	22 40 30.4	+0.9
CCHI	**Chillan**	**1.32**	**203**⇑	*i*P	Pn	22 40 20.8	+0.2
CCHI				*i* S	Sn	22 40 39.1	+0.3
CCHI				AML	AML	22 40 40.2	
	comp=E,1μm,0.2s						
CCHI	**Chillan**	**1.32**	**203**⇑	*i*P	Pn	22 40 20.8	+0.2
CCHI				*i* S	Sn	22 40 39.1	+0.3
CICH	**Cipreses**	**1.35**	**38**	*i* P	Pn	22 40 21.5	+0.5
CICH				*i* S	Sn	22 40 40.6	+1.1
CACH	**El Canelo**	**1.44**	**29**⇑	*i*P	Pn	22 40 22.6	+0.5
CACH				*i* S	Sn	22 40 42.2	+0.8
CHCH	**Chadas Angostu**	**1.59**	**24**⇓	*i*P	Pn	22 40 24.2	+0.4
CHCH				*i* S	Sn	22 40 45.2	+0.6
TACH	**Talagante**	**1.78**	**13**⇓	*i*P	Pn	22 40 26.7	+0.5
TACH				*i* S	Sn	22 40 49.7	+0.9
LMEL	**Las Melosas**	**1.84**	**34**⇑	*i*P	Pn	22 40 28.0	+0.9
LMEL				*i* S	Sn	22 40 51.7	+1.4
LMEL				AML	AML	22 40 55.2	
	comp=N,943nm,0.1s						
LMEL	**Las Melosas**	**1.84**	**34**⇑	*i*P	Pn	22 40 28.0	+0.9
LMEL				*i* S	Sn	22 40 51.7	+1.4
LCCH	**Las Cruces**	**1.91**	**357**	*i* P	Pn	22 40 28.5	+0.6
LCCH				*i* S	Sn	22 40 52.5	+0.6
ANTU	**Antumapu**	**1.93**	**20**⇑	*i*P	Pn	22 40 28.7	+0.5
ANTU				*i* S	Sn	22 40 53.1	+0.7
RCDM	**Rinconada Maip**	**1.96**	**16**⇓	*i*P	Pn	22 40 29.0	+0.4
RCDM				*i* S	Sn	22 40 53.2	+0.1
FCH	**Farellones**	**2.26**	**25**	AML	AML	22 41 05.1	
	comp=E,371nm,0.3s						
PEL	**Peldehue**	**2.32**	**16**⇓	*i*P	Pn	22 40 34.0	+0.7
PEL				*i* S	Sn	22 41 01.8	+0.4
PEL				AML	AML	22 41 04.8	
	comp=N,640nm,0.3s						
PEL	**Peldehue**	**2.32**	**16**⇓	*i*P	Pn	22 40 34.0	+0.7
PEL				*i* S	Sn	22 41 01.8	+0.4
ROCH	**El Roble**	**2.44**	**8**	*i* P	Pn	22 40 35.6	+0.8
ROCH				*e*P		22 41 03.4	
JACH	**Jahuel**	**2.79**	**15**⇓	*i*P	Pn	22 40 39.6	+0.2
JACH				*i* S	Sn	22 41 13.2	+0.8

*ISCJB **08** 22:49:56.5±1.7, 5139N±006×17641E±005, h0^{km}±10^{km}, mb4.6/80, MS3.5/6, Error ellipse: s-maj=10.3km s-min=5.4km az=179.9*

*IDC **08** 22:49:57.7±0.7, 5143N×17652E, h0^{km}, mb4.3/23, mb1 4.5/24, mb1mx4.4/30, mbtmp4.4/24, ML5.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=21.0km s-min=13.6km az=158.0*

*BJI **08** 22:49:58.4, 5139N×17577E, h5^{km}, mB4.7, mb4.7, Ms4.4, Msz4.0*

*MOS **08** 22:50:01.8±1.0, 5145N×17648E, h33^{km}, mb4.7/44, Error ellipse: s-maj=12.6km s-min=5.6km az=97.7*

*NEIC **08** 22:50:01.6±2.1, 5141N×17646E, h23^{km}±14^{km}, mb4.6/43, ML4.2(AEIC), Error ellipse: s-maj=8.3km s-min=5.5km az=186.0*

ISC 08 22:49:59.6±1.9**, 5146N**±006×**17643E**±005**, h10**^{km}±11^{km}**, h17**^{km}±2.6^{km}**: pP-P, n209,** σ**0.88**/208**, mb4.5**/80**, MS3.5**/6**, 19C-18D, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.80**	**91**	P	**Pn**	**22 50 30.4**	**-0.2**
AMKA				S	**Sn**	**22 50 54.7**	**+1.2**
SMY	**Shemya**	**1.92**	**312**	P	**Pn**	**22 50 32.8**	**+0.6**
SMY				S	**Sn**	**22 50 59.6**	**+3.2**
ATKA	**Atka Island**	**5.86**	**79**	P	**Pn**	**22 51 29.7**	**+3.2**
TNA	**Tin City**	**16.25**	**24**	Pn	**Pn**	**22 53 53.1**	**+5.2**
	15nm,1.0s						
BILL	**Bilibino**	**17.36**	**347**	*e*P	**Pn**	**22 54 01.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TTA	**Tatalina**	**18.66**	**41**	*e*P	**Pn**	**22 54 18.3**	**+0.4**
TTA				pmax	pmax		
	comp=Z,64nm,1.4s						
TTA	**Tatalina**	**18.66**	**41**	*e*P	**Pn**	**22 54 18.3**	**+0.5**
	comp=Z,64nm,1.4s						
KDAK	**Kodiak Island**	**18.91**	**58**	P	**Pn**	**22 54 18.9**	**-2.0**
	comp=Z,5.8nm,0.3s,baz=267,slow=3.9,SNR=30						
SLKM	**Skilak Lake**	**20.53**	**51**	*e*P	**P**	**22 54 37.7**	**-0.2**
IMA2	**Indian Mountai**	**21.01**	**35**	*e*P	**P**	**22 54 43.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**22.33**	**272**	*e*P	**P**	**22 54 58.9**	**+1.6**
YSS				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.1						
COLA	**College**	**22.73**	**40**	*e*P	**P**	**22 54 59.8**	**-1.8**
ASAJ	**Asahikawa**	**23.72**	**265**	P	**P**	**22 55 12.8**	**+1.1**
	comp=Z,11nm,0.6s,mb4.5,baz=71,slow=7.4,SNR=10						
ASAJ	**Asahikawa**	**23.72**	**265**	P	**P**	**22 55 12.9**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.6s						
EGAK	**Eagle**	**25.47**	**42**	*e*P	**P**	**22 55 26.2**	**-1.5**
DAWY	**Dawson**	**26.11**	**44**	*e*P	**P**	**22 55 33.0**	**-0.6**
YAK	**Yakutsk**	**27.11**	**311**⇑	*e*P	**P**	**22 55 41.9**	**-0.7**
YAK				pmax	pmax		
	comp=Z,37nm,1.0s,mb4.9						
YAK	**Yakutsk**	**27.11**	**311**	*e*P	**P**	**22 55 42.4**	**-0.2**
	comp=Z,40nm,0.8s,mb5.0						
INK	**Inuvik**	**29.13**	**36**	P	**P**	**22 56 00.3**	**-0.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=205,slow=2.6,SNR=7.6						
INK	**Inuvik**	**29.13**	**36**	*e*P	**P**	**22 56 00.4**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**29.13**	**36**	*e*P	**P**	**22 56 00.4**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**30.87**	**256**	P	**P**	**22 56 16.6**	**+0.7**
	comp=Z,0.3nm,0.3s,mb3.6,baz=77,slow=39,SNR=4.4						
MDJ	**Mudanjiang**	**31.60**	**276**	P	**P**	**22 56 21.0**	**-1.4**
MDJ				S	**S**	**23 01 30.2**	**-1.0**
MDJ				SCP	ScP	23 02 56.6	-1.2
MDJ				PCS	PcS	23 02 57.9	-1.2
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,41nm,5.3s						
MDJ				LR	LR		
	comp=Z,28nm,17.3s,MS3.0						
CN2	**Changchun**	**34.59**	**278**	*e*P	**P**	**22 56 49.5**	**+1.0**
BOD	**Bodaibo**	**35.51**	**305**⇑	*i*P	**P**	**22 56 55.9**	**-0.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
YKA	**Yellowknife Ar**	**37.33**	**46**	P	**P**	**22 57 11.2**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.1,baz=283,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**37.33**	**46**	*i* P	**P**	**22 57 11.1**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**37.33**	**46**	P	**P**	**22 57 11.2**	**-0.8**
YBH	**Yreka Blue Hor**	**41.81**	**79**	P	**P**	**22 57 49.9**	**+0.5**
	comp=Z,2.4nm,0.8s,mb3.9,baz=227,slow=1.3,SNR=6.9						
ULN	**Ulaanbaatar**	**43.52**	**294**⇑	*e*P	**P**	**22 58 03.1**	**-0.1**
WVOR	**Wild Horse Val**	**43.89**	**75**	*e*P	**P**	**22 58 04.9**	**-1.3**
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
WVOR	**Wild Horse Val**	**43.89**	**75**	*e*P	**P**	**22 58 04.9**	**-1.3**
	comp=Z,2.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**43.91**	**294**	P	**P**	**22 58 07.4**	**+1.0**
	comp=Z,2.8nm,0.5s,mb4.2,baz=62,slow=7.8,SNR=14						
ZAK	**Zakamensk**	**44.32**	**299**	*e*P	**P**	**22 58 09.9**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.6						
HHC	**Hu-ho-hao-te**	**44.77**	**283**	*e*P	**P**	**22 58 13.1**	**-0.2**
HHC				AP	pP	22 58 17.6	+1.1
HHC				XP	sP	22 58 20.1	+2.3
HHC				PCP	PcP	22 59 56.2	+0.9
HHC				PP	PP	22 59 58.4	+0.6
HHC				SCP	ScP	23 03 46.4	-1.2
HHC				PCS	PcS	23 03 48.1	-0.7
HHC				S	**S**	**23 04 48.2**	**-2.0**
HHC				SS	SS	23 08 00.2	-11
HHC				SCS	ScS	23 08 08.3	-2.7
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,96nm,4.4s						
HHC				LR	LR		

comp=N,95nm,5.3s
HHC LR LR
comp=E,81nm,4.8s
HHC LR LR
comp=Z,48nm,5.7s
SSE Sheshan 45.02 265 *e*P **P 22 58 13.6 -1.6**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,25nm,3.5s
PAHR Pah Rah Range 45.05 79 *e*P **P 22 58 15.8 +0.3**
comp=Z,5.9nm,1.0s,mb4.4
NJ2 Nanjing 45.82 268 *e*P **P 22 58 19.2 -2.4**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
BMN Battle Mountai 45.93 77 *e*P **P 22 58 22.8 +0.4**
BMN pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BMN Battle Mountai 45.93 77 *e*P **P 22 58 22.8 +0.3**
comp=Z,2.5nm,0.6s,mb4.3
RRI2 Red Ridge 47.73 70 *e*P **P 22 58 36.7 +0.2**
comp=Z,2.2nm,0.8s,mb4.2
PDAR Pinedale Array 49.11 69 P **P 22 58 45.8 -1.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=333,slow=3.0,SNR=12
MSU Marysvale 50.18 75 *e*P **P 22 58 56.0 +0.7**
ZAL Zalesovo 51.78 311 P **P 22 59 05.5 -1.8**
comp=Z,1.0nm,0.4s,mb4.1,baz=63,slow=7.4,SNR=3.7
ZAL LR LR 23 24 13.2
comp=Z,58nm,18.4s,MS3.6,baz=234,slow=40
ZAL Zalesovo 51.78 311 *i* P **P 22 59 06.9 -0.5**
ZAL pmax pmax
comp=Z,1.0nm,0.4s
NVS Novosibirsk 51.96 313 ⇓*i*P **P 22 59 07.9 -0.8**
PV10 Paradox Valley 52.16 74 *e*P **P 22 59 10.6 +0.4**
LZH Lanzhou 52.47 283 *e*P **P 22 59 12.4 -0.1**
LZH AP pP 22 59 17.0 +1.2
LZH XP sP 22 59 19.4 +2.4
LZH PP PP 23 01 12.4 +1.1
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.9
PV01 Paradox Valley 52.60 74 *e*P **P 22 59 13.9 +0.5**
ANMO Albuquerque 55.98 75 *e*P **P 22 59 37.9 -0.2**
CD2 Chengdu 56.02 278 *e*P **P 22 59 38.4 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.2s
WMQ Urumqi 56.75 300 *e*P **P 22 59 45.5 +1.9**
WMQ AP pP 22 59 50.0 +3.1
WMQ XP sP 22 59 53.0 +4.9
WMQ PCP PcP 23 00 41.0 +1.5
WMQ PP PP 23 01 53.0 +3.3
WMQ *e*S **S 23 07 36.0 -0.4**
WMQ AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
WMQ AMB AMB
comp=Z,114nm,4.3s
WMQ LR LR
comp=N,145nm,22.0s,MS4.1
WMQ LR LR
comp=E,98nm,19.8s,MS4.1
WMQ LR LR
comp=Z,122nm,20.2s,MS4.0
ARCES ARCESS Array B 57.45 348 P **P 22 59 47.6 -0.9**
comp=Z,4.5nm,0.8s,mb4.6,baz=31,slow=8.1,SNR=13
ARCES LR LR 23 25 33.0
comp=Z,39nm,20.8s,MS3.5,baz=348,slow=37
MKAR Makanchi Array 57.60 306 P **P 22 59 48.8 -0.8**
comp=Z,2.4nm,0.6s,mb4.4,baz=49,slow=6.6,SNR=20
MKAR Makanchi Array 57.60 306⇑*e*P **P 22 59 48.7 -0.9**
CHKZ Chkalovo 58.29 318 *e*P **P 22 59 54.0 -0.4**
CHKZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
CHKZ Chkalovo 58.29 318 *e*P **P 22 59 54.0 -0.4**
comp=Z,4.6nm,0.6s,mb4.7
BRVK Borovoye 58.87 317 *e*P **P 22 59 57.2 -1.3**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BRVK Borovoye 58.87 317 *e*P **P 22 59 57.2 -1.3**
comp=Z,6.1nm,0.7s,mb4.7
ZRNK Zerenda 59.48 318 *e*P **P 23 00 02.6 -0.1**
ZRNK pmax pmax
comp=Z,14nm,0.7s,mb5.1
ZRNK Zerenda 59.48 318 *e*P **P 23 00 02.6 -0.1**
comp=Z,14nm,0.7s,mb5.1
SVE Sverdlovsk 59.87 325 *e*P **P 23 00 04.0 -1.3**
SVE pmax pmax
comp=Z,20nm,1.4s,mb5.0
KMI Kunming 60.74 274 P **P 23 00 11.1 -0.3**
KMI AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
ARU Arti 60.91 326 ⇓*i*P **P 23 00 12.8 +0.3**
ARU *e* 23 00 54.9
ARU *e* 23 02 23.2
ARU *e*S **S 23 08 30.8 +0.4**
ARU *e*SS SS 23 12 30.2 +0.7
ARU pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARU Arti 60.91 326 *e*P **P 23 00 12.7 +0.2**
comp=Z,20nm,1.1s,mb5.2
SCHQ Schefferville 61.74 36 P **P 23 00 17.3 -0.8**
comp=Z,2.4nm,0.4s,mb4.7,baz=314,slow=8.1,SNR=10.0
HNR Honiara 62.30 198 LR LR 23 25 15.8
comp=Z,59nm,18.6s,MS3.8,baz=359,slow=34
JOF Joensuu 62.70 343 *e*p **P 23 00 22.8 -1.7**
comp=Z,7.2nm,0.5s,mb5.1
KAF Kangasniemi 64.31 345 *e*p **P 23 00 33.7 -1.5**
comp=Z,2.3nm,0.5s,mb4.5,baz=17,slow=5.8
KAF Kangasniemi 64.31 345 *e*P **P 23 00 33.7 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AAK Ala-Archa 64.47 307⇑*e*P **P 23 00 35.6 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
FINES FINESS Array B 64.98 345 P **P 23 00 38.1 -1.5**
comp=Z,2.0nm,0.5s,mb4.4,baz=5.5,slow=5.9,SNR=16
FINES FINESS Array B 64.98 345 *i* P **P 23 00 37.0 -2.6**
FINES pmax pmax
comp=Z,2.0nm,0.5s
PMG Port Moresby 65.68 212 P **P 23 00 44.6 +0.5**
PMG pmax pmax
comp=Z,18nm,1.1s
PMG Port Moresby 65.68 212 P **P 23 00 44.6 +0.5**
comp=Z,18nm,1.1s,mb5.0
AKTK Aktyubinsk 65.83 322 P **P 23 00 45.5 +0.4**
AKTO Aktyubinsk 65.83 322 P **P 23 00 45.5 +0.4**
comp=Z,12nm,0.7s,mb5.1,baz=50,slow=7.0,SNR=34
NB2 NORSAR Subarra 67.23 352 P **P 23 00 53.3 -0.7**
comp=Z,7.7nm,0.9s,mb4.7,baz=9.2,slow=6.5
NOA NORSAR Array B 67.23 352 P **P 23 00 53.6 -0.3**
comp=Z,5.6nm,0.9s,mb4.6,baz=10,slow=6.4,SNR=10
NOA LR LR 23 31 56.9
comp=Z,19nm,19.1s,MS3.3,baz=25,slow=38
HFS Hagfors 67.89 351 P **P 23 00 57.1 -1.1**
comp=Z,4.0nm,0.6s,mb4.6,baz=318,slow=2.0,SNR=11
OBN Obninsk 68.67 337 *e*P **P 23 01 02.1 -1.0**
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
EKA Eskdalemuir Ar 73.58 360 P **P 23 01 32.7 -0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=6.5,slow=5.2,SNR=15
AKASG Malin Array Be 74.48 339 P **P 23 01 37.3 -0.8**
comp=Z,6.5nm,0.5s,mb4.8,baz=23,slow=6.1,SNR=18
AKASG Malin Array Be 74.48 339 *i* P **P 23 01 37.7 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
CLL Collm 76.65 349 *e*P **P 23 01 51.0 +0.5**
KWP Kalwaria 76.83 343 *e*P **P 23 01 52.5 +1.0**
KIV Kislovodsk 76.87 328 *e*P **P 23 01 52.3 +0.5**
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
UPC Upice 77.06 347 *e*P **P 23 01 52.7 -0.1**
DPC Dobruska-Polom 77.17 347 *e*P **P 23 01 52.5 -0.9**
STHS Stebnicka Huta 77.30 344 *e*P **P 23 01 55.1 +0.9**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 77.30 344 *e*P **P 23 01 55.1 +0.9**
comp=Z,5.4nm,0.8s,mb4.5
ZEI Tsey 77.50 326 *e*P **P 23 01 56.0 +0.7**
ZEI *e**PP pP 23 02 07.3 +8.6
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KOLS Kolonicke sedl 77.58 343 *e*P **P 23 01 56.5 +0.8**
CRVS Cervenica-Dubn 77.75 343 *e*P **P 23 01 57.5 +0.8**
PRU Pruhonice 77.76 348 *e*P **P 23 01 56.2 -0.6**
VRAC Vranov 78.14 347 ⇓*i*P **P 23 01 59.6 +0.7**
VRAC Vranov 78.14 347 ⇓P **P 23 01 59.6 +0.7**

BURAR Bucovina Array 78.26 341 ⇓*i*P **P 23 02 00.4 +0.9**
BURAR Bucovina Array 78.26 341 ⇓P **P 23 02 00.4 +0.8**
KECS Kecovo 78.33 344 *e*P **P 23 02 00.5 +0.6**
KECS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KECS Kecovo 78.33 344 *e*P **P 23 02 00.5 +0.6**
comp=Z,3.7nm,0.7s,mb4.4
VYHS Vyhne 78.59 345 *e*P **P 23 02 02.1 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 78.59 345 *e*P **P 23 02 02.1 +0.7**
comp=Z,2.7nm,1.1s,mb4.1
KHC Kasperske Hory 78.72 349 *e*P **P 23 02 01.7 -0.4**
KHC Kasperske Hory 78.72 349⇑*e*P **P 23 02 02.6 +0.5**
PSZ Piszkesteto 78.98 344 ⇓*i*P **P 23 02 05.7 +2.2**
PSZ Piszkesteto 78.98 344 ⇓P **P 23 02 05.7 +2.2**
GERES GERESS Array B 78.99 348 P **P 23 02 03.4 -0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=26,slow=6.2,SNR=10
ZST Bratislava 79.16 346 *e*P **P 23 02 05.7 +1.2**
ZST pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ZST Bratislava 79.16 346 *e*P **P 23 02 05.7 +1.2**
comp=Z,5.6nm,0.8s,mb4.5
CFR Carcaliu 79.92 338 ⇓*i*P **P 23 02 08.8 +0.2**
CFR Carcaliu 79.92 338 ⇓P **P 23 02 08.8 +0.2**
WRAB Tennant Creek 80.07 220 P **P 23 02 08.9 -0.5**
WRAB pmax pmax
comp=Z,19nm,1.1s,mb4.9
WRAB Tennant Creek 80.07 220 P **P 23 02 08.9 -0.6**
comp=Z,19nm,1.1s,mb4.9
CDF Champ du Feu 80.08 353 *e*P **P 23 02 09.1 -0.4**
WRA Warramunga Arr 80.08 220 P **P 23 02 08.7 -0.8**
comp=Z,0.7nm,0.4s,mb3.9,baz=30,slow=5.9,SNR=4.0
FLN La Foliniere 80.12 358 *e*P **P 23 02 09.1 -0.6**
MLR Muntele Rosu 80.12 339 P **P 23 02 11.4 +1.6**
comp=Z,4.9nm,0.5s,mb4.7,baz=167,slow=3.6,SNR=9.3
MLR Muntele Rosu 80.12 339 ⇓*i*P **P 23 02 11.4 +1.7**
MLR Muntele Rosu 80.12 339 ⇓P **P 23 02 11.4 +1.7**
MEZF Maizieres J'vi 80.14 354 *e*P **P 23 02 09.5 -0.3**
LDF La Druitiere 80.28 358 *e*P **P 23 02 09.8 -0.8**
GRR Gorron 80.50 358 *e*P **P 23 02 11.2 -0.6**
comp=Z,12nm,0.8s,mb4.6
GRR Gorron 80.50 358 *e*P **P 23 02 11.2 -0.6**
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRR Gorron 80.50 358 *e*P **P 23 02 11.2 -0.6**
comp=Z,6.1nm,0.8s,mb4.6
HAU Haudompre 80.55 353 *e*P **P 23 02 11.6 -0.4**
comp=Z,7.1nm,0.7s,mb4.4
HAU Haudompre 80.55 353 *e*P **P 23 02 11.6 -0.4**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HAU Haudompre 80.55 353 *e*P **P 23 02 11.6 -0.4**
comp=Z,3.5nm,0.7s,mb4.4
HINF Hinteralfeld 80.70 353 *e*P **P 23 02 12.4 -0.4**
WATA Walderalm 80.73 350⇑*i*P **P 23 02 13.5 +0.5**
comp=Z,1.8nm,0.6s,mb4.2
WATA Walderalm 80.73 350⇑*i*P **P 23 02 13.5 +0.5**
WATA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KBA Koelnbreinsper 80.77 348⇑*i*P **P 23 02 14.3 +1.1**
comp=Z,17nm,0.5s,mb5.2
KBA Koelnbreinsper 80.77 348⇑*i*P **P 23 02 14.3 +1.1**
KBA pmax pmax
comp=Z,17nm,0.5s,mb5.2
MOTA Moosalm 80.77 350⇑*i*P **P 23 02 13.4 +0.2**
comp=Z,6.7nm,0.8s,mb4.4
MOTA Moosalm 80.77 350⇑*i*P **P 23 02 13.4 +0.2**
MOTA pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
WTTA Wattenberg 80.79 350⇑*i*P **P 23 02 14.0 +0.7**
comp=Z,10nm,0.5s,mb5.0
WTTA Wattenberg 80.79 350⇑*i*P **P 23 02 14.0 +0.7**
WTTA pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
GZR Gura Zlata 80.88 342⇑*i*P **P 23 02 14.4 +0.6**
GZR Gura Zlata 80.88 342⇑P **P 23 02 14.4 +0.7**
SQTA Sankt Quirin 80.88 350⇑*i*P **P 23 02 14.4 +0.6**
comp=Z,2.5nm,0.8s,mb4.2
SQTA Sankt Quirin 80.88 350⇑*i*P **P 23 02 14.4 +0.6**
SQTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BZS Buzias 80.89 342 ⇓*i*P **P 23 02 14.2 +0.4**
BZS Buzias 80.89 342 ⇓P **P 23 02 14.2 +0.4**
LOR Lormes 81.44 355 *e*P **P 23 02 16.6 -0.2**
AVF Avril sur Loir 81.95 355 *e*P **P 23 02 18.9 -0.6**
comp=Z,4.3nm,0.7s,mb4.2
AVF Avril sur Loir 81.95 355 *e*P **P 23 02 18.9 -0.6**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
AVF Avril sur Loir 81.95 355 *e*P **P 23 02 18.9 -0.6**
comp=Z,2.2nm,0.7s,mb4.2
SMF Signal de Mont 82.07 355 *e*P **P 23 02 19.5 -0.6**
comp=Z,9.4nm,0.7s,mb4.5
SMF Signal de Mont 82.07 355 *e*P **P 23 02 19.5 -0.6**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 82.07 355 *e*P **P 23 02 19.5 -0.6**
comp=Z,4.7nm,0.7s,mb4.5
MFF Saint Martin d 82.27 358 *e*P **P 23 02 20.5 -0.7**
TCF Toulx Ste Croi 82.51 356 *e*P **P 23 02 22.2 -0.2**
LPL La Plagne 83.00 353 *e*P **P 23 02 26.1 +1.2**
comp=Z,11nm,1.0s,mb4.5
LPL La Plagne 83.00 353 *e*P **P 23 02 26.1 +1.2**
LPL pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LPL La Plagne 83.00 353 *e*P **P 23 02 26.1 +1.2**
comp=Z,5.3nm,1.0s,mb4.5
MALT Malatya 83.34 328 ⇓*i*P **P 23 02 28.3 +1.6**
MALT Malatya 83.34 328 ⇓P **P 23 02 28.3 +1.6**
BNI Bardonecchia 83.46 353 *e*P **P 23 02 28.5 +1.2**
BNI pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BNI Bardonecchia 83.46 353 *e*P **P 23 02 28.5 +1.2**
comp=Z,8.0nm,1.1s,mb4.7
VTS Vitosha 83.48 340 ⇓*i*P **P 23 02 27.7 +0.3**
VTS Vitosha 83.48 340 ⇓P **P 23 02 27.7 +0.3**
RJF Les Rejaudoux 83.52 356 *e*P **P 23 02 27.9 +0.3**
comp=Z,3.0nm,0.6s,mb4.3
RJF Les Rejaudoux 83.52 356 *e*P **P 23 02 27.9 +0.3**
RJF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
RJF Les Rejaudoux 83.52 356 *e*P **P 23 02 27.9 +0.3**
comp=Z,1.5nm,0.6s,mb4.3
BR131 Keskin Array S 83.55 332 *e*P **P 23 02 27.8 0.0**
comp=Z,2.3nm,0.6s,mb4.5
BRTR Keskin Array B 83.55 332 P **P 23 02 28.2 +0.5**
comp=Z,3.0nm,0.7s,mb4.5,baz=50,slow=2.6,SNR=22
BRTR Keskin Array B 83.55 332 *i* P **P 23 02 28.2 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
ASAR Alice Springs 83.60 219 P **P 23 02 27.6 -0.5**
comp=Z,0.6nm,0.6s,mb3.9,baz=16,slow=5.2,SNR=8.4
ORIF Oris-en-Rattie 83.66 353 *e*P **P 23 02 29.2 +0.9**
comp=Z,5.4nm,0.6s,mb4.5
ORIF Oris-en-Rattie 83.66 353 *e*P **P 23 02 29.2 +0.9**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 83.66 353 *e*P **P 23 02 29.2 +0.9**
comp=Z,2.7nm,0.6s,mb4.5
MBDF Montbardon 83.78 353 *e*P **P 23 02 29.0 +0.1**
comp=Z,9.0nm,0.7s,mb4.7
MBDF Montbardon 83.78 353 *e*P **P 23 02 29.0 +0.1**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MBDF Montbardon 83.78 353 *e*P **P 23 02 29.0 +0.1**
comp=Z,4.5nm,0.7s,mb4.7
VIVF Saint-Julien-l 83.80 354 *e*P **P 23 02 29.7 +0.6**
comp=Z,2.4nm,0.6s,mb4.2
VIVF Saint-Julien-l 83.80 354 *e*P **P 23 02 29.7 +0.6**
VIVF pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
VIVF Saint-Julien-l 83.80 354 *e*P **P 23 02 29.7 +0.6**
comp=Z,1.2nm,0.6s,mb4.2
CAF Calviac 83.87 356 *e*P **P 23 02 29.7 +0.3**
comp=Z,3.2nm,0.7s,mb4.3
CAF Calviac 83.87 356 *e*P **P 23 02 29.7 +0.3**
CAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
CAF Calviac 83.87 356 *e*P **P 23 02 29.7 +0.3**
comp=Z,1.6nm,0.7s,mb4.3
LFF La Frestale 83.91 357 *e*P **P 23 02 29.6 0.0**
comp=Z,4.9nm,0.5s,mb4.6
LFF La Frestale 83.91 357 *e*P **P 23 02 29.6 0.0**
LFF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
LFF La Frestale 83.91 357 *e*P **P 23 02 29.6 0.0**
comp=Z,2.5nm,0.5s,mb4.6
SBF Sospel 84.58 352 *e*P **P 23 02 33.1 +0.1**
comp=Z,6.9nm,0.5s,mb4.8
SBF Sospel 84.58 352 *e*P **P 23 02 33.1 +0.1**
SBF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
SBF Sospel 84.58 352 *e*P **P 23 02 33.1 +0.1**
comp=Z,3.5nm,0.5s,mb4.8
SMRF Simiane la Rot 84.61 353 *e*P **P 23 02 34.4 +1.2**
comp=Z,10nm,1.0s,mb4.6
SMRF Simiane la Rot 84.61 353 *e*P **P 23 02 34.4 +1.2**
comp=Z,10nm,1.0s,mb4.9
LASF Ste Croix 84.63 355 *e*P **P 23 02 33.9 +0.6**
comp=Z,4.6nm,0.8s,mb4.3
FRF La Foret Royal 84.94 353 *e*P **P 23 02 35.3 +0.4**
comp=Z,6.2nm,0.8s,mb4.5
FRF La Foret Royal 84.94 353 *e*P **P 23 02 35.3 +0.4**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
FRF La Foret Royal 84.94 353 *e*P **P 23 02 35.3 +0.4**
comp=Z,3.1nm,0.8s,mb4.5
LMR La Mourre 85.18 353 *e*P **P 23 02 36.2 +0.1**
MTLF Montolieu 85.45 356 *e*P **P 23 02 37.8 +0.4**
comp=Z,5.1nm,0.5s,mb4.6
MTLF Montolieu 85.45 356 *e*P **P 23 02 37.8 +0.4**
MTLF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
MTLF Montolieu 85.45 356 *e*P **P 23 02 37.8 +0.4**
comp=Z,2.5nm,0.5s,mb4.6
EPF Esparros 85.83 357 *e*P **P 23 02 39.5 +0.2**
comp=Z,2.7nm,0.7s,mb4.3
EPF Esparros 85.83 357 *e*P **P 23 02 39.5 +0.2**
EPF pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
EPF Esparros 85.83 357 *e*P **P 23 02 39.5 +0.2**
comp=Z,1.4nm,0.7s,mb4.3
ETSF Etsaut 85.99 358 *e*P **P 23 02 40.6 +0.5**
comp=Z,5.8nm,0.7s,mb4.6
ETSF Etsaut 85.99 358 *e*P **P 23 02 40.6 +0.5**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
ETSF Etsaut 85.99 358 *e*P **P 23 02 40.6 +0.5**
comp=Z,2.9nm,0.7s,mb4.6
ASF Jabal al Asfar 89.44 327 P **P 23 02 55.4 -1.3**
comp=Z,1.0nm,0.5s,mb4.4,baz=316,slow=5.8,SNR=3.9
TORD Torodi Ar. Bea 115.50 354 PKiKP PKiKP 23 08 40.6 -1.0
comp=Z,0.3nm,0.5s,baz=355,slow=1.8,SNR=14
DBIC Dimbokro 122.09 2 PKP PKPdf 23 08 52.9 -1.5
comp=Z,1.2nm,0.6s,baz=228,slow=16,SNR=4.7
MAW Mawson 144.72 217⇑*i*P PKPdf 23 09 33.1 -3.4
comp=Z,4.7nm,0.6s
MAW Mawson 144.72 217 PKP PKPdf 23 09 33.2 -3.3
comp=Z,6.1nm,0.6s,baz=75,slow=4.8,SNR=23
BOSA Boshof 148.60 306 PKPbc PKPbc 23 09 46.9 +0.2
comp=Z,2.8nm,0.5s,baz=53,slow=3.6,SNR=14
BOSA Boshof 148.60 306 *e*PKPbc PKPbc 23 09 46.5 -0.3

*ISCJB **08** 23:02:11.2±0.6, 4028N±003×2391E±005, h13km±6km, Error ellipse: s-maj=6.5km s-min=4.6km az=128.0*
*NEIC **08** 23:02:11.3, 4026N×2381E, h35km, MD3.2(ATH), After ATH.*
*ATH **08** 23:02:11.3, 4026N×2381E, h35km, MD3.2/3*
*THE **08** 23:02:12.4, 4029N×2389E, h1km, ML2.2*
*CSEM **08** 23:02:12.1±0.1, 4029N×2393E, h15km, ML2.2, Error ellipse: s-maj=1.7km s-min=1.2km az=57.0*

ISC 08 23:02:11.7±0.6, 4028N±003×2393E±005, h15km±8km, n16, σ0°42/24, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.07**	**37**	*e*Pg		**Pg**	**23 02 14.6**	**-0.1**
PLG	**Polygyros**	**0.38**	**285**	*e*PB		**Pg**	**23 02 19.4**	**0.0**
PLG				*e*SB		**Sg**	**23 02 24.4**	**-0.2**
PAIG	**Paliouri**	**0.40**	**208**	*e*Pg		**Pg**	**23 02 20.0**	**+0.2**
PAIG				*e*Sg		**Sg**	**23 02 25.8**	**+0.6**
SOH	**Sokhos**	**0.70**	**321**	*e*Pg		**Pg**	**23 02 25.0**	**-0.3**
SOH				*e*Sg		**Sg**	**23 02 34.6**	**+0.1**
HORT	**Hortiatis**	**0.71**	**297**	*e*Pg		**Pg**	**23 02 25.3**	**-0.2**
HORT				*e*Sg		**Sg**	**23 02 34.4**	**-0.4**
THE	**Thessaloniki**	**0.81**	**296**	*e*Pg		**Pg**	**23 02 27.6**	**+0.1**
SRS	**Serrai**	**0.88**	**343**	*e*Pg		**Pg**	**23 02 28.4**	**-0.2**
SRS				*e*Sg		**Sg**	**23 02 40.4**	**+0.3**
LOS	**Limnos**	**0.95**	**111**	*e*Pg		**Pg**	**23 02 29.9**	**-0.2**
NVR	**Nevrokopi**	**1.07**	**357**	*e*PN		**Pn**	**23 02 31.9**	**-0.3**
XOR	**Xorichti**	**1.07**	**212**	*e*Pg		**Pg**	**23 02 32.6**	**+0.1**
AOS	**Alonnisos**	**1.11**	**182**	*e*Pg		**Pg**	**23 02 33.1**	**0.0**
LIT	**Litokhoron**	**1.11**	**261**	*e*Pg		**Pg**	**23 02 32.4**	**-0.8**
KNT	**Kendrikon**	**1.18**	**319**	*e*Pg		**Pg**	**23 02 34.0**	**-0.5**
KNT				*e*Sg		**Sg**	**23 02 50.8**	**+1.0**
GRG	**Griva**	**1.34**	**301**	*e*Pg		**Pg**	**23 02 37.0**	**-0.5**
GRG				*e*Sg		**Sg**	**23 02 55.7**	**+0.7**
GRG	**Griva**	**1.34**	**301**	*e*Pg		**Pg**	**23 02 37.0**	**-0.6**
GRG				*e*Sg		**Sg**	**23 02 55.7**	**+0.6**
RDO	**Rodhopi**	**1.50**	**54**	*e*PN		**Pn**	**23 02 38.6**	**+0.5**

*IDC **08** 23:14:44.3±0.9, 8.12S×118.14E, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.1/17, mbtmp4.1/8, ML3.8/2, Error ellipse: s-maj=48.0km s-min=17.4km az=62.0*
*ISCJB **08** 23:14:47.9±2.0, 82S±0.1×1183E±02, h37km±21km, mb4.2/8, Error ellipse: s-maj=29.8km s-min=8.1km az=117.5*
*NEIC **08** 23:14:48.8±0.5, 821S×11820E, h30km, mb4.3/3, Error ellipse: s-maj=21.9km s-min=7.0km az=62.0*

ISC 08 23:14:48.1±3.7, 819S±010×1183E±02, h22km±28km, n18, σ1°09/20, mb4.2/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 12nm,0.6s	**12.19**	**145**	*e*P		**Pn**	**23 17 40.5**	**+0.1**
FITZ				*e*S		**Sn**	**23 19 55.1**	**-0.5**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=340,slow=9.4,SNR=14	**12.19**	**145**	Pn		**Pn**	**23 17 41.4**	**+1.0**
FITZ	0.1nm,0.3s,baz=185,slow=20,SNR=4.7			Sn		**Sn**	**23 19 56.3**	**+0.7**
KSM	**Kuching**	**12.45**	**320**	*e*Pn		**Pn**	**23 17 48.5**	**+4.7**
MBWA	**Marble Bar** 5.0nm,0.6s	**12.97**	**174**	*e*Pn		**Pn**	**23 17 50.2**	**-0.8**
KKM	**Kota Kinabalu**	**14.29**	**352**	*e*Pn		**Pn**	**23 18 09.7**	**+0.7**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=302,slow=13,SNR=8.4	**19.47**	**129**	P		**Pn**	**23 19 13.6**	**-0.9**
WRAB	**Tennant Creek** 8.2nm,0.8s	**19.47**	**129**	*e*P		**Pn**	**23 19 12.6**	**-2.0**
WB2	**Warramunga Arr**	**19.48**	**129**	*e*P		**Pn**	**23 19 13.7**	**-0.9**
ASPA	**Alice Springs**	**21.48**	**138**	*e*P		**P**	**23 19 36.2**	**+1.1**
AS31	**Alice Springs**	**21.49**	**138**	*e*P		**P**	**23 19 36.1**	**+0.9**
ASAR	**Alice Springs** 6.5nm,0.7s,mb4.1,baz=319,slow=9.3,SNR=37	**21.49**	**138**	P		**P**	**23 19 36.2**	**+1.0**
STKA	**Stephens Creek** 4.2nm,0.8s,mb4.3,baz=283,slow=6.8,SNR=5.0	**32.04**	**141**	P		**P**	**23 21 14.1**	**+1.1**
LSA	**Lhasa** 2.3nm,0.5s,mb4.4	**45.82**	**326**	*e*P		**P**	**23 23 09.5**	**+1.3**
ULN	**Ulaanbaatar** 4.7nm,1.0s,mb4.5	**56.68**	**351**	*e*P		**P**	**23 24 29.7**	**0.0**
SONM	**Songino Array** 6.3nm,0.8s,mb4.7,baz=170,slow=9.0,SNR=20	**56.76**	**350**	P		**P**	**23 24 30.9**	**+0.6**
MKAR	**Makanchi Array** 0.6nm,0.7s,mb3.8,baz=126,slow=6.2,SNR=5.4	**63.40**	**333**	P		**P**	**23 25 13.7**	**-2.1**
ZAL	**Zalesovo** 0.8nm,0.4s,mb4.1,baz=344,slow=2.1,SNR=3.5	**68.02**	**339**	P		**P**	**23 25 44.0**	**-1.6**
MAW	**Mawson** 1.5nm,0.8s,mb4.0,baz=27,slow=9.0,SNR=3.1	**69.75**	**200**	P		**P**	**23 25 56.5**	**+0.1**

WEL 08 23:47:29.5±0.8, 3600S×17962W, h33km, ML3.8/10, Error ellipse: s-maj=21.3km s-min=18.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.28**	**226**	PN		Pn	23 48 02.4	-2.4
MXZ				SN		Sn	23 48 28.3	-3.4
MXZ				SN		Sn	23 48 28.8	-2.9
PUZ	**Puketiti**	**2.67**	**219**	PN		Pn	23 48 08.7	-1.5
PUZ				SN		Sn	23 48 38.1	-3.4
PUZ				SN		Sn	23 48 38.3	-3.2
MWZ	**Matawai**	**3.26**	**224**	PN		Pn	23 48 16.9	-1.4
MWZ				SN		Sn	23 48 52.2	-3.7
URZ	**Urewera**	**3.45**	**228**	PN		Pn	23 48 20.6	-0.3
URZ				SN		Sn	23 48 58.5	-2.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**3.70**	**215**	PN	Pn	23 48 21.6	-2.8
BKZ	**Black Stump Fm**	**4.42**	**223**	PN	Pn	23 48 32.1	-2.1
BKZ				*e*SN	Sn	23 49 19.7	-4.7
WNVZ	**Wahianoa**	**5.04**	**227**	*e*PN	Pn	23 48 42.1	-0.7
BFZ	**Birch Farm**	**5.69**	**214**	PN	Pn	23 48 46.2	-5.5
BFZ				SN	Sn	23 49 45.9	-10
MRZ	**Mangatainoka R**	**5.99**	**218**	PN	Pn	23 48 51.7	-4.1
MRZ				SN	Sn	23 49 53.5	-10
KHZ	**Kahutara**	**8.32**	**218**	*e*SN	Sn	23 50 46.4	-14

*ISCJB **08** 23:52:14.9±0.6, 4732N±008×1473E±02, h418km±7km, mb3.8/11, Error ellipse: s-maj=19.2km s-min=10.4km az=48.7*
*MOS **08** 23:52:14.6±1.0, 4748N×14734E, h418km, mb4.1/3, Error ellipse: s-maj=29.3km s-min=16.4km az=85.9*
*JMA **08** 23:52:16.8±0.6, 47.15N×14782E, h394km, M3.6*
*NEIC **08** 23:52:17.5±0.9, 4743N×14688E, h425km±11km, mb4.6/3, Error ellipse: s-maj=23.9km s-min=13.3km az=88.0*
*IDC **08** 23:52:24.0±8.5, 4801N×14697E, h464km±94km, mb3.2/8, mb1 3.4/8, mb1mx3.1/20, mbtmp4.0/8, Error ellipse: s-maj=63.7km s-min=18.7km az=178.0*
ISC 08 23:52:16.5±0.7**, 4728N**±008×**1471E**±02**, h425**km±9km**, n33, σ1s25**/41**, mb3.8**/11**, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.99**	**265**	*e*PN	**P**	**23 53 21.9**	**+0.4**
JRA	**Rausu**	**3.62**	**203**	P	**P**	**23 53 26.4**	**-0.3**
JSE	**Soyaes**	**3.91**	**235**	P	**P**	**23 53 30.9**	**+1.7**
JTKR	**Abashiri--Toko**	**4.00**	**215**	P	**P**	**23 53 31.2**	**+1.2**
NEM2	**Nemuro 2**	**4.03**	**194**	P	**P**	**23 53 29.1**	**-1.2**
NEM2				*e*S	**S**	**23 54 26.6**	**-3.8**
JMP	**Maruseppu**	**4.19**	**220**	P	**P**	**23 53 33.1**	**+1.2**
ASAJ	**Asahikawa**	**4.47**	**227**	P	**P**	**23 53 36.5**	**+2.0**
JAK	**Akkeshi**	**4.61**	**203**	P	**P**	**23 53 35.0**	**-0.8**
JAK				*e*S	**S**	**23 54 36.9**	**-3.4**
JAR	**Ashorobuto**	**4.62**	**212**	P	**P**	**23 53 36.8**	**+0.8**
JCH	**Churui**	**5.37**	**211**	P	**P**	**23 53 42.6**	**-0.7**
JCH				*e*S	**S**	**23 54 49.6**	**-4.5**
JNBK	**Urakawa-nobuka**	**5.88**	**213**	P	**P**	**23 53 48.0**	**-0.6**
JNBK				*e*S	**S**	**23 54 59.3**	**-4.5**
ERM	**Erimo**	**5.97**	**210**	*e*PN	**P**	**23 53 50.6**	**+1.0**
ERM				*e*S	**S**	**23 55 04.4**	**-1.1**
ERM				pmax	pmax		
	comp=Z,31nm,0.4s						
ERM	**Erimo**	**5.97**	**210**	*e*Pn	**P**	**23 53 50.6**	**+1.0**
	comp=Z,31nm,0.4s						
ERM				*e*S	**S**	**23 55 04.4**	**-1.1**
SKR	**Severo-Kuril's**	**6.84**	**57**	*e*PN	**P**	**23 53 53.8**	**-5.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
JKB	**Kayabe**	**6.91**	**221**	P	**P**	**23 54 00.0**	**+0.3**
JKB				*e*S	**S**	**23 55 19.8**	**-4.3**
JOT	**Ohata**	**7.32**	**219**	P	**P**	**23 54 04.0**	**-0.1**
JOT				*e*S	**S**	**23 55 26.8**	**-5.4**
JANG	**Nango**	**7.99**	**212**	*e*S	**S**	**23 55 41.9**	**-4.0**
JMK	**Ichinoseki**	**9.36**	**209**	*e*S	**S**	**23 56 14.2**	**+0.6**
MKAR	**Makanchi Array**	**43.01**	**294**	P	**P**	**23 59 37.9**	**+1.3**
	comp=Z,0.2nm,0.2s,mb3.0,baz=73,slow=5.3,SNR=2.4						
INK	**Inuvik**	**43.40**	**32**	P	**P**	**23 59 39.0**	**-0.7**
	comp=Z,1.1nm,0.4s,mb3.6,baz=330,slow=5.7,SNR=16						
ARCES	**ARCESS Array B**	**55.94**	**339**	P	**P**	**00 01 11.4**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.2,baz=46,slow=8.8,SNR=36						
ARCES	**ARCESS Array B**	**55.94**	**339**	P	**P**	**00 01 11.4**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PMG	**Port Moresby**	**56.43**	**180**	*e*P	**P**	**00 01 19.1**	**+3.0**
PMG				pmax	pmax		
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**56.43**	**180**	*e*P	**P**	**00 01 19.1**	**+3.0**
	comp=Z,15nm,0.9s,mb4.3						
JOF	**Joensuu**	**58.97**	**331**	*e*p	**P**	**00 01 32.0**	**-1.5**
	comp=Z,2.4nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**61.73**	**332**	P	**P**	**00 01 50.9**	**-1.0**
	comp=Z,2.6nm,0.5s,mb4.0,baz=40,slow=8.5,SNR=28						
NB2	**NORSAR Subarra**	**66.31**	**338**	P	**P**	**00 02 20.3**	**-1.0**
	comp=Z,1.0nm,0.5s,mb3.7,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**66.31**	**338**	P	**P**	**00 02 20.6**	**-0.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=29,slow=6.4,SNR=5.2						
PDAR	**Pinedale Array**	**67.68**	**51**	P	**P**	**00 02 31.6**	**+1.9**
	comp=Z,1.6nm,0.5s,mb3.9,baz=8.3,slow=0.6,SNR=17						
WRAB	**Tennant Creek**	**67.88**	**193**	P	**P**	**00 02 32.0**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**67.88**	**193**	P	**P**	**00 02 32.0**	**+1.1**
	comp=Z,6.2nm,0.4s,mb4.6						
AKASG	**Malin Array Be**	**68.73**	**323**	P	**P**	**00 02 35.8**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.7,baz=36,slow=6.1,SNR=6.3						
GERES	**GERESS Array B**	**76.07**	**330**	P	**P**	**00 03 18.8**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.2,baz=36,slow=5.0,SNR=4.0						

*ISCJB **08** 23:57:22.2±0.8, 350S±0.1×1087W±02, h10km, mb4.2/14, MS3.6/5, Error ellipse: s-maj=28.1km s-min=15.8km az=108.7*
*IDC **08** 23:57:22.0±1.8, 3502S×10868W, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.1/16, mbtmp4.2/4, MS3.6/5, Ms1 3.6/5, ms1mx3.4/19, Error ellipse: s-maj=71.6km s-min=29.0km az=37.0*
*NEIC **08** 23:57:23.7±0.6, 3497S×10868W, h10km, mb4.4/10, Error ellipse: s-maj=23.7km s-min=13.6km az=54.0*
ISC 08 23:57:23.9±0.8**, 350S**±01×**1087W**±02**, h10**km**, n27, σ0s76**/14**, mb4.2**/14**, MS3.6**/5**, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**30.51**	**112**	P	**P**	**00 03 37.8**	**+0.6**
	3.5nm,1.0s,mb4.1,baz=260,slow=11,SNR=4.4						
CFAA	**Coronel Fontan**	**33.84**	**96**	LR	LR	00 13 45.9	
	comp=Z,35nm,21.2s,MS3.1,baz=279,slow=29						
TBI	**Tubuai**	**37.18**	**277**	*e*LR	LR	00 14 40.5	
	252nm,24.5s						
TRQA	**Tornquist**	**37.39**	**109**	P	**P**	**00 04 37.4**	**+0.5**
	30nm,1.8s,mb4.8						
ATAH	**Atahualpa**	**39.40**	**52**	LR	LR	00 17 37.1	
	comp=Z,404nm,20.3s,MS4.2,baz=55,slow=31						
PPT	**Papeete**	**40.21**	**285**	*e*LR	LR	00 16 03.4	
	281nm,25.8s						
PPT	**Papeete**	**40.21**	**285**	LR	LR	00 18 17.1	
	comp=Z,158nm,18.4s,MS3.9,baz=110,slow=31						
SIV	**San Ignacio**	**46.50**	**78**	P	**P**	**00 05 50.3**	**-1.0**
	2.2nm,1.0s,mb4.0,baz=248,slow=12,SNR=4.4						
RAR	**Rarotonga**	**46.61**	**273**	LR	LR	00 19 48.4	
	comp=Z,124nm,19.9s,MS3.9,baz=221,slow=29						
VNDA	**Vanda**	**56.03**	**195**	P	**P**	**00 07 02.4**	**-0.4**
	7.8nm,1.8s,mb4.4						
SNAA	**Sanae**	**61.95**	**160**	LR	LR	00 29 08.3	
	comp=Z,13nm,21.5s,MS3.1,baz=35,slow=31						
CMB	**Columbia Colle**	**73.44**	**350**	*e*P	**P**	**00 08 56.9**	**+0.5**
	0.6nm,0.4s,mb3.9						
NVAR	**Mina Array Bea**	**73.57**	**352**	P	**P**	**00 08 58.5**	**+1.3**
	3.0nm,0.9s,mb4.2,baz=186,slow=7.7,SNR=18						
BMN	**Battle Mountai**	**75.44**	**353**	*e*P	**P**	**00 09 08.8**	**+0.8**
	4.5nm,1.0s,mb4.3						
BW06	**Boulder Array**	**77.37**	**359**	*e*P	**P**	**00 09 18.4**	**-0.6**
	4.8nm,1.4s,mb4.2						
PDAR	**Pinedale Array**	**77.37**	**359**	P	**P**	**00 09 18.6**	**-0.4**
	1.7nm,0.9s,mb4.0,baz=158,slow=4.3,SNR=14						
TPAW	**Teton Pass**	**78.12**	**358**	*e*P	**P**	**00 09 23.1**	**-0.1**
	3.0nm,1.1s,mb4.1						
LOHW	**Long Hollow**	**78.23**	**359**	P	**P**	**00 09 22.1**	**-1.7**
	3.6nm,1.3s,mb4.1						
HLID	**Hailey**	**78.33**	**356**	*e*P	**P**	**00 09 24.7**	**+0.4**
	8.7nm,1.2s,mb4.6						
IMW	**Indian Meadow**	**78.52**	**358**	*e*P	**P**	**00 09 25.1**	**-0.3**
	4.1nm,1.1s,mb4.3						
BOZ	**Bozeman (W)**	**80.29**	**358**	*e*P	**P**	**00 09 35.3**	**+0.3**
	2.6nm,1.0s,mb4.1						
GERES	**GERESS Array B**	**135.99**	**53**	PKP	PKPdf	00 16 45.6	+0.5
	0.9nm,1.1s,baz=194,slow=3.7,SNR=4.3						
AKASG	**Malin Array Be**	**145.91**	**49**	PKPbc	PKPbc	00 17 00.9	-2.6
	0.3nm,0.3s,baz=270,slow=4.0,SNR=9.2						
ANTO	**Ankara**	**149.21**	**69**	*e*PKPbc	PKPbc	00 17 12.5	-0.1
BR131	**Keskin Array S**	**149.85**	**70**	*e*PKPbc	PKPbc	00 17 13.1	-1.2
BRTR	**Keskin Array B**	**149.85**	**70**	PKPbc	PKPbc	00 17 13.9	-0.3
	2.5nm,1.0s,baz=197,slow=3.9,SNR=15						
SONM	**Songino Array**	**150.96**	**307**	PKPbc	PKPbc	00 17 15.3	-1.5
	1.1nm,0.8s,baz=120,slow=2.6,SNR=3.6						

*ISCJB **09** 00:00:35.5±1.6, 356S±02×1790E±04, h315km±18km, mb3.1/2, Error ellipse: s-maj=62.5km s-min=19.8km az=61.5*
*WEL **09** 00:00:36.5±0.7, 3533S×17875E, h282km±15km, ML4.6/8, Error ellipse: s-maj=18.0km s-min=16.6km az=0.0*
*IDC **09** 00:00:37.9±2.5, 3570S×17874E, h313km±24km, mb3.0/2, mb1 3.4/4, mb1mx3.1/13, mbtmp3.9/4, Error ellipse: s-maj=49.6km s-min=35.0km az=161.0*
ISC 09 00:00:37.4±1.6**, 358S**±02×**1790E**±04**, h317**km±16km**, n17, σ0s84**/18**, mb3.1**/2**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.85**	**196**	PN	**Pn**	**00 01 23.8**	**-0.7**
MXZ				SN	**S**	**00 02 00.6**	**-1.5**
PUZ	**Puketiti**	**2.35**	**193**	PN	**Pn**	**00 01 28.8**	**+0.4**
PUZ				*e*SN	**S**	**00 02 08.1**	**-1.2**
MWZ	**Matawai**	**2.79**	**204**	PN	**Pn**	**00 01 32.5**	**+0.2**
MWZ				*e*SN	**S**	**00 02 17.7**	**+1.4**
URZ	**Urewera**	**2.88**	**210**	P	**Pn**	**00 01 33.0**	**-0.1**
	50nm,0.3s,baz=280,slow=2.9,SNR=150						
URZ				S	**S**	**00 02 18.0**	**+0.2**
	36nm,0.3s,baz=243,slow=21,SNR=14						
URZ	**Urewera**	**2.88**	**210**	PN	**Pn**	**00 01 32.9**	**-0.2**
URZ				*e*SN	**S**	**00 02 18.1**	**+0.3**
KNZ	**Kokohu**	**3.39**	**197**	PN	**Pn**	**00 01 39.4**	**+1.3**
BKZ	**Black Stump Fm**	**3.90**	**209**	PN	**Pn**	**00 01 43.7**	**+0.3**
KATZ	**Kakaramea**	**4.11**	**218**	*e*PN	**Pn**	**00 01 46.9**	**+1.3**
WAZ	**Wanganui**	**5.06**	**217**	*e*PN	**Pn**	**00 01 56.6**	**+0.4**
RPZ	**Rata Peaks**	**9.98**	**215**	P	**Pn**	**00 02 54.5**	**-0.6**
	1.3nm,0.3s,baz=88,slow=19,SNR=10.0						
RPZ				S	**S**	**00 04 47.1**	**-0.7**
	2.6nm,0.3s,baz=100,slow=17,SNR=11						
ASAR	**Alice Springs**	**40.62**	**275**	P	**P**	**00 07 47.2**	**+0.1**
	0.6nm,0.7s,mb3.0,baz=117,slow=7.7,SNR=7.5						
WRA	**Warramunga Arr**	**42.10**	**280**	P	**P**	**00 07 58.4**	**-0.7**
	0.8nm,0.5s,mb3.2,baz=117,slow=7.9,SNR=3.1						
ARCES	**ARCESS Array B**	**143.20**	**345**	PKP	PKPdf	00 19 35.4	+1.5
	2.6nm,0.9s,baz=90,slow=1.8,SNR=3.7						
JOF	**Joensuu**	**146.30**	**334**	*e*p	PKPdf	00 19 38.6	-0.6
	5.3nm,0.4s						
KAF	**Kangasniemi**	**148.57**	**336**	*e*p	PKPdf	00 19 43.8	+0.9
	2.0nm,0.4s						
FINES	**FINESS Array B**	**149.12**	**335**	PKPbc	PKPbc	00 19 47.1	-1.2
	1.4nm,0.6s,baz=45,slow=6.6,SNR=12						
BRTR	**Keskin Array B**	**152.40**	**289**	PKPbc	PKPbc	00 19 56.1	+0.2
	0.3nm,0.5s,baz=141,slow=2.3,SNR=3.8						

GUC 09 00:05:33.0±0.6**, 3509S**×**7047W, h17**km±2km**, MD3.5, ML2.2, 4C-7D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.65**	**317**	⇓*i*P	Pg	00 05 45.4	-0.4
SFDO				*i* S	Sg	00 05 54.7	+0.2
CICH	**Cipreses**	**0.77**	**3**	⇓*i*P	Pb	00 05 47.0	-0.8
CICH				*i* S	Sb	00 05 58.2	+0.3
CACH	**El Canelo**	**0.97**	**354**	⇑*i*P	Pb	00 05 50.7	-0.7
CACH				*i* S	Sb	00 06 04.9	+1.0
CHCH	**Chadas Angostu**	**1.16**	**353**	⇑*i*P	Pn	00 05 54.3	-0.1
LMEL	**Las Melosas**	**1.26**	**10**	⇑*i*P	Pn	00 05 56.2	+0.5
LMEL				*i* S	Sb	00 06 13.9	+1.8
LMEL				AML	AML	00 06 19.7	
	comp=N,47nm,0.2s						
LNV	**Longovilo**	**1.37**	**325**	⇓*i*P	Pn	00 05 57.7	+0.4
LNV				*i* S	Sn	00 06 16.1	+1.1
PCH	**Pirque**	**1.46**	**359**	⇓*i*P	Pn	00 05 59.9	+1.3
TACH	**Talagante**	**1.48**	**345**	⇑*i*P	Pn	00 05 59.8	+0.9
TACH				*i* S	Sn	00 06 20.0	+2.2
RCDM	**Rinconada Maip**	**1.62**	**350**	*e*P	Pn	00 06 02.1	+1.4
RCDM				*i* S	Sn	00 06 23.7	+2.6
RCDM				AML	AML	00 06 30.6	
	comp=E,84nm,0.1s						
FCH	**Farellones**	**1.76**	**5**	⇓*i*P	Pn	00 06 05.3	+2.6
FCH				*i* S	Sn	00 06 29.6	+4.9
FCH				AML	AML	00 06 31.1	
	comp=N,40nm,0.1s						
LCCH	**Las Cruces**	**1.85**	**330**	⇓*i*P	Pn	00 06 05.7	+1.9
LCCH				*i* S	Sn	00 06 30.4	+3.6
ROCH	**El Roble**	**2.16**	**348**	⇓*i*P	Pn	00 06 11.4	+3.3

*LDG **09** 00:08:36.1±0.4, 2508S×6739W, h10km, Mb5.3/30, Ms3.3/2, Error ellipse: s-maj=52.6km s-min=20.5km az=121.0*
*ISCJB **09** 00:09:03.3±0.5, 2393S±003×6669W±004, h181km±4km, mb4.8/129, Error ellipse: s-maj=6.0km s-min=4.7km az=94.4*
*NEIC **09** 00:09:03.8±0.5, 2395S×6663W, h174km±4km, mb4.9/108, Error ellipse: s-maj=4.2km s-min=3.5km az=63.0*
*GCMT **09** 00:09:03.8±0.4, 2408S×6679W, h219km±3km, MW5.0/55, Moment Tensor Solution. s22,c24; s55,c67; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.78±.18; Mθθ0.95±.23; Mφφ2.83±.32; Mrθ-0.12±.15; Mθφ1.16±.20; Mφr-0.06±.20; Best double couple: Mo3.58400×10^16 NP1:φs204.00000°, δ44.00000°, λ-92.00000°. NP2: φs27.00000°, δ46.00000°, λ-88.00000°. Principal axes: T 3.3850, Plg1.0000°, Azm116.0000°; N 0.4020, Plg1.0000°, Azm206.0000°; P -3.7830, Plg89.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 00:09:04.8±0.9, 2377S×6666W, h190km, mb5.0/48 Error ellipse: s-maj=9.2km s-min=6.2km az=97.3*
*BJI **09** 00:09:05.7, 2400S×6660W, h174km, mB5.0*
*IDC **09** 00:09:06.5±1.4, 2395S×6664W, h198km±12km, mb4.5/16, mb1 4.6/22, mb1mx4.6/23, mbtmp5.0/22, Error ellipse: s-maj=10.5km s-min=8.0km az=61.0*
*GUC **09** 00:09:08.0±0.5, 24.15S×6725W, h220km, ML6.1*
ISC 09 00:09:04.3±0.5**, 2395S**±003×**6666W**±003**, h176**km±4km**, n433, σ0s88**/372**, mb4.8**/129**, 15C-78D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.29**	**279**	⇓*i*P	**Pn**	**00 09 59.4**	**+3.1**
CEN1				*i* S	**Sn**	**00 10 38.0**	**+1.2**
CEN1				AML	AML	00 10 41.4	
	comp=N,18µm,0.8s						
ANCH	**Antofagasta**	**3.44**	**274**	⇑*i*P	**Pn**	**00 09 59.8**	**+1.7**
ANCH				*i* S	**Sn**	**00 10 39.0**	**-1.2**
ANCH				AML	AML	00 10 42.1	
	comp=N,29µm,0.4s						
ANCH	**Antofagasta**	**3.44**	**274**	⇑*i*P	**Pn**	**00 09 59.8**	**+1.7**
ANCH				*i* S	**Sn**	**00 10 39.0**	**-1.2**
CPN1	**Cerro Paranal**	**3.48**	**258**	⇑*i*P	**Pn**	**00 09 60.0**	**+1.3**
CPN1				*i* S	**Sn**	**00 10 39.9**	**-1.1**
CPN1				AML	AML	00 10 42.1	
	comp=E,26µm,0.4s						
CPCH	**Copiapo**	**4.76**	**224**	*i* P	**Pn**	**00 10 13.8**	**-1.1**
CPCH				*i* S	**Sn**	**00 11 05.7**	**-4.6**
CDCH	**Caldera**	**4.88**	**230**	⇑*i*P	**Pn**	**00 10 15.2**	**-1.4**
CDCH				*i* S	**Sn**	**00 11 08.3**	**-5.0**
LPAZ	**La Paz**	**7.75**	**349**	P	**Pn**	**00 10 56.9**	**+2.7**
	comp=E,42nm,0.3s,baz=164,slow=8.5,SNR=633						
LPAZ				S	**Sn**	**00 12 19.6**	**-1.4**
	baz=333,slow=16,SNR=1.1						
LPAZ	**La Paz**	**7.75**	**349**	*e*Sn	**Sn**	**00 12 20.8**	**-0.2**
CFAA	**Coronel Fontan**	**7.75**	**190**	P	**Pn**	**00 10 53.4**	**-0.9**
	comp=E,8.2nm,0.3s,baz=10,slow=13,SNR=205						
CFAA				S	**Sn**	**00 12 13.6**	**-7.6**
	comp=E,14nm,0.3s,baz=286,slow=22,SNR=18						
ARE	**Arequipa**	**8.72**	**328**	*e*P	**Pn**	**00 11 06.0**	**-0.9**
ARE				*e*S	**Sn**	**00 12 40.0**	**-4.3**
CPUP	**Villa Florida**	**8.78**	**108**	P	**Pn**	**00 11 09.9**	**+2.1**
	comp=E,11nm,0.3s,baz=267,slow=11,SNR=200						
CPUP	**Villa Florida**	**8.78**	**108**	*e*Pn	**Pn**	**00 11 10.0**	**+2.2**
SIV	**San Ignacio**	**9.50**	**35**	P	**Pn**	**00 11 18.8**	**+1.6**
	comp=E,6.1nm,0.3s,baz=221,slow=13,SNR=204						
SIV				S	**Sn**	**00 12 54.2**	**-8.8**
	comp=E,2.5nm,0.3s,baz=233,slow=16,SNR=2.8						
TRQA	**Tornquist**	**14.62**	**165**	*e*Pn	**Pn**	**00 12 21.1**	**-1.7**
SAML	**Samuel**	**15.28**	**13**	*e*P	**Pn**	**00 12 31.8**	**+0.9**
	comp=E,24nm,0.8s						
NNA	**Nana**	**15.33**	**319**	P	**Pn**	**00 12 31.7**	**+0.3**
	comp=E,9.9nm,0.3s,baz=169,slow=13,SNR=30						
NNA	**Nana**	**15.33**	**319**	⇑*i*Pn	**Pn**	**00 12 31.2**	**-0.3**
	comp=E,231nm,0.9s						
PLCA	**Paso Flores**	**17.05**	**190**	P	**Pn**	**00 12 51.0**	**-1.2**
	comp=E,1.5nm,0.3s,baz=8.7,slow=11,SNR=29						
PLCA				S	**S**	**00 16 01.6**	**+1.8**
	comp=E,0.1nm,0.3s,baz=154,slow=18,SNR=1.9						
PLCA				PcP	PcP	00 17 26.9	+0.3
	comp=E,0.5nm,0.3s,baz=320,slow=2.6,SNR=7.2						
PLCA	**Paso Flores**	**17.05**	**190**	P	**Pn**	**00 12 51.0**	**-1.3**
PLCA				S	**S**	**00 16 01.6**	**+1.8**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PLCA	**Paso Flores**	**17.05**	**190**	*e*P	**Pn**	**00 12 51.4**	**-0.8**
	comp=Z,34nm,0.8s						
BDFB	**Brasilia**	**19.38**	**68**	P	**P**	**00 13 18.4**	**+1.8**
	comp=Z,33nm,0.3s,baz=246,slow=10,SNR=362						
BDFB				S	**S**	**00 16 48.2**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=133,slow=25,SNR=1.9						
BAO	**Brasilia Array**	**19.40**	**68**	P	**P**	**00 13 08.0**	**-8.8**
ATAH	**Atahualpa**	**20.27**	**324**	P	**P**	**00 13 26.9**	**+0.9**
	comp=Z,16nm,0.8s,baz=135,slow=5.5,SNR=7.9						
ATAH				S	**S**	**00 17 04.0**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=33,slow=11,SNR=2.5						
CAM3	**Guarapari**	**24.38**	**88**	⇑*i*P	**P**	**00 14 06.6**	**+0.5**
CAM3				*i*		00 14 08.0	
ROSC	**El Rosal**	**29.59**	**344**	P	**P**	**00 14 53.8**	**+1.2**
	comp=Z,3.4nm,0.4s,mb4.5,baz=89,slow=22,SNR=4.7						
ROSC				PcP	PcP	00 17 53.7	+0.8
	comp=Z,3.3nm,0.4s,baz=108,slow=24,SNR=2.5						
SDV	**Santo Domingo**	**32.86**	**353**	*e*P	**P**	**00 15 20.3**	**-1.0**
	comp=Z,19nm,0.9s,mb4.8						
RCBR	**Riachuelo**	**34.62**	**64**	*e*P	**P**	**00 15 36.6**	**+0.1**
	comp=Z,21nm,0.7s,mb4.9						
JTS	**JuntasAbangare**	**38.44**	**330**	P	**P**	**00 16 10.3**	**+1.5**
	comp=Z,15nm,0.9s,mb4.6,baz=128,slow=20,SNR=8.1						
JTS	**JuntasAbangare**	**38.44**	**330**	*d i*P	**P**	**00 16 09.8**	**+1.0**
JTS	**JuntasAbangare**	**38.44**	**330**	*e*P	**P**	**00 16 10.3**	**+1.6**
	comp=Z,24nm,1.0s,mb4.8						
FDF	**Fort de France**	**38.82**	**9**	*e*P	**P**	**00 16 11.4**	**-0.5**
PMSA	**Palmer Station**	**40.85**	**178**	P	**P**	**00 16 28.8**	**+0.1**
	comp=Z,22nm,0.6s,mb4.9,baz=5.5,slow=1.9,SNR=9.1						
SJG	**San Juan**	**41.81**	**1**	*e*P	**P**	**00 16 33.9**	**-2.6**
SJG				pmax	pmax		
	comp=Z,49nm,1.0s						
SJG	**San Juan**	**41.81**	**1**	*e*P	**P**	**00 16 33.9**	**-2.6**
	comp=Z,49nm,1.0s,mb5.1						
MPR	**Mayaguez**	**41.91**	**359**	*e*P	**P**	**00 16 34.9**	**-2.4**
TEIG	**Tepich**	**48.70**	**333**	*e*P	**P**	**00 17 30.3**	**-0.4**
	comp=Z,10nm,0.3s,mb4.9						
VNA1	**Neumayer--Stat**	**57.29**	**160**	⇓*i*P	**P**	**00 18 33.9**	**+0.4**
VNA1				*e*		00 18 36.1	
VNA1				*e*		00 18 39.2	
VNA1				*e*		00 18 52.0	
VNA1				*e*		00 19 02.9	
VNA1				*e*	pP	00 19 15.1	+1.1
VNA1				*e*		00 19 25.2	
SNAA	**Sanae**	**59.30**	**161**	P	**P**	**00 18 47.1**	**-0.3**
	comp=Z,8.0nm,0.7s,mb4.7,baz=285,slow=7.0,SNR=126						
SNAA				pP	pP	00 19 32.7	+4.6
	comp=Z,3.1nm,0.6s,baz=258,slow=8.5,SNR=3.8						
SNAA	**Sanae**	**59.30**	**161**	⇓*i*P	**P**	**00 18 46.9**	**-0.5**
SNAA				*e*		00 18 48.4	
SNAA				*e*		00 18 50.9	
SNAA				*e*		00 19 00.8	
SNAA				*e*		00 19 11.9	
SNAA				*e*		00 19 32.6	
SNAA				*e*		00 19 38.9	
SNAA	**Sanae**	**59.30**	**161**	*e*P	**P**	**00 18 47.1**	**-0.3**
SNAA				*e*PcP	PcP	00 19 32.6	-1.0
JSC	**Jenkinsville**	**59.55**	**346**	*e*P	**P**	**00 18 49.0**	**-0.1**
LRAL	**Lakeview Retre**	**59.89**	**340**	⇓*i*P	**P**	**00 18 50.0**	**-1.4**
	comp=Z,22nm,0.6s,mb5.2						
HKT	**Hockley**	**60.47**	**331**	*e*P	**P**	**00 18 55.4**	**0.0**
MYNC	**Murphy**	**60.99**	**344**	*e*P	**P**	**00 18 57.3**	**-1.6**
SWET	**Sewanee**	**61.61**	**342**	*e*P	**P**	**00 19 02.1**	**-0.9**
PLAL	**Pickwick Lake**	**62.03**	**340**	*e*P	**P**	**00 19 04.1**	**-1.7**
ELN	**Prospectdale**	**62.28**	**347**	*e*P	**P**	**00 19 07.4**	**-0.1**
JCT	**Junction City**	**62.76**	**328**	*e*P	**P**	**00 19 10.3**	**-0.4**
WVT	**Waverly**	**63.01**	**341**	⇓*i*P	**P**	**00 19 10.5**	**-1.8**
WVT				pmax	pmax		
	comp=Z,58nm,0.6s,mb5.6						
WVT	**Waverly**	**63.01**	**341**	⇓*i*P	**P**	**00 19 10.5**	**-1.9**
	comp=Z,58nm,0.6s,mb5.6						
UALR	**University of**	**63.28**	**336**	*e*P	**P**	**00 19 13.4**	**-0.7**
	comp=Z,15nm,0.8s,mb4.9						
MAIT	**Maitri**	**63.78**	**159**	⇓*i*P	**P**	**00 19 18.7**	**+1.3**
NVL	**N'lazarevskaya**	**63.81**	**159**	*d i*P	**P**	**00 19 17.3**	**-0.3**
NVL				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.3						
NVL				pmax	pmax		
	comp=N,12nm,0.9s						
NVL				pmax	pmax		
	comp=E,23nm,0.9s						
PARMO	**Parma**	**64.10**	**339**	*e*P	**P**	**00 19 18.8**	**-0.7**
MVL	**Millersville**	**64.25**	**352**	*e*P	**P**	**00 19 20.2**	**-0.3**
MCWV	**Mont Chateau**	**64.46**	**349**	*e*P	**P**	**00 19 22.0**	**+0.2**
	comp=E,14nm,0.8s,mb4.8						
WCI	**Wyandotte Cave**	**64.54**	**343**	*e*P	**P**	**00 19 20.9**	**-1.4**
SIUC	**Southern Illin**	**64.90**	**340**	*e*P	**P**	**00 19 23.4**	**-1.2**
BLO	**Bloomington**	**65.48**	**343**	*e*P	**P**	**00 19 27.0**	**-1.4**
FVM	**French Village**	**65.53**	**340**	*e*P	**P**	**00 19 27.8**	**-0.9**
ACSO	**Alum Creek Sta**	**65.64**	**346**	*e*P	**P**	**00 19 28.5**	**-0.9**
	comp=E,14nm,0.9s,mb4.8						
WMOK	**Wichita Mounta**	**65.84**	**331**	*e*P	**P**	**00 19 29.4**	**-1.3**
WMOK				*e*		00 20 00.4	
QUA2	**Belchertown**	**66.10**	**355**	*e*P	**P**	**00 19 31.8**	**-0.6**
	comp=E,12nm,0.8s,mb4.8						
WES	**Weston**	**66.14**	**356**	*e*P	**P**	**00 19 32.4**	**-0.2**
WES				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9						
WES	**Weston**	**66.14**	**356**	*e*P	**P**	**00 19 32.4**	**-0.1**
	comp=Z,20nm,1.0s,mb4.9						
QSPA	**South Pole Qui**	**66.26**	**180**	*e*P	**P**	**00 19 33.4**	**+0.1**
	comp=Z,43nm,0.7s,mb5.4						
HRV	**Harvard--Oak R**	**66.27**	**356**	*e*P	**P**	**00 19 33.2**	**-0.2**
BINY	**Binghamton**	**66.38**	**352**	*e*P	**P**	**00 19 34.4**	**+0.3**
GDL2	**Guadalupe Moun**	**66.44**	**326**	*e*P	**P**	**00 19 34.8**	**+0.3**
MNTX	**Cornudas Mount**	**66.58**	**324**	*e*P	**P**	**00 19 37.2**	**+1.8**
LIC	**Lamto**	**67.13**	**72**	*e*P	**P**	**00 19 38.2**	**-0.7**
	comp=Z,12nm,0.5s,mb4.7						
LIC				*e*R			
	comp=Z,103nm,23.0s						
LIC	**Lamto**	**67.13**	**72**	*e*P	**P**	**00 19 38.2**	**-0.7**
	comp=Z,5.8nm,0.5s,mb4.7						
LIC				LR	LR		
	comp=Z,50nm,23.0s						
FFD	**Franklin Falls**	**67.24**	**356**	*e*P	**P**	**00 19 39.7**	**+0.1**
	comp=Z,23nm,0.9s,mb5.0						
DBIC	**Dimbokro**	**67.49**	**71**	P	**P**	**00 19 41.1**	**0.0**
	comp=Z,16nm,0.7s,mb5.0,baz=220,slow=5.8,SNR=40						
DBIC	**Dimbokro**	**67.49**	**71**	*e*P	**P**	**00 19 41.2**	**+0.1**
DBIC				pmax	pmax		
	comp=Z,13nm,0.6s						
DBIC	**Dimbokro**	**67.49**	**71**	*e*P	**P**	**00 19 41.2**	**0.0**
	comp=Z,13nm,0.6s,mb5.0						
HNH	**Hanover**	**67.52**	**356**	*e*P	**P**	**00 19 41.3**	**0.0**
	comp=Z,2.2nm,1.0s,mb3.8						
NCB	**Newcomb**	**67.94**	**354**	*e*P	**P**	**00 19 43.9**	**-0.1**
	comp=Z,12nm,1.0s,mb4.6						
LBNH	**Lisbon**	**68.02**	**356**	*e*P	**P**	**00 19 44.8**	**+0.3**
LBNH				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
LBNH	**Lisbon**	**68.02**	**356**	*e*P	**P**	**00 19 44.8**	**+0.4**
	comp=Z,13nm,0.9s,mb4.7						
WVL	**Waterville**	**68.23**	**358**	*e*P	**P**	**00 19 45.9**	**+0.1**
	comp=Z,13nm,1.0s,mb4.6						
EMMW	**East Machias**	**68.33**	**359**	*e*P	**P**	**00 19 46.5**	**+0.1**
	comp=Z,20nm,0.8s,mb4.9						
LONY	**Lake Ozonia**	**68.62**	**354**	*e*P	**P**	**00 19 47.7**	**-0.5**
KSU1	**Kansas State U**	**68.69**	**335**	*e*P	**P**	**00 19 47.5**	**-1.1**
FRNY	**Flat Rock**	**68.74**	**355**	*e*P	**P**	**00 19 48.2**	**-0.7**
LPM	**Los Pinos Moun**	**69.27**	**325**	*e*P	**P**	**00 19 53.0**	**+0.9**
LENM	**Lemitar**	**69.34**	**325**	*e*P	**P**	**00 19 53.0**	**+0.4**
ANMO	**Albuquerque**	**69.68**	**326**	*e*P	**P**	**00 19 55.3**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,17nm,0.8s						
ANMO	**Albuquerque**	**69.68**	**326**	*e*P	**P**	**00 19 55.3**	**+0.6**
	comp=Z,17nm,0.8s,mb4.8						
SCIA	**State Center**	**69.98**	**339**	*e*P	**P**	**00 19 54.7**	**-1.8**
JFWS	**Jewell Farm**	**69.99**	**342**	*e*P	**P**	**00 19 55.5**	**-1.1**
TUC	**Tucson**	**70.03**	**321**	*e*P	**P**	**00 19 57.2**	**+0.4**
TUC				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.6						
TUC	**Tucson**	**70.03**	**321**	*e*P	**P**	**00 19 57.2**	**+0.4**
	comp=Z,16nm,1.2s,mb4.6						
EGOM	**La Gomera**	**70.39**	**45**	P	**P**	**00 19 58.8**	**-0.2**
	comp=Z,74nm,0.7s,mb5.5						
CCAN	**Las Canadas**	**70.82**	**46**	P	**P**	**00 20 00.4**	**-1.2**
	comp=Z,19nm,0.8s,mb4.9						
SDCO	**Great Sand Dun**	**71.40**	**328**	*e*P	**P**	**00 20 05.8**	**+0.6**

comp=Z,17nm,0.8s,mb4.8
EOSO Osorio 71.42 47 P **P** 00 20 05.7 +0.5
comp=Z,136nm,1.7s,mb5.4
CFTV Fuerteventura 72.62 47 P **P** 00 20 11.6 -0.7
comp=Z,19nm,0.7s,mb4.9
WUAZ Wupatki 72.72 323 *eP* **P** 00 20 15.0 +2.1
comp=Z,27nm,0.9s,mb5.0
ECSD EROS,Sioux Fal 72.75 338 ⇓*iP* **P** 00 20 12.0 -1.1
GLA Glamis 72.94 319 *eP* **P** 00 20 15.3 +1.1
ISCO Idaho Springs 73.09 330 *eP* **P** 00 20 15.9 +0.8
ISCO pmax pmax
comp=Z,21nm,1.1s,mb4.8
ISCO Idaho Springs 73.09 330 *eP* **P** 00 20 15.9 +0.8
comp=Z,21nm,1.1s,mb4.8
PV01 Paradox Valley 73.22 327 *eP* **P** 00 20 16.6 +0.8
SMCO Snowmass 73.24 328 *eP* **P** 00 20 16.8 +0.8
comp=Z,18nm,0.7s,mb4.9
SYO Syowa Base 73.49 159 ⇑*iP* **P** 00 20 16.8 -0.6
SYO Syowa Base 73.49 159 ‖*ePcP* *PcP* 00 20 30.0 -2.6
SYO Syowa Base 73.49 159 *eSH* 00 29 34.7
PV10 Paradox Valley 73.64 326 *eP* **P** 00 20 18.7 +0.4
BAR Barrett 73.80 318 *eP* **P** 00 20 20.3 +1.0
SBA Scott Base 73.80 190 *eP* **P** 00 20 19.9 +0.6
SBA pmax pmax
comp=Z,24nm,1.3s,mb4.8
SBA Scott Base 73.80 190 *eP* **P** 00 20 19.9 +0.6
comp=Z,24nm,1.3s,mb4.8
PHWY Pilot Hill 74.22 331 *eP* **P** 00 20 22.4 +0.6
PMPS Porto Santo 74.25 42 *eP* **P** 00 20 22.6 +0.7
comp=Z,115nm,1.2s,mb5.5
PFO Pinyon Flat Ob 74.30 319 *eP* **P** 00 20 22.5 +0.3
PFO pmax pmax
comp=Z,16nm,0.9s,mb4.8
PFO Pinyon Flat Ob 74.30 319 *eP* **P** 00 20 22.5 +0.4
comp=Z,16nm,0.9s,mb4.7
VNDA Vanda 74.80 190 P **P** 00 20 25.2 +0.2
comp=Z,7.7nm,0.9s,mb4.3,baz=133,slow=4.7,SNR=36
VNDA Vanda 74.80 190 *eP* **P** 00 20 25.4 +0.3
SRU San Rafael 74.95 326 *eP* **P** 00 20 26.9 +1.0
EYMN Ely 74.96 343 *eP* **P** 00 20 24.7 -1.3
CCUT Cedar City 75.30 323 ⇓*iP* **P** 00 20 29.3 +1.5
MSU Marysvale 75.36 325 *eP* **P** 00 20 29.3 +1.0
TMUT Trail Mountain 75.44 326 *eP* **P** 00 20 29.8 +1.1
ARUT Antelope Range 75.51 323 *eP* **P** 00 20 30.1 +1.0
SHPR Sheep Range 75.56 321 *eP* **P** 00 20 30.4 +1.0
GSC Goldstone 75.68 320 *eP* **P** 00 20 31.1 +1.1
RSSD Black Hills 75.90 333 *eP* **P** 00 20 31.0 -0.3
RSSD pmax pmax
comp=Z,18nm,0.9s,mb4.7
RSSD Black Hills 75.90 333 *eP* **P** 00 20 31.0 -0.3
comp=Z,18nm,0.9s,mb4.7
MPU Maple Canyon 76.20 326 *eP* **P** 00 20 33.9 +0.9
comp=Z,9.7nm,0.9s,mb4.4
TOA0 Torodi Ar. Sit 76.26 69 ⇓*iP* **P** 00 20 32.9 -0.4
TORD Torodi Ar. Bea 76.26 69 P **P** 00 20 33.0 -0.3
comp=Z,20nm,0.5s,mb5.0,baz=256,slow=5.7,SNR=434
TORD S S 00 29 57.1 -6.1
comp=Z,0.9nm,0.9s,baz=244,slow=12,SNR=3.8
NLU North Lily Min 76.38 326 *eP* **P** 00 20 35.2 +1.3
DAC Darwin (Calif) 76.81 320 *eP* **P** 00 20 37.5 +1.1
DAC pmax pmax
comp=Z,15nm,0.9s,mb4.6
DAC Darwin (Calif) 76.81 320 *eP* **P** 00 20 37.5 +1.1
comp=Z,15nm,0.9s,mb4.6
TCUT Toone Canyon 76.91 327 *eP* **P** 00 20 37.9 +1.0
ISA Isabella 76.92 319 *eP* **P** 00 20 38.3 +1.3
DUG Dugway 76.94 325 *eP* **P** 00 20 37.6 +0.5
TRCR Troy Canyon 77.10 323 *eP* **P** 00 20 38.8 +0.7
BW06 Boulder Array 77.26 329 *eP* **P** 00 20 38.8 -0.1
PDAR Pinedale Array 77.26 329 P **P** 00 20 38.8 -0.2
comp=Z,4.7nm,0.6s,mb4.3,baz=127,slow=7.6,SNR=38
HWUT Hardware Ranch 77.35 327 *eP* **P** 00 20 39.6 +0.2
comp=Z,14nm,0.6s,mb4.8
TSUM Tsumeb 77.37 106 *eP* **P** 00 20 39.7 +0.2
SPUT South Promonto 77.57 326 *eP* **P** 00 20 40.7 +0.1
BGU Big Grassy Mou 77.58 326 *eP* **P** 00 20 40.9 +0.2
AHID Auburn Hatcher 77.99 328 *eP* **P** 00 20 43.3 +0.3
HVU Hansel Valley 78.08 327 *eP* **P** 00 20 43.3 -0.2
MTUM Tungsten Hills 78.11 320 *eP* **P** 00 20 44.6 +1.0
REDW Red Top Meadow 78.33 329 *eP* **P** 00 20 45.2 +0.4
comp=Z,19nm,0.9s,mb4.7
SNOW Snow King Moun 78.36 329 *eP* **P** 00 20 46.0 +1.0
comp=Z,23nm,0.8s,mb4.8
LOHW Long Hollow 78.40 329 *eP* **P** 00 20 45.7 +0.5
comp=Z,16nm,0.7s,mb4.8
SCHQ Schefferville 78.45 360 P **P** 00 20 44.5 -1.0
comp=Z,11nm,0.6s,mb4.6,baz=183,slow=3.9,SNR=24
SCHQ Schefferville 78.45 360 P **P** 00 20 44.5 -1.1
TPAW Teton Pass 78.47 329 *eP* **P** 00 20 47.3 +1.7
comp=Z,16nm,0.8s,mb4.7
RRI2 Red Ridge 78.54 328 *eP* **P** 00 20 46.7 +0.7
NVAR Mina Array Bea 78.69 321 P **P** 00 20 47.0 +0.2
comp=Z,3.2nm,0.7s,mb4.1,baz=153,slow=6.2,SNR=15
IMW Indian Meadow 78.77 329 *eP* **P** 00 20 47.9 +0.6
comp=Z,28nm,0.9s,mb4.9
FLWY Flagg Ranch 78.80 329 *eP* **P** 00 20 48.2 +0.8
LAO LASA Array 78.88 333 *eP* **P** 00 20 48.1 +0.3
LKWY Lake 79.03 330 *eP* **P** 00 20 50.7 +2.0
LKWY pmax pmax
comp=Z,12nm,0.8s,mb4.6
LKWY Lake 79.03 330 *eP* **P** 00 20 50.6 +2.0
comp=Z,12nm,0.8s,mb4.6
YNR Norris Junctio 79.28 330 *eP* **P** 00 20 51.3 +1.3
YMR Madison River 79.37 330 *eP* **P** 00 20 51.6 +1.1
comp=Z,47nm,1.2s,mb5.0
WAKR Walker 79.40 321 *eP* **P** 00 20 51.7 +1.0
BMN Battle Mountai 79.46 323 *eP* **P** 00 20 50.8 -0.2
DGMT Dagmar 79.54 336 *eP* **P** 00 20 52.1 +0.7
CMB Columbia Colle 79.64 320 *eP* **P** 00 20 52.3 +0.3
GCMT Greycliff 79.64 331 *eP* **P** 00 20 52.0 +0.1
QLMT Earthquake Lak 79.71 329 *eP* **P** 00 20 53.5 +1.1
PAHR Pah Rah Range 80.17 321 *eP* **P** 00 20 55.5 +0.6
comp=Z,34nm,0.9s,mb5.0
MCMT McKenzie Canyo 80.38 329 *eP* **P** 00 20 56.6 +0.7
BOZ Bozeman (W) 80.42 330 *eP* **P** 00 20 56.1 0.0
BOSA Boshof 80.48 117 P **P** 00 20 56.3 -0.2
comp=Z,10.0nm,0.4s,mb4.8,baz=256,slow=4.5,SNR=31
BOSA Boshof 80.48 117 P **P** 00 20 56.3 -0.2
BOSA pmax pmax
comp=Z,10.0nm,0.4s,mb4.8
DLMT Dillon 80.66 329 *eP* **P** 00 20 57.8 +0.4
comp=Z,30nm,1.0s,mb4.9
LRM Limekiln Ridge 80.93 329 *eP* **P** 00 20 59.3 +0.4
HRY Holter Researc 81.31 330 *eP* **P** 00 21 01.5 +0.6
MAW Mawson 81.39 163 ⇓*iP* **P** 00 21 01.0 -0.3
comp=Z,26nm,0.7s,mb5.0
MAW Mawson 81.39 163 P **P** 00 21 01.0 -0.3
comp=Z,44nm,0.9s,mb5.1,baz=216,slow=6.4,SNR=108
MAW Mawson 81.39 163 ⇓*iP* **P** 00 21 01.0 -0.3
MAW pmax pmax
comp=Z,26nm,0.7s
EGMT Eagleton 81.41 332 *eP* **P** 00 21 00.9 -0.4
comp=Z,29nm,1.0s,mb4.9
CHMT Chamberlain Mo 82.11 330 *eP* **P** 00 21 05.0 0.0
LBTB Lobatse 82.13 114 *eP* **P** 00 21 05.5 +0.4
LBTB pmax pmax
comp=Z,14nm,0.6s,mb4.8
LBTB Lobatse 82.13 114 *eP* **P** 00 21 05.5 +0.4
comp=Z,14nm,0.6s,mb4.8
MOD Modoc 82.16 323 *eP* **P** 00 21 05.9 +0.6
MSO Missoula 82.37 329 *eP* **P** 00 21 06.8 +0.4
WDC Whiskeytown Da 82.57 321 *eP* **P** 00 21 06.2 -1.2
BMO Blue Mountains 82.59 326 *eP* **P** 00 21 07.5 0.0
EGRO El Granado 82.66 43 P **P** 00 21 08.7 +0.8
comp=Z,22nm,0.7s,mb5.0
EVO Evora 82.94 42 *eP* **P** 00 21 09.1 -0.2
comp=Z,17nm,0.8s,mb4.5
ESPR Espera 83.30 45 P **P** 00 21 12.3 +1.2
comp=Z,20nm,0.9s,mb4.9
EJIF Jimena Fronter 83.30 45 P **P** 00 21 11.7 +0.5
EJIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
EJIF Jimena Fronter 83.30 45 P **P** 00 21 11.7 +0.6
comp=Z,3.9nm,0.6s,mb4.3
EMIN Mina Concepcio 83.31 44 P **P** 00 21 12.1 +0.9
comp=Z,6.1nm,0.5s,mb4.6
PTOM Tomar 83.37 41 *eP* **P** 00 21 12.3 +0.8
comp=Z,30nm,0.7s,mb5.1
PESTR Estremoz 83.41 42 *eP* **P** 00 21 12.3 +0.6
comp=Z,26nm,1.2s,mb4.8
YBH Yreka Blue Hor 83.41 321 *eP* **P** 00 21 10.9 -0.8
BSMT Bassoo Peak 83.51 330 *eP* **P** 00 21 12.4 +0.1
EBAD Badajoz 83.69 43 P **P** 00 21 14.2 +1.0
comp=Z,5.7nm,0.7s,mb4.4
EMIJ Mijas 83.82 46 P **P** 00 21 14.5 +0.6
comp=Z,8.7nm,0.7s,mb4.6
WALA Waterton Lakes 84.00 331 *eP* **P** 00 21 14.2 -0.5
comp=Z,16nm,0.9s,mb4.8
FFC Flin Flon 84.01 340 *eP* **P** 00 21 13.0 -1.8
FFC pmax pmax
comp=Z,13nm,1.0s,mb4.6
FFC Flin Flon 84.01 340 *eP* **P** 00 21 13.0 -1.8
comp=Z,13nm,1.0s,mb4.6
PCBR Castelo Branco 84.07 42 *eP* **P** 00 21 15.2 +0.1
comp=Z,22nm,1.4s,mb4.7
BBOR Butler Butte 84.14 322 P **P** 00 21 14.7 -0.7
PVIS Viseu 84.36 41 *eP* **P** 00 21 16.8 +0.3
comp=Z,24nm,1.6s,mb4.7
MTE Manteigas 84.37 41 *eP* **P** 00 21 16.7 +0.1
comp=Z,50nm,1.1s,mb5.2
MTE Manteigas 84.37 41 *eP* **P** 00 21 16.9 +0.3
ELOJ Sierra Loja 84.56 45 P **P** 00 21 17.1 -0.5
ELOJ pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
ELOJ Sierra Loja 84.56 45 P **P** 00 21 17.1 -0.4
comp=Z,6.5nm,0.6s,mb4.5
ERON Agron 84.72 46 P **P** 00 21 17.8 -0.5
comp=Z,6.0nm,0.6s,mb4.5
ELUQ Luque 84.73 45 P **P** 00 21 18.3 -0.1
ELUQ pmax pmax
comp=Z,50nm,0.9s,mb5.2
ELUQ Luque 84.73 45 P **P** 00 21 18.3 0.0
comp=Z,50nm,0.9s,mb5.2
HSO Harness Mounta 84.78 323 P **P** 00 21 19.0 +0.4
HAWA Hanford 84.78 326 *eP* **P** 00 21 18.3 -0.3
PVRL Vila Real 84.81 40 *eP* **P** 00 21 19.2 +0.4
comp=Z,50nm,1.0s,mb5.2
EADA Adamuz 84.88 44 P **P** 00 21 19.7 +0.6
comp=Z,20nm,0.7s,mb5.0
PCAB Cabril 84.89 40 *eP* **P** 00 21 19.6 +0.4
comp=Z,31nm,0.8s,mb5.1
NEW Newport 84.90 329 *eP* **P** 00 21 17.9 -1.3
BROR Big Rock Looko 84.91 323 P **P** 00 21 18.7 -0.6
ECOG Cogollos-Vega 85.02 46 P **P** 00 21 19.9 +0.1
ECOG pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
ECOG Cogollos-Vega 85.02 46 P **P** 00 21 19.9 +0.1
comp=Z,6.7nm,0.6s,mb4.5
OD2 Odessa Site #2 85.06 327 P **P** 00 21 19.7 -0.3
HOOD Mount Hood Mea 85.17 325 *eP* **P** 00 21 21.0 +0.5
EBER Berja 85.25 46 P **P** 00 21 21.4 +0.4
comp=Z,15nm,0.6s,mb4.9
EBAN Banos Encina 85.39 45 P **P** 00 21 21.5 -0.2
EBAN pmax pmax
comp=Z,44nm,0.6s,mb5.4
EBAN Banos Encina 85.39 45 P **P** 00 21 21.5 -0.2
comp=Z,44nm,0.6s,mb5.4
FCC Fort Churchill 85.48 346 *eP* **P** 00 21 20.0 -2.1
EQES Quesada 85.64 45 P **P** 00 21 22.6 -0.3
comp=Z,26nm,0.8s,mb5.0
EBG Ellensburg 85.66 326 P **P** 00 21 23.5 +0.5
PBRG Braganca 85.71 40 *eP* **P** 00 21 23.6 +0.3
comp=Z,27nm,1.2s,mb4.8
ENIJ Nijar 85.74 46 P **P** 00 21 22.2 -1.2
ENIJ pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
ENIJ Nijar 85.74 46 P **P** 00 21 22.2 -1.2
comp=Z,7.7nm,0.6s,mb4.6
ECAL Calabor 85.80 40 P **P** 00 21 23.8 +0.1
comp=Z,9.8nm,0.9s,mb4.5
WTV Waterville 85.88 327 P **P** 00 21 23.9 -0.2
EHUE Huescar 85.96 46 P **P** 00 21 23.2 -1.3
EHUE pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
EHUE Huescar 85.96 46 P **P** 00 21 23.2 -1.3
comp=Z,9.7nm,0.8s,mb4.6
ESDC Sonseca Array 86.15 43 P **P** 00 21 25.5 +0.1
comp=Z,8.3nm,0.7s,mb4.6,baz=243,slow=4.7,SNR=48
ESDC Sonseca Array 86.15 43 P **P** 00 21 26.3 +0.9
comp=Z,8.6nm,0.5s,mb4.7
ESLA Sonseca Array 86.15 43 *eP* **P** 00 21 26.3 +0.9
FMW Mount Fremont 86.24 326 P **P** 00 21 25.4 -0.5
NLW Nelson Butte 86.33 327 P **P** 00 21 25.9 -0.4
EPON Pontenova 86.40 39 P **P** 00 21 26.5 -0.2
EVIA Vianos 86.48 45 P **P** 00 21 26.5 -0.6
EVIA pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EVIA Vianos 86.48 45 P **P** 00 21 26.5 -0.6
comp=Z,4.8nm,0.6s,mb4.4
GUD Guadarrama 86.59 43 P **P** 00 21 27.1 -0.5
GUD pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
GUD Guadarrama 86.59 43 P **P** 00 21 27.1 -0.5
comp=Z,5.8nm,0.7s,mb4.5
PNT Penticton 86.82 328 P **P** 00 21 28.1 -0.6
EDM Edmonton 86.85 334 *eP* **P** 00 21 27.2 -1.6
ETOB Tobarra 87.11 45 P **P** 00 21 30.4 +0.3
comp=Z,105nm,1.7s,mb5.4
JCW Jim Creek 87.20 327 P **P** 00 21 29.6 -1.0
GNW Green Mountain 87.25 326 *eP* **P** 00 21 30.1 -0.6
CMW Cultus Mountai 87.45 327 P **P** 00 21 31.0 -0.7
ECHE Chera 88.01 45 P **P** 00 21 33.9 -0.4
ECHE pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
ECHE Chera 88.01 45 P **P** 00 21 33.9 -0.4
comp=Z,3.5nm,0.4s,mb4.5
LSZ Lusaka 88.22 106 *eP* **P** 00 21 38.0 +2.7
ELAN Lanestosa 88.53 41 P **P** 00 21 36.5 -0.3
comp=Z,14nm,0.9s,mb4.9
EMOS Mosqueruela 89.75 44 P **P** 00 21 37.8 -0.1
comp=Z,5.1nm,0.7s,mb4.6
EIBI Ibiza 89.21 46 P **P** 00 21 41.1 +1.1
comp=Z,19nm,0.8s,mb5.1
ESAC San Caprasio 89.49 43 P **P** 00 21 42.2 +0.9
comp=Z,3.0nm,0.4s,mb4.6
ERTA Horta de San J 89.58 44 P **P** 00 21 42.0 +0.3
comp=Z,14nm,0.8s,mb4.9
SJPF Ste Jean 89.79 42 ⇓*iP* **P** 00 21 42.8 +0.1
comp=Z,44nm,1.0s,mb5.1
SJPF Ste Jean 89.79 42 ⇓*iP* **P** 00 21 42.8 +0.1
SJPF pmax pmax
comp=Z,22nm,1.0s,mb5.0
SJPF Ste Jean 89.79 42 ⇓*iP* **P** 00 21 42.8 +0.1
comp=Z,22nm,1.0s,mb5.0
CASY Casey 90.03 179 ⇓*iP* **P** 00 21 43.6 -0.2
ETSF Etsaut 90.08 42 ⇓*iP* **P** 00 21 44.3 +0.3
comp=Z,26nm,0.8s,mb4.9
ETSF Etsaut 90.08 42 ⇓*iP* **P** 00 21 44.3 +0.3
ETSF pmax pmax
comp=Z,13nm,0.8s,mb4.9
ETSF Etsaut 90.08 42 ⇓*iP* **P** 00 21 44.3 +0.3
comp=Z,13nm,0.8s,mb4.9
REYF Montagne du Re 90.28 42 *eP* **P** 00 21 45.5 +0.5
EBIE Bielsa 90.40 43 P **P** 00 21 46.1 +0.6
comp=Z,5.9nm,0.6s,mb4.7
LABF Labassere 90.55 42 *eP* **P** 00 21 46.6 +0.4
ETOS Mallorca 90.57 46 P **P** 00 21 46.8 +0.5
comp=Z,10nm,0.7s,mb5.0
EPF Esparros 90.71 42 ⇓*iP* **P** 00 21 46.9 0.0
comp=Z,13nm,0.7s,mb4.8
EPF Esparros 90.71 42 ⇓*iP* **P** 00 21 46.9 0.0
EPF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EPF Esparros 90.71 42 ⇓*iP* **P** 00 21 46.9 0.0
comp=Z,6.7nm,0.7s,mb4.8
SALF Salau 91.09 43 *eP* **P** 00 21 49.6 +0.9
MLS Moulis 91.14 43 *eP* **P** 00 21 49.3 +0.4
QUIF Quistinic 91.38 37 *eP* **P** 00 21 49.6 -0.4
LFF La Frestale 91.97 41 ⇓*iP* **P** 00 21 52.2 -0.6
comp=Z,31nm,0.9s,mb5.0
LFF La Frestale 91.97 41 ⇓*iP* **P** 00 21 52.2 -0.6
LFF pmax pmax
comp=Z,15nm,0.9s,mb5.0
LFF La Frestale 91.97 41 ⇓*iP* **P** 00 21 52.2 -0.6
comp=Z,15nm,0.9s,mb5.0
MTLF Montolieu 92.04 43 ⇓*iP* **P** 00 21 52.4 -0.7
comp=Z,30nm,1.1s,mb4.9
MTLF Montolieu 92.04 43 ⇓*iP* **P** 00 21 52.4 -0.7
MTLF pmax pmax
comp=Z,15nm,1.1s,mb4.9
MTLF Montolieu 92.04 43 ⇓*iP* **P** 00 21 52.4 -0.7
comp=Z,15nm,1.1s,mb4.9
MFF Saint Martin d 92.35 39 ⇓*iP* **P** 00 21 53.7 -0.8
comp=Z,27nm,0.8s,mb5.0
MFF Saint Martin d 92.35 39 ⇓*iP* **P** 00 21 53.7 -0.8
MFF pmax pmax
comp=Z,13nm,0.8s,mb5.0
MFF Saint Martin d 92.35 39 ⇓*iP* **P** 00 21 53.7 -0.8
comp=Z,13nm,0.8s,mb5.0
RJF Les Rejaudoux 92.63 41 *eP* **P** 00 21 55.0 -0.9
CAF Calviac 92.77 42 ⇓*iP* **P** 00 21 55.9 -0.6
comp=Z,7.3nm,0.8s,mb4.6
CAF Calviac 92.77 42 ⇓*iP* **P** 00 21 55.9 -0.6
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CAF Calviac 92.77 42 ⇓*iP* **P** 00 21 55.9 -0.6
comp=Z,3.7nm,0.8s,mb4.6
GRR Gorron 92.92 38 *eP* **P** 00 21 55.7 -1.5
comp=Z,14nm,0.7s,mb4.9
GRR Gorron 92.92 38 *eP* **P** 00 21 55.7 -1.5
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
GRR Gorron 92.92 38 *eP* **P** 00 21 55.7 -1.5
comp=Z,6.8nm,0.7s,mb4.9
KEST Kesra 93.14 52 P **P** 00 21 59.3 +1.1
comp=Z,1.9nm,0.7s,mb4.3,baz=180,slow=1.8,SNR=12
LASF Ste Croix 93.43 43 *eP* **P** 00 21 59.0 -0.5
comp=Z,33nm,1.5s,mb5.0
LDF La Druitiere 93.44 38 ⇓*iP* **P** 00 21 58.1 -1.5
comp=Z,23nm,0.8s,mb5.0
LDF La Druitiere 93.44 38 ⇓*iP* **P** 00 21 58.1 -1.5
LDF pmax pmax
comp=Z,11nm,0.8s,mb5.0
LDF La Druitiere 93.44 38 ⇓*iP* **P** 00 21 58.1 -1.5
comp=Z,11nm,0.8s,mb5.0
TCF Toulx Ste Croi 93.56 40 ⇓*iP* **P** 00 21 59.0 -1.1
BGF Bois d'Agland 94.08 40 *eP* **P** 00 22 01.6 -0.9
YKA Yellowknife Ar 94.18 340 P **P** 00 22 01.6 -1.3
comp=Z,11nm,0.6s,mb5.2,baz=136,slow=4.7,SNR=37
YKA Yellowknife Ar 94.18 340 P **P** 00 22 01.6 -1.3
YKW3 Yellowknife Ar 94.23 340 *eP* **P** 00 22 02.2 -1.0
VIVF Saint-Julien-l 94.33 43 ⇓*iP* **P** 00 22 03.5 -0.1
comp=Z,21nm,1.1s,mb4.9
VIVF Saint-Julien-l 94.33 43 ⇓*iP* **P** 00 22 03.5 -0.1
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
VIVF Saint-Julien-l 94.33 43 ⇓*iP* **P** 00 22 03.5 -0.1
comp=Z,10nm,1.1s,mb4.9
SMRF Simiane la Rot 94.46 44 ⇓*iP* **P** 00 22 04.4 +0.2
comp=Z,48nm,1.6s,mb5.1
SMRF Simiane la Rot 94.46 44 ⇓*iP* **P** 00 22 04.4 +0.2
comp=Z,48nm,1.6s,mb5.4
AVF Avril sur Loir 94.50 40 ⇓*iP* **P** 00 22 03.3 -1.1
comp=Z,7.4nm,1.1s,mb4.5
AVF Avril sur Loir 94.50 40 ⇓*iP* **P** 00 22 03.3 -1.1
AVF pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
AVF Avril sur Loir 94.50 40 ⇓*iP* **P** 00 22 03.3 -1.1
comp=Z,3.7nm,1.0s,mb4.5
SMF Signal de Mont 94.71 41 ⇓*iP* **P** 00 22 04.5 -0.9
comp=Z,29nm,1.1s,mb5.1
SMF Signal de Mont 94.71 41 ⇓*iP* **P** 00 22 04.5 -0.9
SMF pmax pmax
comp=Z,15nm,1.1s,mb5.1
SMF Signal de Mont 94.71 41 ⇓*iP* **P** 00 22 04.5 -0.9
comp=Z,15nm,1.1s,mb5.1
LMR La Mourre 94.75 44 ⇓*iP* **P** 00 22 05.2 -0.4
comp=Z,30nm,1.1s,mb5.1
LMR La Mourre 94.75 44 ⇓*iP* **P** 00 22 05.2 -0.4
LMR pmax pmax
comp=Z,15nm,1.1s,mb5.1
LMR La Mourre 94.75 44 ⇓*iP* **P** 00 22 05.2 -0.4
comp=Z,15nm,1.1s,mb5.1
FRF La Foret Royal 94.94 44 ⇓*iP* **P** 00 22 06.2 -0.2
comp=Z,40nm,1.5s,mb5.1
FRF La Foret Royal 94.94 44 ⇓*iP* **P** 00 22 06.2 -0.2
FRF pmax pmax
comp=Z,20nm,1.5s,mb5.1
FRF La Foret Royal 94.94 44 ⇓*iP* **P** 00 22 06.2 -0.2
comp=Z,20nm,1.5s,mb5.1
LOR Lormes 95.04 40 ⇓*iP* **P** 00 22 05.5 -1.4
comp=Z,13nm,1.0s,mb4.8
LOR Lormes 95.04 40 ⇓*iP* **P** 00 22 05.5 -1.4
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LOR Lormes 95.04 40 ⇓*iP* **P** 00 22 05.5 -1.4
comp=Z,6.7nm,1.0s,mb4.8
ORIF Oris-en-Rattie 95.11 43 ⇓*iP* **P** 00 22 07.4 +0.2
comp=Z,22nm,1.0s,mb5.0
ORIF Oris-en-Rattie 95.11 43 ⇓*iP* **P** 00 22 07.4 +0.2
ORIF pmax pmax
comp=Z,11nm,1.0s,mb5.0
ORIF Oris-en-Rattie 95.11 43 ⇓*iP* **P** 00 22 07.4 +0.2
comp=Z,11nm,1.0s,mb5.0
MVIF Mont Vial 95.42 44 *eP* **P** 00 22 08.2 -0.4
REVF Revere 95.49 44 *eP* **P** 00 22 09.2 +0.3
TOUF Mont Tournerai 95.54 44 *eP* **P** 00 22 09.3 +0.1
LUCF Luceram 95.55 44 *eP* **P** 00 22 09.6 +0.4
MBDF Montbardon 95.57 43 ⇓*iP* **P** 00 22 09.4 +0.1
comp=Z,19nm,1.1s,mb5.0
MBDF Montbardon 95.57 43 ⇓*iP* **P** 00 22 09.4 +0.1
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
MBDF Montbardon 95.57 43 ⇓*iP* **P** 00 22 09.4 +0.1
comp=Z,9.5nm,1.1s,mb5.0
SBF Sospel 95.59 44 ⇓*iP* **P** 00 22 09.2 -0.2
comp=Z,45nm,1.1s,mb5.4
SBF Sospel 95.59 44 ⇓*iP* **P** 00 22 09.2 -0.2
SBF pmax pmax
comp=Z,22nm,1.1s,mb5.4
SBF Sospel 95.59 44 ⇓*iP* **P** 00 22 09.2 -0.2
comp=Z,22nm,1.1s,mb5.4
AUTN L'Aution 95.64 44 *eP* **P** 00 22 09.8 +0.1
SAOF Saorge 95.72 44 *eP* **P** 00 22 10.1 +0.1
LPL La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.3 +0.4
comp=Z,20nm,1.0s,mb5.1
LPL La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.3 +0.4
LPL pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LPL La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.3 +0.4
comp=Z,10nm,1.0s,mb5.1
LPG La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.4 +0.5
comp=Z,26nm,1.0s,mb5.2
LPG La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.4 +0.5
LPG pmax pmax
comp=Z,13nm,1.0s,mb5.2
LPG La Plagne 95.92 43 ⇓*iP* **P** 00 22 11.4 +0.5
comp=Z,13nm,1.0s,mb5.2
CABF La Chapelle 96.05 41 *eP* **P** 00 22 10.0 -1.5
comp=Z,18nm,1.1s,mb5.0
CABF La Chapelle 96.05 41 *eP* **P** 00 22 10.0 -1.5
CABF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
CABF La Chapelle 96.05 41 *eP* **P** 00 22 10.0 -1.5
comp=Z,8.8nm,1.1s,mb5.0
MEZF Maizieres J'vi 96.34 39 *eP* **P** 00 22 11.7 -1.1
comp=Z,24nm,0.9s,mb5.2
MEZF Maizieres J'vi 96.34 39 *eP* **P** 00 22 11.7 -1.1
comp=Z,24nm,0.9s,mb5.5
BAIF Baives 96.62 38 *eP* **P** 00 22 12.8 -1.3
comp=Z,19nm,1.2s,mb5.1
BAIF Baives 96.62 38 *eP* **P** 00 22 12.8 -1.3
BAIF pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
BAIF Baives 96.62 38 *eP* **P** 00 22 12.8 -1.3
comp=Z,9.4nm,1.2s,mb5.0
HAU Haudompre 96.87 40 *eP* **P** 00 22 14.6 -0.6
GIVF Givet 96.99 38 *eP* **P** 00 22 14.5 -1.2
HINF Hinteralfeld 97.08 41 *eP* **P** 00 22 14.9 -1.2
comp=Z,4.5nm,0.6s,mb4.7
HINF Hinteralfeld 97.08 41 *eP* **P** 00 22 14.9 -1.2
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
HINF Hinteralfeld 97.08 41 *eP* **P** 00 22 14.9 -1.2
comp=Z,2.3nm,0.6s,mb4.7
CDF Champ du Feu 97.61 40 *eP* **P** 00 22 17.3 -1.2
comp=Z,16nm,1.1s,mb5.1
CDF Champ du Feu 97.61 40 *eP* **P** 00 22 17.3 -1.2
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
CDF Champ du Feu 97.61 40 *eP* **P** 00 22 17.3 -1.2
comp=Z,8.0nm,1.1s,mb5.1
GERES GERESS Array B 101.64 42 PKiKP PKiKP 00 26 58.3 -0.9
comp=Z,0.6nm,0.8s,baz=235,slow=3.2,SNR=4.3
GERES PKKPbc PKKPbc 00 38 43.1 +0.6
comp=Z,0.6nm,0.7s,baz=50,slow=3.1,SNR=5.0
AKASG Malin Array Be 111.79 43 PKiKP PKiKP 00 27 16.4 -1.6
comp=Z,0.7nm,0.3s,baz=265,slow=2.8,SNR=15
AKASG PKKPbc PKKPbc 00 38 10.8 -0.3
comp=Z,0.7nm,0.6s,baz=63,slow=4.0,SNR=3.8
AKASG PKKPab PKKPab 00 38 19.4 -1.5
comp=Z,0.4nm,0.4s,baz=65,slow=4.2,SNR=5.9
AKASG Malin Array Be 111.79 43 PKPdf PKiKP 00 27 16.4 -1.6
AKASG PKKPbc PKKPbc 00 38 10.8 -0.3
AKASG PKKPab PKKPab 00 38 19.4 -1.5
BRTR Keskin Array B 112.53 55 PKiKP PKiKP 00 27 18.7 -0.7
comp=Z,1.1nm,0.8s,baz=194,slow=2.1,SNR=9.1
BRTR PKKPab PKKPab 00 38 17.1 -0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.7s,baz=134,slow=4.8,SNR=5.3						
ARCES	**ARCESS Array B**	**112.96**	**22**	PKKPbc	PKKPbc	00 38 06.5	-0.8
	comp=Z,1.9nm,0.7s,baz=83,slow=3.8,SNR=14						
OBN	**Obninsk**	**116.79**	**39**	⇑iPKIKP	PKPdf	00 27 25.6	-2.0
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
VRSR	**Storozhevoye**	**118.10**	**43**	ePKIKP	PKPdf	00 27 28.9	-1.2
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VRSR				pmax	pmax		
	comp=N,5.0nm,2.4s						
VRSR				pmax	pmax		
	comp=E,5.0nm,0.9s						
STKA	**Stephens Creek**	**118.26**	**207**	PKKPbc	PKKPbc	00 37 48.7	-0.2
	comp=E,4.6nm,1.0s,baz=270,slow=4.0,SNR=3.9						
KIV	**Kislovodsk**	**119.88**	**52**	⇑iPKIKP	PKPdf	00 27 33.2	-0.3
KLBR	**Kellerberrin**	**124.61**	**185**	⇑iP	PKPdf	00 27 41.8	-0.8
	comp=E,11nm,0.5s						
BILL	**Bilibino**	**125.55**	**338**	i PKIKP	PKPdf	00 27 44.7	+0.3
CTA	**Charters Tower**	**125.74**	**219**	i PKP	PKPdf	00 27 45.0	+0.2
	comp=E,6.2nm,0.6s						
ASAR	**Alice Springs**	**128.63**	**204**	PKP	PKPdf	00 27 49.9	-0.4
	comp=E,14nm,0.7s,baz=137,slow=1.9,SNR=84						
AS31	**Alice Springs**	**128.63**	**204**	i PKP	PKPdf	00 27 49.9	-0.4
ASPA	**Alice Springs**	**128.63**	**204**	i PKP	PKPdf	00 27 49.9	-0.4
ARU	**Arti**	**128.96**	**36**	i PKIKP	PKPdf	00 27 49.7	-1.2
ARU				e		00 29 56.3	
ARU				e		00 34 38.9	
ARU				eSS	SS	00 46 59.9	-5.2
SVE	**Sverdlovsk**	**129.94**	**35**	ePKIKP	PKPdf	00 27 52.0	-0.8
TIXI	**Tiksi**	**131.46**	**354**	⇑iPKIKP	PKPdf	00 27 54.2	-1.4
WB2	**Warramunga Arr**	**131.81**	**207**	ePKP	PKPdf	00 27 56.1	-0.2
WB2				i PKS		00 31 21.9	
WRA	**Warramunga Arr**	**131.81**	**207**	PKP	PKPdf	00 27 56.0	-0.3
	comp=E,9.1nm,0.5s,baz=167,slow=1.6,SNR=36						
WRA				SKPbc	SKPbc	00 31 03.0	-2.6
	comp=E,3.1nm,0.7s,baz=153,slow=3.5,SNR=7.9						
SEY	**Seymchan**	**133.16**	**337**	⇑iPKIKP	PKPdf	00 27 58.5	-0.3
ZRNK	**Zerenda**	**135.84**	**37**	⇓iPKIKP	PKPdf	00 28 03.8	0.0
CHKZ	**Chkalovo**	**136.41**	**36**	ePKIKP	PKPdf	00 28 04.7	-0.2
BRVK	**Borovoye**	**136.50**	**37**	⇓ePKIKP	PKPdf	00 28 05.2	+0.1
FITZ	**Fitzroy Crossi**	**136.52**	**197**	i PKP	PKPdf	00 28 05.4	+0.3
	comp=E,6.6nm,0.5s						
NVS	**Novosibirsk**	**141.92**	**28**	⇑iPKHKP		00 28 09.3	
NVS				pmax	pmax		
	comp=Z,21nm,1.1s						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
KAD	**Karad**	**142.85**	**93**	eP	PKPdf	00 28 14.9	-1.7
AAK	**Ala-Archa**	**142.97**	**50**	P	PKPdf	00 28 14.0	-2.8
	SNR=5.9						
AAK	**Ala-Archa**	**142.97**	**50**	ePKPdf	PKPdf	00 28 13.3	-3.5
ZAL	**Zalesovo**	**143.20**	**28**	PKP	PKPdf	00 28 14.3	-2.9
	comp=E,23nm,0.7s,baz=172,slow=4.3,SNR=99						
AJM	**Ajmer**	**144.99**	**78**	eP	PKPdf	00 28 19.6	-0.8
BOD	**Bodaibo**	**146.16**	**359**	⇓iPKIKP	PKPdf	00 28 20.8	-1.5
BOD				pmax	pmax		
	comp=Z,46nm,0.8s						
MKAR	**Makanchi Array**	**146.29**	**40**	PKPbc	PKPbc	00 28 22.4	-1.6
	comp=Z,52nm,0.7s,baz=319,slow=2.0,SNR=138						
MKAR				pPKPbc	pPKPbc	00 29 18.6	+9.1
	comp=Z,5.4nm,0.8s,baz=302,slow=3.2,SNR=2.0						
MKAR	**Makanchi Array**	**146.29**	**40**	PKPbc	PKPbc	00 28 22.4	-1.6
MKAR				pPKPbc	pPKPbc	00 29 18.6	+9.1
AKL	**Akola**	**146.30**	**88**	eP	PKPdf	00 28 22.1	-0.5
HYB	**Hyderabad**	**146.88**	**95**	i PKP	PKPdf	00 28 24.5	+1.0
	comp=Z,71nm,0.8s						
HYB				e		00 29 01.5	
HYB				e		00 29 23.5	
HYB	**Hyderabad**	**146.88**	**95**	eP	PKPdf	00 28 24.5	+1.0
SDNR	**Sundarnagar**	**147.05**	**69**	eP	PKPdf	00 28 25.0	+1.2
BHPL	**Bhopal**	**147.13**	**84**	eP	PKPdf	00 28 24.9	+1.0
BHPL				AMb	AMB	00 28 27.6	
	comp=Z,38nm,0.6s						
YSS	**Yuzh-Sakhalins**	**147.14**	**322**	⇑iPKIKP	PKPdf	00 28 22.3	-1.7
YSS	**Yuzh-Sakhalins**	**147.14**	**322**	ePKPdf	PKPdf	00 28 23.3	-0.6
YSS				ePKPbc	PKPbc	00 28 25.8	-0.6
SMLA	**Simla**	**147.25**	**69**	eP	PKPdf	00 28 24.3	+0.2
NDI	**New Delhi**	**147.36**	**74**	eP	PKPdf	00 28 23.5	-0.9
NDI				eP		00 28 24.1	
DDI	**Dehra Dun**	**148.06**	**71**	eP	PKPdf	00 28 26.9	+1.4
NGP	**Nagpur**	**148.26**	**88**	eP	PKPdf	00 28 25.3	-0.5
LGTI	**Lohaghat**	**150.00**	**72**	i x	x	00 28 34.3	
HABR	**Khabarovsk**	**150.10**	**330**	ePKP2	PKPbc	00 28 33.7	-0.3
KLR	**Kul'dur**	**150.91**	**335**	ePKIKP	PKPdf	00 28 31.3	+1.3
KLR				pmax	pmax		
	comp=E,20nm,0.9s						
KLR				pmax	pmax		
	comp=Z,44nm,0.9s						
WMQ	**Urumqi**	**151.11**	**40**	PKP	PKPbc	00 28 35.8	-0.5
WMQ				PKP2	PKPab	00 28 48.0	+3.3
WMQ				APKP		00 29 18.0	
WMQ				XPKP		00 29 35.0	
WMQ				PKS		00 32 09.0	
WMQ				PP	PP	00 32 24.0	+8.3
WMQ				SKS	SKSdf	00 35 25.0	+3.8
WMQ				PP	PP		
	comp=Z,127nm,4.7s						
VIS	**Vishakhapatnam**	**151.31**	**97**	eP	PKPdf	00 28 28.9	-1.7
VIS				AMb	AMB	00 28 40.1	
	comp=Z,36nm,1.3s						
KOLN	**Koldanda**	**153.00**	**76**	eP	PKPdf	00 28 30.8	-2.4
	comp=Z,23nm,0.9s						
GKN	**Gorkha**	**153.91**	**75**	eP	PKPdf	00 28 33.0	-1.5
DMN	**Daman**	**154.34**	**76**	eP	PKPdf	00 28 35.7	+0.6
KKN	**Kakani**	**154.49**	**75**	eP	PKPdf	00 28 35.4	+0.1
PKI	**Pulchoki**	**154.61**	**76**	eP	PKPdf	00 28 36.2	+0.8
	comp=Z,4.5nm,0.3s						
BOK	**Bokaro**	**154.91**	**85**	ex	x	00 27 50.4	
GUN	**Gumba**	**155.01**	**75**	eP	PKPdf	00 28 36.4	+0.4
MJAR	**Matsushiro Arr**	**155.20**	**306**	PKP	PKPdf	00 28 35.1	-1.1
	comp=Z,0.5nm,0.3s,baz=13,slow=1.3,SNR=5.3						
MJAR				PKPbc	PKPdf	00 28 44.1	+7.9
	comp=Z,2.2nm,0.5s,baz=68,slow=1.5,SNR=12						
MJAR				PKPab	PKPab	00 29 01.7	-0.3
	comp=Z,9.2nm,1.0s,baz=56,slow=2.5,SNR=14						
MAJO	**Matsushiro**	**155.20**	**306**	ePKPdf	PKPdf	00 28 35.8	-0.5
MAJO				ePKPbc	PKPdf	00 28 44.6	+8.4
MAJO				ePKPab	PKPab	00 29 01.6	-0.4
MAT	**Matsushiro**	**155.20**	**306**	PKP	PKPdf	00 28 43.8	+7.6
MDJ	**Mudanjiang**	**155.48**	**331**	PKP	PKPdf	00 28 34.9	-1.7
SONM	**Songino Array**	**155.53**	**11**	PKPab	PKPab	00 29 03.7	+0.3
	comp=Z,9.6nm,0.7s,baz=334,slow=3.2,SNR=5.4						
LSA	**Lhasa**	**159.40**	**69**	ePKIKP	PKPdf	00 28 43.0	+1.5
GTA	**Gaotai**	**160.80**	**33**	PKP	PKPdf	00 28 43.2	+0.1
GTA				APKP		00 29 26.7	
GTA				XPKP		00 29 46.1	
GTA				PP	PP		
	comp=Z,60nm,5.7s						
HHC	**Hu-ho-hao-te**	**163.08**	**5**	ePKP	PKPdf	00 28 46.3	+0.9
LZH	**Lanzhou**	**165.38**	**32**	ePKP	PKPdf	00 28 48.5	+1.1
LZH				APKP		00 29 31.2	
LZH				XPKP		00 29 47.5	
LZH				PKP2	PKPab	00 29 50.2	+3.8
LZH				PP	PP	00 33 37.3	+3.8
LZH				eSKS	SKSdf	00 35 34.8	-0.1
LZH				SKKS	SKKSac	00 40 06.8	+2.8
LZH				eSS	SS	00 53 56.6	+1.6
LZH				PP	PP		
	comp=Z,89nm,6.1s						
LZH				LR	LR		
	comp=N,136nm,19.6s						
LZH				LR	LR		
	comp=Z,252nm,20.3s						
CHTO	**Chiang Mai**	**165.66**	**108**	P	PKPab	00 29 48.5	+0.9
	SNR=6.4						
CHTO	**Chiang Mai**	**165.66**	**108**	ePKIKP	PKPdf	00 28 48.2	+0.5
CD2	**Chengdu**	**169.03**	**49**	ePKP	PKPdf	00 28 50.0	-0.1
XAN	**Xi'an**	**169.23**	**20**	PKP	PKPdf	00 28 50.5	+0.3
SSE	**Sheshan**	**170.04**	**317**	ePKP	PKPdf	00 28 52.8	+2.1
KMI	**Kunming**	**170.28**	**81**	PKP	PKPdf	00 28 49.7	-1.1
GYA	**Guiyang**	**173.46**	**66**	PKP	PKPdf	00 28 52.4	+0.1
GYA				APKP		00 29 42.4	
GYA				XPKP		00 29 58.9	
GYA				PP	PP		
	comp=Z,120nm,7.9s						

*LDG **09** 00:14:48.3±0.1, 4431N×732E, h3km, Md1.6/2, Ml1.4/5, Error ellipse: s-maj=1.8km s-min=0.8km az=72.0*

STR 09 00:14:47.8±1.7, 4428N×726E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.27**	**182**	Pg	Pg	00 14 51.6	-1.4
AUTN	**L'Aution**	**0.31**	**157**	Pg	Pg	00 14 54.7	+0.9
AUTN				Sg	Sg	00 14 58.2	+0.4
SAOF	**Saorge**	**0.36**	**144**	Pg	Pg	00 14 55.3	+0.5
SAOF				Sg	Sg	00 14 59.8	+0.3
LUCF	**Luceram**	**0.39**	**171**	Pg	Pg	00 14 56.5	+1.1
LUCF				Sg	Sg	00 15 02.0	+1.5
SBF	**Sospel**	**0.44**	**163**	ePg	Pg	00 14 57.1	+0.9
SBF				eSg	Sg	00 15 03.1	+1.2
	8.8nm,0.2s						
MBDF	**Montbardon**	**0.57**	**322**	ePg	Pg	00 14 59.3	+0.6
MBDF				eSg	Sg	00 15 07.5	+1.4
	2.2nm,0.2s						
FRF	**La Foret Royal**	**0.84**	**212**	ePg	Pg	00 15 04.9	+0.9
FRF				eSg	Sg	00 15 16.6	+1.6
	1.1nm,0.2s						
LMR	**La Mourre**	**1.09**	**210**	ePg	Pg	00 15 09.6	+0.9
LMR				eSg	Sg	00 15 24.7	+1.8
	3.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.17**	**303**	ePg	Pg	00 15 10.9	+0.6
ORIF				eSg	Sg	00 15 26.3	+0.7
	0.5nm,0.2s						
SMRF	**Simiane la Rot**	**1.25**	**257**	ePg	Pg	00 15 12.7	+0.9
LPL	**La Plagne**	**1.29**	**343**	eSg	Sg	00 15 28.9	-0.4
	0.3nm,0.2s						
VIVF	**Saint-Julien-l**	**1.94**	**288**	ePn	Pn	00 15 20.8	-0.6

*LDG **09** 00:15:05.1±0.1, 4431N×733E, h13km, Md1.5/2, Ml1.4/5, Error ellipse: s-maj=1.7km s-min=0.8km az=72.0*

STR 09 00:15:05.7±0.4, 4430N×739E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOUF	**Mont Tournerai**	**0.30**	**200**	Pg	Pg	00 15 11.5	-0.1
AUTN	**L'Aution**	**0.31**	**175**	Pg	Pg	00 15 12.1	+0.5
AUTN				Sg	Sg	00 15 16.5	+0.9
SAOF	**Saorge**	**0.34**	**159**	Pg	Pg	00 15 12.3	+0.1
SAOF				Sg	Sg	00 15 17.1	+0.5
LUCF	**Luceram**	**0.41**	**184**	Pg	Pg	00 15 13.8	+0.2
LUCF				Sg	Sg	00 15 19.5	+0.6
SBF	**Sospel**	**0.44**	**176**	ePg	Pg	00 15 14.1	0.0
SBF				eSg	Sg	00 15 20.1	+0.3
	7.6nm,0.3s						
MBDF	**Montbardon**	**0.61**	**314**	ePg	Pg	00 15 16.4	-1.1
MBDF				eSg	Sg	00 15 24.6	-0.9
	1.6nm,0.2s						
FRF	**La Foret Royal**	**0.91**	**216**	ePg	Pg	00 15 21.9	-1.3
FRF				eSg	Sg	00 15 33.6	-1.5
	1.1nm,0.2s						
LMR	**La Mourre**	**1.16**	**214**	eSg	Sg	00 15 41.6	-1.3
	2.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.24**	**300**	ePg	Pg	00 15 27.9	-1.6
ORIF				eSg	Sg	00 15 43.2	-2.5
	0.3nm,0.2s						
LPL	**La Plagne**	**1.30**	**339**	eSg	Sg	00 15 46.0	-1.6
	0.3nm,0.2s						
SMRF	**Simiane la Rot**	**1.35**	**257**	ePg	Pg	00 15 29.7	-1.8
SMRF				eSg	Sg	00 15 46.5	-2.5
	0.3nm,0.2s						

CASC 09 00:24:19.4±1.4, 1367N×9076W, h27km±4km, MD4.0, 3C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GCG	**Guatemala City**	**0.93**	**14**	⇑iP	Pn	00 24 37.3	+0.5
GCG				eS	Sb	00 24 50.5	+1.6
RTR	**El Retiro**	**1.10**	**78**	⇓eP	x	00 24 39.3	
RTR				eS	x	00 24 54.5	
SBLS	**San Blas**	**1.12**	**81**	⇓eP	x	00 24 39.4	
SBLS				eS	x	00 24 54.3	
RBDL	**Robledal**	**1.13**	**67**	⇓iP	x	00 24 39.5	
RBDL				eS	x	00 24 55.6	
SNJE	**San Jose**	**1.14**	**80**	⇓eP	x	00 24 39.8	
SNJE				eS	x	00 24 56.5	
BOQS	**Boqueron**	**1.44**	**87**	⇑eP	x	00 24 43.9	
BOQS				eS	x	00 25 02.8	
MTO2	**Montecristo 2**	**1.54**	**62**	⇓eP	x	00 24 44.7	
LFU	**La Fuente**	**1.60**	**87**	eP	x	00 24 46.0	
LFRS	**El Faro**	**1.65**	**92**	eP	x	00 24 46.6	
LBRS	**Las Brisas**	**1.67**	**88**	eP	x	00 24 46.9	
LCBS	**La Ceiba**	**1.73**	**90**	⇑eP	x	00 24 48.0	
LCBS				eS	x	00 25 09.7	
SNVI	**San Vicente**	**1.87**	**92**	eP	x	00 24 50.2	
SNVI				eS	x	00 25 15.0	
VSM	**San Miguel**	**2.43**	**95**	eP	x	00 24 58.8	

*MOS **09** 00:25:57.5±1.4, 5224N×10682E, h21km, mb4.3/1, Error ellipse: s-maj=25.2km s-min=19.8km az=143.4*

BYKL 09 00:25:59.1±0.2, 5222N×10651E, h26km±2km, 7C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STDB	**Stepnoy Dvoret**	**0.10**	**240**	⇓iPg	Pb	00 26 04.5	+0.6
STDB				e		00 26 06.9	
STDB				i Sg	Sb	00 26 08.7	+1.6
STDB				max			
	7μm,0.1s						
STDB				Smax			
	33μm,0.2s						
KAB	**Kabansk**	**0.19**	**152**	⇑iPg	Pb	00 26 04.4	-0.4
KAB				e		00 26 07.8	
KAB				i Sg	Sb	00 26 08.5	-0.1
KAB				Pmax			
	486nm,0.1s						
KAB				Smax			
	17μm,0.4s						
KAB	**Kabansk**	**0.19**	**152**	ePG	Pb	00 26 04.4	-0.4
KAB				e		00 26 08.5	
KAB				pmax	pmax		
	comp=Z,154nm,0.3s						
KAB				smax			
	comp=N,7μm,0.4s						
FFNB	**Fofonovo**	**0.23**	**138**	⇑iPg	Pb	00 26 04.8	-0.5
FFNB				eSg	Sb	00 26 08.6	-0.9
FFNB				Pmax			
	comp=N,3μm,0.1s						
FFNB				Smax			
	comp=N,17μm,0.3s						
ZRHB	**Zarechye**	**0.52**	**49**	⇑iPg	Pb	00 26 09.6	0.0
ZRHB				ePb	Pb	00 26 10.7	+1.1
ZRHB				i Sg	Sb	00 26 17.0	+0.2
ZRHB				eSb	Sb	00 26 19.0	+2.2
ZRHB				max			
	comp=N,159nm,0.1s						
ZRHB				max			
	comp=N,5μm,0.6s						
TRG	**Tyrgan**	**0.55**	**350**	ePg	Pb	00 26 09.9	-0.3
TRG				e		00 26 14.8	
TRG				eSg	Sb	00 26 17.9	+0.2
TRG				Pmax			
	comp=N,182nm,0.2s						
TRG				Smax			
	comp=N,2μm,0.2s						
BTMB	**Babushkin**	**0.67**	**219**	ePg	Pb	00 26 11.6	-0.6
BTMB				eSg	Sb	00 26 21.0	-0.1
BTMB				eSb	Sb	00 26 23.2	+2.1
BTMB				Pmax			
	comp=N,161nm,0.2s						
BTMB				max			
	comp=N,1μm,0.2s						
TRTB	**Turuntaevo**	**0.69**	**89**	⇑iPg	Pb	00 26 12.4	-0.1
TRTB				eSg	Sb	00 26 21.7	+0.1
TRTB				Pmax			
	comp=N,252nm,0.2s						
TRTB				Smax			
	comp=N,871nm,0.3s						
LSTR	**Listvyanka**	**1.09**	**252**	⇑iPg	Pn	00 26 19.3	+0.6
LSTR				e		00 26 20.3	
LSTR				eSg	Sn	00 26 33.6	+0.6
LSTR				e		00 26 34.6	
LSTR				Pmax			
	comp=N,79nm,0.1s						
LSTR				Smax			
	comp=N,594nm,0.3s						
LSTR	**Listvyanka**	**1.09**	**252**	ePN	Pn	00 26 19.2	+0.5
LSTR				e		00 26 33.5	
LSTR				pmax	pmax		
	comp=Z,80nm,0.1s						
LSTR				smax			
	comp=N,598nm,0.3s						
IRK	**Irkutsk**	**1.38**	**272**	ePg	Pn	00 26 24.5	+1.9
IRK				e		00 26 40.4	
IRK				eSg	Sn	00 26 42.2	+2.2
IRK	**Irkutsk**	**1.38**	**272**	ePN	Pn	00 26 23.4	+0.8
IRK				e		00 26 42.0	
IRK				pmax	pmax		
	comp=Z,528nm,0.1s						
IRK				smax			
	comp=N,3μm,0.3s						
OGRR	**Ongureny**	**1.57**	**24**	ePg	Pn	00 26 27.6	+2.3
OGRR				e		00 26 33.4	
OGRR				eSg	Sn	00 26 47.6	+2.9
OGRR				Pmax			
	comp=N,14nm,0.1s						
OGRR				Smax			
	comp=N,173nm,0.2s						
MXMB	**Maximikha**	**1.71**	**52**	ePg	Pn	00 26 30.6	+3.4
MXMB				e		00 26 38.0	
MXMB				eSg	Sn	00 26 53.2	+4.9
MXMB				Pmax			
	comp=N,68nm,0.1s						
MXMB				Smax			
	comp=N,541nm,0.3s						
TLY	**Talaya**	**1.85**	**254**	⇑P	Pn	00 26 54.5	+25
	SNR=6.7						
TLY	**Talaya**	**1.85**	**254**	⇑iPN	Pn	00 26 31.9	+2.7
TLY				e		00 26 55.0	
TLY				pmax	pmax		
	comp=Z,28nm,0.2s						
TLY				smax			
	comp=N,146nm,0.3s						
ARS	**Arshan**	**2.54**	**265**	ePg	Pn	00 26 44.0	+5.4
ARS				eSg	Sn	00 27 16.3	+7.6
ARS				Pmax			
	comp=N,67nm,0.2s						
ARS				Smax			
	comp=N,445nm,0.4s						
ARS	**Arshan**	**2.54**	**265**	ePN	Pn	00 26 41.6	+3.0
ARS				e		00 26 44.4	
ARS				e		00 27 16.3	
ARS				pmax	pmax		
	comp=Z,65nm,0.2s						
ARS				smax			
	comp=E,446nm,0.4s						
SYVR	**Suvo**	**2.56**	**54**	ePn	Pn	00 26 40.1	+1.3
SYVR				ePg	Pn	00 26 44.4	+5.6
SYVR				eSn	Sn	00 27 08.6	-0.5
SYVR				eSg	Sn	00 27 18.6	+10
SYVR				Pmax			
	comp=E,18nm,0.3s						
SYVR				Smax			
	comp=E,80nm,0.2s						
ZAK	**Zakamensk**	**2.74**	**229**	ePn	Pn	00 26 44.0	+2.7
ZAK				ePg	Pn	00 26 48.5	+7.2
ZAK				eSn	Sn	00 27 15.7	+2.1
ZAK				eSg	Sn	00 27 23.9	+10
ZAK				Pmax			
	comp=E,10.0nm,0.1s						
ZAK				Smax			
	comp=E,91nm,0.2s						
MOY	**Mondy**	**3.46**	**263**	e	Pn	00 26 56.5	+5.3
MOY				ePg	Pn	00 27 00.4	+9.2
MOY				e		00 27 37.7	
MOY				eSg	Sn	00 27 45.3	+14
MOY				Pmax			
	comp=E,32nm,0.4s						
MOY				Smax			
	comp=E,148nm,1.0s						
MOY	**Mondy**	**3.46**	**263**	ePN	Pn	00 26 56.7	+5.5
MOY				e		00 27 00.3	
MOY				pmax	pmax		
	comp=Z,32nm,0.4s						
YLYR	**Ulyunkhan**	**3.84**	**44**	ePn	Pn	00 26 57.8	+1.3
YLYR				ePg	Pn	00 27 07.7	+11
YLYR				eSn	Sn	00 27 42.2	+1.3
YLYR				eSg	Sn	00 27 58.4	+18
YLYR				Pmax			
	comp=Z,5.0nm,0.3s						
YLYR				Smax			
	comp=Z,41nm,0.7s						
NIZ	**Nizh Angarsk**	**3.99**	**25**	eSg	Sn	00 28 01.8	+17
NIZ				Smax			
	comp=Z,38nm,0.4s						
ORL	**Orlik**	**4.12**	**277**	ePn	Pn	00 27 02.9	+2.6
ORL				ePg	Pn	00 27 13.1	+13
ORL				eSn	Sn	00 27 48.2	+0.6
ORL				eSg	Sn	00 28 06.4	+19
ORL				Pmax			
	comp=Z,13nm,0.4s						
ORL				Smax			
	comp=Z,51nm,0.5s						
ULN	**Ulaanbaatar**	**4.37**	**175**	ePg	Pn	00 27 18.2	+14
ULN				eSg	Sn	00 28 15.0	+21
KPC	**Khapcheranga**	**4.48**	**122**	ePn	Pn	00 27 06.9	+1.6
KPC				ePg	Pn	00 27 18.8	+13
KPC				e		00 28 07.9	
KPC				eSg	Sn	00 28 17.0	+20
KPC				Pmax			
	comp=Z,10.0nm,0.3s						
KPC				Smax			
	comp=Z,59nm,0.9s						
KMO	**Kumora**	**4.60**	**35**	ePg	Pn	00 27 22.8	+16
KMO				eSg	Sn	00 28 21.2	+22
KMO				Pmax			
	comp=Z,13nm,0.4s						
KMO				Smax			
	comp=Z,43nm,1.1s						
UKT	**Uakit**	**5.33**	**49**	ePg	Pn	00 27 35.7	+19
UKT				eSn	Sn	00 28 17.2	-0.4
UKT				eSg	Sn	00 28 44.5	+27
UKT				Pmax			
	comp=Z,2.0nm,0.6s						
UKT				Smax			
	comp=Z,20nm,1.4s						
NLYR	**Nelyaty**	**6.87**	**48**	e	Pn	00 28 26.2	+48
NLYR				eSg	Sn	00 29 32.6	+37
CRS	**Chara**	**8.28**	**51**	e	Pn	00 28 23.9	+26
CRS				eSg	Sn	00 30 14.8	+45
TUP	**Tupik**	**8.35**	**69**	ePg	Pn	00 28 27.9	+30
TUP				eSg	Sn	00 30 16.4	+45
TUP				Pmax			
	comp=Z,28nm,0.6s						
TUP				Smax			
	comp=Z,19nm,1.4s						

*NNC **09** 00:29:40.7±4.8, 4221N×7361E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=87.0km s-min=13.6km az=176.0*

*KNET **09** 00:29:40.0±0.5, 42.15N×73.77E, h9km±3km, ml2.6, Error ellipse: s-maj=3.0km s-min=1.9km az=49.0*

*ISCJB **09** 00:29:41.2±0.8, 42.18N±0.04×73.69E±0.06, h10km, Error ellipse: s-maj=6.4km s-min=5.7km az=82.0*

ISC 09 00:29:41.4±0.7, 4217N±004×7371E±005, h10km, n12, σ1§06/22, 8C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.04**	**197**	⇓P	**Pg**	**00 29 42.2**	**-1.1**
	4μm,0.1s,SNR=8943						
AML				⇓S	**Sg**	**00 29 44.2**	**-0.5**
	6μm,0.1s						
EKS2	**Erkin-Say**	**0.49**	**6**	P	**Pg**	**00 29 50.4**	**-0.6**
	43nm,0.1s,SNR=216						
EKS2				⇓S	**Sg**	**00 29 57.9**	**+0.3**
	60nm,0.1s						
AAK	**Ala-Archa**	**0.74**	**51**	⇓P	**Pg**	**00 29 55.0**	**-0.8**
	13nm,0.1s,SNR=22						
AAK				⇓S	**Sg**	**00 30 05.5**	**0.0**
	68nm,0.2s						
KBK	**Karagaybulak**	**1.04**	**62**	⇓P	**Pg**	**00 30 00.3**	**-1.1**
	21nm,0.1s,SNR=8.1						
KBK				⇓S	**Sg**	**00 30 14.8**	**-0.1**
	126nm,0.2s						
CHMS	**Chumysh**	**1.13**	**43**	⇓P	**Pb**	**00 30 02.0**	**-1.1**
	22nm,0.1s,SNR=7.6						
CHMS				⇓S	**Sb**	**00 30 17.5**	**-0.2**
	30nm,0.1s						
KZA	**Kyzart**	**1.15**	**94**	⇓P	**Pb**	**00 30 02.1**	**-1.3**
	27nm,0.1s,SNR=42						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA				⇑S	Sb	00 30 18.0	-0.3
	122nm,0.2s						
USP	Ospenovka	1.24	28	P	Pn	00 30 03.9	-0.9
	60nm,0.3s,SNR=116						
TKM2	Tokmak 2	1.58	61	⇑P	Pn	00 30 09.7	+0.2
	21nm,0.1s,SNR=65						
TKM2				⇑S	Sn	00 30 31.1	+1.1
	48nm,0.1s						
TKM2	Tokmak 2	1.58	61	⇑P	Pn	00 30 09.7	+0.2
	0.6nm,0.4s						
TKM2				⇑S	Sn	00 30 30.3	+0.2
	3.0nm,0.5s						
ULHL	Ulahol	1.88	87	⇑P	Pn	00 30 15.0	+1.4
	7.1nm,0.1s,SNR=71						
ULHL				⇓S	Sn	00 30 40.0	+2.6
	37nm,0.2s						
KK31	Karatay Array	2.54	293	Pn	Pn	00 30 24.6	+2.0
	2.1nm,0.4s,baz=115,slow=16,SNR=60						
KK31				⇓Lg		00 30 58.5	
	11nm,0.3s,baz=114,slow=26,SNR=20						
KNDC	Almaty	2.62	65	⇑Pn	Pn	00 30 26.1	+2.3
	23nm,0.5s						
KNDC				⇑Sn	Sb	00 31 00.6	0.0
	28nm,0.3s						

KRSC 09 00:37:33, 5266N×15967E, h31^{km}, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.49	26	eP	Pb	00 37 44.8	+1.5
SPN				i S	Sb	00 37 52.6	+2.3
NLC	Nalytchevo	0.55	339	eP	Pb	00 37 45.4	+1.1
NLC				i S	Sb	00 37 53.9	+2.0
PET	Petropavlovsk	0.72	301	eP	Pn	00 37 47.5	+0.5
PET				i S	Sb	00 37 56.9	+0.3
RUS	Russkaya	0.74	253	eP	Pn	00 37 47.8	+0.5
RUS				i S	Sb	00 37 58.2	+0.9
AVH	Avacha	0.83	317	eP	Pn	00 37 49.3	+0.8
AVH				i S	Sn	00 38 01.1	+1.4
GRL	Gorelyy	0.98	264	eP	Pn	00 37 51.9	+1.3
GRL				i S	Sn	00 38 05.0	+1.6
GNL	Ganaly	1.47	316	eP	Pn	00 37 58.6	+1.3
GNL				i S	Sn	00 38 16.9	+1.4
MIPR	Malaya Ipel'ka	1.82	259	eP	Pn	00 38 04.0	+1.8
MIPR				i S	Sn	00 38 26.9	+2.7
MKZ	Mys Kozlova	2.26	32	eP	Pn	00 38 09.3	+1.1
MKZ				i S	Sn	00 38 34.3	-0.7
TUMR	Tumrok	2.64	6	eP	Pn	00 38 16.3	+2.8
KMNR	Kamenistaya	3.12	6	eP	Pn	00 38 23.7	+3.7
ALID	Alaid	3.13	237	eP	Pn	00 38 22.3	+2.2
ZLN	Zelenaya	3.43	11	eP	Pn	00 38 28.0	+3.7
KBTR	Krutoberegovo	4.00	26	eP	Pn	00 38 34.3	+2.1
KBTR				i S	Sn	00 39 20.1	+2.1
BDR	Baidarnaya	4.02	12	eP	Pn	00 38 33.4	+1.0
SMKR	Semkarok	4.07	14	eP	Pn	00 38 37.4	+4.3

*ISCJB **09** 00:44:15.6±2.2, 145N±0.1×1458E±02, h95^{km}±18^{km}, mb3.9/9, Error ellipse: s-maj=36.2km s-min=20.1km az=159.7*
*NEIC **09** 00:44:16.7±0.7, 1450N×14587E, Error ellipse: s-maj=21.9km s-min=14.7km az=98.0*
*IDC **09** 00:44:17.6±1.0, 1449N×14566E, h101^{km}±9^{km}, mb3.7/9, mb1 3.9/9, mb1mx3.7/17, mbtmp4.0/9, Error ellipse: s-maj=23.6km s-min=14.3km az=109.0*
ISC 09 00:44:15.7±2.5, 146N±01×1459E±02, h83^{km}±21^{km}, h99^{km}±1.8^{km}:pP-P, n17, σ1^{s}06/15, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.38	226	P	Pn	00 44 39.7	+0.1
	440nm,0.3s,baz=313,slow=3.6,SNR=96						
GUMO				S	Sn	00 44 57.0	-0.5
	964nm,0.3s,baz=4.9,slow=21,SNR=26						
GUMO	Guam	1.38	226	P	Pn	00 44 39.7	+0.1
GUMO				S	Sn	00 44 57.0	-0.5
JOW	Kunigami	20.49	309	P	P	00 48 48.9	+2.0
	4.1nm,0.4s,baz=279,slow=25,SNR=4.7						
WRA	Warramunga Arr	36.11	199	P	P	00 51 10.4	+0.8
	0.3nm,0.3s,mb3.7,baz=16,slow=8.9,SNR=2.3						
WRA				pP	pP	00 51 32.2	+3.2
	2.6nm,0.7s,baz=21,slow=9.3,SNR=6.4						
ASAR	Alice Springs	39.75	197	P	P	00 51 40.4	+0.1
	0.2nm,0.5s,mb3.2,baz=223,slow=38,SNR=3.0						
ASAR				pP	pP	00 52 03.4	+3.6
	0.8nm,0.7s,baz=21,slow=12,SNR=4.8						
SONM	Songino Array	46.54	324	P	P	00 52 35.2	+0.3
	1.1nm,0.8s,mb3.7,baz=134,slow=9.3,SNR=5.7						
ZAL	Zalesovo	61.45	324	P	P	00 54 23.1	-0.3
	0.9nm,0.3s,mb4.3,baz=46,slow=6.9,SNR=3.7						
MKAR	Makanchi Array	61.50	316	P	P	00 54 23.8	0.0
	0.7nm,0.4s,mb4.0,baz=90,slow=8.7,SNR=16						
MKAR				pP	pP	00 54 48.8	+4.0
	0.8nm,0.5s,baz=102,slow=9.2,SNR=3.6						
YKA	Yellowknife Ar	81.55	28	P	P	00 56 23.5	-0.7
	1.0nm,0.4s,mb4.0,baz=286,slow=5.2,SNR=5.2						
NVAR	Mina Array Bea	85.55	52	P	P	00 56 46.2	+1.5
	0.7nm,0.6s,mb3.8,baz=263,slow=4.3,SNR=4.0						
NVAR	Mina Array Bea	85.55	52	P	P	00 56 46.2	+1.5
ARCES	ARCESS Array B	86.48	342	P	P	00 56 48.1	-1.2
	2.3nm,0.9s,mb4.1,baz=72,slow=6.7,SNR=3.5						
FINES	FINESS Array B	90.72	335	P	P	00 57 07.0	-2.4
	4.4nm,1.0s,mb4.5,baz=68,slow=5.2,SNR=9.7						
TORD	Torodi Ar. Bea	135.13	306	PKP	PKPdf	01 03 25.5	0.0
	0.3nm,0.5s,baz=60,slow=1.6,SNR=9.4						
DBIC	Dimbokro	144.14	304	PKP	PKPdf	01 03 40.1	-1.7
	3.1nm,0.7s,baz=44,slow=4.6,SNR=6.0						
LPAZ	La Paz	147.17	98	PKPbc	PKPbc	01 03 51.2	+1.9
	1.4nm,0.6s,baz=270,slow=4.0,SNR=3.7						
LPAZ	La Paz	147.17	98	PKPbc	PKPbc	01 03 51.2	+1.9

*ISCJB **09** 00:47:27.0±1.6, 2169S±008×1787W±0.1, h343^{km}±21^{km}, mb3.7/11, Error ellipse: s-maj=17.2km s-min=11.8km az=63.8*
*IDC **09** 00:47:30.0±2.5, 2165S×17865W, h363^{km}±25^{km}, mb3.5/10, mb1 3.7/12, mb1mx3.6/17, mbtmp4.3/12, Error ellipse: s-maj=18.1km s-min=14.3km az=141.0*
*NEIC **09** 00:47:30.1±1.5, 2165S×17861W, h367^{km}±16^{km}, mb3.8/5, Error ellipse: s-maj=18.2km s-min=11.8km az=137.0*
ISC 09 00:47:29.6±1.7, 2182S±009×1786W±01, h357^{km}±21^{km}, n29, σ0^{s}95/24, mb3.7/11, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	10.18	41	P	Pn	00 49 48.9	-0.7
	1.3nm,0.3s,baz=323,slow=23,SNR=2.3						
AFI				S	S	00 51 37.2	-7.4
	1.6nm,0.3s,baz=99,slow=20,SNR=2.3						
DZM	Mont Dzumac	13.91	266	P	P	00 50 36.5	+4.6
	0.4nm,0.3s,baz=30,slow=23,SNR=9.6						
URZ	Urewera	16.81	192	P	P	00 51 04.7	+1.4
	5.7nm,0.3s,baz=270,slow=4.4,SNR=24						
URZ				S	S	00 53 59.2	-1.4
	0.6nm,0.3s,baz=312,slow=23,SNR=6.2						
RPZ	Rata Peaks	23.48	199	P	P	00 52 07.8	-0.8
	8.5nm,0.9s,mb4.0,baz=57,slow=19,SNR=2.5						
CTA	Charters Tower	32.85	266	⇓iP	P	00 53 32.5	+1.3
	8.0nm,0.6s,mb4.1						
CTA	Charters Tower	32.85	266	P	P	00 53 32.5	+1.4
	11nm,0.6s,mb4.3,baz=101,slow=9.8,SNR=20						
CTAO	Charters Tower	32.85	266	eP	P	00 53 32.6	+1.5
	4.7nm,0.7s,mb3.8						
STKA	Stephens Creek	36.75	246	eP	P	00 54 04.7	+0.5
	2.4nm,0.6s,mb3.6						
STKA	Stephens Creek	36.75	246	P	P	00 54 04.6	+0.4
	2.9nm,0.5s,mb3.7,baz=85,slow=8.0,SNR=6.7						
AS31	Alice Springs	43.71	258	eP	P	00 55 00.7	0.0
ASAR	Alice Springs	43.71	258	P	P	00 55 00.7	0.0
	7.8nm,0.8s,mb3.9,baz=97,slow=8.5,SNR=54						
ASAR				PcP	PcP	00 56 39.9	-0.5
	1.4nm,0.6s,baz=106,slow=3.8,SNR=11						
ASPA	Alice Springs	43.72	258	eP	P	00 55 00.7	0.0
WB2	Warramunga Arr	43.90	264	eP	P	00 55 01.7	-0.4
WB2	Warramunga Arr	43.90	264	eP	P	00 55 01.6	-0.5
WRA	Warramunga Arr	43.91	264	P	P	00 55 00.4	-1.8
	2.4nm,0.5s,mb3.6,baz=97,slow=7.6,SNR=12						
FITZ	Fitzroy Crossi	52.34	264	P	P	00 56 05.8	-0.2
	1.6nm,0.8s,mb3.4,baz=105,slow=18,SNR=6.8						
VNDA	Vanda	56.56	185	P	P	00 56 38.3	+2.3
	0.6nm,0.7s,mb3.0,baz=5.0,slow=9.5,SNR=5.8						
VNDA				PcP	PcP	00 57 27.6	-0.3
	0.4nm,0.7s,baz=358,slow=5.2,SNR=3.7						
VNDA	Vanda	56.56	185	eP	P	00 56 38.8	+2.8
	0.3nm,0.5s,mb2.9						
VNDA				PcP	PcP	00 57 27.6	-0.3
MAW	Mawson	80.15	200	P	P	00 59 01.0	+0.2
	0.5nm,0.5s,mb3.5,baz=135,slow=8.7,SNR=6.4						
NVAR	Mina Array Bea	82.34	43	P	P	00 59 12.6	+0.4
	0.8nm,0.6s,mb3.7,baz=221,slow=7.8,SNR=5.1						
SNAA	Sanae	86.72	179	eP	P	00 59 33.6	-0.3
	0.4nm,0.3s,mb3.7						
PDAR	Pinedale Array	90.28	43	P	P	00 59 50.2	-0.3
	0.7nm,0.7s,mb3.7,baz=212,slow=4.4,SNR=6.7						
ARCES	ARCESS Array B	130.11	349	PKP	PKPdf	01 05 55.1	-2.3
	1.5nm,0.6s,baz=102,slow=1.8,SNR=14						
FINES	FINESS Array B	136.87	343	PKP	PKPdf	01 06 09.1	-1.0
	2.0nm,0.9s,baz=358,slow=9.5,SNR=4.8						
AKASG	Malin Array Be	143.89	330	PKP	PKPdf	01 06 19.7	-3.0
	2.7nm,0.5s,baz=43,slow=4.3,SNR=17						
BRTR	Keskin Array B	147.30	310	PKPbc	PKPbc	01 06 30.6	-0.8
	1.2nm,0.7s,baz=134,slow=4.4,SNR=11						
CLL	Collm	149.21	346	ePKPbc	PKPbc	01 06 36.0	-0.3
GERES	GERESS Array B	151.31	343	PKPbc	PKPbc	01 06 40.4	-0.8
	0.8nm,0.6s,baz=23,slow=2.8,SNR=11						
TORD	Torodi Ar. Bea	171.38	182	PKPab	PKPab	01 08 19.1	+0.7
	0.7nm,0.7s,baz=170,slow=4.1,SNR=11						

IDC 09 01:57:12.6±14.0, 1991S×17855W, h609^{km}±122^{km}, mb3.2/3, mb1 3.4/4, mb1mx3.0/14, mbtmp4.2/4, Error ellipse: s-maj=188.5km s-min=70.4km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.18	259	P	P	02 00 13.9	+1.1
	0.3nm,0.3s,baz=258,slow=22,SNR=6.6						
CTA	Charters Tower	33.04	264	P	P	02 03 00.0	+0.5
	1.9nm,0.3s,baz=93,slow=13,SNR=4.9						
ASAR	Alice Springs	44.16	256	P	P	02 04 28.9	+0.1
	3.7nm,0.7s,baz=96,slow=7.6,SNR=43						
ASAR				PcP	PcP	02 06 00.5	+0.6
	0.4nm,0.4s,baz=101,slow=4.0,SNR=5.1						
WRA	Warramunga Arr	44.17	262	P	P	02 04 29.0	+0.1
	1.7nm,0.5s,baz=98,slow=8.3,SNR=7.6						
AKASG	Malin Array Be	142.25	331	PKhKP		02 15 32.8	
	1.2nm,0.4s,baz=37,slow=3.3,SNR=12						
BRTR	Keskin Array B	146.06	313	PKPbc	PKPbc	02 15 45.5	0.0
	0.7nm,0.6s,baz=129,slow=3.9,SNR=6.0						
GERES	GERESS Array B	149.50	344	PKPbc	PKPbc	02 15 53.6	-0.6
	0.8nm,0.8s,baz=8.5,slow=2.0,SNR=6.6						

*IDC **09** 02:04:25.8±2.3, 5645S×25.10W, h0^{km}, mb4.0/4, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, Error ellipse: s-maj=82.6km s-min=27.1km az=10.0*
*ISCJB **09** 02:04:26.3±0.8, 563S±0.1×252W±02, h10^{km}, mb4.0/7, Error ellipse: s-maj=23.9km s-min=14.7km az=66.8*
*NEIC **09** 02:04:34.0±6.1, 5640S×2521W, h62^{km}±61^{km}, mb4.1/5, Error ellipse: s-maj=29.1km s-min=12.4km az=202.0*
ISC 09 02:04:28.0±0.8, 563S±02×252W±02, h10^{km}, n11, σ0^{s}66/10, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA	Sanae	18.07	157	eP	Pn	02 08 39.2	0.0
	1.6nm,0.8s						
TRQA	Tornquist	30.46	291	eP	P	02 10 39.7	-1.2
	3.2nm,1.1s,mb4.0						
CPUP	Villa Florida	37.83	309	P	P	02 11 44.7	0.0
	1.1nm,0.7s,mb3.7,baz=135,slow=8.6,SNR=4.0						
BOSA	Boshof	44.94	74	P	P	02 12 43.1	0.0
	2.1nm,0.8s,mb4.0,baz=222,slow=8.9,SNR=2.9						
LBTB	Lobatse	48.01	71	eP	P	02 13 07.2	0.0
	2.0nm,0.7s,mb4.3						
LPAZ	La Paz	51.45	303	P	P	02 13 34.7	+1.4
	1.3nm,0.5s,mb4.1,baz=155,slow=8.8,SNR=7.7						
LPAZ	La Paz	51.45	303	eP	P	02 13 34.9	+1.6
	1.7nm,0.6s,mb4.2						
SAML	Samuel	55.78	313	eP	P	02 14 05.2	0.0
	1.9nm,0.8s,mb4.2						
TORD	Torodi Ar. Bea	72.73	27	P	P	02 15 56.0	-0.3
	0.8nm,0.5s,mb3.9,baz=201,slow=6.1,SNR=17						
TORD	Torodi Ar. Bea	72.73	27	P	P	02 15 56.0	-0.3
SONM	Songino Array	149.62	85	PKPbc	PKPbc	02 24 15.3	-2.4
	0.8nm,0.6s,baz=208,slow=2.8,SNR=3.9						

*ISCJB **09** 02:09:29.5±5.3, 36S±02×1515E±04, h64^{km}±39^{km}, mb4.0/9, Error ellipse: s-maj=66.9km s-min=25.6km az=5.3*
*NEIC **09** 02:09:33.7±4.0, 361S×15136E, h85^{km}±29^{km}, mb4.2/4, Error ellipse: s-maj=54.4km s-min=20.0km az=92.0*
*IDC **09** 02:09:35.0±7.2, 370S×15131E, h88^{km}±55^{km}, mb3.5/5, mb1 3.7/6, mb1mx3.6/14, mbtmp3.9/6, ML2.7/1, MS3.6/8, Ms1 3.6/8, ms1mx3.5/12, Error ellipse: s-maj=72.4km s-min=28.2km az=86.0*
ISC 09 02:09:32.9±4.5, 36S±02×1515E±04, h79^{km}±33^{km}, n18, σ0^{s}92/11, mb3.8/9, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.18	216	P	Pn	02 11 15.0	-0.1
	0.8nm,0.3s,baz=50,slow=12,SNR=3.8						
HNR	Honiara	10.21	125	LR	LR	02 15 25.8	
	comp=Z,359nm,18.9s,baz=356,slow=34						
CTA	Charters Tower	17.15	197	LR	LR	02 19 52.9	
	comp=Z,190nm,18.4s,baz=40,slow=36						
WRAB	Tennant Creek	23.29	224	eP	P	02 14 33.5	-0.1
	9.5nm,1.0s,mb4.1						
WRA	Warramunga Arr	23.30	224	P	P	02 14 33.3	-0.4
	2.1nm,0.7s,mb3.6,baz=49,slow=9.6,SNR=8.3						
DZM	Mont Dzumac	23.40	143	LR	LR	02 21 29.4	
	comp=Z,214nm,18.9s,baz=70,slow=30						
ASAR	Alice Springs	26.19	219	P	P	02 15 00.7	+0.7
	0.9nm,0.8s,mb3.2,baz=52,slow=8.6,SNR=6.5						
ASAR				LR	LR	02 24 16.9	
	comp=Z,98nm,19.4s,baz=190,slow=34						
FITZ	Fitzroy Crossi	29.11	238	LR	LR	02 28 44.4	
	comp=Z,56nm,18.6s,baz=245,slow=40						
STKA	Stephens Creek	29.61	197	LR	LR	02 27 01.2	
	comp=Z,130nm,18.9s,baz=22,slow=36						
MJAR	Matsushiro Arr	41.82	344	LR	LR	02 33 04.0	
	comp=Z,61nm,21.2s,baz=205,slow=34						
SONM	Songino Array	64.62	328	P	P	02 20 03.4	+1.4
	1.3nm,0.6s,mb3.9,baz=144,slow=6.5,SNR=4.2						
SONM				LR	LR	02 48 09.0	
	comp=Z,51nm,20.5s,baz=50,slow=36						
VNDA	Vanda	74.06	178	P	P	02 21 00.6	+0.3
	0.6nm,0.8s,mb3.4,baz=339,slow=7.2,SNR=4.3						
VNDA	Vanda	74.06	178	P	P	02 21 00.6	+0.3
MKAR	Makanchi Array	78.57	319	P	P	02 21 27.3	+1.6
	0.3nm,0.3s,mb3.5,baz=112,slow=5.4,SNR=3.8						
CHKZ	Chkalovo	87.48	324	eP	P	02 22 10.7	-1.0
	1.5nm,0.8s,mb4.0						
BRVK	Borovoye	87.57	323	eP	P	02 22 11.3	-0.8
	1.7nm,0.8s,mb4.1						
ZRNK	Zerenda	88.32	323	eP	P	02 22 14.3	-1.4
	1.7nm,0.7s,mb4.2						
TORD	Torodi Ar. Bea	148.68	289	PKPbc	PKPbc	02 29 11.9	+1.0
	0.6nm,1.0s,baz=88,slow=2.5,SNR=2.7						

*CSEM **09** 02:18:35.8±0.1, 3499N×3384E, h55^{km}±1^{km}, Mw3.0, Error ellipse: s-maj=2.3km s-min=1.5km az=16.0*
*ISK **09** 02:18:35.1, 3490N×3385E, h68^{km}, MD3.2*
*GRAL **09** 02:18:36.7±3.2, 3461N×3390E, h0^{km}±36^{km}, MD3.2*
*ISCJB **09** 02:18:36.2±0.4, 3491N±003×3394E±004, h58^{km}±7^{km}, Error ellipse: s-maj=5.8km s-min=4.6km az=59.5*
*NIC **09** 02:18:39.8±0.2, 3487N×3382E, h25^{km}, ML3.2, MW3.0*
*HLW **09** 02:18:40.2, 3471N×3391E, h25^{km}, Mb3.1*
ISC 09 02:18:37.3±0.4, 3491N±003×3394E±003, h50^{km}±7^{km}, n24, σ0^{s}87/38, 4C, Cyprus region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHNC	Paralimni	0.12	37	⇑P	Pn	02 18 45.8	+0.7
	31nm,0.2s						
PHNC				S	Sn	02 18 50.5	-0.2
CSS	Prodhromos	0.51	276	i PG	Pn	02 18 47.7	-0.9
CSS				i SG	Sn	02 18 56.7	0.0
CSS	Prodhromos	0.51	276	P	Pn	02 18 48.5	-0.1
	12nm,0.3s						
CSS				S	Sn	02 18 56.2	-0.5
CSS				i Sg	Sn	02 18 56.7	0.0
MAMC	Mammari	0.65	294	⇑iP	Pn	02 18 50.5	+0.1
ALFC	Alevga	1.13	283	⇑P	Pn	02 18 56.8	0.0
	8.9nm,0.2s						
ALFC				S	Sn	02 19 10.9	-0.3
PPCY	Paphos	1.31	269	⇑iP	Pn	02 18 59.5	+0.2
IKL	Isikli	1.34	351	PN	Pn	02 18 59.3	-0.4
IKL				SN	Sn	02 19 16.1	-0.3
BHL	Bhannes	1.73	125	ePn	Pn	02 19 04.5	-0.5
BHL				Sn	Sn	02 19 23.9	-2.0
HWQ	Hawqa	1.77	110	ePn	Pn	02 19 06.0	+0.6
HWQ				Sn	Sn	02 19 27.5	+0.7
ERMK	Ermenek	1.92	334	i P	Pn	02 19 09.8	+2.3
ERMK				i S	Sn	02 19 32.6	+2.1
MERS	Mersin	2.01	13	PN	Pn	02 19 07.6	-1.2
RCY	Rachaya	2.10	132	ePn	Pn	02 19 10.5	+0.4
RCY				Sn	Sn	02 19 35.2	+0.2
HTY	Hatay	2.16	55	PN	Pn	02 19 11.3	+0.5
HDMB	Hadim	2.37	330	ePN	Pn	02 19 12.7	-1.0
COBT	Iskenderun	2.47	49	i P	Pn	02 19 16.5	+1.4
COBT				i S	Sn	02 19 44.5	+0.4
KARA	Karaisali	2.51	21	ePN	Pn	02 19 15.9	+0.2
KOZT	Kozan	2.98	30	ePN	Pn	02 19 22.3	+0.2
AKAS	Kas	3.78	292	i P	Pn	02 19 31.9	-1.0
AKAS				i S	Sn	02 20 28.1	+12
AKAS	Kas	3.78	292	i P	Pn	02 19 31.9	-1.1
AKAS				i S	Sn	02 20 16.0	-0.1
GZT	Gaziantep	3.81	49	i P	Pn	02 19 32.0	-1.5
GZT				i S	Sn	02 20 16.0	-1.1
AMAG	Maghara	4.30	188	P	Pn	02 19 40.3	+0.2
FETY	Fethiye	4.31	295	ePN	Pn	02 19 39.4	-0.9
HNKL	Nakhl	4.96	180	P	Pn	02 19 49.9	+0.6
SUZ		5.14	191	P	Pn	02 19 52.4	+0.7

*NEIC **09** 02:29:18.3, 1934N×6322W, h72^{km}, MD3.6(RSPR), After RSPR.*
*RSPR **09** 02:29:18.3, 1934N×6322W, h72^{km}±28^{km}, MD3.6/6, MD3.6/6*
TRN 09 02:29:15.9, 1885N×6303W, h90^{km}, 5C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBVI	Tortola	1.57	254	⇑eP	Pn	02 29 43.8	+1.3
TBVI				eS	Sn	02 30 04.1	+1.5
STVI	Saint Thomas	1.89	255	⇑eP	Pn	02 29 48.2	+1.6
STVI				eS	Sn	02 30 12.5	+2.4
MTP	Monte Pirata	2.51	253	⇑eP	Pn	02 29 55.9	+1.1
MTP				eS	Sn	02 30 25.8	+1.1
CBYP	Canovanas	2.74	258	⇓eP	Pn	02 29 59.8	+1.9
CBYP				eS	Sn	02 30 30.9	+0.7
HUMP	Col San Antoni	2.77	256	⇑eP	Pn	02 30 00.7	+2.4
HUMP				eS	Sn	02 30 32.5	+1.7
LZG	Guadaloupe-1	2.95	156	eP	Pn	02 30 02.3	+1.6
CRPR	Cabo Rojo, PR	3.96	258	⇑eP	Pn	02 30 15.5	+1.1

*KNET **09** 02:32:07.3±0.5, 4217N×7374E, h10^{km}±3^{km}, ml2.8, Error ellipse: s-maj=3.9km s-min=2.8km az=89.0*
*ISCJB **09** 02:32:08.7±0.8, 4218N±004×7367E±006, h10^{km}, Error ellipse: s-maj=6.4km s-min=5.6km az=22.4*
*NNC **09** 02:32:09.2±2.6, 4238N×7365E, h0^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=57.4km s-min=10.9km az=171.0*
ISC 09 02:32:08.9±0.8, 4217N±004×7370E±006, h10^{km}, n12, σ1^{s}07/23, 12C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	0.04	183	⇓P	Pg	02 32 09.9	-0.9
	6μm,0.1s						
AML				⇑S	Sg	02 32 11.9	-0.2
	3μm,0.1s						
EKS2	Erkin-Say	0.49	7	⇓P	Pg	02 32 18.0	-0.4
	28nm,0.1s,SNR=96						
EKS2				⇑S	Sg	02 32 25.0	0.0
	109nm,0.1s						
AAK	Ala-Archa	0.75	52	⇓P	Pg	02 32 22.6	-0.8
	24nm,0.1s,SNR=20						
AAK				⇑S	Sg	02 32 33.1	0.0
	128nm,0.2s						
KBK	Karagaybulak	1.04	62	⇓P	Pg	02 32 27.9	-1.1
	35nm,0.1s,SNR=23						
KBK				⇑S	Sg	02 32 42.4	-0.1
	278nm,0.3s						
CHMS	Chumysh	1.14	43	⇓P	Pb	02 32 29.6	-1.0
	35nm,0.1s,SNR=97						
CHMS				⇑S	Sb	02 32 45.1	-0.4
	39nm,0.1s						
KZA	Kyzart	1.16	94	⇓P	Pb	02 32 29.6	-1.4
	72nm,0.1s,SNR=314						
KZA				⇑S	Sb	02 32 45.7	-0.5
	206nm,0.2s						
USP	Ospenovka	1.24	28	⇓P	Pn	02 32 31.6	-0.8
	75nm,0.3s,SNR=154						
USP				⇑S	Sb	02 32 48.7	+0.1
	222nm,0.3s						
TKM2	Tokmak 2	1.59	61	⇓P	Pn	02 32 37.4	+0.2
	45nm,0.1s,SNR=152						
TKM2				⇓S	Sn	02 32 59.3	+1.5
	93nm,0.1s						
TKM2	Tokmak 2	1.59	61	⇑P	Pn	02 32 37.3	+0.2
	1.2nm,0.4s						
TKM2				⇑S	Sn	02 32 58.4	+0.6
	1.9nm,0.3s						
ULHL	Ulahol	1.89	87	⇓P	Pn	02 32 42.5	+1.2
	26nm,0.2s,SNR=190						
ULHL				⇑S	Sn	02 33 07.9	+2.7
	40nm,0.1s						
KK31	Karatay Array	2.53	293	Pn	Pn	02 32 52.1	+2.0
	4.6nm,0.3s,baz=117,slow=13,SNR=100						
KK31				Lg		02 33 25.3	
	11nm,0.3s,baz=114,slow=26,SNR=17						
KNDC	Almaty	2.63	65	⇑Pn	Pn	02 32 55.7	+4.3
	34nm,0.5s						
KNDC				⇑Sn	Sn	02 33 26.3	+2.9
	52nm,0.3s						

IDC 09 02:54:03.2±6.7, 465S×12557E, h455^{km}±92^{km}, mb3.1/2, mb1 3.2/4, mb1mx2.9/17, mbtmp3.9/4, Error ellipse: s-maj=107.3km s-min=37.0km az=58.0, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.37	180	P	P	02 56 56.5	-0.2
	0.2nm,0.3s,baz=8.3,slow=13,SNR=6.8						
WRA	Warramunga Arr	17.43	151	P	P	02 57 39.8	+0.1
	1.0nm,0.3s,baz=330,slow=10,SNR=13						
WB2	Warramunga Arr	17.44	151	eP	P	02 57 39.6	-0.2
ASAR	Alice Springs	20.54	158	P	P	02 58 09.3	+0.2
	2.2nm,0.4s,baz=342,slow=16,SNR=31						
MKAR	Makanchi Array	63.90	328	P	P	03 03 50.2	+0.1
	0.6nm,0.4s,baz=132,slow=8.6,SNR=3.1						

*NEIC **09** 03:22:43.0, 1577N×9463W, h16^{km}, MD4.0(MEX), After MEX.*
MEX 09 03:22:33.5±1.7, 1646N×9371W, h149^{km}±22^{km}, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.28	299	i P	Pn	03 22 59.0	-1.7
CMIG				i S	Sn	03 23 19.7	-1.9
CCIG	Comitan	1.52	96	i P	Pn	03 23 01.9	-1.2
CCIG				i S	Sn	03 23 24.8	-1.1
HUIG	Huatulco	2.40	254	i P	Pn	03 23 10.8	-2.6
HUIG				i S	Sn	03 23 43.3	-0.7
HUIG	Huatulco	2.40	254	i P	Pn	03 23 10.7	-2.6
HUIG				i S	Sn	03 23 12.0	-32
OXX	Oaxaca	2.95	283	i P	Pn	03 23 20.5	+0.4
OXX				i S	Sn	03 23 54.0	-2.2
VHO	Vista Hermosa	2.96	282	i P	Pn	03 23 19.7	-0.5
VHO				i S	Sn	03 23 54.0	-2.3

*ISCJB **09** 03:26:06.5±0.6, 4905S±008×1239E±03, h10^{km}, mb4.3/8, MS4.1/11, Error ellipse: s-maj=26.3km s-min=10.6km az=20.9*
*IDC **09** 03:26:06.4±0.8, 4902S×12370E, h0^{km}, mb4.2/7, mb1 4.3/8, mb1mx4.2/13, mbtmp4.3/8, ML2.1/1, MS4.2/12,*

Ms1 4.2/12, ms1mx4.0/22, Error ellipse: s-maj=44.6km s-min=17.8km az=108.0

*NEIC **09** 03:26:08.0±0.5, 4903S×12381E, h10km, mb4.3/2, Error ellipse: s-maj=20.3km s-min=9.6km az=100.0*

ISC 09 03:26:07.9±0.6**, 4904S**±008×**1238E**±03**, h10km, n26, σ0.79**/14**, mb4.3**/8**, MS4.1**/11**, 1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.83**	**341**	Pn	**Pn**	**03 30 04.9**	**+1.3**
	0.3nm,0.3s,baz=163,slow=7.9,SNR=6.1						
NWAO				LR	LR	03 35 01.1	
	comp=Z,892nm,19.9s,baz=163,slow=32						
STKA	**Stephens Creek**	**21.75**	**45**	P	**P**	**03 31 00.8**	**+1.3**
	3.9nm,0.8s,mb3.9,baz=183,slow=17,SNR=3.4						
STKA				LR	LR	03 37 45.0	
	comp=Z,705nm,20.8s,MS4.0,baz=208,slow=32						
ASAR	**Alice Springs**	**26.55**	**21**	P	**P**	**03 31 45.4**	**-0.5**
	5.6nm,0.9s,mb4.1,baz=191,slow=9.7,SNR=20						
ASAR				LR	LR	03 41 30.5	
	comp=Z,1µm,18.1s,MS4.4,baz=178,slow=35						
AS31	**Alice Springs**	**26.55**	**21**	*e*P	**P**	**03 31 44.6**	**-1.3**
WRA	**Warramunga Arr**	**30.24**	**20**	LR	LR	03 43 44.0	
	comp=Z,815nm,19.2s,MS4.4,baz=185,slow=35						
FITZ	**Fitzroy Crossi**	**30.90**	**3**	LR	LR	03 43 54.1	
	comp=Z,426nm,19.7s,MS4.1,baz=9.1,slow=35						
VNDA	**Vanda**	**32.04**	**165**	P	**P**	**03 32 35.0**	**+0.3**
	1.7nm,0.8s,mb3.9,baz=293,slow=9.0,SNR=4.8						
VNDA				LR	LR	03 44 15.0	
	comp=Z,439nm,21.6s,MS4.1,baz=321,slow=34						
VNDA	**Vanda**	**32.04**	**165**	*e*P	**P**	**03 32 35.3**	**+0.6**
	3.2nm,1.0s,mb4.1						
VNDA				LR	LR	03 44 15.0	
RPZ	**Rata Peaks**	**32.60**	**99**	LR	LR	03 42 28.6	
	comp=Z,332nm,18.7s,MS4.1,baz=47,slow=30						
CTA	**Charters Tower**	**34.03**	**40**	LR	LR	03 45 44.2	
	comp=Z,466nm,20.4s,MS4.2,baz=227,slow=35						
MAW	**Mawson**	**35.11**	**216**	P	**P**	**03 33 01.2**	**-0.2**
	5.2nm,1.1s,mb4.4,baz=74,slow=9.9,SNR=7.0						
MAW				LR	LR	03 46 24.6	
	comp=Z,165nm,18.1s,MS3.8,baz=66,slow=35						
QSPA	**South Pole Qui**	**41.08**	**180**	*e*P	**P**	**03 33 51.9**	**+0.2**
	7.1nm,1.0s,mb4.2						
DZM	**Mont Dzumac**	**43.09**	**67**	LR	LR	03 48 16.6	
	comp=Z,253nm,18.6s,MS4.2,baz=211,slow=31						
PMG	**Port Moresby**	**44.08**	**34**	LR	LR	03 51 53.5	
	comp=Z,207nm,18.4s,MS4.1,baz=213,slow=35						
HNR	**Honiara**	**49.69**	**50**	LR	LR	03 54 28.4	
	comp=Z,155nm,18.4s,MS4.0,baz=179,slow=34						
SNAA	**Sanae**	**53.84**	**198**	P	**P**	**03 35 30.0**	**-1.0**
	5.1nm,1.2s,mb4.3,baz=144,slow=9.3,SNR=16						
SNAA	**Sanae**	**53.84**	**198**	⇓*i*	**P**	**03 35 30.8**	**-0.2**
SNAA				*e*		03 35 36.4	
SNAA				*e*		03 35 44.1	
SNAA				*e*		03 35 52.3	
SNAA	**Sanae**	**53.84**	**198**	*e*P	**P**	**03 35 30.5**	**-0.5**
	28nm,1.2s,mb5.1						
VNA1	**Neumayer--Stat**	**55.74**	**197**	*e*	**P**	**03 35 45.2**	**+0.5**
VNA1				*e*		03 35 50.8	
VNA1				*e*		03 35 58.2	
VNA1				*e*		03 36 09.2	
MJAR	**Matsushiro Arr**	**86.16**	**12**	P	**P**	**03 38 48.4**	**-0.9**
	3.6nm,1.0s,mb4.5,baz=196,slow=7.0,SNR=10						
SONM	**Songino Array**	**97.66**	**348**	P	**P**	**03 39 42.5**	**-0.3**
	1.3nm,0.8s,mb4.5,baz=197,slow=4.5,SNR=3.8						
WMOK	**Wichita Mounta**	**145.70**	**99**	*e*PKPbc	PKPbc	03 45 46.2	-0.7
YKA	**Yellowknife Ar**	**145.79**	**45**	PKPbc	PKPbc	03 45 45.7	-1.5
	2.2nm,0.7s,baz=237,slow=2.5,SNR=4.6						
YKA	**Yellowknife Ar**	**145.79**	**45**	PKPbc	PKPbc	03 45 45.7	-1.5
RSSD	**Black Hills**	**147.19**	**80**	*e*PKPbc	PKPbc	03 45 50.8	-0.6
EKA	**Eskdalemuir Ar**	**147.57**	**302**	PKPbc	PKPbc	03 45 50.2	-2.2
	0.7nm,0.8s,baz=140,slow=3.4,SNR=3.8						

WEL 09 03:30:23.1±0.2**, 3898S**×**17399E, h5km, ML3.6**/22**, 2C-2D, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKE	**Pukeiti**	**0.21**	**180**	⇑PG	Pg	03 30 27.5	+0.2
PKE				SG	Sg	03 30 30.6	+0.4
NEZ	**North Egmont**	**0.30**	**164**	⇓PG	Pg	03 30 29.3	+0.3
NWEZ	**Newall Road**	**0.31**	**197**	⇑PG	Pg	03 30 29.6	+0.5
NRZ	**Ngariki Road**	**0.36**	**187**	⇓PG	Pg	03 30 30.3	+0.3
RAEZ	**Rainy Point**	**0.44**	**134**	PG	Pg	03 30 32.4	+0.8
VRZ	**Vera Road**	**0.62**	**104**	P*	Pg	03 30 35.5	+0.5
VRZ				SG	Sg	03 30 44.8	+1.7
HIZ	**Hauiti**	**0.82**	**56**	P*	Pb	03 30 38.9	-1.0
HIZ				S*	Sb	03 30 50.9	-0.4
WAZ	**Wanganui**	**1.10**	**135**	P*	Pb	03 30 43.6	-1.0
PKVZ	**Pokaka**	**1.10**	**107**	P*	Pb	03 30 43.4	-1.3
PKVZ				S*	Sb	03 30 58.8	-0.6
TWVZ	**Taurewa**	**1.14**	**95**	P*	Pb	03 30 43.9	-1.3
MTVZ	**Mangateitei**	**1.22**	**110**	P*	Pb	03 30 45.6	-1.2
WPVZ	**Whakapapa**	**1.23**	**101**	P*	Pb	03 30 46.3	-0.6
FWVZ	**Far West T-bar**	**1.25**	**103**	P*	Pb	03 30 46.1	-1.1
WTVZ	**West Tongariro**	**1.26**	**97**	P*	Pb	03 30 46.1	-1.2
NGZ	**Ngauruhoe**	**1.27**	**99**	P*	Pb	03 30 46.3	-1.2
KRVZ	**Karewarewa**	**1.29**	**96**	P*	Pb	03 30 46.9	-1.0
WNVZ	**Wahianoa**	**1.30**	**106**	P*	Pb	03 30 46.9	-1.2
OTVZ	**Oturere**	**1.32**	**99**	P*	Pb	03 30 47.5	-0.9
TUVZ	**Tukino**	**1.33**	**103**	P*	Pb	03 30 47.9	-0.6
KATZ	**Kakaramea**	**1.33**	**90**	P*	Pb	03 30 47.7	-0.9
WATZ	**Wairara**	**1.39**	**79**	PN	Pn	03 30 48.9	-0.3
RATZ	**Rangitukua**	**1.40**	**86**	PN	Pn	03 30 49.0	-0.3
MOVZ	**Moawhango**	**1.44**	**108**	PN	Pn	03 30 48.9	-0.9
RITZ	**Rihia Road**	**1.46**	**91**	PN	Pn	03 30 50.4	+0.3
TOZ	**Tahuroa Road**	**1.73**	**44**	*e*PN	Pn	03 30 52.8	-0.9
DUWZ	**D'Urville Isla**	**1.82**	**182**	PN	Pn	03 30 53.7	-1.4
KIW	**Kapiti Island**	**2.01**	**160**	PN	Pn	03 30 57.4	-0.2
QRZ	**Quartz Range**	**2.16**	**211**	PN	Pn	03 30 57.4	-2.3

*ISCJB **09** 03:36:37.7±1.6, 681S±010×15528E±005, h79km±15km, mb4.1/16, Error ellipse: s-maj=16.4km s-min=8.0km az=175.5*

*IDC **09** 03:36:39.3±2.4, 681S×15528E, h78km±20km, mb3.8/9, mb1 3.9/13, mb1mx3.9/18, mbtmp4.1/13, MS3.4/4, Ms1 3.4/4, ms1mx3.2/19, Error ellipse: s-maj=21.1km s-min=13.1km az=1.0*

*NEIC **09** 03:36:39.1±0.8, 681S×15531E, h80km±7km, mb4.4/8, Error ellipse: s-maj=7.6km s-min=5.6km az=163.0*

ISC 09 03:36:39.9±1.3**, 681S**±010×**15531E**±005**, h86km**±12km**, n30, σ0.64**/25**, mb4.1**/16**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.28**	**120**	P	**Pn**	**03 37 55.3**	**-0.9**
	11nm,0.3s,baz=268,slow=4.6,SNR=3.0						
HNR				S	**Sn**	**03 38 57.3**	**+1.6**
	44nm,0.3s,baz=90,slow=18,SNR=4.1						
HNR				LR	LR	03 39 55.4	
	comp=Z,323nm,19.1s,baz=360,slow=37						
PMG	**Port Moresby**	**8.47**	**252**	P	**Pn**	**03 38 38.9**	**-0.9**
	3.0nm,0.3s,baz=52,slow=14,SNR=6.8						
PMG				S	**Sn**	**03 40 14.3**	**+0.5**
	1.3nm,0.3s,baz=12,slow=20,SNR=2.3						
PMG				LR	LR	03 41 35.4	
	comp=Z,210nm,21.5s,baz=82,slow=35						
CTA	**Charters Tower**	**15.86**	**213**	P	**Pn**	**03 40 18.2**	**+0.2**
	0.1nm,0.3s,baz=39,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**15.86**	**213**	*e*Pn	**Pn**	**03 40 17.9**	**-0.1**
	11nm,1.1s						
DZM	**Mont Dzumac**	**18.59**	**146**	P	**Pn**	**03 40 50.4**	**-1.0**
	0.4nm,0.3s,baz=232,slow=17,SNR=7.5						
WRAB	**Tennant Creek**	**24.17**	**235**	*e*P	**P**	**03 41 48.1**	**+0.1**
	6.3nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**24.18**	**235**	P	**P**	**03 41 48.8**	**+0.7**
	2.4nm,0.5s,mb3.8,baz=60,slow=9.6,SNR=9.1						
WRA				PcP	PcP	03 45 28.0	+1.4
	0.7nm,0.5s,baz=64,slow=2.7,SNR=4.6						
AS31	**Alice Springs**	**26.53**	**229**	*e*P	**P**	**03 42 09.0**	**-0.4**
ASAR	**Alice Springs**	**26.53**	**229**	P	**P**	**03 42 09.1**	**-0.3**
	0.9nm,0.5s,mb3.6,baz=60,slow=9.3,SNR=25						
ASAR				PcP	PcP	03 45 33.2	+1.3
	0.6nm,0.6s,baz=65,slow=2.3,SNR=6.6						
STKA	**Stephens Creek**	**28.04**	**205**	P	**P**	**03 42 23.4**	**+0.5**
	1.3nm,0.6s,mb3.7,baz=34,slow=7.3,SNR=2.1						
STKA				PcP	PcP	03 45 36.9	+1.4
	1.1nm,0.4s,baz=70,slow=2.1,SNR=2.8						
STKA				LR	LR	03 53 22.3	
	comp=Z,122nm,19.4s,baz=29,slow=36						
STKA	**Stephens Creek**	**28.04**	**205**	P	**P**	**03 42 23.4**	**+0.5**
STKA				PcP	PcP	03 45 36.9	+1.4
STKA				LR	LR	03 53 22.3	
FITZ	**Fitzroy Crossi**	**31.02**	**246**	P	**P**	**03 42 48.9**	**-0.3**
	2.1nm,0.6s,mb4.0,baz=71,slow=11,SNR=8.9						
FITZ				LR	LR	03 57 00.1	
	comp=Z,73nm,18.2s,baz=200,slow=39						
MBWA	**Marble Bar**	**37.24**	**244**	*e*P	**P**	**03 43 43.5**	**+0.5**
	25nm,1.1s,mb5.0						
CHTO	**Chiang Mai**	**61.10**	**296**	*e*P	**P**	**03 46 45.4**	**+0.5**
	2.6nm,0.5s,mb4.5						
SONM	**Songino Array**	**69.35**	**327**	P	**P**	**03 47 39.4**	**+1.2**
	0.7nm,0.5s,mb3.8,baz=122,slow=5.5,SNR=2.7						
VNDA	**Vanda**	**70.76**	**178**	P	**P**	**03 47 46.5**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=347,slow=5.2,SNR=3.6						
MCK	**McKinley**	**81.77**	**22**	*e*P	**P**	**03 48 48.7**	**-0.5**
	2.2nm,0.6s,mb4.2						
COLA	**College**	**82.79**	**21**	*e*P	**P**	**03 48 54.4**	**-0.1**
	2.7nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**83.17**	**180**	*e*P	**P**	**03 48 55.8**	**-0.6**
	2.6nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**03 48 57.8**	**-0.2**
	0.9nm,0.6s,mb3.8,baz=81,slow=7.5,SNR=4.0						
MAW	**Mawson**	**84.69**	**203**	P	**P**	**03 49 04.3**	**+0.1**
	1.3nm,0.8s,mb3.9,baz=90,slow=7.8,SNR=3.7						
INK	**Inuvik**	**89.44**	**21**	*e*P	**P**	**03 49 26.9**	**-0.2**
	2.1nm,0.4s,mb4.5						
YKA	**Yellowknife Ar**	**96.03**	**28**	P	**P**	**03 49 57.4**	**-0.1**
	0.4nm,0.5s,mb4.1,baz=270,slow=4.8,SNR=3.4						
TRQA	**Tornquist**	**123.46**	**145**	*e*PKPdf	PKPdf	03 55 27.1	+0.1
GERES	**GERESS Array B**	**127.06**	**329**	PKP	PKPdf	03 55 34.0	0.0
	0.3nm,0.4s,baz=45,slow=1.5,SNR=5.0						
EKA	**Eskdalemuir Ar**	**128.65**	**344**	PKP	PKPdf	03 55 37.0	+0.1
	0.7nm,0.6s,baz=22,slow=2.5,SNR=6.6						
LPAZ	**La Paz**	**131.27**	**119**	PKP	PKPdf	03 55 44.1	+2.2
	0.4nm,0.5s,baz=106,slow=12,SNR=4.0						
CPUP	**Villa Florida**	**134.31**	**137**	PKP	PKPdf	03 55 48.5	+0.9
	0.3nm,0.4s,baz=211,slow=5.9,SNR=2.7						
BDFB	**Brasilia**	**147.88**	**134**	PKPbc	PKPbc	03 56 15.7	+0.7
	5.4nm,0.6s,baz=243,slow=2.7,SNR=14						
TORD	**Torodi Ar. Bea**	**153.28**	**286**	PKPbc	PKPbc	03 56 28.9	+1.1
	1.0nm,0.6s,baz=87,slow=1.7,SNR=12						

*MOS **09** 04:13:08.9±1.0, 7.11S×120.11E, h541km, mb6.1/62, Error ellipse: s-maj=8.6km s-min=4.6km az=119.0*

*BJI **09** 04:13:09.3, 724S×120.19E, h574km, mB5.8, mb6.1*

*CRAAG **09** 04:13:10.3, 7.13S×12022E, Mb6.1*

*ISCJB **09** 04:13:11.1±0.1, 724S±002×120.11E±002, h576km, mb6.1/176, Error ellipse: s-maj=3.1km s-min=2.4km az=124.3*

*BGS **09** 04:13:11.8±1.2, 721S×120.11E, h572km, MS5.4*

*GCMT **09** 04:13:12.0±0.1, 723S×12027E, h583km, MW6.3/112, Moment Tensor Solution. s112,c278; s94,c147; Duration: 3.4 Moment tensor: Scale 10^{18}Nm; M_{rr}-2.32±.02; $M_{\theta\theta}$2.29±.02; $M_{\phi\phi}$0.02±.03; $M_{r\theta}$-2.26±.02; $M_{\theta\phi}$-0.40±.03; $M_{\phi r}$-0.90±.03; Best double couple: $M_0$3.36400×10^{18} NP1:ϕ_s296.00000°, δ26.00000°, λ-55.00000°. NP2:ϕ_s79.00000°, δ69.00000°, λ-106.00000°. Principal axes: T 3.2130, Plg22.0000°, Azm181.0000°; N 0.3010, Plg15.0000°, Azm85.0000°; P -3.5150, Plg63.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*IDC **09** 04:13:12.4±0.4, 720S×120.15E, h573km±4km, mb5.5/34, mb1 5.5/36, mb1mx5.5/37, mbtmp6.4/36 Error ellipse: s-maj=6.6km s-min=5.0km az=64.0*

*NEIC **09** 04:13:12.1±0.1, 722S×120.11E, h572km, mb6.0/95, ME5.7, MW6.3, Error ellipse: s-maj=5.0km s-min=3.1km az=56.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{18}Nm; M_{rr}-2.20; $M_{\theta\theta}$1.69; $M_{\phi\phi}$0.51; $M_{r\theta}$-1.96; $M_{\theta\phi}$0.03; $M_{\phi r}$-1.15; Best double couple: $M_0$3.00000×10^{18} NP1: ϕ_s68.00000°, δ70.00000°, λ-99.00000°. NP2:ϕ_s273.00000°, δ22.00000°, λ-66.00000°. Principal axes: T 2.6300, Plg24.0000°, Azm165.0000°; N 0.6900, Plg9.0000°, Azm71.0000°; P -3.3100, Plg64.0000°, Azm323.0000°; Broadband fault plane solution: P waves. NP1: ϕ_s250.00000°, δ20.00000°, λ-90.00000°. NP2:ϕ_s70.00000°, δ70.00000°, λ-90.00000°. Principal axes: T Plg25.0000°, Azm160.0000°; N Plg0.0000°, Azm0.0000°; P Plg65.0000°, Azm340.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Sumbawa Besar, Sumbawa. Felt [III] at Denpasar and [II] at Karangasem, Bali. Also felt on Flores.

ISC 09 04:13:12.7±0.1**, 725S**±002×**12013E**±002**, h579km**±3.6km**:pP-P, n1310, σ1.06**/674**, mb6.1**/171**, 160C-71D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.41**	**176**	P	**P**	**04 14 24.9**	**-2.0**
	78µm,1.2s						
DNP	**Denpasar**	**5.07**	**253**	P	**P**	**04 14 42.9**	**-1.9**
	12µm,0.7s						
NBBI	**Negara**	**5.57**	**258**	P	**P**	**04 14 47.2**	**-1.8**
	4µm,0.8s						
KMMI	**Kalianget**	**6.12**	**271**	P	**P**	**04 14 55.1**	**+1.4**
	2µm,1.0s						
PCI	**Palu**	**6.31**	**357**	P	**P**	**04 14 55.5**	**0.0**
	13µm,1.2s						
KRKI	**Karangkates**	**7.66**	**263**	P	**P**	**04 15 06.3**	**-1.7**
	7µm,0.6s						
AAI	**Ambon**	**8.78**	**67**	P	**P**	**04 15 19.3**	**+0.5**
	3µm,1.2s						
BJII	**Banjamegara**	**10.34**	**269**	P	**P**	**04 15 32.4**	**-2.0**
	1µm,0.8s						
TARAI	**Tarakan**	**10.81**	**346**	P	**P**	**04 15 39.4**	**+0.2**
	23µm,1.1s						
TSM	**Tawau**	**11.69**	**349**	P	**P**	**04 15 49.9**	**+1.9**
JCJI	**Jatiwangi**	**11.80**	**273**	P	**P**	**04 15 48.0**	**-1.2**
	2µm,0.8s						
FITZ	**Fitzroy Crossi**	**12.05**	**154**	⇑*i*P	**P**	**04 15 51.0**	**-0.7**
	4µm,0.8s						
FITZ				*i* S	**S**	**04 17 52.7**	**-10**
FITZ	**Fitzroy Crossi**	**12.05**	**154**	P	**P**	**04 15 50.9**	**-0.8**
	baz=338,slow=11						
FITZ				S	**S**	**04 18 01.3**	**-1.2**
	13nm,0.3s,baz=166,slow=22,SNR=7.7						
FITZ				P3KPbc		04 51 18.7	
	0.1nm,0.3s,baz=310,slow=21,SNR=3.6						
LEM	**Lembang**	**12.42**	**271**	P	**P**	**04 15 54.1**	**-1.5**
	2µm,1.3s						
SWI	**Sorong**	**12.79**	**61**	P	**P**	**04 15 57.3**	**-1.9**
	4µm,1.3s						
KSM	**Kuching**	**13.08**	**311**	⇑*e*Pn	**P**	**04 16 02.7**	**+0.4**
KSM				*e*S	**S**	**04 18 21.0**	**-0.7**
KSM				*e*ScP	ScP	04 23 24.7	+0.7
CBJI	**Citeko**	**13.21**	**273**	P	**P**	**04 16 00.1**	**-3.5**
	7µm,0.9s						
KAKA	**Kakadu**	**13.28**	**115**	⇑*i*P	**P**	**04 16 02.7**	**-1.6**
	924nm,0.6s						
KAKA				*e*SCP	ScP	04 23 27.9	+3.6
TNG	**Tangerang**	**13.43**	**274**	P	**P**	**04 16 07.2**	**+1.4**
	2µm,1.6s						
KKM	**Kota Kinabalu**	**13.77**	**343**	P	**P**	**04 16 09.5**	**+0.2**
KKM	**Kota Kinabalu**	**13.77**	**343**	⇑*e*P	**P**	**04 16 09.0**	**-0.2**
KKM				*e*S	**S**	**04 18 33.8**	**-0.7**
KKM				*e*ScP	ScP	04 23 26.8	+1.7
MBWA	**Marble Bar**	**13.83**	**182**	*e*P	**P**	**04 16 08.8**	**-1.1**
SBJI	**Serang**	**13.95**	**274**	P	**P**	**04 16 08.5**	**-2.6**
	2µm,1.3s						
CTBH	**Cotabato--PC H**	**14.95**	**16**	⇓*e*P	**P**	**04 16 21.8**	**+0.6**
KCP	**Kidapawan**	**15.01**	**19**	⇓*e*P	**P**	**04 16 23.2**	**+1.5**
IPIL	**Ipil**	**15.14**	**9**	⇓*e*P	**P**	**04 16 23.4**	**+0.5**
IPIL	**Ipil**	**15.14**	**9**	*e*P	**P**	**04 16 23.4**	**+0.4**
DAV	**Davao City (W)**	**15.23**	**21**	⇑*e*P	**P**	**04 16 23.5**	**-0.3**
DAV	**Davao City (W)**	**15.23**	**21**	*e*P	**P**	**04 16 22.7**	**-1.0**
	2µm,0.7s						
DAV				*e*S	**S**	**04 18 55.1**	**-4.6**
PAGZ	**Pagadian**	**15.35**	**12**	*e*P	**P**	**04 16 25.8**	**+1.0**
KLI	**Kotabumi**	**15.37**	**278**	P	**P**	**04 16 24.2**	**-0.9**
	825nm,1.0s						
MATI	**Mati**	**15.37**	**24**	*e*P	**P**	**04 16 24.1**	**-1.0**
BUKP	**Musuan**	**15.81**	**18**	*e*P	**P**	**04 16 30.1**	**+1.0**
BATP	**Bataraza**	**16.11**	**352**	*e*P	**P**	**04 16 32.9**	**+1.0**
CGP	**Cagayan de Oro**	**16.25**	**16**	⇓*i*P	**P**	**04 16 35.7**	**+2.5**
CGP						05 11 01.4	
PPR	**Puerto Princes**	**16.97**	**355**	⇓*i*P	**P**	**04 16 41.4**	**+1.7**
BUTP	**Butuan**	**17.02**	**19**	*e*P	**P**	**04 16 42.1**	**+1.9**
TBP	**Tagbilaran**	**17.24**	**13**	*e*P	**P**	**04 16 42.8**	**+0.6**
SCPH	**Surigao**	**17.74**	**18**	*e*P	**P**	**04 16 47.3**	**+0.5**
LLP	**Lapu-Lapu**	**17.86**	**12**	⇑*e*P	**P**	**04 16 48.2**	**+0.3**
	1170µm,1.0s						
LLP				*e*S	**S**	**04 19 44.1**	**+1.2**
MSLP	**Maasin**	**17.90**	**15**	*e*P	**P**	**04 16 49.6**	**+1.4**
GUIM	**Jordan**	**17.93**	**8**	*e*P	**P**	**04 16 48.8**	**+0.3**
CUYO	**Cuyo Island**	**18.00**	**3**	*e*P	**P**	**04 16 50.5**	**+1.3**
ENPP	**El Nido**	**18.35**	**358**	*e*P	**P**	**04 16 54.0**	**+1.7**
WRA	**Warramunga Arr**	**18.69**	**134**	P	**P**	**04 16 55.3**	**-0.1**
	162nm,0.3s,baz=312,slow=10,SNR=352						
WRA				S	**S**	**04 19 54.3**	**-1.8**
	5.4nm,0.3s,baz=310,slow=16,SNR=4.6						
WRA				P3KPbc		04 51 08.5	
	0.5nm,0.3s,baz=136,slow=4.3,SNR=49						
WRA	**Warramunga Arr**	**18.69**	**134**	*i* P	**P**	**04 16 54.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,2µm,0.6s						
WRA	**Warramunga Arr**	**18.69**	**134**	P	**P**	**04 16 55.3**	**-0.1**
WRA				S	**S**	**04 19 54.3**	**-1.9**
WRAB	**Tennant Creek**	**18.69**	**134**	*c i*P	**P**	**04 16 55.1**	**-0.3**
WRAB	**Tennant Creek**	**18.69**	**134**	⇑*e*P	**P**	**04 16 55.4**	**0.0**
	comp=Z,3µm,0.8s						
WB2	**Warramunga Arr**	**18.69**	**134**	⇑*i*P	**P**	**04 16 55.3**	**-0.2**
WB2				*e*S	**S**	**04 19 45.9**	**-10**
WB2				*e*SCS	ScS	04 27 14.2	-2.5
OCLP	**Ormoc**	**18.72**	**14**	*e*P	**P**	**04 16 56.0**	**+0.3**
RCP	**Roxas**	**18.87**	**8**	*e*P	**P**	**04 16 57.4**	**+0.4**
PLP	**Palo**	**18.92**	**15**	*i* P	**P**	**04 16 57.6**	**+0.1**
KALP	**Kalibo**	**18.93**	**7**	*e*P	**P**	**04 17 04.6**	**+6.9**
BUSP	**Coron**	**19.13**	**0**	*e*P	**P**	**04 17 00.5**	**+1.1**
KGM	**Kluang**	**19.13**	**298**	P	**P**	**04 17 02.1**	**+2.6**
OTRP	**Odiongan**	**19.57**	**6**	*e*P	**P**	**04 17 04.8**	**+1.4**
AUQP	**San Andres**	**20.59**	**7**	*e*P	**P**	**04 17 17.4**	**+4.7**
BOAC	**Boac**	**20.64**	**5**	*e*P	**P**	**04 17 13.5**	**+0.4**
PPI	**Padang Panjang**	**20.80**	**288**	P	**P**	**04 17 14.4**	**-0.1**
	comp=Z,711nm,1.4s						
LUBP	**Lubang**	**20.85**	**0**	*e*P	**P**	**04 17 15.5**	**+0.6**
ASPA	**Alice Springs**	**21.01**	**142**	⇑*i*P	**P**	**04 17 16.2**	**-0.2**
ASPA				*i* S	**S**	**04 20 29.6**	**-3.4**
ASPA				*e*SCS	ScS	04 27 22.2	-2.6
AS31	**Alice Springs**	**21.01**	**142**	⇑*i*P	**P**	**04 17 16.2**	**-0.2**
AS31				*i* S	**S**	**04 20 29.6**	**-3.4**
AS31				*e*ScS	ScS	04 27 22.2	-2.6
ASAR	**Alice Springs**	**21.01**	**142**	P	**P**	**04 17 16.3**	**-0.1**
	comp=Z,1µm,0.7s,mb6.6,baz=320,slow=8.4,SNR=6008						
ASAR				S	**S**	**04 20 32.2**	**-0.8**
	comp=Z,193nm,0.7s,baz=327,slow=17,SNR=10						
ASAR				PcP	PcP	04 21 00.3	+2.4
	comp=Z,69nm,0.5s,baz=315,slow=1.5,SNR=6.8						
ASAR				ScP	ScP	04 23 40.6	+0.3
	comp=Z,134nm,0.7s,baz=2.0,slow=2.2,SNR=9.9						
ASAR				ScS	ScS	04 27 23.7	-1.1
	comp=Z,24nm,0.8s,baz=316,slow=3.5,SNR=5.3						
ASAR				P3KPbc		04 50 47.9	
	comp=Z,1.2nm,0.8s,baz=75,slow=1.9,SNR=4.7						
ASAR	**Alice Springs**	**21.01**	**142**	P	**P**	**04 17 16.3**	**-0.1**
ASAR				S	**S**	**04 20 32.2**	**-0.8**
ASAR						04 21 00.3	
ASAR						04 27 23.7	
ASAR	**Alice Springs**	**21.01**	**142**	P	**P**	**04 17 16.3**	**-0.1**
ASAR				S	**S**	**04 20 32.2**	**-0.8**
ASAR				PcP	PcP	04 21 00.3	+2.4
ASAR				ScP	ScP	04 23 40.6	+0.3
ASAR				ScS	ScS	04 27 23.7	-1.1
JAY	**Jayapura**	**21.03**	**78**	P	**P**	**04 17 12.3**	**-4.3**
	comp=Z,111nm,0.9s,mb5.5						
PVCP	**Virac**	**21.09**	**11**	⇓*e*P	**P**	**04 17 16.9**	**-0.3**
PVCP				*e*S	**S**	**04 20 34.7**	**+0.4**
PVCP	**Virac**	**21.09**	**11**	*e*P	**P**	**04 17 16.8**	**-0.4**
TGY	**Tagaytay City**	**21.23**	**2**	⇑*e*P	**P**	**04 17 20.9**	**+2.6**
TGY	**Tagaytay City**	**21.23**	**2**	P	**P**	**04 17 19.7**	**+1.4**
	comp=Z,956nm,0.5s,baz=217,slow=3.4,SNR=17						
TGY				S	**S**	**04 20 37.1**	**+0.6**
	comp=Z,407nm,0.6s,baz=209,slow=21,SNR=2.3						
TGY				ScP	ScP	04 23 42.9	+2.0
	comp=Z,605nm,0.8s,baz=174,slow=7.9,SNR=6.4						
TGY	**Tagaytay City**	**21.23**	**2**	P	**P**	**04 17 19.7**	**+1.3**
TGY				S	**S**	**04 20 37.1**	**+0.6**
POLP	**Polilio Island**	**21.91**	**5**	*e*P	**P**	**04 17 24.9**	**+0.4**
IPM	**Ipoh**	**22.34**	**301**	P	**P**	**04 17 30.1**	**+1.8**
SCZP	**Santa Cruz**	**22.88**	**359**	*e*P	**P**	**04 17 32.9**	**-0.2**
BALP	**Baler**	**22.89**	**4**	*e*P	**P**	**04 17 33.5**	**+0.4**
KULM	**Kulim**	**23.09**	**302**	*e*P	**P**	**04 17 35.0**	**+0.1**
KULM				*e*		04 21 03.4	
KULM				*e*ScP	ScP	04 23 48.0	+2.2
PSI	**Prapat**	**23.40**	**295**	P	**P**	**04 17 38.5**	**+0.8**
	comp=Z,2µm,0.9s,mb6.7,baz=105,slow=7.0,SNR=209						
PSI				S	**S**	**04 21 11.1**	**+0.4**
	comp=Z,125nm,0.9s,baz=119,slow=23,SNR=3.1						
PSI				ScP	ScP	04 23 49.1	+2.5
	comp=Z,102nm,1.0s,baz=254,slow=3.6,SNR=5.9						
PSI	**Prapat**	**23.40**	**295**	P	**P**	**04 17 38.5**	**+0.8**
PSI				S	**S**	**04 21 11.1**	**+0.4**
PSI	**Prapat**	**23.40**	**295**	P	**P**	**04 17 38.5**	**+0.8**
PSI				S	**S**	**04 21 11.1**	**+0.4**
PSI				ScP	ScP	04 23 49.1	+2.5
COCO	**West Island**	**23.47**	**256**	*e*P	**P**	**04 17 38.7**	**+0.4**
	comp=Z,534nm,1.1s,mb6.1						
BOLP	**Bolinao**	**23.48**	**359**	*e*P	**P**	**04 17 38.1**	**-0.3**
TSI	**Tuntungan**	**24.02**	**296**	P	**P**	**04 17 43.3**	**+0.1**
	comp=Z,14µm,1.1s						
CAUP	**Cauayan**	**24.10**	**4**	*e*P	**P**	**04 17 44.0**	**+0.1**
SNG	**Songkhla**	**24.17**	**306**	P	**P**	**04 17 45.0**	**+0.5**
	comp=Z,796nm,1.0s,mb6.3						
PALP	**Palanan**	**24.26**	**5**	*e*P	**P**	**04 17 46.0**	**+0.7**
KLBR	**Kellerberrin**	**24.32**	**185**	⇑*i*P	**P**	**04 17 45.0**	**-0.8**
	comp=Z,724nm,0.5s,mb6.6						
KLBR				*e*SCP	ScP	04 23 51.3	+2.1
FORT	**Forrest**	**24.56**	**163**	⇑*i*P	**P**	**04 17 47.7**	**-0.2**
	comp=Z,3µm,0.6s,mb7.1						
FORT				*e*SCP	ScP	04 23 50.8	+0.9
ABRA	**Dolores**	**24.75**	**1**	*e*P	**P**	**04 17 48.9**	**-0.7**
CVP	**Callao Caves**	**24.85**	**4**	*e*P	**P**	**04 17 50.0**	**-0.5**
MUN	**Mundaring**	**24.87**	**188**	⇑*i*P	**P**	**04 17 49.9**	**-0.8**
SGCP	**Mt. Cagua**	**25.40**	**4**	*e*P	**P**	**04 17 54.4**	**-1.0**
NWAO	**Narrogin (SRO)**	**25.69**	**186**	P	**P**	**04 17 57.6**	**-0.3**
	comp=Z,1µm,0.6s,mb6.7,baz=10,slow=8.7,SNR=278						
NWAO				S	**S**	**04 21 47.0**	**+0.4**
	comp=Z,93nm,0.6s,baz=149,slow=12,SNR=1.9						
NWAO				ScP	ScP	04 23 56.7	+3.5
	comp=Z,145nm,0.9s,baz=88,slow=6.5,SNR=6.4						
NWAO	**Narrogin (SRO)**	**25.69**	**186**	*e*P	**P**	**04 17 57.6**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,915nm,0.6s						
NWAO	**Narrogin (SRO)**	**25.69**	**186**	*e*P	**P**	**04 17 57.6**	**-0.4**
	comp=Z,915nm,0.6s,mb6.6						
NWAO				*e*ScP	ScP	04 23 52.1	-1.0
PMG	**Port Moresby**	**26.83**	**96**	P	**P**	**04 18 08.0**	**+0.1**
	comp=Z,223nm,0.5s,mb6.1,baz=163,slow=3.1,SNR=100						
PMG				S	**S**	**04 22 05.2**	**+0.8**
	comp=Z,40nm,1.0s,baz=216,slow=20,SNR=1.0						
PMG	**Port Moresby**	**26.83**	**96**	*c i*P	**P**	**04 18 08.4**	**+0.5**
PMG	**Port Moresby**	**26.83**	**96**	*e*P	**P**	**04 18 08.1**	**+0.1**
	comp=Z,214nm,0.5s,mb6.0						
PMG				*e*ScP	ScP	04 23 58.4	+1.8
QIZ	**Qiongzhong**	**28.01**	**339**	P	**P**	**04 18 18.7**	**+0.4**
QIZ				XP	sP	04 20 58.8	+0.5
QIZ				S	**S**	**04 22 22.3**	**-0.5**
QIZ				AMB	AMB		
	comp=Z,880nm,1.2s,mb6.3						
QIZ				AMB	AMB		
	comp=Z,2µm,11.1s						
QIZ	**Qiongzhong**	**28.01**	**339**	*e*P	**P**	**04 18 18.5**	**+0.3**
	comp=Z,772nm,1.0s,mb6.3						
QIZ				*e*pP		04 19 55.9	
QIZ				*e*PcP	PcP	04 21 14.9	+1.2
CTA	**Charters Tower**	**28.36**	**119**	⇑*i*P	**P**	**04 18 21.8**	**+0.6**
	comp=Z,484nm,2.0s,mb5.8						
CTA				*e*pP		04 19 50.1	
CTA				*e*PCP	PcP	04 21 15.8	+1.2
CTA				*i* S	**S**	**04 22 28.6**	**+0.5**
CTA				*e*SCP	ScP	04 24 03.5	+2.2
CTA				*e*sS	sS	04 25 21.7	-0.1
CTA	**Charters Tower**	**28.36**	**119**	P	**P**	**04 18 21.9**	**+0.7**
	comp=Z,215nm,0.8s,mb5.8,baz=299,slow=11,SNR=155						
CTA				PcP	PcP	04 21 16.4	+1.8
	comp=Z,53nm,0.5s,baz=282,slow=3.0,SNR=4.0						
CTA				S	**S**	**04 22 28.5**	**+0.4**
	comp=Z,77nm,1.1s,baz=156,slow=21,SNR=1.8						
CTA				ScP	ScP	04 24 03.6	+2.4
	comp=Z,130nm,1.1s,baz=263,slow=6.9,SNR=8.0						
CTA	**Charters Tower**	**28.36**	**119**	P	**P**	**04 18 21.9**	**+0.7**

CTA 04 21 16.4
CTA S **S** **04 22 28.5 +0.4**
CTA pmax pmax
comp=Z,215nm,0.9s
CTA pmax pmax
comp=Z,53nm,0.5s
CTA smax
comp=N,77nm,1.1s
CTA pmax pmax
comp=N,130nm,1.1s
CTAO Charters Tower 28.36 119 *e*P **P** **04 18 21.8 +0.6**
CTAO *e* 04 21 15.8
CTAO pmax pmax
comp=Z,369nm,1.0s,mb6.0
CTAO Charters Tower 28.36 119 *e*P **P** **04 18 21.8 +0.6**
comp=Z,369nm,1.0s,mb6.0
CTAO *e*pP 04 19 52.3
CTAO *e*PcP PcP 04 21 15.8 +1.2
CTAO *e*ScP ScP 04 24 03.5 +2.3
HKC Hong Kong 29.95 349⇓*i*P **P** **04 18 36.0 +1.0**
HKC *i* S **S** **04 22 50.0 -2.6**
NST Nakhon Sawan 30.18 319⇑P **P** **04 18 37.5 +0.5**
comp=Z,733nm,0.8s,mb6.4
GZH Guangzhou 30.87 348 P **P** **04 18 45.0 +2.1**
NACB Ninganchiao 31.27 3 *e*P **P** **04 18 44.3 -2.0**
NACB *e*PcP PcP 04 21 22.2 -0.1
NACB *e*S **S** **04 23 13.0 +0.1**
NACB *e*ScP ScP 04 24 10.9 0.0
STKA Stephens Creek 31.64 144⇑*i*P **P** **04 18 49.8 +0.4**
comp=Z,786nm,0.4s,mb6.7
STKA *e*pP 04 20 22.0
STKA *i* S **S** **04 23 17.6 -0.9**
STKA *e*SCP ScP 04 24 12.8 +0.7
STKA *e*SS SS 04 25 59.2 -29
STKA *e*ScS ScS 04 28 09.6 -2.2
STKA Stephens Creek 31.64 144 P **P** **04 18 49.7 +0.3**
comp=Z,715nm,0.3s,mb6.7,baz=318,slow=8.2,SNR=582
STKA S **S** **04 23 18.2 -0.3**
comp=Z,198nm,0.8s,baz=125,slow=16,SNR=5.9
STKA ScP ScP 04 24 13.0 +0.9
comp=Z,276nm,0.8s,baz=339,slow=6.4,SNR=6.6
YHNB Yeheng 31.75 2 *e*P **P** **04 18 49.6 -0.8**
YHNB *e*pP 04 20 23.4
YHNB *e*PP PP 04 20 30.7 -0.5
YHNB *e*S **S** **04 23 16.8 -3.4**
YHNB *e*ScP ScP 04 24 13.9 +1.4
QZH Quanzhou 32.03 357⇓*i*P **P** **04 18 52.9 +0.1**
QZH XP sP 04 21 27.6 -6.7
QZH S **S** **04 23 24.0 -0.6**
QZH AMB AMB
comp=Z,2μm,0.8s,mb6.7
TATO Taipei 32.06 2 *e*P **P** **04 18 51.7 -1.3**
comp=Z,438nm,0.7s,mb6.2
TATO *e*pP 04 20 27.2
TATO *e*S **S** **04 23 23.6 -1.4**
TATO *e*ScP ScP 04 24 14.8 +1.2
GUMO Guam 32.13 50 P **P** **04 18 53.0 -0.5**
comp=Z,263nm,0.3s,mb6.3,baz=185,slow=7.0,SNR=34
GUMO S **S** **04 23 22.8 -3.2**
comp=Z,148nm,0.8s,baz=48,slow=18,SNR=4.6
GUMO ScP ScP 04 24 14.0 +0.1
comp=Z,228nm,0.8s,baz=174,slow=23,SNR=4.7
GUMO Guam 32.13 50 P **P** **04 18 53.0 -0.6**
GUMO S **S** **04 23 22.8 -3.2**
PBA Port Blair 33.09 304 *ex* x 04 18 44.3
PBA *ex* x 04 22 18.0
CHG Chiang Mai 33.27 321⇓P **P** **04 19 03.9 +0.7**
comp=Z,150nm,0.8s,mb5.7
CHTO Chiang Mai 33.27 321 P **P** **04 19 03.8 +0.6**
CHTO PcP PcP 04 21 29.5 +1.5
CHTO S **S** **04 23 45.9 +2.5**
CHTO sS sS 04 26 45.3 +4.5
CHTO ScS ScS 04 28 24.7 +4.3
CHTO Chiang Mai 33.27 321 *e*P **P** **04 19 04.1 +0.9**
CHTO *e* 04 21 29.6
CHTO *e*S **S** **04 23 46.1 +2.7**
CHTO pmax pmax
comp=Z,1μm,1.0s,mb6.5
CHTO Chiang Mai 33.27 321 *e*P **P** **04 19 04.1 +0.8**
comp=Z,1μm,1.0s,mb6.5
CHTO *e*PcP PcP 04 21 29.6 +1.6
CHTO *e*S **S** **04 23 46.1 +2.7**
CHTO *e*ScP ScP 04 24 21.5 +3.6
CHRT Chiangrai 33.58 324⇑P **P** **04 19 06.0 +0.2**
comp=Z,3μm,0.7s,mb7.1
JOW Kunigami 34.79 13 P **P** **04 19 15.7 -0.2**
comp=Z,477nm,0.8s,mb6.2,baz=208,slow=7.4,SNR=57
JOW PcP PcP 04 21 33.5 +1.1
comp=Z,87nm,0.7s,baz=244,slow=3.9,SNR=3.5
JOW S **S** **04 24 05.1 -1.1**
comp=Z,16nm,0.7s,baz=144,slow=18,SNR=1.5
JOW ScP ScP 04 24 24.9 +1.6
comp=Z,36nm,0.7s,baz=242,slow=2.6,SNR=4.2
GYA Guiyang 35.97 339⇓*i*P **P** **04 19 26.6 +1.0**
GYA PP PP 04 21 09.5 -0.6
GYA XP sP 04 22 07.3 -1.6
GYA S **S** **04 24 23.5 -0.2**
GYA SCP ScP 04 24 30.1 +2.5
GYA SCS ScS 04 28 34.8 -0.4
GYA AMB AMB
comp=Z,130nm,0.6s,mb5.6
GYA AMB AMB
comp=Z,2μm,5.6s
KMI Kunming 36.36 333 P **P** **04 19 30.9 +2.0**
KMI AP 04 21 09.0
KMI PP PP 04 21 12.5 -1.2
KMI XP sP 04 22 12.9 +0.6
KMI S **S** **04 24 31.6 +2.0**
KMI SCS ScS 04 28 40.5 +3.1
KMI AMB AMB
comp=Z,1μm,1.3s,mb6.3
KMI AMB AMB
comp=Z,4μm,5.0s
KMI Kunming 36.36 333 P **P** **04 19 30.9 +2.0**
comp=Z,1μm,1.3s,mb6.3
KMI pP 04 21 09.0
KMI PP PP 04 21 12.5 -1.2
KMI PcP PcP 04 21 41.6 +4.4
KMI PPP 04 21 46.7
KMI sP sP 04 22 12.9 +0.6
KMI S **S** **04 24 31.6 +2.0**
KMI ScP ScP 04 24 34.3 +5.2
KMI PcS PcS 04 25 29.2 +3.2
KMI sS sS 04 27 26.7 -2.5
KMI SS SS 04 27 35.8 -11
KMI SSS 04 28 27.4
KMI ScS ScS 04 28 40.5 +3.1
KMI LR LR
comp=Z,7μm,17.2s
ARMA Armidale 37.45 132 *e*P **P** **04 19 39.8 +2.0**
ARMA *e*pP 04 21 20.8
ARMA *e*S **S** **04 24 48.0 +2.3**
ARMA *e*SS SS 04 27 49.5 -15
TOO Toolangi 37.96 146⇑*i*P **P** **04 19 43.0 +1.1**
comp=Z,481nm,1.1s,mb5.9
TOO *e*pP 04 21 24.8
TOO *e*SCP ScP 04 24 37.3 +2.1
TOO *e*S **S** **04 24 53.1 -0.1**
TOO *e*SS SS 04 27 57.5 -16
TOO Toolangi 37.96 146⇑*i*P **P** **04 19 43.0 +1.1**
TOO *e**PP 04 21 24.8
TOO *e*S **S** **04 24 53.1 -0.1**
TOO pmax pmax
comp=Z,481nm,1.1s,mb5.9
WHN Wuhan 37.98 352⇓*i*P **P** **04 19 43.0 +0.9**
WHN PP PP 04 21 27.4 -1.3
WHN AMB AMB
comp=Z,345nm,1.0s,mb5.8
SSE Sheshan 38.14 1⇓P **P** **04 19 43.9 +0.5**
SSE AP 04 21 21.5
SSE PP PP 04 21 31.2 +1.1
SSE PCP PcP 04 21 43.5 +0.8
SSE XP sP 04 22 27.0 -0.7
SSE S **S** **04 24 57.4 +1.5**
SSE SCS ScS 04 28 46.4 -1.3
SSE AMB AMB
comp=Z,415nm,0.7s,mb6.1
SSE AMB AMB
comp=Z,2μm,7.3s
SSE Sheshan 38.14 1⇓P **P** **04 19 43.9 +0.5**
comp=Z,415nm,0.7s,mb6.1
SSE pP 04 21 21.5
SSE PP PP 04 21 31.2 +1.1
SSE PcP PcP 04 21 43.5 +0.8
SSE sP sP 04 22 27.0 -0.7
SSE S **S** **04 24 57.4 +1.5**
SSE ScS ScS 04 28 46.4 -1.3
SSE LR LR
comp=Z,9μm,25.1s
CNB Canberra Magne 38.72 140⇑*i*P **P** **04 19 48.8 +0.7**
comp=Z,484nm,1.1s,mb5.9
CNB *e*pP 04 21 32.8
CNB *e*SCP ScP 04 24 40.5 +2.4
RIV Riverview 39.00 137 *e*P **P** **04 19 52.0 +1.7**
RIV *e*pP 04 21 35.0
RIV *e*SCP ScP 04 24 42.6 +3.4
RIV Riverview 39.00 137 *e*P **P** **04 19 52.0 +1.7**
RIV *e**PP 04 21 35.0
NJ2 Nanjing 39.10 358 *e*P **P** **04 19 51.5 +0.4**
NJ2 AP 04 21 34.4
NJ2 PP PP 04 21 39.4 +0.5
NJ2 SCP ScP 04 24 38.3 -1.3
NJ2 XS sS 04 28 12.0 +0.1
NJ2 AMB AMB
comp=Z,2μm,1.0s,mb6.6
NJ2 AMB AMB
comp=Z,11μm,8.4s
HNR Honiara 39.44 96 P **P** **04 19 54.2 +0.3**
comp=Z,294nm,0.5s,mb6.1,baz=277,slow=2.1,SNR=18
HNR ScP ScP 04 24 44.0 +3.1
comp=Z,262nm,0.9s,baz=248,slow=1.9,SNR=8.5
HNR S **S** **04 25 13.7 -1.2**
comp=Z,145nm,0.9s,baz=271,slow=8.9,SNR=2.4
HNR Honiara 39.44 96 *e*P **P** **04 19 54.2 +0.3**
HNR *e* 04 21 46.2
HNR *e*S **S** **04 25 16.8 +1.9**
HNR pmax pmax
comp=Z,336nm,0.7s,mb6.0
HNR Honiara 39.44 96 *e*P **P** **04 19 54.1 +0.3**
comp=Z,392nm,0.7s,mb6.0
HNR *e*PcP PcP 04 21 46.2 -0.7
HNR *e*ScP ScP 04 24 42.0 +1.0
HNR *e*S **S** **04 25 16.8 +1.9**
CBIJ Chichi jima 40.28 31 P **P** **04 20 00.4 -0.1**
comp=Z,5μm,0.7s,mb7.1,baz=238,slow=3.5,SNR=93
CBIJ S **S** **04 25 22.5 -4.6**
comp=Z,504nm,0.8s,baz=280,slow=23,SNR=12
IMP Imphal 40.81 322 *i* P **P** **04 20 00.0 -4.7**
IMP *e*S **S** **04 25 30.0 -4.7**
IMP *ex* x 04 29 03.0
CD2 Chengdu 41.06 338 *e*P **P** **04 20 07.0 +0.3**
CD2 AP pP 04 21 44.5 -2.7
CD2 PP PP 04 21 55.8 -1.0
CD2 S **S** **04 25 42.7 +4.4**
CD2 SCS ScS 04 29 02.7 -2.6
CD2 AMB AMB
comp=Z,2μm,1.0s,mb6.7
CD2 AMB AMB
comp=Z,2μm,6.2s
AGT Agartala 41.86 319 *i* P **P** **04 20 14.0 +0.9**
AGT *i* x x 04 20 57.0
PALK Pallekele 41.88 289 P **P** **04 20 13.7 +0.5**
comp=Z,5μm,1.0s,mb7.0,SNR=42
PALK Pallekele 41.88 289 *e*P **P** **04 20 12.9 -0.3**
comp=Z,1μm,1.1s,mb6.3
PALK *e* pP 04 21 56.9 +2.6
PALK *e*ScP ScP 04 24 52.7 +2.0
XAN Xi'an 42.41 346 P **P** **04 20 16.9 -0.5**
XAN AMB AMB
comp=Z,286nm,0.7s,mb5.9
TAU Tasmania Unive 42.83 150 P **P** **04 20 21.4 +0.8**
comp=Z,3μm,0.9s,mb6.8,SNR=27
TAU Tasmania Unive 42.83 150 P **P** **04 20 21.1 +0.5**
CAL Calcutta 42.96 314 *e*P **P** **04 20 22.1 +0.4**
CAL AMb AMB 04 20 27.2
comp=Z,5μm,0.8s,mb7.1
CAL *i* x x 04 26 00.6
TIA Tai'an 43.32 356 *e*P **P** **04 20 23.2 -1.2**
TIA AMB AMB
comp=Z,296nm,0.6s,mb6.0
VIS Vishakhapatnam 44.01 305 *e*P **P** **04 20 29.5 -0.3**
VIS AMb AMB 04 20 35.3
comp=Z,2μm,1.4s,mb6.4
VIS *i* PCP PcP 04 22 00.0 -2.3
JHJ Hachijo jima 2 44.28 24 P **P** **04 20 30.1 -1.8**
comp=Z,435nm,0.5s,mb6.2,baz=196,slow=11,SNR=14
JHJ PcP PcP 04 22 06.0 +2.7
comp=Z,198nm,0.7s,baz=230,slow=22,SNR=3.6
JHJ S **S** **04 26 21.0 -3.3**
comp=Z,51nm,0.7s,baz=17,slow=16,SNR=2.2
MDRS Chennai 44.46 297⇓*e*P **P** **04 20 34.0 +0.8**
MDRS *ex* x 04 20 36.0
MDRS *ex* x 04 22 21.2
MDRS Chennai 44.46 297 *e*P **P** **04 20 33.1 -0.2**
MDRS AMb AMB 04 20 38.4
comp=Z,2μm,1.1s,mb6.5
INCN Inchon 44.91 7 P **P** **04 20 36.7 0.0**
SNR=15
INCN Inchon 44.91 7 *e*P **P** **04 20 36.5 -0.1**
INCN *e*PcP PcP 04 22 05.7 +0.2
KS15 Wonju Array Si 45.05 9 *e*P **P** **04 20 37.2 -0.5**
BOK Bokaro 45.50 314 *e*P **P** **04 20 40.6 -0.5**
SLGI Shiliguri 45.65 319 *ex* x 04 20 44.4
SALM Salem 45.74 294 *e*P **P** **04 20 43.0 0.0**
LZH Lanzhou 45.74 342⇓*i*P **P** **04 20 44.3 +1.3**
LZH PCP PcP 04 22 08.5 +0.1
LZH AP pP 04 22 27.6 +0.8
LZH PP PP 04 22 42.8 +3.3
LZH XP sP 04 23 29.3 -1.7
LZH SCP ScP 04 25 08.6 +2.1
LZH PCS PcS 04 26 02.7 -1.1
LZH S **S** **04 26 49.2 +4.4**
LZH SCS ScS 04 29 36.4 +1.1
LZH XS sS 04 29 53.2 +0.1
LZH AMB AMB
comp=Z,1μm,1.5s,mb6.2
LZH AMB AMB
comp=Z,5μm,5.6s
LZH Lanzhou 45.74 342⇓*i*P **P** **04 20 44.3 +1.3**
comp=Z,1μm,1.5s,mb6.2
LZH PcP PcP 04 22 08.5 +0.1
LZH pP pP 04 22 27.6 +0.8
LZH PP PP 04 22 42.8 +3.3
LZH sP sP 04 23 29.3 -1.7
LZH ScP ScP 04 25 08.6 +2.1
LZH PcS PcS 04 26 02.7 -1.1
LZH S **S** **04 26 49.2 +4.4**
LZH ScS ScS 04 29 36.4 +1.1
LZH sS sS 04 29 53.2 +0.1
LZH SS SS 04 30 21.5 +2.3
TRD Trivandrum 45.79 289 *e*P **P** **04 20 42.1 -1.3**
TRD AMb AMB 04 20 47.5
comp=Z,1μm,0.8s,mb6.4
TRD *i* x x 04 22 13.7
TRD *ex* x 04 26 55.1
DL2 Dalian 45.94 2 *i* PR **P** **04 20 43.8 -0.7**
DL2 XP sP 04 23 29.5 -3.1
DL2 S **S** **04 26 43.7 -3.8**
DL2 AMB AMB
comp=Z,520nm,0.8s,mb6.1
DL2 AMB AMB
comp=Z,840nm,7.1s
GTK Gangtok 45.96 320 *ex* x 04 21 00.0
LSA Lhasa 46.11 324 P **P** **04 20 47.7 +2.0**
LSA S **S** **04 26 49.3 -0.5**
LSA Lhasa 46.11 324 *e*P **P** **04 20 47.1 +1.4**
LSA *e* 04 22 11.8
LSA pmax pmax
comp=Z,2μm,0.8s,mb6.7
LSA Lhasa 46.11 324 *e*P **P** **04 20 47.1 +1.4**
comp=Z,2μm,0.8s,mb6.7
LSA *e*PcP PcP 04 22 11.8 +2.1
MAJO Matsushiro 46.75 20 *e*P **P** **04 20 49.4 -1.2**
MAJO *e* 04 22 11.9
MAJO *e*S **S** **04 26 56.3 -2.4**
MAJO pmax pmax
comp=Z,496nm,0.7s,mb6.2
MAJO Matsushiro 46.75 20 *e*P **P** **04 20 49.4 -1.2**
comp=Z,511nm,0.7s,mb6.2
MAJO *e*PcP PcP 04 22 11.9 -0.1
MAJO *e*ScP ScP 04 25 12.0 +1.3
MAJO *e*S **S** **04 26 56.2 -2.4**
MAT Matsushiro 46.75 20 P **P** **04 20 49.2 -1.4**
MAT S **S** **04 26 55.4 -3.3**
MJAR Matsushiro Arr 46.75 20 P **P** **04 20 49.4 -1.2**
comp=Z,440nm,0.8s,mb6.0,baz=195,slow=7.0,SNR=509
MJAR PcP PcP 04 22 12.7 +0.7
comp=Z,92nm,0.9s,baz=193,slow=3.7,SNR=7.5
MJAR pP pP 04 22 35.0 -0.1
comp=Z,5.4nm,0.7s,baz=213,slow=29,SNR=0.9
MJAR ScP ScP 04 25 11.9 +1.2
comp=Z,28nm,0.7s,baz=196,slow=4.3,SNR=6.9
MJAR S **S** **04 26 55.9 -2.7**
comp=Z,15nm,1.0s,baz=189,slow=11,SNR=4.3
MJAR PKP2bc 04 52 14.7
comp=Z,1.9nm,0.7s,baz=3.9,slow=3.9,SNR=8.8
MJAR P4KPbc 04 58 24.6
comp=Z,2.1nm,0.8s,baz=180,slow=4.2,SNR=6.6
MJAR Matsushiro Arr 46.75 20 P **P** **04 20 49.4 -1.2**
MJAR 04 22 12.7
MJAR S **S** **04 26 56.0 -2.7**
MJAR Matsushiro Arr 46.75 20 P **P** **04 20 49.4 -1.2**
MJAR PcP PcP 04 22 12.7 +0.7
MJAR pP pP 04 22 35.0 -0.1
MJAR ScP ScP 04 25 11.9 +1.2
MJAR S **S** **04 26 56.0 -2.7**
MJAR ⇑*e* 04 52 14.7
DZM Mont Dzumac 46.96 113 *e*P **P** **04 20 53.6 +1.4**
DZM Mont Dzumac 46.96 113 P **P** **04 20 53.6 +1.4**
comp=Z,83nm,0.8s,mb5.3,baz=265,slow=8.4,SNR=97
DZM ScP ScP 04 25 13.7 +2.1
comp=Z,37nm,1.0s,baz=65,slow=9.5,SNR=8.7
DZM S **S** **04 27 05.1 +3.4**
comp=Z,5.9nm,0.9s,baz=60,slow=21,SNR=1.6
BJI Beijing 47.19 356 P **P** **04 20 53.6 -0.3**
BJI PCP PcP 04 22 15.1 +1.5
BJI AP pP 04 22 39.7 +1.0
BJI XP sP 04 23 42.6 0.0
BJI AMB AMB
comp=Z,841nm,1.0s,mb6.2
BJI Beijing 47.19 356 P **P** **04 20 53.6 -0.3**
comp=Z,841nm,1.0s,mb6.2
BJI PcP PcP 04 22 15.1 +1.5
BJI pP pP 04 22 39.7 +1.0
BJI sP sP 04 23 42.6 0.0
BJI S **S** **04 26 59.3 -5.6**
BJI sS sS 04 30 02.5 -12
DGAR Diego Garcia 47.27 267*c* *i*P **P** **04 20 55.0 +0.5**
DGAR Diego Garcia 47.27 267 *e*P **P** **04 20 55.3 +0.9**
comp=Z,1μm,0.8s,mb6.4
JIRN Jiri 47.76 318 *e*P **P** **04 20 58.6 +0.4**
comp=Z,1μm,0.7s,mb6.6
HYB Hyderabad 47.83 301 *i* P **P** **04 20 57.5 -1.2**
comp=Z,1μm,1.0s,mb6.3
HYB *e* 04 21 42.0
HYB *e*PcP PcP 04 22 20.0 +4.1
HYB *e*pP pP 04 22 46.0 +2.1
HYB *e*sP sP 04 23 46.0 -1.7
HYB *e* 04 25 38.0
HYB *e*S **S** **04 27 09.0 -4.6**
HYB *e*ScS ScS 04 29 50.0 +0.8
HYB Hyderabad 47.83 301 *e*P **P** **04 20 57.5 -1.2**
HYB *e*S **S** **04 27 10.0 -3.6**
HYB pmax pmax
comp=Z,1μm,1.0s,mb6.3
HYB Hyderabad 47.83 301 *e*P **P** **04 20 57.5 -1.2**
comp=Z,1μm,1.0s,mb6.3
HYB *e* 04 21 42.0
HYB *e*S **S** **04 27 10.0 -3.6**
GUN Gumba 48.13 318 *e*P **P** **04 21 01.3 +0.4**
PKI Pulchoki 48.23 317 *e*P **P** **04 21 01.5 -0.1**
comp=Z,906nm,0.6s,mb6.5
DMN Daman 48.46 317 *e*P **P** **04 21 03.4 +0.1**
KKN Kakani 48.46 317 *e*P **P** **04 21 03.3 0.0**
HHC Hu-ho-hao-te 48.51 351⇓*i*P **P** **04 21 03.6 -0.1**
HHC PCP PcP 04 22 17.1 -1.3
HHC AP pP 04 22 51.0 +1.6
HHC PP PP 04 23 07.6 +3.2
HHC XP sP 04 23 54.7 +1.7
HHC SCP ScP 04 25 14.7 -3.5
HHC PCS PcS 04 26 12.7 -2.9
HHC S **S** **04 27 22.2 -0.6**
HHC SCS ScS 04 29 49.1 -4.7
HHC AMB AMB
comp=Z,79nm,0.8s,mb5.2
BTO Baotou 48.52 350 *e*P **P** **04 21 02.3 -1.5**
SNY Shenyang 48.94 3⇓P **P** **04 21 05.8 -1.1**
SNY AP pP 04 22 52.6 -0.2
SNY XP sP 04 23 50.3 -6.1
SNY SCS ScS 04 29 56.7 -0.1
SNY AMB AMB
comp=Z,191nm,1.0s,mb5.5
SNY AMB AMB
comp=Z,1μm,4.3s
GKN Gorkha 49.03 317 *e*P **P** **04 21 07.4 -0.1**
comp=Z,982nm,0.5s,mb6.5
NGP Nagpur 49.22 306 *e*P **P** **04 21 04.9 -4.1**
NGP *ex* x 04 21 10.1
comp=Z,2μm,1.4s
NGP *e*S **S** **04 27 27.2 -5.4**
MNGI Mangalore 49.28 294 *i* P **P** **04 21 09.3 -0.1**
MNGI *ex* x 04 21 14.4
comp=Z,1μm,1.0s
MNGI *ex* x 04 24 49.5
ALBI Allahabad 49.37 312 *ex* x 04 21 02.0
MNCY Minicoy 49.41 287 *i* x x 04 21 20.0
MNCY *i* x x 04 22 56.0
KOLN Koldanda 49.58 316 *e*P **P** **04 21 11.5 -0.1**
LATR Latur 49.98 301 *e*P **P** **04 21 12.7 -1.8**
GTA Gaotai 50.09 339⇓*i*P **P** **04 21 16.6 +1.2**
GTA AP pP 04 23 05.8 +3.7
GTA PP PP 04 23 20.0 +1.4
GTA SCP ScP 04 25 26.7 +1.7
GTA SCS ScS 04 30 01.7 -3.0
GTA AMB AMB
comp=Z,2μm,0.8s,mb6.5
GTA AMB AMB
comp=Z,5μm,7.0s
AKL Akola 50.66 304 *e*P **P** **04 21 18.6 -0.8**
AKL AMb AMB 04 21 23.6
comp=Z,2μm,0.7s,mb6.7
AKL *ex* x 04 27 40.7
CN2 Changchun 51.04 5⇓P **P** **04 21 22.8 +0.6**
CN2 PCP PcP 04 22 27.6 -0.2
CN2 *e*AP pP 04 23 05.2 -4.3
CN2 *e*S **S** **04 27 56.8 -0.3**
CN2 SCS ScS 04 30 11.6 +0.3
CN2 AMB AMB
comp=Z,200nm,6.0s
VLA Vladivostok 51.26 11*c* *i*P **P** **04 21 23.3 -0.5**
VLA pmax pmax
comp=Z,538nm,0.8s,mb6.0
VLA Vladivostok 51.26 11⇑*i*P **P** **04 21 23.4 -0.4**
KAD Karad 51.54 299 *e*P **P** **04 21 24.9 -1.0**
KAD AMb AMB 04 21 30.4
comp=Z,1μm,1.2s,mb6.1
BHPL Bhopal 51.58 307 *e*P **P** **04 21 25.0 -1.2**
BHPL AMb AMB 04 21 30.3
comp=Z,1μm,1.2s,mb6.0
MDJ Mudanjiang 52.33 9 P **P** **04 21 31.0 -0.5**
MDJ AP pP 04 23 17.0 -2.6
MDJ XP sP 04 24 19.4 -3.0
MDJ SCP ScP 04 25 34.3 -0.4
MDJ S **S** **04 28 12.5 -1.8**
MDJ SCS ScS 04 30 21.5 +1.1
MDJ AMB AMB
comp=Z,166nm,0.9s,mb5.4
MDJ AMB AMB
comp=Z,1μm,11.4s
MDJ Mudanjiang 52.33 9 P **P** **04 21 31.1 -0.4**
MDJ pP pP 04 23 23.6 +4.0
MDJ S **S** **04 28 12.8 -1.5**
POO Poona 52.34 300⇓*ix* x 04 21 26.5
comp=Z,900nm,1.0s
LGTI Lohaghat 52.94 316 *i* P **P** **04 21 34.7 -1.1**
LGTI *ex* x 04 23 30.0
PTH Pithoragarh 53.02 316 *e*P **P** **04 21 36.1 -0.3**
ERM Erimo 53.36 21 P **P** **04 21 38.5 -0.3**
comp=Z,2μm,0.8s,mb6.4,SNR=25
ERM Erimo 53.36 21*c* *i*P **P** **04 21 38.8 0.0**
ERM Erimo 53.36 21 *e*P **P** **04 21 38.9 +0.1**
comp=Z,235nm,0.9s,mb5.5
BOM Bombay 53.38 300 *e*P **P** **04 21 37.2 -1.7**
BOM *ex* x 04 21 39.5
comp=Z,4μm,1.9s
BOM *ex* x 04 28 21.4
NDI New Delhi 54.65 313 *e*P **P** **04 21 45.8 -2.1**
NDI AMb AMB 04 21 50.8

NDI ex x 04 28 38.0
DDI Dehra Dun 54.98 315 eP **P** **04 21 49.0 -1.2**
DDI ex x 04 22 42.5
ASAJ Asahikawa 55.02 20 P **P** **04 21 50.4 0.0**
comp=Z,438nm,0.6s,mb6.0,baz=234,slow=11,SNR=98
ASAJ S **S** **04 28 47.3 -2.2**
comp=Z,7.8nm,0.9s,baz=10,slow=19,SNR=1.8
ASAJ PKPPKP 04 51 38.2
comp=Z,14nm,0.8s,baz=318,slow=4.8,SNR=8.2
ASAJ Asahikawa 55.02 20 P **P** **04 21 50.4 0.0**
ASAJ S **S** **04 28 47.3 -2.2**
ASAJ pmax pmax
comp=Z,438nm,0.6s
ASAJ smax
comp=N,8.0nm,0.9s
ASAJ pmax pmax
comp=Z,14nm,0.8s
AJM Ajmer 55.40 309 eP **P** **04 21 52.1 -0.9**
AJM AMb AMB 04 21 57.2
comp=Z,1μm,1.1s,mb6.1
JCZ Jackson Bay 55.98 139 eP **P** **04 21 57.9 +0.8**
JCZ Jackson Bay 55.98 139 ⇑PN **P** **04 21 57.8 +0.7**
JCZ pP pP 04 23 53.7 +6.3
SMLA Simla 56.07 315 eP **P** **04 21 57.3 -0.4**
SMLA AMb AMB 04 22 02.3
comp=Z,5μm,2.2s,mb6.3
ULN Ulaanbaatar 56.08 349 *d iP* **P** **04 21 58.1 +0.3**
ULN Ulaanbaatar 56.08 349 eP **P** **04 21 58.3 +0.5**
comp=Z,1μm,1.1s,mb6.0
ULN eS **S** **04 29 03.8 +0.5**
YUK Yuzh-Kuril'sk 56.10 22 eP **P** **04 21 57.0 -0.9**
YUK *i* 04 28 57.0
YUK pmax pmax
comp=Z,5μm,2.7s,mb6.3
YUK pmax pmax
comp=N,3μm,4.0s
YUK pmax pmax
comp=E,3μm,2.7s
YUK pmax pmax
comp=Z,230nm,0.5s,mb5.7
YUK pmax pmax
comp=N,3μm,13.0s
YUK pmax pmax
comp=Z,4μm,13.0s
SONM Songino Array 56.17 349 P **P** **04 21 58.9 +0.5**
comp=Z,871nm,0.7s,mb6.1,baz=164,slow=8.3,SNR=400
SONM ScP ScP 04 25 52.2 +0.6
comp=Z,21nm,0.8s,baz=159,slow=5.5,SNR=3.8
SONM S **S** **04 29 02.1 -2.4**
comp=Z,4.9nm,1.0s,baz=187,slow=15,SNR=1.8
SONM PKPPKP 04 51 31.5
comp=Z,8.9nm,0.8s,baz=318,slow=5.4,SNR=17
SONM P4KPbc 04 59 05.3
comp=Z,1.4nm,0.5s,baz=162,slow=5.0,SNR=5.1
SONM Songino Array 56.17 349 P **P** **04 21 58.9 +0.5**
SONM S **S** **04 29 02.1 -2.4**
SONM Songino Array 56.17 349 P **P** **04 21 58.9 +0.4**
SONM ScP ScP 04 25 52.2 +0.6
SONM S **S** **04 29 02.1 -2.4**
SONM P'P' 04 51 31.5
MLZ Mavora Lakes 56.18 141 eP **P** **04 21 58.6 +0.2**
MLZ Mavora Lakes 56.18 141 ⇑PN **P** **04 21 58.4 0.0**
HIA Hailar 56.28 360 eP **P** **04 21 58.6 -0.5**
HIA *e* 04 22 49.1
HIA pmax pmax
comp=Z,201nm,0.8s
HIA Hailar 56.28 360 eP **P** **04 21 58.6 -0.6**
comp=Z,201nm,0.8s,mb5.4
HIA ePcP PcP 04 22 49.1 +1.0
SDNR Sundarnagar 56.43 315 eP **P** **04 21 59.0 -1.1**
SDNR ex x 04 29 05.0
BHK Bhakra 56.77 315 ex x 04 22 05.2
BHK ex x 04 22 55.6
HABR Khabarovsk 57.02 12 ⇓ *iP* **P** **04 22 04.2 0.0**
HABR eS **S** **04 29 16.6 +1.3**
HABR pmax pmax
comp=Z,297nm,0.7s,mb5.6
LBZ Lake Benmore 57.04 139 eP **P** **04 22 03.9 -0.4**
LBZ Lake Benmore 57.04 139 ⇑PN **P** **04 22 03.8 -0.5**
LBZ PcP PcP 04 22 51.2 +0.1
KLR Kul'dur 57.16 9 eP **P** **04 22 01.0 -4.1**
KLR *e* 04 22 46.5
KLR pmax pmax
comp=Z,580nm,1.8s,mb5.5
KLR pmax pmax
comp=E,800nm,7.0s
KLR pmax pmax
comp=Z,2μm,7.0s
QRZ Quartz Range 57.25 134 eP **P** **04 22 06.6 +0.8**
QRZ Quartz Range 57.25 134 PN **P** **04 22 07.0 +1.2**
QRZ PcP PcP 04 22 53.2 +1.3
RPZ Rata Peaks 57.33 138 pP pP 04 24 00.1 +2.7
comp=Z,171nm,0.8s,baz=347,slow=1.2,SNR=4.5
RPZ ScP ScP 04 25 58.5 +1.8
comp=Z,36nm,0.8s,baz=293,slow=8.0,SNR=3.5
RPZ S **S** **04 29 24.4 +5.1**
comp=Z,14nm,0.9s,baz=13,slow=22,SNR=2.9
RPZ Rata Peaks 57.33 138 P **P** **04 22 06.4 +0.1**
RPZ Rata Peaks 57.33 138 ⇑PN **P** **04 22 06.4 +0.1**
comp=Z,485nm,0.6s,mb5.9
YSS Yuzh-Sakhalins 57.59 18 κ *iP* **P** **04 22 07.5 -0.6**
YSS *e* 04 22 56.0
YSS PPP 04 25 59.0
YSS eS **S** **04 29 20.0 -2.6**
YSS *e* 04 30 54.0
YSS eSSS 04 36 18.0
YSS pmax pmax
comp=N,540nm,1.0s
YSS pmax pmax
comp=E,260nm,1.0s
YSS pmax pmax
comp=Z,690nm,1.0s,mb5.7
YSS pmax pmax
comp=N,1μm,3.0s
YSS pmax pmax
comp=Z,2μm,3.0s
YSS Yuzh-Sakhalins 57.59 18 eP **P** **04 22 08.0 -0.1**
comp=Z,370nm,0.7s,mb5.6
YSS eScP ScP 04 25 58.9 +1.1
THN Thein Dam 57.83 316 eP **P** **04 22 08.3 -1.4**
THN ex x 04 26 00.0
THZ Tophouse 57.85 135 eP **P** **04 22 10.2 +0.4**
THZ Tophouse 57.85 135 PN **P** **04 22 09.9 +0.1**
NNZ Nelson 57.99 135 eP **P** **04 22 10.5 -0.3**
NNZ Nelson 57.99 135 PN **P** **04 22 10.4 -0.4**
NNZ PcP PcP 04 22 54.6 -0.3
TCW Tory Channel 58.62 134 P **P** **04 22 14.7 -0.3**
TCW Tory Channel 58.62 134 PN **P** **04 22 14.6 -0.5**
WMQ Urumqi 58.69 333 ⇓ *iP* **P** **04 22 15.7 +0.2**
WMQ PCP PcP 04 22 59.0 +1.3
WMQ AP pP 04 24 03.0 -4.4
WMQ PP PP 04 24 36.0 +1.3
WMQ PPP 04 26 07.0
WMQ PCS PcS 04 26 59.0 -1.2
WMQ S **S** **04 29 39.0 +2.4**
WMQ SCS ScS 04 31 06.0 -0.8
WMQ AMB AMB
comp=Z,921nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,3μm,4.0s
FWVZ Far West T-bar 58.93 132 eP **P** **04 22 17.9 +0.8**
FWVZ Far West T-bar 58.93 132 ePN **P** **04 22 18.2 +1.1**
SNZO South Karori 58.96 134 eP **P** **04 22 16.5 -0.8**
SNZO South Karori 58.96 134 ⇑PN **P** **04 22 16.5 -0.8**
WNVZ Wahianoa 58.98 132 PN **P** **04 22 18.1 +0.7**
ZAK Zakamensk 59.23 348 ⇑ *iP* **P** **04 22 18.7 -0.4**
ZAK *e* 04 23 00.3
ZAK *e* 04 29 40.2
ZAK pmax pmax
comp=Z,348nm,0.9s,mb5.5
ZAK pmax pmax
comp=Z,155nm,1.3s,mb5.0
CIT Chita 59.30 355 eP **P** **04 22 19.8 +0.2**
CIT *e* 04 23 02.5
CIT *e* 04 29 48.4
CIT pmax pmax
comp=Z,1μm,1.7s,mb5.8
CASY Casey 59.31 184 ⇑ *iP* **P** **04 22 18.5 -1.1**
CASY *e* 04 26 02.9
CASY *i* S **S** **04 29 39.7 -4.6**
BKZ Black Stump Fm 59.60 131 eP **P** **04 22 21.3 -0.2**
BKZ Black Stump Fm 59.60 131 PN **P** **04 22 21.2 -0.3**
URZ Urewera 59.81 130 pP pP 04 24 18.5 +3.0
comp=Z,24nm,0.6s,baz=127,slow=2.9,SNR=2.5
URZ ScP ScP 04 26 08.0 +0.3
comp=Z,62nm,0.9s,baz=286,slow=2.5,SNR=6.5
URZ S **S** **04 29 53.8 +3.3**
comp=Z,45nm,1.2s,baz=175,slow=22,SNR=5.3
URZ Urewera 59.81 130 P **P** **04 22 22.3 -0.6**
URZ Urewera 59.81 130 PN **P** **04 22 22.3 -0.7**
BFZ Birch Farm 59.87 133 eP **P** **04 22 23.3 0.0**
BFZ Birch Farm 59.87 133 PN **P** **04 22 22.9 -0.4**
BFZ pP pP 04 24 18.9 +3.0
NIL Nilore 60.23 315 P **P** **04 22 25.1 -0.6**
comp=Z,2μm,0.5s,mb6.6,SNR=44
NIL Nilore 60.23 315 P **P** **04 22 25.5 -0.2**
TLY Talaya 60.38 348 P **P** **04 22 26.2 -0.5**
comp=Z,5μm,0.7s,mb6.8
TLY Talaya 60.38 348 *d iP* **P** **04 22 26.9 +0.2**
TLY *e* 04 23 08.1
TLY eS **S** **04 29 56.4 -1.3**
TLY pmax pmax
comp=Z,722nm,0.9s,mb5.9
TLY Talaya 60.38 348 eP **P** **04 22 26.9 +0.1**
comp=Z,577nm,0.7s,mb5.9
TLY eS **S** **04 29 57.9 +0.2**
IRK Irkutsk 60.79 349 eP **P** **04 22 28.8 -0.6**
IRK *e* 04 23 08.2
IRK eS **S** **04 30 03.4 +0.7**
IRK *e* 04 34 12.2
IRK pmax pmax
comp=Z,1μm,1.9s,mb5.8
DRV Dumont d'Urvil 60.88 171 P **P** **04 22 34.0 +4.0**
DRV S **S** **04 30 07.0 +3.2**
DRV L 04 38 00.0
MOY Mondy 60.94 346 ⇑ *iP* **P** **04 22 30.8 +0.4**
MOY pmax pmax
comp=Z,1μm,1.9s,mb5.8
KSH Kashi 61.89 322 *i* PR **P** **04 22 37.5 +0.9**
KSH ePCP PcP 04 23 13.0 +2.4
KSH eAP pP 04 24 26.2 -4.1
KSH ePP PP 04 25 04.1 +1.5
KSH eSCS ScS 04 31 33.0 +2.0
KSH AMB AMB
comp=Z,1μm,1.1s,mb6.1
MIR Mirnyy 62.08 192 *d iP* **P** **04 22 39.0 +1.2**
MIR *e* 04 25 07.5
MIR ePS 04 31 31.0
MIR eSS SS 04 34 40.0 +4.7
MIR eSSS 04 37 39.0
MIR pmax pmax
comp=Z,3μm,1.7s,mb6.3
MIR pmax pmax
comp=Z,2μm,2.0s,mb5.9
MIR MLR MLR
comp=Z,2μm,18.0s
MK31 Makanchi Array 63.43 332 P **P** **04 22 46.7 +0.2**
MK31 pmax pmax
comp=Z,2μm,0.7s,mb6.5
MKAR Makanchi Array 63.43 332 ⇑ P **P** **04 22 46.9 +0.4**
comp=Z,2μm,0.6s,mb6.6,baz=140,slow=7.9,SNR=931
MKAR S **S** **04 30 35.8 +0.8**
comp=Z,12nm,0.9s,baz=140,slow=9.6,SNR=3.3
MKAR P4KPbc 04 59 38.2
comp=Z,3.8nm,0.8s,baz=139,slow=4.9,SNR=14
MKAR Makanchi Array 63.43 332 ⇑ *eP* **P** **04 22 46.7 +0.2**
MKAR Makanchi Array 63.43 332 P **P** **04 22 46.9 +0.4**
MKAR S **S** **04 30 35.8 +0.8**
ULHL Ulahol 63.45 325 P **P** **04 22 47.0 +0.3**
SNR=133
KZA Kyzart 63.92 324 P **P** **04 22 50.5 +0.9**
SNR=436
CLNS Chul'man 63.98 3 eP **P** **04 22 50.1 +0.1**
CLNS *e* 04 23 22.7
CLNS eS S 04 31 19.5 +38
CLNS pmax pmax
comp=Z,629nm,0.9s,mb5.9
CLNS pmax pmax
comp=N,424nm,0.8s
CLNS pmax pmax
comp=E,131nm,0.7s
CLNS pmax pmax
comp=Z,64nm,1.4s
CLNS pmax pmax
comp=N,81nm,0.9s
CLNS pmax pmax
comp=E,60nm,1.0s
CLNS smax
comp=E,43nm,1.5s
CLNS smax
comp=Z,13nm,0.9s
CLNS smax
comp=N,31nm,1.4s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=Z,900nm,13.0s
CLNS MLR MLR
comp=E,600nm,14.0s
TKM2 Tokmak 2 64.25 325 P **P** **04 22 51.9 +0.2**
SNR=395
TKM2 Tokmak 2 64.25 325 *i* P **P** **04 22 51.9 +0.2**
TKM2 pmax pmax
comp=Z,633nm,0.7s,mb6.1
TKM2 Tokmak 2 64.25 325 *i* P **P** **04 22 51.0 -0.7**
KBK Karagaybulak 64.45 325 P **P** **04 22 53.6 +0.6**
SNR=14
AAK Ala-Archa 64.70 324 P **P** **04 22 54.8 +0.3**
SNR=460
AAK Ala-Archa 64.70 324 *d iP* **P** **04 22 53.9 -0.6**
AAK pmax pmax
comp=Z,752nm,0.7s,mb6.2
AAK Ala-Archa 64.70 324 eP **P** **04 22 54.2 -0.3**
comp=Z,1μm,0.9s,mb6.3
FRU Bishkek 64.75 325 ⇓ *iP* **P** **04 22 54.5 -0.4**
FRU *e* pP 04 24 48.0 -2.0
FRU eS **S** **04 30 50.0 -0.8**
FRU pmax pmax
comp=Z,2μm,1.8s,mb6.1
FRU pmax pmax
comp=Z,4μm,3.0s
FRU MLR MLR
comp=Z,2μm,17.5s
CHMS Chumysh 64.78 325 P **P** **04 22 54.8 -0.2**
SNR=79
AML Almayashu 64.86 323 P **P** **04 22 56.3 +0.8**
SNR=872
BOD Bodaibo 65.04 356 eP **P** **04 22 56.0 -0.7**
BOD pmax pmax
comp=Z,78nm,0.8s,mb5.2
USP Ospenovka 65.09 325 P **P** **04 22 57.0 0.0**
SNR=21
EKS2 Erkin-Say 65.14 324 P **P** **04 22 57.9 +0.6**
SNR=309
SKR Severo-Kuril's 65.55 24 eP **P** **04 22 56.0 -3.8**
SKR *e* 04 23 25.0
SKR eS S 04 30 57.0 -3.3
SKR pmax pmax
comp=N,170nm,0.8s
SKR pmax pmax
comp=E,140nm,0.8s
SKR pmax pmax
comp=Z,720nm,0.8s,mb6.2
SKR pmax pmax
comp=Z,3μm,4.0s
SKR pmax pmax
comp=N,2μm,2.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,6μm,10.0s
SKR smax
comp=E,4μm,10.0s
WBK Wadi Bani Khal 66.78 298 P **P** **04 23 07.7 +0.3**
SNR=53
KRAR Krasnoyarsk 66.95 344 eP **P** **04 23 08.4 -0.1**
KRAR pmax pmax
comp=Z,2μm,1.3s,mb6.3
AFI Afiamalu 67.09 102 eP **P** **04 23 11.6 +2.3**
AFI pmax pmax
comp=Z,41nm,0.8s
AFI Afiamalu 67.09 102 eP **P** **04 23 11.6 +2.3**
comp=Z,41nm,0.8s
KK31 Karatay Array 67.33 323 *i* P **P** **04 23 10.2 -0.6**
KKAR Karatay Array 67.33 323 eP **P** **04 23 10.2 -0.6**
KKAR pmax pmax
comp=Z,247nm,0.8s,mb5.7
JMDO Jabal Madar 67.46 298 P **P** **04 23 11.5 -0.1**
SNR=125
SMDO Samad 67.72 298 P **P** **04 23 13.2 0.0**
SNR=164
BIDO Bidbid 67.81 299 P **P** **04 23 13.9 +0.2**
SNR=225
ZAL Zalesovo 67.82 338 P **P** **04 23 13.2 -0.6**
comp=Z,1μm,0.6s,mb6.5,baz=347,slow=4.1,SNR=451
ZAL S S 04 31 23.1 -3.8
comp=Z,11nm,0.7s,baz=180,slow=15,SNR=2.3
ZAL PKPPKP 04 51 26.7
comp=Z,2.3nm,0.2s,baz=161,slow=3.7,SNR=5.5
ZAL Zalesovo 67.82 338 P **P** **04 23 13.2 -0.6**
ZAL S S 04 31 23.2 -3.7
ZAL Zalesovo 67.82 338 P **P** **04 23 13.2 -0.6**
ZAL S S 04 31 23.1 -3.8
ZAL P'P' 04 51 26.7
KURK Kurchatov 67.94 333 P **P** **04 23 14.6 0.0**
comp=Z,15μm,0.9s
PET Petropavlovsk 68.35 24 *d iP* **P** **04 23 17.2 +0.2**
PET pmax pmax
comp=Z,391nm,0.8s,mb5.9
PET Petropavlovsk 68.35 24 eP **P** **04 23 17.3 +0.3**
comp=Z,246nm,0.7s,mb5.8
BSY Bisya 68.37 298 P **P** **04 23 17.0 -0.2**
SNR=103
SHAO Shalim 68.42 293 P **P** **04 23 18.7 +1.3**
SNR=27
HOQ Hoqain 68.53 299 P **P** **04 23 18.4 +0.3**
SNR=176
NVS Novosibirsk 69.10 338 ⇓ *iP* **P** **04 23 20.3 -1.2**
NVS *i* S S 04 31 37.7 -4.0
NVS pmax pmax
comp=Z,2μm,1.4s,mb6.3
NVS pmax pmax
comp=N,1μm,1.5s
NVS pmax pmax
comp=E,980nm,1.4s
NVS smax
comp=N,350nm,1.8s
NVS smax
comp=E,497nm,1.7s
ARQ Araqi 69.14 298 P **P** **04 23 22.0 +0.2**
SNR=50
YAK Yakutsk 69.47 5 *d iP* **P** **04 23 22.5 -1.2**
YAK pmax pmax
comp=Z,1μm,0.8s,mb6.5
YAK Yakutsk 69.47 5 eP **P** **04 23 22.8 -0.9**
comp=Z,1μm,0.8s,mb6.5
RBK Rabkut 69.59 292 P **P** **04 23 24.6 +0.2**
SNR=88
HATD Hatta, Dubai 69.95 300 P **P** **04 23 26.8 +0.2**
SNR=151
ASHO Ashiyiah 69.97 299 P **P** **04 23 27.0 +0.3**
SNR=138
WHFO Wadi Hawf 70.09 292 P **P** **04 23 26.9 -0.5**
SNR=30
BANOM Banah 70.15 301 P **P** **04 23 28.2 +0.4**
SNR=48
MA2 Magadan 70.94 16 *d iP* **P** **04 23 32.9 +0.5**
MA2 pmax pmax
comp=Z,941nm,0.8s,mb6.4
MA2 Magadan 70.94 16 eP **P** **04 23 32.1 -0.4**
comp=Z,578nm,0.6s,mb6.3
MAW Mawson 71.25 200 eP **P** **04 23 34.1 -0.1**
comp=Z,189nm,1.2s,mb5.5
MAW ePP pP 04 25 30.2 -2.3
MAW eS S 04 32 00.2 -5.8
MAW *e* 04 50 55.0
MAW Mawson 71.25 200 P **P** **04 23 34.6 +0.4**
comp=Z,190nm,1.1s,mb5.6,baz=68,slow=7.2,SNR=90
MAW pP pP 04 25 33.4 +0.9
comp=Z,77nm,1.1s,baz=58,slow=7.7,SNR=5.4
MAW S S 04 32 07.1 +1.1
comp=Z,14nm,1.1s,baz=159,slow=22,SNR=6.2
MAW PKPPKP 04 51 20.8
comp=Z,20nm,0.9s,baz=229,slow=3.7,SNR=28
MAW Mawson 71.25 200 P **P** **04 23 34.6 +0.4**
MAW S S 04 32 07.1 +1.1
MAW pmax pmax
comp=Z,191nm,1.1s
MAW pmax pmax
comp=Z,77nm,1.1s
MAW smax
comp=N,14nm,1.1s
MAW pmax pmax
comp=Z,20nm,0.9s
OPO Ambohidratompo 71.59 253 P **P** **04 23 37.3 +1.1**
comp=Z,122nm,0.8s,mb5.5,baz=92,slow=3.2,SNR=40
OPO S S 04 32 14.1 +4.3
comp=Z,9.1nm,1.1s,baz=236,slow=20,SNR=2.1
VOSK Vostochnaya 72.83 331 P **P** **04 23 42.5 -0.9**
VOSK pmax pmax
comp=Z,678nm,0.8s,mb6.2
ABKT Ailbek 73.06 313 P **P** **04 23 45.5 +0.9**
comp=Z,6μm,1.1s,mb7.0
ABKT Ailbek 73.06 313 P **P** **04 23 45.2 +0.6**
VAN Vannovskaya 73.07 313 eP **P** **04 23 45.0 +0.3**
BVA0 Borovoye Array 73.30 331 *i* P **P** **04 23 45.5 -0.5**
BVA0 pmax pmax
comp=Z,463nm,1.9s,mb5.7
BVAR Borovoye Array 73.30 331 P **P** **04 23 45.4 -0.7**
comp=Z,268nm,0.6s,mb5.9,baz=133,slow=7.3,SNR=267
BVAR S S 04 32 27.9 -0.9
comp=Z,12nm,1.0s,baz=119,slow=12,SNR=5.4
BVAR P4KPbc 05 00 19.8
comp=Z,0.6nm,0.7s,baz=112,slow=1.6,SNR=2.4
BVAR Borovoye Array 73.30 331 P **P** **04 23 45.4 -0.7**
BVAR S S 04 32 27.9 -0.9
BRVK Borovoye 73.37 331 P **P** **04 23 45.3 -1.1**
comp=Z,4μm,0.8s,mb7.0,SNR=97
BRVK Borovoye 73.37 331 eP **P** **04 23 46.0 -0.4**
BRVK eS S 04 32 29.5 0.0
BRVK pmax pmax
comp=Z,870nm,1.3s,mb6.1
BRVK Borovoye 73.37 331 eP **P** **04 23 46.0 -0.4**
comp=Z,1μm,1.3s,mb6.3
BRVK eS S 04 32 29.5 0.0
VNDA Vanda 73.53 171 P **P** **04 23 47.1 -0.3**
comp=Z,100nm,0.6s,mb5.5,baz=314,slow=6.1,SNR=197
VNDA S S 04 32 31.7 +0.4
comp=Z,7.0nm,1.0s,baz=319,slow=13,SNR=4.7
VNDA Vanda 73.53 171 P **P** **04 23 47.1 -0.3**
VNDA S S 04 32 31.7 +0.4
VNDA pmax pmax
comp=Z,100nm,0.6s
VNDA smax
comp=N,7.0nm,1.0s
VNDA Vanda 73.53 171 eP **P** **04 23 47.2 -0.2**
comp=N,321nm,0.8s,mb5.9
VNDA ePP PP 04 26 41.5 -0.4
VNDA eS S 04 32 31.5 +0.2
CHKZ Chkalovo 73.59 332 eP **P** **04 23 47.1 -0.6**
CHKZ eS S 04 32 31.7 -0.2
CHKZ pmax pmax
comp=Z,1μm,1.0s,mb6.3
CHKZ Chkalovo 73.59 332 eP **P** **04 23 47.1 -0.6**
comp=Z,1μm,1.0s,mb6.3
CHKZ eS S 04 32 31.7 -0.3
MUKL Al Mukalla 73.72 287 eP **P** **04 23 49.3 +0.9**
ZRNK Zerenda 73.92 331 *i* P **P** **04 23 48.9 -0.7**
ZRNK pmax pmax
comp=Z,592nm,0.7s,mb6.2
ZRNK Zerenda 73.92 331 eP **P** **04 23 48.8 -0.8**
comp=Z,23nm,0.9s
ZRNK eS S 04 32 34.2 -1.3
SBA Scott Base 74.52 171 eP **P** **04 23 53.3 +0.4**
SBA pmax pmax
comp=Z,138nm,0.9s,mb5.5
SBA Scott Base 74.52 171 eP **P** **04 23 53.3 +0.4**
comp=Z,138nm,0.9s,mb5.5
SMY Shemya 75.20 31 eP **P** **04 23 57.3 +0.5**
SMY pmax pmax
comp=Z,1μm,0.9s,mb6.4
SMY Shemya 75.20 31 eP **P** **04 23 57.3 +0.5**
comp=Z,1μm,0.9s,mb6.4
AB31 Akbulak array 76.79 324 *i* P **P** **04 24 04.6 -0.9**
BDHA Al Bayda' 76.92 286 eP **P** **04 24 08.1 +1.9**
BDHA AMb AMB 04 24 08.5
comp=Z,57nm,0.8s,mb5.1
LBOS 77.20 286 eP **P** **04 24 09.6 +1.9**
AMKA Amchitka 77.24 33 eP **P** **04 24 08.0 +0.1**
QRN Al-Qurain 78.10 301 eP **P** **04 24 12.2 -0.4**
QRN AMb AMB 04 24 17.4
comp=Z,3μm,0.8s,mb6.8
KBD Kabd 78.40 302 eP **P** **04 24 14.2 0.0**

KBD AMb AMB 04 24 19.2
comp=Z,5μm,1.0s,mb6.9
AKTK Aktyubinsk 78.44 325 P P 04 24 13.8 -0.6
AKTK S S 04 33 22.5 -1.1
AKTO Aktyubinsk 78.44 325 P **P 04 24 13.8 -0.6**
comp=Z,724nm,0.9s,mb6.1,baz=106,slow=6.9,SNR=252
AKTO S S 04 33 22.5 -1.1
comp=Z,3.3nm,0.9s,baz=225,slow=19,SNR=1.3
AKTO Aktyubinsk 78.44 325 *i* P **P 04 24 13.9 -0.5**
AKTO pmax pmax
comp=Z,235nm,1.3s,mb5.5
RDF Al-Radifah 78.46 301 *e*P **P 04 24 14.5 0.0**
RDF AMb AMB 04 24 20.7
comp=Z,3μm,1.4s,mb6.5
UMR Umm Al-Rimmam 78.48 302 *e*P **P 04 24 14.3 -0.2**
UMR AMb AMB 04 24 19.6
comp=Z,2μm,1.0s,mb6.6
NAY Al-Naaiem 78.80 302 *e*P **P 04 24 15.8 -0.5**
NAY AMb AMB 04 24 22.2
comp=Z,1μm,1.0s,mb6.2
MIB Mutribah 78.86 302 *e*P **P 04 24 16.5 -0.1**
MIB AMb AMB 04 24 21.5
comp=Z,3μm,0.9s,mb6.6
TIXI Tiksi 78.95 3 *e*P **P 04 24 09.6 -7.5**
TIXI pmax pmax
comp=Z,1μm,0.9s,mb6.2
TIXI pmax pmax
comp=N,147nm,0.8s
TIXI pmax pmax
comp=E,92nm,0.8s
TIXI pmax pmax
comp=Z,2μm,1.0s,mb6.4
TIXI MLR MLR
comp=Z,1μm,20.0s
TIXI Tiksi 78.95 3 *i* Pr **P 04 24 15.6 -1.5**
RST Umm Al-Ruwaisa 79.07 302 *e*P **P 04 24 17.5 -0.2**
RST AMb AMB 04 24 22.3
comp=Z,4μm,1.1s,mb6.7
ATD Arta Tunnel 79.09 283 P **P 04 24 19.9 +2.0**
comp=Z,402nm,1.0s,mb5.7,baz=27,slow=1.7,SNR=35
ATD S S 04 33 34.5 +4.1
comp=Z,2.4nm,0.3s,baz=123,slow=20,SNR=1.3
ATD Arta Tunnel 79.09 283 P **P 04 24 19.9 +2.0**
ATD S S 04 33 34.5 +4.1
HAJJ Hajjah 79.11 287 AMb AMB 04 24 20.1
comp=Z,235nm,0.6s,mb5.7
HAJJ *e*P 04 24 20.2
SYO Syowa Base 79.88 201‖ *e*P **P 04 24 21.1 -0.8**
SYO Syowa Base 79.88 201‖ *i* PcP PcP 04 24 26.8 -0.5
SVE Sverdlovsk 80.09 331‖ *i* P **P 04 24 21.0 -2.0**
SVE *e* 04 27 16.0
SVE *e*S S 04 33 39.0 -1.6
SVE *e*SS SS 04 39 16.0 +8.2
SVE pmax pmax
comp=Z,280nm,1.0s,mb5.5
SVE pmax pmax
comp=N,500nm,10.0s
SVE pmax pmax
comp=E,1μm,10.0s
SVE pmax pmax
comp=Z,2μm,10.0s
SVE MLR MLR
comp=N,600nm,19.0s
SVE MLR MLR
comp=E,300nm,19.0s
SVE MLR MLR
comp=Z,1μm,19.0s
ARU Arti 80.90 330 P **P 04 24 25.9 -1.3**
comp=Z,2μm,0.9s,mb6.6,SNR=75
ARU Arti 80.90 330‖ *i* P **P 04 24 25.7 -1.5**
ARU *e*SP 04 27 21.8
ARU *e* 04 27 40.4
ARU *e*PPP 04 29 32.1
ARU *e*S S 04 33 48.1 -0.7
ARU *e*SS SS 04 39 15.0 -4.8
ARU pmax pmax
comp=Z,523nm,1.4s,mb5.8
ARU Arti 80.90 330 *e*P **P 04 24 25.8 -1.5**
comp=Z,933nm,1.4s,mb6.0
ARU *e*PP PP 04 27 47.0 +4.5
BILL Bilibino 81.81 16*d* *i*P **P 04 24 30.9 -1.0**
BILL pmax pmax
comp=Z,143nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,1μm,18.0s
BILL Bilibino 81.81 16 *e*P **P 04 24 31.5 -0.5**
comp=Z,78nm,0.7s,mb5.3
DESE Dese 82.14 282 *e*P **P 04 24 36.6 +3.1**
DESE *e*S S 04 34 12.7 +12
BHD Baghdad 82.17 305 *i* x x 04 24 30.0
BHD *i* x x 04 24 45.0
BHD *e*x x 04 26 33.0
BHD *e*x x 04 27 20.0
BHD *e*x x 04 27 54.0
BHD *e*x x 04 33 46.0
BHD *e*x x 04 34 28.0
MAK Makhachkala 82.39 315 *e*P **P 04 24 34.7 -0.1**
MAK *e**PP pP 04 26 29.9 -8.0
MAK *e**SP sP 04 27 29.5 -7.0
MAK *e* 04 27 53.7
MAK *e*S S 04 34 01.9 -1.8
MAK pmax pmax
comp=Z,743nm,1.3s,mb6.1
MAK MLR MLR
comp=Z,1μm,19.0s
QSPA South Pole Qui 82.73 180 *e*P **P 04 24 36.0 -0.5**
comp=Z,211nm,1.3s,mb5.5
KMBO Kilima Mbogo 82.79 270 P **P 04 24 38.3 +1.4**
comp=Z,152nm,0.9s,mb5.5,baz=58,slow=7.0,SNR=50
KMBO S S 04 34 07.3 -0.4
comp=Z,1.2nm,0.7s,baz=62,slow=18,SNR=1.4
KMBO Kilima Mbogo 82.79 270‖ *e*P **P 04 24 38.2 +1.4**
SOKR Solikamsk 83.18 333*d* *i*P **P 04 24 37.3 -1.5**
SOKR pmax pmax
comp=Z,850nm,1.5s,mb6.0
DGRG David-gareji 83.49 313 P **P 04 24 42.2 +1.9**
DGRG S S 04 34 10.9 -3.6
GNI Garni 83.61 312 *e*P **P 04 24 41.4 +0.5**
GNI Garni 83.61 312 P **P 04 24 41.7 +0.8**
comp=Z,42nm,0.6s,mb5.2,baz=346,slow=3.2,SNR=38
GNI S S 04 34 15.2 -0.5
comp=Z,2.6nm,0.4s,baz=182,slow=18,SNR=1.5
GNI Garni 83.61 312*d* *i*P **P 04 24 40.3 -0.6**
GNI pmax pmax
comp=Z,383nm,1.3s
GNI Garni 83.61 312 *e*P **P 04 24 41.9 +0.9**
comp=Z,869nm,1.3s,mb6.1
GNI *e*PP PP 04 28 02.2 -2.1
HKR Hakkari 83.72 309 *e*P **P 04 24 42.6 +1.2**
CUKT Cukurca 83.74 309 *e*P **P 04 24 42.2 +0.7**
MSL Mosul 83.92 308 *i* x x 04 24 47.5
MSL *e*x x 04 25 06.5
MSL *e*x x 04 29 50.0
MSL *e*x x 04 34 15.0
MSL *e*x x 04 34 24.0
CLDR Caldiran 83.97 311 *e*P **P 04 24 44.0 +1.3**
MTA Mtatsminda 83.97 313 P **P 04 24 43.6 +0.9**
MTA S S 04 34 10.1 -9.1
TBLG Delisi 84.02 313 P **P 04 24 44.1 +1.1**
DUS Dusheti 84.14 314 P **P 04 24 45.6 +2.1**
KZR Kazreti 84.16 313 P **P 04 24 44.6 +1.0**
VANT Van 84.20 310 *e*P **P 04 24 45.8 +2.0**
TVAN Van 84.21 310 *i* P **P 04 24 44.4 +0.5**
VANB Van 84.23 310 *e*P **P 04 24 46.0 +2.0**
NIKO Nikolski 84.53 35 *e*P **P 04 24 44.6 -0.8**
comp=Z,234nm,1.0s,mb5.8
GOR Gori 84.54 313 P **P 04 24 48.3 +2.8**
ZEI Tsey 84.89 314 *e*P **P 04 24 47.9 +0.7**
ZEI *e* 04 28 14.8
ZEI *e*S S 04 34 27.3 -0.8
ZEI pmax pmax
comp=Z,837nm,1.0s,mb6.3
ZEI smax
comp=N,1μm,1.7s
KIP Kipapa 85.10 68 *e*P **P 04 24 49.7 +1.5**
comp=N,123nm,0.9s,mb5.5
BTMT Batman 85.59 309 *e*P **P 04 24 47.0 -3.6**
MARD Mardin 85.96 308 *i* P **P 04 24 52.3 0.0**
BNGL BINGOL 86.02 310 *i* P **P 04 24 57.3 +4.7**
KIV Kislovodsk 86.04 315 P **P 04 24 53.4 +0.7**
comp=N,1μm,0.9s,mb6.6,SNR=26
KIV Kislovodsk 86.04 315*d* *i*P **P 04 24 52.2 -0.5**
KIV pmax pmax
comp=Z,177nm,1.3s,mb5.5
KIV MLR MLR
comp=Z,900nm,21.0s
KIV Kislovodsk 86.04 315 *e*P **P 04 24 52.9 +0.2**
comp=Z,278nm,1.0s,mb5.8
KIV *e*PP PP 04 28 20.1 -3.6
ERZM Erzurum 86.07 311 *i* P **P 04 24 53.7 +0.9**
EZM Erzurum 86.07 311 *e*P **P 04 24 55.7 +2.9**
BCA Borcka 86.22 312 *e*P **P 04 24 54.0 +0.4**
DIY Diyarbakir 86.51 309 *e*P **P 04 24 56.2 +1.3**
BINT Bingol 86.51 310 *e*P **P 04 24 55.7 +0.8**
AKUT Akutan 86.64 35 *e*P **P 04 24 55.6 +0.1**
comp=Z,506nm,1.0s,mb6.2
EZC Erzincan 87.20 310 *e*P **P 04 25 01.2 +3.1**
PTK Pertek 87.35 310 *e*P **P 04 24 59.8 +1.0**
KTUT Trabzon 87.49 312 *e*P **P 04 25 00.1 +0.6**
URFA Urfa 87.51 308 *e*P **P 04 25 00.5 +0.9**
TBI Tubuai 87.54 113 *e*S S 04 34 53.4 +0.3
comp=Z,1μm,30.2s
ELZG Elazig 87.58 309 *i* P **P 04 25 00.8 +0.9**
ATAB Bozova 87.93 308 *i* P **P 04 25 01.6 +0.1**
MALT Malatya 87.98 309‖ *i* P **P 04 25 02.7 +0.9**
MALT Malatya 87.98 309 *e*P **P 04 25 02.3 +0.5**
MALT pmax pmax
comp=Z,216nm,0.8s,mb5.9
MALT Malatya 87.98 309 *e*P **P 04 25 02.3 +0.5**
comp=Z,216nm,0.8s,mb5.9
MALT *e*pP pP 04 27 07.2 +0.2
MYA Malatya 87.98 309 *e*P **P 04 25 02.5 +0.7**
PAE Paea 88.11 107 *e*P **P 04 25 05.2 +2.8**
comp=Z,209nm,1.3s,mb5.7
PAE Paea 88.11 107 *e*P **P 04 25 05.2 +2.8**
PAE pmax pmax
comp=Z,209nm,1.3s,mb5.7
ASF Jabal al Asfar 88.12 303 P **P 04 25 03.7 +1.3**
comp=Z,167nm,1.0s,mb5.7,baz=341,slow=3.6,SNR=63
ASF pP pP 04 27 08.4 +0.7
comp=Z,18nm,1.1s,baz=120,slow=6.8,SNR=2.4
ASF S SKSac 04 34 40.7 +4.5
comp=Z,2.5nm,0.8s,baz=14,slow=4.2,SNR=1.5
PPT Papeete 88.12 107 *e*S S 04 34 58.5 0.0
comp=Z,2μm,25.8s
PPT Papeete 88.12 107 *e*P **P 04 25 05.1 +2.6**
PPT *e*S S 04 34 58.5 0.0
PPT pmax pmax
comp=Z,83nm,1.3s
PPT Papeete 88.12 107 *e*P **P 04 25 05.1 +2.6**
comp=Z,83nm,1.3s,mb5.3
PPT *e*S S 04 34 58.5 0.0
PECR Pechory 88.33 327 *e*P **P 04 25 04.0 +0.6**
PECR *e* 04 28 44.0
PECR *i* 04 34 35.0
PECR *e*S S 04 34 57.0 -3.3
PECR *e* 04 36 09.0
PECR pmax pmax
comp=Z,4μm,1.4s,mb6.9
PECR pmax pmax
comp=Z,2μm,12.0s
PECR smax
comp=E,900nm,8.0s
TVO Taravao 88.41 108 *e*P **P 04 25 06.8 +3.0**
comp=E,258nm,0.9s,mb5.9
TVO Taravao 88.41 108 *e*P **P 04 25 06.8 +3.0**
TVO pmax pmax
comp=Z,258nm,0.9s,mb6.0
GZT Gaziantep 88.48 308 *i* P **P 04 25 04.0 -0.1**
GRSN GIRESUNGRSN 88.59 311 *i* P **P 04 25 04.5 -0.2**
GAZ Gaziantep 88.72 308 *e*P **P 04 25 04.9 -0.3**
KMRS Kahramanmaras 89.02 308 *e*P **P 04 25 07.0 +0.3**
NVL N'lazarevskaya 89.14 198*c* *i*P **P 04 25 07.6 +0.4**
NVL *i* 04 28 48.9
NVL *i* 04 35 07.5
NVL *e* 04 36 17.7
NVL pmax pmax
comp=Z,98nm,1.5s,mb5.4
NVL pmax pmax
comp=Z,1μm,4.4s
NVL MLR MLR
comp=Z,1μm,21.3s
RCY Rachaya 89.23 304 *e*P **P 04 25 08.4 +0.8**
SVSK Karacayir 89.36 310 *e*P **P 04 25 09.1 +0.8**
COBT Iskenderun 89.37 307 *i* P **P 04 25 08.5 +0.3**
EIL Elat 89.38 300 *e*P **P 04 25 08.6 +0.3**
comp=Z,3μm,1.1s,mb7.0
HTY Hatay 89.40 306 *e*P **P 04 25 07.8 -0.5**
BHL Bhannes 89.44 304 *e*P **P 04 25 09.2 +0.6**
TOKT Tokat 89.77 311 *e*P **P 04 25 12.9 +2.8**
CEYT Ceyhan 89.85 307 *e*P **P 04 25 12.2 +1.7**
KOZT Kozan 89.86 308 *e*P **P 04 25 12.7 +2.1**
ANN Anapa 89.90 315*d* *i*P **P 04 25 09.3 -1.4**
ANN *e* 04 28 56.3
ANN *e* 04 34 44.7
ANN pmax pmax
comp=Z,570nm,0.9s,mb6.4
ANN Anapa 89.90 315 *e*P **P 04 25 09.4 -1.3**
SDPT Sand Point 89.92 34 *e*P **P 04 25 09.5 -1.3**
comp=Z,360nm,0.7s,mb6.3
VRSR Storozhevoye 89.95 322*d* *i*P **P 04 25 09.2 -1.7**
VRSR *e*S SKSac 04 34 44.4 -2.4
VRSR pmax pmax
comp=Z,450nm,1.5s,mb6.1
VRSR pmax pmax
comp=N,30nm,1.4s
VRSR pmax pmax
comp=E,240nm,1.4s
VRSR smax
comp=N,210nm,1.6s
VRSR smax
comp=Z,20nm,1.8s
VRSR smax
comp=E,140nm,1.6s
LSZ Lusaka 89.98 255 *e*P **P 04 25 11.7 +0.7**
LSZ *e*S S 04 35 18.7 +3.5
LSZ pmax pmax
comp=Z,323nm,1.1s,mb6.1
LSZ Lusaka 89.98 255 *e*P **P 04 25 11.7 +0.6**
comp=Z,323nm,1.1s,mb6.1
LSZ *e*pP pP 04 27 17.8 +1.0
LSZ *e*S S 04 35 18.7 +3.5
PMOR Pomariorio Ree 90.05 105 *e*P **P 04 25 14.1 +2.7**
comp=Z,85nm,0.9s,mb5.6
VOR Voronezh 90.05 322 *e*P **P 04 25 10.0 -1.4**
VOR pmax pmax
comp=Z,800μm,1.5s
BNN Bunyan 90.07 309 *e*P **P 04 25 05.4 -6.1**
KVT Kavak 90.27 311 *e*P **P 04 25 13.1 +0.7**
KARA Karaisali 90.44 307 *e*P **P 04 25 11.7 -1.5**
YOZ Yozgat 90.59 310 *e*P **P 04 25 11.7 -2.2**
MERS Mersin 90.80 307 *e*P **P 04 25 14.6 -0.2**
AVNT Avonos 90.82 309 *i* P **P 04 25 15.9 +1.0**
BOSA Boshof 90.82 241 P **P 04 25 15.2 +0.3**
comp=Z,34nm,0.7s,mb5.4,baz=100,slow=4.5,SNR=44
BOSA pP pP 04 27 20.9 +0.1
comp=Z,14nm,0.7s,baz=72,slow=4.5,SNR=5.1
BOSA S SKSac 04 34 53.7 +2.0
comp=Z,14nm,1.2s,baz=255,slow=20,SNR=4.2
BOSA PKKPbc PKKPbc 04 42 38.1 +1.6
comp=Z,7.0nm,0.7s,baz=324,slow=1.4,SNR=10
BOSA Boshof 90.82 241 P **P 04 25 15.3 +0.3**
BOSA S SKSac 04 34 53.7 +2.0
BOSA pmax pmax
comp=Z,34nm,0.7s,mb5.4
BOSA pmax pmax
comp=Z,14nm,0.7s,mb5.0
BOSA smax
comp=N,14nm,1.2s
BOSA pmax pmax
comp=Z,7.0nm,0.7s
BOSA Boshof 90.82 241 *e*P **P 04 25 15.2 +0.2**
comp=Z,111nm,1.2s,mb5.7
BOSA *e*pP pP 04 27 20.3 -0.5
DIKM Dikmen 90.95 312 *e*P **P 04 25 17.5 +2.0**
LBTB Lobatse 91.05 245 *e*P **P 04 25 16.6 +0.6**
LBTB pmax pmax
comp=Z,67nm,1.2s,mb5.5
LBTB Lobatse 91.05 245 *e*P **P 04 25 16.6 +0.5**
comp=Z,67nm,1.2s,mb5.5
LBTB *e*pP pP 04 27 21.9 0.0
CTKT Corum 91.14 311 *i* P **P 04 25 16.6 +0.1**
BOYT Boyabat 91.17 311 *i* P **P 04 25 15.9 -0.7**
CORM Corum 91.20 310 *e*P **P 04 25 17.5 +0.8**
CHGN Chignik 91.26 33 *e*P **P 04 25 17.1 +0.1**
BYBT Boyabat 91.28 311 *e*P **P 04 25 17.3 +0.2**
IKL Isikli 91.38 306 *e*P **P 04 25 18.6 +1.1**
CSS Prodhromos 91.49 305 P **P 04 25 17.2 -0.8**
comp=Z,1.1nm,0.7s
CSS Prodhromos 91.49 305 *e*P **P 04 25 17.4 -0.6**
CSS Prodhromos 91.49 305 *e*P **P 04 25 17.7 -0.3**
comp=Z,115nm,0.8s,mb5.9
MOS Moscow 91.73 326 *e*P **P 04 25 17.1 -2.0**
MOS *e* 04 29 04.4
MOS *e*S SKSac 04 34 53.1 -3.6
MOS pmax pmax
comp=Z,1μm,1.9s,mb6.7
MOS pmax pmax
comp=N,400nm,1.4s
MOS pmax pmax
comp=E,200nm,1.2s
MOS pmax pmax
comp=Z,723nm,1.7s,mb6.4
MOS pmax pmax
comp=N,188nm,1.2s
MOS pmax pmax
comp=E,122nm,1.2s
TOS Tosya 91.78 311 *e*P **P 04 25 19.2 -0.1**
KAMT Kaman 91.78 309 *e*P **P 04 25 18.9 -0.5**
BR131 Keskin Array S 91.89 310 *e*P **P 04 25 18.9 -0.9**
comp=E,62nm,0.8s,mb5.7
BRTR Keskin Array B 91.89 310 P **P 04 25 18.9 -1.0**
comp=E,124nm,0.9s,mb5.9,baz=124,slow=5.5,SNR=98
BRTR PP PP 04 29 09.9 +0.4
comp=E,11nm,0.9s,baz=111,slow=6.8,SNR=4.4
BRTR S SKSac 04 34 59.5 +1.9
comp=E,1.3nm,0.8s,baz=151,slow=5.6,SNR=3.8
BRTR PKKPbc PKKPbc 04 42 37.6 +3.9
comp=E,1.5nm,0.8s,baz=191,slow=2.5,SNR=4.5
BRTR Keskin Array B 91.89 310 *i* P **P 04 25 18.8 -1.1**
BRTR pmax pmax
comp=Z,124nm,0.9s
BZK Bozkurt 91.92 312 *e*P **P 04 25 20.9 +0.9**
CANT Cankiri 92.02 310 *e*P **P 04 25 20.4 -0.1**
ERMK Ermenek 92.05 306 *i* P **P 04 25 23.9 +3.3**
ALFC Alevga 92.11 305 P **P 04 25 19.9 -1.0**
comp=Z,2.5nm,0.5s
ELDT Eldivan 92.15 310 *i* P **P 04 25 20.5 -0.6**
OBN Obninsk 92.22 325 P **P 04 25 19.0 -2.4**
comp=Z,2μm,0.6s,SNR=14
OBN Obninsk 92.22 325*d* *i*P **P 04 25 19.9 -1.5**
OBN *i* 04 29 10.6
OBN *i* 04 34 58.4
OBN *i* SP SP 04 36 53.4 +2.4
OBN pmax pmax
comp=Z,592nm,1.2s,mb6.5
OBN MLR MLR
comp=Z,1μm,21.0s
OBN Obninsk 92.22 325 *e*P **P 04 25 20.0 -1.4**
comp=Z,699nm,1.2s,mb6.6
SIM Simferopol' 92.25 315 P **P 04 25 21.1 -0.4**
SIM 04 29 14.5
SIM 04 34 59.8
SIM pmax pmax
comp=Z,151nm,0.8s,mb6.1
SIM pmax pmax
comp=Z,390nm,12.0s
PPCY Paphos 92.28 305 P **P 04 25 21.8 +0.1**
BALT Daday 92.32 311 *i* P **P 04 25 21.9 +0.1**
HDMB Hadim 92.43 307 *e*P **P 04 25 20.9 -1.4**
ANTO Ankara 92.55 310 *e*P **P 04 25 20.9 -2.0**
ANTO Ankara 92.55 310‖ *i*P **P 04 25 22.2 -0.7**
ANTO Ankara 92.55 310 *e*P **P 04 25 22.5 -0.4**
ANTO *e* 04 29 14.9
ANTO pmax pmax
comp=Z,152nm,1.0s,mb6.0
ANTO Ankara 92.55 310 *e*P **P 04 25 22.4 -0.5**
comp=Z,152nm,1.0s,mb6.0
ANTO *e*PP PP 04 29 14.9 +0.3
KONT Konya--Tatoy 92.65 308 *e*P **P 04 25 21.4 -2.0**
SAFT Safranbolu 92.80 311 *e*P **P 04 25 23.8 -0.3**
KDHN Kadinhani 92.91 308 *i* P **P 04 25 23.0 -1.5**
SNAA Sanae 92.97 195 PKKPbc PKKPbc 04 42 29.7 -1.4
comp=Z,3.5nm,0.5s,baz=295,slow=4.7,SNR=17
SNAA SKKPbc 04 45 14.4
comp=Z,0.6nm,0.3s,baz=296,slow=2.1,SNR=62
SNAA Sanae 92.97 195 *e*P **P 04 25 24.3 -0.5**
SNAA *e* 04 25 25.7
SNAA *e* 04 25 27.4
SNAA *e* 04 25 28.3
SNAA *e* 04 25 30.9
SNAA *e* pP 04 27 32.4 +1.5
SNAA *e* 04 27 40.1
SNAA *e* 04 27 42.7
SNAA *e* 04 28 01.0
SNAA *e* 04 28 05.5
SNAA *e* 04 28 16.6
SNAA *e* 04 42 31.1
SNAA *e* 04 42 33.3
SNAA *e* 04 50 42.6
SNAA Sanae 92.97 195 *e*P **P 04 25 24.2 -0.6**
SNAA *e* 04 42 29.8
SNAA pmax pmax
comp=Z,26nm,0.8s
SNAA Sanae 92.97 195 *e*P **P 04 25 24.2 -0.6**
comp=Z,26nm,0.8s,mb5.3
SNAA *e*pP pP 04 27 32.6 +1.7
SNAA *e*PKKPdf PKKPdf 04 42 29.8 +1.6
SNAA *e*PKKPbc PKKPbc 04 42 33.0 +2.0
TMCR Tamitsa 93.03 334 *e*P **P 04 25 23.1 -2.0**
TMCR pmax pmax
comp=Z,260nm,0.8s,mb6.3
KIZT Kizilcal 93.14 309 *e*P **P 04 25 25.1 -0.5**
SGKT Sivrigoynuk 93.20 310 *i* P **P 04 25 25.0 -0.8**
SVW2 Sparrevohn 93.53 29 *e*P **P 04 25 27.3 -0.1**
TTA Tatalina 93.61 27 *e*P **P 04 25 27.1 -0.6**
KDZE Karadeniz Ereo 93.74 311 *e*P **P 04 25 28.2 -0.2**
MDU Mudurnu 93.82 310 *e*P **P 04 25 27.2 -1.5**
SUR Sutherland 93.96 237 PKKPbc PKKPbc 04 42 33.6 +5.1
comp=Z,13nm,0.8s,baz=283,slow=4.6,SNR=6.0
SUR Sutherland 93.96 237 *e*P **P 04 25 30.4 +1.1**
comp=Z,103nm,1.4s,mb5.8
ESKT Eskisehir 94.00 309 *e*P **P 04 25 28.2 -1.4**
ESKT Eskisehir 94.00 309 *i* P **P 04 25 28.5 -1.0**
ISP Isparta 94.09 307 *e*P **P 04 25 29.1 -0.8**
ISP Isparta 94.09 307 *e*P **P 04 25 28.2 -1.7**
ISP Isparta 94.09 307*d* *i*P **P 04 25 28.9 -1.0**
ISP Isparta 94.09 307 *e*P **P 04 25 28.7 -1.2**
comp=Z,118nm,1.1s,mb5.9
HENT Hendek 94.10 310 *i* P **P 04 25 28.6 -1.4**
TKTP Tekketepe 94.26 308 *i* P **P 04 25 30.2 -0.5**
BORA Eskisehir 94.34 309 *i* P **P 04 25 29.9 -1.1**
BORA Eskisehir 94.34 309 *i* P **P 04 25 31.4 +0.3**
ELL Elmali 94.46 306 *e*P **P 04 25 31.1 -0.5**
KDAK Kodiak Island 94.63 32 *e*P **P 04 25 31.4 -1.0**
comp=Z,177nm,1.3s,mb6.0
KDAK *e*PP PP 04 29 28.3 -2.2
AKAS Kas 94.65 306 *i* P **P 04 25 31.5 -1.0**
GOLH Golhisar 94.78 307 *i* P **P 04 25 32.7 -0.4**
ADVT Abdulvahap 94.94 310 *e*P **P 04 25 33.0 -0.8**
LVZ Lovozero 94.96 338 P **P 04 25 32.4 -1.5**
comp=Z,605nm,0.8s,mb6.8,SNR=9.6
LVZ Lovozero 94.96 338*de*P **P 04 25 34.2 +0.3**
LVZ *e* 04 28 31.6
LVZ pmax pmax
comp=Z,97nm,1.0s,mb5.9
LVZ pmax pmax
comp=N,5.0nm,0.6s
LVZ pmax pmax
comp=E,30nm,0.9s
LVZ pmax pmax
comp=Z,230nm,1.5s,mb6.1
LVZ pmax pmax
comp=N,270nm,3.8s
LVZ pmax pmax
comp=E,80nm,1.6s
LVZ Lovozero 94.96 338‖ *e*P **P 04 25 33.5 -0.4**
VNA1 Neumayer--Stat 95.00 195 *e*P **P 04 25 33.8 -0.2**
VNA1 *e* 04 25 35.1
VNA1 *e* 04 25 36.9
VNA1 *e* 04 25 37.7
VNA1 *e* 04 25 40.6
VNA1 *e* pP 04 27 41.9 +1.6
VNA1 *e* 04 27 51.0
VNA1 *e* 04 27 54.2
VNA1 *e* 04 27 57.0
VNA1 *e* 04 28 13.7
VNA1 *e* 04 28 19.4
VNA1 *e* 04 28 31.5
VNA1 *e* 04 42 26.7
VNA1 *e* 04 42 28.5

VNA1 *e* 04 50 39.1
GDZ Gediz 95.02 309 *i* P **P** **04 25 35.0 +0.9**
IMA2 Indian Mountai 95.02 24 *e* P **P** **04 25 33.3 -0.8**
HRT Hereke 95.03 310 *e* P **P** **04 25 32.0 -2.1**
FETY Fethiye 95.11 306 *e* P **P** **04 25 33.0 -1.5**
YLV Yalova 95.23 310 *e* P **P** **04 25 34.1 -1.0**
DNZL Cakiroluk 95.23 307 *i* P **P** **04 25 36.4 +1.3**
ULDT Uludag 95.38 310 *i* P **P** **04 25 34.2 -1.5**
APA Apatity 95.39 337 ⇑ *i* P **P** **04 25 34.8 -1.0**
APA *i* 04 29 42.0
APA *i* 04 35 13.0
APA *e* S S 04 36 09.0 +6.6
APA *e* 04 38 07.0
APA *e* SS SS 04 43 03.0 +15
APA pmax pmax
comp=Z,150nm,1.4s,mb5.9
APA MLR MLR
comp=Z,3µm,18.0s
DALT Dalyan (Mudla) 95.48 306 *e* P **P** **04 25 37.9 +1.6**
ISK Istanbul-Kandi 95.51 311 *e* P **P** **04 25 44.3 +8.0**
KLYT Kilyos 95.54 311 *e* P **P** **04 25 37.4 +0.9**
YER Yerkesik 95.79 307 *e* P **P** **04 25 41.7 +4.1**
ARG Arkhangelos 95.84 306 *e* P **P** **04 25 38.0 +0.2**
JOF Joensuu 95.86 333 *e* p **P** **04 25 35.6 -2.3**
comp=Z,83nm,0.7s,mb6.1
ELBA Catalca 95.99 311 *i* P **P** **04 25 39.9 +1.4**
SLKM Skilak Lake 96.08 30 *e* P **P** **04 25 37.5 -1.4**
PUL Pulkovo 96.11 329 *e* P **P** **04 25 39.2 +0.1**
PUL *e* PPP 04 31 44.8
PUL pmax pmax
comp=Z,324nm,0.9s,mb6.6
PUL pmax pmax
comp=N,95nm,1.0s
PUL pmax pmax
comp=E,449nm,1.3s
PUL pmax pmax
comp=Z,532nm,1.2s,mb6.7
PUL pmax pmax
comp=N,114nm,1.0s
PUL pmax pmax
comp=E,853nm,1.7s
PUL Pulkovo 96.11 329 ⇑ *e* P **P** **04 25 38.5 -0.6**
AKASG Malin Array Be 96.13 320 P **P** **04 25 37.2 -1.9**
comp=E,48nm,0.7s,mb5.8,baz=80,slow=4.4,SNR=65
AKASG PP PP 04 29 38.5 -3.5
comp=E,16nm,1.0s,baz=79,slow=6.5,SNR=4.9
AKASG PKiKP PKiKP 04 30 13.8 +0.2
comp=E,5.2nm,0.5s,baz=79,slow=2.1,SNR=9.2
AKASG S SKSac 04 35 21.4 +1.4
comp=E,0.5nm,0.5s,baz=76,slow=6.6,SNR=2.0
AKASG PKKPbc PKKPbc 04 42 24.6 +1.8
comp=E,0.5nm,0.3s,baz=273,slow=3.4,SNR=4.4
AKASG SKKPbc 04 45 08.8
comp=E,1.1nm,0.6s,baz=270,slow=3.4,SNR=5.1
AKASG Malin Array Be 96.13 320 P **P** **04 25 37.2 -1.9**
AKASG 04 29 38.5
AKASG Malin Array Be 96.13 320 P **P** **04 25 37.2 -1.9**
AKASG PP PP 04 29 38.5 -3.5
AKBB Malin Array Si 96.13 320 P **P** **04 25 37.3 -1.8**
AKBB Malin Array Si 96.13 320 *e* P **P** **04 25 37.4 -1.8**
AKBB *e* PP PP 04 29 40.8 -1.1
KIS Kishinev 96.14 317 *d* *i* P **P** **04 25 39.0 -0.2**
KIS *e* *PP pP 04 27 44.0 -1.5
KIS *e* 04 28 36.0
KIS *i* 04 29 40.0
KIS *i* 04 35 20.0
KIS pmax pmax
comp=Z,600nm,4.0s
KIS pmax pmax
comp=Z,800nm,6.0s
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=Z,900nm,20.0s
AYDN Tasoluk 96.15 307 *i* P **P** **04 25 41.6 +2.4**
BTOK Tokmak 96.19 309 *i* P **P** **04 25 41.8 +2.4**
TIRR Tirgusor 96.25 314 ⇓ *i* P **P** **04 25 40.5 +0.8**
TIRR Tirgusor 96.25 314 *e* P **P** **04 25 38.6 -1.1**
comp=Z,80nm,0.8s,mb6.0
AKS Akhisar 96.30 308 *e* P **P** **04 25 39.3 -0.6**
DAT Datca 96.32 306 *e* P **P** **04 25 40.3 +0.3**
BDRM Kayabasi 96.45 306 *i* P **P** **04 25 40.4 -0.2**
CFR Carcaliu 96.49 315 ⇓ *i* P **P** **04 25 42.1 +1.4**
CFR Carcaliu 96.49 315 P **P** **04 25 41.8 +1.0**
BODT Bodrum 96.56 306 *e* P **P** **04 25 41.2 +0.2**
KARP Karpathos 96.57 305 *e* P **P** **04 25 41.0 -0.1**
MRMT Marmara Adasi 96.58 310 *e* P **P** **04 25 42.2 +1.0**
HARR Harsova 96.60 314 ⇓ *i* P **P** **04 25 42.9 +1.6**
HARR Harsova 96.60 314 ⇑ P **P** **04 25 43.2 +1.9**
PMR Palmer 96.68 29 *e* P **P** **04 25 40.1 -1.5**
PMR pmax pmax
comp=Z,205nm,1.3s,mb6.2
PMR Palmer 96.68 29 *e* P **P** **04 25 40.1 -1.5**
comp=Z,205nm,1.3s,mb6.2
KDAG Bornova 96.69 308 *i* P **P** **04 25 42.0 +0.3**
IZM Izmir 96.69 308 *e* P **P** **04 25 41.2 -0.4**
MCK McKinley 96.86 27 *e* P **P** **04 25 41.1 -1.3**
MCK *e* 04 29 46.3
MCK pmax pmax
comp=Z,95nm,0.9s,mb6.0
MCK McKinley 96.86 27 *e* P **P** **04 25 41.1 -1.3**
comp=Z,193nm,0.9s,mb6.3
MCK *e* PP PP 04 29 46.3 -1.1
PRD Provadia 96.89 313 *i* P **P** **04 25 50.0 +7.4**
PRD Provadia 96.89 313 *i* P **P** **04 25 50.0 +7.4**
SART Tekirdag 96.91 310 *i* P **P** **04 25 42.4 -0.3**
SMG Samos 96.98 307 *e* P **P** **04 25 45.5 +2.6**
IAS Iasi 97.01 317 ⇑ *i* P **P** **04 25 44.4 +1.3**
IAS Iasi 97.01 317 ⇑ P **P** **04 25 44.4 +1.3**
MNK Minsk 97.18 324 *e* P **P** **04 25 41.0 -2.8**
MNK pmax pmax
comp=Z,480nm,1.0s,mb6.7
AYVA Ayvalik 97.20 309 *i* P **P** **04 25 47.9 +4.0**
URLA Izmir 97.21 308 *i* P **P** **04 25 44.0 0.0**
EDRB Edirne 97.30 311 *e* P **P** **04 25 39.3 -5.1**
ZKR Zakros 97.31 304 *e* P **P** **04 25 44.5 +0.1**
COLA College 97.37 25 *e* P **P** **04 25 43.5 -1.2**
COLA pmax pmax
comp=Z,26nm,0.9s,mb5.5
COLA College 97.37 25 *e* P **P** **04 25 43.5 -1.2**
comp=Z,26nm,0.9s,mb5.5
JMB Yambol 97.45 312 *e* P **P** **04 25 44.0 -1.0**
PRK Paraskevi 97.52 309 *e* P Pdif 04 25 46.0 +0.7
CHOS Chios Island 97.64 308 *e* P Pdif 04 25 45.3 -0.6
ENEZ Enez 97.69 310 *e* P Pdif 04 25 43.7 -2.4
ALN Alexandroupoli 97.78 310 *e* P Pdif 04 25 44.5 -1.9
NPS Neapolis 97.81 305 *e* P Pdif 04 25 47.0 +0.3
KEV Kevo 97.84 339 *e* p Pdif 04 25 44.3 -2.5
comp=Z,42nm,0.8s
KEV Kevo 97.84 339 *e* P Pdif 04 25 45.6 -1.1
KEV pmax pmax
comp=Z,54nm,1.0s,mb5.8
GADA Gvkgeada 97.85 310 *e* P Pdif 04 25 44.6 -2.2
APE Apeiranthos 97.98 306 ⇓ *i* P Pdif 04 25 48.2 +0.8
APE Apeiranthos 97.98 306 ⇓ P Pdif 04 25 48.2 +0.8
MLR Muntele Rosu 98.05 315 P Pdif 04 25 46.9 -0.8
comp=Z,45nm,0.8s,baz=164,slow=0.8,SNR=38
MLR PP PP 04 29 55.7 -0.7
comp=Z,84nm,0.8s,baz=88,slow=2.4,SNR=6.0
MLR S SKSac 04 35 30.4 +0.5
comp=Z,16nm,0.9s,baz=317,slow=19,SNR=3.5
MLR Muntele Rosu 98.05 315 ⇓ *i* P Pdif 04 25 47.9 +0.2
MLR Muntele Rosu 98.05 315 P Pdif 04 25 46.9 -0.8
MLR 04 29 55.7
MLR S SKSac 04 35 30.4 +0.6
MLR pmax pmax
comp=Z,45nm,0.9s
MLR pmax pmax
comp=Z,84nm,0.8s
MLR smax
comp=N,16nm,1.0s
MLR Muntele Rosu 98.05 315 ⇑ P Pdif 04 25 47.1 -0.6
KAF Kangasniemi 98.15 332 *e* p Pdif 04 25 45.7 -2.4
comp=N,76nm,0.6s
KAF Kangasniemi 98.15 332 *e* P Pdif 04 25 45.7 -2.4
KAF pmax pmax
comp=Z,76nm,0.6s,mb6.2
RDO Rodhopi 98.17 310 *e* P Pdif 04 25 47.5 -0.7
FIA1 FINESS Array S 98.26 331 *e* Pdif Pdif 04 25 47.0 -1.6
FINES FINESS Array B 98.26 331 P Pdif 04 25 47.1 -1.6
comp=Z,34nm,0.7s,baz=96,slow=5.5,SNR=35
FINES PP PP 04 29 54.5 -3.5
comp=Z,12nm,0.9s,baz=95,slow=14,SNR=4.0
FINES PKiKP PKiKP 04 30 17.4 0.0
comp=Z,8.4nm,0.5s,baz=116,slow=3.9,SNR=7.8
FINES PKKPbc PKKPbc 04 42 18.1 +1.0
comp=Z,2.1nm,0.5s,baz=30,slow=0.5,SNR=18
FINES FINESS Array B 98.26 331 *i* P Pdif 04 25 47.0 -1.6
FINES pmax pmax
comp=Z,35nm,0.7s
FINES FINESS Array B 98.26 331 P Pdif 04 25 47.1 -1.5
FINES PP PP 04 29 54.5 -3.5
ARCES ARCESS Array B 98.36 339 P Pdif 04 25 47.9 -1.3
comp=Z,29nm,0.8s,baz=73,slow=4.2,SNR=38
ARCES PP PP 04 29 54.1 -4.7
comp=Z,18nm,0.9s,baz=69,slow=6.9,SNR=4.6
ARCES PKiKP PKiKP 04 30 17.2 -0.3
comp=Z,8.4nm,0.7s,baz=120,slow=1.3,SNR=12
ARCES S SKSac 04 35 30.3 -1.1
comp=Z,5.3nm,0.9s,baz=99,slow=5.8,SNR=3.1
ARCES PKKPbc PKKPbc 04 42 16.9 +0.1
comp=Z,1.6nm,0.7s,baz=263,slow=4.1,SNR=4.8
ARCES ARCESS Array B 98.36 339 P Pdif 04 25 47.9 -1.3
ARCES PP PP 04 29 54.1 -4.7
ARE0 ARCESS Array S 98.36 339 *e* Pdif Pdif 04 25 48.9 -0.2
LIA Limnos Island 98.39 309 *e* P Pdif 04 25 51.0 +1.8
ZIMR 98.40 313 P Pdif 04 25 50.6 +1.4
PVL Pavlikeni 98.41 313 *i* P Pdif 04 25 50.9 +1.6
PVL Pavlikeni 98.41 313 *i* P Pdif 04 25 50.9 +1.6
IDI Anoyia 98.41 305 P Pdif 04 25 48.7 -0.5
comp=Z,68nm,0.7s,baz=63,slow=5.9,SNR=40
IDI PP PP 04 29 54.0 -5.1
comp=Z,24nm,1.0s,baz=313,slow=1.9,SNR=4.5
IDI S SKSac 04 35 33.2 +1.6
comp=Z,6.2nm,0.9s,baz=192,slow=20,SNR=5.0
IDI PKKPbc PKKPbc 04 42 19.3 +2.7
comp=Z,11nm,0.6s,baz=294,slow=5.3,SNR=12
SIVA Sivas 98.46 304 *e* P Pdif 04 25 49.5 0.0
BURAR Bucovina Array 98.61 317 ⇓ *i* P Pdif 04 25 50.0 -0.2
BURAR Bucovina Array 98.61 317 ⇓ P Pdif 04 25 50.0 -0.3
PLD Plovdiv 98.83 311 *e* P Pdif 04 25 50.8 -0.4
PLD Plovdiv 98.83 311 *i* P Pdif 04 25 52.1 +0.9
PLD Plovdiv 98.83 311 *i* P Pdif 04 25 52.1 +0.9
VAM Vamos 98.98 305 *e* P Pdif 04 25 52.0 +0.2
GVD Gavdhos 99.04 304 *e* P Pdif 04 25 52.9 +0.8
KTK1 Kautokeino 99.20 339 *e* P Pdif 04 25 52.3 -0.5
KTK1 AMb AMB 04 25 57.9
comp=Z,84nm,1.5s,mb5.8
KTK1 Kautokeino 99.20 339 *e* P Pdif 04 25 52.3 -0.5
comp=Z,84nm,1.5s
KARN Karanos 99.21 305 *e* P Pdif 04 25 53.7 +0.9
OUR Ouranopolis 99.33 310 *e* P Pdif 04 25 53.2 -0.2
TSUM Tsumeb 99.36 249 PKKPbc PKKPbc 04 42 16.3 +2.3
comp=Z,5.2nm,0.8s,baz=310,slow=5.5,SNR=8.3
TSUM Tsumeb 99.36 249 *e* Pdif Pdif 04 25 54.3 +0.8
comp=Z,26nm,1.1s
AOS Alonnisos 99.37 308 *e* P Pdif 04 25 54.1 +0.6
LVV L'vov 99.43 319 *e* P Pdif 04 25 54.7 +0.9
LVV *e* *PP pP 04 27 58.9 -1.6
LVV *i* 04 35 37.3
LVV *e* PS PS 04 39 17.1 -6.4
LVV MLR MLR
comp=Z,900nm,20.0s
LVV MLR MLR
comp=N,500nm,23.0s
LVV MLR MLR
comp=E,700nm,20.0s
NVR Nevrokopi 99.44 311 *e* P Pdif 04 25 54.0 +0.1
ATH Athens Observa 99.46 307 *e* P Pdif 04 25 52.5 -1.5
PAIG Paliouri 99.55 309 *e* P Pdif 04 25 53.2 -1.1
MMB Musomiste 99.55 311 *e* P Pdif 04 25 52.4 -1.9
SRS Serrai 99.64 310 *e* P Pdif 04 25 53.5 -1.2
SOH Sokhos 99.81 310 *e* P Pdif 04 25 54.5 -1.0
SPB4 Spitsbergen Ar 99.87 348 *e* Pdif Pdif 04 25 53.8 -2.0
NEO Neokhori 99.88 309 *e* P Pdif 04 25 54.0 -1.8
SUW Suwalki 99.91 324 *e* P Pdif 04 25 56.2 +0.2
XOR Xorichti 99.91 309 *e* P Pdif 04 25 55.8 -0.2
VTS Vitosha 99.95 312 *e* P Pdif 04 25 55.7 -0.5
VTS Vitosha 99.95 312 ⇓ *i* P Pdif 04 25 55.5 -0.7
VTS Vitosha 99.95 312 *i* P Pdif 04 25 55.0 -1.2
VTS Vitosha 99.95 312 *i* P Pdif 04 25 55.0 -1.2
HORT Hortiatis 100.00 310 *e* P Pdif 04 25 54.4 -2.0
KKB Krupnik 100.03 311 *i* P Pdif 04 25 57.0 +0.5
KKB Krupnik 100.03 311 *i* P Pdif 04 25 57.0 +0.5
LKR Lokris 100.04 308 *e* P Pdif 04 25 56.0 -0.6
VLI Veliai 100.05 306 *e* P Pdif 04 25 55.0 -1.6
THE Thessaloniki 100.11 310 *e* P Pdif 04 25 57.0 +0.1
EGAK Eagle 100.23 25 *e* Pdif Pdif 04 25 56.9 -0.5
comp=E,40nm,0.9s
EGAK *e* PP PP 04 30 09.5 -3.2
GZR Gura Zlata 100.28 315 ⇓ *i* P Pdif 04 25 59.0 +1.4
GZR Gura Zlata 100.28 315 P Pdif 04 25 59.3 +1.7
KWP Kalwaria 100.29 319 *e* PP PP 04 30 17.3 +4.2
KWP Kalwaria 100.29 319 *e* PP PP 04 30 17.3 +4.2
KWP Kalwaria 100.29 319 *e* P Pdif 04 25 58.4 +0.8
KWP *e* 04 30 17.3
DRGR 100.32 316 ⇑ *i* P Pdif 04 25 59.0 +1.2
DRGR 100.32 316 ⇑ P Pdif 04 25 59.0 +1.3
LIT Litokhoron 100.46 309 *e* P Pdif 04 25 56.7 -1.7
KBS Kingsbay 100.54 349 *e* P Pdif 04 25 55.5 -3.3
KBS *e* PP PP 04 30 13.2 -1.8
KBS Kingsbay 100.54 349 ⇑ *e* P Pdif 04 25 56.7 -2.1
KBS *i* 04 30 20.0
KBS Kingsbay 100.54 349 *e* Pdif Pdif 04 25 55.8 -2.9
comp=E,40nm,0.8s
KBS *e* PKP PKiKP 04 30 17.9 -3.6
GRG Griva 100.54 310 *e* P Pdif 04 25 56.6 -2.1
AGG Agios Georgios 100.57 308 *e* P Pdif 04 25 57.0 -1.9
UZH Uzhgorod 100.58 318 *e* P Pdif 04 25 59.6 +0.7
UZH *i* 04 30 11.0
UZH *i* 04 35 42.0
UZH *e* S Sdif 04 36 43.6 -2.3
UZH pmax pmax
comp=Z,104nm,1.3s
UZH MLR MLR
comp=Z,1µm,19.0s
KOLS Kolonicke sedl 100.58 318 *e* P Pdif 04 26 00.0 +1.0
KOLS *e* 04 26 01.6
KOLS *e* 04 29 26.1
KOLS Kolonicke sedl 100.58 318 *e* PKP PKiKP 04 30 23.5 +2.0
KOLS Kolonicke sedl 100.58 318 *e* P Pdif 04 26 00.0 +1.0
KOLS *e* 04 26 01.6
KOLS *e* 04 29 26.1
KOLS *e* 04 30 23.5
KOLS *e* S SKSac 04 35 42.7 +0.5
TRO Tromso 100.66 340 *e* P Pdif 04 25 58.5 -0.7
TRO *e* PP PP 04 30 12.8 -3.0
TRO AMS AMS 05 15 55.9
comp=Z,977nm,16.1s
RKT Rikitea 100.71 115 *e* SKSac SKSac 04 35 45.6 +2.8
comp=Z,2µm,28.5s
RKT *e* SP SP 04 38 12.5 -10
comp=Z,1µm,28.8s
RKT Rikitea 100.71 115 *e* SKSac SKSac 04 35 45.6 +2.8
RKT *e* SP SP 04 38 12.5 -10
ITM Ithomi 100.86 306 *e* P Pdif 04 25 59.0 -1.2
EVR Evrytania 100.98 308 *e* P Pdif 04 26 01.0 +0.3
DAWY Dawson 101.07 26 *e* Pdif Pdif 04 26 00.8 -0.3
DAWY *e* 04 30 20.6
BZS Buzias 101.09 315 ⇑ *i* P Pdif 04 26 02.1 +0.9
BZS Buzias 101.09 315 P Pdif 04 26 02.2 +1.0
CRVS Cervenica-Dubn 101.12 318 *e* P Pdif 04 26 02.0 +0.7
CRVS *e* 04 26 04.4
CRVS *e* 04 29 25.8
CRVS *e* PP PP 04 30 11.2 -8.1
CRVS Cervenica-Dubn 101.12 318 *e* P Pdif 04 26 02.0 +0.7
CRVS *e* 04 26 04.4
CRVS *e* 04 29 25.8
CRVS *e* PP PP 04 30 11.2 -8.1
CRVS *e* S SKSac 04 35 43.6 -1.1
RLS Riolos of Patr 101.24 307 *e* P Pdif 04 26 02.0 +0.1
STHS Stebnicka Huta 101.25 319 *e* P Pdif 04 26 02.5 +0.6
STHS *e* 04 26 06.2
STHS Stebnicka Huta 101.25 319 *e* PKP PKiKP 04 30 24.3 +1.6
STHS Stebnicka Huta 101.25 319 *e* P Pdif 04 26 02.5 +0.6
STHS *e* 04 30 24.3
STHS pmax pmax
comp=Z,25nm,1.0s
STHS Stebnicka Huta 101.25 319 *e* P Pdif 04 26 02.5 +0.6
comp=Z,25nm,1.0s
STHS *e* 04 26 06.2
STHS *e* 04 30 24.3
SKO Skopje 101.26 311 *e* P Pdif 04 26 04.3 +2.3
SKO Skopje 101.26 311 ⇑ *i* P Pdif 04 26 03.0 +1.0
FNA Florina 101.31 310 *e* P Pdif 04 25 59.1 -3.1
BIA Bitola 101.35 310 *e* P Pdif 04 26 01.7 -0.7
SVIS Svilajnac 101.39 314 *e* P Pdif 04 26 04.5 +2.0
MEV Metsovon 101.43 309 *e* P Pdif 04 26 02.8 +0.1
JAN Janina 101.72 309 *e* P Pdif 04 26 04.0 0.0
OHR Ohrid 101.75 310 *i* P Pdif 04 26 02.7 -1.4
KECS Kecovo 101.78 318 *e* P Pdif 04 26 05.1 +0.8
KECS *e* 04 26 07.6
KECS *e* 04 29 39.5
KECS Kecovo 101.78 318 *e* P Pdif 04 26 05.1 +0.8
KECS *e* S SKSac 04 35 47.4 -0.4
KECS pmax pmax
comp=Z,16nm,1.1s
KECS Kecovo 101.78 318 *e* P Pdif 04 26 05.1 +0.8
comp=Z,16nm,1.1s
KECS *e* 04 26 07.6
KECS *e* 04 29 39.5
KECS *e* S SKSac 04 35 47.4 -0.4
NIE Niedzica 101.85 319 *e* P Pdif 04 26 06.4 +1.8
LKD Levkas 101.88 308 *e* P Pdif 04 26 03.9 -0.8
BEO Belgrade 101.93 314 *i* P Pdif 04 26 03.1 -1.9
VLS Valsamata 101.93 307 *e* P Pdif 04 26 05.0 0.0
IGT Igoumenitsa 102.12 309 *e* P Pdif 04 26 04.3 -1.5
OJC Ojcow 102.14 320 *e* P Pdif 04 26 06.9 +1.0
OJC *e* PP PP 04 30 26.0 -0.9
OJC *e* SKSac SKSac 04 35 49.9 +0.4
OJC L 05 14 21.1
comp=Z,9.9nm,19.1s
PSZ Piszkesteto 102.20 317 ⇓ *e* P Pdif 04 26 08.7 +2.5
PSZ Piszkesteto 102.20 317 ⇑ *i* P Pdif 04 26 08.3 +2.1
PSZ Piszkesteto 102.20 317 P Pdif 04 26 07.6 +1.4
PSZ pmax pmax
comp=Z,77nm,1.5s
PSZ Piszkesteto 102.20 317 *e* Pdif Pdif 04 26 05.7 -0.5
comp=Z,77nm,1.5s
PSZ *e* 04 30 24.3
DIVS Divcibare 102.28 313 *i* P Pdif 04 26 06.0 -0.5
DIVS Divcibare 102.28 313 *e* P Pdif 04 26 06.0 -0.5
TIR Tirane 102.45 311 *e* P Pdif 04 26 06.3 -0.9
KEK Kerkira 102.53 309 *e* P Pdif 04 26 07.5 -0.1
BBLS Bajina Basta - 102.71 313 *e* P Pdif 04 26 08.9 +0.4
INK Inuvik 102.72 21 PKKPbc PKKPbc 04 42 06.3 +1.8
comp=Z,5.2nm,0.8s,baz=55,slow=1.2,SNR=5.5
INK SKKPbc 04 44 52.2
comp=Z,3.3nm,0.8s,baz=138,slow=4.8,SNR=5.4
INK Inuvik 102.72 21 *e* P Pdif 04 26 07.7 -0.8
INK pmax pmax
comp=Z,27nm,0.9s
INK Inuvik 102.72 21 *e* Pdif Pdif 04 26 07.7 -0.7
comp=Z,856nm,0.9s
INK *e* PKP PKiKP 04 30 24.6 -0.8
BUD Budapest 102.81 317 ⇓ *e* P Pdif 04 26 11.3 +2.4
LOF Lofoten 102.85 338 *e* P Pdif 04 26 11.0 +2.0
LOF AMb AMB 04 26 15.1
comp=Z,119nm,2.0s
LOF Lofoten 102.85 338 *e* P Pdif 04 26 11.0 +2.0
comp=Z,119nm,2.0s
VYHS Vyhne 102.88 318 *e* P Pdif 04 26 09.9 +0.7
VYHS *e* 04 30 06.2
VYHS Vyhne 102.88 318 *e* PKP PKiKP 04 30 27.8 +2.1
VYHS Vyhne 102.88 318 *e* P Pdif 04 26 09.9 +0.7
VYHS *e* 04 30 27.8
VYHS *e* S SKSac 04 35 53.9 +1.0
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 102.88 318 *e* P Pdif 04 26 09.9 +0.7
comp=Z,18nm,1.4s
VYHS *e* PP PP 04 30 06.2 -26
VYHS *e* 04 30 27.8
VYHS *e* S SKSac 04 35 53.9 +1.0
MOR8 Moi Rana 102.92 336 *e* P Pdif 04 26 07.5 -1.9
MOR8 AMb AMB 04 26 11.1
comp=Z,60nm,0.8s
MOR8 Moi Rana 102.92 336 *e* P Pdif 04 26 07.5 -1.9
comp=Z,60nm,0.8s
PKSM Moragy 103.14 316 ⇑ *i* P Pdif 04 26 11.7 +1.4
PKSM Moragy 103.14 316 P Pdif 04 26 12.5 +2.1
OKC Ostrava-Krasne 103.23 319 *e* PDIF Pdif 04 26 11.7 +1.0
OKC *e* PKP PKiKP 04 30 21.8 -4.5
OKC *e* SKS 04 35 55.4
OKC AMS AMS 05 14 50.0
comp=Z,2µm,19.5s
OKC Ostrava-Krasne 103.23 319 *e* P Pdif 04 26 11.7 +1.0
OKC *e* 04 30 21.8
OKC *e* 04 35 55.4
MORC Moravsky Berou 103.63 319 ⇓ *i* P Pdif 04 26 13.9 +1.4
MORC Moravsky Berou 103.63 319 *e* P Pdif 04 26 13.6 +1.1
MORC pmax pmax
comp=Z,40nm,1.4s
MORC Moravsky Berou 103.63 319 *e* Pdif Pdif 04 26 13.6 +1.1
comp=Z,40nm,1.4s
MORC *e* PKP PKiKP 04 30 27.5 +0.4
ZST Bratislava 104.05 318 PDIF Pdif 04 26 17.2 +2.8
ZST *e* 04 30 16.3
ZST *e* PP PP 04 30 40.2 -0.7
ZST Bratislava 104.05 318 *e* P Pdif 04 26 17.2 +2.8
ZST *e* 04 30 40.2
ZST *e* S SKSac 04 35 54.8 -3.4
ZST pmax pmax
comp=Z,9.0nm,0.9s
ZST MLR MLR
comp=Z,1µm,19.7s
ZST Bratislava 104.05 318 *e* P Pdif 04 26 17.2 +2.8
comp=Z,8.5nm,0.9s
ZST *e* PP PP 04 30 16.3 -25
ZST *e* 04 30 40.2
ZST *e* S SKSac 04 35 54.8 -3.4
ZST LR LR
comp=Z,1µm,19.7s
NSS Namsos 104.29 335 *e* P Pdif 04 26 12.8 -2.6
NSS AMS AMS 05 15 53.8
comp=Z,1µm,19.4s
VRAC Vranov 104.29 319 Pdiff Pdif 04 26 15.6 +0.2
comp=Z,9.2nm,1.1s,baz=88,slow=4.8,SNR=11
VRAC PP PP 04 30 40.7 -1.9
comp=Z,47nm,1.1s,baz=81,slow=8.6,SNR=10.0
VRAC Vranov 104.29 319 ⇑ *i* P Pdif 04 26 18.3 +2.9
VRAC Vranov 104.29 319 P Pdif 04 26 15.6 +0.2
VRAC 04 30 40.7
VRAC pmax pmax
comp=Z,9.0nm,1.1s
VRAC pmax pmax
comp=Z,47nm,1.1s
VRAC Vranov 104.29 319 P Pdif 04 26 17.8 +2.4
KSP Ksiaz 104.32 321 *e* P Pdif 04 26 18.0 +2.4
DPC Dobruska-Polom 104.36 320 *e* PDIF Pdif 04 26 17.2 +1.5
DPC *e* PKP PKiKP 04 30 33.1 +4.7
DPC *e* SKS 04 35 58.8
DPC AMS AMS 05 15 10.0
comp=Z,2µm,19.3s
HFS Hagfors 104.42 330 Pdiff Pdif 04 26 14.7 -1.3
comp=Z,39nm,0.7s,baz=101,slow=4.8,SNR=36
HFS PKiKP PKiKP 04 30 28.2 -0.3
comp=Z,16nm,0.7s,baz=68,slow=4.5,SNR=5.3
HFS PP PP 04 30 43.0 -0.5
comp=Z,28nm,0.8s,baz=92,slow=8.9,SNR=6.5
HFS PKKPbc PKKPbc 04 42 00.0 +0.5
comp=Z,2.4nm,0.8s,baz=190,slow=7.5,SNR=6.8
UPC Upice 104.54 320 *e* PDIF Pdif 04 26 17.9 +1.4
BSD Bornholm Skovb 104.61 325 *i* P Pdif 04 26 17.8 +0.9
BSD *i* 04 29 17.5
BSD *e* 04 32 45.1
BSD *i* 04 36 06.7
BSD *i* 04 42 42.7
comp=Z,1µm,19.0s
BSD Bornholm Skovb 104.61 325 *i* P Pdif 04 26 17.8 +0.9
BSD *i* 04 36 06.7
BSD MLR MLR
comp=Z,1µm,19.0s
BSD Bornholm Skovb 104.61 325 *i* P Pdif 04 26 17.8 +0.9
BSD *i* 04 29 17.5
BSD *e* 04 32 45.1
BSD *i* 04 36 06.7
BSD *i* 04 42 42.7
TREC Trest 105.01 319 *e* PDIF Pdif 04 26 19.8 +1.2
TREC AMS AMS 05 16 00.0
comp=Z,2µm,18.8s
ORI Oriolo Calabro 105.10 309 P PP 04 30 48.0 -0.5
ARSA Arzberg 105.20 317 ⇓ *i* PP 04 30 45.1 -4.1
comp=Z,99nm,1.8s
ARSA Arzberg 105.20 317 ⇑ *i* Pdiff Pdif 04 26 21.0 +1.5
comp=Z,14nm,1.2s
ARSA ⇑ *i* PKiKP PKiKP 04 30 16.6 -13

ARSA 04 30 49.2 0.0
comp=Z,99nm,1.8s
ARSA Arzberg 105.20 317 ⇑*i*P Pdif 04 26 21.0 +1.5
comp=Z,14nm,1.3s
ARSA *i* 04 30 16.6
ARSA *i* 04 30 45.1
CRES Cresnjev 105.39 315 *e*Pdiff Pdif 04 26 22.9 +2.6
CRES *e*PP PP 04 30 49.5 -1.1
NB2 NORSAR Subarra105.43 331 Pdif Pdif 04 26 18.7 -1.8
comp=Z,32nm,0.8s,baz=77,slow=4.4
NOA NORSAR Array B 105.43 331 Pdiff Pdif 04 26 19.1 -1.5
comp=Z,25nm,0.8s,baz=76,slow=4.5,SNR=49
NOA PP PP 04 30 50.7 -0.2
comp=Z,28nm,0.9s,baz=83,slow=7.5,SNR=8.2
NOA SKP 04 33 12.2
comp=Z,6.9nm,0.8s,baz=354,slow=1.0,SNR=6.7
SOI Samo 105.51 307 P PP 04 30 51.6 +0.1
PRU Pruhonice 105.53 320 *e*PDIF Pdif 04 26 21.9 +0.9
PRU *e*PKP PKiKP 04 30 32.0 +1.4
PRU *e*SKS SKSac 04 36 02.8 -2.1
PRU AMS AMS 05 15 40.0
comp=Z,2μm,20.3s
PERS Pernice 105.54 316 *e*PP PP 04 30 51.3 -0.4
BOJS Bojanci 105.56 315 *e*Pdiff Pdif 04 26 23.8 +2.7
BOJS *e*PP PP 04 30 52.0 +0.1
BOJS *e*SKSac SKSac 04 36 08.6 +3.7
BOJS *e* 04 40 02.8
BOJS *e* 04 42 54.1
BOJS *e* 04 48 27.1
CUC Castrocucco 105.59 309 P PP 04 30 51.2 -0.8
PRA Prague 105.59 320 PKP PKiKP 04 30 34.0 +3.3
PRA *ex* x 04 32 50.0
NAO01 NORSAR Array S 105.63 331 *e*Pdif Pdif 04 26 20.4 -1.0
comp=Z,22nm,0.8s
NAO01 *e*PKP PKiKP 04 30 33.7 +2.9
RUE Ruedersdorf 105.66 322 *e*Pdiff Pdif 04 26 23.1 +1.6
RUE *e*PP PP 04 30 51.3 -1.3
WRAK Wrangell Islan 105.68 33 *e*PKP PKiKP 04 30 31.1 +0.3
WRAK *e*PP PP 04 30 53.3 +0.6
FG4 Candela 105.73 311 P PP 04 30 52.7 -0.4
SCLL Scilla 105.77 308 P PP 04 30 52.1 -1.2
MRLC Muro Lucano 105.78 310 P PP 04 30 53.4 -0.1
BRG Berggiesshubel 105.80 321 *e*Pdiff Pdif 04 26 21.5 -0.6
BRG *e*PP PP 04 30 53.3 -0.2
BRG Berggiesshubel 105.80 321 *i* P Pdif 04 26 23.9 +1.8
comp=Z,36nm,1.7s
BRG *i* PP PP 04 30 33.0 -21
BRG *i* 04 32 46.0
BRG *i* 04 33 43.0
BRG SKS SKSac 04 36 00.0 -6.0
BRG S SKSdf 04 36 29.0 -19
BRG *i* 04 40 09.0
BRG
comp=N,404nm,18.0s
BRG
comp=E,492nm,20.4s
BRG
comp=Z,530nm,20.8s
BRG Berggiesshubel 105.80 321 *i* P Pdif 04 26 23.9 +1.8
BRG pmax pmax
comp=Z,2.0nm,1.7s
BRG pmax pmax
comp=N,36nm,1.3s
BRG MLR MLR
comp=N,14μm,18.0s
BRG MLR MLR
comp=E,404nm,20.4s
BRG MLR MLR
comp=Z,492nm,20.8s
BRG Berggiesshubel 105.80 321 *i* P Pdif 04 26 23.9 +1.8
comp=Z,36nm,1.7s
BRG *i* PP PP 04 30 33.0 -21
BRG *i* 04 32 46.0
BRG *i* 04 33 43.0
BRG SKS SKSac 04 36 00.0 -6.0
BRG S SKSdf 04 36 29.0 -19
BRG *i* 04 40 09.0
BRG LR LR
comp=Z,530nm,20.8s
COP Copenhagen 105.91 326 *i* P Pdif 04 26 25.5 +2.9
COP *i* 04 30 43.6
COP *i* 04 32 55.2
COP *i* S SKSac 04 36 09.5 +3.0
COP *i* 04 40 13.7
COP *i* 04 43 03.1
COP
comp=Z,630nm,19.0s
COP Copenhagen 105.91 326 *i* P Pdif 04 26 25.5 +2.9
COP *i* S SKSac 04 36 09.5 +3.0
COP *i* 04 40 13.7
COP MLR MLR
comp=Z,640nm,19.0s
MOA Molln 105.98 318 ⇑*i* PKiKP 04 30 29.7 -1.7
comp=Z,21nm,1.7s
MOA Molln 105.98 318 ⇑*i* PP 04 30 55.1 +0.3
comp=Z,78nm,1.3s
MOA Molln 105.98 318 ⇑*i*Pdiff Pdif 04 26 23.9 +0.9
comp=Z,18nm,1.2s
MOA ⇑*i*PKiKP PKiKP 04 30 29.7 -1.7
comp=Z,21nm,1.7s
MOA ⇑*i*PKiKP PP 04 30 55.1 +0.3
comp=Z,78nm,1.3s
MOA Molln 105.98 318 ⇑*i*P Pdif 04 26 23.9 +0.9
comp=Z,18nm,1.2s
MOA *i* 04 30 29.7
MOA *i* 04 30 55.1
LJU Ljubljana 106.01 316 *i* Pdiff Pdif 04 26 26.1 +3.0
LJU *e*PP PP 04 30 54.4 -0.7
LJU *e*SKSac SKSac 04 36 08.8 +1.9
LJU *e* 04 42 59.7
LJU Ljubljana 106.01 316 *i* P Pdif 04 26 26.1 +3.0
LJU *e* 04 30 54.4
LJU *e* 04 36 08.8
AGST Augusta-Monte 106.21 307 P PP 04 30 55.4 -1.1
GEC2 GERESS Array S 106.23 319 *e*Pdiff Pdif 04 26 26.4 +2.3
GEC2 *e*PP PP 04 30 55.3 -1.4
GERES GERESS Array B 106.23 319 Pdiff Pdif 04 26 24.0 -0.1
comp=Z,3.6nm,0.8s,baz=83,slow=3.4,SNR=21
GERES PKiKP PKiKP 04 30 31.5 -0.4
comp=Z,12nm,0.7s,baz=68,slow=1.4,SNR=22
GERES PP PP 04 30 54.8 -1.9
comp=Z,16nm,0.9s,baz=85,slow=5.6,SNR=6.5
GERES SKP 04 33 15.2
comp=Z,5.2nm,0.9s,baz=75,slow=1.5,SNR=3.6
GERES PKKPbc PKKPbc 04 41 54.9 +0.7
comp=Z,1.4nm,0.6s,baz=246,slow=1.3,SNR=8.3
GERES SKKPbc 04 44 43.8
comp=Z,2.1nm,0.8s,baz=243,slow=0.9,SNR=6.4
GERES GERESS Array B 106.23 319 P Pdif 04 26 24.0 -0.1
GERES 04 30 54.8
GERES 04 33 15.2
KHC Kasperske Hory 106.27 319 *e*PDIF Pdif 04 26 25.7 +1.5
KHC x x 04 26 52.5
KHC *ex* x 04 27 12.5
KHC *ex* x 04 32 49.1
KHC *ex* x 04 35 35.0
KHC *e*SKS SKSac 04 36 06.4 -1.7
KHC AMS AMS 05 16 30.0
comp=Z,2μm,20.4s
KHC Kasperske Hory 106.27 319 *e*P Pdif 04 26 25.7 +1.5
KHC *e* 04 26 52.5
KHC *e* 04 27 12.5
KHC *e* 04 32 49.1
KHC *e* 04 35 35.0
KHC *e* 04 36 06.4
KHC LR LR
comp=Z,2μm,20.4s
CLL Collm 106.32 321 *e*Pdiff Pdif 04 26 25.8 +1.3
comp=Z,36nm,1.6s
CLL *e*SPdiff 04 29 24.8
CLL *e*PKiKP PKiKP 04 30 32.8 +0.8
CLL *e*PP PP 04 30 56.4 -0.9
CLL *e*PP 04 32 48.3
CLL *e*SP 04 33 45.3
CLL *e*SKSac SKSac 04 36 05.9 -2.4
CLL *e*SKKSac SKKSac 04 36 58.3 -2.4
CLL *e*Sdiff Sdif 04 37 39.7 +5.9
CLL *e*SP SP 04 39 19.8 -0.5
CLL *e*SKSac 04 40 11.4
CLL *e*PS 04 42 59.2
CLL *e*SS SS 04 45 10.0 -7.0
CLL *e*SKKSdf SKKSdf 04 48 30.2 +9.4
CLL *e*SSS 04 49 33.0
CLL *e*(SSSS) 04 52 51.5
CLL *e*L 05 15 59.5
comp=Z,1μm,22.0s
CLL Collm 106.32 321 *i* Pdif Pdif 04 26 26.9 +2.4
comp=Z,36nm,1.6s
CLL *ex* x 04 29 21.0
CLL *ex* x 04 29 50.0
CLL *i* PKiKP PKiKP 04 30 33.1 +1.1
CLL *i* PP PP 04 30 56.7 -0.6
comp=Z,68nm,1.6s
CLL *e*PP 04 32 46.0
CLL *e*PPP 04 33 13.0
CLL *e*SP 04 33 44.0
CLL *e*PPPP 04 35 00.0
CLL *e*SKSac SKSac 04 36 06.0 -2.3
CLL *e*Sdif Sdif 04 37 48.0 +14
CLL *ex* x 04 38 09.0
CLL *e*SP SP 04 39 18.0 -2.3
CLL *e*pSKSdf 04 40 00.0
CLL *e*SPP 04 40 20.0
CLL *ex* x 04 41 44.0
CLL *i* (PKKPbc) 04 41 58.7
comp=Z,5.0nm,0.8s
CLL *e*SPS 04 43 03.0
CLL *e*SS SS 04 45 06.0 -11
CLL *e*SS 04 48 31.0
CLL *e*SSS 04 49 46.0
CLL *e*SSSS 04 52 36.0
CLL *ex* x 04 53 56.0
CLL *e*SSSS 04 55 41.0
CLL Collm 106.32 321 *i* P Pdif 04 26 26.9 +2.4
CLL *i* 04 30 56.7
CLL *e* 04 36 06.0
CLL pmax pmax
comp=Z,25nm,1.6s
CLL pmax pmax
comp=Z,36nm,1.6s
CLL pmax pmax
comp=Z,68nm,0.8s
CLL Collm 106.32 321 *i* Pdif Pdif 04 26 26.9 +2.4
comp=Z,36nm,1.6s
CLL *i* PKP PKiKP 04 30 33.1 +1.1
CLL *i* PP PP 04 30 56.7 -0.6
CLL *e*PP 04 32 46.0
CLL *e*SKS SKSac 04 36 06.0 -2.3
CLL *e*Sdif Sdif 04 37 48.0 +14
CLL *i* PKKP PKKPbc 04 41 58.7 +4.8
VOY Vojsko 106.45 316 *e* PKiKP 04 30 30.6 -1.7
VOY *e* 04 30 33.7
VOY *e*PP PP 04 30 49.8 -8.5
VOY *e* 04 30 57.1
CADS Cadrg 106.53 316 *e*PP PP 04 30 57.2 -1.7
KONO Kongsberg 106.54 330 *e* Pdif 04 26 19.2 -6.2
KONO *e*P 04 26 26.4
KONO *e*PP PP 04 30 59.5 +0.6
KONO Kongsberg 106.54 330 *e*P Pdif 04 26 26.4 +0.9
HMDC Modica 106.58 306 P PP 04 30 58.3 -0.9
MIDA Miranda 106.64 311 P PP 04 30 58.3 -1.4
KBA Koelnbreinsper 106.70 317 ⇑*i* PP 04 30 57.9 -2.1
comp=Z,82nm,1.8s
KBA Koelnbreinsper 106.70 317 ⇑*i*Pdiff Pdif 04 26 28.0 +1.8
comp=Z,8.6nm,0.9s
KBA ⇑*i*PKiKP PP 04 30 57.9 -2.1
comp=Z,82nm,1.8s
KBA Koelnbreinsper 106.70 317 ⇑*i*P Pdif 04 26 28.0 +1.9
KBA *i* 04 30 57.9
KBA pmax pmax
comp=Z,9.0nm,0.9s
RNI2 Rionero Sannit 106.71 311 P PP 04 31 00.2 0.0
WET Wettzell 106.72 319 *e*Pdiff Pdif 04 26 25.6 -0.7
WET *e*PP PP 04 30 59.3 -0.9
PTCC Patocco-Chiusa 106.78 316 P PP 04 30 59.5 -1.1
TANN Tannenbergstha 106.80 320 *e*Pdiff Pdif 04 26 25.9 -0.7
TANN *e*PP PP 04 30 59.6 -1.2
NKC Novy Kostel 106.83 320 *e*P Pdif 04 26 28.9 +2.1
INTR Introdacqua 106.87 312 P PP 04 31 00.0 -1.3
RFI Roccamonfina 106.87 311 P PP 04 31 01.3 0.0
RAFF Raffo Rosso 106.90 307 P PP 04 31 00.9 -0.6
ROTZ Rotzenmuhle 107.06 320 *e*Pdiff Pdif 04 26 27.1 -0.7
ROTZ *e*PP PP 04 31 02.2 -0.5
DAG Danmarks Havn 107.09 351 ⇑*i*P Pdif 04 26 27.3 -0.6
comp=Z,16nm,0.8s
DAG *i* 04 31 03.6
DAG Danmarks Havn 107.09 351 ⇑*i*P Pdif 04 26 27.3 -0.6
DAG *i* 04 31 03.6
DAG pmax pmax
comp=Z,16nm,0.8s
MANZ Manzenberg 107.09 320 *e*Pdiff Pdif 04 26 30.6 +2.7
MANZ *e*PP PP 04 31 01.7 -1.2
VVLD Villa Vallelon 107.09 311 P PP 04 31 01.5 -1.4
GIB Gibilmanna 107.11 307 P PP 04 31 03.3 +0.3
AQU L'Aquila 107.21 312 *e*PKP PKiKP 04 30 33.8 +0.1
AQU *e*PP PP 04 31 02.7 -1.0
MOX Moxa 107.29 321 *e*Pdiff Pdif 04 26 31.7 +2.9
MOX *e*PP PP 04 31 03.7 -0.6
MOX Moxa 107.29 321 *e*P Pdif 04 26 31.6 +2.8
MOX *e* 04 31 01.9
MOX pmax pmax
comp=Z,21nm,1.7s
MOX MLR MLR
comp=Z,28μm,23.0s
MOX Moxa 107.29 321 *e*P Pdif 04 26 31.6 +2.8
comp=Z,28nm,1.7s
MOX *e*PP PP 04 31 01.9 -2.4
MOX *e*PPP 04 33 00.0
MOX *e*PS PS 04 40 22.0 -16
MOX *e*SSS 04 48 59.0
MOX LR LR
comp=Z,600nm,23.0s
FIAM Fiamignano 107.42 312 P PP 04 31 05.0 -0.3
SNTG Esanatoglia 107.44 313 P PP 04 31 03.7 -1.7
BSEG Bad Segeberg 107.45 324 *e*Pdiff Pdif 04 26 28.8 -0.7
BSEG *e*PP PP 04 31 06.3 +0.8
MUD Monsted U'grnd 107.53 327 *i* P Pdif 04 26 32.5 +2.6
MUD *i* 04 29 27.3
MUD *i* 04 31 14.9
MUD *e* 04 33 18.5
MUD *i* S SKSac 04 36 13.9 +0.4
comp=Z,950nm,19.0s
MUD Monsted U'grnd 107.53 327 *i* P Pdif 04 26 32.5 +2.6
MUD *i* 04 31 14.9
MUD *i* S SKSac 04 36 13.9 +0.4
MUD MLR MLR
comp=Z,960nm,19.0s
MUD Monsted U'grnd 107.53 327 *i* P Pdif 04 26 32.5 +2.6
MUD *i* 04 29 27.3
MUD *i* 04 31 14.9
MUD *e* 04 33 18.5
MUD *i* S SKSac 04 36 13.9 +0.4
GRA1 Grafenberg Arr 107.70 320 *e*Pdif Pdif 04 26 33.8 +3.2
GRA1 *e*PP PP 04 31 06.6 -0.7
GRF Grafenberg Arr 107.70 320 *e*Pdiff Pdif 04 26 33.8 +3.2
GRF *e*PP PP 04 31 06.6 -0.7
USI Ustica 107.72 308 P PP 04 31 05.2 -2.2
MTCE Montecelio 107.73 312 P PP 04 31 05.2 -2.3
MNS Montasola 107.73 312 P PP 04 31 06.5 -1.0
MURB Monte Urbino 107.75 313 P PP 04 31 07.0 -0.6
RDP Rocca di Papa 107.78 311 P PP 04 31 06.5 -1.3
CLTB Caltabellotta 107.78 307 P PP 04 31 07.7 -0.2
NRDL Niedersach Rie 107.87 323 *e*Pdiff Pdif 04 26 30.6 -0.8
NRDL *e*PP PP 04 31 09.3 +0.8
FUR Furstenfeldbru 107.92 318 *e*Pdiff Pdif 04 26 34.3 +2.7
CTI Castel Tesino 108.00 316 P PP 04 31 07.8 -1.6
CRE Caprese Michel 108.12 313 P PP 04 31 09.4 -0.9
SQTA Sankt Quirin 108.12 317 ⇑*i* PKiKP 04 30 36.4 +1.0
comp=Z,9.3nm,1.0s
SQTA Sankt Quirin 108.12 317 ⇑*i* PP 04 31 06.6 -3.7
comp=Z,125nm,1.8s
SQTA Sankt Quirin 108.12 317 ⇑*i*Pdiff Pdif 04 26 33.7 +1.3
comp=Z,9.6nm,1.1s
SQTA ⇑*i*PKiKP PKiKP 04 30 36.4 +1.0
comp=Z,9.3nm,1.0s
SQTA Sankt Quirin 108.12 317 P PP 04 31 06.9 -3.4
comp=Z,125nm,1.8s
SQTA Sankt Quirin 108.12 317 ⇑*i*P Pdif 04 26 33.7 +1.2
SQTA *i* 04 31 06.6
SQTA pmax pmax
comp=Z,10.0nm,1.1s
SQTA Sankt Quirin 108.12 317 ⇑*i*P Pdif 04 26 33.7 +1.3
comp=Z,9.6nm,1.1s
SQTA *i* 04 30 36.4
SQTA *i* 04 31 06.6
GTTG Gvttingen 108.15 322 *e*Pdiff Pdif 04 26 34.8 +2.2
GTTG *e*PP PP 04 31 09.4 -1.1
MOTA Moosalm 108.17 317 ⇑*i* PKiKP 04 30 36.0 +0.5
comp=Z,22nm,1.0s
MOTA Moosalm 108.17 317 ⇓*i*Pdiff Pdif 04 26 32.5 -0.2
comp=Z,31nm,1.2s
MOTA ⇑*i*PKiKP PKiKP 04 30 36.0 +0.5
comp=Z,22nm,1.0s
UBBA Unterbreizbach 108.27 321 *e*Pdiff Pdif 04 26 32.8 -0.3
UBBA *e*PP PP 04 31 09.9 -1.4
CSNT Castellina Chi 108.61 313 P PP 04 31 12.3 -1.5
JMIC Jan Mayen 108.75 344 *e*PP PP 04 31 14.1 -0.7
JMIC Jan Mayen 108.75 344 *e*P PP 04 31 09.9 -4.9
DAVA Damuels 109.00 318 ⇑*i* PKiKP 04 30 37.3 +0.3
comp=Z,53nm,0.9s
DAVA Damuels 109.00 318 ⇑*i* PP 04 31 11.6 -4.9
comp=Z,97nm,1.2s
DAVA Damuels 109.00 318 ⇑*i*Pdiff Pdif 04 26 31.1 -5.3
comp=Z,18nm,1.2s
DAVA ⇑*i*PKiKP PKiKP 04 30 37.3 +0.3
comp=Z,53nm,0.9s
DAVA Damuels 109.00 318 P PP 04 31 14.4 -2.2
comp=Z,97nm,1.2s
DAVA Damuels 109.00 318 ⇑*i*P Pdif 04 26 31.1 -5.3
comp=Z,18nm,1.2s
DAVA *i* 04 30 37.3
DAVA *i* 04 31 11.6
STU Stuttgart 109.18 319 *e*Pdiff Pdif 04 26 39.7 +2.5
STU *e*PP PP 04 31 15.1 -2.7
STU Stuttgart 109.18 319 *e*PKP PKiKP 04 30 36.5 -0.9
STU *e*PP PP 04 31 14.4 -3.4
TNS Taunus Mts 109.36 321 *e*Pdiff Pdif 04 26 37.2 -0.8
TNS *e*PP PP 04 31 18.8 -0.3
RES Resolute Bay 109.68 9 *e*PKP PKiKP 04 30 39.4 +1.1
RES *e*PP PP 04 31 21.1 -0.3
BUG Bochum--Univer 109.82 322 *e*Pdiff Pdif 04 26 43.4 +3.4
BUG *e*PP PP 04 31 22.1 -0.3
BFO Black Forest 109.83 319 *e*Pdiff Pdif 04 26 39.3 -0.8
BFO *e*PP PP 04 31 23.0 +0.5
WIT Witteveen 109.84 324 *e*PKP PKiKP 04 30 41.3 +2.7
WTSB Winterswijk 109.97 323 *e*PKP PKiKP 04 30 40.7 +1.8
comp=Z,38nm,0.4s
WTSB *e*PP PP 04 31 27.9 +4.4
comp=Z,127nm,1.6s
WLS Welschbruch 110.45 319 *e*P PKiKP 04 30 40.5 +0.7
CDF Champ du Feu 110.50 319 *e*P Pdif 04 26 46.0 +3.0
comp=Z,27nm,1.4s
VSL Villasalto 110.57 309 *e*PKP PKiKP 04 30 40.7 +0.7
VSL *e*PP PP 04 31 25.9 -1.8
ECH Echery 110.62 319 *e*P PKiKP 04 30 43.3 +3.2
MOF Molkenrain 110.71 318 *e*P PKiKP 04 30 41.6 +1.3
MEM Membach 110.79 322 PKiKP PKiKP 04 30 40.5 0.0
MEM E 04 31 23.2
MEM SKPdf SKPdf 04 33 23.8 +2.5
HGN Heimansgroeve 110.80 322 *e*PKP PKiKP 04 30 42.2 +1.7
comp=Z,33nm,1.6s
HGN *e*PP PP 04 31 29.3 0.0
WLF Walferdange 110.93 321 PKiKP PKiKP 04 30 42.7 +2.0
WLF PP PP 04 31 34.0 +3.7
WLF Walferdange 110.93 321 *e*PKP PKiKP 04 30 41.0 +0.3
WLF *e*PP PP 04 31 27.9 -2.4
BEBN Eben Emael 110.95 322 PP PP 04 31 30.4 +0.1
IMI Imperia 110.98 314 P PP 04 31 29.5 -1.1
LOMF Lomont 111.03 318 *e*P PKiKP 04 30 43.6 +2.7
KEST Kesra 111.06 305 Pdiff Pdif 04 26 46.4 +0.9
comp=Z,3.4nm,1.0s,baz=340,slow=5.1,SNR=12
KEST PKiKP PKiKP 04 30 41.9 +1.0
comp=Z,10nm,0.9s,baz=266,slow=2.5,SNR=14
KEST PP PP 04 31 30.1 -1.1
comp=Z,40nm,1.0s,baz=194,slow=0.3,SNR=12
KEST PKKPbc PKKPbc 04 41 40.5 +1.4
comp=Z,1.0nm,0.5s,baz=271,slow=3.7,SNR=5.7
KEST SKKPbc 04 44 29.6
comp=Z,1.5nm,0.9s,baz=186,slow=1.6,SNR=4.2
HAU Haudompre 111.19 319 *e*P Pdif 04 26 49.0 +2.9
comp=Z,36nm,1.3s
HAU *e*R
comp=Z,2μm,22.5s
HAU Haudompre 111.19 319 *e*P Pdif 04 26 49.0 +2.9
HAU LR LR
comp=Z,2μm,22.5s
SAOF Saorge 111.20 314 *e*P PKiKP 04 30 41.9 +0.7
BCLA Clavier 111.27 321 *e*P PKiKP 04 30 42.2 +0.8
BCLA PP PP 04 31 34.2 +1.6
AUTN L'Aution 111.29 314 *e*P PKiKP 04 30 44.2 +2.8
SBF Sospel 111.31 314 *e*P Pdif 04 26 48.4 +1.7
comp=Z,32nm,1.2s
STV Sta Anna Valdi 111.32 315 P PP 04 31 31.3 -1.7
LUCF Luceram 111.37 314 *e*P PKiKP 04 30 45.1 +3.6
THEF They Montfort 111.38 319 *e*P PKiKP 04 30 43.1 +1.5
REVF Revere 111.38 314 *e*P PKiKP 04 30 43.4 +1.8
LPG La Plagne 111.47 316 *e*P Pdif 04 26 49.7 +2.3
comp=Z,22nm,1.2s
LPL La Plagne 111.48 316 *e*P Pdif 04 26 49.7 +2.3
comp=Z,19nm,1.0s
LRW Lerwick 111.50 333 *e*P PKiKP 04 30 41.5 -0.3
LRW Lerwick 111.50 333 *e*P PKiKP 04 30 41.5 -0.3
RSL Roselend 111.52 316 *e*P PKiKP 04 30 43.9 +2.1
BNI Bardonecchia 111.61 316 *e*P Pdif 04 26 49.4 +1.4
BNI *e* 04 30 42.6
BNI *e* 04 31 33.8
SURF Saint Ours 111.63 315 *e*P PKiKP 04 30 42.0 0.0
GIVF Givet 111.65 321 *e*P Pdif 04 26 50.1 +1.9
CABF La Chapelle 111.68 317 *e*P Pdif 04 26 51.5 +3.2
comp=Z,20nm,1.0s
UCC Uccle 111.75 322 PKiKP PKiKP 04 30 44.0 +1.7
UCC E 04 31 17.8
DOU Dourbes 111.80 321 PKiKP PKiKP 04 30 42.6 +0.2
DOU PP PP 04 31 34.2 -2.1
DOU SKPdf SKPdf 04 33 25.5 +2.2
SNF Seneffe 111.88 322 E 04 30 39.6
SNF PP PP 04 31 40.9 +4.0
SNF SKPdf SKPdf 04 33 26.1 +2.7
FRF La Foret Royal 111.93 314 *e*P Pdif 04 26 51.5 +2.1
comp=Z,19nm,1.1s
LMR La Mourre 112.07 314 *e*P Pdif 04 26 53.1 +3.1
comp=Z,12nm,1.0s
YKA Yellowknife Ar 112.15 24 Pdiff Pdif 04 26 53.7 +3.3
comp=Z,6.3nm,0.8s,baz=301,slow=4.9,SNR=11
YKA PKiKP PKiKP 04 30 42.0 -1.0
comp=Z,52nm,0.6s,baz=291,slow=1.9,SNR=85
YKA SKP 04 33 22.9
comp=Z,15nm,0.8s,baz=312,slow=2.0,SNR=8.6
YKA SKSac SKSac 04 36 30.6 -1.9
comp=Z,3.4nm,0.9s,baz=348,slow=4.4,SNR=3.6
YKA PKKPbc PKKPbc 04 41 36.5 +1.0
comp=Z,3.3nm,0.7s,baz=115,slow=3.3,SNR=6.5
YKA SKKPbc 04 44 21.3
comp=Z,1.7nm,0.7s,baz=26,slow=0.6,SNR=3.5
YKA Yellowknife Ar 112.15 24 P Pdif 04 26 53.7 +3.3
YKA 04 30 42.0
YKA 04 36 30.6
YKA 04 41 36.5
YKA Yellowknife Ar 112.15 24 Pdif Pdif 04 26 53.7 +3.3
YKA PKPdf PKiKP 04 30 42.0 -1.0
YKA SKP 04 33 22.9
YKA SKSac SKSac 04 36 30.6 -1.9
YKA PKKPbc PKKPbc 04 41 36.5 +1.0
YKA SKKPbc 04 44 21.3
ORIF Oris-en-Rattie 112.19 316 *e*P Pdif 04 26 52.7 +2.1
ORIF *e*R
comp=Z,2μm,18.8s
GRN Grenoble 112.22 316 *e*P PKiKP 04 30 44.9 +1.7
OG05 Jujurieux 112.23 317 *e*P PKiKP 04 30 42.7 -0.5
TAVF Tavernes 112.34 314 *e*P PKiKP 04 30 43.6 +0.2
CMAH Djebel Manchou 112.49 307 P PKiKP 04 30 47.0 +3.3
VILF Villemus 112.53 315 *e*P PKiKP 04 30 47.6 +3.8
SMRF Simiane la Rot 112.61 315 *e*P Pdif 04 26 54.9 +2.5
comp=Z,23nm,1.4s
PUYF Puyloubier 112.61 314 *e*P PKiKP 04 30 44.7 +0.8
BERF Bertagne 112.66 314 *e*P PKiKP 04 30 46.4 +2.4
OSD Olympics--Snow 112.80 41 P PKiKP 04 30 45.5 +1.2
GELF Grande-Etoile 112.83 314 *e*P PKiKP 04 30 46.2 +1.9
PRAF Pradon 112.93 315 *e*P PKiKP 04 30 46.6 +2.1
LOR Lormes 113.01 318 *e*P Pdif 04 26 57.3 +3.1
LOR *e*R
comp=Z,1μm,21.5s
LOR Lormes 113.01 318 *e*P Pdif 04 26 57.3 +3.1
LOR LR LR
comp=Z,1μm,21.5s
VIVF Saint-Julien-l 113.04 316 *e*P Pdif 04 26 56.3 +1.9

	comp=Z,25nm,1.4s					
AEU	**East Anglia Un**	**113.06 325**	*e*P	PKiKP	04 30 44.3	-0.5
AEU	**East Anglia Un**	**113.06 325**	*e*P	PKiKP	04 30 44.3	-0.5
OBR	**Brabster**	**113.07 332**	*e*P	PKiKP	04 30 44.3	-0.5
OBR	**Brabster**	**113.07 332**	*e*P	PKiKP	04 30 44.3	-0.5
CKFL	**Kef-Lekhel**	**113.08 306**	P	PKiKP	04 30 48.0	+3.2
SMF	**Signal de Mont**	**113.18 318**	*e*P	Pdif	04 26 57.8	+2.8
	comp=Z,8.6nm,0.9s					
CASM	**Ain Smara**	**113.29 306**	P	PKiKP	04 30 49.0	+3.8
SUMG	**Summit**	**113.44 353**	*e*PKP	PKiKP	04 30 45.9	+0.4
SUMG			*e*PP	PP	04 31 46.8	-1.1
SUMG			*e*SKPdf	SKPdf	04 33 27.1	+0.7
AVF	**Avril sur Loir**	**113.47 318**	*e*P	Pdif	04 26 57.6	+1.4
	comp=Z,34nm,1.6s					
PLDF	**La Plantade**	**113.50 317**	*e*P	PKiKP	04 30 46.2	+0.6
MME1	**Meikle Cairn**	**113.53 330**	*e*P	PKiKP	04 30 44.6	-1.1
MME1	**Meikle Cairn**	**113.53 330**	*e*P	PKiKP	04 30 44.6	-1.1
KEBM	**Edson Butte**	**113.54 46**	*e*PKP	PKiKP	04 30 45.1	-0.5
MCD	**Coleburn Disti**	**113.56 331⇑**	*e*P	PKiKP	04 30 44.8	-0.9
MCD			AMb	AMB	04 30 49.2	
	comp=Z,91nm,0.7s					
MCD	**Coleburn Disti**	**113.56 331⇑**	*e*P	PKiKP	04 30 44.8	-0.9
MCD			AMb	AMB	04 30 49.2	
	comp=Z,91nm,0.7s					
DFRA	**Djebel Bou Aff**	**113.73 307**	P	PKiKP	04 30 51.5	+5.4
AGO	**Saint Agoulin**	**113.80 317**	*e*P	PKiKP	04 30 47.7	+1.5
CMER	**Merouana**	**113.85 306**	P	PKiKP	04 30 50.0	+3.7
COR	**Corvallis**	**113.88 44**	*e*PKIKP	PKiKP	04 30 48.1	+1.8
XSO	**Sourhope Farm**	**113.92 328⇑**	*e*P	PKiKP	04 30 45.9	-0.5
XSO			AMb	AMB	04 30 50.1	
	comp=Z,196nm,0.7s					
XSO	**Sourhope Farm**	**113.92 328⇑**	*e*P	PKiKP	04 30 45.9	-0.5
XSO			AMb	AMB	04 30 50.1	
	comp=Z,196nm,0.7s					
LBL	**Lubilhac**	**113.93 316**	*e*P	PKiKP	04 30 47.2	+0.8
ESY	**Stoneypath**	**113.94 329⇑**	*e*P	PKiKP	04 30 45.5	-1.0
ESY	**Stoneypath**	**113.94 329⇑**	*e*P	PKiKP	04 30 45.5	-1.0
PYM	**Petit Puy Mans**	**113.97 317**	*e*P	PKiKP	04 30 49.5	+3.0
CKHR	**Kef el Ahmar**	**114.11 306**	P	PKiKP	04 30 50.0	+3.2
KRMB	**Red Mountain**	**114.14 48**	*e*PKP	PKiKP	04 30 47.5	+0.7
TSA1	**Sevenoaks**	**114.15 323⇑**	*e*P	PKiKP	04 30 47.4	+0.5
TSA1	**Sevenoaks**	**114.15 323⇑**	*e*P	PKiKP	04 30 47.4	+0.5
XAL	**Allendale**	**114.15 328⇑**	*e*P	PKiKP	04 30 46.3	-0.5
XAL			AMb	AMB	04 30 50.6	
	comp=Z,124nm,1.1s					
XAL	**Allendale**	**114.15 328⇑**	*e*P	PKiKP	04 30 46.3	-0.5
XAL			AMb	AMB	04 30 50.6	
	comp=Z,124nm,1.1s					
SET	**Setif**	**114.17 306**	P	PKiKP	04 30 52.0	+5.1
EBL	**Broad Law**	**114.22 329⇑**	*e*P	PKiKP	04 30 46.3	-0.7
EBL	**Broad Law**	**114.22 329⇑**	*e*P	PKiKP	04 30 46.3	-0.7
EDI	**Edinburgh**	**114.23 329⇑**	*e*P	PKiKP	04 30 46.9	-0.1
EDI			AMS	AMS	04 46 08.4	
	comp=Z,1µm,18.2s					
EDI	**Edinburgh**	**114.23 329⇑**	*e*P	PKiKP	04 30 46.9	-0.1
EDI			AMS	AMS	04 46 08.4	
	comp=Z,1µm,18.2s					
VERF	**Verneugheol**	**114.32 317**	*e*P	PKiKP	04 30 47.4	+0.2
TCF	**Toulx Ste Croi**	**114.36 318**	*e*P	Pdif	04 27 02.3	+2.1
KBI1	**Birley Grange**	**114.40 326**	*e*P	PKiKP	04 30 46.7	-0.7
KBI1	**Birley Grange**	**114.40 326**	*e*P	PKiKP	04 30 46.7	-0.7
KHMM	**Horse Mountain**	**114.41 48**	*e*PKP	PKiKP	04 30 48.6	+1.3
KHMM			*e*SKPdf	SKPdf	04 33 30.7	+2.5
LHO	**Holmfirth**	**114.47 326⇑**	*e*P	PKPdf	04 30 47.1	-0.3
LHO	**Holmfirth**	**114.47 326⇑**	*e*P	PKPdf	04 30 47.1	-0.3
ESK	**Eskdalemuir**	**114.49 328⇑**	*e*P	PKiKP	04 30 46.9	-0.6
ESK			AMS	AMS	04 46 19.6	
	comp=Z,1µm,19.3s					
ESK	**Eskdalemuir**	**114.49 328⇑**	*e*P	PKiKP	04 30 46.9	-0.6
ESK			AMS	AMS	04 46 19.6	
	comp=Z,1µm,19.3s					
ESK	**Eskdalemuir**	**114.49 328**	*e*PKP	PKPdf	04 30 47.1	-0.4
ESK			*e*PP	PP	04 31 56.3	+1.2
ECK	**Cauldkaine Hil**	**114.50 328⇑**	*e*P	PKiKP	04 30 46.5	-1.0
ECK			AMb	AMB	04 30 51.5	
	comp=Z,78nm,1.2s					
ECK	**Cauldkaine Hil**	**114.50 328⇑**	*e*P	PKiKP	04 30 46.5	-1.0
ECK			AMb	AMB	04 30 51.5	
	comp=Z,78nm,1.2s					
SKP1	**Kophill**	**114.55 324**	*e*P	PKPdf	04 30 47.3	-0.3
SKP1	**Kophill**	**114.55 324**	*e*P	PKPdf	04 30 47.3	-0.3
BHH	**Howats Hill**	**114.59 328⇑**	*e*P	PKPdf	04 30 47.2	-0.4
BHH	**Howats Hill**	**114.59 328⇑**	*e*P	PKPdf	04 30 47.2	-0.4
KWE	**Weaver Farm**	**114.66 326**	*e*P	PKPdf	04 30 47.4	-0.4
KWE	**Weaver Farm**	**114.66 326**	*e*P	PKPdf	04 30 47.4	-0.4
EAB	**Aberfoyle**	**114.70 330⇑**	*e*P	PKPdf	04 30 47.4	-0.5
EAB	**Aberfoyle**	**114.70 330⇑**	*e*P	PKPdf	04 30 47.4	-0.5
CKE	**Keswick**	**114.74 328⇑**	*e*P	PKPdf	04 30 47.9	-0.1
CKE	**Keswick**	**114.74 328⇑**	*e*P	PKPdf	04 30 47.9	-0.1
TDH	**Tom, Dick, Har**	**114.74 43**	P	PKPdf	04 30 48.5	+0.6
KSB	**Sheil Bridge**	**114.78 331⇑**	*e*P	PKPdf	04 30 47.4	-0.7
KSB	**Sheil Bridge**	**114.78 331⇑**	*e*P	PKPdf	04 30 47.4	-0.7
BWH	**Wardlaw**	**114.78 328⇑**	*e*P	PKPdf	04 30 47.3	-0.8
BWH	**Wardlaw**	**114.78 328⇑**	*e*P	PKPdf	04 30 47.3	-0.8
KPL	**Plockton**	**114.83 331⇑**	*e*P	PKPdf	04 30 47.7	-0.5
KPL			AMS	AMS	04 46 24.2	
	comp=Z,825nm,20.7s					
KPL	**Plockton**	**114.83 331⇑**	*e*P	PKPdf	04 30 47.7	-0.5
KPL			AMS	AMS	04 46 24.2	
	comp=Z,825nm,20.7s					
TWW	**Teanaway**	**114.84 41**	P	PKPdf	04 30 49.2	+1.0
YBH	**Yreka Blue Hor**	**114.97 47**	*e*PKPdf	PKPdf	04 30 48.9	+0.5
YBH			*e*SKPdf	SKPdf	04 33 33.3	+4.0
XDE	**Dent Fell**	**114.97 328**	*e*P	PKPdf	04 30 48.0	-0.4
XDE			AMb	AMB	04 30 52.8	
	comp=Z,100nm,1.1s					
XDE	**Dent Fell**	**114.97 328**	*e*P	PKPdf	04 30 48.0	-0.4
XDE			AMb	AMB	04 30 52.8	
	comp=Z,100nm,1.1s					
NAC	**Naches**	**114.98 42**	P	PKPdf	04 30 49.2	+0.7
LRDF	**Laroque-de-Fa**	**114.99 314**	*e*P	PKPdf	04 30 48.7	+0.2
SSW	**Stow on the Wo**	**115.06 325**	*e*P	PKPdf	04 30 48.3	-0.3
SSW	**Stow on the Wo**	**115.06 325**	*e*P	PKPdf	04 30 48.3	-0.3
FILF	**Fillols**	**115.07 314**	*e*P	PKPdf	04 30 49.0	+0.4
EBG	**Ellensburg**	**115.10 41**	P	PKPdf	04 30 49.3	+0.6
KAR1	**Arisaig**	**115.11 331⇑**	*e*P	PKPdf	04 30 48.1	-0.6
KAR1	**Arisaig**	**115.11 331⇑**	*e*P	PKPdf	04 30 48.1	-0.6
BUOR	**Burton Butte**	**115.18 47**	P	PKPdf	04 30 49.6	+0.8
SWN1	**Swindon**	**115.20 324**	*e*P	PKPdf	04 30 48.8	-0.1
SWN1	**Swindon**	**115.20 324**	*e*P	PKPdf	04 30 48.8	-0.1
LHEM	**Herd Peak**	**115.35 47**	P	PKPdf	04 30 49.9	+0.7
WDC	**Whiskeytown Da**	**115.35 48**	*e*PKIKP	PKPdf	04 30 49.2	0.0
HLM1	**Long Mynd**	**115.44 325⇑**	*e*P	PKPdf	04 30 49.1	-0.3
HLM1			AMb	AMB	04 30 54.1	
	comp=Z,98nm,1.5s					
HLM1	**Long Mynd**	**115.44 325⇑**	*e*P	PKPdf	04 30 49.1	-0.3
HLM1			AMb	AMB	04 30 54.1	
	comp=Z,98nm,1.5s					
GAL1	**Galloway**	**115.46 328**	*e*P	PKPdf	04 30 48.7	-0.7
GAL1			*e*P		04 30 48.7	
GAL1			AMS	AMS	04 46 22.8	
	comp=Z,1µm,18.3s					
GAL1	**Galloway**	**115.46 328**	*e*P	PKPdf	04 30 48.7	-0.7
GAL1			*e*P		04 30 48.7	
GAL1			AMS	AMS	04 46 22.8	
	comp=Z,1µm,18.3s					
SBD1	**Bryn Du**	**115.50 326⇑**	*e*P	PKPdf	04 30 49.3	-0.1
SBD1	**Bryn Du**	**115.50 326⇑**	*e*P	PKPdf	04 30 49.3	-0.1
VALF	**Valcebollere**	**115.50 314**	*e*P	PKPdf	04 30 49.8	+0.4
HOG	**Hogback Mounta**	**115.58 47**	P	PKPdf	04 30 50.6	+1.0
GIM	**North Isle of**	**115.58 328⇑**	*e*P	PKPdf	04 30 49.3	-0.3
GIM	**North Isle of**	**115.58 328⇑**	*e*P	PKPdf	04 30 49.3	-0.3
SWK	**Warminster**	**115.59 324**	*e*P	PKPdf	04 30 49.6	0.0
SWK	**Warminster**	**115.59 324**	*e*P	PKPdf	04 30 49.6	0.0
MCH1	**Michaelchurch**	**115.71 325⇑**	*e*P	PKPdf	04 30 49.3	-0.5
MCH1		⇑	*e*P		04 30 49.3	
MCH1			AMS	AMS	04 45 14.8	
	comp=Z,593nm,17.8s					
MCH1	**Michaelchurch**	**115.71 325⇑**	*e*P	PKPdf	04 30 49.3	-0.5
MCH1		⇑	*e*P		04 30 49.3	
MCH1			AMS	AMS	04 45 14.8	
	comp=Z,593nm,17.8s					
GMK	**Mull of Kintyr**	**115.71 329⇑**	*e*P	PKPdf	04 30 49.4	-0.5
GMK	**Mull of Kintyr**	**115.71 329⇑**	*e*P	PKPdf	04 30 49.4	-0.5
WPM1	**Penmaenmawr**	**115.71 326⇑**	*e*P	PKPdf	04 30 49.5	-0.3
WPM1	**Penmaenmawr**	**115.71 326⇑**	*e*P	PKPdf	04 30 49.5	-0.3
HGH	**Gray Hill**	**115.73 325⇑**	*e*P	PKPdf	04 30 49.5	-0.4
HGH			AMb	AMB	04 30 53.8	
	comp=Z,163nm,1.0s					
HGH	**Gray Hill**	**115.73 325⇑**	*e*P	PKPdf	04 30 49.5	-0.4
HGH			AMb	AMB	04 30 53.8	
	comp=Z,163nm,1.0s					

NSHM	**Saint Helena R**	**115.74 51**	*e*PKPdf	PKPdf	04 30 50.7	+0.8
NSHM			*e*SKPdf	SKPdf	04 33 33.1	+2.2
WIM	**Isle of Man**	**115.75 328⇑**	*e*P	PKPdf	04 30 49.8	-0.2
WIM			AMb	AMB	04 30 54.0	
	comp=Z,136nm,0.7s					
WIM	**Isle of Man**	**115.75 328⇑**	*e*P	PKPdf	04 30 49.8	-0.2
WIM			AMb	AMB	04 30 54.0	
	comp=Z,136nm,0.7s					
HTR	**Trewern Hill**	**115.83 325⇑**	*e*P	PKPdf	04 30 49.1	-1.0
HTR			AMb	AMB	04 30 54.7	
	comp=Z,85nm,1.4s					
HTR	**Trewern Hill**	**115.83 325⇑**	*e*P	PKPdf	04 30 49.1	-1.0
HTR			AMb	AMB	04 30 54.7	
	comp=Z,85nm,1.4s					
HAWA	**Hanford**	**115.94 42**	*e*PKPdf	PKPdf	04 30 50.9	+0.6
HAWA			*e*SKPdf	SKPdf	04 33 32.5	+1.3
WLF1	**Llynfaes**	**115.97 327⇑**	*e*P	PKPdf	04 30 49.9	-0.4
WLF1			AMb	AMB	04 30 53.9	
	comp=Z,149nm,0.7s					
WLF1	**Llynfaes**	**115.97 327⇑**	*e*P	PKPdf	04 30 49.9	-0.4
WLF1			AMb	AMB	04 30 53.9	
	comp=Z,149nm,0.7s					
LTIM	**Timbered Crate**	**115.99 48**	P	PKPdf	04 30 51.2	+0.8
WCB1	**Church Bay**	**116.01 327⇑**	*e*P	PKPdf	04 30 50.0	-0.5
WCB1			AMb	AMB	04 30 53.9	
	comp=Z,110nm,0.7s					
WCB1	**Church Bay**	**116.01 327⇑**	*e*P	PKPdf	04 30 50.0	-0.5
WCB1			AMb	AMB	04 30 53.9	
	comp=Z,110nm,0.7s					
YRC	**Rhoscolyn**	**116.08 327⇑**	*e*P	PKPdf	04 30 50.3	-0.3
YRC			AMb	AMB	04 30 53.6	
	comp=Z,58nm,1.0s					
YRC	**Rhoscolyn**	**116.08 327⇑**	*e*P	PKPdf	04 30 50.3	-0.3
YRC			AMb	AMB	04 30 53.6	
	comp=Z,58nm,1.0s					
GCL	**Cushendall**	**116.10 329⇑**	*e*P	PKPdf	04 30 50.1	-0.5
GCL	**Cushendall**	**116.10 329⇑**	*e*P	PKPdf	04 30 50.1	-0.5
YRE	**Yr Eifl**	**116.11 326⇑**	*e*P	PKPdf	04 30 50.0	-0.7
YRE			AMb	AMB	04 30 53.9	
	comp=Z,73nm,1.0s					
YRE	**Yr Eifl**	**116.11 326⇑**	*e*P	PKPdf	04 30 50.0	-0.7
YRE			AMb	AMB	04 30 53.9	
	comp=Z,73nm,1.0s					
EMHD	**Djebel Mahouad**	**116.12 307**	P	PKPdf	04 30 52.0	+1.4
LCHF	**La Chataignera**	**116.20 319**	*e*P	PKPdf	04 30 51.0	+0.2
JVM	**Valle D.L. Mar**	**116.27 322**	*e*P	PKPdf	04 30 50.4	-0.5
JVM	**Valle D.L. Mar**	**116.27 322**	*e*P	PKPdf	04 30 50.4	-0.5
GMM	**Mts of Mourne**	**116.39 328⇑**	*e*P	PKPdf	04 30 50.2	-0.9
GMM	**Mts of Mourne**	**116.39 328⇑**	*e*P	PKPdf	04 30 50.2	-0.9
OHCM	**Honcut**	**116.42 50**	*e*PKPdf	PKPdf	04 30 51.5	+0.2
OHCM			*e*SKPdf	SKPdf	04 33 33.5	+1.4
BORG	**Borgarnes**	**116.49 343**	PKP	PKPdf	04 30 51.4	0.0
	comp=Z,30nm,0.9s,baz=62,slow=3.1,SNR=5.8					
HEX	**Exmoor**	**116.53 324**	*e*P	PKPdf	04 30 51.0	-0.4
HEX	**Exmoor**	**116.53 324**	*e*P	PKPdf	04 30 51.0	-0.4
RESF	**Ens**	**116.59 314**	*e*P	PKPdf	04 30 50.8	-0.8
MOD	**Modoc**	**116.67 47**	*e*PKPdf	PKPdf	04 30 52.8	+1.1
MOD			*e*SKPdf	SKPdf	04 33 34.7	+2.1
LABF	**Labassere**	**116.71 315**	*e*P	PKPdf	04 30 52.3	+0.5
VIEF	**Viey**	**116.79 315**	*e*P	PKPdf	04 30 52.7	+0.8
DYA	**Yadsworthy**	**116.85 324⇑**	*e*P	PKPdf	04 30 51.7	-0.4
DYA	**Yadsworthy**	**116.85 324⇑**	*e*P	PKPdf	04 30 51.7	-0.4
NEW	**Newport**	**116.87 39**	*e*PKPdf	PKPdf	04 30 52.1	+0.1
NEW			*e*SKPdf	SKPdf	04 33 35.0	+1.9
HTL	**Hartland**	**116.96 324⇑**	*e*P	PKPdf	04 30 52.1	-0.1
HTL			AMS	AMS	04 45 27.3	
	comp=Z,495nm,18.2s					
HTL	**Hartland**	**116.96 324⇑**	*e*P	PKPdf	04 30 52.1	-0.1
HTL			AMS	AMS	04 45 27.3	
	comp=Z,495nm,18.2s					
SAO	**San Andreas Ge**	**117.00 52**	*e*PKPdf	PKPdf	04 30 54.4	+2.1
REYF	**Montagne du Re**	**117.03 315**	*e*P	PKPdf	04 30 51.7	-0.7
EDM	**Edmonton**	**117.08 33**	*e*PKIKP	PKPdf	04 30 52.0	-0.5
EDM			*e*		04 32 11.9	
EDM	**Edmonton**	**117.08 33**	*e*PKPdf	PKPdf	04 30 52.0	-0.5
EDM			*e*PP	PP	04 32 11.9	-1.0
EDM			*e*SKPdf	SKPdf	04 33 34.1	+0.7
DLF	**Lyons Farm**	**117.12 327⇓**	*i*P	PKPdf	04 30 52.0	-0.6
EBNR	**Beni Rached**	**117.23 307**	P	PKPdf	04 30 55.0	+2.2
ECHA	**Ech Chlef**	**117.39 307**	P	PKPdf	04 30 56.0	+2.9
LRV	**Little Rabbit**	**117.41 53**	*e*PKPdf	PKPdf	04 30 55.0	+1.8
LRV			*e*SKPdf	SKPdf	04 33 36.0	+1.9
DCN	**Croghan**	**117.50 328⇓**	*i*P	PKPdf	04 30 52.7	-0.6
CMB	**Columbia Colle**	**117.55 51**	*e*PKPdf	PKPdf	04 30 53.9	+0.5
CMB			*e*SKPdf	SKPdf	04 33 35.6	+1.3
ETRT	**Tiaret**	**117.59 306**	P	PKPdf	04 30 53.0	-0.5
EANR	**'Ain N'Sour**	**117.64 307**	P	PKPdf	04 30 54.0	+0.4
CRQ2	**Rosemanowes 2**	**117.69 324**	*e*P	PKPdf	04 30 53.4	-0.3
CRQ2	**Rosemanowes 2**	**117.69 324**	*e*P	PKPdf	04 30 53.4	-0.3
CCA1	**Carnmenellis**	**117.72 324⇑**	*e*P	PKPdf	04 30 53.5	-0.2
CCA1	**Carnmenellis**	**117.72 324⇑**	*e*P	PKPdf	04 30 53.5	-0.2
WVOR	**Wild Horse Val**	**117.72 46**	*e*PKPdf	PKPdf	04 30 54.4	+0.6
WVOR			*e*SKPdf	SKPdf	04 33 37.0	+2.4
CGW	**Gweek**	**117.75 324⇑**	*e*P	PKPdf	04 30 53.6	-0.2
CGW	**Gweek**	**117.75 324⇑**	*e*P	PKPdf	04 30 53.6	-0.2
BMO	**Blue Mountains**	**117.90 43**	*e*PKPdf	PKPdf	04 30 54.0	-0.1
BMO			*e*SKPdf	SKPdf	04 33 34.2	-0.7
PAHR	**Pah Rah Range**	**117.91 49**	*e*PKPdf	PKPdf	04 30 55.0	+0.9
PAHR			*e*SKPdf	SKPdf	04 33 37.2	+2.2
PTRM	**Twissleman Ran**	**118.20 53**	*e*PKPdf	PKPdf	04 30 56.8	+2.2
WALA	**Waterton Lakes**	**118.53 37**	*e*PKPdf	PKPdf	04 30 55.4	+0.1
WALA			*e*SKPdf	SKPdf	04 33 38.2	+2.0
CART	**Cartagena**	**118.92 309**	*e*PKPdf	PKPdf	04 30 56.5	+0.5
NVAR	**Mina Array Bea**	**119.05 50**	PKP	PKPdf	04 30 57.7	+1.4
	comp=Z,42nm,0.7s,baz=265,slow=2.1,SNR=44					
NVAR			SKP		04 33 40.2	
	comp=Z,15nm,0.9s,baz=256,slow=2.8,SNR=6.9					
NVAR			PKKPbc	PKKPbc	04 41 13.0	+0.9
	comp=Z,5.1nm,0.7s,baz=130,slow=4.7,SNR=3.9					
NVAR			SKKPbc		04 44 06.2	
	comp=Z,2.3nm,0.8s,baz=148,slow=2.9,SNR=4.5					
NVAR	**Mina Array Bea**	**119.05 50**	PKP	PKPdf	04 30 57.7	+1.4
NVAR			SKP		04 33 40.2	
NVAR			PKKPbc	PKKPbc	04 41 13.0	+0.9
NVAR			SKKPbc		04 44 06.2	
MTUM	**Tungsten Hills**	**119.11 51**	*e*PKPdf	PKPdf	04 30 57.9	+1.5
MTUM			*e*SKPdf	SKPdf	04 33 40.2	+2.9
TOA0	**Torodi Ar. Sit**	**119.24 281**	*e*PKPdf	PKPdf	04 30 56.9	+0.2
TORD	**Torodi Ar. Bea**	**119.24 281**	PKP	PKPdf	04 30 56.9	+0.3
	comp=Z,72nm,0.6s,baz=34,slow=2.4,SNR=83					
TORD			PP	PP	04 32 30.8	+3.1
	comp=Z,12nm,0.8s,baz=71,slow=6.6,SNR=4.0					
TORD			PKKPbc	PKKPbc	04 41 11.8	+0.4
	comp=Z,2.6nm,0.8s,baz=301,slow=3.6,SNR=15					
TORD	**Torodi Ar. Bea**	**119.24 281**	PKP	PKPdf	04 30 56.9	+0.3
TORD			PP	PP	04 32 30.8	+3.1
TORD			PKKPbc	PKKPbc	04 41 11.8	+0.4
BMN	**Battle Mountai**	**119.31 47**	*e*PKPdf	PKPdf	04 30 57.5	+0.8
MSO	**Missoula**	**119.40 40**	*e*PKPdf	PKPdf	04 30 56.8	-0.1
MSO			*e*PP	PP	04 32 26.8	-1.9
MSO			*e*SKPdf	SKPdf	04 33 38.1	+0.3
VAL	**Valentia**	**119.76 327**	*e*P	PKPdf	04 30 54.9	-2.7
CHMT	**Chamberlain Mo**	**119.80 39**	*e*PKPdf	PKPdf	04 30 57.6	-0.1
CHMT			*e*PP	PP	04 32 31.8	+0.4
CHMT			*e*SKPdf	SKPdf	04 33 39.1	+0.4
TPH	**Tonopah**	**119.96 50**	*e*PKPdf	PKPdf	04 30 59.3	+1.3
TPH			*e*PP	PP	04 32 32.9	+0.4
SFJD	**Kangerlussuaq**	**120.01 356**	*i* P	PKPdf	04 30 56.9	-1.2
	comp=Z,75nm,0.7s					
SFJD			*i*		04 32 36.2	
SFJD			*i*		04 35 30.3	
SFJD			*i*		04 45 22.3	
SFJD			*e*		04 48 16.4	
SFJD						
	comp=Z,460nm,21.0s					
SFJD	**Kangerlussuaq**	**120.01 356**	*i* PKIKP	PKPdf	04 30 56.9	-1.2
SFJD			*i*		04 32 36.2	
SFJD			*e*		04 48 16.4	
SFJD			pmax	pmax		
	comp=Z,75nm,0.7s					
SFJD			MLR	MLR		
	comp=Z,470nm,21.0s					
DAC	**Darwin (Calif)**	**120.13 52**	*e*PKPdf	PKPdf	04 30 59.3	+0.9
DAC			*e*PP	PP	04 32 33.8	+0.2
DAC			*e*SKPdf	SKPdf	04 33 42.5	+3.2
HLID	**Hailey**	**120.30 43**	*e*PKPdf	PKPdf	04 31 00.1	+1.4
HLID			*e*SKPdf	SKPdf	04 33 42.3	+2.7
ESDC	**Sonseca Array**	**120.59 312**	PKP	PKPdf	04 30 59.5	+0.3
	comp=Z,21nm,0.7s,baz=23,slow=2.9,SNR=28					
ESDC			PP	PP	04 32 37.9	+1.1
	comp=Z,8.7nm,0.8s,baz=65,slow=7.0,SNR=5.3					
ESDC			PKKPbc	PKKPbc	04 41 07.7	+1.2

	comp=Z,0.6nm,0.5s,baz=269,slow=3.3,SNR=7.1					
ESLA	**Sonseca Array**	**120.59 312**	*e*PKPdf	PKPdf	04 30 59.8	+0.6
ESLA			*e*PP	PP	04 32 34.8	-2.0
ELK	**Elko**	**120.66 47**	*e*PKPdf	PKPdf	04 31 00.0	+0.6
ELK			*e*PP	PP	04 32 38.2	+1.0
ELK			*e*SKPdf	SKPdf	04 33 42.7	+2.4
HRY	**Holter Researc**	**120.78 39**	*e*PKPdf	PKPdf	04 30 59.5	-0.1
DLMT	**Dillon**	**120.83 41**	*e*PKPdf	PKPdf	04 31 00.5	+0.8
MCMT	**McKenzie Canyo**	**120.88 41**	*e*PKPdf	PKPdf	04 31 00.8	+1.0
TRCR	**Troy Canyon**	**121.12 49**	*e*PKPdf	PKPdf	04 31 01.6	+1.3
TRCR			*e*SKPdf	SKPdf	04 33 45.8	+4.6
BOZ	**Bozeman (W)**	**121.34 40**	*e*PKPdf	PKPdf	04 31 01.3	+0.6
BOZ			*e*SKPdf	SKPdf	04 33 43.4	+1.8
EGMT	**Eagleton**	**121.47 37**	*e*PKPdf	PKPdf	04 31 01.0	+0.1
EGMT			*e*SKPdf	SKPdf	04 33 42.8	+1.0
PFO	**Pinyon Flat Ob**	**121.67 55**	*e*PKPdf	PKPdf	04 31 02.7	+1.4
PFO			*e*SKPdf	SKPdf	04 33 44.4	+2.2
QLMT	**Earthquake Lak**	**121.80 41**	*e*PKPdf	PKPdf	04 31 03.0	+1.4
QLMT			*e*PP	PP	04 32 45.5	+0.6
PBRG	**Braganca**	**121.89 315**	*e*PKPdf	PKPdf	04 31 01.9	+0.2
FFC	**Flin Flon**	**121.94 27**	*e*PKPdf	PKPdf	04 31 01.4	-0.4
FFC			*e*PP	PP	04 32 43.1	-2.7
FFC			*e*SKPdf	SKPdf	04 33 43.2	+0.4
HVU	**Hansel Valley**	**122.06 45**	*e*PKPdf	PKPdf	04 31 03.2	+1.1
HVU			*e*PP	PP	04 32 47.2	+0.6
HVU			*e*SKPdf	SKPdf	04 33 45.3	+2.4
YMR	**Madison River**	**122.17 41**	*e*PKPdf	PKPdf	04 31 03.6	+1.3
YMR			*e*SKPdf	SKPdf	04 33 45.2	+2.0
BGU	**Big Grassy Mou**	**122.18 46**	*e*PKPdf	PKPdf	04 31 03.4	+1.1
BGU			*e*SKPdf	SKPdf	04 33 45.2	+2.0
FCC	**Fort Churchill**	**122.31 20**	*e*PKPdf	PKPdf	04 31 01.4	-1.1
YNR	**Norris Junctio**	**122.34 41**	*e*PKPdf	PKPdf	04 31 04.7	+2.1
YNR			*e*PP	PP	04 32 47.6	-0.8
SPUT	**South Promonto**	**122.46 45**	*e*PKPdf	PKPdf	04 31 03.5	+0.6
SPUT			*e*PP	PP	04 32 49.9	+0.6
DCID1	**Drake Creek**	**122.46 42**	*e*PKPdf	PKPdf	04 31 04.1	+1.2
RRI2	**Red Ridge**	**122.47 43**	*e*PKPdf	PKPdf	04 31 03.6	+0.8
IMW	**Indian Meadow**	**122.50 42**	*e*PKPdf	PKPdf	04 31 04.1	+1.2
IMW			*e*PP	PP	04 32 49.8	+0.3
IMW			*e*PKKPbc	PKKPbc	04 41 02.3	+2.8
GCMT	**Greycliff**	**122.53 39**	*e*PKPdf	PKPdf	04 31 03.7	+0.8
GCMT			*e*PP	PP	04 32 48.6	-1.1
GCMT			*e*SKPdf	SKPdf	04 33 46.0	+2.1
LKWY	**Lake**	**122.58 41**	PKIKP	PKPdf	04 31 07.5	+4.4
LKWY	**Lake**	**122.58 41**	*e*PKPdf	PKPdf	04 31 06.9	+3.9
FLWY	**Flagg Ranch**	**122.58 42**	*e*PKPdf	PKPdf	04 31 04.0	+0.9
FLWY			*e*PP	PP	04 32 50.2	+0.2
DUG	**Dugway**	**122.59 47**	*e*PKPdf	PKPdf	04 31 04.1	+1.0
DUG			*e*PP	PP	04 32 48.0	-2.1
DUG			*e*PKKPbc	PKKPbc	04 41 01.4	+2.2
TPAW	**Teton Pass**	**122.66 42**	*e*PKPdf	PKPdf	04 31 04.5	+1.3
TPAW			*e*PKKPbc	PKKPbc	04 41 01.3	+2.4
PVRL	**Vila Real**	**122.76 315**	*e*PKPdf	PKPdf	04 31 04.1	+0.7
PVRL	**Vila Real**	**122.76 315**	*e*PP	PP	04 32 50.2	-1.1
REDW	**Red Top Meadow**	**122.78 42**	*e*PKPdf	PKPdf	04 31 04.8	+1.3
REDW			*e*SKPdf	SKPdf	04 33 46.0	+1.7
SNOW	**Snow King Moun**	**122.80 42**	*e*PKPdf	PKPdf	04 31 05.0	+1.5
SNOW			*e*SKPdf	SKPdf	04 33 45.9	+1.6
PCAB	**Cabril**	**122.82 316**	*e*PKPdf	PKPdf	04 31 03.9	+0.4
PCAB	**Cabril**	**122.82 316**	*e*PP	PP	04 32 50.3	-1.3
LOHW	**Long Hollow**	**122.84 42**	*e*PKPdf	PKPdf	04 31 04.6	+1.0
LOHW			*e*PKKPbc	PKKPbc	04 41 00.1	+1.9
AHID	**Auburn Hatcher**	**122.84 43**	*e*PKPdf	PKPdf	04 31 04.5	+1.0
AHID			*e*PP	PP	04 32 50.0	-1.8
ARUT	**Antelope Range**	**122.91 49**	*e*PKPdf	PKPdf	04 31 05.3	+1.6
ARUT			*e*PP	PP	04 32 53.6	+1.4
NOQ	**North Oquirrh**	**122.92 46**	*e*PKPdf	PKPdf	04 31 04.7	+1.0
MDT	**Midelt**	**122.94 304**	PKKPbc	PKKPbc	04 41 01.1	+3.3
	comp=Z,4.9nm,0.8s,baz=283,slow=4.8,SNR=8.4					
MTE	**Manteigas**	**122.95 314**	*e*PKPdf	PKPdf	04 31 03.3	-0.5
MTE	**Manteigas**	**122.95 314**	*e*PP	PP	04 32 48.1	-4.4
MTE	**Manteigas**	**122.95 314**	*e*PKPdf	PKPdf	04 31 04.5	+0.8
MTE			*e*PP	PP	04 32 49.8	-2.8
HWUT	**Hardware Ranch**	**122.97 45**	*e*PKPdf	PKPdf	04 31 04.3	+0.5
HWUT			*e*PP	PP	04 32 50.9	-1.7
HWUT			*e*SKPdf	SKPdf	04 33 44.6	-0.1
HWUT			*e*PKKPbc	PKKPbc	04 40 59.2	+1.5
CCUT	**Cedar City**	**123.04 50**	*e*PKPdf	PKPdf	04 31 05.6	+1.6
PVIS	**Viseu**	**123.09 314**	*e*PKPdf	PKPdf	04 31 04.6	+0.6
PVIS	**Viseu**	**123.09 314**	*e*PP	PP	04 32 50.1	-3.3
PCBR	**Castelo Branco**	**123.10 313**	*e*PKPdf	PKPdf	04 31 04.4	+0.3
PCBR	**Castelo Branco**	**123.10 313**	*e*PP	PP	04 32 50.0	-3.5
CTU	**Camp Tracy**	**123.17 46**	*e*PKPdf	PKPdf	04 31 05.1	+0.9
CTU			*e*PP	PP	04 32 52.9	-1.1
NLU	**North Lily Min**	**123.20 47**	*e*PKPdf	PKPdf	04 31 05.4	+1.2
NLU			*e*PP	PP	04 32 54.0	-0.2
TCUT	**Toone Canyon**	**123.26 45**	*e*PKPdf	PKPdf	04 31 05.4	+1.1
TCUT			*e*PP	PP	04 32 54.2	-0.3
PTO	**Porto**	**123.44 315**	*e*PKPdf	PKPdf	04 31 04.6	-0.1
MPU	**Maple Canyon**	**123.50 46**	*e*PKPdf	PKPdf	04 31 05.5	+0.7
MPU			*e*PP	PP	04 32 56.7	+0.6
PESTR	**Estremoz**	**123.52 312**	*e*PKPdf	PKPdf	04 31 04.9	0.0
PESTR	**Estremoz**	**123.52 312**	*e*PP	PP	04 32 50.2	-6.1
MSU	**Marysvale**	**123.62 48**	*e*PKPdf	PKPdf	04 31 06.5	+1.5
MSU			*e*SKPdf	SKPdf	04 33 48.7	+2.8
PTOM	**Tomar**	**123.85 313**	*e*PKPdf	PKPdf	04 31 06.6	+1.1
PTOM	**Tomar**	**123.85 313**	*e*PP	PP	04 32 58.0	-0.5
BW06	**Boulder Array**	**123.88 43**	*e*PKPdf	PKPdf	04 31 06.2	+0.6
BW06			*e*PP	PP	04 32 58.7	+0.1
PDAR	**Pinedale Array**	**123.88 43**	PKP	PKPdf	04 31 04.6	-1.0
	comp=Z,23nm,0.8s,baz=174,slow=1.5,SNR=30					
PDAR			PKKPbc	PKKPbc	04 40 54.6	+0.4
	comp=Z,3.2nm,0.5s,baz=115,slow=6.3,SNR=30					
PDAR			SKKPbc		04 43 49.0	
	comp=Z,2.7nm,0.8s,baz=112,slow=5.1,SNR=5.9					
EVO	**Evora**	**123.94 312**	*e*PKIKP	PKPdf	04 31 08.3	+2.6
	comp=Z,261nm,1.3s					
EVO			*e*R			
	comp=Z,1µm,21.0s					
PBEJ	**Beja**	**124.00 311**	*e*PKPdf	PKPdf	04 31 06.2	+0.4
PBEJ	**Beja**	**124.00 311**	*e*PP	PP	04 32 58.6	-0.9
TMUT	**Trail Mountain**	**124.06 47**	*e*PKPdf	PKPdf	04 31 07.4	+1.5
LAO	**LASA Array**	**124.22 37**	*e*PKPdf	PKPdf	04 31 07.2	+1.0
LAO			*e*SKPdf	SKPdf	04 33 48.4	+1.3
DGMT	**Dagmar**	**124.47 34**	*e*PKPdf	PKPdf	04 31 06.8	+0.2
SRU	**San Rafael**	**124.62 47**	*e*PKPdf	PKPdf	04 31 07.8	+0.8
PLOU	**Loures**	**124.65 313**	*e*PKPdf	PKPdf	04 31 07.8	+0.8
PMAFR	**Mafra**	**124.72 313**	*e*PKPdf	PKPdf	04 31 08.0	+0.8
PTEO	**Sao Teotonio**	**124.80 311**	*e*PKPdf	PKPdf	04 31 07.8	+0.5
PTEO	**Sao Teotonio**	**124.80 311**	*e*PP	PP	04 33 03.5	-1.2
WUAZ	**Wupatki**	**125.19 51**	*e*PKPdf	PKPdf	04 31 09.5	+1.4
WUAZ			*e*PP	PP	04 33 06.1	-1.2
WUAZ			*e*SKPdf	SKPdf	04 33 51.4	+2.4
DBIC	**Dimbokro**	**125.42 273**	PKP	PKPdf	04 31 09.5	+1.0
	comp=Z,88nm,0.8s,baz=90,slow=2.1,SNR=31					
DBIC	**Dimbokro**	**125.42 273**	PKIKP	PKPdf	04 31 09.5	+1.0
DBIC			pmax	pmax		
	comp=Z,88nm,0.8s					
DBIC	**Dimbokro**	**125.42 273**	*e*PKPdf	PKPdf	04 31 09.2	+0.7
LIC	**Lamto**	**125.55 272⇑**	*i*PKIKP	PKPdf	04 31 09.7	+0.9
	comp=Z,181nm,0.7s					
LIC			*e*R			
	comp=Z,456nm,21.8s					
LIC	**Lamto**	**125.55 272⇑**	*i*PKPdf	PKPdf	04 31 09.7	+0.9
LIC			LR	LR		
	comp=Z,230nm,21.8s					
RWWY	**Rawlins**	**125.92 43**	*e*PKPdf	PKPdf	04 31 10.5	+1.0
RWWY			*e*SKPdf	SKPdf	04 33 52.4	+2.2
PV10	**Paradox Valley**	**125.97 47**	*e*PKPdf	PKPdf	04 31 11.0	+1.5
PV01	**Paradox Valley**	**126.40 47**	*e*PKPdf	PKPdf	04 31 11.6	+1.2
PV01			*e*SKPdf	SKPdf	04 33 53.4	+2.2
TUC	**Tucson**	**126.61 55**	*e*PKPdf	PKPdf	04 31 12.3	+1.5
RSSD	**Black Hills**	**126.84 39**	PKPdf	PKPdf	04 31 11.1	-0.2
RSSD	**Black Hills**	**126.84 39**	*e*PKPdf	PKPdf	04 31 12.1	+0.8
SMCO	**Snowmass**	**127.14 46**	*e*PKPdf	PKPdf	04 31 13.2	+1.4
SMCO			*e*		04 33 37.7	
PHWY	**Pilot Hill**	**127.27 43**	*e*PKPdf	PKPdf	04 31 12.8	+0.8
PHWY			*e*		04 33 37.3	
ULM	**Lac du Bonnet**	**127.69 28**	PKP	PKPdf	04 31 12.6	-0.2
	comp=Z,54nm,0.7s,baz=307,slow=2.6,SNR=14					
ULM			PP	PP	04 33 25.0	+1.5
	comp=Z,11nm,0.8s,baz=319,slow=3.9,SNR=3.9					
ULM			SKPbc		04 33 38.3	
	comp=Z,29nm,0.8s,baz=315,slow=4.2,SNR=7.9					
ULM	**Lac du Bonnet**	**127.69 28**	*e*PKPdf	PKPdf	04 31 12.5	-0.3
ULM			*e*		04 33 25.2	
ISCO	**Idaho Springs**	**127.83 44**	*e*PKPdf	PKPdf	04 31 14.6	+1.5
ISCO			*e*		04 33 40.1	
SDCO	**Great Sand Dun**	**128.79 47**	*e*PKPdf	PKPdf	04 31 16.0	+1.1
LAZ	**Ladron**	**128.84 51**	*e*PKPdf	PKPdf	04 31 17.7	+2.7
LENM	**Lemitar**	**129.05 51**	*e*PKPdf	PKPdf	04 31 15.9	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LENM				*e*		04 33 31.8	
ANMO	**Albuquerque**	**129.17**	**50**	*e*PKPdf	PKPdf	04 31 17.1	+1.4
LPM	**Los Pinos Moun**	**129.27**	**51**	*e*PKPdf	PKPdf	04 31 18.0	+2.2
LPM				*e*SKPab		04 33 45.8	
PLCA	**Paso Flores**	**131.25**	**169**	PKhKP		04 31 06.5	
	comp=Z,1.1nm,0.8s,baz=252,slow=4.0,SNR=3.4						
PLCA				PKP	PKPdf	04 31 21.0	+1.4
	comp=Z,20nm,0.8s,baz=313,slow=2.1,SNR=24						
PLCA				SKPbc	SKPbc	04 33 52.6	+1.6
	comp=Z,35nm,0.9s,baz=209,slow=2.0,SNR=4.6						
PLCA				PKKP		04 41 19.4	
	comp=Z,1.8nm,0.7s,baz=33,slow=6.8,SNR=3.5						
PLCA				SKKPbc		04 43 23.8	
	comp=Z,2.7nm,0.7s,baz=75,slow=5.2,SNR=5.0						
PLCA	**Paso Flores**	**131.25**	**169**	PKP		04 31 06.5	
PLCA				*e*PKPdf	PKPdf	04 31 20.7	+1.1
PLCA				*e*SKPbc	SKPbc	04 33 53.5	+2.5
EYMN	**Ely**	**131.36**	**28**	*e*PKPdf	PKPdf	04 31 19.8	0.0
ECSD	**EROS,Sioux Fal**	**131.50**	**35**	*e*PKPdf	PKPdf	04 31 19.9	-0.2
ECSD				*e*SKPbc	SKPbc	04 33 52.6	+0.7
SCHQ	**Schefferville**	**132.22**	**5**	PKhKP		04 31 08.3	
	comp=Z,7.2nm,0.8s,baz=62,slow=6.5,SNR=7.0						
SCHQ				PKP	PKPdf	04 31 22.1	+0.7
	comp=Z,65nm,0.7s,baz=29,slow=3.4,SNR=25						
SCHQ				PP	PP	04 33 52.4	-0.1
	comp=Z,113nm,0.9s,baz=33,slow=4.5,SNR=14						
SCHQ				PKKP		04 41 15.8	
	comp=Z,3.0nm,0.6s,baz=69,slow=9.9,SNR=7.3						
SCHQ	**Schefferville**	**132.22**	**5**	PKP		04 31 08.3	
SCHQ				*e*PKPdf	PKPdf	04 31 22.5	+1.1
SCHQ				*e*PP	PP	04 33 50.9	-1.6
SCHQ				*e*SKPdf	SKPdf	04 33 55.6	-6.5
KSU1	**Kansas State U**	**134.22**	**40**	*e*PKPpre		04 31 15.8	
KSU1				*e*PKPdf	PKPdf	04 31 25.7	+0.5
KSU1				*e*SKPbc	SKPbc	04 34 01.9	+0.9
SCIA	**State Center**	**134.60**	**35**	*e*PKPpre		04 31 14.8	
SCIA				*e*SKPbc	SKPbc	04 34 02.9	+0.7
TRQA	**Tornquist**	**134.88**	**178**	*e*PKPpre		04 31 17.7	
TRQA				*e*PKPdf	PKPdf	04 31 26.9	+0.5
TRQA				*e*SKPbc	SKPbc	04 34 03.8	+0.8
CCHI	**Chillan**	**134.90**	**166**	*i* P	SKPbc	04 34 06.0	+3.0
WMOK	**Wichita Mounta**	**134.98**	**47**	*e*PKPpre		04 31 19.0	
WMOK				*e*PKPdf	PKPdf	04 31 27.5	+0.9
WMOK				*e*SKPbc	SKPbc	04 34 04.9	+1.6
JFWS	**Jewell Farm**	**135.55**	**32**	*e*PKPpre		04 31 17.9	
JFWS				*e*PKPdf	PKPdf	04 31 28.2	+0.5
JFWS				*e*SKPbc	SKPbc	04 34 05.2	+0.1
JCT	**Junction City**	**136.06**	**53**	*e*PKPpre		04 31 22.4	
JCT				*e*PKPdf	PKPdf	04 31 29.8	+1.2
JCT				*e*SKPbc	SKPbc	04 34 07.9	+1.3
ZAIG	**Zacatecas**	**136.16**	**65**	*i* P	PKPdf	04 31 23.9	-4.8
ROSA	**Rosais**	**137.64**	**322**	*e*-	PKiKP	04 31 36.8	+3.2
PICO	**Pico**	**137.89**	**322**	*e*-	PKiKP	04 31 42.9	+8.8
LMEL	**Las Melosas**	**137.97**	**167**	⇓*i*P	SKPbc	04 34 13.1	+0.9
MOIG	**Morelia**	**138.09**	**69**	*e*P	PKPdf	04 31 36.8	+4.4
FCH	**Farellones**	**138.45**	**167**	⇓*i*P	SKPbc	04 34 14.6	+1.1
SLM	**Saint Louis**	**138.45**	**37**	*e*PKPpre		04 31 24.4	
SLM				*e*SKPdf	SKPdf	04 34 13.7	+0.3
PEL	**Peldehue**	**138.53**	**166**	*e*P	SKPbc	04 34 14.4	+0.7
KVTX	**Kingsville**	**138.73**	**56**	*e*PKPpre		04 31 29.5	
KVTX				*e*PKPdf	PKPdf	04 31 35.1	+1.6
KVTX				*e*SKP		04 34 17.2	
FVM	**French Village**	**138.76**	**38**	*e*PKPpre		04 31 25.2	
FVM				*e*PKPdf	PKPdf	04 31 33.6	+0.1
FVM				*e*SKPdf	SKPdf	04 34 14.1	+0.3
MDZ	**Mendoza**	**139.19**	**168**	*e*P		04 31 22.9	
AAM	**Ann Arbor**	**139.25**	**27**	*e*PKPpre		04 31 26.9	
AAM				*e*SKPdf	SKPdf	04 34 16.4	+1.7
HKT	**Hockley**	**139.40**	**52**	*e*PKPpre		04 31 30.1	
HKT				*e*SKP		04 34 18.2	
CAIG	**El Cayaco**	**139.41**	**72**	*i* P	PKPdf	04 31 39.7	+5.0
NATX	**Nacogdoches**	**139.44**	**48**	*e*PKPpre		04 31 30.2	
UALR	**University of**	**139.48**	**43**	*e*PKPpre		04 31 29.3	
UALR				*e*PKPdf	PKPdf	04 31 35.8	+0.9
UALR				*e*SKP		04 34 16.8	
PLIG	**Platanillo**	**139.90**	**70**	*i* P	PKPdf	04 31 34.5	-1.1
PARMO	**Parma**	**140.02**	**39**	*e*PKPpre		04 31 29.6	
PARMO				*e*SKPdf	SKPdf	04 34 18.0	+1.9
HBAR	**Harrisburg**	**140.14**	**41**	*e*PKPpre		04 31 29.8	
HBAR				*e*SKP		04 34 19.2	
BLO	**Bloomington**	**140.19**	**33**	*e*PKPpre		04 31 30.0	
BLO				*e*PKPdf	PKPdf	04 31 36.0	-0.1
BLO				*e*SKPdf	SKPdf	04 34 17.9	+1.6
MSNY	**Massena**	**140.20**	**17**	*e*PKPpre		04 31 29.6	
MSNY				*e*SKP		04 34 18.9	
USIN	**University of**	**140.40**	**35**	*e*PKPpre		04 31 30.7	
USIN				*e*PKPdf	PKPdf	04 31 35.6	-0.9
USIN				*e*SKPbc	SKPbc	04 34 20.0	+1.3
CFAA	**Coronel Fontan**	**140.55**	**169**	PKhKP		04 31 33.2	
	comp=Z,2.4nm,0.5s,baz=196,slow=3.7,SNR=53						
CFAA				PKP	PKPdf	04 31 38.9	+2.1
	comp=Z,5.4nm,0.5s,baz=186,slow=3.0,SNR=20						
CFAA				SKPbc	SKPbc	04 34 19.7	+0.6
	comp=Z,10nm,0.6s,baz=206,slow=2.6,SNR=27						
CFAA	**Coronel Fontan**	**140.55**	**169**	PKP	PKPdf	04 31 33.2	-3.6
CFAA				PKP	PKPdf	04 31 38.9	+2.1
CFAA				SKPbc	SKPbc	04 34 19.7	+0.6
GLAT	**Glass**	**140.56**	**39**	*e*PKPpre		04 31 30.5	
GLAT				*e*PKPdf	PKPdf	04 31 35.1	-1.7
GLAT				*e*SKPbc	SKPbc	04 34 20.4	+1.3
PPM	**Popocatepetl**	**140.58**	**69**	*i* P	PKPdf	04 31 33.7	-3.1
LONY	**Lake Ozonia**	**140.63**	**17**	*e*PKPpre		04 31 30.0	
LONY				*e*PKPdf	PKPdf	04 31 37.0	+0.1
LONY				*e*SKPbc	SKPbc	04 34 20.5	+1.2
FRNY	**Flat Rock**	**140.70**	**15**	*e*PKPpre		04 31 30.6	
FRNY				*e*SKPdf	SKPdf	04 34 19.1	+1.9
HALT	**Halls**	**140.75**	**39**	*e*PKPpre		04 31 30.2	
HALT				*e*PKPdf	PKPdf	04 31 35.4	-1.8
HALT				*e*SKPdf	SKPdf	04 34 19.0	+1.7
UTMT	**University of**	**140.77**	**38**	*e*PKPpre		04 31 32.5	
UTMT				*e*SKPdf	SKPdf	04 34 17.9	+0.5
MET	**Memphis--Engin**	**140.87**	**41**	*e*PKPdf	PKPdf	04 31 35.9	-1.4
ERPA	**Erie**	**140.98**	**24**	*e*PKPpre		04 31 32.2	
ERPA				*e*PKPdf	PKPdf	04 31 37.0	-0.5
ERPA				*e*SKPbc	SKPbc	04 34 20.7	+0.5
WCI	**Wyandotte Cave**	**140.99**	**34**	PKPdf	PKPdf	04 31 31.8	-5.8
WCI				SKPdf	SKPdf	04 34 20.1	+2.3
WCI	**Wyandotte Cave**	**140.99**	**34**	*e*PKPpre		04 31 31.6	
WCI				*e*PKPdf	PKPdf	04 31 36.1	-1.4
WCI				*e*SKP		04 34 19.8	
ACSO	**Alum Creek Sta**	**141.19**	**29**	*e*PKPpre		04 31 32.4	
ACSO				*e*SKPbc	SKPbc	04 34 21.3	+0.6
PKME	**Peaks-Kenny Pk**	**141.26**	**11**	*e*PKPpre		04 31 33.5	
PKME				*e*SKPbc	SKPbc	04 34 21.5	+0.6
ALLY	**Alegheny Colle**	**141.31**	**25**	*e*PKPpre		04 31 34.0	
NCB	**Newcomb**	**141.33**	**17**	*e*PKPpre		04 31 32.9	
NCB				*e*PKPdf	PKPdf	04 31 37.2	-1.0
NCB				*e*SKPbc	SKPbc	04 34 22.2	+1.1
WVT	**Waverly**	**141.54**	**38**	*e*PKPpre		04 31 34.5	
WVT				*e*PKPdf	PKPdf	04 31 38.1	-0.4
WVT				*e*SKPbc	SKPbc	04 34 22.4	+0.8
LBNH	**Lisbon**	**141.68**	**14**	*e*PKHKP		04 31 34.6	
LBNH				*e*		04 31 39.1	
LBNH	**Lisbon**	**141.68**	**14**	*e*PKPpre		04 31 34.6	
LBNH				*e*PKPdf	PKPdf	04 31 39.1	+0.3
LBNH				*e*SKPbc	SKPbc	04 34 22.3	+0.3
ACCN	**Adirondack Com**	**142.02**	**16**	*e*PKPpre		04 31 35.8	
ACCN				*e*SKPdf	SKPdf	04 34 20.5	+1.0
ACCN				*e*SKPbc	SKPbc	04 34 23.8	+1.0
HNH	**Hanover**	**142.09**	**15**	*e*PKPpre		04 31 36.4	
HNH				*e*PKPdf	PKPdf	04 31 39.7	+0.1
HNH				*e*SKPbc	SKPbc	04 34 24.2	+1.2
PLAL	**Pickwick Lake**	**142.14**	**39**	*e*PKPpre		04 31 35.5	
PLAL				*e*PKPdf	PKPdf	04 31 39.2	-0.4
PLAL				*e*SKPdf	SKPdf	04 34 21.2	+1.5
PLAL				*e*SKPbc	SKPbc	04 34 23.5	+0.5
BINY	**Binghamton**	**142.39**	**20**	*e*PKPpre		04 31 37.0	
BINY				*e*PKPdf	PKPdf	04 31 40.8	+0.8
BINY				*e*SKPbc	SKPbc	04 34 24.6	+0.9
LVIG	**Laguna Verde**	**142.46**	**67**	*i* P	PKPdf	04 31 38.6	-1.6
LCO	**Las Campanas**	**142.47**	**164**	⇓*i*P	SKPbc	04 34 24.5	+0.6
FFD	**Franklin Falls**	**142.47**	**14**	*e*PKPdf	PKPdf	04 31 37.8	-2.4
FFD				*e*SKPdf	SKPdf	04 34 21.2	+1.0
FFD				*e*SKPbc	SKPbc	04 34 24.3	+0.4
VHO	**Vista Hermosa**	**142.73**	**71**	*i* P	PKPdf	04 31 40.4	-0.2
OXX	**Oaxaca**	**142.74**	**71**	*i* P	PKPdf	04 31 41.0	+0.3
SSPA	**Standing Stone**	**143.07**	**23**	*e*PKPdf	PKPdf	04 31 39.5	-1.8
SSPA				*e*SKPdf	SKPdf	04 34 22.2	+1.0
SSPA				*e*SKPbc	SKPbc	04 34 26.6	+1.3
MCWV	**Mont Chateau**	**143.08**	**26**	*e*PKPdf	PKPdf	04 31 39.9	-1.4
MCWV				*e*SKPbc	SKPbc	04 34 27.1	+1.7
SWET	**Sewanee**	**143.30**	**37**	*e*PKPdf	PKPdf	04 31 39.7	-2.0
SWET				*e*SKPbc	SKPbc	04 34 26.4	+0.5
HRV	**Harvard--Oak R**	**143.40**	**15**	*e*PKPdf	PKPdf	04 31 40.8	-1.0
HRV				*e*SKPbc	SKPbc	04 34 25.4	-0.7
QUA2	**Belchertown**	**143.41**	**16**	*e*PKPdf	PKPdf	04 31 40.9	-1.0
QUA2				*e*SKPbc	SKPbc	04 34 26.6	+0.5
HUIG	**Huatulco**	**143.55**	**73**	*e*P	PKPdf	04 31 43.4	+1.3
WES	**Weston**	**143.57**	**14**	*e*PKPdf	PKPdf	04 31 41.3	-0.8
WES				*e*SKPbc	SKPbc	04 34 26.6	+0.1
TZTN	**Tazewell**	**143.71**	**33**	*e*PKPdf	PKPdf	04 31 41.9	-0.5
TZTN				*e*SKPbc	SKPbc	04 34 28.1	+1.3
LRAL	**Lakeview Retre**	**144.07**	**41**	*e*PKPdf	PKPdf	04 31 43.1	+0.1
LRAL				*e*SKPbc	SKPbc	04 34 28.7	+1.0
PAL	**Palisades**	**144.13**	**18**	*e*PKPdf	PKPdf	04 31 43.2	+0.1
PAL				*e*SKPbc	SKPbc	04 34 28.9	+1.0
MVL	**Millersville**	**144.20**	**22**	*e*PKPdf	PKPdf	04 31 43.2	0.0
MVL				*e*SKPbc	SKPbc	04 34 28.4	+0.4
BRNJ	**Basking Ridge**	**144.22**	**19**	*e*PKPdf	PKPdf	04 31 43.6	+0.4
CPNY	**Central Park**	**144.31**	**18**	*e*PKPdf	PKPdf	04 31 43.8	+0.4
CPNY				*e*SKPbc	SKPbc	04 34 29.8	+1.5
FWV	**Forest Hill**	**144.32**	**29**	*e*PKPdf	PKPdf	04 31 43.4	-0.1
FWV				*e*SKPbc	SKPbc	04 34 29.6	+1.3
CMIG	**Matias Romero**	**144.47**	**71**	*i* P	PKPdf	04 31 45.5	+1.8
ELN	**Prospectdale**	**144.63**	**29**	*e*PKPdf	PKPdf	04 31 44.0	0.0
ELN				*e*SKPbc	SKPbc	04 34 29.4	+0.4
BLA	**Blacksburg**	**144.80**	**29**	*e*PKPdf	PKPdf	04 31 44.7	+0.4
BLA				*e*SKPbc	SKPbc	04 34 29.3	-0.1
CBN	**Corbin**	**145.35**	**25**	*e*PKPbc	PKPbc	04 31 45.9	-0.6
CBN				*e*SKPbc	SKPbc	04 34 32.2	+1.6
CAM4	**Nova Friburgo**	**146.04**	**210**	*e*P	PKPdf	04 31 48.2	+1.8
CAM4				*i*		04 31 52.3	
CAM4				*i*		04 32 01.3	
CAM4				*i*		04 32 08.5	
CAM4				*i*		04 34 02.4	
CAM4				*i*		04 34 02.5	
CAM4				*i*		04 34 05.8	
CAM3	**Guarapari**	**146.31**	**214**	⇑*i*P	PKPbc	04 31 50.7	+1.5
CAM3				*i*		04 31 52.2	
CAM3				*i*		04 31 57.1	
CAM3				*i*		04 34 06.7	
CAM3				*i*		04 34 08.1	
CPUP	**Villa Florida**	**146.53**	**184**	PKPbc	PKPbc	04 31 48.0	-1.7
	comp=Z,23nm,0.5s,baz=144,slow=0.8,SNR=55						
CPUP				pPKPbc		04 34 01.6	
	comp=Z,51nm,0.9s,baz=154,slow=3.0,SNR=6.0						
CPUP	**Villa Florida**	**146.53**	**184**	*e*PKPdf	PKPdf	04 31 48.0	+0.8
CPUP				*e*PKPbc	PKPbc	04 31 50.4	+0.7
CPUP				*e*pPKPdf	pPKPdf	04 34 00.4	-1.4
JSC	**Jenkinsville**	**146.64**	**33**	*e*PKPbc	PKPbc	04 31 50.1	+0.1
JSC				*e*SKPbc	SKPbc	04 34 34.5	+0.9
COW	**Cow Castle Cre**	**147.62**	**34**	*e*PKPbc	PKPbc	04 31 52.2	-0.4
DWPF	**Disney**	**150.91**	**42**	*e*PKPdf	PKPdf	04 31 55.2	+1.1
DWPF				*e*PKPbc	PKPbc	04 32 01.5	+0.9
RCBR	**Riachuelo**	**152.78**	**242**	*e*PKPdf	PKPdf	04 31 58.2	+1.2
RCBR				*e*PKPbc	PKPbc	04 32 06.1	+1.4
RCBR				*e*PKPab	PKPab	04 32 19.9	+1.3
ARE	**Arequipa**	**153.78**	**154**	*e*PKIKP	PKPbc	04 32 04.0	-2.8
BAO	**Brasilia Array**	**154.40**	**207**	PKPdf	PKPdf	04 31 50.0	-9.2
BDFB	**Brasilia**	**154.40**	**207**	PKP	PKPdf	04 32 00.8	+1.6
	comp=Z,53nm,0.8s,baz=192,slow=3.9,SNR=33						
BDFB				PKPbc	PKPbc	04 32 09.6	+1.5
	comp=Z,25nm,0.8s,baz=189,slow=6.8,SNR=9.1						
NNA	**Nana**	**154.50**	**138**	PKP	PKPdf	04 32 02.2	+2.9
	comp=Z,48nm,1.0s,baz=317,slow=1.7,SNR=11						
NNA				PKPbc	PKPbc	04 32 10.4	+2.1
	comp=Z,50nm,0.8s,baz=252,slow=7.4,SNR=10						
NNA	**Nana**	**154.50**	**138**	*e*PKPdf	PKPdf	04 32 01.8	+2.4
NNA				*e*PKPbc	PKPbc	04 32 10.6	+2.3
BBSR	**BB Station**	**154.61**	**10**	*e*PKPdf	PKPdf	04 32 01.1	+1.6
BBSR				*e*PKPbc	PKPdf	04 32 10.0	+11
BBSR				*e*PKPab	PKPab	04 32 28.1	+1.7
BBSR				*e*PP	PP	04 36 04.0	-0.7
JTS	**JuntasAbangare**	**155.03**	**81**	*e*PKIKP	PKPdf	04 31 59.8	-0.3
JTS				*e*		04 32 29.7	
LPAZ	**La Paz**	**155.23**	**161**	PKP	PKPdf	04 32 02.9	+2.6
	comp=Z,27nm,0.9s,baz=146,slow=1.1,SNR=29						
LPAZ				PKPab	PKPab	04 32 31.4	+2.4
	comp=Z,37nm,0.6s,baz=67,slow=2.9,SNR=17						
LPAZ	**La Paz**	**155.23**	**161**	*e*PKIKP	PKPdf	04 32 02.6	+2.3
LPAZ				*e*		04 32 31.4	
LPAZ	**La Paz**	**155.23**	**161**	*e*PKPdf	PKPdf	04 32 02.6	+2.3
LPAZ				*e*PKPab	PKPab	04 32 31.4	+2.3
LPAZ				*e*SKPdf	SKPdf	04 34 37.6	-1.1
ATAH	**Atahualpa**	**156.72**	**127**	PKP	PKPdf	04 32 04.5	+2.2
	comp=Z,42nm,0.9s,baz=256,slow=1.5,SNR=1.4						
SIV	**San Ignacio**	**156.88**	**177**	PKP	PKPdf	04 32 04.0	+1.5
	comp=Z,21nm,0.9s,baz=197,slow=1.7,SNR=50						
SIV				PKPab	PKPab	04 32 37.4	+1.2
	comp=Z,16nm,0.5s,baz=201,slow=5.0,SNR=11						
SAML	**Samuel**	**163.57**	**168**	*e*PKPdf	PKPdf	04 32 11.0	+1.3
SAML				*e*PKPab	PKPab	04 33 06.4	+0.9
SAML				*e*sPKPdf		04 35 15.1	
SDDR	**Presa de Saban**	**163.90**	**42**	*e*PKPdf	PKPdf	04 32 11.2	+1.2
SDDR				*e*PKPab	PKPab	04 33 07.4	+0.4
ROSC	**El Rosal**	**165.43**	**99**	PKP	PKPdf	04 32 13.0	+1.7
	comp=Z,32nm,0.8s,baz=87,slow=8.6,SNR=18						
ROSC	**El Rosal**	**165.43**	**99**	*e*PKPdf	PKPdf	04 32 13.0	+1.7
ROSC				*e*PKPab	PKPab	04 33 14.8	+1.1
SJG	**San Juan**	**167.59**	**29**	PKPab	PKPab	04 33 23.4	+0.1
	baz=310,slow=2.0						
SJG	**San Juan**	**167.59**	**29**	*e*PKIKP	PKPdf	04 32 14.2	+1.2
SJG				*e*		04 33 23.4	
CPD	**Cerro la Pandu**	**167.77**	**28**	*e*PKIKP	PKPdf	04 32 14.0	+0.9
CPD				*e*		04 33 24.6	
MTP	**Monte Pirata**	**167.88**	**27**	*e*PKPdf	PKPdf	04 32 14.2	+1.1
MTP				*e*PKPab	PKPab	04 33 25.1	+0.5
SDV	**Santo Domingo**	**169.22**	**81**	PKP	PKPdf	04 32 13.9	-0.1
	comp=Z,62nm,1.0s,baz=61,slow=0.2						
SDV				PKPab	PKPab	04 33 32.5	+2.0
	comp=Z,76nm,0.8s,baz=300,slow=2.8,SNR=12						
SDV	**Santo Domingo**	**169.22**	**81**	*e*PKPdf	PKPdf	04 32 13.7	-0.3
SDV				*e*PKPab	PKPab	04 33 32.4	+1.9
SEG	**Port Louis**	**170.76**	**10**	*e*P	PKPdf	04 32 14.6	-0.2
DEG	**La Desirade**	**170.92**	**7**	⇓*e*P	PKPdf	04 32 15.0	+0.1
TBG	**Guadaloupe-3**	**171.28**	**11**	*e*P	PKPdf	04 32 16.0	+0.9
FDF	**Fort de France**	**172.46**	**9**	*e*P	PKPdf	04 32 17.9	+2.2
PCRV	**Puerto La Cruz**	**174.47**	**58**	PKP	PKPdf	04 32 15.5	-0.9
	comp=Z,24nm,0.9s,baz=357,slow=2.7						

---

*IDC **09** 04:29:45.1±0.9, 3479N×7297E, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.1/27, mbtmp4.2/14, ML4.4/3, MS4.6/2, Ms1 4.6/2, ms1mx3.7/36, Error ellipse: s-maj=24.0km s-min=19.0km az=43.0*

*ISCJB **09** 04:29:46.2±0.8, 3471N±003×7296E±006, h24km±6km, mb4.2/13, MS4.7/2, Error ellipse: s-maj=8.9km s-min=4.1km az=114.9*

*MOS **09** 04:29:47.5±0.8, 3469N×7282E, h33km, mb4.6/3, Error ellipse: s-maj=31.5km s-min=14.5km az=95.8*

*BJI **09** 04:29:52.0, 3492N×7289E, h72km, mB4.7, mb4.5*

*NEIC **09** 04:29:53.0±2.1, 3490N×7300E, h58km±17km, mb4.1/6, Error ellipse: s-maj=16.7km s-min=8.1km az=218.0*

ISC 09 04:29:46.4±0.8**, 3471N**±003×**7289E**±004**, h12**km±5km**, n67, σ1ˢ22**/73**, mb4.2**/13**, MS4.7**/2**, 1C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.10**	**164**	P	**Pb**	**04 30 10.1**	**+2.8**
CEP	**Cherat**	**1.20**	**223**	⇑P	**Pn**	**04 30 11.4**	**+2.4**
SRNI	**Srinagar**	**1.73**	**110**	*e*P	**Pg**	**04 30 20.0**	**+0.4**
SRNI				*e*S	**Sg**	**04 30 43.0**	**+0.9**
THW	**Thamme Wali**	**2.14**	**207**	P	**Pg**	**04 30 27.2**	**-0.2**
JMU	**Jammu**	**2.60**	**139**	*e*P	**Pb**	**04 30 33.0**	**0.0**
JMU				*e*S	**Sb**	**04 31 05.0**	**+0.1**
SARP	**Sargodha**	**2.79**	**184**	P	**Pb**	**04 30 37.2**	**+1.0**
SBDP	**Sheikh Budin**	**2.97**	**216**	⇓P	**Pb**	**04 30 38.1**	**-1.1**
THN	**Thein Dam**	**3.28**	**133**	*e*P	**Pb**	**04 30 42.0**	**-2.5**
THN				*e*x	x	04 31 30.1	
DLH	**Dalhousie**	**3.36**	**129**	*e*P	**Pb**	**04 30 43.0**	**-2.9**
DLH				*e*x	x	04 31 25.0	
DRP	**Derazinda**	**3.72**	**218**	P	**Pb**	**04 30 49.2**	**-2.8**
BHK	**Bhakra**	**4.42**	**137**	*e*x	x	04 31 02.0	
SDNR	**Sundarnagar**	**4.69**	**132**	*e*P	**Pb**	**04 31 01.0**	**-7.5**
SDNR				*e*S	**Sn**	**04 31 52.0**	**+0.7**
SMLA	**Simla**	**5.07**	**134**	*e*P	**Pn**	**04 31 05.4**	**+3.2**
SMLA				*e*P		04 31 05.8	
SMLA				*e*S	**Sn**	**04 32 03.6**	**+2.9**
SMLA				*e*S	**Sn**	**04 32 04.2**	**+3.5**
SMLA				AML	AML	04 32 26.2	
	comp=N,336nm,0.4s						
SMLA				AML	AML	04 32 27.8	
	comp=E,473nm,0.3s						
KLP	**Kalpa**	**5.50**	**124**	*e*P	**Pn**	**04 31 11.7**	**+3.5**
KLP				*e*S	**Sn**	**04 32 13.1**	**+1.8**
KLP				AML	AML	04 32 16.0	
	comp=N,194nm,0.2s						
KLP				AML	AML	04 32 22.2	
	comp=E,345nm,0.7s						
DDI	**Dehra Dun**	**6.18**	**134**	*e*x	x	04 32 26.0	
DDI				*e*x	x	04 33 03.5	
JOSI	**Joshimath**	**6.99**	**125**	*e*x	x	04 31 19.9	
JOSI				*e*x	x	04 32 42.1	
JOSI				AML	AML	04 32 44.3	
	comp=E,232nm,1.1s						
JOSI				AML	AML	04 32 47.2	
	comp=N,264nm,0.8s						
NDI	**New Delhi**	**7.05**	**147**	*e*P	**Pn**	**04 31 32.8**	**+3.4**
NDI				*e*S	**Sn**	**04 32 48.6**	**-0.9**
KHET	**Khetri**	**7.07**	**159**	*e*P	**Pn**	**04 31 34.2**	**+4.5**
KHET				*e*S	**Sn**	**04 32 50.3**	**+0.3**
KUDL	**Kundal**	**7.24**	**154**	*e*S	**Sn**	**04 32 52.9**	**-1.1**
SONA	**Sohna**	**7.37**	**150**	*e*P	**Pn**	**04 31 37.4**	**+3.6**
SONA				*e*S	**Sn**	**04 32 57.1**	**-0.3**
AAK	**Ala-Archa**	**8.01**	**9**	*e*P	**Pn**	**04 31 45.2**	**+2.7**
LGTI	**Lohaghat**	**8.15**	**128**	*e*P	**Pn**	**04 31 46.3**	**+1.8**
LGTI				*e*x	x	04 33 21.5	
AJM	**Ajmer**	**8.35**	**169**	*e*P	**Pn**	**04 31 41.4**	**-5.8**
AJM				*e*S	**Sn**	**04 33 11.2**	**-10**
AJM				AML	AML	04 33 24.2	
	comp=N,48nm,0.3s						
AJM				AML	AML	04 33 24.9	
	comp=E,77nm,0.2s						
KOLN	**Koldanda**	**11.48**	**124**	*e*P	**Pn**	**04 32 29.9**	**-0.2**
KOLN				*e*S	**Sn**	**04 34 34.4**	**-3.9**
GKN	**Gorkha**	**12.06**	**120**	*e*P	**Pn**	**04 32 37.3**	**-0.7**
GKN				*e*S	**Sn**	**04 34 46.4**	**-6.0**
BHPL	**Bhopal**	**12.10**	**160**	*e*S	**Sn**	**04 34 49.0**	**-4.5**
DMN	**Daman**	**12.63**	**121**	*e*P	**Pn**	**04 32 44.5**	**-1.3**
DMN				*e*S	**Sn**	**04 35 01.8**	**-4.5**
KKN	**Kakani**	**12.64**	**120**	*e*P	**Pn**	**04 32 45.5**	**-0.5**
PKI	**Pulchoki**	**12.86**	**120**	*e*P	**Pn**	**04 32 48.0**	**-1.0**
PKI				*e*S	**Sn**	**04 35 06.8**	**-5.3**
GUN	**Gumba**	**13.01**	**118**	*e*P	**Pn**	**04 32 49.4**	**-1.6**
JIRN	**Jiri**	**13.37**	**118**	*e*P	**Pn**	**04 32 54.4**	**-1.6**
MKAR	**Makanchi Array**	**14.00**	**28**	Pn	**Pn**	**04 33 04.7**	**+0.1**
	comp=E,0.2nm,0.3s,baz=208,slow=10,SNR=3.1						
AKL	**Akola**	**14.43**	**164**	*e*x	x	04 33 07.4	
NGP	**Nagpur**	**14.56**	**157**	*e*x	x	04 35 44.0	
WMQ	**Urumqi**	**14.62**	**47**	*e*P	**Pn**	**04 33 16.5**	**+3.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s						
WMQ				AMB	AMB		
	comp=Z,116nm,6.4s						
BVAR	**Borovoye Array**	**18.39**	**355**	P	**Pn**	**04 34 01.3**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=158,slow=9.6,SNR=21						
BRVK	**Borovoye**	**18.43**	**355**	*e*P	**Pn**	**04 34 00.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BRVK	**Borovoye**	**18.43**	**355**	*e*P	**Pn**	**04 34 00.9**	**-0.8**
	comp=Z,7.5nm,0.8s						
ZRNK	**Zerenda**	**18.44**	**353**	*e*P	**Pn**	**04 34 01.6**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ZRNK	**Zerenda**	**18.44**	**353**	*e*P	**Pn**	**04 34 01.6**	**-0.2**
	comp=Z,8.9nm,0.7s						
CHKZ	**Chkalovo**	**19.03**	**356**	P	**Pn**	**04 34 09.1**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHKZ	**Chkalovo**	**19.03**	**356**	P	**Pn**	**04 34 09.1**	**+0.2**
	comp=Z,8.9nm,0.9s						
AKTK	**Aktyubinsk**	**19.09**	**330**	P	**Pn**	**04 34 09.8**	**+0.1**
AKTO	**Aktyubinsk**	**19.09**	**330**	P	**Pn**	**04 34 09.8**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=130,slow=11,SNR=31						
ZAL	**Zalesovo**	**20.97**	**20**	P	**P**	**04 34 28.3**	**-1.0**
	comp=Z,7.2nm,0.4s,baz=252,slow=7.3,SNR=7.3						
ARU	**Arti**	**23.83**	**340**	*e*P	**P**	**04 34 59.4**	**+0.1**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
ARU	**Arti**	**23.83**	**340**	*e*P	**P**	**04 34 59.4**	**+0.1**
	comp=Z,8.2nm,0.7s,mb4.3						
CHTO	**Chiang Mai**	**28.02**	**118**	*e*P	**P**	**04 35 38.8**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
CHTO	**Chiang Mai**	**28.02**	**118**	*e*P	**P**	**04 35 38.8**	**+1.5**
	comp=Z,3.2nm,0.7s,mb4.1						
JOF	**Joensuu**	**38.18**	**331**	*e*p	**P**	**04 37 05.2**	**-0.5**
	comp=Z,7.0nm,0.5s,mb4.7						
FINES	**FINESS Array B**	**39.82**	**327**	P	**P**	**04 37 19.5**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.0,baz=123,slow=9.0,SNR=9.8						
ARCES	**ARCESS Array B**	**43.38**	**338**	P	**P**	**04 37 48.8**	**+0.2**
	comp=Z,8.9nm,0.8s,mb4.5,baz=115,slow=8.4,SNR=26						
HFS	**Hagfors**	**45.42**	**323**	P	**P**	**04 38 04.7**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.2,baz=90,slow=12,SNR=8.4						
VAE	**Valguarnera**	**46.68**	**291**	LR	LR	05 00 01.2	
	comp=Z,639nm,19.0s,MS4.6,baz=338,slow=39						
NB2	**NORSAR Subarra**	**46.73**	**324**	P	**P**	**04 38 14.7**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**46.73**	**324**	P	**P**	**04 38 14.7**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=96,slow=7.6,SNR=4.2						
MJAR	**Matsushiro Arr**	**52.19**	**68**	P	**P**	**04 38 56.9**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=290,slow=11,SNR=9.4						
MJAR	**Matsushiro Arr**	**52.19**	**68**	P	**P**	**04 38 56.9**	**0.0**
TORD	**Torodi Ar. Bea**	**67.25**	**271**	P	**P**	**04 40 41.6**	**+1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=49,slow=6.2,SNR=12						
FITZ	**Fitzroy Crossi**	**72.59**	**127**	P	**P**	**04 41 14.6**	**+1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=309,slow=6.5,SNR=3.4						
INK	**Inuvik**	**75.41**	**10**	P	**P**	**04 41 30.1**	**+0.1**
	comp=Z,10nm,1.2s,mb4.7,baz=5.4,slow=7.8,SNR=11						
INK	**Inuvik**	**75.41**	**10**	*e*P	**P**	**04 41 29.6**	**-0.4**
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**75.41**	**10**	*e*P	**P**	**04 41 29.6**	**-0.4**
	comp=Z,7.1nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**76.17**	**269**	LR	LR	05 19 54.3	
	comp=Z,369nm,18.9s,MS4.7,baz=34,slow=40						
WRA	**Warramunga Arr**	**79.73**	**123**	P	**P**	**04 41 55.0**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=327,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**82.94**	**3**	P	**P**	**04 42 10.2**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.1,baz=347,slow=5.6,SNR=3.7						
CFAA	**Coronel Fontan**	**147.44**	**264**	PKPbc	PKPbc	04 49 32.0	+1.8
	comp=Z,0.5nm,0.7s,baz=129,slow=2.4,SNR=8.9						

---

*HLW **09** 04:58:03.4, 3254N×3593E, h26km, Mb4.7*

*GII **09** 04:58:07.9±0.4, 3202N×3548E, h0km, mb4.5/2, ML4.4/6, Mw4.4/11*

*IDC **09** 04:58:08.9±1.0, 3197N×3548E, h0km, mb3.9/9, mb1 4.1/13, mb1mx4.0/26, mbtmp3.9/13, ML4.0/4, MS4.1/2, Ms1 4.1/2, ms1mx3.4/28, Error ellipse: s-maj=19.2km s-min=10.8km az=178.0*

*ISCJB **09** 04:58:08.7±0.2, 3201N±001×3549E±003, h10km, mb4.2/33, MS4.3/1, Error ellipse: s-maj=3.4km s-min=1.6km az=33.7*

*NEIC **09** 04:58:08.0, 3202N×3549E, h1km, mb4.5/21, ML4.4(GII), After GII.*

NEIC Felt throughout Israel and the West Bank. Also felt at Amman, Jordan.

*GRAL **09** 04:58:08.2±2.2, 3186N×3550E, h0km±10km, MD4.2*

*NIC **09** 04:58:09.9±0.3, 3208N×3581E, h25km, mb4.4, ML4.1, MW3.8*

*CSEM **09** 04:58:09.5±0.0, 3203N×3548E, h15km, mb4.4/18, Mw3.8, Error ellipse: s-maj=1.8km s-min=1.0km az=93.0*

*MOS **09** 04:58:10.2±0.8, 3201N×3548E, h17km, mb4.5/12, Error ellipse: s-maj=12.2km s-min=5.5km az=114.9*

*SZGRF **09** 04:58:13.3, 3186N×3513E, h33km, mb4.6, Dead Sea region*

*NSSC **09** 04:58:13.4, 3224N×3567E, h6km±2km*

ISC 09 04:58:09.8±0.2**, 3199N**±001×**3552E**±003**, h10**km**, n213, σ1ˢ10**/248**, mb4.2**/33**, MS4.3**/1**, 2C-17D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.26**	**2**	Pg	**Pg**	**04 58 13.9**	**-1.2**
DRGI	**Dragot**	**0.41**	**195**	Pg	**Pg**	**04 58 17.7**	**0.0**
DSI	**Dead Sea**	**0.43**	**195**	Pg	**Pg**	**04 58 16.9**	**-1.3**
MMLI	**Mount Malkishu**	**0.46**	**350**	Pg	**Pg**	**04 58 17.3**	**-1.3**
SLTI	**Sal'it**	**0.47**	**302**	Pg	**Pg**	**04 58 17.2**	**-1.9**
AMAZ	**Amatzia**	**0.68**	**228**	Pg	**Pg**	**04 58 22.4**	**-0.6**
AMAZ	**Amatzia**	**0.68**	**228**	⇑Pg	**Pg**	**04 58 22.3**	**-0.7**
MZDA	**Masada**	**0.69**	**191**	Pg	**Pg**	**04 58 22.8**	**-0.2**
MZDA				Sg	**Sg**	**04 58 33.1**	**+1.0**

YTIR	Yattir	0.71	209	Pg	Pg	04 58 22.4	-1.1
GLH	Golan-Tel Qazi	0.73	9	Pg	Pg	04 58 23.1	-0.8
OFRI	‘Ofer	0.77	325	Pg	Pg	04 58 23.1	-1.6
KSHT	Keshet	1.02	14	Pg	Pg	04 58 27.5	-1.9
MMA0B	Mount Meron ar	1.03	355	Pg	Pg	04 58 27.8	-1.7
HNTI	Hanita	1.13	345	Pg	Pg	04 58 29.6	-1.9
HNTI				Sg	Sg	04 58 45.7	-0.4
RTMI	Retamim	1.17	217	Pg	Pg	04 58 31.0	-1.2
MASH	Mash‘abbe Sade	1.17	212	Pg	Pg	04 58 31.0	-1.2
ASF	Jabal al Asfar	1.19	81	Pg	Pg	04 58 31.3	-1.2
	258nm,0.3s,baz=141,slow=10.0,SNR=723						
ASF				Lg		04 58 48.7	
	1µm,0.3s,baz=360,slow=19,SNR=77						
KSDI	Kefar Szold	1.21	6	Pg	Pg	04 58 30.7	-2.2
SALA	Sala	1.26	55	⇑P	Pn	04 58 32.7	-0.6
SALA				⇓S	Sb	04 58 47.4	-2.4
SALA	Sala	1.26	55	⇑iP	Pn	04 58 32.7	-0.7
SALA				⇓iS	Sb	04 58 47.4	-2.4
HRI	Mount Hermon	1.29	8	Pg	Pg	04 58 31.6	-2.9
SVTA	Shivta	1.30	216	Pn	Pn	04 58 33.3	-0.7
KZIT	Kziot	1.44	222	Pn	Pn	04 58 35.6	-0.3
KZIT				Sn	Sn	04 58 56.0	+1.1
ZFRI	Zfri	1.46	191	Pn	Pn	04 58 35.9	-0.2
BRBR	Barbar	1.47	14	⇑P	Pn	04 58 35.4	-0.9
BRBR				⇑S	Sn	04 58 52.7	-2.7
BRBR	Barbar	1.47	14	⇑iP	Pn	04 58 35.3	-0.9
BRBR				⇑iS	Sn	04 58 52.7	-2.8
MATL	Matirih	1.50	354	eP	Pn	04 58 36.1	-0.7
RCY	Rachaya	1.51	10	eP	Pn	04 58 36.3	-0.6
RCY				eS	Sn	04 58 58.2	+1.5
RMNI	Mount Ramon	1.53	205	Pn	Pn	04 58 36.2	-0.9
TOTH	TOTAH	1.57	29	⇑P	Pn	04 58 37.4	-0.3
TOTH				⇑S	Sn	04 58 55.3	-2.7
TOTH	TOTAH	1.57	29	⇑iP	Pn	04 58 37.4	-0.3
TOTH				⇑iS	Sn	04 58 55.3	-2.8
QASN	Qassioun	1.67	22	⇑P	Pn	04 58 38.9	-0.1
QASN				⇓S	Sn	04 58 59.0	-1.5
QASN	Qassioun	1.67	22	⇑iP	Pn	04 58 38.9	-0.1
QASN				⇓iS	Sn	04 58 59.0	-1.5
PRNI	Paran	1.69	195	Pn	Pn	04 58 39.5	+0.2
PRNI				Sn	Sn	04 59 03.1	+2.1
ZALF	Zalf	1.80	58	⇓P	Pn	04 58 41.2	+0.4
ZALF				⇓S	Sn	04 59 03.5	-0.2
ZALF	Zalf	1.80	58	⇓iP	Pn	04 58 41.2	+0.4
ZALF				⇓iS	Sn	04 59 03.5	-0.2
BHL	Bhannes	1.91	3	eP	Pn	04 58 42.4	0.0
BHL				eS	Sn	04 59 08.7	+2.1
HRFI	Mount Harif	1.99	192	Pn	Pn	04 58 43.2	-0.2
KMTI	Karmit	2.00	200	Pn	Pn	04 58 42.9	-0.6
MARH	Ras Al Marh	2.19	22	⇓P	Pn	04 58 46.2	0.0
MARH				⇑S	Sn	04 59 11.9	-1.4
MARH	Ras Al Marh	2.19	22	⇓iP	Pn	04 58 46.2	0.0
MARH				⇑iS	Sn	04 59 11.9	-1.4
MBH	Mount Berech	2.25	193	Pn	Pn	04 58 46.9	-0.1
AQBJ	Aqaba	2.29	190	Pn	Pn	04 58 47.6	0.0
HWQ	Hawqa	2.31	9	eP	Pn	04 58 48.5	+0.6
HWQ				eS	Sn	04 59 19.1	+2.7
HWQ	Hawqa	2.31	9	eP	Pn	04 58 48.5	+0.6
HWQ				eS	Sn	04 59 19.0	+2.7
EIL	Elat	2.36	192	Pn	Pn	04 58 48.4	-0.2
EIL	Elat	2.36	192	ePn	Pn	04 58 48.4	-0.2
EIL				eSg	Sg	04 59 23.4	-2.3
EIL	Elat	2.36	192	ePn	Pn	04 58 48.3	-0.3
EIL				eSg	Sg	04 59 23.4	-2.2
AMAG	Maghara	2.39	236	P	Pn	04 58 48.7	-0.2
HNKL	Nakhl	2.44	213	P	Pn	04 58 49.4	-0.2
GLFJ		2.51	190	eP	Pn	04 58 51.4	+0.8
RABH	Abou Rabah	2.82	30	⇑P	Pn	04 58 55.5	+0.6
RABH	Abou Rabah	2.82	30	⇑iP	Pn	04 58 55.5	+0.6
HBST	Basata	2.84	194	P	Pn	04 58 55.5	+0.3
BIDA	Albida	3.09	12	⇑P	Pn	04 58 58.7	+0.1
BIDA				⇓S	Sn	04 59 35.3	-0.3
BIDA	Albida	3.09	12	⇑iP	Pn	04 58 58.7	+0.1
BIDA				⇓iS	Sn	04 59 35.3	-0.3
SUZ		3.15	228	P	Pn	04 58 59.5	+0.2
PHNC	Paralimni	3.25	338	⇓P	Pn	04 58 59.6	-1.2
PHNC				S	Sn	04 59 38.7	-0.9
HDHB	Dhahab	3.35	194	P	Pn	04 59 01.9	-0.2
KFRA	Kufra	3.39	18	⇑P	Pn	04 59 03.1	+0.5
KFRA				⇑S	Sn	04 59 42.3	-0.6
KFRA	Kufra	3.39	18	⇑iP	Pn	04 59 03.1	+0.4
KFRA				⇑iS	Sn	04 59 42.3	-0.6
ZNM		3.46	222	P	Pn	04 59 03.6	0.0
CSS	Prodhromos	3.48	329	P	Pn	04 59 03.6	-0.4
	6.6nm,0.5s						
CSS				S	Sn	04 59 43.6	-1.6
SZAC	Souni-Zanaja	3.53	322	P	Pn	04 59 05.0	+0.4
	17nm,0.3s						
SZAC				S	Sn	04 59 47.8	+1.4
HHAG	Hagoal	3.57	236	P	Pn	04 59 04.8	-0.4
WRDH	Warideh	3.59	12	⇑P	Pn	04 59 05.7	+0.3
WRDH				⇓S	Sn	04 59 46.3	-1.5
WRDH	Warideh	3.59	12	⇑iP	Pn	04 59 05.7	+0.3
WRDH				⇓iS	Sn	04 59 46.3	-1.6
SLNF	Slenfeh	3.65	9	⇑P	Pn	04 59 06.9	+0.7
SLNF				⇑S	Sn	04 59 47.8	-1.5
SLNF	Slenfeh	3.65	9	⇑iP	Pn	04 59 06.9	+0.7
SLNF				⇑iS	Sn	04 59 47.8	-1.5
HKAT	Jabal Katrina	3.70	201	P	Pn	04 59 06.8	-0.1
ZAF		3.72	224	P	Pn	04 59 07.2	0.0
KOT	Kottamia	3.77	238	⇑P	Pn	04 59 07.6	-0.3
HRDS	Abu Rudays	3.79	211	P	Pn	04 59 08.1	-0.1
TR2		3.91	204	P	Pn	04 59 09.6	-0.3
PPCY	Paphos	3.92	318	P	Pn	04 59 09.9	-0.1
ALFC	Alevga	3.99	323	P	Pn	04 59 10.3	-0.6
	29nm,0.7s						
ALFC				S	Sn	04 59 58.1	+0.4
GLL	Jalalah	4.06	235	P	Pn	04 59 11.4	-0.6
BTCH	Batrach	4.11	11	⇑P	Pn	04 59 13.8	+1.2
BTCH	Batrach	4.11	11	⇑iP	Pn	04 59 13.8	+1.2
HSAF	As Saff	4.15	236	P	Pn	04 59 12.7	-0.4
HTY	Hatay	4.15	7	eP	Pn	04 59 13.4	+0.2
TR1		4.19	199	P	Pn	04 59 13.4	-0.3
SHRM		4.25	197	P	Pn	04 59 14.2	-0.4
AYT	Al ‘Ayyat	4.39	240	P	Pn	04 59 16.4	0.0
GRB	Gharib	4.39	213	P	Pn	04 59 16.1	-0.4
FYM	Al Fayyum	4.47	240	P	Pn	04 59 16.8	-0.8
IKL	Isikli	4.50	341	eP	Pn	04 59 16.8	-1.2
KRTS	Karatas	4.57	359	eP	Pn	04 59 20.8	+1.8
DRWC	Darouich	4.72	11	⇑P	Pn	04 59 21.3	+0.3
DRWC	Darouich	4.72	11	⇑iP	Pn	04 59 21.3	+0.3
HNAT	Natroun	4.82	242	P	Pn	04 59 22.5	+0.1
MERS	Mersin	4.94	351	eP	Pn	04 59 24.2	+0.3
CEYT	Ceyhan	5.01	2	eP	Pn	04 59 26.7	+1.7
HHRG	Al Ghardaqah	5.05	200	P	Pn	04 59 24.9	-0.6
KARA	Karaisali	5.27	356	eP	Pn	04 59 28.1	-0.4
GAZ	Gaziantep	5.36	15	eP	Pn	04 59 32.6	+2.8
KOZT	Kozan	5.49	3	eP	Pn	04 59 30.6	-0.9
HDMB	Hadim	5.56	334	eP	Pn	04 59 33.1	+0.6
KMRS	Kahramanmaras	5.62	11	eP	Pb	04 59 51.3	+3.4
URFA	Urfa	6.08	26	eP	Pb	04 59 55.2	-0.6
KONT	Konya--Tatoy	6.48	337	eP	Pn	04 59 47.3	+2.2
ELL	Elmali	6.63	317	eP	Pn	04 59 47.8	+0.6
MALT	Malatya	6.75	20	eP	Pn	04 59 50.3	+1.5
MALT				pmax	pmax		
	comp=Z,62nm,0.9s						
MALT	Malatya	6.75	20	ePn	Pn	04 59 50.2	+1.4
	comp=Z,62nm,0.9s						
MALT				ePg	Pg	05 00 15.2	-3.7
MALT				eSg	Sg	05 01 43.6	-2.6
MALT	Malatya	6.75	20	ePn	Pn	04 59 50.2	+1.4
	comp=Z,62nm,0.9s						
MALT	Malatya	6.75	20	ePg	Pg	05 00 15.2	-3.7
MYA	Malataya	6.76	20	eP	Pn	04 59 50.8	+1.8
FETY	Fethiye	7.05	313	eP	Pn	04 59 51.3	-1.8
ISP	Isparta	7.14	326	eP	Pn	04 59 50.8	-3.4
KIZT	Kizilcal	7.49	338	eP	Pn	04 59 51.8	-7.2
KAMT	Kaman	7.51	349	eP	Pn	05 00 01.1	+1.9
BHD	Baghdad	7.59	78	ex	x	05 00 12.0	
BHD				ex	x	05 00 30.0	
BHD				ex	x	05 01 42.0	
BHD				i x	x	05 02 10.0	
BHD				i x	x	05 02 31.0	
MSL	Mosul	7.60	54	ex	x	05 00 17.0	
MSL				ex	x	05 00 39.5	
MSL				ex	x	05 01 52.5	
MSL				ex	x	05 02 22.0	
MSL				ex	x	05 02 52.0	
YOZ	Yozgat	7.64	359	eP	Pn	05 00 06.0	+5.0
BR131	Keskin Array S	7.87	349	ePn	Pn	05 00 06.1	+1.8
	comp=Z,1.8nm,0.5s						
BR131	Keskin Array S	7.87	349	ePn	Pn	05 00 06.1	+1.9
	comp=Z,1.8nm,0.5s						
BRTR	Keskin Array B	7.87	349	Pn	Pn	05 00 05.5	+1.3
	comp=Z,0.4nm,0.3s,baz=174,slow=15,SNR=13						
BRTR				Sn	Sn	05 01 33.5	+0.1
	baz=182,slow=23,SNR=1.9						
YER	Yerkesik	7.87	313	eP	Pn	04 59 59.6	-4.6
DAT	Datca	8.09	308	eP	Pn	04 59 58.7	-8.5
ESKT	Eskisehir	8.41	335	eP	Pn	05 00 06.0	-5.7
BODT	Bodrum	8.45	309	eP	Pn	05 00 10.0	-2.2
CUKT	Cukurca	8.48	50	eP	Pn	05 00 13.9	+1.3
EZC	Erzincan	8.49	23	eP	Pn	05 00 12.9	+0.2
SWA1		8.87	255	P	Pn	05 00 16.4	-1.6
SWA2		9.09	255	⇑P	Pn	05 00 19.3	-1.7
IDI	Anoyia	9.45	293	Pn	Pn	05 00 24.3	-1.6
	comp=Z,1.9nm,0.3s,baz=100,slow=15,SNR=11						
IDI				Sn	Sn	05 02 06.9	-5.2
	comp=Z,2.5nm,0.3s,baz=219,slow=21,SNR=6.5						
IDI	Anoyia	9.45	293	Pn	Pn	05 00 24.2	-1.7
IDI				Sn	Sn	05 02 06.9	-5.3
GNI	Garni	11.04	40	LR	LR	05 05 18.8	
	comp=Z,762nm,21.4s,baz=247,slow=39						
MLR	Muntele Rosu	15.39	334	Pn	Pn	05 01 49.0	+2.1
	comp=Z,0.2nm,0.3s,baz=132,slow=17,SNR=3.7						
AKASG	Malin Array Be	19.27	348	P	Pn	05 02 35.2	-0.2
	comp=Z,0.4nm,0.3s,baz=164,slow=9.3,SNR=13						
AKASG	Malin Array Be	19.27	348	P	Pn	05 02 35.2	-0.2
AKBB	Malin Array Si	19.27	348	eP	Pn	05 02 36.1	+0.7
UZH	Uzhgorod	19.39	333	eP	Pn	05 02 37.4	+0.5
UZH				pmax	pmax		
	comp=Z,19nm,1.1s						
UZH	Uzhgorod	19.39	333	eP	Pn	05 02 37.4	+0.5
	comp=Z,19nm,1.1s						
KOLS	Kolonicke sedl	19.65	333	eP	Pn	05 02 41.0	+1.0
PSZ	Piszkesteto	19.85	328	eP	Pn	05 02 42.4	0.0
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PSZ	Piszkesteto	19.85	328	eP	Pn	05 02 42.4	0.0
	comp=Z,7.4nm,1.0s						
PSZ	Piszkesteto	19.85	328	eP	Pn	05 02 42.4	0.0
	comp=Z,7.4nm,1.0s						
CRVS	Cervenica-Dubn	19.94	332	eP	Pn	05 02 43.0	-0.4
STHS	Stebnicka Huta	20.44	333	eP	P	05 02 52.1	+4.9
STHS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
STHS	Stebnicka Huta	20.44	333	eP	P	05 02 52.1	+4.9
	comp=Z,3.2nm,1.1s						
VYHS	Vyhne	20.75	327	eP	P	05 02 51.6	+1.0
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VYHS	Vyhne	20.75	327	eP	P	05 02 51.6	+1.0
	comp=Z,5.4nm,1.1s						
ZST	Bratislava	21.37	325	eP	P	05 02 57.4	+0.1
OJC	Ojcow	21.64	332	eP	P	05 03 05.7	+5.5
KEST	Kesra	22.03	287	P	P	05 03 08.2	+3.9
	comp=Z,1.6nm,0.9s,mb3.5,baz=337,slow=1.9,SNR=5.5						
MORC	Moravsky Berou	22.27	328	eP	P	05 03 08.5	+1.6
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
MORC	Moravsky Berou	22.27	328	eP	P	05 03 08.5	+1.6
	comp=Z,2.8nm,0.8s,mb3.7						
VRAC	Vranov	22.38	326	P	P	05 03 08.8	+0.8
	comp=Z,3.5nm,0.4s,mb4.1,baz=116,slow=17,SNR=4.4						
GEC2	GERESS Array S	23.52	322	eP	P	05 03 20.6	+0.5
	comp=Z,20nm,1.4s,mb4.3						
GEC2	GERESS Array S	23.52	322	eP	P	05 03 20.6	+0.5
GEC2				pmax	pmax		
	comp=Z,217nm,1.4s						
GERES	GERESS Array B	23.52	322	P	P	05 03 19.6	-0.5
	comp=Z,2.3nm,0.7s,mb3.7,baz=129,slow=7.7,SNR=23						
KHC	Kasperske Hory	23.76	322	eP	P	05 03 23.0	+0.7
WET	Wettzell	24.13	322	eP	P	05 03 25.6	-0.1
	comp=Z,16nm,1.6s,mb4.2						
WET	Wettzell	24.13	322	eP	P	05 03 25.6	-0.1
WET				pmax	pmax		
	comp=Z,39nm,1.6s,mb4.6						
BRG	Berggiesshubel	24.69	326	eP	P	05 03 30.8	-0.1
	comp=Z,24nm,1.3s,mb4.6						
BRG	Berggiesshubel	24.69	326	e(P)	P	05 03 31.3	+0.4
	comp=Z,14nm,1.3s,mb4.3						
BRG	Berggiesshubel	24.69	326	eP	P	05 03 31.3	+0.4
BRG				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.2						
ROTZ	Rotzenmuhle	24.86	322	eP	P	05 03 32.5	+0.2
	comp=Z,38nm,1.8s,mb4.6						
AKTK	Aktyubinsk	24.86	36	P	P	05 03 32.8	+0.4
AKTK	Aktyubinsk	24.86	36	P	P	05 03 32.8	+0.4
AKTO	Aktyubinsk	24.86	36	P	P	05 03 32.8	+0.4
	comp=Z,8.5nm,1.0s,mb4.2,baz=243,slow=11,SNR=11						
FBE	Freiberg	25.01	326	eP	P	05 03 34.1	+0.4
	comp=Z,30nm,1.9s,mb4.5						
MANZ	Manzenberg	25.04	323	eP	P	05 03 35.2	+1.2
	comp=Z,24nm,1.5s,mb4.5						
TANN	Tannenbergstha	25.12	324	eP	P	05 03 35.3	+0.5
	comp=Z,21nm,1.6s,mb4.4						
GUNZ	Gunzen	25.16	324	eP	P	05 03 35.9	+0.8
	comp=Z,30nm,1.6s,mb4.6						
WERD	Werda	25.22	324	eP	P	05 03 36.3	+0.6
	comp=Z,28nm,2.0s,mb4.5						
GRA1	Grafenberg Arr	25.33	321	eP	P	05 03 36.3	-0.3
	comp=Z,28nm,1.8s,mb4.5						
GRF	Grafenberg Arr	25.33	321	eP	P	05 03 36.3	-0.3
	comp=Z,28nm,1.8s,mb4.5						
GRF	Grafenberg Arr	25.33	321	eP	P	05 03 36.3	-0.3
GRF				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb3.8						
GRF	Grafenberg Arr	25.33	321	eP	P	05 03 36.3	-0.3
GRF				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.5						
CLL	Collm	25.43	326	eP	P	05 03 38.8	+1.3
	comp=Z,13nm,1.1s,mb4.4						
CLL	Collm	25.43	326	⇓i(P)	P	05 03 39.4	+1.9
	comp=Z,12nm,1.1s,mb4.3						
CLL				i x	x	05 03 51.4	
CLL	Collm	25.43	326	⇓iP	P	05 03 39.4	+1.9
CLL				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
FRF	La Foret Royal	25.45	305	eP	P	05 03 38.4	+0.7
	comp=Z,12nm,1.2s,mb4.0						
FRF	La Foret Royal	25.45	305	eP	P	05 03 38.4	+0.7
FRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
FRF	La Foret Royal	25.45	305	eP	P	05 03 38.4	+0.7
	comp=Z,6.0nm,1.2s,mb4.0						
MOX	Moxa	25.69	323	eP	P	05 03 40.5	+0.6
	comp=Z,26nm,1.0s,mb4.7						
MOX	Moxa	25.69	323	eP	P	05 03 40.9	+1.0
MOX				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.2						
MOX	Moxa	25.69	323	eP	P	05 03 40.9	+1.0
	comp=Z,31nm,1.2s,mb4.7						
MBDF	Montbardon	25.73	308	eP	P	05 03 41.6	+1.3
	comp=Z,33nm,1.1s,mb4.5						
MBDF	Montbardon	25.73	308	eP	P	05 03 41.6	+1.3
MBDF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
MBDF	Montbardon	25.73	308	eP	P	05 03 41.6	+1.3
	comp=Z,17nm,1.1s,mb4.5						
BNI	Bardonecchia	25.91	309	eP	P	05 03 43.9	+2.0
BNI				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.3						
BNI	Bardonecchia	25.91	309	eP	P	05 03 43.9	+2.0
	comp=Z,13nm,1.3s,mb4.3						
LPG	La Plagne	26.02	310	eP	P	05 03 44.0	+1.1
	comp=Z,34nm,1.0s,mb4.5						
LPG	La Plagne	26.02	310	eP	P	05 03 44.0	+1.1
LPG				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
LPG	La Plagne	26.02	310	eP	P	05 03 44.0	+1.1
	comp=Z,17nm,1.0s,mb4.5						
LPL	La Plagne	26.04	310	eP	P	05 03 44.1	+1.0
	comp=Z,11nm,0.8s,mb4.1						
LPL	La Plagne	26.04	310	eP	P	05 03 44.1	+1.0
LPL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
LPL	La Plagne	26.04	310	eP	P	05 03 44.1	+1.0
	comp=Z,5.3nm,0.8s,mb4.1						
BFO	Black Forest	26.23	316	eP	P	05 03 45.2	+0.4
	comp=Z,24nm,1.5s,mb4.5						
ORIF	Oris-en-Rattie	26.39	308	eP	P	05 03 47.3	+1.0
	comp=Z,14nm,1.0s,mb4.1						
ORIF	Oris-en-Rattie	26.39	308	eP	P	05 03 47.3	+1.0
ORIF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
ORIF	Oris-en-Rattie	26.39	308	eP	P	05 03 47.3	+1.0
	comp=Z,6.8nm,1.0s,mb4.1						
CABF	La Chapelle	26.86	311	eP	P	05 03 50.6	+0.1
	comp=Z,25nm,1.2s,mb4.3						
CABF	La Chapelle	26.86	311	eP	P	05 03 50.6	+0.1
CABF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
CABF	La Chapelle	26.86	311	eP	P	05 03 50.6	+0.1
	comp=Z,13nm,1.2s,mb4.3						
CDF	Champ du Feu	26.89	316	eP	P	05 03 51.7	+1.0
	comp=Z,29nm,1.4s,mb4.3						
CDF	Champ du Feu	26.89	316	eP	P	05 03 51.7	+1.0
CDF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.3						
CDF	Champ du Feu	26.89	316	eP	P	05 03 51.7	+1.0
	comp=Z,15nm,1.4s,mb4.3						
GTTG	Gvttingen	27.06	324	eP	P	05 03 53.4	+1.1
	comp=Z,12nm,1.2s,mb4.3						
ESDC	Sonseca Array	32.71	295	P	P	05 04 43.4	+1.1
	comp=Z,1.0nm,0.5s,mb4.0,baz=81,slow=8.7,SNR=9.4						
BVAR	Borovoye Array	32.73	40	P	P	05 04 44.3	+1.8
	comp=Z,0.6nm,0.4s,mb3.9,baz=191,slow=4.5,SNR=5.8						
CHKZ	Chkalovo	33.14	39	eP	P	05 04 48.6	+2.5
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
CHKZ	Chkalovo	33.14	39	eP	P	05 04 48.6	+2.5
	comp=Z,1.4nm,0.7s,mb4.0						
TORD	Torodi Ar. Bea	36.21	247	P	P	05 05 13.0	+0.3
	comp=Z,0.6nm,0.7s,mb3.7,baz=57,slow=8.1,SNR=7.4						
ARCES	ARCESS Array B	38.02	354	P	P	05 05 28.6	+0.6
	comp=Z,1.5nm,0.7s,mb3.8,baz=178,slow=8.9,SNR=7.1						
MKAR	Makanchi Array	38.47	54	P	P	05 05 33.7	+1.8
	comp=Z,0.6nm,0.6s,mb3.5,baz=260,slow=5.8,SNR=5.0						
MKAR	Makanchi Array	38.47	54	P	P	05 05 33.7	+1.8
LSZ	Lusaka	47.52	190	P	P	05 06 46.0	+0.9
	comp=Z,1.3nm,0.4s,mb4.3,baz=347,slow=14,SNR=4.4						
LSZ	Lusaka	47.52	190	P	P	05 06 46.0	+0.9
SONM	Songino Array	54.75	51	LR	LR	05 32 53.1	
	comp=Z,251nm,19.3s,MS4.3,baz=161,slow=38						

*IDC **09** 05:05:44.6±0.3, 120N×9972E, h0km, mb4.9/31, mb1 5.0/31, mb1mx5.0/32, mbtmp4.9/31, MS4.3/1, Ms1 4.3/1, ms1mx3.2/32, Error ellipse: s-maj=15.2km s-min=8.3km az=57.0*

*BJI **09** 05:05:44.8, 072N×9954E, h34km, mb4.9, mB5.0, Ms4.9, Msz4.6*

*ISCJB **09** 05:05:45.6±0.2, 1.13N±003×9954E±003, h14km, mb5.2/161, MS4.6/15, Error ellipse: s-maj=4.8km s-min=4.0km az=127.4*

*NEIC **09** 05:05:46.7±0.1, 1.12N×9959E, mb5.3/70, Error ellipse: s-maj=5.7km s-min=3.6km az=49.0*

NEIC Felt [IV] at Padangsidempuan and [III] at Airbangis. Also felt at Aekgodang, Kisaran and Sibolga.

*MOS **09** 05:05:48.3±0.9, 123N×9963E, h33km, mb5.5/70, Error ellipse: s-maj=10.5km s-min=3.9km az=124.6*

*SZGRF **09** 05:05:49.5, 104N×9866E, h14km, mb5.3, Northern Sumatera, Indonesia*

ISC 09 05:05:47.4±0.2**, 110N**±003×**9954E**±003**, h15km, h15km**±.9km**: pP-P, n538, σ0.97**/487**, mb5.2**/161**, MS4.6**/15**, 99C-15D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	1.77	151	P	Pn	05 06 19.3	+1.9
	6µm,1.4s						
PSI	Prapat	1.80	340	Pg	Pg	05 06 17.0	-4.9
	414nm,0.3s,baz=144,slow=12,SNR=604						
PSI				Lg		05 06 39.0	
	456nm,0.3s,baz=269,slow=15,SNR=22						
PSI	Prapat	1.80	340	Pg	Pg	05 06 17.0	-4.9
PSI				Lg		05 06 39.0	
TSI	Tuntungan	2.58	338	P	Pn	05 06 29.3	+0.7
	4µm,0.6s						
IPM	Ipoh	3.67	24	P	Pn	05 06 46.0	+2.5
KGM	Kluang	3.88	76	P	Pn	05 06 48.2	+1.6
KULM	Kulim	4.30	15	ePn	Pn	05 06 52.8	+0.5
SNG	Songkhla	6.13	10	P	Pn	05 07 18.0	+0.6
	1µm,1.0s						
SBJI	Serang	9.73	138	P	Pn	05 08 16.9	+10
	437nm,1.4s						
CBJI	Citeko	10.44	136	P	Pn	05 08 25.4	+8.8
	454nm,1.4s						
NNT	Nongplab	11.41	1	P	Pn	05 08 32.0	+2.1
BJII	Banjamegara	13.16	130	P	Pn	05 09 00.1	+6.4
	53nm,1.6s						
NST	Nakhon Sawan	14.49	2	P	Pn	05 09 15.8	+3.9
KKTK	Khon Kaen	15.48	12	P	Pn	05 09 30.0	+4.9
	864nm,0.7s						
KMMI	Kalianget	16.51	120	P	Pn	05 09 45.5	+7.0
	362nm,1.4s						
CM31	Chiang Mai Arr	17.26	358	eP	Pn	05 09 49.6	+1.8
KKM	Kota Kinabalu	17.34	73	P	Pn	05 09 51.8	+2.9
CHG	Chiang Mai	17.61	358	⇑P	Pn	05 09 53.9	+1.7
	55nm,0.9s						
CHTO	Chiang Mai	17.61	358	eP	Pn	05 09 53.4	+1.2
CHTO				pmax	pmax		
	comp=Z,66nm,1.1s						
CHTO	Chiang Mai	17.61	358	eP	Pn	05 09 53.4	+1.2
	comp=Z,66nm,1.1s						
NANT	Nan	17.62	4	⇓P	Pn	05 09 53.0	+0.6
	comp=Z,225nm,1.0s						
TSM	Tawau	18.58	80	P	Pn	05 10 08.0	+3.9
PALK	Pallekele	19.76	289	eP	Pn	05 10 19.5	+1.3
	comp=Z,47nm,1.0s						
QIZ	Qiongzhong	20.48	29	P	P	05 10 22.4	-2.2
QIZ				S	S	05 14 17.5	+4.2
QIZ				XS	sS	05 14 24.0	+3.8
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s						
QIZ				AMB	AMB		
	comp=Z,244nm,11.3s						
QIZ				LR	LR		
	comp=N,1µm,11.8s						
QIZ				LR	LR		
	comp=Z,1µm,11.1s,MS4.5						
MDRS	Chennai	22.51	303	ex	x	05 10 38.1	
MDRS				AMb	AMB	05 10 51.0	
	comp=Z,77nm,1.1s,mb5.1						
VIS	Vishakhapatnam	22.95	317	eP	P	05 10 51.2	+0.1
TRD	Trivandrum	23.66	289	eP	P	05 11 00.4	+2.0
TRD				AMb	AMB	05 11 04.1	
	comp=Z,121nm,1.7s,mb5.1						
KMI	Kunming	24.08	7	P	P	05 11 04.4	+2.2
KMI				S	S	05 15 18.2	-0.9
KMI				SS		05 16 09.6	
KMI				SSS		05 16 25.5	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
KMI				LR	LR		
	comp=N,724nm,12.6s,MS4.7						
KMI				LR	LR		
	comp=E,1µm,10.0s,MS4.7						
KMI				LR	LR		
	comp=Z,872nm,10.7s,MS4.5						
IMP	Imphal	24.16	347	ex	x	05 11 04.0	
GYA	Guiyang	26.12	15	P	P	05 11 20.0	-0.8
GYA				PP		05 12 01.2	
GYA				S	S	05 15 46.5	-5.2
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,250nm,6.7s						
GYA				LR	LR		
	comp=N,540nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=E,420nm,15.9s,MS4.3						
GYA				LR	LR		
	comp=Z,430nm,16.0s,MS4.1						
BOK	Bokaro	26.16	331	eP	P	05 11 22.1	+1.0
BOK				AMb	AMB	05 11 28.0	
	comp=Z,38nm,0.7s,mb5.0						
HYB	Hyderabad	26.25	309	i P	P	05 11 23.0	+1.1
HYB	Hyderabad	26.25	309	eP	P	05 11 23.0	+1.1
NGP	Nagpur	28.23	316	ex	x	05 11 37.1	
NGP				AMb	AMB	05 11 38.8	
	comp=Z,76nm,1.4s,mb5.1						
JIRN	Jiri	29.34	335	eP	P	05 11 50.1	+0.5
	comp=Z,188nm,1.1s,mb5.8						
AKL	Akola	29.39	313	ex	x	05 12 20.8	
AKL				AMb	AMB	05 12 23.7	
	comp=Z,27nm,0.8s,mb5.0						
LSA	Lhasa	29.54	345	P	P	05 11 51.5	+0.2
LSA	Lhasa	29.54	345	eP	P	05 11 52.2	+0.9

LSA pmax pmax
comp=Z,33nm,0.8s,mb5.1
LSA Lhasa 29.54 345 *e*P **P 05 11 52.2 +0.8**
comp=Z,33nm,0.8s,mb5.1
PKI Pulchoki 29.60 334 *e*P **P 05 11 51.9 0.0**
KAD Karad 29.69 304 *e*P **P 05 11 54.0 +1.3**
GUN Gumba 29.70 335 *e*P **P 05 11 53.2 +0.5**
comp=Z,174nm,0.8s,mb5.8
DMN Daman 29.77 334 *e*P **P 05 11 53.4 +0.1**
KKN Kakani 29.85 334 *e*P **P 05 11 54.1 +0.1**
comp=Z,51nm,0.6s,mb5.4
CD2 Chengdu 29.91 7 *e*P **P 05 11 55.3 +0.7**
CD2 PP PP 05 12 53.2 -9.0
CD2 PCP PcP 05 14 57.5 +0.3
CD2 S **S 05 16 51.1 -0.3**
CD2 SS SS 05 18 28.3 -30
CD2 SCS ScS 05 22 32.0 -2.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,40nm,9.2s
CD2 LR LR
comp=E,800nm,19.2s
CD2 LR LR
comp=Z,490nm,12.0s
QZH Quanzhou 30.01 36 P **P 05 11 59.7 +4.2**
QZH *e*S **S 05 16 56.5 +3.6**
QZH LR LR
comp=N,2μm,13.8s,MS5.0
QZH LR LR
comp=E,1μm,11.2s,MS5.0
QZH LR LR
comp=Z,2μm,12.8s,MS5.0
GKN Gorkha 30.32 333 *e*P **P 05 11 58.1 -0.1**
KOLN Koldanda 30.60 331 *e*P **P 05 12 00.9 +0.2**
comp=Z,103nm,0.8s,mb5.7
BHPL Bhopal 30.74 317 *e*P **P 05 12 03.1 +1.2**
BHPL AMb AMB 05 12 04.0
comp=Z,51nm,0.8s,mb5.4
YHNB Yeheng 31.54 40 *e*P **P 05 12 10.2 +1.2**
FITZ Fitzroy Crossi 31.99 128 P **P 05 12 11.4 -1.6**
comp=Z,2.0nm,0.5s,mb4.2,baz=324,slow=9.2,SNR=4.2
FITZ PcP PcP 05 15 02.8 +0.1
comp=Z,4.2nm,0.8s,baz=327,slow=12,SNR=4.7
LGTI Lohaghat 33.66 329 *i*P **P 05 12 28.0 +0.5**
XAN Xi'an 33.92 14 P **P 05 12 27.6 -2.2**
XAN AP pP 05 12 36.5 +2.0
XAN AMB AMB
comp=Z,13nm,1.0s,mb4.8
XAN LR LR
comp=E,793nm,14.7s
XAN LR LR
comp=Z,1μm,13.6s,MS4.8
NDI New Delhi 34.74 324 *e*P **P 05 12 36.8 -0.1**
NDI AMb AMB 05 12 38.0
comp=Z,195nm,1.6s,mb5.8
AJM Ajmer 34.78 319 *e*P **P 05 12 37.8 +0.5**
AJM AMb AMB 05 12 40.8
comp=Z,50nm,1.6s,mb5.2
LZH Lanzhou 35.04 6 *e*P **P 05 12 41.5 +2.0**
LZH AP pP 05 12 46.1 +2.0
LZH PP PP 05 14 00.6 +1.6
LZH *e*S **S 05 18 13.5 +2.4**
LZH SS SS 05 20 30.1 -13
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,152nm,5.6s
LZH LR LR
comp=E,957nm,13.5s
LZH LR LR
comp=Z,2μm,17.8s,MS4.9
KAKA Kakadu 35.41 114 *e*P **P 05 12 44.4 +1.7**
comp=Z,12nm,0.7s,mb4.9
DDI Dehra Dun 35.51 327 *e*P **P 05 12 42.5 -1.0**
NJ2 Nanjing 35.77 29 *e*P **P 05 12 45.2 -0.6**
NJ2 AP pP 05 12 55.0 +4.5
NJ2 XP sP 05 12 59.1 +6.7
NJ2 PP PP 05 14 06.7 -0.4
NJ2 S **S 05 18 20.0 -2.4**
NJ2 XS sS 05 18 34.0 +3.9
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,340nm,10.2s
NJ2 LR LR
comp=N,2μm,20.0s
NJ2 LR LR
comp=E,2μm,13.2s
NJ2 LR LR
comp=Z,2μm,13.6s
SSE Sheshan 36.19 32 *e*P **P 05 12 50.4 +1.0**
SSE AP pP 05 12 56.5 +2.4
SSE XP sP 05 12 59.4 +3.4
SSE PP PP 05 14 12.0 +0.3
SSE PCP PcP 05 15 16.4 +1.7
SSE S **S 05 18 30.8 +1.9**
SSE SCS ScS 05 23 05.5 -0.8
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,181nm,8.9s
SSE LR LR
comp=N,201nm,17.6s,MS4.2
SSE LR LR
comp=E,250nm,17.6s,MS4.2
SSE LR LR
comp=Z,408nm,15.4s,MS4.3
MUN Mundaring 36.49 156 *e*P **P 05 12 53.8 +1.8**
SMLA Simla 36.62 327 *e*P **P 05 12 53.1 +0.1**
SMLA AMb AMB 05 12 55.5
comp=Z,163nm,0.8s,mb5.9
KLBR Kellerberrin 36.82 154 *e*P **P 05 12 55.7 +1.0**
comp=Z,64nm,1.6s,mb5.2
SDNR Sundarnagar 37.01 327 *e*P **P 05 12 56.0 -0.3**
JOW Kunigami 37.63 45 P **P 05 13 02.8 +1.2**
comp=Z,20nm,0.8s,mb4.9,baz=279,slow=16,SNR=10.0
NWAO Narrogin (SRO) 37.74 155 P **P 05 13 04.0 +1.5**
comp=Z,31nm,0.8s,mb5.1,baz=329,slow=6.9,SNR=8.0
NWAO LR LR 05 27 52.6
comp=Z,421nm,18.7s,MS4.3,baz=182,slow=35
NWAO Narrogin (SRO) 37.74 155 *e*P **P 05 13 01.8 -0.8**
NWAO *e**PP pP 05 13 08.0 +0.7
NWAO pmax pmax
comp=Z,40nm,0.9s
NWAO Narrogin (SRO) 37.74 155 *e*P **P 05 13 01.8 -0.8**
comp=Z,40nm,0.9s,mb5.2
NWAO *e*pP pP 05 13 08.0 +0.7
GTA Gaotai 38.13 0 *e*P **P 05 13 05.2 -0.6**
GTA PP PP 05 14 35.1 +2.1
GTA PPP 05 14 56.4
GTA PCP PcP 05 15 21.1 +0.5
GTA S **S 05 18 56.7 -1.6**
GTA SCP ScP 05 19 06.3 -1.4
GTA PCS PcS 05 19 08.1 -1.4
GTA SCS ScS 05 23 13.3 -3.9
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,48nm,4.9s
GTA LR LR
comp=N,496nm,14.1s,MS4.8
GTA LR LR
comp=E,958nm,15.6s,MS4.8
GTA LR LR
comp=Z,541nm,13.3s,MS4.5
WRA Warramunga Arr 40.01 123 P **P 05 13 20.3 -1.3**
comp=Z,6.9nm,0.8s,mb4.5,baz=301,slow=9.1,SNR=9.9
WRA PcP PcP 05 15 26.2 -0.3
comp=Z,10nm,0.8s,baz=308,slow=2.5,SNR=14
WRAB Tennant Creek 40.02 123 P **P 05 13 21.0 -0.6**
comp=Z,89nm,0.6s,mb5.7,SNR=7.7
WRAB Tennant Creek 40.02 123 *e*P **P 05 13 20.8 -0.8**
WB2 Warramunga Arr 40.02 123 *e*P **P 05 13 19.9 -1.8**
NIL Nilore 40.69 325 P **P 05 13 27.7 +0.5**
comp=Z,112nm,1.1s,mb5.4,SNR=5.5
NIL Nilore 40.69 325 P **P 05 13 27.6 +0.4**
HHC Hu-ho-hao-te 41.04 14 *e*P **P 05 13 32.0 +1.9**
HHC AP pP 05 13 36.6 +1.8
HHC XP sP 05 13 39.0 +2.3
HHC PP PP 05 15 10.4 +5.6
HHC PCP PcP 05 15 31.3 +1.5
HHC PCS PcS 05 19 21.4 +0.6
HHC S **S 05 19 45.0 +3.0**
HHC SS SS 05 22 43.1 -1.1
HHC SCS ScS 05 23 33.4 -0.9
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb4.7
HHC AMB AMB
comp=Z,321nm,6.2s
HHC LR LR
comp=N,696nm,12.7s,MS4.8
HHC LR LR
comp=E,642nm,14.2s,MS4.8
HHC LR LR
comp=Z,684nm,12.6s,MS4.7
ASAR Alice Springs 41.48 129 P **P 05 13 32.1 -1.7**
comp=Z,4.8nm,0.6s,mb4.3,baz=301,slow=7.7,SNR=25
ASAR PcP PcP 05 15 31.6 +0.3
comp=Z,13nm,0.7s,baz=314,slow=2.8,SNR=18
ASAR ScP ScP 05 19 19.8 -1.0
comp=Z,1.0nm,1.0s,baz=284,slow=5.0,SNR=4.4
ASAR PKiKP PKiKP 05 22 37.1 -1.4
comp=Z,0.4nm,0.6s,baz=318,slow=1.5,SNR=5.5
ASAR Alice Springs 41.48 129 P **P 05 13 32.1 -1.7**
ASAR 05 15 31.6
ASAR Alice Springs 41.48 129 P **P 05 13 32.1 -1.7**
ASAR PcP PcP 05 15 31.6 +0.3
ASAR ScP ScP 05 19 19.8 -1.0
AS31 Alice Springs 41.49 129 *e*P **P 05 13 32.6 -1.2**
AS31 *e*PcP PcP 05 15 31.3 +0.1
BJI Beijing 41.61 19 *e*P **P 05 13 37.6 +2.8**
BJI AMB AMB
comp=Z,23nm,0.8s,mb4.9
FORT Forrest 41.72 142 *e*P **P 05 13 35.4 -0.3**
comp=Z,35nm,0.6s,mb5.2
WMQ Urumqi 43.83 348⇓ *i*P **P 05 13 53.6 +0.8**
WMQ AP pP 05 13 58.0 +0.5
WMQ PPP 05 16 14.0
WMQ SCP ScP 05 19 30.0 -0.2
WMQ S **S 05 20 23.5 +0.5**
WMQ AMB AMB
comp=Z,49nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,192nm,3.7s
WMQ LR LR
comp=N,696nm,23.6s,MS4.6
WMQ LR LR
comp=E,703nm,24.0s,MS4.6
WMQ LR LR
comp=Z,520nm,22.8s,MS4.4
KSH Kashi 43.86 333 *e*P **P 05 13 53.6 +0.5**
KSH *e*AP pP 05 13 58.2 +0.4
KSH *e*PP PP 05 15 37.1 +1.9
KSH *e*PCP PcP 05 15 40.3 +1.1
KSH *e*PPP 05 16 13.2
KSH *e*SCP ScP 05 19 30.0 -0.3
KSH *e*PCS PcS 05 19 32.3 +0.2
KSH *e*S **S 05 20 22.8 -0.8**
KSH AMB AMB
comp=Z,430nm,3.3s
KSH LR LR
comp=N,310nm,5.4s
KSH LR LR
comp=E,353nm,5.6s
KSH LR LR
comp=Z,456nm,5.5s
KS15 Wonju Array Si 44.60 33 *e*P **P 05 13 59.4 +0.4**
JMDO Jabal Madar 45.49 301 P **P 05 14 07.5 +1.5**
comp=8.2
SMDO Samad 45.80 302⇑ P **P 05 14 09.5 +1.1**
SNR=12
BIDO Bidbid 45.91 302⇑ P **P 05 14 10.7 +1.4**
SNR=13
ULHL Ulahol 46.00 336 P **P 05 14 10.6 +0.5**
SNR=20
KZA Kyzart 46.28 335 P **P 05 14 13.4 +1.2**
SNR=29
BSY Bisya 46.41 301⇑ P **P 05 14 14.7 +1.5**
SNR=12
HOQ Hoqain 46.62 302⇓ P **P 05 14 16.3 +1.4**
SNR=8.8
TKM2 Tokmak 2 46.83 336 P **P 05 14 17.4 +0.8**
SNR=56
KBK Karagaybulak 46.88 335 P **P 05 14 18.4 +1.4**
SNR=26
SONM Songino Array 46.93 6 P **P 05 14 16.8 -0.6**
comp=Z,10nm,0.8s,mb4.8,baz=186,slow=9.8,SNR=19
SONM PcP PcP 05 15 49.4 -0.4
comp=Z,13nm,0.8s,baz=185,slow=4.0,SNR=13
SONM ScP ScP 05 19 41.1 -1.9
comp=Z,1.5nm,0.8s,baz=195,slow=4.0,SNR=4.0
SONM Songino Array 46.93 6 P **P 05 14 16.8 -0.6**
SONM 05 15 49.4
AML Almayashu 46.99 334 P **P 05 14 19.8 +1.9**
SNR=9.4
ULN Ulaanbaatar 47.03 7 P **P 05 14 18.2 0.0**
SNR=8.9
ULN P 05 14 19.6
SNR=8.1
ULN Ulaanbaatar 47.03 7⇑ *e*P **P 05 14 18.2 0.0**
ULN Ulaanbaatar 47.03 7 *e*P **P 05 14 17.8 -0.4**
AAK Ala-Archa 47.05 335 P **P 05 14 20.0 +1.6**
SNR=20
AAK Ala-Archa 47.05 335 P **P 05 14 18.4 +0.1**
comp=Z,285nm,1.5s,mb6.0,SNR=16
AAK Ala-Archa 47.05 335*c* *i*P **P 05 14 18.2 -0.1**
AAK pmax pmax
comp=Z,88nm,1.7s,mb5.4
AAK Ala-Archa 47.05 335 *e*P **P 05 14 17.5 -0.9**
FRU Bishkek 47.16 335⇑ *i*P **P 05 14 19.5 +0.3**
FRU pmax pmax
comp=Z,170nm,2.0s,mb5.6
ARQ Araqi 47.20 301⇓ P **P 05 14 21.0 +1.5**
SNR=8.7
CHMS Chumysh 47.24 335 P **P 05 14 20.2 +0.4**
SNR=17
EKS2 Erkin-Say 47.38 334 P **P 05 14 21.9 +1.0**
SNR=48
RBK Rabkut 47.44 293⇓ P **P 05 14 22.7 +1.4**
SNR=7.9
USP Ospenovka 47.57 335 P **P 05 14 22.9 +0.6**
SNR=33
MK31 Makanchi Array 47.94 344 P **P 05 14 25.0 -0.2**
MK31 pmax pmax
comp=Z,48nm,0.7s,mb5.6
MKAR Makanchi Array 47.94 344 P **P 05 14 25.1 -0.1**
comp=Z,65nm,0.7s,mb5.8,baz=148,slow=7.1,SNR=272
WHFO Wadi Hawf 47.95 293⇑ P **P 05 14 26.3 +1.0**
SNR=9.0
HATD Hatta, Dubai 48.09 303⇑ P **P 05 14 27.6 +1.2**
SNR=11
ASHO Ashiyiah 48.10 303⇑ P **P 05 14 27.6 +1.2**
SNR=7.0
ABTO Aybut 48.24 292⇓ P **P 05 14 29.0 +1.5**
SNR=7.1
CN2 Changchun 48.37 25⇑ P **P 05 14 27.4 -1.1**
CN2 *e*S **S 05 21 30.3 +2.0**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.6
CN2 LR LR
comp=E,300nm,16.0s,MS4.6
CN2 LR LR
comp=Z,500nm,13.0s,MS4.7
PMG Port Moresby 48.55 104 *i*P **P 05 14 30.8 +0.8**
KK31 Karatay Array 49.21 332 *i*P **P 05 14 34.6 -0.4**
KKAR Karatay Array 49.21 332 *i*P **P 05 14 34.6 -0.4**
KKAR pmax pmax
comp=Z,17nm,0.8s,mb5.1
MJAR Matsushiro Arr 50.21 41 P **P 05 14 42.2 -0.4**
comp=Z,2.5nm,0.8s,mb4.3,baz=234,slow=6.4,SNR=9.5
CTAO Charters Tower 50.37 117 *e*P **P 05 14 43.9 +0.1**
CTAO pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
CTAO Charters Tower 50.37 117 *e*P **P 05 14 43.9 +0.1**
comp=Z,5.8nm,0.7s,mb4.7
TLY Talaya 50.52 3 *e*P **P 05 14 46.1 +1.2**
TLY *e* 05 16 08.4
TLY *e*S **S 05 21 46.9 -12**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,340nm,15.0s,MS4.5
TLY Talaya 50.52 3 *e*P **P 05 14 46.2 +1.3**
MDJ Mudanjiang 50.84 27 P **P 05 14 48.2 +0.8**
MDJ PCP PcP 05 16 04.0 0.0
MDJ PCS PcS 05 20 02.0 +0.5
MDJ S **S 05 22 05.2 +2.3**
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,22nm,3.6s
MDJ LR LR
comp=N,564nm,17.7s,MS4.8
MDJ LR LR
comp=E,532nm,13.5s,MS4.8
MDJ LR LR
comp=Z,884nm,14.3s,MS4.9
STKA Stephens Creek 51.57 133 *e*P **P 05 14 51.7 -1.2**
comp=Z,19nm,1.1s,mb4.9
STKA Stephens Creek 51.57 133 P **P 05 14 52.1 -0.7**
comp=Z,17nm,0.8s,mb5.0,baz=307,slow=7.0,SNR=14
KURK Kurchatov 52.52 343 P **P 05 14 59.7 -0.3**
comp=Z,718nm,0.9s,SNR=85
ABKT Ailbek 52.80 319 P **P 05 15 02.1 +0.1**
comp=Z,348nm,1.2s,mb6.2,SNR=7.0
ABKT Ailbek 52.80 319 P **P 05 15 02.5 +0.4**
ZAL Zalesovo 54.05 349 P **P 05 15 11.2 0.0**
comp=Z,41nm,0.7s,mb5.5,baz=310,slow=5.6,SNR=173
ZAL Zalesovo 54.05 349 *i*P **P 05 15 11.1 -0.1**
ZAL pmax pmax
comp=Z,41nm,0.7s
OPO Ambohidratompo 55.02 246 P **P 05 15 19.9 +1.6**
comp=Z,9.7nm,0.9s,mb4.8,baz=76,slow=9.8,SNR=5.7
LBOS 55.16 286 *e*P **P 05 15 21.6 +2.4**
NVS Novosibirsk 55.20 349⇑ *i*P **P 05 15 18.2 -1.4**
NVS *e*S **S 05 22 55.5 -6.9**
NVS pmax pmax
comp=Z,56nm,1.2s,mb5.5
NVS pmax pmax
comp=N,46nm,1.3s
NVS pmax pmax
comp=E,37nm,1.3s
NVS smax
comp=E,21nm,1.5s
KBD Kabd 56.67 305 *e*P **P 05 15 30.3 +0.2**
KBD AMb AMB 05 15 31.5
comp=Z,314nm,0.5s
VOSK Vostochnaya 56.68 340 P **P 05 15 29.2 -0.9**
VOSK pmax pmax
comp=Z,13nm,1.0s,mb4.9
RDF Al-Radifah 56.71 304 *e*P **P 05 15 30.6 +0.2**
RDF AMb AMB 05 15 31.7
comp=Z,163nm,0.7s,mb6.2
UMR Umm Al-Rimmam 56.78 305 AMb AMB 05 15 36.5
comp=Z,192nm,0.9s,mb6.0
NAY Al-Naaiem 57.07 305 *e*P **P 05 15 32.8 -0.1**
NAY AMb AMB 05 15 34.0
comp=Z,96nm,0.6s,mb6.0
BVA0 Borovoye Array 57.14 339 *i*P **P 05 15 32.4 -1.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 57.14 339 P **P 05 15 32.2 -1.1**
comp=Z,19nm,0.7s,mb5.3,baz=142,slow=8.7,SNR=127
BVAR PcP PcP 05 16 27.9 -0.1
comp=Z,9.3nm,0.9s,baz=159,slow=5.9,SNR=4.4
MIB Mutribah 57.18 305 *e*P **P 05 15 33.9 +0.2**
MIB AMb AMB 05 15 35.2
comp=Z,241nm,0.8s,mb6.3
ATD Arta Tunnel 57.19 283 P **P 05 15 35.2 +1.5**
comp=Z,12nm,0.8s,mb5.0,baz=244,slow=5.6,SNR=5.5
ATD Arta Tunnel 57.19 283 P **P 05 15 35.2 +1.5**
BRVK Borovoye 57.20 339 P **P 05 15 33.1 -0.7**
comp=Z,185nm,0.7s,mb6.2,SNR=13
BRVK Borovoye 57.20 339 *e*P **P 05 15 32.6 -1.2**
BRVK pmax pmax
comp=Z,23nm,1.0s,mb5.2
BRVK Borovoye 57.20 339 *e*P **P 05 15 32.6 -1.2**
comp=Z,23nm,1.0s,mb5.2
BRVK *e*pP pP 05 15 36.7 -2.0
ZRNK Zerenda 57.57 339 *i*P **P 05 15 35.3 -1.1**
ZRNK pmax pmax
comp=Z,18nm,0.8s,mb5.2
CHKZ Chkalovo 57.59 340 *i*P **P 05 15 35.6 -1.0**
BOD Bodaibo 57.71 9⇓ *i*P **P 05 15 36.9 -0.5**
BOD pmax pmax
comp=Z,35nm,1.0s,mb5.3
AB31 Akbulak array 58.72 331 *i*P **P 05 15 43.7 -0.8**
YSS Yuzh-Sakhalins 59.13 33⇑ *e*P **P 05 15 46.9 -0.4**
YSS pmax pmax
comp=Z,28nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 59.13 33 *e*P **P 05 15 46.4 -1.0**
comp=Z,10nm,0.6s,mb5.0
AKTK Aktyubinsk 60.44 331 P **P 05 15 55.2 -1.2**
AKTO Aktyubinsk 60.44 331 P **P 05 15 55.2 -1.2**
comp=Z,20nm,1.0s,mb5.1,baz=129,slow=7.3,SNR=42
HNR Honiara 61.05 101 P **P 05 16 01.1 +0.6**
comp=Z,24nm,0.3s,mb5.8,baz=212,slow=1.6,SNR=6.3
KMBO Kilima Mbogo 62.33 268 P **P 05 16 11.9 +2.8**
comp=Z,6.4nm,1.0s,mb4.7,baz=61,slow=9.4,SNR=11
KMBO Kilima Mbogo 62.33 268⇑ *e*P **P 05 16 11.8 +2.7**
GNI Garni 63.00 315 *e*P **P 05 16 13.9 +0.3**
GNI pmax pmax
comp=Z,67nm,1.0s
GNI Garni 63.00 315 *e*P **P 05 16 13.9 +0.3**
comp=Z,67nm,1.0s,mb5.7
GNI *e*pP pP 05 16 18.6 +0.2
DGRG David-gareji 63.09 317 P **P 05 16 14.9 +0.7**
MTA Mtatsminda 63.59 317 P **P 05 16 17.5 0.0**
TBLG Delisi 63.64 317 P **P 05 16 18.5 +0.7**
SVE Sverdlovsk 63.66 337⇑ *e*P **P 05 16 16.7 -1.3**
SVE *e* 05 16 50.0
SVE pmax pmax
comp=Z,84nm,1.3s,mb5.6
ARU Arti 64.20 336 P **P 05 16 20.0 -1.5**
comp=Z,142nm,1.3s,mb5.8,SNR=7.5
ARU Arti 64.20 336 *e*P **P 05 16 20.2 -1.3**
ARU pmax pmax
comp=Z,51nm,1.7s,mb5.3
ARU Arti 64.20 336 *e*P **P 05 16 20.2 -1.3**
comp=Z,28nm,1.0s,mb5.2
ZEI Tsey 64.63 318 *e*P **P 05 16 25.0 +0.6**
ZEI *e**PP pP 05 16 32.7 +3.4
ZEI *e* 05 18 48.9
ZEI pmax pmax
comp=Z,46nm,0.6s,mb5.7
ONI Oni 64.86 317 P **P 05 16 26.1 +0.2**
YAK Yakutsk 64.88 15 *e*P **P 05 16 24.6 -1.4**
KIV Kislovodsk 65.92 319 P **P 05 16 32.8 +0.1**
comp=Z,349nm,1.1s,mb6.3,SNR=7.3
KIV Kislovodsk 65.92 319*c* *i*P **P 05 16 32.5 -0.2**
KIV pmax pmax
comp=Z,89nm,1.3s,mb5.6
KIV Kislovodsk 65.92 319 *e*P **P 05 16 32.6 -0.1**
ASF Jabal al Asfar 66.44 305 P **P 05 16 37.4 +1.4**
comp=Z,17nm,0.8s,mb5.2,baz=337,slow=5.0,SNR=28
MALT Malatya 66.94 312⇑ *i*P **P 05 16 39.9 +0.7**
MALT Malatya 66.94 312⇑ P **P 05 16 39.9 +0.7**
MIR Mirnyy 67.67 183 *d*P **P 05 16 47.0 +3.2**
MIR pmax pmax
comp=Z,220nm,1.0s,mb6.1
CASY Casey 67.69 175 *e*P **P 05 16 44.2 +0.2**
ANN Anapa 69.73 318 *e*P **P 05 16 58.6 +1.9**
ANN pmax pmax
comp=Z,29nm,1.1s,mb5.1
CSS Prodhromos 69.99 307 *e*P **P 05 16 58.4 +0.1**
BR131 Keskin Array S 70.92 312 *e*P **P 05 17 03.4 -0.5**
comp=Z,23nm,0.7s,mb5.2
BR131 *e*pP pP 05 17 07.5 -1.5
BRTR Keskin Array B 70.92 312 P **P 05 17 03.2 -0.7**
comp=Z,22nm,0.6s,mb5.3,baz=130,slow=7.0,SNR=130
BRTR Keskin Array B 70.92 312 *i*P **P 05 17 03.2 -0.7**
BRTR pmax pmax
comp=Z,22nm,0.6s
VOR Voronezh 71.18 325 P **P 05 17 05.0 -0.5**
VOR pmax pmax
comp=Z,90nm,1.6s,mb5.5
ANTO Ankara 71.58 312⇑ *i*P **P 05 17 07.5 -0.5**
ANTO Ankara 71.58 312 *e*P **P 05 17 07.5 -0.5**
ANTO pmax pmax
comp=Z,105nm,1.4s,mb5.6
ANTO Ankara 71.58 312 *e*P **P 05 17 07.5 -0.5**
comp=Z,105nm,1.4s,mb5.6
SIM Simferopol' 72.02 317⇑ *e*P **P 05 17 10.4 -0.2**
SIM S ScS 05 27 19.6 +3.5
SIM pmax pmax
comp=Z,42nm,0.8s,mb5.4
LSZ Lusaka 72.33 254 P **P 05 17 14.4 +1.9**
comp=Z,8.7nm,0.7s,mb4.8,baz=84,slow=6.4,SNR=22
LSZ Lusaka 72.33 254 P **P 05 17 14.6 +2.1**
SNR=5.4
LSZ Lusaka 72.33 254 *e*P **P 05 17 14.1 +1.6**

LSZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
LSZ Lusaka 72.33 254 *eP* **P 05 17 14.1 +1.6**
comp=Z,21nm,1.1s,mb5.0
ISP Isparta 72.85 309 *eP* **P 05 17 13.7 -1.9**
ISP Isparta 72.85 309 *eP* **P 05 17 14.1 -1.5**
TIXI Tiksi 72.89 9 *eP* **P 05 17 14.4 -1.4**
MAW Mawson 73.16 194⇑ *iP* **P 05 17 18.5 +1.1**
comp=Z,13nm,0.9s,mb4.9
MAW Mawson 73.16 194 P **P 05 17 19.1 +1.7**
comp=Z,13nm,0.8s,mb4.9,baz=26,slow=7.4,SNR=26
MAW Mawson 73.16 194⇑ *iP* **P 05 17 18.5 +1.1**
MAW pmax pmax
comp=Z,13nm,0.9s
MOS Moscow 73.62 329 *eP* **P 05 17 18.4 -1.7**
MOS *e* 05 20 07.5
MOS pmax pmax
comp=Z,200nm,1.8s,mb5.8
MOS pmax pmax
comp=Z,67nm,1.2s,mb5.5
OBN Obninsk 73.94 328*c iP* **P 05 17 21.0 -1.0**
OBN pmax pmax
comp=Z,115nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
OBN Obninsk 73.94 328 *eP* **P 05 17 21.5 -0.5**
comp=Z,100nm,1.2s,mb5.6
ARG Arkhangelos 74.40 307 *eP* **P 05 17 25.0 +0.3**
KARP Karpathos 75.06 306 *eP* **P 05 17 28.5 0.0**
SMG Samos 75.68 309 *eP* **P 05 17 32.0 -0.1**
TIRR Tirgusor 75.82 316⇑ *iP* **P 05 17 32.2 -0.7**
TIRR Tirgusor 75.82 316⇑⇑ *iP* **P 05 17 32.2 -0.7**
LBTB Lobatse 75.95 244 *eP* **P 05 17 35.3 +1.7**
LBTB pmax pmax
comp=Z,22nm,1.0s,mb5.0
LBTB Lobatse 75.95 244 *eP* **P 05 17 35.3 +1.7**
comp=Z,22nm,1.0s,mb5.0
SANT Santorini 76.55 307 *eP* **P 05 17 38.7 +1.6**
JMB Yambol 76.72 313 *eP* **P 05 17 37.5 -0.5**
BOSA Boshof 76.76 240 P **P 05 17 39.5 +1.3**
comp=Z,11nm,0.8s,mb4.8,baz=98,slow=7.6,SNR=7.4
BOSA Boshof 76.76 240 *eP* **P 05 17 38.8 +0.6**
BOSA e*PP pP 05 17 43.8 +0.6
BOSA pmax pmax
comp=Z,36nm,1.4s,mb5.1
BOSA Boshof 76.76 240 *eP* **P 05 17 38.8 +0.6**
comp=Z,36nm,1.4s,mb5.1
BOSA *ep*P pP 05 17 43.8 +0.5
AKASG Malin Array Be 76.77 322 P **P 05 17 36.9 -1.4**
comp=Z,6.6nm,0.6s,mb4.7,baz=88,slow=4.7,SNR=49
AKBB Malin Array Si 76.77 322 *eP* **P 05 17 36.6 -1.7**
SIVA Sivas 76.88 306 *eP* **P 05 17 39.0 +0.1**
TMCR Tamitsa 76.93 337 *eP* **P 05 17 38.2 -1.0**
TMCR pmax pmax
comp=Z,70nm,1.4s,mb5.4
LIA Limnos Island 77.32 311 *eP* **P 05 17 40.5 -0.8**
VAM Vamos 77.43 306 *eP* **P 05 17 42.5 +0.6**
GVD Gavdhos 77.44 305 *eP* **P 05 17 41.6 -0.4**
KARN Karanos 77.66 306 *eP* **P 05 17 42.2 -1.0**
MLR Muntele Rosu 77.75 316 P **P 05 17 43.1 -0.7**
comp=Z,37nm,1.0s,mb5.3,baz=133,slow=1.6,SNR=33
MLR Muntele Rosu 77.75 316⇑ *iP* **P 05 17 43.8 0.0**
MLR Muntele Rosu 77.75 316⇑⇑ *iP* **P 05 17 43.8 0.0**
PVL Pavlikeni 77.76 314 *i P* **P 05 17 43.4 -0.4**
PLD Plovdiv 78.03 313 *eP* **P 05 17 44.5 -0.8**
PAIG Paliouri 78.46 310 *eP* **P 05 17 46.8 -0.9**
PGB Panagyurishte 78.50 313 *i P* **P 05 17 46.3 -1.6**
NVR Nevrokopi 78.54 312 *eP* **P 05 17 47.5 -0.6**
VLI Veliai 78.61 307 *eP* **P 05 17 48.0 -1.5**
BURAR Bucovina Array 78.65 318⇑ *iP* **P 05 17 49.4 +0.7**
BURAR Bucovina Array 78.65 318⇑⇑ *iP* **P 05 17 49.4 +0.7**
MMB Musomiste 78.67 312 *eP* **P 05 17 48.0 -0.9**
SRS Serrai 78.70 312 *eP* **P 05 17 47.8 -1.2**
XOR Xorichti 78.76 310 *eP* **P 05 17 47.9 -1.4**
SOH Sokhos 78.84 311 *eP* **P 05 17 48.8 -1.0**
HORT Hortiatis 79.00 311 *eP* **P 05 17 49.4 -1.2**
THE Thessaloniki 79.10 311 *eP* **P 05 17 49.6 -1.6**
KKB Krupnik 79.19 312 *i P* **P 05 17 49.6 -2.1**
VTS Vitosha 79.20 313 *eP* **P 05 17 51.4 -0.4**
VTS Vitosha 79.20 313⇑ *iP* **P 05 17 51.3 -0.5**
VTS Vitosha 79.20 313 *i P* **P 05 17 50.9 -0.9**
KNT Kendrikon 79.23 312 *eP* **P 05 17 49.8 -2.1**
JOF Joensuu 79.24 334 *ep* **P 05 17 50.3 -1.7**
comp=Z,11nm,0.8s,mb4.8
AGG Agios Georgios 79.38 309 *eP* **P 05 17 51.0 -1.7**
LIT Litokhoron 79.39 310 *eP* **P 05 17 52.5 -0.3**
ITM Ithomi 79.47 307 *eP* **P 05 17 52.5 -0.7**
VAY Valandovo 79.50 312 *eP* **P 05 17 51.4 -1.9**
VAY Valandovo 79.50 312⇑ *iP* **P 05 17 51.5 -1.8**
GRG Griva 79.57 311 *eP* **P 05 17 52.5 -1.3**
LVV L'vov 79.83 320⇑ *iP* **P 05 17 54.7 -0.5**
LVV *e* 05 20 55.8
STIP Stip 79.83 312 *eP* **P 05 17 53.7 -1.5**
RLS Riolos of Patr 79.93 308 *eP* **P 05 17 55.5 -0.2**
APA Apatity 80.05 339⇑ *iP* **P 05 17 55.4 -1.0**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
DRGR 80.19 317⇑ *iP* **P 05 17 57.3 +0.2**
DRGR 80.19 317⇑⇑ *iP* **P 05 17 57.3 +0.2**
MEV Metsovon 80.31 310 *eP* **P 05 17 56.6 -1.2**
FNA Florina 80.32 311 *eP* **P 05 17 56.5 -1.4**
BIA Bitola 80.39 312 *eP* **P 05 17 56.1 -2.1**
SKO Skopje 80.42 312⇑ *iP* **P 05 17 57.7 -0.7**
VLS Valsamata 80.63 308 *eP* **P 05 17 58.5 -1.0**
LKD Levkas 80.64 309 *eP* **P 05 17 59.1 -0.5**
SYO Syowa Base 80.64 198‖ *eP* **P 05 18 00.0 +0.4**
SYO Syowa Base 80.64 198‖ *epP* pP 05 18 04.2 -0.4
KWP Kalwaria 80.64 320 *eP* **P 05 17 59.7 +0.1**
UZH Uzhgorod 80.75 319 *eP* **P 05 18 01.0 +0.8**
UZH *e* 05 18 20.0
UZH pmax pmax
comp=Z,24nm,1.0s,mb5.1
BZS Buzias 80.77 316⇑ *iP* **P 05 18 00.0 -0.3**
BZS Buzias 80.77 316⇑⇑ *iP* **P 05 18 00.0 -0.2**
OHR Ohrid 80.79 311⇑ *iP* **P 05 17 58.2 -2.1**
KOLS Kolonicke sedl 80.81 319 *eP* **P 05 18 00.6 +0.1**
KOLS *ep*P pP 05 18 05.6 +0.1
IGT Igoumenitsa 80.97 310 *eP* **P 05 18 00.7 -0.6**
SUR Sutherland 81.08 237 *eP* **P 05 18 04.1 +2.2**
comp=Z,26nm,1.2s,mb5.0
SUW Suwalki 81.11 325 *eP* **P 05 18 01.3 -0.8**
FINES FINESS Array B 81.17 332 P **P 05 18 01.5 -0.9**
comp=Z,8.8nm,0.6s,mb4.9,baz=104,slow=6.5,SNR=79
FINES FINESS Array B 81.17 332 P **P 05 18 01.5 -0.9**
KAF Kangasniemi 81.23 333 *ep* **P 05 18 01.7 -1.0**
comp=Z,25nm,0.5s,mb5.4,baz=99,slow=4.9
KAF Kangasniemi 81.23 333 *eP* **P 05 18 01.7 -1.0**
KAF pmax pmax
comp=Z,25nm,0.5s,mb5.4
CRVS Cervenica-Dubn 81.34 319 *eP* **P 05 18 03.0 -0.3**
KEK Kerkira 81.40 310 *eP* **P 05 18 03.0 -0.6**
STHS Stebnicka Huta 81.55 320 *eP* **P 05 18 04.5 +0.1**
STHS pmax pmax
comp=Z,14nm,0.9s,mb4.9
STHS Stebnicka Huta 81.55 320 *eP* **P 05 18 04.5 +0.1**
comp=Z,14nm,0.9s,mb4.9
STHS *e* pP 05 18 09.1 -0.3
DIVS Divcibare 81.73 314 *eP* **P 05 18 05.1 -0.2**
KECS Kecovo 81.92 319 *eP* **P 05 18 06.0 -0.4**
KECS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KECS Kecovo 81.92 319 *eP* **P 05 18 06.0 -0.4**
comp=Z,7.8nm,1.1s,mb4.5
NIE Niedzica 82.16 320 *eP* **P 05 18 08.2 +0.6**
PSZ Piszkesteto 82.24 318‖ *eP* **P 05 18 07.9 -0.1**
PSZ Piszkesteto 82.24 318⇑ *iP* **P 05 18 08.0 0.0**
PSZ Piszkesteto 82.24 318⇑⇑ *iP* **P 05 18 08.0 -0.1**
OJC Ojcow 82.59 320 *eP* **P 05 18 09.4 -0.5**
TSUM Tsumeb 82.77 251 *eP* **P 05 18 12.5 +1.7**
comp=Z,25nm,1.0s,mb5.2
TSUM *ep*P pP 05 18 17.6 +1.8
BUD Budapest 82.78 318 *epcP* 05 18 17.9
PKSM Moragy 82.90 316⇓ *iP* **P 05 18 11.2 -0.3**
PKSM Moragy 82.90 316⇓⇓ *iP* **P 05 18 11.2 -0.3**
KEV Kevo 82.97 340 *ep* **P 05 18 09.5 -2.3**
comp=Z,21nm,0.9s,mb5.2
KEV Kevo 82.97 340 *eP* **P 05 18 09.5 -2.3**
KEV pmax pmax
comp=Z,21nm,0.9s,mb5.2
VYHS Vyhne 83.01 319 *eP* **P 05 18 11.6 -0.4**
VYHS pmax pmax
comp=Z,13nm,1.3s,mb4.8
VYHS Vyhne 83.01 319 *eP* **P 05 18 11.6 -0.4**
comp=Z,13nm,1.3s,mb4.8
ARCES ARCESS Array B 83.42 340 P **P 05 18 13.4 -0.7**
comp=Z,9.5nm,0.5s,mb5.1,baz=100,slow=4.5,SNR=96
ARE0 ARCESS Array S 83.42 340 *eP* **P 05 18 13.2 -0.9**
OKC Ostrava-Krasne 83.60 320 *eP* **P 05 18 15.2 +0.1**
MORC Moravsky Berou 83.99 320⇑ *iP* **P 05 18 17.0 -0.1**
MORC Moravsky Berou 83.99 320⇑⇑ *iP* **P 05 18 17.0 -0.1**
ZST Bratislava 84.13 318 *eP* **P 05 18 18.0 +0.2**
ZST pmax pmax
comp=Z,21nm,1.1s,mb5.2
ZST Bratislava 84.13 318 *eP* **P 05 18 18.0 +0.2**
comp=Z,21nm,1.1s,mb5.2
ZST *e* pP 05 18 21.7 -1.1
VRAC Vranov 84.56 319 P **P 05 18 19.4 -0.5**
comp=Z,1.2nm,0.4s,mb4.4,baz=71,slow=8.7,SNR=5.1
KOGS Kog 84.58 316 *i P* **P 05 18 20.1 0.0**
KOGS *i* pP 05 18 24.0 -1.1
DPC Dobruska-Polom 84.82 320 *eP* **P 05 18 21.5 +0.2**
DPC *epP* pP 05 18 24.8 -1.5
KSP Ksiaz 84.88 321 *eP* **P 05 18 21.9 +0.3**
KSP Ksiaz 84.88 321 *eP* **P 05 18 21.7 +0.1**
GCIS Gornji Cirnik 84.97 316 *i P* **P 05 18 22.2 +0.2**
UPC Upice 85.03 320 *eP* **P 05 18 22.6 +0.3**
UPC *epP* pP 05 18 26.0 -1.4
ARSA Arzberg 85.13 317⇑ *iP* **P 05 18 22.8 0.0**
comp=Z,22nm,1.4s,mb5.1,SNR=5.8
VNDA Vanda 85.27 169 P **P 05 18 23.3 -0.2**
comp=Z,4.9nm,0.9s,mb4.6,baz=298,slow=6.2,SNR=17
VNDA Vanda 85.27 169 *eP* **P 05 18 22.6 -0.9**
VNDA *e*PP pP 05 18 27.6 -1.0
VNDA pmax pmax
comp=Z,24nm,1.5s
VNDA Vanda 85.27 169 *eP* **P 05 18 22.6 -1.0**
comp=Z,24nm,1.5s,mb5.1
VNDA *epP* pP 05 18 27.6 -1.0
TREC Trest 85.28 319 *eP* **P 05 18 23.7 +0.1**
PERS Pernice 85.37 317 *eP* **P 05 18 24.1 +0.1**
VAE Valguarnera 85.46 307 P **P 05 18 26.6 +2.1**
comp=Z,14nm,1.0s,mb5.0,baz=40,slow=16,SNR=3.7
LJU Ljubljana 85.74 316 *i P* **P 05 18 26.3 +0.4**
LJU *e* pP 05 18 30.1 -0.8
PRU Pruhonice 85.94 320 *eP* **P 05 18 26.8 -0.1**
PRU *epP* pP 05 18 31.0 -0.9
MOA Molln 86.01 318⇑ *iP* **P 05 18 26.8 -0.4**
comp=Z,12nm,1.0s,mb5.1
CADS Cadrg 86.30 316 *i P* **P 05 18 28.3 -0.4**
BRG Berggiesshubel 86.37 321 *eP* **P 05 18 28.9 -0.1**
comp=Z,38nm,1.7s,mb5.3
BRG Berggiesshubel 86.37 321 *eP* **P 05 18 29.2 +0.2**
comp=Z,9.9nm,1.1s,mb5.0
BRG *e* 05 19 05.2
comp=Z,5.5nm,1.2s
SBA Scott Base 86.37 169 *eP* **P 05 18 30.0 +1.0**
SBA pmax pmax
comp=Z,15nm,1.0s,mb5.2
SBA Scott Base 86.37 169 *eP* **P 05 18 30.0 +1.0**
comp=Z,15nm,1.0s,mb5.2
SBA *epP* pP 05 18 33.2 -0.8
GEC2 GERESS Array S 86.43 319 *eP* **P 05 18 29.3 0.0**
comp=Z,25nm,1.1s,mb5.4
GEC2 GERESS Array S 86.43 319 *eP* **P 05 18 29.3 0.0**
GEC2 pmax pmax
comp=Z,25nm,1.1s,mb5.4
GERES GERESS Array B 86.43 319 P **P 05 18 29.1 -0.2**
comp=Z,6.2nm,0.8s,mb4.9,baz=102,slow=5.6,SNR=47
KHC Kasperske Hory 86.53 319 *eP* **P 05 18 29.5 -0.3**
KHC *epP* pP 05 18 33.1 -1.7
RUE Ruedersdorf 86.54 322 *eP* **P 05 18 29.8 0.0**
comp=Z,64nm,0.9s,mb5.8
FBE Freiberg 86.74 321 *eP* **P 05 18 30.8 0.0**
comp=Z,50nm,1.7s,mb5.5
CLL Collm 86.98 321 *eP* **P 05 18 31.5 -0.5**
comp=Z,42nm,1.5s,mb5.5
CLL Collm 86.98 321⇓ *iP* **P 05 18 32.0 0.0**
comp=Z,42nm,1.5s,mb5.5
CLL *i* pP pP 05 18 35.4 -1.6
CLL Collm 86.98 321⇓⇓ *iP* **P 05 18 32.0 0.0**
CLL pmax pmax
comp=Z,42nm,1.5s,mb5.5
WET Wettzell 86.98 319 *eP* **P 05 18 31.8 -0.2**
comp=Z,22nm,1.2s,mb5.3
WET Wettzell 86.98 319 *eP* **P 05 18 31.8 -0.2**
WET pmax pmax
comp=Z,22nm,1.2s,mb5.3
TANN Tannenbergstha 87.29 320 *eP* **P 05 18 33.4 -0.1**
comp=Z,14nm,1.3s,mb5.0
NKC Novy Kostel 87.30 320 *eP* **P 05 18 33.5 0.0**
WERN Wernitzgruen 87.34 320 *eP* **P 05 18 33.8 +0.1**
comp=Z,18nm,1.4s,mb5.1
GUNZ Gunzen 87.37 320 *eP* **P 05 18 33.9 0.0**
comp=Z,19nm,1.3s,mb5.2
WERD Werda 87.39 320 *eP* **P 05 18 33.8 -0.2**
comp=Z,18nm,1.4s,mb5.1
ROTZ Rotzenmuhle 87.44 320 *eP* **P 05 18 34.5 +0.3**
comp=Z,14nm,1.1s,mb5.1
MANZ Manzenberg 87.51 320 *eP* **P 05 18 35.0 +0.5**
comp=Z,32nm,1.2s,mb5.4
SPB4 Spitsbergen Ar 87.53 348 *eP* **P 05 18 33.4 -1.2**
WTTA Wattenberg 87.77 317⇑ *iP* **P 05 18 35.2 -0.6**
comp=Z,27nm,1.2s,mb5.4
WTTA Wattenberg 87.77 317⇑ *iP* **P 05 18 35.2 -0.6**
WTTA pmax pmax
comp=Z,27nm,1.2s,mb5.3
MOX Moxa 87.84 320 *eP* **P 05 18 36.1 0.0**
comp=Z,23nm,1.3s,mb5.2
MOX Moxa 87.84 320 *eP* **P 05 18 36.4 +0.3**
comp=Z,30nm,1.5s,mb5.3
MOX Moxa 87.84 320 *eP* **P 05 18 36.4 +0.3**
MOX pmax pmax
comp=Z,30nm,1.5s,mb5.3
FUR Furstenfeldbru 88.03 318 *eP* **P 05 18 36.4 -0.6**
comp=Z,28nm,1.2s,mb5.4
FUR Furstenfeldbru 88.03 318 *eP* **P 05 18 36.4 -0.6**
FUR pmax pmax
comp=Z,28nm,1.2s,mb5.4
SQTA Sankt Quirin 88.06 317⇑ *iP* **P 05 18 36.7 -0.5**
comp=Z,12nm,1.1s,mb5.0,SNR=5.8
SQTA Sankt Quirin 88.06 317⇑⇑ *iP* **P 05 18 36.7 -0.5**
SQTA pmax pmax
comp=Z,12nm,1.1s,mb5.0
GRA1 Grafenberg Arr 88.08 319 *eP* **P 05 18 37.5 +0.2**
comp=Z,32nm,1.2s,mb5.4
GRA1 *epP* pP 05 18 41.6 -0.7
GRF Grafenberg Arr 88.08 319 *eP* **P 05 18 37.5 +0.2**
comp=Z,32nm,1.2s,mb5.4
GRF *epP* pP 05 18 41.6 -0.7
GRF Grafenberg Arr 88.08 319 *eP* **P 05 18 37.5 +0.2**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.4
GRF Grafenberg Arr 88.08 319 *eP* **P 05 18 37.5 +0.2**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.4
MOTA Moosalm 88.14 317⇑ *iP* **P 05 18 37.1 -0.5**
comp=Z,17nm,1.0s,mb5.2,SNR=9.2
MOTA Moosalm 88.14 317⇑⇑ *iP* **P 05 18 37.1 -0.4**
MOTA pmax pmax
comp=Z,17nm,1.0s,mb5.2
NB2 NORSAR Subarra 88.23 331 P **P 05 18 37.1 -0.9**
comp=Z,12nm,0.9s,mb5.1,baz=91,slow=4.8
NOA NORSAR Array B 88.23 331 P **P 05 18 37.2 -0.8**
comp=Z,9.5nm,1.0s,mb5.0,baz=92,slow=4.8,SNR=13
NOA PP PP 05 22 05.5 +0.4
comp=Z,2.8nm,0.9s,baz=86,slow=7.5,SNR=4.3
NAO01 NORSAR Array S 88.39 331 *eP* **P 05 18 38.4 -0.3**
comp=Z,14nm,1.0s,mb5.2
KBS Kingsbay 88.46 349⇑ *eP* **P 05 18 37.5 -1.6**
KBS Kingsbay 88.46 349 *eP* **P 05 18 37.6 -1.5**
comp=Z,19nm,1.1s,mb5.2
BSEG Bad Segeberg 88.66 324 *eP* **P 05 18 40.2 +0.2**
comp=Z,44nm,1.1s,mb5.7
UBBA Unterbreizbach 88.86 321 *eP* **P 05 18 40.9 -0.1**
comp=Z,38nm,1.7s,mb5.5
GTTG Gyttingen 88.88 321 *eP* **P 05 18 41.0 -0.1**
comp=Z,53nm,1.2s,mb5.8
DAVA Damuels 88.97 317⇑ *iP* **P 05 18 41.5 +0.1**
comp=Z,28nm,1.1s,mb5.5,SNR=7.3
STU Stuttgart 89.41 319 *eP* **P 05 18 43.3 -0.2**
comp=Z,33nm,1.5s,mb5.4
KEST Kesra 89.52 306 P **P 05 18 45.5 +1.5**
comp=Z,6.7nm,0.8s,mb5.0,baz=352,slow=1.3,SNR=22
SPAK Spaichingen-Ko 89.69 318 *eP* **P 05 18 45.3 +0.4**
TNS Taunus Mts 89.86 320 *eP* **P 05 18 45.9 +0.2**
comp=Z,42nm,1.1s,mb5.7
TNS Taunus Mts 89.86 320 *eP* **P 05 18 45.9 +0.2**
TNS pmax pmax
comp=Z,42nm,1.1s,mb5.7
BFO Black Forest 89.99 318 P **P 05 18 46.2 -0.1**
comp=Z,73nm,0.8s,mb6.1,SNR=5.1
BFO Black Forest 89.99 318 *eP* **P 05 18 45.8 -0.5**
comp=Z,33nm,1.6s,mb5.4
BFO Black Forest 89.99 318 *eP* **P 05 18 45.8 -0.5**
BFO pmax pmax
comp=Z,33nm,1.6s,mb5.4
FELD Feldberg im Sc 90.23 318 *eP* **P 05 18 47.9 +0.6**
IBBN Ibbenburen 90.23 322 *eP* **P 05 18 47.5 +0.1**
comp=Z,48nm,1.1s,mb5.7
MAIT Maitri 90.31 199 *eP* **P 05 18 51.3 +3.6**
LIBD Limburg 90.49 318 *eP* **P 05 18 47.9 -0.7**
BUG Bochum--Univer 90.57 321 *eP* **P 05 18 49.1 +0.2**
comp=Z,26nm,1.0s,mb5.5
BBS Basel-Blauen 90.58 317 *eP* **P 05 18 48.3 -0.7**
WLS Welschbruch 90.64 318 *eP* **P 05 18 49.3 0.0**
SAOF Saorge 90.68 314 *eP* **P 05 18 49.4 0.0**
CDF Champ du Feu 90.69 318⇑ *iP* **P 05 18 49.2 -0.3**
comp=Z,66nm,1.5s,mb5.4
CDF Champ du Feu 90.69 318⇑ *iP* **P 05 18 49.2 -0.3**
CDF pmax pmax
comp=Z,33nm,1.5s,mb5.4
CDF Champ du Feu 90.69 318⇑⇑ *iP* **P 05 18 49.2 -0.3**
comp=Z,33nm,1.5s,mb5.4
SBF Sospel 90.77 314⇑ *iP* **P 05 18 49.9 0.0**
comp=Z,39nm,0.8s,mb5.5
SBF Sospel 90.77 314⇑ *iP* **P 05 18 49.9 0.0**
SBF pmax pmax
comp=Z,20nm,0.8s,mb5.5
SBF Sospel 90.77 314⇑⇑ *iP* **P 05 18 49.9 0.0**
comp=Z,20nm,0.8s,mb5.5
AUTN L'Aution 90.77 314 *eP* **P 05 18 50.1 +0.2**
ECH Echery 90.78 318 *eP* **P 05 18 49.3 -0.6**
MOF Molkenrain 90.81 318 *eP* **P 05 18 49.5 -0.6**
REVF Revere 90.82 314 *eP* **P 05 18 50.1 0.0**
LUCF Luceram 90.83 314 *eP* **P 05 18 50.5 +0.3**
TOUF Mont Tournerai 90.90 314 *eP* **P 05 18 50.8 +0.3**
MVIF Mont Vial 90.97 314 *eP* **P 05 18 50.8 0.0**
HINF Hinteralfeld 91.00 318 *eP* **P 05 18 50.4 -0.6**
comp=Z,11nm,1.0s,mb4.8
HINF Hinteralfeld 91.00 318 *eP* **P 05 18 50.4 -0.6**
HINF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
HINF Hinteralfeld 91.00 318 *eP* **P 05 18 50.4 -0.6**
comp=Z,5.7nm,1.0s,mb4.9
LOMF Lomont 91.04 317 *eP* **P 05 18 50.9 -0.2**
QSPA South Pole Qui 91.04 180 *eP* **P 05 18 52.0 +0.9**
comp=Z,16nm,1.2s,mb5.2
LPG La Plagne 91.18 315⇑ *iP* **P 05 18 52.2 +0.4**
comp=Z,43nm,0.8s,mb5.5
LPG La Plagne 91.18 315⇑ *iP* **P 05 18 52.2 +0.4**
LPG pmax pmax
comp=Z,22nm,0.8s,mb5.5
LPG La Plagne 91.18 315⇑⇑ *iP* **P 05 18 52.2 +0.4**
comp=Z,22nm,0.8s,mb5.5
LPL La Plagne 91.20 315⇑ *iP* **P 05 18 52.2 +0.3**
comp=Z,64nm,0.9s,mb5.6
LPL La Plagne 91.20 315⇑ *iP* **P 05 18 52.2 +0.3**
LPL pmax pmax
comp=Z,32nm,0.9s,mb5.7
LPL La Plagne 91.20 315⇑⇑ *iP* **P 05 18 52.2 +0.3**
comp=Z,32nm,0.9s,mb5.7
MBDF Montbardon 91.21 315⇑ *iP* **P 05 18 51.3 -0.6**
comp=Z,20nm,1.0s,mb5.1
MBDF Montbardon 91.21 315⇑⇑ *iP* **P 05 18 51.3 -0.6**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
MBDF Montbardon 91.21 315⇑⇑ *iP* **P 05 18 51.3 -0.6**
comp=Z,9.8nm,1.0s,mb5.1
HAU Haudompre 91.33 318⇑ *iP* **P 05 18 52.2 -0.3**
comp=Z,69nm,1.1s,mb5.6
HAU Haudompre 91.33 318⇑⇑ *iP* **P 05 18 52.2 -0.3**
HAU pmax pmax
comp=Z,35nm,1.1s,mb5.6
HAU Haudompre 91.33 318⇑⇑ *iP* **P 05 18 52.2 -0.3**
comp=Z,35nm,1.1s,mb5.6
FRF La Foret Royal 91.35 313⇑ *iP* **P 05 18 52.7 +0.1**
WLF Walferdange 91.37 320 *eP* **P 05 18 53.1 +0.4**
comp=Z,28nm,1.3s,mb5.4
LMR La Mourre 91.46 313⇑ *iP* **P 05 18 53.1 0.0**
comp=Z,46nm,1.4s,mb5.3
LMR La Mourre 91.46 313⇑⇑ *iP* **P 05 18 53.1 0.0**
LMR pmax pmax
comp=Z,23nm,1.4s,mb5.3
LMR La Mourre 91.46 313⇑⇑ *iP* **P 05 18 53.1 0.0**
comp=Z,23nm,1.4s,mb5.3
THEF They Montfort 91.56 318 *eP* **P 05 18 53.1 -0.5**
CABF La Chapelle 91.59 316⇑ *iP* **P 05 18 53.9 +0.2**
comp=Z,115nm,1.4s,mb5.7
CABF La Chapelle 91.59 316⇑ *iP* **P 05 18 53.9 +0.2**
CABF pmax pmax
comp=Z,57nm,1.4s,mb5.7
CABF La Chapelle 91.59 316⇑⇑ *iP* **P 05 18 53.9 +0.2**
comp=Z,57nm,1.4s,mb5.7
TAVF Tavernes 91.78 314 *eP* **P 05 18 55.1 +0.6**
ORIF Oris-en-Rattie 91.83 315⇑ *iP* **P 05 18 55.1 +0.3**
comp=Z,30nm,0.9s,mb5.3
ORIF Oris-en-Rattie 91.83 315⇑ *iP* **P 05 18 55.1 +0.3**
ORIF pmax pmax
comp=Z,15nm,0.9s,mb5.3
ORIF Oris-en-Rattie 91.83 315⇑⇑ *iP* **P 05 18 55.1 +0.3**
comp=Z,15nm,0.9s,mb5.3
STOF St-Etienne Org 91.86 314 *eP* **P 05 18 55.8 +0.9**
GRN Grenoble 91.91 315 *eP* **P 05 18 55.8 +0.7**
VILF Villemus 92.01 314 *eP* **P 05 18 55.6 0.0**
PUYF Puyloubier 92.04 313 *eP* **P 05 18 56.5 +0.7**
BERF Bertagne 92.06 313 *eP* **P 05 18 56.3 +0.4**
SMRF Simiane la Rot 92.11 314⇑ *iP* **P 05 18 56.7 +0.6**
comp=Z,30nm,1.1s,mb5.2
SMRF Simiane la Rot 92.11 314⇑⇑ *iP* **P 05 18 56.7 +0.6**
comp=Z,30nm,1.1s,mb5.5
MEZF Maizieres J'vi 92.17 318⇑ *iP* **P 05 18 56.4 0.0**
comp=Z,37nm,1.0s,mb5.4
MEZF Maizieres J'vi 92.17 318⇑⇑ *iP* **P 05 18 56.4 0.0**
comp=Z,37nm,1.0s,mb5.7
GIVF Givet 92.20 320 *eP* **P 05 18 56.6 +0.1**
GELF Grande-Etoile 92.25 313 *eP* **P 05 18 57.0 +0.3**
PRAF Pradon 92.41 314 *eP* **P 05 18 56.8 -0.7**
BAIF Baives 92.60 320 *eP* **P 05 18 57.0 -1.3**
comp=Z,50nm,1.4s,mb5.5
BAIF Baives 92.60 320 *eP* **P 05 18 57.0 -1.3**
BAIF pmax pmax
comp=Z,25nm,1.4s,mb5.5
BAIF Baives 92.60 320 *eP* **P 05 18 57.0 -1.3**
comp=Z,25nm,1.4s,mb5.5
VIVF Saint-Julien-l 92.69 315⇑ *iP* **P 05 18 58.8 0.0**
comp=Z,25nm,1.1s,mb5.2
VIVF Saint-Julien-l 92.69 315⇑⇑ *iP* **P 05 18 58.8 0.0**
VIVF pmax pmax
comp=Z,13nm,1.1s,mb5.3
VIVF Saint-Julien-l 92.69 315⇑⇑ *iP* **P 05 18 58.8 0.0**
comp=Z,12nm,1.1s,mb5.3
LOR Lormes 93.06 317⇑ *iP* **P 05 19 00.3 -0.2**
comp=Z,60nm,1.3s,mb5.6
LOR Lormes 93.06 317⇑⇑ *iP* **P 05 19 00.3 -0.2**
LOR pmax pmax
comp=Z,30nm,1.3s,mb5.6
LOR Lormes 93.06 317⇑⇑ *iP* **P 05 19 00.3 -0.2**
comp=Z,30nm,1.3s,mb5.6
SMF Signal de Mont 93.13 317⇑ *iP* **P 05 19 00.6 -0.2**
comp=Z,50nm,1.1s,mb5.5
SMF Signal de Mont 93.13 317⇑⇑ *iP* **P 05 19 00.6 -0.2**
SMF pmax pmax
comp=Z,25nm,1.1s,mb5.6
SMF Signal de Mont 93.13 317⇑⇑ *iP* **P 05 19 00.6 -0.2**
comp=Z,25nm,1.1s,mb5.6
PLDF La Plantade 93.34 316 *eP* **P 05 19 01.8 0.0**
AVF Avril sur Loir 93.45 317⇑ *iP* **P 05 19 02.1 -0.2**
comp=Z,39nm,1.3s,mb5.4
AVF Avril sur Loir 93.45 317⇑⇑ *iP* **P 05 19 02.1 -0.2**
AVF pmax pmax
comp=Z,20nm,1.3s,mb5.4
AVF Avril sur Loir 93.45 317⇑⇑ *iP* **P 05 19 02.1 -0.2**
comp=Z,20nm,1.3s,mb5.4
LBL Lubilhac 93.67 315 *eP* **P 05 19 02.7 -0.6**
BGF Bois d'Agland 93.82 317 *eP* **P 05 19 03.1 -0.9**
comp=Z,76nm,1.5s,mb5.6
BGF Bois d'Agland 93.82 317 *eP* **P 05 19 03.1 -0.9**
BGF pmax pmax
comp=Z,38nm,1.5s,mb5.6
BGF Bois d'Agland 93.82 317 *eP* **P 05 19 03.1 -0.9**
comp=Z,38nm,1.5s,mb5.6
TCF Toulx Ste Croi 94.29 316 *eP* **P 05 19 05.5 -0.6**
comp=Z,26nm,1.5s,mb5.2
TCF Toulx Ste Croi 94.29 316 *eP* **P 05 19 05.5 -0.6**
TCF pmax pmax

	comp=Z,13nm,1.5s,mb5.1						
TCF	Toulx Ste Croi	94.29	316	eP	P	05 19 05.5	-0.6
	comp=Z,13nm,1.5s,mb5.1						
CAF	Calviac	94.53	315	eP	P	05 19 06.7	-0.5
	comp=Z,21nm,1.3s,mb5.1						
CAF	Calviac	94.53	315	eP	P	05 19 06.7	-0.5
CAF				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.1						
CAF	Calviac	94.53	315	eP	P	05 19 06.7	-0.5
	comp=Z,11nm,1.3s,mb5.1						
MTLF	Montolieu	94.58	313	eP	P	05 19 06.6	-0.9
	comp=Z,17nm,1.2s,mb5.0						
MTLF	Montolieu	94.58	313	eP	P	05 19 06.6	-0.9
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb5.0						
MTLF	Montolieu	94.58	313	eP	P	05 19 06.6	-0.9
	comp=Z,8.4nm,1.3s,mb5.0						
RJF	Les Rejaudoux	94.88	315	eP	P	05 19 08.1	-0.7
SNAA	Sanae	94.93	198	eP	P	05 19 09.7	+0.6
SNAA				e	pP	05 19 14.3	+0.2
SNAA				e		05 19 18.1	
SNAA	Sanae	94.93	198⇑	eP	P	05 19 09.3	+0.2
IMA2	Indian Mountai	95.75	23	eP	P	05 19 12.0	-0.8
VNA1	Neumayer--Stat	96.89	199	eP	P	05 19 11.6	-6.4
VNA1				e	pP	05 19 14.4	-8.7
TORD	Torodi Ar. Bea	97.39	283	P	P	05 19 20.6	+0.3
	comp=Z,1.7nm,0.8s,mb4.5,baz=89,slow=5.5,SNR=12						
TORD				PP	PP	05 23 19.5	+2.4
	comp=Z,1.4nm,1.0s,baz=88,slow=6.7,SNR=5.5						
TORD				PKKPbc	PKKPbc	05 35 58.6	+0.7
	comp=Z,0.5nm,0.6s,baz=290,slow=3.3,SNR=7.2						
TORD	Torodi Ar. Bea	97.39	283	P	P	05 19 20.6	+0.3
TORD				PP	PP	05 23 19.5	+2.4
TORD				PKKPbc	PKKPbc	05 35 58.6	+0.7
NEW	Newport	121.44	28	ePKIKP	PKPdf	05 24 39.9	-0.2
HAWA	Hanford	121.56	31	ePKPdf	PKPdf	05 24 39.5	-0.9
KHMM	Horse Mountain	122.66	38	ePKPdf	PKPdf	05 24 42.7	+0.2
SCHQ	Schefferville	123.14	351	PKP	PKPdf	05 24 42.8	-0.6
	comp=Z,2.9nm,0.8s,baz=29,slow=13,SNR=3.4						
MSO	Missoula	123.97	27	ePKPdf	PKPdf	05 24 43.6	-1.4
CHMT	Chamberlain Mo	124.21	27	ePKPdf	PKPdf	05 24 44.6	-0.8
HRY	Holter Researc	125.00	26	ePKPdf	PKPdf	05 24 47.0	0.0
DLMT	Dillon	125.69	28	ePKPdf	PKPdf	05 24 48.2	-0.1
BOZ	Bozeman (W)	125.91	27	ePKIKP	PKPdf	05 24 48.6	-0.1
MCMT	McKenzie Canyo	125.97	28	ePKPdf	PKPdf	05 24 48.9	0.0
HLID	Hailey	126.14	30	ePKPdf	PKPdf	05 24 49.2	+0.1
QLMT	Earthquake Lak	126.62	27	ePKPdf	PKPdf	05 24 50.7	+0.6
GCMT	Greycliff	126.65	25	ePKPdf	PKPdf	05 24 49.8	-0.3
ULM	Lac du Bonnet	127.17	12	PKP	PKPdf	05 24 49.9	-1.2
	comp=Z,5.3nm,0.8s,baz=335,slow=3.8,SNR=8.6						
ULM	Lac du Bonnet	127.17	12	ePKPdf	PKPdf	05 24 50.0	-1.1
NVAR	Mina Array Bea	127.47	37	PKP	PKPdf	05 24 52.4	+0.7
	comp=Z,2.4nm,0.8s,baz=276,slow=2.0,SNR=15						
RRI2	Red Ridge	127.81	28	ePKPdf	PKPdf	05 24 53.0	+0.7
TPAW	Teton Pass	127.87	28	ePKPdf	PKPdf	05 24 53.0	+0.6
LOHW	Long Hollow	127.94	28	ePKPdf	PKPdf	05 24 53.1	+0.5
SNOW	Snow King Moun	127.99	28	ePKPdf	PKPdf	05 24 53.0	+0.4
REDW	Red Top Meadow	128.02	28	ePKPdf	PKPdf	05 24 52.7	0.0
BGU	Big Grassy Mou	128.75	32	ePKPdf	PKPdf	05 24 54.8	+0.7
HWUT	Hardware Ranch	129.00	30	ePKPdf	PKPdf	05 24 54.8	+0.2
BW06	Boulder Array	129.08	27	ePKPdf	PKPdf	05 24 54.5	-0.2
PDAR	Pinedale Array	129.08	27	PKP	PKPdf	05 24 53.9	-0.9
	comp=Z,1.4nm,0.8s,baz=17,slow=1.5,SNR=13						
TRCR	Troy Canyon	129.13	36	ePKPdf	PKPdf	05 24 55.6	+0.8
DUG	Dugway	129.40	32	ePKIKP	PKPdf	05 24 55.5	+0.2
RSSD	Black Hills	130.29	22	ePKPdf	PKPdf	05 24 55.9	-1.2
RSSD				eSKP		05 28 17.9	
ARUT	Antelope Range	130.75	35	ePKIKP	PKPdf	05 24 58.7	+0.8
MSU	Marysvale	130.95	33	ePKPdf	PKPdf	05 24 58.7	+0.4
MSU				eSKPbc	SKPbc	05 28 22.5	+0.5
RWWY	Rawlins	131.00	27	ePKPdf	PKPdf	05 24 58.4	0.0
ECSD	EROS,Sioux Fal	133.08	16	ePKPdf	PKPdf	05 25 01.3	-1.0
ECSD				eSKPbc	SKPbc	05 28 27.2	-2.3
ECSD				eSKPdf	SKPdf	05 28 34.2	-2.7
TUC	Tucson	136.11	38	ePKIKP	PKPdf	05 25 09.4	+1.4
ANMO	Albuquerque	136.66	32	ePKHKP		05 25 01.3	
ANMO				e		05 25 08.9	
ANMO	Albuquerque	136.66	32	ePKPpre		05 25 01.3	
ANMO				ePKPdf	PKPdf	05 25 08.9	-0.1
ANMO				eSKPbc	SKPbc	05 28 40.6	-0.4
ANMO				eSKPab		05 28 47.6	
ACSO	Alum Creek Sta	138.80	3	ePKPdf	PKPdf	05 25 11.9	-1.1
TRQA	Tornquist	139.49	203	ePKPpre		05 25 06.2	
TRQA				ePKPdf	PKPdf	05 25 14.8	+0.5
PLCA	Paso Flores	139.54	192	PKhKP		05 25 06.8	
	comp=Z,2.4nm,1.0s,baz=237,slow=17,SNR=4.1						
PLCA				PKP	PKPdf	05 25 12.4	-1.9
	comp=Z,2.1nm,0.8s,baz=219,slow=4.9,SNR=4.8						
PLCA	Paso Flores	139.54	192	PKP	PKPdf	05 25 06.8	-7.5
PLCA				ePKPdf	PKPdf	05 25 14.7	+0.4
WCI	Wyandotte Cave	140.50	7	ePKIKP	PKPdf	05 25 15.2	-0.8
WVT	Waverly	142.33	10	ePKHKP		05 25 14.2	
WVT				e		05 25 18.5	
WVT	Waverly	142.33	10	ePKPpre		05 25 14.2	
WVT				ePKPdf	PKPdf	05 25 18.5	-0.8
WVT				eSKPbc	SKPbc	05 28 55.2	-1.3
MIAR	Mount Ida	142.47	18	ePKHKP		05 25 14.4	
PLAL	Pickwick Lake	143.40	11	ePKPpre		05 25 17.1	
PLAL				ePKPdf	PKPdf	05 25 21.4	+0.1
SWET	Sewanee	143.51	8	ePKPpre		05 25 16.5	
SWET				ePKPdf	PKPdf	05 25 20.7	-0.7
JCT	Junction City	143.59	29	ePKPpre		05 25 19.1	
JCT				ePKPdf	PKPdf	05 25 22.3	+0.7
NATX	Nacogdoches	144.65	21	ePKPdf	PKPdf	05 25 21.8	-1.6
BAO	Brasilia Array	144.87	244	PKPdf	PKPdf	05 25 14.5	-9.3
BDFB	Brasilia	144.89	244	PKPbc	PKPdf	05 25 24.9	+1.1
	comp=Z,18nm,0.6s,baz=148,slow=2.6,SNR=29						
LRAL	Lakeview Retre	145.49	10	ePKPbc	PKPbc	05 25 23.4	-1.5
HKT	Hockley	145.81	24	ePKP2	PKPab	05 25 25.2	-1.1
CPUP	Villa Florida	146.47	220	PKPbc	PKPbc	05 25 28.6	+0.7
	comp=Z,18nm,0.7s,baz=86,slow=1.7,SNR=55						
CPUP	Villa Florida	146.47	220	ePKPbc	PKPbc	05 25 28.7	+0.8
FCH	Farellones	146.55	196⇓	iP	PKPbc	05 25 31.1	+2.9
LPAZ	La Paz	160.63	218	PKP	PKPdf	05 25 48.7	+2.1
	comp=Z,3.5nm,0.9s,baz=48,slow=4.5,SNR=13						
LPAZ				PKPab	PKPab	05 26 30.4	+2.1
	comp=Z,2.0nm,0.7s,baz=22,slow=5.4,SNR=3.8						
LPAZ	La Paz	160.63	218	ePKPdf	PKPdf	05 25 48.2	+1.6
LPAZ				ePKPab	PKPab	05 26 30.3	+2.1
SAML	Samuel	161.12	245	ePKPdf	PKPdf	05 25 47.5	+0.4
SAML				ePKPab	PKPab	05 26 31.4	+1.0
SDV	Santo Domingo	166.06	316	ePKPdf	PKPdf	05 25 51.7	0.0
SDV				ePKPab	PKPab	05 26 52.6	+0.4
ROSC	El Rosal	171.49	314	PKP	PKPdf	05 25 55.4	+0.1
	comp=Z,9.5nm,0.9s,baz=211,slow=6.7,SNR=5.9						
ROSC	El Rosal	171.49	314	ePKPdf	PKPdf	05 25 55.9	+0.6

IDC 09 05:09:11.9±55.0, 785S×12079E, h568km±147km, mb3.1/2, mb1 3.1/4, mb1mx2.8/17, mbtmp3.9/4, Error ellipse: s-maj=731.9km s-min=183.0km az=145.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.23	156	P	P	05 11 42.7	+0.1
	0.2nm,0.3s,baz=286,slow=12,SNR=15						
WRA	Warramunga Arr	17.80	134	P	P	05 12 47.5	+0.4
	0.3nm,0.3s,baz=313,slow=10,SNR=5.3						
ASAR	Alice Springs	20.14	143	P	P	05 13 08.4	+0.1
	1.5nm,0.3s,baz=319,slow=8.3,SNR=58						
STKA	Stephens Creek	30.77	144	P	P	05 14 41.9	0.0
	1.5nm,0.3s,baz=313,slow=8.7,SNR=6.4						

---

*BJI **09** 05:31:41.0, 785S×12061E, h573km, mB4.6, mb4.5*
*ISCJB **09** 05:31:46.9±1.0, 725S±006×12020E±008, h586km±16km, mb4.6/39, Error ellipse: s-maj=12.7km s-min=7.2km az=122.9*
*NEIC **09** 05:31:47.3±0.7, 726S×120.13E, h574km±8km, mb4.4/20, Error ellipse: s-maj=9.2km s-min=6.3km az=66.0*
*IDC **09** 05:31:48.2±1.3, 725S×12026E, h582km±15km, mb4.0/15, mb1 4.1/17, mb1mx3.9/21, mbtmp5.0/17, Error ellipse: s-maj=15.3km s-min=8.0km az=66.0*
ISC 09 05:31:47.7±1.0, 728S±006×12021E±008, h576km±14km, n91, σ0.71/63, mb4.6/38, 7C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.99	154⇑	iP	P	05 34 26.2	+0.1
	36nm,0.8s						
FITZ	Fitzroy Crossi	11.99	154	P	P	05 34 26.3	+0.1
	5.7nm,0.3s,baz=348,slow=8.9,SNR=157						
FITZ				S	S	05 36 35.2	-1.2
	0.2nm,0.3s,baz=325,slow=19,SNR=4.6						
KAKA	Kakadu	13.19	115⇑	iP	P	05 34 37.9	-0.5
	55nm,0.6s						
MBWA	Marble Bar	13.81	182	eP	P	05 34 43.9	-0.8
	50nm,0.6s						
WRA	Warramunga Arr	18.61	134	P	P	05 35 30.5	+0.7
	10nm,0.3s,baz=312,slow=10,SNR=176						
WRA				S	S	05 38 27.9	-2.2
	baz=311,slow=18,SNR=3.8						
WRAB	Tennant Creek	18.61	134	eP	P	05 35 30.5	+0.6
	117nm,0.7s						
WB2	Warramunga Arr	18.61	134⇑	iP	P	05 35 30.5	+0.6
ASPA	Alice Springs	20.93	143⇑	iP	P	05 35 51.4	+0.5
AS31	Alice Springs	20.94	143⇑	iP	P	05 35 51.4	+0.5
ASAR	Alice Springs	20.94	143	P	P	05 35 51.5	+0.6
	45nm,0.4s,baz=319,slow=8.3,SNR=1572						
ASAR				PcP	PcP	05 39 33.5	+0.4
	1.9nm,0.5s,baz=316,slow=1.5,SNR=5.0						
ASAR				ScP	ScP	05 42 15.8	0.0
	3.1nm,0.6s,baz=327,slow=2.1,SNR=14						
KLBR	Kellerberrin	24.30	185⇑	iP	P	05 36 20.3	-0.6
	13nm,0.6s,mb4.7						
FORT	Forrest	24.51	164	eP	P	05 36 22.9	+0.2
	51nm,0.6s,mb5.3						
MUN	Mundaring	24.86	188	eP	P	05 36 25.1	-0.7
NWAO	Narrogin (SRO)	25.67	186	P	P	05 36 33.0	+0.1
	23nm,0.5s,mb5.0,baz=12,slow=7.4,SNR=38						
PMG	Port Moresby	26.74	96	P	P	05 36 42.5	+0.2
	8.9nm,0.5s,mb4.7,baz=16,slow=15,SNR=3.9						
CTA	Charters Tower	28.27	119	eP	P	05 36 57.0	+1.3
	10nm,0.9s,mb4.5						
CTA	Charters Tower	28.27	119	P	P	05 36 55.8	+0.2
	9.0nm,0.8s,mb4.5,baz=302,slow=9.7,SNR=12						
CTAO	Charters Tower	28.27	119	eP	P	05 36 56.2	+0.6
	8.7nm,0.7s,mb4.5						
STKA	Stephens Creek	31.57	144⇑	iP	P	05 37 25.0	+1.0
	41nm,0.3s,mb5.5						
STKA	Stephens Creek	31.57	144	P	P	05 37 25.0	+1.0
	47nm,0.3s,mb5.6,baz=325,slow=7.8,SNR=219						
STKA				S	S	05 41 53.0	+0.2
	4.6nm,1.0s,baz=71,slow=18,SNR=3.7						
STKA				ScP	ScP	05 42 46.7	-0.8
	3.8nm,0.6s,baz=340,slow=6.8,SNR=4.5						
CHTO	Chiang Mai	33.35	321	eP	P	05 37 39.4	+0.4
	2.3nm,0.8s,mb3.9						
TOO	Toolangi	37.89	146	eP	P	05 38 18.3	+1.7
	9.7nm,0.5s,mb4.6						
CBIJ	Chichi jima	40.26	31	P	P	05 38 35.3	-0.3
	38nm,0.5s,mb5.2,baz=106,slow=23,SNR=6.5						
LZH	Lanzhou	45.80	341	eP	P	05 39 19.5	+0.9
LZH				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.5						
LSA	Lhasa	46.18	324	eP	P	05 39 22.1	+0.6
	comp=Z,18nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	46.74	20	P	P	05 39 24.8	-1.0
	comp=Z,4.2nm,0.6s,mb4.1,baz=195,slow=8.0,SNR=19						
MAJO	Matsushiro	46.74	20	eP	P	05 39 25.0	-0.8
	comp=Z,5.6nm,0.6s,mb4.3						
BJT	Baijiatuau	47.20	356	eP	P	05 39 28.6	-0.6
	comp=Z,12nm,0.5s,mb4.7						
JIRN	Jiri	47.84	318	eP	P	05 39 34.3	+0.3
	comp=Z,31nm,0.6s,mb5.0						
GUN	Gumba	48.21	318	eP	P	05 39 36.8	0.0
	comp=Z,48nm,0.7s,mb5.2						
PKI	Pulchoki	48.30	317	eP	P	05 39 37.2	-0.2
	comp=Z,32nm,0.4s,mb5.2						
DMN	Daman	48.53	317	eP	P	05 39 38.6	-0.5
	comp=Z,17nm,0.4s,mb4.8						
KKN	Kakani	48.53	317	eP	P	05 39 38.7	-0.4
	comp=Z,14nm,0.4s,mb4.7						
GKN	Gorkha	49.10	317	eP	P	05 39 43.0	-0.4
	comp=Z,39nm,0.4s,mb5.2						
KOLN	Koldanda	49.66	316	eP	P	05 39 46.9	-0.6
	comp=Z,22nm,0.5s,mb4.8						
ULN	Ulaanbaatar	56.12	349	eP	P	05 40 33.3	0.0
	comp=Z,4.8nm,0.8s,mb3.8						
SONM	Songino Array	56.22	349	P	P	05 40 34.3	+0.3
	comp=Z,12nm,0.8s,mb4.2,baz=167,slow=8.6,SNR=34						
WMQ	Urumqi	58.76	333	eP	P	05 40 52.5	+1.3
MKAR	Makanchi Array	63.50	332	P	P	05 41 22.4	+0.2
	comp=Z,21nm,0.5s,mb4.8,baz=143,slow=7.5,SNR=153						
KZA	Kyzart	63.99	324	P	P	05 41 26.3	+1.0
	SNR=7.1						
TKM2	Tokmak 2	64.32	325	P	P	05 41 27.7	+0.3
	SNR=6.0						
AAK	Ala-Archa	64.77	324	P	P	05 41 30.9	+0.6
	SNR=6.5						
AAK	Ala-Archa	64.77	324	eP	P	05 41 29.5	-0.8
	comp=Z,2.6nm,0.5s,mb3.9						
AML	Almayashu	64.93	323	P	P	05 41 32.0	+0.7
	SNR=16						
EKS2	Erkin-Say	65.21	324	P	P	05 41 33.5	+0.5
	SNR=8.4						
ZAL	Zalesovo	67.88	338	P	P	05 41 48.8	-0.7
	comp=Z,25nm,0.3s,mb5.1,baz=339,slow=4.5,SNR=33						
MA2	Magadan	70.94	16	eP	P	05 42 07.9	+0.2
	comp=Z,14nm,0.7s,mb4.6						
OPO	Ambohidratompo	71.67	253	P	P	05 42 12.7	+0.8
	comp=Z,2.6nm,0.5s,mb4.0,baz=150,slow=17,SNR=5.5						
BRVK	Borovoye	73.43	331	eP	P	05 42 21.3	-0.8
	comp=Z,2.5nm,0.5s,mb4.0						
VNDA	Vanda	73.50	171	P	P	05 42 22.5	0.0
	comp=Z,1.0nm,0.4s,mb3.7,baz=313,slow=6.2,SNR=9.0						
VNDA	Vanda	73.50	171	eP	P	05 42 22.1	-0.4
	comp=Z,1.0nm,0.5s,mb3.6						
RDF	Al-Radifah	78.55	301	eP	P	05 42 50.3	0.0
RDF				AMb	AMB	05 42 51.0	
	comp=Z,33nm,0.4s,mb5.0						
NAY	Al-Naaiem	78.89	302	eP	P	05 42 51.9	-0.2
NAY				AMb	AMB	05 42 52.8	
	comp=Z,21nm,0.6s,mb4.7						
MIB	Mutribah	78.95	302	eP	P	05 42 52.3	0.0
MIB				AMb	AMB	05 42 53.3	
	comp=Z,30nm,1.0s,mb4.6						
RST	Umm Al-Ruwaisa	79.16	302	eP	P	05 42 53.2	-0.3
RST				AMb	AMB	05 42 54.1	
	comp=Z,58nm,0.6s,mb5.1						
ARU	Arti	80.96	330	eP	P	05 43 01.1	-1.8
	comp=Z,2.1nm,0.5s,mb3.8						
LSZ	Lusaka	90.05	255	eP	P	05 43 46.8	+0.1
	comp=Z,3.0nm,0.6s,mb4.3						
BOSA	Boshof	90.89	241	P	P	05 43 50.7	+0.1
	comp=Z,4.1nm,1.2s,mb4.2,baz=90,slow=1.5,SNR=5.6						
BR131	Keskin Array S	91.97	310	eP	P	05 43 54.7	-0.9
	comp=Z,1.2nm,0.7s,mb4.0						
BRTR	Keskin Array B	91.97	310	P	P	05 43 54.8	-0.8
	comp=Z,1.5nm,0.8s,mb4.0,baz=122,slow=6.3,SNR=6.7						
FINES	FINESS Array B	98.32	331	PKiKP	PKiKP	05 48 52.7	-0.1
	comp=Z,8.6nm,1.1s,baz=131,slow=5.9,SNR=3.4						
ARCES	ARCESS Array B	98.42	339	P	Pdif	05 44 25.5	+0.8
	comp=Z,3.2nm,0.9s,baz=107,slow=5.8,SNR=4.6						
ARCES				PKiKP	PKiKP	05 48 52.2	-0.8
	comp=Z,1.0nm,0.8s,baz=130,slow=2.8,SNR=5.6						
YKA	Yellowknife Ar	112.14	24	PKiKP	PKiKP	05 49 17.5	-0.8
	comp=Z,1.2nm,0.4s,baz=297,slow=1.7,SNR=7.3						
NVAR	Mina Array Bea	119.00	50	PKP	PKPdf	05 49 32.9	+1.3
	comp=Z,0.7nm,0.6s,baz=270,slow=1.5,SNR=5.5						
TORD	Torodi Ar. Bea	119.33	281	PKP	PKPdf	05 49 32.5	+0.3
	comp=Z,2.2nm,0.7s,baz=46,slow=2.0,SNR=22						
CHMT	Chamberlain Mo	119.77	39	ePKPdf	PKPdf	05 49 32.9	-0.1
HLID	Hailey	120.26	43	ePKPdf	PKPdf	05 49 35.4	+1.5
BOZ	Bozeman (W)	121.31	40	ePKPdf	PKPdf	05 49 36.8	+0.8
DUG	Dugway	122.54	47	ePKPdf	PKPdf	05 49 39.4	+1.1
TPAW	Teton Pass	122.62	42	ePKPdf	PKPdf	05 49 39.6	+1.1
SNOW	Snow King Moun	122.76	42	ePKPdf	PKPdf	05 49 40.2	+1.5
LOHW	Long Hollow	122.80	42	ePKPdf	PKPdf	05 49 39.7	+0.9
PDAR	Pinedale Array	123.84	43	PKP	PKPdf	05 49 40.6	-0.2
	comp=Z,0.2nm,0.5s,baz=180,slow=1.6,SNR=4.7						
DBIC	Dimbokro	125.50	273	PKP	PKPdf	05 49 44.6	+0.6
	comp=Z,2.3nm,0.5s,baz=54,slow=5.0,SNR=5.5						
DBIC	Dimbokro	125.50	273	ePKPdf	PKPdf	05 49 44.6	+0.6
RSSD	Black Hills	126.80	39	ePKPdf	PKPdf	05 49 47.0	+0.5
SDCO	Great Sand Dun	128.74	47	ePKPdf	PKPdf	05 49 52.0	+1.9
SCHQ	Schefferville	132.24	6	PKP	PKPdf	05 49 57.4	+0.5
	comp=Z,1.3nm,0.3s,baz=228,slow=19,SNR=8.4						
WMOK	Wichita Mounta	134.94	47	ePKPdf	PKPdf	05 50 03.7	+1.9
JCT	Junction City	136.01	53	ePKPdf	PKPdf	05 50 04.6	+0.8
WVT	Waverly	141.51	38	ePKPpre		05 50 09.9	
PLAL	Pickwick Lake	142.10	39	ePKPpre		05 50 11.0	
SSPA	Standing Stone	143.06	23	ePKPdf	PKPdf	05 50 14.7	-1.9
MCWV	Mont Chateau	143.07	26	ePKPdf	PKPdf	05 50 15.1	-1.5
SWET	Sewanee	143.26	37	ePKPdf	PKPdf	05 50 15.0	-1.9
TZTN	Tazewell	143.69	33	ePKPdf	PKPdf	05 50 16.9	-0.7
LRAL	Lakeview Retre	144.03	41	ePKPdf	PKPdf	05 50 18.2	-0.1
PAL	Palisades	144.13	18	ePKPdf	PKPdf	05 50 18.4	0.0
MVL	Millersville	144.19	22	ePKPbc	PKPdf	05 50 18.3	-0.2
FWV	Forest Hill	144.30	29	ePKPbc	PKPdf	05 50 18.4	-0.4
CPUP	Villa Florida	146.51	184	PKPbc	PKPbc	05 50 25.6	+0.5
	comp=Z,1.2nm,0.5s,baz=103,slow=0.8,SNR=7.0						

---

*SZGRF **09** 05:58:56.2, 3635N×1309W, h33km, mb4.3, Azores-Cape St. Vincent Ridge*
*NEIC **09** 05:59:02.9±0.5, 3621N×1104W, h10km, mb4.3/5, Error ellipse: s-maj=6.6km s-min=4.9km az=101.0*
*IDC **09** 05:59:04.7±1.3, 3612N×1057W, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/26, mbtmp3.9/8, ML5.2/1, Error ellipse: s-maj=30.9km s-min=21.4km az=87.0*
*ISCJB **09** 05:59:04.2±0.4, 3627N±002×1064W±003, h10km, mb4.0/10, Error ellipse: s-maj=3.5km s-min=2.6km az=134.6*
*CSEM **09** 05:59:05.3±0.1, 3612N×1099W, h30km, mb4.2/4, ML4.6/45, Error ellipse: s-maj=2.0km s-min=1.1km az=118.0*
*MDD **09** 05:59:05.4±0.7, 3622N×1113W, h32km±15km, mb5.2/34, mbLg4.4/3, Error ellipse: s-maj=6.3km s-min=4.1km az=96.0, PRXIMO*
*SFS **09** 05:59:05.0, 3621N×1110W, h37km, ML5.1*
*LDG **09** 05:59:06.5±0.1, 3618N×1106W, h30km, Md4.2/1, Ml4.5/17, Error ellipse: s-maj=3.5km s-min=2.8km az=120.0*
*INMG **09** 05:59:07.6±1.6, 3636N×1092W, h10km, MD3.9, ML4.0, Error ellipse: s-maj=5.0km s-min=2.9km az=71.0*
*IGIL **09** 05:59:07.1, 3620N×1100W, h31km, ML4.5*
*CNRM **09** 05:59:09.0, 3605N×1088W, h30km, MD4.4*
ISC 09 05:59:06.8±0.4, 3631N±002×1064W±003, h10km, n258, σ1.34/421, mb4.0/10, 12C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MORF	Marmelete	1.88	57	eP	Pn	05 59 40.5	+1.5
MORF				eS	Sn	06 00 04.0	+1.2
MORF				eS	Sn	06 00 04.0	+1.2
MORF				AML	AML	06 00 07.3	
	comp=N,1μm,0.4s						
MORF	Marmelete	1.88	57	eP	Pn	05 59 40.5	+1.5
MORF				eS	Sn	06 00 04.0	+1.2
PTEO	Sao Teotonio	1.97	51	i Pn	Pn	05 59 41.5	+1.3
PTEO				eSn	Sn	06 00 06.3	+1.3
PTEO							
	comp=N,566nm,0.3s						
PLML	Palmela	2.63	31	ePn	Pn	05 59 50.0	+0.6
PLML				eSn	Sn	06 00 22.0	+0.6
LIS	Lisbon	2.68	26	eP	Pn	05 59 49.9	-0.1
LIS				eS	Sn	06 00 21.4	-1.1
LIS				eS	Sn	06 00 21.5	-1.0
LIS				AML	AML	06 00 29.4	
	comp=E,2μm,0.6s						
LIS	Lisbon	2.68	26	eP	Pn	05 59 49.9	-0.1
LIS				eS	Sn	06 00 21.4	-1.1
INMG	Instituto de M	2.74	26	ePn	Pn	05 59 51.3	+0.5
INMG				eSn	Sn	06 00 23.0	-1.0
PBEJ	Beja	2.80	51	ePn	Pn	05 59 52.5	+0.9
PBEJ				eSn	Sn	06 00 26.6	+1.1
PBEJ							
	comp=E,153nm,0.2s						
PBEJ	Beja	2.80	51	ePn	Pn	05 59 52.5	+0.9
PBEJ				eSn	Sn	06 00 26.6	+1.1
	comp=E,153nm,0.2s						
EGRO	El Granado	2.81	63	⇑P	Pn	05 59 53.3	+1.5
	comp=E,53nm,0.1s,SNR=18						
EGRO				S	Sn	06 00 27.4	+1.7
	comp=E,104nm,0.1s,SNR=7.9						
EGRO	El Granado	2.81	63	Pn	Pn	05 59 53.3	+1.5
	comp=E,53nm,0.1s,SNR=18						
EGRO				Sn	Sn	06 00 27.4	+1.7
	comp=E,104nm,0.1s,SNR=7.9						
PLOU	Loures	2.83	24	ePn	Pn	05 59 52.1	0.0
PLOU				eSn	Sn	06 00 24.8	-1.4
PLOU							
	comp=E,827nm,0.2s						
PLOU	Loures	2.83	24	ePn	Pn	05 59 52.1	0.0
PLOU				eSn	Sn	06 00 24.8	-1.4
	comp=E,827nm,0.2s						
PMAFR	Mafra	2.85	22	ePn	Pn	05 59 52.0	-0.4
PMAFR				eSn	Sn	06 00 24.7	-2.1
ERIP	Rio Piedras	2.92	68	⇑P	Pn	05 59 54.9	+1.7
	comp=E,80nm,0.1s,SNR=18						
ERIP				S	Sn	06 00 29.6	+1.3
	comp=E,145nm,0.1s,SNR=7.9						
EVO	Evora	3.05	42	ePn	Pn	05 59 54.7	-0.4
EVO				eSn	Sn	06 00 30.1	-1.5
	comp=E,577nm,0.3s						
ALMR	Almeirim	3.28	29	eP	Pn	05 59 58.2	0.0
ALMR				eS	Sn	06 00 36.1	-1.2
ALMR				eS	Sn	06 00 36.1	-1.1
ALMR				AML	AML	06 00 41.9	
	comp=Z,2μm,0.7s						
EMIN	Mina Concepcio	3.49	64	⇑P	Pn	06 00 02.3	+1.2
	comp=Z,210nm,0.3s,SNR=18						
EMIN				S	Sn	06 00 43.9	+1.4
	comp=Z,50nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.49	64	Pn	Pn	06 00 02.3	+1.2
	comp=Z,210nm,0.3s,SNR=18						
EMIN				Sn	Sn	06 00 43.9	+1.4
	comp=Z,50nm,0.1s,SNR=7.9						
PESTR	Estremoz	3.52	43	ePn	Pn	06 00 01.8	+0.3
PESTR				eSn	Sn	06 00 42.6	-0.6
PESTR							
	comp=Z,162nm,0.3s						
PESTR	Estremoz	3.52	43	ePn	Pn	06 00 01.8	+0.3
PESTR				eSn	Sn	06 00 42.6	-0.6
	comp=Z,162nm,0.3s						
SFS	San Fernando	3.58	86	P	Pn	06 00 05.5	+3.2
SFS	San Fernando	3.58	86	i P	Pn	06 00 05.6	+3.2
SCRT	Cerro San Cris	3.61	83	⇑P	Pn	06 00 05.7	+2.9
SCRT				S	Sn	06 00 46.8	+1.3
SCRT	Cerro San Cris	3.61	83	i P	Pn	06 00 05.7	+2.9
SCRT				eS	Sn	06 00 46.8	+1.3
PTOM	Tomar	3.75	27	ePn	Pn	06 00 04.4	-0.2
PTOM				eSn	Sn	06 00 47.2	-1.6
PTOM							
	comp=Z,305nm,0.1s						
PTOM	Tomar	3.75	27	ePn	Pn	06 00 04.4	-0.2
PTOM				eSn	Sn	06 00 47.2	-1.6
	comp=Z,305nm,0.1s						
EBAD	Badajoz	3.78	49	⇑P	Pn	06 00 05.6	+0.5
	comp=Z,88nm,0.1s,SNR=18						
EBAD				S	Sn	06 00 49.8	+0.2
	comp=Z,254nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.78	49	Pn	Pn	06 00 05.6	+0.5
	comp=Z,88nm,0.1s,SNR=18						
EBAD				Sn	Sn	06 00 49.8	+0.2
	comp=Z,254nm,0.1s,SNR=7.9						
GIBL	Gibalbin	3.80	81	⇑P	Pn	06 00 08.0	+2.6
GIBL				S	Sn	06 00 53.6	+3.6
GIBL	Gibalbin	3.80	81	i P	Pn	06 00 07.9	+2.6
GIBL				eS	Sn	06 00 53.6	+3.6
RTC	Rabat Centre	3.87	126	i P	Pn	06 00 06.0	-0.3
RTC				i S	Sn	06 00 48.5	-3.3
ESPR	Espera	3.89	80	⇑P	Pn	06 00 08.3	+1.7
	comp=Z,312nm,0.2s,SNR=18						
ESPR				S	Sn	06 00 52.9	+0.6
	comp=Z,1μm,0.3s,SNR=7.9						
ESPR	Espera	3.89	80	Pn	Pn	06 00 08.3	+1.7
	comp=Z,312nm,0.2s,SNR=18						
ESPR				Sn	Sn	06 00 52.9	+0.6
	comp=Z,1μm,0.3s,SNR=7.9						
TSY	Tnine Yamani	3.91	102	P	Pn	06 00 08.5	+1.7
TSY				S	Sn	06 00 51.0	-1.7
TSY	Tnine Yamani	3.91	102	i P	Pn	06 00 08.5	+1.7
MOMI	Momias	3.97	88	P	Pn	06 00 10.7	+3.0
MOMI				S	Sn	06 01 00.7	+6.3
MOMI	Momias	3.97	88	eP	Pn	06 00 10.7	+3.0
MOMI				eS	Sn	06 01 00.7	+6.3
AVE	Averroes	4.01	138	P	Pn	06 00 06.5	-1.7
AVE				S	Sn	06 00 51.0	-4.2
RSA	Sarsar	4.17	109	i P	Pn	06 00 12.0	+1.5
RSA				i S	Sn	06 00 58.0	-1.3
EJIF	Jimena Fronter	4.17	87	⇑P	Pn	06 00 11.7	+1.2
	comp=Z,23nm,0.3s,SNR=18						
EJIF				S	Sn	06 01 01.1	+1.7
	comp=Z,70nm,0.4s,SNR=7.9						
MDAL	Dalia	4.20	94	i P	Pn	06 00 13.0	+2.2
MDAL				i S	Sn	06 00 59.5	-0.4
LIJA	Lijar	4.25	80	P	Pn	06 00 14.2	+2.6
LIJA				S	Sn	06 01 03.1	+1.8

LIJA Lijar 4.25 80 *i* P **Pn** 06 00 14.2 +2.6
LIJA *i* S **Sn** 06 01 03.1 +1.8
PCBR Castelo Branco 4.32 34 *e*Pn **Pn** 06 00 12.4 -0.1
PCBR *e*Sn **Sn** 06 01 01.1 -1.8
PCBR
comp=Z,134nm,0.2s
PCBR Castelo Branco 4.32 34 *e*Pn **Pn** 06 00 12.4 -0.1
PCBR *e*Sn **Sn** 06 01 01.1 -1.8
comp=Z,134nm,0.2s
REAL Reales 4.38 86 P **Pn** 06 00 16.1 +2.7
REAL S **Sn** 06 01 07.1 +2.5
REAL Reales 4.38 86 *i* P **Pn** 06 00 16.1 +2.7
REAL *e*S **Sn** 06 01 07.1 +2.6
EMIJ Mijas 4.74 85 P **Pn** 06 00 19.2 +1.0
comp=Z,31nm,0.3s,SNR=6.8
EMIJ S **Sn** 06 01 12.7 -0.5
comp=Z,78nm,0.3s,SNR=7.9
EMIJ Mijas 4.74 85 Pn **Pn** 06 00 19.2 +1.0
EMIJ Sn **Sn** 06 01 12.7 -0.5
MTE Manteigas 4.75 30 *i* Pn **Pn** 06 00 18.3 -0.2
MTE *e*Sn **Sn** 06 01 10.8 -2.9
MTE
comp=Z,308nm,0.6s
PVIS Viseu 4.90 25 *e*Pn **Pn** 06 00 19.9 -0.6
PVIS *e*Sn **Sn** 06 01 13.9 -3.3
PVIS
comp=Z,296nm,0.1s
PVIS Viseu 4.90 25 *e*Pn **Pn** 06 00 19.9 -0.6
PVIS *e*Sn **Sn** 06 01 13.9 -3.3
comp=Z,296nm,0.1s
CIA Chichaoua 4.98 161 P **Pn** 06 00 18.0 -3.6
CIA S **Sn** 06 01 10.0 -9.3
CIA Chichaoua 4.98 161 *i* P **Pn** 06 00 18.0 -3.6
MAL Malaga 5.03 83 *i* P **Pn** 06 00 24.0 +1.7
PTO Porto 5.08 18 *e*Pn **Pn** 06 00 21.9 -1.1
PTO *e*Sn **Sn** 06 01 17.4 -4.3
PTO
comp=Z,191nm,0.1s
EADA Adamuz 5.18 67 ⇑P **Pn** 06 00 25.4 +1.1
comp=Z,110nm,0.2s,SNR=18
EADA S **Sn** 06 01 23.4 -0.7
comp=Z,52nm,0.2s,SNR=7.9
EADA Adamuz 5.18 67 Pn **Pn** 06 00 24.9 +0.5
EADA Sn **Sn** 06 01 23.4 -0.7
EADA Adamuz 5.18 67 Pn **Pn** 06 00 24.9 +0.5
EADA Sn **Sn** 06 01 23.4 -0.8
comp=Z,52nm,0.2s,SNR=7.9
ELUQ Luque 5.26 74 ⇑P **Pn** 06 00 25.7 +0.3
comp=Z,16nm,0.2s,SNR=18
ELUQ S **Sn** 06 01 26.4 +0.4
comp=Z,28nm,0.2s,SNR=7.9
ELUQ Luque 5.26 74 Pn **Pn** 06 00 25.4 0.0
ELUQ Sn **Sn** 06 01 25.6 -0.4
ELOJ Sierra Loja 5.28 79 P **Pn** 06 00 26.3 +0.6
comp=Z,7.2nm,0.2s,SNR=27
ELOJ S **Sn** 06 01 25.9 -0.7
comp=Z,37nm,0.3s,SNR=7.9
ELOJ Sierra Loja 5.28 79 Pn **Pn** 06 00 26.9 +1.2
ELOJ Sn **Sn** 06 01 25.9 -0.7
MIF Mishlifen 5.30 121 P **Pn** 06 00 27.0 +0.9
MIF S **Sn** 06 01 25.0 -2.2
MIF Mishlifen 5.30 121 *i* P **Pn** 06 00 27.0 +0.9
KIB El Ksiba 5.32 133 P **Pn** 06 00 25.5 -0.8
KIB S **Sn** 06 01 22.5 -5.1
KIB El Ksiba 5.32 133 *i* P **Pn** 06 00 25.5 -0.8
TZC Tazercounte 5.39 139 P **Pn** 06 00 25.5 -1.7
TZC S **Sn** 06 01 22.5 -6.8
TZC Tazercounte 5.39 139 *i* P **Pn** 06 00 25.5 -1.7
PVRL Vila Real 5.46 24 *e*Pn **Pn** 06 00 27.3 -0.9
PVRL *e*S **Sn** 06 01 26.6 -4.5
PVRL
comp=Z,207nm,0.2s
ERON Agron 5.54 81 P **Pn** 06 00 30.5 +1.2
comp=Z,65nm,0.4s,SNR=134
ERON S **Sn** 06 01 34.3 +1.3
comp=Z,51nm,0.4s,SNR=7.9
MPAL Palemas 5.55 99 *i* P **Pn** 06 00 31.5 +2.1
CZD Col de Zad 5.65 124 P **Pn** 06 00 31.0 +0.2
CZD S **Sn** 06 01 31.0 -4.7
CZD Col de Zad 5.65 124 *i* P **Pn** 06 00 31.0 +0.2
PMPS Porto Santo 5.70 237 *e*Pn **Pn** 06 00 21.8 -10
PMPS *e*Sn **Sn** 06 01 13.5 -24
PMPS
comp=Z,68nm,0.3s
EGUA Guajares 5.72 83 P **Pn** 06 00 33.0 +1.3
comp=Z,4.9nm,0.3s,SNR=7.9
EGUA S **Sn** 06 01 37.7 +0.3
comp=Z,9.5nm,0.4s,SNR=7.9
TZK Tazeka 5.73 111 P **Pn** 06 00 32.0 +0.1
TZK S **Sn** 06 01 35.0 -2.7
TZK Tazeka 5.73 111 *i* P **Pn** 06 00 32.0 +0.1
ECOG Cogollos-Vega 5.76 78 P **Pn** 06 00 33.1 +0.8
comp=Z,32nm,0.2s,SNR=62
ECOG S **Sn** 06 01 38.2 -0.2
comp=Z,22nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 5.76 78 Pn **Pn** 06 00 33.4 +1.1
ECOG Sn **Sn** 06 01 38.2 -0.2
PCAB Cabril 5.76 20 *e*Pn **Pn** 06 00 31.4 -1.0
PCAB *e*Sn **Sn** 06 01 34.0 -4.6
PCAB
comp=Z,108nm,0.1s
TOU Touzarine 5.77 101 P **Pn** 06 00 34.5 +2.1
TOU S **Sn** 06 01 37.5 -1.1
TOU Touzarine 5.77 101 *i* P **Pn** 06 00 34.5 +2.1
EBAN Banos Encina 5.77 69 P **Pn** 06 00 32.5 0.0
comp=Z,98nm,0.3s,SNR=152
EBAN S **Sn** 06 01 36.9 -1.9
comp=Z,22nm,0.1s,SNR=7.9
EQUE Quentar 5.85 79 P **Pn** 06 00 35.6 +2.1
comp=Z,29nm,0.3s,SNR=7.9
EQUE S **Sn** 06 01 40.9 +0.3
comp=Z,48nm,0.4s,SNR=7.9
AFS Agadir Fac de 5.95 170 P **Pn** 06 00 32.0 -2.9
AFS S **Sn** 06 01 34.5 -8.6
AFS Agadir Fac de 5.95 170 *i* P **Pn** 06 00 32.0 -2.9
EZAM Zamans 6.03 14 P **Pn** 06 00 33.9 -2.0
comp=Z,24nm,0.1s,SNR=7.9
EZAM S **Sn** 06 01 39.4 -5.6
comp=Z,486nm,0.4s,SNR=7.9
MDT Midelt 6.07 123 Pn **Pn** 06 00 36.1 -0.5
comp=Z,58nm,0.3s,baz=312,slow=11,SNR=1627
MDT Sn **Sn** 06 01 41.4 -4.7
comp=Z,50nm,0.3s,baz=200,slow=21,SNR=18
EALB Alboran 6.17 91 P **Pn** 06 00 38.0 +0.2
comp=Z,8.3nm,0.2s,SNR=7.9
EALB S **Sn** 06 01 45.7 -2.7
comp=Z,71nm,0.3s,SNR=7.9
EALB Alboran 6.17 91 Pn **Pn** 06 00 38.0 +0.1
comp=Z,8.3nm,0.2s,SNR=7.9
EALB Sn **Sn** 06 01 45.7 -2.8
comp=Z,71nm,0.3s,SNR=7.9
EQES Quesada 6.23 74 P **Pn** 06 00 39.7 +0.9
comp=Z,18nm,0.2s,SNR=7.9
EQES S **Sn** 06 01 50.2 +0.1
comp=Z,45nm,0.3s,SNR=7.9
EQES Quesada 6.23 74 Pn **Pn** 06 00 39.1 +0.3
EQES Sn **Sn** 06 01 48.6 -1.5
EQES Quesada 6.23 74 Pn **Pn** 06 00 39.2 +0.4
EQES Sn **Sn** 06 01 50.2 +0.1
comp=Z,45nm,0.3s,SNR=7.9
ESDC Sonseca Array 6.25 55 Pn **Pn** 06 00 39.8 +0.8
comp=Z,85nm,0.3s,baz=242,slow=13,SNR=671
ESDC Sn **Sn** 06 01 49.1 -1.5
comp=Z,8.3nm,0.3s,baz=247,slow=17,SNR=4.7
ESDC Sonseca Array 6.25 55 P **Pn** 06 00 39.5 +0.4
comp=Z,173nm,0.1s,baz=241,slow=13,SNR=632
ESDC S **Sn** 06 01 49.6 -1.0
comp=Z,38nm,0.2s,baz=245,slow=24,SNR=7.9
ESDC Sonseca Array 6.25 55 Pn **Pn** 06 00 39.5 +0.4
comp=Z,173nm,0.1s,SNR=632
ESDC Sn **Sn** 06 01 49.6 -1.0
comp=Z,38nm,0.2s,SNR=7.9
ESLA Sonseca Array 6.25 55 *e*Pn **Pn** 06 00 39.3 +0.2
comp=Z,11nm,0.4s
ESLA *e*Sn **Sn** 06 01 50.1 -0.4
ESLA Sonseca Array 6.25 55 *e*Pn **Pn** 06 00 39.3 +0.2
comp=Z,11nm,0.4s
ESLA *e*Sn **Sn** 06 01 50.1 -0.5
EBER Berja 6.26 82 P **Pn** 06 00 40.8 +1.6
comp=Z,1.7nm,0.1s,SNR=7.9
EBER S **Sn** 06 01 49.5 -1.3
comp=Z,31nm,0.4s,SNR=7.9
EBER Berja 6.26 82 Pn **Pn** 06 00 40.4 +1.1
EBER Sn **Sn** 06 01 49.5 -1.3
EBER Berja 6.26 82 Pn **Pn** 06 00 40.4 +1.2
EBER Sn **Sn** 06 01 49.5 -1.3
comp=Z,31nm,0.4s,SNR=7.9
EBER Berja 6.26 82 Pn **Pn** 06 00 40.4 +1.2
EBER Sn **Sn** 06 01 49.5 -1.3
comp=Z,31nm,0.4s,SNR=7.9
PBRG Braganca 6.27 28 *e*Pn **Pn** 06 00 38.7 -0.6
PBRG *e*Sn **Sn** 06 01 46.9 -4.1
PBRG
comp=Z,127nm,0.2s
EMEL Melilla 6.32 97 P **Pn** 06 00 40.2 +0.1
comp=Z,36nm,0.4s,SNR=4.0
EMEL S **Sn** 06 01 50.8 -1.5
comp=Z,154nm,0.2s,SNR=7.9
MELI Melilla 6.34 97 S **Sn** 06 01 49.4 -3.4
ECAL Calabor 6.39 27 P **Pn** 06 00 40.3 -0.7
comp=Z,24nm,0.1s,SNR=7.9
ECAL S **Sn** 06 01 49.2 -4.7
comp=Z,715nm,0.6s,SNR=7.9
ECAL Calabor 6.39 27 Pn **Pn** 06 00 40.3 -0.7
ECAL Sn **Sn** 06 01 48.9 -5.1
ECAL Calabor 6.39 27 Pn **Pn** 06 00 40.3 -0.7
comp=Z,24nm,0.1s,SNR=7.9
YBT Youssef Ben Ta 6.49 172 P **Pn** 06 00 38.5 -3.9
YBT S **Sn** 06 01 45.0 -12
ZAI Zaio 6.56 99 P **Pn** 06 00 45.5 +2.1
ZAI S **Sn** 06 01 57.0 -1.3
ZAI Zaio 6.56 99 *i* P **Pn** 06 00 45.5 +2.1
EHUE Huescar 6.61 74 P **Pn** 06 00 44.0 0.0
comp=Z,8.9nm,0.2s,SNR=7.9
EHUE S **Sn** 06 01 57.3 -2.1
comp=Z,7.3nm,0.2s,SNR=7.9
GUD Guadarrama 6.68 48 P **Pn** 06 00 44.0 -0.9
comp=Z,26nm,0.3s,SNR=7.9
GUD S **Sn** 06 01 58.2 -2.9
comp=Z,39nm,0.3s,SNR=7.9
ZFT Errachidia 6.73 127 P **Pn** 06 00 45.5 -0.1
ZFT S **Sn** 06 01 57.0 -5.4
ZFT Errachidia 6.73 127 *i* P **Pn** 06 00 45.5 -0.1
EMAZ Mazaricos 6.76 10 P **Pn** 06 00 43.2 -2.8
comp=Z,11nm,0.2s,SNR=7.9
EMAZ S **Sn** 06 01 54.3 -8.7
comp=Z,158nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.76 10 Pn **Pn** 06 00 43.9 -2.0
EMAZ Sn **Sn** 06 01 54.3 -8.7
EMAZ Mazaricos 6.76 10 Pn **Pn** 06 00 43.9 -2.1
STS Santiago 6.76 13 P **Pn** 06 00 43.1 -3.0
comp=Z,22nm,0.1s,SNR=7.9
STS S **Sn** 06 01 55.9 -7.3
comp=Z,52nm,0.1s,SNR=7.9
STS Santiago 6.76 13 Pn **Pn** 06 00 42.7 -3.4
STS Sn **Sn** 06 01 55.9 -7.3
ENIJ Nijar 6.81 82 P **Pn** 06 00 47.1 +0.3
comp=Z,26nm,0.4s,SNR=7.9
ENIJ Nijar 6.81 82 Pn **Pn** 06 00 46.6 -0.2
EVIA Vianos 6.88 68 P **Pn** 06 00 47.0 -0.6
comp=Z,12nm,0.1s,SNR=7.9
EVIA S **Sn** 06 02 01.8 -4.1
comp=Z,5.3nm,0.1s,SNR=7.9
EPON Pontenova 7.51 20 P **Pn** 06 00 55.2 -1.1
comp=Z,11nm,0.1s,SNR=7.9
EPON S **Sn** 06 02 13.7 -7.8
comp=Z,42nm,0.2s,SNR=7.9
EPON Pontenova 7.51 20 Pn **Pn** 06 00 55.2 -1.1
comp=Z,11nm,0.1s,SNR=7.9
EFAM Famara 7.56 200 P **Pn** 06 00 48.5 -8.5
SNR=4.0
EFAM S **Sn** 06 02 06.0 -17
comp=Z,57nm,0.5s,SNR=7.9
EFAM Famara 7.56 200 Pn **Pn** 06 00 48.5 -8.6
SNR=4.0
EFAM Sn **Sn** 06 02 06.0 -17
comp=Z,57nm,0.5s,SNR=7.9
ETOB Tobarra 7.60 69 P **Pn** 06 00 57.5 0.0
comp=Z,95nm,0.5s,SNR=7.9
ETOB S **Sn** 06 02 20.8 -2.8
comp=Z,9.1nm,0.1s,SNR=7.9
ETOB Tobarra 7.60 69 Pn **Pn** 06 00 57.5 0.0
comp=Z,95nm,0.5s,SNR=7.9
ETOB Sn **Sn** 06 02 20.8 -2.9
comp=Z,9.1nm,0.1s,SNR=7.9
EMUR La Murta 7.67 76 P **Pn** 06 00 59.0 +0.5
comp=Z,12nm,0.4s,SNR=7.9
EMUR S **Sn** 06 02 23.0 -2.4
comp=Z,27nm,0.4s,SNR=7.9
EMUR La Murta 7.67 76 Pn **Pn** 06 00 59.0 +0.5
comp=Z,12nm,0.4s,SNR=7.9
EMUR Sn **Sn** 06 02 23.0 -2.4
comp=Z,27nm,0.4s,SNR=7.9
CART Cartagena 7.82 78 P **Pn** 06 01 00.6 0.0
CART S **Sn** 06 02 26.5 -2.7
CART Cartagena 7.82 78 *e*Pn **Pn** 06 01 00.4 -0.2
comp=Z,392nm,0.7s
CART Cartagena 7.82 78 *e*Pn **Pn** 06 01 00.4 -0.2
comp=Z,392nm,0.7s
CFUE Fuerteventura 8.13 201 S **Sn** 06 02 18.7 -18
comp=Z,76nm,0.4s,SNR=7.9
EARI Arriondas 8.14 29 P **Pn** 06 01 05.0 +0.1
comp=Z,3.7nm,0.2s,SNR=7.9
EARI S **Sn** 06 02 31.3 -5.6
comp=Z,8.6nm,0.2s,SNR=7.9
ECHE Chera 8.31 64 P **Pn** 06 01 08.1 +0.8
comp=Z,6.0nm,0.3s,SNR=7.9
ECHE Chera 8.31 64 Pn **Pn** 06 01 08.4 +1.0
ECHE Chera 8.31 64 Pn **Pn** 06 01 08.4 +1.0
CFTV Fuerteventura 8.39 201 S **Sn** 06 02 24.1 -19
comp=Z,4.6nm,0.4s,SNR=7.9
EBEN Beniarda 8.62 71 P **Pn** 06 01 12.5 +1.0
comp=Z,7.4nm,0.2s,SNR=7.9
EBEN S **Sn** 06 02 45.9 -2.8
comp=Z,5.2nm,0.3s,SNR=7.9
EBEN Beniarda 8.62 71 Pn **Pn** 06 01 12.6 +1.1
EBEN Sn **Sn** 06 02 45.9 -2.8
EBEN Beniarda 8.62 71 Pn **Pn** 06 01 12.5 +1.0
comp=Z,7.4nm,0.2s,SNR=7.9
EBEN Sn **Sn** 06 02 45.9 -2.8
comp=Z,5.2nm,0.3s,SNR=7.9
ELAN Lanestosa 8.86 37 P **Pn** 06 01 14.5 -0.4
comp=Z,2.7nm,0.2s,SNR=7.9
ELAN S **Sn** 06 02 49.1 -5.7
comp=Z,12nm,0.2s,SNR=7.9
ELAN Lanestosa 8.86 37 Pn **Pn** 06 01 14.0 -0.9
ELAN Sn **Sn** 06 02 49.1 -5.7
ELAN Lanestosa 8.86 37 Pn **Pn** 06 01 14.5 -0.4
comp=Z,2.7nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.96 60 P **Pn** 06 01 18.0 +1.9
comp=Z,42nm,0.4s,SNR=7.9
EMOS S **Sn** 06 02 55.3 -1.8
comp=Z,16nm,0.3s,SNR=7.9
EMOS Mosqueruela 8.96 60 Pn **Pn** 06 01 18.0 +1.8
comp=Z,42nm,0.4s,SNR=7.9
EMOS Sn **Sn** 06 02 55.3 -1.8
comp=Z,16nm,0.3s,SNR=7.9
EBAJ Bajamar 9.12 213 S **Sn** 06 02 40.2 -21
comp=Z,20nm,0.3s,SNR=7.9
EOSO Osorio 9.20 208 S **Sn** 06 02 41.8 -21
comp=Z,17nm,0.3s,SNR=7.9
CRAJ Montana Rajada 9.47 214 S **Sn** 06 02 49.1 -21
comp=Z,98nm,0.4s,SNR=7.9
CCAN Las Canadas 9.51 214 P **Pn** 06 01 15.1 -8.7
comp=Z,0.8nm,0.2s,SNR=4.0
CCAN S **Sn** 06 02 50.5 -20
comp=Z,1.2nm,0.1s,SNR=7.9
EARA Aranguren 9.52 45 P **Pn** 06 01 24.6 +0.7
comp=Z,9.3nm,0.3s,SNR=7.9
EARA S **Sn** 06 03 06.3 -4.6
comp=Z,42nm,0.7s,SNR=7.9
ESAC San Caprasio 9.58 53 P **Pn** 06 01 25.8 +1.1
comp=Z,44nm,0.4s,SNR=7.9
ESAC S **Sn** 06 03 08.3 -4.2
comp=Z,24nm,0.2s,SNR=7.9
ESAC San Caprasio 9.58 53 Pn **Pn** 06 01 25.8 +1.1
comp=Z,44nm,0.4s,SNR=7.9
CHIO Chio 9.59 215 P **Pn** 06 01 16.5 -8.4
comp=Z,7.1nm,0.2s,SNR=4.0
CHIO S Sn 06 02 48.9 -24
comp=Z,20nm,0.2s,SNR=7.9
IUSE Utxeti 9.65 44 P **Pn** 06 01 26.1 +0.4
comp=Z,2.3nm,0.1s,SNR=7.9
IUSE S **Sn** 06 03 09.7 -4.4
comp=Z,3.2nm,0.2s,SNR=7.9
ERTA Horta de San J 9.76 58 P **Pn** 06 01 28.1 +0.9
comp=Z,10nm,0.4s,SNR=7.9
ERTA S **Sn** 06 03 12.1 -4.7
comp=Z,3.5nm,0.2s,SNR=7.9
ERTA Horta de San J 9.76 58 Pn **Pn** 06 01 28.8 +1.6
comp=Z,1.0nm,0.1s
ERTA Horta de San J 9.76 58 Pn **Pn** 06 01 28.8 +1.6
comp=Z,1.0nm,0.1s
ERTA Sn **Sn** 06 03 18.2 +1.4
comp=Z,3.5nm,0.2s,SNR=7.9
ELIZ Elizondo 9.80 43 P **Pn** 06 01 28.3 +0.6
comp=Z,3.3nm,0.2s,SNR=7.9
ELIZ S **Sn** 06 03 12.3 -5.5
comp=Z,3.7nm,0.4s,SNR=7.9
EHIG Higuera 9.81 220 S **Sn** 06 02 55.8 -22
comp=Z,39nm,0.2s,SNR=7.9
EGOM La Gomera 9.84 216 S **Sn** 06 02 56.2 -23
comp=Z,26nm,0.3s,SNR=7.9
EALK Alkurruntz 9.85 43 P **Pn** 06 01 29.0 +0.6
comp=Z,36nm,0.7s,SNR=7.9
EALK S **Sn** 06 03 14.5 -4.5
comp=Z,55nm,0.6s,SNR=7.9
EIBI Ibiza 9.88 70 P **Pn** 06 01 29.0 +0.2
comp=Z,3.0nm,0.2s,SNR=7.9
EIBI S **Sn** 06 03 16.5 -3.3
comp=Z,10nm,0.6s,SNR=7.9
EIBI Ibiza 9.88 70 Pn **Pn** 06 01 29.0 +0.2
comp=Z,3.0nm,0.2s,SNR=7.9
EIBI Sn **Sn** 06 03 16.5 -3.3
comp=Z,10nm,0.6s,SNR=7.9
SJPF Ste Jean 9.94 44 *e*Pn **Pn** 06 01 30.2 +0.6
SJPF *e*Sn **Sn** 06 03 17.1 -4.0
comp=Z,28nm,0.5s
SJPF Ste Jean 9.94 44 P **Pn** 06 01 30.2 +0.6
SJPF S **Sn** 06 03 17.1 -4.0
comp=Z,14nm,0.5s
ETSF Etsaut 10.18 47 *e*Pn **Pn** 06 01 33.0 0.0
ETSF *e*Sn **Sn** 06 03 23.4 -3.8
comp=Z,41nm,0.8s
ETSF Etsaut 10.18 47 P **Pn** 06 01 33.0 0.0
ETSF S **Sn** 06 03 23.4 -3.8
comp=Z,20nm,0.8s
REYF Montagne du Re 10.38 46 P **Pn** 06 01 36.3 +0.5
EPOB Poblet 10.43 58 P **Pn** 06 01 36.9 +0.5
comp=Z,35nm,0.6s,SNR=7.9
EPOB S **Sn** 06 03 30.1 -3.2
comp=Z,6.6nm,0.5s,SNR=7.9
EPOB Poblet 10.43 58 Pn **Pn** 06 01 36.9 +0.5
comp=Z,35nm,0.6s,SNR=7.9
EPOB Sn **Sn** 06 03 30.1 -3.3
comp=Z,6.6nm,0.5s,SNR=7.9
EBIE Bielsa 10.48 49 P **Pn** 06 01 37.7 +0.6
comp=Z,14nm,0.3s,SNR=7.9
EBIE S **Sn** 06 03 30.7 -3.9
comp=Z,26nm,0.4s,SNR=7.9
VIEF Viey 10.52 48 P **Pn** 06 01 38.2 +0.6
LABF Labassere 10.65 48 P **Pn** 06 01 40.1 +0.8
LABF Labassere 10.65 48 P **Pn** 06 01 40.2 +0.9
RESF Ens 10.67 49 P **Pn** 06 01 40.9 +1.2
EPF Esparros 10.80 48 *e*Pn **Pn** 06 01 41.8 +0.4
EPF *e*Sn **Sn** 06 03 37.6 -4.7
comp=Z,60nm,0.7s
EPF Esparros 10.80 48 P **Pn** 06 01 41.8 +0.4
EPF S **Sn** 06 03 37.6 -4.7
comp=Z,30nm,0.7s
MELF Melles 10.96 50 P **Pn** 06 01 44.6 +0.9
ETOS Mallorca 11.16 68 P **Pn** 06 01 46.8 +0.4
comp=Z,4.3nm,0.4s,SNR=7.9
ETOS Mallorca 11.16 68 Pn **Pn** 06 01 46.8 +0.5
comp=Z,3.3nm,0.3s
SALF Salau 11.17 51 P **Pn** 06 01 47.3 +0.8
MLS Moulis 11.22 50 P **Pn** 06 01 48.0 +0.8
VALF Valcebollere 11.53 54 P **Pn** 06 01 52.3 +0.9
CARF Carcanieres 11.73 53 P **Pn** 06 01 55.2 +1.0
FILF Fillols 11.96 55 P **Pn** 06 01 56.5 -0.8
MTLF Montolieu 12.12 51 *e*Pn **Pn** 06 01 59.7 +0.2
MTLF *e*Sn **Sn** 06 04 09.9 -4.7
comp=Z,9.7nm,0.6s
MTLF Montolieu 12.12 51 *e*Pn **Pn** 06 01 59.7 +0.2
MTLF *e*Sn **Sn** 06 04 09.9 -4.7
comp=Z,4.8nm,0.6s
EJON La Jonquera 12.12 56 P **Pn** 06 01 59.4 -0.2
comp=Z,16nm,0.6s,SNR=7.9
SJAF Saint Jean de 12.14 55 P **Pn** 06 01 59.5 -0.2
LFF La Frestale 12.20 42 *e*Pn **Pn** 06 02 00.1 -0.5
LFF *e*Sn **Sn** 06 04 09.6 -7.0
comp=Z,16nm,0.7s
LFF La Frestale 12.20 42 *e*Pn **Pn** 06 02 00.1 -0.5
LFF *e*Sn **Sn** 06 04 09.6 -7.0
comp=Z,8.0nm,0.7s
QUIF Quistinic 12.85 23 *e*Pn **Pn** 06 02 09.3 -0.2
QUIF *e*Sn **Sn** 06 04 22.0 -11
comp=Z,31nm,0.6s
QUIF Quistinic 12.85 23 *e*Pn **Pn** 06 02 09.3 -0.2
QUIF *e*Sn **Sn** 06 04 22.0 -11
comp=Z,16nm,0.6s
RJF Les Rejaudoux 12.85 42 *e*Pn **Pn** 06 02 08.2 -1.3
RJF *e*Sn **Sn** 06 04 23.9 -8.7
comp=Z,47nm,1.0s
RJF Les Rejaudoux 12.85 42 *e*Pn **Pn** 06 02 08.2 -1.3
RJF *e*Sn **Sn** 06 04 23.9 -8.7
comp=Z,24nm,1.0s
CAF Calviac 12.92 44 *e*Pn **Pn** 06 02 09.5 -0.9
CAF *e*Sn **Sn** 06 04 25.9 -8.3
comp=Z,37nm,1.3s
CAF Calviac 12.92 44 *e*Pn **Pn** 06 02 09.5 -0.9
CAF *e*Sn **Sn** 06 04 25.9 -8.3
comp=Z,18nm,1.3s
MFF Saint Martin d 12.94 34 *e*Pn **Pn** 06 02 08.6 -2.1
MFF *e*Sn **Sn** 06 04 27.2 -7.5
comp=Z,20nm,0.7s
MFF Saint Martin d 12.94 34 *e*Pn **Pn** 06 02 08.6 -2.1
MFF *e*Sn **Sn** 06 04 27.2 -7.5
comp=Z,9.9nm,0.7s
ROSF Rostrenen 13.19 22 *e*Pn **Pn** 06 02 13.2 -0.9
ROSF *e*Sn **Sn** 06 04 29.3 -12
comp=Z,20nm,0.8s
ROSF Rostrenen 13.19 22 P **Pn** 06 02 13.2 -0.9
ROSF S **Sn** 06 04 29.3 -12
comp=Z,10nm,0.8s
LASF Ste Croix 13.52 51 *e*Pn **Pn** 06 02 18.3 -0.3
LASF *e*Sn **Sn** 06 04 42.9 -5.9
comp=Z,12nm,0.8s
LASF Ste Croix 13.52 51 *e*Pn **Pn** 06 02 18.3 -0.3
LASF *e*Sn **Sn** 06 04 42.9 -5.9
comp=Z,5.8nm,0.8s
LBL Lubilhac 13.78 45 P **Pn** 06 02 21.7 -0.4
TCF Toulx Ste Croi 13.86 40 *e*Pn **Pn** 06 02 21.8 -1.5
TCF *e*Sn **Sn** 06 04 49.5 -7.8
comp=Z,7.7nm,0.5s
TCF Toulx Ste Croi 13.86 40 *e*Pn **Pn** 06 02 21.8 -1.5
TCF *e*Sn **Sn** 06 04 49.5 -7.8
comp=Z,3.8nm,0.5s
GRR Gorron 14.06 28 *e*Pn **Pn** 06 02 24.7 -1.3
GRR *e*Sn **Sn** 06 04 52.3 -10
comp=Z,27nm,0.9s
GRR Gorron 14.06 28 *e*Pn **Pn** 06 02 24.7 -1.3
GRR *e*Sn **Sn** 06 04 52.3 -10
comp=Z,13nm,0.9s
AGO Saint Agoulin 14.20 42 P **Pn** 06 02 26.9 -1.1
BGF Bois d'Agland 14.37 40 *e*Pn **Pn** 06 02 28.4 -1.9
BGF *e*Sn **Sn** 06 05 01.2 -8.5
comp=Z,46nm,0.6s
BGF Bois d'Agland 14.37 40 *e*Pn **Pn** 06 02 28.4 -1.9
BGF *e*Sn **Sn** 06 05 01.2 -8.5
comp=Z,23nm,0.6s
VIVF Saint-Julien-l 14.41 49 *e*Pn **Pn** 06 02 31.0 +0.2
FLN La Foliniere 14.51 28 *e*Pn **Pn** 06 02 31.1 -1.0
baz=213
LDF La Druitiere 14.51 29 *e*Pn **Pn** 06 02 29.6 -2.5
LDF *e*Sn **Sn** 06 05 04.9 -8.1
comp=Z,34nm,1.0s
LDF La Druitiere 14.51 29 *e*Pn **Pn** 06 02 29.6 -2.5
LDF *e*Sn **Sn** 06 05 04.9 -8.1
comp=Z,17nm,1.0s
SMRF Simiane la Rot 14.56 53 *e*Pn **Pn** 06 02 33.2 +0.4
LMR La Mourre 14.91 57 *e*Pn **Pn** 06 02 37.8 +0.1
FRF La Foret Royal 15.10 56 *e*Pn **Pn** 06 02 39.6 -0.5
LOR Lormes 15.36 40 *e*Pn **Pn** 06 02 42.3 -1.3
baz=227
MBDF Montbardon 15.66 52 *e*Pn **Pn** 06 02 47.8 +0.3
LPL La Plagne 16.01 50 *e*Pn **Pn** 06 02 53.6 +1.6
LPG La Plagne 16.01 50 *e*Pn **Pn** 06 02 54.6 +2.6
KEST Kesra 16.18 86 Pn **Pn** 06 02 57.7 +3.4
comp=Z,0.2nm,0.3s,baz=356,slow=1.0,SNR=11
BAIF Baives 17.45 33 *e*Pn **Pn** 06 03 10.8 +0.6
DOU Dourbes 17.65 34 P **Pn** 06 03 15.0 +2.3
SNF Seneffe 17.81 33 P **Pn** 06 03 18.0 +3.3
WLF Walferdange 18.09 37 P **Pn** 06 03 20.0 +1.9
EKA Eskdalemuir Ar 19.71 13 P **Pn** 06 03 37.8 0.0
comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=3.9
UBBA Unterbreizbach 20.73 39 *e*P pP 06 03 56.8 +6.5
comp=Z,8.0nm,1.4s
GRA1 Grafenberg Arr 20.75 43 *e*P **P** 06 03 48.7 +1.1
comp=Z,14nm,1.1s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GRF	Grafenberg Arr	20.75	43	eP	P	06 03 48.7	+1.1
	comp=Z,14nm,1.1s						
KBA	Koelnbreinsper	20.81	51	⇑iP	P	06 03 49.3	+0.9
	comp=Z,7.4nm,0.7s						
KBA	Koelnbreinsper	20.81	51	⇑iP	P	06 03 49.2	+0.9
	comp=Z,7.4nm,0.7s						
ROTZ	Rotzenmuhle	21.33	44	eP	P	06 03 55.0	+1.1
MANZ	Manzenberg	21.39	43	eP	P	06 03 56.0	+1.4
	comp=Z,11nm,1.1s,mb4.1						
WET	Wettzell	21.41	46	eP	P	06 03 56.8	+2.0
	comp=Z,21nm,1.3s,mb4.3						
GEC2	GERESS Array S	21.76	47	eP	P	06 03 59.7	+1.2
	comp=Z,24nm,1.8s,mb4.3						
GERES	GERESS Array B	21.76	47	P	P	06 03 59.4	+0.9
	comp=Z,3.1nm,0.8s,mb3.8,baz=238,slow=9.2,SNR=18						
KHC	Kasperske Hory	21.81	46	eP	P	06 04 00.5	+1.4
KHC				ex	x	06 04 09.8	
PRU	Pruhonice	22.76	45	eP	P	06 04 09.6	+0.4
PRU				ex	x	06 04 21.2	
BRG	Berggiesshubel	22.85	43	e(P)	P	06 04 12.0	+1.9
	comp=Z,3.8nm,0.9s,mb3.8						
VRAC	Vranov	23.68	48	P	P	06 04 18.9	+0.3
	comp=Z,1.5nm,0.4s,mb3.8,baz=252,slow=15,SNR=4.1						
UPC	Upice	23.84	45	eP	P	06 04 21.1	+1.0
UPC				ex	x	06 04 33.1	
DPC	Dobruska-Polom	23.95	46	eP	P	06 04 19.5	-1.6
DPC				ex	x	06 04 33.4	
TOA0	Torodi Ar. Sit	25.59	151	eP	P	06 04 33.6	-2.4
TOA0	Torodi Ar. Sit	25.59	151	eP	P	06 04 33.6	-2.4
TORD	Torodi Ar. Bea	25.59	151	P	P	06 04 33.5	-2.5
	comp=Z,4.3nm,0.8s,mb4.0,baz=336,slow=9.4,SNR=20						
FINES	FINESS Array B	34.09	31	P	P	06 05 50.9	-0.6
	comp=Z,3.8nm,0.8s,mb4.3,baz=242,slow=8.0,SNR=4.2						
ARCES	ARCESS Array B	38.62	19	P	P	06 06 29.4	-0.8
	comp=Z,1.6nm,0.8s,mb3.8,baz=220,slow=8.3,SNR=3.5						
BVAR	Borovoye Array	56.91	45	P	P	06 08 52.1	+0.1
	comp=Z,0.5nm,0.5s,mb3.8,baz=302,slow=9.8,SNR=4.3						
PDAR	Pinedale Array	72.14	310	P	P	06 10 33.7	+2.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=64,slow=6.8,SNR=3.5						
PDAR	Pinedale Array	72.14	310	P	P	06 10 33.7	+2.1
WRA	Warramunga Arr	145.31	72	PKPbc	PKPbc	06 18 43.4	-1.2
	comp=Z,1.0nm,0.8s,baz=315,slow=3.0,SNR=4.6						
ASAR	Alice Springs	146.99	78	PKPbc	PKPbc	06 18 48.0	-1.6
	comp=Z,0.4nm,0.6s,baz=326,slow=2.4,SNR=6.4						

*IDC **09** 05:59:54.6±1.6, 228N×9603E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/22, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=44.9km s-min=20.1km az=45.0*
*ISCJB **09** 05:59:56.9±7.0, 23N±0.1×960E±0.1, h31km±50km, mb3.8/7, Error ellipse: s-maj=24.5km s-min=15.6km az=45.0*
*NEIC **09** 05:59:59.0±1.0, 228N×9606E, h30km, mb3.8/1, Error ellipse: s-maj=27.0km s-min=11.7km az=47.0*
ISC 09 05:59:56.7±7.2, 23N±01×9601E±009, h13km±46km, n9, σ0^{s}46/11, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.96	80	Pn	Pn	06 00 43.4	+0.1
	4.4nm,0.3s,baz=315,slow=8.4,SNR=15						
PSI				Sn	Sn	06 01 18.8	+0.1
	2.5nm,0.3s,baz=286,slow=19,SNR=4.5						
PSI	Prapat	2.96	80	Pn	Pn	06 00 43.4	+0.1
PSI				Sn	Sn	06 01 18.8	+0.1
WRA	Warramunga Arr	43.62	122	P	P	06 07 60.0	-0.7
	0.4nm,0.3s,mb3.6,baz=299,slow=9.4,SNR=3.3						
WRAB	Tennant Creek	43.62	122	P	P	06 08 00.7	0.0
	1.7nm,1.0s,mb3.7						
ASAR	Alice Springs	45.00	127	P	P	06 08 12.2	+0.6
	0.2nm,0.6s,mb3.1,baz=295,slow=7.7,SNR=6.5						
MKAR	Makanchi Array	45.91	347	P	P	06 08 19.2	+0.3
	1.9nm,0.6s,mb4.2,baz=161,slow=7.7,SNR=15						
SONM	Songino Array	46.26	10	P	P	06 08 20.7	-0.9
	1.2nm,0.7s,mb3.9,baz=198,slow=9.2,SNR=5.0						
ZAL	Zalesovo	52.30	352	P	P	06 09 08.4	+0.5
	1.8nm,0.4s,mb4.3,baz=287,slow=5.1,SNR=5.1						
BVAR	Borovoye Array	54.84	341	P	P	06 09 26.6	+0.1
	0.8nm,0.6s,mb3.9,baz=156,slow=8.1,SNR=5.1						

TRN 09 06:00:31.5, 1275N×5980W, h22km, MD3.7, M3.9(FDF), 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSV	Crater Summit	1.47	293	eP	Pn	06 00 57.9	+1.3
SSV				eS	Sn	06 01 17.0	+1.8
SVV	Soufriere Volc	1.49	293	eP	Pn	06 00 58.1	+1.2
SVB	Belmont	1.51	291	eP	Pn	06 00 58.4	+1.3
SVB				eS	Sn	06 01 18.0	+2.0
GRW	Mount Saint Ca	1.91	252	⇑eP	Pn	06 01 04.0	+1.4
GRW				eS	Sn	06 01 27.6	+1.7
MVM	Montagne Vaucl	2.09	330	eP	Pn	06 01 05.8	+0.7
FDF	Fort de France	2.37	327	eP	Pn	06 01 10.8	+1.8
FDF				eS	Sn	06 01 39.1	+1.8

*NEIC **09** 06:16:13.7±8.8, 3605N×1060W, h10km, MG3.6(MDD), Error ellipse: s-maj=102.0km s-min=16.8km az=42.0*
*MDD **09** 06:16:18.4±1.9, 3624N×1024W, h0km, mbLg2.8/18, Error ellipse: s-maj=16.1km s-min=13.0km az=56.0, PRXIMO*
*IGIL **09** 06:16:19.1, 3620N×1020W, h0km, ML2.7*
*CSEM **09** 06:16:19.8±0.4, 36.17N×1007W, h2km, ML3.5/7, Error ellipse: s-maj=7.7km s-min=5.7km az=64.0*
INMG 09 06:16:19.6±0.9, 3616N×1025W, h10km, ML2.4, Error ellipse: s-maj=5.7km s-min=3.7km az=72.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORF	Marmelete	1.72	48	eP	Pn	06 16 47.3	-2.2
MORF				eS	Sn	06 17 08.6	-3.0
MORF				eS	Sn	06 17 08.6	-3.0
MORF				AML	AML	06 17 10.5	
	comp=E,77nm,0.2s						
MORF	Marmelete	1.72	48	eP	Pn	06 16 47.3	-2.3
MORF				eS	Sn	06 17 08.6	-3.0
PTEO	Sao Teotonio	1.84	41	ePn	Pn	06 16 49.7	-1.6
PTEO				eSn	Sn	06 17 12.6	-2.1
PTEO							
	comp=E,26nm,0.3s						
PTEO	Sao Teotonio	1.84	41	ePn	Pn	06 16 49.7	-1.6
PTEO				eSn	Sn	06 17 12.6	-2.1
	comp=E,26nm,0.3s						
EGRO	El Granado	2.61	58	P	Pn	06 16 60.0	-1.8
	comp=E,1.7nm,0.1s,SNR=7.9						
EGRO				S	Sn	06 17 30.5	-3.0
	comp=E,13nm,0.1s,SNR=7.9						
EGRO	El Granado	2.61	58	Pn	Pn	06 17 00.0	-1.8
EGRO				Sn	Sn	06 17 30.5	-3.0
PBEJ	Beja	2.66	45	ePn	Pn	06 17 00.6	-1.9
PBEJ				eSn	Sn	06 17 31.8	-3.1
PBEJ							
	comp=E,11nm,0.1s						
PBEJ	Beja	2.66	45	ePn	Pn	06 17 00.6	-1.9
PBEJ				eSn	Sn	06 17 31.8	-3.1
	comp=E,11nm,0.1s						
ERIP	Rio Piedras	2.69	62	P	Pn	06 17 01.2	-1.7
	comp=E,1.5nm,0.1s,SNR=7.9						
ERIP				S	Sn	06 17 32.5	-3.0
	comp=E,19nm,0.1s,SNR=7.9						
PLOU	Loures	2.85	18	eSn	Sn	06 17 36.2	-3.4
PLOU							
	comp=E,18nm,0.1s						
PLOU	Loures	2.85	18	eSn	Sn	06 17 36.2	-3.4
	comp=E,18nm,0.1s						
PMAFR	Mafra	2.89	15	eSn	Sn	06 17 36.9	-3.6
EMIN	Mina Concepcio	3.28	60	P	Pn	06 17 08.8	-2.2
	comp=E,0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	06 17 46.4	-3.8
	comp=E,2.0nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.28	60	Pn	Pn	06 17 08.8	-2.3
EMIN				Sn	Sn	06 17 46.4	-3.8
PESTR	Estremoz	3.43	37	eSn	Sn	06 17 50.0	-3.8
PESTR							
	comp=E,3.5nm,0.2s						
PESTR	Estremoz	3.43	37	eSn	Sn	06 17 50.0	-3.8
	comp=E,3.5nm,0.2s						
ESPR	Espera	3.61	77	P	Pn	06 17 14.0	-1.5
	comp=E,10nm,0.2s,SNR=12						
ESPR				S	Sn	06 17 53.7	-4.6
	comp=E,3.6nm,0.1s,SNR=7.9						
ESPR	Espera	3.61	77	Pn	Pn	06 17 14.0	-1.6
ESPR				Sn	Sn	06 17 53.7	-4.5
EBAD	Badajoz	3.65	44	P	Pn	06 17 14.2	-1.9
	comp=E,0.5nm,0.1s,SNR=6.8						
EBAD				S	Sn	06 17 55.6	-3.7
	comp=E,6.2nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.65	44	Pn	Pn	06 17 14.2	-1.9
EBAD				Sn	Sn	06 17 54.6	-4.7
EBAD	Badajoz	3.65	44	Pn	Pn	06 17 14.2	-1.9
EBAD				Sn	Sn	06 17 54.6	-4.6
PTOM	Tomar	3.74	22	ePn	Pn	06 17 15.6	-1.8
PTOM				eSn	Sn	06 17 57.0	-4.5
PTOM							
	comp=E,8.2nm,0.1s						
PTOM	Tomar	3.74	22	ePn	Pn	06 17 15.6	-1.8
PTOM				eSn	Sn	06 17 57.0	-4.5
	comp=E,8.2nm,0.1s						
PCBR	Castelo Branco	4.27	30	ePn	Pn	06 17 22.6	-2.1
PCBR				eSn	Sn	06 18 09.7	-4.9
PCBR							
	comp=E,2.7nm,0.1s						
PCBR	Castelo Branco	4.27	30	ePn	Pn	06 17 22.6	-2.1
PCBR				eSn	Sn	06 18 09.7	-4.9
	comp=E,2.7nm,0.1s						
MTE	Manteigas	4.74	26	eSn	Sn	06 18 20.7	-5.3
MTE							
	comp=E,2.7nm,0.2s						
MTE	Manteigas	4.74	26	eSn	Sn	06 18 20.7	-5.3
	comp=E,2.7nm,0.2s						
PVIS	Viseu	4.91	21	ePn	Pn	06 17 31.0	-2.4
PVIS				eSn	Sn	06 18 24.6	-5.6
PVIS							
	comp=E,5.9nm,0.1s						
EADA	Adamuz	4.95	65	P	Pn	06 17 31.8	-2.2
	comp=E,1.4nm,0.2s,SNR=8.1						
EADA				S	Sn	06 18 26.0	-5.4
	comp=E,1.9nm,0.2s,SNR=7.8						
EADA	Adamuz	4.95	65	Pn	Pn	06 17 32.2	-1.9
EADA				Sn	Sn	06 18 26.0	-5.4
EADA	Adamuz	4.95	65	Pn	Pn	06 17 32.2	-1.8
EADA				Sn	Sn	06 18 26.0	-5.4
PVRL	Vila Real	5.47	20	eSn	Sn	06 18 37.8	-6.4
PVRL							
	comp=E,8.0nm,0.1s						
PVRL	Vila Real	5.47	20	S	Sn	06 18 37.8	-6.4
	comp=E,4.0nm,0.1s						
PCAB	Cabril	5.80	17	ePn	Pn	06 17 42.9	-2.8
PCAB				eSn	Sn	06 18 46.0	-6.3
PCAB							
	comp=E,2.8nm,0.1s						
PBRG	Braganca	6.26	25	eSn	Sn	06 18 57.1	-6.5
PBRG							
	comp=E,2.2nm,0.1s						
PBRG	Braganca	6.26	25	S	Sn	06 18 57.1	-6.5
	comp=E,1.1nm,0.1s						
ECAL	Calabor	6.38	24	P	Pn	06 17 51.3	-2.4
	comp=E,0.7nm,0.2s,SNR=7.9						
ECAL				S	Sn	06 19 00.4	-6.2
	comp=E,0.6nm,0.2s,SNR=7.9						
ECAL	Calabor	6.38	24	Pn	Pn	06 17 51.3	-2.4
ECAL				Sn	Sn	06 19 00.4	-6.2
GUD	Guadarrama	6.55	45	S	Sn	06 19 04.0	-6.7
	comp=E,1.0nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	6.85	8	P	Pn	06 17 56.1	-3.9
	comp=E,1.1nm,0.2s,SNR=7.9						
EMAZ				S	Sn	06 19 09.1	-8.9
	comp=E,1.3nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	6.85	8	Pn	Pn	06 17 56.1	-3.9

*NEIC **09** 06:31:21.2, 2808S×6774W, h145km, MG3.9(GUC), After GUC.*
GUC 09 06:31:21.2±0.8, 2808S×6774W, h145km, ML3.9, 6C-4D, La Rioja Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	2.42	287	⇑iP	Pn	06 32 03.2	+2.1
CPCH				iS	Sn	06 32 34.2	+2.4
CPCH				AML	AML	06 32 38.1	
	comp=N,2μm,0.0s						
CPCH				AML	AML	06 32 38.4	
	comp=E,2μm,0.1s						
CPCH	Copiapo	2.42	287	⇑iP	Pn	06 32 03.2	+2.1
CPCH				iS	Sn	06 32 34.2	+2.4
VACH	Vallenar	2.70	259	⇑iP	Pn	06 32 08.5	+3.9
VACH				iS	Sn	06 32 41.8	+3.8
VACH				AML	AML	06 32 45.1	
	comp=N,566nm,0.2s						
VACH				AML	AML	06 32 45.6	
	comp=E,393nm,0.2s						
VACH	Vallenar	2.70	259	⇑iP	Pn	06 32 08.5	+3.9
VACH				iS	Sn	06 32 41.8	+3.8
LCO	Las Campanas	2.76	250	⇑iP	Pn	06 32 06.8	+1.5
LCO				iS	Sn	06 32 41.2	+1.8
CDCH	Caldera	2.92	289	⇓iP	Pn	06 32 08.4	+1.1
CDCH				iS	Sn	06 32 43.0	+0.1
CDCH				AML	AML	06 32 43.6	
	comp=N,55nm,0.2s						
CDCH				AML	AML	06 32 44.4	
	comp=E,67nm,0.2s						
CDCH	Caldera	2.92	289	⇓iP	Pn	06 32 08.4	+1.1
CDCH				iS	Sn	06 32 43.0	+0.1
TLL	Tololo Astrono	3.39	231	⇓iP	Pn	06 32 14.6	+1.3
TLL				iS	Sn	06 32 54.9	+1.2
TLL				AML	AML	06 32 56.6	
	comp=N,124nm,0.3s						
TLL				AML	AML	06 33 00.9	
	comp=E,145nm,0.3s						
TLL	Tololo Astrono	3.39	231	⇓iP	Pn	06 32 14.6	+1.3
TLL				iS	Sn	06 32 54.9	+1.2
CMCH	Combarbala	4.18	222	⇑iP	Pn	06 32 22.8	-0.9
CMCH				iS	Sn	06 33 11.3	-1.0
CPN1	Cerro Paranal	4.19	325	iS	Sn	06 33 14.3	+1.9
CEN1	Los Morros	5.17	334	iS	Sn	06 33 33.2	-2.5

*NEIC **09** 06:56:47.0, 1584N×9677W, h16km, MD4.1(MEX), After MEX.*
MEX 09 06:56:47.5±0.8, 1590N×9679W, h13km±10km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.67	101	iP	Pg	06 56 58.9	-1.7
HUIG				iS	Sg	06 57 07.4	-2.0
VHO	Vista Hermosa	1.17	3	iP	Pn	06 57 05.5	-3.9
VHO				iS	Sb	06 57 20.3	-4.2
OXX	Oaxaca	1.18	3	iP	Pn	06 57 06.5	-3.1
OXX				iS	Sb	06 57 21.0	-3.8
PNIG	Pinotepa	1.37	291	iP	Pn	06 57 08.8	-3.5
PNIG				iS	Sn	06 57 25.1	-5.2
UTMO	Huajuapan	2.15	333	iP	Pn	06 57 20.0	-2.9
UTMO				eS	Sn	06 57 47.2	-2.2
CMIG	Matias Romero	2.18	57	eP	Pn	06 57 19.6	-3.8
CMIG				iS	Sn	06 57 46.4	-3.8
ACX	Acapulco	3.15	288	eP	Pn	06 57 48.0	+11
ACX				iS	Sn	06 58 08.5	-5.6
MEIG	Mezcala	3.37	307	iP	Pn	06 57 38.8	-1.0
MEIG				iS	Sn	06 58 16.6	-3.1
PPM	Popocatepetl	3.60	331	iP	Pn	06 57 41.0	-1.9
PPM				iS	Sn	06 58 21.5	-3.8
PPM	Popocatepetl	3.60	331	iP	Pn	06 57 41.0	-1.9
PPM				iS	Sn	06 58 24.6	-0.7
IIZ	Mezontepec	4.02	325	eP	Pn	06 57 44.7	-4.0
IIZ				iS	Sn	06 58 29.4	-6.2

MAN 09 07:06:39.5, 1046N×12496E, h1km, mb3.3, ML4.5, MS2.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	Maasin	0.34	197	eP	Pg	07 06 46.9	+0.8
MSLP				eS	Sg	07 06 54.4	+3.9
PLP	Palo	0.70	1	eP	Pg	07 06 52.5	-0.4
PLP				iS	Sg	07 07 03.1	+1.1
SCPH	Surigao	0.85	142	eP	Pg	07 06 54.5	-1.4
SCPH				eS	Sg	07 07 06.4	-0.5
LLP	Lapu-Lapu	0.99	262	⇓eP	Pg	07 06 58.7	+0.2
LLP				eS	Sg	07 07 14.2	+2.9
TBP	Tagbilaran	1.33	235	eP	Pg	07 07 04.8	-0.2
TBP				eS	Sg	07 07 25.8	+3.7
SNPH	Sibulan	2.03	237	eP	Pn	07 07 16.0	+1.1
GUIM	Jordan	2.34	274	eP	Pn	07 07 20.5	+1.4
GUIM	Jordan	2.34	274	eP	Pn	07 07 20.5	+1.4
RCP	Roxas	2.43	297	eP	Pn	07 07 22.0	+1.6
BUKP	Musuan	2.57	178	eP	Pn	07 07 23.0	+0.8
PVCP	Virac	3.21	346	eP	Pn	07 07 34.8	+3.7

OTT 09 07:25:47.9±0.1, 4534N×6553W, h5km, MN2.6/9, 33km southeast from Hampton, Nb Northern Appalachians Seismic Zone., New Brunswick

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LMN	Caledonia Moun	0.72	44	PG	Pg	07 26 00.7	-1.1
LMN				SG	Sg	07 26 09.8	-1.4
LMN				Trac		07 26 17.6	
	comp=Z,35nm,0.1s						
GGN	Saint George	0.95	257	PG	Pg	07 26 04.5	-1.7
GGN				SG	Sg	07 26 16.3	-2.3
GGN				Trac		07 26 21.4	
	comp=Z,13nm,0.1s						
HAL	Halifax	1.54	116	PG	Pg	07 26 14.4	-3.1
HAL				SG	Sg	07 26 34.5	-3.0
HAL				Trac		07 26 35.6	
	comp=Z,25nm,0.1s						
MALG	Malagash, Nova	1.61	73	PG	Pg	07 26 15.9	-2.9
MALG				SG	Sg	07 26 37.5	-2.2
MALG				Trac		07 26 41.9	
	comp=Z,18nm,0.1s						
BATG	Bathurst New B	1.98	349	PN	Pn	07 26 20.4	-1.6
BATG				SN	Sn	07 26 45.9	-1.3
BATG				SG	Sg	07 26 48.8	-2.6
BATG				Trac		07 26 52.7	
	comp=Z,8.2nm,0.0s						
TIGG	Tignish, PEI	2.42	46	PN	Pn	07 26 20.7	-7.4
TIGG				SN	Sn	07 26 45.8	-12
TIGG				SG	Sg	07 26 49.7	-16
TIGG				Trac		07 26 54.8	
	comp=Z,8.7nm,0.0s						
GBN	Guysborough	2.83	87	PN	Pn	07 26 32.7	-1.1
GBN				SN	Sn	07 27 07.2	-1.1
GBN				Trac		07 27 12.7	
	comp=Z,6.2nm,0.2s						
MADG	Magdalen Islan	3.29	53	PN	Pn	07 26 38.9	-1.3
MADG				SN	Sn	07 27 17.1	-2.6
MADG				SG	Sg	07 27 33.3	-0.4
GASG	Gaspe, Quebec	3.63	354	PN	Pn	07 26 43.7	-1.1
GASG				SN	Sn	07 27 25.8	-2.3
GASG				Trac		07 27 28.2	
	comp=Z,18nm,0.1s						
CHEG	Cheticamp, Nov	3.69	65	PN	Pn	07 26 44.2	-1.4
CHEG				SN	Sn	07 27 26.2	-3.2
CHEG				SG	Sg	07 27 44.6	-1.7
CHEG				Trac		07 27 47.2	
	comp=Z,3.5nm,0.1s						
A21	Saint Andre	3.72	311	PN	Pn	07 26 44.9	-1.2
A21				SN	Sn	07 27 26.0	-4.3
A21				Trac		07 27 46.1	
	comp=Z,6.5nm,0.3s						
GSQ	Grosses Roches	3.73	344	PN	Pn	07 26 45.0	-1.1
GSQ				SN	Sn	07 27 28.6	-1.9
GSQ				Trac		07 27 32.9	
	comp=Z,0.5nm,0.0s						
A16	Riviere Ouelle	3.76	306	SN	Sn	07 27 27.8	-3.4
A64	Saint Simeon	3.91	311	SN	Sn	07 27 30.0	-4.7
A64				Trac		07 27 34.3	
	comp=Z,0.9nm,0.1s						
A61	Sainte Mathild	3.93	308	PN	Pn	07 26 48.1	-0.8
A61				SN	Sn	07 27 31.9	-3.5
A61				Trac		07 27 37.0	
	comp=Z,1.2nm,0.1s						
LMQ	La Malbaie	3.99	305	PN	Pn	07 26 46.7	-3.0
LMQ				SN	Sn	07 27 32.3	-4.4
LMQ				SN	Sn	07 27 33.5	-3.3
LMQ				Trac		07 27 57.7	
	comp=Z,6.4nm,0.3s						
A54	Misere	3.99	304	PN	Pn	07 26 48.0	-1.7
A54				Trac		07 27 37.1	
	comp=Z,1.4nm,0.1s						
CNQ	Baie Comeau	4.33	337	PN	Pn	07 26 52.0	-2.4
CNQ				SN	Sn	07 27 41.1	-4.1
CNQ				Trac		07 27 44.5	
	comp=Z,1.6nm,0.1s						
ICQ	Pointe Anglais	4.35	345	PN	Pn	07 26 53.3	-1.3
ICQ				SN	Sn	07 27 41.2	-4.5
DAQ	Lac Daran	4.73	306	PN	Pn	07 26 58.3	-1.6
DAQ				SN	Sn	07 27 51.4	-3.8
DAQ				Trac		07 27 54.6	
	comp=Z,0.6nm,0.1s						
MOQ	Mont Orford	4.74	272	SN	Sn	07 27 49.6	-5.9
MOQ				LG		07 28 13.8	
SMQ	Clarke City	4.95	351	PN	Pn	07 27 01.5	-1.5
SMQ				SN	Sn	07 27 56.2	-4.4
SMQ				Trac		07 27 58.9	
	comp=Z,1.6nm,0.1s						
CODG	Codroy Newfoun	5.00	58	PN	Pn	07 27 00.8	-2.8
CODG				SN	Sn	07 27 55.9	-5.8
DPQ	Saint Jean	5.23	287	PN	Pn	07 27 05.2	-1.5
DPQ				SN	Sn	07 28 01.8	-5.5
DPQ				Trac		07 28 06.8	
	comp=Z,0.8nm,0.1s						
MNQ	Manicouagan	5.64	338	PN	Pn	07 27 09.6	-2.7
MNQ				SN	Sn	07 28 11.6	-5.9
MNQ				Trac		07 28 19.3	
	comp=Z,0.4nm,0.0s						
DRLN	Deer Lake	6.72	51	PN	Pn	07 27 23.4	-3.8
DRLN				SN	Sn	07 28 36.9	-7.2
YOSQ	Ashton Mining	8.71	332	PN	Pn	07 27 49.7	-4.8
YOSQ				SN	Sn	07 29 21.9	-11
SCHQ	Schefferville	9.54	355	PN	Pn	07 28 00.2	-5.7
SCHQ				SN	Sn	07 29 37.5	-16
MALO	McAlpine Lake	10.68	301	PN	Pn	07 28 17.5	-4.0
MALO				SN	Sn	07 30 10.2	-11

WEL 09 07:34:40.9±0.3, 3821S×17586E, h173km±3km, ML3.6/17, 2C, Error ellipse: s-maj=3.7km s-min=3.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WTVZ	West Tongariro	0.93	193	PN	Pn	07 35 07.7	+0.5
URZ	Urewera	0.99	93	PN	Pn	07 35 07.6	-0.1
URZ				SN	Sn	07 35 28.5	0.0
WPVZ	Whakapapa	1.02	194	PN	Pn	07 35 08.4	+0.4
TUVZ	Tukino	1.06	188	PN	Pn	07 35 08.8	+0.4
FWVZ	Far West T-bar	1.07	193	PN	Pn	07 35 08.8	+0.4
BKZ	Black Stump Fm	1.07	153	⇑PN	Pn	07 35 08.6	+0.2
BKZ				SN	Sn	07 35 29.7	0.0
WNVZ	Wahianoa	1.13	190	PN	Pn	07 35 09.3	+0.4
MOVZ	Moawhango	1.20	184	⇑PN	Pn	07 35 09.3	-0.2
MWZ	Matawai	1.32	96	PN	Pn	07 35 10.7	+0.2
MWZ				SN	Sn	07 35 33.3	-0.1
KNZ	Kokohu	1.64	120	PN	Pn	07 35 13.8	+0.2
WAZ	Wanganui	1.68	204	PN	Pn	07 35 13.6	-0.4
TSZ	Takapari Road	1.84	178	PN	Pn	07 35 15.1	-0.6
PUZ	Puketiti	1.90	86	PN	Pn	07 35 16.0	-0.3
PXZ	Pawanui	1.98	157	PN	Pn	07 35 16.8	-0.3
MXZ	Matakaoa Point	2.04	72	PN	Pn	07 35 18.1	+0.2
MRZ	Mangatainoka R	2.45	185	PN	Pn	07 35 20.7	-1.9
MRZ				SN	Sn	07 35 51.1	-3.8
BFZ	Birch Farm	2.48	173	PN	Pn	07 35 21.3	-1.6
TIWZ	Tintock	2.56	180	PN	Pn	07 35 22.1	-1.8
KIW	Kapiti Island	2.74	195	PN	Pn	07 35 23.7	-2.4
CAW	Cannon Point	2.95	192	PN	Pn	07 35 26.1	-2.5
MTW	Mount Morrison	2.95	185	PN	Pn	07 35 25.9	-2.7
MRW	Makara Radio	3.14	196	PN	Pn	07 35 28.3	-2.6
MSWZ	Moikau Station	3.23	188	PN	Pn	07 35 29.0	-3.0

*ISCJB **09** 07:35:46.4±0.6, 4524N±003×1488E±004, h10km, Error ellipse: s-maj=4.3km s-min=3.7km az=127.5*
*LJU **09** 07:35:46.5, 4525N×1486E, h14km, ML1.9*
*CSEM **09** 07:35:46.1±0.3, 4521N×1487E, h19km±5km, ML3.0/6, Error ellipse: s-maj=2.9km s-min=2.7km az=21.0*
*VIE **09** 07:35:47.2±0.9, 4526N×1487E, h8km, mb1.8/1, ML2.8/1, Error ellipse: s-maj=5.2km s-min=3.6km az=177.0 37 km ESE of Rijeka*
ISC 09 07:35:47.1±0.6, 4523N±003×1489E±004, h10km, n25, σ0^{s}66/43, 2C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOJS	Bojanci	0.37	43	iPg	Pg	07 35 54.4	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOJS				i Sg	Sg	07 35 59.7	+0.3
BOJS	Bojanci	0.37	43	Pg	Pg	07 35 54.3	-0.1
BOJS				i Sg	Sg	07 35 59.7	+0.3
KNDS	Knezji Dol	0.47	310	i Pg	Pg	07 35 55.5	-0.7
KNDS				i Sg	Sg	07 36 02.6	+0.2
KNDS							
	comp=Z,47nm,0.1s						
KNDS	Knezji Dol	0.47	310	i Pg	Pg	07 35 55.5	-0.7
KNDS				i Sg	Sg	07 36 02.6	+0.2
	comp=Z,47nm,0.1s						
VISS	Visnje	0.57	356	i Pg	Pg	07 35 57.6	-0.6
VISS				i Sg	Sg	07 36 05.1	-0.7
VISS							
	comp=Z,42nm,0.2s						
VISS	Visnje	0.57	356	i Pg	Pg	07 35 57.6	-0.6
VISS				i Sg	Sg	07 36 05.1	-0.7
	comp=Z,42nm,0.2s						
CEY	Cerknica	0.60	327	i Pg	Pg	07 35 58.0	-0.8
CEY				i Sg	Sg	07 36 07.3	+0.6
NVLJ	Novalja	0.67	181	i Pg	Pg	07 35 59.6	-0.4
NVLJ				i Sg	Sg	07 36 09.9	+1.1
NVLJ	Novalja	0.67	181	i Pg	Pg	07 35 59.6	-0.4
NVLJ				i Sg	Sg	07 36 09.9	+1.1
NVLJ	Novalja	0.67	181	i Pg	Pg	07 35 59.5	-0.5
NVLJ				i Sg	Sg	07 36 09.8	+1.1
CRES	Cresnjev	0.72	33	ePg	Pg	07 36 01.0	+0.1
CRES				eSg	Sg	07 36 11.3	+1.0
CRES							
	comp=Z,19nm,0.2s						
CRES	Cresnjev	0.72	33	ePg	Pg	07 36 01.0	+0.1
CRES				eSg	Sg	07 36 11.3	+1.0
	comp=Z,19nm,0.2s						
PDKS	Podkum	0.83	5	i Pg	Pg	07 36 02.8	-0.4
PDKS				i Sg	Sg	07 36 13.9	-0.2
PDKS							
	comp=Z,16nm,0.1s						
JAVS	Javornik	0.88	319	i Sg	Sg	07 36 15.9	+0.3
JAVS							
	comp=Z,19nm,0.1s						
JAVS	Javornik	0.88	319	i Sg	Sg	07 36 15.9	+0.3
	comp=Z,19nm,0.1s						
VOY	Vojsko	1.06	319	ePg	Pg	07 36 06.5	-1.1
VOY				eSg	Sg	07 36 22.0	+0.6
GORS	Gorjuse	1.25	330	i Pg	Pg	07 36 10.2	-0.9
GORS				eSg	Sg	07 36 28.0	+0.5
GORS							
	comp=Z,17nm,0.3s						
GORS	Gorjuse	1.25	330	i Pg	Pg	07 36 10.2	-1.0
GORS				eSg	Sg	07 36 28.0	+0.5
	comp=Z,17nm,0.3s						
CADS	Cadrg	1.28	321	eSg	Sg	07 36 29.1	+0.6
CADS							
	comp=Z,12nm,0.2s						
CADS	Cadrg	1.28	321	eSg	Sg	07 36 29.1	+0.7
	comp=Z,12nm,0.2s						
DRE	Drenchia	1.29	318	⇓iPg	Pg	07 36 10.6	-1.2
OBKA	Obir	1.30	349	⇑iPg	Pg	07 36 11.5	-0.5
OBKA				⇑iSg	Sg	07 36 29.5	+0.6
	comp=Z,26nm,0.2s						
GROS	Grobnik	1.30	19	i Pg	Pg	07 36 12.4	+0.4
GROS	Grobnik	1.30	19	i Pg	Pg	07 36 12.4	+0.3
BAD	Bernadia	1.53	312	⇓iPg	Pn	07 36 15.0	+0.5
BAD				i Sg	Sg	07 36 37.2	+0.8

*CSEM **09** 07:37:29.0, 3473N×2486E, h21km, MD3.3/6, After ATH*
*NEIC **09** 07:37:29.0, 3473N×2486E, h21km, MD3.6(ATH), After ATH.*
ATH 09 07:37:29.0, 3473N×2486E, h21km±3km, MD3.3/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GVD	Gavdhos	0.65	280	ePN	Pn	07 37 42.0	-0.9
XRY	Khrisi	0.70	78	ePN	Pn	07 37 42.5	-1.2
NPS	Neapolis	0.81	49	ePN	Pn	07 37 44.8	-0.4
NPS				eSN	Sn	07 37 55.7	-1.0
VAM	Vamos	0.87	321	ePB	Pb	07 37 44.9	-0.4
VAM				eSN	Sn	07 37 58.4	+0.5
KARP	Karpathos	2.06	66	ePN	Pn	07 38 04.9	+2.6
VLI	Veliai	2.53	322	ePN	Pn	07 38 10.9	+2.1

*NEIC **09** 07:39:55.1, 3709S×17673E, h269km, MG3.9(WEL), After WEL.*
WEL 09 07:39:53.0±0.3, 3697S×17669E, h282km±3km, ML3.9/18, 2C, Error ellipse: s-maj=4.9km s-min=4.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	1.33	166	PN	Pn	07 40 33.0	-0.2
URZ				SN	S	07 41 04.9	-0.3
MXZ	Matakaoa Point	1.42	115	P	Pn	07 40 34.0	+0.2
MXZ	Matakaoa Point	1.42	115	PN	Pn	07 40 33.9	+0.1
MXZ				eSN	S	07 41 05.5	-0.7
MWZ	Matawai	1.52	154	P	Pn	07 40 34.7	+0.3
MWZ	Matawai	1.52	154	PN	Pn	07 40 34.6	+0.2
MWZ				SN	S	07 41 07.6	+0.2
PUZ	Puketiti	1.66	132	P	Pn	07 40 35.7	+0.2
PUZ	Puketiti	1.66	132	⇑PN	Pn	07 40 35.7	+0.2
PUZ				SN	S	07 41 07.8	-1.4
KNZ	Kokohu	2.19	159	P	Pn	07 40 39.9	+0.2
KNZ	Kokohu	2.19	159	PN	Pn	07 40 39.9	+0.2
BKZ	Black Stump Fm	2.20	184	eP	Pn	07 40 40.0	+0.2
BKZ	Black Stump Fm	2.20	184	PN	Pn	07 40 39.9	+0.1
BKZ				SN	S	07 41 16.0	-1.1
WTVZ	West Tongariro	2.31	202	P	Pn	07 40 41.7	+0.9
WTVZ	West Tongariro	2.31	202	PN	Pn	07 40 41.6	+0.8
OTVZ	Oturere	2.33	200	PN	Pn	07 40 41.9	+0.9
NGZ	Ngauruhoe	2.36	201	P	Pn	07 40 42.4	+1.1
NGZ	Ngauruhoe	2.36	201	ePN	Pn	07 40 42.1	+0.9
WPVZ	Whakapapa	2.41	202	P	Pn	07 40 42.4	+0.7
WPVZ	Whakapapa	2.41	202	PN	Pn	07 40 42.1	+0.4
TUVZ	Tukino	2.43	199	P	Pn	07 40 42.6	+0.7
TUVZ	Tukino	2.43	199	PN	Pn	07 40 42.6	+0.6
FWVZ	Far West T-bar	2.45	201	P	Pn	07 40 42.8	+0.7
FWVZ	Far West T-bar	2.45	201	PN	Pn	07 40 42.7	+0.6
WNVZ	Wahianoa	2.50	200	P	Pn	07 40 43.2	+0.6
WNVZ	Wahianoa	2.50	200	⇑PN	Pn	07 40 43.2	+0.6
MOVZ	Moawhango	2.54	197	P	Pn	07 40 43.0	+0.1
MOVZ	Moawhango	2.54	197	PN	Pn	07 40 43.0	0.0
PKVZ	Pokaka	2.55	204	ePN	Pn	07 40 43.5	+0.6
MTVZ	Mangateitei	2.59	201	PN	Pn	07 40 43.8	+0.4
PXZ	Pawanui	3.06	178	PN	Pn	07 40 47.6	-0.5
PXZ				SN	S	07 41 31.4	-0.5
WAZ	Wanganui	3.08	205	eP	Pn	07 40 48.6	+0.3
WAZ	Wanganui	3.08	205	PN	Pn	07 40 48.6	+0.2
TSZ	Takapari Road	3.14	190	P	Pn	07 40 48.4	-0.5
TSZ	Takapari Road	3.14	190	PN	Pn	07 40 48.4	-0.4
BFZ	Birch Farm	3.72	185	eP	Pn	07 40 54.2	-0.9
MRZ	Mangatainoka R	3.79	193	P	Pn	07 40 54.6	-1.2
KIW	Kapiti Island	4.12	199	P	Pn	07 40 58.3	-1.3
MTW	Mount Morrison	4.28	192	P	Pn	07 40 59.6	-1.8
CAW	Cannon Point	4.32	196	P	Pn	07 41 00.3	-1.6
MRW	Makara Radio	4.52	199	P	Pn	07 41 02.7	-1.5
MSWZ	Moikau Station	4.58	194	P	Pn	07 41 03.0	-1.8
SNZO	South Karori	4.60	199	eP	Pn	07 41 03.4	-1.7
TCW	Tory Channel	4.63	203	P	Pn	07 41 04.0	-1.5
NNZ	Nelson	4.96	210	eP	Pn	07 41 07.0	-2.3
QRZ	Quartz Range	5.03	219	eP	Pn	07 41 07.8	-2.4
BSWZ	Blackbirch Sta	5.21	204	P	Pn	07 41 10.8	-1.5
THZ	Tophouse	5.61	210	eP	Pn	07 41 15.2	-1.9
KHZ	Kahutara	5.96	203	eP	Pn	07 41 19.7	-1.5
DSZ	Denniston Nort	6.09	217	eP	Pn	07 41 20.3	-2.5
LTZ	Lake Taylor	6.72	209	eP	Pn	07 41 28.2	-2.4

*MOS **09** 07:48:02.5±0.9, 22.13S×179.60W, h574km, mb4.8/25, Error ellipse: s-maj=10.4km s-min=8.9km az=47.7*
*IDC **09** 07:48:03.8±0.8, 22.13S×179.49W, h583km±8km, mb4.2/14, mb1 4.3/17, mb1mx4.3/18, mbtmp5.2/17, Error ellipse: s-maj=10.7km s-min=10.4km az=159.0*
*BJI **09** 07:48:03.7, 2227S×17876W, h627km, mb4.9, mB4.8*
*ISCJB **09** 07:48:05.2±0.1, 2243S±003×17960W±004, h615km, mb4.7/80, Error ellipse: s-maj=4.8km s-min=3.1km az=47.5*
*NEIC **09** 07:48:06.2±0.1, 2236S×17955W, mb4.7/57, Error ellipse: s-maj=5.8km s-min=3.2km az=118.0*
*SZGRF **09** 07:48:07.0, 2222S×17876W, h625km, South of Fiji Islands*
*BGS **09** 07:48:09.4±5.2, 2236S×17955W, h613km, mb4.7(NEIC)*
ISC 09 07:48:06.6±0.1, 2244S±003×17953W±004, h617km, h617km±3.5km: pP-P, n545, σ1§03/279, mb4.7/80, 31C-44D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	6.94	168	P	P	07 49 54.9	-1.8
	299nm,0.3s,baz=302,slow=18,SNR=9.1						
RAO				S	S	07 51 25.8	-1.2
	145nm,0.3s,baz=49,slow=20,SNR=4.2						
RAO	Raoul Island	6.94	168	eP	P	07 49 55.4	-1.3
RAO				pmax	pmax		
	comp=Z,2µm,0.5s						
RAO	Raoul Island	6.94	168	ePn	P	07 49 55.4	-1.4
	comp=Z,2µm,0.5s						
AFI	Afiamalu	11.23	42	P	P	07 50 30.9	-6.8
	comp=Z,23nm,0.3s,baz=1.9,slow=2.2,SNR=24						
AFI				S	S	07 52 28.1	-14
	comp=Z,7.4nm,0.3s,baz=14,slow=19,SNR=5.9						
AFI	Afiamalu	11.23	42	eP	P	07 50 30.2	-7.5
AFI				pmax	pmax		
	comp=Z,137nm,0.6s						
AFI	Afiamalu	11.23	42	ePn	P	07 50 30.2	-7.5
	comp=Z,138nm,0.6s						
DZM	Mont Dzumac	12.99	269	eP	P	07 50 53.8	-1.5
DZM				eS	S	07 53 17.1	+3.5
DZM	Mont Dzumac	12.99	269	P	P	07 50 53.8	-1.5
	comp=Z,8.9nm,0.3s,baz=84,slow=15,SNR=94						
DZM				S	S	07 53 17.3	+3.7
	baz=322,slow=18,SNR=6.8						
DZM				ScP	ScP	07 58 15.4	+4.6
	comp=Z,0.2nm,0.3s,baz=358,slow=9.1,SNR=4.4						
OUZ	Omahuta	14.08	204	P	P	07 51 08.1	+2.5
OUZ	Omahuta	14.08	204	PN	P	07 51 08.0	+2.4
WCZ	Waipu Caves	14.47	200	eP	P	07 51 11.9	+2.7
WCZ	Waipu Caves	14.47	200	PN	P	07 51 11.9	+2.7
KUZ	Kuaotunu	14.84	195	P	P	07 51 14.4	+1.8
KUZ	Kuaotunu	14.84	195	PN	P	07 51 14.5	+1.9
MTAZ	Motutapu	15.09	197	P	P	07 51 17.2	+2.4
MTAZ	Motutapu	15.09	197	PN	P	07 51 17.5	+2.7
KAAZ	Kauri Point	15.18	198	P	P	07 51 18.4	+2.7
MXZ	Matakaoa Point	15.19	187	eP	P	07 51 14.8	-1.0
MXZ	Matakaoa Point	15.19	187	PN	P	07 51 14.4	-1.3
OTAZ	Otara	15.24	197	P	P	07 51 19.2	+3.0
PUZ	Puketiti	15.70	186	P	P	07 51 19.7	-0.7
PUZ	Puketiti	15.70	186	PN	P	07 51 19.0	-1.4
KARZ	Kaharoa	15.95	192	P	P	07 51 23.7	+1.0
KARZ	Kaharoa	15.95	192	PN	P	07 51 23.6	+0.9
URZ	Urewera	16.03	190	P	P	07 51 22.2	-1.3
	comp=Z,26nm,0.3s,baz=360,slow=3.2,SNR=97						
URZ				S	S	07 53 59.7	-4.1
	comp=Z,6.4nm,0.3s,baz=112,slow=19,SNR=14						
URZ	Urewera	16.03	190	P	P	07 51 20.7	-2.8
MWZ	Matawai	16.05	188	eP	P	07 51 22.3	-1.3
MWZ				S	S	07 54 00.4	-3.6
MWZ	Matawai	16.05	188	PN	P	07 51 22.1	-1.5
MWZ				SN	S	07 54 00.4	-3.6
KNZ	Kokohu	16.70	188	eP	P	07 51 29.6	0.0
KNZ	Kokohu	16.70	188	ePN	P	07 51 29.5	-0.1
BKZ	Black Stump Fm	17.02	191	eP	P	07 51 31.0	-1.5
BKZ				S	S	07 54 14.3	-5.5
BKZ	Black Stump Fm	17.02	191	PN	P	07 51 30.5	-2.0
BKZ				SN	S	07 54 14.3	-5.5
TUVZ	Tukino	17.27	193	P	P	07 51 34.4	-0.4
FWVZ	Far West T-bar	17.28	193	eP	P	07 51 34.9	0.0
FWVZ	Far West T-bar	17.28	193	ePN	P	07 51 34.7	-0.2
WNVZ	Wahianoa	17.34	193	P	P	07 51 35.0	-0.4
WNVZ	Wahianoa	17.34	193	PN	P	07 51 35.0	-0.5
RAEZ	Rainy Point	17.58	196	eP	P	07 51 41.6	+4.0
RAEZ	Rainy Point	17.58	196	ePN	P	07 51 41.6	+4.0
PKE	Pukeiti	17.60	197	P	P	07 51 41.5	+3.7
NEZ	North Egmont	17.64	197	P	P	07 51 42.1	+3.9
NEZ	North Egmont	17.64	197	ePN	P	07 51 41.9	+3.8
PXZ	Pawanui	17.81	189	PN	P	07 51 39.5	-0.2
WAZ	Wanganui	17.89	194	eP	P	07 51 40.4	0.0
WAZ	Wanganui	17.89	194	ePN	P	07 51 40.0	-0.3
RAR	Rarotonga	18.39	90	P	P	07 51 43.6	-1.4
	comp=Z,3.1nm,0.3s,baz=256,slow=5.6,SNR=6.8						
BFZ	Birch Farm	18.54	190	eP	P	07 51 45.4	-0.9
BFZ	Birch Farm	18.54	190	ePN	P	07 51 45.1	-1.1
BFZ				eSN	S	07 54 42.9	-1.4
MRZ	Mangatainoka R	18.64	192	eP	P	07 51 46.1	-1.1
MRZ	Mangatainoka R	18.64	192	PN	P	07 51 45.3	-1.9
MRZ				eSN	S	07 54 41.0	-4.8
KIW	Kapiti Island	18.96	193	P	P	07 51 49.6	-0.5
KIW	Kapiti Island	18.96	193	PN	P	07 51 49.6	-0.5
DUWZ	D'Urville Isla	19.13	195	PN	P	07 51 51.5	-0.2
MTW	Mount Morrison	19.13	192	P	P	07 51 50.6	-1.1
MTW	Mount Morrison	19.13	192	ePN	P	07 51 50.5	-1.2
CAW	Cannon Point	19.17	193	P	P	07 51 51.2	-0.8
CAW	Cannon Point	19.17	193	PN	P	07 51 51.2	-0.8
MRW	Makara Radio	19.36	193	P	P	07 51 53.3	-0.4
MRW	Makara Radio	19.36	193	ePN	P	07 51 53.2	-0.5
SNZO	South Karori	19.43	193	eP	P	07 51 54.2	-0.2
TCW	Tory Channel	19.43	194	P	P	07 51 54.3	-0.1
QRZ	Quartz Range	19.52	198	eP	P	07 51 56.4	+1.2
QRZ	Quartz Range	19.52	198	PN	P	07 51 56.1	+0.8
NNZ	Nelson	19.66	196	P	P	07 51 57.0	+0.6
NNZ	Nelson	19.66	196	ePN	P	07 51 56.3	-0.2
BSWZ	Blackbirch Sta	20.00	195	P	P	07 52 00.2	+0.7
THZ	Tophouse	20.29	196	eP	P	07 52 02.1	0.0
THZ	Tophouse	20.29	196	PN	P	07 52 01.9	-0.2
THZ				eSN	S	07 55 09.7	-2.4
DSZ	Denniston Nort	20.58	199	eP	P	07 52 05.6	+0.9
DSZ	Denniston Nort	20.58	199	PN	P	07 52 05.5	+0.8
KHZ	Kahutara	20.75	195	eP	P	07 52 05.8	-0.4
KHZ	Kahutara	20.75	195	ePN	P	07 52 05.1	-1.1
LTZ	Lake Taylor	21.41	197	eP	P	07 52 11.3	-0.8
LTZ	Lake Taylor	21.41	197	PN	P	07 52 11.3	-0.8
WVZ	Waitaha Valley	22.12	199	PN	P	07 52 18.2	-0.3
RPZ	Rata Peaks	22.61	198	P	P	07 52 22.9	+0.1
	comp=Z,23nm,0.6s,mb5.0,baz=12,slow=4.3,SNR=16						
FOZ	Fox Glacier	22.89	200	eP	P	07 52 24.0	-1.3
FOZ	Fox Glacier	22.89	200	ePN	P	07 52 24.0	-1.3
LBZ	Lake Benmore	23.48	199	eP	P	07 52 29.5	-1.0
LBZ	Lake Benmore	23.48	199	PN	P	07 52 29.5	-1.0
HNR	Honiara	23.55	300	P	P	07 52 28.5	-2.6
	comp=Z,38nm,0.4s,mb5.4,baz=91,slow=5.0,SNR=3.8						
HNR	Honiara	23.55	300	eP	P	07 52 29.7	-1.4
HNR				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.1						
HNR	Honiara	23.55	300	eP	P	07 52 29.7	-1.5
	comp=Z,26nm,0.5s,mb5.1						
WKZ	Wanaka	24.23	200	eP	P	07 52 36.9	-0.3
WKZ	Wanaka	24.23	200	PN	P	07 52 36.9	-0.2
EAZ	Earnscleugh	24.51	199	eP	P	07 52 37.5	-2.1
EAZ	Earnscleugh	24.51	199	ePN	P	07 52 38.9	-0.7
MLZ	Mavora Lakes	24.97	201	eP	P	07 52 44.9	+1.3
MLZ	Mavora Lakes	24.97	201	PN	P	07 52 44.8	+1.1
ARMA	Armidale	26.97	247	⇑iP	P	07 53 03.4	+2.2
TBI	Tubuai	27.70	98	eP	P	07 53 08.4	+0.9
	comp=Z,6.1nm,0.4s,mb4.6						
PPT	Papeete	28.53	86	eP	P	07 53 13.4	-1.3
	comp=Z,93nm,1.2s,mb5.3						
PPT	Papeete	28.53	86	P	P	07 53 14.1	-0.7
	comp=Z,38nm,0.5s,mb5.3,baz=206,slow=8.8,SNR=8.9						
CNB	Canberra Magne	29.98	238	⇑iP	P	07 53 29.2	+2.0
	comp=Z,58nm,0.6s,mb5.4						
PMOR	Pomariorio Ree	30.82	82	eP	P	07 53 32.5	-1.8
	comp=Z,125nm,1.1s,mb5.5						
VAH	Vaihoa	30.99	82	eP	P	07 53 33.7	-2.1
	comp=Z,132nm,1.0s,mb5.5						
CTA	Charters Tower	31.93	268	⇓iP	P	07 53 44.2	+0.4
	comp=Z,107nm,0.4s,mb5.8						
CTA	Charters Tower	31.93	268	PcP	PcP	07 56 15.4	+1.0
	baz=101,slow=10						
CTA				S	S	07 58 13.4	+0.4
	comp=Z,3.7nm,0.9s,baz=255,slow=18,SNR=4.0						
CTA				ScP	ScP	07 59 04.3	+4.0
	comp=Z,7.8nm,1.0s,baz=48,slow=6.2,SNR=3.8						
CTAO	Charters Tower	31.93	268	⇓iP	P	07 53 44.2	+0.4
CTAO				e		07 56 13.3	
CTAO				pmax	pmax		
	comp=Z,107nm,0.4s,mb5.8						
CTAO	Charters Tower	31.93	268	⇓iP	P	07 53 44.2	+0.4
	comp=Z,107nm,0.4s,mb5.8						
CTAO				ePcP	PcP	07 56 13.3	-1.2
TOO	Toolangi	33.62	235	eP	P	07 53 59.4	+1.5
	comp=Z,27nm,0.7s,mb5.0						
TOO	Toolangi	33.62	235	eP	P	07 53 59.4	+1.5
TOO				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.0						
PMG	Port Moresby	34.46	287	⇓iP	P	07 54 04.5	-0.4
PMG				pmax	pmax		
	comp=Z,39nm,0.6s						
PMG	Port Moresby	34.46	287	⇓iP	P	07 54 04.5	-0.4
	comp=Z,40nm,0.6s,mb5.2						
STKA	Stephens Creek	35.69	246	⇓iP	P	07 54 16.2	+1.2
	comp=Z,22nm,0.4s,mb5.0						
STKA	Stephens Creek	35.69	246	P	P	07 54 16.3	+1.3
	comp=Z,37nm,0.6s,mb5.1,baz=92,slow=9.9,SNR=91						
STKA				PcP	PcP	07 56 26.9	+1.5
	comp=Z,4.3nm,0.6s,baz=63,slow=6.8,SNR=2.4						
STKA				ScP	ScP	07 59 17.9	+4.1
	comp=Z,3.0nm,0.7s,baz=48,slow=6.4,SNR=3.2						
AS31	Alice Springs	42.72	259	⇓iP	P	07 55 11.6	+0.4
ASAR	Alice Springs	42.72	259	P	P	07 55 11.7	+0.5
	comp=Z,42nm,0.4s,mb5.3,baz=88,slow=8.6,SNR=861						
ASAR				PcP	PcP	07 56 48.9	+0.7
	comp=Z,7.8nm,0.4s,baz=120,slow=3.8,SNR=6.4						
ASAR				ScP	ScP	07 59 45.9	+4.7
	comp=Z,3.7nm,1.0s,baz=103,slow=4.3,SNR=6.0						
ASAR				S	S	08 00 51.5	-0.2
	comp=Z,8.0nm,0.7s,baz=94,slow=16,SNR=30						
ASAR	Alice Springs	42.72	259	P	P	07 55 11.7	+0.5
ASAR						07 56 48.9	
ASAR				S	S	08 00 51.5	-0.1
ASPA	Alice Springs	42.72	259	⇓iP	P	07 55 11.6	+0.3
WB2	Warramunga Arr	42.95	264	⇓iP	P	07 55 12.7	-0.3
WB2				eS	S	08 00 52.1	-2.8
WRAB	Tennant Creek	42.95	264	⇓iP	P	07 55 12.7	-0.3
WRA	Warramunga Arr	42.96	264	P	P	07 55 12.7	-0.4
	comp=Z,51nm,0.3s,mb5.5,baz=90,slow=5.9,SNR=507						
WRA				PcP	PcP	07 56 49.9	+0.9
	comp=Z,2.4nm,0.4s,baz=92,slow=3.6,SNR=6.0						
WRA				ScP	ScP	07 59 45.9	+3.8
	comp=Z,6.0nm,0.9s,baz=97,slow=4.2,SNR=8.5						
WRA				S	S	08 00 51.9	-3.1
	comp=Z,7.2nm,0.9s,baz=100,slow=14,SNR=12						
WRA	Warramunga Arr	42.96	264	P	P	07 55 12.7	-0.4
WRA						07 56 49.9	
WRA				S	S	08 00 51.9	-3.1
KAKA	Kakadu	46.63	274	⇓iP	P	07 55 40.6	-0.5
	comp=Z,117nm,0.3s						
KAKA				eS	S	08 01 46.0	-0.4
FORT	Forrest	47.24	248	⇓iP	P	07 55 45.7	+0.1
	comp=Z,61nm,0.6s,mb5.3						
GUMO	Guam	49.99	312	P	P	07 56 05.1	-0.8
	comp=Z,64nm,0.5s,mb5.3,baz=28,slow=19,SNR=14						
FITZ	Fitzroy Crossi	51.39	264	⇓iP	P	07 56 16.4	+0.4
	comp=Z,44nm,0.4s,mb5.2						
FITZ	Fitzroy Crossi	51.39	264	S	S	08 02 52.2	+1.3
	comp=Z,3.8nm,1.0s,baz=265,slow=22,SNR=6.2						
SBA	Scott Base	55.86	183	eP	P	07 56 51.0	+3.6
SBA				e		07 57 37.9	
SBA				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.1						
SBA	Scott Base	55.86	183	eP	P	07 56 51.0	+3.6
	comp=Z,18nm,1.3s,mb4.1						
SBA				ePcP	PcP	07 57 37.9	+1.1
SBA				epP	pP	07 58 47.4	+4.4
VNDA	Vanda	55.87	185	P	P	07 56 50.1	+2.7
	comp=Z,3.6nm,0.7s,mb3.7,baz=359,slow=6.9,SNR=23						
VNDA				ScP	ScP	08 00 40.2	+2.7
	comp=Z,2.3nm,1.0s,baz=360,slow=6.1,SNR=4.2						
VNDA	Vanda	55.87	185	eP	P	07 56 49.7	+2.2
VNDA				ePcP	PcP	07 57 37.3	+0.5
KLBR	Kellerberrin	55.96	246	⇓iP	P	07 56 48.4	+0.3
	comp=Z,28nm,0.5s,mb4.8						
MBWA	Marble Bar	56.06	259	eP	P	07 56 49.0	+0.2
NWAO	Narrogin (SRO)	56.24	245	eP	P	07 56 50.5	+0.5
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.4s						
NWAO	Narrogin (SRO)	56.24	245	eP	P	07 56 50.5	+0.5
	comp=Z,6.8nm,0.4s,mb4.2						
MUN	Mundaring	57.22	246	⇓iP	P	07 56 57.4	+0.7
CASY	Casey	61.61	206	⇓iP	P	07 57 26.6	+0.8
QSPA	South Pole Qui	67.64	180	eP	P	07 58 05.9	+2.3
	comp=Z,10nm,0.8s,mb4.3						
MIR	Mirnyy	68.64	205c	iP	P	07 58 12.0	+2.4
MIR				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.3						
MJAR	Matsushiro Arr	70.94	325	P	P	07 58 21.9	-1.3
	comp=Z,12nm,0.5s,mb4.6,baz=156,slow=5.6,SNR=52						
MAJO	Matsushiro	70.95	325	eP	P	07 58 22.1	-1.2
MAJO				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
MAJO	Matsushiro	70.95	325	eP	P	07 58 22.1	-1.2
	comp=Z,12nm,0.5s,mb4.7						
MAT	Matsushiro	70.95	325	P	P	07 58 21.7	-1.6
KSM	Kuching	72.29	279	eP	P	07 58 31.2	+0.1
KSM				ePcP	PcP	07 58 43.8	-1.0
YHNB	Yeheng	74.05	306	eP	P	07 58 40.4	-0.6
TATO	Taipei	74.14	306	eP	P	07 58 40.8	-0.7
	comp=Z,61nm,0.9s,mb5.1						
QZH	Quanzhou	76.31	305	P	P	07 58 53.7	+0.2
QZH				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.1						
YSS	Yuzh-Sakhalins	77.00	335	⇓eP	P	07 58 57.4	+0.1
YSS				pmax	pmax		
	comp=Z,71nm,1.4s,mb4.9						
YSS	Yuzh-Sakhalins	77.00	335	eP	P	07 58 56.8	-0.6
	comp=Z,25nm,0.5s,mb4.9						
SSE	Sheshan	77.85	311	eP	P	07 59 02.0	+0.1
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,59nm,5.0s						
MAW	Mawson	79.27	200	eP	P	07 59 10.0	+0.6
	comp=Z,5.0nm,0.6s,mb4.0						
MAW	Mawson	79.27	200	P	P	07 59 10.5	+1.1
	comp=Z,5.3nm,0.6s,mb4.1,baz=133,slow=5.9,SNR=41						
MAW	Mawson	79.27	200	eP	P	07 59 10.0	+0.6
MAW				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PMSA	Palmer Station	80.08	157	eP	P	07 59 13.9	+0.2
	comp=Z,15nm,0.9s,mb4.3						
SAO	San Andreas Ge	80.41	44	eP	P	07 59 16.2	+0.8
SAO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
SAO	San Andreas Ge	80.41	44	eP	P	07 59 16.2	+0.8
	comp=Z,14nm,1.0s,mb4.3						
MDJ	Mudanjiang	81.30	326	P	P	07 59 19.3	-0.6
MDJ				AP	pP	08 01 28.9	-0.1
MDJ				XP	sP	08 02 30.6	-0.5
MDJ				PP	PP	08 02 38.0	+0.7
MDJ				S	S	08 08 43.1	+2.2
MDJ				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,76nm,4.3s						
MDJ	Mudanjiang	81.30	326	eP	P	07 59 19.1	-0.9
	comp=Z,33nm,1.2s,mb4.6						
HABR	Khabarovsk	81.44	331	⇓iP	P	07 59 20.8	+0.2
HABR				eS	S	08 08 38.3	-4.0
HABR				pmax	pmax		
	comp=Z,96nm,1.4s,mb5.0						
KHMM	Horse Mountain	81.55	39	eP	P	07 59 22.4	+1.2
ISA	Isabella	81.70	46	eP	P	07 59 22.5	+0.5
CMB	Columbia Colle	81.84	43	eP	P	07 59 22.6	-0.1
CMB				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6						
CMB	Columbia Colle	81.84	43	eP	P	07 59 22.6	-0.1
	comp=Z,17nm,0.9s,mb4.6						
OHCM	Honcut	81.94	42	eP	P	07 59 22.8	-0.4
WDC	Whiskeytown Da	82.07	40	eP	P	07 59 24.3	+0.5
WDC				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.6						
WDC	Whiskeytown Da	82.07	40	eP	P	07 59 24.2	+0.4
	comp=Z,23nm,1.1s,mb4.6						
MTUM	Tungsten Hills	82.61	45	eP	P	07 59 27.2	+0.6
GSC	Goldstone	82.62	47	eP	P	07 59 26.6	0.0
DAC	Darwin (Calif)	82.64	46	eP	P	07 59 27.1	+0.4
YBH	Yreka Blue Hor	82.68	39	eP	P	07 59 27.6	+0.7
YBH				pmax	pmax		
	comp=Z,13nm,0.9s						
YBH	Yreka Blue Hor	82.68	39	eP	P	07 59 27.6	+0.6
	comp=Z,13nm,0.9s,mb4.5						
YBH				ePcP	PcP	07 59 31.9	+1.7
WAKR	Walker	82.72	43	eP	P	07 59 27.8	+0.7
GLA	Glamis	82.76	50	eP	P	07 59 28.5	+1.2
LBCM	Butte Creek Ri	82.94	41	P	P	07 59 28.5	+0.3
CN2	Changchun	82.97	323	eP	P	07 59 30.0	+1.6
LTIM	Timbered Crate	83.06	40	P	P	07 59 29.3	+0.5
NVAR	Mina Array Bea	83.40	44	P	P	07 59 30.9	+0.4
	comp=Z,7.7nm,0.9s,mb4.2,baz=225,slow=8.9,SNR=47						
NVAR				pP	pP	08 01 40.6	+0.2

comp=Z,0.6nm,0.6s,baz=222,slow=7.8,SNR=3.9
PAHR Pah Rah Range 83.46 42 *e*P **P 07 59 30.8 0.0**
comp=Z,18nm,1.1s,mb4.5
HOG Hogback Mounta 83.59 39 P **P 07 59 31.9 +0.5**
TPH Tonopah 83.90 45 *e*P **P 07 59 33.3 +0.4**
TPH pmax pmax
comp=Z,22nm,1.1s,mb4.6
TPH Tonopah 83.90 45 *e*P **P 07 59 33.3 +0.4**
comp=Z,22nm,1.1s,mb4.6
MOD Modoc 84.21 40 *e*P **P 07 59 34.7 +0.2**
comp=Z,7.7nm,1.1s,mb4.2
SHPR Sheep Range 84.39 47 *e*P **P 07 59 35.8 +0.5**
SYO Syowa Base 84.53 193⇑*e*P **P 07 59 35.5 -0.5**
BMN Battle Mountai 85.24 43 *e*P **P 07 59 39.5 +0.1**
BMN pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
BMN Battle Mountai 85.24 43 *e*P **P 07 59 39.5 0.0**
comp=Z,7.1nm,0.8s,mb4.3
MA2 Magadan 85.28 345 *e*P **P 07 59 37.8 -1.8**
MA2 pmax pmax
comp=Z,29nm,0.8s,mb5.0
MA2 Magadan 85.28 345 *e*P **P 07 59 37.8 -1.8**
comp=Z,29nm,0.8s,mb5.0
TUC Tucson 85.29 52 *e*P **P 07 59 40.8 +1.1**
TUC pmax pmax
comp=Z,12nm,0.9s,mb4.5
TUC Tucson 85.29 52 *e*P **P 07 59 40.8 +1.1**
comp=Z,12nm,0.9s,mb4.5
WVOR Wild Horse Val 85.52 40 *e*P **P 07 59 40.9 +0.1**
WVOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
WVOR Wild Horse Val 85.52 40 *e*P **P 07 59 40.9 +0.1**
comp=Z,9.4nm,0.9s,mb4.4
SNAA Sanae 86.12 179 *e*P **P 07 59 43.2 -0.4**
SNAA *e* 07 59 45.0
SNAA *e* pP 08 01 56.0 +1.3
SNAA *e* pP 08 01 59.5 +4.8
SNAA Sanae 86.12 179⇓*i*P **P 07 59 43.3 -0.3**
SNAA Sanae 86.12 179 *e*P **P 07 59 43.6 0.0**
comp=Z,1.5nm,0.6s,mb3.8
CCUT Cedar City 86.17 47 *e*P **P 07 59 44.7 +0.8**
BJT Baijiatuan 86.27 316 *e*P **P 07 59 44.1 -0.2**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuan 86.27 316 *e*P **P 07 59 44.1 -0.2**
comp=Z,9.2nm,0.6s,mb4.6
GNW Green Mountain 86.29 35 *e*P **P 07 59 44.7 +0.3**
GYA Guiyang 86.38 300 P **P 07 59 46.0 +1.2**
GYA AP pP 08 01 55.5 -0.6
GYA XP sP 08 02 57.6 -0.1
GYA PP PP 08 03 19.6 +1.7
GYA S S 08 09 30.4 +0.2
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
GYA AMB AMB
comp=Z,60nm,4.0s
WUAZ Wupatki 86.48 49 *e*P **P 07 59 46.4 +1.1**
VNA1 Neumayer--Stat 86.97 177 *e*P **P 07 59 48.8 +1.2**
VNA1 *e* 07 59 51.0
VNA1 *e* pP 08 02 00.4 +1.3
VNA1 *e* pP 08 02 04.1 +5.0
VNA1 *e* 10 55 48.2
VNA1 *e* 10 55 51.2
EBG Ellensburg 87.09 36 P **P 07 59 48.3 +0.1**
TTA Tatalina 87.09 11 *e*P **P 07 59 46.0 -2.2**
TTA pmax pmax
comp=Z,69nm,1.5s,mb5.2
TTA Tatalina 87.09 11 *e*P **P 07 59 46.0 -2.2**
comp=Z,69nm,1.5s,mb5.2
PMR Palmer 87.23 14 *e*P **P 07 59 47.0 -1.8**
HAWA Hanford 87.34 37 *e*P **P 07 59 49.5 +0.1**
comp=Z,1.6nm,0.9s,mb3.8
MSU Marysvale 87.47 46 *e*P **P 07 59 51.0 +1.1**
DIV Divide 87.62 16 *e*P **P 07 59 49.8 -0.9**
BMO Blue Mountains 87.71 39 *e*P **P 07 59 52.6 +1.5**
WRAK Wrangell Islan 88.06 24 *e*P **P 07 59 52.0 -0.7**
XAN Xi'an 88.18 308 P **P 07 59 53.8 +0.5**
XAN AMB AMB
comp=Z,22nm,1.0s,mb4.8
OD2 Odessa Site #2 88.39 36 P **P 07 59 54.2 -0.1**
TMUT Trail Mountain 88.52 46 *e*P **P 07 59 55.3 +0.5**
MPU Maple Canyon 88.61 45 *e*P **P 07 59 55.7 +0.4**
HLID Hailey 88.72 41 *e*P **P 07 59 56.2 +0.5**
comp=Z,10nm,0.9s,mb4.7
HLID *e*pP pP 08 02 08.2 +0.3
SPUT South Promonto 88.75 44 *e*P **P 07 59 56.0 +0.1**
HVU Hansel Valley 88.78 43 *e*P **P 07 59 56.3 +0.2**
HVU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
HVU Hansel Valley 88.78 43 *e*P **P 07 59 56.3 +0.3**
comp=Z,8.1nm,0.9s,mb4.5
HVU *e*pP pP 08 02 09.0 +0.8
CTU Camp Tracy 88.88 45 *e*P **P 07 59 56.9 +0.4**
comp=Z,14nm,1.1s,mb4.7
SRU San Rafael 88.88 47 *e*P **P 07 59 57.0 +0.5**
SRU pmax pmax
comp=Z,17nm,0.9s,mb4.9
SRU San Rafael 88.88 47 *e*P **P 07 59 57.0 +0.4**
comp=Z,17nm,0.9s,mb4.9
KMI Kunming 88.97 298 P **P 07 59 58.6 +1.7**
KMI AMB AMB
comp=Z,18nm,1.3s,mb4.7
PLCA Paso Flores 88.97 134 P **P 07 59 58.1 +1.2**
comp=Z,4.4nm,0.8s,mb4.3,baz=259,slow=6.0,SNR=9.3
PLCA Paso Flores 88.97 134 *e*P **P 07 59 58.2 +1.3**
PLCA pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 88.97 134 *e*P **P 07 59 58.2 +1.3**
comp=Z,4.1nm,0.8s,mb4.3
LENM Lemitar 88.98 52 *e*P **P 07 59 57.6 +0.6**
PNT Penticton 89.05 34 P **P 07 59 57.0 -0.3**
MCK McKinley 89.17 13 *e*P **P 07 59 55.9 -1.9**
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.6
MCK McKinley 89.17 13 *e*P **P 07 59 55.9 -2.0**
comp=Z,11nm,1.0s,mb4.7
TCUT Toone Canyon 89.32 45 *e*P **P 07 59 58.5 0.0**
HIA Hailar 89.45 325⇓*i*P **P 07 59 58.1 -1.0**
HWUT Hardware Ranch 89.47 44 *e*P **P 07 59 59.1 -0.1**
comp=Z,9.4nm,0.9s,mb4.6
CHTO Chiang Mai 89.57 290 *e*P **P 08 00 01.2 +1.5**
CHTO pmax pmax
comp=Z,42nm,1.3s,mb5.1
CHTO Chiang Mai 89.57 290 *e*P **P 08 00 01.2 +1.5**
comp=Z,42nm,1.3s,mb5.1
CHTO *e*pP pP 08 02 21.9 +10
HHC Hu-ho-hao-te 89.69 315 *e*P **P 08 00 00.3 0.0**
HHC PP PP 08 03 47.8 +3.9
HHC SKS 08 09 27.7
HHC S S 08 09 55.5 -5.1
HHC AMB AMB
comp=Z,21nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,113nm,5.8s
ANMO Albuquerque 89.72 52 *e*P **P 08 00 01.1 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,0.9s
ANMO Albuquerque 89.72 52 *e*P **P 08 00 01.1 +0.7**
comp=Z,6.1nm,0.9s,mb4.4
ANMO *e*pP pP 08 02 12.3 -0.5
PV01 Paradox Valley 89.73 48 *e*P **P 08 00 00.4 -0.1**
GDL2 Guadalupe Moun 90.02 55 *e*P **P 08 00 02.7 +0.9**
MCMT McKenzie Canyo 90.34 41 *e*P **P 08 00 03.8 +0.5**
AHID Auburn Hatcher 90.36 43 *e*P **P 08 00 03.9 +0.5**
comp=Z,10nm,0.9s,mb4.7
IMA2 Indian Mountai 90.39 10 *e*P **P 08 00 02.1 -1.3**
COLA College 90.40 13 *e*P **P 08 00 00.7 -2.8**
COLA pmax pmax
comp=Z,20nm,1.0s,mb4.9
COLA College 90.40 13 *e*P **P 08 00 00.7 -2.8**
comp=Z,20nm,1.0s,mb4.9
COLA *e*pP pP 08 02 19.0 +2.9
RRI2 Red Ridge 90.52 43 *e*P **P 08 00 04.6 +0.5**
comp=Z,13nm,0.8s,mb4.9
CD2 Chengdu 90.64 303 *e*P **P 08 00 02.0 -2.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
DLMT Dillon 90.78 40 *e*P **P 08 00 05.3 0.0**
comp=Z,8.7nm,1.2s,mb4.6
BILL Bilibino 90.81 355⇑*i*P **P 08 00 04.2 -1.3**
BILL pmax pmax
comp=Z,43nm,1.7s,mb5.1
BILL Bilibino 90.81 355 *e*P **P 08 00 04.0 -1.4**
comp=Z,11nm,0.4s,mb5.2
REDW Red Top Meadow 90.82 43 *e*P **P 08 00 05.7 +0.2**
comp=Z,14nm,1.0s,mb4.8
TPAW Teton Pass 90.82 43 *e*P **P 08 00 05.7 +0.2**
comp=Z,18nm,1.3s,mb4.8
SNOW Snow King Moun 90.93 43 *e*P **P 08 00 06.2 +0.3**
comp=Z,13nm,0.9s,mb4.9
LOHW Long Hollow 91.10 43 *e*P **P 08 00 06.8 +0.1**
comp=Z,2.7nm,0.9s,mb4.2
FLWY Flagg Ranch 91.28 42 *e*P **P 08 00 07.5 -0.1**
comp=Z,6.4nm,1.0s,mb4.5
SMCO Snowmass 91.33 48 *e*P **P 08 00 08.0 +0.1**
comp=Z,5.7nm,0.8s,mb4.5
BW06 Boulder Array 91.34 44 *e*P **P 08 00 07.8 -0.1**
comp=Z,6.4nm,1.0s,mb4.5
PDAR Pinedale Array 91.34 44 P **P 08 00 07.5 -0.4**
comp=Z,4.9nm,1.0s,mb4.4,baz=218,slow=2.5,SNR=29
PDAR Pinedale Array 91.34 44 P **P 08 00 07.5 -0.4**
BOZ Bozeman (W) 91.51 41 *e*P **P 08 00 08.7 +0.1**
BOZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BOZ Bozeman (W) 91.51 41 *e*P **P 08 00 08.7 +0.1**
comp=Z,6.5nm,1.1s,mb4.6
SDCO Great Sand Dun 91.69 50 *e*P **P 08 00 09.6 +0.1**
comp=Z,5.2nm,0.8s,mb4.6
DAWY Dawson 91.71 16 *e*P **P 08 00 08.2 -1.4**
EGAK Eagle 91.84 15 *e*P **P 08 00 08.3 -1.9**
LZH Lanzhou 92.82 308⇓P **P 08 00 14.5 -0.2**
LZH AP pP 08 02 27.3 -0.1
LZH PP PP 08 04 10.7 +2.6
LZH AMB AMB
comp=Z,19nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,61nm,9.3s
RSSD Black Hills 95.53 44 *e*P **P 08 00 26.8 -0.2**
comp=Z,0.1nm,0.8s
ULN Ulaanbaatar 95.90 320⇑*e*P **P 08 00 27.8 -0.8**
SONM Songino Array 96.28 319 P **P 08 00 29.6 -0.7**
comp=Z,0.7nm,0.4s,mb4.2,baz=137,slow=5.0,SNR=7.1
SONM PP PP 08 04 36.9 +2.4
comp=Z,3.3nm,1.2s,baz=114,slow=2.2,SNR=5.8
GTA Gaotai 97.10 310 *e*P **P 08 00 34.2 +0.2**
GTA AP pP 08 02 47.2 0.0
GTA XP sP 08 03 47.6 -0.5
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.6
TIXI Tiksi 100.25 345 *e*P Pdif 08 00 44.5 -3.5
TIXI pmax pmax
comp=Z,9.0nm,1.3s
LPAZ La Paz 102.62 114 PKKPbc PKKPbc 08 16 56.0 +0.8
comp=Z,0.4nm,0.3s,baz=267,slow=11,SNR=4.6
WMQ Urumqi 107.11 311 PDIF Pdif 08 01 18.0 -0.5
WMQ PP PP 08 05 57.0 +2.7
WMQ PPP 08 08 20.0
WMQ PP PP
comp=Z,83nm,6.2s
MK31 Makanchi Array 111.48 313 PKIKP PKiKP 08 05 30.3 -1.6
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 111.48 313 PKiKP PKiKP 08 05 30.4 -1.6
comp=Z,2.0nm,0.4s,baz=226,slow=1.6,SNR=12
MKAR PKKPbc PKKPbc 08 16 28.8 +0.8
comp=Z,0.5nm,0.5s,baz=267,slow=4.9,SNR=3.9
MKAR Makanchi Array 111.48 313⇑*i*PKIKP PKiKP 08 05 30.3 -1.6
AAK Ala-Archa 116.36 308⇑*i*PKIKP PKPdf 08 05 39.8 -1.5
VOSK Vostochnaya 119.27 319 PKIKP PKPdf 08 05 45.0 -1.9
VOSK pmax pmax
comp=Z,2.0nm,0.5s
KK31 Karatay Array 119.32 308 *i* PKIKP PKPdf 08 05 46.0 -1.0
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 119.32 308 *i* PKIKP PKPdf 08 05 46.0 -1.0
KKAR pmax pmax
comp=Z,2.0nm,0.6s
CHKZ Chkalovo 119.47 320 *e*PKIKP PKPdf 08 05 45.4 -1.9
BVA0 Borovoye Array 119.62 319 *i* PKIKP PKPdf 08 05 45.6 -2.0
PKME Peaks-Kenny Pk 119.65 50 *e*PKPdf PKPdf 08 05 46.1 -1.5
BRVK Borovoye 119.69 319 *e*PKIKP PKPdf 08 05 46.1 -1.6
ZRNK Zerenda 120.46 319 *e*PKPdf PKPdf 08 05 47.5 -1.7
ZRNK *e*SKPdf SKPdf 08 08 28.0 +1.1
SCHQ Schefferville 121.07 39 PKP PKPdf 08 05 48.7 -1.6
comp=Z,2.7nm,0.8s,baz=259,slow=10,SNR=3.3
SVE Sverdlovsk 124.75 325 *e*PKIKP PKPdf 08 05 56.0 -1.4
SVE pmax pmax
comp=Z,24nm,1.5s
ARU Arti 125.96 324 *e*PKIKP PKPdf 08 05 58.8 -0.9
ARU Arti 125.96 324 *e*PKPdf PKPdf 08 05 58.8 -0.9
AB31 Akbulak array 126.48 315 *i* PKIKP PKPdf 08 06 00.0 -0.7
ARCES ARCESS Array B 130.55 349 PKhKP 08 05 55.6
comp=Z,0.7nm,0.4s,baz=34,slow=2.1,SNR=10
ARCES PKP PKPdf 08 06 06.3 -2.1
comp=Z,4.7nm,0.5s,baz=46,slow=3.5,SNR=24
ARCES SKPbc SKPbc 08 08 36.4 +0.8
comp=Z,13nm,0.9s,baz=24,slow=6.9,SNR=10
LSZ Lusaka 133.72 218 *e*PKIKP PKPdf 08 06 14.8 +0.4
LSZ *e* 08 08 51.1
JOF Joensuu 134.50 341 *e*pkp PKPdf 08 06 10.3 -5.6
KAF Kangasniemi 136.59 343 *e*pkp 08 06 07.6
KMBO Kilima Mbogo 137.18 242 PKP PKPdf 08 06 25.2 +4.4
comp=Z,1.9nm,0.8s,baz=53,slow=20,SNR=3.8
KMBO SKPbc SKPbc 08 09 01.6 +4.6
comp=Z,6.2nm,1.0s,baz=46,slow=1.5,SNR=8.8
FINES FINESS Array B 137.20 342 PKhKP 08 06 07.6
comp=Z,1.5nm,0.4s,baz=60,slow=4.6,SNR=16
FINES PKP PKPdf 08 06 19.0 -1.9
comp=Z,2.9nm,0.4s,baz=94,slow=3.0,SNR=12
FINES SKPbc SKPbc 08 08 57.9 +0.8
comp=Z,3.4nm,0.7s,baz=223,slow=4.7,SNR=5.2
OBN Obninsk 137.74 330⇓*i*PKIKP PKPdf 08 06 21.5 -0.4
OBN pmax pmax
comp=Z,30nm,1.5s
GNI Garni 138.72 306⇑*i*PKIKP PKPdf 08 06 24.8 +1.1
GNI Garni 138.72 306 *e*PKPdf PKPdf 08 06 23.9 +0.2
KIV Kislovodsk 139.23 312 *i* PKIKP PKPdf 08 06 26.1 +1.5
NB2 NORSAR Subarra 140.71 352 PKPa PKPdf 08 06 19.8 -7.4
comp=Z,4.3nm,0.5s,baz=15,slow=3.0
NOA NORSAR Array B 140.71 352 PKhKP 08 06 20.0
comp=Z,2.5nm,0.5s,baz=14,slow=3.2,SNR=20
NOA PKP PKPdf 08 06 27.2 -0.1
comp=Z,1.1nm,0.4s,baz=39,slow=2.6,SNR=4.2
NOA SKPbc SKPbc 08 09 07.6 +1.1
comp=Z,6.3nm,0.9s,baz=14,slow=4.3,SNR=8.5
BCA Borcka 140.71 309 *e*P PKPdf 08 06 21.4 -5.9
NAO01 NORSAR Array S 140.94 352 *e*PKPdf PKPdf 08 06 19.5 -8.2
KONO Kongsberg 142.26 352 *e*PKHKP 08 06 24.7
ANN Anapa 142.45 315*e*⇓PKHKP 08 06 27.1
ANN pmax pmax
comp=Z,61nm,1.2s
EZC Erzincan 142.49 307 *e*P PKPdf 08 06 29.2 -1.2
KELT Kelkit 142.80 307 *i* P PKPdf 08 06 29.6 -1.4
PTK Pertek 143.03 305 *e*P PKPdf 08 06 30.0 -1.4
GRSN GIRESUNGRSN 143.28 309 *i* P PKPdf 08 06 29.4 -2.4
ELZG Elazig 143.44 305 *i* P PKPdf 08 06 32.4 +0.3
ORE Reay 143.80 4 *e*P PKPdf 08 06 30.2 -2.4
ORE Reay 143.80 4 *e*P PKPdf 08 06 30.2 -2.4
MYA Malataya 143.91 305 *e*P PKPdf 08 06 32.5 -0.5
MALT Malatya 143.91 305⇓*i*P PKPdf 08 06 33.2 +0.3
MALT Malatya 143.91 305 *e*PKPdf PKPdf 08 06 33.1 +0.2
MALT *ep*PKPdf pPKPdf 08 09 18.1 +23
AKASG Malin Array Be 143.97 329 PKP PKPdf 08 06 30.9 -2.1
comp=Z,30nm,0.4s,baz=43,slow=4.1,SNR=197
AKASG SKPbc SKPbc 08 09 15.6 +1.1
comp=Z,3.0nm,0.6s,baz=42,slow=2.4,SNR=16
AKBB Malin Array Si 143.97 329 *e*PKPbc PKPdf 08 06 31.0 -2.0
AKBB *e*SKPbc SKPbc 08 09 15.3 +0.8
SUW Suwalki 144.10 337 *e*PKP PKPdf 08 06 32.0 -1.2
SIM Simferopol' 144.50 317 *e*PKIKP PKPdf 08 06 34.2 +0.3
SIM pmax pmax
comp=Z,36nm,1.2s
SVSK Karacayir 144.52 308 *e*P PKPdf 08 06 33.9 -0.1
KAC Achnashellach 144.72 5 *e*P PKPdf 08 06 33.2 -1.1
KAC Achnashellach 144.72 5 *e*P PKPdf 08 06 33.2 -1.1
MCD Coleburn Disti 144.79 3 *e*P PKPdf 08 06 32.9 -1.5
MCD Coleburn Disti 144.79 3 *e*P PKPdf 08 06 32.9 -1.5
GZT Gaziantep 144.82 303 *i* P PKPdf 08 06 34.8 +0.4
KPL Plockton 144.85 6 *e*P PKPdf 08 06 33.6 -0.9
KPL AMb AMB 08 06 36.6
comp=Z,65nm,2.0s
KPL Plockton 144.85 6 *e*P PKPdf 08 06 33.6 -0.9
KPL AMb AMB 08 06 36.6
comp=Z,65nm,2.0s
KSB Sheil Bridge 145.00 6 *e*P PKPdf 08 06 33.9 -0.9
KSB Sheil Bridge 145.00 6 *e*P PKPdf 08 06 33.9 -0.9
DIKM Dikmen 145.15 312 *e*P PKPdf 08 06 33.7 -1.3
KAR1 Arisaig 145.25 6 *e*P PKPdf 08 06 34.8 -0.4
KAR1 Arisaig 145.25 6 *e*P PKPdf 08 06 34.8 -0.4
MUD Monsted U'grnd 145.42 351⇓*i*P PKPdf 08 06 35.7 +0.2
comp=Z,70nm,1.2s
MUD Monsted U'grnd 145.42 351⇓*i*PKIKP PKPdf 08 06 35.7 +0.2
MUD pmax pmax
comp=Z,70nm,1.2s
BYBT Boyabat 145.56 312 *e*P PKPdf 08 06 37.0 +1.3
BSD Bornholm Skovb 145.62 345⇓*i*P PKPdf 08 06 36.0 +0.2
comp=Z,65nm,1.0s
BSD Bornholm Skovb 145.62 345⇓*i*PKIKP PKPdf 08 06 36.0 +0.2
BSD pmax pmax
comp=Z,65nm,1.0s
CTKT Corum 145.87 310 *i* P PKPdf 08 06 38.4 +2.1
BZK Bozkurt 145.89 313 *e*P PKPdf 08 06 37.0 +0.7
COBT Iskenderun 146.04 303 *i* P PKPdf 08 06 39.1 +2.5
EAB Aberfoyle 146.10 5 *e*P PKPdf 08 06 37.3 +0.7
EAB Aberfoyle 146.10 5 *e*P PKPdf 08 06 37.3 +0.7
KOZT Kozan 146.12 304 *e*P PKPdf 08 06 36.9 +0.3
CORM Corum 146.14 309 *e*P PKPdf 08 06 38.2 +1.5
TOS Tosya 146.25 311 *e*P PKPdf 08 06 38.8 +1.9
EDI Edinburgh 146.45 4 *e*P PKPdf 08 06 39.1 +1.9
EDI AMb AMB 08 06 41.4
comp=Z,72nm,1.7s
EDI Edinburgh 146.45 4 *e*P PKPdf 08 06 39.1 +1.9
EDI AMb AMB 08 06 41.4
comp=Z,72nm,1.7s
AVNT Avonos 146.46 307 *i* P PKPdf 08 06 40.5 +3.3
ESY Stoneypath 146.48 3 *e*P PKPdf 08 06 38.3 +1.0
ESY Stoneypath 146.48 3 *e*P PKPdf 08 06 38.3 +1.0
BALT Daday 146.49 312 *i* P PKPdf 08 06 39.9 +2.6
EAU Auchinoon 146.51 4 *e*P PKPdf 08 06 38.6 +1.3
EAU Auchinoon 146.51 4 *e*P PKPdf 08 06 38.6 +1.3
KIS Kishinev 146.51 324 *e*PKIKP PKPdf 08 06 38.0 +0.7
EBL Broad Law 146.60 4 *e*P PKPdf 08 06 38.8 +1.4
EBL Broad Law 146.60 4 *e*P PKPdf 08 06 38.8 +1.4
KRTS Karatas 146.71 303 *e*P PKPdf 08 06 40.5 +2.8
KARA Karaisali 146.77 304 *e*P PKPdf 08 06 40.2 +2.4
ELDT Eldivan 146.88 311 *i* P PKPdf 08 06 41.0 +3.1
XSO Sourhope Farm 146.93 3 *e*P PKPdf 08 06 38.9 +0.9
XSO Sourhope Farm 146.93 3 *e*P PKPdf 08 06 38.9 +0.9
LVV L'vov 146.97 332⇓*i*PKIKP PKPdf 08 06 40.3 +2.2
LVV *e* 08 08 49.9
LVV *e* 08 13 33.9
BR131 Keskin Array S 147.02 309 *e*PKPbc PKPbc 08 06 40.8 -0.5
BRTR Keskin Array B 147.02 309 PKPbc PKPbc 08 06 40.9 -0.4
comp=Z,9.7nm,0.5s,baz=140,slow=5.4,SNR=30
BRTR Keskin Array B 147.02 309⇑*i*PKIKP PKPdf 08 06 40.9 +2.7
ESK Eskdalemuir 147.05 4 *e*P PKPdf 08 06 39.7 +1.5
ESK Eskdalemuir 147.05 4 *e*P PKPdf 08 06 39.7 +1.5
SAFT Safranbolu 147.09 312 *e*P PKPdf 08 06 39.5 +1.3
ECK Cauldkaine Hil 147.19 4 *e*P PKPdf 08 06 40.1 +1.6
ECK Cauldkaine Hil 147.19 4 *e*P PKPdf 08 06 40.1 +1.6
MERS Mersin 147.29 304 *e*P PKPdf 08 06 40.4 +1.7
GAL1 Galloway 147.38 6 *e*P PKPdf 08 06 40.7 +1.9
GAL1 *e*P 08 06 40.7
GAL1 AMb AMB 08 06 42.4
comp=Z,86nm,1.4s
GAL1 Galloway 147.38 6 *e*P PKPdf 08 06 40.7 +1.9
GAL1 *e*P 08 06 40.7
GAL1 AMb AMB 08 06 42.4
comp=Z,86nm,1.4s
BSEG Bad Segeberg 147.68 349 *e*PKPbc PKPbc 08 06 41.9 -1.1
BSEG *e*PKPab PKPab 08 06 46.2 -1.4
BSEG Bad Segeberg 147.68 349 *e*PKP2 PKPab 08 06 46.2 -1.4
KWP Kalwaria 147.69 333 *e*PKP PKPbc 08 06 42.7 -0.3
SGKT Sivrigoynuk 147.80 312 *i* P PKPbc 08 06 43.5 +0.2
XDE Dent Fell 147.84 4 *e*P PKPdf 08 06 42.0 +2.5
XDE Dent Fell 147.84 4 *e*P PKPdf 08 06 42.0 +2.5
GMM Mts of Mourne 147.88 7 *e*P PKPdf 08 06 42.3 +2.8
GMM Mts of Mourne 147.88 7 *e*P PKPdf 08 06 42.3 +2.8
GIM North Isle of 147.97 5 *e*P PKPdf 08 06 42.4 +2.6
GIM North Isle of 147.97 5 *e*P PKPdf 08 06 42.4 +2.6
CFR Carcaliu 147.98 322 PKP2 PKPbc 08 06 43.6 -0.2
BURAR Bucovina Array 147.99 328⇓*i*P PKPbc 08 06 43.6 -0.2
IKL Isikli 148.12 303 *e*P PKPdf 08 06 41.4 +1.4
TIRR Tirgusor 148.23 320⇓*i*P PKPbc 08 06 43.9 -0.5
EIL Elat 148.28 290 *e*PKPbc PKPbc 08 06 45.2 +0.6
EIL *e*PKPab PKPab 08 06 51.6 +1.4
RUE Ruedersdorf 148.31 344 *e*PKPbc PKPbc 08 06 43.6 -1.0
RUE *e*PKPab PKPab 08 06 49.2 -1.0
OJC Ojcow 148.39 336 *i* PKPd PKPbc 08 06 44.1 -0.7
KOLS Kolonicke sedl 148.40 332 *e*PKP PKPbc 08 06 44.6 -0.2
MDU Mudurnu 148.43 312 *e*P PKPdf 08 06 43.5 +3.0
STHS Stebnicka Huta 148.47 334 *e*PKP PKPbc 08 06 44.8 -0.2
HENT Hendek 148.49 313 *i* P PKPbc 08 06 44.3 -0.7
KDHN Kadinhani 148.56 308 *i* P PKPdf 08 06 42.0 +1.3
KONT Konya--Tatoy 148.59 307 *e*P PKPdf 08 06 43.4 +2.7
ERMK Ermenek 148.59 304 *i* P PKPbc 08 06 45.4 +0.1
KIZT Kizilcal 148.60 309 *e*P PKPdf 08 06 43.9 +3.2
UZH Uzhgorod 148.62 332⇑*i*PKHKP 08 06 45.0
UZH pmax pmax
comp=Z,214nm,1.1s
CSS Prodhromos 148.74 301 *e*P PKPbc 08 06 45.0 -0.7
CRVS Cervenica-Dubn 148.77 333 *e*PKP PKPbc 08 06 45.3 -0.4
HDMB Hadim 148.82 305 *e*P PKPdf 08 06 44.3 +3.2
NIE Niedzica 148.84 335 *i* PKPd PKPbc 08 06 46.1 +0.2
WCB1 Church Bay 148.87 6 *e*P PKPdf 08 06 44.2 +3.1
WCB1 Church Bay 148.87 6 *e*P PKPdf 08 06 44.2 +3.1
LHO Holmfirth 148.89 3 *e*P PKPdf 08 06 44.6 +3.4
LHO Holmfirth 148.89 3 *e*P PKPdf 08 06 44.6 +3.4
MLR Muntele Rosu 149.01 324⇑*i*P PKPbc 08 06 45.8 -0.5
MLR Muntele Rosu 149.01 324⇑PKHKP 08 06 45.9
WPM1 Penmaenmawr 149.05 5 *e*P PKPdf 08 06 44.7 +3.3
WPM1 Penmaenmawr 149.05 5 *e*P PKPdf 08 06 44.7 +3.3
KSP Ksiaz 149.07 340 *e*PKP PKPbc 08 06 46.4 0.0
KSP Ksiaz 149.07 340 *e*PKP2 PKPab 08 06 50.8 -2.6
ESKT Eskisehir 149.08 310 *i* P PKPbc 08 06 45.8 -0.7
KBI1 Birley Grange 149.19 2 *e*P PKPbc 08 06 45.4 -1.3
KBI1 Birley Grange 149.19 2 *e*P PKPbc 08 06 45.4 -1.3
WIT Witteveen 149.30 353 *e*PKP PKPbc 08 06 47.2 +0.2
OKC Ostrava-Krasne 149.31 337⇑*e*PKPB PKPbc 08 06 46.1 -0.9
KWE Weaver Farm 149.42 3 *e*P PKPbc 08 06 46.0 -1.2
KWE Weaver Farm 149.42 3 *e*P PKPbc 08 06 46.0 -1.2
SBD1 Bryn Du 149.45 4 *e*P PKPbc 08 06 46.1 -1.3
SBD1 Bryn Du 149.45 4 *e*P PKPbc 08 06 46.1 -1.3
UPC Upice 149.45 340⇑*e*PKPB PKPbc 08 06 47.1 -0.3
UPC *e*PKPAB PKPab 08 06 54.6 -0.4
ADVT Abdulvahap 149.45 313 *e*P PKPbc 08 06 46.0 -1.3
DPC Dobruska-Polom 149.49 340⇑*e*PKPB PKPbc 08 06 47.5 +0.1
KECS Kecovo 149.51 333 *e*PKP PKPbc 08 06 46.3 -0.6
KECS *e* 08 06 54.5
KLYT Kilyos 149.53 315 *e*P PKPbc 08 06 48.5 +0.9
MORC Moravsky Berou 149.58 338⇓*i*P PKPbc 08 06 47.4 -0.2
MORC Moravsky Berou 149.58 338 *e*PKPdf PKPdf 08 06 42.1 -0.2
MORC *e*PKPbc PKPbc 08 06 47.3 -0.4
CLL Collm 149.58 344 *e*PKPbc PKPbc 08 06 47.0 -0.7
CLL *e*PKPab PKPab 08 06 54.2 -1.3
CLL Collm 149.58 344 *e*PKPdf PKPdf 08 06 42.0 -0.3
CLL ⇓*i*PKPbc PKPbc 08 06 47.1 -0.6
comp=Z,62nm,0.7s
CLL ⇑*i*PKPab PKPab 08 06 54.3 -1.2
comp=Z,74nm,1.3s
CLL *i* x x 08 07 02.2
CLL Collm 149.58 344⇓*e*PKIKP PKPdf 08 06 42.0 -0.3
CLL *i* 08 06 54.3
CLL pmax pmax
comp=Z,42nm,0.7s
CLL pmax pmax
comp=Z,62nm,1.3s
IBBN Ibbenburen 149.66 351 *e*PKPbc PKPbc 08 06 47.1 -0.7
IBBN *e*PKPab PKPab 08 06 54.6 -1.2
BRG Berggiesshubel 149.73 343 *e*PKPdf PKPdf 08 06 42.4 -0.1
BRG *e*PKPbc PKPbc 08 06 47.5 -0.5
BRG *e*PKPab PKPab 08 06 55.6 -0.5
BRG Berggiesshubel 149.73 343⇑*i*PKPB PKPdf 08 06 47.7 +5.2
BRG *i* PKPpB 08 06 55.1
comp=Z,16nm,1.1s
BRG Berggiesshubel 149.73 343 *e*PKIKP PKPdf 08 06 42.3 -0.2
BRG *i* 08 06 55.1
BRG pmax pmax
comp=Z,4.0nm,1.5s
BRG pmax pmax
comp=Z,11nm,1.1s
BRG Berggiesshubel 149.73 343 *e*PKPDF PKPdf 08 06 42.3 -0.2
comp=Z,11nm,1.5s
DRGR 149.78 329⇓*i*P PKPbc 08 06 47.6 -0.5
FBE Freiberg 149.84 344 *e*PKPbc PKPbc 08 06 47.9 -0.4
FBE *e*PKPab PKPab 08 06 55.9 -0.7
HLM1 Long Mynd 149.86 4 *e*P PKPdf 08 06 47.0 +4.3
HLM1 Long Mynd 149.86 4 *e*P PKPdf 08 06 47.0 +4.3
PVCC Panska Ves 149.87 342⇑*e*PKPB PKPdf 08 06 48.1 +5.4
ISP Isparta 149.99 308 *e*P PKPbc 08 06 47.6 -1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTTG	Gvttingen	150.02	348	ePKPbc	PKPbc	08 06 48.1	-0.6
GTTG				ePKPab	PKPab	08 06 56.4	-1.0
TKTP	Tekketepe	150.05	308	i P	PKPdf	08 06 47.2	+4.2
BCK	Bucak	150.07	307	eP	PKPdf	08 06 47.2	+4.1
WTSB	Winterswijk	150.12	352	ePKP	PKPbc	08 06 48.0	-0.9
VYHS	Vyhne	150.16	335	ePKP	PKPbc	08 06 48.4	-0.6
VYHS				e		08 06 57.2	
PSZ	Piszkesteto	150.19	333	⇓iP	PKPbc	08 06 48.5	-0.6
PSZ	Piszkesteto	150.19	333	ePKHKP	PKPbc	08 06 48.5	-0.6
PSZ				e		08 06 58.0	
GDZ	Gediz	150.22	311	i P	PKPbc	08 06 49.0	-0.2
HTR	Trewern Hill	150.27	5	eP	PKPbc	08 06 47.9	-1.4
HTR	Trewern Hill	150.27	5	eP	PKPbc	08 06 47.9	-1.4
VRAC	Vranov	150.30	338	⇓iP	PKPbc	08 06 49.0	-0.3
PRU	Pruhonice	150.36	341	⇑ePKPB	PKPbc	08 06 49.0	-0.5
PRU				ePKPAB	PKPab	08 06 58.0	-0.8
MCH1	Michaelchurch	150.37	4	eP	PKPbc	08 06 48.1	-1.4
MCH1				eP		08 06 48.1	
MCH1				AMb	AMB	08 06 57.2	
	comp=Z,50nm,1.7s						
MCH1	Michaelchurch	150.37	4	eP	PKPbc	08 06 48.1	-1.4
MCH1				eP		08 06 48.1	
MCH1				AMb	AMB	08 06 57.2	
	comp=Z,50nm,1.7s						
JMB	Yambol	150.46	319	eP	PKPbc	08 06 49.4	-0.3
MOX	Moxa	150.53	346	ePKPbc	PKPbc	08 06 49.1	-0.8
MOX				ePKPab	PKPab	08 06 58.1	-1.4
MOX	Moxa	150.53	346	ePKP	PKPbc	08 06 49.2	-0.7
	comp=Z,49nm,1.4s						
MOX				e		08 06 58.1	
MOX	Moxa	150.53	346	ePKIKP	PKPbc	08 06 49.2	-0.7
MOX				e		08 06 58.1	
MOX				pmax	pmax		
	comp=Z,30nm,1.4s						
TANN	Tannenbergstha	150.53	344	ePKPdf	PKPdf	08 06 43.4	-0.4
TANN				ePKPbc	PKPbc	08 06 49.3	-0.6
TANN				ePKPab	PKPab	08 06 58.5	-1.0
WERD	Werda	150.54	345	ePKPbc	PKPbc	08 06 49.3	-0.6
WERD				ePKPab	PKPab	08 06 58.5	-1.0
BUG	Bochum--Univer	150.57	351	ePKPbc	PKPbc	08 06 49.0	-1.0
BUG				ePKPab	PKPab	08 06 58.3	-1.4
GUNZ	Gunzen	150.61	344	ePKPbc	PKPbc	08 06 49.6	-0.5
GUNZ				ePKPab	PKPab	08 06 58.9	-0.9
GUNZ				epPKPbc	pPKPbc	08 09 12.1	+1.3
WERN	Wernitzgruen	150.67	344	ePKPbc	PKPbc	08 06 49.6	-0.6
WERN				ePKPab	PKPab	08 06 59.1	-1.0
TREC	Trest	150.68	340	⇑ePKPB	PKPbc	08 06 49.7	-0.5
SMOL	Smolenice	150.68	337	ePKP	PKPbc	08 06 50.2	0.0
SMOL				e		08 06 59.8	
EDRB	Edirne	150.70	317	eP	PKPdf	08 06 47.9	+3.8
NKC	Novy Kostel	150.71	344	⇑ePKPB	PKPbc	08 06 49.9	-0.4
NKC				ePKPAB	PKPab	08 06 59.2	-1.0
UBBA	Unterbreizbach	150.71	348	ePKPbc	PKPbc	08 06 49.3	-1.0
UBBA				ePKPab	PKPab	08 06 58.7	-1.5
GZR	Gura Zlata	150.74	327	⇓iP	PKPbc	08 06 49.6	-0.7
HGH	Gray Hill	150.74	4	eP	PKPdf	08 06 48.1	+4.0
HGH	Gray Hill	150.74	4	eP	PKPdf	08 06 48.1	+4.0
SKP1	Kophill	150.75	2	eP	PKPbc	08 06 48.9	-1.5
SKP1	Kophill	150.75	2	eP	PKPbc	08 06 48.9	-1.5
ELL	Elmali	150.84	306	eP	PKPbc	08 06 50.6	0.0
GOLH	Golhisar	150.91	307	i P	PKPbc	08 06 51.2	+0.4
MANZ	Manzenberg	151.02	344	ePKPbc	PKPbc	08 06 50.7	-0.3
MANZ				epPKPbc	pPKPbc	08 09 12.9	+1.1
ZST	Bratislava	151.06	337	ePKP	PKPbc	08 06 50.5	-0.6
ZST				e		08 07 01.9	
DNZL	Cakiroluk	151.12	308	i P	PKPbc	08 06 52.4	+1.2
BZS	Buzias	151.16	328	⇓iP	PKPbc	08 06 50.6	-0.7
ROTZ	Rotzenmuhle	151.20	344	ePKPbc	PKPbc	08 06 50.8	-0.6
ROTZ				ePKPab	PKPab	08 07 01.5	-0.8
HTL	Hartland	151.23	7	eP	PKPdf	08 06 49.1	+4.3
HTL				AMb	AMB	08 06 50.9	
	comp=Z,55nm,1.5s						
HTL	Hartland	151.23	7	eP	PKPdf	08 06 49.1	+4.3
HTL				AMb	AMB	08 06 50.9	
	comp=Z,55nm,1.5s						
AKAS	Kas	151.25	305	i P	PKPbc	08 06 51.1	-0.4
SWK	Warminster	151.26	4	eP	PKPbc	08 06 50.2	-1.3
SWK	Warminster	151.26	4	eP	PKPbc	08 06 50.2	-1.3
KHC	Kasperske Hory	151.40	342	ePKPDF	PKPdf	08 06 44.0	-1.1
KHC				⇑ePKPB	PKPdf	08 06 51.3	+6.2
KHC				ePKPAB	PKPab	08 07 02.4	-0.8
HGN	Heimansgroeve	151.41	353	ePKP	PKPbc	08 06 51.0	-0.9
	comp=Z,20nm,1.1s						
AKS	Akhisar	151.48	311	eP	PKPbc	08 06 50.8	-1.2
FETY	Fethiye	151.49	306	eP	PKPbc	08 06 50.8	-1.2
GRF	Grafenberg Arr	151.51	345	ePKPab	PKPab	08 07 03.1	-0.5
UCC	Uccle	151.53	355	PKPbc	PKPbc	08 06 51.9	-0.2
MEM	Membach	151.55	353	PKPbc	PKPbc	08 06 51.6	-0.6
TNS	Taunus Mts	151.57	349	ePKPdf	PKPdf	08 06 45.0	-0.3
TNS				ePKPbc	PKPbc	08 06 51.5	-0.7
TNS				ePKPab	PKPab	08 07 02.5	-1.4
WET	Wettzell	151.59	343	ePKPbc	PKPbc	08 06 51.9	-0.4
WET				ePKPab	PKPab	08 07 03.1	-0.9
GEC2	GERESS Array S	151.62	341	ePKPdf	PKPdf	08 06 45.0	-0.4
GEC2				ePKPbc	PKPbc	08 06 51.4	-0.9
GEC2				ePKPab	PKPab	08 07 03.5	-0.6
GERES	GERESS Array B	151.62	341	PKP	PKPdf	08 06 44.6	-0.8
	comp=Z,1.2nm,0.9s,baz=151,slow=3.0,SNR=7.8						
GERES				PKPbc	PKPbc	08 06 51.7	-0.6
	comp=Z,4.0nm,0.4s,baz=17,slow=1.9,SNR=53						
GERES				PKPab	PKPab	08 07 03.3	-0.9
	comp=Z,2.6nm,0.5s,baz=29,slow=3.0,SNR=11						
ALN	Alexandroupoli	151.66	316	eP	PKPbc	08 06 57.2	+4.8
CONA	Conrad Observa	151.73	338	⇓iPKiKP	PKiKP	08 06 52.4	-0.4
	comp=Z,14nm,1.0s						
DALT	Dalyan (Mudla)	151.78	307	eP	PKPdf	08 06 47.8	+2.2
PLD	Plovdiv	151.80	320	eP	PKPab	08 07 05.0	+0.1
BCLA	Clavier	151.81	353	PKPab	PKPab	08 07 03.2	-1.7
SNF	Seneffe	151.82	355	PKPbc	PKPbc	08 06 51.9	-0.9
DYA	Yadsworthy	151.84	6	eP	PKPbc	08 06 51.4	-1.4
DYA				AML	AML	08 06 52.0	
	comp=Z,17nm,0.5s						
DYA	Yadsworthy	151.84	6	eP	PKPbc	08 06 51.4	-1.4
DYA				AML	AML	08 06 52.0	
	comp=Z,17nm,0.5s						
AYDN	Tasoluk	151.97	309	i P	PKPbc	08 06 54.1	+1.0
PKSM	Moragy	152.07	332	⇓iP	PKPbc	08 06 52.4	-0.9
GIVF	Givet	152.18	354	ePKP1	PKPbc	08 06 52.7	-0.9
	comp=Z,26nm,0.7s						
DOU	Dourbes	152.21	354	PKPbc	PKPbc	08 06 53.0	-0.6
BAIF	Baives	152.28	355	ePKP1	PKPbc	08 06 53.0	-0.8
VTS	Vitosha	152.38	322	eP	PKPab	08 07 06.7	-0.6
VTS	Vitosha	152.38	322	⇓iP	PKPbc	08 06 53.5	-0.5
WLF	Walferdange	152.46	352	ePKPbc	PKPbc	08 06 53.8	-0.4
WLF				ePKPab	PKPab	08 07 07.2	-0.5
WLF	Walferdange	152.46	352	PKPbc	PKPbc	08 06 53.9	-0.3
DAT	Datca	152.57	307	eP	PKPbc	08 06 52.6	-1.8
BODT	Bodrum	152.63	308	eP	PKPdf	08 06 51.3	+4.4
MMB	Musomiste	152.69	320	eP	PKPab	08 07 08.6	0.0
STU	Stuttgart	152.82	347	ePKPdf	PKPdf	08 06 46.9	-0.2
STU				ePKPbc	PKPbc	08 06 54.4	-0.5
FUR	Furstenfeldbru	152.91	344	ePKPab	PKPab	08 07 09.1	-0.5
SRS	Serrai	153.06	319	eP	PKPab	08 07 09.3	-0.9
SOH	Sokhos	153.38	319	eP	PKPab	08 07 10.8	-0.8
BFO	Black Forest	153.41	348	ePKPbc	PKPbc	08 06 55.5	-0.7
BFO				ePKPab	PKPab	08 07 10.3	-1.4
BFO	Black Forest	153.41	348	ePKP2	PKPab	08 07 10.3	-1.4
CDF	Champ du Feu	153.52	350	ePKP1	PKPbc	08 06 55.6	-0.8
STIP	Stip	153.53	322	⇑iPKP	PKPab	08 07 11.8	-0.5
VAY	Valandovo	153.54	320	eP	PKPab	08 07 10.1	-2.2
VAY	Valandovo	153.54	320	⇑iPKP	PKPab	08 07 11.7	-0.6
WATA	Walderalm	153.60	343	⇑iP	PKPbc	08 06 56.0	-0.6
	comp=Z,10nm,1.2s						
WATA				⇑i		08 07 11.5	
	comp=Z,37nm,1.4s						
WTTA	Wattenberg	153.65	343	⇓i	PKPab	08 07 11.1	-1.6
	comp=Z,18nm,0.5s						
WTTA	Wattenberg	153.65	343	⇓iPKPbc	PKPbc	08 06 55.9	-0.8
	comp=Z,9.7nm,0.4s						
WTTA				⇓iPKPab	PKPab	08 07 11.1	-1.6
	comp=Z,18nm,0.5s						
HORT	Hortiatis	153.67	319	eP	PKPab	08 07 12.1	-0.8
PAIG	Paliouri	153.70	317	eP	PKPab	08 07 11.5	-1.5
FLN	La Foliniere	153.72	1	ePKP1	PKPbc	08 06 55.6	-1.3
	comp=Z,14nm,0.6s						
MEZF	Maizieres J'vi	153.74	353	ePKP1	PKPbc	08 06 56.4	-0.5
	comp=Z,9.0nm,0.5s						
SKO	Skopje	153.78	323	eP	PKPab	08 07 13.9	+0.6
SKO	Skopje	153.78	323	⇑iPKP	PKPab	08 07 14.0	+0.7
LDF	La Druitiere	153.90	1	ePKP1	PKPbc	08 06 56.2	-1.0
	comp=Z,5.7nm,0.4s						
HAU	Haudompre	154.06	351	ePKP1	PKPbc	08 06 56.5	-1.1
GRR	Gorron	154.08	2	ePKP1	PKPbc	08 06 56.5	-1.1
HINF	Hinteralfeld	154.16	350	ePKP1	PKPbc	08 06 56.6	-1.2
LIT	Litokhoron	154.34	318	eP	PKPab	08 07 15.1	-0.7
BIA	Bitola	154.46	321	⇑iPKP	PKPab	08 07 15.1	-1.2
FNA	Florina	154.58	321	eP	PKPdf	08 06 57.6	+8.0
OHR	Ohrid	154.70	322	⇑iPKP	PKPab	08 07 15.9	-1.4
AGG	Agios Georgios	155.07	317	eP	PKPab	08 07 17.1	-1.8
AVF	Avril sur Loir	155.59	355	ePKP1	PKPdf	08 07 01.4	+10
LKD	Levkas	156.31	318	eP	PKPab	08 07 23.8	-0.5
ESDC	Sonseca Array	162.41	11	PKPab	PKPab	08 07 49.3	-1.6
	comp=Z,3.8nm,0.9s,baz=342,slow=3.9,SNR=14						
DBIC	Dimbokro	163.50	161	PKP	PKPdf	08 07 00.1	+0.3
	comp=Z,4.8nm,0.5s,baz=149,slow=4.3,SNR=11						
DBIC				PKPab	PKPab	08 07 57.6	+1.9
	comp=Z,6.4nm,1.0s,baz=266,slow=3.9,SNR=3.4						
KEST	Kesra	164.66	332	PKPab	PKPab	08 08 00.6	-0.2
	comp=Z,8.0nm,1.2s,baz=291,slow=1.8,SNR=8.3						
TORD	Torodi Ar. Bea	170.69	187	PKP	PKPdf	08 07 05.0	0.0
	comp=Z,4.2nm,1.1s,baz=10,slow=0.7,SNR=16						
TORD				PKPab	PKPab	08 08 28.9	+1.3
	comp=Z,1.3nm,0.6s,baz=158,slow=5.4,SNR=8.2						

*ISCJB **09** 08:54:53.3±2.8, 1095S±006×7423W±004, h26km±22km, mb3.9/9, MS3.0/1, Error ellipse: s-maj=10.8km s-min=6.9km az=19.4*

*IDC **09** 08:54:56.2±3.4, 1094S×7432W, h35km±30km, mb3.7/7, mb1 3.9/11, mb1mx3.7/24, mbtmp3.9/11, ML3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/23, Error ellipse: s-maj=22.9km s-min=16.0km az=42.0*

*NEIC **09** 08:54:56.6±1.1, 1103S×7433W, h38km±13km, mb4.5/2, Error ellipse: s-maj=13.2km s-min=10.4km az=52.0*

ISC 09 08:54:56.5±2.8**, 1103S**±006×**7428W**±004**, h32**km±22km**, n20,** σ1s**19**/23**, mb3.9**/9**, MS3.0**/1**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	2.69	249	Pn	Pn	08 55 35.9	-1.7
	66nm,0.3s,baz=62,slow=11,SNR=125						
NNA				Sn	Sn	08 56 10.1	+1.0
	85nm,0.3s,baz=332,slow=21,SNR=8.5						
NNA	Nana	2.69	249	Pn	Pn	08 55 35.9	-1.7
NNA				Sn	Sn	08 56 10.1	+1.0
ATAH	Atahualpa	5.70	314	Pn	Pn	08 56 18.0	-1.0
	2.9nm,0.3s,baz=138,slow=7.7,SNR=10.0						
ATAH				Sn	Sn	08 57 25.6	+2.2
	3.7nm,0.3s,baz=45,slow=20,SNR=2.0						
LPAZ	La Paz	7.94	132	Pn	Pn	08 56 52.5	+2.7
	0.1nm,0.3s,baz=312,slow=12,SNR=6.5						
LPAZ				Lg		08 59 06.3	
	1.7nm,0.3s,baz=186,slow=20,SNR=5.0						
LPAZ	La Paz	7.94	132	Pn	Pn	08 56 52.5	+2.7
LPAZ				Lg		08 59 06.3	
SAML	Samuel	11.12	80	ePn	Pn	08 57 32.8	-0.5
	15nm,0.6s						
SAML				eSn	Sn	08 59 36.9	+0.4
SIV	San Ignacio	13.76	112	Pn	Pn	08 58 08.4	-0.8
	0.5nm,0.3s,baz=295,slow=13,SNR=14						
SIV				Lg		09 02 13.3	
	2.0nm,0.3s,baz=42,slow=19,SNR=6.8						
ROSC	El Rosal	15.78	360	Pn	Pn	08 58 38.7	+2.4
	0.3nm,0.3s,baz=281,slow=16,SNR=2.4						
ROSC				Lg		09 03 10.7	
	0.5nm,0.3s,baz=82,slow=23,SNR=4.2						
SDV	Santo Domingo	20.11	11	P	P	08 59 28.0	+0.4
	1.6nm,0.4s,baz=185,slow=11,SNR=4.2						
SDV				Lg		09 05 24.4	
	1.4nm,0.3s,baz=9.0,slow=13,SNR=3.1						
CFAA	Coronel Fontan	21.23	166	P	P	08 59 40.3	+0.6
	0.3nm,0.7s,mb2.7,baz=348,slow=8.7,SNR=7.0						
CPUP	Villa Florida	22.08	136	P	P	08 59 49.0	+0.2
	0.6nm,0.5s,mb3.3,baz=299,slow=13,SNR=4.3						
PCRV	Puerto La Cruz	23.14	25	LR	LR	09 09 33.5	
	comp=Z,60nm,20.2s,MS3.0,baz=254,slow=38						
BINY	Binghamton	52.98	358	eP	P	09 04 10.2	+0.1
	7.4nm,0.8s,mb4.7						
SDCO	Great Sand Dun	56.65	331	eP	P	09 04 36.1	-0.5
	3.3nm,0.9s,mb4.4						
PDAR	Pinedale Array	62.51	331	P	P	09 05 15.4	-1.6
	0.3nm,0.7s,mb3.6,baz=122,slow=8.6,SNR=3.2						
ULM	Lac du Bonnet	63.87	345	P	P	09 05 23.8	-2.3
	1.8nm,0.7s,mb4.2,baz=166,slow=7.4,SNR=5.2						
ULM	Lac du Bonnet	63.87	345	P	P	09 05 23.8	-2.3
DBIC	Dimbokro	71.28	79	P	P	09 06 12.7	-0.2
	3.7nm,1.0s,mb4.3,baz=240,slow=8.8,SNR=6.0						
SNAA	Sanae	73.79	162	P	P	09 06 28.0	+0.2
	0.4nm,0.5s,mb3.6,baz=278,slow=8.0,SNR=4.9						
TORD	Torodi Ar. Bea	79.11	74	P	P	09 06 58.1	+0.2
	2.6nm,0.8s,mb4.2,baz=267,slow=5.6,SNR=13						

CASC 09 08:55:28.6±2.2**, 836N**×**8280W, h7**km±10km**, MD4.1, 2C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	David	0.35	78	⇓iP	Pg	08 55 36.0	+0.6
DVD				eS	Sg	08 55 42.1	+2.1
CNI	Changuinola	1.08	15	eP	Pg	08 55 48.7	-0.7
CNI				eS	Sg	08 56 04.7	+1.3
BUS	Buena Vista	1.52	321	eP	Pn	08 55 54.8	-1.4
BUS				eS	Sn	08 56 17.4	+1.3
LCR2	La Lucha 2	1.81	319	⇑eP	Pn	08 56 00.0	-0.2
LCR2				eS	Sn	08 56 25.2	+1.8
PRS1	Puriscal	2.20	317	eP	Pn	08 56 05.0	-0.5
PRS1				eS	Sn	08 56 34.4	+1.5
PTP	Ponta Puerca	19.37	58	⇑iP		08 55 31.6	
PTP				eS		08 55 37.3	

*BJI **09** 08:58:20.9, 559S×12841E, h34km, mB5.1, mb4.6, Ms4.2, Msz3.9*

*IDC **09** 08:58:21.8±0.6, 499S×12808E, h0km, mb4.3/8, mb1 4.4/11, mb1mx4.3/17, mbtmp4.4/11, ML4.0/3, MS3.7/13, Ms1 3.7/13, ms1mx3.4/30, Error ellipse: s-maj=32.9km s-min=14.9km az=69.0*

*ISCJB **09** 08:58:24.2±0.3, 522S±004×12822E±007, h34km, mb4.9/33, MS3.8/13, Error ellipse: s-maj=9.8km s-min=5.1km az=146.0*

*NEIC **09** 08:58:26.1±0.3, 516S×12830E, mb4.7/17, Error ellipse: s-maj=13.8km s-min=6.4km az=62.0*

ISC 09 08:58:26.5±0.3**, 520S**±004×**12827E**±007**, h36**km±.7km**:pP-P, n73,** σ1s**01**/62**, mb4.9**/33**, MS3.8**/13**, 1C-3D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	5.24	35	P	Pn	08 59 43.6	+1.3
	228nm,0.9s						
FITZ	Fitzroy Crossi	13.08	191	eP	Pn	09 01 29.9	+0.2
	13nm,0.8s						
FITZ	Fitzroy Crossi	13.08	191	Pn	Pn	09 01 29.8	0.0
	1.0nm,0.3s,baz=17,slow=14,SNR=19						
FITZ				Sn	Sn	09 03 54.1	+0.2
	0.6nm,0.3s,baz=82,slow=20,SNR=3.9						
FITZ				LR	LR	09 06 52.1	
	comp=Z,225nm,20.9s,baz=18,slow=38						
WRAB	Tennant Creek	15.79	159	ePn	Pn	09 02 05.5	-0.6
	103nm,1.4s						
WRA	Warramunga Arr	15.80	159	Pn	Pn	09 02 05.5	-0.7
	1.8nm,0.3s,baz=343,slow=13,SNR=69						
WRA				Sn	Sn	09 04 53.7	-6.4
	0.5nm,0.3s,baz=334,slow=22,SNR=9.6						
WRA				LR	LR	09 07 58.6	
	comp=Z,503nm,20.2s,baz=330,slow=36						
WB2	Warramunga Arr	15.80	159	eP	Pn	09 02 05.1	-1.2
KKM	Kota Kinabalu	16.42	313	ePn	Pn	09 02 13.2	-1.0
MBWA	Marble Bar	17.90	207	ePn	Pn	09 02 27.3	-5.3
	33nm,1.2s						
BJII	Banjamegara	18.57	262	P	Pn	09 02 45.5	+4.7
	44nm,1.9s						
KSM	Kuching	19.13	290	eP	Pn	09 02 47.7	+0.2
AS31	Alice Springs	19.15	164	eP	Pn	09 02 47.8	+0.1
ASPA	Alice Springs	19.15	164	eP	Pn	09 02 51.8	+4.1
ASAR	Alice Springs	19.15	164	P	Pn	09 02 51.0	+3.3
	1.0nm,0.3s,baz=345,slow=11,SNR=90						
ASAR				LR	LR	09 09 54.6	
	comp=Z,396nm,21.6s,baz=343,slow=36						
PMG	Port Moresby	19.19	104	P	Pn	09 02 49.3	+1.1
	0.6nm,0.3s,baz=126,slow=8.7,SNR=2.5						
PMG	Port Moresby	19.19	104	eP	Pn	09 02 47.4	-0.8
	31nm,0.8s						
LEM	Lembang	20.61	264	P	pP	09 03 14.1	+2.3
	142nm,1.2s						
CBJI	Citeko	21.35	266	P	P	09 03 17.9	+7.4
	205nm,1.1s,mb5.4						
CTA	Charters Tower	22.91	132	⇑iP	P	09 03 31.1	+3.9
	9.8nm,0.8s,mb4.3						
CTA	Charters Tower	22.91	132	P	P	09 03 31.2	+4.0
	13nm,0.8s,mb4.4,baz=314,slow=12,SNR=16						
CTA				LR	LR	09 13 11.3	
	comp=Z,107nm,19.1s,MS3.3,baz=307,slow=38						
CTAO	Charters Tower	22.91	132	eP	P	09 03 27.6	+0.5
	12nm,0.8s,mb4.4						
STKA	Stephens Creek	29.33	156	eP	P	09 04 28.8	+3.1
	4.1nm,1.0s,mb4.1						
STKA	Stephens Creek	29.33	156	P	P	09 04 28.9	+3.2
	4.9nm,0.9s,mb4.2,baz=306,slow=8.1,SNR=6.1						
STKA				LR	LR	09 16 21.5	
	comp=Z,251nm,21.0s,MS3.8,baz=208,slow=36						
NWAO	Narrogin (SRO)	29.45	199	LR	LR	09 16 06.5	
	comp=Z,136nm,21.3s,MS3.5,baz=169,slow=36						
KULM	Kulim	29.49	290	eP	P	09 04 28.0	+0.9
KULM				epP	pP	09 04 38.1	+0.8
NANT	Nan	36.15	312	⇓P	P	09 05 25.0	-0.3
	124nm,1.0s,mb5.8						
CHG	Chiang Mai	37.48	310	⇓P	P	09 05 38.0	+1.4
	16nm,0.8s,mb4.9						
CHTO	Chiang Mai	37.48	310	eP	P	09 05 37.3	+0.8
CHTO				e	pP	09 05 47.0	+0.1
GYA	Guiyang	37.80	327	P	P	09 05 40.7	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GYA				AMB	AMB		
	comp=Z,240nm,4.6s						
KMI	Kunming	39.05	322	P	P	09 05 52.2	+2.4
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
MAJO	Matsushiro	42.55	12	eP	P	09 06 18.9	+0.3
	comp=Z,4.3nm,0.9s,mb4.2						
MAJO				epP	pP	09 06 29.6	+0.5
MAT	Matsushiro	42.55	12	P	P	09 06 17.6	-1.1
MJAR	Matsushiro Arr	42.55	12	P	P	09 06 16.4	-2.3
	comp=Z,1.3nm,0.8s,mb3.7,baz=185,slow=8.2,SNR=6.2						
MJAR				LR	LR	09 21 27.8	
	comp=Z,66nm,19.7s,MS3.5,baz=170,slow=33						
XAN	Xi'an	43.10	336	P	P	09 06 21.7	-1.4
XAN				AP	pP	09 06 32.4	-1.2
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4						
BJT	Baijiatuau	46.35	347	eP	P	09 06 49.2	+0.2
	comp=Z,13nm,0.7s,mb5.0						
BJT				epP	pP	09 06 59.0	-0.6
LZH	Lanzhou	47.02	333	eP	P	09 06 55.2	+0.9
LZH				AP	pP	09 07 05.1	+0.3
LZH				XP	sP	09 07 09.6	+0.6
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,119nm,4.1s						
LZH				LR	LR		
	comp=N,362nm,10.5s						
LZH				LR	LR		
	comp=Z,589nm,15.4s,MS4.7						
PALK	Pallekele	49.06	284	eP	P	09 07 08.4	-1.6
	comp=Z,80nm,1.7s,mb5.5						
MDJ	Mudanjiang	49.60	1	eP	P	09 07 07.0	-7.2
	comp=Z,22nm,1.4s,mb5.0						
LSA	Lhasa	49.72	317	eP	P	09 07 17.1	+2.1
LSA				epP	pP	09 07 26.6	+0.9
ASAJ	Asahikawa	50.76	13	LR	LR	09 28 34.3	
	comp=Z,33nm,19.4s,MS3.4,baz=191,slow=36						
GTA	Gaotai	51.58	332	P	P	09 07 30.1	+1.0
GTA				PCP	PcP	09 08 45.0	+2.3
GTA				PP	PP	09 09 28.2	+1.6
GTA				PPP		09 10 30.6	
GTA				S	S	09 14 48.4	+1.0
GTA				SS	SS	09 18 22.8	-0.9
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,105nm,7.2s						
GTA				LR	LR		
	comp=N,92nm,16.7s,MS3.9						
GTA				LR	LR		
	comp=E,60nm,18.3s,MS3.9						
GTA				LR	LR		
	comp=Z,123nm,18.6s,MS4.0						
JIRN	Jiri	52.12	311	eP	P	09 07 33.0	-0.1
	comp=Z,20nm,0.6s,mb5.2						
GUN	Gumba	52.48	311	eP	P	09 07 35.7	-0.1
	comp=Z,74nm,0.8s,mb5.7						
PKI	Pulchoki	52.66	311	eP	P	09 07 36.7	-0.4
	comp=Z,53nm,1.2s,mb5.3						
KKN	Kakani	52.87	311	eP	P	09 07 38.0	-0.7
	comp=Z,30nm,0.9s,mb5.2						
DMN	Daman	52.91	310	eP	P	09 07 39.2	+0.3
	comp=Z,66nm,1.1s,mb5.5						
GKN	Gorkha	53.47	311	eP	P	09 07 42.4	-0.7
	comp=Z,25nm,0.5s,mb5.4						
RPZ	Rata Peaks	53.70	142	LR	LR	09 29 00.5	
	comp=Z,228nm,19.9s,MS4.2,baz=204,slow=34						
HYB	Hyderabad	53.99	296	i P	pP	09 07 56.0	-1.5
KOLN	Koldanda	54.13	310	eP	P	09 07 47.5	-0.5
	comp=Z,84nm,1.2s,mb5.5						
ULN	Ulaanbaatar	56.04	343	eP	P	09 08 01.8	+0.1
	comp=Z,14nm,1.1s,mb4.9						
ULN				epP	pP	09 08 12.0	-0.4
SONM	Songino Array	56.21	342	P	P	09 08 02.6	-0.3
	comp=Z,4.8nm,1.0s,mb4.5,baz=163,slow=7.5,SNR=18						
SONM				LR	LR	09 36 38.4	
	comp=Z,32nm,19.3s,MS3.4,baz=227,slow=41						
WMQ	Urumqi	60.96	327	⇓iP	P	09 08 36.8	+0.8
WMQ				AP	pP	09 08 47.0	+0.2
WMQ				XP	sP	09 08 51.0	0.0
WMQ				PP	PP	09 10 53.0	+2.6
WMQ				eS	S	09 16 51.0	-0.7
WMQ				XS	sS	09 17 10.0	+0.4
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,110nm,4.8s						
WMQ				LR	LR		
	comp=Z,119nm,28.0s,MS3.9						
MKAR	Makanchi Array	65.79	327	P	P	09 09 07.5	-0.4
	comp=Z,4.4nm,0.7s,mb4.6,baz=130,slow=8.0,SNR=25						
YAK	Yakutsk	67.04	1	eP	P	09 09 16.0	+0.1
	comp=Z,25nm,0.7s,mb5.4						
YAK				epP	pP	09 09 26.2	-0.6
AAK	Ala-Archa	68.06	320	eP	P	09 09 22.6	+0.2
	comp=Z,31nm,1.6s,mb5.1						
AAK				e	pP	09 09 32.5	-0.8
ZAL	Zalesovo	69.22	334	P	P	09 09 28.6	-1.0
	comp=Z,1.8nm,0.4s,mb4.4,baz=358,slow=3.6,SNR=9.4						
VNDA	Vanda	74.43	173	P	P	09 10 01.6	+0.7
	comp=Z,0.6nm,0.8s,baz=310,slow=9.2,SNR=2.6						
VNDA				LR	LR	09 38 52.0	
	comp=Z,126nm,21.8s,MS4.2,baz=19,slow=32						
BRVK	Borovoye	75.71	328	eP	P	09 10 08.4	+0.1
	comp=Z,15nm,1.4s,mb4.7						
BRVK				epP	pP	09 10 18.2	-1.1
CHKZ	Chkalovo	75.84	329	eP	P	09 10 08.9	-0.1
	comp=Z,7.1nm,1.3s,mb4.4						
CHKZ				epP	pP	09 10 18.9	-1.2
MAW	Mawson	76.00	201	P	P	09 10 10.3	+0.4
	comp=Z,1.9nm,1.1s,mb4.0,baz=29,slow=7.5,SNR=4.2						
MAW				LR	LR	09 39 15.4	
	comp=Z,78nm,21.1s,MS4.0,baz=250,slow=32						
MAW	Mawson	76.00	201	eP	P	09 10 10.2	+0.3
	comp=Z,4.5nm,1.2s,mb4.3						
ZRNK	Zerenda	76.33	328	eP	P	09 10 11.1	-0.7
	comp=Z,23nm,1.3s,mb4.9						
ZRNK				e	pP	09 10 21.6	-1.3
ARU	Arti	83.28	328	eP	P	09 10 47.1	-2.3
ARU				epP	pP	09 10 59.1	-1.5
BRTR	Keskin Array B	96.86	309	LR	LR	10 03 28.3	
	comp=Z,21nm,20.3s,MS3.6,baz=271,slow=40						
TORD	Torodi Ar. Bea	126.76	282	PKP	PKPdf	09 17 27.9	+1.7
	comp=Z,1.9nm,0.8s,baz=54,slow=2.0,SNR=9.7						
CFAA	Coronel Fontan	140.16	158	PKhKP		09 17 49.9	
	comp=Z,0.1nm,0.8s,baz=214,slow=3.6,SNR=3.9						
CFAA				PKP	PKPdf	09 17 55.0	+3.7
	comp=Z,0.1nm,0.7s,baz=245,slow=2.4,SNR=3.8						
CFAA	Coronel Fontan	140.16	158	PKP	PKPdf	09 17 49.9	-1.4
CFAA				PKP	PKPdf	09 17 55.0	+3.7
JTS	JuntasAbangare	146.71	79	PKPbc	PKPbc	09 18 06.7	+2.2
	comp=Z,8.0nm,0.8s,baz=344,slow=12,SNR=7.4						
JTS	JuntasAbangare	146.71	79	ePKPdf	PKPdf	09 18 03.5	+0.7
JTS				ePKPab	PKPab	09 18 06.6	+1.0

CPUP Villa Florida 148.19 170 PKPbc PKPbc 09 18 11.3 +2.7
comp=Z,2.1nm,0.7s,baz=205,slow=0.6,SNR=6.8
CPUP Villa Florida 148.19 170 *e*PKPdf PKPdf 09 18 07.6 +2.4
CPUP *e*PKPbc PKPbc 09 18 11.2 +2.7
CPUP *e*PKPab PKPab 09 18 21.6 +10
LPAZ La Paz 153.18 143 PKPbc PKPbc 09 18 24.0 +3.6
comp=Z,0.8nm,0.8s,baz=180,slow=2.0,SNR=2.7
LPAZ La Paz 153.18 143 *e*PKPdf PKPdf 09 18 15.8 +2.8
LPAZ *e*PKPbc PKPbc 09 18 23.9 +3.5
LPAZ *e*PKPab PKPab 09 18 38.3 +6.1

MEX 09 09:15:59.1±0.4**, 1552N×9483W, h15**km±8km**, MD4.0, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.25**	**282**	*i* P	Pn	09 16 18.6	-3.5
HUIG				*i* S	Sb	09 16 33.5	-4.9
CMIG	**Matias Romero**	**1.56**	**358**	*e*P	Pn	09 16 22.8	-3.5
CMIG				*i* S	Sn	09 16 41.6	-4.8
VHO	**Vista Hermosa**	**2.39**	**311**	*i* P	Pn	09 16 35.1	-2.6
VHO				*i* S	Sn	09 17 01.7	-5.1
CCIG	**Comitan**	**2.70**	**73**	*i* P	Pn	09 16 38.2	-3.8
CCIG				*i* S	Sn	09 17 11.2	-3.2

MEX 09 09:21:20.1±0.6**, 1655N×9458W, h175**km±24km**, MD4.2, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**331**	*i* P	Pn	09 21 43.1	-1.6
CMIG				*i* S	Sn	09 22 01.6	-2.1
SCX	**San Cristobal**	**1.87**	**84**	*e*P	Pn	09 21 56.5	+1.1
OXX	**Oaxaca**	**2.12**	**285**	*i* P	Pn	09 21 58.0	-0.1
VHO	**Vista Hermosa**	**2.13**	**284**	*i* P	Pn	09 21 57.7	-0.4
VHO				*i* S	Sn	09 22 25.9	-1.8
CCIG	**Comitan**	**2.36**	**96**	*i* P	Pn	09 21 59.5	-1.3
CCIG				*i* S	Sn	09 22 31.1	-1.2
UTMO	**Huajuapan**	**3.33**	**293**	*i* P	Pn	09 22 11.0	-1.5
UTMO				*i* S	Sn	09 22 52.9	-0.6

---

*ISCJB **09** 09:22:18.5±1.2, 47.7N±0.2×153.0E±0.3, h79km±15km, mb4.0/2, Error ellipse: s-maj=40.3km s-min=6.7km az=89.7*
*MOS **09** 09:22:19.5±2.3, 47.53N×153.47E, h92km, mb4.2/2, Error ellipse: s-maj=75.1km s-min=29.4km az=59.5*
*IDC **09** 09:22:52.5±14.0, 47.44N×149.49E, h326km±107km, mb3.4/2, mb1 3.3/4, mb1mx2.9/22, mbtmp3.9/4, Error ellipse: s-maj=219.1km s-min=28.2km az=85.0*
ISC 09 09:22:20.0±1.1**, 47.6N**±0.2×**153.1E**±0.3**, h77**km±14km**, n17,** σ1.28/26**, mb4.0**/2**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.63**	**31**	*e*PN	**Pn**	**09 23 14.0**	**+0.1**
SKR				*e*S	**Sn**	**09 23 55.2**	**-0.4**
SKR				pmax	pmax		
	comp=E,100nm,0.8s						
SKR				pmax	pmax		
	comp=Z,190nm,0.8s						
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				smax			
	comp=N,90nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
NEM2	**Nemuro 2**	**6.72**	**233**	P	**Pn**	**09 23 56.2**	**+0.3**
NEM2				*e*S	**Sn**	**09 25 06.6**	**-4.3**
JNK	**Nakash**	**7.15**	**239**	P	**Pn**	**09 24 04.4**	**+2.6**
JNK				*e*S	**Sn**	**09 25 22.0**	**+0.4**
JTKR	**Abashiri--Toko**	**7.41**	**244**	P	**Pn**	**09 24 09.0**	**+3.6**
JAK	**Akkeshi**	**7.54**	**235**	P	**Pn**	**09 24 07.2**	**+0.1**
JAK				*e*S	**Sn**	**09 25 26.5**	**-4.5**
JAR	**Ashorobuto**	**7.88**	**240**	P	**Pn**	**09 24 15.4**	**+3.6**
JAR				*e*S	**Sn**	**09 25 40.1**	**+0.8**
JOB	**Onbets**	**8.08**	**238**	P	**Pn**	**09 24 16.1**	**+1.6**
JOB				*e*S	**Sn**	**09 25 41.2**	**-3.1**
ASAJ	**Asahikawa**	**8.15**	**248**	P	**Pn**	**09 24 20.8**	**+5.3**
	comp=E,1.5nm,0.3s,baz=78,slow=14,SNR=8.0						
ASAJ	**Asahikawa**	**8.15**	**248**	P	**Pn**	**09 24 20.5**	**+5.0**
JKK2	**Kamakawa 2**	**8.18**	**247**	P	**Pn**	**09 24 20.0**	**+4.2**
JCH	**Churui**	**8.53**	**238**	P	**Pn**	**09 24 21.4**	**+0.7**
JCH				*e*S	**Sn**	**09 25 50.5**	**-4.8**
JNBK	**Urakawa-nobuka**	**9.09**	**238**	P	**Pn**	**09 24 28.2**	**-0.2**
JNBK				*e*S	**Sn**	**09 26 01.8**	**-7.2**
JKB	**Kayabe**	**10.34**	**241**	P	**Pn**	**09 24 43.1**	**-2.2**
JTH	**Tanohata**	**11.19**	**231**	P	**Pn**	**09 24 55.4**	**-1.5**
JTH				*e*S	**Sn**	**09 26 49.9**	**-10**
MJAR	**Matsushiro Arr**	**15.64**	**230**	P	**Pn**	**09 25 54.5**	**-1.2**
	comp=E,0.2nm,0.3s,baz=31,slow=13,SNR=8.9						
FINES	**FINESS Array B**	**63.26**	**335**	P	**P**	**09 32 40.5**	**+0.1**
	comp=E,3.6nm,1.1s,mb4.2,baz=37,slow=7.5,SNR=3.9						
ASAR	**Alice Springs**	**73.04**	**198**	P	**P**	**09 33 42.1**	**+0.6**
	comp=E,1.1nm,0.8s,mb3.7,baz=14,slow=5.9,SNR=12						

---

*NEIC **09** 09:41:14.2, 18.59N×68.54W, h195km, MD4.0(RSPR), After RSPR.*
RSPR 09 09:41:14.2, 1859N×6854W, h195km±2km**, MD4.0**/12**, MD4.0**/12**, 11C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.36**	**95**⇑	*e*P	Pn	09 41 46.8	+0.5
AGPR				*e*S	Sn	09 42 11.7	+0.6
LSP	**Las Mesas**	**1.44**	**106**⇓	*e*P	Pn	09 41 47.9	+0.9
LSP				*e*S	Sn	09 42 13.0	+0.6
CRPR	**Cabo Rojo, PR**	**1.48**	**113**⇑	*e*P	Pn	09 41 46.6	-0.6
CRPR				*e*S	Sn	09 42 12.9	0.0
MGP	**Maguayo**	**1.50**	**112**⇑	*e*P	Pn	09 41 47.7	+0.3
MGP				*e*S	Sn	09 42 14.2	+1.0
LRS	**Lares**	**1.64**	**100**⇑	*e*P	Pn	09 41 49.0	+0.3
LRS				*e*S	Sn	09 42 16.3	+0.7
AOPR	**Arecibo Observ**	**1.71**	**98**⇑	*e*P	Pn	09 41 49.5	+0.1
AOPR				*e*S	Sn	09 42 17.6	+0.8
OBIP	**Obispado Ponce**	**1.92**	**106**	*e*S	Sn	09 42 21.7	+1.2
CELP	**Cerrillos**	**1.93**	**105**⇑	*e*P	Pn	09 41 51.2	-0.5
CELP				*e*S	Sn	09 42 21.1	+0.3
ICM	**Isla Caja Muer**	**2.04**	**109**⇑	*e*P	Pn	09 41 53.2	+0.4
ICM				*e*S	Sn	09 42 23.8	+1.0
CBYP	**Canovanas**	**2.57**	**97**⇑	*e*P	Pn	09 41 58.7	+0.2
CBYP				*e*S	Sn	09 42 33.6	+0.5
HUMP	**Col San Antoni**	**2.59**	**99**⇑	*e*P	Pn	09 41 59.8	+0.9
HUMP				*e*S	Sn	09 42 34.9	+1.2
MTP	**Monte Pirata**	**2.88**	**99**⇑	*e*P	Pn	09 42 03.6	+1.4
MTP				*e*S	Sn	09 42 41.6	+1.9
STVI	**Saint Thomas**	**3.41**	**93**⇑	*e*P	Pn	09 42 09.9	+1.3
STVI				*e*S	Sn	09 42 52.2	+1.2

---

*MOS **09** 09:42:14.6±0.9, 6.03S×154.35E, h33km, mb4.9/17, Error ellipse: s-maj=10.3km s-min=8.7km az=74.7*
*ISCJB **09** 09:42:17.1±0.2, 6.12S±0.04×154.38E±0.04, h55km, mb4.9/61, MS4.2/26, Error ellipse: s-maj=5.3km s-min=5.0km az=65.1*
*NEIC **09** 09:42:17.7±0.2, 6.12S×154.37E, mb4.7/22, Error ellipse: s-maj=5.7km s-min=4.8km az=119.0*
*BJI **09** 09:42:17.8, 5.61S×154.62E, h50km, mB5.0, mb5.1, Ms4.7, Msz4.3*
*IDC **09** 09:42:19.2±2.0, 6.11S×154.36E, h62km±18km, mb4.4/20, mb1 4.5/23, mb1mx4.5/25, mbtmp4.7/23, MS4.1/14, Ms1 4.1/14, ms1mx3.9/26, Error ellipse: s-maj=13.0km s-min=11.0km az=42.0*
ISC 09 09:42:18.9±0.2**, 6.16S**±0.04×**154.45E**±0.04**, h57**km**, h57**km±1.9km**: pP-P, n156,** σ1.04/140**, mb4.9**/61**, MS4.2**/26**, 10C-1D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.35**	**121**	P	**Pn**	**09 43 51.1**	**+1.3**
	19nm,0.3s,baz=256,slow=1.8,SNR=31						
HNR				S	**Sn**	**09 45 05.5**	**+4.5**
	8.3nm,0.3s,baz=274,slow=19,SNR=3.7						
HNR	**Honiara**	**6.35**	**121**	*e*P	**Pn**	**09 43 50.6**	**+0.7**
HNR				pmax	pmax		
	comp=Z,436nm,0.9s						
HNR	**Honiara**	**6.35**	**121**	*e*Pn	**Pn**	**09 43 50.5**	**+0.7**
	comp=Z,436nm,0.9s						
PMG	**Port Moresby**	**7.91**	**245**	P	**Pn**	**09 44 11.1**	**-0.1**
	comp=Z,42nm,0.3s,baz=52,slow=11,SNR=156						
PMG				S	**Sn**	**09 45 40.4**	**+1.1**
	comp=Z,14nm,0.3s,baz=0.0,slow=20,SNR=12						
PMG	**Port Moresby**	**7.91**	**245**	*e*P	**Pn**	**09 44 10.9**	**-0.3**
PMG				*e*		09 45 40.8	
PMG				pmax	pmax		
	comp=Z,766nm,0.8s						
PMG	**Port Moresby**	**7.91**	**245**	*e*Pn	**Pn**	**09 44 10.9**	**-0.4**
	comp=Z,766nm,0.8s						
PMG				*e*Sn	**Sn**	**09 45 40.8**	**+1.6**
CTA	**Charters Tower**	**15.97**	**209**	*e*P	**Pn**	**09 45 58.7**	**-1.2**
	comp=Z,30nm,0.8s						
CTA	**Charters Tower**	**15.97**	**209**	P	**Pn**	**09 45 58.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=37,slow=12,SNR=8.8						
CTA	**Charters Tower**	**15.97**	**209**	*e*P	**Pn**	**09 45 58.7**	**-1.2**
CTA				pmax	pmax		
	comp=Z,30nm,0.8s						
CTAO	**Charters Tower**	**15.97**	**209**	*e*P	**Pn**	**09 46 03.4**	**+3.5**
CTAO				pmax	pmax		
	comp=Z,40nm,0.8s						
CTAO	**Charters Tower**	**15.97**	**209**	*e*P	**Pn**	**09 46 03.4**	**+3.6**
	comp=Z,40nm,0.8s						
DZM	**Mont Dzumac**	**19.62**	**145**	P	**Pn**	**09 46 43.0**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=340,slow=8.9,SNR=13						
GUMO	**Guam**	**21.80**	**334**	P	**P**	**09 47 06.1**	**0.0**
	comp=Z,41nm,0.9s,mb4.9,baz=132,slow=16,SNR=2.3						
GUMO				LR	LR	09 54 42.7	
	comp=Z,113nm,18.4s,MS3.3,baz=146,slow=34						
KAKA	**Kakadu**	**22.65**	**252**	*e*P	**P**	**09 47 14.0**	**-1.2**
	comp=Z,43nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**23.85**	**233**	*e*P	**P**	**09 47 26.2**	**-0.6**
WRAB				*e*		09 51 08.3	
WRAB				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**23.85**	**233**	*e*P	**P**	**09 47 26.2**	**-0.6**
	comp=Z,12nm,0.6s,mb4.5						
WRAB				*e*PcP	PcP	09 51 08.3	-0.3
WB2	**Warramunga Arr**	**23.85**	**233**⇑	*i*P	**P**	**09 47 26.6**	**-0.3**
WB2				*e*PCP	PcP	09 51 08.0	-0.5
WRA	**Warramunga Arr**	**23.86**	**233**	P	**P**	**09 47 26.3**	**-0.6**
	comp=Z,5.0nm,0.6s,mb4.1,baz=57,slow=9.1,SNR=48						
WRA				PcP	PcP	09 51 09.2	+0.6
	comp=Z,14nm,0.9s,baz=60,slow=2.3,SNR=14						
ARMA	**Armidale**	**24.28**	**186**	*e*P	**P**	**09 47 31.3**	**+0.5**
AS31	**Alice Springs**	**26.33**	**226**	*e*P	**P**	**09 47 49.2**	**-0.2**
AS31				*i* PcP	PcP	09 51 15.2	+1.1
ASAR	**Alice Springs**	**26.33**	**226**	P	**P**	**09 47 49.1**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.2,baz=59,slow=8.7,SNR=85						
ASAR				PcP	PcP	09 51 14.9	+0.9
	comp=Z,10nm,0.8s,baz=60,slow=2.3,SNR=17						
ASPA	**Alice Springs**	**26.34**	**226**	*e*P	**P**	**09 47 49.2**	**-0.2**
ASPA				*i* PCP	PcP	09 51 15.2	+1.1
STKA	**Stephens Creek**	**28.27**	**204**	*e*P	**P**	**09 48 04.9**	**-1.8**
	comp=Z,7.1nm,0.8s,mb4.3						
STKA				*i* PCP	PcP	09 51 18.9	+0.2
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**09 48 05.7**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.0,baz=32,slow=13,SNR=8.1						
STKA				PcP	PcP	09 51 19.1	+0.3
	comp=Z,9.8nm,0.8s,baz=23,slow=3.7,SNR=6.8						
STKA				LR	LR	09 59 10.1	
	comp=Z,573nm,22.0s,MS4.1,baz=155,slow=36						
FITZ	**Fitzroy Crossi**	**30.50**	**245**	*e*P	**P**	**09 48 26.0**	**-0.5**
	comp=Z,30nm,0.7s,mb5.2						
FITZ				*e*PCP	PcP	09 51 25.0	+0.6
FITZ	**Fitzroy Crossi**	**30.50**	**245**	P	**P**	**09 48 26.2**	**-0.3**
	comp=Z,4.8nm,0.8s,mb4.4,baz=78,slow=9.0,SNR=12						
FITZ				PcP	PcP	09 51 25.2	+0.8
	comp=Z,12nm,0.9s,baz=129,slow=6.7,SNR=4.7						
FITZ				LR	LR	10 01 06.1	
	comp=Z,515nm,19.1s,MS4.2,baz=125,slow=37						
AFI	**Afiamalu**	**34.11**	**106**	LR	LR	10 00 52.9	
	comp=Z,307nm,18.6s,MS4.1,baz=245,slow=33						
RAO	**Raoul Island**	**34.76**	**135**	LR	LR	10 00 50.7	
	comp=Z,272nm,21.5s,MS4.0,baz=355,slow=32						
URZ	**Urewera**	**38.00**	**150**	P	**P**	**09 49 33.3**	**+2.0**
	comp=Z,13nm,0.7s,mb4.8,baz=310,slow=3.5,SNR=5.7						
RPZ	**Rata Peaks**	**40.16**	**161**	P	**P**	**09 49 48.8**	**-0.5**
	comp=Z,18nm,0.9s,mb4.8,baz=252,slow=9.6,SNR=4.2						
RPZ				LR	LR	10 02 59.3	
	comp=Z,404nm,21.3s,MS4.2,baz=168,slow=31						
JOW	**Kunigami**	**41.45**	**323**	P	**P**	**09 50 00.1**	**+0.1**
	comp=Z,34nm,0.6s,mb5.1,baz=158,slow=9.5,SNR=25						
NACB	**Ninganchiao**	**43.98**	**314**	*e*P	**P**	**09 50 20.5**	**0.0**
YHNB	**Yeheng**	**44.45**	**315**	*e*P	**P**	**09 50 23.5**	**-0.7**
KSM	**Kuching**	**44.71**	**278**	*e*P	**P**	**09 50 26.0**	**-0.3**
MJAR	**Matsushiro Arr**	**45.12**	**341**	P	**P**	**09 50 27.5**	**-2.0**
	comp=Z,1.6nm,0.6s,mb4.0,baz=163,slow=7.9,SNR=13						
MJAR				PcP	PcP	09 52 08.4	-0.8
	comp=Z,2.4nm,0.9s,baz=167,slow=3.5,SNR=5.1						
MAJO	**Matsushiro**	**45.12**	**341**	*e*P	**P**	**09 50 27.9**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MAJO	**Matsushiro**	**45.12**	**341**	*e*P	**P**	**09 50 27.9**	**-1.7**
	comp=Z,3.2nm,0.6s,mb4.3						
MAT	**Matsushiro**	**45.12**	**341**	P	**P**	**09 50 27.0**	**-2.5**
QZH	**Quanzhou**	**46.61**	**313**⇑	*i*P	**P**	**09 50 42.7**	**+1.4**
QZH				AMB	AMB		
	comp=Z,290nm,1.0s						
RAR	**Rarotonga**	**46.74**	**113**	LR	LR	10 06 51.8	
	comp=Z,204nm,19.6s,MS4.1,baz=306,slow=31						
SSE	**Sheshan**	**48.81**	**321**	*e*P	**P**	**09 50 58.9**	**+0.5**
SSE				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,79nm,3.5s						
SSE				LR	LR		
	comp=N,46nm,23.0s,MS3.6						
SSE				LR	LR		
	comp=E,67nm,23.0s,MS3.6						
SSE				LR	LR		
	comp=Z,106nm,25.5s,MS3.7						
QIZ	**Qiongzhong**	**50.56**	**301**	P	**P**	**09 51 13.4**	**+1.7**
QIZ				AP	pP	09 51 25.4	-1.4
QIZ				XS	sS	09 58 43.9	-3.3
QIZ				AMB	AMB		
	comp=Z,19nm,2.0s,mb4.7						
QIZ				LR	LR		
	comp=E,160nm,23.2s						
QIZ				LR	LR		
	comp=Z,259nm,22.2s,MS4.2						
INCN	**Inchon**	**50.58**	**331**	*e*P	**P**	**09 51 11.4**	**-0.4**
	comp=Z,70nm,1.0s,mb5.5						
NJ2	**Nanjing**	**50.92**	**320**	*e*P	**P**	**09 51 14.5**	**+0.1**
NJ2				AP	pP	09 51 30.2	+0.7
NJ2				XP	sP	09 51 37.1	+1.1
NJ2				PP	PP	09 53 12.2	+1.1
NJ2				S	**S**	**09 58 25.0**	**-1.8**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,140nm,6.3s						
NJ2				LR	LR		
	comp=N,380nm,22.4s,MS4.5						
NJ2				LR	LR		
	comp=E,390nm,23.3s,MS4.5						
NJ2				LR	LR		
	comp=Z,350nm,22.4s,MS4.3						
YSS	**Yuzh-Sakhalins**	**53.88**	**350**⇑	*i*P	**P**	**09 51 34.9**	**-1.4**
YSS				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.8						
MDJ	**Mudanjiang**	**55.26**	**339**	P	**P**	**09 51 45.6**	**-0.7**
MDJ				AP	pP	09 51 59.4	-2.2
MDJ				XP	sP	09 52 05.2	-2.9
MDJ				PCP	PcP	09 52 45.9	-0.6
MDJ				PP	PP	09 53 49.3	-1.0
MDJ				SCP	ScP	09 56 40.1	-0.2
MDJ				PCS	PcS	09 56 46.0	-0.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,41nm,3.2s						
MDJ				LR	LR		
	comp=N,66nm,40.2s,MS3.6						
MDJ				LR	LR		
	comp=E,79nm,42.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,61nm,29.3s						
PPT	**Papeete**	**55.76**	**107**	*e*S	**S**	**09 59 42.1**	**+10**
	comp=Z,82nm,25.2s						
PPT				*e*LR	LR	10 08 20.7	
	comp=Z,122nm,24.2s						
PPT	**Papeete**	**55.76**	**107**	LR	LR	10 14 06.5	
	comp=Z,94nm,18.2s,MS3.9,baz=261,slow=34						
PSI	**Prapat**	**56.15**	**278**	P	**P**	**09 51 52.4**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.4,baz=167,slow=22,SNR=3.5						
CN2	**Changchun**	**56.20**	**335**	*e*P	**P**	**09 51 52.3**	**-0.7**
CN2				*e*AP	pP	09 52 08.2	-0.1
CN2				*e*XP	sP	09 52 15.1	+0.3
CN2				*e*S	**S**	**09 59 36.7**	**-1.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,100nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,17.0s,MS4.3						
GYA	**Guiyang**	**56.51**	**307**⇑	*i*P	**P**	**09 51 56.8**	**+1.6**
GYA				AP	pP	09 52 12.7	+2.2
GYA				XP	sP	09 52 19.8	+2.8
GYA				PP	PP	09 54 04.8	+3.4
GYA				S	**S**	**09 59 42.4**	**0.0**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,260nm,4.9s						
GYA				LR	LR		
	comp=N,280nm,18.9s,MS4.5						
GYA				LR	LR		
	comp=E,240nm,19.0s,MS4.5						
GYA				LR	LR		
	comp=Z,190nm,19.4s,MS4.2						
TBI	**Tubuai**	**56.51**	**114**	*e*S	**S**	**09 59 52.0**	**+10**
	comp=Z,125nm,34.5s						
TBI				*e*LR	LR	10 08 41.3	
	comp=Z,353nm,26.2s						
BJI	**Beijing**	**57.92**	**326**	*e*P	**P**	**09 52 05.7**	**+0.5**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
XAN	**Xi'an**	**58.73**	**316**	P	**P**	**09 52 10.8**	**0.0**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
XAN				LR	LR		
	comp=N,73nm,18.9s,MS4.0						
XAN				LR	LR		
	comp=E,92nm,22.8s,MS4.0						
XAN				LR	LR		
	comp=Z,179nm,20.4s,MS4.2						
KMI	**Kunming**	**59.10**	**304**	P	**P**	**09 52 14.6**	**+1.3**
KMI				AP	pP	09 52 31.4	+2.6
KMI				XP	sP	09 52 38.0	+2.8
KMI				PP	PP	09 54 27.6	+3.3
KMI				PPP		09 55 51.7	
KMI				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
KMI				AMB	AMB		
	comp=Z,152nm,4.6s						
KMI				LR	LR		
	comp=N,109nm,17.0s,MS4.2						
KMI				LR	LR		
	comp=E,124nm,21.3s,MS4.2						
KMI				LR	LR		
	comp=Z,177nm,26.2s,MS4.1						
CD2	**Chengdu**	**60.86**	**310**	*e*P	**P**	**09 52 24.9**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
HHC	**Hu-ho-hao-te**	**61.10**	**324**	*e*P	**P**	**09 52 28.9**	**+1.9**
HHC				AP	pP	09 52 45.2	+2.7
HHC				PCP	PcP	09 53 10.7	+1.1
HHC				SCP	ScP	09 57 05.5	-0.6
HHC				PCS	PcS	09 57 12.3	0.0
HHC				S	**S**	**10 00 42.4**	**+0.6**
HHC				SCS	ScS	10 02 11.2	-2.0
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,58nm,4.0s						
HHC				LR	LR		
	comp=N,116nm,6.1s						
HHC				LR	LR		
	comp=E,100nm,4.5s						
HHC				LR	LR		
	comp=Z,158nm,16.7s,MS4.2						
HIA	**Hailar**	**62.94**	**335***c*	*i*P	**P**	**09 52 39.0**	**-0.4**
HIA	**Hailar**	**62.94**	**335**	*e*P	**P**	**09 52 38.8**	**-0.5**
	comp=Z,27nm,0.9s,mb5.4						
LZH	**Lanzhou**	**63.34**	**316**	*e*P	**P**	**09 52 44.2**	**+2.2**
LZH				AP	pP	09 53 00.5	+2.9
LZH				PP	PP	09 55 05.8	+4.0
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,52nm,6.7s						
LZH				LR	LR		
	comp=E,378nm,15.2s						
LZH				LR	LR		
	comp=Z,445nm,18.5s,MS4.7						
CASY	**Casey**	**67.22**	**198**	*e*P	**P**	**09 53 06.0**	**-1.1**
CLNS	**Chul'man**	**67.27**	**343**	*e*P	**P**	**09 53 07.3**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
CLNS				pmax	pmax		
	comp=N,8.0nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.9s						
GTA	**Gaotai**	**67.76**	**317**	P	**P**	**09 53 11.5**	**+1.0**
GTA				AP	pP	09 53 25.8	-0.4
GTA				XP	sP	09 53 33.6	+1.0
GTA				PCP	PcP	09 53 37.2	+0.3
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,107nm,6.1s						
GTA				LR	LR		
	comp=N,98nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=E,86nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=Z,116nm,19.4s,MS4.1						
ULN	**Ulaanbaatar**	**68.01**	**328***c*	*i*P	**P**	**09 53 12.3**	**+0.2**
ULN	**Ulaanbaatar**	**68.01**	**328**	*e*P	**P**	**09 53 12.3**	**+0.3**
	comp=Z,11nm,1.1s,mb4.8						
SONM	**Songino Array**	**68.34**	**327**	P	**P**	**09 53 14.4**	**+0.2**
	comp=Z,6.2nm,1.0s,mb4.6,baz=130,slow=6.0,SNR=25						
RKT	**Rikitea**	**69.76**	**112**	*e*LR	LR	10 14 49.9	
	comp=Z,248nm,28.2s						
LSA	**Lhasa**	**70.35**	**304**	*e*P	**P**	**09 53 28.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.4						
LSA	**Lhasa**	**70.35**	**304**	*e*P	**P**	**09 53 28.3**	**+1.7**
	comp=Z,36nm,0.7s,mb5.4						
YAK	**Yakutsk**	**70.63**	**348**⇑	*e*P	**P**	**09 53 28.1**	**-0.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
VNDA	**Vanda**	**71.43**	**178**	P	**P**	**09 53 33.0**	**-0.1**
	comp=Z,5.1nm,1.0s,mb4.4,baz=346,slow=4.7,SNR=13						
VNDA				LR	LR	10 18 30.9	
	comp=Z,78nm,21.6s,MS3.9,baz=24,slow=30						
VNDA	**Vanda**	**71.43**	**178**	*e*P	**P**	**09 53 32.3**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**71.43**	**178**	*e*P	**P**	**09 53 32.2**	**-0.9**
	comp=Z,6.7nm,1.1s,mb4.5						
ZAK	**Zakamensk**	**71.50**	**328**	*e*P	**P**	**09 53 32.6**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BOD	**Bodaibo**	**71.64**	**339**	*e*P	**P**	**09 53 32.7**	**-1.7**
BOK	**Bokaro**	**73.13**	**297**	*e*P	**P**	**09 53 43.6**	**+0.4**
MIR	**Mirnyy**	**73.27**	**202***d*	*i*P	**P**	**09 53 45.5**	**+1.4**
MIR				pmax	pmax		
	comp=Z,200nm,1.2s,mb5.9						
JIRN	**Jiri**	**73.89**	**301**	*e*P	**P**	**09 53 49.0**	**+1.3**
	comp=Z,102nm,0.8s,mb5.8						
VIS	**Vishakhapatnam**	**74.07**	**290**	*e*P	**P**	**09 53 49.8**	**+1.0**
VIS				AMb	AMB	09 53 51.3	
	comp=Z,26nm,1.2s,mb5.0						
GUN	**Gumba**	**74.22**	**301**	*e*P	**P**	**09 53 51.0**	**+1.3**
	comp=Z,212nm,0.8s						
PKI	**Pulchoki**	**74.53**	**301**	*e*P	**P**	**09 53 52.4**	**+0.9**
	comp=Z,142nm,1.0s,mb5.8						
KKN	**Kakani**	**74.70**	**301**	*e*P	**P**	**09 53 53.4**	**+1.0**
	comp=Z,120nm,0.8s,mb5.9						
DMN	**Daman**	**74.80**	**301**	*e*P	**P**	**09 53 54.3**	**+1.3**
	comp=Z,278nm,0.9s						
GKN	**Gorkha**	**75.30**	**301**	*e*P	**P**	**09 53 56.7**	**+0.8**
	comp=Z,212nm,0.9s						
KOLN	**Koldanda**	**76.13**	**300**	*e*P	**P**	**09 54 01.3**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,171nm,0.8s						
KDAK	Kodiak Island	76.66	26	LR	LR	10 21 10.1	
	comp=Z,210nm,21.1s,MS4.4,baz=261,slow=30						
SVW2	Sparrevohn	77.43	22	eP	P	09 54 08.2	+0.2
WMQ	Urumqi	77.84	317	eP	P	09 54 12.0	+1.7
WMQ				PCP	PcP	09 54 22.0	+2.0
WMQ				AP	pP	09 54 28.0	+1.7
WMQ				XP	sP	09 54 34.0	+1.4
WMQ				PP	PP	09 57 10.0	+3.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,109nm,4.6s						
WMQ				LR	LR		
	comp=N,192nm,26.0s,MS4.5						
WMQ				LR	LR		
	comp=E,225nm,28.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,177nm,22.0s						
TTA	Tatalina	78.44	21	eP	P	09 54 13.0	-0.6
HYB	Hyderabad	78.48	289	i P	P	09 54 14.0	+0.2
NGP	Nagpur	78.71	293	eP	P	09 54 13.2	-1.8
NGP				AMb	AMB	09 54 14.7	
	comp=Z,37nm,1.4s,mb5.1						
LGTI	Lohaghat	79.39	301	i P	P	09 54 19.7	+0.9
TIXI	Tiksi	79.45	352	eP	P	09 54 19.2	+0.1
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BHPL	Bhopal	80.58	295	eP	P	09 54 25.1	-0.2
IMA2	Indian Mountai	81.19	19	eP	P	09 54 27.9	-0.5
MNGI	Mangalore	81.32	284	ex	x	09 54 22.6	
MCK	McKinley	81.49	22	eP	P	09 54 28.2	-1.8
MCK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MCK	McKinley	81.49	22	eP	P	09 54 28.2	-1.8
	comp=Z,8.4nm,0.9s,mb4.7						
SMLA	Simla	82.36	302	eP	P	09 54 34.6	0.0
MKAR	Makanchi Array	82.42	319	P	P	09 54 34.4	-0.6
	comp=Z,3.8nm,0.8s,mb4.4,baz=105,slow=5.2,SNR=22						
COLA	College	82.50	21⇑	iP	P	09 54 33.3	-2.0
COLA	College	82.50	21	eP	P	09 54 33.2	-2.1
	comp=Z,7.0nm,0.8s,mb4.7						
KAD	Karad	82.58	288	eP	P	09 54 35.8	0.0
ZAL	Zalesovo	83.19	326	P	P	09 54 37.5	-1.4
	comp=Z,2.0nm,0.3s,mb4.7,baz=23,slow=6.3,SNR=7.8						
ZAL				LR	LR	10 32 46.4	
	comp=Z,72nm,18.8s,MS4.1,baz=176,slow=36						
ZAL	Zalesovo	83.19	326	i P	P	09 54 38.0	-0.9
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AJM	Ajmer	83.65	297	eP	P	09 54 40.4	-0.9
QSPA	South Pole Qui	83.81	180	eP	P	09 54 41.4	-0.7
	comp=Z,16nm,0.7s,mb5.2						
MAW	Mawson	84.96	203	eP	P	09 54 47.0	-0.9
	comp=Z,7.0nm,0.9s,mb4.8						
MAW	Mawson	84.96	203	P	P	09 54 47.4	-0.5
	comp=Z,7.5nm,0.8s,mb4.9,baz=86,slow=5.8,SNR=19						
MAW				LR	LR	10 27 30.6	
	comp=Z,108nm,21.8s,MS4.2,baz=320,slow=32						
MAW	Mawson	84.96	203	eP	P	09 54 47.0	-0.9
MAW				pmax	pmax		
	comp=Z,7.0nm,0.9s						
EGAK	Eagle	84.96	23	eP	P	09 54 47.2	-0.7
EGAK				epP	pP	09 55 03.0	-1.2
AAK	Ala-Archa	86.78	313⇑	eP	P	09 54 57.1	+0.2
AAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.6						
YBH	Yreka Blue Hor	88.74	48	P	P	09 55 06.6	+0.4
	comp=Z,2.8nm,0.9s,mb4.6,baz=125,slow=3.0,SNR=7.1						
YBH	Yreka Blue Hor	88.74	48	eP	P	09 55 06.6	+0.3
YBH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YBH	Yreka Blue Hor	88.74	48	eP	P	09 55 06.6	+0.4
	comp=Z,4.1nm,1.1s,mb4.7						
CMB	Columbia Colle	89.96	52	eP	P	09 55 13.4	+1.4
WAKR	Walker	90.76	52	eP	P	09 55 17.0	+1.3
CHKZ	Chkalovo	91.26	324	eP	P	09 55 15.3	-2.7
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
CHKZ	Chkalovo	91.26	324	eP	P	09 55 15.2	-2.8
	comp=Z,3.8nm,0.9s,mb4.7						
BVAR	Borovoye Array	91.30	323	P	P	09 55 16.1	-2.2
	comp=Z,1.9nm,0.6s,mb4.6,baz=90,slow=5.9,SNR=7.8						
NVAR	Mina Array Bea	91.63	52	P	P	09 55 20.9	+1.1
	comp=Z,7.6nm,0.9s,mb5.0,baz=253,slow=6.7,SNR=50						
HAWA	Hanford	91.67	44	eP	P	09 55 20.0	+0.1
WVOR	Wild Horse Val	91.84	48	eP	P	09 55 20.7	0.0
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
WVOR	Wild Horse Val	91.84	48	eP	P	09 55 20.7	0.0
	comp=Z,3.2nm,1.0s,mb4.6						
DAC	Darwin (Calif)	91.96	54	eP	P	09 55 22.0	+0.7
BAR	Barrett	92.34	58	eP	P	09 55 24.4	+1.4
GSC	Goldstone	92.50	55	eP	P	09 55 24.3	+0.6
PFO	Pinyon Flat Ob	92.62	57	eP	P	09 55 25.8	+1.5
SYO	Syowa Base	92.94	199⇑	eP	P	09 55 24.4	-1.4
BMO	Blue Mountains	93.05	45	eP	P	09 55 25.9	-0.4
BMO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
BMO	Blue Mountains	93.05	45	eP	P	09 55 25.9	-0.4
	comp=Z,2.7nm,0.9s,mb4.7						
NEW	Newport	93.50	42	P	P	09 55 27.7	-0.7
	comp=Z,3.0nm,1.0s,mb4.7,baz=244,slow=4.7,SNR=6.2						
NEW				LR	LR	10 33 15.6	
	comp=Z,516nm,19.9s,MS5.0,baz=233,slow=33						
GLA	Glamis	93.92	57	eP	P	09 55 30.9	+0.6
SHPR	Sheep Range	93.94	54	eP	P	09 55 31.0	+0.6
ARUT	Antelope Range	95.40	53	eP	P	09 55 38.6	+1.5
ARUT				e*PP	pP	09 55 52.2	-1.2
HVU	Hansel Valley	96.13	49	eP	P	09 55 40.5	+0.1
HVU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.7						
HVU	Hansel Valley	96.13	49	eP	P	09 55 40.5	+0.1
	comp=Z,2.2nm,0.6s,mb4.8						
BOZ	Bozeman (W)	97.10	45	eP	P	09 55 44.4	-0.4
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
BOZ	Bozeman (W)	97.10	45	eP	P	09 55 44.4	-0.4
	comp=Z,1.1nm,0.7s,mb4.4						
PDAR	Pinedale Array	98.54	48	P	P	09 55 50.6	-0.7
	comp=Z,1.3nm,0.9s,mb4.5,baz=287,slow=2.0,SNR=8.5						
PDAR				LR	LR	10 33 06.8	
	comp=Z,186nm,20.2s,MS4.6,baz=276,slow=31						
WVT	Waverly	115.91	53	ePKPdf	PKPdf	10 00 48.6	-6.6
BRTR	Keskin Array B	117.42	312	PP	PP	10 02 10.4	+0.3
	comp=Z,0.9nm,0.8s,baz=93,slow=6.7,SNR=4.9						
BOSA	Boshof	120.11	232	PKP	PKPdf	10 01 04.0	+0.8
	comp=Z,5.1nm,0.7s,baz=140,slow=2.8,SNR=15						
CFAA	Coronel Fontan	124.62	135	PKP	PKPdf	10 01 11.5	-0.4
	comp=Z,0.3nm,0.7s,baz=233,slow=4.4,SNR=6.0						
BRG	Berggiesshubel	124.65	331	eP	PKPdf	10 01 07.1	-4.8
	comp=Z,2.4nm,0.3s						
BRG				i		10 01 15.2	
	comp=Z,4.3nm,0.6s						
GERES	GERESS Array B	126.06	329	PKP	PKPdf	10 01 13.7	-1.0
	comp=Z,0.4nm,0.6s,baz=49,slow=2.6,SNR=4.6						
LPAZ	La Paz	132.34	118	PKP	PKPdf	10 01 28.4	+1.8
	comp=Z,3.1nm,1.1s,baz=250,slow=5.3,SNR=6.5						
SDV	Santo Domingo	135.25	84	PKP	PKPdf	10 01 32.5	+0.5
	comp=Z,4.3nm,0.8s,baz=68,slow=0.1,SNR=4.9						
SDV	Santo Domingo	135.25	84	ePKPdf	PKPdf	10 01 32.4	+0.4
CPUP	Villa Florida	135.37	138	PKP	PKPdf	10 01 32.6	+0.4
	comp=Z,0.8nm,0.6s,baz=333,slow=4.4,SNR=3.5						
SIV	San Ignacio	138.52	122	PKP	PKPdf	10 01 38.8	+0.7
	comp=Z,1.1nm,0.7s,baz=135,slow=2.9,SNR=4.8						
CPD	Cerro la Pandu	138.91	70	ePKIKP	PKPdf	10 01 38.8	0.0
BDFB	Brasilia	148.96	134	PKPbc	PKPbc	10 02 00.6	+0.2
	comp=Z,6.2nm,0.8s,baz=32,slow=1.8,SNR=5.8						
TOA0	Torodi Ar. Sit	152.27	287	ePKPdf	PKPdf	10 02 02.4	+0.9
TOA0				ePKPbc	PKPbc	10 02 08.9	+0.7
TOA0				ePKPab	PKPab	10 02 18.6	+0.4
TORD	Torodi Ar. Bea	152.27	287	PKP	PKPdf	10 02 01.1	-0.4
	comp=Z,1.0nm,0.9s,baz=44,slow=2.9,SNR=5.0						
TORD				PKPbc	PKPbc	10 02 08.8	+0.7
	comp=Z,9.5nm,0.7s,baz=65,slow=2.3,SNR=45						
TORD				PKPab	PKPab	10 02 18.0	-0.2
	comp=Z,15nm,0.8s,baz=72,slow=3.4,SNR=25						
DBIC	Dimbokro	159.42	273	PKPab	PKPab	10 02 49.3	+0.4
	comp=Z,10nm,0.9s,baz=94,slow=3.8,SNR=6.4						

*ISCJB **09** 09:47:43.6±1.7, 6.19S±0.07×154.46E±0.06, h67km±15km, mb4.6/31, Error ellipse: s-maj=12.4km s-min=9.4km az=33.4*
*IDC **09** 09:47:45.0±2.6, 6.17S×154.44E, h65km±23km, mb4.1/14, mb1 4.2/16, mb1mx4.2/19, mbtmp4.4/16, Error ellipse: s-maj=16.7km s-min=14.0km az=50.0*
*NEIC **09** 09:47:46.0±1.0, 6.18S×154.47E, h76km±9km, mb4.4/8, Error ellipse: s-maj=9.1km s-min=7.5km az=215.0*
*BJI **09** 09:47:45.9, 6.20S×154.50E, h75km, mB4.9, mb4.9, Ms3.9, Msz3.8*
ISC 09 09:47:46.3±1.4**, 6.26S**±0.07×**154.50E**±0.06**, h74**km±12km**, n55,** σ0.s78/51**, mb4.6**/31**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.25	121	P	Pn	09 49 16.6	+0.7
	15nm,0.3s,baz=264,slow=5.3,SNR=5.9						
HNR				S	Sn	09 50 35.6	+10
	20nm,0.3s,baz=179,slow=0.8,SNR=11						
HNR	Honiara	6.25	121	ePn	Pn	09 49 16.4	+0.5
PMG	Port Moresby	7.92	246	P	Pn	09 49 37.9	-0.6
	22nm,0.3s,baz=50,slow=8.7,SNR=69						
PMG				S	Sn	09 51 06.9	+0.3
	5.0nm,0.3s,baz=343,slow=21,SNR=8.4						
PMG	Port Moresby	7.92	246	ePn	Pn	09 49 38.7	+0.1
PMG				eSn	Sn	09 51 06.2	-0.3
CTA	Charters Tower	15.91	209	P	Pn	09 51 28.1	+2.5
	baz=42,slow=14,SNR=3.4						
CTAO	Charters Tower	15.91	209	ePn	Pn	09 51 25.3	-0.3
	21nm,2.3s						
DZM	Mont Dzumac	19.50	145	P	Pn	09 52 08.2	-1.1
	1.0nm,0.3s,baz=347,slow=10.0,SNR=7.3						
WRAB	Tennant Creek	23.83	233	eP	P	09 52 52.4	0.0
	44nm,1.2s,mb4.7						
WB2	Warramunga Arr	23.84	233	eP	P	09 52 52.4	-0.1
WRA	Warramunga Arr	23.84	233	P	P	09 52 52.3	-0.2
	3.1nm,0.7s,mb3.8,baz=56,slow=9.3,SNR=6.6						
WRA				PcP	PcP	09 56 35.0	+1.3
	5.9nm,0.7s,baz=58,slow=2.3,SNR=18						
ASAR	Alice Springs	26.30	227	P	P	09 53 14.7	-0.2
	2.1nm,0.6s,mb3.7,baz=58,slow=9.2,SNR=9.4						
ASAR				PcP	PcP	09 56 40.5	+1.2
	4.9nm,0.7s,baz=61,slow=2.5,SNR=18						
STKA	Stephens Creek	28.20	204	P	P	09 53 31.5	-0.3
	2.6nm,0.8s,mb3.8,baz=356,slow=13,SNR=2.7						
STKA				PcP	PcP	09 56 44.4	+0.6
	4.1nm,0.7s,baz=27,slow=2.3,SNR=4.2						
STKA	Stephens Creek	28.20	204	eP	P	09 53 31.6	-0.2
FITZ	Fitzroy Crossi	30.51	245	P	P	09 53 51.3	-1.0
	3.4nm,0.8s,mb4.1,baz=84,slow=10,SNR=2.8						
FORT	Forrest	34.79	222	eP	P	09 54 39.8	+10
	22nm,0.6s,mb5.2						
URZ	Urewera	37.89	150	P	P	09 54 56.1	0.0
	12nm,0.8s,mb4.8,baz=352,slow=11,SNR=6.3						
RPZ	Rata Peaks	40.05	161	P	P	09 55 14.4	+0.4
	10.0nm,0.9s,mb4.7,baz=11,slow=5.2,SNR=2.8						
JOW	Kunigami	41.56	323	P	P	09 55 26.4	-0.1
	10nm,0.7s,mb4.7,baz=153,slow=10,SNR=9.6						
KSM	Kuching	44.78	278	eP	P	09 55 52.7	+0.2
MJAR	Matsushiro Arr	45.23	341	P	P	09 55 53.5	-2.5
	0.6nm,0.5s,mb3.6,baz=163,slow=7.4,SNR=4.3						
MJAR	Matsushiro Arr	45.23	341	P	P	09 55 53.5	-2.5
XAN	Xi'an	58.83	316	P	P	09 57 36.2	-0.8
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
KMI	Kunming	59.20	304	P	P	09 57 41.1	+1.6
KMI				AP	pP	09 57 57.6	-1.0
KMI				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.2						
ULN	Ulaanbaatar	68.12	328	eP	P	09 58 38.1	-0.1
	comp=Z,1.6nm,0.7s,mb4.0						
SONM	Songino Array	68.45	327	P	P	09 58 40.0	-0.3
	comp=Z,1.2nm,0.5s,mb4.0,baz=140,slow=4.9,SNR=5.9						
LSA	Lhasa	70.45	304	eP	P	09 58 53.4	+0.8
	comp=Z,11nm,0.6s,mb4.9						
VNDA	Vanda	71.33	178	P	P	09 58 58.4	+0.5
	comp=Z,2.2nm,1.0s,mb3.9,baz=308,slow=6.9,SNR=5.6						
VNDA	Vanda	71.33	178	eP	P	09 58 58.1	+0.2
	comp=Z,2.3nm,1.0s,mb4.0						
SBA	Scott Base	71.85	177	eP	P	09 59 00.7	-0.3
	comp=Z,3.7nm,0.9s,mb4.2						
BOK	Bokaro	73.22	297	eP	P	09 59 09.2	-0.1
JIRN	Jiri	73.98	301	eP	P	09 59 14.4	+0.7
	comp=Z,35nm,0.8s,mb5.1						
GUN	Gumba	74.32	301	eP	P	09 59 16.7	+1.1
	comp=Z,75nm,0.8s,mb5.5						
PKI	Pulchoki	74.62	301	eP	P	09 59 17.9	+0.5
	comp=Z,59nm,1.1s,mb5.2						
KKN	Kakani	74.79	301	eP	P	09 59 18.7	+0.3
	comp=Z,44nm,0.8s,mb5.2						
DMN	Daman	74.89	301	eP	P	09 59 19.7	+0.7
	comp=Z,110nm,0.9s,mb5.6						
GKN	Gorkha	75.40	301	eP	P	09 59 22.3	+0.4
	comp=Z,82nm,0.9s,mb5.5						
KOLN	Koldanda	76.22	300	eP	P	09 59 26.6	0.0
	comp=Z,73nm,0.8s,mb5.4						
WMQ	Urumqi	77.95	317	eP	P	09 59 41.0	+4.8
AKL	Akola	80.58	292	ex	x	09 59 41.7	
BHPL	Bhopal	80.67	295	eP	P	09 59 50.1	-0.9
SMLA	Simla	82.46	302	eP	P	10 00 01.9	+1.5
SMLA				AMb	AMB	10 00 02.8	
	comp=Z,12nm,0.6s,mb4.9						
MKAR	Makanchi Array	82.53	319	P	P	10 00 00.0	-0.8
	comp=Z,1.0nm,0.7s,mb3.8,baz=100,slow=5.7,SNR=5.9						
KAD	Karad	82.66	288	eP	P	09 59 59.8	-1.7
KAD				AMb	AMB	10 00 02.3	
	comp=Z,26nm,1.4s,mb4.9						
QSPA	South Pole Qui	83.72	180	eP	P	10 00 07.3	+0.4
	comp=Z,7.9nm,0.6s,mb4.7						
AJM	Ajmer	83.75	297	eP	P	10 00 06.9	-0.2
MAW	Mawson	84.89	203⇑	iP	P	10 00 12.3	-0.6
	comp=Z,2.6nm,0.7s,mb4.3						
MAW	Mawson	84.89	203	P	P	10 00 12.8	0.0
	comp=Z,3.4nm,0.7s,mb4.4,baz=85,slow=7.4,SNR=16						
NVAR	Mina Array Bea	91.65	52	P	P	10 00 45.9	+0.8
	comp=Z,3.3nm,0.8s,mb4.6,baz=253,slow=6.6,SNR=20						
PDAR	Pinedale Array	98.57	48	P	P	10 01 16.1	-0.7
	comp=Z,0.7nm,0.7s,mb4.3,baz=289,slow=2.2,SNR=5.1						
BOSA	Boshof	120.09	232	PKP	PKPdf	10 06 29.2	+0.8
	comp=Z,2.9nm,0.6s,baz=340,slow=0.9,SNR=8.3						
BOSA	Boshof	120.09	232	ePKPdf	PKPdf	10 06 29.4	+1.0
TSUM	Tsumeb	130.60	238	ePKPdf	PKPdf	10 06 49.7	+1.2
SDV	Santo Domingo	135.21	84	PKP	PKPdf	10 06 57.7	+0.5
	comp=Z,2.0nm,0.4s,baz=259,slow=4.5,SNR=3.9						
BDFB	Brasilia	148.85	135	PKPbc	PKPbc	10 07 26.2	+0.9
	comp=Z,3.3nm,0.6s,baz=147,slow=0.9,SNR=3.7						
TORD	Torodi Ar. Bea	152.35	286	PKPbc	PKPbc	10 07 33.4	-0.2
	comp=Z,4.7nm,0.7s,baz=44,slow=2.2,SNR=18						
TORD				PKPab	PKPab	10 07 44.4	+0.5
	comp=Z,5.8nm,0.8s,baz=72,slow=4.3,SNR=13						

*ISCJB **09** 09:51:36.3±1.0, 35.90N±0.03×46.09E±0.08, h3km±6km, Error ellipse: s-maj=11.6km s-min=4.0km az=154.7*
*THR **09** 09:51:36.9±0.5, 35.97N×46.12E, h14km±10km, ML3.1*
*CSEM **09** 09:51:37.9±0.1, 35.86N×46.02E, h30km, ML3.1, Error ellipse: s-maj=2.8km s-min=1.0km az=76.0*
*TEH **09** 09:51:38.5, 35.87N×46.03E, h14km, Mn3.6*
ISC 09 09:51:38.3±0.8**, 35.89N**±0.03×**46.16E**±0.07**, h12**km±5km**, n19,** σ1.s04/30**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIN	Laeen	1.17	146	ePg	Pg	09 51 59.9	-0.8
ILIN				eSg	Sg	09 52 15.9	+0.1
IDHR	Dehrash	1.20	171	ePg	Pg	09 52 00.2	-1.1
IDHR				eSg	Sg	09 52 17.0	+0.1
SNGE	Sanandaj	1.25	129	ePg	Pg	09 52 01.4	-0.9
SNGE				eSG	Sg	09 52 19.7	+1.2
SNGE				AML	AML	09 52 28.3	
	comp=N,878nm,0.4s						
SNGE	Sanandaj	1.25	129	ePg	Pg	09 52 01.4	-0.9
	SNR=90						
SNGE				eSg	Sg	09 52 19.7	+1.2
	SNR=90						
IVIS	Veys	1.47	157	ePn	Pn	09 52 04.6	0.0
IVIS				eSn	Sn	09 52 24.5	+0.7
IGHG	Ghaleghazi	1.59	168	ePn	Pn	09 52 06.3	+0.1
IGHG				eSn	Sn	09 52 27.0	+0.3
IAZR	Azarshahr	1.79	355	ePn	Pn	09 52 08.7	-0.4
IAZR				eSn	Sn	09 52 31.6	-0.2
IKOM	Komasi	2.03	147	ePn	Pn	09 52 15.2	+2.8
IKOM				eSn	Sn	09 52 38.6	+0.9
ISRB	Sarab	2.28	31	ePn	Pn	09 52 18.7	+2.9
ISRB				eSn	Sn	09 52 45.2	+1.4
ITBZ	Tabriz	2.34	360	ePn	Pn	09 52 16.6	0.0
ITBZ				eSn	Sn	09 52 45.0	-0.4
MSL	Mosul	2.52	280	ex	x	09 52 23.0	
MSL				ex	x	09 52 58.0	
IHRS	Heris	2.53	16	ePn	Pn	09 52 19.8	+0.6
IHRS				eSn	Sn	09 52 50.3	+0.4
IMRD	Marand	2.85	353	ePn	Pn	09 52 23.5	0.0
IMRD				eSn	Sn	09 52 56.7	-1.1
GRMI	Germi	3.23	25	ePN	Pn	09 52 28.4	-0.4
GRMI				AML	AML	09 53 24.7	
	comp=N,18nm,0.6s						
ASAO	Ashtian	3.43	112	ePn	Pn	09 52 33.4	+1.8
MAKU	Maku	3.66	342	ePN	Pn	09 52 34.1	-0.5
IPIR	Pirpir	5.05	128	eSn	Sn	09 53 50.2	-1.9
IKLH	Kalahroud	5.15	118	eSn	Sn	09 53 52.7	-1.8
ISFB	Sefidab	5.21	105	eSn	Sn	09 53 54.7	-1.3

NEIC 09 09:54:06.7±0.9**, 3730N**×**10477W, h5**km**, MN3.2, Error ellipse: s-maj=13.9km s-min=6.4km az=95.0, Colorado**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SDCO	Great Sand Dun	0.73	308	ePg	Pg	09 54 18.7	-2.1
SDCO				eSg	Sg	09 54 28.1	-2.2
SMCO	Snowmass	2.56	318	ePn	Pn	09 54 49.7	+0.9
SMCO				eSg	Sg	09 55 26.9	-2.0
ISCO	Idaho Springs	2.59	345	ePn	Pn	09 54 51.0	+1.8
ISCO				eSn	Sn	09 55 24.1	+3.2
ANMO	Albuquerque	2.71	211	ePn	Pn	09 54 51.4	+0.5
ANMO				eSn	Sn	09 55 25.3	+1.2
PV01	Paradox Valley	3.13	287	ePn	Pn	09 54 57.3	+0.7
PV01				eSg	Sg	09 55 45.3	-1.8
LPM	Los Pinos Moun	3.34	207	Pn	Pn	09 54 59.8	+0.3
LPM				eSg	Sg	09 55 49.3	-4.7
LAZ	Ladron	3.47	214	ePn	Pn	09 55 00.6	-0.7
LAZ				eSg	Sg	09 55 55.1	-3.0
PV10	Paradox Valley	3.55	289	ePn	Pn	09 55 03.5	+1.2
PV10				eSg	Sg	09 55 58.2	-2.4
LENM	Lemitar	3.60	211	ePn	Pn	09 55 02.7	-0.4
LENM				ePg	Pg	09 55 13.0	-2.7
LENM				eSg	Sg	09 56 02.7	+0.4
PHWY	Pilot Hill	4.04	353	ePn	Pn	09 55 09.7	+0.6
PHWY				eSg	Sg	09 56 10.2	-6.0
RWWY	Rawlins	4.78	337	Pn	Pn	09 55 18.3	-0.9
RWWY				ePg	Pg	09 55 35.2	-2.9
RWWY				eSn	Sn	09 56 14.2	-0.7
RWWY				eSg	Sg	09 56 35.8	-4.3
SRU	San Rafael	4.88	294	ePn	Pn	09 55 21.4	+0.7
SRU				ePg	Pg	09 55 34.9	-5.3
SRU				eSg	Sg	09 56 39.8	-3.6
TMUT	Trail Mountain	5.44	293	ePn	Pn	09 55 29.2	+0.8
TMUT				eSg	Sg	09 56 56.3	-5.2
WMOK	Wichita Mounta	5.48	116	Pn	Pn	09 55 26.2	-2.8
WMOK				ePg	Pg	09 55 42.3	-9.4
WMOK				eSg	Sg	09 56 57.1	-5.7
MNTX	Cornudas Mount	5.61	185	Pn	Pn	09 55 36.4	+5.7
MNTX				ePg	Pg	09 55 47.5	-6.6
MNTX				eSg	Sg	09 57 01.2	-5.5
WUAZ	Wupatki	5.61	254	ePn	Pn	09 55 31.9	+1.1
WUAZ				ePg	Pg	09 55 49.5	-4.7
WUAZ				eSg	Sg	09 56 59.4	-7.5
MSU	Marysvale	5.98	284	ePn	Pn	09 55 36.4	+0.6
MSU				ePg	Pg	09 55 55.4	-5.8
MSU				eSg	Sg	09 57 09.5	-9.3
MPU	Maple Canyon	6.02	299	ePn	Pn	09 55 36.0	-0.3
NLU	North Lily Min	6.30	297	ePn	Pn	09 55 40.3	0.0
NLU				eSg	Sg	09 57 19.8	-9.3
CTU	Camp Tracy	6.41	304	ePn	Pn	09 55 41.0	-0.7
CTU				ePg	Pg	09 56 04.2	-5.1
CTU				eSg	Sg	09 57 22.4	-10
TCUT	Toone Canyon	6.41	309	ePg	Pg	09 56 05.1	-4.4
TCUT				eSg	Sg	09 57 29.9	-2.6
KSU1	Kansas State U	6.67	72	ePg	Pg	09 56 09.2	-5.3
KSU1				eSg	Sg	09 57 27.5	-13
HWUT	Hardware Ranch	6.79	311	ePn	Pn	09 55 44.3	-2.7
HWUT				ePg	Pg	09 56 09.6	-7.2
HWUT				eSg	Sg	09 57 42.5	-2.3
RSSD	Black Hills	6.84	4	ePn	Pn	09 55 47.3	-0.3
RSSD				ePg	Pg	09 56 13.6	-4.1
RSSD				eSg	Sg	09 57 42.8	-3.5
CCUT	Cedar City	6.84	275	ePn	Pn	09 55 38.3	-9.4
CCUT				ePg	Pg	09 56 11.2	-6.5
CCUT				eSg	Sg	09 57 37.0	-9.4
ARUT	Antelope Range	6.91	277	ePg	Pg	09 56 13.9	-5.0
ARUT				Sg	Sg	09 57 42.9	-5.5
TUC	Tucson	7.01	227	ePg	Pg	09 56 22.6	+1.7
TUC				eSg	Sg	09 57 44.8	-7.1
REDW	Red Top Meadow	7.63	324	ePg	Pg	09 56 25.6	-7.2
REDW				eSg	Sg	09 58 06.0	-5.6
SNOW	Snow King Moun	7.67	325	ePn	Pn	09 55 54.6	-4.4
SNOW				ePg	Pg	09 56 28.3	-5.1
SNOW				eSg	Sg	09 58 06.1	-6.7
LOHW	Long Hollow	7.72	327	ePn	Pn	09 55 47.9	-12
LOHW				ePg	Pg	09 56 28.9	-5.5
LOHW				eSg	Sg	09 58 06.0	-8.4
TPAW	Teton Pass	7.78	325	ePn	Pn	09 55 59.1	-1.4
TPAW				ePg	Pg	09 56 27.5	-8.0
TPAW				eSg	Sg	09 58 10.1	-6.2
JCT	Junction City	7.95	147	ePg	Pg	09 56 33.8	-5.1
JCT				eSg	Sg	09 58 18.3	-3.7
IMW	Indian Meadow	8.09	326	Pn	Pn	09 56 06.0	+1.2
IMW				eSg	Sg	09 58 18.5	-7.9
FLWY	Flagg Ranch	8.14	328	ePg	Pg	09 56 36.9	-5.6
FLWY				eSg	Sg	09 58 26.0	-1.9
ECSD	EROS,Sioux Fal	8.94	41	Pn	Pn	09 56 17.2	+0.8
ECSD				eLg		09 58 46.3	
MIAR	Mount Ida	9.49	103	ePn	Pn	09 56 22.6	-1.3
MIAR				eLg		09 59 00.4	
NATX	Nacogdoches	10.00	121	Pn	Pn	09 56 37.7	+6.7
UALR	University of	10.37	100	Sn	Sn	09 58 24.2	-8.5
HKT	Hockley	10.44	132	P	Pn	09 57 10.0	+33
FVM	French Village	11.40	82	eLg		10 00 06.9	
GNAR	Gosnell	11.93	92	eLg		10 00 39.8	
USIN	University of	13.58	82	eLg		10 01 15.8	
BLO	Bloomington	14.47	77	eLg		10 01 43.8	
WCI	Wyandotte Cave	14.65	81	eLg		10 01 43.2	

*NEIC **09** 10:12:33.7±1.8, 48.62N×153.76E, h54km±29km, mb3.6/1, Error ellipse: s-maj=33.8km s-min=13.2km az=138.0*
*ISCJB **09** 10:12:41.1±0.8, 48.3N±0.1×152.7E±0.2, h109km±10km, mb3.9/5, Error ellipse: s-maj=30.3km s-min=7.0km az=92.6*
*MOS **09** 10:12:43.7±0.7, 48.36N×153.14E, h146km, mb4.0/3, Error ellipse: s-maj=46.2km s-min=18.5km az=58.2*
*IDC **09** 10:12:45.2±8.6, 48.28N×153.15E, h140km±64km, mb3.7/5, mb1 3.7/7, mb1mx3.4/23, mbtmp4.1/7, Error ellipse: s-maj=74.7km s-min=22.0km az=83.0*
ISC 09 10:12:42.6±0.7**, 48.3N**±0.1×**152.7E**±0.2**, h105**km±9km**, n28,** σ1.s18/34**, mb3.9**/5**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.26	42	ePN	Pn	10 13 31.5	-0.4
SKR				eS	Sn	10 14 09.5	-0.5
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=N,200nm,0.3s						
SKR				smax			
	comp=E,220nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.5s						
NEM2	Nemuro 2	6.93	227	P	Pn	10 14 21.5	0.0
NEM2				eS	Sn	10 15 34.0	-4.7
JTKR	Abashiri--Toko	7.49	238	P	Pn	10 14 33.4	+4.3
JAK	Akkeshi	7.72	230	P	Pn	10 14 32.1	-0.1
JAK				eS	Sn	10 15 53.3	-4.7
JAR	Ashorobuto	8.00	235	P	Pn	10 14 39.2	+3.2
ASAJ	Asahikawa	8.16	243	P	Pn	10 14 44.4	+6.1
	comp=Z,2.4nm,0.3s,baz=71,slow=13,SNR=16						
ASAJ	Asahikawa	8.16	243	P	Pn	10 14 44.3	+6.0
ASAJ	Asahikawa	8.16	243	PN	Pn	10 14 44.4	+6.1
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JKK2	Kamakawa 2	8.21	241	P	Pn	10 14 43.9	+4.9
JOB	Onbets	8.23	232	P	Pn	10 14 40.2	+1.0
JOB				eS	Sn	10 16 08.1	-2.4
JCH	Churui	8.68	233	P	Pn	10 14 46.0	+0.7
JCH				eS	Sn	10 16 17.4	-4.0

JEM	**Erimo**	**9.21**	**231**	*e*S	**Sn**	**10 16 28.7**	**-5.6**
JNBK	**Urakawa-nobuka**	**9.24**	**233**	P	**Pn**	**10 14 53.1**	**+0.2**
JNBK				*e*S	**Sn**	**10 16 29.6**	**-5.4**
JNB	**Noboribetsu**	**10.06**	**239**	*e*S	**Sn**	**10 16 53.9**	**-1.1**
JKB	**Kayabe**	**10.45**	**236**	*e*S	**Sn**	**10 16 57.2**	**-7.0**
JYM2	**Yakumo 2**	**10.67**	**239**	P	**Pn**	**10 15 13.3**	**+1.0**
JTH	**Tanohata**	**11.42**	**227**	*e*S	**Sn**	**10 17 15.3**	**-13**
MAJO	**Matsushiro**	**15.86**	**228**	*e*P	**Pn**	**10 16 22.8**	**+3.0**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**15.86**	**228**	*e*Pn	**Pn**	**10 16 22.8**	**+2.9**
	comp=Z,2.8nm,0.6s						
MJAR	**Matsushiro Arr**	**15.86**	**228**	P	**Pn**	**10 16 23.2**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=24,slow=11,SNR=11						
JOW	**Kunigami**	**28.67**	**230**	P	**P**	**10 18 30.3**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.4,baz=76,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**46.00**	**296**	P	**P**	**10 20 56.0**	**+0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=68,slow=9.7,SNR=4.9						
FINES	**FINESS Array B**	**62.52**	**334**	P	**P**	**10 22 54.5**	**-0.6**
	comp=Z,2.9nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=6.8						
FINES	**FINESS Array B**	**62.52**	**334**	P	**P**	**10 22 54.5**	**-0.6**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**69.89**	**198**	P	**P**	**10 23 40.9**	**-1.3**
	comp=Z,1.2nm,0.7s,mb3.8,baz=22,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**69.89**	**198**	P	**P**	**10 23 40.9**	**-1.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**73.59**	**198**	P	**P**	**10 24 04.0**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=16,slow=5.6,SNR=9.3						
ASAR	**Alice Springs**	**73.59**	**198**	P	**P**	**10 24 04.0**	**-0.3**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

---

*SZGRF **09** 10:22:54.3, 2375N×12146E, h33^{km}, mb4.7, Taiwan*
*MOS **09** 10:22:59.5±0.8, 2483N×12296E, h97^{km}, mb4.5/19, Error ellipse: s-maj=14.5km s-min=6.6km az=115.9*
*ISCJB **09** 10:23:00.7±0.2, 2486N±003×12308E±002, h109^{km}±2^{km}, mb4.3/51, Error ellipse: s-maj=4.9km s-min=3.5km az=1.6*
*BJI **09** 10:23:00.9, 2492N×12322E, h94^{km}, mB4.7, mb4.6*
*NIED **09** 10:23:00, 2480N×123.10E, h101^{km}, Mw4.5 Best double couple: M$_0$6.10000×10^{15} NP1:φ$_s$244.00000°, δ75.00000°, λ73.00000°. NP2:φ$_s$114.00000°, δ23.00000°, λ137.00000°.*
*JMA **09** 10:23:02.4±0.2, 2480N×12308E, h97^{km}±3^{km}, M4.1*
*NEIC **09** 10:23:02.5, 2480N×12308E, h97^{km}, mb4.5/16, MW4.5(NIED), After JMA.*
*IDC **09** 10:23:02.4±0.6, 2493N×123.14E, h109^{km}±4^{km}, mb4.1/19, mb1 4.2/21, mb1mx4.1/26, mbtmp4.4/21, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=12.7km s-min=9.9km az=51.0*
ISC 09 10:23:01.8±0.2**, 2488N**±003×**12307E**±002**, h103**^{km}±2^{km}**, h112**^{km}±1.9^{km}**:pP-P, n126,** σ1^s**03**/148**, mb4.4**/51**, 5C-2D, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.42**	**187**	P	**Pn**	**10 23 17.0**	**-0.3**
YOJ				S	**Sn**	**10 23 27.9**	**-1.0**
IRIF	**Iriomote-Funau**	**0.81**	**132**	P	**Pn**	**10 23 19.8**	**-0.6**
IRIF				S	**Sn**	**10 23 33.5**	**-1.0**
HATJ	**Hateruma jima**	**1.06**	**141**	P	**Pn**	**10 23 22.7**	**-0.3**
HATJ				S	**Sn**	**10 23 38.5**	**-0.5**
JKRS	**Kuro-shima**	**1.07**	**127**	P	**Pn**	**10 23 23.1**	**0.0**
JKRS				S	**Sn**	**10 23 38.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.10**	**118**	P	**Pn**	**10 23 23.1**	**-0.4**
JIJ				S	**Sn**	**10 23 38.5**	**-1.4**
TATO	**Taipei**	**1.44**	**274**	*e*Pn	**Pn**	**10 23 28.4**	**+1.1**
TATO				*e*Sn	**Sn**	**10 23 47.7**	**+0.9**
JTJ	**Tarama**	**1.50**	**99**	P	**Pn**	**10 23 28.8**	**+0.6**
JTJ				*e*S	**Sn**	**10 23 49.0**	**+0.8**
NACB	**Ninganchiao**	**1.52**	**243**	*e*Pn	**Pn**	**10 23 28.0**	**-0.4**
NACB				*e*Sn	**Sn**	**10 23 48.1**	**-0.5**
YHNB	**Yeheng**	**1.56**	**262**	*e*Pn	**Pn**	**10 23 30.2**	**+1.4**
YHNB				*e*Sn	**Sn**	**10 23 50.8**	**+1.4**
JMJ	**Miyako jima 2**	**2.02**	**91**	P	**Pn**	**10 23 36.1**	**+1.4**
JMJ				*e*S	**Sn**	**10 23 59.9**	**+0.1**
JOGS	**Gusukube**	**2.13**	**93**	P	**Pn**	**10 23 37.6**	**+1.6**
JOGS				*e*S	**Sn**	**10 24 05.1**	**+2.9**
JKE	**Kume jima 2**	**3.65**	**66**	P	**Pn**	**10 23 58.0**	**+1.8**
QZH	**Quanzhou**	**4.07**	**272**	P	**Pn**	**10 24 02.3**	**+0.5**
QZH				S	**Sn**	**10 24 46.1**	**-2.3**
QZH				Smax			
	comp=N,580nm,1.0s						
QZH				Smax			
	comp=E,290nm,0.8s						
JAGN	**Aguni-jima**	**4.13**	**65**	P	**Pn**	**10 24 04.4**	**+1.7**
JAGN				*e*S	**Sn**	**10 24 52.2**	**+2.3**
JJT2	**Tamagusuku 2**	**4.41**	**73**	P	**Pn**	**10 24 07.9**	**+1.5**
JIH	**Iheya**	**4.90**	**63**	P	**Pn**	**10 24 13.8**	**+0.7**
JIH				*e*S	**Sn**	**10 25 08.3**	**-0.3**
JOW	**Kunigami**	**5.07**	**66**	P	**Pn**	**10 24 15.5**	**0.0**
	comp=E,22nm,0.3s,baz=242,slow=9.3,SNR=121						
JOW				S	**Sn**	**10 25 10.2**	**-2.7**
	baz=120,slow=20,SNR=2.3						
JOW				LR	LR	10 26 35.6	
	comp=E,81nm,21.0s,baz=286,slow=42						
JOW	**Kunigami**	**5.07**	**66**	P	**Pn**	**10 24 15.5**	**0.0**
JOW				S	**Sn**	**10 25 10.2**	**-2.7**
JOW				LR	LR	10 26 35.6	
JTK	**Tokunoshima**	**6.01**	**60**	P	**Pn**	**10 24 27.4**	**-0.8**
JTK				*e*S	**Sn**	**10 25 34.3**	**-1.4**
SSE	**Sheshan**	**6.41**	**345**	*e*P	**Pn**	**10 24 31.7**	**-1.9**
SSE				S	**Sn**	**10 25 44.8**	**-0.4**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s						
SSE				AMB	AMB		
	comp=Z,57nm,3.7s						
SSE				Smax			
	comp=N,59nm,0.8s						
SSE				Smax			
	comp=E,85nm,0.9s						
JAM	**Amami Oshima**	**6.82**	**58**	P	**Pn**	**10 24 38.2**	**-1.0**
JAM				*e*S	**Sn**	**10 25 52.7**	**-2.6**
JZK	**Kikaishima**	**7.06**	**60**	P	**Pn**	**10 24 42.3**	**-0.1**
JMZ	**Minamidaito 2**	**7.43**	**81**	P	**Pn**	**10 24 46.2**	**-1.3**
NJ2	**Nanjing**	**8.05**	**334**	*e*P	**Pn**	**10 24 54.8**	**-1.0**
NJ2				XP		10 25 20.1	
NJ2				S	**Sn**	**10 26 24.0**	**-1.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,460nm,5.2s						
NJ2				Smax			
	comp=N,140nm,0.8s						
NJ2				Smax			
	comp=E,150nm,0.8s						
NJ2				LR	LR		
	comp=N,570nm,8.9s						
NJ2				LR	LR		
	comp=E,720nm,9.4s						
NJ2				LR	LR		
	comp=Z,370nm,8.0s						
WHN	**Wuhan**	**9.56**	**308**	*e*P	**Pn**	**10 25 18.5**	**+2.1**
INCN	**Inchon**	**12.92**	**13**	*e*P	**Pn**	**10 26 09.3**	**+7.9**
GYA	**Guiyang**	**14.88**	**280**	P	**Pn**	**10 26 33.3**	**+6.6**
GYA				S	**Sn**	**10 29 04.8**	**-6.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				AMB	AMB		
	comp=Z,70nm,3.5s						
GYA				LR	LR		
	comp=N,420nm,5.1s						
GYA				LR	LR		
	comp=E,540nm,4.1s						
GYA				LR	LR		
	comp=Z,160nm,4.4s						
XAN	**Xi'an**	**15.32**	**310**	P	**Pn**	**10 26 37.3**	**+5.0**
XAN				AP	pP	10 26 48.7	-5.0
XAN				AMB	AMB		
	comp=Z,23nm,1.2s						
BJT	**Baijiatuau**	**16.17**	**341**	*e*P	**Pn**	**10 26 46.3**	**+3.4**
BJT				pmax	pmax		
	comp=Z,27nm,0.9s						
BJT	**Baijiatuau**	**16.17**	**341**	*e*Pn	**Pn**	**10 26 46.3**	**+3.4**
	comp=Z,26nm,0.9s						
BJI	**Beijing**	**16.18**	**341**	*e*P	**Pn**	**10 26 46.4**	**+3.3**
BJI				AMB	AMB		
	comp=Z,26nm,0.9s						
BJI				LR	LR		
	comp=Z,114nm,15.0s						
MJAR	**Matsushiro Arr**	**17.42**	**45**	P	**Pn**	**10 26 58.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=229,slow=10,SNR=6.5						
HHC	**Hu-ho-hao-te**	**18.60**	**332**	*e*P	**P**	**10 27 14.2**	**+3.4**
HHC				AMB	AMB		
	comp=Z,24nm,0.5s						
HHC				AMB	AMB		
	comp=Z,140nm,4.4s						
CN2	**Changchun**	**18.97**	**5**	*e*P	**P**	**10 27 16.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH	**Lanzhou**	**19.94**	**309**	*e*P	**P**	**10 27 27.5**	**+2.0**
LZH				AP		10 27 46.2	
LZH				PP		10 27 51.5	
LZH				XP	sP	10 27 59.3	+1.5
LZH				*e*S	**S**	**10 31 02.4**	**-1.8**
LZH				XS	sS	10 31 30.5	-5.8
LZH				SS		10 31 36.7	
LZH				AMB	AMB		
	comp=Z,27nm,1.2s						
LZH				AMB	AMB		
	comp=Z,107nm,4.3s						
LZH				LR	LR		
	comp=N,472nm,10.2s						
LZH				LR	LR		
	comp=Z,987nm,14.5s						
GUMO	**Guam**	**23.41**	**115**	P	**P**	**10 28 02.3**	**+0.9**
	comp=Z,73nm,1.1s,mb4.9,baz=202,slow=11,SNR=4.2						
GTA	**Gaotai**	**24.35**	**312**	*e*P	**P**	**10 28 10.7**	**+0.7**
GTA				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.0						
ASAJ	**Asahikawa**	**24.93**	**35**	P	**P**	**10 28 14.5**	**-0.8**
	comp=Z,6.1nm,0.5s,mb4.3,baz=281,slow=5.2,SNR=11						
HABR	**Khabarovsk**	**25.37**	**19**	*e*P	**P**	**10 28 21.1**	**+1.9**
HABR				*e*S	**S**	**10 32 43.3**	**+5.2**
ULN	**Ulaanbaatar**	**26.21**	**335**	⇑*i*P	**P**	**10 28 27.5**	**+0.7**
ULN	**Ulaanbaatar**	**26.21**	**335**	*e*P	**P**	**10 28 28.0**	**+1.2**
	comp=Z,3.8nm,0.6s,mb4.0						
KSM	**Kuching**	**26.34**	**210**	*e*P	**P**	**10 28 28.2**	**+0.2**
SONM	**Songino Array**	**26.44**	**334**	P	**P**	**10 28 29.6**	**+0.7**
	comp=Z,4.4nm,0.6s,mb4.1,baz=152,slow=9.6,SNR=27						
SONM				ScP	ScP	10 35 20.5	-1.5
	comp=Z,1.4nm,0.8s,baz=132,slow=2.2,SNR=5.4						
SONM				LR	LR	10 39 34.9	
	comp=Z,45nm,20.3s,baz=230,slow=38						
SONM	**Songino Array**	**26.44**	**334**	P	**P**	**10 28 29.6**	**+0.7**
SONM				ScP	ScP	10 35 20.5	-1.5
SONM				LR	LR	10 39 34.9	
ZAK	**Zakamensk**	**29.71**	**334**	*e*P	**P**	**10 28 57.6**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
TLY	**Talaya**	**30.60**	**336**	*e*P	**P**	**10 29 06.3**	**+0.4**
TLY				*e*	pP	10 29 32.3	+3.5
TLY				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
TLY	**Talaya**	**30.60**	**336**	*e*P	**P**	**10 29 05.7**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.3						
PSI	**Prapat**	**31.99**	**230**	P	**P**	**10 29 19.2**	**+1.1**
	comp=Z,7.1nm,0.8s,mb4.5,baz=0.0,slow=9.1,SNR=6.1						
PSI	**Prapat**	**31.99**	**230**	P	**P**	**10 29 19.2**	**+1.1**
WMQ	**Urumqi**	**34.44**	**312**	*e*P	**P**	**10 29 47.0**	**+7.7**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,62nm,4.1s						
WMQ				LR	LR		
	comp=Z,142nm,25.1s						
YAK	**Yakutsk**	**37.40**	**5**	⇑*i*P	**P**	**10 30 05.0**	**+0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KAKA	**Kakadu**	**38.47**	**165**	*e*P	**P**	**10 30 12.0**	**-1.6**
	comp=Z,17nm,0.7s,mb5.0						
MK31	**Makanchi Array**	**39.05**	**315**	P	**P**	**10 30 18.4**	**-0.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
MKAR	**Makanchi Array**	**39.05**	**315**	P	**P**	**10 30 18.6**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.3,baz=99,slow=11,SNR=19						
MKAR				pP	pP	10 30 44.8	+2.8
	comp=Z,5.1nm,0.9s,baz=104,slow=10,SNR=6.0						
MKAR				PcP	PcP	10 32 26.6	+0.1
	comp=Z,1.7nm,0.7s,baz=93,slow=4.9,SNR=4.6						
MKAR				ScP	ScP	10 36 03.9	-1.5
	comp=Z,0.7nm,0.6s,baz=100,slow=6.3,SNR=5.0						
MKAR	**Makanchi Array**	**39.05**	**315**	P	**P**	**10 30 18.6**	**+0.1**
MKAR				pP	pP	10 30 44.8	+2.8
MKAR				PcP	PcP	10 32 26.6	+0.1
MKAR				ScP	ScP	10 36 03.9	-1.5
ZAL	**Zalesovo**	**40.62**	**326**	P	**P**	**10 30 30.9**	**-0.6**
	comp=Z,3.3nm,0.5s,mb4.4,baz=331,slow=5.8,SNR=10						
ZAL				pP	pP	10 30 55.9	+0.8
	comp=Z,2.2nm,0.5s,baz=1.9,slow=7.5,SNR=2.5						
ZAL	**Zalesovo**	**40.62**	**326**	P	**P**	**10 30 30.9**	**-0.6**
ZAL				pP	pP	10 30 55.9	+0.8
SEY	**Seymchan**	**42.74**	**19**	*e*P	**P**	**10 30 48.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.80**	**176**	*e*P	**P**	**10 30 48.4**	**-0.8**
	comp=Z,15nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**43.46**	**306**	⇑*e*P	**P**	**10 30 54.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
WRAB	**Tennant Creek**	**45.88**	**165**	*c i*P	**P**	**10 31 13.7**	**0.0**
WRA	**Warramunga Arr**	**45.88**	**165**	P	**P**	**10 31 14.0**	**+0.2**
	comp=Z,52nm,0.8s,mb5.3,baz=347,slow=8.7,SNR=182						
WRA				pP	pP	10 31 37.7	-0.2
	comp=Z,5.8nm,0.8s,baz=346,slow=8.3,SNR=2.7						
WRA	**Warramunga Arr**	**45.88**	**165**	*i* P	**P**	**10 31 12.6**	**-1.2**
WRA				pmax	pmax		
	comp=Z,52nm,0.8s						
WB2	**Warramunga Arr**	**45.89**	**165**	⇑*i*P	**P**	**10 31 13.9**	**+0.1**
KK31	**Karatay Array**	**46.42**	**307**	*i* P	**P**	**10 31 18.7**	**+0.7**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
KKAR	**Karatay Array**	**46.42**	**307**	*i* P	**P**	**10 31 18.7**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
TIXI	**Tiksi**	**46.91**	**3**	*e*P	**P**	**10 31 22.8**	**+1.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
VOSK	**Vostochnaya**	**47.81**	**320**	P	**P**	**10 31 28.0**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
BVA0	**Borovoye Array**	**48.23**	**320**	*i* P	**P**	**10 31 31.6**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
BVAR	**Borovoye Array**	**48.23**	**320**	P	**P**	**10 31 32.0**	**-0.1**
	comp=Z,3.1nm,0.4s,mb4.5,baz=105,slow=7.7,SNR=21						
BVAR				pP	pP	10 31 58.5	+2.1
	comp=Z,1.0nm,0.6s,baz=116,slow=10,SNR=2.2						
BVAR				PcP	PcP	10 32 57.1	-0.5
	comp=Z,3.3nm,0.5s,baz=114,slow=2.9,SNR=10						
CHKZ	**Chkalovo**	**48.27**	**321**	*i* P	**P**	**10 31 31.2**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**49.03**	**320**	*i* P	**P**	**10 31 37.9**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**49.39**	**167**	P	**P**	**10 31 41.4**	**+0.5**
	comp=Z,11nm,0.6s,mb5.0,baz=350,slow=11,SNR=136						
ASPA	**Alice Springs**	**49.39**	**167**	⇓*i*P	**P**	**10 31 41.6**	**+0.7**
CTA	**Charters Tower**	**50.07**	**151**	*e*P	**P**	**10 31 46.7**	**+0.7**
	comp=Z,6.5nm,0.9s,mb4.6						
CTA	**Charters Tower**	**50.07**	**151**	*e*P	**P**	**10 31 46.7**	**+0.7**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AB31	**Akbulak array**	**54.19**	**314**	*i* P	**P**	**10 32 16.6**	**+0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
AKTK	**Aktyubinsk**	**55.48**	**315**	P	**P**	**10 32 25.1**	**-0.7**
AKTO	**Aktyubinsk**	**55.48**	**315**	P	**P**	**10 32 25.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb4.1,baz=122,slow=16,SNR=4.5						
ARU	**Arti**	**55.59**	**323**	⇓*i*P	**P**	**10 32 25.8**	**-0.8**
ARU				*e*		10 33 22.2	
ARU				*e*		10 34 28.9	
ARU				*e*S	**S**	**10 40 05.8**	**+1.3**
ARU				*e*SS	SS	10 43 54.7	+3.9
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**56.38**	**185**	*e*P	**P**	**10 32 31.5**	**-0.8**
	comp=Z,15nm,0.7s,mb5.1						
NWAO	**Narrogin (SRO)**	**57.76**	**186**	*e*P	**P**	**10 32 41.5**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
NWAO	**Narrogin (SRO)**	**57.76**	**186**	*e*P	**P**	**10 32 41.5**	**-0.4**
	comp=Z,13nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**59.15**	**162**	P	**P**	**10 32 51.9**	**+0.2**
	comp=Z,10nm,0.7s,mb5.0,baz=348,slow=6.7,SNR=6.8						
JOF	**Joensuu**	**68.94**	**331**	*e*p	**P**	**10 33 54.2**	**-1.5**
	comp=Z,3.6nm,0.5s,mb4.5						
KEV	**Kevo**	**68.97**	**338**	*e*p	**P**	**10 33 54.3**	**-1.6**
ARCES	**ARCESS Array B**	**69.53**	**338**	P	**P**	**10 33 59.0**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.1,baz=73,slow=6.0,SNR=12						
MALT	**Malatya**	**71.03**	**304**	*e*P	**P**	**10 34 10.3**	**+1.8**
FINES	**FINESS Array B**	**71.71**	**330**	P	**P**	**10 34 11.6**	**-1.0**
	comp=Z,1.2nm,0.3s,mb4.2,baz=62,slow=5.6,SNR=28						
AKASG	**Malin Array Be**	**73.49**	**319**	P	**P**	**10 34 22.1**	**-1.0**
	comp=Z,2.1nm,0.4s,mb4.3,baz=68,slow=6.0,SNR=7.3						
AKASG				pP	pP	10 34 50.4	+1.1
	comp=Z,0.5nm,0.3s,baz=55,slow=6.2,SNR=2.8						
BRTR	**Keskin Array B**	**74.14**	**307**	P	**P**	**10 34 27.8**	**+0.9**
	comp=Z,1.1nm,0.6s,mb3.8,baz=102,slow=5.5,SNR=7.0						
BRTR				pP	pP	10 34 55.2	+2.2
	comp=Z,2.7nm,1.0s,baz=103,slow=4.3,SNR=5.2						
KIS	**Kishinev**	**74.99**	**315**	*e*P	**P**	**10 34 24.0**	**-7.8**
NB2	**NORSAR Subarra**	**78.41**	**333**	P	**P**	**10 34 49.8**	**-1.2**
	comp=Z,1.4nm,0.8s,mb3.7,baz=62,slow=5.6						
NOA	**NORSAR Array B**	**78.41**	**333**	P	**P**	**10 34 50.1**	**-0.9**
	comp=Z,1.4nm,0.5s,mb4.0,baz=53,slow=5.8,SNR=8.0						
NOA				pP	pP	10 35 19.0	+1.6
	comp=Z,2.2nm,0.7s,baz=58,slow=5.8,SNR=4.6						
VYHS	**Vyhne**	**80.57**	**319**	*e*P	**P**	**10 35 03.1**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
VYHS	**Vyhne**	**80.57**	**319**	*e*P	**P**	**10 35 03.1**	**+0.4**
	comp=Z,2.4nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	**81.66**	**23**	P	**P**	**10 35 08.6**	**+0.1**
	comp=Z,2.0nm,0.6s,mb4.1,baz=299,slow=5.6,SNR=5.3						
YKA	**Yellowknife Ar**	**81.66**	**23**	*i* P	**P**	**10 35 08.6**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**82.52**	**324**	*i* P	**P**	**10 35 12.9**	**-0.1**
	comp=Z,5.0nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**83.39**	**321**	P	**P**	**10 35 17.6**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=60,slow=4.7,SNR=16						
GRA1	**Grafenberg Arr**	**84.34**	**323**	*e*P	**P**	**10 35 22.3**	**0.0**
	comp=Z,6.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**84.34**	**323**	*e*P	**P**	**10 35 22.3**	**0.0**
	comp=Z,6.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**84.34**	**323**	*e*P	**P**	**10 35 22.3**	**0.0**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
GRF	**Grafenberg Arr**	**84.34**	**323**	*e*P	**P**	**10 35 22.3**	**0.0**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
CDF	**Champ du Feu**	**87.21**	**323**	*e*P	**P**	**10 35 36.0**	**-0.5**
	comp=Z,3.6nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**87.21**	**323**	*e*P	**P**	**10 35 36.0**	**-0.5**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**87.21**	**323**	*e*P	**P**	**10 35 36.0**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	**87.78**	**323**	*e*P	**P**	**10 35 39.1**	**-0.2**
LPG	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 46.2**	**+0.3**
	comp=Z,8.1nm,0.8s,mb4.5						
LPG	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 46.2**	**+0.3**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 46.2**	**+0.3**
	comp=Z,4.1nm,0.8s,mb4.5						
LPL	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 45.6**	**-0.3**
	comp=Z,10nm,0.9s,mb4.6						
LPL	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 45.6**	**-0.3**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
LPL	**La Plagne**	**89.19**	**321**	*e*P	**P**	**10 35 45.6**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**90.02**	**321**	*e*P	**P**	**10 35 49.7**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.3						
ORIF	**Oris-en-Rattie**	**90.02**	**321**	*e*P	**P**	**10 35 49.7**	**-0.1**
ORIF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ORIF	**Oris-en-Rattie**	**90.02**	**321**	*e*P	**P**	**10 35 49.7**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**90.13**	**323**	*e*P	**P**	**10 35 49.8**	**-0.5**
AVF	**Avril sur Loir**	**90.31**	**323**	*e*P	**P**	**10 35 50.7**	**-0.4**
VIVF	**Saint-Julien-l**	**90.75**	**321**	*e*P	**P**	**10 35 52.4**	**-0.8**
	comp=Z,4.9nm,0.8s,mb4.4						
VIVF	**Saint-Julien-l**	**90.75**	**321**	*e*P	**P**	**10 35 52.4**	**-0.8**
VIVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
VIVF	**Saint-Julien-l**	**90.75**	**321**	*e*P	**P**	**10 35 52.4**	**-0.8**
	comp=Z,2.5nm,0.8s,mb4.4						
KEST	**Kesra**	**93.10**	**312**	P	**P**	**10 36 04.6**	**+0.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=33,slow=5.2,SNR=3.1						
NVAR	**Mina Array Bea**	**94.75**	**44**	P	**P**	**10 36 13.1**	**+1.5**
	comp=Z,1.2nm,0.6s,mb4.5,baz=296,slow=5.6,SNR=11						
PLCA	**Paso Flores**	**160.52**	**148**	PKPab	PKPab	10 43 31.9	+0.8
	comp=Z,2.1nm,0.9s,baz=224,slow=3.8,SNR=4.5						
LPAZ	**La Paz**	**166.47**	**53**	PKPab	PKPab	10 43 59.2	+1.9
	comp=Z,0.6nm,0.7s,baz=333,slow=2.3,SNR=2.9						

---

*MOS **09** 10:36:00.2±0.7, 3869N×14203E, h33^{km}, mb5.1/45, Error ellipse: s-maj=8.9km s-min=7.0km az=105.7*
*NIED **09** 10:36:00, 3830N×142.10E, h68^{km}, Mw4.6 Best double couple: M$_0$1.03000×10^{16} NP1:φ$_s$200.00000°, δ74.00000°, λ-136.00000°. NP2:φ$_s$95.00000°, δ48.00000°, λ-21.00000°.*
*BJI **09** 10:36:01.3, 3833N×142.11E, h76^{km}, mB4.9, mb4.9, Ms3.9, Msz3.7*
*ISCJB **09** 10:36:03.4±0.3, 3831N±003×14197E±003, h76^{km}±2^{km}, mb4.7/108, Error ellipse: s-maj=4.7km s-min=3.3km az=113.3*
*IDC **09** 10:36:03.5±0.4, 3829N×14206E, h62^{km}±3^{km}, mb4.3/22, mb1 4.5/25, mb1mx4.4/28, mbtmp4.6/25, MS3.6/13, Ms1 3.6/13, ms1mx3.3/29, Error ellipse: s-maj=11.6km s-min=9.1km az=117.0*
*NEIC **09** 10:36:03.9±0.1, 3830N×14202E, mb4.8/52, MW4.6(NIED), Error ellipse: s-maj=4.7km s-min=3.3km az=160.0*
NEIC Recorded [3 JMA] in Iwate and Miyagi; [2 JMA] in Fukushima and Yamagata; [1 JMA] in Akita, Aomori, Ibaraki and Tochigi Prefectures.
*JMA **09** 10:36:03.6±0.1, 3828N×14204E, h67^{km}±1^{km}, M4.9 Broadband fault plane solution: P waves. NP1: φ$_s$91.00000°, δ51.00000°, λ-14.00000°. NP2:φ$_s$190.00000°, δ79.00000°, λ-141.00000°. Principal axes: T Plg18.0000°, Azm315.0000°; N Plg49.0000°, Azm203.0000°; P Plg35.0000°, Azm58.0000°;*
JMA Felt III J1.
*SZGRF **09** 10:36:08.2, 3893N×14269E, h33^{km}, mb4.5, Near east coast of eastern Honshu, Japan*
ISC 09 10:36:04.3±0.3**, 3831N**±003×**14198E**±003**, h70**^{km}±2^{km}**, h69**^{km}±1.7^{km}**:pP-P, n264,** σ0^s**80**/286**, mb4.7**/108**, 22C-12D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.51**	**286**	⇓P	**Pn**	**10 36 17.0**	**-0.3**
JIO				S	**Sn**	**10 36 26.4**	**-0.4**
OFUJ	**Ofunato**	**0.81**	**343**	⇑P	**Pn**	**10 36 20.1**	**-0.3**
OFUJ				S	**Sn**	**10 36 32.2**	**-0.2**
JMK	**Ichinoseki**	**0.87**	**317**	⇑P	**Pn**	**10 36 21.4**	**+0.2**
JMK				S	**Sn**	**10 36 34.3**	**+0.5**
JOU	**Okura**	**1.03**	**273**	⇓P	**Pn**	**10 36 23.2**	**0.0**
JOU				S	**Sn**	**10 36 37.9**	**+1.8**
JMM	**Marumori**	**1.03**	**245**	⇓P	**Pn**	**10 36 22.5**	**-0.7**
JMM				S	**Sn**	**10 36 36.6**	**+0.5**
JOM	**Ohasama**	**1.28**	**336**	⇑P	**Pn**	**10 36 26.5**	**+0.1**
JOM				S	**Sn**	**10 36 43.7**	**+1.7**
JFK	**Kawauchi**	**1.28**	**223**	⇓P	**Pn**	**10 36 25.5**	**-0.9**
JFK				S	**Sn**	**10 36 41.6**	**-0.6**
JYK	**Kaneyama**	**1.40**	**296**	⇑P	**Pn**	**10 36 28.4**	**+0.4**
JYK				S	**Sn**	**10 36 47.2**	**+2.0**
JYS	**Shirataka**	**1.51**	**267**	⇓P	**Pn**	**10 36 29.7**	**+0.3**
JYS				S	**Sn**	**10 36 49.4**	**+1.7**
JFT	**Otama**	**1.52**	**239**	⇓P	**Pn**	**10 36 29.5**	**0.0**
JFT				S	**Sn**	**10 36 48.7**	**+0.7**
JYA	**Atsumi**	**1.80**	**280**	⇑P	**Pn**	**10 36 33.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.48**	**241**	P	**Pn**	**10 36 57.3**	**+1.3**
	13nm,0.3s,baz=53,slow=11,SNR=4.1						
MJAR				S	**Sn**	**10 37 38.2**	**+2.2**
	26nm,0.3s,baz=179,slow=7.5,SNR=3.9						
MJAR				LR	LR	10 37 38.6	
	comp=Z,202nm,21.6s,baz=55,slow=27						
MAJO	**Matsushiro**	**3.48**	**241**	*e*P	**Pn**	**10 36 57.5**	**+1.4**
MAT	**Matsushiro**	**3.48**	**241**	P	**Pn**	**10 36 57.2**	**+1.1**
MAT				*e*S	**Sn**	**10 37 38.3**	**+2.3**
ERM	**Erimo**	**3.81**	**13**	*e*Pn	**Pn**	**10 36 59.2**	**-1.3**
ERM				*e*Sn	**Sn**	**10 37 42.9**	**-1.1**
JHJ	**Hachijo jima 2**	**5.48**	**200**	P	**Pn**	**10 37 21.2**	**-2.1**

201nm,0.3s,baz=40,slow=2.4,SNR=68
JHJ S **Sn** **10 38 17.9 -7.1**
840nm,0.3s,baz=232,slow=22,SNR=27
ASAJ **Asahikawa** **5.82 4** P **Pn** **10 37 26.8 -1.2**
28nm,0.3s,baz=215,slow=11,SNR=201
ASAJ S **Sn** **10 38 28.9 -4.4**
23nm,0.3s,baz=50,slow=25,SNR=8.2
ASAJ LR LR 10 40 12.5
comp=Z,154nm,19.3s,baz=188,slow=43
ASAJ **Asahikawa** **5.82 4** P **Pn** **10 37 26.8 -1.2**
ASAJ S **Sn** **10 38 28.9 -4.4**
ASAJ pmax pmax
comp=Z,28nm,0.3s
ASAJ smax
comp=N,23nm,0.3s
ASAJ MLR MLR
comp=Z,154nm,19.3s
YUK **Yuzh-Kuril'sk** **6.42 26**⇓ *i*P **Pn** **10 37 32.8 -3.5**
YUK *i* S **Sn** **10 38 40.1 -8.0**
YUK pmax pmax
comp=Z,610nm,0.3s
YUK pmax pmax
comp=N,180nm,0.4s
YUK pmax pmax
comp=E,200nm,0.3s
YUK smax
comp=N,3μm,1.0s
YUK smax
comp=E,6μm,1.0s
YUK smax
comp=N,3μm,0.5s
YUK smax
comp=E,1μm,0.5s
YSS **Yuzh-Sakhalins** **8.66 4** *e*P **Pn** **10 38 05.0 -1.8**
YSS *e*S **Sn** **10 39 38.6 -4.2**
YSS pmax pmax
comp=N,140nm,1.0s
YSS pmax pmax
comp=Z,110nm,1.0s
YSS smax
comp=N,180nm,1.2s
YSS smax
comp=E,190nm,1.2s
YSS **Yuzh-Sakhalins** **8.66 4** *e*Pn **Pn** **10 38 05.8 -1.0**
YSS *e*Sn **Sn** **10 39 40.7 -2.1**
VLA **Vladivostok** **9.04 305** *d* *i*P **Pn** **10 38 13.0 +1.0**
VLA pmax pmax
comp=Z,56nm,0.6s
KS15 **Wonju Array Si** **11.17 270** *e*Pn **Pn** **10 38 44.1 +3.0**
CBIJ **Chichi jima** **11.19 179** P **Pn** **10 38 36.5 -4.8**
comp=Z,20nm,0.3s,baz=303,slow=16,SNR=22
CBIJ S **Sn** **10 40 30.9 -14**
comp=Z,85nm,0.3s,baz=282,slow=23,SNR=12
MDJ **Mudanjiang** **11.22 308** P **Pn** **10 38 42.4 +0.6**
MDJ PP 10 38 53.1
MDJ XP 10 39 04.8
MDJ S **Sn** **10 40 46.7 +1.3**
MDJ SCP ScP 10 47 58.0 -0.3
MDJ PCS PcS 10 48 05.6 -0.1
MDJ SCS ScS 10 51 33.3 -0.4
MDJ AMB AMB
comp=Z,15nm,1.2s
MDJ AMB AMB
comp=Z,115nm,7.0s
MDJ LR LR
comp=N,191nm,28.1s
MDJ LR LR
comp=E,202nm,31.5s
MDJ LR LR
comp=Z,325nm,25.5s
MDJ **Mudanjiang** **11.22 308** *e*P **Pn** **10 38 42.4 +0.6**
HABR **Khabarovsk** **11.33 336**⇑ *i*P **Pn** **10 38 43.9 +0.6**
CN2 **Changchun** **13.62 299** *e*P **Pn** **10 39 13.0 -1.2**
CN2 *e*AP 10 39 24.0
CN2 *e*XP 10 39 35.3
CN2 *e*S **Sn** **10 41 42.7 -1.1**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,11.0s
CN2 LR LR
comp=E,200nm,11.0s
CN2 LR LR
comp=Z,300nm,21.0s
SNY **Shenyang** **14.52 290**⇓ P **Pn** **10 39 30.2 +4.2**
SNY AMB AMB
comp=Z,21nm,0.7s
SNY LR LR
comp=N,232nm,13.2s
SNY LR LR
comp=E,261nm,19.8s
SNY LR LR
comp=Z,330nm,22.2s
DL2 **Dalian** **15.92 278** P **Pn** **10 39 44.4 +0.4**
DL2 AMB AMB
comp=Z,50nm,1.0s
SKR **Severo-Kuril's** **15.93 35** *e*P **Pn** **10 39 38.0 -6.0**
JOW **Kunigami** **16.24 229** P **Pn** **10 39 51.9 +3.9**
comp=Z,0.4nm,0.3s,baz=41,slow=14,SNR=2.7
SSE **Sheshan** **18.53 253** *e*P **Pn** **10 40 14.9 -1.1**
SSE AP pP 10 40 29.6 +0.1
SSE XP sP 10 40 38.4 +0.1
SSE S **S** **10 43 41.6 -1.1**
SSE SCS ScS 10 51 50.4 -2.0
SSE AMB AMB
comp=Z,42nm,0.8s
SSE AMB AMB
comp=Z,45nm,5.5s
SSE LR LR
comp=N,66nm,32.2s
SSE LR LR
comp=E,148nm,32.2s
SSE LR LR
comp=Z,157nm,33.0s
PET **Petropavlovsk** **18.70 33** *e*P **Pn** **10 40 17.3 -0.8**
PET *e*S **S** **10 43 40.1 -6.1**
PET pmax pmax
comp=Z,100nm,7.4s
PET pmax pmax
comp=Z,27nm,0.9s
PET MLR MLR
comp=Z,100nm,13.0s
TIA **Tai'an** **19.88 272** *e*P **Pn** **10 40 28.7 -3.3**
NJ2 **Nanjing** **19.88 259** *e*P **Pn** **10 40 30.7 -1.4**
NJ2 AP pP 10 40 46.7 +2.3
NJ2 PP 10 40 53.9
NJ2 XP sP 10 40 56.5 +3.3
NJ2 S **S** **10 44 06.0 -3.8**
NJ2 XS sS 10 44 27.0 -6.6
NJ2 AMB AMB
comp=Z,50nm,1.0s
NJ2 AMB AMB
comp=Z,200nm,6.5s
NJ2 LR LR
comp=N,400nm,20.6s
NJ2 LR LR
comp=E,380nm,23.2s
NJ2 LR LR
comp=Z,370nm,21.7s
BJT **Baijiatuan** **20.07 283** *e*P **P** **10 40 24.7 -7.2**
CLNS **Chul'man** **21.71 334** *e*P **P** **10 40 48.7 -0.9**
CLNS *e* 10 41 11.3
CLNS *e*S **S** **10 44 41.7 -4.1**
CLNS *e*SS 10 45 28.2
CLNS pmax pmax
comp=N,63nm,0.8s
CLNS pmax pmax
comp=Z,75nm,0.8s,mb5.1
CLNS pmax pmax
comp=E,43nm,0.9s
CLNS pmax pmax
comp=Z,25nm,0.7s,mb4.7
CLNS pmax pmax
comp=N,51nm,1.1s
CLNS pmax pmax
comp=E,52nm,0.8s
CLNS smax
comp=N,13nm,0.9s
CLNS smax
comp=Z,8.0nm,0.7s
CLNS smax
comp=E,17nm,1.0s
CLNS MLR MLR
comp=N,100nm,14.0s
CLNS MLR MLR
comp=Z,200nm,14.0s
CLNS MLR MLR
comp=E,100nm,13.0s
MA2 **Magadan** **22.01 12** *c* *i*P **P** **10 40 52.3 -0.5**
MA2 pmax pmax
comp=Z,52nm,1.3s,mb4.7
HHC **Hu-ho-hao-te** **23.52 286** *e*P **P** **10 41 07.1 -0.9**
HHC AP 10 41 24.2
HHC XP sP 10 41 33.4 +1.0
HHC PP 10 41 42.1
HHC PCP PcP 10 44 52.2 +0.6
HHC S **S** **10 45 12.0 -4.6**
HHC XS sS 10 45 41.3 -3.5
HHC SS 10 46 04.7
HHC SCP ScP 10 48 22.3 -1.3
HHC PCS PcS 10 48 30.5 -0.5
HHC AMB AMB
comp=Z,19nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,80nm,3.9s
HHC LR LR
comp=N,121nm,4.5s
HHC LR LR
comp=E,124nm,6.7s
HHC LR LR
comp=Z,180nm,17.6s
CIT **Chita** **24.09 314** *e*P **P** **10 41 11.2 -2.0**
CIT pmax pmax
comp=Z,47nm,1.8s,mb4.5
GUMO **Guam** **24.76 173** LR LR 10 48 39.9
comp=Z,70nm,21.7s,baz=100,slow=31
YAK **Yakutsk** **24.93 346** *e*P **P** **10 41 20.9 0.0**
YAK *e* 10 44 51.3
YAK *e*S **S** **10 45 35.9 -3.3**
YAK *e* 10 52 13.2
YAK pmax pmax
comp=Z,124nm,0.9s,mb5.3
YAK pmax pmax
comp=N,83nm,1.4s
YAK pmax pmax
comp=E,28nm,1.5s
YAK smax
comp=E,22nm,1.2s
YAK smax
comp=Z,13nm,1.2s
YAK smax
comp=N,17nm,0.9s
YAK **Yakutsk** **24.93 346** *e*P **P** **10 41 20.5 -0.4**
comp=N,108nm,0.7s,mb5.4
SEY **Seymchan** **25.45 11** *c* *i*P **P** **10 41 26.5 +0.9**
BOD **Bodaibo** **26.70 326** *e*P **P** **10 41 36.1 -0.8**
BOD pmax pmax
comp=Z,65nm,0.9s,mb5.2
XAN **Xi'an** **26.94 271** P **P** **10 41 37.6 -1.4**
XAN AMB AMB
comp=Z,20nm,0.8s,mb4.7
ULN **Ulaanbaatar** **27.03 302**⇑ P **P** **10 41 40.1 +0.2**
SNR=17
ULN **Ulaanbaatar** **27.03 302**⇑ *e*P **P** **10 41 40.2 +0.4**
ULN *i* *PP pP 10 41 55.6 -0.9
ULN **Ulaanbaatar** **27.03 302** *e*P **P** **10 41 40.1 +0.3**
comp=Z,26nm,0.8s,mb4.8
SONM **Songino Array** **27.47 302** P **P** **10 41 44.3 +0.5**
comp=Z,22nm,0.8s,mb4.8,baz=119,slow=8.7,SNR=65
SONM LR LR 10 52 50.4
comp=Z,124nm,19.9s,baz=241,slow=37
IRK **Irkutsk** **29.59 310** *e*P **P** **10 42 01.3 -1.3**
IRK pmax pmax
comp=Z,40nm,1.0s,mb5.0
ZAK **Zakamensk** **29.85 306**⇓ *i*P **P** **10 42 04.8 -0.1**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.4
TLY **Talaya** **29.85 309**⇑ P **P** **10 42 05.2 +0.3**
SNR=9.9
TLY **Talaya** **29.85 309** *e*P **P** **10 42 04.6 -0.3**
TLY *e* 10 42 59.4
TLY *e*S **S** **10 46 58.6 +1.8**
TLY pmax pmax
comp=Z,29nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,139nm,19.0s
TLY **Talaya** **29.85 309** *e*P **P** **10 42 04.9 -0.1**
comp=Z,20nm,0.8s,mb4.8
LZH **Lanzhou** **30.32 278** *e*P **P** **10 42 08.5 -0.5**
LZH AP pP 10 42 27.3 +1.5
LZH XP sP 10 42 35.6 +1.6
LZH PP PP 10 43 10.2 -8.3
LZH *e*S **S** **10 47 01.3 -2.8**
LZH XS sS 10 47 31.6 -1.2
LZH AMB AMB
comp=Z,23nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,87nm,4.9s
LZH LR LR
comp=N,734nm,13.6s
LZH LR LR
comp=Z,1μm,17.2s
MOY **Mondy** **31.48 309** *e*P **P** **10 42 19.7 +0.5**
MOY pmax pmax
comp=Z,27nm,2.5s,mb4.5
GYA **Guiyang** **31.89 259**⇑ *i*P **P** **10 42 21.7 -1.2**
GYA AP pP 10 42 39.5 -0.2
GYA XP sP 10 42 48.6 +0.7
GYA PP PP 10 43 28.8 -7.2
GYA S **S** **10 47 23.9 -4.8**
GYA XS sS 10 47 54.8 -2.7
GYA SCP ScP 10 48 47.7 -1.4
GYA SCS ScS 10 52 44.3 -3.3
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,210nm,4.5s
GYA LR LR
comp=N,420nm,16.9s
GYA LR LR
comp=E,380nm,16.4s
GYA LR LR
comp=Z,320nm,16.0s
CD2 **Chengdu** **32.14 268** *e*P **P** **10 42 24.0 -1.0**
CD2 AP pP 10 42 41.8 -0.1
CD2 XP sP 10 42 51.5 +1.4
CD2 PP PP 10 43 33.0 -5.7
CD2 S **S** **10 47 29.0 -3.5**
CD2 XS sS 10 47 59.8 -1.5
CD2 SS SS 10 49 25.8 -27
CD2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,90nm,14.4s
CD2 LR LR
comp=Z,60nm,14.4s
GTA **Gaotai** **32.63 285** *e*P **P** **10 42 29.5 +0.1**
GTA AP pP 10 42 46.3 +0.1
GTA XP sP 10 42 55.2 +0.8
GTA PP PP 10 43 42.0 -2.3
GTA PPP 10 44 01.1
GTA S **S** **10 47 39.7 -0.6**
GTA XS sS 10 48 11.3 +2.2
GTA SS SS 10 49 39.1 -24
GTA AMB AMB
comp=Z,18nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,94nm,6.8s
GTA LR LR
comp=N,104nm,17.9s
GTA LR LR
comp=E,158nm,17.9s
GTA LR LR
comp=Z,227nm,16.0s
BILL **Bilibino** **32.68 17** *e*P **P** **10 42 30.1 +0.3**
BILL pmax pmax
comp=Z,23nm,1.4s,mb4.8
QIZ **Qiongzhong** **33.87 245** P **P** **10 42 41.4 +1.2**
QIZ XP sP 10 43 07.7 +2.5
QIZ S **S** **10 48 00.7 +1.3**
QIZ AMB AMB
comp=Z,28nm,1.7s,mb4.8
QIZ AMB AMB
comp=Z,200nm,2.8s,mb5.5
QIZ LR LR
comp=Z,118nm,15.2s
KMI **Kunming** **35.61 260** P **P** **10 42 54.7 -0.4**
KMI AP pP 10 43 10.1 -2.0
KMI PP PP 10 44 17.4 +0.3
KMI PPP 10 44 37.4
KMI S **S** **10 48 27.0 +0.9**
KMI XS sS 10 48 53.1 -2.1
KMI SS SS 10 50 50.1 -13
KMI SSS 10 51 19.7
KMI LR LR
comp=N,82nm,21.4s
KMI LR LR
comp=E,83nm,19.0s
KMI LR LR
comp=Z,113nm,29.4s
KRAR **Krasnoyarsk** **36.87 315**⇑ *i*P **P** **10 43 06.5 +0.7**
KRAR pmax pmax
comp=Z,44nm,0.5s,mb5.6
WMQ **Urumqi** **40.68 296**⇑ *i*P **P** **10 43 38.6 +0.9**
WMQ AP pP 10 43 57.0 +2.0
WMQ XP sP 10 44 06.0 +2.9
WMQ PP PP 10 45 17.0 +4.4
WMQ PCP PcP 10 45 41.0 +2.8
WMQ *e*S **S** **10 49 43.0 +0.3**
WMQ XS sS 10 50 14.0 +1.9
WMQ AMB AMB
comp=Z,29nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,165nm,4.3s
WMQ LR LR
comp=N,319nm,19.5s
WMQ LR LR
comp=E,268nm,23.2s
WMQ LR LR
comp=Z,326nm,24.4s
ZAL **Zalesovo** **41.41 311** P **P** **10 43 44.1 +0.4**
comp=Z,19nm,0.5s,mb5.2,baz=22,slow=8.9,SNR=52
ZAL LR LR 11 02 17.5
comp=Z,110nm,18.9s,baz=188,slow=38
NVS **Novosibirsk** **42.29 313**⇑ *i*P **P** **10 43 50.5 -0.4**
NVS pmax pmax
comp=E,24nm,0.6s
NVS pmax pmax
comp=Z,32nm,0.6s,mb5.2
MK31 **Makanchi Array** **43.83 301** P **P** **10 44 03.1 -0.3**
MK31 pmax pmax
comp=Z,37nm,0.9s,mb5.1
MKAR **Makanchi Array** **43.83 301** P **P** **10 44 03.3 -0.1**
comp=Z,25nm,0.7s,mb5.0,baz=86,slow=8.9,SNR=95
MKAR **Makanchi Array** **43.83 301**⇑ *e*P **P** **10 44 03.2 -0.2**
KDAK **Kodiak Island** **45.86 43** P **P** **10 44 18.8 -0.7**
comp=Z,10nm,0.4s,mb4.9,baz=278,slow=12,SNR=11
MCK **McKinley** **47.33 34** *e*P **P** **10 44 30.5 -0.5**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MCK **McKinley** **47.33 34** *e*P **P** **10 44 30.4 -0.5**
comp=Z,4.6nm,0.8s,mb4.3
JIRN **Jiri** **47.36 274** *e*P **P** **10 44 32.0 +0.8**
comp=Z,26nm,0.4s,mb5.3
GUN **Gumba** **47.48 275** *e*P **P** **10 44 33.0 +0.8**
comp=Z,103nm,0.5s,mb5.8
COLA **College** **47.76 33** *c* *i*P **P** **10 44 34.6 +0.3**
COLA **College** **47.76 33** *e*P **P** **10 44 33.4 -1.0**
comp=Z,5.0nm,0.7s,mb4.5
KKN **Kakani** **48.01 275** *e*P **P** **10 44 36.6 +0.4**
comp=Z,74nm,0.6s,mb5.7
PKI **Pulchoki** **48.01 275** *e*P **P** **10 44 36.5 +0.3**
comp=Z,36nm,0.6s,mb5.3
DMN **Daman** **48.23 275** *e*P **P** **10 44 38.2 +0.3**
comp=Z,80nm,1.1s,mb5.5
GKN **Gorkha** **48.41 276** *e*P **P** **10 44 39.6 +0.2**
comp=Z,97nm,1.0s,mb5.6
KOLN **Koldanda** **49.34 276** *e*P **P** **10 44 47.3 +0.9**
VOSK **Vostochnaya** **49.77 311** P **P** **10 44 49.2 -0.5**
VOSK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CHKZ **Chkalovo** **49.77 312** *e*P **P** **10 44 49.3 -0.4**
CHKZ pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CHKZ **Chkalovo** **49.77 312** *e*P **P** **10 44 49.3 -0.5**
comp=Z,9.8nm,0.5s,mb5.0
BVA0 **Borovoye Array** **50.05 312** P **P** **10 44 51.6 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BRVK **Borovoye** **50.11 312**⇑ P **P** **10 44 52.2 -0.1**
SNR=8.5
BRVK **Borovoye** **50.11 312** *e*P **P** **10 44 51.7 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK **Borovoye** **50.11 312** *e*P **P** **10 44 51.7 -0.5**
comp=Z,7.7nm,0.8s,mb4.7
AAK **Ala-Archa** **50.29 298**⇑ P **P** **10 44 52.9 -0.7**
SNR=5.9
AAK **Ala-Archa** **50.29 298** *c* *i*P **P** **10 44 52.7 -0.9**
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
AAK **Ala-Archa** **50.29 298** *e*P **P** **10 44 53.0 -0.7**
comp=Z,13nm,0.8s,mb4.9
HNR **Honiara** **50.37 157** LR LR 11 04 29.5
comp=Z,79nm,18.6s,baz=359,slow=34
ZRNK **Zerenda** **50.88 312** *e*P **P** **10 44 57.9 -0.2**
ZRNK pmax pmax
comp=Z,14nm,0.6s,mb5.2
ZRNK **Zerenda** **50.88 312** *e*P **P** **10 44 57.9 -0.2**
comp=Z,14nm,0.6s,mb5.2
KK31 **Karatay Array** **52.88 299** *i* P **P** **10 45 12.6 -0.4**
KK31 pmax pmax
comp=Z,15nm,0.8s,mb5.1
KKAR **Karatay Array** **52.88 299** P **P** **10 45 12.6 -0.4**
KKAR pmax pmax
comp=Z,13nm,0.9s,mb5.0
INK **Inuvik** **53.05 28** P **P** **10 45 14.0 -0.2**
comp=Z,7.8nm,0.9s,mb4.7,baz=291,slow=5.9,SNR=18
INK **Inuvik** **53.05 28** *e*P **P** **10 45 13.3 -0.9**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK **Inuvik** **53.05 28** *e*P **P** **10 45 13.3 -0.9**
comp=Z,7.3nm,0.9s,mb4.7
SVE **Sverdlovsk** **54.49 318** *e*P **P** **10 45 24.8 +0.1**
SVE pmax pmax
comp=Z,44nm,1.3s,mb5.3
ARU **Arti** **55.70 318**⇑ *i*P **P** **10 45 33.1 -0.4**
ARU *e* pP 10 45 49.1 -2.4
ARU *e* 10 47 34.2
ARU *e*PPP 10 48 52.6
ARU *e*S **S** **10 53 17.8 +3.2**
ARU *e*SS SS 10 57 01.6 +0.9
ARU pmax pmax
comp=Z,24nm,0.8s,mb5.3
ARU **Arti** **55.70 318** *e*P **P** **10 45 32.9 -0.6**
comp=Z,21nm,0.7s,mb5.3
DLBC **Dease Lake** **57.35 39** P **P** **10 45 46.3 +1.1**
comp=Z,7.2nm,0.9s,mb4.7,baz=282,slow=7.4,SNR=14
AB31 **Akbulak array** **57.47 310** P **P** **10 45 45.1 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
WRAB **Tennant Creek** **58.37 188** *e*P **P** **10 45 51.2 -1.1**
WRAB *e**PP pP 10 46 10.0 -0.5
WRAB pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRAB **Tennant Creek** **58.37 188** *e*P **P** **10 45 51.2 -1.1**
comp=Z,16nm,0.9s,mb5.0
WRAB *e*pP pP 10 46 10.0 -0.5
WB2 **Warramunga Arr** **58.38 188**⇓ *i*P **P** **10 45 50.9 -1.5**
WRA **Warramunga Arr** **58.38 188** P **P** **10 45 51.1 -1.3**
comp=Z,5.7nm,0.6s,mb4.8,baz=6.2,slow=6.8,SNR=103
WRA pP pP 10 46 08.9 -1.6
comp=Z,4.2nm,0.5s,baz=5.5,slow=7.2,SNR=7.9
AS31 **Alice Springs** **62.11 188** *e*P **P** **10 46 17.0 -0.8**
ASAR **Alice Springs** **62.11 188** P **P** **10 46 17.0 -0.8**
comp=Z,3.1nm,0.6s,mb4.5,baz=7.7,slow=5.1,SNR=42
ASAR pP pP 10 46 34.9 -1.3
comp=Z,3.6nm,0.7s,baz=12,slow=6.2,SNR=8.9
ASAR LR LR 11 11 02.4
comp=Z,102nm,20.4s,baz=49,slow=34
ASAR **Alice Springs** **62.11 188** P **P** **10 46 17.0 -0.8**
ASAR *PP pP 10 46 34.9 -1.3
ASPA **Alice Springs** **62.11 188** *e*P **P** **10 46 17.0 -0.8**
YKA **Yellowknife Ar** **62.48 31** P **P** **10 46 19.4 -0.9**
comp=Z,1.3nm,0.6s,mb4.2,baz=302,slow=6.2,SNR=4.4
YKA LR LR 11 15 01.1
comp=Z,32nm,18.4s,baz=90,slow=37
YKA **Yellowknife Ar** **62.48 31** *i* P **P** **10 46 19.3 -1.0**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ARCES **ARCESS Array B** **62.96 339** P **P** **10 46 23.6 +0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=52,slow=8.0,SNR=12
ARCES pP pP 10 46 40.5 -1.4

comp=Z,3.3nm,0.6s,baz=53,slow=8.1,SNR=2.8
ARCES sP sP 10 46 45.6 -4.1
comp=Z,5.7nm,0.6s,baz=54,slow=9.1,SNR=6.1
ARCES LR LR 11 15 38.2
comp=Z,61nm,18.5s,baz=77,slow=38
ARCES ARCESS Array B 62.96 339 P **P 10 46 23.6 +0.1**
ARCES *PP pP 10 46 40.5 -1.4
ARCES ARCESS Array B 62.96 339 P **P 10 46 23.6 +0.1**
ARCES pP pP 10 46 40.5 -1.4
ARCES sP sP 10 46 45.6 -4.1
ARCES LR LR 11 15 38.2
JOF Joensuu 65.05 332 *ep* **P 10 46 35.8 -1.4**
comp=Z,1.3nm,0.4s,mb4.1
OBC Olympics--Bomi 65.08 48 P **P 10 46 38.4 +1.0**
HDW Hoodsport 65.87 48 P **P 10 46 43.5 +1.0**
MBW Mount Baker 65.95 46 P **P 10 46 43.3 +0.3**
GNW Green Mountain 66.05 48 *eP* **P 10 46 44.1 +0.5**
JCW Jim Creek 66.24 47 P **P 10 46 45.1 +0.3**
RPW Rockport 66.34 46 P **P 10 46 45.5 0.0**
COR Corvallis 67.32 51 *eP* **P 10 46 51.2 -0.5**
COR pmax pmax
comp=Z,55nm,1.4s,mb5.2
COR Corvallis 67.32 51 *eP* **P 10 46 51.2 -0.5**
comp=Z,55nm,1.4s,mb5.2
OBN Obninsk 67.34 323 *eP* **P 10 46 51.3 -0.6**
OBN *e* 10 47 18.3
OBN pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KAF Kangasniemi 67.38 333 *ep* **P 10 46 51.1 -1.0**
comp=Z,7.9nm,0.6s,mb4.7
KAF Kangasniemi 67.38 333 *eP* **P 10 46 51.1 -1.0**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
AFI Afiamalu 67.61 131 P **P 10 46 53.8 +0.2**
comp=Z,4.5nm,0.3s,mb4.8,baz=162,slow=6.4,SNR=7.7
EBG Ellensburg 67.70 47 P **P 10 46 54.6 +0.5**
FINES FINESS Array B 67.89 332 P **P 10 46 54.8 -0.6**
comp=Z,2.9nm,0.6s,mb4.3,baz=38,slow=9.2,SNR=15
FINES pP pP 10 47 11.7 -2.2
comp=Z,3.0nm,0.6s,baz=62,slow=6.7,SNR=2.8
FINES sP sP 10 47 19.5 -2.2
comp=Z,6.2nm,0.6s,baz=52,slow=8.2,SNR=5.3
FINES LR LR 11 17 23.7
comp=Z,47nm,20.2s,baz=83,slow=36
FINES FINESS Array B 67.89 332 P **P 10 46 54.8 -0.5**
FINES *PP pP 10 47 11.7 -2.2
FINES *SP sP 10 47 19.5 -2.2
FINES FINESS Array B 67.89 332 P **P 10 46 54.8 -0.6**
FINES pP pP 10 47 11.7 -2.2
FINES sP sP 10 47 19.5 -2.2
FINES LR LR 11 17 23.7
HOOD Mount Hood Mea 67.92 49 *eP* **P 10 46 55.8 +0.3**
EDM Edmonton 68.07 39 *eP* **P 10 46 56.4 -0.1**
NEW Newport 68.91 45 P **P 10 47 02.0 +0.3**
comp=Z,6.9nm,0.8s,mb4.5,baz=302,slow=5.4,SNR=16
NEW Newport 68.91 45 *eP* **P 10 47 01.6 -0.1**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 68.91 45 *eP* **P 10 47 01.6 -0.1**
comp=Z,10nm,1.0s,mb4.6
YBH Yreka Blue Hor 69.22 53 *eP* **P 10 47 04.0 +0.4**
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 69.22 53 *eP* **P 10 47 04.0 +0.5**
comp=Z,8.6nm,1.0s,mb4.5
STKA Stephens Creek 69.83 180 P **P 10 47 06.3 -1.0**
comp=Z,1.7nm,0.6s,mb4.0,baz=297,slow=4.5,SNR=3.3
STKA pP pP 10 47 24.4 -1.6
comp=Z,3.9nm,0.6s,baz=309,slow=14,SNR=4.1
WDC Whiskeytown Da 69.95 54 *eP* **P 10 47 08.1 0.0**
WDC pmax pmax
comp=Z,11nm,1.2s,mb4.6
WDC Whiskeytown Da 69.95 54 *eP* **P 10 47 08.1 -0.1**
comp=Z,11nm,1.2s,mb4.6
WALA Waterton Lakes 70.20 43 *eP* **P 10 47 09.7 +0.1**
comp=Z,12nm,0.9s,mb4.7
LTIM Timbered Crate 70.29 53 P **P 10 47 10.7 +0.6**
KIV Kislovodsk 70.41 311 *d iP* **P 10 47 12.0 +1.1**
KIV pmax pmax
comp=Z,17nm,0.9s,mb4.9
KIV MLR MLR
comp=Z,30nm,20.0s
MOD Modoc 70.62 52 *eP* **P 10 47 12.9 +0.7**
BMO Blue Mountains 70.74 48 *eP* **P 10 47 13.2 +0.3**
OHCM Honcut 71.32 54 *eP* **P 10 47 16.4 -0.1**
WVOR Wild Horse Val 71.33 50 *eP* **P 10 47 17.0 +0.5**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
WVOR Wild Horse Val 71.33 50 *eP* **P 10 47 17.0 +0.5**
comp=Z,5.5nm,1.0s,mb4.3
MSO Missoula 71.50 45 *eP* **P 10 47 17.5 +0.1**
comp=Z,5.5nm,1.1s,mb4.3
CHMT Chamberlain Mo 71.82 44 *eP* **P 10 47 18.2 -1.2**
HRY Holter Researc 72.72 44 *eP* **P 10 47 25.0 +0.2**
CMB Columbia Colle 72.77 55 *eP* **P 10 47 25.3 +0.2**
CMB pmax pmax
comp=Z,14nm,1.0s,mb4.8
CMB Columbia Colle 72.77 55 *eP* **P 10 47 25.3 +0.2**
comp=Z,14nm,1.0s,mb4.8
LRM Limekiln Ridge 72.93 45 *eP* **P 10 47 26.4 +0.4**
ANN Anapa 72.97 314 *eP* **P 10 47 19.1 -7.2**
ANN pmax pmax
comp=Z,22nm,0.7s,mb5.1
EGMT Eagleton 73.02 42 *eP* **P 10 47 26.6 0.0**
comp=Z,15nm,0.8s,mb4.9
WAKR Walker 73.11 54 *eP* **P 10 47 27.7 +0.7**
DLMT Dillon 73.12 45 *eP* **P 10 47 27.5 +0.3**
comp=Z,11nm,0.8s,mb4.8
NB2 NORSAR Subarra 73.18 337 P **P 10 47 27.4 -0.1**
comp=Z,4.4nm,0.7s,mb4.4,baz=40,slow=6.2
NOA NORSAR Array B 73.18 337 P **P 10 47 27.3 -0.2**
comp=Z,2.6nm,0.9s,mb4.1,baz=38,slow=5.9,SNR=5.5
NOA sP sP 10 47 53.3 -0.7
comp=Z,2.3nm,0.6s,baz=38,slow=6.2,SNR=2.9
NOA LR LR 11 22 08.6
comp=Z,62nm,21.6s,baz=215,slow=38
NOA NORSAR Array B 73.18 337 P **P 10 47 27.3 -0.2**
NOA *SP sP 10 47 53.3 -0.8
BMN Battle Mountai 73.36 51 *eP* **P 10 47 29.0 +0.4**
BMN pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
BMN Battle Mountai 73.36 51 *eP* **P 10 47 29.0 +0.4**
comp=Z,2.6nm,0.4s,mb4.4
BOZ Bozeman (W) 73.49 45 *eP* **P 10 47 29.5 +0.2**
BOZ pmax pmax
comp=Z,14nm,1.1s,mb4.7
BOZ Bozeman (W) 73.49 45 *eP* **P 10 47 29.5 +0.2**
comp=Z,14nm,1.1s,mb4.7
AKASG Malin Array Be 73.56 322 P **P 10 47 29.4 -0.4**
comp=Z,1.8nm,0.5s,mb4.1,baz=45,slow=5.8,SNR=4.6
AKASG pP pP 10 47 45.6 -2.9
comp=Z,1.6nm,0.4s,baz=48,slow=6.0,SNR=3.8
NVAR Mina Array Bea 73.87 54 P **P 10 47 32.2 +0.7**
comp=Z,5.8nm,0.8s,mb4.4,baz=283,slow=6.5,SNR=47
NVAR Mina Array Bea 73.87 54 P **P 10 47 32.2 +0.7**
QLMT Earthquake Lak 74.10 45 *eP* **P 10 47 33.3 +0.4**
GCMT Greyclift 74.47 44 *eP* **P 10 47 35.1 0.0**
LKWY Lake 74.84 45 *eP* **P 10 47 37.7 +0.5**
LKWY pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
LKWY Lake 74.84 45 *eP* **P 10 47 37.7 +0.5**
comp=Z,10nm,1.1s,mb4.5
IMW Indian Meadow 74.96 46 *eP* **P 10 47 38.8 +0.9**
comp=Z,14nm,0.7s,mb4.8
FLWY Flagg Ranch 74.98 45 *eP* **P 10 47 38.5 +0.5**
comp=Z,18nm,1.3s,mb4.6
DCID1 Drake Creek 75.01 46 *eP* **P 10 47 38.4 +0.2**
RRI2 Red Ridge 75.09 46 *eP* **P 10 47 38.8 +0.2**
comp=Z,9.6nm,0.7s,mb4.6
MOOW Moose Ponds 75.16 46 *eP* **P 10 47 43.6 +4.6**
TPAW Teton Pass 75.21 46 *eP* **P 10 47 39.9 +0.5**
comp=Z,11nm,0.7s,mb4.7
HVU Hansel Valley 75.22 48 *eP* **P 10 47 39.4 0.0**
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
HVU Hansel Valley 75.22 48 *eP* **P 10 47 39.4 0.0**
comp=Z,6.1nm,0.9s,mb4.3
LOHW Long Hollow 75.33 46 *eP* **P 10 47 40.4 +0.3**
comp=Z,9.7nm,1.1s,mb4.5
SNOW Snow King Moun 75.34 46 *eP* **P 10 47 41.0 +0.9**
comp=Z,11nm,0.8s,mb4.6
REDW Red Top Meadow 75.35 46 *eP* **P 10 47 40.9 +0.8**
comp=Z,11nm,1.0s,mb4.5
ISA Isabella 75.40 56 *eP* **P 10 47 40.1 -0.3**
DGMT Dagmar 75.56 39 *eP* **P 10 47 41.0 -0.4**
comp=Z,11nm,0.7s,mb4.7
AHID Auburn Hatcher 75.58 47 *eP* **P 10 47 41.8 +0.4**
comp=Z,7.4nm,0.7s,mb4.5
AHID *ePP* PP 10 50 32.0 +0.4
DAC Darwin (Calif) 75.61 55 *eP* **P 10 47 42.0 +0.4**
DAC pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
DAC Darwin (Calif) 75.61 55 *eP* **P 10 47 42.0 +0.4**
comp=Z,7.1nm,0.8s,mb4.5
TRCR Troy Canyon 75.63 52 *eP* **P 10 47 42.1 +0.4**
LAO LASA Array 75.72 41 *eP* **P 10 47 42.3 +0.1**
comp=Z,15nm,0.8s,mb4.8
HWUT Hardware Ranch 76.04 48 *eP* **P 10 47 44.7 +0.6**
comp=Z,12nm,1.0s,mb4.6
DUG Dugway 76.19 50 *eP* **P 10 47 45.7 +0.8**
DUG pmax pmax
comp=Z,16nm,1.0s,mb4.7
DUG Dugway 76.19 50 *eP* **P 10 47 45.7 +0.8**
comp=Z,16nm,1.0s,mb4.7
NOQ North Oquirrh 76.31 49 *eP* **P 10 47 45.6 0.0**
comp=Z,16nm,0.8s,mb4.8
TCUT Toone Canyon 76.44 48 *eP* **P 10 47 46.9 +0.6**
BW06 Boulder Array 76.46 46 *eP* **P 10 47 46.5 +0.1**
comp=Z,9.6nm,0.6s,mb4.7
PDAR Pinedale Array 76.46 46 P **P 10 47 46.5 0.0**
comp=Z,9.2nm,0.6s,mb4.7,baz=281,slow=1.7,SNR=124
CTU Camp Tracy 76.51 49 *eP* **P 10 47 47.5 +0.8**
GSC Goldstone 76.70 56 *eP* **P 10 47 48.1 +0.3**
NLU North Lily Min 76.78 49 *eP* **P 10 47 48.5 +0.3**
MPU Maple Canyon 77.00 49 *eP* **P 10 47 50.1 +0.6**
SHPR Sheep Range 77.02 54 *eP* **P 10 47 50.2 +0.6**
CCUT Cedar City 77.50 52 *eP* **P 10 47 52.9 +0.6**
MSU Marysvale 77.63 51 *eP* **P 10 47 53.6 +0.6**
TMUT Trail Mountain 77.71 49 *eP* **P 10 47 53.9 +0.4**
ULM Lac du Bonnet 78.19 34 P **P 10 47 54.3 -1.8**
comp=Z,2.3nm,0.6s,mb4.1,baz=321,slow=7.5,SNR=6.4
SRU San Rafael 78.24 49 *eP* **P 10 47 56.8 +0.4**
SRU pmax pmax
comp=Z,16nm,0.7s,mb4.9
SRU San Rafael 78.24 49 *eP* **P 10 47 56.8 +0.4**
comp=Z,16nm,0.7s,mb4.8
BRTR Keskin Array B 78.34 312 P **P 10 47 57.5 +0.5**
comp=Z,1.0nm,0.6s,mb3.7,baz=48,slow=4.3,SNR=4.0
BRTR pP pP 10 48 14.9 -1.0
comp=Z,1.0nm,0.4s,baz=105,slow=3.6,SNR=4.3
BRTR PP PP 10 50 55.8 +1.0
comp=Z,1.5nm,0.9s,baz=56,slow=7.6,SNR=4.8
RWWY Rawlins 78.48 46 *eP* **P 10 47 57.9 +0.2**
comp=Z,16nm,0.9s,mb4.8
RSSD Black Hills 78.58 42 *eP* **P 10 47 58.0 -0.3**
RSSD pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
RSSD Black Hills 78.58 42 *eP* **P 10 47 58.0 -0.2**
comp=Z,6.4nm,0.8s,mb4.5
GLA Glamis 79.38 56 *eP* **P 10 48 03.0 +0.4**
PV10 Paradox Valley 79.60 49 *eP* **P 10 48 04.7 +0.9**
PHWY Pilot Hill 79.72 45 *eP* **P 10 48 04.8 +0.3**
PV01 Paradox Valley 80.04 49 *eP* **P 10 48 06.5 +0.4**
CLL Collm 80.21 330 *eP* **P 10 48 07.0 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
CLL *ex* x 10 48 11.0
CLL *epP* pP 10 48 27.0 +0.8
CLL *i* (sP) sP 10 48 36.5 +2.6
comp=Z,9.0nm,0.9s
CLL *ePP* PP 10 51 06.0 -4.3
CLL Collm 80.21 330 *eP* **P 10 48 07.0 -0.1**
CLL pmax pmax
comp=Z,74nm,0.9s,mb5.5
CLL Collm 80.21 330 *eP* **P 10 48 07.0 -0.1**
comp=Z,4.0nm,0.9s,mb4.2
CLL *epP* pP 10 48 27.0 +0.8
CLL *i* sP sP 10 48 36.5 +2.6
ISCO Idaho Springs 80.65 46 *eP* **P 10 48 10.1 +0.6**
ISCO pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ISCO Idaho Springs 80.65 46 *eP* **P 10 48 10.1 +0.6**
comp=Z,4.0nm,0.7s,mb4.4
KHC Kasperske Hory 81.69 329 *eP* **P 10 48 15.0 0.0**
GERES GERESS Array B 81.86 328 P **P 10 48 16.1 +0.2**
comp=Z,0.5nm,0.5s,baz=52,slow=6.9,SNR=4.1
GERES LR LR 11 26 54.5
comp=Z,79nm,21.1s,baz=98,slow=37
SDCO Great Sand Dun 82.10 48 *eP* **P 10 48 17.7 +0.5**
comp=Z,5.1nm,1.0s,mb4.3
GRF Grafenberg Arr 82.19 330 *eP* **P 10 48 23.2 +5.6**
comp=Z,3.0nm,0.8s,mb4.2
GRF Grafenberg Arr 82.19 330 *eP* **P 10 48 23.2 +5.6**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
ECSD EROS,Sioux Fal 82.64 39 *eP* **P 10 48 19.2 -0.7**
ANMO Albuquerque 83.42 50 *eP* **P 10 48 24.3 +0.3**
ANMO Albuquerque 83.42 50 *eP* **P 10 48 24.1 +0.1**
comp=Z,9.5nm,1.0s,mb4.6
SCHQ Schefferville 83.99 16 P **P 10 48 26.2 -0.6**
comp=Z,3.4nm,0.7s,mb4.3,baz=28,slow=5.5,SNR=4.9
PMOR Pomariorio Ree 84.28 114 *eT* 12 21 39.0
comp=Z,34nm,0.2s
BAIF Baives 84.46 334 *eP* **P 10 48 22.2 -7.1**
CDF Champ du Feu 84.74 332 *eP* **P 10 48 24.8 -5.9**
PPT Papeete 84.81 117 *eLR* LR 11 15 42.8
comp=Z,97nm,25.5s
PPT Papeete 84.81 117 *eT* 12 22 19.2
comp=Z,5.6nm,0.3s
PPT Papeete 84.81 117 LR LR 11 28 28.1
comp=Z,34nm,18.0s,baz=282,slow=37
PAE Paea 84.87 117 *eT* 12 22 23.5
comp=Z,8.0nm,0.3s
KSU1 Kansas State U 86.06 42 *eP* **P 10 48 36.3 -1.0**
MNTX Cornudas Mount 86.29 52 *eP* **P 10 48 38.4 0.0**
GDL2 Guadalupe Moun 86.58 51 *eP* **P 10 48 40.4 +0.6**
LOR Lormes 86.95 333 *eP* **P 10 48 35.6 -6.0**
comp=Z,16nm,1.1s,mb4.6
SMF Signal de Mont 87.49 333 *eP* **P 10 48 37.0 -7.2**
AVF Avril sur Loir 87.54 333 *eP* **P 10 48 37.8 -6.7**
WMOK Wichita Mounta 88.07 46 *eP* **P 10 48 47.1 +0.1**
WMOK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
WMOK Wichita Mounta 88.07 46 *eP* **P 10 48 47.1 +0.1**
comp=Z,7.9nm,1.1s,mb4.7
TCF Toulx Ste Croi 88.38 333 *eP* **P 10 48 40.3 -8.1**
TBI Tubuai 88.80 121 *eT* 12 27 17.7
comp=Z,54nm,0.3s
JCT Junction City 90.55 50 *eP* **P 10 48 58.5 -0.1**
JCT pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
JCT Junction City 90.55 50 *eP* **P 10 48 58.5 -0.2**
comp=Z,8.6nm,0.6s,mb5.1
MIAR Mount Ida 91.08 43 *eP* **P 10 49 01.0 -0.1**
MIAR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MIAR Mount Ida 91.08 43 *eP* **P 10 49 01.0 0.0**
comp=Z,9.3nm,0.8s,mb5.0
RKT Rikitea 98.82 112 *eLR* LR 11 22 12.9
comp=Z,64nm,28.8s
TORD Torodi Ar. Bea 116.74 316 PP PP 10 55 49.1 -0.3
comp=Z,1.2nm,0.9s,baz=31,slow=6.4,SNR=4.6
LPAZ La Paz 145.66 59 PKPbc PKPbc 10 55 35.5 +0.5
comp=Z,11nm,0.7s,baz=320,slow=3.5,SNR=53
LPAZ SKP 10 59 06.0
comp=Z,5.2nm,0.6s,baz=319,slow=4.1,SNR=15
LPAZ La Paz 145.66 59 PKP2 PKPab 10 55 35.5 +0.1
LPAZ 10 59 06.0
LPAZ pmax pmax
comp=Z,11nm,0.7s
LPAZ pmax pmax
comp=N,5.0nm,0.6s
PLCA Paso Flores 154.87 106 PKPbc PKPbc 10 55 57.5 -0.2
comp=N,2.2nm,1.0s,baz=297,slow=2.3,SNR=2.3
PLCA PKPab PKPab 10 56 13.2 +0.1
comp=N,3.6nm,1.2s,baz=252,slow=6.4,SNR=3.2
PLCA Paso Flores 154.87 106 PKIKP PKPbc 10 55 57.5 -0.1
PLCA 10 56 13.2
PLCA pmax pmax
comp=Z,2.0nm,1.0s
PLCA pmax pmax
comp=Z,4.0nm,1.2s
CPUP Villa Florida 159.82 59 PKPab PKPab 10 56 33.9 -0.6
comp=Z,0.3nm,0.4s,baz=5.0,slow=6.1,SNR=3.7

NEIC 09 10:41:42.0, 5351N×16487W, h18km, ML3.6(AEIC), **ML3.8**(PMR), **After AEIC., Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**0.82**	**320**	P	Pb	10 41 56.4	-1.4
AKUT				S	Sb	10 42 07.9	-0.5
AKLV	**Akutan Long Va**	**0.92**	**316**	P	Pb	10 41 57.7	-1.6
AKLV				S	Sb	10 42 10.3	-0.8
OKCD	**Okmok Cone D**	**1.94**	**269**	P	Pn	10 42 12.6	-1.4
NIKO	**Nikolski**	**2.45**	**259**	P	Pn	10 42 21.3	+0.2
SDPT	**Sand Point**	**3.16**	**53**	P	Pn	10 42 29.5	-1.3
SDPT				S	Sn	10 43 05.9	-2.1
CHGN	**Chignik**	**4.66**	**51**	*eP*	Pn	10 42 50.1	-1.3

*NEIC **09** 11:01:49.7±5.0, 2338S×17950E, h504km±61km, mb4.3/3, Error ellipse: s-maj=52.7km s-min=23.4km az=193.0*
*ISCJB **09** 11:01:54.4±2.2, 2375S±0.1×1796E±0.3, h600km, mb4.2/6, Error ellipse: s-maj=40.0km s-min=13.5km az=146.8*
*IDC **09** 11:01:55.6±10.0, 2386S×17937E, h569km±114km, mb3.2/3, mb1 3.4/4, mb1mx3.0/12, mbtmp4.3/4, Error ellipse: s-maj=96.0km s-min=40.9km az=26.0*

ISC 09 11:01:56.5±4.8, 239S±01×1797E±03, h624km±60km, n12, σ0°42/11, mb4.2/6, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.52**	**188**	P	**P**	**11 04 59.2**	**-0.1**
	2.0nm,0.3s,baz=101,slow=10,SNR=9.7						
URZ				S	**S**	**11 07 28.3**	**-0.1**
	0.3nm,0.3s,baz=306,slow=19,SNR=3.1						
CTA	**Charters Tower**	**31.22**	**270**	*iP*	**P**	**11 07 27.0**	**-0.3**
	12nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**34.49**	**248**	P	**P**	**11 07 55.8**	**+1.0**
	1.3nm,0.3s,mb4.1,baz=68,slow=5.4,SNR=2.9						
AS31	**Alice Springs**	**41.78**	**261**	*eP*	**P**	**11 08 53.7**	**+0.2**
ASAR	**Alice Springs**	**41.78**	**261**	P	**P**	**11 08 53.8**	**+0.3**
	1.7nm,0.5s,mb3.8,baz=95,slow=6.8,SNR=37						
ASPA	**Alice Springs**	**41.79**	**261**	*eP*	**P**	**11 08 53.7**	**+0.2**
WB2	**Warramunga Arr**	**42.14**	**266**	*eP*	**P**	**11 08 55.7**	**-0.6**
WRAB	**Tennant Creek**	**42.14**	**266**	*eP*	**P**	**11 08 55.9**	**-0.4**
	3.7nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**42.15**	**266**	P	**P**	**11 08 55.9**	**-0.5**
	1.7nm,0.3s,mb4.1,baz=104,slow=8.5,SNR=213						
MAJO	**Matsushiro**	**71.72**	**326**	*eP*	**P**	**11 12 17.4**	**+0.2**
	1.6nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**131.80**	**348**	PKP	PKPdf	11 20 04.5	+4.5
	1.7nm,0.9s,baz=7.1,slow=2.2,SNR=5.1						
AKASG	**Malin Array Be**	**144.80**	**327**	PKP	PKPdf	11 20 26.4	+2.7
	0.4nm,0.5s,baz=41,slow=3.5,SNR=4.1						

IDC 09 11:05:15.1±2.6, 834N×12753E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, 1D, Error ellipse: s-maj=186.4km s-min=26.6km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.87**	**222**	*eP*	Pn	11 05 39.3	-9.1
BUKP	**Musuan**	**2.48**	**260**	*eP*	Pn	11 05 53.6	-3.2
CGP	**Cagayan de Oro**	**2.81**	**272**	*eP*	Pn	11 05 57.6	-3.6
CGP				*i* S	Sn	11 06 36.5	+0.7
WRA	**Warramunga Arr**	**28.89**	**167**	P	P	11 11 15.8	+0.3
	1.2nm,0.7s,baz=347,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**32.42**	**169**	P	P	11 11 47.0	+0.4
	0.2nm,0.5s,baz=338,slow=7.1,SNR=2.9						
MKAR	**Makanchi Array**	**54.30**	**323**	P	P	11 14 43.2	+0.1
	1.0nm,0.7s,baz=120,slow=8.5,SNR=9.0						

IDC 09 11:17:58.9±8.8, 1847S×17794W, h466km±283km, mb3.2/3, mb1 3.3/4, mb1mx3.1/14, mbtmp4.1/4, Error ellipse: s-maj=244.7km s-min=89.9km az=109.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.46**	**53**	P	P	11 19 50.4	+1.6
	1.2nm,0.3s,baz=306,slow=13,SNR=2.7						
AFI				S	S	11 21 18.1	-0.7
	1.1nm,0.3s,baz=322,slow=19,SNR=2.8						
STKA	**Stephens Creek**	**38.76**	**242**	P	P	11 24 41.5	-0.5
	3.6nm,1.0s,baz=85,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**44.97**	**260**	P	P	11 25 31.5	+0.2
	0.8nm,0.5s,baz=96,slow=7.6,SNR=38						
ASAR	**Alice Springs**	**45.07**	**255**	P	P	11 25 32.5	+0.4
	2.6nm,0.6s,baz=87,slow=8.5,SNR=26						

*ISCJB **09** 11:36:25.8±0.4, 4064N±002×2079E±004, h7km±3km, Error ellipse: s-maj=5.2km s-min=3.6km az=63.8*
*ATH **09** 11:36:25.9, 4071N×2082E, h16km±3km, MD3.4/6*
*NEIC **09** 11:36:26.1, 4064N×2079E, h0km, MD3.4(ATH), After THE.*
*SKO **09** 11:36:26.6, 4060N×2077E, h0km, M1.0, ML2.6*
*THE **09** 11:36:26.1, 4064N×2079E, h10km, ML3.1*
*CSEM **09** 11:36:26.2±0.1, 4067N×2082E, h4km, ML3.1, Error ellipse: s-maj=1.7km s-min=1.4km az=110.0*

ISC 09 11:36:26.2±0.4, 4064N±002×2077E±004, h8km±3km, n34, σ0°99/49, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.02**	**145**	*i* Pg	**Pg**	**11 36 27.5**	**-0.2**
KBN				*i* Sg	**Sg**	**11 36 29.5**	**+0.8**
KBN	**Korca**	**0.02**	**145**	*e* Pg	**Pg**	**11 36 27.5**	**-0.2**
KBN				*i* Sg	**Sg**	**11 36 29.5**	**+0.8**
OHR	**Ohrid**	**0.47**	**2**	*i* Pg	**Pg**	**11 36 35.0**	**-0.4**
OHR				*i* Sg	**Sg**	**11 36 42.6**	**+1.0**
OHR				*e* Lg		11 36 42.9	
	comp=E,409nm,0.5s						
OHR				*e* Lg		11 36 43.0	
	comp=N,239nm,0.7s						
OHR	**Ohrid**	**0.47**	**2**	*e* Pg	**Pg**	**11 36 34.8**	**-0.6**
OHR				*e* Sg	**Sg**	**11 36 42.1**	**+0.5**
FNA	**Florina**	**0.48**	**72**	*e* Pg	**Pg**	**11 36 35.3**	**-0.3**
FNA				*e* Sg	**Sg**	**11 36 43.0**	**+1.2**
LSK	**Leskovik**	**0.51**	**195**	*i* Pg	**Pg**	**11 36 35.0**	**-1.0**
LSK				*i* Sg	**Sg**	**11 36 42.9**	**+0.2**
LSK	**Leskovik**	**0.51**	**195**	*e* Pg	**Pg**	**11 36 35.0**	**-1.0**
LSK				*i* Sg	**Sg**	**11 36 42.9**	**+0.2**
BIA	**Bitola**	**0.56**	**47**	*e* Pg	**Pg**	**11 36 36.2**	**-0.9**
BIA				*e* Sg	**Sg**	**11 36 45.4**	**+0.9**
BIA	**Bitola**	**0.56**	**47**	*i* Pg	**Pg**	**11 36 36.4**	**-0.8**
BIA				*i* Sg	**Sg**	**11 36 46.3**	**+1.7**
BIA	**Bitola**	**0.56**	**47**	*i* Pg	**Pg**	**11 36 36.3**	**-0.9**
BIA				*e* Sg	**Sg**	**11 36 45.4**	**+0.9**
KZN	**Kozani**	**0.83**	**113**	*e* PB	**Pg**	**11 36 41.4**	**-0.8**
KZN				*e* SN	**Sg**	**11 36 53.9**	**+0.9**
MEV	**Metsovon**	**0.92**	**158**	*e* Pg	**Pg**	**11 36 42.9**	**-1.1**
JAN	**Janina**	**0.98**	**177**	*e* PN	**Pn**	**11 36 45.3**	**-1.0**
TIR	**Tirane**	**0.99**	**316**	*e* Pg	**Pg**	**11 36 45.4**	**+0.2**
IGT	**Igoumenitsa**	**1.16**	**197**	*e* Pg	**Pg**	**11 36 48.1**	**-0.3**
IGT				*e* Sg	**Sg**	**11 37 04.8**	**+1.4**
KEK	**Kerkira**	**1.19**	**219**	*e* PN	**Pn**	**11 36 50.1**	**+1.0**
KEK				*e* SN	**Sn**	**11 37 07.2**	**+1.8**
GRG	**Griva**	**1.28**	**75**	*e* Pg	**Pg**	**11 36 49.7**	**-1.1**
LIT	**Litokhoron**	**1.42**	**112**	*e* Pg	**Pg**	**11 36 52.3**	**-1.1**
LIT				*e* Sg	**Sg**	**11 37 12.9**	**+1.1**
SKO	**Skopje**	**1.42**	**20**	*i* Pn	**Pg**	**11 36 54.6**	**+1.0**
SKO	**Skopje**	**1.42**	**20**	*i* Pn	**Pg**	**11 36 54.5**	**+1.0**
VAY	**Valandovo**	**1.52**	**63**	*i* Pn	**Pg**	**11 36 55.0**	**-0.4**
VAY	**Valandovo**	**1.52**	**63**	*i* Pn	**Pg**	**11 36 55.0**	**-0.4**
KNT	**Kendrikon**	**1.69**	**71**	*e* Pb	**Pn**	**11 36 56.0**	**-0.1**
HORT	**Hortiatis**	**1.77**	**91**	*e* Pb	**Pn**	**11 36 56.6**	**-0.5**
EVR	**Evrytania**	**1.90**	**155**	*e* PN	**Pn**	**11 37 00.6**	**+1.8**
LKD	**Levkas**	**1.93**	**183**	*e* Pb	**Pb**	**11 36 60.0**	**-1.7**
SOH	**Sokhos**	**1.97**	**84**	*e* Pb	**Pn**	**11 36 59.9**	**0.0**
AGG	**Agios Georgios**	**2.01**	**143**	*e* Pn	**Pn**	**11 37 00.6**	**+0.2**
AGG				*e* Sn	**Sn**	**11 37 27.5**	**+1.8**
PLG	**Polygyros**	**2.05**	**97**	*e* PN	**Pn**	**11 37 01.4**	**+0.4**
SRS	**Serrai**	**2.19**	**76**	*e* Pn	**Pb**	**11 37 04.6**	**-1.5**
XOR	**Xorichti**	**2.25**	**124**	*e* Pn	**Pn**	**11 37 03.4**	**-0.3**
PAIG	**Paliouri**	**2.33**	**107**	*e* Pn	**Pn**	**11 37 04.4**	**-0.5**
VLS	**Valsamata**	**2.46**	**183**	*e* PB	**Pb**	**11 37 08.5**	**-2.2**
AOS	**Alonnisos**	**2.80**	**121**	*e* Pn	**Pn**	**11 37 11.1**	**-0.3**

IDC 09 11:39:00.7±1.9, 1629S×17696W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/14, mbtmp4.1/4, ML2.5/1, Error ellipse: s-maj=175.1km s-min=30.4km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.54**	**65**	Pn	Pn	11 40 24.6	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	8.3nm,0.3s,baz=278,slow=7.1,SNR=21						
AFI				Sn	Sn	11 41 15.1	-14
	28nm,0.3s,baz=22,slow=22,SNR=14						
STKA	**Stephens Creek**	**40.63**	**240**	P	P	11 46 42.6	+0.3
	2.1nm,0.7s,baz=98,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**46.31**	**258**	P	P	11 47 28.6	+0.4
	0.3nm,0.5s,baz=93,slow=6.7,SNR=14						
ASAR	**Alice Springs**	**46.58**	**253**	P	P	11 47 30.5	+0.2
	3.2nm,0.6s,baz=88,slow=8.3,SNR=51						

*MOS **09** 11:46:58.7±1.0, 4292N×4684E, h14km, mb4.3/1, Error ellipse: s-maj=9.4km s-min=7.0km az=20.2*
MOS Felt (III) at Dubki.
*CSEM **09** 11:46:58.1, 4292N×4684E, h14km, mb4.3, After OBN*
*ISCJB **09** 11:46:59.6±0.6, 4301N±004×4677E±004, h10km, Error ellipse: s-maj=5.4km s-min=3.9km az=39.0*
ISC 09 11:46:59.9±0.5**, 4300N**±003×**4678E**±004**, h10km, n35, σ1s27**/50**, 1C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.30**	**125**	*e*Pg	**Pg**	**11 47 05.5**	**-0.4**
XNZR	**Khunzakh**	**0.46**	**187**	*i* PG	**Pg**	**11 47 07.5**	**-1.4**
XNZR				*i* S	**Sg**	**11 47 14.7**	**-0.3**
XNZR				pmax	pmax		
	comp=Z,400nm,0.3s						
XNZR	**Khunzakh**	**0.46**	**187**	*i* Pg	**Pg**	**11 47 07.5**	**-1.4**
	comp=Z,400nm,0.3s						
XNZR				*i* Sg	**Sg**	**11 47 14.7**	**-0.3**
BTLR	**Botlikh**	**0.53**	**231**	*i* PG	**Pg**	**11 47 05.0**	**-5.2**
MAK	**Makhachkala**	**0.54**	**94**	*e*PG	**Pg**	**11 47 12.0**	**+1.7**
MAK				*i*		11 47 21.0	
MAK				pmax	pmax		
	comp=Z,106nm,0.1s						
MAK				smax			
	comp=N,28µm,0.5s						
MAK				smax			
	comp=E,1µm,0.3s						
MAK	**Makhachkala**	**0.54**	**94**	*e*Pg	**Pg**	**11 47 12.0**	**+1.7**
	comp=E,106nm,0.1s						
MAK				*i* Sg	**Sg**	**11 47 21.0**	**+3.6**
	comp=E,28µm,0.5s						
GNBR	**Gunib**	**0.62**	**167**	*e*PG	**Pg**	**11 47 07.8**	**-4.2**
GNBR				*e*S	**Sg**	**11 47 17.3**	**-2.9**
GNBR				pmax	pmax		
	comp=Z,84nm,0.2s						
GNBR	**Gunib**	**0.62**	**167**	*e*Pg	**Pg**	**11 47 07.8**	**-4.2**
	comp=Z,84nm,0.2s						
GNBR				*e*Sg	**Sg**	**11 47 17.3**	**-2.9**
KMKR	**Kumukh**	**0.90**	**165**	*e*PG	**Pg**	**11 47 15.5**	**-1.7**
SNJR	**Sundja**	**1.44**	**273**	*i* Pg	**Pg**	**11 47 26.6**	**-1.0**
SNJR				*i* Sg	**Sg**	**11 47 46.4**	**0.0**
VLKR	**Vladikavkaz**	**1.54**	**273**	*i* Pg	**Pg**	**11 47 27.8**	**-1.7**
VLKR				*i* Sg	**Sg**	**11 47 48.4**	**-1.1**
TRKR	**Terskaya**	**1.66**	**297**	*i* Pn	**Pn**	**11 47 29.5**	**+0.4**
DUS	**Dusheti**	**1.78**	**240**	P	**Pn**	**11 47 31.7**	**+0.9**
DUS				S	**Sg**	**11 48 02.9**	**+5.6**
LACR	**Lac**	**1.83**	**265**	*i* Pn	**Pn**	**11 47 31.4**	**0.0**
ARNR	**Ardon**	**1.84**	**277**	*i* Pn	**Pn**	**11 47 31.6**	**0.0**
KMSR	**Komsomolskaya**	**1.86**	**282**	*i* Pn	**Pn**	**11 47 31.9**	**+0.1**
DGRG	**David-gareji**	**1.87**	**214**	P	**Pn**	**11 47 33.7**	**+1.8**
MTA	**Mtatsminda**	**1.97**	**229**	P	**Pn**	**11 47 33.6**	**+0.3**
MTA				S	**Sn**	**11 48 00.6**	**+2.6**
PRTR	**Priterechnaya**	**1.97**	**293**	*e*Pn	**Pn**	**11 47 33.3**	**0.0**
TBLG	**Delisi**	**1.97**	**231**	P	**Pn**	**11 47 33.9**	**+0.5**
TBLG				S	**Sg**	**11 48 02.4**	**-0.9**
KORR	**Kora**	**1.99**	**273**	*e*Pn	**Pn**	**11 47 33.4**	**-0.2**
ZEI	**Tsey**	**2.13**	**265**	*e*PN	**Pn**	**11 47 35.7**	**+0.2**
ZEI				*e*		11 47 38.7	
ZEI				*e*		11 48 06.3	
ZEI				pmax	pmax		
	comp=Z,29nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,47nm,0.1s						
ZEI				smax			
	comp=E,280nm,0.2s						
ZEI	**Tsey**	**2.13**	**265**	*e*Pn	**Pn**	**11 47 35.7**	**+0.2**
	comp=E,29nm,0.1s						
ZEI	**Tsey**	**2.13**	**265**	*e*Pb	**Pb**	**11 47 38.7**	**+0.1**
	comp=E,47nm,0.1s						
ZEI				*e*Sn	**Sb**	**11 48 06.3**	**+1.3**
GOR	**Gori**	**2.22**	**244**	P	**Pn**	**11 47 38.9**	**+2.2**
GOR				S	**Sn**	**11 48 07.3**	**+3.1**
DIGR	**Digorskoe uzhe**	**2.35**	**269**	*i* Pn	**Pn**	**11 47 38.1**	**-0.5**
DIGR				*e*Sn	**Sn**	**11 48 06.2**	**-1.3**
KZR	**Kazreti**	**2.39**	**228**	P	**Pn**	**11 47 39.9**	**+0.9**
KZR				S	**Sb**	**11 48 12.7**	**+0.2**
ONI	**Oni**	**2.48**	**261**	P	**Pn**	**11 47 41.8**	**+1.4**
ONI				S	**Sb**	**11 48 14.9**	**-0.4**
KUBR	**Kubataba**	**2.58**	**289**	*e*Pn	**Pn**	**11 47 44.8**	**+3.0**
SHAR	**Shatzhatmas**	**3.09**	**285**	*i* PN	**Pn**	**11 47 46.5**	**-2.2**
KIV	**Kislovodsk**	**3.13**	**289**	*e*PN	**Pn**	**11 47 49.4**	**+0.1**
GNI	**Garni**	**3.23**	**209***c*	*i*PN	**Pn**	**11 47 52.1**	**+1.4**
GNI	**Garni**	**3.23**	**209**	*i* Pn	**Pn**	**11 47 52.1**	**+1.4**
ANN	**Anapa**	**6.99**	**288**	*e*P	**Pn**	**11 48 40.0**	**-2.3**
BRVK	**Borovoye**	**18.58**	**49**	*e*P	**Pn**	**11 51 15.7**	**-1.6**

WEL 09 11:47:04.6±0.5**, 3482S×17834E, h33km, ML3.8**/3**, Error ellipse: s-maj=6.5km s-min=3.2km az=90.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.25**	**181**	PN	Pn	11 47 52.6	-0.7
PUZ				*e*SN	Sn	11 48 28.7	-2.0
MWZ	**Matawai**	**3.57**	**190**	P*	Pb	11 47 57.3	-10
URZ	**Urewera**	**3.58**	**196**	P*	Pb	11 47 57.7	-9.4

CASC 09 11:47:15.0±2.0**, 1356N×9041W, h55km**±27km**, MD4.0, 11C-5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.81**	**70**⇓	*e*P	x	11 47 35.4	
SBLS				*e*S	x	11 47 48.0	
RTR	**El Retiro**	**0.82**	**66**⇑	*e*P	x	11 47 35.3	
RTR				*e*S	x	11 47 47.7	
SNJE	**San Jose**	**0.84**	**69**⇑	*i*P	x	11 47 35.7	
SNJE				*e*S	x	11 47 48.3	
RBDL	**Robledal**	**0.89**	**52**⇑	*e*P	x	11 47 35.8	
RBDL				*e*S	x	11 47 48.5	
BOQS	**Boqueron**	**1.11**	**81**⇑	*e*P	x	11 47 39.2	
BOQS				*e*S	x	11 47 54.8	
LFU	**La Fuente**	**1.28**	**82**⇑	*e*P	x	11 47 41.2	
LFU				*e*S	x	11 47 59.5	
LFRS	**El Faro**	**1.31**	**87**	*e*P	x	11 47 41.7	
LFRS				*e*S	x	11 47 59.0	
MTO2	**Montecristo 2**	**1.32**	**51**⇑	*e*P	x	11 47 40.9	
MTO2				*e*S	x	11 47 58.1	
LBRS	**Las Brisas**	**1.34**	**82**⇑	*e*P	x	11 47 42.0	
LBRS				*e*S	x	11 47 59.5	
LCBS	**La Ceiba**	**1.40**	**86**⇓	*e*P	x	11 47 42.7	
LCBS				*e*S	x	11 48 00.9	
SNVI	**San Vicente**	**1.53**	**88**⇑	*e*P	x	11 47 44.9	
SNVI				*e*S	x	11 48 04.2	
VSM	**San Miguel**	**2.08**	**93**⇓	*e*P	x	11 47 52.9	
VSM				*e*S	x	11 48 19.0	
BLLM	**Bellamira**	**2.12**	**93**⇑	*e*P	x	11 47 53.2	
BLLM				*e*S	x	11 48 18.8	
CNCH	**Conchagua**	**2.53**	**96**	*e*P	x	11 47 58.1	
CNCH				*e*S	x	11 48 29.2	
LEON	**Leon**	**3.62**	**108**	*e*P	Pn	11 48 08.7	+0.2
LEON				*e*S	Sn	11 48 49.4	-0.5
TELN	**Telica**	**3.62**	**105**	*e*P	Pn	11 48 08.8	+0.3
TELN				*e*S	Sn	11 48 50.6	+0.7
CNGN	**Cerro Negro**	**3.77**	**106**⇑	*e*P	Pn	11 48 11.1	+0.5
CNGN				*e*S	Sn	11 48 55.1	+1.4
MIRN	**Miramar**	**3.78**	**107**⇑	*e*P	Pn	11 48 11.6	+0.9
MOMJ	**Momotombo**	**3.95**	**106**⇓	*e*P	Pn	11 48 14.2	+1.2
COPN	**Copaltepe**	**3.97**	**110**⇓	*e*P	Pn	11 48 13.8	+0.4
TICN	**Ticuantepe**	**4.35**	**110**	*e*P	Pn	11 48 20.4	+1.8
VCR	**Vista de Mar**	**5.79**	**126**	*e*P	Pn	11 48 37.6	-0.7
JCR	**Jicaral**	**6.37**	**125**	*e*P	Pn	11 48 47.7	+1.5
PRS1	**Puriscal**	**6.95**	**120**	*e*P	Pn	11 48 56.8	+2.5
LCR2	**La Lucha 2**	**7.34**	**120**	*e*P	Pn	11 49 02.2	+2.7
BUS	**Buena Vista**	**7.64**	**121**	*e*P	Pn	11 49 05.8	+2.2

*MDD **09** 11:51:19.1±1.8, 3667N×971W, h0km, mbLg2.2/8, Error ellipse: s-maj=15.2km s-min=13.5km az=117.0, PRXIMO*
*NEIC **09** 11:51:20.2, 3673N×962W, h0km, MG3.6(MDD), After MDD.*
*IGIL **09** 11:51:21.4, 3655N×972W, h28km, ML1.8*
INMG 09 11:51:21.1±0.8**, 3668N×969W, h10km**±5km**, ML1.5, Error ellipse: s-maj=5.0km s-min=3.0km az=45.0, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.04**	**53**	*e*P	Pg	11 51 40.1	-1.0
MORF				*e*S	Sg	11 51 53.8	-0.9
MORF				*e*S	Sg	11 51 53.8	-0.9
MORF				AML	AML	11 51 57.0	
	comp=N,16nm,0.2s						
MORF	**Marmelete**	**1.04**	**53**	*e*P	Pg	11 51 40.1	-1.1
MORF				*e*S	Sg	11 51 53.8	-0.9
PTEO	**Sao Teotonio**	**1.16**	**41**	*e*P	Pb	11 51 41.6	-1.6
PTEO				*e*S	Sb	11 51 57.4	-0.9
PTEO							
	comp=N,2.8nm,0.1s						
EGRO	**El Granado**	**1.96**	**63**	P	Pn	11 51 52.5	-1.9
	comp=N,0.9nm,0.1s,SNR=7.9						
EGRO				S	Sn	11 52 16.6	-2.4
	comp=N,2.6nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.98**	**47**	*e*Pn	Pn	11 51 52.7	-2.0
PBEJ				*e*Sn	Sn	11 52 16.2	-3.3
PBEJ							
	comp=N,2.6nm,0.1s						
PMAFR	**Mafra**	**2.30**	**8**	*e*Pn	Pn	11 51 57.3	-1.7
PMAFR				*e*Sn	Sn	11 52 24.3	-3.0
EMIN	**Mina Concepcio**	**2.64**	**65**	P	Pn	11 52 01.5	-2.3
	comp=N,1.2nm,0.1s,SNR=8.7						
EMIN				S	Sn	11 52 32.5	-3.3
	comp=N,1.5nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**2.75**	**37**	*e*Pn	Pn	11 52 02.6	-2.6
PESTR				*e*Sn	Sn	11 52 35.2	-3.2
EBAD	**Badajoz**	**2.97**	**45**	P	Pn	11 52 05.9	-2.3
	comp=N,1.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	11 52 40.8	-3.1
	comp=N,2.2nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.08**	**85**	P	Pn	11 52 08.3	-1.5
	comp=N,1.0nm,0.2s,SNR=4.8						
ESPR				S	Sn	11 52 43.2	-3.5
	comp=N,14nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.11**	**19**	*e*Pn	Pn	11 52 08.1	-2.0
PTOM				*e*Sn	Sn	11 52 43.3	-4.0
PTOM							
	comp=N,2.3nm,0.1s						
PCBR	**Castelo Branco**	**3.61**	**28**	*e*Pn	Pn	11 52 15.2	-1.8
PCBR				*e*Sn	Sn	11 52 55.3	-4.3
PVIS	**Viseu**	**4.27**	**19**	*e*Sn	Sn	11 53 11.4	-4.6
EADA	**Adamuz**	**4.33**	**68**	P	Pn	11 52 25.3	-1.7
	comp=N,0.2nm,0.1s,SNR=6.7						
EADA				S	Sn	11 53 12.6	-5.0
	comp=N,2.0nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.41**	**55**	P	Pn	11 52 39.8	-2.0
	comp=N,7.6nm,0.1s,baz=240,slow=13,SNR=7.9						

MAN 09 12:04:33.3, 1065N×12481E, h30km, mb1.5, ML3.4, MS4.3, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.45**	**333**	*e*P	Pb	12 04 44.0	+1.1
OCLP				*e*S	Sb	12 04 50.6	+1.2
MSLP	**Maasin**	**0.51**	**175**	*e*P	Pb	12 04 45.4	+1.6
MSLP				*e*S	Sb	12 04 53.7	+2.6
PLP	**Palo**	**0.54**	**17**	*e*P	Pb	12 04 45.9	+1.5
PLP				*i* S	Sb	12 04 54.5	+2.6

*IDC **09** 12:08:01.6±0.5, 51.19N×17963W, h0km, mb4.3/21, mb1 4.5/22, mb1mx4.4/29, mbtmp4.4/22, ML4.9/1, MS4.0/22, Ms1 3.9/22, ms1mx3.7/39, Error ellipse: s-maj=18.5km s-min=12.3km az=154.0*
*MOS **09** 12:08:05.7±0.9, 5128N×17962W, h33km, mb4.8/31, Error ellipse: s-maj=9.5km s-min=7.2km az=99.0*
*NEIC **09** 12:08:07.7±0.7, 5122N×17962W, h40km±6km, mb4.6/46, MS4.1/1, ML4.5(AEIC), Error ellipse: s-maj=7.4km s-min=3.5km az=177.0*
*ISCJB **09** 12:08:07.9±0.6, 5126N±006×17959W±003, h54km±5km, mb4.6/84, MS4.0/34, Error ellipse: s-maj=10.2km s-min=3.4km az=176.2*
*BJI **09** 12:08:07.6, 5120N×17960W, h75km, mB4.9, mb4.8, Ms4.5, Msz4.2*
*SZGRF **09** 12:08:08.2, 51.18N×17984W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States*
ISC 09 12:08:09.3±0.6**, 5131N**±006×**17959W**±003**, h52km**±5km**, h80km**±1.8km**:pP-P, n205, σ0s96**/197**, mb4.6**/84**, MS4.0**/34**, 8C-3D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.70**	**276**	P	**Pn**	**12 08 20.7**	**-2.4**
AMKA				S	**Sn**	**12 08 32.8**	**-0.3**
ATKA	**Atka Island**	**3.47**	**73**	P	**Pn**	**12 08 59.9**	**-0.8**
ATKA				S	**Sn**	**12 09 41.8**	**+1.3**
SMY	**Shemya**	**4.15**	**293**	P	**Pn**	**12 09 12.4**	**+2.3**
SPIA	**Saint Paul Isl**	**8.03**	**39**	*e*Pn	**Pn**	**12 10 06.5**	**+3.3**
SDPT	**Sand Point**	**12.11**	**63**	*e*P	**Pn**	**12 10 57.6**	**-1.5**
	22nm,0.3s						
CHGN	**Chignik**	**13.45**	**60**	*e*P	**Pn**	**12 11 15.2**	**-2.1**
PET	**Petropavlovsk**	**13.46**	**286**	*e*P	**Pn**	**12 11 17.1**	**-0.4**
PET				*e*S	**Sn**	**12 13 46.2**	**+0.7**
PET				pmax	pmax		
	comp=Z,100nm,16.3s						
PET				pmax	pmax		
	comp=Z,19nm,1.1s						
PET				MLR	MLR		
	comp=Z,900nm,20.0s						
PET				MLR	MLR		
	comp=Z,700nm,13.0s						
SVW2	**Sparrevohn**	**16.47**	**44**	*e*P	**Pn**	**12 11 58.8**	**+2.1**
KDAK	**Kodiak Island**	**16.88**	**57**	Pn	**Pn**	**12 11 57.7**	**-4.1**
	comp=Z,3.9nm,0.3s,baz=251,slow=4.8,SNR=15						
KDAK	**Kodiak Island**	**16.88**	**57**	*e*Pn	**Pn**	**12 11 58.5**	**-3.4**
	comp=Z,21nm,0.8s						
TTA	**Tatalina**	**17.18**	**38**	P	**Pn**	**12 12 05.7**	**+0.2**
TTA				pmax	pmax		
	comp=Z,55nm,1.5s						
TTA	**Tatalina**	**17.18**	**38**	P	**Pn**	**12 12 05.7**	**+0.2**
	comp=Z,55nm,1.5s						
BILL	**Bilibino**	**18.15**	**343**⇑	*e*P	**Pn**	**12 12 17.9**	**+0.4**
BILL				pmax	pmax		
	comp=Z,28nm,1.7s						
MA2	**Magadan**	**18.61**	**308**	*e*P	**Pn**	**12 12 21.2**	**-1.8**
MA2				pmax	pmax		
	comp=Z,91nm,2.2s						
SLKM	**Skilak Lake**	**18.71**	**49**	*e*P	**Pn**	**12 12 25.0**	**+0.7**
SEY	**Seymchan**	**18.97**	**319**	*e*P	**Pn**	**12 12 27.1**	**-0.3**
IMA2	**Indian Mountai**	**19.77**	**32**	*e*P	**Pn**	**12 12 36.6**	**-0.3**
DIV	**Divide**	**20.98**	**49**	*e*P	**P**	**12 12 48.7**	**+0.6**
COLA	**College**	**21.27**	**38**⇑	*i*P	**P**	**12 12 52.2**	**+0.9**
COLA	**College**	**21.27**	**38**	*e*P	**P**	**12 12 51.6**	**+0.4**
	comp=Z,11nm,0.9s,mb4.2						
EGAK	**Eagle**	**23.93**	**41**	*e*P	**P**	**12 13 17.9**	**-0.5**
DAWY	**Dawson**	**24.50**	**43**	*e*P	**P**	**12 13 22.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**24.83**	**275**	*e*P	**P**	**12 13 27.4**	**+0.7**
YSS				*e*		12 13 40.5	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
YSS	**Yuzh-Sakhalins**	**24.83**	**275**	*e*P	**P**	**12 13 26.9**	**+0.2**
	comp=E,34nm,0.9s,mb4.9						
ASAJ	**Asahikawa**	**26.21**	**269**	P	**P**	**12 13 39.0**	**-0.2**
	comp=E,16nm,1.0s,mb4.5,baz=166,slow=1.7,SNR=5.2						
ASAJ				LR	LR	12 23 01.7	
	comp=E,162nm,19.8s,MS3.6,baz=15,slow=34						
ASAJ	**Asahikawa**	**26.21**	**269**	P	**P**	**12 13 39.0**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,16nm,1.0s						
ASAJ				MLR	MLR		
	comp=Z,162nm,19.8s						
INK	**Inuvik**	**27.80**	**35**	P	**P**	**12 13 53.4**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=162,slow=7.2,SNR=4.3						
DLBC	**Dease Lake**	**28.81**	**56**	LR	LR	12 25 21.2	
	comp=Z,385nm,21.1s,MS4.0,baz=86,slow=36						
HABR	**Khabarovsk**	**29.01**	**282**	*e*P	**P**	**12 14 02.3**	**-1.9**
HABR				*e*S	**S**	**12 18 53.8**	**+2.1**
YAK	**Yakutsk**	**29.10**	**311**	*e*P	**P**	**12 14 04.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
TIXI	**Tiksi**	**30.46**	**331**	*i* P	**P**	**12 14 17.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.5						
MAJO	**Matsushiro**	**33.29**	**260**	*e*P	**P**	**12 14 41.8**	**0.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MAJO	**Matsushiro**	**33.29**	**260**	*e*P	**P**	**12 14 41.8**	**0.0**
	comp=Z,8.3nm,1.0s,mb4.6						
MAT	**Matsushiro**	**33.29**	**260**	P	**P**	**12 14 41.6**	**-0.2**
MAT				S	**S**	**12 19 51.2**	**-7.3**
MJAR	**Matsushiro Arr**	**33.29**	**260**	P	**P**	**12 14 41.6**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=53,slow=7.5,SNR=12						
MJAR				PcP	PcP	12 17 22.3	-0.7
	comp=Z,0.6nm,0.6s,baz=56,slow=0.6,SNR=4.9						
MJAR				LR	LR	12 26 23.4	
	comp=Z,205nm,21.1s,MS3.8,baz=70,slow=33						
MJAR	**Matsushiro Arr**	**33.29**	**260**	P	**P**	**12 14 41.6**	**-0.2**
MJAR						12 17 22.3	
MJAR	**Matsushiro Arr**	**33.29**	**260**	P	**P**	**12 14 41.6**	**-0.2**
MJAR				PcP	PcP	12 17 22.3	-0.7
MJAR				LR	LR	12 26 23.4	
VLA	**Vladivostok**	**33.42**	**275**	*e*P	**P**	**12 14 43.5**	**+0.5**
VLA				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.9						
MDJ	**Mudanjiang**	**34.10**	**279**	P	**P**	**12 14 47.9**	**-1.0**
MDJ				AP	pP	12 15 06.7	+4.5
MDJ				XP	sP	12 15 16.3	+8.1
MDJ				PP	PP	12 16 06.3	-0.5
MDJ				PCP	PcP	12 17 24.1	-1.2
MDJ				S	**S**	**12 20 07.8**	**-3.3**
MDJ				SCP	ScP	12 21 01.4	-4.4
MDJ				PCS	PcS	12 21 10.1	-1.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,38nm,6.3s						
MDJ				LR	LR		
	comp=N,105nm,25.1s,MS3.7						
MDJ				LR	LR		
	comp=E,150nm,28.2s,MS3.7						
MDJ				LR	LR		
	comp=Z,216nm,27.6s,MS3.7						
YKA	**Yellowknife Ar**	**35.64**	**46**	P	**P**	**12 15 01.3**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.2,baz=278,slow=9.8,SNR=4.9						
YKA				LR	LR	12 31 47.5	
	comp=Z,274nm,18.3s,MS4.0,baz=270,slow=40						
YKA	**Yellowknife Ar**	**35.64**	**46**	*i* P	**P**	**12 15 01.2**	**-0.9**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CN2	**Changchun**	**37.08**	**280**	*e*P	**P**	**12 15 16.0**	**+1.6**
CN2				*e*S	**S**	**12 20 55.4**	**-1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.2						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.2						
CN2				LR	LR		
	comp=Z,200nm,17.0s,MS4.0						
FMW	**Mount Fremont**	**37.31**	**73**	P	**P**	**12 15 17.2**	**+0.8**
BOD	**Bodaibo**	**37.62**	**307**	*e*P	**P**	**12 15 17.3**	**-1.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
HIA	**Hailar**	**37.85**	**291***c*	*i*P	**P**	**12 15 20.7**	**-0.3**
HIA	**Hailar**	**37.85**	**291**	*e*P	**P**	**12 15 19.9**	**-1.1**
	comp=Z,24nm,1.4s,mb4.7						
EBG	**Ellensburg**	**37.98**	**73**	P	**P**	**12 15 23.4**	**+1.3**
VFP	**Flag Point**	**38.23**	**76**	P	**P**	**12 15 25.1**	**+1.0**
HAWA	**Hanford**	**38.86**	**73**	*e*P	**P**	**12 15 29.0**	**-0.4**
	comp=Z,0.7nm,0.8s						
EDM	**Edmonton**	**39.28**	**60**	*e*P	**P**	**12 15 32.4**	**-0.5**
NEW	**Newport**	**39.37**	**69**	P	**P**	**12 15 33.4**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.1,baz=293,slow=8.6,SNR=6.7						
NEW	**Newport**	**39.37**	**69**	*e*P	**P**	**12 15 33.3**	**-0.4**
NEW				pmax	pmax		
	comp=Z,13nm,0.9s						
NEW	**Newport**	**39.37**	**69**	*e*P	**P**	**12 15 33.3**	**-0.4**
	comp=Z,13nm,0.9s,mb4.7						
YBH	**Yreka Blue Hor**	**39.38**	**81**	P	**P**	**12 15 34.3**	**+0.5**
	comp=Z,6.9nm,1.0s,mb4.3,baz=320,slow=6.4,SNR=7.1						
YBH				LR	LR	12 28 37.0	
	comp=Z,144nm,19.5s,MS3.8,baz=298,slow=31						
YBH	**Yreka Blue Hor**	**39.38**	**81**	*e*P	**P**	**12 15 34.6**	**+0.8**
YBH				*e*	pP	12 15 44.1	-3.2
YBH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YBH	**Yreka Blue Hor**	**39.38**	**81**	*e*P	**P**	**12 15 34.6**	**+0.8**
	comp=Z,5.6nm,0.9s,mb4.3						
YBH				*e*	pP	12 15 44.1	-3.1
WDC	**Whiskeytown Da**	**40.14**	**82**	*e*P	**P**	**12 15 40.8**	**+0.7**
WDC				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
WDC	**Whiskeytown Da**	**40.14**	**82**	*e*P	**P**	**12 15 40.8**	**+0.7**
	comp=Z,5.7nm,1.2s,mb4.2						
CIT	**Chita**	**40.14**	**298**	*e*P	**P**	**12 15 40.0**	**-0.1**
WALA	**Waterton Lakes**	**40.85**	**66**	*e*P	**P**	**12 15 45.9**	**-0.1**
	comp=Z,27nm,1.6s,mb4.6						
BSMT	**Bassoo Peak**	**40.94**	**68**	P	**P**	**12 15 46.9**	**+0.2**
WVOR	**Wild Horse Val**	**41.50**	**78**	*e*P	**P**	**12 15 50.9**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
WVOR	**Wild Horse Val**	**41.50**	**78**	*e*P	**P**	**12 15 50.9**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.3						
OHCM	**Honcut**	**41.52**	**83**	*e*P	**P**	**12 15 51.3**	**-0.1**
CHMT	**Chamberlain Mo**	**42.31**	**69**	*e*P	**P**	**12 15 57.3**	**-0.7**
HRY	**Holter Researc**	**43.25**	**68**	*e*P	**P**	**12 16 05.3**	**-0.3**
HRY				*e*		12 16 10.6	
HLID	**Hailey**	**43.44**	**74**	*e*P	**P**	**12 16 07.3**	**+0.3**
	comp=Z,20nm,1.5s,mb4.6						
DLMT	**Dillon**	**43.53**	**70**	*e*P	**P**	**12 16 08.1**	**+0.4**
	comp=Z,8.5nm,1.1s,mb4.4						
MCMT	**McKenzie Canyo**	**43.67**	**71**	*e*P	**P**	**12 16 08.6**	**-0.3**
MCMT				*e*		12 16 16.7	
EGMT	**Eagleton**	**43.76**	**66**	*e*P	**P**	**12 16 08.6**	**-1.0**
	comp=Z,7.5nm,0.8s,mb4.5						
BOZ	**Bozeman (W)**	**43.94**	**70**	*e*P	**P**	**12 16 11.3**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
BOZ	**Bozeman (W)**	**43.94**	**70**	*e*P	**P**	**12 16 11.3**	**+0.2**
	comp=Z,13nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**44.05**	**82**	P	**P**	**12 16 12.6**	**+0.7**
	comp=Z,2.5nm,0.9s,mb3.9,baz=291,slow=8.2,SNR=13						
QLMT	**Earthquake Lak**	**44.51**	**70**	*e*P	**P**	**12 16 15.4**	**-0.2**
BJI	**Beijing**	**44.91**	**282**	*e*P	**P**	**12 16 19.9**	**+1.1**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
BJI				LR	LR		
	comp=N,149nm,20.5s,MS4.1						
BJI				LR	LR		
	comp=E,205nm,21.2s,MS4.1						
BJI				LR	LR		
	comp=Z,181nm,27.0s						
GCMT	**Greycliff**	**45.01**	**68**	*e*P	**P**	**12 16 19.4**	**-0.2**
GCMT				*e*		12 16 27.0	
YNR	**Norris Junctio**	**45.02**	**70**	*e*P	**P**	**12 16 20.1**	**+0.5**
YNR				*e*		12 16 28.1	
IRK	**Irkutsk**	**45.06**	**303**	*e*P	**P**	**12 16 19.7**	**-0.3**
IRK				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.9						
LKWY	**Lake**	**45.27**	**70**	*e*P	**P**	**12 16 22.9**	**+1.3**
LKWY				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
LKWY	**Lake**	**45.27**	**70**	*e*P	**P**	**12 16 22.9**	**+1.2**
	comp=Z,14nm,0.9s,mb4.8						
IMW	**Indian Meadow**	**45.33**	**71**	*e*P	**P**	**12 16 22.0**	**-0.1**
	comp=Z,11nm,1.1s,mb4.6						
FLWY	**Flagg Ranch**	**45.36**	**71**	*e*P	**P**	**12 16 22.8**	**+0.4**
	comp=Z,35nm,1.4s,mb5.0						
RRI2	**Red Ridge**	**45.41**	**72**	*e*P	**P**	**12 16 22.9**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.6						
HVU	**Hansel Valley**	**45.45**	**75**	*e*P	**P**	**12 16 21.1**	**-2.0**
HVU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
HVU	**Hansel Valley**	**45.45**	**75**	*e*P	**P**	**12 16 21.1**	**-2.0**
	comp=Z,8.6nm,0.9s,mb4.6						
TPAW	**Teton Pass**	**45.55**	**72**	*e*P	**P**	**12 16 24.3**	**+0.4**
	comp=Z,7.5nm,1.1s,mb4.5						
REDW	**Red Top Meadow**	**45.68**	**72**	*e*P	**P**	**12 16 24.8**	**-0.1**
	comp=Z,10.0nm,1.3s,mb4.6						
TLY	**Talaya**	**45.69**	**302**	*e*P	**P**	**12 16 25.6**	**+0.7**
TLY				*e*S	**S**	**12 23 11.6**	**+7.4**

TLY pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,100nm,17.0s,MS3.8
LOHW Long Hollow 45.69 71 *eP* **P 12 16 24.5 -0.5**
comp=Z,6.7nm,1.2s,mb4.5
BGU Big Grassy Mou 45.80 76 *eP* **P 12 16 26.8 +1.0**
ULN Ulaanbaatar 45.85 296*c iP* **P 12 16 27.1 +0.9**
ULN Ulaanbaatar 45.85 296 *eP* **P 12 16 26.4 +0.2**
comp=Z,8.8nm,1.1s,mb4.6
JOW Kunigami 46.07 258 LR LR 12 32 46.9
comp=Z,72nm,21.7s,MS3.6,baz=81,slow=32
SONM Songino Array 46.24 296 P **P 12 16 30.3 +1.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=58,slow=10,SNR=22
SONM LR LR 12 36 52.5
comp=Z,418nm,20.2s,MS4.4,baz=84,slow=37
DUG Dugway 46.37 77 *eP* **P 12 16 30.6 +0.3**
DUG pmax pmax
comp=Z,28nm,1.2s,mb5.1
DUG Dugway 46.37 77 *eP* **P 12 16 30.6 +0.3**
comp=Z,28nm,1.2s,mb5.1
LAO LASA Array 46.50 65 *eP* **P 12 16 31.0 -0.3**
comp=Z,20nm,1.2s,mb4.9
ZAK Zakamensk 46.57 301 ⇓*iP* **P 12 16 32.2 +0.3**
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
PDAR Pinedale Array 46.80 72 P **P 12 16 33.6 -0.1**
comp=Z,8.0nm,0.8s,mb4.7,baz=318,slow=4.0,SNR=47
PDAR LR LR 12 34 30.1
comp=Z,84nm,18.4s,MS3.7,baz=309,slow=34
NLU North Lily Min 46.96 76 *eP* **P 12 16 34.0 -1.0**
HHC Hu-ho-hao-te 47.23 285 *eP* **P 12 16 38.0 +0.9**
HHC AP pP 12 16 56.5 +5.6
HHC XP sP 12 17 05.7 +8.9
HHC PCP PcP 12 18 09.5 +1.8
HHC PP PP 12 18 29.4 +1.0
HHC SCP ScP 12 21 54.9 -2.4
HHC PCS PcS 12 22 03.2 +0.3
HHC S **S 12 23 23.5 -2.9**
HHC XS sS 12 23 55.5 +6.0
HHC SCS ScS 12 26 22.3 -4.2
HHC SS SS 12 26 44.4 -10
HHC AMB AMB
comp=Z,13nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,97nm,4.9s
HHC LR LR
comp=N,226nm,16.5s,MS4.3
HHC LR LR
comp=E,258nm,20.2s,MS4.3
HHC LR LR
comp=Z,249nm,21.1s,MS4.2
ARUT Antelope Range 47.46 80 *eP* **P 12 16 39.0 +0.2**
SSE Sheshan 47.50 269 *eP* **P 12 16 38.4 -0.8**
SSE AMB AMB
comp=Z,53nm,0.7s
SSE AMB AMB
comp=Z,32nm,3.8s
SSE LR LR
comp=N,47nm,30.6s,MS3.4
SSE LR LR
comp=E,37nm,30.4s,MS3.4
SSE LR LR
comp=Z,83nm,31.2s,MS3.5
CCUT Cedar City 47.66 80 *eP* **P 12 16 40.4 0.0**
MSU Marysvale 47.79 78 *eP* **P 12 16 41.1 -0.3**
TMUT Trail Mountain 47.90 76 *eP* **P 12 16 43.3 +1.1**
NJ2 Nanjing 48.32 271 *eP* **P 12 16 48.4 +2.9**
NJ2 AP pP 12 17 07.0 +7.7
NJ2 XP sP 12 17 16.1 +11
NJ2 PP PP 12 18 41.5 +3.2
NJ2 S **S 12 23 43.0 +1.2**
NJ2 XS sS 12 24 14.0 +9.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,200nm,4.7s
NJ2 LR LR
comp=N,540nm,29.2s,MS4.5
NJ2 LR LR
comp=E,450nm,28.7s,MS4.5
NJ2 LR LR
comp=Z,490nm,27.3s,MS4.3
SRU San Rafael 48.43 76 *eP* **P 12 16 47.0 +0.7**
SRU pmax pmax
comp=Z,22nm,1.2s,mb5.1
SRU San Rafael 48.43 76 *eP* **P 12 16 47.0 +0.7**
comp=Z,22nm,1.2s,mb5.0
RWWY Rawlins 48.84 71 *eP* **P 12 16 47.8 -1.7**
comp=Z,9.7nm,1.0s,mb4.8
PV10 Paradox Valley 49.79 76 *eP* **P 12 16 56.9 +0.2**
ULM Lac du Bonnet 50.14 56 LR LR 12 36 07.3
comp=Z,101nm,21.1s,MS3.8,baz=20,slow=34
WUAZ Wupatki 50.19 80 *eP* **P 12 16 59.8 +0.1**
comp=Z,8.7nm,1.0s,mb4.7
PV01 Paradox Valley 50.23 76 *eP* **P 12 16 59.7 -0.3**
ISCO Idaho Springs 50.96 72 *eP* **P 12 17 04.8 -0.8**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ISCO Idaho Springs 50.96 72 *eP* **P 12 17 04.8 -0.8**
comp=Z,7.0nm,1.2s,mb4.5
SDCO Great Sand Dun 52.34 74 *eP* **P 12 17 16.1 +0.2**
comp=Z,4.1nm,0.9s,mb4.4
LAZ Ladron 53.54 79 *eP* **P 12 17 25.6 +0.9**
ANMO Albuquerque 53.59 78*d iP* **P 12 17 27.3 +2.2**
LZH Lanzhou 54.93 286 *eP* **P 12 17 56.5 +1.7**
LZH AP pP 12 17 56.6 +7.7
LZH XP sP 12 18 05.7 +11
LZH PP PP 12 19 41.8 +3.7
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,49nm,6.5s
LZH LR LR
comp=E,216nm,15.6s
LZH LR LR
comp=Z,297nm,18.5s,MS4.4
GTA Gaotai 55.13 291 *eP* **P 12 17 36.8 +0.5**
GTA AP pP 12 17 56.2 +5.8
GTA XP sP 12 18 05.3 +9.0
GTA S **S 12 25 13.9 -1.5**
GTA AMB AMB
comp=Z,12nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,63nm,4.9s
GTA LR LR
comp=N,307nm,18.2s,MS4.5
GTA LR LR
comp=E,221nm,17.5s,MS4.5
GTA LR LR
comp=Z,241nm,17.1s,MS4.3
MNTX Cornudas Mount 56.45 80 *eP* **P 12 17 45.4 -0.3**
comp=Z,4.0nm,1.0s,mb4.4
ARCES ARCESS Array B 58.08 350 P **P 12 17 55.9 -1.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=26,slow=7.4,SNR=5.6
WMOK Wichita Mounta 58.39 73 *eP* **P 12 17 59.0 -0.4**
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WMOK Wichita Mounta 58.39 73 *eP* **P 12 17 59.0 -0.3**
comp=Z,4.3nm,0.9s,mb4.5
CD2 Chengdu 58.51 281 *eP* **P 12 18 00.2 0.0**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
LPIG La Paz 58.73 90 LR LR 12 39 35.8
comp=Z,32nm,18.7s,MS3.5,baz=96,slow=32
WMQ Urumqi 58.97 302⇑*iP* **P 12 18 04.4 +1.0**
WMQ AP pP 12 18 24.0 +6.4
WMQ XP sP 12 18 32.0 +8.6
WMQ PP PP 12 20 17.0 +2.9
WMQ PPP 12 21 42.0
WMQ S **S 12 26 03.0 -2.9**
WMQ XS sS 12 26 36.0 +6.3
WMQ SCS ScS 12 27 43.0 -5.8
WMQ AMB AMB
comp=Z,14nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,146nm,4.6s
WMQ LR LR
comp=N,590nm,19.0s,MS4.8
WMQ LR LR
comp=E,476nm,20.8s,MS4.8
WMQ LR LR
comp=Z,494nm,20.8s,MS4.6
MKAR Makanchi Array 59.69 308 P **P 12 18 08.3 0.0**
comp=Z,3.3nm,0.8s,mb4.4,baz=57,slow=7.4,SNR=26
MKAR Makanchi Array 59.69 308 P **P 12 18 08.3 -0.1**
SCHQ Schefferville 60.37 38 LR LR 12 45 46.8
comp=Z,169nm,19.1s,MS4.2,baz=307,slow=38
BVAR Borovoye Array 60.62 319 LR LR 12 45 56.0
comp=Z,218nm,21.2s,MS4.3,baz=320,slow=38
ZRNK Zerenda 61.24 320 *eP* **P 12 18 20.1 +1.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ZRNK Zerenda 61.24 320 *eP* **P 12 18 20.1 +1.1**
comp=Z,2.8nm,0.7s,mb4.5
ARU Arti 62.40 328⇑*iP* **P 12 18 25.9 -0.9**
ARU pmax pmax
comp=Z,3.0nm,1.4s,mb4.2
KMI Kunming 63.25 277 P **P 12 18 32.8 +0.4**
KMI AP pP 12 18 55.3 +8.6
KMI XP sP 12 19 03.7 +11
KMI PP PP 12 20 55.5 +3.7
KMI PPP 12 22 24.7
KMI S **S 12 26 57.0 -3.3**
KMI XS sS 12 27 31.9 +7.6
KMI SS SS 12 31 07.6 +0.4
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,48nm,4.5s
KMI LR LR
comp=N,96nm,27.4s,MS4.0
KMI LR LR
comp=E,91nm,30.0s,MS4.0
KMI LR LR
comp=Z,96nm,32.5s,MS3.8
FINES FINESS Array B 65.75 347 P **P 12 18 47.2 -1.4**
comp=Z,4.1nm,1.0s,mb4.4,baz=38,slow=7.0,SNR=3.6
FINES LR LR 12 51 31.2
comp=Z,90nm,18.2s,MS4.0,baz=10,slow=40
LRAL Lakeview Retre 66.51 66 *eP* **P 12 18 53.0 -0.6**
comp=Z,11nm,1.1s,mb4.8
LRAL *e* 12 19 00.8
AAK Ala-Archa 66.53 309*d iP* **P 12 18 54.4 +0.7**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK Ala-Archa 66.53 309 *eP* **P 12 18 52.4 -1.3**
comp=Z,5.1nm,1.0s,mb4.5
AKTO Aktyubinsk 67.46 324 LR LR 12 51 31.4
comp=Z,287nm,18.4s,MS4.5,baz=236,slow=39
NB2 NORSAR Subarra 67.67 354 P **P 12 19 00.3 -0.6**
comp=Z,0.1nm,0.5s,baz=9.1,slow=6.5
NOA NORSAR Array B 67.67 354 P **P 12 19 00.2 -0.8**
comp=Z,2.9nm,0.8s,mb4.3,baz=6.5,slow=6.2,SNR=5.9
OBN Obninsk 69.76 339 *eP* **P 12 19 14.4 +0.5**
OBN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
GUN Gumba 71.42 291 *eP* **P 12 19 25.8 +1.7**
JIRN Jiri 71.43 291 *eP* **P 12 19 25.8 +1.7**
KKN Kakani 71.86 292 *eP* **P 12 19 28.0 +1.3**
comp=Z,20nm,0.7s,mb5.2
PKI Pulchoki 71.95 292 *eP* **P 12 19 28.4 +1.1**
comp=Z,20nm,0.8s,mb5.1
GKN Gorkha 72.08 292 *eP* **P 12 19 28.9 +0.9**
comp=Z,26nm,0.9s,mb5.2
DMN Daman 72.10 292 *eP* **P 12 19 29.5 +1.4**
comp=Z,23nm,0.8s,mb5.2
KOLN Koldanda 72.86 293 *eP* **P 12 19 33.4 +0.8**
PPT Papeete 73.44 150 LR LR 12 44 26.4
comp=Z,88nm,21.2s,MS4.0,baz=322,slow=30
RAR Rarotonga 74.28 161 LR LR 12 42 46.7
comp=Z,97nm,21.7s,MS4.1,baz=34,slow=28
AKASG Malin Array Be 75.46 342 P **P 12 19 47.0 -0.8**
comp=Z,1.7nm,0.6s,mb4.1,baz=19,slow=5.6,SNR=15
AKASG LR LR 12 55 55.0
comp=Z,54nm,21.7s,MS3.8,baz=80,slow=38
CTA Charters Tower 77.15 213 P **P 12 19 54.4 -3.0**
comp=Z,4.3nm,0.9s,mb4.4,baz=33,slow=9.9,SNR=4.8
CLL Collm 77.21 352 *es*P sP 12 20 15.0 -3.2
BRG Berggiesshubel 77.55 351 *eP* **P 12 19 58.6 -1.0**
comp=Z,4.8nm,1.3s,mb4.3
BRG
comp=N,40nm,27.6s
BRG
comp=E,44nm,12.2s
BRG
comp=Z,94nm,19.4s
BRG Berggiesshubel 77.55 351 *eP* **P 12 19 58.6 -1.0**
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
BRG MLR MLR
comp=N,5μm,27.6s
BRG MLR MLR
comp=E,40nm,12.2s
BRG MLR MLR
comp=Z,44nm,19.4s
MOX Moxa 77.98 353 *eP* **P 12 20 02.0 0.0**
KIV Kislovodsk 78.29 330 *eP* **P 12 20 05.6 +1.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VRAC Vranov 78.82 349 LR LR 13 01 39.0
comp=Z,108nm,19.1s,MS4.2,baz=42,slow=41
GIVF Givet 78.90 357 *eP* **P 12 20 07.0 -0.1**
TBI Tubuai 78.92 152 *e*LR LR 12 44 09.0
comp=Z,182nm,25.8s
GRA1 Grafenberg Arr 78.96 353 *eP* **P 12 20 07.6 +0.2**
comp=Z,8.0nm,1.3s,mb4.5
GRF Grafenberg Arr 78.96 353 *eP* **P 12 20 07.6 +0.2**
comp=Z,8.0nm,1.3s,mb4.5
GRF Grafenberg Arr 78.96 353 *eP* **P 12 20 07.6 +0.2**
GRF pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GRF Grafenberg Arr 78.96 353 *eP* **P 12 20 07.6 +0.2**
GRF pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BAIF Baives 78.96 358 *eP* **P 12 20 07.6 +0.2**
comp=Z,27nm,1.1s,mb4.8
BAIF Baives 78.96 358 *eP* **P 12 20 07.6 +0.2**
BAIF pmax pmax
comp=Z,14nm,1.1s,mb4.8
BAIF Baives 78.96 358 *eP* **P 12 20 07.6 +0.2**
comp=Z,14nm,1.1s,mb4.8
KHC Kasperske Hory 79.31 351⇑*eP* **P 12 20 09.3 0.0**
GERES GERESS Array B 79.58 351 P **P 12 20 10.1 -0.7**
comp=Z,0.8nm,0.7s,mb3.8,baz=355,slow=4.6,SNR=5.4
FLN La Foliniere 80.31 1 *eP* **P 12 20 14.1 -0.6**
comp=Z,39nm,1.1s,mb4.9
FLN La Foliniere 80.31 1 *eP* **P 12 20 14.1 -0.6**
FLN pmax pmax
comp=Z,20nm,1.1s,mb5.0
FLN La Foliniere 80.31 1 *eP* **P 12 20 14.1 -0.6**
comp=Z,20nm,1.1s,mb5.0
CDF Champ du Feu 80.49 355 *eP* **P 12 20 15.5 -0.2**
WRA Warramunga Arr 81.62 223 P **P 12 20 19.5 -2.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=36,slow=6.0,SNR=18
WRA Warramunga Arr 81.62 223⇑*eP* **P 12 20 20.6 -1.1**
AVF Avril sur Loir 82.25 358 *eP* **P 12 20 24.8 -0.2**
SMF Signal de Mont 82.39 358 *eP* **P 12 20 25.2 -0.5**
comp=Z,17nm,1.1s,mb4.6
SMF Signal de Mont 82.39 358 *eP* **P 12 20 25.2 -0.5**
SMF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
SMF Signal de Mont 82.39 358 *eP* **P 12 20 25.2 -0.5**
comp=Z,8.7nm,1.1s,mb4.6
RKT Rikitea 83.83 139 *e*LR LR 12 46 25.7
comp=Z,128nm,25.0s,baz=333
FITZ Fitzroy Crossi 84.03 231 *eP* **P 12 20 32.9 -1.3**
comp=Z,10nm,0.6s,mb5.1
FITZ Fitzroy Crossi 84.03 231 P **P 12 20 33.2 -1.0**
comp=Z,6.0nm,0.7s,mb4.8,baz=11,slow=4.7,SNR=16
BRTR Keskin Array B 84.81 335 P **P 12 20 38.3 +0.2**
comp=Z,1.3nm,0.8s,mb4.1,baz=57,slow=4.6,SNR=7.1
BRTR Keskin Array B 84.81 335 *iP* **P 12 20 38.2 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
SMRF Simiane la Rot 84.99 356 *eP* **P 12 20 39.7 +0.6**
comp=Z,20nm,1.2s,mb4.8
SMRF Simiane la Rot 84.99 356 *eP* **P 12 20 39.7 +0.6**
comp=Z,20nm,1.2s,mb5.1
ASAR Alice Springs 85.10 222 P **P 12 20 39.1 -0.5**
comp=Z,2.8nm,0.8s,mb4.4,baz=28,slow=5.4,SNR=20
ASAR LR LR 12 55 20.3
comp=Z,74nm,19.4s,MS4.1,baz=180,slow=33
FRF La Foret Royal 85.36 355 *eP* **P 12 20 40.6 -0.3**
MTLF Montolieu 85.72 359 *eP* **P 12 20 42.2 -0.5**
ETSF Etsaut 86.17 1 *eP* **P 12 20 44.2 -0.7**
comp=Z,9.7nm,1.1s,mb4.6
ETSF Etsaut 86.17 1 *eP* **P 12 20 44.2 -0.7**
ETSF pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
ETSF Etsaut 86.17 1 *eP* **P 12 20 44.2 -0.7**
comp=Z,4.8nm,1.1s,mb4.6
STKA Stephens Creek 89.60 212 *eP* **P 12 21 01.4 +0.1**
comp=Z,5.2nm,0.9s,mb4.9
STKA Stephens Creek 89.60 212 P **P 12 20 59.9 -1.4**
comp=Z,8.2nm,1.0s,mb5.0,baz=18,slow=6.2,SNR=5.4
VAE Valguarnera 90.74 349 LR LR 13 09 28.8
comp=Z,99nm,18.8s,MS4.3,baz=309,slow=41
IDI Anoyia 91.13 340 LR LR 13 07 27.7
comp=Z,58nm,21.5s,MS4.0,baz=266,slow=39
ROSC El Rosal 95.69 75 LR LR 13 07 00.4
comp=Z,37nm,19.2s,MS3.9,baz=32,slow=37
MAW Mawson 146.12 218 PKPbc PKPbc 12 27 41.4 -2.2
comp=Z,5.1nm,0.9s,baz=76,slow=6.4,SNR=13
MAW Mawson 146.12 218 *e*PKPbc PKPbc 12 27 41.6 -2.0
LBTB Lobatse 147.43 314 *e*PKP2 PKPab 12 27 47.9 -1.5
BOSA Boshof 150.66 311 PKPbc PKPbc 12 27 55.7 +0.2
comp=Z,2.3nm,0.8s,baz=43,slow=2.8,SNR=4.4
BOSA Boshof 150.66 311 PKIKP PKPbc 12 27 55.7 +0.2
BOSA pmax pmax
comp=Z,3.0nm,0.8s

*ISCJB **09** 12:20:57.6±0.6,3557N±004×14058E±006,h77km±5km, mb3.6/3,Error ellipse: s-maj=9.0km s-min=6.0km az=140.7*
*IDC **09** 12:20:58.0±2.2,3562N×140.70E,h60km±20km,mb3.3/3, mb1 3.7/7,mb1mx3.4/24,mbtmp3.9/7,ML4.1/3,Error ellipse: s-maj=25.3km s-min=8.1km az=67.0*
*JMA **09** 12:20:59.4±0.2,3559N×140.43E,h60km±2km,M3.0*
ISC 09 12:20:58.8±0.6,**3557N**±004×**14055E**±006,**h68**km±6km, **n18**,σ0**s76**/26,**mb3.6**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.29**	**61**	P			**Pn**	**12 21 10.3**	**+0.6**
CHOJ				S			**Sn**	**12 21 18.7**	**+1.1**
JCN	**Nagara**	**0.32**	**243**	P			**Pn**	**12 21 09.8**	**-0.1**
BSO4	**Boso 4**	**0.60**	**197**	P			**Pn**	**12 21 12.6**	**+0.1**
BSO4				S			**Sn**	**12 21 22.4**	**-0.1**
JYT	**Yasato**	**0.72**	**337**	P			**Pn**	**12 21 13.2**	**-0.6**
BSO3	**Boso 3**	**0.76**	**182**	P			**Pn**	**12 21 14.4**	**+0.1**
BSO1	**Boso 1**	**0.97**	**159**	P			**Pn**	**12 21 16.8**	**-0.1**
JOD2	**Odawara 2**	**1.23**	**256**	P			**Pn**	**12 21 19.5**	**-0.6**
JAG	**Ashikaga**	**1.23**	**314**	P			**Pn**	**12 21 19.9**	**-0.3**
JAG				S			**Sn**	**12 21 35.8**	**-0.4**
JIM2	**Oshima 3**	**1.25**	**228**	P			**Pn**	**12 21 19.5**	**-0.9**
JIM2				S			**Sn**	**12 21 36.0**	**-0.5**
JRY	**Ryogami san**	**1.41**	**289**	P			**Pn**	**12 21 22.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.13**	**298**	P			**Pn**	**12 21 32.2**	**+0.1**
	10nm,0.3s,baz=106,slow=6.3,SNR=99								
MJAR				S			**Sn**	**12 21 58.6**	**+1.0**
	11nm,0.3s,baz=148,slow=16,SNR=8.6								
MAT	**Matsushiro**	**2.13**	**298**	P			**Pn**	**12 21 32.1**	**-0.1**
MAT				S			**Sn**	**12 21 58.1**	**+0.4**
JHJ	**Hachijo jima 2**	**2.52**	**195**	P			**Pn**	**12 21 37.1**	**-0.3**
	76nm,0.3s,baz=54,slow=1.5,SNR=43								
JHJ				S			**Sn**	**12 22 08.8**	**+1.8**
	149nm,0.3s,baz=232,slow=22,SNR=12								
CBIJ	**Chichi jima**	**8.56**	**170**	P			**Pn**	**12 22 58.0**	**-1.9**
	21nm,0.3s,baz=292,slow=22,SNR=31								
CBIJ				S			**Sn**	**12 24 28.9**	**-5.9**
	5.3nm,0.3s,baz=299,slow=19,SNR=4.5								
ASAJ	**Asahikawa**	**8.68**	**10**	P			**Pn**	**12 23 00.6**	**-1.1**
	0.9nm,0.3s,baz=89,slow=31,SNR=15								
SONM	**Songino Array**	**28.06**	**306**	P			**P**	**12 26 43.5**	**-0.2**
	0.7nm,0.5s,mb3.5,baz=123,slow=10,SNR=5.4								
MKAR	**Makanchi Array**	**44.32**	**303**	P			**P**	**12 29 03.3**	**+1.4**
	0.5nm,0.5s,mb3.5,baz=81,slow=9.0,SNR=2.1								
WRA	**Warramunga Arr**	**55.52**	**187**	P			**P**	**12 30 27.5**	**+0.7**
	0.3nm,0.4s,mb3.7,baz=1.8,slow=7.5,SNR=12								

*SZGRF **09** 12:21:54.9,2453N×6477E,h33km,mb4.9,Off coast of Pakistan*
*BJI **09** 12:22:00.6,2478N×6117E,h27km,mB4.7,mb4.6,Ms4.2, Msz4.3*
*ISCJB **09** 12:22:07.4±0.3,2505N±004×6212E±003,h28km, mb4.6/70,MS3.9/12,Error ellipse: s-maj=6.2km s-min=3.5km az=142.2*
*CSEM **09** 12:22:07.7±0.1,2512N×6210E,h27km,mb4.7/55,Error ellipse: s-maj=5.4km s-min=3.0km az=169.0*
*MOS **09** 12:22:08.4±1.4,2506N×6223E,h33km,mb4.6/28,Error ellipse: s-maj=11.8km s-min=6.7km az=93.7*
*IDC **09** 12:22:09.6±0.7,2509N×6209E,h26km±3km,mb4.1/18, mb1 4.2/18,mb1mx4.0/28,mbtmp4.3/18,MS3.9/6, Ms1 3.9/6,ms1mx3.3/43,Error ellipse: s-maj=16.7km s-min=13.2km az=31.0*
*NEIC **09** 12:22:09.2±0.4,2499N×6213E,mb4.8/39,Error ellipse: s-maj=10.2km s-min=6.3km az=0.0*
NEIC Felt at Gwadar.
ISC 09 12:22:09.9±0.3,**2508N**±004×**6212E**±003,**h30**km, **h30**km±1.0km:**pP-P**,**n217**,σ1**s18**/224,**mb4.6**/70,**MS3.9**/12, **14C-6D**,**Southwestern Pakistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WBK	**Wadi Bani Khal**	**3.79**	**230**	⇑P			**Pn**	**12 23 05.3**	**-0.9**
	SNR=10								
WBK				⇑S			**Sn**	**12 23 45.7**	**-4.1**
BIDO	**Bidbid**	**3.96**	**248**	⇑P			**Pn**	**12 23 08.0**	**-0.6**
	SNR=9.9								
BIDO				⇓S			**Sn**	**12 23 50.0**	**-4.0**
JMDO	**Jabal Madar**	**4.56**	**235**	⇑P			**Pn**	**12 23 16.9**	**+0.1**
	SNR=12								
BSY	**Bisya**	**5.07**	**244**	⇓P			**Pn**	**12 23 24.6**	**+0.9**
	SNR=29								
ASHO	**Ashiyiah**	**5.52**	**267**	⇓S			**Sn**	**12 24 31.9**	**-0.5**
JASL	**Jaisalmer**	**8.11**	**75**	*eP*			**Pn**	**12 24 03.5**	**-2.1**
SBDP	**Sheikh Budin**	**10.48**	**45**	P			**Pn**	**12 24 35.1**	**-2.9**
WHFO	**Wadi Hawf**	**10.54**	**229**	⇓P			**Pn**	**12 24 38.7**	**-0.2**
RBK	**Rabkut**	**10.55**	**226**	⇑P			**Pn**	**12 24 39.0**	**+0.1**
ABTO	**Aybut**	**11.26**	**229**	⇓P			**Pn**	**12 24 48.3**	**-0.4**
THW	**Thamme Wali**	**11.40**	**45**	P			**Pn**	**12 24 47.5**	**-3.1**
THW				S			**Sn**	**12 26 48.0**	**-8.9**
CEP	**Cherat**	**12.19**	**42**	P			**Pn**	**12 24 59.4**	**-2.0**
KHET	**Khetri**	**12.61**	**73**	*eP*			**Pn**	**12 25 04.5**	**-2.6**
KHET				*eS*			**Sn**	**12 27 09.7**	**-17**
KHET					AML	AML		12 27 17.1	
	comp=N,18nm,0.5s								
KHET					AML	AML		12 27 17.3	
	comp=E,21nm,0.4s								
KUDL	**Kundal**	**13.21**	**74**	*eP*			**Pn**	**12 25 11.9**	**-3.5**
KUDL				*eS*			**Sn**	**12 27 24.7**	**-17**
KUDL					AML	AML		12 27 33.6	
	comp=N,18nm,0.5s								
KUDL					AML	AML		12 27 34.0	
	comp=E,16nm,0.5s								
RTK	**Rohtak**	**13.33**	**70**	*eP*			**Pn**	**12 25 16.7**	**-0.3**
UMR	**Umm Al-Rimmam**	**13.55**	**292**	*eP*			**Pn**	**12 25 17.8**	**-2.2**
UMR					AMb	AMB		12 25 27.6	
	comp=Z,80nm,0.6s								
SONA	**Sohna**	**13.75**	**73**	*eP*			**Pn**	**12 25 19.6**	**-3.1**
SONA				*eS*			**Sn**	**12 27 37.5**	**-17**
SONA					AML	AML		12 28 18.9	
	comp=N,20nm,0.4s								
SONA					AML	AML		12 28 20.9	
	comp=E,25nm,0.7s								
NAY	**Al-Naaiem**	**13.88**	**291**	*eP*			**Pn**	**12 25 21.5**	**-2.9**
NAY					AMb	AMB		12 25 32.3	
	comp=Z,42nm,0.7s								
MIB	**Mutribah**	**13.94**	**293**	*eP*			**Pn**	**12 25 22.0**	**-3.3**
MIB					AMb	AMB		12 25 34.8	
	comp=Z,44nm,0.7s								
NDI	**New Delhi**	**13.94**	**72**	*eP*			**Pn**	**12 25 30.0**	**+4.6**
NDI				*eS*			**Sn**	**12 27 50.0**	**-9.1**
SDNR	**Sundarnagar**	**14.55**	**61**	*eP*			**Pn**	**12 25 32.0**	**-1.7**
SDNR				*eS*			**Sn**	**12 27 58.6**	**-15**
KLP	**Kalpa**	**15.59**	**62**	*eP*			**Pn**	**12 25 44.9**	**-2.5**
KLP				*eS*			**Sn**	**12 28 23.1**	**-16**
KLP					AML	AML		12 29 17.8	
	comp=N,44nm,0.4s								
KLP					AML	AML		12 29 21.1	
	comp=E,60nm,0.6s								
HYB	**Hyderabad**	**17.10**	**113**	*iP*			**Pn**	**12 26 07.5**	**+0.8**
KKAR	**Karatay Array**	**19.25**	**19**	P			**Pn**	**12 26 30.7**	**-2.2**
KKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**19.25**	**19**	P			**Pn**	**12 26 30.7**	**-2.2**

comp=Z,1.0nm,0.5s
KOLN Koldanda 19.42 77 *e*P **Pn 12 26 38.6 +3.6**
comp=Z,18nm,0.6s
AML Almayashu 19.51 27 P **Pn 12 26 36.9 +0.8**
SNR=7.0
MSL Mosul 19.78 309 *ex* x 12 26 43.0
EKS2 Erkin-Say 19.99 26 P **Pn 12 26 40.5 -1.3**
SNR=31
KZA Kyzart 20.13 29 P **P 12 26 42.5 +1.1**
SNR=65
AAK Ala-Archa 20.26 27 P **P 12 26 43.9 +1.1**
SNR=6.6
AAK Ala-Archa 20.26 27⇑ *i*P **P 12 26 42.5 -0.3**
AAK pmax pmax
comp=Z,13nm,0.8s
AAK MLR MLR
comp=Z,400nm,20.0s,MS3.8
AAK Ala-Archa 20.26 27 *e*P **P 12 26 42.3 -0.5**
comp=Z,19nm,1.0s
AAK Ala-Archa 20.26 27 *i* P **P 12 26 42.5 -0.3**
comp=Z,400nm,20.0s
GKN Gorkha 20.35 77 *e*P **P 12 26 46.3 +2.5**
KBK Karagaybulak 20.47 28 P **P 12 26 46.6 +1.6**
SNR=9.5
FRU Bishkek 20.48 27 *i* P **P 12 26 45.0 -0.1**
FRU *e* 12 27 00.0
FRU pmax pmax
comp=Z,90nm,1.6s
FRU Bishkek 20.48 27 *i* P **P 12 26 45.0 -0.1**
comp=Z,90nm,1.6s
CHMS Chumysh 20.67 27 P **P 12 26 48.0 +0.8**
SNR=12
ULHL Ulahol 20.72 31 P **P 12 26 49.5 +1.7**
SNR=32
DMN Daman 20.75 78 *e*P **P 12 26 50.5 +2.4**
comp=Z,58nm,1.1s
USP Ospenovka 20.79 26 P **P 12 26 48.6 0.0**
SNR=39
KKN Kakani 20.91 78 *e*P **P 12 26 52.3 +2.5**
comp=Z,22nm,0.6s
GNI Garni 20.92 320 P **P 12 26 52.1 +2.2**
comp=Z,22nm,0.7s,baz=14,slow=6.3,SNR=11
GNI Garni 20.92 320⇑ *e*P **P 12 26 53.3 +3.4**
GNI pmax pmax
comp=Z,36nm,0.9s
GNI MLR MLR
comp=Z,200nm,17.0s
GNI Garni 20.92 320 *e*P **P 12 26 53.0 +3.1**
comp=Z,66nm,1.0s
GNI Garni 20.92 320 *e*P **P 12 26 53.3 +3.4**
comp=Z,200nm,17.0s
TKM2 Tokmak 2 20.96 29 P **P 12 26 50.6 +0.3**
SNR=13
PKI Pulchoki 21.02 78 *e*P **P 12 26 53.1 +2.1**
comp=Z,23nm,0.7s,mb4.6
DGRG David-gareji 21.44 324 P **P 12 26 56.9 +1.4**
GUN Gumba 21.45 77 *e*P **P 12 26 57.0 +1.4**
comp=Z,75nm,0.9s,mb5.0
JIRN Jiri 21.71 78 *e*P **P 12 26 59.7 +1.2**
comp=Z,74nm,0.7s,mb5.2
MTA Mtatsminda 21.93 323 P **P 12 27 04.8 +4.1**
TBLG Delisi 21.98 323 P **P 12 27 05.6 +4.3**
ATD Arta Tunnel 22.68 237 LR LR 12 35 49.6
comp=Z,130nm,21.9s,MS3.3,baz=55,slow=36
ZEI Tsey 23.15 324 *e*P **P 12 27 16.5 +2.8**
ZEI *e**PP 12 27 24.8
ZEI *e* 12 27 42.0
ZEI pmax pmax
comp=Z,20nm,0.8s,mb4.6
ZEI Tsey 23.15 324 *e*P **P 12 27 16.5 +2.8**
comp=Z,20nm,0.8s,mb4.6
ASF Jabal al Asfar 23.20 293 P **P 12 27 15.3 +0.9**
comp=Z,4.0nm,0.9s,mb3.9,baz=350,slow=4.8,SNR=4.5
ASF Jabal al Asfar 23.20 293 P **P 12 27 15.3 +1.0**
ASF pmax pmax
comp=Z,4.0nm,0.9s
MALT Malatya 24.01 309 *e*P **P 12 27 23.3 +1.3**
comp=Z,29nm,1.2s,mb4.6
MALT Malatya 24.01 309 *e*P **P 12 27 23.3 +1.4**
comp=Z,29nm,1.2s,mb4.6
AB31 Akbulak array 24.19 357 *i* P **P 12 27 23.5 -0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
AB31 Akbulak array 24.19 357 *i* P **P 12 27 23.5 -0.1**
comp=Z,4.0nm,0.6s,mb4.0
EIL Elat 24.53 287 P **P 12 27 24.5 -2.2**
comp=Z,107nm,0.9s,mb5.4
EIL Elat 24.53 287 P **P 12 27 24.5 -2.2**
comp=Z,107nm,0.9s,mb5.4
KIV Kislovodsk 24.61 325⇑ *e*P **P 12 27 30.1 +2.7**
KIV *e**PP 12 27 38.8
KIV pmax pmax
comp=Z,37nm,0.8s,mb5.0
KIV Kislovodsk 24.61 325 *e*P **P 12 27 29.6 +2.2**
comp=Z,75nm,0.7s,mb5.3
KIV *e* 12 27 38.7
KIV Kislovodsk 24.61 325 *e*P **P 12 27 30.1 +2.7**
comp=Z,37nm,0.8s,mb5.0
AKTK Aktyubinsk 25.51 354 P **P 12 27 35.5 -0.2**
AKTK Aktyubinsk 25.51 354 P **P 12 27 35.5 -0.1**
comp=Z,7.0nm,0.8s,mb4.2
AKTO Aktyubinsk 25.51 354 P **P 12 27 35.5 -0.2**
comp=Z,6.9nm,0.8s,mb4.2,baz=163,slow=11,SNR=19
AKTO Aktyubinsk 25.51 354 P **P 12 27 35.5 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
LSA Lhasa 26.15 73 *e*P **P 12 27 41.9 +0.5**
comp=Z,16nm,1.1s,mb4.5
MK31 Makanchi Array 26.98 31 P **P 12 27 49.4 +0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
MK31 Makanchi Array 26.98 31 P **P 12 27 49.4 +0.5**
comp=Z,9.0nm,0.8s,mb4.3
MKAR Makanchi Array 26.98 31 P **P 12 27 49.4 +0.4**
comp=Z,9.1nm,0.8s,mb4.3,baz=212,slow=8.3,SNR=40
MKAR Makanchi Array 26.98 31⇑ *e*P **P 12 27 49.7 +0.8**
BR131 Keskin Array S 27.98 308 *e*P **P 12 28 00.7 +2.8**
comp=Z,4.6nm,0.9s,mb4.1
BR131 Keskin Array S 27.98 308 *e*P **P 12 28 00.7 +2.8**
comp=Z,4.6nm,0.9s,mb4.1
BRTR Keskin Array B 27.98 308 P **P 12 27 58.8 +0.9**
comp=Z,3.5nm,0.9s,mb4.0,baz=123,slow=10,SNR=5.6
BRTR Keskin Array B 27.98 308 P **P 12 27 58.8 +0.9**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
ZRNK Zerenda 28.31 9 *i* P **P 12 28 01.0 +0.2**
ZRNK pmax pmax
comp=Z,9.0nm,1.9s,mb4.1
ZRNK Zerenda 28.31 9 *e*P **P 12 28 00.8 0.0**
comp=Z,4.9nm,0.8s,mb4.2
ZRNK Zerenda 28.31 9 *i* P **P 12 28 01.0 +0.2**
comp=Z,9.0nm,1.9s,mb4.1
VOSK Vostochnaya 28.41 11 P **P 12 28 01.7 0.0**
VOSK pmax pmax
comp=Z,23nm,2.1s,mb4.4
VOSK Vostochnaya 28.41 11 P **P 12 28 01.7 0.0**
comp=Z,23nm,2.1s,mb4.4
BVA0 Borovoye Array 28.59 10 *i* P **P 12 28 08.1 +4.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.5
BVA0 Borovoye Array 28.59 10 *i* P **P 12 28 08.1 +4.8**
comp=Z,1.0nm,0.9s,mb3.5
BVAR Borovoye Array 28.59 10 P **P 12 28 03.5 +0.2**
comp=Z,1.9nm,0.5s,mb4.0,baz=187,slow=7.5,SNR=7.1
BVAR Borovoye Array 28.59 10 P **P 12 28 03.5 +0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 28.61 10 *e*P **P 12 28 04.3 +0.8**
comp=Z,1.5nm,0.5s,mb4.0
BRVK Borovoye 28.61 10 *e*P **P 12 28 04.3 +0.8**
comp=Z,1.5nm,0.5s,mb4.0
CHKZ Chkalovo 29.26 10 *i* P **P 12 28 09.1 -0.1**
CHKZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
CHKZ Chkalovo 29.26 10 *e*P **P 12 28 08.9 -0.3**
comp=Z,2.7nm,0.6s,mb4.2
CHKZ Chkalovo 29.26 10 *i* P **P 12 28 09.1 -0.1**
comp=Z,3.0nm,0.8s,mb4.1
ARU Arti 31.42 356⇑ *e*P **P 12 28 28.6 +0.2**
ARU pmax pmax
comp=Z,11nm,2.3s,mb4.3
ARU MLR MLR
comp=Z,200nm,15.0s,MS3.9
ARU Arti 31.42 356 *e*P **P 12 28 28.6 +0.2**
comp=Z,200nm,15.0s
VRSR Storozhevoye 31.46 332 *e*P **P 12 28 28.7 0.0**
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR Storozhevoye 31.46 332 *e*P **P 12 28 28.7 0.0**
comp=E,10.0nm,0.9s,mb4.7
ZAL Zalesovo 33.42 24 P **P 12 28 46.1 +0.3**
comp=E,9.2nm,0.5s,mb5.0,baz=247,slow=7.8,SNR=32
ZAL Zalesovo 33.42 24 *i* P **P 12 28 46.4 +0.6**
ZAL pmax pmax
comp=Z,9.0nm,0.5s
ZAL Zalesovo 33.42 24 *i* P **P 12 28 46.4 +0.6**
comp=Z,9.0nm,0.5s,mb5.0
NVS Novosibirsk 33.57 22 *e*P **P 12 28 47.2 0.0**
NVS pmax pmax
comp=Z,15nm,1.1s,mb4.8
NVS pmax pmax
comp=N,27nm,1.7s
NVS Novosibirsk 33.57 22 *e*P **P 12 28 47.2 0.0**
comp=N,27nm,1.7s,mb4.9
GTA Gaotai 34.67 56 *e*P **P 12 28 58.6 +1.9**
GTA AP pP 12 29 07.2 +1.7
GTA XP sP 12 29 11.6 +2.5
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
OBN Obninsk 35.40 335⇑ *e*P **P 12 29 03.5 +0.5**
OBN *i* *PP pP 12 29 12.6 +0.8
OBN pmax pmax
comp=Z,29nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.6
OBN Obninsk 35.40 335 *e*P **P 12 29 03.1 +0.1**
comp=Z,45nm,1.3s,mb5.2
OBN Obninsk 35.40 335 *e*P **P 12 29 03.5 +0.5**
comp=Z,29nm,1.3s,mb5.0
KMBO Kilima Mbogo 35.48 226 LR LR 12 43 23.7
comp=Z,110nm,19.1s,MS3.6,baz=269,slow=36
AKASG Malin Array Be 35.95 324 P **P 12 29 07.7 0.0**
comp=Z,9.0nm,0.7s,mb4.8,baz=125,slow=7.6,SNR=47
AKASG pP pP 12 29 15.6 -0.9
comp=Z,16nm,0.7s,baz=125,slow=7.6,SNR=18
AKASG Malin Array Be 35.95 324 P **P 12 29 07.7 0.0**
AKASG *PP pP 12 29 15.6 -0.9
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG pmax pmax
comp=Z,16nm,0.7s
AKASG Malin Array Be 35.95 324 P **P 12 29 07.7 0.0**
AKASG pP pP 12 29 15.6 -0.9
AKBB Malin Array Si 35.95 324 *e*P **P 12 29 07.5 -0.2**
AKBB *e*pP pP 12 29 16.1 -0.4
AKBB Malin Array Si 35.95 324 *e*P **P 12 29 07.5 -0.2**
AKBB *e*pP pP 12 29 16.1 -0.4
XAN Xi'an 41.38 66 P **P 12 29 53.5 +0.2**
XAN AP pP 12 30 01.3 -0.9
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.2
SONM Songino Array 41.50 45 P **P 12 29 55.6 +1.4**
comp=Z,4.0nm,0.7s,mb4.2,baz=252,slow=8.5,SNR=24
SONM LR LR 12 50 23.1
comp=Z,265nm,20.8s,MS4.1,baz=246,slow=41
SONM Songino Array 41.50 45 P **P 12 29 55.6 +1.4**
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM MLR MLR
comp=Z,265nm,20.8s
PSI Prapat 41.78 116 P **P 12 29 58.1 +1.6**
comp=Z,2.2nm,0.6s,mb4.0,baz=206,slow=9.4,SNR=3.5
PSI pP pP 12 30 06.9 +1.4
comp=Z,9.3nm,0.8s,baz=312,slow=6.9,SNR=7.6
PSI LR LR 12 47 05.8
comp=Z,162nm,20.8s,MS3.9,baz=200,slow=36
PSI Prapat 41.78 116 P **P 12 29 58.2 +1.6**
PSI *PP pP 12 30 06.9 +1.4
PSI pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PSI MLR MLR
comp=Z,162nm,20.8s,MS3.9
ULN Ulaanbaatar 41.93 45⇑ *e*P **P 12 29 58.8 +1.0**
ULN Ulaanbaatar 41.93 45 *e*P **P 12 29 58.7 +0.9**
comp=Z,4.5nm,0.8s,mb4.2
ULN Ulaanbaatar 41.93 45 *e*P **P 12 29 58.7 +0.9**
comp=Z,4.5nm,0.8s,mb4.2
FINES FINESS Array B 43.78 336 P **P 12 30 12.3 -0.4**
comp=Z,1.5nm,0.6s,mb3.9,baz=116,slow=8.7,SNR=8.2
FINES pP pP 12 30 18.9 -2.8
comp=Z,3.0nm,0.7s,baz=125,slow=12,SNR=2.5
FINES FINESS Array B 43.78 336 P **P 12 30 12.3 -0.4**
FINES *PP pP 12 30 18.9 -2.8
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 43.78 336 P **P 12 30 12.3 -0.4**
FINES pP pP 12 30 18.9 -2.8
GEC2 GERESS Array S 44.43 315 *e*P **P 12 30 18.3 +0.3**
GEC2 *e*pP pP 12 30 26.9 -0.1
GEC2 GERESS Array S 44.43 315 *e*P **P 12 30 18.3 +0.3**
GEC2 *e*pP pP 12 30 26.9 0.0
GERES GERESS Array B 44.43 315 P **P 12 30 18.4 +0.4**
comp=Z,1.7nm,0.9s,mb3.8,baz=110,slow=7.8,SNR=9.4
GERES pP pP 12 30 26.8 -0.2
comp=Z,3.8nm,0.9s,baz=99,slow=8.5,SNR=10
GERES GERESS Array B 44.43 315 P **P 12 30 18.4 +0.4**
GERES *PP pP 12 30 26.8 -0.1
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 44.58 315 *e*P **P 12 30 17.7 -1.5**
CLL Collm 45.51 318 *i* P **P 12 30 27.6 +1.0**
comp=Z,15nm,0.9s,mb4.9
CLL ⇓*i*pP pP 12 30 36.1 +0.6
comp=Z,25nm,1.1s
CLL *i* sP sP 12 30 40.4 +1.3
CLL Collm 45.51 318 *i* P **P 12 30 27.6 +1.0**
CLL *i* pP 12 30 36.1 +0.6
CLL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CLL Collm 45.51 318 *i* P **P 12 30 27.6 +1.0**
comp=Z,15nm,0.9s,mb4.9
CLL *i* pP 12 30 36.1 +0.6
MOX Moxa 46.19 317 *e*P **P 12 30 34.0 +2.1**
GRA1 Grafenberg Arr 46.21 316 *e*P **P 12 30 32.7 +0.6**
comp=Z,10.0nm,1.1s,mb4.7
GRA1 *e*pP pP 12 30 41.6 +0.5
GRF Grafenberg Arr 46.21 316 *e*P **P 12 30 32.7 +0.6**
comp=Z,10.0nm,1.1s,mb4.7
GRF *e*pP pP 12 30 41.5 +0.4
GRF Grafenberg Arr 46.21 316 *e*P **P 12 30 32.7 +0.6**
GRF *e**PP pP 12 30 41.6 +0.5
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 46.21 316 *e*P **P 12 30 32.7 +0.6**
comp=Z,10.0nm,1.1s,mb4.7
GRF *e*pP pP 12 30 41.6 +0.5
SBF Sospel 47.91 307 *e*P **P 12 30 45.3 0.0**
comp=Z,109nm,1.3s,mb5.4
SBF Sospel 47.91 307 *e*P **P 12 30 45.3 0.0**
comp=Z,55nm,1.3s,mb5.4
MBDF Montbardon 48.45 308 *e*P **P 12 30 50.1 +0.6**
comp=Z,33nm,1.2s,mb5.0
MBDF Montbardon 48.45 308 *e*P **P 12 30 50.1 +0.6**
comp=Z,16nm,1.2s,mb5.0
CDF Champ du Feu 48.53 313 *e*P **P 12 30 49.4 -0.7**
comp=Z,11nm,1.0s,mb4.6
CDF Champ du Feu 48.53 313 *e*P **P 12 30 49.4 -0.7**
comp=Z,5.7nm,1.0s,mb4.6
LPG La Plagne 48.54 309 *e*P **P 12 30 50.0 -0.2**
comp=Z,23nm,1.0s,mb4.8
LPG La Plagne 48.54 309 *e*P **P 12 30 50.0 -0.2**
comp=Z,12nm,1.0s,mb4.9
BNI Bardonecchia 48.55 309 *e*P **P 12 30 49.7 -0.6**
comp=Z,12nm,0.9s,mb4.9
BNI *e*pP pP 12 30 58.1 -1.2
BNI Bardonecchia 48.55 309 *e*P **P 12 30 49.7 -0.6**
comp=Z,12nm,0.9s,mb4.9
BNI *e*pP pP 12 30 58.1 -1.2
LPL La Plagne 48.55 309 *e*P **P 12 30 50.2 -0.1**
comp=Z,22nm,1.0s,mb4.8
LPL La Plagne 48.55 309 *e*P **P 12 30 50.2 -0.1**
comp=Z,11nm,1.0s,mb4.8
HINF Hinteralfeld 48.73 313 *e*P **P 12 30 50.8 -0.8**
comp=Z,32nm,1.4s,mb4.9
HINF Hinteralfeld 48.73 313 *e*P **P 12 30 50.8 -0.8**
comp=Z,16nm,1.4s,mb4.9
BOD Bodaibo 49.03 34 *e*P **P 12 30 46.6 -7.4**
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
BOD Bodaibo 49.03 34 *e*P **P 12 30 46.6 -7.4**
comp=Z,4.0nm,1.4s,mb4.3
CABF La Chapelle 49.10 311 *e*P **P 12 30 54.9 +0.4**
comp=Z,36nm,1.1s,mb5.0
CABF La Chapelle 49.10 311 *e*P **P 12 30 54.9 +0.4**
comp=Z,18nm,1.1s,mb5.0
KEV Kevo 49.20 345 *e*P **P 12 30 54.4 -0.9**
comp=Z,60nm,1.5s,mb5.4
KEV Kevo 49.20 345 *e*P **P 12 30 54.4 -0.9**
comp=Z,60nm,1.5s,mb5.4
ARCES ARCESS Array B 49.41 344 P **P 12 30 56.2 -0.6**
comp=Z,1.6nm,0.6s,mb4.2,baz=154,slow=6.7,SNR=9.3
ARCES pP pP 12 31 03.0 -2.9
comp=Z,3.9nm,0.7s,baz=141,slow=8.2,SNR=4.6
ARCES LR LR 12 55 30.6
comp=Z,311nm,18.1s,MS4.3,baz=239,slow=40
ARCES ARCESS Array B 49.41 344 P **P 12 30 56.3 -0.6**
ARCES *PP pP 12 31 03.0 -2.9
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,311nm,18.1s
ARCES ARCESS Array B 49.41 344 P **P 12 30 56.3 -0.6**
comp=Z,2.0nm,0.6s,mb4.3
ARCES pP pP 12 31 03.0 -2.9
NB2 NORSAR Subarra 49.71 330 P **P 12 30 58.3 -0.9**
comp=Z,12nm,0.6s,mb4.1,baz=111,slow=7.9
NOA NORSAR Array B 49.71 330 P **P 12 30 57.8 -1.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=111,slow=7.6,SNR=5.2
NOA pP pP 12 31 06.1 -2.1
comp=Z,2.8nm,0.9s,baz=110,slow=7.7,SNR=7.4
NOA NORSAR Array B 49.71 330 P **P 12 30 57.8 -1.4**
NOA *PP pP 12 31 06.1 -2.1
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,3.0nm,0.9s
NJ2 Nanjing 49.83 68 *e*P **P 12 30 58.6 -1.5**
NJ2 AP pP 12 31 08.5 -0.6
NJ2 XP sP 12 31 12.6 -0.1
NJ2 PP PP 12 32 52.8 -2.1
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.6
NJ2 AMB AMB
comp=Z,360nm,5.8s
NJ2 LR LR
comp=N,280nm,22.0s,MS4.3
NJ2 LR LR
comp=E,240nm,25.1s,MS4.3
NJ2 LR LR
comp=Z,310nm,18.7s
VIVF Saint-Julien-l 49.95 308 *e*P **P 12 31 00.8 -0.2**
comp=Z,37nm,1.2s,mb5.0
VIVF Saint-Julien-l 49.95 308 *e*P **P 12 31 00.8 -0.2**
comp=Z,18nm,1.2s,mb5.0
GIVF Givet 50.35 315 *e*P **P 12 31 03.3 -0.7**
LASF Ste Croix 50.50 307 *e*P **P 12 31 05.2 0.0**
comp=Z,30nm,1.2s,mb4.8
LASF Ste Croix 50.50 307 *e*P **P 12 31 05.2 0.0**
comp=Z,15nm,1.2s,mb4.8
SMF Signal de Mont 50.65 311 *e*P **P 12 31 06.1 -0.2**
comp=Z,34nm,1.1s,mb4.9
SMF Signal de Mont 50.65 311 *e*P **P 12 31 06.1 -0.2**
comp=Z,17nm,1.1s,mb4.9
LOR Lormes 50.69 312 *e*P **P 12 31 06.1 -0.4**
comp=Z,21nm,1.2s,mb4.6
LOR Lormes 50.69 312 *e*P **P 12 31 06.1 -0.4**
comp=Z,11nm,1.2s,mb4.6
BAIF Baives 50.74 315 *e*P **P 12 31 05.7 -1.3**
AVF Avril sur Loir 50.99 311 *e*P **P 12 31 08.5 -0.4**
comp=Z,23nm,1.3s,mb4.7
AVF Avril sur Loir 50.99 311 *e*P **P 12 31 08.5 -0.4**
comp=Z,12nm,1.3s,mb4.7
BGF Bois d'Agland 51.33 311 *e*P **P 12 31 11.2 -0.2**
MTLF Montolieu 51.68 306 *e*P **P 12 31 14.5 +0.5**
comp=Z,19nm,1.1s,mb4.7
MTLF Montolieu 51.68 306 *e*P **P 12 31 14.5 +0.5**
comp=Z,9.7nm,1.1s,mb4.7
TCF Toulx Ste Croi 51.76 310 *e*P **P 12 31 14.6 0.0**
comp=Z,18nm,1.2s,mb4.6
TCF Toulx Ste Croi 51.76 310 *e*P **P 12 31 14.6 0.0**
comp=Z,9.1nm,1.2s,mb4.6
CAF Calviac 51.81 308 *e*P **P 12 31 15.3 +0.3**
comp=Z,14nm,1.0s,mb4.6
CAF Calviac 51.81 308 *e*P **P 12 31 15.3 +0.3**
comp=Z,7.2nm,1.0s,mb4.6
RJF Les Rejaudoux 52.21 309 *e*P **P 12 31 18.4 +0.5**
comp=Z,30nm,1.1s,mb4.8
RJF Les Rejaudoux 52.21 309 *e*P **P 12 31 18.4 +0.5**
comp=Z,15nm,1.1s,mb4.8
LFF La Frestale 52.75 308 *e*P **P 12 31 22.5 +0.5**
comp=Z,33nm,1.1s,mb4.9
LFF La Frestale 52.75 308 *e*P **P 12 31 22.5 +0.5**
comp=Z,16nm,1.1s,mb4.9
MFF Saint Martin d 53.39 311 *e*P **P 12 31 26.6 -0.1**
comp=Z,30nm,1.4s,mb4.7
MFF Saint Martin d 53.39 311 *e*P **P 12 31 26.6 -0.1**
comp=Z,15nm,1.4s,mb4.7
ETSF Etsaut 53.72 306 *e*P **P 12 31 29.8 +0.7**
comp=Z,34nm,1.0s,mb5.0
ETSF Etsaut 53.72 306 *e*P **P 12 31 29.8 +0.7**
comp=Z,17nm,1.0s,mb5.0
SJPF Ste Jean 54.20 306 *e*P **P 12 31 33.2 +0.6**
comp=Z,17nm,1.0s,mb4.6
SJPF Ste Jean 54.20 306 *e*P **P 12 31 33.2 +0.6**
comp=Z,8.4nm,1.0s,mb4.6
ROSF Rostrenen 55.53 313 *e*P **P 12 31 41.8 -0.4**
comp=Z,37nm,1.1s,mb5.0
ROSF Rostrenen 55.53 313 *e*P **P 12 31 41.8 -0.4**
comp=Z,19nm,1.1s,mb5.0
YAK Yakutsk 57.66 31⇑ *e*P **P 12 31 56.6 -0.7**
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.0
YAK MLR MLR
comp=Z,100nm,20.0s,MS3.9
YAK Yakutsk 57.66 31 *e*P **P 12 31 56.6 -0.7**
comp=Z,100nm,20.0s
TOA0 Torodi Ar. Sit 57.91 270 P **P 12 31 59.3 +0.2**
TOA0 Torodi Ar. Sit 57.91 270 P **P 12 31 59.3 +0.2**
TORD Torodi Ar. Bea 57.91 270 P **P 12 31 59.6 +0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=65,slow=6.7,SNR=11
TORD pP pP 12 32 09.0 +0.7
comp=Z,2.1nm,0.8s,baz=62,slow=7.0,SNR=7.4
TORD LR LR 13 00 14.4
comp=Z,94nm,20.4s,MS3.9,baz=70,slow=40
TORD Torodi Ar. Bea 57.91 270 P **P 12 31 59.6 +0.5**
TORD pP pP 12 32 09.0 +0.7
TORD LR LR 13 00 14.3
HABR Khabarovsk 60.54 47 *e*P **P 12 32 15.7 -1.6**
HABR *e*S **S 12 40 27.9 -3.2**
BOSA Boshof 64.09 216 P **P 12 32 40.3 -0.8**
comp=Z,1.7nm,0.7s,mb4.2,baz=355,slow=18,SNR=4.5
BOSA Boshof 64.09 216 P **P 12 32 40.3 -0.7**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MAJO Matsushiro 64.82 60 *e*P **P 12 32 44.6 -1.2**
comp=Z,8.1nm,1.2s,mb4.6
MAJO *e*pP pP 12 32 54.4 -0.7
MAJO *e*sP sP 12 32 58.6 0.0
MAJO Matsushiro 64.82 60 *e*P **P 12 32 44.6 -1.2**
comp=Z,8.1nm,1.2s,mb4.6
MAJO *e*pP pP 12 32 54.4 -0.7
YSS Yuzh-Sakhalins 65.91 48 *i* P **P 12 32 50.3 -2.6**
YSS pmax pmax
comp=Z,16nm,1.4s,mb4.9
YSS MLR MLR
comp=Z,100nm,20.0s,MS4.0
YSS Yuzh-Sakhalins 65.91 48 *i* P **P 12 32 50.3 -2.6**
comp=Z,100nm,20.0s
WRA Warramunga Arr 83.25 116 P **P 12 34 33.4 -0.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=309,slow=4.3,SNR=6.6
WRA Warramunga Arr 83.25 116⇑ *e*P **P 12 34 33.2 -0.3**
IMA2 Indian Mountai 85.13 14 *e*P **P 12 34 42.9 -0.1**
IMA2 *e*pP pP 12 34 51.4 -1.2
IMA2 Indian Mountai 85.13 14 *e*P **P 12 34 42.9 -0.1**
INK Inuvik 86.17 6 P **P 12 34 48.6 +0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.6nm,0.9s,mb4.5,baz=4.2,slow=5.9,SNR=8.9						
INK	**Inuvik**	**86.17**	**6**	P	**P**	**12 34 48.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**86.17**	**6**	*e*P	**P**	**12 34 48.1**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**94.63**	**123**	P	**P**	**12 35 32.5**	**+4.7**
STKA				*e*		12 35 45.3	

*ISCJB **09** 12:28:20.0±1.1, 15.2S±0.1×72.23W±0.08, h153km±13km, mb4.0/6, Error ellipse: s-maj=20.4km s-min=10.1km az=54.7*
*IDC **09** 12:28:20.5±1.8, 15.26S×72.24W, h133km±20km, mb3.8/3, mb1 3.7/6, mb1mx3.4/20, mbtmp4.0/6, Error ellipse: s-maj=29.0km s-min=16.4km az=32.0*
*NEIC **09** 12:28:20.6±1.2, 15.09S×72.20W, h143km±12km, mb4.1/4, Error ellipse: s-maj=17.7km s-min=12.4km az=209.0*
ISC 09 12:28:21.0±1.0**, 15.1S**±0.1×**72.22W**±0.08**, h146**km±12km**, n15, σ0.98**/17**, mb4.0**/6**, Southern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.10**	**107**	P	**Pn**	**12 29 22.5**	**+0.1**
	0.6nm,0.3s,baz=292,slow=13,SNR=15						
LPAZ	**La Paz**	**4.10**	**107**	P	**Pn**	**12 29 22.5**	**+0.1**
NNA	**Nana**	**5.48**	**304**	P	**Pn**	**12 29 41.2**	**+0.5**
	2.9nm,0.3s,baz=126,slow=12,SNR=5.8						
NNA				S	**Sn**	**12 30 43.2**	**+0.2**
	10nm,0.3s,baz=201,slow=20,SNR=14						
NNA	**Nana**	**5.48**	**304**	*e*Pn	**Pn**	**12 29 40.6**	**-0.2**
NNA				*e*Sn	**Sn**	**12 30 41.8**	**-1.3**
NNA				S	**Sn**	**12 30 43.2**	**+0.2**
ATAH	**Atahualpa**	**10.11**	**323**	P	**Pn**	**12 30 43.4**	**+0.9**
	1.7nm,0.3s,baz=40,slow=7.9,SNR=3.8						
SAML	**Samuel**	**10.77**	**56**	*e*Pn	**Pn**	**12 30 50.8**	**-0.3**
	2.5nm,0.6s						
CFAA	**Coronel Fontan**	**16.78**	**168**	P	**Pn**	**12 32 02.9**	**-4.5**
	0.0nm,0.3s,baz=342,slow=8.9,SNR=4.4						
BDFB	**Brasilia**	**23.34**	**94**	P	**P**	**12 33 16.0**	**-0.1**
	1.7nm,0.4s,mb3.9,baz=215,slow=7.8,SNR=2.8						
SDV	**Santo Domingo**	**23.93**	**4**	P	**P**	**12 33 19.3**	**-2.1**
	18nm,1.3s,mb4.4						
SDV				*e*		12 33 26.8	
PLCA	**Paso Flores**	**25.54**	**177**	P	**P**	**12 33 35.7**	**-0.3**
	2.7nm,0.7s,mb4.0,baz=356,slow=12,SNR=7.1						
PLCA	**Paso Flores**	**25.54**	**177**	P	**P**	**12 33 35.7**	**-0.3**
SNAA	**Sanae**	**69.27**	**162**	*e*P	**P**	**12 39 11.7**	**-0.6**
	2.4nm,0.7s,mb4.0						
CMB	**Columbia Colle**	**69.56**	**321**	P	**P**	**12 39 14.3**	**+0.3**
	1.6nm,0.9s,mb3.8						
TORD	**Torodi Ar. Bea**	**78.34**	**73**	P	**P**	**12 40 07.3**	**+2.3**
	1.1nm,0.4s,mb3.8,baz=250,slow=4.8,SNR=15						
TORD				pP	pP	12 40 41.3	0.0
	1.0nm,0.8s,baz=247,slow=4.5,SNR=3.5						
WRA	**Warramunga Arr**	**136.44**	**218**	PKP	PKPdf	12 47 27.7	+2.3
	0.4nm,0.6s,baz=135,slow=1.9,SNR=9.4						

*MOS **09** 12:41:15.9±1.8, 35.75N×69.68E, h33km, mb4.2/2, Error ellipse: s-maj=23.3km s-min=9.0km az=90.6*
*IDC **09** 12:41:21.7±11.0, 35.93N×69.71E, h77km±101km, mb3.4/4, mb1 3.6/7, mb1mx3.2/24, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=78.4km s-min=35.1km az=38.0*
*NEIC **09** 12:41:23.9±4.0, 36.03N×69.69E, h98km±32km, mb3.9/2, Error ellipse: s-maj=35.4km s-min=15.1km az=217.0*
*ISCJB **09** 12:41:27.1±0.6, 36.30N±0.03×69.65E±0.08, h135km±10km, mb3.4/4, Error ellipse: s-maj=11.0km s-min=5.7km az=171.8*
*NNC **09** 12:41:30.5±7.4, 36.95N×69.39E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=60.0km s-min=49.8km az=179.0*
ISC 09 12:41:28.4±0.6**, 36.28N**±0.03×**69.7E**±0.1**, h134**km±10km**, n34, σ0.85**/42**, mb3.5**/4**, 4C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.04**	**143**	⇓P	**Pn**	**12 42 16.7**	**+1.0**
CEP				S	**Sn**	**12 42 52.0**	**-0.2**
THW	**Thamme Wali**	**3.86**	**154**	⇑P	**Pn**	**12 42 26.4**	**0.0**
CHCP	**Chirah Chowk**	**3.92**	**131**	⇓P	**Pn**	**12 42 28.1**	**+1.0**
SBDP	**Sheikh Budin**	**4.07**	**167**	⇑P	**Pn**	**12 42 28.5**	**-0.7**
DRP	**Derazinda**	**4.54**	**175**	⇑P	**Pn**	**12 42 35.3**	**-0.1**
AML	**Almayashu**	**6.61**	**27**	P	**Pn**	**12 43 02.9**	**-0.2**
	SNR=26						
KK31	**Karatay Array**	**6.84**	**5**	P	**Pn**	**12 43 05.4**	**-0.9**
	7.7nm,0.5s,baz=44,slow=7.2,SNR=92						
KK31				⇓S	**Sn**	**12 44 15.9**	**-6.9**
	3.5nm,0.5s						
KKAR	**Karatay Array**	**6.84**	**5**	P	**Pn**	**12 43 05.3**	**-1.0**
KKAR				S	**Sn**	**12 44 18.5**	**-4.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR				smax			
	comp=Z,1.0nm,0.3s						
EKS2	**Erkin-Say**	**7.11**	**25**	P	**Pn**	**12 43 09.8**	**0.0**
	SNR=10						
KZA	**Kyzart**	**7.21**	**35**	P	**Pn**	**12 43 10.8**	**-0.5**
	SNR=14						
AAK	**Ala-Archa**	**7.35**	**29**	P	**Pn**	**12 43 13.1**	**+0.1**
	SNR=19						
AAK	**Ala-Archa**	**7.35**	**29**	*e*P	**Pn**	**12 43 11.9**	**-1.1**
AAK				*e*		12 44 36.2	
AAK				pmax	pmax		
	comp=Z,23nm,0.4s						
AAK	**Ala-Archa**	**7.35**	**29**	*e*Pn	**Pn**	**12 43 11.9**	**-1.1**
	comp=Z,23nm,0.4s						
AAK				*e*Sn	**Sn**	**12 44 36.2**	**+1.3**
KBK	**Karagaybulak**	**7.55**	**31**	P	**Pn**	**12 43 16.0**	**+0.3**
	SNR=12						
CHMS	**Chumysh**	**7.76**	**29**	P	**Pn**	**12 43 18.6**	**+0.1**
	SNR=6.6						
USP	**Ospenovka**	**7.89**	**26**	P	**Pn**	**12 43 20.5**	**+0.1**
	SNR=15						
TKM2	**Tokmak 2**	**8.04**	**33**	P	**Pn**	**12 43 21.8**	**-0.5**
	SNR=15						
TKM2	**Tokmak 2**	**8.04**	**33**	⇓P	**Pn**	**12 43 21.2**	**-1.1**
	comp=Z,0.4nm,0.5s						
TKM2				⇓S	**Sn**	**12 44 52.1**	**+0.5**
	comp=Z,0.2nm,0.6s						
MKAR	**Makanchi Array**	**14.09**	**38**	P	**Pn**	**12 44 41.4**	**-0.6**
	baz=222,slow=14,SNR=3.8						
AB31	**Akbulak array**	**14.80**	**334**	P	**Pn**	**12 44 50.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=158,slow=13,SNR=48						
AB31				⇑S	**Sn**	**12 47 28.2**	**-6.7**
	comp=Z,0.7nm,0.5s,baz=162,slow=23,SNR=3.5						
AB31	**Akbulak array**	**14.80**	**334**	*e*P	**Pn**	**12 44 50.9**	**-0.1**
AKTK	**Aktyubinsk**	**16.48**	**333**	P	**Pn**	**12 45 12.0**	**+0.3**
AKTK				S	**S**	**12 48 06.7**	**-8.6**
AKTO	**Aktyubinsk**	**16.48**	**333**	P	**Pn**	**12 45 12.0**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=150,slow=10,SNR=6.2						
AKTO				S	**S**	**12 48 06.7**	**-8.6**
	comp=Z,0.1nm,0.3s,baz=202,slow=19,SNR=3.7						
ZRNK	**Zerenda**	**16.68**	**359**	*e*P	**Pn**	**12 45 13.1**	**-1.0**
BVAR	**Borovoye Array**	**16.75**	**1**	P	**Pn**	**12 45 14.5**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=176,slow=8.5,SNR=9.7						
BRVK	**Borovoye**	**16.78**	**1**	*e*P	**Pn**	**12 45 16.8**	**+1.4**
GNI	**Garni**	**19.98**	**289**	P	**P**	**12 45 52.9**	**+2.8**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
GNI	**Garni**	**19.98**	**289**	P	**P**	**12 45 52.9**	**+2.8**
	comp=Z,9.0nm,0.8s						
ZAL	**Zalesovo**	**20.54**	**26**	P	**P**	**12 45 57.3**	**+1.1**
	comp=Z,2.7nm,0.4s,baz=258,slow=3.7,SNR=6.8						
ARU	**Arti**	**21.52**	**343**	P	**P**	**12 46 06.4**	**-0.2**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
ARU	**Arti**	**21.52**	**343**	P	**P**	**12 46 06.4**	**-0.2**
	comp=Z,3.3nm,0.9s,mb3.8						
ARCES	**ARCESS Array B**	**40.96**	**338**	P	**P**	**12 48 58.8**	**+1.1**
	comp=Z,2.3nm,0.8s,mb3.8,baz=114,slow=8.2,SNR=5.2						
WRA	**Warramunga Arr**	**82.76**	**121**	P	**P**	**12 53 36.5**	**-0.8**
	comp=Z,0.3nm,0.8s,mb3.0,baz=329,slow=4.7,SNR=3.5						
ASAR	**Alice Springs**	**84.99**	**124**	P	**P**	**12 53 47.7**	**-0.9**
	comp=Z,0.5nm,1.0s,mb3.2,baz=309,slow=4.3,SNR=4.1						

*ISCJB **09** 12:53:59.6±0.6, 50.23N±0.05×18.91E±0.04, h0km, Error ellipse: s-maj=7.7km s-min=2.5km az=36.1*
*PRU **09** 12:54:01.9, 50.24N×18.95E, h0km*
*WAR **09** 12:54:01.0, 50.24N×19.07E, ML2.6, Mining Induced*
ISC 09 12:54:01.1±0.6**, 50.22N**±0.05×**18.95E**±0.04**, h0**km**, n14, σ1.12**/23**, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.55**	**90**	*e*Pg	**Pg**	**12 54 10.1**	**-1.4**
OJC				*i* Sg	**Sg**	**12 54 17.1**	**-1.5**
OKC	**Ostrava-Krasne**	**0.64**	**234**	*e*PG	**Pg**	**12 54 14.4**	**+1.0**
NIE	**Niedzica**	**1.19**	**132**	*e*Pg	**Pg**	**12 54 23.5**	**-0.5**
NIE				*e*Sg	**Sg**	**12 54 39.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.69**	**275**	*e*PG	**Pg**	**12 54 31.4**	**-2.1**
DPC				*e*SG	**Sg**	**12 54 54.5**	**-0.9**
	11nm,0.5s						
STHS	**Stebnicka Huta**	**1.69**	**118**	*e*PN	**Pn**	**12 54 32.2**	**+0.3**
STHS				*e*SN	**Sn**	**12 54 54.8**	**+0.6**
VYHS	**Vyhne**	**1.73**	**182**	*e*PN	**Pn**	**12 54 31.3**	**-1.1**
VYHS				*e*SN	**Sn**	**12 54 54.3**	**-0.9**
KSP	**Ksiaz**	**1.81**	**291**	*e*Pg	**Pg**	**12 54 35.0**	**-0.7**
KSP				*e*Sg	**Sg**	**12 54 59.7**	**+0.6**
UPC	**Upice**	**1.90**	**280**	*e*SG	**Sg**	**12 55 02.4**	**+0.2**
KECS	**Kecovo**	**2.01**	**149**	*e*PN	**Pn**	**12 54 37.9**	**+1.7**
KECS				*e*SN	**Sn**	**12 55 00.5**	**-1.6**
CRVS	**Cervenica-Dubn**	**2.10**	**128**	*e*PN	**Pn**	**12 54 38.6**	**+1.1**
CRVS				*e*SN	**Sn**	**12 55 04.6**	**+0.2**
KOLS	**Kolonicke sedl**	**2.52**	**120**	*e*PG	**Pg**	**12 54 50.4**	**+1.0**
KOLS				*e*SG	**Sg**	**12 55 23.7**	**+1.7**
PRU	**Pruhonice**	**2.85**	**267**	*e*SG	**Sg**	**12 55 33.1**	**+0.6**
KHC	**Kasperske Hory**	**3.65**	**255**	*e*SG	**Sg**	**12 55 57.9**	**-0.6**
	8.4nm,0.9s						
CLL	**Collm**	**3.93**	**288**	*e*Sg	**Sg**	**12 56 10.0**	**+2.7**
	comp=Z,6.0nm,1.0s						

*ISCJB **09** 12:56:12.4±2.6, 13.8N±0.2×145.0E±0.7, h153km±7km, mb3.6/6, Error ellipse: s-maj=117.9km s-min=18.8km az=156.7*
*IDC **09** 12:56:14.1±0.6, 13.76N×144.67E, h140km±6km, mb3.4/6, mb1 3.4/6, mb1mx3.3/21, mbtmp3.8/6, Error ellipse: s-maj=24.9km s-min=12.1km az=111.0*
*NEIC **09** 12:56:15.1±1.1, 13.66N×144.41E, h137km±17km, mb4.4/1, Error ellipse: s-maj=59.9km s-min=17.2km az=78.0*
ISC 09 12:56:13.6±2.6**, 13.8N**±0.2×**145.1E**±0.7**, h149**km±6km**, n9, σ0.43**/11**, mb3.6**/6**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.31**	**221**	P	**Pn**	**12 56 34.5**	**+0.6**
	404nm,0.3s,baz=310,slow=1.1,SNR=299						
GUMO				S	**Sn**	**12 56 49.0**	**-0.5**
	baz=162,slow=19						
GUMO	**Guam**	**0.31**	**221**	P	**Pn**	**12 56 34.5**	**+0.6**
GUMO				S	**Sn**	**12 56 49.0**	**-0.5**
JOW	**Kunigami**	**20.36**	**312**	P	**P**	**13 00 38.6**	**+0.3**
	9.5nm,0.8s,baz=126,slow=15,SNR=4.5						
WRAB	**Tennant Creek**	**35.16**	**198**	P	**P**	**13 02 52.7**	**-0.3**
	6.4nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**35.18**	**198**	P	**P**	**13 02 53.0**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=14,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**38.83**	**196**	P	**P**	**13 03 24.4**	**+0.5**
	0.2nm,0.3s,mb3.2,baz=18,slow=6.7,SNR=14						
SONM	**Songino Array**	**46.66**	**325**	P	**P**	**13 04 27.4**	**+0.5**
	0.4nm,0.6s,mb3.2,baz=126,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**61.46**	**316**	P	**P**	**13 06 13.8**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=90,slow=8.5,SNR=5.9						
BVAR	**Borovoye Array**	**69.87**	**322**	P	**P**	**13 07 07.6**	**-0.5**
	1.3nm,0.5s,mb3.9,baz=98,slow=9.2,SNR=7.6						

*BJI **09** 13:02:15.0, 50.15N×154.82E, h178km, mB4.7, mb4.7*
*ISCJB **09** 13:02:19.1±0.2, 50.28N±0.03×154.16E±0.04, h178km, mb4.5/126, Error ellipse: s-maj=5.1km s-min=2.0km az=99.1*
*KRSC **09** 13:02:19, 49.99N×155.29E, h220km, ML4.7*
*MOS **09** 13:02:20.6±1.0, 50.25N×154.28E, h198km, mb4.6/43, Error ellipse: s-maj=7.9km s-min=4.8km az=86.8*
*NEIC **09** 13:02:20.5±0.2, 50.29N×154.12E, mb4.5/61, Error ellipse: s-maj=5.8km s-min=3.4km az=159.0*
*IDC **09** 13:02:21.9±1.7, 50.33N×154.06E, h192km±16km, mb4.1/35, mb1 4.2/37, mb1mx4.2/39, mbtmp4.6/37, Error ellipse: s-maj=9.4km s-min=6.8km az=140.0*
ISC 09 13:02:20.6±0.2**, 50.31N**±0.03×**154.13E**±0.04**, h180**km**, h180**km±1.8km**:pP-P, n324, σ1.12**/349**, mb4.5**/126**, 14C-13D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.07**	**58**	*e*P	**Pn**	**13 02 49.0**	**+0.2**
SKR	**Severo-Kuril's**	**1.32**	**73**	⇓*i*PN	**Pn**	**13 02 46.2**	**-4.7**
SKR				pmax	pmax		
	comp=N,390nm,0.5s						
SKR				pmax	pmax		
	comp=E,630nm,0.5s						
SKR				pmax	pmax		
	comp=Z,3µm,0.5s						
SKR				pmax	pmax		
	comp=Z,10µm,2.0s						
MIPR	**Malaya Ipel'ka**	**2.57**	**39**	*e*P	**Pn**	**13 03 05.5**	**+1.4**
MIPR				*i* S	**Sn**	**13 03 40.0**	**+2.1**
GRL	**Gorelyy**	**3.34**	**46**	*e*P	**Pn**	**13 03 14.8**	**+1.4**
GRL				*i* S	**Sn**	**13 03 55.1**	**+0.6**
RUS	**Russkaya**	**3.48**	**51**	*e*P	**Pn**	**13 03 14.7**	**-0.4**
RUS				*i* S	**Sn**	**13 03 54.3**	**-3.3**
PET	**Petropavlovsk**	**3.92**	**44**α	*i*PN	**Pn**	**13 03 20.9**	**+0.3**
PET				*i* S	**Sn**	**13 04 08.9**	**+1.4**
PET				pmax	pmax		
	comp=Z,86nm,0.6s						
PET				pmax	pmax		
	comp=Z,200nm,2.2s						
PET				smax			
	comp=N,800nm,1.0s						
PET				smax			
	comp=E,800nm,1.4s						
PET				smax			
	comp=E,587nm,0.7s						
PET				smax			
	comp=N,682nm,0.6s						
PET				smax			
	comp=N,700nm,7.1s						
PET				MLR	MLR		
	comp=Z,900nm,13.0s						
PET				MLR	MLR		
	comp=Z,600nm,13.0s						
PET	**Petropavlovsk**	**3.92**	**44**	*e*Pn	**Pn**	**13 03 20.8**	**+0.2**
PET				*e*Sn	**Sn**	**13 04 05.3**	**-2.2**
PET	**Petropavlovsk**	**3.92**	**44**	*e*P	**Pn**	**13 03 21.3**	**+0.7**
PET				*i* S	**Sn**	**13 04 05.9**	**-1.6**
INSR	**Institute**	**3.92**	**43**	*e*P	**Pn**	**13 03 21.4**	**+0.7**
INSR				*i* S	**Sn**	**13 04 05.7**	**-2.0**
AVH	**Avacha**	**4.12**	**42**	*e*P	**Pn**	**13 03 25.1**	**+1.9**
AVH				*i* S	**Sn**	**13 04 11.9**	**-0.3**
GNL	**Ganaly**	**4.13**	**33**	*e*P	**Pn**	**13 03 25.3**	**+1.9**
NLC	**Nalytchevo**	**4.33**	**46**	*e*P	**Pn**	**13 03 25.2**	**-0.7**
NLC				*i* S	**Sn**	**13 04 13.0**	**-4.0**
SPN	**Mys Shipunski**	**4.61**	**50**	*e*P	**Pn**	**13 03 28.5**	**-1.0**
SPN				*i* S	**Sn**	**13 04 16.9**	**-6.6**
KII	**Karymskiy**	**4.97**	**39**	*e*P	**Pn**	**13 03 35.5**	**+1.4**
KII				*i* S	**Sn**	**13 04 30.0**	**-1.8**
TUMR	**Tumrok**	**6.18**	**34**	*e*P	**Pn**	**13 03 51.9**	**+2.0**
MKZ	**Mys Kozlova**	**6.30**	**45**	*e*P	**Pn**	**13 03 49.9**	**-1.6**
MKZ				*i* S	**Sn**	**13 04 55.0**	**-8.2**
KMNR	**Kamenistaya**	**6.58**	**32**	*e*P	**Pn**	**13 03 57.8**	**+2.6**
KOZ	**Kozyrevsk**	**6.72**	**29**	*e*P	**Pn**	**13 03 58.9**	**+1.9**
KOZ				*i* S	**Sn**	**13 05 10.7**	**-2.3**
KOZR	**Kozyr**	**6.73**	**29**	PN	**Pn**	**13 03 58.9**	**+1.7**
KOZR				S	**Sn**	**13 05 10.7**	**-2.6**
KPT	**Kopyto**	**6.75**	**31**	*e*P	**Pn**	**13 03 59.0**	**+1.6**
SRDR	**Sredinnyy**	**6.89**	**27**	*e*P	**Pn**	**13 04 01.1**	**+1.9**
SRDR				*i* S	**Sn**	**13 05 13.8**	**-3.3**
ZLN	**Zelenaya**	**6.99**	**32**	*e*P	**Pn**	**13 04 02.4**	**+1.9**
ZLN				*i* S	**Sn**	**13 05 16.5**	**-2.9**
KRSR	**Krestovskiy**	**7.07**	**31**	*e*P	**Pn**	**13 04 02.9**	**+1.3**
KRSR				*i* S	**Sn**	**13 05 18.7**	**-2.6**
KLY	**Klyuchi**	**7.17**	**30**	*e*P	**Pn**	**13 04 04.9**	**+1.9**
KLY				*i* S	**Sn**	**13 05 21.7**	**-2.1**
BDR	**Baidarnaya**	**7.56**	**31**	*e*P	**Pn**	**13 04 09.2**	**+1.1**
SRKR	**Sorokina**	**7.62**	**31**	*e*P	**Pn**	**13 04 09.7**	**+0.9**
SRKR				*i* S	**Sn**	**13 05 29.4**	**-5.0**
SMKR	**Semkarok**	**7.66**	**32**	*e*P	**Pn**	**13 04 11.7**	**+2.3**
SMKR				*i* S	**Sn**	**13 05 32.5**	**-3.0**
KBTR	**Krutoberegovo**	**7.88**	**38**	*e*P	**Pn**	**13 04 11.0**	**-1.2**
KBTR				*i* S	**Sn**	**13 05 31.5**	**-9.1**
YSS	**Yuzh-Sakhalins**	**8.25**	**250**	*e*PN	**Pn**	**13 04 20.8**	**+3.7**
YSS	**Yuzh-Sakhalins**	**8.25**	**250**	*e*Pn	**Pn**	**13 04 20.5**	**+3.4**
	comp=Z,35nm,1.1s						
YUK	**Yuzh-Kuril'sk**	**8.43**	**225**	*e*PN	**Pn**	**13 04 18.3**	**-1.1**
YUK				*e*S	**Sn**	**13 05 51.0**	**-2.7**
YUK				pmax	pmax		
	comp=Z,1µm,0.5s						
YUK				pmax	pmax		
	comp=N,140nm,0.4s						
YUK				pmax	pmax		
	comp=Z,810nm,0.4s						
YUK				pmax	pmax		
	comp=E,330nm,0.5s						
YUK				smax			
	comp=N,250nm,0.5s						
YUK				smax			
	comp=E,180nm,0.4s						
JMP	**Maruseppu**	**9.66**	**233**	P	**Pn**	**13 04 36.7**	**+1.0**
ASAJ	**Asahikawa**	**9.99**	**236**	P	**Pn**	**13 04 42.0**	**+2.1**
	comp=E,6.6nm,0.3s,baz=64,slow=11,SNR=72						
ASAJ	**Asahikawa**	**9.99**	**236**	P	**Pn**	**13 04 42.6**	**+2.7**
ASAJ	**Asahikawa**	**9.99**	**236**	PN	**Pn**	**13 04 42.0**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
JEM	**Erimo**	**11.24**	**227**	P	**Pn**	**13 04 53.6**	**-2.6**
JEM				*e*S	**Sn**	**13 06 49.5**	**-12**
ERM	**Erimo**	**11.24**	**227**	*e*PN	**Pn**	**13 04 53.9**	**-2.3**
ERM				pmax	pmax		
	comp=Z,33nm,0.4s						
ERM	**Erimo**	**11.24**	**227**	*e*Pn	**Pn**	**13 04 53.9**	**-2.3**
	comp=Z,33nm,0.4s						
ERM				*e*Sn	**Sn**	**13 06 47.5**	**-14**
JSH	**Shimam**	**12.35**	**237**	P	**Pn**	**13 05 12.1**	**+1.6**
HABR	**Khabarovsk**	**12.56**	**269**	⇑*i*PN	**Pn**	**13 05 22.8**	**+10**
HABR				pmax	pmax		
	comp=Z,40nm,0.8s						
SEY	**Seymchan**	**12.70**	**356**	⇑*e*PN	**Pn**	**13 05 18.0**	**+3.1**
JOT	**Ohata**	**12.74**	**231**	P	**Pn**	**13 05 10.3**	**-5.2**
JOT				*e*S	**Sn**	**13 07 21.1**	**-16**
JTM	**Tenmabayashi**	**13.19**	**229**	P	**Pn**	**13 05 16.8**	**-4.3**
JTM				*e*S	**Sn**	**13 07 30.8**	**-17**
JOM	**Ohasama**	**14.12**	**225**	P	**Pn**	**13 05 28.4**	**-4.4**
JOM				*e*S	**Sn**	**13 07 51.5**	**-19**
JYA	**Atsumi**	**15.56**	**227**	P	**Pn**	**13 05 49.1**	**-1.3**
JYA				*e*S	**S**	**13 08 27.0**	**-16**
JMM	**Marumori**	**15.67**	**223**	P	**Pn**	**13 05 52.9**	**+1.1**
JMM				*e*S	**S**	**13 08 26.5**	**-19**
JSD	**Sado**	**16.69**	**229**	P	**Pn**	**13 06 04.0**	**-0.1**
MDJ	**Mudanjiang**	**17.50**	**260**	P	**Pn**	**13 06 13.5**	**-0.3**
MDJ				XP	sP	13 07 03.9	-1.0
MDJ				S	**S**	**13 09 28.0**	**+3.2**
MDJ				SCP	ScP	13 14 02.5	+1.2
MDJ				PCS	PcS	13 14 20.2	+0.6
MDJ				AMB	AMB		
	comp=Z,18nm,1.9s						
MDJ	**Mudanjiang**	**17.50**	**260**	*e*P	**Pn**	**13 06 13.1**	**-0.7**
	comp=Z,37nm,0.9s						
YAK	**Yakutsk**	**17.84**	**320**	*d i*P	**Pn**	**13 06 18.2**	**+0.4**
YAK	**Yakutsk**	**17.84**	**320**	*e*P	**Pn**	**13 06 18.0**	**+0.2**
	comp=Z,202nm,0.6s						
MAJO	**Matsushiro**	**17.92**	**226**	*e*P	**Pn**	**13 06 16.6**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,49nm,0.9s						
MAJO	**Matsushiro**	**17.92**	**226**	*e*P	**Pn**	**13 06 16.6**	**-2.1**
	comp=Z,49nm,0.9s						
MAT	**Matsushiro**	**17.92**	**226**	P	**Pn**	**13 06 16.6**	**-2.1**
MAT				S	**S**	**13 09 29.9**	**-3.2**
MAT	**Matsushiro**	**17.92**	**226**	P	**Pn**	**13 06 16.9**	**-1.8**
MJAR	**Matsushiro Arr**	**17.92**	**226**	P	**Pn**	**13 06 17.0**	**-1.7**
	comp=Z,2.8nm,0.3s,baz=21,slow=11,SNR=60						
MJAR				S	**S**	**13 09 32.3**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=22,slow=22,SNR=4.6						
CLNS	**Chul'man**	**18.45**	**302**	*e*P	**P**	**13 06 27.0**	**+4.4**
CLNS				pmax	pmax		
	comp=Z,50nm,1.1s						
CLNS				pmax	pmax		
	comp=N,34nm,1.0s						
CLNS				pmax	pmax		
	comp=E,44nm,0.8s						
JOD2	**Odawara 2**	**18.59**	**222**	P	**P**	**13 06 23.9**	**-0.3**
BILL	**Bilibino**	**18.78**	**14**	*e*P	**P**	**13 06 26.0**	**-0.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JSG	**Sagara**	**19.48**	**223**	P	**P**	**13 06 35.7**	**+1.9**
JHJ2	**Mitsune**	**20.17**	**217**	P	**P**	**13 06 41.4**	**+0.3**
JHJ	**Hachijo jima 2**	**20.18**	**217**	P	**P**	**13 06 41.5**	**+0.2**
	comp=Z,91nm,0.9s,baz=265,slow=17,SNR=4.2						
JWT	**Wachi**	**20.27**	**229**	P	**P**	**13 06 41.7**	**-0.5**
JIE	**Ise**	**20.38**	**225**	P	**P**	**13 06 46.1**	**+2.7**
CN2	**Changchun**	**20.51**	**263**	*e*P	**P**	**13 06 45.7**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
JAD	**Aida**	**21.15**	**231**	P	**P**	**13 06 49.8**	**-1.7**
JHS	**Saijyo**	**21.63**	**233**	P	**P**	**13 06 58.2**	**+1.5**
HIA	**Hailar**	**22.11**	**281**	*i* P	**P**	**13 07 01.5**	**0.0**
JTU	**Tsushima**	**23.96**	**238**	P	**P**	**13 07 19.6**	**+1.2**
JNU	**Nakatsue**	**24.25**	**234**	P	**P**	**13 07 21.6**	**+0.6**
TIXI	**Tiksi**	**24.29**	**341**	*i* P	**P**	**13 07 21.1**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
BOD	**Bodaibo**	**24.41**	**303**	*e*P	**P**	**13 07 22.4**	**-0.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
TTA	**Tatalina**	**29.37**	**45**	*e*P	**P**	**13 08 06.2**	**-0.6**
TTA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
TTA	**Tatalina**	**29.37**	**45**	*e*P	**P**	**13 08 06.2**	**-0.6**
	comp=Z,13nm,0.7s,mb4.8						
SVW2	**Sparrevohn**	**29.57**	**49**	*e*P	**P**	**13 08 08.3**	**-0.3**
ULN	**Ulaanbaatar**	**30.53**	**284**	*d i*P	**P**	**13 08 17.5**	**+0.5**
ULN				*i* *PP	pP	13 08 59.0	+4.8
ULN	**Ulaanbaatar**	**30.53**	**284**	*e*P	**P**	**13 08 17.6**	**+0.6**
	comp=Z,7.8nm,0.9s,mb4.4						
IMA2	**Indian Mountai**	**30.57**	**39**	*e*P	**P**	**13 08 16.4**	**-0.9**
JOW	**Kunigami**	**30.67**	**230**	P	**P**	**13 08 18.2**	**+0.1**
	comp=Z,24nm,0.8s,mb5.0,baz=41,slow=8.3,SNR=8.2						
HHC	**Hu-ho-hao-te**	**30.88**	**269**	*e*P	**P**	**13 08 21.4**	**+1.3**
HHC				AP	pP	13 08 57.7	+0.4
HHC				XP	sP	13 09 18.6	+0.7
HHC				PP	PP	13 09 29.7	-3.7
HHC				PCP	PcP	13 11 13.8	+1.5
HHC				S	**S**	**13 13 10.6**	**0.0**
HHC				SCP	ScP	13 14 39.1	+1.1
HHC				PCS	PcS	13 14 57.0	+0.6
HHC				SCS	ScS	13 18 34.7	-0.4
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,120nm,4.8s						
HHC				LR	LR		
	comp=N,90nm,4.9s						
HHC				LR	LR		
	comp=E,64nm,4.7s						
HHC				LR	LR		
	comp=Z,58nm,6.3s						
SONM	**Songino Array**	**30.95**	**284**	P	**P**	**13 08 20.9**	**+0.2**
	comp=Z,2.1nm,0.6s,mb4.0,baz=78,slow=7.1,SNR=21						
SONM				PcP	PcP	13 11 11.4	-1.0
	comp=Z,2.3nm,0.6s,baz=104,slow=1.8,SNR=11						
SONM				ScP	ScP	13 14 37.2	-1.0
	comp=Z,1.4nm,0.9s,baz=94,slow=2.7,SNR=8.3						
SONM	**Songino Array**	**30.95**	**284**	P	**P**	**13 08 20.9**	**+0.2**
SONM						13 11 11.4	
SSE	**Sheshan**	**31.13**	**244**	*e*P	**P**	**13 08 20.7**	**-1.6**
SSE				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,100nm,4.5s						
TLY	**Talaya**	**31.30**	**292**	*e*P	**P**	**13 08 24.5**	**+0.8**
TLY				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
TLY	**Talaya**	**31.30**	**292**	*e*P	**P**	**13 08 25.1**	**+1.4**
	comp=Z,4.1nm,0.7s,mb4.3						
KDAK	**Kodiak Island**	**31.43**	**55**	P	**P**	**13 08 23.2**	**-1.7**
	comp=Z,5.8nm,0.6s,mb4.5,baz=330,slow=5.4,SNR=7.3						
KDAK	**Kodiak Island**	**31.43**	**55**	P	**P**	**13 08 23.2**	**-1.7**
NJ2	**Nanjing**	**31.81**	**248**	*e*P	**P**	**13 08 30.0**	**+1.8**
NJ2				AP	pP	13 09 06.6	+1.1
NJ2				XP	sP	13 09 27.1	+0.9
NJ2				PP	PP	13 09 42.9	-0.8
NJ2				S	**S**	**13 13 27.0**	**+1.9**
NJ2				XS	sS	13 14 33.0	+1.9
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
NJ2				AMB	AMB		

comp=Z,140nm,9.3s
NJ2 LR LR
comp=N,160nm,24.1s
NJ2 LR LR
comp=E,160nm,22.7s
NJ2 LR LR
comp=Z,300nm,24.0s
ZAK Zakamensk 31.93 290 ⇓*i*P **P 13 08 30.6 +1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
MCK McKinley 32.56 44 *e*P **P 13 08 33.5 -1.2**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MCK McKinley 32.56 44 *e*P **P 13 08 33.5 -1.2**
comp=Z,6.2nm,0.8s,mb4.4
PMR Palmer 32.64 48 *e*P **P 13 08 34.0 -1.4**
COLA College 32.98 42*c i*P **P 13 08 38.2 -0.2**
COLA College 32.98 42 *e*P **P 13 08 38.1 -0.2**
comp=Z,26nm,0.8s,mb5.0
EGAK Eagle 35.84 41 *e*P **P 13 09 01.8 -1.2**
KRAR Krasnoyarsk 36.09 303 *e*P **P 13 09 05.7 +0.6**
KRAR pmax pmax
comp=Z,19nm,0.5s,mb5.0
DAWY Dawson 36.71 42 *e*P **P 13 09 09.4 -0.9**
INK Inuvik 38.32 35 P **P 13 09 23.9 0.0**
comp=Z,2.4nm,0.4s,mb4.2,baz=287,slow=6.7,SNR=60
INK Inuvik 38.32 35 *e*P **P 13 09 23.8 0.0**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 38.32 35 *e*P **P 13 09 23.8 0.0**
comp=Z,2.8nm,0.6s,mb4.1
LZH Lanzhou 38.57 268 ⇓P **P 13 09 26.7 +0.8**
LZH AP pP 13 10 04.5 +0.3
LZH XP sP 13 10 24.7 +0.1
LZH PP PP 13 11 02.6 +4.6
LZH AMB AMB
comp=Z,26nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,49nm,5.7s
GTA Gaotai 39.20 275 *e*P **P 13 09 31.5 +0.4**
GTA PCP PcP 13 11 37.5 +0.9
GTA AMB AMB
comp=Z,17nm,0.7s,mb4.8
ZAL Zalesovo 41.18 303 P **P 13 09 47.4 0.0**
comp=Z,5.5nm,0.5s,mb4.4,baz=51,slow=8.4,SNR=17
ZAL PcP PcP 13 11 41.6 -1.4
comp=Z,2.5nm,0.4s,baz=58,slow=5.2,SNR=4.9
NVS Novosibirsk 41.64 305 ⇓*i*P **P 13 09 51.3 +0.1**
NVS *i* pP 13 10 31.7 +1.8
NVS *e* 13 11 34.5
NVS pmax pmax
comp=Z,24nm,1.3s,mb4.7
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,18nm,1.3s
CD2 Chengdu 41.95 262 *e*P **P 13 09 53.0 -0.7**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
DLBC Dease Lake 42.69 49 P **P 13 10 01.1 +1.4**
comp=Z,4.3nm,0.5s,mb4.3,baz=319,slow=5.4,SNR=18
GYA Guiyang 43.23 255 P **P 13 10 03.6 -0.3**
GYA AP pP 13 10 41.9 -1.1
GYA XP sP 13 11 01.8 -1.4
GYA PP PP 13 11 48.3 +0.2
GYA SCP ScP 13 15 24.1 +0.1
GYA PCS PcS 13 15 42.5 -0.1
GYA S **S** **13 16 15.1 -2.0**
GYA SCS ScS 13 19 42.7 -1.9
GYA AMB AMB
comp=Z,10.0nm,0.5s,mb4.7
GYA AMB AMB
comp=Z,320nm,2.9s,mb5.4
WMQ Urumqi 44.36 288 ⇓*i*P **P 13 10 14.5 +1.5**
WMQ AP pP 13 10 53.0 +0.8
WMQ XP sP 13 11 13.0 +0.7
WMQ PP PP 13 12 02.0 +1.9
WMQ S **S** **13 16 35.0 +1.5**
WMQ XS sS 13 17 43.0 +0.9
WMQ AMB AMB
comp=Z,14nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,109nm,5.4s
MK31 Makanchi Array 45.98 295 P **P 13 10 25.9 +0.1**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
MKAR Makanchi Array 45.98 295 P **P 13 10 25.9 +0.2**
comp=Z,12nm,0.8s,mb4.6,baz=61,slow=7.7,SNR=75
MKAR PcP PcP 13 11 58.7 -0.6
comp=Z,1.3nm,0.5s,baz=70,slow=4.7,SNR=3.0
MKAR Makanchi Array 45.98 295 P **P 13 10 25.9 +0.2**
MKAR PcP PcP 13 11 58.7 -0.6
KMI Kunming 46.63 257 P **P 13 10 31.2 +0.4**
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.5
YKA Yellowknife Ar 47.70 39 P **P 13 10 38.9 -0.2**
comp=Z,3.8nm,0.7s,mb4.2,baz=297,slow=6.5,SNR=6.3
CHKZ Chkalovo 48.71 308 *e*P **P 13 10 46.5 -0.3**
CHKZ *e**PP pP 13 11 28.1 +1.4
CHKZ *e* 13 12 08.2
CHKZ pmax pmax
comp=Z,31nm,0.6s,mb5.1
CHKZ Chkalovo 48.71 308 *e*P **P 13 10 46.5 -0.4**
comp=Z,31nm,0.6s,mb5.1
CHKZ *e*pP pP 13 11 28.1 +1.4
CHKZ *e*PcP PcP 13 12 08.2 -0.9
CHKZ *e*ScP ScP 13 15 45.5 -1.3
VOSK Vostochnaya 49.04 307 P **P 13 10 49.2 -0.1**
VOSK pmax pmax
comp=Z,14nm,0.9s,mb4.6
BVA0 Borovoye Array 49.17 307 *i* P **P 13 10 50.6 +0.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
BVAR Borovoye Array 49.17 307 P **P 13 10 50.6 +0.3**
comp=Z,7.8nm,0.5s,mb4.6,baz=58,slow=8.2,SNR=65
BVAR pP pP 13 11 32.6 +2.3
comp=Z,2.1nm,0.6s,baz=53,slow=11,SNR=2.3
BVAR PcP PcP 13 12 10.3 -0.5
comp=Z,5.7nm,0.4s,baz=66,slow=3.1,SNR=14
BVAR PP PP 13 12 41.9 -3.8
comp=Z,3.0nm,0.7s,baz=58,slow=11,SNR=4.2
BVAR ScP ScP 13 15 48.0 -0.8
comp=Z,1.9nm,0.7s,baz=64,slow=5.1,SNR=8.7
BVAR Borovoye Array 49.17 307 P **P 13 10 50.6 +0.3**
BVAR *PP pP 13 11 32.6 +2.3
BVAR 13 12 10.3
BVAR 13 12 41.9
BRVK Borovoye 49.21 308 *e*P **P 13 10 50.7 +0.1**
BRVK *e* 13 12 10.1
BRVK pmax pmax
comp=Z,13nm,0.8s,mb4.6
BRVK Borovoye 49.21 308 *e*P **P 13 10 50.7 +0.1**
comp=Z,13nm,0.8s,mb4.6
BRVK *e*PcP PcP 13 12 10.1 -0.8
BRVK *e*ScP ScP 13 15 47.5 -1.4
ZRNK Zerenda 49.92 308 *e*P **P 13 10 55.9 0.0**
ZRNK *e**PP pP 13 11 37.9 +1.9
ZRNK *e* 13 12 12.4
ZRNK pmax pmax
comp=Z,18nm,0.7s,mb4.8
ZRNK Zerenda 49.92 308 *e*P **P 13 10 55.9 0.0**
comp=Z,18nm,0.7s,mb4.8
ZRNK *e*pP pP 13 11 37.9 +1.9
ZRNK *e*PcP PcP 13 12 12.4 -1.1
ZRNK *e*ScP ScP 13 15 50.5 -1.4
SVE Sverdlovsk 51.72 316 *e*P **P 13 11 08.8 -0.6**
SVE *e* 13 12 18.8
SVE pmax pmax
comp=Z,38nm,1.3s,mb4.9
ARU Arti 52.88 316 ⇓*e*P **P 13 11 17.3 -0.6**
ARU *e**PP pP 13 12 00.3 +1.9
ARU *e* 13 12 23.0
ARU pmax pmax
comp=Z,15nm,0.3s,mb5.2
ARU Arti 52.88 316 ⇓*e*P **P 13 11 17.3 -0.7**
comp=Z,15nm,0.3s,mb5.2
ARU *e*pP pP 13 12 00.2 +1.8
ARU *e*PcP PcP 13 12 23.0 -1.6
AAK Ala-Archa 52.92 295 *e*P **P 13 11 17.5 -0.7**
AAK *e* 13 12 23.9
AAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
AAK Ala-Archa 52.92 295 *e*P **P 13 11 17.5 -0.7**
comp=Z,5.0nm,0.8s,mb4.3
AAK *e*PcP PcP 13 12 23.9 -0.8
TWW Teanaway 53.22 58 P **P 13 11 21.1 +0.7**
EDM Edmonton 53.41 48 *e*P **P 13 11 21.4 -0.4**
EBG Ellensburg 53.52 58 P **P 13 11 22.8 +0.2**
CHTO Chiang Mai 53.65 255 *e*P **P 13 11 24.1 +0.6**
CHTO pmax pmax
comp=Z,12nm,0.6s,mb4.8
CHTO Chiang Mai 53.65 255 *e*P **P 13 11 24.1 +0.6**
comp=Z,12nm,0.6s,mb4.8
VFP Flag Point 53.99 60 P **P 13 11 26.4 +0.4**
ARCES ARCESS Array B 54.72 340 P **P 13 11 29.8 -1.5**
comp=Z,3.0nm,0.6s,mb4.2,baz=34,slow=7.2,SNR=21
ARCES PcP PcP 13 12 30.9 -0.7
comp=Z,2.0nm,0.7s,baz=28,slow=5.5,SNR=5.0
KK31 Karatay Array 54.92 297 *i* P **P 13 11 32.6 -0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
KKAR Karatay Array 54.92 297 *i* P **P 13 11 32.6 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
KTRM Thompson Ridge 55.03 65 P **P 13 11 34.6 +1.2**
GUN Gumba 55.42 273 *e*P **P 13 11 36.7 +0.4**
comp=Z,22nm,0.4s,mb5.3
YBH Yreka Blue Hor 55.53 64 P **P 13 11 38.3 +1.2**
comp=Z,4.3nm,0.6s,mb4.5,baz=348,slow=3.9,SNR=19
YBH Yreka Blue Hor 55.53 64 *e*P **P 13 11 37.7 +0.7**
YBH pmax pmax
comp=Z,3.0nm,0.6s
YBH Yreka Blue Hor 55.53 64 *e*P **P 13 11 37.7 +0.6**
comp=Z,3.2nm,0.6s,mb4.3
KKN Kakani 55.88 274 *e*P **P 13 11 40.3 +0.7**
comp=Z,21nm,0.5s,mb5.2
PKI Pulchoki 55.95 273 *e*P **P 13 11 40.8 +0.7**
BSMT Bassoo Peak 56.01 54 P **P 13 11 41.1 +0.6**
DMN Daman 56.12 274 *e*P **P 13 11 42.1 +0.8**
comp=Z,24nm,0.6s,mb5.2
GKN Gorkha 56.15 274 *e*P **P 13 11 41.9 +0.4**
comp=Z,24nm,0.4s,mb5.4
BMO Blue Mountains 56.58 58 *e*P **P 13 11 44.8 +0.3**
comp=Z,1.2nm,0.5s,mb4.0
AB31 Akbulak array 56.70 309 *i* P **P 13 11 45.2 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
MOD Modoc 56.80 63 *e*P **P 13 11 46.4 +0.4**
comp=Z,1.9nm,0.5s,mb4.2
MOD *e*pP pP 13 12 27.1 0.0
AKTK Aktyubinsk 56.89 311 P **P 13 11 46.3 -0.4**
AKTK PcP PcP 13 12 39.1 -0.9
AKTO Aktyubinsk 56.89 311 P **P 13 11 46.3 -0.4**
comp=Z,7.6nm,0.5s,mb4.8,baz=75,slow=6.9,SNR=39
AKTO PcP PcP 13 12 39.1 -0.9
comp=Z,6.2nm,0.7s,baz=69,slow=4.1,SNR=9.4
KOLN Koldanda 56.97 275 *e*P **P 13 11 47.3 0.0**
comp=Z,17nm,0.6s,mb5.1
MSO Missoula 57.11 55 *e*P **P 13 11 48.1 -0.1**
comp=Z,8.4nm,1.3s,mb4.4
WVOR Wild Horse Val 57.40 61 *e*P **P 13 11 50.7 +0.4**
WVOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WVOR Wild Horse Val 57.40 61 *e*P **P 13 11 50.7 +0.4**
comp=Z,6.8nm,1.0s,mb4.4
WVOR *e*pP pP 13 12 29.3 -2.1
CHMT Chamberlain Mo 57.41 54 *e*P **P 13 11 50.2 -0.2**
OHCM Honcut 57.79 66 *e*P **P 13 11 52.4 -0.6**
HRY Holter Researc 58.29 54 *e*P **P 13 11 56.9 +0.4**
JOF Joensuu 58.45 333 *e*p PcP 13 12 44.6 -1.6
comp=Z,3.4nm,0.4s
DLMT Dillon 58.78 55 *e*P **P 13 12 00.1 +0.3**
comp=Z,6.2nm,0.8s,mb4.5
MCMT McKenzie Canyo 59.00 56 *e*P **P 13 12 01.3 0.0**
BOZ Bozeman (W) 59.10 55 *e*P **P 13 12 02.6 +0.6**
BOZ *e**PP pP 13 12 43.4 0.0
BOZ pmax pmax
comp=Z,11nm,0.6s,mb4.9
BOZ Bozeman (W) 59.10 55 *e*P **P 13 12 02.6 +0.6**
comp=Z,11nm,0.6s,mb4.8
BOZ *e*pP pP 13 12 43.4 0.0
QLMT Earthquake Lak 59.75 55 *e*P **P 13 12 07.0 +0.6**
GCMT Greycliff 60.02 53 *e*P **P 13 12 09.2 +0.9**
GCMT *e*pP pP 13 12 49.4 -0.4
NVAR Mina Array Bea 60.24 65 P **P 13 12 10.7 +0.8**
comp=Z,5.2nm,0.7s,mb4.5,baz=298,slow=7.2,SNR=41
NVAR PcP PcP 13 12 51.0 -2.3
comp=Z,0.9nm,0.6s,baz=298,slow=6.6,SNR=4.2
KAF Kangasniemi 60.51 335 *e*p **P 13 12 05.9 -5.7**
comp=Z,8.1nm,0.8s,mb4.6,baz=35,slow=6.3
KAF Kangasniemi 60.51 335 *e*p PcP 13 12 52.5 -1.9
comp=Z,9.0nm,0.6s
KAF Kangasniemi 60.51 335 *e*P **P 13 12 05.9 -5.7**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
FLWY Flagg Ranch 60.64 55 *e*P **P 13 12 13.9 +1.4**
comp=Z,2.5nm,0.6s,mb4.2
IMW Indian Meadow 60.64 56 *e*P **P 13 12 12.2 -0.3**
comp=Z,4.0nm,0.7s,mb4.4
IMW *e*pP pP 13 12 54.8 +0.6
RRI2 Red Ridge 60.81 56 *e*P **P 13 12 15.2 +1.5**
comp=Z,9.1nm,0.6s,mb4.8
RRI2 *e*pP pP 13 12 56.3 +1.0
TPAW Teton Pass 60.91 56 *e*P **P 13 12 15.6 +1.3**
comp=Z,6.4nm,0.6s,mb4.6
TPAW *e*pP pP 13 12 55.8 -0.2
LOHW Long Hollow 61.01 56 *e*P **P 13 12 16.1 +1.0**
comp=Z,4.9nm,1.0s,mb4.3
LOHW *e*pP pP 13 12 57.3 +0.6
REDW Red Top Meadow 61.05 56 *e*P **P 13 12 15.4 +0.1**
comp=Z,12nm,1.3s,mb4.6
REDW *e*pP pP 13 12 57.5 +0.6
FINES FINESS Array B 61.12 334 P **P 13 12 14.6 -1.1**
comp=Z,5.0nm,0.5s,mb4.6,baz=43,slow=7.7,SNR=66
FINES PcP PcP 13 12 56.0 -0.9
comp=Z,7.2nm,0.6s,baz=64,slow=4.4,SNR=13
SFJD Kangerlussuaq 61.53 11 P **P 13 12 16.6 -1.9**
comp=Z,4.9nm,0.4s,mb4.7,baz=311,slow=6.3,SNR=4.3
HWUT Hardware Ranch 61.87 58 *e*P **P 13 12 21.4 +0.6**
comp=Z,3.8nm,0.6s,mb4.4
PDAR Pinedale Array 62.15 56 P **P 13 12 23.2 +0.6**
comp=Z,8.5nm,0.7s,mb4.7,baz=330,slow=1.8,SNR=79
PDAR PcP PcP 13 13 03.8 +2.7
comp=Z,3.1nm,0.8s,baz=338,slow=3.5,SNR=8.7
NLU North Lily Min 62.73 60 *e*P **P 13 12 27.2 +0.7**
OBN Obninsk 62.77 325 *e*P **P 13 12 25.2 -1.6**
OBN *e**PP pP 13 13 02.9 -5.7
OBN *e* 13 14 46.7
OBN pmax pmax
comp=Z,18nm,1.2s,mb4.8
KULM Kulim 63.24 244 *e*P **P 13 12 30.8 +1.0**
ULM Lac du Bonnet 63.41 42 P **P 13 12 30.0 -1.0**
comp=Z,0.8nm,0.4s,mb3.9,baz=338,slow=7.0,SNR=5.3
ULM pP pP 13 13 12.2 -0.8
comp=Z,1.4nm,0.7s,baz=337,slow=6.5,SNR=3.1
MSU Marysvale 63.68 61 *e*P **P 13 12 33.8 +1.1**
SRU San Rafael 64.18 59 *e*P **P 13 12 36.5 +0.5**
SRU pmax pmax
comp=Z,13nm,0.8s,mb4.8
SRU San Rafael 64.18 59 *e*P **P 13 12 36.5 +0.5**
comp=Z,13nm,0.8s,mb4.8
SRU *e*pP pP 13 13 16.7 -1.3
NB2 NORSAR Subarra 65.08 341 P **P 13 12 40.3 -1.5**
comp=Z,2.2nm,0.6s,mb4.2,baz=24,slow=6.5
NOA NORSAR Array B 65.08 341 P **P 13 12 40.5 -1.3**
comp=Z,3.0nm,0.8s,mb4.2,baz=25,slow=6.4,SNR=7.0
NOA PcP PcP 13 13 11.7 -1.5
comp=Z,2.8nm,0.7s,baz=27,slow=4.0,SNR=7.9
HFS Hagfors 65.36 339 P **P 13 12 41.6 -2.0**
comp=Z,2.1nm,0.4s,mb4.3,baz=48,slow=2.2,SNR=21
HFS PcP PcP 13 13 12.5 -1.7
comp=Z,1.5nm,0.4s,baz=60,slow=5.8,SNR=4.6
PV01 Paradox Valley 65.95 59 *e*P **P 13 12 47.8 +0.4**
PV01 *e*pP pP 13 13 30.7 +1.1
SMCO Snowmass 66.07 57 P **P 13 12 47.0 -1.1**
comp=Z,4.2nm,0.6s,mb4.5
SMCO *e*pP PcP 13 13 14.5 -2.6
PSI Prapat 66.25 244 P **P 13 12 49.9 +0.5**
comp=Z,8.7nm,0.8s,mb4.6,baz=349,slow=4.0,SNR=11
ISCO Idaho Springs 66.34 56 *e*P **P 13 12 50.2 +0.3**
ISCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
ISCO Idaho Springs 66.34 56 *e*P **P 13 12 50.2 +0.3**
comp=Z,2.4nm,0.7s,mb4.1
ISCO *e*pP pP 13 13 31.0 -1.2
ECSD EROS,Sioux Fal 67.96 48 *e*P **P 13 12 58.7 -1.3**
ECSD *e*pP pP 13 13 41.5 -1.0
KIV Kislovodsk 68.81 314 *e*P **P 13 13 06.4 +1.0**
KIV pmax pmax
comp=Z,18nm,0.8s,mb4.8
KIV Kislovodsk 68.81 314 *e*P **P 13 13 06.4 +1.0**
comp=Z,18nm,0.8s,mb4.9
AKASG Malin Array Be 68.97 326 P **P 13 13 04.8 -1.6**
comp=Z,2.1nm,0.4s,mb4.2,baz=32,slow=6.6,SNR=8.9
AKASG PcP PcP 13 13 27.7 -1.7
comp=Z,2.0nm,0.6s,baz=36,slow=4.7,SNR=5.9
AKASG Malin Array Be 68.97 326 P **P 13 13 04.8 -1.6**
AKASG PcP PcP 13 13 27.7 -1.7
ZEI Tsey 69.15 312 *e*P **P 13 13 08.0 +0.5**
ZEI pmax pmax
comp=Z,15nm,0.8s,mb4.8
ANMO Albuquerque 69.42 60 P **P 13 13 09.6 +0.4**
comp=Z,2.1nm,0.8s,mb3.9,baz=325,slow=7.3,SNR=7.3
LAZ Ladron 69.45 61 *e*P **P 13 13 10.2 +0.9**
DGRG David-gareji 69.45 311 P **P 13 13 10.6 +1.3**
TBLG Delisi 69.54 311 P **P 13 13 11.7 +1.8**
MTA Mtatsminda 69.55 311 P **P 13 13 10.6 +0.7**
SCHQ Schefferville 69.78 24 P **P 13 13 09.7 -1.6**
comp=Z,2.6nm,0.3s,mb4.4,baz=341,slow=6.9,SNR=12
GNI Garni 70.75 310 P **P 13 13 18.6 +1.4**
comp=Z,12nm,0.5s,mb4.8,baz=15,slow=5.7,SNR=7.3
GNI Garni 70.75 310*c i*P **P 13 13 18.9 +1.7**
GNI pmax pmax
comp=Z,14nm,0.7s
GNI Garni 70.75 310 *e*P **P 13 13 19.3 +2.1**
comp=Z,15nm,0.7s,mb4.8
WB2 Warramunga Arr 72.09 200 *e*P **P 13 13 24.1 -1.1**
WRA Warramunga Arr 72.09 200 P **P 13 13 24.3 -1.0**
comp=Z,2.2nm,0.7s,mb4.0,baz=15,slow=6.5,SNR=26
WRA PcP PcP 13 13 41.9 -0.7
comp=Z,2.1nm,0.6s,baz=18,slow=5.0,SNR=11
FITZ Fitzroy Crossi 72.60 208 *e*P **P 13 13 28.3 +0.1**
comp=Z,10nm,0.6s,mb4.7
FITZ Fitzroy Crossi 72.60 208 P **P 13 13 28.4 +0.1**
comp=Z,5.9nm,0.6s,mb4.5,baz=11,slow=4.9,SNR=27
STHS Stebnicka Huta 72.78 330 *e*P **P 13 13 29.9 +0.6**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
STHS Stebnicka Huta 72.78 330 *e*P **P 13 13 29.9 +0.6**
comp=Z,3.1nm,0.7s,mb4.2
BURAR Bucovina Array 72.99 327⇑*i*P **P 13 13 29.6 -0.9**
BURAR Bucovina Array 72.99 327⇑P **P 13 13 29.6 -1.0**
EKA Eskdalemuir Ar 73.04 347 P **P 13 13 29.3 -1.5**
comp=Z,2.3nm,0.6s,mb4.1,baz=18,slow=5.2,SNR=19
DPC Dobruska-Polom 73.45 333 *e*P **P 13 13 35.0 +1.8**
CLL Collm 73.50 336 *i* P **P 13 13 32.4 -1.1**
comp=Z,5.0nm,0.6s,mb4.4
CLL Collm 73.50 336 *i* P **P 13 13 32.4 -1.1**
CLL pmax pmax
comp=Z,15nm,0.6s,mb4.9
MORC Moravsky Berou 73.61 332 ⇓*i*P **P 13 13 33.8 -0.3**
MORC Moravsky Berou 73.61 332 *e*P **P 13 13 33.6 -0.5**
comp=Z,2.2nm,0.6s,mb4.1
PRU Pruhonice 74.28 334 *e*P **P 13 13 36.7 -1.4**
VRAC Vranov 74.31 333 P **P 13 13 38.4 +0.2**
comp=Z,4.4nm,0.6s,mb4.3,baz=40,slow=5.1,SNR=6.0
VRAC Vranov 74.31 333⇑*i*P **P 13 13 38.0 -0.2**
VRAC Vranov 74.31 333⇑P **P 13 13 38.0 -0.2**
VYHS Vyhne 74.35 331 *e*P **P 13 13 38.2 -0.2**
MLR Muntele Rosu 74.54 325⇑*i*P **P 13 13 40.0 +0.4**
MLR Muntele Rosu 74.54 325⇑P **P 13 13 40.0 +0.5**
MALT Malatya 75.23 313 ⇓*i*P **P 13 13 45.6 +2.1**
MALT Malatya 75.23 313 *e*P **P 13 13 44.4 +0.9**
comp=Z,15nm,0.8s,mb4.7
KHC Kasperske Hory 75.33 334 *e*P **P 13 13 43.8 -0.2**
KHC Kasperske Hory 75.33 334⇑*e*P **P 13 13 44.5 +0.5**
GERES GERESS Array B 75.55 334 P **P 13 13 44.8 -0.6**
comp=Z,1.1nm,0.5s,mb3.7,baz=41,slow=6.6,SNR=9.4
ASAR Alice Springs 75.79 199 P **P 13 13 46.7 0.0**
comp=Z,2.8nm,0.6s,mb4.1,baz=11,slow=5.2,SNR=42
BR131 Keskin Array S 76.26 317 *e*P **P 13 13 48.5 -0.8**
comp=Z,7.7nm,1.0s,mb4.3
BRTR Keskin Array B 76.26 317 P **P 13 13 49.0 -0.4**
comp=Z,4.7nm,0.9s,mb4.1,baz=60,slow=3.3,SNR=20
MIAR Mount Ida 76.57 52 *e*P **P 13 13 48.7 -2.4**
MIAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
MIAR Mount Ida 76.57 52 *e*P **P 13 13 48.7 -2.4**
comp=Z,3.7nm,0.6s,mb4.2
GIVF Givet 76.59 340 *e*P **P 13 13 50.3 -0.9**
BAIF Baives 76.76 341 *e*P **P 13 13 51.0 -1.1**
UMR Umm Al-Rimmam 77.37 301 *e*P **P 13 13 54.9 -0.7**
MIB Mutribah 77.38 301 *e*P **P 13 13 55.4 -0.2**
MIB AMb AMB 13 13 57.1
comp=Z,28nm,0.6s,mb5.1
CDF Champ du Feu 77.61 338 *e*P **P 13 13 55.2 -1.7**
NAY Al-Naaiem 77.86 301 *e*P **P 13 13 57.1 -1.2**
NAY AMb AMB 13 14 01.1
comp=Z,8.9nm,0.7s,mb4.5
RDF Al-Radifah 77.95 301 *e*P **P 13 13 56.5 -2.2**
RDF AMb AMB 13 14 01.0
comp=Z,16nm,0.4s,mb5.0
VTS Vitosha 78.04 325 ⇓*i*P **P 13 13 58.6 -0.7**
VTS Vitosha 78.04 325 ⇓P **P 13 13 58.6 -0.6**
HINF Hinteralfeld 78.27 338 *e*P **P 13 13 59.8 -0.7**
FLN La Foliniere 78.93 343 *e*P **P 13 14 03.5 -0.6**
LDF La Druitiere 79.03 343 *e*P **P 13 14 04.0 -0.6**
comp=Z,4.4nm,0.4s,mb4.1
GRR Gorron 79.36 343 *e*P **P 13 14 05.5 -1.0**
comp=Z,28nm,0.8s,mb4.6
GRR Gorron 79.36 343 *e*P **P 13 14 05.5 -1.0**
GRR pmax pmax
comp=Z,14nm,0.8s,mb4.6
GRR Gorron 79.36 343 *e*P **P 13 14 05.5 -1.0**
comp=Z,14nm,0.8s,mb4.6
LOR Lormes 79.48 340 *e*P **P 13 14 06.7 -0.4**
comp=Z,13nm,0.9s,mb4.3
LOR Lormes 79.48 340 *e*P **P 13 14 06.7 -0.4**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
LOR Lormes 79.48 340 *e*P **P 13 14 06.7 -0.4**
comp=Z,6.6nm,0.9s,mb4.3
CABF La Chapelle 79.58 338 *e*P **P 13 14 07.6 -0.1**
comp=Z,2.1nm,0.5s,mb3.7
CABF La Chapelle 79.58 338 *e*P **P 13 14 07.6 -0.1**
CABF pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
CABF La Chapelle 79.58 338 *e*P **P 13 14 07.6 -0.1**
comp=Z,1.0nm,0.5s,mb3.7
ROSF Rostrenen 79.83 345 *e*P **P 13 14 08.2 -0.8**
comp=Z,22nm,0.8s,mb4.5
ROSF Rostrenen 79.83 345 *e*P **P 13 14 08.2 -0.8**
ROSF pmax pmax
comp=Z,11nm,0.8s,mb4.5
ROSF Rostrenen 79.83 345 *e*P **P 13 14 08.2 -0.8**
comp=Z,11nm,0.8s,mb4.5
AVF Avril sur Loir 80.04 340 *e*P **P 13 14 09.9 -0.2**
comp=Z,9.5nm,0.7s,mb4.2
AVF Avril sur Loir 80.04 340 *e*P **P 13 14 09.9 -0.2**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
AVF Avril sur Loir 80.04 340 *e*P **P 13 14 09.9 -0.2**
comp=Z,4.8nm,0.7s,mb4.2
SMF Signal de Mont 80.07 340 *e*P **P 13 14 10.1 -0.2**
comp=Z,7.9nm,0.6s,mb4.2
SMF Signal de Mont 80.07 340 *e*P **P 13 14 10.1 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
SMF Signal de Mont 80.07 340 *e*P **P 13 14 10.1 -0.2**
comp=Z,4.0nm,0.6s,mb4.2
QUIF Quistinic 80.22 345 *e*P **P 13 14 10.8 -0.3**
comp=Z,9.4nm,0.6s,mb4.3
LPL La Plagne 80.46 337 *e*P **P 13 14 13.1 +0.8**
comp=Z,16nm,0.6s,mb4.5
LPG La Plagne 80.47 337 *e*P **P 13 14 13.3 +0.9**
comp=Z,20nm,0.6s,mb4.6
BLA Blacksburg 80.50 41 *e*P **P 13 14 14.3 +1.8**
BLA pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BLA Blacksburg 80.50 41 *e*P **P 13 14 14.3 +1.8**
comp=Z,1.6nm,0.6s,mb3.8
TCF Toulx Ste Croi 80.76 341 *e*P **P 13 14 14.1 +0.1**
comp=Z,4.0nm,0.6s,mb3.9
TCF Toulx Ste Croi 80.76 341 *e*P **P 13 14 14.1 +0.1**
TCF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
TCF Toulx Ste Croi 80.76 341 *e*P **P 13 14 14.1 +0.1**
comp=Z,2.0nm,0.6s,mb3.9
BNI Bardonecchia 80.90 337 *e*P **P 13 14 15.2 +0.5**
BNI pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BNI Bardonecchia 80.90 337 *e*P **P 13 14 15.2 +0.4**
comp=Z,5.6nm,0.6s,mb4.4
ASF Jabal al Asfar 80.92 310 P **P 13 14 15.9 +1.1**
comp=Z,3.9nm,0.6s,mb4.2,baz=337,slow=0.7,SNR=8.4

MFF	Saint Martin d	80.94	342	eP	P	13 14 15.1	+0.2
	comp=Z,8.9nm,0.6s,mb4.3						
MBDF	Montbardon	81.19	337	eP	P	13 14 16.3	+0.1
	comp=Z,6.7nm,0.6s,mb4.2						
MBDF	Montbardon	81.19	337	eP	P	13 14 16.3	+0.1
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
MBDF	Montbardon	81.19	337	eP	P	13 14 16.3	+0.1
	comp=Z,3.3nm,0.6s,mb4.1						
ORIF	Oris-en-Rattie	81.22	338	eP	P	13 14 17.0	+0.6
	comp=Z,7.0nm,0.5s,mb4.2						
ORIF	Oris-en-Rattie	81.22	338	eP	P	13 14 17.0	+0.6
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
ORIF	Oris-en-Rattie	81.22	338	eP	P	13 14 17.0	+0.6
	comp=Z,3.5nm,0.5s,mb4.2						
VIVF	Saint-Julien-l	81.57	339	eP	P	13 14 18.6	+0.4
	comp=Z,6.4nm,0.7s,mb4.0						
VIVF	Saint-Julien-l	81.57	339	eP	P	13 14 18.6	+0.4
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
VIVF	Saint-Julien-l	81.57	339	eP	P	13 14 18.6	+0.4
	comp=Z,3.2nm,0.7s,mb4.1						
SBF	Sospel	81.83	336	eP	P	13 14 19.7	+0.1
	comp=Z,32nm,0.8s,mb4.7						
SBF	Sospel	81.83	336	eP	P	13 14 19.7	+0.1
SBF				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.7						
SBF	Sospel	81.83	336	eP	P	13 14 19.7	+0.1
	comp=Z,16nm,0.8s,mb4.7						
CAF	Calviac	82.09	340	eP	P	13 14 20.8	-0.1
	comp=Z,4.4nm,0.6s,mb4.0						
CAF	Calviac	82.09	340	eP	P	13 14 20.8	-0.1
CAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
CAF	Calviac	82.09	340	eP	P	13 14 20.8	-0.1
	comp=Z,2.2nm,0.6s,mb4.0						
SMRF	Simiane la Rot	82.19	338	eP	P	13 14 21.5	+0.1
	comp=Z,6.8nm,0.7s,mb4.1						
SMRF	Simiane la Rot	82.19	338	eP	P	13 14 21.5	+0.1
	comp=Z,6.8nm,0.7s,mb4.4						
FRF	La Foret Royal	82.31	337	eP	P	13 14 21.7	-0.4
LFF	La Frestale	82.36	341	eP	P	13 14 22.0	-0.3
	comp=Z,6.2nm,0.4s,mb4.3						
LASF	Ste Croix	82.50	339	eP	P	13 14 23.6	+0.5
LMR	La Mourre	82.56	337	eP	P	13 14 23.2	-0.2
	comp=Z,7.0nm,0.6s,mb4.3						
LMR	La Mourre	82.56	337	eP	P	13 14 23.2	-0.2
LMR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LMR	La Mourre	82.56	337	eP	P	13 14 23.2	-0.2
	comp=Z,3.5nm,0.6s,mb4.3						
MTLF	Montolieu	83.57	340	eP	P	13 14 28.1	-0.4
	comp=Z,6.7nm,0.8s,mb4.1						
FORT	Forrest	83.97	202	eP	P	13 14 29.6	-1.0
	comp=Z,18nm,0.6s,mb5.0						
EPF	Esparros	84.27	341	eP	P	13 14 31.1	-1.0
	comp=Z,4.4nm,0.5s,mb4.1						
SJPF	Ste Jean	84.51	342	eP	P	13 14 32.7	-0.6
ETSF	Etsaut	84.58	342	eP	P	13 14 33.6	-0.1
	comp=Z,4.9nm,0.6s,mb4.1						
KLBR	Kellerberrin	87.67	210	eP	P	13 14 47.8	-1.0
	comp=Z,21nm,1.3s,mb4.8						
ESDC	Sonseca Array	88.35	343	P	P	13 14 50.8	-1.2
	comp=Z,1.2nm,0.5s,mb4.0,baz=7.8,slow=4.3,SNR=11						
MUN	Mundaring	88.54	211	eP	P	13 14 52.1	-0.7
KEST	Kesra	88.86	332	P	P	13 14 54.1	-0.3
	comp=Z,1.8nm,0.7s,mb4.1,baz=16,slow=0.9,SNR=7.4						
TORD	Torodi Ar. Bea	112.35	331	PKiKP	PKiKP	13 20 34.1	-0.9
	comp=Z,0.6nm,0.7s,baz=9.3,slow=2.0,SNR=6.9						
TORD				PP	PP	13 21 17.6	-5.6
	comp=Z,0.6nm,0.8s,baz=0.8,slow=9.2,SNR=3.6						
MIR	Mirnyy	125.40	205	eP	Pdif	13 17 37.0	-1.1
MIR				pmax	pmax		
	comp=Z,120nm,0.8s						
SYO	Syowa Base	144.27	214⇑	eP	PKPdf	13 21 31.3	-3.8
PLCA	Paso Flores	147.70	90	PKPbc	PKPbc	13 21 43.4	-0.5
	comp=Z,2.2nm,0.7s,baz=8.3,slow=22,SNR=6.6						
PLCA	Paso Flores	147.70	90	PKPbc	PKPbc	13 21 43.4	-0.5
SNAA	Sanae	156.15	198	PKPab	PKPab	13 22 19.3	-2.8
	comp=Z,0.4nm,0.6s,baz=241,slow=5.2,SNR=5.2						
SNAA	Sanae	156.15	198	ePKPdf	PKPab	13 22 21.4	-0.7
VNA3	Neumayer Olymp	157.71	194	ePKPdf	PKPab	13 22 26.6	-2.2
VNA3				e		13 23 14.7	
VNA1	Neumayer--Stat	158.00	196	ePKPdf	PKPab	13 22 28.3	-1.8
VNA1				e		13 23 16.5	

*SOF **09** 13:14:50.3, 4069N×2308E, h2km, MD3.0*
*THE **09** 13:14:53.7, 4086N×2309E, h13km, ML2.1*
*ISCJB **09** 13:14:53.3±0.4, 4085N±002×2306E±004, h13km, Error ellipse: s-maj=4.2km s-min=3.0km az=162.6*
*NEIC **09** 13:14:53.5, 4087N×2307E, h4km, MD3.0(ATH), After ATH.*
*CSEM **09** 13:14:53.6±0.1, 4086N×2309E, h15km, ML2.1, Error ellipse: s-maj=1.8km s-min=1.4km az=78.0*
*ATH **09** 13:14:53.5, 4087N×2307E, h4km, MD3.0/3*
ISC 09 13:14:54.1±0.4, **4085N**±002×**2307E**±004, **h1**km±9km, **n20**, σ**0.86**/31, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	Sokhos	0.21	96	ePg	Pg	13 14 57.9	-0.2
SOH				eSg	Sg	13 15 02.5	+1.5
THE	Thessaloniki	0.23	201	ePg	Pg	13 14 58.6	+0.1
THE				eSg	Sg	13 15 02.9	+1.5
HORT	Hortiatis	0.25	175	ePg	Pg	13 14 59.1	+0.2
HORT				eSg	Sg	13 15 03.5	+1.4
KNT	Kendrikon	0.34	337	ePg	Pg	13 15 00.5	-0.1
KNT				eSg	Sg	13 15 05.4	+0.3
SRS	Serrai	0.48	55	ePg	Pg	13 15 02.5	-0.7
GRG	Griva	0.52	282	ePg	Pg	13 15 04.0	0.0
PLG	Polygyros	0.55	149	ePG	Pg	13 15 04.0	-0.6
PLG				eSG	Sg	13 15 11.7	0.0
VAY	Valandovo	0.61	321	ePg	Pg	13 15 05.1	-0.7
VAY				eSg	Sg	13 15 13.9	+0.3
VAY	Valandovo	0.61	321	i Pg	Pg	13 15 05.1	-0.6
VAY				i Sg	Sg	13 15 14.2	+0.5
NVR	Nevrokopi	0.78	50	ePG	Pg	13 15 08.2	-0.8
OUR	Ouranopolis	0.86	126	ePg	Pg	13 15 09.9	-0.6
LIT	Litokhoron	0.87	211	ePg	Pg	13 15 10.5	-0.2
MMB	Musomiste	0.89	33	ePg	Pg	13 15 09.8	-1.4
MMB				eSg	Sg	13 15 23.2	+0.5
MMB	Musomiste	0.89	33	i P	Pg	13 15 10.0	-1.2
KKB	Krupnik	1.02	0	i P	Pg	13 15 13.2	-0.4
KKB				i S	Sg	13 15 29.0	+2.2
PAIG	Paliouri	1.03	153	ePg	Pg	13 15 12.5	-1.3
FNA	Florina	1.29	268	ePg	Pg	13 15 17.3	-1.5
RZN	Rozhen	1.50	55	P	Pn	13 15 21.8	-0.3
RZN				S	Sb	13 15 42.8	+0.6
VTS	Vitosha	1.75	3	P	Pn	13 15 26.3	+0.8
VTS				Sg	Sg	13 15 50.4	+0.2
RDO	Rodhopi	1.89	80	ePB	Pb	13 15 28.6	-0.7

IDC 09 13:35:48.0±14.0, **113S**×**13264E**, **h0**km, **mb3.8**/2, **mb1 3.9**/4, **mb1mx3.6**/16, **mbtmp3.8**/4, **ML3.5**/2, **Error ellipse: s-maj=220.4km s-min=102.0km az=159.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.22	202	P	Pn	13 40 01.3	-0.9
	0.1nm,0.3s,baz=29,slow=19,SNR=5.0						
FITZ				S	Sn	13 43 13.7	-12
	0.1nm,0.3s,baz=147,slow=17,SNR=2.7						
WRA	Warramunga Arr	18.77	175	P	Pn	13 40 09.1	0.0
	0.2nm,0.3s,baz=356,slow=12,SNR=18						
WRA				S	Sn	13 43 32.4	-7.3
	0.1nm,0.3s,baz=358,slow=23,SNR=4.6						
ASAR	Alice Springs	22.44	177	P	P	13 40 49.8	+1.3
	1.5nm,0.6s,baz=7.8,slow=12,SNR=15						
STKA	Stephens Creek	31.73	165	P	P	13 42 13.1	-0.5
	2.1nm,0.9s,baz=346,slow=11,SNR=3.2						

*ISCJB **09** 15:16:45.9±0.2, 2142S±004×6817W±005, h124km, mb4.8/61, Error ellipse: s-maj=7.4km s-min=5.0km az=122.5*
*MOS **09** 15:16:45.3±1.5, 2154S×6830W, h120km, mb4.8/15, Error ellipse: s-maj=17.0km s-min=7.3km az=114.1*
*IDC **09** 15:16:47.7±0.6, 2150S×6827W, h130km±4km, mb4.4/10, mb1 4.4/15, mb1mx4.3/19, mbtmp4.8/15, MS3.3/4, Ms1 3.2/4, ms1mx2.8/24, Error ellipse: s-maj=15.9km s-min=11.0km az=73.0*
*NEIC **09** 15:16:47.1±0.2, 2152S×6820W, mb4.9/59, Error ellipse: s-maj=7.6km s-min=4.9km az=52.0*
*BJI **09** 15:16:47.0, 2150S×6820W, h123km, mB5.1*
ISC 09 15:16:47.5±0.2, **2151S**±004×**6817W**±006, **h126**km±.8km**:pP-P, n172**, σ**0.98**/157, **mb4.8**/61, **9C-29D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.19	0	P	Pn	15 18 05.2	+2.0
	10nm,0.3s,baz=171,slow=7.9,SNR=150						
LPAZ				S	Sn	15 19 00.9	-1.1
	2.7nm,0.3s,baz=188,slow=11,SNR=4.2						
LPAZ	La Paz	5.19	0	eP	Pn	15 18 04.9	+1.8
LPAZ				pmax	pmax		
	comp=Z,50nm,0.6s						
LPAZ	La Paz	5.19	0	ePn	Pn	15 18 04.9	+1.7
	comp=Z,50nm,0.6s						
ARE	Arequipa	5.92	327	eP	Pn	15 18 09.0	-3.9
ARE				i S	Sn	15 19 10.8	-8.7
SIV	San Ignacio	8.68	52	P	Pn	15 18 49.6	-0.5
	comp=Z,12nm,0.3s,baz=245,slow=12,SNR=297						
SIV				S	Sn	15 20 22.9	-3.3
	comp=Z,0.5nm,0.3s,baz=301,slow=19,SNR=8.4						
CFAA	Coronel Fontan	10.05	180	P	Pn	15 19 02.0	-6.6
	comp=Z,0.2nm,0.3s,baz=350,slow=13,SNR=16						
CFAA				S	Sn	15 20 48.9	-11
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=2.9						
CPUP	Villa Florida	11.02	118	P	Pn	15 19 20.4	-1.0
	comp=Z,1.6nm,0.3s,baz=283,slow=12,SNR=17						
CPUP				LR	LR	15 23 56.1	
	comp=Z,81nm,19.6s,baz=84,slow=39						
CPUP	Villa Florida	11.02	118	eP	Pn	15 19 20.2	-1.2
CPUP				pmax	pmax		
	comp=Z,40nm,0.7s						
CPUP	Villa Florida	11.02	118	ePn	Pn	15 19 20.2	-1.2
	comp=Z,40nm,0.7s						
NNA	Nana	12.59	317	P	Pn	15 19 43.3	+1.2
	comp=Z,1.4nm,0.3s,baz=159,slow=14,SNR=4.2						
NNA				S	Sn	15 21 49.0	-12
	comp=Z,2.2nm,0.3s,baz=212,slow=17,SNR=2.8						
NNA	Nana	12.59	317	ePn	Pn	15 19 37.2	-4.9
	comp=Z,66nm,1.1s						
NNA				P		15 19 43.3	
NNA				eSn	Sn	15 21 44.2	-17
NNA				S	Sn	15 21 49.0	-12
SAML	Samuel	13.38	22	ePn	Pn	15 19 52.0	-0.3
	comp=Z,5.6nm,0.8s						
TRQA	Tornquist	17.34	163	eP	Pn	15 20 38.5	-3.1
	comp=Z,32nm,0.7s						
TRQA				eS	S	15 23 52.0	-2.6
ATAH	Atahualpa	17.48	324	P	Pn	15 20 42.3	-1.1
	comp=Z,0.7nm,0.3s,baz=157,slow=8.5,SNR=6.2						
PLCA	Paso Flores	19.27	185	P	P	15 21 00.6	-1.6
	comp=Z,0.5nm,0.3s,baz=3.3,slow=13,SNR=10						
PLCA				LR	LR	15 28 01.7	
	comp=Z,30nm,21.5s,baz=7.3,slow=35						
BDFB	Brasilia	19.97	76	P	P	15 21 10.2	+0.4
	comp=Z,17nm,0.5s,baz=262,slow=9.8,SNR=29						
BDFB	Brasilia	19.97	76	eP	P	15 21 10.3	+0.5
ROSC	El Rosal	26.89	346	LR	LR	15 34 20.6	
	comp=Z,87nm,18.9s,baz=199,slow=39						
SDV	Santo Domingo	30.30	355	eP	P	15 22 45.5	-1.3
	comp=Z,7.4nm,0.8s,mb4.4						
SDV				eS	S	15 27 18.0	-19
EFI	East Falkland	31.12	168	eP	P	15 22 55.2	+1.2
EFI	East Falkland	31.12	168	P	P	15 23 00.6	+6.6
	comp=Z,40nm,1.0s,mb5.1						
RCBR	Riachuelo	34.90	68	eP	P	15 23 28.2	+1.4
	comp=Z,45nm,0.8s,mb5.3						
JTS	JuntasAbangare	35.64	331	eP	P	15 23 31.9	-1.3
JTS				pmax	pmax		
	comp=Z,19nm,1.2s						
JTS	JuntasAbangare	35.64	331	eP	P	15 23 31.9	-1.3
	comp=Z,19nm,1.2s,mb4.9						
SJG	San Juan	39.42	3	eP	P	15 24 03.3	-1.8
SJG				pmax	pmax		
	comp=Z,16nm,0.7s						
SJG	San Juan	39.42	3	eP	P	15 24 03.3	-1.8
	comp=Z,16nm,0.7s,mb5.0						
DWPF	Disney	50.97	345	eP	P	15 25 36.3	+0.2
	comp=Z,74nm,0.8s,mb5.8						
LRAL	Lakeview Retre	57.14	341	eP	P	15 26 19.8	-1.1
	comp=Z,22nm,1.1s,mb5.1						
NATX	Nacogdoches	58.73	334	eP	P	15 26 32.4	+0.3
	comp=Z,52nm,0.9s,mb5.6						
SWET	Sewanee	58.88	343	eP	P	15 26 32.0	-1.0
SWET				epP	pP	15 27 02.0	-1.1
SWET				esP	sP	15 27 16.8	-0.2
TZTN	Tazewell	59.54	346	eP	P	15 26 36.9	-0.7
ELN	Prospectdale	59.61	348	eP	P	15 26 38.6	+0.5
VNA3	Neumayer Olymp	59.85	161⇑	iP	P	15 26 39.5	-0.2
VNA3				e		15 26 49.0	
VNA3				e	pP	15 27 07.9	-2.0
VNA3				e		15 27 21.1	
JCT	Junction City	59.97	328	eP	P	15 26 40.2	-0.3
JCT				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
JCT	Junction City	59.97	328	eP	P	15 26 40.2	-0.3
	comp=Z,30nm,0.8s,mb5.4						
VNA1	Neumayer--Stat	60.05	161⇑	iP	P	15 26 41.4	+0.3
VNA1				e		15 26 50.7	
VNA1				e		15 26 53.1	
VNA1				e	pP	15 27 09.2	-2.1
VNA1				e		15 27 22.9	
WVT	Waverly	60.27	342	eP	P	15 26 41.0	-1.6
WVT				e*PP	pP	15 27 11.2	-1.6
WVT				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
WVT	Waverly	60.27	342	eP	P	15 26 41.0	-1.6
	comp=Z,46nm,0.9s,mb5.5						
WVT				epP	pP	15 27 11.2	-1.6
UALR	University of	60.50	337	eP	P	15 26 42.7	-1.5
	comp=Z,19nm,1.2s,mb5.0						
UALR				epP	pP	15 27 11.6	-2.8
UALR				esP	sP	15 27 28.5	+0.3
MIAR	Mount Ida	60.75	336⇓	iP	P	15 26 45.1	-0.8
MIAR				e*PP	pP	15 27 15.4	-0.7
MIAR				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
MIAR	Mount Ida	60.75	336⇓	iP	P	15 26 45.0	-0.8
	comp=Z,25nm,0.7s,mb5.3						
MIAR				epP	pP	15 27 15.4	-0.7
PARMO	Parma	61.34	340	eP	P	15 26 48.9	-1.0
SNAA	Sanae	62.05	161	P	P	15 26 53.8	-0.8
	comp=Z,3.2nm,0.7s,mb4.5,baz=271,slow=6.4,SNR=20						
SNAA	Sanae	62.05	161⇑	iP	P	15 26 53.9	-0.7
SNAA				e		15 27 03.8	
SNAA				e	pP	15 27 23.2	-1.8
SNAA				e		15 27 33.9	
SNAA	Sanae	62.05	161⇑	iP	P	15 26 53.9	-0.7
SNAA				e*PP	pP	15 27 23.3	-1.7
SNAA				pmax	pmax		
	comp=Z,19nm,1.3s						
SNAA	Sanae	62.05	161⇑	iP	P	15 26 53.9	-0.7
	comp=Z,19nm,1.3s,mb5.0						
SNAA				epP	pP	15 27 23.3	-1.7
SIUC	Southern Illin	62.15	341	eP	P	15 26 54.1	-1.1
	comp=Z,53nm,1.0s,mb5.5						
SIUC				epP	pP	15 27 25.8	+0.1
FVM	French Village	62.77	340	eP	P	15 26 58.0	-1.3
FVM				e*PP	pP	15 27 27.6	-2.2
FVM				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
FVM	French Village	62.77	340	eP	P	15 26 58.0	-1.4
	comp=Z,60nm,1.1s,mb5.4						
FVM				epP	pP	15 27 27.6	-2.2
ACSO	Alum Creek Sta	62.95	347	eP	P	15 26 59.5	-1.1
	comp=Z,14nm,0.9s,mb4.9						
ACSO				epP	pP	15 27 30.4	-0.6
WMOK	Wichita Mounta	63.05	332	eP	P	15 26 59.7	-1.5
WMOK				e*PP	pP	15 27 28.8	-2.9
WMOK				e		15 27 37.8	
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WMOK	Wichita Mounta	63.05	332	eP	P	15 26 59.7	-1.5
	comp=Z,3.6nm,0.8s,mb4.3						
WMOK				epP	pP	15 27 28.8	-2.8
WMOK				ePcP	PcP	15 27 37.8	-0.1
MNTX	Cornudas Mount	63.80	325	eP	P	15 27 04.7	-1.4
	comp=Z,12nm,1.0s,mb4.7						
MNTX				epP	pP	15 27 34.5	-2.2
KSU1	Kansas State U	65.91	336	eP	P	15 27 18.0	-1.8
LPM	Los Pinos Moun	66.48	326	eP	P	15 27 23.8	+0.4
LPM				epP	pP	15 27 53.6	-0.6
LPM				ePP	PP	15 29 49.0	-2.3
ANMO	Albuquerque	66.89	326d	iP	P	15 27 26.4	+0.4
ANMO	Albuquerque	66.89	326	eP	P	15 27 26.2	+0.2
	comp=Z,5.8nm,0.7s,mb4.5						
TUC	Tucson	67.27	322	eP	P	15 27 28.9	+0.5
TUC				e*PP	pP	15 27 58.2	-1.1
TUC				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.7						
TUC	Tucson	67.27	322	eP	P	15 27 28.9	+0.4
	comp=Z,18nm,1.4s,mb4.7						
TUC				epP	pP	15 27 58.2	-1.1
DBIC	Dimbokro	68.08	73	P	P	15 27 34.7	+1.2
	comp=Z,25nm,0.8s,mb5.1,baz=215,slow=6.7,SNR=31						
DBIC	Dimbokro	68.08	73⇑	iP	P	15 27 34.6	+1.1
DBIC				pmax	pmax		
	comp=Z,32nm,0.9s						
DBIC	Dimbokro	68.08	73⇑	iP	P	15 27 34.6	+1.1
	comp=Z,32nm,0.9s,mb5.2						
SDCO	Great Sand Dun	68.61	329⇓	iP	P	15 27 37.3	+0.5
	comp=Z,16nm,0.7s,mb5.0						
SDCO				epP	pP	15 28 08.0	+0.3
SDCO				esP	sP	15 28 22.2	+0.8
QSPA	South Pole Qui	68.68	180	eP	P	15 27 37.2	-0.1
	comp=Z,4.0nm,1.0s,mb4.2						
WUAZ	Wupatki	69.94	324⇓	iP	P	15 27 46.0	+0.9
	comp=Z,26nm,0.9s,mb5.1						
WUAZ				epP	pP	15 28 15.3	-0.8
ECSD	EROS,Sioux Fal	69.97	338⇓	eP	P	15 27 43.5	-1.7
ECSD				epP	pP	15 28 15.4	-0.9
ISCO	Idaho Springs	70.29	330⇓	iP	P	15 27 47.5	+0.3
ISCO				e*PP	pP	15 28 18.7	+0.4
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
ISCO	Idaho Springs	70.29	330⇓	iP	P	15 27 47.5	+0.3
	comp=Z,4.4nm,0.6s,mb4.5						
ISCO				epP	pP	15 28 18.7	+0.4
PV01	Paradox Valley	70.42	327	eP	P	15 27 48.8	+0.9
PHWY	Pilot Hill	71.43	331	eP	P	15 27 54.3	+0.3
SRU	San Rafael	72.16	327⇓	iP	P	15 27 58.8	+0.4
SRU				e*PP	pP	15 28 29.9	+0.3
SRU				pmax	pmax		
	comp=Z,27nm,0.6s,mb5.2						
SRU	San Rafael	72.16	327⇓	iP	P	15 27 58.8	+0.4
	comp=Z,26nm,0.6s,mb5.2						
SRU				epP	pP	15 28 29.9	+0.3
EYMN	Ely	72.24	344	eP	P	15 27 57.5	-1.4
	comp=Z,1.3nm,0.8s,mb3.8						
CCUT	Cedar City	72.52	324⇓	iP	P	15 28 02.1	+1.5
CCUT				epP	pP	15 28 33.0	+1.2
MSU	Marysvale	72.58	325	eP	P	15 28 01.9	+1.0
MSU				e*PP	pP	15 28 33.2	+1.1
TMUT	Trail Mountain	72.65	326⇓	eP	P	15 28 02.0	+0.7
ARUT	Antelope Range	72.73	324	eP	P	15 28 03.4	+1.6
ARUT				e*PP	pP	15 28 33.1	0.0
RSSD	Black Hills	73.10	334	eP	P	15 28 03.9	-0.1
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
RSSD	Black Hills	73.10	334	eP	P	15 28 03.9	-0.1
	comp=Z,6.0nm,0.7s,mb4.5						
DAC	Darwin (Calif)	74.06	320⇓	iP	P	15 28 10.2	+0.6
DAC				e		15 28 24.2	
DAC				e*PP	pP	15 28 41.5	+0.6
DAC				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
DAC	Darwin (Calif)	74.06	320⇓	iP	P	15 28 10.2	+0.6
	comp=Z,10nm,0.8s,mb4.6						
DAC				ePcP	PcP	15 28 24.2	+0.1
DAC				epP	pP	15 28 41.5	+0.6
TCUT	Toone Canyon	74.11	327⇓	eP	P	15 28 10.6	+0.7
ISA	Isabella	74.17	319	eP	P	15 28 11.0	+0.8
ISA				e*PP	pP	15 28 42.5	+0.9
TRCR	Troy Canyon	74.32	323⇓	eP	P	15 28 12.1	+1.0
PDAR	Pinedale Array	74.46	330	P	P	15 28 11.8	-0.1
	comp=Z,2.8nm,0.7s,mb4.1,baz=127,slow=7.6,SNR=25						
HWUT	Hardware Ranch	74.56	328⇓	iP	P	15 28 12.5	0.0
	comp=Z,16nm,0.7s,mb4.9						
HWUT				epP	pP	15 28 43.6	-0.2
SPUT	South Promonto	74.78	327⇓	iP	P	15 28 13.2	-0.5
BGU	Big Grassy Mou	74.79	326⇓	iP	P	15 28 14.1	+0.2
BGU				epP	pP	15 28 44.5	-0.7
TPH	Tonopah	75.06	322	P	P	15 28 16.2	+0.8
TPH				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
TPH	Tonopah	75.06	322	P	P	15 28 16.2	+0.8
	comp=Z,7.5nm,0.7s,mb4.5						
AHID	Auburn Hatcher	75.20	329⇓	iP	P	15 28 16.3	+0.1
	comp=Z,25nm,0.8s,mb5.0						
MTUM	Tungsten Hills	75.35	321	eP	P	15 28 18.2	+1.1
MTUM				epP	pP	15 28 49.5	+1.0
MTUM				esP	sP	15 29 02.3	+0.3
REDW	Red Top Meadow	75.53	329⇓	iP	P	15 28 18.3	+0.3
	comp=Z,9.4nm,0.6s,mb4.7						
REDW				epP	pP	15 28 49.5	0.0
ULM	Lac du Bonnet	75.53	342	P	P	15 28 16.4	-1.6
	comp=Z,11nm,0.5s,mb4.8,baz=158,slow=6.2,SNR=18						
ULM				pP	pP	15 28 48.2	-1.3
	comp=Z,3.4nm,0.6s,baz=130,slow=7.4,SNR=2.8						
SNOW	Snow King Moun	75.56	329	eP	P	15 28 18.6	+0.4
	comp=Z,18nm,0.8s,mb4.8						
LOHW	Long Hollow	75.60	330⇓	iP	P	15 28 18.7	+0.3
	comp=Z,12nm,0.7s,mb4.7						
TPAW	Teton Pass	75.67	329	eP	P	15 28 19.3	+0.4
	comp=Z,14nm,0.7s,mb4.8						
TPAW				epP	pP	15 28 50.8	+0.4
RRI2	Red Ridge	75.74	329⇓	eP	P	15 28 19.7	+0.5
	comp=Z,28nm,0.9s,mb5.0						
RRI2				epP	pP	15 28 51.6	+0.8
NVAR	Mina Array Bea	75.92	322	P	P	15 28 20.5	+0.2
	comp=Z,4.9nm,0.9s,mb4.3,baz=157,slow=6.6,SNR=32						
IMW	Indian Meadow	75.98	330⇓	iP	P	15 28 21.2	+0.6
	comp=Z,18nm,0.8s,mb4.8						
IMW				epP	pP	15 28 52.6	+0.6
FLWY	Flagg Ranch	76.00	330⇓	iP	P	15 28 21.5	+0.7
	comp=Z,29nm,0.8s,mb5.1						
FLWY				epP	pP	15 28 52.9	+0.6
SCHQ	Schefferville	76.04	1	P	P	15 28 20.1	-0.8
	comp=Z,6.2nm,0.8s,mb4.4,baz=192,slow=7.8,SNR=6.5						
SCHQ	Schefferville	76.04	1	eP	P	15 28 20.3	-0.6
	comp=Z,12nm,0.9s,mb4.6						
LRV	Little Rabbit	76.22	319	eP	P	15 28 23.4	+1.4
LKWY	Lake	76.23	330	eP	P	15 28 23.6	+1.6
LKWY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
LKWY	Lake	76.23	330	eP	P	15 28 23.6	+1.5
	comp=Z,9.8nm,0.8s,mb4.6						
SYO	Syowa Base	76.25	159⇓	eP	P	15 28 21.4	-0.7
TOA0	Torodi Ar. Sit	76.71	70	eP	P	15 28 25.4	+0.7
TOA0				e		15 28 31.2	
TOA0				epP	pP	15 28 59.2	+3.0
TORD	Torodi Ar. Bea	76.71	70	P	P	15 28 25.6	+0.8
	comp=Z,11nm,0.4s,mb4.9,baz=253,slow=5.4,SNR=126						
TORD				pP	pP	15 28 59.6	+3.3
	comp=Z,5.1nm,0.8s,baz=248,slow=5.4,SNR=2.0						
DGMT	Dagmar	76.75	336	eP	P	15 28 25.2	+0.3
	comp=Z,23nm,1.0s,mb4.9						
GCMT	Greycliff	76.84	332	eP	P	15 28 25.8	+0.3
GCMT				epP	pP	15 28 56.7	-0.3
CMB	Columbia Colle	76.89	320	eP	P	15 28 25.6	-0.1
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
CMB	Columbia Colle	76.89	320	eP	P	15 28 25.6	-0.1
	comp=Z,4.0nm,1.0s,mb4.1						
QLMT	Earthquake Lak	76.91	330	eP	P	15 28 27.1	+1.2
PAHR	Pah Rah Range	77.41	322	eP	P	15 28 29.7	+1.1
	comp=Z,32nm,0.8s,mb5.1						
PAHR				epP	pP	15 29 00.8	+0.6
HLID	Hailey	77.42	327	eP	P	15 28 29.6	+0.9
	comp=Z,20nm,0.8s,mb4.9						
HLID				epP	pP	15 29 01.4	+1.2
MCMT	McKenzie Canyo	77.58	329	eP	P	15 28 30.6	+1.0
MCMT				epP	pP	15 29 01.9	+0.7
DLMT	Dillon	77.86	330	eP	P	15 28 31.6	+0.4
	comp=Z,14nm,1.2s,mb4.6						
SUR	Sutherland	77.98	120	eP	P	15 28 33.4	+1.5
	comp=Z,6.6nm,0.8s,mb4.4						
HRY	Holter Researc	78.52	331	eP	P	15 28 34.9	+0.1
HRY				epP	pP	15 29 05.9	-0.6
NSHM	Saint Helena R	78.53	319	eP	P	15 28 34.9	+0.1
WVOR	Wild Horse Val	78.83	324	eP	P	15 28 36.0	-0.5
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						

WVOR	Wild Horse Val	78.83	324	eP	P	15 28 36.0	-0.5
	comp=Z,4.7nm,0.9s,mb4.3						
TSUM	Tsumeb	79.38	106	⇑iP	P	15 28 41.3	+1.8
	comp=Z,13nm,0.8s,mb4.8						
MOD	Modoc	79.39	323	eP	P	15 28 39.8	+0.3
	comp=Z,9.3nm,0.9s,mb4.6						
MOD				epP	pP	15 29 11.5	+0.3
WDC	Whiskeytown Da	79.81	321	⇓iP	P	15 28 40.4	-1.4
WDC				e*PP	pP	15 29 11.6	-1.9
WDC				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.8						
WDC	Whiskeytown Da	79.81	321	⇓iP	P	15 28 40.4	-1.4
	comp=Z,9.3nm,0.6s,mb4.8						
WDC				epP	pP	15 29 11.6	-1.9
WALA	Waterton Lakes	81.20	332	eP	P	15 28 49.1	-0.2
	comp=Z,18nm,1.2s,mb4.8						
HAWA	Hanford	81.99	327	⇓iP	P	15 28 53.5	+0.1
	comp=Z,0.6nm,0.8s						
HAWA				epP	pP	15 29 25.4	+0.1
BROR	Big Rock Looko	82.12	324	P	P	15 28 53.8	-0.3
OD2	Odessa Site #2	82.26	328	P	P	15 28 55.0	+0.2
FCC	Fort Churchill	82.80	347	⇑iP	P	15 28 57.1	-0.5
FCC				e*PP	pP	15 29 29.6	+0.1
BOSA	Boshof	82.83	118	P	P	15 28 58.2	+0.4
	comp=Z,9.7nm,0.9s,mb4.6,baz=246,slow=6.1,SNR=14						
BOSA	Boshof	82.83	118	P	P	15 28 58.2	+0.4
EBG	Ellensburg	82.86	327	P	P	15 28 58.7	+0.8
MAW	Mawson	84.12	163	P	P	15 29 04.0	-0.4
	comp=Z,2.5nm,0.6s,mb4.3,baz=210,slow=6.5,SNR=12						
MAW	Mawson	84.12	163	eP	P	15 29 03.9	-0.4
MAW				e*PP	pP	15 29 38.2	+1.8
MAW				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MAW	Mawson	84.12	163	eP	P	15 29 03.9	-0.5
	comp=Z,5.7nm,1.0s,mb4.4						
MAW				epP	pP	15 29 38.2	+1.8
RPW	Rockport	84.37	328	P	P	15 29 04.9	-0.7
LBTB	Lobatse	84.39	115	eP	P	15 29 06.9	+1.2
LBTB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
LBTB	Lobatse	84.39	115	eP	P	15 29 06.9	+1.2
	comp=Z,8.8nm,0.8s,mb4.6						
JCW	Jim Creek	84.41	327	P	P	15 29 05.1	-0.7
CMW	Cultus Mountai	84.65	327	P	P	15 29 06.7	-0.3
ESDC	Sonseca Array	85.36	44	P	P	15 29 11.4	+0.9
	comp=Z,0.2nm,0.3s,baz=248,slow=5.1,SNR=5.2						
LSZ	Lusaka	90.23	106	eP	P	15 29 36.7	+2.9
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
LSZ	Lusaka	90.23	106	eP	P	15 29 36.7	+2.9
	comp=Z,4.1nm,0.7s,mb4.7						
YKA	Yellowknife Ar	91.42	340	P	P	15 29 38.3	-1.0
	comp=Z,17nm,0.7s,mb5.3,baz=135,slow=4.4,SNR=37						
YKA				pP	pP	15 30 11.7	-0.1
	comp=Z,3.6nm,0.8s,baz=134,slow=4.5,SNR=2.8						
YKA				LR	LR	16 12 10.9	
	comp=Z,42nm,19.5s,baz=205,slow=36						
YKA	Yellowknife Ar	91.42	340	P	P	15 29 38.3	-1.0
YKA				*PP	pP	15 30 11.7	-0.1
YKA	Yellowknife Ar	91.42	340	P	P	15 29 38.3	-1.0
YKA				pP	pP	15 30 11.7	-0.1
YKA				LR	LR	16 12 10.9	
RPZ	Rata Peaks	95.42	219	LR	LR	16 04 48.7	
	comp=Z,212nm,20.1s,baz=356,slow=30						
ASAR	Alice Springs	130.22	207	PKP	PKPdf	15 35 42.5	-0.2
	comp=Z,0.7nm,0.5s,baz=128,slow=1.7,SNR=15						
ASAR				pPKP	pPKPdf	15 36 17.4	+0.8
	comp=Z,1.0nm,0.7s,baz=147,slow=1.8,SNR=5.6						
WRA	Warramunga Arr	133.29	210	PKP	PKPdf	15 35 49.0	+0.5
	comp=Z,1.0nm,0.5s,baz=154,slow=1.7,SNR=15						
WRA				pPKP	pPKPdf	15 36 23.3	+0.9
	comp=Z,0.7nm,0.5s,baz=155,slow=1.8,SNR=3.5						
ZRNK	Zerenda	134.71	35	ePKIKP	PKPdf	15 35 52.0	+0.9
ZAL	Zalesovo	141.67	26	PKhKP		15 36 00.4	
	comp=Z,1.0nm,0.4s,baz=262,slow=4.1,SNR=4.2						
AAK	Ala-Archa	142.41	47	i PKIKP	PKPdf	15 36 09.1	+3.9
BOD	Bodaibo	143.70	358	ePKIKP	PKPdf	15 36 03.6	-3.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MKAR	Makanchi Array	145.23	36	PKPbc	PKPbc	15 36 11.6	+1.5
	comp=Z,5.6nm,0.9s,baz=322,slow=3.7,SNR=18						
MKAR				pPKPbc		15 36 44.5	
	comp=Z,3.5nm,0.6s,baz=336,slow=2.7,SNR=5.7						
WMQ	Urumqi	150.07	36	PKP	PKPdf	15 36 17.0	-1.1
WMQ				PKP2	PKPab	15 36 30.0	+0.5
WMQ				APKP		15 36 53.0	
WMQ				XPKP		15 37 05.0	
WMQ				PKS		15 39 50.0	
WMQ				PP	PP	15 40 00.0	+1.4
WMQ				PP	PP		
	comp=Z,90nm,4.6s						
ZAK	Zakamensk	150.41	11	ePKIKP	PKPdf	15 36 19.3	+0.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR	Matsushiro Arr	152.61	309	PKPbc	PKPbc	15 36 28.3	-0.8
	comp=Z,2.6nm,0.6s,baz=76,slow=1.5,SNR=17						
MJAR				pPKPbc	pPKPbc	15 37 03.9	+1.1
	comp=Z,2.0nm,0.8s,baz=104,slow=1.1,SNR=4.3						
MJAR	Matsushiro Arr	152.61	309	PKPbc	PKPbc	15 36 28.3	-0.8
MJAR				pPKPbc	pPKPbc	15 37 03.9	+1.1
MAJO	Matsushiro	152.62	309	ePKIKP	PKPbc	15 36 29.0	-0.1
MAT	Matsushiro	152.62	309	PKP	PKPbc	15 36 27.5	-1.6
MDJ	Mudanjiang	152.68	332	PKP	PKPdf	15 36 20.8	-1.3
SONM	Songino Array	153.37	8	PKP	PKPdf	15 36 24.0	+0.9
	comp=Z,0.2nm,0.6s,baz=358,slow=2.0,SNR=4.6						
SONM				PKPbc	PKPbc	15 36 30.7	-0.1
	comp=Z,0.3nm,0.5s,baz=333,slow=2.1,SNR=4.5						
SONM				PKPab	PKPab	15 36 43.1	-0.3
	comp=Z,0.9nm,0.7s,baz=268,slow=2.2,SNR=3.9						
CN2	Changchun	155.06	336	ePKP	PKPdf	15 36 20.2	-5.3
CN2				PP	PP	15 40 25.2	-1.7
HHC	Hu-ho-hao-te	160.72	1	ePKP	PKPdf	15 36 31.0	-1.4
HHC				APKP		15 37 05.7	
HHC				PKP2	PKPab	15 37 16.1	+1.1
HHC				XPKP		15 37 20.4	
HHC				PKS		15 40 03.2	
HHC				PP	PP	15 40 59.3	+1.4
HHC				SKS	SKSdf	15 43 21.4	-4.4
HHC				SKKS	SKKSac	15 47 31.4	-3.0
HHC				SS	SS	16 00 57.4	-2.8
HHC				PP	PP		
	comp=Z,54nm,6.3s						
HHC				LR	LR		
	comp=N,80nm,3.7s						
HHC				LR	LR		
	comp=E,56nm,4.5s						
HHC				LR	LR		
	comp=Z,89nm,7.8s						
LZH	Lanzhou	163.89	24	ePKP	PKPdf	15 36 34.5	-1.1
LZH				APKP		15 37 08.3	
LZH				XPKP		15 37 22.4	
LZH				PKP2	PKPab	15 37 30.2	+1.3
LZH				PP	PP	15 41 16.5	+1.8
LZH				SKS	SKSdf	15 43 24.6	-3.8
LZH				SKKS	SKKSac	15 47 49.5	-1.1
LZH				eSS	SS	16 01 32.1	-1.0
LZH				PP	PP		
	comp=Z,81nm,9.2s						
LZH				LR	LR		
	comp=E,142nm,18.5s						
LZH				LR	LR		
	comp=Z,175nm,20.3s						
SSE	Sheshan	167.30	321	ePKP	PKPdf	15 36 40.9	+2.5
CD2	Chengdu	168.17	36	ePKP	PKPdf	15 36 35.5	-3.5
KMI	Kunming	170.91	65	PKP	PKPdf	15 36 39.0	-1.6
KMI				APKP		15 37 13.0	
KMI				XPKP		15 37 24.8	
KMI				LR	LR		
	comp=Z,26nm,21.3s						
GYA	Guiyang	173.18	43	ePKP	PKPdf	15 36 37.2	-4.4
GYA				APKP		15 37 20.2	
GYA				PKP2	PKPab	15 38 13.8	+3.8
GYA				PKS		15 40 08.0	
GYA				PP	PP	15 42 07.2	+5.5
GYA				PP	PP		
	comp=Z,120nm,8.9s						

IDC 09 15:41:21.6±5.3, 617S×15436E, h63km±50km, mb3.1/3, mb1 3.4/4, mb1mx3.2/14, mbtmp3.6/4, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/11, Error ellipse: s-maj=41.3km s-min=28.6km az=165.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	6.42	121	P	Pn	15 42 53.2	-0.2
	3.9nm,0.3s,baz=266,slow=9.0,SNR=6.0						
HNR				S	Sn	15 44 06.6	+1.3
	4.0nm,0.3s,baz=107,slow=5.4,SNR=5.0						
WRA	Warramunga Arr	23.78	233	P	P	15 46 29.0	+0.6
	0.7nm,0.8s,baz=59,slow=9.7,SNR=5.8						
WRA				PcP	PcP	15 50 11.0	+0.7
	0.5nm,0.5s,baz=52,slow=2.5,SNR=8.4						
ASAR	Alice Springs	26.26	226	P	P	15 46 51.2	+0.4
	0.2nm,0.5s,baz=57,slow=9.3,SNR=6.5						
ASAR				PcP	PcP	15 50 16.2	+0.4
	0.5nm,0.7s,baz=56,slow=2.5,SNR=4.9						
CBIJ	Chichi jima	35.10	341	LR	LR	15 59 16.5	
	comp=Z,67nm,21.8s,slow=31						
SONM	Songino Array	68.30	327	P	P	15 52 17.1	+1.1
	0.3nm,0.5s,baz=119,slow=8.4,SNR=2.5						
TORD	Torodi Ar. Bea	152.19	286	PKPbc	PKPbc	16 01 09.4	-0.5
	0.4nm,0.5s,baz=85,slow=2.5,SNR=4.4						
TORD				PKPab	PKPab	16 01 20.7	+0.8
	0.4nm,0.8s,baz=67,slow=4.2,SNR=4.1						

IDC 09 15:51:54.1±1.2, 390N×93.14E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=51.4km s-min=19.6km az=48.0
ISCJB 09 15:51:56.6±0.8, 38N±0.1×932E±0.1, h33km, mb4.0/11, Error ellipse: s-maj=20.2km s-min=10.7km az=85.3
NEIC 09 15:51:58.0±0.7, 381N×93.17E, h30km, mb4.3/5, Error ellipse: s-maj=17.1km s-min=9.2km az=224.0
ISC 09 15:52:01.7±3.2, 40N±01×934E±02, h54km±28km, n15, σ1s21/16, mb4.0/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	5.61	102	Pn	Pn	15 53 22.5	0.0
	1.8nm,0.3s,baz=299,slow=16,SNR=7.4						
KULM	Kulim	7.32	79	ePn	Pn	15 53 45.7	-0.2
KULM				eSn	Sn	15 55 05.6	-1.9
CM31	Chiang Mai Arr	15.37	20	ePn	Pn	15 55 37.4	+2.3
	5.9nm,0.9s						
LSA	Lhasa	25.68	355	P	P	15 57 28.2	+1.7
	5.8nm,0.8s,mb4.2						
MBWA	Marble Bar	35.90	135	eP	P	15 58 55.8	-0.8
	22nm,1.1s,mb5.0						
MKAR	Makanchi Array	43.73	349	P	P	16 00 00.8	-0.7
	0.9nm,0.5s,mb3.8,baz=159,slow=7.8,SNR=7.4						
SONM	Songino Array	45.10	12	P	P	16 00 13.5	+1.0
	0.1nm,0.5s,mb3.0,baz=195,slow=10,SNR=2.6						
SONM				PcP	PcP	16 01 53.4	+1.1
	0.4nm,0.6s,baz=176,slow=4.0,SNR=3.1						
WRA	Warramunga Arr	46.69	122	P	P	16 00 26.1	+1.1
	1.6nm,0.8s,mb4.0,baz=298,slow=9.2,SNR=6.7						
ASAR	Alice Springs	48.06	127	P	P	16 00 37.2	+1.6
	0.4nm,0.9s,mb3.5,baz=295,slow=7.1,SNR=5.0						
ASAR				PcP	PcP	16 02 04.8	+2.0
	0.3nm,0.9s,baz=307,slow=4.2,SNR=4.5						
ZAL	Zalesovo	50.30	353	P	P	16 00 52.7	-0.1
	1.2nm,0.3s,mb4.4,baz=319,slow=20,SNR=2.5						
ZAL	Zalesovo	50.30	353	P	P	16 00 52.7	-0.1
ZRNK	Zerenda	52.81	342	P	P	16 01 09.8	-1.7
	1.5nm,0.7s,mb4.0						
CHKZ	Chkalovo	52.96	343	eP	P	16 01 11.3	-1.2
	4.8nm,0.8s,mb4.5						
CHKZ				e		16 01 18.6	
BRTR	Keskin Array B	64.47	312	P	P	16 02 31.4	-1.2
	0.5nm,0.8s,mb3.6,baz=111,slow=6.9,SNR=3.1						
GERES	GERESS Array B	80.26	319	P	P	16 04 06.5	-0.1
	0.5nm,0.8s,mb3.5,baz=122,slow=6.8,SNR=4.9						

ISCJB 09 16:00:54.1±0.6, 4577N±003×1399E±003, h13km, Error ellipse: s-maj=4.5km s-min=2.7km az=64.7
LJU 09 16:00:54.3, 4578N×1400E, h13km, ML1.6
VIE 09 16:00:54.2±0.4, 4577N×1396E, h8km, ML1.8/2, Error ellipse: s-maj=2.7km s-min=1.4km az=37.0 27 km SSW of Idrija
ISC 09 16:00:54.9±0.6, 4578N±003×1399E±004, h14km±7km, n15, σ0s69/28, 4C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAVS	Javornik	0.13	24	i Pg	Pg	16 00 57.9	-0.5
JAVS				i Sg	Sg	16 01 00.3	-0.5
JAVS							
	comp=Z,122nm,0.1s						
VOJS	Vojsko	0.27	344	i Pg	Pg	16 01 00.0	-0.5
VOJS				i Sg	Sg	16 01 04.4	0.0
CEY	Cerknica	0.31	97	i Sg	Sg	16 01 05.6	+0.1
CEY							
	comp=Z,20nm,0.1s						
LJU	Ljubljana	0.46	54	i Pg	Pg	16 01 04.0	-0.1
LJU				i Sg	Sg	16 01 10.7	+0.5
LJU							
	comp=Z,17nm,0.1s						
DRE	Drenchia	0.47	329	⇑ePg	Pg	16 01 03.0	-1.1
DRE				eSg	Sg	16 01 10.3	0.0
CADS	Cadrg	0.48	339	i Pg	Pg	16 01 03.6	-0.9
CADS				i Sg	Sg	16 01 11.1	+0.1
VISS	Visnje	0.59	87	i Pg	Pg	16 01 06.0	-0.5
VISS				i Sg	Sg	16 01 14.8	+0.4
VISS							
	comp=Z,4.0nm,0.1s						
PDKS	Podkum	0.76	68	i Pg	Pg	16 01 09.3	-0.4
PDKS				eSg	Sg	16 01 20.0	+0.3
PDKS							
	comp=Z,6.0nm,0.1s						
OBKA	Obir	0.83	28	⇑iPg	Pg	16 01 10.7	-0.3
OBKA				⇑iSg	Sg	16 01 23.0	+1.1
	comp=Z,5.5nm,0.2s						
BOJS	Bojanci	0.93	107	i Pg	Pg	16 01 11.9	-1.0
BOJS				i Sg	Sg	16 01 25.5	+0.6
CRES	Cresnjev	1.03	87	i Pg	Pg	16 01 14.3	-0.4
CAE	Caneva	1.11	283	⇓iPg	Pg	16 01 16.8	+0.5
CAE				i Sg	Sg	16 01 32.5	+1.7
GOLS	Golise	1.17	78	ePg	Pg	16 01 16.9	-0.5
GOLS				eSg	Sg	16 01 33.6	+1.1
GOLS							
	comp=Z,7.0nm,0.1s						
NVLJ	Novalja	1.36	152	i Pn	Pn	16 01 18.8	-0.7
NVLJ				i Sg	Sg	16 01 39.8	+0.9
KBA	Koelnbreinsper	1.38	341	⇑iPg	Pg	16 01 20.8	-0.5
KBA				⇓iSg	Sg	16 01 40.3	+1.0
	comp=Z,1.7nm,0.2s						

ISCJB 09 16:02:08.6±0.4, 4086N±003×2133E±003, h5km±6km, Error ellipse: s-maj=4.9km s-min=3.9km az=129.6
SKO 09 16:02:08.1, 4088N×2130E, h19km, M1.5, ML2.9
CSEM 09 16:02:08.7±0.1, 4088N×2128E, h8km, ML2.6, Error ellipse: s-maj=1.9km s-min=1.6km az=165.0
NEIC 09 16:02:09.2, 4089N×2129E, h11km, After THE.
THE 09 16:02:09.2, 4089N×2129E, h10km, ML2.6
ISC 09 16:02:09.1±0.4, 4088N±003×2131E±003, h10km±5km, n25, σ0s88/38, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	Florina	0.10	151	ePg	Pg	16 02 12.3	+0.4
BIA	Bitola	0.14	5	ePg	Pg	16 02 12.1	-0.3
BIA				eSg	Sg	16 02 15.3	+0.6
BIA	Bitola	0.14	5	i Pg	Pg	16 02 12.4	-0.1
BIA				i Sg	Sg	16 02 15.4	+0.7
BIA	Bitola	0.14	5	i Pg	Pg	16 02 12.3	-0.1
OHR	Ohrid	0.45	302	ePg	Pg	16 02 17.1	-0.9
OHR				eSg	Sg	16 02 24.2	+0.2
OHR	Ohrid	0.45	302	i Pg	Pg	16 02 17.3	-0.7
OHR				⇑iSg	Sg	16 02 24.3	+0.3
OHR				eLg		16 02 24.6	
	comp=N,1μm,0.6s						
OHR				eLg		16 02 24.6	
	comp=E,863nm,0.6s						
OHR	Ohrid	0.45	302	ePg	Pg	16 02 17.1	-0.9
OHR				⇑iSg	Sg	16 02 24.2	+0.2
KBN	Korca	0.47	238	ePg	Pg	16 02 17.5	-0.8
KBN				i Sg	Sg	16 02 25.9	+1.4
GRG	Griva	0.83	84	ePg	Pg	16 02 24.6	-0.6
STIP	Stip	1.05	39	ePg	Pg	16 02 28.9	-0.4
STIP				eSg	Sg	16 02 43.6	+0.5
STIP	Stip	1.05	39	i Pg	Pg	16 02 29.3	-0.1
VAY	Valandovo	1.05	65	ePg	Pg	16 02 28.1	-1.3
VAY				eSg	Sg	16 02 44.8	+1.7
VAY	Valandovo	1.05	65	i Pg	Pg	16 02 28.1	-1.3
VAY	Valandovo	1.05	65	i Pg	Pg	16 02 28.0	-1.4
VAY				S	Sg	16 02 44.8	+1.7
MEV	Metsovon	1.09	183	ePg	Pg	16 02 29.4	-0.7
LIT	Litokhoron	1.19	130	ePg	Pg	16 02 31.5	-0.5
LIT				eSg	Sg	16 02 49.0	+1.6
KNT	Kendrikon	1.24	76	ePg	Pg	16 02 32.0	-0.8
KNT				eSg	Sg	16 02 49.1	+0.2
KNT	Kendrikon	1.24	76	ePg	Pg	16 02 32.0	-0.9
KNT				eSg	Sg	16 02 49.2	+0.2
HORT	Hortiatis	1.39	101	ePg	Pn	16 02 34.3	-0.2
HORT				eSg	Sg	16 02 52.8	-1.0
IGT	Igoumenitsa	1.54	209	ePg	Pg	16 02 37.6	-1.0
MMB	Musomiste	1.96	68	ePb	Pn	16 02 42.7	+0.4
AGG	Agios Georgios	2.01	157	ePn	Pn	16 02 42.9	-0.1
PAIG	Paliouri	2.04	117	ePn	Pn	16 02 43.0	-0.5
XOR	Xorichti	2.09	136	ePn	Pn	16 02 44.4	+0.2
LKD	Levkas	2.22	193	ePn	Pn	16 02 48.1	+2.1

ISCJB 09 16:09:55.6±1.0, 35S±0.1×1300E±03, h10km, mb3.7/2, Error ellipse: s-maj=44.4km s-min=11.4km az=148.7
IDC 09 16:09:56.4±1.8, 348S×12992E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.8/16, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=113.5km s-min=23.4km az=76.0
NEIC 09 16:09:57.8±1.1, 354S×12990E, h10km, mb4.0/1, Error ellipse: s-maj=49.4km s-min=13.4km az=74.0
ISC 09 16:09:59.2±2.9, 36S±01×1299E±03, h16km±18km, n11, σ1s41/17, mb3.7/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.40	165	eP	Pn	16 12 14.6	+0.6
	8.4nm,0.6s						
KAKA				eS	Sn	16 13 56.7	-2.7
FITZ	Fitzroy Crossi	15.03	196	Pn	Pn	16 13 30.4	-0.5
	0.1nm,0.3s,baz=24,slow=19,SNR=2.0						
WRAB	Tennant Creek	16.82	166	ePn	Pn	16 13 53.0	-0.9
	14nm,1.1s						
WRA	Warramunga Arr	16.82	166	Pn	Pn	16 13 52.8	-1.2
	0.1nm,0.3s,baz=348,slow=12,SNR=9.2						
WRA				Sn	Sn	16 16 52.4	-8.1
	0.1nm,0.3s,baz=342,slow=21,SNR=4.4						
WB2	Warramunga Arr	16.82	166	eP	Pn	16 13 52.5	-1.5
WB2				eS	Sn	16 16 53.5	-7.1
AS31	Alice Springs	20.33	169	eP	P	16 14 36.5	+1.9
AS31				eS	S	16 18 23.3	+1.3
ASAR	Alice Springs	20.33	169	P	P	16 14 36.6	+1.9
	5.7nm,0.5s,baz=351,slow=10,SNR=125						
ASAR				S	S	16 18 20.6	-1.4
	0.8nm,0.8s,baz=354,slow=26,SNR=4.4						
ASPA	Alice Springs	20.33	169	eP	P	16 14 36.7	+2.0
ASPA				eS	S	16 18 23.3	+1.3
STKA	Stephens Creek	30.21	160	P	P	16 16 09.7	+0.8
SONM	Songino Array	55.20	341	P	P	16 19 29.7	-1.5
	0.3nm,0.6s,mb3.5,baz=141,slow=5.5,SNR=2.7						
MKAR	Makanchi Array	65.36	326	P	P	16 20 40.8	+0.1
	0.3nm,0.3s,mb3.9,baz=123,slow=8.3,SNR=4.7						

MDD 09 16:16:41.4±0.5, 3878N×796W, h0km, mbLg1.6/11, Error ellipse: s-maj=5.4km s-min=3.8km az=77.0, PRXIMO
INMG 09 16:16:41.8±1.1, 3878N×795W, h14km±5km, ML1.5, Error ellipse: s-maj=2.1km s-min=1.6km az=85.0, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PESTR	Estremoz	0.29	73	ePg	Pg	16 16 47.6	-0.3
PESTR				eSg	Sg	16 16 52.0	-0.1
PESTR							
	6.4nm,0.1s						
EBAD	Badajoz	0.73	92	Pg	Pg	16 16 55.5	-0.5
	4.6nm,0.1s,SNR=24						
EBAD				Lg		16 17 05.3	
	15nm,0.1s						
PBEJ	Beja	0.76	175	eP	Pg	16 16 55.4	-1.1
PBEJ				eS	Sg	16 17 05.5	-1.0
PBEJ							
	9.8nm,0.1s						
PTOM	Tomar	0.91	337	eP	Pb	16 16 58.3	-1.0
PTOM				eS	Sb	16 17 10.3	-0.9
PTOM							
	11nm,0.1s						
PLOU	Loures	0.94	277	eS	Sb	16 17 11.7	-0.6
PLOU							
	9.5nm,0.1s						
PLOU	Loures	0.94	277	Lg		16 17 11.7	
	4.8nm,0.1s						
PMAFR	Mafra	1.05	280	eP	Pb	16 17 00.8	-1.0
PMAFR				eS	Sb	16 17 14.5	-0.9
PCBR	Castelo Branco	1.12	19	eP	Pb	16 17 02.1	-0.8
PCBR				eS	Sb	16 17 16.4	-0.9
PCBR							
	7.7nm,0.1s						
EGRO	El Granado	1.30	163	Pg	Pg	16 17 05.3	-1.5
	0.2nm,0.0s,SNR=7.9						
EGRO				Lg		16 17 22.9	
	0.7nm,0.1s,SNR=7.9						
PTEO	Sao Teotonio	1.38	207	eSg	Sg	16 17 24.5	-1.7
PTEO							
	2.6nm,0.2s						
PTEO	Sao Teotonio	1.38	207	Lg		16 17 24.5	
	1.3nm,0.2s						
EMIN	Mina Concepcio	1.43	135	Pg	Pg	16 17 06.6	-2.7
	0.1nm,0.1s,SNR=8.2						
EMIN				Lg		16 17 26.4	
	1.1nm,0.1s,SNR=7.9						
MTE	Manteigas	1.65	11	eSg	Sg	16 17 32.5	-2.3
MTE							
	3.2nm,0.3s						
MTE	Manteigas	1.65	11	Lg		16 17 32.5	
	1.6nm,0.3s						
PVIS	Viseu	1.93	1	eSg	Sg	16 17 41.3	-2.6
PVIS							
	3.0nm,0.1s						
PVIS	Viseu	1.93	1	Lg		16 17 41.3	
	1.5nm,0.1s						
EADA	Adamuz	2.72	102	Lg		16 18 07.9	
	1.0nm,0.7s,SNR=7.9						

ISCJB 09 16:44:12.5±0.4, 4457N±002×672E±005, h10km, Error ellipse: s-maj=5.0km s-min=2.9km az=173.1
STR 09 16:44:13.8±0.2, 4456N×693E, h2km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 09 16:44:13.5±0.0, 4459N×677E, h4km, Md1.5/3, Ml1.5/6, Error ellipse: s-maj=0.9km s-min=0.4km az=86.0
ISC 09 16:44:13.0±0.6, 4458N±002×675E±007, h13km±6km, n10, σ0s32/20, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.11	155	Pg	Pg	16 44 16.2	+0.1
SURF				Sg	Sg	16 44 18.0	-0.3
MBDF	Montbardon	0.15	6	ePg	Pg	16 44 16.7	0.0
MBDF				eSg	Sg	16 44 18.6	-0.7
	5.8nm,0.2s						
OG22	Abries	0.28	30	Pg	Pg	16 44 19.1	+0.2
OG22				Sg	Sg	16 44 22.8	0.0
ORIF	Oris-en-Rattie	0.71	299	ePg	Pg	16 44 27.2	+0.5
ORIF				eSg	Sg	16 44 36.3	+0.3
	1.0nm,0.3s						
SBF	Sospel	0.87	145	ePg	Pg	16 44 30.0	+0.2
SBF				eSg	Sg	16 44 41.1	-0.1
	2.8nm,0.3s						
LPG	La Plagne	0.92	0	ePg	Pg	16 44 31.1	+0.3
LPG				eSg	Sg	16 44 42.4	-0.4
	0.7nm,0.3s						
LPL	La Plagne	0.94	359	ePg	Pg	16 44 31.3	+0.2
LPL				eSg	Sg	16 44 43.6	+0.2
	1.0nm,0.3s						
FRF	La Foret Royal	1.02	184	ePg	Pg	16 44 32.8	+0.1
FRF				eSg	Sg	16 44 46.2	+0.2
	0.6nm,0.2s						
LMR	La Mourre	1.26	188	ePg	Pg	16 44 37.3	+0.1
LMR				eSg	Sg	16 44 53.5	0.0
	1.7nm,0.2s						
LASF	Ste Croix	2.13	257	ePn	Pn	16 44 48.5	+0.2
LASF				eSn	Sn	16 45 13.8	-0.9

0.6nm,0.3s

*IDC **09** 16:52:16.8±13.0, 19.65S×179.31W, h530km±88km, mb3.0/4, mb1 3.2/5, mb1mx3.0/13, mbtmp4.1/5, Error ellipse: s-maj=192.5km s-min=40.1km az=114.0*
NEIC 09 16:52:06.7±8.7**, 20.18S×178.15W, h489**km±51km**, mb3.9**/4**, Error ellipse: s-maj=126.2km s-min=33.2km az=114.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	14.49	260	P	P	16 55 11.9	+0.1
	0.7nm,0.3s,baz=77,slow=18,SNR=10						
CTA	Charters Tower	33.38	264	eP	P	16 58 04.4	+0.8
	1.7nm,0.4s						
CTAO	Charters Tower	33.38	264	eP	P	16 58 04.3	+0.7
	3.6nm,0.7s						
STKA	Stephens Creek	37.80	244	P	P	16 58 40.9	+0.5
	2.2nm,0.9s,baz=72,slow=9.6,SNR=3.9						
STKA	Stephens Creek	37.80	244	P	P	16 58 40.7	+0.3
AS31	Alice Springs	44.45	256	eP	P	16 59 34.1	+0.7
	7.2nm,0.7s						
ASAR	Alice Springs	44.45	256	P	P	16 59 34.0	+0.7
	2.1nm,0.6s,baz=91,slow=8.6,SNR=57						
ASPA	Alice Springs	44.45	256	eP	P	16 59 34.1	+0.7
WB2	Warramunga Arr	44.49	262	eP	P	16 59 34.2	+0.5
WRAB	Tennant Creek	44.49	262	P	P	16 59 33.2	-0.5
	2.0nm,0.7s						
WRA	Warramunga Arr	44.50	262	P	P	16 59 33.6	-0.1
	0.6nm,0.5s,baz=95,slow=7.8,SNR=14						
MJAR	Matsushiro Arr	69.87	324	P	P	17 02 27.9	+0.2
	0.6nm,0.5s,baz=152,slow=6.0,SNR=6.2						

*NEIC **09** 17:07:43.6, 16.67N×100.37W, h5km, MD4.2(MEX), After MEX.*
MEX 09 17:07:43.5±0.7**, 16.66N×100.36W, h5**km**, MD4.3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.40	12	iP	Pg	17 07 50.3	-0.9
CAIG				iS	Sg	17 07 57.1	+0.8
CAIG	El Cayaco	0.40	12	iP	Pg	17 07 50.2	-0.9
CAIG				iS	Sg	17 07 57.1	+0.7
ZIIG	Zihuatanejo	1.42	312	iP	Pn	17 08 07.3	-2.7
ZIIG				iS	Sb	17 08 24.2	-4.7
MEIG	Mezcala	1.44	29	iP	Pn	17 08 06.5	-3.8
MEIG				iS	Sb	17 08 25.9	-3.7
PLIG	Platanillo	1.91	25	eP	Pn	17 08 13.5	-3.1
PLIG				iS	Sn	17 08 37.1	-4.0
PLIG	Platanillo	1.91	25	eP	Pn	17 08 13.5	-3.1
PLIG				iS	Sn	17 08 38.9	-2.1
PNIG	Pinotepa	2.15	97	iP	Pn	17 08 18.6	-1.4
PNIG				iS	Sn	17 08 44.9	-2.2
PNIG	Pinotepa	2.15	97	iP	Pn	17 08 18.6	-1.4
PNIG				iS	Sn	17 08 46.0	-1.1
YAIG	Yautepec	2.51	29	iP	Pn	17 08 22.3	-2.7
YAIG				iS	Sn	17 08 52.4	-3.6
YAIG	Yautepec	2.51	29	iP	Pn	17 08 22.3	-2.7
YAIG				iS	Sn	17 08 54.3	-1.7
UTMO	Huajuapan	2.70	64	eP	Pn	17 08 24.9	-2.7
UTMO				iS	Sn	17 08 56.5	-4.1
IIZ	Mezontepec	2.73	23	iP	Pn	17 08 24.2	-3.8
IIZ				iS	Sn	17 08 58.0	-3.4
SZVM	Salazar	2.81	19	iP	Pn	17 08 24.9	-4.1
SZVM				iS	Sn	17 08 56.0	-7.3
UNM	Universidad Na	2.88	23	eP	Pn	17 08 23.0	-7.1
PPM	Popocatepetl	2.91	34	eP	Pn	17 08 27.4	-3.0
PPM				iS	Sn	17 09 02.9	-2.8
PPM	Popocatepetl	2.91	34	eP	Pn	17 08 27.4	-3.0
PPM				iS	Sn	17 09 14.9	+9.1
MRX	Morelia	3.13	345	eP	Pn	17 08 32.0	-1.5
VHO	Vista Hermosa	3.49	83	iP	Pn	17 08 38.4	0.0
VHO				iS	Sn	17 09 17.5	-2.7
VHO	Vista Hermosa	3.49	83	iP	Pn	17 08 51.6	+13
VHO				iS	Sn	17 09 17.5	-2.7
OXX	Oaxaca	3.50	83	eP	Pn	17 08 36.0	-2.6
HUIG	Huatulco	4.17	102	iS	Sn	17 09 32.5	-4.5
CMIG	Matias Romero	5.26	85	eP	Pn	17 09 01.1	-1.6
CMIG				iS	Sn	17 09 56.9	-6.8
CMIG	Matias Romero	5.26	85	eP	Pn	17 09 14.6	+12

*ISCJB **09** 17:31:09.9±0.2, 32.60S±0.02×70.37W±0.05, h97km, mb4.7/41, Error ellipse: s-maj=6.4km s-min=2.5km az=171.7*
*MOS **09** 17:31:09.9±1.2, 32.64S×70.30W, h97km, mb4.8/9, Error ellipse: s-maj=15.3km s-min=8.8km az=92.4*
*BJI **09** 17:31:10.8, 32.60S×70.50W, h95km, mB5.1*
*GUC **09** 17:31:10.8±0.8, 32.64S×70.61W, h100km±3km, ML5.2*
*NEIC **09** 17:31:10.8±0.1, 32.63S×70.46W, mb4.7/33, Error ellipse: s-maj=6.3km s-min=3.0km az=90.0*
NEIC Felt [V] at La Ligua and Petorca; [IV] at Los Andes, Melipilla and San Felipe; [III] at Curacavi, Ovalle, San Antonio, Santiago, Valparaiso and Vina del Mar.
*IDC **09** 17:31:11.4±0.6, 32.60S×70.56W, h99km±4km, mb4.7/16, mb1 4.7/19, mb1mx4.7/20, mbtmp5.0/19, MS3.8/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=11.2km s-min=8.0km az=136.0*
ISC 09 17:31:11.3±0.2**, 32.64S**±0.02×**70.58W**±0.04**, h99**km**, h99**km±1.9km**:pP-P, n178, σ0.90**/162**, mb4.7**/41**, 37C-16D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.04	197	⇑iP	Pn	17 31 25.3	+0.3
PTCH	Petorca	0.48	322	⇑iP	Pn	17 31 27.2	+0.4
PTCH				iS	Sn	17 31 38.9	+0.5
PTCH				AML	AML	17 31 40.3	
	comp=N,333μm,0.4s						
PTCH	Petorca	0.48	322	⇑iP	Pn	17 31 27.2	+0.4
PTCH				iS	Sn	17 31 38.9	+0.5
ROCH	El Roble	0.49	228	⇑iP	Pn	17 31 27.2	+0.3
PEL	Peldehue	0.51	190	⇓iP	Pn	17 31 26.7	-0.3
PEL				iS	Sn	17 31 39.1	+0.4
PEL				AML	AML	17 31 40.7	
	comp=N,150μm,0.5s						
PEL	Peldehue	0.51	190	⇓iP	Pn	17 31 26.7	-0.3
PEL				iS	Sn	17 31 39.1	+0.4
FCH	Farellones	0.72	161	⇓iP	Pn	17 31 29.9	+1.1
FCH				iS	Sn	17 31 43.7	+1.8
FCH				AML	AML	17 31 45.1	
	comp=E,149μm,0.3s						
DSCH	Colegio Aleman	0.75	179	⇓iP	Pn	17 31 28.6	-0.5
DSCH				iS	Sn	17 31 42.9	+0.5
STL	Santa Lucia	0.79	184	⇓iP	Pn	17 31 28.9	-0.5
STL				iS	Sn	17 31 43.2	+0.1
SAN	Santiago	0.81	185	⇑iP	Pn	17 31 29.7	+0.1
SAN				iS	Sn	17 31 43.7	+0.3
SAN				AML	AML	17 31 46.1	
	comp=E,14μm,0.9s						
SAN	Santiago	0.81	185	⇑iP	Pn	17 31 29.7	+0.1
SAN				iS	Sn	17 31 43.7	+0.3
RCDM	Rinconada Maip	0.86	193	⇑iP	Pn	17 31 29.8	-0.3
RCDM				iS	Sn	17 31 45.0	+0.6
RCDM				AML	AML	17 31 45.4	
	comp=N,127μm,0.4s						
RCDM	Rinconada Maip	0.86	193	⇑iP	Pn	17 31 29.8	-0.3
RCDM				iS	Sn	17 31 45.0	+0.6
ANTU	Antumapu	0.92	183	⇓iP	Pn	17 31 30.9	+0.1
ANTU				iS	Sn	17 31 46.0	+0.6
ANTU				AML	AML	17 31 46.9	
	comp=E,54μm,0.2s						
PCH	Pirque	0.98	177	⇑iP	Pn	17 31 31.6	+0.3
SJCH	San Jose de Ma	1.01	169	⇓iP	Pn	17 31 31.6	-0.1
SJCH				iS	Sn	17 31 47.5	+0.4
SJCH				AML	AML	17 31 49.6	
	comp=E,26μm,0.7s						
SJCH	San Jose de Ma	1.01	169	⇓iP	Pn	17 31 31.6	-0.1
SJCH				iS	Sn	17 31 47.5	+0.4
TACH	Talagante	1.05	197	⇑iP	Pn	17 31 32.0	-0.1
CHNG	Los Chungos	1.09	314	⇑iP	Pn	17 31 33.0	+0.5
CHNG				iS	Sn	17 31 49.0	+0.4
CHNG				AML	AML	17 31 49.9	
	comp=E,39μm,0.5s						
LMEL	Las Melosas	1.24	165	eP	Pn	17 31 34.9	+0.5
LMEL				iS	Sn	17 31 53.0	+1.3
LMEL				AML	AML	17 31 56.4	
	comp=N,69μm,0.1s						
LMEL	Las Melosas	1.24	165	eP	Pn	17 31 34.9	+0.5
LMEL				iS	Sn	17 31 53.0	+1.3
CHCH	Chadas Angostu	1.29	183	⇑iP	Pn	17 31 34.9	0.0
CACH	El Canelo	1.47	181	⇓iP	Pn	17 31 37.7	+0.6
MDZ	Mendoza	1.48	100	⇑iP	Pn	17 31 33.4	-3.8
MDZ				iS	Sn	17 31 57.6	+0.8
LNV	Longovilo	1.48	208	⇓iP	Pn	17 31 36.8	-0.4
CMCH	Combarbala	1.51	346	⇓iP	Pn	17 31 37.5	-0.1
CMCH				iS	Sn	17 31 57.9	+0.5
CICH	Cipreses	1.68	176	⇑iP	Pn	17 31 40.2	+0.5
SFDO	San Fernando	2.00	190	⇑iP	Pn	17 31 43.7	-0.1
OVCH	Ovalle	2.10	345	⇑iP	Pn	17 31 45.4	+0.4
OVCH				iS	Sn	17 32 10.8	0.0
OVCH				AML	AML	17 32 12.0	
	comp=E,26μm,0.3s						
OVCH	Ovalle	2.10	345	⇑iP	Pn	17 31 45.4	+0.4
OVCH				iS	Sn	17 32 10.8	0.0
CFAA	Coronel Fontan	2.24	63	P	Pn	17 31 47.4	+0.5
	comp=E,69nm,0.3s,baz=230,slow=11,SNR=6955						
CFAA				S	Sn	17 32 14.7	+0.5
	comp=E,234nm,0.3s,baz=54,slow=19,SNR=49						
CFAA	Coronel Fontan	2.24	63	P	Pn	17 31 47.4	+0.5
CFAA				S	Sn	17 32 14.7	+0.5
TLL	Tololo Astrono	2.48	355	⇑iP	Pn	17 31 50.5	+0.5
TLL				iS	Sn	17 32 20.6	+0.9
TLL				AML	AML	17 32 25.4	
	comp=N,20μm,0.6s						
TLL	Tololo Astrono	2.48	355	⇑iP	Pn	17 31 50.5	+0.5
TLL				iS	Sn	17 32 20.6	+0.9
LSCH	La Serena	2.79	348	eP	Pn	17 31 53.9	-0.2
LSCH				iS	Sn	17 32 26.5	-0.6
LNCH	Linares	3.31	195	eP	Pn	17 31 59.6	-1.5
LNCH				iS	Sn	17 32 37.2	-2.3
LNCH				AML	AML	17 32 41.2	
	comp=E,8μm,0.8s						
LNCH	Linares	3.31	195	eP	Pn	17 31 59.6	-1.5
LNCH				iS	Sn	17 32 37.2	-2.3
VACH	Vallenar	4.06	358	iS	Sn	17 32 57.3	-0.3
CCHI	Chillan	4.14	197	eP	Pn	17 32 11.3	-1.0
CCHI				iS	Sn	17 32 57.8	-1.7
CPCH	Copiapo	5.27	2	⇑iP	Pn	17 32 25.7	-1.9
CPCH				iS	Sn	17 33 23.7	-3.4
PLCA	Paso Flores	8.07	180	P	Pn	17 33 04.5	-1.2
	comp=E,2.1nm,0.3s,baz=349,slow=10,SNR=36						
TRQA	Tornquist	8.86	130	⇑ePn	Pn	17 33 14.9	-1.4
	comp=E,83nm,1.0s						
CPUP	Villa Florida	13.14	65	P	Pn	17 34 08.7	-5.3
	comp=E,3.9nm,0.3s,baz=223,slow=12,SNR=36						
CPUP	Villa Florida	13.14	65	⇑eP	Pn	17 34 08.4	-5.5
CPUP				pmax	pmax		
	comp=Z,79nm,0.5s						
CPUP	Villa Florida	13.14	65	⇑ePn	Pn	17 34 08.4	-5.5
	comp=Z,79nm,0.5s						
ARE	Arequipa	16.13	357	⇑iP	Pn	17 34 56.0	+3.9
LPAZ	La Paz	16.43	8	P	Pn	17 34 56.7	+0.8
	comp=Z,1.0nm,0.3s,baz=177,slow=9.3,SNR=83						
LPAZ				S	S	17 38 04.9	+1.2
	baz=307,slow=24,SNR=1.2						
LPAZ	La Paz	16.43	8	P	Pn	17 34 56.7	+0.8
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	La Paz	16.43	8	⇓iPn	Pn	17 34 56.4	+0.5
	comp=Z,34nm,0.8s						
SIV	San Ignacio	18.69	30	P	Pn	17 35 20.8	-2.3
	comp=Z,5.3nm,0.3s,baz=223,slow=13,SNR=354						
EFI	East Falkland	21.10	158	c iP	P	17 35 47.3	-0.5
EFI	East Falkland	21.10	158	eP	P	17 35 46.2	-1.6
	comp=Z,83nm,0.7s,mb5.2						
NNA	Nana	21.35	343	P	P	17 35 50.0	-0.4
	comp=Z,15nm,0.7s,mb4.4,baz=177,slow=13,SNR=7.1						
NNA	Nana	21.35	343	eP	P	17 35 49.0	-1.4
	comp=Z,49nm,1.0s,mb4.8						
SAML	Samuel	24.55	18	⇓iP	P	17 36 21.0	-0.7
	comp=Z,72nm,0.9s,mb5.1						
ATAH	Atahualpa	26.53	342	P	P	17 36 40.8	+1.1
	comp=Z,4.3nm,0.5s,mb4.2,baz=82,slow=4.6,SNR=3.9						
BDFB	Brasilia	26.56	56	P	P	17 36 38.9	-1.0
	comp=Z,94nm,0.8s,mb5.3,baz=231,slow=7.4,SNR=82						
BDFB				LR	LR	17 48 10.3	
	comp=Z,315nm,18.7s,baz=48,slow=38						
BDFB	Brasilia	26.56	56	⇓eP	P	17 36 38.6	-1.3
BDFB				pmax	pmax		
	comp=Z,165nm,0.9s						
BDFB	Brasilia	26.56	56	⇓eP	P	17 36 38.6	-1.3
	comp=Z,165nm,0.9s,mb5.6						
PMSA	Palmer Station	32.41	175	P	P	17 37 31.4	-0.2
	comp=Z,26nm,0.9s,mb5.0,baz=22,slow=6.3,SNR=8.3						
PMSA	Palmer Station	32.41	175	eP	P	17 37 32.2	+0.5
	comp=Z,46nm,1.4s,mb5.0						
ROSC	El Rosal	37.46	354	P	P	17 38 18.8	+3.7
	comp=Z,11nm,0.6s,mb4.9,baz=108,slow=23,SNR=5.7						
SDV	Santo Domingo	41.30	360	eP	P	17 38 45.5	-1.4
	comp=Z,13nm,0.7s,mb4.9						
PCRV	Puerto La Cruz	42.95	9	P	P	17 39 00.4	0.0
	comp=Z,27nm,0.6s,mb5.2,baz=176,slow=5.7,SNR=14						
JTS	JuntasAbangare	44.84	340	eP	P	17 39 13.0	-2.5
JTS	JuntasAbangare	44.84	340	P	P	17 39 16.1	+0.6
	comp=Z,10nm,1.1s,mb4.5						
VNA3	Neumayer Olymp	50.16	158	eP	P	17 39 56.9	+0.3
VNA3				e		17 39 59.6	
VNA3				e	pP	17 40 21.3	+1.0
VNA1	Neumayer--Stat	50.45	157	⇑iP	P	17 39 59.5	+0.7
VNA1				e		17 40 01.9	
VNA1				e	pP	17 40 22.1	-0.4
SJG	San Juan	50.64	5	P	P	17 39 59.1	-1.2
	comp=Z,48nm,0.7s,mb5.6,baz=213,slow=2.8,SNR=17						
SJG	San Juan	50.64	5	⇑iP	P	17 39 59.5	-0.8
SJG				pmax	pmax		
	comp=Z,61nm,0.9s						
SJG	San Juan	50.64	5	⇑iP	P	17 39 59.5	-0.8
	comp=Z,61nm,0.9s,mb5.6						
MTP	Monte Pirata	50.68	6	eP	P	17 39 59.4	-1.1
SDDR	Presa de Saban	51.34	359	eP	P	17 40 05.3	-0.2
SNAA	Sanae	52.38	158	P	P	17 40 13.2	0.0
	comp=Z,24nm,0.9s,mb5.2,baz=284,slow=6.7,SNR=117						
SNAA				pP	pP	17 40 36.7	-0.4
	comp=Z,9.7nm,1.0s,baz=256,slow=4.1,SNR=4.1						
SNAA	Sanae	52.38	158	⇑iP	P	17 40 13.0	-0.3
SNAA				e		17 40 15.5	
SNAA				e	pP	17 40 37.5	+0.4
SNAA	Sanae	52.38	158	⇑iP	P	17 40 13.1	-0.2
SNAA				e*PP	pP	17 40 36.8	-0.3
SNAA				e*SP	sP	17 40 45.9	-2.2
SNAA				pmax	pmax		
	comp=Z,60nm,0.8s						
SNAA	Sanae	52.38	158	⇑iP	P	17 40 13.1	-0.2
	comp=Z,60nm,0.8s,mb5.7						
SNAA				epP	pP	17 40 36.8	-0.3
SNAA				esP	sP	17 40 45.9	-2.2
RKT	Rikitea	56.96	262	eLR	LR	17 57 11.6	
	comp=Z,74nm,31.8s						
RKT	Rikitea	56.96	262	eT		18 41 45.4	
	comp=Z,2.6nm,0.2s						
NVL	N'lazarevskaya	57.08	157	c iP	P	17 40 46.6	-0.6
NVL				pmax	pmax		
	comp=N,13nm,1.1s						
NVL				pmax	pmax		
	comp=E,22nm,1.1s						
NVL				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.5						
QSPA	South Pole Qui	57.59	180	eP	P	17 40 51.4	+0.7
	comp=Z,48nm,1.0s,mb5.5						
SBA	Scott Base	64.65	191	eP	P	17 41 39.5	+1.1
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
SBA	Scott Base	64.65	191	eP	P	17 41 39.5	+1.0
	comp=Z,9.7nm,0.9s,mb4.6						
VNDA	Vanda	65.67	191	P	P	17 41 46.1	+1.1
	comp=Z,6.1nm,0.8s,mb4.5,baz=132,slow=5.1,SNR=34						
VNDA				LR	LR	18 10 16.8	
	comp=Z,47nm,20.3s,baz=40,slow=36						
VNDA	Vanda	65.67	191	⇑iP	P	17 41 45.7	+0.7
VNDA				pmax	pmax		
	comp=Z,19nm,1.4s						
VNDA	Vanda	65.67	191	⇑iP	P	17 41 45.7	+0.7
	comp=Z,19nm,1.4s,mb4.7						
SYO	Syowa Base	66.68	158	⇓eP	P	17 41 50.0	-1.4
JCT	Junction City	68.61	333	eP	P	17 42 04.3	+0.7
JCT				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
JCT	Junction City	68.61	333	eP	P	17 42 04.3	+0.7
	comp=Z,5.8nm,0.6s,mb4.6						
TBI	Tubuai	68.83	255	eLR	LR	18 02 41.7	
	comp=Z,165nm,30.8s						
TBI	Tubuai	68.83	255	eT		18 56 32.6	
	comp=Z,4.3nm,0.3s						
MIAR	Mount Ida	70.24	340	eP	P	17 42 13.3	-0.3
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
MIAR	Mount Ida	70.24	340	eP	P	17 42 13.2	-0.4
	comp=Z,10nm,1.1s,mb4.6						
PPT	Papeete	71.66	261	eLR	LR	18 04 00.3	
	comp=Z,183nm,36.5s						
PPT	Papeete	71.66	261	P	P	17 42 24.3	+2.1
	comp=Z,22nm,0.5s,mb5.3,baz=88,slow=18,SNR=3.1						
MNTX	Cornudas Mount	71.95	329	eP	P	17 42 23.8	-0.2
	comp=Z,3.3nm,0.8s,mb4.2						
MNTX				epP	pP	17 42 47.9	-1.2
WMOK	Wichita Mounta	72.07	336	eP	P	17 42 23.6	-1.1
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
WMOK	Wichita Mounta	72.07	336	eP	P	17 42 23.6	-1.1
	comp=Z,2.0nm,0.7s,mb4.1						
SIUC	Southern Illin	72.12	345	eP	P	17 42 18.6	-6.3
	comp=Z,63nm,0.8s,mb5.5						
FVM	French Village	72.66	344	eP	P	17 42 28.1	-0.1
FVM				e		17 42 44.5	
FVM				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.1						
FVM	French Village	72.66	344	eP	P	17 42 28.1	-0.1
	comp=Z,15nm,0.5s,mb5.1						
FVM				ePcP	PcP	17 42 44.5	-0.6
DBIC	Dimbokro	73.58	71	P	P	17 42 33.8	+0.1
	comp=Z,39nm,0.7s,mb5.3,baz=208,slow=6.0,SNR=46						
DBIC				LR	LR	18 10 33.2	
	comp=Z,57nm,19.1s,baz=202,slow=32						
DBIC	Dimbokro	73.58	71	eP	P	17 42 33.6	0.0
DBIC				pmax	pmax		
	comp=Z,40nm,0.8s						
DBIC	Dimbokro	73.58	71	eP	P	17 42 33.5	-0.1
	comp=Z,40nm,0.8s,mb5.2						
MAW	Mawson	74.13	163	P	P	17 42 36.5	-0.3
	comp=Z,14nm,0.8s,mb4.7,baz=220,slow=7.3,SNR=37						
MAW				pP	pP	17 43 02.2	+0.1
	comp=Z,9.2nm,0.9s,baz=236,slow=6.6,SNR=5.4						
MAW				LR	LR	18 15 23.4	
	comp=Z,65nm,21.2s,baz=72,slow=36						
MAW	Mawson	74.13	163	⇑iP	P	17 42 36.5	-0.3
MAW				e*PP	pP	17 43 02.0	0.0
MAW				pmax	pmax		
	comp=Z,24nm,1.0s						
MAW	Mawson	74.13	163	⇑iP	P	17 42 36.5	-0.3
	comp=Z,24nm,1.0s,mb4.9						
MAW				epP	pP	17 43 02.0	0.0
SUR	Sutherland	74.41	119	LR	LR	18 10 54.0	
	comp=Z,81nm,19.6s,baz=201,slow=32						
ANMO	Albuquerque	75.20	330	eP	P	17 42 44.4	+1.4
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ANMO	Albuquerque	75.20	330	eP	P	17 42 44.4	+1.4
	comp=Z,4.5nm,1.2s,mb4.1						
SDCO	Great Sand Dun	77.22	332	eP	P	17 42 56.0	+1.5
	comp=Z,2.4nm,0.6s,mb4.1						
SDCO				epP	pP	17 43 20.7	+0.8
SADO	Sadowa	77.44	354	LR	LR	18 15 51.9	
	comp=Z,40nm,19.8s,baz=112,slow=35						
PV01	Paradox Valley	78.80	330	eP	P	17 43 03.4	+0.3
PV01				epP	pP	17 43 29.8	+1.1
BOSA	Boshof	79.61	117	P	P	17 43 08.2	+0.6
	comp=Z,2.3nm,0.7s,mb4.2,baz=172,slow=0.4,SNR=11						
ECSD	EROS,Sioux Fal	79.65	341	eP	P	17 43 07.1	-0.7
ECSD				epP	pP	17 43 31.5	-1.8
ECSD				ePP	PP	17 46 03.5	-6.2
LBTB	Lobatse	81.76	114	eP	P	17 43 18.9	-0.1
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LBTB	Lobatse	81.76	114	eP	P	17 43 18.9	-0.2
	comp=Z,4.4nm,0.7s,mb4.4						
RSSD	Black Hills	82.27	336	eP	P	17 43 22.5	+0.8
RSSD				e*PP	pP	17 43 47.9	+0.5
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
RSSD	Black Hills	82.27	336	eP	P	17 43 22.5	+0.8
	comp=Z,8.2nm,1.0s,mb4.5						
RSSD				epP	pP	17 43 47.9	+0.5
TOA0	Torodi Ar. Sit	82.59	69	⇑eP	P	17 43 22.6	-0.8
TOA0				epP	pP	17 43 52.7	+3.6
TOA0				esP	sP	17 44 04.1	+4.5
TORD	Torodi Ar. Bea	82.59	69	P	P	17 43 23.4	0.0
	comp=Z,25nm,0.7s,mb5.2,baz=265,slow=4.9,SNR=127						
TORD				pP	pP	17 43 50.7	+1.6
	comp=Z,13nm,0.9s,baz=252,slow=4.6,SNR=6.8						
TORD				LR	LR	18 16 57.8	
	comp=Z,79nm,20.4s,baz=190,slow=33						
TORD	Torodi Ar. Bea	82.59	69	P	P	17 43 23.4	0.0
TORD				pP	pP	17 43 50.7	+1.6
TORD				LR	LR	18 16 57.8	
HWUT	Hardware Ranch	82.96	330	eP	P	17 43 25.8	+0.5
	comp=Z,4.2nm,0.9s,mb4.3						
PDAR	Pinedale Array	83.12	332	P	P	17 43 25.4	-0.7
	comp=Z,0.7nm,0.7s,baz=134,slow=5.6,SNR=7.9						
NVAR	Mina Array Bea	83.48	324	P	P	17 43 28.6	+0.6
	comp=Z,1.4nm,0.8s,mb3.8,baz=162,slow=6.2,SNR=11						
NVAR				pP	pP	17 43 54.0	+0.3
	comp=Z,1.2nm,0.8s,baz=166,slow=4.9,SNR=3.5						
MOOW	Moose Ponds	84.41	332	eP	P	17 43 30.8	-1.9
	comp=Z,52nm,1.1s,mb5.3						
IMW	Indian Meadow	84.61	332	eP	P	17 43 34.5	+0.8
	comp=Z,3.3nm,1.0s,mb4.2						
ULM	Lac du Bonnet	85.52	344	P	P	17 43 37.2	-1.0
	comp=Z,1.9nm,0.8s,mb4.1,baz=118,slow=2.6,SNR=5.9						
ULM				pP	pP	17 44 02.5	-1.6
	comp=Z,1.6nm,0.6s,baz=171,slow=3.9,SNR=2.4						
ULM	Lac du Bonnet	85.52	344	P	P	17 43 37.2	-1.0
ULM				pP	pP	17 44 02.5	-1.6
MCMT	McKenzie Canyo	86.15	331	eP	P	17 43 42.1	+0.8
WVOR	Wild Horse Val	86.76	327	eP	P	17 43 44.7	+0.4
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WVOR	Wild Horse Val	86.76	327	eP	P	17 43 44.7	+0.4
	comp=Z,2.9nm,1.0s,mb4.2						
MOD	Modoc	87.14	325	eP	P	17 43 47.0	+0.9
	comp=Z,0.9nm,0.5s,mb4.0						
MOD				epP	pP	17 44 10.4	-1.7
SCHQ	Schefferville	87.18	2	P	P	17 43 44.5	-1.9
	comp=Z,3.1nm,0.7s,mb4.4,baz=197,slow=16,SNR=4.7						
SCHQ	Schefferville	87.18	2	P	P	17 43 44.9	-1.4
	comp=Z,33nm,1.5s,mb5.0						
NEW	Newport	90.67	331	eP	P	17 44 03.2	+0.4
NEW				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NEW	Newport	90.67	331	eP	P	17 44 03.2	+0.4
	comp=Z,1.4nm,0.6s,mb4.3						
ESLA	Sonseca Array	94.76	45	eP	P	17 44 22.3	+0.7
	comp=Z,1.2nm,1.1s,mb4.2						
AS31	Alice Springs	119.32	206	eP	PKPdf	17 49 48.3	-0.6
ASAR	Alice Springs	119.32	206	PKP	PKPdf	17 49 48.3	-0.6
	comp=Z,1.1nm,0.7s,baz=134,slow=1.6,SNR=23						
ASAR				pPKP	pPKPdf	17 50 15.6	-0.5
	comp=Z,1.1nm,1.0s,baz=127,slow=1.9,SNR=3.7						
ASPA	Alice Springs	119.32	206	eP	PKPdf	17 49 48.3	-0.6
WB2	Warramunga Arr	122.53	208	eP	PKPdf	17 49 54.5	-0.6
WRA	Warramunga Arr	122.53	208	PKP	PKPdf	17 49 54.9	-0.2
	comp=Z,3.2nm,0.6s,baz=161,slow=1.7,SNR=42						
WRA				pPKP	pPKPdf	17 50 22.0	-0.3
	comp=Z,0.7nm,0.4s,baz=162,slow=1.8,SNR=3.1						
FITZ	Fitzroy Crossi	127.21	199	eP	PKPdf	17 50 04.2	+0.1
	comp=Z,7.5nm,1.0s						
FITZ	Fitzroy Crossi	127.21	199	PKP	PKPdf	17 50 04.4	+0.3
	comp=Z,4.2nm,0.9s,baz=202,slow=2.9,SNR=4.0						
ARU	Arti	137.92	40	i PKHKP		17 50 12.4	
ZRNK	Zerenda	144.69	43	ePKIKP	PKPdf	17 50 35.5	-0.8
ZRNK				e		17 51 01.8	
ZRNK	Zerenda	144.69	43	ePKPdf	PKPdf	17 50 35.5	-0.8
ZRNK				epPKPdf	pPKPdf	17 51 01.8	-1.7
ZRNK				eSKP		17 54 05.3	
CHKZ	Chkalovo	145.35	41	ePKIKP	PKPdf	17 50 37.5	0.0
CHKZ				e		17 51 04.6	
CHKZ				e		17 54 06.4	
BRVK	Borovoye	145.39	42	ePKPdf	PKPdf	17 50 37.5	0.0
BRVK				eSKP		17 54 07.2	
BVA0	Borovoye Array	145.46	42	i PKIKP	PKPdf	17 50 38.1	+0.5
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VOSK	Vostochnaya	145.90	42	PKP2	PKPab	17 50 39.2	-0.6
VOSK				pmax	pmax		
	comp=Z,50nm,1.9s						
KK31	Karatay Array	147.82	60	i PKP2	PKPab	17 50 43.9	-3.4
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						

KKAR	Karatay Array	147.82	60	PKP2	PKPab	17 50 43.9	-3.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YAK	Yakutsk	147.84	342	ePKPbc	PKPbc	17 50 43.9	-0.9
YAK				epPKPdf	pPKPdf	17 51 08.7	-0.2
HYB	Hyderabad	148.33	111	i PKP	PKPbc	17 50 47.0	+1.0
HYB				e		17 51 14.5	
HYB	Hyderabad	148.33	111	eP	PKPbc	17 50 47.0	+1.0
PSI	Prapat	148.72	159	PKPbc	PKPbc	17 50 47.0	0.0
	comp=Z,22nm,0.8s,baz=248,slow=1.4,SNR=20						
AAK	Ala-Archa	150.78	60	ePKIKP	PKPbc	17 50 52.1	+0.1
AAK				e		17 50 58.7	
FRU	Bishkek	150.84	60	ePKIKP	PKPbc	17 50 52.0	-0.2
FRU				e		17 51 20.0	
NVS	Novosibirsk	151.15	32	ePKIKP	PKPbc	17 50 52.0	-0.9
NVS				e		17 51 14.9	
NVS				pmax	pmax		
	comp=Z,12nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
ZAL	Zalesovo	152.43	32	PKPbc	PKPbc	17 50 55.9	+0.1
	comp=E,7.0nm,0.6s,baz=147,slow=1.7,SNR=26						
ZAL	Zalesovo	152.43	32	PKPbc	PKPbc	17 50 55.9	+0.1
BOD	Bodaibo	154.63	354	ePKP2	PKPab	17 51 13.3	-2.3
MK31	Makanchi Array	154.95	48	PKP2	PKPab	17 51 16.1	-0.9
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	154.95	48	PKPbc	PKPbc	17 51 01.8	+0.6
	comp=Z,0.4nm,0.3s,baz=310,slow=7.6,SNR=3.1						
MKAR				PKPab	PKPab	17 51 16.8	-0.2
	comp=Z,4.5nm,0.7s,baz=295,slow=4.1,SNR=19						
MKAR	Makanchi Array	154.95	48	PKPbc	PKPbc	17 51 01.8	+0.6
MKAR				PKPab	PKPab	17 51 16.8	-0.2
MJAR	Matsushiro Arr	156.03	287	PKPab	PKPab	17 51 21.9	+0.2
	comp=Z,2.4nm,0.8s,baz=131,slow=2.7,SNR=8.7						
MAT	Matsushiro	156.03	287	PKP2	PKPab	17 51 21.2	-0.4
WMQ	Urumqi	159.67	50	ePKP	PKPdf	17 50 57.5	-0.9
WMQ				APKP		17 51 24.0	
WMQ				XPKP		17 51 35.0	
WMQ				PKS		17 54 30.0	
WMQ				PP	PP	17 55 18.0	-1.1
WMQ				SKS	SKSdf	17 57 51.0	-3.7
WMQ				PP	PP		
	comp=Z,120nm,4.8s						
WMQ				LR	LR		
	comp=N,89nm,26.2s						
WMQ				LR	LR		
	comp=E,92nm,28.0s						
WMQ				LR	LR		
	comp=Z,104nm,30.0s						
CN2	Changchun	163.22	316	ePKP	PKPdf	17 50 59.8	-2.3
CN2				PP	PP	17 55 38.7	+0.7
SONM	Songino Array	164.65	8	PKPab	PKPab	17 51 59.6	+0.4
	comp=Z,1.2nm,0.7s,baz=329,slow=5.1,SNR=9.9						
SONM				pPKPab	pPKPab	17 52 26.7	+1.2
	comp=Z,0.9nm,0.9s,baz=337,slow=5.6,SNR=3.8						
SONM	Songino Array	164.65	8	PKP2	PKPab	17 51 59.6	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SSE	Sheshan	169.88	264	ePKP	PKPdf	17 51 05.8	-1.4
KMI	Kunming	170.49	140	PKP	PKPdf	17 51 07.3	-0.2
HHC	Hu-ho-hao-te	171.63	349	ePKP	PKPdf	17 51 07.2	-0.9
HHC				XPKP		17 51 44.7	
HHC				PKP2	PKPab	17 52 30.9	+0.8
HHC				PKS		17 54 38.4	
HHC				PP	PP	17 56 22.3	+1.3
HHC				PP	PP		
	comp=Z,59nm,4.9s						
HHC				LR	LR		
	comp=N,55nm,3.5s						
HHC				LR	LR		
	comp=E,48nm,3.5s						
HHC				LR	LR		
	comp=Z,69nm,5.9s						
LZH	Lanzhou	174.25	52	ePKP	PKPdf	17 51 07.6	-1.6
LZH				APKP		17 51 34.5	
LZH				XPKP		17 51 45.2	
LZH				PKP2	PKPab	17 52 41.3	-0.4
LZH				LR	LR		
	comp=N,139nm,18.2s						
LZH				LR	LR		
	comp=Z,176nm,20.5s						
CD2	Chengdu	174.88	108	ePKP	PKPdf	17 51 06.9	-2.5

GUC 09 17:39:47.8±0.6, 27.87S×67.16W, h150km, ML4.0, 3C-1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPCH	Copiapo	2.88	279	eP	Pn	17 40 34.0	+0.4
CPCH				eS	Sn	17 41 09.3	+0.4
LCO	Las Campanas	3.32	249	⇑iP	Pn	17 40 41.0	+1.8
LCO				i S	Sn	17 41 20.5	+1.6
LCO				AML	AML	17 41 21.4	
	comp=E,298nm,0.2s						
CDCH	Caldera	3.35	283	i P	Pn	17 40 40.2	+0.5
CDCH				AML	AML	17 41 18.4	
	comp=E,136nm,0.7s						
TLL	Tololo Astrono	3.93	233	⇑iP	Pn	17 40 48.5	+1.5
TLL				AML	AML	17 41 39.8	
	comp=E,91nm,0.4s						
CPN1	Cerro Paranal	4.35	317	⇓iP	Pn	17 40 54.3	+1.7
CPN1				i S	Sn	17 41 45.0	+2.0
CEN1	Los Morros	5.24	328	⇑iP	Pn	17 41 04.0	-0.3

*KRSC **09** 17:47:58, 61.43N×169.65E, h21km, ML3.8*
*BJI **09** 17:47:59.9, 60.75N×168.45E, h8km, mB4.9, mb5.0, Ms4.4, Msz4.2*
*IDC **09** 17:48:00.6±1.1, 61.57N×168.77E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/24, mbtmp3.9/6, MS3.3/2, Ms1 3.3/2, ms1mx2.6/37, Error ellipse: s-maj=43.2km s-min=19.0km az=166.0*
*MOS **09** 17:48:01.5±1.4, 61.55N×168.39E, h14km, mb4.4/5, Error ellipse: s-maj=25.3km s-min=17.3km az=101.4*
*ISCJB **09** 17:48:01.1±2.4, 61.55N±0.05×168.6E±0.2, h15km±19km, mb4.2/11, MS3.5/4, Error ellipse: s-maj=14.2km s-min=8.3km az=40.8*
*NEIC **09** 17:48:01.9±0.8, 61.47N×168.69E, h10km, mb4.4/3, Error ellipse: s-maj=19.9km s-min=12.8km az=156.0*
ISC 09 17:48:01.9±2.1**, 61.63N**±0.05×**168.6E**±0.2**, h10**km±14km**, n35, σ1.16s**/34**, mb4.2**/11**, MS3.5**/4**, 1C, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	6.21	212	eP	Pn	17 49 32.5	-1.2
KBTR				i S	Sn	17 50 43.6	-1.1
SMKR	Semkarok	6.26	219	eP	Pn	17 49 35.0	+0.7
SRKR	Sorokina	6.29	221	eP	Pn	17 49 35.1	+0.3
BDR	Baidarnaya	6.35	220	eP	Pn	17 49 35.5	-0.1
BILL	Bilibino	6.52	352	ePN	Pn	17 49 40.4	+2.5
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	Bilibino	6.52	352	ePn	Pn	17 49 40.4	+2.5
	comp=Z,4.6nm,0.7s						
BILL				eSg	Sg	17 51 30.2	-0.9
KLY	Klyuchi	6.74	221	eP	Pn	17 49 39.9	-1.0
KRSR	Krestovskiy	6.84	221	eP	Pn	17 49 43.2	+0.9
CIRR	Tsirk	6.87	220	eP	Pn	17 49 42.8	+0.1
KMNR	Kamenistaya	7.33	220	eP	Pn	17 49 50.9	+1.9
SEY	Seymchan	7.69	287	ePN	Pn	17 49 55.5	+1.5
MKZ	Mys Kozlova	7.97	210	eP	Pn	17 49 57.2	-0.6
MA2	Magadan	9.02	265	PN	Pn	17 50 10.4	-1.8
SPN	Mys Shipunski	9.72	212	eP	Pn	17 50 21.6	-0.3
GNL	Ganaly	9.79	220	eP	Pn	17 50 25.2	+2.5
YAK	Yakutsk	18.21	289	eP	Pn	17 52 12.6	-2.2
INK	Inuvik	24.48	49	P	P	17 53 21.7	+0.6
	comp=Z,1.9nm,0.5s,mb3.8,baz=281,slow=7.2,SNR=14						
INK	Inuvik	24.48	49	eP	P	17 53 21.6	+0.4
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
INK	Inuvik	24.48	49	eP	P	17 53 21.6	+0.4
	comp=Z,9.0nm,1.0s,mb4.2						
MAJO	Matsushiro	31.51	231	eP	P	17 54 23.5	-0.5
MAJO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
MAJO	Matsushiro	31.51	231	eP	P	17 54 23.5	-0.5
	comp=Z,9.7nm,1.1s,mb4.5						
MJAR	Matsushiro Arr	31.51	231	P	P	17 54 23.8	-0.2
	comp=Z,3.7nm,1.0s,mb4.2,baz=9.1,slow=8.3,SNR=12						
TLY	Talaya	35.59	284	eP	P	17 54 54.3	-5.2
TLY				e		17 57 30.2	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,19nm,12.0s,MS3.1						
ULN	Ulaanbaatar	36.62	277	eP	P	17 55 09.3	+0.9
SONM	Songino Array	36.96	277	P	P	17 55 13.4	+2.2
	comp=Z,0.7nm,1.1s,mb3.4,baz=38,slow=5.6,SNR=5.6						
ZAL	Zalesovo	42.37	299	LR	LR	18 16 06.5	
	comp=Z,39nm,19.6s,MS3.3,baz=337,slow=40						
LZH	Lanzhou	47.16	268	⇑P	P	17 56 34.1	-0.4
LZH				PP	PP	17 58 21.3	-4.0
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,57nm,7.2s						
LZH				LR	LR		
	comp=E,213nm,14.6s						
LZH				LR	LR		
	comp=Z,287nm,17.5s,MS4.3						
BVAR	Borovoye Array	48.80	307	P	P	17 56 45.9	-1.3
	comp=Z,1.5nm,0.7s,mb4.1,baz=48,slow=6.6,SNR=7.7						
NVAR	Mina Array Bea	49.23	83	P	P	17 56 50.3	-0.1
	comp=Z,0.5nm,0.6s,mb3.8,baz=312,slow=7.7,SNR=5.7						
ZRNK	Zerenda	49.38	308	P	P	17 56 52.4	+0.8
ZRNK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZRNK	Zerenda	49.38	308	P	P	17 56 52.4	+0.8
	comp=Z,2.9nm,1.1s,mb4.2						
PDAR	Pinedale Array	49.87	72	P	P	17 56 54.3	-1.1
	comp=Z,1.1nm,0.7s,mb4.0,baz=323,slow=4.4,SNR=12						
ARU	Arti	50.25	317	eP	P	17 56 58.0	-0.3
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
SCHQ	Schefferville	55.95	35	LR	LR	18 19 54.7	
	comp=Z,34nm,21.8s,MS3.4,baz=21,slow=34						
QSPA	South Pole Qui	151.40	180	eP	PKPdf	18 07 52.0	+2.1

*MOS **09** 17:48:53.7±0.9, 6.84S×109.82E, h246km, mb4.6/29, Error ellipse: s-maj=12.4km s-min=6.3km az=116.0*
*ISCJB **09** 17:48:54.3±0.2, 6.94S±0.03×109.75E±0.04, h253km, mb4.6/96, Error ellipse: s-maj=6.3km s-min=3.4km az=109.4*
*NEIC **09** 17:48:55.8±0.2, 6.95S×109.77E, mb4.6/40, Error ellipse: s-maj=7.1km s-min=3.6km az=61.0*
*BJI **09** 17:48:55.8, 6.90S×109.80E, h252km, mB4.6, mb4.6*
*IDC **09** 17:48:56.3±0.7, 6.90S×109.84E, h254km±6km, mb4.4/21, mb1 4.4/23, mb1mx4.3/26, mbtmp4.9/23, Error ellipse: s-maj=11.9km s-min=6.6km az=57.0*
ISC 09 17:48:56.1±0.2**, 6.97S**±0.03×**109.72E**±0.04**, h255**km±1.4km**: pP-P, n212, σ0.99s**/197**, mb4.6**/96**, 21C-6D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BJII	Banjamegara	0.36	182	P	Pn	17 49 27.7	-1.5
	843nm,0.8s						
LEM	Lembang	2.09	274	P	Pn	17 49 39.8	0.0
	642nm,0.8s						
CBJI	Citeko	2.90	281	P	Pn	17 49 46.3	-1.5
	2µm,0.8s						
KRKI	Karangkates	2.96	114	P	Pn	17 49 45.0	-3.4
	2µm,0.6s						
SBJI	Serang	3.66	283	P	Pn	17 49 57.0	+0.8
	256nm,1.1s						
KMMI	Kalianget	4.22	91	P	Pn	17 50 01.7	-0.9
	412nm,0.9s						
NBBI	Negara	5.05	106	P	Pn	17 50 11.9	-0.7
	289nm,0.5s						
KSM	Kuching	8.40	4	ePn	Pn	17 50 47.3	-7.2
KGM	Kluang	10.97	324	P	Pn	17 51 27.4	+0.7
TSM	Tawau	13.83	36	P	Pn	17 52 05.0	+3.0
IPM	Ipoh	14.30	322	P	Pn	17 52 11.5	+3.9
KKM	Kota Kinabalu	14.46	27	P	Pn	17 52 11.3	+1.7
KKM	Kota Kinabalu	14.46	27	ePn	Pn	17 52 10.7	+1.2
PSI	Prapat	14.50	312	P	Pn	17 52 08.3	-1.7
	1.2nm,0.3s,baz=181,slow=14,SNR=4.1						
KULM	Kulim	15.17	323	eP	Pn	17 52 18.8	+0.7
GIRL	Giralia	16.18	165	eP	P	17 52 30.6	+2.1
	804nm,1.0s						
MBWA	Marble Bar	17.11	147	eP	P	17 52 38.7	0.0
FITZ	Fitzroy Crossi	19.06	127	eP	P	17 52 59.6	-0.1
	76nm,0.6s						
FITZ	Fitzroy Crossi	19.06	127	P	P	17 53 00.2	+0.5
	4.2nm,0.3s,baz=314,slow=7.3,SNR=151						
FITZ				S	S	17 56 29.8	+7.7
	0.7nm,0.3s,baz=190,slow=16,SNR=5.2						
MEEK	Meekatharra	21.32	158	eP	P	17 53 23.0	-0.3
	23nm,0.5s,mb5.0						
MORW	Morawa	22.78	166	eP	P	17 53 36.5	-0.2
	14nm,0.4s,mb4.8						
KAKA	Kakadu	23.09	106	eP	P	17 53 38.7	-0.9
	35nm,0.8s,mb4.9						
MUN	Mundaring	25.61	167	eP	P	17 54 02.3	0.0
MUN	Mundaring	25.61	167	eP	pP	17 54 47.0	-4.1
KLBR	Kellerberrin	25.62	164	eP	P	17 54 01.5	-0.9
	9.4nm,0.5s,mb4.7						
NWAO	Narrogin (SRO)	26.76	166	P	P	17 54 12.6	+0.1
	37nm,0.7s,mb5.2,baz=337,slow=10,SNR=41						
NWAO	Narrogin (SRO)	26.76	166	eP	P	17 54 12.4	-0.1
NWAO				pmax	pmax		
	comp=Z,46nm,0.9s						
NWAO	Narrogin (SRO)	26.76	166	eP	P	17 54 12.4	-0.2
	comp=Z,46nm,0.9s,mb5.1						
KMBL	Kambalda	26.81	156	eP	P	17 54 12.6	-0.4
	comp=Z,92nm,0.4s						
KMBL	Kambalda	26.81	156	eP	pP	17 54 59.5	-3.1
	comp=Z,56nm,0.4s						
NANT	Nan	27.10	341	P	P	17 54 14.0	-1.6
WRA	Warramunga Arr	27.14	121	P	P	17 54 15.8	-0.1
	comp=Z,7.5nm,0.4s,mb4.6,baz=298,slow=9.1,SNR=118						
WRA				S	S	17 58 34.2	-1.0
	comp=Z,2.9nm,0.8s,baz=298,slow=17,SNR=6.8						
WRA				ScP	ScP	18 00 46.5	+1.3
	comp=Z,2.7nm,0.8s,baz=297,slow=2.7,SNR=8.0						
WRA	Warramunga Arr	27.14	121	P	P	17 54 15.8	-0.2
WRA				S	S	17 58 34.2	-1.0
WRAB	Tennant Creek	27.15	121	d iP	P	17 54 15.9	-0.1
WRAB	Tennant Creek	27.15	121	eP	P	17 54 15.7	-0.3
	comp=Z,17nm,0.6s,mb4.8						
WB2	Warramunga Arr	27.15	121	eP	P	17 54 15.4	-0.7
CM31	Chiang Mai Arr	27.41	337	eP	P	17 54 19.8	+1.5
	comp=Z,15nm,0.9s,mb4.6						
CHG	Chiang Mai	27.73	338	P	P	17 54 22.7	+1.5
CHTO	Chiang Mai	27.73	338	eP	P	17 54 22.4	+1.2
CHTO				e*PP	pP	17 55 11.5	+0.5
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
CHTO	Chiang Mai	27.73	338	eP	P	17 54 22.4	+1.2
	comp=Z,8.2nm,0.9s,mb4.4						
CHTO				epP	pP	17 55 11.5	+0.5
CHTO				eScP	ScP	18 00 49.5	+2.6
ASPA	Alice Springs	28.55	128	eP	P	17 54 28.7	+0.3
AS31	Alice Springs	28.55	128	eP	P	17 54 28.7	+0.3
ASAR	Alice Springs	28.55	128	P	P	17 54 28.8	+0.4
	comp=Z,59nm,0.5s,mb5.4,baz=302,slow=8.0,SNR=1546						
ASAR				pP	pP	17 55 18.1	-0.3
	comp=Z,2.9nm,0.5s,baz=302,slow=8.3,SNR=1.7						
ASAR				PcP	PcP	17 57 33.4	+0.5
	comp=Z,2.2nm,0.5s,baz=304,slow=2.1,SNR=5.2						
ASAR				S	S	17 58 56.0	-1.2
	comp=Z,0.8nm,0.7s,baz=305,slow=15,SNR=3.7						
ASAR				ScP	ScP	18 00 50.8	+1.3
	comp=Z,5.3nm,0.9s,baz=309,slow=2.8,SNR=16						
ASAR	Alice Springs	28.55	128	P	P	17 54 28.8	+0.4
ASAR				*PP	pP	17 55 18.1	-0.3
ASAR						17 57 33.4	
ASAR				S	S	17 58 56.0	-1.2
FORT	Forrest	29.27	146	eP	P	17 54 34.9	+0.1
	comp=Z,42nm,0.4s,mb5.4						
FORT	Forrest	29.27	146	eP	pP	17 55 32.1	+7.2
	comp=Z,36nm,0.8s						
KMI	Kunming	32.61	348	P	P	17 55 07.1	+3.1
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
GYA	Guiyang	33.36	355	⇓iP	P	17 55 10.9	+0.5
GYA				AP	pP	17 56 02.3	+1.1
GYA				XP	sP	17 56 31.6	+1.0
GYA				PP	PP	17 56 34.0	+2.4
GYA				S	S	18 00 12.4	+0.5
GYA				SCP	ScP	18 01 05.2	-0.3
GYA				PCS	PcS	18 01 32.8	+1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
GYA				AMB	AMB		
	comp=Z,70nm,4.0s						
MDRS	Chennai	35.40	304	eP	P	17 55 29.2	+1.3
MDRS				AMb	AMB	17 55 31.3	
	comp=Z,20nm,0.3s,mb5.1						
VIS	Vishakhapatnam	35.79	314	eP	P	17 55 31.9	+0.7
SHL	Shillong	36.70	332	eP	P	17 55 41.0	+2.2
PMG	Port Moresby	37.12	96	P	P	17 55 42.9	+0.4
PMG				pmax	pmax		
	comp=Z,13nm,0.7s						
PMG	Port Moresby	37.12	96	P	P	17 55 42.9	+0.4
	comp=Z,13nm,0.7s,mb4.6						
CTA	Charters Tower	37.73	114	eP	P	17 55 47.4	-0.2
	comp=Z,6.6nm,0.9s,mb4.2						
CTA	Charters Tower	37.73	114	eP	P	17 55 47.4	-0.2
CTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CTAO	Charters Tower	37.73	114	eP	P	17 55 47.4	-0.2
CTAO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
CTAO	Charters Tower	37.73	114	eP	P	17 55 47.4	-0.2
	comp=Z,15nm,1.0s,mb4.5						
CD2	Chengdu	38.09	352	eP	P	17 55 50.5	0.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JOW	Kunigami	38.11	27	P	P	17 55 51.4	+0.7
	comp=Z,28nm,0.9s,mb4.8,baz=203,slow=4.2,SNR=5.6						
BOK	Bokaro	38.42	323	eP	P	17 55 53.5	+0.3
BOK				AMb	AMB	17 55 55.1	
	comp=Z,10nm,0.7s,mb4.5						
STKA	Stephens Creek	38.69	134	⇓iP	P	17 55 56.3	+0.8
	comp=Z,52nm,0.6s,mb5.2						
STKA	Stephens Creek	38.69	134	P	P	17 55 56.4	+0.9
	comp=Z,83nm,0.5s,mb5.5,baz=309,slow=8.6,SNR=236						
STKA				PcP	PcP	17 58 02.3	+0.5
	comp=Z,4.8nm,0.5s,baz=314,slow=5.2,SNR=3.0						
STKA				ScP	ScP	18 01 26.2	+1.0
	comp=Z,2.3nm,0.7s,baz=333,slow=9.0,SNR=2.9						
SSE	Sheshan	39.41	16	eP	P	17 56 01.0	-0.4
SSE				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,78nm,3.5s						
SSE				LR	LR		
	comp=N,26nm,22.9s						
SSE				LR	LR		
	comp=E,69nm,22.9s						
SSE				LR	LR		
	comp=Z,49nm,13.4s						
NJ2	Nanjing	39.77	12	eP	P	17 56 02.6	-1.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,420nm,4.0s						
NJ2				LR	LR		
	comp=N,380nm,17.4s						
NJ2				LR	LR		
	comp=E,340nm,22.8s						
NJ2				LR	LR		
	comp=Z,320nm,22.2s						
NJ2	Nanjing	39.77	12	eP	P	17 56 06.1	+1.8
NJ2				AP	pP	17 56 59.0	+2.4
NJ2				XP	sP	17 57 27.4	+1.8
NJ2				PP	PP	17 57 46.1	+4.6
NJ2				XS	sS	18 03 25.0	+3.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,420nm,4.0s						
NJ2				LR	LR		
	comp=N,380nm,17.4s						
NJ2				LR	LR		
	comp=E,340nm,22.8s						
NJ2				LR	LR		
	comp=Z,320nm,22.2s						
LSA	Lhasa	40.59	335	P	P	17 56 13.2	+2.1
LSA	Lhasa	40.59	335	⇑iP	P	17 56 13.1	+2.0
LSA				e*PP	pP	17 57 05.0	+1.5
LSA				e		17 58 06.0	
LSA				pmax	pmax		
	comp=Z,27nm,0.7s,mb4.8						
LSA	Lhasa	40.59	335	⇑iP	P	17 56 13.1	+2.0
	comp=Z,27nm,0.7s,mb4.8						
LSA				epP	pP	17 57 05.0	+1.5
LSA				ePcP	PcP	17 58 06.0	-1.8
XAN	Xi’an	40.79	359	P	P	17 56 13.3	+0.6
XAN				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
NGP	Nagpur	41.08	314	ex	x	17 56 09.1	
NGP				AMb	AMB	17 56 12.9	
	comp=Z,23nm,0.9s,mb4.6						
PKI	Pulchoki	41.61	327	eP	P	17 56 19.6	+0.2
GUN	Gumba	41.63	327	eP	P	17 56 20.5	+1.0
	comp=Z,56nm,0.6s,mb5.1						
DMN	Daman	41.81	326	eP	P	17 56 21.2	+0.2
	comp=Z,42nm,0.9s,mb4.9						
KKN	Kakani	41.86	327	eP	P	17 56 21.7	+0.3
	comp=Z,34nm,1.0s,mb4.7						
GKN	Gorkha	42.38	326	eP	P	17 56 25.7	+0.2
	comp=Z,77nm,0.7s,mb5.3						
KOLN	Koldanda	42.78	325	eP	P	17 56 29.0	+0.2
	comp=Z,29nm,0.8s,mb4.8						
POO	Poona	43.51	306	ex	x	17 51 02.0	
BHPL	Bhopal	43.56	315	eP	P	17 56 34.6	-0.4
BHPL				AMb	AMB	17 56 35.8	
	comp=Z,14nm,1.1s,mb4.2						
TOO	Toolangi	44.51	139	eP	P	17 56 44.5	+2.0
	comp=Z,17nm,0.5s,mb4.6						
TOO	Toolangi	44.51	139	eP	P	17 56 44.5	+2.0
TOO				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.6						
AGRA	Agra	45.84	319	eP	P	17 56 52.6	-0.4
AGRA				AMb	AMB	17 56 55.5	
	comp=Z,37nm,0.4s,mb5.0						
GTA	Gaotai	47.05	350	eP	P	17 57 04.5	+2.2
GTA				AMB	AMB		
	comp=Z,22nm,0.7s,mb4.6						
SONA	Sohna	47.09	319	eP	P	17 57 00.4	-2.3
BJT	Baijiatuau	47.13	7	eP	P	17 57 03.4	+0.5
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	Baijiatuau	47.13	7	eP	P	17 57 03.4	+0.5
	comp=Z,10nm,0.6s,mb4.3						
BJI	Beijing	47.15	7	eP	P	17 57 03.6	+0.6
BJI				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.5						
JOSI	Joshimath	47.20	324	ex	x	17 56 42.0	
JOSI				AMb	AMB	17 56 43.8	
	comp=Z,69nm,1.0s,mb5.0						
AYAN	Aya Nagar	47.23	320	eP	P	17 57 02.4	-1.3
KUDL	Kundal	47.41	319	eP	P	17 57 03.8	-1.2
HHC	Hu-ho-hao-te	47.61	2	eP	P	17 57 08.4	+1.8
HHC				AP	pP	17 58 02.8	+2.1
HHC				XP	sP	17 58 31.3	+2.1
HHC				PCP	PcP	17 58 33.4	+1.5
HHC				PP	PP	17 59 02.6	+2.0
HHC				SCP	ScP	18 02 01.9	+0.5
HHC				PCS	PcS	18 02 28.1	+0.3
HHC				S	S	18 03 44.5	+2.4
HHC				XS	sS	18 05 20.7	+2.8
HHC				SCS	ScS	18 06 31.6	-1.0
HHC				SS	SS	18 07 13.0	-0.7
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,57nm,3.5s						
HHC				LR	LR		
	comp=N,87nm,5.3s						
HHC				LR	LR		
	comp=E,91nm,5.1s						
HHC				LR	LR		
	comp=Z,65nm,6.1s						
KHET	Khetri	47.81	318	eP	P	17 57 06.5	-1.7
KLP	Kalpa	48.68	324	ex	x	17 56 41.0	
SMLA	Simla	49.04	322	eP	P	17 57 16.7	-0.7
SMLA				AMb	AMB	17 57 17.6	
	comp=Z,31nm,0.5s,mb4.9						
HNR	Honiara	49.74	96	P	P	17 57 22.6	-0.2
	comp=Z,40nm,0.6s,mb4.9,baz=265,slow=2.0,SNR=13						
HNR	Honiara	49.74	96	eP	P	17 57 22.1	-0.7
HNR				pmax	pmax		
	comp=Z,32nm,0.7s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**49.74**	**96**	*e*P	**P**	**17 57 22.1**	**-0.7**
	comp=Z,32nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**50.86**	**30**⇑	*i*P	**P**	**17 57 29.5**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.4						
MAJO	**Matsushiro**	**50.86**	**30**⇑	*i*P	**P**	**17 57 29.5**	**-1.6**
	comp=Z,7.6nm,0.5s,mb4.4						
MAT	**Matsushiro**	**50.86**	**30**	P	**P**	**17 57 29.5**	**-1.6**
MJAR	**Matsushiro Arr**	**50.86**	**30**	P	**P**	**17 57 29.9**	**-1.1**
	comp=Z,11nm,0.7s,mb4.4,baz=207,slow=7.8,SNR=61						
CN2	**Changchun**	**52.50**	**14**	*e*P	**P**	**17 57 46.6**	**+3.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
WMQ	**Urumqi**	**54.34**	**340**⇑	*i*P	**P**	**17 57 57.0**	**+0.5**
WMQ				AP	pP	17 58 53.0	+0.9
WMQ				XP	sP	17 59 21.0	+0.8
WMQ				PP	PP	18 00 04.0	+2.7
WMQ				*e*S	**S**	**18 05 14.0**	**-0.2**
WMQ				XS	sS	18 06 51.0	-1.3
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,110nm,5.0s						
MDJ	**Mudanjiang**	**54.38**	**17**	P	**P**	**17 57 57.0**	**+0.2**
MDJ				XP	sP	17 59 19.5	-1.0
MDJ				PP	PP	18 00 01.8	+0.1
MDJ				SCP	ScP	18 02 30.9	+0.3
MDJ				PCS	PcS	18 02 57.2	+0.2
MDJ				S	**S**	**18 05 15.7**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,30nm,3.9s						
MDJ				LR	LR		
	comp=N,15nm,19.4s						
MDJ				LR	LR		
	comp=E,64nm,26.0s						
MDJ				LR	LR		
	comp=Z,16nm,21.8s						
SONM	**Songino Array**	**54.64**	**357**	P	**P**	**17 57 59.5**	**+0.8**
	comp=Z,8.1nm,0.6s,mb4.4,baz=177,slow=8.0,SNR=83						
SONM				PcP	PcP	17 58 58.1	-0.1
	comp=Z,1.0nm,0.4s,baz=185,slow=3.4,SNR=8.2						
SONM				ScP	ScP	18 02 32.8	+1.1
	comp=Z,1.5nm,0.7s,baz=170,slow=4.6,SNR=12						
SONM	**Songino Array**	**54.64**	**357**	P	**P**	**17 57 59.5**	**+0.8**
SONM					pP	17 58 58.1	+3.8
ULN	**Ulaanbaatar**	**54.64**	**358**⇑	*i*P	**P**	**17 57 59.3**	**+0.6**
ULN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
ULN	**Ulaanbaatar**	**54.64**	**358**⇑	*i*P	**P**	**17 57 59.3**	**+0.6**
	comp=Z,11nm,0.7s,mb4.5						
DZM	**Mont Dzumac**	**56.62**	**112**	P	**P**	**17 58 13.9**	**+1.3**
	comp=Z,4.3nm,0.8s,mb4.1,baz=250,slow=18,SNR=3.9						
HIA	**Hailar**	**56.68**	**8**	P	**P**	**17 58 13.0**	**-0.1**
ZAK	**Zakamensk**	**57.38**	**355**	*e*P	**P**	**17 58 18.3**	**+0.3**
ZAK				*e*		17 59 09.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KZA	**Kyzart**	**58.07**	**330**	P	**P**	**17 58 23.9**	**+1.1**
	SNR=11						
TKM2	**Tokmak 2**	**58.54**	**331**	P	**P**	**17 58 26.4**	**+0.3**
	SNR=17						
TKM2	**Tokmak 2**	**58.54**	**331**	*i*P	**P**	**17 58 25.4**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
KBK	**Karagaybulak**	**58.65**	**330**	P	**P**	**17 58 27.0**	**+0.2**
	SNR=11						
MK31	**Makanchi Array**	**58.81**	**338**	P	**P**	**17 58 27.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**58.81**	**338**	P	**P**	**17 58 28.0**	**+0.1**
	comp=Z,7.5nm,0.5s,mb4.6,baz=151,slow=7.6,SNR=127						
MKAR				PcP	PcP	17 59 14.1	-0.4
	comp=Z,1.2nm,0.6s,baz=132,slow=6.3,SNR=2.3						
MKAR				pP	pP	17 59 24.1	-0.3
	comp=Z,2.2nm,0.7s,baz=146,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**58.81**	**338**	P	**P**	**17 58 28.0**	**+0.1**
MKAR				PcP	PcP	17 59 14.1	-0.4
MKAR				pP	pP	17 59 24.1	-0.3
AAK	**Ala-Archa**	**58.86**	**330***c*	*i*P	**P**	**17 58 27.8**	**-0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**58.86**	**330**	*e*P	**P**	**17 58 27.6**	**-0.7**
	comp=Z,7.1nm,1.0s,mb4.2						
ASAJ	**Asahikawa**	**58.87**	**27**	P	**P**	**17 58 27.9**	**-0.5**
	comp=Z,10nm,0.7s,mb4.6,baz=223,slow=5.6,SNR=12						
AML	**Almayashu**	**58.89**	**329**	P	**P**	**17 58 28.9**	**+0.4**
	SNR=7.2						
CASY	**Casey**	**59.22**	**180**	*e*P	**P**	**17 58 30.5**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.3						
EKS2	**Erkin-Say**	**59.24**	**330**	P	**P**	**17 58 31.3**	**+0.5**
	SNR=11						
HABR	**Khabarovsk**	**59.52**	**19**	*e*P	**P**	**17 58 28.1**	**-4.7**
HABR				*e*S	**S**	**18 06 23.6**	**+1.7**
MIR	**Mirnyy**	**60.60**	**188**	*e*P	**P**	**17 58 42.0**	**+2.0**
MIR				pmax	pmax		
	comp=Z,170nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**61.16**	**25***c*	*i*P	**P**	**17 58 43.5**	**-0.3**
YSS				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**61.16**	**25**	*e*P	**P**	**17 58 43.4**	**-0.4**
	comp=Z,33nm,0.9s,mb5.0						
KK31	**Karatay Array**	**61.23**	**328**	*i*P	**P**	**17 58 43.0**	**-1.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KKAR	**Karatay Array**	**61.23**	**328**	*i*P	**P**	**17 58 43.0**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
ZAL	**Zalesovo**	**64.20**	**344**	P	**P**	**17 59 03.8**	**-0.1**
	comp=Z,4.1nm,0.3s,mb4.5,baz=335,slow=2.8,SNR=18						
ZAL				pP	pP	18 00 02.2	+0.8
	comp=Z,1.3nm,0.5s,baz=331,slow=8.4,SNR=2.0						
KRAR	**Krasnoyarsk**	**64.28**	**350**	*e*P	**P**	**17 59 04.8**	**+0.5**
KRAR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
RPZ	**Rata Peaks**	**64.64**	**135**	P	**P**	**17 59 06.7**	**0.0**
	comp=Z,6.8nm,0.3s,mb4.7,baz=49,slow=16,SNR=13						
BOD	**Bodaibo**	**64.66**	**3**	*e*P	**P**	**17 59 05.7**	**-1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
VOSK	**Vostochnaya**	**67.95**	**336**	P	**P**	**17 59 26.8**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
MAW	**Mawson**	**68.19**	**198**	*e*P	**P**	**17 59 30.1**	**+1.0**
	comp=Z,6.8nm,0.6s,mb4.5						
MAW	**Mawson**	**68.19**	**198**	P	**P**	**17 59 29.8**	**+0.7**
	comp=Z,9.1nm,0.6s,mb4.6,baz=54,slow=6.0,SNR=38						
MAW	**Mawson**	**68.19**	**198**	*e*P	**P**	**17 59 30.1**	**+1.0**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVA0	**Borovoye Array**	**68.42**	**336**	*i*P	**P**	**17 59 29.5**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
BVAR	**Borovoye Array**	**68.42**	**336**	P	**P**	**17 59 30.0**	**-0.5**
	comp=Z,8.2nm,0.8s,mb4.4,baz=142,slow=7.5,SNR=34						
BVAR				pP	pP	18 00 28.7	-0.1
	comp=Z,2.4nm,0.8s,baz=140,slow=7.8,SNR=4.8						
BRVK	**Borovoye**	**68.49**	**336**	*e*P	**P**	**17 59 30.3**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
BRVK	**Borovoye**	**68.49**	**336**	*e*P	**P**	**17 59 30.3**	**-0.6**
	comp=Z,5.4nm,1.0s,mb4.1						
CHKZ	**Chkalovo**	**68.81**	**336**⇑	*i*P	**P**	**17 59 32.4**	**-0.5**
CHKZ				*e**PP	pP	18 00 31.0	-0.3
CHKZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**68.81**	**336**⇑	*i*P	**P**	**17 59 32.4**	**-0.5**
	comp=Z,12nm,1.0s,mb4.5						
CHKZ				*e*pP	pP	18 00 31.0	-0.3
ZRNK	**Zerenda**	**68.94**	**335**⇑	*i*P	**P**	**17 59 33.0**	**-0.7**
ZRNK				*e**PP	pP	18 00 30.8	-1.3
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**68.94**	**335**⇑	*i*P	**P**	**17 59 33.0**	**-0.7**
	comp=Z,7.5nm,0.8s,mb4.4						
ZRNK				*e*pP	pP	18 00 30.8	-1.3
QRN	**Al-Qurain**	**69.25**	**304**	*e*P	**P**	**17 59 35.2**	**-0.4**
QRN				AMb	AMB	17 59 36.7	
	comp=Z,80nm,0.6s,mb5.6						
KBD	**Kabd**	**69.59**	**305**	*e*P	**P**	**17 59 37.0**	**-0.7**
KBD				AMb	AMB	17 59 38.1	
	comp=Z,151nm,0.8s						
RDF	**Al-Radifah**	**69.62**	**304**	*e*P	**P**	**17 59 37.3**	**-0.5**
RDF				AMb	AMB	17 59 38.3	
	comp=Z,70nm,0.8s,mb5.3						
UMR	**Umm Al-Rimmam**	**69.70**	**305**	*e*P	**P**	**17 59 37.2**	**-1.2**
UMR				AMb	AMB	17 59 38.8	
	comp=Z,94nm,0.5s						
NAY	**Al-Naaiem**	**69.98**	**304**	*e*P	**P**	**17 59 39.2**	**-0.9**
NAY				AMb	AMB	17 59 40.3	
	comp=Z,31nm,0.7s,mb5.1						
YAK	**Yakutsk**	**70.51**	**10**⇑	*i*P	**P**	**17 59 42.0**	**-1.2**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.0						
YAK	**Yakutsk**	**70.51**	**10**⇑	*i*P	**P**	**17 59 42.0**	**-1.3**
	comp=Z,29nm,0.8s,mb5.0						
AB31	**Akbulak array**	**70.79**	**328**	*i*P	**P**	**17 59 44.6**	**-0.3**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.7						
AKTO	**Aktyubinsk**	**72.49**	**328**	*i*P	**P**	**17 59 54.7**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
MA2	**Magadan**	**73.90**	**20**	P	**P**	**18 00 02.9**	**-0.4**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.6						
MA2	**Magadan**	**73.90**	**20**	P	**P**	**18 00 02.9**	**-0.4**
	comp=Z,12nm,0.8s,mb4.6						
SVE	**Sverdlovsk**	**75.12**	**335**	*e*P	**P**	**18 00 09.0**	**-1.2**
SVE				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.4						
VNDA	**Vanda**	**75.51**	**170**	P	**P**	**18 00 12.7**	**+0.2**
	comp=Z,4.1nm,0.4s,mb4.4,baz=316,slow=6.0,SNR=31						
VNDA	**Vanda**	**75.51**	**170**⇓	*e*P	**P**	**18 00 12.8**	**+0.3**
VNDA				*e**PP	pP	18 01 13.1	+1.1
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	**Vanda**	**75.51**	**170**⇓	*e*P	**P**	**18 00 12.8**	**+0.3**
	comp=Z,9.9nm,1.0s,mb4.4						
VNDA				*e*pP	pP	18 01 13.1	+1.1
ARU	**Arti**	**75.78**	**333**⇓	*i*P	**P**	**18 00 13.1**	**-0.9**
ARU				*e*		18 00 22.8	
ARU				*e*		18 03 05.4	
ARU				*e*S	S	18 09 42.1	+7.7
ARU				*e*SS	SS	18 14 39.0	+7.0
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
ARU	**Arti**	**75.78**	**333**	*e*P	**P**	**18 00 13.2**	**-0.7**
	comp=Z,9.4nm,1.1s,mb4.3						
SYO	**Syowa Base**	**76.47**	**200**⇑	*e*P	**P**	**18 00 18.0**	**+0.1**
SYO	**Syowa Base**	**76.47**	**200**⇑	*e*PcP	PcP	18 00 29.5	+1.1
SBA	**Scott Base**	**76.58**	**169**	*e*P	**P**	**18 00 19.4**	**+0.9**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SBA	**Scott Base**	**76.58**	**169**	*e*P	**P**	**18 00 19.4**	**+1.0**
	comp=Z,8.7nm,0.8s,mb4.4						
ZEI	**Tsey**	**77.42**	**317**	*e*P	**P**	**18 00 23.5**	**+0.4**
ZEI				*e*		18 00 32.9	
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
KIV	**Kislovodsk**	**78.67**	**317***c*	*i*P	**P**	**18 00 31.2**	**+1.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
KIV	**Kislovodsk**	**78.67**	**317**	P	**P**	**18 00 30.9**	**+0.8**
	comp=Z,7.1nm,0.7s,mb4.4						
MALT	**Malatya**	**79.86**	**311**	*e*P	**P**	**18 00 37.2**	**+0.8**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
MALT	**Malatya**	**79.86**	**311**	*e*P	**P**	**18 00 37.2**	**+0.8**
	comp=Z,1.6nm,0.8s,mb3.7						
LSZ	**Lusaka**	**80.06**	**256**	*e*P	**P**	**18 00 39.4**	**+1.9**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
LSZ	**Lusaka**	**80.06**	**256**	*e*P	**P**	**18 00 39.4**	**+1.9**
	comp=Z,2.6nm,0.5s,mb4.1						
EIL	**Elat**	**80.35**	**302**	*e*P	**P**	**18 00 39.6**	**+0.6**
	comp=Z,191nm,0.8s						
BOSA	**Boshof**	**81.86**	**242**	P	**P**	**18 00 48.3**	**+1.3**
	comp=Z,2.8nm,0.6s,mb4.1,baz=135,slow=7.5,SNR=11						
BOSA	**Boshof**	**81.86**	**242**	*e*P	**P**	**18 00 48.2**	**+1.2**
BOSA				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.7						
BOSA	**Boshof**	**81.86**	**242**	*e*P	**P**	**18 00 48.2**	**+1.2**
	comp=Z,28nm,1.5s,mb4.7						
ANN	**Anapa**	**82.51**	**317**	*e*P	**P**	**18 00 49.0**	**-1.3**
ANN				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**83.02**	**180**	*e*P	**P**	**18 00 53.4**	**+0.5**
	comp=Z,9.1nm,0.8s,mb4.6						
VRSR	**Storozhevoye**	**83.43**	**323**	*e*P	**P**	**18 00 54.1**	**-0.9**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
VRSR				pmax	pmax		
	comp=N,7.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.6s						
BR131	**Keskin Array S**	**83.83**	**311**	*e*P	**P**	**18 00 57.2**	**+0.1**
	comp=E,9.5nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**83.83**	**311**	P	**P**	**18 00 57.4**	**+0.3**
	comp=E,11nm,0.7s,mb4.7,baz=132,slow=7.0,SNR=58						
BILL	**Bilibino**	**84.59**	**18**	*e*P	**P**	**18 01 00.3**	**-0.6**
BILL				pmax	pmax		
	comp=Z,20nm,2.4s,mb4.4						
OBN	**Obninsk**	**86.17**	**327***c*	*e*P	**P**	**18 01 08.2**	**-0.5**
OBN				pmax	pmax		
	comp=Z,41nm,1.6s,mb4.9						
OBN	**Obninsk**	**86.17**	**327**	*e*P	**P**	**18 01 07.9**	**-0.7**
	comp=Z,21nm,0.8s,mb4.9						
AKASG	**Malin Array Be**	**89.36**	**321**	P	**P**	**18 01 22.4**	**-1.3**
	comp=Z,3.2nm,0.5s,mb4.4,baz=86,slow=4.8,SNR=19						
AKASG	**Malin Array Be**	**89.36**	**321**	*i*P	**P**	**18 01 22.7**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**89.36**	**321**	P	**P**	**18 01 22.4**	**-1.3**
SNAA	**Sanae**	**90.36**	**197**	*e*P	**P**	**18 01 28.6**	**+0.2**
SNAA				*e*		18 01 29.7	
SNAA				*e*		18 01 33.2	
SNAA	**Sanae**	**90.36**	**197***c*	*i*P	**P**	**18 01 29.7**	**+1.3**
SNAA	**Sanae**	**90.36**	**197**	*e*P	**P**	**18 01 29.2**	**+0.8**
	comp=Z,9.3nm,1.1s,mb4.5						
VNA3	**Neumayer Olymp**	**92.50**	**196**	*e*P	**P**	**18 01 38.8**	**+0.5**
VNA3				*e*		18 01 39.9	
VNA3				*e*		18 01 42.8	
VNA3				*e*	pP	18 02 39.0	-0.9
FINES	**FINESS Array B**	**93.03**	**331**	P	**P**	**18 01 39.5**	**-1.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=120,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**93.03**	**331**⇑	*e*P	**P**	**18 01 38.9**	**-1.8**
ARCES	**ARCESS Array B**	**94.45**	**339**	P	**P**	**18 01 46.0**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=93,slow=5.0,SNR=11						
BRG	**Berggiesshubel**	**99.00**	**320**	P	Pdif	18 02 04.1	-3.7
NVAR	**Mina Array Bea**	**126.59**	**47**	PKP	PKPdf	18 07 31.4	+2.5
	comp=Z,0.5nm,0.7s,baz=321,slow=1.3,SNR=3.9						
PDAR	**Pinedale Array**	**130.35**	**38**	SKPbc	SKPbc	18 10 35.9	+0.9
	comp=Z,1.2nm,0.6s,baz=13,slow=0.5,SNR=5.6						
ULM	**Lac du Bonnet**	**131.85**	**22**	SKPbc	SKPbc	18 10 40.6	+0.1
	comp=Z,7.7nm,0.9s,baz=216,slow=0.4,SNR=4.5						
SCHQ	**Schefferville**	**132.19**	**357**	PKP	PKPdf	18 07 40.2	+0.6
	comp=Z,2.9nm,0.8s,baz=270,slow=6.1,SNR=5.6						
SCHQ				SKPbc	SKPbc	18 10 42.1	+0.4
	comp=Z,2.1nm,0.4s,baz=66,slow=4.4,SNR=6.8						
SCHQ	**Schefferville**	**132.19**	**357**	PKP	PKPdf	18 07 40.2	+0.6
SCHQ				SKPbc	SKPbc	18 10 42.1	+0.4
PLCA	**Paso Flores**	**132.54**	**180**	SKPbc	SKPbc	18 10 44.5	+1.6
	comp=Z,5.8nm,1.1s,baz=217,slow=10,SNR=3.4						
ANMO	**Albuquerque**	**136.63**	**45**	SKPbc	SKPbc	18 10 59.4	+3.4
	comp=Z,5.3nm,0.8s,baz=264,slow=3.9,SNR=6.0						
CPUP	**Villa Florida**	**144.60**	**200**	PKP	PKPdf	18 08 03.2	+1.1
	comp=Z,6.1nm,0.5s,baz=122,slow=1.6,SNR=20						
CPUP	**Villa Florida**	**144.60**	**200**	*e*PKPdf	PKPdf	18 08 02.6	+0.4
WCI	**Wyandotte Cave**	**145.66**	**23**	*e*PKP2	PKPab	18 08 04.9	-0.7
WVT	**Waverly**	**146.82**	**26**	*e*PKP2	PKPab	18 08 08.6	-1.5
PLAL	**Pickwick Lake**	**147.66**	**28**	*e*PKPbc	PKPbc	18 08 10.1	-0.3
SWET	**Sewanee**	**148.41**	**25**	*e*PKPbc	PKPbc	18 08 12.6	+0.1
BLA	**Blacksburg**	**148.51**	**16**	*e*PKP2	PKPbc	18 08 12.1	-0.6
BDFB	**Brasilia**	**148.52**	**224**	PKPbc	PKPbc	18 08 14.5	+1.8
	comp=Z,4.9nm,0.7s,baz=172,slow=2.5,SNR=6.3						
BDFB				PKPab	PKPab	18 08 19.8	+2.8
	comp=Z,4.3nm,0.4s,baz=149,slow=5.8,SNR=7.2						
LPAZ	**La Paz**	**156.80**	**185**	PKPab	PKPab	18 08 54.7	+2.9
	comp=Z,2.4nm,0.7s,baz=186,slow=3.8,SNR=9.0						

MEX 09 17:59:31.1±0.9**, 1653N**×**9606W, h50**km±22km**, MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.76**	**184**	*i*P	Pn	17 59 43.8	-1.7
HUIG				*i*S	Sn	17 59 54.3	-1.7
OXX	**Oaxaca**	**0.84**	**311**	*i*P	Pn	17 59 45.5	-1.2
VHO	**Vista Hermosa**	**0.84**	**310**	*e*P	Pn	17 59 45.5	-1.3
VHO				*i*S	Sn	17 59 56.1	-2.0
CMIG	**Matias Romero**	**1.26**	**63**	*i*P	Pn	17 59 50.2	-2.1
CMIG				*i*S	Sn	18 00 06.9	-1.2
UTMO	**Huajuapan**	**2.11**	**308**	*e*P	Pn	18 00 04.1	+0.1
UTMO				*i*S	Sn	18 00 28.5	-0.6

*ISCJB **09** 18:03:53.3±0.6, 4379N±004×10530W±007, h0km, Error ellipse: s-maj=7.5km s-min=5.1km az=29.3*
*IDC **09** 18:03:53.9±1.7, 4382N×10551W, h0km, mb1 3.6/3, mb1mx3.3/24, mbtmp3.3/3, ML2.5/1, Error ellipse: s-maj=53.7km s-min=8.7km az=149.0*
*NEIC **09** 18:03:54.7±0.5, 4379N×10526W, h0km, ML3.3, Error ellipse: s-maj=6.9km s-min=5.4km az=117.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
ISC 09 18:03:54.8±0.5**, 4379N**±004×**10526W**±007**, h0**km**, n37, σ1§05**/40**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**69**	*e*Pg	**Pg**	**18 04 12.8**	**-0.1**
RWWY	**Rawlins**	**2.54**	**215**	*e*Pn	**Pn**	**18 04 37.9**	**+0.6**
RWWY				*e*Sn	**Sn**	**18 05 08.9**	**0.0**
LAO	**LASA Array**	**2.98**	**347**	*e*Pn	**Pn**	**18 04 43.2**	**0.0**
LAO				*e*Pg	**Pg**	**18 04 52.5**	**+0.7**
PDAR	**Pinedale Array**	**3.30**	**253**	Pn	**Pn**	**18 04 47.4**	**-0.3**
	2.0nm,0.3s,baz=69,slow=16,SNR=31						
PDAR				Lg		18 05 31.8	
	6.8nm,0.3s,baz=75,slow=32,SNR=8.9						
BW06	**Boulder Array**	**3.30**	**253**	*e*Pn	**Pn**	**18 04 47.7**	**0.0**
GCMT	**Greycliff**	**3.72**	**304**	*e*Pn	**Pn**	**18 04 53.9**	**+0.4**
LKWY	**Lake**	**3.78**	**284**	*e*Pn	**Pn**	**18 04 48.2**	**-6.0**
FLWY	**Flagg Ranch**	**3.94**	**276**	*e*Pn	**Pn**	**18 04 56.5**	**+0.1**
FLWY				*e*Pg	**Pg**	**18 05 06.7**	**-3.5**
MOOW	**Moose Ponds**	**3.97**	**271**	*e*Pn	**Pn**	**18 05 03.4**	**+6.5**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**18 04 56.7**	**-0.6**
YNR	**Norris Junctio**	**4.00**	**285**	Pn	**Pn**	**18 05 05.8**	**+8.5**
SNOW	**Snow King Moun**	**4.00**	**267**	Pn	**Pn**	**18 04 53.6**	**-3.7**
REDW	**Red Top Meadow**	**4.08**	**266**	*e*Pn	**Pn**	**18 04 55.4**	**-3.1**
IMW	**Indian Meadow**	**4.11**	**273**	*e*Pn	**Pn**	**18 05 00.1**	**+1.4**
TPAW	**Teton Pass**	**4.14**	**268**	*e*Pn	**Pn**	**18 04 59.5**	**+0.3**
DCID1	**Drake Creek**	**4.30**	**269**	*e*Pn	**Pn**	**18 05 10.0**	**+8.6**
AHID	**Auburn Hatcher**	**4.38**	**258**	P	**Pn**	**18 05 08.0**	**+5.4**
RRI2	**Red Ridge**	**4.42**	**266**	*e*Pn	**Pn**	**18 05 03.4**	**+0.2**
QLMT	**Earthquake Lak**	**4.55**	**285**	Pn	**Pn**	**18 05 14.3**	**+10**
DGMT	**Dagmar**	**4.74**	**9**	*e*Pn	**Pn**	**18 05 08.7**	**+1.3**
SMCO	**Snowmass**	**4.79**	**196**	Pn	**Pn**	**18 05 10.3**	**+2.2**
BOZ	**Bozeman (W)**	**4.90**	**294**	*e*Pn	**Pn**	**18 05 08.8**	**-0.9**
HWUT	**Hardware Ranch**	**5.13**	**247**	*e*Pn	**Pn**	**18 05 10.9**	**-2.0**
	8.9nm,0.6s						
EGMT	**Eagleton**	**5.27**	**325**	*e*Pn	**Pn**	**18 05 13.7**	**-1.0**
	19nm,0.6s						
TCUT	**Toone Canyon**	**5.27**	**242**	*e*Pn	**Pn**	**18 05 14.7**	**-0.1**
DLMT	**Dillon**	**5.47**	**289**	Pn	**Pn**	**18 05 25.6**	**+8.1**
	6.3nm,0.6s						
HRY	**Holter Researc**	**5.48**	**304**	*e*Pn	**Pn**	**18 05 17.9**	**+0.3**
MCMT	**McKenzie Canyo**	**5.54**	**283**	*e*Pn	**Pn**	**18 05 19.9**	**+1.4**
HVU	**Hansel Valley**	**5.88**	**253**	*e*Pn	**Pn**	**18 05 24.1**	**+1.0**
	7.1nm,0.7s						
SDCO	**Great Sand Dun**	**6.04**	**182**	*e*Pn	**Pn**	**18 05 25.4**	**0.0**
	2.6nm,0.9s						
PV10	**Paradox Valley**	**6.12**	**209**	*e*Pn	**Pn**	**18 05 28.1**	**+1.8**
SRU	**San Rafael**	**6.12**	**222**	*e*Pn	**Pn**	**18 05 25.3**	**-1.2**
	965nm,0.8s						
PV01	**Paradox Valley**	**6.18**	**205**	*e*Pn	**Pn**	**18 05 27.3**	**0.0**
TMUT	**Trail Mountain**	**6.33**	**227**	*e*Pn	**Pn**	**18 05 28.1**	**-1.1**
BGU	**Big Grassy Mou**	**6.43**	**246**	*e*Pn	**Pn**	**18 05 29.5**	**-1.1**
ULM	**Lac du Bonnet**	**9.10**	**41**	Pn	**Pn**	**18 06 05.7**	**-1.6**
	0.8nm,0.3s,baz=231,slow=12,SNR=10						
ULM				Pg	Pn	18 06 32.0	+25
	0.1nm,0.3s,baz=241,slow=19,SNR=2.1						
ULM				Lg		18 08 36.0	
	0.2nm,0.3s,baz=307,slow=20,SNR=3.6						
NVAR	**Mina Array Bea**	**11.20**	**246**	Pn	**Pn**	**18 06 36.8**	**+0.7**
	0.1nm,0.3s,baz=56,slow=13,SNR=5.7						

OTT 09 18:26:39.7±0.1**, 6466N**×**11070W, h1**km**, MN2.8**/1**, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCKN	**MacKay Lake No**	**0.51**	**155**	PG	Pg	18 26 48.7	-0.7
MCKN				SG	Sg	18 26 54.9	-1.0
MCKN				Trac		18 26 56.0	
	comp=Z,40nm,0.1s						
GLWN	**Glow Worm Lake**	**0.59**	**83**	PG	Pg	18 26 50.2	-0.8
GLWN				SG	Sg	18 26 56.9	-1.9
GLWN				Trac		18 26 58.8	
	comp=Z,50nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**342**	PG	Pg	18 26 51.4	-0.7
COWN				SG	Sg	18 27 00.4	-0.2
COWN				Trac		18 27 01.2	
	comp=Z,119nm,0.2s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	18 26 53.5	-1.0
MLON				SG	Sg	18 27 04.1	-0.4
MLON				Trac		18 27 04.8	
	comp=Z,10nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	18 26 56.4	-0.9
BOXN				SG	Sg	18 27 08.8	-0.2
BOXN				Trac		18 27 11.2	
	comp=Z,9.9nm,0.1s						
GBLN	**Grizzly Bear L**	**1.10**	**246**	PG	Pg	18 26 59.7	-1.0
GBLN				SG	Sg	18 27 14.1	-0.9
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	18 27 00.7	-1.0
SNPN				SG	Sg	18 27 13.9	-2.7
SNPN				Trac		18 27 20.2	
	comp=Z,498nm,0.1s						
KNDN	**Kennady Lake**	**1.41**	**151**	PG	Pg	18 27 04.5	-2.2
KNDN				SG	Sg	18 27 22.4	-2.5
KNDN				Trac		18 27 24.4	
	comp=Z,27nm,0.1s						
JERN	**Jeri Cho Mine,**	**1.41**	**347**	PG	Pg	18 27 05.0	-1.7
JERN				SG	Sg	18 27 22.4	-2.5
JERN				Trac		18 27 26.7	
	comp=Z,35nm,0.1s						
ILKN	**Indian Lake**	**1.97**	**259**	PN	Pn	18 27 13.7	-0.5
ILKN				SN	Sn	18 27 39.1	-0.4
ILKN				Trac		18 27 41.7	
	comp=Z,7.8nm,0.1s						
CTLN	**Castor Lake**	**2.31**	**267**	PN	Pn	18 27 18.1	-0.8
CTLN				SN	Sn	18 27 45.6	-2.3
CTLN				Trac		18 27 52.6	
	comp=Z,28nm,0.3s						
YKW3	**Yellowknife Ar**	**2.73**	**222**	PN	Pn	18 27 22.8	-1.9
YKW3				PN	Pn	18 27 26.9	+2.2
YKW3				SN	Sn	18 27 56.8	-1.6
YKW3				SG	Sg	18 28 02.4	-5.2
YKW3				Trac		18 28 10.3	
	comp=Z,20nm,0.3s						
YKW3				Trac		18 28 10.3	
	comp=Z,16nm,0.2s						
YBKN	**Baker Lake, Hu**	**6.36**	**86**	PN	Pn	18 28 12.6	-2.0
JOSN	**Second Sedna S**	**8.57**	**91**	PN	Pn	18 28 39.6	-5.3
SEDN	**First Sedna Si**	**8.69**	**90**	PN	Pn	18 28 42.4	-4.1
FCC	**Fort Churchill**	**9.83**	**119**	PN	Pn	18 28 59.1	-3.1
FCC				SN	Sn	18 30 42.4	-11
QILN	**Qililugaq Expl**	**10.21**	**68**	PN	Pn	18 29 02.7	-4.7
QILN				SN	Sn	18 30 49.8	-13

CASC 09 18:28:05.6±2.2**, 918N**×**8416W, h21**km±8km**, MD4.2, 4C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.55**	**47**⇓	*i*P	Pb	18 28 16.1	-0.4
LCR2	**La Lucha 2**	**0.58**	**16**⇓	*i*P	Pb	18 28 17.1	0.0
LAJ	**Bijagual**	**0.68**	**3**⇓	*i*P	Pb	18 28 18.9	+0.1
SJS	**Escuela Geolog**	**0.76**	**8**	*i*P	Pb	18 28 20.1	-0.1
SJS				*e*S	Sb	18 28 30.7	+0.5
PRS1	**Puriscal**	**0.81**	**350**⇑	*i*P	Pb	18 28 19.7	-1.4
ICR	**Volcan Irazu**	**0.86**	**22**⇑	*i*P	Pb	18 28 21.6	-0.3
ICR				*e*S	Sb	18 28 33.5	+0.5
CGA2	**Cerro Gallo 2**	**0.89**	**340**⇑	*e*P	Pb	18 28 22.2	0.0
JCR	**Jicaral**	**1.15**	**306**	*i*P	Pn	18 28 25.0	-1.4
JCR				*e*S	Sb	18 28 41.7	+0.4
CTCR	**Cotoan**	**1.41**	**101**⇓	*i*P	Pn	18 28 29.1	-1.0
CTCR				*e*S	Sn	18 28 50.7	+2.7
CNI	**Changuinola**	**1.64**	**82**⇑	*i*P	Pn	18 28 32.8	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNI				*e*S	Sn	18 28 55.0	+1.4

SZGRF ***09*** *18:40:41.0, 16.40N×49.05W, h33km, mb4.6, North Atlantic Ocean*
ISCJB ***09*** *18:41:23.8±0.8, 22.2N±0.2×44.9W±0.1, h10km, mb3.8/9, MS3.9/35, Error ellipse: s-maj=24.5km s-min=14.3km az=164.3*
IDC ***09*** *18:41:23.7±1.1, 22.23N×45.00W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, MS3.9/35, Ms1 3.9/35, ms1mx3.8/41, Error ellipse: s-maj=37.9km s-min=24.5km az=158.0*
NEIC ***09*** *18:41:25.4±0.8, 22.12N×44.99W, h10km, mb4.5/3, Error ellipse: s-maj=24.7km s-min=14.7km az=169.0*
GCMT ***09*** *18:41:25.4±0.5, 22.24N×45.08W, h12km±1km, MW4.8/60, Moment Tensor Solution. s11,c14; s60,c74; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.77±.15; Mθθ0.20±.09; Mφφ1.58±.12; Mrθ-0.24±.36; Mθφ0.30±.07; Mφr-1.15±.33; Best double couple: M0 2.07200×10^16 NP1:φs192.00000°, δ28.00000°, λ-90.00000°. NP2: φs12.00000°, δ62.00000°, λ-90.00000°. Principal axes: T 2.0080, Plg17.0000°, Azm102.0000°; N 0.1320, Plg0.0000°, Azm12.0000°; P -2.1350, Plg73.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 18:41:25.9±0.8**, 22.2N**±0.2×**45.0W**±0.1**, h10km, n42, σ0s.87**/13**, mb3.8**/9**, MS3.9**/35**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.31**	**262**	LR	LR	18 52 07.0	
	comp=Z,520nm,19.3s,MS3.9,baz=180,slow=32						
PCRV	**Puerto La Cruz**	**22.34**	**241**	LR	LR	18 53 56.9	
	comp=Z,120nm,20.0s,MS3.3,baz=59,slow=34						
SDV	**Santo Domingo**	**28.00**	**246**	LR	LR	18 56 29.7	
	comp=Z,149nm,21.8s,MS3.5,baz=181,slow=32						
MVL	**Millersville**	**31.98**	**311**	*e*P	**P**	**18 47 55.8**	**+3.6**
ROSC	**El Rosal**	**33.25**	**243**	LR	LR	19 00 54.4	
	comp=Z,60nm,20.2s,MS3.3,baz=205,slow=35						
SCHQ	**Schefferville**	**36.49**	**339**	LR	LR	19 01 37.1	
	comp=Z,136nm,19.0s,MS3.8,baz=189,slow=33						
CPCT	**Cooper Cave**	**36.85**	**300**	*e*P	**P**	**18 48 35.0**	**+0.6**
BDFB	**Brasilia**	**37.73**	**185**	LR	LR	19 02 56.7	
	comp=Z,148nm,18.6s,MS3.8,baz=19,slow=34						
JTS	**JuntasAbangare**	**40.07**	**259**	LR	LR	19 02 19.5	
	comp=Z,121nm,18.7s,MS3.8,baz=45,slow=31						
DBIC	**Dimbokro**	**41.62**	**106**	LR	LR	19 03 12.1	
	comp=Z,225nm,21.7s,MS4.0,baz=246,slow=31						
LPAZ	**La Paz**	**44.49**	**213**	P	**P**	**18 49 37.9**	**+0.5**
	0.2nm,0.4s,mb3.2,baz=36,slow=10,SNR=4.1						
LPAZ				LR	LR	19 07 18.9	
	comp=Z,103nm,18.8s,MS3.8,baz=247,slow=35						
LPAZ	**La Paz**	**44.49**	**213**	P	**P**	**18 49 37.9**	**+0.5**
LPAZ				LR	LR	19 07 18.9	
TORD	**Torodi Ar. Bea**	**45.20**	**93**	P	**P**	**18 49 42.5**	**-0.5**
	1.2nm,1.0s,mb3.7,baz=293,slow=9.5,SNR=5.0						
TORD				LR	LR	19 06 25.8	
	comp=Z,312nm,19.9s,MS4.2,baz=270,slow=33						
NNA	**Nana**	**46.18**	**226**	LR	LR	19 08 21.4	
	comp=Z,66nm,21.8s,MS3.5,baz=353,slow=35						
WMOK	**Wichita Mounta**	**48.43**	**297**	P	**P**	**18 50 07.4**	**-1.0**
	6.9nm,1.4s,mb4.5						
ULM	**Lac du Bonnet**	**48.46**	**318**	LR	LR	19 08 15.3	
	comp=Z,211nm,18.3s,MS4.2,baz=52,slow=33						
KEST	**Kesra**	**48.82**	**61**	P	**P**	**18 50 11.3**	**0.0**
	1.2nm,0.9s,mb3.9,baz=69,slow=2.9,SNR=4.3						
KEST				LR	LR	19 08 08.9	
	comp=Z,48nm,19.4s,MS3.5,baz=291,slow=33						
CPUP	**Villa Florida**	**49.72**	**195**	LR	LR	19 10 13.4	
	comp=Z,48nm,18.7s,MS3.5,baz=223,slow=35						
GRA1	**Grafenberg Arr**	**51.63**	**43**	*e*P	**P**	**18 50 34.1**	**+1.5**
	10.0nm,1.7s,mb4.5						
GRF	**Grafenberg Arr**	**51.63**	**43**	*e*P	**P**	**18 50 34.1**	**+1.5**
	comp=Z,10.0nm,1.7s,mb4.5						
GERES	**GERESS Array B**	**53.09**	**45**	P	**P**	**18 50 43.7**	**+0.3**
	comp=Z,0.1nm,0.4s,mb3.1,baz=256,slow=11,SNR=4.1						
GERES				LR	LR	19 11 03.4	
	comp=Z,44nm,21.0s,MS3.5,baz=106,slow=34						
NOA	**NORSAR Array B**	**54.59**	**30**	LR	LR	19 09 45.2	
	comp=Z,81nm,19.3s,MS3.8,baz=265,slow=31						
ANMO	**Albuquerque**	**54.73**	**298**	LR	LR	19 11 50.7	
	comp=Z,114nm,20.7s,MS3.9,baz=85,slow=33						
PDAR	**Pinedale Array**	**56.85**	**307**	P	**P**	**18 51 09.8**	**-0.9**
	comp=Z,1.0nm,0.9s,mb3.8,baz=81,slow=9.2,SNR=8.4						
PDAR				LR	LR	19 12 25.7	
	comp=Z,131nm,19.1s,MS4.0,baz=94,slow=33						
LPIG	**La Paz**	**59.62**	**286**	LR	LR	19 17 39.2	
	comp=Z,46nm,21.3s,MS3.6,baz=66,slow=36						
FINES	**FINESS Array B**	**61.69**	**31**	LR	LR	19 14 25.3	
	comp=Z,57nm,19.1s,MS3.7,baz=186,slow=32						
NEW	**Newport**	**62.02**	**314**	LR	LR	19 16 24.6	
	comp=Z,254nm,18.6s,MS4.4,baz=160,slow=34						
AKASG	**Malin Array Be**	**63.21**	**43**	P	**P**	**18 51 54.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=272,slow=6.2,SNR=6.3						
YBH	**Yreka Blue Hor**	**66.66**	**307**	LR	LR	19 19 58.3	
	comp=Z,171nm,18.9s,MS4.3,baz=78,slow=35						
PLCA	**Paso Flores**	**66.99**	**201**	LR	LR	19 19 19.4	
	comp=Z,102nm,20.6s,MS4.0,baz=7.8,slow=34						
BRTR	**Keskin Array B**	**67.63**	**55**	P	**P**	**18 52 22.3**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=298,slow=5.5,SNR=5.0						
BRTR				LR	LR	19 19 22.5	
	comp=Z,20nm,19.1s,MS3.4,baz=91,slow=34						
BBB	**Bella Bella**	**68.65**	**319**	LR	LR	19 20 05.0	
	comp=Z,198nm,19.3s,MS4.4,baz=279,slow=34						
DLBC	**Dease Lake**	**68.81**	**326**	LR	LR	19 20 19.6	
	comp=Z,162nm,21.2s,MS4.2,baz=192,slow=34						
INK	**Inuvik**	**69.06**	**337**	LR	LR	19 20 55.2	
	comp=Z,244nm,20.8s,MS4.4,baz=249,slow=34						
ASF	**Jabal al Asfar**	**71.91**	**62**	LR	LR	19 26 35.2	
	comp=Z,50nm,18.8s,MS3.8,baz=146,slow=38						
KDAK	**Kodiak Island**	**80.39**	**329**	LR	LR	19 26 57.5	
	comp=Z,131nm,18.9s,MS4.3,baz=287,slow=34						
AKTO	**Aktyubinsk**	**81.03**	**39**	LR	LR	19 27 10.3	
	comp=Z,42nm,18.6s,MS3.8,baz=119,slow=34						
KMBO	**Kilima Mbogo**	**83.20**	**94**	LR	LR	19 31 08.6	
	comp=Z,138nm,18.2s,MS4.4,baz=96,slow=36						
ATD	**Arta Tunnel**	**83.71**	**80**	LR	LR	19 26 39.4	
	comp=Z,75nm,20.8s,MS4.0,baz=102,slow=32						
BOSA	**Boshof**	**84.44**	**124**	LR	LR	19 27 07.5	
	comp=Z,86nm,20.3s,MS4.1,baz=200,slow=32						
BVAR	**Borovoye Array**	**86.57**	**33**	LR	LR	19 32 41.4	
	comp=Z,47nm,18.6s,MS3.9,baz=228,slow=36						
ZAL	**Zalesovo**	**92.71**	**27**	LR	LR	19 36 36.2	
	comp=Z,38nm,19.1s,MS3.9,baz=325,slow=36						

IDC ***09*** *18:47:10.7±5.5, 53.72N×165.15W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.7/22, mbtmp4.0/6, Error ellipse: s-maj=140.3km s-min=33.0km az=171.0*
ISCJB ***09*** *18:47:11.0±1.3, 53.2N±0.1×164.57W±0.07, h47km±11km, mb4.0/6, Error ellipse: s-maj=17.1km s-min=6.7km az=156.9*
NEIC ***09*** *18:47:13.4±3.8, 53.42N×164.67W, h30km±28km, ML3.7(AEIC), Error ellipse: s-maj=32.4km s-min=9.6km az=164.0*
ISC 09 18:47:12.6±1.1**, 53.25N**±0.10×**164.62W**±0.07**, h38km**±10km**, n20, σ1s.29**/24**, mb4.0**/6**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKUT	**Akutan**	**1.12**	**323**	P	**Pn**	**18 47 32.2**	**+0.4**
AKUT				S	**Sn**	**18 47 46.6**	**+0.6**
AKLV	**Akutan Long Va**	**1.21**	**320**	P	**Pn**	**18 47 33.1**	**+0.1**
AKLV				S	**Sn**	**18 47 48.6**	**+0.4**
OKCD	**Okmok Cone D**	**2.10**	**276**	P	**Pn**	**18 47 45.5**	**+0.2**
OKCD				S	**Sn**	**18 48 08.8**	**-1.4**
SDPT	**Sand Point**	**3.21**	**47**	P	**Pn**	**18 48 02.7**	**+2.2**
SDPT				S	**Sn**	**18 48 37.9**	**+0.3**
CHGN	**Chignik**	**4.72**	**47**	P	**Pn**	**18 48 23.4**	**+2.2**
ATKA	**Atka Island**	**5.91**	**264**	P	**Pn**	**18 48 38.3**	**+0.7**
KDAK	**Kodiak Island**	**8.20**	**52**	*e*Pn	**Pn**	**18 49 09.1**	**+0.1**
SVW2	**Sparrevohn**	**9.26**	**28**	*e*Pn	**Pn**	**18 49 24.9**	**+1.2**
TTA	**Tatalina**	**10.71**	**22**	Pn	**Pn**	**18 49 40.8**	**-2.7**
EYAK	**Cordova Ski Ar**	**12.61**	**47**	*e*Pn	**Pn**	**18 50 08.4**	**-1.0**
DIV	**Divide**	**12.87**	**45**	Pn	**Pn**	**18 50 10.3**	**-2.7**
MENT	**Mentasta**	**14.63**	**40**	*e*Pn	**Pn**	**18 50 34.9**	**-2.1**
EGAK	**Eagle**	**16.58**	**37**	*e*Pn	**Pn**	**18 50 59.3**	**-2.9**
DAWY	**Dawson**	**16.88**	**40**	*e*P	**Pn**	**18 51 05.7**	**-0.2**
YKA	**Yellowknife Ar**	**27.48**	**50**	P	**P**	**18 52 57.6**	**+2.4**
	1.3nm,0.7s,mb3.6,baz=271,slow=7.3,SNR=4.2						
SONM	**Songino Array**	**53.28**	**303**	P	**P**	**18 56 27.8**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=32,slow=8.8,SNR=6.7						
ARCES	**ARCESS Array B**	**57.30**	**356**	P	**P**	**18 56 55.9**	**-0.6**
	2.2nm,0.9s,mb4.2,baz=14,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**65.24**	**316**	P	**P**	**18 57 49.4**	**-0.9**
	0.3nm,0.3s,mb3.8,baz=50,slow=6.6,SNR=10						
FINES	**FINESS Array B**	**65.34**	**354**	P	**P**	**18 57 51.0**	**+0.1**
	3.7nm,0.9s,mb4.4,baz=4.2,slow=7.7,SNR=3.1						
BRTR	**Keskin Array B**	**86.06**	**346**	P	**P**	**18 59 50.5**	**+1.2**
	0.6nm,0.6s,mb4.0,baz=21,slow=3.0,SNR=4.7						

ISCJB ***09*** *18:49:47.5±2.3, 44.8N±0.4×150.3E±0.3, h189km±21km, mb3.4/4, Error ellipse: s-maj=65.4km s-min=24.2km az=123.4*
JMA ***09*** *18:49:47.6±0.4, 44.84N×150.38E, h108km, M3.4*
IDC ***09*** *18:49:52.6±18.0, 46.59N×149.13E, h117km±175km, mb3.5/4, mb1 3.5/5, mb1mx3.2/21, mbtmp3.8/5, ML2.8/1, Error ellipse: s-maj=215.8km s-min=48.4km az=56.0*
ISC 09 18:49:48.3±2.4**, 44.8N**±0.4×**150.2E**±0.3**, h185km**±23km**, n17, σ0s.92**/20**, mb3.4**/4**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.55**	**247**	P	**Pn**	**18 50 43.0**	**-0.9**
NEM2				*e*S	**Sn**	**18 51 25.3**	**-2.1**
JRA	**Rausu**	**3.77**	**258**	P	**Pn**	**18 50 46.4**	**-0.3**
JAK	**Akkeshi**	**4.40**	**247**	P	**Pn**	**18 50 54.3**	**-0.4**
JAK				*e*S	**Sn**	**18 51 46.0**	**-0.7**
JTKR	**Abashiri--Toko**	**4.62**	**262**	P	**Pn**	**18 50 57.4**	**0.0**
JAR	**Ashorobuto**	**4.91**	**254**	P	**Pn**	**18 51 01.7**	**+0.6**
JMP	**Maruseppu**	**5.00**	**263**	P	**Pn**	**18 51 03.3**	**+1.0**
JOB	**Onbets**	**5.01**	**250**	P	**Pn**	**18 51 03.9**	**+1.4**
JOB				*e*S	**Sn**	**18 52 02.2**	**+1.4**
JCH	**Churui**	**5.45**	**249**	P	**Pn**	**18 51 08.4**	**+0.2**
JCH				*e*S	**Sn**	**18 52 10.6**	**-0.4**
JKK2	**Kamakawa 2**	**5.46**	**263**	P	**Pn**	**18 51 08.9**	**+0.6**
ASAJ	**Asahikawa**	**5.52**	**265**	P	**Pn**	**18 51 08.5**	**-0.5**
	0.3nm,0.3s,baz=78,slow=14,SNR=4.2						
ASAJ	**Asahikawa**	**5.52**	**265**	P	**Pn**	**18 51 09.6**	**+0.6**
JNBK	**Urakawa-nobuka**	**6.00**	**248**	P	**Pn**	**18 51 15.8**	**+0.4**
FINES	**FINESS Array B**	**64.91**	**334**	P	**P**	**19 00 06.1**	**-1.8**
	1.2nm,0.9s,mb3.7,baz=46,slow=6.0,SNR=4.4						
NOA	**NORSAR Array B**	**69.38**	**340**	P	**P**	**19 00 35.3**	**-0.7**
	0.5nm,0.7s,mb3.4,baz=34,slow=5.4,SNR=3.4						
AKASG	**Malin Array Be**	**72.00**	**325**	P	**P**	**19 00 52.1**	**+0.3**
	0.5nm,0.3s,mb3.7,baz=38,slow=6.6,SNR=5.1						
GERES	**GERESS Array B**	**79.27**	**332**	P	**P**	**19 01 34.1**	**+1.0**
	0.2nm,0.7s,mb2.9,baz=23,slow=5.8,SNR=4.1						
PLCA	**Paso Flores**	**150.01**	**97**	PKPbc	PKPab	19 09 30.9	+7.7
	2.8nm,1.1s,baz=270,slow=3.0,SNR=3.1						

ISCJB ***09*** *19:20:33.0±1.0, 2.6S±0.1×130.1E±0.3, h10km, mb3.9/5, Error ellipse: s-maj=50.2km s-min=10.6km az=144.4*
IDC ***09*** *19:20:33.4±2.0, 2.61S×130.13E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=133.3km s-min=22.1km az=75.0*
NEIC ***09*** *19:20:36.2±0.8, 2.82S×129.55E, h10km, mb4.2/1, Error ellipse: s-maj=26.8km s-min=11.1km az=69.0*
ISC 09 19:20:35.1±1.0**, 2.6S**±0.1×**130.1E**±0.3**, h10km, n10, σ0s.78**/11**, mb3.9**/5**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.01**	**196**	Pn	**Pn**	**19 24 19.8**	**-0.5**
	0.1nm,0.3s,baz=36,slow=8.7,SNR=4.3						
WRAB	**Tennant Creek**	**17.72**	**167**	*e*Pn	**Pn**	**19 24 40.7**	**-1.3**
WRA	**Warramunga Arr**	**17.73**	**167**	P	**Pn**	**19 24 41.6**	**-0.5**
	0.3nm,0.3s,baz=348,slow=10,SNR=17						
WB2	**Warramunga Arr**	**17.73**	**167**	*e*Pn	**Pn**	**19 24 41.8**	**-0.3**
WB2				*e*Sn	**Sn**	**19 28 02.1**	**+2.5**
AS31	**Alice Springs**	**21.26**	**170**	*e*P	**P**	**19 25 21.4**	**-0.1**
ASAR	**Alice Springs**	**21.26**	**170**	P	**P**	**19 25 21.4**	**0.0**
	2.1nm,0.7s,mb3.6,baz=347,slow=9.1,SNR=38						
LSA	**Lhasa**	**49.17**	**314**	*e*P	**P**	**19 29 23.7**	**+0.5**
	1.8nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**64.64**	**326**	P	**P**	**19 31 13.2**	**+0.3**
	0.7nm,0.6s,mb3.9,baz=115,slow=8.5,SNR=6.4						
ZAL	**Zalesovo**	**67.72**	**333**	P	**P**	**19 31 32.8**	**+0.1**
	0.6nm,0.3s,mb4.0,baz=12,slow=8.0,SNR=4.1						
BVAR	**Borovoye Array**	**74.42**	**327**	P	**P**	**19 32 13.5**	**+0.1**
	0.3nm,0.4s,mb3.6,baz=126,slow=7.5,SNR=4.1						

BJI ***09*** *19:22:49.1, 7.31S×155.89E, h60km, mB4.7, mb4.4, Ms4.3, Msz4.0*
ISCJB ***09*** *19:22:50.6±1.8, 6.92S±0.08×155.56E±0.08, h56km±18km, mb4.1/18, MS3.5/3, Error ellipse: s-maj=14.1km s-min=13.7km az=146.3*
NEIC ***09*** *19:22:52.1±1.4, 6.89S×155.57E, h60km±13km, mb4.4/8, Error ellipse: s-maj=11.8km s-min=10.9km az=192.0*
IDC ***09*** *19:22:53.4±2.8, 6.94S×155.54E, h67km±24km, mb3.8/12, mb1 3.9/16, mb1mx3.9/20, mbtmp4.1/16, MS3.4/5, Ms1 3.3/5, ms1mx3.0/24, Error ellipse: s-maj=19.9km s-min=17.2km az=92.0*
ISC 09 19:22:53.5±1.6**, 6.95S**±0.08×**155.62E**±0.09**, h69km**±16km**, n44, σ0s.78**/34**, mb4.0**/18**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.94**	**120**	P	**Pn**	**19 24 05.9**	**+0.7**
	18nm,0.3s,baz=260,slow=2.2,SNR=9.9						
HNR				S	**Sn**	**19 25 08.5**	**+7.5**
	20nm,0.3s,baz=89,slow=18,SNR=5.6						
HNR				LR	LR	19 25 44.9	
	comp=Z,191nm,20.5s,baz=360,slow=34						
HNR	**Honiara**	**4.94**	**120**	*e*Pn	**Pn**	**19 24 05.0**	**-0.2**
	148nm,0.8s						
PMG	**Port Moresby**	**8.72**	**253**	P	**Pn**	**19 24 56.6**	**-0.2**
	1.5nm,0.3s,baz=79,slow=5.2,SNR=7.2						
PMG				LR	LR	19 27 54.2	
	comp=Z,192nm,21.4s,baz=62,slow=35						
PMG	**Port Moresby**	**8.72**	**253**	*e*Pn	**Pn**	**19 24 52.9**	**-3.9**
	26nm,0.8s						
CTA	**Charters Tower**	**15.91**	**214**	P	**Pn**	**19 26 34.1**	**+1.0**
	0.2nm,0.3s,baz=36,slow=15,SNR=3.8						
CTA				LR	LR	19 31 45.0	
	comp=Z,132nm,20.1s,baz=257,slow=34						
CTA	**Charters Tower**	**15.91**	**214**	P	**Pn**	**19 26 34.1**	**+1.0**
CTA				LR	LR	19 31 45.0	
CTAO	**Charters Tower**	**15.91**	**214**	Pn	**Pn**	**19 26 33.4**	**+0.4**
	4.3nm,0.8s						
DZM	**Mont Dzumac**	**18.31**	**146**	P	**Pn**	**19 27 02.6**	**0.0**
	0.6nm,0.3s,baz=328,slow=13,SNR=5.8						
WRAB	**Tennant Creek**	**24.34**	**236**	*e*P	**P**	**19 28 04.5**	**-0.3**
	16nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**24.35**	**236**	P	**P**	**19 28 05.1**	**+0.2**
	1.9nm,0.6s,mb3.6,baz=59,slow=9.5,SNR=12						
WRA				PcP	PcP	19 31 43.9	+1.1
	0.4nm,0.5s,baz=62,slow=2.5,SNR=6.3						
ASAR	**Alice Springs**	**26.67**	**229**	P	**P**	**19 28 25.4**	**-0.4**
	0.6nm,0.5s,mb3.4,baz=58,slow=9.6,SNR=8.2						
STKA	**Stephens Creek**	**28.04**	**206**	P	**P**	**19 28 38.0**	**-0.1**
	2.4nm,1.0s,mb3.7,baz=356,slow=12,SNR=3.1						
STKA				LR	LR	19 39 27.0	
	comp=Z,134nm,19.1s,baz=26,slow=36						
STKA	**Stephens Creek**	**28.04**	**206**	P	**P**	**19 28 37.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**31.24**	**246**	P	**P**	**19 29 06.1**	**-0.4**
	1.5nm,0.5s,mb3.9,baz=82,slow=16,SNR=8.0						
FITZ				LR	LR	19 41 27.1	
	comp=Z,63nm,18.4s,baz=206,slow=36						
KKM	**Kota Kinabalu**	**41.38**	**287**	P	**P**	**19 30 32.6**	**-0.2**
MJAR	**Matsushiro Arr**	**46.24**	**341**	P	**P**	**19 31 10.9**	**-0.8**
	0.7nm,0.7s,mb3.5,baz=131,slow=1.4,SNR=4.8						
MJAR				PcP	PcP	19 32 47.2	+0.8
	1.6nm,0.7s,baz=154,slow=3.8,SNR=5.8						
MAJO	**Matsushiro**	**46.24**	**341**	P	**P**	**19 31 10.8**	**-1.0**
	1.5nm,0.5s,mb4.0						
KULM	**Kulim**	**56.19**	**281**	P	**P**	**19 32 25.2**	**-1.0**
KMI	**Kunming**	**60.50**	**304**	P	**P**	**19 32 59.6**	**+3.3**
KMI				AP	pP	19 33 12.7	-1.5
KMI				XP	sP	19 33 17.8	-4.1
KMI				S	**S**	**19 41 10.1**	**+3.5**
KMI				SS	SS	19 45 06.3	+0.7
KMI				SSS		19 47 47.8	
KMI				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.1						
KMI				LR	LR		
	comp=Z,64nm,36.2s						
CM31	**Chiang Mai Arr**	**61.32**	**295**	*e*P	**P**	**19 33 02.9**	**+1.1**
	comp=Z,5.5nm,0.8s,mb4.6						
CM31				*e*		19 33 13.3	
ULN	**Ulaanbaatar**	**69.30**	**327**	*e*P	**P**	**19 33 54.2**	**+0.8**
	comp=Z,4.1nm,1.1s,mb4.2						
SONM	**Songino Array**	**69.63**	**327**	P	**P**	**19 33 55.9**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.0,baz=135,slow=6.5,SNR=13						
VNDA	**Vanda**	**70.61**	**179**	P	**P**	**19 34 01.4**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.6,baz=319,slow=6.5,SNR=6.7						
VNDA	**Vanda**	**70.61**	**179**	*e*P	**P**	**19 34 01.2**	**-0.2**
	comp=Z,1.8nm,0.9s,mb3.9						
WMQ	**Urumqi**	**79.21**	**317**	*e*P	**P**	**19 34 53.0**	**+1.9**
QSPA	**South Pole Qui**	**83.03**	**180**	*e*P	**P**	**19 35 11.4**	**+0.1**
	comp=Z,5.2nm,1.0s,mb4.3						
MKAR	**Makanchi Array**	**83.78**	**319**	P	**P**	**19 35 15.1**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=91,slow=6.9,SNR=8.3						
ZAL	**Zalesovo**	**84.50**	**326**	P	**P**	**19 35 18.3**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.8,baz=355,slow=4.3,SNR=3.6						
MAW	**Mawson**	**84.67**	**203**	P	**P**	**19 35 19.5**	**-0.2**
	comp=Z,4.1nm,0.9s,mb4.3,baz=96,slow=3.9,SNR=9.1						
MAW	**Mawson**	**84.67**	**203**	*e*P	**P**	**19 35 19.0**	**-0.7**
	comp=Z,9.2nm,1.2s,mb4.6						
INK	**Inuvik**	**89.46**	**21**	P	**P**	**19 35 42.5**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.1,baz=222,slow=14,SNR=4.9						
BVAR	**Borovoye Array**	**92.63**	**323**	P	**P**	**19 35 57.2**	**-0.4**
	comp=Z,0.5nm,0.7s,mb4.0,baz=157,slow=4.2,SNR=4.6						
ARCES	**ARCESS Array B**	**109.72**	**343**	PKiKP	PKiKP	19 41 16.2	-0.3
	comp=Z,2.6nm,1.0s,baz=67,slow=1.7,SNR=7.9						
FINES	**FINESS Array B**	**114.15**	**336**	PKP	PKiKP	19 41 24.3	-0.6
	comp=Z,2.1nm,0.9s,baz=109,slow=10,SNR=3.9						
GERES	**GERESS Array B**	**127.33**	**329**	PKP	PKPdf	19 41 51.2	+1.0
	comp=Z,0.7nm,0.6s,baz=22,slow=1.4,SNR=12						
EADA	**Adamuz**	**144.12**	**333**	P	PKPdf	19 42 19.6	-1.6
ELUQ	**Luque**	**144.47**	**332**	P	PKPdf	19 42 19.2	-2.7
ERON	**Agron**	**144.68**	**331**	P	PKPdf	19 42 20.2	-2.0
ELOJ	**Sierra Loja**	**144.74**	**331**	P	PKPdf	19 42 20.1	-2.3
EMIN	**Mina Concepcio**	**145.36**	**335**	P	PKPbc	19 42 24.8	+1.4
EJIF	**Jimena Fronter**	**145.93**	**332**	P	PKPdf	19 42 25.1	+0.7
BDFB	**Brasilia**	**147.57**	**134**	PKPbc	PKPbc	19 42 30.7	+0.9
	comp=Z,5.5nm,0.6s,baz=146,slow=2.2,SNR=6.5						
TORD	**Torodi Ar. Bea**	**153.61**	**286**	PKPbc	PKPbc	19 42 44.7	+0.4
	comp=Z,1.4nm,0.7s,baz=73,slow=2.4,SNR=13						
TORD				PKPab	PKPab	19 42 56.7	-0.4
	comp=Z,1.8nm,0.9s,baz=71,slow=3.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**153.61**	**286**	PKPbc	PKPbc	19 42 44.7	+0.4
TORD				PKPab	PKPab	19 42 56.7	-0.4

ISCJB ***09*** *19:24:50.8±0.6, 36.30N±0.03×140.06E±0.06, h84km±5km, mb3.5/2, Error ellipse: s-maj=8.4km s-min=5.4km az=17.9*
IDC ***09*** *19:24:51.2±2.2, 36.33N×140.20E, h76km±20km, mb3.2/2, mb1 3.4/4, mb1mx3.1/22, mbtmp3.7/4, Error ellipse: s-maj=24.2km s-min=10.4km az=60.0*
JMA ***09*** *19:24:52.4±0.1, 36.32N×140.03E, h72km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs192.00000°, δ29.00000°, λ96.00000°. NP2:φs6.00000°, δ61.00000°, λ87.00000°. Principal axes: T Plg74.0000°, Azm267.0000°; N Plg3.0000°, Azm7.0000°; P Plg16.0000°, Azm98.0000°;*
ISC 09 19:24:51.8±0.6**, 36.30N**±0.03×**140.06E**±0.06**, h78km**±5km**, n19, σ0s.70**/33**, mb3.5**/2**, 3C-8D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.13**	**125**	⇑P	**Pn**	**19 25 03.2**	**+0.2**
JYT				S	**Sn**	**19 25 11.2**	**-0.1**
JAG	**Ashikaga**	**0.50**	**284**	⇓P	**Pn**	**19 25 05.2**	**-0.1**
JAG				S	**Sn**	**19 25 14.5**	**-0.8**
JKT	**Katashina**	**0.80**	**306**	⇓P	**Pn**	**19 25 08.5**	**+0.2**
JKT				S	**Sn**	**19 25 20.8**	**+0.2**
JRY	**Ryogami san**	**0.98**	**253**	⇓P	**Pn**	**19 25 10.6**	**+0.2**
JRY				S	**Sn**	**19 25 24.5**	**+0.2**
JFY	**Yanaizu**	**1.14**	**346**	⇓P	**Pn**	**19 25 12.5**	**+0.2**
JFY				S	**Sn**	**19 25 27.9**	**+0.1**
JFT	**Otama**	**1.23**	**10**	⇑P	**Pn**	**19 25 14.1**	**+0.6**
JFT				S	**Sn**	**19 25 30.2**	**+0.3**
JFK	**Kawauchi**	**1.25**	**31**	⇑P	**Pn**	**19 25 13.7**	**0.0**
JHK	**Hiroka**	**1.26**	**319**	⇓P	**Pn**	**19 25 13.8**	**-0.1**
JHK				S	**Sn**	**19 25 30.7**	**+0.2**
JOD2	**Odawara 2**	**1.30**	**218**	⇓P	**Pn**	**19 25 14.8**	**+0.4**
JOD2				S	**Sn**	**19 25 31.1**	**-0.4**
JYN	**Shimob**	**1.47**	**237**	⇓P	**Pn**	**19 25 17.5**	**+0.9**
MJAR	**Matsushiro Arr**	**1.51**	**280**	P	**Pn**	**19 25 15.8**	**-1.3**
	22nm,0.3s,baz=94,slow=15,SNR=496						
MJAR				S	**Sn**	**19 25 37.6**	**+1.4**
	12nm,0.3s,baz=305,slow=35,SNR=8.8						
MAT	**Matsushiro**	**1.51**	**280**	P	**Pn**	**19 25 17.7**	**+0.6**
MAT				*e*S	**Sn**	**19 25 33.2**	**-3.1**
MAT	**Matsushiro**	**1.51**	**280**	P	**Pn**	**19 25 16.6**	**-0.5**
JNS	**Sasagawa**	**1.62**	**339**	⇓P	**Pn**	**19 25 18.9**	**+0.3**
JNS				S	**Sn**	**19 25 38.3**	**-0.6**
JHJ	**Hachijo jima 2**	**3.19**	**184**	P	**Pn**	**19 25 39.7**	**+0.1**
	17nm,0.3s,baz=248,slow=12,SNR=12						
JHJ				S	**Sn**	**19 26 17.1**	**+0.7**
	18nm,0.3s,baz=96,slow=21,SNR=5.6						
ASAJ	**Asahikawa**	**8.04**	**13**	P	**Pn**	**19 26 45.4**	**-0.4**
	0.4nm,0.3s,baz=282,slow=27,SNR=4.7						
ASAJ				S	**Sn**	**19 28 08.8**	**-6.3**
	0.1nm,0.3s,baz=200,slow=29,SNR=2.2						
CBIJ	**Chichi jima**	**9.36**	**168**	P	**Pn**	**19 27 00.6**	**-3.2**
	1.0nm,0.3s,baz=254,slow=20,SNR=3.4						
CBIJ				S	**Sn**	**19 28 38.4**	**-8.9**
	1.4nm,0.3s,baz=285,slow=20,SNR=3.5						
MKAR	**Makanchi Array**	**43.59**	**303**	P	**P**	**19 32 48.4**	**+0.3**
	0.4nm,0.8s,mb3.2,baz=83,slow=9.5,SNR=3.0						
WRA	**Warramunga Arr**	**56.20**	**186**	P	**P**	**19 34 23.3**	**-0.3**
	0.5nm,0.7s,mb3.7,baz=1.3,slow=7.5,SNR=8.2						

IDC 09 19:33:56.7±2.1**, 6.98S**×**128.33E, h0km, mb3.6**/1**, mb1 3.8**/4**, mb1mx3.6**/14**, mbtmp3.7**/4**, ML3.6**/3**, Error ellipse: s-maj=105.5km s-min=27.1km az=74.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.37**	**193**	Pn	Pn	19 36 40.9	+0.6
	0.5nm,0.3s,baz=36,slow=13,SNR=16						
FITZ				Sn	Sn	19 38 35.7	-12
	0.7nm,0.3s,baz=90,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**14.15**	**156**	Pn	Pn	19 37 18.1	-0.2
	0.2nm,0.3s,baz=331,slow=14,SNR=13						
WRA				Sn	Sn	19 39 40.6	-15
	0.9nm,0.3s,baz=333,slow=23,SNR=16						
ASAR	**Alice Springs**	**17.44**	**163**	P	Pn	19 38 01.5	+0.2
	0.2nm,0.3s,baz=341,slow=11,SNR=30						
ASAR				S	Sn	19 41 02.1	-14
	0.3nm,0.3s,baz=317,slow=19,SNR=5.4						
MKAR	**Makanchi Array**	**67.31**	**328**	P	P	19 44 53.5	+0.2
	0.3nm,0.4s,baz=121,slow=7.2,SNR=7.8						

ISCJB ***09*** *19:34:42.0±2.3, 21.6N±0.2×143.5E±0.6, h320km±17km, mb3.6/7, Error ellipse: s-maj=84.6km s-min=22.8km az=166.7*
IDC ***09*** *19:34:42.7±2.5, 21.64N×143.50E, h308km±20km, mb3.3/6, mb1 3.4/9, mb1mx3.2/22, mbtmp4.1/9, Error ellipse: s-maj=66.2km s-min=20.0km az=82.0*
ISC 09 19:34:42.8±2.3**, 21.7N**±0.2×**143.6E**±0.6**, h313km**±16km**, n12, σ0s.45**/12**, mb3.6**/7**, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.56**	**347**	P	**Pn**	**19 36 07.1**	**-0.2**
	15nm,0.3s,baz=141,slow=20,SNR=25						
CBIJ				S	**S**	**19 37 15.2**	**-0.2**
	8.1nm,0.3s,baz=284,slow=22,SNR=6.0						
JHJ	**Hachijo jima 2**	**11.90**	**344**	P	**Pn**	**19 37 23.4**	**-0.4**
	3.1nm,0.3s,baz=270,slow=20,SNR=3.6						
MJAR	**Matsushiro Arr**	**15.55**	**344**	P	**P**	**19 38 06.0**	**+0.9**
	0.6nm,0.3s,baz=166,slow=11,SNR=13						
MAT	**Matsushiro**	**15.55**	**344**	P	**P**	**19 38 05.8**	**+0.7**
SONM	**Songino Array**	**39.61**	**320**	P	**P**	**19 41 44.6**	**0.0**
	0.2nm,0.5s,mb2.8,baz=122,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**42.33**	**193**	P	**P**	**19 42 06.8**	**+0.2**
	0.5nm,0.2s,mb3.3,baz=11,slow=8.3,SNR=5.3						
ZAL	**Zalesovo**	**54.49**	**322**	P	**P**	**19 43 38.6**	**-0.1**
	0.6nm,0.3s,mb3.4,baz=23,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**55.00**	**313**	P	**P**	**19 43 42.4**	**0.0**
	0.7nm,0.5s,mb3.4,baz=86,slow=8.7,SNR=11						
MKAR				PcP	PcP	19 44 40.2	+0.5
	0.3nm,0.4s,baz=83,slow=5.5,SNR=5.5						
ARCES	**ARCESS Array B**	**79.08**	**342**	P	**P**	**19 46 13.1**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=73,slow=8.5,SNR=12						
JOF	**Joensuu**	**80.51**	**335**	*e*p	**P**	**19 46 19.9**	**-0.5**
	2.9nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**83.38**	**335**	P	**P**	**19 46 34.4**	**-0.8**
	5.4nm,1.1s,mb4.3,baz=86,slow=7.8,SNR=6.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TORD	Torodi Ar. Bea	129.06	309	PKP	PKPdf	19 53 14.5	+1.0
	0.3nm,0.5s,baz=98,slow=0.7,SNR=4.6						

*BJI **09** 19:43:04.4, 096S×12490E, h19km, mB4.8, mb4.8, Ms4.6, Msz4.5*
*ISCJB **09** 19:43:11.5±0.2, 0.17S±004×12465E±005, h26km, mb4.8/68, MS3.6/9, Error ellipse: s-maj=7.1km s-min=4.4km az=127.9*
*MOS **09** 19:43:12.3±1.2, 0.18S×12450E, h33km, mb5.0/26, Error ellipse: s-maj=14.9km s-min=7.0km az=117.2*
*NEIC **09** 19:43:12.2±0.3, 0.17S×12452E, mb4.8/28, Error ellipse: s-maj=11.8km s-min=6.0km az=70.0*
*IDC **09** 19:43:14.5±2.7, 0.16S×12442E, h34km±20km, mb4.4/18, mb1 4.3/19, mb1mx4.3/21, mbtmp4.5/19, ML4.0/1, MS3.6/9, Ms1 3.5/9, ms1mx3.3/26, Error ellipse: s-maj=22.6km s-min=11.2km az=79.0*
ISC 09 19:43:13.7±0.2**, 016S**±003×**12467E**±005**, h27**km**, h27**km±2.1km**:pP-P, n145,** σ1.33/138**, mb4.8**/68**, MS3.6**/9**, 6C-1D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	4.89	261	P	Pn	19 44 27.4	+2.0
	520nm,0.8s						
AAI	Ambon	4.97	135	P	Pn	19 44 29.8	+3.3
	476nm,0.5s						
SWI	Sorong	6.63	96	P	Pn	19 44 53.0	+3.7
	67nm,0.9s						
DAV	Davao City (W)	7.24	7	ePn	Pn	19 45 04.4	+6.7
TARAI	Tarakan	7.89	296	P	Pn	19 45 11.5	+4.8
	486nm,0.7s						
BUKP	Musuan	7.99	3	eP	Pn	19 45 14.3	+6.3
PAGZ	Pagadian	8.05	351	eP	Pn	19 45 13.4	+4.6
TSM	Tawau	8.10	303	P	Pn	19 45 14.1	+4.5
IPIL	Ipil	8.16	345	eS	Sn	19 46 41.6	-0.1
IPIL	Ipil	8.16	345	eP	Pn	19 45 14.6	+4.2
KKM	Kota Kinabalu	10.45	306	P	Pn	19 45 46.0	+4.3
KKM	Kota Kinabalu	10.45	306	ePn	Pn	19 45 46.0	+4.3
KKM				eSn	Sn	19 47 41.8	+4.0
BATP	Bataraza	11.22	323	eP	Pn	19 45 57.6	+5.3
CUYO	Cuyo Island	11.52	342	eP	Pn	19 46 02.7	+6.3
ENPP	El Nido	12.43	335	eP	Pn	19 46 13.0	+4.2
PVCP	Virac	13.67	358	eP	Pn	19 46 33.9	+8.1
KSM	Kuching	14.45	276	ePn	Pn	19 46 41.7	+5.3
KAKA	Kakadu	14.66	149	eP	Pn	19 46 40.0	+0.8
	49nm,0.7s						
BALP	Baler	16.09	349	eP	Pn	19 47 05.7	+7.7
BJII	Banjamegara	16.54	244	P	Pn	19 47 06.7	+3.1
	45nm,1.6s						
FITZ	Fitzroy Crossi	17.86	177	eP	Pn	19 47 21.7	+1.6
	8.3nm,0.6s						
FITZ				epP	pP	19 47 26.4	-1.6
FITZ	Fitzroy Crossi	17.86	177	P	Pn	19 47 19.5	-0.6
	0.4nm,0.3s,baz=9.4,slow=11,SNR=14						
FITZ				LR	LR	19 55 16.5	
	comp=Z,55nm,18.2s,baz=215,slow=40						
ABRA	Dolores	18.12	348	eP	Pn	19 47 26.3	+3.0
LEM	Lembang	18.26	248	P	Pn	19 47 27.4	+2.4
	56nm,1.1s						
CBJI	Citeko	18.84	250	P	Pn	19 47 36.9	+4.8
	130nm,0.8s						
MBWA	Marble Bar	21.43	193	eP	P	19 47 59.3	-0.2
	20nm,1.0s,mb4.4						
KGM	Kluang	21.46	276	P	P	19 48 02.7	+2.8
WRAB	Tennant Creek	21.82	155	eP	P	19 48 03.4	-0.4
WRAB				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.0						
WRAB	Tennant Creek	21.82	155	eP	P	19 48 03.4	-0.4
	comp=Z,51nm,0.9s,mb5.0						
WRAB				e		19 48 21.7	
WRA	Warramunga Arr	21.82	155	P	P	19 48 03.3	-0.5
	comp=Z,7.1nm,0.5s,mb4.3,baz=332,slow=11,SNR=82						
WRA				PcP	PcP	19 52 02.4	-0.7
	comp=Z,2.0nm,1.0s,baz=308,slow=6.8,SNR=4.7						
WB2	Warramunga Arr	21.83	155	eP	P	19 48 03.2	-0.7
WB2				epP		19 48 09.4	
QIZ	Qiongzhong	23.99	323	eP	P	19 48 26.4	+0.5
	comp=Z,91nm,1.5s,mb5.0						
PMG	Port Moresby	24.20	113	eP	P	19 48 29.4	+1.5
PMG				pmax	pmax		
	comp=Z,11nm,0.5s						
PMG	Port Moresby	24.20	113	eP	P	19 48 29.4	+1.5
	comp=Z,11nm,0.5s,mb4.5						
KULM	Kulim	24.59	283	eP	P	19 48 31.8	+0.3
YHNB	Yeheng	24.88	353	eP	P	19 48 35.7	+1.6
AS31	Alice Springs	25.03	160	eP	P	19 48 36.0	+0.6
ASAR	Alice Springs	25.03	160	P	P	19 48 36.0	+0.5
	comp=Z,6.7nm,0.7s,mb4.3,baz=329,slow=7.0,SNR=60						
ASAR				PcP	PcP	19 52 10.4	+0.6
	comp=Z,2.3nm,0.6s,baz=350,slow=1.9,SNR=18						
ASAR				ScP	ScP	19 55 45.9	-1.1
	comp=Z,0.3nm,0.5s,baz=343,slow=3.1,SNR=4.5						
ASAR				LR	LR	19 58 38.3	
	comp=Z,99nm,19.0s,MS3.3,baz=93,slow=37						
ASAR	Alice Springs	25.03	160	P	P	19 48 36.0	+0.6
ASAR						19 52 10.5	
ASPA	Alice Springs	25.03	160	eP	P	19 48 36.0	+0.6
PSI	Prapat	25.90	277	P	P	19 48 41.8	-1.6
	comp=Z,4.7nm,0.7s,mb4.1,baz=156,slow=8.8,SNR=3.3						
PSI				LR	LR	19 58 16.4	
	comp=Z,276nm,19.8s,MS3.8,baz=242,slow=35						
JOW	Kunigami	27.05	7	P	P	19 48 55.9	+2.1
	comp=Z,6.9nm,0.5s,mb4.5,baz=162,slow=16,SNR=10						
JOW				LR	LR	19 58 57.8	
	comp=Z,86nm,20.3s,MS3.3,baz=87,slow=35						
NANT	Nan	30.15	310	⇑P	P	19 49 20.0	-1.3
	comp=Z,150nm,1.0s,mb5.7						
SSE	Sheshan	31.26	354	eP	P	19 49 30.3	-0.8
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,163nm,5.0s						
CM31	Chiang Mai Arr	31.32	308	eP	P	19 49 32.5	+0.9
	comp=Z,3.1nm,0.7s,mb4.2						
CHG	Chiang Mai	31.52	308	⇓P	P	19 49 34.3	+0.9
	comp=Z,18nm,0.9s,mb4.9						
CHTO	Chiang Mai	31.52	308	eP	P	19 49 34.5	+1.1
CHTO				e		19 52 26.3	
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
CHTO	Chiang Mai	31.52	308	eP	P	19 49 34.5	+1.1
	comp=Z,15nm,0.8s,mb4.9						
CHTO				ePcP	PcP	19 52 26.3	+0.5
CBIJ	Chichi jima	31.90	31	P	P	19 49 37.5	+0.7
	comp=Z,26nm,0.6s,mb5.3,baz=266,slow=20,SNR=11						
CBIJ				LR	LR	20 00 41.0	
	comp=Z,155nm,20.9s,MS3.7,baz=336,slow=33						
KLBR	Kellerberrin	31.94	191	eP	P	19 49 36.4	-0.7
	comp=Z,32nm,1.4s,mb5.0						
KMI	Kunming	32.89	321	P	P	19 49 47.3	+1.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
STKA	Stephens Creek	35.38	155	eP	P	19 50 08.0	+1.0
	comp=Z,1.7nm,0.4s,mb4.3						
STKA				epP	pP	19 50 13.1	-2.0
STKA	Stephens Creek	35.38	155	P	P	19 50 07.8	+0.8
	comp=Z,2.0nm,0.5s,mb4.3,baz=308,slow=8.7,SNR=16						
JHJ	Hachijo jima 2	36.03	22	LR	LR	20 02 59.9	
	comp=Z,65nm,19.5s,MS3.4,baz=317,slow=33						
XAN	Xi'an	37.09	338	P	P	19 50 22.3	+0.7
XAN				AP	pP	19 50 29.7	0.0
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7						
MJAR	Matsushiro Arr	38.62	18	P	P	19 50 34.9	+0.4
	comp=Z,5.1nm,0.7s,mb4.4,baz=197,slow=7.9,SNR=25						
MAJO	Matsushiro	38.62	18	eP	P	19 50 34.6	+0.1
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
MAJO	Matsushiro	38.62	18	eP	P	19 50 34.6	+0.1
	comp=Z,4.1nm,0.4s,mb4.5						
MAT	Matsushiro	38.62	18	P	P	19 50 34.5	0.0
LZH	Lanzhou	40.93	334	eP	P	19 50 55.8	+2.0
LZH				AP	pP	19 51 04.2	+2.3
LZH				XP	sP	19 51 08.4	+3.2
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.6						
LSA	Lhasa	43.61	316	P	P	19 51 17.3	+1.7
LSA	Lhasa	43.61	316	eP	P	19 51 17.0	+1.4
LSA				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
LSA	Lhasa	43.61	316	eP	P	19 51 17.0	+1.4
	comp=Z,18nm,0.6s,mb5.0						
MDJ	Mudanjiang	44.79	5	eP	P	19 51 26.1	+1.1
	comp=Z,8.4nm,0.4s,mb4.9						
GTA	Gaotai	45.47	333	eP	P	19 51 31.6	+1.1
GTA				AP	pP	19 51 39.9	+1.2
GTA				XP	sP	19 51 44.2	+2.2
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
GUN	Gumba	46.49	310	eP	P	19 51 38.4	-0.1
	comp=Z,35nm,0.4s,mb5.7						
PKI	Pulchoki	46.68	309	eP	P	19 51 39.6	-0.4
	comp=Z,11nm,0.5s,mb5.0						
KKN	Kakani	46.89	310	eP	P	19 51 41.1	-0.5
	comp=Z,12nm,0.4s,mb5.2						
ASAJ	Asahikawa	46.89	18	P	P	19 51 42.7	+1.1
	comp=Z,5.8nm,0.6s,mb4.7,baz=211,slow=4.2,SNR=13						
DMN	Daman	46.93	309	eP	P	19 51 41.9	0.0
GKN	Gorkha	47.49	310	eP	P	19 51 45.9	-0.4
	comp=Z,19nm,0.4s,mb5.4						
KOLN	Koldanda	48.18	309	eP	P	19 51 51.3	-0.3
	comp=Z,33nm,0.7s,mb5.5						
HYB	Hyderabad	48.62	294	i P	P	19 51 53.5	-1.6
HYB	Hyderabad	48.62	294	eP	P	19 51 53.5	-1.6
HIA	Hailar	49.41	356	eP	P	19 52 03.8	+2.7
HIA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HIA	Hailar	49.41	356	eP	P	19 52 03.8	+2.7
	comp=Z,6.9nm,0.7s,mb4.8						
ULN	Ulaanbaatar	50.23	345⇑	eP	P	19 52 07.6	+0.3
ULN	Ulaanbaatar	50.23	345	eP	P	19 52 07.4	+0.1
	comp=Z,5.9nm,0.8s,mb4.7						
SONM	Songino Array	50.37	344	P	P	19 52 07.5	-0.9
	comp=Z,5.1nm,0.7s,mb4.7,baz=158,slow=8.9,SNR=39						
SONM				ScP	ScP	19 57 18.4	-2.3
	comp=Z,0.5nm,0.8s,baz=150,slow=5.1,SNR=4.1						
SONM				LR	LR	20 14 50.3	
	comp=Z,48nm,19.9s,MS3.5,baz=247,slow=38						
TLY	Talaya	54.62	344	eP	P	19 52 40.6	+0.8
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WMQ	Urumqi	54.80	328	eP	P	19 52 42.2	+1.0
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,92nm,4.2s						
WMQ				LR	LR		
	comp=Z,71nm,22.4s,MS3.7						
MOY	Mondy	55.37	342	eP	P	19 52 47.0	+1.7
BOD	Bodaibo	58.42	353	eP	P	19 53 06.3	-0.6
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
MK31	Makanchi Array	59.63	328	P	P	19 53 14.0	-1.3
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
MKAR	Makanchi Array	59.63	328	P	P	19 53 14.3	-1.0
	comp=Z,13nm,0.6s,mb5.2,baz=120,slow=7.9,SNR=139						
MKAR				PcP	PcP	19 54 01.6	-0.7
	comp=Z,3.8nm,0.7s,baz=120,slow=4.8,SNR=6.4						
MKAR	Makanchi Array	59.63	328	P	P	19 53 14.3	-1.0
MKAR				PcP	PcP	19 54 01.6	-0.7
AAK	Ala-Archa	61.91	320	eP	P	19 53 29.9	-0.9
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
AAK	Ala-Archa	61.91	320	eP	P	19 53 29.9	-1.0
	comp=Z,4.8nm,0.6s,mb4.8						
YAK	Yakutsk	62.14	3	eP	P	19 53 32.3	-0.1
YAK				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.5						
YAK	Yakutsk	62.14	3	eP	P	19 53 32.3	-0.1
	comp=Z,24nm,0.6s,mb5.5						
MA2	Magadan	62.95	15	eP	P	19 53 38.6	+0.8
MA2				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
MA2	Magadan	62.95	15	eP	P	19 53 38.6	+0.8
	comp=Z,17nm,0.9s,mb5.2						
ZAL	Zalesovo	63.15	335	P	P	19 53 37.8	-1.3
	comp=Z,4.5nm,0.5s,mb4.9,baz=344,slow=3.8,SNR=19						
NVS	Novosibirsk	64.44	335	eP	P	19 53 45.3	-2.3
NVS				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.5s						
KK31	Karatay Array	64.72	319	i P	P	19 53 49.9	+0.5
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KKAR	Karatay Array	64.72	319	P	P	19 53 49.9	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
VOSK	Vostochnaya	69.02	328	P	P	19 54 14.7	-2.1
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BVA0	Borovoye Array	69.48	328	P	P	19 54 19.5	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
BRVK	Borovoye	69.56	328	eP	P	19 54 18.1	-2.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
BRVK	Borovoye	69.56	328	eP	P	19 54 18.1	-2.0
	comp=Z,4.4nm,0.5s,mb4.6						
CHKZ	Chkalovo	69.69	329	eP	P	19 54 18.7	-2.2
CHKZ				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
CHKZ	Chkalovo	69.69	329	eP	P	19 54 18.7	-2.2
	comp=Z,25nm,0.8s,mb5.2						
ZRNK	Zerenda	70.18	328	i P	P	19 54 22.2	-1.7
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
ZRNK	Zerenda	70.18	328	eP	P	19 54 22.0	-1.9
	comp=Z,19nm,0.5s,mb5.3						
TIXI	Tiksi	71.74	1c	iP	P	19 54 32.6	-0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.6						
AB31	Akbulak array	73.88	322	P	P	19 54 44.3	-1.8
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ARU	Arti	77.13	329⇑	iP	P	19 55 02.7	-2.0
ARU				e	pP	19 55 11.9	-1.5
ARU				e		19 57 56.2	
ARU				eS	S	20 04 49.8	-2.3
ARU				eSS	SS	20 09 45.3	-4.4
ARU				eSSS		20 13 07.3	
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARU	Arti	77.13	329	eP	P	19 55 02.3	-2.4
	comp=Z,8.4nm,0.7s,mb4.8						
MAW	Mawson	79.42	200	P	P	19 55 17.4	0.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=30,slow=4.6,SNR=6.4						
MAW	Mawson	79.42	200	eP	P	19 55 17.0	-0.4
MAW				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MAW	Mawson	79.42	200	eP	P	19 55 17.0	-0.4
	comp=Z,3.9nm,1.0s,mb4.3						
VNDA	Vanda	79.86	172	P	P	19 55 19.7	-0.1
	comp=Z,1.5nm,0.8s,mb4.0,baz=326,slow=2.9,SNR=5.8						
VNDA	Vanda	79.86	172	eP	P	19 55 17.5	-2.3
VNDA				e		19 55 31.3	
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	Vanda	79.86	172	eP	P	19 55 17.5	-2.3
	comp=Z,2.2nm,0.9s,mb4.1						
VNDA				e		19 55 31.3	
KIV	Kislovodsk	84.33	314	P	P	19 55 42.0	-1.2
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
KIV	Kislovodsk	84.33	314	P	P	19 55 42.0	-1.3
	comp=Z,2.9nm,0.6s,mb4.6						
SVW2	Sparrevohn	85.18	29	eP	P	19 55 48.8	+1.3
TTA	Tatalina	85.27	27	eP	P	19 55 49.0	+1.0
MALT	Malatya	87.14	308	eP	P	19 55 56.8	-0.4
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
MALT	Malatya	87.14	308	eP	P	19 55 56.8	-0.4
	comp=Z,3.6nm,1.0s,mb4.6						
VRSR	Storozhevoye	87.28	321	eP	P	19 55 58.9	+1.0
VRSR				pmax	pmax		
	comp=N,3.0nm,0.7s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.8s						
KMBO	Kilima Mbogo	87.42	269	P	P	19 55 59.6	+1.1
	comp=E,1.8nm,0.5s,mb4.6,baz=38,slow=12,SNR=6.8						
SLKM	Skilak Lake	87.72	30	eP	P	19 55 59.5	-0.5
ANN	Anapa	88.14	315	eP	P	19 55 59.9	-2.1
ANN				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.3						
OBN	Obninsk	89.04	325⇑	iP	P	19 56 04.2	-2.0
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.1						
BRTR	Keskin Array B	90.89	310	P	P	19 56 13.8	-1.1
	comp=Z,0.6nm,0.6s,mb4.1,baz=125,slow=5.6,SNR=5.7						
BRTR				LR	LR	20 40 23.9	
	comp=Z,25nm,20.9s,MS3.6,baz=215,slow=38						
JOF	Joensuu	91.67	333	ep	P	19 56 15.6	-2.9
	comp=Z,12nm,0.9s,mb5.2						
ARCES	ARCESS Array B	93.36	340	P	P	19 56 24.3	-2.0
	comp=Z,1.8nm,0.6s,mb4.7,baz=81,slow=7.5,SNR=16						
ARCES	ARCESS Array B	93.36	340	P	P	19 56 24.3	-2.0
AKASG	Malin Array Be	93.58	321	P	P	19 56 24.8	-2.5
	comp=Z,1.0nm,0.4s,mb4.6,baz=70,slow=4.7,SNR=4.7						
KAF	Kangasniemi	94.06	332	ep	P	19 56 26.6	-2.9
	comp=Z,3.3nm,0.6s,mb4.9						
KAF	Kangasniemi	94.06	332	eP	P	19 56 26.6	-2.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.9						
FINES	FINESS Array B	94.25	332	P	P	19 56 28.2	-2.2
	comp=Z,7.8nm,1.2s,mb5.0,baz=90,slow=3.8,SNR=8.7						
FINES	FINESS Array B	94.25	332⇑	eP	P	19 56 30.8	+0.4
INK	Inuvik	94.51	21	eP	P	19 56 30.9	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	94.51	21	eP	P	19 56 30.9	-0.6
	comp=Z,3.2nm,0.6s,mb4.9						
LSZ	Lusaka	96.21	255	eP	P	19 56 38.9	-0.4
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.8						
LSZ	Lusaka	96.21	255	eP	P	19 56 38.9	-0.5
	comp=Z,3.2nm,0.7s,mb4.9						
BOSA	Boshof	98.19	241	LR	LR	20 36 44.6	
	comp=Z,44nm,18.5s,MS4.0,baz=355,slow=33						
TORD	Torodi Ar. Bea	122.06	285	PKP	PKPdf	20 02 05.3	-0.3
	comp=Z,1.6nm,0.6s,baz=68,slow=1.6,SNR=17						
SCHQ	Schefferville	124.69	8	PKP	PKPdf	20 02 11.0	+0.2
	comp=Z,1.9nm,0.6s,baz=84,slow=4.9,SNR=4.5						
DBIC	Dimbokro	129.24	278	PKP	PKPdf	20 02 19.4	0.0
	comp=Z,2.8nm,0.9s,baz=205,slow=22,SNR=4.1						
CPUP	Villa Florida	153.60	176	PKPbc	PKPbc	20 03 11.3	+1.5
	comp=Z,0.4nm,0.4s,baz=100,slow=6.1,SNR=3.3						
CPUP	Villa Florida	153.60	176	PKPbc	PKPbc	20 03 11.3	+1.4
LPAZ	La Paz	159.35	143	PKPab	PKPab	20 03 51.1	+4.0
	comp=Z,1.1nm,0.7s,baz=200,slow=6.0,SNR=5.8						

MAN 09 19:46:22.5, 1354N×12168E, h1km, MS6.5, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	1.41	278	eP	Pn	19 46 48.2	-1.0
SCZP	Santa Cruz	2.81	323	eP	Pn	19 47 09.6	+1.1
BOLP	Bolinao	3.30	329	eP	Pn	19 47 15.2	0.0
CAUP	Cauayan	3.39	2	eP	Pn	19 47 16.4	-0.1
PALP	Palanan	3.58	12	eP	Pn	19 47 20.2	+1.1

*NEIC **09** 20:09:17.0±0.9, 662S×15532E, h35km, Error ellipse: s-maj=26.2km s-min=16.3km az=197.0*
IDC 09 20:09:11.9±1.4**, 657S**×**15529E, h0**km**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.5**/14**, mbtmp3.6**/4**, ML4.2**/1**, Error ellipse: s-maj=34.7km s-min=29.2km az=26.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.42	122	Pn	Pn	20 10 34.8	+0.9
	7.0nm,0.3s,baz=270,slow=8.9,SNR=2.9						
HNR				Sn	Sn	20 11 37.0	0.0
	7.9nm,0.3s,baz=96,slow=19,SNR=3.3						
WRA	Warramunga Arr	24.30	235	P	P	20 14 31.8	+0.8
	0.4nm,0.5s,baz=59,slow=9.3,SNR=7.4						
ASAR	Alice Springs	26.68	228	P	P	20 14 52.7	+0.2
	0.4nm,0.7s,baz=58,slow=9.6,SNR=8.0						
SONM	Songino Array	69.14	327	P	P	20 20 20.8	+0.8
	0.5nm,0.8s,baz=134,slow=4.3,SNR=3.7						
TORD	Torodi Ar. Bea	153.19	286	PKPbc	PKPbc	20 29 11.8	+0.2
	0.3nm,0.5s,baz=70,slow=2.4,SNR=5.7						
TORD				PKPab	PKPab	20 29 24.2	+0.9
	0.5nm,0.8s,baz=76,slow=6.1,SNR=5.0						

*ISCJB **09** 20:39:10.3±5.2, 210S±0.1×1742W±02, h25km±36km, mb4.2/10, MS3.6/7, Error ellipse: s-maj=30.0km s-min=10.8km az=66.1*
*IDC **09** 20:39:10.8±0.9, 2125S×17465W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.2/14, mbtmp4.1/7, MS3.7/8, Ms1 3.7/8, ms1mx3.3/28, Error ellipse: s-maj=33.5km s-min=24.7km az=126.0*
*NEIC **09** 20:39:10.9±0.8, 2107S×17449W, h10km, mb4.4/4, Error ellipse: s-maj=28.1km s-min=14.9km az=129.0*
ISC 09 20:39:12.2±5.4**, 211S**±01×**1742W**±02**, h24**km±38km**, n36,** σ**1.54**/21**, mb4.2**/10**, MS3.6**/7**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.48	18	Pn	Pn	20 40 59.9	+0.2
	3.5nm,0.3s,baz=138,slow=21,SNR=4.2						
AFI				Sn	Sn	20 42 22.7	-1.1
	4.4nm,0.3s,baz=0.0,slow=20,SNR=3.2						
RAR	Rarotonga	13.42	93	Pn	Pn	20 42 15.8	-5.3
	7.5nm,0.3s,baz=254,slow=3.5,SNR=13						
RAR				LR	LR	20 47 03.6	
	comp=Z,279nm,18.2s,baz=112,slow=34						
RAR	Rarotonga	13.42	93	Pn	Pn	20 42 15.8	-5.3
RAR				LR	LR	20 47 03.6	
DZM	Mont Dzumac	18.08	263	P	Pn	20 43 23.3	+1.6
	0.2nm,0.3s,baz=76,slow=17,SNR=6.4						
TBI	Tubuai	22.96	100	eLR	LR	20 49 34.1	
	190nm,27.8s						
PPT	Papeete	23.44	86	eLR	LR	20 49 57.9	
	197nm,25.2s,baz=262						
PPT	Papeete	23.44	86	LR	LR	20 51 58.0	
	comp=Z,150nm,19.5s,MS3.5,baz=260,slow=32						
HNR	Honiara	27.49	291	LR	LR	20 53 58.3	
	comp=Z,109nm,18.4s,MS3.5,baz=178,slow=33						
RKT	Rikitea	36.28	101	eLR	LR	20 55 54.6	
	111nm,27.0s						
CTAO	Charters Tower	37.02	264	eP	P	20 46 19.0	-0.9
	3.8nm,0.8s,mb4.3						
STKA	Stephens Creek	40.80	245	P	P	20 46 49.2	-2.4
	2.1nm,0.9s,mb3.8,baz=141,slow=9.2,SNR=3.2						
STKA				LR	LR	21 00 50.7	
	comp=Z,107nm,19.9s,MS3.7,baz=24,slow=32						
STKA	Stephens Creek	40.80	245	P	P	20 46 49.2	-2.4
STKA				LR	LR	21 00 50.7	
AS31	Alice Springs	47.89	257	eP	P	20 47 46.6	-1.7
ASAR	Alice Springs	47.89	257	P	P	20 47 47.1	-1.2
	4.0nm,0.8s,mb4.5,baz=102,slow=7.4,SNR=33						
ASPA	Alice Springs	47.90	257	eP	P	20 47 50.6	+2.3
WB2	Warramunga Arr	48.07	262	eP	P	20 47 49.1	-0.6
WRAB	Tennant Creek	48.08	262	eP	P	20 47 46.2	-3.6
	11nm,1.1s,mb4.8						
WRA	Warramunga Arr	48.09	262	P	P	20 47 48.3	-1.5
	3.0nm,0.8s,mb4.4,baz=95,slow=7.9,SNR=25						
VNDA	Vanda	57.68	186	P	P	20 49 01.8	+1.2
	1.0nm,0.8s,mb3.9,baz=1.0,slow=6.1,SNR=5.7						
VNDA	Vanda	57.68	186	eP	P	20 48 59.9	-0.8
	2.6nm,1.1s,mb4.2						
CBIJ	Chichi jima	63.88	317	LR	LR	21 13 59.6	
	comp=Z,30nm,20.7s,MS3.5,baz=105,slow=33						
JHJ	Hachijo jima 2	69.55	320	LR	LR	21 16 39.0	
	comp=Z,37nm,18.9s,MS3.6,baz=335,slow=32						
MJAR	Matsushiro Arr	72.86	321	P	P	20 50 41.5	+2.4
	2.3nm,0.8s,mb4.2,baz=159,slow=5.3,SNR=13						
MAJO	Matsushiro	72.86	321	P	P	20 50 40.9	+1.9
	4.0nm,0.8s,mb4.4						
ASAJ	Asahikawa	76.00	329	LR	LR	21 21 18.1	
	comp=Z,58nm,18.2s,MS3.9,baz=152,slow=33						
KSM	Kuching	77.06	277	eP	P	20 51 05.2	+1.9
NVAR	Mina Array Bea	79.02	41	P	P	20 51 18.9	+4.7
	0.4nm,0.6s,mb3.5,baz=221,slow=8.8,SNR=4.8						
MAW	Mawson	82.22	199	P	P	20 51 31.7	+0.5
	1.4nm,0.7s,mb4.0,baz=131,slow=11,SNR=4.7						
LPAZ	La Paz	98.50	111	LR	LR	21 29 00.9	
	comp=Z,40nm,20.6s,MS3.9,baz=136,slow=30						
AKASG	Malin Array Be	145.19	334	PKPbc	PKPbc	20 58 48.7	+1.4
	1.4nm,0.6s,baz=41,slow=4.3,SNR=10						
AKASG	Malin Array Be	145.19	334	PKPbc	PKPbc	20 58 48.7	+1.4
MALT	Malatya	147.12	309	ePKPbc	PKPbc	20 58 56.3	+3.1
BR131	Keskin Array S	149.86	314	ePKPbc	PKPbc	20 59 01.9	+1.7
BR131				ePKPab	PKPab	20 59 08.3	+2.6
BRTR	Keskin Array B	149.86	314	PKPbc	PKPbc	20 59 02.0	+1.8
	1.0nm,0.7s,baz=128,slow=2.6,SNR=6.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHC	Kasperske Hory	151.34	349	ePKP	PKPbc	20 59 09.0	+5.3
GERES	GERESS Array B	151.59	349	PKP	PKPdf	20 58 59.8	+1.7
	0.3nm,0.7s,baz=237,slow=3.4,SNR=2.6						
GERES				PKPbc	PKPbc	20 59 06.9	+2.5
	0.1nm,0.3s,baz=339,slow=2.5,SNR=3.9						

MAN 09 20:40:45.7, 882N×12632E, h32km, mb3.5, ML4.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.71	282	eP	Pn	20 40 59.1	-0.3
BUTP				eS	Sb	20 41 10.8	+1.7
SCPH	Surigao	1.26	319	eP	Pn	20 41 07.7	+0.6
SCPH				eS	Sn	20 41 22.6	-0.2
BUKP	Musuan	1.56	233	eP	Pn	20 41 12.4	+1.3
CGP	Cagayan de Oro	1.65	257	⇑iP	Pn	20 41 11.4	-1.0
CGP				i S	Sn	20 41 32.7	+0.2
MATI	Mati	1.86	182	eP	Pn	20 41 15.3	0.0

ISCJB 09 20:45:01.4±0.7, 3907N±003×2455E±003, h5km±5km, Error ellipse: s-maj=5.5km s-min=4.2km az=54.6
THE 09 20:45:03.0, 3908N×2454E, h6km, ML2.7
NEIC 09 20:45:02.3, 3907N×2454E, h27km, ML3.2(ATH), After ATH.
ATH 09 20:45:02.3, 3907N×2454E, h27km±1km, MD3.5/9, ML3.2
CSEM 09 20:45:02.8±0.1, 3906N×2453E, h12km, ML2.7, Error ellipse: s-maj=1.9km s-min=1.7km az=41.0
ISC 09 20:45:02.3±0.6, 3907N±003×2454E±003, h9km±5km, n33, σ0.73/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	Alonnisos	0.52	281	ePg	Pg	20 45 13.1	+0.7
LOS	Limnos	0.96	26	ePg	Pg	20 45 21.3	+0.6
LIA	Limnos Island	0.97	31	ePN	Pn	20 45 21.0	-1.0
NEO	Neokhori	1.05	283	ePN	Pn	20 45 22.6	-0.5
NEO				eSN	Sn	20 45 37.7	-0.1
PAIG	Paliouri	1.08	323	ePg	Pg	20 45 22.7	-0.4
PAIG				eSg	Sg	20 45 38.5	+1.4
XOR	Xorichti	1.08	286	ePg	Pg	20 45 22.9	-0.2
PTL	Penteli	1.15	207	ePN	Pn	20 45 23.5	-1.0
LKR	Lokris	1.27	251	ePN	Pn	20 45 25.9	-0.3
ATH	Athens Observa	1.27	211	ePN	Pn	20 45 26.1	-0.1
OUR	Ouranopolis	1.33	342	ePg	Pg	20 45 26.4	-1.4
PRK	Paraskevi	1.36	82	ePN	Pn	20 45 27.6	+0.1
PRK				eSN	Sn	20 45 45.8	+0.2
CHOS	Chios island	1.37	119	ePg	Pg	20 45 28.2	-0.4
CHOS				eSg	Sg	20 45 46.8	+0.4
CHOS	Chios island	1.37	119	ePg	Pg	20 45 28.2	-0.4
CHOS				eSg	Sg	20 45 46.8	+0.4
KVR	Kavouri	1.38	206	ePN	Pn	20 45 27.5	-0.2
PLG	Polygyros	1.55	328	ePB	Pb	20 45 29.5	-1.6
AGG	Agios Georgios	1.72	269	ePb	Pb	20 45 32.7	-1.3
AGG				eSb	Sb	20 45 55.5	-0.2
HORT	Hortiatis	1.88	325	ePb	Pn	20 45 34.6	0.0
LIT	Litokhoron	1.89	304	ePb	Pn	20 45 34.7	0.0
SOH	Sokhos	1.97	333	ePb	Pn	20 45 36.0	+0.1
THE	Thessaloniki	1.97	323	ePb	Pn	20 45 36.1	+0.2
EVR	Evrytania	2.13	267	ePB	Pn	20 45 38.9	+0.9
APE	Apeiranthos	2.15	158	ePn	Pn	20 45 38.6	+0.4
APE	Apeiranthos	2.15	158	ePN	Pn	20 45 38.7	+0.4
ALN	Alexandroupoli	2.16	32	ePn	Pn	20 45 38.1	-0.3
RDO	Rodhopi	2.21	20	ePN	Pn	20 45 39.5	+0.4
NVR	Nevrokopi	2.33	347	ePN	Pn	20 45 40.7	-0.1
KNT	Kendrikon	2.44	330	ePn	Pn	20 45 42.7	+0.5
GRG	Griva	2.50	320	ePn	Pn	20 45 43.8	+0.7
MMB	Musomiste	2.59	346	ePn	Pn	20 45 43.8	-0.5
VLI	Veliai	2.67	209	ePN	Pn	20 45 45.8	+0.4
FNA	Florina	2.97	306	ePn	Pn	20 45 51.0	+1.4
IGT	Igoumenitsa	3.29	279	ePn	Pn	20 45 57.3	+3.3
KARN	Karanos	3.69	188	ePn	Pn	20 45 59.9	+0.4

ISCJB 09 20:56:37.7±0.4, 4372N±004×10503W±004, h0km, mb4.4/1, Error ellipse: s-maj=5.3km s-min=3.9km az=136.4
NEIC 09 20:56:39.8±0.8, 4363N×10509W, h0km, ML3.7, Error ellipse: s-maj=9.0km s-min=7.9km az=89.0, Suspected Mining explosion.
NEIC 75 km [50 miles] WSW of Newcastle.
IDC 09 20:56:40.4±1.6, 4390N×10564W, h0km, mb4.2/1, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML3.9/3, Error ellipse: s-maj=45.2km s-min=7.7km az=147.0
ISC 09 20:56:40.4±0.4, 4376N±003×10515W±004, h0km, n52, σ1.01/61, mb4.4/1, 1D, Wyoming

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.88	65	ePn	Pn	20 56 58.7	-1.3
PHWY	Pilot Hill	2.47	185	ePg	Pg	20 57 22.1	-5.6
PHWY				eSn	Sn	20 57 54.4	+1.7
RWWY	Rawlins	2.57	217	ePn	Pn	20 57 23.4	+0.2
RWWY				eSn	Sn	20 57 55.6	+0.5
LAO	LASA Array	3.02	346	ePn	Pn	20 57 29.4	-0.1
BW06	Boulder Array	3.37	254	ePn	Pn	20 57 33.6	-0.6
BW06				eSn	Sn	20 58 15.5	+0.5
PDAR	Pinedale Array	3.37	254	Pn	Pn	20 57 33.3	-0.9
	4.0nm,0.3s,baz=74,slow=16,SNR=76						
PDAR				Lg		20 58 16.3	
	13nm,0.3s,baz=70,slow=33,SNR=11						
GCMT	Greycliff	3.81	304	ePn	Pn	20 57 39.9	-0.4
GCMT				eSn	Sn	20 58 27.6	+1.9
LKWY	Lake	3.86	284	ePn	Pn	20 57 42.5	+1.5
LOHW	Long Hollow	3.96	270	ePn	Pn	20 57 43.1	+0.8
ISCO	Idaho Springs	3.97	185	ePb	Pn	20 57 43.3	+0.8
FLWY	Flagg Ranch	4.02	277	ePn	Pn	20 57 43.1	-0.1
SNOW	Snow King Moun	4.08	268	ePb	Pb	20 57 49.8	-3.3
YNR	Norris Junctio	4.09	285	ePb	Pb	20 57 53.2	0.0
REDW	Red Top Meadow	4.17	266	ePn	Pn	20 57 45.2	0.0
IMW	Indian Meadow	4.19	274	ePn	Pn	20 57 46.3	+0.7
TPAW	Teton Pass	4.22	268	ePn	Pn	20 57 45.9	-0.1
YMR	Madison River	4.28	284	eP	Pb	20 57 57.0	+0.5
DCID1	Drake Creek	4.38	270	ePn	Pn	20 57 53.5	+5.3
AHID	Auburn Hatcher	4.46	259	ePb	Pb	20 57 58.7	-0.8
RRI2	Red Ridge	4.51	267	ePn	Pn	20 57 49.2	-0.6
QLMT	Earthquake Lak	4.63	286	ePb	Pb	20 58 01.8	-0.8
QLMT				eSb	Sb	20 59 06.9	+8.0
DGMT	Dagmar	4.76	8	ePn	Pn	20 57 55.5	+2.2
SMCO	Snowmass	4.78	197	ePg	Pg	20 58 06.5	-5.4
BOZ	Bozeman (W)	4.99	294	ePn	Pn	20 57 56.5	0.0
HWUT	Hardware Ranch	5.20	248	ePn	Pn	20 57 58.6	-0.8
TCUT	Toone Canyon	5.33	242	ePn	Pn	20 58 00.8	-0.4
EGMT	Eagleton	5.34	325	ePn	Pn	20 57 53.9	-7.4
DLMT	Dillon	5.56	289	ePb	Pb	20 58 21.6	+3.4
HRY	Holter Researc	5.57	304	ePn	Pn	20 58 05.1	+0.7
LRM	Limekiln Ridge	5.59	294	ePb	Pb	20 58 18.4	-0.4
MCMT	McKenzie Canyo	5.63	284	ePn	Pn	20 58 06.6	+1.3
CTU	Camp Tracy	5.78	240	ePn	Pn	20 58 08.4	+1.1
SPUT	South Promonto	5.92	248	ePn	Pn	20 58 09.0	-0.4
SPUT				ePb	Pb	20 58 24.9	+0.5
HVU	Hansel Valley	5.95	253	ePn	Pn	20 58 08.9	-0.8
	8.8nm,0.7s						
SDCO	Great Sand Dun	6.01	183	ePn	Pn	20 58 11.8	+1.2
MPU	Maple Canyon	6.12	234	ePn	Pn	20 58 09.8	-2.2
SRU	San Rafael	6.16	223	ePn	Pn	20 58 12.1	-0.5
ECSD	EROS,Sioux Fal	6.18	87	ePn	Pn	20 58 13.9	+1.0
ECSD				eSg	Sg	20 59 59.5	+0.6
PV01	Paradox Valley	6.19	206	ePn	Pn	20 58 13.5	+0.5
PV01				eSn	Sn	20 59 20.3	-4.1
TMUT	Trail Mountain	6.37	228	ePn	Pn	20 58 16.0	+0.6
CHMT	Chamberlain Mo	6.52	302	ePn	Pn	20 58 17.1	-0.4
MSU	Marysvale	7.46	228	ePn	Pn	20 58 30.6	+0.2
CCUT	Cedar City	8.80	228	⇓iPn	Pn	20 58 48.6	-0.2
CCUT				eSn	Sn	21 00 26.3	-2.3
ANMO	Albuquerque	8.86	187	Lg		21 01 23.4	
	0.1nm,0.3s,baz=43,slow=10,SNR=4.4						
ULM	Lac du Bonnet	9.07	41	Pn	Pn	20 58 52.0	-0.4
	0.5nm,0.3s,baz=232,slow=13,SNR=5.6						
ULM				Sn	Sn	21 00 33.9	-1.4
	0.2nm,0.3s,baz=96,slow=18,SNR=3.5						
ULM				Lg		21 01 24.2	
	0.3nm,0.3s,baz=323,slow=21,SNR=2.4						
ULM	Lac du Bonnet	9.07	41	Pn	Pn	20 58 52.0	-0.4
ULM				Sn	Sn	21 00 33.9	-1.4
ULM				Lg		21 01 24.2	
NEW	Newport	9.47	303	Lg		21 01 21.6	
	0.3nm,0.3s,baz=73,slow=15,SNR=2.1						
WUAZ	Wupatki	9.53	212	ePn	Pn	20 58 57.0	-1.8
WVOR	Wild Horse Val	9.96	267	ePn	Pn	20 59 04.3	-0.3
	9.7nm,1.5s						
NVAR	Mina Array Bea	11.26	246	Pn	Pn	20 59 22.7	+0.2
	0.1nm,0.3s,baz=51,slow=12,SNR=3.7						
YBH	Yreka Blue Hor	13.07	267	Pn	Pn	20 59 47.7	+0.4
	0.1nm,0.3s,baz=100,slow=11,SNR=3.5						
ARCES	ARCESS Array B	61.37	18	P	P	21 06 55.9	-2.2
	2.9nm,1.0s,mb4.4,baz=339,slow=6.5,SNR=5.9						

IDC 09 21:04:30.5±3.2, 2660S×17636W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, ML4.7/1, MS3.7/4, Ms1 3.7/4, ms1mx3.3/16, Error ellipse: s-maj=73.7km s-min=35.2km az=108.0
ISCJB 09 21:04:31.2±5.1, 2675S±02×1760W±07, h33km, mb4.1/4, MS3.6/3, Error ellipse: s-maj=94.3km s-min=13.8km az=24.0
NEIC 09 21:04:35.2±2.5, 2671S×17632W, h35km, mb4.4/2, Error ellipse: s-maj=50.8km s-min=26.7km az=97.0
ISC 09 21:04:32.1±4.9, 267S±02×1758W±07, h35km, n12, σ0.93/7, mb4.1/4, MS3.6/3, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.13	216	Pn	Pn	21 05 19.0	+0.1
	103nm,0.3s,baz=277,slow=22,SNR=4.3						
RAO				Sn	Sn	21 05 55.0	-0.1
	140nm,0.3s,baz=228,slow=23,SNR=2.9						
DZM	Mont Dzumac	16.82	282	LR	LR	21 13 19.6	
	comp=Z,459nm,18.2s,baz=29,slow=32						
TBI	Tubuai	24.09	88	eLR	LR	21 15 39.2	
	105nm,32.5s						
PPT	Papeete	25.91	75	eLR	LR	21 16 29.4	
	106nm,30.5s						
HNR	Honiara	28.67	302	LR	LR	21 19 16.7	
	comp=Z,142nm,19.2s,MS3.6,baz=180,slow=31						
CTAO	Charters Tower	35.35	273	eP	P	21 11 24.6	+0.5
	1.7nm,0.4s,mb4.3						
STKA	Stephens Creek	37.33	252	LR	LR	21 26 10.0	
	comp=Z,90nm,18.0s,MS3.6,baz=27,slow=35						
AS31	Alice Springs	45.38	262	eP	P	21 12 48.1	+1.1
ASAR	Alice Springs	45.38	262	P	P	21 12 47.2	+0.2
	0.5nm,0.5s,mb3.6,baz=94,slow=6.6,SNR=11						
ASAR				LR	LR	21 29 49.0	
	comp=Z,78nm,20.3s,MS3.6,baz=180,slow=34						
WRAB	Tennant Creek	46.04	267	eP	P	21 12 49.7	-2.5
	4.2nm,0.8s,mb4.4						
WRA	Warramunga Arr	46.04	267	P	P	21 12 52.2	-0.1
	2.0nm,0.6s,mb4.2,baz=106,slow=7.6,SNR=14						
AKASG	Malin Array Be	149.38	328	PKPbc	PKPbc	21 24 19.6	+2.4
	0.2nm,0.4s,baz=35,slow=3.4,SNR=4.2						

MOS 09 21:50:45.1±0.8, 56.16N×16259E, h11km, mb4.4/1, Error ellipse: s-maj=27.7km s-min=11.9km az=66.1
KRSC 09 21:50:44, 5622N×16245E, h5km, ML4.3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.21	93	eP	Pg	21 50 50.2	+2.1
SMKR	Semkarok	0.66	304	eP	Pg	21 50 58.7	+2.1
SMKR				i S	Sg	21 51 08.6	+3.5
BDR	Baidarnaya	0.77	297	eP	Pg	21 51 01.1	+2.2
BDR				i S	Sg	21 51 13.4	+4.5
SRKR	Sorokina	0.83	302	eP	Pg	21 51 02.1	+2.1
SRKR				i S	Sg	21 51 14.5	+3.7
ZLN	Zelenaya	0.94	258	eP	Pg	21 51 05.1	+3.0
ZLN				i S	Sg	21 51 19.9	+5.5
KLY	Klyuchi	1.01	276	eP	Pg	21 51 03.3	0.0
KLY				i S	Sg	21 51 16.3	-0.1
KRSR	Krestovskiy	1.05	271	eP	Pg	21 51 05.8	+1.6
KRSR				i S	Sg	21 51 20.2	+2.3
KPT	Kopyto	1.27	259	eP	Pg	21 51 09.9	+1.5
KPT				i S	Sg	21 51 29.3	+4.3
KMNR	Kamenistaya	1.33	250	eP	Pn	21 51 11.0	+1.8
KMNR				i S	Sg	21 51 31.1	+4.4
KOZR	Kozyr	1.44	265	PN	Pn	21 51 13.0	+2.3
KOZR				S	Sb	21 51 34.5	+4.6
KOZ	Kozyrevsk	1.45	265	eP	Pn	21 51 13.0	+2.1
KOZ				i S	Sb	21 51 34.5	+4.2
SRDR	Sredinnyy	1.53	275	eP	Pn	21 51 13.7	+1.8
SRDR				i S	Sn	21 51 34.9	+2.7
TUMR	Tumrok	1.61	235	eP	Pn	21 51 15.4	+2.4
MKZ	Mys Kozlova	1.72	194	eP	Pn	21 51 15.2	+0.7
MKZ				i S	Sn	21 51 38.1	+1.2
KII	Karymskiy	2.79	219	eP	Pn	21 51 32.3	+3.1
SPN	Mys Shipunski	3.43	205	eP	Pn	21 51 39.0	+0.9
SPN				i S	Sn	21 52 19.2	0.0
NLC	Nalytchevo	3.55	212	eP	Pn	21 51 41.4	+1.7
NLC				i S	Sn	21 52 24.0	+2.0
GNL	Ganaly	3.63	228	eP	Pn	21 51 43.2	+2.4
AVH	Avacha	3.66	218	eP	Pn	21 51 44.6	+3.3
AVH				i S	Sn	21 52 27.9	+3.1
PET	Petropavlovsk	3.89	216	eP	Pn	21 51 47.0	+2.6
PET				i S	Sn	21 52 33.1	+2.7
RUS	Russkaya	4.44	213	eP	Pn	21 51 53.5	+1.5
RUS				i S	Sn	21 52 44.5	+0.5
GRL	Gorelyy	4.48	217	eP	Pn	21 51 56.5	+4.0
GRL				i S	Sn	21 52 48.7	+3.7

ISCJB 09 21:52:44.4±1.4, 3791N±009×690E±02, h10km, Error ellipse: s-maj=28.5km s-min=9.3km az=139.8
NNC 09 21:52:45.8±5.3, 3804N×6887E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=57.4km s-min=27.0km az=17.0
ISC 09 21:52:45.1±1.2, 3791N±009×688E±02, h10km, n4, σ1.65/7, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	4.81	147	P	Pn	21 53 58.6	+1.0
CEP				S	Sn	21 54 52.0	-1.3
KK31	Karatay Array	5.36	14	Pn	Pn	21 54 07.7	+2.6
	0.8nm,0.3s,baz=203,slow=16,SNR=20						
KK31				Pg	Pg	21 54 23.0	-4.8
	1.5nm,0.8s,baz=305,slow=46,SNR=4.5						
KK31				Lg		21 55 33.1	
	4.4nm,0.5s,baz=116,slow=46,SNR=5.5						
TKM2	Tokmak 2	7.23	44	⇑Pn	Pn	21 54 30.4	-0.4
	0.2nm,0.5s						
TKM2				⇑Lg		21 56 31.7	
	0.5nm,0.7s						
AB31	Akbulak array	13.01	333	Pn	Pn	21 55 52.2	+2.2
	0.2nm,0.3s,baz=156,slow=12,SNR=16						
AB31				⇓Sn	Sn	21 58 12.9	-1.9
	1.3nm,0.7s,baz=156,slow=22						

IDC 09 22:50:36.6±0.6, 1826S×17267W, h0km, mb4.8/10, mb1 4.9/12, mb1mx4.7/18, mbtmp4.8/12, ML2.8/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/23, Error ellipse: s-maj=21.8km s-min=16.1km az=135.0
SZGRF 09 22:50:40.6, 1897S×17302W, h33km, Tonga Islands
BJI 09 22:50:40.0, 1880S×17364W, h22km, mB5.2, mb5.1, Ms5.1, Msz4.8
ISCJB 09 22:50:40.5±0.2, 1824S±008×17287W±006, h34km, mb4.8/45, MS4.1/19, Error ellipse: s-maj=12.6km s-min=5.8km az=112.3
MOS 09 22:50:41.7±2.8, 1843S×17281W, h33km, mb4.8/13, Error ellipse: s-maj=17.0km s-min=10.3km az=140.5
NEIC 09 22:50:42.1±0.2, 1823S×17285W, h35km, mb4.7/27, Error ellipse: s-maj=10.1km s-min=4.2km az=145.0
ISC 09 22:50:42.6±0.2, 1825S±007×17283W±006, h36km, h36km±1.4km:pP-P, n207, σ0.85/118, mb4.8/45, MS4.1/19, 21C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.43	13	Pn	Pn	22 51 43.6	-3.7
	31nm,0.3s,baz=350,slow=1.5,SNR=31						
AFI				Sn	Sn	22 52 30.7	-7.0
	55nm,0.3s,baz=4.1,slow=24,SNR=3.8						
AFI				T		22 56 46.6	
	40nm,0.3s,baz=60,slow=24,SNR=4.2						
AFI	Afiamalu	4.43	13	ePn	Pn	22 51 43.0	-4.3
AFI				eSn	Sn	22 52 30.5	-7.1
RAO	Raoul Island	11.90	202	Sn	Sn	22 55 34.6	-6.5
	63nm,0.3s,baz=84,slow=23,SNR=4.2						
RAR	Rarotonga	12.64	106	Pn	Pn	22 53 32.0	-7.9
	16nm,0.3s,baz=249,slow=7.6,SNR=28						
RAR				Sn	Sn	22 55 40.6	-19
	2.5nm,0.3s,baz=205,slow=23,SNR=2.9						
RAR				LR	LR	22 57 01.4	
	comp=Z,683nm,20.6s,baz=312,slow=31						
RAR	Rarotonga	12.64	106	Pn	Pn	22 53 32.0	-7.9
RAR				Sn	Sn	22 55 40.6	-19
RAR				LR	LR	22 57 01.4	
DZM	Mont Dzumac	19.82	255	P	Pn	22 55 10.3	-1.6
	0.8nm,0.3s,baz=88,slow=14,SNR=17						
DZM				LR	LR	23 00 10.8	
	comp=Z,310nm,20.2s,baz=144,slow=29						
URZ	Urewera	21.79	202	P	P	22 55 32.5	+1.1
	46nm,0.7s,mb5.0,baz=354,slow=4.2,SNR=30						
URZ				S	S	22 59 20.2	-10
	5.7nm,0.5s,baz=57,slow=22,SNR=5.3						
PPT	Papeete	22.14	92	eLR	LR	23 00 31.3	
	1μm,26.0s,baz=261						
PPT	Papeete	22.14	92	LR	LR	23 01 23.3	
	comp=Z,534nm,22.0s,MS3.9,baz=257,slow=29						
TBI	Tubuai	22.42	107	eLQ		22 59 45.5	
	964nm,28.0s						
TBI				eLR	LR	23 00 43.0	
	730nm,26.8s,baz=286						
HNR	Honiara	27.82	285	LR	LR	23 06 03.7	
	comp=Z,292nm,20.9s,MS3.8,baz=178,slow=33						
RPZ	Rata Peaks	28.80	205	P	P	22 56 44.7	+7.7
	30nm,0.6s,mb5.2,baz=155,slow=1.0,SNR=22						
ARMA	Armidale	34.43	243	eP	P	22 57 26.6	0.0
RKT	Rikitea	35.68	104	eS	S	23 02 56.9	-14
	111nm,30.0s						
RKT				eLR	LR	23 06 49.1	
	478nm,26.8s						
CNB	Canberra Magne	37.52	235	eP	P	22 57 53.6	+0.6
	33nm,0.7s,mb5.2						
CTA	Charters Tower	38.63	260	eP	P	22 58 00.5	-1.8
	44nm,0.6s,mb5.4						
CTA	Charters Tower	38.63	260	eP	P	22 58 00.5	-1.8
CTA				pmax	pmax		
	comp=Z,44nm,0.6s						
CTAO	Charters Tower	38.63	260	eP	P	22 58 01.6	-0.7
PMG	Port Moresby	39.76	277	P	P	22 58 12.9	+1.1
	comp=Z,19nm,0.8s,mb4.9,baz=153,slow=6.8,SNR=4.5						
PMG	Port Moresby	39.76	277	eP	P	22 58 10.0	-1.8
PMG				pmax	pmax		
	comp=Z,34nm,1.1s						
PMG	Port Moresby	39.76	277	eP	P	22 58 10.0	-1.7
	comp=Z,34nm,1.1s,mb5.0						
TOO	Toolangi	41.15	233	eP	P	22 58 23.1	-0.2
	comp=Z,17nm,0.8s,mb4.7						
TOO	Toolangi	41.15	233	eP	P	22 58 23.1	-0.2
TOO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
STKA	Stephens Creek	43.16	243	eP	P	22 58 38.5	-1.1
	comp=Z,9.8nm,0.9s,mb4.5						
STKA	Stephens Creek	43.16	243	P	P	22 58 39.6	0.0
	comp=Z,9.8nm,0.8s,mb4.6,baz=74,slow=7.7,SNR=12						
STKA				LR	LR	23 15 46.8	
	comp=Z,204nm,18.5s,MS4.1,baz=33,slow=35						
WB2	Warramunga Arr	49.77	259	eP	P	22 59 30.5	-1.0
WB2	Warramunga Arr	49.77	259	eP	P	22 59 30.9	-0.6
WRAB	Tennant Creek	49.78	259	eP	P	22 59 30.4	-1.1
WRAB	Tennant Creek	49.78	259	eP	P	22 59 30.8	-0.8
WRA	Warramunga Arr	49.78	259	P	P	22 59 31.2	-0.4
	comp=Z,38nm,0.7s,mb5.6,baz=95,slow=8.3,SNR=9.8						
WRA				LR	LR	23 18 53.4	
	comp=Z,216nm,21.2s,MS4.1,baz=60,slow=34						
WRA	Warramunga Arr	49.78	259	eP	P	22 59 29.8	-1.8
AS31	Alice Springs	49.81	254	eP	P	22 59 31.7	-0.1
ASAR	Alice Springs	49.81	254	P	P	22 59 32.3	+0.5
	comp=Z,39nm,0.5s,mb5.7,baz=88,slow=8.7,SNR=376						
ASAR				LR	LR	23 19 43.6	
	comp=Z,172nm,19.1s,MS4.1,baz=183,slow=35						
ASAR	Alice Springs	49.81	254	eP	P	22 59 31.7	-0.1
ASAR	Alice Springs	49.81	254	P	P	22 59 32.3	+0.5
ASAR				LR	LR	23 19 43.6	
ASPA	Alice Springs	49.81	254	eP	P	22 59 31.7	-0.1
KAKA	Kakadu	52.88	268	eP	P	22 59 54.8	0.0
	comp=Z,40nm,0.5s,mb5.6						
FITZ	Fitzroy Crossi	58.20	260	eP	P	23 00 33.9	+0.9
	comp=Z,12nm,0.4s,mb5.3						
SBA	Scott Base	60.47	185	eP	P	23 00 49.0	+0.3
SBA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SBA	Scott Base	60.47	185	eP	P	23 00 49.0	+0.3
	comp=Z,1.8nm,0.6s,mb4.3						
VNDA	Vanda	60.62	186	P	P	23 00 49.3	-0.4
	comp=Z,0.4nm,0.6s,mb3.8,baz=357,slow=8.0,SNR=3.9						
VNDA	Vanda	60.62	186	eP	P	23 00 49.4	-0.3
VNDA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VNDA	Vanda	60.62	186	eP	P	23 00 49.4	-0.3
	comp=Z,1.2nm,1.0s,mb4.0						
MBWA	Marble Bar	63.13	255	eP	P	23 01 06.6	0.0
	comp=Z,8.4nm,0.6s,mb5.0						
KLBR	Kellerberrin	63.42	243	eP	P	23 01 08.7	+0.2
	comp=Z,30nm,1.5s,mb5.2						
MUN	Mundaring	64.69	243	eP	P	23 01 17.6	+0.7
MJAR	Matsushiro Arr	71.46	320	P	P	23 02 00.6	+1.2
	comp=Z,3.2nm,0.8s,mb4.3,baz=156,slow=6.0,SNR=13						
MJAR				LR	LR	23 27 06.7	
	comp=Z,48nm,20.4s,MS3.8,baz=240,slow=31						
MJAR	Matsushiro Arr	71.46	320	P	P	23 02 00.6	+1.2
MJAR				LR	LR	23 27 06.7	
ISA	Isabella	74.32	43	eP	P	23 02 16.4	+0.1
ISA				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
ISA	Isabella	74.32	43	eP	P	23 02 16.4	+0.1
	comp=Z,12nm,1.3s,mb4.7						
CMB	Columbia Colle	74.55	41	eP	P	23 02 17.3	-0.3
WDC	Whiskeytown Da	74.88	37	eP	P	23 02 20.2	+0.7
WDC				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
WDC	Whiskeytown Da	74.88	37	eP	P	23 02 20.2	+0.6
	comp=Z,14nm,1.5s,mb4.7						
GSC	Goldstone	75.20	45	eP	P	23 02 21.3	-0.1
MTUM	Tungsten Hills	75.27	42	eP	P	23 02 22.2	+0.4
GLA	Glamis	75.29	47	eP	P	23 02 22.2	+0.3
WAKR	Walker	75.42	41	eP	P	23 02 22.9	+0.2
YBH	Yreka Blue Hor	75.54	36	eP	P	23 02 23.7	+0.4
YBH				pmax	pmax		
	comp=Z,13nm,1.3s						
YBH	Yreka Blue Hor	75.54	36	eP	P	23 02 23.7	+0.4
	comp=Z,13nm,1.3s,mb4.7						
NVAR	Mina Array Bea	76.08	41	P	P	23 02 26.2	-0.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=223,slow=8.7,SNR=20						
YSS	Yuzh-Sakhalins	76.22	330	eP	P	23 02 18.9	-8.3
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
SHPR	Sheep Range	76.99	44	eP	P	23 02 31.8	+0.3
MOD	Modoc	77.03	37	eP	P	23 02 31.8	0.0
	comp=Z,9.5nm,1.5s,mb4.5						
TUC	Tucson	77.78	50	eP	P	23 02 36.3	+0.3
TUC				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
TUC	Tucson	77.78	50	eP	P	23 02 36.3	+0.3
	comp=Z,12nm,1.4s,mb4.6						
BMN	Battle Mountai	77.95	40	eP	P	23 02 36.7	-0.2
BMN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BMN	Battle Mountai	77.95	40	eP	P	23 02 36.7	-0.2
	comp=Z,6.7nm,1.1s,mb4.5						
KSM	Kuching	78.00	276	eP	P	23 02 39.5	+2.3
WVOR	Wild Horse Val	78.32	38	eP	P	23 02 38.2	-0.8
WVOR				e	pP	23 02 48.1	-2.2
WVOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WVOR	Wild Horse Val	78.32	38	eP	P	23 02 38.2	-0.8
	comp=Z,3.2nm,0.8s,mb4.3						
WVOR				ePcP	PcP	23 02 48.1	-0.1
WUAZ	Wupatki	79.02	47	eP	P	23 02 43.0	+0.1
	comp=Z,10.0nm,1.3s,mb4.6						
MSU	Marysvale	80.07	44	eP	P	23 02 49.3	+0.8
HAWA	Hanford	80.30	34	eP	P	23 02 49.0	-0.8
HLID	Hailey	81.48	39	eP	P	23 02 56.1	+0.1
SRU	San Rafael	81.48	44	eP	P	23 02 55.0	-1.1
MNTX	Cornudas Mount	81.49	53	eP	P	23 02 56.4	+0.3
MDJ	Mudanjiang	81.60	322	P	P	23 02 57.1	+0.4
MDJ				AP	pP	23 03 06.6	-1.4
MDJ				XP	sP	23 03 10.3	-1.9
MDJ				PP	PP	23 06 02.2	-1.3
MDJ				S	S	23 13 06.8	+0.5
MDJ				XS	sS	23 13 23.1	-1.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.4s,mb4.2						
TCUT	Toone Canyon	81.97	42	eP	P	23 02 54.5	-4.1

ANMO Albuquerque 82.22 49 *i* P P 23 02 56.9 -3.0
ANMO Albuquerque 82.22 49 *e*P P 23 03 00.2 +0.2
PV01 Paradox Valley 82.29 46 *e*P P 23 03 00.2 -0.2
NJ2 Nanjing 82.31 307 *e*P P 23 03 02.2 +1.8
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
GDL2 Guadalupe Moun 82.49 53 *e*P P 23 03 02.2 +0.8
RRI2 Red Ridge 83.23 40 *e*P P 23 03 05.4 +0.2
REDW Red Top Meadow 83.53 40 *e*P P 23 03 06.8 +0.1
TPAW Teton Pass 83.54 40 *e*P P 23 03 06.9 +0.1
CN2 Changchun 83.61 320 *e*P P 23 03 09.3 +2.1
IMW Indian Meadow 83.76 40 *e*P P 23 03 08.2 +0.2
comp=Z,7.9nm,1.1s,mb4.8
MCK McKinley 83.81 10 *e*P P 23 03 07.6 -0.6
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
MCK McKinley 83.81 10 *e*P P 23 03 07.6 -0.5
comp=Z,4.5nm,0.8s,mb4.7
LOHW Long Hollow 83.81 40 *e*P P 23 03 06.8 -1.4
comp=Z,7.3nm,1.3s,mb4.7
SMCO Snowmass 83.90 46 *e*P P 23 03 08.3 -0.4
comp=Z,9.6nm,1.1s,mb4.8
BW06 Boulder Array 84.02 41 *e*P P 23 03 08.6 -0.6
comp=Z,4.8nm,0.9s,mb4.6
PDAR Pinedale Array 84.02 41 P P 23 03 08.6 -0.7
comp=Z,2.7nm,0.8s,mb4.5,baz=233,slow=2.5,SNR=19
PDAR LR LR 23 33 47.8
comp=Z,58nm,18.9s,MS4.0,baz=136,slow=31
PDAR Pinedale Array 84.02 41 P P 23 03 08.6 -0.7
PDAR LR LR 23 33 47.8
DLBC Dease Lake 84.14 21 LR LR 23 32 32.6
comp=Z,70nm,20.1s,MS4.0,baz=290,slow=30
SDCO Great Sand Dun 84.22 47 *e*P P 23 03 10.5 +0.2
comp=Z,9.2nm,1.5s,mb4.7
BOZ Bozeman (W) 84.30 38 *e*P P 23 03 10.0 -0.7
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BOZ Bozeman (W) 84.30 38 *e*P P 23 03 10.0 -0.7
comp=Z,2.6nm,0.8s,mb4.4
MAW Mawson 85.28 199⇓*i*P P 23 03 15.1 -0.5
comp=Z,1.7nm,0.6s,mb4.3
MAW Mawson 85.28 199 P P 23 03 14.6 -1.0
comp=Z,2.4nm,0.8s,mb4.4,baz=266,slow=5.6,SNR=5.5
MAW LR LR 23 40 59.1
comp=Z,59nm,19.1s,MS4.0,baz=235,slow=35
MAW Mawson 85.28 199⇓*i*P P 23 03 15.1 -0.5
MAW pmax pmax
comp=Z,2.0nm,0.6s
DAWY Dawson 86.03 14 *e*P P 23 03 19.6 +0.2
PLCA Paso Flores 87.21 132 P P 23 03 24.5 -0.6
comp=Z,4.9nm,0.9s,mb4.7,baz=208,slow=3.0,SNR=5.5
PLCA LR LR 23 35 37.4
comp=Z,47nm,19.0s,MS3.9,baz=101,slow=31
GYA Guiyang 89.85 298 P P 23 03 40.1 +2.5
GYA AP pP 23 03 50.7 +1.7
GYA XP sP 23 03 54.6 +1.4
GYA SKS 23 14 06.6
GYA S S 23 14 29.2 +2.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,80nm,4.8s
GYA LR LR
comp=N,240nm,19.4s,MS4.8
GYA LR LR
comp=E,210nm,20.0s,MS4.8
GYA LR LR
comp=Z,180nm,21.0s,MS4.5
VNA3 Neumayer Olymp 89.98 175 *e*P P 23 03 39.6 +1.4
VNA3 *e* pP 23 03 50.3 +0.6
VNA3 *e* 23 03 53.7
VNA3 *e* 23 03 57.7
VNA3 *e* 23 04 02.0
VNA3 *e* 23 04 09.0
SNAA Sanae 90.05 177 *e*P P 23 03 38.8 +0.3
SNAA *e* pP 23 03 50.3 +0.3
SNAA *e* 23 04 02.5
SNAA Sanae 90.05 177 *e*P P 23 03 34.4 -4.1
SNAA Sanae 90.05 177 *e*P P 23 03 36.5 -2.1
comp=Z,1.2nm,0.6s,mb4.4
VNA1 Neumayer--Stat 90.68 175 *e*P P 23 03 41.9 +0.4
VNA1 *e* pP 23 03 55.3 +2.4
INK Inuvik 90.89 14 LR LR 23 36 06.4
comp=Z,62nm,21.5s,MS4.0,baz=186,slow=30
JTS JuntasAbangare 91.18 80 *e*P P 23 03 42.9 -0.9
JTS JuntasAbangare 91.18 80 *e*P P 23 03 43.7 -0.1
HHC Hu-ho-hao-te 91.35 313 *e*P P 23 03 45.5 +0.9
HHC AP pP 23 03 56.2 +0.2
HHC XP sP 23 03 59.9 -0.3
HHC PP PP 23 07 25.6 +3.4
HHC SKS 23 14 13.3
HHC S S 23 14 39.3 -1.6
HHC XS sS 23 14 56.9 -3.1
HHC PS PS 23 15 56.7 +2.7
HHC SS SS 23 20 47.5 +0.9
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.4
HHC AMB AMB
comp=Z,70nm,7.0s
HHC LR LR
comp=N,89nm,3.7s
HHC LR LR
comp=E,47nm,3.5s
HHC LR LR
comp=Z,128nm,7.8s
YAK Yakutsk 91.93 337 *e*P P 23 03 40.6 -6.7
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.4
YKA Yellowknife Ar 92.48 23 LR LR 23 38 06.9
comp=Z,66nm,18.6s,MS4.1,baz=270,slow=31
KMI Kunming 92.74 295 P P 23 03 50.2 -0.8
KMI AP pP 23 04 01.0 -1.5
KMI XP sP 23 04 05.3 -1.3
KMI PP PP 23 07 37.1 +3.9
KMI PPP 23 09 38.7
KMI S S 23 14 51.8 -1.6
KMI XS sS 23 15 09.8 -2.7
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,33nm,5.0s
KMI LR LR
comp=N,216nm,8.8s
KMI LR LR
comp=E,104nm,11.6s
KMI LR LR
comp=Z,104nm,13.5s,MS4.5
CD2 Chengdu 93.75 301 *e*P P 23 03 54.5 -1.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,6.2s
LZH Lanzhou 95.34 306 *e*P P 23 04 02.5 -0.4
LZH AP pP 23 04 13.5 -0.9
LZH XP sP 23 04 17.6 -0.9
LZH PP PP 23 07 55.4 +1.9
LZH AMB AMB
comp=Z,19nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,52nm,8.2s
LZH LR LR
comp=N,187nm,15.7s
LZH LR LR
comp=Z,274nm,18.5s,MS4.8
ULM Lac du Bonnet 95.79 39 LR LR 23 40 16.4
comp=Z,76nm,21.2s,MS4.1,baz=7.6,slow=31
ULN Ulaanbaatar 96.91 318 *e*P P 23 04 04.7 -5.4
LPAZ La Paz 98.33 110 LR LR 23 37 52.7
comp=Z,71nm,21.5s,MS4.1,baz=8.7,slow=29
ROSC El Rosal 99.56 88 LR LR 23 38 56.4
comp=Z,44nm,20.1s,MS4.0,baz=23,slow=29
WMQ Urumqi 109.15 311 *e*PKP PKiKP 23 09 09.0 +0.5
WMQ PPP 23 12 07.0
WMQ PKS 23 12 44.0
WMQ PP PP
comp=Z,87nm,5.1s
WMQ LR LR
comp=N,76nm,19.0s,MS4.5
WMQ LR LR
comp=E,123nm,23.2s,MS4.5
WMQ LR LR
comp=Z,110nm,22.7s,MS4.4
MKAR Makanchi Array 113.19 314 PKiKP PKiKP 23 09 15.4 -0.8
comp=Z,0.5nm,0.5s,baz=35,slow=0.7,SNR=8.9
ARCES ARCESS Array B 127.49 352 PKP PKPdf 23 09 43.2 -0.4
comp=Z,2.3nm,0.8s,baz=338,slow=1.3,SNR=6.4
GNI Garni 141.01 312 *i* PKHKP 23 10 04.9
AKASG Malin Array Be 143.16 337 PKhKP 23 10 08.9
comp=Z,0.7nm,0.5s,baz=35,slow=3.9,SNR=4.9
AKASG Malin Array Be 143.16 337 *i* PKHKP 23 10 08.8
AKASG pmax pmax
comp=Z,1.0nm,0.5s
BSEG Bad Segeberg 144.30 357 *e*PKPbc PKPdf 23 10 12.9 -1.8
RUE Ruedersdorf 145.45 353 *e*PKPbc PKPbc 23 10 16.4 -0.3
IBBN Ibbenburen 146.01 359 *e*PKPbc PKPbc 23 10 18.4 -0.1
MALT Malatya 146.23 313 *e*PKP2 PKPab 23 10 21.3 +1.4
KWP Kalwaria 146.29 342 *e*PKIKP PKPdf 23 10 18.9 +0.8
OJC Ojcow 146.54 345 *e*PKP PKPdf 23 10 20.5 +2.0
KSP Ksiaz 146.68 349 *e*PKP2 PKPab 23 10 20.7 -0.9
CLL Collm 146.69 353 *e*PKPbc PKPbc 23 10 20.2 -0.3
CLL Collm 146.69 353⇑*i*PKPbc PKPbc 23 10 20.3 -0.2
comp=Z,15nm,0.8s
CLL *i* pPKPbc pPKPbc 23 10 30.0 -2.2
CLL *e*x x 23 10 42.0
CLL Collm 146.69 353⇑*i*PKP2 PKPab 23 10 20.3 -1.4
CLL pmax pmax
comp=Z,5.0nm,0.8s
GTTG Gvttingen 146.70 357 *e*PKPbc PKPbc 23 10 20.4 -0.1
STHS Stebnicka Huta 146.90 343 *e*PKP PKPdf 23 10 20.1 +1.0
STHS *e* 23 10 44.3
BRG Berggiesshubel 147.01 352 *e*PKPbc PKPbc 23 10 20.9 -0.5
BRG Berggiesshubel 147.01 352 *e*PKP PKPdf 23 10 21.1 +1.8
comp=Z,4.3nm,0.8s
BRG Berggiesshubel 147.01 352 *e*PKP2 PKPab 23 10 21.1 -1.8
BRG pmax pmax
comp=Z,3.0nm,0.8s
FBE Freiberg 147.03 353 *e*PKPbc PKPbc 23 10 21.6 +0.2
UPC Upice 147.05 350 *e*PKPbc PKPbc 23 10 22.0 +0.5
DPC Dobruska-Polom 147.15 349 *e*PKPbc PKPbc 23 10 22.2 +0.4
NIE Niedzica 147.15 344 *e*PKP PKPdf 23 10 22.7 +3.1
PVCC Panska Ves 147.26 351 *e*PKPbc PKPbc 23 10 22.6 +0.5
UZH Uzhgorod 147.30 341⇑*i*PKP2 PKPab 23 10 22.8 -1.3
UZH pmax pmax
comp=Z,34nm,1.0s
CRVS Cervenica-Dubn 147.30 342 *e*PKP PKPdf 23 10 20.7 +0.9
MORC Moravsky Berou 147.46 347 *e*PKP2 PKPab 23 10 23.2 -1.5
MOX Moxa 147.49 355 *e*PKPbc PKPbc 23 10 22.6 -0.1
WERD Werda 147.62 354 *e*PKPbc PKPbc 23 10 23.0 -0.1
TANN Tannenbergstha 147.63 354 *e*PKPbc PKPbc 23 10 23.3 +0.2
GUNZ Gunzen 147.69 354 *e*PKPbc PKPbc 23 10 23.6 +0.3
WERN Wernitzgruen 147.77 354 *e*PKPbc PKPbc 23 10 24.4 +0.9
PRU Pruhonice 147.79 351 *e*PKPbc PKPbc 23 10 23.6 +0.1
NKC Novy Kostel 147.81 354 *e*PKPbc PKPbc 23 10 23.8 +0.2
KECS Kecovo 147.96 343 *e*PKP PKPbc 23 10 23.9 -0.1
MANZ Manzenberg 148.09 354 *e*PKPbc PKPbc 23 10 24.7 +0.4
GIVF Givet 148.17 3 *e*PKP1 PKPbc 23 10 24.4 -0.1
BAIF Baives 148.18 4⇑*i*PKP1 PKPbc 23 10 24.5 -0.1
comp=Z,12nm,0.8s
ROTZ Rotzenmuhle 148.30 354 *e*PKPbc PKPbc 23 10 25.1 +0.2
VYHS Vyhne 148.38 345 *e*PKP PKPbc 23 10 25.4 +0.3
GRF Grafenberg Arr 148.46 355 *e*PKPbc PKPbc 23 10 25.9 +0.6
BR131 Keskin Array S 148.68 319 *e*PKPbc PKPbc 23 10 26.2 +0.4
BRTR Keskin Array B 148.68 319 PKPbc PKPbc 23 10 26.6 +0.8
comp=Z,8.1nm,0.8s,baz=128,slow=2.7,SNR=55
KHC Kasperske Hory 148.76 352 *e*PKPbc PKPbc 23 10 26.3 +0.2
KHC *e*PKPab PKPab 23 10 30.4 +0.5
ROSF Rostrenen 148.81 14 *e*PKP1 PKPbc 23 10 26.1 -0.1
WET Wettzell 148.84 353 *e*PKPbc PKPbc 23 10 26.2 -0.1
FLN La Foliniere 148.94 10⇑*i*PKP1 PKPbc 23 10 26.0 -0.5
comp=Z,13nm,0.7s
FLN *e*R
comp=Z,49nm,21.8s
GEC2 GERESS Array S 149.02 352 *e*PKPbc PKPbc 23 10 26.7 0.0
GERES GERESS Array B 149.02 352 PKPbc PKPbc 23 10 26.5 -0.3
comp=Z,3.6nm,1.0s,baz=22,slow=2.3,SNR=23
ZST Bratislava 149.05 347 *e*PKP PKPbc 23 10 27.3 +0.5
ANTO Ankara 149.12 320 *e*PKP2 PKPbc 23 10 27.9 +0.9
LDF La Druitiere 149.16 9⇑*i*PKP1 PKPbc 23 10 26.4 -0.7
GRR Gorron 149.24 10⇑*i*PKP1 PKPbc 23 10 26.9 -0.4
comp=Z,13nm,0.7s
STU Stuttgart 149.51 357 *e*PKPbc PKPbc 23 10 28.4 +0.5
CONA Conrad Observa 149.56 348⇑*i*PKiKP PKiKP 23 10 28.5 -0.7
comp=Z,12nm,1.6s
MEZF Maizieres J'vi 149.78 3 *e*PKP1 PKPbc 23 10 28.8 +0.2
comp=Z,30nm,1.2s
CDF Champ du Feu 149.91 360⇑*i*PKP1 PKPbc 23 10 29.0 +0.1
comp=Z,28nm,1.3s
FUR Furstenfeldbru 149.97 355 *e*PKPbc PKPbc 23 10 29.2 +0.1
BFO Black Forest 149.98 358 *e*PKPbc PKPbc 23 10 29.0 -0.1
HAU Haudompre 150.31 1⇑*i*PKP1 PKPbc 23 10 29.9 0.0
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,42nm,19.5s
HINF Hinteralfeld 150.51 0⇑*i*PKP1 PKPbc 23 10 30.1 -0.3
comp=Z,6.7nm,0.7s
WATA Walderalm 150.77 354⇑*i*P PKPbc 23 10 30.7 -0.3
comp=Z,2.9nm,0.8s
WTTA Wattenberg 150.83 354⇑*i*P PKPbc 23 10 31.1 0.0
comp=Z,11nm,0.6s
WTTA Wattenberg 150.83 354⇑*i*P PKPbc 23 10 31.1 -0.1
SQTA Sankt Quirin 150.92 354⇑*i*P PKPbc 23 10 31.5 +0.1
comp=Z,4.9nm,1.0s
LOR Lormes 150.93 5⇑*i*PKP1 PKPbc 23 10 31.4 0.0
comp=Z,24nm,1.0s
LOR *e*R
comp=Z,61nm,20.8s
MFF Saint Martin d 151.09 10 *e*PKP1 PKPbc 23 10 31.3 -0.4
comp=Z,15nm,0.9s
AVF Avril sur Loir 151.36 5⇑*i*PKP1 PKPbc 23 10 32.0 -0.4
comp=Z,10nm,0.7s
BGF Bois d'Agland 151.54 6⇑*i*PKP1 PKPbc 23 10 32.6 -0.2
comp=Z,17nm,0.7s
SMF Signal de Mont 151.55 5⇑*i*PKP1 PKPbc 23 10 32.5 -0.3
comp=Z,12nm,1.0s
CABF La Chapelle 151.70 2⇑*i*PKP1 PKPbc 23 10 33.7 +0.6
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 151.74 7⇑*i*PKP1 PKPbc 23 10 32.8 -0.4
comp=Z,9.0nm,0.7s
RJF Les Rejaudoux 152.61 9 *e*PKP1 PKPbc 23 10 34.8 -0.4
comp=Z,7.2nm,0.9s
RJF *e*R
comp=Z,75nm,19.5s
LPG La Plagne 152.83 1 *e*PKP1 PKPbc 23 10 36.6 +0.9
LFF La Frestale 152.85 10 *e*PKP1 PKPbc 23 10 35.3 -0.4
CAF Calviac 153.06 8 *e*PKP1 PKPbc 23 10 36.0 -0.2
BNI Bardonecchia 153.27 1 *e*PKPab PKPab 23 10 49.7 +1.1
VIVF Saint-Julien-l 153.39 4 *e*PKP1 PKPbc 23 10 37.1 +0.2
MBDF Montbardon 153.60 1 *e*PKP1 PKPbc 23 10 36.9 -0.5
comp=Z,6.9nm,1.0s
ETSF Etsaut 154.57 13 *e*PKP1 PKPbc 23 10 39.6 +0.2
comp=Z,5.2nm,0.9s
ESDC Sonseca Array 156.57 22 PKPbc PKPdf 23 10 43.1 +9.5
comp=Z,0.1nm,0.3s,baz=324,slow=2.1,SNR=5.0
TORD Torodi Ar. Bea 172.68 133 PKP PKPdf 23 10 46.8 -0.9
comp=Z,0.9nm,0.9s,baz=276,slow=2.8,SNR=4.1
TORD PKPab PKPab 23 12 12.3 -1.1
comp=Z,3.0nm,1.0s,baz=274,slow=2.4,SNR=11

IDC 09 23:02:33.0±3.3,1874S×17536W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/13,mbtmp4.2/3,Error ellipse: s-maj=110.9km s-min=41.1km az=137.0,Tonga Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRA Warramunga Arr 47.34 260 P P 23 11 08.6 0.0
1.7nm,0.4s,baz=96,slow=8.1,SNR=7.9
ASAR Alice Springs 47.37 255 P P 23 11 09.5 +0.7
3.0nm,0.6s,baz=91,slow=7.7,SNR=50
MJAR Matsushiro Arr 70.33 322 P P 23 13 48.5 +0.1
0.8nm,0.5s,baz=164,slow=6.2,SNR=5.2
BRTR Keskin Array B 147.41 316 PKPbc PKPbc 23 22 18.4 -0.3
0.8nm,0.8s,baz=63,slow=2.3,SNR=5.0
GERES GERESS Array B 149.09 348 PKPbc PKPbc 23 22 22.9 -0.3
0.2nm,0.6s,baz=20,slow=4.3,SNR=4.8

NEIC 09 23:14:35.5±0.6,3730N×10479W,h5km,MN3.6,1C-1D, Error ellipse: s-maj=9.4km s-min=5.7km az=85.0, Colorado

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SDCO Great Sand Dun 0.72 309 *e*Pg Pg 23 14 47.2 -2.1
SDCO *e*Sg Sg 23 14 56.0 -2.6
SMCO Snowmass 2.54 318 *e*Pn Pn 23 15 18.2 +0.8
SMCO *e*Sg Sg 23 15 54.8 -2.5
ISCO Idaho Springs 2.58 346 *e*Pn Pn 23 15 19.1 +1.2
ISCO *e*Sg Sg 23 15 54.1 -4.3
ANMO Albuquerque 2.70 210⇓*e*Pn Pn 23 15 19.9 +0.3
ANMO *e*Sg Sg 23 15 58.6 -3.8
PV01 Paradox Valley 3.11 287 *e*Pn Pn 23 15 25.7 +0.5
PV01 *e*Pg Pg 23 15 32.0 -3.1
PV01 *e*Sg Sg 23 16 13.7 -1.7
LPM Los Pinos Moun 3.33 207 *e*Pn Pn 23 15 28.2 -0.1
LPM *e*Pb Pb 23 15 35.0 -0.1
LPM *e*Pg Pg 23 15 39.8 +0.4
LPM *e*Sg Sg 23 16 17.9 -4.7
LAZ Ladron 3.46 214 *e*Pn Pn 23 15 29.9 -0.2
LAZ *e*Pg Pg 23 15 40.7 -1.2
PV10 Paradox Valley 3.53 289 *e*Pn Pn 23 15 30.9 -0.1
PV10 *e*Pg Pg 23 15 39.1 -4.1
LENM Lemitar 3.59 210 Pn Pn 23 15 31.8 -0.1
LENM *e*Pb Pb 23 15 41.5 +2.0
LENM *e*Pg Pg 23 15 46.0 +1.6
PHWY Pilot Hill 4.03 353 *e*Pn Pn 23 15 38.4 +0.5
PHWY *e*Sg Sg 23 16 38.8 -6.2
RWWY Rawlins 4.77 338 *e*Pn Pn 23 15 49.3 +1.3
RWWY *e*Pg Pg 23 16 01.7 -5.1
RWWY *e*Sg Sg 23 17 03.5 -5.1
SRU San Rafael 4.86 294 *e*Pg Pg 23 16 03.5 -5.2
SRU *e*Sg Sg 23 17 11.4 -0.3
GDL2 Guadalupe Moun 5.10 176 *e*Pn Pn 23 15 58.1 +5.6
GDL2 *e*Pg Pg 23 16 06.8 -6.4
GDL2 *e*Sn Sn 23 17 06.9 +15
TMUT Trail Mountain 5.42 294 *e*Pg Pg 23 16 13.0 -6.5
WMOK Wichita Mounta 5.50 116 *e*Pn Pn 23 15 57.2 -1.0
WMOK *e*Pb Pb 23 16 11.0 -1.1
WMOK *e*Pg Pg 23 16 16.7 -4.2
WMOK *e*Sg Sg 23 17 26.3 -5.9
WUAZ Wupatki 5.60 253⇑*i*Pn Pn 23 16 00.6 +1.2
WUAZ *e*Pg Pg 23 16 17.9 -4.9
WUAZ *e*Sg Sg 23 17 27.9 -7.3
MNTX Cornudas Mount 5.61 185 Pn Pn 23 16 00.6 +1.1
MNTX *e*Pb Pb 23 16 15.7 +1.9
MNTX *e*Sg Sg 23 17 27.6 -8.0
MSU Marysvale 5.96 284 *e*Pg Pg 23 16 23.5 -6.2
MSU *e*Sg Sg 23 17 40.8 -6.2
NLU North Lily Min 6.29 297 *e*Pg Pg 23 16 30.1 -5.9
CTU Camp Tracy 6.39 304 *e*Pg Pg 23 16 32.8 -5.2
TCUT Toone Canyon 6.40 309 Pn Pn 23 16 15.1 +4.6
TCUT *e*Pg Pg 23 16 32.5 -5.5
KSU1 Kansas State U 6.69 72 Pn Pn 23 16 12.4 -2.1
HWUT Hardware Ranch 6.78 311 *e*Pg Pg 23 16 38.3 -7.1
HWUT *e*Sg Sg 23 18 05.4 -7.8
CCUT Cedar City 6.82 275 *e*Pg Pg 23 16 39.6 -6.7
CCUT *e*Sg Sg 23 18 05.4 -9.3
RSSD Black Hills 6.84 5 *e*Pn Pn 23 16 16.3 -0.1
RSSD *e*Pg Pg 23 16 40.2 -6.4
RSSD *e*Sg Sg 23 18 02.4 -13
ARUT Antelope Range 6.89 277 *e*Pg Pg 23 16 42.5 -5.0
ARUT *e*Sg Sg 23 18 09.4 -7.3
DUG Dugway 6.90 297 *e*Pg Pg 23 16 41.9 -5.9
TUC Tucson 7.00 226 *e*Pg Pg 23 16 46.9 -2.8
TUC *e*Sg Sg 23 18 13.0 -7.3
SPUT South Promonto 7.16 306 *e*Pg Pg 23 16 47.6 -5.1
BGU Big Grassy Mou 7.36 302 *e*Pg Pg 23 16 51.4 -5.0
HVU Hansel Valley 7.62 308 *e*Pg Pg 23 16 55.2 -6.2
REDW Red Top Meadow 7.62 325 *e*Pg Pg 23 16 54.1 -7.4
REDW *e*Sg Sg 23 18 39.3 -0.9
SNOW Snow King Moun 7.65 325 *e*Pg Pg 23 16 56.8 -5.4
LOHW Long Hollow 7.71 327 Pn Pn 23 16 31.0 +2.7
LOHW *e*Pg Pg 23 16 57.3 -5.8
TPAW Teton Pass 7.76 325 *e*Pb Pb 23 16 49.8 -0.8
TPAW *e*Sg Sg 23 18 38.9 -5.9
RRI2 Red Ridge 7.83 323 *e*Pg Pg 23 17 01.4 -4.1
RRI2 *e*Sg Sg 23 18 42.2 -4.7
JCT Junction City 7.96 147 Pn Pn 23 16 25.8 -6.1
JCT *e*Pg Pg 23 17 02.3 -5.8
JCT *e*Sg Sg 23 18 46.8 -4.4
IMW Indian Meadow 8.08 327 *e*Pg Pg 23 17 01.1 -9.1
FLWY Flagg Ranch 8.12 328 *e*Pg Pg 23 17 05.7 -5.5
SHPR Sheep Range 8.34 268 *e*Pg Pg 23 17 08.9 -6.4
ECSD EROS,Sioux Fal 8.95 42 *e*Pn Pn 23 16 44.7 -0.7
ECSD *e*Sn Sn 23 18 27.9 +1.3
GCMT Greycliff 9.24 338 *e*PgPg 23 17 24.7
GCMT *e*Lg 23 19 22.8
MIAR Mount Ida 9.51 103 *e*Pn Pn 23 16 51.3 -1.7
MIAR *e*Sn Sn 23 18 52.2 +12
SCIA State Center 10.05 59 *e*PgPg 23 17 43.8
UALR University of 10.39 100 *e*Lg 23 19 59.8
HKT Hockley 10.46 132 Pn Pn 23 17 05.7 -0.5
HKT *e*PgPg 23 17 52.4
HKT *e*Lg 23 20 12.8
FVM French Village 11.41 82 Sn Sn 23 19 30.8 +3.6
HBAR Harrisburg 11.52 94 *e*Lg 23 20 34.2
UTMT University of 12.80 89 *e*Lg 23 21 18.0
USIN University of 13.60 82 *e*Lg 23 21 39.8
WCI Wyandotte Cave 14.67 81 Sn Sn 23 20 52.8 +6.2
WCI *e*Lg 23 22 09.2
TZTN Tazewell 17.01 86 *e*Lg 23 23 21.5

RSPR 10 00:01:49.0,2065N×6908W,h4km±17km,MD3.8/8, MD3.8/8,12C,Dominican Republic region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGPR Aguadilla, PR 2.86 139⇑*e*P Pn 00 02 32.8 -2.6
AGPR Aguadilla, PR 2.86 139 *e*S Sn 00 03 07.1 -3.2
LSP Las Mesas 3.10 142⇑*e*P Pn 00 02 35.9 -2.8
LSP Las Mesas 3.10 142 *e*S Sn 00 03 12.8 -3.3
LRS Lares 3.15 138⇑*e*P Pn 00 02 37.5 -1.9
LRS *e*S Sn 00 03 14.2 -3.3
AOPR Arecibo Observ 3.17 136⇑*e*P Pn 00 02 37.5 -2.2
AOPR Arecibo Observ 3.17 136 *e*S Sn 00 03 14.8 -3.2
MGP Maguayo 3.23 144⇑*e*P Pn 00 02 37.2 -3.3
MGP *e*S Sn 00 03 16.2 -3.3
CELP Cerrillos 3.48 137⇑*e*P Pn 00 02 41.7 -2.3
CELP *e*S Sn 00 03 23.2 -2.5
OBIP Obispado Ponce 3.49 138⇑*e*P Pn 00 02 41.6 -2.5
OBIP Obispado Ponce 3.49 138 *e*S Sn 00 03 22.6 -3.2
SJG San Juan 3.75 132⇑*e*P Pn 00 02 45.4 -2.1
SJG San Juan 3.75 132 *e*S Sn 00 03 28.6 -3.5
CBYP Canovanas 3.85 127⇑*e*P Pn 00 02 46.5 -2.6
CBYP Canovanas 3.85 127 *e*S Sn 00 03 31.7 -3.0
HUMP Col San Antoni 3.94 129⇑*e*P Pn 00 02 47.9 -2.4
HUMP Col San Antoni 3.94 129 *e*S Sn 00 03 34.5 -2.4
CPD Cerro la Pandu 3.96 131⇑*e*P Pn 00 02 48.3 -2.2
CPD Cerro la Pandu 3.96 131 *e*S Sn 00 03 35.2 -2.3
MTP Monte Pirata 4.19 127⇑*e*P Pn 00 02 51.4 -2.3
MTP Monte Pirata 4.19 127 *e*S Sn 00 03 40.1 -3.0

---

*MOS **10** 00:19:03.5±1.3,5479N×11149E,h10km,mb4.4/1,Error ellipse: s-maj=23.0km s-min=14.1km az=80.1*

BYKL 10 00:19:07.4±0.3,5503N×11166E,5C,Lake Baykal region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YLYR Ulyunkhan 0.33 242⇑*i*Pg Pg 00 19 14.0 +0.3
YLYR *i* Sg Sg 00 19 18.9 +1.0
YLYR Pmax
113nm,0.2s
YLYR Smax
3µm,0.1s
YLYR Ulyunkhan 0.33 242 *e*PG Pg 00 19 14.0 +0.3
YLYR pmax pmax
comp=Z,116nm,0.2s
KMO Kumora 0.90 343⇑*i*Pg Pg 00 19 23.4 -1.2
KMO *i* Sg Sg 00 19 35.2 -1.1
KMO Pmax
comp=Z,102nm,0.4s
KMO Smax
comp=Z,407nm,1.2s
KMO Kumora 0.90 343 *e*PG Pg 00 19 23.3 -1.3
KMO *e* 00 19 35.1
KMO pmax pmax
comp=Z,105nm,0.4s
KMO smax
comp=N,404nm,1.1s
YOA Uoyan 1.11 2 *e*Pg Pg 00 19 27.7 -0.9
YOA *e*Pb Pb 00 19 29.9 +0.5
YOA *e*Sg Sg 00 19 42.9 0.0
YOA *e*Sb Sb 00 19 47.0 +2.7
YOA max
comp=N,176nm,0.2s
YOA max
comp=N,2µm,0.4s
YOA Uoyan 1.11 2⇑*i*PG Pg 00 19 27.7 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOA				i		00 19 43.0	
YOA				pmax	pmax		
	comp=Z,203nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
UKT	Uakit	1.22	67	⇑iPg	Pg	00 19 29.2	-1.5
UKT				ePb	Pb	00 19 31.1	-0.2
UKT				i Sg	Sg	00 19 45.6	-0.9
UKT				eSb	Sb	00 19 49.3	+1.8
UKT				max			
	comp=N,50nm,0.5s						
UKT				max			
	comp=N,665nm,0.5s						
UKT	Uakit	1.22	67	ePG	Pg	00 19 29.2	-1.5
UKT				e		00 19 45.5	
UKT				pmax	pmax		
	comp=Z,88nm,0.2s						
UKT				smax			
	comp=N,658nm,0.3s						
NIZ	Nizh Angarsk	1.42	303	⇑iPg	Pg	00 19 32.8	-1.8
NIZ				i Sg	Sg	00 19 52.2	-0.9
NIZ				Pmax			
	comp=N,172nm,0.5s						
NIZ				Smax			
	comp=N,207nm,0.4s						
NIZ	Nizh Angarsk	1.42	303	ePG	Pg	00 19 33.1	-1.5
NIZ				e		00 19 52.2	
NIZ				pmax	pmax		
	comp=Z,172nm,0.3s						
NIZ				smax			
	comp=N,208nm,0.3s						
SVKR	Severomuysk	1.53	44	ePg	Pg	00 19 36.0	-0.8
SVKR				e		00 19 41.9	
SVKR				eSg	Sg	00 19 57.0	+0.3
SVKR				max			
	comp=N,167nm,0.4s						
SVKR				Smax			
	comp=N,1μm,0.5s						
SVKR	Severomuysk	1.53	44	ePN	Pn	00 19 35.1	-0.9
SVKR				e		00 19 36.0	
SVKR				e		00 19 56.6	
SVKR				pmax	pmax		
	comp=Z,165nm,0.4s						
SVKR				smax			
	comp=N,1μm,0.6s						
SYVR	Suvo	1.68	216	ePg	Pg	00 19 37.9	-1.8
SYVR				e		00 19 42.8	
SYVR				eSg	Sg	00 20 00.7	-0.8
SYVR				max			
	comp=N,108nm,0.6s						
SYVR				Smax			
	comp=N,167nm,0.3s						
MXMB	Maximikha	2.46	225	ePg	Pg	00 19 51.7	-2.9
MXMB				eSn	Sn	00 20 19.5	-0.1
MXMB				eSg	Sg	00 20 25.3	-1.3
MXMB				Pmax			
	comp=N,14nm,0.1s						
MXMB				Smax			
	comp=N,308nm,0.6s						
NLYR	Nelyaty	2.71	56	ePn	Pn	00 19 51.3	-0.9
NLYR				ePg	Pg	00 19 55.0	-4.4
NLYR				eSg	Sg	00 20 31.4	-3.2
OGRR	Ongureny	2.76	241	ePn	Pn	00 19 52.4	-0.4
OGRR				ePg	Pg	00 19 55.8	-4.4
OGRR				e		00 20 01.7	
OGRR				eSn	Sn	00 20 25.8	-1.0
OGRR				eSg	Sg	00 20 32.4	-3.6
OGRR				max			
	comp=N,18nm,0.2s						
OGRR				Smax			
	comp=N,74nm,0.5s						
BOD	Bodaibo	3.08	24	ePn	Pn	00 19 54.3	-3.0
BOD				ePg	Pg	00 20 01.5	-5.0
BOD				eSn	Sn	00 20 31.8	-3.1
BOD				eSg	Sg	00 20 41.7	-4.8
BOD				Pmax			
	comp=N,6.0nm,0.4s						
BOD				Smax			
	comp=N,72nm,0.8s						
KELR	Kotokel	3.11	224	eSg	Sg	00 20 43.3	-4.0
KELR				Smax			
	comp=N,189nm,0.4s						
CIT	Chita	3.22	159	e	Pg	00 20 07.5	-1.6
CIT				eSg	Sg	00 20 47.3	-3.5
CIT				Smax			
	comp=N,90nm,0.7s						
ZRHB	Zarechye	3.65	229	eSg	Sg	00 21 01.3	-3.3
ZRHB				Smax			
	comp=N,180nm,1.3s						
TRTB	Turuntaevo	3.69	222	ePn	Pn	00 20 05.3	-0.4
TRTB				ePg	Pg	00 20 13.8	-4.3
TRTB				e		00 20 20.0	
TRTB				eSg	Sg	00 21 03.2	-2.8
TRTB				max			
	comp=N,15nm,1.0s						
TRTB				Smax			
	comp=N,53nm,1.6s						
TRG	Tyrgan	3.88	236	ePg	Pg	00 20 15.5	-6.2
TRG				e		00 20 20.0	
TRG				eSn	Sn	00 20 52.7	-1.8
TRG				eSg	Sg	00 21 06.0	-6.0
TRG				max			
	comp=N,17nm,1.1s						
TRG				Smax			
	comp=N,46nm,0.7s						
CRS	Chara	4.16	61	e	Pn	00 20 17.6	+5.5
CRS				ePg	Pg	00 20 22.2	-4.9
CRS				eSg	Sg	00 21 16.9	-4.2
CRS				Pmax			
	comp=N,4.0nm,0.2s						
CRS				Smax			
	comp=N,157nm,1.6s						
TUP	Tupik	4.85	94	ePn	Pn	00 20 20.5	-1.1
TUP				ePg	Pg	00 20 33.1	-7.2
TUP				eSg	Sg	00 21 37.2	-5.9
TUP				Pmax			
	comp=N,9.0nm,0.6s						
TUP				Smax			
	comp=N,99nm,0.8s						
TUP	Tupik	4.85	94	ePN	Pn	00 20 20.5	-1.1
TUP				e		00 20 34.4	
TUP				e		00 21 36.9	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUP				smax			
	comp=N,101nm,0.8s						
LSTR	Listvyanka	5.17	235	eSg	Sg	00 21 45.9	-7.4
LSTR				Smax			
	comp=N,27nm,1.2s						
IRK	Irkutsk	5.21	241	ePG	Pg	00 20 40.5	-6.7
IRK				pmax	pmax		
	comp=Z,118nm,0.2s						
TLY	Talaya	5.86	238	eSg	Sg	00 22 06.3	-9.2
TLY				Smax			
	comp=Z,9.0nm,0.4s						
ARS	Arshan	6.33	244	ePn	Pg	00 21 02.6	-6.1
ARS				eSg	Sg	00 22 22.7	-8.1
ARS				Smax			
	comp=Z,84nm,0.4s						
ZAK	Zakamensk	6.90	231	e	Pg	00 21 16.9	-2.6
ZAK				eSg	Sg	00 22 42.9	-6.0
ZAK				Smax			
	comp=Z,34nm,2.3s						
ZAK	Zakamensk	6.90	231	ePG	Pg	00 21 14.5	-5.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MOY	Mondy	7.22	247	ePn	Pn	00 20 54.9	+0.8
MOY				e		00 22 14.4	
MOY				eSg	Sg	00 22 51.1	-8.1
MOY				Smax			
	comp=Z,37nm,1.8s						
ORL	Orlik	7.45	255	ePn	Pn	00 20 57.3	0.0
ORL				eSn	Sn	00 22 18.7	-3.8
ORL				eSg	Sg	00 22 57.6	-9.1
ORL				Smax			
	comp=Z,45nm,1.4s						

WEL 10 00:19:44.5±0.3, 3823S×17616E, h167km±3km, ML3.6/12, 4C, Error ellipse: s-maj=3.9km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.75	93	PN	Pn	00 20 09.0	-0.1
URZ				SN	Sn	00 20 27.6	-0.4
BKZ	Black Stump Fm	0.97	164	⇑PN	Pn	00 20 11.0	+0.4
BKZ				SN	Sn	00 20 30.9	+0.1
MWZ	Matawai	1.08	96	PN	Pn	00 20 11.8	+0.3
MWZ				SN	Sn	00 20 32.7	+0.3
TUVZ	Tukino	1.11	201	⇑PN	Pn	00 20 12.3	+0.5
FWVZ	Far West T-bar	1.13	205	PN	Pn	00 20 12.2	+0.2
WNVZ	Wahianoa	1.18	201	⇑PN	Pn	00 20 12.7	+0.3
MOVZ	Moawhango	1.22	195	PN	Pn	00 20 12.5	-0.2
PKVZ	Pokaka	1.24	211	PN	Pn	00 20 12.9	+0.1
PUZ	Puketiti	1.66	85	PN	Pn	00 20 17.0	-0.1
PUZ				SN	Sn	00 20 40.7	-1.4
TSZ	Takapari Road	1.84	185	⇑PN	Pn	00 20 18.4	-0.5
TSZ				SN	Sn	00 20 44.4	-1.0
PXZ	Pawanui	1.88	163	PN	Pn	00 20 18.5	-0.9
PXZ				SN	Sn	00 20 44.9	-1.4
BFZ	Birch Farm	2.45	178	PN	Pn	00 20 24.5	-1.3
MRZ	Mangatainoka R	2.47	190	PN	Pn	00 20 24.5	-1.6
MRZ				SN	Sn	00 20 55.9	-2.4
TIWZ	Tintock	2.56	185	PN	Pn	00 20 24.9	-2.2
TIWZ				SN	Sn	00 20 56.5	-3.6
KIW	Kapiti Island	2.80	200	PN	Pn	00 20 27.8	-2.3
KIW				SN	Sn	00 21 01.3	-4.2
MTW	Mount Morrison	2.97	190	PN	Pn	00 20 29.5	-2.6
CAW	Cannon Point	3.00	196	PN	Pn	00 20 30.2	-2.3
MSWZ	Moikau Station	3.26	192	PN	Pn	00 20 32.9	-2.8
TCW	Tory Channel	3.31	205	PN	Pn	00 20 33.7	-2.7
TUWZ	Tuamarina	3.62	207	PN	Pn	00 20 37.3	-3.1
NNZ	Nelson	3.67	215	PN	Pn	00 20 37.8	-3.2
NNZ				SN	Sn	00 21 21.0	-4.0
THZ	Tophouse	4.33	214	PN	Pn	00 20 45.9	-3.5
THZ				SN	Sn	00 21 35.2	-4.8
KHZ	Kahutara	4.64	205	PN	Pn	00 20 50.1	-3.3
KHZ				SN	Sn	00 21 42.6	-4.7

ISCJB 10 00:20:18.8±0.7, 5138N±004×1610E±004, h0km, Error ellipse: s-maj=5.6km s-min=3.0km az=32.6
IPEC 10 00:20:18.6±0.4, 5152N×1623E, h0km±2km, ML2.0/2, Error ellipse: s-maj=2.6km s-min=1.1km az=20.0
PRU 10 00:20:20.4, 5142N×1611E, h0km
CSEM 10 00:20:20.7±0.2, 5142N×1613E, h0km, ML2.8/6, Error ellipse: s-maj=3.8km s-min=2.1km az=6.0
VIE 10 00:20:22.3±0.4, 5124N×1624E, h0km, mb1.7/2, ML2.5/4, Error ellipse: s-maj=2.9km s-min=2.5km az=98.0 56 km WNW of Breslau Suspected Mining induced.
ISC 10 00:20:19.3±0.7, 5146N±004×1612E±004, h0km, n23, σ0^{s}85/44, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	170	ePg	Pg	00 20 32.1	+0.9
KSP				eSg	Sg	00 20 40.9	+1.6
KSP	Ksiaz	0.62	170	ePg	Pg	00 20 32.0	+0.8
KSP				eSg	Sg	00 20 40.5	+1.2
UPC	Upice	0.95	184	ePG	Pg	00 20 38.2	+0.7
DPC	Dobruska-Polom	1.11	173	ePG	Pg	00 20 41.1	+0.5
DPC				eSG	Sg	00 20 55.9	+0.8
	20nm,0.7s						
DPC	Dobruska-Polom	1.11	173	ePg	Pg	00 20 40.8	+0.2
DPC				eSg	Sg	00 20 55.9	+0.8
PVCC	Panska Ves	1.35	227	ePG	Pg	00 20 45.6	+0.4
PVCC				eSG	Sg	00 21 03.1	+0.4
	52nm,0.2s						
PVCC	Panska Ves	1.35	227	ePg	Pg	00 20 45.6	+0.4
PVCC				eSg	Sg	00 21 04.2	+1.5
BRG	Berggiesshubel	1.49	248	ePn	Pn	00 20 47.3	0.0
BRG				eSg	Sg	00 21 07.1	-0.1
PRU	Pruhonice	1.78	215	ePN	Pn	00 20 51.0	-0.3
PRU				ePG	Pg	00 20 52.6	-0.8
PRU				eSG	Sg	00 21 16.7	+0.2
	9.9nm,0.5s						
PRU	Pruhonice	1.78	215	ePn	Pn	00 20 52.3	+1.0
MORC	Moravsky Berou	1.91	151	ePn	Pn	00 20 52.9	-0.1
MORC				eSg	Sg	00 21 18.2	-2.4
	10nm,0.3s						
CLL	Collm	1.96	267	i Pg	Pg	00 20 55.5	-1.4
CLL				i Sg	Sg	00 21 21.8	-0.5
	comp=Z,9.0nm,0.5s						
CLL	Collm	1.96	267	ePn	Pn	00 20 55.3	+1.5
OKC	Ostrava-Krasne	2.07	141	ePG	Pg	00 20 59.1	+0.1
OKC				eSG	Sg	00 21 24.5	-1.3
	comp=Z,13nm,0.6s						
VRAC	Vranov	2.17	172	ePn	Pn	00 20 57.3	+0.6
VRAC				eSg	Sg	00 21 28.1	-0.9
	comp=Z,6.2nm,0.3s						
NKC	Novy Kostel	2.63	244	ePN	Pn	00 21 03.4	+0.4
NKC				ePG	Pg	00 21 08.8	-0.9
NKC				eSG	Sg	00 21 44.4	+0.5
OJC	Ojcow	2.64	117	ePg	Pg	00 21 09.9	+0.1
OJC				eSg	Sg	00 21 44.6	+0.6
KHC	Kasperske Hory	2.84	216	ePN	Pn	00 21 05.8	-0.1
KHC				ePG	Pg	00 21 11.1	-2.7
KHC				eSG	Sg	00 21 49.7	-0.9
KHC	Kasperske Hory	2.84	216	ePn	Pn	00 21 05.3	-0.6
MOX	Moxa	2.96	256	ePG	Pg	00 21 15.6	-0.4
MOX				eSG	Sg	00 21 54.6	+0.3
WET	Wettzell	3.11	223	ePn	Pn	00 21 09.6	0.0
CONA	Conrad Observa	3.54	183	⇓iPn	Pn	00 21 15.6	+0.2
CONA				⇓iSg	Sg	00 22 12.7	-0.2
	comp=Z,4.1nm,0.4s						
MOA	Molln	3.81	199	⇓iPn	Pn	00 21 19.7	+0.5
MOA				⇑iSg	Sg	00 22 22.2	+0.6
	comp=Z,2.7nm,0.3s						

ISCJB 10 01:14:40.4±0.4, 2636S±003×2755E±003, h10km, mb3.6/2, Error ellipse: s-maj=5.3km s-min=3.9km az=123.2
NEIC 10 01:14:40.8±1.7, 2642S×2769E, h5km, Error ellipse: s-maj=29.4km s-min=11.3km az=105.0
IDC 10 01:14:41.4±1.8, 2646S×2749E, h0km, mb3.7/2, mb1 4.0/7, mb1mx3.7/27, mbtmp4.0/7, ML3.3/5, Error ellipse: s-maj=22.4km s-min=13.7km az=98.0
PRE 10 01:14:41.2±1.0, 2643S×2763E, h2km, ML3.6
ISC 10 01:14:42.2±0.4, 2640S±003×2762E±003, h10km, n19, σ1^{s}21/37, mb3.6/2, South Africa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERPM	east rand prop	0.58	75	eP	Pg	01 14 52.3	-1.1
ERPM				eS	Sg	01 15 00.6	-0.5
ERPM				AML	AML	01 15 02.6	
	comp=Z,1μm,0.2s						
SLR	Silverton	0.89	42	eP	Pg	01 14 59.2	-0.1
SLR				eS	Sg	01 15 11.4	+0.5
SLR				AML	AML	01 15 17.8	
	comp=Z,530nm,0.4s						
SEK	Senekal	1.92	180	eP	Pn	01 15 15.4	+0.5
SEK				eS	Sn	01 15 39.7	+0.6
SEK				AML	AML	01 15 41.3	
	comp=Z,693nm,0.2s						
LBTB	Lobatse	2.28	307	eP	Pn	01 15 21.2	+1.3
LBTB				eS	Sn	01 15 49.6	+1.6
LBTB				AML	AML	01 15 54.0	
	comp=Z,329nm,0.3s						
LBTB	Lobatse	2.28	307	Pn	Pn	01 15 21.2	+1.3
	comp=Z,68nm,0.3s,baz=141,slow=15,SNR=916						
LBTB				Pg	Pg	01 15 22.7	-3.2
	comp=Z,68nm,0.3s,baz=140,slow=17,SNR=912						
LBTB				Lg		01 15 51.9	
	comp=Z,116nm,0.3s,baz=44,slow=23,SNR=40						
LBTB	Lobatse	2.28	307	Pn	Pn	01 15 21.2	+1.3
LBTB				Pg	Pg	01 15 22.7	-3.2
LBTB				Lg		01 15 51.9	
BOSA	Boshof	3.05	223	eP	Pn	01 15 31.5	+1.1
BOSA				eS	Sn	01 16 07.3	+0.4
BOSA				AML	AML	01 16 20.4	
	comp=Z,79nm,0.5s						
BOSA	Boshof	3.05	223	Pn	Pn	01 15 29.7	-0.7
	comp=Z,4.0nm,0.3s,baz=42,slow=15,SNR=202						
BOSA				Pg	Pg	01 15 35.9	-4.6
	comp=Z,7.6nm,0.3s,baz=44,slow=17,SNR=27						
BOSA				Sn	Sn	01 16 04.3	-2.6
	comp=Z,5.9nm,0.3s,baz=30,slow=16,SNR=4.4						
BOSA				Lg		01 16 11.9	
	comp=Z,17nm,0.3s,baz=320,slow=22,SNR=10						
BOSA				Rg		01 16 29.9	
	comp=Z,34nm,0.3s,baz=320,slow=19,SNR=2.8						
POGA	Pongola	3.70	106	eP	Pn	01 15 40.8	+1.4
POGA				eS	Sn	01 16 23.9	+0.9
POGA				AML	AML	01 16 43.0	
	comp=Z,106nm,0.7s						
MSNA	Messina	4.59	29	eP	Pn	01 15 51.0	-0.6
MSNA				eS	Sn	01 16 42.7	-2.3
MSNA				AML	AML	01 17 12.2	
	comp=Z,50nm,0.3s						
UPI	Upington	5.99	249	eP	Pn	01 16 10.9	+0.1
UPI				eS	Sn	01 17 17.5	-1.9
UPI				AML	AML	01 17 49.5	
	comp=Z,35nm,0.4s						
GRM	Grahamstown	6.96	188	eP	Pn	01 16 25.0	+0.8
GRM				eS	Sn	01 17 40.6	-2.8
GRM				AML	AML	01 18 24.9	
	comp=Z,36nm,0.5s						
SUR	Sutherland	8.41	223	Pn	Pn	01 16 44.4	+0.3
	comp=Z,0.9nm,0.3s,baz=52,slow=16,SNR=17						
SUR				Sn	Sn	01 18 11.7	-7.5
	comp=Z,2.0nm,0.3s,baz=332,slow=23,SNR=6.8						
SUR				Lg		01 18 58.2	
	comp=Z,2.3nm,0.3s,baz=144,slow=21,SNR=4.2						
LSZ	Lusaka	11.07	3	Pn	Pn	01 17 20.2	-0.4
	comp=Z,1.4nm,0.3s,baz=187,slow=13,SNR=28						
LSZ				Sn	Sn	01 19 18.1	-6.4
	comp=Z,0.6nm,0.3s,baz=111,slow=15,SNR=4.3						
LSZ				Lg		01 20 26.0	
	comp=Z,0.7nm,0.3s,baz=65,slow=6.9,SNR=6.2						
TSUM	Tsumeb	11.69	306	Pn	Pn	01 17 28.4	-0.6
	comp=Z,0.7nm,0.3s,baz=126,slow=14,SNR=30						
TSUM				Sn	Sn	01 19 43.1	+3.5
	comp=Z,0.2nm,0.3s,baz=218,slow=19,SNR=2.3						
TSUM				Lg		01 20 41.7	
	comp=Z,0.4nm,0.3s,baz=218,slow=15,SNR=3.4						
TSUM	Tsumeb	11.69	306	ePn	Pn	01 17 28.3	-0.7
	comp=Z,2.9nm,0.5s						
TSUM				eSn	Sn	01 19 42.1	+2.5
TSUM				Sn	Sn	01 19 43.1	+3.5
TORD	Torodi Ar. Bea	46.69	324	P	P	01 23 11.6	+0.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=136,slow=6.7,SNR=13						
TORD	Torodi Ar. Bea	46.69	324	P	P	01 23 11.6	+0.5
ESDC	Sonseca Array	72.03	335	P	P	01 26 07.3	+1.1
	comp=Z,0.2nm,0.4s,mb3.4,baz=154,slow=5.6,SNR=5.4						

IDC 10 01:33:09.4±2.2, 724N×12276E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.8/3, Error ellipse: s-maj=252.5km s-min=26.0km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	29.32	157	P	P	01 39 13.7	0.0
	0.6nm,0.4s,baz=336,slow=10,SNR=3.0						
ASAR	Alice Springs	32.59	161	P	P	01 39 43.2	+0.7
	0.3nm,0.3s,baz=343,slow=7.2,SNR=18						
MKAR	Makanchi Array	52.44	326	P	P	01 42 23.8	+0.1
	0.7nm,0.4s,baz=124,slow=7.6,SNR=6.4						

LDG 10 01:39:56.5±0.1, 4861N×759E, h13km, Md1.9/3, Ml1.7/11, Error ellipse: s-maj=1.6km s-min=1.2km az=119.0
STR 10 01:39:57.7±1.4, 4859N×762E, h5km±1km, Ml1.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLS	Welschbruch	0.25	225	Pg	Pg	01 40 02.2	-0.4
WLS				Sg	Sg	01 40 06.0	+0.1
CDF	Champ du Feu	0.29	232	ePg	Pg	01 40 02.9	-0.4
CDF				eSg	Sg	01 40 07.1	0.0
	1.6nm,0.2s						
ECH	Echery	0.48	220	Pg	Pg	01 40 08.7	+1.7
MOF	Molkenrain	0.81	204	Pg	Pg	01 40 13.2	0.0
MOF				Sg	Sg	01 40 24.8	+1.1
HINF	Hinteralfeld	0.93	214	ePg	Pg	01 40 14.3	-1.2
HINF				eSg	Sg	01 40 26.6	-1.0
	4.6nm,0.3s						
HAU	Haudompre	1.03	236	ePg	Pg	01 40 16.0	-1.5
HAU				eSg	Sg	01 40 29.5	-1.4
	4.2nm,0.2s						
MEZF	Maizieres J'vi	1.71	268	ePg	Pg	01 40 28.0	-2.5
MEZF				eSg	Sg	01 40 49.8	-2.8
	2.8nm,0.5s						
SFTF	Sexfontaines	1.76	258	ePg	Pg	01 40 29.3	-2.2
SFTF				eSg	Sg	01 40 52.0	-2.4
	1.4nm,0.3s						
CABF	La Chapelle	2.23	208	ePg	Pg	01 40 38.3	-2.2
CABF				eSg	Sg	01 41 07.0	-2.5
	0.9nm,0.4s						
BAIF	Baives	2.67	305	eSg	Sg	01 41 19.7	-3.9
	0.9nm,0.3s						
LOR	Lormes	2.85	244	eSg	Sg	01 41 26.5	-2.9
	0.6nm,0.3s						
LPL	La Plagne	3.13	191	ePn	Pn	01 40 44.4	-3.3
LPL				eSn	Sn	01 41 19.1	-6.4
	0.6nm,0.4s						
LPG	La Plagne	3.15	191	ePn	Pn	01 40 45.0	-2.9
LPG				eSn	Sn	01 41 19.5	-6.4
	0.4nm,0.3s						
AVF	Avril sur Loir	3.40	240	ePn	Pn	01 40 47.1	-4.3
AVF				eSg	Sg	01 41 42.2	-4.7
	0.3nm,0.3s						

BJI 10 01:54:11.2, 687S×13048E, h153km, mB5.2, mb4.8
ISCJB 10 01:54:17.8±0.9, 619S±003×12990E±005, h151km±9km, mb4.6/51, Error ellipse: s-maj=9.0km s-min=5.1km az=151.1
MOS 10 01:54:17.6±0.9, 618S×12977E, h145km, mb4.4/12, Error ellipse: s-maj=14.2km s-min=7.1km az=108.9
NEIC 10 01:54:20.0±1.1, 619S×12984E, h154km±11km, mb4.6/15, Error ellipse: s-maj=10.3km s-min=6.4km az=71.0
IDC 10 01:54:21.5±3.0, 613S×12987E, h164km±27km, mb4.2/14, mb1 4.3/16, mb1mx4.2/19, mbtmp4.7/16, MS3.3/2, Ms1 3.3/2, ms1mx2.6/22, Error ellipse: s-maj=16.4km s-min=9.7km az=72.0
ISC 10 01:54:19.6±0.8, 619S±003×13005E±006, h154km±8km, n112, σ1^{s}05/104, mb4.6/50, 13C-6D, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	3.10	323	P	Pn	01 55 16.4	+8.0
	218nm,0.7s						
SWI	Sorong	5.43	13	P	Pn	01 55 38.0	-0.8
	506nm,0.9s						
KAKA	Kakadu	6.89	160	eP	Pn	01 55 59.6	+1.4
	128nm,0.1s						
KAKA				eS	Sn	01 57 13.7	-1.9
FITZ	Fitzroy Crossi	12.59	200	eP	Pn	01 57 11.1	-2.3
	132nm,0.3s						
FITZ				eS	Sn	01 59 20.2	-12
FITZ	Fitzroy Crossi	12.59	200	P	Pn	01 57 11.2	-2.2
	29nm,0.3s,baz=34,slow=12,SNR=177						
FITZ				S	Sn	01 59 22.8	-10
	27nm,0.3s,baz=193,slow=14,SNR=8.4						
WRAB	Tennant Creek	14.29	163	eP	Pn	01 57 33.6	-1.3
WRAB				e		02 00 04.0	
WRAB				pmax	pmax		
	comp=Z,98nm,0.4s						
WRAB	Tennant Creek	14.29	163	ePn	Pn	01 57 33.6	-1.3
	comp=Z,98nm,0.4s						
WRAB				eSn	Sn	02 00 04.0	-9.3
WRA	Warramunga Arr	14.29	163	P	Pn	01 57 34.1	-0.9
	comp=Z,5.5nm,0.3s,baz=333,slow=14,SNR=56						
WRA				S	Sn	02 00 02.9	-11
	comp=Z,19nm,0.3s,baz=342,slow=22,SNR=15						
WB2	Warramunga Arr	14.29	163	eP	Pn	01 57 33.0	-2.0
WB2				eS	Sn	02 00 02.6	-11
PMG	Port Moresby	17.25	102	P	Pn	01 58 15.5	+4.3
	comp=Z,1.6nm,0.3s,baz=284,slow=5.4,SNR=10						
PMG				S	S	02 01 19.5	-2.4
	comp=Z,0.8nm,0.3s,baz=273,slow=17,SNR=2.4						
KRKI	Karangkates	17.56	263	P	Pn	01 58 16.8	+1.9
	comp=Z,186nm,0.6s						
AS31	Alice Springs	17.77	168	⇓eP	Pn	01 58 18.6	+1.3
AS31				eSn	Sn	02 01 31.5	-5.1
ASAR	Alice Springs	17.77	168	P	Pn	01 58 18.6	+1.3
	comp=Z,17nm,0.3s,baz=344,slow=9.5,SNR=484						
ASAR				S	S	02 01 26.9	-5.4
	comp=Z,1.7nm,0.3s,baz=339,slow=20,SNR=5.4						
ASAR				LR	LR	02 06 03.0	
	comp=Z,115nm,19.7s,baz=173,slow=39						
ASAR	Alice Springs	17.77	168	P	Pn	01 58 18.7	+1.4
ASAR				S	S	02 01 26.9	-5.3
ASPA	Alice Springs	17.77	168	⇓iP	Pn	01 58 18.5	+1.2
ASPA				eS	S	02 01 26.9	-5.3

MBWA	**Marble Bar**	**17.92**	**213**⇓	*i*P	**Pn**	**01 58 18.1**	**-1.0**
	comp=Z,82nm,0.8s						
MBWA				*e*S	**S**	**02 01 34.0**	**-1.4**
KKM	**Kota Kinabalu**	**18.39**	**311**⇓	*e*P	**P**	**01 58 23.5**	**+0.7**
CTA	**Charters Tower**	**20.94**	**133**	*e*P	**P**	**01 58 53.8**	**+3.6**
	comp=Z,4.0nm,1.1s						
CTA	**Charters Tower**	**20.94**	**133**	P	**P**	**01 58 53.8**	**+3.5**
	comp=Z,7.9nm,0.8s,baz=321,slow=13,SNR=6.6						
CTA	**Charters Tower**	**20.94**	**133**	*e*P	**P**	**01 58 53.8**	**+3.6**
CTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TGY	**Tagaytay City**	**22.09**	**336**	P	**P**	**01 59 03.1**	**+0.7**
	comp=Z,106nm,0.3s,baz=283,slow=12,SNR=4.8						
LEM	**Lembang**	**22.29**	**267**	P	**P**	**01 59 05.3**	**+0.9**
	comp=Z,62nm,1.3s,mb4.9						
CBJI	**Citeko**	**23.05**	**268**	P	**P**	**01 59 14.8**	**+3.4**
	comp=Z,162nm,0.8s,mb5.5						
FORT	**Forrest**	**24.53**	**184**	*e*P	**P**	**01 59 26.1**	**+1.3**
	comp=Z,70nm,0.6s,mb5.4						
FORT				*e*S	S	02 04 06.3	+32
GUMO	**Guam**	**24.55**	**37**	P	**P**	**01 59 26.1**	**+1.1**
	comp=Z,22nm,0.7s,mb4.8,baz=18,slow=23,SNR=3.4						
STKA	**Stephens Creek**	**27.74**	**159**	*e*P	**P**	**01 59 55.4**	**+1.8**
	comp=Z,4.4nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.74**	**159**	P	**P**	**01 59 55.8**	**+2.1**
	comp=Z,3.8nm,0.4s,mb4.5,baz=342,slow=9.2,SNR=9.9						
STKA				LR	LR	02 12 45.1	
	comp=Z,56nm,20.4s,baz=198,slow=40						
KLBR	**Kellerberrin**	**27.76**	**203**⇓	*i*P	**P**	**01 59 54.3**	**+0.5**
	comp=Z,24nm,0.5s,mb5.2						
MUN	**Mundaring**	**28.73**	**205**	*e*P	**P**	**02 00 02.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**29.15**	**203**	P	**P**	**02 00 06.6**	**+0.5**
	comp=Z,9.6nm,0.3s,mb4.9,baz=38,slow=8.4,SNR=34						
QIZ	**Qiongzhong**	**32.01**	**322**	*e*P	**P**	**02 00 30.9**	**-0.3**
	comp=Z,6.0nm,0.6s,mb4.5						
PSI	**Prapat**	**32.33**	**285**	P	**P**	**02 00 33.1**	**-1.0**
	comp=Z,1.1nm,0.3s,mb4.1,baz=154,slow=18,SNR=3.1						
SSE	**Sheshan**	**38.03**	**348**	P	**P**	**02 01 22.5**	**-0.3**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,65nm,3.9s						
DZM	**Mont Dzumac**	**38.52**	**118**	P	**P**	**02 01 29.2**	**+2.3**
	comp=Z,2.3nm,0.5s,mb4.1,baz=233,slow=5.0,SNR=7.7						
NJ2	**Nanjing**	**39.50**	**345**	*e*P	**P**	**02 01 35.3**	**+0.3**
NJ2				PP	PP	02 03 14.1	+5.2
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,560nm,6.7s						
NJ2				LR	LR		
	comp=N,450nm,22.6s						
NJ2				LR	LR		
	comp=E,1μm,25.2s						
NJ2				LR	LR		
	comp=Z,1μm,25.3s						
MJAR	**Matsushiro Arr**	**43.19**	**10**	P	**P**	**02 02 05.0**	**-0.1**
	comp=Z,16nm,0.7s,mb4.8,baz=187,slow=9.1,SNR=72						
MAT	**Matsushiro**	**43.19**	**10**	P	**P**	**02 02 04.8**	**-0.3**
XAN	**Xi'an**	**44.73**	**335**	P	**P**	**02 02 16.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.6						
BJT	**Baijiatuau**	**47.73**	**346**	*e*P	**P**	**02 02 40.9**	**+0.1**
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**47.73**	**346**	*e*P	**P**	**02 02 40.9**	**+0.1**
	comp=Z,16nm,0.8s,mb4.7						
BJI	**Beijing**	**47.75**	**346**	P	**P**	**02 02 41.0**	**+0.1**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
LSA	**Lhasa**	**51.65**	**316**	*e*P	**P**	**02 03 11.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
LSA	**Lhasa**	**51.65**	**316**	*e*P	**P**	**02 03 11.5**	**+1.1**
	comp=Z,6.2nm,0.4s,mb4.6						
JIRN	**Jiri**	**54.09**	**311**	*e*P	**P**	**02 03 28.4**	**+0.1**
	comp=Z,12nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**54.10**	**11**⇑	*i*P	**P**	**02 03 29.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
GUN	**Gumba**	**54.46**	**311**	*e*P	**P**	**02 03 30.9**	**-0.1**
	comp=Z,30nm,0.7s,mb5.1						
HABR	**Khabarovsk**	**54.61**	**4**	*e*P	**P**	**02 03 29.7**	**-2.4**
HABR				*e*S	**S**	**02 10 57.8**	**-1.9**
PKI	**Pulchoki**	**54.64**	**310**	*e*P	**P**	**02 03 32.2**	**-0.1**
KKN	**Kakani**	**54.85**	**310**	*e*P	**P**	**02 03 33.5**	**-0.3**
	comp=Z,11nm,0.5s,mb4.8						
KLR	**Kul'dur**	**55.21**	**1**	*e*P	**P**	**02 03 33.6**	**-2.8**
GKN	**Gorkha**	**55.45**	**310**	*e*P	**P**	**02 03 37.8**	**-0.3**
	comp=Z,11nm,0.3s,mb5.0						
KOLN	**Koldanda**	**56.12**	**309**	*e*P	**P**	**02 03 42.9**	**0.0**
ULN	**Ulaanbaatar**	**57.51**	**342***c*	*i*P	**P**	**02 03 53.7**	**+1.0**
ULN	**Ulaanbaatar**	**57.51**	**342**	*e*P	**P**	**02 03 53.3**	**+0.6**
	comp=Z,4.7nm,0.5s,mb4.6						
SONM	**Songino Array**	**57.69**	**341**	P	**P**	**02 03 54.8**	**+0.9**
	comp=Z,1.7nm,0.4s,mb4.2,baz=159,slow=7.2,SNR=15						
ZAK	**Zakamensk**	**60.92**	**341**	*e*P	**P**	**02 04 16.3**	**+0.2**
ZAK				*e*	pP	02 04 56.8	+4.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
CASY	**Casey**	**61.50**	**189**	*e*P	**P**	**02 04 20.2**	**+0.2**
PET	**Petropavlovsk**	**63.78**	**19**⇑	*e*P	**P**	**02 04 36.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,35nm,1.6s,mb4.9						
BOD	**Bodaibo**	**65.11**	**351**	*e*P	**P**	**02 04 41.9**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
MK31	**Makanchi Array**	**67.58**	**327**	P	**P**	**02 04 59.8**	**+0.4**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**67.58**	**327**	P	**P**	**02 04 60.0**	**+0.5**
	comp=Z,14nm,0.6s,mb4.9,baz=122,slow=8.0,SNR=134						
MA2	**Magadan**	**67.60**	**11**	*e*P	**P**	**02 05 00.8**	**+1.2**
MA2				*e*		02 14 17.2	
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
YAK	**Yakutsk**	**68.02**	**360***c*	*i*P	**P**	**02 05 02.4**	**+0.2**
YAK				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.5						
YAK	**Yakutsk**	**68.02**	**360**⇑	*i*P	**P**	**02 05 02.2**	**0.0**
	comp=Z,30nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**69.95**	**320**⇑	*e*P	**P**	**02 05 14.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**69.95**	**320**	*e*P	**P**	**02 05 14.2**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**70.88**	**334**	P	**P**	**02 05 19.6**	**-0.1**
	comp=Z,3.5nm,0.4s,mb4.4,baz=356,slow=6.1,SNR=12						
SEY	**Seymchan**	**71.01**	**11**⇑	*e*P	**P**	**02 05 21.6**	**+1.1**
KK31	**Karatay Array**	**72.77**	**319**	*i* P	**P**	**02 05 31.4**	**+0.4**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
KKAR	**Karatay Array**	**72.77**	**319**	*i* P	**P**	**02 05 31.4**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
VNDA	**Vanda**	**73.24**	**173**	P	**P**	**02 05 34.5**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=308,slow=10,SNR=12						
MAW	**Mawson**	**75.71**	**201**	P	**P**	**02 05 48.9**	**+0.9**
	comp=Z,2.0nm,0.3s,mb4.2,baz=75,slow=6.8,SNR=7.6						
MAW	**Mawson**	**75.71**	**201**	*e*P	**P**	**02 05 48.7**	**+0.7**
BVA2	**Borovoye Array**	**77.40**	**328**	P	**P**	**02 05 57.3**	**-0.2**
BVA2				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
BRVK	**Borovoye**	**77.48**	**328**⇑	*e*P	**P**	**02 05 57.6**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
BRVK	**Borovoye**	**77.48**	**328**⇑	*e*P	**P**	**02 05 57.6**	**-0.3**
	comp=Z,5.6nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**77.60**	**328**	*e*P	**P**	**02 05 57.1**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
CHKZ	**Chkalovo**	**77.60**	**328**	*e*P	**P**	**02 05 57.1**	**-1.5**
	comp=Z,2.6nm,0.4s,mb4.2						
ZRNK	**Zerenda**	**78.11**	**327**⇑	*e*P	**P**	**02 06 01.0**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**78.11**	**327**⇑	*e*P	**P**	**02 06 01.0**	**-0.5**
	comp=Z,9.0nm,0.9s,mb4.4						
AB31	**Akbulak array**	**81.91**	**322**	P	**P**	**02 06 21.4**	**-0.4**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**83.47**	**322**	P	**P**	**02 06 29.9**	**+0.1**
AKTO	**Aktyubinsk**	**83.47**	**322**	P	**P**	**02 06 29.9**	**+0.1**
	comp=Z,5.7nm,0.6s,mb4.5,baz=126,slow=5.2,SNR=15						
ARU	**Arti**	**85.05**	**328**⇓	*i*P	**P**	**02 06 36.9**	**-0.9**
ARU				*e*		02 09 56.4	
ARU				*e*S	S	02 16 45.5	-8.6
ARU				*e*SS	SS	02 22 24.0	-6.8
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
NAY	**Al-Naaiem**	**86.75**	**300**	*e*P	**P**	**02 06 45.1**	**-1.1**
NAY				AMb	AMB	02 06 47.4	
	comp=Z,20nm,0.8s,mb5.0						
MIB	**Mutribah**	**86.75**	**300**	*e*P	**P**	**02 06 45.9**	**-0.3**
MIB				AMb	AMB	02 06 46.9	
	comp=Z,23nm,0.6s,mb5.2						
RST	**Umm Al-Ruwaisa**	**87.00**	**300**	*e*P	**P**	**02 06 46.6**	**-0.8**
RST				AMb	AMB	02 06 48.5	
	comp=Z,25nm,0.8s,mb5.1						
KIV	**Kislovodsk**	**92.35**	**314**	*e*P	**P**	**02 07 11.7**	**-0.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ANN	**Anapa**	**96.17**	**314**	*e*P	**P**	**02 07 20.1**	**-10**
ANN				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.6						
BRTR	**Keskin Array B**	**98.84**	**309**	P	**P**	**02 07 41.1**	**-0.8**
	comp=Z,0.8nm,0.8s,mb4.2,baz=90,slow=4.3,SNR=4.9						
BRTR	**Keskin Array B**	**98.84**	**309**⇑	*e*P	**P**	**02 07 40.7**	**-1.3**
ARCES	**ARCESS Array B**	**100.84**	**340**	P	Pdif	02 07 49.4	-1.4
	comp=Z,1.9nm,0.8s,baz=79,slow=6.3,SNR=10						
ARCES	**ARCESS Array B**	**100.84**	**340**	P	Pdif	02 07 49.4	-1.4
YKA	**Yellowknife Ar**	**107.01**	**26**	PKiKP	PKiKP	02 12 27.1	+0.1
	comp=Z,0.9nm,0.7s,baz=290,slow=2.1,SNR=6.1						
YKA	**Yellowknife Ar**	**107.01**	**26**	PKPdf	PKiKP	02 12 27.1	+0.1
GERES	**GERESS Array B**	**111.83**	**320**	PKiKP	PKiKP	02 12 35.2	-0.9
	comp=Z,0.3nm,0.4s,baz=90,slow=4.0,SNR=5.2						
HRY	**Holter Researc**	**113.59**	**41**	*e*Pdif	Pdif	02 08 40.5	-7.1
PDAR	**Pinedale Array**	**116.29**	**45**	PKP	PKPdf	02 12 45.9	+1.2
	comp=Z,0.7nm,0.6s,baz=276,slow=1.3,SNR=7.4						
ANMO	**Albuquerque**	**120.78**	**53**	PKP	PKPdf	02 12 55.5	+2.2
	comp=Z,1.4nm,0.8s,baz=156,slow=4.9,SNR=5.0						
ANMO	**Albuquerque**	**120.78**	**53**⇑	*i*PKIKP	PKPdf	02 12 55.4	+2.1
ULM	**Lac du Bonnet**	**121.75**	**33**	PKP	PKPdf	02 12 54.5	-0.6
	comp=Z,2.1nm,0.5s,baz=306,slow=2.4,SNR=11						
JCT	**Junction City**	**127.41**	**56**	*e*PKIKP	PKPdf	02 13 06.8	+0.8
TORD	**Torodi Ar. Bea**	**128.69**	**282**	PKP	PKPdf	02 13 09.1	+0.7
	comp=Z,0.7nm,0.7s,baz=79,slow=1.9,SNR=10						
TORD				SKPbc		02 16 12.3	
	comp=Z,1.9nm,0.8s,baz=84,slow=3.1,SNR=9.7						
TORD	**Torodi Ar. Bea**	**128.69**	**282**	PKP	PKPdf	02 13 09.1	+0.6
TORD				SKPbc		02 16 12.3	
PLCA	**Paso Flores**	**129.62**	**160**	SKPbc		02 16 16.9	
	comp=Z,1.7nm,0.9s,baz=214,slow=5.4,SNR=3.5						
SADO	**Sadowa**	**133.91**	**29**	PKP	PKPdf	02 13 19.6	+1.3
	comp=Z,3.9nm,0.8s,baz=320,slow=6.7,SNR=3.8						
DBIC	**Dimbokro**	**135.19**	**273**	SKPbc	SKPbc	02 16 34.5	-2.6
	comp=Z,2.0nm,0.9s,baz=31,slow=5.9,SNR=4.3						
CFAA	**Coronel Fontan**	**138.56**	**156**	SKPbc	SKPbc	02 16 45.9	-1.2
	comp=Z,0.2nm,0.4s,baz=214,slow=3.6,SNR=3.6						
CPUP	**Villa Florida**	**146.89**	**168**	PKPbc	PKPbc	02 13 45.4	+1.6
	comp=Z,3.2nm,0.6s,baz=180,slow=1.3,SNR=18						
LPAZ	**La Paz**	**151.32**	**141**	PKPbc	PKPbc	02 13 58.2	+3.4
	comp=Z,2.3nm,0.4s,baz=257,slow=0.7,SNR=22						
SIV	**San Ignacio**	**155.37**	**154**	PKP	PKPdf	02 13 56.0	+1.5
	comp=Z,1.1nm,0.9s,baz=217,slow=5.4,SNR=5.0						
SDV	**Santo Domingo**	**159.33**	**81**	PKP	PKPdf	02 14 01.2	+1.7
	comp=Z,1.4nm,0.2s,baz=244,slow=3.7,SNR=3.9						

---

*NEIC **10** 02:08:42.1±1.3, 9.17S×12041E, h35km, mb3.9/1, Error ellipse: s-maj=68.3km s-min=16.0km az=54.0*

IDC 10 02:08:37.1±1.9**, 904S×12048E, h0**km**, mb3.8**/2**, mb1 3.8**/5**, mb1mx3.6**/16**, mbtmp3.7**/5**, ML3.4**/3**, Error ellipse: s-maj=176.6km s-min=24.8km az=56.0, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.31**	**151**	Pn	Pn	02 11 06.1	-0.1
	0.2nm,0.3s,baz=339,slow=15,SNR=9.8						
FITZ				Sn	Sn	02 12 52.3	-10
	0.4nm,0.3s,baz=187,slow=21,SNR=11						
WRA	**Warramunga Arr**	**17.23**	**130**	P	Pn	02 12 40.4	+1.2
	0.1nm,0.3s,baz=306,slow=12,SNR=3.1						
WRA				S	Sn	02 15 36.4	-15
	baz=303,slow=15,SNR=2.9						
WRAB	**Tennant Creek**	**17.23**	**130**	*e*P	Pn	02 12 38.8	-0.4
	8.6nm,0.8s						
ASAR	**Alice Springs**	**19.40**	**140**	P	Pn	02 13 06.0	+0.2
	0.2nm,0.3s,baz=320,slow=11,SNR=12						
ASAR				S	Sn	02 16 32.2	-12
	0.1nm,0.3s,baz=311,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**19.40**	**140**	P	Pn	02 13 06.0	+0.2
ASAR				S	Sn	02 16 32.2	-12
STKA	**Stephens Creek**	**30.01**	**142**	P	P	02 14 46.8	-0.7
	0.5nm,0.3s,baz=307,slow=5.1,SNR=3.5						
MKAR	**Makanchi Array**	**65.17**	**332**	P	P	02 19 20.2	+0.2
	0.3nm,0.4s,baz=135,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**65.17**	**332**	P	P	02 19 20.2	+0.2

---

*IDC **10** 02:12:13.7±1.9, 1141S×16252E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.8/17, mbtmp3.9/8, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/21, Error ellipse: s-maj=37.6km s-min=26.7km az=79.0*

*ISCJB **10** 02:12:16.6±2.2, 115S±0.1×1625E±02, h33km±19km, mb3.7/5, MS3.4/1, Error ellipse: s-maj=31.8km s-min=13.1km az=113.2*

*NEIC **10** 02:12:18.6±4.5, 1146S×16250E, h32km±33km, Error ellipse: s-maj=25.9km s-min=15.2km az=60.0*

ISC 10 02:12:18.3±4.8**, 115S**±01×**1625E**±02**, h28**km±36km**, n9, σ0.80**/10**, mb3.7**/5**, MS3.4**/1**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.23**	**308**	Pn	**Pn**	**02 13 07.0**	**0.0**
	47nm,0.3s,baz=106,slow=3.1,SNR=11						
HNR				Sn	**Sn**	**02 13 44.7**	**+0.1**
	32nm,0.3s,baz=257,slow=7.4,SNR=3.0						
DZM	**Mont Dzumac**	**11.21**	**161**	Pn	**Pn**	**02 14 56.7**	**+0.1**
	0.2nm,0.3s,baz=330,slow=22,SNR=5.3						
CTA	**Charters Tower**	**17.84**	**239**	P	**Pn**	**02 16 24.4**	**0.0**
	0.1nm,0.3s,baz=53,slow=5.1,SNR=2.0						
CTA				LR	LR	02 21 42.1	
	comp=Z,67nm,20.9s,baz=226,slow=32						
WRA	**Warramunga Arr**	**28.37**	**249**	P	**P**	**02 18 09.5**	**-0.5**
	0.5nm,0.3s,mb3.5,baz=79,slow=9.3,SNR=2.4						
WRA	**Warramunga Arr**	**28.37**	**249**	P	**P**	**02 18 09.5**	**-0.5**
ASAR	**Alice Springs**	**29.79**	**242**	P	**P**	**02 18 22.4**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=69,slow=9.8,SNR=6.4						
ASAR				LR	LR	02 30 07.9	
	comp=Z,82nm,20.5s,MS3.4,baz=45,slow=36						
FITZ	**Fitzroy Crossi**	**36.22**	**255**	P	**P**	**02 19 19.1**	**+0.5**
	3.6nm,0.9s,mb4.3,baz=49,slow=11,SNR=3.5						
SONM	**Songino Array**	**77.15**	**325**	P	**P**	**02 24 07.6**	**-1.7**
	0.5nm,0.6s,mb3.6,baz=142,slow=5.5,SNR=5.1						
MKAR	**Makanchi Array**	**91.66**	**317**	P	**P**	**02 25 24.5**	**+1.6**
	0.1nm,0.4s,mb3.5,baz=85,slow=5.1,SNR=2.3						

---

*ISCJB **10** 02:17:03.4±0.4, 35.10N±002×286W±004, h10km, Error ellipse: s-maj=4.5km s-min=2.7km az=23.1*

*CSEM **10** 02:17:03.6±0.2, 3508N×286W, h15km, MD3.3, Error ellipse: s-maj=5.6km s-min=2.7km az=111.0*

*CNRM **10** 02:17:04.1, 35.12N×277W, h4km, MD3.3*

*MDD **10** 02:17:04.5±0.4, 3502N×280W, h13km±3km, mb3.2/15, mbLg1.8/1, Error ellipse: s-maj=5.6km s-min=3.8km az=79.0, PRXIMO*

ISC 10 02:17:04.1±0.4**, 3508N**±002×**283W**±004**, h10**km**, n40, σ1.38**/76**, 1C, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.13**	**147**	P	**Pg**	**02 17 07.0**	**-0.1**
ZAI				S	**Sg**	**02 17 09.0**	**-0.2**
ZAI	**Zaio**	**0.13**	**147**	*i* P	**Pg**	**02 17 07.0**	**-0.1**
EMLI	**Melilla**	**0.24**	**336**	P	**Pg**	**02 17 10.7**	**+1.7**
	49nm,0.4s,SNR=11						
EMLI				S	**Sg**	**02 17 14.6**	**+2.3**
	243nm,0.2s,SNR=16						
EMEL	**Melilla**	**0.24**	**335**	P	**Pg**	**02 17 10.7**	**+1.7**
	49nm,0.4s,SNR=11						
EMEL				S	**Sg**	**02 17 14.6**	**+2.2**
	243nm,0.2s,SNR=16						
TOU	**Touzarine**	**0.77**	**262**	*i* P	**Pg**	**02 17 19.0**	**+0.1**
TOU				*i* S	**Sg**	**02 17 31.0**	**+2.1**
EALB	**Alboran**	**0.88**	**349**	P	**Pg**	**02 17 21.5**	**+0.6**
	32nm,0.5s,SNR=5.6						
EALB				S	**Sg**	**02 17 34.8**	**+2.4**
	13nm,0.2s,SNR=4.6						
EALB	**Alboran**	**0.88**	**349**	P	**Pg**	**02 17 21.5**	**+0.6**
	32nm,0.5s,SNR=5.6						
EALB				S	**Sg**	**02 17 34.8**	**+2.4**
	13nm,0.2s,SNR=4.6						
MPAL	**Palemas**	**0.92**	**279**	*e*P	**Pg**	**02 17 22.0**	**+0.2**
MPAL				*i* S	**Sg**	**02 17 34.0**	**+0.2**
TZK	**Tazeka**	**1.49**	**229**	*i* P	**Pn**	**02 17 29.0**	**-1.9**
TZK				*i* S	**Sn**	**02 17 48.0**	**-2.4**
EBER	**Berja**	**1.82**	**359**	P	**Pn**	**02 17 35.1**	**-0.2**
	0.0nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**02 17 57.5**	**-1.0**
	9.5nm,0.3s,SNR=7.6						
EBER	**Berja**	**1.82**	**359**	P	**Pn**	**02 17 35.1**	**-0.3**
	SNR=7.9						
EBER				S	**Sn**	**02 17 57.5**	**-0.9**
	9.5nm,0.3s,SNR=7.6						
EGUA	**Guajares**	**1.85**	**341**	⇑P	**Pn**	**02 17 33.4**	**-2.4**
	1.8nm,0.2s,SNR=18						
EGUA				S	**Sn**	**02 17 56.4**	**-2.9**
	0.8nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.85**	**341**	P	**Pn**	**02 17 33.4**	**-2.4**
	SNR=7.9						
EGUA				S	**Sn**	**02 17 55.5**	**-3.8**
	0.8nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**1.96**	**15**	S	**Sn**	**02 18 01.0**	**-0.9**
	4.7nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.09**	**338**	P	**Pn**	**02 17 36.9**	**-2.2**
	1.0nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**02 18 00.2**	**-5.0**
	0.3nm,0.1s,SNR=7.9						
ERON	**Agron**	**2.09**	**338**	P	**Pn**	**02 17 36.7**	**-2.5**
	1.6nm,0.2s,SNR=5.0						
ERON				S	**Sn**	**02 18 00.3**	**-4.9**
	SNR=4.0						
EMIJ	**Mijas**	**2.17**	**314**	P	**Pn**	**02 17 38.2**	**-2.0**
	1.7nm,0.5s,SNR=7.8						
EMIJ				S	**Sn**	**02 18 03.8**	**-3.2**
	6.2nm,0.3s						
EQUE	**Quentar**	**2.18**	**347**	P	**Pn**	**02 17 41.2**	**+0.8**
	2.4nm,0.4s,SNR=16						
EQUE				S	**Sn**	**02 18 08.2**	**+0.8**
	1.9nm,0.3s,SNR=6.0						
ECOG	**Cogollos-Vega**	**2.27**	**345**	P	**Pn**	**02 17 41.2**	**-0.5**
	1.2nm,0.3s,SNR=7.9						
ECOG				S	**Sn**	**02 18 09.5**	**-0.3**
	1.1nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.33**	**333**	P	**Pn**	**02 17 40.6**	**-1.8**
	1.5nm,0.3s,SNR=7.3						
ELOJ				S	**Sn**	**02 18 09.8**	**-1.2**
	0.3nm,0.1s						
EJIF	**Jimena Fronter**	**2.55**	**303**	P	**Pn**	**02 17 43.4**	**-2.0**
	0.4nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**02 18 14.7**	**-1.7**
	0.2nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.59**	**231**	*e*P	**Pn**	**02 17 48.0**	**+2.0**
MIF				*i* S	**Sn**	**02 18 18.0**	**+0.4**
EQES	**Quesada**	**2.73**	**356**	P	**Pn**	**02 17 50.2**	**+2.4**
	1.7nm,0.3s,SNR=20						
EQES				S	**Sn**	**02 18 23.6**	**+2.7**
	4.1nm,0.2s,SNR=8.8						
EQES	**Quesada**	**2.73**	**356**	P	**Pn**	**02 17 50.2**	**+2.3**
	1.7nm,0.3s,SNR=20						
EQES				S	**Sn**	**02 18 23.5**	**+2.6**
	4.1nm,0.2s,SNR=8.8						
ELUQ	**Luque**	**2.74**	**335**	P	**Pn**	**02 17 48.2**	**+0.2**
	1.0nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**02 18 20.6**	**-0.5**
	1.0nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.75**	**223**	*e*P	**Pn**	**02 17 50.0**	**+1.9**
CZD				*i* S	**Sn**	**02 18 22.0**	**+0.7**
ESPR	**Espera**	**3.04**	**307**	P	**Pn**	**02 17 53.1**	**+1.0**
	0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**02 18 28.3**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.04**	**307**	P	**Pn**	**02 17 53.1**	**+1.0**
	SNR=7.9						
ESPR				S	**Sn**	**02 18 28.3**	**-0.2**
	0.9nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.04**	**24**	P	**Pn**	**02 17 52.0**	**-0.2**
	1.5nm,0.3s,SNR=8.3						
EMUR				S	**Sn**	**02 18 27.7**	**-0.9**
	1.2nm,0.2s						
EMUR	**La Murta**	**3.04**	**24**	P	**Pn**	**02 17 52.0**	**-0.2**
	1.5nm,0.3s,SNR=8.3						
EMUR				S	**Sn**	**02 18 27.7**	**-1.0**
	1.2nm,0.2s						
EBAN	**Banos Encina**	**3.17**	**346**	P	**Pn**	**02 17 55.2**	**+1.1**
	0.7nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**02 18 32.4**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**3.29**	**203**	*e*P	**Pn**	**02 17 56.0**	**+0.4**
ZFT				*i* S	**Sn**	**02 18 35.0**	**+0.2**
EADA	**Adamuz**	**3.39**	**336**	P	**Pn**	**02 17 57.4**	**+0.5**
	1.8nm,0.3s,SNR=8.5						
EADA				S	**Sn**	**02 18 35.9**	**-1.3**
	2.3nm,0.3s						
EADA	**Adamuz**	**3.39**	**336**	P	**Pn**	**02 17 57.4**	**+0.4**
	1.8nm,0.3s,SNR=8.5						
EADA				S	**Sn**	**02 18 35.9**	**-1.3**
	2.3nm,0.3s						
ETOB	**Tobarra**	**3.71**	**16**	P	**Pn**	**02 18 03.7**	**+2.4**
	4.8nm,1.1s,SNR=7.4						
ETOB				S	**Sn**	**02 18 44.5**	**-0.5**
	1.2nm,0.3s						
ETOB	**Tobarra**	**3.71**	**16**	P	**Pn**	**02 18 03.7**	**+2.4**
	4.8nm,1.1s,SNR=7.4						
EMIN	**Mina Concepcio**	**4.10**	**312**	P	**Pn**	**02 18 05.4**	**-1.4**
	0.9nm,0.4s,SNR=12						
EMIN				S	**Sn**	**02 18 50.4**	**-4.3**
	0.2nm,0.2s						
EGRO	**El Granado**	**4.49**	**304**	P	**Pn**	**02 18 10.8**	**-1.3**
	2.0nm,0.3s,SNR=7.0						
EGRO				S	**Sn**	**02 18 57.2**	**-7.1**
	0.5nm,0.2s						
ESDC	**Sonseca Array**	**4.68**	**349**	P	**Pn**	**02 18 16.3**	**+1.7**
	0.3nm,0.3s,baz=173,slow=12,SNR=7.0						
EBAD	**Badajoz**	**4.97**	**319**	P	**Pn**	**02 18 18.3**	**-0.4**
	0.7nm,0.3s,SNR=4.8						
EBAD				S	**Sn**	**02 19 11.6**	**-4.6**
	1.6nm,0.3s						

---

*MDD **10** 02:41:12.5±0.7, 3877N×797W, h0km, mbLg1.3/3, Error ellipse: s-maj=7.2km s-min=4.2km az=78.0, PRXIMO*

INMG 10 02:41:13.1±0.8**, 3878N**×**795W, h16**km±3km**, ML0.8, 1C, Error ellipse: s-maj=1.9km s-min=1.6km az=65.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PESTR	**Estremoz**	**0.29**	**72**	*e*Pg	Pg	02 41 18.8	-0.5
PESTR				*e*Sg	Sg	02 41 23.2	-0.3
PESTR							
	2.8nm,0.1s						
EBAD	**Badajoz**	**0.73**	**92**	⇑Pg	Pg	02 41 26.7	-0.6
	1.4nm,0.1s,SNR=18						
EBAD				Lg		02 41 36.5	
	1.5nm,0.0s,SNR=26						
PBEJ	**Beja**	**0.75**	**175**	*e*Pg	Pg	02 41 26.7	-1.1
PBEJ				*e*Sg	Sg	02 41 36.9	-0.9
PBEJ							
	2.1nm,0.1s						
PTOM	**Tomar**	**0.91**	**337**	*e*P	Pb	02 41 29.4	-1.2
PTOM				*e*S	Sb	02 41 41.6	-0.9
PTOM							
	2.3nm,0.1s						
PMAFR	**Mafra**	**1.06**	**280**	*e*S	Sb	02 41 46.2	-0.5
PCBR	**Castelo Branco**	**1.12**	**19**	*e*P	Pb	02 41 33.1	-1.0
PCBR				*e*S	Sb	02 41 47.6	-0.9
PCBR							
	1.2nm,0.1s						
EGRO	**El Granado**	**1.29**	**164**	Pg	Pg	02 41 35.1	-3.0
	0.0nm,0.0s,SNR=7.9						
EGRO				Lg		02 41 53.3	
	0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.42**	**135**	Pg	Pg	02 41 38.0	-2.5
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		02 41 56.9	
	0.2nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**1.94**	**1**	*e*Sg	Sg	02 42 12.4	-3.0

---

*IDC **10** 02:48:08.4±7.7, 412S×15166E, h149km±54km, mb3.5/3, mb1 3.5/5, mb1mx3.2/15, mbtmp3.9/5, MS4.2/1, Ms1 4.2/1,*

ms1mx2.8/18, Error ellipse: s-maj=73.3km s-min=48.1km az=94.0

NEIC 10 02:48:08.3±4.9**, 404S**×**15164E, h153**km±29km**, mb3.7**/1**, Error ellipse: s-maj=56.7km s-min=34.7km az=81.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.94	220	P	Pn	02 49 47.6	+0.1
	0.7nm,0.3s,baz=220,slow=9.5,SNR=2.2						
PMG				S	Sn	02 51 05.4	0.0
	0.8nm,0.3s,baz=122,slow=20,SNR=2.1						
CTA	Charters Tower	16.79	198	P	Pn	02 51 54.2	-0.2
	0.3nm,0.3s,baz=19,slow=13,SNR=3.2						
CTA	Charters Tower	16.79	198	P	Pn	02 51 54.2	-0.2
WRAB	Tennant Creek	23.10	225	eP	P	02 53 01.2	+0.7
	1.0nm,0.3s						
WRA	Warramunga Arr	23.11	225	P	P	02 53 00.6	0.0
	1.3nm,0.3s,baz=51,slow=10.0,SNR=9.9						
ASAR	Alice Springs	25.96	220	P	P	02 53 26.8	+0.3
	0.7nm,0.8s,baz=53,slow=8.7,SNR=6.8						
STKA	Stephens Creek	29.25	198	P	P	02 53 55.9	+0.2
	0.7nm,0.4s,baz=0.0,slow=15,SNR=3.7						
STKA	Stephens Creek	29.25	198	P	P	02 53 55.9	+0.2
AFI	Afiamalu	37.38	108	LR	LR	03 07 06.5	
	comp=Z,334nm,19.9s,baz=146,slow=30						
TORD	Torodi Ar. Bea	148.97	289	PKPbc	PKPbc	03 07 39.5	+1.5
	0.3nm,0.3s,baz=80,slow=1.9,SNR=13						

---

*NEIC **10** 02:50:18.8, 3249S×7186W, h27km, ML2.7(GUC), After GUC.*

GUC 10 02:50:18.8±0.7**, 3249S**×**7186W, h27**km±3km**, MD3.6, ML2.7, 13C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.68	27	⇓iP	Pb	02 50 31.3	-0.7
CHNG				iS	Sb	02 50 41.0	0.0
PTCH	Petorca	0.82	75	⇑iP	Pb	02 50 34.1	-0.3
PTCH				iS	Sb	02 50 45.4	+0.4
PTCH				AML	AML	02 50 45.9	
	comp=N,589nm,0.2s						
ROCH	El Roble	0.86	124	⇑iP	Pn	02 50 34.7	-0.5
ROCH				iS	Sb	02 50 46.6	+0.2
LCCH	Las Cruces	1.02	166	⇑iP	Pn	02 50 36.8	-0.5
LCCH				iS	Sn	02 50 50.1	-0.5
JACH	Jahuel	1.09	101	⇑iP	Pn	02 50 38.2	0.0
JACH				iS	Sn	02 50 53.0	+0.6
PEL	Peldehue	1.19	124	⇑iP	Pn	02 50 39.9	+0.3
PEL				iS	Sn	02 50 56.0	+1.2
PEL				AML	AML	02 50 58.5	
	comp=E,521nm,0.3s						
PEL	Peldehue	1.19	124	⇑iP	Pn	02 50 39.9	+0.3
PEL				iS	Sn	02 50 56.0	+1.2
RCDM	Rinconada Maip	1.34	139	⇑iP	Pn	02 50 42.2	+0.5
RCDM				iS	Sn	02 50 59.4	+0.9
RCDM				AML	AML	02 51 03.3	
	comp=N,133nm,0.3s						
RCDM	Rinconada Maip	1.34	139	⇑iP	Pn	02 50 42.2	+0.5
RCDM				iS	Sn	02 50 59.4	+0.9
TACH	Talagante	1.40	147	⇑iP	Pn	02 50 43.0	+0.5
TACH				iS	Sn	02 51 01.2	+1.1
CMCH	Combarbala	1.50	29	⇑iP	Pn	02 50 44.3	+0.4
CMCH				iS	Sn	02 51 04.1	+1.6
CMCH				AML	AML	02 51 10.0	
	comp=E,433nm,0.5s						
CMCH	Combarbala	1.50	29	⇑iP	Pn	02 50 44.3	+0.4
CMCH				iS	Sn	02 51 04.1	+1.6
LNV	Longovilo	1.51	166	⇑iP	Pn	02 50 44.5	+0.4
FCH	Farellones	1.56	123	⇑iP	Pn	02 50 45.8	+1.0
FCH				iS	Sn	02 51 06.8	+2.7
FCH				AML	AML	02 51 09.9	
	comp=E,96nm,0.2s						
CHCH	Chadas Angostu	1.76	145	⇓iP	Pn	02 50 48.8	+1.3
CHCH				iS	Sn	02 51 11.6	+2.5
CACH	El Canelo	1.94	147	eP	Pn	02 50 52.6	+2.6
CACH				eS	Sn	02 51 17.5	+4.2
LMEL	Las Melosas	1.94	135	eP	Pn	02 50 51.8	+1.8
LMEL				iS	Sn	02 51 16.3	+2.8
LMEL				AML	AML	02 51 21.5	
	comp=N,88nm,0.2s						
LMEL	Las Melosas	1.94	135	eP	Pn	02 50 51.8	+1.8
LMEL				iS	Sn	02 51 16.3	+2.8
SFDO	San Fernando	2.24	162	eP	Pn	02 50 55.7	+1.7

---

*ISCJB **10** 02:51:30.5±1.6, 158S±02×1775W±02, h406km±20km, mb3.4/6, Error ellipse: s-maj=43.6km s-min=21.0km az=119.2*

*NEIC **10** 02:51:31.6±1.2, 1564S×17749W, h408km±13km, mb3.4/2, Error ellipse: s-maj=28.2km s-min=13.3km az=145.0*

*IDC **10** 02:51:32.1±2.3, 16.14S×17724W, h419km±43km, mb3.1/4, mb1 3.5/5, mb1mx3.2/14, mbtmp4.0/5, Error ellipse: s-maj=227.7km s-min=16.5km az=153.0*

ISC 10 02:51:31.9±1.6**, 158S**±02×**1774W**±02**, h405**km±20km**, n12, σ0ˢ82**/8**, mb3.4**/6**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	5.78	72	P	Pn	02 53 02.2	0.0
	2.2nm,0.3s,baz=307,slow=1.6,SNR=4.4						
WRA	Warramunga Arr	45.97	257	P	P	02 59 16.3	-0.1
	0.4nm,0.3s,mb3.2,baz=89,slow=6.5,SNR=3.6						
AS31	Alice Springs	46.29	252	eP	P	02 59 18.8	-0.1
ASAR	Alice Springs	46.29	252	P	P	02 59 19.4	+0.5
	5.1nm,0.6s,mb4.0,baz=86,slow=7.8,SNR=62						
VNDA	Vanda	62.61	185	eP	P	03 01 15.4	+0.6
	0.4nm,0.6s,mb3.1						
CASY	Casey	68.43	204	eP	P	03 01 50.8	-0.8
	1.6nm,0.8s,mb3.7						
NVAR	Mina Array Bea	77.26	44	P	P	03 02 43.6	+0.9
	0.7nm,0.6s,mb3.5,baz=227,slow=8.1,SNR=7.8						
PDAR	Pinedale Array	85.19	43	P	P	03 03 23.0	-0.9
	0.2nm,0.5s,mb3.1,baz=200,slow=1.8,SNR=3.2						
ARCES	ARCESS Array B	124.41	350	PKP	PKPdf	03 09 41.5	-2.0
	2.5nm,0.9s,baz=33,slow=2.1,SNR=7.1						
BR131	Keskin Array S	143.92	317	ePKPdf	PKPdf	03 10 19.0	-0.7
BRTR	Keskin Array B	143.92	317	PKP	PKPdf	03 10 18.8	-1.0
	3.1nm,0.8s,baz=40,slow=2.4,SNR=14						
GERES	GERESS Array B	145.81	347	PKPbc	PKPbc	03 10 23.6	-0.8
	0.6nm,0.5s,baz=24,slow=3.8,SNR=8.0						

---

*BJI **10** 02:59:16.5, 3190S×17987E, h341km, mB5.1, mb4.7*

*ISCJB **10** 02:59:17.3±0.5, 3198S±004×17985E±006, h344km±5km, mb4.6/37, Error ellipse: s-maj=8.8km s-min=4.8km az=55.0*

*NEIC **10** 02:59:18.0±0.5, 3194S×17998E, h344km±5km, mb4.6/22, Error ellipse: s-maj=8.6km s-min=6.4km az=121.0*

*MOS **10** 02:59:18.0±1.3, 3176S×17993E, h348km, mb4.7/12, Error ellipse: s-maj=14.9km s-min=12.5km az=66.7*

*IDC **10** 02:59:19.8±1.1, 3169S×17996E, h360km±11km, mb4.1/14, mb1 4.3/15, mb1mx4.3/16, mbtmp4.8/15, Error ellipse: s-maj=11.9km s-min=9.2km az=7.0*

ISC 10 02:59:18.5±0.5**, 3205S**±004×**17990E**±006**, h346**km±5km**, h349**km±2.8km**:pP-P, n262, σ1ˢ34**/202**, mb4.6**/35**, 15C-13D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.36	35	P	Pn	03 00 18.4	-2.5
	459nm,0.3s,baz=86,slow=7.7,SNR=73						
RAO				S	S	03 01 03.1	-8.1
	134nm,0.3s,baz=85,slow=21,SNR=4.6						
RAO	Raoul Island	3.36	35	ePn	Pn	03 00 18.5	-2.4
RAO				eSn	S	03 01 06.0	-5.2
WIZ	White Island	5.90	201	eP	Pn	03 00 54.4	+6.4
WCZ	Waipu Caves	6.03	228	eP	Pn	03 00 56.3	+6.8
WCZ	Waipu Caves	6.03	228	PN	Pn	03 00 56.3	+6.9
WCZ				SN	S	03 02 15.9	+13
PUZ	Puketiti	6.16	192	eP	Pn	03 00 52.5	+1.5
PUZ	Puketiti	6.16	192	ePN	Pn	03 00 52.5	+1.6
PUZ				SN	S	03 02 05.3	-0.6
MTAZ	Motutapu	6.27	220	P	Pn	03 00 59.6	+7.3
MTAZ	Motutapu	6.27	220	PN	Pn	03 00 59.4	+7.2
MKAZ	Moumakai	6.38	216	PN	Pn	03 01 00.6	+7.1
OTAZ	Otara	6.38	219	P	Pn	03 01 00.4	+6.8
OTAZ	Otara	6.38	219	PN	Pn	03 01 00.4	+6.8
KAAZ	Kauri Point	6.41	221	eP	Pn	03 01 01.4	+7.5
KAAZ	Kauri Point	6.41	221	PN	Pn	03 01 01.4	+7.5
WTAZ	Waiatarua	6.56	221	eP	Pn	03 01 02.9	+7.3
WTAZ	Waiatarua	6.56	221	PN	Pn	03 01 02.9	+7.3
MWZ	Matawai	6.56	197	eP	Pn	03 00 57.3	+1.6
MWZ	Matawai	6.56	197	PN	Pn	03 00 57.1	+1.5
MWZ				SN	S	03 02 17.5	+2.9
URZ	Urewera	6.60	199	P	Pn	03 00 57.1	+1.0
	41nm,0.3s,baz=293,slow=3.0,SNR=45						
URZ				S	S	03 02 18.0	+2.6
	222nm,0.3s,baz=222,slow=23,SNR=21						
URZ	Urewera	6.60	199	P	Pn	03 00 57.3	+1.2
URZ	Urewera	6.60	199	PN	Pn	03 00 57.3	+1.2
URZ				SN	S	03 02 17.7	+2.3
TAZ	Tarawera	6.76	203	P	Pn	03 01 04.0	+6.0
TAZ	Tarawera	6.76	203	PN	Pn	03 01 03.8	+5.8
PATZ	Paeroa	6.98	204	P	Pn	03 01 05.7	+5.1
KNZ	Kokohu	7.19	194	eP	Pn	03 01 03.6	+0.6
KNZ	Kokohu	7.19	194	PN	Pn	03 01 03.6	+0.7
BKZ	Black Stump Fm	7.62	200	eP	Pn	03 01 08.9	+0.8
BKZ	Black Stump Fm	7.62	200	PN	Pn	03 01 08.2	+0.1
BKZ				SN	S	03 02 39.0	+1.7
OTVZ	Oturere	7.89	205	PN	Pn	03 01 12.7	+1.4
OTVZ				SN	S	03 02 47.4	+4.2
TUVZ	Tukino	7.99	204	P	Pn	03 01 13.5	+1.1
TUVZ	Tukino	7.99	204	PN	Pn	03 01 13.5	+1.1
TUVZ				SN	S	03 02 49.0	+3.8
FWVZ	Far West T-bar	8.01	205	eP	Pn	03 01 14.1	+1.4
DRZ	Dome Shelter	8.03	205	P	Pn	03 01 16.6	+3.7
DRZ	Dome Shelter	8.03	205	PN	Pn	03 01 15.9	+3.0
WNVZ	Wahianoa	8.06	205	P	Pn	03 01 14.1	+0.8
MOVZ	Moawhango	8.08	204	P	Pn	03 01 13.5	0.0
PKVZ	Pokaka	8.12	206	PN	Pn	03 01 14.9	+1.0
PKVZ				SN	S	03 02 51.0	+2.9
VRZ	Vera Road	8.21	209	eP	Pn	03 01 18.0	+3.0
VRZ	Vera Road	8.21	209	PN	Pn	03 01 18.0	+3.0
VRZ				SN	S	03 02 58.9	+8.8
PXZ	Pawanui	8.34	196	SN	S	03 02 50.2	-2.6
RAEZ	Rainy Point	8.50	210	P	Pn	03 01 23.8	+5.3
RAEZ	Rainy Point	8.50	210	PN	Pn	03 01 23.7	+5.2
PKE	Pukeiti	8.60	212	P	Pn	03 01 24.4	+4.7
TSZ	Takapari Road	8.61	201	P	Pn	03 01 19.5	-0.2
TSZ	Takapari Road	8.61	201	PN	Pn	03 01 20.4	+0.7
TSZ				SN	S	03 02 57.2	-1.6
NEZ	North Egmont	8.61	212	P	Pn	03 01 25.7	+5.9
NEZ	North Egmont	8.61	212	PN	Pn	03 01 25.7	+5.8
WAZ	Wanganui	8.66	206	eP	Pn	03 01 21.8	+1.4
WAZ	Wanganui	8.66	206	PN	Pn	03 01 21.7	+1.3
WAZ				SN	S	03 03 02.7	+2.7
NRZ	Ngariki Road	8.74	212	eP	Pn	03 01 26.1	+4.7
BFZ	Birch Farm	9.10	198	eP	Pn	03 01 25.0	-0.7
BFZ	Birch Farm	9.10	198	PN	Pn	03 01 25.0	-0.6
BFZ				SN	S	03 03 07.0	-2.6
MRZ	Mangatainoka R	9.27	201	eP	Pn	03 01 26.8	-0.9
MRZ	Mangatainoka R	9.27	201	PN	Pn	03 01 26.1	-1.6
MRZ				SN	S	03 03 10.4	-3.0
TIWZ	Tintock	9.29	199	PN	Pn	03 01 28.1	+0.2
TIWZ				SN	S	03 03 11.5	-2.3
KIW	Kapiti Island	9.67	203	P	Pn	03 01 31.9	-0.5
KIW	Kapiti Island	9.67	203	PN	Pn	03 01 31.6	-0.9
KIW				SN	S	03 03 20.1	-2.0
DUWZ	D'Urville Isla	9.97	207	PN	Pn	03 01 35.4	-0.7
DUWZ				SN	S	03 03 27.3	-1.6
MRW	Makara Radio	10.07	203	P	Pn	03 01 36.4	-0.8
SNZO	South Karori	10.14	203	eP	Pn	03 01 42.5	+4.5
SNZO	South Karori	10.14	203	PN	Pn	03 01 36.3	-1.7
SNZO				SN	S	03 03 29.4	-3.1
TCW	Tory Channel	10.20	205	P	Pn	03 01 37.9	-0.9
NNZ	Nelson	10.54	208	eP	Pn	03 01 40.9	-2.0
NNZ	Nelson	10.54	208	PN	Pn	03 01 40.9	-2.0
NNZ				SN	S	03 03 36.8	-4.6
QRZ	Quartz Range	10.58	212	eP	Pn	03 01 41.8	-1.5
QRZ	Quartz Range	10.58	212	PN	Pn	03 01 41.8	-1.5
QRZ				SN	S	03 03 41.9	-0.4
BSWZ	Blackbirch Sta	10.78	205	P	Pn	03 01 45.1	-0.6
BSWZ	Blackbirch Sta	10.78	205	PN	Pn	03 01 45.1	-0.6
BSWZ				SN	S	03 03 44.1	-2.7
THZ	Tophouse	11.19	208	eP	Pn	03 01 49.2	-1.4
THZ	Tophouse	11.19	208	PN	Pn	03 01 49.1	-1.5
KHZ	Kahutara	11.52	204	eP	Pn	03 01 52.9	-1.6
KHZ	Kahutara	11.52	204	PN	Pn	03 01 52.9	-1.6
DSZ	Denniston Nort	11.64	211	eP	Pn	03 01 54.4	-1.6
DSZ	Denniston Nort	11.64	211	PN	Pn	03 01 54.0	-2.0
DSZ				SN	S	03 03 59.7	-6.0
LTZ	Lake Taylor	12.30	207	eP	Pn	03 02 02.6	-1.3
LTZ	Lake Taylor	12.30	207	PN	Pn	03 02 02.6	-1.2
LTZ				SN	S	03 04 14.7	-5.6
MQZ	McQueen's Vall	12.96	204	eP	Pn	03 02 10.8	-0.8
MQZ	McQueen's Vall	12.96	204	PN	Pn	03 02 10.8	-0.8
MQZ				SN	S	03 04 28.2	-5.5
WVZ	Waitaha Valley	13.18	211	PN	Pn	03 02 12.8	-1.4
WVZ				SN	S	03 04 34.0	-4.0
RPZ	Rata Peaks	13.57	208	P	Pn	03 02 18.7	0.0
	6.3nm,0.3s,baz=22,slow=1.5,SNR=16						
RPZ				S	S	03 04 41.7	-4.3
	27nm,0.3s,baz=338,slow=23,SNR=24						
RPZ	Rata Peaks	13.57	208	eP	Pn	03 02 18.7	-0.1
RPZ	Rata Peaks	13.57	208	PN	Pn	03 02 18.1	-0.6
RPZ				SN	S	03 04 41.8	-4.2
FOZ	Fox Glacier	14.03	212	eP	P	03 02 22.5	-0.1
FOZ	Fox Glacier	14.03	212	PN	Pn	03 02 22.5	-1.7
FOZ				SN	S	03 04 49.6	-5.7
LBZ	Lake Benmore	14.48	209	eP	P	03 02 28.8	+1.3
LBZ	Lake Benmore	14.48	209	PN	Pn	03 02 28.5	-0.9
LBZ				SN	S	03 05 02.2	-2.1
ODZ	Otahua Downs	14.84	206	eP	P	03 02 34.0	+2.5
ODZ	Otahua Downs	14.84	206	PN	Pn	03 02 34.0	+0.3
JCZ	Jackson Bay	14.85	213	eP	P	03 02 32.8	+1.2
JCZ	Jackson Bay	14.85	213	PN	Pn	03 02 32.7	-1.0
JCZ				SN	S	03 05 11.3	-0.5
DZM	Mont Dzumac	15.56	306	eP	P	03 02 39.9	+0.6
DZM	Mont Dzumac	15.56	306	P	P	03 02 40.9	+1.6
	1.0nm,0.3s,baz=136,slow=11,SNR=16						
AFI	Afiamalu	19.60	25	P	P	03 03 20.3	-2.1
	2.7nm,0.3s,baz=30,slow=10,SNR=6.3						
AFI	Afiamalu	19.60	25	eP	P	03 03 20.1	-2.4
AFI				pmax	pmax		
	comp=Z,95nm,0.9s						
AFI	Afiamalu	19.60	25	eP	P	03 03 20.1	-2.4
	comp=Z,95nm,0.9s						
ARMA	Armidale	24.20	266	eP	P	03 04 05.7	+0.8
TOO	Toolangi	28.68	249	eP	P	03 04 48.4	+3.8
	comp=Z,16nm,1.1s,mb4.2						
TOO	Toolangi	28.68	249	eP	P	03 04 48.4	+3.8
TOO				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.2						
CTA	Charters Tower	32.36	283	⇓iP	P	03 05 18.1	+1.4
	comp=Z,28nm,0.6s,mb4.7						
CTA	Charters Tower	32.36	283	P	P	03 05 18.0	+1.3
	comp=Z,43nm,0.8s,mb4.7,baz=108,slow=11,SNR=51						
CTA	Charters Tower	32.36	283	⇓iP	P	03 05 18.1	+1.4
CTA				pmax	pmax		
	comp=Z,28nm,0.6s						
CTAO	Charters Tower	32.36	283	eP	P	03 05 18.1	+1.4
CTAO				pmax	pmax		
	comp=Z,37nm,0.7s,mb4.7						
CTAO	Charters Tower	32.36	283	eP	P	03 05 18.1	+1.4
	comp=Z,37nm,0.7s,mb4.7						
STKA	Stephens Creek	32.39	260	⇑iP	P	03 05 19.6	+2.6
	comp=Z,17nm,0.8s,mb4.3						
STKA	Stephens Creek	32.39	260	P	P	03 05 19.6	+2.6
	comp=Z,21nm,0.8s,mb4.4,baz=100,slow=10.0,SNR=30						
AS31	Alice Springs	41.26	270	⇓iP	P	03 06 31.9	+0.9
ASAR	Alice Springs	41.26	270	P	P	03 06 32.0	+0.9
	comp=Z,17nm,0.7s,mb4.4,baz=104,slow=7.2,SNR=162						
ASAR				ScP	ScP	03 11 38.0	-0.6
	comp=Z,1.6nm,0.7s,baz=116,slow=3.2,SNR=7.6						
ASAR				S	S	03 12 18.6	+0.1
	comp=Z,2.5nm,1.0s,baz=110,slow=15,SNR=9.0						
ASPA	Alice Springs	41.27	270	⇓iP	P	03 06 31.9	+0.8
WB2	Warramunga Arr	42.40	275	eP	P	03 06 40.2	+0.1
WRAB	Tennant Creek	42.40	275	c iP	P	03 06 40.3	+0.2
WRAB	Tennant Creek	42.40	275	eP	P	03 06 40.4	+0.2
	comp=Z,38nm,0.8s,mb4.6						
WRA	Warramunga Arr	42.41	275	P	P	03 06 40.6	+0.4
	comp=Z,21nm,0.6s,mb4.4,baz=114,slow=7.7,SNR=51						
WRA				ScP	ScP	03 11 41.8	-1.3
	comp=Z,2.9nm,1.1s,baz=120,slow=3.9,SNR=5.5						
WRA				S	S	03 12 34.2	-1.0
	comp=Z,1.6nm,0.8s,baz=112,slow=14,SNR=3.2						
SBA	Scott Base	46.27	184	eP	P	03 07 14.8	+4.3
SBA				pmax	pmax		
	comp=Z,55nm,1.3s,mb4.5						
SBA	Scott Base	46.27	184	eP	P	03 07 14.8	+4.3
	comp=Z,55nm,1.3s,mb4.5						
VNDA	Vanda	46.28	185	P	P	03 07 13.2	+2.6
	comp=Z,1.2nm,0.5s,baz=356,slow=8.7,SNR=10						
VNDA				ScP	ScP	03 11 58.5	-0.5
	comp=Z,2.5nm,0.9s,baz=350,slow=4.7,SNR=8.1						
FITZ	Fitzroy Crossi	50.59	272	eP	P	03 07 43.5	+0.4
	comp=Z,19nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	50.59	272	P	P	03 07 43.5	+0.4
	comp=Z,9.3nm,0.7s,mb4.1,baz=165,slow=4.1,SNR=20						
KLBR	Kellerberrin	52.13	253	eP	P	03 07 54.4	0.0
	comp=Z,62nm,1.6s,mb4.7						
CASY	Casey	52.84	208	⇑iP	P	03 08 00.1	+0.5
QSPA	South Pole Qui	58.06	180	eP	P	03 08 39.4	+3.0
	comp=Z,92nm,0.9s,mb5.1						
MAW	Mawson	70.13	201	⇓iP	P	03 09 55.1	+0.9
	comp=Z,1.8nm,0.2s,mb4.5						
MAW	Mawson	70.13	201	P	P	03 09 55.2	+1.1
	comp=Z,11nm,1.1s,mb4.5,baz=117,slow=7.4,SNR=13						
MAW	Mawson	70.13	201	⇓iP	P	03 09 55.1	+0.9
MAW				pmax	pmax		
	comp=Z,2.0nm,0.2s						
PMSA	Palmer Station	71.50	156	P	P	03 10 02.2	-0.1
	comp=Z,27nm,1.0s,mb4.9,baz=236,slow=7.3,SNR=3.2						
SYO	Syowa Base	75.10	194	⇓eP	P	03 10 22.6	-0.6
SYO	Syowa Base	75.10	194	⇑ePcP	PcP	03 10 33.0	-2.0
SNAA	Sanae	76.55	179	eP	P	03 10 32.3	+1.0
SNAA				e		03 10 33.5	
SNAA				e		03 10 41.6	
SNAA				e	pP	03 11 52.6	+2.9
SNAA	Sanae	76.55	179	⇑eP	P	03 10 32.4	+1.1
SNAA	Sanae	76.55	179	eP	P	03 10 32.2	+0.8
	comp=Z,52nm,1.2s,mb5.1						
NVL	N'lazarevskaya	77.12	184	⇓iP	P	03 10 34.0	-0.5
NVL				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
VNA1	Neumayer--Stat	77.43	177	⇓iP	P	03 10 38.2	+2.0
VNA1				e		03 10 39.2	
VNA1				e		03 10 46.6	
VNA1				e	pP	03 11 56.2	+1.5
MJAR	Matsushiro Arr	78.60	327	P	P	03 10 40.5	-2.1
	comp=Z,4.0nm,0.9s,mb4.1,baz=157,slow=5.3,SNR=13						
MAJO	Matsushiro	78.60	327	eP	P	03 10 41.1	-1.5
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
MAJO	Matsushiro	78.60	327	eP	P	03 10 41.1	-1.5
	comp=Z,4.3nm,0.8s,mb4.2						
MAT	Matsushiro	78.60	327	P	P	03 10 40.9	-1.7
MAT				eS	S	03 20 00.0	-10
PLCA	Paso Flores	82.68	134	P	P	03 11 06.0	+2.0
	comp=Z,9.0nm,0.7s,mb4.7,baz=238,slow=5.6,SNR=26						
PLCA	Paso Flores	82.68	134	eP	P	03 11 05.9	+1.9
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PLCA	Paso Flores	82.68	134	eP	P	03 11 05.9	+1.8
	comp=Z,9.8nm,0.8s,mb4.7						
SSE	Sheshan	83.86	312	P	P	03 11 10.3	+0.3
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,185nm,5.2s						
YSS	Yuzh-Sakhalins	85.47	335	⇓eP	P	03 11 17.8	-0.1
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
YSS	Yuzh-Sakhalins	85.47	335	eP	P	03 11 17.5	-0.4
	comp=Z,30nm,0.8s,mb5.2						
NJ2	Nanjing	85.97	312	eP	P	03 11 20.5	+0.1
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
ISA	Isabella	88.73	46	eP	P	03 11 33.5	0.0
ISA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
ISA	Isabella	88.73	46	eP	P	03 11 33.5	0.0
	comp=Z,13nm,1.0s,mb4.7						
MDJ	Mudanjiang	88.99	327	P	P	03 11 34.7	+0.1
MDJ				AP	pP	03 12 55.4	-0.2
MDJ				XP	sP	03 13 32.1	+0.5
MDJ				PP	PP	03 15 13.7	+3.9
MDJ				S	S	03 21 49.4	-3.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,46nm,3.5s						
CMB	Columbia Colle	89.19	43	eP	P	03 11 34.7	-0.9
CMB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
CMB	Columbia Colle	89.19	43	eP	P	03 11 34.7	-0.9
	comp=Z,12nm,1.0s,mb4.7						
GLA	Glamis	89.33	50	eP	P	03 11 37.1	+0.9
GSC	Goldstone	89.52	47	eP	P	03 11 36.9	-0.2
TRQA	Tornquist	89.53	136	eP	P	03 11 38.3	+1.1
	comp=Z,4.1nm,0.7s,mb4.5						
HABR	Khabarovsk	89.63	332	eP	P	03 11 37.5	-0.1
HABR				eS	S	03 21 33.9	-25
CFAA	Coronel Fontan	89.68	128	P	P	03 11 39.0	+1.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=255,slow=4.0,SNR=14						
CFAA	Coronel Fontan	89.68	128	P	P	03 11 39.0	+1.1
MTUM	Tungsten Hills	89.80	44	eP	P	03 11 38.0	-0.4
WAKR	Walker	90.06	43	eP	P	03 11 39.7	0.0
CN2	Changchun	90.39	324	eP	P	03 11 40.6	-0.6
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NVAR	Mina Array Bea	90.67	44	P	P	03 11 41.7	-0.7
	comp=Z,3.7nm,0.9s,mb4.3,baz=223,slow=8.6,SNR=20						
NVAR	Mina Array Bea	90.67	44	P	P	03 11 41.7	-0.7
PAHR	Pah Rah Range	90.89	42	eP	P	03 11 43.6	+0.2
TUC	Tucson	91.54	52	eP	P	03 11 47.0	+0.5
TUC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
TUC	Tucson	91.54	52	eP	P	03 11 47.0	+0.5
	comp=Z,4.0nm,1.0s,mb4.3						
MOD	Modoc	91.86	40	eP	P	03 11 47.3	-0.6
	comp=Z,1.9nm,0.8s,mb4.1						
KMI	Kunming	92.98	298	P	P	03 11 54.8	+1.7
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.0						
WVOR	Wild Horse Val	93.13	41	eP	P	03 11 52.6	-1.2
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
WVOR	Wild Horse Val	93.13	41	eP	P	03 11 52.6	-1.2
	comp=Z,9.1nm,1.3s,mb4.7						
CD2	Chengdu	95.46	303	eP	P	03 12 03.2	-1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HHC	Hu-ho-hao-te	96.10	315	eP	P	03 12 08.0	+0.7
HHC				PP	PP	03 16 05.7	+0.5
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,89nm,4.3s						
HHC				LR	LR		
	comp=N,56nm,3.3s						
HHC				LR	LR		
	comp=E,54nm,3.5s						
HHC				LR	LR		
	comp=Z,71nm,4.5s						
HLID	Hailey	96.23	42	eP	P	03 12 07.5	-0.4
	comp=Z,1.4nm,0.9s,mb4.1						
LZH	Lanzhou	98.28	307	⇓P	P	03 12 15.2	-1.9
LZH				AP	pP	03 13 38.2	-0.4
LZH				XP	sP	03 14 13.5	-0.9
LZH				PP	PP	03 16 23.2	+1.4
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,62nm,9.2s						
PDAR	Pinedale Array	98.57	45	P	Pdif	03 12 16.6	-1.8
	comp=Z,0.5nm,0.9s,baz=259,slow=2.4,SNR=4.8						
LPAZ	La Paz	99.08	116	P	Pdif	03 12 21.5	+0.8
	comp=Z,0.7nm,0.9s,baz=180,slow=8.1,SNR=3.4						
LPAZ	La Paz	99.08	116	P	Pdif	03 12 21.5	+0.8
SONM	Songino Array	103.17	318	PKKPbc	PKKPbc	03 28 34.5	+1.6
	comp=Z,0.6nm,0.6s,baz=283,slow=2.6,SNR=4.9						
WMQ	Urumqi	112.83	308	ePKP	PKiKP	03 17 14.0	-0.5
WMQ				PP	PP	03 18 12.0	+3.7
WMQ				PKS		03 20 50.0	
WMQ				PP	PP		
	comp=Z,119nm,4.7s						
MKAR	Makanchi Array	117.45	310	PKP	PKPdf	03 17 21.5	-1.8
	comp=Z,1.1nm,0.6s,baz=98,slow=0.5,SNR=9.3						
MKAR				PKKPbc	PKKPbc	03 27 46.9	-0.1
	comp=Z,0.5nm,0.6s,baz=278,slow=5.2,SNR=5.1						
ZAL	Zalesovo	118.07	318	PKP	PKPdf	03 17 22.4	-2.1
	comp=Z,0.9nm,0.3s,baz=140,slow=14,SNR=3.3						
LSZ	Lusaka	125.69	214	ePKIKP	PKPdf	03 17 41.0	+1.8
PKME	Peaks-Kenny Pk	125.94	55	ePKPdf	PKPdf	03 17 38.4	-1.3
CHKZ	Chkalovo	126.25	316	ePKIKP	PKPdf	03 17 38.0	-2.2

BRVK	Borovoye	126.38	315	ePKIKP	PKPdf	03 17 38.5	-2.0
ZRNK	Zerenda	127.14	315	ePKIKP	PKPdf	03 17 40.0	-1.9
ARU	Arti	133.19	319	i PKIKP	PKPdf	03 17 51.5	-1.9
ARU	Arti	133.19	319	ePKPdf	PKPdf	03 17 52.4	-1.0
ARCES	ARCESS Array B	139.79	346	PKhKP		03 17 55.2	
	comp=Z,2.1nm,0.9s,baz=64,slow=1.5,SNR=14						
ARCES				SKPbc	SKPbc	03 21 04.9	-3.1
	comp=Z,4.4nm,0.7s,baz=60,slow=4.5,SNR=8.3						
JOF	Joensuu	143.25	337	ep	PKPdf	03 18 06.2	-5.6
	comp=Z,0.8nm,0.3s						
KIV	Kislovodsk	144.62	302	ePKIKP	PKPdf	03 18 11.9	-2.3
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MOS	Moscow	144.63	323	ePKIKP	PKPdf	03 18 11.6	-2.6
MOS				pmax	pmax		
	comp=Z,83nm,1.5s						
OBN	Obninsk	145.44	323κ	i PKIKP	PKPdf	03 18 14.4	-1.2
OBN				pmax	pmax		
	comp=Z,56nm,1.5s						
KAF	Kangasniemi	145.46	338	ep	PKPdf	03 18 13.5	-2.1
	comp=Z,2.6nm,0.3s						
VRSR	Storozhevoye	145.48	315	ePKP2	PKPab	03 18 15.1	-2.2
VRSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VRSR				pmax	pmax		
	comp=N,20nm,2.2s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
FINES	FINESS Array B	146.03	338	PKPbc	PKPbc	03 18 15.6	-2.5
	comp=E,23nm,0.7s,baz=67,slow=4.1,SNR=90						
MALT	Malatya	148.06	292	ePKP2	PKPab	03 18 22.9	-4.6
EIL	Elat	149.90	275	ePKPbc	PKPbc	03 18 27.5	-0.6
NB2	NORSAR Subarra	150.07	349	PKPa	PKPab	03 18 33.0	-2.7
	comp=Z,11nm,0.9s,baz=22,slow=4.3						
NOA	NORSAR Array B	150.07	349	PKPbc	PKPbc	03 18 26.6	-2.0
	comp=Z,6.6nm,0.9s,baz=18,slow=4.0,SNR=14						
NOA				PKPab	PKPab	03 18 33.2	-2.5
	comp=Z,0.9nm,0.9s,baz=21,slow=2.7,SNR=4.3						
NAO01	NORSAR Array S	150.30	349	ePKPbc	PKPbc	03 18 27.1	-2.0
NAO01				ePKPab	PKPab	03 18 34.4	-2.3
AKASG	Malin Array Be	151.45	319	PKP	PKPdf	03 18 23.5	-1.8
	comp=Z,0.1nm,0.3s,baz=61,slow=0.9,SNR=3.5						
AKASG				PKPbc	PKPbc	03 18 29.6	-2.2
	comp=Z,6.3nm,0.7s,baz=66,slow=2.2,SNR=25						
AKASG				PKPab	PKPab	03 18 38.4	-3.1
	comp=Z,1.6nm,0.6s,baz=47,slow=4.0,SNR=6.3						
AKASG	Malin Array Be	151.45	319	PKP	PKPdf	03 18 23.5	-1.8
AKASG				PKPbc	PKPbc	03 18 29.6	-2.2
AKASG				PKPab	PKPab	03 18 38.4	-3.1
AKBB	Malin Array Si	151.45	319	ePKIKP	PKPbc	03 18 30.1	-1.6
BR131	Keskin Array S	151.74	295	ePKPbc	PKPbc	03 18 31.1	-1.3
BR131				ePKPab	PKPab	03 18 42.4	-0.3
BRTR	Keskin Array B	151.74	295	PKP	PKPdf	03 18 24.4	-1.3
	comp=Z,1.7nm,1.2s,baz=116,slow=2.9,SNR=4.1						
BRTR				PKPbc	PKPbc	03 18 31.1	-1.3
	comp=Z,1.9nm,0.5s,baz=146,slow=3.9,SNR=19						
BRTR				PKPab	PKPab	03 18 41.7	-1.0
	comp=Z,2.8nm,0.8s,baz=105,slow=4.6,SNR=9.8						
LIC	Lamto	153.90	169	ePKIKP	PKPdf	03 18 25.9	-2.9
	comp=Z,22nm,1.2s						
DBIC	Dimbokro	154.36	169	PKP	PKPdf	03 18 29.8	+0.3
	comp=Z,2.4nm,0.8s,baz=111,slow=2.9,SNR=4.6						
DBIC				PKPbc	PKPbc	03 18 39.2	+1.1
	comp=Z,2.0nm,0.5s,baz=153,slow=4.1,SNR=9.0						
DBIC				PKPab	PKPab	03 18 55.6	+1.7
	comp=Z,3.6nm,0.6s,baz=201,slow=5.9,SNR=6.8						
DBIC	Dimbokro	154.36	169	PKP	PKPdf	03 18 29.8	+0.3
DBIC				PKPbc	PKPbc	03 18 39.2	+1.1
DBIC				ePKPbc	PKPbc	03 18 40.6	+2.5
DBIC				ePKPab	PKPab	03 18 55.5	+1.7
STHS	Stebnicka Huta	156.42	324	ePKP	PKPab	03 19 01.7	-1.0
CRVS	Cervenica-Dubn	156.63	322	ePKP	PKPab	03 19 02.4	-1.2
BSEG	Bad Segeberg	156.89	344	ePKPdf	PKPab	03 19 02.3	-2.4
OKC	Ostrava-Krasne	157.62	328	ePKPab	PKPab	03 19 06.8	-1.1
DPC	Dobruska-Polom	158.02	331	ePKPab	PKPab	03 19 08.0	-1.7
UPC	Upice	158.03	332	ePKPab	PKPab	03 19 08.8	-0.9
VYHS	Vyhne	158.22	324	ePKP	PKPab	03 19 08.9	-1.6
CLL	Collm	158.47	337	ePKPdf	PKPab	03 19 09.4	-2.2
CLL	Collm	158.47	337	i PKPab	PKPab	03 19 09.6	-2.0
	comp=Z,25nm,1.3s						
CLL	Collm	158.47	337	i PKP2	PKPab	03 19 09.6	-2.0
CLL				pmax	pmax		
	comp=Z,15nm,1.3s						
BRG	Berggiesshubel	158.52	335	ePKPdf	PKPab	03 19 10.4	-1.4
BRG	Berggiesshubel	158.52	335	ePKP	PKPab	03 19 10.1	-1.7
	comp=Z,9.2nm,1.3s						
BRG	Berggiesshubel	158.52	335	ePKP2	PKPab	03 19 10.1	-1.7
BRG				pmax	pmax		
	comp=Z,12nm,1.3s						
FBE	Freiberg	158.68	336	ePKPdf	PKPab	03 19 10.6	-1.9
IBBN	Ibbenburen	158.96	346	ePKPdf	PKPab	03 19 11.4	-2.3
PRU	Pruhonice	159.02	333	ePKPab	PKPab	03 19 06.4	-7.6
GTTG	Gvttingen	159.16	342	ePKPdf	PKPab	03 19 12.6	-2.0
TREC	Trest	159.18	330	ePKPab	PKPab	03 19 13.4	-1.3
TANN	Tannenbergstha	159.42	337	ePKPdf	PKPab	03 19 13.9	-1.8
WERD	Werda	159.44	337	ePKPdf	PKPab	03 19 14.1	-1.7
MOX	Moxa	159.49	338	ePKPdf	PKPab	03 19 14.1	-2.0
MOX	Moxa	159.49	338	ePKP	PKPab	03 19 14.2	-1.9
	comp=Z,15nm,1.6s						
MOX	Moxa	159.49	338	ePKP2	PKPab	03 19 14.2	-1.9
MOX				pmax	pmax		
	comp=Z,15nm,1.6s						
GUNZ	Gunzen	159.50	337	ePKPdf	PKPab	03 19 14.8	-1.3
WERN	Wernitzgruen	159.55	337	ePKPdf	PKPab	03 19 15.4	-0.9
NKC	Novy Kostel	159.58	336	ePKPab	PKPab	03 19 14.4	-2.0
MANZ	Manzenberg	159.90	337	ePKPdf	PKPab	03 19 16.9	-0.9
ROTZ	Rotzenmuhle	160.05	336	ePKPdf	PKPab	03 19 17.2	-1.3
KHC	Kasperske Hory	160.08	333	ePKPab	PKPab	03 19 17.0	-1.6
GEC2	GERESS Array S	160.26	332	ePKPdf	PKPab	03 19 18.3	-1.1
GERES	GERESS Array B	160.26	332	PKPab	PKPab	03 19 17.3	-2.1
	comp=Z,2.4nm,0.9s,baz=46,slow=5.8,SNR=14						
WET	Wettzell	160.34	334	ePKPdf	PKPab	03 19 18.5	-1.2
GRF	Grafenberg Arr	160.45	338	ePKPdf	PKPab	03 19 19.3	-0.9
TNS	Taunus Mts	160.76	343	ePKPdf	PKPab	03 19 19.8	-1.8
TORD	Torodi Ar. Bea	161.11	185	PKP	PKPdf	03 18 38.3	+0.6
	comp=Z,1.8nm,0.9s,baz=344,slow=0.7,SNR=12						
TORD				PKPab	PKPab	03 19 24.5	+1.4
	comp=Z,3.7nm,0.6s,baz=167,slow=4.0,SNR=12						
GIVF	Givet	161.59	350	ePKP2	PKPab	03 19 23.0	-2.3
BAIF	Baives	161.72	351⇑	iPKP2	PKPab	03 19 23.5	-2.3
	comp=Z,14nm,1.1s						
FUR	Furstenfeldbru	161.74	335	ePKPdf	PKPab	03 19 24.9	-1.0
STU	Stuttgart	161.88	340	ePKPdf	PKPab	03 19 25.0	-1.5
BFO	Black Forest	162.53	341	ePKPdf	PKPab	03 19 27.6	-1.8
CDF	Champ du Feu	162.73	343⇑	iPKP2	PKPab	03 19 29.5	-0.7
	comp=Z,37nm,1.7s						
MEZF	Maizieres J'vi	163.11	348	ePKP2	PKPab	03 19 29.8	-2.1
LOR	Lormes	164.50	350	ePKP2	PKPab	03 19 35.7	-2.4
	comp=Z,16nm,1.3s						
AVF	Avril sur Loir	165.04	351⇑	iPKP2	PKPab	03 19 38.0	-2.4
	comp=Z,18nm,1.2s						
SMF	Signal de Mont	165.11	349⇑	iPKP2	PKPab	03 19 38.5	-2.2
	comp=Z,34nm,1.1s						
BGF	Bois d'Agland	165.34	352	ePKP2	PKPab	03 19 39.2	-2.5
	comp=Z,46nm,1.6s						
LPL	La Plagne	165.55	340	ePKP2	PKPab	03 19 41.8	-0.9
	comp=Z,15nm,1.2s						
LPG	La Plagne	165.56	340	ePKP2	PKPab	03 19 41.9	-0.8
	comp=Z,40nm,1.4s						
TCF	Toulx Ste Croi	165.67	354⇑	iPKP2	PKPab	03 19 40.8	-2.4
	comp=Z,13nm,1.1s						
ORIF	Oris-en-Rattie	166.33	342⇑	iPKP2	PKPab	03 19 44.7	-1.4
	comp=Z,11nm,0.9s						
VIVF	Saint-Julien-l	166.68	345	ePKP2	PKPab	03 19 46.4	-1.3
	comp=Z,45nm,1.8s						
CAF	Calviac	167.03	353⇑	iPKP2	PKPab	03 19 47.3	-1.9
	comp=Z,20nm,1.5s						
LFF	La Frestale	167.11	357⇑	iPKP2	PKPab	03 19 47.0	-2.6
	comp=Z,6.7nm,0.9s						
LASF	Ste Croix	167.60	347	ePKP2	PKPab	03 19 50.2	-1.5
	comp=Z,19nm,1.6s						
MTLF	Montolieu	168.58	351⇑	iPKP2	PKPab	03 19 54.2	-1.9
	comp=Z,7.6nm,1.1s						
SJPF	Ste Jean	168.92	4⇑	iPKP2	PKPab	03 19 53.6	-4.0
	comp=Z,9.3nm,1.1s						
ESDC	Sonseca Array	171.77	21	PKP	PKPdf	03 18 46.2	+0.3
	comp=Z,0.1nm,0.4s,baz=335,slow=2.7,SNR=5.8						
ESDC				PKPab	PKPab	03 20 08.2	-2.1
	comp=Z,0.8nm,0.9s,baz=337,slow=4.7,SNR=6.7						
MDT	Midelt	176.11	77	PKP	PKPdf	03 18 48.9	+1.5
	comp=Z,1.4nm,1.1s,baz=289,slow=3.8,SNR=3.6						
MDT				PKPab	PKPab	03 20 28.3	-1.2
	comp=Z,1.6nm,0.9s,baz=233,slow=6.7,SNR=3.3						

---

*ISCJB **10** 03:08:05.9±0.2, 44.18N±002×695E±003, h24km±4km, Error ellipse: s-maj=4.2km s-min=2.8km az=177.3*
*NEIC **10** 03:08:06.7, 4421N×700E, h9km, ML1.9(ROM), ML2.3(LDG), ML2.5(STR), After ROM.*
*LDG **10** 03:08:06.5±0.0, 44.15N×691E, h2km, Md2.2/3, Ml2.3/20, Error ellipse: s-maj=1.1km s-min=0.8km az=58.0*
*ROM **10** 03:08:06.7±0.7, 4421N×700E, h9km±3km, Md2.6/4, Ml1.9/2, Error ellipse: s-maj=7.3km s-min=3.9km az=110.0*
*STR **10** 03:08:06.4±0.1, 44.18N×694E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 10 03:08:05.9±0.2**, 4417N**±001×**688E**±002**, h14**km±2km**, n52, σ0s89**/103**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOUF	Mont Tournerai	0.31	120	Pg	Pg	03 08 11.9	-0.3
TOUF				Sg	Sg	03 08 16.3	-0.2
SURF	Saint Ours	0.32	351	Pg	Pg	03 08 12.7	+0.3
STV	Sta Anna Valdi	0.33	76	Pg	Pg	03 08 12.3	-0.3
STV				Sg	Sg	03 08 16.3	-0.8
	86nm,0.1s						
MVIF	Mont Vial	0.34	144	Pg	Pg	03 08 12.5	-0.2
MVIF				Sg	Sg	03 08 17.7	+0.4
DOI	San Damiano	0.43	38	Pg	Pg	03 08 14.4	0.0
DOI				Sg	Sg	03 08 19.8	-0.3
	200nm,0.2s						
AUTN	L'Aution	0.43	114	Pg	Pg	03 08 14.0	-0.4
AUTN				Sg	Sg	03 08 19.6	-0.6
LUCF	Luceram	0.43	129	Pg	Pg	03 08 14.3	-0.2
LUCF				Sg	Sg	03 08 20.3	-0.1
SBF	Sospel	0.50	127	ePn	Pg	03 08 16.7	+0.9
SBF				eSg	Sg	03 08 21.8	-0.7
	94nm,0.2s						
SBF	Sospel	0.50	127	ePg	Pg	03 08 15.5	-0.3
SBF				ePn	Pg	03 08 16.7	+0.9
SBF				eSg	Sg	03 08 21.8	-0.7
SAOF	Saorge	0.52	110	Pg	Pg	03 08 15.6	-0.5
SAOF				Sg	Sg	03 08 22.8	-0.2
REVF	Revere	0.55	141	Pg	Pg	03 08 16.9	+0.2
REVF				Sg	Sg	03 08 24.6	+0.5
MBDF	Montbardon	0.56	352	ePg	Pg	03 08 17.2	+0.3
	SNR=1.0						
MBDF				eSg	Sg	03 08 24.9	+0.4
	55nm,0.3s						
FRF	La Foret Royal	0.63	196	ePn	Pn	03 08 20.4	+0.1
	SNR=1.0						
FRF				eSg	Sg	03 08 25.9	-0.7
	72nm,0.2s,SNR=1.0						
FRF				eSn	Sg	03 08 30.1	+3.5
	24nm,0.1s						
FRF	La Foret Royal	0.63	196	ePg	Pg	03 08 18.0	-0.2
FRF				ePn	Pn	03 08 20.4	+0.1
FRF				eSg	Sg	03 08 25.9	-0.7
FRF				eSn	Sg	03 08 30.1	+3.5
STOF	St-Etienne Org	0.72	257	Pg	Pg	03 08 22.4	+2.5
IMI	Imperia	0.77	109	Pg	Pg	03 08 20.2	-0.6
	14nm,0.1s						
TAVF	Tavernes	0.81	228	Pg	Pg	03 08 21.9	+0.3
LMR	La Mourre	0.88	198	ePn	Pn	03 08 23.8	+0.1
	SNR=1.0						
LMR				eSg	Sg	03 08 33.5	-0.8
	38nm,0.2s,SNR=1.0						
LMR	La Mourre	0.88	198	ePg	Pg	03 08 22.5	-0.3
LMR				ePn	Pn	03 08 23.8	+0.1
LMR				eSg	Sg	03 08 33.5	-0.8
BNI	Bardonecchia	0.90	351	ePg	Pg	03 08 22.9	-0.3
BNI				eSg	Sg	03 08 35.2	+0.3
VILF	Villemus	0.90	250	Pg	Pg	03 08 24.4	+1.1
FIN	Finale Ligure	0.95	87	Pg	Pg	03 08 23.7	-0.6
	9.0nm,0.1s						
ORIF	Oris-en-Rattie	1.04	317	ePn	Pn	03 08 27.1	+1.2
	SNR=1.0						
ORIF				eSg	Sg	03 08 39.4	0.0
	14nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	1.04	317	ePg	Pg	03 08 26.0	+0.1
ORIF				ePn	Pn	03 08 27.1	+1.2
ORIF				eSg	Sg	03 08 39.4	0.0
PUYF	Puyloubier	1.06	234	Pg	Pg	03 08 26.8	+0.4
TREF	Trevaresse	1.21	244	Pn	Pn	03 08 29.8	+1.5
BERF	Bertagne	1.22	226	Pn	Pn	03 08 29.5	+1.1
PRAF	Pradon	1.29	254	Pn	Pn	03 08 30.6	+1.2
GELF	Grande-Etoile	1.31	234	Pn	Pn	03 08 30.5	+0.8
LPG	La Plagne	1.33	356	ePg	Pg	03 08 32.2	+0.7
LPG				eSg	Sg	03 08 49.5	+0.7
	11nm,0.4s,SNR=1.0						
LPG	La Plagne	1.33	356	ePn	Pn	03 08 31.4	+1.4
LPG				ePg	Pg	03 08 32.2	+0.7
LPG				eSg	Sg	03 08 49.5	+0.7
LPL	La Plagne	1.35	356	ePg	Pg	03 08 32.5	+0.6
	SNR=1.0						
LPL				eSg	Sg	03 08 50.2	+0.7
	10nm,0.4s						
LPL	La Plagne	1.35	356	ePn	Pn	03 08 31.6	+1.4
LPL				ePg	Pg	03 08 32.5	+0.6
LPL				eSg	Sg	03 08 50.2	+0.7
VIVF	Saint-Julien-l	1.72	294	ePn	Pn	03 08 36.4	+1.0
	SNR=1.0						
VIVF				eSn	Sn	03 08 57.7	+0.6
	4.2nm,0.2s,SNR=1.0						
VIVF				eSg	Sg	03 09 01.6	+0.3
	5.4nm,0.2s,SNR=1.0						
LASF	Ste Croix	2.18	269	ePg	Pg	03 08 47.2	-0.5
LASF				eSn	Sn	03 09 08.1	-0.3
	4.3nm,0.4s,SNR=1.0						
LASF	Ste Croix	2.18	269	ePn	Pn	03 08 41.9	+0.3
LASF				ePg	Pg	03 08 47.2	-0.5
LASF				eSn	Sn	03 09 08.1	-0.3
CABF	La Chapelle	2.51	347	ePn	Pn	03 08 46.9	+0.8
CABF				eSn	Sn	03 09 16.7	+0.3
	1.7nm,0.5s						
SMF	Signal de Mont	3.27	320	ePn	Pn	03 08 57.2	+0.5
	SNR=1.0						
SMF				eSn	Sn	03 09 34.9	-0.5
	1.4nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.48	258	ePn	Pn	03 09 00.5	+1.0
	SNR=1.0						
MTLF				eSn	Sn	03 09 38.9	-1.6
	SNR=1.0						
MTLF				eSg	Sg	03 09 55.8	-1.8
	1.2nm,0.4s,SNR=1.0						
CAF	Calviac	3.53	284	ePn	Pn	03 09 01.3	+1.1
	SNR=1.0						
CAF				eSn	Sn	03 09 40.4	-1.2
	0.6nm,0.2s						
CAF				eSg	Sg	03 09 57.3	-1.8
	0.6nm,0.3s						
AVF	Avril sur Loir	3.61	318	ePn	Pn	03 09 02.7	+1.4
	SNR=1.0						
AVF				eSn	Sn	03 09 42.5	-1.2
	0.4nm,0.2s						
HINF	Hinteralfeld	3.65	360	ePg	Pg	03 09 14.2	-1.6
HINF				eSn	Sn	03 09 44.2	-0.5
	1.3nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	3.65	360	ePn	Pn	03 09 02.2	+0.4
HINF				ePg	Pg	03 09 14.2	-1.6
HINF				eSn	Sn	03 09 44.2	-0.5
BGF	Bois d'Agland	3.71	311	ePn	Pn	03 09 03.1	+0.4
LOR	Lormes	3.75	327	ePn	Pn	03 09 03.6	+0.3
	SNR=1.0						
LOR				eSn	Sn	03 09 46.0	-1.2
	2.1nm,0.5s,SNR=1.0						
HAU	Haudompre	3.86	355	ePn	Pn	03 09 05.0	+0.3
	SNR=1.0						
HAU				eSn	Sn	03 09 49.3	-0.5
	3.1nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	3.92	304	ePn	Pn	03 09 05.6	0.0
TCF				eSn	Sn	03 09 49.8	-1.6
	0.5nm,0.3s						
CDF	Champ du Feu	4.25	4	ePn	Pn	03 09 10.7	+0.6
	SNR=1.0						
CDF				eSn	Sn	03 09 58.3	-1.3
	0.4nm,0.2s						
MEZF	Maizieres J'vi	4.52	344	ePn	Pn	03 09 14.3	+0.5
MEZF				eSn	Sn	03 10 04.0	-2.0
	1.9nm,0.4s,SNR=1.0						
EPF	Esparros	4.88	259	ePn	Pn	03 09 19.0	+0.2
EPF				ePg	Pg	03 09 37.0	-2.4
MFF	Saint Martin d	5.52	299	eSn	Sn	03 10 28.0	-2.7
	1.2nm,0.3s						
ETSF	Etsaut	5.56	259	ePn	Pn	03 09 28.3	+0.2

---

*ISCJB **10** 03:24:53.3±0.8, 1461N±008×9391W±005, h33km, mb3.8/11, Error ellipse: s-maj=11.6km s-min=7.2km az=22.8*
*IDC **10** 03:24:54.6±3.1, 1555N×9307W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, ML3.2/1, Error ellipse: s-maj=100.0km s-min=22.5km az=39.0*
*NEIC **10** 03:24:55.9±0.9, 1548N×93.16W, h10km, mb3.7/7, Error ellipse: s-maj=23.5km s-min=8.8km az=212.0*
*MEX **10** 03:24:58.9±1.1, 1492N×9393W, h30km±179km, MD4.4*
*CASC **10** 03:25:49.6±1.6, 1444N×9038W, h10km, mb3.7(NEIC)*
ISC 10 03:24:56.8±1.0**, 1480N**±010×**9389W**±005**, h35**km**, n28, σ1s31**/29**, mb3.8**/11**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CCIG	Comitan	2.24	49	i P	Pn	03 25 30.8	-0.5
CCIG				i S	Sn	03 25 57.6	-0.2
SCX	San Cristobal	2.27	32	i P	Pn	03 25 33.5	+1.7
SCX				i S	Sn	03 26 03.0	+4.5
CMIG	Matias Romero	2.47	337	i P	Pn	03 25 34.0	-0.5
CMIG				i S	Sn	03 25 59.9	-3.6
VHO	Vista Hermosa	3.55	310	eP	Pn	03 25 48.1	-1.3
VHO				i S	Sn	03 26 27.8	-2.4
VHO	Vista Hermosa	3.55	310	eP	Pn	03 25 54.2	+4.8
VHO				i S	Sn	03 26 35.1	+5.0
RBDL	Robledal	4.12	99	eP	x	03 26 02.9	
SBLS	San Blas	4.24	102	eP	x	03 26 06.4	
SNJE	San Jose	4.25	102	eP	x	03 26 07.5	
UTMO	Huajuapan	4.82	309	i S	Sn	03 27 00.5	-0.9
LFRS	El Faro	4.82	103	eP	x	03 26 17.1	
LCBS	La Ceiba	4.89	103	eP	x	03 26 17.8	
PPM	Popocatepetl	6.21	314	eP	Pn	03 26 27.8	+1.8
PPM				i S	Sn	03 27 35.3	-0.4
PPM	Popocatepetl	6.21	314	eP	Pn	03 26 27.8	+1.8
PPM				i S	Sn	03 28 03.5	+28
JTS	JuntasAbangare	9.80	116	Pn	Pn	03 27 14.2	-1.0
	0.2nm,0.3s,baz=321,slow=18,SNR=2.0						
MNTX	Cornudas Mount	19.84	330	eP	Pn	03 29 25.9	-0.3
	1.9nm,0.8s						
WMOK	Wichita Mounta	20.34	348	eP	P	03 29 26.5	-3.5
	2.1nm,0.9s						
TUC	Tucson	23.26	321	eP	P	03 30 03.1	+1.9
	0.5nm,0.6s,mb3.1						
SDV	Santo Domingo	23.49	102	P	P	03 29 59.0	-4.5
	1.4nm,0.3s,mb3.9,baz=182,slow=17,SNR=4.5						
WCI	Wyandotte Cave	24.28	15	eP	P	03 30 04.7	-6.1
	5.5nm,0.9s,mb4.0						
SDCO	Great Sand Dun	25.07	338	eP	P	03 30 19.0	+1.1
	2.1nm,1.1s,mb3.6						
ISCO	Idaho Springs	26.94	340	eP	P	03 30 35.8	+1.0
	2.3nm,1.0s,mb3.7						
PDAR	Pinedale Array	30.96	337	P	P	03 31 09.9	-0.6
	0.5nm,0.9s,mb3.3,baz=111,slow=4.9,SNR=4.6						
NVAR	Mina Array Bea	31.91	322	P	P	03 31 21.1	+2.1
	0.9nm,0.8s,mb3.7,baz=139,slow=9.1,SNR=7.5						
HLID	Hailey	33.61	333	eP	P	03 31 34.8	+1.1
	1.2nm,0.8s,mb3.9						
ULM	Lac du Bonnet	35.39	358	P	P	03 31 45.6	-3.5
	1.5nm,0.9s,mb3.9,baz=171,slow=12,SNR=3.1						
YKA	Yellowknife Ar	49.84	348	P	P	03 33 45.3	-1.1
	2.3nm,0.7s,mb4.3,baz=146,slow=7.7,SNR=8.4						
YKA	Yellowknife Ar	49.84	348	P	P	03 33 45.3	-1.1
NOA	NORSAR Array B	84.31	28	P	P	03 37 24.0	-1.1
	1.7nm,0.8s,mb4.2,baz=292,slow=4.9,SNR=3.9						

---

*MOS **10** 04:11:37.7±0.9, 4745N×15299E, h31km, mb4.6/15, Error ellipse: s-maj=18.4km s-min=10.2km az=63.2*
*BJI **10** 04:11:37.4, 4735N×15392E, h57km, mB4.8, mb4.2, Ms4.4, Msz4.0*
*ISCJB **10** 04:11:41.3±0.3, 4737N±008×153.19E±006, h58km, mb4.4/42, MS3.9/5, Error ellipse: s-maj=12.0km s-min=4.6km az=136.1*
*IDC **10** 04:11:42.6±0.7, 4739N×15300E, h59km±6km, mb3.8/13, mb1 3.9/15, mb1mx3.8/23, mbtmp4.0/15, MS3.4/4, Ms1 3.4/4, ms1mx3.0/27, Error ellipse: s-maj=21.5km s-min=14.7km az=124.0*
*NEIC **10** 04:11:42.3±0.3, 4729N×15304E, mb4.4/25, Error ellipse: s-maj=10.7km s-min=7.3km az=156.0*
ISC 10 04:11:43.4±0.3**, 4740N**±008×**15319E**±006**, h60**km**, h60**km±.6km**:pP-P, n87, σ1s20**/90**, mb4.4**/42**, MS3.9**/5**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.81	29	ePN	Pn	04 12 35.2	-4.3
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
KUR	Kuril'sk	4.28	241	ePN	Pn	04 12 44.5	-1.4
KUR				eS	Sn	04 13 35.0	+0.5
KUR				pmax	pmax		
	comp=N,70nm,0.9s						
KUR				pmax	pmax		
	comp=E,140nm,0.9s						
KUR				pmax	pmax		
	comp=Z,400nm,0.9s						
KUR				smax			
	comp=N,570nm,1.0s						
KUR				smax			
	comp=E,380nm,1.0s						
PET	Petropavlovsk	6.63	30	ePN	Pn	04 13 23.5	+5.4
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,21.0s						
PET	Petropavlovsk	6.63	30	ePn	Pn	04 13 23.4	+5.3
	comp=Z,15nm,0.4s						
YSS	Yuzh-Sakhalins	7.12	270⇑	iPN	Pn	04 13 28.0	+3.1
YSS				eS	Sn	04 14 44.0	-0.4
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	Yuzh-Sakhalins	7.12	270	ePn	Pn	04 13 28.5	+3.6
ASAJ	Asahikawa	8.10	250	P	Pn	04 13 35.0	-3.2
	comp=Z,0.2nm,0.3s,baz=223,slow=31,SNR=1.9						
ASAJ				LR	LR	04 16 32.3	
	comp=Z,195nm,22.0s,baz=19,slow=36						
MA2	Magadan	12.28	354	ePN	Pn	04 14 37.3	+2.0
MJAR	Matsushiro Arr	15.52	231	P	Pn	04 15 14.5	-4.0
	comp=Z,0.1nm,0.3s,baz=31,slow=14,SNR=6.7						
MJAR				LR	LR	04 20 45.9	
	comp=Z,96nm,21.6s,baz=20,slow=35						
MJAR	Matsushiro Arr	15.52	231	P	Pn	04 15 14.5	-4.0
MJAR				LR	LR	04 20 45.9	
MAJO	Matsushiro	15.52	231	eP	Pn	04 15 22.1	+3.6
MAT	Matsushiro	15.52	231	P	Pn	04 15 14.3	-4.2
MAT				eS	S	04 18 16.0	-6.0
MDJ	Mudanjiang	16.61	269	P	Pn	04 15 33.9	+1.7
MDJ				AP	pP	04 15 47.1	+0.5
MDJ				XP	sP	04 15 53.6	-0.5
MDJ				S	S	04 18 40.3	-4.0
MDJ				PCP	PcP	04 20 18.9	-0.4
MDJ				SCP	ScP	04 23 49.6	+0.8
MDJ				PCS	PcS	04 23 55.5	+0.4
MDJ				SCS	ScS	04 27 29.0	+0.9
MDJ				AMB	AMB		
	comp=Z,13nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,76nm,3.2s						
CN2	Changchun	19.70	270	eP	Pn	04 16 12.2	+2.6
SNY	Shenyang	21.73	266	eP	P	04 16 32.8	+3.3
SNY				AMB	AMB		
	comp=Z,14nm,2.5s,mb4.0						
SSE	Sheshan	29.39	248	P	P	04 17 40.5	-0.3
SSE				AMB	AMB		
	comp=Z,37nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,85nm,5.4s						
NJ2	Nanjing	30.24	252	eP	P	04 17 49.1	+0.7
HHC	Hu-ho-hao-te	30.30	273	eP	P	04 17 51.5	+2.6
HHC				AP	pP	04 18 06.1	+2.4
HHC				XP	sP	04 18 13.6	+2.9
HHC				PP	PP	04 18 53.1	-5.1
HHC				PCP	PcP	04 20 50.0	+2.0
HHC				S	S	04 22 47.5	+2.8
HHC				XS	sS	04 23 12.9	+3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HHC				SCP	ScP	04 24 26.1	+0.9
HHC				PCS	PcS	04 24 32.7	+1.1
HHC				SCS	ScS	04 28 20.1	-1.0
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,101nm,3.4s						
HHC				LR	LR		
	comp=N,167nm,6.3s						
HHC				LR	LR		
	comp=E,164nm,4.9s						
HHC				LR	LR		
	comp=Z,74nm,6.1s						
SONM	Songino Array	31.17	288	LR	LR	04 31 42.2	
	comp=Z,76nm,20.4s,MS3.4,baz=140,slow=39						
LZH	Lanzhou	37.92	271	eP	P	04 18 56.5	+1.6
LZH				AP	pP	04 19 11.6	+1.7
LZH				XP	sP	04 19 18.7	+1.8
LZH				PP	PP	04 20 28.3	+5.9
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,49nm,5.2s						
LZH				LR	LR		
	comp=N,217nm,13.7s						
LZH				LR	LR		
	comp=Z,299nm,17.5s,MS4.2						
INK	Inuvik	41.07	33	P	P	04 19 21.7	+0.7
	comp=Z,3.7nm,0.9s,mb4.0,baz=301,slow=5.0,SNR=4.9						
INK	Inuvik	41.07	33	eP	P	04 19 20.9	-0.2
INK				e*PP	pP	04 19 36.0	-0.3
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	Inuvik	41.07	33	eP	P	04 19 20.9	-0.2
	comp=Z,4.0nm,0.8s,mb4.1						
INK				epP	pP	04 19 36.0	-0.3
WMQ	Urumqi	44.74	291	eP	P	04 19 54.5	+3.8
WMQ				AP	pP	04 20 10.0	+3.9
WMQ				XP	sP	04 20 17.0	+4.1
WMQ				PP	PP	04 21 40.0	+3.9
WMQ				eS	S	04 26 29.0	+5.8
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,87nm,3.7s						
WMQ				LR	LR		
	comp=N,176nm,27.6s,MS4.0						
WMQ				LR	LR		
	comp=E,147nm,24.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,115nm,24.0s,MS3.7						
KMI	Kunming	45.41	259	P	P	04 19 56.9	+0.8
KMI				AP	pP	04 20 11.5	+0.1
KMI				XP	sP	04 20 19.4	+1.1
KMI				PP	PP	04 21 41.0	-2.2
KMI				S	S	04 26 33.4	+0.4
KMI				XS	sS	04 27 01.8	+2.9
KMI				SS	SS	04 29 47.9	-9.4
KMI				SSS		04 30 52.6	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,88nm,4.6s						
KMI				LR	LR		
	comp=N,181nm,9.6s						
KMI				LR	LR		
	comp=E,103nm,11.3s						
KMI				LR	LR		
	comp=Z,155nm,10.8s,MS4.2						
MKAR	Makanchi Array	46.69	297	P	P	04 20 04.8	-1.3
	comp=Z,0.6nm,0.8s,mb3.6,baz=58,slow=9.1,SNR=3.7						
CHKZ	Chkalovo	50.05	310	eP	P	04 20 28.5	-3.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
CHKZ	Chkalovo	50.05	310	eP	P	04 20 28.5	-3.4
	comp=Z,3.4nm,1.0s,mb4.3						
YKA	Yellowknife Ar	50.37	37	P	P	04 20 34.5	+0.2
	comp=Z,3.5nm,0.8s,mb4.4,baz=297,slow=7.4,SNR=9.3						
YKA	Yellowknife Ar	50.37	37	P	P	04 20 34.5	+0.2
BVAR	Borovoye Array	50.48	309	P	P	04 20 33.9	-1.3
	comp=Z,0.4nm,0.4s,mb3.8,baz=79,slow=7.7,SNR=3.9						
CHTO	Chiang Mai	52.32	256	eP	P	04 20 49.0	0.0
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
CHTO	Chiang Mai	52.32	256	eP	P	04 20 49.0	0.0
	comp=Z,4.0nm,0.9s,mb4.3						
NEW	Newport	56.74	53	eP	P	04 21 21.1	+0.1
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	Newport	56.74	53	eP	P	04 21 21.1	+0.1
	comp=Z,1.9nm,0.8s,mb4.2						
ARCES	ARCESS Array B	57.25	341	P	P	04 21 24.4	-0.2
	comp=Z,5.9nm,1.2s,mb4.5,baz=16,slow=7.7,SNR=5.3						
ARCES	ARCESS Array B	57.25	341	P	P	04 21 24.4	-0.2
WVOR	Wild Horse Val	59.38	59	eP	P	04 21 41.1	+1.7
WVOR				e*PP	pP	04 21 55.7	+0.3
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
WVOR	Wild Horse Val	59.38	59	eP	P	04 21 41.1	+1.7
	comp=Z,4.2nm,0.9s,mb4.5						
WVOR				epP	pP	04 21 55.7	+0.3
HLID	Hailey	61.10	56	eP	P	04 21 51.6	+0.4
	comp=Z,2.1nm,0.9s,mb4.3						
HLID				epP	pP	04 22 07.3	0.0
BMN	Battle Mountai	61.46	60	eP	P	04 21 52.2	-1.4
BMN				e*PP	pP	04 22 09.5	-0.2
BMN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
BMN	Battle Mountai	61.46	60	eP	P	04 21 52.2	-1.4
	comp=Z,3.3nm,0.7s,mb4.6						
BMN				epP	pP	04 22 09.4	-0.2
QLMT	Earthquake Lak	61.95	53	eP	P	04 21 57.7	+0.8
QLMT				epP	pP	04 22 13.2	+0.2
NVAR	Mina Array Bea	62.09	63	pP	pP	04 22 14.1	+0.1
	comp=Z,1.4nm,0.7s,baz=298,slow=7.4,SNR=9.9						
RRI2	Red Ridge	62.97	55	eP	P	04 22 04.9	+1.2
	comp=Z,8.8nm,0.8s,mb4.9						
RRI2				epP	pP	04 22 20.4	+0.6
TPAW	Teton Pass	63.08	54	eP	P	04 22 05.3	+0.9
	comp=Z,6.7nm,0.9s,mb4.8						
TPAW				epP	pP	04 22 21.4	+0.9
LOHW	Long Hollow	63.19	54	eP	P	04 22 06.1	+0.9
	comp=Z,4.5nm,1.1s,mb4.5						
LOHW				epP	pP	04 22 22.0	+0.7
FINES	FINESS Array B	63.47	335	P	P	04 22 04.8	-2.3
	comp=Z,1.1nm,0.4s,mb4.4,baz=40,slow=8.2,SNR=14						
HWUT	Hardware Ranch	63.97	56	eP	P	04 22 11.3	+1.0
	comp=Z,2.2nm,0.6s,mb4.4						
HWUT				epP	pP	04 22 26.4	0.0
DUG	Dugway	64.19	58	eP	P	04 22 12.1	+0.4
DUG				e*PP	pP	04 22 27.9	0.0
DUG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
DUG	Dugway	64.19	58	eP	P	04 22 12.1	+0.4
	comp=Z,5.0nm,0.9s,mb4.5						
DUG				epP	pP	04 22 27.9	+0.1
BW06	Boulder Array	64.32	54	eP	P	04 22 12.9	+0.2
	comp=Z,4.4nm,0.9s,mb4.5						
BW06				epP	pP	04 22 28.8	+0.1
PDAR	Pinedale Array	64.32	54	P	P	04 22 11.8	-0.9
	comp=Z,1.5nm,0.9s,mb4.0,baz=319,slow=4.1,SNR=12						
PDAR				pP	pP	04 22 29.1	+0.3
	comp=Z,3.6nm,0.8s,baz=318,slow=2.9,SNR=20						
CCUT	Cedar City	65.61	61	eP	P	04 22 21.5	+0.5
CCUT				epP	pP	04 22 37.4	+0.2
SRU	San Rafael	66.22	58	eP	P	04 22 25.5	+0.6
SRU				e*PP	pP	04 22 41.0	-0.1
SRU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
SRU	San Rafael	66.22	58	eP	P	04 22 25.5	+0.6
	comp=Z,8.5nm,0.9s,mb4.8						
SRU				epP	pP	04 22 41.0	-0.1
RSSD	Black Hills	66.36	50	eP	P	04 22 25.5	-0.3
RSSD				e*PP	pP	04 22 41.9	-0.2
RSSD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
RSSD	Black Hills	66.36	50	eP	P	04 22 25.5	-0.4
	comp=Z,8.4nm,1.0s,mb4.7						
RSSD				epP	pP	04 22 41.9	-0.2
PV10	Paradox Valley	67.57	57	eP	P	04 22 34.2	+0.7
PV10				epP	pP	04 22 48.7	-1.0
NB2	NORSAR Subarra	67.63	341	P	P	04 22 32.3	-1.6
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	NORSAR Array B	67.63	341	P	P	04 22 32.9	-1.0
	comp=Z,2.7nm,0.8s,mb4.3,baz=27,slow=6.0,SNR=5.4						
SMCO	Snowmass	68.19	56	eP	P	04 22 37.8	+0.4
	comp=Z,4.3nm,0.7s,mb4.6						
SMCO				epP	pP	04 22 53.4	-0.2
ISCO	Idaho Springs	68.52	54	eP	P	04 22 40.3	+0.9
ISCO				e*PP	pP	04 22 56.1	+0.4
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ISCO	Idaho Springs	68.52	54	eP	P	04 22 40.3	+0.8
	comp=Z,3.7nm,1.0s,mb4.3						
ISCO				epP	pP	04 22 56.1	+0.4
WRA	Warramunga Arr	69.15	199	P	P	04 22 42.3	-1.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=18,slow=6.7,SNR=4.9						
WRA	Warramunga Arr	69.15	199	P	P	04 22 42.3	-1.1
SDCO	Great Sand Dun	70.02	56	eP	P	04 22 48.6	-0.1
	comp=Z,2.4nm,1.0s,mb4.1						
SDCO				epP	pP	04 23 04.7	-0.4
ECSD	EROS,Sioux Fal	70.40	46	eP	P	04 22 49.9	-1.2
ECSD				epP	pP	04 23 06.2	-1.2
TUC	Tucson	70.73	63	eP	P	04 22 52.3	-0.8
TUC				e*PP	pP	04 23 08.3	-1.1
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TUC	Tucson	70.73	63	eP	P	04 22 52.3	-0.8
	comp=Z,1.7nm,0.9s,mb4.0						
TUC				epP	pP	04 23 08.3	-1.2
AKASG	Malin Array Be	71.03	326	P	P	04 22 53.2	-1.7
	comp=Z,0.6nm,0.3s,mb3.9,baz=36,slow=6.1,SNR=5.3						
ANMO	Albuquerque	71.44	58	eP	P	04 22 58.2	+0.8
ANMO				e*PP	pP	04 23 13.9	+0.1
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ANMO	Albuquerque	71.44	58	eP	P	04 22 58.1	+0.8
	comp=Z,2.5nm,0.9s,mb4.1						
ANMO				epP	pP	04 23 13.9	+0.1
GNI	Garni	72.15	310	LR	LR	04 56 55.5	
	comp=Z,47nm,19.3s,MS3.8,baz=99,slow=38						
SCHQ	Schefferville	72.69	23	P	P	04 23 04.0	-0.8
	comp=Z,2.6nm,0.9s,mb4.2,baz=261,slow=13,SNR=2.6						
SCHQ				pP	pP	04 23 19.8	-1.4
	comp=Z,3.5nm,0.8s,baz=12,slow=6.4,SNR=3.2						
ASAR	Alice Springs	72.84	198	P	P	04 23 05.3	-0.4
	comp=Z,2.0nm,0.9s,mb4.0,baz=16,slow=6.3,SNR=12						
ASAR				pP	pP	04 23 21.6	-0.6
	comp=Z,0.9nm,0.7s,baz=16,slow=5.1,SNR=5.2						
MNTX	Cornudas Mount	74.40	60	eP	P	04 23 15.0	+0.1
	comp=Z,2.3nm,0.9s,mb4.1						
MNTX				epP	pP	04 23 30.7	-0.6
CLL	Collm	75.89	336	i P	P	04 23 22.1	-1.3
	comp=Z,7.0nm,1.1s,mb4.5						
CLL	Collm	75.89	336	i P	P	04 23 22.1	-1.3
CLL				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
WMOK	Wichita Mounta	75.93	54	eP	P	04 23 23.3	-0.4
WMOK				e*PP	pP	04 23 39.1	-1.1
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
WMOK	Wichita Mounta	75.93	54	eP	P	04 23 23.3	-0.4
	comp=Z,2.5nm,0.8s,mb4.2						
WMOK				epP	pP	04 23 39.0	-1.1
GERES	GERESS Array B	77.89	334	P	P	04 23 33.0	-1.7
	comp=Z,0.1nm,0.4s,baz=40,slow=6.9,SNR=4.8						
JCT	Junction City	78.53	57	eP	P	04 23 36.8	-1.4
JCT				e*PP	pP	04 23 53.8	-1.0
JCT				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
JCT	Junction City	78.53	57	eP	P	04 23 36.8	-1.5
	comp=Z,5.6nm,0.6s,mb4.7						
JCT				epP	pP	04 23 53.8	-1.0
WCI	Wyandotte Cave	79.60	44	eP	P	04 23 43.5	-0.6
WCI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WCI	Wyandotte Cave	79.60	44	eP	P	04 23 43.5	-0.6
	comp=Z,4.5nm,0.7s,mb4.5						
CFAA	Coronel Fontan	144.82	78	PKP	PKPdf	04 31 10.6	-2.9
	comp=Z,0.2nm,0.6s,baz=283,slow=2.2,SNR=4.6						
CFAA				pPKP	pPKPdf	04 31 28.4	-2.6
	comp=Z,0.5nm,0.8s,baz=254,slow=3.9,SNR=5.8						

NEIC 10 04:12:56.4, 1745N×10179W, h15km, MD4.2(MEX), After MEX.

MEX 10 04:12:56.8±0.6, 1739N×10170W, h6km±5km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.31	47	i P	Pg	04 13 02.5	-0.3
ZIIG				i S	Sg	04 13 07.1	+0.2
CAIG	El Cayaco	1.41	104	eP	Pn	04 13 19.2	-3.8
CAIG				i S	Sb	04 13 36.7	-5.1
ACX	Acapulco	1.79	107	i P	Pn	04 13 26.3	-1.9
ACX				i S	Sn	04 13 47.5	-3.7
MEIG	Mezcala	2.06	75	eP	Pn	04 13 29.7	-2.1
MEIG				i S	Sn	04 13 55.0	-2.8
PLIG	Platanillo	2.32	64	eP	Pn	04 13 33.2	-2.3
PLIG				i S	Sn	04 14 01.1	-3.2
PLIG	Platanillo	2.32	64	eP	Pn	04 13 33.2	-2.3
PLIG				i S	Sn	04 14 02.0	-2.2
MOIG	Morelia	2.32	12	eP	Pn	04 13 33.7	-1.8
MOIG				i S	Sn	04 13 59.5	-4.9
MRX	Morelia	2.35	12	i P	Pn	04 13 39.5	+3.6
YAIG	Yautepec	2.90	59	i P	Pn	04 13 41.0	-2.5
YAIG				i S	Sn	04 14 13.6	-5.1
IIZ	Mezontepec	2.94	52	eP	Pn	04 13 40.4	-3.6
IIZ				i S	Sn	04 14 16.7	-3.0
UNM	Universidad Na	3.07	51	eP	Pn	04 13 48.0	+2.1
PPM	Popocatepetl	3.36	60	i P	Pn	04 13 47.9	-2.0
PPM				i S	Sn	04 14 27.5	-2.5
PPM	Popocatepetl	3.36	60	i P	Pn	04 13 47.9	-2.0
PPM				i S	Sn	04 14 36.9	+6.8
UTMO	Huajuapan	3.74	83	i P	Pn	04 13 52.8	-2.3
UTMO				i S	Sn	04 14 35.7	-3.8
TPIG	Tehuac#an	4.26	75	eP	Pn	04 14 01.9	-0.3
TPIG				i S	Sn	04 14 48.4	-3.7
VHO	Vista Hermosa	4.76	93	eP	Pn	04 14 06.4	-2.7
VHO				i S	Sn	04 15 00.6	-3.9
VHO	Vista Hermosa	4.76	93	eP	Pn	04 14 16.2	+7.2
VHO				i S	Sn	04 15 16.1	+12

THE 10 04:17:05.7, 3732N×2093E, h1km, ML3.3
ISCJB 10 04:17:06.8±1.0, 3745N±005×2111E±007, h3km, Error ellipse: s-maj=8.6km s-min=5.7km az=103.6
NEIC 10 04:17:07.7, 3751N×2111E, h3km, MD3.5(ATH), After ATH.
ATH 10 04:17:07.7, 3751N×2111E, h3km, MD3.5/6
CSEM 10 04:17:09.5±0.3, 3759N×2114E, h2km, MD3.5, Error ellipse: s-maj=6.7km s-min=3.0km az=7.0

ISC 10 04:17:07.6±0.9, 3745N±005×2109E±007, h3km, n33, σ0^{s}98/47, Southern Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.68	26	ePG	Pg	04 17 19.5	-1.1
RLS				eSG	Sg	04 17 28.5	-0.9
ITM	Ithomi	0.72	112	ePG	Pg	04 17 21.1	-0.3
VLS	Valsamata	0.83	332	ePG	Pg	04 17 23.0	-0.4
LKD	Levkas	1.30	345	ePg	Pg	04 17 31.0	-1.6
LKD				eSg	Sg	04 17 51.1	+1.7
LKD	Levkas	1.30	345	P	Pg	04 17 30.8	-1.7
LKD				S	Sg	04 17 50.5	+1.1
LKD	Levkas	1.30	345	ePg	Pg	04 17 31.0	-1.6
LKD				S	Sg	04 17 50.5	+1.1
LKD				eSg	Sg	04 17 51.1	+1.7
EVR	Evrytania	1.57	21	ePG	Pn	04 17 35.8	-0.6
VLI	Veliai	1.65	116	ePB	Pb	04 17 40.4	+1.8
AGG	Agios Georgios	1.85	32	ePn	Pn	04 17 41.0	+0.8
AGG				eSn	Sg	04 18 07.7	+0.7
AGG	Agios Georgios	1.85	32	P	Pn	04 17 41.4	+1.2
AGG				S	Sg	04 18 07.7	+0.7
AGG	Agios Georgios	1.85	32	ePn	Pn	04 17 41.0	+0.8
AGG				S	Sg	04 18 07.7	+0.7
LKR	Lokris	1.93	51	ePG	Pg	04 17 42.4	-2.1
IGT	Igoumenitsa	2.16	344	ePn	Pn	04 17 44.2	-0.3
IGT				eSn	Sn	04 18 13.0	+1.2
IGT	Igoumenitsa	2.16	344	P	Pn	04 17 44.2	-0.3
IGT				S	Sn	04 18 10.6	-1.2
MEV	Metsovon	2.33	3	ePn	Pn	04 17 47.4	+0.5
AOS	Alonnisos	2.79	51	ePn	Pn	04 17 53.5	+0.4
AOS	Alonnisos	2.79	51	P	Pn	04 17 53.1	0.0
AOS	Alonnisos	2.79	51	P	Pn	04 17 53.1	0.0
AOS	Alonnisos	2.79	51	ePn	Pn	04 17 53.5	+0.4
LIT	Litokhoron	2.86	22	ePn	Pn	04 17 54.7	+0.5
LIT				eSn	Sn	04 18 32.4	+3.3
FNA	Florina	3.34	4	ePn	Pn	04 18 00.8	+0.1
FNA				eSn	Sn	04 18 43.4	+2.6
FNA	Florina	3.34	4	P	Pn	04 18 00.8	+0.1
FNA				S	Sn	04 18 41.4	+0.6
FNA	Florina	3.34	4	ePn	Pn	04 18 00.8	+0.1
FNA				S	Sn	04 18 41.4	+0.6
THE	Thessaloniki	3.50	24	ePn	Pn	04 18 02.9	0.0
THE	Thessaloniki	3.50	24	P	Pn	04 18 02.8	-0.1
GRG	Griva	3.65	16	ePn	Pn	04 18 04.8	-0.1
GRG	Griva	3.65	16	P	Pn	04 18 04.7	-0.2
OUR	Ouranopolis	3.66	37	ePn	Pn	04 18 05.0	-0.1
OUR	Ouranopolis	3.66	37	P	Pn	04 18 05.1	0.0
SOH	Sokhos	3.80	27	ePn	Pn	04 18 07.0	0.0
SOH	Sokhos	3.80	27	P	Pn	04 18 07.0	0.0
VAY	Valandovo	4.03	16	P	Pn	04 18 09.6	-0.6
VAY	Valandovo	4.03	16	P	Pn	04 18 09.6	-0.6

NAO 10 04:22:01.9±1.6, 6763N×3376E, ML2.0

HEL 10 04:22:02.2±0.3, 6769N×3379E, h0km, ML2.5, ML2.0(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.32	255	i P	Pg	04 22 07.5	-0.7
APA0				i S	Sg	04 22 11.6	-0.7
APA0				eRG		04 22 13.6	
APA0	Apatity Array	0.32	255	Pg	Pg	04 22 07.5	-0.7
	baz=84,slow=16						
APA0				Lg		04 22 11.6	
	baz=80,slow=37						
APA0				Rg		04 22 13.6	
	baz=90,slow=28						
KU4	Liikasenvaara	2.12	233	eP	Pn	04 22 39.3	+0.4
KU4				eS	Sn	04 23 06.1	+0.2
MSF	Maaselka	2.59	229	eP	Pn	04 22 46.2	+0.9
MSF				eSB	Sb	04 23 20.4	-1.5
MSF				eSG	Sg	04 23 22.4	-3.0
SGF	Sodankyl	2.80	268	eP	Pn	04 22 47.6	-0.6
SGF				eS	Sn	04 23 21.3	-1.3
SGF				eSB	Sb	04 23 26.4	-1.5
SGF				MSG		04 23 38.1	
	comp=Z,16nm,0.4s						
KEV	Kevo	3.23	313	eP	Pn	04 22 54.4	+0.3
KEV				eS	Sn	04 23 32.6	-0.7
KEV				MSG		04 23 47.1	
	comp=Z,21nm,0.4s						
ARA0	ARCESS Array S	3.56	305	eP	Pn	04 22 58.4	-0.3
ARA0				ePG	Pg	04 23 06.8	-3.5
ARA0				eS	Sn	04 23 39.5	-1.9
ARA0				eSB	Sb	04 23 48.9	-0.8
ARA0	ARCESS Array S	3.56	305	Pn	Pn	04 22 58.4	-0.3
	baz=122,slow=16						
ARA0				Pg	Pg	04 23 06.8	-3.5
	baz=116,slow=16						
ARA0				Sn	Sn	04 23 39.5	-1.9
	baz=121,slow=28						
ARA0				Lg		04 23 48.9	
	baz=111,slow=37						
OUL	Oulu	4.11	234	eP	Pn	04 23 06.3	+0.1
OUL				eSG	Sg	04 24 09.3	-5.0
OUL				MSG		04 24 12.3	
	comp=Z,11nm,0.4s						
KJN	Kajaani	4.39	217	eP	Pn	04 23 09.7	-0.4
KJN				eS	Sn	04 23 59.9	-2.1
KJN				MSG		04 24 16.6	
	comp=Z,4.9nm,0.4s						
KIF	Kilpisjarvi	4.99	291	eP	Pn	04 23 17.8	-0.5
KIF				eS	Sn	04 24 15.1	-1.6
KIF				MSG		04 24 37.6	
	comp=Z,5.8nm,0.3s						
FIA0	FINESS Array S	7.09	212	eS	Sn	04 25 02.8	-5.6
FIA0				eSG		04 25 38.5	
FIA0	FINESS Array S	7.09	212	Sn	Sn	04 25 02.8	-5.6
	baz=23,slow=22						
FIA0				Lg		04 25 38.5	
	baz=24,slow=37						

MAN 10 04:26:33.6, 961N×12196E, h9km, mb2.4, ML4.0, MS9.8, Sulu Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	Jordan	1.18	32	eP	Pb	04 26 55.0	-1.1
GUIM				eS	Sb	04 27 09.5	-2.0
CUYO	Cuyo Island	1.54	323	eP	Pn	04 27 01.4	+0.1
CUYO				eS	Sn	04 27 20.0	-1.3
IPIL	Ipil	1.91	162	eP	Pn	04 27 06.3	0.0
IPIL				eS	Sn	04 27 27.2	-3.3
BUSP	Coron	2.94	324	eP	Pn	04 27 20.5	+0.1
ENPP	El Nido	2.95	303	eP	Pn	04 27 21.2	+0.5

NEIC 10 04:40:50.5, 38.10N×2270E, h21km, mb4.2/52, ML4.0(ATH), ML4.0(THE), After ATH.
ATH 10 04:40:50.6, 38.11N×2270E, h18km±1km, MD4.0/26, ML4.0
ISCJB 10 04:40:51.9±0.4, 38.12N±002×2273E±002, h25km±3km, mb4.2/46, MS3.4/6, Error ellipse: s-maj=2.8km s-min=2.2km az=74.0
CSEM 10 04:40:51.7±0.1, 38.17N×2281E, h12km, mb4.3/24, Ms2.8, Error ellipse: s-maj=1.6km s-min=1.0km az=36.0
THE 10 04:40:52.6, 38.19N×2283E, h4km, ML3.9
MOS 10 04:40:53.3±1.4, 38.13N×2279E, h39km, mb4.6/14, Error ellipse: s-maj=4.4km s-min=2.8km az=103.0
IDC 10 04:40:54.5±2.5, 38.14N×2276E, h34km±20km, mb3.9/17, mb1 4.0/25, mb1mx3.9/33, mbtmp4.0/25, ML3.6/7, MS3.4/8, Ms1 3.4/8, ms1mx3.0/27, Error ellipse: s-maj=13.9km s-min=11.5km az=149.0
NAO 10 04:41:22.3, 4083N×2197E, h33km, mb3.4

ISC 10 04:40:52.2±0.5, 3810N±002×2277E±002, h14km±3km, n380, σ1^{s}34/395, mb4.2/46, MS3.4/6, 20C-12D, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGER	Gerania Oros	0.40	106	ePB	Pg	04 41 00.0	-0.3
LKR	Lokris	0.58	18	⇑iPN	Pg	04 41 01.9	-1.6
NAIG	Nisos Aigina	0.66	121	ePN	Pg	04 41 04.0	-1.1
ATH	Athens Observa	0.76	99	ePN	Pg	04 41 06.4	-0.5
ATH				eSN	Sg	04 41 18.0	+1.1
KVR	Kavouri	0.83	109	ePN	Pg	04 41 08.0	-0.4
PTL	Penteli	0.87	93	ePN	Pg	04 41 08.0	-0.9
AGG	Agios Georgios	0.98	340	ePg	Pg	04 41 09.0	-2.2
AGG				eSg	Sg	04 41 23.8	-0.3
RLS	Riolos of Patr	1.03	268	ePN	Pn	04 41 08.9	-3.2
RLS				eSN	Sn	04 41 23.2	-3.1
EVR	Evrytania	1.11	318	ePN	Pg	04 41 11.5	-2.1
ITM	Ithomi	1.14	216	ePN	Pn	04 41 11.3	-2.3
ITM				eSN	Sn	04 41 26.6	-2.3
NEO	Neokhori	1.26	16	ePN	Pn	04 41 14.4	-0.9
XOR	Xorichti	1.31	15	ePg	Pn	04 41 15.2	-0.8
AOS	Alonnisos	1.38	39	ePg	Pn	04 41 16.1	-0.8
VLI	Veliai	1.39	174	⇑iPn	Pn	04 41 16.4	-0.6
VLI				eSn	Sn	04 41 34.6	-0.5
VLS	Valsamata	1.72	273	ePN	Pn	04 41 21.6	0.0
LKD	Levkas	1.77	291	ePb	Pn	04 41 22.7	+0.4
KYTH	Kithira	1.83	173	ePN	Pn	04 41 24.0	+0.9
PAIG	Paliouri	1.96	21	ePb	Pn	04 41 23.7	-1.2
LIT	Litokhoron	2.01	354	ePb	Pn	04 41 25.5	-0.1
MEV	Metsovon	2.07	325	ePn	Pn	04 41 26.7	+0.3
PLG	Polygyros	2.33	13	⇑iPN	Pn	04 41 29.1	-0.9
KZN	Kozani	2.34	341	ePN	Pn	04 41 30.8	+0.7
IGT	Igoumenitsa	2.38	308	ePn	Pn	04 41 31.4	+0.7
APE	Apeiranthos	2.42	114	ePn	Pn	04 41 31.5	+0.2
APE				eSn	Sn	04 42 03.9	+3.2
APE	Apeiranthos	2.42	114	eP	Pn	04 41 31.6	+0.3
OUR	Ouranopolis	2.42	22	ePn	Pn	04 41 30.6	-0.7
HORT	Hortiatis	2.51	6	ePn	Pn	04 41 31.9	-0.6
THE	Thessaloniki	2.54	3	ePn	Pn	04 41 32.3	-0.5
CHOS	Chios island	2.60	83	ePn	Pn	04 41 34.3	+0.6
SOH	Sokhos	2.76	9	ePn	Pn	04 41 36.1	+0.2
SOH				eSn	Sn	04 42 09.2	+0.2
KEK	Kerkira	2.82	306	ePN	Pn	04 41 36.7	-0.1
KARN	Karanos	2.84	161	ePn	Pn	04 41 38.7	+1.6
GRG	Griva	2.87	354	ePn	Pn	04 41 38.1	+0.7
FNA	Florina	2.89	339	ePn	Pn	04 41 38.0	+0.3
VAM	Vamos	2.92	156	ePN	Pn	04 41 39.3	+1.2

PRK Paraskevi 2.97 66 ePN Pn 04 41 40.3 +1.5
URLA Izmir 3.02 84 i P Pg 04 41 53.5 +3.3
KNT Kendrikon 3.06 2 ePn Pn 04 41 40.4 +0.3
KNT eSn Sn 04 42 16.3 -0.1
BIA Bitola 3.12 339 ePn Pn 04 41 41.9 +1.0
BIA Bitola 3.12 339 i Pn Pn 04 41 41.6 +0.7
VAY Valandovo 3.22 357 ePn Pn 04 41 42.3 0.0
VAY Valandovo 3.22 357 i Pn Pn 04 41 42.4 +0.1
VAY eSn Sn 04 42 20.8 +0.4
VAY Valandovo 3.22 357 i Pn Pn 04 41 42.3 0.0
VAY eSn Sn 04 42 20.8 +0.4
SMG Samos 3.24 96 ePN Pn 04 41 43.1 +0.6
EZN Ezine 3.26 57 eP Pn 04 41 46.8 +3.9
IDI Anoyia 3.28 148 Pn Pn 04 41 43.5 +0.4
5.2nm,0.3s,baz=318,slow=13,SNR=36
IDI Sn Sn 04 42 22.7 +0.8
11nm,0.3s,baz=258,slow=20,SNR=4.7
IDI LR LR 04 43 17.9
comp=Z,306nm,19.1s,baz=314,slow=43
IDI Anoyia 3.28 148 Pn Pn 04 41 43.5 +0.4
IDI Sn Sn 04 42 22.7 +0.8
AYVA Ayvalik 3.30 67 i P Pg 04 41 58.3 +3.0
NVR Nevrokopi 3.35 14 ePN Pn 04 41 43.3 -0.8
OHR Ohrid 3.37 334 i Pn Pn 04 41 44.9 +0.5
OHR Ohrid 3.37 334 i Pn Pn 04 41 44.8 +0.5
BLCB Balcova 3.38 84 eP Pn 04 41 48.2 +3.8
GVD Gavdhos 3.42 162 ePn Pn 04 41 47.5 +2.4
SIVA Sivas 3.49 151 ePn Pn 04 41 48.7 +2.8
IZM Izmir 3.55 84 eP Pn 04 41 46.8 0.0
KDAG Bornova 3.55 84 i P Pn 04 41 45.4 -1.4
MMB Musomiste 3.56 12 ePn Pn 04 41 46.3 -0.7
MMB Musomiste 3.56 12 i P Pn 04 41 46.4 -0.6
NPS Neapolis 3.64 140 ePN Pn 04 41 49.5 +1.5
ENEZ Enez 3.71 44 eP Pb 04 42 02.3 +4.8
RDO Rodhopi 3.72 34 ePN Pn 04 41 47.7 -1.4
BODT Bodrum 3.75 105 eP Pn 04 41 50.2 +0.6
KKB Krupnik 3.77 4 i P Pn 04 41 49.9 +0.1
ALN Alexandroupoli 3.77 41 ePn Pn 04 41 48.8 -1.1
CANB Canakkale 3.85 59 eP Pb 04 42 03.3 +3.4
BDRM Kayabasi 3.85 104 i P Pn 04 41 54.0 +3.1
RZN Rozhen 3.88 22 i P Pn 04 41 51.7 +0.3
XRY Khrisi 3.99 143 ePN Pn 04 41 55.0 +2.2
SKO Skopje 4.00 346 ePn Pn 04 41 53.8 +0.8
AKHS Akhisar 4.03 77 i P Pg 04 42 08.9 -0.5
MLSB Milas 4.05 100 eP Pn 04 41 52.6 -1.1
DAT Datca 4.07 108 eP Pn 04 41 55.0 +1.2
AYDN Tasoluk 4.07 95 i P Pn 04 41 48.9 -4.9
ZKR Zakros 4.07 136 ePn Pn 04 41 56.8 +2.9
KDZ Kurdzhali 4.09 29 i P Pn 04 41 52.0 -2.2
PLD Plovdiv 4.27 20 ePn Pn 04 41 57.1 +0.4
KARP Karpathos 4.35 125 ePB Pb 04 42 03.0 -5.3
YER Yerkesik 4.48 101 eP Pn 04 41 58.4 -1.2
VTS Vitosha 4.50 4 ePn Pn 04 42 00.7 +0.8
VTS Vitosha 4.50 4 i P Pn 04 42 00.0 +0.2
EDRB Edirne 4.83 38 eP Pb 04 42 14.9 -1.6
DALT Dalyan (Mudla) 4.86 104 eP Pn 04 42 01.8 -2.9
PE1 Pezze di Greco 4.94 305 ePn Pn 04 42 07.9 +2.0
DNZL Cakiroluk 4.98 93 i P Pn 04 42 10.4 +4.0
DNZL Cakiroluk 4.98 93 i P Pn 04 42 10.4 +3.9
FETY Fethiye 5.24 104 eP Pn 04 42 07.7 -2.3
JMB Yambol 5.25 33 ePn Pn 04 42 09.5 -0.6
ORI Oriolo Calabro 5.29 294 P Pn 04 42 11.0 +0.2
ORI pmax pmax
comp=Z,148nm,0.5s
ORI Oriolo Calabro 5.29 294 Pn Pn 04 42 11.0 +0.2
comp=Z,148nm,0.5s
GDZ Gediz 5.35 77 i P Pn 04 42 02.3 -9.2
ULDT Uludag 5.36 66 i P Pn 04 42 12.8 +1.2
CEL Celeste 5.42 274 Pn Pn 04 42 13.5 +1.0
comp=Z,26nm,0.7s
SG1 Sgolgore (BA) 5.45 302 ePn Pn 04 42 12.5 -0.4
GOLH Golhisar 5.46 97 i P Pn 04 42 22.1 +9.2
PVL Pavlikeni 5.47 20 i P Pn 04 42 11.5 -1.7
GEMT Gemlik 5.50 63 eP Pn 04 42 10.6 -3.0
ISK Istanbul-Kandi 5.59 57 eP Pn 04 42 19.3 +3.1
CUC Castrocucco 5.73 291 Pn Pn 04 42 18.2 +1.4
comp=Z,125nm,0.8s
CDT Castel del Mon 5.83 303 ePn Pn 04 42 17.7 -0.5
ELL Elmali 5.84 101 eP Pn 04 42 21.7 +3.5
TKTP Tekketepe 5.96 88 i P Pn 04 42 23.8 +3.9
SLCN Sala Consilina 5.99 295 Pn Pn 04 42 21.3 +0.9
comp=Z,122nm,0.5s
ISP Isparta 6.12 90 eP Pn 04 42 21.5 -0.6
MRLC Muro Lucano 6.23 297 Pn Pn 04 42 24.7 +1.1
GPA Golpazari 6.25 67 eP Pn 04 42 22.7 -1.2
SLNA Salina 6.26 277 Pn Pn 04 42 26.0 +2.0
DIVS Divcibare 6.35 342 ePn Pn 04 42 25.9 +0.7
FGMS Monte Sant'Ang 6.36 307 Pn Pn 04 42 24.8 -0.6
ESKT Eskisehir 6.47 75 eP Pn 04 42 27.1 +0.2
RGNG Rignano Grg 6.58 305 Pn Pn 04 42 28.0 -0.4
FG5 Orsara di Pugl 6.60 301 Pn Pn 04 42 28.0 -0.7
VAE Valguarnera 6.65 267 Pn Pn 04 42 31.2 +1.9
comp=Z,0.6nm,0.3s,baz=214,slow=7.3,SNR=3.0
VAE Sn Sn 04 43 44.8 -0.1
comp=Z,0.9nm,0.3s,baz=284,slow=19,SNR=2.0
PSB1 Pescosannita 6.89 299 Pn Pn 04 42 33.1 +0.5
comp=Z,155nm,1.4s
MDU Mudurnu 6.96 68 eP Pn 04 42 30.5 -3.2
GZR Gura Zlata 7.29 0 ⇓iP Pn 04 42 36.0 -2.1
MTUR Matau 7.33 13 ⇑iP Pn 04 42 41.8 +3.2
MIDA Miranda 7.44 301 Pn Pn 04 42 39.9 -0.4
comp=Z,118nm,1.4s
SNX Sinaia 7.54 15 ⇑iP Pn 04 42 41.9 +0.4
USI Ustica 7.56 278 Pn Pn 04 42 40.4 -1.4
comp=Z,24nm,0.3s
BZS Buzias 7.56 354 ⇓iP Pn 04 42 40.0 -1.9
BZS Buzias 7.56 354 ⇓P Pn 04 42 40.0 -1.9
CLTB Caltabellotta 7.58 269 Pn Pn 04 42 45.1 +3.0
comp=Z,16nm,0.4s
SGKT Sivrigoynuk 7.61 68 i P Pn 04 42 43.7 +1.1
HARR Harsova 7.64 29 ⇑iP Pn 04 42 46.0 +3.0
HARR Harsova 7.64 29 ⇑P Pn 04 42 46.0 +3.0
TIRR Tirgusor 7.64 32 ⇑iP Pn 04 42 34.5 -8.5
TIRR Tirgusor 7.64 32 eP Pn 04 42 45.5 +2.5
MLR Muntele Rosu 7.76 17 Pn Pn 04 42 45.1 +0.6
comp=Z,1.9nm,0.3s,baz=191,slow=14,SNR=14
MLR LR LR 04 46 05.5
comp=Z,235nm,20.2s,baz=136,slow=40
MLR Muntele Rosu 7.76 17 ⇓iP Pn 04 42 45.5 +0.9
MLR Muntele Rosu 7.76 17 ⇓P Pn 04 42 45.5 +0.9
VVLD Villa Vallelon 7.97 301 Pn Pn 04 42 48.6 +1.1
comp=Z,143nm,1.3s
CFR Carcaliu 8.13 28 ⇑iP Pn 04 42 43.4 -6.3
PLOR Plostina 8.27 19 ⇓iP Pn 04 42 53.0 +1.4
VRI Vrincioaia 8.30 20 ⇑iP Pn 04 42 52.6 +0.6
VRI Vrincioaia 8.30 20 ⇑P Pn 04 42 52.6 +0.5
AQU L'Aquila 8.33 304 eP Pn 04 42 53.3 +0.9
AQU pmax pmax
comp=Z,19nm,0.6s
AQU L'Aquila 8.33 304 ePn Pn 04 42 53.3 +0.9
comp=Z,19nm,0.6s
AQU L'Aquila 8.33 304 ePn Pn 04 42 53.3 +0.9
comp=Z,19nm,0.6s
BR131 Keskin Array S 8.63 76 ePn Pn 04 43 00.6 +4.0
comp=Z,1.7nm,0.6s
BR131 Keskin Array S 8.63 76 ePn Pn 04 43 00.6 +4.1
comp=Z,1.7nm,0.6s
BRTR Keskin Array B 8.63 76 Pn Pn 04 42 59.2 +2.7
comp=Z,0.2nm,0.3s,baz=263,slow=13,SNR=5.2
BRTR Keskin Array B 8.63 76 Pn Pn 04 42 59.2 +2.7
PKSM Moragy 8.67 341 ⇓iP Pn 04 42 55.9 -1.1
PKSM Moragy 8.67 341 ⇓P Pn 04 42 55.9 -1.1
DRGR 8.69 360 ⇓iP Pn 04 43 01.1 +3.8
DRGR 8.69 360 ⇓P Pn 04 43 01.1 +3.7
CSS Prodhromos 9.06 107 ePn Pn 04 43 06.3 +3.9
CSS Prodhromos 9.06 107 ePn Pn 04 43 06.3 +3.9
SWA2 9.11 165 P Pn 04 43 01.4 -1.8
SWA1 9.15 164 P Pn 04 43 00.7 -0.4
BOJS Bojanci 9.28 325 i Pn Pn 04 43 05.0 -0.5
BOJS i Sn Sn 04 44 51.1 +1.4
BURAR Bucovina Array 9.68 10 ⇑iP Pn 04 43 11.2 +0.3
DOBS Dobrina 9.70 328 i Pn Pn 04 43 13.8 +2.6
VISS Visnje 9.70 325 i Pn Pn 04 43 12.4 +1.2
VISS i Sn Sn 04 45 00.8 +0.9
PSZ Piszkesteto 10.04 349 ⇑iP Pn 04 43 12.8 -3.0
PSZ Piszkesteto 10.04 349 eP Pn 04 43 14.8 -1.0
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 10.04 349 ePn Pn 04 43 14.8 -1.1
comp=Z,5.8nm,0.8s
PSZ Piszkesteto 10.04 349 ePn Pn 04 43 14.8 -1.0
comp=Z,5.8nm,0.8s

KECS Kecovo 10.51 352 ePN Pn 04 43 26.6 +4.3
UZH Uzhgorod 10.53 358 eP Pn 04 43 25.0 +2.4
UZH eS Sn 04 45 26.2 +5.8
UZH pmax pmax
comp=Z,31nm,1.3s
UZH MLR MLR
comp=Z,3µm,0.2s
UZH Uzhgorod 10.53 358 eP Pn 04 43 25.0 +2.4
comp=Z,3µm,0.2s
VYHS Vyhne 10.78 346 e Pn 04 43 34.5 +8.5
VYHS e 04 43 41.4
VYHS Vyhne 10.78 346 eSN Sn 04 45 25.5 -0.8
VYHS Vyhne 10.78 346 ePn Pn 04 43 34.5 +8.5
VYHS e 04 43 41.4
VYHS eSn Sn 04 45 25.6 -0.7
KOLS Kolonicke sedl 10.84 358 ePN Pn 04 43 29.2 +2.4
CRVS Cervenica-Dubn 10.84 355 ePN Pn 04 43 28.7 +1.9
KEST Kesra 11.00 262 Pn Pn 04 43 29.2 +0.1
comp=Z,0.1nm,0.3s,baz=8.5,slow=7.2,SNR=7.6
AWBH 11.02 150 P Pn 04 43 27.4 -1.9
MOA Molln 11.56 330 ⇑iPn Pn 04 43 36.3 -0.3
MOA ⇓iSn Sn 04 45 45.4 0.0
comp=Z,4.2nm,0.9s
HFRF Wahat Farafira 11.87 155 P Pn 04 43 40.6 -0.3
WTTA Wattenberg 12.28 322 ⇑iPn Pn 04 43 46.0 -0.5
WTTA ⇓iSn Sn 04 45 58.9 -4.2
comp=Z,7.0nm,0.8s
MALT Malatya 12.32 84 ⇑iP Pn 04 43 57.0 +10
MALT Malatya 12.32 84 ePn Pn 04 43 56.3 +9.2
GERES GERESS Array B 12.59 331 Pn Pn 04 43 50.4 -0.3
comp=Z,0.1nm,0.3s,baz=149,slow=13,SNR=6.4
ANN Anapa 12.87 54 eP Pn 04 43 49.9 -4.7
ANN eS Sn 04 46 08.7 -8.8
ANN pmax pmax
comp=Z,54nm,1.3s
KHC Kasperske Hory 12.87 332 eP Pn 04 43 54.8 +0.2
KHC AMS AMS 04 49 20.0
comp=Z,300nm,15.6s
KHC Kasperske Hory 12.87 332 eP Pn 04 43 55.7 +1.1
ASF Jabal al Asfar 12.98 113 Pn Pn 04 43 58.5 +2.4
comp=Z,0.3nm,0.3s,baz=127,slow=10,SNR=1.9
EIL Elat 13.15 126 ePn Pn 04 43 59.0 +0.6
comp=Z,118nm,0.8s
PRU Pruhonice 13.27 336 AMS AMS 04 49 40.0
comp=Z,100nm,11.4s
FRF La Foret Royal 13.37 299 eP Pn 04 44 04.0 +2.6
comp=Z,14nm,1.0s
FRF La Foret Royal 13.37 299 eP Pn 04 44 04.0 +2.6
FRF pmax pmax
comp=Z,7.0nm,1.0s
FRF La Foret Royal 13.37 299 eP Pn 04 44 04.0 +2.6
comp=Z,6.8nm,1.0s
AKASG Malin Array Be 13.41 18 Pn Pn 04 44 01.9 0.0
baz=202,slow=13,SNR=3.1
AKASG Malin Array Be 13.41 18 Pn Pn 04 44 01.9 0.0
MBDF Montbardon 13.70 304 eP Pn 04 44 08.2 +2.3
comp=Z,10nm,0.9s
MBDF Montbardon 13.70 304 eP Pn 04 44 08.2 +2.3
MBDF pmax pmax
comp=Z,5.0nm,0.9s
MBDF Montbardon 13.70 304 eP Pn 04 44 08.2 +2.3
comp=Z,5.2nm,0.9s
BNI Bardonecchia 13.89 305 eP Pn 04 44 10.7 +2.1
LPG La Plagne 14.04 307 eP Pn 04 44 13.5 +3.0
LPL La Plagne 14.06 307 eP Pn 04 44 13.0 +2.2
GRA1 Grafenberg Arr 14.25 328 eP Pn 04 44 21.3 +7.9
GRF Grafenberg Arr 14.25 328 eP Pn 04 44 21.3 +7.9
ORIF Oris-en-Rattie 14.36 304 eP Pn 04 44 17.2 +2.3
comp=Z,7.7nm,0.8s
ORIF eR
comp=Z,67nm,17.8s
ORIF Oris-en-Rattie 14.36 304 eP Pn 04 44 17.2 +2.3
ORIF pmax pmax
comp=Z,4.0nm,0.8s
ORIF Oris-en-Rattie 14.36 304 eP Pn 04 44 17.2 +2.3
comp=Z,3.8nm,0.8s
CLL Collm 14.90 336 i sP sP 04 44 27.9 -6.0
comp=Z,8.0nm,1.0s
CLL i sPP 04 44 34.1
comp=Z,10.0nm,1.1s
CABF La Chapelle 14.96 310 eP Pn 04 44 24.3 +1.2
comp=Z,12nm,0.7s
CABF La Chapelle 14.96 310 eP Pn 04 44 24.3 +1.2
CABF pmax pmax
comp=Z,6.0nm,0.7s
CABF La Chapelle 14.96 310 eP Pn 04 44 24.3 +1.2
comp=Z,6.5nm,0.7s
HINF Hinteralfeld 15.14 315 eP Pn 04 44 28.3 +2.8
comp=Z,6.1nm,0.8s
HINF Hinteralfeld 15.14 315 eP Pn 04 44 28.3 +2.8
HINF pmax pmax
comp=Z,3.0nm,0.8s
HINF Hinteralfeld 15.14 315 eP Pn 04 44 28.3 +2.8
comp=Z,3.0nm,0.8s
CDF Champ du Feu 15.26 317 eP Pn 04 44 30.1 +3.1
LASF Ste Croix 15.45 299 eP Pn 04 44 29.2 -0.3
comp=Z,14nm,1.1s
LASF Ste Croix 15.45 299 eP Pn 04 44 29.2 -0.3
comp=Z,6.8nm,1.1s
HAU Haudompre 15.53 315 eP Pn 04 44 33.2 +2.6
comp=Z,17nm,1.0s
HAU eR
comp=Z,60nm,17.8s
HAU Haudompre 15.53 315 eP Pn 04 44 33.2 +2.6
HAU pmax pmax
comp=Z,9.0nm,1.0s
HAU Haudompre 15.53 315 eP Pn 04 44 33.2 +2.6
comp=Z,8.6nm,1.0s
KIV Kislovodsk 16.11 62 c iP Pn 04 44 35.7 -2.5
KIV pmax pmax
comp=Z,3.0nm,0.5s
KIV Kislovodsk 16.11 62 ePn Pn 04 44 42.7 +4.5
SMF Signal de Mont 16.36 307 eP Pn 04 44 43.6 +2.3
comp=Z,15nm,1.0s
SMF Signal de Mont 16.36 307 eP Pn 04 44 43.6 +2.3
SMF pmax pmax
comp=Z,7.0nm,1.0s
SMF Signal de Mont 16.36 307 eP Pn 04 44 43.6 +2.3
comp=Z,7.3nm,1.0s
MTLF Montolieu 16.43 295 eP Pn 04 44 42.0 -0.2
comp=Z,8.9nm,0.8s
MTLF Montolieu 16.43 295 eP Pn 04 44 42.0 -0.2
MTLF pmax pmax
comp=Z,4.0nm,0.8s
MTLF Montolieu 16.43 295 eP Pn 04 44 42.0 -0.2
comp=Z,4.4nm,0.8s
MEZF Maizieres J'vi 16.53 315 eP Pn 04 44 45.4 +1.9
LOR Lormes 16.62 309 eP Pn 04 44 47.2 +2.6
comp=Z,14nm,0.9s
LOR eR
comp=Z,72nm,20.2s
LOR Lormes 16.62 309 eP Pn 04 44 47.2 +2.6
LOR pmax pmax
comp=Z,7.0nm,0.9s
LOR Lormes 16.62 309 eP Pn 04 44 47.2 +2.6
comp=Z,6.9nm,0.9s
AVF Avril sur Loir 16.73 307 eP Pn 04 44 48.0 +2.0
comp=Z,27nm,1.2s
AVF Avril sur Loir 16.73 307 eP Pn 04 44 48.0 +2.0
AVF pmax pmax
comp=Z,14nm,1.2s
AVF Avril sur Loir 16.73 307 eP Pn 04 44 48.0 +2.0
comp=Z,14nm,1.2s
ZEI Tsey 16.74 67 eP Pn 04 44 43.1 -3.0
CAF Calviac 16.92 300 eP Pn 04 44 46.8 -1.6
comp=Z,11nm,0.8s
CAF Calviac 16.92 300 eP Pn 04 44 46.8 -1.6
CAF pmax pmax
comp=Z,5.0nm,0.8s
CAF Calviac 16.92 300 eP Pn 04 44 46.8 -1.6
comp=Z,5.3nm,0.8s
BGF Bois d'Agland 16.95 306 eP Pn 04 44 51.4 +2.6
comp=Z,26nm,0.8s
BGF Bois d'Agland 16.95 306 eP Pn 04 44 51.4 +2.6
BGF pmax pmax
comp=Z,13nm,0.8s
BGF Bois d'Agland 16.95 306 eP Pn 04 44 51.4 +2.6
comp=Z,13nm,0.8s
GNI Garni 17.17 76 c iP Pn 04 44 49.0 -2.5
GNI pmax pmax
comp=Z,5.0nm,1.0s
TCF Toulx Ste Croi 17.26 305 eP Pn 04 44 53.6 +0.9
comp=Z,10.0nm,1.0s
TCF Toulx Ste Croi 17.26 305 eP Pn 04 44 53.6 +0.9
TCF pmax pmax
comp=Z,5.0nm,1.0s

TCF Toulx Ste Croi 17.26 305 eP Pn 04 44 53.6 +0.9
comp=Z,5.0nm,1.0s
RJF Les Rejaudoux 17.40 301 eP Pn 04 44 54.0 -0.4
comp=Z,22nm,1.3s
RJF eR
comp=Z,101nm,17.8s
RJF Les Rejaudoux 17.40 301 eP Pn 04 44 54.0 -0.4
RJF pmax pmax
comp=Z,11nm,1.3s
RJF Les Rejaudoux 17.40 301 eP Pn 04 44 54.0 -0.4
comp=Z,11nm,1.3s
GIVF Givet 17.55 319 eP Pn 04 44 58.3 +2.0
EPF Esparros 17.72 293 eP Pn 04 44 56.7 -1.7
EBIE Bielsa 17.82 292 P Pn 04 44 59.6 0.0
comp=Z,12nm,1.3s
EBIE Bielsa 17.82 292 P Pn 04 44 59.6 0.0
comp=Z,12nm,1.3s
LFF La Frestale 17.83 300 eP Pn 04 44 59.4 -0.3
comp=Z,25nm,1.1s
LFF La Frestale 17.83 300 eP Pn 04 44 59.4 -0.3
LFF pmax pmax
comp=Z,12nm,1.1s
LFF La Frestale 17.83 300 eP Pn 04 44 59.4 -0.3
comp=Z,12nm,1.1s
BAIF Baives 17.85 318 eP Pn 04 45 00.8 +0.8
ETSF Etsaut 18.36 292 eP Pn 04 45 04.6 -1.6
comp=Z,7.5nm,0.9s
ETSF Etsaut 18.36 292 eP Pn 04 45 04.6 -1.6
ETSF pmax pmax
comp=Z,4.0nm,0.9s
ETSF Etsaut 18.36 292 eP Pn 04 45 04.6 -1.6
comp=Z,3.8nm,0.9s
SJPF Ste Jean 18.87 293 eP Pn 04 45 10.6 -1.9
comp=Z,9.5nm,0.8s
SJPF Ste Jean 18.87 293 eP Pn 04 45 10.6 -1.9
SJPF pmax pmax
comp=Z,5.0nm,0.8s
SJPF Ste Jean 18.87 293 eP Pn 04 45 10.6 -1.9
comp=Z,4.8nm,0.8s
MFF Saint Martin d 18.90 304 eP Pn 04 45 12.6 -0.2
comp=Z,43nm,1.1s
MFF Saint Martin d 18.90 304 eP Pn 04 45 12.6 -0.2
MFF pmax pmax
comp=Z,22nm,1.1s
MFF Saint Martin d 18.90 304 eP Pn 04 45 12.6 -0.2
comp=Z,22nm,1.1s
ELIZ Elizondo 19.10 293 P Pn 04 45 11.8 -3.4
ELIZ pmax pmax
comp=Z,6.0nm,1.0s
ELIZ Elizondo 19.10 293 P Pn 04 45 11.8 -3.4
comp=Z,5.7nm,1.0s
OBN Obninsk 19.42 24 P Pn 04 45 21.0 +1.9
OBN pmax pmax
comp=Z,12nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 19.42 24 P Pn 04 45 21.0 +1.9
comp=Z,100nm,15.0s
LDF La Druliere 19.60 310 eP Pn 04 45 19.6 -1.7
FLN La Foliniere 19.89 310 eP Pn 04 45 22.4 -2.3
FLN eR
comp=Z,81nm,20.8s
GRR Gorron 19.98 309 eP Pn 04 45 23.2 -2.5
comp=Z,7.8nm,0.5s
GRR Gorron 19.98 309 eP Pn 04 45 23.2 -2.5
GRR pmax pmax
comp=Z,4.0nm,0.5s
GRR Gorron 19.98 309 eP Pn 04 45 23.2 -2.5
comp=Z,3.9nm,0.5s
EHUE Huescar 19.99 277 P Pn 04 45 23.1 -2.7
EHUE pmax pmax
comp=Z,3.0nm,0.9s
EHUE Huescar 19.99 277 P Pn 04 45 23.1 -2.7
comp=Z,3.3nm,0.9s
EQES Quesada 20.36 277 P P 04 45 29.0 +0.8
comp=Z,12nm,1.6s
ELAN Lanestosa 20.49 293 P P 04 45 28.9 -0.7
comp=Z,30nm,1.6s
ELAN Lanestosa 20.49 293 P P 04 45 28.9 -0.6
comp=Z,30nm,1.6s
ESDC Sonseca Array 20.85 283 P P 04 45 32.5 -0.9
comp=Z,4.4nm,0.6s,baz=75,slow=11,SNR=51
ESDC Sonseca Array 20.85 283 P P 04 45 31.6 -1.8
comp=Z,9.0nm,0.6s
ESLA Sonseca Array 20.85 283 eP P 04 45 32.7 -0.7
comp=Z,2.5nm,0.9s
ESLA Sonseca Array 20.85 283 eP P 04 45 32.7 -0.7
comp=Z,2.5nm,0.9s
EBAN Banos Encina 20.87 278 P P 04 45 32.7 -1.0
EBAN pmax pmax
comp=Z,2.0nm,0.6s
EBAN Banos Encina 20.87 278 P P 04 45 32.7 -1.0
comp=Z,1.7nm,0.6s
GUD Guadarrama 20.94 285 P P 04 45 33.0 -1.4
GUD pmax pmax
comp=Z,17nm,1.6s
GUD Guadarrama 20.94 285 P P 04 45 33.0 -1.5
comp=Z,16nm,1.6s
QUIF Quistinic 21.26 306 eP P 04 45 36.6 -1.3
comp=Z,51nm,1.1s,mb4.5
QUIF Quistinic 21.26 306 eP P 04 45 36.6 -1.3
QUIF pmax pmax
comp=Z,25nm,1.1s,mb4.5
QUIF Quistinic 21.26 306 eP P 04 45 36.6 -1.3
comp=Z,26nm,1.1s,mb4.5
ELOJ Sierra Loja 21.32 276 P P 04 45 35.9 -2.7
ELOJ pmax pmax
comp=Z,1.0nm,0.7s,mb3.2
ELOJ Sierra Loja 21.32 276 P P 04 45 35.9 -2.7
comp=Z,1.4nm,0.7s,mb3.4
ELUQ Luque 21.34 277 P P 04 45 36.6 -2.1
ELUQ pmax pmax
comp=Z,4.0nm,0.9s,mb3.8
ELUQ Luque 21.34 277 P P 04 45 36.6 -2.1
comp=Z,3.6nm,0.9s,mb3.7
ROSF Rostrenen 21.46 307 eP P 04 45 39.5 -0.6
comp=Z,43nm,0.9s,mb4.5
ROSF Rostrenen 21.46 307 eP P 04 45 39.5 -0.6
ROSF pmax pmax
comp=Z,22nm,0.9s,mb4.5
ROSF Rostrenen 21.46 307 eP P 04 45 39.5 -0.6
comp=Z,22nm,0.9s,mb4.5
EADA Adamuz 21.49 279 P P 04 45 39.4 -0.9
comp=Z,18nm,2.0s,mb4.1
EADA Adamuz 21.49 279 P P 04 45 39.4 -0.9
comp=Z,18nm,2.0s,mb4.1
EARI Arriondas 21.79 293 P P 04 45 43.8 +0.2
comp=Z,38nm,1.7s,mb4.5
EARI Arriondas 21.79 293 P P 04 45 43.8 +0.3
comp=Z,38nm,1.7s,mb4.5
HFS Hagfors 22.80 348 P P 04 45 54.2 -0.1
comp=Z,2.1nm,0.7s,mb3.7,baz=154,slow=11,SNR=9.7
MDT Midelt 22.88 265 P P 04 45 56.9 +1.7
comp=Z,1.5nm,0.9s,mb3.4,baz=22,slow=11,SNR=3.1
EPON Pontenova 23.20 293 P P 04 45 58.9 +0.3
comp=Z,48nm,1.9s,mb4.6
EPON Pontenova 23.20 293 P P 04 45 58.9 +0.3
comp=Z,48nm,1.9s,mb4.6
FINES FINESS Array B 23.46 4 P P 04 46 00.4 -0.9
comp=Z,5.0nm,1.1s,mb3.9,baz=168,slow=11,SNR=6.1
FINES LR LR 04 56 07.5
comp=Z,123nm,18.1s,MS3.4,baz=352,slow=39
FINES FINESS Array B 23.46 4 ⇑eP P 04 46 00.8 -0.5
NAO01 NORSAR Array S 23.96 346 eP P 04 46 05.2 -0.7
comp=Z,4.1nm,0.8s,mb3.9
NAO01 NORSAR Array S 23.96 346 eP P 04 46 05.2 -0.8
comp=Z,4.1nm,0.8s,mb3.9
NB2 NORSAR Subarra 24.08 346 P P 04 46 05.6 -1.4
comp=Z,1.3nm,0.6s,mb3.5,baz=157,slow=11
NOA NORSAR Array B 24.08 346 P P 04 46 04.6 -2.5
comp=Z,1.7nm,0.6s,mb3.6,baz=148,slow=9.7,SNR=5.9
NOA NORSAR Array B 24.08 346 P P 04 46 04.6 -2.5
KAF Kangasniemi 24.14 4 ep P 04 46 06.9 -0.7
comp=Z,0.4nm,0.3s,mb3.3
EKA Eskdalemuir Ar 24.54 323 P P 04 46 11.3 +0.1
comp=Z,4.9nm,0.8s,mb4.1,baz=119,slow=8.7,SNR=11
ESK Eskdalemuir 24.55 323 eP P 04 46 11.2 -0.1
ESK pmax pmax
comp=Z,39nm,1.6s,mb4.7
ESK Eskdalemuir 24.55 323 eP P 04 46 11.2 -0.1
comp=Z,40nm,1.6s,mb4.7
ESK Eskdalemuir 24.55 323 eP P 04 46 11.2 -0.1
comp=Z,40nm,1.6s,mb4.7
JOF Joensuu 25.39 9 ep P 04 46 17.2 -1.8
comp=Z,0.4nm,0.3s,mb3.4
AKTO Aktyubinsk 27.82 52 LR LR 05 02 30.7
comp=Z,29nm,18.3s,MS2.9,baz=131,slow=47

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARU	Arti	29.95	41	eP	P	04 47 01.3	+1.5
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ARU	Arti	29.95	41	eP	P	04 47 01.3	+1.5
	comp=Z,4.0nm,0.6s,mb4.3						
ARU	Arti	29.95	41	eP	P	04 47 01.3	+1.5
	comp=Z,4.0nm,0.6s,mb4.3						
TOA0	Torodi Ar. Sit	31.13	223	eP	P	04 47 09.1	-1.1
TORD	Torodi Ar. Bea	31.13	223	P	P	04 47 09.5	-0.7
	comp=Z,0.5nm,0.3s,mb3.8,baz=35,slow=9.2,SNR=15						
TORD				LR	LR	05 00 35.7	
	comp=Z,64nm,19.5s,MS3.3,baz=70,slow=38						
ARCES	ARCESS Array B	31.53	2	P	P	04 47 11.7	-2.1
	comp=Z,1.4nm,0.8s,mb3.8,baz=192,slow=9.4,SNR=7.9						
ARCES				LR	LR	05 01 06.9	
	comp=Z,91nm,18.5s,MS3.5,baz=190,slow=38						
ZRNK	Zerenda	34.98	50	eP	P	04 47 43.6	-0.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ZRNK	Zerenda	34.98	50	eP	P	04 47 43.6	-0.1
	comp=Z,3.2nm,0.8s,mb4.3						
ZRNK	Zerenda	34.98	50	eP	P	04 47 43.6	-0.2
	comp=Z,3.2nm,0.8s,mb4.3						
BRVK	Borovoye	35.75	50	eP	P	04 47 51.2	+0.7
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRVK	Borovoye	35.75	50	eP	P	04 47 51.2	+0.7
	comp=Z,3.0nm,0.9s,mb4.2						
BVAR	Borovoye Array	35.81	50	P	P	04 47 51.0	0.0
	comp=Z,1.9nm,0.7s,mb4.1,baz=255,slow=5.8,SNR=9.5						
BVAR	Borovoye Array	35.81	50	P	P	04 47 51.0	0.0
CHKZ	Chkalovo	36.01	49	eP	P	04 47 52.3	-0.4
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CHKZ	Chkalovo	36.01	49	eP	P	04 47 52.3	-0.4
	comp=Z,4.1nm,0.8s,mb4.4						
CHKZ	Chkalovo	36.01	49	eP	P	04 47 52.3	-0.4
	comp=Z,4.1nm,0.8s,mb4.4						
AAK	Ala-Archa	39.17	67	eP	P	04 48 20.6	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
AAK	Ala-Archa	39.17	67	eP	P	04 48 20.6	+1.1
	comp=Z,2.9nm,0.8s,mb4.1						
AAK	Ala-Archa	39.17	67	eP	P	04 48 20.6	+1.2
	comp=Z,2.9nm,0.8s,mb4.1						
DBIC	Dimbokro	40.07	226	P	P	04 48 26.8	-0.2
	comp=Z,1.9nm,0.7s,mb3.9,baz=36,slow=3.4,SNR=4.5						
DBIC				LR	LR	05 05 33.7	
	comp=Z,45nm,18.5s,MS3.3,baz=250,slow=37						
NVS	Novosibirsk	43.43	47	eP	P	04 48 51.9	-2.6
NVS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=E,7.0nm,0.6s						
NVS	Novosibirsk	43.43	47	eP	P	04 48 51.9	-2.6
	comp=E,13nm,0.8s,mb4.7						
MKAR	Makanchi Array	43.83	59	P	P	04 48 57.1	-0.5
	comp=E,1.8nm,0.4s,mb4.1,baz=273,slow=7.8,SNR=15						
ZAL	Zalesovo	44.41	48	P	P	04 49 02.0	-0.3
	comp=E,3.4nm,0.3s,mb4.6,baz=175,slow=4.4,SNR=9.7						
ZAK	Zakamensk	56.27	49	eP	P	04 50 34.4	+2.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK	Zakamensk	56.27	49	eP	P	04 50 34.4	+2.3
	comp=Z,1.0nm,0.9s,mb3.9						
SONM	Songino Array	59.13	51	P	P	04 50 49.9	-2.4
	comp=Z,1.3nm,0.6s,mb4.1,baz=284,slow=8.7,SNR=8.6						
BOD	Bodaibo	59.34	38	eP	P	04 50 52.1	-1.5
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
BOD	Bodaibo	59.34	38	eP	P	04 50 52.1	-1.5
	comp=Z,4.0nm,1.1s,mb4.4						
ULN	Ulaanbaatar	59.52	51	⇑eP	P	04 50 53.6	-1.3
ULN	Ulaanbaatar	59.52	51	eP	P	04 50 55.4	+0.5
	comp=Z,3.1nm,0.9s,mb4.3						
ULN	Ulaanbaatar	59.52	51	eP	P	04 50 55.4	+0.5
	comp=Z,3.1nm,0.9s,mb4.3						
SCHQ	Schefferville	59.71	318	P	P	04 50 55.5	-0.8
	comp=Z,4.2nm,0.5s,mb4.7,baz=30,slow=7.2,SNR=17						
ULM	Lac du Bonnet	76.80	325	P	P	04 52 43.0	-0.3
	comp=Z,2.6nm,0.8s,mb4.2,baz=282,slow=0.9,SNR=4.5						
ULM	Lac du Bonnet	76.80	325	eP	P	04 52 42.8	-0.5
	comp=Z,3.2nm,0.8s,mb4.3						
ULM	Lac du Bonnet	76.80	325	eP	P	04 52 42.8	-0.5
	comp=Z,3.2nm,0.8s,mb4.3						
WCI	Wyandotte Cave	79.88	311	eP	P	04 52 59.9	-0.4
WCI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WCI	Wyandotte Cave	79.88	311	eP	P	04 52 59.9	-0.5
	comp=Z,3.0nm,0.6s,mb4.4						
WCI	Wyandotte Cave	79.88	311	eP	P	04 52 59.9	-0.4
	comp=Z,3.0nm,0.6s,mb4.4						
ECSD	EROS,Sioux Fal	81.80	320	eP	P	04 53 10.3	-0.3
ECSD	EROS,Sioux Fal	81.80	320	eP	P	04 53 10.3	-0.3
WVT	Waverly	82.19	310	eP	P	04 53 11.8	-0.8
WVT				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
WVT	Waverly	82.19	310	eP	P	04 53 11.8	-0.8
	comp=Z,6.7nm,1.3s,mb4.4						
WVT	Waverly	82.19	310	eP	P	04 53 11.8	-0.8
	comp=Z,6.7nm,1.3s,mb4.4						
EGMT	Eagleton	84.41	330	eP	P	04 53 24.1	0.0
	comp=Z,9.1nm,1.0s,mb4.9						
EGMT	Eagleton	84.41	330	eP	P	04 53 24.1	0.0
	comp=Z,9.1nm,1.0s,mb4.9						
NEW	Newport	86.91	334	P	P	04 53 36.8	+0.3
	comp=Z,4.6nm,1.0s,mb4.7,baz=83,slow=2.5,SNR=6.2						
NEW	Newport	86.91	334	eP	P	04 53 34.7	-1.8
NEW				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NEW	Newport	86.91	334	eP	P	04 53 34.7	-1.8
	comp=Z,5.5nm,1.0s,mb4.7						
NEW	Newport	86.91	334	eP	P	04 53 34.7	-1.8
	comp=Z,5.5nm,1.0s,mb4.7						
TPAW	Teton Pass	88.60	328	eP	P	04 53 44.6	0.0
	comp=Z,1.3nm,0.6s,mb4.4						
TPAW	Teton Pass	88.60	328	eP	P	04 53 44.6	0.0
	comp=Z,1.3nm,0.6s,mb4.4						
BW06	Boulder Array	88.60	327	eP	P	04 53 43.1	-1.5
	comp=Z,3.0nm,1.2s,mb4.5						
BW06	Boulder Array	88.60	327	eP	P	04 53 43.1	-1.5
	comp=Z,3.0nm,1.2s,mb4.5						
PDAR	Pinedale Array	88.60	327	P	P	04 53 44.1	-0.4
	comp=Z,0.8nm,0.8s,mb4.1,baz=49,slow=4.5,SNR=6.8						
WMOK	Wichita Mounta	89.51	315	eP	P	04 53 49.3	+0.4
WMOK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
WMOK	Wichita Mounta	89.51	315	eP	P	04 53 49.3	+0.5
	comp=Z,5.0nm,0.9s,mb4.8						
WMOK	Wichita Mounta	89.51	315	eP	P	04 53 49.3	+0.4
	comp=Z,5.0nm,0.9s,mb4.8						
HWUT	Hardware Ranch	90.40	328	eP	P	04 53 52.5	-0.6
	comp=Z,3.6nm,0.9s,mb4.7						
HWUT	Hardware Ranch	90.40	328	eP	P	04 53 52.5	-0.5
	comp=Z,3.6nm,0.9s,mb4.7						
SDCO	Great Sand Dun	90.73	322	eP	P	04 53 54.4	-0.2
	comp=Z,1.8nm,1.0s,mb4.4						
SDCO	Great Sand Dun	90.73	322	eP	P	04 53 54.4	-0.2
	comp=Z,1.8nm,1.0s,mb4.4						
PV01	Paradox Valley	91.90	324	eP	P	04 53 59.8	-0.2
PV01	Paradox Valley	91.90	324	eP	P	04 53 59.8	-0.2
DUG	Dugway	92.10	328	eP	P	04 54 00.9	0.0
DUG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
DUG	Dugway	92.10	328	eP	P	04 54 00.9	0.0
	comp=Z,1.7nm,0.7s,mb4.5						
DUG	Dugway	92.10	328	eP	P	04 54 00.9	0.0
	comp=Z,1.7nm,0.7s,mb4.5						
MNTX	Cornudas Mount	95.40	318	eP	P	04 54 15.4	-0.7
	comp=Z,1.3nm,0.9s,mb4.4						
MNTX	Cornudas Mount	95.40	318	eP	P	04 54 15.4	-0.7
	comp=Z,1.3nm,0.9s,mb4.4						
CPUP	Villa Florida	98.59	243	LR	LR	05 37 05.1	
	comp=Z,36nm,18.8s,MS3.9,baz=188,slow=34						
ASAR	Alice Springs	120.40	97	PKP	PKPdf	04 59 41.8	-1.3
	comp=Z,0.3nm,0.5s,baz=293,slow=1.1,SNR=5.3						

KRSC 10 05:02:54, 5174N×16008E, h35^{km}, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	1.19	306	eP	Pn	05 03 14.8	+0.7
RUS				*i* S	Sn	05 03 29.7	+0.6
SPN	Mys Shipunski	1.36	359	eP	Pn	05 03 17.8	+1.3
SPN				*i* S	Sn	05 03 34.8	+1.5
GRL	Gorelyy	1.48	304	eP	Pn	05 03 20.2	+2.1
GRL				*i* S	Sn	05 03 39.2	+3.0
NLC	Nalytchevo	1.50	343	eP	Pn	05 03 20.7	+2.3
NLC				*i* S	Sn	05 03 40.1	+3.3
PET	Petropavlovsk	1.56	326	eP	Pn	05 03 20.7	+1.6
PET				*i* S	Sn	05 03 40.3	+2.2
AVH	Avacha	1.73	332	eP	Pn	05 03 22.9	+1.3
MIPR	Malaya Ipel'ka	2.12	286	eP	Pn	05 03 28.8	+1.9
MIPR				*i* S	Sn	05 03 53.8	+1.7
GNL	Ganaly	2.35	327	eP	Pn	05 03 32.8	+2.7
GNL				*i* S	Sn	05 04 00.9	+3.2
ALID	Alaid	2.97	255	eP	Pn	05 03 39.7	+1.0
ALID				*i* S	Sn	05 04 13.0	-0.1
MKZ	Mys Kozlova	2.99	19	*i* P	Pn	05 03 40.2	+1.3
MKZ				*i* S	Sn	05 04 13.4	-0.1
TUMR	Tumrok	3.55	1	eP	Pn	05 03 48.3	+1.7
TUMR				*i* S	Sn	05 04 27.9	+0.6
ZLN	Zelenaya	4.31	5	eP	Pn	05 04 01.5	+4.5
KRSR	Krestovskiy	4.50	3	eP	Pn	05 04 03.6	+4.0
SRDR	Sredinnyy	4.59	357	eP	Pn	05 04 05.1	+4.2
BDR	Baidarnaya	4.88	7	eP	Pn	05 04 08.8	+3.9
SMKR	Semkarok	4.92	9	eP	Pn	05 04 08.0	+2.6
SRKR	Sorokina	4.97	7	eP	Pn	05 04 09.1	+3.1

*SFS **10** 05:03:51.0, 3488N×302W, h0^{km}, ML3.6*
*NEIC **10** 05:03:51.3, 3488N×302W, h0^{km}, MG3.6(MDD), After MDD.*
*ISCJB **10** 05:03:52.5±0.3, 3508N±002×304W±003, h10^{km}, Error ellipse: s-maj=3.7km s-min=2.4km az=41.4*
*CNRM **10** 05:03:53.4, 3510N×284W, h8^{km}, MD3.7*
*MDD **10** 05:03:54.0±0.3, 3501N×287W, h10^{km}±2^{km}, mb3.5/14, Error ellipse: s-maj=4.3km s-min=2.8km az=75.0, PRXIMO*
*CSEM **10** 05:03:53.8±0.2, 3509N×307W, h20^{km}, MD3.7, Error ellipse: s-maj=4.7km s-min=2.2km az=110.0*
*INMG **10** 05:03:54.7±0.9, 3504N×295W, h16^{km}±2^{km}, ML2.1, Error ellipse: s-maj=4.8km s-min=3.1km az=158.0*
ISC 10 05:03:53.6±0.3, 3506N±002×301W±003, h10^{km}, n76, σ1^{s}40/134, 3C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.23	112	P	Pg	05 03 56.0	-2.3
ZAI				S	Sg	05 03 59.0	-2.5
MELI	Melilla	0.24	14	P	Pg	05 03 59.5	+1.0
MELI				S	Sg	05 04 04.2	+2.4
MELI	Melilla	0.24	14	eP	Pg	05 03 59.5	+1.0
EMEL	Melilla	0.24	9	P	Pg	05 03 59.5	+0.9
	28nm,0.1s,SNR=42						
EMEL				S	Sg	05 04 04.2	+2.3
	244nm,0.1s,SNR=7.9						
EMLI	Melilla	0.24	11	P	Pg	05 03 59.5	+0.9
	28nm,0.1s,SNR=42						
TOU	Touzarine	0.62	261	*i* P	Pg	05 04 07.0	+1.4
TOU				*i* S	Sg	05 04 18.0	+4.3
MPAL	Palemas	0.79	282	*i* S	Sg	05 04 22.0	+3.1
EALB	Alboran	0.88	358	P	Pg	05 04 11.0	+0.5
	4.2nm,0.1s,SNR=14						
EALB				S	Sg	05 04 24.7	+2.8
	20nm,0.1s,SNR=11						
EALB	Alboran	0.88	358	P	Pg	05 04 11.0	+0.5
	4.2nm,0.1s,SNR=14						
EALB				S	Sg	05 04 24.7	+2.7
	20nm,0.1s,SNR=11						
TZK	Tazeka	1.37	225	*i* P	Pn	05 04 18.0	-0.7
TZK				*i* S	Sb	05 04 35.0	-1.9
EGUA	Guajares	1.83	346	⇑P	Pn	05 04 22.7	-2.3
	2.9nm,0.2s,SNR=18						
EGUA				S	Sn	05 04 45.1	-3.1
	3.3nm,0.2s,SNR=7.9						
EGUA	Guajares	1.83	346	⇓P	Pn	05 04 22.6	-2.4
EGUA				S	Sn	05 04 45.1	-3.1
EGUA	Guajares	1.83	346	P	Pn	05 04 22.6	-2.4
	2.9nm,0.2s,SNR=18						
EGUA				S	Sn	05 04 45.1	-3.1
	3.3nm,0.2s,SNR=7.9						
EBER	Berja	1.84	3	P	Pn	05 04 24.7	-0.5
	2.9nm,0.3s,SNR=10.0						
EBER				S	Sn	05 04 46.6	-1.8
	64nm,0.5s,SNR=22						
EBER	Berja	1.84	3	P	Pn	05 04 24.7	-0.5
	2.9nm,0.3s,SNR=10.0						
EBER				S	Sn	05 04 46.6	-1.9
	64nm,0.5s,SNR=22						
ENIJ	Nijar	2.02	19	P	Pn	05 04 25.3	-2.3
	2.1nm,0.1s,SNR=6.9						
ENIJ				S	Sn	05 04 50.7	-2.2
	8.0nm,0.2s,SNR=8.5						
MAL	Malaga	2.02	326	*i* P	Pn	05 04 27.5	-0.1
MAL				eS	Sn	05 04 51.2	-1.7
ERON	Agron	2.06	342	P	Pn	05 04 25.9	-2.3
	3.2nm,0.1s,SNR=4.0						
EMIJ	Mijas	2.08	317	P	Pn	05 04 27.2	-1.3
	1.6nm,0.1s,SNR=31						
EMIJ				S	Sn	05 04 53.4	-1.0
	26nm,0.4s,SNR=7.9						
EQUE	Quentar	2.17	351	P	Pn	05 04 30.0	+0.3
	1.6nm,0.2s,SNR=37						
EQUE				S	Sn	05 04 56.1	-0.6
	4.0nm,0.2s,SNR=7.9						
EQUE	Quentar	2.17	351	P	Pn	05 04 30.0	+0.3
	1.6nm,0.2s,SNR=37						
EQUE				S	Sn	05 04 56.1	-0.6
	SNR=7.9						
ECOG	Cogollos-Vega	2.26	349	P	Pn	05 04 30.7	-0.3
	0.5nm,0.2s,SNR=6.7						
ECOG				S	Sn	05 05 02.2	+3.3
	1.1nm,0.2s,SNR=7.2						
ELOJ	Sierra Loja	2.28	336	P	Pn	05 04 30.3	-1.0
	0.5nm,0.2s,SNR=4.0						
ELOJ				S	Sn	05 05 02.7	+3.3
	3.9nm,0.4s,SNR=7.9						
EJIF	Jimena Fronter	2.44	305	P	Pn	05 04 32.2	-1.2
	0.2nm,0.1s,SNR=12						
EJIF				S	Sn	05 05 05.5	+2.2
	2.6nm,0.3s,SNR=7.9						
EJIF	Jimena Fronter	2.44	305	P	Pn	05 04 32.2	-1.2
EJIF				S	Sn	05 05 06.7	+3.4
EJIF	Jimena Fronter	2.44	305	P	Pn	05 04 32.2	-1.2
	0.2nm,0.1s,SNR=12						
MIF	Mishlifen	2.47	229	*i* P	Pn	05 04 35.0	+1.2
MIF				*i* S	Sn	05 05 05.5	+1.4
CZD	Col de Zad	2.63	221	eP	Pn	05 04 37.0	+0.9
CZD				*i* S	Sn	05 05 08.0	-0.1
LIJA	Lijar	2.68	314	P	Pn	05 04 39.0	+2.3
LIJA				S	Sn	05 05 06.0	-3.2
ELUQ	Luque	2.70	338	P	Pn	05 04 37.1	+0.1
	1.0nm,0.2s,SNR=7.9						
ELUQ				S	Sn	05 05 10.2	+0.6
	1.6nm,0.2s,SNR=7.9						
ELUQ	Luque	2.70	338	P	Pn	05 04 37.1	+0.1
ELUQ				S	Sn	05 05 10.2	+0.6
EQES	Quesada	2.74	359	P	Pn	05 04 39.4	+1.9
	5.7nm,0.3s,SNR=28						
EQES				S	Sn	05 05 13.5	+2.8
	18nm,0.3s,SNR=7.9						
EQES	Quesada	2.74	359	P	Pn	05 04 39.4	+1.9
	5.7nm,0.3s,SNR=28						
EQES				S	Sn	05 05 13.5	+2.8
	18nm,0.3s,SNR=7.9						
EHUE	Huescar	2.77	7	P	Pn	05 04 38.4	+0.5
	0.2nm,0.1s,SNR=38						
EHUE				S	Sn	05 05 13.8	+2.4
	3.7nm,0.3s,SNR=7.9						
ESPR	Espera	2.93	309	P	Pn	05 04 39.4	-0.8
	2.1nm,0.4s,SNR=4.0						
ESPR				S	Sn	05 05 16.8	+1.3
	2.5nm,0.2s,SNR=7.9						
ESPR	Espera	2.93	309	P	Pn	05 04 39.4	-0.8
	2.1nm,0.4s,SNR=4.0						
ESPR				S	Sn	05 05 16.8	+1.3
	SNR=7.9						
EMUR	La Murta	3.12	27	P	Pn	05 04 42.0	-0.8
	7.2nm,0.3s,SNR=28						
EMUR				S	Sn	05 05 16.6	-3.5
	2.4nm,0.2s,SNR=7.9						
EMUR	La Murta	3.12	27	P	Pn	05 04 42.0	-0.8
	7.2nm,0.3s,SNR=28						
EBAN	Banos Encina	3.16	349	P	Pn	05 04 43.9	+0.5
	0.4nm,0.1s,SNR=7.7						
EBAN				S	Sn	05 05 22.9	+1.8
	1.5nm,0.2s,SNR=7.9						
EBAN	Banos Encina	3.16	349	P	Pn	05 04 43.8	+0.4
EBAN				S	Sn	05 05 22.9	+1.8
	1.5nm,0.2s,SNR=7.9						
ZFT	Errachidia	3.22	201	eP	Pn	05 04 45.0	+0.8
ZFT				*i* S	Sn	05 05 23.0	+0.5
EADA	Adamuz	3.35	338	P	Pn	05 04 46.5	+0.5
	0.3nm,0.1s,SNR=27						
EADA				S	Sn	05 05 25.2	-0.6
	2.4nm,0.2s,SNR=7.9						
EADA	Adamuz	3.35	338	P	Pn	05 04 46.5	+0.6
	0.3nm,0.1s,SNR=27						
EADA				S	Sn	05 05 25.2	-0.6
	2.4nm,0.2s,SNR=7.9						
KIB	El Ksiba	3.54	226	eP	Pn	05 04 49.0	+0.5
KIB				*i* S	Sn	05 05 30.0	-0.4
EVIA	Vianos	3.60	6	P	Pn	05 04 52.0	+2.7
	0.3nm,0.1s,SNR=7.9						
EVIA				S	Sn	05 05 32.6	+0.8
	5.0nm,0.4s,SNR=7.9						
ETOB	Tobarra	3.77	18	P	Pn	05 04 52.6	+0.9
	0.2nm,0.2s,SNR=4.0						
ETOB				S	Sn	05 05 35.3	-0.7
	4.1nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.77	18	P	Pn	05 04 52.6	+0.9
	0.2nm,0.2s,SNR=4.0						
ETOB				S	Sn	05 05 35.3	-0.7
	4.1nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.01	313	P	Pn	05 04 54.7	-0.2
	0.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	05 05 40.5	-1.5
	0.9nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.01	313	P	Pn	05 04 54.7	-0.3
	0.8nm,0.1s,SNR=7.9						
EMIN				S	Sn	05 05 40.5	-1.5
	0.9nm,0.2s,SNR=7.9						
TZC	Tazercounte	4.11	226	eP	Pn	05 04 57.0	+0.6
TZC				*i* S	Sn	05 05 44.0	-0.5
EBEN	Beniarda	4.27	31	P	Pn	05 04 58.8	+0.2
	15nm,1.1s,SNR=9.3						
EBEN				S	Sn	05 05 45.9	-2.5
	0.4nm,0.3s,SNR=7.9						
EBEN	Beniarda	4.27	31	P	Pn	05 04 58.8	+0.3
	15nm,1.1s,SNR=9.3						
EGRO	El Granado	4.38	306	P	Pn	05 04 59.8	-0.3
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	05 05 49.8	-1.4
	1.9nm,0.2s,SNR=7.9						
EGRO	El Granado	4.38	306	P	Pn	05 04 59.8	-0.3
	0.4nm,0.1s,SNR=7.9						
EGRO				S	Sn	05 05 49.8	-1.4
ESDC	Sonseca Array	4.67	351	P	Pn	05 05 05.6	+1.5
	1.0nm,0.3s,baz=170,slow=14,SNR=16						
ESDC	Sonseca Array	4.67	351	P	Pn	05 05 05.6	+1.5
EBAD	Badajoz	4.89	320	⇑P	Pn	05 05 07.4	+0.2
	1.4nm,0.2s,SNR=18						
EBAD				S	Sn	05 06 02.8	-1.0
	5.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.89	320	⇑P	Pn	05 05 07.4	+0.3
EBAD				S	Sn	05 06 02.8	-1.0
PBEJ	Beja	4.91	309	ePn	Pn	05 05 07.8	+0.4
PBEJ				eSn	Sn	05 06 02.4	-1.8
PTEO	Sao Teotonio	5.24	300	ePn	Pn	05 05 12.7	+0.7
PTEO				eSn	Sn	05 06 10.8	-1.6
EIBI	Ibiza	5.27	40	P	Pn	05 05 11.6	-0.8
	0.6nm,0.1s,SNR=7.9						
EIBI				S	Sn	05 06 11.8	-1.3
	0.6nm,0.2s,SNR=7.9						
EIBI	Ibiza	5.27	40	P	Pn	05 05 11.6	-0.8
PESTR	Estremoz	5.28	317	ePn	Pn	05 05 13.3	+0.8
PESTR				eSn	Sn	05 06 11.6	-1.9
PESTR							
	0.9nm,0.2s						
GUD	Guadarrama	5.65	351	P	Pn	05 05 17.1	-0.4
	0.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	5.66	20	P	Pn	05 05 19.9	+2.1
	0.5nm,0.3s,SNR=7.9						
PCBR	Castelo Branco	5.95	325	ePn	Pn	05 05 22.2	+0.5
PCBR				eSn	Sn	05 06 27.2	-2.7
PCBR							
	1.1nm,0.3s						
PTOM	Tomar	6.26	318	ePn	Pn	05 05 26.5	+0.5
MTE	Manteigas	6.43	327	ePn	Pn	05 05 29.1	+0.8
ERTA	Horta de San J	6.45	23	P	Pn	05 05 30.0	+1.4
	0.3nm,0.1s,SNR=7.9						
ERTA	Horta de San J	6.45	23	P	Pn	05 05 30.0	+1.4
PVIS	Viseu	6.84	327	ePn	Pn	05 05 34.5	+0.6
PVIS				eSn	Sn	05 06 48.7	-3.2
PVRL	Vila Real	7.23	331	ePn	Pn	05 05 39.9	+0.6
PVRL				eSn	Sn	05 06 57.6	-3.8
PVRL							
	2.2nm,0.1s						
PBRG	Braganca	7.34	338	ePn	Pn	05 05 41.6	+0.8
PBRG				eSn	Sn	05 06 59.9	-4.3
ECAL	Calabor	7.47	338	P	Pn	05 05 43.5	+1.0
	0.8nm,0.1s,SNR=7.9						
ECAL				S	Sn	05 07 04.2	-3.0
	1.9nm,0.3s,SNR=7.9						
ECAL	Calabor	7.47	338	P	Pn	05 05 43.5	+1.0
PCAB	Cabril	7.72	331	ePn	Pn	05 05 46.7	+0.7

*IDC **10** 05:28:03.5±0.8, 3532N×7065E, h0^{km}, mb4.0/11, mb1 4.1/14, mb1mx3.9/24, mbtmp4.0/14, ML4.1/3, Error ellipse: s-maj=21.2km s-min=19.3km az=17.0*
*MOS **10** 05:28:06.7±0.8, 3528N×7056E, h33^{km}, mb3.8/1, Error ellipse: s-maj=19.8km s-min=7.0km az=90.2*
*BJI **10** 05:28:10.5, 3527N×7098E, h44^{km}, ML4.3*
*NEIC **10** 05:28:12.9±2.1, 3550N×7069E, h70^{km}±18^{km}, mb3.6/3, Error ellipse: s-maj=16.0km s-min=9.5km az=200.0*
*ISCJB **10** 05:28:13.8±0.5, 3552N±003×7088E±006, h102^{km}±7^{km}, mb3.8/11, Error ellipse: s-maj=8.3km s-min=4.6km az=158.3*
*NNC **10** 05:28:19.9±4.4, 3595N×7052E, h91^{km}±47^{km}, mb3.3, mpv3.5, Error ellipse: s-maj=32.8km s-min=27.4km az=22.0*
ISC 10 05:28:15.1±0.5, 3550N±003×7091E±007, h102^{km}±6^{km}, n72, σ1^{s}22/83, mb3.8/11, 10C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	1.86	153	⇓P	Pn	05 28 47.0	+1.0
CHCP	Chirah Chowk	2.67	133	P	Pn	05 28 57.8	+1.3
THW	Thamme Wali	2.78	165	⇑P	Pn	05 28 58.5	+0.5
SBDP	Sheikh Budin	3.19	181	⇑P	Pn	05 29 03.6	+0.2
DRP	Derazinda	3.79	189	⇑P	Pn	05 29 12.0	+0.6
SARP	Sargodha	3.86	157	⇑P	Pn	05 29 11.9	-0.5
THN	Thein Dam	5.03	126	eP	Pn	05 29 29.5	+1.3
THN				eS	Sn	05 30 29.2	+4.1
DLH	Dalhousie	5.13	124	eP	Pn	05 29 31.0	+1.4
KSH	Kashi	5.69	44	P	Pn	05 29 41.0	+3.9
KSH				S	Sn	05 30 41.7	+0.7
KSH				Smax			
	comp=N,302nm,0.3s						
KSH				Smax			
	comp=E,253nm,0.2s						
BHK	Bhakra	6.14	130	ex	x	05 29 49.0	
SDNR	Sundarnagar	6.45	126	eP	Pn	05 29 48.3	+0.9
SDNR				ex	x	05 30 58.3	
AML	Almayashu	6.97	17	P	Pn	05 29 55.1	+0.6
	SNR=26						
KLP	Kalpa	7.30	121	eP	Pn	05 30 00.2	+1.2
KLP				eS	Sn	05 31 24.7	+4.5
KZA	Kyzart	7.39	26	P	Pn	05 30 00.7	+0.4
	SNR=10						
EKS2	Erkin-Say	7.49	16	P	Pn	05 30 03.4	+1.8
	SNR=14						
KK31	Karatay Array	7.60	358	⇑P	Pn	05 30 02.1	-1.0
	comp=E,2.5nm,0.2s,baz=174,slow=12,SNR=129						
KK31				⇑S	Sn	05 31 22.3	-5.4
	comp=E,33nm,0.5s						
KKAR	Karatay Array	7.60	358	P	Pn	05 30 02.2	-0.9
KKAR						05 31 23.5	
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KKAR				smax			
	comp=Z,2.0nm,0.2s						
AAK	Ala-Archa	7.65	20	P	Pn	05 30 04.7	+0.9
	SNR=24						
AAK	Ala-Archa	7.65	20	eP	Pn	05 30 03.4	-0.4
AAK				e		05 31 25.2	
AAK				pmax	pmax		
	comp=Z,19nm,0.3s						
AAK	Ala-Archa	7.65	20	ePn	Pn	05 30 03.4	-0.4
	comp=Z,19nm,0.3s						
AAK				eSn	Sn	05 31 25.2	-3.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	7.92	30	P	Pn	05 30 09.7	+2.3
	SNR=16						
CHMS	Chumysh	8.06	21	P	Pn	05 30 09.5	+0.1
	SNR=11						
USP	Ospenovka	8.24	19	P	Pn	05 30 12.2	+0.4
	SNR=12						
TKM2	Tokmak 2	8.26	25	P	Pn	05 30 12.5	+0.5
	SNR=13						
TKM2	Tokmak 2	8.26	25	⇑P	Pn	05 30 12.2	+0.2
	comp=Z,0.5nm,0.5s						
TKM2				⇑S	Sn	05 31 43.1	-0.4
	comp=Z,1.0nm,0.8s						
TKM2	Tokmak 2	8.26	25	P	Pn	05 30 11.8	-0.2
TKM2						05 31 43.1	
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2				smax			
	comp=Z,6.0nm,0.8s						
KHET	Khetri	8.49	149	eP	Pn	05 30 12.5	-2.8
KHET				eS	Sn	05 31 42.8	-6.5
KHET				AML	AML	05 31 46.9	
	comp=E,34nm,0.3s						
KHET				AML	AML	05 31 48.9	
	comp=N,24nm,0.4s						
NDI	New Delhi	8.65	140	ex	x	05 30 30.0	
NDI				eS	Sn	05 31 48.0	-5.1
KOLN	Koldanda	13.27	122	eP	Pn	05 31 17.5	-1.9
	comp=N,8.2nm,0.4s						
KOLN				eS	Sn	05 33 36.9	-8.4
GKN	Gorkha	13.86	119	eP	Pn	05 31 25.2	-1.8
	comp=N,18nm,0.4s						
GKN				eS	Sn	05 33 51.5	-8.1
MK05	Makanchi Array	14.16	34	⇑P	Pn	05 31 35.4	+4.5
	comp=N,3.3nm,0.8s						
MK31	Makanchi Array	14.16	34	P	Pn	05 31 35.6	+4.7
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	14.16	34	Pn	Pn	05 31 30.6	-0.2
	comp=Z,0.9nm,0.3s,baz=206,slow=12,SNR=14						
DMN	Daman	14.43	119	eP	Pn	05 31 32.2	-2.1
	comp=Z,15nm,0.4s						
KKN	Kakani	14.45	118	eP	Pn	05 31 32.3	-2.3
	comp=Z,8.2nm,0.2s						
KKN				eS	Sn	05 34 05.7	-8.0
PKI	Pulchoki	14.67	119	eP	Pn	05 31 35.5	-1.9
	comp=Z,11nm,0.4s						
GUN	Gumba	14.81	117	eP	Pn	05 31 38.3	-0.9
	comp=Z,11nm,0.3s						
JIRN	Jiri	15.18	117	eP	Pn	05 31 42.7	-1.2
	comp=Z,19nm,0.3s						
AB31	Akbulak array	15.93	333	P	Pn	05 31 51.8	-1.6
	comp=Z,1.7nm,0.3s,baz=164,slow=12,SNR=75						
AB31				S	S	05 34 40.0	-17
	comp=Z,7.0nm,0.6s,baz=148,slow=24,SNR=10						
AB31	Akbulak array	15.93	333	eP	Pn	05 31 51.7	-1.6
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	Zerenda	17.50	356	⇑P	Pn	05 32 13.0	+0.4
	comp=Z,2.6nm,0.8s						
ZRNK	Zerenda	17.50	356	eP	Pn	05 32 11.9	-0.7
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZRNK	Zerenda	17.50	356	eP	Pn	05 32 11.9	-0.6
	comp=Z,3.5nm,0.8s						
BVA0	Borovoye Array	17.53	359	P	Pn	05 32 12.8	-0.1
	comp=Z,0.8nm,1.2s,baz=166,slow=13,SNR=11						
BVA0	Borovoye Array	17.53	359	P	Pn	05 32 12.8	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	Borovoye Array	17.53	359	P	Pn	05 32 11.9	-0.9
	comp=Z,0.7nm,0.3s,baz=159,slow=9.5,SNR=8.9						
BRVK	Borovoye	17.56	359	eP	Pn	05 32 12.1	-1.2
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	17.56	359	eP	Pn	05 32 12.1	-1.3
	comp=Z,2.2nm,0.8s						
AKTK	Aktyubinsk	17.62	332	P	Pn	05 32 12.2	-1.8
AKTO	Aktyubinsk	17.62	332	P	Pn	05 32 12.2	-1.8
	comp=Z,0.5nm,0.3s,baz=150,slow=11,SNR=16						
CHKZ	Chkalovo	18.18	359	⇓P	P	05 32 19.2	-0.5
	comp=Z,1.0nm,0.5s						
CHKZ	Chkalovo	18.18	359	eP	P	05 32 19.6	-0.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHKZ	Chkalovo	18.18	359	eP	P	05 32 19.6	-0.1
	comp=Z,1.8nm,0.4s						
ZAL	Zalesovo	20.84	24	P	P	05 32 49.1	+0.5
	comp=Z,8.8nm,0.3s,baz=246,slow=3.9,SNR=12						
ARU	Arti	22.56	342	eP	P	05 33 06.6	-0.2
ARU				eS	S	05 37 08.0	+1.6
GTA	Gaotai	23.23	72	P	P	05 33 18.0	+4.8
SONM	Songino Array	28.98	54	P	P	05 34 07.5	+2.6
	comp=Z,0.6nm,0.5s,mb3.5,baz=255,slow=7.4,SNR=6.1						
JOF	Joensuu	36.70	331	ep	P	05 35 12.7	+0.6
	comp=Z,1.4nm,0.4s,mb4.2						
FINES	FINESS Array B	38.28	327	P	P	05 35 25.9	+0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=131,slow=11,SNR=6.2						
FINES	FINESS Array B	38.28	327	P	P	05 35 25.9	+0.5
ARCES	ARCESS Array B	42.04	338	P	P	05 35 56.9	+0.4
	comp=Z,1.6nm,0.7s,mb3.9,baz=108,slow=7.8,SNR=8.5						
ARCES	ARCESS Array B	42.04	338	P	P	05 35 56.9	+0.4
NB2	NORSAR Subarra	45.14	324	P	P	05 36 21.1	-0.2
	comp=Z,0.8nm,0.5s,mb3.7,baz=97,slow=7.9						
NOA	NORSAR Array B	45.14	324	P	P	05 36 21.4	+0.1
	comp=Z,1.0nm,0.6s,mb3.8,baz=97,slow=7.8,SNR=5.1						
NOA	NORSAR Array B	45.14	324	P	P	05 36 21.4	+0.1
ESDC	Sonseca Array	57.86	298	P	P	05 37 57.0	+0.9
	comp=Z,0.3nm,0.5s,mb3.6,baz=58,slow=8.0,SNR=4.7						
TORD	Torodi Ar. Bea	65.62	269	P	P	05 38 48.7	+0.6
	comp=Z,3.0nm,0.5s,mb4.3,baz=48,slow=5.9,SNR=72						
DBIC	Dimbokro	74.57	267	P	P	05 39 42.9	+0.1
	comp=Z,0.9nm,0.5s,mb3.8,baz=208,slow=23,SNR=3.7						
WRA	Warramunga Arr	81.53	122	P	P	05 40 23.9	+2.7
	comp=Z,1.0nm,0.6s,mb3.8,baz=326,slow=5.0,SNR=4.0						
YKA	Yellowknife Ar	82.25	3	P	P	05 40 25.6	+0.6
	comp=Z,0.6nm,0.4s,mb3.8,baz=349,slow=5.4,SNR=12						
YKA	Yellowknife Ar	82.25	3	P	P	05 40 25.6	+0.6
ASAR	Alice Springs	83.75	125	P	P	05 40 35.2	+2.5
	comp=Z,0.5nm,0.5s,mb3.6,baz=310,slow=5.0,SNR=13						

---

*NEIC **10** 05:46:48.1±2.0, 3626N×7092E, h168km±17km, mb3.8/6, Error ellipse: s-maj=16.1km s-min=8.7km az=206.0*
*BJI **10** 05:46:48.1, 3630N×7090E, h168km*
*IDC **10** 05:46:48.8±6.2, 3626N×7092E, h175km±56km, mb3.6/10, mb1 3.7/13, mb1mx3.5/24, mbtmp4.1/13, Error ellipse: s-maj=29.5km s-min=15.9km az=17.0*
*MOS **10** 05:46:48.1±0.8, 3633N×7088E, h180km, mb4.0/3, Error ellipse: s-maj=21.0km s-min=8.3km az=94.6*
*ISCJB **10** 05:46:52.0±0.4, 3655N±003×7104E±005, h210km±5km, mb3.7/12, Error ellipse: s-maj=7.4km s-min=3.7km az=136.9*
*NNC **10** 05:46:57.7±4.7, 3701N×7094E, h197km±42km, mb2.8, mpv3.7, Error ellipse: s-maj=41.1km s-min=23.4km az=10.0*
ISC 10 05:46:52.5±0.5**, 3655N**±003×**7100E**±006**, h199**km±6km**, n68, σ1§05**/79**, mb3.7**/12**, 10C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.82	164	⇑P	Pn	05 47 41.4	+1.5
CHCP	Chirah Chowk	3.43	147	P	Pn	05 47 48.5	+1.3
THW	Thamme Wali	3.80	170	⇑P	Pn	05 47 52.6	+0.9
SBDP	Sheikh Budin	4.24	182	⇑P	Pn	05 47 58.0	+0.8
SBDP				S	Sn	05 48 43.0	-5.1
SARP	Sargodha	4.82	163	P	Pn	05 48 04.8	+0.3
SARP				S	Sn	05 48 59.0	-2.3
KSH	Kashi	4.92	51	P	Pn	05 48 06.8	+1.0
KSH				S	Sn	05 49 03.2	-0.3
KSH				Smax			
	comp=N,241nm,0.4s						
KSH				Smax			
	comp=E,317nm,0.4s						
THN	Thein Dam	5.66	135	eS	Sn	05 49 19.1	-1.6
DLH	Dalhousie	5.73	133	eP	Pn	05 48 18.0	+1.9
DLH				eS	Sn	05 49 20.0	-2.3
AML	Almayashu	5.95	20	P	Pn	05 48 19.6	+0.5
	SNR=47						
KZA	Kyzart	6.43	30	P	Pn	05 48 25.2	0.0
	SNR=9.2						
EKS2	Erkin-Say	6.47	19	P	Pn	05 48 26.2	+0.5
	SNR=24						
KK31	Karatay Array	6.55	357	⇑P	Pn	05 48 27.1	+0.3
	comp=E,2.7nm,0.5s,baz=176,slow=12,SNR=35						
KK31				⇓S	Sn	05 49 36.1	-5.5
	comp=E,36nm,0.5s						
AAK	Ala-Archa	6.65	23	P	Pn	05 48 28.5	+0.5
	SNR=30						
AAK	Ala-Archa	6.65	23	ePN	Pn	05 48 27.3	-0.8
AAK				pmax	pmax		
	comp=Z,27nm,0.4s						
AAK	Ala-Archa	6.65	23	ePn	Pn	05 48 27.2	-0.8
	comp=Z,27nm,0.4s						
AAK				eSn	Sn	05 49 43.5	-0.3
KBK	Karagaybulak	6.82	25	P	Pn	05 48 31.1	+0.8
	SNR=20						
ULHL	Ulahol	6.99	34	P	Pn	05 48 32.5	0.0
	SNR=9.2						
CHMS	Chumysh	7.06	23	P	Pn	05 48 33.2	-0.2
	SNR=7.3						
USP	Ospenovka	7.23	21	P	Pn	05 48 34.9	-0.7
	SNR=7.9						
TKM2	Tokmak 2	7.28	28	P	Pn	05 48 36.8	+0.5
	SNR=58						
TKM2	Tokmak 2	7.28	28	⇑P	Pn	05 48 36.5	+0.2
	comp=Z,4.3nm,0.7s						
TKM2				⇑S	Sn	05 49 56.4	-2.4
	comp=Z,2.0nm,0.8s						
KLP	Kalpa	7.83	128	eP	Pn	05 48 45.5	+2.2
KLP				eS	Sn	05 50 08.5	-3.2
KLP				AML	AML	05 50 10.8	
	comp=E,280nm,0.6s						
KLP				AML	AML	05 50 18.3	
	comp=N,175nm,0.7s						
KHET	Khetri	9.38	153	eS	Sn	05 50 41.3	-7.2
KHET				AML	AML	05 50 44.7	
	comp=N,13nm,0.3s						
KHET				AML	AML	05 50 45.4	
	comp=E,16nm,0.5s						
NDI	New Delhi	9.43	145	ex	x	05 50 51.0	
SONA	Sohna	9.74	146	eS	Sn	05 50 49.5	-7.7
SONA				AML	AML	05 50 53.1	
	comp=E,22nm,0.6s						
SONA				AML	AML	05 50 55.3	
	comp=N,15nm,0.9s						
MK05	Makanchi Array	13.25	36	⇑P	Pn	05 49 53.0	-0.1
	comp=N,1.6nm,0.5s						
MKAR	Makanchi Array	13.25	36	P	Pn	05 49 52.9	-0.1
	comp=N,0.9nm,0.3s,baz=216,slow=12,SNR=16						
MKAR	Makanchi Array	13.25	36	P	Pn	05 49 52.9	-0.1
KOLN	Koldanda	13.79	126	eP	Pn	05 50 00.6	+0.8
	comp=N,12nm,0.5s						
KOLN				eS	Sn	05 52 27.1	-6.7
GKN	Gorkha	14.33	123	eP	Pn	05 50 07.1	+0.6
	comp=N,20nm,0.3s						
GKN				eS	Sn	05 52 37.5	-9.1
DMN	Daman	14.90	123	eP	Pn	05 50 14.3	+0.8
DMN				eS	Sn	05 52 52.0	-8.2
KKN	Kakani	14.90	122	eP	Pn	05 50 13.8	+0.3
	comp=N,32nm,0.4s						
AB31	Akbulak array	15.04	331	⇑P	Pn	05 50 13.6	-1.5
	comp=N,1.3nm,0.6s,baz=144,slow=11,SNR=31						
PKI	Pulchoki	15.13	122	eP	Pn	05 50 17.7	+1.4
	comp=N,13nm,0.3s						
GUN	Gumba	15.24	120	eP	Pn	05 50 18.6	+1.0
	comp=N,25nm,0.5s						
JIRN	Jiri	15.61	120	eP	Pn	05 50 23.1	+1.0
	comp=N,37nm,0.5s						
JIRN				eS	S	05 53 08.6	-6.6
ZRNK	Zerenda	16.46	356	⇓P	Pn	05 50 31.9	-0.4
	comp=N,1.9nm,0.5s						
ZRNK	Zerenda	16.46	356	eP	Pn	05 50 31.8	-0.5
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZRNK	Zerenda	16.46	356	eP	Pn	05 50 31.8	-0.5
	comp=Z,5.4nm,0.9s						
BVA0	Borovoye Array	16.48	359	⇑P	Pn	05 50 33.4	+0.9
	comp=Z,0.8nm,1.4s,baz=174,slow=11,SNR=15						
BVAR	Borovoye Array	16.48	359	P	Pn	05 50 32.5	0.0
	comp=Z,1.0nm,0.3s,baz=157,slow=12,SNR=13						
BRVK	Borovoye	16.51	358	eP	Pn	05 50 32.8	-0.1
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	Borovoye	16.51	358	eP	Pn	05 50 32.8	-0.1
	comp=Z,1.5nm,0.5s						
AKTK	Aktyubinsk	16.74	330	P	Pn	05 50 35.3	-0.3
AKTO	Aktyubinsk	16.74	330	P	Pn	05 50 35.3	-0.3
	comp=Z,1.4nm,0.3s,baz=141,slow=9.3,SNR=32						
CHKZ	Chkalovo	17.13	359	⇑P	Pn	05 50 39.4	-0.8
	comp=Z,1.6nm,0.8s						
CHKZ	Chkalovo	17.13	359	eP	Pn	05 50 39.3	-0.9
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	Chkalovo	17.13	359	eP	Pn	05 50 39.3	-0.9
	comp=Z,1.6nm,0.5s						
ZAL	Zalesovo	19.85	25	P	P	05 51 08.6	+0.4
	comp=Z,2.3nm,0.3s,baz=251,slow=9.2,SNR=5.8						
ARU	Arti	21.58	341	eP	P	05 51 27.9	+1.3
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ARU	Arti	21.58	341	eP	P	05 51 27.9	+1.3
	comp=Z,3.1nm,0.6s,mb4.0						
SONM	Songino Array	28.31	55	P	P	05 52 28.6	+1.2
	comp=Z,0.4nm,0.5s,mb3.3,baz=265,slow=8.1,SNR=4.0						
AKASG	Malin Array Be	32.91	309	P	P	05 53 07.8	-0.1
	comp=Z,1.3nm,0.6s,mb3.7,baz=81,slow=7.6,SNR=6.0						
AKASG	Malin Array Be	32.91	309	P	P	05 53 07.8	-0.1
JOF	Joensuu	35.82	330	ep	P	05 53 32.7	-0.2
FINES	FINESS Array B	37.44	326	P	P	05 53 46.8	+0.3
	comp=Z,2.4nm,0.4s,mb4.1,baz=122,slow=10,SNR=34						
KAF	Kangasniemi	37.58	327	ep	P	05 53 47.3	-0.4
	comp=Z,0.7nm,0.3s,mb3.7						
KAF	Kangasniemi	37.58	327	eP	P	05 53 47.3	-0.4
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
KEV	Kevo	40.75	338	ep	P	05 54 13.4	-0.6
	comp=Z,0.6nm,0.3s,mb3.5						
KEV	Kevo	40.75	338	eP	P	05 54 13.4	-0.6
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ARCES	ARCESS Array B	41.10	338	P	P	05 54 17.1	+0.3
	comp=Z,4.1nm,0.6s,mb4.0,baz=117,slow=8.5,SNR=34						
NB2	NORSAR Subarra	44.34	323	P	P	05 54 42.1	-0.7
	comp=Z,2.9nm,0.5s,mb3.9,baz=97,slow=7.9						
NOA	NORSAR Array B	44.34	323	P	P	05 54 42.4	-0.4
	comp=Z,3.1nm,0.6s,mb3.8,baz=96,slow=7.7,SNR=12						
TORD	Torodi Ar. Bea	65.72	269	P	P	05 57 14.2	-1.5
	comp=Z,1.1nm,0.4s,mb3.8,baz=50,slow=6.1,SNR=56						
YKA	Yellowknife Ar	81.20	3	P	P	05 58 45.7	-0.2
	comp=Z,0.9nm,0.5s,mb3.7,baz=351,slow=5.4,SNR=10						
YKA	Yellowknife Ar	81.20	3	P	P	05 58 45.7	-0.2
WRA	Warramunga Arr	82.02	122	P	P	05 58 49.1	-1.1
	comp=Z,0.8nm,0.7s,mb3.5,baz=323,slow=4.7,SNR=3.9						
ASAR	Alice Springs	84.28	125	P	P	05 59 00.8	-1.1
	comp=Z,0.6nm,0.7s,mb3.5,baz=306,slow=5.3,SNR=5.3						

IDC 10 06:06:34.4±6.8**, 2487S**×**17988W, h276**km±70km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.4**/11**, mbtmp4.2**/3**, Error ellipse: s-maj=91.8km s-min=32.5km az=178.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.70	159	P	Pn	06 07 48.6	+1.1
	279nm,0.3s,baz=87,slow=23,SNR=18						
RAO				S	S	06 08 45.4	-0.6
	41nm,0.3s,baz=53,slow=20,SNR=1.9						
CTA	Charters Tower	31.60	272	eP	P	06 12 34.4	+2.7
	3.7nm,0.3s						
STKA	Stephens Creek	34.48	249	P	P	06 12 57.2	+0.7
	1.3nm,0.3s,baz=87,slow=9.0,SNR=6.9						
ASAR	Alice Springs	42.00	262	P	P	06 13 59.0	+0.1
	1.7nm,0.6s,baz=94,slow=8.4,SNR=15						
WB2	Warramunga Arr	42.45	267	eP	P	06 14 02.4	-0.1
WRA	Warramunga Arr	42.46	267	P	P	06 14 02.4	-0.2
	3.5nm,0.4s,baz=103,slow=8.1,SNR=14						
MKAR	Makanchi Array	112.89	312	PKiKP	PKiKP	06 24 37.2	-1.2
	1.4nm,0.8s,baz=104,slow=3.9,SNR=9.7						
BRTR	Keskin Array B	148.24	306	PKPbc	PKPbc	06 25 48.5	+0.7
	0.6nm,0.6s,baz=120,slow=2.6,SNR=3.6						

---

*ISCJB **10** 06:08:37.4±0.7, 36.14N±004×2320E±007, h90km±10km, Error ellipse: s-maj=10.1km s-min=5.7km az=122.9*
*CSEM **10** 06:08:38.7, 3622N×2329E, h71km, ML3.5, After ATH*
*NEIC **10** 06:08:38.7, 3622N×2329E, h71km, MG3.5(ATH), After ATH.*
*ATH **10** 06:08:38.6, 3622N×2328E, h72km±2km, ML3.5*
*HLW **10** 06:08:39.8, 3606N×2365E, h33km, Mb4.1*
ISC 10 06:08:38.8±0.7**, 3616N**±004×**2323E**±007**, h76**km±12km**, n23, σ1§03**/28**, 3D, Southern Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.20	308	eP	Pn	06 08 50.0	-0.1
VLI	Veliai	0.61	337	⇓iP	Pn	06 08 53.3	+0.1
VLI				eS	Sn	06 09 02.7	-1.1
VAM	Vamos	1.09	133	⇓iP	Pn	06 08 59.3	+0.6
ITM	Ithomi	1.46	315	⇓iP	Pn	06 09 05.3	+1.8
GVD	Gavdhos	1.49	152	eP	Pn	06 09 05.0	+1.2
NAIG	Nisos Aigina	1.61	7	eP	Pn	06 09 05.0	-0.4
KVR	Kavouri	1.72	14	eP	Pn	06 09 06.0	-0.9
MGER	Gerania Oros	1.83	1	eP	Pn	06 09 09.0	+0.7
ATH	Athens Observa	1.85	12	eP	Pn	06 09 08.6	0.0
ATH				eS	Sn	06 09 30.1	-1.2
PTL	Penteli	1.96	15	eP	Pn	06 09 10.0	0.0
APE	Apeiranthos	2.06	63	eP	Pn	06 09 12.4	+1.0
NPS	Neapolis	2.13	114	eP	Pn	06 09 13.0	+0.6
NPS				eS	Sn	06 09 38.5	+0.5
XRY	Khrisi	2.38	122	eP	Pn	06 09 17.0	+1.3
LKR	Lokris	2.50	356	eP	Pn	06 09 18.0	+0.7
LKR				eS	Sn	06 09 45.9	-0.8
VLS	Valsamata	2.92	315	eP	Pn	06 09 24.0	+1.0
KARP	Karpathos	3.25	100	eP	Pn	06 09 28.0	+0.5
KARP				eS	Sn	06 10 04.8	-0.3
SMG	Samos	3.28	61	eP	Pn	06 09 27.3	-0.6
ARG	Arkhangelos	3.96	88	eP	Pn	06 09 39.3	+2.1
DABA	Dabaa	6.64	139	P	Pn	06 10 12.0	-1.8
SWA2		7.14	164	P	Pn	06 10 20.0	-0.6
SWA1		7.18	162	P	Pn	06 10 20.4	-0.8
GLL	Jalalah	9.69	130	P	Pn	06 10 53.1	-2.2
HFRF	Wahat Farafira	9.97	153	P	Pn	06 10 57.4	-1.8

---

*ISCJB **10** 06:11:25.2±2.7, 387N±02×713E±0.1, h100km, Error ellipse: s-maj=27.9km s-min=11.2km az=48.1*
*NNC **10** 06:11:26.5±4.7, 3872N×7131E, h109km±108km, mb2.7, mpv3.2, Error ellipse: s-maj=67.0km s-min=23.6km az=43.0*
ISC 10 06:11:26.0±2.8**, 387N**±02×**713E**±01**, h100**km**, n11, σ0§85**/13**, 2C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.90	28	P	Pn	06 12 23.3	-0.5
	SNR=7.4						
EKS2	Erkin-Say	4.39	25	P	Pn	06 12 29.8	-0.7
	SNR=7.2						
KK31	Karatay Array	4.43	353	⇑P	Pn	06 12 31.4	+0.4
	12nm,0.6s,baz=188,slow=15,SNR=21						
KK31				⇓S	Sn	06 13 22.7	+1.2
	10nm,0.4s						
KZA	Kyzart	4.55	41	P	Pn	06 12 32.7	+0.1
	SNR=7.2						
AAK	Ala-Archa	4.63	31	P	Pn	06 12 34.6	+0.9
	SNR=9.8						
KBK	Karagaybulak	4.85	34	P	Pn	06 12 37.0	+0.3
	SNR=9.6						
CHMS	Chumysh	5.04	31	P	Pn	06 12 38.6	-0.7
	SNR=13						
USP	Ospenovka	5.18	27	P	Pn	06 12 40.2	-1.0
	SNR=15						
TKM2	Tokmak 2	5.35	37	P	Pn	06 12 43.9	+0.5
	SNR=11						
TKM2	Tokmak 2	5.35	37	⇑P	Pn	06 12 43.4	-0.1
	0.5nm,0.6s						
AB31	Akbulak array	13.31	326	P	Pn	06 14 32.2	+1.3
	0.5nm,0.5s,baz=139,slow=7.7,SNR=9.8						
AB31				S	Sn	06 16 55.8	-1.5
	2.4nm,0.6s,baz=138,slow=25,SNR=8.6						

---

*IDC **10** 06:12:05.9±0.5, 2444N×9444E, h0km, mb4.3/22, mb1 4.5/22, mb1mx4.4/28, mbtmp4.3/22, Error ellipse: s-maj=26.8km s-min=13.0km az=53.0*
*ISCJB **10** 06:12:14.6±0.6, 2446N±005×9431E±004, h80km±5km, mb4.2/46, Error ellipse: s-maj=9.1km s-min=5.3km az=52.7*
*NEIC **10** 06:12:18.1±0.7, 2464N×9460E, h96km±6km, mb4.2/23, Error ellipse: s-maj=8.9km s-min=4.7km az=54.0*
*BJI **10** 06:12:18.2, 2503N×9452E, h74km, mb4.6*
ISC 10 06:12:16.3±0.5**, 2450N**±005×**9428E**±004**, h76**km±4km**, n128, σ1§09**/127**, mb4.2**/46**, 35C-1D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.42	312	i P	Pn	06 12 30.0	+1.1
IMP				i x	x	06 12 47.0	
SHL	Shillong	2.42	297	i P	Pn	06 12 55.0	+1.3
SHL				eS	Sn	06 13 22.0	-0.3
AGT	Agartala	2.83	258	i P	Pn	06 13 03.0	+3.8
AGT				i x	x	06 13 28.0	
SLGI	Shiliguri	5.73	294	ex	x	06 14 41.8	
GTK	Gangtok	5.83	300	ex	x	06 13 55.0	
GTK				ex	x	06 15 10.0	
LSA	Lhasa	5.88	332	P	Pn	06 13 41.8	+1.0
LSA				S	Sn	06 14 43.1	-3.7
LSA				Smax			
	comp=N,80nm,0.9s						
LSA				Smax			
	comp=E,130nm,0.6s						
LSA	Lhasa	5.88	332	ePn	Pn	06 13 41.4	+0.5
	comp=E,279nm,0.4s						
CHG	Chiang Mai	7.13	142	⇑P	Pn	06 14 04.5	+6.7
	comp=E,37nm,0.8s						
CHTO	Chiang Mai	7.13	142	ePn	Pn	06 13 58.1	+0.3
	comp=E,5.2nm,0.4s						
CM31	Chiang Mai Arr	7.42	143	ePn	Pn	06 14 04.3	+2.5
BOK	Bokaro	7.70	266	eP	Pn	06 14 06.7	+1.1
BOK				eS	Sn	06 15 29.3	-1.9
BOK				AML	AML	06 15 35.7	
	comp=N,196nm,0.1s						
BOK				AML	AML	06 15 35.9	
	comp=E,121nm,0.2s						
KMI	Kunming	7.71	84	P	Pn	06 14 06.7	+0.9
KMI				AMB	AMB		
	comp=Z,28nm,1.2s						
JIRN	Jiri	7.92	295	ePn	Pn	06 14 09.8	+1.1
JIRN				eSn	Sn	06 15 36.1	-0.7
	comp=Z,513nm,0.4s						
NANT	Nan	8.23	132	⇑P	Pn	06 14 11.0	-1.9
	comp=Z,200nm,1.0s						
GUN	Gumba	8.27	296	ePn	Pn	06 14 14.4	+0.9
GUN				eSn	Sn	06 15 44.3	-1.0
	comp=Z,336nm,0.4s						
PKI	Pulchoki	8.54	293	ePn	Pn	06 14 18.0	+0.8
PKI				eSn	Sn	06 15 48.9	-3.0
	comp=Z,178nm,0.4s						
KKN	Kakani	8.72	294	ePn	Pn	06 14 20.2	+0.6
KKN				eSn	Sn	06 15 53.8	-2.5
	comp=Z,119nm,0.2s						
DMN	Daman	8.81	293	ePn	Pn	06 14 21.2	+0.4
DMN				eSn	Sn	06 15 56.5	-1.9
	comp=Z,171nm,0.3s						
GKN	Gorkha	9.33	294	ePn	Pn	06 14 28.2	+0.3
GKN				eSn	Sn	06 16 08.4	-2.8
	comp=Z,392nm,0.4s						
KOLN	Koldanda	10.13	291	ePn	Pn	06 14 38.6	-0.2
KOLN				eSn	Sn	06 16 27.3	-3.4
	comp=Z,154nm,0.4s						
GYA	Guiyang	11.36	77	P	Pn	06 14 53.6	-2.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
VIS	Vishakhapatnam	12.24	239	eP	Pn	06 15 08.5	+0.9
VIS				eS	Sn	06 17 14.0	-8.0
JBP	Jabalpur	13.15	267	⇑ix	x	06 15 22.7	
JBP				i x	x	06 17 42.9	
LGTI	Lohaghat	13.45	295	eP	Pn	06 15 24.5	+0.8
LGTI				ex	x	06 17 51.0	
LZH	Lanzhou	14.19	33	eP	Pn	06 15 26.2	-7.3
LZH				AP		06 15 37.5	
LZH				AMB	AMB		
	comp=Z,16nm,1.2s						
NGP	Nagpur	14.43	260	eP	Pn	06 15 35.2	-1.5
NGP				ex	x	06 18 07.5	
BHPL	Bhopal	15.47	269	eP	Pn	06 15 50.1	+0.1
BHPL				ex	x	06 18 32.4	
GTA	Gaotai	15.59	16	eP	Pn	06 15 52.7	+1.2
GTA				AP	pP	06 15 56.2	-13
GTA				AMB	AMB		

comp=Z,5.0nm,0.8s
NDI New Delhi 15.82 289 eP Pn 06 15 54.1 -0.3
NDI ex x 06 18 39.0
HYB Hyderabad 16.28 247 i P Pn 06 16 06.5 +6.3
HYB e 06 18 51.0
HYB eS S 06 19 04.0 -4.4
HYB Hyderabad 16.28 247 eP Pn 06 16 06.5 +6.3
AKL Akola 16.38 260 ex x 06 18 55.1
SMLA Simla 16.51 297 eP Pn 06 16 00.9 -2.1
SMLA ex x 06 18 51.6
AJM Ajmer 17.84 281 eP Pn 06 16 19.2 -0.1
AJM ex x 06 19 19.9
MKAR Makanchi Array 24.23 340 P P 06 17 25.8 -0.2
comp=Z,2.9nm,0.5s,mb3.9,baz=153,slow=9.1,SNR=30
MKAR PcP PcP 06 21 04.1 -0.4
comp=Z,0.2nm,0.3s,baz=248,slow=15,SNR=5.3
MKAR Makanchi Array 24.23 340 P P 06 17 25.8 -0.2
MKAR PcP PcP 06 21 04.1 -0.4
AAK Ala-Archa 24.37 323 eP P 06 17 28.7 +1.5
SONM Songino Array 25.20 19 P P 06 17 33.7 -1.0
comp=Z,1.9nm,0.4s,mb3.9,baz=193,slow=10,SNR=23
ULN Ulaanbaatar 25.43 20 eP P 06 17 35.5 -1.3
comp=Z,3.3nm,0.4s,mb4.1
ZAL Zalesovo 30.25 349 P P 06 18 20.4 +0.6
comp=Z,1.7nm,0.4s,mb4.1,baz=295,slow=5.9,SNR=4.6
BVAR Borovoye Array 33.72 334 P P 06 18 50.7 +0.4
comp=Z,0.6nm,0.5s,mb3.7,baz=141,slow=12,SNR=4.4
BVAR PcP PcP 06 21 28.1 -0.2
comp=Z,0.6nm,0.4s,baz=134,slow=4.3,SNR=4.4
CHKZ Chkalovo 34.12 335 eP P 06 18 53.8 +0.1
comp=Z,1.3nm,0.4s,mb4.1
ZRNK Zerenda 34.23 333 eP P 06 18 54.6 -0.1
comp=Z,1.2nm,0.5s,mb4.0
AKTK Aktyubinsk 38.11 322 P P 06 19 28.5 +0.7
AKTO Aktyubinsk 38.11 322 P P 06 19 28.5 +0.7
comp=Z,1.0nm,0.4s,mb4.0,baz=106,slow=8.9,SNR=3.4
BRTR Keskin Array B 52.63 302 P P 06 21 21.9 -0.6
comp=Z,0.6nm,0.5s,mb3.9,baz=113,slow=9.5,SNR=3.9
AKASG Malin Array Be 55.77 316 P P 06 21 44.5 -0.7
comp=Z,0.8nm,0.3s,mb4.2,baz=75,slow=7.8,SNR=4.7
JOF Joensuu 56.21 331 ep P 06 21 47.7 -0.8
VRI Vrincioaia 57.45 310⇑iP P 06 21 59.4 +2.2
PLOR Plostina 57.50 310⇓iP P 06 21 59.7 +2.1
MLR Muntele Rosu 58.02 310 P P 06 22 03.1 +1.9
comp=Z,4.9nm,0.7s,mb4.6,baz=127,slow=3.9,SNR=6.3
MLR Muntele Rosu 58.02 310⇑iP P 06 22 03.1 +1.9
KAF Kangasniemi 58.36 329 ep P 06 22 03.0 -0.6
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 58.39 328 P P 06 22 03.6 -0.2
comp=Z,3.0nm,0.5s,mb4.6,baz=89,slow=5.5,SNR=37
WRA Warramunga Arr 58.93 135 P P 06 22 06.5 -1.0
comp=Z,7.7nm,0.5s,mb5.0,baz=323,slow=7.5,SNR=24
WB2 Warramunga Arr 58.93 135⇑iP P 06 22 06.5 -1.1
KEV Kevo 59.40 338 ep P 06 22 09.9 -0.9
comp=Z,0.9nm,0.3s,mb4.3
ARCES ARCESS Array B 59.87 338 P P 06 22 13.6 -0.4
comp=Z,1.4nm,0.6s,mb4.2,baz=98,slow=7.5,SNR=13
MUN Mundaring 59.94 158⇑iP P 06 22 14.0 -0.5
IDI Anoyia 60.03 298 P P 06 22 15.9 +0.7
comp=Z,4.6nm,0.3s,mb5.0,baz=29,slow=19,SNR=16
ASPA Alice Springs 61.39 138 eP P 06 22 23.6 -0.8
AS31 Alice Springs 61.39 138 eP P 06 22 23.4 -1.0
AS31 ePcP PcP 06 23 02.4 -3.5
ASAR Alice Springs 61.40 138 P P 06 22 23.7 -0.7
comp=Z,8.1nm,0.7s,mb4.9,baz=321,slow=6.9,SNR=90
VRAC Vranov 63.96 315 P P 06 22 42.5 +1.0
comp=Z,4.3nm,0.7s,mb4.4,baz=79,slow=5.6,SNR=7.1
VRAC Vranov 63.96 315 P P 06 22 42.5 +1.0
NB2 NORSAR Subarra 65.56 328 P P 06 22 50.2 -1.6
comp=Z,2.0nm,0.5s,mb4.2,baz=83,slow=6.5
NOA NORSAR Array B 65.56 328 P P 06 22 51.1 -0.7
comp=Z,3.4nm,0.7s,mb4.3,baz=85,slow=6.4,SNR=14
GERES GERESS Array B 65.91 314 P P 06 22 54.7 +0.6
comp=Z,2.4nm,0.6s,mb4.2,baz=70,slow=6.2,SNR=23
CDF Champ du Feu 70.17 315⇑iP P 06 23 20.8 0.0
comp=Z,4.2nm,0.5s,mb4.2
CDF Champ du Feu 70.17 315⇑iP P 06 23 20.8 0.0
comp=Z,2.1nm,0.5s,mb4.2
HAU Haudompre 70.87 315 eP P 06 23 25.1 0.0
GIVF Givet 71.27 317 eP P 06 23 27.6 +0.1
LPG La Plagne 71.29 312⇑iP P 06 23 28.3 +0.7
comp=Z,3.9nm,0.6s,mb4.1
LPG La Plagne 71.29 312⇑iP P 06 23 28.3 +0.7
comp=Z,2.0nm,0.6s,mb4.1
LPL La Plagne 71.30 312⇑iP P 06 23 28.3 +0.7
comp=Z,5.8nm,0.6s,mb4.3
LPL La Plagne 71.30 312⇑iP P 06 23 28.3 +0.7
comp=Z,2.9nm,0.6s,mb4.3
CABF La Chapelle 71.42 313 eP P 06 23 28.7 +0.3
comp=Z,3.2nm,0.6s,mb4.0
CABF La Chapelle 71.42 313 eP P 06 23 28.7 +0.3
comp=Z,1.6nm,0.6s,mb4.0
MBDF Montbardon 71.49 311 eP P 06 23 30.7 +1.9
comp=Z,4.8nm,0.8s,mb4.1
MBDF Montbardon 71.49 311 eP P 06 23 30.7 +1.9
comp=Z,2.4nm,0.8s,mb4.1
MEZF Maizieres J'vi 71.57 315⇑iP P 06 23 29.6 +0.3
comp=Z,7.2nm,0.4s,mb4.5
MEZF Maizieres J'vi 71.57 315⇑iP P 06 23 29.6 +0.3
comp=Z,7.2nm,0.4s,mb4.9
BAIF Baives 71.67 317 eP P 06 23 30.2 +0.3
STKA Stephens Creek 72.02 139 eP P 06 23 30.6 -1.4
comp=Z,2.9nm,1.0s,mb4.1
STKA Stephens Creek 72.02 139 P P 06 23 30.7 -1.3
comp=Z,1.6nm,0.4s,mb4.2,baz=318,slow=7.6,SNR=8.4
ORIF Oris-en-Rattie 72.04 312 eP P 06 23 32.0 -0.1
KEST Kesra 72.23 302 P P 06 23 34.6 +1.4
comp=Z,0.7nm,0.5s,mb3.8,baz=68,slow=2.8,SNR=4.8
LOR Lormes 72.70 314⇑iP P 06 23 35.6 -0.4
comp=Z,2.9nm,0.6s,mb4.0
LOR Lormes 72.70 314⇑iP P 06 23 35.6 -0.4
comp=Z,1.5nm,0.6s,mb4.0
VIVF Saint-Julien-l 72.88 312 eP P 06 23 37.3 +0.2
SMF Signal de Mont 72.90 314⇑iP P 06 23 37.1 -0.1
comp=Z,4.8nm,0.5s,mb4.3
SMF Signal de Mont 72.90 314⇑iP P 06 23 37.1 -0.1
comp=Z,2.4nm,0.5s,mb4.3
AVF Avril sur Loir 73.17 314⇑iP P 06 23 39.5 +0.7
comp=Z,2.7nm,0.5s,mb4.0
AVF Avril sur Loir 73.17 314⇑iP P 06 23 39.5 +0.7
comp=Z,1.4nm,0.5s,mb4.0
BGF Bois d'Agland 73.58 314 eP P 06 23 41.8 +0.6
LASF Ste Croix 73.68 311⇑iP P 06 23 42.2 +0.4
comp=Z,5.1nm,0.8s,mb4.0
TCF Toulx Ste Croi 74.08 314⇑iP P 06 23 44.6 +0.5
comp=Z,3.1nm,0.4s,mb4.1
TCF Toulx Ste Croi 74.08 314⇑iP P 06 23 44.6 +0.5
comp=Z,1.5nm,0.4s,mb4.1
EKA Eskdalemuir Ar 74.27 324 P P 06 23 45.5 +0.2
comp=Z,2.7nm,0.7s,mb4.1,baz=70,slow=5.7,SNR=11
CAF Calviac 74.62 313⇑iP P 06 23 47.8 +0.5
comp=Z,2.9nm,0.5s,mb4.0
CAF Calviac 74.62 313⇑iP P 06 23 47.8 +0.5
comp=Z,1.5nm,0.5s,mb4.0
LDF La Druitiere 74.81 317⇑iP P 06 23 48.2 -0.2
RJF Les Rejaudoux 74.86 313⇑iP P 06 23 49.4 +0.7
comp=Z,5.4nm,0.6s,mb4.2
RJF Les Rejaudoux 74.86 313⇑iP P 06 23 49.4 +0.7
comp=Z,2.7nm,0.6s,mb4.2
MTLF Montolieu 75.04 311⇑iP P 06 23 50.0 +0.3
comp=Z,5.3nm,0.7s,mb4.1
MTLF Montolieu 75.04 311⇑iP P 06 23 50.0 +0.3
comp=Z,2.7nm,0.7s,mb4.1
GRR Gorron 75.34 317 eP P 06 23 51.5 +0.1
LFF La Frestale 75.50 313⇑iP P 06 23 53.0 +0.7
comp=Z,6.4nm,0.5s,mb4.3
LFF La Frestale 75.50 313⇑iP P 06 23 53.0 +0.7
comp=Z,3.2nm,0.5s,mb4.3
ROSF Rostrenen 76.86 317 eP P 06 24 00.3 +0.2
comp=Z,6.8nm,0.6s,mb4.3
ETSF Etsaut 77.10 311⇑iP P 06 24 02.1 +0.7
comp=Z,3.5nm,0.4s,mb4.1
ETSF Etsaut 77.10 311⇑iP P 06 24 02.1 +0.7
comp=Z,1.8nm,0.4s,mb4.2
COLA College 78.99 23 eP P 06 24 10.1 -1.7
comp=Z,3.6nm,0.9s,mb4.2
MCK McKinley 79.25 24 eP P 06 24 10.7 -2.6
comp=Z,1.8nm,0.4s,mb4.2
ESDC Sonseca Array 80.71 309 P P 06 24 21.4 +0.2
comp=Z,0.2nm,0.4s,mb3.3,baz=58,slow=5.6,SNR=5.7
EGAK Eagle 81.31 21 eP P 06 24 22.6 -1.7
BOSA Boshof 84.82 236 P P 06 24 44.6 +2.2
comp=Z,2.4nm,0.7s,mb4.2,baz=161,slow=8.0,SNR=6.7
YKA Yellowknife Ar 90.30 13 P P 06 25 06.8 -1.9
comp=Z,0.3nm,0.5s,mb3.6,baz=359,slow=5.5,SNR=6.8
YKA Yellowknife Ar 90.30 13 P P 06 25 06.8 -1.9

MNTX Cornudas Mount 121.04 20 eP PKPdf 06 30 59.8 -0.3
JCT Junction City 123.69 15 ePKPdf PKPdf 06 31 04.8 -0.4
BDFB Brasilia 143.60 277 PKP PKPdf 06 31 42.4 +0.1
comp=Z,1.6nm,0.7s,baz=355,slow=16,SNR=3.8
SDV Santo Domingo 143.70 334 PKP PKPdf 06 31 42.1 -0.3
comp=Z,11nm,0.4s,baz=58,slow=4.1,SNR=22
JTS JuntasAbangare 145.42 359 PKPbc PKPbc 06 31 42.7 -2.8
comp=Z,1.5nm,0.4s,baz=323,slow=18,SNR=4.7
ROSC El Rosal 148.78 338 PKPbc PKPbc 06 31 57.3 +2.3
comp=Z,8.0nm,0.4s,baz=71,slow=18,SNR=16
ROSC El Rosal 148.78 338 ePKPbc PKPbc 06 31 57.1 +2.0
CPUP Villa Florida 154.31 260 PKPbc PKPbc 06 32 07.2 -0.6
comp=Z,1.3nm,0.6s,baz=119,slow=3.1,SNR=7.4
LPAZ La Paz 161.61 293 PKP PKPdf 06 32 10.2 +1.8
comp=Z,1.0nm,0.8s,baz=30,slow=20,SNR=5.1

MOS **10** *06:35:48.1±0.8, 58.00S×25.72W, h33km, mb5.3/11, Error ellipse: s-maj=25.3km s-min=11.3km az=103.7*
ISCJB **10** *06:35:52.8±0.3, 58.07S±0.05×25.9W±0.1, h77km, mb5.0/27, Error ellipse: s-maj=9.5km s-min=6.0km az=112.6*
BJI **10** *06:35:53.2, 58.36S×24.85W, h76km, mB5.2, Ms5.3, Msz5.0*
IDC **10** *06:35:54.3±0.5, 58.04S×25.88W, h78km±4km, mb4.7/16, mb1 4.8/18, mb1mx4.7/20, mbtmp5.0/18, MS4.2/18, Ms1 4.2/18, ms1mx4.2/18, Error ellipse: s-maj=15.1km s-min=11.1km az=58.0*
GCMT **10** *06:35:54.2±0.2, 58.08S×25.42W, h85km±2km, MW5.2/78, Moment Tensor Solution. s59,c86; s78,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.85±.19; Mθθ3.09±.20; Mφφ-4.94±.19; Mrθ2.54±.11; Mθφ-1.40±.20; Mφr-5.22±.10; Best double couple: M0 7.33300×10^16 NP1:φs51.00000°, δ34.00000°, λ164.00000°. NP2: φs154.00000°, δ81.00000°, λ57.00000°. Principal axes: T 6.8930, Plg44.0000°, Azm32.0000°; N 0.8790, Plg32.0000°, Azm160.0000°; P -7.7720, Plg28.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **10** *06:35:54.2±0.2, 58.04S×25.81W, mb5.1/19 Error ellipse: s-maj=7.4km s-min=6.1km az=46.0*
ISC 10 06:35:54.3±0.3, **58.12S**±0.05×**25.9W**±0.1, **h79**km±1.8km**:pP-P, n185,** σ0.85/82, **mb5.0**/27, **4C-4D,**
South Sandwich Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HOPE Hope Point 7.03 299 Pn Pn 06 37 38.2 +3.7
1μm,0.8s,SNR=17
HOPE Hope Point 7.03 299 Pn Pn 06 37 38.7 +4.2
VNA1 Neumayer--Stat 14.62 156⇓iPn Pn 06 39 15.9 -1.1
VNA1 e 06 39 17.7
VNA1 e 06 39 20.8
VNA1 e 06 39 25.6
VNA1 e 06 39 31.8
VNA1 e 06 39 36.3
VNA1 e 06 39 41.1
VNA1 e 06 39 44.1
VNA1 e 06 39 47.2
VNA1 e 06 39 49.0
VNA1 e 06 40 01.8
VNA1 e 06 41 54.1
VNA1 eS Sn 06 41 58.6 +0.8
VNA1 eS Sn 06 42 10.2 +12
VNA1 e 06 42 18.7
VNA1 e 06 42 39.1
VNA1 e 06 44 26.0
VNA1 e 06 47 51.2
VNA1 e 06 47 57.0
VNA1 e 06 51 27.1
VNA1 e 06 51 31.5
VNA1 e 06 52 02.4
VNA1 e 06 52 07.1
VNA1 e 06 52 19.0
VNA1 e 06 52 39.5
VNA1 e 06 52 47.6
SNAA Sanae 16.57 154 P Pn 06 39 41.4 -0.3
3.4nm,0.3s,baz=324,slow=11,SNR=116
SNAA S S 06 42 35.3 -17
0.4nm,0.3s,baz=9.5,slow=18,SNR=4.4
SNAA LR LR 06 44 39.9
comp=Z,409nm,21.3s,baz=217,slow=32
SNAA ScP ScP 06 47 53.4 -2.0
0.0nm,0.3s,baz=360,slow=4.6,SNR=4.2
SNAA Sanae 16.57 154⇓iPn Pn 06 39 41.7 0.0
SNAA e 06 39 42.7
SNAA e 06 39 45.0
SNAA e 06 39 50.6
SNAA e 06 39 53.9
SNAA e 06 39 58.9
SNAA e 06 40 01.8
SNAA e 06 40 03.6
SNAA e 06 40 04.4
SNAA e 06 40 08.8
SNAA e 06 40 18.8
SNAA e 06 42 40.7
SNAA eS S 06 42 46.5 -5.5
SNAA eS S 06 42 52.8 +0.8
SNAA eS S 06 43 12.7 +21
SNAA e 06 44 27.4
SNAA e 06 47 54.6
SNAA e 06 48 01.8
SNAA e 06 51 32.8
SNAA e 06 51 40.6
SNAA e 06 52 03.9
SNAA e 06 52 12.5
SNAA e 06 52 40.7
SNAA e 06 55 43.8
SNAA Sanae 16.57 154 eP Pn 06 39 40.9 -0.8
SNAA e 06 42 33.5
SNAA Sanae 16.57 154 eP Pn 06 39 40.9 -0.8
SNAA eSn Sn 06 42 33.5 -12
SNAA eScP ScP 06 47 53.6 -1.8
PMSA Palmer Station 19.14 234 P Pn 06 40 13.1 +0.2
1.5nm,0.3s,baz=87,slow=9.4,SNR=7.0
PMSA LR LR 06 46 25.6
comp=Z,2μm,21.9s,baz=73,slow=33
PMSA Palmer Station 19.14 234 eP Pn 06 40 13.5 +0.7
49nm,0.8s
EFI East Falkland 19.43 275 Pn Pn 06 40 16.1 -0.2
863nm,0.9s,SNR=10
EFI East Falkland 19.43 275 eP Pn 06 40 15.9 -0.4
EFI pmax pmax
comp=Z,101nm,0.7s
EFI East Falkland 19.43 275 eP Pn 06 40 15.9 -0.3
comp=Z,101nm,0.7s
MAIT Maitri 20.14 144 eP P 06 40 22.4 +0.4
NVL N'lazarevskaya 20.17 144c iP P 06 40 21.2 -1.1
NVL i 06 44 11.2
NVL pmax pmax
comp=Z,59nm,1.5s
NVL MLR MLR
comp=Z,743nm,20.6s
SYO Syowa Base 29.56 138⇓eP P 06 41 49.8 -1.7
SYO Syowa Base 29.56 138⇓epP pP 06 42 05.6 -4.3
TRQA Tornquist 30.79 295 eP P 06 42 02.1 -0.3
comp=Z,8.0nm,0.8s,mb4.5
QSPA South Pole Qui 32.13 180 eP P 06 42 14.7 +0.5
comp=Z,17nm,0.8s,mb4.8
PLCA Paso Flores 33.07 282 P P 06 42 22.8 +0.4
comp=Z,30nm,1.1s,mb5.0,baz=143,slow=7.8,SNR=22
PLCA ScP ScP 06 48 41.5 +0.2
comp=Z,1.1nm,0.6s,baz=64,slow=2.2,SNR=4.2
PLCA LR LR 06 56 07.5
comp=Z,476nm,18.7s,baz=137,slow=37
PLCA Paso Flores 33.07 282 P P 06 42 22.8 +0.4
PLCA pmax pmax
comp=Z,30nm,1.1s
PLCA pmax pmax
comp=N,1.0nm,0.6s
PLCA MLR MLR
comp=Z,476nm,18.7s
PLCA Paso Flores 33.07 282 eP P 06 42 22.6 +0.2
comp=Z,41nm,1.2s,mb5.1
PLCA epP pP 06 42 43.2 +2.3
MAW Mawson 38.09 142⇑iP P 06 43 04.8 -0.5
comp=Z,14nm,0.8s,mb4.8
MAW Mawson 38.09 142 P P 06 43 05.0 -0.4
comp=Z,16nm,0.8s,mb4.9,baz=238,slow=7.7,SNR=33
MAW PcP PcP 06 45 19.1 +0.1
comp=Z,8.9nm,1.0s,baz=261,slow=6.9,SNR=4.9
MAW ScP ScP 06 48 58.3 -1.3
comp=Z,2.5nm,0.7s,baz=306,slow=4.9,SNR=4.4

MAW LR LR 06 57 06.5
comp=Z,428nm,18.4s,baz=251,slow=33
MAW Mawson 38.09 142 P P 06 43 05.0 -0.3
MAW 06 45 19.1
MAW 06 48 58.3
MAW pmax pmax
comp=Z,16nm,0.8s
MAW pmax pmax
comp=Z,9.0nm,1.0s
MAW pmax pmax
comp=N,3.0nm,0.7s
CPUP Villa Florida 38.70 312 P P 06 43 09.1 -1.4
comp=N,8.6nm,0.7s,mb4.7,baz=140,slow=8.0,SNR=30
CPUP ScP ScP 06 48 58.8 -3.1
comp=N,2.1nm,0.9s,baz=124,slow=5.4,SNR=4.0
CPUP LR LR 06 56 40.2
comp=N,174nm,18.7s,baz=139,slow=32
CPUP Villa Florida 38.70 312 eP P 06 43 09.3 -1.2
CPUP e 06 45 21.8
CPUP pmax pmax
comp=Z,46nm,0.8s
CPUP Villa Florida 38.70 312 eP P 06 43 09.2 -1.2
comp=Z,46nm,0.8s,mb5.4
CPUP ePcP PcP 06 45 21.8 +0.9
SUR Sutherland 40.58 71 eP P 06 43 27.2 +1.1
comp=Z,59nm,1.0s,mb5.4
SBA Scott Base 44.06 184 eP P 06 43 55.3 +1.0
SBA e*PP pP 06 44 13.0 -0.5
SBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
SBA Scott Base 44.06 184 eP P 06 43 55.3 +1.0
comp=Z,8.6nm,0.8s,mb4.5
SBA epP pP 06 44 13.0 -0.5
SBA esP sP 06 44 21.2 -1.3
VNDA Vanda 44.53 182 P P 06 43 58.9 +0.8
comp=Z,16nm,0.7s,mb4.9,baz=186,slow=6.6,SNR=176
VNDA ScP ScP 06 49 23.7 -1.4
comp=Z,3.7nm,1.1s,baz=197,slow=3.6,SNR=4.7
VNDA LR LR 07 02 31.3
comp=Z,60nm,19.2s,baz=176,slow=36
VNDA Vanda 44.53 182 eP P 06 43 59.0 +0.9
VNDA pmax pmax
comp=Z,15nm,0.7s
VNDA Vanda 44.53 182 eP P 06 43 59.0 +0.9
comp=Z,15nm,0.7s,mb4.8
VNDA epP pP 06 44 18.9 +1.6
BAO Brasilia Array 45.50 330 P P 06 43 57.0 -8.8
BDFB Brasilia 45.50 329 P P 06 44 06.2 +0.4
comp=Z,9.1nm,0.6s,mb4.7,baz=147,slow=4.6,SNR=20
BDFB PcP PcP 06 45 44.2 +0.8
comp=Z,5.9nm,0.7s,baz=268,slow=1.7,SNR=4.4
BDFB LR LR 07 00 00.0
comp=Z,191nm,21.9s,baz=196,slow=32
BDFB Brasilia 45.50 329 eP P 06 44 06.3 +0.5
BDFB e 06 45 44.4
BDFB pmax pmax
comp=Z,25nm,1.4s
BDFB Brasilia 45.50 329 eP P 06 44 06.3 +0.5
comp=Z,24nm,1.4s,mb4.7
BDFB ePcP PcP 06 45 44.4 +1.0
BOSA Boshof 45.87 73 P P 06 44 08.3 -0.4
comp=Z,41nm,1.0s,mb5.1,baz=210,slow=8.1,SNR=28
BOSA LR LR 06 59 14.1
comp=Z,752nm,21.9s,baz=226,slow=31
BOSA Boshof 45.87 73 eP P 06 44 08.4 -0.3
BOSA pmax pmax
comp=Z,52nm,1.1s,mb5.2
BOSA Boshof 45.87 73 eP P 06 44 08.4 -0.3
comp=Z,52nm,1.1s,mb5.2
MIR Mirnyy 47.63 152c iP P 06 44 23.0 +0.6
MIR pmax pmax
comp=Z,200nm,1.8s,mb5.7
LBTB Lobatse 49.01 70 eP P 06 44 32.7 -0.3
LBTB e 06 45 56.4
LBTB pmax pmax
comp=Z,57nm,1.0s,mb5.5
LBTB Lobatse 49.01 70 eP P 06 44 32.7 -0.3
comp=Z,58nm,1.0s,mb5.5
LBTB ePcP PcP 06 45 56.4 +0.6
SIV San Ignacio 49.50 313 P P 06 44 35.5 -1.2
comp=Z,5.4nm,0.7s,mb4.6,baz=151,slow=9.3,SNR=28
SIV ScP ScP 06 49 43.7 -2.2
comp=Z,3.0nm,1.0s,baz=98,slow=7.0,SNR=6.2
TSUM Tsumeb 50.15 58 eP P 06 44 42.0 +0.3
comp=Z,44nm,1.0s,mb5.3
LPAZ La Paz 52.13 305 P P 06 44 56.5 -0.1
comp=Z,16nm,0.7s,mb5.2,baz=158,slow=5.8,SNR=64
LPAZ La Paz 52.13 305 eP P 06 44 56.5 -0.1
LPAZ pmax pmax
comp=Z,15nm,0.7s
LPAZ La Paz 52.13 305 eP P 06 44 56.5 -0.1
comp=Z,15nm,0.7s,mb5.1
LSZ Lusaka 58.52 66 ⇑P P 06 45 42.6 +0.2
SNR=13
LSZ Lusaka 58.52 66 eP P 06 45 42.4 0.0
LSZ epP pP 06 46 03.2 +0.8
RPN Rapa Nui 63.98 260 LR LR 07 08 15.5
comp=Z,179nm,21.9s,baz=144,slow=30
DBIC Dimbokro 66.79 23 P P 06 46 37.5 +0.1
comp=Z,46nm,0.7s,mb5.5,baz=172,slow=6.8,SNR=83
DBIC LR LR 07 08 29.4
comp=Z,222nm,22.0s,baz=172,slow=29
DBIC Dimbokro 66.79 23 eP P 06 46 37.8 +0.4
DBIC pmax pmax
comp=Z,54nm,0.7s
DBIC Dimbokro 66.79 23 eP P 06 46 37.8 +0.4
comp=Z,54nm,0.7s,mb5.5
ROSC El Rosal 73.75 309 P P 06 47 19.8 -0.1
comp=Z,5.8nm,0.7s,mb4.4,baz=111,slow=5.5,SNR=12
ROSC LR LR 07 19 48.3
comp=Z,150nm,20.1s,baz=146,slow=36
ROSC El Rosal 73.75 309 eP P 06 47 19.3 -0.6
TOA0 Torodi Ar. Sit 74.54 28 eP P 06 47 24.8 +0.3
TORD Torodi Ar. Bea 74.54 28 P P 06 47 24.9 +0.3
comp=Z,70nm,0.7s,mb5.5,baz=198,slow=6.6,SNR=742
TORD pP pP 06 47 45.2 -0.1
comp=Z,15nm,0.7s,baz=195,slow=5.9,SNR=3.3
TORD LR LR 07 13 27.6
comp=Z,157nm,21.2s,baz=185,slow=30
KMBO Kilima Mbogo 75.17 67 P P 06 47 31.8 +3.6
comp=Z,9.2nm,1.1s,mb4.4,baz=206,slow=5.2,SNR=10
KMBO LR LR 07 18 07.1
comp=Z,332nm,19.0s,baz=271,slow=34
KMBO Kilima Mbogo 75.17 67 i P P 06 47 32.0 +3.9
KMBO pmax pmax
comp=Z,9.0nm,1.1s
SDV Santo Domingo 75.95 314 eP P 06 47 32.1 -0.5
comp=Z,16nm,0.8s,mb4.8
SDV epP pP 06 47 52.5 -0.9
RPZ Rata Peaks 77.55 193 P P 06 47 42.0 +0.4
comp=Z,15nm,0.9s,mb4.7,baz=184,slow=3.3,SNR=3.7
TBG Guadaloupe-3 79.36 325 eP P 06 47 53.2 +1.6
SCG Saint Claude 79.53 325 eP P 06 47 54.4 +1.9
RKT Rikitea 80.13 242 eS S 06 58 03.3 +9.3
comp=Z,92nm,30.0s
RKT eLR LR 07 13 06.8
comp=Z,847nm,32.2s,baz=158
URZ Urewera 82.06 198 P P 06 48 07.2 +1.3
comp=Z,11nm,0.7s,mb4.8,baz=187,slow=6.6,SNR=5.2
MTP Monte Pirata 82.69 322 eP P 06 48 07.6 -1.6
HUMP Col San Antoni 82.83 322 eP P 06 48 09.2 -0.7
SJG San Juan 82.90 322 P P 06 48 10.6 +0.2
comp=Z,7.7nm,0.6s,mb4.7,baz=17,slow=6.6,SNR=5.3
CBYP Canovanas 82.95 322 eP P 06 48 09.8 -0.9
MUN Mundaring 84.80 148 eP P 06 48 19.6 -0.4
TBI Tubuai 86.30 230 eLR LR 07 15 54.9
comp=Z,259nm,41.2s,baz=160
FORT Forrest 88.80 158 eP P 06 48 39.7 +0.3
comp=Z,41nm,0.8s,mb5.5
STKA Stephens Creek 89.74 169 eP P 06 48 43.6 -0.2
comp=Z,4.9nm,0.8s,mb4.7
STKA e pP 06 49 04.7 -0.5
STKA Stephens Creek 89.74 169 P P 06 48 44.0 +0.1
comp=Z,7.2nm,0.9s,mb4.8,baz=140,slow=4.9,SNR=9.6
STKA pP pP 06 49 04.8 -0.5
comp=Z,7.5nm,0.8s,baz=172,slow=5.0,SNR=5.5
STKA LR LR 07 26 57.5
comp=Z,183nm,21.1s,baz=25,slow=34
STKA Stephens Creek 89.74 169 eP P 06 48 43.6 -0.2
comp=Z,4.9nm,0.8s,mb4.7
STKA e pP 06 49 04.7 -0.5
STKA epP pP 06 49 04.9 -0.3
PPT Papeete 91.50 233 eS S 06 59 53.9 +8.6
comp=Z,176nm,34.8s
PPT eLR LR 07 18 19.5
comp=Z,1μm,29.5s,baz=159

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**91.50**	**233**	LR	LR	07 20 53.6	
	comp=Z,353nm,19.8s,baz=161,slow=30						
ASAR	**Alice Springs**	**96.81**	**161**	P	**P**	**06 49 15.8**	**-0.5**
	comp=Z,5.7nm,0.9s,mb5.0,baz=183,slow=4.2,SNR=38						
ASAR				pP	pP	06 49 36.6	-1.1
	comp=Z,3.9nm,0.8s,baz=190,slow=4.0,SNR=6.7						
ASAR				PKKPbc	PKKPbc	07 05 56.5	-1.5
	comp=Z,0.8nm,0.7s,baz=8.1,slow=2.5,SNR=12						
ASAR				LR	LR	07 29 35.5	
	comp=Z,256nm,19.7s,baz=180,slow=33						
AS31	**Alice Springs**	**96.81**	**161**	*e*P	**P**	**06 49 15.4**	**-0.9**
AS31				*e*pP	pP	06 49 35.5	-2.3
KEST	**Kesra**	**98.06**	**28**	LR	LR	07 31 54.8	
	comp=Z,49nm,19.2s,baz=162,slow=34						
ESDC	**Sonseca Array**	**99.15**	**17**	P	**P**	**06 49 27.7**	**+0.8**
	comp=Z,0.6nm,0.7s,mb4.2,baz=187,slow=4.4,SNR=6.1						
ESDC				LR	LR	07 27 55.4	
	comp=Z,93nm,21.1s,baz=145,slow=32						
ESDC	**Sonseca Array**	**99.15**	**17**	P	**P**	**06 49 27.7**	**+0.8**
ESDC				LR	LR	07 27 55.4	
WRA	**Warramunga Arr**	**100.52**	**161**	P	Pdif	06 49 32.0	-0.9
	comp=Z,1.5nm,0.8s,baz=186,slow=3.6,SNR=5.6						
BRTR	**Keskin Array B**	**109.40**	**45**	PP	PP	06 54 40.8	-5.5
	comp=Z,1.4nm,0.9s,baz=193,slow=5.9,SNR=4.9						
GERES	**GERESS Array B**	**111.48**	**27**	PP	PP	06 54 52.4	-8.9
	comp=Z,1.2nm,0.9s,baz=201,slow=7.1,SNR=4.9						
ECSD	**EROS,Sioux Fal**	**117.17**	**310**	*e*PKPdf	PKPdf	06 54 28.4	-1.9
SCHQ	**Schefferville**	**117.33**	**335**	PKP	PKPdf	06 54 30.2	-0.5
	comp=Z,3.4nm,0.7s,baz=226,slow=4.5,SNR=5.6						
SCHQ	**Schefferville**	**117.33**	**335**	PKP	PKPdf	06 54 30.2	-0.5
AKASG	**Malin Array Be**	**117.47**	**36**	PKP	PKPdf	06 54 27.9	-3.0
	comp=Z,0.8nm,0.5s,baz=239,slow=2.2,SNR=6.7						
AKASG				PKKPbc	PKKPbc	07 04 50.5	-3.0
	comp=Z,0.8nm,0.5s,baz=46,slow=4.1,SNR=4.2						
AKASG	**Malin Array Be**	**117.47**	**36**	PKP	PKPdf	06 54 27.9	-3.0
AKASG				PKKPbc	PKKPbc	07 04 50.5	-3.0
SRU	**San Rafael**	**119.58**	**297**	*e*PKIKP	PKPdf	06 54 34.4	-0.5
MSU	**Marysvale**	**119.89**	**295**	*e*PKIKP	PKPdf	06 54 36.1	+0.6
RSSD	**Black Hills**	**120.61**	**305**	*e*PKIKP	PKPdf	06 54 35.2	-1.7
TCUT	**Toone Canyon**	**121.57**	**298**	*e*PKPdf	PKPdf	06 54 38.5	-0.3
PDAR	**Pinedale Array**	**122.01**	**300**	PKP	PKPdf	06 54 37.8	-1.9
	comp=Z,0.6nm,0.4s,baz=124,slow=5.8,SNR=14						
HWUT	**Hardware Ranch**	**122.03**	**298**	*e*PKPdf	PKPdf	06 54 38.6	-1.0
ULM	**Lac du Bonnet**	**122.21**	**315**	PKP	PKPdf	06 54 37.7	-2.3
	comp=Z,4.7nm,0.6s,baz=235,slow=0.5,SNR=20						
ULM	**Lac du Bonnet**	**122.21**	**315**	*e*PKPdf	PKPdf	06 54 37.1	-2.9
NB2	**NORSAR Subarra**	**122.31**	**20**	PKPd	PKPdf	06 54 38.4	-1.8
	comp=Z,5.8nm,1.1s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**122.31**	**20**	PKP	PKPdf	06 54 38.5	-1.7
	comp=Z,2.9nm,0.9s,baz=195,slow=1.8,SNR=5.9						
NVAR	**Mina Array Bea**	**122.81**	**291**	PKP	PKPdf	06 54 41.1	0.0
	comp=Z,1.4nm,0.8s,baz=151,slow=2.8,SNR=8.2						
REDW	**Red Top Meadow**	**123.06**	**300**	*e*PKPdf	PKPdf	06 54 41.3	-0.4
LOHW	**Long Hollow**	**123.14**	**300**	*e*PKPdf	PKPdf	06 54 41.1	-0.6
LOHW				*e*SKPdf	SKPdf	06 58 10.1	0.0
TPAW	**Teton Pass**	**123.21**	**300**	*e*PKPdf	PKPdf	06 54 41.7	-0.2
RRI2	**Red Ridge**	**123.27**	**300**	*e*PKPdf	PKPdf	06 54 41.6	-0.5
MOOW	**Moose Ponds**	**123.31**	**300**	*e*PKPdf	PKPdf	06 54 45.7	+3.6
KOLN	**Koldanda**	**123.37**	**90**	*e*P	PKPdf	06 54 41.2	-1.0
	comp=Z,31nm,0.9s						
IMW	**Indian Meadow**	**123.52**	**300**	*e*PKPdf	PKPdf	06 54 42.3	-0.2
CMB	**Columbia Colle**	**123.54**	**289**	*e*PKIKP	PKPdf	06 54 42.1	-0.5
FLWY	**Flagg Ranch**	**123.55**	**301**	*e*PKPdf	PKPdf	06 54 42.2	-0.4
OBN	**Obninsk**	**123.56**	**38**	*i* PKIKP	PKPdf	06 54 41.0	-1.6
OBN						06 56 29.0	
LAO	**LASA Array**	**123.58**	**305**	*e*PKPdf	PKPdf	06 54 41.6	-1.0
BMN	**Battle Mountai**	**123.82**	**293**	*e*PKIKP	PKPdf	06 54 43.2	+0.1
DMN	**Daman**	**124.04**	**92**	*e*P	PKPdf	06 54 42.8	-0.7
GKN	**Gorkha**	**124.11**	**91**	*e*P	PKPdf	06 54 42.4	-1.2
	comp=Z,20nm,0.8s						
PKI	**Pulchoki**	**124.17**	**92**	*e*P	PKPdf	06 54 42.9	-0.9
KKN	**Kakani**	**124.28**	**92**	*e*P	PKPdf	06 54 43.0	-1.0
	comp=Z,12nm,0.6s						
GCMT	**Greycliff**	**124.40**	**303**	*e*PKPdf	PKPdf	06 54 43.3	-0.9
QLMT	**Earthquake Lak**	**124.46**	**301**	*e*PKPdf	PKPdf	06 54 44.1	-0.2
JIRN	**Jiri**	**124.66**	**93**	*e*P	PKPdf	06 54 44.2	-0.5
	comp=Z,32nm,0.8s						
GUN	**Gumba**	**124.69**	**92**	*e*P	PKPdf	06 54 43.9	-0.9
	comp=Z,25nm,0.7s						
HLID	**Hailey**	**124.88**	**298**	*e*PKPdf	PKPdf	06 54 45.1	0.0
DLMT	**Dillon**	**125.40**	**300**	*e*PKPdf	PKPdf	06 54 46.1	0.0
LRM	**Limekiln Ridge**	**125.68**	**301**	*e*PKPdf	PKPdf	06 54 47.1	+0.4
FINES	**FINESS Array B**	**125.89**	**28**	PKP	PKPdf	06 54 45.0	-2.1
	comp=Z,4.2nm,0.6s,baz=148,slow=2.8,SNR=31						
FINES	**FINESS Array B**	**125.89**	**28**	PKP	PKPdf	06 54 45.0	-2.1
HRY	**Holter Researc**	**126.08**	**302**	*e*PKPdf	PKPdf	06 54 47.2	-0.2
EGMT	**Eagleton**	**126.14**	**304**	*e*PKPdf	PKPdf	06 54 46.9	-0.6
KAF	**Kangasniemi**	**126.52**	**28**	*e*p	PKPdf	06 54 45.1	-3.2
	comp=Z,6.8nm,0.7s						
CHMT	**Chamberlain Mo**	**126.87**	**301**	*e*PKPdf	PKPdf	06 54 48.5	-0.4
MSO	**Missoula**	**127.12**	**301**	*e*PKPdf	PKPdf	06 54 48.7	-0.7
BMO	**Blue Mountains**	**127.21**	**297**	*e*PKIKP	PKPdf	06 54 48.9	-0.7
BSMT	**Bassoo Peak**	**128.27**	**301**	*e*PKPdf	PKPdf	06 54 50.6	-1.0
JOF	**Joensuu**	**128.47**	**29**	*e*p	PKPdf	06 54 48.5	-3.5
AAK	**Ala-Archa**	**130.00**	**71**	*e*PKIKP	PKPdf	06 54 52.9	-2.0
LON	**Longmire**	**130.75**	**295**	*e*PKIKP	PKPdf	06 54 56.8	+0.5
KMI	**Kunming**	**131.18**	**110**	PKP	PKPdf	06 54 55.8	-1.3
KMI				XPKP		06 55 27.5	
KMI				PP	PP	06 57 17.5	+2.1
KMI				PP	PP		
	comp=Z,10.0nm,3.5s						
KMI				LR	LR		
	comp=N,193nm,22.2s						
KMI				LR	LR		
	comp=E,147nm,23.1s						
KMI				LR	LR		
	comp=Z,170nm,18.1s						
EDM	**Edmonton**	**131.51**	**307**	*e*PKIKP	PKPdf	06 54 56.4	-1.4
ARCES	**ARCESS Array B**	**132.61**	**22**	PKP	PKPdf	06 54 57.6	-2.3
	comp=Z,7.0nm,0.8s,baz=236,slow=1.6,SNR=21						
ARCES				SKPbc	SKPbc	06 58 16.9	-3.0
	comp=Z,3.4nm,0.7s,baz=186,slow=2.4,SNR=7.1						
ZRNK	**Zerenda**	**134.62**	**58**	*e*PKIKP	PKPdf	06 55 01.7	-1.9
CHKZ	**Chkalovo**	**135.82**	**58**	*e*PKPdf	PKPdf	06 55 04.5	-1.3
CHKZ				*e*SKPbc	SKPbc	06 58 26.2	-4.2
CD2	**Chengdu**	**136.43**	**106**	*e*PKP	PKPdf	06 55 02.5	-4.5
MKAR	**Makanchi Array**	**136.87**	**73**	PKhKP		06 54 57.6	
	comp=Z,0.7nm,0.6s,baz=242,slow=2.3,SNR=7.1						
MKAR				PKP	PKPdf	06 55 05.2	-2.5
	comp=Z,2.9nm,0.8s,baz=29,slow=2.8,SNR=12						
MKAR				pPKP	pPKPdf	06 55 27.2	-2.8
	comp=Z,1.2nm,0.8s,baz=235,slow=4.3,SNR=2.2						
MKAR				SKPbc	SKPbc	06 58 28.6	-4.9
	comp=Z,1.0nm,0.8s,baz=249,slow=4.2,SNR=4.8						
MKAR	**Makanchi Array**	**136.87**	**73**	PKHKP		06 54 57.7	
MKAR						06 55 05.3	
WMQ	**Urumqi**	**137.62**	**80**	*e*PKP	PKPdf	06 55 07.0	-2.2
WMQ				XPKP		06 55 40.0	
WMQ				PP	PP	06 57 58.0	+1.8
WMQ				PKS		06 58 42.0	
WMQ				PPP		07 00 58.0	
WMQ				SKKS	SKKSac	07 04 40.0	-3.5
WMQ				PP	PP		
	comp=Z,131nm,4.7s						
WMQ				LR	LR		
	comp=N,280nm,26.3s						
WMQ				LR	LR		
	comp=E,314nm,23.8s						
WMQ				LR	LR		
	comp=Z,277nm,28.7s						
YKA	**Yellowknife Ar**	**138.15**	**316**	PKP	PKPdf	06 55 08.5	-1.6
	comp=Z,14nm,0.6s,baz=128,slow=2.3,SNR=53						
YKA				pPKP	pPKPdf	06 55 31.1	-1.3
	comp=Z,4.6nm,0.7s,baz=129,slow=2.3,SNR=2.4						
YKA				SKPbc	SKPbc	06 58 34.3	-3.0
	comp=Z,2.6nm,0.7s,baz=120,slow=2.3,SNR=8.2						
YKA	**Yellowknife Ar**	**138.15**	**316**	PKIKP	PKPdf	06 55 08.5	-1.7
YKA				pmax	pmax		
	comp=Z,14nm,0.6s						
YKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,3.0nm,0.7s						
YKW3	**Yellowknife Ar**	**138.20**	**316**	*e*PKPdf	PKPdf	06 55 08.1	-2.1
LZH	**Lanzhou**	**140.54**	**102**	*e*PKP	PKPdf	06 55 15.4	+0.9
LZH				*e*PP	PP	06 58 19.5	+5.3
LZH				PKS		06 58 50.1	
LZH				SKS	SKSdf	07 02 15.9	-1.8
LZH				PP	PP		
	comp=Z,92nm,8.6s						
LZH				LR	LR		
	comp=E,218nm,18.2s						
LZH				LR	LR		
	comp=Z,345nm,20.3s						
XAN	**Xi'an**	**141.54**	**109**	PKP	PKPdf	06 55 16.0	-0.3
NVS	**Novosibirsk**	**142.38**	**64**	*e*PKHKP		06 55 10.9	
ZAL	**Zalesovo**	**142.62**	**66**	PKhKP		06 55 13.4	
	comp=Z,1.6nm,0.4s,baz=272,slow=2.2,SNR=4.7						
SSE	**Sheshan**	**144.88**	**126**	PKP	PKPdf	06 55 19.8	-2.4
BTO	**Baotou**	**147.13**	**103**	*e*PKP	PKPdf	06 55 26.8	+0.8
INK	**Inuvik**	**147.82**	**318**	*e*PKP2	PKPab	06 55 27.9	-4.9
HHC	**Hu-ho-hao-te**	**148.11**	**104**	*e*PKP	PKPdf	06 55 27.0	-0.6
HHC				PKP2	PKPab	06 55 35.6	+1.7
HHC				APKP		06 55 47.8	
HHC				XPKP		06 55 57.0	
HHC				PKS		06 59 00.7	
HHC				PP	PP	06 59 03.1	+3.7
HHC				SKS	SKSdf	07 02 23.7	-5.3
HHC				SKKS	SKKSac	07 05 41.4	-2.4
HHC				PP	PP		
	comp=Z,85nm,4.9s						
HHC				LR	LR		
	comp=N,118nm,4.7s						
HHC				LR	LR		
	comp=E,76nm,4.5s						
HHC				LR	LR		
	comp=Z,94nm,9.8s						
DAWY	**Dawson**	**148.66**	**309**	*e*PKPbc	PKPbc	06 55 30.3	-2.1
MOY	**Mondy**	**149.50**	**79**	*e*PKP2	PKPbc	06 55 33.8	-0.7
MOY				pmax	pmax		
	comp=Z,48nm,1.9s						
EGAK	**Eagle**	**149.62**	**310**	*e*PKPbc	PKPbc	06 55 33.0	-1.8
BJT	**Baijiatuau**	**149.82**	**110**	*e*PKP2	PKPbc	06 55 34.3	-0.9
BJI	**Beijing**	**149.84**	**110**	PKP	PKPdf	06 55 34.3	+3.9
ZAK	**Zakamensk**	**149.98**	**83**	*e*PKIKP	PKPdf	06 55 28.7	-1.9
ZAK				*i*		06 55 34.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,22nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,15nm,1.0s						
SONM	**Songino Array**	**150.12**	**89**	PKP	PKPdf	06 55 29.3	-1.6
	comp=Z,1.4nm,0.8s,baz=208,slow=1.7,SNR=11						
SONM				PKPbc	PKPbc	06 55 34.8	-1.1
	comp=Z,23nm,0.7s,baz=224,slow=2.9,SNR=135						
SONM				pPKPbc	pPKPbc	06 55 55.7	-2.4
	comp=Z,20nm,0.9s,baz=224,slow=1.9,SNR=8.9						
SONM	**Songino Array**	**150.12**	**89**	PKIKP	PKPdf	06 55 29.3	-1.6
SONM						06 55 34.8	
DIV	**Divide**	**150.37**	**302**	*e*PKPbc	PKPbc	06 55 36.7	+0.1
DIV				*e*PKPab	PKPab	06 55 44.3	+1.2
ULN	**Ulaanbaatar**	**150.49**	**90**	P	PKPdf	06 55 35.6	+4.1
	SNR=11						
ULN	**Ulaanbaatar**	**150.49**	**90**	*e*PKPbc	PKPbc	06 55 35.4	-1.4
TLY	**Talaya**	**150.90**	**81**	P	PKPbc	06 55 37.1	-0.7
	SNR=15						
TLY	**Talaya**	**150.90**	**81**	*e*PKIKP	PKPdf	06 55 29.7	-2.4
TLY				*i*		06 55 36.6	
TLY				*e*SS	SS	07 19 19.2	+49
TLY				pmax	pmax		
	comp=Z,34nm,1.1s						
TLY	**Talaya**	**150.90**	**81**	*e*PKPdf	PKPdf	06 55 29.8	-2.3
TLY				*e*PKPbc	PKPbc	06 55 36.7	-1.1
IRK	**Irkutsk**	**151.53**	**80**	*e*PKIKP	PKPdf	06 55 35.5	+2.5
IRK				*e*		06 55 48.1	
IRK				pmax	pmax		
	comp=Z,34nm,1.2s						
PMR	**Palmer**	**152.04**	**301**	*e*PKIKP	PKPbc	06 55 39.0	-1.4
SLKM	**Skilak Lake**	**152.19**	**299**	*e*PKIKP	PKPbc	06 55 39.4	-1.4
KDAK	**Kodiak Island**	**152.30**	**292**	*e*PKPbc	PKPbc	06 55 41.5	+0.5
COLA	**College**	**152.40**	**309**	*e*PKIKP	PKPbc	06 55 39.1	-2.1
COLA				*e*		06 55 49.8	
MCK	**McKinley**	**152.58**	**306**	*e*PKIKP	PKPbc	06 55 40.2	-1.4
IMA2	**Indian Mountai**	**155.01**	**310**	*e*PKPbc	PKPdf	06 55 45.9	+7.8
IMA2				*e*PKPab	PKPab	06 56 00.8	-1.9
MJAR	**Matsushiro Arr**	**156.01**	**147**	PKPab	PKPab	06 56 05.9	-1.1
	comp=Z,3.4nm,0.8s,baz=194,slow=4.2,SNR=10						
MAT	**Matsushiro**	**156.01**	**147**	PKP	PKPab	06 56 05.3	-1.7
CN2	**Changchun**	**157.21**	**116**	*e*PKP	PKPdf	06 55 36.9	-4.0
CN2				PP	PP	06 59 51.6	+0.6
HIA	**Hailar**	**158.05**	**99**	*i* PKP2	PKPab	06 56 14.9	-0.9
BOD	**Bodaibo**	**158.96**	**74**	*e*PKP2	PKPab	06 56 17.4	-2.3
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ	**Mudanjiang**	**159.75**	**121**	PKP	PKPdf	06 55 44.0	0.0
MDJ				APKP		06 56 03.5	
MDJ				PKS		06 59 14.5	
MDJ				PP	PP		
	comp=Z,102nm,5.0s						
MDJ				LR	LR		
	comp=N,134nm,56.9s						
MDJ				LR	LR		
	comp=E,65nm,32.2s						
MDJ				LR	LR		
	comp=Z,52nm,27.2s						
BILL	**Bilibino**	**168.64**	**336**	PKIKP	PKPdf	06 55 50.0	-2.0
BILL				pmax	pmax		
	comp=Z,6.0nm,0.5s						

CASC 10 06:37:56.8±1.6,**843N**×**8288W**,**h10**km±8km,**MD3.8**,**1C-4D**, **Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.41**	**28**	⇓*i*P	Pg	06 38 06.1	+1.3
DVD	**David**	**0.43**	**89**	⇓*e*P	Pg	06 38 05.5	+0.3
DVD				*e*S	Sg	06 38 11.7	+0.8
CTCR	**Cotoan**	**0.48**	**15**	⇓*i*P	Pg	06 38 07.0	+0.8
CTCR				*e*S	Sg	06 38 14.9	+2.5
CNI	**Changuinola**	**1.04**	**20**	⇓*e*P	Pg	06 38 16.0	-0.9
BUS	**Buena Vista**	**1.41**	**322**	*e*P	Pn	06 38 21.0	-1.5
LCR2	**La Lucha 2**	**1.71**	**320**	*e*P	Pn	06 38 26.7	+0.1
LCR2				*e*S	Sn	06 38 50.4	+1.9
PRS1	**Puriscal**	**2.09**	**318**	*e*P	Pn	06 38 30.8	-1.1
PRS1				*e*S	Sn	06 38 57.6	-0.3
PTP	**Ponta Puerca**	**19.41**	**58**	⇑*e*P		06 38 02.2	

MAN 10 06:39:18.0,**1157N**×**12196E**,**h31**km,**mb2.4**,**ML4.0**,**MS1.4**, **1D**,**Panay**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.39**	**74**	⇓*e*P	Pb	06 39 33.0	+6.2
RCP	**Roxas**	**0.77**	**91**	*e*P	Pn	06 39 33.0	+0.2
RCP				*e*S	Sb	06 39 43.4	+0.3
OTRP	**Odiongan**	**0.79**	**4**	*e*P	Pn	06 39 33.1	+0.1
OTRP				*e*S	Sb	06 39 45.9	+2.2
GUIM	**Jordan**	**1.12**	**147**	*e*P	Pn	06 39 37.4	-0.1
GUIM				*e*S	Sn	06 39 54.6	+2.7
CUYO	**Cuyo Island**	**1.17**	**232**	*e*P	Pn	06 39 38.3	+0.1
CUYO				*e*S	Sn	06 39 54.2	+1.2

IDC 10 06:45:15.1±9.1,**2213S**×**17843W**,**h0**km,**mb4.3**/4, **mb1 4.5**/4,**mb1mx4.2**/12,**mbtmp4.3**/4,**2D**,**Error ellipse: s-maj=208.8km s-min=39.4km az=38.0**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.74**	**246**	P	P	06 52 24.3	+0.2
	1.1nm,0.4s,baz=88,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**43.78**	**258**	P	P	06 53 22.4	+0.1
	3.9nm,0.6s,baz=95,slow=7.3,SNR=60						
ASPA	**Alice Springs**	**43.78**	**258**	⇓*i*P	P	06 53 22.4	0.0
WB2	**Warramunga Arr**	**43.99**	**264**	⇓*i*P	P	06 53 24.4	+0.3
WRA	**Warramunga Arr**	**44.00**	**264**	P	P	06 53 24.6	+0.4
	7.0nm,0.6s,baz=102,slow=8.1,SNR=22						
VNDA	**Vanda**	**56.26**	**185**	P	P	06 54 56.7	-0.4
	0.8nm,0.6s,baz=358,slow=6.8,SNR=10						

NNC 10 06:48:41.2±8.5,**3902N**×**7153E**,**h0**km,**mb3.4**,**mpv2.9**, **2C-1D**,**Error ellipse: s-maj=92.0km s-min=53.6km az=46.0**,**Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.16**	**350**	P	Pn	06 49 45.2	-0.6
	6.9nm,0.6s,baz=164,slow=13,SNR=58						
KK31				⇑S	Sn	06 50 36.6	+1.4
	12nm,0.6s						
TKM2	**Tokmak 2**	**4.97**	**37**	⇑P	Pn	06 49 58.0	+1.0
	0.2nm,0.6s						
AB31	**Akbulak array**	**13.18**	**325**	⇓P	Pn	06 51 48.2	-1.3
	0.6nm,0.6s,baz=132,slow=13,SNR=9.6						

*ISCJB **10** 06:59:47.0±0.5,4301N±005×005W±004,h15km±5km, Error ellipse: s-maj=9.2km s-min=4.7km az=163.6*
*MDD **10** 06:59:48.0±0.4,4300N×007W,h8km±4km,mbLg0.6/1, Error ellipse: s-maj=3.3km s-min=2.3km az=171.0, PRXIMO*
*STR **10** 06:59:47.8±0.1,4300N×007W,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 06:59:47.8±0.1,4300N×008W,h2km,Md1.7/3,Ml1.7/3, Error ellipse: s-maj=1.5km s-min=0.8km az=172.0*
ISC 10 06:59:47.1±0.5,**4301N**±006×**007W**±004,**h14**km±4km,**n17**, σ**0s48**/28,**Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.11**	**70**	Pg	**Pg**	**06 59 50.4**	**+0.1**
LABF				Sg	**Sg**	**06 59 52.3**	**-0.3**
LABF	**Labassere**	**0.11**	**70**	P	**Pg**	**06 59 50.4**	**+0.1**
LABF				S	**Sg**	**06 59 52.3**	**-0.4**
VIEF	**Viey**	**0.14**	**152**	Pg	**Pg**	**06 59 50.7**	**-0.1**
VIEF				Sg	**Sg**	**06 59 52.7**	**-0.7**
VIEF	**Viey**	**0.14**	**152**	P	**Pg**	**06 59 50.8**	**0.0**
VIEF				S	**Sg**	**06 59 52.7**	**-0.7**
EPF	**Esparros**	**0.30**	**86**	*e*Pg	**Pg**	**06 59 53.8**	**+0.5**
EPF				*e*Sg	**Sg**	**06 59 58.0**	**+0.5**
	2.3nm,0.2s						
EPF	**Esparros**	**0.30**	**86**	Pg	**Pg**	**06 59 53.8**	**+0.5**
EPF				Lg		06 59 58.0	
	1.1nm,0.2s						
EBIE	**Bielsa**	**0.36**	**155**	Pg	**Pg**	**06 59 54.6**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		06 59 59.4	
	0.7nm,0.1s,SNR=9.4						
ETSF	**Etsaut**	**0.38**	**253**	*e*Pg	**Pg**	**06 59 55.1**	**+0.3**
ETSF				*e*Sg	**Sg**	**06 59 59.9**	**0.0**
	1.3nm,0.2s						
ETSF	**Etsaut**	**0.38**	**253**	Pg	**Pg**	**06 59 55.1**	**+0.3**
ETSF				Lg		06 59 59.9	
	0.6nm,0.2s						
SJPF	**Ste Jean**	**0.85**	**277**	*e*Pg	**Pg**	**07 00 03.6**	**-0.1**
SJPF				*e*Sg	**Sg**	**07 00 14.7**	**-0.2**
	0.5nm,0.2s						
SJPF	**Ste Jean**	**0.85**	**277**	Pg	**Pg**	**07 00 03.6**	**-0.1**
SJPF				Lg		07 00 14.7	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.70**	**78**	*e*Pn	**Pn**	**07 00 16.9**	**+0.5**
MTLF				*e*Sn	**Sn**	**07 00 38.0**	**0.0**
	0.8nm,0.4s						
MTLF	**Montolieu**	**1.70**	**78**	Pn	**Pn**	**07 00 16.9**	**+0.5**
MTLF				Sn	**Sn**	**07 00 38.0**	**0.0**
	0.4nm,0.4s						
LFF	**La Frestale**	**2.02**	**17**	*e*Sn	**Sn**	**07 00 45.6**	**-0.1**
	2.6nm,0.5s						
LFF	**La Frestale**	**2.02**	**17**	Sn	**Sn**	**07 00 45.6**	**-0.1**
	1.3nm,0.5s						
LASF	**Ste Croix**	**3.04**	**68**	*e*Pn	**Pn**	**07 00 35.6**	**+0.7**
LASF				*e*Sn	**Sn**	**07 01 09.8**	**-1.3**
	0.7nm,0.3s						
LASF	**Ste Croix**	**3.04**	**68**	Pn	**Pn**	**07 00 35.6**	**+0.7**
LASF				Sn	**Sn**	**07 01 09.8**	**-1.3**
	0.3nm,0.3s						

*CSEM **10** 07:31:18.9±0.1,3827N×1462E,h200km,ML4.1/5,Error ellipse: s-maj=3.3km s-min=2.4km az=123.0*
*ROM **10** 07:31:18.8±0.4,3828N×1463E,h201km±7km,Ml3.3/19, Error ellipse: s-maj=5.0km s-min=3.8km az=33.0*
*ISCJB **10** 07:31:19.3±1.2,3827N±008×1465E±008,h198km±11km, Error ellipse: s-maj=14.6km s-min=7.5km az=103.4*
ISC 10 07:31:19.6±1.2,**3826N**±008×**1465E**±009,**h198**km±11km, **n33**,σ**0s59**/39,**17C**,**Sicily**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VPL	**Vulcano Piano**	**0.29**	**66**	⇑*i*Pg	**Pn**	**07 31 45.3**	**-0.6**
	189nm,0.4s						
LLI	**Lipari**	**0.30**	**52**	Pg	**Pn**	**07 31 45.7**	**-0.2**
	564nm,0.5s						
IFIL	**Filicudi I Eol**	**0.31**	**348**	⇑*i*Pg	**Pn**	**07 31 45.4**	**-0.5**
	717nm,0.4s						
MNO	**Monte Soro**	**0.33**	**173**	Pg	**Pn**	**07 31 46.6**	**+0.6**
	83nm,0.2s						
SLNA	**Salina**	**0.34**	**26**	⇑*i*Pg	**Pn**	**07 31 45.7**	**-0.3**
	207nm,0.3s						
MMME	**Mongiuffi-Meli**	**0.58**	**124**	⇑*i*Pg	**Pn**	**07 31 46.9**	**+0.1**
MSRU	**Castanea**	**0.68**	**89**	⇑*i*Pg	**Pn**	**07 31 46.3**	**-1.0**
MSRU				Sg	**Sn**	**07 32 08.0**	**-0.7**
	554nm,0.4s						
MSI	**Messina ING**	**0.72**	**94**	Pg	**Pn**	**07 31 47.2**	**-0.3**
SCLL	**Scilla**	**0.84**	**90**	⇑*i*Pg	**Pn**	**07 31 47.5**	**-0.7**
	42nm,0.3s						
MTTG	**Motta San Giov**	**0.86**	**107**	⇑*i*Pg	**Pn**	**07 31 48.7**	**+0.4**
	119nm,0.5s						
CEL	**Celeste**	**0.98**	**90**	⇑*i*Pg	**Pn**	**07 31 48.6**	**-0.5**
CEL				Sg	**Sn**	**07 32 11.6**	**-0.3**
	422nm,0.4s						
RAFF	**Raffo Rosso**	**1.06**	**192**	⇑*i*Pg	**Pn**	**07 31 50.1**	**+0.5**
HVZN	**Vizzini**	**1.08**	**177**	⇑*i*Pg	**Pn**	**07 31 49.9**	**+0.2**
	276nm,0.8s						
CORL	**Corleone**	**1.12**	**251**	Pg	**Pn**	**07 31 49.7**	**-0.3**
	316nm,0.6s						
SOI	**Samo**	**1.13**	**99**	⇑*i*Pg	**Pn**	**07 31 50.0**	**-0.1**
SOI				Sg	**Sn**	**07 32 13.4**	**-0.3**
	280nm,0.5s						
USI	**Ustica**	**1.23**	**292**	Pg	**Pn**	**07 31 51.7**	**+0.8**
	280nm,0.9s						
FAVR	**Favara**	**1.26**	**218**	Pg	**Pn**	**07 31 52.4**	**+1.3**
	42nm,0.4s						
HMDC	**Modica**	**1.30**	**175**	⇑*i*Pg	**Pn**	**07 31 52.0**	**+0.5**
	211nm,1.0s						
CLTB	**Caltabellotta**	**1.32**	**239**	Pg	**Pn**	**07 31 51.3**	**-0.3**
	154nm,0.3s						
PLAC	**Placanica**	**1.42**	**82**	⇑*i*Pg	**Pn**	**07 31 52.6**	**+0.1**
PLAC				Sg	**Sn**	**07 32 17.8**	**-0.1**
	216nm,0.4s						
GRI	**Girifalco**	**1.50**	**67**	Pg	**Pn**	**07 31 53.1**	**0.0**
GRI				Sg	**Sn**	**07 32 20.5**	**+1.3**
	455nm,0.4s						
ERC	**Erice**	**1.64**	**263**	Pg	**Pn**	**07 31 53.5**	**-0.9**
	112nm,0.5s						
SERS	**Sersale**	**1.78**	**64**	⇑*i*Pg	**Pn**	**07 31 56.0**	**+0.3**
SERS				Sg	**Sn**	**07 32 24.5**	**+0.7**
	174nm,0.4s						
TIP	**Timpagrande**	**1.89**	**60**	Pg	**Pn**	**07 31 57.6**	**+0.8**
	80nm,0.3s						
CUC	**Castrocucco**	**1.96**	**27**	Pg	**Pn**	**07 31 57.6**	**+0.1**
	34nm,0.6s						
CMPR	**Campora**	**2.12**	**14**	⇑*i*Pg	**Pn**	**07 31 59.5**	**+0.3**
	34nm,0.5s						
SIRI	**Monte Sirino -**	**2.14**	**26**	Pg	**Pn**	**07 31 59.5**	**0.0**
	40nm,0.4s						
MTSN	**Montesano sull**	**2.18**	**23**	⇑*i*Pg	**Pn**	**07 32 00.0**	**+0.1**
	37nm,0.8s						
SLCN	**Sala Consilina**	**2.26**	**19**	Pg	**Pn**	**07 32 01.5**	**+0.8**
	51nm,0.8s						
CDRU	**Civita di Ruta**	**2.28**	**13**	⇑*i*Pg	**Pn**	**07 32 01.6**	**+0.6**
SG1	**Sgolgore (BA)**	**3.02**	**31**	*e*Pn	**Pn**	**07 32 08.6**	**-0.7**
PE1	**Pezze di Greco**	**3.33**	**39**	*e*Pn	**Pn**	**07 32 12.1**	**-0.9**
LCI	**Lecce**	**3.39**	**51**	Pg	**Pn**	**07 32 13.1**	**-0.8**
	40nm,0.2s						

*ISCJB **10** 08:15:37.2±0.3,4933N±002×677E±003,h0km,Error ellipse: s-maj=2.5km s-min=2.2km az=6.8*
*LDG **10** 08:15:39.4±0.0,4938N×686E,h1km,Md2.6/3,Ml2.5/17, Error ellipse: s-maj=0.9km s-min=0.8km az=114.0, Suspected Mining induced.*
*NEIC **10** 08:15:39.4,4938N×686E,h1km,ML2.1(STR), ML2.5(LDG),After LDG.*
*CSEM **10** 08:15:39.1±0.0,4939N×686E,h1km,ML2.4/16,Error ellipse: s-maj=0.8km s-min=0.8km az=152.0*
*BGR **10** 08:15:40.0±0.8,4936N×694E,h1km,ML1.7/2,Error ellipse: s-maj=12.2km s-min=4.4km az=101.0*
*BNS **10** 08:15:40.3±0.6,4939N×692E,h1km,ML1.4*
ISC 10 08:15:38.3±0.3,**4935N**±001×**680E**±003,**h0**km,**n64**, σ**1s00**/115,**Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.53**	**307**	*e*Pg	**Pg**	**08 15 50.1**	**+1.7**
WLF	**Walferdange**	**0.53**	**307**	*e*Pg	**Pg**	**08 15 50.1**	**+1.7**
ABH	**Alteburg**	**0.72**	**42**	*e*Pg	**Pg**	**08 15 51.9**	**-0.2**
	SNR=2.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ABH	Alteburg	0.72	42	Pg	Pg	08 15 52.2	+0.1
LANF	Langenberg	0.76	119	*e*Pg	Pg	08 15 53.0	+0.1
	SNR=5.6						
LANF	Langenberg	0.76	119	Pg	Pg	08 15 52.9	0.0
KTD	Kalmit	0.84	92	Pg	Pg	08 15 54.5	+0.1
HILG	Hillesheim	0.94	355	*e*Pg	Pg	08 15 57.4	+1.0
CDF	Champ du Feu	0.99	161	*e*Pg	Pg	08 15 58.2	+0.8
CDF				*e*Sg	Sg	08 16 11.5	+1.2
	13nm,0.2s						
CDF	Champ du Feu	0.99	161	*e*Pg	Pg	08 15 58.2	+0.8
CDF				*e*Sg	Sg	08 16 11.5	+1.2
	6.3nm,0.2s						
WLS	Welschbruch	1.01	159	*e*Pg	Pg	08 15 58.8	+1.1
	SNR=6.9						
WLS	Welschbruch	1.01	159	Pg	Pg	08 15 58.5	+0.8
RFYF	Reffroy	1.14	231	*e*Pg	Pg	08 16 01.7	+1.6
	baz=43						
RFYF				*e*Sg	Sg	08 16 17.0	+2.2
	20nm,0.3s						
RFYF	Reffroy	1.14	231	*e*Pg	Pg	08 16 01.7	+1.6
RFYF				*e*Sg	Sg	08 16 17.0	+2.2
	10nm,0.3s						
ECH	Echery	1.16	168	*e*Pg	Pg	08 16 01.9	+1.2
	SNR=3.7						
ECH	Echery	1.16	168	Pg	Pg	08 16 01.4	+0.8
ECH				Sg	Sg	08 16 16.9	+1.2
STB	Steinbach	1.24	1	*e*Pg	Pg	08 16 02.6	+0.5
STB				*e*Sg	Sg	08 16 19.3	+1.0
	9.4nm,0.8s						
TOD	Tromm	1.33	78	*e*Pg	Pg	08 16 03.3	-0.6
	SNR=3.6						
TOD	Tromm	1.33	78	Pg	Pg	08 16 03.1	-0.7
TOD				Sg	Sg	08 16 20.9	-0.2
TOD	Tromm	1.33	78	Pg	Pg	08 16 03.3	-0.5
	SNR=3.6						
TOD				Sg	Sg	08 16 20.9	-0.2
KLL	Kalltalsperre	1.33	346	*e*Pg	Pg	08 16 04.5	+0.6
MEM	Membach	1.36	338	P	Pg	08 16 05.2	+0.8
TNS	Taunus Mts	1.38	50	*e*Pg	Pg	08 16 04.1	-0.7
	SNR=3.2						
TNS				*e*Sg	Sg	08 16 21.5	-1.1
HAU	Haudompre	1.38	193	*e*Pg	Pg	08 16 06.0	+1.2
HAU				*e*Sg	Sg	08 16 24.4	+1.6
	10nm,0.2s						
HAU	Haudompre	1.38	193	*e*Pg	Pg	08 16 06.0	+1.2
HAU				*e*Sg	Sg	08 16 24.4	+1.6
	5.2nm,0.2s						
MEZF	Maizieres J'vi	1.43	234	*e*Pg	Pg	08 16 07.1	+1.3
	baz=54						
MEZF				*e*Sg	Sg	08 16 26.3	+1.9
	4.8nm,0.3s						
MEZF	Maizieres J'vi	1.43	234	*e*Pg	Pg	08 16 07.1	+1.3
MEZF				*e*Sg	Sg	08 16 26.3	+1.9
	2.4nm,0.3s						
BFO	Black Forest	1.44	135	*e*Pg	Pg	08 16 05.9	0.0
	SNR=5.3						
BFO				*e*Sg	Sg	08 16 23.5	-1.0
BCLA	Clavier	1.44	318	P	Pn	08 16 06.5	+0.8
GIVF	Givet	1.49	301	*e*Pg	Pg	08 16 06.7	-0.1
GIVF				*e*Sg	Sg	08 16 26.2	+0.1
	6.6nm,0.3s						
GIVF	Givet	1.49	301	*e*Pn	Pn	08 16 05.4	-0.9
GIVF				*e*Pg	Pg	08 16 06.7	-0.1
GIVF				*e*Sg	Sg	08 16 26.2	+0.1
GIVF	Givet	1.49	301	*e*Pg	Pg	08 16 06.7	-0.1
GIVF				*e*Sg	Sg	08 16 26.2	+0.1
	3.3nm,0.3s						
MOF	Molkenrain	1.52	172	Pn	Pn	08 16 06.6	-0.2
HINF	Hinteralfeld	1.54	179	*e*Pg	Pg	08 16 08.5	+0.7
HINF				*e*Sg	Sg	08 16 28.9	+1.1
	30nm,0.3s						
HINF	Hinteralfeld	1.54	179	*e*Pg	Pg	08 16 08.5	+0.7
HINF				*e*Sg	Sg	08 16 28.9	+1.1
	15nm,0.3s						
DOU	Dourbes	1.61	298	P	Pn	08 16 08.4	+0.4
FELD	Feldberg im Sc	1.68	151	*e*Pg	Pg	08 16 10.6	+0.1
	SNR=3.3						
FELD	Feldberg im Sc	1.68	151	Pn	Pn	08 16 08.4	-0.6
FELD				Sg	Sg	08 16 32.6	+0.3
BAIF	Baives	1.83	294	*e*Pg	Pg	08 16 13.9	+0.6
BAIF				*e*Sg	Sg	08 16 37.3	+0.3
	2.9nm,0.3s						
BAIF	Baives	1.83	294	*e*Pn	Pn	08 16 10.4	-0.6
BAIF				*e*Pg	Pg	08 16 13.9	+0.6
BAIF				*e*Sg	Sg	08 16 37.3	+0.3
BAIF	Baives	1.83	294	*e*Pg	Pg	08 16 13.9	+0.6
BAIF				*e*Sg	Sg	08 16 37.3	+0.3
	1.5nm,0.3s						
CABF	La Chapelle	2.79	190	*e*Pg	Pg	08 16 31.9	+0.2
CABF				*e*Sg	Sg	08 17 08.1	+0.2
	3.3nm,0.4s						
CABF	La Chapelle	2.79	190	*e*Pn	Pn	08 16 24.0	-0.2
CABF				*e*Pg	Pg	08 16 31.9	+0.2
CABF				*e*Sg	Sg	08 17 08.1	+0.2
CABF	La Chapelle	2.79	190	*e*Pg	Pg	08 16 31.9	+0.2
CABF				*e*Sg	Sg	08 17 08.1	+0.2
	1.6nm,0.4s						
LOR	Lormes	2.87	224	*e*Pn	Pn	08 16 24.9	-0.4
	baz=52						
LOR				*e*Sn	Sn	08 16 58.9	-1.6
	2.6nm,0.3s						
LOR				*e*Sg	Sg	08 17 10.9	+0.5
	2.1nm,0.3s						
LOR	Lormes	2.87	224	*e*Pn	Pn	08 16 24.9	-0.4
LOR				*e*Sn	Sn	08 16 58.9	-1.6
	1.3nm,0.3s						
LOR				*e*Sg	Sg	08 17 10.9	+0.5
	1.0nm,0.3s						
SMF	Signal de Mont	3.36	217	*e*Pn	Pn	08 16 31.4	-0.7
SMF				*e*Sn	Sn	08 17 10.4	-2.3
SMF				*e*Sg	Sg	08 17 26.6	+0.3
	1.7nm,0.2s						
SMF	Signal de Mont	3.36	217	*e*Pn	Pn	08 16 31.4	-0.7
SMF				*e*Sn	Sn	08 17 10.4	-2.3
SMF				*e*Sg	Sg	08 17 26.6	+0.3
	0.9nm,0.2s						
AVF	Avril sur Loir	3.45	223	*e*Pn	Pn	08 16 32.6	-0.7
AVF				*e*Sn	Sn	08 17 12.6	-2.3
	0.6nm,0.2s						
AVF				*e*Sg	Sg	08 17 29.5	+0.2
	0.4nm,0.2s						
AVF	Avril sur Loir	3.45	223	*e*Pn	Pn	08 16 32.6	-0.7
AVF				*e*Sn	Sn	08 17 12.6	-2.3
	0.3nm,0.2s						
AVF				*e*Sg	Sg	08 17 29.5	+0.2
	0.2nm,0.2s						
BGF	Bois d'Agland	3.86	225	*e*Pn	Pn	08 16 38.1	-0.8
BGF				*e*Sn	Sn	08 17 22.2	-2.7
BGF				*e*Sg	Sg	08 17 42.1	-0.2
	6.4nm,0.3s						
BGF	Bois d'Agland	3.86	225	*e*Pn	Pn	08 16 38.1	-0.8
BGF				*e*Sn	Sn	08 17 22.2	-2.7
BGF				*e*Sg	Sg	08 17 42.1	-0.2
	3.2nm,0.3s						
LPG	La Plagne	3.86	181	*e*Pn	Pn	08 16 38.3	-0.6
ORIF	Oris-en-Rattie	4.48	188	*e*Pn	Pn	08 16 47.0	-0.5
GEC2	GERESS Array S	4.56	94	*e*Pn	Pn	08 16 48.7	+0.1
	SNR=5.3						
LDF	La Druitiere	4.62	263	*e*Pn	Pn	08 16 48.7	-0.7
MBDF	Montbardon	4.63	180	*e*Pn	Pn	08 16 48.6	-0.9
VIVF	Saint-Julien-l	4.73	199	*e*Pn	Pn	08 16 50.1	-0.8
MFF	Saint Martin d	5.42	242	*e*Pg	Pg	08 17 20.4	-1.7
MFF				*e*Sg	Sg	08 18 30.6	-1.7
	1.0nm,0.4s						
MFF	Saint Martin d	5.42	242	*e*Pg	Pg	08 17 20.4	-1.7
MFF				*e*Sg	Sg	08 18 30.6	-1.7
	0.5nm,0.4s						
MTLF	Montolieu	6.80	210	*e*Pg	Pg	08 17 45.6	-3.0
MTLF				*e*Sn	Sn	08 18 32.1	-5.3
	0.9nm,0.5s						
MTLF	Montolieu	6.80	210	*e*Pn	Pn	08 17 18.4	-0.9
MTLF				*e*Pg	Pg	08 17 45.6	-3.0
MTLF				*e*Sn	Sn	08 18 32.1	-5.3
MTLF	Montolieu	6.80	210	*e*Pg	Pg	08 17 45.6	-3.0
MTLF				*e*Sn	Sn	08 18 32.1	-5.3
	0.4nm,0.5s						
SJPF	Ste Jean	8.36	225	*e*Pn	Pn	08 17 39.9	-0.8

*IDC **10** 08:39:39.8±0.8, 5375N×16030E, h0^{km}, mb4.2/20, mb1 4.4/20, mb1mx4.3/24, mbtmp4.2/20, MS3.1/5, Ms1 3.1/5, ms1mx3.0/35, Error ellipse: s-maj=22.1km s-min=14.7km az=162.0*

*MOS **10** 08:39:44.8±1.2, 5382N×16030E, h43^{km}, mb4.6/20, Error ellipse: s-maj=14.3km s-min=7.0km az=86.1*

*BJI **10** 08:39:45.7, 5363N×160.19E, h37^{km}, mB4.9, mb4.3, Ms4.0, Msz3.9*

*KRSC **10** 08:39:46, 5353N×16063E, h37^{km}, ML4.8*

*ISCJB **10** 08:39:46.1±0.5, 5352N±003×16063E±007, h62^{km}±3^{km}, mb4.4/60, Error ellipse: s-maj=7.5km s-min=3.1km az=62.0*

*NEIC **10** 08:39:46.4±1.4, 5381N×16034E, h42^{km}±15^{km}, mb4.4/24, Error ellipse: s-maj=12.8km s-min=6.2km az=174.0*

ISC 10 08:39:47.5±0.5**, 5354N**±003×**16052E**±007**, h63**^{km}±3^{km}**, n142,** σ1°07/161**, mb4.4**/60**, 2C-3D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.53	214	*i* P	Pn	08 39 57.8	-2.2
SPN				*i* S	Sn	08 40 05.8	-3.4
NLC	Nalytchevo	0.79	243	*i* P	Pn	08 40 02.0	-1.0
NLC				*i* S	Sn	08 40 13.4	-1.1
KII	Karymskiy	0.81	309	*i* P	Pn	08 40 02.4	-0.8
KII				*i* S	Sn	08 40 13.3	-1.4
AVH	Avacha	1.10	256	*e*P	Pn	08 40 07.2	+0.3
AVH				*i* S	Sn	08 40 23.0	+1.6
PET	Petropavlovsk	1.23	246	⇑*i*PN	Pn	08 40 08.4	-0.2
PET				*i* S	Sn	08 40 24.9	+0.4
PET				pmax	pmax		
	comp=Z,255nm,0.4s						
PET				pmax	pmax		
	comp=Z,300nm,0.3s						
PET				smax			
	comp=E,400nm,2.1s						
PET				smax			
	comp=N,3μm,0.4s						
PET				smax			
	comp=N,500nm,1.8s						
PET				smax			
	comp=E,4μm,0.5s						
PET				smax			
	comp=E,4μm,0.5s						
PET				smax			
	comp=N,5μm,0.5s						
PET	Petropavlovsk	1.23	246	*e*Pn	Pn	08 40 08.3	-0.3
PET				*e*Sn	Sn	08 40 24.8	+0.3
PET	Petropavlovsk	1.23	246	*e*P	Pn	08 40 08.3	-0.3
PET				*i* S	Sn	08 40 24.6	+0.1
INSR	Institute	1.24	248	*e*P	Pn	08 40 08.3	-0.5
INSR				*i* S	Sn	08 40 24.8	+0.1
MKZ	Mys Kozlova	1.24	35	*e*P	Pn	08 40 05.5	-3.3
MKZ				*i* S	Sn	08 40 19.5	-5.3
GNL	Ganaly	1.54	277	*e*P	Pn	08 40 13.5	+0.7
GNL				*i* S	Sn	08 40 33.5	+1.6
RUS	Russkaya	1.64	228	*e*P	Pn	08 40 13.5	-0.6
RUS				*i* S	Sn	08 40 33.6	-0.7
TUMR	Tumrok	1.76	353	*i* P	Pn	08 40 15.6	-0.1
TUMR				*i* S	Sn	08 40 37.0	-0.1
GRL	Gorelyy	1.78	237	*e*P	Pn	08 40 16.4	+0.5
GRL				*i* S	Sn	08 40 39.1	+1.6
KMNR	Kamenistaya	2.23	356	*e*P	Pn	08 40 22.4	+0.4
KMNR				*i* S	Sn	08 40 48.9	+0.5
KPT	Kopyto	2.44	356	*e*P	Pn	08 40 25.2	+0.3
ZLN	Zelenaya	2.49	4	*e*P	Pn	08 40 26.1	+0.5
ZLN				*i* S	Sn	08 40 56.0	+1.2
KOZ	Kozyrevsk	2.55	352	*e*P	Pn	08 40 26.7	+0.3
KOZR	Kozyr	2.56	352	PN	Pn	08 40 26.7	+0.2
CIRR	Tsirk	2.58	3	*e*P	Pn	08 40 27.5	+0.6
CIRR				*i* S	Sn	08 40 58.4	+1.2
MIPR	Malaya Ipel'ka	2.60	242	*e*P	Pn	08 40 29.0	+1.8
MIPR				*i* S	Sn	08 41 00.8	+3.1
KRSR	Krestovskiy	2.68	1	*e*P	Pn	08 40 28.5	+0.3
KRSR				*i* S	Sn	08 40 59.6	0.0
KLY	Klyuchi	2.78	2	*e*P	Pn	08 40 29.6	0.0
KLY				*i* S	Sn	08 41 01.9	-0.1
SRDR	Sredinnyy	2.82	351	*e*P	Pn	08 40 29.8	-0.3
BDR	Baidarnaya	3.06	7	*e*P	Pn	08 40 33.9	+0.5
BDR				*i* S	Sn	08 41 09.3	+0.5
SMKR	Semkarok	3.10	10	*e*P	Pn	08 40 33.9	0.0
SMKR				*i* S	Sn	08 41 09.2	-0.5
SRKR	Sorokina	3.14	7	*e*P	Pn	08 40 34.8	+0.3
SRKR				*i* S	Sn	08 41 11.2	+0.4
SKR	Severo-Kuril's	3.94	225	*e*PN	Pn	08 40 43.0	-2.4
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ALID	Alaid	4.06	231	*e*P	Pn	08 40 49.5	+2.4
ASAJ	Asahikawa	15.07	238	LR	LR	08 48 44.7	
	comp=Z,57nm,19.7s,baz=339,slow=36						
YAK	Yakutsk	18.34	310	*e*P	Pn	08 43 54.8	-2.5
YAK				pmax	pmax		
	comp=Z,69nm,0.6s						
YAK	Yakutsk	18.34	310	*e*P	Pn	08 43 54.8	-2.5
	comp=Z,69nm,0.6s						
MJAR	Matsushiro Arr	23.02	231	P	P	08 44 48.0	+0.9
	comp=Z,1.8nm,0.8s,mb3.5,baz=20,slow=11,SNR=5.6						
MAJO	Matsushiro	23.02	231	*e*P	P	08 44 49.2	+2.1
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
MAJO	Matsushiro	23.02	231	*e*P	P	08 44 49.1	+2.0
	comp=Z,7.6nm,0.6s,mb4.3						
TTA	Tatalina	24.27	50	*e*P	P	08 44 58.5	-0.1
TTA				*e*		08 45 06.1	
TTA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
TTA	Tatalina	24.27	50	*e*P	P	08 44 58.5	-0.2
	comp=Z,3.9nm,0.6s,mb4.0						
TTA				*e*		08 45 06.1	
JHJ	Hachijo jima 2	25.21	224	LR	LR	08 54 12.2	
	comp=Z,29nm,19.7s,baz=317,slow=34						
IMA2	Indian Mountai	25.54	43	*e*P	P	08 45 09.8	-0.4
COLA	College	27.91	46	*e*P	P	08 45 31.1	-0.3
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
COLA	College	27.91	46	*e*P	P	08 45 31.1	-0.3
	comp=Z,3.3nm,0.9s,mb4.0						
CBIJ	Chichi jima	29.70	214	LR	LR	08 55 53.7	
	comp=Z,43nm,19.9s,baz=95,slow=33						
EGAK	Eagle	30.77	45	*e*P	P	08 45 55.5	-1.3
INK	Inuvik	33.36	38	P	P	08 46 19.2	-0.3
	comp=Z,3.1nm,0.7s,mb4.3,baz=272,slow=4.2,SNR=5.5						
INK	Inuvik	33.36	38	*e*P	P	08 46 18.8	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	33.36	38	*e*P	P	08 46 18.8	-0.7
	comp=Z,3.0nm,0.8s,mb4.3						
SONM	Songino Array	34.05	283	P	P	08 46 24.9	-0.6
	comp=Z,0.8nm,0.5s,mb3.9,baz=56,slow=8.2,SNR=8.0						
SONM				PcP	PcP	08 49 01.7	-0.2
	comp=Z,0.7nm,0.6s,baz=83,slow=2.0,SNR=5.3						
SONM				LR	LR	09 01 40.1	
	comp=Z,38nm,19.7s,baz=52,slow=39						
SONM	Songino Array	34.05	283	P	P	08 46 24.9	-0.6
SONM						08 49 01.7	
YKA	Yellowknife Ar	42.66	43	P	P	08 47 37.3	-0.4
	comp=Z,2.4nm,0.6s,mb4.1,baz=297,slow=7.6,SNR=8.2						
YKA				LR	LR	09 05 27.7	
	comp=Z,34nm,18.9s,baz=0.0,slow=36						
ZAL	Zalesovo	42.77	302	P	P	08 47 36.8	-1.8
	comp=Z,1.3nm,0.3s,mb4.1,baz=78,slow=16,SNR=4.0						
NVS	Novosibirsk	43.07	304	*e*P	P	08 47 38.4	-2.7
NVS				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
NVS				pmax	pmax		
	comp=E,8.0nm,0.8s						
WMQ	Urumqi	47.06	289	*e*P	P	08 48 14.0	+1.3
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
MKAR	Makanchi Array	48.19	296	P	P	08 48 19.4	-2.1
	comp=Z,1.0nm,0.4s,mb4.2,baz=56,slow=6.6,SNR=16						
CHKZ	Chkalovo	49.80	309	*e*P	P	08 48 30.8	-2.9
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	Chkalovo	49.80	309	*e*P	P	08 48 30.8	-3.0
	comp=Z,3.0nm,0.6s,mb4.5						
BVAR	Borovoye Array	50.31	308	P	P	08 48 34.7	-2.9
	comp=Z,2.1nm,0.4s,mb4.5,baz=61,slow=7.8,SNR=13						
ZRNK	Zerenda	51.01	309	*e*P	P	08 48 41.5	-1.4
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	Zerenda	51.01	309	*e*P	P	08 48 41.5	-1.4
	comp=Z,1.4nm,0.5s,mb4.2						
KEV	Kevo	52.47	341	*e*p	P	08 48 51.9	-1.9
ARCES	ARCESS Array B	52.94	342	P	P	08 48 55.5	-1.8
	comp=Z,4.0nm,0.8s,mb4.4,baz=45,slow=9.3,SNR=13						
SUMG	Summit	53.49	7	*e*P	P	08 49 00.8	-0.4
	comp=Z,9.4nm,0.9s,mb4.7						
NVAR	Mina Array Bea	55.35	71	P	P	08 49 15.8	+0.9
	comp=Z,1.1nm,0.7s,mb4.0,baz=302,slow=7.1,SNR=13						
LAO	LASA Array	56.04	56	*e*P	P	08 49 20.8	+1.0
	comp=Z,3.8nm,0.8s,mb4.5						
HWUT	Hardware Ranch	56.84	64	*e*P	P	08 49 26.4	+1.0
	comp=Z,2.4nm,0.6s,mb4.4						
BW06	Boulder Array	57.08	61	*e*P	P	08 49 27.8	+0.6
	comp=Z,0.9nm,0.5s,mb4.1						
PDAR	Pinedale Array	57.08	61	P	P	08 49 28.0	+0.9
	comp=Z,1.6nm,0.8s,mb4.1,baz=333,slow=3.7,SNR=14						
JOF	Joensuu	57.27	335	*e*p	P	08 49 25.1	-3.3
	comp=Z,4.4nm,0.6s,mb4.7						
SFJD	Kangerlussuaq	57.52	14	P	P	08 49 28.2	-2.0
	comp=Z,4.0nm,0.4s,mb4.8,baz=221,slow=4.0,SNR=5.1						
ULM	Lac du Bonnet	58.33	47	P	P	08 49 35.8	-0.1
	comp=Z,1.4nm,0.4s,mb4.3,baz=302,slow=9.1,SNR=8.9						
RSSD	Black Hills	58.95	57	*e*P	P	08 49 40.9	+0.7
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
RSSD	Black Hills	58.95	57	*e*P	P	08 49 40.9	+0.8
	comp=Z,6.7nm,0.8s,mb4.7						
KAF	Kangasniemi	59.17	337	*e*p	P	08 49 40.1	-1.6
	comp=Z,5.2nm,0.6s,mb4.7						
KAF	Kangasniemi	59.17	337	*e*P	P	08 49 40.1	-1.6
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
FINES	FINESS Array B	59.81	337	P	P	08 49 44.9	-1.3
	comp=Z,3.9nm,0.5s,mb4.7,baz=37,slow=9.0,SNR=39						
ISCO	Idaho Springs	61.28	61	*e*P	P	08 49 57.3	+1.2
ISCO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.2						
ISCO	Idaho Springs	61.28	61	*e*P	P	08 49 57.3	+1.1
	comp=Z,2.0nm,1.0s,mb4.2						
ISCO				*e*		08 50 02.9	
NB2	NORSAR Subarra	63.19	344	P	P	08 50 07.8	-1.1
	comp=Z,4.8nm,0.6s,mb4.8,baz=22,slow=6.9						
NOA	NORSAR Array B	63.19	344	P	P	08 50 08.1	-0.8
	comp=Z,5.0nm,0.7s,mb4.8,baz=20,slow=6.6,SNR=20						
SCHQ	Schefferville	65.14	28	P	P	08 50 19.7	-1.9
	comp=Z,5.0nm,0.9s,mb4.5,baz=247,slow=12,SNR=4.7						
SCIA	State Center	65.85	52	*e*P	P	08 50 26.2	0.0
AKASG	Malin Array Be	68.36	329	P	P	08 50 40.3	-1.9
	comp=Z,2.2nm,0.4s,mb4.5,baz=29,slow=6.9,SNR=12						
WMOK	Wichita Mounta	68.66	60	*e*P	P	08 50 44.1	+0.1
WMOK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WMOK	Wichita Mounta	68.66	60	*e*P	P	08 50 44.1	+0.1
	comp=Z,4.0nm,0.8s,mb4.4						
STHS	Stebnicka Huta	71.81	333	*e*P	P	08 51 03.0	-0.3
KOLS	Kolonicke sedl	71.97	332	*e*	P	08 51 06.5	+2.3
CLL	Collm	72.03	339	⇓*i*P	P	08 51 04.2	-0.4
	comp=Z,9.0nm,0.9s,mb4.7						
CLL	Collm	72.03	339	⇓*i*P	P	08 51 04.2	-0.4
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
DPC	Dobruska-Polom	72.18	337	*e*P	P	08 51 05.9	+0.4
CRVS	Cervenica-Dubn	72.22	333	*e*	P	08 51 02.9	-2.8
BRG	Berggiesshubel	72.23	339	*i* P	P	08 51 05.9	+0.1
	comp=Z,3.6nm,1.3s,mb4.2						
BURAR	Bucovina Array	72.32	330	⇑*i*P	P	08 51 05.4	-0.9
PRU	Pruhonice	72.93	338	*e*P	P	08 51 09.7	-0.3
DRGR		73.79	331	⇓*i*P	P	08 51 14.2	-0.8
KHC	Kasperske Hory	73.95	338	*e*P	P	08 51 16.3	+0.3
GERES	GERESS Array B	74.20	338	P	P	08 51 17.6	+0.2
	comp=Z,2.2nm,0.6s,mb4.2,baz=34,slow=5.5,SNR=21						
GIVF	Givet	74.72	344	*e*P	P	08 51 20.1	-0.3
BAIF	Baives	74.86	344	*e*P	P	08 51 21.1	-0.1
	comp=Z,10nm,0.8s,mb4.5						
BAIF	Baives	74.86	344	*e*P	P	08 51 21.1	-0.1
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
BAIF	Baives	74.86	344	*e*P	P	08 51 21.1	-0.1
	comp=Z,5.2nm,0.8s,mb4.5						
CDF	Champ du Feu	75.92	342	*e*P	P	08 51 27.3	0.0
	comp=Z,8.0nm,0.7s,mb4.5						
CDF	Champ du Feu	75.92	342	*e*P	P	08 51 27.3	0.0
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CDF	Champ du Feu	75.92	342	*e*P	P	08 51 27.3	0.0
	comp=Z,4.0nm,0.7s,mb4.5						
HAU	Haudompre	76.48	342	*e*P	P	08 51 30.4	-0.1
HINF	Hinteralfeld	76.57	342	*e*P	P	08 51 30.6	-0.4
	comp=Z,3.1nm,0.6s,mb4.1						
HINF	Hinteralfeld	76.57	342	*e*P	P	08 51 30.6	-0.4
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
HINF	Hinteralfeld	76.57	342	*e*P	P	08 51 30.6	-0.4
	comp=Z,1.5nm,0.6s,mb4.1						
FLN	La Foliniere	76.81	347	*e*P	P	08 51 32.0	-0.3
	comp=Z,7.1nm,0.7s,mb4.4						
LDF	La Druitiere	76.93	347	*e*P	P	08 51 32.5	-0.5
GRR	Gorron	77.23	347	*e*P	P	08 51 34.6	-0.1
	comp=Z,9.4nm,0.7s,mb4.5						
ROSF	Rostrenen	77.57	349	*e*P	P	08 51 36.5	-0.1
	comp=Z,16nm,0.9s,mb4.6						
LOR	Lormes	77.62	344	*e*P	P	08 51 36.8	-0.1
	comp=Z,12nm,0.8s,mb4.5						
LOR	Lormes	77.62	344	*e*P	P	08 51 36.8	-0.1
LOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LOR	Lormes	77.62	344	*e*P	P	08 51 36.8	-0.1
	comp=Z,5.8nm,0.8s,mb4.6						
CABF	La Chapelle	77.88	342	*e*P	P	08 51 38.8	+0.5
	comp=Z,7.3nm,0.7s,mb4.4						
CABF	La Chapelle	77.88	342	*e*P	P	08 51 38.8	+0.5
CABF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CABF	La Chapelle	77.88	342	*e*P	P	08 51 38.8	+0.5
	comp=Z,3.7nm,0.7s,mb4.4						
QUIF	Quistinic	77.97	349	*e*P	P	08 51 38.7	-0.1
	comp=Z,19nm,1.0s,mb4.7						
AVF	Avril sur Loir	78.17	344	*e*P	P	08 51 40.0	+0.1
	comp=Z,8.1nm,0.8s,mb4.4						
AVF	Avril sur Loir	78.17	344	*e*P	P	08 51 40.0	+0.1
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AVF	Avril sur Loir	78.17	344	*e*P	P	08 51 40.0	+0.1
	comp=Z,4.1nm,0.8s,mb4.4						
SMF	Signal de Mont	78.23	344	*e*P	P	08 51 40.2	-0.1
	comp=Z,6.5nm,0.8s,mb4.3						
SMF	Signal de Mont	78.23	344	*e*P	P	08 51 40.2	-0.1
SMF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
SMF	Signal de Mont	78.23	344	*e*P	P	08 51 40.2	-0.1
	comp=Z,3.3nm,0.8s,mb4.3						
BGF	Bois d'Agland	78.48	344	*e*P	P	08 51 42.6	+1.0
LPL	La Plagne	78.81	342	*e*P	P	08 51 44.7	+1.3
	comp=Z,21nm,0.8s,mb4.8						
LPG	La Plagne	78.83	342	*e*P	P	08 51 45.0	+1.5
	comp=Z,24nm,0.8s,mb4.9						
TCF	Toulx Ste Croi	78.84	345	*e*P	P	08 51 43.8	+0.2
	comp=Z,2.2nm,0.5s,mb4.1						
MFF	Saint Martin d	78.88	347	*e*P	P	08 51 44.1	+0.3
ORIF	Oris-en-Rattie	79.55	342	*e*P	P	08 51 48.6	+1.1
	comp=Z,21nm,1.0s,mb4.7						
MBDF	Montbardon	79.56	341	*e*P	P	08 51 48.2	+0.6
	comp=Z,13nm,0.8s,mb4.6						
VIVF	Saint-Julien-l	79.83	343	*e*P	P	08 51 49.8	+0.8
	comp=Z,10nm,1.0s,mb4.4						
CAF	Calviac	80.19	345	*e*P	P	08 51 51.9	+0.9
	comp=Z,4.6nm,0.7s,mb4.2						
SBF	Sospel	80.27	341	*e*P	P	08 51 51.5	+0.2
	comp=Z,32nm,0.9s,mb4.9						
ASAR	Alice Springs	80.27	205	P	P	08 51 52.5	+1.1
	comp=Z,0.9nm,0.6s,mb3.9,baz=20,slow=5.4,SNR=13						
ASAR	Alice Springs	80.27	205	P	P	08 51 52.5	+1.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FRF	La Foret Royal	80.71	341	*e*P	P	08 51 53.9	+0.2
	comp=Z,18nm,0.8s,mb4.8						
LASF	Ste Croix	80.72	343	*e*P	P	08 51 55.0	+1.2
LMR	La Mourre	80.96	341	*e*P	P	08 51 55.5	+0.5
MTLF	Montolieu	81.71	344	*e*P	P	08 52 00.3	+1.3
	comp=Z,7.9nm,0.9s,mb4.3						
EPF	Esparros	82.31	345	*e*P	P	08 52 04.0	+1.8
ETSF	Etsaut	82.57	346	*e*P	P	08 52 04.9	+1.4
	comp=Z,4.9nm,0.6s,mb4.4						
ESDC	Sonseca Array	86.20	348	P	P	08 52 22.1	+0.2
	comp=Z,1.1nm,0.7s,mb4.2,baz=1.6,slow=5.2,SNR=12						
KEST	Kesra	87.65	337	P	P	08 52 28.9	0.0
	comp=Z,0.5nm,0.5s,mb4.0,baz=248,slow=22,SNR=4.3						

BJI **10** *08:57:36.4, 2759N×5321E, h14km, mB5.1, mb5.0, Ms4.8, Msz4.6*
CSEM **10** *08:57:43.3±0.1, 2766N×54.10E, h20km, mb4.6/40, Ms4.1, Mw5.0, Error ellipse: s-maj=2.8km s-min=1.8km az=14.0*
ISCJB **10** *08:57:45.1±0.1, 2775N±002×54.14E±002, h26km, mb4.7/130, MS4.3/46, Error ellipse: s-maj=3.3km s-min=2.2km az=75.3*
GCMT **10** *08:57:46.0±0.5, 2754N×5429E, h23km±1km, MW5.0/60, Moment Tensor Solution. s25,c27; s60,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.20; $M_{\theta\theta}$-3.38±.16; $M_{\phi\phi}$1.35±.16; $M_{r\theta}$1.13±.24; $M_{\theta\phi}$1.52±.12; $M_{\phi r}$1.18±.33; Best double couple: $M_0$3.66700×10^{16} NP1:ϕ_s321.00000°,δ52.00000°,λ147.00000°. NP2: ϕ_s73.00000°,δ65.00000°,λ43.00000°. Principal axes: T 3.4060, Plg48.0000°, Azm293.0000°; N 0.5120, Plg41.0000°, Azm98.0000°; P -3.9280, Plg8.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS **10** *08:57:46.2±0.9, 2779N×5407E, h33km, mb4.9/57, MS4.1/12 Error ellipse: s-maj=7.2km s-min=4.0km az=119.4*
NEIC **10** *08:57:46.0, 2772N×5432E, h14km, mb4.7/75, MS4.1/4, ML4.8(THR), MN4.7(TEH), After THR.*
THR **10** *08:57:46.0±0.4, 2772N×5432E, h14km±7km, ML4.8*
SZGRF **10** *08:57:47.8, 2844N×5501E, h33km, mb4.2, Southern Iran*
IDC **10** *08:57:50.7±2.6, 2785N×5420E, h56km±23km, mb4.3/27, mb1 4.4/30, mb1mx4.4/33, mbtmp4.5/30, ML3.4/3, MS4.1/25, Ms1 4.1/25, ms1mx4.0/36, Error ellipse: s-maj=13.1km s-min=10.1km az=117.0*
TEH **10** *08:57:50.9, 2790N×5399E, h22km, Mn4.7*
ISC 10 08:57:47.4±0.1**, 2777N**±002×**5415E**±002**, h28**km**, h28**km±1.8km**:pP-P, n447, σ1s08**/445**, mb4.7**/130**, MS4.3**/46**, 20C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.15	297	ePG	Pn	08 58 10.3	+2.7
GHIR				eSG	Sn	08 58 27.9	+5.5
GHIR				AML	AML	08 58 31.7	
	comp=E,17µm,0.4s						
GHIR				AML	AML	08 58 52.2	
	comp=N,9µm,0.7s						
GHIR	Ghir-Karzin	1.15	297	Pg	Pn	08 58 10.0	+2.4
GHIR				Sg	Sn	08 58 27.0	+4.6
BNDS	Bandar-Abbas	1.83	101	ePG	Pn	08 58 16.7	-0.3
BNDS				AML	AML	08 58 50.6	
	comp=E,12µm,0.3s						
BNDS				AML	AML	08 58 53.9	
	comp=N,9µm,0.3s						
BNDS	Bandar-Abbas	1.83	101	Pg	Pn	08 58 16.0	-1.1
ISRV	Sarvestan	1.85	331	ePn	Pn	08 58 19.5	+2.3
ISRV	Sarvestan	1.85	331	Pn	Pn	08 58 19.4	+2.2
BANOM	Banah	2.66	133	P	Pn	08 58 28.7	+0.2
	SNR=134						
KRBR	Kerman	3.18	45	ePN	Pn	08 58 36.9	+1.3
KRBR				AML	AML	08 59 27.0	
	comp=N,3µm,0.5s						
KRBR				AML	AML	08 59 32.1	
	comp=E,3µm,0.5s						
KRBR	Kerman	3.18	45	Pn	Pn	08 58 36.0	+0.4
HATD	Hatta, Dubai	3.43	148	P	Pn	08 58 40.5	+1.5
	SNR=53						
ASHO	Ashiyiah	3.52	150	⇑P	Pn	08 58 41.6	+1.4
	SNR=69						
IMEH	Mehriz	3.63	6	ePn	Pn	08 58 43.7	+1.9
IMEH	Mehriz	3.63	6	Pn	Pn	08 58 43.6	+1.8
IBAF	Bafgh	4.00	18	ePn	Pn	08 58 47.8	+0.9
IBAF	Bafgh	4.00	18	Pn	Pn	08 58 47.7	+0.8
ISAD	Sadrabad	4.15	355	eSn	Sn	08 59 34.9	-1.6
ICHK	Chekchek	4.47	3	ePn	Pn	08 58 54.6	+1.3
ARQ	Araqi	4.91	154	P	Pn	08 59 00.7	+1.4
	SNR=27						
ARQ				⇓S	Sn	08 59 56.3	+1.1
HOQ	Hoqain	5.05	145	⇓P	Pn	08 58 59.6	-1.7
	SNR=16						
BIDO	Bidbid	5.55	139	⇑P	Pn	08 59 08.2	+0.1
	SNR=12						
BSY	Bisya	5.71	150	⇑P	Pn	08 59 11.8	+1.3
	SNR=52						
BSYO	Bisya	5.74	150	P	Pn	08 59 11.8	+1.0
	SNR=52						
KBD	Kabd	5.85	285	eP	Pn	08 59 12.4	+0.1
KBD				AML	AML	09 00 21.1	
	comp=Z,438nm,0.3s						
SMDO	Samad	5.87	142	P	Pn	08 59 13.8	+1.3
	SNR=16						
UMR	Umm Al-Rimmam	5.92	289	eP	Pn	08 59 13.2	-0.1
RDF	Al-Radifah	5.93	283	eP	Pn	08 59 13.6	+0.2
RDF				AML	AML	09 00 24.0	
	comp=Z,172nm,0.4s						
ZHSF	Zahedan	6.11	71	ePN	Pn	08 59 16.5	+0.7
ZHSF	Zahedan	6.11	71	Pn	Pn	08 59 16.0	+0.2
NAY	Al-Naaiem	6.25	285	eP	Pn	08 59 18.4	+0.6
NAY				AML	AML	09 00 31.0	
	comp=Z,105nm,0.6s						
SHGR	Shooshtar-Gavs	6.34	314	ePN	Pn	08 59 23.5	+4.5
SHGR	Shooshtar-Gavs	6.34	314	Pn	Pn	08 59 23.0	+4.0
JMDO	Jabal Madar	6.46	145	⇑P	Pn	08 59 21.1	+0.4
	SNR=12						
WBK	Wadi Bani Khal	6.74	139	P	Pn	08 59 24.8	+0.3
	SNR=54						
ISFB	Sefidab	6.77	346	ePn	Pn	08 59 25.9	+1.1
IVRN	Varamin	7.50	345	ePn	Pn	08 59 35.0	+0.1
IVRN				eSn	Sn	09 00 53.4	-5.5
IVRN	Varamin	7.50	345	Pn	Pn	08 59 35.0	+0.1
IVRN				Sn	Sn	09 00 53.3	-5.6
IFIR	Firoozkooh	7.94	352	ePn	Pn	08 59 41.3	+0.4
IDMV	Damavand	7.99	348	ePn	Pn	08 59 42.4	+0.7
IDMV	Damavand	7.99	348	Pn	Pn	08 59 42.3	+0.6
IAFJ	Afjeh	8.32	346	ePn	Pn	08 59 47.0	+0.8
IKIA	Kiasar	8.42	357	ePn	Pn	08 59 48.1	+0.5
IGLO	Galoogah	8.53	356	ePn	Pn	08 59 53.5	+4.4
IGLO	Galoogah	8.53	356	Pn	Pn	08 59 53.4	+4.3
IPRN	Paran-Amol	8.60	350	ePn	Pn	08 59 51.7	+1.7
IPRN	Paran-Amol	8.60	350	Pn	Pn	08 59 51.6	+1.6
IPAY	Payeh	9.58	24	ePn	Pn	09 00 04.1	+0.6
IPAY	Payeh	9.58	24	Pn	Pn	09 00 04.0	+0.5
SHAO	Shalim	9.79	172	P	Pn	09 00 05.6	-0.8
	SNR=28						
ISFR	Esferayen	9.80	18	ePn	Pn	09 00 07.8	+1.3
WHFO	Wadi Hawf	9.81	182	⇑P	Pn	09 00 06.8	+0.2
	SNR=21						
IMYA	Miamay	9.93	29	ePn	Pn	09 00 09.5	+1.3
BHD	Baghdad	10.05	305	ex	x	09 00 07.0	
BHD				ex	x	09 02 02.0	
BHD				ex	x	09 03 53.0	
BHD				ex	x	09 04 30.0	
ISHV	Shirvan	10.19	16	ePn	Pn	09 00 13.9	+2.2
ISHV	Shirvan	10.19	16	Pn	Pn	09 00 13.8	+2.1
RBK	Rabkut	10.22	180	P	Pn	09 00 12.1	0.0
	SNR=67						
MSL	Mosul	12.65	315	ex	x	09 00 47.5	
MSL				ex	x	09 03 17.0	
MSL				ex	x	09 05 03.0	
MSL				ex	x	09 05 42.0	
ISHB	Shabestar	12.69	328	ePn	Pn	09 00 45.1	-0.9
IMRD	Marand	12.99	329	ePn	Pn	09 00 49.9	-0.2
HKR	Hakkari	13.12	321	eP	Pn	09 00 52.7	+0.8
TVAN	Van	13.99	323	iP	Pn	09 01 08.1	+4.3
VANB	Van	14.05	323	eP	Pn	09 01 07.1	+2.6
CLDR	Caldiran	14.19	326	eP	Pn	09 01 10.6	+4.2
GNI	Garni	14.60	330	eP	Pn	09 01 17.6	+5.6
GNI	Garni	14.60	330	P	Pn	09 01 14.9	+2.9
	comp=Z,1.1nm,0.3s,baz=158,slow=11,SNR=6.2						
GNI				LR	LR	09 07 44.8	
	comp=Z,1µm,18.1s,baz=325,slow=41						
GNI	Garni	14.60	330	eP	Pn	09 01 14.8	+2.8
GNI				pmax	pmax		
	comp=Z,49nm,0.8s						
GNI	Garni	14.60	330	ePn	Pn	09 01 14.8	+2.8
	comp=Z,49nm,0.8s						
GNI	Garni	14.60	330	eP	Pn	09 01 14.8	+2.8
	comp=Z,49nm,0.8s						
DGRG	David-gareji	15.43	334	P	Pn	09 01 30.7	+7.6
DGRG				S	Sn	09 04 38.7	+26
ASF	Jabal al Asfar	15.58	291	P	Pn	09 01 28.6	+3.6
	comp=Z,0.9nm,0.3s,baz=341,slow=5.0,SNR=8.9						
ASF				LR	LR	09 08 57.8	
	comp=Z,694nm,19.2s,baz=330,slow=43						
BINT	Bingol	15.89	318	eP	Pn	09 01 28.4	-0.6
THW	Thamme Wali	16.00	67	P	Pn	09 01 28.3	-2.2
ERZM	Erzurum	16.08	322	iP	Pn	09 01 33.3	+1.8
EZM	Erzurum	16.08	322	eP	Pn	09 01 32.8	+1.3
MAK	Makhachkala	16.09	342	iP	Pn	09 01 30.4	-1.2
MAK				iS	Sn	09 04 29.2	+0.1
MAK				pmax	pmax		
	comp=Z,180nm,1.1s						
MAK				MLR	MLR		
	comp=Z,1µm,16.0s						
MAK	Makhachkala	16.09	342	iP	Pn	09 01 30.4	-1.2
	comp=Z,180nm,1.1s						
URFA	Urfa	16.10	311	eP	Pn	09 01 30.8	-1.0
CEP	Cherat	16.41	64	P	Pn	09 01 35.2	-0.4
PTK	Pertek	16.56	316	eP	Pn	09 01 36.8	-0.8
MALT	Malatya	16.84	313	eP	Pn	09 01 42.8	+1.7
MALT				pmax	pmax		
	comp=Z,26nm,0.7s						
MALT	Malatya	16.84	313	eP	Pn	09 01 42.8	+1.7
	comp=Z,26nm,0.7s						
MALT	Malatya	16.84	313	eP	Pn	09 01 42.8	+1.7
	comp=Z,26nm,0.7s						
MYA	Malataya	16.84	313	eP	Pn	09 01 40.5	-0.7
EZC	Erzincan	16.85	319	eP	Pn	09 01 44.6	+3.4
GZT	Gaziantep	16.91	309	iP	Pn	09 01 43.9	+1.8
EIL	Elat	16.95	281	eP	Pn	09 01 47.2	+4.8
	comp=Z,301nm,0.8s						
BHL	Bhannes	17.01	296	eP	Pn	09 01 47.2	+3.9
GAZ	Gaziantep	17.07	308	eP	Pn	09 01 44.9	+0.9
ZEI	Tsey	17.13	334	eP	Pn	09 01 46.7	+2.0
ONI	Oni	17.15	332	P	Pn	09 01 45.6	+0.7
CHCP	Chirah Chowk	17.45	66	P	Pn	09 01 47.4	-1.3
CHCP				S	Sn	09 04 50.0	-12
KMRS	Kahramanmaras	17.45	308	eP	Pn	09 01 47.4	-1.3
COBT	Iskenderun	17.46	304	iP	Pn	09 01 41.3	-7.6
KOZT	Kozan	18.19	307	eP	Pn	09 01 58.5	+0.7
AJM	Ajmer	18.29	89	eP	Pn	09 01 58.9	-0.2
AJM				AMb	AMB	09 02 01.6	
	comp=Z,46nm,1.6s						
KIV	Kislovodsk	18.60	333c	iP	Pn	09 02 04.1	+1.2
KIV				pmax	pmax		
	comp=Z,81nm,1.2s						
KIV				MLR	MLR		
	comp=Z,160nm,8.0s						
KIV	Kislovodsk	18.60	333	eP	Pn	09 02 04.7	+1.8
	comp=Z,88nm,1.1s						
KIV	Kislovodsk	18.60	333	iP	Pn	09 02 04.1	+1.2
	comp=Z,160nm,8.0s						
SVSK	Karacayir	18.66	315	eP	Pn	09 02 04.9	+1.3
BNN	Bunyan	18.84	311	eP	Pn	09 02 07.2	+1.5
CSS	Prodhromos	19.15	297	eP	Pn	09 02 10.7	+1.2
	comp=Z,28nm,0.9s						
CSS	Prodhromos	19.15	297	eP	Pn	09 02 10.7	+1.2
	comp=Z,28nm,0.9s						
ATD	Arta Tunnel	19.32	215	P	Pn	09 02 11.4	-0.1
	comp=Z,0.7nm,0.3s,baz=147,slow=23,SNR=4.7						
ATD				LR	LR	09 10 30.7	
	comp=Z,430nm,18.2s,baz=231,slow=39						
ATD	Arta Tunnel	19.32	215	P	Pn	09 02 11.4	-0.1
AVNT	Avonos	19.47	309	iP	Pn	09 02 13.7	+0.3
AVNT	Avonos	19.47	309	iP	Pn	09 02 13.6	+0.2
ERMK	Ermenek	20.00	302	iP	Pn	09 02 18.5	-1.0
POO	Poona	20.29	113	eP	P	09 02 19.0	-2.0
SMLA	Simla	20.32	75	eP	P	09 02 20.6	-0.6
SMLA				AMb	AMB	09 02 25.5	
	comp=Z,68nm,0.7s						
NDI	New Delhi	20.35	82	eP	P	09 02 20.0	-1.5
NDI				eP		09 02 20.0	
NDI				eP		09 02 20.5	
NDI				AMb	AMB	09 02 30.2	
	comp=Z,32nm,1.2s						
CTKT	Corum	20.46	314	iP	P	09 02 23.9	+1.1
BR131	Keskin Array S	20.75	310	eP	P	09 02 27.2	+1.2
	comp=Z,15nm,0.6s						
BR131	Keskin Array S	20.75	310	eP	P	09 02 27.2	+1.2
	comp=Z,15nm,0.6s						
BRTR	Keskin Array B	20.75	310	P	P	09 02 27.3	+1.3
	comp=Z,11nm,0.6s,baz=131,slow=13,SNR=55						
BRTR				LR	LR	09 12 37.6	
	comp=Z,406nm,18.9s,MS3.8,baz=114,slow=43						
BOYT	Boyabat	20.83	316	iP	P	09 02 25.8	-1.0
KAD	Karad	21.20	115	eP	P	09 02 30.2	-0.6
KAD				AMb	AMB	09 02 34.8	
	comp=Z,36nm,1.3s,mb4.6						
ELDT	Eldivan	21.27	312	iP	P	09 02 32.9	+1.3
ELDT	Eldivan	21.27	312	iP	P	09 02 32.8	+1.3
KDHN	Kadinhani	21.29	306	iP	P	09 02 33.7	+2.1
ANTO	Ankara	21.40	310	eP	P	09 02 33.8	+0.9
ANTO				pmax	pmax		
	comp=Z,37nm,0.8s,mb4.8						
ANTO	Ankara	21.40	310	eP	P	09 02 33.8	+0.9
	comp=Z,37nm,0.8s,mb4.8						
ANTO	Ankara	21.40	310	eP	P	09 02 33.8	+0.9
	comp=Z,37nm,0.8s,mb4.8						
BHPL	Bhopal	21.48	97	eP	P	09 02 34.5	+0.8
BHPL				AMb	AMB	09 02 40.1	
	comp=Z,63nm,1.0s,mb4.9						
ANN	Anapa	21.62	326	eP	P	09 02 36.3	+1.1
ANN				eS	S	09 06 36.5	+3.3
ANN				pmax	pmax		
	comp=Z,33nm,1.3s,mb4.6						
ANN				MLR	MLR		
	comp=N,676nm,21.0s						
ANN				MLR	MLR		
	comp=Z,617nm,21.0s,MS4.0						
ANN	Anapa	21.62	326	eP	P	09 02 36.3	+1.1
	comp=Z,33nm,1.3s,mb4.6						
EKS2	Erkin-Say	21.79	42	P	P	09 02 37.1	0.0
	SNR=18						
AKL	Akola	21.99	104	eP	P	09 02 39.1	-0.1
AKL				AMb	AMB	09 02 45.0	
	comp=Z,59nm,2.8s,mb4.5						
AAK	Ala-Archa	22.20	43	eP	P	09 02 41.4	-0.1
AAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
AAK	Ala-Archa	22.20	43	eP	P	09 02 41.4	-0.1
	comp=Z,13nm,0.6s,mb4.5						
AAK	Ala-Archa	22.20	43	eP	P	09 02 41.4	-0.1
	comp=Z,13nm,0.6s,mb4.5						
ISP	Isparta	22.21	303	eP	P	09 02 43.5	+1.9
SGKT	Sivrigoynuk	22.23	311	iP	P	09 02 36.8	-5.0
KZA	Kyzart	22.35	45	P	P	09 02 45.0	+2.0
	SNR=14						
FRU	Bishkek	22.39	42	eP	P	09 02 44.0	+0.5
FRU				e		09 03 10.0	
AKAS	Kas	22.41	298	iP	P	09 02 52.0	+8.3
TKTP	Tekketepe	22.42	303	iP	P	09 02 46.5	+2.8
TKTP	Tekketepe	22.42	303	iP	P	09 02 46.5	+2.7
CHMS	Chumysh	22.57	42	P	P	09 02 47.2	+1.8
	SNR=8.2						
USP	Ospenovka	22.57	41	P	P	09 02 46.7	+1.3
	SNR=6.7						
GOLH	Golhisar	22.73	301	iP	P	09 02 47.6	+0.5
AKTK	Aktyubinsk	22.83	6	P	P	09 02 47.5	-0.6
AKTK				LR	LR	09 11 42.5	
AKTK	Aktyubinsk	22.83	6	P	P	09 02 47.5	-0.6
AKTO	Aktyubinsk	22.83	6	P	P	09 02 47.5	-0.6
	comp=Z,6.6nm,0.5s,mb4.3,baz=177,slow=10,SNR=27						
AKTO				LR	LR	09 11 42.5	
	comp=Z,291nm,20.0s,MS3.7,baz=185,slow=37						
TKM2	Tokmak 2	23.03	43	P	P	09 02 50.5	+0.2
	SNR=9.4						
ULHL	Ulahol	23.06	45	P	P	09 02 51.6	+1.0
	SNR=9.8						
HENT	Hendek	23.12	310	iP	P	09 02 45.7	-5.6
DNZL	Cakiroluk	23.26	302	iP	P	09 03 01.7	+9.1
SIM	Simferopol'	23.44	322	eP	P	09 02 53.9	-0.7
SIM				eS	S	09 07 03.3	-2.5
SIM				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.7						
SIM	Simferopol'	23.44	322	eP	P	09 02 53.9	-0.7
	comp=Z,17nm,0.6s,mb4.7						
NGP	Nagpur	23.58	101	ex	P	09 02 51.8	-4.1
NGP				AMb	AMB	09 03 01.2	
	comp=Z,23nm,0.3s,mb5.1						
ULDT	Uludag	24.05	307	iP	P	09 03 02.2	+2.0
HYB	Hyderabad	24.73	109	iP	P	09 03 08.0	+1.6
HYB	Hyderabad	24.73	109	eP	P	09 03 08.0	+1.6
VORD	Divnogorie	25.76	338	eP	P	09 03 16.3	+0.6
VORD				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.9						
VORD				pmax	pmax		
	comp=N,1µm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VORD	Divnogorie	25.76	338	eP	P	09 03 16.3	+0.6
	comp=E,1µm,0.8s						
IDI	Anoyia	25.98	294	P	P	09 03 18.6	+1.0
	comp=E,11nm,0.7s,mb4.5,baz=320,slow=6.6,SNR=7.9						
VRSR	Storozhevoye	26.00	338	eP	P	09 03 17.2	-0.7
VRSR				eS	S	09 07 45.5	-1.4
VRSR				e*SS	sS	09 07 56.8	-3.5
VRSR				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.7						
VRSR				pmax	pmax		
	comp=N,50nm,1.0s						
VRSR				pmax	pmax		
	comp=E,30nm,0.9s						
VRSR				smax			
	comp=N,10.0nm,1.6s						
VRSR				smax			
	comp=Z,4.0nm,1.2s						
VRSR				smax			
	comp=E,10.0nm,2.0s						
VRSR				MLR	MLR		
	comp=Z,310nm,19.0s,MS3.9						
VRSR				MLR	MLR		
	comp=N,250nm,17.0s,MS4.4						
VRSR				MLR	MLR		
	comp=E,940nm,19.0s,MS4.4						
VRSR	Storozhevoye	26.00	338	eP	P	09 03 17.2	-0.7
	comp=E,50nm,1.0s,mb5.0						
KOLN	Koldanda	26.04	83	eP	P	09 03 18.7	+0.5
	comp=E,19nm,0.5s,mb4.9						
VOR	Voronezh	26.44	339	P	P	09 03 22.0	+0.1
VOR				pmax	pmax		
	comp=N,90nm,1.2s						
VOR				pmax	pmax		
	comp=E,80nm,1.2s						
VOR				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.1						
GKN	Gorkha	26.92	82	eP	P	09 03 26.3	+0.1
	comp=Z,47nm,0.7s,mb5.1						
DMN	Daman	27.38	83	eP	P	09 03 30.7	+0.4
	comp=Z,26nm,0.5s,mb5.0						
ZRNK	Zerenda	27.47	20	eP	P	09 03 31.0	-0.1
ZRNK				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.5						
ZRNK	Zerenda	27.47	20	eP	P	09 03 30.9	-0.2
	comp=Z,18nm,1.2s,mb4.5						
ZRNK	Zerenda	27.47	20	eP	P	09 03 31.0	-0.1
	comp=Z,18nm,1.2s,mb4.5						
KKN	Kakani	27.51	83	eP	P	09 03 31.8	+0.3
	comp=Z,56nm,0.4s,mb5.5						
PKI	Pulchoki	27.65	83	eP	P	09 03 32.9	+0.1
	comp=Z,30nm,0.5s,mb5.2						
BRVK	Borovoye	27.96	21	eP	P	09 03 35.3	-0.2
BRVK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
BRVK	Borovoye	27.96	21	eP	P	09 03 35.3	-0.2
	comp=Z,12nm,1.1s,mb4.5						
BRVK	Borovoye	27.96	21	eP	P	09 03 35.3	-0.2
	comp=Z,12nm,1.1s,mb4.5						
BVAR	Borovoye Array	27.96	21	P	P	09 03 35.5	0.0
	comp=Z,9.4nm,0.7s,mb4.5,baz=213,slow=7.6,SNR=35						
BVAR				PcP	PcP	09 06 50.4	+0.1
	comp=Z,3.0nm,0.5s,baz=235,slow=1.7,SNR=5.8						
BVAR				LR	LR	09 14 41.5	
	comp=Z,220nm,20.3s,MS3.7,baz=137,slow=36						
BVAR	Borovoye Array	27.96	21	P	P	09 03 35.5	0.0
BVAR						09 06 50.4	
GUN	Gumba	28.02	82	eP	P	09 03 36.6	+0.5
	comp=Z,50nm,0.5s,mb5.4						
JIRN	Jiri	28.33	83	eP	P	09 03 39.0	+0.2
	comp=Z,35nm,0.5s,mb5.3						
MLR	Muntele Rosu	28.51	316	P	P	09 03 43.7	+3.2
	comp=Z,3.3nm,0.7s,mb4.2,baz=241,slow=17,SNR=6.4						
MLR				LR	LR	09 16 03.9	
	comp=Z,464nm,20.8s,MS4.1,baz=220,slow=38						
MLR	Muntele Rosu	28.51	316⇑	iP	P	09 03 44.2	+3.8
MLR	Muntele Rosu	28.51	316	P	P	09 03 43.7	+3.3
MLR				LR	LR	09 16 03.9	
CHKZ	Chkalovo	28.59	21	eP	P	09 03 40.5	-0.6
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
CHKZ	Chkalovo	28.59	21	eP	P	09 03 40.5	-0.6
	comp=Z,3.8nm,0.7s,mb4.2						
CHKZ	Chkalovo	28.59	21	eP	P	09 03 40.5	-0.6
	comp=Z,3.8nm,0.7s,mb4.2						
BOK	Bokaro	28.81	91	eP	P	09 03 43.9	+0.8
ARU	Arti	28.82	5	eP	P	09 03 41.9	-1.2
ARU				e		09 04 31.6	
ARU				e		09 06 48.1	
ARU				eS	S	09 08 31.0	-0.3
ARU				eSS	SS	09 09 54.8	-39
ARU				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,300nm,18.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,15.0s,MS4.0						
ARU	Arti	28.82	5	eP	P	09 03 42.4	-0.8
	comp=E,6.9nm,0.7s,mb4.5						
ARU	Arti	28.82	5	eP	P	09 03 42.3	-0.8
	comp=E,6.9nm,0.7s,mb4.5						
MKAR	Makanchi Array	29.12	42	P	P	09 03 45.7	-0.1
	comp=E,2.8nm,0.6s,mb4.2,baz=228,slow=7.3,SNR=19						
MKAR				PcP	PcP	09 06 52.2	-1.0
	comp=E,1.2nm,0.5s,baz=239,slow=3.4,SNR=4.3						
SVE	Sverdlovsk	29.41	7	eP	P	09 03 48.2	-0.2
SVE				MLR	MLR		
	comp=N,1µm,11.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,400nm,11.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,1µm,11.0s,MS4.7						
AKASG	Malin Array Be	29.69	327	P	P	09 03 49.8	-1.1
	comp=Z,2.3nm,0.6s,mb4.1,baz=135,slow=8.6,SNR=14						
AKASG	Malin Array Be	29.69	327	iP	P	09 03 49.7	-1.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKBB	Malin Array Si	29.69	327	eP	P	09 03 49.5	-1.4
BURAR	Bucovina Array	30.00	319⇓	iP	P	09 03 54.6	+0.9
OBN	Obninsk	30.16	340⇑	eP	P	09 03 56.2	+1.2
OBN				e	pP	09 04 05.0	+1.9
OBN						09 04 55.0	
OBN				S	S	09 08 56.0	+3.7
OBN				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.9						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS3.9						
OBN	Obninsk	30.16	340	eP	P	09 03 54.6	-0.4
	comp=Z,25nm,0.7s,mb5.0						
OBN	Obninsk	30.16	340	eP	P	09 03 56.2	+1.2
	comp=Z,24nm,1.0s,mb4.9						
DRGR		31.11	316⇓	iP	P	09 04 04.0	+0.6
WMQ	Urumqi	31.32	50	P	P	09 04 05.8	+0.6
WMQ				AP	pP	09 04 17.0	+3.6
WMQ				PP	PP	09 05 10.0	-6.1
WMQ				PCP	PcP	09 06 59.0	+0.1
WMQ				S	S	09 09 08.5	-1.9
WMQ				XS	sS	09 09 29.0	+5.1
WMQ				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,114nm,3.5s						
WMQ				LR	LR		
	comp=N,799nm,13.2s,MS4.7						
WMQ				LR	LR		
	comp=E,862nm,14.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,1µm,22.0s						
SOKR	Solikamsk	31.84	3c	iP	P	09 04 10.8	+0.9
SOKR				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.4						
UZH	Uzhgorod	32.21	319	eP	P	09 04 15.0	+1.9
UZH				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
KOLS	Kolonicke sedl	32.37	319	eP	P	09 04 15.0	+0.5
CRVS	Cervenica-Dubn	32.82	319	eP	P	09 04 18.9	+0.4
KMBO	Kilima Mbogo	33.00	212	LR	LR	09 19 10.9	
	comp=Z,956nm,19.3s,MS4.5,baz=274,slow=39						
KECS	Kecovo	33.21	318	eP	P	09 04 21.1	-0.7
KECS				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KECS	Kecovo	33.21	318	eP	P	09 04 21.1	-0.7
	comp=Z,4.1nm,0.9s,mb4.4						
PKSM	Moragy	33.45	313⇑	iP	P	09 04 24.5	+0.6
VYHS	Vyhne	34.20	317	eP	P	09 04 29.7	-0.8
NVS	Novosibirsk	34.31	30	eP	P	09 04 28.0	-3.4

NVS *eS* **S** **09 10 04.9 +7.9**
NVS pmax pmax
comp=Z,25nm,1.9s,mb4.8
NVS smax
comp=N,21nm,1.8s
OJC Ojcow 34.40 320 *eP* **P** **09 04 31.8 -0.4**
ZAL Zalesovo 34.46 32 P **P** **09 04 32.4 -0.3**
comp=N,8.8nm,0.5s,mb4.9,baz=230,slow=7.8,SNR=28
ZAL LR LR 09 21 49.4
comp=N,401nm,19.3s,MS4.2,baz=238,slow=42
OKC Ostrava-Krasne 35.18 319 *eP* **P** **09 04 38.4 -0.5**
MORC Moravsky Berou 35.51 318⇑ *iP* **P** **09 04 41.3 -0.4**
MORC Moravsky Berou 35.51 318 *eP* **P** **09 04 40.5 -1.2**
MORC *e**PP pP 09 04 50.4 +0.5
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MORC Moravsky Berou 35.51 318 *eP* **P** **09 04 40.5 -1.2**
comp=Z,6.6nm,0.8s,mb4.6
MORC *e*pP pP 09 04 50.4 +0.4
MORC Moravsky Berou 35.51 318 *eP* **P** **09 04 41.2 -0.5**
VRAC Vranov 35.89 317⇑ *iP* **P** **09 04 45.5 +0.5**
DPC Dobruska-Polom 36.46 319 *eP* **P** **09 04 49.8 -0.1**
DPC AMS AMS 09 24 50.0
comp=Z,300nm,14.3s
TREC Trest 36.55 317 *eP* **P** **09 04 52.1 +1.4**
UPC Upice 36.71 319 *eP* **P** **09 04 51.8 -0.2**
GERES GERESS Array B 37.49 315 P **P** **09 04 58.1 -0.6**
comp=Z,0.6nm,0.7s,baz=99,slow=8.4,SNR=6.8
GERES PcP PcP 09 07 13.9 -2.8
comp=Z,1.2nm,0.8s,baz=116,slow=3.1,SNR=4.0
GERES ScP ScP 09 10 59.5 -2.4
comp=Z,0.3nm,0.4s,baz=111,slow=3.0,SNR=4.6
GERES LR LR 09 22 06.6
comp=Z,120nm,18.5s,MS3.7,baz=98,slow=39
GERES GERESS Array B 37.49 315 P **P** **09 04 58.1 -0.6**
GERES 09 07 13.9
KHC Kasperske Hory 37.67 316 *eP* **P** **09 04 59.8 -0.3**
KHC AMS AMS 09 25 20.0
comp=Z,200nm,15.0s
BRG Berggiesshubel 38.06 318 *eP* pP 09 05 11.8 +0.1
comp=Z,2.6nm,0.9s
BRG Berggiesshubel 38.06 318 *eP* pP 09 05 11.9 +0.2
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
JOF Joensuu 38.20 343 *ep* **P** **09 05 04.0 -0.7**
comp=Z,2.6nm,0.4s,mb4.3
FINES FINESS Array B 38.54 339 P **P** **09 05 06.9 -0.7**
comp=Z,4.4nm,0.6s,mb4.4,baz=141,slow=11,SNR=22
FINES LR LR 09 24 04.0
comp=Z,161nm,19.0s,MS3.9,baz=159,slow=41
SQTA Sankt Quirin 38.62 312⇑ *iP* **P** **09 05 07.5 -0.7**
comp=Z,14nm,1.3s,mb4.5
SQTA Sankt Quirin 38.62 312⇑ *iP* **P** **09 05 07.5 -0.7**
SQTA pmax pmax
comp=Z,14nm,1.3s,mb4.5
KEST Kesra 38.65 293 P **P** **09 05 09.4 +1.0**
comp=Z,1.0nm,0.7s,mb3.6,baz=336,slow=6.4,SNR=4.4
VSL Villasalto 38.71 299 *eP* **P** **09 05 10.6 +1.7**
comp=Z,29nm,1.1s,mb4.9
CLL Collm 38.77 319 *i* P **P** **09 05 10.2 +0.7**
CLL *i* sP sP 09 05 17.5 -3.6
comp=Z,11nm,1.1s
CLL *i* x x 09 05 23.0
CLL *ex* x 09 06 56.0
CLL Collm 38.77 319 *i* P **P** **09 05 10.2 +0.7**
CLL *i* pP 09 05 17.5 -0.2
CLL *i* 09 05 23.0
CLL MLR MLR
comp=Z,400nm,16.2s,MS4.3
CLL Collm 38.77 319 *i* P **P** **09 05 10.2 +0.7**
CLL *i* pP 09 05 17.5 -0.2
CLL *i* 09 05 23.0
CLL *eS* S 09 11 27.0 +22
CLL LR LR
comp=Z,400nm,16.2s,MS4.3
KAF Kangasniemi 38.97 340 *ep* **P** **09 05 09.7 -1.4**
comp=Z,2.1nm,0.4s,mb4.2
KAF Kangasniemi 38.97 340 *eP* **P** **09 05 09.7 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
GRA1 Grafenberg Arr 39.30 316 *eP* **P** **09 05 13.9 0.0**
comp=Z,5.0nm,0.9s,mb4.2
GRF Grafenberg Arr 39.30 316 *eP* **P** **09 05 13.9 0.0**
comp=Z,5.0nm,0.9s,mb4.2
GRF Grafenberg Arr 39.30 316 *eP* **P** **09 05 13.9 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
GRF Grafenberg Arr 39.30 316 *eP* **P** **09 05 13.9 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
BSD Bornholm Skovb 39.31 325 *i* P **P** **09 05 19.7 +5.7**
comp=Z,20nm,1.0s,mb4.8
BSD Bornholm Skovb 39.31 325 *eP* **P** **09 05 19.7 +5.7**
BSD pmax pmax
comp=Z,20nm,1.0s,mb4.8
BSD Bornholm Skovb 39.31 325 *eP* **P** **09 05 19.7 +5.7**
comp=Z,20nm,1.0s,mb4.8
GTA Gaotai 39.40 61 ⇑P **P** **09 05 15.1 +0.4**
GTA AP pP 09 05 20.0 -2.9
GTA XP sP 09 05 22.6 -3.7
GTA AMB AMB
comp=Z,16nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,186nm,4.4s
GTA LR LR
comp=N,447nm,16.7s,MS4.6
GTA LR LR
comp=E,474nm,15.2s,MS4.6
GTA LR LR
comp=Z,473nm,14.5s,MS4.5
DAVA Damuels 39.51 312⇑ *iP* **P** **09 05 15.1 -0.6**
comp=Z,22nm,0.5s,mb5.1
SBF Sospel 40.58 306 *eP* **P** **09 05 23.4 -1.1**
comp=Z,46nm,0.9s,mb4.8
SBF Sospel 40.58 306 *eP* **P** **09 05 23.4 -1.1**
SBF pmax pmax
comp=Z,23nm,0.9s,mb4.8
SBF Sospel 40.58 306 *eP* **P** **09 05 23.4 -1.1**
comp=Z,23nm,0.9s,mb4.8
FRF La Foret Royal 41.11 305 *eP* **P** **09 05 27.3 -1.6**
MBDF Montbardon 41.17 307 *eP* **P** **09 05 28.5 -0.8**
comp=Z,22nm,0.7s,mb4.6
MBDF Montbardon 41.17 307 *eP* **P** **09 05 28.5 -0.8**
MBDF pmax pmax
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 41.17 307 *eP* **P** **09 05 28.5 -0.8**
comp=Z,11nm,0.7s,mb4.6
BNI Bardonecchia 41.28 308 *eP* **P** **09 05 29.2 -1.1**
BNI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
BNI Bardonecchia 41.28 308 *eP* **P** **09 05 29.2 -1.0**
comp=Z,6.7nm,0.7s,mb4.4
LPG La Plagne 41.29 308 *eP* **P** **09 05 29.7 -0.7**
comp=Z,20nm,0.7s,mb4.5
LPG La Plagne 41.29 308 *eP* **P** **09 05 29.7 -0.7**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
LPG La Plagne 41.29 308 *eP* **P** **09 05 29.7 -0.7**
comp=Z,10nm,0.7s,mb4.5
LPL La Plagne 41.31 308 *eP* **P** **09 05 30.3 -0.2**
comp=Z,30nm,1.0s,mb4.6
LPL La Plagne 41.31 308 *eP* **P** **09 05 30.3 -0.2**
LPL pmax pmax
comp=Z,15nm,1.0s,mb4.6
LPL La Plagne 41.31 308 *eP* **P** **09 05 30.3 -0.2**
comp=Z,15nm,1.0s,mb4.6
CDF Champ du Feu 41.48 313 *eP* **P** **09 05 30.8 -1.1**
comp=Z,4.6nm,0.8s,mb3.9
CDF Champ du Feu 41.48 313 *eP* **P** **09 05 30.8 -1.1**
CDF pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
CDF Champ du Feu 41.48 313 *eP* **P** **09 05 30.8 -1.1**
comp=Z,2.3nm,0.8s,mb3.9
HINF Hinteralfeld 41.63 312 *eP* **P** **09 05 31.3 -1.8**
comp=Z,6.0nm,0.6s,mb4.1
HINF Hinteralfeld 41.63 312 *eP* **P** **09 05 31.3 -1.8**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
HINF Hinteralfeld 41.63 312 *eP* **P** **09 05 31.3 -1.8**
comp=Z,3.0nm,0.6s,mb4.1
APA Apatity 41.76 348⇓ *iP* **P** **09 05 33.2 -1.0**
APA *i* pP 09 05 39.2 -3.3
APA pmax pmax
comp=Z,13μm,0.6s
APA MLR MLR
comp=Z,1μm,15.0s,MS4.9

ORIF Oris-en-Rattie 41.82 307 *eP* **P** **09 05 33.9 -0.8**
ORIF *eR*
comp=Z,378nm,21.8s
CHG Chiang Mai 41.91 92⇑P **P** **09 05 35.9 +0.5**
comp=Z,18nm,0.7s,mb4.8
CHTO Chiang Mai 41.91 92 *eP* **P** **09 05 36.3 +0.9**
CHTO pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
CHTO Chiang Mai 41.91 92 *eP* **P** **09 05 36.3 +0.9**
comp=Z,7.5nm,0.6s,mb4.5
CABF La Chapelle 41.93 310 *eP* **P** **09 05 35.0 -0.6**
comp=Z,19nm,0.9s,mb4.4
CABF La Chapelle 41.93 310 *eP* **P** **09 05 35.0 -0.6**
CABF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CABF La Chapelle 41.93 310 *eP* **P** **09 05 35.0 -0.6**
comp=Z,9.3nm,0.9s,mb4.4
HAU Haudompre 42.00 312 *eP* **P** **09 05 34.0 -2.2**
HAU *eR*
comp=Z,272nm,22.8s
HAU Haudompre 42.00 312 *eP* **P** **09 05 34.0 -2.2**
HAU LR LR
comp=Z,270nm,22.8s,MS4.1
MOY Mondy 42.26 42 *eP* **P** **09 05 39.4 +1.1**
LZH Lanzhou 42.60 66⇑P **P** **09 05 41.5 +0.4**
LZH AMB AMB
comp=Z,32nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,56nm,6.5s
LZH LR LR
comp=N,521nm,14.6s
LZH LR LR
comp=Z,786nm,17.8s,MS4.7
VIVF Saint-Julien-l 42.67 307 *eP* **P** **09 05 40.5 -1.1**
MEZF Maizieres J'vi 42.95 312 *eP* **P** **09 05 42.7 -1.2**
comp=Z,12nm,0.6s,mb4.5
MEZF Maizieres J'vi 42.95 312 *eP* **P** **09 05 42.7 -1.2**
comp=Z,6.2nm,0.6s,mb4.5
LASF Ste Croix 43.17 306 *eP* **P** **09 05 44.4 -1.3**
comp=Z,13nm,0.9s,mb4.4
LASF Ste Croix 43.17 306 *eP* **P** **09 05 44.4 -1.3**
comp=Z,6.4nm,0.9s,mb4.4
ZAK Zakamensk 43.35 45 *eP* **P** **09 05 46.9 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
GIVF Givet 43.41 315 *eP* **P** **09 05 46.2 -1.4**
SMF Signal de Mont 43.46 310 *eP* **P** **09 05 46.3 -1.7**
comp=Z,31nm,1.0s,mb4.7
SMF Signal de Mont 43.46 310 *eP* **P** **09 05 46.3 -1.7**
SMF pmax pmax
comp=Z,15nm,1.0s,mb4.7
SMF Signal de Mont 43.46 310 *eP* **P** **09 05 46.3 -1.7**
comp=Z,15nm,1.0s,mb4.7
NANT Nan 43.47 92 P **P** **09 05 45.0 -3.1**
LOR Lormes 43.54 310 *eP* **P** **09 05 46.7 -1.9**
LOR *eR*
comp=Z,247nm,21.2s
LOR Lormes 43.54 310 *eP* **P** **09 05 46.7 -1.9**
LOR LR LR
comp=Z,250nm,21.3s,MS4.1
BAIF Baives 43.79 315 *eP* **P** **09 05 50.0 -0.6**
comp=Z,17nm,0.8s,mb4.5
BAIF Baives 43.79 315 *eP* **P** **09 05 50.0 -0.6**
BAIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
BAIF Baives 43.79 315 *eP* **P** **09 05 50.0 -0.6**
comp=Z,8.6nm,0.8s,mb4.5
AVF Avril sur Loir 43.81 310 *eP* **P** **09 05 49.3 -1.6**
TLY Talaya 43.86 43 *eP* **P** **09 05 51.6 +0.3**
TLY *e* 09 07 30.6
TLY *eS* **S** **09 12 23.4 +2.8**
TLY *eSS* SS 09 15 50.1 +13
TLY pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
TLY MLR MLR
comp=Z,2μm,14.0s,MS5.1
NB2 NORSAR Subarra 43.90 331 P **P** **09 05 49.9 -1.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=120,slow=7.9
NOA NORSAR Array B 43.90 331 P **P** **09 05 50.2 -1.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=120,slow=8.0,SNR=14
NOA PP PP 09 07 36.0 +2.1
comp=Z,2.1nm,0.8s,baz=110,slow=10.0,SNR=2.4
NOA LR LR 09 27 40.9
comp=Z,166nm,18.3s,MS4.0,baz=135,slow=41
NOA NORSAR Array B 43.90 331 P **P** **09 05 50.2 -1.3**
NOA 09 07 36.1
NOA NORSAR Array B 43.90 331 P **P** **09 05 50.2 -1.3**
NOA PP PP 09 07 36.0 +2.1
NOA LR LR 09 27 40.9
BGF Bois d'Agland 44.13 309 *eP* **P** **09 05 51.8 -1.6**
comp=Z,12nm,0.7s,mb4.4
BGF Bois d'Agland 44.13 309 *eP* **P** **09 05 51.8 -1.6**
BGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BGF Bois d'Agland 44.13 309 *eP* **P** **09 05 51.8 -1.6**
comp=Z,5.8nm,0.7s,mb4.4
MTLF Montolieu 44.31 305 *eP* **P** **09 05 54.1 -0.7**
comp=Z,14nm,0.9s,mb4.4
MTLF Montolieu 44.31 305 *eP* **P** **09 05 54.1 -0.7**
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
MTLF Montolieu 44.31 305 *eP* **P** **09 05 54.1 -0.7**
comp=Z,6.8nm,0.9s,mb4.4
CAF Calviac 44.52 307 *eP* **P** **09 05 55.4 -1.1**
comp=Z,14nm,0.7s,mb4.6
CAF Calviac 44.52 307 *eP* **P** **09 05 55.4 -1.1**
CAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
CAF Calviac 44.52 307 *eP* **P** **09 05 55.4 -1.1**
comp=Z,6.8nm,0.7s,mb4.6
TCF Toulx Ste Croi 44.54 309 *eP* **P** **09 05 55.3 -1.4**
comp=Z,16nm,0.8s,mb4.6
TCF Toulx Ste Croi 44.54 309 *eP* **P** **09 05 55.3 -1.4**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
TCF Toulx Ste Croi 44.54 309 *eP* **P** **09 05 55.3 -1.4**
comp=Z,8.2nm,0.8s,mb4.6
KEV Kevo 44.85 347 *ep* **P** **09 05 57.9 -1.2**
comp=Z,1.8nm,0.4s,mb4.2
KEV Kevo 44.85 347 *eP* **P** **09 05 57.9 -1.2**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
SONM Songino Array 44.93 49 P **P** **09 06 00.1 +0.4**
comp=Z,4.2nm,0.7s,mb4.4,baz=263,slow=8.9,SNR=27
SONM LR LR 09 26 55.8
comp=Z,489nm,19.3s,MS4.5,baz=257,slow=39
RJF Les Rejaudoux 44.94 307 *eP* **P** **09 05 59.0 -0.8**
comp=Z,27nm,1.0s,mb4.8
RJF *eR*
comp=Z,274nm,19.8s
RJF Les Rejaudoux 44.94 307 *eP* **P** **09 05 59.0 -0.8**
RJF pmax pmax
comp=Z,14nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,270nm,19.8s,MS4.2
RJF Les Rejaudoux 44.94 307 *eP* **P** **09 05 59.0 -0.8**
comp=Z,14nm,1.0s,mb4.7
RJF LR LR
comp=Z,270nm,19.8s,MS4.2
ARCES ARCESS Array B 44.98 346 P **P** **09 05 59.7 -0.4**
comp=Z,6.2nm,0.6s,mb4.6,baz=143,slow=8.4,SNR=31
ARCES ARCESS Array B 44.98 346 P **P** **09 05 59.7 -0.5**
KTK1 Kautokeino 45.07 345 *eP* **P** **09 06 01.4 +0.6**
KTK1 AMb AMB 09 06 03.4
comp=Z,34nm,1.1s,mb5.1
KTK1 *ep*P pP 09 06 06.4 -2.8
KTK1 Kautokeino 45.07 345 *eP* **P** **09 06 01.4 +0.6**
comp=Z,34nm,1.1s,mb5.1
ULN Ulaanbaatar 45.37 49 *eP* **P** **09 06 03.3 0.0**
ULN *e**PP pP 09 06 10.9 -0.8
ULN pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
ULN Ulaanbaatar 45.37 49 *eP* **P** **09 06 03.3 +0.1**
comp=Z,5.6nm,0.5s,mb4.7
ULN *ep*P pP 09 06 10.9 -0.8
LFF La Frestale 45.46 307 *eP* **P** **09 06 03.1 -0.9**
MOR8 Moi Rana 45.54 339 *eP* **P** **09 06 06.7 +2.1**
EPF Esparros 45.67 304 *eP* **P** **09 06 03.7 -1.9**
comp=Z,6.2nm,0.8s,mb4.3
EPF Esparros 45.67 304 *eP* **P** **09 06 03.7 -1.9**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EPF Esparros 45.67 304 *eP* **P** **09 06 03.7 -1.9**
comp=Z,3.1nm,0.8s,mb4.3
STOK Stokkvaagen 46.10 338 *eP* **P** **09 06 08.7 -0.3**
STOK *ep*P pP 09 06 14.2 -3.2

MFF Saint Martin d 46.19 309 *eP* **P** **09 06 08.0 -1.8**
comp=Z,9.4nm,0.9s,mb4.4
MFF Saint Martin d 46.19 309 *eP* **P** **09 06 08.0 -1.8**
MFF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MFF Saint Martin d 46.19 309 *eP* **P** **09 06 08.0 -1.8**
comp=Z,4.7nm,0.9s,mb4.4
ESAC San Caprasio 46.26 302 P **P** **09 06 10.0 -0.3**
comp=Z,17nm,0.7s,mb5.1
ETSF Etsaut 46.33 304 *eP* **P** **09 06 10.5 -0.3**
comp=Z,21nm,0.9s,mb4.8
ETSF Etsaut 46.33 304 *eP* **P** **09 06 10.5 -0.3**
ETSF pmax pmax
comp=Z,11nm,0.9s,mb4.8
ETSF Etsaut 46.33 304 *eP* **P** **09 06 10.5 -0.3**
comp=Z,11nm,0.9s,mb4.8
LDF La Druitiere 46.36 312 *eP* **P** **09 06 09.5 -1.6**
comp=Z,7.4nm,0.4s,mb4.7
LDF La Druitiere 46.36 312 *eP* **P** **09 06 09.5 -1.6**
comp=Z,3.7nm,0.4s,mb4.7
OPO Ambohidratompo 46.55 189 P **P** **09 06 14.8 +2.2**
comp=Z,8.7nm,0.9s,mb4.7,baz=3.5,slow=7.9,SNR=7.4
TRO Tromso 46.56 344 *eP* **P** **09 06 11.2 -1.5**
TRO AMb AMB 09 06 13.3
comp=Z,45nm,1.7s,mb5.1
TRO Tromso 46.56 344 *eP* **P** **09 06 11.2 -1.5**
comp=Z,45nm,1.7s,mb5.1
FLN La Foliniere 46.62 312 *eP* **P** **09 06 11.1 -2.0**
FLN *eR*
comp=Z,187nm,20.5s
FLN La Foliniere 46.62 312 *eP* **P** **09 06 11.1 -2.0**
FLN LR LR
comp=Z,190nm,20.5s,MS4.0
SJPF Ste Jean 46.82 304 *eP* **P** **09 06 14.1 -0.6**
comp=Z,16nm,0.6s,mb4.8
SJPF Ste Jean 46.82 304 *eP* **P** **09 06 14.1 -0.6**
SJPF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SJPF Ste Jean 46.82 304 *eP* **P** **09 06 14.1 -0.6**
comp=Z,7.8nm,0.6s,mb4.8
GRR Gorron 46.83 312 *eP* **P** **09 06 13.9 -0.8**
XAN Xi'an 46.95 68 P **P** **09 06 14.7 -1.0**
XAN AMB AMB
comp=Z,24nm,1.0s,mb5.1
QUIF Quistinic 48.33 311 *eP* **P** **09 06 24.5 -1.9**
comp=Z,21nm,0.9s,mb4.9
QUIF Quistinic 48.33 311 *eP* **P** **09 06 24.5 -1.9**
QUIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
QUIF Quistinic 48.33 311 *eP* **P** **09 06 24.5 -1.9**
comp=Z,10nm,0.9s,mb4.9
ROSF Rostrenen 48.43 311 *eP* **P** **09 06 26.0 -1.2**
EBER Berja 48.43 296 P **P** **09 06 29.1 +1.9**
EQES Quesada 48.48 297 P **P** **09 06 27.1 -0.5**
EBAN Banos Encina 49.00 298 P **P** **09 06 31.1 -0.5**
EBAN pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
EBAN Banos Encina 49.00 298 P **P** **09 06 31.1 -0.5**
comp=Z,4.7nm,0.6s,mb4.7
ESDC Sonseca Array 49.01 300 P **P** **09 06 32.0 +0.4**
comp=Z,1.7nm,0.6s,mb4.3,baz=61,slow=7.7,SNR=28
ESDC LR LR 09 28 41.5
comp=Z,75nm,19.1s,MS3.7,baz=105,slow=38
ESDC Sonseca Array 49.01 300 P **P** **09 06 31.8 +0.2**
comp=Z,1.1nm,0.5s,mb4.1
ESLA Sonseca Array 49.01 300 *eP* **P** **09 06 31.2 -0.4**
comp=Z,2.0nm,1.0s,mb4.1
ESLA *ep*P pP 09 06 39.8 -0.2
GUD Guadarrama 49.08 301 P **P** **09 06 31.3 -0.9**
GUD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
GUD Guadarrama 49.08 301 P **P** **09 06 31.3 -0.9**
comp=Z,3.3nm,0.8s,mb4.4
ERON Agron 49.14 296 P **P** **09 06 31.8 -0.9**
comp=Z,3.5nm,0.5s,mb4.7
PSI Prapat 49.40 112 LR LR 09 30 26.9
comp=Z,151nm,18.5s,MS4.0,baz=109,slow=40
ELOJ Sierra Loja 49.40 296 P **P** **09 06 32.9 -1.8**
ELOJ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ELOJ Sierra Loja 49.40 296 P **P** **09 06 32.9 -1.8**
comp=Z,3.4nm,0.7s,mb4.5
ELUQ Luque 49.45 297 P **P** **09 06 33.0 -2.0**
EADA Adamuz 49.62 298 P **P** **09 06 37.8 +1.5**
comp=Z,2.8nm,0.7s,mb4.4
LSZ Lusaka 49.64 214 P **P** **09 06 38.0 +1.5**
comp=Z,13nm,1.0s,mb4.9,baz=41,slow=8.8,SNR=15
LSZ Lusaka 49.64 214 *eP* **P** **09 06 38.3 +1.8**
LSZ pmax pmax
comp=Z,16nm,1.1s,mb5.0
LSZ Lusaka 49.64 214 *eP* **P** **09 06 38.3 +1.8**
comp=Z,16nm,1.1s,mb5.0
CIT Chita 49.98 44 *eP* **P** **09 06 38.8 -0.2**
ESPR Espera 50.79 296 P **P** **09 06 44.6 -0.6**
comp=Z,5.2nm,0.7s,mb4.6
TOA0 Torodi Ar. Sit 50.89 264 *eP* **P** **09 06 45.7 -0.2**
TORD Torodi Ar. Bea 50.89 264 P **P** **09 06 46.0 +0.1**
comp=Z,12nm,0.7s,mb4.9,baz=57,slow=7.0,SNR=83
TORD LR LR 09 30 52.1
comp=Z,574nm,18.1s,MS4.6,baz=65,slow=39
PBRG Braganca 50.94 303 *eP* **P** **09 06 47.0 +0.7**
BOD Bodaibo 50.98 37 *eP* **P** **09 06 43.1 -3.5**
BOD pmax pmax
comp=Z,19nm,1.1s,mb4.9
EBAD Badajoz 51.45 299 P **P** **09 06 49.7 -0.4**
comp=Z,4.0nm,0.7s,mb4.5
PCBR Castelo Branco 51.69 300 *eP* **P** **09 06 52.7 +0.8**
comp=Z,18nm,1.4s,mb4.8
PVRL Vila Real 51.72 302 *eP* **P** **09 06 52.7 +0.6**
comp=Z,13nm,1.4s,mb4.7
PESTR Estremoz 51.89 299 *eP* **P** **09 06 53.4 0.0**
comp=Z,5.9nm,0.9s,mb4.5
PVIS Viseu 51.91 301 *eP* **P** **09 06 54.7 +1.2**
comp=Z,7.7nm,1.4s,mb4.4
PCAB Cabril 51.91 303 *eP* **P** **09 06 54.2 +0.7**
comp=Z,11nm,1.1s,mb4.7
BJT Baijiatuao 51.97 59 *eP* **P** **09 06 54.0 0.0**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuao 51.97 59 *eP* **P** **09 06 54.0 0.0**
comp=Z,12nm,0.6s,mb5.0
BJI Beijing 51.97 59 P **P** **09 06 54.2 +0.2**
BJI AMB AMB
comp=Z,14nm,0.5s,mb5.2
BJI LR LR
comp=N,183nm,18.6s,MS4.7
BJI LR LR
comp=E,616nm,18.9s,MS4.7
BJI LR LR
comp=Z,253nm,17.5s,MS4.3
PBEJ Beja 52.22 298 *eP* **P** **09 06 56.0 +0.2**
comp=Z,18nm,1.7s,mb4.7
EVO Evora 52.26 299 *eP* **P** **09 06 55.6 -0.6**
comp=Z,11nm,0.8s,mb4.6
EVO *eR*
comp=Z,121nm,22.0s
PTOM Tomar 52.43 300 *eP* **P** **09 06 58.1 +0.7**
comp=Z,15nm,0.7s,mb5.0
NJ2 Nanjing 55.51 69 *eP* **P** **09 07 19.3 -0.6**
NJ2 PP PP 09 09 25.8 +1.8
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,720nm,6.5s
NJ2 LR LR
comp=N,580nm,15.5s,MS5.0
NJ2 LR LR
comp=E,820nm,14.6s,MS5.0
NJ2 LR LR
comp=Z,810nm,14.0s,MS5.0
SSE Sheshan 57.68 69 P **P** **09 07 34.9 -0.4**
SSE AP pP 09 07 44.1 +0.2
SSE XP sP 09 07 48.6 +1.4
SSE S **S** **09 15 28.5 -3.6**
SSE XS sS 09 15 45.7 -0.5
SSE AMB AMB
comp=Z,26nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,65nm,5.9s
SSE LR LR
comp=N,90nm,16.7s,MS4.2
SSE LR LR
comp=E,123nm,16.7s,MS4.2
SSE LR LR
comp=Z,154nm,16.2s,MS4.2
CN2 Changchun 58.31 54 *eP* **P** **09 07 39.2 -0.5**
CN2 AMB AMB

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.7						
TSUM	**Tsumeb**	**58.59**	**221**	P	**P**	**09 07 43.2**	**+1.5**
	comp=Z,7.1nm,0.9s,mb4.7,baz=35,slow=6.6,SNR=7.6						
TSUM	**Tsumeb**	**58.59**	**221**	*e*P	**P**	**09 07 42.8**	**+1.1**
	comp=Z,25nm,1.4s,mb5.0						
YAK	**Yakutsk**	**59.13**	**32**	*e*P	**P**	**09 07 44.0**	**-1.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
YAK				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9						
LBTB	**Lobatse**	**59.25**	**210**	P	**P**	**09 07 47.6**	**+1.3**
	comp=Z,17nm,0.7s,mb5.2,baz=40,slow=8.3,SNR=27						
LBTB	**Lobatse**	**59.25**	**210**	*e*P	**P**	**09 07 47.5**	**+1.2**
LBTB				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
LBTB	**Lobatse**	**59.25**	**210**	*e*P	**P**	**09 07 47.5**	**+1.2**
	comp=Z,19nm,0.8s,mb5.2						
DBIC	**Dimbokro**	**59.55**	**261**	P	**P**	**09 07 48.9**	**+0.5**
	comp=Z,10nm,0.8s,mb4.9,baz=31,slow=7.9,SNR=10						
DBIC				LR	LR	09 34 56.1	
	comp=Z,248nm,18.4s,MS4.4,baz=44,slow=37						
DBIC	**Dimbokro**	**59.55**	**261**	*e*P	**P**	**09 07 48.4**	**0.0**
DBIC				pmax	pmax		
	comp=Z,11nm,0.8s						
DBIC	**Dimbokro**	**59.55**	**261**	*e*P	**P**	**09 07 48.4**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9						
LIC	**Lamto**	**59.91**	**261**	*e*P	**P**	**09 07 49.3**	**-1.5**
	comp=Z,26nm,0.7s,mb5.0						
LIC				*e*R			
	comp=Z,294nm,21.5s						
LIC	**Lamto**	**59.91**	**261**	*e*P	**P**	**09 07 49.3**	**-1.5**
	comp=Z,13nm,0.7s,mb5.1						
LIC				LR	LR		
	comp=Z,150nm,21.5s,MS4.1						
LIC	**Lamto**	**59.91**	**261**	*e*P	**P**	**09 07 49.3**	**-1.5**
	comp=Z,13nm,0.7s,mb5.0						
BOSA	**Boshof**	**62.53**	**209**	P	**P**	**09 08 09.3**	**+0.8**
	comp=Z,8.1nm,0.5s,mb5.1,baz=33,slow=7.6,SNR=32						
BOSA				LR	LR	09 38 44.6	
	comp=Z,194nm,19.7s,MS4.3,baz=14,slow=39						
BOSA	**Boshof**	**62.53**	**209**	*e*P	**P**	**09 08 09.1**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
BOSA	**Boshof**	**62.53**	**209**	*e*P	**P**	**09 08 09.1**	**+0.6**
	comp=Z,13nm,0.8s,mb5.1						
HABR	**Khabarovsk**	**63.95**	**47**	*e*P	**P**	**09 08 13.6**	**-4.4**
HABR				*e*S	**S**	**09 16 46.8**	**-5.3**
SUMG	**Summit**	**64.55**	**341**	*e*P	**P**	**09 08 22.3**	**+0.4**
	comp=Z,19nm,0.8s,mb5.2						
SUMG				*e*pP	pP	09 08 31.8	+1.3
JOW	**Kunigami**	**64.87**	**72**	LR	LR	09 40 35.1	
	comp=Z,141nm,20.6s,MS4.1,baz=216,slow=40						
PFAD	**Fenais da Ajud**	**65.71**	**301**	*e*S	S	09 17 18.7	+4.9
FRA1	**Furnas**	**65.77**	**301**	*e*S	S	09 17 17.5	+3.0
PVER	**Pico Vermelho**	**65.87**	**301**	*e*S	S	09 17 16.3	+0.6
PVER				A		09 17 17.3	
	comp=Z,72nm,0.2s						
SEY	**Seymchan**	**69.27**	**29**	*e*P	**P**	**09 08 52.1**	**+0.2**
YSS	**Yuzh-Sakhalins**	**69.37**	**47**	⇑*e*P	**P**	**09 08 51.0**	**-1.6**
YSS				*e*	pP	09 09 01.0	-0.3
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**69.37**	**47**	*e*P	**P**	**09 08 50.7**	**-1.8**
	comp=Z,13nm,0.5s,mb5.1						
MJAR	**Matsushiro Arr**	**69.60**	**59**	P	**P**	**09 08 53.2**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=286,slow=5.4,SNR=5.0						
MJAR				LR	LR	09 43 04.0	
	comp=Z,274nm,18.5s,MS4.5,baz=280,slow=39						
ASAJ	**Asahikawa**	**70.20**	**50**	LR	LR	09 43 01.3	
	comp=Z,362nm,18.0s,MS4.7,baz=325,slow=39						
JHJ	**Hachijo jima 2**	**72.03**	**62**	LR	LR	09 45 47.4	
	comp=Z,159nm,19.2s,MS4.3,baz=89,slow=40						
BILL	**Bilibino**	**72.31**	**21**	P	**P**	**09 09 11.0**	**+0.6**
BILL				*e*	pP	09 09 18.5	-0.7
BILL				*e*		09 19 23.9	
BILL				SSS		09 26 18.0	
BILL				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.8						
FITZ	**Fitzroy Crossi**	**82.85**	**115**	⇑*i*P	**P**	**09 10 09.2**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0						
SCHQ	**Schefferville**	**83.45**	**330**	P	**P**	**09 10 12.1**	**-0.3**
	comp=Z,9.4nm,0.7s,mb4.9,baz=63,slow=5.4,SNR=14						
SCHQ	**Schefferville**	**83.45**	**330**	*e*P	**P**	**09 10 11.6**	**-0.8**
	comp=Z,12nm,0.8s,mb5.0						
INK	**Inuvik**	**84.05**	**3**	*e*P	**P**	**09 10 14.6**	**-0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**84.05**	**3**	*e*P	**P**	**09 10 14.6**	**-0.8**
	comp=Z,3.3nm,0.7s,mb4.6						
IMA2	**Indian Mountai**	**84.06**	**11**	*e*P	**P**	**09 10 15.2**	**-0.3**
IMA2				*e*pP	pP	09 10 23.3	-1.1
NWAO	**Narrogin (SRO)**	**85.03**	**131**	P	**P**	**09 10 19.1**	**-1.3**
	comp=Z,6.0nm,0.5s,mb5.0,baz=265,slow=14,SNR=9.6						
NWAO				LR	LR	09 43 27.7	
	comp=Z,84nm,21.9s,MS4.1,baz=67,slow=32						
KAKA	**Kakadu**	**85.75**	**107**	*e*P	**P**	**09 10 24.1**	**+0.1**
	comp=Z,17nm,0.6s,mb5.5						
COLA	**College**	**86.08**	**9**	*e*P	**P**	**09 10 24.7**	**-0.9**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
COLA	**College**	**86.08**	**9**	*e*P	**P**	**09 10 24.7**	**-0.9**
	comp=Z,9.9nm,1.2s,mb4.9						
TTA	**Tatalina**	**86.47**	**13**	*e*P	**P**	**09 10 27.2**	**-0.3**
TTA				pmax	pmax		
	comp=Z,49nm,1.7s,mb5.5						
TTA	**Tatalina**	**86.47**	**13**	*e*P	**P**	**09 10 27.2**	**-0.4**
	comp=Z,49nm,1.7s,mb5.5						
EGAK	**Eagle**	**86.99**	**7**	*e*P	**P**	**09 10 29.5**	**-0.5**
MCK	**McKinley**	**87.00**	**10**	*e*P	**P**	**09 10 29.6**	**-0.5**
MCK				pmax	pmax		
	comp=Z,11nm,1.2s,mb5.0						
MCK	**McKinley**	**87.00**	**10**	*e*P	**P**	**09 10 29.6**	**-0.5**
	comp=Z,11nm,1.2s,mb5.0						
DAWY	**Dawson**	**87.86**	**6**	*e*P	**P**	**09 10 33.8**	**-0.4**
YKA	**Yellowknife Ar**	**89.60**	**355**	P	**P**	**09 10 42.3**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.8,baz=5.4,slow=5.1,SNR=15						
YKA				LR	LR	09 55 56.0	
	comp=Z,86nm,19.4s,MS4.2,baz=25,slow=39						
YKA	**Yellowknife Ar**	**89.60**	**355**	*i* P	**P**	**09 10 42.2**	**-0.3**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**90.87**	**112**	P	**P**	**09 10 48.0**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.7,baz=316,slow=4.0,SNR=23						
WRA				PKKPbc	PKKPbc	09 28 14.2	+1.2
	comp=Z,0.4nm,0.7s,baz=107,slow=3.2,SNR=5.0						
WRAB	**Tennant Creek**	**90.87**	**112**	*e*P	**P**	**09 10 48.2**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**90.87**	**112**	*e*P	**P**	**09 10 48.2**	**-0.2**
	comp=Z,7.1nm,0.6s,mb5.2						
WB2	**Warramunga Arr**	**90.88**	**112**	*e*P	**P**	**09 10 47.7**	**-0.7**
ASPA	**Alice Springs**	**92.32**	**115**	*e*P	**P**	**09 10 54.4**	**-0.7**
AS31	**Alice Springs**	**92.32**	**115**	*e*P	**P**	**09 10 54.4**	**-0.7**
ASAR	**Alice Springs**	**92.32**	**115**	P	**P**	**09 10 54.5**	**-0.6**
	comp=Z,2.9nm,0.8s,mb4.7,baz=304,slow=4.8,SNR=24						
ULM	**Lac du Bonnet**	**97.90**	**341**	LR	LR	09 56 02.3	
	comp=Z,68nm,19.8s,MS4.1,baz=322,slow=36						
NVAR	**Mina Array Bea**	**113.77**	**354**	PKP	PKiKP	09 16 23.7	+0.4
	comp=Z,0.6nm,0.8s,baz=336,slow=1.2,SNR=5.7						
CPUP	**Villa Florida**	**119.71**	**254**	PKP	PKPdf	09 16 34.2	-0.6
	comp=Z,0.7nm,0.6s,baz=340,slow=2.7,SNR=4.5						
CPUP	**Villa Florida**	**119.71**	**254**	PKP	PKPdf	09 16 34.2	-0.6
LPAZ	**La Paz**	**125.71**	**269**	PKP	PKPdf	09 16 47.8	+1.5
	comp=Z,1.7nm,0.8s,baz=84,slow=4.1,SNR=9.6						
PPT	**Papeete**	**155.91**	**70**	*e*LR	LR	10 10 04.9	
	comp=Z,68nm,22.8s						
RKT	**Rikitea**	**170.55**	**63**	*e*LR	LR	10 16 51.8	
	comp=Z,81nm,27.2s						

IDC 10 08:58:46.1±1.3**, 3471S**×**5477E, h0**^{km}**, mb4.0**/5**, mb1 4.3**/5**, mb1mx3.8**/22**, mbtmp4.0**/5**, MS3.7**/9**, Ms1 3.7**/9**, ms1mx3.4**/33**, Error ellipse: s-maj=42.1km s-min=31.4km az=118.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**25.79**	**275**	LR	LR	09 12 08.9	
	comp=Z,118nm,18.0s,baz=18,slow=31						
LBTB	**Lobatse**	**27.00**	**283**	LR	LR	09 13 08.0	
	comp=Z,95nm,21.1s,baz=41,slow=32						
LSZ	**Lusaka**	**30.74**	**302**	LR	LR	09 14 58.4	
	comp=Z,84nm,20.6s,baz=305,slow=32						
MAW	**Mawson**	**33.27**	**174**	LR	LR	09 15 32.9	
	comp=Z,128nm,20.7s,baz=54,slow=30						
ATD	**Arta Tunnel**	**47.36**	**344**	LR	LR	09 26 00.5	
	comp=Z,82nm,18.2s,baz=286,slow=34						
SNAA	**Sanae**	**47.36**	**201**	P	P	09 07 21.2	-0.7
	0.6nm,0.9s,baz=58,slow=8.1,SNR=6.5						
SNAA	**Sanae**	**47.36**	**201**	*e*	P	09 07 22.2	+0.4
SNAA				*e*		09 07 28.2	
VNA3	**Neumayer Olymp**	**49.35**	**203**	*e*	P	09 07 43.9	+6.7
VNA3				*e*		09 07 49.6	
NWAO	**Narrogin (SRO)**	**51.17**	**107**	LR	LR	09 24 39.9	
	comp=Z,111nm,19.2s,baz=251,slow=30						
VNDA	**Vanda**	**59.96**	**166**	P	P	09 08 53.9	-0.3
	1.1nm,1.0s,baz=271,slow=9.5,SNR=4.8						
VNDA				LR	LR	09 32 30.6	
	comp=Z,116nm,20.6s,baz=254,slow=34						
ASAR	**Alice Springs**	**68.37**	**104**	P	P	09 09 49.6	+0.2
	2.6nm,0.9s,baz=233,slow=6.1,SNR=20						
WRA	**Warramunga Arr**	**70.58**	**101**	P	P	09 10 03.6	+0.5
	6.6nm,0.8s,baz=234,slow=5.3,SNR=34						
GNI	**Garni**	**75.06**	**352**	LR	LR	09 39 41.3	
	comp=Z,55nm,19.1s,baz=22,slow=33						
MKAR	**Makanchi Array**	**84.83**	**19**	P	P	09 11 22.4	-0.2
	0.9nm,0.9s,baz=193,slow=4.9,SNR=3.9						
GUMO	**Guam**	**97.69**	**79**	LR	LR	09 53 41.7	
	comp=Z,59nm,18.9s,baz=108,slow=34						
YKA	**Yellowknife Ar**	**151.40**	**350**	PKPbc	PKPbc	09 18 40.6	-1.2
	1.6nm,1.0s,baz=348,slow=4.0,SNR=3.6						

*ISCJB **10** 09:20:22.1±0.3, 3480N±0.03×7332E±0.04, h10^{km}, mb4.0/14, Error ellipse: s-maj=5.0km s-min=3.4km az=126.0*

*NDI **10** 09:20:22.6±3.3, 3485N×7287E, h10^{km}, ML3.7, mb3.7(NEIC)*

*IDC **10** 09:20:22.3±0.7, 3466N×73.12E, h0^{km}, mb4.0/14, mb1 4.1/17, mb1mx4.0/24, mbtmp4.0/17, ML3.9/3, Error ellipse: s-maj=18.8km s-min=15.9km az=27.0*

*NEIC **10** 09:20:23.9±0.4, 3468N×7308E, h10^{km}, mb3.7/1, Error ellipse: s-maj=9.3km s-min=9.0km az=97.0*

*MOS **10** 09:20:24.9±0.9, 3473N×7307E, h28^{km}, mb3.8/1, Error ellipse: s-maj=21.1km s-min=10.5km az=96.9*

*BJI **10** 09:20:28.1, 3465N×7390E, h10^{km}, ML3.5*

*NNC **10** 09:20:35.6±3.4, 35.17N×7294E, h68^{km}±32^{km}, mb3.3, mpv3.5, Error ellipse: s-maj=26.3km s-min=24.7km az=84.0*

ISC 10 09:20:24.1±0.3**, 3478N**±002×**7323E**±004**, h10**^{km}**, n62, σ1**^{s}**33**/81**, mb4.0**/14**, 3C-4D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.12**	**179**	P	**Pb**	**09 20 43.3**	**-2.3**
CHCP				S	**Sb**	**09 21 02.0**	**+1.8**
CEP	**Cherat**	**1.45**	**229**	P	**Pn**	**09 20 48.6**	**-1.8**
CEP				S	**Sn**	**09 21 09.0**	**-0.5**
THW	**Thamme Wali**	**2.34**	**212**	P	**Pn**	**09 21 03.1**	**+0.5**
SARP	**Sargodha**	**2.89**	**189**	P	**Pn**	**09 21 10.0**	**-0.2**
THN	**Thein Dam**	**3.13**	**138**	*e*P	**Pn**	**09 21 17.2**	**+3.7**
THN				*e*x	x	09 22 00.0	
DLH	**Dalhousie**	**3.19**	**134**	*e*P	**Pn**	**09 21 16.0**	**+1.6**
DLH				*e*S	**Sn**	**09 21 57.0**	**+4.5**
SBDP	**Sheikh Budin**	**3.20**	**220**	P	**Pn**	**09 21 15.6**	**+1.2**
DRP	**Derazinda**	**3.95**	**221**	P	**Pn**	**09 21 25.7**	**+0.9**
BHK	**Bhakra**	**4.29**	**141**	*e*x	**Pn**	**09 21 36.0**	**+6.6**
BHK				*e*x	**Sn**	**09 22 28.2**	**+8.7**
SDNR	**Sundarnagar**	**4.53**	**135**	*e*P	**Pn**	**09 21 34.0**	**+1.2**
SDNR				*e*x	x	09 22 43.0	
SMLA	**Simla**	**4.92**	**137**	*e*P	**Pn**	**09 21 39.8**	**+1.7**
SMLA				*e*S	**Sn**	**09 22 36.8**	**+1.7**
SMLA				AML	AML	09 22 57.0	
	comp=N,275nm,0.4s						
SMLA				AML	AML	09 23 01.5	
	comp=E,288nm,0.6s						
KSH	**Kashi**	**5.21**	**24**	*e*PG	**Pg**	**09 22 00.5**	**-3.4**
KSH				*e*S	**Sn**	**09 22 47.6**	**+5.4**
KSH				Smax			
	comp=N,132nm,1.0s						
KSH				Smax			
	comp=E,107nm,0.9s						
KLP	**Kalpa**	**5.31**	**126**	*e*P	**Pn**	**09 21 46.1**	**+2.6**
KLP				*e*S	**Sn**	**09 22 45.1**	**+0.4**
KLP				AML	AML	09 22 52.3	
	comp=N,375nm,0.6s						
KLP				AML	AML	09 22 52.8	
	comp=E,211nm,0.8s						
DDI	**Dehra Dun**	**6.03**	**136**	*e*S	**Sn**	**09 23 02.5**	**+0.1**
NDI	**New Delhi**	**6.96**	**150**	*e*S	**Sn**	**09 23 21.9**	**-3.5**
KHET	**Khetri**	**7.04**	**161**	*e*P	**Pn**	**09 22 07.4**	**+0.2**
KHET				*e*S	**Sn**	**09 23 23.0**	**-4.2**
KHET				AML	AML	09 23 25.5	
	comp=E,34nm,0.4s						
KHET				AML	AML	09 23 30.1	
	comp=N,27nm,0.3s						
AYAN	**Aya Nagar**	**7.10**	**151**	*e*P	**Pn**	**09 22 07.7**	**-0.4**
KUDL	**Kundal**	**7.18**	**156**	*e*P	**Pn**	**09 22 09.0**	**-0.1**
KUDL				*e*S	**Sn**	**09 23 27.7**	**-3.0**
KUDL				AML	AML	09 24 19.1	
	comp=E,17nm,0.4s						
KUDL				AML	AML	09 24 19.5	
	comp=N,23nm,0.4s						
SONA	**Sohna**	**7.29**	**152**	*e*P	**Pn**	**09 22 11.4**	**+0.7**
SONA				*e*S	**Sn**	**09 23 30.5**	**-3.0**
SONA				AML	AML	09 24 25.2	
	comp=N,27nm,0.5s						
SONA				AML	AML	09 24 26.7	
	comp=E,42nm,0.2s						
AAK	**Ala-Archa**	**7.90**	**7**	*e*P	**Pn**	**09 22 25.2**	**+6.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AAK	**Ala-Archa**	**7.90**	**7**	*e*Pn	**Pn**	**09 22 25.2**	**+6.2**
	comp=Z,4.7nm,0.5s						
TKM2	**Tokmak 2**	**8.33**	**12**	⇑P	**Pn**	**09 22 30.1**	**+5.1**
	comp=Z,0.3nm,0.6s						
TKM2				⇑S	**Sn**	**09 23 58.6**	**-0.5**
	comp=Z,1.2nm,0.7s						
AJM	**Ajmer**	**8.37**	**171**	*e*P	**Pn**	**09 22 26.1**	**+0.7**
AJM				*e*S	**Sn**	**09 23 54.7**	**-5.2**
AJM				*e*S	**Sn**	**09 23 55.0**	**-4.9**
AJM				AML	AML	09 24 15.0	
	comp=E,53nm,0.5s						
AJM				AML	AML	09 24 15.1	
	comp=N,25nm,0.2s						
AGRA	**Agra**	**8.54**	**150**	*e*P	**Pn**	**09 22 29.8**	**+2.0**
AGRA				*e*S	**Sn**	**09 24 00.8**	**-3.5**
AGRA				AML	AML	09 25 08.7	
	comp=N,59nm,0.3s						
AGRA				AML	AML	09 25 09.2	
	comp=E,72nm,0.4s						
KK31	**Karatay Array**	**8.57**	**347**	⇓P	**Pn**	**09 22 30.9**	**+2.7**
	comp=E,2.3nm,0.2s,baz=150,slow=12,SNR=4.2						
KK31				⇓S	**Sn**	**09 24 03.1**	**-1.9**
	comp=E,6.7nm,0.4s						
KOLN	**Koldanda**	**11.29**	**125**	*e*P	**Pn**	**09 23 03.7**	**-1.7**
	comp=E,16nm,0.4s						
GKN	**Gorkha**	**11.85**	**122**	*e*P	**Pn**	**09 23 11.2**	**-2.0**
	comp=E,25nm,0.3s						
GKN				*e*S	**Sn**	**09 25 17.8**	**-7.7**
	comp=E,4.6nm,0.0s						
BHPL	**Bhopal**	**12.07**	**161**	*e*P	**Pn**	**09 23 17.0**	**+0.9**
BHPL				*e*S	**Sn**	**09 25 21.6**	**-9.2**
DMN	**Daman**	**12.42**	**122**	*e*P	**Pn**	**09 23 18.8**	**-2.2**
	comp=E,20nm,0.5s						
DMN				*e*S	**Sn**	**09 25 31.6**	**-7.8**
KKN	**Kakani**	**12.44**	**121**	*e*P	**Pn**	**09 23 19.5**	**-1.6**
	comp=E,6.8nm,0.2s						
PKI	**Pulchoki**	**12.66**	**121**	*e*P	**Pn**	**09 23 22.7**	**-1.5**
	comp=E,10nm,0.3s						
GUN	**Gumba**	**12.79**	**119**	*e*P	**Pn**	**09 23 24.4**	**-1.6**
	comp=E,16nm,0.3s						
JIRN	**Jiri**	**13.16**	**119**	*e*P	**Pn**	**09 23 28.9**	**-2.1**
	comp=E,44nm,0.4s						
MKAR	**Makanchi Array**	**13.81**	**27**	Pn	**Pn**	**09 23 41.8**	**+1.9**
	comp=E,0.1nm,0.3s,baz=197,slow=12,SNR=4.2						
AB31	**Akbulak array**	**17.47**	**330**	⇓P	**Pn**	**09 24 27.7**	**-0.1**
	comp=E,0.5nm,0.3s,baz=141,slow=13,SNR=26						
AB31				S	**Sn**	**09 27 38.0**	**-4.3**
	comp=E,1.2nm,0.6s,baz=148,slow=22,SNR=3.7						
BVA0	**Borovoye Array**	**18.35**	**355**	⇓P	**Pn**	**09 24 41.5**	**+2.9**
	comp=E,2.1nm,2.4s,baz=174,slow=11,SNR=13						
BVAR	**Borovoye Array**	**18.35**	**355**	P	**Pn**	**09 24 39.7**	**+1.1**
	comp=E,0.6nm,0.3s,baz=164,slow=10,SNR=13						
ZRNK	**Zerenda**	**18.41**	**352**	⇑P	**Pn**	**09 24 40.0**	**+0.6**
	comp=E,2.8nm,0.7s						
ZRNK	**Zerenda**	**18.41**	**352**	*e*P	**Pn**	**09 24 39.7**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZRNK	**Zerenda**	**18.41**	**352**	*e*P	**Pn**	**09 24 39.7**	**+0.3**
	comp=Z,3.0nm,0.5s						
AKTK	**Aktyubinsk**	**19.18**	**329**	P	**Pn**	**09 24 48.5**	**-0.2**
AKTO	**Aktyubinsk**	**19.18**	**329**	P	**Pn**	**09 24 48.5**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=137,slow=10,SNR=13						
ZAL	**Zalesovo**	**20.81**	**19**	P	**P**	**09 25 05.6**	**0.0**
	comp=Z,5.1nm,0.4s,baz=261,slow=6.3,SNR=13						
ZAL	**Zalesovo**	**20.81**	**19**	P	**P**	**09 25 05.6**	**0.0**
SONM	**Songino Array**	**27.89**	**52**	P	**P**	**09 26 16.8**	**+2.7**
	comp=Z,0.5nm,0.8s,mb3.2,baz=260,slow=8.1,SNR=3.5						
AKASG	**Malin Array Be**	**35.44**	**310**	P	**P**	**09 27 19.3**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=82,slow=7.7,SNR=7.0						
JOF	**Joensuu**	**38.26**	**330**	*e*p	**P**	**09 27 43.9**	**-0.5**
	comp=Z,3.4nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**39.92**	**327**	P	**P**	**09 27 58.2**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.0,baz=120,slow=10,SNR=7.7						
FINES	**FINESS Array B**	**39.92**	**327**	P	**P**	**09 27 58.2**	**-0.1**
KEV	**Kevo**	**43.06**	**338**	*e*p	**P**	**09 28 24.0**	**-0.1**
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	**09 28 27.2**	**+0.2**
	comp=Z,1.7nm,0.5s,mb4.0,baz=119,slow=8.1,SNR=18						
NB2	**NORSAR Subarra**	**46.84**	**324**	P	**P**	**09 28 53.6**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**46.84**	**324**	P	**P**	**09 28 53.1**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=102,slow=7.3,SNR=2.5						
KEST	**Kesra**	**51.32**	**291**	P	**P**	**09 29 29.4**	**+0.9**
	comp=Z,1.1nm,0.9s,mb3.8,baz=28,slow=7.7,SNR=3.9						
MJAR	**Matsushiro Arr**	**51.90**	**68**	P	**P**	**09 29 33.9**	**+1.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=290,slow=10.0,SNR=4.2						
ESDC	**Sonseca Array**	**59.87**	**300**	P	**P**	**09 30 29.3**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=61,slow=8.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**67.52**	**271**	P	**P**	**09 31 19.9**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.3,baz=46,slow=5.7,SNR=45						
DBIC	**Dimbokro**	**76.45**	**269**	P	**P**	**09 32 14.0**	**0.0**
	comp=Z,4.9nm,1.0s,mb4.4,baz=40,slow=7.6,SNR=3.0						
BOSA	**Boshof**	**77.65**	**222**	P	**P**	**09 32 20.4**	**-0.3**
	comp=Z,2.0nm,0.4s,mb4.4,baz=295,slow=11,SNR=5.8						
BOSA	**Boshof**	**77.65**	**222**	P	**P**	**09 32 20.4**	**-0.3**
WRA	**Warramunga Arr**	**79.54**	**123**	P	**P**	**09 32 31.1**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=322,slow=4.9,SNR=36						
ASAR	**Alice Springs**	**81.78**	**126**	P	**P**	**09 32 42.8**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=313,slow=5.3,SNR=18						

IDC 10 09:34:17.1±53.0**, 1745S**×**17122W, h0**^{km}**, mb3.8**/3**, mb1 3.9**/3**, mb1mx3.7**/15**, mbtmp3.8**/3**, Error ellipse: s-maj=1037.0km s-min=194.4km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.88**	**242**	P	P	09 42 34.0	+0.8
	2.9nm,1.1s,baz=72,slow=3.2,SNR=3.0						
WRA	**Warramunga Arr**	**51.44**	**258**	P	P	09 43 24.1	+0.2
	0.3nm,0.4s,baz=98,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**51.50**	**253**	P	P	09 43 24.8	+0.4
	0.5nm,0.5s,baz=86,slow=8.5,SNR=20						

*ISCJB **10** 10:03:52.2±2.6, 35.14N±0.05×2729E±0.07, h9^{km}±20^{km}, Error ellipse: s-maj=10.2km s-min=7.8km az=51.0*

*ATH **10** 10:03:53.5, 3521N×2725E, h27^{km}±1^{km}, MD3.4/4*

*HLW **10** 10:03:54.4, 3529N×27.18E, h33^{km}, Mb3.5*

*CSEM **10** 10:03:55.2, 3535N×27.16E, h33^{km}, MD3.3/5, After ATH*

*NEIC **10** 10:03:55.2, 3535N×27.16E, h33^{km}, MD3.3(ATH), After ATH.*

ISC 10 10:03:54.5±1.1**, 3521N**±006×**2724E**±007**, h18**^{km}±7^{km}**, n9, σ0**^{s}**70**/13**, 2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.35**	**349**	⇓*i*PB	**Pg**	**10 04 01.7**	**-0.1**
KARP				*e*SB	**Sg**	**10 04 07.2**	**+0.5**
KARP	**Karpathos**	**0.35**	**349**	⇓*i*Pb	**Pg**	**10 04 01.5**	**-0.3**
KARP				*e*Sb	**Sg**	**10 04 07.2**	**+0.5**
ARG	**Arkhangelos**	**1.24**	**35**	*e*PN	**Pn**	**10 04 17.3**	**+0.4**
ARG				*e*SN	**Sn**	**10 04 33.6**	**+0.5**
XRY	**Khrisi**	**1.31**	**256**	*e*PN	**Pn**	**10 04 18.0**	**+0.1**
NPS	**Neapolis**	**1.33**	**273**	*e*PN	**Pn**	**10 04 17.9**	**-0.3**
NPS				*e*SN	**Sn**	**10 04 36.1**	**+0.7**
NISR	**Nisiros**	**1.41**	**356**	*e*Pb	**Pn**	**10 04 17.0**	**-2.2**
SWA1		**6.07**	**193**	P	**Pn**	**10 05 23.4**	**+0.2**
SWA2		**6.13**	**195**	P	**Pn**	**10 05 23.7**	**-0.5**
AMAG	**Maghara**	**6.77**	**131**	P	**Pn**	**10 05 33.3**	**+0.4**

*IDC **10** 10:13:57.0±6.3, 6035N×15383W, h74^{km}±28^{km}, mb3.3/3, mb1 3.9/7, mb1mx3.4/24, mbtmp3.8/7, Error ellipse: s-maj=105.7km s-min=28.6km az=106.0*

*ISCJB **10** 10:14:02.5±0.4, 5997N±0.04×15255W±0.07, h96^{km}±7^{km}, mb3.3/3, Error ellipse: s-maj=6.3km s-min=5.6km az=107.6*

*NEIC **10** 10:14:05.2, 5996N×15252W, h93^{km}, MG3.5(AEIC), After AEIC.*

ISC 10 10:14:03.7±0.4**, 5997N**±004×**15255W**±007**, h85**^{km}±8^{km}**, n33, σ0**^{s}**87**/42**, mb3.3**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.28**	**64**	P	**Pn**	**10 14 27.5**	**+1.0**
SEW	**Seward**	**1.56**	**84**	P	**Pn**	**10 14 30.4**	**+0.4**
SEW				S	**Sn**	**10 14 50.4**	**+0.4**
FIB	**Fire Island**	**1.68**	**43**	P	**Pn**	**10 14 33.7**	**+2.2**
RC01	**Rabbit Creek A**	**1.79**	**50**	P	**Pn**	**10 14 33.7**	**+0.7**
RC01				S	**Sn**	**10 14 55.4**	**+0.3**
SVW2	**Sparrevohn**	**1.88**	**308**	*e*Pn	**Pn**	**10 14 34.2**	**+0.1**
SVW2				*e*Sg	**Sn**	**10 14 57.2**	**-0.1**
KDAK	**Kodiak Island**	**2.19**	**180**	P	**Pn**	**10 14 37.7**	**-0.6**
	28nm,0.3s,baz=30,slow=8.3,SNR=408						
KDAK				S	**Sn**	**10 15 03.2**	**-1.5**
	27nm,0.3s,baz=24,slow=12,SNR=4.8						
KDAK	**Kodiak Island**	**2.19**	**180**	P	**Pn**	**10 14 37.7**	**-0.6**
KDAK				S	**Sn**	**10 15 03.3**	**-1.4**
PMR	**Palmer**	**2.34**	**44**	P	**Pn**	**10 14 40.0**	**-0.2**
PMR				S	**Sn**	**10 15 06.9**	**-1.3**
GHO	**Glory Hole Cre**	**2.53**	**43**	P	**Pn**	**10 14 43.4**	**+0.6**
MID	**Middleton Isla**	**3.19**	**97**	P	**Pn**	**10 14 52.0**	**+0.3**
TTA	**Tatalina**	**3.41**	**332**	*e*Pn	**Pn**	**10 14 54.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.44**	**77**	P	**Pn**	**10 14 55.5**	**+0.5**
DIV	**Divide**	**3.54**	**68**	P	**Pn**	**10 14 57.6**	**+1.1**
DIV				S	**Sn**	**10 15 35.7**	**-1.6**
TRF	**Thorofare Moun**	**3.66**	**16**	P	**Pn**	**10 14 58.6**	**+0.6**
KTH	**Kantishna Hill**	**3.68**	**11**	P	**Pn**	**10 14 58.5**	**+0.2**
RAGM	**Ragged Mountai**	**3.96**	**80**	P	**Pn**	**10 15 01.9**	**-0.2**
BMRM	**Bremner River**	**4.06**	**72**	P	**Pn**	**10 15 03.1**	**-0.3**
MCK	**McKinley**	**4.15**	**23**	P	**Pn**	**10 15 05.4**	**+0.8**
CHGN	**Chignik**	**4.81**	**223**	*e*P	**Pn**	**10 15 13.7**	**0.0**
COLA	**College**	**5.38**	**22**	P	**Pn**	**10 15 21.2**	**-0.3**
COLA				S	**Sn**	**10 16 20.1**	**-2.0**
IMA2	**Indian Mountai**	**6.15**	**356**	*e*Pn	**Pn**	**10 15 31.7**	**-0.1**
SDPT	**Sand Point**	**6.29**	**226**	P	**Pn**	**10 15 33.0**	**-0.7**
PNL	**Peninsula**	**6.64**	**87**	P	**Pn**	**10 15 38.6**	**0.0**
EGAK	**Eagle**	**7.16**	**43**	*e*Pn	**Pn**	**10 15 44.8**	**-0.8**
COLD	**Coldfoot**	**7.36**	**7**	P	**Pn**	**10 15 47.9**	**-0.5**
DAWY	**Dawson**	**7.42**	**51**	P	**Pn**	**10 15 49.0**	**-0.2**
SKAG	**Skagway**	**8.72**	**86**	P	**Pn**	**10 16 07.8**	**+0.9**
DLBC	**Dease Lake**	**11.63**	**88**	P	**Pn**	**10 16 48.2**	**+1.6**
	2.7nm,0.3s,baz=289,slow=9.4,SNR=41						
DLBC				S	**Sn**	**10 18 52.7**	**-1.8**
	0.6nm,0.3s,baz=132,slow=20,SNR=4.4						
INK	**Inuvik**	**11.73**	**37**	P	**Pn**	**10 16 41.6**	**-6.3**
	0.1nm,0.3s,baz=68,slow=13,SNR=2.0						
YKA	**Yellowknife Ar**	**18.26**	**66**	P	**Pn**	**10 18 09.9**	**-1.4**
	baz=282,slow=12,SNR=3.4						
NEW	**Newport**	**23.52**	**104**	P	**P**	**10 19 06.4**	**+0.4**
	0.8nm,0.5s,mb3.3,baz=1.4,slow=7.2,SNR=3.6						
NVAR	**Mina Array Bea**	**30.51**	**119**	P	**P**	**10 20 09.4**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=320,slow=9.7,SNR=2.1						
PDAR	**Pinedale Array**	**31.17**	**104**	P	**P**	**10 20 15.1**	**+0.6**
	0.6nm,0.9s,mb3.3,baz=308,slow=5.1,SNR=5.3						

CASC 10 10:27:47.6±3.4, 1382N×9127W, h14km±30km, MD3.6, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.61**	**324**	⇓eP	Pg	10 28 00.1	+0.6
TER	**Terranova**	**0.74**	**50**	eP	Pg	10 28 02.8	+0.8
TER				eS	Sg	10 28 13.4	+1.7
FUG	**Fuego 3**	**0.75**	**33**	⇓iP	Pg	10 28 02.3	+0.2
RBDL	**Robledal**	**1.56**	**79**	eP	x	10 28 29.1	
RBDL				eS	x	10 28 51.4	
RTR	**El Retiro**	**1.58**	**87**	eP	x	10 28 30.1	
RTR				eS	x	10 28 51.7	
SBLS	**San Blas**	**1.60**	**89**	eP	x	10 28 30.3	
SBLS				eS	x	10 28 52.4	
SNJE	**San Jose**	**1.61**	**88**	eP	x	10 28 30.5	
SNJE				eS	x	10 28 51.2	
LFRS	**El Faro**	**2.15**	**95**	eP	x	10 28 37.8	
LFRS				eS	x	10 29 04.8	

*MOS **10** 10:34:06.3±0.5, 5500N×16265E, h45km, mb4.2/1, Error ellipse: s-maj=26.7km s-min=12.8km az=71.8*

KRSC 10 10:34:06, 5507N×16241E, h64km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.65**	**218**	eP	Pn	10 34 20.9	+1.0
MKZ				i S	Sn	10 34 31.6	+1.5
KBTR	**Krutoberegovo**	**1.16**	**11**	i P	Pn	10 34 27.8	+1.5
KBTR				i S	Sn	10 34 43.6	+2.1
CIRR	**Tsirk**	**1.41**	**319**	eP	Pn	10 34 32.2	+2.6
CIRR				i S	Sn	10 34 50.5	+3.2
KMNR	**Kamenistaya**	**1.42**	**300**	eP	Pn	10 34 31.8	+2.1
KMNR				i S	Sn	10 34 50.0	+2.6
KPT	**Kopyto**	**1.54**	**307**	eP	Pn	10 34 33.7	+2.5
KPT				i S	Sn	10 34 53.1	+2.9
KRSR	**Krestovskiy**	**1.55**	**318**	eP	Pn	10 34 33.5	+2.0
KRSR				i S	Sn	10 34 53.4	+2.7
KLY	**Klyuchi**	**1.59**	**322**	eP	Pn	10 34 33.4	+1.4
KLY				i S	Sn	10 34 53.0	+1.3
SMKR	**Semkarok**	**1.61**	**341**	i P	Pn	10 34 34.5	+2.3
SMKR				i S	Sn	10 34 54.8	+2.8
BDR	**Baidarnaya**	**1.65**	**336**	i P	Pn	10 34 35.4	+2.7
BDR				i S	Sn	10 34 57.2	+4.2
SRKR	**Sorokina**	**1.73**	**337**	i P	Pn	10 34 36.4	+2.5
SRKR				i S	Sn	10 34 58.6	+3.5
KOZR	**Kozyr**	**1.74**	**306**	PN	Pn	10 34 36.8	+2.8
KOZR				S	Sn	10 34 59.5	+4.3
KOZ	**Kozyrevsk**	**1.75**	**306**	eP	Pn	10 34 36.8	+2.7
KOZ				i S	Sn	10 34 59.5	+4.1
SRDR	**Sredinnyy**	**1.97**	**310**	eP	Pn	10 34 39.5	+2.4
SRDR				i S	Sn	10 35 03.4	+2.6
KII	**Karymskiy**	**2.01**	**240**	eP	Pn	10 34 40.5	+2.8
KII				i S	Sn	10 35 04.9	+3.1
SPN	**Mys Shipunski**	**2.42**	**216**	eP	Pn	10 34 44.3	+1.0
SPN				i S	Sn	10 35 11.6	-0.2
NLC	**Nalytchevo**	**2.62**	**225**	eP	Pn	10 34 48.1	+2.1
NLC				i S	Sn	10 35 18.5	+1.9
AVH	**Avacha**	**2.82**	**232**	eP	Pn	10 34 51.9	+3.3
AVH				i S	Sn	10 35 25.2	+3.8
GNL	**Ganaly**	**2.95**	**244**	eP	Pn	10 34 54.2	+3.7
GNL				i S	Sn	10 35 28.9	+4.2
PET	**Petropavlovsk**	**3.02**	**229**	ePN	Pn	10 34 54.1	+2.7
PET				eS	Sn	10 35 28.4	+2.1
PET				pmax	pmax		
	comp=Z,100nm,0.4s						
PET				pmax	pmax		
	comp=Z,123nm,0.5s						
PET				smax			
	comp=N,200nm,0.9s						
PET				smax			
	comp=E,200nm,0.5s						
PET				smax			
	comp=N,232nm,0.7s						
PET				smax			
	comp=E,215nm,0.5s						
PET	**Petropavlovsk**	**3.02**	**229**	eP	Pn	10 34 54.2	+2.8
PET				i S	Sn	10 35 28.5	+2.2
RUS	**Russkaya**	**3.51**	**223**	eP	Pn	10 35 00.0	+1.9
RUS				i S	Sn	10 35 39.0	+0.6
GRL	**Gorelyy**	**3.60**	**227**	eP	Pn	10 35 02.7	+3.4
GRL				i S	Sn	10 35 44.2	+3.6
MIPR	**Malaya Ipel'ka**	**4.37**	**233**	eP	Pn	10 35 13.9	+4.0
ALID	**Alaid**	**5.91**	**227**	eP	Pn	10 35 35.1	+4.3

*IDC **10** 10:36:07.3±9.4, 293S×14644E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/14, mbtmp4.2/5, ML2.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/26, Error ellipse: s-maj=147.4km s-min=54.0km az=36.0*
*ISCJB **10** 10:36:08.3±8.9, 30S±02×1465E±02, h21km±63km, mb4.0/3, MS2.9/1, Error ellipse: s-maj=37.1km s-min=29.3km az=115.0*
*NEIC **10** 10:36:12.2±0.9, 296S×14648E, h35km, mb4.7/2, Error ellipse: s-maj=19.6km s-min=13.9km az=110.0*

ISC 10 10:36:11.7±9.0, 29S±02×1465E±02, h32km±63km, n11, σ0s33/11, mb4.0/3, MS2.9/1, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.46**	**174**	Pn	**Pn**	**10 37 44.5**	**0.0**
	0.8nm,0.3s,baz=0.0,slow=5.1,SNR=2.9						
KAKA	**Kakadu**	**16.99**	**234**	eP	**Pn**	**10 40 06.7**	**-0.1**
	327nm,3.0s						
WB2	**Warramunga Arr**	**20.66**	**214**	eP	**P**	**10 40 49.1**	**+0.4**
WRA	**Warramunga Arr**	**20.67**	**214**	P	**P**	**10 40 48.7**	**-0.1**
	8.8nm,0.8s,baz=38,slow=12,SNR=40						
AS31	**Alice Springs**	**23.95**	**210**	eP	**P**	**10 41 22.7**	**-0.3**
ASAR	**Alice Springs**	**23.95**	**210**	P	**P**	**10 41 23.8**	**+0.8**
	2.6nm,0.9s,mb3.7,baz=43,slow=7.8,SNR=26						
ASPA	**Alice Springs**	**23.96**	**210**	eP	**P**	**10 41 22.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**25.42**	**232**	eP	**P**	**10 41 36.3**	**0.0**
	18nm,1.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**25.42**	**232**	P	**P**	**10 41 36.0**	**-0.3**
	4.9nm,0.7s,mb4.2,baz=49,slow=7.1,SNR=12						
FITZ				LR	LR	10 51 09.4	
	comp=Z,39nm,19.0s,MS2.9,baz=326,slow=36						
STKA	**Stephens Creek**	**29.16**	**189**	P	**P**	**10 42 09.6**	**-0.3**
	3.6nm,1.2s,mb4.0,baz=348,slow=9.3,SNR=1.5						
TNA	**Tin City**	**75.83**	**18**	eP	**P**	**10 47 54.7**	**0.0**

*NIED **10** 10:43:00, 3960N×14370E, h26km, Mw3.7 Best double couple: M0 4.72000×10^14 NP1:φs44.00000°, δ63.00000°, λ97.00000°. NP2:φs209.00000°, δ28.00000°, λ77.00000°.*
*ISCJB **10** 10:43:34.6±0.9, 3960N±005×14369E±008, h10km, mb3.5/2, MS3.0/1, Error ellipse: s-maj=10.3km s-min=5.0km az=62.1*
*NEIC **10** 10:43:34.9, 3963N×14368E, h17km, MG4.0(JMA), After JMA.*
*JMA **10** 10:43:34.9±0.2, 3963N×14368E, h17km, M4.0*
*IDC **10** 10:43:42.6±7.1, 3998N×14248E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.6/4, ML3.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.1/47, Error ellipse: s-maj=131.7km s-min=34.6km az=112.0*

ISC 10 10:43:36.6±0.9, 3962N±005×14356E±009, h10km, n19, σ0s91/25, mb3.5/2, MS3.0/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.34**	**284**	P	**Pn**	**10 44 00.2**	**-1.3**
JTH				S	**Sb**	**10 44 19.8**	**+0.6**
MIYJ	**Miyakonagasawa**	**1.34**	**269**	P	**Pn**	**10 44 00.6**	**-0.9**
MIYJ				S	**Sb**	**10 44 19.2**	**0.0**
OFUJ	**Ofunato**	**1.56**	**250**	P	**Pn**	**10 44 03.6**	**-0.8**
OFUJ				eS	**Sn**	**10 44 24.7**	**0.0**
JANG	**Nango**	**1.74**	**296**	P	**Pn**	**10 44 05.7**	**-1.2**
JOM	**Ohasama**	**1.76**	**266**	P	**Pn**	**10 44 06.9**	**-0.3**
JMK	**Ichinoseki**	**1.93**	**251**	P	**Pn**	**10 44 09.2**	**-0.4**
JIO	**Ouri**	**2.08**	**237**	P	**Pn**	**10 44 10.6**	**-0.9**
JYK	**Kaneyama**	**2.58**	**255**	P	**Pn**	**10 44 18.7**	**+0.2**
JOT	**Ohata**	**2.60**	**313**	P	**Pn**	**10 44 18.2**	**-0.5**
JNBK	**Urakawa-nobuka**	**2.73**	**347**	P	**Pn**	**10 44 21.4**	**+0.9**
JNBK				eS	**Sn**	**10 44 53.4**	**-0.1**
JMM	**Marumori**	**2.78**	**232**	P	**Pn**	**10 44 20.3**	**-0.9**
JKB	**Kayabe**	**2.97**	**321**	P	**Pn**	**10 44 24.8**	**+1.0**
JCH	**Churui**	**2.99**	**357**	P	**Pn**	**10 44 23.4**	**-0.7**
ASAJ	**Asahikawa**	**4.55**	**351**	Pn	**Pn**	**10 44 47.0**	**+1.5**
	0.5nm,0.3s,baz=192,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**5.22**	**236**	Pn	**Pn**	**10 44 56.1**	**+1.3**
	1.0nm,0.3s,baz=39,slow=12,SNR=18						
MAJO	**Matsushiro**	**5.22**	**236**	ePn	**Pn**	**10 44 55.4**	**+0.7**
	9.7nm,0.6s						
MAJO				eSg	**Sg**	**10 46 32.2**	**+7.9**
MAT	**Matsushiro**	**5.22**	**236**	P	**Pn**	**10 44 56.0**	**+1.2**
MAT				eS	**Sn**	**10 45 58.3**	**+3.3**
SONM	**Songino Array**	**27.86**	**299**	P	**P**	**10 49 26.6**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=94,slow=7.8,SNR=6.4						
SONM				LR	LR	11 00 56.8	
	comp=Z,41nm,21.6s,MS3.0,baz=240,slow=38						
MKAR	**Makanchi Array**	**44.23**	**300**	P	**P**	**10 51 45.3**	**-0.7**
	0.6nm,0.4s,mb3.6,baz=83,slow=9.9,SNR=5.6						

*SOF **10** 10:43:52.7, 3920N×2469E, h2km, MD2.5*
*NEIC **10** 10:43:53.7±0.6, 3906N×2458E, h12km±5km, MD2.5(SOF), ML3.2(ATH), Error ellipse: s-maj=4.4km s-min=3.4km az=124.0*
*ISCJB **10** 10:43:53.1±0.6, 3908N±003×2456E±004, h9km±5km, Error ellipse: s-maj=5.4km s-min=4.8km az=44.5*
*ATH **10** 10:43:53.7, 3906N×2460E, h35km±3km, MD3.1/10, ML3.2*
*CSEM **10** 10:43:54.7±0.1, 3906N×2461E, h46km±2km, ML2.9, Error ellipse: s-maj=3.0km s-min=2.0km az=123.0*
*THE **10** 10:43:54.8, 3910N×2450E, h4km, ML2.9*

ISC 10 10:43:53.4±0.7, 3905N±003×2457E±004, h11km±5km, n31, σ0s75/37, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.55**	**283**	ePg	**Pg**	**10 44 04.5**	**+0.3**
LOS	**Limnos**	**0.97**	**24**	ePg	**Pg**	**10 44 12.7**	**+0.7**
LIA	**Limnos Island**	**0.97**	**29**	ePN	**Pn**	**10 44 12.4**	**-0.6**
LIA				eSN	**Sn**	**10 44 25.2**	**-1.6**
NEO	**Neokhori**	**1.08**	**284**	ePB	**Pb**	**10 44 13.7**	**-0.4**
NEO				eSN	**Sn**	**10 44 29.3**	**-0.2**
PAIG	**Paliouri**	**1.11**	**322**	ePg	**Pg**	**10 44 14.9**	**0.0**
PAIG				eSg	**Sg**	**10 44 30.2**	**+0.9**
XOR	**Xorichti**	**1.12**	**287**	ePg	**Pg**	**10 44 14.7**	**-0.2**
XOR				eSg	**Sg**	**10 44 29.0**	**-0.4**
PTL	**Penteli**	**1.14**	**209**	ePN	**Pn**	**10 44 15.0**	**-0.4**
ATH	**Athens Observa**	**1.27**	**212**	ePN	**Pn**	**10 44 17.5**	**+0.4**
LKR	**Lokris**	**1.29**	**252**	ePN	**Pn**	**10 44 17.4**	**0.0**
CHOS	**Chios island**	**1.34**	**119**	ePg	**Pg**	**10 44 19.8**	**+0.7**
CHOS				eSg	**Sg**	**10 44 41.2**	**+4.8**
PRK	**Paraskevi**	**1.34**	**81**	ePN	**Pn**	**10 44 17.2**	**-0.8**
OUR	**Ouranopolis**	**1.36**	**341**	ePg	**Pg**	**10 44 17.9**	**-1.7**
MGER	**Gerania Oros**	**1.48**	**224**	ePB	**Pb**	**10 44 20.0**	**-0.9**
PLG	**Polygyros**	**1.58**	**327**	ePN	**Pn**	**10 44 20.9**	**-0.5**
AGG	**Agios Georgios**	**1.75**	**270**	ePb	**Pb**	**10 44 24.1**	**-1.4**
HORT	**Hortiatis**	**1.92**	**324**	ePb	**Pn**	**10 44 25.7**	**-0.3**
LIT	**Litokhoron**	**1.92**	**304**	ePb	**Pn**	**10 44 26.3**	**+0.2**
SOH	**Sokhos**	**2.00**	**332**	ePb	**Pn**	**10 44 27.3**	**+0.1**
THE	**Thessaloniki**	**2.01**	**322**	ePb	**Pn**	**10 44 27.4**	**+0.2**
APE	**Apeiranthos**	**2.12**	**159**	ePn	**Pn**	**10 44 30.1**	**+1.4**
ALN	**Alexandroupoli**	**2.17**	**31**	ePn	**Pn**	**10 44 29.6**	**+0.2**
ALN	**Alexandroupoli**	**2.17**	**31**	ePn	**Pn**	**10 44 29.6**	**+0.2**
RDO	**Rodhopi**	**2.22**	**19**	ePN	**Pn**	**10 44 30.0**	**-0.2**
NVR	**Nevrokopi**	**2.36**	**347**	ePN	**Pn**	**10 44 32.2**	**+0.1**
KNT	**Kendrikon**	**2.47**	**329**	ePn	**Pn**	**10 44 34.1**	**+0.5**
GRG	**Griva**	**2.53**	**319**	ePn	**Pn**	**10 44 35.5**	**+1.1**
MMB	**Musomiste**	**2.62**	**346**	i P	**Pn**	**10 44 35.1**	**-0.6**
KDZ	**Kurdzhali**	**2.68**	**14**	i P	**Pn**	**10 44 36.0**	**-0.5**
FNA	**Florina**	**3.01**	**306**	ePn	**Pn**	**10 44 42.4**	**+1.4**
KKB	**Krupnik**	**3.03**	**338**	i P	**Pn**	**10 44 42.0**	**+0.6**
VTS	**Vitosha**	**3.69**	**344**	i P	**Pn**	**10 44 51.0**	**+0.6**
VTS				i S	**Sn**	**10 45 35.0**	**+1.2**

*ISCJB **10** 10:48:13.3±0.7, 2973S±005×13793E±008, h10km, Error ellipse: s-maj=10.7km s-min=5.4km az=133.8*
*IDC **10** 10:48:16.4±3.2, 2936S×13853E, h0km, mb1 3.4/3, mb1mx3.3/12, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=145.6km s-min=16.0km az=50.0*

ISC 10 10:48:15.4±0.7, 2977S±004×13793E±008, h10km, n8, σ1s46/15, South Australia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**3.43**	**207**	eP	**Pn**	**10 49 09.6**	**+0.7**
BBOO				eS	**Sn**	**10 49 48.7**	**-0.9**
	3.6nm,0.2s						
STKA	**Stephens Creek**	**3.79**	**125**	eP	**Pn**	**10 49 15.0**	**+1.1**
STKA				eS	**Sn**	**10 49 56.7**	**-1.8**
	1.4nm,0.2s						
STKA	**Stephens Creek**	**3.79**	**125**	Pn	**Pn**	**10 49 14.6**	**+0.8**
	0.2nm,0.3s,baz=319,slow=10,SNR=3.8						
STKA				Sn	**Sn**	**10 49 57.3**	**-1.2**
	1.0nm,0.3s,baz=262,slow=16,SNR=5.1						
STKA				Lg		10 50 11.6	
	1.4nm,0.3s,baz=251,slow=18,SNR=3.3						
ASAR	**Alice Springs**	**7.06**	**328**	Pn	**Pn**	**10 50 01.1**	**+2.3**
	0.4nm,0.3s,baz=148,slow=13,SNR=45						
ASAR				Sn	**Sn**	**10 51 19.5**	**+0.3**
	0.3nm,0.3s,baz=151,slow=22,SNR=6.9						
ASPA	**Alice Springs**	**7.06**	**328**	eP	**Pn**	**10 50 01.4**	**+2.6**
ASPA				eS	**Sn**	**10 51 16.7**	**-2.5**
WB2	**Warramunga Arr**	**10.31**	**341**	eP	**Pn**	**10 50 44.5**	**+1.2**
WB2				eS	**Sn**	**10 52 38.1**	**-0.8**
WRA	**Warramunga Arr**	**10.31**	**341**	Pn	**Pn**	**10 50 43.9**	**+0.6**
	0.3nm,0.3s,baz=149,slow=13,SNR=34						
WRA				Sn	**Sn**	**10 52 36.0**	**-3.0**
	0.1nm,0.3s,baz=162,slow=24,SNR=2.8						
FITZ	**Fitzroy Crossi**	**16.14**	**313**	Pn	**Pn**	**10 52 01.4**	**-1.0**
	0.1nm,0.3s,baz=127,slow=5.1,SNR=2.9						

*NEIC **10** 10:49:57.0, 3452S×7217W, h28km, ML2.6(GUC), After GUC.*

GUC 10 10:49:57.0±0.6, 3452S×7217W, h28km±8km, MD3.5, ML2.6, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.84**	**49**	⇓iP	Pn	10 50 12.4	-0.6
LNV				i S	Sb	10 50 23.8	-0.2
SFDO	**San Fernando**	**0.96**	**96**	⇑iP	Pn	10 50 14.3	-0.3
SFDO				i S	Sn	10 50 27.2	-0.2
LCCH	**Las Cruces**	**1.16**	**26**	⇓iP	Pn	10 50 17.4	+0.2
TACH	**Talagante**	**1.34**	**50**	eP	Pn	10 50 20.0	+0.2
TACH				i S	Sn	10 50 37.5	+0.8
CACH	**El Canelo**	**1.36**	**73**	⇑iP	Pn	10 50 21.2	+1.1
CACH				i S	Sn	10 50 39.6	+2.4
CHCH	**Chadas Angostu**	**1.39**	**66**	⇑iP	Pn	10 50 21.1	+0.6
CHCH				i S	Sn	10 50 39.0	+1.1
CICH	**Cipreses**	**1.46**	**83**	eP	Pn	10 50 22.4	+0.9
CICH				i S	Sn	10 50 41.8	+2.1
RCDM	**Rinconada Maip**	**1.53**	**48**	eP	Pn	10 50 22.7	+0.3
RCDM				i S	Sn	10 50 41.6	+0.2
RCDM				AML	AML	10 50 43.2	
	comp=E,80nm,0.6s						
RCDM	**Rinconada Maip**	**1.53**	**48**	eP	Pn	10 50 22.7	+0.3
RCDM				S	Sn	10 50 41.6	+0.2
LMEL	**Las Melosas**	**1.77**	**68**	⇑iP	Pn	10 50 27.3	+1.7
LMEL				i S	Sn	10 50 50.7	+3.5
LMEL				AML	AML	10 50 51.0	
	comp=N,198nm,0.3s						
LMEL	**Las Melosas**	**1.77**	**68**	⇑iP	Pn	10 50 27.3	+1.7
LMEL				i S	Sn	10 50 50.7	+3.5
FCH	**Farellones**	**1.96**	**53**	eP	Pn	10 50 30.4	+2.0

*NAO **10** 10:56:18.5, 3912N×2925E, h33km, mb3.4*
*ISCJB **10** 10:56:20.7±0.4, 3909N±002×2457E±002, h5km±4km, mb3.5/3, Error ellipse: s-maj=3.3km s-min=2.5km az=25.5*
*IDC **10** 10:56:21.7±1.4, 3903N×2466E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, ML3.5/3, Error ellipse: s-maj=30.2km s-min=14.9km az=107.0*
*NEIC **10** 10:56:22.8, 3912N×2449E, h5km, MD3.5(SOF), ML3.6(ATH), After THE.*
*ATH **10** 10:56:22.6, 3909N×2456E, h44km±3km, MD3.9/17, ML3.6*
*THE **10** 10:56:22.8, 3912N×2449E, h5km, ML3.5*
*SOF **10** 10:56:23.0, 3927N×2462E, h12km, MD3.5*
*CSEM **10** 10:56:23.2±0.1, 3908N×2456E, h40km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.4km az=126.0*
*SKO **10** 10:56:32.0, 3978N×2412E, h2km*

ISC 10 10:56:22.3±0.4, 3907N±002×2450E±002, h10km±3km, n86, σ1s14/110, mb3.5/3, 6C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.49**	**282**	ePg	**Pg**	**10 56 32.4**	**+0.5**
LOS	**Limnos**	**0.97**	**27**	ePg	**Pg**	**10 56 40.5**	**-0.4**
LOS				eSg	**Sg**	**10 56 55.4**	**+1.8**
LIA	**Limnos Island**	**0.98**	**32**	eP	**Pg**	**10 56 40.4**	**-0.7**
LIA				eS	**Sg**	**10 56 53.2**	**-0.6**
NEO	**Neokhori**	**1.02**	**284**	eP	**Pg**	**10 56 41.8**	**-0.1**
NEO				eS	**Sg**	**10 56 56.3**	**+1.1**
XOR	**Xorichti**	**1.06**	**286**	ePg	**Pg**	**10 56 42.3**	**-0.3**
XOR				eSg	**Sg**	**10 56 56.5**	**+0.1**
XOR	**Xorichti**	**1.06**	**286**	ePg	**Pg**	**10 56 42.3**	**-0.4**
XOR				eSg	**Sg**	**10 56 56.5**	**+0.1**
PAIG	**Paliouri**	**1.06**	**324**	ePg	**Pg**	**10 56 42.0**	**-0.7**
PAIG				eSg	**Sg**	**10 56 56.8**	**+0.1**
PTL	**Penteli**	**1.14**	**206**	eP	**Pb**	**10 56 43.0**	**-1.0**
LKR	**Lokris**	**1.25**	**251**	eP	**Pn**	**10 56 45.2**	**-0.5**
LKR				eS	**Sb**	**10 57 02.1**	**+0.1**
ATH	**Athens Observa**	**1.26**	**210**	eP	**Pn**	**10 56 45.6**	**-0.3**
OUR	**Ouranopolis**	**1.32**	**342**	ePg	**Pg**	**10 56 45.9**	**-1.8**
KVR	**Kavouri**	**1.37**	**205**	eP	**Pn**	**10 56 47.0**	**-0.4**
PRK	**Paraskevi**	**1.39**	**82**	eP	**Pn**	**10 56 46.0**	**-1.7**
CHOS	**Chios island**	**1.39**	**119**	ePg	**Pg**	**10 56 47.9**	**-1.2**
CHOS				eSg	**Sg**	**10 57 08.7**	**+1.5**
CHOS	**Chios island**	**1.39**	**119**	ePg	**Pg**	**10 56 47.8**	**-1.3**
BOZC	**Bozcaada**	**1.43**	**57**	i P	**Pn**	**10 56 48.5**	**+0.3**
BOZC				i S	**Sn**	**10 57 05.6**	**-1.4**
BOZC	**Bozcaada**	**1.43**	**57**	i P	**Pn**	**10 56 48.5**	**+0.3**
BOZC				i S	**Sn**	**10 57 05.6**	**-1.4**
MGER	**Gerania Oros**	**1.46**	**222**	eP	**Pn**	**10 56 48.0**	**-0.7**
PLG	**Polygyros**	**1.53**	**328**	eP	**Pn**	**10 56 48.6**	**-1.1**
NAIG	**Nisos Aigina**	**1.54**	**212**	eP	**Pn**	**10 56 49.0**	**-0.7**
AGG	**Agios Georgios**	**1.69**	**269**	ePb	**Pb**	**10 56 51.7**	**-1.8**
AGG				eSb	**Sb**	**10 57 15.0**	**+0.2**
AYVA	**Ayvalik**	**1.72**	**81**	i P	**Pn**	**10 56 55.2**	**+3.0**
AYVA				i S	**Sn**	**10 57 18.5**	**+4.4**
URLA	**Izmir**	**1.79**	**113**	i P	**Pg**	**10 56 57.0**	**+0.5**
URLA				i S	**Sg**	**10 57 23.3**	**+3.6**
LIT	**Litokhoron**	**1.86**	**304**	ePb	**Pn**	**10 56 54.4**	**+0.1**
LIT	**Litokhoron**	**1.86**	**304**	ePb	**Pn**	**10 56 54.3**	**+0.1**
HORT	**Hortiatis**	**1.87**	**325**	ePb	**Pn**	**10 56 53.8**	**-0.5**
THE	**Thessaloniki**	**1.96**	**323**	ePb	**Pn**	**10 56 55.5**	**0.0**
SOH	**Sokhos**	**1.96**	**334**	ePb	**Pn**	**10 56 55.3**	**-0.2**
EVR	**Evrytania**	**2.10**	**267**	eP	**Pn**	**10 56 57.5**	**0.0**
APE	**Apeiranthos**	**2.16**	**158**	eP	**Pn**	**10 56 58.2**	**-0.1**
APE	**Apeiranthos**	**2.16**	**158**	⇓iP	**Sn**	**10 57 23.5**	**-1.6**
ALN	**Alexandroupoli**	**2.17**	**33**	ePn	**Pn**	**10 56 57.3**	**-1.2**
RDO	**Rodhopi**	**2.22**	**21**	eP	**Pn**	**10 56 57.0**	**-2.1**
KDAG	**Bornova**	**2.26**	**106**	i P	**Pn**	**10 57 00.5**	**+0.8**
KDAG				i S	**Sn**	**10 57 25.6**	**-2.1**
NVR	**Nevrokopi**	**2.33**	**348**	eP	**Pn**	**10 56 59.8**	**-0.8**
KNT	**Kendrikon**	**2.42**	**330**	ePn	**Pn**	**10 57 01.9**	**0.0**
KZN	**Kozani**	**2.44**	**301**	eP	**Pn**	**10 57 02.5**	**+0.3**
GRG	**Griva**	**2.48**	**320**	ePn	**Pn**	**10 57 03.0**	**+0.3**
MMB	**Musomiste**	**2.58**	**347**	i P	**Pn**	**10 57 03.1**	**-1.0**
MMB				i S	**Sn**	**10 57 33.5**	**-2.1**
MMB	**Musomiste**	**2.58**	**347**	ePn	**Pn**	**10 57 03.2**	**-0.9**
AKHS	**Akhisar**	**2.59**	**93**	i P	**Pn**	**10 57 00.7**	**-3.5**
AKHS				i S	**Sb**	**10 57 42.7**	**+2.1**
RZN	**Rozhen**	**2.62**	**4**	i P	**Pn**	**10 57 04.2**	**-0.4**
VLI	**Veliai**	**2.66**	**208**	eP	**Pn**	**10 57 05.0**	**-0.1**
KDZ	**Kurdzhali**	**2.67**	**15**	i P	**Pn**	**10 57 04.1**	**-1.2**
VAY	**Valandovo**	**2.69**	**327**	ePn	**Pn**	**10 57 05.7**	**+0.1**
VAY	**Valandovo**	**2.69**	**327**	i Pn	**Pn**	**10 57 05.6**	**+0.1**
VAY				eSn	**Sn**	**10 57 30.7**	**-7.5**
VAY	**Valandovo**	**2.69**	**327**	ePn	**Pn**	**10 57 05.7**	**+0.1**
VAY				eSn	**Sn**	**10 57 30.7**	**-7.5**
ITM	**Ithomi**	**2.77**	**228**	eP	**Pn**	**10 57 08.0**	**+1.2**
FNA	**Florina**	**2.95**	**306**	ePn	**Pn**	**10 57 10.0**	**+0.8**
KKB	**Krupnik**	**2.99**	**339**	i P	**Pn**	**10 57 09.5**	**-0.3**
AYDN	**Tasoluk**	**3.00**	**117**	i P	**Pg**	**10 57 19.2**	**-0.7**
AYDN				i S	**Sg**	**10 57 58.6**	**-0.2**
LKD	**Levkas**	**3.03**	**264**	ePn	**Pn**	**10 57 13.5**	**+3.2**
PLD	**Plovdiv**	**3.03**	**3**	ePn	**Pn**	**10 57 10.6**	**+0.3**
STIP	**Stip**	**3.16**	**327**	ePn	**Pn**	**10 57 12.9**	**+0.9**
IGT	**Igoumenitsa**	**3.27**	**279**	ePn	**Pn**	**10 57 16.4**	**+2.9**
KRUS	**Krusevo**	**3.39**	**314**	i Pn	**Pn**	**10 57 16.9**	**+1.7**
VTS	**Vitosha**	**3.65**	**345**	ePn	**Pn**	**10 57 19.4**	**+0.6**
VTS	**Vitosha**	**3.65**	**345**	i P	**Pn**	**10 57 19.5**	**+0.7**
ULDT	**Uludag**	**3.73**	**72**	i P	**Pg**	**10 57 32.4**	**-1.5**
ULDT				i S	**Sg**	**10 58 22.1**	**-0.1**
JMB	**Yambol**	**3.74**	**24**	ePn	**Pn**	**10 57 19.2**	**-0.8**
JMB	**Yambol**	**3.74**	**24**	ePn	**Pn**	**10 57 19.2**	**-0.8**
IDI	**Anoyia**	**3.79**	**175**	Pn	**Pn**	**10 57 20.9**	**+0.2**
	2.3nm,0.3s,baz=342,slow=14,SNR=11						
DNZL	**Cakiroluk**	**3.83**	**110**	i P	**Pn**	**10 57 20.1**	**-1.2**
DNZL				i S	**Sg**	**10 58 25.4**	**+0.2**
TKTP	**Tekketepe**	**4.67**	**101**	i P	**Pn**	**10 57 36.8**	**+3.9**
TKTP				i S	**Sg**	**10 59 02.6**	**+10**
ESKT	**Eskisehir**	**4.95**	**83**	i P	**Pn**	**10 57 38.2**	**+1.6**
ESKT				i S	**Sg**	**10 59 03.4**	**+2.4**
SEYT	**Eskypehyr**	**4.95**	**83**	i P	**Pn**	**10 57 38.2**	**+1.6**
GZR	**Gura Zlata**	**6.45**	**349**	⇓iP	**Pn**	**10 57 56.5**	**-0.7**
GZR	**Gura Zlata**	**6.45**	**349**	⇓P	**Pn**	**10 57 56.5**	**-0.7**
MLR	**Muntele Rosu**	**6.50**	**9**	Pn	**Pn**	**10 57 58.2**	**+0.2**
	1.0nm,0.3s,baz=156,slow=14,SNR=11						
MLR				Sn	**Sn**	**10 59 14.6**	**+2.4**
	0.6nm,0.3s,baz=248,slow=16,SNR=1.9						
MLR				Lg		10 59 56.7	
	baz=111,slow=19,SNR=3.3						
MLR	**Muntele Rosu**	**6.50**	**9**	⇓iP	**Pn**	**10 57 58.8**	**+0.8**
MLR	**Muntele Rosu**	**6.50**	**9**	⇓P	**Pn**	**10 57 58.8**	**+0.8**
BZS	**Buzias**	**6.88**	**343**	⇓iP	**Pn**	**10 58 02.5**	**-0.7**
BZS	**Buzias**	**6.88**	**343**	⇓P	**Pn**	**10 58 02.5**	**-0.7**
VRI	**Vrincioaia**	**6.99**	**13**	⇑iP	**Pn**	**10 58 05.7**	**+1.1**
VRI	**Vrincioaia**	**6.99**	**13**	⇑P	**Pn**	**10 58 05.7**	**+1.1**
BRTR	**Keskin Array B**	**7.11**	**82**	Pn	**Pn**	**10 58 07.4**	**+1.1**
	0.3nm,0.3s,baz=266,slow=12,SNR=6.5						
DRGR		**7.83**	**351**	⇓iP	**Pn**	**10 58 15.8**	**-0.4**
DRGR		**7.83**	**351**	⇓P	**Pn**	**10 58 15.8**	**-0.4**
PKSM	**Moragy**	**8.34**	**331**	⇑iP	**Pn**	**10 58 23.4**	**+0.2**
PKSM	**Moragy**	**8.34**	**331**	⇑P	**Pn**	**10 58 23.4**	**+0.2**
BURAR	**Bucovina Array**	**8.55**	**3**	⇑iP	**Pn**	**10 58 27.3**	**+1.1**
BURAR	**Bucovina Array**	**8.55**	**3**	⇑P	**Pn**	**10 58 27.3**	**+1.1**
ESDC	**Sonseca Array**	**21.98**	**281**	P	**P**	**11 01 18.8**	**+2.4**
	0.8nm,0.6s,mb3.4,baz=74,slow=11,SNR=9.2						
NB2	**NORSAR Subarra**	**23.50**	**344**	P	**P**	**11 01 35.1**	**+2.7**
	comp=Z,0.7nm,0.7s,mb3.2,baz=145,slow=10						
NOA	**NORSAR Array B**	**23.50**	**344**	P	**P**	**11 01 35.2**	**+2.8**
	comp=Z,1.0nm,0.8s,mb3.3,baz=147,slow=8.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**32.77**	**224**	P	**P**	**11 02 56.8**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.7,baz=34,slow=9.0,SNR=11						

*NIED **10** 10:58:00, 3620N×14130E, h26km, Mw3.9 Best double couple: M0 6.76000×10^14 NP1:φs159.00000°, δ58.00000°, λ109.00000°. NP2:φs305.00000°, δ37.00000°, λ62.00000°.*
*IDC **10** 10:58:08.0±0.7, 3615N×14137E, h0km, mb3.9/8, mb1 4.1/12, mb1mx3.9/24, mbtmp4.0/12, ML3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.0/36, Error ellipse: s-maj=19.7km s-min=16.1km az=93.0*
*ISCJB **10** 10:58:11.3±1.0, 3618N±004×14141E±008, h35km±10km, mb3.8/8, Error ellipse: s-maj=10.5km s-min=7.1km az=155.7*
*JMA **10** 10:58:12.2±0.1, 3617N×14128E, h49km±2km, M3.9*
JMA Felt I J1.
*NEIC **10** 10:58:14.7±2.2, 3611N×14122E, h48km±19km, MG3.9(JMA), Error ellipse: s-maj=22.7km s-min=15.2km az=75.0*

ISC 10 10:58:11.4±1.1, 3620N±004×14139E±006, h24km±7km, n25, σ0s97/34, mb3.8/8, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.66**	**221**	⇓P	**Pb**	**10 58 24.4**	**+0.2**
CHOJ				S	**Sb**	**10 58 33.3**	**+0.3**
JHO	**Hitachi**	**0.78**	**302**	⇑P	**Pb**	**10 58 26.2**	**0.0**
JHO				S	**Sb**	**10 58 36.2**	**-0.2**
JYT	**Yasato**	**0.97**	**272**	⇓P	**Pn**	**10 58 28.6**	**-0.9**
JFK	**Kawauchi**	**1.23**	**340**	P	**Pn**	**10 58 32.7**	**-0.4**
BSO3	**Boso 3**	**1.57**	**208**	⇑P	**Pn**	**10 58 38.3**	**+0.6**
JAG	**Ashikaga**	**1.58**	**279**	⇓P	**Pn**	**10 58 37.4**	**-0.5**
JAG				S	**Sn**	**10 58 56.1**	**-1.5**
MJAR	**Matsushiro Arr**	**2.59**	**278**	Pn	**Pn**	**10 58 52.4**	**+0.6**
	26nm,0.3s,baz=83,slow=9.6,SNR=230						
MJAR				Sn	**Sn**	**10 59 22.9**	**+0.4**
	13nm,0.3s,baz=79,slow=12,SNR=5.8						
MJAR				LR	LR	11 00 04.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,310nm,18.6s,baz=135,slow=46						
MJAR	**Matsushiro Arr**	**2.59**	**278**	Pn	**Pn**	**10 58 52.4**	**+0.6**
MJAR				Sn	**Sn**	**10 59 22.9**	**+0.4**
MAJO	**Matsushiro**	**2.59**	**278**	*e*Pn	**Pn**	**10 58 52.6**	**+0.8**
MAJO				*e*Sn	**Sn**	**10 59 19.2**	**-3.3**
MAT	**Matsushiro**	**2.59**	**278**	P	**Pn**	**10 58 52.5**	**+0.7**
MAT				S	**Sn**	**10 59 24.0**	**+1.5**
JHJ	**Hachijo jima 2**	**3.35**	**204**	Pn	**Pn**	**10 59 02.6**	**+0.5**
	20nm,0.3s,baz=216,slow=19,SNR=38						
JHJ				Sn	**Sn**	**10 59 40.3**	**-0.9**
	85nm,0.3s,baz=220,slow=23,SNR=13						
ASAJ	**Asahikawa**	**7.96**	**6**	Pn	**Pn**	**11 00 05.2**	**-0.3**
	1.1nm,0.3s,baz=82,slow=25,SNR=8.5						
ASAJ				Sn	**Sn**	**11 01 31.6**	**-3.2**
	0.3nm,0.3s,baz=354,slow=23,SNR=2.1						
CBIJ	**Chichi jima**	**9.10**	**176**	Pn	**Pn**	**11 00 19.2**	**-1.9**
	9.8nm,0.3s,baz=285,slow=19,SNR=12						
CBIJ				Sn	**Sn**	**11 01 53.8**	**-9.1**
	3.4nm,0.3s,baz=282,slow=22,SNR=3.7						
SONM	**Songino Array**	**28.24**	**305**	P	**P**	**11 04 02.4**	**0.0**
	0.4nm,0.5s,mb3.3,baz=109,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**11 06 22.2**	**+1.0**
	1.2nm,0.7s,mb3.8,baz=91,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**44.55**	**303**	P	**P**	**11 06 22.2**	**+1.0**
WRA	**Warramunga Arr**	**56.23**	**188**	P	**P**	**11 07 49.1**	**-0.5**
	1.0nm,0.8s,mb3.9,baz=5.9,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**59.96**	**188**	P	**P**	**11 08 15.4**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=360,slow=6.1,SNR=5.7						
AKASG	**Malin Array Be**	**74.94**	**322**	P	**P**	**11 09 49.8**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=47,slow=5.7,SNR=11						
NB2	**NORSAR Subarra**	**74.95**	**337**	P	**P**	**11 09 50.7**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**74.95**	**337**	P	**P**	**11 09 50.2**	**-0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.3						
NOA	**NORSAR Array B**	**74.95**	**337**	P	**P**	**11 09 50.2**	**-0.2**
NVAR	**Mina Array Bea**	**75.50**	**53**	P	**P**	**11 09 55.6**	**+2.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=293,slow=5.4,SNR=12						
PDAR	**Pinedale Array**	**78.26**	**45**	P	**P**	**11 10 10.4**	**+1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=286,slow=2.3,SNR=9.3						
LPAZ	**La Paz**	**147.12**	**61**	PKPbc	PKPbc	11 17 53.9	+1.6
	comp=Z,0.7nm,0.5s,baz=296,slow=4.0,SNR=3.9						

---

*NEIC **10** 11:01:41.7, 56.57N×122.24W, h5km, MN3.1(PGC), After PGC.*
*PGC **10** 11:01:41.7, 56.57N×122.24W, h5km, MN3.1/6, 92km northwest of Ft. St. John, Bc West of Fort St. John, British Columbia*
*IDC **10** 11:01:42.9±2.0, 56.60N×122.32W, h18km±15km, mb1 3.5/5, mb1mx3.2/25, mbtmp3.3/5, ML3.3/5, Error ellipse: s-maj=14.0km s-min=7.9km az=122.0*
ISC 10 11:01:39.6±0.4**, 56.55N**±0.02×**121.97W**±0.06**, h10km, n38,** σ**1.61**/77**, 1D, British Columbia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BMBC	**Bull Mountain**	**0.51**	**190**	⇓P	**Pg**	**11 01 50.5**	**+0.9**
BMBC				S	**Sg**	**11 01 58.9**	**+2.5**
BMBC				Trac		11 02 01.6	
	comp=Z,528nm,0.2s						
BMBC				Trac		11 02 01.6	
	comp=Z,528nm,0.2s						
BMBC	**Bull Mountain**	**0.51**	**190**	*i* P	**Pg**	**11 01 50.5**	**+0.9**
BMBC				S	**Sg**	**11 01 58.9**	**+2.5**
FNBB	**Fort Nelson**	**2.42**	**347**	Pn	**Pn**	**11 02 20.4**	**+1.2**
FNBB				Pg	**Pg**	**11 02 26.8**	**+0.9**
FNBB				Sn	**Sn**	**11 02 51.2**	**+2.5**
FNBB				Sg	**Sg**	**11 02 56.1**	**-1.1**
FNBB				Trac		11 03 03.7	
	comp=Z,35nm,0.2s						
FNBB				Trac		11 03 03.7	
	comp=Z,35nm,0.2s						
FNBB	**Fort Nelson**	**2.42**	**347**	Pn	**Pn**	**11 02 20.4**	**+1.2**
FNBB				*e*Pg	**Pg**	**11 02 26.8**	**+0.9**
FNBB				*e*Sn	**Sn**	**11 02 51.2**	**+2.5**
FNBB				*e*Sg	**Sg**	**11 02 56.1**	**-1.1**
FSB	**Fort Saint Jam**	**2.47**	**214**	Pn	**Pn**	**11 02 21.8**	**+1.8**
FSB				Pg	**Pg**	**11 02 25.3**	**-1.7**
FSB				Sn	**Sn**	**11 02 51.6**	**+1.5**
FSB				Sg	**Sg**	**11 02 55.7**	**-3.4**
FSB				Trac		11 03 05.7	
	comp=Z,186nm,1.0s						
FSB	**Fort Saint Jam**	**2.47**	**214**	*e*Pn	**Pn**	**11 02 21.8**	**+1.8**
FSB				*e*Pg	**Pg**	**11 02 25.3**	**-1.7**
FSB				*e*Sn	**Sn**	**11 02 51.6**	**+1.5**
FSB				*e*Sg	**Sg**	**11 02 55.7**	**-3.4**
DLBC	**Dease Lake**	**4.74**	**297**	Pn	**Pn**	**11 02 52.0**	**+0.8**
	0.2nm,0.3s,baz=67,slow=6.4,SNR=7.2						
DLBC				Pg	**Pg**	**11 03 04.9**	**-5.6**
	1.9nm,0.3s,baz=144,slow=11,SNR=19						
DLBC				Lg		11 04 04.8	
	2.4nm,0.3s,baz=6.5,slow=22,SNR=8.6						
DLBC	**Dease Lake**	**4.74**	**297**	Pn	**Pn**	**11 02 50.7**	**-0.4**
DLBC				Pg	**Pg**	**11 03 04.5**	**-6.0**
DLBC				Sg	**Sg**	**11 04 04.7**	**-7.2**
DLBC				Trac		11 04 14.3	
	comp=Z,21nm,0.6s						
DLBC	**Dease Lake**	**4.74**	**297**	*e*Pn	**Pn**	**11 02 50.7**	**-0.4**
DLBC				*e*Pg	**Pg**	**11 03 04.5**	**-6.0**
DLBC				*e*Sg	**Sg**	**11 04 04.7**	**-7.2**
RUBB	**Prince Rupert**	**5.21**	**248**	Pn	**Pn**	**11 02 57.7**	**+0.1**
RUBB				Sn	**Sn**	**11 03 56.5**	**-1.4**
RUBB				Sg	**Sg**	**11 04 18.8**	**-8.2**
RUBB				Trac		11 04 24.1	
	comp=Z,41nm,0.6s						
RUBB	**Prince Rupert**	**5.21**	**248**	*e*Pn	**Pn**	**11 02 57.7**	**+0.1**
RUBB				*e*Sn	**Sn**	**11 03 56.5**	**-1.4**
RUBB				*e*Sg	**Sg**	**11 04 18.8**	**-8.2**
DOWB	**Downie Slide**	**5.43**	**157**	Pg	**Pg**	**11 03 22.5**	**-1.1**
DOWB				Sg	**Sg**	**11 04 29.9**	**-4.2**
DOWB				Trac		11 04 38.0	
	comp=Z,79nm,0.4s						
DOWB	**Downie Slide**	**5.43**	**157**	*e*Pg	**Pg**	**11 03 22.5**	**-1.1**
DOWB				*e*Sg	**Sg**	**11 04 29.9**	**-4.2**
BBB	**Bella Bella**	**5.66**	**222**	Pn	**Pn**	**11 03 04.0**	**+0.3**
	0.5nm,0.3s,baz=124,slow=3.1,SNR=6.6						
BBB				Sn	**Sn**	**11 04 07.1**	**-1.6**
	0.9nm,0.3s,baz=152,slow=18,SNR=3.1						
BBB				Lg		11 04 34.1	
	0.4nm,0.3s,baz=307,slow=20,SNR=2.0						
BBB	**Bella Bella**	**5.66**	**222**	Pn	**Pn**	**11 03 03.9**	**+0.2**
SLEB	**Sale Mountain**	**5.85**	**156**	Pg	**Pg**	**11 03 31.3**	**-0.3**
SLEB				Sg	**Sg**	**11 04 46.0**	**-1.4**
SLEB				Trac		11 04 48.9	
	comp=Z,18nm,0.7s						
SLEB	**Sale Mountain**	**5.85**	**156**	*e*Pg	**Pg**	**11 03 31.3**	**-0.3**
SLEB				*e*Sg	**Sg**	**11 04 46.0**	**-1.4**
LLLB	**Lillooet**	**5.95**	**179**	Pn	**Pn**	**11 03 10.9**	**+3.1**
LLLB				Sg	**Sg**	**11 04 46.7**	**-3.9**
LLLB				Trac		11 05 02.2	
	comp=Z,8.0nm,0.6s						
LLLB	**Lillooet**	**5.95**	**179**	*e*Pn	**Pn**	**11 03 10.9**	**+3.1**
LLLB				*e*Sg	**Sg**	**11 04 46.7**	**-3.9**
EDM	**Edmonton**	**5.99**	**120**	Pg	**Pg**	**11 03 31.2**	**-3.0**
EDM				Sn	**Sn**	**11 04 18.9**	**+2.0**
EDM				Trac		11 04 24.1	
	comp=Z,7.0nm,0.2s						
EDM				Trac		11 04 24.1	
	comp=Z,7.0nm,0.2s						
EDM	**Edmonton**	**5.99**	**120**	*e*Pn	**Pn**	**11 03 12.7**	**+4.4**
EDM				*e*Pg	**Pg**	**11 03 31.2**	**-3.0**
EDM				*e*Sn	**Sn**	**11 04 21.0**	**+4.2**
WOSB	**Woss**	**6.96**	**205**	*e*Pn	**Pn**	**11 03 25.0**	**+3.4**
YKA	**Yellowknife Ar**	**7.04**	**29**	Pn	**Pn**	**11 03 23.8**	**+1.2**
	baz=214,slow=12,SNR=25						
YKA				Sn	**Sn**	**11 04 41.5**	**-1.2**
	baz=217,slow=22,SNR=8.8						
YKA				Lg		11 05 23.1	
	baz=265,slow=15,SNR=6.5						
YKA	**Yellowknife Ar**	**7.04**	**29**	Pn	**Pn**	**11 03 23.8**	**+1.2**
YKA				Sn	**Sn**	**11 04 41.5**	**-1.2**
YKA				Lg		11 05 23.1	
YKW3	**Yellowknife Ar**	**7.09**	**29**	Pn	**Pn**	**11 03 24.8**	**+1.4**
YKW3				Pn	**Pn**	**11 03 25.0**	**+1.6**
YKW3				Pg	**Pg**	**11 03 54.7**	**-0.7**
YKW3				Sn	**Sn**	**11 04 41.0**	**-3.0**
YKW3				Sn	**Sn**	**11 04 41.4**	**-2.7**
YKW3				Sg	**Sg**	**11 05 24.3**	**-2.9**
YKW3				Sg	**Sg**	**11 05 24.4**	**-2.7**
YKW3				Trac		11 05 36.9	
	comp=Z,22nm,0.7s						
YKW3				Trac		11 05 36.9	
	comp=Z,22nm,0.7s						
YKW3				Trac		11 05 37.1	
	comp=Z,16nm,0.6s						
YKW3				Trac		11 05 37.1	
	comp=Z,16nm,0.6s						
YKW3	**Yellowknife Ar**	**7.09**	**29**	Pn	**Pn**	**11 03 24.8**	**+1.4**
YKW3				*e*Pg	**Pg**	**11 03 54.7**	**-0.7**
YKW3				*e*Sn	**Sn**	**11 04 41.0**	**-3.0**
YKW3				*e*Sg	**Sg**	**11 05 24.3**	**-2.9**
GDR	**Gold River**	**7.20**	**201**	Sg	Sx	11 05 26.2	
GDR				Trac		11 05 27.1	
	comp=Z,3.0nm,0.5s						
GDR	**Gold River**	**7.20**	**201**	*e*Sg	Sx	11 05 26.2	
PNT	**Penticton**	**7.38**	**168**	Trac		11 05 41.9	
	comp=Z,9.0nm,0.6s						
PNT	**Penticton**	**7.38**	**168**	Sg	Sx	11 05 33.1	
PNT	**Penticton**	**7.38**	**168**	*e*Sg	Sx	11 05 33.1	
BTB	**Buttle Lake**	**7.41**	**198**	Pn	**Pn**	**11 03 30.9**	**+3.2**
BTB				Sg	**Sg**	**11 05 27.9**	**-9.5**
BTB				Trac		11 05 36.8	
	comp=Z,17nm,0.9s						
BTB	**Buttle Lake**	**7.41**	**198**	*e*Pn	**Pn**	**11 03 30.9**	**+3.2**
BTB				*e*Sg	**Sg**	**11 05 27.9**	**-9.5**
NEW	**Newport**	**8.81**	**158**	Lg		11 06 13.0	
	0.1nm,0.3s,baz=54,slow=19,SNR=2.1						
WALA	**Waterton Lakes**	**8.94**	**144**	Trac		11 06 30.9	
	comp=Z,7.0nm,1.1s						
WALA				Trac		11 06 30.9	
	comp=Z,7.0nm,1.1s						
WALA	**Waterton Lakes**	**8.94**	**144**	*e*Sn	**Sn**	**11 05 29.6**	**0.0**
WALA				*e*Sg	Sn	11 06 22.0	+52
PDAR	**Pinedale Array**	**15.93**	**145**	Pn	**Pn**	**11 05 27.4**	**+3.7**
	0.0nm,0.3s,baz=297,slow=4.0,SNR=2.1						
NVAR	**Mina Array Bea**	**18.29**	**171**	Pn	**Pn**	**11 05 58.5**	**+5.1**
	0.0nm,0.3s,baz=358,slow=12,SNR=7.2						

---

*IDC **10** 11:08:46.6±0.5, 51.47N×177.83W, h0km, mb4.4/26, mb1 4.5/27, mb1mx4.4/34, mbtmp4.4/27, ML5.2/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/40, Error ellipse: s-maj=16.8km s-min=10.9km az=164.0*
*BJI **10** 11:08:47.9, 51.55N×177.98W, h11km, mB5.1, mb4.7, Ms4.7, Msz4.3*
*MOS **10** 11:08:50.0±0.8, 51.46N×177.82W, h33km, mb4.9/42, Error ellipse: s-maj=10.6km s-min=6.7km az=78.7*
*NEIC **10** 11:08:51.0, 51.19N×177.67W, h27km, mb4.8/73, ML4.7(AEIC), After AEIC.*
*ISCJB **10** 11:08:53.3±0.2, 51.44N±0.05×177.75W±0.03, h60km, mb4.7/108, MS4.0/11, Error ellipse: s-maj=7.6km s-min=3.0km az=172.6*
ISC 10 11:08:55.0±0.2**, 51.49N**±0.05×**177.78W**±0.03**, h62**km±1.4km**:pP-P, n281,** σ**0.88**/271**, mb4.7**/108**, 6C-3D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.83**	**268**	P	**Pn**	**11 09 21.3**	**-2.8**
AMKA				S	**Sn**	**11 09 45.3**	**-0.9**
ATKA	**Atka Island**	**2.34**	**71**	P	**Pn**	**11 09 27.7**	**-3.3**
ATKA				S	**Sn**	**11 09 56.7**	**-1.9**
SMY	**Shemya**	**5.15**	**287**	P	**Pn**	**11 10 11.3**	**+1.8**
NIKO	**Nikolski**	**5.69**	**71**	*e*Pn	**Pn**	**11 10 15.8**	**-1.0**
NIKO				*e*Sn	**Sn**	**11 11 20.8**	**+0.1**
SPIA	**Saint Paul Isl**	**7.20**	**35**	P	**Pn**	**11 10 39.9**	**+2.3**
CHGN	**Chignik**	**12.38**	**60**	*e*P	**Pn**	**11 11 48.1**	**-0.2**
PET	**Petropavlovsk**	**14.50**	**285**	*e*P	**Pn**	**11 12 20.4**	**+3.7**
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
SVW2	**Sparrevohn**	**15.55**	**43**	*e*P	**Pn**	**11 12 32.3**	**+1.9**
SVW2				*e*P		11 12 37.6	
KDAK	**Kodiak Island**	**15.83**	**57**	Pn	**Pn**	**11 12 30.1**	**-3.8**
	comp=Z,10nm,0.3s,baz=270,slow=7.5,SNR=30						
KDAK	**Kodiak Island**	**15.83**	**57**	*e*Pn	**Pn**	**11 12 30.4**	**-3.5**
	comp=Z,32nm,0.6s						
KDAK				*e*P		11 12 34.2	
TTA	**Tatalina**	**16.34**	**37**	*e*P	**Pn**	**11 12 42.7**	**+2.4**
TTA				*e*P		11 12 43.2	
SLKM	**Skilak Lake**	**17.73**	**49**	*e*P	**Pn**	**11 12 57.3**	**-0.3**
BILL	**Bilibino**	**18.33**	**341**⇑	*e*P	**Pn**	**11 13 08.0**	**+3.2**
BILL				pmax	pmax		
	comp=Z,19nm,1.7s						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
IMA2	**Indian Mountai**	**19.02**	**31**	*e*P	**Pn**	**11 13 13.0**	**-0.1**
MCK	**McKinley**	**19.50**	**40**	*e*P	**Pn**	**11 13 16.1**	**-2.7**
MCK				pmax	pmax		
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**19.50**	**40**	*e*P	**Pn**	**11 13 16.1**	**-2.8**
	comp=Z,15nm,0.9s						
SEY	**Seymchan**	**19.59**	**317**⇑	*i*P	**Pn**	**11 13 20.7**	**+0.9**
DIV	**Divide**	**20.00**	**49**	*e*P	**Pn**	**11 13 26.2**	**+1.6**
	comp=Z,75nm,0.8s						
COLA	**College**	**20.43**	**38**⇑	*e*P	**P**	**11 13 27.6**	**+0.5**
COLA	**College**	**20.43**	**38**	*e*P	**P**	**11 13 28.1**	**+1.0**
MENT	**Mentasta**	**21.42**	**45**	*e*P	**P**	**11 13 40.3**	**+2.6**
EGAK	**Eagle**	**23.05**	**41**	*e*Pn	**P**	**11 13 53.7**	**-1.3**
DAWY	**Dawson**	**23.59**	**43**	*e*Pn	**P**	**11 13 59.2**	**-0.9**
YSS	**Yuzh-Sakhalins**	**25.94**	**276**⇑	*e*P	**P**	**11 14 20.6**	**-0.9**
YSS				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6						
INK	**Inuvik**	**27.00**	**35**	P	**P**	**11 14 30.9**	**-0.2**
	comp=Z,1.0nm,0.3s,mb3.8,baz=228,slow=9.7,SNR=20						
INK				PcP	PcP	11 17 50.7	-0.4
	comp=Z,13nm,1.2s,baz=316,slow=3.3,SNR=4.9						
ASAJ	**Asahikawa**	**27.34**	**270**	P	**P**	**11 14 34.4**	**+0.3**
	comp=Z,12nm,1.1s,mb4.4,baz=156,slow=28,SNR=5.5						
ASAJ				LR	LR	11 24 30.2	
	comp=Z,145nm,18.5s,baz=179,slow=34						
ASAJ	**Asahikawa**	**27.34**	**270**	P	**P**	**11 14 34.4**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,12nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,145nm,18.5s						
MAT	**Matsushiro**	**34.43**	**262**	P	**P**	**11 15 36.6**	**+0.1**
MJAR	**Matsushiro Arr**	**34.43**	**262**	P	**P**	**11 15 36.0**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=60,slow=7.7,SNR=6.8						
MJAR				LR	LR	11 27 50.6	
	comp=Z,166nm,21.4s,baz=75,slow=33						
YKA	**Yellowknife Ar**	**34.69**	**47**	P	**P**	**11 15 37.0**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.4,baz=282,slow=8.0,SNR=10						
MDJ	**Mudanjiang**	**35.18**	**280**	P	**P**	**11 15 45.7**	**+2.8**
MDJ				AP	pP	11 15 48.7	-10
MDJ				XP	sP	11 15 50.4	-15
MDJ				PCP	PcP	11 18 13.2	+0.3
MDJ				S	**S**	**11 21 21.7**	**+10**
MDJ				SCP	ScP	11 21 57.9	+4.7
MDJ				PCS	PcS	11 21 59.8	-0.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,77nm,4.4s						
MDJ				LR	LR		
	comp=N,95nm,27.9s						
MDJ				LR	LR		
	comp=E,115nm,33.6s						
MDJ				LR	LR		
	comp=Z,131nm,32.1s						
TWW	**Teanaway**	**36.56**	**74**	P	**P**	**11 15 56.2**	**+1.5**
VLMM	**Larch Mountain**	**36.63**	**77**	P	**P**	**11 15 56.6**	**+1.3**
WTV	**Waterville**	**36.84**	**73**	P	**P**	**11 15 57.6**	**+0.5**
EBG	**Ellensburg**	**36.84**	**74**	P	**P**	**11 15 58.1**	**+1.0**
VFP	**Flag Point**	**37.09**	**77**	P	**P**	**11 16 00.1**	**+0.9**
MDW	**Midway**	**37.47**	**74**	P	**P**	**11 16 03.5**	**+1.0**
WAH2	**Wahluke Slope**	**37.52**	**74**	P	**P**	**11 16 03.5**	**+0.6**
GBB	**Gable Butte**	**37.56**	**74**	P	**P**	**11 16 04.0**	**+0.8**
GBL	**Gable Mountain**	**37.66**	**74**	P	**P**	**11 16 05.0**	**+0.9**
RSW	**Rattlesnake Hi**	**37.68**	**74**	P	**P**	**11 16 05.4**	**+1.1**
HAWA	**Hanford**	**37.72**	**74**	*e*P	**P**	**11 16 05.2**	**+0.7**
	comp=Z,8.2nm,1.2s,mb4.3						
H2OWA	**Water**	**37.78**	**74**	P	**P**	**11 16 05.9**	**+0.8**
CN2	**Changchun**	**38.15**	**281**	*e*P	**P**	**11 16 10.5**	**+2.3**
EDM	**Edmonton**	**38.20**	**61**	*e*P	**P**	**11 16 08.1**	**-0.5**
YBH	**Yreka Blue Hor**	**38.23**	**83**	P	**P**	**11 16 09.3**	**+0.4**
	comp=Z,4.3nm,0.9s,mb4.2,baz=318,slow=3.4,SNR=12						
NEW	**Newport**	**38.25**	**70**	P	**P**	**11 16 09.1**	**+0.1**
	comp=Z,12nm,0.7s,mb4.7,baz=302,slow=6.8,SNR=28						
CBIJ	**Chichi jima**	**38.71**	**246**	P	**P**	**11 16 12.3**	**-0.5**
	comp=Z,35nm,0.4s,mb5.5,baz=288,slow=21,SNR=10						
WALA	**Waterton Lakes**	**39.74**	**67**	*e*P	**P**	**11 16 21.7**	**+0.2**
	comp=Z,26nm,1.0s,mb4.9						
BSMT	**Bassoo Peak**	**39.82**	**70**	P	**P**	**11 16 22.6**	**+0.5**
WVOR	**Wild Horse Val**	**40.36**	**79**	*e*P	**P**	**11 16 26.5**	**-0.1**
WVOR				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
WVOR	**Wild Horse Val**	**40.36**	**79**	*e*P	**P**	**11 16 26.5**	**-0.1**
	comp=Z,16nm,0.8s,mb4.8						
MSO	**Missoula**	**40.83**	**70**	*e*P	**P**	**11 16 30.1**	**-0.3**
	comp=Z,16nm,1.1s,mb4.6						
CHMT	**Chamberlain Mo**	**41.19**	**70**	*e*P	**P**	**11 16 32.7**	**-0.8**
CMB	**Columbia Colle**	**41.85**	**86**	*e*P	**P**	**11 16 38.6**	**-0.3**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**41.85**	**86**	*e*P	**P**	**11 16 38.6**	**-0.3**
	comp=Z,6.1nm,1.0s,mb4.2						
HRY	**Holter Researc**	**42.13**	**70**	*e*P	**P**	**11 16 41.0**	**-0.1**
HLID	**Hailey**	**42.30**	**75**	*e*P	**P**	**11 16 42.9**	**+0.4**
	comp=Z,17nm,1.2s,mb4.5						
DLMT	**Dillon**	**42.40**	**72**	*e*P	**P**	**11 16 43.0**	**-0.4**
	comp=Z,43nm,1.4s,mb4.9						
MCMT	**McKenzie Canyo**	**42.54**	**72**	*e*P	**P**	**11 16 44.5**	**0.0**
EGMT	**Eagleton**	**42.65**	**67**	*e*P	**P**	**11 16 45.0**	**-0.4**
	comp=Z,14nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**42.91**	**84**	P	**P**	**11 16 48.0**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.0,baz=290,slow=7.8,SNR=27						
NVAR	**Mina Array Bea**	**42.91**	**84**	P	**P**	**11 16 48.0**	**+0.5**
MTUM	**Tungsten Hills**	**43.41**	**85**	*e*P	**P**	**11 16 52.1**	**+0.6**
YMR	**Madison River**	**43.75**	**72**	*e*P	**P**	**11 16 54.8**	**+0.6**
	comp=Z,34nm,1.0s,mb5.0						
GCMT	**Greycliff**	**43.89**	**69**	*e*P	**P**	**11 16 55.8**	**+0.4**
FLWY	**Flagg Ranch**	**44.23**	**72**	*e*P	**P**	**11 16 58.6**	**+0.6**
	comp=Z,36nm,0.9s,mb5.1						
HVU	**Hansel Valley**	**44.31**	**76**	*e*P	**P**	**11 16 59.3**	**+0.6**
HVU				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
HVU	**Hansel Valley**	**44.31**	**76**	*e*P	**P**	**11 16 59.3**	**+0.6**
	comp=Z,11nm,0.7s,mb4.7						
TPAW	**Teton Pass**	**44.42**	**73**	*e*P	**P**	**11 16 59.9**	**+0.3**
	comp=Z,15nm,1.2s,mb4.6						
REDW	**Red Top Meadow**	**44.55**	**73**	*e*P	**P**	**11 17 01.5**	**+0.9**
	comp=Z,20nm,1.1s,mb4.9						
REDW				*e*pP	pP	11 17 16.6	+0.2
LOHW	**Long Hollow**	**44.56**	**73**	*e*P	**P**	**11 17 01.2**	**+0.5**
	comp=Z,6.2nm,0.9s,mb4.4						
BGU	**Big Grassy Mou**	**44.66**	**77**	*e*P	**P**	**11 17 01.6**	**+0.2**
BGU				*e*pP	pP	11 17 19.1	+1.9
AHID	**Auburn Hatcher**	**44.74**	**74**	*e*P	**P**	**11 17 02.8**	**+0.6**
	comp=Z,19nm,1.2s,mb4.8						
AHID				*e*pP	pP	11 17 19.6	+1.7
DUG	**Dugway**	**45.22**	**78**	*e*P	**P**	**11 17 06.4**	**+0.4**
DUG				*e**PP	pP	11 17 19.2	-2.6
DUG				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
DUG	**Dugway**	**45.22**	**78**	*e*P	**P**	**11 17 06.4**	**+0.5**
	comp=Z,30nm,1.1s,mb5.0						
DUG				*e*pP	pP	11 17 19.2	-2.5
LAO	**LASA Array**	**45.39**	**67**	*e*P	**P**	**11 17 07.5**	**+0.1**
	comp=Z,41nm,1.3s,mb5.1						
LAO				*e*pP	pP	11 17 23.0	-0.1
TCUT	**Toone Canyon**	**45.53**	**76**	*e*P	**P**	**11 17 09.2**	**+0.9**
TCUT				*e*pP	pP	11 17 25.0	+0.8
CTU	**Camp Tracy**	**45.57**	**77**	*e*P	**P**	**11 17 09.0**	**+0.3**
	comp=Z,15nm,1.0s,mb4.9						
CTU				*e*pP	pP	11 17 24.5	0.0
BW06	**Boulder Array**	**45.67**	**73**	*e*P	**P**	**11 17 09.5**	**0.0**
	comp=Z,31nm,0.9s,mb5.2						
BW06				*e*pP	pP	11 17 25.8	+0.5
PDAR	**Pinedale Array**	**45.67**	**73**	P	**P**	**11 17 09.7**	**+0.2**
	comp=Z,7.7nm,0.6s,mb4.8,baz=309,slow=4.0,SNR=83						
PDAR				LR	LR	11 33 26.3	
	comp=Z,125nm,21.5s,baz=112,slow=32						
NLU	**North Lily Min**	**45.82**	**78**	*e*P	**P**	**11 17 10.2**	**-0.5**
MPU	**Maple Canyon**	**46.05**	**77**	*e*P	**P**	**11 17 12.8**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9						
MPU				*e*pP	pP	11 17 28.4	+0.1
MPU				*e*sP	sP	11 17 37.6	+2.2
ARUT	**Antelope Range**	**46.32**	**81**	*e*P	**P**	**11 17 13.7**	**-0.9**
ARUT				*e**PP	pP	11 17 27.5	-2.9
MSU	**Marysvale**	**46.64**	**79**	*e*P	**P**	**11 17 18.0**	**+0.9**
MSU				*e**PP	pP	11 17 33.1	+0.1
MSU	**Marysvale**	**46.64**	**79**	*e*P	**P**	**11 17 17.9**	**+0.8**
MSU				*e*pP	pP	11 17 33.0	+0.1
MSU				*e*sP	sP	11 17 41.7	+1.6
TMUT	**Trail Mountain**	**46.75**	**78**	*e*P	**P**	**11 17 18.8**	**+0.8**
ULN	**Ulaanbaatar**	**46.78**	**297**	*e*P	**P**	**11 17 19.1**	**+0.9**
ULN				*e**PP	pP	11 17 33.3	-0.8
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**46.78**	**297**	*e*P	**P**	**11 17 19.1**	**+0.9**
	comp=Z,2.2nm,0.5s,mb4.3						
ULN				*e*pP	pP	11 17 33.3	-0.8
ULN				*e*sP	sP	11 17 41.5	+0.3
SONM	**Songino Array**	**47.16**	**297**	P	**P**	**11 17 21.9**	**+0.7**
	comp=Z,1.1nm,0.4s,mb4.1,baz=63,slow=5.5,SNR=14						
SONM				PcP	PcP	11 18 52.8	+0.9
	comp=Z,0.8nm,0.5s,baz=104,slow=2.3,SNR=5.0						
SONM				LR	LR	11 37 46.1	
	comp=Z,362nm,20.1s,baz=39,slow=37						
SONM	**Songino Array**	**47.16**	**297**	P	**P**	**11 17 21.9**	**+0.7**
SONM						11 18 52.8	
SRU	**San Rafael**	**47.28**	**78**	*e*P	**P**	**11 17 22.5**	**+0.4**
SRU				*e**PP	pP	11 17 38.9	+0.9
SRU				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
SRU	**San Rafael**	**47.28**	**78**	*e*P	**P**	**11 17 22.5**	**+0.4**
	comp=Z,22nm,1.0s,mb5.0						
SRU				*e*pP	pP	11 17 38.9	+0.8
ZAK	**Zakamensk**	**47.44**	**301**	*e*P	**P**	**11 17 21.8**	**-1.5**
ZAK				*e*		11 18 53.4	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
RWWY	**Rawlins**	**47.71**	**73**	*e*P	**P**	**11 17 25.4**	**0.0**
	comp=Z,28nm,1.3s,mb5.1						
RWWY				*e*pP	pP	11 17 41.5	+0.1
RSSD	**Black Hills**	**48.13**	**68**	*e*P	**P**	**11 17 28.4**	**-0.3**
RSSD				*e**PP	pP	11 17 43.6	-1.0
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
RSSD	**Black Hills**	**48.13**	**68**	*e*P	**P**	**11 17 28.4**	**-0.3**
	comp=Z,4.9nm,0.7s,mb4.7						
RSSD				*e*pP	pP	11 17 43.6	-1.0
GUMO	**Guam**	**48.28**	**232**	LR	LR	11 37 23.5	
	comp=Z,72nm,18.9s,baz=330,slow=36						
PV10	**Paradox Valley**	**48.65**	**77**	*e*P	**P**	**11 17 33.1**	**+0.4**
WUAZ	**Wupatki**	**49.04**	**82**	*e*P	**P**	**11 17 36.1**	**+0.4**
	comp=Z,18nm,1.0s,mb5.1						
WUAZ				*e*pP	pP	11 17 48.5	-3.2
PV01	**Paradox Valley**	**49.09**	**77**	*e*P	**P**	**11 17 36.0**	**0.0**
PV01				*e*pP	pP	11 17 51.9	-0.1
BTO	**Baotou**	**49.34**	**287**	*e*P	**P**	**11 17 39.5**	**+1.5**
SMCO	**Snowmass**	**49.40**	**75**	*e*P	**P**	**11 17 38.5**	**0.0**
	comp=Z,5.4nm,0.6s,mb4.8						
SMCO				*e*pP	pP	11 17 54.5	+0.1
NJ2	**Nanjing**	**49.44**	**272**	*e*P	**P**	**11 17 42.2**	**+3.5**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.6						
ISCO	**Idaho Springs**	**49.83**	**74**	*e*P	**P**	**11 17 42.6**	**+0.9**
ISCO				*e**PP	pP	11 17 58.3	+0.6
ISCO				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.0						
ISCO	**Idaho Springs**	**49.83**	**74**	*e*P	**P**	**11 17 42.6**	**+0.9**
	comp=Z,23nm,1.4s,mb5.0						
ISCO				*e*pP	pP	11 17 58.3	+0.7
SDCO	**Great Sand Dun**	**51.20**	**76**	*e*P	**P**	**11 17 51.8**	**-0.2**
	comp=Z,16nm,1.1s,mb4.9						
TUC	**Tucson**	**51.54**	**85**	*e*P	**P**	**11 17 54.0**	**-0.5**
TUC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TUC	**Tucson**	**51.54**	**85**	*e*P	**P**	**11 17 54.0**	**-0.5**
	comp=Z,4.5nm,0.9s,mb4.4						
ANMO	**Albuquerque**	**52.44**	**79**	P	**P**	**11 18 01.2**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=312,slow=7.8,SNR=13						
ANMO	**Albuquerque**	**52.44**	**79**	P	**P**	**11 18 01.2**	**-0.1**
ECSD	**EROS,Sioux Fal**	**52.61**	**64**	*e*P	**P**	**11 18 01.2**	**-1.3**
MNTX	**Cornudas Mount**	**55.30**	**81**	*e*P	**P**	**11 18 22.0**	**-0.2**
	comp=Z,12nm,1.0s,mb4.9						
KSU1	**Kansas State U**	**55.61**	**69**	*e*P	**P**	**11 18 23.4**	**-0.9**
LZH	**Lanzhou**	**55.96**	**287**	⇑P	**P**	**11 18 27.8**	**+0.9**
LZH				AP	pP	11 18 33.9	-9.2
LZH				XP	sP	11 18 36.8	-13
LZH				PP	PP	11 20 33.5	+1.4
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,63nm,6.7s						
LZH				LR	LR		
	comp=N,439nm,15.6s						

LZH LR LR
comp=Z,512nm,18.3s
GTA Gaotai 56.11 292 P **P** **11 18 28.1 +0.2**
GTA PCP PcP 11 19 24.4 -0.9
GTA PP PP 11 20 35.3 +1.8
GTA PPP 11 21 53.7
GTA S **S** **11 26 13.4 +1.1**
GTA SS SS 11 30 01.9 +2.6
GTA AMB AMB
comp=Z,14nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,110nm,5.3s
GTA LR LR
comp=N,223nm,22.1s
GTA LR LR
comp=E,136nm,22.0s
GTA LR LR
comp=Z,253nm,20.1s
WMOK Wichita Mounta 57.25 74 *eP* **P** **11 18 35.8 -0.2**
WMOK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WMOK Wichita Mounta 57.25 74 *eP* **P** **11 18 35.8 -0.2**
comp=Z,9.2nm,1.0s,mb4.8
KEV Kevo 57.72 350 *ep* **P** **11 18 39.1 -0.2**
comp=Z,0.5nm,0.3s,mb4.0
KEV Kevo 57.72 350 *eP* **P** **11 18 39.1 -0.2**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 58.09 351 P **P** **11 18 40.7 -1.2**
comp=Z,0.8nm,0.3s,mb4.3,baz=26,slow=7.5,SNR=29
ARCES PcP PcP 11 19 32.2 -0.9
comp=Z,2.1nm,0.7s,baz=21,slow=4.0,SNR=3.9
ARCES ARCESS Array B 58.09 351 P **P** **11 18 40.7 -1.2**
ARCES PcP PcP 11 19 32.2 -0.9
JCT Junction City 59.58 78 *eP* **P** **11 18 51.3 -0.9**
JCT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
JCT Junction City 59.58 78 *eP* **P** **11 18 51.3 -1.0**
comp=Z,4.6nm,0.9s,mb4.5
WMQ Urumqi 59.81 303 *eP* **P** **11 18 59.5 +5.7**
WMQ AP pP 11 19 06.0 -4.2
WMQ PCP PcP 11 19 45.0 +5.1
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,171nm,4.6s
WMQ LR LR
comp=N,213nm,17.7s
WMQ LR LR
comp=E,256nm,22.0s
WMQ LR LR
comp=Z,326nm,20.6s
FVM French Village 59.93 66 *eP* **P** **11 18 53.4 -1.2**
FVM *e**PP pP 11 19 08.6 -2.4
FVM pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FVM French Village 59.93 66 *eP* **P** **11 18 53.4 -1.2**
comp=Z,9.5nm,0.8s,mb4.9
FVM *ep*P pP 11 19 08.6 -2.5
MKAR Makanchi Array 60.46 309 P **P** **11 18 57.2 -1.0**
comp=Z,0.6nm,0.3s,mb4.1,baz=40,slow=7.5,SNR=8.9
MKAR PcP PcP 11 19 42.5 0.0
comp=Z,0.5nm,0.6s,baz=55,slow=7.6,SNR=3.7
MIAR Mount Ida 60.49 71 *eP* **P** **11 18 57.8 -0.6**
MIAR *e**PP pP 11 19 14.6 -0.3
MIAR pmax pmax
comp=Z,21nm,1.0s,mb5.1
MIAR Mount Ida 60.49 71 *eP* **P** **11 18 57.8 -0.6**
comp=Z,21nm,1.0s,mb5.1
MIAR *ep*P pP 11 19 14.6 -0.3
BVAR Borovoye Array 61.21 320 P **P** **11 19 02.7 -0.6**
comp=Z,2.4nm,0.3s,mb4.8,baz=53,slow=7.6,SNR=28
BVAR PcP PcP 11 19 45.7 +0.2
comp=Z,1.2nm,0.3s,baz=45,slow=2.3,SNR=5.8
SADO Sadowa 61.26 53 P **P** **11 19 02.4 -1.3**
comp=Z,3.1nm,0.7s,mb4.6,baz=311,slow=6.4,SNR=4.2
BLO Bloomington 61.30 62 *eP* **P** **11 19 03.4 -0.5**
BLO pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
BLO Bloomington 61.30 62 *eP* **P** **11 19 03.4 -0.5**
comp=Z,7.9nm,0.6s,mb5.0
ZRNK Zerenda 61.82 321 *eP* **P** **11 19 06.7 -0.7**
ZRNK pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
ZRNK Zerenda 61.82 321 *eP* **P** **11 19 06.7 -0.8**
comp=Z,2.7nm,0.4s,mb4.7
SVE Sverdlovsk 61.84 328 *eP* **P** **11 19 08.4 +0.8**
SVE *e* 11 19 49.0
WCI Wyandotte Cave 62.09 63 *eP* **P** **11 19 08.8 -0.4**
WCI pmax pmax
comp=Z,15nm,0.9s,mb5.1
WCI Wyandotte Cave 62.09 63 *eP* **P** **11 19 08.8 -0.4**
comp=Z,15nm,0.9s,mb5.1
WVT Waverly 62.70 66 *eP* **P** **11 19 13.0 -0.4**
WVT pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
WVT Waverly 62.70 66 *eP* **P** **11 19 13.0 -0.4**
comp=Z,5.9nm,0.8s,mb4.8
ARU Arti 62.84 329 *eP* **P** **11 19 14.4 +0.1**
ARU *e* 11 19 50.9
ARU *e* 11 21 32.0
ARU *eS* **S** **11 27 35.5 -3.5**
ARU *eSS* SS 11 31 44.1 -0.7
ALLY Alegheny Colle 62.97 56 *eP* **P** **11 19 15.3 +0.1**
ALLY *ep*P pP 11 19 31.2 -0.4
PLAL Pickwick Lake 63.38 67 *eP* **P** **11 19 17.0 -0.9**
comp=Z,7.1nm,0.8s,mb4.8
PLAL *ep*P pP 11 19 32.9 -1.5
KMI Kunming 64.34 279 P **P** **11 19 23.4 -0.7**
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.7
KMI LR LR
comp=Z,78nm,26.5s
KAF Kangasniemi 65.14 348 *ep* **P** **11 19 28.4 -0.9**
comp=Z,1.0nm,0.4s,mb4.2
KAF Kangasniemi 65.14 348 *eP* **P** **11 19 28.4 -0.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 65.81 348 P **P** **11 19 33.0 -0.7**
comp=Z,0.9nm,0.5s,mb4.1,baz=26,slow=7.0,SNR=13
FINES PcP PcP 11 20 03.4 -0.9
comp=Z,1.0nm,0.6s,baz=28,slow=5.2,SNR=3.3
ELN Prospectdale 65.85 60 *eP* **P** **11 19 33.8 -0.1**
BLA Blacksburg 66.05 60 *eP* **P** **11 19 35.3 +0.1**
BLA *e**PP pP 11 19 51.7 -0.1
BLA pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BLA Blacksburg 66.05 60 *eP* **P** **11 19 35.3 +0.1**
comp=Z,1.7nm,1.1s,mb4.0
BLA *ep*P pP 11 19 51.7 -0.2
NB2 NORSAR Array B 67.59 355 P **P** **11 19 44.8 -0.2**
comp=Z,0.6nm,0.4s,mb4.0,baz=6.3,slow=6.9
NOA NORSAR Array B 67.59 355 P **P** **11 19 45.1 +0.1**
comp=Z,0.7nm,0.4s,mb4.0,baz=6.9,slow=6.6,SNR=5.1
JSC Jenkinsville 67.74 63 *eP* **P** **11 19 46.1 +0.1**
AKTK Aktyubinsk 67.96 325 P **P** **11 19 47.3 0.0**
AKTO Aktyubinsk 67.96 325 P **P** **11 19 47.3 0.0**
comp=Z,3.3nm,0.4s,mb4.7,baz=60,slow=7.8,SNR=17
LSA Lhasa 68.00 290 P **P** **11 19 49.2 +1.6**
HFS Hagfors 68.34 354 P **P** **11 19 49.3 -0.5**
comp=Z,1.7nm,0.4s,mb4.4,baz=252,slow=1.4,SNR=25
HFS PcP PcP 11 20 13.7 -1.3
comp=Z,2.2nm,0.8s,baz=98,slow=3.0,SNR=4.2
HFS Hagfors 68.34 354 P **P** **11 19 49.3 -0.5**
HFS PcP PcP 11 20 13.7 -1.2
OBN Obninsk 69.99 340|| *eP* **P** **11 19 58.2 -1.7**
OBN pP 11 20 19.0 +2.3
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
OBN MLR MLR
comp=Z,100nm,16.0s
PMOR Pomariorio Ree 71.15 149 *eT* 12 37 46.3
comp=Z,16nm,0.3s
GUN Gumba 72.40 293 *eP* **P** **11 20 16.1 +1.6**
comp=Z,95nm,0.3s
JIRN Jiri 72.41 292 *eP* **P** **11 20 16.3 +1.7**
KKN Kakani 72.84 293 *eP* **P** **11 20 18.0 +0.9**
comp=Z,23nm,0.6s,mb5.3
PKI Pulchoki 72.93 293 *eP* **P** **11 20 18.8 +1.2**
GKN Gorkha 73.05 294 *eP* **P** **11 20 19.2 +0.9**
comp=Z,25nm,0.5s,mb5.4
PPT Papeete 73.06 152 *eLR* LR 11 42 23.6
comp=Z,300nm,27.0s,baz=340
PPT Papeete 73.06 152 *eT* 12 40 09.8
comp=Z,4.1nm,0.2s
DMN Daman 73.08 293 *eP* **P** **11 20 19.6 +1.1**
PAE Paea 73.14 152 *eT* 12 40 16.5
comp=Z,7.1nm,0.3s
EKA Eskdalemuir Ar 73.45 3 P **P** **11 20 20.6 -0.1**
comp=Z,0.7nm,0.3s,mb4.0,baz=359,slow=4.4,SNR=10.0
KOLN Koldanda 73.81 294 *eP* **P** **11 20 23.4 +0.6**
comp=Z,37nm,1.1s,mb5.2
AKASG Malin Array Be 75.63 343 P **P** **11 20 32.7 -0.7**
comp=Z,0.8nm,0.2s,mb4.2,baz=18,slow=5.8,SNR=12
TBI Tubuai 78.57 154 *eLR* LR 11 44 48.9
comp=Z,242nm,28.0s
KIV Kislovodsk 78.68 331 *i* P **P** **11 20 48.6 -1.8**
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
GIVF Givet 78.76 358 *eP* **P** **11 20 50.4 -0.5**
BAIF Baives 78.81 359 *eP* **P** **11 20 51.0 -0.2**
comp=Z,20nm,1.1s,mb4.7
BAIF Baives 78.81 359 *eP* **P** **11 20 51.0 -0.2**
BAIF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BAIF Baives 78.81 359 *eP* **P** **11 20 51.0 -0.2**
comp=Z,9.8nm,1.1s,mb4.7
BURAR Bucovina Array 79.32 344|| *iP* **P** **11 20 54.0 +0.1**
ZEI Tsey 79.38 330 *eP* **P** **11 20 54.6 +0.3**
ZEI pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
FLN La Foliniere 80.10 2 *eP* **P** **11 20 57.4 -0.7**
comp=Z,5.3nm,0.4s,mb4.5
FLN La Foliniere 80.10 2 *eP* **P** **11 20 57.4 -0.7**
FLN pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
FLN La Foliniere 80.10 2 *eP* **P** **11 20 57.4 -0.7**
comp=Z,2.7nm,0.4s,mb4.5
LDF La Druitiere 80.27 2 *eP* **P** **11 20 58.4 -0.7**
comp=Z,12nm,0.5s,mb4.8
LDF La Druitiere 80.27 2 *eP* **P** **11 20 58.4 -0.7**
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LDF La Druitiere 80.27 2 *eP* **P** **11 20 58.4 -0.7**
comp=Z,5.9nm,0.5s,mb4.8
MEZF Maizieres J'vi 80.36 358 *eP* **P** **11 20 59.4 -0.1**
CDF Champ du Feu 80.38 357 *eP* **P** **11 20 59.3 -0.4**
comp=Z,5.2nm,0.9s,mb4.2
CDF Champ du Feu 80.38 357 *eP* **P** **11 20 59.3 -0.4**
CDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CDF Champ du Feu 80.38 357 *eP* **P** **11 20 59.3 -0.4**
comp=Z,2.6nm,0.9s,mb4.2
ROSF Rostrenen 80.44 4 *eP* **P** **11 20 59.6 -0.4**
comp=Z,6.2nm,0.6s,mb4.4
ROSF Rostrenen 80.44 4 *eP* **P** **11 20 59.6 -0.4**
ROSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ROSF Rostrenen 80.44 4 *eP* **P** **11 20 59.6 -0.4**
comp=Z,3.1nm,0.6s,mb4.4
GRR Gorron 80.46 2 *eP* **P** **11 20 59.7 -0.4**
comp=Z,4.7nm,0.5s,mb4.4
GRR Gorron 80.46 2 *eP* **P** **11 20 59.7 -0.4**
GRR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GRR Gorron 80.46 2 *eP* **P** **11 20 59.7 -0.4**
comp=Z,2.3nm,0.5s,mb4.4
DRGR 80.52 346|| *iP* **P** **11 21 02.0 +1.6**
HAU Haudompre 80.82 357 *eP* **P** **11 21 01.4 -0.6**
QUIF Quistinic 80.86 4 *eP* **P** **11 21 01.9 -0.3**
comp=Z,50nm,1.4s,mb5.0
QUIF Quistinic 80.86 4 *eP* **P** **11 21 01.9 -0.3**
QUIF pmax pmax
comp=Z,25nm,1.4s,mb5.0
QUIF Quistinic 80.86 4 *eP* **P** **11 21 01.9 -0.3**
comp=Z,25nm,1.4s,mb5.0
HINF Hinteralfeld 80.99 357 *eP* **P** **11 21 02.2 -0.7**
MLR Muntele Rosu 81.25 343|| *iP* **P** **11 21 05.7 +1.4**
LOR Lormes 81.61 359 *eP* **P** **11 21 05.8 -0.4**
comp=Z,10nm,1.0s,mb4.4
LOR Lormes 81.61 359 *eP* **P** **11 21 05.8 -0.4**
LOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LOR Lormes 81.61 359 *eP* **P** **11 21 05.8 -0.4**
comp=Z,5.3nm,1.0s,mb4.4
AVF Avril sur Loir 82.09 359 *eP* **P** **11 21 08.3 -0.4**
comp=Z,22nm,1.2s,mb4.7
AVF Avril sur Loir 82.09 359 *eP* **P** **11 21 08.3 -0.4**
AVF pmax pmax
comp=Z,11nm,1.2s,mb4.7
AVF Avril sur Loir 82.09 359 *eP* **P** **11 21 08.3 -0.4**
comp=Z,11nm,1.2s,mb4.7
CABF La Chapelle 82.22 357 *eP* **P** **11 21 09.2 -0.2**
comp=Z,39nm,1.4s,mb4.8
CABF La Chapelle 82.22 357 *eP* **P** **11 21 09.2 -0.2**
CABF pmax pmax
comp=Z,19nm,1.4s,mb4.8
CABF La Chapelle 82.22 357 *eP* **P** **11 21 09.2 -0.2**
comp=Z,19nm,1.4s,mb4.8
SMF Signal de Mont 82.23 359 *eP* **P** **11 21 09.0 -0.5**
comp=Z,22nm,1.1s,mb4.7
SMF Signal de Mont 82.23 359 *eP* **P** **11 21 09.0 -0.5**
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SMF Signal de Mont 82.23 359 *eP* **P** **11 21 09.0 -0.5**
comp=Z,11nm,1.1s,mb4.7
MFF Saint Martin d 82.27 2 *eP* **P** **11 21 09.5 -0.1**
comp=Z,16nm,0.9s,mb4.6
MFF Saint Martin d 82.27 2 *eP* **P** **11 21 09.5 -0.1**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MFF Saint Martin d 82.27 2 *eP* **P** **11 21 09.5 -0.1**
comp=Z,7.8nm,0.9s,mb4.6
BGF Bois d'Agland 82.33 360 *eP* **P** **11 21 09.6 -0.4**
comp=Z,6.4nm,0.9s,mb4.3
BGF Bois d'Agland 82.33 360 *eP* **P** **11 21 09.6 -0.4**
BGF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BGF Bois d'Agland 82.33 360 *eP* **P** **11 21 09.6 -0.4**
comp=Z,3.2nm,0.9s,mb4.2
WRA Warramunga Arr 82.54 225 P **P** **11 21 09.7 -1.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=36,slow=6.5,SNR=9.5
WRA Warramunga Arr 82.54 225 *i* P **P** **11 21 09.6 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.8s
TCF Toulx Ste Croi 82.60 0 *eP* **P** **11 21 11.0 -0.4**
RKT Rikitea 83.25 141 *eLR* LR 11 47 04.2
comp=Z,477nm,29.8s,baz=339
RKT Rikitea 83.25 141 *eT* 12 52 49.9
comp=Z,3.1nm,0.2s
LPL La Plagne 83.29 357 *eP* **P** **11 21 15.0 0.0**
LPG La Plagne 83.31 357 *eP* **P** **11 21 15.3 +0.2**
RJF Les Rejaudoux 83.58 0 *eP* **P** **11 21 16.2 -0.3**
ORIF Oris-en-Rattie 83.92 357 *eP* **P** **11 21 17.5 -0.7**
LFF La Frestale 83.94 1 *eP* **P** **11 21 18.1 -0.2**
comp=Z,51nm,1.1s,mb5.2
LFF La Frestale 83.94 1 *eP* **P** **11 21 18.1 -0.2**
LFF pmax pmax
comp=Z,25nm,1.1s,mb5.3
LFF La Frestale 83.94 1 *eP* **P** **11 21 18.1 -0.2**
comp=Z,25nm,1.1s,mb5.3
CAF Calviac 83.96 0 *eP* **P** **11 21 18.3 -0.1**
comp=Z,26nm,1.2s,mb4.9
CAF Calviac 83.96 0 *eP* **P** **11 21 18.3 -0.1**
CAF pmax pmax
comp=Z,13nm,1.2s,mb4.9
CAF Calviac 83.96 0 *eP* **P** **11 21 18.3 -0.1**
comp=Z,13nm,1.2s,mb4.9
VIVF Saint-Julien-l 84.01 358 *eP* **P** **11 21 18.6 0.0**
comp=Z,18nm,1.3s,mb4.7
VIVF Saint-Julien-l 84.01 358 *eP* **P** **11 21 18.6 0.0**
VIVF pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
VIVF Saint-Julien-l 84.01 358 *eP* **P** **11 21 18.6 0.0**
comp=Z,9.3nm,1.3s,mb4.8
MBDF Montbardon 84.08 357 *eP* **P** **11 21 19.0 0.0**
HYB Hyderabad 84.77 291 *iP* **P** **11 21 22.5 0.0**
HYB Hyderabad 84.77 291 *eP* **P** **11 21 22.5 0.0**
LASF Ste Croix 84.80 359 *eP* **P** **11 21 22.5 -0.1**
comp=Z,16nm,1.3s,mb4.7
SBF Sospel 84.92 356 *eP* **P** **11 21 22.8 -0.4**
comp=Z,27nm,0.8s,mb5.1
SBF Sospel 84.92 356 *eP* **P** **11 21 22.8 -0.4**
SBF pmax pmax
comp=Z,14nm,0.8s,mb5.1
SBF Sospel 84.92 356 *eP* **P** **11 21 22.8 -0.4**
comp=Z,14nm,0.8s,mb5.1
FITZ Fitzroy Crossi 85.04 233 *eP* **P** **11 21 23.9 +0.1**
comp=Z,8.9nm,0.9s,mb4.9
FITZ Fitzroy Crossi 85.04 233 P **P** **11 21 22.9 -0.9**
comp=Z,4.1nm,1.0s,mb4.5,baz=200,slow=2.2,SNR=4.4
BR131 Keskin Array S 85.10 336 *eP* **P** **11 21 24.6 +0.5**
comp=Z,4.0nm,0.9s,mb4.5
BRTR Keskin Array B 85.10 336 P **P** **11 21 24.3 +0.2**
comp=Z,4.6nm,0.8s,mb4.6,baz=48,slow=2.5,SNR=16
EPON Pontenova 85.21 7 P **P** **11 21 24.7 0.0**
comp=Z,1.6nm,0.4s,mb4.5
FRF La Foret Royal 85.25 357 *eP* **P** **11 21 24.3 -0.6**
comp=Z,91nm,1.6s,mb5.4
FRF La Foret Royal 85.25 357 *eP* **P** **11 21 24.3 -0.6**
FRF pmax pmax
comp=Z,46nm,1.6s,mb5.4
FRF La Foret Royal 85.25 357 *eP* **P** **11 21 24.3 -0.6**
comp=Z,46nm,1.6s,mb5.3
EARI Arriondas 85.37 5 P **P** **11 21 25.3 -0.2**
comp=Z,4.2nm,1.1s,mb4.5
ELAN Lanestosa 85.53 4 P **P** **11 21 26.3 0.0**
comp=Z,4.1nm,0.6s,mb4.8
MTLF Montolieu 85.55 360 *eP* **P** **11 21 26.2 -0.2**
comp=Z,26nm,1.2s,mb5.0
MTLF Montolieu 85.55 360 *eP* **P** **11 21 26.2 -0.2**
MTLF pmax pmax
comp=Z,13nm,1.2s,mb5.0
MTLF Montolieu 85.55 360 *eP* **P** **11 21 26.2 -0.2**
comp=Z,13nm,1.2s,mb5.0
EPF Esparros 85.84 1 *eP* **P** **11 21 26.9 -0.9**
ETSF Etsaut 85.96 2 *eP* **P** **11 21 28.2 -0.2**
AS31 Alice Springs 86.00 223 *eP* **P** **11 21 27.8 -0.8**
ASAR Alice Springs 86.00 223 P **P** **11 21 27.9 -0.7**
comp=Z,2.9nm,0.8s,mb4.6,baz=22,slow=5.6,SNR=34
ASPA Alice Springs 86.00 223 *eP* **P** **11 21 27.8 -0.8**
CPD Cerro la Pandu 88.93 62 *eP* **P** **11 21 41.7 -1.0**
ESDC Sonseca Array 89.05 5 P **P** **11 21 42.4 -0.8**
comp=Z,0.3nm,0.3s,mb4.0,baz=354,slow=3.9,SNR=12
ESDC Sonseca Array 89.05 5 P **P** **11 21 42.8 -0.5**
comp=Z,1.0nm,0.4s,mb4.5
STKA Stephens Creek 90.37 214 *eP* **P** **11 21 48.9 -0.5**
comp=Z,3.2nm,1.0s,mb4.6
STKA Stephens Creek 90.37 214 P **P** **11 21 48.7 -0.7**
comp=Z,2.7nm,0.8s,mb4.6,baz=16,slow=11,SNR=4.5
EMIN Mina Concepcio 90.77 7 P **P** **11 21 50.1 -1.2**
comp=Z,2.5nm,0.9s,mb4.5
ELOJ Sierra Loja 91.56 5 P **P** **11 21 54.0 -0.9**
ELOJ pmax pmax
comp=Z,1.0nm,0.4s,mb4.5
ELOJ Sierra Loja 91.56 5 P **P** **11 21 54.0 -1.0**
comp=Z,0.9nm,0.4s,mb4.5
TORD Torodi Ar. Bea 115.63 1 PKP PKPdf 11 27 29.7 -0.4
comp=Z,0.9nm,0.4s,baz=349,slow=2.6,SNR=19
DBIC Dimbokro 121.75 8 PKP PKPdf 11 27 41.8 -0.1
comp=Z,3.0nm,0.4s,baz=232,slow=0.9,SNR=18
TSUM Tsumeb 145.57 334 *e*PKPbc PKPbc 11 28 23.7 -2.7
MAW Mawson 146.96 218 PKPbc PKPbc 11 28 29.4 -1.2
comp=Z,8.1nm,0.9s,baz=97,slow=6.7,SNR=8.2
MAW Mawson 146.96 218 *e*PKPbc PKPbc 11 28 28.9 -1.6
MAW *ep*PKPdf pPKPdf 11 28 44.9 -1.7
LBTB Lobatse 148.09 317 *e*PKHKP 11 28 28.0
LBTB *e* 11 28 33.9
LBTB Lobatse 148.09 317 *e*PKPdf PKPdf 11 28 28.0 -2.4
LBTB *e*PKPbc PKPbc 11 28 33.9 +0.3
LBTB *e*PKPab PKPab 11 28 35.5 -1.0
BOSA Boshof 151.36 314 PKPbc PKPbc 11 28 41.6 0.0
comp=Z,3.7nm,0.4s,baz=122,slow=1.1,SNR=20

*PGC **10** 11:14:40.8, 4986N×13009W, h10km, MLSn4.2/1, Mw5.2, 211km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia*
*BJI **10** 11:14:40.5, 5020N×12960W, h10km, mB5.1, mb4.7, Ms5.0, Msz4.7*
*IDC **10** 11:14:42.8±0.8, 5004N×12993W, h0km, mb4.2/15, mb1 4.4/23, mb1mx4.3/31, mbtmp4.3/23, ML4.1/7, MS4.2/34, Ms1 4.2/34, ms1mx4.0/46, Error ellipse: s-maj=15.6km s-min=10.1km az=55.0*
*ISCJB **10** 11:14:43.6±0.2, 5018N±002×12966W±003, h10km, mb4.5/44, MS4.3/36, Error ellipse: s-maj=4.1km s-min=2.2km az=82.0*
*MOS **10** 11:14:43.7±1.2, 5015N×12967W, h10km, mb4.7/12, Error ellipse: s-maj=11.8km s-min=5.3km az=112.7*
*GCMT **10** 11:14:45.6±0.3, 4978N×130.14W, h15km±1km, MW5.0/79, Moment Tensor Solution. s36,c48; s79,c139; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.29±.11; Mθθ=-3.33±.11; Mφφ=3.62±.12; Mrθ=0.23±.20; Mrφ=0.81±.08; Mθφ=-0.18±.18; Best double couple: M=3.58000×10^16^ NP1:ϕ=231.00000°, δ=85.00000°, λ=-2.00000°. NP2: ϕ=322.00000°, δ=88.00000°, λ=-175.00000°. Principal axes: T 3.7180, Plg2.0000°, Azm96.0000°; N -0.2750, Plg85.0000°, Azm341.0000°; P -3.4430, Plg5.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 11:14:45.6±0.3, 5023N×12961W, h10km, mb4.7/32, MW5.2(PGC) Error ellipse: s-maj=7.4km s-min=3.2km az=50.0*
*SZGRF **10** 11:14:52.7, 4980N×12781W, h33km, mb4.4, Vancouver Island, Canada, region*
ISC 10 11:14:45.2±0.2, 5018N±002×12968W±003, h10km, (h13km±.8km:pP-P), n250, σ1s25/259, mb4.5/44, MS4.3/36, 9C-4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.09**	**64**	⇑Pn	**Pn**	**11 15 05.7**	**-0.8**
HOLB				Sn	**Sn**	**11 15 23.8**	**+2.1**
	comp=Z,2μm,0.7s						
HOLB				Trac		11 15 28.1	
	comp=Z,2μm,0.7s						
HOLB	**Holberg**	**1.09**	**64**	⇑*i*Pn	**Pn**	**11 15 05.7**	**-0.8**
HOLB				*e*Sn	**Sn**	**11 15 23.8**	**+2.1**
BPBC	**Brooks Peninsu**	**1.23**	**90**	Pn	**Pn**	**11 15 05.6**	**-2.8**
BPBC				Sn	**Sn**	**11 15 22.8**	**-2.3**
	comp=Z,1μm,0.4s						
BPBC				Trac		11 15 25.7	
	comp=Z,1μm,0.4s						
BPBC	**Brooks Peninsu**	**1.23**	**90**	Pn	**Pn**	**11 15 05.6**	**-2.8**
BPBC				*e*Sn	**Sn**	**11 15 22.8**	**-2.3**
PHC	**Port Hardy**	**1.53**	**69**	⇑Pn	**Pn**	**11 15 11.8**	**-0.8**
PHC				Sn	**Sn**	**11 15 33.4**	**+0.9**
PHC				Trac		11 15 35.0	
	comp=Z,464nm,0.6s						
PHC	**Port Hardy**	**1.53**	**69**	⇑*i*Pn	**Pn**	**11 15 11.8**	**-0.8**
PHC				*e*Sn	**Sn**	**11 15 33.4**	**+0.9**
MAYB	**Maynard**	**1.62**	**81**	Pn	**Pn**	**11 15 11.3**	**-2.5**
MAYB				Trac		11 15 49.4	
	comp=Z,883nm,1.0s						
EDB	**Eliza Dome**	**1.68**	**100**	⇑Pn	**Pn**	**11 15 11.3**	**-3.2**
EDB				Sn	**Sn**	**11 15 33.1**	**-3.1**
EDB				Trac		11 15 35.6	
	comp=Z,440nm,0.6s						
EDB	**Eliza Dome**	**1.68**	**100**	⇑*i*Pn	**Pn**	**11 15 11.3**	**-3.2**
EDB				*e*Sn	**Sn**	**11 15 33.1**	**-3.1**
WOSB	**Woss**	**2.00**	**89**	⇑Pn	**Pn**	**11 15 17.5**	**-1.5**
ETB	**Estevan Point**	**2.19**	**110**	*e*Pn	**Pn**	**11 15 18.0**	**-3.6**
BBB	**Bella Bella**	**2.24**	**26**	Pn	**Pn**	**11 15 22.5**	**+0.2**
	189nm,0.3s,baz=219,slow=13,SNR=1129						
BBB				Sn	**Sn**	**11 15 50.8**	**+0.9**
	110nm,0.3s,baz=312,slow=23,SNR=13						
BBB				LR	LR	11 16 24.7	
	comp=Z,3μm,19.8s,baz=18,slow=42						
BBB	**Bella Bella**	**2.24**	**26**	⇓Pn	**Pn**	**11 15 22.5**	**+0.2**
BBB				Sn	**Sn**	**11 15 51.2**	**+1.3**
BBB				Trac		11 15 54.1	
	comp=Z,242nm,0.3s						
NCRB	**Newcastle Ridg**	**2.34**	**83**	⇑Pn	**Pn**	**11 15 23.0**	**-0.6**
NCRB				Sn	**Sn**	**11 15 54.3**	**+1.9**
	comp=Z,171nm,0.5s						
NCRB				Trac		11 15 55.2	
	comp=Z,171nm,0.5s						
NCRB	**Newcastle Ridg**	**2.34**	**83**	⇑*i*Pn	**Pn**	**11 15 23.0**	**-0.6**
NCRB				*e*Sn	**Sn**	**11 15 54.3**	**+1.9**
GDR	**Gold River**	**2.39**	**98**	Pn	**Pn**	**11 15 21.7**	**-2.7**
GDR				Sn	**Sn**	**11 15 50.6**	**-3.1**
	comp=Z,280nm,0.8s						
GDR				Trac		11 15 54.2	
	comp=Z,280nm,0.8s						
GDR	**Gold River**	**2.39**	**98**	Pn	**Pn**	**11 15 21.7**	**-2.7**
GDR				*e*Sn	**Sn**	**11 15 50.6**	**-3.1**
BNB	**Barry Inlet**	**2.73**	**332**	*e*Pn	**Pn**	**11 15 25.5**	**-3.5**
CBB	**Campbell River**	**2.78**	**91**	⇑Pn	**Pn**	**11 15 28.6**	**-1.1**
BTB	**Buttle Lake**	**2.79**	**103**	Pn	**Pn**	**11 15 28.5**	**-1.3**
BTB				Sn	**Sn**	**11 16 02.5**	**-1.0**
	comp=Z,139nm,0.4s						
BTB				Trac		11 16 03.0	
	comp=Z,139nm,0.4s						

BTB Buttle Lake 2.79 103 *e*Pn **Pn** 11 15 28.5 -1.3
BTB *e*Sn **Sn** 11 16 02.5 -1.0
OZB Mount Ozzard 2.99 113 Pn **Pn** 11 15 30.6 -2.0
OZB Sn **Sn** 11 16 04.9 -3.5
OZB Trac 11 16 09.3
comp=Z,88nm,0.5s
OZB Mount Ozzard 2.99 113 Pn **Pn** 11 15 30.6 -2.0
OZB Sn **Sn** 11 16 04.9 -3.5
ALB Alberni 3.28 104 Pn **Pn** 11 15 35.4 -1.1
ALB Sn **Sn** 11 16 15.4 -0.2
comp=Z,71nm,0.8s
ALB Trac 11 16 25.2
comp=Z,71nm,0.8s
ALB Alberni 3.28 104 *e*Pn **Pn** 11 15 35.4 -1.1
ALB *e*Sn **Sn** 11 16 15.4 -0.2
MOBC Moresby Island 3.32 336 Pn **Pn** 11 15 33.9 -3.3
BNAB Bonilla 3.37 350 Pn **Pn** 11 15 35.6 -2.2
TXB Texada 3.42 96 Pn **Pn** 11 15 37.2 -1.4
TXB Trac 11 16 22.9
comp=Z,31nm,0.3s
MGB Mount Grey 3.46 108 Pn **Pn** 11 15 37.6 -1.4
MGB Sn **Sn** 11 16 17.9 -2.1
comp=Z,30nm,0.4s
MGB Trac 11 16 19.9
comp=Z,30nm,0.4s
MGB Mount Grey 3.46 108 Pn **Pn** 11 15 37.6 -1.4
MGB *e*Sn **Sn** 11 16 17.9 -2.1
VIB Van Inlet 3.55 331 *e*Pn **Pn** 11 15 38.0 -2.3
PFB Port Renfrew 3.78 113 Pn **Pn** 11 15 42.0 -1.6
PFB Trac 11 16 30.2
comp=Z,15nm,0.4s
SHB Sechelt 3.80 97 Pn **Pn** 11 15 42.8 -0.9
SHB Sn **Sn** 11 16 28.9 +0.4
SHB Trac 11 16 31.6
comp=Z,128nm,0.4s
SHB Sechelt 3.80 97 Pn **Pn** 11 15 42.8 -0.9
SHB Sn **Sn** 11 16 28.9 +0.4
NLLB Nanaimo Lost L 3.82 102 Pn **Pn** 11 15 42.9 -1.1
NLLB Trac 11 16 28.7
comp=Z,78nm,0.9s
LZB Mount Lazard 4.13 110 Pn **Pn** 11 15 47.4 -1.0
RUBB Prince Rupert 4.17 355 Pn **Pn** 11 15 48.1 -0.7
GOBB Galiano Island 4.20 105 Pn **Pn** 11 15 49.1 -0.2
GOBB Trac 11 16 50.1
comp=Z,109nm,0.9s
BIB Bowen Island 4.20 98 Pn **Pn** 11 15 48.4 -0.9
WPB Watts Point 4.21 95 Pn **Pn** 11 15 49.1 -0.3
NDB Naden 4.28 333 Pn **Pn** 11 15 47.9 -2.5
PGC Sidney 4.35 108 Pn **Pn** 11 15 49.5 -1.7
WSLR Whistler 4.35 88 Pn **Pn** 11 15 53.0 +1.7
SNB Saturna Island 4.47 106 Pn **Pn** 11 15 52.9 -0.1
VGZ Gonzales 4.52 111 Pn **Pn** 11 15 50.5 -3.2
HNB Haney 4.70 98 Pn **Pn** 11 15 54.3 -1.8
HNB Sn **Sn** 11 16 49.8 -0.8
HNB Trac 11 16 53.1
comp=Z,21nm,0.5s
LLLB Lillooet 5.01 82 Pn **Pn** 11 16 00.3 -0.1
VDB Vedder Mountai 5.06 100 Pn **Pn** 11 16 01.2 +0.1
FSB Fort Saint Jam 5.41 35 Pn **Pn** 11 16 07.9 +2.0
FSB Sg **Sg** 11 17 31.1 -7.8
FSB Trac 11 18 00.9
comp=Z,157nm,1.1s
CRAG Craig 5.69 340 *e*P **Pn** 11 16 10.6 +0.8
PNT Penticton 6.58 94 Pn **Pn** 11 16 21.9 -0.1
DOWB Downie Slide 7.20 75 Pn **Pn** 11 16 31.3 +0.9
DOWB Sg **Sg** 11 18 25.1 -11
DOWB Trac 11 18 58.5
comp=Z,1µm,1.6s
BMBC Bull Mountain 7.42 35 Pn **Pn** 11 16 36.5 +2.9
BMBC Trac 11 18 48.9
comp=Z,95nm,1.5s
DLBC Dease Lake 8.28 359 Pn **Pn** 11 16 46.6 +1.3
1.0nm,0.3s,baz=183,slow=15,SNR=14
DLBC Lg 11 19 07.8
0.1nm,0.3s,baz=154,slow=18,SNR=2.4
DLBC LR LR 11 19 52.3
comp=Z,3µm,22.0s,baz=175,slow=37
DLBC Dease Lake 8.28 359 Pn **Pn** 11 16 47.2 +2.0
DLBC Sg Sn 11 19 16.4 +58
DLBC Trac 11 19 33.4
comp=Z,10.0nm,1.1s
DLBC Dease Lake 8.28 359 Pn **Pn** 11 16 46.6 +1.3
DLBC Lg 11 19 07.8
DLBC LR LR 11 19 52.3
NEW Newport 8.44 98 Pn **Pn** 11 16 47.5 0.0
1.4nm,0.3s,baz=309,slow=9.5,SNR=11
NEW Lg 11 19 16.9
baz=72,slow=12,SNR=3.1
FNBB Fort Nelson 9.54 21 Pn **Pn** 11 17 03.5 +0.9
FNBB Sg Sn 11 19 56.4 +66
FNBB Trac 11 20 08.6
comp=Z,22nm,1.4s
YBH Yreka Blue Hor 9.74 148 Pn **Pn** 11 17 05.9 +0.6
0.0nm,0.3s,baz=333,slow=18,SNR=6.7
YBH Yreka Blue Hor 9.74 148 *e*Pn **Pn** 11 17 07.8 +2.5
WALA Waterton Lakes 10.30 90 Pn **Pn** 11 17 13.8 +0.8
WDC Whiskeytown Da 10.83 158 *e*P **Pn** 11 17 21.1 +0.9
WHY Whitehorse 10.91 346 Pn **Pn** 11 17 23.9 +2.6
HYT Haines Junctio 11.54 341 Pn **Pn** 11 17 37.0 +7.0
OHCM Honcut 12.30 149 *e*Pn **Pn** 11 17 40.9 +0.5
LRM Limekiln Ridge 12.33 104 *e*Pn **Pn** 11 17 41.8 +1.0
NSHM Saint Helena R 12.70 154 *e*Pn **Pn** 11 17 44.2 -1.6
PAHR Pah Rah Range 12.75 141 *e*Pn **Pn** 11 17 47.1 +0.7
BMN Battle Mountai 13.09 133 *e*P **Pn** 11 17 52.0 +0.8
BMN pmax pmax
comp=Z,38nm,1.6s
BMN Battle Mountai 13.09 133 *e*Pn **Pn** 11 17 52.0 +0.8
comp=Z,38nm,1.6s
QLMT Earthquake Lak 13.44 106 *e*Pn **Pn** 11 17 56.7 +0.8
WAKR Walker 13.77 144 *e*Pn **Pn** 11 18 08.2 +7.9
YMR Madison River 13.80 106 *e*Pn **Pn** 11 18 02.5 +1.6
comp=Z,197nm,1.5s
YNR Norris Junctio 13.96 106 *e*P **Pn** 11 18 04.1 +1.1
GCMT Greycliff 14.09 100 *e*Pn **Pn** 11 18 05.7 +0.8
LKWY Lake 14.21 106 *e*P **Pn** 11 18 08.3 +1.9
LKWY pmax pmax
comp=Z,34nm,1.3s
LKWY Lake 14.21 106 *e*Pn **Pn** 11 18 08.3 +1.9
comp=Z,34nm,1.3s
IMW Indian Meadow 14.22 109 *e*Pn **Pn** 11 18 07.7 +1.1
IMW *e*P 11 18 16.6
DCID1 Drake Creek 14.24 110 *e*Pn **Pn** 11 18 07.9 +1.0
NVAR Mina Array Bea 14.27 141 Pn **Pn** 11 18 07.9 +0.6
baz=303,slow=10,SNR=7.7
RRI2 Red Ridge 14.30 112 *e*Pn **Pn** 11 18 09.8 +2.2
HVU Hansel Valley 14.42 119 *e*P **Pn** 11 18 11.3 +2.0
MOOW Moose Ponds 14.42 109 *e*Pn **Pn** 11 18 10.9 +1.6
comp=Z,91nm,0.9s
TPAW Teton Pass 14.44 110 *e*Pn **Pn** 11 18 12.2 +2.6
SNOW Snow King Moun 14.57 110 *e*Pn **Pn** 11 18 14.9 +3.5
comp=Z,12nm,1.0s
LOHW Long Hollow 14.58 109 *e*Pn **Pn** 11 18 12.7 +1.2
AHID Auburn Hatcher 14.77 113 *e*Pn **Pn** 11 18 16.9 +2.9
YKA Yellowknife Ar 14.85 28 Pn **Pn** 11 18 14.2 -0.9
baz=214,slow=11,SNR=7.5
YKA LR LR 11 24 08.2
comp=Z,761nm,18.5s,baz=180,slow=38
YKA Yellowknife Ar 14.85 28 Pn **Pn** 11 18 14.2 -0.9
YKA LR LR 11 24 08.2
DAWY Dawson 14.86 343 Pn **Pn** 11 18 17.8 +2.5
DAWY Dawson 14.86 343 *e*Pn **Pn** 11 18 16.2 +1.0
BGU Big Grassy Mou 14.86 122 *e*Pn **Pn** 11 18 16.1 +0.8
MENT Mentasta 14.89 334 *e*P **Pn** 11 18 20.5 +4.8
YKW3 Yellowknife Ar 14.90 28 Pn **Pn** 11 18 15.8 +0.1
YKW3 Pn **Pn** 11 18 16.1 +0.3
YKW3 Sg 11 22 48.6
YKW3 Trac 11 23 53.4
comp=Z,127nm,1.9s
YKW3 Yellowknife Ar 14.90 28 *e*Pn **Pn** 11 18 16.1 +0.4
SPUT South Promonto 14.92 120 *e*Pn **Pn** 11 18 17.4 +1.3
TPH Tonopah 15.02 139 *e*P **Pn** 11 18 17.3 -0.2
TPH pmax pmax
comp=Z,36nm,1.2s
TPH Tonopah 15.02 139 *e*Pn **Pn** 11 18 17.3 -0.2
comp=Z,36nm,1.2s
MTUM Tungsten Hills 15.11 144 *e*Pn **Pn** 11 18 19.3 +0.7
LRV Little Rabbit 15.11 152 *e*Pn **Pn** 11 18 19.1 +0.4
LRV *e*P 11 18 25.4
HWUT Hardware Ranch 15.22 117 *e*Pn **Pn** 11 18 22.6 +2.5
comp=Z,42nm,1.3s
KDAK Kodiak Island 15.41 308 LR LR 11 22 54.0
comp=Z,1µm,19.4s,baz=127,slow=32
TRCR Troy Canyon 15.52 134 *e*Pn **Pn** 11 18 23.9 -0.1

SLKM Skilak Lake 15.53 320 *e*P **Pn** 11 18 27.3 +3.2
NOQ North Oquirrh 15.55 121 *e*P **Pn** 11 18 27.6 +3.2
comp=Z,79nm,1.4s
TCUT Toone Canyon 15.63 118 *e*P **Pn** 11 18 27.2 +1.7
PDAR Pinedale Array 15.69 110 Pn **Pn** 11 18 28.4 +2.1
comp=Z,0.2nm,0.3s,baz=303,slow=8.3,SNR=16
PDAR LR LR 11 24 38.9
comp=Z,836nm,21.7s,baz=314,slow=38
PMR Palmer 15.72 324 *e*P **Pn** 11 18 28.1 +1.4
PMR pmax pmax
comp=Z,40nm,1.4s
PMR Palmer 15.72 324 *e*P **Pn** 11 18 28.1 +1.4
comp=Z,40nm,1.4s
CTU Camp Tracy 15.72 120 *e*P **Pn** 11 18 31.8 +5.1
EGAK Eagle 15.84 342 *e*P **Pn** 11 18 28.4 +0.2
LAO LASA Array 15.94 94 *e*P **Pn** 11 18 29.3 -0.2
comp=Z,100nm,1.3s
NLU North Lily Min 16.06 123 *e*Pn **Pn** 11 18 31.1 +0.1
NLU *e*P 11 18 34.8
PTRM Twissleman Ran 16.07 151 *e*P **Pn** 11 18 31.6 +0.4
MPU Maple Canyon 16.26 122 *e*P **Pn** 11 18 35.1 +1.5
DAC Darwin (Calif) 16.42 143 *e*P **Pn** 11 18 36.9 +1.2
ISA Isabella 16.64 146 *e*P **Pn** 11 18 39.7 +1.2
DGMT Dagmar 16.68 86 *e*P **Pn** 11 18 39.6 +0.7
comp=Z,227nm,1.7s
ARUT Antelope Range 16.98 131 *e*P **Pn** 11 18 42.5 -0.3
TMUT Trail Mountain 17.00 123 *e*P **Pn** 11 18 44.5 +1.5
MCK McKinley 17.06 330 *e*P **Pn** 11 18 42.3 -1.4
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 17.06 330 *e*P **Pn** 11 18 42.3 -1.4
comp=Z,8.9nm,0.8s
MSU Marysvale 17.06 126 *e*P **Pn** 11 18 43.6 -0.2
CCUT Cedar City 17.21 131 *e*P **Pn** 11 18 45.3 -0.3
SHPR Sheep Range 17.23 137 *e*Pn **Pn** 11 18 45.5 -0.3
FFC Flin Flon 17.43 64 *e*P **Pn** 11 18 47.9 -0.5
FFC pmax pmax
comp=Z,58nm,0.9s
FFC Flin Flon 17.43 64 *e*P **Pn** 11 18 47.9 -0.4
comp=Z,58nm,0.9s
COLA College 17.55 334 ⇓*i*P **Pn** 11 18 52.7 +2.8
COLA College 17.55 334 *e*P **Pn** 11 18 50.7 +0.8
GSC Goldstone 17.58 143 *e*P **Pn** 11 18 51.7 +1.4
RWWY Rawlins 17.74 110 *e*P **Pn** 11 18 52.3 +0.1
comp=Z,47nm,1.1s
SVW2 Sparrevohn 18.11 317 *e*P **Pn** 11 18 55.6 -1.2
CHGN Chignik 18.17 301 *e*P **Pn** 11 18 58.6 +1.1
INK Inuvik 18.28 355 P **Pn** 11 18 59.1 +0.2
comp=Z,0.2nm,0.3s,baz=173,slow=11,SNR=18
INK LR LR 11 25 41.8
comp=Z,1µm,19.3s,baz=186,slow=36
INK Inuvik 18.28 355 Pn **Pn** 11 19 00.0 +1.1
INK Inuvik 18.28 355 *e*P **Pn** 11 18 59.9 +1.0
INK pmax pmax
comp=Z,65nm,1.3s
INK Inuvik 18.28 355 *e*P **Pn** 11 18 59.9 +1.0
comp=Z,65nm,1.3s
RSSD Black Hills 18.41 99 *e*P **Pn** 11 19 00.5 0.0
PV10 Paradox Valley 18.84 121 *e*P **Pn** 11 19 06.0 +0.3
PHWY Pilot Hill 19.03 109 *e*P **Pn** 11 19 07.1 -0.9
TTA Tatalina 19.14 322 *e*P **Pn** 11 19 09.1 -0.3
TTA pmax pmax
comp=Z,70nm,1.3s
TTA Tatalina 19.14 322 *e*P **Pn** 11 19 09.1 -0.3
comp=Z,70nm,1.3s
SMCO Snowmass 19.46 116 *e*P **Pn** 11 19 12.1 -1.1
comp=Z,51nm,1.2s
WUAZ Wupatki 19.79 131 *e*P **Pn** 11 19 16.3 -0.8
comp=Z,43nm,1.2s
ISCO Idaho Springs 19.85 112 *e*P **Pn** 11 19 16.4 -1.4
ISCO pmax pmax
comp=Z,55nm,1.5s
ISCO Idaho Springs 19.85 112 *e*P **Pn** 11 19 16.4 -1.4
comp=Z,55nm,1.5s
BAR Barrett 19.97 146 *e*Pn **Pn** 11 19 20.8 +1.6
IMA2 Indian Mountai 20.13 331 *e*P **P** 11 19 20.2 +0.9
GLA Glamis 20.34 142 *e*P **P** 11 19 20.5 -1.0
ULM Lac du Bonnet 21.53 77 P **P** 11 19 34.2 -0.2
comp=Z,26nm,0.8s,mb4.7,baz=284,slow=9.7,SNR=22
ULM LR LR 11 28 38.9
comp=Z,626nm,21.4s,MS4.0,baz=47,slow=38
ULM Lac du Bonnet 21.53 77 Pn **P** 11 19 34.2 -0.2
ULM Lac du Bonnet 21.53 77 *e*P **P** 11 19 34.3 -0.1
comp=Z,184nm,1.2s,mb5.4
FCC Fort Churchill 22.16 54 Pn **P** 11 19 43.6 +2.5
FCC Fort Churchill 22.16 54 *e*P **P** 11 19 43.7 +2.6
FCC pmax pmax
comp=Z,44nm,1.0s,mb4.8
FCC Fort Churchill 22.16 54 *e*P **P** 11 19 43.7 +2.6
comp=Z,44nm,1.0s,mb4.8
TUC Tucson 22.71 135 *e*P **P** 11 19 46.2 -0.8
TUC pmax pmax
comp=Z,31nm,1.4s,mb4.5
TUC Tucson 22.71 135 *e*P **P** 11 19 46.2 -0.8
comp=Z,32nm,1.4s,mb4.5
ANMO Albuquerque 22.76 123 P **P** 11 19 46.8 -0.8
comp=Z,15nm,1.0s,mb4.4,baz=318,slow=10,SNR=16
ANMO LR LR 11 28 44.0
comp=Z,346nm,18.1s,MS3.8,baz=322,slow=37
ANMO Albuquerque 22.76 123 *e*P **P** 11 19 47.2 -0.3
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO Albuquerque 22.76 123 *e*P **P** 11 19 47.2 -0.3
comp=Z,21nm,1.1s,mb4.5
ECSD EROS,Sioux Fal 23.34 93 *e*P **P** 11 19 53.9 +0.3
EYMN Ely 24.94 80 *e*P **P** 11 20 08.9 +0.4
comp=Z,3.6nm,0.9s,mb3.9
KSU1 Kansas State U 25.80 103 *e*P **P** 11 20 16.2 -0.2
MNTX Cornudas Mount 25.85 126 *e*P **P** 11 20 15.6 -1.2
comp=Z,33nm,1.3s,mb4.7
SCIA State Center 26.41 94 *e*P **P** 11 20 22.6 +0.7
WMOK Wichita Mounta 27.28 113 *e*P **P** 11 20 29.4 -0.3
JFWS Jewell Farm 27.82 90 *e*P **P** 11 20 38.8 +4.3
JCT Junction City 29.79 120 *e*P **P** 11 20 50.9 -1.2
LPIG La Paz 30.09 143 LR LR 11 33 29.8
comp=Z,242nm,18.1s,MS3.9,baz=331,slow=38
MIAR Mount Ida 30.56 107 *e*P **P** 11 20 58.5 -0.4
UALR University of 31.17 105 *e*P **P** 11 21 03.9 -0.3
comp=Z,22nm,1.3s,mb4.8
SIUC Southern Illin 31.30 98 *e*P **P** 11 21 04.9 -0.5
comp=Z,24nm,1.1s,mb4.9
USIN University of 32.14 96 *e*P **P** 11 21 13.6 +0.8
comp=Z,17nm,0.8s,mb4.9
HKT Hockley 32.45 116 *e*P **P** 11 21 15.4 -0.1
WVT Waverly 33.14 99 *e*P **P** 11 21 21.4 -0.2
WVT pmax pmax
comp=Z,13nm,1.3s,mb4.7
WVT Waverly 33.14 99 *e*P **P** 11 21 21.4 -0.2
comp=Z,13nm,1.3s,mb4.7
PLAL Pickwick Lake 33.71 101 *e*P **P** 11 21 25.4 -1.1
comp=Z,36nm,1.4s,mb5.1
ACSO Alum Creek Sta 33.87 89 *e*P **P** 11 21 26.8 -1.1
SADO Sadowa 34.04 79 P **P** 11 21 29.6 +0.3
comp=Z,9.2nm,0.8s,mb4.7,baz=304,slow=10,SNR=5.5
SADO LR LR 11 35 56.5
comp=Z,2µm,19.6s,MS4.8,baz=83,slow=37
BILL Bilibino 35.36 324 P **P** 11 21 41.0 +0.2
BILL S **S** 11 27 21.0 +5.8
BILL *e*SS SS 11 29 38.9 -10
BILL pmax pmax
comp=Z,15nm,1.8s,mb4.6
BILL MLR MLR
comp=Z,200nm,14.0s,MS4.0
TZTN Tazewell 35.62 95 *e*P **P** 11 21 43.1 0.0
LRAL Lakeview Retre 35.65 102 *e*P **P** 11 21 41.0 -2.3
comp=Z,17nm,1.3s,mb4.8
LRAL *e*PP PP 11 23 06.1 +1.8
SCHQ Schefferville 37.40 58 LR LR 11 37 15.8
comp=Z,519nm,19.6s,MS4.3,baz=293,slow=36
FRNY Flat Rock 37.50 76 *e*P **P** 11 21 58.6 -0.4
SFJD Kangerlussuaq 41.21 36 LR LR 11 39 27.6
comp=Z,64nm,19.3s,MS3.5,baz=269,slow=36
SUMG Summit 43.43 26 *e*P **P** 11 22 50.0 +1.9
comp=Z,14nm,1.1s,mb4.6
ARCES ARCESS Array B 59.22 10 P **P** 11 24 48.1 +1.6
comp=Z,4.5nm,1.0s,mb4.5,baz=349,slow=9.9,SNR=4.2
ARCES LR LR 11 51 50.3
comp=Z,175nm,18.0s,MS4.2,baz=169,slow=38
HUMP Col San Antoni 59.56 98 *e*P **P** 11 24 50.3 +1.4
MDJ Mudanjiang 63.21 308 P **P** 11 25 12.5 -1.1
MDJ AP pP 11 25 15.8 -1.0
MDJ XP sP 11 25 17.3 -0.7
MDJ PCP PcP 11 25 51.0 +0.1
MDJ PP PP 11 27 30.8 -1.8
MDJ S **S** 11 33 40.4 -4.8

MDJ SCS ScS 11 35 03.6 -3.1
MDJ AMB AMB
comp=Z,6.0nm,1.9s,mb4.4
MDJ AMB AMB
comp=Z,45nm,3.3s
MDJ LR LR
comp=N,85nm,23.2s,MS4.0
MDJ LR LR
comp=E,106nm,25.2s,MS4.0
MDJ LR LR
comp=Z,122nm,23.7s,MS4.0
MJAR Matsushiro Arr 64.22 297 LR LR 11 48 22.7
comp=Z,173nm,21.7s,MS4.2,baz=40,slow=32
ROSC El Rosal 64.62 115 LR LR 11 57 39.5
comp=Z,68nm,18.7s,MS3.9,baz=3.3,slow=40
NB2 NORSAR Subarra 64.77 20 P **P** 11 25 24.8 +1.0
comp=Z,5.1nm,1.1s,mb4.5,baz=333,slow=6.5
NOA NORSAR Array B 64.77 20 P **P** 11 25 24.2 +0.4
comp=Z,1.9nm,0.9s,mb4.1,baz=338,slow=6.2,SNR=4.1
NOA LR LR 11 55 01.9
comp=Z,159nm,18.3s,MS4.2,baz=0.0,slow=37
NOA NORSAR Array B 64.77 20 P **P** 11 25 24.2 +0.3
NOA LR LR 11 55 01.9
CN2 Changchun 65.87 310 *e*P **P** 11 25 31.5 +0.5
CN2 *e*XP sP 11 25 38.5 +3.1
CN2 *e*S S 11 34 15.0 -3.0
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.6
CN2 LR LR
comp=E,200nm,15.0s,MS4.6
CN2 LR LR
comp=Z,200nm,13.0s,MS4.5
HFS Hagfors 66.12 19 LR LR 11 54 43.6
comp=Z,258nm,18.9s,MS4.5,baz=344,slow=36
FINES FINESS Array B 67.04 12 P **P** 11 25 38.0 -0.5
comp=Z,5.7nm,1.0s,mb4.6,baz=66,slow=4.6,SNR=7.2
FINES LR LR 11 56 02.3
comp=Z,224nm,18.5s,MS4.4,baz=174,slow=37
SNY Shenyang 68.25 310 ⇑P **P** 11 25 46.0 -0.1
SNY AMB AMB
comp=Z,14nm,2.5s,mb4.5
PPT Papeete 69.70 200 LR LR 11 48 42.1
comp=Z,162nm,20.2s,MS4.3,baz=256,slow=29
ULN Ulaanbaatar 70.80 323 *i*P **P** 11 26 01.0 -0.9
SONM Songino Array 71.08 324 P **P** 11 26 02.1 -1.5
comp=Z,1.1nm,1.0s,mb3.7,baz=62,slow=5.6,SNR=6.8
SONM LR LR 11 56 45.2
comp=Z,269nm,21.6s,MS4.5,baz=284,slow=36
NVS Novosibirsk 71.78 341 *e*P **P** 11 26 03.0 -4.8
NVS *e* 11 39 58.9
NVS pmax pmax
comp=Z,16nm,1.7s,mb4.7
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.3s
ZAL Zalesovo 72.28 339 P **P** 11 26 09.9 -0.9
comp=E,1.0nm,0.5s,mb4.0,baz=163,slow=8.8,SNR=4.4
ZAL LR LR 12 00 43.9
comp=E,168nm,20.2s,MS4.3,baz=332,slow=38
SVE Sverdlovsk 73.02 354 *e*P **P** 11 26 14.0 -1.2
ARU Arti 73.54 355 ⇓*i*P **P** 11 26 17.2 -1.0
ARU *e* 11 26 29.4
ARU *e* 11 28 58.6
ARU *e*S S 11 35 47.0 -1.1
ARU *e*SS SS 11 40 32.9 +2.1
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
CLL Collm 74.02 23 *e*P **P** 11 26 22.0 +0.9
CLL *e*(sP) sP 11 26 26.0 +0.5
CLL *e*S S 11 36 02.0 +8.4
CLL Collm 74.02 23 *e*P **P** 11 26 22.0 +0.9
CLL *e* pP 11 26 26.0 +1.7
CLL MLR MLR
comp=Z,300nm,16.2s,MS4.7
CLL Collm 74.02 23 *e*P **P** 11 26 22.0 +0.9
CLL *e* pP 11 26 26.0 +1.7
CLL *e*S S 11 36 02.0 +8.4
CLL LR LR
comp=Z,300nm,16.2s,MS4.7
OBN Obninsk 74.45 8 *de*P **P** 11 26 23.0 -0.6
OBN *e* 11 26 29.0
OBN *e* 11 26 37.3
OBN 11 29 12.0
OBN S S 11 35 51.0 -7.4
OBN pmax pmax
comp=Z,43nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
BRG Berggiesshubel 74.66 23 *e*P **P** 11 26 26.6 +1.8
comp=Z,7.7nm,1.6s,mb4.4
BRG *e* pP 11 26 30.3 +2.2
comp=Z,1.2nm,0.6s
BRG Berggiesshubel 74.66 23 *e*P **P** 11 26 26.6 +1.8
BRG *e* pP 11 26 30.3 +2.3
BRG pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
HHC Hu-ho-hao-te 74.67 316 *e*P **P** 11 26 24.2 -0.6
HHC AP pP 11 26 28.9 +0.8
HHC XP sP 11 26 31.2 +1.9
HHC PCP PcP 11 26 38.9 -0.2
HHC PP PP 11 29 12.4 +0.7
HHC S S 11 35 57.0 -3.8
HHC XS sS 11 36 05.0 -1.2
HHC SKS 11 36 26.8
HHC SCS ScS 11 36 31.4 -5.0
HHC PS 11 36 33.3
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,182nm,5.8s
HHC LR LR
comp=N,276nm,18.1s
HHC LR LR
comp=E,277nm,12.8s
HHC LR LR
comp=Z,117nm,12.3s
GRA1 Grafenberg Arr 75.03 25 *e*P **P** 11 26 28.3 +1.4
comp=Z,7.0nm,1.6s,mb4.3
GRF Grafenberg Arr 75.03 25 *e*P **P** 11 26 28.3 +1.4
comp=Z,7.0nm,1.6s,mb4.3
GRF Grafenberg Arr 75.03 25 *e*P **P** 11 26 28.3 +1.4
GRF pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
GRF Grafenberg Arr 75.03 25 *e*P **P** 11 26 28.3 +1.4
GRF pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
CHKZ Chkalovo 75.11 348 *e*P **P** 11 26 25.3 -2.1
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
CHKZ Chkalovo 75.11 348 *e*P **P** 11 26 25.3 -2.1
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 75.78 348 P **P** 11 26 31.3 +0.1
comp=Z,1.4nm,1.0s,mb3.8,baz=26,slow=3.8,SNR=6.0
ZRNK Zerenda 76.04 348 *e*P **P** 11 26 32.2 -0.5
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 76.04 348 *e*P **P** 11 26 32.2 -0.5
comp=Z,1.7nm,0.9s,mb4.0
KHC Kasperske Hory 76.17 24 ⇑*e*P **P** 11 26 34.5 +1.1
GERES GERESS Array B 76.46 24 P **P** 11 26 35.7 +0.6
comp=Z,0.5nm,0.7s,mb3.5,baz=328,slow=4.7,SNR=4.5
GERES LR LR 12 01 28.6
comp=Z,146nm,19.9s,MS4.3,baz=307,slow=37
VRAC Vranov 76.76 22 LR LR 12 02 00.6
comp=Z,154nm,18.2s,MS4.4,baz=343,slow=37
SSE Sheshan 77.71 304 P **P** 11 26 41.3 -0.8
SSE AMB AMB
comp=Z,43nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,261nm,6.2s
AKASG Malin Array Be 77.90 14 P **P** 11 26 42.4 -0.8
comp=Z,0.8nm,0.4s,mb4.0,baz=353,slow=5.8,SNR=11
AKASG LR LR 12 01 40.2
comp=Z,197nm,19.8s,MS4.4,baz=15,slow=36
ESDC Sonseca Array 78.62 40 P **P** 11 26 47.5 +0.3
comp=Z,0.7nm,0.8s,mb3.7,baz=323,slow=4.6,SNR=6.6
MKAR Makanchi Array 79.53 338 P **P** 11 26 50.5 -1.6
comp=Z,0.8nm,0.8s,mb3.7,baz=36,slow=6.3,SNR=7.1
MKAR Makanchi Array 79.53 338 ⇑*e*P **P** 11 26 51.4 -0.7
AKTK Aktyubinsk 79.55 355 P **P** 11 26 50.4 -1.8
AKTK LR LR 12 02 42.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKTO	Aktyubinsk	79.55	355	P	P	11 26 50.4	-1.8
	comp=Z,3.0nm,0.9s,mb4.2,baz=359,slow=3.2,SNR=6.0						
AKTO				LR	LR	12 02 42.4	
	comp=Z,120nm,19.4s,MS4.2,baz=24,slow=36						
WMQ	Urumqi	80.87	334	eP	P	11 27 00.0	+0.6
WMQ				AP	pP	11 27 05.0	+2.3
WMQ				XP	sP	11 27 07.0	+3.1
WMQ				PP	PP	11 30 06.0	+2.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,88nm,5.2s						
WMQ				LR	LR		
	comp=N,248nm,19.8s,MS4.8						
WMQ				LR	LR		
	comp=E,338nm,22.6s,MS4.8						
WMQ				LR	LR		
	comp=Z,240nm,22.6s,MS4.5						
LZH	Lanzhou	81.98	319	eP	P	11 27 05.4	+0.2
LZH				AP	pP	11 27 08.6	0.0
LZH				XP	sP	11 27 10.2	+0.4
LZH				PP	PP	11 30 14.5	+1.7
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,154nm,7.3s						
LZH				LR	LR		
	comp=N,205nm,16.7s						
LZH				LR	LR		
	comp=Z,257nm,18.5s,MS4.6						
MLR	Muntele Rosu	82.39	17	LR	LR	12 04 38.4	
	comp=Z,242nm,18.3s,MS4.6,baz=319,slow=36						
HNR	Honiara	84.93	249	LR	LR	11 59 45.9	
	comp=Z,140nm,18.7s,MS4.4,baz=359,slow=32						
LPAZ	La Paz	85.37	122	LR	LR	12 08 04.1	
	comp=Z,44nm,19.7s,MS3.9,baz=334,slow=38						
KIV	Kislovodsk	86.01	6	eP	P	11 27 24.9	-0.9
KIV				eS	SKSac	11 37 47.4	-4.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
CD2	Chengdu	86.43	316	eP	P	11 27 27.0	-0.9
VAE	Valguarnera	87.15	28	LR	LR	12 09 17.8	
	comp=Z,188nm,18.4s,MS4.5,baz=131,slow=38						
GYA	Guiyang	88.85	312	P	P	11 27 38.2	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
BRTR	Keskin Array B	89.28	13	P	P	11 27 42.7	+1.2
	comp=Z,1.1nm,0.9s,mb4.2,baz=318,slow=7.8,SNR=3.4						
BRTR				LR	LR	12 13 02.1	
	comp=Z,81nm,18.4s,MS4.2,baz=0.2,slow=39						
KMI	Kunming	91.83	314	P	P	11 27 53.9	+0.5
KMI				AP	pP	11 27 57.8	+1.0
KMI				XP	sP	11 27 59.9	+1.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.9						
KMI				AMB	AMB		
	comp=Z,53nm,3.4s						
KMI				LR	LR		
	comp=N,343nm,11.8s						
KMI				LR	LR		
	comp=E,160nm,17.0s						
KMI				LR	LR		
	comp=Z,214nm,15.7s,MS4.7						
IDI	Anoyia	91.98	21	LR	LR	12 12 49.3	
	comp=Z,72nm,18.8s,MS4.1,baz=75,slow=38						
BDFB	Brasilia	96.63	106	LR	LR	12 14 29.9	
	comp=Z,87nm,19.0s,MS4.3,baz=19,slow=37						
ASF	Jabal al Asfar	97.15	11	LR	LR	12 13 41.8	
	comp=Z,71nm,22.0s,MS4.1,baz=42,slow=36						
CPUP	Villa Florida	99.38	120	LR	LR	12 16 18.6	
	comp=Z,84nm,20.8s,MS4.2,baz=322,slow=37						
VNA3	Neumayer Olymp	145.97	150	ePKPdf	PKPdf	11 34 22.3	-2.0
VNA3				e		11 34 23.7	
VNA3				e		11 34 24.6	
VNA3				e		11 34 28.5	
VNA3				e		11 34 30.4	
VNA3				e		11 34 31.7	
VNA3				e		11 34 34.2	
VNA1	Neumayer--Stat	146.50	149	ePKPdf	PKPdf	11 34 24.0	-1.2
VNA1				e		11 34 26.2	
VNA1				e		11 34 27.1	
VNA1				e		11 34 27.6	
VNA1				e		11 34 28.7	
VNA1				e		11 34 29.4	
VNA1				e		11 34 31.4	
VNA1				e		11 34 32.3	
VNA1				e		11 34 33.4	
SNAA	Sanae	148.06	151	ePKPdf	PKPdf	11 34 28.5	+0.7
SNAA				e		11 34 31.4	
SNAA				e		11 34 34.7	
SNAA				e		11 34 38.6	
SNAA				e		11 34 40.2	
BOSA	Boshof	151.28	51	PKPbc	PKPbc	11 34 40.5	+1.6
	comp=Z,2.7nm,0.7s,baz=157,slow=6.7,SNR=4.1						

ISCJB ***10*** *11:17:38.9±0.5, 22.88S±0.03×66.31W±0.03, h204km±4km, mb4.7/115, Error ellipse: s-maj=5.5km s-min=4.3km az=104.5*

MOS ***10*** *11:17:38.9±1.2, 22.78S×66.28W, h201km, mb4.8/35, Error ellipse: s-maj=10.4km s-min=6.5km az=105.7*

IDC ***10*** *11:17:42.9±0.7, 22.82S×66.28W, h225km±5km, mb4.4/22, mb1 4.5/29, mb1mx4.5/31, mbtmp5.0/29, Error ellipse: s-maj=10.4km s-min=7.6km az=40.0*

NEIC ***10*** *11:17:42.6±0.2, 23.01S×66.29W, mb4.9/92, Error ellipse: s-maj=5.9km s-min=4.9km az=84.0*

GCMT ***10*** *11:17:42.6±0.4, 22.94S×66.59W, h249km±2km, MW5.2/54, Moment Tensor Solution. s31,c33; s54,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.79±.28; $M_{\theta\theta}$-2.00±.25; $M_{\phi\phi}$2.79±.29; $M_{r\theta}$-0.43±.21; $M_{\theta\phi}$-0.89±.22; $M_{\phi r}$-6.10±.21; Best double couple: $M_0$6.47600×10^{16} NP1:ϕ_s126.00000°, δ15.00000°, λ-150.00000°. NP2: ϕ_s8.00000°, δ83.00000°, λ-77.00000°. Principal axes: T 7.3800, Plg37.0000°, Azm87.0000°; N -1.8070, Plg13.0000°, Azm186.0000°; P -5.5720, Plg51.0000°, Azm292.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***10*** *11:17:43.5, 23.00S×66.30W, h230km, mB5.1*

LDG ***10*** *11:17:46.4, 22.00S×65.93W, h238km*

ISC 10 11:17:40.0±0.4**, 22.91S**±0.03×**66.30W**±0.03**, h200**km±4km**, h231**km±2.2km**:pP-P, n357,** σ0.99/319**, mb4.7**/115**, 10C-5D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEN1	Los Morros	3.62	262	⇓iP	Pn	11 18 39.9	+2.9
CEN1				iS	Sn	11 19 22.9	+1.0
CEN1				AML	AML	11 19 25.1	
	comp=E,4µm,0.7s						
CPN1	Cerro Paranal	4.13	245	⇑iP	Pn	11 18 44.0	+0.7
CPN1				iS	Sn	11 19 30.6	-2.5
CPCH	Copiapo	5.75	219	⇓iP	Pn	11 19 02.4	-1.6
CPCH				iS	Sn	11 20 05.9	-4.6
CPCH	Copiapo	5.75	219	⇑iP	Pn	11 19 02.5	-1.5
CPCH				S	Sn	11 20 05.9	-4.6
CDCH	Caldera	5.84	224	eP	Pn	11 19 03.0	-2.1
CDCH				iS	Sn	11 20 04.1	-8.2
LPAZ	La Paz	6.81	345	P	Pn	11 19 20.5	+2.8
	comp=E,44nm,0.3s,baz=157,slow=9.0,SNR=603						
LPAZ				S	Sn	11 20 35.1	-0.1
	comp=E,4.8nm,0.3s,baz=258,slow=19,SNR=5.4						
LPAZ	La Paz	6.81	345	ePn	Pn	11 19 20.5	+2.8
LCO	Las Campanas	7.25	212	eP	Pn	11 19 21.9	-1.6
ARE	Arequipa	8.07	322	⇑iP	Pn	11 19 32.8	-1.2
ARE				eS	Sn	11 20 59.0	-5.9
TLL	Tololo Astrono	8.28	208	eP	Pn	11 19 35.8	-1.0
TLL	Tololo Astrono	8.28	208	⇑iP	Pn	11 19 36.1	-0.6
SIV	San Ignacio	8.46	37	P	Pn	11 19 41.0	+1.8
	comp=E,16nm,0.3s,baz=232,slow=14,SNR=240						
SIV				S	Sn	11 21 07.6	-6.8
	baz=260,slow=6.8,SNR=2.1						
CFAA	Coronel Fontan	8.83	191	P	Pn	11 19 43.4	-0.6
	comp=E,2.1nm,0.3s,baz=12,slow=12,SNR=156						
CFAA				S	Sn	11 21 16.3	-6.7
	comp=E,6.1nm,0.3s,baz=259,slow=15,SNR=13						
CPUP	Villa Florida	8.84	114	P	Pn	11 19 46.4	+2.3
	comp=E,1.9nm,0.3s,baz=275,slow=12,SNR=30						
CPUP	Villa Florida	8.84	114	eP	Pn	11 19 45.7	+1.6
CPUP				e		11 21 23.9	
CPUP				pmax	pmax		
	comp=Z,119nm,0.7s						
CPUP	Villa Florida	8.84	114	ePn	Pn	11 19 45.6	+1.5
	comp=Z,119nm,0.7s						
CPUP				eSn	Sn	11 21 23.9	+0.6
CMCH	Combarbala	9.23	206	eP	Pn	11 19 48.2	-1.0
FCH	Farellones	10.96	198	eP	Pn	11 20 12.5	+1.0
LMEL	Las Melosas	11.42	197	eP	Pn	11 20 18.3	+0.9
SAML	Samuel	14.20	13	ePn	Pn	11 20 53.4	+1.1
	comp=Z,20nm,0.6s						
NNA	Nana	14.80	315	P	Pn	11 20 59.6	0.0
	comp=Z,9.6nm,0.3s,baz=159,slow=12,SNR=46						
NNA	Nana	14.80	315	ePn	Pn	11 20 59.4	-0.3
	comp=Z,144nm,0.7s						
NNA				eS	Sn	11 23 37.8	-7.5
TRQA	Tornquist	15.54	167	eP	Pn	11 21 07.8	-1.0
	comp=Z,42nm,0.6s						
VAO	Valinhos	17.81	94	⇑iP	Pn	11 21 35.6	-0.1
VAO				i		11 21 36.8	
VAO				i		11 21 39.4	
VAO				i		11 21 46.4	
PLCA	Paso Flores	18.13	190	P	P	11 21 37.9	+0.8
	comp=Z,1.6nm,0.3s,baz=8.1,slow=12,SNR=75						
PLCA				S	S	11 24 51.4	-2.8
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=1.9						
PLCA	Paso Flores	18.13	190	eP	P	11 21 37.4	+0.3
BDFB	Brasilia	18.70	70	P	P	11 21 46.0	+2.7
	comp=Z,12nm,0.3s,baz=254,slow=11,SNR=141						
BDFB				S	S	11 25 06.2	+0.6
	comp=Z,0.4nm,0.3s,baz=171,slow=19,SNR=1.8						
BDFB				ScP	ScP	11 29 14.8	-4.0
	comp=Z,0.1nm,0.3s,baz=42,slow=2.7,SNR=3.6						
BDFB	Brasilia	18.70	70	P	P	11 21 46.0	+2.7
BDFB				S	S	11 25 06.2	+0.6
BAO	Brasilia Array	18.72	71	P	P	11 21 36.0	-7.6
ATAH	Atahualpa	19.64	322	P	P	11 21 54.7	+1.2
	comp=Z,1.9nm,0.3s,baz=157,slow=7.6,SNR=26						
ATAH				S	S	11 25 24.5	+0.4
	comp=Z,0.3nm,0.3s,baz=262,slow=7.1,SNR=2.7						
CAM4	Nova Friburgo	21.91	93	eP	P	11 22 18.3	+1.0
CAM4				i		11 22 21.1	
CAM4				i		11 22 24.2	
CAM4				i		11 22 29.2	
CAM4				i		11 23 13.9	
CAM3	Guarapari	24.02	90	⇓iP	P	11 22 37.8	+1.3
CAM3				i		11 22 38.3	
CAM3				i		11 22 39.6	
ROSC	El Rosal	28.69	343	P	P	11 23 18.9	+0.6
	comp=Z,4.4nm,0.4s,mb4.4,baz=267,slow=21,SNR=3.9						
ROSC				ScP	ScP	11 29 43.8	-2.0
	comp=Z,8.6nm,0.8s,baz=94,slow=18,SNR=6.9						
ROSC	El Rosal	28.69	343	eP	P	11 23 21.6	+3.3
EFI	East Falkland	29.41	170	eP	P	11 23 25.7	+1.0
SDV	Santo Domingo	31.89	352	P	P	11 23 45.9	-0.5
	comp=Z,16nm,0.7s,mb4.7,baz=204,slow=5.9,SNR=15						
SDV	Santo Domingo	31.89	352	eP	P	11 23 45.9	-0.5
	comp=Z,32nm,1.0s,mb4.8						
PCRV	Puerto La Cruz	32.92	3	P	P	11 23 55.7	+0.3
	comp=Z,11nm,0.6s,mb4.6,baz=194,slow=2.5,SNR=5.0						
RCBR	Riachuelo	33.87	65	eP	P	11 24 04.4	+0.8
JTS	JuntasAbangare	37.72	329	P	P	11 24 37.1	+0.8
	comp=Z,295nm,1.1s,mb5.7,SNR=7.7						
JTS	JuntasAbangare	37.72	329	P	P	11 24 37.6	+1.3
	comp=Z,28nm,0.8s,mb4.8,baz=139,slow=3.9,SNR=18						
JTS				pP	pP	11 25 24.1	+6.0
	comp=Z,3.1nm,0.8s,baz=328,slow=20,SNR=0.9						
JTS	JuntasAbangare	37.72	329	d iP	P	11 24 37.3	+1.0
JTS	JuntasAbangare	37.72	329	eP	P	11 24 35.7	-0.6
	comp=Z,50nm,1.0s,mb5.0						
SJG	San Juan	40.77	0	P	P	11 24 59.9	-1.6
	comp=Z,6.0nm,0.3s,mb4.4,baz=320,slow=6.0,SNR=7.6						
SJG	San Juan	40.77	0	eP	P	11 24 59.7	-1.8
SJG				pmax	pmax		
	comp=Z,27nm,1.0s						
SJG	San Juan	40.77	0	eP	P	11 24 59.7	-1.9
	comp=Z,27nm,1.0s,mb4.6						
MPR	Mayaguez	40.88	359	eP	P	11 25 00.8	-1.6
VNA3	Neumayer Olymp	57.97	161	ePKPdf	P	11 27 12.3	+0.8
VNA3				e		11 27 14.6	
VNA3				e		11 27 16.7	
VNA3				e		11 27 21.7	
VNA3				e		11 27 23.4	
VNA3				e		11 27 27.3	
VNA1	Neumayer--Stat	58.15	161	ePKPdf	P	11 27 14.4	+1.6
VNA1				e		11 27 16.3	
VNA1				e		11 27 17.8	
VNA1				e		11 27 19.0	
VNA1				e		11 27 21.9	
JSC	Jenkinsville	58.63	345	eP	P	11 27 15.7	-0.4
LRAL	Lakeview Retre	59.04	340	eP	P	11 27 17.6	-1.2
	comp=Z,36nm,0.9s,mb5.0						
HKT	Hockley	59.74	330	eP	P	11 27 23.5	-0.2
HKT				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.8						
HKT	Hockley	59.74	330	eP	P	11 27 23.5	-0.2
	comp=Z,27nm,1.1s,mb4.8						
SNAA	Sanae	60.16	161	ePKPdf	P	11 27 26.9	+0.4
SNAA				e		11 27 29.1	
SNAA				e		11 27 30.6	
SNAA				e		11 27 32.2	
SNAA				e		11 27 41.7	
SNAA	Sanae	60.16	161	⇑iP	P	11 27 26.4	-0.1
SWET	Sewanee	60.73	342	eP	P	11 27 29.5	-0.9
NATX	Nacogdoches	60.77	332	eP	P	11 27 30.8	+0.2
	comp=Z,48nm,0.6s,mb5.3						
PLAL	Pickwick Lake	61.17	340	eP	P	11 27 31.3	-2.1
	comp=Z,43nm,0.9s,mb5.1						
BLA	Blacksburg	61.26	347	eP	P	11 27 34.2	+0.2
BLA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
BLA	Blacksburg	61.26	347	eP	P	11 27 34.2	+0.2
	comp=Z,1.8nm,0.7s,mb3.8						
TZTN	Tazewell	61.34	344	eP	P	11 27 33.0	-1.4
ELN	Prospectdale	61.35	347	eP	P	11 27 34.7	+0.2
FWV	Forest Hill	61.70	347	eP	P	11 27 37.2	+0.3
JCT	Junction City	62.07	327	eP	P	11 27 38.8	-0.6
WVT	Waverly	62.15	340	eP	P	11 27 38.1	-1.8
WVT				pmax	pmax		
	comp=Z,88nm,1.0s,mb5.3						
WVT	Waverly	62.15	340	eP	P	11 27 38.1	-1.8
	comp=Z,88nm,1.0s,mb5.3						
UALR	University of	62.47	336	eP	P	11 27 40.9	-1.1
	comp=Z,23nm,1.0s,mb4.8						
MIAR	Mount Ida	62.74	335	eP	P	11 27 43.3	-0.5
MIAR				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.9						
MIAR	Mount Ida	62.74	335	eP	P	11 27 43.3	-0.5
	comp=Z,31nm,0.9s,mb4.9						
PARMO	Parma	63.26	339	eP	P	11 27 46.4	-0.8
LPIG	La Paz	63.33	315	P	P	11 27 46.5	-1.2
	comp=Z,12nm,0.4s,mb4.9,baz=23,slow=3.7,SNR=4.2						
LPIG	La Paz	63.33	315	P	P	11 27 46.5	-1.2
MCWV	Mont Chateau	63.52	348	eP	P	11 27 48.9	0.0
	comp=Z,27nm,0.7s,mb5.0						
WCI	Wyandotte Cave	63.65	343	eP	P	11 27 48.0	-1.8
SIUC	Southern Illin	64.04	340	eP	P	11 27 51.1	-1.2
SSPA	Standing Stone	64.13	350	eP	P	11 27 52.3	-0.7
	comp=Z,5.8nm,0.8s,mb4.3						
BLO	Bloomington	64.59	343	eP	P	11 27 54.2	-1.7
FVM	French Village	64.68	339	eP	P	11 27 55.2	-1.3
ACSO	Alum Creek Sta	64.71	346	eP	P	11 27 55.2	-1.5
	comp=Z,28nm,0.8s,mb4.9						
WMOK	Wichita Mounta	65.10	331	eP	P	11 27 57.9	-1.3
WMOK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
WMOK	Wichita Mounta	65.10	331	eP	P	11 27 57.9	-1.3
	comp=Z,6.4nm,0.8s,mb4.3						
BINY	Binghamton	65.40	352	eP	P	11 28 01.4	+0.3
	comp=Z,44nm,0.9s,mb5.1						
ALLY	Alegheny Colle	65.50	349	eP	P	11 28 01.4	-0.3
ERPA	Erie	65.93	349	eP	P	11 28 04.5	0.0
	comp=Z,74nm,0.8s,mb5.4						
MNTX	Cornudas Mount	65.94	324	eP	P	11 28 03.6	-1.0
	comp=Z,28nm,0.9s,mb4.9						
LIC	Lamto	66.49	72	eP	P	11 28 07.4	-0.6
	comp=Z,22nm,0.7s,mb4.6						
LIC	Lamto	66.49	72	eP	P	11 28 07.4	-0.6
	comp=Z,11nm,0.6s,mb4.7						
DBIC	Dimbokro	66.85	72	P	P	11 28 10.2	0.0
	comp=Z,12nm,0.4s,mb4.9,baz=210,slow=6.1,SNR=27						
DBIC				pP	pP	11 29 04.0	+7.0
	comp=Z,18nm,1.0s,baz=192,slow=4.3,SNR=3.7						
DBIC	Dimbokro	66.85	72	P	P	11 28 10.2	0.0
DBIC				pP	pP	11 29 04.0	+7.0
NCB	Newcomb	66.95	354	eP	P	11 28 10.5	-0.4
LBNH	Lisbon	67.02	356	eP	P	11 28 11.6	+0.2
LBNH				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
LBNH	Lisbon	67.02	356	eP	P	11 28 11.6	+0.2
	comp=Z,18nm,0.8s,mb4.8						
QSPA	South Pole Qui	67.29	180	eP	P	11 28 13.7	+0.6
	comp=Z,9.4nm,0.9s,mb4.4						
LONY	Lake Ozonia	67.63	354	eP	P	11 28 15.4	+0.2
FRNY	Flat Rock	67.74	354	eP	P	11 28 15.6	-0.4
KSU1	Kansas State U	67.90	335	eP	P	11 28 15.6	-1.3
MSNY	Massena	68.03	353	eP	P	11 28 17.8	+0.1
SADO	Sadowa	68.37	350	P	P	11 28 18.7	-1.1
	comp=Z,23nm,0.8s,mb4.9,baz=198,slow=4.7,SNR=19						
ANMO	Albuquerque	69.02	325	P	P	11 28 24.4	+0.6
	comp=Z,26nm,0.9s,mb4.9,baz=141,slow=7.0,SNR=80						
ANMO	Albuquerque	69.02	325	d iP	P	11 28 23.9	+0.1
ANMO	Albuquerque	69.02	325	eP	P	11 28 24.4	+0.6
	comp=Z,33nm,0.9s,mb5.0						
JFWS	Jewell Farm	69.12	341	eP	P	11 28 23.6	-0.8
JFWS				pmax	pmax		
	comp=Z,31nm,0.5s,mb5.2						
JFWS	Jewell Farm	69.12	341	eP	P	11 28 23.6	-0.8
	comp=Z,31nm,0.5s,mb5.2						
SCIA	State Center	69.14	339	eP	P	11 28 23.5	-1.0
TUC	Tucson	69.44	321	eP	P	11 28 25.6	-0.8
TUC				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
TUC	Tucson	69.44	321	eP	P	11 28 25.6	-0.8
	comp=Z,20nm,1.1s,mb4.7						
GLMI	Grayling	69.45	346	eP	P	11 28 25.7	-0.8
SDCO	Great Sand Dun	70.70	328	eP	P	11 28 34.7	+0.6
	comp=Z,43nm,0.9s,mb5.1						
ECSD	EROS,Sioux Fal	71.92	337	eP	P	11 28 39.7	-1.7
WUAZ	Wupatki	72.10	323	eP	P	11 28 42.9	+0.4
	comp=Z,47nm,0.9s,mb5.1						
ISCO	Idaho Springs	72.38	329	eP	P	11 28 44.9	+0.8
ISCO				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.8						
ISCO	Idaho Springs	72.38	329	eP	P	11 28 44.9	+0.8
	comp=Z,24nm,1.0s,mb4.8						
GLA	Glamis	72.38	319	eP	P	11 28 45.2	+1.1
PV01	Paradox Valley	72.54	326	eP	P	11 28 46.0	+0.9
SMCO	Snowmass	72.54	328	eP	P	11 28 46.2	+1.1
	comp=Z,21nm,0.8s,mb4.8						
PV10	Paradox Valley	72.97	326	eP	P	11 28 48.0	+0.5
BAR	Barrett	73.27	317	eP	P	11 28 50.3	+1.0
PHWY	Pilot Hill	73.49	330	eP	P	11 28 51.6	+0.9
PFO	Pinyon Flat Ob	73.76	318	eP	P	11 28 53.6	+1.4
SRU	San Rafael	74.28	326	eP	P	11 28 55.8	+0.6
SYO	Syowa Base	74.33	159	⇑eP	P	11 28 55.6	+0.1
SYO	Syowa Base	74.33	159	⇑ePcP	PcP	11 29 07.8	-1.4
RWWY	Rawlins	74.61	329	eP	P	11 28 58.2	+1.1
	comp=Z,50nm,1.0s,mb5.1						
CCUT	Cedar City	74.68	323	eP	P	11 28 59.1	+1.6
MSU	Marysvale	74.72	324	eP	P	11 28 58.8	+1.1
SBA	Scott Base	74.88	190	eP	P	11 29 00.2	+1.6
ARUT	Antelope Range	74.89	323	eP	P	11 28 59.9	+1.2
SHPR	Sheep Range	74.96	321	eP	P	11 29 00.1	+1.0
GSC	Goldstone	75.11	319	eP	P	11 29 01.0	+1.0
RSSD	Black Hills	75.13	333	eP	P	11 29 00.4	+0.3
MPU	Maple Canyon	75.53	326	eP	P	11 29 03.3	+1.0
TOA0	Torodi Ar. Sit	75.58	69	eP	P	11 29 02.1	-0.5
TORD	Torodi Ar. Bea	75.58	69	P	P	11 29 02.2	-0.4
	comp=Z,22nm,0.4s,mb5.2,baz=257,slow=6.0,SNR=213						
TORD				pP	pP	11 29 56.2	+5.9
	comp=Z,2.5nm,0.6s,baz=246,slow=6.0,SNR=1.0						
TORD	Torodi Ar. Bea	75.58	69	P	P	11 29 02.2	-0.4
TORD				pP	pP	11 29 56.2	+5.9
NLU	North Lily Min	75.72	325	eP	P	11 29 04.7	+1.3
VNDA	Vanda	75.88	190	P	P	11 29 05.0	+0.7
	comp=Z,3.0nm,0.8s,mb4.0,baz=124,slow=5.0,SNR=18						
CTU	Camp Tracy	76.09	326	eP	P	11 29 06.4	+0.9
	comp=Z,9.4nm,0.7s,mb4.5						
TCUT	Toone Canyon	76.23	327	eP	P	11 29 07.5	+1.3
DAC	Darwin (Calif)	76.24	320	eP	P	11 29 07.0	+0.6
DAC				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.9						
DAC	Darwin (Calif)	76.24	320	eP	P	11 29 07.0	+0.6
	comp=Z,34nm,1.0s,mb4.9						
DUG	Dugway	76.28	325	eP	P	11 29 07.3	+0.7
DUG				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.8						
DUG	Dugway	76.28	325	eP	P	11 29 07.3	+0.8
	comp=Z,24nm,0.9s,mb4.8						
ISA	Isabella	76.36	319	eP	P	11 29 08.0	+0.9
TRCR	Troy Canyon	76.49	322	eP	P	11 29 09.5	+1.7
BW06	Boulder Array	76.55	329	eP	P	11 29 08.0	-0.1
PDAR	Pinedale Array	76.55	329	P	P	11 29 08.0	-0.1
	comp=Z,6.1nm,0.8s,mb4.3,baz=128,slow=7.6,SNR=50						
HWUT	Hardware Ranch	76.67	327	eP	P	11 29 09.1	+0.4
	comp=Z,25nm,0.7s,mb5.0						
SPUT	South Promonto	76.90	326	eP	P	11 29 10.2	+0.2
BGU	Big Grassy Mou	76.92	325	eP	P	11 29 10.6	+0.4
TPH	Tonopah	77.23	321	eP	P	11 29 13.3	+1.4
TPH				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.8						
TPH	Tonopah	77.23	321	eP	P	11 29 13.3	+1.3
	comp=Z,24nm,1.0s,mb4.8						
AHID	Auburn Hatcher	77.30	328	eP	P	11 29 12.7	+0.4
TSUM	Tsumeb	77.32	106	eP	P	11 29 13.3	+0.9
	comp=Z,23nm,1.0s,mb4.8						
ULM	Lac du Bonnet	77.41	341	P	P	11 29 11.6	-1.3
	comp=Z,11nm,0.7s,mb4.6,baz=155,slow=6.1,SNR=25						
HVU	Hansel Valley	77.41	326	eP	P	11 29 12.8	-0.1
HVU				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.9						
HVU	Hansel Valley	77.41	326	eP	P	11 29 12.8	-0.1
	comp=Z,26nm,0.9s,mb4.8						
SCHQ	Schefferville	77.42	360	P	P	11 29 12.2	-0.8
	comp=Z,8.1nm,0.8s,mb4.4,baz=193,slow=6.5,SNR=8.6						
PTRM	Twissleman Ran	77.43	318	eP	P	11 29 13.5	+0.5
MTUM	Tungsten Hills	77.54	320	eP	P	11 29 14.3	+0.7
REDW	Red Top Meadow	77.62	328	eP	P	11 29 14.6	+0.5
	comp=Z,31nm,0.9s,mb4.9						
LOHW	Long Hollow	77.69	329	eP	P	11 29 14.8	+0.4
	comp=Z,22nm,0.8s,mb4.8						
LOHW				ePcP	PcP	11 29 24.3	+0.6
TPAW	Teton Pass	77.77	328	eP	P	11 29 14.9	0.0
	comp=Z,55nm,1.3s,mb5.0						
RRI2	Red Ridge	77.84	328	eP	P	11 29 15.9	+0.6
	comp=Z,51nm,1.1s,mb5.1						
ELK	Elko	77.97	324	eP	P	11 29 17.1	+1.1
ELK				pmax	pmax		
	comp=Z,21nm,0.8s						
ELK	Elko	77.97	324	eP	P	11 29 17.1	+1.1
	comp=Z,21nm,0.8s,mb4.8						
FLWY	Flagg Ranch	78.09	329	eP	P	11 29 17.6	+0.9
NVAR	Mina Array Bea	78.10	321	P	P	11 29 17.4	+0.7
	comp=Z,14nm,1.0s,mb4.6,baz=151,slow=5.7,SNR=71						
LAO	LASA Array	78.11	333	eP	P	11 29 17.0	+0.3
	comp=Z,23nm,1.1s,mb4.7						
LKWY	Lake	78.31	329	eP	P	11 29 19.5	+1.6
LKWY				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.8						
LKWY	Lake	78.31	329	eP	P	11 29 19.5	+1.6
	comp=Z,25nm,1.1s,mb4.8						
YMR	Madison River	78.66	329	eP	P	11 29 20.9	+1.1
	comp=Z,44nm,1.0s,mb5.0						
DGMT	Dagmar	78.74	335	eP	P	11 29 20.9	+0.7
	comp=Z,42nm,1.1s,mb5.0						
WAKR	Walker	78.82	320	eP	P	11 29 21.9	+1.2
BMN	Battle Mountai	78.84	323	eP	P	11 29 20.8	+0.1
GCMT	Greycliff	78.91	331	eP	P	11 29 21.1	0.0
QLMT	Earthquake Lak	79.00	329	eP	P	11 29 22.6	+1.0
CMB	Columbia Colle	79.07	319	eP	P	11 29 22.0	0.0
HLID	Hailey	79.53	327	eP	P	11 29 25.4	+0.9
	comp=Z,41nm,0.8s,mb5.1						
PAHR	Pah Rah Range	79.58	321	eP	P	11 29 25.7	+1.0
	comp=Z,69nm,0.9s,mb5.3						
MCMT	McKenzie Canyo	79.67	328	eP	P	11 29 26.2	+0.9
DLMT	Dillon	79.94	329	eP	P	11 29 27.4	+0.7
	comp=Z,29nm,1.1s,mb4.8						
LRM	Limekiln Ridge	80.22	329	eP	P	11 29 28.8	+0.6
OHCM	Honcut	80.57	320	eP	P	11 29 30.4	+0.4
HRY	Holter Researc	80.59	330	eP	P	11 29 30.4	+0.3
BOSA	Boshof	80.65	117	P	P	11 29 31.0	+0.5
	comp=Z,4.4nm,0.5s,mb4.4,baz=245,slow=3.9,SNR=10						
EGMT	Eagleton	80.65	332	eP	P	11 29 30.3	-0.2
	comp=Z,33nm,1.3s,mb4.8						
NSHM	Saint Helena R	80.73	319	eP	P	11 29 31.2	+0.3
MDT	Midelt	80.82	49	P	P	11 29 32.7	+1.3
	comp=Z,14nm,1.0s,mb4.5,baz=244,slow=4.5,SNR=18						
PTEO	Sao Teotonio	80.90	43	eP	P	11 29 32.4	+0.6
	comp=Z,50nm,1.0s,mb5.1						
WVOR	Wild Horse Val	80.98	324	eP	P	11 29 32.0	-0.2
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WVOR	**Wild Horse Val**	**80.98**	**324**	*e*P	**P**	**11 29 32.0**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.2						
CHMT	**Chamberlain Mo**	**81.39**	**330**	*e*P	**P**	**11 29 34.4**	**0.0**
MOD	**Modoc**	**81.55**	**322**	*e*P	**P**	**11 29 35.8**	**+0.6**
MSO	**Missoula**	**81.66**	**329**	*e*P	**P**	**11 29 36.4**	**+0.6**
EGRO	**El Granado**	**81.68**	**43**	P	**P**	**11 29 34.9**	**-1.0**
	comp=Z,24nm,0.8s,mb4.9						
PBEJ	**Beja**	**81.73**	**43**	*e*P	**P**	**11 29 36.5**	**+0.3**
	comp=Z,15nm,0.8s,mb4.7						
BMO	**Blue Mountains**	**81.92**	**326**	*e*P	**P**	**11 29 37.4**	**+0.3**
BMO				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.0						
BMO	**Blue Mountains**	**81.92**	**326**	*e*P	**P**	**11 29 37.4**	**+0.2**
	comp=Z,46nm,1.3s,mb5.0						
EVO	**Evora**	**81.95**	**42**	⇑*i*P	**P**	**11 29 37.8**	**+0.5**
	comp=Z,21nm,0.9s,mb4.5						
WDC	**Whiskeytown Da**	**81.99**	**320**	*e*P	**P**	**11 29 36.2**	**-1.3**
WDC				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
WDC	**Whiskeytown Da**	**81.99**	**320**	*e*P	**P**	**11 29 36.2**	**-1.3**
	comp=Z,19nm,0.8s,mb4.8						
LBTB	**Lobatse**	**82.23**	**114**	*e*P	**P**	**11 29 39.0**	**+0.2**
ESPR	**Espera**	**82.33**	**45**	P	**P**	**11 29 39.3**	**0.0**
	comp=Z,19nm,0.8s,mb4.8						
EMIN	**Mina Concepcio**	**82.33**	**44**	P	**P**	**11 29 38.4**	**-0.9**
	comp=Z,25nm,0.8s,mb4.9						
EJIF	**Jimena Fronter**	**82.33**	**45**	P	**P**	**11 29 36.9**	**-2.4**
EJIF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
EJIF	**Jimena Fronter**	**82.33**	**45**	P	**P**	**11 29 36.9**	**-2.4**
	comp=Z,5.3nm,0.6s,mb4.3						
PTOM	**Tomar**	**82.37**	**41**	*e*P	**P**	**11 29 40.2**	**+0.7**
	comp=Z,54nm,1.3s,mb5.0						
PESTR	**Estremoz**	**82.42**	**42**	*e*P	**P**	**11 29 40.6**	**+0.9**
	comp=Z,24nm,0.9s,mb4.8						
HOG	**Hogback Mounta**	**82.56**	**322**	P	**P**	**11 29 41.2**	**+0.7**
EBAD	**Badajoz**	**82.71**	**43**	P	**P**	**11 29 41.6**	**+0.3**
	comp=Z,16nm,0.8s,mb4.8						
BSMT	**Bassoo Peak**	**82.79**	**329**	*e*P	**P**	**11 29 42.2**	**+0.5**
YBH	**Yreka Blue Hor**	**82.81**	**321**	*e*P	**P**	**11 29 40.7**	**-1.1**
YBH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YBH	**Yreka Blue Hor**	**82.81**	**321**	*e*P	**P**	**11 29 40.6**	**-1.1**
	comp=Z,9.2nm,0.7s,mb4.6						
EMIJ	**Mijas**	**82.86**	**45**	P	**P**	**11 29 40.8**	**-1.2**
	comp=Z,10nm,0.9s,mb4.5						
KHMM	**Horse Mountain**	**82.88**	**320**	*e*P	**P**	**11 29 42.3**	**+0.2**
BUOR	**Burton Butte**	**82.89**	**322**	P	**P**	**11 29 42.3**	**+0.1**
PCBR	**Castelo Branco**	**83.08**	**42**	*e*P	**P**	**11 29 43.7**	**+0.6**
	comp=Z,12nm,0.9s,mb4.6						
NCOR	**Newberry Crate**	**83.19**	**323**	P	**P**	**11 29 44.9**	**+1.2**
WALA	**Waterton Lakes**	**83.26**	**331**	*e*P	**P**	**11 29 44.1**	**0.0**
KTRM	**Thompson Ridge**	**83.31**	**321**	P	**P**	**11 29 44.8**	**+0.4**
MTE	**Manteigas**	**83.38**	**41**	*e*P	**P**	**11 29 45.5**	**+0.9**
	comp=Z,19nm,0.9s,mb4.8						
MTE	**Manteigas**	**83.38**	**41**	*e*P	**P**	**11 29 45.3**	**+0.7**
	comp=Z,14nm,1.1s,mb4.6						
ELOJ	**Sierra Loja**	**83.60**	**45**	P	**P**	**11 29 44.6**	**-1.2**
ELOJ				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
ELOJ	**Sierra Loja**	**83.60**	**45**	P	**P**	**11 29 44.6**	**-1.2**
	comp=Z,7.7nm,1.2s,mb4.3						
ERON	**Agron**	**83.75**	**46**	P	**P**	**11 29 45.3**	**-1.2**
	comp=Z,1.5nm,1.2s,mb3.6						
ELUQ	**Luque**	**83.76**	**45**	P	**P**	**11 29 46.0**	**-0.6**
ELUQ				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
ELUQ	**Luque**	**83.76**	**45**	P	**P**	**11 29 46.0**	**-0.6**
	comp=Z,28nm,1.2s,mb4.9						
PVRL	**Vila Real**	**83.81**	**40**	*e*P	**P**	**11 29 47.7**	**+0.9**
	comp=Z,32nm,1.3s,mb4.9						
PCAB	**Cabril**	**83.89**	**40**	*e*P	**P**	**11 29 48.0**	**+0.8**
	comp=Z,23nm,1.9s,mb4.6						
EADA	**Adamuz**	**83.91**	**44**	P	**P**	**11 29 46.8**	**-0.5**
	comp=Z,14nm,1.0s,mb4.6						
ECOG	**Cogollos-Vega**	**84.06**	**45**	P	**P**	**11 29 46.5**	**-1.6**
ECOG				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
ECOG	**Cogollos-Vega**	**84.06**	**45**	P	**P**	**11 29 46.5**	**-1.6**
	comp=Z,13nm,1.3s,mb4.5						
PRW	**Prosser**	**84.07**	**326**	P	**P**	**11 29 49.0**	**+0.8**
HAWA	**Hanford**	**84.11**	**326**	*e*P	**P**	**11 29 48.5**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.9						
RSW	**Rattlesnake Hi**	**84.14**	**326**	P	**P**	**11 29 49.0**	**+0.5**
NEW	**Newport**	**84.19**	**329**	P	**P**	**11 29 47.8**	**-1.0**
	comp=Z,4.1nm,0.6s,mb4.3,baz=169,slow=2.0,SNR=10						
EBAN	**Banos Encina**	**84.42**	**45**	P	**P**	**11 29 48.4**	**-1.5**
EBAN				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
EBAN	**Banos Encina**	**84.42**	**45**	P	**P**	**11 29 48.4**	**-1.5**
	comp=Z,26nm,0.8s,mb5.0						
VFP	**Flag Point**	**84.42**	**324**	P	**P**	**11 29 50.7**	**+0.8**
KEBM	**Edson Butte**	**84.47**	**321**	*e*P	**P**	**11 29 50.8**	**+0.6**
HOOD	**Mount Hood Mea**	**84.52**	**324**	*e*P	**P**	**11 29 50.9**	**+0.5**
FCC	**Fort Churchill**	**84.56**	**346**	*e*P	**P**	**11 29 50.4**	**-0.2**
EQES	**Quesada**	**84.68**	**45**	P	**P**	**11 29 49.9**	**-1.4**
	comp=Z,27nm,1.3s,mb4.8						
PBRG	**Braganca**	**84.71**	**40**	*e*P	**P**	**11 29 52.4**	**+1.0**
	comp=Z,29nm,1.6s,mb4.8						
ECAL	**Calabor**	**84.79**	**40**	P	**P**	**11 29 50.8**	**-1.0**
	comp=Z,24nm,1.1s,mb4.8						
COR	**Corvallis**	**84.95**	**323**	*e*P	**P**	**11 29 53.1**	**+0.5**
EHUE	**Huescar**	**85.00**	**45**	P	**P**	**11 29 50.9**	**-1.9**
EHUE				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
EHUE	**Huescar**	**85.00**	**45**	P	**P**	**11 29 50.9**	**-1.9**
	comp=Z,11nm,1.1s,mb4.5						
ESDC	**Sonseca Array**	**85.17**	**43**	P	**P**	**11 29 54.1**	**+0.5**
	comp=Z,9.0nm,0.8s,mb4.5,baz=237,slow=4.6,SNR=50						
ESDC	**Sonseca Array**	**85.17**	**43**	P	**P**	**11 29 52.7**	**-1.0**
	comp=Z,17nm,0.9s,mb4.8						
ESLA	**Sonseca Array**	**85.17**	**43**	*e*P	**P**	**11 29 54.8**	**+1.1**
	comp=Z,4.7nm,1.0s,mb4.2						
ESBB	**Sonseca Array**	**85.17**	**43**	P	**P**	**11 29 52.7**	**-0.9**
	comp=Z,37nm,1.3s,mb5.0						
ETW	**Entiat**	**85.33**	**327**	P	**P**	**11 29 54.7**	**+0.2**
EPON	**Pontenova**	**85.39**	**39**	P	**P**	**11 29 54.3**	**-0.4**
	comp=Z,31nm,1.7s,mb4.8						
EVIA	**Vianos**	**85.52**	**45**	P	**P**	**11 29 54.1**	**-1.3**
EVIA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
EVIA	**Vianos**	**85.52**	**45**	P	**P**	**11 29 54.1**	**-1.3**
	comp=Z,6.6nm,0.7s,mb4.5						
LON	**Longmire**	**85.53**	**325**	*e*P	**P**	**11 29 54.9**	**-0.5**
GUD	**Guadarrama**	**85.60**	**42**	P	**P**	**11 29 54.6**	**-1.2**
GUD				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
GUD	**Guadarrama**	**85.60**	**42**	P	**P**	**11 29 54.6**	**-1.2**
	comp=Z,21nm,1.3s,mb4.7						
EDM	**Edmonton**	**86.08**	**334**	*e*P	**P**	**11 29 56.7**	**-1.4**
ETOB	**Tobarra**	**86.14**	**45**	P	**P**	**11 29 57.7**	**-0.8**
	comp=Z,25nm,1.0s,mb4.9						
RPW	**Rockport**	**86.48**	**327**	P	**P**	**11 29 59.3**	**-0.8**
EARI	**Arriondas**	**86.51**	**40**	P	**P**	**11 29 54.8**	**-5.5**
	comp=Z,20nm,1.8s,mb4.6						
GNW	**Green Mountain**	**86.58**	**326**	*e*P	**P**	**11 30 00.2**	**-0.4**
CMW	**Cultus Mountai**	**86.77**	**326**	P	**P**	**11 30 01.1**	**-0.4**
ECHE	**Chera**	**87.04**	**45**	P	**P**	**11 29 58.2**	**-4.6**
ECHE				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
ECHE	**Chera**	**87.04**	**45**	P	**P**	**11 29 58.2**	**-4.6**
	comp=Z,7.4nm,0.9s,mb4.4						
VDB	**Vedder Mountai**	**87.15**	**327**	P	**P**	**11 30 02.6**	**-0.7**
ELAN	**Lanestosa**	**87.52**	**41**	P	**P**	**11 30 04.1**	**-1.0**
	comp=Z,9.9nm,1.3s,mb4.5						
LSZ	**Lusaka**	**88.18**	**106**	*e*P	**P**	**11 30 10.2**	**+2.0**
SJPF	**Ste Jean**	**88.80**	**42**	*e*P	**P**	**11 30 11.0**	**-0.1**
ETSF	**Etsaut**	**89.09**	**42**	*e*P	**P**	**11 30 12.3**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.2						
ETSF	**Etsaut**	**89.09**	**42**	*e*P	**P**	**11 30 12.3**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
ETSF	**Etsaut**	**89.09**	**42**	*e*P	**P**	**11 30 12.3**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.1						
EPF	**Esparros**	**89.72**	**42**	*e*P	**P**	**11 30 15.0**	**-0.4**
	comp=Z,4.8nm,0.7s,mb4.1						
EPF	**Esparros**	**89.72**	**42**	*e*P	**P**	**11 30 15.0**	**-0.4**
EPF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
EPF	**Esparros**	**89.72**	**42**	*e*P	**P**	**11 30 15.0**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.1						
ROSF	**Rostrenen**	**90.53**	**36**	*e*P	**P**	**11 30 17.5**	**-1.7**
	comp=Z,14nm,1.0s,mb4.6						
ROSF	**Rostrenen**	**90.53**	**36**	*e*P	**P**	**11 30 17.5**	**-1.7**
ROSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ROSF	**Rostrenen**	**90.53**	**36**	*e*P	**P**	**11 30 17.5**	**-1.7**
	comp=Z,7.2nm,1.0s,mb4.6						
LFF	**La Frestale**	**90.97**	**41**	*e*P	**P**	**11 30 21.3**	**+0.1**
	comp=Z,7.2nm,0.6s,mb4.5						
LFF	**La Frestale**	**90.97**	**41**	*e*P	**P**	**11 30 21.3**	**+0.1**
LFF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LFF	**La Frestale**	**90.97**	**41**	*e*P	**P**	**11 30 21.3**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.5						
MTLF	**Montolieu**	**91.05**	**43**	*e*P	**P**	**11 30 20.9**	**-0.7**
MFF	**Saint Martin d**	**91.34**	**39**	*e*P	**P**	**11 30 22.4**	**-0.5**
	comp=Z,7.5nm,0.8s,mb4.4						
MFF	**Saint Martin d**	**91.34**	**39**	*e*P	**P**	**11 30 22.4**	**-0.5**
MFF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MFF	**Saint Martin d**	**91.34**	**39**	*e*P	**P**	**11 30 22.4**	**-0.5**
	comp=Z,3.8nm,0.8s,mb4.4						
CAF	**Calviac**	**91.77**	**41**	*e*P	**P**	**11 30 23.9**	**-1.0**
GRR	**Gorron**	**91.90**	**37**	*e*P	**P**	**11 30 24.4**	**-1.1**
	comp=Z,8.6nm,0.7s,mb4.5						
GRR	**Gorron**	**91.90**	**37**	*e*P	**P**	**11 30 24.4**	**-1.1**
GRR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
GRR	**Gorron**	**91.90**	**37**	*e*P	**P**	**11 30 24.4**	**-1.1**
	comp=Z,4.3nm,0.7s,mb4.5						
KEST	**Kesra**	**92.24**	**52**	P	**P**	**11 30 28.0**	**+0.9**
	comp=Z,2.1nm,0.9s,mb4.1,baz=265,slow=3.8,SNR=7.1						
LDF	**La Druitiere**	**92.42**	**37**	*e*P	**P**	**11 30 27.2**	**-0.7**
	comp=Z,7.8nm,0.8s,mb4.4						
LDF	**La Druitiere**	**92.42**	**37**	*e*P	**P**	**11 30 27.2**	**-0.7**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
LDF	**La Druitiere**	**92.42**	**37**	*e*P	**P**	**11 30 27.2**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**93.33**	**340**	P	**P**	**11 30 31.0**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.7,baz=132,slow=4.6,SNR=28						
YKA				pP	pP	11 31 28.3	+6.8
	comp=Z,1.1nm,0.8s,baz=126,slow=4.6,SNR=2.0						
SMF	**Signal de Mont**	**93.71**	**40**	*e*P	**P**	**11 30 32.1**	**-1.8**
ORIF	**Oris-en-Rattie**	**94.12**	**43**	*e*P	**P**	**11 30 33.3**	**-2.4**
	comp=Z,2.9nm,0.5s,mb4.2						
ORIF	**Oris-en-Rattie**	**94.12**	**43**	*e*P	**P**	**11 30 33.3**	**-2.4**
ORIF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ORIF	**Oris-en-Rattie**	**94.12**	**43**	*e*P	**P**	**11 30 33.3**	**-2.4**
	comp=Z,1.5nm,0.5s,mb4.3						
LPL	**La Plagne**	**94.94**	**42**	*e*P	**P**	**11 30 38.3**	**-1.2**
	comp=Z,4.4nm,0.7s,mb4.4						
LPL	**La Plagne**	**94.94**	**42**	*e*P	**P**	**11 30 38.3**	**-1.2**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
LPL	**La Plagne**	**94.94**	**42**	*e*P	**P**	**11 30 38.3**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.5						
LPG	**La Plagne**	**94.94**	**42**	*e*P	**P**	**11 30 38.1**	**-1.4**
DLBC	**Dease Lake**	**96.58**	**332**	P	**P**	**11 30 45.0**	**-2.0**
	comp=Z,2.8nm,0.8s,mb4.5,baz=104,slow=11,SNR=5.0						
KIV	**Kislovodsk**	**118.97**	**51**	*i* PKIKP	PKPdf	11 35 58.0	-6.7
KLBR	**Kellerberrin**	**125.67**	**184**	*e*P	PKPdf	11 36 17.6	+0.1
CTA	**Charters Tower**	**126.75**	**219**	*e*PKP	PKPdf	11 36 20.3	+0.7
	comp=Z,3.4nm,0.8s						
CTA	**Charters Tower**	**126.75**	**219**	PKP	PKPdf	11 36 20.1	+0.5
	comp=Z,4.2nm,0.8s,baz=66,slow=4.3,SNR=5.1						
ARU	**Arti**	**127.93**	**35**	*i* PKIKP	PKPdf	11 36 21.9	+0.1
ARU				*e*		11 38 28.2	
ARU				*e*		11 43 10.4	
ARU				*e*SS	SS	11 55 27.1	+3.5
AS31	**Alice Springs**	**129.71**	**204**	*e*PKP	PKPdf	11 36 25.5	+0.3
ASAR	**Alice Springs**	**129.71**	**204**	PKP	PKPdf	11 36 25.4	+0.2
	comp=Z,4.6nm,0.7s,baz=147,slow=2.3,SNR=40						
ASAR				SKPbc		11 39 26.4	
	comp=Z,3.6nm,0.8s,baz=148,slow=4.9,SNR=18						
ASPA	**Alice Springs**	**129.71**	**204**	*e*PKP	PKPdf	11 36 25.5	+0.3
WB2	**Warramunga Arr**	**132.88**	**207**	*e*PKP	PKPdf	11 36 31.8	+0.6
WB2	**Warramunga Arr**	**132.88**	**207**	*e*PKPdf	PKPdf	11 36 31.7	+0.4
WB2				*e*PKP	PKPdf	11 36 31.8	+0.6
WRA	**Warramunga Arr**	**132.88**	**207**	PKP	PKPdf	11 36 31.9	+0.7
	comp=Z,2.5nm,0.5s,baz=160,slow=1.7,SNR=42						
WRA				SKPbc	SKPbc	11 39 37.8	-2.1
	comp=Z,14nm,0.9s,baz=150,slow=3.2,SNR=39						
ZRNK	**Zerenda**	**134.81**	**37**	*e*PKIKP	PKPdf	11 36 35.5	+0.7
CHKZ	**Chkalovo**	**135.38**	**35**	*e*PKIKP	PKPdf	11 36 36.2	+0.3
FITZ	**Fitzroy Crossi**	**137.60**	**197**	*e*PKP	PKPdf	11 36 42.3	+2.3
	comp=Z,5.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**137.60**	**197**	PKP	PKPdf	11 36 42.2	+2.2
	comp=Z,4.0nm,0.8s,baz=303,slow=9.3,SNR=6.0						
FITZ				SKPbc	SKPbc	11 39 53.2	-1.5
	comp=Z,10nm,0.9s,baz=194,slow=7.2,SNR=9.3						
KAKA	**Kakadu**	**140.12**	**209**	*e*PKP	PKPdf	11 36 37.8	-6.8
	comp=Z,30nm,1.5s						
NVS	**Novosibirsk**	**140.85**	**28**	*e*PKIKP	PKPdf	11 36 44.8	-1.1
NVS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
ZAL	**Zalesovo**	**142.13**	**28**	PKhKP		11 36 43.7	
	comp=E,5.1nm,0.4s,baz=62,slow=1.4,SNR=9.0						
ZAL				SKP		11 39 59.2	
	comp=E,1.9nm,0.5s,baz=186,slow=4.6,SNR=3.3						
ZAL				SKPbc	SKPbc	11 40 05.4	-1.4
	comp=E,1.7nm,0.4s,baz=161,slow=2.2,SNR=5.0						
ZAL	**Zalesovo**	**142.13**	**28**	PKIKP	PKPdf	11 36 43.7	-4.5
ZAL						11 39 59.2	
ZAL	**Zalesovo**	**142.13**	**28**	PKP	PKPdf	11 36 43.7	-4.5
ZAL				SKP		11 39 59.2	
ZAL				SKPbc	SKPbc	11 40 05.4	-1.4
KSH	**Kashi**	**144.04**	**54**	*e*PKP	PKPdf	11 36 56.0	+4.4
KSH				*e*APKP		11 37 53.0	
KSH				*e*XPKP		11 38 16.3	
KSH				*e*PKS		11 40 29.3	
KSH				*e*SKS	SKSdf	11 43 40.6	-1.4
KSH				*e*PPP		11 43 58.1	
KSH				PP	PP		
	comp=Z,108nm,3.1s						
KSH				LR	LR		
	comp=N,310nm,5.0s						
KSH				LR	LR		
	comp=E,367nm,7.3s						
KSH				LR	LR		
	comp=Z,189nm,4.8s						
BOD	**Bodaibo**	**145.13**	**360**	*e*PKIKP	PKPdf	11 36 52.2	-1.3
BOD				pmax	pmax		
	comp=Z,60nm,1.0s						
MKAR	**Makanchi Array**	**145.28**	**39**	PKPbc	PKPbc	11 36 54.4	+0.5
	comp=Z,10nm,0.7s,baz=318,slow=3.4,SNR=66						
MKAR				SKPbc	SKPbc	11 40 13.0	-1.3
	comp=Z,3.1nm,0.7s,baz=318,slow=3.3,SNR=6.8						
MKAR	**Makanchi Array**	**145.28**	**39**	PKPbc	PKPbc	11 36 54.4	+0.5
MKAR				SKPbc	SKPbc	11 40 13.0	-1.3
YSS	**Yuzh-Sakhalins**	**146.53**	**323**	⇑*i*PKP2	PKPab	11 36 57.0	-2.1
HYB	**Hyderabad**	**146.61**	**93**	*i* PKP	PKPbc	11 36 59.5	+1.6
HYB				*e*		11 37 04.0	
ASAJ	**Asahikawa**	**148.21**	**319**	PKPbc	PKPbc	11 37 02.0	-0.2
	comp=Z,16nm,0.8s,baz=221,slow=16,SNR=11						
GUMO	**Guam**	**149.04**	**258**	PKPbc	PKPbc	11 37 04.3	0.0
	comp=Z,137nm,1.1s,baz=189,slow=6.3,SNR=10						
MOY	**Mondy**	**149.66**	**16**	*e*PKP2	PKPbc	11 37 06.7	+0.9
MOY				pmax	pmax		
	comp=Z,25nm,2.0s						
WMQ	**Urumqi**	**150.10**	**40**	PKP	PKPdf	11 37 00.0	-1.7
WMQ				PKP2	PKPab	11 37 14.0	+0.5
WMQ				PKS		11 40 33.0	
WMQ				PP	PP	11 40 44.0	+0.9
WMQ				PPP		11 44 10.0	
WMQ				PP	PP		
	comp=Z,109nm,6.5s						
TLY	**Talaya**	**150.25**	**13**	*e*PKPdf	PKPdf	11 37 02.8	+0.9
TLY				*e*PKPbc	PKPbc	11 37 07.8	+0.6
TLY				*e*PKPab	PKPab	11 37 13.6	-0.5
CIT	**Chita**	**150.94**	**0**	*e*PKIKP	PKPbc	11 37 09.6	+0.7
ZAK	**Zakamensk**	**151.39**	**14**	*e*PKIKP	PKPdf	11 37 03.7	0.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KOLN	**Koldanda**	**152.41**	**74**	*e*P	PKPbc	11 37 18.4	+6.2
	comp=Z,12nm,0.6s						
GKN	**Gorkha**	**153.31**	**73**	*e*P	PKPbc	11 37 20.5	+6.3
	comp=Z,22nm,0.4s						
DMN	**Daman**	**153.75**	**74**	*e*P	PKPbc	11 37 23.0	+7.9
KKN	**Kakani**	**153.89**	**73**	*e*P	PKPbc	11 37 23.0	+7.6
	comp=Z,11nm,0.5s						
PKI	**Pulchoki**	**154.02**	**74**	*e*P	PKPbc	11 37 23.7	+8.0
	comp=Z,9.6nm,0.5s						
GUN	**Gumba**	**154.41**	**73**	*e*P	PKPbc	11 37 23.5	+7.0
SONM	**Songino Array**	**154.45**	**11**	PKP	PKPdf	11 37 08.9	+0.8
	comp=Z,2.8nm,0.9s,baz=324,slow=1.8,SNR=18						
SONM				PKPbc	PKPbc	11 37 16.6	0.0
	comp=Z,3.2nm,0.6s,baz=277,slow=0.9,SNR=6.0						
SONM				PKPab	PKPab	11 37 32.2	+0.4
	comp=Z,1.8nm,0.7s,baz=313,slow=4.0,SNR=5.1						
MDJ	**Mudanjiang**	**154.73**	**333**	PKP	PKPdf	11 37 08.6	+0.1
MDJ				PKS		11 40 42.9	
MDJ				SKS	SKSdf	11 43 54.4	-1.6
MDJ				SS	SS	12 00 34.8	+0.5
MJAR	**Matsushiro Arr**	**154.84**	**308**	PKP	PKPdf	11 37 10.4	+1.8
	comp=Z,0.7nm,0.6s,baz=109,slow=2.2,SNR=4.7						
MJAR				PKPbc	PKPbc	11 37 17.1	-0.4
	comp=Z,2.6nm,0.7s,baz=84,slow=2.6,SNR=9.6						
MJAR				PKPab	PKPab	11 37 33.2	-0.3
	comp=Z,6.5nm,0.8s,baz=52,slow=3.1,SNR=15						
MAJO	**Matsushiro**	**154.84**	**308**	*e*PKP2	PKPab	11 37 33.0	-0.5
MAT	**Matsushiro**	**154.84**	**308**	PKP	PKPbc	11 37 17.1	-0.3
CN2	**Changchun**	**157.02**	**338**	*e*PKP	PKPdf	11 37 10.0	-1.5
SNY	**Shenyang**	**159.41**	**339**	*e*PKP	PKPdf	11 37 10.1	-4.3
HHC	**Hu-ho-hao-te**	**162.03**	**5**	*e*PKP	PKPdf	11 37 15.0	-2.2
HHC				PKP2	PKPab	11 38 04.2	-0.5
HHC				PKS		11 40 47.1	
HHC				SKS	SKSdf	11 43 56.0	-7.0
HHC				SKKS	SKKSac	11 48 13.4	-4.2
HHC				SS	SS	12 01 47.3	-4.3
HHC				PP	PP		
	comp=Z,135nm,6.3s						
HHC				LR	LR		
	comp=Z,111nm,10.8s						
CD2	**Chengdu**	**168.08**	**46**	*e*PKP	PKPdf	11 37 16.9	-5.4
SSE	**Sheshan**	**169.47**	**322**	PKP	PKPdf	11 37 19.9	-3.3
KMI	**Kunming**	**169.74**	**75**	PKP	PKPdf	11 37 22.4	-1.0
NJ2	**Nanjing**	**169.81**	**334**	*e*PKP	PKPdf	11 37 20.8	-2.6
NJ2				APKP		11 38 18.9	
NJ2				PKP2	PKPab	11 38 38.9	-0.1
NJ2				XPKP		11 38 45.9	
NJ2				PKS		11 40 52.0	
NJ2				PP	PP	11 42 32.0	+2.8
NJ2				SKS	SKSdf	11 44 01.0	-6.9
NJ2				SKKS	SKKSac	11 48 53.0	-3.5
NJ2				PP	PP		
	comp=Z,550nm,5.9s						
NJ2				LR	LR		
	comp=N,760nm,24.8s						
NJ2				LR	LR		
	comp=E,700nm,27.2s						
NJ2				LR	LR		
	comp=Z,630nm,25.9s						
GYA	**Guiyang**	**172.69**	**60**	*e*PKP	PKPdf	11 37 21.4	-3.5
GYA				APKP		11 38 19.6	
GYA				XPKP		11 38 42.5	
GYA				PKS		11 40 52.7	
GYA				PP	PP		
	comp=Z,120nm,8.4s						
GYA				LR	LR		
	comp=N,210nm,20.8s						
GYA				LR	LR		
	comp=E,190nm,21.4s						
GYA				LR	LR		
	comp=Z,180nm,20.6s						

---

*ISCJB **10** 11:18:44.1±0.4, 10.94N±0.03×62.21W±0.03, h70km±7km, Error ellipse: s-maj=5.5km s-min=3.6km az=104.1*
*TRN **10** 11:18:45.1, 10.89N×62.18W, h65km, MD3.9*
TRN Felt (II) in Chaguaramas and Santa Cruz.
*NEIC **10** 11:18:45.4, 10.91N×62.18W, h61km, MD3.9(TRN), After TRN.*
*FUNV **10** 11:18:47.0, 10.95N×62.26W, h50km, MW3.8*
ISC 10 11:18:45.4±0.4**, 10.92N**±0.03×**62.20W**±0.03**, h60**km±9km**, n34, σ0.75/56, 11C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.27**	**185**	⇑*i*P	**Pn**	**11 18 56.2**	**+0.9**
GUIV				*e*S	**Sn**	**11 19 02.9**	**+0.5**
TCE	**Chacachacare**	**0.49**	**117**	⇑*i*P	**Pn**	**11 18 57.7**	**+0.4**
TRN	**Trinidad (W)**	**0.83**	**109**	⇑*i*P	**Pn**	**11 19 01.3**	**+0.1**
TRN				*e*S	**Sn**	**11 19 11.8**	**-1.1**
TPP	**Pointe-a-Pierr**	**0.95**	**129**	⇑*e*P	**Pn**	**11 19 03.1**	**+0.4**
TPP				*e*S	**Sn**	**11 19 15.3**	**-0.3**
ITEV	**Isla Los Testi**	**1.01**	**295**	⇓*i*P	**Pn**	**11 19 03.1**	**-0.5**
ITEV				*e*S	**Sn**	**11 19 16.0**	**-1.0**
CRUV	**Carupano**	**1.05**	**257**	⇓*i*P	**Pn**	**11 19 04.6**	**+0.6**
CRUV				*e*S	**Sn**	**11 19 16.9**	**-1.0**
GUNV	**Guanoco**	**1.05**	**224**	⇑*i*P	**Pn**	**11 19 05.0**	**+1.0**
GUNV				*e*S	**Sn**	**11 19 18.3**	**+0.3**
TBH	**Brigand Hill**	**1.20**	**111**	⇑*i*P	**Pn**	**11 19 05.9**	**-0.1**
TBH				*e*S	**Sn**	**11 19 21.7**	**+0.3**
GRW	**Mount Saint Ca**	**1.34**	**23**	⇑*e*P	**Pn**	**11 19 07.7**	**-0.2**
TPR	**Prospect**	**1.42**	**79**	⇑*e*P	**Pn**	**11 19 08.9**	**-0.1**
TPR				*e*S	**Sn**	**11 19 26.4**	**-0.3**
BOT	**Bacolet**	**1.48**	**80**	⇑*e*P	**Pn**	**11 19 09.6**	**-0.2**
BOT				*e*S	**Sn**	**11 19 27.3**	**-0.8**
ORIV	**Oritupano**	**2.19**	**213**	*e*P	**Pn**	**11 19 20.1**	**+0.6**
ORIV				*e*S	**Sn**	**11 19 44.9**	**-0.5**
PCRV	**Puerto La Cruz**	**2.51**	**253**	*e*P	**Pn**	**11 19 24.4**	**+0.6**
SVB	**Belmont**	**2.51**	**22**	*e*P	**Pn**	**11 19 24.0**	**+0.2**
SVB				*e*S	**Sn**	**11 19 53.1**	**-0.2**
SVV	**Soufriere Volc**	**2.57**	**22**	*e*P	**Pn**	**11 19 25.2**	**+0.6**
SVV				*e*S	**Sn**	**11 19 54.5**	**-0.2**
SVV	**Soufriere Volc**	**2.57**	**22**	*e*P	**Pn**	**11 19 25.2**	**+0.6**
SVV				*e*S	**Sn**	**11 19 54.5**	**-0.2**
SSV	**Crater Summit**	**2.59**	**22**	*e*P	**Pn**	**11 19 24.9**	**+0.1**
SSV				*e*S	**Sn**	**11 19 55.2**	**+0.2**
CUPV	**Cœpira**	**3.63**	**257**	*e*P	**Pn**	**11 19 39.5**	**+0.4**
MVM	**Montagne Vaucl**	**3.83**	**19**	⇑*e*P	**Pn**	**11 19 42.4**	**+0.6**
FDF	**Fort de France**	**3.92**	**15**	⇑*e*P	**Pn**	**11 19 42.2**	**-1.0**
FDF				*e*S	**Sn**	**11 20 22.2**	**-5.7**
BIRV	**Birongo**	**4.02**	**264**	*e*P	**Pn**	**11 19 44.0**	**-0.5**
MERV	**Las Mercedes**	**4.36**	**248**	*e*P	**Pn**	**11 19 48.5**	**-0.6**
MERV				*e*S	**Sn**	**11 20 33.8**	**-4.8**
BBL	**Barber's Block**	**4.63**	**9**	*e*P	**Pn**	**11 19 52.0**	**-0.8**
TBG	**Guadaloupe-3**	**4.93**	**6**	*e*P	**Pn**	**11 19 58.4**	**+1.5**
SCG	**Saint Claude**	**5.10**	**6**	*e*P	**Pn**	**11 19 59.9**	**+0.6**
SCG				*e*S	**Sn**	**11 20 56.0**	**-0.8**
DOG	**Dongo Capester**	**5.11**	**6**	*e*P	**Pn**	**11 19 59.7**	**+0.3**
LZG	**Guadaloupe-1**	**5.20**	**5**	*e*P	**Pn**	**11 20 01.3**	**+0.6**
LZG				*e*S	**Sn**	**11 20 58.2**	**-1.1**
CAOV	**Caicara del Or**	**5.42**	**229**	*e*P	**Pn**	**11 20 02.3**	**-1.3**
CAOV				*e*S	**Sn**	**11 20 59.7**	**-4.8**
DEG	**La Desirade**	**5.47**	**12**	*e*P	**Pn**	**11 20 04.7**	**+0.4**
DEG				*e*S	**Sn**	**11 21 01.4**	**-4.5**
SEG	**Port Louis**	**5.49**	**7**	*e*P	**Pn**	**11 20 06.0**	**+1.4**
SEG				*e*S	**Sn**	**11 21 06.2**	**-0.1**
BAUV	**El Baul**	**6.08**	**252**	*e*P	**Pn**	**11 20 12.1**	**-0.6**
BAUV				*e*S	**Sn**	**11 21 14.3**	**-6.5**
SDV	**Santo Domingo**	**8.55**	**257**	*e*Pn	**Pn**	**11 20 47.4**	**+1.0**
	2.7nm,0.6s						
SOCV	**Socops**	**8.93**	**254**	*e*P	**Pn**	**11 20 49.6**	**-2.0**
SDDR	**Presa de Saban**	**11.88**	**313**	*e*Pn	**Pn**	**11 21 33.7**	**+1.7**

---

*ISCJB **10** 11:31:39.6±0.4, 31.06N±0.03×35.22E±0.06, h0km, Error ellipse: s-maj=7.2km s-min=3.3km az=28.9*
*GII **10** 11:31:39.6±1.1, 31.10N×35.18E, h0km, ML2.6/9*
*CSEM **10** 11:31:39.6±1.1, 31.10N×35.20E, h0km, MD2.6/9, Mining explosion. After GII*
*HLW **10** 11:31:42.6, 30.98N×35.14E, h15km, Mb3.0*
ISC 10 11:31:40.0±0.5**, 31.06N**±0.03×**35.23E**±0.06**, h0**km**, n27, σ0.77/30, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZDA	**Masada**	**0.28**	**25**	Pg	**Pg**	**11 31 45.7**	**+0.4**
MZDA				Sg	**Sg**	**11 31 50.8**	**+1.8**
YTIR	**Yattir**	**0.32**	**343**	Pg	**Pg**	**11 31 46.0**	**-0.1**
MASH	**Mash'abbe Sade**	**0.38**	**261**	Pg	**Pg**	**11 31 47.8**	**+0.5**
RTMI	**Retamim**	**0.46**	**270**	Pg	**Pg**	**11 31 49.2**	**+0.3**
DSI	**Dead Sea**	**0.53**	**14**	Pg	**Pg**	**11 31 50.5**	**+0.4**
SVTA	**Shivta**	**0.54**	**256**	Pg	**Pg**	**11 31 50.7**	**+0.4**
AMAZ	**Amatzia**	**0.54**	**331**	Pg	**Pg**	**11 31 50.4**	**-0.1**
AMAZ				Sg	**Sg**	**11 31 58.0**	**+0.5**
DRGI	**Dragot**	**0.55**	**15**	Pg	**Pg**	**11 31 50.5**	**-0.1**
RMNI	**Mount Ramon**	**0.61**	**221**	Pg	**Pg**	**11 31 53.1**	**+1.4**
RMNI	**Mount Ramon**	**0.61**	**221**	Pg	**Pg**	**11 31 53.1**	**+1.4**
KZIT	**Kziot**	**0.73**	**258**	Pg	**Pg**	**11 31 53.8**	**-0.2**
PRNI	**Paran**	**0.73**	**195**	Pg	**Pg**	**11 31 55.0**	**+1.0**
PRNI				Sg	**Sg**	**11 32 10.3**	**+6.9**
HRFI	**Mount Harif**	**1.03**	**189**	Pg	**Pg**	**11 32 00.5**	**+0.7**
KMTI	**Karmit**	**1.04**	**205**	Pg	**Pg**	**11 32 00.5**	**+0.5**
SLTI	**Sal'it**	**1.19**	**352**	Pg	**Pg**	**11 32 01.8**	**-1.1**
HMDT	**Nahal Hemdat**	**1.22**	**12**	Pg	**Pg**	**11 32 02.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBH	Mount Berech	1.29	192	Pn	Pn	11 32 05.2	-0.1
AQBJ	Aqaba	1.33	187	Pn	Pn	11 32 06.3	+0.4
MMLI	Mount Malkishu	1.39	7	Pn	Pn	11 32 05.6	-1.1
EIL	Elat	1.40	190	Pn	Pn	11 32 07.0	+0.1
HNKL	Nakhl	1.56	224	P	Pn	11 32 07.7	-1.3
OFRI	'Ofer	1.57	353	Pn	Pn	11 32 08.3	-0.9
HBST	Basata	1.88	193	P	Pn	11 32 12.4	-1.0
MMC5	Mount Meron ar	1.95	5	Pn	Pn	11 32 14.7	+0.3
MMA0B	Mount Meron ar	1.96	4	Pn	Pn	11 32 14.5	+0.1
HKAT	Jabal Katrina	2.74	203	P	Pn	11 32 24.4	-0.9
TR2		2.97	207	P	Pn	11 32 27.0	-1.4

*ISCJB **10** 11:56:01.7±0.4, 5970N±003×2458E±006, h0km, Error ellipse: s-maj=4.8km s-min=3.4km az=66.8*
*CSEM **10** 11:56:02.5±0.3, 5969N×2451E, h0km±4km, ML2.2, Error ellipse: s-maj=3.9km s-min=2.8km az=23.0, Mining explosion.*
*NAO **10** 11:56:03.2±1.0, 5974N×2459E, ML2.3*
*HEL **10** 11:56:03.6±0.1, 5971N×2454E, h0km, ML2.2, ML2.8(UPP), ML2.3(NAO), Explosion*
*BER **10** 11:56:04.1±3.9, 5973N×2458E, h0km, ML2.3(NAO), Suspected explosion*
*UPP **10** 11:56:04.4, 5981N×2444E, h0km, ML2.8, Suspected Mining explosion.*
*IDC **10** 11:56:05.3±1.1, 5983N×2451E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.7/4, Error ellipse: s-maj=11.8km s-min=6.2km az=136.0*
ISC 10 11:56:02.8±0.4, **5973N**±003×**2458E**±006, **h0km, n43, σ0^{s}99**/64, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.50	349	eP	Pg	11 56 12.6	+0.3
MEF				eS	Sg	11 56 19.2	+0.3
PVF	Pernaja	1.04	37	eP	Pg	11 56 22.4	-0.3
PVF				eS	Sg	11 56 36.8	+0.6
VSU	Vasula	1.69	138	eP	Pn	11 56 33.6	+0.1
VSU				eS	Sn	11 56 55.3	-0.4
VSU	Vasula	1.69	138	Pn	Pn	11 56 33.8	+0.3
VSU				Lg		11 56 55.4	
FIA0	FINESS Array S	1.88	23	ePN	Pn	11 56 37.1	+1.0
FIA0				eS	Sn	11 57 01.1	+0.6
FIA0				MSG		11 57 04.1	
	comp=Z,5.9nm,0.1s						
FIA0	FINESS Array S	1.88	23	Pn	Pn	11 56 37.2	+1.2
	baz=194,slow=18						
FIA0				Lg		11 57 01.2	
	baz=190,slow=37						
FIA0	FINESS Array S	1.88	23	Pn	Pn	11 56 37.2	+1.1
	SNR=834						
FIA0				S	Sn	11 57 01.0	+0.6
	comp=Z,5.9nm,0.1s						
FINES	FINESS Array B	1.88	23	Pg	Pg	11 56 37.4	-1.3
	comp=Z,18nm,0.3s,baz=200,slow=16,SNR=743						
FINES				Lg		11 57 01.3	
	comp=Z,10nm,0.3s,baz=195,slow=26,SNR=18						
RAF	Rauma	1.91	314	eP	Pn	11 56 37.6	+1.0
RAF				eS	Sn	11 57 02.0	+0.7
RAF	Rauma	1.91	314	P	Pn	11 56 37.5	+0.9
RAF				S	Sn	11 57 02.0	+0.7
AAL	Aland	2.35	283	eP	Pn	11 56 43.5	+0.8
KEF	Keuruu	2.45	3	ePB	Pb	11 56 46.5	-1.3
KEF				eSB	Sb	11 57 18.4	-0.1
KAF	Kangasniemi	2.54	19	ePB	Pb	11 56 48.0	-1.2
KAF				eSB	Sb	11 57 20.6	-0.3
NRTU	Norrtaelje	3.02	272	eP	Pn	11 56 52.0	+0.3
GRAU	Graesoe	3.09	284	eP	Pn	11 56 52.8	0.0
SUF	Sumiainen	3.10	14	eP	Pn	11 56 54.5	+1.6
SUF				eS	Sn	11 57 31.1	+0.5
SUF				MSG		11 57 45.4	
	comp=Z,12nm,0.3s						
FLYU	Flymyra	3.40	280	eP	Pn	11 56 56.9	0.0
NYNU	Nynaeshamn	3.44	261	eP	Pn	11 56 58.5	+0.8
NYNU	Nynaeshamn	3.44	261	P	Pn	11 56 58.4	+0.8
VAF	Ylistaro	3.45	345	eP	Pn	11 57 00.1	+2.3
VAF				eSG	Sg	11 57 50.3	-3.3
VAF				MSG		11 57 50.8	
	comp=Z,5.4nm,0.2s						
VAF	Ylistaro	3.45	345	P	Pn	11 57 00.0	+2.2
GOTU	Gotland	3.74	239	eP	Pn	11 57 02.6	+0.9
OSTU	Oestervaala	3.78	281	eP	Pn	11 57 02.6	+0.4
BACU	Backbrunna	3.78	275	eP	Pn	11 57 02.6	+0.3
ESKU	Eskilstuna	4.21	267	eP	Pn	11 57 08.8	+0.7
VIKU	Vikbolandet	4.25	257	eP	Pn	11 57 09.3	+0.6
FALU	Falun	4.45	284	eP	Pn	11 57 12.0	+0.6
VSTU	Vaestervik	4.68	247	eP	Pn	11 57 15.5	+0.9
NRAU	Nora	4.84	272	eP	Pn	11 57 16.6	-0.3
HFS	Hagfors	5.49	279	eP	Pn	11 57 25.7	-0.1
HFS				eS	Sn	11 58 27.8	-1.9
HFS				eSG		11 58 48.5	
HFS	Hagfors	5.49	279	Pn	Pn	11 57 25.5	-0.3
	comp=Z,1.6nm,0.3s,baz=113,slow=12,SNR=52						
HFS				Sn	Sn	11 58 27.8	-1.8
	comp=Z,2.3nm,0.3s,baz=89,slow=29,SNR=10						
HFS				Lg		11 58 53.8	
	comp=Z,3.2nm,0.3s,baz=92,slow=33,SNR=6.3						
HFS	Hagfors	5.49	279	Pn	Pn	11 57 25.7	-0.1
	baz=81,slow=14						
HFS				Sn	Sn	11 58 27.8	-1.9
	baz=87,slow=37						
HFS				Lg		11 58 48.5	
	baz=91,slow=37						
NB2	NORSAR Subarra	6.76	287	Pn	Pn	11 57 42.3	-0.9
	baz=95,slow=14						
NB2				Sn	Sn	11 58 58.0	-2.8
	baz=94,slow=28						
NB2				Lg		11 59 32.5	
	baz=90,slow=37						
NB2	NORSAR Subarra	6.76	287	eP	Pn	11 57 42.3	-0.9
NB2				eS	Sn	11 58 58.0	-2.8
NB2				eSG		11 59 32.5	
NB2	NORSAR Subarra	6.76	287	Pn	Pn	11 57 42.3	-0.9
	SNR=3.0						
NB2				Sg		11 59 32.5	
NOA	NORSAR Array B	6.76	287	Pn	Pn	11 57 42.1	-1.1
	comp=Z,0.9nm,0.3s,baz=94,slow=13,SNR=5.5						
NOA				Sn	Sn	11 58 58.0	-2.8
	comp=Z,1.0nm,0.3s,baz=114,slow=17,SNR=3.3						
NOA				Lg		11 59 30.4	
	comp=Z,1.6nm,0.3s,baz=120,slow=13,SNR=4.3						
BSD	Bornholm Skovb	6.97	233	i P	Pn	11 57 44.9	-1.2
BSD				eS	Sn	11 59 01.8	-4.3
BSD				e		12 16 12.7	
APA0	Apatity Array	8.74	22	Pn	Pn	11 58 11.0	+0.6
	baz=211,slow=12						
APA0	Apatity Array	8.74	22	eP	Pn	11 58 11.0	+0.6
AKASG	Malin Array Be	9.42	162	Pn	Pn	11 58 18.6	-1.2
	comp=Z,1.3nm,0.3s,baz=339,slow=13,SNR=4.7						
ARA0	ARCESS Array S	9.86	2	Pn	Pn	11 58 24.2	-1.5
	baz=174,slow=14						
ARA0				Sn	Sn	12 00 09.3	-7.8
	baz=187,slow=28						
ARA0	ARCESS Array S	9.86	2	eP	Pn	11 58 24.2	-1.5
ARA0				eS	Sn	12 00 09.3	-7.8
ARCES	ARCESS Array B	9.86	2	Pn	Pn	11 58 24.4	-1.4
	comp=Z,1.2nm,0.3s,baz=174,slow=15,SNR=64						
ARCES				Sn	Sn	12 00 12.0	-5.1
	comp=Z,0.4nm,0.3s,baz=193,slow=20,SNR=4.2						

*IDC **10** 11:59:28.3±3.1, 240S×13997E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/13, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=109.8km s-min=23.1km az=93.0*
*ISCJB **10** 11:59:32.5±1.8, 25S±0.1×1397E±04, h33km, mb3.8/3, Error ellipse: s-maj=56.3km s-min=15.5km az=4.6*
*NEIC **10** 11:59:34.7±1.7, 251S×13989E, h45km, Error ellipse: s-maj=54.1km s-min=15.9km az=94.0*
ISC 10 11:59:33.9±1.8, **25S**±01×**1399E**±04, **h35km, n9, σ0^{s}90**/9, **mb3.8**/3, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	12.58	216	eP	Pn	12 02 29.4	-0.9
	12nm,0.5s						
WB2	Warramunga Arr	18.20	197	eP	Pn	12 03 43.0	-0.7
WRA	Warramunga Arr	18.20	197	P	Pn	12 03 42.4	-1.3
	0.5nm,0.3s,baz=17,slow=13,SNR=29						
FITZ	Fitzroy Crossi	20.91	221	P	P	12 04 15.0	+1.7
	1.4nm,0.5s,baz=63,slow=9.0,SNR=6.9						
AS31	Alice Springs	21.86	195	eP	P	12 04 24.3	+0.8
ASAR	Alice Springs	21.86	195	P	P	12 04 23.6	+0.2
	2.3nm,0.6s,mb3.8,baz=28,slow=9.8,SNR=29						
ASPA	Alice Springs	21.86	195	eP	P	12 04 24.3	+0.8
MKAR	Makanchi Array	70.33	322	P	P	12 10 43.5	-0.4
	0.9nm,0.5s,mb4.0,baz=111,slow=7.9,SNR=8.6						
BVAR	Borovoye Array	79.79	325	P	P	12 11 38.5	0.0
	0.4nm,0.4s,mb3.7,baz=101,slow=4.6,SNR=3.3						

*ISCJB **10** 12:04:56.8±3.2, 6.1S±0.1×1474E±02, h54km±27km, mb3.8/6, Error ellipse: s-maj=33.9km s-min=22.5km az=11.5*
*IDC **10** 12:04:58.6±3.0, 6.14S×14746E, h52km±27km, mb3.7/6, mb1 3.8/8, mb1mx3.7/15, mbtmp3.9/8, ML3.5/2, Error ellipse: s-maj=37.6km s-min=16.4km az=105.0*
*NEIC **10** 12:04:58.0±2.5, 607S×14749E, h52km±21km, mb4.0/3, Error ellipse: s-maj=24.9km s-min=17.6km az=105.0*
ISC 10 12:04:57.7±2.3, **61S**±01×**1475E**±02, **h47km**±21km, **n17, σ0^{s}78**/20, **mb3.8**/6, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.34	185	P	Pn	12 05 48.0	+0.7
	11nm,0.3s,baz=12,slow=3.4,SNR=51						
PMG				S	Sn	12 06 25.2	-0.5
	15nm,0.3s,baz=337,slow=12,SNR=3.6						
PMG	Port Moresby	3.34	185	ePn	Pn	12 05 47.9	+0.5
PMG				e		12 05 52.3	
PMG				S	Sn	12 06 25.2	-0.5
PMG				S	Sn	12 06 26.4	+0.7
WRAB	Tennant Creek	18.77	222	eP	Pn	12 09 12.5	-1.2
	3.7nm,0.5s						
WB2	Warramunga Arr	18.77	221	eP	Pn	12 09 13.2	-0.6
WRA	Warramunga Arr	18.78	222	P	Pn	12 09 13.0	-0.8
	0.4nm,0.3s,baz=51,slow=11,SNR=15						
AS31	Alice Springs	21.82	215	eP	P	12 09 46.6	+0.7
ASAR	Alice Springs	21.82	215	P	P	12 09 46.5	+0.5
	3.0nm,0.5s,mb4.0,baz=54,slow=8.4,SNR=59						
ASAR				S	S	12 13 44.6	+0.1
	1.2nm,0.9s,baz=25,slow=21,SNR=4.8						
ASPA	Alice Springs	21.83	215	eP	P	12 09 46.6	+0.6
FITZ	Fitzroy Crossi	24.42	239	eP	P	12 10 13.3	+1.5
	10.0nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	24.42	239	P	P	12 10 13.2	+1.4
	3.4nm,0.4s,mb4.1,baz=86,slow=10,SNR=20						
STKA	Stephens Creek	26.26	191	eP	P	12 10 27.9	-0.6
	2.3nm,0.6s,mb3.9						
STKA	Stephens Creek	26.26	191	P	P	12 10 27.9	-0.6
	1.8nm,0.3s,mb4.0,baz=8.1,slow=7.0,SNR=15						
SONM	Songino Array	64.67	331	P	P	12 15 31.3	+0.6
	0.2nm,0.4s,mb3.5,baz=101,slow=7.5,SNR=3.8						
VNDA	Vanda	71.83	177	P	P	12 16 15.6	+0.1
	0.3nm,0.5s,mb3.5,baz=328,slow=5.0,SNR=5.6						
VNDA	Vanda	71.83	177	eP	P	12 16 15.3	-0.1
BVAR	Borovoye Array	87.08	324	P	P	12 17 37.2	-1.1
	0.3nm,0.4s,mb3.9,baz=111,slow=6.5,SNR=4.0						
TORD	Torodi Ar. Bea	145.54	284	PKPbc	PKPbc	12 24 32.5	+1.6
	2.4nm,0.6s,baz=72,slow=4.0,SNR=27						

IDC 10 12:09:32.9±17.0, **2200S**×**17938W, h581km**±181km, **mb3.0**/6, **mb1 3.1**/6, **mb1mx3.0**/14, **mbtmp4.0**/6, **Error ellipse: s-maj=151.9km s-min=61.5km az=107.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.09	267	P	P	12 15 14.2	+0.9
	2.7nm,0.7s,baz=97,slow=7.9,SNR=7.1						
STKA	Stephens Creek	35.99	246	P	P	12 15 45.7	-0.2
	2.4nm,0.6s,baz=97,slow=8.1,SNR=9.5						
ASAR	Alice Springs	42.94	258	P	P	12 16 41.6	+0.1
	1.5nm,0.6s,baz=100,slow=7.4,SNR=17						
WRA	Warramunga Arr	43.14	264	P	P	12 16 42.9	-0.2
	0.7nm,0.2s,baz=96,slow=8.2,SNR=68						
FITZ	Fitzroy Crossi	51.57	264	P	P	12 17 46.7	+0.6
	1.7nm,0.7s,baz=81,slow=6.0,SNR=13						
MJAR	Matsushiro Arr	70.67	325	P	P	12 19 50.8	-0.1
	0.5nm,0.4s,baz=143,slow=7.9,SNR=4.4						

*NEIC **10** 12:42:16.4±0.3, 741S×13020E, h10km, mb4.6/14, Error ellipse: s-maj=9.8km s-min=6.4km az=72.0*
*BJI **10** 12:42:17.9, 756S×13055E, h46km, mB5.1, mb4.7, Ms4.6, Msz4.4*
*MOS **10** 12:42:17.9±0.9, 738S×130.19E, h33km, mb4.8/14, Error ellipse: s-maj=14.5km s-min=8.4km az=116.8*
*ISCJB **10** 12:42:18.1±0.3, 773S±004×13043E±008, h57km, mb4.6/45, MS3.9/12, Error ellipse: s-maj=12.0km s-min=4.4km az=150.2*
*IDC **10** 12:42:19.6±2.4, 733S×13025E, h29km±15km, mb4.4/11, mb1 4.5/12, mb1mx4.4/16, mbtmp4.6/12, ML3.6/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/22, Error ellipse: s-maj=19.4km s-min=10.9km az=59.0*
ISC 10 12:42:20.9±0.3, **767S**±004×**13039E**±007, **h59km**, **h59km**±3.8km**:pP-P, n120, σ1^{s}26**/106, **mb4.6**/45, **MS3.9**/12, **4C-4D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	4.52	331	P	Pn	12 43 27.1	+0.4
	250nm,1.2s						
KAKA	Kakadu	5.40	158⇓	iP	Pn	12 43 40.3	+1.5
	241nm,0.5s						
KAKA				eS	Sn	12 44 41.8	+2.1
SWI	Sorong	6.81	7	P	Pn	12 43 56.8	-1.4
	87nm,0.8s						
FITZ	Fitzroy Crossi	11.36	204	eP	Pn	12 44 59.0	-1.3
	66nm,0.4s						
FITZ				eS	Sn	12 46 58.5	-7.1
FITZ	Fitzroy Crossi	11.36	204	Pn	Pn	12 44 59.2	-1.1
	12nm,0.3s,baz=23,slow=12,SNR=118						
FITZ				Sn	Sn	12 46 59.8	-5.8
	39nm,0.3s,baz=183,slow=20,SNR=9.0						
FITZ				LR	LR	12 50 15.3	
	comp=Z,513nm,18.6s,baz=29,slow=41						
WRAB	Tennant Creek	12.78	163⇑	eP	Pn	12 45 17.8	-1.9
WRAB				pmax	pmax		
	comp=Z,93nm,0.9s						
WRAB	Tennant Creek	12.78	163⇑	eP	Pn	12 45 17.8	-1.9
	comp=Z,93nm,0.9s						
WRAB				eS	Sn	12 47 34.7	-5.6
WRA	Warramunga Arr	12.79	163	Pn	Pn	12 45 17.9	-2.0
	comp=Z,4.9nm,0.3s,baz=351,slow=12,SNR=149						
WRA				Sn	Sn	12 47 34.1	-6.3
	comp=Z,14nm,0.3s,baz=337,slow=22,SNR=11						
WB2	Warramunga Arr	12.79	163⇑	iP	Pn	12 45 18.0	-1.9
WB2				eS	Sn	12 47 33.0	-7.6
AS31	Alice Springs	16.26	168	eP	Pn	12 46 03.3	-2.1
AS31				eS	S	12 48 57.7	-17
ASAR	Alice Springs	16.26	168	Pn	Pn	12 46 04.8	-0.6
	comp=Z,2.0nm,0.3s,baz=339,slow=8.9,SNR=152						
ASAR				Sn	Sn	12 48 58.5	-6.4
	comp=Z,2.3nm,0.3s,baz=350,slow=27,SNR=4.6						
ASAR				LR	LR	12 53 08.5	
	comp=Z,886nm,18.8s,baz=354,slow=39						
ASAR				ScP	ScP	12 54 30.8	+5.0
	comp=Z,0.4nm,0.3s,baz=0.8,slow=3.1,SNR=6.2						
ASPA	Alice Springs	16.26	168	eP	Pn	12 46 03.3	-2.1
ASPA				eS	S	12 48 57.7	-17
PMG	Port Moresby	16.67	97	Pn	Pn	12 46 13.6	+3.1
	comp=Z,0.8nm,0.3s,baz=231,slow=6.5,SNR=3.9						
PMG				Sn	Sn	12 49 07.0	-7.7
	comp=Z,0.4nm,0.3s,baz=196,slow=19,SNR=2.6						
PMG	Port Moresby	16.67	97	eP	Pn	12 46 14.1	+3.6
PMG				pmax	pmax		
	comp=Z,29nm,0.9s						
PMG	Port Moresby	16.67	97	eP	Pn	12 46 14.1	+3.6
	comp=Z,29nm,0.9s						
KKM	Kota Kinabalu	19.64	314	eP	Pn	12 46 45.9	-0.6
CTA	Charters Tower	19.71	130	eP	Pn	12 46 50.4	+3.1
	comp=Z,9.8nm,0.6s						
CTA	Charters Tower	19.71	130	P	Pn	12 46 50.2	+2.9
	comp=Z,12nm,0.7s,baz=304,slow=12,SNR=10						
CTA				S	S	12 50 35.7	+11
	comp=Z,4.2nm,0.7s,baz=206,slow=15,SNR=3.1						
CTA				LR	LR	12 55 30.4	
	comp=Z,431nm,18.6s,baz=107,slow=40						
CTA	Charters Tower	19.71	130	eP	Pn	12 46 50.4	+3.1
CTA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	Charters Tower	19.71	130	eP	Pn	12 46 50.0	+2.7
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	Charters Tower	19.71	130	eP	Pn	12 46 50.0	+2.6
	comp=Z,24nm,0.9s						
KSM	Kuching	22.00	294	eP	P	12 47 11.0	+1.0
FORT	Forrest	23.10	185	eP	P	12 47 24.4	+2.8
	comp=Z,66nm,0.7s,mb5.2						
FORT				eS	S	12 51 35.1	+6.9
GUMO	Guam	25.54	34	P	P	12 47 43.4	-0.6
	comp=Z,20nm,0.6s,mb4.8,baz=205,slow=19,SNR=3.5						
GUMO	Guam	25.54	34	P	P	12 47 43.4	-0.7
STKA	Stephens Creek	26.25	158	eP	P	12 47 54.1	+3.7
	comp=Z,17nm,0.8s,mb4.6						
STKA	Stephens Creek	26.25	158	P	P	12 47 53.6	+3.2
	comp=Z,15nm,0.9s,mb4.5,baz=333,slow=7.7,SNR=22						
STKA				LR	LR	12 59 30.2	
	comp=Z,592nm,21.4s,MS4.1,baz=278,slow=39						
KLBR	Kellerberrin	26.56	205	eP	P	12 47 56.5	+3.3
	comp=Z,13nm,0.4s,mb4.8						
MUN	Mundaring	27.56	207	eP	P	12 48 03.5	+1.3
NWAO	Narrogin (SRO)	27.94	204	P	P	12 48 09.0	+3.4
	comp=Z,9.1nm,0.8s,mb4.5,baz=36,slow=11,SNR=10.0						
NWAO				LR	LR	13 00 33.5	
	comp=Z,286nm,21.7s,MS3.8,baz=28,slow=39						
NWAO	Narrogin (SRO)	27.94	204	P	P	12 48 09.0	+3.4
NWAO				LR	LR	13 00 33.5	
HNR	Honiara	29.27	96	LR	LR	13 00 09.9	
	comp=Z,178nm,18.7s,MS3.7,baz=358,slow=36						
TOO	Toolangi	32.77	158	eP	P	12 48 53.9	+5.7
	comp=Z,7.4nm,0.7s,mb4.7						
TOO	Toolangi	32.77	158	eP	P	12 48 53.9	+5.7
TOO				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
PSI	Prapat	33.08	287	P	P	12 48 50.1	-0.7
	comp=Z,2.2nm,0.6s,mb4.3,baz=185,slow=7.5,SNR=7.9						
CHTO	Chiang Mai	40.67	311	eP	P	12 49 54.2	-1.2
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
CHTO	Chiang Mai	40.67	311	eP	P	12 49 54.2	-1.1
	comp=Z,6.5nm,0.9s,mb4.3						
NJ2	Nanjing	41.00	345	eP	P	12 49 58.5	+0.4
NJ2				AP	pP	12 50 13.7	+0.6
NJ2				XP	sP	12 50 20.7	+0.8
NJ2				PP	PP	12 51 37.7	+4.2
NJ2				S	S	12 56 07.0	+0.9
NJ2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,550nm,5.2s						
NJ2				LR	LR		
	comp=N,440nm,21.9s						
NJ2				LR	LR		
	comp=E,360nm,16.4s						
NJ2				LR	LR		
	comp=Z,410nm,16.4s						
KMI	Kunming	42.28	321	P	P	12 50 09.6	+1.1
KMI				AP	pP	12 50 26.7	+3.1
KMI				PP	PP	12 51 52.0	+4.7
KMI				S	S	12 56 26.6	+1.7
KMI				XS	sS	12 56 49.3	-1.1
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,110nm,4.1s						
MJAR	Matsushiro Arr	44.58	9	P	P	12 50 25.8	-1.3
	comp=Z,16nm,1.1s,mb4.8,baz=188,slow=9.0,SNR=24						
MJAR				ScP	ScP	12 55 59.0	+2.8
	comp=Z,0.5nm,0.6s,baz=162,slow=3.6,SNR=4.7						
MJAR				LR	LR	13 06 06.5	
	comp=Z,119nm,21.6s,MS3.8,baz=195,slow=32						
MAJO	Matsushiro	44.58	9	eP	P	12 50 25.8	-1.3
MAJO				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
MAJO	Matsushiro	44.58	9	eP	P	12 50 25.8	-1.2
	comp=Z,16nm,1.0s,mb4.8						
MAT	Matsushiro	44.58	9	P	P	12 50 25.8	-1.3
XAN	Xi'an	46.20	335	P	P	12 50 38.6	-1.3
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
BJI	Beijing	49.25	346	P	P	12 51 02.7	-0.8
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.9						
LZH	Lanzhou	50.17	332	eP	P	12 51 09.2	-1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.9						
HHC	Hu-ho-hao-te	51.29	342	eP	P	12 51 21.3	+2.4
HHC				AP	pP	12 51 36.9	+2.5
HHC				PCP	PcP	12 52 36.1	+2.9
HHC				PP	PP	12 53 19.7	+3.4
HHC				SCP	ScP	12 56 25.7	+1.1
HHC				PCS	PcS	12 56 32.3	+1.3
HHC				S	S	12 58 33.5	0.0
HHC				XS	sS	12 59 00.6	+1.0
HHC				SCS	ScS	13 01 02.8	-1.2
HHC				SS	SS	13 02 07.5	-2.1
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,107nm,5.9s						
HHC				LR	LR		
	comp=N,130nm,6.1s						
HHC				LR	LR		
	comp=E,134nm,5.9s						
HHC				LR	LR		
	comp=Z,83nm,8.2s						
MDJ	Mudanjiang	52.04	359	P	P	12 51 26.3	+1.8
MDJ				AP	pP	12 51 39.7	-0.3
MDJ				XP	sP	12 51 45.9	-0.8
MDJ				PCP	PcP	12 52 38.8	+2.8
MDJ				PP	PP	12 53 26.7	+3.6
MDJ				SCP	ScP	12 56 30.9	+3.1
MDJ				S	S	12 58 45.9	+2.1
MDJ				SCS	ScS	13 01 12.0	+2.8
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,44nm,6.5s						
MDJ				LR	LR		
	comp=N,62nm,25.6s						
MDJ				LR	LR		
	comp=E,19nm,17.4s						
MDJ				LR	LR		
	comp=Z,84nm,23.4s,MS3.7						
GTA	Gaotai	54.74	331	eP	P	12 51 44.1	-0.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
GUN	Gumba	55.68	311	eP	P	12 51 51.2	+0.1
	comp=Z,17nm,0.5s,mb5.4						
PKI	Pulchoki	55.85	311	eP	P	12 51 52.7	+0.4
KKN	Kakani	56.07	311	eP	P	12 51 53.3	-0.5
	comp=Z,7.8nm,0.5s,mb5.0						
DMN	Daman	56.10	311	eP	P	12 51 54.0	-0.1
	comp=Z,3.1nm,0.3s,mb4.8						
GKN	Gorkha	56.66	311	eP	P	12 51 57.6	-0.4
	comp=Z,16nm,0.5s,mb5.3						
KOLN	Koldanda	57.33	310	eP	P	12 52 02.7	0.0
	comp=Z,12nm,0.7s,mb5.1						
ULN	Ulaanbaatar	59.02	342⇓	eP	P	12 52 15.6	+1.1
SONM	Songino Array	59.19	341	P	P	12 52 16.0	+0.2
	comp=Z,1.8nm,0.8s,mb4.2,baz=164,slow=6.7,SNR=11						
SONM				ScP	ScP	12 57 03.2	+4.0
	comp=Z,0.8nm,1.0s,baz=147,slow=3.5,SNR=5.0						
SONM				LR	LR	13 19 20.4	
	comp=Z,31nm,21.5s,MS3.4,baz=72,slow=38						
ZAK	Zakamensk	62.42	341	eP	P	12 52 38.2	+0.5
ZAK				e		12 53 17.8	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.9						
WMQ	Urumqi	64.16	327	eP	P	12 52 50.0	+0.8
WMQ				AP	pP	12 53 06.0	+0.8
WMQ				XP	sP	12 53 13.0	+1.2
WMQ				PP	PP	12 55 13.0	+2.2
WMQ				eS	S	13 01 19.0	-2.9
WMQ				XS	sS	13 01 45.0	-3.8
WMQ				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,98nm,4.2s						
WMQ				LR	LR		
	comp=N,196nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=E,148nm,23.0s,MS4.3						

```
WMQ                                        LR      LR
     comp=Z,138nm,26.0s,MS4.0
MOY   Mondy               64.27 340  eP      P       12 52 51.3 +1.4
MK31  Makanchi Array      68.99 327   P      P       12 53 19.4 -0.6
MK31                                  pmax   pmax
     comp=Z,12nm,0.7s,mb4.9
MKAR  Makanchi Array      68.99 327   P      P       12 53 20.6 +0.5
     comp=Z,10nm,0.5s,mb5.0,baz=117,slow=7.3,SNR=48
YAK   Yakutsk             69.49 360  eP      P       12 53 23.2 +0.1
YAK                                   pmax   pmax
     comp=Z,51nm,0.8s,mb5.5
YAK   Yakutsk             69.49 360  eP      P       12 53 23.2 +0.1
     comp=Z,51nm,0.8s,mb5.5
TKM2  Tokmak 2            70.74 321  iP      P       12 53 30.5 -0.2
TKM2                                  pmax   pmax
     comp=Z,16nm,1.8s,mb4.7
AAK   Ala-Archa           71.30 320⇑iP      P       12 53 33.9 -0.2
AAK                                   pmax   pmax
     comp=Z,13nm,1.3s,mb4.7
AAK                                   MLR    MLR
     comp=Z,100nm,17.0s,MS4.2
AAK   Ala-Archa           71.30 320  eP      P       12 53 34.7 +0.6
     comp=Z,9.1nm,0.9s,mb4.7
VNDA  Vanda               71.74 173   P      P       12 53 40.4 +3.6
     comp=Z,0.8nm,0.4s,mb4.0,baz=353,slow=5.2,SNR=13
VNDA                                  LR     LR      13 23 57.2
     comp=Z,49nm,21.8s,MS3.7,baz=323,slow=35
ZAL   Zalesovo            72.35 334   P      P       12 53 40.4  0.0
     comp=Z,2.5nm,0.5s,mb4.4,baz=317,slow=5.0,SNR=7.9
ZAL                                   LR     LR      13 29 27.1
     comp=Z,75nm,18.0s,MS4.0,baz=152,slow=39
SEY   Seymchan            72.39  10d iP      P       12 53 41.7 +1.1
NVS   Novosibirsk         73.64 334  eP      P       12 53 46.5 -1.5
KK31  Karatay Array       74.10 319  iP      P       12 53 50.2 -0.5
KK31                                  pmax   pmax
     comp=Z,1.0nm,0.5s,mb4.0
KKAR  Karatay Array       74.10 319   P      P       12 53 50.2 -0.5
KKAR                                  pmax   pmax
     comp=Z,1.0nm,0.5s,mb4.0
MAW   Mawson              74.48 202   P      P       12 53 57.0 +4.1
     comp=Z,3.7nm,0.7s,mb4.4,baz=97,slow=7.3,SNR=6.7
MAW                                   LR     LR      13 24 38.1
     comp=Z,121nm,19.5s,MS4.2,baz=239,slow=34
MAW   Mawson              74.48 202  eP      P       12 53 57.2 +4.3
MAW                                   pmax   pmax
     comp=Z,7.0nm,0.9s
MAW   Mawson              74.48 202  eP      P       12 53 57.2 +4.3
     comp=Z,6.8nm,0.9s,mb4.6
VOSK  Vostochnaya         78.37 328   P      P       12 54 14.2 -0.8
VOSK                                  pmax   pmax
     comp=Z,1.0nm,0.4s,mb4.1
BVA0  Borovoye Array      78.83 328   P      P       12 54 19.9 +2.4
BVA0                                  pmax   pmax
     comp=Z,2.0nm,1.2s,mb3.9
CHKZ  Chkalovo            79.03 328  eP      P       12 54 18.1 -0.5
CHKZ                                  pmax   pmax
     comp=Z,3.0nm,0.7s,mb4.3
CHKZ  Chkalovo            79.03 328  eP      P       12 54 18.1 -0.5
     comp=Z,2.6nm,0.7s,mb4.3
ZRNK  Zerenda             79.53 327  eP      P       12 54 21.2 -0.1
ZRNK                                  pmax   pmax
     comp=Z,7.0nm,1.0s,mb4.5
ZRNK  Zerenda             79.53 327  eP      P       12 54 21.2 -0.1
     comp=Z,7.3nm,1.0s,mb4.6
QSPA  South Pole Qui      82.31 180  eP      P       12 54 39.8 +3.7
     comp=Z,5.3nm,1.1s,mb4.4
SYO   Syowa Base          83.19 201⇓eP      P       12 54 43.8 +3.1
AB31  Akbulak array       83.27 322  iP      P       12 54 40.7 -0.4
AB31                                  pmax   pmax
     comp=Z,2.0nm,0.7s,mb4.3
AKTO  Aktyubinsk          84.84 322  iP      P       12 54 48.2 -0.8
AKTO                                  pmax   pmax
     comp=Z,2.0nm,2.0s,mb3.9
SVE   Sverdlovsk          85.54 329  eP      P       12 54 53.3 +0.8
SVE                                   pmax   pmax
     comp=Z,40nm,2.0s,mb5.3
ARU   Arti                86.47 328  iP      P       12 54 56.5 -0.7
ARU                                   pmax   pmax
     comp=Z,7.0nm,1.0s,mb4.8
KMBO  Kilima Mbogo        92.97 268  iP      P       12 55 21.5 -6.2
KMBO                                  pmax   pmax
     comp=Z,1.0nm,0.2s
SNAA  Sanae               95.11 193  eP      P       12 55 39.8 +2.3
SNAA                                 e       pP      12 55 51.6 -2.7
SNAA                                 e       pP      12 55 55.1 +0.8
BOSA  Boshof              99.47 239   LR     LR      13 31 24.5
     comp=Z,50nm,20.5s,MS4.0,baz=172,slow=30
ARCES ARCESS Array B     102.33 340   P      Pdif    12 56 10.9 +1.0
     comp=Z,3.8nm,1.1s,baz=69,slow=6.6,SNR=4.2
ARCES                                 PKiKP  PKiKP   13 00 33.0 +1.5
     comp=Z,1.2nm,0.9s,baz=33,slow=1.5,SNR=5.9
FINES FINESS Array B     103.53 331   PKiKP  PKiKP   13 00 35.2 +1.6
     comp=Z,1.3nm,0.8s,baz=96,slow=3.8,SNR=7.3
GERES GERESS Array B     113.18 320   PKiKP  PKiKP   13 00 53.7 +2.0
     comp=Z,0.7nm,0.4s,baz=84,slow=1.9,SNR=8.3
CDF   Champ du Feu       117.36 321  ePKP1   PKPdf   13 01 01.8 +2.1
HINF  Hinteralfeld       117.84 321  ePKP1   PKPdf   13 01 02.1 +1.5
     comp=Z,3.4nm,0.5s
BAIF  Baives             118.59 324  ePKP1   PKPdf   13 01 03.7 +1.7
LPG   La Plagne          118.71 318  ePKP1   PKPdf   13 01 04.7 +2.4
     comp=Z,2.3nm,0.4s
LPL   La Plagne          118.72 318  ePKP1   PKPdf   13 01 04.6 +2.3
     comp=Z,3.3nm,0.4s
CABF  La Chapelle        118.76 319  ePKP1   PKPdf   13 01 04.7 +2.3
     comp=Z,6.0nm,0.5s
ORIF  Oris-en-Rattie     119.49 318  ePKP1   PKPdf   13 01 05.9 +2.1
     comp=Z,1.8nm,0.4s
LOR   Lormes             119.93 321  ePKP1   PKPdf   13 01 06.5 +1.9
SMF   Signal de Mont     120.18 320  ePKP1   PKPdf   13 01 06.8 +1.7
AVF   Avril sur Loir     120.43 320  ePKP1   PKPdf   13 01 07.2 +1.6
     comp=Z,1.5nm,0.4s
BGF   Bois d'Agland      120.85 320  ePKP1   PKPdf   13 01 08.6 +2.2
     comp=Z,5.3nm,0.6s
LASF  Ste Croix          121.14 317  ePKP1   PKPdf   13 01 09.1 +2.2
MTLF  Montolieu          122.52 317  ePKP1   PKPdf   13 01 11.7 +2.1
     comp=Z,1.8nm,0.5s
MFF   Saint Martin d     122.70 321  ePKP1   PKPdf   13 01 12.0 +2.1
     comp=Z,4.4nm,0.4s
ROSF  Rostrenen          123.74 325  ePKP1   PKPdf   13 01 13.8 +1.9
QUIF  Quistinic          123.89 324  ePKP1   PKPdf   13 01 14.1 +1.9
EPF   Esparros           123.91 317  ePKP1   PKPdf   13 01 14.4 +2.2
     comp=Z,1.5nm,0.3s
ETSF  Etsaut             124.56 318  ePKP1   PKPdf   13 01 16.1 +2.6
ESDC  Sonseca Array      128.25 315   PKP    PKPdf   13 01 22.8 +2.2
     comp=Z,0.1nm,0.3s,baz=55,slow=1.9,SNR=4.4
TORD  Torodi Ar. Bea     129.32 281   PKP    PKPdf   13 01 26.1 +3.6
     comp=Z,1.1nm,0.7s,baz=52,slow=2.0,SNR=12
TORD                                  SKPbc          13 04 44.2
     comp=Z,2.6nm,0.9s,baz=72,slow=4.0,SNR=11
TORD  Torodi Ar. Bea     129.32 281   PKP    PKPdf   13 01 26.1 +3.6
TORD                                  SKPbc          13 04 44.2
DBIC  Dimbokro           135.60 272   SKPbc  SKPbc   13 05 05.3 +4.6
     comp=Z,3.2nm,0.8s,baz=162,slow=3.2,SNR=4.9
CPUP  Villa Florida      145.38 168   PKPbc  PKPbc   13 01 57.0 +4.9
     comp=Z,19nm,1.1s,baz=163,slow=3.0,SNR=14
CPUP                                  SKPbc  SKPbc   13 05 32.9 +6.3
     comp=Z,0.9nm,0.6s,baz=89,slow=1.7,SNR=3.8
CPUP  Villa Florida      145.38 168  eP      PKPdf   13 01 56.6 +4.5
LPAZ  La Paz             149.96 142   PKPbc  PKPbc   13 02 10.7 +6.2
     comp=Z,10nm,1.0s,baz=156,slow=0.2,SNR=24
LPAZ  La Paz             149.96 142  ePKPbc  PKPbc   13 02 10.7 +6.1
```

MAN 10 12:46:32.5, 1105N×12466E, h27km, mb1.9, ML3.7, Leyte

```
Code  Station Name          Δ°  AZ°   Phase ID         Time       Res
                                      Op     ISC     h  m  s     ISC
OCLP  Ormoc                0.05 276  eP      Pb      12 46 37.6 +0.5
OCLP                                 eS      Sb      12 46 41.2 +0.9
PLP   Palo                 0.34  69  eP      Pb      12 46 40.7 +0.6
PLP                                  iS      Sb      12 46 44.4 -1.0
MSLP  Maasin               0.93 168  eP      Pn      12 46 49.9 +0.2
BESP  Borongan             0.94  54  eP      Pn      12 46 51.1 +1.1
```

*BJI **10** 13:05:23.6, 2755N×5343E, h18km, mB5.0, mb4.6, Ms4.3, Msz4.1*
*ISCJB **10** 13:05:28.8±0.2, 2774N±002×5413E±003, h10km, mb4.2/38, MS3.8/1, Error ellipse: s-maj=4.5km s-min=3.2km az=120.7*
*CSEM **10** 13:05:28.0±0.1, 2756N×5413E, h20km, mb4.1/15, Error ellipse: s-maj=2.8km s-min=2.0km az=177.0*
*TEH **10** 13:05:29.7, 2751N×5409E, h10km, Mn4.0*
*NEIC **10** 13:05:31.7, 2767N×5435E, h18km, mb4.1/15, ML3.8(THR), MN4.0(TEH), After THR.*
*THR **10** 13:05:31.8±0.4, 2769N×5438E, h18km±15km, ML3.8*
*MOS **10** 13:05:31.6±1.1, 2773N×5410E, h33km, mb4.4/13, Error ellipse: s-maj=12.1km s-min=6.9km az=113.1*
*IDC **10** 13:05:38.4±5.1, 2784N×5425E, h75km±48km, mb3.8/21, mb1 3.9/23, mb1mx3.9/29, mbtmp4.2/23, ML2.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/38, Error ellipse: s-maj=15.9km s-min=13.5km az=158.0*

ISC 10 13:05:30.9±0.2, 2774N±002×5415E±003, h10km, n135, σ1.26/149, mb4.2/38, MS3.8/1, 2C-1D, Southern Iran

```
Code  Station Name          Δ°  AZ°   Phase ID         Time       Res
                                      Op     ISC     h  m  s     ISC
GHIR  Ghir-Karzin          1.16 298  ePG     Pg      13 05 57.0 +3.8
GHIR                                 eSG     Sg      13 06 15.7 +7.3
GHIR                                  AML    AML     13 06 23.1
     comp=E,3μm,0.5s
GHIR                                  AML    AML     13 06 25.3
     comp=N,2μm,0.5s
GHIR  Ghir-Karzin          1.16 298  ePg     Pg      13 05 57.0 +3.8
GHIR                                 eSg     Sg      13 06 14.0 +5.6
IMOK  Mook                 1.82 316  ePn     Pn      13 06 02.3 +0.2
IMOK                                 eLg             13 06 30.3
IMOK  Mook                 1.82 316   Pn     Pn      13 06 02.2 +0.1
IMOK                                  Lg             13 06 30.2
BNDS  Bandar-Abbas         1.83 100  ePG     Pn      13 06 01.7 -0.6
BNDS                                  AML    AML     13 06 34.6
     comp=N,746nm,0.6s
BNDS                                  AML    AML     13 06 38.0
     comp=E,905nm,0.5s
BNDS  Bandar-Abbas         1.83 100  ePg     Pn      13 06 01.0 -1.3
BNDS                                 eSg     Sn      13 06 23.0 -2.4
ISRV  Sarvestan            1.88 331  ePn     Pn      13 06 05.9 +3.0
ISRV                                 eLg             13 06 34.1
BANOM Banah                2.64 133   P      Pn      13 06 13.5 +0.1
     SNR=45
KRBR  Kerman               3.20  45  ePn     Pn      13 06 22.3 +1.1
KRBR                                  AML    AML     13 07 12.6
     comp=E,256nm,0.4s
KRBR                                  AML    AML     13 07 16.3
     comp=N,245nm,0.4s
KRBR  Kerman               3.20  45  ePn     Pn      13 06 22.0 +0.8
KRBR                                 eSg     Sb      13 07 09.0 +2.2
KRBR  Kerman               3.20  45  ePn     Pn      13 06 22.3 +1.1
     SNR=52
KRBR                                 eSg     Sb      13 07 09.0 +2.2
HATD  Hatta, Dubai         3.40 148   P      Pn      13 06 25.8 +1.9
     SNR=5.2
ASHO  Ashiyiah             3.49 150   P      Pn      13 06 26.9 +1.7
     SNR=46
IMEH  Mehriz               3.66   6  ePn     Pn      13 06 29.5 +2.0
IBAF  Bafgh                4.03  17  ePn     Pn      13 06 33.3 +0.7
IBAF                                 eSn     Sn      13 07 21.5 +1.6
IBAF  Bafgh                4.03  17   Pn     Pn      13 06 33.2 +0.6
IBAF                                  Sn     Sn      13 07 21.5 +1.6
ISAD  Sadrabad             4.18 355  ePn     Pn      13 06 37.0 +2.4
ISAD                                 eSn     Sn      13 07 25.1 +1.6
ICHK  Chekchek             4.50   3  ePn     Pn      13 06 40.4 +1.4
ICHK  Chekchek             4.50   3   Pn     Pn      13 06 40.3 +1.3
IGAR  Garneh               4.80 340  ePn     Pn      13 06 47.7 +4.6
ARQ   Araqi                4.88 153   P      Pn      13 06 45.6 +1.4
     SNR=15
IZEF  Zefreh               5.38 343  ePn     Pn      13 06 51.4 +0.3
QRN   Al-Qurain            5.59 282  eP      Pn      13 06 53.9  0.0
QRN                                   AML    AML     13 08 02.2
     comp=Z,112nm,0.4s
IPIR  Pirpir               5.68 331  ePn     Pn      13 06 55.9 +0.7
IPIR                                 eSn     Sn      13 07 59.8 -0.6
IPIR  Pirpir               5.68 331   Pn     Pn      13 06 55.9 +0.7
IPIR                                  Sn     Sn      13 07 59.7 -0.7
BSY   Bisya                5.69 150   P      Pn      13 06 56.7 +1.3
     SNR=8.3
BSYO  Bisya                5.72 150   P      Pn      13 06 56.7 +1.0
     SNR=8.3
SMDO  Samad                5.84 142  ⇓P      Pn      13 06 58.7 +1.3
     SNR=21
UMR   Umm Al-Rimmam        5.94 289  eP      Pn      13 06 58.7  0.0
UMR                                   AML    AML     13 08 12.9
     comp=Z,42nm,0.4s
IKLH  Kalahroud            5.99 339  ePn     Pn      13 07 00.5 +1.0
IKLH                                 eSn     Sn      13 08 07.1 -1.0
IKLH  Kalahroud            5.99 339   Pn     Pn      13 07 00.5 +1.0
IKLH                                  Sn     Sn      13 08 07.0 -1.1
ZHSF  Zahedan              6.12  71  ePn     Pn      13 07 01.2  0.0
ZHSF  Zahedan              6.12  71  ePn     Pn      13 07 01.0 -0.2
NAY   Al-Naaiem            6.26 286  eP      Pn      13 07 03.8 +0.6
NAY                                   AML    AML     13 08 18.4
     comp=Z,19nm,0.6s
RST   Umm Al-Ruwaisa       6.53 287  eP      Pn      13 07 08.0 +1.2
RST                                   AML    AML     13 08 31.5
     comp=Z,37nm,0.6s
WBK   Wadi Bani Khal       6.72 138  ⇑P      Pn      13 07 09.3 -0.2
     SNR=6.7
ISFB  Sefidab              6.80 347  ePn     Pn      13 07 10.9 +0.3
IVRN  Varamin              7.53 345  ePn     Pn      13 07 21.0 +0.4
IANJ  Anjiloo              7.71 359  ePn     Pn      13 07 23.6 +0.5
IDMV  Damavand             8.02 348  ePn     Pn      13 07 28.2 +0.8
ISHM  Shahmirzad           8.08 355  ePn     Pn      13 07 28.9 +0.7
IRAZ  Razeghan             8.45 336  ePn     Pn      13 07 36.7 +3.5
IRAZ  Razeghan             8.45 336   Pn     Pn      13 07 36.6 +3.4
WHFO  Wadi Hawf            9.78 182   P      Pn      13 07 52.0 +0.5
     SNR=8.3
IMYA  Miamay               9.95  29  ePn     Pn      13 07 53.6 -0.3
RBK   Rabkut              10.18 180   P      Pn      13 07 57.9 +0.8
     SNR=8.6
ABTO  Aybut               10.36 185  ⇑P      Pn      13 07 59.0 -0.5
     SNR=8.6
GNI   Garni               14.62 330   P      Pn      13 09 01.6 +3.9
     comp=Z,1.8nm,0.3s,baz=151,slow=13,SNR=2.2
GNI                                   LR     LR      13 15 24.9
     comp=Z,95nm,19.3s,baz=13,slow=40
ASF   Jabal al Asfar      15.59 291   P      Pn      13 09 15.8 +5.2
     comp=Z,0.3nm,0.3s,baz=180,slow=10,SNR=3.7
ASF                                   S      Sn      13 12 09.5 +6.2
     comp=Z,0.1nm,0.3s,baz=99,slow=19,SNR=3.4
MALT  Malatya             16.86 313  eP      Pn      13 09 29.9 +3.0
MALT                                  pmax   pmax
     comp=Z,13nm,0.8s
MALT  Malatya             16.86 313  eP      Pn      13 09 29.9 +3.0
     comp=Z,13nm,0.8s
ZEI   Tsey                17.16 334  eP      Pn      13 09 32.2 +1.6
KIV   Kislovodsk          18.63 333  eP      Pn      13 09 50.1 +1.3
KIV                                   pmax   pmax
     comp=Z,12nm,1.0s
KIV   Kislovodsk          18.63 333   P      Pn      13 09 47.1 -1.6
     comp=Z,14nm,1.1s
KIV   Kislovodsk          18.63 333  eP      Pn      13 09 50.1 +1.3
     comp=Z,12nm,1.0s
CSS   Prodhromos          19.16 297  eP      Pn      13 09 56.9 +1.6
CSS   Prodhromos          19.16 297  eP      Pn      13 09 56.9 +1.7
ATD   Arta Tunnel         19.30 216   LR     LR      13 17 22.7
     comp=Z,43nm,18.2s,baz=2.6,slow=36
BRTR  Keskin Array B      20.78 310   P      P       13 10 13.6 +1.6
     comp=Z,3.7nm,0.6s,baz=130,slow=13,SNR=19
BR131 Keskin Array S      20.78 310  eP      P       13 10 13.6 +1.6
     comp=Z,3.6nm,0.6s
BR131 Keskin Array S      20.78 310  eP      P       13 10 13.6 +1.7
     comp=Z,3.6nm,0.6s
AKTK  Aktyubinsk          22.86   6   P      P       13 10 34.3 +0.1
AKTK  Aktyubinsk          22.86   6   P      P       13 10 34.3 +0.1
AKTO  Aktyubinsk          22.86   6   P      P       13 10 34.3 +0.1
     comp=Z,2.6nm,0.6s,mb3.9,baz=183,slow=10.0,SNR=9.0
VORD  Divnogorie          25.79 338  eP      P       13 11 02.7 +0.8
VORD                                  pmax   pmax
     comp=N,800nm,0.8s
VORD                                  pmax   pmax
     comp=Z,20nm,0.8s,mb4.7
VORD                                  pmax   pmax
     comp=E,30nm,0.9s
ZRNK  Zerenda             27.50  20  eP      P       13 11 16.8 -0.5
ZRNK                                  pmax   pmax
     comp=Z,2.0nm,0.8s,mb3.8
ZRNK  Zerenda             27.50  20  eP      P       13 11 16.8 -0.5
     comp=Z,2.3nm,0.8s,mb3.9
ZRNK  Zerenda             27.50  20  eP      P       13 11 16.8 -0.5
     comp=Z,2.3nm,0.8s,mb3.9
BVAR  Borovoye Array      27.99  21   P      P       13 11 21.2 -0.5
     comp=Z,2.0nm,0.5s,mb4.0,baz=207,slow=9.3,SNR=13
CHKZ  Chkalovo            28.62  21   P      P       13 11 26.1 -1.2
MKAR  Makanchi Array      29.15  42   P      P       13 11 31.1 -0.9
     comp=Z,0.9nm,0.6s,mb3.7,baz=236,slow=8.6,SNR=4.4
AKASG Malin Array Be      29.72 327   P      P       13 11 35.3 -1.8
     comp=Z,0.7nm,0.5s,mb3.7,baz=134,slow=8.7,SNR=6.4
WMQ   Urumqi              31.33  50  eP      P       13 11 51.0 -0.3
WMQ                                   AP     pP      13 11 55.0 +0.5
WMQ                                   XP     sP      13 11 58.0 +2.2
WMQ                                   PP     PP      13 12 53.0 -9.0
WMQ                                  eS      S       13 16 56.0 -2.3
WMQ                                   AMB    AMB
     comp=Z,9.0nm,0.8s,mb4.7
WMQ                                   AMB    AMB
     comp=Z,117nm,5.2s
WMQ                                   LR     LR
     comp=N,198nm,21.2s,MS3.8
WMQ                                   LR     LR
     comp=E,108nm,24.6s,MS3.8
WMQ                                   LR     LR
     comp=Z,194nm,20.8s,MS3.8
ZAL   Zalesovo            34.49  32   P      P       13 12 18.1 -0.9
     comp=Z,3.2nm,0.5s,mb4.5,baz=234,slow=7.8,SNR=7.5
JOF   Joensuu             38.23 343  ep      P       13 12 48.7 -2.2
     comp=Z,0.9nm,0.5s,mb3.8
FINES FINESS Array B      38.57 339   P      P       13 12 53.0 -0.8
     comp=Z,3.3nm,0.5s,mb4.4,baz=144,slow=10.0,SNR=33
FINES FINESS Array B      38.57 339   P      P       13 12 53.0 -0.8
KAF   Kangasniemi         39.00 340  ep      P       13 12 56.5 -0.8
     comp=Z,0.9nm,0.4s,mb3.9
KAF   Kangasniemi         39.00 340  eP      P       13 12 56.5 -0.8
KAF                                   pmax   pmax
     comp=Z,1.0nm,0.4s,mb3.9
MBDF  Montbardon          41.19 307  eP      P       13 13 13.7 -1.8
     comp=Z,6.5nm,0.8s,mb4.0
MBDF  Montbardon          41.19 307  eP      P       13 13 13.7 -1.8
MBDF                                  pmax   pmax
     comp=Z,3.0nm,0.8s,mb4.0
MBDF  Montbardon          41.19 307  eP      P       13 13 13.7 -1.8
     comp=Z,3.2nm,0.8s,mb4.0
LPG   La Plagne           41.31 308  eP      P       13 13 15.1 -1.4
     comp=Z,6.1nm,0.8s,mb4.0
LPG   La Plagne           41.31 308  eP      P       13 13 15.1 -1.4
LPG                                   pmax   pmax
     comp=Z,3.0nm,0.8s,mb4.0
LPG   La Plagne           41.31 308  eP      P       13 13 15.1 -1.4
     comp=Z,3.0nm,0.8s,mb4.0
LPL   La Plagne           41.33 308  eP      P       13 13 15.7 -0.9
ORIF  Oris-en-Rattie      41.84 307  eP      P       13 13 19.1 -1.7
CABF  La Chapelle         41.95 310  eP      P       13 13 20.1 -1.6
     comp=Z,24nm,1.3s,mb4.4
CABF  La Chapelle         41.95 310  eP      P       13 13 20.1 -1.6
CABF                                  pmax   pmax
     comp=Z,12nm,1.3s,mb4.4
CABF  La Chapelle         41.95 310  eP      P       13 13 20.1 -1.6
     comp=Z,12nm,1.3s,mb4.4
HFS   Hagfors             42.41 331   P      P       13 13 24.6 -0.9
     comp=Z,2.2nm,0.4s,mb4.2,baz=120,slow=8.8,SNR=18
ZAK   Zakamensk           43.37  45  eP      P       13 13 32.2 -1.1
ZAK                                   pmax   pmax
     comp=Z,2.0nm,1.1s,mb3.8
ZAK   Zakamensk           43.37  45  eP      P       13 13 32.2 -1.1
     comp=Z,2.0nm,1.1s,mb3.8
SMF   Signal de Mont      43.48 310  eP      P       13 13 31.5 -2.7
     comp=Z,4.8nm,0.7s,mb4.0
SMF   Signal de Mont      43.48 310  eP      P       13 13 31.5 -2.7
SMF                                   pmax   pmax
     comp=Z,2.0nm,0.7s,mb4.0
SMF   Signal de Mont      43.48 310  eP      P       13 13 31.5 -2.7
     comp=Z,2.4nm,0.7s,mb4.0
NB2   NORSAR Subarra      43.92 331   P      P       13 13 36.0 -1.7
     comp=Z,0.8nm,0.5s,mb3.7,baz=120,slow=8.6
NOA   NORSAR Array B      43.92 331   P      P       13 13 36.4 -1.4
     comp=Z,1.5nm,0.7s,mb3.8,baz=121,slow=8.2,SNR=5.6
MTLF  Montolieu           44.33 305  eP      P       13 13 39.2 -1.8
KEV   Kevo                44.88 347  ep      P       13 13 44.2 -1.2
     comp=Z,0.7nm,0.3s,mb4.0
KEV   Kevo                44.88 347  eP      P       13 13 44.2 -1.2
KEV                                   pmax   pmax
     comp=Z,1.0nm,0.3s,mb4.1
SONM  Songino Array       44.95  49   P      P       13 13 45.5 -0.4
     comp=Z,1.6nm,0.9s,mb3.9,baz=262,slow=9.1,SNR=12
ARCES ARCESS Array B      45.01 346   P      P       13 13 46.2 -0.2
     comp=Z,2.6nm,0.8s,mb4.1,baz=140,slow=9.6,SNR=11
ARCES ARCESS Array B      45.01 346   P      P       13 13 46.2 -0.2
ULN   Ulaanbaatar         45.39  49  eP      P       13 13 48.4 -1.0
ULN                                   pmax   pmax
     comp=Z,2.0nm,0.7s,mb4.1
ULN   Ulaanbaatar         45.39  49  eP      P       13 13 48.4 -1.0
     comp=Z,2.0nm,0.7s,mb4.1
ETSF  Etsaut              46.34 304  eP      P       13 13 55.7 -1.3
     comp=Z,7.8nm,0.8s,mb4.4
ETSF  Etsaut              46.34 304  eP      P       13 13 55.7 -1.3
ETSF                                  pmax   pmax
     comp=Z,4.0nm,0.8s,mb4.4
ETSF  Etsaut              46.34 304  eP      P       13 13 55.7 -1.3
     comp=Z,3.9nm,0.8s,mb4.4
LDF   La Druitiere        46.38 312  eP      P       13 13 54.6 -2.7
     comp=Z,3.1nm,0.5s,mb4.2
LDF   La Druitiere        46.38 312  eP      P       13 13 54.6 -2.7
LDF                                   pmax   pmax
     comp=Z,2.0nm,0.5s,mb4.3
LDF   La Druitiere        46.38 312  eP      P       13 13 54.6 -2.7
     comp=Z,1.5nm,0.5s,mb4.2
OPO   Ambohidratompo      46.52 189   P      P       13 14 00.1 +1.8
     comp=Z,5.6nm,1.0s,mb4.5,baz=68,slow=9.4,SNR=3.6
SJPF  Ste Jean            46.84 304  eP      P       13 13 59.6 -1.2
     comp=Z,5.9nm,0.6s,mb4.4
SJPF  Ste Jean            46.84 304  eP      P       13 13 59.6 -1.2
SJPF                                  pmax   pmax
     comp=Z,3.0nm,0.6s,mb4.4
SJPF  Ste Jean            46.84 304  eP      P       13 13 59.6 -1.2
     comp=Z,3.0nm,0.6s,mb4.4
GRR   Gorron              46.85 312  eP      P       13 13 59.0 -1.9
HHC   Hu-ho-hao-te        48.41  59  eP      P       13 14 12.5 -0.6
HHC                                   AP     pP      13 14 18.0 +1.6
HHC                                   XP     sP      13 14 20.6 +2.9
HHC                                   PCP    PcP     13 15 39.6 +0.2
HHC                                   SCP    ScP     13 19 31.9 -2.2
HHC                                   PCS    PcS     13 19 34.3 -1.0
HHC                                   S      S       13 21 09.8 -3.8
HHC                                   SCS    ScS     13 24 01.5 -4.5
HHC                                   AMB    AMB
     comp=Z,23nm,0.3s
HHC                                   AMB    AMB
     comp=Z,113nm,5.5s
HHC                                   LR     LR
     comp=N,73nm,5.7s
HHC                                   LR     LR
     comp=E,137nm,5.1s
HHC                                   LR     LR
     comp=Z,120nm,6.3s
ESDC  Sonseca Array       49.02 300   P      P       13 14 17.9 +0.2
     comp=Z,0.8nm,0.5s,mb4.0,baz=58,slow=8.0,SNR=12
EKA   Eskdalemuir Ar      49.19 321   P      P       13 14 17.8 -1.3
     comp=Z,0.5nm,0.3s,mb4.0,baz=98,slow=7.7,SNR=7.4
PSI   Prapat              49.39 112   P      P       13 14 19.8 -0.7
     comp=Z,1.3nm,0.5s,mb4.3,baz=333,slow=13,SNR=3.5
TOA0  Torodi Ar. Sit      50.89 264  eP      P       13 14 32.1 +0.2
TOA0  Torodi Ar. Sit      50.89 264  eP      P       13 14 32.1 +0.2
TORD  Torodi Ar. Bea      50.89 264   P      P       13 14 32.6 +0.6
     comp=Z,3.7nm,0.7s,mb4.4,baz=61,slow=8.2,SNR=18
DBIC  Dimbokro            59.55 261   P      P       13 15 36.0 +1.5
     comp=Z,1.9nm,0.5s,mb4.4,baz=42,slow=6.9,SNR=6.3
LIC   Lamto               59.91 261  eP      P       13 15 34.6 -2.3
     comp=Z,17nm,0.9s,mb4.8
LIC   Lamto               59.91 261  eP      P       13 15 34.6 -2.3
     comp=Z,8.6nm,0.9s,mb4.8
MDJ   Mudanjiang          61.11  52   P      P       13 15 44.6 -0.5
MDJ                                   AMB    AMB
     comp=Z,3.0nm,0.7s,mb4.5
MDJ                                   AMB    AMB
     comp=Z,30nm,3.0s
BOSA  Boshof              62.50 209   P      P       13 15 55.2 +0.8
     comp=Z,2.4nm,0.6s,mb4.5,baz=47,slow=6.9,SNR=6.4
BOSA  Boshof              62.50 209   P      P       13 15 55.2 +0.8
YKA   Yellowknife Ar      89.64 355   P      P       13 18 28.4 -0.4
     comp=Z,1.7nm,0.8s,mb4.4,baz=6.3,slow=4.8,SNR=6.1
WRA   Warramunga Arr      90.85 112   P      P       13 18 33.5 -1.0
     comp=Z,0.6nm,0.6s,mb4.1,baz=314,slow=4.1,SNR=9.8
WRAB  Tennant Creek       90.86 112  eP      P       13 18 36.1 +1.6
WRAB                                  pmax   pmax
     comp=Z,1.0nm,0.4s,mb4.5
WRAB  Tennant Creek       90.86 112  eP      P       13 18 36.1 +1.6
     comp=Z,0.9nm,0.4s,mb4.5
ASAR  Alice Springs       92.31 115   P      P       13 18 40.5 -0.7
     comp=Z,0.7nm,0.7s,mb4.1,baz=305,slow=5.0,SNR=10
```

*ISCJB **10** 13:14:35.4±0.5, 5961N±003×2431E±007, h0km, Error ellipse: s-maj=5.1km s-min=4.0km az=57.4*
*IDC **10** 13:14:37.1±2.3, 5957N×2483E, h0km, mb1 3.4/3,*

mb1mx3.1/21, mbtmp3.4/3, ML3.2/3, Error ellipse: s-maj=27.7km s-min=9.1km az=155.0
*NAO **10** 13:14:38.4±1.0, 5970N×2458E, ML2.2*
*HEL **10** 13:14:38.5±0.2, 5965N×2456E, h0km, ML2.2, ML2.2(NAO), Explosion*
*BER **10** 13:14:39.3±4.5, 5970N×2459E, h0km, ML2.2(NAO), Suspected explosion*

ISC 10 13:14:36.8±0.5**, 5963N**±003×**2450E**±006**, h0km, n27, σ1.25/44, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.60**	**355**	*e*P	**Pg**	**13 14 48.5**	**+0.2**
MEF				*e*S	**Sg**	**13 14 55.9**	**-0.1**
PVF	**Pernaja**	**1.15**	**36**	*e*P	**Pg**	**13 14 58.1**	**-0.7**
PVF				*e*S	**Sg**	**13 15 12.2**	**-1.5**
VSU	**Vasula**	**1.64**	**134**	*e*P	**Pn**	**13 15 07.3**	**+0.4**
VSU				*e*S	**Sn**	**13 15 29.0**	**+0.3**
VSU	**Vasula**	**1.64**	**134**	Pn	**Pn**	**13 15 07.5**	**+0.6**
VSU				Lg		13 15 31.5	
RAF	**Rauma**	**1.96**	**317**	*e*P	**Pn**	**13 15 13.3**	**+2.1**
RAF				*e*S	**Sn**	**13 15 38.7**	**+2.3**
FIA0	**FINESS Array S**	**1.98**	**22**	*e*P	**Pn**	**13 15 12.8**	**+1.2**
FIA0				*e*S	**Sn**	**13 15 37.6**	**+0.4**
FIA0	**FINESS Array S**	**1.98**	**22**	Pn	**Pn**	**13 15 13.1**	**+1.5**
	baz=192,slow=18						
FIA0				Lg		13 15 38.1	
	baz=186,slow=37						
FINES	**FINESS Array B**	**1.98**	**22**	Pn	**Pn**	**13 15 12.8**	**+1.2**
	5.8nm,0.3s,baz=197,slow=16,SNR=419						
FINES				Sn	**Sn**	**13 15 38.6**	**+1.4**
	5.5nm,0.3s,baz=195,slow=27,SNR=21						
KEF	**Keuruu**	**2.56**	**4**	*e*PB	**Pb**	**13 15 21.9**	**-1.6**
KEF				*e*SB	**Sb**	**13 15 55.1**	**-0.5**
KAF	**Kangasniemi**	**2.65**	**19**	*e*P	**Pn**	**13 15 22.4**	**+1.7**
KAF				*e*SB	**Sb**	**13 15 57.7**	**-0.5**
SUF	**Sumiainen**	**3.21**	**14**	*e*P	**Pn**	**13 15 29.8**	**+1.3**
SUF				*e*S	**Sn**	**13 16 08.2**	**+0.8**
SUF				MSG		13 16 24.3	
	comp=Z,4.8nm,0.2s						
VAF	**Ylistaro**	**3.54**	**346**	*e*P	**Pn**	**13 15 35.9**	**+2.8**
VAF				*e*S	**Sn**	**13 16 15.6**	**0.0**
VAF				MSG		13 16 34.6	
	comp=Z,5.8nm,0.2s						
JOF	**Joensuu**	**4.66**	**42**	MSG		13 17 01.3	
	comp=Z,3.8nm,0.2s						
HFS	**Hagfors**	**5.47**	**280**	*e*P	**Pn**	**13 16 00.8**	**+1.3**
HFS				*e*S	**Sn**	**13 17 02.8**	**-0.3**
HFS				*e*SG		13 17 26.6	
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 16 00.9**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=99,slow=12,SNR=18						
HFS				Sn	**Sn**	**13 17 03.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=96,slow=30,SNR=5.1						
HFS				Lg		13 17 31.3	
	comp=Z,1.3nm,0.3s,baz=85,slow=31,SNR=7.7						
HFS	**Hagfors**	**5.47**	**280**	Pn	**Pn**	**13 16 00.8**	**+1.3**
	baz=105,slow=14						
HFS				Sn	**Sn**	**13 17 02.8**	**-0.3**
	baz=104,slow=28						
HFS				Lg		13 17 26.6	
	baz=107,slow=37						
NB2	**NORSAR Subarra**	**6.75**	**288**	Pn	**Pn**	**13 16 17.0**	**-0.1**
	baz=94,slow=14						
NB2				Sn	**Sn**	**13 17 33.2**	**-1.4**
NB2				Lg		13 18 07.5	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.75**	**288**	*e*P	**Pn**	**13 16 17.0**	**-0.1**
NB2				*e*S	**Sn**	**13 17 33.2**	**-1.4**
NB2				*e*SG		13 18 07.5	
NOA	**NORSAR Array B**	**6.75**	**288**	Pn	**Pn**	**13 16 16.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=90,slow=14,SNR=2.4						
NOA				Sn	**Sn**	**13 17 34.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=147,slow=22,SNR=2.9						
NOA				Lg		13 18 07.1	
	comp=Z,0.7nm,0.3s,baz=10,slow=20,SNR=3.2						
BSD	**Bornholm Skovb**	**6.88**	**233**	*i* P	**Pn**	**13 16 18.1**	**-0.8**
BSD				*i* S	**Sn**	**13 17 36.1**	**-1.7**
MOR8	**Moi Rana**	**8.01**	**329**	*e*P	**Pn**	**13 16 35.5**	**+1.1**
MOR8				*e*S	**Sn**	**13 18 03.8**	**-1.8**
MOR8				AML	AML	13 18 10.9	
	comp=Z,3.6nm,0.7s						
APA0	**Apatity Array**	**8.85**	**22**	Pn	**Pn**	**13 16 44.3**	**-1.6**
	baz=204,slow=12						
APA0	**Apatity Array**	**8.85**	**22**	*e*P	**Pn**	**13 16 44.3**	**-1.6**
KTK1	**Kautokeino**	**9.44**	**357**	*e*P	**Pn**	**13 16 54.8**	**+0.7**
ARA0	**ARCESS Array S**	**9.96**	**2**	Pn	**Pn**	**13 16 59.3**	**-1.9**
	baz=174,slow=16						
ARA0	**ARCESS Array S**	**9.96**	**2**	*e*P	**Pn**	**13 16 59.3**	**-1.9**
ARCES	**ARCESS Array B**	**9.96**	**2**	Pn	**Pn**	**13 16 59.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=181,slow=13,SNR=70						

*IDC **10** 13:17:39.6±0.6, 2076S×17522W, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.4/17, mbtmp4.3/11, ML3.1/2, MS3.6/8, Ms1 3.6/8, ms1mx3.3/27, Error ellipse: s-maj=24.2km s-min=16.3km az=123.0*
*SZGRF **10** 13:17:41.4, 2187S×17383W, h33km, Tonga Islands*
*BJI **10** 13:17:41.4, 2160S×17565W, h29km, mB5.4, mb4.9, Ms5.2, Msz5.2*
*NEIC **10** 13:17:42.7±3.3, 2085S×175.15W, h21km±22km, mb4.6/13, Error ellipse: s-maj=13.4km s-min=7.7km az=136.0*
*ISCJB **10** 13:17:43.3±0.3, 2082S±006×17524W±008, h33km, mb4.6/27, MS4.0/7, Error ellipse: s-maj=11.6km s-min=7.1km az=72.2*

ISC 10 13:17:45.1±0.3**, 2089S**±006×**17517W**±008**, h35km, n121, σ0.97/49, mb4.6/27, MS4.0/7, 5C-6D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.66**	**26**	Pn	**Pn**	**13 19 31.3**	**-2.9**
	1.0nm,0.3s,baz=247,slow=13,SNR=3.0						
AFI				Sn	**Sn**	**13 20 59.0**	**-0.7**
	1.8nm,0.3s,baz=259,slow=19,SNR=2.5						
AFI				LR	LR	13 21 29.8	
	comp=Z,56nm,20.3s,baz=219,slow=30						
RAR	**Rarotonga**	**14.38**	**94**	Pn	**Pn**	**13 20 59.1**	**-7.0**
	1.2nm,0.3s,baz=254,slow=8.0,SNR=7.1						
RAR				Sn	**Sn**	**13 23 24.1**	**-20**
	0.9nm,0.3s,baz=78,slow=19,SNR=5.7						
RAR				LR	LR	13 25 04.7	
	comp=Z,301nm,20.2s,baz=291,slow=31						
RAR	**Rarotonga**	**14.38**	**94**	Pn	**Pn**	**13 20 59.1**	**-7.0**
RAR				Sn	**Sn**	**13 23 24.1**	**-20**
RAR				LR	LR	13 25 04.7	
DZM	**Mont Dzumac**	**17.16**	**263**	*e*P	**Pn**	**13 21 49.0**	**+7.0**
DZM	**Mont Dzumac**	**17.16**	**263**	LR	LR	13 26 36.9	
	comp=Z,201nm,19.7s,baz=18,slow=31						
URZ	**Urewera**	**18.55**	**199**	P	**Pn**	**13 21 58.2**	**-1.0**
	1.1nm,0.3s,baz=306,slow=8.5,SNR=5.4						
TBI	**Tubuai**	**23.93**	**101**	*e*LR	LR	13 28 23.9	
	345nm,28.8s						
PPT	**Papeete**	**24.38**	**87**	*e*LR	LR	13 28 35.2	
	340nm,26.0s						
PPT	**Papeete**	**24.38**	**87**	LR	LR	13 29 01.9	
	comp=Z,215nm,20.1s,MS3.6,baz=254,slow=28						
RPZ	**Rata Peaks**	**25.49**	**204**	P	**P**	**13 23 07.4**	**-2.6**
	6.3nm,0.6s,mb4.3,baz=18,slow=6.4,SNR=3.3						
CTA	**Charters Tower**	**36.09**	**264**	*e*P	**P**	**13 24 44.6**	**+1.2**
	4.0nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**36.09**	**264**	*e*P	**P**	**13 24 44.6**	**+1.1**
	9.0nm,1.0s,mb4.7						
RKT	**Rikitea**	**37.25**	**101**	*e*LR	LR	13 34 32.2	
	281nm,29.2s						
PMG	**Port Moresby**	**38.02**	**282**	*e*P	**P**	**13 25 00.9**	**+1.1**
	17nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**40.02**	**245**	*e*P	**P**	**13 25 18.2**	**+1.7**
	2.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**40.02**	**245**	P	**P**	**13 25 16.9**	**+0.4**
	2.5nm,0.7s,mb4.0,baz=87,slow=10,SNR=6.8						
STKA				LR	LR	13 40 27.4	
	comp=Z,114nm,19.1s,MS3.7,baz=189,slow=34						
AS31	**Alice Springs**	**47.01**	**257**	*e*P	**P**	**13 26 12.9**	**+0.1**
ASAR	**Alice Springs**	**47.01**	**257**	P	**P**	**13 26 12.8**	**-0.1**
	4.5nm,0.8s,mb4.4,baz=97,slow=8.8,SNR=28						
ASAR				PcP	PcP	13 27 45.0	+0.2
	1.3nm,0.7s,baz=110,slow=3.9,SNR=6.3						
ASAR				LR	LR	13 43 05.7	
	comp=Z,101nm,19.5s,MS3.8,baz=3.9,slow=32						
ASPA	**Alice Springs**	**47.01**	**257**	*e*P	**P**	**13 26 12.9**	**0.0**
WB2	**Warramunga Arr**	**47.16**	**262**	*e*P	**P**	**13 26 13.7**	**-0.3**
WRAB	**Tennant Creek**	**47.16**	**262**	*e*P	**P**	**13 26 13.8**	**-0.3**
	8.6nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**47.17**	**262**	P	**P**	**13 26 13.6**	**-0.5**
	4.7nm,0.9s,mb4.4,baz=96,slow=7.2,SNR=20						
WRA				PcP	PcP	13 27 45.6	+0.3
	0.7nm,0.6s,baz=94,slow=3.7,SNR=5.4						
GUMO	**Guam**	**52.12**	**308**	P	**P**	**13 26 51.7**	**0.0**
	19nm,0.8s,mb5.1,baz=163,slow=12,SNR=3.3						
SBA	**Scott Base**	**57.67**	**184**	*e*P	**P**	**13 27 34.2**	**+2.2**
	2.7nm,0.7s,mb4.4						
VNDA	**Vanda**	**57.77**	**186**	P	**P**	**13 27 33.9**	**+1.2**
	2.0nm,0.8s,mb4.2,baz=359,slow=6.9,SNR=17						
VNDA	**Vanda**	**57.77**	**186**	*e*P	**P**	**13 27 33.6**	**+1.0**
	1.2nm,0.7s,mb4.0						
QSPA	**South Pole Qui**	**69.18**	**180**	*e*P	**P**	**13 28 48.6**	**+0.6**
	13nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**72.12**	**322**	P	**P**	**13 29 05.7**	**-0.2**
	1.6nm,0.7s,mb4.1,baz=156,slow=5.5,SNR=7.2						
ASAJ	**Asahikawa**	**75.36**	**330**	LR	LR	13 54 35.7	
	comp=Z,100nm,21.6s,MS4.1,baz=162,slow=30						
MTUM	**Tungsten Hills**	**78.70**	**43**	*e*P	**P**	**13 29 44.6**	**+0.9**
NVAR	**Mina Array Bea**	**79.52**	**42**	P	**P**	**13 29 49.0**	**+0.8**
	2.5nm,0.7s,mb4.3,baz=221,slow=8.1,SNR=27						
WVOR	**Wild Horse Val**	**81.75**	**39**	*e*P	**P**	**13 30 00.5**	**+0.4**
	3.9nm,0.9s,mb4.3						
MAW	**Mawson**	**82.08**	**199**	P	**P**	**13 30 01.6**	**-0.2**
	2.3nm,0.8s,mb4.2,baz=238,slow=3.6,SNR=4.4						
NJ2	**Nanjing**	**82.18**	**308**	*e*P	**P**	**13 30 02.4**	**0.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
MDJ	**Mudanjiang**	**82.38**	**324**	P	**P**	**13 30 03.5**	**+0.1**
MDJ				PP	PP	13 33 11.9	-0.6
MDJ				S	S	13 40 10.5	-6.5
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,58nm,4.6s						
MDJ				LR	LR		
	comp=N,55nm,15.2s,MS4.1						
MDJ				LR	LR		
	comp=E,40nm,16.8s,MS4.1						
MSU	**Marysvale**	**83.50**	**45**	*e*P	**P**	**13 30 10.6**	**+1.4**
SNY	**Shenyang**	**84.23**	**319**	*e*P	**P**	**13 30 16.9**	**+3.9**
SNY				AMB	AMB		
	comp=Z,12nm,2.4s,mb4.6						
CN2	**Changchun**	**84.25**	**321**	*e*P	**P**	**13 30 13.5**	**+0.5**
CN2				*e*S	S	13 40 26.5	-9.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s						
CN2				LR	LR		
	comp=E,2μm,18.0s						
CN2				LR	LR		
	comp=Z,3μm,18.0s						
TMUT	**Trail Mountain**	**84.56**	**44**	*e*P	**P**	**13 30 15.8**	**+1.2**
MNTX	**Cornudas Mount**	**84.83**	**53**	*e*P	**P**	**13 30 16.5**	**+0.4**
	comp=Z,14nm,1.5s,mb4.9						
SRU	**San Rafael**	**84.91**	**45**	*e*P	**P**	**13 30 16.9**	**+0.5**
	comp=Z,17nm,1.3s,mb5.0						
ANMO	**Albuquerque**	**85.60**	**50**	*e*P	**P**	**13 30 20.6**	**+0.7**
	comp=Z,11nm,1.4s,mb4.9						
SYO	**Syowa Base**	**86.91**	**192**	⇑*e*P	**P**	**13 30 25.5**	**-0.8**
BW06	**Boulder Array**	**87.45**	**42**	*e*P	**P**	**13 30 28.1**	**-0.8**
	comp=Z,1.0nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**87.45**	**42**	P	**P**	**13 30 28.2**	**-0.7**
	comp=Z,1.1nm,0.9s,mb4.1,baz=222,slow=1.8,SNR=9.1						
PDAR				LR	LR	14 04 14.0	
	comp=Z,42nm,19.9s,MS3.9,baz=62,slow=32						
SNAA	**Sanae**	**87.53**	**178**	*e*P	**P**	**13 30 27.8**	**-1.5**
SNAA				*e*		13 30 29.3	
VNA3	**Neumayer Olymp**	**87.56**	**175**	*e*P	**P**	**13 30 28.1**	**-1.3**
VNA3				*e*		13 30 29.9	
VNA1	**Neumayer--Stat**	**88.24**	**176**	*e*P	**P**	**13 30 32.7**	**0.0**
VNA1				*e*		13 30 34.4	
HHC	**Hu-ho-hao-te**	**91.53**	**313**	*e*P	**P**	**13 30 48.5**	**+0.4**
HHC				PP	PP	13 34 30.8	+4.5
HHC				S	S	13 41 34.5	-11
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,130nm,6.7s						
HHC				LR	LR		
	comp=N,73nm,5.3s						
HHC				LR	LR		
	comp=E,123nm,5.5s						
HHC				LR	LR		
	comp=Z,130nm,5.7s						
KMI	**Kunming**	**91.90**	**296**	P	**P**	**13 30 49.9**	**+0.2**
KMI				S	S	13 41 40.8	-7.8
KMI				SS	SS	13 47 55.6	-1.5
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb5.0						
KMI				AMB	AMB		
	comp=Z,131nm,4.5s						
CD2	**Chengdu**	**93.24**	**302**	*e*P	**P**	**13 30 54.0**	**-2.0**
LZH	**Lanzhou**	**95.12**	**307**	*e*P	**P**	**13 31 03.8**	**-0.8**
LZH				PP	PP	13 34 56.7	+2.3
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,48nm,9.3s						
LZH				LR	LR		
	comp=N,235nm,17.2s						
LZH				LR	LR		
	comp=Z,316nm,19.3s,MS4.8						
WMQ	**Urumqi**	**109.19**	**310**	*e*PKP	PKiKP	13 36 11.0	-0.3
WMQ				PKS		13 39 46.0	
WMQ				PP	PP		
	comp=Z,140nm,4.9s						
MKAR	**Makanchi Array**	**113.40**	**313**	PKiKP	PKiKP	13 36 18.1	-1.1
	comp=Z,0.5nm,0.4s,baz=19,slow=0.4,SNR=5.6						
BVAR	**Borovoye Array**	**121.08**	**320**	PKP	PKPdf	13 36 32.8	-1.2
	comp=Z,1.1nm,0.5s,baz=66,slow=5.0,SNR=5.3						
ZRNK	**Zerenda**	**121.92**	**320**	*e*PKPdf	PKPdf	13 36 34.2	-1.4
ARCES	**ARCESS Array B**	**129.76**	**351**	PKP	PKPdf	13 36 49.6	-1.0
	comp=Z,2.8nm,0.8s,baz=343,slow=2.5,SNR=7.8						
FINES	**FINESS Array B**	**136.86**	**345**	PKP	PKPdf	13 37 02.0	-1.9
	comp=Z,0.9nm,0.7s,baz=96,slow=1.9,SNR=4.1						
AKASG	**Malin Array Be**	**144.60**	**333**	PKP	PKPdf	13 37 15.5	-2.4
	comp=Z,1.4nm,0.4s,baz=40,slow=4.2,SNR=18						
AKBB	**Malin Array Si**	**144.60**	**333**	*e*PKP	PKPdf	13 37 15.3	-2.5
MALT	**Malatya**	**146.26**	**308**	⇑*i*P	PKPdf	13 37 23.0	+2.3
MALT	**Malatya**	**146.26**	**308**	*e*PKPbc	PKPbc	13 37 22.9	+1.1
BSEG	**Bad Segeberg**	**146.75**	**354**	*e*PKPbc	PKPbc	13 37 22.9	-0.4
OJC	**Ojcow**	**148.43**	**342**	*e*PKP	PKPdf	13 37 27.3	+3.0
BURAR	**Bucovina Array**	**148.66**	**333**	⇑*i*P	PKPbc	13 37 29.8	+1.3
STHS	**Stebnicka Huta**	**148.68**	**339**	*e*PKP	PKPbc	13 37 31.8	+3.3
KOLS	**Kolonicke sedl**	**148.74**	**338**	*e*PKP	PKPbc	13 37 31.7	+3.0
CLL	**Collm**	**148.98**	**350**	*e*PKPbc	PKPbc	13 37 28.5	-0.8
CLL	**Collm**	**148.98**	**350**	⇓*i*PKPbc	PKPbc	13 37 28.9	-0.4
	comp=Z,9.0nm,0.7s						
CLL				*i* (PKPab)	PKPab	13 37 32.0	-1.4
	comp=Z,8.0nm,1.0s						
CLL				*e*sPKPab		13 37 43.0	
CLL	**Collm**	**148.98**	**350**	⇓*i*PKP	PKPbc	13 37 28.9	-0.4
CLL				*i* PKP	PKPab	13 37 32.0	-1.4
BR131	**Keskin Array S**	**149.05**	**314**	*e*PKPbc	PKPbc	13 37 29.2	-0.2
BRTR	**Keskin Array B**	**149.05**	**314**	PKPbc	PKPbc	13 37 29.2	-0.2
	comp=Z,1.4nm,0.7s,baz=145,slow=4.4,SNR=6.1						
UPC	**Upice**	**149.16**	**346**	*e*PKPbc	PKPbc	13 37 30.0	+0.3
UPC				*e*pPKP	pPKPdf	13 37 43.1	+6.1
DPC	**Dobruska-Polom**	**149.23**	**346**	*e*PKPbc	PKPbc	13 37 30.0	+0.1
DPC				*e*x	x	13 37 44.6	
BRG	**Berggiesshubel**	**149.23**	**349**	*e*PKPbc	PKPbc	13 37 29.3	-0.6
BRG	**Berggiesshubel**	**149.23**	**349**	*i* PKP	PKPbc	13 37 29.8	-0.2
	comp=Z,3.4nm,0.7s						
BRG				*e*		13 37 34.5	
	comp=Z,3.0nm,0.8s						
BRG				*e*		13 37 44.3	
	comp=Z,3.4nm,0.8s						
FBE	**Freiberg**	**149.29**	**349**	*e*PKPbc	PKPbc	13 37 30.1	0.0
BUG	**Bochum--Univer**	**149.45**	**357**	*e*PKPbc	PKPbc	13 37 29.7	-0.8
MORC	**Moravsky Berou**	**149.46**	**344**	⇓*i*P	PKPbc	13 37 30.2	-0.3
KECS	**Kecovo**	**149.74**	**339**	*e*PKP	PKPbc	13 37 31.1	-0.1
MOX	**Moxa**	**149.83**	**351**	*e*PKPbc	PKPbc	13 37 30.8	-0.6
MOX	**Moxa**	**149.83**	**351**	*e*PKP	PKPbc	13 37 30.7	-0.7
UBBA	**Unterbreizbach**	**149.86**	**353**	*e*PKPbc	PKPbc	13 37 30.6	-0.9
WERD	**Werda**	**149.92**	**350**	*e*PKPbc	PKPbc	13 37 31.6	0.0
TANN	**Tannenbergstha**	**149.93**	**350**	*e*PKPbc	PKPbc	13 37 31.2	-0.4
MLR	**Muntele Rosu**	**149.95**	**330**	⇓*i*P	PKPdf	13 37 26.2	-0.6
PRU	**Pruhonice**	**149.96**	**347**	*e*PKPbc	PKPbc	13 37 31.7	0.0
PRU				*e*pPKP	pPKPdf	13 37 46.0	+7.7
GUNZ	**Gunzen**	**150.00**	**350**	*e*PKPbc	PKPbc	13 37 31.2	-0.6
WERN	**Wernitzgruen**	**150.07**	**350**	*e*PKPbc	PKPbc	13 37 32.0	0.0
NKC	**Novy Kostel**	**150.11**	**350**	*e*PKPbc	PKPbc	13 37 31.8	-0.3
NKC				*e*pPKP	pPKPdf	13 37 46.4	+7.9
VRAC	**Vranov**	**150.13**	**344**	⇑*i*P	PKPbc	13 37 32.2	+0.1
VYHS	**Vyhne**	**150.25**	**341**	*e*PKP	PKPbc	13 37 32.1	-0.3
DRGR		**150.35**	**335**	⇓*i*P	PKPbc	13 37 32.5	-0.1
MANZ	**Manzenberg**	**150.40**	**350**	*e*PKPbc	PKPbc	13 37 32.6	-0.2
ROTZ	**Rotzenmuhle**	**150.60**	**350**	*e*PKPbc	PKPbc	13 37 32.8	-0.4
GRA1	**Grafenberg Arr**	**150.82**	**351**	*e*PKPbc	PKPbc	13 37 33.5	-0.2
GRF	**Grafenberg Arr**	**150.82**	**351**	*e*PKPbc	PKPbc	13 37 33.5	-0.2
GIVF	**Givet**	**150.85**	**0**	*e*PKP1	PKPbc	13 37 33.0	-0.8
BAIF	**Baives**	**150.89**	**1**	*e*PKP1	PKPbc	13 37 33.3	-0.6
	comp=Z,11nm,0.9s						
KHC	**Kasperske Hory**	**150.97**	**348**	*e*PKPbc	PKPbc	13 37 34.0	-0.1
KHC				*e*pPKP	pPKPdf	13 37 48.5	+8.7
WET	**Wettzell**	**151.09**	**349**	*e*PKPbc	PKPbc	13 37 34.1	-0.3
GEC2	**GERESS Array S**	**151.22**	**348**	*e*PKPbc	PKPbc	13 37 34.2	-0.5
GERES	**GERESS Array B**	**151.22**	**348**	PKP	PKPdf	13 37 28.4	-0.4
	comp=Z,0.2nm,0.6s,baz=339,slow=2.4,SNR=2.6						
GERES				PKPbc	PKPbc	13 37 34.6	0.0
	comp=Z,2.9nm,0.9s,baz=52,slow=2.2,SNR=17						
BZS	**Buzias**	**151.75**	**335**	⇑*i*P	PKPbc	13 37 35.5	-0.4
FLN	**La Foliniere**	**151.87**	**7**	*e*PKP1	PKPbc	13 37 35.0	-1.2
LDF	**La Druitiere**	**152.08**	**7**	*e*PKP1	PKPbc	13 37 35.4	-1.3
	comp=Z,2.9nm,0.6s						
GRR	**Gorron**	**152.19**	**8**	*e*PKP1	PKPbc	13 37 35.9	-1.0
	comp=Z,6.2nm,0.5s						
FUR	**Furstenfeldbru**	**152.30**	**351**	*e*PKPbc	PKPbc	13 37 37.2	0.0
PKSM	**Moragy**	**152.33**	**339**	⇓*i*P	PKPbc	13 37 36.5	-0.7
CDF	**Champ du Feu**	**152.47**	**356**	*e*PKP1	PKPbc	13 37 37.5	0.0
	comp=Z,6.3nm,0.7s						
BFO	**Black Forest**	**152.48**	**355**	*e*PKPbc	PKPbc	13 37 36.8	-0.8
HINF	**Hinteralfeld**	**153.09**	**357**	*e*PKP1	PKPbc	13 37 37.9	-1.0
	comp=Z,2.2nm,0.5s						
LOR	**Lormes**	**153.68**	**1**	*e*PKP1	PKPbc	13 37 39.4	-0.8
	comp=Z,2.9nm,0.7s						
MFF	**Saint Martin d**	**154.04**	**8**	*e*PKP1	PKPbc	13 37 39.7	-1.3
AVF	**Avril sur Loir**	**154.14**	**2**	*e*PKP1	PKPbc	13 37 40.9	-0.3
SMF	**Signal de Mont**	**154.30**	**2**	*e*PKP1	PKPbc	13 37 41.5	0.0
CABF	**La Chapelle**	**154.33**	**358**	*e*PKP1	PKPbc	13 37 42.4	+0.8
MBDF	**Montbardon**	**156.18**	**357**	*e*PKP1	PKPdf	13 37 44.5	+8.7
KEST	**Kesra**	**164.70**	**346**	PKPab	PKPab	13 38 40.9	+0.2
	comp=Z,1.6nm,0.5s,baz=156,slow=1.8,SNR=4.9						
TORD	**Torodi Ar. Bea**	**171.73**	**158**	PKP	PKPdf	13 37 50.0	+0.1
	comp=Z,1.3nm,1.1s,baz=222,slow=2.0,SNR=3.8						
TORD				PKPab	PKPab	13 39 13.8	+1.9
	comp=Z,0.9nm,0.7s,baz=179,slow=4.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**171.73**	**158**	PKP	PKPdf	13 37 50.0	+0.1
TORD				PKPab	PKPab	13 39 13.8	+1.9

MAN 10 13:27:41.2, 1348N×12050E, h31km, mb2.4, ML4.0, MS2.7, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.35**	**316**	*e*P	Pb	13 27 50.5	+1.2
LUBP				*e*S	Sb	13 27 58.9	+4.0
PGP	**Puerto Galera**	**0.45**	**88**	⇑*i*P	Pb	13 27 51.8	+1.1
PGP				*i* S	Sb	13 27 58.1	+0.8
TGY	**Tagaytay City**	**0.75**	**35**	⇓*e*P	Pn	13 27 58.5	+2.9
TGY				*e*S	Sb	13 28 09.4	+3.7
BOAC	**Boac**	**1.31**	**91**	*e*P	Pn	13 28 02.6	-0.7
BOAC				*e*S	Sn	13 28 20.6	+0.9
BUSP	**Coron**	**1.50**	**191**	*e*P	Pn	13 28 06.6	+0.7
BUSP				*e*S	Sn	13 28 25.2	+0.8
OTRP	**Odiongan**	**1.86**	**127**	*e*P	Pn	13 28 13.0	+2.1
OTRP				*e*S	Sn	13 28 34.7	+1.4
BALP	**Baler**	**2.48**	**25**	*e*P	Pn	13 28 20.5	+1.2
BALP				*e*S	Sn	13 28 50.3	+1.8
ENPP	**El Nido**	**2.49**	**205**	*e*P	Pn	13 28 20.0	+0.5
ENPP				*e*S	Sn	13 28 48.6	-0.3
CUYO	**Cuyo Island**	**2.67**	**169**	*e*P	Pn	13 28 22.4	+0.4
CUYO				*e*S	Sn	13 28 53.0	-0.2

*NEIC **10** 13:34:22.6, 3857S×176.13E, h109km, MG4.1(WEL), After WEL.*

WEL 10 13:34:23.1±0.2**, 3859S×17615E, h104km±1km, ML4.1**/22**, 4C-12D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.17**	**244**	P	Pn	13 34 38.0	+0.3
WHTZ	**Whakaora**	**0.17**	**244**	PN	Pn	13 34 37.9	+0.2
PATZ	**Paeroa**	**0.23**	**21**	PN	Pn	13 34 38.8	+0.9
HATZ	**Hinemaiaia**	**0.30**	**189**	P	Pn	13 34 38.1	-0.1
HATZ				S	Sn	13 34 49.4	-0.1
HATZ	**Hinemaiaia**	**0.30**	**189**	PN	Pn	13 34 38.1	-0.1
HATZ				SN	Sn	13 34 49.4	-0.1
WATZ	**Wairara**	**0.35**	**251**	P	Pn	13 34 38.3	-0.1
WATZ	**Wairara**	**0.35**	**251**	⇑PN	Pn	13 34 38.3	-0.1
WATZ				SN	Sn	13 34 50.3	+0.4
RATZ	**Rangitukua**	**0.41**	**227**	P	Pn	13 34 38.7	0.0
RATZ	**Rangitukua**	**0.41**	**227**	PN	Pn	13 34 38.5	-0.3
RATZ				SN	Sn	13 34 50.6	+0.1
TAZ	**Tarawera**	**0.46**	**38**	⇑PN	Pn	13 34 39.2	+0.2
KATZ	**Kakaramea**	**0.52**	**223**	P	Pn	13 34 39.7	+0.2
KATZ				S	Sn	13 34 52.5	+0.7
KATZ	**Kakaramea**	**0.52**	**223**	PN	Pn	13 34 39.7	+0.3
KATZ				SN	Sn	13 34 52.5	+0.8
BKZ	**Black Stump Fm**	**0.63**	**155**	P	Pn	13 34 40.5	+0.2
BKZ	**Black Stump Fm**	**0.63**	**155**	⇑PN	Pn	13 34 40.5	+0.2
BKZ				SN	Sn	13 34 53.3	+0.1
KRVZ	**Karewarewa**	**0.64**	**218**	⇓PN	Pn	13 34 40.4	0.0
WTVZ	**West Tongariro**	**0.68**	**220**	P	Pn	13 34 40.7	-0.1
WTVZ	**West Tongariro**	**0.68**	**220**	⇓PN	Pn	13 34 40.7	0.0
WTVZ				SN	Sn	13 34 54.7	+0.6
OTVZ	**Oturere**	**0.69**	**214**	PN	Pn	13 34 41.1	+0.3
OTVZ				SN	Sn	13 34 54.9	+0.8
NGZ	**Ngauruhoe**	**0.72**	**216**	P	Pn	13 34 41.3	+0.2
NGZ	**Ngauruhoe**	**0.72**	**216**	PN	Pn	13 34 41.1	0.0
TWVZ	**Taurewa**	**0.74**	**229**	P	Pn	13 34 38.4	-2.8
TWVZ	**Taurewa**	**0.74**	**229**	PN	Pn	13 34 41.0	-0.2
WPVZ	**Whakapapa**	**0.77**	**218**	P	Pn	13 34 41.4	-0.2
WPVZ	**Whakapapa**	**0.77**	**218**	PN	Pn	13 34 41.4	-0.1
TUVZ	**Tukino**	**0.78**	**210**	P	Pn	13 34 41.9	+0.3
TUVZ	**Tukino**	**0.78**	**210**	⇓PN	Pn	13 34 41.9	+0.3
FWVZ	**Far West T-bar**	**0.81**	**215**	P	Pn	13 34 41.8	-0.1
FWVZ	**Far West T-bar**	**0.81**	**215**	⇑PN	Pn	13 34 41.8	-0.1
FWVZ				SN	Sn	13 34 56.0	-0.1
DRZ	**Dome Shelter**	**0.82**	**214**	P	Pn	13 34 42.4	+0.4
DRZ	**Dome Shelter**	**0.82**	**214**	PN	Pn	13 34 42.4	+0.4
DRZ				SN	Sn	13 34 56.4	+0.1
URZ	**Urewera**	**0.82**	**66**	P	Pn	13 34 41.7	-0.3
URZ	**Urewera**	**0.82**	**66**	⇓PN	Pn	13 34 41.7	-0.3
URZ				SN	Sn	13 34 55.7	-0.6
TRVZ	**Turoa**	**0.85**	**214**	PN	Pn	13 34 42.7	+0.5
TRVZ				SN	Sn	13 34 57.1	+0.4
WNVZ	**Wahianoa**	**0.85**	**210**	P	Pn	13 34 42.5	+0.2
WNVZ	**Wahianoa**	**0.85**	**210**	⇓PN	Pn	13 34 42.5	+0.2
WNVZ				SN	Sn	13 34 56.8	0.0
MOVZ	**Moawhango**	**0.87**	**201**	P	Pn	13 34 42.4	-0.1
MOVZ	**Moawhango**	**0.87**	**201**	⇓PN	Pn	13 34 42.4	-0.1
MOVZ				SN	Sn	13 34 56.6	-0.5
HIZ	**Hauiti**	**1.02**	**274**	P	Pn	13 34 43.6	-0.4
HIZ	**Hauiti**	**1.02**	**274**	⇓PN	Pn	13 34 43.6	-0.5
HIZ				SN	Sn	13 34 59.5	-0.3
MWZ	**Matawai**	**1.11**	**77**	*e*P	Pn	13 34 45.0	0.0
MWZ	**Matawai**	**1.11**	**77**	PN	Pn	13 34 44.9	-0.1
MWZ				SN	Sn	13 35 01.6	+0.1
VRZ	**Vera Road**	**1.21**	**244**	P	Pn	13 34 45.8	-0.4
VRZ	**Vera Road**	**1.21**	**244**	⇓PN	Pn	13 34 45.8	-0.3
KNZ	**Kokohu**	**1.26**	**110**	P	Pn	13 34 47.3	+0.6
KNZ	**Kokohu**	**1.26**	**110**	PN	Pn	13 34 47.3	+0.5
KNZ				SN	Sn	13 35 04.9	+0.3
TSZ	**Takapari Road**	**1.47**	**186**	P	Pn	13 34 48.9	-0.3
TSZ	**Takapari Road**	**1.47**	**186**	PN	Pn	13 34 48.9	-0.3
TSZ				SN	Sn	13 35 07.9	-1.1
WAZ	**Wanganui**	**1.47**	**218**	P	Pn	13 34 49.2	0.0
WAZ	**Wanganui**	**1.47**	**218**	⇓PN	Pn	13 34 49.2	-0.1
WAZ				SN	Sn	13 35 10.7	+1.6
PXZ	**Pawanui**	**1.54**	**159**	PN	Pn	13 34 49.8	-0.2
PXZ				SN	Sn	13 35 09.8	-0.7
RAEZ	**Rainy Point**	**1.54**	**243**	PN	Pn	13 34 50.1	+0.1
PUZ	**Puketiti**	**1.73**	**73**	P	Pn	13 34 52.3	-0.1
PUZ	**Puketiti**	**1.73**	**73**	PN	Pn	13 34 52.2	-0.2
PUZ				SN	Sn	13 35 13.7	-1.1
PKE	**Pukeiti**	**1.79**	**250**	P	Pn	13 34 52.9	-0.3
PKE	**Pukeiti**	**1.79**	**250**	⇓PN	Pn	13 34 52.9	-0.3
BFZ	**Birch Farm**	**2.09**	**178**	*e*P	Pn	13 34 55.7	-1.2
BFZ	**Birch Farm**	**2.09**	**178**	PN	Pn	13 34 55.7	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRZ	**Mangatainoka R**	**2.11**	**192**	P	Pn	13 34 55.5	-1.8
MRZ	**Mangatainoka R**	**2.11**	**192**	⇓PN	Pn	13 34 55.5	-1.7
MRZ				SN	Sn	13 35 19.9	-3.5
TIWZ	**Tintock**	**2.19**	**185**	PN	Pn	13 34 56.8	-1.5
KIW	**Kapiti Island**	**2.46**	**203**	P	Pn	13 34 59.5	-2.3
KIW	**Kapiti Island**	**2.46**	**203**	PN	Pn	13 34 59.5	-2.3
MTW	**Mount Morrison**	**2.61**	**191**	P	Pn	13 35 01.2	-2.6
MTW	**Mount Morrison**	**2.61**	**191**	⇓PN	Pn	13 35 01.2	-2.5
CAW	**Cannon Point**	**2.65**	**198**	P	Pn	13 35 01.7	-2.5
CAW	**Cannon Point**	**2.65**	**198**	PN	Pn	13 35 01.7	-2.5
DUWZ	**D'Urville Isla**	**2.80**	**217**	PN	Pn	13 35 03.7	-2.6
PAWZ	**Paruwai Farm**	**2.84**	**191**	P	Pn	13 35 04.0	-2.8
MRW	**Makara Radio**	**2.86**	**203**	P	Pn	13 35 04.1	-3.0
WEL	**Wellington**	**2.89**	**201**	P	Pn	13 35 04.5	-3.0
MSWZ	**Moikau Station**	**2.90**	**194**	P	Pn	13 35 04.7	-2.9
SNZO	**South Karori**	**2.93**	**202**	P	Pn	13 35 04.9	-3.1
BHW	**Baring Head**	**2.98**	**199**	P	Pn	13 35 05.5	-3.1
TCW	**Tory Channel**	**2.99**	**208**	P	Pn	13 35 05.7	-3.1
NNZ	**Nelson**	**3.38**	**218**	eP	Pn	13 35 10.5	-3.5
CMWZ	**Cape Campbell**	**3.48**	**205**	P	Pn	13 35 12.5	-2.9
BSWZ	**Blackbirch Sta**	**3.57**	**209**	P	Pn	13 35 13.0	-3.6
QRZ	**Quartz Range**	**3.58**	**230**	P	Pn	13 35 13.5	-3.1
THZ	**Tophouse**	**4.03**	**217**	eP	Pn	13 35 19.1	-3.6
KHZ	**Kahutara**	**4.31**	**207**	P	Pn	13 35 22.3	-4.2
DSZ	**Denniston Nort**	**4.58**	**225**	eP	Pn	13 35 25.9	-4.3
LTZ	**Lake Taylor**	**5.12**	**214**	eP	Pn	13 35 32.1	-5.3
CRLZ	**Canterbury Las**	**5.65**	**207**	eP	Pn	13 35 38.6	-6.0
MQZ	**McQueen's Vall**	**5.75**	**206**	P	Pn	13 35 39.5	-6.5
RPZ	**Rata Peaks**	**6.40**	**215**	eP	Pn	13 35 49.9	-4.9
LBZ	**Lake Benmore**	**7.32**	**216**	eP	Pn	13 36 01.7	-5.6
ODZ	**Otahua Downs**	**7.64**	**211**	eP	Pn	13 36 05.5	-6.2
JCZ	**Jackson Bay**	**7.80**	**223**	eP	Pn	13 36 07.7	-6.2
EAZ	**Earnscleugh**	**8.37**	**215**	eP	Pn	13 36 15.4	-6.1
TUZ	**Tuapeka**	**8.80**	**211**	eP	Pn	13 36 21.9	-5.5

*ISCJB **10** 13:35:24.8±0.6, 616N±0.1×1686E±0.1, h10^{km}, mb4.0/11, MS3.3/2, Error ellipse: s-maj=16.5km s-min=8.9km az=140.0*

*IDC **10** 13:35:24.8±0.9, 6154N×16864E, h0^{km}, mb3.9/8, mb1 4.1/8, mb1mx3.8/25, mbtmp3.9/8, MS3.4/2, Ms1 3.4/2, ms1mx2.5/38, Error ellipse: s-maj=34.5km s-min=18.0km az=169.0*

*MOS **10** 13:35:25.7±1.1, 6159N×16852E, h15^{km}, mb4.4/1, Error ellipse: s-maj=31.3km s-min=17.2km az=73.0*

*NEIC **10** 13:35:26.6±0.5, 6157N×16867E, h10^{km}, mb4.1/6, Error ellipse: s-maj=16.3km s-min=8.6km az=160.0*

ISC 10 13:35:26.2±0.6, **616N**±01×**1687E**±01, **h10**^{km}, **n22**, σ**0**^{s}**98**/21, **mb4.0**/11, **MS3.3**/2, **1C, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**6.58**	**352**	⇑ePN	**Pn**	**13 37 04.2**	**+1.2**
BILL						13 38 27.0	
BILL				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL				pmax	pmax		
	comp=Z,16nm,1.2s						
BILL				smax			
	comp=E,30nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s						
BILL	**Bilibino**	**6.58**	**352**	eP	**Pn**	**13 37 03.8**	**+0.8**
TTA	**Tatalina**	**16.36**	**70**	P	**Pn**	**13 39 18.6**	**+2.6**
TTA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TTA	**Tatalina**	**16.36**	**70**	P	**Pn**	**13 39 18.6**	**+2.6**
	comp=Z,3.9nm,0.6s						
IMA2	**Indian Mountai**	**17.00**	**58**	P	**Pn**	**13 39 24.4**	**+0.4**
COLA	**College**	**19.55**	**61**	eP	**Pn**	**13 39 54.8**	**-0.5**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
COLA	**College**	**19.55**	**61**	eP	**Pn**	**13 39 54.8**	**-0.5**
	comp=Z,1.9nm,0.6s						
EGAK	**Eagle**	**22.36**	**60**	eP	**P**	**13 40 22.8**	**-1.6**
DAWY	**Dawson**	**23.30**	**61**	eP	**P**	**13 40 32.7**	**-1.6**
INK	**Inuvik**	**24.50**	**49**	P	**P**	**13 40 45.5**	**-0.1**
	comp=Z,6.5nm,1.0s,mb4.0,baz=291,slow=11,SNR=5.3						
INK				LR	LR	13 52 54.9	
	comp=Z,49nm,20.0s,MS3.0,baz=358,slow=43						
INK	**Inuvik**	**24.50**	**49**	eP	**P**	**13 40 46.0**	**+0.5**
	comp=Z,19nm,1.3s,mb4.4						
INK				LR	LR	13 52 54.9	
MAJO	**Matsushiro**	**31.50**	**231**	P	**P**	**13 41 49.8**	**+1.6**
	comp=Z,4.9nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**31.50**	**231**	P	**P**	**13 41 47.0**	**-1.2**
	comp=Z,3.6nm,1.0s,mb4.2,baz=14,slow=8.2,SNR=9.5						
SONM	**Songino Array**	**37.00**	**278**	P	**P**	**13 42 36.0**	**+0.1**
	comp=Z,1.1nm,1.1s,mb3.6,baz=54,slow=8.1,SNR=4.6						
SONM				LR	LR	13 58 44.4	
	comp=Z,96nm,18.3s,MS3.6,baz=165,slow=38						
YBH	**Yreka Blue Hor**	**44.52**	**84**	P	**P**	**13 43 38.1**	**+0.2**
	comp=Z,1.2nm,0.6s,mb3.9,baz=338,slow=5.2,SNR=4.2						
MKAR	**Makanchi Array**	**48.81**	**294**	P	**P**	**13 44 10.6**	**-1.0**
	comp=Z,0.3nm,0.2s,mb3.9,baz=46,slow=8.3,SNR=3.1						
BVAR	**Borovoye Array**	**48.86**	**307**	P	**P**	**13 44 11.7**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=56,slow=5.4,SNR=10.0						
BW06	**Boulder Array**	**49.86**	**72**	eP	**P**	**13 44 19.3**	**-0.2**
	comp=Z,1.6nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**49.86**	**72**	P	**P**	**13 44 19.6**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.9,baz=343,slow=4.6,SNR=7.9						
SRU	**San Rafael**	**52.31**	**76**	eP	**P**	**13 44 38.5**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**85.76**	**212**	P	**P**	**13 48 06.0**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.9,baz=18,slow=5.7,SNR=6.2						
QSPA	**South Pole Qui**	**151.34**	**180**	eP	PKPbc	13 55 19.0	-1.1

*NEIC **10** 13:38:27.2, 1565N×94.17W, h16^{km}, MD4.1(MEX), After MEX.*

MEX 10 13:38:26.9±1.2, **1565N**×**9417W**, **h16**^{km}±14^{km}, **MD4.2**, **1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.59**	**335**	⇑iP	Pn	13 38 50.9	-3.5
CMIG				i S	Sn	13 39 09.8	-4.8
SCX	**San Cristobal**	**1.83**	**54**	i P	Pn	13 38 53.7	-4.0
SCX				i S	Sn	13 39 15.7	-4.8
HUIG	**Huatulco**	**1.87**	**274**	eP	Pn	13 38 55.0	-3.2
HUIG				i S	Sn	13 39 16.6	-4.9
CCIG	**Comitan**	**2.05**	**72**	i P	Pn	13 38 56.3	-4.4
CCIG				i S	Sn	13 39 22.7	-3.3
VHO	**Vista Hermosa**	**2.84**	**300**	i P	Pn	13 39 10.7	-0.8
VHO				i S	Sn	13 39 41.7	-3.7
UTMO	**Huajuapan**	**4.10**	**302**	i P	Pn	13 39 28.6	-0.3

*ISCJB **10** 13:44:57.8±0.6, 3038N±005×1397E±02, h335^{km}±8^{km}, mb3.1/4, Error ellipse: s-maj=22.5km s-min=6.9km az=152.1*

*JMA **10** 13:44:57.2±0.2, 3027N×13966E, h347^{km}, M3.5*

*IDC **10** 13:44:58.2±1.2, 3022N×13939E, h311^{km}±28^{km}, mb3.0/4, mb1 3.0/7, mb1mx2.9/22, mbtmp3.7/7, Error ellipse: s-maj=89.9km s-min=9.4km az=72.0*

ISC 10 13:44:58.7±0.6, **3042N**±006×**1398E**±02, **h329**^{km}±8^{km}, **n17**, σ**1**^{s}**30**/26, **mb3.1**/4, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.68**	**360**	P	**Pn**	**13 45 55.4**	**+1.8**
JHJ	**Hachijo jima 2**	**2.69**	**359**	P	**Pn**	**13 45 55.7**	**+2.0**
	6.0nm,0.3s,baz=115,slow=16,SNR=12						
JHJ				S	**S**	**13 46 38.7**	**+1.0**
	28nm,0.3s,baz=53,slow=23,SNR=12						
CBIJ	**Chichi jima**	**3.90**	**148**	P	**Pn**	**13 46 05.2**	**-0.2**
	3.5nm,0.3s,baz=286,slow=18,SNR=9.3						
CBIJ				S	**S**	**13 46 57.2**	**-1.8**
	68nm,0.3s,baz=323,slow=20,SNR=30						
CBIJ	**Chichi jima**	**3.90**	**148**	P	**Pn**	**13 46 04.9**	**-0.5**
CBIJ				eS	**S**	**13 46 57.2**	**-1.9**
BSO1	**Boso 1**	**4.33**	**13**	eS	**S**	**13 47 07.6**	**+0.3**
JWZ	**Kozaga**	**4.68**	**313**	P	**Pn**	**13 46 12.5**	**-1.3**
JIE	**Ise**	**4.76**	**327**	P	**Pn**	**13 46 15.2**	**+0.5**
JOD2	**Odawara 2**	**4.87**	**353**	P	**Pn**	**13 46 17.4**	**+1.5**
JOD2				eS	**S**	**13 47 17.9**	**-0.3**
JRY	**Ryogami san**	**5.63**	**352**	P	**Pn**	**13 46 25.6**	**+1.0**
JRY				eS	**S**	**13 47 32.3**	**-1.7**
MJAR	**Matsushiro Arr**	**6.25**	**348**	P	**Pn**	**13 46 31.8**	**0.0**
	0.8nm,0.3s,baz=222,slow=18,SNR=9.6						
MJAR				S	**S**	**13 47 44.1**	**-3.0**
	0.4nm,0.3s,baz=15,slow=31,SNR=4.2						
MAT	**Matsushiro**	**6.26**	**348**	P	**Pn**	**13 46 32.0**	**+0.2**
MAT				eS	**S**	**13 47 44.3**	**-2.9**
MAT	**Matsushiro**	**6.26**	**348**	P	**Pn**	**13 46 33.2**	**+1.4**
MAT				eS	**S**	**13 47 44.9**	**-2.3**
JMK	**Ichinoseki**	**8.59**	**7**	P	**Pn**	**13 47 01.2**	**+1.6**
JMK				eS	**S**	**13 48 35.8**	**-2.3**
WRA	**Warramunga Arr**	**50.35**	**187**	P	**P**	**13 53 22.5**	**-0.5**
	0.3nm,0.4s,mb2.9,baz=0.8,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**54.08**	**187**	P	**P**	**13 53 50.5**	**+0.2**
	0.2nm,0.8s,mb2.5,baz=1.6,slow=7.0,SNR=5.8						
BVAR	**Borovoye Array**	**54.22**	**316**	P	**P**	**13 53 50.8**	**-0.5**
	0.7nm,0.6s,mb3.2,baz=90,slow=7.4,SNR=5.7						
FINES	**FINESS Array B**	**74.06**	**333**	P	**P**	**13 55 59.7**	**+0.5**
	2.9nm,0.9s,mb4.0,baz=74,slow=4.9,SNR=7.2						

*IDC **10** 13:46:38.1±3.4, 2038S×17545W, h0^{km}, mb3.7/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.7/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/30, Error ellipse: s-maj=245.1km s-min=30.1km az=153.0*

*ISCJB **10** 13:46:41.5±0.9, 208S±02×1753W±02, h33^{km}, mb3.9/5, MS3.5/1, Error ellipse: s-maj=29.5km s-min=20.7km az=125.2*

*NEIC **10** 13:46:42.9±0.7, 2061S×17529W, h35^{km}, mb4.2/2, Error ellipse: s-maj=28.4km s-min=19.7km az=146.0*

ISC 10 13:46:43.6±0.9, **208S**±02×**1753W**±02, **h35**^{km}, **n12**, σ**0**^{s}**47**/7, **mb3.9**/5, **MS3.5**/1, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.59**	**26**	LR	LR	13 50 55.5	
	comp=Z,58nm,20.6s,baz=140,slow=35						
CTAO	**Charters Tower**	**36.02**	**264**	eP	**P**	**13 53 42.3**	**+0.9**
STKA	**Stephens Creek**	**39.99**	**245**	LR	LR	14 08 01.0	
	comp=Z,69nm,21.4s,MS3.5,baz=38,slow=32						
ASAR	**Alice Springs**	**46.96**	**257**	P	**P**	**13 55 10.3**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=99,slow=8.6,SNR=16						
ASAR				PcP	PcP	13 56 43.0	-0.1
	0.4nm,0.7s,baz=109,slow=4.6,SNR=5.2						
WRA	**Warramunga Arr**	**47.11**	**262**	P	**P**	**13 55 11.8**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=97,slow=7.5,SNR=7.1						
SBA	**Scott Base**	**57.79**	**184**	eP	**P**	**13 56 31.6**	**+0.3**
	1.1nm,0.8s,mb3.9						
VNDA	**Vanda**	**57.88**	**186**	eP	**P**	**13 56 31.7**	**-0.2**
NVAR	**Mina Array Bea**	**79.48**	**42**	P	**P**	**13 58 46.6**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=217,slow=9.0,SNR=4.6						
SRU	**San Rafael**	**84.88**	**45**	eP	**P**	**13 59 14.6**	**-0.1**
	3.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**144.46**	**333**	PKP	PKPdf	14 06 12.8	-3.4
	0.8nm,0.5s,baz=40,slow=4.2,SNR=6.2						
AKASG	**Malin Array Be**	**144.46**	**333**	PKP	PKPdf	14 06 12.8	-3.4
GERES	**GERESS Array B**	**151.08**	**348**	PKPbc	PKPbc	14 06 31.7	-1.2
	0.7nm,0.8s,baz=39,slow=0.9,SNR=4.9						

*ISCJB **10** 13:56:16.4±1.6, 2274N±0.10×119W±02, h10^{km}, mb4.0/3, Error ellipse: s-maj=28.4km s-min=9.4km az=135.8*

*CSEM **10** 13:56:17.7, 2270N×1198W, h10^{km}, mb4.1/1, After NEIC*

*NEIC **10** 13:56:17.7±1.9, 2270N×1198W, h10^{km}, mb4.1/1, Error ellipse: s-maj=42.5km s-min=12.9km az=80.0*

*IDC **10** 13:56:18.4±2.8, 2288N×1156W, h0^{km}, mb3.9/3, mb1 3.8/6, mb1mx3.5/24, mbtmp3.7/6, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=81.3km s-min=27.5km az=80.0*

ISC 10 13:56:18.3±1.5, **228N**±01×**118W**±02, **h10**^{km}, **n15**, σ**0**^{s}**84**/16, **mb4.0**/3, **Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**11.86**	**31**	Pn	**Pn**	**13 59 11.2**	**+3.8**
	0.1nm,0.3s,baz=271,slow=10,SNR=2.4						
MDT				Lg		14 02 32.8	
	0.3nm,0.3s,baz=318,slow=14,SNR=4.8						
MDT				LR	LR	14 04 42.5	
	comp=Z,32nm,18.3s,baz=130,slow=43						
MDT	**Midelt**	**11.86**	**31**	Pn	**Pn**	**13 59 11.2**	**+3.8**
MDT				Lg		14 02 32.8	
TOA0	**Torodi Ar. Sit**	**16.02**	**124**	P	**Pn**	**14 00 03.6**	**-0.1**
TOA0	**Torodi Ar. Sit**	**16.02**	**124**	P	**Pn**	**14 00 03.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**16.02**	**124**	Pn	**Pn**	**14 00 04.6**	**+0.8**
	0.1nm,0.3s,baz=309,slow=12,SNR=12						
TORD				Sn	**Sn**	**14 03 01.1**	**-0.3**
	0.1nm,0.3s,baz=306,slow=21,SNR=3.3						
TORD	**Torodi Ar. Bea**	**16.02**	**124**	Pn	**Pn**	**14 00 04.6**	**+0.8**
TORD				Sn	**Sn**	**14 03 01.1**	**-0.3**
DBIC	**Dimbokro**	**17.37**	**156**	P	**Pn**	**14 00 20.8**	**0.0**
	0.3nm,0.3s,baz=300,slow=16,SNR=4.3						
DBIC	**Dimbokro**	**17.37**	**156**	eP	**Pn**	**14 00 20.4**	**-0.4**
	21nm,1.4s						
DBIC	**Dimbokro**	**17.37**	**156**	eP	**Pn**	**14 00 20.4**	**-0.4**
	21nm,1.4s						
ESDC	**Sonseca Array**	**18.12**	**20**	P	**Pn**	**14 00 29.9**	**-0.1**
	0.1nm,0.3s,baz=205,slow=13,SNR=5.5						
GERES	**GERESS Array B**	**32.94**	**32**	P	**P**	**14 02 51.6**	**-1.4**
	0.9nm,0.7s,mb3.8,baz=214,slow=9.2,SNR=6.3						
FINES	**FINESS Array B**	**46.56**	**24**	P	**P**	**14 04 46.0**	**-0.2**
	4.4nm,1.1s,mb4.3,baz=224,slow=8.0,SNR=5.8						
FINES	**FINESS Array B**	**46.56**	**24**	P	**P**	**14 04 46.0**	**-0.2**
MKAR	**Makanchi Array**	**76.45**	**45**	P	**P**	**14 08 09.2**	**+1.0**
	0.6nm,0.5s,mb3.8,baz=298,slow=5.8,SNR=7.6						
ASAR	**Alice Springs**	**148.53**	**98**	PKPbc	PKPbc	14 16 06.9	+1.5
	0.8nm,0.7s,baz=280,slow=1.8,SNR=11						

IDC 10 13:59:32.2±29.0, **1950S**×**17911W**, **h650**^{km}±270^{km}, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.0**/13, **mbtmp4.5**/3, **Error ellipse: s-maj=324.7km s-min=88.2km az=122.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.56**	**263**	eP	P	14 05 13.9	+1.0
	2.7nm,0.5s						
CTA	**Charters Tower**	**32.56**	**263**	P	P	14 05 13.9	+1.0
	3.7nm,0.5s,baz=95,slow=11,SNR=9.5						
WB2	**Warramunga Arr**	**43.70**	**261**	eP	P	14 06 42.9	+0.6
WRA	**Warramunga Arr**	**43.71**	**261**	P	P	14 06 42.8	+0.4
	1.8nm,0.3s,baz=96,slow=7.5,SNR=112						
ASAR	**Alice Springs**	**43.74**	**256**	P	P	14 06 42.6	0.0
	4.2nm,0.5s,baz=90,slow=7.9,SNR=142						
ASAR				PcP	PcP	14 08 14.7	+0.5
	0.4nm,0.5s,baz=100,slow=3.8,SNR=4.7						
ASPA	**Alice Springs**	**43.74**	**256**	eP	P	14 06 42.5	-0.1
AKASG	**Malin Array Be**	**141.63**	**331**	PKhKP		14 17 45.5	
	0.6nm,0.3s,baz=41,slow=4.2,SNR=7.8						
AKASG				PKP	PKPdf	14 17 50.9	-0.4
	0.9nm,0.5s,baz=41,slow=4.1,SNR=7.3						
GERES	**GERESS Array B**	**148.95**	**343**	PKPbc	PKPbc	14 18 08.3	-0.2
	0.3nm,0.5s,baz=0.0,slow=2.9,SNR=4.0						

*MAN **10** 14:09:27.6, 1021N×12627E, h15^{km}, mb3.8, ML4.9, MS2.4*

*ISCJB **10** 14:09:30.5±0.9, 1008N±004×12613E±008, h65^{km}±8^{km}, mb3.9/14, Error ellipse: s-maj=13.4km s-min=5.9km az=158.4*

*IDC **10** 14:09:31.1±7.8, 1005N×12589E, h54^{km}±70^{km}, mb3.8/13, mb1 3.9/13, mb1mx3.8/20, mbtmp4.1/13, Error ellipse: s-maj=41.5km s-min=15.3km az=68.0*

*NEIC **10** 14:09:33.1±4.9, 1003N×12589E, h75^{km}±46^{km}, mb4.1/1, Error ellipse: s-maj=28.8km s-min=9.4km az=71.0*

ISC 10 14:09:31.9±0.9, **1009N**±004×**12612E**±009, **h61**^{km}±9^{km}, **n41**, σ**1**^{s}**08**/49, **mb4.0**/14, **2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.69**	**244**	⇓eP	**Pn**	**14 09 43.3**	**-2.7**
SCPH				eS	**Sn**	**14 09 54.1**	**-2.2**
BUTP	**Butuan**	**1.21**	**204**	eP	**Pn**	**14 09 51.4**	**-1.2**
BUTP				eS	**Sn**	**14 10 08.5**	**+0.3**
MSLP	**Maasin**	**1.24**	**272**	eP	**Pn**	**14 09 52.0**	**-1.0**
PLP	**Palo**	**1.55**	**314**	eP	**Pn**	**14 09 56.8**	**-0.4**
PLP				i S	**Sn**	**14 10 17.7**	**+1.4**
BESP	**Borongan**	**1.65**	**336**	eP	**Pn**	**14 09 58.3**	**-0.2**
BESP				eS	**Sn**	**14 10 21.8**	**+3.1**
OCLP	**Ormoc**	**1.76**	**303**	eP	**Pn**	**14 09 60.0**	**-0.1**
LLP	**Lapu-Lapu**	**2.13**	**276**	⇓iP	**Pn**	**14 10 05.2**	**+0.1**
LLP				eS	**Sn**	**14 10 28.5**	**-1.8**
CGP	**Cagayan de Oro**	**2.14**	**221**	⇑iP	**Pn**	**14 09 59.6**	**-5.7**
CGP				i S	**Sn**	**14 10 30.7**	**0.0**
TBP	**Tagbilaran**	**2.25**	**260**	eP	**Pn**	**14 10 09.2**	**+2.5**
TBP				eS	**Sn**	**14 10 38.3**	**+4.9**
BUKP	**Musuan**	**2.43**	**205**	eP	**Pn**	**14 10 10.4**	**+1.3**
BUKP				eS	**Sn**	**14 10 42.0**	**+4.3**
SNPH	**Sibulan**	**2.93**	**256**	eP	**Pn**	**14 10 17.0**	**+1.0**
PAGZ	**Pagadian**	**3.50**	**231**	eP	**Pn**	**14 10 24.8**	**+1.0**
GUIM	**Jordan**	**3.51**	**279**	eP	**Pn**	**14 10 24.7**	**+0.8**
PVCP	**Virac**	**3.98**	**331**	⇑eP	**Pn**	**14 10 30.4**	**+0.1**
PVCP	**Virac**	**3.98**	**331**	eP	**Pn**	**14 10 28.9**	**-1.5**
OTRP	**Odiongan**	**4.61**	**300**	eP	**Pn**	**14 10 39.9**	**+0.9**
CUYO	**Cuyo Island**	**5.07**	**279**	eP	**Pn**	**14 10 45.8**	**+0.6**
BUSP	**Coron**	**6.11**	**289**	eP	**Pn**	**14 11 00.3**	**+0.8**
ENPP	**El Nido**	**6.67**	**280**	eP	**Pn**	**14 11 08.3**	**+1.2**
CAUP	**Cauayan**	**7.99**	**329**	eP	**Pn**	**14 11 24.3**	**-1.0**
CAUP				eS	**Sn**	**14 12 50.6**	**-3.6**
FITZ	**Fitzroy Crossi**	**28.01**	**181**	P	**P**	**14 15 17.2**	**+0.3**
	2.1nm,0.8s,mb3.8,baz=354,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**30.92**	**165**	P	**P**	**14 15 41.6**	**-1.1**
	0.4nm,0.6s,mb3.5,baz=340,slow=8.2,SNR=7.2						
AS31	**Alice Springs**	**34.40**	**167**	eP	**P**	**14 16 12.8**	**-0.3**
ASAR	**Alice Springs**	**34.40**	**167**	P	**P**	**14 16 12.7**	**-0.4**
	0.5nm,0.5s,mb3.8,baz=351,slow=7.1,SNR=23						
ASAR				PcP	PcP	14 18 48.1	+0.6
	0.4nm,0.8s,baz=346,slow=2.8,SNR=4.4						
ASAR	**Alice Springs**	**34.40**	**167**	P	**P**	**14 16 12.7**	**-0.4**
ASAR				PcP	PcP	14 18 48.1	+0.6
ULN	**Ulaanbaatar**	**40.94**	**340**	eP	**P**	**14 17 08.2**	**-0.2**
	1.4nm,0.5s,mb3.9						
SONM	**Songino Array**	**41.14**	**340**	P	**P**	**14 17 10.2**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=156,slow=10,SNR=6.0						
NWAO	**Narrogin (SRO)**	**43.60**	**191**	P	**P**	**14 17 30.5**	**+0.5**
	3.4nm,0.7s,mb4.2,baz=47,slow=7.2,SNR=3.6						
STKA	**Stephens Creek**	**44.28**	**161**	eP	**P**	**14 17 35.7**	**+0.3**
STKA	**Stephens Creek**	**44.28**	**161**	P	**P**	**14 17 35.7**	**+0.3**
	1.6nm,0.8s,mb3.8,baz=342,slow=6.7,SNR=5.2						
DZM	**Mont Dzumac**	**50.85**	**129**	P	**P**	**14 18 28.4**	**+2.0**
	2.3nm,0.6s,mb4.3,baz=298,slow=7.3,SNR=8.3						
MKAR	**Makanchi Array**	**52.08**	**323**	P	**P**	**14 18 35.0**	**-0.5**
	1.5nm,0.7s,mb4.0,baz=122,slow=8.4,SNR=19						
MKAR				PcP	PcP	14 19 46.7	-0.1
	0.4nm,0.6s,baz=120,slow=4.1,SNR=2.7						
ARCES	**ARCESS Array B**	**84.31**	**340**	P	**P**	**14 21 56.4**	**-0.7**
	2.2nm,0.8s,mb4.3,baz=64,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	**84.31**	**340**	P	**P**	**14 21 56.4**	**-0.7**
BRTR	**Keskin Array B**	**85.53**	**309**	P	**P**	**14 22 02.4**	**-0.9**
	0.6nm,0.7s,mb3.9,baz=66,slow=3.5,SNR=3.1						
FINES	**FINESS Array B**	**85.98**	**332**	P	**P**	**14 22 04.1**	**-1.4**
	1.8nm,0.9s,mb4.3,baz=91,slow=5.7,SNR=5.1						
FINES	**FINESS Array B**	**85.98**	**332**	P	**P**	**14 22 04.1**	**-1.4**
VNDA	**Vanda**	**89.77**	**173**	P	**P**	**14 22 23.5**	**-0.1**
	0.3nm,0.7s,mb3.8,baz=330,slow=6.5,SNR=3.5						
YKA	**Yellowknife Ar**	**93.99**	**24**	P	**P**	**14 22 43.5**	**+0.5**
	1.0nm,0.6s,mb4.4,baz=302,slow=4.5,SNR=6.1						
YKA	**Yellowknife Ar**	**93.99**	**24**	P	**P**	**14 22 43.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**120.19**	**292**	PKP	PKPdf	14 28 15.7	-0.2
	0.5nm,0.8s,baz=31,slow=2.2,SNR=4.3						

*NIED **10** 14:38:00, 2800N×13020E, h11^{km}, Mw3.9 Best double couple: $M_0$7.23000×10^{14} NP1:ϕ_s315.00000°, δ61.00000°, λ146.00000°. NP2:ϕ_s64.00000°, δ60.00000°, λ34.00000°.*

*ISCJB **10** 14:38:03.9±0.7, 2798N±004×130.11E±006, h38^{km}±7^{km}, mb3.5/7, MS3.1/1, Error ellipse: s-maj=8.2km s-min=6.3km az=16.5*

*JMA **10** 14:38:03.2±0.2, 2799N×130.18E, h40^{km}±3^{km}, M4.0*

JMA Felt I J1.

*NEIC **10** 14:38:09.4±1.1, 2798N×12965E, h60^{km}±11^{km}, MG4.3(JMA), Error ellipse: s-maj=16.3km s-min=10.7km az=108.0*

NEIC Recorded [1 JMA] on Amami-oshima.

*IDC **10** 14:38:09.6±2.6, 2799N×12966E, h62^{km}±23^{km}, mb3.3/7, mb1 3.4/8, mb1mx3.3/22, mbtmp3.5/8, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=32.2km s-min=18.3km az=81.0*

ISC 10 14:38:04.5±0.8, **2799N**±005×**13010E**±005, **h30**^{km}±7^{km}, **n20**, σ**0**^{s}**80**/27, **mb3.5**/7, **MS3.1**/1, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.35**	**341**	P	**Pb**	**14 38 12.2**	**-0.4**
JZK				S	**Sb**	**14 38 19.1**	**+1.0**
JAM	**Amami Oshima**	**0.61**	**314**	P	**Pb**	**14 38 16.1**	**-0.7**
JAM				S	**Sb**	**14 38 24.7**	**-0.4**
JTK	**Tokunoshima**	**1.04**	**259**	P	**Pn**	**14 38 23.3**	**+0.2**
JTK				S	**Sn**	**14 38 36.9**	**+0.3**
JNN	**Nakanoshima**	**1.86**	**354**	P	**Pn**	**14 38 34.4**	**0.0**
JOW	**Kunigami**	**1.99**	**235**	P	**Pn**	**14 38 36.3**	**+0.2**
	79nm,0.3s,baz=93,slow=16,SNR=202						
JOW	**Kunigami**	**1.99**	**235**	P	**Pn**	**14 38 36.2**	**+0.1**
JIH	**Iheya**	**2.12**	**244**	P	**Pn**	**14 38 38.0**	**+0.1**
JIH				eS	**Sn**	**14 39 03.2**	**-0.1**
JMZ	**Minamidaito 2**	**2.38**	**155**	P	**Pn**	**14 38 41.1**	**-0.4**
JMZ				eS	**Sn**	**14 39 08.3**	**-1.3**
JJT2	**Tamagusuku 2**	**2.79**	**229**	P	**Pn**	**14 38 47.3**	**+0.1**
JJT2				eS	**Sn**	**14 39 20.2**	**+0.4**
JAGN	**Aguni-jima**	**2.90**	**242**	P	**Pn**	**14 38 49.1**	**+0.4**
JKE	**Kume jima 2**	**3.39**	**242**	P	**Pn**	**14 38 54.8**	**-0.5**
JKE				eS	**Sn**	**14 39 33.8**	**-0.7**
MJAR	**Matsushiro Arr**	**10.94**	**37**	P	**Pn**	**14 40 46.7**	**+7.6**
	0.2nm,0.3s,baz=264,slow=13,SNR=3.4						
MJAR	**Matsushiro Arr**	**10.94**	**37**	P	**Pn**	**14 40 46.7**	**+7.6**
SONM	**Songino Array**	**27.07**	**323**	P	**P**	**14 43 44.9**	**+0.6**
	0.3nm,0.7s,mb2.9,baz=149,slow=9.6,SNR=2.9						
SONM				LR	LR	14 56 06.1	
	comp=Z,48nm,18.2s,MS3.1,baz=148,slow=40						
MKAR	**Makanchi Array**	**41.65**	**310**	P	**P**	**14 45 49.6**	**-0.5**
	0.3nm,0.8s,mb3.0,baz=83,slow=9.9,SNR=4.2						
WRA	**Warramunga Arr**	**47.82**	**175**	P	**P**	**14 46 41.4**	**+2.0**
	1.1nm,0.6s,mb4.0,baz=354,slow=8.5,SNR=4.8						
BVAR	**Borovoye Array**	**50.10**	**317**	P	**P**	**14 46 56.6**	**-0.3**
	0.3nm,0.5s,mb3.6,baz=138,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**51.48**	**176**	P	**P**	**14 47 09.4**	**+2.3**
	0.8nm,0.7s,mb3.8,baz=6.3,slow=13,SNR=4.7						
FINES	**FINESS Array B**	**72.16**	**331**	P	**P**	**14 49 26.1**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=64,slow=5.1,SNR=8.5						
AKASG	**Malin Array Be**	**75.28**	**320**	P	**P**	**14 49 43.2**	**-1.4**
	0.1nm,0.3s,mb3.3,baz=59,slow=7.4,SNR=4.1						

*IDC **10** 14:39:05.9±0.9, 1031S×10742E, h0^{km}, mb4.1/9, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, ML4.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/41, Error ellipse: s-maj=37.0km s-min=16.0km az=53.0*

*NEIC **10** 14:39:07.5±0.5, 1036S×10745E, h10^{km}, mb4.3/6, Error ellipse: s-maj=19.5km s-min=7.3km az=49.0*

*ISCJB **10** 14:39:10.9±4.1, 103S±0.1×1076E±02, h51^{km}±39^{km}, mb4.1/11, MS3.5/3, Error ellipse: s-maj=34.8km s-min=11.3km az=100.8*

ISC 10 14:39:12.0±3.4, **103S**±01×**1075E**±02, **h43**^{km}±32^{km}, **n25**, σ**0**^{s}**60**/24, **mb4.1**/11, **MS3.5**/3, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**15.59**	**326**	LR	LR	14 49 41.9	
	comp=Z,109nm,20.4s,baz=311,slow=41						
MBWA	**Marble Bar**	**15.95**	**134**	eP	**Pn**	**14 42 48.0**	**-5.2**
	17nm,0.7s						
KULM	**Kulim**	**16.95**	**336**	eP	**Pn**	**14 43 06.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.20**	**116**	eP	**Pn**	**14 43 33.2**	**-0.2**
	25nm,1.8s						
FITZ	**Fitzroy Crossi**	**19.20**	**116**	P	**Pn**	**14 43 33.0**	**-0.4**
	0.5nm,0.3s,baz=300,slow=11,SNR=30						
FITZ				S	**S**	**14 46 53.1**	**-14**
	0.1nm,0.3s,baz=290,slow=13,SNR=3.4						
FITZ				LR	LR	14 49 57.2	
	comp=Z,81nm,20.1s,baz=141,slow=34						
NWAO	**Narrogin (SRO)**	**24.21**	**160**	P	**P**	**14 44 24.7**	**+0.3**
	8.5nm,1.0s,mb4.1,baz=347,slow=6.8,SNR=5.1						
NWAO				LR	LR	14 52 47.6	
	comp=Z,82nm,21.8s,MS3.2,baz=348,slow=34						
KAKA	**Kakadu**	**24.56**	**98**	eP	**P**	**14 44 27.8**	**+0.1**
	10.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**27.59**	**113**	P	**P**	**14 44 55.0**	**0.0**
	5.8nm,0.7s,mb4.3,baz=286,slow=11,SNR=27						
WRAB	**Tennant Creek**	**27.59**	**113**	eP	**P**	**14 44 55.2**	**+0.1**
WB2	**Warramunga Arr**	**27.60**	**113**	eP	**P**	**14 44 55.2**	**+0.1**
ASPA	**Alice Springs**	**28.46**	**121**	eP	**P**	**14 45 01.7**	**-1.1**
ASAR	**Alice Springs**	**28.46**	**121**	P	**P**	**14 45 02.7**	**-0.1**
	4.5nm,0.8s,mb4.1,baz=297,slow=8.4,SNR=15						
AS31	**Alice Springs**	**28.46**	**121**	eP	**P**	**14 45 01.7**	**-1.1**
STKA	**Stephens Creek**	**38.11**	**129**	eP	**P**	**14 46 27.5**	**+0.8**
	3.1nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.11**	**129**	P	**P**	**14 46 27.7**	**+1.0**
	4.1nm,0.5s,mb4.4,baz=305,slow=7.9,SNR=18						

STKA				LR	LR	15 00 43.8	
	comp=Z,88nm,19.4s,MS3.6,baz=206,slow=34						
STKA	**Stephens Creek**	**38.11**	**129**	*e*P	**P**	**14 46 27.4**	**+0.7**
CTA	**Charters Tower**	**38.56**	**109**	P	**P**	**14 46 31.9**	**+1.4**
	3.3nm,0.9s,mb4.1,baz=277,slow=8.1,SNR=3.3						
CTA				LR	LR	15 01 11.5	
	comp=Z,89nm,18.2s,MS3.6,baz=41,slow=34						
CTAO	**Charters Tower**	**38.56**	**109**	*e*P	**P**	**14 46 32.0**	**+1.6**
	4.1nm,0.8s,mb4.2						
SONM	**Songino Array**	**57.92**	**359**	P	**P**	**14 49 00.0**	**+0.3**
	1.0nm,0.9s,mb3.9,baz=178,slow=5.6,SNR=5.2						
MKAR	**Makanchi Array**	**61.17**	**340**	P	**P**	**14 49 21.6**	**-0.4**
	1.0nm,0.6s,mb4.2,baz=142,slow=7.9,SNR=10						
BVAR	**Borovoye Array**	**70.61**	**337**	P	**P**	**14 50 22.4**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=150,slow=6.8,SNR=6.6						
CHKZ	**Chkalovo**	**71.03**	**338**	*e*P	**P**	**14 50 25.3**	**-0.1**
	2.2nm,0.7s,mb4.2						
VNDA	**Vanda**	**72.62**	**169**	P	**P**	**14 50 35.0**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=293,slow=6.0,SNR=5.9						
VNDA	**Vanda**	**72.62**	**169**	*e*P	**P**	**14 50 35.0**	**+0.1**
	0.9nm,0.9s,mb3.7						
SIV	**San Ignacio**	**151.49**	**204**	PKPbc	PKPbc	14 59 03.0	+1.8
	1.6nm,0.7s,baz=168,slow=1.3,SNR=10						

*CASC **10** 14:55:57.3±2.2,2704N×8795W,h6km±27km,mb5.9(NEIC)*
*BGS **10** 14:56:02.4±1.3,2607N×8768W,h15km,mb5.4,MS5.6*
*CRAAG **10** 14:56:04.8,2335N×8658W,Mw5.9*
*ISCJB **10** 14:56:06.2±0.1,2639N±002×8658W±002,h10km, mb5.7/337,MS5.5/189,Error ellipse: s-maj=2.5km s-min=1.9km az=103.2*
*BJI **10** 14:56:06.6,2626N×8707W,h24km,mB6.0,mb5.5,Ms6.1, Msz5.8*
*IGIL **10** 14:56:07.0,2633N×8657W,h10km,MS5.7*
*GCMT **10** 14:56:08.2±0.1,2632N×8684W,h30km,MW5.9/108, Moment Tensor Solution. s101,c217; s108,c333; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}5.51±.07; $M_{\theta\theta}$-3.78±.05; $M_{\phi\phi}$-1.73±.06; $M_{r\theta}$4.76±.11; $M_{\theta\phi}$3.77±.05; $M_{\phi r}$-1.52±.11; Best double couple: $M_0$7.90800×10^{17} NP1:ϕ_s324.00000°,δ28.00000°, λ117.00000°. NP2:ϕ_s114.00000°,δ65.00000°,λ77.00000°. Principal axes: T 7.5160, Plg67.0000°, Azm359.0000°; N 0.7840, Plg12.0000°, Azm120.0000°; P -8.3000, Plg19.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **10** 14:56:08.2±0.1,2632N×8661W,h14km,mb5.9/228, ME5.6,MS5.5/121,MW5.8 Error ellipse: s-maj=2.5km s-min=1.7km az=205.0,Moment Tensor Solution. s33 Moment tensor: Scale 10^{17}Nm; M_{rr}4.50; $M_{\theta\theta}$-0.97; $M_{\phi\phi}$-3.53; $M_{r\theta}$1.51; $M_{\theta\phi}$3.56; $M_{\phi r}$0.49; Best double couple: $M_0$5.60000×10^{17} NP1:ϕ_s124.00000°,δ52.00000°, λ61.00000°. NP2:ϕ_s346.00000°,δ47.00000°,λ122.00000°. Principal axes: T 5.1500, Plg67.0000°, Azm331.0000°; N 0.9000, Plg23.0000°, Azm143.0000°; P -6.0500, Plg3.0000°, Azm234.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s89.00000°,δ48.00000°, λ51.00000°. NP2:ϕ_s320.00000°,δ55.00000°,λ125.00000°. Principal axes: T Plg62.0000°, Azm289.0000°; N Plg0.0000°, Azm0.0000°; P Plg4.0000°, Azm26.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Items were knocked from shelves and seiches were observed in swimming pools in parts of Florida. Felt [IV] at Brooksville, Crystal River, Kissimmee, Lakeland, Osteen, Palm Coast, Panama City, Port Saint Joe, Santa Rosa Beach, Titusville and Wimauma, Florida. Felt in much of Florida including [III] at Fort Lauderdale, Jacksonville, Orlando, St. Petersburg, Tallahassee and Tampa. Felt in parts of Georgia including [III] at Atlanta. Also felt in parts of Alabama, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Texas. Also felt at Freeport, The Bahamas and at Cancun and Merida, Mexico.
*IDC **10** 14:56:08.6±2.0,2624N×8660W,h17km±12km,mb5.5/36, mb1 5.6/39,mb1mx5.6/40,mbtmp5.6/39,ML5.1/3,MS5.5/37, Ms1 5.5/37,ms1mx5.5/40 Error ellipse: s-maj=8.7km s-min=6.0km az=50.0*
*MOS **10** 14:56:08.1±0.8,2644N×8657W,h21km,mb6.0/124, MS5.5/63,Error ellipse: s-maj=4.9km s-min=3.2km az=66.6*
*MEX **10** 14:56:09.6±3.0,2625N×8726W,h10km,MD5.7*
*SZGRF **10** 14:56:16.6,2625N×8500W,h44km,mb5.8,MS5.7,Gulf of Mexico*

ISC 10 14:56:07.1±0.8**,2639N**±001×**8657W**±002**,h4**km±4km**, h5**km±1.9km**:pP-P,n1313,**σ**0s89**/1256**,mb5.7**/336**, MS5.5**/189**,328C-26D,Gulf of Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWPF	**Disney**	**4.89**	**68**	*e*Pn	**Pn**	**14 57 20.7**	**-0.6**
DWPF				*e*Sn	**Sn**	**14 58 14.4**	**-3.9**
TEIG	**Tepich**	**6.33**	**195**	*e*P	**Pn**	**14 57 37.8**	**-3.3**
TEIG				*i* S	**Sn**	**14 58 45.6**	**-8.2**
TEIG	**Tepich**	**6.33**	**195**	*e*P	**Pn**	**14 57 37.8**	**-3.3**
TEIG				*e*P		14 57 38.8	
LRAL	**Lakeview Retre**	**6.64**	**357**	*e*Pn	**Pn**	**14 57 46.1**	**+0.8**
	5µm,0.3s						
MGV	**Manicaragua**	**7.37**	**124**	*e*PG	**Pn**	**14 57 54.0**	**-1.4**
MGV				*e*SG	**Sn**	**14 59 07.1**	**-12**
	comp=N,77µm,0.3s						
MGV				*e*			
	comp=E,42µm,0.4s						
SCIG	**Sabancuy, Camp**	**8.52**	**211**	*e*P	**Pn**	**14 58 05.8**	**-5.3**
SCIG				*i* S	**Sn**	**14 59 37.0**	**-11**
COW	**Cow Castle Cre**	**8.63**	**35**	*e*Pn	**Pn**	**14 58 19.3**	**+6.6**
PLAL	**Pickwick Lake**	**8.66**	**352**	*e*Pn	**Pn**	**14 58 13.6**	**+0.5**
	comp=E,3µm,0.7s						
PLAL				*e*Sn	**Sn**	**14 59 41.5**	**-10**
SWET	**Sewanee**	**8.82**	**3**	*e*Pn	**Pn**	**14 58 15.8**	**+0.5**
SWET				*e*Sn	**Sn**	**14 59 48.9**	**-6.2**
NATX	**Nacogdoches**	**8.87**	**309**	*e*Pn	**Pn**	**14 58 13.1**	**-2.8**
	comp=E,19nm,0.7s						
NATX				*e*Sn	**Sn**	**14 59 42.7**	**-14**
HKT	**Hockley**	**8.91**	**296**	*e*P	**Pn**	**14 58 12.2**	**-4.3**
HKT				pmax	pmax		
	comp=Z,465nm,0.9s						
HKT	**Hockley**	**8.91**	**296**	*e*Pn	**Pn**	**14 58 12.2**	**-4.3**
	comp=Z,465nm,0.9s						
HKT				*e*Sn	**Sn**	**14 59 43.1**	**-14**
JSC	**Jenkinsville**	**9.11**	**29**	*e*P	**Pn**	**14 58 19.3**	**+0.1**
MET	**Memphis--Engin**	**9.17**	**342**	*e*Pn	**Pn**	**14 58 20.2**	**+0.1**
MET				Sn	**Sn**	**14 59 58.3**	**-5.5**
UALR	**University of**	**9.72**	**331**	*e*Pn	**Pn**	**14 58 26.5**	**-1.2**
	comp=Z,777nm,0.8s						
UALR				*e*Sn	**Sn**	**15 00 05.6**	**-12**
WVT	**Waverly**	**9.77**	**354**	*e*P	**Pn**	**14 58 28.9**	**+0.6**
WVT				*e*		15 00 10.5	
WVT				pmax	pmax		
	comp=Z,2µm,0.7s						
WVT	**Waverly**	**9.77**	**354**	*e*Pn	**Pn**	**14 58 28.9**	**+0.5**
	comp=Z,2µm,0.7s						
WVT				*e*Sn	**Sn**	**15 00 10.5**	**-8.0**
HALT	**Halls**	**9.79**	**347**	*e*Pn	**Pn**	**14 58 29.0**	**+0.5**
HALT				Sn	**Sn**	**15 00 10.2**	**-8.6**
HBAR	**Harrisburg**	**9.79**	**340**	*e*Pn	**Pn**	**14 58 28.2**	**-0.3**
HBAR				*e*Sn	**Sn**	**15 00 08.3**	**-11**
UTMT	**University of**	**10.12**	**349**	*e*Pn	**Pn**	**14 58 33.7**	**+0.6**
	comp=Z,2µm,0.4s						
UTMT				*e*Sn	**Sn**	**15 00 22.5**	**-4.5**
GLAT	**Glass**	**10.12**	**347**	*e*Pn	**Pn**	**14 58 33.4**	**+0.3**
GLAT				*e*Sn	**Sn**	**15 00 20.4**	**-6.7**
MIAR	**Mount Ida**	**10.12**	**325**	*e*P	**Pn**	**14 58 31.5**	**-1.7**
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.2s						
MIAR	**Mount Ida**	**10.12**	**325**	*e*Pn	**Pn**	**14 58 31.5**	**-1.6**
	comp=Z,7.1nm,0.2s						
MIAR				*e*Sn	**Sn**	**15 00 18.3**	**-8.8**
KVTX	**Kingsville**	**10.16**	**279**	*e*Pn	**Pn**	**14 58 28.7**	**-5.0**
KVTX				*e*Sn	**Sn**	**15 00 09.8**	**-18**
TZTN	**Tazewell**	**10.45**	**14**	*e*Pn	**Pn**	**14 58 38.0**	**+0.4**
TZTN				*e*Sn	**Sn**	**15 00 27.9**	**-7.2**
PARMO	**Parma**	**10.60**	**346**	*e*Pn	**Pn**	**14 58 39.0**	**-0.6**
PARMO				*e*Sn	**Sn**	**15 00 32.2**	**-6.5**
LMGC	**Las Mercedes**	**10.81**	**124**	*e*P	**Pn**	**14 58 40.9**	**-1.7**
LMGC				*e*S	**Sn**	**15 00 29.5**	**-15**
	comp=N,1µm,1.1s						
LMGC				*e*			
	comp=E,1µm,0.9s						
HLGC	**Holguin**	**11.08**	**117**	*e*P	**Pn**	**14 58 38.8**	**-7.4**
HLGC				*e*S	**Sn**	**15 00 31.5**	**-19**
	comp=N,142µm,0.5s						
HLGC				*e*			
	comp=E,149µm,0.5s						
LVIG	**Laguna Verde**	**11.23**	**236**	*i* P	**Pn**	**14 58 39.1**	**-9.1**
LVIG	**Laguna Verde**	**11.23**	**236**	*i* P	**Pn**	**14 58 38.1**	**-10**
CCIG	**Comitan**	**11.31**	**208**	*i* P	**Pn**	**14 58 44.6**	**-4.8**
CCIG				*i* S	**Sn**	**15 00 44.3**	**-12**
USIN	**University of**	**11.58**	**356**	*e*Pn	**Pn**	**14 58 52.7**	**-0.4**
	comp=E,31nm,0.4s						
USIN				*e*Sn	**Sn**	**15 00 48.5**	**-14**
BBJ	**Bamboo Saint A**	**11.72**	**131**	⇑*e*P	**Pn**	**14 58 53.3**	**-1.7**
BBJ				*e*S	**Sn**	**15 00 54.2**	**-12**
MCJ	**Malvern**	**11.77**	**134**	⇑*e*P	**Pn**	**14 58 53.7**	**-2.0**
MCJ				*e*S	**Sn**	**15 00 56.1**	**-11**
WCI	**Wyandotte Cave**	**11.81**	**1**	*e*P	**Pn**	**14 58 56.5**	**+0.3**
WCI				pmax	pmax		
	comp=Z,3µm,0.6s						
WCI	**Wyandotte Cave**	**11.81**	**1**	*e*Pn	**Pn**	**14 58 56.5**	**+0.2**
	comp=Z,3µm,0.6s						
WCI				*e*Sn	**Sn**	**15 00 56.1**	**-12**
RCC	**Rio Carpintero**	**11.85**	**120**	*e*P	**Pn**	**14 58 52.2**	**-4.6**
RCC				*e*S	**Sn**	**15 00 55.2**	**-14**
	comp=N,1µm,0.9s						
RCC				*e*			
	comp=E,776nm,0.7s						
ELN	**Prospectdale**	**11.88**	**23**	*e*Pn	**Pn**	**14 58 57.5**	**+0.3**
ELN				*e*Sn	**Sn**	**15 01 03.2**	**-7.1**
BLA	**Blacksburg**	**11.99**	**24**	*e*P	**Pn**	**14 58 58.4**	**-0.3**
BLA				*e*		15 01 06.1	
BLA				pmax	pmax		
	comp=Z,33nm,0.4s						
BLA	**Blacksburg**	**11.99**	**24**	*e*Pn	**Pn**	**14 58 58.4**	**-0.3**
	comp=Z,33nm,0.4s						
BLA				*e*Sn	**Sn**	**15 01 06.1**	**-6.7**
FVM	**French Village**	**12.01**	**345**	*e*P	**Pn**	**14 58 57.9**	**-1.1**
FVM				pmax	pmax		
	comp=Z,298nm,0.6s						
FVM	**French Village**	**12.01**	**345**	*e*Pn	**Pn**	**14 58 57.9**	**-1.1**
	comp=Z,298nm,0.6s						
CMIG	**Matias Romero**	**12.04**	**221**	*i* P	**Pn**	**14 58 51.9**	**-7.5**
CMIG				*i* S	**Sn**	**15 00 58.5**	**-16**
CMIG	**Matias Romero**	**12.04**	**221**	*i* P	**Pn**	**14 58 51.9**	**-7.5**
CMIG				*i* S	**Sn**	**15 00 55.1**	**-19**
MOAC	**Moa**	**12.08**	**116**	*e*P	**Pn**	**14 58 59.0**	**-0.9**
MOAC				*e*S	**Sn**	**15 00 59.3**	**-16**
	comp=N,870nm,1.2s						
MOAC				*e*			
	comp=E,781nm,0.1s						
FWV	**Forest Hill**	**12.18**	**22**	*e*Pn	**Pn**	**14 59 00.5**	**-0.8**
FWV				*e*Sn	**Sn**	**15 01 07.2**	**-10**
STH	**Stony Hill**	**12.25**	**130**	⇑*e*P	**Pn**	**14 59 00.9**	**-1.3**
STH				*e*S	**Sn**	**15 01 05.8**	**-13**
PCJ	**Portland Cotta**	**12.25**	**133**	⇑*e*P	**Pn**	**14 59 00.6**	**-1.7**
JCT	**Junction City**	**12.33**	**292**	*e*P	**Pn**	**14 58 57.4**	**-6.0**
JCT				pmax	pmax		
	comp=Z,239nm,0.6s						
JCT	**Junction City**	**12.33**	**292**	*e*Pn	**Pn**	**14 58 57.4**	**-6.0**
	comp=Z,239nm,0.6s						
JCT				Sn	Sn	15 00 58.3	-23
CMJ	**Castle Mountai**	**12.51**	**129**	⇑*e*P	**Pn**	**14 59 03.6**	**-2.2**
CMJ				*e*S	**Sn**	**15 01 10.3**	**-15**
RBDL	**Robledal**	**12.55**	**194**	⇑*e*P	x	14 59 03.5	
SLM	**Saint Louis**	**12.60**	**347**	*e*P	**Pn**	**14 59 06.8**	**-0.2**
SLM				pmax	pmax		
	comp=Z,985nm,0.6s						
SLM	**Saint Louis**	**12.60**	**347**	*e*Pn	**Pn**	**14 59 06.8**	**-0.2**
	comp=Z,985nm,0.6s						
SLM				*e*Sn	**Sn**	**15 01 16.3**	**-11**
TPIG	**Tehuac#an**	**12.74**	**234**	*i* P	**Pn**	**14 59 00.9**	**-8.0**
TPIG				*i* S	**Sn**	**15 01 12.7**	**-18**
BLO	**Bloomington**	**12.75**	**0**	*e*P	**Pn**	**14 59 08.4**	**-0.7**
BLO				pmax	pmax		
	comp=Z,6µm,0.6s						
BLO	**Bloomington**	**12.75**	**0**	*e*Pn	**Pn**	**14 59 08.4**	**-0.7**
	comp=Z,6µm,0.6s						
BLO				*e*Sn	**Sn**	**15 01 20.0**	**-11**
RTR	**El Retiro**	**12.75**	**194**	*e*P	x	14 59 07.0	
SNJE	**San Jose**	**12.77**	**193**	⇓*e*P	x	14 59 07.5	
LBRS	**Las Brisas**	**12.79**	**191**	*e*P	x	14 59 07.8	
LFU	**La Fuente**	**12.80**	**191**	*e*P	x	14 59 08.1	
SBLS	**San Blas**	**12.81**	**193**	⇓*e*P	x	14 59 08.2	
BOQS	**Boqueron**	**12.84**	**192**	*e*P	x	14 59 07.4	
BOQS				⇓*e*P	x	14 59 08.1	
LCBS	**La Ceiba**	**12.87**	**191**	⇑*e*P	x	14 59 08.8	
SNET	**Serv Nac Est T**	**12.88**	**192**	*e*P	x	14 59 08.1	
SNVI	**San Vicente**	**12.88**	**190**	*e*P	x	14 59 09.1	
LFRS	**El Faro**	**12.91**	**191**	⇑*e*P	x	14 59 09.3	
MASC	**Masc**	**12.91**	**116**	*e*P	**Pn**	**14 59 12.0**	**+0.7**
MASC				*e*S	**Sn**	**15 01 21.2**	**-14**
	comp=N,16µm,0.7s						
MASC				*e*			
	comp=E,21µm,0.9s						
VHO	**Vista Hermosa**	**13.22**	**228**	*i* P	**Pn**	**14 59 09.6**	**-5.9**
VHO				*i* S	**Sn**	**15 01 26.3**	**-17**
PPM	**Popocatepetl**	**13.29**	**239**	*i* P	**Pn**	**14 59 09.9**	**-6.6**
WMOK	**Wichita Mounta**	**13.40**	**311**	*e*P	**Pn**	**14 59 14.2**	**-3.8**
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.2s						
WMOK	**Wichita Mounta**	**13.40**	**311**	*e*Pn	**Pn**	**14 59 14.2**	**-3.9**
	comp=Z,7.1nm,0.2s						
WMOK				*e*Sn	**Sn**	**15 01 27.1**	**-20**
UTMO	**Huajuapan**	**13.44**	**233**	*i* P	**Pn**	**14 59 12.6**	**-5.9**
UNM	**Universidad Na**	**13.57**	**241**	*i* P	**Pn**	**14 59 15.2**	**-5.1**
UNM				*i* S	**Sn**	**15 01 31.6**	**-20**
UNM	**Universidad Na**	**13.57**	**241**	*i* P	**Pn**	**14 59 15.2**	**-5.1**
UNM				*i* S	**Sn**	**15 01 43.4**	**-8.1**
TELN	**Telica**	**13.71**	**181**	*e*P	**Pn**	**14 59 22.1**	**-0.1**
YAIG	**Yautepec**	**13.75**	**240**	*i* P	**Pn**	**14 59 17.2**	**-5.5**
HUIG	**Huatulco**	**13.80**	**222**	*i* P	**Pn**	**14 59 15.8**	**-7.7**
CNGN	**Cerro Negro**	**13.81**	**181**	*e*P	**Pn**	**14 59 23.6**	**-0.1**
CNGN				*e*S	**Sn**	**15 02 06.4**	**+8.9**
MIRN	**Miramar**	**13.87**	**181**	*e*P	**Pn**	**14 59 24.0**	**-0.4**
LEON	**Leon**	**13.90**	**181**	⇑*e*P	**Pn**	**14 59 24.4**	**-0.4**
MOMJ	**Momotombo**	**13.90**	**180**	⇑*e*P	**Pn**	**14 59 24.6**	**-0.2**
CBN	**Corbin**	**14.11**	**31**	*e*Pn	**Pn**	**14 59 25.1**	**-2.5**
	comp=Z,127nm,1.2s						
CBN				*e*Sn	**Sn**	**15 01 52.5**	**-12**
ACSO	**Alum Creek Sta**	**14.13**	**11**	*e*Pn	**Pn**	**14 59 26.9**	**-1.0**
	comp=Z,274nm,0.4s						
ACSO				*e*Sn	**Sn**	**15 01 54.1**	**-11**
COPN	**Copaltepe**	**14.13**	**180**	*e*P	**Pn**	**14 59 27.9**	**0.0**
COPN				*e*S	**Sn**	**15 02 14.3**	**+9.1**
XAVN	**Gruta Xavier**	**14.16**	**179**	⇑*e*P	**Pn**	**14 59 28.8**	**+0.4**
TISN	**Laguna Tiscapa**	**14.17**	**179**	*e*P	**Pn**	**14 59 29.2**	**+0.7**
PLIG	**Platanillo**	**14.35**	**239**	*i* P	**Pn**	**14 59 24.3**	**-6.7**
PLIG				*i* S	**Sn**	**15 02 00.2**	**-10**
MCWV	**Mont Chateau**	**14.38**	**21**	*e*Pn	**Pn**	**14 59 29.3**	**-2.0**
	comp=Z,114nm,1.2s						
MCWV				*e*Sn	**Sn**	**15 02 03.6**	**-7.7**
PNIG	**Pinotepa**	**14.64**	**230**	*i* P	**Pn**	**14 59 28.4**	**-6.5**
PNIG				*i* S	**Sn**	**15 02 04.2**	**-13**
PNIG	**Pinotepa**	**14.64**	**230**	*i* P	**Pn**	**14 59 26.9**	**-7.9**
PNIG				*i* P		14 59 27.6	
MEIG	**Mezcala**	**14.72**	**238**	*i* P	**Pn**	**14 59 26.2**	**-10**
MEIG				*i* S	**Sn**	**15 02 10.3**	**-9.3**
ZAIG	**Zacatecas**	**14.99**	**260**	*i* P	**Pn**	**14 59 34.0**	**-5.6**
ZAIG				*i* S	**Sn**	**15 02 10.8**	**-15**
MOIG	**Morelia**	**15.01**	**247**	*e*P	**Pn**	**14 59 37.1**	**-2.8**
MOIG				*i* S	**Sn**	**15 02 17.8**	**-8.8**
MOIG	**Morelia**	**15.01**	**247**	*e*P	**Pn**	**14 59 37.1**	**-2.8**
MOIG				*i* S	**Sn**	**15 02 37.7**	**+11**
KSU1	**Kansas State U**	**15.22**	**329**	*e*Pn	**Pn**	**14 59 41.3**	**-1.4**
KSU1				*e*Sn	**Sn**	**15 02 17.8**	**-14**
CAIG	**El Cayaco**	**15.74**	**237**	*i* P	**Pn**	**14 59 40.7**	**-8.9**
CAIG				*i* S	**Sn**	**15 02 33.9**	**-11**
CAIG	**El Cayaco**	**15.74**	**237**	*i* P	**Pn**	**14 59 39.6**	**-10**
CAIG				*i* P		14 59 40.7	
CAIG				*i* S	**Sn**	**15 02 42.6**	**-1.8**
SDDR	**Presa de Saban**	**15.91**	**114**	*e*Pn	**Pn**	**14 59 46.8**	**-4.9**
SDDR				*e*Sn	**Sn**	**15 02 30.1**	**-18**
VACR	**Volcan Arenal**	**15.93**	**173**	*e*P	**Pn**	**14 59 53.8**	**+1.8**
SSPA	**Standing Stone**	**15.94**	**25**	*e*Pn	**Pn**	**14 59 50.6**	**-1.4**
	comp=Z,548nm,0.6s						
SSPA				Sn	**Sn**	**15 02 29.4**	**-20**
MVL	**Millersville**	**16.03**	**30**	*e*Pn	**Pn**	**14 59 50.6**	**-2.7**
AAM	**Ann Arbor**	**16.06**	**8**	*e*P	**Pn**	**14 59 52.5**	**-1.1**
AAM				pmax	pmax		
	comp=Z,1µm,1.0s						
AAM	**Ann Arbor**	**16.06**	**8**	*e*Pn	**Pn**	**14 59 52.5**	**-1.1**
	comp=Z,1µm,1.0s						
JTS	**JuntasAbangare**	**16.08**	**174**	Pn	**Pn**	**14 59 53.7**	**-0.3**
	comp=Z,4µm,0.8s,SNR=32						
JTS	**JuntasAbangare**	**16.08**	**174**	Pn	**Pn**	**14 59 53.5**	**-0.5**
	comp=Z,10nm,0.3s,baz=22,slow=7.8,SNR=63						
JTS				Sn	**Sn**	**15 02 53.2**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=132,slow=16,SNR=2.3						
JTS				LR	LR	15 05 51.8	
	comp=Z,15µm,18.1s,baz=354,slow=37						
JTS	**JuntasAbangare**	**16.08**	**174**	P	**Pn**	**14 59 53.5**	**-0.5**
JTS						15 02 53.2	
JTS				pmax	pmax		
	comp=Z,10.0nm,0.3s						
JTS				smax			
	comp=N,1.0nm,0.3s						
JTS				MLR	MLR		
	comp=Z,15µm,18.1s						
JTS	**JuntasAbangare**	**16.08**	**174**	*e*Pn	**Pn**	**14 59 53.0**	**-1.0**
	comp=Z,1µm,1.3s						
ALLY	**Alegheny Colle**	**16.12**	**18**	*e*Pn	**Pn**	**14 59 53.1**	**-1.3**
ALLY				*e*Sn	**Sn**	**15 02 47.0**	**-6.6**
ZIIG	**Zihuatanejo**	**16.33**	**241**	*i* P	**Pn**	**14 59 51.4**	**-5.7**
EPA	**Esparza**	**16.42**	**173**	⇓*e*P	**Pn**	**14 59 59.4**	**+1.1**
SCIA	**State Center**	**16.42**	**342**	*e*Pn	**Pn**	**14 59 56.7**	**-1.6**
VTU	**Volcan Turrial**	**16.49**	**170**	*e*P	**Pn**	**15 00 00.5**	**+1.2**
JCR	**Jicaral**	**16.51**	**175**	⇓*e*P	**Pn**	**14 59 59.3**	**-0.1**
ICR	**Volcan Irazu**	**16.52**	**170**	*e*P	**Pn**	**15 00 01.6**	**+1.9**
IRZ2	**Volcan Irazu 2**	**16.52**	**171**	*e*P	**Pn**	**15 00 01.3**	**+1.7**
OCM	**Ochomogo**	**16.59**	**171**	⇑*e*P	**Pn**	**15 00 01.1**	**+0.6**
LAJ	**Bijagual**	**16.60**	**172**	*e*P	**Pn**	**15 00 01.9**	**+1.3**
ERPA	**Erie**	**16.60**	**17**	*e*Pn	**Pn**	**14 59 59.4**	**-1.2**
	comp=Z,554nm,0.4s						
CAO	**Cobano**	**16.65**	**175**	⇑*e*P	**Pn**	**15 00 00.4**	**-0.9**
LCR2	**La Lucha 2**	**16.73**	**171**	*e*P	**Pn**	**15 00 02.2**	**0.0**
JFWS	**Jewell Farm**	**16.76**	**351**	*e*P	**Pn**	**15 00 01.4**	**-1.2**
JFWS				pmax	pmax		
	comp=Z,1µm,1.0s						
JFWS	**Jewell Farm**	**16.76**	**351**	*e*Pn	**Pn**	**15 00 01.4**	**-1.3**
	comp=Z,1µm,1.0s						
BUS	**Buena Vista**	**16.95**	**170**	⇓*e*P	**Pn**	**15 00 05.8**	**+0.7**
MNTX	**Cornudas Mount**	**17.27**	**292**	*e*Pn	**Pn**	**15 00 05.1**	**-3.9**
	comp=Z,261nm,0.9s						
CNI	**Changuinola**	**17.31**	**166**	⇓*i*P	**Pn**	**15 00 10.3**	**+0.8**
BRNJ	**Basking Ridge**	**17.39**	**32**	*e*Pn	**Pn**	**15 00 09.8**	**-0.8**
CTCR	**Cotoan**	**17.77**	**168**	⇑*e*P	**Pn**	**15 00 16.4**	**+1.1**
PAL	**Palisades**	**17.96**	**33**	*e*P	**Pn**	**15 00 17.7**	**+0.1**
PAL				pmax	pmax		
	comp=Z,25nm,0.3s						
PAL	**Palisades**	**17.96**	**33**	*e*Pn	**Pn**	**15 00 17.7**	**+0.1**
	comp=Z,25nm,0.3s						
PAL				Sn	**Sn**	**15 03 21.8**	**-16**
BINY	**Binghamton**	**18.01**	**26**	*e*P	**Pn**	**15 00 18.8**	**+0.5**
	comp=Z,123nm,1.2s						
DVD	**David**	**18.28**	**167**	⇓*i*P	**Pn**	**15 00 22.5**	**+1.0**
MAIG	**Mazatlaan**	**18.30**	**264**	*i* P	**Pn**	**15 00 20.3**	**-1.5**
CJM	**Chamela**	**18.33**	**252**	*i* P	**Pn**	**15 00 18.1**	**-4.0**
UPA	**Univ. de Panam**	**18.55**	**158**	⇓*e*P	**Pn**	**15 00 26.0**	**+1.1**
ANMO	**Albuquerque**	**19.09**	**301**	P	**Pn**	**15 00 31.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=123,slow=12,SNR=138						
ANMO				S	**Sn**	**15 04 09.1**	**+3.4**
	comp=Z,4.4nm,0.3s,baz=1.3,slow=16,SNR=3.6						
ANMO				LR	LR	15 10 11.1	
	comp=Z,11µm,20.5s,baz=116,slow=44						
ANMO	**Albuquerque**	**19.09**	**301**	P	**Pn**	**15 00 31.2**	**-0.2**
ANMO				S	**Sn**	**15 04 09.1**	**+3.5**
ANMO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ANMO				smax			
	comp=N,4.0nm,0.3s						
ANMO				MLR	MLR		
	comp=Z,11µm,20.5s						
ANMO	**Albuquerque**	**19.09**	**301**	*e*P	**Pn**	**15 00 31.1**	**-0.3**
	comp=Z,5.7nm,0.5s						
ECSD	**EROS,Sioux Fal**	**19.13**	**337**	*e*P	**Pn**	**15 00 30.3**	**-1.6**
SADO	**Sadowa**	**19.30**	**16**	P	**Pn**	**15 00 34.6**	**+0.7**
	comp=Z,40nm,0.3s,baz=216,slow=11,SNR=168						
SADO				S	**Sn**	**15 04 13.4**	**+2.9**
	comp=Z,20nm,0.3s,baz=270,slow=20,SNR=2.5						
SADO				LR	LR	15 08 24.3	
	comp=Z,73µm,18.5s,baz=207,slow=38						
SDCO	**Great Sand Dun**	**19.60**	**310**	*e*P	**Pn**	**15 00 38.2**	**+0.7**
	comp=Z,5µm,1.3s						
QUA2	**Belchertown**	**19.68**	**33**	*e*P	**Pn**	**15 00 38.8**	**+0.3**
	comp=Z,8µm,1.3s						
ACCN	**Adirondack Com**	**19.95**	**29**	*e*P	**Pn**	**15 00 41.1**	**-0.5**
BBSR	**BB Station**	**19.96**	**67**	*e*P	**Pn**	**15 00 38.8**	**-3.0**
	comp=Z,178nm,0.6s						
NCB	**Newcomb**	**20.20**	**27**	*e*P	**P**	**15 00 44.5**	**+1.7**
	comp=Z,31nm,0.4s						
NCB				LR	LR		
	comp=Z,33µm,19.0s,MS5.7						
WES	**Weston**	**20.27**	**34**	*e*P	**P**	**15 00 45.9**	**+2.4**
WES				pmax	pmax		
	comp=Z,720nm,0.3s						
WES				MLR	MLR		
	comp=Z,13µm,19.0s,MS5.3						
WES	**Weston**	**20.27**	**34**	*e*P	**P**	**15 00 45.9**	**+2.3**
	comp=Z,720nm,0.3s						
WES				LR	LR		
	comp=Z,13µm,19.0s,MS5.3						
SJG	**San Juan**	**20.60**	**109**	P	**P**	**15 00 47.9**	**+0.8**
	comp=Z,46nm,0.5s,baz=307,slow=5.8,SNR=22						
SJG				S	**S**	**15 04 36.4**	**-1.5**
	comp=Z,78nm,1.0s,baz=64,slow=11,SNR=3.2						
SJG				LR	LR	15 10 01.0	
	comp=Z,20µm,19.3s,MS5.5,baz=270,slow=40						
SJG	**San Juan**	**20.60**	**109**	*e*P	**P**	**15 00 46.6**	**-0.5**
SJG				pmax	pmax		
	comp=Z,284nm,1.2s						
SJG				MLR	MLR		
	comp=Z,18µm,20.0s						
SJG	**San Juan**	**20.60**	**109**	*e*P	**P**	**15 00 46.5**	**-0.5**
	comp=Z,284nm,1.2s						
SJG				LR	LR		
	comp=Z,18µm,20.0s,MS5.4						
LONY	**Lake Ozonia**	**20.61**	**25**	*e*P	**P**	**15 00 48.7**	**+1.5**
ISCO	**Idaho Springs**	**20.76**	**315**	*e*P	**P**	**15 00 50.5**	**+1.7**
ISCO				pmax	pmax		
	comp=Z,1µm,1.0s						
ISCO				MLR	MLR		
	comp=Z,12µm,21.0s,MS5.2						
ISCO	**Idaho Springs**	**20.76**	**315**	*e*P	**P**	**15 00 50.5**	**+1.6**
	comp=Z,1µm,1.0s						
ISCO				LR	LR		
	comp=Z,12µm,21.0s,MS5.2						
HNH	**Hanover**	**20.81**	**30**	*e*P	**P**	**15 00 51.7**	**+2.3**
	comp=Z,4.2nm,0.5s						
MSNY	**Massena**	**20.82**	**24**	*e*P	**P**	**15 00 50.9**	**+1.4**
CPD	**Cerro la Pandu**	**20.83**	**109**	*e*P	**P**	**15 00 49.0**	**-0.6**
FFD	**Franklin Falls**	**20.92**	**32**	*e*P	**P**	**15 00 52.8**	**+2.2**
	comp=Z,323nm,0.6s						
MTP	**Monte Pirata**	**21.11**	**109**	*e*P	**P**	**15 00 53.3**	**+0.6**
FRNY	**Flat Rock**	**21.17**	**26**	*e*P	**P**	**15 00 54.6**	**+1.3**
SMCO	**Snowmass**	**21.32**	**312**	*e*P	**P**	**15 00 56.2**	**+1.4**
	comp=Z,416nm,0.4s,mb6.1						
LBNH	**Lisbon**	**21.39**	**30**	*e*P	**P**	**15 00 57.9**	**+2.2**
LBNH				pmax	pmax		
	comp=Z,39nm,0.4s,mb5.1						
LBNH				MLR	MLR		
	comp=Z,34µm,20.0s,MS5.7						
LBNH	**Lisbon**	**21.39**	**30**	*e*P	**P**	**15 00 57.9**	**+2.2**
	comp=Z,39nm,0.4s,mb5.1						
LBNH				LR	LR		
	comp=Z,34µm,20.0s,MS5.7						
PHWY	**Pilot Hill**	**21.55**	**318**	*e*P	**P**	**15 00 58.5**	**+1.2**
LPIG	**La Paz**	**21.58**	**269**	P	**P**	**15 00 57.5**	**-0.2**
	comp=Z,249nm,0.8s,mb5.7,baz=4.5,slow=0.2,SNR=32						
LPIG				S	**S**	**15 04 55.7**	**-1.6**
	comp=Z,12nm,0.4s,baz=292,slow=19,SNR=2.5						
LPIG	**La Paz**	**21.58**	**269**	*i* P	**P**	**15 00 57.3**	**-0.4**
LPIG				P		15 00 57.5	
LPIG				S	**S**	**15 04 55.7**	**-1.6**
EYMN	**Ely**	**21.87**	**351**	*e*P	**P**	**15 01 01.4**	**+0.6**
	comp=Z,0.2nm,0.3s						
EYMN				LR	LR		
	comp=Z,2µm,19.0s,MS4.5						
TUC	**Tucson**	**21.89**	**291**	*e*P	**P**	**15 01 01.6**	**+0.6**
TUC				pmax	pmax		
	comp=Z,359nm,1.3s,mb5.6						
TUC				MLR	MLR		
	comp=Z,5µm,20.0s,MS4.9						
TUC	**Tucson**	**21.89**	**291**	*e*P	**P**	**15 01 01.6**	**+0.6**
	comp=Z,359nm,1.3s,mb5.6						
TUC				LR	LR		

comp=Z,5µm,20.0s,MS4.9
PV01 Paradox Valley 21.92 308 *e*P **P 15 01 02.9 +1.6**
PV10 Paradox Valley 22.36 308 *e*P **P 15 01 07.2 +1.2**
RSSD Black Hills 22.64 326 *e*P **P 15 01 09.7 +0.7**
RSSD pmax pmax
comp=Z,150nm,0.8s,mb5.5
RSSD MLR MLR
comp=Z,10µm,20.0s,MS5.2
RSSD Black Hills 22.64 326 *e*P **P 15 01 09.7 +0.7**
comp=Z,150nm,0.8s,mb5.5
RSSD LR LR
comp=Z,10µm,20.0s,MS5.2
RWWY Rawlins 22.84 317 *e*P **P 15 01 12.8 +1.7**
comp=Z,19nm,0.8s,mb4.6
SDV Santo Domingo 23.06 136 P **P 15 01 14.0 +0.6**
comp=Z,250nm,0.9s,mb5.7,baz=350,slow=8.0,SNR=90
SDV PcP PcP 15 05 03.9 +1.1
comp=Z,36nm,0.8s,baz=355,slow=2.3,SNR=3.6
SDV S **S 15 05 25.8 +1.0**
comp=Z,10nm,0.7s,baz=216,slow=19,SNR=1.9
SDV LR LR 15 10 50.7
comp=Z,9µm,19.4s,MS5.2,baz=353,slow=38
SDV Santo Domingo 23.06 136 *e*P **P 15 01 13.8 +0.4**
comp=Z,516nm,0.8s,mb6.0
SDV *e*PcP PcP 15 05 03.0 +0.3
SDV LR LR
comp=Z,4µm,20.0s,MS4.9
WUAZ Wupatki 23.09 299 *e*P **P 15 01 13.8 +0.1**
comp=Z,1µm,1.0s,mb6.3
WUAZ LR LR
comp=Z,10µm,21.0s,MS5.2
PKME Peaks-Kenny Pk 23.39 32 *e*P **P 15 01 18.1 +1.2**
SRU San Rafael 23.72 308 *e*P **P 15 01 21.0 +0.8**
SRU pmax pmax
comp=Z,71nm,1.0s,mb5.0
SRU San Rafael 23.72 308 *e*P **P 15 01 21.0 +0.7**
comp=Z,71nm,1.0s,mb5.0
TMUT Trail Mountain 24.29 308 *e*P **P 15 01 26.3 +0.9**
TMUT *e*PcP PcP 15 05 06.1 +0.8
ROSC El Rosal 24.40 149 P **P 15 01 30.9 +4.4**
comp=Z,50nm,0.8s,mb5.0,baz=280,slow=12,SNR=30
ROSC S **S 15 05 47.3 +0.6**
comp=Z,7.7nm,0.7s,baz=94,slow=19,SNR=1.9
ROSC LR LR 15 10 34.5
comp=Z,8µm,21.0s,MS5.2,baz=359,slow=36
ROSC El Rosal 24.40 149 P **P 15 01 27.9 +1.5**
MSU Marysvale 24.67 306 *e*P **P 15 01 30.0 +1.1**
ULM Lac du Bonnet 24.88 346 P **P 15 01 30.6 -0.1**
comp=Z,106nm,0.6s,mb5.5,baz=161,slow=9.3,SNR=130
ULM S **S 15 06 02.4 +8.1**
comp=Z,64nm,1.0s,baz=174,slow=19,SNR=2.7
ULM LR LR 15 11 55.6
comp=Z,15µm,19.6s,MS5.5,baz=158,slow=38
ULM Lac du Bonnet 24.88 346 *e*P **P 15 01 30.3 -0.5**
comp=Z,1.1nm,0.4s
ULM LR LR
comp=Z,22µm,20.0s,MS5.7
BW06 Boulder Array 24.88 317 *e*P **P 15 01 30.7 -0.1**
comp=Z,279nm,1.6s,mb5.5
BW06 LR LR
comp=Z,9µm,21.0s,MS5.2
PDAR Pinedale Array 24.88 317 P **P 15 01 31.0 +0.2**
comp=Z,90nm,0.8s,mb5.4,baz=123,slow=11,SNR=226
PDAR PcP PcP 15 05 06.3 -0.3
comp=Z,27nm,0.8s,baz=111,slow=4.8,SNR=10
PDAR LR LR 15 12 48.9
comp=Z,7µm,21.4s,MS5.1,baz=121,slow=40
PDAR P3KPbc 15 34 34.5
comp=Z,0.9nm,0.9s,baz=343,slow=4.6,SNR=3.9
PDAR Pinedale Array 24.88 317 P **P 15 01 31.0 +0.2**
PDAR PcP PcP 15 05 06.3 -0.3
PDAR LR LR 15 12 48.9
MPU Maple Canyon 24.89 309 *e*P **P 15 01 31.5 +0.7**
comp=Z,445nm,1.3s,mb5.8
MPU LR LR
comp=Z,18µm,22.0s,MS5.5
NLU North Lily Min 25.17 309 *e*P **P 15 01 34.1 +0.8**
NLU *e*PcP PcP 15 05 07.9 +0.6
LZG Guadaloupe-1 25.21 109 *e*P **P 15 01 34.3 +0.5**
CCUT Cedar City 25.22 303 *e*P **P 15 01 34.3 +0.4**
CCUT *e*PcP PcP 15 05 08.7 +1.3
TCUT Toone Canyon 25.23 312 *e*P **P 15 01 34.5 +0.6**
TCUT *e*PcP PcP 15 05 07.7 +0.3
CTU Camp Tracy 25.26 311 *e*P **P 15 01 34.8 +0.6**
comp=Z,66nm,0.8s,mb5.2
SEG Port Louis 25.32 108 *e*P **P 15 01 34.6 -0.2**
ARUT Antelope Range 25.36 303 *e*P **P 15 01 35.1 0.0**
DOG Dongo Capester 25.40 109 *e*P **P 15 01 36.5 +1.0**
TBG Guadaloupe-3 25.46 109 *e*P **P 15 01 36.3 +0.2**
NOQ North Oquirrh 25.50 310 *e*P **P 15 01 36.8 +0.4**
comp=Z,538nm,1.4s,mb5.9
LAO LASA Array 25.56 328 *e*P **P 15 01 36.5 -0.4**
comp=Z,3.0nm,0.5s
LAO LR LR
comp=Z,7µm,22.0s,MS5.2
HWUT Hardware Ranch 25.56 313 *e*P **P 15 01 37.0 +0.1**
comp=Z,24nm,0.9s,mb4.7
HWUT *e*PcP PcP 15 05 08.0 -0.1
HWUT LR LR
comp=Z,15µm,21.0s,MS5.5
MGG Marie-Galante 25.71 109 *e*P **P 15 01 38.5 +0.2**
DEG La Desirade 25.75 108 *e*P **P 15 01 38.1 -0.6**
BBL Barber's Block 25.77 110 *e*P **P 15 01 39.8 +0.9**
DUG Dugway 25.78 309 *e*P **P 15 01 39.7 +0.7**
DUG *e* 15 05 08.9
DUG pmax pmax
comp=Z,2µm,0.9s,mb6.6
DUG MLR MLR
comp=Z,11µm,22.0s,MS5.3
DUG Dugway 25.78 309 *e*P **P 15 01 39.7 +0.7**
comp=Z,2µm,0.9s,mb6.6
DUG *e*PcP PcP 15 05 08.9 +0.2
DUG LR LR
comp=Z,11µm,22.0s,MS5.3
AHID Auburn Hatcher 25.84 315 *e*P **P 15 01 39.8 +0.3**
comp=Z,151nm,1.1s,mb5.4
AHID LR LR
comp=Z,10µm,21.0s,MS5.3
LOHW Long Hollow 25.99 318 *e*P **P 15 01 41.3 +0.4**
comp=Z,20nm,0.8s,mb4.7
DGMT Dagmar 25.99 333 *e*P **P 15 01 41.5 +0.6**
comp=Z,857nm,1.0s,mb6.2
DGMT LR LR
comp=Z,10µm,20.0s,MS5.3
SNOW Snow King Moun 26.00 317 *e*P **P 15 01 41.6 +0.7**
comp=Z,438nm,1.1s,mb5.9
REDW Red Top Meadow 26.00 317 *e*P **P 15 01 41.8 +0.8**
comp=Z,2.2nm,0.5s
SPUT South Promonto 26.01 311 *e*P **P 15 01 41.2 +0.1**
TPAW Teton Pass 26.13 317 *e*P **P 15 01 43.1 +0.9**
comp=Z,20nm,0.8s,mb4.7
MOOW Moose Ponds 26.15 318 *e*P **P 15 01 42.7 +0.4**
comp=Z,91nm,0.5s,mb5.6
BGU Big Grassy Mou 26.24 310 *e*P **P 15 01 43.7 +0.6**
PCRV Puerto La Cruz 26.27 124 P **P 15 01 45.9 +2.5**
comp=Z,115nm,0.9s,mb5.4,baz=315,slow=2.0,SNR=43
PCRV S **S 15 06 15.3 -1.1**
comp=Z,7.0nm,0.8s,baz=348,slow=19,SNR=1.9
PCRV LR LR 15 14 00.5
comp=Z,4µm,19.4s,MS4.9,baz=139,slow=41
RRI2 Red Ridge 26.28 316 *e*P **P 15 01 44.3 +0.8**
comp=Z,290nm,0.3s,mb6.3
FLWY Flagg Ranch 26.31 318 *e*P **P 15 01 44.7 +0.9**
comp=Z,2.2nm,0.5s
DCID1 Drake Creek 26.33 317 *e*P **P 15 01 45.0 +1.1**
IMW Indian Meadow 26.35 318 *e*P **P 15 01 44.9 +0.8**
comp=Z,458nm,0.6s,mb6.2
LKWY Lake 26.41 320 *e*P **P 15 01 46.1 +1.5**
LKWY pmax pmax
comp=Z,127nm,1.0s,mb5.4
LKWY MLR MLR
comp=Z,13µm,22.0s,MS5.4
LKWY Lake 26.41 320 *e*P **P 15 01 46.1 +1.5**
comp=Z,127nm,1.0s,mb5.4
LKWY LR LR
comp=Z,13µm,22.0s,MS5.4
FDF Fort de France 26.42 111 *e*P **P 15 01 46.1 +1.3**
HVU Hansel Valley 26.44 312 *e*P **P 15 01 45.5 +0.5**
HVU pmax pmax
comp=Z,138nm,1.0s,mb5.4
HVU Hansel Valley 26.44 312 *e*P **P 15 01 45.5 +0.5**
comp=Z,138nm,1.0s,mb5.4
YNR Norris Junctio 26.66 320 *e*P **P 15 01 48.1 +1.2**
MVM Montagne Vaucl 26.72 111 *e*P **P 15 01 49.0 +1.5**
GCMT Greycliff 26.73 322 *e*P **P 15 01 47.8 +0.3**
YMR Madison River 26.80 319 *e*P **P 15 01 49.4 +1.2**
comp=Z,104nm,0.8s,mb5.4
PFO Pinyon Flat Ob 26.80 293 P **P 15 01 48.3 +0.2**
comp=Z,802nm,1.2s,mb6.1,SNR=38
PFO Pinyon Flat Ob 26.80 293 *e*P **P 15 01 48.4 +0.3**
PFO pmax pmax
comp=Z,238nm,1.3s,mb5.6
PFO MLR MLR
comp=Z,1µm,22.0s
PFO Pinyon Flat Ob 26.80 293 *e*P **P 15 01 48.4 +0.3**
comp=Z,238nm,1.3s,mb5.6
PFO LR LR
comp=Z,1µm,22.0s
SVB Belmont 27.09 114 *e*P **P 15 01 49.6 -1.2**
SSV Crater Summit 27.11 114 *e*P **P 15 01 52.1 +1.1**
TRCR Troy Canyon 27.14 303 *e*P **P 15 01 51.9 +0.6**
QLMT Earthquake Lak 27.16 319 *e*P **P 15 01 52.5 +1.0**
GRW Mount Saint Ca 27.37 116 *e*P **P 15 01 55.2 +1.9**
ELK Elko 27.70 308 *e*P **P 15 01 57.2 +1.0**
ELK *e* 15 05 14.2
ELK pmax pmax
comp=Z,105nm,0.9s
ELK MLR MLR
comp=Z,9µm,21.0s
ELK Elko 27.70 308 *e*P **P 15 01 57.2 +1.0**
comp=Z,105nm,0.9s,mb5.5
ELK *e*PcP PcP 15 05 14.2 +1.0
ELK LR LR
comp=Z,9µm,21.0s,MS5.3
MCMT McKenzie Canyo 28.00 318 *e*P **P 15 02 00.3 +1.4**
DLMT Dillon 28.14 319 *e*P **P 15 02 01.2 +0.9**
comp=Z,13nm,0.9s,mb4.6
DAC Darwin (Calif) 28.17 298 *e*P **P 15 01 59.7 -0.7**
DAC pmax pmax
comp=Z,194nm,1.4s,mb5.5
DAC MLR MLR
comp=Z,10µm,22.0s,MS5.3
DAC Darwin (Calif) 28.17 298 *e*P **P 15 01 59.7 -0.8**
comp=Z,194nm,1.4s,mb5.5
DAC LR LR
comp=Z,10µm,22.0s,MS5.3
EGMT Eagleton 28.22 326 *e*P **P 15 02 01.3 +0.5**
comp=Z,2µm,0.7s
EGMT LR LR
comp=Z,5µm,19.0s,MS5.1
TPH Tonopah 28.30 302 *e*P **P 15 02 02.1 +0.5**
TPH pmax pmax
comp=Z,84nm,1.2s,mb5.2
TPH MLR MLR
comp=Z,9µm,22.0s,MS5.3
TPH Tonopah 28.30 302 *e*P **P 15 02 02.1 +0.5**
comp=Z,84nm,1.2s,mb5.2
TPH LR LR
comp=Z,9µm,22.0s,MS5.3
HLID Hailey 28.34 314 *e*P **P 15 02 03.0 +1.0**
comp=Z,392nm,0.8s,mb6.1
HLID LR LR
comp=Z,9µm,21.0s,MS5.4
TRN Trinidad (W) 28.46 119 *e*P **P 15 02 03.4 +0.3**
HRY Holter Researc 28.48 322 *e*P **P 15 02 02.1 -1.1**
BBGH Gun Hill 28.56 112 P **P 15 02 04.8 +0.9**
BBGH S **S 15 07 00.3 +7.8**
TPP Pointe-a-Pierr 28.62 119 *i*P **P 15 02 06.0 +1.6**
TPR Prospect 28.64 117 *e*P **P 15 02 04.3 -0.3**
BOT Bacolet 28.70 117 *e*P **P 15 02 05.3 +0.2**
ISA Isabella 28.75 297 *e*P **P 15 02 05.3 -0.4**
comp=Z,0.2nm,1.8s
ISA LR LR
comp=Z,1µm,20.0s,MS4.6
TBH Brigand Hill 28.82 119 *e*P **P 15 02 06.5 +0.2**
BMN Battle Mountai 29.00 307 *e*P **P 15 02 08.1 +0.3**
BMN *e* 15 05 16.5
BMN pmax pmax
comp=Z,103nm,1.3s,mb5.4
BMN MLR MLR
comp=Z,7µm,21.0s,MS5.2
BMN Battle Mountai 29.00 307 *e*P **P 15 02 08.1 +0.3**
comp=Z,103nm,1.3s,mb5.4
BMN *e*PcP PcP 15 05 16.5 +0.1
BMN LR LR
comp=Z,7µm,21.0s,MS5.2
MTUM Tungsten Hills 29.16 300 *e*P **P 15 02 10.3 +1.1**
NVAR Mina Array Bea 29.21 302 P **P 15 02 10.6 +0.9**
comp=Z,4.6nm,0.4s,baz=115,slow=7.1,SNR=79
NVAR PcP PcP 15 05 17.7 +0.8
comp=Z,11nm,0.5s,baz=125,slow=3.3,SNR=23
NVAR ScP ScP 15 08 57.6 -1.7
comp=Z,1.4nm,0.9s,baz=132,slow=4.2,SNR=4.6
NVAR P3KPbc 15 34 18.8
comp=Z,0.7nm,0.7s,baz=253,slow=5.2,SNR=7.0
NVAR Mina Array Bea 29.21 302 P **P 15 02 10.6 +0.9**
NVAR PcP PcP 15 05 17.7 +0.8
NVAR ScP ScP 15 08 57.6 -1.7
NVAR *e* 15 34 18.8
SNCC San Nicolas Is 29.31 291 PFAKE 15 02 20.0 +9.4
SNCC LR LR
comp=Z,4µm,21.0s,MS5.0
CHMT Chamberlain Mo 29.39 321 *e*P **P 15 02 11.8 +0.5**
MSO Missoula 29.73 320 *e*P **P 15 02 14.5 +0.1**
comp=Z,111nm,0.8s,mb5.6
MSO LR LR
comp=Z,3µm,19.0s,MS4.9
PTRM Twissleman Ran 30.15 296 *e*P **P 15 02 18.2 +0.2**
PAHR Pah Rah Range 30.36 304 *e*P **P 15 02 20.1 +0.2**
comp=Z,67nm,1.4s,mb5.2
FFC Flin Flon 30.49 342 P **P 15 02 20.8 -0.2**
comp=Z,227nm,1.5s,mb5.7,SNR=10
FFC Flin Flon 30.49 342 *e*P **P 15 02 20.4 -0.6**
FFC pmax pmax
comp=Z,117nm,0.9s,mb5.6
FFC MLR MLR
comp=Z,4µm,19.0s,MS5.1
FFC Flin Flon 30.49 342 *e*P **P 15 02 20.4 -0.7**
comp=Z,118nm,0.9s,mb5.6
FFC LR LR
comp=Z,4µm,19.0s,MS5.1
WVOR Wild Horse Val 30.69 310 *e*P **P 15 02 23.3 +0.5**
WVOR pmax pmax
comp=Z,688nm,1.5s,mb6.3
WVOR MLR MLR
comp=Z,11µm,21.0s,MS5.5
WVOR Wild Horse Val 30.69 310 *e*P **P 15 02 23.3 +0.5**
comp=Z,688nm,1.5s,mb6.3
WVOR LR LR
comp=Z,11µm,21.0s,MS5.5
CMB Columbia Colle 30.71 301 *e*P **P 15 02 23.2 +0.2**
CMB pmax pmax
comp=Z,53nm,1.4s,mb5.2
CMB MLR MLR
comp=Z,7µm,20.0s,MS5.3
CMB Columbia Colle 30.71 301 *e*P **P 15 02 23.2 +0.2**
comp=Z,53nm,1.4s,mb5.2
CMB LR LR
comp=Z,7µm,20.0s,MS5.3
BMO Blue Mountains 30.78 315 PFAKE 15 02 40.0 +16
BMO LR LR
comp=Z,5µm,19.0s,MS5.2
LRV Little Rabbit 30.91 297 *e*P **P 15 02 24.6 -0.2**
WALA Waterton Lakes 31.01 324 *e*P **P 15 02 25.6 0.0**
comp=Z,0.1nm,0.8s
SAO San Andreas Ge 31.31 298 *e*P **P 15 02 27.9 -0.4**
SAO pmax pmax
comp=Z,67nm,0.8s,mb5.5
SAO MLR MLR
comp=Z,6µm,19.0s,MS5.3
SAO San Andreas Ge 31.31 298 *e*P **P 15 02 27.9 -0.4**
comp=Z,67nm,0.8s,mb5.5
SAO LR LR
comp=Z,6µm,19.0s,MS5.3
MOD Modoc 31.68 308 *e*P **P 15 02 31.7 +0.2**
comp=Z,178nm,1.1s,mb5.8
MOD LR LR
comp=Z,4µm,21.0s,MS5.1
OHCM Honcut 31.84 303 *e*P **P 15 02 33.0 0.0**
SCHQ Schefferville 31.90 22 P **P 15 02 34.5 +1.1**
comp=Z,89nm,0.9s,mb5.6,baz=219,slow=7.3,SNR=42
SCHQ PcP PcP 15 05 22.9 -1.1
comp=Z,41nm,0.7s,baz=278,slow=4.4,SNR=3.6
SCHQ LR LR 15 15 48.7
comp=Z,52µm,18.6s,MS6.2,baz=214,slow=37
SCHQ Schefferville 31.90 22 *e*P **P 15 02 34.2 +0.8**
comp=Z,140nm,0.8s,mb5.8
SCHQ LR LR
comp=Z,65µm,20.0s,MS6.3
SAC San Andreas 32.21 299 P **P 15 02 33.8 -2.4**
NEW Newport 32.32 321 P **P 15 02 37.3 +0.1**
comp=Z,57nm,0.7s,mb5.5,baz=129,slow=8.7,SNR=83
NEW LR LR 15 17 21.6
comp=Z,4µm,20.1s,MS5.1,baz=117,slow=39
NEW Newport 32.32 321 *e*P **P 15 02 37.0 -0.2**
NEW pmax pmax
comp=Z,2µm,0.9s
NEW MLR MLR
comp=Z,4µm,22.0s
NEW Newport 32.32 321 *e*P **P 15 02 37.0 -0.2**
comp=Z,2µm,0.9s
NEW LR LR
comp=Z,4µm,22.0s,MS5.1
NSHM Saint Helena R 32.52 301 *e*P **P 15 02 39.1 +0.2**
PINOR Pine Mountain 32.71 311 P **P 15 02 40.5 -0.1**
REDWA Red Mountain 32.76 316 P **P 15 02 41.3 +0.3**
FCC Fort Churchill 32.78 353 *e*P **P 15 02 41.1 -0.1**
FCC pmax pmax
comp=Z,3.0nm,0.6s
FCC Fort Churchill 32.78 353 *e*P **P 15 02 41.1 -0.1**
comp=Z,3.0nm,0.6s
HAWA Hanford 32.86 316 *e*P **P 15 02 41.6 -0.3**
comp=Z,3.0nm,0.5s
HAWA LR LR
comp=Z,455nm,20.0s
PRW Prosser 32.88 316 P **P 15 02 42.5 +0.5**
GBL Gable Mountain 32.91 316 P **P 15 02 42.5 +0.2**
WDC Whiskeytown Da 32.92 305 *e*P **P 15 02 39.5 -3.0**
WDC pmax pmax
comp=Z,14nm,1.0s,mb4.8
WDC MLR MLR
comp=Z,5µm,21.0s,MS5.2
WDC Whiskeytown Da 32.92 305 *e*P **P 15 02 39.5 -3.0**
comp=Z,14nm,1.0s,mb4.8
WDC LR LR
comp=Z,5µm,21.0s,MS5.2
HOPS Hopland 32.97 302 *e*P **P 15 02 43.4 +0.5**
comp=Z,154nm,1.4s,mb5.7
HOPS *e*PcP PcP 15 05 27.4 +0.5
HOPS LR LR
comp=Z,3µm,19.0s,MS5.1
YBH Yreka Blue Hor 33.35 307 P **P 15 02 44.5 -1.6**
comp=Z,5.3nm,0.5s,mb4.7,baz=110,slow=2.2,SNR=27
YBH LR LR 15 18 09.4
comp=Z,4µm,21.9s,MS5.1,baz=105,slow=40
YBH Yreka Blue Hor 33.35 307 *e*P **P 15 02 43.4 -2.7**
YBH pmax pmax
comp=Z,6.0nm,0.6s
YBH MLR MLR
comp=Z,4µm,22.0s
YBH Yreka Blue Hor 33.35 307 *e*P **P 15 02 43.4 -2.7**
comp=Z,5.6nm,0.6s,mb4.7
YBH LR LR
comp=Z,4µm,22.0s,MS5.1
EDM Edmonton 33.41 331 *e*P **P 15 02 46.4 -0.3**
WTV Waterville 33.70 318 P **P 15 02 49.2 -0.1**
IRO Indian Ridge 33.72 311 P **P 15 02 49.0 -0.3**
EBG Ellensburg 33.73 316 P **P 15 02 50.1 +0.6**
TBM Table Mountain 33.86 317 P **P 15 02 51.4 +0.8**
KHMM Horse Mountain 33.87 305 *e*P **P 15 02 49.1 -1.6**
KHMM *e*PcP PcP 15 05 30.1 +0.6
LTY Liberty 33.94 317 P **P 15 02 51.7 +0.4**
TWW Teanaway 34.01 317 P **P 15 02 53.2 +1.2**
ATAH Atahualpa 34.12 165 P **P 15 02 53.8 +0.9**
comp=Z,319nm,1.4s,mb6.0,baz=1.9,slow=4.1,SNR=37
ATAH S **S 15 08 18.0 -1.4**
comp=Z,4.4nm,0.7s,baz=253,slow=19,SNR=2.3
SSOR Sweet Springs 34.15 312 P **P 15 02 53.1 0.0**
KRMB Red Mountain 34.16 306 *e*P **P 15 02 51.1 -2.1**
LON Longmire 34.44 315 P **P 15 02 56.0 +0.4**
COR Corvallis 34.62 311 PFAKE 15 03 10.0 +13
COR LR LR
comp=Z,7µm,21.0s,MS5.3
KEBM Edson Butte 34.82 308 *e*P **P 15 02 58.4 -0.5**
FRB Frobisher Bay 39.17 13 P **P 15 03 36.1 +0.2**
comp=Z,108nm,0.9s,mb5.6,baz=213,slow=9.0,SNR=17
FRB LR LR 15 20 12.4
comp=Z,29µm,18.2s,MS6.2,baz=205,slow=37
NNA Nana 39.30 165 P **P 15 03 34.9 -2.1**
comp=Z,21nm,0.7s,mb5.0,baz=328,slow=7.4,SNR=14
NNA Nana 39.30 165 *e*P **P 15 03 34.6 -2.4**
comp=Z,156nm,0.7s,mb5.8
NNA *e* 15 03 46.6
NNA LR LR
comp=Z,963nm,22.0s,MS4.6
BBB Bella Bella 40.39 321 P **P 15 03 47.1 +1.1**
comp=Z,37nm,0.8s,mb5.2,baz=163,slow=10.0,SNR=12
BBB LR LR 15 22 35.5
comp=Z,4µm,19.4s,MS5.3,baz=120,slow=39
YKA Yellowknife Ar 40.61 340 P **P 15 03 47.4 -0.5**
comp=Z,73nm,0.5s,mb5.6,baz=129,slow=8.9,SNR=569
YKA PP PP 15 05 21.2 -0.1
comp=Z,17nm,0.8s,baz=140,slow=12,SNR=6.2
YKA PcP PcP 15 05 49.3 -0.6
comp=Z,8.3nm,0.5s,baz=125,slow=3.6,SNR=8.8
YKA LR LR 15 21 37.5
comp=Z,9µm,18.8s,MS5.7,baz=180,slow=38
YKA Yellowknife Ar 40.61 340 P **P 15 03 47.4 -0.5**
YKA 15 05 21.3
YKA 15 05 49.4
YKA Yellowknife Ar 40.61 340 P **P 15 03 47.4 -0.5**
YKA PP PP 15 05 21.2 -0.1
YKA PcP PcP 15 05 49.4 -0.6
YKA LR LR 15 21 37.5
SAML Samuel 41.83 144 *e*P **P 15 03 55.1 -2.9**
comp=Z,56nm,0.6s,mb5.4
SAML *e* 15 04 07.4
SAML LR LR
comp=Z,4µm,19.0s,MS5.4
DLBC Dease Lake 44.07 329 P **P 15 04 17.2 +1.1**
comp=Z,142nm,0.8s,mb5.7,baz=114,slow=6.4,SNR=136
DLBC S **S 15 10 46.8 -2.4**
comp=Z,2.0nm,0.8s,baz=48,slow=20,SNR=1.7
DLBC LR LR 15 24 42.8
comp=Z,16µm,18.3s,MS6.0,baz=106,slow=39
WRAK Wrangell Islan 44.34 325 *e*P **P 15 04 18.4 +0.1**
ARE Arequipa 45.04 159 *e*P **P 15 04 23.0 -0.9**
LPAZ La Paz 46.05 155 P **P 15 04 30.3 -1.5**
comp=Z,25nm,0.9s,mb5.2,baz=338,slow=6.9,SNR=61
LPAZ S **S 15 11 06.1 -12**
comp=Z,2.2nm,0.9s,baz=333,slow=13,SNR=2.3
LPAZ LR LR 15 25 45.3
comp=Z,2µm,20.1s,MS5.1,baz=319,slow=39
LPAZ La Paz 46.05 155 *e*P **P 15 04 30.4 -1.5**
comp=Z,89nm,0.9s,mb5.7
LPAZ LR LR
comp=Z,3µm,22.0s,MS5.2
SIT Sitka 46.10 325 *e*P **P 15 04 32.8 +0.5**
SIT pmax pmax
comp=Z,58nm,0.8s,mb5.6
SIT Sitka 46.10 325 *e*P **P 15 04 32.8 +0.5**
comp=Z,58nm,0.8s,mb5.6
SFJD Kangerlussuaq 46.22 19 P **P 15 04 33.4 +0.2**
comp=Z,119nm,0.5s,mb6.1,baz=196,slow=5.0,SNR=100
SFJD Kangerlussuaq 46.22 19⇑ *i*P **P 15 04 33.3 +0.1**
comp=Z,119nm,0.5s,mb6.1
SFJD *e*S **S 15 11 20.5 +0.2**
SFJD
comp=Z,22µm,19.0s
SFJD Kangerlussuaq 46.22 19⇑ *i*P **P 15 04 33.3 +0.1**
SFJD *e*S **S 15 11 20.5 +0.2**
SFJD pmax pmax
comp=Z,120nm,0.5s,mb6.1
SFJD MLR MLR
comp=Z,22µm,19.0s,MS6.1
SKAG Skagway 47.00 328 *e*P **P 15 04 39.4 +0.1**
comp=Z,74nm,1.3s,mb5.5
SKAG LR LR
comp=Z,8µm,18.0s,MS5.8
RES Resolute Bay 48.55 357 *e*P **P 15 04 51.3 0.0**
RES pmax pmax
comp=Z,137nm,0.8s,mb6.0
RES Resolute Bay 48.55 357 *e*P **P 15 04 51.3 0.0**
comp=Z,137nm,0.8s,mb6.0
SIV San Ignacio 48.88 147 P **P 15 04 51.7 -2.2**
comp=Z,135nm,0.8s,mb6.0,baz=333,slow=7.6,SNR=273
INK Inuvik 50.36 339 P **P 15 05 05.4 +0.3**
comp=Z,75nm,0.5s,mb5.9,baz=120,slow=9.0,SNR=127
INK PcP PcP 15 06 23.1 -0.6
comp=Z,18nm,0.5s,baz=146,slow=4.5,SNR=3.1
INK LR LR 15 27 02.4
comp=Z,6µm,19.3s,MS5.6,baz=126,slow=37
INK Inuvik 50.36 339 P **P 15 05 05.4 +0.3**
INK 15 06 23.1
INK pmax pmax
comp=Z,75nm,0.5s
INK pmax pmax
comp=Z,18nm,0.5s

INK MLR MLR
comp=Z,6µm,19.3s
INK Inuvik 50.36 339 *eP* **P 15 05 05.3 +0.2**
comp=Z,190nm,1.0s,mb6.1
DAWY Dawson 50.55 333 *eP* **P 15 05 06.1 -0.5**
EGAK Eagle 51.53 334 *eP* **P 15 05 13.3 -0.7**
CEN1 Los Morros 51.96 161⇑ *iP* **P 15 05 16.9 -0.2**
MENT Mentasta 52.00 331 *eP* **P 15 05 17.7 +0.2**
PDA Ponta Delgada 52.04 61 *iS* **S 15 12 48.0 +6.1**
PDA eLR LR 15 21 10.0
CMLA Cha da Macela 52.15 61 P **P 15 05 21.0 +2.5**
comp=Z,1µm,0.8s,SNR=5.6
CMLA Cha da Macela 52.15 61 *eP* **P 15 05 19.9 +1.3**
comp=Z,238nm,0.9s,mb6.1
CMLA LR LR
comp=Z,1µm,20.0s,MS5.0
EYAK Cordova Ski Ar 52.31 328 *eP* **P 15 05 20.4 +0.7**
DIV Divide 52.45 328 *eP* **P 15 05 22.4 +1.6**
comp=Z,255nm,0.5s,mb6.4
DIV LR LR
comp=Z,21µm,20.0s,MS6.2
SUMG Summit 52.99 16 *eP* **P 15 05 24.9 0.0**
comp=Z,87nm,0.8s,mb5.7
PMR Palmer 54.13 328 *eP* **P 15 05 32.6 -0.6**
PMR pmax pmax
comp=Z,28nm,0.5s,mb5.5
PMR MLR MLR
comp=Z,2µm,18.0s,MS5.1
PMR Palmer 54.13 328 *eP* **P 15 05 32.6 -0.6**
comp=Z,28nm,0.5s,mb5.5
PMR LR LR
comp=Z,2µm,18.0s,MS5.1
COLA College 54.28 333⇑ *iP* **P 15 05 33.8 -0.5**
COLA College 54.28 333 *eP* **P 15 05 33.8 -0.5**
comp=Z,108nm,0.7s,mb5.9
COLA LR LR
comp=Z,6µm,19.0s,MS5.7
SLKM Skilak Lake 54.47 327 P **P 15 05 35.2 -0.4**
SLKM Skilak Lake 54.47 327 *eP* **P 15 05 35.0 -0.6**
MCK McKinley 54.48 331 *eP* **P 15 05 35.1 -0.6**
MCK pmax pmax
comp=Z,71nm,1.3s,mb5.4
MCK MLR MLR
comp=Z,3µm,20.0s,MS5.4
MCK McKinley 54.48 331 *eP* **P 15 05 35.0 -0.6**
comp=Z,71nm,1.3s,mb5.4
MCK LR LR
comp=Z,3µm,20.0s,MS5.4
KDAK Kodiak Island 55.35 323 P **P 15 05 41.8 -0.2**
comp=Z,651nm,0.6s,SNR=23
KDAK Kodiak Island 55.35 323 P **P 15 05 42.0 0.0**
comp=Z,54nm,0.5s,mb5.8,baz=106,slow=2.8,SNR=51
KDAK Kodiak Island 55.35 323 *eP* **P 15 05 41.4 -0.6**
comp=Z,72nm,0.7s,mb5.8
KDAK LR LR
comp=Z,1µm,22.0s,MS4.9
BORG Borgarnes 55.92 28 P **P 15 05 46.1 0.0**
comp=Z,43nm,1.0s,mb5.5,baz=283,slow=7.3,SNR=7.7
BORG Borgarnes 55.92 28 P **P 15 05 46.1 0.0**
BORG LR LR
comp=Z,2µm,21.0s,MS5.2
BDFB Brasilia 56.13 134 P **P 15 05 48.4 +0.8**
comp=Z,107nm,1.0s,mb5.8,baz=304,slow=7.9,SNR=69
BDFB LR LR 15 31 58.3
comp=Z,3µm,18.1s,MS5.4,baz=150,slow=38
BDFB Brasilia 56.13 134 P **P 15 05 48.4 +0.8**
BDFB LR LR 15 31 58.3
BAO Brasilia Array 56.14 134 P **P 15 05 38.0 -10**
IMA2 Indian Mountai 56.91 333 *eP* **P 15 05 52.5 -0.7**
ALE Alert 56.93 4 P **P 15 05 52.0 -1.3**
comp=Z,945nm,0.8s,SNR=33
LCO Las Campanas 57.15 163 *iP* **P 15 05 52.3 -2.6**
SVW2 Sparrevohn 57.15 327 *eP* **P 15 05 53.3 -1.5**
TTA Tatalina 57.51 329 *eP* **P 15 05 56.0 -1.4**
RPN Rapa Nui 57.54 204 PFAKE 15 06 10.0 +12
RPN LR LR
comp=Z,2µm,20.0s,MS5.2
TLL Tololo Astrono 58.23 164 *eP* **P 15 06 01.5 -0.9**
CHGN Chignik 58.48 322 *eP* **P 15 06 03.2 -1.0**
CMCH Combarbala 59.14 164 *eP* **P 15 06 07.3 -1.4**
DAG Danmarks Havn 59.48 14⇓ *iP* **P 15 06 10.0 -1.2**
comp=Z,49nm,0.9s,mb5.5
DAG
comp=Z,12µm,18.0s
DAG Danmarks Havn 59.48 14⇓ *iP* **P 15 06 10.0 -1.2**
DAG pmax pmax
comp=Z,49nm,0.9s,mb5.5
DAG MLR MLR
comp=Z,12µm,18.0s,MS6.1
DAG MLR MLR
comp=E,11µm,19.0s
CPUP Villa Florida 59.51 149 P **P 15 06 09.4 -2.0**
comp=E,7.7nm,0.7s,mb4.8,baz=319,slow=6.8,SNR=20
CPUP LR LR 15 35 51.7
comp=E,2µm,20.1s,MS5.2,baz=318,slow=40
CPUP PKP2bc 15 35 52.2
comp=E,1.2nm,0.7s,baz=176,slow=4.8,SNR=3.7
CPUP PKP2ab 15 36 05.0
comp=E,1.4nm,0.7s,baz=2.3,slow=2.4,SNR=4.2
CPUP Villa Florida 59.51 149 P **P 15 06 09.4 -2.0**
CPUP pmax pmax
comp=Z,8.0nm,0.7s
CPUP MLR MLR
comp=Z,2µm,20.1s
CPUP pmax pmax
comp=Z,1.0nm,0.7s
CPUP pmax pmax
comp=Z,1.0nm,0.7s
CPUP Villa Florida 59.51 149 *eP* **P 15 06 08.4 -2.9**
comp=Z,47nm,0.8s,mb5.6
SDPT Sand Point 59.68 321 *eP* **P 15 06 12.0 -0.5**
CFAA Coronel Fontan 60.26 162 P **P 15 06 15.0 -1.5**
comp=Z,6.0nm,0.9s,mb4.6,baz=338,slow=6.2,SNR=55
CFAA Coronel Fontan 60.26 162 P **P 15 06 15.0 -1.5**
PMPS Porto Santo 60.35 65 *eP* **P 15 06 19.8 +2.6**
comp=Z,128nm,1.2s,mb5.8
EGOM La Gomera 60.88 71 P **P 15 06 22.1 +1.3**
comp=Z,143nm,1.1s,mb6.0
FCH Farellones 61.37 164 *eP* **P 15 06 23.5 -0.5**
CCAN Las Canadas 61.38 71 P **P 15 06 24.4 +0.3**
comp=Z,30nm,0.9s,mb5.4
JMIC Jan Mayen 61.42 21 *eP* **P 15 06 25.5 +1.2**
JMIC eSS SS 15 18 47.6 +1.1
JMIC AMS AMS 15 33 10.9
comp=Z,20µm,17.5s,MS6.3
VAL Valentia 61.42 43 *eP* **P 15 06 22.9 -1.5**
EBAJ Bajamar 61.51 70 P **P 15 06 26.5 +1.5**
comp=Z,177nm,1.1s,mb6.1
LMEL Las Melosas 61.89 165⇓ *eP* **P 15 06 26.7 -0.8**
LMEL Las Melosas 61.89 165 *eP* **P 15 06 27.2 -0.3**
EOSO Osorio 62.31 71 P **P 15 06 32.2 +1.8**
comp=Z,164nm,1.4s,mb6.0
TNA Tin City 62.74 332 PFAKE 15 06 40.0 +6.7
TNA LR LR
comp=Z,3µm,20.0s,MS5.5
DCN Croghan 63.02 41⇑ *iP* **P 15 06 31.8 -3.4**
POHA Pohakuloa 63.14 280 PFAKE 15 06 50.0 +14
POHA LR LR
comp=Z,2µm,19.0s,MS5.3
KAR1 Arisaig 63.34 37⇑ *eP* **P 15 06 35.9 -1.3**
KAR1 Arisaig 63.34 37⇑ *eP* **P 15 06 35.9 -1.3**
KPL Plockton 63.38 37 P **P 15 06 36.3 -1.2**
KPL AMb AMB 15 06 42.2
comp=Z,170nm,2.0s,mb5.8
KPL Plockton 63.38 37⇑ *eP* **P 15 06 36.3 -1.2**
KPL AMb AMB 15 06 42.2
comp=Z,170nm,2.0s,mb5.8
KPL AMS AMS 15 33 17.8
comp=Z,9µm,19.1s,MS6.0
KPL Plockton 63.38 37⇑ *eP* **P 15 06 36.3 -1.2**
KPL AMb AMB 15 06 42.2
comp=Z,170nm,2.0s,mb5.8
KPL AMS AMS 15 33 17.8
comp=Z,9µm,19.1s,MS6.0
CFTV Fuerteventura 63.45 70 P **P 15 06 38.8 +0.8**
comp=Z,20nm,0.6s,mb5.4
DLF Lyons Farm 63.47 41⇑ *iP* **P 15 06 34.4 -3.7**
KSB Sheil Bridge 63.52 37⇑ *eP* **P 15 06 37.3 -1.1**
KSB Sheil Bridge 63.52 37⇑ *eP* **P 15 06 37.3 -1.1**
KAC Achnashellach 63.54 37⇑ *eP* **P 15 06 37.6 -1.0**
KAC Achnashellach 63.54 37⇑ *eP* **P 15 06 37.6 -1.0**
GMM Mts of Mourne 63.66 40⇑ *eP* **P 15 06 38.8 -0.6**
GMM Mts of Mourne 63.66 40⇑ *eP* **P 15 06 38.8 -0.6**
GMK Mull of Kintyr 63.70 39⇑ *eP* **P 15 06 39.8 +0.1**
GMK Mull of Kintyr 63.70 39⇑ *eP* **P 15 06 39.8 +0.1**
EFAM Famara 63.71 69 P **P 15 06 41.6 +1.9**
comp=Z,81nm,0.9s,mb5.8
EMAZ Mazaricos 63.80 53 P **P 15 06 40.9 +0.6**
comp=Z,387nm,1.4s,mb6.2
STS Santiago 64.12 53 P **P 15 06 41.8 -0.6**
STS pmax pmax
comp=Z,81nm,0.9s,mb5.8
STS Santiago 64.12 53 P **P 15 06 41.8 -0.6**
comp=Z,80nm,0.9s,mb5.8
EZAM Zamans 64.18 54 P **P 15 06 42.3 -0.5**
ORE Reay 64.20 35⇑ *eP* **P 15 06 41.9 -1.0**
ORE Reay 64.20 35⇑ *eP* **P 15 06 41.9 -1.0**
PGBU Glenifferbraes 64.24 38 P **P 15 06 42.3 -0.9**
PGBU AMb AMB 15 06 44.4
comp=Z,52nm,0.8s,mb5.6
PGBU Glenifferbraes 64.24 38⇑ *eP* **P 15 06 42.3 -0.9**
PGBU AMb AMB 15 06 44.4
comp=Z,52nm,0.8s,mb5.6
PGBU AMS AMS 15 34 23.2
comp=Z,2µm,18.5s,MS5.3
PGBU Glenifferbraes 64.24 38⇑ *eP* **P 15 06 42.3 -0.9**
PGBU AMb AMB 15 06 44.4
comp=Z,52nm,0.8s,mb5.6
PGBU AMS AMS 15 34 23.2
comp=Z,2µm,18.5s,MS5.3
EAB Aberfoyle 64.26 38⇑ *eP* **P 15 06 42.3 -1.0**
EAB Aberfoyle 64.26 38⇑ *eP* **P 15 06 42.3 -1.0**
GAL1 Galloway 64.27 39 P **P 15 06 42.7 -0.7**
GAL1 AMb AMB 15 06 44.1
comp=Z,64nm,1.3s,mb5.5
GAL1 Galloway 64.27 39 *eP* **P 15 06 42.7 -0.7**
GAL1 ⇑ *eP* pP 15 06 42.7 -2.0
GAL1 AMb AMB 15 06 44.1
comp=Z,64nm,1.3s,mb5.5
GAL1 AMS AMS 15 36 38.4
comp=Z,3µm,16.3s,MS5.5
GAL1 Galloway 64.27 39 *eP* **P 15 06 42.7 -0.7**
GAL1 ⇑ *eP* pP 15 06 42.7 -2.0
GAL1 AMb AMB 15 06 44.1
comp=Z,64nm,1.3s,mb5.5
GAL1 AMS AMS 15 36 38.4
comp=Z,3µm,16.3s,MS5.5
WIM Isle of Man 64.42 40⇑ *eP* **P 15 06 43.8 -0.6**
WIM Isle of Man 64.42 40⇑ *eP* **P 15 06 43.8 -0.6**
PTO Porto 64.48 55 *eP* **P 15 06 45.6 +0.8**
comp=Z,181nm,0.9s,mb6.1
PMAFR Mafra 64.49 57 *eP* **P 15 06 45.4 +0.5**
PMAFR Mafra 64.49 57 *i* P **P 15 06 45.9 +1.0**
PMAFR *eS* **S 15 15 25.7 +1.2**
PMAFR Mafra 64.49 57 *eLR* LR 15 26 48.9
GIM North Isle of 64.51 40⇑ *eP* **P 15 06 44.5 -0.5**
GIM North Isle of 64.51 40⇑ *eP* **P 15 06 44.5 -0.5**
CAM4 Nova Friburgo 64.53 135 *eP* **P 15 06 44.9 -0.2**
CAM4 *i* pP 15 06 46.6 +0.2
CAM4 *i* 15 06 56.6
CAM4 *i* 15 07 01.6
CPZ Penzance 64.61 45⇑ *eP* **P 15 06 45.3 -0.3**
CPZ Penzance 64.61 45⇑ *eP* **P 15 06 45.3 -0.3**
PLOU Loures 64.61 57 *i* P **P 15 06 46.6 +1.0**
comp=Z,292nm,0.9s,mb6.3
MCD Coleburn Disti 64.62 36⇑ *eP* **P 15 06 44.8 -0.9**
MCD Coleburn Disti 64.62 36⇑ *eP* **P 15 06 44.8 -0.9**
WCB1 Church Bay 64.63 41⇑ *eP* **P 15 06 44.9 -0.9**
WCB1 Church Bay 64.63 41⇑ *eP* **P 15 06 44.9 -0.9**
YRC Rhoscolyn 64.64 41⇑ *eP* **P 15 06 44.7 -1.1**
YRC Rhoscolyn 64.64 41⇑ *eP* **P 15 06 44.7 -1.1**
LIS Lisbon 64.65 58 *eP* **P 15 06 45.5 -0.4**
LIS *eS* **S 15 15 26.6 +0.1**
LIS *eS* **S 15 15 26.8 +0.3**
LIS AMS AMS 15 36 20.1
comp=Z,5µm,16.9s,MS5.8
LIS Lisbon 64.65 58 *eP* **P 15 06 45.5 -0.4**
LIS *eS* **S 15 15 26.6 +0.1**
CAM3 Guarapari 64.71 132 *eP* **P 15 06 46.4 +0.1**
CAM3 *i* pP 15 06 47.2 -0.4
CAM3 *i* 15 06 53.5
CAM3 *i* 15 06 57.7
CAM3 *i* 15 07 02.2
PCAB Cabril 64.76 54 *iP* **P 15 06 47.2 +0.6**
comp=Z,146nm,1.1s,mb5.9
EAU Auchinoon 64.81 38⇑ *eP* **P 15 06 45.9 -1.1**
EAU Auchinoon 64.81 38⇑ *eP* **P 15 06 45.9 -1.1**
MME1 Meikle Cairn 64.82 37⇑ *eP* **P 15 06 45.7 -1.3**
MME1 Meikle Cairn 64.82 37⇑ *eP* **P 15 06 45.7 -1.3**
CCA1 Carnmenellis 64.83 45⇑ *eP* **P 15 06 46.8 -0.3**
CCA1 Carnmenellis 64.83 45⇑ *eP* **P 15 06 46.8 -0.3**
CGW Gweek 64.85 45⇑ *eP* **P 15 06 47.0 -0.2**
CGW Gweek 64.85 45⇑ *eP* **P 15 06 47.0 -0.2**
CRQ2 Rosemanowes 2 64.87 45⇑ *eP* **P 15 06 46.9 -0.4**
CRQ2 Rosemanowes 2 64.87 45⇑ *eP* **P 15 06 46.9 -0.4**
CGH1 Goonhilly 64.89 45⇑ *eP* **P 15 06 47.4 -0.1**
CGH1 Goonhilly 64.89 45⇑ *eP* **P 15 06 47.4 -0.1**
EDI Edinburgh 64.95 38 P **P 15 06 47.7 -0.1**
EDI AMb AMB 15 06 49.9
comp=Z,130nm,0.8s,mb6.0
EDI Edinburgh 64.95 38 *eP* **P 15 06 47.7 -0.1**
EDI AMb AMB 15 06 49.9
comp=Z,130nm,0.8s,mb6.0
EDI AMS AMS 15 34 54.5
comp=Z,5µm,18.4s,MS5.7
EDI Edinburgh 64.95 38 *eP* **P 15 06 47.7 -0.1**
EDI AMb AMB 15 06 49.9
comp=Z,130nm,0.8s,mb6.0
EDI AMS AMS 15 34 54.5
comp=Z,5µm,18.4s,MS5.7
PTOM Tomar 64.98 57 *iP* **P 15 06 49.1 +1.0**
comp=Z,544nm,0.9s,mb6.6
CSA1 St Austell 65.00 44⇑ *eP* **P 15 06 47.8 -0.4**
CSA1 St Austell 65.00 44⇑ *eP* **P 15 06 47.8 -0.4**
WAL1 Walls 65.01 33⇑ *eP* **P 15 06 47.1 -1.2**
WAL1 Walls 65.01 33⇑ *eP* **P 15 06 47.1 -1.2**
EPON Pontenova 65.02 52 P **P 15 06 48.9 +0.6**
comp=Z,311nm,0.8s,mb6.4
WPM1 Penmaenmawr 65.03 41⇑ *eP* **P 15 06 48.1 -0.3**
WPM1 Penmaenmawr 65.03 41⇑ *eP* **P 15 06 48.1 -0.3**
XDE Dent Fell 65.04 40⇑ *eP* **P 15 06 47.1 -1.3**
XDE Dent Fell 65.04 40⇑ *eP* **P 15 06 47.1 -1.3**
ESK Eskdalemuir 65.05 39 P **P 15 06 46.6 -1.9**
comp=Z,341nm,0.9s,mb6.4,SNR=12
ESK Eskdalemuir 65.05 39 P **P 15 06 47.0 -1.5**
EBL Broad Law 65.05 38 *eP* **P 15 06 47.3 -1.2**
EBL Broad Law 65.05 38 *eP* **P 15 06 47.3 -1.2**
PVRL Vila Real 65.09 55 *iP* **P 15 06 49.5 +0.7**
comp=Z,187nm,1.0s,mb6.1
PVIS Viseu 65.10 55 *iP* **P 15 06 49.7 +0.9**
comp=Z,385nm,1.1s,mb6.3
ECK Cauldkaine Hil 65.11 39⇑ *eP* **P 15 06 47.7 -1.3**
ECK Cauldkaine Hil 65.11 39⇑ *eP* **P 15 06 47.7 -1.3**
HTL Hartland 65.13 44 P **P 15 06 48.8 -0.2**
HTL AMb AMB 15 06 50.7
comp=Z,54nm,0.8s,mb5.6
HTL Hartland 65.13 44⇑ *eP* **P 15 06 48.8 -0.2**
HTL AMb AMB 15 06 50.7
comp=Z,54nm,0.8s,mb5.6
HTL AMS AMS 15 34 01.6
comp=Z,3µm,19.6s,MS5.5
HTL Hartland 65.13 44⇑ *eP* **P 15 06 48.8 -0.2**
HTL AMb AMB 15 06 50.7
comp=Z,54nm,0.8s,mb5.6
HTL AMS AMS 15 34 01.6
comp=Z,3µm,19.6s,MS5.5
LRW Lerwick 65.25 33 P **P 15 06 49.7 0.0**
LRW AMb AMB 15 06 54.7
comp=Z,47nm,2.2s,mb5.1
LRW Lerwick 65.25 33 *eP* **P 15 06 49.7 0.0**
LRW AMb AMB 15 06 54.7
comp=Z,47nm,2.2s,mb5.1
LRW AMS AMS 15 33 28.1
comp=Z,4µm,20.7s,MS5.5
LRW Lerwick 65.25 33 *eP* **P 15 06 49.7 0.0**
LRW AMb AMB 15 06 54.7
comp=Z,47nm,2.2s,mb5.1
LRW AMS AMS 15 33 28.1
comp=Z,4µm,20.7s,MS5.5
ESY Stoneypath 65.26 38⇑ *eP* **P 15 06 49.3 -0.6**
ESY Stoneypath 65.26 38⇑ *eP* **P 15 06 49.3 -0.6**
PTEO Sao Teotonio 65.27 59 *iP* **P 15 06 51.2 +1.3**
comp=Z,423nm,1.0s,mb6.4
MORF Marmelete 65.39 59 *eP* **P 15 06 49.9 -0.8**
MORF *eS* S 15 15 34.8 -0.8
MORF *eS* S 15 15 34.9 -0.7
MORF AMS AMS 15 33 36.6
comp=Z,4µm,15.3s,MS5.7
MORF Marmelete 65.39 59 *eP* **P 15 06 49.9 -0.8**
MORF *eS* S 15 15 34.9 -0.7
MTE Manteigas 65.44 56 *eP* **P 15 06 51.2 +0.2**
comp=Z,435nm,0.8s,mb6.5
MTE Manteigas 65.44 56 *i* P **P 15 06 51.8 +0.8**
comp=Z,435nm,0.8s,mb6.5
MTE *eS* S 15 15 36.2 +0.1
MTE Manteigas 65.44 56 *eLR* LR 15 26 22.2
comp=Z,4µm,18.0s
MTE Manteigas 65.44 56 *eP* **P 15 06 51.6 +0.6**
comp=Z,397nm,0.8s,mb6.5
HEX Exmoor 65.53 43⇑ *eP* **P 15 06 50.8 -0.8**
HEX Exmoor 65.53 43⇑ *eP* **P 15 06 50.8 -0.8**
XSO Sourhope Farm 65.55 38⇑ *eP* **P 15 06 50.6 -1.1**
XSO Sourhope Farm 65.55 38⇑ *eP* **P 15 06 50.6 -1.1**
EVO Evora 65.56 58⇑ *iP* **P 15 06 52.3 +0.5**
comp=Z,343nm,0.6s,mb6.3
EVO *eR*
comp=Z,5µm,17.8s
DYA Yadsworthy 65.59 44⇑ *eP* **P 15 06 51.4 -0.5**
DYA Yadsworthy 65.59 44⇑ *eP* **P 15 06 51.4 -0.5**
PCBR Castelo Branco 65.63 56 *i* P **P 15 06 53.0 +0.8**
comp=Z,393nm,0.9s,mb6.4
ECAL Calabor 65.64 54 P **P 15 06 53.1 +0.8**
comp=Z,258nm,1.0s,mb6.2
HTR Trewern Hill 65.65 42⇑ *eP* **P 15 06 51.7 -0.6**
HTR Trewern Hill 65.65 42⇑ *eP* **P 15 06 51.7 -0.6**
PBRG Braganca 65.67 54 *iP* **P 15 06 53.3 +0.8**
comp=Z,144nm,1.1s,mb5.9
XAL Allendale 65.69 39⇑ *eP* **P 15 06 51.7 -0.9**
XAL Allendale 65.69 39⇑ *eP* **P 15 06 51.7 -0.9**
HLM1 Long Mynd 65.79 42⇑ *eP* **P 15 06 52.2 -1.1**
HLM1 Long Mynd 65.79 42⇑ *eP* **P 15 06 52.2 -1.1**
PESTR Estremoz 65.79 57 *eP* **P 15 06 53.6 +0.3**
comp=Z,192nm,0.9s,mb6.1
PESTR Estremoz 65.79 57 *iP* **P 15 06 54.2 +0.9**
comp=Z,192nm,0.9s,mb6.1
PESTR *eS* S 15 15 40.8 +0.3
PESTR Estremoz 65.79 57 *eLR* LR 15 26 50.9
PBEJ Beja 65.80 58 *iP* **P 15 06 54.2 +0.8**
comp=Z,141nm,0.9s,mb6.0
MCH1 Michaelchurch 65.83 42 P **P 15 06 52.5 -1.0**
MCH1 AMb AMB 15 06 54.2
comp=Z,41nm,1.1s,mb5.4
MCH1 Michaelchurch 65.83 42⇑ *eP* **P 15 06 52.5 -1.0**
MCH1 ⇑ *eP* pP 15 06 52.5 -2.3
MCH1 AMb AMB 15 06 54.2
comp=Z,41nm,1.1s,mb5.4
MCH1 AMS AMS 15 35 30.4
comp=Z,3µm,17.8s,MS5.5
MCH1 Michaelchurch 65.83 42⇑ *eP* **P 15 06 52.5 -1.0**
MCH1 ⇑ *eP* pP 15 06 52.5 -2.3
MCH1 AMb AMB 15 06 54.2
comp=Z,41nm,1.1s,mb5.4
MCH1 AMS AMS 15 35 30.4
comp=Z,3µm,17.8s,MS5.5
KBS Kingsbay 65.92 12 *eP* **P 15 06 55.4 +1.2**
KBS *eS* S 15 15 40.4 -1.7
KBS AMb AMB 15 36 30.4
comp=Z,3µm,23.1s
KBS Kingsbay 65.92 12 P **P 15 06 54.2 +0.1**
KBS pmax pmax
comp=Z,47nm,0.8s,mb5.6
KBS MLR MLR
comp=Z,5µm,20.0s,MS5.7
KBS Kingsbay 65.92 12 P **P 15 06 54.2 +0.1**
comp=Z,47nm,0.8s,mb5.6
KBS LR LR
comp=Z,5µm,20.0s,MS5.7
HGH Gray Hill 66.02 43⇑ *eP* **P 15 06 54.1 -0.7**
HGH Gray Hill 66.02 43⇑ *eP* **P 15 06 54.1 -0.7**
HAE Alders End 66.09 42⇑ *eP* **P 15 06 54.1 -1.1**
HAE Alders End 66.09 42⇑ *eP* **P 15 06 54.1 -1.1**
EGRO El Granado 66.23 59 P **P 15 06 57.3 +1.2**
comp=Z,155nm,0.7s,mb6.2
EBAD Badajoz 66.26 57 P **P 15 06 56.9 +0.6**
comp=Z,69nm,0.8s,mb5.7
KWE Weaver Farm 66.30 41⇑ *eP* **P 15 06 56.0 -0.6**
KWE Weaver Farm 66.30 41⇑ *eP* **P 15 06 56.0 -0.6**
EARI Arriondas 66.40 52 P **P 15 06 57.7 +0.5**
comp=Z,110nm,0.8s,mb5.9
KBI1 Birley Grange 66.43 41⇑ *eP* **P 15 06 56.6 -0.8**
KBI1 Birley Grange 66.43 41⇑ *eP* **P 15 06 56.6 -0.8**
ROSF Rostrenen 66.48 46⇑ *iP* **P 15 06 57.6 -0.1**
comp=Z,204nm,0.8s,mb5.9
ROSF Rostrenen 66.48 46⇑ *iP* **P 15 06 57.6 -0.1**
ROSF pmax pmax
comp=Z,102nm,0.8s,mb5.9
ROSF Rostrenen 66.48 46⇑ *iP* **P 15 06 57.6 -0.1**
comp=Z,102nm,0.8s,mb5.9
QUIF Quistinic 66.65 47⇑ *iP* **P 15 06 58.8 0.0**
comp=Z,278nm,0.9s,mb6.0
QUIF Quistinic 66.65 47⇑ *iP* **P 15 06 58.8 0.0**
QUIF pmax pmax
comp=Z,139nm,0.9s,mb6.0
QUIF Quistinic 66.65 47⇑ *iP* **P 15 06 58.8 0.0**
comp=Z,139nm,0.9s,mb6.0
SWN1 Swindon 66.66 43⇑ *eP* **P 15 06 58.5 -0.4**
SWN1 Swindon 66.66 43⇑ *eP* **P 15 06 58.5 -0.4**
EMIN Mina Concepcio 66.78 58 P **P 15 07 00.7 +1.0**
comp=Z,149nm,0.9s,mb6.0
SPB4 Spitsbergen Ar 66.97 13 *eP* **P 15 07 00.5 -0.4**
SFS San Fernando 67.51 59 P **P 15 07 06.9 +2.6**
SFS pmax pmax
comp=Z,279nm,0.8s,mb6.3
SFS San Fernando 67.51 59 P **P 15 07 06.8 +2.6**
comp=Z,279nm,0.8s,mb6.3
ESPR Espera 67.66 59 P **P 15 07 06.7 +1.5**
comp=Z,245nm,0.9s,mb6.2
ELAN Lanestosa 67.67 52 P **P 15 07 05.6 +0.4**
comp=Z,50nm,0.7s,mb5.7
GUD Guadarrama 67.86 55 P **P 15 07 06.4 -0.1**
GUD pmax pmax
comp=Z,238nm,0.9s,mb6.2
GUD Guadarrama 67.86 55 P **P 15 07 06.4 -0.1**
comp=Z,238nm,0.9s,mb6.2
FOO Floro 67.91 31 *eP* **P 15 07 05.7 -1.1**
FOO AMb AMB 15 07 07.6
comp=Z,161nm,1.1s,mb6.0
FOO Floro 67.91 31 *eP* **P 15 07 05.7 -1.1**
comp=Z,161nm,1.1s,mb6.0
SUE Sulen 67.91 32 *eP* **P 15 07 06.8 0.0**
TSA1 Sevenoaks 67.92 43⇑ *eP* **P 15 07 06.0 -0.9**
TSA1 Sevenoaks 67.92 43⇑ *eP* **P 15 07 06.0 -0.9**
RKT Rikitea 67.93 228 *eS* S 15 15 58.7 -7.6
comp=Z,816nm,30.2s
RKT *eSS* SS 15 20 23.0 -5.0
comp=Z,1µm,32.2s
RKT *eLR* LR 15 27 35.0
comp=Z,3µm,32.0s
GRR Gorron 68.03 46⇑ *iP* **P 15 07 07.4 -0.1**
comp=Z,221nm,0.7s,mb6.0
GRR Gorron 68.03 46⇑ *iP* **P 15 07 07.4 -0.1**
GRR pmax pmax
comp=Z,111nm,0.7s,mb6.0
GRR Gorron 68.03 46⇑ *iP* **P 15 07 07.4 -0.1**
comp=Z,111nm,0.7s,mb6.0
LRYF La Roche-sur-Y 68.06 48 *eP* **P 15 07 07.9 +0.2**
EJIF Jimena Fronter 68.08 59 P **P 15 07 08.4 +0.5**
EJIF pmax pmax
comp=Z,115nm,1.0s,mb5.9
EJIF Jimena Fronter 68.08 59 P **P 15 07 08.4 +0.5**
comp=Z,115nm,1.0s,mb5.9
TRQA Tornquist 68.13 159 *eP* **P 15 07 06.3 -1.8**
comp=Z,47nm,0.9s,mb5.5
TRQA LR LR
comp=Z,2µm,19.0s,MS5.3
FLN La Foliniere 68.17 45⇑ *iP* **P 15 07 08.4 0.0**
comp=Z,232nm,0.8s,mb5.9
FLN *eR*
comp=Z,8µm,18.2s
FLN La Foliniere 68.17 45⇑ *iP* **P 15 07 08.4 0.0**
FLN pmax pmax
comp=Z,116nm,0.8s,mb6.0
FLN MLR MLR
comp=Z,8µm,18.3s,MS6.0
FLN La Foliniere 68.17 45⇑ *iP* **P 15 07 08.4 0.0**
comp=Z,116nm,0.8s,mb6.0
FLN LR LR
comp=Z,8µm,18.3s,MS6.0
AEU East Anglia Un 68.21 41 *eP* **P 15 07 07.8 -0.9**
AEU East Anglia Un 68.21 41 *eP* **P 15 07 07.8 -0.9**
EADA Adamuz 68.26 57 P **P 15 07 09.8 +0.9**
comp=Z,148nm,0.8s,mb6.1
ASK Askoy 68.27 32 *eP* **P 15 07 09.1 +0.1**
ASK AMb AMB 15 07 11.0
comp=Z,136nm,1.0s,mb5.9

ASK Askoy 68.27 32 eP P 15 07 09.1 +0.1
comp=Z,136nm,1.0s,mb5.9
ESDC Sonseca Array 68.28 55 P P 15 07 09.8 +0.7
comp=Z,132nm,0.9s,mb6.0,baz=299,slow=6.1,SNR=232
ESDC PKP2bc 15 35 25.9
comp=Z,0.1nm,0.3s,baz=69,slow=2.1,SNR=4.7
ESDC LR LR 15 37 38.3
comp=Z,3µm,18.1s,MS5.6,baz=275,slow=36
ESDC Sonseca Array 68.28 55 P P 15 07 09.8 +0.7
comp=Z,56nm,0.6s,mb5.8
ESLA Sonseca Array 68.28 55 eP P 15 07 09.5 +0.4
comp=Z,30nm,0.9s,mb5.3
ESLA LR LR
comp=Z,12µm,20.0s,MS6.1
EGD Espegrend 68.34 32 eP P 15 07 09.3 -0.1
EGD AMb AMB 15 07 13.4
comp=Z,135nm,1.5s,mb5.8
EGD Espegrend 68.34 32 eP P 15 07 09.3 -0.1
comp=Z,135nm,1.5s,mb5.8
BER Bergen 68.36 32 eP P 15 07 09.8 +0.2
OLEF Ile d'Oleron 68.36 48 eP P 15 07 09.9 +0.3
RUND Rundenannen 68.37 32 eP P 15 07 10.0 +0.3
RUND AMb AMB 15 07 11.7
comp=Z,228nm,1.2s,mb6.1
RUND Rundenannen 68.37 32 eP P 15 07 10.0 +0.3
comp=Z,228nm,1.2s,mb6.1
PLCA Paso Flores 68.42 167 P P 15 07 08.8 -1.2
comp=Z,57nm,0.8s,mb5.7,baz=342,slow=7.1,SNR=90
PLCA LR LR 15 34 37.4
comp=Z,954nm,19.0s,MS5.0,baz=2.3,slow=34
PLCA Paso Flores 68.42 167 eP P 15 07 08.7 -1.3
PLCA pmax pmax
comp=Z,84nm,1.0s
PLCA MLR MLR
comp=Z,1µm,21.0s
PLCA Paso Flores 68.42 167 eP P 15 07 08.7 -1.3
comp=Z,84nm,1.0s,mb5.7
PLCA LR LR
comp=Z,1µm,21.0s,MS5.1
LDF La Druitiere 68.44 45⇑iP P 15 07 10.0 -0.1
comp=Z,241nm,0.7s,mb6.0
LDF La Druitiere 68.44 45⇑iP P 15 07 10.0 -0.1
LDF pmax pmax
comp=Z,120nm,0.7s,mb6.0
LDF La Druitiere 68.44 45⇑iP P 15 07 10.0 -0.1
comp=Z,120nm,0.7s,mb6.0
HYA Hoyanger 68.55 31⇑iP P 15 07 11.3 +0.4
HYA AMb AMB 15 07 13.4
comp=Z,124nm,1.1s,mb5.8
HYA Hoyanger 68.55 31⇑iP P 15 07 11.3 +0.4
comp=Z,124nm,1.1s,mb5.8
LCHF La Chataignera 68.57 48⇑eP P 15 07 11.8 +0.9
EMIJ Mijas 68.58 59 P P 15 07 12.1 +1.1
comp=Z,175nm,0.9s,mb6.0
KMY Karmoy 68.63 34 eP P 15 07 10.3 -1.0
ELUQ Luque 68.67 58 P P 15 07 11.0 -0.6
ELUQ pmax pmax
comp=Z,42nm,0.8s,mb5.4
ELUQ Luque 68.67 58 P P 15 07 11.0 -0.5
comp=Z,42nm,0.8s,mb5.4
BJO1 Bjornoya 68.84 16 eP P 15 07 13.4 +0.8
BJO1 LR LR
comp=Z,12µm,20.5s,MS6.1
EBAN Banos Encina 68.85 57 P P 15 07 12.2 -0.5
EBAN pmax pmax
comp=Z,80nm,0.6s,mb5.8
EBAN Banos Encina 68.85 57 P P 15 07 12.2 -0.5
comp=Z,80nm,0.6s,mb5.8
ELOJ Sierra Loja 68.88 58 P P 15 07 13.0 +0.1
ELOJ pmax pmax
comp=Z,67nm,0.8s,mb5.6
ELOJ Sierra Loja 68.88 58 P P 15 07 13.0 +0.2
comp=Z,67nm,0.8s,mb5.6
BJO Bjornoya 68.89 16 eP P 15 07 13.4 +0.5
BJO AMS AMS 15 37 27.9
comp=Z,12µm,20.5s,MS6.1
STAV Stavanger 68.93 34 eP P 15 07 12.7 -0.5
MFF Saint Martin d 68.98 47⇑iP P 15 07 13.3 -0.2
comp=Z,200nm,0.9s,mb5.7
MFF Saint Martin d 68.98 47⇑iP P 15 07 13.3 -0.2
MFF pmax pmax
comp=Z,100nm,0.9s,mb5.8
MFF Saint Martin d 68.98 47⇑iP P 15 07 13.3 -0.2
comp=Z,100nm,0.9s,mb5.7
EALK Alkurruntz 69.02 51 P P 15 07 13.8 +0.1
comp=Z,92nm,0.8s,mb5.8
ELIZ Elizondo 69.02 51 P P 15 07 12.5 -1.3
ELIZ pmax pmax
comp=Z,19nm,0.6s,mb5.2
ELIZ Elizondo 69.02 51 P P 15 07 12.5 -1.3
comp=Z,19nm,0.6s,mb5.2
MATF Mathat 69.11 48 eP P 15 07 15.1 +0.8
ODD1 Odda 69.11 33⇑iP P 15 07 13.5 -0.8
ODD1 AMb AMB 15 07 15.8
comp=Z,137nm,1.2s,mb5.8
ODD1 Odda 69.11 33⇑iP P 15 07 13.5 -0.8
comp=Z,137nm,1.2s,mb5.8
BLS5 Blasjo 69.17 33⇑iP P 15 07 15.5 +0.8
BLS5 AMb AMB 15 07 21.1
comp=Z,150nm,1.3s,mb5.8
BLS5 Blasjo 69.17 33⇑iP P 15 07 15.5 +0.8
comp=Z,150nm,1.3s,mb5.8
OSSF Osses 69.18 51 eP P 15 07 14.6 -0.2
ERON Agron 69.19 58 P P 15 07 14.9 +0.1
comp=Z,37nm,0.6s,mb5.5
SJPF Ste Jean 69.25 51⇑iP P 15 07 15.7 +0.5
comp=Z,139nm,0.7s,mb5.7
SJPF Ste Jean 69.25 51⇑iP P 15 07 15.7 +0.5
SJPF pmax pmax
comp=Z,69nm,0.7s,mb5.7
SJPF Ste Jean 69.25 51⇑iP P 15 07 15.7 +0.5
comp=Z,69nm,0.7s,mb5.7
ECOG Cogollos-Vega 69.29 58 P P 15 07 15.9 +0.5
ECOG pmax pmax
comp=Z,93nm,0.8s,mb5.8
ECOG Cogollos-Vega 69.29 58 P P 15 07 15.8 +0.5
comp=Z,93nm,0.8s,mb5.8
MENF Mencas 69.32 43⇑eP P 15 07 14.9 -0.7
ORDF Ordiarp 69.42 51 eP P 15 07 15.3 -0.9
EGUA Guajares 69.42 58 P P 15 07 16.5 +0.3
EGUA pmax pmax
comp=Z,16nm,0.6s,mb5.1
EGUA Guajares 69.42 58 P P 15 07 16.4 +0.2
comp=Z,16nm,0.6s,mb5.1
LARF Larrau 69.44 51 eP P 15 07 17.2 +0.9
LOF Lofoten 69.46 23 eP P 15 07 18.9 +2.4
LOF Lofoten 69.46 23 eP P 15 07 19.1 +2.6
EQES Quesada 69.50 57 P P 15 07 17.7 +1.0
comp=Z,119nm,0.9s,mb5.8
DOMB Dombas 69.62 30⇑iP P 15 07 17.8 +0.4
DOMB AMb AMB 15 07 19.8
comp=Z,183nm,0.9s,mb6.0
DOMB Dombas 69.62 30⇑iP P 15 07 17.8 +0.4
comp=Z,183nm,0.9s,mb6.0
EVIA Vianos 69.67 56 P P 15 07 17.4 -0.4
EVIA pmax pmax
comp=Z,197nm,0.7s,mb6.2
EVIA Vianos 69.67 56 P P 15 07 17.4 -0.4
comp=Z,196nm,0.7s,mb6.2
ETSF Etsaut 69.78 51⇑iP P 15 07 19.1 +0.7
comp=Z,268nm,0.8s,mb5.9
ETSF Etsaut 69.78 51⇑iP P 15 07 19.1 +0.7
ETSF pmax pmax
comp=Z,134nm,0.8s,mb5.9
ETSF Etsaut 69.78 51⇑iP P 15 07 19.1 +0.7
comp=Z,134nm,0.8s,mb5.9
REYF Montagne du Re 69.85 51 eP P 15 07 19.1 +0.3
EHUE Huescar 69.86 57 P P 15 07 18.8 -0.1
EHUE pmax pmax
comp=Z,55nm,0.8s,mb5.5
EHUE Huescar 69.86 57 P P 15 07 18.8 -0.1
comp=Z,55nm,0.8s,mb5.5
SNART Snartemo 69.86 34 eP P 15 07 18.9 0.0
SNART AMb AMB 15 07 21.0
comp=Z,88nm,0.9s,mb5.7
MDT Midelt 69.88 63 P P 15 07 20.3 +1.3
comp=Z,105nm,0.8s,mb5.8,baz=290,slow=6.7,SNR=127
MDT LR LR 15 32 28.2
comp=Z,3µm,21.1s,MS5.5,baz=350,slow=31
EBER Berja 69.92 58 P P 15 07 20.8 +1.5
comp=Z,266nm,0.7s,mb6.3
LFF La Frestale 70.06 49⇑iP P 15 07 20.1 -0.1
comp=Z,308nm,0.9s,mb6.0
LFF La Frestale 70.06 49⇑iP P 15 07 20.1 -0.1
LFF pmax pmax
comp=Z,154nm,0.9s,mb5.9
LFF La Frestale 70.06 49⇑iP P 15 07 20.1 -0.1
comp=Z,154nm,0.9s,mb5.9
NSS Namsos 70.06 27 eP P 15 07 19.2 -1.0
NSS AMS AMS 15 36 58.7
comp=Z,6µm,22.0s,MS5.8
EALB Alboran 70.11 59 P P 15 07 20.9 +0.4
comp=Z,318nm,1.1s,mb6.2
LABF Labassere 70.18 51 eP P 15 07 20.9 0.0
VIEF Viey 70.19 51 eP P 15 07 22.7 +1.7
ESAC San Caprasio 70.20 53 P P 15 07 21.8 +0.7
comp=Z,224nm,0.8s,mb6.2
EBIE Bielsa 70.34 51 P P 15 07 22.6 +0.7
comp=Z,141nm,0.7s,mb6.0
EPF Esparros 70.37 51⇑iP P 15 07 22.2 +0.1
comp=Z,50nm,0.6s,mb5.3
EPF Esparros 70.37 51⇑iP P 15 07 22.2 +0.1
EPF pmax pmax
comp=Z,25nm,0.6s,mb5.3
EPF Esparros 70.37 51⇑iP P 15 07 22.2 +0.1
comp=Z,25nm,0.6s,mb5.3
ETOB Tobarra 70.38 56 P P 15 07 23.3 +1.2
comp=Z,107nm,0.9s,mb5.8
ENIJ Nijar 70.42 58 P P 15 07 21.5 -0.8
ENIJ pmax pmax
comp=Z,125nm,0.8s,mb5.9
ENIJ Nijar 70.42 58 P P 15 07 21.4 -0.9
comp=Z,125nm,0.8s,mb5.9
RESF Ens 70.44 51 eP P 15 07 22.8 +0.3
MOR8 Moi Rana 70.47 25⇑iP P 15 07 22.9 +0.2
MOR8 AMb AMB 15 07 28.7
comp=Z,105nm,1.8s,mb5.5
MOR8 Moi Rana 70.47 25⇑iP P 15 07 22.9 +0.2
comp=Z,105nm,1.8s,mb5.5
RJF Les Rejaudoux 70.47 48⇑iP P 15 07 22.3 -0.4
comp=Z,206nm,0.7s,mb5.9
RJF eR
comp=Z,7µm,19.8s
RJF Les Rejaudoux 70.47 48⇑iP P 15 07 22.3 -0.4
RJF pmax pmax
comp=Z,103nm,0.7s,mb5.9
RJF MLR MLR
comp=Z,7µm,19.8s,MS5.9
RJF Les Rejaudoux 70.47 48⇑iP P 15 07 22.3 -0.4
comp=Z,103nm,0.7s,mb5.9
RJF LR LR
comp=Z,7µm,19.8s,MS5.9
ECHE Chera 70.51 55 P P 15 07 22.6 -0.3
ECHE pmax pmax
comp=Z,106nm,0.8s,mb5.8
ECHE Chera 70.51 55 P P 15 07 22.6 -0.3
comp=Z,106nm,0.8s,mb5.8
UCC Uccle 70.59 42 P P 15 07 22.3 -1.1
HYF Humbligny 70.61 46⇑iP P 15 07 23.4 -0.1
KONO Kongsberg 70.62 32 eP P 15 07 23.9 +0.3
KONO eS S 15 16 38.2 +0.1
KONO eSS SS 15 21 11.1 +1.6
KONO Kongsberg 70.62 32 eP P 15 07 23.6 0.0
KONO pmax pmax
comp=Z,94nm,0.8s,mb5.8
KONO MLR MLR
comp=Z,5µm,21.0s,MS5.7
KONO Kongsberg 70.62 32 eP P 15 07 23.6 0.0
comp=Z,94nm,0.8s,mb5.8
KONO LR LR
comp=Z,5µm,21.0s,MS5.7
EMOS Mosqueruela 70.63 54 P P 15 07 25.0 +1.4
comp=Z,269nm,0.9s,mb6.2
TCF Toulx Ste Croi 70.63 47⇑iP P 15 07 23.1 -0.5
comp=Z,202nm,0.7s,mb5.9
TCF Toulx Ste Croi 70.63 47⇑iP P 15 07 23.1 -0.5
TCF pmax pmax
comp=Z,101nm,0.7s,mb5.9
TCF Toulx Ste Croi 70.63 47⇑iP P 15 07 23.1 -0.5
comp=Z,101nm,0.7s,mb5.9
SNF Seneffe 70.63 43 P P 15 07 23.1 -0.6
MELF Melles 70.71 51 eP P 15 07 25.0 +0.9
TRO Tromso 70.72 21 eP P 15 07 23.5 -0.8
TRO eS S 15 16 36.7 -2.6
TRO eSS SS 15 21 11.5 +0.4
TRO AMS AMS 15 37 53.8
comp=Z,10µm,17.2s,MS6.2
BAIF Baives 70.73 43⇑iP P 15 07 23.8 -0.4
comp=Z,180nm,0.8s,mb5.7
BAIF Baives 70.73 43⇑iP P 15 07 23.8 -0.4
BAIF pmax pmax
comp=Z,90nm,0.8s,mb5.8
BAIF Baives 70.73 43⇑iP P 15 07 23.8 -0.4
comp=Z,90nm,0.8s,mb5.8
NAO01 NORSAR Array S 70.83 31 eP P 15 07 24.9 0.0
comp=Z,125nm,0.9s,mb5.8
NAO01 LR LR
comp=Z,6µm,21.0s,MS5.8
EMUR La Murta 70.86 57 P P 15 07 26.1 +1.0
comp=Z,190nm,0.9s,mb6.0
NB2 NORSAR Subarra 70.92 31 P P 15 07 25.8 +0.4
comp=Z,5.4nm,0.6s,mb4.7,baz=293,slow=6.5
NOA NORSAR Array B 70.92 31 P P 15 07 25.7 +0.3
comp=Z,61nm,0.7s,mb5.6,baz=290,slow=6.1,SNR=118
NOA LR LR 15 36 36.2
comp=Z,5µm,21.9s,MS5.7,baz=300,slow=34
NOA NORSAR Array B 70.92 31 P P 15 07 25.7 +0.3
NOA LR LR 15 36 36.2
MLS Moulis 70.92 51 eP P 15 07 26.3 +0.9
DOU Dourbes 70.95 43 P P 15 07 25.2 -0.5
CAF Calviac 70.96 49⇑iP P 15 07 25.3 -0.4
comp=Z,87nm,1.0s,mb5.4
CAF Calviac 70.96 49⇑iP P 15 07 25.3 -0.4
CAF pmax pmax
comp=Z,44nm,1.0s,mb5.3
CAF Calviac 70.96 49⇑iP P 15 07 25.3 -0.4
comp=Z,44nm,1.0s,mb5.3
BGF Bois d'Agland 70.96 47⇑iP P 15 07 25.2 -0.5
comp=Z,217nm,0.7s,mb5.9
BGF Bois d'Agland 70.96 47⇑iP P 15 07 25.2 -0.5
BGF pmax pmax
comp=Z,109nm,0.7s,mb5.9
BGF Bois d'Agland 70.96 47⇑iP P 15 07 25.2 -0.5
comp=Z,109nm,0.7s,mb5.9
ERTA Horta de San J 71.02 53 P P 15 07 26.5 +0.5
comp=Z,119nm,0.8s,mb5.9
SALF Salau 71.05 51 eP P 15 07 26.8 +0.6
OSL Oslo 71.06 32 eP P 15 07 27.4 +1.2
GIVF Givet 71.09 43⇑iP P 15 07 26.0 -0.4
comp=Z,91nm,0.6s,mb5.6
GIVF Givet 71.09 43⇑iP P 15 07 26.0 -0.4
GIVF pmax pmax
comp=Z,45nm,0.6s,mb5.6
GIVF Givet 71.09 43⇑iP P 15 07 26.0 -0.4
comp=Z,45nm,0.6s,mb5.6
CART Cartagena 71.13 57 P P 15 07 24.5 -2.1
comp=Z,87nm,0.8s,mb5.7
FRNF Fournols 71.15 48 eP P 15 07 26.5 -0.3
AVF Avril sur Loir 71.22 47⇑iP P 15 07 26.4 -0.8
comp=Z,70nm,0.6s,mb5.5
AVF Avril sur Loir 71.22 47⇑iP P 15 07 26.4 -0.8
AVF pmax pmax
comp=Z,35nm,0.6s,mb5.5
AVF Avril sur Loir 71.22 47⇑iP P 15 07 26.4 -0.8
comp=Z,35nm,0.6s,mb5.5
BCLA Clavier 71.28 42 P P 15 07 27.0 -0.6
WIT Witteveen 71.31 40 eP P 15 07 28.3 +0.6
AGO Saint Agoulin 71.31 47 eP P 15 07 27.0 -0.8
PYM Petit Puy Mans 71.33 48 eP P 15 07 27.4 -0.5
EBEN Beniarda 71.34 56 P P 15 07 29.5 +1.5
comp=Z,199nm,0.8s,mb6.1
BEBN Eben Emael 71.38 42 P P 15 07 27.7 -0.5
LOR Lormes 71.39 46⇑iP P 15 07 27.7 -0.6
comp=Z,82nm,0.6s,mb5.5
LOR eR
comp=Z,4µm,19.8s
LOR Lormes 71.39 46⇑iP P 15 07 27.7 -0.6
LOR pmax pmax
comp=Z,41nm,0.6s,mb5.5
LOR MLR MLR
comp=Z,4µm,19.8s,MS5.7
LOR Lormes 71.39 46⇑iP P 15 07 27.7 -0.6
comp=Z,41nm,0.6s,mb5.5
LOR LR LR
comp=Z,4µm,19.8s,MS5.7
EPOB Poblet 71.42 53 P P 15 07 28.3 -0.2
comp=Z,89nm,1.0s,mb5.7
MUD Monsted U'grnd 71.47 36⇑iP P 15 07 29.0 +0.2
comp=Z,73nm,0.8s,mb5.7
MUD e 15 10 12.1
MUD pmax pmax
comp=Z,73nm,0.8s,mb5.7
MUD MLR MLR
comp=Z,4µm,20.0s,MS5.6
MUD Monsted U'grnd 71.47 36⇑iP P 15 07 29.0 +0.2
comp=Z,73nm,0.8s,mb5.7
MUD e 15 10 12.1
HLG Helgoland 71.54 38 eP P 15 07 30.3 +1.1
comp=Z,220nm,1.0s,mb6.0
HGN Heimansgroeve 71.55 42⇑iP P 15 07 28.8 -0.4
comp=Z,133nm,0.9s,mb5.8
HGN ePP PP 15 10 12.9 +5.1
HGN eS S 15 16 43.3 -5.6
HGN ePS 15 17 03.6
MTLF Montolieu 71.57 50⇑iP P 15 07 29.2 -0.2
comp=Z,215nm,0.9s,mb5.8
MTLF Montolieu 71.57 50⇑iP P 15 07 29.2 -0.2
MTLF pmax pmax
comp=Z,108nm,0.9s,mb5.8
MTLF Montolieu 71.57 50⇑iP P 15 07 29.2 -0.2
comp=Z,108nm,0.9s,mb5.8
OLHC Oulhaca 71.58 59 P P 15 07 31.0 +1.6
SMF Signal de Mont 71.58 47⇑iP P 15 07 28.5 -0.9
comp=Z,101nm,0.8s,mb5.5
SMF Signal de Mont 71.58 47⇑iP P 15 07 28.5 -0.9
SMF pmax pmax
comp=Z,51nm,0.8s,mb5.5
SMF Signal de Mont 71.58 47⇑iP P 15 07 28.5 -0.9
comp=Z,51nm,0.8s,mb5.5
MEM Membach 71.64 42 P P 15 07 29.5 -0.3
LBL Lubilhac 71.66 48 eP P 15 07 30.0 +0.1
PLDF La Plantade 71.66 47⇑eP P 15 07 29.1 -0.8
WTSB Winterswijk 71.66 41⇑eP P 15 07 29.7 -0.3
comp=Z,117nm,1.5s,mb5.6
CARF Carcanieres 71.70 51⇑eP P 15 07 29.8 -0.3
ODZI Dziouia 71.71 59 P P 15 07 32.0 +1.8
VALF Valcebollere 71.74 51 eP P 15 07 30.4 0.0
MEZF Maizieres J'vi 71.75 44⇑iP P 15 07 30.2 -0.2
comp=Z,288nm,0.7s,mb6.0
MEZF Maizieres J'vi 71.75 44⇑iP P 15 07 30.2 -0.2
comp=Z,288nm,0.7s,mb6.3
COLF Collangettes 71.86 48 eP P 15 07 30.9 -0.2
LRDF Laroque-de-Fa 71.93 51 eP P 15 07 31.4 -0.1
BILL Bilibino 71.94 338 eP P 15 07 30.8 -0.8
BILL pmax pmax
comp=Z,390nm,1.4s,mb6.1
BILL Bilibino 71.94 338 eP P 15 07 30.6 -1.0
comp=Z,391nm,1.4s,mb6.2
BILL LR LR
comp=Z,3µm,20.0s,MS5.5
WLF Walferdange 72.05 43 eP P 15 07 32.2 0.0
comp=Z,52nm,0.8s,mb5.5
WLF Walferdange 72.05 43 P P 15 07 32.2 0.0
WLF Walferdange 72.05 43 eP P 15 07 31.5 -0.7
WLF pmax pmax
comp=Z,54nm,0.8s,mb5.5
WLF Walferdange 72.05 43 eP P 15 07 31.5 -0.7
comp=Z,54nm,0.8s,mb5.5
OTSS Djebel Tessala 72.05 59 P P 15 07 34.0 +1.8
FILF Fillols 72.07 51 eP P 15 07 31.7 -0.6
USTO Oran 72.08 59 P P 15 07 35.0 +2.6
IBBN Ibbenburen 72.10 40 eP P 15 07 32.5 -0.1
BUG Bochum–Univer 72.11 41 eP P 15 07 32.3 -0.3
comp=Z,62nm,0.4s,mb5.9
VAH Vaihoa 72.32 242 eP P 15 07 35.0 +1.1
comp=Z,204nm,1.2s,mb5.9
EJON La Jonquera 72.33 51 P P 15 07 34.0 0.0
comp=Z,56nm,0.9s,mb5.5
KTK1 Kautokeino 72.37 21⇑iP P 15 07 35.0 +0.9
KTK1 AMb AMB 15 07 37.3
comp=Z,290nm,0.7s,mb6.3
KTK1 Kautokeino 72.37 21⇑iP P 15 07 35.0 +0.9
comp=Z,290nm,0.7s,mb6.3
HFS Hagfors 72.38 31 LR LR 15 37 41.5
comp=Z,5µm,21.4s,MS5.7,baz=276,slow=34
EIBI Ibiza 72.39 55 P P 15 07 35.0 +0.8
comp=Z,71nm,0.8s,mb5.7
PMOR Pomariorio Ree 72.40 243 eP P 15 07 35.4 +1.0
comp=Z,76nm,0.8s,mb5.7
THEF They Montfort 72.43 44⇑eP P 15 07 34.3 -0.2
LASF Ste Croix 72.45 49⇑iP P 15 07 34.8 +0.2
comp=Z,172nm,1.0s,mb5.6
ODJA Bouhanifia 72.53 59 P P 15 07 37.0 +1.9
RUP Ruppelstein 72.59 43⇑eP P 15 07 35.7 +0.3
VIVF Saint-Julien-l 72.73 48⇑iP P 15 07 36.4 +0.1
comp=Z,134nm,0.8s,mb5.6
VIVF Saint-Julien-l 72.73 48⇑iP P 15 07 36.4 +0.1
VIVF pmax pmax
comp=Z,67nm,0.8s,mb5.6
VIVF Saint-Julien-l 72.73 48⇑iP P 15 07 36.4 +0.1
comp=Z,67nm,0.8s,mb5.6
HAU Haudompre 72.73 45⇑iP P 15 07 35.8 -0.5
comp=Z,212nm,0.7s,mb5.9
HAU eR
comp=Z,7µm,17.5s
HAU Haudompre 72.73 45⇑iP P 15 07 35.8 -0.5
HAU pmax pmax
comp=Z,106nm,0.7s,mb5.9
HAU MLR MLR
comp=Z,7µm,17.5s,MS6.0
HAU Haudompre 72.73 45⇑iP P 15 07 35.8 -0.5
comp=Z,106nm,0.7s,mb5.9
HAU LR LR
comp=Z,7µm,17.5s,MS6.0
ABH Alteburg 72.82 42⇑eP P 15 07 37.0 +0.2
OJBR Djebel Berber 72.82 58 P P 15 07 39.0 +2.2
ARCES ARCESS Array B 72.83 20 P P 15 07 36.6 -0.2
comp=Z,152nm,0.7s,mb6.0,baz=291,slow=4.3,SNR=439
ARCES LR LR 15 38 18.8
comp=Z,10µm,21.6s,MS6.1,baz=310,slow=35
ARE0 ARCESS Array S 72.83 20 eP P 15 07 36.5 -0.4
OKGL Djebel Kef Gue 72.89 58 P P 15 07 38.0 +0.8
BSEG Bad Segeberg 72.97 38 eP P 15 07 38.0 +0.3
comp=Z,124nm,0.9s,mb5.8
BSEG Bad Segeberg 72.97 38 eP P 15 07 38.0 +0.3
BSEG pmax pmax
comp=Z,44nm,0.9s,mb5.4
CABF La Chapelle 73.05 46⇑iP P 15 07 37.9 -0.3
comp=Z,148nm,1.0s,mb5.6
CABF La Chapelle 73.05 46⇑iP P 15 07 37.9 -0.3
CABF pmax pmax
comp=Z,74nm,1.0s,mb5.6
CABF La Chapelle 73.05 46⇑iP P 15 07 37.9 -0.3
comp=Z,74nm,1.0s,mb5.6
HINF Hinteralfeld 73.12 45⇑iP P 15 07 37.9 -0.7
comp=Z,76nm,0.7s,mb5.5
HINF Hinteralfeld 73.12 45⇑iP P 15 07 37.9 -0.7
HINF pmax pmax
comp=Z,38nm,0.7s,mb5.4
HINF Hinteralfeld 73.12 45⇑iP P 15 07 37.9 -0.7
comp=Z,38nm,0.7s,mb5.4
OJGS Djebel Guires 73.16 58 P P 15 07 40.0 +1.2
ECH Echery 73.17 44⇑eP P 15 07 38.6 -0.3
CDF Champ du Feu 73.17 44⇑iP P 15 07 38.5 -0.4
comp=Z,114nm,0.7s,mb5.6
CDF Champ du Feu 73.17 44⇑iP P 15 07 38.5 -0.4
CDF pmax pmax
comp=Z,57nm,0.7s,mb5.6
CDF Champ du Feu 73.17 44⇑iP P 15 07 38.5 -0.4
comp=Z,57nm,0.7s,mb5.6
KEV Kevo 73.17 19 eP P 15 07 37.5 -1.4
comp=Z,44nm,0.7s,mb5.5
KEV Kevo 73.17 19 P P 15 07 38.2 -0.7
KEV pmax pmax
comp=Z,98nm,1.0s,mb5.7
BRANT Les Verrieres 73.19 46⇑iP P 15 07 39.7 +0.7
comp=Z,524nm,2.3s,mb6.1
BRANT Les Verrieres 73.19 46⇑iP P 15 07 39.1 +0.1
ETOS Mallorca 73.20 54 P P 15 07 39.2 +0.1
comp=Z,24nm,0.6s,mb5.3
WLS Welschbruch 73.22 44⇑eP P 15 07 38.8 -0.4
TNS Taunus Mts 73.24 42 eP P 15 07 39.3 0.0
comp=Z,99nm,0.8s,mb5.8
TNS Taunus Mts 73.24 42 eP P 15 07 39.3 0.0
TNS pmax pmax
comp=Z,42nm,0.8s,mb5.4
OCF Saint Nazaire 73.25 48 eP P 15 07 39.5 +0.1
OG26 St.-Nazaire-De 73.25 48 eP P 15 07 39.5 +0.1
LOMF Lomont 73.27 45⇑eP P 15 07 39.3 -0.2
EANR 'Ain N'Sour 73.27 58 P P 15 07 40.5 +1.0
MOF Molkenrain 73.28 45⇑eP P 15 07 39.0 -0.6
LANF Langenberg 73.30 43⇑eP P 15 07 39.5 -0.2
GRN Grenoble 73.31 47 eP P 15 07 39.4 -0.3

KTD **Kalmit** 73.35 43 *e*P P 15 07 39.5 -0.4
NRDL **Niedersach Rie** 73.38 39 *e*P P 15 07 40.5 +0.3
comp=Z,110nm,0.9s,mb5.8
ECHA **Ech Chlef** 73.40 58 P P 15 07 41.0 +0.7
STR **Strasbourg** 73.42 44 *e*P P 15 07 40.5 +0.1
PRAF **Pradon** 73.43 49 *e*P P 15 07 42.0 +1.5
COP **Copenhagen** 73.45 36 *i* P P 15 07 41.0 +0.4
comp=Z,111nm,0.9s,mb5.8
COP *i* 15 10 30.6
COP *i* S S 15 17 12.3 +1.6
COP *i* 15 22 16.3
COP *i* 15 26 04.5
COP
comp=Z,2µm,24.0s
COP **Copenhagen** 73.45 36 *i* P P 15 07 41.0 +0.4
COP *i* 15 10 30.6
COP *i* S S 15 17 12.3 +1.6
COP pmax pmax
comp=Z,110nm,0.9s,mb5.8
COP MLR MLR
comp=Z,2µm,24.0s,MS5.3
EBNR **Beni Rached** 73.47 57 P P 15 07 42.0 +1.3
ORIF **Oris-en-Rattie** 73.52 48⇑ *i*P P 15 07 41.0 +0.1
comp=Z,121nm,0.8s,mb5.6
ORIF *e*R
comp=Z,8µm,20.2s
ORIF **Oris-en-Rattie** 73.52 48⇑ *i*P P 15 07 41.0 +0.1
ORIF pmax pmax
comp=Z,61nm,0.8s,mb5.6
ORIF **Oris-en-Rattie** 73.52 48⇑ *i*P P 15 07 41.0 +0.1
comp=Z,61nm,0.8s,mb5.6
TORNY **Torny** 73.56 46⇑ *e*P P 15 07 40.5 -0.7
comp=Z,166nm,1.0s,mb5.9
ETRT **Tiaret** 73.62 58 P P 15 07 43.0 +1.5
TREF **Trevaresse** 73.64 49 *e*P P 15 07 43.0 +1.3
GTTG **Gvttingen** 73.65 40 *e*P P 15 07 41.9 +0.1
comp=Z,168nm,0.8s,mb6.0
BBS **Basel-Blauen** 73.66 45 *e*P P 15 07 40.4 -1.4
TOD **Tromm** 73.68 42⇑ *e*P P 15 07 41.7 -0.2
RSL **Roselend** 73.73 47 *e*P P 15 07 42.2 0.0
GELF **Grande-Etoile** 73.76 49 *e*P P 15 07 43.5 +1.1
VILF **Villemus** 73.79 49 *e*P P 15 07 43.7 +1.2
SALAN **Lac Salanfe** 73.79 46 *e*P P 15 07 42.2 -0.4
comp=Z,169nm,2.0s,mb5.6
SALAN **Lac Salanfe** 73.79 46 *e*P P 15 07 42.1 -0.5
FELD **Feldberg im Sc** 73.82 44⇑ *e*P P 15 07 42.5 -0.2
BALST **Balsthal** 73.82 45⇑ *i*P P 15 07 42.9 +0.2
comp=Z,117nm,0.8s,mb5.8
BALST **Balsthal** 73.82 45⇑ *i*P P 15 07 42.2 -0.5
OG25 **Le Caire** 73.84 48 *e*P P 15 07 34.6 -8.2
OG25 **Le Caire** 73.84 48 *e*P P 15 07 34.8 -8.0
GRYON **Gryon** 73.84 46⇑ *i*P P 15 07 43.0 +0.1
comp=Z,112nm,0.7s,mb5.9
BFO **Black Forest** 73.86 44 *e*P P 15 07 42.4 -0.6
comp=Z,57nm,0.9s,mb5.5
BFO **Black Forest** 73.86 44 *e*P P 15 07 42.4 -0.6
BFO pmax pmax
comp=Z,33nm,0.9s,mb5.3
LPL **La Plagne** 73.86 47⇑ *i*P P 15 07 43.4 +0.4
comp=Z,254nm,0.8s,mb5.9
LPL **La Plagne** 73.86 47⇑ *i*P P 15 07 43.4 +0.4
LPL pmax pmax
comp=Z,127nm,0.8s,mb5.9
LPL **La Plagne** 73.86 47⇑ *i*P P 15 07 43.4 +0.4
comp=Z,127nm,0.8s,mb5.9
LPG **La Plagne** 73.88 47⇑ *i*P P 15 07 43.7 +0.6
comp=Z,210nm,0.8s,mb5.8
LPG **La Plagne** 73.88 47⇑ *i*P P 15 07 43.7 +0.6
LPG pmax pmax
comp=Z,105nm,0.8s,mb5.8
LPG **La Plagne** 73.88 47⇑ *i*P P 15 07 43.7 +0.6
comp=Z,105nm,0.8s,mb5.8
PUYF **Puyloubier** 73.89 49 *e*P P 15 07 44.3 +1.2
SENIN **Lac Senin** 73.92 46⇑ *i*P P 15 07 43.5 +0.2
comp=Z,141nm,0.7s,mb6.0
UBBA **Unterbreizbach** 73.94 41 *e*P P 15 07 43.5 0.0
comp=Z,10.0nm,0.6s,mb4.9
BERF **Bertagne** 73.96 49 *e*P P 15 07 43.5 -0.1
BNI **Bardonecchia** 74.00 47 *e*P P 15 07 43.9 +0.1
BNI pmax pmax
comp=Z,101nm,0.9s,mb5.8
BNI **Bardonecchia** 74.00 47 *e*P P 15 07 43.9 +0.2
comp=Z,101nm,0.9s,mb5.8
SULZ **Sulz-Cheisache** 74.02 45⇑ *i*P P 15 07 43.3 -0.6
comp=Z,207nm,0.9s,mb6.1
WIMIS **Wimmis** 74.02 46⇑ *e*P P 15 07 43.7 -0.2
comp=Z,77nm,1.4s,mb5.5
WIMIS **Wimmis** 74.02 46⇑ *e*P P 15 07 43.5 -0.4
TAVF **Tavernes** 74.10 49⇑ *e*P P 15 07 45.8 +1.4
LKBD **Leukerbad** 74.13 46⇑ *i*P P 15 07 44.6 +0.1
comp=Z,146nm,1.0s,mb5.9
LKBD **Leukerbad** 74.13 46⇑ *i*P P 15 07 44.7 +0.2
SLE **Schleitheim** 74.17 44⇑ *i*P P 15 07 44.3 -0.5
comp=Z,185nm,1.1s,mb5.9
MBDF **Montbardon** 74.18 48⇑ *i*P P 15 07 44.9 +0.1
comp=Z,137nm,0.8s,mb5.6
MBDF **Montbardon** 74.18 48⇑ *i*P P 15 07 44.9 +0.1
MBDF pmax pmax
comp=Z,68nm,0.8s,mb5.6
MBDF **Montbardon** 74.18 48⇑ *i*P P 15 07 44.9 +0.1
comp=Z,68nm,0.8s,mb5.6
SPAK **Spaichingen-Ko** 74.22 44 *e*P P 15 07 44.6 -0.5
STU **Stuttgart** 74.23 43 *e*P P 15 07 44.8 -0.3
comp=Z,85nm,0.8s,mb5.7
STU **Stuttgart** 74.23 43 *e*P P 15 07 44.5 -0.6
STU pmax pmax
comp=Z,78nm,0.8s,mb5.7
STU **Stuttgart** 74.23 43 *e*P P 15 07 44.5 -0.7
comp=Z,78nm,0.8s,mb5.7
FLACH **Flaach** 74.29 44⇑ *e*P P 15 07 44.6 -0.9
SURF **Saint Ours** 74.29 48 *e*P P 15 07 46.0 +0.5
HASLI **Hasliberg** 74.33 45⇑ *e*P P 15 07 45.7 0.0
comp=Z,193nm,0.9s,mb6.0
HASLI **Hasliberg** 74.33 45⇑ *e*P P 15 07 45.4 -0.3
RGN **Rugen** 74.37 37 *e*P P 15 07 46.5 +0.6
comp=Z,102nm,1.0s,mb5.7
RGN **Rugen** 74.37 37 *e*P P 15 07 45.9 -0.1
comp=Z,74nm,0.6s,mb5.8
ZUR **Zurich** 74.37 45⇑ *i*P P 15 07 45.4 -0.5
comp=Z,187nm,0.8s,mb6.1
ZUR **Zurich** 74.37 45⇑ *i*P P 15 07 45.7 -0.2
ABA **Alger-Bouzarea** 74.42 56 P P 15 07 46.0 -0.2
MMK **Mattmark** 74.47 46⇑ *i*P P 15 07 47.3 +0.8
comp=Z,132nm,1.0s,mb5.8
LMR **La Mourre** 74.51 49⇑ *i*P P 15 07 46.4 -0.4
comp=Z,128nm,0.7s,mb5.7
LMR **La Mourre** 74.51 49⇑ *i*P P 15 07 46.4 -0.4
LMR pmax pmax
comp=Z,64nm,0.7s,mb5.7
LMR **La Mourre** 74.51 49⇑ *i*P P 15 07 46.4 -0.4
comp=Z,64nm,0.7s,mb5.7
FRF **La Foret Royal** 74.52 49⇑ *i*P P 15 07 46.6 -0.2
comp=Z,204nm,0.8s,mb5.8
FRF **La Foret Royal** 74.52 49⇑ *i*P P 15 07 46.6 -0.2
FRF pmax pmax
comp=Z,102nm,0.8s,mb5.8
FRF **La Foret Royal** 74.52 49⇑ *i*P P 15 07 46.6 -0.2
comp=Z,102nm,0.8s,mb5.8
MUO **Muotathal** 74.56 45⇑ *e*P P 15 07 46.8 -0.2
comp=Z,200nm,2.0s,mb5.7
WILA **Wila** 74.56 45⇑ *i*P P 15 07 46.8 -0.2
comp=Z,93nm,0.8s,mb5.8
WILA **Wila** 74.56 45⇑ *i*P P 15 07 46.6 -0.4
WEIN **Weingarten** 74.57 44⇑ *i*P P 15 07 46.8 -0.5
comp=Z,149nm,1.1s,mb5.8
WEIN **Weingarten** 74.57 44⇑ *i*P P 15 07 46.8 -0.3
DOI **San Damiano** 74.57 48 P P 15 07 47.1 0.0
EMHD **Djebel Mahouad** 74.58 57 P P 15 07 48.0 +0.8
MVIF **Mont Vial** 74.74 48 *e*P P 15 07 48.0 -0.1
TOUF **Mont Tournerai** 74.76 48 *e*P P 15 07 48.0 -0.2
FUSIO **Fusio** 74.77 46⇑ *i*P P 15 07 48.8 +0.6
comp=Z,234nm,1.9s,mb5.8
SMY **Shemya** 74.78 322 PFAKE 15 08 00.0 +12
SMY LR LR
comp=Z,2µm,20.0s,MS5.3
LLS **Linth-Limmern** 74.84 45⇑ *i*P P 15 07 48.8 +0.1
comp=Z,60nm,0.9s,mb5.5
LUCF **Luceram** 74.87 48 *e*P P 15 07 48.4 -0.4
AUTN **L'Aution** 74.88 48 *e*P P 15 07 49.6 +0.7
AUTN **L'Aution** 74.88 48 *e*P P 15 07 48.5 -0.4
SBF **Sospel** 74.94 48 *e*P P 15 07 48.7 -0.5
comp=Z,121nm,0.8s,mb5.6
SBF **Sospel** 74.94 48 *e*P P 15 07 48.7 -0.5
SBF pmax pmax
comp=Z,60nm,0.8s,mb5.6
SBF **Sospel** 74.94 48 *e*P P 15 07 48.7 -0.5
comp=Z,60nm,0.8s,mb5.6
REVF **Revere** 74.94 48 *e*P P 15 07 48.8 -0.4
ADJB **Djebel Djouab** 74.96 57 P P 15 07 49.4 0.0
MOX **Moxa** 74.96 41 *e*P P 15 07 49.4 0.0
comp=Z,87nm,0.9s,mb5.7
MOX **Moxa** 74.96 41 *e*P P 15 07 49.2 -0.2
MOX pmax pmax
comp=Z,118nm,1.1s,mb5.7
MOX MLR MLR
comp=Z,3µm,18.0s,MS5.6
MOX **Moxa** 74.96 41 *e*P P 15 07 49.2 -0.2
comp=Z,118nm,1.1s,mb5.7
MOX *e*S S 15 17 26.0 -1.6
MOX *e*LQ 15 22 35.0
MOX LR LR
comp=Z,3µm,18.0s,MS5.6
LIENZ **Alp Oberkamor** 74.97 44⇑ *i*P P 15 07 49.2 -0.2
SAOF **Saorge** 74.97 48 *e*P P 15 07 49.1 -0.3
BSD **Bornholm Skovb** 74.98 36⇑ *i*P P 15 07 49.2 -0.3
comp=Z,96nm,0.8s,mb5.8
BSD *i* S S 15 17 24.1 -3.7
BSD *i* 15 22 28.5
BSD
comp=Z,4µm,18.0s
BSD **Bornholm Skovb** 74.98 36⇑ *i*P P 15 07 49.2 -0.3
BSD *i* S S 15 17 24.1 -3.7
BSD pmax pmax
comp=Z,96nm,0.8s,mb5.8
BSD MLR MLR
comp=Z,4µm,18.0s,MS5.7
BSD **Bornholm Skovb** 74.98 36⇑ *i*P P 15 07 49.2 -0.3
comp=Z,96nm,0.8s,mb5.8
BSD *i* S S 15 17 24.1 -3.7
BSD *i* 15 22 28.5
GRA1 **Grafenberg Arr** 75.10 42 *e*P P 15 07 50.5 +0.3
comp=Z,48nm,0.9s,mb5.4
GRA1 *e* 15 08 02.8
GRA1 *e*PP PP 15 10 35.9 -2.3
GRA1 *e*S S 15 17 23.5 -5.6
GRA1 LR LR
comp=Z,4µm,20.6s,MS5.7
GRF **Grafenberg Arr** 75.10 42 *e*P P 15 07 50.5 +0.3
comp=Z,48nm,0.9s,mb5.4
GRF *e* 15 08 02.8
GRF *e*PP PP 15 10 35.9 -2.3
GRF *e*S S 15 17 23.5 -5.6
GRF *e*L 15 38 49.0
comp=Z,4µm,20.6s
GRF **Grafenberg Arr** 75.10 42 *e*P P 15 07 50.5 +0.3
GRF *e* 15 08 02.8
GRF *e* 15 10 35.9
GRF *e*S S 15 17 23.5 -5.6
GRF pmax pmax
comp=Z,48nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,4µm,20.6s,MS5.7
PPT **Papeete** 75.18 242 *e*S S 15 17 27.4 -2.6
comp=Z,2µm,29.0s
PPT *e*SS SS 15 22 09.0 -10
comp=Z,2µm,30.8s
PPT *e*LR LR 15 31 12.8
comp=Z,1µm,26.5s,baz=46
PPT **Papeete** 75.18 242 LR LR 15 37 45.9
comp=Z,706nm,18.6s,MS5.0,baz=61,slow=33
PPT **Papeete** 75.18 242 *e*P P 15 07 51.4 +0.8
PPT *e*S S 15 17 27.4 -2.6
PPT pmax pmax
comp=Z,80nm,1.5s
PPT **Papeete** 75.18 242 *e*P P 15 07 51.4 +0.8
comp=Z,80nm,1.5s,mb5.4
PPT *e*S S 15 17 27.4 -2.6
PPT *e*SS SS 15 22 09.0 -10
TUE **Stuetta** 75.20 45 P P 15 07 51.4 +0.7
MUGIO **Muggio** 75.21 46⇑ *e*P P 15 07 49.2 -1.6
comp=Z,164nm,1.0s,mb5.9
MUGIO **Muggio** 75.21 46⇑ *e*P P 15 07 50.0 -0.8
DAVA **Danuels** 75.22 44 *i* P P 15 07 50.8 -0.1
comp=Z,105nm,1.2s,mb5.7,SNR=38
PAE **Paea** 75.23 241 *e*P P 15 07 51.5 +0.6
comp=Z,91nm,1.0s,mb5.7
PAE **Paea** 75.23 241 *e*P P 15 07 51.5 +0.6
PAE pmax pmax
comp=Z,91nm,1.0s,mb5.7
FIN **Finale Ligure** 75.32 48 P P 15 07 50.9 -0.6
FIN pmax pmax
comp=Z,133nm,0.8s,mb5.9
FIN **Finale Ligure** 75.32 48 P P 15 07 50.9 -0.6
comp=Z,133nm,0.8s,mb5.9
AKET **Djebel Ketaf** 75.33 57 P P 15 07 52.3 +0.8
DAVOX **Davos** 75.42 45⇑ *i*P P 15 07 50.4 -1.6
comp=Z,126nm,0.9s,mb5.8
DAVOX **Davos** 75.42 45⇑ *i*P P 15 07 52.5 +0.5
WERD **Werda** 75.44 41 *e*P P 15 07 52.3 +0.2
comp=Z,62nm,1.1s,mb5.5
RUE **Ruedersdorf** 75.46 38 *e*P P 15 07 52.5 +0.3
comp=Z,56nm,0.9s,mb5.5
RUE **Ruedersdorf** 75.46 38 *e*P P 15 07 52.2 -0.1
comp=Z,58nm,0.8s,mb5.6
GUNZ **Gunzen** 75.49 41 *e*P P 15 07 52.6 +0.2
comp=Z,82nm,0.9s,mb5.7
CLL **Collm** 75.50 40 *e*P P 15 07 52.4 -0.1
comp=Z,91nm,0.7s,mb5.8
CLL *e*PP PP 15 10 46.9 +5.4
CLL *e*S S 15 17 30.8 -2.7
CLL *e*SP 15 18 07.2
CLL *e*PPS 15 18 28.5
CLL *e*SS SS 15 22 34.1 +10
CLL *e*(SSS) 15 25 47.7
CLL *e*(SSSS) 15 27 53.9
CLL *e*LR LR 15 31 55.6
CLL *e*L 15 38 00.1
comp=Z,3µm,22.0s
CLL **Collm** 75.50 40⇑ *i*P P 15 07 52.4 -0.1
comp=Z,89nm,0.7s,mb5.8
CLL *e*Plp pP 15 07 54.0 +0.2
CLL *i* sP sP 15 07 58.5 +4.2
CLL *i* PcP PcP 15 08 05.3 -0.2
CLL *e*x x 15 08 26.0
CLL *e*PP PP 15 10 48.0 +6.5
CLL *e*S S 15 17 32.0 -1.5
CLL *e*SKSac SKSac 15 19 00.0 -3.1
CLL *e*PPS 15 18 26.0
CLL *e*SS SS 15 22 46.0 +22
CLL *e*SSS 15 25 48.0
CLL *e*x x 15 26 30.0
CLL *e*SSSS 15 27 54.0
CLL **Collm** 75.50 40⇑ *i*P P 15 07 52.4 -0.1
CLL *i* 15 07 58.5
CLL *i* 15 08 05.3
CLL *e*S S 15 17 26.0 -7.5
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLL MLR MLR
comp=Z,3µm,17.9s,MS5.6
CLL **Collm** 75.50 40⇑ *i*P P 15 07 52.4 -0.1
comp=Z,89nm,0.7s,mb5.8
CLL *i* 15 07 58.5
CLL *i* 15 08 05.3
CLL *e*S S 15 17 26.0 -7.5
CLL LR LR
comp=Z,3µm,17.9s,MS5.6
MANZ **Manzenberg** 75.51 41 *e*P P 15 07 52.8 +0.3
comp=Z,56nm,0.9s,mb5.5
TANN **Tannenbergstha** 75.55 41 *e*P P 15 07 53.1 +0.4
comp=Z,54nm,0.9s,mb5.5
WERN **Wernitzgruen** 75.55 41 *e*P P 15 07 53.1 +0.3
comp=Z,97nm,1.3s,mb5.6
NKC **Novy Kostel** 75.61 41 *e*P P 15 07 53.3 +0.2
NKC *e*PP PP 15 10 49.5 +7.0
NKC AMS AMS 15 43 40.0
comp=Z,3µm,17.6s
NKC **Novy Kostel** 75.61 41 *e*P P 15 07 53.3 +0.2
NKC *e*PP PP 15 10 49.5 +7.0
AKF **Akfadou** 75.63 56 P P 15 07 53.8 +0.6
BERNI **Berninapass** 75.65 45⇑ *i*P P 15 07 52.5 -0.8
comp=Z,281nm,1.1s,mb6.1
BERNI **Berninapass** 75.65 45⇑ *i*P P 15 07 54.0 +0.7
ROTZ **Rotzenmuhle** 75.66 41 *e*P P 15 07 53.9 +0.5
comp=Z,43nm,0.9s,mb5.4
ATAF **Djebel Tarf** 75.70 57 P P 15 07 53.8 +0.2
FUORN **Ofenpass** 75.72 45⇑ *i*P P 15 07 54.3 +0.6
comp=Z,385nm,1.0s,mb6.3
FUORN **Ofenpass** 75.72 45⇑ *i*P P 15 07 54.4 +0.7
FUR **Furstenfeldbru** 75.74 43 *e*P P 15 07 53.9 +0.1
comp=Z,137nm,0.8s,mb5.9
FUR **Furstenfeldbru** 75.74 43 *e*P P 15 07 53.9 +0.1
FUR pmax pmax
comp=Z,28nm,0.8s,mb5.2
FBE **Freiberg** 75.86 40 *e*P P 15 07 54.9 +0.4
comp=Z,159nm,0.9s,mb6.0
BOB **Bobbio (Coli)** 75.92 47 P P 15 07 54.9 0.0
BOB pmax pmax
comp=Z,187nm,0.9s,mb6.0
BOB **Bobbio (Coli)** 75.92 47 P P 15 07 54.9 0.0
comp=Z,187nm,0.9s,mb6.0
MOTA **Moosalm** 75.96 44 *i* P P 15 07 55.2 +0.1
comp=Z,74nm,0.9s,mb5.6,SNR=79
MOTA **Moosalm** 75.96 44 *i* P P 15 07 55.2 +0.1
MOTA pmax pmax
comp=Z,74nm,0.9s,mb5.6
SQTA **Sankt Quirin** 76.08 44⇑ *i*P P 15 07 56.0 +0.2
comp=Z,77nm,0.9s,mb5.6,SNR=116
SQTA **Sankt Quirin** 76.08 44⇑ *i*P P 15 07 56.0 +0.2
SQTA pmax pmax
comp=Z,77nm,0.9s,mb5.6
MABI **Malga Bissina** 76.11 45 P P 15 07 55.3 -0.6
BRG **Berggiesshubel** 76.22 40 *e*P P 15 07 56.9 +0.3
comp=Z,81nm,0.9s,mb5.7
BRG **Berggiesshubel** 76.22 40⇑ *i*P P 15 07 56.8 +0.2
comp=Z,55nm,1.2s,mb5.3
BRG PP PP 15 10 38.4 -9.2
comp=Z,7.4nm,1.4s
BRG SKS 15 17 38.0
BRG S S 15 18 03.0 +22
BRG SS SS 15 22 45.0 +10
BRG
comp=N,1µm,21.1s
BRG
comp=E,778nm,20.9s
BRG
comp=Z,2µm,19.8s
BRG **Berggiesshubel** 76.22 40⇑ *i*P P 15 07 56.8 +0.2
BRG 15 17 38.0
BRG S S 15 18 03.0 +22
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG pmax pmax
comp=Z,55nm,1.4s,mb5.3
BRG MLR MLR
comp=N,7µm,21.1s,MS6.0
BRG MLR MLR
comp=E,1µm,20.9s,MS6.0
BRG MLR MLR
comp=Z,778nm,19.8s,MS5.0
BRG **Berggiesshubel** 76.22 40⇑ *i*P P 15 07 56.8 +0.2
comp=Z,55nm,1.2s,mb5.4
BRG PP PP 15 10 38.4 -9.2
BRG SKS 15 17 38.0
BRG S S 15 18 03.0 +22
BRG SS SS 15 22 45.0 +10
BRG LR LR
comp=Z,2µm,19.8s,MS5.3
WATA **Walderalm** 76.26 44⇑ *i*P P 15 07 56.8 0.0
comp=Z,54nm,0.9s,mb5.5,SNR=50
WATA **Walderalm** 76.26 44⇑ *i*P P 15 07 56.9 +0.1
WATA pmax pmax
comp=Z,54nm,0.9s,mb5.5
WET **Wettzell** 76.31 42 *e*P P 15 07 57.7 +0.6
comp=Z,122nm,1.0s,mb5.8
WET **Wettzell** 76.31 42 *e*P P 15 07 57.7 +0.6
WET pmax pmax
comp=Z,21nm,1.0s,mb5.0
WTTA **Wattenberg** 76.33 44 *i* P P 15 07 57.4 +0.2
comp=Z,478nm,2.5s,mb6.0,SNR=47
WTTA **Wattenberg** 76.33 44 *i* P P 15 07 57.4 +0.2
WTTA pmax pmax
comp=Z,478nm,2.5s,mb6.0
APA **Apatity** 76.34 20⇓ *i*P P 15 07 56.0 -1.3
APA *i* 15 08 13.2
APA *i* S S 15 17 43.0 +0.2
APA *i* 15 18 04.0
APA *e*SS SS 15 22 43.0 +6.2
APA pmax pmax
comp=Z,130nm,1.0s,mb5.8
APPI **Appiano** 76.39 45 P P 15 07 56.8 -0.7
SET **Setif** 76.41 56 P P 15 07 59.0 +1.3
LVZ **Lovozero** 76.52 19 P P 15 07 58.3 0.0
comp=Z,1µm,0.8s,SNR=25
LVZ **Lovozero** 76.52 19 *c i*P P 15 07 58.6 +0.3
LVZ *e* 15 10 48.2
LVZ *e*PPP 15 12 36.4
LVZ *e*S S 15 17 39.1 -5.7
LVZ pmax pmax
comp=Z,208nm,1.0s,mb6.0
LVZ pmax pmax
comp=N,41nm,0.9s
LVZ pmax pmax
comp=E,83nm,1.0s
LVZ pmax pmax
comp=Z,2µm,4.3s
LVZ pmax pmax
comp=N,773nm,4.0s
LVZ pmax pmax
comp=E,883nm,4.2s
LVZ smax
comp=N,816nm,13.4s
LVZ smax
comp=Z,459nm,14.8s
LVZ smax
comp=E,556nm,12.4s
CKHR **Kef el Ahmar** 76.57 56 P P 15 08 00.0 +1.4
DFRA **Djebel Bou Aff** 76.64 56 P P 15 08 01.0 +2.1
PVCC **Panska Ves** 76.72 40 *e*P P 15 08 00.0 +0.6
KHC **Kasperske Hory** 76.74 42 *e*P P 15 07 59.6 +0.1
KHC *e*PP PP 15 11 00.6 +8.6
KHC *e*S S 15 17 46.1 -1.1
KHC *e*SS SS 15 22 53.7 +11
KHC AMS AMS 15 43 50.0
comp=E,4µm,17.6s
KHC **Kasperske Hory** 76.74 42 *c i*P P 15 07 59.4 -0.1
KHC **Kasperske Hory** 76.74 42 *e*P P 15 07 59.6 +0.1
KHC *e*PP PP 15 11 00.6 +8.6
KHC *e*S S 15 17 46.1 -1.1
KHC *e*SS SS 15 22 53.7 +11
KHC LR LR
comp=Z,4µm,17.6s,MS5.8
VLC **Villacollemand** 76.78 47 *e*P P 15 07 58.6 -1.2
comp=Z,68nm,1.0s,mb5.5
CTI **Castel Tesino** 76.83 45 P P 15 07 59.5 -0.6
CTI pmax pmax
comp=Z,100nm,0.9s,mb5.8
CTI **Castel Tesino** 76.83 45 P P 15 07 59.5 -0.6
comp=Z,100nm,0.9s,mb5.8
GEC2 **GERESS Array S** 76.93 42 *e*P P 15 08 01.0 +0.4
comp=Z,58nm,0.9s,mb5.5
GEC2 **GERESS Array S** 76.93 42 *e*P P 15 08 01.0 +0.4
GEC2 pmax pmax
comp=Z,24nm,0.9s,mb5.1
GERES **GERESS Array B** 76.93 42 P P 15 08 00.7 +0.1
comp=Z,32nm,0.8s,mb5.3,baz=306,slow=4.5,SNR=150
GERES LR LR 15 42 55.9
comp=Z,5µm,18.8s,MS5.8,baz=291,slow=36
KAF **Kangasniemi** 76.93 26 *e*P P 15 07 59.7 -0.9
comp=Z,118nm,0.8s,mb5.9,baz=299,slow=5.3
KAF **Kangasniemi** 76.93 26 *e*P P 15 07 59.7 -0.9
KAF pmax pmax
comp=Z,118nm,0.8s,mb5.9
PRU **Pruhonice** 76.94 41 *e*P P 15 08 00.8 +0.1
PRU *e*PP PP 15 10 53.2 -0.5
PRU *e*S S 15 17 48.0 -1.4
PRU *ex* x 15 23 16.2
PRU AMS AMS 15 42 10.0
comp=Z,4µm,18.3s
PRU **Pruhonice** 76.94 41 *e*P P 15 08 00.8 +0.1
PRU *e* 15 10 53.2
PRU *e*S S 15 17 48.0 -1.4
PRU pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
PRU MLR MLR
comp=Z,4µm,18.3s,MS5.8
PRU **Pruhonice** 76.94 41 *e*P P 15 08 00.8 +0.1
comp=Z,3.6nm,0.3s,mb4.8
PRU *e*PP PP 15 10 53.2 -0.5
PRU *e*S S 15 17 48.0 -1.4
PRU *e*SS SS 15 23 16.2 +30
PRU LR LR
comp=Z,4µm,18.3s,MS5.8
BDI **Bagni Di Lucca** 76.96 47 P P 15 07 59.3 -1.5

CMER Merouana 77.01 57 P P 15 07 55.0 -6.1
PII Pisa 77.05 48 P P 15 08 00.6 -0.7
PII pmax pmax
comp=Z,77nm,1.2s,mb5.5
PII Pisa 77.05 48 P P 15 08 00.6 -0.7
comp=Z,77nm,1.2s,mb5.5
FINES FINESS Array B 77.19 27 P P 15 08 02.3 +0.2
comp=Z,76nm,0.7s,mb5.8,baz=313,slow=3.9,SNR=299
FINES LR LR 15 41 05.6
comp=Z,3μm,20.8s,MS5.6,baz=284,slow=35
FIA1 FINESS Array S 77.19 27 eP P 15 08 02.1 0.0
CASM Ain Smara 77.20 56 P P 15 08 02.5 +0.4
CTEI Djebel Teioual 77.22 56 P P 15 08 03.0 +0.8
CAEH ʿAin El Ouahch 77.26 55 P P 15 08 03.5 +1.0
FNVD Fontana Vidola 77.26 47 P P 15 08 02.1 -0.4
CKFL Kef-Lekhel 77.32 56 P P 15 08 03.0 +0.2
KBA Koelnbreinsper 77.46 44 iP P 15 08 03.5 -0.1
comp=Z,459nm,2.3s,mb6.0,SNR=72
KBA Koelnbreinsper 77.46 44 iP P 15 08 03.5 -0.1
KBA pmax pmax
comp=Z,459nm,2.3s,mb6.0
UPC Upice 77.56 40 eP P 15 08 04.5 +0.3
KSP Ksiaz 77.57 39⇑eP P 15 08 04.5 +0.3
KSP e 15 10 55.5
KSP eS S 15 17 51.0 -5.3
KSP MLR MLR
comp=Z,12μm,19.5s,MS6.2
KSP Ksiaz 77.57 39⇑eP P 15 08 04.5 +0.3
KSP ePP PP 15 10 55.5 -3.5
KSP eS S 15 17 51.0 -5.3
KSP eSS SS 15 23 04.0 +8.6
KSP LR LR
comp=Z,12μm,19.5s,MS6.2
CSNT Castellina Chi 77.66 48 P P 15 08 03.2 -1.5
MOA Molln 77.70 43 iP P 15 08 04.8 -0.1
comp=Z,439nm,2.6s,mb5.9,SNR=52
GMNA Gemona 77.74 44 P P 15 08 04.4 -0.7
comp=Z,412nm,0.9s,mb6.4
CMAH Djebel Manchou 77.74 55 P P 15 08 04.0 -1.2
PTCC Patocco-Chiusa 77.76 44 P P 15 08 04.7 -0.5
comp=Z,93nm,1.1s,mb5.6
TREC Trest 77.80 41 eP P 15 08 05.4 -0.1
TREC ePP PP 15 11 07.4 +6.5
TREC ex x 15 23 42.3
TREC AMS AMS 15 41 50.0
comp=Z,4μm,20.1s
TREC Trest 77.80 41 eP P 15 08 05.4 -0.1
TREC e 15 11 07.4
TREC MLR MLR
comp=Z,4μm,20.1s,MS5.8
DPC Dobruska-Polom 77.81 40 eP P 15 08 06.1 +0.6
DPC ePP PP 15 11 06.5 +5.5
DPC eS S 15 17 57.0 -1.9
DPC ex x 15 23 25.2
DPC AMS AMS 15 38 50.0
comp=Z,3μm,20.0s
DPC Dobruska-Polom 77.81 40 eP P 15 08 06.1 +0.6
DPC e 15 11 06.5
DPC eS S 15 17 57.0 -1.9
DPC MLR MLR
comp=Z,3μm,20.0s,MS5.6
ABSA Djebel Ababsia 77.93 56 P P 15 08 03.5 -2.7
VSL Villasalto 77.99 52 eP P 15 08 06.3 -0.2
comp=Z,69nm,0.8s,mb5.6
CADS Cadrg 78.07 44 eP P 15 08 06.6 -0.4
VOJS Vojsko 78.25 44 eP P 15 08 07.7 -0.3
TBI Tubuai 78.37 237 eS S 15 17 59.8 -5.1
comp=Z,2μm,30.0s
TBI eSS SS 15 23 00.7 -6.7
comp=Z,1μm,31.5s
TBI eLQ 15 29 10.0
comp=Z,892nm,36.8s
TBI eLR LR 15 32 35.2
comp=Z,2μm,30.8s,baz=58
JOF Joensuu 78.41 24 ep P 15 08 07.6 -1.2
comp=Z,136nm,0.8s,mb5.9
JAVS Javornik 78.42 44 iP P 15 08 08.7 -0.3
VRAC Vranov 78.44 41 LR LR 15 42 17.4
comp=Z,2μm,18.6s,MS5.5,baz=288,slow=35
VRAC Vranov 78.44 41⇑iP P 15 08 10.1 +1.1
VRAC Vranov 78.44 41 P P 15 08 10.1 +1.1
OBKA Obir 78.45 44⇑iP P 15 08 08.7 -0.5
comp=Z,194nm,1.0s,mb6.0,SNR=153
CONA Conrad Observa 78.63 42 P P 15 08 10.3 +0.2
comp=Z,53nm,0.9s,mb5.5,SNR=27
CEY Cerknica 78.72 45 iP P 15 08 10.6 0.0
ARSA Arzberg 78.73 43⇑iP P 15 08 10.2 -0.4
comp=Z,136nm,1.3s,mb5.7,SNR=52
TOLF Tolfa 78.73 49 P P 15 08 10.3 -0.3
ASS Assisi 78.74 48 P P 15 08 09.6 -1.1
ASS pmax pmax
comp=Z,4.0nm,0.6s
ASS Assisi 78.74 48 P P 15 08 09.6 -1.1
comp=Z,4.4nm,0.6s,mb4.6
PERS Pernice 78.75 43 iP P 15 08 10.1 -0.7
MORC Moravsky Berou 78.77 40⇑iP P 15 08 11.4 +0.5
MORC Moravsky Berou 78.77 40 eP P 15 08 11.1 +0.2
MORC pmax pmax
comp=Z,124nm,1.1s,mb5.8
MORC Moravsky Berou 78.77 40 eP P 15 08 11.1 +0.2
comp=Z,124nm,1.1s,mb5.8
CING Cingoli 78.96 47 P P 15 08 11.4 -0.5
RAC Raciborz 79.00 39 eP P 15 08 12.7 +0.6
RAC MLR MLR
comp=Z,4μm,20.3s,MS5.7
VSU Vasula 79.08 29⇑iP P 15 08 12.3 -0.2
OKC Ostrava-Krasne 79.09 40 eP P 15 08 12.8 +0.2
OKC ePP PP 15 11 10.2 -1.5
OKC eS S 15 18 22.1 +10
OKC ex x 15 24 00.6
OKC AMS AMS 15 46 10.0
comp=Z,3μm,16.5s
OKC Ostrava-Krasne 79.09 40 eP P 15 08 12.8 +0.2
OKC e 15 11 10.2
OKC eS S 15 18 22.1 +10
OKC Ostrava-Krasne 79.09 40 eP P 15 08 12.8 +0.2
OKC ePP PP 15 11 10.2 -1.5
OKC eS S 15 18 22.1 +10
OKC eSS SS 15 24 00.6 +42
SOP Sopron 79.16 42⇑eP P 15 08 13.3 +0.3
TIXI Tiksi 79.18 349 eP P 15 08 11.6 -1.5
TIXI e 15 11 08.1
TIXI ePPP 15 13 04.8
TIXI eS S 15 18 06.8 -6.7
TIXI eSS SS 15 23 13.4 -6.1
TIXI pmax pmax
comp=Z,147nm,0.8s,mb6.0
TIXI pmax pmax
comp=N,35nm,0.7s
TIXI pmax pmax
comp=E,12nm,0.6s
TIXI pmax pmax
comp=Z,635nm,2.2s,mb6.2
TIXI pmax pmax
comp=Z,219nm,11.4s
TIXI pmax pmax
comp=N,111nm,12.1s
TIXI pmax pmax
comp=E,44nm,10.5s
TIXI smax
comp=N,638nm,13.4s
TIXI smax
comp=E,170nm,16.4s
TIXI MLR MLR
comp=N,3μm,17.0s,MS5.7
TIXI MLR MLR
comp=Z,3μm,17.0s,MS5.7
TIXI MLR MLR
comp=E,613nm,18.0s,MS5.7
TIXI Tiksi 79.18 349⇑iP P 15 08 11.8 -1.3
TIXI LR LR
comp=Z,6μm,21.0s,MS5.9
ZST Bratislava 79.25 41 eP P 15 08 14.3 +0.8
ZST eS S 15 18 13.4 -0.8
ZST Bratislava 79.25 41 eP P 15 08 14.3 +0.8
comp=Z,107nm,1.1s,mb5.7
ZST eS S 15 18 13.4 -0.8
ZST LR LR
comp=Z,3μm,17.8s,MS5.6
SMOL Smolenice 79.29 41 eP P 15 08 14.8 +1.1
BOJS Bojanci 79.34 44 iP P 15 08 14.0 0.0
FIAM Fiamignano 79.39 48 P P 15 08 14.2 -0.1
CERT Certeto 79.44 48 P P 15 08 13.9 -0.6
NVLJ Novalja 79.52 45 iP P 15 08 14.5 -0.4

KEST Kesra 79.53 55 P P 15 08 15.5 +0.5
comp=Z,80nm,0.8s,mb5.7,baz=226,slow=2.2,SNR=130
KEST LR LR 15 39 01.2
comp=Z,1μm,21.0s,MS5.2,baz=207,slow=32
AQU L'Aquila 79.54 48⇑iP P 15 08 13.0 -2.1
AQU L'Aquila 79.54 48 P P 15 08 14.9 -0.2
AQU pmax pmax
comp=Z,97nm,0.9s,mb5.7
AQU L'Aquila 79.54 48 eP P 15 08 14.6 -0.5
comp=Z,97nm,0.9s,mb5.7
SEY Seymchan 79.55 337⇑iP P 15 08 14.8 -0.3
DBIC Dimbokro 79.67 88 P P 15 08 16.0 +0.2
comp=Z,90nm,0.8s,mb5.8,baz=277,slow=5.2,SNR=84
DBIC LR LR 15 40 14.2
comp=Z,3μm,19.9s,MS5.6,baz=275,slow=33
DBIC Dimbokro 79.67 88 eP P 15 08 16.1 +0.3
comp=Z,94nm,0.8s,mb5.8
DBIC LR LR
comp=Z,3μm,20.0s,MS5.6
LIC Lamto 79.71 88⇑iP P 15 08 16.2 +0.2
comp=Z,207nm,0.8s,mb5.8
LIC eR
comp=Z,5μm,20.0s
LIC Lamto 79.71 88⇑iP P 15 08 16.2 +0.2
comp=Z,104nm,0.8s,mb5.8
LIC LR LR
comp=Z,3μm,20.0s,MS5.6
SUW Suwalki 79.75 34 eP P 15 08 15.0 -1.2
SUW pmax pmax
comp=Z,587nm,0.9s,mb6.5
SUW Suwalki 79.75 34 eP P 15 08 15.0 -1.2
comp=Z,587nm,0.9s,mb6.5
OJC Ojcow 79.84 39 eP P 15 08 16.9 +0.2
OJC ePP PP 15 11 16.8 -1.2
OJC eS S 15 18 18.5 -2.1
OJC L 15 43 55.7
comp=Z,28nm,19.4s
PUL Pulkovo 79.87 27c iP P 15 08 17.3 +0.5
PUL i 15 11 18.4
PUL eS S 15 18 23.8 +3.0
PUL eSS SS 15 23 32.4 +2.5
PUL pmax pmax
comp=Z,6μm,22.0s
PUL pmax pmax
comp=N,136nm,0.7s
PUL pmax pmax
comp=E,140nm,0.8s
PUL pmax pmax
comp=Z,613nm,0.9s,mb6.5
PUL pmax pmax
comp=N,382nm,1.1s
PUL pmax pmax
comp=E,484nm,1.6s
PUL smax
comp=N,683nm,15.6s
PUL smax
comp=Z,473nm,14.8s
PUL smax
comp=E,904nm,17.8s
PUL MLR MLR
comp=N,3μm,23.0s,MS5.8
PUL MLR MLR
comp=E,4μm,24.0s,MS5.8
TMCR Tamitsa 79.97 21c iP P 15 08 17.7 +0.3
TMCR pmax pmax
comp=Z,170nm,0.7s,mb6.1
SISC Sisak 80.06 44 iP P 15 08 18.3 +0.5
VYHS Vyhne 80.13 41 eS S 15 18 26.9 +3.4
VYHS Vyhne 80.13 41 iP P 15 08 18.6 +0.4
VYHS pmax pmax
comp=Z,38nm,0.9s,mb5.3
VYHS Vyhne 80.13 41 iP P 15 08 18.6 +0.4
comp=Z,38nm,0.9s,mb5.3
VYHS eS S 15 18 27.0 +3.5
IZAR Zarasai 80.33 32 eP P 15 08 19.3 0.0
IZAR AMb AMB 15 08 21.9
comp=Z,48nm,1.2s,mb5.3
RFI Roccamonfina 80.40 49 P P 15 08 19.9 +0.2
comp=Z,37nm,1.4s,mb5.1
MIDA Miranda 80.43 48 P P 15 08 19.8 -0.1
NIE Niedzica 80.53 39 iPc P 15 08 21.3 +0.9
BUD Budapest 80.72 41⇑eP P 15 08 22.0 +0.5
IDID Didziasalis 80.81 32 eP P 15 08 21.6 -0.3
IDID AMb AMB 15 08 24.0
comp=Z,36nm,0.7s,mb5.4
USI Ustica 81.00 51 P P 15 08 22.8 -0.1
comp=Z,134nm,0.5s,mb6.1
PSZ Piszkesteto 81.03 41⇑eP P 15 08 24.3 +1.2
PSZ Piszkesteto 81.03 41⇑iP P 15 08 24.5 +1.4
PSZ Piszkesteto 81.03 41 eP P 15 08 23.9 +0.8
PSZ pmax pmax
comp=Z,106nm,1.0s,mb5.7
PSZ Piszkesteto 81.03 41 eP P 15 08 23.9 +0.8
comp=Z,106nm,1.0s,mb5.7
STHS Stebnicka Huta 81.06 39 iP P 15 08 24.4 +1.2
STHS pmax pmax
comp=Z,35nm,0.9s,mb5.3
STHS Stebnicka Huta 81.06 39 iP P 15 08 24.4 +1.2
comp=Z,35nm,0.9s,mb5.3
KECS Kecovo 81.09 40 iP P 15 08 24.0 +0.6
PKSM Moragy 81.11 43⇑iP P 15 08 23.3 -0.2
PKSM Moragy 81.11 43 P P 15 08 23.6 +0.1
CRVS Cervenica-Dubn 81.44 39 eP P 15 08 26.0 +0.7
CRVS ePP PP 15 11 26.9 -4.3
FGMS Monte Sant'Ang 81.53 48 P P 15 08 25.9 +0.2
comp=Z,89nm,0.8s,mb5.7
EFI East Falkland 81.67 163 PFAKE 15 08 40.0 +14
EFI LR LR
comp=Z,499nm,20.0s,MS4.9
KWP Kalwaria 81.77 38 eP P 15 08 28.4 +1.4
KWP pmax pmax
comp=Z,227nm,0.9s,mb6.1
KWP Kalwaria 81.77 38 eP P 15 08 28.4 +1.4
comp=Z,227nm,0.9s,mb6.1
MNK Minsk 81.79 32 eP P 15 08 25.0 -2.1
MNK pmax pmax
comp=Z,440nm,1.2s,mb6.3
MNK MLR MLR
comp=Z,9μm,18.0s,MS6.2
KOLS Kolonicke sedl 81.88 39 eP P 15 08 28.5 +0.9
UZH Uzhgorod 82.05 39⇓iP P 15 08 29.0 +0.5
UZH iS S 15 18 43.0 -0.6
UZH i 15 27 25.0
UZH pmax pmax
comp=Z,340nm,1.0s,mb6.2
UZH MLR MLR
comp=Z,2μm,19.0s,MS5.6
CUC Castrocucco 82.24 49 P P 15 08 28.7 -0.8
MA2 Magadan 82.29 334 eP P 15 08 29.6 -0.2
MA2 pmax pmax
comp=Z,63nm,0.8s,mb5.6
MA2 MLR MLR
comp=Z,2μm,21.0s,MS5.5
MA2 Magadan 82.29 334 eP P 15 08 29.7 -0.1
MA2 LR LR
comp=Z,3μm,22.0s,MS5.5
LVV L'vov 82.40 38⇑iP P 15 08 30.6 +0.3
LVV i 15 08 43.8
LVV eS S 15 18 38.8 -8.4
LVV ePS 15 19 27.0
LVV eSSS 15 27 36.4
LVV MLR MLR
comp=E,1μm,18.0s,MS5.4
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.6
LVV MLR MLR
comp=N,1μm,19.0s,MS5.4
VAE Valguarnera 82.43 52 LR LR 15 41 06.0
comp=N,2μm,20.2s,MS5.5,baz=133,slow=33
BRY Bratogost 82.65 46 eP P 15 08 31.4 -0.3
UPM Unac-Piva 82.74 45⇑iP P 15 08 32.0 -0.1
TOA0 Torodi Ar. Sit 82.74 79 eP P 15 08 31.6 -0.5
TORD Torodi Ar. Bea 82.74 79 P P 15 08 31.6 -0.5
comp=N,47nm,0.9s,mb5.5,baz=304,slow=5.4,SNR=163
TORD PKKPbc PKKPbc 15 26 57.0 +1.0
comp=N,0.8nm,0.4s,baz=96,slow=1.5,SNR=14
TORD PKPPKP 15 35 04.3
comp=N,0.7nm,0.7s,baz=108,slow=1.5,SNR=4.7
TORD LR LR 15 42 41.9
comp=N,6μm,19.7s,MS6.0,baz=285,slow=34
PET Petropavlovsk 82.81 326c iP P 15 08 31.5 -0.9
PET e*SP sP 15 08 45.4 +11
PET e 15 11 45.4
PET eS S 15 18 45.2 -6.1
PET eSS SS 15 24 10.5 -3.2

PET eSSS 15 27 34.1
PET pmax pmax
comp=Z,33nm,1.3s,mb5.2
PET pmax pmax
comp=Z,700nm,7.6s
PET pmax pmax
comp=Z,800nm,16.2s
PET pmax pmax
comp=Z,49nm,1.3s,mb5.4
PET pmax pmax
comp=Z,300nm,11.6s
PET pmax pmax
comp=Z,400nm,14.4s
PET pmax pmax
comp=Z,200nm,14.6s
PET smax
comp=E,400nm,10.6s
PET smax
comp=N,400nm,16.0s
PET smax
comp=E,500nm,17.8s
PET MLR MLR
comp=Z,2μm,20.0s,MS5.5
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 82.81 326 eP P 15 08 31.7 -0.7
comp=Z,63nm,1.2s,mb5.5
PET LR LR
comp=Z,2μm,20.0s,MS5.5
HCY Herceg Novi 82.84 46⇑iP P 15 08 33.0 +0.3
PLE Pljevlja 82.98 45⇑iP P 15 08 33.6 +0.2
NKY Niksic 82.99 46⇑iP P 15 08 33.6 +0.3
SSY Sortino 83.04 52 P P 15 08 33.8 +0.1
BUM Brajici-Budva 83.17 46⇑iP P 15 08 35.0 +0.7
BZS Buzias 83.20 42⇑iP P 15 08 35.2 +0.7
BZS Buzias 83.20 42 P P 15 08 35.0 +0.5
DRGR 83.25 41⇑iP P 15 08 35.4 +0.7
DRGR 83.25 41⇓iP P 15 08 35.4 +0.7
DRGR 83.25 41 ⇑P P 15 08 35.4 +0.7
TTG Podgorica 83.34 46⇑iP P 15 08 35.8 +0.5
IVA Berane 83.53 46⇑iP P 15 08 36.3 +0.1
ULC Ulcinj 83.57 46⇑iP P 15 08 36.8 +0.4
PVY Plav 83.72 45⇑iP P 15 08 37.6 +0.4
BURAR Bucovina Array 84.25 39⇓iP P 15 08 40.8 +0.9
BURAR Bucovina Array 84.25 39 ⇓P P 15 08 40.8 +0.9
TIR Tirane 84.27 47 eP P 15 08 40.4 +0.4
AKASG Malin Array Be 84.67 35 P P 15 08 41.1 -0.8
comp=Z,26nm,0.5s,mb5.7,baz=288,slow=3.8,SNR=62
AKASG PP PP 15 11 56.8 -0.9
comp=Z,4.4nm,0.8s,baz=303,slow=7.4,SNR=4.2
AKASG LR LR 15 46 00.4
comp=Z,3μm,21.1s,MS5.7,baz=305,slow=35
AKASG Malin Array Be 84.67 35 P P 15 08 41.2 -0.8
AKASG 15 11 56.8
AKBB Malin Array Si 84.67 35 eP P 15 08 41.1 -0.9
SKO Skopje 84.97 45 eP P 15 08 44.1 +0.6
SKO Skopje 84.97 45 iP P 15 08 43.8 +0.3
OHR Ohrid 85.00 46 eP P 15 08 44.0 +0.4
OHR Ohrid 85.00 46 iP P 15 08 43.8 +0.1
KRUS Krusevo 85.16 46 iP P 15 08 44.8 +0.4
BIA Bitola 85.39 46 eP P 15 08 45.2 -0.4
OBN Obninsk 85.41 29 P P 15 08 45.5 -0.2
comp=Z,683nm,0.9s,SNR=11
OBN Obninsk 85.41 29α iP P 15 08 45.3 -0.4
OBN i pP 15 08 47.6 +0.5
OBN i 15 08 58.6
OBN e 15 12 06.6
OBN ePPP 15 13 59.9
OBN e 15 19 01.9
OBN SS SS 15 24 55.0 +2.8
OBN pmax pmax
comp=Z,229nm,1.8s,mb6.0
OBN MLR MLR
comp=Z,5μm,23.0s,MS5.9
OBN Obninsk 85.41 29 eP P 15 08 45.7 0.0
comp=Z,165nm,1.1s,mb6.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.3
MOS Moscow 85.45 28 eP P 15 08 45.5 -0.4
MOS e 15 08 59.0
MOS e 15 12 02.8
MOS e 15 19 08.3
MOS pmax pmax
comp=Z,500nm,2.0s,mb6.3
MOS pmax pmax
comp=Z,202nm,1.8s,mb6.0
MOS MLR MLR
comp=Z,20μm,13.0s
SKR Severo-Kuril's 85.45 325 eP P 15 08 38.0 -7.9
SKR e 15 08 47.0
SKR e 15 12 03.0
SKR eS S 15 19 11.0 -6.9
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,110nm,0.9s
SKR pmax pmax
comp=E,70nm,0.9s
SKR pmax pmax
comp=Z,160nm,0.9s,mb6.2
SKR smax
comp=N,2μm,12.0s
SKR smax
comp=E,1μm,12.0s
SKR MLR MLR
comp=N,3μm,20.0s,MS5.8
SKR MLR MLR
comp=E,3μm,20.0s,MS5.8
SKR MLR MLR
comp=Z,3μm,20.0s,MS5.7
IGT Igoumenitsa 85.50 48 eP P 15 08 46.7 +0.6
FNA Florina 85.54 46 eP P 15 08 46.7 +0.3
STIP Stip 85.59 45 eP P 15 08 46.2 -0.5
STIP Stip 85.59 45 iP P 15 08 46.2 -0.4
VTS Vitosha 85.76 44 eP P 15 08 47.8 +0.4
VTS Vitosha 85.76 44⇑iP P 15 08 48.0 +0.5
VTS Vitosha 85.76 44 eP P 15 08 47.0 -0.5
MLR Muntele Rosu 85.84 41⇓iP P 15 08 48.9 +1.0
MLR Muntele Rosu 85.84 41 P P 15 08 48.2 +0.3
MEV Metsovon 85.96 47 eP P 15 08 50.1 +1.7
VAY Valandovo 86.03 46 eP P 15 08 48.6 -0.2
VAY Valandovo 86.03 46 iP P 15 08 48.3 -0.5
KKB Krupnik 86.07 45 eP P 15 08 50.0 +1.0
VRI Vrincioaia 86.09 40⇓iP P 15 08 48.2 -0.9
VRI Vrincioaia 86.09 40⇓iP P 15 08 48.4 -0.7
VRI Vrincioaia 86.09 40 ⇓P P 15 08 48.4 -0.7
GRG Griva 86.12 46 eP P 15 08 49.7 +0.5
LKD Levkas 86.13 49 eP P 15 08 48.9 -0.4
KNT Kendrikon 86.33 46 eP P 15 08 50.5 +0.3
ZIMR 86.51 42 P P 15 08 51.5 +0.3
BUC1 Bucharest 86.53 42 P P 15 08 51.2 0.0
KIS Kishinev 86.62 38c iP P 15 08 50.0 -1.7
KIS e 15 12 08.0
KIS ePPP 15 14 16.0
KIS eS S 15 19 24.0 -5.3
KIS pmax pmax
comp=Z,1μm,8.0s
KIS pmax pmax
comp=Z,700nm,10.0s
LIT Litokhoron 86.63 47 eP P 15 08 50.4 -1.3
MMB Musomiste 86.63 45 eP P 15 08 52.3 +0.6
MMB Musomiste 86.63 45 iP P 15 08 52.0 +0.3
THE Thessaloniki 86.65 46 eP P 15 08 53.0 +1.2
HORT Hortiatis 86.76 46 eP P 15 08 52.6 +0.3
SOH Sokhos 86.80 46 eP P 15 08 52.9 +0.3
PLD Plovdiv 86.96 44 eP P 15 08 53.6 +0.2
PLD Plovdiv 86.96 44 eP P 15 08 53.0 -0.4
AGG Agios Georgios 87.09 48 eP P 15 08 53.8 -0.2
RZN Rozhen 87.20 44 eP P 15 08 54.0 -0.5
YAK Yakutsk 87.20 344 eP P 15 08 54.0 -0.5
YAK e 15 09 07.8
YAK pmax pmax
comp=Z,107nm,1.1s,mb6.0
YAK MLR MLR
comp=Z,3μm,22.0s,MS5.7
YAK Yakutsk 87.20 344 eP P 15 08 54.0 -0.6
comp=Z,107nm,1.1s,mb6.0
YAK e 15 09 07.8
YAK LR LR
comp=Z,3μm,22.0s,MS5.7

CFR	Carcaliu	87.29	40⇓	iP	P	15 08 54.3	-0.7
CFR	Carcaliu	87.29	40	P	P	15 08 54.4	-0.6
HARR	Harsova	87.45	41	P	P	15 08 55.5	-0.3
OUR	Ouranopolis	87.47	46	eP	P	15 08 55.7	-0.1
XOR	Xorichti	87.47	47	eP	P	15 08 55.6	-0.3
PAIG	Paliouri	87.49	46	eP	P	15 08 55.7	-0.2
PECR	Pechory	87.63	25	iP	P	15 08 54.8	-1.8
PECR				e		15 19 38.6	
PECR				pmax	pmax		
	comp=Z,1µm,1.6s						
PECR				pmax	pmax		
	comp=Z,800nm,6.0s						
PECR				MLR	MLR		
	comp=N,2µm,18.0s,MS5.8						
PECR				MLR	MLR		
	comp=Z,7µm,18.0s,MS6.1						
PECR				MLR	MLR		
	comp=E,2µm,17.0s,MS5.8						
KDZ	Kurdzhali	87.66	44	eP	P	15 08 57.0	+0.3
TIRR	Tirgusor	87.87	41⇓	iP	P	15 08 57.9	+0.2
TIRR	Tirgusor	87.87	41	eP	P	15 08 57.3	-0.5
JMB	Yambol	87.92	43	eP	P	15 08 58.2	+0.2
PRD	Provadia	88.00	42	eP	P	15 08 57.0	-1.3
AOS	Alonnisos	88.03	47	eP	P	15 08 59.0	+0.5
ALN	Alexandroupoli	88.47	44	eP	P	15 08 59.1	-1.5
VOR	Voronezh	88.85	30	P	P	15 09 02.0	-0.4
VOR				pmax	pmax		
	comp=Z,150nm,2.5s,mb5.9						
SOKR	Solikamsk	89.19	18c	iP	P	15 09 03.5	-0.5
SOKR				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.8						
SOKR				MLR	MLR		
	comp=Z,7µm,20.0s,MS6.1						
VRSR	Storozhevoye	89.20	31	eP	P	15 09 03.0	-1.0
VRSR				eS	S	15 19 49.7	-4.2
VRSR				pmax	pmax		
	comp=Z,70nm,0.7s,mb6.1						
VRSR				pmax	pmax		
	comp=N,100nm,0.9s						
VRSR				pmax	pmax		
	comp=E,100nm,0.9s						
VRSR				smax			
	comp=N,10.0nm,1.5s						
VRSR				smax			
	comp=Z,8.0nm,2.1s						
VRSR				smax			
	comp=E,10.0nm,1.7s						
VRSR				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.8						
VRSR				MLR	MLR		
	comp=N,2µm,20.0s,MS5.8						
VRSR				MLR	MLR		
	comp=E,3µm,22.0s,MS5.8						
VORD	Divnogorie	89.42	31	eP	P	15 09 03.9	-1.2
VORD				pmax	pmax		
	comp=N,700nm,0.9s						
VORD				pmax	pmax		
	comp=E,50nm,0.9s						
VORD				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.8						
VORD				MLR	MLR		
	comp=Z,5µm,19.0s,MS6.0						
VORD				MLR	MLR		
	comp=N,54µm,18.0s						
VORD				MLR	MLR		
	comp=E,3µm,17.0s						
GVD	Gavdhos	90.51	50	eP	P	15 09 08.8	-1.4
SIM	Simferopol'	90.80	38	eP	P	15 09 11.2	-0.3
SIM				e		15 12 46.0	
SIM				ePPP		15 14 49.0	
SIM				eS	S	15 20 06.3	-2.4
SIM				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.8						
SIM				MLR	MLR		
	comp=Z,3µm,16.7s,MS5.8						
AFI	Afiamalu	91.88	256	PFAKE		15 09 30.0	+14
AFI				LR	LR		
	comp=Z,2µm,21.0s,MS5.4						
ARU	Arti	92.37	19	P	P	15 09 18.5	-0.3
	comp=Z,370nm,1.1s,mb6.6,SNR=28						
ARU	Arti	92.37	19	eP	P	15 09 18.4	-0.4
ARU				e		15 12 59.9	
ARU				ePPP		15 14 58.4	
ARU				eS	S	15 19 49.8	-33
ARU				eSP	SP	15 21 35.5	+2.3
ARU				eSS	SS	15 26 24.8	-8.6
ARU				MLR	MLR		
	comp=Z,7µm,22.0s,MS6.1						
ARU				MLR	MLR		
	comp=N,5µm,23.0s,MS6.0						
ARU				MLR	MLR		
	comp=E,4µm,21.0s,MS6.0						
ARU	Arti	92.37	19	eP	P	15 09 18.3	-0.5
	comp=E,51nm,0.8s,mb5.9						
ARU				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
SVE	Sverdlovsk	92.60	17	eP	P	15 09 18.4	-1.4
SVE				e		15 09 31.8	
SVE				ePS	S	15 20 15.0	-10
SVE				pmax	pmax		
	comp=Z,150nm,2.5s,mb6.0						
SVE				MLR	MLR		
	comp=N,4µm,18.0s,MS5.9						
SVE				MLR	MLR		
	comp=E,1µm,18.0s,MS5.9						
SVE				MLR	MLR		
	comp=Z,8µm,18.0s,MS6.2						
ANN	Anapa	92.68	36	eP	P	15 09 17.8	-2.4
ANN				e		15 19 48.5	
ANN				e		15 21 36.9	
ANN				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.9						
CLNS	Chul'man	92.94	343	eP	P	15 09 16.0	-5.4
CLNS				pmax	pmax		
	comp=Z,22nm,0.6s,mb5.8						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,4µm,26.0s,MS5.7						
CLNS				MLR	MLR		
	comp=N,1µm,25.0s						
ISP	Isparta	93.05	45	eP	P	15 09 19.1	-2.8
ANTO	Ankara	93.23	42	PFAKE		15 09 30.0	+7.3
ANTO				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
BR131	Keskin Array S	93.83	42	eP	P	15 09 24.2	-1.3
	comp=Z,6.1nm,0.8s,mb5.1						
BR131				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
BRTR	Keskin Array B	93.83	42	P	P	15 09 24.4	-1.0
	comp=Z,6.3nm,0.7s,mb5.1,baz=288,slow=2.7,SNR=31						
BRTR				PP	PP	15 13 11.1	+0.3
	comp=Z,2.1nm,0.9s,baz=293,slow=6.6,SNR=3.6						
BOD	Bodaibo	94.36	349	eP	P	15 09 26.3	-1.6
BOD				e		15 09 40.0	
BOD				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.9						
BOD				pmax	pmax		
	comp=Z,47nm,0.8s,mb6.0						
YSS	Yuzh-Sakhalins	94.50	329	eP	P	15 09 26.0	-2.6
YSS				e		15 22 03.0	
YSS				e		15 27 06.0	
YSS				e		15 30 46.0	
YSS	Yuzh-Sakhalins	94.50	329	PFAKE		15 09 40.0	+11
YSS				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
KIV	Kislovodsk	95.98	34c	iP	P	15 09 35.2	-0.2
KIV				e		15 13 28.7	
KIV				ePPP		15 15 32.1	
KIV				e		15 20 11.1	
KIV				eSS	SS	15 27 27.8	+2.8
KIV				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.5						
KIV				pmax	pmax		
	comp=Z,189nm,2.9s,mb6.0						
KIV				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.8						
KIV	Kislovodsk	95.98	34	eP	P	15 09 35.1	-0.3
	comp=Z,22nm,0.9s,mb5.6						
KIV				LR	LR		
	comp=Z,785nm,20.0s,MS5.2						
CSS	Prodhromos	96.61	46	eP	P	15 09 37.8	-0.4
	comp=Z,18nm,0.8s,mb5.5						
HABR	Khabarovsk	96.68	334	eP	P	15 09 36.6	-1.9
HABR				eS	SKSac	15 20 13.2	-3.0
AKTK	Aktyubinsk	97.34	22	iP	P	15 09 40.5	-1.0
AKTO	Aktyubinsk	97.34	22	iP	P	15 09 40.4	-1.1
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.7						
ZEI	Tsey	97.45	34	eP	P	15 09 41.2	-0.8
ZEI				e*PP	pP	15 09 44.9	+1.5
MALT	Malatya	97.58	41	P	P	15 09 45.8	+3.2
MALT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.2						
MALT	Malatya	97.58	41	P	P	15 09 42.6	+0.1
	comp=Z,7.5nm,1.0s,mb5.2						
CHKZ	Chkalovo	97.85	13	iP	P	15 09 42.3	-1.5
CHKZ				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.8						
CHKZ	Chkalovo	97.85	13	eP	P	15 09 42.7	-1.1
	comp=Z,31nm,0.8s,mb5.9						
CHKZ				e		15 09 56.0	
ERM	Erimo	97.89	325	PFAKE		15 09 50.0	+6.0
ERM				LR	LR		
	comp=Z,441nm,20.0s,MS5.0						
ZRNK	Zerenda	98.18	15	eP	P	15 09 44.5	-0.8
ZRNK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.7						
ZRNK	Zerenda	98.18	15	eP	P	15 09 44.5	-0.8
	comp=Z,22nm,0.9s,mb5.7						
BRVK	Borovoye	98.36	14	P	P	15 09 45.0	-1.1
	comp=Z,192nm,0.9s,mb6.6,SNR=17						
BRVK	Borovoye	98.36	14	eP	P	15 09 45.4	-0.7
BRVK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.6						
BRVK				MLR	MLR		
	comp=Z,584nm,20.0s,MS5.1						
BRVK	Borovoye	98.36	14	eP	P	15 09 45.4	-0.8
	comp=Z,19nm,0.9s,mb5.6						
BRVK				LR	LR		
	comp=Z,584nm,20.0s,MS5.1						
BVA0	Borovoye Array	98.42	14	iP	P	15 09 46.1	-0.2
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.9						
BVAR	Borovoye Array	98.42	14	LR	LR	15 55 25.7	
	comp=Z,3µm,20.8s,MS5.8,baz=139,slow=36						
NVS	Novosibirsk	98.63	6⇑	iP	P	15 09 45.4	-1.9
NVS				eS	S	15 21 09.5	-7.8
NVS				pmax	pmax		
	comp=N,12nm,1.7s						
NVS				pmax	pmax		
	comp=E,12nm,1.7s						
NVS				pmax	pmax		
	comp=Z,30nm,1.7s,mb5.5						
NVS				pmax	pmax		
	comp=N,18nm,1.9s						
NVS				pmax	pmax		
	comp=E,11nm,1.9s						
NVS				pmax	pmax		
	comp=Z,14nm,1.9s,mb5.2						
NVS				smax			
	comp=N,12nm,1.8s						
NVS				smax			
	comp=E,6.0nm,1.9s						
VOSK	Vostochnaya	98.83	14	P	P	15 09 46.5	-1.7
VOSK				pmax	pmax		
	comp=Z,11nm,1.2s,mb5.3						
AB31	Akbulak array	98.99	21	iP	P	15 09 48.8	-0.1
MAK	Makhachkala	99.09	32	eP	P	15 09 48.9	-0.4
MAK				e		15 13 51.1	
MAK				ePPP		15 15 57.1	
MAK				eS	SKSac	15 20 26.4	-2.0
MAK				ePS	PS	15 22 54.2	+6.9
MAK				pmax	pmax		
	comp=Z,123nm,1.5s,mb6.2						
MAK				MLR	MLR		
	comp=Z,6µm,24.0s,MS6.0						
MAK				MLR	MLR		
	comp=N,7µm,23.0s,MS6.1						
MAK				MLR	MLR		
	comp=E,3µm,24.0s,MS6.1						
ZAL	Zalesovo	99.67	5	P	Pdif	15 09 52.2	+0.3
	comp=E,4.3nm,0.7s,baz=126,slow=4.7,SNR=15						
ZAL				PP	PP	15 13 52.9	-3.0
	comp=E,5.3nm,1.0s,baz=122,slow=8.3,SNR=6.1						
ZAL				LR	LR	15 58 52.4	
	comp=E,5µm,18.7s,MS6.0,baz=122,slow=38						
ZAL	Zalesovo	99.67	5	P	Pdif	15 09 52.2	+0.3
ZAL						15 13 52.9	
ZAL	Zalesovo	99.67	5	P	Pdif	15 09 52.2	+0.2
ZAL				PP	PP	15 13 52.9	-3.0
ZAL				LR	LR	15 58 52.4	
GNI	Garni	99.79	36	PFAKE		15 10 00.0	+7.5
GNI				LR	LR		
	comp=Z,3µm,21.0s,MS5.7						
HIA	Hailar	101.11	343	PFAKE		15 10 10.0	+12
HIA				LR	LR		
	comp=Z,3µm,19.0s,MS5.8						
IRK	Irkutsk	101.14	353	eP	Pdif	15 09 58.4	-0.1
IRK				pmax	pmax		
	comp=Z,37nm,3.4s						
TLY	Talaya	101.76	354	eP	Pdif	15 10 00.4	-0.8
TLY				e		15 20 40.5	
TLY				eS	Sdif	15 21 41.2	-2.2
TLY				eSP	SP	15 23 20.9	+5.5
TLY				ePPS		15 24 04.8	
TLY				eSS	SS	15 28 51.0	+5.1
TLY				eSSS		15 32 42.3	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.8						
TLY	Talaya	101.76	354	PFAKE		15 10 10.0	+8.8
TLY				LR	LR		
	comp=Z,783nm,21.0s,MS5.2						
MDJ	Mudanjiang	101.99	334	P	Pdif	15 09 58.5	-3.8
MDJ				PP	PP	15 14 11.5	-2.0
MDJ				S	Sdif	15 21 39.3	-6.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.8s						
MDJ				AMB	AMB		
	comp=Z,144nm,10.8s						
MDJ				LR	LR		
	comp=N,810nm,21.0s,MS5.6						
MDJ				LR	LR		
	comp=E,2µm,22.0s,MS5.6						
MDJ				LR	LR		
	comp=Z,2µm,24.0s,MS5.5						
MDJ	Mudanjiang	101.99	334	PFAKE		15 10 10.0	+7.7
MDJ				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
MOY	Mondy	102.00	355	eP	Pdif	15 10 04.3	+2.0
MOY				pmax	pmax		
	comp=Z,27nm,3.6s						
MAJO	Matsushiro	104.52	324	PFAKE		15 10 20.0	+6.5
MAJO				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
MJAR	Matsushiro Arr	104.52	324	PKKPbc	PKKPbc	15 25 58.2	-0.7
	comp=Z,0.3nm,0.5s,baz=197,slow=2.0,SNR=4.9						
ULN	Ulaanbaatar	105.08	351	PKiKP	PKiKP	15 14 30.7	+0.1
ULN				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
SONM	Songino Array	105.21	351	Pdiff	Pdif	15 10 17.1	+0.5
	comp=Z,1.8nm,0.9s,baz=1.1,slow=4.0,SNR=8.5						
SONM				PP	PP	15 14 33.6	-3.9
	comp=Z,4.4nm,0.9s,baz=10,slow=3.8,SNR=4.0						
SONM				PKKPbc	PKKPbc	15 25 55.2	-1.6
	comp=Z,2.2nm,0.5s,baz=197,slow=4.4,SNR=16						
SONM	Songino Array	105.21	351	P	Pdif	15 10 17.1	+0.5
SONM						15 14 33.6	
MKAR	Makanchi Array	106.47	8	Pdiff	Pdif	15 10 25.9	+3.7
	comp=Z,3.1nm,0.7s,baz=2.2,slow=3.6,SNR=15						
MKAR				PP	PP	15 14 42.4	-4.4
	comp=Z,2.1nm,0.7s,baz=303,slow=3.7,SNR=4.7						
MKAR				PKKPbc	PKKPbc	15 25 50.3	-2.6
	comp=Z,0.9nm,0.6s,baz=167,slow=3.8,SNR=10						
MKAR	Makanchi Array	106.47	8	Pdif	Pdif	15 10 25.9	+3.7
MKAR				PP	PP	15 14 42.4	-4.4
MKAR				PKKPbc	PKKPbc	15 25 50.3	-2.6
KKAR	Karatay Array	107.71	17	P	Pdif	15 10 29.6	+1.9
AAK	Ala-Archa	109.14	15	PFAKE		15 14 50.0	+12
AAK				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
INCN	Inchon	109.22	333	PFAKE		15 14 50.0	+12
INCN				LR	LR		
	comp=Z,3µm,20.0s,MS5.9						
DL2	Dalian	109.90	337	ePDIF	Pdif	15 10 30.0	-7.4
DL2				PP	PP	15 15 12.6	+0.8
DL2				PP	PP		
	comp=Z,260nm,8.0s						
DL2				LR	LR		
	comp=N,820nm,19.8s,MS5.5						
DL2				LR	LR		
	comp=E,740nm,18.0s,MS5.5						
DL2				LR	LR		
	comp=Z,1µm,17.7s,MS5.4						
WMQ	Urumqi	109.94	4	PKP	PKiKP	15 14 38.8	-0.8
WMQ				PP	PP	15 15 17.0	+4.9
WMQ				PPP		15 17 25.0	
WMQ				PKS		15 18 14.0	
WMQ				SKS	SKSdf	15 21 48.0	-4.4
WMQ				SS	SS	15 30 38.0	+0.5
WMQ				PP	PP		
	comp=Z,350nm,5.9s						
WMQ				LR	LR		
	comp=N,5µm,18.4s,MS6.2						
WMQ				LR	LR		
	comp=E,3µm,21.0s,MS6.2						
WMQ				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
TSUM	Tsumeb	110.60	102	PFAKE		15 14 50.0	+9.1
TSUM				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
BJT	Baijiatuau	110.62	342	PFAKE		15 14 50.0	+9.1
BJT				LR	LR		
	comp=Z,5µm,21.0s,MS6.1						
VNA3	Neumayer Olymp	110.64	160	ePdiff	Pdif	15 10 43.9	+3.2
VNA3				e		15 10 48.5	
VNA3				e		15 10 58.1	
VNA1	Neumayer--Stat	110.86	160	ePdiff	Pdif	15 10 44.0	+2.3
VNA1				e		15 10 48.1	
VNA1				e		15 10 55.4	
VNA1				e		15 10 58.1	
HHC	Hu-ho-hao-te	111.02	345	ePKP	PKiKP	15 14 40.0	-1.7
HHC				PP	PP	15 15 20.8	+0.9
HHC				SKKS	SKKSac	15 22 15.0	-8.7
HHC				SS	SS	15 30 48.3	-3.7
HHC				LR	LR		
	comp=N,2µm,20.4s,MS5.9						
HHC				LR	LR		
	comp=E,2µm,19.4s,MS5.9						
HHC				LR	LR		
	comp=Z,4µm,19.1s,MS6.0						
KSH	Kashi	112.44	15	ePKP	PKiKP	15 14 44.9	+0.5
KSH				eSKS	SKSdf	15 21 52.0	-5.2
KSH				PP	PP		
	comp=Z,447nm,5.9s						
KSH				LR	LR		
	comp=N,5µm,18.3s,MS6.3						
KSH				LR	LR		
	comp=E,3µm,14.3s,MS6.3						
KSH				LR	LR		
	comp=Z,5µm,14.6s,MS6.3						
SNAA	Sanae	112.85	160	ePdiff	Pdif	15 10 59.9	+9.4
SNAA				e		15 11 03.7	
SNAA				e		15 11 16.1	
SNAA	Sanae	112.85	160	iPKIKP	PKiKP	15 14 43.1	-2.1
SNAA	Sanae	112.85	160	ePKiKP	PKiKP	15 14 42.7	-2.5
GTA	Gaotai	114.28	355	PKP	PKiKP	15 14 47.0	-0.9
GTA				SKKS	SKKSac	15 22 32.4	-13
GTA				PP	PP		
	comp=Z,406nm,14.8s						
GTA				LR	LR		
	comp=N,2µm,21.3s,MS5.9						
GTA				LR	LR		
	comp=E,2µm,18.6s,MS5.9						
GTA				LR	LR		
	comp=Z,3µm,19.0s,MS5.9						
HNR	Honiara	115.12	272	PFAKE		15 15 00.0	+10
HNR				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
QSPA	South Pole Qui	116.28	180	eP	PKPdf	15 14 49.9	-1.8
SSE	Sheshan	116.98	333	PKP	PKPdf	15 14 53.3	+0.2
SSE				PP	PP	15 16 06.0	+3.8
SSE				SS	SS	15 32 09.1	-1.6
SSE				PP	PP		
	comp=Z,233nm,7.5s						
SSE				LR	LR		
	comp=N,232nm,19.7s,MS5.3						
SSE				LR	LR		
	comp=E,783nm,19.6s,MS5.3						
SSE				LR	LR		
	comp=Z,697nm,19.5s,MS5.3						
NJ2	Nanjing	117.03	336	ePKP	PKPdf	15 14 48.5	-4.7
NJ2				PP	PP	15 16 03.0	+0.5
NJ2				PKS		15 18 24.0	
NJ2				SKS	SKSdf	15 21 58.0	-8.0
NJ2				SKKS	SKKSac	15 22 54.0	-10
NJ2				SS	SS	15 32 05.0	-6.3
NJ2				PP	PP		
	comp=Z,1µm,6.2s						
NJ2				LR	LR		
	comp=N,3µm,28.2s,MS5.8						
NJ2				LR	LR		
	comp=E,1µm,26.4s,MS5.8						
NJ2				LR	LR		
	comp=Z,2µm,26.6s,MS5.5						
LZH	Lanzhou	117.09	351	ePKP	PKPdf	15 14 53.5	+0.2
LZH				XPKP		15 14 58.2	
LZH				PP	PP	15 16 06.7	+3.8
LZH				PKS		15 18 28.6	
LZH				SS	SS	15 32 09.7	-2.4
LZH				PP	PP		
	comp=Z,396nm,8.7s						
LZH				LR	LR		
	comp=E,3µm,18.2s						
LZH				LR	LR		
	comp=Z,3µm,20.3s,MS5.9						
SUR	Sutherland	117.54	114	PFAKE		15 15 10.0	+16
SUR				LR	LR		
	comp=Z,411nm,22.0s,MS5.0						
LSZ	Lusaka	118.58	94	PKP	PKPdf	15 14 56.0	-0.2
	comp=Z,5.4nm,0.7s,baz=9.2,slow=1.3						
LSZ	Lusaka	118.58	94	PKP	PKPdf	15 14 56.0	-0.2
LSZ				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
SBA	Scott Base	119.11	193	PFAKE		15 15 10.0	+13
SBA				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
LBTB	Lobatse	119.54	105	ePKIKP	PKPdf	15 14 56.5	-1.5
LBTB				MLR	MLR		
	comp=Z,1µm,22.0s,MS5.5						
VNDA	Vanda	120.21	194	PKP	PKPdf	15 14 57.8	-1.5
	comp=Z,4.6nm,0.7s,baz=335,slow=1.5,SNR=34						
VNDA	Vanda	120.21	194	ePKPdf	PKPdf	15 14 57.2	-2.1
VNDA				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
BOSA	Boshof	120.25	109	PKP	PKPdf	15 14 58.8	-0.5
	comp=Z,18nm,0.7s,baz=340,slow=2.0,SNR=35						
CD2	Chengdu	122.18	350	PKP	PKPdf	15 15 02.8	-0.3
CD2				PP	PP	15 16 35.7	-2.2
CD2				SKKS	SKKSac	15 23 26.1	-12
CD2				PP	PP		
	comp=Z,260nm,8.1s						
CD2				LR	LR		
	comp=N,1µm,19.2s						
CD2				LR	LR		
	comp=Z,2µm,18.0s,MS5.7						
LSA	Lhasa	124.19	2	PKP	PKPdf	15 15 07.1	+0.2
LSA	Lhasa	124.19	2	ePKPdf	PKPdf	15 15 07.5	+0.6
LSA				LR	LR		
	comp=Z,4µm,20.0s,MS6.0						
GKN	Gorkha	125.27	10	eP	PKPdf	15 15 08.1	-0.9
	comp=Z,78nm,0.8s						
KOLN	Koldanda	125.33	11	eP	PKPdf	15 15 08.1	-1.0
	comp=Z,58nm,0.9s						
GUN	Gumba	125.53	8	eP	PKPdf	15 15 08.8	-0.7
	comp=Z,117nm,0.8s						
KKN	Kakani	125.57	9	eP	PKPdf	15 15 08.7	-0.9
	comp=Z,63nm,0.8s						
DMN	Daman	125.72	9	eP	PKPdf	15 15 09.1	-0.8
	comp=Z,57nm,0.8s						
PKI	Pulchoki	125.80	9	eP	PKPdf	15 15 08.8	-1.2
	comp=Z,77nm,0.8s						
GYA	Guiyang	125.94	345⇓	iPKP	PKPdf	15 15 09.7	-0.6
GYA				PP	PP	15 17 03.4	+0.2
GYA				PKS		15 18 45.0	
GYA				SKKS	SKKSac	15 23 54.3	-7.9
GYA				PP	PP		
	comp=Z,290nm,6.0s						
GYA				LR	LR		
	comp=N,2µm,22.1s,MS5.8						
GYA				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,1µm,22.4s,MS5.8						
GYA				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
PMG	Port Moresby	126.54	278	PFAKE		15 15 20.0	+8.6
PMG				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
SYO	Syowa Base	127.09	159	⇓eX		15 15 07.7	
SYO	Syowa Base	127.09	159	⇑ePP	PP	15 17 07.0	-3.9
KMI	Kunming	128.01	349	PDIF	Pdif	15 11 55.5	-2.4
KMI				PKP	PKPdf	15 15 13.1	-1.1
KMI				XPKP		15 15 19.7	
KMI				PP	PP	15 17 17.8	+0.9
KMI				PKS		15 18 48.3	
KMI				SKKS	SKKSac	15 24 07.7	-7.6
KMI				S	Sdif	15 25 13.2	-9.2
KMI				SS	SS	15 34 24.5	-6.5
KMI				SSS		15 39 09.1	
KMI				PP	PP		
	comp=Z,498nm,4.0s						
KMI				LR	LR		
	comp=N,2µm,19.4s,MS6.0						
KMI				LR	LR		
	comp=E,650nm,15.6s,MS6.0						
KMI				LR	LR		
	comp=Z,4µm,20.1s,MS6.0						
DRV	Dumont d'Urvil	130.62	202	PP	PP	15 17 40.0	+6.0
DRV	Dumont d'Urvil	130.62	202	SP	SP	15 27 41.0	-4.5
CTA	Charters Tower	131.32	266	PKP	PKPdf	15 15 21.0	+0.5
	comp=Z,7.5nm,0.5s,baz=100,slow=3.8,SNR=11						
CTA	Charters Tower	131.32	266	PKP	PKPdf	15 15 21.0	+0.5
CTAO	Charters Tower	131.32	266	ePKIKP	PKPdf	15 15 20.8	+0.3
CTAO				MLR	MLR		
	comp=Z,663nm,21.0s,MS5.3						
QIZ	Qiongzhong	132.12	339	PFAKE		15 15 30.0	+8.0
QIZ				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
HYB	Hyderabad	134.12	20	i PKP	PKPdf	15 15 26.5	+0.7
HYB				e		15 15 38.0	
HYB	Hyderabad	134.12	20	eP	PKPdf	15 15 26.5	+0.7
DAV	Davao City (W)	134.40	312	PFAKE		15 15 40.0	+14
DAV				LR	LR		
	comp=Z,731nm,20.0s,MS5.4						
CHTO	Chiang Mai	134.75	353	ePKIKP	PKPdf	15 15 26.7	-0.3
CHTO				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.9						
MAW	Mawson	134.77	164	ePKP		15 15 14.7	
	comp=Z,1.9nm,0.6s						
MAW				e		15 15 25.6	
MAW	Mawson	134.77	164	PKP	PKPdf	15 15 26.0	-1.0
	comp=Z,12nm,0.6s,baz=206,slow=2.0,SNR=29						
MAW	Mawson	134.77	164	ePKP		15 15 14.7	
MAW				e		15 15 25.6	
MAW				PKP	PKPdf	15 15 26.0	-1.0
TOO	Toolangi	134.96	242	ePKP	PKPdf	15 15 27.3	-0.1
	comp=Z,9.9nm,0.6s						
CM31	Chiang Mai Arr	135.10	353	PFAKE		15 15 40.0	+12
CM31				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
KKTK	Khon Kaen	136.56	347	⇑P	PKPdf	15 15 21.0	-9.4
	comp=Z,278nm,0.6s						
OPO	Ambohidratompo	136.76	89	PKP	PKPdf	15 15 31.5	+0.8
	comp=Z,12nm,0.9s,baz=26,slow=1.0,SNR=12						
NST	Nakhon Sawan	137.69	350	P		15 15 16.2	
STKA	Stephens Creek	137.84	251	ePKP		15 15 20.8	
	comp=Z,19nm,0.6s						
STKA	Stephens Creek	137.84	251	PKhKP		15 15 21.1	
	comp=Z,4.5nm,0.4s,baz=109,slow=2.2,SNR=22						
STKA				PKP	PKPdf	15 15 32.1	-0.6
	comp=Z,23nm,0.7s,baz=90,slow=2.5,SNR=28						
STKA	Stephens Creek	137.84	251	ePKP		15 15 20.8	
STKA				PKPdf	PKPdf	15 15 31.6	-1.1
CASY	Casey	138.68	190	PFAKE		15 15 40.0	+5.7
CASY				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
MIR	Mirnyy	139.82	180	ePKIKP	PKPdf	15 15 37.0	+0.7
MIR				pmax	pmax		
	comp=Z,100nm,1.0s						
KKM	Kota Kinabalu	140.91	322	ePKPpre		15 15 32.5	
KAKA	Kakadu	140.96	283	ePKP	PKPdf	15 15 32.1	-6.3
	comp=Z,22nm,0.6s						
TSM	Tawau	141.39	319	P	PKPdf	15 15 36.9	-2.3
WRAB	Tennant Creek	141.95	271	ePKHKP		15 15 33.0	
WRAB						15 15 40.5	
WRAB				MLR	MLR		
	comp=Z,219nm,20.0s,MS4.9						
WB2	Warramunga Arr	141.95	271	ePKP	PKPdf	15 15 34.7	-5.5
WRA	Warramunga Arr	141.96	271	PKhKP		15 15 34.0	
	comp=Z,12nm,0.5s,baz=69,slow=3.9,SNR=77						
AS31	Alice Springs	143.32	265	ePKP	PKPdf	15 15 38.2	-4.4
ASAR	Alice Springs	143.32	265	PKhKP		15 15 38.6	
	comp=Z,39nm,0.6s,baz=88,slow=2.1,SNR=534						
ASPA	Alice Springs	143.33	265	ePKP	PKPdf	15 15 38.2	-4.4
PALK	Pallekele	144.34	22	ePKP	PKPdf	15 15 42.8	-1.6
PALK				LR	LR		
	comp=Z,523nm,20.0s,MS5.3						
SNG	Songkhla	145.91	347	P	PKPdf	15 15 47.0	-0.1
	comp=Z,418nm,1.0s						
KULM	Kulim	147.74	346	ePKPdf	PKPdf	15 15 50.4	+0.2
KSM	Kuching	147.86	327	ePKPbc	PKPbc	15 15 52.9	-0.4
IPM	Ipoh	148.45	345	P	PKPdf	15 15 53.6	+2.3
FITZ	Fitzroy Crossi	149.13	279	ePKP	PKPdf	15 15 51.9	-0.5
	comp=Z,69nm,1.0s						
FORT	Forrest	149.35	254	ePKP	PKPdf	15 15 55.8	+3.0
	comp=Z,112nm,0.6s						
KGM	Kluang	150.19	340	P	PKPbc	15 15 59.6	+0.4
PSI	Prapat	150.50	349	PKP	PKPdf	15 15 53.9	-0.7
	comp=Z,10nm,0.8s,baz=243,slow=6.2,SNR=11						
PSI				PKPbc	PKPbc	15 15 59.6	-0.3
	comp=Z,109nm,0.8s,baz=311,slow=3.3,SNR=92						
MBWA	Marble Bar	155.39	277	ePKPdf	PKPdf	15 16 01.3	-0.4
MBWA				ePKPbc	PKPdf	15 16 10.0	+8.2
MBWA				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
NWAO	Narrogin (SRO)	158.33	247	PFAKE		15 16 20.0	+14
NWAO				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
COCO	West Island	165.52	347	PFAKE		15 16 20.0	+7.2
COCO				LR	LR		
	comp=Z,449nm,19.0s						

*BJI **10** 15:01:33.9, 1433N×12035E, h68km, mB4.8, mb4.4, Ms4.4, Msz4.2*
*ISCJB **10** 15:01:42.5±0.4, 1538N±003×11974E±004, h64km±4km, mb4.4/24, Error ellipse: s-maj=7.1km s-min=4.5km az=167.3*
*MAN **10** 15:01:42.7, 1540N×11969E, h32km, mb4.0, ML5.0, MS4.0*
*NEIC **10** 15:01:44.1±0.9, 1526N×11976E, h69km±8km, mb4.5/6, Error ellipse: s-maj=14.0km s-min=7.2km az=74.0*
NEIC Felt [II PIVS] at Clark Field.
*IDC **10** 15:01:47.5±1.8, 1525N×11973E, h95km±15km, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.5/13, MS5.3/1, Ms1 5.3/1, ms1mx3.5/35, Error ellipse: s-maj=34.4km s-min=12.2km az=69.0*
ISC 10 15:01:44.1±0.4**, 1538N**±003×**11979E**±004**, h63**km±4km**, n72, σ1.28**/77**, mb4.4**/24**, 9D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.41	17	eP	Pn	15 01 53.6	-1.9
SCZP				eS	Sn	15 02 00.9	-2.8
BOLP	Bolinao	1.00	7	eP	Pn	15 02 00.8	-1.5
BOLP				eS	Sn	15 02 13.4	-2.4
PCPH	Palayan	1.27	82	⇓eP	Pn	15 02 04.2	-1.5
PCPH				eS	Sn	15 02 20.2	-1.9
TGY	Tagaytay City	1.69	139	⇓iP	Pn	15 02 15.8	+4.5
TGY				eS	Sn	15 02 41.4	+9.5
TGY	Tagaytay City	1.69	139	P	Pn	15 02 13.1	+1.8
	1µm,0.3s,baz=299,slow=2.3,SNR=90						
TGY				S	Sn	15 02 37.0	+5.1
	1µm,0.3s,baz=244,slow=11,SNR=9.2						
LUBP	Lubang	1.69	165	eP	Pn	15 02 10.0	-1.4
BALP	Baler	1.76	78	eP	Pn	15 02 12.0	-0.3
BALP				eS	Sn	15 02 33.6	-0.1
LQP	Lukban	2.11	126	⇓eP	Pn	15 02 18.9	+1.8
POLP	Polilio Island	2.17	107	eP	Pn	15 02 18.7	+0.8
POLP				eS	Sn	15 02 45.9	+2.1
PGP	Puerto Galera	2.18	149	⇓eP	Pn	15 02 19.0	+1.0
ABRA	Dolores	2.42	21	eP	Pn	15 02 20.9	-0.4
ABRA				eS	Sn	15 02 51.0	+1.1
CAUP	Cauayan	2.50	51	eP	Pn	15 02 23.0	+0.7
BOAC	Boac	2.76	134	eP	Pn	15 02 26.1	+0.2
GQP	Guinayangan	2.96	119	⇓eP	Pn	15 02 29.4	+0.8
CVP	Callao Caves	3.02	40	⇓eP	Pn	15 02 29.0	-0.5
PALP	Palanan	3.04	56	⇓eP	Pn	15 02 30.2	+0.5
PALP	Palanan	3.04	56	eP	Pn	15 02 30.8	+1.2
BUSP	Coron	3.38	173	eP	Pn	15 02 35.7	+1.3
AUQP	San Andres	3.46	126	eP	Pn	15 02 38.0	+2.5
OTRP	Odiongan	3.70	144	eP	Pn	15 02 40.6	+1.9
ENPP	El Nido	4.16	185	eP	Pn	15 02 45.7	+0.7
PVCP	Virac	4.58	112	⇓eP	Pn	15 02 51.6	+0.8
PVCP	Virac	4.58	112	eP	Pn	15 02 52.1	+1.3
CUYO	Cuyo Island	4.66	165	eP	Pn	15 02 52.6	+0.7
PPR	Puerto Princes	5.66	191	eP	Pn	15 03 05.2	-0.4
BATP	Bataraza	6.83	197	eP	Pn	15 03 22.1	+0.6
NACB	Ninganchiao	8.91	11	eP	Pn	15 03 51.4	+1.4
KKM	Kota Kinabalu	9.92	201	P	Pn	15 04 01.9	-1.9
QIZ	Qiongzhong	10.17	292	P	Pn	15 04 07.5	+0.2
QIZ				AMB	AMB		
	comp=Z,52nm,2.2s						
QIZ				AMB	AMB		
	comp=Z,210nm,3.0s						
QIZ	Qiongzhong	10.17	292	ePn	Pn	15 04 06.9	-0.4
QIZ				eSn	Sn	15 05 56.1	-3.6
JOW	Kunigami	13.87	33	P	Pn	15 05 03.4	+5.9
	comp=Z,1.7nm,0.3s,baz=160,slow=8.9,SNR=4.1						
JOW				LR	LR	15 10 08.9	
	comp=Z,92nm,20.5s,baz=126,slow=36						
GYA	Guiyang	16.47	314	P	Pn	15 05 36.7	+5.7
GYA				AP	pP	15 05 47.6	+1.6
GYA				S	S	15 08 42.4	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,70nm,3.8s						
GYA				LR	LR		
	comp=N,340nm,12.8s						
GYA				LR	LR		
	comp=E,310nm,13.0s						
GYA				LR	LR		
	comp=Z,290nm,13.8s						
KSM	Kuching	16.69	215	eP	Pn	15 05 41.2	+7.6
KMI	Kunming	18.69	304	P	Pn	15 06 01.8	+3.7
KMI				AP	pP	15 06 10.5	0.0
KMI				PP		15 06 18.5	
KMI				PPP		15 06 26.3	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
KMI				AMB	AMB		
	comp=Z,108nm,3.9s						
KMI				LR	LR		
	comp=N,207nm,10.2s						
KMI				LR	LR		
	comp=E,234nm,19.0s						
KMI				LR	LR		
	comp=Z,244nm,13.6s						
CD2	Chengdu	21.32	319	⇓iP	P	15 06 28.0	+2.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
CBIJ	Chichi jima	23.86	57	LR	LR	15 14 39.7	
	comp=Z,77nm,20.5s,baz=59,slow=32						
BJT	Baijiatuau	24.75	353	P	P	15 06 59.6	0.0
	comp=Z,9.5nm,0.7s,mb4.4						
BJI	Beijing	24.77	353	P	P	15 07 00.3	+0.5
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
BJI				LR	LR		
	comp=N,209nm,22.6s						
BJI				LR	LR		
	comp=E,434nm,22.6s						
BJI				LR	LR		
	comp=Z,335nm,24.5s						
HHC	Hu-ho-hao-te	26.37	346	eP	P	15 07 16.4	+2.2
HHC				AP	pP	15 07 30.9	+1.4
HHC				XP	sP	15 07 38.0	+1.0
HHC				PP		15 08 02.3	
HHC				S	S	15 11 44.9	+2.1
HHC				AMB	AMB		
	comp=Z,29nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,100nm,4.9s						
HHC				LR	LR		
	comp=N,208nm,9.4s						
HHC				LR	LR		
	comp=E,159nm,5.5s						
HHC				LR	LR		
	comp=Z,245nm,10.8s						
MJAR	Matsushiro Arr	26.71	34	P	P	15 07 14.7	-2.6
	comp=Z,1.3nm,0.7s,mb3.6,baz=214,slow=10,SNR=5.2						
MDJ	Mudanjiang	30.30	14	P	P	15 07 49.0	-0.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,101nm,6.3s						
SONM	Songino Array	34.21	344	P	P	15 08 23.5	0.0
	comp=Z,2.3nm,0.7s,mb4.2,baz=163,slow=10,SNR=21						
MBWA	Marble Bar	36.31	180	eP	P	15 08 41.2	-0.3
	comp=Z,5.2nm,0.5s,mb4.7						
WRAB	Tennant Creek	37.90	157	eP	P	15 08 52.1	-2.8
	comp=Z,5.1nm,0.6s,mb4.4						
WRA	Warramunga Arr	37.90	157	P	P	15 08 53.1	-1.9
	comp=Z,2.5nm,0.8s,mb4.0,baz=332,slow=9.9,SNR=23						
WRA				PcP	PcP	15 11 10.6	+0.6
	comp=Z,1.3nm,0.6s,baz=340,slow=3.2,SNR=6.1						
WB2	Warramunga Arr	37.91	157	eP	P	15 08 52.9	-2.2
WMQ	Urumqi	39.34	323	eP	P	15 09 08.0	+0.9
WMQ				AP	pP	15 09 23.0	+0.1
WMQ				XP	sP	15 09 30.0	-0.3
WMQ				PP	PP	15 10 43.0	+4.7
WMQ				PPP		15 11 10.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,92nm,4.5s						
WMQ				LR	LR		
	comp=N,853nm,22.6s						
WMQ				LR	LR		
	comp=E,310nm,17.0s						
WMQ				LR	LR		
	comp=Z,617nm,19.8s						
AS31	Alice Springs	41.19	160	eP	P	15 09 20.7	-1.6
ASPA	Alice Springs	41.19	160	eP	P	15 09 20.7	-1.6
ASAR	Alice Springs	41.19	160	P	P	15 09 20.8	-1.5
	comp=Z,1.9nm,0.7s,mb3.8,baz=338,slow=7.3,SNR=47						
ASAR				PcP	PcP	15 11 21.2	+0.8
	comp=Z,0.9nm,0.5s,baz=344,slow=3.0,SNR=6.5						
ASAR				ScP	ScP	15 15 06.0	+1.3
	comp=Z,0.7nm,0.9s,baz=345,slow=4.6,SNR=4.4						
MKAR	Makanchi Array	44.17	323	P	P	15 09 48.0	+1.6
	comp=Z,0.7nm,0.5s,mb3.7,baz=127,slow=9.4,SNR=12						
MKAR				PcP	PcP	15 11 31.2	+0.9
	comp=Z,2.3nm,0.6s,baz=161,slow=1.6,SNR=6.7						
PET	Petropavlovsk	48.41	30	eP	P	15 10 19.0	-0.8
	comp=Z,11nm,0.8s,mb4.9						
STKA	Stephens Creek	51.43	156	eP	P	15 10 41.3	-1.3
	comp=Z,1.7nm,0.6s,mb4.2						
STKA	Stephens Creek	51.43	156	P	P	15 10 41.1	-1.6
	comp=Z,2.4nm,0.6s,mb4.3,baz=339,slow=6.3,SNR=7.7						
JOF	Joensuu	75.76	332	ep	P	15 13 23.4	+0.5
	comp=Z,1.2nm,0.4s,mb4.2						
KDAK	Kodiak Island	75.88	33	P	P	15 13 22.8	-0.8
	comp=Z,12nm,0.6s,mb5.0,baz=284,slow=2.4,SNR=9.1						
MCK	McKinley	76.91	27	eP	P	15 13 28.7	-0.8
	comp=Z,9µm,1.2s						
ARCES	ARCESS Array B	77.21	339	P	P	15 13 31.4	+0.3
	comp=Z,3.5nm,0.5s,mb4.5,baz=72,slow=6.9,SNR=12						
ARCES	ARCESS Array B	77.21	339	P	P	15 13 31.4	+0.3
KAF	Kangasniemi	78.17	331	ep	P	15 13 36.5	0.0
	comp=Z,1.5nm,0.3s,mb4.4						
FINES	FINESS Array B	78.40	331	P	P	15 13 38.0	+0.3
	comp=Z,3.6nm,0.9s,mb4.3,baz=51,slow=5.9,SNR=6.2						
NB2	NORSAR Subarra	85.37	332	P	P	15 14 14.1	-0.3
	comp=Z,6.1nm,0.6s,mb4.9,baz=66,slow=4.8						
NOA	NORSAR Array B	85.37	332	P	P	15 14 14.2	-0.2
	comp=Z,6.7nm,0.7s,mb4.9,baz=67,slow=4.8,SNR=24						
DLBC	Dease Lake	87.19	30	P	P	15 14 23.9	+0.6
	comp=Z,3.5nm,0.8s,mb4.6,baz=328,slow=6.3,SNR=3.2						
GERES	GERESS Array B	88.78	321	P	P	15 14 31.4	+0.5
	comp=Z,1.1nm,0.6s,mb4.4,baz=68,slow=3.6,SNR=4.8						
YKA	Yellowknife Ar	91.57	22	P	P	15 14 43.8	-0.1
	comp=Z,2.1nm,0.5s,mb4.7,baz=305,slow=4.4,SNR=6.4						
YKA	Yellowknife Ar	91.57	22	P	P	15 14 43.8	-0.1
VNDA	Vanda	95.82	172	LR	LR	15 56 58.7	
	comp=Z,1µm,21.8s,baz=172,slow=35						
PLCA	Paso Flores	153.19	162	PKPbc	PKPbc	15 21 36.4	+1.8
	comp=Z,7.0nm,0.8s,baz=201,slow=2.8,SNR=14						
SDV	Santo Domingo	153.77	24	PKP	PKPdf	15 21 30.6	+2.6
	comp=Z,2.5nm,0.4s,baz=303,slow=11,SNR=3.6						
SDV				PKPbc	PKPbc	15 21 37.4	+1.6
	comp=Z,2.9nm,0.4s,baz=13,slow=2.7,SNR=7.5						
SDV	Santo Domingo	153.77	24	ePKPdf	PKPdf	15 21 30.7	+2.7
SDV				ePKPbc	PKPbc	15 21 37.1	+1.2
LPAZ	La Paz	172.32	98	PKP	PKPdf	15 21 47.9	+2.3
	comp=Z,1.2nm,0.9s,baz=284,slow=4.2,SNR=3.6						

*ISCJB **10** 15:22:38.4±1.4, 272N±0.1×5420E±006, h10km, mb3.5/4, Error ellipse: s-maj=18.1km s-min=5.6km az=29.2*
*IDC **10** 15:22:39.4±6.2, 2765N×5474E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.7/4, Error ellipse: s-maj=123.4km s-min=48.8km az=116.0*
*CSEM **10** 15:22:44.9±0.2, 2773N×5439E, h15km, ML3.1, Error ellipse: s-maj=12.3km s-min=3.2km az=15.0*
*NEIC **10** 15:22:45.4, 2776N×5440E, h14km, ML3.1(THR), After THR.*
*THR **10** 15:22:45.2±0.4, 2770N×5438E, h18km, ML3.1*
ISC 10 15:22:42.3±2.3**, 274N**±02×**5428E**±009**, h17**km±9km**, n13, σ0.94**/19**, mb3.5**/4**, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.45	308	ePG	Pg	15 23 10.3	+0.1
GHIR				eSG	Sg	15 23 29.0	0.0
GHIR				AML	AML	15 23 36.5	
	comp=E,410nm,0.4s						
GHIR				AML	AML	15 23 37.6	
	comp=N,298nm,0.4s						
GHIR	Ghir-Karzin	1.45	308	ePg	Pg	15 23 10.0	-0.2
GHIR				eSg	Sg	15 23 29.0	-0.1
	SNR=92						
BNDS	Bandar-Abbas	1.68	89	ePG	Pg	15 23 14.9	+0.3
BNDS				eSG	Sg	15 23 36.8	+0.3
BNDS	Bandar-Abbas	1.68	89	ePg	Pg	15 23 14.0	-0.6
BNDS				eSg	Sg	15 23 36.0	-0.5
BNDS	Bandar-Abbas	1.68	89	ePg	Pg	15 23 14.9	+0.3
	SNR=92						
BNDS				eSg	Sg	15 23 36.0	-0.5
KRBR	Kerman	3.37	40	ePN	Pn	15 23 35.4	+1.2
KRBR				AML	AML	15 24 20.9	
	comp=E,40nm,0.5s						
KRBR				AML	AML	15 24 29.3	
	comp=N,42nm,0.5s						
KRBR	Kerman	3.37	40	ePn	Pn	15 23 35.0	+0.8
KRBR				eSg	Sg	15 24 40.0	+9.4
BRTR	Keskin Array B	21.09	311	P	P	15 27 27.1	+1.4
	comp=N,0.8nm,0.8s,mb3.1,baz=129,slow=14,SNR=3.6						
BRTR	Keskin Array B	21.09	311	P	P	15 27 27.1	+1.3
FINES	FINESS Array B	38.93	339	P	P	15 30 06.0	-1.2
	comp=N,0.9nm,0.7s,mb3.6,baz=149,slow=8.9,SNR=7.4						
FINES	FINESS Array B	38.93	339	P	P	15 30 06.0	-1.2
HFS	Hagfors	42.76	331	P	P	15 30 37.6	-1.2
	comp=N,0.5nm,0.4s,mb3.6,baz=106,slow=15,SNR=4.1						
TORD	Torodi Ar. Bea	50.98	265	P	P	15 31 46.4	+3.3
	comp=N,0.5nm,0.7s,mb3.6,baz=66,slow=8.0,SNR=4.3						

*INMG **10** 15:28:27.5±1.2, 4295N×850W, h0km±4km, ML2.4, Error ellipse: s-maj=2.7km s-min=2.2km az=112.0*
*NEIC **10** 15:28:27.8, 4291N×853W, h7km, ML2.7(LDG), MN2.7(MDD), After MDD.*
*LDG **10** 15:28:27.7±0.1, 4293N×859W, h10km, Ml2.7/7, Error ellipse: s-maj=3.4km s-min=1.9km az=110.0*
*CSEM **10** 15:28:27.9±0.1, 4295N×855W, h10km, ML3.1/13, Error ellipse: s-maj=2.6km s-min=1.7km az=110.0*
MDD 10 15:28:27.6±0.3**, 4295N**×**852W, h5**km±3km**, mbLg2.6**/15**, 2C-2D, Error ellipse: s-maj=3.9km s-min=2.8km az=26.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STS	Santiago	0.06	201	⇓Pg	Pg	15 28 28.9	-0.1
	423nm,0.1s,SNR=18						
STS				Lg		15 28 30.1	
	266nm,0.1s						
STS	Santiago	0.06	201	⇓Pg	Pg	15 28 29.0	-0.1
STS				Lg		15 28 30.1	
EMAZ	Mazaricos	0.34	271	⇑Pg	Pg	15 28 34.0	0.0
	118nm,0.1s,SNR=18						
EMAZ				Lg		15 28 38.2	
	466nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	0.34	271	Pg	Pg	15 28 34.0	0.0
	118nm,0.1s,SNR=18						
EMAZ				Lg		15 28 38.2	
	466nm,0.1s,SNR=7.9						
EZAM	Zamans	0.81	189	Pg	Pg	15 28 41.9	-1.2
	60nm,0.1s,SNR=7.9						
EZAM				Lg		15 28 52.2	
	156nm,0.2s,SNR=7.9						
EPON	Pontenova	1.07	69	⇑Pg	Pg	15 28 47.0	-1.1
	4.4nm,0.1s,SNR=18						
EPON				Lg		15 29 02.6	
	42nm,0.1s,SNR=14						
EPON	Pontenova	1.07	69	Pg	Pg	15 28 47.0	-1.2
	4.4nm,0.1s,SNR=18						
PCAB	Cabril	1.29	163	eP	Pn	15 28 51.9	-0.3
PCAB				eS	Sg	15 29 08.7	-0.3
PCAB							
	107nm,0.1s						
PCAB	Cabril	1.29	163	eP	Pn	15 28 51.9	-0.3
PCAB				eS	Sg	15 29 08.7	-0.3
	107nm,0.1s						
ECAL	Calabor	1.66	127	Pn	Pn	15 28 56.4	-1.0
	0.2nm,0.0s,SNR=7.9						
ECAL				Pg	Pg	15 28 59.1	-0.3
	4.5nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	15 29 15.7	-3.3
	8.3nm,0.1s,SNR=7.9						
ECAL				Lg		15 29 20.4	
	92nm,0.3s,SNR=7.9						
ECAL	Calabor	1.66	127	Pn	Pn	15 28 55.8	-1.6
ECAL				Pg	Pg	15 28 59.1	-0.3
ECAL				Sn	Sn	15 29 15.8	-3.3
ECAL				Lg		15 29 20.4	
ECAL	Calabor	1.66	127	Pn	Pn	15 28 55.8	-1.5
ECAL	Calabor	1.66	127	Pg	Pg	15 28 59.1	-0.3
	4.5nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	15 29 15.7	-3.3
	8.3nm,0.1s,SNR=7.9						
PBRG	Braganca	1.74	130	ePn	Pn	15 28 57.5	-1.0
PBRG	Braganca	1.74	130	ePg	Pg	15 29 00.8	-0.2
PBRG				eSn	Sn	15 29 20.0	-1.1
PBRG				eSg	Sg	15 29 22.6	-1.0
PBRG							
	35nm,0.2s						
PBRG	Braganca	1.74	130	Pn	Pn	15 28 57.5	-1.0
PBRG				Pg	Pg	15 29 00.8	-0.2
PBRG				Sn	Sn	15 29 20.0	-1.1
PBRG				Lg		15 29 22.6	
	17nm,0.2s						
PBRG	Braganca	1.74	130	ePg	Pg	15 29 00.8	-0.2
PBRG				eSn	Sn	15 29 20.0	-1.1
PBRG				eSg	Sg	15 29 22.6	-1.0
	35nm,0.2s						
PVRL	Vila Real	1.77	160	ePn	Pn	15 28 57.9	-1.0
PVRL	Vila Real	1.77	160	ePg	Pg	15 29 01.0	-0.6
PVRL				eSn	Sn	15 29 20.7	-1.2
PVRL				eSg	Sg	15 29 23.5	-1.0
PVRL							
	30nm,0.1s						
PVRL	Vila Real	1.77	160	Pn	Pn	15 28 57.9	-1.0
PVRL				Pg	Pg	15 29 01.0	-0.6
PVRL				Sn	Sn	15 29 20.7	-1.2
PVRL				Lg		15 29 23.5	
	15nm,0.1s						
PVRL	Vila Real	1.77	160	ePg	Pg	15 29 01.0	-0.6
PVRL				eSn	Sn	15 29 20.7	-1.2
PVRL				eSg	Sg	15 29 23.5	-1.0
	30nm,0.1s						
PVIS	Viseu	2.28	168	ePg	Pg	15 29 10.0	-1.2
PVIS				eSg	Sg	15 29 40.1	-0.6
PVIS							
	15nm,0.1s						
PVIS	Viseu	2.28	168	ePg	Pg	15 29 10.0	-1.2
PVIS				eSg	Sg	15 29 40.1	-0.6
	15nm,0.1s						
EARI	Arriondas	2.45	81	Pn	Pn	15 29 07.0	-1.2
	0.1nm,0.1s,SNR=11						
EARI				Pg	Pg	15 29 13.5	-1.0
	2.6nm,0.2s,SNR=7.9						
EARI				Sn	Sn	15 29 37.0	-1.6
	3.3nm,0.5s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EARI				Lg		15 29 46.4	
	1.0nm,0.1s,SNR=5.0						
EARI	Arriondas	2.45	81	Pn	Pn	15 29 07.0	-1.2
	0.1nm,0.1s,SNR=11						
EARI	Arriondas	2.45	81	Pg	Pg	15 29 13.5	-1.0
	2.6nm,0.2s,SNR=7.9						
EARI				Sn	Sn	15 29 37.0	-1.5
	3.3nm,0.5s,SNR=7.9						
MTE	Manteigas	2.65	164	ePg	Pg	15 29 16.9	-1.4
MTE				eSg	Sg	15 29 51.9	-0.7
MTE							
	13nm,0.3s						
MTE	Manteigas	2.65	164	ePg	Pg	15 29 16.9	-1.4
MTE				eSg	Sg	15 29 51.9	-0.7
	13nm,0.3s						
PCBR	Castelo Branco	3.20	165	ePg	Pg	15 29 27.1	-1.8
PCBR				eSg	Sg	15 30 08.8	-1.6
PCBR							
	7.3nm,0.4s						
PTOM	Tomar	3.33	179	eSg	Sg	15 30 11.4	-3.0
ELAN	Lanestosa	3.74	84	Pn	Pn	15 29 25.2	-0.7
	0.4nm,0.2s,SNR=7.9						
ELAN				Pg	Pg	15 29 36.3	-2.8
	0.5nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	15 30 08.4	-1.9
	2.6nm,0.3s,SNR=7.9						
ELAN				Lg		15 30 26.3	
	2.8nm,0.3s,SNR=7.9						
ELAN	Lanestosa	3.74	84	Pn	Pn	15 29 25.2	-0.7
	0.4nm,0.2s,SNR=7.9						
ELAN	Lanestosa	3.74	84	Pg	Pg	15 29 36.3	-2.9
	0.5nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	15 30 08.4	-1.9
	2.6nm,0.3s,SNR=7.9						
GUD	Guadarrama	3.99	124	Pn	Pn	15 29 27.3	-2.1
	1.7nm,0.2s,SNR=7.9						
GUD				Pg	Pg	15 29 41.9	-2.2
	0.8nm,0.2s,SNR=7.9						
GUD				Sn	Sn	15 30 12.5	-4.1
	1.3nm,0.2s,SNR=7.9						
GUD				Lg		15 30 35.3	
	7.2nm,0.3s,SNR=7.9						
PESTR	Estremoz	4.13	170	ePg	Pg	15 29 43.9	-2.9
PESTR				eSg	Sg	15 30 36.7	-3.7
PESTR							
	4.1nm,0.4s						
EBAD	Badajoz	4.34	164	Pn	Pn	15 29 32.5	-1.7
	0.1nm,0.0s,SNR=7.9						
EBAD				Pg	Pg	15 29 47.5	-3.2
	0.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	15 30 19.4	-5.8
	1.2nm,0.6s,SNR=7.9						
EBAD				Lg		15 30 43.6	
	5.0nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.34	164	Pn	Pn	15 29 32.5	-1.7
	0.1nm,0.0s,SNR=7.9						
EBAD	Badajoz	4.34	164	Pg	Pg	15 29 47.5	-3.2
	0.3nm,0.1s,SNR=7.9						
EVO	Evora	4.43	175	ePn	Pn	15 29 33.0	-2.4
EVO	Evora	4.43	175	ePg	Pg	15 29 48.6	-3.8
EVO				eSg	Sg	15 30 45.1	-4.6
	6.7nm,0.4s						
ESDC	Sonseca Array	4.74	132	Pn	Pn	15 29 38.6	-1.1
	0.1nm,0.1s,baz=317,slow=12,SNR=7.9						
ESDC				Sn	Sn	15 30 31.0	-4.0
	0.3nm,0.2s,baz=316,slow=23,SNR=7.9						
ESDC				Lg		15 30 55.6	
	2.7nm,0.4s,baz=315,slow=29,SNR=9.4						
ESDC	Sonseca Array	4.74	132	Pn	Pn	15 29 38.6	-1.1
	0.1nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	15 30 31.0	-4.0
	0.3nm,0.2s,SNR=7.9						
ELIZ	Elizondo	5.13	85	Pn	Pn	15 29 43.4	-1.6
ELIZ	Elizondo	5.13	85	Pn	Pn	15 29 43.4	-1.6
EALK	Alkurruntz	5.14	85	Sn	Sn	15 30 39.6	-5.4
	0.0nm,0.6s,SNR=7.9						
SJPF	Ste Jean	5.35	86	ePn	Pn	15 29 46.1	-2.0
SJPF				eSn	Sn	15 30 44.7	-5.4
	0.9nm,0.2s						
SJPF	Ste Jean	5.35	86	ePn	Pn	15 29 46.1	-2.0
SJPF				eSn	Sn	15 30 44.7	-5.4
	0.4nm,0.2s						
EMIN	Mina Concepcio	5.36	164	Lg		15 31 18.2	
	0.4nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.36	164	Pn	Pn	15 29 45.5	-2.7
EMIN				Lg		15 31 18.2	
EMIN	Mina Concepcio	5.36	164	Pn	Pn	15 29 45.5	-2.7
EGRO	El Granado	5.46	171	Lg		15 31 19.6	
	0.4nm,0.2s,SNR=7.9						
EADA	Adamuz	5.64	147	Lg		15 31 25.6	
	0.4nm,0.1s,SNR=7.9						
ETSF	Etsaut	5.85	88	ePn	Pn	15 29 53.3	-1.6
ETSF				eSn	Sn	15 30 56.8	-5.5
	1.5nm,0.4s						
ETSF	Etsaut	5.85	88	Pn	Pn	15 29 53.3	-1.6
ETSF				Sn	Sn	15 30 56.8	-5.5
	0.8nm,0.4s						
QUIF	Quistinic	6.24	35	ePn	Pn	15 29 57.7	-2.6
EBIE	Bielsa	6.38	89	Pn	Pn	15 30 01.3	-0.9
	0.8nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	15 31 10.2	-5.2
	0.0nm,0.5s,SNR=7.9						
EBIE	Bielsa	6.38	89	Pn	Pn	15 30 01.3	-0.9
	0.8nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	15 31 10.2	-5.2
	SNR=7.9						
EPF	Esparros	6.50	86	ePn	Pn	15 30 01.8	-2.1
ROSF	Rostrenen	6.52	32	ePn	Pn	15 30 01.6	-2.6
ROSF				eSn	Sn	15 31 12.9	-6.1
	0.7nm,0.3s						
ROSF	Rostrenen	6.52	32	ePn	Pn	15 30 01.6	-2.6
ROSF				eSn	Sn	15 31 12.9	-6.1
	0.3nm,0.3s						
EMOS	Mosqueruela	6.56	110	Sn	Sn	15 31 16.2	-3.6
	0.3nm,1.3s,SNR=7.9						
EMOS	Mosqueruela	6.56	110	Sn	Sn	15 31 16.2	-3.6
	0.3nm,1.3s,SNR=7.9						
ETOB	Tobarra	6.81	127	Lg		15 32 04.0	
	0.8nm,0.3s,SNR=7.9						
MFF	Saint Martin d	6.99	56	ePn	Pn	15 30 08.2	-2.4
RJF	Les Rejaudoux	7.60	68	ePn	Pn	15 30 16.0	-2.9
RJF				eSn	Sn	15 31 37.6	-7.8
	1.2nm,0.3s						
RJF	Les Rejaudoux	7.60	68	ePn	Pn	15 30 16.0	-2.9
RJF				eSn	Sn	15 31 37.6	-7.8
	0.6nm,0.3s						
MTLF	Montolieu	7.86	83	ePn	Pn	15 30 20.1	-2.5
MTLF				eSn	Sn	15 31 44.5	-7.5
	0.6nm,0.3s						
MTLF	Montolieu	7.86	83	ePn	Pn	15 30 20.1	-2.5
MTLF				eSn	Sn	15 31 44.5	-7.5
	0.3nm,0.3s						
CAF	Calviac	7.89	72	ePn	Pn	15 30 19.6	-3.4
FLN	La Foliniere	8.08	41	eSn	Sn	15 31 49.4	-7.9
	0.9nm,0.3s						
FLN	La Foliniere	8.08	41	eSn	Sn	15 31 49.4	-7.9
	0.4nm,0.3s						
TCF	Toulx Ste Croi	8.35	63	ePn	Pn	15 30 26.5	-2.8
LASF	Ste Croix	9.07	79	ePn	Pn	15 30 36.3	-2.8
VIVF	Saint-Julien-l	9.71	74	ePn	Pn	15 30 45.9	-2.1
LOR	Lormes	9.76	59	ePn	Pn	15 30 45.9	-2.7
CABF	La Chapelle	11.01	66	ePn	Pn	15 31 03.4	-2.3
LPL	La Plagne	11.24	72	ePn	Pn	15 31 07.1	-1.8
LPG	La Plagne	11.25	72	ePn	Pn	15 31 07.2	-1.9

*ISCJB **10** 15:50:10.9±0.7, 3525N±004×3449E±005, h58^{km}±15^{km}, Error ellipse: s-maj=7.7km s-min=5.3km az=111.3*
*CSEM **10** 15:50:10.9±0.1, 3527N×3450E, h35^{km}±2^{km}, Mw3.0, Error ellipse: s-maj=2.2km s-min=1.7km az=127.0*
*ISK **10** 15:50:10.1, 3528N×3447E, h23^{km}, MD3.1*
*NIC **10** 15:50:11.6±0.3, 3542N×3451E, h25^{km}, ML3.0, MW3.0*
*NEIC **10** 15:50:11.6, 3542N×3451E, h25^{km}, ML3.0(NIC), After NIC.*
*GRAL **10** 15:50:12.6±2.2, 3522N×3444E, h41^{km}±32^{km}, MD3.3*
ISC 10 15:50:11.6±0.7**, 3525N**±004×**3448E**±005**, h55**^{km}±16^{km}**, n15, σ0^{s}48**/26**, 1D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHNC	Paralimni	0.44	237	⇓P	Pn	15 50 22.4	-0.1
	15nm,0.2s						
PHNC				S	Sn	15 50 30.4	0.0
CSS	Prodhromos	0.99	254	P	Pn	15 50 29.0	-0.2
	1.6nm,0.3s						
CSS				S	Sn	15 50 42.6	+0.4
CSS	Prodhromos	0.99	254	PG	Pn	15 50 28.8	-0.4
CSS				SG	Sn	15 50 43.0	+0.8
CSS	Prodhromos	0.99	254	P	Pn	15 50 29.0	-0.2
	1.6nm,0.3s						
CSS				S	Sn	15 50 42.6	+0.4
CSS				eSg	Sn	15 50 43.0	+0.8
MAMC	Mammari	1.04	266	P	Pn	15 50 30.0	+0.1
IKL	Isikli	1.18	327	PN	Pn	15 50 31.6	-0.3
IKL				SN	Sn	15 50 46.5	-0.5
ALFC	Alevga	1.54	267	P	Pn	15 50 35.9	-0.8
ALFC				S	Sn	15 50 56.2	+0.5
HWQ	Hawqa	1.54	128	eP	Pn	15 50 37.6	+0.9
HWQ				eS	Sn	15 50 56.0	+0.3
HTY	Hatay	1.61	57	PN	Pn	15 50 37.7	+0.1
MERS	Mersin	1.62	1	PN	Pn	15 50 37.7	0.0
MERS				SN	Sn	15 50 57.7	+0.2
BHL	Bhannes	1.65	144	eP	Pn	15 50 38.2	0.0
BHL				eS	Sn	15 50 56.8	-1.5
PPCY	Paphos	1.79	259	P	Pn	15 50 40.0	-0.1
KARA	Karaisali	2.06	13	PN	Pn	15 50 43.7	-0.1
RCY	Rachaya	2.08	147	eP	Pn	15 50 44.4	+0.4
RCY				eS	Sn	15 51 08.8	+0.1
KOZT	Kozan	2.48	26	PN	Pn	15 50 49.7	+0.2

*ISCJB **10** 15:55:48.6±0.8, 2796N±006×5450E±004, h7^{km}±6^{km}, mb3.8/7, Error ellipse: s-maj=9.5km s-min=5.6km az=29.8*
*NEIC **10** 15:55:51.1, 2788N×5446E, h16^{km}, ML3.3(THR), After THR.*
*THR **10** 15:55:51.1±0.4, 2788N×5445E, h15^{km}±3^{km}, ML3.3*
*CSEM **10** 15:55:51.9±0.1, 2781N×5439E, h35^{km}, ML3.3, Error ellipse: s-maj=4.0km s-min=2.1km az=11.0*
*IDC **10** 15:55:59.2±18.0, 2783N×5422E, h94^{km}±171^{km}, mb3.4/8, mb1 3.5/8, mb1mx3.3/23, mbtmp3.7/8, Error ellipse: s-maj=60.5km s-min=23.4km az=164.0*
ISC 10 15:55:50.1±0.9**, 2788N**±006×**5446E**±004**, h6**^{km}±6^{km}**, n23, σ1^{s}16**/31**, mb3.8**/7**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.36	287	ePG	Pg	15 56 16.1	-0.1
GHIR				eSG	Sg	15 56 34.7	+0.7
GHIR				AML	AML	15 56 44.4	
	comp=N,354nm,0.5s						
GHIR				AML	AML	15 56 46.6	
	comp=E,573nm,0.5s						
GHIR	Ghir-Karzin	1.36	287	ePg	Pg	15 56 16.0	-0.3
GHIR				eSg	Sg	15 56 34.0	0.0
GHIR	Ghir-Karzin	1.36	287	ePg	Pg	15 56 16.1	-0.2
	SNR=91						
GHIR				eSg	Sg	15 56 34.0	0.0
BNDS	Bandar-Abbas	1.59	107	ePG	Pg	15 56 20.6	0.0
BNDS				AML	AML	15 56 58.8	
	comp=E,254nm,0.6s						
BNDS				AML	AML	15 57 03.4	
	comp=N,330nm,0.6s						
BNDS	Bandar-Abbas	1.59	107	ePg	Pg	15 56 20.0	-0.6
BNDS				eSg	Sg	15 56 41.0	-0.2
BNDS	Bandar-Abbas	1.59	107	ePg	Pg	15 56 20.6	0.0
	SNR=91						
BNDS				eSg	Sg	15 56 41.0	-0.2
BANOM	Banah	2.55	140	P	Pn	15 56 32.7	+0.8
	SNR=11						
KRBR	Kerman	2.90	43	ePN	Pn	15 56 39.1	+2.4
KRBR				eSG	Sg	15 57 22.2	-1.1
KRBR				AML	AML	15 57 23.0	
	comp=N,129nm,0.6s						
KRBR				AML	AML	15 57 23.4	
	comp=E,135nm,0.6s						
KRBR	Kerman	2.90	43	ePn	Pn	15 56 39.0	+2.2
KRBR				eSg	Sg	15 57 22.0	-1.3
KRBR	Kerman	2.90	43	ePn	Pn	15 56 39.0	+2.2
KRBR				eSg	Sg	15 57 22.2	-1.1
	SNR=90						
ASHO	Ashiyiah	3.49	155	P	Pn	15 56 45.9	+1.1
	SNR=35						
NASN	Na'in	5.11	344	ePN	Pn	15 57 09.6	+2.5
NASN	Na'in	5.11	344	ePn	Pn	15 57 09.0	+2.0
BRTR	Keskin Array B	20.90	310	P	P	16 00 33.0	-0.1
	comp=E,0.8nm,0.7s,baz=130,slow=13,SNR=4.1						
MKAR	Makanchi Array	28.85	42	P	P	16 01 50.0	+0.8
	comp=E,0.3nm,0.2s,mb3.6,baz=251,slow=10,SNR=2.5						
MKAR	Makanchi Array	28.85	42	P	P	16 01 50.0	+0.8
FINES	FINESS Array B	38.54	338	P	P	16 03 11.9	-1.4
	comp=E,1.7nm,0.8s,mb3.8,baz=142,slow=9.6,SNR=6.5						
SONM	Songino Array	44.64	49	P	P	16 04 04.3	+1.0
	comp=E,0.3nm,0.6s,mb3.3,baz=262,slow=7.1,SNR=3.6						
TORD	Torodi Ar. Bea	51.18	265	P	P	16 04 51.3	-2.7
	comp=E,0.9nm,0.7s,mb3.8,baz=66,slow=7.0,SNR=6.3						
FITZ	Fitzroy Crossi	82.65	115	P	P	16 08 13.8	-0.5
	comp=E,1.4nm,0.7s,mb4.1,baz=338,slow=11,SNR=3.5						
WRA	Warramunga Arr	90.65	112	P	P	16 08 52.3	-1.1
	comp=E,0.5nm,0.6s,mb4.0,baz=315,slow=4.3,SNR=3.6						
WRA	Warramunga Arr	90.65	112	P	P	16 08 52.3	-1.1
ASAR	Alice Springs	92.12	116	P	P	16 08 59.2	-1.1
	comp=E,0.3nm,0.8s,mb3.7,baz=303,slow=5.0,SNR=6.0						

IDC 10 16:08:43.3±3.8**, 929S×10834E, h0**^{km}**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.6**/17**, mbtmp3.6**/4**, Error ellipse: s-maj=169.4km s-min=24.0km az=50.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	27.25	116	P	P	16 14 29.8	+0.7
	0.5nm,0.6s,baz=287,slow=12,SNR=4.3						
ASAR	Alice Springs	28.30	123	P	P	16 14 38.6	+0.1
	0.5nm,0.7s,baz=303,slow=8.5,SNR=6.4						
SONM	Songino Array	56.90	358	P	P	16 18 30.4	+0.4
	0.4nm,0.6s,baz=181,slow=7.6,SNR=4.1						
MKAR	Makanchi Array	60.48	340	P	P	16 18 54.8	-0.1
	1.3nm,0.6s,baz=144,slow=7.8,SNR=16						

IDC 10 16:24:07.2±1.9**, 121N×12555E, h0**^{km}**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.4**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=171.4km s-min=24.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.71	158	P	P	16 29 09.8	-0.7
	0.8nm,0.5s,baz=336,slow=11,SNR=10						
ASAR	Alice Springs	26.02	162	P	P	16 29 43.0	+1.1
	0.4nm,0.4s,baz=351,slow=15,SNR=14						
MKAR	Makanchi Array	58.97	327	P	P	16 34 08.5	+0.1
	0.3nm,0.3s,baz=120,slow=7.3,SNR=7.1						

IDC 10 16:50:40.5±4.9**, 2979S×17865W, h0**^{km}**, mb3.4**/2**, mb1 3.7**/2**, mb1mx3.5**/11**, mbtmp3.4**/2**, Error ellipse: s-maj=231.2km s-min=76.6km az=165.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.58	267	P	P	16 58 37.8	-0.4
	0.2nm,0.5s,baz=106,slow=7.1,SNR=8.4						
WRA	Warramunga Arr	43.52	272	P	P	16 58 46.6	+0.9
	0.3nm,0.3s,baz=112,slow=8.0,SNR=8.0						
FINES	FINESS Array B	144.38	340	PKP	PKPdf	17 10 17.2	-1.5
	1.3nm,0.9s,baz=46,slow=5.5,SNR=6.5						

IDC 10 17:04:32.1±3.3**, 2219N×14341E, h155**^{km}±32^{km}**, mb3.1**/4**, mb1 3.3**/6**, mb1mx3.2**/20**, mbtmp3.6**/6**, Error ellipse: s-maj=46.5km s-min=17.4km az=92.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.01	347	P	Pn	17 05 45.5	-0.1
	5.8nm,0.3s,baz=262,slow=20,SNR=26						
CBIJ				S	Sn	17 06 39.0	-4.2
	23nm,0.3s,baz=270,slow=22,SNR=10						
MJAR	Matsushiro Arr	15.00	344	P	Pn	17 07 57.4	+1.2
	0.3nm,0.3s,baz=155,slow=4.9,SNR=5.3						
SONM	Songino Array	39.10	320	P	P	17 11 43.7	-0.3
	0.2nm,0.5s,baz=130,slow=5.8,SNR=3.0						
WRA	Warramunga Arr	42.80	193	P	P	17 12 14.7	+0.3
	0.5nm,0.3s,baz=17,slow=8.8,SNR=14						
ASAR	Alice Springs	46.51	192	P	P	17 12 43.8	0.0
	0.3nm,0.5s,baz=11,slow=7.3,SNR=13						
YKA	Yellowknife Ar	75.92	28	P	P	17 16 01.5	0.0
	0.6nm,0.5s,baz=292,slow=5.9,SNR=6.7						

KRSC 10 17:19:27, 5077N×15732E, h22^{km}**, ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALID	Alaid	1.13	276	eP	Pn	17 19 48.1	+0.7
ALID				i S	Sb	17 20 02.5	+0.5
MIPR	Malaya Ipel'ka	1.55	347	i P	Pn	17 19 53.6	+0.4
MIPR				i S	Sn	17 20 12.3	-0.4
RUS	Russkaya	1.82	24	eP	Pn	17 19 59.0	+2.0
RUS				i S	Sn	17 20 22.2	+2.7
GRL	Gorelyy	1.84	14	eP	Pn	17 20 00.6	+3.3
GRL				i S	Sn	17 20 25.2	+5.2
PET	Petropavlovsk	2.40	20	eP	Pn	17 20 06.7	+1.7
PET				i S	Sn	17 20 36.4	+2.6
AVH	Avacha	2.65	19	eP	Pn	17 20 12.1	+3.7
NLC	Nalytchevo	2.71	27	eP	Pn	17 20 10.9	+1.7
NLC				i S	Sn	17 20 42.7	+1.4
SPN	Mys Shipunski	2.87	35	eP	Pn	17 20 13.4	+2.0
SPN				i S	Sn	17 20 47.8	+2.5
GNL	Ganaly	2.96	7	eP	Pn	17 20 13.4	+0.8
MKZ	Mys Kozlova	4.65	34	eP	Pn	17 20 36.1	+0.3
MKZ				i S	Sn	17 21 28.2	-0.9
KBTR	Krutoberegovo	6.36	29	eP	Pn	17 21 04.0	+4.6

*ISCJB **10** 17:46:09.4±0.9, 56N±0.1×1264E±0.1, h122^{km}±13^{km}, mb3.8/7, Error ellipse: s-maj=23.4km s-min=13.4km az=79.1*
*IDC **10** 17:46:18.9±20.0, 539N×12628E, h196^{km}±204^{km}, mb3.4/6, mb1 3.5/6, mb1mx3.2/17, mbtmp3.9/6, Error ellipse: s-maj=101.6km s-min=27.2km az=58.0*
*NEIC **10** 17:46:19.0±0.9, 534N×12609E, h195^{km}±12^{km}, mb4.1/1, Error ellipse: s-maj=81.9km s-min=12.5km az=69.0*
ISC 10 17:46:10.8±0.9**, 56N**±01×**1265E**±01**, h117**^{km}±13^{km}**, n12, σ0^{s}88**/15**, mb3.8**/7**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	1.37	352	eP	Pn	17 46 34.7	-1.9
MATI				eS	Sn	17 46 56.8	+0.7
DAV	Davao City (W)	1.71	330	P	Sn	17 46 55.0	-8.2
BUKP	Musuan	2.67	329	eP	Pn	17 46 53.1	+0.5
BUKP				eS	Sn	17 47 28.9	+4.1
PAGZ	Pagadian	3.79	307	eP	Pn	17 47 08.4	+1.0
IPIL	Ipil	4.43	300	eP	Pn	17 47 15.3	-0.8
IPIL				eS	Sn	17 48 06.6	-0.1
FITZ	Fitzroy Crossi	23.54	182	P	P	17 51 09.6	-0.8
	1.2nm,0.4s,mb3.6,baz=9.5,slow=12,SNR=14						
WRAB	Tennant Creek	26.52	163	eP	P	17 51 38.7	+1.4
	2.3nm,0.6s,mb3.9						
WRA	Warramunga Arr	26.52	163	P	P	17 51 37.8	+0.5
	1.0nm,0.5s,mb3.6,baz=344,slow=10.0,SNR=7.4						
ASAR	Alice Springs	29.96	166	P	P	17 52 07.5	-0.3
	0.3nm,0.4s,mb3.2,baz=337,slow=6.9,SNR=9.4						
STKA	Stephens Creek	39.95	160	P	P	17 53 33.3	-0.2
	3.0nm,0.6s,mb4.3,baz=350,slow=13,SNR=10						
MKAR	Makanchi Array	55.89	325	P	P	17 55 36.8	+0.5
	0.5nm,0.5s,mb3.8,baz=118,slow=7.7,SNR=12						
FINES	FINESS Array B	90.08	332	P	P	17 58 56.5	-0.9
	1.3nm,0.9s,mb4.1,baz=90,slow=4.6,SNR=4.4						

*MOS **10** 17:49:50.8±1.1, 5472N×16347E, h29^{km}, mb4.3/1, Error ellipse: s-maj=24.8km s-min=17.2km az=49.0*
KRSC 10 17:49:50, 5474N×16333E, h21^{km}**, ML4.2, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.95	259	eP	Pb	17 50 08.2	+0.5
MKZ				i S	Sb	17 50 20.5	+0.7
TUMR	Tumrok	1.91	288	eP	Pn	17 50 23.0	+1.7
TUMR				i S	Sn	17 50 47.5	+2.7
ZLN	Zelenaya	1.93	313	eP	Pn	17 50 23.2	+1.7
ZLN				i S	Sn	17 50 47.6	+2.5
CIRR	Tsirk	2.02	314	eP	Pn	17 50 24.5	+1.7
SMKR	Semkarok	2.13	331	eP	Pn	17 50 25.5	+1.2
SMKR				i S	Sn	17 50 51.6	+1.6
KPT	Kopyto	2.16	306	eP	Pn	17 50 26.5	+1.8
KRSR	Krestovskiy	2.16	314	eP	Pn	17 50 26.0	+1.3
KRSR				i S	Sn	17 50 52.0	+1.1
BDR	Baidarnaya	2.19	328	eP	Pn	17 50 26.9	+1.7
KLY	Klyuchi	2.19	317	eP	Pn	17 50 25.6	+0.4
KLY				i S	Sn	17 50 51.5	-0.2
SRKR	Sorokina	2.28	328	eP	Pn	17 50 27.7	+1.4
KOZR	Kozyr	2.37	306	PN	Pn	17 50 30.1	+2.5
KOZR				S	Sn	17 50 59.8	+3.8
KOZ	Kozyrevsk	2.37	305	eP	Pn	17 50 30.1	+2.4
KOZ				i S	Sn	17 50 59.8	+3.7
KII	Karymskiy	2.38	254	eP	Pn	17 50 29.9	+2.2
SPN	Mys Shipunski	2.56	231	eP	Pn	17 50 31.1	+0.9
SPN				i S	Sn	17 51 01.3	+0.7
SRDR	Sredinnyy	2.59	309	eP	Pn	17 50 32.0	+1.3
SRDR				i S	Sn	17 51 02.4	+0.9
NLC	Nalytchevo	2.83	238	eP	Pn	17 50 35.8	+1.8
NLC				i S	Sn	17 51 09.8	+2.4
PET	Petropavlovsk	3.26	240	ePN	Pn	17 50 44.0	+4.2
PET				eS	Sn	17 51 19.9	+1.9
PET				smax			
	comp=N,210nm,0.7s						
PET	Petropavlovsk	3.26	240	eP	Pn	17 50 42.0	+2.2
PET				i S	Sn	17 51 19.6	+1.6
RUS	Russkaya	3.69	233	eP	Pn	17 50 47.9	+2.2
RUS				i S	Sn	17 51 30.6	+2.1

*IDC **10** 17:58:02.9±0.7, 137N×9700E, h0^{km}, mb4.3/16, mb1 4.4/17, mb1mx4.2/24, mbtmp4.3/17, ML3.5/1, MS4.0/8, Ms1 4.0/8, ms1mx3.7/26, Error ellipse: s-maj=25.8km s-min=13.9km az=44.0*
*MOS **10** 17:58:06.9±1.1, 151N×9706E, h33^{km}, mb4.8/14, Error ellipse: s-maj=13.1km s-min=7.9km az=101.1*
*BJI **10** 17:58:06.8, 120N×9728E, h45^{km}, mB5.1, mb4.9, Ms4.9, Msz4.7*
*ISCJB **10** 17:58:06.2±0.4, 140N±005×9711E±005, h30^{km}, mb4.7/56, MS4.4/24, Error ellipse: s-maj=7.7km s-min=5.7km az=73.1*
*NEIC **10** 17:58:08.1±0.4, 146N×9713E, h30^{km}, mb4.6/13, Error ellipse: s-maj=10.2km s-min=6.9km az=46.0*
*SZGRF **10** 17:58:10.5, 140N×9670E, h42^{km}, mb4.3, Off west coast of northern Sumatera, Indonesia*
ISC 10 17:58:08.5±0.4**, 141N**±005×**9709E**±005**, h32**^{km}**, h32**^{km}±3.0^{km}**:pP-P, n114, σ1^{s}13**/116**, mb4.7**/56**, MS4.4**/24**, 7C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.30	53	Pn	Pn	17 58 43.5	-0.7
	12nm,0.3s,baz=238,slow=4.8,SNR=118						
TSI	Tuntungan	2.55	35	P	Pn	17 58 47.8	+0.1
	991nm,1.0s						
BSI	Banda Aceh	4.44	336	P	Pn	17 59 19.6	+6.0
	130nm,0.7s						
IPM	Ipoh	4.98	52	P	Pn	17 59 22.9	+1.9
KULM	Kulim	5.25	43	⇑iP	Pn	17 59 24.5	-0.2
KGM	Kluang	6.26	84	P	Pn	17 59 40.8	+2.2
NST	Nakhon Sawan	14.49	12	P	Pn	18 01 35.0	+3.7
CM31	Chiang Mai Arr	17.04	6	eP	Pn	18 02 03.1	-1.2
CHTO	Chiang Mai	17.40	6	eP	Pn	18 02 06.5	-2.2
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
CHTO	Chiang Mai	17.40	6	eP	Pn	18 02 06.5	-2.3
	comp=Z,4.1nm,0.7s						
NANT	Nan	17.65	11	P	Pn	18 02 11.0	-0.8
KKM	Kota Kinabalu	19.63	76	P	Pn	18 02 36.0	+0.1
KKM	Kota Kinabalu	19.63	76	eP	Pn	18 02 34.7	-1.2
TSM	Tawau	20.96	82	P	P	18 02 49.6	+0.9
VIS	Vishakhapatnam	21.11	321	eP	P	18 02 53.9	+3.5
VIS				AMb	AMB	18 02 57.5	
	comp=Z,47nm,1.3s,mb4.7						
VIS				eS	S	18 06 40.5	-3.0
TRD	Trivandrum	21.25	290	⇓ex	x	18 04 07.1	
QIZ	Qiongzhong	21.52	35	P	P	18 02 54.5	-0.3
QIZ				S	S	18 06 53.3	+1.8
QIZ				XS	sS	18 07 02.7	-2.6
QIZ				AMB	AMB		

QIZ LR LR
comp=E,912nm,14.2s,MS4.5
QIZ LR LR
comp=N,1μm,14.0s,MS4.5
QIZ LR LR
comp=Z,691nm,15.5s,MS4.2
CAL Calcutta 22.67 339 *ex* x 18 02 54.7
CAL *ex* x 18 05 11.5
HYB Hyderabad 24.19 312 *i* P **P** **18 03 25.0 +3.1**
HYB Hyderabad 24.19 312 *eP* **P** **18 03 25.0 +3.1**
KMI Kunming 24.20 13 P **P** **18 03 23.3 +1.2**
KMI AP 18 03 37.1
KMI PP 18 04 02.5
KMI PPP 18 04 13.9
KMI S **S** **18 07 40.6 +2.3**
KMI AMB AMB
comp=Z,30nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,278nm,3.9s
KMI LR LR
comp=N,2μm,16.3s,MS4.7
KMI LR LR
comp=E,1μm,13.5s,MS4.7
KMI LR LR
comp=Z,2μm,14.2s,MS4.8
SHL Shillong 24.54 349 *ex* x 18 01 46.6
BOK Bokaro 24.76 335 *eP* **P** **18 03 28.9 +1.7**
BOK AMb AMB 18 03 30.4
comp=Z,52nm,1.4s,mb4.9
GYA Guiyang 26.56 19⇓ *i* P **P** **18 03 43.5 +0.1**
GYA AP pP 18 03 50.6 -2.1
GYA S **S** **18 08 11.9 -3.9**
GYA AMB AMB
comp=Z,30nm,1.1s,mb4.7
GYA AMB AMB
comp=Z,310nm,5.1s
GYA LR LR
comp=N,870nm,15.3s,MS4.7
GYA LR LR
comp=E,2μm,16.4s,MS4.7
GYA LR LR
comp=Z,2μm,16.1s,MS4.8
KAD Karad 27.51 306 *eP* **P** **18 03 54.9 +2.9**
KAD AMb AMB 18 03 59.2
comp=Z,27nm,1.6s,mb4.6
PKI Pulchoki 28.32 338 *eP* **P** **18 04 00.4 +1.2**
GUN Gumba 28.45 339 *eP* **P** **18 04 01.0 +0.6**
comp=Z,53nm,0.7s,mb5.3
DMN Daman 28.47 337 *eP* **P** **18 04 01.7 +1.1**
comp=Z,57nm,1.3s,mb5.0
KKN Kakani 28.57 338 *eP* **P** **18 04 02.5 +1.1**
comp=Z,55nm,1.0s,mb5.3
LSA Lhasa 28.70 349 P **P** **18 04 04.2 +1.6**
BHPL Bhopal 28.90 320 *eP* **P** **18 04 08.7 +4.4**
BHPL AMb AMB 18 04 17.6
comp=Z,6.2nm,1.3s,mb4.2
GKN Gorkha 29.01 337 *eP* **P** **18 04 06.6 +1.3**
KOLN Koldanda 29.22 335 *eP* **P** **18 04 09.0 +1.7**
comp=Z,43nm,0.7s,mb5.3
CD2 Chengdu 30.02 12 *eP* **P** **18 04 14.6 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,40nm,5.2s
MBWA Marble Bar 31.52 137 *eP* **P** **18 04 29.2 +1.6**
FITZ Fitzroy Crossi 34.14 126 P **P** **18 04 48.8 -1.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=345,slow=3.6,SNR=7.2
XAN Xi'an 34.30 18 P **P** **18 04 50.9 -1.0**
XAN AMB AMB
comp=Z,33nm,1.0s,mb5.2
XAN LR LR
comp=N,672nm,15.0s,MS4.6
XAN LR LR
comp=E,475nm,12.7s,MS4.6
XAN LR LR
comp=Z,1μm,14.5s,MS4.9
LZH Lanzhou 35.07 10⇑ P **P** **18 04 58.3 -0.2**
LZH AP pP 18 05 07.2 -0.7
LZH XP sP 18 05 11.4 -0.4
LZH PP PP 18 06 17.5 -0.8
LZH *eS* **S** **18 10 26.2 -2.7**
LZH AMB AMB
comp=Z,39nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,109nm,6.1s
LZH LR LR
comp=E,1μm,14.2s
LZH LR LR
comp=Z,2μm,16.7s,MS4.9
NJ2 Nanjing 36.75 32 *eP* **P** **18 05 10.3 -2.6**
NJ2 AP pP 18 05 25.4 +3.1
NJ2 XP sP 18 05 32.4 +6.2
NJ2 PP PP 18 06 35.5 -1.4
NJ2 S **S** **18 10 48.0 -6.6**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,540nm,8.4s
NJ2 LR LR
comp=N,1μm,17.5s,MS5.0
NJ2 LR LR
comp=E,2μm,16.8s,MS5.0
NJ2 LR LR
comp=Z,2μm,17.0s,MS4.9
SSE Sheshan 37.31 35 P **P** **18 05 17.1 -0.6**
SSE XP sP 18 05 29.9 -1.1
SSE PP PP 18 06 42.0 -1.0
SSE S **S** **18 11 02.2 -0.9**
SSE XS sS 18 11 17.6 -1.1
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,156nm,4.9s
SSE LR LR
comp=N,177nm,17.2s,MS4.1
SSE LR LR
comp=E,211nm,17.2s,MS4.1
SSE LR LR
comp=Z,373nm,17.1s,MS4.2
KAKA Kakadu 37.79 113 *eP* **P** **18 05 20.5 -1.2**
comp=Z,7.9nm,0.5s,mb4.7
GTA Gaotai 37.91 3 *eP* **P** **18 05 22.8 +0.1**
GTA PP PP 18 06 50.1 +0.5
GTA PPP 18 07 10.2
GTA S **S** **18 11 08.3 -3.8**
GTA AMB AMB
comp=Z,7.0nm,1.6s,mb4.1
GTA AMB AMB
comp=Z,143nm,7.2s
GTA LR LR
comp=N,553nm,14.1s,MS4.6
GTA LR LR
comp=E,401nm,13.3s,MS4.6
GTA LR LR
comp=Z,538nm,12.2s,MS4.6
JOW Kunigami 39.19 47 P **P** **18 05 32.6 -0.8**
comp=Z,24nm,0.6s,mb5.1,baz=224,slow=7.3,SNR=9.2
HHC Hu-ho-hao-te 41.40 17 *eP* **P** **18 05 53.9 +2.2**
HHC AP pP 18 06 00.6 -0.7
HHC PP PP 18 07 33.5 +5.9
HHC PCP PcP 18 07 52.3 +2.9
HHC PCS PcS 18 11 42.4 +1.7
HHC S **S** **18 12 07.3 +2.9**
HHC SS SS 18 15 08.0 -1.0
HHC AMB AMB
comp=Z,32nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,153nm,5.2s
HHC LR LR
comp=N,1μm,14.7s,MS4.9
HHC LR LR
comp=E,691nm,15.7s,MS4.9
HHC LR LR
comp=Z,902nm,15.7s,MS4.7
BJT Baijiatuau 42.17 22 *eP* **P** **18 05 58.6 +0.5**
BJT pmax pmax
comp=Z,16nm,0.6s
BJT Baijiatuau 42.17 22 *eP* **P** **18 05 58.6 +0.6**
comp=Z,16nm,0.6s,mb4.8
BJI Beijing 42.19 22 P **P** **18 05 59.0 +0.8**
BJI AMB AMB
comp=Z,26nm,0.7s,mb5.0
BJI AMB AMB
comp=Z,141nm,3.9s
BJI LR LR
comp=N,197nm,13.2s,MS4.4
BJI LR LR
comp=E,262nm,13.2s,MS4.4
BJI LR LR
comp=Z,262nm,21.2s
WRA Warramunga Arr 42.24 122 P **P** **18 05 58.3 -0.3**
comp=Z,2.6nm,0.6s,mb4.1,baz=301,slow=9.3,SNR=17
WRA Warramunga Arr 42.24 122 *i* P **P** **18 05 58.9 +0.3**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 42.24 122 *i* P **P** **18 05 58.1 -0.6**
WRAB Tennant Creek 42.24 122 *eP* **P** **18 05 59.1 +0.5**
comp=Z,9.9nm,0.8s,mb4.5
WB2 Warramunga Arr 42.25 122 *eP* **P** **18 05 58.3 -0.4**
WMQ Urumqi 43.05 350⇑ *i* P **P** **18 06 06.2 +1.0**
WMQ AP pP 18 06 14.0 -0.8
WMQ PP PP 18 07 48.5 +3.0
WMQ PPP 18 08 23.0
WMQ S **S** **18 12 29.0 +0.1**
WMQ SS SS 18 15 35.0 -6.7
WMQ AMB AMB
comp=Z,14nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,182nm,4.2s
WMQ LR LR
comp=N,600nm,19.4s,MS4.7
WMQ LR LR
comp=E,522nm,15.0s,MS4.7
WMQ LR LR
comp=Z,564nm,19.2s,MS4.5
ASAR Alice Springs 43.61 127 P **P** **18 06 10.2 +0.5**
comp=Z,2.1nm,0.9s,mb3.9,baz=298,slow=7.8,SNR=15
SONM Songino Array 46.95 9 P **P** **18 06 36.1 -0.1**
comp=Z,12nm,0.8s,mb4.9,baz=190,slow=8.5,SNR=58
MKAR Makanchi Array 47.02 346 P **P** **18 06 37.0 +0.3**
comp=Z,9.5nm,0.6s,mb4.9,baz=159,slow=8.7,SNR=132
MKAR Makanchi Array 47.02 346⇑ *eP* **P** **18 06 37.2 +0.5**
MKAR Makanchi Array 47.02 346 P **P** **18 06 37.0 +0.3**
ULN Ulaanbaatar 47.08 9⇓ *eP* **P** **18 06 36.0 -1.2**
ULN Ulaanbaatar 47.08 9 *eP* **P** **18 06 36.2 -1.0**
comp=Z,8.0nm,0.8s,mb4.7
ZAK Zakamensk 49.08 5 *eP* **P** **18 06 52.5 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.9
CN2 Changchun 49.17 27 *eP* **P** **18 06 53.0 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.7
CN2 LR LR
comp=E,500nm,15.0s,MS4.7
CN2 LR LR
comp=Z,400nm,16.0s,MS4.5
TLY Talaya 50.40 5 *eP* **P** **18 07 02.9 +0.2**
TLY *eS* **S** **18 14 23.6 +10**
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,454nm,16.0s,MS4.6
MJAR Matsushiro Arr 51.62 43 P **P** **18 07 11.6 -0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=220,slow=7.5,SNR=6.8
MDJ Mudanjiang 51.74 29 P **P** **18 07 13.1 +0.3**
MDJ PCP PcP 18 08 27.5 +1.7
MDJ PP PP 18 09 11.3 +0.7
MDJ SCP ScP 18 12 20.9 +0.8
MDJ PCS PcS 18 12 24.5 +0.7
MDJ SCS ScS 18 17 00.4 -0.2
MDJ SS SS 18 18 09.5 +0.4
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,73nm,4.6s
MDJ LR LR
comp=N,128nm,19.4s,MS4.2
MDJ LR LR
comp=E,179nm,18.5s,MS4.2
MDJ LR LR
comp=Z,277nm,15.8s,MS4.4
VLA Vladivostok 51.86 32 *eP* **P** **18 07 13.2 -0.5**
VLA pmax pmax
comp=Z,48nm,1.4s,mb5.2
VLA MLR MLR
comp=Z,500nm,15.4s,MS4.7
CIT Chita 52.30 13 *eP* **P** **18 07 17.7 +0.8**
STKA Stephens Creek 53.58 132 *eP* **P** **18 07 27.2 +0.8**
comp=Z,3.1nm,0.6s,mb4.4
STKA Stephens Creek 53.58 132 P **P** **18 07 27.0 +0.6**
comp=Z,3.5nm,0.9s,mb4.3,baz=291,slow=6.5,SNR=6.7
STKA LR LR 18 33 46.9
comp=Z,261nm,19.1s,MS4.3,baz=23,slow=40
NVS Novosibirsk 54.46 350 *eP* **P** **18 07 30.5 -2.3**
NVS *eS* **S** **18 15 06.5 -2.8**
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,14nm,1.4s,mb4.7
NVS smax
comp=N,20nm,2.3s
NVS smax
comp=E,51nm,3.3s
BRVK Borovoye 56.08 341 *eP* **P** **18 07 43.9 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BRVK Borovoye 56.08 341 *eP* **P** **18 07 43.9 -0.6**
comp=Z,3.7nm,0.7s,mb4.5
ZRNK Zerenda 56.42 340 *eP* **P** **18 07 45.8 -1.1**
ZRNK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ZRNK Zerenda 56.42 340 *eP* **P** **18 07 45.8 -1.1**
comp=Z,5.0nm,0.9s,mb4.5
CHKZ Chkalovo 56.50 341 *eP* **P** **18 07 47.3 -0.1**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CHKZ Chkalovo 56.50 341 *eP* **P** **18 07 47.2 -0.2**
comp=Z,9.4nm,0.6s,mb5.0
AKTK Aktyubinsk 59.00 332 P **P** **18 08 04.0 -1.0**
AKTO Aktyubinsk 59.00 332 P **P** **18 08 04.0 -1.0**
comp=Z,1.2nm,0.3s,mb4.4,baz=95,slow=6.0,SNR=13
SVE Sverdlovsk 62.46 338 *eP* pP 18 08 41.0 +2.5
SVE *e* 18 09 06.0
ZEI Tsey 62.77 318 *eP* **P** **18 08 28.9 -1.7**
ZEI *e**PP pP 18 08 39.2 -1.4
ZEI *e* 18 09 06.4
ZEI pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
ARU Arti 62.95 337⇑ *i* P **P** **18 08 30.6 -1.3**
ARU *e* 18 09 06.4
ARU *e* 18 10 50.6
ARU *e*PPP 18 12 16.2
ARU *eS* **S** **18 16 59.6 -0.1**
ARU *eSS* SS 18 21 09.9 +4.6
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
KIV Kislovodsk 64.08 319 *eP* **P** **18 08 39.9 +0.6**
KIV *e* 18 09 12.5
KIV *eS* **S** **18 17 13.7 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
YAK Yakutsk 65.26 16*c* *i* P **P** **18 08 46.2 -0.8**
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.5
YAK Yakutsk 65.26 16 *eP* **P** **18 08 46.1 -0.9**
comp=Z,37nm,0.9s,mb5.4
BRTR Keskin Array B 68.89 312 P **P** **18 09 08.6 -1.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=139,slow=8.0,SNR=6.4
BRTR LR LR 18 43 15.7
comp=Z,46nm,20.3s,MS3.7,baz=348,slow=39
BRTR Keskin Array B 68.89 312⇑ *eP* **P** **18 09 09.8 -0.2**
OBN Obninsk 72.39 328 P **P** **18 09 31.0 -0.3**
OBN *e* pP 18 09 39.5 -1.9
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
MAW Mawson 72.88 193 LR LR 18 35 16.9
comp=Z,108nm,20.9s,MS4.1,baz=254,slow=31
SEY Seymchan 73.62 23*d* *i* P **P** **18 09 38.6 0.0**
BOSA Boshof 74.78 240 LR LR 18 37 24.6
comp=Z,126nm,20.6s,MS4.2,baz=1.2,slow=32
AKASG Malin Array Be 75.03 322 P **P** **18 09 46.0 -0.9**
comp=Z,4.3nm,0.9s,mb4.4,baz=91,slow=5.0,SNR=12
AKASG Malin Array Be 75.03 322 P **P** **18 09 46.0 -0.9**
JOF Joensuu 77.91 335 *ep* **P** **18 10 02.2 -1.0**
comp=Z,3.1nm,0.8s,mb4.3
KOLS Kolonicke sedl 78.99 320 *eP* **P** **18 10 10.0 +0.9**
CRVS Cervenica-Dubn 79.51 319 *eP* **P** **18 10 11.1 -0.9**
FINES FINESS Array B 79.77 333 P **P** **18 10 12.7 -0.6**
comp=Z,2.4nm,0.8s,mb4.2,baz=104,slow=7.0,SNR=9.3
FINES LR LR 18 48 48.4
comp=Z,55nm,18.7s,MS3.9,baz=145,slow=38
FINES FINESS Array B 79.77 333 *i* P **P** **18 10 13.1 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 79.85 333 *ep* **P** **18 10 12.8 -1.0**
comp=Z,3.5nm,0.6s,mb4.5
KAF Kangasniemi 79.85 333 *eP* **P** **18 10 12.8 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ARCES ARCESS Array B 82.31 340 P **P** **18 10 27.0 +0.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=105,slow=4.4,SNR=18
ARCES LR LR 18 51 18.2
comp=Z,136nm,19.7s,MS4.3,baz=150,slow=39
GERES GERESS Array B 84.58 319 P **P** **18 10 38.6 0.0**
comp=Z,1.5nm,0.9s,mb4.1,baz=101,slow=5.6,SNR=9.9
VNDA Vanda 86.05 169 LR LR 18 44 10.7
comp=Z,107nm,21.3s,MS4.2,baz=317,slow=32
GRA1 Grafenberg Arr 86.25 320 *eP* **P** **18 10 48.0 +1.1**
comp=Z,2.0nm,1.0s,mb4.3
GRA1 *ep*P pP 18 11 00.4 +3.2
GRF Grafenberg Arr 86.25 320 *eP* **P** **18 10 48.0 +1.1**
comp=Z,2.0nm,1.0s,mb4.3
GRF *ep*P pP 18 11 00.4 +3.2
GRF Grafenberg Arr 86.25 320 *eP* **P** **18 10 48.0 +1.1**
GRF *e**PP pP 18 11 00.4 +3.2
GRF pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
GRF Grafenberg Arr 86.25 320 *eP* **P** **18 10 48.0 +1.1**
GRF *e**PP pP 18 11 00.4 +3.2
GRF pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
NB2 NORSAR Subarra 86.77 331 P **P** **18 10 48.8 -0.7**
comp=Z,1.2nm,0.7s,mb4.2,baz=96,slow=4.8
NOA NORSAR Array B 86.77 331 P **P** **18 10 47.9 -1.6**
comp=Z,1.5nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=6.8
NOA LR LR 18 55 22.5
comp=Z,67nm,20.7s,MS4.0,baz=20,slow=40
EKA Eskdalemuir Ar 94.68 326 P **P** **18 11 26.5 +0.1**
comp=Z,0.9nm,0.7s,mb4.3,baz=104,slow=3.5,SNR=3.9
TBI Tubuai 112.04 115 *e*LR LR 18 50 06.7
comp=Z,142nm,25.2s
PPT Papeete 112.65 108 *e*LR LR 18 50 23.6
comp=Z,100nm,25.2s
RKT Rikitea 125.13 117 *e*LR LR 18 56 10.6
comp=Z,117nm,24.8s
CPUP Villa Florida 145.08 223 PKP PKPdf 18 17 43.4 +0.9
comp=Z,0.6nm,0.6s,baz=123,slow=6.7,SNR=3.6
CPUP Villa Florida 145.08 223 PKP PKPdf 18 17 44.4 +1.9

MAN 10 17:59:16.4, 1377N×12248E, h9km, mb1.7, ML3.5, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.14**	**347**⇑	*eP*		Pg 17 59 20.2	+0.6
GQP				*eS*		Sg 17 59 24.6	+2.9
BOAC	**Boac**	**0.69**	**244**	*eP*		Pg 17 59 30.4	+0.7
BOAC				*eS*		Sg 17 59 42.9	+4.2
POLP	**Polilio Island**	**1.09**	**331**	*eP*		Pg 17 59 36.6	-0.7
POLP				*eS*		Sg 17 59 53.5	+2.0

*ISCJB **10** 18:21:03.9±0.7, 5975N±004×2442E±008, h0km, Error ellipse: s-maj=5.5km s-min=5.3km az=48.2*
*CSEM **10** 18:21:04.8±0.2, 5970N×2430E, h2km, ML2.5, Error ellipse: s-maj=5.3km s-min=4.4km az=33.0, Mining explosion.*
*NAO **10** 18:21:05.8±1.0, 5979N×2457E, ML2.3*
*HEL **10** 18:21:06.4±0.1, 5978N×2452E, h0km, ML2.5, ML2.3(NAO), Explosion*
*BER **10** 18:21:06.6±3.8, 5980N×2453E, h0km±19km, ML2.3(NAO)*

ISC 10 18:21:05.0±0.6, 5979N±003×2451E±007, h0km, n22, σ0°96/36, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.44**	**353**	*eP*	**Pg**	**18 21 14.2**	**+0.8**
MEF				*eS*	**Sg**	**18 21 20.2**	**+1.2**
PVF	**Pernaja**	**1.02**	**41**	*eP*	**Pg**	**18 21 24.6**	**0.0**
PVF				*eS*	**Sg**	**18 21 38.4**	**+0.6**
VSU	**Vasula**	**1.76**	**138**	*eP*	**Pn**	**18 21 37.3**	**+0.6**
VSU				*eS*	**Sn**	**18 21 59.4**	**-0.3**
VSU	**Vasula**	**1.76**	**138**	Pn	**Pn**	**18 21 37.4**	**+0.7**
VSU				Lg		18 21 59.9	
VSU	**Vasula**	**1.76**	**138**	P	**Pn**	**18 21 37.2**	**+0.5**
VSU				S	**Sn**	**18 21 59.4**	**-0.3**
FIA0	**FINESS Array S**	**1.83**	**24**	*eP*	**Pn**	**18 21 39.3**	**+1.6**
FIA0				*eS*	**Sn**	**18 22 02.4**	**+0.7**
FIA0	**FINESS Array S** baz=195,slow=16	**1.83**	**24**	Pn	**Pn**	**18 21 39.4**	**+1.6**
FIA0				Lg		18 22 02.8	
FIA0	**FINESS Array S** baz=198,slow=37	**1.83**	**24**	P	**Pn**	**18 21 39.3**	**+1.6**
FIA0				S	**Sn**	**18 22 02.3**	**+0.6**
RAF	**Rauma**	**1.84**	**314**	*eP*	**Pn**	**18 21 39.1**	**+1.2**
RAF				*eS*	**Sn**	**18 22 02.8**	**+0.9**
RAF	**Rauma**	**1.84**	**314**	P	**Pn**	**18 21 39.0**	**+1.2**
RAF				S	**Sn**	**18 22 02.7**	**+0.9**
KEF	**Keuruu**	**2.40**	**4**	*ePB*	**Pb**	**18 21 48.4**	**-0.6**
KEF				*eSG*	**Sg**	**18 22 19.8**	**-2.2**
KEF				MSG		18 22 21.8	
KAF	**Kangasniemi** comp=Z,25nm,0.2s	**2.50**	**20**	*ePB*	**Pb**	**18 21 49.5**	**-1.1**
KAF				*eSB*	**Sb**	**18 22 21.6**	**-0.3**
KAF				MSG		18 22 24.3	
SUF	**Sumiainen** comp=Z,14nm,0.2s	**3.05**	**14**	MSG		18 22 44.2	
HFS	**Hagfors** baz=90,slow=16	**5.45**	**278**	Pn	**Pn**	**18 22 27.5**	**+0.2**
HFS				Sn	**Sn**	**18 23 29.9**	**-0.8**
HFS	baz=97,slow=28			Lg		18 23 52.2	
HFS	**Hagfors** baz=83,slow=37	**5.45**	**278**	*eP*	**Pn**	**18 22 27.5**	**+0.2**
HFS				*eS*	**Sn**	**18 23 29.9**	**-0.8**
HFS				*e*SG		18 23 52.2	
HFS	**Hagfors**	**5.45**	**278**	P	**Pn**	**18 22 27.5**	**+0.1**
HFS				S	**Sn**	**18 23 29.8**	**-0.9**
HFS				Sg		18 23 52.2	
NB2	**NORSAR Subarra** baz=96,slow=14	**6.70**	**287**	Pn	**Pn**	**18 22 44.2**	**-0.4**
NB2	**NORSAR Subarra**	**6.70**	**287**	*eP*	**Pn**	**18 22 44.2**	**-0.4**
APA0	**Apatity Array** baz=209,slow=16	**8.70**	**22**	Pn	**Pn**	**18 23 10.9**	**-1.1**
APA0	**Apatity Array**	**8.70**	**22**	*eP*	**Pn**	**18 23 10.9**	**-1.1**
ARA0	**ARCESS Array S** baz=174,slow=16	**9.80**	**2**	Pn	**Pn**	**18 23 26.0**	**-1.1**
ARA0				Sn	**Sn**	**18 25 10.6**	**-7.3**
ARA0	**ARCESS Array S** baz=189,slow=18	**9.80**	**2**	*eP*	**Pn**	**18 23 26.0**	**-1.1**
ARA0				*eS*	**Sn**	**18 25 10.6**	**-7.3**

JMA 10 18:32:09.0±0.1, 4362N×14742E, h70km±4km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.25**	**259**	P	Pn	18 32 31.0	+0.4
NEM2				*eS*	Sn	18 32 47.1	+0.3
JRA	**Rausu**	**1.69**	**282**	P	Pn	18 32 37.1	+0.6
JRA				*eS*	Sn	18 32 58.3	+0.9
JNK	**Nakash**	**1.96**	**270**	P	Pn	18 32 40.7	+0.6
JNK				*eS*	Sn	18 33 04.9	+1.1
JAK	**Akkeshi**	**2.08**	**254**	P	Pn	18 32 42.2	+0.5
JAK				*eS*	Sn	18 33 07.0	+0.3
JTKR	**Abashiri--Toko**	**2.57**	**279**	P	Pn	18 32 48.8	+0.5
JAR	**Ashorobuto**	**2.68**	**264**	P	Pn	18 32 51.0	+1.2
JAR				*eS*	Sn	18 33 23.0	+1.9
JOB	**Onbets**	**2.71**	**256**	P	Pn	18 32 51.1	+0.8
JOB				*eS*	Sn	18 33 23.3	+1.3
JMP	**Maruseppu**	**2.96**	**279**	P	Pn	18 32 54.4	+0.7
JCH	**Churui**	**3.14**	**253**	P	Pn	18 32 56.5	+0.5
JCH				*eS*	Sn	18 33 32.7	+0.4
JKK2	**Kamakawa 2**	**3.40**	**276**	P	Pn	18 33 01.0	+1.4
JFR	**Furan**	**3.55**	**264**	P	Pn	18 33 03.2	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
JNBK	**Urakawa-nobuka**	**3.68**	**250**	P	Pn	18 33 04.2	+0.8
JNBK				*e*S	Sn	18 33 45.9	+0.3

*IDC **10** 18:41:19.3±0.8, 2.15N×9626E, h0^{km}, mb4.3/13, mb1 4.4/14, mb1mx4.2/23, mbtmp4.3/14, ML4.1/1, MS3.6/4, Ms1 3.6/4, ms1mx3.1/24, Error ellipse: s-maj=31.0km s-min=14.7km az=48.0*

*MOS **10** 18:41:22.3±1.1, 221N×9622E, h33^{km}, mb4.8/10, Error ellipse: s-maj=13.3km s-min=8.1km az=96.8*

*ISCJB **10** 18:41:23.2±1.1, 2.17N±005×9627E±006, h41^{km}±8^{km}, mb4.7/51, MS4.0/14, Error ellipse: s-maj=11.1km s-min=6.8km az=105.9*

*BJI **10** 18:41:23.2, 204N×9634E, h53^{km}, mB4.8, mb4.9, Ms4.3, Msz4.1*

*NEIC **10** 18:41:25.6±1.6, 221N×9632E, h44^{km}±13^{km}, mb4.7/16, Error ellipse: s-maj=15.2km s-min=4.9km az=56.0*

ISC 10 18:41:25.2±1.0, **217N**±005×**9625E**±006, **h40**^{km}±8^{km}, **h37**^{km}±1.1^{km}**:pP-P, n101,** σ0.93/103, **mb4.7**/51, **MS4.0**/14, **10C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
PSI	**Prapat**	**2.74**	**77**	Pn	**Pn**	**18 42 06.4**	**-0.3**
	34nm,0.3s,baz=278,slow=7.8,SNR=126						
PSI				LR	LR	18 42 58.1	
	comp=Z,683nm,21.9s,baz=64,slow=36						
IPM	**Ipoh**	**5.29**	**64**	P	**Pn**	**18 42 41.9**	**+0.2**
KULM	**Kulim**	**5.37**	**55**	⇑*i*P	**Pn**	**18 42 42.3**	**-0.6**
KGM	**Kluang**	**7.07**	**91**	P	**Pn**	**18 43 07.4**	**+1.3**
NST	**Nakhon Sawan**	**13.95**	**16**	P	**Pn**	**18 44 37.5**	**-2.8**
KSM	**Kuching**	**14.07**	**93**	*e*P	**Pn**	**18 44 42.4**	**+0.5**
KKTK	**Khon Kaen**	**15.49**	**24**	⇓P	**Pn**	**18 45 04.0**	**+3.2**
	463nm,0.6s						
CM31	**Chiang Mai Arr**	**16.40**	**9**	*e*Pn	**Pn**	**18 45 11.4**	**-1.1**
CHTO	**Chiang Mai**	**16.75**	**9**	*e*P	**Pn**	**18 45 15.1**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	**Chiang Mai**	**16.75**	**9**	*e*P	**Pn**	**18 45 15.1**	**-1.8**
	comp=Z,4.2nm,0.6s						
NANT	**Nan**	**17.09**	**14**	⇑P	**Pn**	**18 45 17.0**	**-4.1**
	comp=Z,104nm,0.7s						
TRD	**Trivandrum**	**20.20**	**289**	⇑*e*P	**P**	**18 46 01.1**	**+4.5**
KKM	**Kota Kinabalu**	**20.28**	**78**	P	**P**	**18 45 58.4**	**+1.0**
KKM	**Kota Kinabalu**	**20.28**	**78**	*e*P	**P**	**18 45 57.3**	**-0.1**
QIZ	**Qiongzhong**	**21.40**	**38**	*e*P	**P**	**18 46 10.3**	**+0.8**
QIZ				XP	sP	18 46 22.1	-2.4
QIZ				S	**S**	**18 50 06.6**	**+1.9**
QIZ				XS	sS	18 50 21.2	+0.4
QIZ				LR	LR		
	comp=N,928nm,13.6s						
QIZ				LR	LR		
	comp=Z,1µm,12.3s,MS4.4						
TSM	**Tawau**	**21.69**	**84**	P	**P**	**18 46 13.2**	**+0.6**
KMI	**Kunming**	**23.66**	**15**	P	**P**	**18 46 33.9**	**+0.9**
KMI				AP		18 46 40.4	
KMI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=N,357nm,11.6s,MS4.1						
KMI				LR	LR		
	comp=E,201nm,10.8s,MS4.1						
KMI				LR	LR		
	comp=Z,399nm,12.7s,MS4.1						
GYA	**Guiyang**	**26.14**	**22**	⇑*i*P	**P**	**18 46 54.7**	**-0.9**
GYA				AP	pP	18 47 04.8	-1.7
GYA				PP		18 47 35.4	
GYA				S	**S**	**18 51 19.5**	**-5.0**
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,4.4s						
GYA				LR	LR		
	comp=N,420nm,15.8s,MS4.2						
GYA				LR	LR		
	comp=E,370nm,16.2s,MS4.2						
GYA				LR	LR		
	comp=Z,420nm,16.0s,MS4.1						
PKI	**Pulchoki**	**27.31**	**339**	*e*P	**P**	**18 47 07.4**	**+1.3**
GUN	**Gumba**	**27.45**	**340**	*e*P	**P**	**18 47 08.8**	**+1.4**
	comp=Z,40nm,0.6s,mb5.1						
DMN	**Daman**	**27.45**	**338**	*e*P	**P**	**18 47 08.2**	**+0.8**
	comp=Z,13nm,0.6s,mb4.7						
KKN	**Kakani**	**27.55**	**339**	*e*P	**P**	**18 47 09.7**	**+1.4**
	comp=Z,22nm,0.7s,mb4.9						
LSA	**Lhasa**	**27.80**	**350**	P	**P**	**18 47 11.0**	**+0.5**
LSA	**Lhasa**	**27.80**	**350**	*e*P	**P**	**18 47 11.5**	**+1.0**
LSA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.80**	**350**	*e*P	**P**	**18 47 11.5**	**+0.9**
	comp=Z,20nm,1.0s,mb4.7						
GKN	**Gorkha**	**27.98**	**338**	*e*P	**P**	**18 47 13.2**	**+1.1**
	comp=Z,44nm,0.7s,mb5.2						
KOLN	**Koldanda**	**28.19**	**336**	*e*P	**P**	**18 47 15.0**	**+1.1**
	comp=Z,22nm,0.7s,mb4.9						
CD2	**Chengdu**	**29.45**	**13**	P	**P**	**18 47 24.7**	**-0.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
MBWA	**Marble Bar**	**32.65**	**136**	*e*P	**P**	**18 47 53.2**	**-0.1**
XAN	**Xi'an**	**33.84**	**19**	P	**P**	**18 48 02.7**	**-1.1**
XAN				AMB	AMB		
	comp=Z,78nm,0.8s,mb5.7						
LZH	**Lanzhou**	**34.47**	**11**	⇑P	**P**	**18 48 09.3**	**+0.1**
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,54nm,8.7s						
FITZ	**Fitzroy Crossi**	**35.26**	**126**	*e*P	**P**	**18 48 15.5**	**-0.5**
	comp=Z,14nm,0.8s,mb5.0						
NJ2	**Nanjing**	**36.56**	**33**	*e*P	**P**	**18 48 27.0**	**-0.1**
NJ2				AP	pP	18 48 36.8	-1.4
NJ2				XP	sP	18 48 40.4	-2.6
NJ2				PP	PP	18 49 52.1	+1.3
NJ2				S	**S**	**18 54 07.0**	**+0.1**
NJ2				XS	sS	18 54 24.0	-1.3
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,550nm,7.2s						
NJ2				LR	LR		
	comp=N,960nm,25.4s,MS4.7						
NJ2				LR	LR		
	comp=E,1µm,25.7s,MS4.7						
NJ2				LR	LR		
	comp=Z,1µm,25.8s,MS4.6						
SSE	**Sheshan**	**37.19**	**37**	P	**P**	**18 48 31.8**	**-0.7**
SSE				AP	pP	18 48 41.4	-2.2
SSE				PP	PP	18 49 57.3	-0.4
SSE				S	**S**	**18 54 16.3**	**-0.2**
SSE				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,199nm,8.2s						
SSE				LR	LR		
	comp=N,57nm,16.6s,MS3.5						
SSE				LR	LR		
	comp=E,41nm,16.6s,MS3.5						
SSE				LR	LR		
	comp=Z,87nm,16.9s,MS3.6						
GTA	**Gaotai**	**37.21**	**5**	*e*P	**P**	**18 48 32.3**	**-0.3**
GTA				PP	PP	18 50 03.2	+5.3
GTA				PPP		18 50 25.6	
GTA				S	**S**	**18 54 23.7**	**+6.9**
GTA				XS	sS	18 54 36.6	+1.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,61nm,6.1s						
GTA				LR	LR		
	comp=N,120nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=E,142nm,12.5s,MS4.0						
GTA				LR	LR		
	comp=Z,117nm,14.1s,MS3.8						
KAKA	**Kakadu**	**38.85**	**113**	*e*P	**P**	**18 48 45.6**	**-0.9**
	comp=Z,15nm,0.6s,mb4.9						
JOW	**Kunigami**	**39.29**	**48**	LR	LR	19 06 49.4	
	comp=Z,80nm,19.2s,MS3.6,baz=262,slow=39						
HHC	**Hu-ho-hao-te**	**40.92**	**18**	*e*P	**P**	**18 49 04.6**	**+1.0**
HHC				AP	pP	18 49 15.6	+0.7
HHC				XP	sP	18 49 19.7	+0.1
HHC				PP	PP	18 50 43.0	+4.6
HHC				PCP	PcP	18 51 04.7	+1.1
HHC				SCP	ScP	18 54 49.7	-0.3
HHC				PCS	PcS	18 54 54.9	+0.4
HHC				S	**S**	**18 55 12.9**	**+0.3**
HHC				XS	sS	18 55 32.6	+1.4
HHC				SS	SS	18 58 12.9	-2.2
HHC				SCS	ScS	18 59 03.8	-1.4
HHC				AMB	AMB		
	comp=Z,26nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,94nm,6.2s						
HHC				LR	LR		
	comp=N,242nm,13.1s						
HHC				LR	LR		
	comp=E,217nm,6.5s						
HHC				LR	LR		
	comp=Z,172nm,12.0s,MS4.1						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**18 49 11.6**	**+0.8**
BJT				pmax	pmax		
	comp=Z,45nm,0.7s						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**18 49 11.6**	**+0.8**
	comp=Z,45nm,0.7s,mb5.2						
BJI	**Beijing**	**41.81**	**23**	P	**P**	**18 49 11.7**	**+0.7**
BJI				AMB	AMB		
	comp=Z,63nm,0.8s,mb5.3						
BJI				LR	LR		
	comp=Z,117nm,18.2s,MS3.8						
WMQ	**Urumqi**	**42.16**	**351**	*e*P	**P**	**18 49 14.8**	**+0.9**
WMQ				AP	pP	18 49 25.0	-0.1
WMQ				XP	sP	18 49 29.0	-0.8
WMQ				PP	PP	18 50 56.0	+4.1
WMQ				PPP		18 51 28.0	
WMQ				S	**S**	**18 55 32.0**	**+1.0**
WMQ				XS	sS	18 55 49.0	-0.7
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,152nm,5.0s						
WMQ				LR	LR		
	comp=N,132nm,20.4s,MS4.1						
WMQ				LR	LR		
	comp=E,249nm,23.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,167nm,20.5s,MS3.9						
WRA	**Warramunga Arr**	**43.35**	**122**	P	**P**	**18 49 23.1**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.3,baz=301,slow=9.2,SNR=24						
WRA				LR	LR	19 09 14.8	
	comp=Z,117nm,21.8s,MS3.8,baz=300,slow=39						
WRAB	**Tennant Creek**	**43.36**	**122**	⇓*e*P	**P**	**18 49 23.4**	**-0.1**
WRAB	**Tennant Creek**	**43.36**	**122**	*e*P	**P**	**18 49 23.5**	**0.0**
	comp=Z,18nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**43.36**	**122**	*e*P	**P**	**18 49 23.9**	**+0.3**
FORT	**Forrest**	**44.62**	**140**	*e*P	pP	18 49 42.2	-2.8
	comp=Z,35nm,0.7s						
ASPA	**Alice Springs**	**44.73**	**127**	*e*P	**P**	**18 49 34.8**	**+0.3**
ASAR	**Alice Springs**	**44.73**	**127**	P	**P**	**18 49 34.5**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.1,baz=299,slow=8.0,SNR=42						
AS31	**Alice Springs**	**44.73**	**127**	*e*P	**P**	**18 49 34.8**	**+0.2**
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**18 49 45.2**	**0.0**
	comp=Z,20nm,0.8s,mb5.1,baz=159,slow=8.1,SNR=105						
MKAR	**Makanchi Array**	**46.08**	**347**	⇑*e*P	**P**	**18 49 45.4**	**+0.2**
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**18 49 45.2**	**0.0**
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**18 49 47.1**	**-0.1**
	comp=Z,4.6nm,0.5s,mb4.7,baz=188,slow=9.2,SNR=67						
SONM				PcP	PcP	18 51 22.3	+0.4
	comp=Z,2.0nm,0.7s,baz=199,slow=3.7,SNR=5.2						
ULN	**Ulaanbaatar**	**46.47**	**10**	⇑*e*P	**P**	**18 49 47.3**	**-1.0**
ULN	**Ulaanbaatar**	**46.47**	**10**	*e*P	**P**	**18 49 47.2**	**-1.0**
	comp=Z,9.3nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**48.41**	**6**	*e*P	**P**	**18 50 02.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MOY	**Mondy**	**49.48**	**4**	*e*P	**P**	**18 50 12.7**	**+1.1**
TLY	**Talaya**	**49.73**	**6**	*e*P	**P**	**18 50 14.3**	**+0.9**
TLY				*e*		18 50 20.7	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,75nm,18.0s,MS3.7						
TLY	**Talaya**	**49.73**	**6**	*e*P	**P**	**18 50 14.4**	**+1.0**
	comp=Z,7.0nm,0.8s,mb4.7						
HIA	**Hailar**	**51.04**	**20**	⇑*e*P	**P**	**18 50 23.3**	**-0.1**
HIA	**Hailar**	**51.04**	**20**	*e*P	**P**	**18 50 23.2**	**-0.1**
	comp=Z,8.3nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**51.50**	**30**	P	**P**	**18 50 26.8**	**0.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,56nm,5.5s						
MJAR	**Matsushiro Arr**	**51.63**	**43**	P	**P**	**18 50 27.4**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=197,slow=6.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**51.63**	**43**	P	**P**	**18 50 27.4**	**-0.4**
PMG	**Port Moresby**	**52.00**	**104**	*e*P	**P**	**18 50 30.9**	**+0.4**
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**18 50 34.4**	**+0.5**
	comp=Z,14nm,0.4s,mb5.2,baz=305,slow=5.1,SNR=42						
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**18 50 34.4**	**+0.5**
NVS	**Novosibirsk**	**53.57**	**351**	*e*P	**P**	**18 50 39.7**	**-2.4**
NVS				pmax	pmax		
	comp=N,13nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
NVS				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
STKA	**Stephens Creek**	**54.71**	**132**	*e*P	**P**	**18 50 50.4**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**54.71**	**132**	P	**P**	**18 50 49.9**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=317,slow=8.1,SNR=7.0						
BVAR	**Borovoye Array**	**55.03**	**341**	P	**P**	**18 50 52.3**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.4,baz=150,slow=9.3,SNR=20						
BRVK	**Borovoye**	**55.09**	**341**	*e*P	**P**	**18 50 52.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**55.09**	**341**	*e*P	**P**	**18 50 52.7**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**55.42**	**340**	*e*P	**P**	**18 50 54.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**55.42**	**340**	*e*P	**P**	**18 50 54.8**	**-0.8**
	comp=Z,3.7nm,0.8s,mb4.5						
CHKZ	**Chkalovo**	**55.51**	**342**	*e*P	**P**	**18 50 56.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**55.51**	**342**	*e*P	**P**	**18 50 56.0**	**-0.2**
	comp=Z,5.9nm,0.7s,mb4.7						
BOD	**Bodaibo**	**57.24**	**11**	*e*P	**P**	**18 51 08.3**	**-0.2**
BOD				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
AKTK	**Aktyubinsk**	**57.94**	**332**	P	**P**	**18 51 13.1**	**-0.4**
AKTO	**Aktyubinsk**	**57.94**	**332**	P	**P**	**18 51 13.1**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.2,baz=189,slow=4.3,SNR=8.3						
SVE	**Sverdlovsk**	**61.44**	**339**	*e*P	**P**	**18 51 42.3**	**+4.7**
ARU	**Arti**	**61.93**	**337**	*e*P	**P**	**18 51 38.3**	**-2.5**
ARU				*e*		18 52 16.9	
ARU				*e*S	**S**	**19 00 00.8**	**-1.2**
ARU				*e*SS	SS	19 03 57.8	-6.8
KIV	**Kislovodsk**	**62.96**	**319**	*e*P	**P**	**18 51 52.8**	**+5.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
YAK	**Yakutsk**	**64.76**	**17**	⇑*e*P	**P**	**18 51 58.1**	**-1.5**
YAK				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.5						
YAK	**Yakutsk**	**64.76**	**17**	*e*P	**P**	**18 51 58.6**	**-0.9**
	comp=Z,40nm,0.9s,mb5.5						
BRTR	**Keskin Array B**	**67.76**	**312**	LR	LR	19 22 33.2	
	comp=Z,34nm,18.1s,MS3.6,baz=202,slow=36						
BR131	**Keskin Array S**	**67.76**	**312**	P	**P**	**18 52 20.5**	**+1.7**
	comp=Z,0.9nm,0.6s,mb4.0						
OBN	**Obninsk**	**71.30**	**328**	P	pP	18 52 52.0	-0.5
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
PET	**Petropavlovsk**	**71.97**	**34**	⇑*e*P	**P**	**18 52 43.0**	**-1.6**
PET				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.1						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**18 52 57.3**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=90,slow=5.7,SNR=3.5						
JOF	**Joensuu**	**76.87**	**335**	*e*p	**P**	**18 53 11.9**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**78.71**	**333**	P	**P**	**18 53 22.8**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=93,slow=6.1,SNR=10.0						
FINES	**FINESS Array B**	**78.71**	**333**	*i* P	**P**	**18 53 22.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KAF	**Kangasniemi**	**78.80**	**333**	*e*p	**P**	**18 53 22.2**	**-1.6**
	comp=Z,4.4nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**78.80**	**333**	*e*P	**P**	**18 53 22.2**	**-1.6**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**80.60**	**21**	P	**P**	**18 53 34.0**	**+0.4**
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.3						
ARCES	**ARCESS Array B**	**81.31**	**340**	P	**P**	**18 53 37.6**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=97,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**83.46**	**319**	P	**P**	**18 53 49.2**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=101,slow=5.7,SNR=6.0						
CLL	**Collm**	**84.09**	**321**	*e*sP	sP	18 54 09.0	+0.5
CPUP	**Villa Florida**	**145.06**	**224**	PKPbc	PKPbc	19 00 59.2	+1.6
	comp=Z,1.3nm,0.8s,baz=141,slow=7.4,SNR=2.9						

CASC 10 18:49:45.1±3.3, **1378N**×**9108W**, **h24**^{km}±21^{km}, **MD4.0**, **2C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
GCG	**Guatemala City**	**0.96**	**34**	⇑*e*P	Pb	18 50 04.4	+1.3
RBDL	**Robledal**	**1.40**	**76**	*e*P	x	18 50 27.6	
RBDL				*e*S	x	18 50 46.3	
RTR	**El Retiro**	**1.40**	**85**	*e*P	x	18 50 27.9	
RTR				*e*S	x	18 50 46.5	
SBLS	**San Blas**	**1.42**	**87**	*e*P	x	18 50 28.1	
SBLS				*e*S	x	18 50 45.7	
SNJE	**San Jose**	**1.44**	**86**	*e*P	x	18 50 28.5	
SNJE				*e*S	x	18 50 48.0	
BOQS	**Boqueron**	**1.75**	**91**	⇓*e*P	x	18 50 32.7	
BOQS				*e*S	x	18 50 56.4	
MTO2	**Montecristo 2**	**1.78**	**70**	*e*P	x	18 50 32.2	
MTO2				*e*S	x	18 50 56.5	
LFRS	**El Faro**	**1.97**	**94**	⇑*e*P	x	18 50 36.0	
LFRS				*e*S	x	18 51 00.3	
LCBS	**La Ceiba**	**2.05**	**93**	*e*P	x	18 50 36.5	
LCBS				*e*S	x	18 51 04.5	
CNCH	**Conchagua**	**3.20**	**99**	⇓*e*P	x	18 50 52.9	
CNCH				*e*S	x	18 51 31.5	

*NIED **10** 18:53:00, 4660N×15250E, h65^{km}, Mw4.0 Best double couple: M₀1.02000×10^{15} NP1:ϕ_s155.00000°, δ64.00000°, λ91.00000°. NP2:ϕ_s332.00000°, δ26.00000°, λ88.00000°.*

*MOS **10** 18:53:11.5±1.7, 4647N×15280E, h33^{km}, mb4.0/1, Error ellipse: s-maj=19.1km s-min=13.1km az=57.7*

*JMA **10** 18:53:14.7±0.6, 4665N×15250E, h30^{km}, M4.7*

*SKHL **10** 18:53:15.7±1.5, 4649N×15248E, h50^{km}±18^{km}, mb5.1/3*

*ISCJB **10** 18:53:17.5±1.2, 4634N±009×1522E±01, h87^{km}±10^{km}, mb4.2/12, Error ellipse: s-maj=18.7km s-min=9.1km az=97.0*

*NEIC **10** 18:53:19.5±1.9, 4656N×15224E, h87^{km}±15^{km}, mb3.8/1, Error ellipse: s-maj=22.9km s-min=12.5km az=113.0*

*IDC **10** 18:53:21.8±4.8, 4662N×15208E, h105^{km}±43^{km}, mb3.3/6, mb1 3.5/8, mb1mx3.3/22, mbtmp3.7/8, MS3.7/1, Ms1 3.7/1, ms1mx2.9/12, Error ellipse: s-maj=31.8km s-min=27.1km az=82.0*

ISC 10 18:53:17.2±1.0, **4645N**±009×**1523E**±01, **h66**^{km}±8^{km}, **n55,** σ1.47/70, **mb4.2**/12, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KUR	**Kuril'sk**	**3.35**	**250**	*e*P	**Pn**	**18 54 06.0**	**-1.1**
KUR				AMB	AMB	18 54 10.0	
	320nm,0.8s						
KUR				*e*S	**Sn**	**18 54 45.0**	**-0.7**
KUR				A		18 54 54.5	
	810nm,0.8s						
KUR				A		18 54 54.5	
	450nm,0.8s						
SKR	**Severo-Kuril's**	**4.92**	**29**	*e*P	**Pn**	**18 54 24.4**	**-4.2**
SKR				AMB	AMB	18 54 27.4	
	100nm,0.8s						
SKR				AMB	AMB	18 54 27.4	
	70nm,0.8s						
SKR				AMB	AMB	18 54 27.4	
	120nm,0.8s						
SKR				*e*rx	rx	18 54 29.0	
SKR				*e*rx	rx	18 54 33.5	
SKR				*e*S	**Sn**	**18 55 15.6**	**-8.6**
SKR				A		18 55 31.2	
	230nm,0.5s						
SKR				A		18 55 31.2	
	80nm,0.5s						
SKR	**Severo-Kuril's**	**4.92**	**29**	*e*PN	**Pn**	**18 54 24.4**	**-4.2**
SKR				pmax	pmax		
	comp=N,100nm,0.8s						
SKR				pmax	pmax		
	comp=E,70nm,0.8s						
SKR				pmax	pmax		
	comp=Z,120nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.17**	**244**	*e*P	**Pn**	**18 54 31.4**	**-0.6**
YUK				AMB	AMB	18 54 41.3	
	comp=Z,260nm,0.4s						
YUK				*i* S	**Sn**	**18 55 35.9**	**+5.6**
YUK				A		18 55 49.9	
	comp=Z,800nm,0.6s						
YUK				A		18 55 49.9	
	comp=Z,710nm,0.6s						
YUK				A		18 55 51.3	
	comp=Z,2µm,1.0s						
YUK				A		18 55 51.3	
	comp=Z,2µm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.17**	**244**	*e*PN	**Pn**	**18 54 31.4**	**-0.6**
YUK				*i* S	**Sn**	**18 55 35.9**	**+5.6**
YUK				pmax	pmax		
	comp=Z,260nm,0.4s						
YUK				smax			
	comp=N,800nm,0.5s						
YUK				smax			
	comp=E,710nm,0.6s						
YUK				smax			
	comp=E,2µm,0.8s						
YUK				smax			
	comp=N,2µm,1.6s						
NEM2	**Nemuro 2**	**5.61**	**239**	P	**Pn**	**18 54 37.9**	**0.0**
NEM2				*e*S	**Sn**	**18 55 39.5**	**-1.5**
JRA	**Rausu**	**5.68**	**246**	P	**Pn**	**18 54 41.7**	**+2.7**
JNK	**Nakash**	**6.11**	**245**	P	**Pn**	**18 54 46.6**	**+1.8**
JNK				*e*S	**Sn**	**18 55 55.9**	**+2.6**
JAK	**Akkeshi**	**6.45**	**240**	P	**Pn**	**18 54 49.3**	**-0.1**
JAK				*e*S	**Sn**	**18 55 59.4**	**-2.1**
JTKR	**Abashiri--Toko**	**6.45**	**250**	P	**Pn**	**18 54 52.2**	**+2.8**
YSS	**Yuzh-Sakhalins**	**6.61**	**278**	*e*P	**Pn**	**18 54 55.5**	**+3.9**
YSS				*e*rx	rx	18 56 06.0	
YSS	**Yuzh-Sakhalins**	**6.61**	**278**	*e*P	**Pn**	**18 54 54.4**	**+2.8**
	comp=N,22nm,0.6s						
JMP	**Maruseppu**	**6.79**	**252**	P	**Pn**	**18 54 57.3**	**+3.2**
JAR	**Ashorobuto**	**6.85**	**246**	P	**Pn**	**18 54 56.9**	**+1.9**
JAR				*e*S	**Sn**	**18 56 13.5**	**+2.0**
JOB	**Onbets**	**7.02**	**243**	*e*S	**Sn**	**18 56 13.1**	**-2.5**
JKK2	**Kamakawa 2**	**7.25**	**253**	P	**Pn**	**18 55 03.5**	**+3.1**
ASAJ	**Asahikawa**	**7.26**	**255**	P	**Pn**	**18 55 04.0**	**+3.6**
	comp=N,4.5nm,0.3s,baz=67,slow=12,SNR=20						
ASAJ	**Asahikawa**	**7.26**	**255**	PN	**Pn**	**18 55 04.1**	**+3.6**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JCH	**Churui**	**7.47**	**242**	P	**Pn**	**18 55 03.5**	**+0.1**
JCH				*e*S	**Sn**	**18 56 23.5**	**-3.1**
JFR	**Furan**	**7.67**	**248**	P	**Pn**	**18 55 09.1**	**+3.0**
ERM	**Erimo**	**7.94**	**239**	*e*PN	**Pn**	**18 55 11.4**	**+1.5**
ERM				pmax	pmax		
	comp=Z,58nm,0.6s						
ERM	**Erimo**	**7.94**	**239**	*e*P	**Pn**	**18 55 11.4**	**+1.6**
	comp=Z,58nm,0.6s						
ERM				*e*S	**Sn**	**18 56 38.4**	**+0.2**
JBT2	**Biratori 2**	**8.01**	**246**	P	**Pn**	**18 55 11.0**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.03**	**242**	P	**Pn**	**18 55 10.6**	**-0.5**
JNBK				*e*S	**Sn**	**18 56 36.9**	**-3.5**
JEW	**Eniwo**	**8.56**	**249**	P	**Pn**	**18 55 21.2**	**+2.9**
JNB	**Noboribetsu**	**9.01**	**248**	P	**Pn**	**18 55 24.7**	**+0.3**
JNB				*e*S	**Sn**	**18 57 02.1**	**-2.1**
JKB	**Kayabe**	**9.31**	**245**	P	**Pn**	**18 55 28.0**	**-0.6**
JKB				*e*S	**Sn**	**18 57 05.6**	**-6.2**
JSH	**Shimam**	**9.56**	**251**	P	**Pn**	**18 55 33.6**	**+1.6**
JYM2	**Yakumo 2**	**9.61**	**248**	P	**Pn**	**18 55 32.6**	**-0.1**
JSR	**Shiriuchi**	**9.89**	**244**	P	**Pn**	**18 55 35.7**	**-0.8**
JTM	**Tenmabayashi**	**9.94**	**239**	P	**Pn**	**18 55 35.5**	**-1.6**
JTM				*e*S	**Sn**	**18 57 19.7**	**-7.3**
JANG	**Nango**	**9.94**	**236**	P	**Pn**	**18 55 34.5**	**-2.7**
JANG				*e*S	**Sn**	**18 57 18.7**	**-8.4**
JTH	**Tanohata**	**10.04**	**233**	*e*S	**Sn**	**18 57 17.6**	**-12**
JOSM	**Okushiri--Mats**	**10.20**	**249**	P	**Pn**	**18 55 41.2**	**+0.4**
OFUJ	**Ofunato**	**10.75**	**231**	P	**Pn**	**18 55 46.5**	**-1.7**
JRG	**Rokugo**	**11.10**	**235**	P	**Pn**	**18 55 51.8**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	11.38	229	P	Pn	18 55 55.4	-1.4
JIO				eS	Sn	18 57 52.4	-10
MA2	Magadan	13.18	356	ePN	Pn	18 56 20.9	-0.5
MJAR	Matsushiro Arr	14.47	232	P	Pn	18 56 39.5	+1.1
	comp=Z,0.1nm,0.3s,baz=21,slow=14,SNR=2.9						
SONM	Songino Array	30.93	290	P	P	18 59 27.4	-0.3
	comp=Z,0.5nm,0.8s,mb3.3,baz=71,slow=9.5,SNR=3.9						
ZAL	Zalesovo	42.37	306	LR	LR	19 18 03.0	
	comp=Z,94nm,20.4s,baz=196,slow=35						
MKAR	Makanchi Array	46.60	297	P	P	19 01 36.4	-2.2
	comp=Z,1.1nm,0.7s,mb3.7,baz=71,slow=9.1,SNR=9.1						
BRVK	Borovoye	50.68	309	P	P	19 02 09.6	-0.2
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	Borovoye	50.68	309	P	P	19 02 09.6	-0.3
	comp=Z,0.5nm,0.5s,mb3.8						
GUN	Gumba	54.49	275	eP	P	19 02 38.7	+0.7
	comp=Z,10.0nm,0.4s,mb5.2						
KKN	Kakani	54.98	275	eP	P	19 02 42.5	+0.9
	comp=Z,12nm,0.5s,mb5.2						
DMN	Daman	55.21	275	eP	P	19 02 44.5	+1.3
	comp=Z,8.5nm,0.5s,mb5.0						
GKN	Gorkha	55.29	276	eP	P	19 02 44.1	+0.3
	comp=Z,9.5nm,0.5s,mb5.1						
KOLN	Koldanda	56.15	276	eP	P	19 02 50.3	+0.4
	comp=Z,8.2nm,0.6s,mb4.9						
FINES	FINESS Array B	64.08	334	P	P	19 03 42.5	-1.7
	comp=Z,0.5nm,0.5s,mb3.6,baz=39,slow=7.8,SNR=8.2						
FINES	FINESS Array B	64.08	334	P	P	19 03 42.5	-1.7
PDAR	Pinedale Array	65.36	53	P	P	19 03 53.0	+0.6
	comp=Z,0.4nm,0.6s,mb3.5,baz=12,slow=1.4,SNR=4.7						
NB2	NORSAR Subarra	68.34	341	P	P	19 04 10.0	-1.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=28,slow=6.5						
NOA	NORSAR Array B	68.34	341	P	P	19 04 10.4	-1.0
	comp=Z,0.4nm,0.4s,mb3.6,baz=28,slow=6.4,SNR=3.5						
ASAR	Alice Springs	71.76	198	P	P	19 04 33.5	+1.1
	comp=Z,0.4nm,0.7s,mb3.3,baz=12,slow=6.1,SNR=5.9						

*NEIC **10** 19:01:14.2, 1949N×6487W, h25^{km}, MD3.6(RSPR), After RSPR.*

RSPR 10 19:01:14.2, 1949N×6487W, h25^{km}±23^{km}, MD3.5/12, MD3.5/12, 11C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STVI	Saint Thomas	1.14	184	⇓eP	Pn	19 01 31.9	-2.7
STVI				eS	Sn	19 01 46.2	-3.1
MTP	Monte Pirata	1.53	205	⇓eP	Pn	19 01 38.2	-1.8
MTP				eS	Sn	19 01 56.7	-2.4
CBYP	Canovanas	1.53	218	⇑eP	Pn	19 01 37.6	-2.4
CBYP				eS	Sn	19 01 55.9	-3.2
HUMP	Col San Antoni	1.63	215	⇑eP	Pn	19 01 39.1	-2.3
HUMP				eS	Sn	19 01 59.0	-2.6
CPD	Cerro la Pandu	1.75	215	⇑eP	Pn	19 01 40.9	-2.1
CPD				eS	Sn	19 02 02.4	-2.2
AOPR	Arecibo Observ	2.12	238	⇑eP	Pn	19 01 46.2	-1.8
AOPR				eS	Sn	19 02 10.8	-2.7
CELP	Cerrillos	2.15	229	⇑eP	Pn	19 01 46.7	-1.7
CELP				eS	Sn	19 02 12.0	-2.3
OBIP	Obispado Ponce	2.19	229	⇑eP	Pn	19 01 47.4	-1.7
OBIP				eS	Sn	19 02 12.8	-2.5
LRS	Lares	2.22	238	⇑eP	Pn	19 01 47.4	-2.0
LRS				eS	Sn	19 02 13.6	-2.5
ICM	Isla Caja Muer	2.23	225	⇑eP	Pn	19 01 48.2	-1.4
ICM				eS	Sn	19 02 14.3	-2.0
AGPR	Aguadilla, PR	2.35	245	⇑eP	Pn	19 01 49.6	-1.7
LSP	Las Mesas	2.48	238	⇑eP	Pn	19 01 51.5	-1.4
LSP				eS	Sn	19 02 19.9	-2.5
MGP	Maguayo	2.57	235	⇑eP	Pn	19 01 52.6	-1.7
MGP				eS	Sn	19 02 22.3	-2.4
CRPR	Cabo Rojo, PR	2.59	236	⇓eP	Pn	19 01 52.7	-1.8
CRPR				eS	Sn	19 02 22.6	-2.5

*LDG **10** 19:13:57.1±0.3, 4335N×798E, h6^{km}, Md2.0/3, Ml1.9/8, Error ellipse: s-maj=4.5km s-min=3.0km az=102.0*

STR 10 19:13:56.6±0.3, 4340N×812E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REVF	Revere	0.64	302	Pg	Pg	19 14 09.2	+0.1
REVF				Sg	Sg	19 14 18.5	+1.0
SBF	Sospel	0.68	313	ePg	Pg	19 14 09.6	-0.1
SBF				eSg	Sg	19 14 17.8	-0.8
	31nm,0.2s						
SAOF	Saorge	0.71	325	Pg	Pg	19 14 10.4	0.0
SAOF				Sg	Sg	19 14 20.5	+0.7
LUCF	Luceram	0.75	311	Pg	Pg	19 14 10.8	-0.2
LUCF				Sg	Sg	19 14 20.8	0.0
AUTN	L'Aution	0.78	320	Pg	Pg	19 14 11.4	-0.2
AUTN				Sg	Sg	19 14 22.4	+0.6
MVIF	Mont Vial	0.86	306	Pg	Pg	19 14 12.7	-0.5
TOUF	Mont Tournerai	0.88	314	Pg	Pg	19 14 13.0	-0.6
FRF	La Foret Royal	1.08	279	ePg	Pg	19 14 15.2	-2.2
FRF				eSg	Sg	19 14 28.8	-2.7
	4.3nm,0.2s						
LMR	La Mourre	1.18	267	ePg	Pg	19 14 16.4	-2.8
LMR				eSg	Sg	19 14 30.6	-3.9
	3.2nm,0.2s						
TAVF	Tavernes	1.52	279	Pn	Pn	19 14 22.6	-1.2
MBDF	Montbardon	1.65	324	ePn	Pn	19 14 24.8	-0.7
MBDF				eSn	Sn	19 14 44.3	-2.4
	2.1nm,0.2s						
STOF	St-Etienne Org	1.71	291	Pn	Pn	19 14 27.1	+0.6
PUYF	Puyloubier	1.77	275	Pn	Pn	19 14 25.5	-1.7
ORIF	Oris-en-Rattie	2.21	314	ePn	Pn	19 14 31.8	-1.6
ORIF				eSn	Sn	19 14 57.7	-3.1
ORIF				eSg	Sg	19 15 05.5	-2.3
	0.7nm,0.2s						
LPG	La Plagne	2.31	335	ePn	Pn	19 14 34.2	-0.6
LPG				eSg	Sg	19 15 10.5	-0.5
	0.8nm,0.3s						
LPL	La Plagne	2.34	335	ePn	Pn	19 14 34.5	-0.6
LPL				eSg	Sg	19 15 11.0	-0.7
	0.6nm,0.3s						
VIVF	Saint-Julien-l	2.88	302	ePn	Pn	19 14 40.9	-1.6
VIVF				eSn	Sn	19 15 12.6	-4.6
	0.5nm,0.2s						
LASF	Ste Croix	3.16	284	ePn	Pn	19 14 44.4	-2.0
LASF				eSn	Sn	19 15 18.9	-5.3
	0.6nm,0.2s						
MTLF	Montolieu	4.30	271	ePn	Pn	19 14 59.6	-2.5
CAF	Calviac	4.62	291	ePn	Pn	19 15 04.4	-2.0

*INMG **10** 19:27:52.8±1.1, 4224N×840W, h21^{km}±3^{km}, ML1.8, Error ellipse: s-maj=4.4km s-min=2.0km az=79.0*

MDD 10 19:27:52.8±0.4, 4223N×835W, h11^{km}±1^{km}, mbLg2.1/10, 1D, Error ellipse: s-maj=3.4km s-min=3.3km az=37.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZAM	Zamans	0.27	254	⇓Pg	Pg	19 27 58.0	-0.3
	82nm,0.1s,SNR=18						
EZAM				Lg		19 28 02.2	
	99nm,0.1s,SNR=7.9						
PCAB	Cabril	0.57	155	ePg	Pg	19 28 04.5	+0.6
PCAB				eSg	Sg	19 28 12.5	+1.2
PCAB							
	43nm,0.2s						
STS	Santiago	0.68	347	Pg	Pg	19 28 05.1	-0.8
	4.5nm,0.1s,SNR=7.9						
STS				Lg		19 28 14.0	
	69nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	0.86	328	Pg	Pg	19 28 09.1	-0.3
	2.7nm,0.1s,SNR=7.6						
EMAZ				Lg		19 28 20.6	
	16nm,0.1s,SNR=16						
PVRL	Vila Real	1.06	153	eP	Pb	19 28 11.5	-1.7
PVRL				eS	Sg	19 28 26.4	-0.6
PVRL							
	16nm,0.2s						
ECAL	Calabor	1.23	103	Pg	Pg	19 28 14.2	-2.4
	3.1nm,0.2s,SNR=7.8						
ECAL				Sn	Sn	19 28 29.7	-3.0
	5.8nm,0.2s,SNR=7.9						
ECAL				Lg		19 28 32.7	
	9.5nm,0.1s,SNR=15						
PBRG	Braganca	1.27	109	ePn	Pn	19 28 14.5	-2.0
PBRG				eSg	Sg	19 28 33.7	0.0
PBRG							
	8.2nm,0.1s						
EPON	Pontenova	1.41	38	Pn	Pn	19 28 16.0	-2.5
	1.8nm,0.2s,SNR=7.9						
EPON				Pg	Pg	19 28 19.9	-0.1
	0.5nm,0.1s,SNR=7.9						
EPON				Lg		19 28 37.7	
	5.3nm,0.2s,SNR=7.9						
PVIS	Viseu	1.55	167	eSg	Sg	19 28 41.3	-1.3
MTE	Manteigas	1.92	161	eSg	Sg	19 28 52.6	-2.0
MTE							
	3.7nm,0.3s						
MTE	Manteigas	1.92	161	Lg		19 28 52.6	
	1.9nm,0.3s						
PCBR	Castelo Branco	2.47	164	eSn	Sn	19 28 59.8	-3.4
PCBR				eSg	Sg	19 29 11.1	-1.2
EARI	Arriondas	2.55	64	Pn	Pn	19 28 33.7	-0.4
	0.8nm,0.2s,SNR=14						
EARI				Sn	Sn	19 29 03.5	-1.7
	0.6nm,0.2s,SNR=7.9						
EARI				Lg		19 29 13.9	
	0.6nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.53	115	Pn	Pn	19 28 46.1	-1.4
	0.7nm,0.2s,SNR=6.0						
GUD				Sn	Sn	19 29 26.0	-3.3
	0.6nm,0.3s,SNR=7.9						
GUD				Lg		19 29 44.0	
	1.5nm,0.4s,SNR=7.9						
EBAD	Badajoz	3.61	163	Sn	Sn	19 29 27.5	-3.9
	0.0nm,0.2s,SNR=7.9						
EBAD				Lg		19 29 47.3	
	0.5nm,0.1s,SNR=7.9						

IDC 10 19:36:58.0±10.0, 648S×13024E, h103^{km}±105^{km}, mb3.6/4, mb1 3.7/6, mb1mx3.5/13, mbtmp4.0/6, ML4.0/2, Error ellipse: s-maj=182.5km s-min=35.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.96	164	P	Pn	19 40 10.8	-0.4
	0.6nm,0.3s,baz=338,slow=13,SNR=40						
WRA				S	Sn	19 42 35.7	-9.3
	2.0nm,0.3s,baz=329,slow=22,SNR=8.1						
ASAR	Alice Springs	17.45	169	P	Pn	19 40 55.4	+0.6
	0.8nm,0.3s,baz=342,slow=9.8,SNR=77						
ASAR				S	S	19 43 59.5	-10
	0.4nm,0.3s,baz=339,slow=17,SNR=5.5						
STKA	Stephens Creek	27.41	159	P	P	19 42 33.9	+0.1
	2.9nm,0.9s,baz=344,slow=10,SNR=3.9						
SONM	Songino Array	58.02	341	P	P	19 46 40.4	+0.4
	0.2nm,0.4s,baz=140,slow=7.4,SNR=2.5						
MKAR	Makanchi Array	67.92	327	P	P	19 47 45.7	+0.2
	2.0nm,0.4s,baz=115,slow=7.6,SNR=22						
ZAL	Zalesovo	71.22	334	P	P	19 48 05.4	-0.4
	0.8nm,0.7s,baz=208,slow=4.9,SNR=4.1						

*ISCJB **10** 19:39:37.8±0.9, 3497N±004×271W±007, h21^{km}±4^{km}, Error ellipse: s-maj=9.9km s-min=5.6km az=41.9*
*CSEM **10** 19:39:37.7±0.2, 3498N×275W, h20^{km}, MD2.7, Error ellipse: s-maj=6.7km s-min=4.0km az=98.0*
*CNRM **10** 19:39:38.1, 3496N×264W, h12^{km}, MD2.7*
*SFS **10** 19:39:39.0, 3497N×217W, h0^{km}, ML3.0*
*MDD **10** 19:39:39.2±0.7, 3494N×275W, h9^{km}±2^{km}, mb3.3/5, Error ellipse: s-maj=7.4km s-min=5.4km az=98.0, PRXIMO*
*NEIC **10** 19:39:39.1, 3498N×317W, h0^{km}, MG3.0(MDD), After MDD.*

ISC 10 19:39:38.3±0.8, 3497N±004×275W±006, h18^{km}±2^{km}, n30, σ1^{s}28/56, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.00	143	P	Pg	19 39 41.0	-0.4
ZAI				S	Sg	19 39 42.0	-1.4
ZAI	Zaio	0.00	143	i P	Pg	19 39 41.0	-0.4
MELI	Melilla	0.36	334	P	Pg	19 39 47.9	+2.0
MELI				S	Sg	19 39 52.1	+1.3
MELI	Melilla	0.36	334	i P	Pg	19 39 47.9	+2.1
MELI				eS	Sg	19 39 52.1	+1.2
EMLI	Melilla	0.37	333	P	Pg	19 39 46.0	0.0
	77nm,0.1s,SNR=7.9						
EMLI				S	Sg	19 39 51.0	-0.2
	106nm,0.1s,SNR=7.9						
EMEL	Melilla	0.37	332	P	Pg	19 39 46.0	0.0
	77nm,0.1s,SNR=7.9						
EMEL				S	Sg	19 39 51.0	-0.2
	106nm,0.1s,SNR=7.9						
TOU	Touzarine	0.83	270	i P	Pb	19 39 54.0	-0.2
TOU				i S	Sb	19 40 07.0	+2.0
EALB	Alboran	0.99	346	P	Pb	19 39 56.8	-0.2
	1.9nm,0.1s,SNR=7.9						
EALB				S	Sb	19 40 09.3	-0.5
	17nm,0.2s,SNR=7.9						
EALB	Alboran	0.99	346	P	Pb	19 39 57.1	+0.1
EALB				S	Sb	19 40 09.3	-0.5
EALB	Alboran	0.99	346	P	Pb	19 39 57.1	0.0
	1.9nm,0.1s,SNR=7.9						
EALB				S	Sb	19 40 09.3	-0.5
	17nm,0.2s,SNR=7.9						
TZK	Tazeka	1.48	234	i P	Pn	19 40 04.0	-0.1
TZK				i S	Sn	19 40 23.0	+0.1
EBER	Berja	1.93	357	P	Pn	19 40 12.7	+2.5
	0.1nm,0.1s,SNR=7.9						
EBER				S	Sn	19 40 32.8	-1.2
	1.1nm,0.2s,SNR=7.9						
EBER	Berja	1.93	357	P	Pn	19 40 10.5	+0.2
EBER				S	Sn	19 40 32.8	-1.2
EBER	Berja	1.93	357	P	Pn	19 40 10.5	+0.3
	0.1nm,0.1s,SNR=7.9						
EBER				S	Sn	19 40 32.8	-1.2
	1.1nm,0.2s,SNR=7.9						
EGUA	Guajares	1.97	341	P	Pn	19 40 08.1	-2.8
	0.9nm,0.2s,SNR=7.9						
EGUA				S	Sn	19 40 31.7	-3.5
	0.8nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.29	315	P	Pn	19 40 13.3	-1.9
	0.8nm,0.2s,SNR=7.9						
EMIJ				S	Sn	19 40 38.3	-4.6
	0.7nm,0.1s,SNR=7.9						
EQUE	Quentar	2.30	346	P	Pn	19 40 15.9	+0.5
	0.5nm,0.2s,SNR=7.9						
EQUE				S	Sn	19 40 43.6	+0.4
	0.4nm,0.2s,SNR=7.9						
EQUE	Quentar	2.30	346	P	Pn	19 40 15.9	+0.5
	0.5nm,0.2s,SNR=7.9						
EQUE				S	Sn	19 40 42.7	-0.5
	0.4nm,0.2s,SNR=7.9						
EQES	Quesada	2.84	355	P	Pn	19 40 25.2	+2.4
	1.0nm,0.2s,SNR=8.7						
EQES				S	Sn	19 40 58.7	+2.2
	1.7nm,0.2s,SNR=7.9						
EQES	Quesada	2.84	355	P	Pn	19 40 25.2	+2.4
EQES				S	Sn	19 40 58.7	+2.2
EQES	Quesada	2.84	355	P	Pn	19 40 25.2	+2.4
	1.0nm,0.2s,SNR=8.7						
EQES				S	Sn	19 40 58.7	+2.2
	1.7nm,0.2s,SNR=7.9						
ELUQ	Luque	2.86	335	P	Pn	19 40 22.9	-0.2
	0.7nm,0.2s,SNR=4.0						
ELUQ				S	Sn	19 40 56.4	-0.6
	0.5nm,0.1s,SNR=7.9						
ELUQ	Luque	2.86	335	P	Pn	19 40 24.3	+1.2
ELUQ				S	Sn	19 40 56.4	-0.6
ELUQ	Luque	2.86	335	P	Pn	19 40 24.3	+1.2
	0.7nm,0.2s,SNR=7.9						
ELUQ				S	Sn	19 40 56.4	-0.7
	0.5nm,0.1s,SNR=7.9						
EMUR	La Murta	3.11	23	P	Pn	19 40 28.6	+2.1
	0.6nm,0.2s,SNR=7.9						
EMUR				S	Sn	19 41 03.2	-0.1
	3.4nm,0.5s,SNR=7.9						
EMUR	La Murta	3.11	23	P	Pn	19 40 28.6	+2.0
EMUR				S	Sn	19 41 03.2	-0.1
EADA	Adamuz	3.51	336	P	Pn	19 40 32.2	+0.1
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	19 41 10.4	-2.8
	1.4nm,0.3s,SNR=7.9						
EADA	Adamuz	3.51	336	P	Pn	19 40 32.2	+0.1
EMIN	Mina Concepcio	4.22	313	P	Pn	19 40 40.1	-1.7
	0.3nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	4.22	313	P	Pn	19 40 40.1	-1.7

*ISCJB **10** 20:09:46.6±0.8, 557S±0.1×278W±03, h33^{km}, mb4.1/2, Error ellipse: s-maj=22.9km s-min=15.1km az=118.6*
*NEIC **10** 20:09:57.6±4.0, 5580S×2790W, h125^{km}±36^{km}, mb3.9/2, Error ellipse: s-maj=22.2km s-min=11.5km az=51.0*
*IDC **10** 20:10:04.9±12.0, 5586S×2831W, h190^{km}±112^{km}, mb3.7/2, mb1 3.8/2, mb1mx3.3/16, mbtmp4.2/2, Error ellipse: s-maj=158.5km s-min=31.1km az=105.0*

ISC 10 20:09:55.7±6.4, 559S±02×279W±03, h105^{km}±60^{km}, n14, σ0^{s}46/10, mb4.0/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	19.09	156	eP	P	20 14 09.7	-0.3
	5.8nm,0.9s						
PMSA	Palmer Station	19.74	228	eP	P	20 14 17.6	+0.5
CPUP	Villa Florida	36.38	312	P	P	20 16 49.0	-0.8
MAW	Mawson	40.54	144	eP	P	20 17 25.1	+0.5
VNDA	Vanda	46.76	183	P	P	20 18 13.9	-0.4
	1.8nm,0.6s,mb4.0,baz=184,slow=6.1,SNR=24						
VNDA	Vanda	46.76	183	eP	P	20 18 13.8	-0.6
	1.3nm,0.6s,mb3.8						
LPAZ	La Paz	49.94	306	P	P	20 18 39.2	+0.4
TORD	Torodi Ar. Bea	73.07	30	P	P	20 21 14.8	+0.4
	1.7nm,0.6s,mb4.1,baz=198,slow=5.8,SNR=6.3						
STKA	Stephens Creek	92.17	171	P	P	20 22 53.6	+0.2
COCO	West Island	98.09	126	P	P	20 23 20.1	-0.4
FINES	FINESS Array B	124.39	28	PKP	PKPdf	20 28 39.4	-3.0
	1.6nm,0.7s,baz=174,slow=2.8,SNR=13						
ARCES	ARCESS Array B	130.90	22	PKP	PKPdf	20 28 51.8	-3.0
	4.1nm,1.0s,baz=222,slow=1.2,SNR=5.8						
BVAR	Borovoye Array	135.00	58	PKP	PKPdf	20 29 00.5	-1.9
	0.6nm,0.8s,baz=222,slow=1.9,SNR=3.6						
SONM	Songino Array	151.10	87	PKPbc	PKPbc	20 29 34.8	-1.7
	2.5nm,0.5s,baz=218,slow=3.9,SNR=43						

*ISCJB **10** 20:15:21.2±0.6, 5975N±004×2439E±008, h0^{km}, Error ellipse: s-maj=5.6km s-min=5.3km az=53.5*
*IDC **10** 20:15:23.9±1.7, 5983N×2457E, h0^{km}, mb1 3.4/3, mb1mx3.1/20, mbtmp3.3/3, ML3.3/3, Error ellipse: s-maj=19.5km s-min=6.6km az=145.0*
*NAO **10** 20:15:23.0±1.0, 5977N×2461E, ML2.1*
*HEL **10** 20:15:23.9±0.1, 5978N×2453E, h0^{km}, ML2.2, ML2.1(NAO), Explosion*
*BER **10** 20:15:24.0±4.4, 5978N×2452E, h0^{km}±24^{km}, ML2.1(NAO)*

ISC 10 20:15:22.4±0.6, 5979N±003×2449E±007, h0^{km}, n21, σ1^{s}01/33, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MEF	Metsahovi	0.43	354	eP	Pg	20 15 31.5	+0.8
MEF				eS	Sg	20 15 37.5	+1.1
PVF	Pernaja	1.03	42	eP	Pg	20 15 42.0	-0.1
PVF				eS	Sg	20 15 55.2	-0.2
VSU	Vasula	1.76	138	eP	Pn	20 15 54.8	+0.6
VSU				eS	Sn	20 16 16.9	-0.4
VSU	Vasula	1.76	138	Pn	Pn	20 15 54.5	+0.3
VSU				Lg		20 16 17.3	
RAF	Rauma	1.83	314	eP	Pn	20 15 56.3	+1.1
RAF				eS	Sn	20 16 20.4	+1.3
FIA0	FINESS Array S	1.84	25	eP	Pn	20 15 56.6	+1.4
FIA0				eS	Sn	20 16 19.6	+0.5
FIA0	FINESS Array S	1.84	25	Pn	Pn	20 15 56.7	+1.5
	baz=196,slow=18						
FIA0				Lg		20 16 19.9	
	baz=196,slow=28						
FINES	FINESS Array B	1.84	25	Pn	Pn	20 15 56.7	+1.5
	3.6nm,0.3s,baz=201,slow=16,SNR=246						
FINES				Lg		20 16 19.5	
	7.2nm,0.3s,baz=210,slow=31,SNR=27						
FINES				Sn	Sn	20 16 22.8	+3.6
	7.1nm,0.3s,baz=203,slow=24,SNR=23						
KEF	Keuruu	2.40	4	ePB	Pb	20 16 05.7	-0.7
KEF				eSG	Sg	20 16 37.5	-1.9
KEF				MSG		20 16 40.5	
	comp=Z,12nm,0.2s						
KAF	Kangasniemi	2.50	20	MSG		20 16 42.2	
	comp=Z,9.8nm,0.2s						
SUF	Sumiainen	3.05	15	MSG		20 17 01.5	
	comp=Z,5.6nm,0.2s						
HFS	Hagfors	5.43	278	eP	Pn	20 16 44.9	+0.3
HFS				eS	Sn	20 17 47.6	-0.3
HFS				eSG		20 18 08.3	
HFS	Hagfors	5.43	278	Pn	Pn	20 16 44.5	-0.2
	comp=Z,0.3nm,0.3s,baz=87,slow=14,SNR=21						
HFS				Sn	Sn	20 17 47.1	-0.8
	comp=Z,0.5nm,0.3s,baz=87,slow=29,SNR=8.4						
HFS				Lg		20 18 08.2	
	comp=Z,0.6nm,0.3s,baz=92,slow=31,SNR=4.7						
HFS	Hagfors	5.43	278	Pn	Pn	20 16 44.9	+0.3
	baz=96,slow=12						
HFS				Sn	Sn	20 17 47.6	-0.3
	baz=99,slow=22						
HFS				Lg		20 18 08.3	
	baz=94,slow=37						
NB2	NORSAR Subarra	6.69	287	Pn	Pn	20 17 01.5	-0.4
	baz=97,slow=14						
NB2				Sn	Sn	20 18 16.1	-2.8
	baz=96,slow=22						
NB2	NORSAR Subarra	6.69	287	eP	Pn	20 17 01.5	-0.4
NB2				eS	Sn	20 18 16.1	-2.8
NOA	NORSAR Array B	6.69	287	Pn	Pn	20 17 01.3	-0.6
	comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=5.1						
NOA				Sn	Sn	20 18 14.9	-3.9
	comp=Z,0.2nm,0.3s,baz=85,slow=7.8,SNR=2.4						
NOA				Lg		20 18 48.4	
	comp=Z,0.5nm,0.3s,baz=236,slow=11,SNR=2.8						
BSD	Bornholm Skovb	6.97	232	i P	Pn	20 17 06.1	+0.4
BSD				i S	Sn	20 18 20.9	-4.8
ARA0	ARCESS Array S	9.80	2	Pn	Pn	20 17 43.6	-1.0
	baz=183,slow=12						
ARA0	ARCESS Array S	9.80	2	eP	Pn	20 17 43.6	-1.0
ARCES	ARCESS Array B	9.80	2	Pn	Pn	20 17 43.5	-1.1
	comp=Z,0.5nm,0.3s,baz=180,slow=13,SNR=45						

*NEIC **10** 20:34:42.4±8.1, 6.17S×146.37E, h68^{km}±41^{km}, mb3.8/3, Error ellipse: s-maj=93.7km s-min=40.3km az=200.0*
*ISCJB **10** 20:34:47.4±5.1, 6.7S±0.3×146.3E±0.3, h91^{km}±32^{km}, mb3.7/2, Error ellipse: s-maj=60.3km s-min=31.8km az=62.9*
*IDC **10** 20:34:47.4±7.7, 6.67S×146.37E, h86^{km}±48^{km}, mb3.5/3, mb1 3.6/5, mb1mx3.4/12, mbtmp3.8/5, ML3.3/2, Error ellipse: s-maj=84.4km s-min=43.5km az=43.0*

ISC 10 20:34:47.7±5.0, 66S±03×1463E±03, h81^{km}±33^{km}, n12, σ0^{s}83/13, mb3.7/2, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.87	163	P	Pn	20 35 31.2	0.0
	6.3nm,0.3s,baz=48,slow=4.1,SNR=30						
PMG				S	Sn	20 36 04.3	-0.5
	35nm,0.3s,baz=210,slow=20,SNR=35						
CTA	Charters Tower	13.37	180	P	Pn	20 37 57.0	+3.1
	0.7nm,0.3s,baz=358,slow=14,SNR=5.0						
WRAB	Tennant Creek	17.59	220	eP	Pn	20 38 46.0	-1.4
	3.9nm,0.8s						
WB2	Warramunga Arr	17.60	220	eP	Pn	20 38 47.8	+0.3
WRA	Warramunga Arr	17.60	220	P	Pn	20 38 48.1	+0.5
	0.4nm,0.3s,baz=51,slow=12,SNR=28						
AS31	Alice Springs	20.70	214	eP	P	20 39 21.6	+0.3
ASAR	Alice Springs	20.71	214	P	P	20 39 21.8	+0.4
	1.5nm,0.4s,baz=55,slow=9.1,SNR=39						
ASPA	Alice Springs	20.71	214	eP	P	20 39 21.6	+0.3
FITZ	Fitzroy Crossi	23.15	239	eP	P	20 39 46.9	-0.1
	9.4nm,1.4s,mb3.9						
FITZ	Fitzroy Crossi	23.15	239	P	P	20 39 46.0	-1.0
	2.9nm,0.8s,mb3.6,baz=76,slow=10.0,SNR=10						
STKA	Stephens Creek	25.49	189	eP	P	20 40 08.1	-0.2
	0.9nm,0.3s,mb3.7						
STKA	Stephens Creek	25.49	189	P	P	20 40 07.5	-0.8
	0.9nm,0.3s,mb3.7,baz=359,slow=7.2,SNR=16						

*NIED **10** 20:53:00, 3920N×14340E, h17^{km}, Mw3.8 Best double couple: $M_0$6.31000×10^{14} NP1:ϕ_s31.00000°, δ63.00000°, λ105.00000°. NP2:ϕ_s182.00000°, δ30.00000°, λ64.00000°.*
*MOS **10** 20:53:41.2±0.9, 3899N×144.12E, h33^{km}, mb4.2/2, Error ellipse: s-maj=22.5km s-min=18.5km az=20.8*
*NEIC **10** 20:53:42.8±5.5, 3895N×14422E, h35^{km}, mb3.9/2, Error ellipse: s-maj=106.0km s-min=14.0km az=122.0*
*IDC **10** 20:53:43.4±8.6, 3937N×14353E, h0^{km}, mb3.8/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.8/4, ML3.3/1, MS3.4/1,*

Ms1 3.4/1, ms1mx2.8/18, Error ellipse: s-maj=156.6km s-min=39.1km az=121.0
ISCJB ***10*** *20:53:45.9±0.8, 39.19N±0.06×143.45E±0.07, h33km, mb3.8/5, MS3.3/1, Error ellipse: s-maj=10.0km s-min=6.3km az=90.9*
JMA ***10*** *20:53:45.9±0.2, 39.16N×143.39E, h29km, M3.6*
ISC 10 20:53:48.0±0.9, 3922N±006×14336E±008, h35km, n28, σ0s81/39, mb3.7/5, MS3.3/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.25**	**287**	P	**Pn**	**20 54 08.4**	**-0.6**
MIYJ				*e*S	**Sn**	**20 54 24.8**	**+0.3**
OFUJ	**Ofunato**	**1.32**	**265**	P	**Pn**	**20 54 09.3**	**-0.7**
OFUJ				*e*S	**Sn**	**20 54 25.8**	**-0.6**
JTH	**Tanohata**	**1.36**	**302**	P	**Pn**	**20 54 10.1**	**-0.5**
JOM	**Ohasama**	**1.62**	**280**	P	**Pn**	**20 54 14.2**	**+0.1**
JOM				S	**Sn**	**20 54 34.8**	**+1.0**
JMK	**Ichinoseki**	**1.69**	**262**	P	**Pn**	**20 54 14.7**	**-0.3**
JMK				*e*S	**Sn**	**20 54 35.8**	**+0.4**
JIO	**Ouri**	**1.75**	**245**	P	**Pn**	**20 54 14.7**	**-1.1**
JIO				*e*S	**Sn**	**20 54 35.4**	**-1.4**
JANG	**Nango**	**1.83**	**310**	P	**Pn**	**20 54 16.5**	**-0.5**
JOU	**Okura**	**2.27**	**249**	P	**Pn**	**20 54 22.8**	**-0.2**
JOU				*e*S	**Sn**	**20 54 49.6**	**-0.2**
JAH	**Hinai**	**2.32**	**296**	P	**Pn**	**20 54 24.1**	**+0.5**
JYK	**Kaneyama**	**2.36**	**264**	P	**Pn**	**20 54 24.6**	**+0.4**
JTM	**Tenmabayashi**	**2.36**	**312**	P	**Pn**	**20 54 24.4**	**+0.2**
JMM	**Marumori**	**2.42**	**237**	P	**Pn**	**20 54 24.3**	**-0.8**
JMM				*e*S	**Sn**	**20 54 53.3**	**-0.2**
MJAR	**Matsushiro Arr**	**4.87**	**238**	Pn	**Pn**	**20 55 00.3**	**+1.6**
	1.1nm,0.3s,baz=47,slow=12,SNR=28						
MJAR				Sn	**Sn**	**20 55 60.0**	**+6.0**
	baz=260,slow=12,SNR=2.1						
MJAR	**Matsushiro Arr**	**4.87**	**238**	Pn	**Pn**	**20 55 00.3**	**+1.6**
MJAR				Sn	**Sn**	**20 55 60.0**	**+6.0**
MAJO	**Matsushiro**	**4.87**	**238**	*e*P	**Pn**	**20 55 00.3**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,28nm,0.6s						
MAJO	**Matsushiro**	**4.87**	**238**	*e*Pn	**Pn**	**20 55 00.3**	**+1.5**
	comp=Z,28nm,0.6s						
MAJO				Sn	**Sn**	**20 55 49.2**	**-4.7**
MAT	**Matsushiro**	**4.87**	**238**	P	**Pn**	**20 55 00.3**	**+1.5**
MAT				*e*S	**Sn**	**20 56 02.5**	**+8.6**
YAK	**Yakutsk**	**24.33**	**344**	P	**P**	**20 59 01.8**	**-0.6**
ULN	**Ulaanbaatar**	**27.49**	**300**	*e*P	**P**	**20 59 32.2**	**+1.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**27.49**	**300**	*e*P	**P**	**20 59 32.2**	**+1.2**
	comp=Z,0.8nm,0.4s,mb3.6						
SONM	**Songino Array**	**27.93**	**300**	P	**P**	**20 59 36.4**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.5,baz=89,slow=9.0,SNR=8.3						
SONM				LR	LR	21 11 16.0	
	comp=Z,66nm,18.1s,MS3.3,baz=193,slow=38						
LSA	**Lhasa**	**43.57**	**274**	P	**P**	**21 01 48.1**	**-0.4**
MKAR	**Makanchi Array**	**44.30**	**301**	P	**P**	**21 01 54.8**	**+0.4**
	comp=Z,0.3nm,0.2s,mb3.6,baz=67,slow=9.3,SNR=4.3						
CHKZ	**Chkalovo**	**49.97**	**312**	*e*P	**P**	**21 02 37.6**	**-1.0**
BRVK	**Borovoye**	**50.32**	**311**	*e*P	**P**	**21 02 40.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**50.32**	**311**	*e*P	**P**	**21 02 40.0**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.1						
AKTK	**Aktyubinsk**	**58.37**	**312**	P	**P**	**21 03 39.8**	**0.0**
AKTO	**Aktyubinsk**	**58.37**	**312**	P	**P**	**21 03 39.8**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.9,baz=75,slow=12,SNR=3.7						

ISCJB ***10*** *21:04:11.8±0.3, 42.81N±0.02×1.64E±0.02, h10km±3km, Error ellipse: s-maj=2.8km s-min=2.5km az=164.7*
STR ***10*** *21:04:12.3±0.4, 42.72N×1.65E, h10km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD ***10*** *21:04:13.3±0.2, 42.77N×1.65E, h7km±4km, mbLg1.4/10, Error ellipse: s-maj=2.1km s-min=1.7km az=6.0, PRXIMO*
LDG ***10*** *21:04:13.1±0.1, 42.77N×1.65E, h5km, Md1.8/3, Ml1.9/9, Error ellipse: s-maj=1.0km s-min=0.9km az=138.0*
ISC 10 21:04:12.4±0.3, 4279N±002×165E±002, h13km±3km, n51, σ0s58/85, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRBF	**Gourbit**	**0.10**	**302**	P	**Pg**	**21 04 15.7**	**+0.4**
GRBF				S	**Sg**	**21 04 17.8**	**+0.3**
LPEF	**Le Peyrat**	**0.25**	**50**	P	**Pg**	**21 04 18.5**	**+0.8**
LPEF				S	**Sg**	**21 04 22.6**	**+1.4**
PAND	**Andorre**	**0.28**	**196**	P	**Pg**	**21 04 18.1**	**-0.1**
PAND				S	**Sg**	**21 04 21.4**	**-0.6**
SALF	**Salau**	**0.34**	**265**	Pg	**Pg**	**21 04 19.4**	**+0.1**
SALF	**Salau**	**0.34**	**265**	P	**Pg**	**21 04 19.5**	**+0.1**
SALF				S	**Sg**	**21 04 24.1**	**+0.1**
CARF	**Carcanieres**	**0.34**	**102**	Pg	**Pg**	**21 04 19.4**	**0.0**
CARF				Sg	**Sg**	**21 04 24.0**	**0.0**
CARF	**Carcanieres**	**0.34**	**102**	P	**Pg**	**21 04 19.4**	**+0.1**
CARF				S	**Sg**	**21 04 23.6**	**-0.5**
CLLI	**Llivia**	**0.39**	**142**	P	**Pg**	**21 04 20.0**	**-0.2**
CLLI				S	**Sg**	**21 04 25.0**	**-0.5**
MLS	**Moulis**	**0.44**	**293**	Pg	**Pg**	**21 04 21.6**	**+0.4**
MLS				Sg	**Sg**	**21 04 27.8**	**+0.7**
MLS	**Moulis**	**0.44**	**293**	P	**Pg**	**21 04 21.6**	**+0.4**
MLS				S	**Sg**	**21 04 27.6**	**+0.5**
VALF	**Valcebollere**	**0.47**	**145**	P	**Pg**	**21 04 21.4**	**-0.3**
VALF				S	**Sg**	**21 04 27.4**	**-0.6**
CSOR	**Sort**	**0.56**	**223**	P	**Pg**	**21 04 23.6**	**+0.2**
CSOR				S	**Sg**	**21 04 30.9**	**0.0**
	2.2nm,0.1s						
CORG	**Organya**	**0.61**	**204**	P	**Pg**	**21 04 24.6**	**+0.3**
MELF	**Melles**	**0.66**	**278**	Pg	**Pg**	**21 04 25.4**	**+0.1**
MELF				Sg	**Sg**	**21 04 35.2**	**+1.2**
MELF	**Melles**	**0.66**	**278**	P	**Pg**	**21 04 25.5**	**+0.1**
MELF				S	**Sg**	**21 04 34.8**	**+0.8**
LRDF	**Laroque-de-Fa**	**0.67**	**77**	Pg	**Pg**	**21 04 26.6**	**+1.1**
LRDF	**Laroque-de-Fa**	**0.67**	**77**	P	**Pg**	**21 04 26.1**	**+0.6**
LRDF				S	**Sg**	**21 04 34.7**	**+0.4**
MTLF	**Montolieu**	**0.69**	**37**	*e*Pg	**Pg**	**21 04 26.6**	**+0.7**
MTLF	**Montolieu**	**0.69**	**37**	*e*Pn	**Pn**	**21 04 28.4**	**+0.5**
MTLF				*e*Sg	**Sg**	**21 04 36.0**	**+1.0**
	1.4nm,0.2s						
MTLF				*e*Sn	**Sg**	**21 04 39.5**	**+4.5**
	3.4nm,0.2s						
MTLF	**Montolieu**	**0.69**	**37**	Pg	**Pg**	**21 04 26.6**	**+0.7**
MTLF				Lg		21 04 36.0	
	0.7nm,0.2s						
EJON	**La Jonquera**	**0.97**	**110**	Pg	**Pg**	**21 04 31.7**	**+0.4**
	0.5nm,0.1s,SNR=7.9						
EJON				Lg		21 04 44.2	
	1.1nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.99**	**285**	*e*Pg	**Pg**	**21 04 31.7**	**+0.1**
EPF				*e*Sg	**Sg**	**21 04 44.8**	**+0.2**
	2.3nm,0.2s						
EPF	**Esparros**	**0.99**	**285**	Pg	**Pg**	**21 04 31.7**	**+0.1**
EPF				Lg		21 04 44.8	
	1.1nm,0.2s						
EBIE	**Bielsa**	**1.12**	**265**	Pg	**Pg**	**21 04 34.4**	**+0.5**
	0.6nm,0.6s,SNR=7.6						
EBIE				Lg		21 04 48.6	
	1.2nm,0.2s,SNR=11						
CAVN	**Les Avellanes**	**1.12**	**217**	P	**Pb**	**21 04 34.1**	**+0.4**
CFON	**Fontmartina**	**1.18**	**150**	P	**Pn**	**21 04 34.8**	**+0.2**
CFON				S	**Sb**	**21 04 50.4**	**+0.6**
	7.6nm,0.2s						
EPOB	**Poblet**	**1.50**	**197**	Pg	**Pg**	**21 04 40.5**	**-0.7**
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		21 04 60.0	
	2.0nm,0.1s,SNR=12						
ETSF	**Etsaut**	**1.63**	**275**	*e*Pn	**Pn**	**21 04 41.1**	**+0.3**
ETSF	**Etsaut**	**1.63**	**275**	*e*Pg	**Pg**	**21 04 43.3**	**-0.4**
ETSF				*e*Sn	**Sn**	**21 05 01.4**	**-0.3**
ETSF				*e*Sg	**Sg**	**21 05 04.2**	**-0.7**
	2.1nm,0.2s						
ETSF	**Etsaut**	**1.63**	**275**	Pn	**Pn**	**21 04 41.1**	**+0.3**
ETSF				Pg	**Pg**	**21 04 43.3**	**-0.4**
ETSF				Sn	**Sn**	**21 05 01.4**	**-0.3**
ETSF				Lg		21 05 04.2	
	1.1nm,0.2s						
ESAC	**San Caprasio**	**1.90**	**237**	Pg	**Pg**	**21 04 48.9**	**0.0**
	1.0nm,0.1s,SNR=4.0						
ESAC				Lg		21 05 14.5	
	4.8nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**2.06**	**51**	*e*Pn	**Pn**	**21 04 46.8**	**+0.1**
LASF	**Ste Croix**	**2.06**	**51**	*e*Pg	**Pg**	**21 04 51.2**	**-0.7**
LASF				*e*Sg	**Sg**	**21 05 18.5**	**-0.1**
	1.2nm,0.3s						
LASF	**Ste Croix**	**2.06**	**51**	Pn	**Pn**	**21 04 46.8**	**+0.1**
LASF				Pg	**Pg**	**21 04 51.2**	**-0.7**
LASF				Lg		21 05 18.5	
	0.6nm,0.3s						
ERTA	**Horta de San J**	**2.08**	**209**	Pg	**Pg**	**21 04 52.5**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
ERTA				Lg		21 05 18.4	
	1.6nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**2.14**	**280**	*e*Pn	**Pn**	**21 04 47.7**	**-0.1**
SJPF	**Ste Jean**	**2.14**	**280**	*e*Pg	**Pg**	**21 04 52.7**	**-0.7**
SJPF				*e*Sg	**Sg**	**21 05 20.2**	**-0.9**
	1.4nm,0.3s						
SJPF	**Ste Jean**	**2.14**	**280**	Pn	**Pn**	**21 04 47.7**	**-0.1**
SJPF				Pg	**Pg**	**21 04 52.7**	**-0.7**
SJPF				Lg		21 05 20.2	
	0.7nm,0.3s						
CAF	**Calviac**	**2.16**	**8**	*e*Pn	**Pn**	**21 04 48.6**	**+0.5**
CAF				*e*Sg	**Sg**	**21 05 21.9**	**+0.1**
	1.2nm,0.2s						
CAF	**Calviac**	**2.16**	**8**	Pn	**Pn**	**21 04 48.6**	**+0.5**
CAF				Lg		21 05 21.9	
	0.6nm,0.2s						
LFF	**La Frestale**	**2.25**	**343**	*e*Pn	**Pn**	**21 04 49.8**	**+0.4**
LFF	**La Frestale**	**2.25**	**343**	*e*Pg	**Pg**	**21 04 55.4**	**-0.2**
LFF				*e*Sg	**Sg**	**21 05 24.7**	**0.0**
	2.0nm,0.3s						
LFF	**La Frestale**	**2.25**	**343**	Pn	**Pn**	**21 04 49.8**	**+0.4**
LFF				Pg	**Pg**	**21 04 55.4**	**-0.2**
LFF				Lg		21 05 24.7	
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**358**	*e*Pn	**Pn**	**21 04 53.5**	**+0.5**
RJF	**Les Rejaudoux**	**2.52**	**358**	*e*Pg	**Pg**	**21 05 00.0**	**-0.7**
RJF				*e*Sg	**Sg**	**21 05 33.3**	**0.0**
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**358**	Pn	**Pn**	**21 04 53.5**	**+0.5**
RJF				Pg	**Pg**	**21 05 00.0**	**-0.7**
RJF				Lg		21 05 33.3	
	0.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.01**	**46**	*e*Pg	**Pg**	**21 05 09.0**	**-1.1**
VIVF				*e*Sg	**Sg**	**21 05 48.0**	**-1.1**
	0.5nm,0.3s						
VIVF	**Saint-Julien-l**	**3.01**	**46**	Pg	**Pg**	**21 05 09.0**	**-1.1**
VIVF				Lg		21 05 48.0	
	0.2nm,0.3s						
TCF	**Toulx Ste Croi**	**3.52**	**6**	*e*Pn	**Pn**	**21 05 07.0**	**+0.1**
TCF	**Toulx Ste Croi**	**3.52**	**6**	*e*Pg	**Pg**	**21 05 18.4**	**-1.5**
TCF				*e*Sg	**Sg**	**21 06 04.2**	**-1.4**
TCF	**Toulx Ste Croi**	**3.52**	**6**	Pn	**Pn**	**21 05 07.0**	**+0.1**
TCF				Pg	**Pg**	**21 05 18.4**	**-1.5**
TCF				Lg		21 06 04.2	

NEIC ***10*** *21:25:54.9, 40.34N×19.26E, h6km, MD3.4(ATH), After ATH.*
TIR ***10*** *21:25:59.4, 40.18N×19.79E, h18km*
THE ***10*** *21:26:00.5, 40.09N×19.62E, h2km, ML3.3*
ISCJB ***10*** *21:26:01.0±0.5, 40.14N±0.02×19.70E±0.04, h5km, Error ellipse: s-maj=4.3km s-min=3.4km az=8.3*
CSEM ***10*** *21:26:01.2±0.1, 40.22N×19.74E, h5km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.6km az=109.0*
ATH ***10*** *21:26:02.0, 39.92N×19.50E, h25km±1km, MD3.4/4*
SKO ***10*** *21:26:02.1, 40.15N×19.67E, h6km*
ISC 10 21:26:01.3±0.6, 4012N±003×1969E±004, h5km, n37, σ1s11/54, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.31**	**54**	*i* Pg	**Pg**	**21 26 04.8**	**-2.5**
TPE				*i* Sg	**Sg**	**21 26 09.9**	**-1.4**
SRN	**Sarande**	**0.34**	**134**	*i* Pg	**Pg**	**21 26 06.9**	**-0.9**
SRN				*i* Sg	**Sg**	**21 26 13.2**	**+1.0**
VLO	**Vlora**	**0.38**	**338**	*i* Pg	**Pg**	**21 26 07.3**	**-1.4**
VLO				*i* Sg	**Sg**	**21 26 15.9**	**+2.2**
KEK	**Kerkira**	**0.41**	**168**	*e*PB	**Pg**	**21 26 09.2**	**0.0**
KEK	**Kerkira**	**0.41**	**168**	*e*Pg	**Pg**	**21 26 08.7**	**-0.5**
KEK				*e*Sb	**Sg**	**21 26 19.1**	**+4.5**
LSK	**Leskovik**	**0.70**	**87**	*i* Pg	**Pg**	**21 26 12.3**	**-2.5**
LSK				*i* Sg	**Sg**	**21 26 23.2**	**-0.7**
LSK	**Leskovik**	**0.70**	**87**	*e*Pg	**Pg**	**21 26 12.3**	**-2.5**
IGT	**Igoumenitsa**	**0.77**	**139**	*e*Pg	**Pg**	**21 26 14.8**	**-1.2**
KBN	**Korca**	**0.98**	**58**	*i* pg?	**Pg**	**21 26 19.5**	**-0.7**
KBN				*i* Sg	**Sg**	**21 26 38.5**	**+5.6**
JAN	**Janina**	**1.01**	**117**	*e*PN	**Pn**	**21 26 22.1**	**0.0**
JAN				*e*SN	**Sn**	**21 26 37.4**	**+0.8**
JAN	**Janina**	**1.01**	**117**	*e*Pb	**Pb**	**21 26 21.7**	**+0.5**
MEV	**Metsovon**	**1.23**	**105**	*e*Pg	**Pg**	**21 26 25.0**	**+0.1**
TIR	**Tirane**	**1.24**	**6**	*e*Pg	**Pg**	**21 26 25.0**	**-0.1**
OHR	**Ohrid**	**1.31**	**40**	*e*Pg	**Pg**	**21 26 25.7**	**-0.7**
OHR				*e*Sg	**Sg**	**21 26 45.5**	**+2.1**
OHR	**Ohrid**	**1.31**	**40**	*e*Pg	**Pg**	**21 26 24.8**	**-1.6**
OHR				*e*Sg	**Sg**	**21 26 42.5**	**-0.8**
OHR	**Ohrid**	**1.31**	**40**	*e*Pg	**Pg**	**21 26 24.8**	**-1.6**
OHR				*e*Sg	**Sg**	**21 26 42.5**	**-0.8**
OHR				S	**Sg**	**21 26 45.5**	**+2.2**
FNA	**Florina**	**1.45**	**62**	*e*Pg	**Pg**	**21 26 26.8**	**-2.4**
FNA				*e*Sg	**Sg**	**21 26 48.9**	**+0.8**
FNA	**Florina**	**1.45**	**62**	*e*Pg	**Pg**	**21 26 26.8**	**-2.4**
FNA				S	**Sb**	**21 26 48.8**	**+1.2**
BIA	**Bitola**	**1.54**	**54**	*e*Pg	**Pn**	**21 26 28.2**	**-1.2**
BIA				*e*Sg	**Sg**	**21 26 51.1**	**+0.3**
BIA	**Bitola**	**1.54**	**54**	*e*Pn	**Pn**	**21 26 29.0**	**-0.4**
BIA				*e*Sg	**Sg**	**21 26 51.3**	**+0.5**
LKD	**Levkas**	**1.59**	**152**	*e*Pg	**Pg**	**21 26 32.1**	**+0.3**
KZN	**Kozani**	**1.61**	**82**	*e*PN	**Pg**	**21 26 33.7**	**+1.6**
KZN				*e*SN	**Sg**	**21 26 56.2**	**+3.2**
KZN	**Kozani**	**1.61**	**82**	*e*Pn	**Pn**	**21 26 29.9**	**-0.5**
KZN				*e*Sn	**Sg**	**21 26 56.2**	**+3.2**
EVR	**Evrytania**	**2.03**	**125**	*e*PB	**Pn**	**21 26 37.1**	**+0.9**
EVR	**Evrytania**	**2.03**	**125**	*e*Pn	**Pb**	**21 26 38.3**	**-0.4**
LIT	**Litokhoron**	**2.15**	**89**	*e*Pn	**Pn**	**21 26 38.4**	**+0.6**
GRG	**Griva**	**2.23**	**67**	*e*Pn	**Pn**	**21 26 38.7**	**-0.2**
SKO	**Skopje**	**2.28**	**35**	*e*Pn	**Pn**	**21 26 40.3**	**+0.7**
SKO	**Skopje**	**2.28**	**35**	*e*Pn	**Pn**	**21 26 40.2**	**+0.6**
SG1	**Sgolgore (BA)**	**2.41**	**288**	*e*Pn	**Pb**	**21 26 45.4**	**+0.3**
STIP	**Stip**	**2.47**	**49**	*e*Pn	**Pn**	**21 26 43.4**	**+1.3**
VAY	**Valandovo**	**2.50**	**60**	*e*Pn	**Pn**	**21 26 43.0**	**+0.3**
VAY	**Valandovo**	**2.50**	**60**	*e*Pn	**Pn**	**21 26 42.9**	**+0.3**
KNT	**Kendrikon**	**2.66**	**66**	*e*Pn	**Pn**	**21 26 45.1**	**+0.3**
SOH	**Sokhos**	**2.89**	**75**	*e*Pn	**Pn**	**21 26 48.3**	**+0.4**
PLG	**Polygyros**	**2.89**	**84**	*e*PN	**Pn**	**21 26 51.5**	**+3.5**
MMB	**Musomiste**	**3.40**	**63**	*e*Pn	**Pn**	**21 26 55.0**	**-0.1**

IDC ***10*** *21:26:57.6±10.0, 56.63N×148.37W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=261.4km s-min=41.2km az=169.0*
NEIC ***10*** *21:26:59.4±0.9, 56.55N×147.91W, h10km, ML3.8(AEIC), Error ellipse: s-maj=13.2km s-min=7.6km az=171.0*
NEIC Felt at Chugiak.
ISCJB ***10*** *21:27:02.4±1.0, 56.76N±0.06×148.05W±0.08, h43km±11km, mb3.7/4, Error ellipse: s-maj=10.4km s-min=7.5km az=151.1*
ISC 10 21:27:04.4±0.9, 5676N±006×14807W±009, h46km±10km, n22, σ0s63/27, mb3.7/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.66**	**295**	P	**Pn**	**21 27 44.8**	**+0.2**
KDAK				S	**Sn**	**21 28 15.0**	**-0.6**
MID	**Middleton Isla**	**2.83**	**18**	P	**Pn**	**21 27 46.4**	**-0.6**
SEW	**Seward**	**3.43**	**348**	P	**Pn**	**21 27 54.9**	**-0.4**
SEW				S	**Sn**	**21 28 34.5**	**-0.1**
SLKM	**Skilak Lake**	**3.92**	**344**	*e*Pn	**Pn**	**21 28 02.2**	**+0.2**
SLKM				*e*Sn	**Sn**	**21 28 47.2**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.99**	**17**	P	**Pn**	**21 28 03.0**	**+0.1**
EYAK				S	**Sn**	**21 28 47.0**	**-1.4**
RC01	**Rabbit Creek A**	**4.42**	**349**	P	**Pn**	**21 28 09.6**	**+0.7**
RC01				S	**Sn**	**21 28 59.1**	**-0.1**
BMRM	**Bremner River**	**4.58**	**22**	P	**Pn**	**21 28 11.5**	**+0.4**
PMR	**Palmer**	**4.88**	**354**	*e*P	**Pn**	**21 28 16.3**	**+1.2**
PNL	**Peninsula**	**5.43**	**54**	P	**Pn**	**21 28 22.2**	**-0.5**
CHGN	**Chignik**	**5.74**	**270**	P	**Pn**	**21 28 27.1**	**+0.1**
SVW2	**Sparrevohn**	**5.83**	**321**	P	**Pn**	**21 28 27.9**	**-0.3**
MENT	**Mentasta**	**6.57**	**18**	*e*P	**Pn**	**21 28 39.9**	**+1.5**
SIT	**Sitka**	**6.99**	**82**	P	**Pn**	**21 28 38.4**	**-5.7**
SDPT	**Sand Point**	**7.09**	**264**	P	**Pn**	**21 28 45.4**	**-0.1**
SKAG	**Skagway**	**7.27**	**63**	P	**Pn**	**21 28 47.0**	**-1.0**
WHY	**Whitehorse**	**7.90**	**55**	P	**Pn**	**21 28 56.5**	**0.0**
CRAG	**Craig**	**8.46**	**93**	P	**Pn**	**21 28 58.4**	**-5.8**
YKA	**Yellowknife Ar**	**17.71**	**57**	P	**Pn**	**21 31 08.3**	**+0.8**
	baz=263,slow=13,SNR=5.7						
YKA				LR	LR	21 38 35.3	
	comp=Z,60nm,18.5s,baz=235,slow=39						
SONM	**Songino Array**	**58.84**	**311**	P	**P**	**21 36 57.4**	**-0.8**
	0.2nm,0.4s,mb3.5,baz=69,slow=24,SNR=2.9						
NOA	**NORSAR Array B**	**61.41**	**11**	P	**P**	**21 37 15.7**	**-0.1**
	0.8nm,0.6s,mb4.0,baz=349,slow=6.7,SNR=2.6						
FINES	**FINESS Array B**	**62.04**	**3**	P	**P**	**21 37 20.4**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=345,slow=6.7,SNR=9.4						
AKASG	**Malin Array Be**	**72.88**	**2**	P	**P**	**21 38 28.6**	**+0.1**
	0.1nm,0.2s,mb3.3,baz=3.6,slow=6.6,SNR=4.5						

KRSC 10 21:30:26, 5622N×16259E, h31km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.13**	**95**	*e*P	Pb	21 30 32.7	+1.0
KBTR				*i* S	Sb	21 30 36.7	+1.2
SMKR	**Semkarok**	**0.72**	**301**	*i* P	Pn	21 30 40.5	+0.5
SMKR				*i* S	Sb	21 30 50.6	+0.9
BDR	**Baidarnaya**	**0.84**	**295**	*i* P	Pn	21 30 42.7	+1.0
BDR				*i* S	Sn	21 30 53.7	+0.6
SRKR	**Sorokina**	**0.90**	**299**	*i* P	Pn	21 30 43.5	+1.0
SRKR				*i* S	Sn	21 30 56.0	+1.5
ZLN	**Zelenaya**	**1.02**	**259**	*e*P	Pn	21 30 45.9	+1.7
ZLN				*i* S	Sn	21 31 00.2	+2.8
CIRR	**Tsirk**	**1.04**	**265**	*e*P	Pn	21 30 46.0	+1.6
CIRR				*i* S	Sn	21 30 59.7	+1.9
KLY	**Klyuchi**	**1.08**	**276**	*i* P	Pn	21 30 44.6	-0.4
KLY				*i* S	Sn	21 30 57.5	-1.5
KRSR	**Krestovskiy**	**1.13**	**271**	*e*P	Pn	21 30 46.9	+1.2
KRSR				*i* S	Sn	21 31 01.5	+1.4
KPT	**Kopyto**	**1.35**	**260**	*e*P	Pn	21 30 50.8	+2.1
KPT				*i* S	Sn	21 31 08.3	+2.7
KMNR	**Kamenistaya**	**1.40**	**252**	*e*P	Pn	21 30 51.7	+2.3
KMNR				*i* S	Sn	21 31 09.5	+2.7
KOZ	**Kozyrevsk**	**1.53**	**265**	*e*P	Pn	21 30 53.8	+2.6
KOZ				*i* S	Sn	21 31 13.7	+3.7
SRDR	**Sredinnyy**	**1.61**	**275**	*e*P	Pn	21 30 54.7	+2.5
SRDR				*i* S	Sn	21 31 14.9	+3.0
TUMR	**Tumrok**	**1.67**	**237**	*e*P	Pn	21 30 56.0	+2.9
TUMR				*i* S	Sn	21 31 17.9	+4.4
MKZ	**Mys Kozlova**	**1.74**	**197**	*e*P	Pn	21 30 56.0	+2.0
MKZ				*i* S	Sn	21 31 16.8	+1.7
SPN	**Mys Shipunski**	**3.47**	**207**	*e*P	Pn	21 31 19.5	+1.7
SPN				*i* S	Sn	21 31 59.6	+1.8
NLC	**Nalytchevo**	**3.59**	**213**	*e*P	Pn	21 31 22.1	+2.6
NLC				*i* S	Sn	21 32 03.2	+2.4
GNL	**Ganaly**	**3.69**	**229**	*e*P	Pn	21 31 23.8	+3.0
AVH	**Avacha**	**3.71**	**219**	*e*P	Pn	21 31 24.8	+3.7
PET	**Petropavlovsk**	**3.94**	**217**	P	Pn	21 31 27.1	+2.9
PET				*i* S	Sn	21 32 12.9	+3.5
RUS	**Russkaya**	**4.48**	**214**	*e*P	Pn	21 31 34.5	+2.7
RUS				*i* S	Sn	21 32 24.6	+1.8

NIED ***10*** *21:36:00, 37.80N×142.30E, h23km, Mw3.4 Best double couple: Mo1.32000×10¹⁴ NP1:φs9.00000°, δ60.00000°, λ81.00000°. NP2:φs206.00000°, δ31.00000°, λ105.00000°.*
JMA 10 21:36:32.4±0.2, 3785N×14235E, h37km±2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.99**	**308**	P	Pn	21 36 50.3	+0.5
JIO				S	Sn	21 37 02.9	+0.3
JMM	**Marumori**	**1.23**	**271**	P	Pn	21 36 53.6	+0.5
JMM				*e*S	Sn	21 37 08.8	+0.3
JFK	**Kawauchi**	**1.27**	**248**	P	Pn	21 36 53.9	+0.3
JFK				S	Sn	21 37 09.5	+0.1
JMK	**Ichinoseki**	**1.41**	**321**	P	Pn	21 36 56.5	+0.9
JMK				S	Sn	21 37 14.3	+1.3
JOU	**Okura**	**1.43**	**292**	P	Pn	21 36 57.1	+1.3
JFT	**Otama**	**1.63**	**259**	P	Pn	21 37 00.2	+1.6
JFT				S	Sn	21 37 20.3	+1.9
JOM	**Ohasama**	**1.82**	**333**	P	Pn	21 37 02.6	+1.4
JOM				S	Sn	21 37 25.0	+2.0
JYS	**Shirataka**	**1.84**	**282**	P	Pn	21 37 03.3	+1.8
JYK	**Kaneyama**	**1.89**	**305**	P	Pn	21 37 03.6	+1.4
JYA	**Atsumi**	**2.21**	**290**	P	Pn	21 37 08.9	+2.4
MAT	**Matsushiro**	**3.56**	**250**	P	Pn	21 37 28.8	+3.7
MAT				*e*S	Sn	21 38 11.9	+6.1

NIED ***10*** *21:41:00, 39.20N×143.40E, h14km, Mw3.8 Best double couple: Mo5.48000×10¹⁴ NP1:φs31.00000°, δ61.00000°, λ103.00000°. NP2:φs185.00000°, δ31.00000°, λ68.00000°.*
ISCJB ***10*** *21:41:14.0±1.3, 39.24N±0.05×143.51E±0.10, h44km±11km, mb4.4/2, Error ellipse: s-maj=13.8km s-min=6.1km az=46.5*
JMA ***10*** *21:41:14.4±0.2, 39.19N×143.44E, h35km, M3.7*
NEIC ***10*** *21:41:23.4±5.2, 39.12N×142.87E, h92km±32km, mb4.4/2, Error ellipse: s-maj=58.8km s-min=20.7km az=79.0*
ISC 10 21:41:15.5±1.2, 3925N±005×14346E±010, h40km±11km, n19, σ1s01/27, mb4.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.31**	**285**	P	**Pn**	**21 41 37.0**	**-0.4**
MIYJ				S	**Sn**	**21 41 53.6**	**-0.1**
OFUJ	**Ofunato**	**1.41**	**264**	P	**Pn**	**21 41 38.1**	**-0.5**
OFUJ				*e*S	**Sn**	**21 41 54.7**	**-1.2**
JTH	**Tanohata**	**1.41**	**299**	P	**Pn**	**21 41 38.7**	**0.0**
JOM	**Ohasama**	**1.70**	**278**	P	**Pn**	**21 41 42.9**	**+0.3**
JOM				*e*S	**Sn**	**21 42 04.8**	**+1.7**
JMK	**Ichinoseki**	**1.77**	**261**	P	**Pn**	**21 41 43.5**	**-0.2**
JIO	**Ouri**	**1.83**	**245**	P	**Pn**	**21 41 43.4**	**-1.1**
JIO				*e*S	**Sn**	**21 42 05.5**	**-1.0**
JANG	**Nango**	**1.87**	**307**	P	**Pn**	**21 41 44.7**	**-0.3**
JANG				*e*S	**Sn**	**21 42 07.1**	**-0.3**
JYK	**Kaneyama**	**2.44**	**263**	P	**Pn**	**21 41 53.4**	**+0.6**
JMM	**Marumori**	**2.51**	**237**	P	**Pn**	**21 41 52.8**	**-1.0**
JMM				S	**Sn**	**21 42 22.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.07**	**350**	*e*S	**Sn**	**21 42 38.7**	**+1.7**
JCH	**Churui**	**3.36**	**359**	P	**Pn**	**21 42 05.3**	**-0.2**
JCH				S	**Sn**	**21 42 42.9**	**-1.2**
MAJO	**Matsushiro**	**4.96**	**239**	*e*Pn	**Pn**	**21 42 29.3**	**+1.8**
MAT	**Matsushiro**	**4.96**	**239**	P	**Pn**	**21 42 29.0**	**+1.5**
MAT				*e*S	**Sn**	**21 43 25.8**	**+2.2**
TATO	**Taipei**	**23.35**	**239**	*e*P	**P**	**21 46 19.9**	**-0.6**
	15nm,0.4s,mb4.8						
NACB	**Ninganchiao**	**23.83**	**237**	P	**P**	**21 46 23.5**	**-1.3**
ULN	**Ulaanbaatar**	**27.54**	**300**	*e*P	**P**	**21 46 57.5**	**-0.9**
CHKZ	**Chkalovo**	**50.00**	**312**	*e*P	**P**	**21 50 07.3**	**+1.5**
	0.8nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.13**	**312**	P	**P**	**21 50 14.3**	**0.0**
WRAB	**Tennant Creek**	**59.49**	**190**	*e*P	**P**	**21 51 15.1**	**+0.6**

IDC ***10*** *21:42:30.1±1.1, 29.05N×94.50E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.7/23, mbtmp3.7/9, Error ellipse: s-maj=43.5km s-min=24.4km az=58.0*
BJI ***10*** *21:42:35.8, 28.92N×94.48E, h45km, mB4.0, mb3.7, ML3.2*
NEIC ***10*** *21:42:37.2±1.7, 29.17N×94.53E, h52km±14km, mb3.6/3, Error ellipse: s-maj=15.1km s-min=12.8km az=168.0*
ISCJB ***10*** *21:42:38.7±2.1, 29.4N±0.1×94.5E±0.1, h69km±17km, mb3.7/10, Error ellipse: s-maj=21.1km s-min=17.4km az=132.1*
ISC 10 21:42:37.9±2.3, 293N±01×946E±01, h54km±18km, n20, σ0s84/24, mb3.8/10, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.02**	**279**	P	**Pn**	**21 43 22.9**	**-0.3**
LSA				S	**Sn**	**21 44 00.0**	**+1.9**
LSA				Smax			
	comp=N,30nm,0.9s						
LSA				Smax			
	comp=E,50nm,0.7s						
LSA	**Lhasa**	**3.02**	**279**	*e*Pn	**Pn**	**21 43 22.9**	**-0.2**
LSA				*e*Sn	**Sn**	**21 43 57.9**	**-0.2**
SHL	**Shillong**	**4.39**	**214**	*e*PN	**Pn**	**21 43 36.5**	**-5.4**
SHL				*e*PG	**Pn**	**21 43 48.0**	**+6.1**
SHL				*e*SN	**Sn**	**21 44 41.0**	**+9.2**
MKAR	**Makanchi Array**	**19.96**	**335**	P	**Pn**	**21 47 05.5**	**-2.1**
	comp=E,0.9nm,0.6s,baz=146,slow=12,SNR=7.7						

SONM	Songino Array	20.68	23	P	P	21 47 13.9	+0.6
	comp=E,0.7nm,0.8s,baz=206,slow=11,SNR=5.0						
ULN	Ulaanbaatar	20.93	24	eP	P	21 47 16.8	+0.9
	comp=E,3.4nm,0.9s						
AAK	Ala-Archa	20.97	315	P	P	21 47 15.5	-0.8
BVAR	Borovoye Array	29.66	330	P	P	21 48 39.9	+1.7
	comp=E,0.7nm,0.6s,mb3.6,baz=234,slow=38,SNR=3.6						
BRVK	Borovoye	29.72	330	P	P	21 48 38.3	-0.6
CHKZ	Chkalovo	30.01	331	eP	P	21 48 41.5	+0.1
	comp=E,0.7nm,0.6s,mb3.6						
ZRNK	Zerenda	30.22	329	eP	P	21 48 42.9	-0.3
	comp=E,0.6nm,0.6s,mb3.5						
KIV	Kislovodsk	43.46	304	P	P	21 50 35.1	-0.4
OBN	Obninsk	48.40	319	eP	P	21 51 14.4	0.0
	comp=E,11nm,0.5s,mb5.1						
BR131	Keskin Array S	50.44	299	P	P	21 51 29.7	-0.3
FINES	FINESS Array B	54.52	327	P	P	21 51 59.3	-0.9
	comp=E,0.7nm,0.5s,mb4.0,baz=97,slow=7.1,SNR=7.8						
NOA	NORSAR Array B	61.71	327	P	P	21 52 50.6	+0.2
	comp=E,0.3nm,0.5s,mb3.7,baz=90,slow=4.5,SNR=2.9						
GERES	GERESS Array B	62.83	313	P	P	21 52 58.7	+0.8
	comp=E,0.5nm,0.7s,mb3.8,baz=81,slow=6.1,SNR=4.8						
ASAR	Alice Springs	64.81	140	P	P	21 53 10.3	-0.6
	comp=E,0.3nm,0.5s,mb3.6,baz=323,slow=6.3,SNR=5.4						
ESDC	Sonseca Array	77.93	309	P	P	21 54 30.8	+0.8
	comp=E,0.1nm,0.3s,mb3.2,baz=58,slow=7.5,SNR=4.9						
TORD	Torodi Ar. Bea	86.15	283	P	P	21 55 13.4	+0.3
	comp=E,2.1nm,0.9s,mb4.4,baz=64,slow=4.1,SNR=9.8						

CASC 10 23:06:47.7±2.4, 1303N×8922W, h34km±999km, MD3.7, ML3.4, 4C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LFRS	El Faro	0.61	14	eP	x	23 07 19.5	
SNET	Serv Nac Est T	0.65	359	⇑eP	x	23 07 00.0	
SNET				eS	x	23 07 10.0	
LCBS	La Ceiba	0.66	20	⇓iP	x	23 07 20.0	
LCBS				eS	x	23 07 29.6	
SNVI	San Vicente	0.69	32	⇓eP	x	23 07 20.5	
SNVI				eS	x	23 07 31.7	
BOQS	Boqueron	0.70	355	⇑eP	x	23 07 20.8	
BOQS				eS	x	23 07 31.7	
SBLS	San Blas	0.90	334	⇓eP	x	23 07 23.4	
SBLS				eS	x	23 07 36.2	
SNJE	San Jose	0.92	336	⇓eP	x	23 07 23.4	
SNJE				eS	x	23 07 35.4	
RTR	El Retiro	0.96	334	⇓eP	x	23 07 24.4	
RTR				eS	x	23 07 38.1	
VSM	San Miguel	1.00	67	⇓eP	x	23 07 25.5	
VSM				eS	x	23 07 40.6	
BLLM	Bellamira	1.04	67	⇓eP	x	23 07 25.9	
BLLM				eS	x	23 07 40.2	
RBDL	Robledal	1.17	337	⇓eP	x	23 07 26.9	
RBDL				eS	x	23 07 41.6	
CNCH	Conchagua	1.37	80	⇑iP	x	23 07 30.4	
CNCH				eS	x	23 07 49.1	
FUG	Fuego 3	2.12	312	eP	Pn	23 07 21.7	+1.1
LEON	Leon	2.35	105	⇑eP	Pn	23 07 23.4	-0.4
TELN	Telica	2.37	100	eP	Pn	23 07 24.4	+0.4
TELN				eS	Sn	23 07 52.5	+0.7
CNGN	Cerro Negro	2.51	102	⇓eP	Pn	23 07 27.6	+1.5
MIRN	Miramar	2.51	103	eP	Pn	23 07 26.2	+0.1
MIRN				eS	Sn	23 07 56.5	+1.0
MOMJ	Momotombo	2.68	103	eP	Pn	23 07 28.8	+0.4
MOMJ				i		23 07 59.3	
	comp=Z,361nm,0.4s						
COPN	Copaltepe	2.70	108	eP	Pn	23 07 29.5	+0.9
COPN				eS	Sn	23 07 59.1	-1.0
COPN				i		23 08 03.2	
	comp=Z,252nm,0.1s						
XAVN	Gruta Xavier	2.96	107	eP	Pn	23 07 32.6	+0.4
MGAN	Managua	3.03	107	eS	Sn	23 08 07.9	-0.3
MGAN				i		23 08 12.1	
	comp=E,153nm,0.2s						
TICN	Ticuantepe	3.08	108	eP	Pn	23 07 35.3	+1.5
TICN				eS	Sn	23 08 09.3	-0.1
SSNN	San Juan del S	3.72	117	⇓eP	Pn	23 07 43.8	+1.1
CONN	Concepcion	3.80	112	eP	Pn	23 07 44.6	+0.8

ISCJB 10 23:21:23.0±0.6, 6782N±003×203E±0.1, h0km, Error ellipse: s-maj=6.2km s-min=4.1km az=167.8
CSEM 10 23:21:22.8±0.1, 6787N×20.17E, h2km, ML2.6, Error ellipse: s-maj=4.0km s-min=3.9km az=62.0, Mining explosion.
UPP 10 23:21:23.4, 6783N×20.19E, h1km, ML2.6, Mining explosion.
HEL 10 23:21:23.9±0.1, 6783N×20.17E, h0km, ML1.7, ML2.6(UPP), Explosion
ISC 10 23:21:23.6±0.6, 6782N±003×203E±01, h0km, n21, σ0s87/33, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.14	8	i P	Pg	23 21 26.2	-0.1
KUA				i S	Sg	23 21 28.1	0.0
NIKU	Nikkaluokta	0.48	277	i P	Pg	23 21 31.8	-1.0
LANU	Lannavaara	0.68	69	i P	Pg	23 21 36.8	+0.1
LANU				i S	Sg	23 21 46.5	+0.9
DUNU	Dundret	0.71	171	i P	Pg	23 21 36.9	-0.3
MASU	Masugnsbyn	0.75	118	i P	Pg	23 21 38.2	+0.2
KIF	Kilpisjarvi	1.21	9	eP	Pg	23 21 46.3	-0.5
KIF				eS	Sg	23 22 02.3	-0.1
KIF	Kilpisjarvi	1.21	9	P	Pg	23 21 46.2	-0.6
KIF				S	Sg	23 22 02.2	-0.2
PAJU	Pajala	1.35	125	eP	Pg	23 21 48.7	-0.8
ERTU	Ertsjaerv	1.47	149	eP	Pn	23 21 51.6	+0.3
SJUU	Sjulsmark	2.38	167	eP	Pn	23 22 04.9	+1.0
SJUU	Sjulsmark	2.38	167	P	Pn	23 22 04.8	+0.9
SGF	Sodankyl	2.42	96	eP	Pn	23 22 05.2	+0.8
SGF				eS	Sn	23 22 35.7	+1.0
SGF	Sodankyl	2.42	96	P	Pn	23 22 05.1	+0.7
SGF				S	Sn	23 22 35.6	+0.9
KEV	Kevo	3.12	48	eP	Pn	23 22 14.4	+0.3
KEV				eS	Sn	23 22 51.8	-0.3
KEV				MSG		23 23 03.9	
	comp=Z,1.8nm,0.3s						
KEV	Kevo	3.12	48	P	Pn	23 22 14.4	+0.3
KEV				S	Sn	23 22 51.7	-0.4
	comp=Z,1.8nm,0.3s						
OUL	Oulu	3.55	138	ePG	Pg	23 22 28.0	-3.6
OUL				eSB	Sb	23 23 11.8	+0.9
KU4	Liikasenvaara	3.92	108	eSG	Sg	23 23 27.7	-1.7
KU4				MSG		23 23 29.7	
	comp=Z,1.6nm,0.4s						
KU4	Liikasenvaara	3.92	108	Sg	Sg	23 23 27.7	-1.7
	comp=Z,1.6nm,0.4s						
MSF	Maaselka	3.95	115	eP	Pn	23 22 26.5	+1.1
MSF				eSG	Sg	23 23 28.3	-2.2
MSF				MSG		23 23 31.0	
	comp=Z,1.2nm,0.2s						
MSF	Maaselka	3.95	115	P	Pn	23 22 26.5	+1.1
MSF				Sg	Sg	23 23 28.3	-2.2
	comp=Z,1.2nm,0.2s						
KJN	Kajaani	4.82	138	eP	Pn	23 22 38.2	+0.8
KJN				eS	Sn	23 23 33.6	-0.4

ISCJB 10 23:41:46.6±0.3, 126N±005×9883E±006, h101km, mb4.3/30, Error ellipse: s-maj=8.7km s-min=6.7km az=156.1
BJI 10 23:41:47.3, 1.19N×98.65E, h110km, mB5.0, mb4.6
IDC 10 23:41:48.6±0.6, 138N×9928E, h108km±4km, mb3.9/17, mb1 3.9/17, mb1mx3.9/22, mbtmp4.2/17, Error ellipse: s-maj=19.1km s-min=8.1km az=68.0
NEIC 10 23:41:48.3±0.3, 128N×9885E, mb4.5/9, Error ellipse: s-maj=10.7km s-min=7.8km az=62.0
ISC 10 23:41:48.8±0.3, 130N±005×9884E±006, h103km, h103km±1.3km:pP-P, n56, σ1s13/56, mb4.3/30, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	1.50	3	P	Pn	23 42 14.8	-0.3
	111nm,0.3s,baz=165,slow=7.9,SNR=401						
PSI				S	Sn	23 42 33.0	-2.2
	27nm,0.3s,baz=154,slow=21,SNR=13						
IPM	Ipoh	3.84	35	P	Pn	23 42 47.5	+1.7
KULM	Kulim	4.36	24	ePn	Pn	23 42 53.0	+0.2
KULM				eSn	Sn	23 43 34.7	-7.9
KGM	Kluang	4.54	81	P	Pn	23 42 55.1	-0.1
KSM	Kuching	11.47	89	Pn	Pn	23 44 24.8	-4.4
COCO	West Island	13.55	188	Pn	Pn	23 44 49.4	-7.2
KKM	Kota Kinabalu	17.97	74	eP	Pn	23 45 52.3	+0.5
PALK	Pallekele	19.03	289	eP	P	23 46 00.3	-2.2
KMI	Kunming	23.98	9	P	P	23 46 54.4	+0.7
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb3.9						
CD2	Chengdu	29.82	9	eP	P	23 47 46.5	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
MBWA	Marble Bar	30.26	139	P	P	23 47 50.3	+0.4
NACB	Ninganchiao	31.66	42	P	P	23 48 02.3	+0.2
NWAO	Narrogin (SRO)	38.22	155	P	P	23 48 57.5	-1.0
	comp=Z,9.6nm,0.7s,mb4.8,baz=326,slow=9.9,SNR=5.2						
NWAO	Narrogin (SRO)	38.22	155	eP	P	23 48 57.4	-1.1
	comp=Z,47nm,1.4s,mb5.1						
WRAB	Tennant Creek	40.71	123	eP	P	23 49 17.5	-1.7
	comp=Z,22nm,0.8s,mb5.0						
HHC	Hu-ho-hao-te	41.02	15	eP	P	23 49 24.5	+2.7
HHC				PP	PP	23 51 03.8	+5.5
HHC				PCP	PcP	23 51 24.1	+4.3
HHC				PCS	PcS	23 55 13.0	+2.1
HHC				S	S	23 55 35.1	+8.7
HHC				SS	SS	23 58 34.0	+1.6
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,75nm,5.5s						
HHC				LR	LR		
	comp=N,139nm,4.7s						
HHC				LR	LR		
	comp=E,115nm,5.1s						
HHC				LR	LR		
	comp=Z,64nm,5.7s						
BJT	Baijiatuau	41.64	20	eP	P	23 49 27.5	+0.7
ASAR	Alice Springs	42.16	128	P	P	23 49 28.9	-2.2
	comp=Z,1.0nm,0.6s,mb3.7,baz=303,slow=7.6,SNR=15						
ASAR				PcP	PcP	23 51 23.1	-0.4
	comp=Z,0.9nm,0.8s,baz=308,slow=1.8,SNR=5.8						
ASAR				ScP	ScP	23 55 02.0	-2.5
	comp=Z,0.7nm,0.7s,baz=305,slow=3.9,SNR=4.9						
ASAR				S	S	23 55 36.2	-6.9
	comp=Z,1.8nm,0.8s,baz=292,slow=14,SNR=11						
WMQ	Urumqi	43.49	348	eP	P	23 49 42.5	+0.7
WMQ				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,136nm,5.4s						
WMQ				LR	LR		
	comp=Z,102nm,19.8s						
SONM	Songino Array	46.82	7	P	P	23 50 08.0	-0.1
	comp=Z,0.7nm,0.4s,mb3.7,baz=191,slow=9.0,SNR=8.4						
SONM				PcP	PcP	23 51 39.0	-0.5
	comp=Z,1.5nm,0.6s,baz=189,slow=3.1,SNR=6.7						
SONM				ScP	ScP	23 55 21.5	-2.2
	comp=Z,1.1nm,0.8s,baz=188,slow=4.2,SNR=7.5						
MKAR	Makanchi Array	47.56	345	P	P	23 50 13.9	+0.1
	comp=Z,2.4nm,0.7s,mb4.1,baz=141,slow=6.2,SNR=19						
MKAR				pP	pP	23 50 38.6	+0.4
	comp=Z,2.1nm,0.6s,baz=157,slow=6.5,SNR=7.5						
MKAR				sP	sP	23 50 50.2	+0.4
	comp=Z,3.3nm,0.8s,baz=148,slow=7.1,SNR=6.7						
MKAR	Makanchi Array	47.56	345	P	P	23 50 13.9	+0.1
MKAR				pP	pP	23 50 38.6	+0.4
MKAR				sP	sP	23 50 50.2	+0.4
MDJ	Mudanjiang	51.00	28	P	P	23 50 41.3	+1.3
MDJ				PCP	PcP	23 51 53.7	-1.0
MDJ				PP	PP	23 52 38.6	+1.2
MDJ				PCS	PcS	23 55 51.1	-1.3
MDJ				S	S	23 57 57.0	+7.8
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,106nm,3.9s						
MDJ				LR	LR		
	comp=N,30nm,30.8s						
MDJ				LR	LR		
	comp=E,17nm,23.1s						
MDJ				LR	LR		
	comp=Z,24nm,13.2s						
CTAO	Charters Tower	51.08	117	P	P	23 50 40.3	-0.3
STKA	Stephens Creek	52.22	133	P	P	23 50 47.4	-1.6
	comp=Z,3.4nm,0.6s,mb4.5,baz=344,slow=6.7,SNR=6.7						
STKA	Stephens Creek	52.22	133	eP	P	23 50 48.4	-0.6
ZAL	Zalesovo	53.73	350	P	P	23 51 00.2	0.0
	comp=Z,4.1nm,0.5s,mb4.7,baz=324,slow=5.0,SNR=18						
ZAL				pP	pP	23 51 24.4	-0.7
	comp=Z,2.9nm,0.4s,baz=314,slow=5.3,SNR=4.9						
BVAR	Borovoye Array	56.71	340	P	P	23 51 20.9	-0.7
	comp=Z,2.1nm,0.5s,mb4.4,baz=143,slow=10.0,SNR=24						
BVAR				pP	pP	23 51 45.7	-0.9
	comp=Z,1.3nm,0.6s,baz=141,slow=9.1,SNR=4.8						
BRVK	Borovoye	56.77	340	eP	P	23 51 21.3	-0.7
	comp=Z,1.3nm,0.5s,mb4.2						
ZRNK	Zerenda	57.13	339	eP	P	23 51 24.0	-0.6
	comp=Z,1.4nm,0.5s,mb4.2						
ZRNK				e		23 51 29.7	
ZRNK				epP	pP	23 51 48.2	-1.5
CHKZ	Chkalovo	57.17	340	eP	P	23 51 24.0	-0.9
	comp=Z,1.5nm,0.5s,mb4.3						
AKTK	Aktyubinsk	59.93	331	P	P	23 51 43.0	-1.0
AKTO	Aktyubinsk	59.93	331	P	P	23 51 43.0	-1.0
	comp=Z,1.1nm,0.5s,mb4.1,baz=156,slow=6.4,SNR=6.6						
KMBO	Kilima Mbogo	61.63	268	P	P	23 51 58.9	+3.4
	comp=Z,0.5nm,0.6s,mb3.8,baz=70,slow=14,SNR=3.5						
ARU	Arti	63.74	336	eP	P	23 52 08.5	-1.0
	comp=Z,1.3nm,0.6s,mb3.9						
KIV	Kislovodsk	65.31	319	P	P	23 52 20.9	+1.2
MALT	Malatya	66.28	312	eP	P	23 52 27.4	+1.4
CASY	Casey	67.94	175	eP	P	23 52 37.5	+1.0
	comp=Z,2.3nm,0.5s,mb4.3						
BRTR	Keskin Array B	70.26	312	P	P	23 52 50.8	0.0
	comp=Z,1.7nm,0.6s,mb4.1,baz=135,slow=7.3,SNR=14						
MAW	Mawson	73.18	194	P	P	23 53 09.9	+1.6
	comp=Z,3.4nm,0.8s,mb4.2,baz=27,slow=4.4,SNR=12						
LBTB	Lobatse	75.40	244	P	P	23 53 21.7	+0.6
AKASG	Malin Array Be	76.18	322	P	P	23 53 24.6	-1.0
	comp=Z,0.5nm,0.5s,mb3.5,baz=90,slow=4.8,SNR=4.3						
BOSA	Boshof	76.25	240	P	P	23 53 28.1	+2.2
	comp=Z,2.2nm,0.8s,mb3.9,baz=170,slow=14,SNR=3.9						
SYO	Syowa Base	80.61	198	⇑eP	P	23 53 48.8	-1.1
FINES	FINESS Array B	80.67	332	P	P	23 53 49.8	-0.5
	comp=Z,1.5nm,0.6s,mb4.0,baz=105,slow=6.8,SNR=13						
FINES				pP	pP	23 54 16.8	-0.1
	comp=Z,0.6nm,0.6s,baz=107,slow=6.6,SNR=1.4						
ARCES	ARCESS Array B	83.00	340	P	P	23 54 02.0	-0.5
	comp=Z,1.5nm,0.7s,mb4.0,baz=94,slow=4.9,SNR=8.2						
VNDA	Vanda	85.60	169	P	P	23 54 19.3	+3.6
	comp=Z,27nm,0.6s,mb5.3						
GERES	GERESS Array B	85.82	319	P	P	23 54 17.2	+0.5
	comp=Z,1.3nm,1.0s,mb3.8,baz=64,slow=6.1,SNR=7.2						
KEST	Kesra	88.84	306	P	P	23 54 33.0	+1.8
	comp=Z,1.1nm,0.8s,mb3.9,baz=202,slow=22,SNR=3.9						
LPG	La Plagne	90.55	315	eP	P	23 54 38.9	-0.3
	comp=Z,7.1nm,0.8s,mb4.5						
LPG	La Plagne	90.55	315	eP	P	23 54 38.9	-0.3
	comp=Z,3.5nm,0.8s,mb4.5						
ISCO	Idaho Springs	133.38	26	ePKPdf	PKPdf	00 00 53.9	+1.2
WMOK	Wichita Mounta	140.53	23	ePKPdf	PKPdf	00 01 06.6	+0.7
BDFB	Brasilia	144.34	245	PKP	PKPdf	00 01 13.2	+0.5
	comp=Z,2.2nm,0.7s,baz=142,slow=2.6,SNR=7.3						
CPUP	Villa Florida	146.16	221	PKPbc	PKPbc	00 01 17.9	+0.9
	comp=Z,3.8nm,0.7s,baz=116,slow=2.1,SNR=14						
CPUP				pPKPbc	pPKPbc	00 01 46.9	+2.0
	comp=Z,1.6nm,0.7s,baz=58,slow=5.3,SNR=3.5						
LPAZ	La Paz	160.33	220	ePKPdf	PKPdf	00 01 38.4	+2.3

IDC 10 23:48:44.6±1.4, 002N×9656E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=40.3km s-min=27.8km az=45.0
ISCJB 10 23:48:47.9±0.8, 02N±0.1×967E±0.1, h33km, mb4.1/11, Error ellipse: s-maj=16.8km s-min=15.1km az=56.9
NEIC 10 23:48:48.8±0.5, 002N×9672E, h30km, mb4.1/2, Error ellipse: s-maj=14.8km s-min=9.7km az=94.0
ISC 10 23:48:49.5±0.6, 003N±008×967E±01, h35km, n19, σ1s03/19, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.51	38	Pn	Pn	23 49 39.7	-1.8
	1.2nm,0.3s,baz=306,slow=16,SNR=6.5						
PSI				LR	LR	23 51 20.2	
	comp=Z,288nm,20.2s,baz=81,slow=44						
PSI	Prapat	3.51	38	Pn	Pn	23 49 39.7	-1.8
PSI				LR	LR	23 51 20.2	
KULM	Kulim	6.52	37	ePn	Pn	23 50 21.8	-1.1
KULM				e		23 50 31.2	
COCO	West Island	12.14	180	eP	Pn	23 51 38.0	-2.0
YHNB	Yeheng	34.18	42	P	P	23 55 32.8	+1.4
ASAR	Alice Springs	43.07	126	P	P	23 56 48.0	+2.0
	0.5nm,0.8s,mb3.3,baz=300,slow=8.0,SNR=4.4						
MKAR	Makanchi Array	48.26	347	P	P	23 57 27.8	+0.8
	1.5nm,0.5s,mb4.2,baz=163,slow=9.0,SNR=17						
SONM	Songino Array	48.34	9	P	P	23 57 28.5	+0.8
	0.8nm,0.6s,mb4.0,baz=191,slow=10.0,SNR=5.3						
ZAL	Zalesovo	54.62	351	P	P	23 58 15.5	+0.9
	4.7nm,0.4s,mb4.9,baz=315,slow=6.0,SNR=13						
BVAR	Borovoye Array	57.20	341	P	P	23 58 32.6	-0.4
	1.0nm,0.8s,mb3.9,baz=156,slow=8.1,SNR=6.9						
BRVK	Borovoye	57.26	341	P	P	23 58 33.2	-0.2
ZRNK	Zerenda	57.59	341	eP	P	23 58 34.9	-0.9
	0.5nm,0.3s,mb4.0						
CHKZ	Chkalovo	57.68	342	eP	P	23 58 36.2	-0.2
	1.1nm,0.4s,mb4.2						
CASY	Casey	66.90	174	eP	P	23 59 38.5	+0.4
BRTR	Keskin Array B	69.56	313	P	P	23 59 54.8	0.0
	0.8nm,0.8s,mb3.7,baz=67,slow=4.2,SNR=4.7						
AKASG	Malin Array Be	75.90	323	P	P	00 00 31.8	-0.6
	1.0nm,0.5s,mb4.0,baz=89,slow=5.0,SNR=7.3						
FINES	FINESS Array B	80.82	333	P	P	00 00 59.4	-0.2
	0.7nm,0.6s,mb3.8,baz=106,slow=4.2,SNR=6.4						
FINES	FINESS Array B	80.82	333	P	P	00 00 59.4	-0.2
ARCES	ARCESS Array B	83.47	340	P	P	00 01 14.5	+1.0
	14nm,1.3s,mb4.8,baz=99,slow=5.6,SNR=4.3						

HLW 11 00:03:37.8, 2528N×21.13E, h20km, Mb3.0
ISCJB 11 00:03:49.2±0.7, 3426N±004×255E±0.1, h33km, Error ellipse: s-maj=12.5km s-min=5.7km az=2.1
CSEM 11 00:03:49.0±0.1, 3426N×2547E, h30km, MD3.2, Error ellipse: s-maj=6.0km s-min=3.4km az=73.0
ATH 11 00:03:50.1, 3439N×2532E, h30km, MD3.2/4
NEIC 11 00:03:51.3, 3449N×2536E, h45km, MD3.2(ATH), After ATH.
ISC 11 00:03:50.7±0.7, 3433N±004×254E±01, h35km, n11, σ1s05/15, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	Khrisi	0.60	24	ePN	Pn	00 04 02.0	-0.7
XRY				eSN	Sn	00 04 11.0	-0.2
NPS	Neapolis	0.95	11	ePN	Pn	00 04 07.4	-0.1
NPS				eSN	Sn	00 04 20.0	+0.2
NPS	Neapolis	0.95	11	eP	Pn	00 04 07.4	-0.1
NPS				eS	Sn	00 04 17.3	-2.5
GVD	Gavdhos	1.19	296	ePN	Pn	00 04 11.0	+0.2
VAM	Vamos	1.46	318	ePN	Pn	00 04 15.3	+0.8
VAM	Vamos	1.46	318	eP	Pn	00 04 15.0	+0.5
KARP	Karpathos	1.90	50	ePN	Pn	00 04 22.7	+2.2
SWA1		5.06	177	P	Pn	00 05 00.3	-3.7
SWA1		5.06	177	⇑P	Pn	00 05 00.3	-3.7
SWA1				S	Sn	00 06 00.9	-0.2
SWA2		5.07	179	P	Pn	00 04 58.1	-6.0
AWBH		6.70	152	P	Pn	00 05 26.8	+0.2

IDC 11 00:32:30.8±8.6, 261N×12674E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=215.3km s-min=134.1km az=74.0
ISCJB 11 00:32:34.7±1.2, 25N±02×1267E±02, h33km, mb3.9/4, Error ellipse: s-maj=42.2km s-min=15.4km az=87.0
NEIC 11 00:32:36.1±1.0, 257N×12674E, h35km, mb4.5/1, Error ellipse: s-maj=35.5km s-min=12.8km az=224.0
ISC 11 00:32:36.7±1.2, 25N±02×1267E±02, h35km, n8, σ0s50/8, mb3.9/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	23.54	162	eP	P	00 37 43.8	0.0
	6.9nm,0.4s,mb4.4						
WRA	Warramunga Arr	23.54	162	P	P	00 37 44.3	+0.4
	2.5nm,0.4s,mb4.0,baz=342,slow=10,SNR=7.5						
PMG	Port Moresby	23.55	120	eP	P	00 37 43.6	-0.3
KULM	Kulim	26.16	277	P	P	00 38 07.4	-0.3
ASAR	Alice Springs	26.95	165	P	P	00 38 13.9	-0.9
	0.3nm,0.6s,mb3.0,baz=347,slow=7.7,SNR=4.4						
STKA	Stephens Creek	37.01	159	P	P	00 39 43.5	+0.6
	1.9nm,0.8s,mb4.0,baz=315,slow=8.6,SNR=2.6						
STKA	Stephens Creek	37.01	159	eP	P	00 39 43.8	+0.9
LSA	Lhasa	43.24	312	eP	P	00 40 34.8	+0.2

NIED 11 00:48:00, 2740N×143.10E, h14km, Mw4.4 Best double couple: Mo4.11000×10^15 NP1:φs344.00000°, δ69.00000°, λ77.00000°. NP2:φs198.00000°, δ25.00000°, λ121.00000°.
JMA 11 00:48:35.4±0.2, 2738N×14309E, h2km, M4.8
JMA Felt I J1.
IDC 11 00:48:36.4±0.6, 2731N×14275E, h0km, mb4.3/18, mb1 4.5/19, mb1mx4.4/22, mbtmp4.3/19, ML4.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=15.6km s-min=11.3km az=132.0
ISCJB 11 00:48:41.6±0.3, 2748N±003×14237E±005, h33km, mb4.6/71, MS3.8/12, Error ellipse: s-maj=5.9km s-min=3.8km az=175.0
MOS 11 00:48:43.7±1.3, 2727N×14228E, h59km, mb4.8/27, Error ellipse: s-maj=13.3km s-min=6.7km az=115.4
NEIC 11 00:48:43.3±1.6, 2724N×14246E, h42km±13km, mb4.6/27, MW4.3(NIED), Error ellipse: s-maj=9.3km s-min=7.6km az=119.0
NEIC Recorded [1 JMA] in Osaka Prefecture, Honshu.
BJI 11 00:48:43.3, 2721N×142.11E, h49km, mB4.9, mb4.7, Ms4.4, Msz4.0
SZGRF 11 00:49:00.5, 2878N×13873E, h33km, mb4.4, Bonin Islands, Japan, region
ISC 11 00:48:43.0±0.2, 2738N±003×14243E±005, h35km, (h57km±4.5km:pP-P), n156, σ1s27/166, mb4.6/71, MS3.8/12, 4C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	0.36	219	Pn	Pn	00 48 52.1	+0.4
	3µm,0.3s,baz=275,slow=20,SNR=945						
CBIJ				Sn	Sn	00 49 04.2	+6.6
	5µm,0.3s,baz=270,slow=20,SNR=22						
CBIJ	Chichi jima	0.36	219	P	Pn	00 48 52.1	+0.4
CBIJ				eS	Sn	00 49 04.0	+6.4
JHHJ	Haha-jima-NKT	0.78	197	P	Pn	00 48 56.7	-0.8
JHHJ				eS	Sn	00 49 10.7	+2.8
JHJ	Hachijo jima 2	6.17	339	LR	LR	00 52 24.7	
	comp=Z,378nm,20.1s,baz=113,slow=36						
BSO1	Boso 1	7.36	351	P	Pn	00 50 27.5	-0.5
BSO1				eS	Sn	00 51 50.2	-0.1
BSO3	Boso 3	7.58	348	P	Pn	00 50 30.5	-0.5
BSO4	Boso 4	7.80	347	P	Pn	00 50 33.9	-0.1
BSO4				eS	Sn	00 52 04.8	+3.8
JOD2	Odawara 2	8.37	341	P	Pn	00 50 43.0	+1.2
JHU	Hanno	8.87	343	P	Pn	00 50 47.5	-1.1
JHU				eS	Sn	00 52 25.0	-2.3
JRY	Ryogami san	9.12	342	P	Pn	00 50 52.4	+0.2
JRY				eS	Sn	00 52 34.1	+0.5
JHO	Hitachi	9.34	351	P	Pn	00 50 52.1	-3.0
JHO				eS	Sn	00 52 33.2	-5.7
JAG	Ashikaga	9.37	345	P	Pn	00 50 53.0	-2.5
JAG				eS	Sn	00 52 37.5	-2.1
MJAR	Matsushiro Arr	9.82	340	Pn	Pn	00 51 00.8	-0.8
	1.6nm,0.3s,baz=161,slow=10,SNR=6.9						
MJAR				Sn	Sn	00 52 54.1	+3.5
	1.0nm,0.3s,baz=167,slow=28,SNR=2.9						
MAJO	Matsushiro	9.82	340	eP	Pn	00 51 04.4	+2.7
MAJO				pmax	pmax		
	comp=Z,14nm,0.6s						
MAJO	Matsushiro	9.82	340	ePn	Pn	00 51 04.3	+2.7
	comp=Z,14nm,0.6s						
MAT	Matsushiro	9.82	340	P	Pn	00 51 01.2	-0.5
MAT				eS	Sn	00 52 51.7	+1.1
JMK	Ichinoseki	11.59	355	eS	Sn	00 53 25.4	-8.6
JOW	Kunigami	12.63	271	LR	LR	00 56 24.6	
	comp=Z,300nm,18.1s,baz=126,slow=36						
INCN	Inchon	16.70	311	Pn	Pn	00 52 37.1	+2.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SSE	**Sheshan**	**18.91**	**286**	P	**Pn**	**00 52 55.9**	**-5.5**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s						
SSE				AMB	AMB		
	comp=Z,249nm,3.8s						
TATO	**Taipei**	**18.95**	**267**	P	**Pn**	**00 53 01.2**	**-0.8**
NACB	**Ninganchiao**	**19.04**	**265**	P	**Pn**	**00 53 02.0**	**-0.9**
YHNB	**Yeheng**	**19.11**	**267**	*e*P	**Pn**	**00 53 05.4**	**+1.5**
MDJ	**Mudanjiang**	**20.05**	**332**	*e*P	**P**	**00 53 15.5**	**+2.4**
	comp=Z,4.3nm,0.4s						
NJ2	**Nanjing**	**20.99**	**289**	*e*P	**P**	**00 53 24.6**	**+1.3**
NJ2				AP		00 53 38.2	
NJ2				PP		00 53 49.1	
NJ2				S	**S**	**00 57 08.0**	**-7.1**
NJ2				XS	sS	00 57 29.0	-0.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,250nm,8.3s						
NJ2				LR	LR		
	comp=N,390nm,16.9s,MS4.0						
NJ2				LR	LR		
	comp=E,430nm,15.8s,MS4.0						
NJ2				LR	LR		
	comp=Z,440nm,17.3s,MS3.9						
SNY	**Shenyang**	**21.12**	**318**	⇑P	**P**	**00 53 29.4**	**+4.8**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.4						
SNY				AMB	AMB		
	comp=Z,146nm,9.6s						
SNY				LR	LR		
	comp=E,272nm,9.6s						
SNY				LR	LR		
	comp=Z,171nm,11.4s,MS3.7						
KLR	**Kul'dur**	**23.33**	**342**	*e*P	**P**	**00 53 45.2**	**-3.0**
BJT	**Baijiatuau**	**25.13**	**307**	P	**P**	**00 54 05.2**	**+0.6**
HHC	**Hu-ho-hao-te**	**28.71**	**306**	*e*P	**P**	**00 54 38.6**	**+1.7**
HHC				AP	pP	00 54 53.2	+6.3
HHC				PP	PP	00 55 32.6	-9.4
HHC				PCP	PcP	00 57 48.7	+2.0
HHC				S	**S**	**00 59 21.2**	**-2.4**
HHC				XS	sS	00 59 46.3	+6.1
HHC				SS	SS	01 00 51.0	-35
HHC				SCP	ScP	01 01 23.2	-2.0
HHC				PCS	PcS	01 01 29.9	+0.7
HHC				SCS	ScS	01 05 15.3	-3.4
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,140nm,5.1s						
HHC				LR	LR		
	comp=N,148nm,5.1s						
HHC				LR	LR		
	comp=E,235nm,4.6s						
HHC				LR	LR		
	comp=Z,191nm,15.7s,MS3.8						
XAN	**Xi'an**	**29.48**	**291**	P	**P**	**00 54 42.2**	**-1.5**
XAN				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.8						
GYA	**Guiyang**	**31.84**	**277**	⇑*i*P	**P**	**00 55 00.9**	**-3.6**
GYA				AP	pP	00 55 15.7	+1.1
GYA				XP	sP	00 55 23.0	+4.2
GYA				PP	PP	00 56 04.7	-12
GYA				S	**S**	**01 00 01.5**	**-11**
GYA				SCP	ScP	01 01 31.0	-4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,70nm,3.9s						
GYA				LR	LR		
	comp=N,290nm,16.8s,MS4.1						
GYA				LR	LR		
	comp=E,210nm,16.5s,MS4.1						
GYA				LR	LR		
	comp=Z,280nm,17.0s,MS4.0						
LZH	**Lanzhou**	**33.77**	**295**	*e*P	**P**	**00 55 20.1**	**-1.3**
LZH				AP	pP	00 55 35.2	+3.7
LZH				XP	sP	00 55 42.5	+6.7
LZH				PP	PP	00 56 34.7	-3.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,54nm,5.3s						
LZH				LR	LR		
	comp=N,436nm,13.4s						
LZH				LR	LR		
	comp=Z,725nm,17.6s,MS4.5						
CD2	**Chengdu**	**33.85**	**285**	P	**P**	**00 55 21.9**	**-0.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
ULN	**Ulaanbaatar**	**34.27**	**316**	*e*P	**P**	**00 55 27.1**	**+1.3**
ULN	**Ulaanbaatar**	**34.27**	**316**	*e*P	**P**	**00 55 26.4**	**+0.6**
	comp=Z,2.0nm,0.4s,mb4.4						
SONM	**Songino Array**	**34.67**	**316**	P	**P**	**00 55 29.4**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=125,slow=8.8,SNR=8.3						
SONM				LR	LR	01 08 23.2	
	comp=Z,69nm,20.5s,MS3.4,baz=231,slow=34						
KMI	**Kunming**	**35.57**	**276**	P	**P**	**00 55 35.1**	**-1.8**
KMI				AP	pP	00 55 50.9	+3.8
KMI				PP	PP	00 56 56.4	-1.6
KMI				S	**S**	**01 01 04.7**	**-5.7**
KMI				SS	SS	01 03 23.9	-22
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,91nm,4.9s						
KMI				LR	LR		
	comp=N,240nm,9.4s						
KMI				LR	LR		
	comp=E,110nm,13.7s						
KMI				LR	LR		
	comp=Z,136nm,15.0s,MS3.8						
YAK	**Yakutsk**	**35.68**	**350**	*e*P	**P**	**00 55 41.4**	**+3.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.4s,mb5.4						
YAK	**Yakutsk**	**35.68**	**350**	*e*P	**P**	**00 55 41.4**	**+3.5**
	comp=Z,18nm,0.4s,mb5.4						
BOD	**Bodaibo**	**36.40**	**335**	*e*P	**P**	**00 55 42.6**	**-1.4**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**37.23**	**300**	*e*P	**P**	**00 55 49.4**	**-1.7**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.2						
ZAK	**Zakamensk**	**37.55**	**318**	*e*P	**P**	**00 55 53.5**	**-0.3**
TLY	**Talaya**	**37.86**	**321**	*e*P	**P**	**00 55 57.7**	**+1.2**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,89nm,18.0s,MS3.6						
TLY	**Talaya**	**37.86**	**321**	*e*P	**P**	**00 55 56.8**	**+0.3**
	comp=Z,5.9nm,0.8s,mb4.4						
LSA	**Lhasa**	**44.81**	**286**	P	**P**	**00 56 54.0**	**+0.5**
WMQ	**Urumqi**	**46.59**	**306**	*e*P	**P**	**00 57 09.0**	**+1.5**
WMQ				AP	pP	00 57 25.0	+7.1
WMQ				PCP	PcP	00 58 42.0	+0.8
WMQ				*e*S	**S**	**01 03 52.0**	**-2.0**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,83nm,4.4s						
WMQ				LR	LR		
	comp=N,96nm,15.6s,MS3.9						
WMQ				LR	LR		
	comp=E,74nm,19.8s,MS3.9						
WMQ				LR	LR		
	comp=Z,102nm,17.2s,MS3.8						
WRAB	**Tennant Creek**	**47.68**	**190**	*e*P	**P**	**00 57 14.4**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
WRAB	**Tennant Creek**	**47.68**	**190**	*e*P	**P**	**00 57 14.4**	**-1.6**
	comp=Z,20nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**47.69**	**190**	⇑*i*P	**P**	**00 57 14.2**	**-1.9**
WRA	**Warramunga Arr**	**47.69**	**190**	P	**P**	**00 57 14.5**	**-1.6**
	comp=Z,6.7nm,0.4s,mb5.0,baz=12,slow=8.7,SNR=40						
FITZ	**Fitzroy Crossi**	**48.05**	**202**	*e*P	**P**	**00 57 17.9**	**-1.0**
	comp=Z,8.8nm,1.0s,mb4.7						
PSI	**Prapat**	**48.21**	**247**	P	**P**	**00 57 21.2**	**+1.1**
	comp=Z,4.0nm,0.4s,mb4.8,baz=354,slow=5.2,SNR=5.4						
ZAL	**Zalesovo**	**49.43**	**319**	P	**P**	**00 57 29.5**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=5.3,slow=8.2,SNR=10						
ZAL				PcP	PcP	00 58 50.8	-0.6
	comp=Z,1.2nm,0.4s,baz=14,slow=5.5,SNR=2.5						
ZAL				LR	LR	01 20 17.9	
	comp=Z,95nm,18.9s,MS3.8,baz=154,slow=38						
ZAL	**Zalesovo**	**49.43**	**319**	*i*P	**P**	**00 57 29.7**	**+0.2**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	**Zalesovo**	**49.43**	**319**	P	**P**	**00 57 29.5**	**0.0**
ZAL				PcP	PcP	00 58 50.8	-0.6
ZAL				LR	LR	01 20 17.9	
GUN	**Gumba**	**49.71**	**285**	*e*P	**P**	**00 57 33.7**	**+2.1**
	comp=Z,20nm,0.5s,mb5.4						
PKI	**Pulchoki**	**50.19**	**284**	*e*P	**P**	**00 57 36.8**	**+1.5**
	comp=Z,8.0nm,0.5s,mb5.0						
KKN	**Kakani**	**50.25**	**285**	*e*P	**P**	**00 57 37.4**	**+1.7**
	comp=Z,10nm,0.5s,mb5.1						
DMN	**Daman**	**50.44**	**284**	*e*P	**P**	**00 57 38.8**	**+1.6**
	comp=Z,12nm,0.4s,mb5.3						
MK31	**Makanchi Array**	**50.47**	**309**	P	**P**	**00 57 36.7**	**-0.7**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
MKAR	**Makanchi Array**	**50.47**	**309**	P	**P**	**00 57 36.6**	**-0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=77,slow=9.8,SNR=16						
MKAR				PcP	PcP	00 58 54.8	-0.3
	comp=Z,2.0nm,0.5s,baz=80,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**50.47**	**309**	*i*P	**P**	**00 57 37.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVS	**Novosibirsk**	**50.47**	**320**	*e*P	**P**	**00 57 35.6**	**-1.8**
NVS				*e*		01 04 49.2	
NVS				pmax	pmax		
	comp=N,7.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
GKN	**Gorkha**	**50.75**	**285**	*e*P	**P**	**00 57 41.1**	**+1.6**
	comp=Z,9.9nm,0.4s,mb5.1						
AS31	**Alice Springs**	**51.41**	**190**	*e*P	**P**	**00 57 43.4**	**-1.0**
ASAR	**Alice Springs**	**51.41**	**190**	P	**P**	**00 57 42.5**	**-2.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=11,slow=8.7,SNR=23						
ASPA	**Alice Springs**	**51.41**	**190**	*e*P	**P**	**00 57 43.4**	**-1.0**
KOLN	**Koldanda**	**51.70**	**285**	*e*P	**P**	**00 57 48.2**	**+1.6**
	comp=Z,9.4nm,0.6s,mb4.9						
KDAK	**Kodiak Island**	**54.01**	**37**	P	**P**	**00 58 01.7**	**-2.0**
	comp=Z,14nm,1.1s,mb4.8,baz=270,slow=3.0,SNR=3.4						
KDAK	**Kodiak Island**	**54.01**	**37**	P	**P**	**00 58 01.7**	**-2.0**
PMR	**Palmer**	**56.08**	**32**	P	**P**	**00 58 20.6**	**+2.0**
AAK	**Ala-Archa**	**56.28**	**305**	*e*P	**P**	**00 58 19.2**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
AAK	**Ala-Archa**	**56.28**	**305**	*e*P	**P**	**00 58 19.2**	**-0.8**
	comp=Z,1.7nm,0.3s,mb4.5						
MCK	**McKinley**	**56.37**	**30**	P	**P**	**00 58 22.1**	**+1.4**
COLA	**College**	**56.96**	**29**	*e*P	**P**	**00 58 23.4**	**-1.5**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
COLA	**College**	**56.96**	**29**	*e*P	**P**	**00 58 23.4**	**-1.5**
	comp=Z,1.5nm,0.4s,mb4.4						
VOSK	**Vostochnaya**	**57.65**	**317**	P	**P**	**00 58 29.4**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**57.81**	**318**	*e*P	**P**	**00 58 31.3**	**+0.4**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**57.81**	**318**	*e*P	**P**	**00 58 31.2**	**+0.4**
	comp=Z,6.1nm,0.6s,mb4.8						
BVA0	**Borovoye Array**	**57.99**	**317**	*i*P	**P**	**00 58 32.7**	**+0.6**
BVAR	**Borovoye Array**	**57.99**	**317**	P	**P**	**00 58 33.0**	**+0.9**
	comp=Z,10.0nm,0.6s,mb5.0,baz=96,slow=8.4,SNR=54						
BRVK	**Borovoye**	**58.05**	**317**	*e*P	**P**	**00 58 33.4**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**58.05**	**317**	*e*P	**P**	**00 58 33.4**	**+0.9**
	comp=Z,5.5nm,0.7s,mb4.7						
ZRNK	**Zerenda**	**58.83**	**317**	*e*P	**P**	**00 58 38.4**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ZRNK	**Zerenda**	**58.83**	**317**	*e*P	**P**	**00 58 38.4**	**+0.5**
	comp=Z,10nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**58.93**	**181**	P	**P**	**00 58 35.6**	**-3.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=331,slow=18,SNR=2.5						
STKA	**Stephens Creek**	**58.93**	**181**	*e*P	**P**	**00 58 38.5**	**-0.2**
KK31	**Karatay Array**	**59.10**	**306**	*i*P	**P**	**00 58 39.4**	**-0.5**
KK31				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.1						
KKAR	**Karatay Array**	**59.10**	**306**	P	**P**	**00 58 39.4**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
DAWY	**Dawson**	**60.60**	**30**	*e*P	**P**	**00 58 49.7**	**-0.5**
INK	**Inuvik**	**62.68**	**25**	P	**P**	**00 59 03.0**	**-1.2**
	comp=Z,2.7nm,0.5s,mb4.6,baz=321,slow=6.9,SNR=6.1						
INK	**Inuvik**	**62.68**	**25**	*e*P	**P**	**00 59 03.0**	**-1.2**
SVE	**Sverdlovsk**	**63.14**	**322**	*e*P	**P**	**00 59 06.8**	**-0.4**
ARU	**Arti**	**64.34**	**322**	⇑*i*P	**P**	**00 59 15.3**	**+0.2**
ARU				*e*		00 59 49.8	
ARU				*e*		01 01 35.8	
ARU				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
ARU	**Arti**	**64.34**	**322**	*e*P	**P**	**00 59 15.3**	**+0.2**
	comp=Z,11nm,0.4s,mb5.2						
AB31	**Akbulak array**	**65.06**	**314**	P	**P**	**00 59 19.1**	**-0.7**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
AKTO	**Aktyubinsk**	**65.99**	**316**	LR	LR	01 31 18.2	
	comp=Z,57nm,18.3s,MS3.8,baz=59,slow=39						
AKTO	**Aktyubinsk**	**65.99**	**316**	P	**P**	**00 59 24.0**	**-1.8**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**71.79**	**28**	P	**P**	**01 00 00.4**	**-1.5**
	comp=Z,1.9nm,0.7s,mb4.1,baz=296,slow=6.4,SNR=7.1						
YKA	**Yellowknife Ar**	**71.79**	**28**	P	**P**	**01 00 00.4**	**-1.5**
ARCES	**ARCESS Array B**	**73.35**	**341**	P	**P**	**01 00 11.2**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=66,slow=7.1,SNR=11						
ARE0	**ARCESS Array S**	**73.35**	**341**	*e*P	**P**	**01 00 11.3**	**+0.1**
ARE0				*e*PcP	PcP	01 00 27.1	-0.2
JOF	**Joensuu**	**74.93**	**334**	*e*p	**P**	**01 00 19.7**	**-0.7**
	comp=Z,9.0nm,0.7s,mb4.8						
OBN	**Obninsk**	**76.43**	**325**	*e*P	**P**	**01 00 29.8**	**+0.8**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN	**Obninsk**	**76.43**	**325**	*e*P	**P**	**01 00 29.3**	**+0.4**
	comp=Z,3.4nm,0.4s,mb4.6						
OBN				*e*PcP	PcP	01 00 40.1	-0.5
NEW	**Newport**	**76.55**	**43**	*e*P	**P**	**01 00 31.5**	**+1.8**
NEW				*e*	pP	01 00 42.8	+2.2
KAF	**Kangasniemi**	**77.32**	**334**	*e*p	**P**	**01 00 32.9**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.6						
KAF	**Kangasniemi**	**77.32**	**334**	*e*P	**P**	**01 00 32.9**	**-1.1**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**77.80**	**334**	P	**P**	**01 00 36.4**	**-0.2**
	comp=Z,2.8nm,0.4s,mb4.5,baz=70,slow=4.7,SNR=36						
FINES	**FINESS Array B**	**77.80**	**334**	P	**P**	**01 00 36.4**	**-0.2**
BMO	**Blue Mountains**	**77.95**	**46**	*e*P	**P**	**01 00 38.9**	**+1.4**
	comp=Z,4.2nm,1.1s,mb4.3						
BMO				*e*PcP	PcP	01 00 47.0	-0.2
KIV	**Kislovodsk**	**78.02**	**313**	*e*P	**P**	**01 00 38.0**	**+0.1**
KIV				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
KIV	**Kislovodsk**	**78.02**	**313**	*e*P	**P**	**01 00 37.0**	**-0.9**
	comp=Z,3.7nm,0.4s,mb4.7						
WALA	**Waterton Lakes**	**78.09**	**41**	*e*P	**P**	**01 00 37.5**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.2						
CMB	**Columbia Colle**	**78.88**	**53**	*e*P	**P**	**01 00 44.9**	**+2.3**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CMB	**Columbia Colle**	**78.88**	**53**	*e*P	**P**	**01 00 44.9**	**+2.2**
	comp=Z,3.4nm,0.9s,mb4.3						
HLID	**Hailey**	**80.39**	**46**	*e*P	**P**	**01 00 52.6**	**+1.8**
MIB	**Mutribah**	**80.94**	**299**	*e*P	**P**	**01 00 54.0**	**+0.2**
MIB				AMb	AMB	01 00 54.5	
	comp=Z,18nm,0.6s,mb5.2						
ANN	**Anapa**	**80.95**	**316**	*e*P	**P**	**01 00 47.9**	**-5.9**
ANN				*i*		01 04 01.8	
ANN				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
NAY	**Al-Naaiem**	**81.26**	**298**	*e*P	**P**	**01 00 55.7**	**+0.2**
NAY				AMb	AMB	01 00 57.4	
	comp=Z,15nm,0.9s,mb4.9						
RST	**Umm Al-Ruwaisa**	**81.34**	**299**	*e*P	**P**	**01 00 55.8**	**-0.1**
RST				AMb	AMB	01 00 57.5	
	comp=Z,23nm,1.1s,mb5.0						
FCC	**Fort Churchill**	**82.26**	**26**	P	**P**	**01 01 02.1**	**+1.4**
IMW	**Indian Meadow**	**82.41**	**44**	*e*P	**P**	**01 01 01.8**	**+0.2**
	comp=Z,3.1nm,0.8s,mb4.3						
RRI2	**Red Ridge**	**82.45**	**45**	*e*P	**P**	**01 01 00.9**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.3						
RRI2				*e*PcP	PcP	01 01 08.4	+1.5
AKASG	**Malin Array Be**	**82.52**	**324**	P	**P**	**01 01 01.3**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.2,baz=52,slow=5.5,SNR=13						
AKASG	**Malin Array Be**	**82.52**	**324**	*i*P	**P**	**01 01 01.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TPAW	**Teton Pass**	**82.61**	**45**	*e*P	**P**	**01 01 03.2**	**+0.6**
	comp=Z,2.4nm,0.8s,mb4.3						
DUG	**Dugway**	**83.08**	**48**	*e*P	**P**	**01 01 04.2**	**-0.8**
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
DUG	**Dugway**	**83.08**	**48**	*e*P	**P**	**01 01 04.2**	**-0.8**
	comp=Z,4.5nm,1.0s,mb4.5						
HWUT	**Hardware Ranch**	**83.18**	**47**	*e*P	**P**	**01 01 04.7**	**-0.8**
	comp=Z,4.2nm,1.1s,mb4.4						
HWUT				*e*		01 01 08.4	
NB2	**NORSAR Subarra**	**83.43**	**338**	P	**P**	**01 01 05.8**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=42,slow=5.3						
NOA	**NORSAR Array B**	**83.43**	**338**	P	**P**	**01 01 05.9**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=44,slow=4.9,SNR=3.4						
NOA				LR	LR	01 44 16.5	
	comp=Z,24nm,20.5s,MS3.6,baz=225,slow=40						
MALT	**Malatya**	**83.51**	**310**	*e*P	**P**	**01 01 08.8**	**+1.6**
MALT				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
MALT	**Malatya**	**83.51**	**310**	*e*P	**P**	**01 01 08.8**	**+1.5**
	comp=Z,11nm,1.0s,mb5.0						
MALT				*e*	pP	01 01 18.2	0.0
SUW	**Suwalki**	**83.53**	**329**	*e*P	**P**	**01 01 07.0**	**-0.3**
PDAR	**Pinedale Array**	**83.86**	**45**	P	**P**	**01 01 08.2**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.1,baz=284,slow=3.3,SNR=8.7						
BRTR	**Keskin Array B**	**85.97**	**313**	P	**P**	**01 01 19.8**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.4,baz=96,slow=3.7,SNR=12						
BRTR	**Keskin Array B**	**85.97**	**313**	*i*P	**P**	**01 01 19.7**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
RSSD	**Black Hills**	**86.47**	**41**	*e*P	**P**	**01 01 23.5**	**+1.4**
PV10	**Paradox Valley**	**86.52**	**48**	*e*P	**P**	**01 01 21.7**	**-0.7**
PV01	**Paradox Valley**	**86.96**	**48**	*e*P	**P**	**01 01 26.2**	**+1.7**
ISCO	**Idaho Springs**	**87.97**	**46**	*e*P	**P**	**01 01 30.9**	**+1.6**
MORC	**Moravsky Berou**	**88.94**	**328**	*e*P	**P**	**01 01 33.6**	**-0.3**
PSZ	**Piszkesteto**	**89.04**	**325**	*e*P	**P**	**01 01 35.2**	**+0.8**
SDCO	**Great Sand Dun**	**89.20**	**47**	*e*P	**P**	**01 01 37.5**	**+2.4**
KHC	**Kasperske Hory**	**91.24**	**329**	*e*P	**P**	**01 01 46.5**	**+1.9**
GERES	**GERESS Array B**	**91.39**	**329**	P	**P**	**01 01 44.2**	**-1.1**
	comp=Z,0.7nm,0.7s,mb4.1,baz=20,slow=4.3,SNR=8.2						
GRA1	**Grafenberg Arr**	**91.87**	**331**	*e*P	**P**	**01 01 51.2**	**+3.6**
	comp=Z,3.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**91.87**	**331**	*e*P	**P**	**01 01 51.2**	**+3.6**
	comp=Z,3.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**91.87**	**331**	*e*P	**P**	**01 01 51.2**	**+3.6**
GRF				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.5						
GRF	**Grafenberg Arr**	**91.87**	**331**	*e*P	**P**	**01 01 51.2**	**+3.6**
GRF				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.5						
WMOK	**Wichita Mounta**	**95.35**	**46**	*e*P	**P**	**01 02 04.5**	**+0.9**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.6						
WMOK	**Wichita Mounta**	**95.35**	**46**	*e*P	**P**	**01 02 04.5**	**+0.9**
	comp=Z,0.8nm,0.4s,mb4.5						
TORD	**Torodi Ar. Bea**	**124.57**	**312**	PKP	PKPdf	01 07 38.4	-0.3
	comp=Z,0.2nm,0.4s,baz=21,slow=1.5,SNR=11						
LPAZ	**La Paz**	**149.64**	**75**	PKPbc	PKPbc	01 08 29.6	+0.7
	comp=Z,2.4nm,0.6s,baz=332,slow=1.6,SNR=13						
PLCA	**Paso Flores**	**149.79**	**125**	PKPbc	PKPbc	01 08 28.5	-0.7
	comp=Z,1.7nm,0.7s,baz=235,slow=3.9,SNR=6.1						

CASC 11 00:53:01.4±1.4**, 1207N×8683W, h110**km±9km**, MD3.5, ML2.5, 3C-2D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.26**	**65**	*e*P	Pn	00 53 17.0	+0.1
COPN				*e*S	Sn	00 53 28.5	0.0
LEON	**Leon**	**0.35**	**350**	⇑*e*P	Pn	00 53 17.4	+0.1
LEON				*e*S	Sn	00 53 30.4	+1.2
MIRN	**Miramar**	**0.39**	**18**	*e*P	Pn	00 53 17.6	+0.1
MOMJ	**Momotombo**	**0.44**	**40**	⇑*i*P	Pn	00 53 17.6	-0.2
MOMJ				*e*S	Sn	00 53 30.2	+0.1
CNGN	**Cerro Negro**	**0.45**	**17**	⇑*e*P	Pn	00 53 17.7	-0.1
CNGN				*e*S	Sn	00 53 32.5	+2.3
XAVN	**Gruta Xavier**	**0.50**	**81**	*e*P	Pn	00 53 18.2	0.0
XAVN				*e*S	Sn	00 53 31.1	+0.3
TELN	**Telica**	**0.53**	**0**	*e*P	Pn	00 53 19.0	+0.6
TELN				*e*S	Sn	00 53 32.2	+1.1
MGAN	**Managua**	**0.58**	**82**	*e*S	Sn	00 53 31.9	+0.2
MGAN				*i*		00 53 34.4	
	comp=E,95nm,0.2s						
TICN	**Ticuantepe**	**0.59**	**93**	*e*P	Pn	00 53 19.5	+0.7
TICN				*e*S	Sn	00 53 32.6	+0.7
SSNN	**San Juan del S**	**1.24**	**129**	⇓*i*P	Pn	00 53 25.6	+0.5
SSNN				*e*S	Sn	00 53 43.6	+0.6
CONN	**Concepcion**	**1.28**	**113**	⇓*e*P	Pn	00 53 25.5	-0.1
CNCH	**Conchagua**	**1.55**	**321**	*e*P	x	00 53 29.2	
CNCH				*e*S	x	00 53 49.6	
VSM	**San Miguel**	**1.95**	**314**	*e*P	x	00 53 34.8	
LCBS	**La Ceiba**	**2.62**	**307**	*e*P	x	00 53 43.1	
LFRS	**El Faro**	**2.67**	**306**	*e*P	x	00 53 43.9	
LFRS				*e*S	x	00 54 16.2	

---

*ISCJB **11** 01:14:11.3±1.0, 4362N±007×624E±009, h11km±14km, Error ellipse: s-maj=15.7km s-min=6.1km az=98.9*
*STR **11** 01:14:12.7±2.0, 4338N×652E, h5km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 01:14:12.3±0.1, 4361N×625E, h2km, Md1.7/3, Ml1.6/8, Error ellipse: s-maj=2.3km s-min=1.5km az=37.0*
ISC 11 01:14:11.6±1.1**, 4362N**±007×**623E**±010**, h11**km±14km**, n11, σ0.62/22, Near south coast of France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRF	**La Foret Royal**	**0.31**	**100**	*e*Pg	**Pg**	**01 14 17.9**	**0.0**
FRF				*e*Sg	**Sg**	**01 14 21.4**	**-0.7**
	16nm,0.2s						
LMR	**La Mourre**	**0.35**	**144**	*e*Pg	**Pg**	**01 14 19.0**	**+0.4**
LMR				*e*Sg	**Sg**	**01 14 23.5**	**+0.2**
	2.6nm,0.2s						
TOUF	**Mont Tournerai**	**0.84**	**61**	Pg	**Pg**	**01 14 27.6**	**-0.3**
TOUF				Sg	**Sg**	**01 14 40.1**	**+1.3**
LUCF	**Luceram**	**0.86**	**71**	Pg	**Pg**	**01 14 28.2**	**0.0**
LUCF				Sg	**Sg**	**01 14 38.2**	**-1.2**
SBF	**Sospel**	**0.91**	**74**	*e*Pg	**Pg**	**01 14 29.2**	**0.0**
SBF				*e*Sg	**Sg**	**01 14 40.6**	**-0.5**
	5.0nm,0.3s						
MBDF	**Montbardon**	**1.18**	**19**	*e*Pn	**Pn**	**01 14 34.6**	**+0.6**
MBDF				*e*Sn	**Sn**	**01 14 49.8**	**-0.2**
	1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.33**	**349**	*e*Pn	**Pn**	**01 14 36.7**	**+0.7**
ORIF				*e*Sn	**Sn**	**01 14 54.1**	**+0.4**
	0.8nm,0.3s						
VIVF	**Saint-Julien-l**	**1.67**	**319**	*e*Pn	**Pn**	**01 14 41.2**	**+0.4**
VIVF				*e*Sn	**Sn**	**01 15 01.0**	**-1.1**
	0.2nm,0.2s						
LASF	**Ste Croix**	**1.77**	**286**	*e*Pn	**Pn**	**01 14 42.6**	**+0.4**
LASF				*e*Sn	**Sn**	**01 15 03.6**	**-1.1**
	0.4nm,0.2s						
LPG	**La Plagne**	**1.92**	**11**	*e*Pn	**Pn**	**01 14 44.7**	**+0.5**
LPG				*e*Sn	**Sn**	**01 15 08.3**	**0.0**
	0.7nm,0.2s						
LPL	**La Plagne**	**1.94**	**11**	*e*Pn	**Pn**	**01 14 44.9**	**+0.5**
LPL				*e*Sn	**Sn**	**01 15 08.5**	**-0.2**
	0.7nm,0.5s						

---

*CSEM **11** 01:15:38.7±0.1, 3587N×2794E, h60km, MD3.2, Error ellipse: s-maj=3.4km s-min=1.6km az=83.0*
*ISCJB **11** 01:15:39.9±0.4, 3591N±003×2799E±005, h78km±8km, Error ellipse: s-maj=6.3km s-min=5.3km az=27.7*
*NEIC **11** 01:15:41.4, 3593N×2808E, h56km, MD3.2(ATH), After ATH.*
*ATH **11** 01:15:41.4, 3580N×2813E, h41km±1km, MD3.2/5*
*ISK **11** 01:15:41.1, 3609N×2796E, h84km, MD3.4*
*HLW **11** 01:15:41.7, 3583N×2812E, h33km, Mb3.8*
ISC 11 01:15:41.4±0.4**, 3594N**±003×**2800E**±004**, h68**km±8km**, n34, σ0.85/46, 5C-9D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.29**	**20**	⇓*i*P	**Pn**	**01 15 51.8**	**-0.5**
ARG				*e*S	**Sn**	**01 15 59.1**	**-1.1**
KARP	**Karpathos**	**0.79**	**240**	⇓*i*P	**Pn**	**01 15 58.3**	**+1.1**
KARP				*e*S	**Sn**	**01 16 10.0**	**+1.2**
DAT	**Datca**	**0.86**	**337**	*i* PG	**Pn**	**01 15 58.0**	**0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DAT				*i* SG	Sn	01 16 09.5	-0.8
DALT	Dalyan (Mudla)	0.97	32	*i* PG	Pn	01 16 00.0	+0.6
DALT				*i* SG	Sn	01 16 13.2	+0.4
FETY	Fethiye	1.12	51	*i* PG	Pn	01 16 01.2	-0.1
BDRM	Kayabasi	1.21	338	*i* P	Pn	01 16 02.1	-0.3
BDRM				*i* S	Sn	01 16 18.2	0.0
YER	Yerkesik	1.21	11	PG	Pn	01 16 02.8	+0.3
BODT	Bodrum	1.25	334	*i* PN	Pn	01 16 02.8	-0.2
BODT				*i* SN	Sn	01 16 17.8	-1.3
KSL	Kastellorizon	1.30	80	*e*P	Pn	01 16 03.5	-0.2
AKAS	Kas	1.33	77	*i* P	Pn	01 16 04.7	+0.6
AKAS				*i* S	Sn	01 16 21.8	+0.7
MLSB	Milas	1.36	352	PN	Pn	01 16 04.0	-0.5
AYDN	Tasoluk	1.72	357	*i* P	Pn	01 16 09.5	+0.3
AYDN				*i* S	Sn	01 16 30.5	+0.2
ELL	Elmali	1.74	62	PN	Pn	01 16 10.5	+1.0
GOLH	Golhisar	1.80	44	*i* P	Pn	01 16 11.8	+1.5
GOLH				*i* S	Sn	01 16 32.1	-0.2
DENT	Denizli	1.99	24	PN	Pn	01 16 12.4	-0.5
NPS	Neapolis	2.06	251	*e*P	Pn	01 16 15.5	+1.7
XRY	Khrisi	2.16	241	*e*P	Pn	01 16 17.0	+1.8
IZM	Izmir	2.52	347	PN	Pn	01 16 19.1	-1.0
BLCB	Balcova	2.56	343	*e*PN	Pn	01 16 19.4	-1.1
BCK	Bucak	2.58	53	*e*PN	Pn	01 16 22.0	+1.2
CSS	Prodhromos	4.46	101	*e*PN	Pn	01 16 48.2	+1.7
IKL	Isikli	4.61	85	*e*PN	Pn	01 16 49.6	+1.0
FYM	Al Fayyum	6.74	157	⇓P	Pn	01 17 16.7	-0.9
KOT	Kottamia	6.80	151	⇑P	Pn	01 17 17.7	-0.9
KOT				S	Sn	01 18 28.0	-6.6
SWA1		6.93	197	⇓P	Pn	01 17 20.5	+0.2
SWA1				S	Sn	01 18 32.4	-5.3
HSAF	As Saff	6.98	154	⇑P	Pn	01 17 20.0	-1.0
SWA2		7.01	199	⇑P	Pn	01 17 21.6	+0.2
GLL	Jalalah	7.07	153	⇑P	Pn	01 17 21.2	-1.0
GLL				S	Sn	01 18 34.6	-6.5
SUZ		7.32	145	⇓P	Pn	01 17 25.3	-0.3
AWBH		7.64	174	⇓P	Pn	01 17 29.2	-0.8
ZAF		7.67	149	⇓P	Pn	01 17 29.5	-0.8
HNKL	Nakhl	7.82	138	⇓P	Pn	01 17 31.3	-1.1
TR2		8.96	146	⇓P	Pn	01 17 47.7	-0.3
HKAT	Jabal Katrina	8.97	144	⇑P	Pn	01 17 47.8	-0.3

*ISCJB **11** 01:22:24.4±0.7,3889N±005×2154E±004,h3km,Error ellipse: s-maj=7.3km s-min=4.2km az=159.7*
*THE **11** 01:22:25.3,3888N×2151E,h3km,ML2.6*
*CSEM **11** 01:22:25.2±0.3,3886N×2153E,h5km,ML2.6,Error ellipse: s-maj=8.4km s-min=4.5km az=174.0*
*SKO **11** 01:22:26.7,3883N×2147E,h0km*
ISC 11 01:22:25.2±0.8,**3889N**±005×**2153E**±004,**h6**km±8km,**n16**, σ**0^{s}85**/20,**Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGG	Agios Georgios	0.64	78	*e*Pg	Pg	01 22 37.0	-0.4
AGG				*e*Sg	Sg	01 22 47.7	+2.0
LKD	Levkas	0.71	255	*e*Pg	Pg	01 22 37.9	-1.0
LKD				*e*Sg	Sg	01 22 48.9	+0.7
MEV	Metsovon	0.92	345	*e*Pg	Pg	01 22 42.3	-0.5
IGT	Igoumenitsa	1.13	305	*e*Pg	Pg	01 22 46.5	-0.4
IGT				*e*Sg	Sg	01 23 03.1	+1.6
XOR	Xorichti	1.37	69	*e*Pg	Pg	01 22 50.1	-1.5
LIT	Litokhoron	1.42	31	*e*Pg	Pg	01 22 51.2	-1.2
LIT				*e*Sg	Sg	01 23 11.4	+0.7
AOS	Alonnisos	1.85	81	*e*Pb	Pn	01 22 57.8	+0.4
FNA	Florina	1.89	356	*e*Sb	Sb	01 23 23.3	-0.7
BIA	Bitola	2.13	356	*e*Pn	Pb	01 23 04.0	-0.2
BIA	Bitola	2.13	356	*e*Pn	Pb	01 23 03.9	-0.3
GRG	Griva	2.17	18	*e*Pn	Pn	01 23 01.5	-0.3
OHR	Ohrid	2.29	346	*e*Pn	Pb	01 23 07.0	+0.2
OHR	Ohrid	2.29	346	*e*Pn	Pb	01 23 07.0	+0.2
SOH	Sokhos	2.38	35	*e*Pn	Pn	01 23 05.5	+0.8
KNT	Kendrikon	2.50	24	*e*Pn	Pn	01 23 06.4	+0.1
MMB	Musomiste	3.17	31	*e*Pn	Pn	01 23 15.8	+0.2

*LDG **11** 01:27:29.4±1.5,2570S×7061W,h10km,Mb5.1/13, Ms4.0/8,Error ellipse: s-maj=110.8km s-min=48.2km az=20.0*
*ISCJB **11** 01:27:30.2±0.2,2636S±002×7061W±004,h29km, mb4.8/60,MS4.2/12,Error ellipse: s-maj=5.8km s-min=2.8km az=171.7*
*MOS **11** 01:27:30.0±1.2,2631S×7065W,h25km,mb5.2/19,Error ellipse: s-maj=13.7km s-min=8.4km az=93.2*
*IDC **11** 01:27:31.9±0.4,2632S×7067W,h30km±2km,mb4.5/12, mb1 4.5/16,mb1mx4.5/18,mbtmp4.6/16,ML4.3/4,MS4.0/15, Ms1 4.0/15,ms1mx3.9/20,Error ellipse: s-maj=17.1km s-min=13.4km az=85.0*
*GCMT **11** 01:27:31.4±0.5,2642S×7133W,h45km±2km,MW4.9/30, Moment Tensor Solution. s18,c18; s30,c39; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.20±.21; $M_{\theta\theta}$-0.05±.13; $M_{\phi\phi}$-2.15±.13; $M_{r\theta}$0.37±.11; $M_{\theta\phi}$-0.43±.10; $M_{\phi r}$-1.28±.14; Best double couple: $M_0$2.58600×10^{16} NP1:ϕ_s24.00000°,δ32.00000°,λ112.00000°. NP2: ϕ_s178.00000°,δ60.00000°,λ77.00000°. Principal axes: T 2.6320, Plg71.0000°, Azm57.0000°; N -0.0900, Plg12.0000°, Azm185.0000°; P -2.5400, Plg14.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **11** 01:27:31.4±1.1,2647S×7066W,h30km±5km,ML5.0*
*NEIC **11** 01:27:31.4,2647S×7066W,h30km,mb4.9/50,MS4.3/1, ML5.0(GUC),After GUC.*
NEIC Felt [III] at Chanaral and [II] at Caldera, Copiapo, Diego de Almagro and Tierra Amarilla.
*BJI **11** 01:27:33.4,2650S×7070W,h29km,mB5.1,Ms5.0,Msz4.9*
ISC 11 01:27:32.3±0.2,**2634S**±002×**7056W**±005,**h31**km, **h31**km±.3km**:pP-P,n211,**σ**1^{s}06**/171,**mb4.8**/60,**MS4.2**/12, **8C-10D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDCH	Caldera	0.77	198	⇑*i*P	Pn	01 27 43.6	-3.4
CDCH				*i* S	Sb	01 27 52.2	-5.1
CDCH				AML	AML	01 27 52.9	
	comp=E,37μm,0.9s						
CDCH	Caldera	0.77	198	⇑*i*P	Pn	01 27 43.6	-3.4
CDCH				*i* S	Sb	01 27 52.2	-5.1
CPCH	Copiapo	1.03	170	⇓*i*P	Pn	01 27 48.1	-2.6
CPCH				*i* S	Sn	01 28 00.9	-3.1
CPCH				AML	AML	01 28 03.1	
	comp=N,104μm,0.1s						
CPCH	Copiapo	1.03	170	⇓*i*P	Pn	01 27 48.1	-2.6
CPCH				*i* S	Sn	01 28 00.9	-3.1
CPN1	Cerro Paranal	1.71	5	*e*P	Pn	01 28 00.5	+0.4
CPN1				*i* S	Sn	01 28 22.6	+1.6
CPN1				AML	AML	01 28 29.5	
	comp=E,25μm,0.3s						
VACH	Vallenar	2.23	184	⇓*i*P	Pn	01 28 09.3	+2.1
VACH				*i* S	Sn	01 28 35.6	+1.9
VACH				AML	AML	01 28 47.2	
	comp=N,45μm,0.7s						
VACH	Vallenar	2.23	184	⇓*i*P	Pn	01 28 09.3	+2.1
VACH				*i* S	Sn	01 28 35.6	+1.9
ANCH	Antofagasta	2.65	3	⇑*i*P	Pn	01 28 12.6	-0.4
ANCH				*i* S	Sn	01 28 43.3	-0.8
LCO	Las Campanas	2.66	183	⇓*e*P	Pn	01 28 12.1	-1.0
LCO				*i* S	Sn	01 28 44.1	-0.2
LCO				AML	AML	01 28 58.7	
	comp=E,7μm,0.7s						
LCO	Las Campanas	2.66	183	⇓*e*P	Pn	01 28 12.1	-1.0
LCO				*i* S	Sn	01 28 44.1	-0.2
CEN1	Los Morros	2.96	6	⇓*i*P	Pn	01 28 13.9	-3.2
CEN1				AML	AML	01 29 04.3	
	comp=N,4μm,0.7s						
TLL	Tololo Astrono	3.82	183	*e*P	Pn	01 28 28.7	-0.3
TLL				*i* S	Sn	01 29 11.3	-1.5
CFAA	Coronel Fontan	5.62	159	Pn	Pn	01 28 56.2	+2.4
	comp=N,1.2nm,0.3s,baz=332,slow=13,SNR=54						
CFAA				Sn	Sn	01 30 02.8	+5.4
	comp=N,1.9nm,0.3s,baz=306,slow=8.9,SNR=3.5						
CFAA				LR	LR	01 31 20.0	
	comp=N,223nm,20.0s,baz=338,slow=40						
MDZ	Mendoza	6.69	168	*e*P	Pn	01 29 15.8	+7.4
MDZ				*e*		01 29 24.8	
MDZ				S	Sn	01 30 19.5	-4.0
LPAZ	La Paz	10.26	13	Pn	Pn	01 29 58.5	+1.1
	comp=N,3.5nm,0.3s,baz=201,slow=7.4,SNR=109						
LPAZ	La Paz	10.26	13	*e*P	Pn	01 29 58.6	+1.2
LPAZ				pmax	pmax		
	comp=Z,49nm,1.2s						
LPAZ	La Paz	10.26	13	*e*Pn	Pn	01 29 58.6	+1.2
	comp=Z,49nm,1.2s						
CPUP	Villa Florida	11.87	93	Pn	Pn	01 30 22.0	+2.6
	comp=Z,0.1nm,0.3s,baz=245,slow=12,SNR=6.6						
CPUP				LR	LR	01 35 34.9	
	comp=Z,2μm,18.6s,baz=248,slow=40						
CPUP	Villa Florida	11.87	93	*e*P	Pn	01 30 21.5	+2.0
CPUP				*e*		01 32 35.0	
CPUP				pmax	pmax		
	comp=Z,43nm,0.6s						
CPUP	Villa Florida	11.87	93	*e*Pn	Pn	01 30 21.5	+2.0
	comp=Z,44nm,0.6s						
CPUP				*e*Sn	Sn	01 32 35.0	+4.2
SIV	San Ignacio	13.57	43	Pn	Pn	01 30 41.3	-1.4
	comp=Z,4.1nm,0.3s,baz=249,slow=10,SNR=125						
SIV				Sn	Sn	01 33 11.5	-0.9
	comp=Z,0.3nm,0.3s,baz=214,slow=18,SNR=2.3						
TRQA	Tornquist	13.75	150	*e*Pn	Pn	01 30 45.4	+0.3
	comp=Z,27nm,0.6s						
TRQA				*e*Sn	Sn	01 33 18.6	+2.0
PLCA	Paso Flores	14.35	180	Pn	Pn	01 30 59.7	+6.4
	comp=Z,0.0nm,0.3s,baz=3.7,slow=11,SNR=3.0						
PLCA				LR	LR	01 36 42.1	
	comp=Z,1μm,19.9s,baz=352,slow=38						
PLCA	Paso Flores	14.35	180	*e*Pn	Pn	01 30 48.6	-4.8
PLCA				LR	LR	01 36 42.1	
NNA	Nana	15.46	336	LR	LR	01 36 12.3	
	comp=Z,272nm,20.3s,baz=142,slow=34						
NNA	Nana	15.46	336	Pn	Pn	01 31 08.8	+0.8
SAML	Samuel	18.66	23	*e*Pn	Pn	01 31 48.9	+0.7
	comp=Z,26nm,1.0s						
SAML				*e*Sn	Sn	01 35 12.9	-3.1
ATAH	Atahualpa	20.63	337	P	P	01 32 11.5	+2.3
	comp=Z,9.2nm,1.1s,baz=115,slow=12,SNR=3.8						
BDFB	Brasilia	23.55	68	P	P	01 32 39.8	-0.4
	comp=Z,82nm,1.2s,mb5.0,baz=241,slow=10,SNR=33						
BAO	Brasilia Array	23.57	68	P	P	01 32 30.0	-10
CAM4	Nova Friburgo	25.79	87	*e*P	P	01 32 54.1	-6.4
CAM4				*i*		01 33 14.0	
CAM4				*i*		01 33 18.1	
CAM4				*i*		01 33 22.6	
CAM4				*i*		01 33 37.9	
CAM3	Guarapari	28.07	85	*e*P	pP	01 33 32.4	+2.5
CAM3				*i*		01 33 35.1	
CAM3				*i*		01 33 39.2	
CAM3				*i*		01 33 55.5	
CAM3				*i*		01 34 01.2	
CAM3				*i*		01 34 35.5	
ROSC	El Rosal	31.23	353	P	P	01 33 50.5	+1.5
	comp=Z,7.2nm,0.8s,mb4.5,baz=108,slow=19,SNR=3.7						
ROSC				LR	LR	01 45 57.6	
	comp=Z,196nm,21.0s,MS3.8,baz=194,slow=36						
SDV	Santo Domingo	35.02	360	*e*P	P	01 34 21.3	-0.8
SDV				*e*pP	pP	01 34 31.6	+0.6
SDV				*e*sP	sP	01 34 35.0	+0.2
PMSA	Palmer Station	38.66	176	*e*P	P	01 34 53.5	+0.4
RCBR	Riachuelo	38.85	64	*e*P	P	01 34 54.3	-0.3
	comp=Z,26nm,0.9s,mb5.0						
JTS	JuntasAbangare	39.01	337	P	P	01 34 56.7	+0.8
SJG	San Juan	44.39	6	*e*P	P	01 35 39.1	-0.9
SJG				*e*	pP	01 35 47.4	-1.8
SJG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SJG	San Juan	44.39	6	*e*P	P	01 35 39.1	-0.9
	comp=Z,8.5nm,0.7s,mb4.6						
SJG				*e*	pP	01 35 47.4	-1.8
VNA1	Neumayer--Stat	56.28	159	*e*P	P	01 37 09.5	-0.4
VNA1				*e*		01 37 10.7	
VNA1				*e*	pP	01 37 18.3	-1.0
VNA1				*e*		01 37 20.9	
VNA1				*e*		01 37 23.5	
VNA1				*e*		01 37 29.4	
VNA1				*e*		01 37 41.4	
VNA1				*e*		01 38 07.2	
VNA1				*e*		01 38 09.6	
SNAA	Sanae	58.25	160	*e*P	P	01 37 23.0	-0.8
SNAA				*e*		01 37 24.3	
SNAA				*e*	pP	01 37 32.3	-0.9
SNAA				*e*		01 37 34.9	
SNAA				*e*		01 37 37.3	
SNAA				*e*		01 37 42.7	
SNAA				*e*		01 37 53.8	
SNAA				*e*		01 38 14.5	
SNAA				*e*		01 38 17.5	
SNAA	Sanae	58.25	160	*e*P	P	01 37 22.9	-0.9
SNAA				*e**PP	pP	01 37 32.1	-1.1
SNAA				pmax	pmax		
	comp=Z,29nm,0.9s						
SNAA	Sanae	58.25	160	*e*P	P	01 37 22.9	-0.9
	comp=Z,29nm,0.9s,mb5.3						
SNAA				*e*pP	pP	01 37 32.1	-1.1
SNAA				*e*PP	PP	01 39 27.2	-5.7
MAIT	Maitri	62.85	158	*e*P	P	01 37 55.9	+0.7
NVL	N'lazarevskaya	62.89	158	⇓*i*P	P	01 37 55.1	-0.4
NVL				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.3						
SWET	Sewanee	62.93	346	*e*P	P	01 37 54.5	-1.2
SWET				*e*pP	pP	01 38 03.2	-2.0
JCT	Junction City	63.05	332	*e*P	P	01 37 56.8	+0.3
JCT				*e**PP	pP	01 38 05.6	-0.4
JCT				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
JCT	Junction City	63.05	332	*e*P	P	01 37 56.8	+0.2
	comp=Z,20nm,0.8s,mb5.3						
JCT				*e*pP	pP	01 38 05.6	-0.5
PLAL	Pickwick Lake	63.20	344	*e*P	P	01 37 56.0	-1.5
	comp=Z,17nm,1.3s,mb5.0						
PLAL				*e*pP	pP	01 38 04.9	-2.2
WVT	Waverly	64.24	345	*e*P	P	01 38 02.7	-1.7
WVT				*e**PP	pP	01 38 11.8	-2.1
WVT				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
WVT	Waverly	64.24	345	*e*P	P	01 38 02.7	-1.7
	comp=Z,10nm,0.9s,mb4.9						
WVT				*e*pP	pP	01 38 11.8	-2.1
MIAR	Mount Ida	64.36	339	*e*P	P	01 38 04.7	-0.5
MIAR				*e**PP	pP	01 38 13.4	-1.3
MIAR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MIAR	Mount Ida	64.36	339	*e*P	P	01 38 04.7	-0.5
	comp=Z,9.9nm,0.9s,mb4.8						
MIAR				*e*pP	pP	01 38 13.4	-1.3
WCI	Wyandotte Cave	65.90	346	*e*P	P	01 38 13.6	-1.6
WCI				*e**PP	pP	01 38 22.5	-2.2
WCI				*e**SP	sP	01 38 28.7	+0.4
WCI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
WCI	Wyandotte Cave	65.90	346	*e*P	P	01 38 13.6	-1.6
	comp=Z,6.6nm,0.7s,mb4.8						
WCI				*e*pP	pP	01 38 22.5	-2.2
WCI				*e*sP	sP	01 38 28.7	+0.4
SIUC	Southern Illin	66.08	344	*e*P	P	01 38 15.3	-1.0
	comp=Z,14nm,0.7s,mb5.1						
SIUC				*e*pP	pP	01 38 24.0	-1.9
WMOK	Wichita Mounta	66.37	335	*e*P	P	01 38 17.3	-0.9
WMOK				*e**PP	pP	01 38 26.3	-1.4
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
WMOK	Wichita Mounta	66.37	335	*e*P	P	01 38 17.3	-0.9
	comp=Z,2.0nm,0.8s,mb4.2						
WMOK				*e*pP	pP	01 38 26.3	-1.4
MNTX	Cornudas Mount	66.60	328	*e*P	P	01 38 19.4	-0.3
	comp=Z,8.2nm,0.9s,mb4.8						
MNTX				*e*pP	pP	01 38 28.2	-1.0
FVM	French Village	66.65	343	*e*P	P	01 38 19.2	-0.8
FVM				*e**PP	pP	01 38 27.9	-1.6
FVM				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
FVM	French Village	66.65	343	*e*P	P	01 38 19.2	-0.7
	comp=Z,24nm,1.0s,mb5.2						
FVM				*e*pP	pP	01 38 27.9	-1.6
ACSO	Alum Creek Sta	67.23	350	*e*P	P	01 38 22.2	-1.5
	comp=Z,10nm,0.7s,mb5.0						
ACSO				*e*pP	pP	01 38 31.3	-2.0
KSU1	Kansas State U	69.51	339	*e*P	P	01 38 36.8	-1.1
KSU1				*e*pP	pP	01 38 45.5	-2.0
ANMO	Albuquerque	69.79	329	*e*P	P	01 38 40.5	+0.8
	comp=Z,4.7nm,0.8s,mb4.5						
ANMO				*e*pP	pP	01 38 49.8	+0.5
TBI	Tubuai	70.57	253	*e*LR	LR	02 00 12.0	
	comp=Z,110nm,28.8s						
LONY	Lake Ozonia	70.71	357	*e*P	P	01 38 45.3	0.0
LONY				*e*pP	pP	01 38 54.4	-0.5
LONY				*e*sP	sP	01 38 58.2	-0.3
SBA	Scott Base	70.81	191	*e*P	P	01 38 43.7	-2.2
SBA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
SBA	Scott Base	70.81	191	*e*P	P	01 38 43.7	-2.2
	comp=Z,2.9nm,0.6s,mb4.4						
MSNY	Massena	71.10	357	*e*P	P	01 38 47.6	0.0
MSNY				*e*pP	pP	01 38 56.9	-0.4
LIC	Lamto	71.22	73	⇑*i*P	P	01 38 48.8	+0.4
	comp=Z,35nm,1.1s,mb4.9						
LIC				*e*R			
	comp=Z,318nm,20.5s						
LIC	Lamto	71.22	73	⇑*i*P	P	01 38 48.8	+0.4
	comp=Z,18nm,1.0s,mb5.0						
LIC				LR	LR		
	comp=Z,160nm,20.5s,MS4.3						
DBIC	Dimbokro	71.59	73	P	P	01 38 51.1	+0.5
	comp=Z,14nm,0.7s,mb5.0,baz=203,slow=6.6,SNR=23						
DBIC				sP	sP	01 39 04.5	+0.7
	comp=Z,5.6nm,0.5s,baz=20,slow=0.9,SNR=3.4						
DBIC				LR	LR	02 08 11.3	
	comp=Z,235nm,19.4s,MS4.5,baz=223,slow=34						
DBIC	Dimbokro	71.59	73	*e*P	P	01 38 51.5	+0.9
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
DBIC	Dimbokro	71.59	73	*e*P	P	01 38 51.5	+0.9
	comp=Z,9.3nm,0.6s,mb4.9						
SDCO	Great Sand Dun	71.69	331	*e*P	P	01 38 51.8	+0.6
	comp=Z,11nm,1.0s,mb4.8						
SDCO				*e*pP	pP	01 39 01.2	+0.4
SDCO				*e*PcP	PcP	01 39 08.9	-1.3
VNDA	Vanda	71.84	190	P	P	01 38 52.0	-0.1
	comp=Z,1.9nm,1.0s,mb4.0,baz=83,slow=2.0,SNR=6.7						
VNDA				pP	pP	01 39 00.9	-0.8
	comp=Z,2.4nm,0.9s,baz=129,slow=3.5,SNR=7.2						
VNDA				LR	LR	02 08 08.2	
	comp=Z,63nm,21.8s,MS3.8,baz=121,slow=34						
VNDA	Vanda	71.84	190	P	P	01 38 52.1	0.0
VNDA				*PP	pP	01 39 00.9	-0.8
VNDA	Vanda	71.84	190	P	P	01 38 52.0	-0.1
VNDA				pP	pP	01 39 00.9	-0.8
VNDA				LR	LR	02 08 08.2	
SYO	Syowa Base	72.53	159	⇓*e*P	P	01 38 55.0	-1.2
SYO	Syowa Base	72.53	159	⇓*e*pP	pP	01 39 04.4	-1.5
WUAZ	Wupatki	72.61	326	*e*P	P	01 38 57.5	+0.8
	comp=Z,9.8nm,0.9s,mb4.7						
WUAZ				*e*pP	pP	01 39 05.9	-0.4
PPT	Papeete	72.81	259	*e*LR	LR	02 01 14.4	
	comp=Z,165nm,25.8s						
PPT	Papeete	72.81	259	LR	LR	02 02 13.2	
	comp=Z,111nm,20.2s,MS4.1,baz=114,slow=29						
PV01	Paradox Valley	73.37	330	*e*P	P	01 39 02.2	+1.0
PV01				*e*pP	pP	01 39 11.7	+0.8
PV01				*e*PcP	PcP	01 39 16.7	-0.7
ISCO	Idaho Springs	73.47	333	*e*P	P	01 39 02.5	+0.7
ISCO				*e**PP	pP	01 39 11.5	+0.1
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
ISCO	Idaho Springs	73.47	333	*e*P	P	01 39 02.5	+0.7
	comp=Z,4.2nm,1.2s,mb4.2						
ISCO				*e*pP	pP	01 39 11.5	+0.1
SMCO	Snowmass	73.52	331	*e*P	P	01 39 03.4	+1.3
	comp=Z,8.1nm,0.7s,mb4.8						
SMCO				*e*pP	pP	01 39 12.8	+1.0
ECSD	EROS,Sioux Fal	73.72	341	*e*P	P	01 39 02.3	-1.0
ECSD				*e*pP	pP	01 39 11.8	-1.2
ECSD				*e*PcP	PcP	01 39 17.5	-1.3
PV10	Paradox Valley	73.78	329	*e*P	P	01 39 04.3	+0.7
PV10				*e*pP	pP	01 39 13.1	-0.2
PV10				*e*PcP	PcP	01 39 18.0	-1.2
SRU	San Rafael	75.06	329	*e*P	P	01 39 11.6	+0.5
SRU				*e**PP	pP	01 39 20.9	+0.2
SRU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
SRU	San Rafael	75.06	329	*e*P	P	01 39 11.6	+0.5
	comp=Z,9.8nm,0.7s,mb4.8						
SRU				*e*pP	pP	01 39 20.9	+0.1
CCUT	Cedar City	75.20	326	*e*P	P	01 39 13.6	+1.7
CCUT				*e*pP	pP	01 39 22.6	+1.1
MSU	Marysvale	75.37	327	*e*P	P	01 39 14.0	+1.2
MSU				*e**PP	pP	01 39 23.5	+1.0
MPU	Maple Canyon	76.30	329	*e*P	P	01 39 18.6	+0.5
	comp=Z,8.2nm,1.0s,mb4.6						
MPU				*e*pP	pP	01 39 27.6	-0.3
RSSD	Black Hills	76.53	336	*e*P	P	01 39 19.7	+0.2
RSSD				*e**PP	pP	01 39 28.4	-0.8
RSSD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
RSSD	Black Hills	76.53	336	*e*P	P	01 39 19.7	+0.3
	comp=Z,3.4nm,0.9s,mb4.3						
RSSD				*e*pP	pP	01 39 28.4	-0.8
DUG	Dugway	76.99	328	*e*P	P	01 39 22.8	+0.7
DUG				*e**PP	pP	01 39 30.1	-1.7
DUG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
DUG	Dugway	76.99	328	*e*P	P	01 39 22.8	+0.7
	comp=Z,7.6nm,0.9s,mb4.6						
DUG				*e*pP	pP	01 39 30.1	-1.7
HWUT	Hardware Ranch	77.53	330	*e*P	P	01 39 25.5	+0.4
	comp=Z,13nm,0.8s,mb4.9						
HWUT				*e*pP	pP	01 39 34.4	-0.4
PDAR	Pinedale Array	77.58	332	P	P	01 39 25.1	-0.3
	comp=Z,0.6nm,0.5s,mb3.8,baz=131,slow=4.5,SNR=10						
PDAR				pP	pP	01 39 34.4	-0.8
	comp=Z,1.0nm,0.7s,baz=121,slow=6.6,SNR=6.3						
PDAR				LR	LR	02 09 42.7	
	comp=Z,53nm,20.6s,MS3.9,baz=241,slow=33						
SPUT	South Promonto	77.70	329	*e*P	P	01 39 25.6	-0.4
SPUT				*e*pP	pP	01 39 33.5	-2.2
SPUT				*e*sP	sP	01 39 38.2	-1.1
REDW	Red Top Meadow	78.62	331	*e*P	P	01 39 31.1	0.0
	comp=Z,14nm,1.0s,mb4.8						
REDW				*e*PcP	PcP	01 39 39.1	-0.9
SNOW	Snow King Moun	78.66	331	*e*P	P	01 39 31.0	-0.3
	comp=Z,14nm,0.8s,mb5.0						
SNOW				*e*	pP	01 39 41.2	+0.2
LOHW	Long Hollow	78.72	332	*e*P	P	01 39 31.7	+0.1
	comp=Z,13nm,1.1s,mb4.8						
LOHW				*e*PcP	PcP	01 39 40.0	-0.4
TPAW	Teton Pass	78.77	331	*e*P	P	01 39 32.2	+0.3
	comp=Z,9.5nm,1.0s,mb4.7						
TPAW				*e*	pP	01 39 42.1	+0.4
RRI2	Red Ridge	78.81	331	*e*P	P	01 39 32.9	+0.7
	comp=Z,12nm,1.0s,mb4.8						
RRI2				*e*	pP	01 39 41.9	0.0
IMW	Indian Meadow	79.09	332	*e*P	P	01 39 34.3	+0.6
	comp=Z,13nm,1.1s,mb4.8						
IMW				*e*pP	pP	01 39 43.9	+0.4
FLWY	Flagg Ranch	79.14	332	*e*P	P	01 39 35.0	+1.1
	comp=Z,22nm,0.9s,mb5.1						
FLWY				*e*pP	pP	01 39 44.0	+0.3
ULM	Lac du Bonnet	79.49	344	P	P	01 39 34.5	-1.4
	comp=Z,4.8nm,0.8s,mb4.5,baz=233,slow=4.5,SNR=7.3						
ULM				pP	pP	01 39 44.1	-1.5
	comp=Z,3.9nm,0.5s,baz=143,slow=6.8,SNR=7.7						
ULM	Lac du Bonnet	79.49	344	P	P	01 39 34.5	-1.4
ULM				pP	pP	01 39 44.1	-1.5
PAHR	Pah Rah Range	79.92	324	*e*P	P	01 39 38.3	+0.1
	comp=Z,14nm,1.2s,mb4.8						
PAHR				*e*pP	pP	01 39 48.6	+0.6
GCMT	Greycliff	80.10	333	*e*P	P	01 39 39.7	+0.5
GCMT				*e*pP	pP	01 39 47.8	-1.2
TSUM	Tsumeb	80.11	107	*e*P	P	01 39 40.3	+1.1
	comp=Z,15nm,1.1s,mb4.8						
TSUM				*e*pP	pP	01 39 50.0	+1.0
MAW	Mawson	80.14	164	⇑*i*P	P	01 39 39.1	-0.3
	comp=Z,18nm,0.9s,mb5.0						
MAW				*i*	pP	01 39 48.5	-0.7
MAW	Mawson	80.14	164	P	P	01 39 39.2	-0.2
	comp=Z,24nm,0.9s,mb5.1,baz=216,slow=6.7,SNR=40						
MAW				pP	pP	01 39 48.3	-0.9
	comp=Z,20nm,0.9s,baz=216,slow=5.8,SNR=12						
MAW				LR	LR	02 14 07.2	
	comp=Z,112nm,19.3s,MS4.2,baz=232,slow=35						
MAW	Mawson	80.14	164	⇑*i*P	P	01 39 39.1	-0.3
MAW				*i*	pP	01 39 48.5	-0.7
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
DGMT	Dagmar	80.34	338	*e*P	P	01 39 39.8	-0.7
	comp=Z,13nm,1.0s,mb4.8						
DGMT				*e*pP	pP	01 39 50.3	+0.1
HLID	Hailey	80.37	329	*e*P	P	01 39 41.5	+0.9
	comp=Z,16nm,1.0s,mb4.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HLID				epP	pP	01 39 50.8	+0.4
TOA0	Torodi Ar. Sit	80.41	70	eP	P	01 39 41.5	+0.7
TOA0				epP	pP	01 39 51.2	+0.6
TOA0				esP	sP	01 39 55.1	+0.9
TORD	Torodi Ar. Bea	80.41	70	P	P	01 39 41.5	+0.6
	comp=Z,18nm,0.6s,mb5.2,baz=265,slow=5.4,SNR=323						
TORD				pP	pP	01 39 51.1	+0.5
	comp=Z,18nm,0.6s,baz=265,slow=4.9,SNR=10						
TORD				sP	sP	01 39 55.1	+1.0
	comp=Z,16nm,0.5s,baz=262,slow=5.2,SNR=12						
TORD				LR	LR	02 14 14.9	
	comp=Z,190nm,18.7s,MS4.5,baz=230,slow=35						
MCMT	McKenzie Canyo	80.66	331	eP	P	01 39 43.1	+0.9
MCMT				epP	pP	01 39 52.2	+0.2
SCHQ	Schefferville	80.90	2	P	P	01 39 43.0	-0.6
	comp=Z,2.9nm,0.8s,mb4.3,baz=254,slow=11,SNR=5.7						
SCHQ				LR	LR	02 13 20.6	
	comp=Z,42nm,18.2s,MS3.8,baz=111,slow=34						
DLMT	Dillon	80.97	331	eP	P	01 39 44.7	+0.9
	comp=Z,8.5nm,0.9s,mb4.7						
DLMT				epP	pP	01 39 53.5	-0.2
HRY	Holter Researc	81.73	333	eP	P	01 39 47.7	-0.2
HRY				epP	pP	01 39 58.0	+0.3
MOD	Modoc	81.99	325	eP	P	01 39 49.9	+0.6
	comp=Z,5.1nm,1.0s,mb4.4						
MOD				epP	pP	01 39 58.6	-0.5
BOSA	Boshof	82.52	118	P	P	01 39 52.1	+0.1
	comp=Z,8.8nm,1.1s,mb4.7,baz=209,slow=6.5,SNR=5.4						
BOSA				sP	sP	01 40 05.9	+0.6
	comp=Z,8.8nm,1.0s,baz=136,slow=1.1,SNR=4.5						
BOSA				LR	LR	02 13 53.6	
	comp=Z,167nm,18.1s,MS4.5,baz=288,slow=34						
BOSA	Boshof	82.52	118	P	P	01 39 52.1	+0.1
BOSA				*SP	sP	01 40 05.9	+0.6
LBTB	Lobatse	84.36	115	eP	P	01 40 02.2	+0.7
WALA	Waterton Lakes	84.44	333	eP	P	01 40 02.2	+0.2
	comp=Z,9.5nm,0.8s,mb5.0						
WALA				epP	pP	01 40 11.2	-0.5
HAWA	Hanford	84.88	328	eP	P	01 40 04.0	-0.2
	comp=Z,0.4nm,1.1s						
HAWA				epP	pP	01 40 13.0	-0.9
EVO	Evora	87.10	44	eP	P	01 40 14.4	-0.7
	comp=Z,9.6nm,0.8s,mb4.8						
EVO				eR			
	comp=Z,105nm,18.2s						
EDM	Edmonton	87.52	336	eP	P	01 40 15.4	-1.7
EDM				e*PP	pP	01 40 25.0	-1.9
CASY	Casey	87.67	180	eP	P	01 40 17.7	-0.1
CASY				i	pP	01 40 26.9	-0.8
ESDC	Sonseca Array	90.32	45	P	P	01 40 30.6	+0.3
	comp=Z,0.7nm,0.7s,mb4.1,baz=247,slow=4.1,SNR=7.8						
LSZ	Lusaka	90.93	107	P	P	01 40 35.3	+2.2
ETSF	Etsaut	94.23	44	eP	P	01 40 49.1	+0.7
	comp=Z,15nm,1.2s,mb5.0						
ETSF	Etsaut	94.23	44	eP	P	01 40 49.1	+0.7
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
ETSF	Etsaut	94.23	44	eP	P	01 40 49.1	+0.7
	comp=Z,7.6nm,1.2s,mb5.0						
YKA	Yellowknife Ar	95.24	341	P	P	01 40 51.5	-1.5
	comp=Z,1.8nm,0.8s,mb4.5,baz=140,slow=4.5,SNR=10						
YKA				pP	pP	01 41 00.7	-2.2
	comp=Z,1.9nm,0.8s,baz=134,slow=4.5,SNR=7.6						
YKA				LR	LR	02 28 19.7	
	comp=Z,62nm,18.1s,MS4.1,baz=110,slow=38						
YKA	Yellowknife Ar	95.24	341	P	P	01 40 51.5	-1.5
YKA				*PP	pP	01 41 00.8	-2.1
YKA	Yellowknife Ar	95.24	341	P	P	01 40 51.5	-1.5
YKA				pP	pP	01 41 00.8	-2.1
YKA				LR	LR	02 28 19.6	
QUIF	Quistinic	95.42	39	eP	P	01 40 52.9	-0.9
	comp=Z,12nm,1.1s,mb5.0						
QUIF	Quistinic	95.42	39	eP	P	01 40 52.9	-0.9
QUIF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.9						
QUIF	Quistinic	95.42	39	eP	P	01 40 52.9	-0.9
	comp=Z,6.3nm,1.1s,mb5.0						
MTLF	Montolieu	96.20	45	eP	P	01 40 57.1	-0.3
	comp=Z,14nm,1.3s,mb4.9						
MTLF	Montolieu	96.20	45	eP	P	01 40 57.1	-0.3
MTLF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
MTLF	Montolieu	96.20	45	eP	P	01 40 57.1	-0.3
	comp=Z,7.2nm,1.3s,mb4.9						
MFF	Saint Martin d	96.45	41	eP	P	01 40 58.1	-0.4
	comp=Z,11nm,1.1s,mb4.9						
MFF	Saint Martin d	96.45	41	eP	P	01 40 58.1	-0.4
MFF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.9						
MFF	Saint Martin d	96.45	41	eP	P	01 40 58.1	-0.4
	comp=Z,5.7nm,1.1s,mb4.9						
GRR	Gorron	96.98	39	eP	P	01 40 59.0	-1.9
	comp=Z,27nm,1.4s,mb5.2						
GRR	Gorron	96.98	39	eP	P	01 40 59.0	-1.9
GRR				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.2						
GRR	Gorron	96.98	39	eP	P	01 40 59.0	-1.9
	comp=Z,14nm,1.4s,mb5.2						
KEST	Kesra	97.39	54	LR	LR	02 28 14.8	
	comp=Z,118nm,18.7s,MS4.4,baz=356,slow=37						
BGF	Bois d'Agland	98.20	42	eP	P	01 41 05.0	-1.4
LMR	La Mourre	98.93	46	eP	P	01 41 10.0	+0.3
	comp=Z,28nm,1.3s,mb5.3						
LMR	La Mourre	98.93	46	eP	P	01 41 10.0	+0.3
LMR				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.3						
LMR	La Mourre	98.93	46	eP	P	01 41 10.0	+0.3
	comp=Z,14nm,1.3s,mb5.3						
ORIF	Oris-en-Rattie	99.27	44	eP	P	01 41 12.0	+0.8
	comp=Z,12nm,1.1s,mb5.0						
ORIF				eR			
	comp=Z,119nm,22.5s						
ORIF	Oris-en-Rattie	99.27	44	eP	P	01 41 12.0	+0.8
ORIF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb5.0						
ORIF	Oris-en-Rattie	99.27	44	eP	P	01 41 12.0	+0.8
	comp=Z,6.2nm,1.1s,mb5.0						
LPG	La Plagne	100.09	44	eP	Pdif	01 41 16.9	+2.1
	comp=Z,7.9nm,0.9s						
LPG	La Plagne	100.09	44	eP	Pdif	01 41 16.9	+2.1
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPG	La Plagne	100.09	44	eP	Pdif	01 41 16.9	+2.1
	comp=Z,4.0nm,0.9s						
GERES	GERESS Array B	105.79	43	PKiKP	PKiKP	01 45 52.2	-0.6
	comp=Z,0.2nm,0.3s,baz=270,slow=0.5,SNR=3.6						
AKASG	Malin Array Be	115.95	44	PKP	PKPdf	01 46 10.6	-1.4
	comp=Z,0.8nm,0.4s,baz=263,slow=3.3,SNR=8.4						
AKASG				pPKP	pPKPdf	01 46 20.3	-1.8
	comp=Z,1.7nm,0.7s,baz=265,slow=3.0,SNR=3.4						
BRTR	Keskin Array B	116.79	57	PKP	PKPdf	01 46 13.4	-0.2
	comp=Z,0.8nm,0.8s,baz=270,slow=0.7,SNR=3.6						
BRTR				pPKP	pPKPdf	01 46 23.4	-0.4
	comp=Z,0.8nm,0.8s,baz=204,slow=2.6,SNR=4.3						
MALT	Malatya	120.14	59	ePKIKP	PKPdf	01 46 20.1	0.0
MALT				e		01 46 30.1	
ANN	Anapa	120.48	52	i PKIKP	PKPdf	01 46 18.7	-2.0
ANN				e		01 47 45.1	
ANN				pmax	pmax		
	comp=Z,45nm,1.7s						
OBN	Obninsk	120.87	40	ePKIKP	PKPdf	01 46 19.9	-1.6
OBN				e		01 46 31.1	
OBN				e		01 47 46.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KIV	Kislovodsk	124.13	53	ePKIKP	PKPdf	01 46 27.5	-0.2
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ASAR	Alice Springs	124.94	208	PKP	PKPdf	01 46 28.7	-0.6
	comp=Z,1.6nm,0.6s,baz=131,slow=1.5,SNR=15						
ASAR				pPKP	pPKPdf	01 46 38.4	-1.0
	comp=Z,3.1nm,0.8s,baz=146,slow=2.0,SNR=14						
WRA	Warramunga Arr	128.03	210	PKP	PKPdf	01 46 34.7	-0.5
	comp=Z,2.7nm,0.6s,baz=157,slow=1.8,SNR=12						
WRA				pPKP	pPKPdf	01 46 44.5	-0.9
	comp=Z,5.2nm,0.8s,baz=159,slow=1.7,SNR=12						
WRAB	Tennant Creek	128.03	210	i PKIKP	PKPdf	01 46 36.8	+1.6
ARU	Arti	132.96	36	i PKIKP	PKPdf	01 46 43.0	-1.5
ZRNK	Zerenda	139.88	38	ePKIKP	PKPdf	01 46 57.4	0.0
ZRNK				e		01 47 07.3	
CHKZ	Chkalovo	140.41	36	ePKIKP	PKPdf	01 46 57.0	-1.3
CHKZ				e		01 47 08.4	
NVS	Novosibirsk	145.66	27	ePKP2	PKPab	01 47 06.2	-2.1
NVS				pmax	pmax		
	comp=N,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,41nm,1.1s						
YSS	Yuzh-Sakhalins	146.64	317	ePKP2	PKPab	01 47 19.2	+7.2
EKS2	Erkin-Say	146.70	52	P	PKPdf	01 47 11.1	+1.7
	SNR=12						
AML	Almayashu	146.80	53	P	PKPdf	01 47 11.5	+2.0
	SNR=16						
ZAL	Zalesovo	146.95	27	PKPbc	PKPbc	01 47 10.2	-1.5
	comp=Z,21nm,0.8s,baz=169,slow=3.5,SNR=68						
ZAL				pPKPbc	pPKPbc	01 47 20.4	-1.4
	comp=Z,25nm,0.8s,baz=168,slow=4.1,SNR=17						
ZAL	Zalesovo	146.95	27	PKPbc	PKPbc	01 47 10.2	-1.5
ZAL				pPKPbc	pPKPbc	01 47 20.4	-1.4
USP	Ospenovka	147.01	50	P	PKPdf	01 47 11.2	+1.4
	SNR=13						
AAK	Ala-Archa	147.21	51	⇑iPKIKP	PKPdf	01 47 10.6	+0.4
AAK	Ala-Archa	147.21	51	ePKPdf	PKPdf	01 47 10.4	+0.2
FRU	Bishkek	147.23	51	ePKP2	PKPab	01 47 13.0	-1.3
FRU				pmax	pmax		
	comp=Z,67nm,1.2s						
CHMS	Chumysh	147.27	51	P	PKPbc	01 47 13.7	+1.1
	SNR=9.9						
KBK	Karagaybulak	147.52	51	P	PKPbc	01 47 14.8	+1.5
	SNR=10						
CLNS	Chul'man	147.57	344	ePKP2	PKPab	01 47 12.5	-3.1
CLNS				pmax	pmax		
	comp=N,9.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s						
TKM2	Tokmak 2	147.88	50	P	PKPdf	01 47 12.3	+1.0
	SNR=14						
BOD	Bodaibo	148.38	355	ePKIKP	PKPdf	01 47 12.8	+0.7
BOD				pmax	pmax		
	comp=Z,16nm,0.9s						
HYB	Hyderabad	150.06	101	i PKP	PKPbc	01 47 20.5	+0.7
HYB	Hyderabad	150.06	101	eP	PKPbc	01 47 20.5	+0.7
MKAR	Makanchi Array	150.38	39	PKPbc	PKPbc	01 47 20.4	-0.2
	comp=Z,29nm,0.7s,baz=310,slow=2.3,SNR=123						
MKAR				pPKPbc	pPKPbc	01 47 30.3	-0.4
	comp=Z,31nm,0.7s,baz=336,slow=2.7,SNR=26						
KLR	Kul'dur	151.34	329	ePKIKP	PKPdf	01 47 18.2	+1.4
MJAR	Matsushiro Arr	153.52	300	PKPbc	PKPbc	01 47 27.1	-0.6
	comp=Z,3.7nm,1.1s,baz=1.0,slow=0.5,SNR=4.3						
MJAR				pPKPbc	pPKPbc	01 47 36.5	-1.4
	comp=Z,2.0nm,0.6s,baz=58,slow=1.8,SNR=3.5						
WMQ	Urumqi	155.21	40	ePKP	PKPdf	01 47 21.5	-0.9
ZAK	Zakamensk	155.53	10	ePKIKP	PKPdf	01 47 22.8	0.0
ZAK				e		01 47 31.8	
ZAK				e		01 47 48.9	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CN2	Changchun	158.27	327	ePKP	PKPdf	01 47 27.3	+1.0
SONM	Songino Array	158.41	6	PKP	PKPdf	01 47 26.8	+0.2
	comp=Z,2.4nm,0.8s,baz=238,slow=0.8,SNR=17						
SONM				pPKP	pPKPdf	01 47 36.6	-0.1
	comp=Z,3.9nm,0.8s,baz=284,slow=0.9,SNR=17						
SONM				PKPab	PKPab	01 48 01.2	+0.1
	comp=Z,2.3nm,0.8s,baz=335,slow=4.4,SNR=6.1						
SONM				pPKPab	pPKPab	01 48 10.5	-0.6
	comp=Z,1.9nm,0.8s,baz=333,slow=4.1,SNR=5.2						
SONM	Songino Array	158.41	6	PKIKP	PKPdf	01 47 26.8	+0.3
SONM						01 47 36.6	
SONM						01 48 01.2	
ULN	Ulaanbaatar	158.43	4	ePKIKP	PKPdf	01 47 27.1	+0.6
ULN				e		01 47 36.6	
GTA	Gaotai	164.68	29	PKP	PKPdf	01 47 34.1	+1.1
GTA				APKP		01 47 43.9	
GTA				XPKP		01 47 48.7	
GTA				PKS		01 51 05.2	
GTA				SKS	SKSdf	01 54 33.2	-1.9
GTA				SKKS	SKKSac	01 59 02.4	+2.0
GTA				SS	SS	02 12 49.4	+3.9
GTA				PP	PP		
	comp=Z,75nm,8.8s						
HHC	Hu-ho-hao-te	165.42	354	ePKP	PKPdf	01 47 34.0	+0.3
HHC				APKP		01 47 44.9	
HHC				XPKP		01 47 48.2	
HHC				PKP2	PKPab	01 48 34.3	+2.5
HHC				PKS		01 51 05.3	
HHC				PP	PP	01 52 22.2	+3.6
HHC				SKS	SKSdf	01 54 32.8	-2.8
HHC				SKKS	SKKSac	01 59 04.2	+0.1
HHC				PP	PP		
	comp=Z,90nm,4.9s						
SSE	Sheshan	168.65	297	PKP	PKPdf	01 47 37.1	+1.0
LZH	Lanzhou	169.17	25	ePKP	PKPdf	01 47 36.3	-0.1
LZH				APKP		01 47 51.8	
LZH				PKP2	PKPab	01 48 54.2	+5.8
LZH				SKS	SKSdf	01 54 33.2	-4.5
LZH				SKKS	SKKSac	01 59 20.6	-2.1
LZH				PP	PP		
	comp=Z,79nm,8.9s						
LZH				LR	LR		
	comp=N,127nm,18.3s						
LZH				LR	LR		
	comp=Z,178nm,20.1s						
NJ2	Nanjing	170.00	307	ePKP	PKPdf	01 47 37.9	+1.0
NJ2				APKP		01 47 48.9	
NJ2				XPKP		01 47 52.3	
NJ2				PKP2	PKPab	01 48 55.2	+3.1
NJ2				PKS		01 51 09.0	
NJ2				PP	PP	01 52 46.0	+4.0
NJ2				SKS	SKSdf	01 54 36.0	-2.1
NJ2				SKKS	SKKSac	01 59 26.0	-0.8
NJ2				PP	PP		
	comp=Z,360nm,9.5s						
NJ2				LR	LR		
	comp=N,210nm,23.0s						
NJ2				LR	LR		
	comp=E,200nm,23.7s						
NJ2				LR	LR		
	comp=Z,310nm,24.6s						
CD2	Chengdu	173.25	46	ePKP	PKPdf	01 47 37.6	-0.9
KMI	Kunming	173.84	100	PKP	PKPdf	01 47 38.6	-0.1
KMI				APKP		01 47 51.6	
KMI				XPKP		01 47 56.3	
KMI				LR	LR		
	comp=Z,35nm,16.7s						
GYA	Guiyang	177.51	87	ePKP	PKPdf	01 47 40.4	+0.8
GYA				APKP		01 47 51.2	
GYA				XPKP		01 47 54.8	
GYA				PP	PP		
	comp=Z,110nm,7.6s						

NIED ***11*** *02:15:00, 3920N×14350E, h17km, Mw4.0 Best double couple: M₀1.05000×10^15 NP1:φs28.00000°, δ62.00000°, λ102.00000°. NP2:φs184.00000°, δ31.00000°, λ69.00000°.*
IDC ***11*** *02:15:28.2±11.0, 3934N×14379E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.4/21, mbtmp3.5/4, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/28, Error ellipse: s-maj=194.6km s-min=33.5km az=109.0*
ISCJB ***11*** *02:15:31.6±1.4, 3923N±006×1435E±01, h30km, mb3.4/2, Error ellipse: s-maj=15.7km s-min=4.9km az=51.7*
JMA ***11*** *02:15:31.6±0.2, 39.19N×14347E, h30km, M3.6*
ISC 11 02:15:32.7±2.3**, 3925N**±007×**1434E**±01**, h23**km±22km**, n17, σ0.80**/23**, mb3.4**/2**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	1.29	285	P	Pn	02 15 54.8	-0.5
OFUJ	Ofunato	1.38	263	P	Pn	02 15 55.8	-0.7
JTH	Tanohata	1.39	300	P	Pn	02 15 56.4	-0.3
JOM	Ohasama	1.67	278	P	Pn	02 16 00.7	+0.2
JOM				eS	Sn	02 16 21.6	+0.4
JMK	Ichinoseki	1.74	261	P	Pn	02 16 01.4	-0.1
JIO	Ouri	1.81	245	P	Pn	02 16 01.4	-1.0
JANG	Nango	1.85	308	P	Pn	02 16 02.8	-0.2
JYK	Kaneyama	2.41	263	P	Pn	02 16 11.6	+0.9
JMM	Marumori	2.48	237	P	Pn	02 16 11.0	-0.8
JMM				eS	Sn	02 16 40.2	-1.2
JOT	Ohata	2.80	320	P	Pn	02 16 17.0	+0.9
JNBK	Urakawa-nobuka	3.07	351	P	Pn	02 16 20.4	+0.6
JNBK				eS	Sn	02 16 56.3	+0.5
JCH	Churui	3.36	359	P	Pn	02 16 23.2	-0.6
JCH				eS	Sn	02 17 01.3	-1.7
ASAJ	Asahikawa	4.90	353	Pn	Pn	02 16 41.2	-3.8
	1.2nm,0.3s,baz=214,slow=17,SNR=2.6						
ASAJ				Sn	Sn	02 17 41.2	+0.2
	0.4nm,0.3s,baz=320,slow=17,SNR=3.5						
ASAJ				LR	LR	02 19 23.0	
	comp=Z,129nm,19.2s,baz=264,slow=48						
MJAR	Matsushiro Arr	4.93	238	Pn	Pn	02 16 46.5	+1.0
	1.2nm,0.3s,baz=50,slow=12,SNR=20						
MAT	Matsushiro	4.94	238	P	Pn	02 16 46.4	+1.0
MAT				S	Sn	02 17 41.8	0.0
SONM	Songino Array	27.96	300	P	P	02 21 22.5	+1.0
	0.5nm,0.7s,mb3.3,baz=98,slow=11,SNR=3.8						
MKAR	Makanchi Array	44.33	301	P	P	02 23 41.5	+0.6
	0.3nm,0.3s,mb3.5,baz=81,slow=10,SNR=6.5						

BGS ***11*** *02:23:33.1±1.4, 4127N×4998E, h52km, mb4.8*
SZGRF ***11*** *02:23:39.2, 4131N×4857E, h33km, mb4.7, MS3.6, Eastern Caucasus*
MOS ***11*** *02:23:44.2±1.2, 4266N×4823E, h25km, mb5.0/85, Error ellipse: s-maj=4.7km s-min=3.0km az=36.2*
MOS Felt (V) at Kayakent; (III) at Makhachkala, Derbent, Bujnaksk, Dagestanskie Ogni.
BJI ***11*** *02:23:44.6, 4266N×4751E, h52km, mB5.1, mb4.9, Ms4.8, Msz4.5*
ISCJB ***11*** *02:23:46.6±0.3, 4268N±002×4822E±002, h44km±3km, mb4.8/228, MS3.9/33, Error ellipse: s-maj=3.3km s-min=2.3km az=5.6*
CSEM ***11*** *02:23:46.7±0.1, 4269N×4802E, h40km, mb4.7/99, Ms3.4, Error ellipse: s-maj=2.8km s-min=1.6km az=155.0*
CRAAG ***11*** *02:23:47.0, 4278N×48.11E, Mb4.8*
IDC ***11*** *02:23:47.8±1.6, 4258N×4805E, h35km±13km, mb4.5/26, mb1 4.6/30, mb1mx4.6/30, mbtmp4.7/30, ML4.1/4, MS3.8/19, Ms1 3.8/19, ms1mx3.6/34, Error ellipse: s-maj=11.8km s-min=7.2km az=141.0*
NEIC ***11*** *02:23:49.8±0.2, 4256N×4803E, mb4.8/149, Error ellipse: s-maj=4.8km s-min=3.0km az=162.0*
NEIC Felt [V] at Kayakent and [III] at Buynaksk, Dagestanskiye Ogni, Derbent and Makhachkala.
NNC ***11*** *02:23:50.1±3.0, 4294N×4909E, h0km, mb4.5, Error ellipse: s-maj=47.8km s-min=25.4km az=118.0*
NAO ***11*** *02:24:30.5, 4722N×4553E, h33km, mb4.3*
ISC 11 02:23:49.8±0.3**, 4270N**±002×**4819E**±002**, h58**km±2km**, h48**km±1.9km**: pP-P, n906, σ1.14**/965**, mb4.8**/228**, MS3.9**/33**, 173C-37D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAK	Makhachkala	0.57	298	⇓iPG	Pn	02 23 59.3	-3.0
MAK				i		02 24 10.6	
MAK				pmax	pmax		
	comp=Z,8µm,0.7s						
MAK				smax			
	comp=N,47µm,0.5s						
MAK				smax			
	comp=Z,12µm,0.3s						
MAK				smax			
	comp=E,70µm,0.4s						
MAK	Makhachkala	0.57	298	i Pg	Pn	02 23 59.3	-3.0
	comp=E,8µm,0.7s						
MAK				i Sg	Sn	02 24 10.6	-0.9
	comp=E,12µm,0.3s						
DRN	Derbent	0.67	171	i PG	Pn	02 23 51.5	-12
BUJR	Buynaksk	0.81	280	ePg	Pn	02 24 02.5	-2.7
GNBR	Gunib	0.96	252	i Pg	Pn	02 24 02.4	-4.8
GNBR				eSg	Sn	02 24 19.4	-0.6
KMKR	Kumukh	0.99	236	ePG	Pn	02 24 01.0	-6.5
KMKR				eS	Sn	02 24 15.0	-5.7
DBC	Dubki	1.05	288	i PG	Pn	02 24 03.0	-5.4
DBC				i S	Sn	02 24 19.0	-3.2
XNZR	Khunzakh	1.11	263	i Pg	Pn	02 24 04.2	-4.9
XNZR				eSg	Sn	02 24 22.9	-0.6
BTLR	Botlikh	1.45	269	⇓iPG	Pn	02 24 08.5	-5.3
BTLR				i S	Sn	02 24 30.0	-1.8
DGRG	David-gareji	2.44	240	P	Pn	02 24 26.4	-0.7
DGRG				S	Sn	02 24 57.9	+2.1
SNJR	Sundja	2.51	280	i Pn	Pn	02 24 30.0	+1.8
SNJR				i Sn	Sn	02 25 01.9	+4.3
VLKR	Vladikavkaz	2.61	279	i Pn	Pn	02 24 31.3	+1.8
VLKR				i Sn	Sn	02 25 04.1	+4.2
DUS	Dusheti	2.66	258	P	Pn	02 24 34.2	+4.1
DUS				S	Sn	02 25 06.9	+5.8
MTA	Mtatsminda	2.72	250	P	Pn	02 24 30.1	-0.8
MTA				S	Sn	02 25 04.0	+1.3
TRKR	Terskaya	2.73	293	i Pn	Pn	02 24 33.3	+2.2
TRKR				i Sn	Sn	02 25 07.5	+4.6
TBLG	Delisi	2.74	251	P	Pn	02 24 30.8	-0.4
TBLG				S	Sn	02 25 05.1	+1.9
LACR	Lac	2.87	274	i Pn	Pn	02 24 34.9	+1.8
LACR				i Sn	Sn	02 25 10.2	+3.8
ARNR	Ardon	2.92	281	i Pn	Pn	02 24 35.6	+1.9
ARNR				i Sn	Sn	02 25 11.4	+3.9
KMSR	Komsomolskaya	2.94	285	i Pn	Pn	02 24 36.0	+2.0
KMSR				i Sn	Sn	02 25 12.1	+4.1
PRTR	Priterechnaya	3.05	292	i Pn	Pn	02 24 37.7	+2.2
PRTR				i Sn	Sn	02 25 15.0	+4.3
KORR	Kora	3.06	279	i Pn	Pn	02 24 37.5	+1.9
KORR				i Sn	Sn	02 25 14.7	+3.8
KZR	Kazreti	3.10	246	P	Pn	02 24 35.3	-1.0
KZR				S	Sn	02 25 05.3	-6.8
GOR	Gori	3.11	258	P	Pn	02 24 37.1	+0.8
GOR				S	Sn	02 25 15.0	+2.7
ZEI	Tsey	3.16	273	ePN	Pn	02 24 37.0	-0.1
ZEI				e		02 24 46.5	
ZEI				e		02 25 16.9	
ZEI				e		02 25 34.4	
ZEI				pmax	pmax		
	comp=Z,40nm,0.1s						
ZEI				smax			
	comp=E,260nm,0.7s						
ZEI	Tsey	3.16	273	ePn	Pn	02 24 37.0	-0.1
	comp=E,40nm,0.1s						
ZEI	Tsey	3.16	273	ePg	Pn	02 24 46.5	+9.4
ZEI				eSn	Sn	02 25 16.9	+3.3
ZEI				eSg	Sn	02 25 34.4	+21
DIGR	Digorskoe uzhe	3.40	275	i Pn	Pn	02 24 42.0	+1.7
DIGR				i Sn	Sn	02 25 22.7	+3.3
ONI	Oni	3.50	270	P	Pn	02 24 44.7	+3.0
ONI				S	Sn	02 25 23.6	+1.8
GNI	Garni	3.63	227	P	Pn	02 24 43.0	-0.5
GNI	Garni	3.63	227	Pn	Pn	02 24 41.8	-1.7
	comp=E,21nm,0.3s,baz=22,slow=4.7,SNR=73						
GNI				Sn	Sn	02 25 26.5	+1.4
	comp=E,73nm,0.3s,baz=171,slow=22,SNR=4.4						
GNI				LR	LR	02 26 16.8	
	comp=E,1µm,18.9s,baz=53,slow=43						
GNI	Garni	3.63	227	P	Pn	02 24 42.2	-1.3
	SNR=128						
GNI	Garni	3.63	227	ePN	Pn	02 24 42.1	-1.4
GNI	Garni	3.63	227	ePn	Pn	02 24 41.4	-2.1
GNI				eSn	Sn	02 25 23.5	-1.6
GNI	Garni	3.63	227	P	Pn	02 24 42.2	-1.3
	SNR=128						
GNI				eSn	Sn	02 25 23.5	-1.6
KIV	Kislovodsk	4.21	289	P	Pn	02 24 50.7	-0.7
	SNR=119						
KIV	Kislovodsk	4.21	289	ePN	Pn	02 24 50.4	-1.0
KIV				e		02 25 41.0	
KIV	Kislovodsk	4.21	289	ePn	Pn	02 24 50.4	-1.0
KIV				eSn	Sn	02 25 41.0	+1.7
KIV	Kislovodsk	4.21	289	P	Pn	02 24 50.7	-0.7
	SNR=119						
KIV				eSn	Sn	02 25 41.0	+1.7
GOF	Gofitskoye	4.41	304	ePN	Pn	02 24 44.5	-10
KRF	Krasnovodsk	4.50	125	PN	Pn	02 24 50.3	-5.1
KRF				S	Sn	02 26 13.5	+27
CLDR	Caldiran	4.80	224	P	Pn	02 25 00.6	+1.0
CLDR	Caldiran	4.80	224	eP	Pn	02 25 00.5	+1.0
BCA	Borcka	5.05	258	P	Pn	02 25 03.0	+0.1
VANB	Van	5.49	223	P	Pn	02 25 10.4	+1.5
VANT	Van	5.60	222	P	Pn	02 25 12.8	+2.3
EZM	Erzurum	5.85	244	P	Pn	02 25 15.8	+1.9
HKR	Hakkari	6.14	215	eP	Pn	02 25 19.7	+1.8
CUKT	Cukurca	6.48	214	eP	Pn	02 25 24.1	+1.6
BNGL	BINGOL	6.52	237	i P	Pn	02 25 24.2	+1.1
MACK	Trabzon	6.53	257	i P	Pn	02 25 22.9	-0.3
BTMT	Batman	6.81	231	eP	Pn	02 25 30.4	+3.4
EZC	Erzincan	6.97	248	eP	Pn	02 25 34.9	+5.7
BINT	Bingol	6.98	239	eP	Pn	02 25 31.1	+1.7
KELT	Kelkit	7.18	252	i P	Pn	02 25 34.0	+1.9
MSL	Mosul	7.51	213	ex	x	02 25 40.5	
MSL				ex	x	02 26 05.5	
MSL				ex	x	02 27 04.0	

MSL ex x 02 27 38.0
PTK Pertek 7.68 243 eP **Pn 02 25 40.2 +1.3**
MARD Mardin 7.82 229 i P **Pn 02 25 41.4 +0.5**
ANN Anapa 8.07 289 eP **Pn 02 25 47.8 +3.5**
ANN eS **Sn 02 27 22.3 +8.3**
ANN pmax pmax
comp=Z,78nm,0.9s
MALT Malatya 8.63 243 ⇓P **Pn 02 25 54.2 +2.3**
SVSK Karacayir 8.87 256 eP **Pn 02 25 55.0 -0.3**
URFA Urfa 8.89 237 eP **Pn 02 25 56.9 +1.4**
VAN Vannovskaya 8.93 119 P **Pn 02 25 52.5 -3.6**
VAN S **Sn 02 27 30.4 -4.8**
KVT Kavak 9.20 264 eP **Pn 02 25 59.6 -0.1**
BHD Baghdad 9.88 199 ex x 02 26 03.0
BHD ex x 02 27 58.0
BNN Bunyan 10.12 252 eP **Pn 02 26 12.6 +0.3**
VORD Divnogorie 10.27 327 eP **Pn 02 26 14.6 +0.2**
VORD pmax pmax
comp=E,10.0nm,0.4s
VORD pmax pmax
comp=Z,8.0nm,0.4s
VORD pmax pmax
comp=N,20nm,0.6s
AKTK Aktyubinsk 10.27 38 Pn **Pn 02 26 12.9 -1.5**
AKTK Sn **Sn 02 28 04.7 -3.3**
AKTK LR LR 02 31 16.8
AKTK Aktyubinsk 10.27 38 Pn **Pn 02 26 12.9 -1.5**
AKTK Sn **Sn 02 28 04.7 -3.3**
AKTO Aktyubinsk 10.27 38 Pn **Pn 02 26 12.9 -1.5**
comp=N,7.8nm,0.3s,baz=213,slow=12,SNR=176
AKTO Sn **Sn 02 28 04.7 -3.3**
comp=N,6.6nm,0.3s,baz=9.9,slow=19,SNR=4.6
AKTO LR LR 02 31 16.8
comp=N,274nm,20.2s,baz=220,slow=43
AKTO Aktyubinsk 10.27 38 P **Pn 02 26 12.9 -1.5**
AKTO 02 28 04.7
SIM Simferopol' 10.42 287 eP **Pn 02 26 22.0 +5.6**
SIM S **Sn 02 28 20.0 +8.4**
SIM pmax pmax
comp=Z,23nm,0.9s
SIM MLR MLR
comp=Z,200nm,20.4s
AB31 Akbulak array 10.48 47 ⇑Pn **Pn 02 26 15.0 -2.2**
comp=Z,11nm,0.4s,baz=240,slow=16
AB31 ⇓Sn **Sn 02 28 08.2 -4.8**
comp=Z,94nm,0.6s,baz=235,slow=22
VRSR Storozhevoye 10.50 327 eP **Pn 02 26 15.4 -2.2**
VRSR eS **Sn 02 28 14.2 +0.6**
VRSR pmax pmax
comp=E,40nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s
VRSR pmax pmax
comp=N,30nm,0.9s
VRSR smax
comp=N,190nm,0.9s
VRSR smax
comp=E,220nm,0.9s
VRSR smax
comp=Z,20nm,0.5s
VRSR MLR MLR
comp=Z,350nm,16.0s
VRSR MLR MLR
comp=N,310nm,13.0s
VRSR MLR MLR
comp=E,620nm,18.0s
KOZT Kozan 10.81 245 eP **Pn 02 26 22.9 +1.2**
VOR Voronezh 10.90 329 P **Pn 02 26 22.0 -1.0**
VOR e 02 28 22.0
VOR pmax pmax
comp=N,40nm,1.0s
VOR pmax pmax
comp=Z,30nm,1.0s
BR131 Keskin Array S 11.36 260 ePn **Pn 02 26 33.4 +4.2**
BR131 Keskin Array S 11.36 260 ePn **Pn 02 26 33.4 +4.2**
BRTR Keskin Array B 11.36 260 Pn **Pn 02 26 31.9 +2.7**
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=11
BRTR LR LR 02 31 56.4
comp=Z,181nm,20.0s,baz=149,slow=44
ANTO Ankara 11.93 261 eP **Pn 02 26 37.0 0.0**
ANTO pmax pmax
comp=Z,55nm,1.4s
ANTO Ankara 11.93 261 ePn **Pn 02 26 37.0 0.0**
comp=Z,55nm,1.4s
ASF Jabal al Asfar 13.80 224 Pn **Pn 02 27 03.2 +0.7**
comp=Z,0.1nm,0.3s,baz=42,slow=4.3,SNR=5.8
ASF LR LR 02 32 30.6
comp=Z,278nm,20.9s,baz=270,slow=38
ASF Jabal al Asfar 13.80 224 Pn **Pn 02 27 03.2 +0.7**
ASF LR LR 02 32 30.6
PECR Pechory 13.89 350 eP **Pn 02 27 01.2 -2.5**
PECR MLR MLR
comp=Z,1μm,13.0s
CSS Prodhromos 13.91 241 ePn **Pn 02 27 01.1 -2.9**
CSS Prodhromos 13.91 241 ePn **Pn 02 27 01.1 -2.8**
ISP Isparta 14.34 256 eP **Pn 02 27 18.3 +8.7**
KIS Kishinev 14.39 294 eP **Pn 02 27 13.0 +2.7**
KIS MLR MLR
comp=Z,500nm,12.0s
KIS MLR MLR
comp=Z,600nm,12.0s
TIRR Tirgusor 14.45 284 ⇓i P **Pn 02 27 13.4 +2.4**
TIRR Tirgusor 14.45 284 ⇓P **Pn 02 27 13.4 +2.4**
OBN Obninsk 14.56 333 eP **Pn 02 27 09.4 -3.1**
OBN eS **Sn 02 29 53.3 +0.7**
OBN pmax pmax
comp=Z,63nm,1.3s
OBN MLR MLR
comp=Z,300nm,15.0s
OBN Obninsk 14.56 333 ePn **Pn 02 27 09.3 -3.2**
OBN eSn **Sn 02 29 50.9 -1.6**
OBN Obninsk 14.56 333 ePn **Pn 02 27 09.3 -3.2**
OBN eSn **Sn 02 29 50.9 -1.7**
PSN Preselentsi 14.63 281 eP **Pn 02 27 19.0 +5.6**
CFR Carcaliu 14.66 287 ⇑i P **Pn 02 27 16.2 +2.4**
CFR Carcaliu 14.66 287 ⇑P **Pn 02 27 16.2 +2.4**
MOS Moscow 14.74 336 eP **Pn 02 27 19.7 +4.8**
MOS e 02 29 52.1
MOS pmax pmax
comp=Z,133nm,1.0s
HARR Harsova 14.79 285 ⇓i P **Pn 02 27 18.6 +3.1**
HARR Harsova 14.79 285 ⇓P **Pn 02 27 18.6 +3.1**
PRD Provadia 15.24 279 eP **Pn 02 27 26.0 +4.7**
AKASG Malin Array Be 15.25 308 Pn **Pn 02 27 16.6 -4.8**
comp=Z,1.6nm,0.3s,baz=111,slow=13,SNR=20
AKASG Sn **Sn 02 30 00.7 -8.6**
comp=Z,0.2nm,0.3s,baz=111,slow=23,SNR=2.9
AKBB Malin Array Si 15.25 308 ePn **Pn 02 27 16.8 -4.6**
AKBB eSn **Sn 02 30 06.8 -2.5**
AKBB Malin Array Si 15.25 308 ePn **Pn 02 27 16.8 -4.7**
AKBB eSn **Sn 02 30 06.8 -2.5**
ARU Arti 15.28 22 ⇑i P **Pn 02 27 16.7 -5.1**
ARU eS **S 02 30 04.2 -19**
ARU pmax pmax
comp=Z,43nm,0.9s
ARU MLR MLR
comp=Z,300nm,14.0s
ARU MLR MLR
comp=N,200nm,14.5s
ARU MLR MLR
comp=E,200nm,15.0s
ARU Arti 15.28 22 ePn **Pn 02 27 16.9 -5.0**
ARU eSn **Sn 02 29 58.5 -11**
ARU Arti 15.28 22 ePn **Pn 02 27 16.9 -4.9**
ARU eSn **Sn 02 29 58.5 -11**
VRI Vrincioaia 15.69 289 ⇓i P **Pn 02 27 30.0 +2.9**
VRI Vrincioaia 15.69 289 ⇓P **Pn 02 27 30.0 +2.9**
PLOR Plostina 15.74 289 ⇓i P **Pn 02 27 28.5 +0.7**
MLR Muntele Rosu 16.22 288 Pn **Pn 02 27 37.6 +3.8**
comp=E,1.0nm,0.3s,baz=71,slow=8.0,SNR=20
MLR Muntele Rosu 16.22 288 ⇑i P **Pn 02 27 37.4 +3.6**
MLR Muntele Rosu 16.22 288 ⇑P **Pn 02 27 37.4 +3.6**
SVE Sverdlovsk 16.23 25 eP **Pn 02 27 28.0 -5.9**
SVE MLR MLR
comp=N,500nm,12.0s
SVE MLR MLR
comp=E,300nm,12.0s
SVE MLR MLR
comp=Z,400nm,12.0s
KK31 Karatay Array 16.36 81 ⇑P **Pn 02 27 31.9 -3.6**
comp=Z,44nm,0.8s,baz=152,slow=23,SNR=12
KK31 ⇑S **S 02 30 26.2 -20**
comp=Z,72nm,1.0s,baz=151,slow=83,SNR=8.0
KKAR Karatay Array 16.36 81 P **Pn 02 27 31.9 -3.7**
KKAR S S 02 30 24.3 -21
KKAR pmax pmax
comp=Z,12nm,0.5s
KKAR smax
comp=N,88nm,1.0s
PVL Pavlikeni 16.74 280 eP **Pn 02 27 45.2 +4.9**
EIL Elat 16.80 224 eP **Pn 02 27 44.0 +3.0**
EIL Elat 16.80 224 eP **Pn 02 27 44.0 +2.9**
BURAR Bucovina Array 16.91 295 ⇓i P **Pn 02 27 44.8 +2.3**
BURAR Bucovina Array 16.91 295 ⇓P **Pn 02 27 44.8 +2.3**
ZRNK Zerenda 17.27 46 ⇑P **Pn 02 27 43.4 -3.5**
comp=N,44nm,1.4s
ZRNK ⇑S **S 02 30 47.1 -17**
comp=N,48nm,1.0s
ZRNK Zerenda 17.27 46 eP **Pn 02 27 43.0 -3.9**
ZRNK e 02 30 48.9
ZRNK pmax pmax
comp=Z,25nm,0.6s
ZRNK Zerenda 17.27 46 ePn **Pn 02 27 43.0 -3.9**
comp=Z,26nm,0.6s
ZRNK eSn **Sn 02 30 48.9 -9.4**
ZRNK Zerenda 17.27 46 ePn **Pn 02 27 43.0 -3.9**
comp=Z,26nm,0.6s
ZRNK S **S 02 30 47.1 -17**
comp=Z,48nm,1.0s
ZRNK eSn **Sn 02 30 48.9 -9.4**
SOKR Solikamsk 17.71 14 d i P **Pn 02 27 49.2 -3.1**
SOKR S **S 02 31 01.8 -11**
SOKR pmax pmax
comp=Z,60nm,0.9s
SOKR MLR MLR
comp=Z,260nm,15.0s
MNK Minsk 17.83 318 eP **Pn 02 27 48.0 -5.8**
BANOM Banah 18.00 156 P **Pn 02 27 54.4 -1.5**
SNR=10
BRVK Borovoye 18.01 47 P **Pn 02 27 53.9 -2.0**
SNR=13
BRVK Borovoye 18.01 47 ePn **Pn 02 27 53.4 -2.6**
BRVK Borovoye 18.01 47 P **Pn 02 27 53.9 -2.1**
SNR=13
BVA0 Borovoye Array 18.05 47 ⇓P **Pn 02 27 54.2 -2.3**
comp=Z,3.9nm,0.6s,baz=235,slow=35,SNR=111
BVA0 ⇓S **S 02 31 10.9 -9.3**
comp=Z,6.4nm,0.8s,baz=228,slow=26,SNR=8.1
BVA0 Borovoye Array 18.05 47 i P **Pn 02 27 54.2 -2.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 18.05 47 P **Pn 02 27 53.6 -2.8**
comp=Z,2.8nm,0.3s,baz=247,slow=13,SNR=29
BVAR S **S 02 31 09.3 -11**
comp=Z,3.3nm,0.3s,baz=237,slow=24,SNR=7.2
BVAR LR LR 02 35 58.2
comp=Z,203nm,20.1s,baz=141,slow=40
BVAR Borovoye Array 18.05 47 P **Pn 02 27 53.6 -2.9**
BVAR S **S 02 31 09.3 -11**
BVAR Borovoye Array 18.05 47 P **Pn 02 27 54.2 -2.3**
comp=Z,3.9nm,0.6s,SNR=111
BVAR S **S 02 31 10.9 -9.3**
comp=Z,6.4nm,0.8s,SNR=8.1
LVV L'vov 18.11 301 eP **Pn 02 27 54.9 -2.3**
LVV eS **S 02 31 10.7 -11**
LVV MLR MLR
comp=E,300nm,10.0s
LVV MLR MLR
comp=Z,200nm,10.0s
LVV MLR MLR
comp=N,100nm,6.0s
MMB Musomiste 18.16 275 eP **Pn 02 27 51.9 -5.9**
MMB Musomiste 18.16 275 eP **Pn 02 27 59.0 +1.2**
VOSK Vostochnaya 18.25 49 ⇓P **Pn 02 27 56.4 -2.5**
comp=N,16nm,0.6s
VOSK ⇓S **S 02 31 08.3 -15**
comp=N,30nm,1.1s
VOSK Vostochnaya 18.25 49 P **Pn 02 27 56.4 -2.5**
VOSK S **S 02 31 08.2 -15**
VOSK pmax pmax
comp=Z,9.0nm,0.6s
VOSK smax
comp=N,32nm,1.1s
VTS Vitosha 18.37 278 eP **Pn 02 27 53.7 -6.6**
VTS Vitosha 18.37 278 ⇑i P **Pn 02 27 59.9 -0.4**
VTS Vitosha 18.37 278 P **Pn 02 28 01.0 +0.7**
VTS Vitosha 18.37 278 eP **Pn 02 28 00.0 -0.3**
GZR Gura Zlata 18.45 287 ⇓i P **Pn 02 28 01.5 +0.3**
GZR Gura Zlata 18.45 287 P **Pn 02 28 01.2 -0.1**
GZR Gura Zlata 18.45 287 P **Pn 02 28 01.2 0.0**
CHKZ Chkalovo 18.47 46 ⇓P **Pn 02 27 57.2 -4.3**
comp=N,0.6nm,0.7s
CHKZ ⇑S **S 02 31 15.7 -12**
comp=N,44nm,1.4s
CHKZ Chkalovo 18.47 46 ePn **Pn 02 27 57.3 -4.2**
comp=N,37nm,0.6s
CHKZ S **S 02 31 15.7 -12**
comp=N,44nm,1.4s
DRGR 18.53 292 ⇓i P **Pn 02 28 02.3 +0.1**
DRGR 18.53 292 P **Pn 02 28 02.4 +0.2**
DRGR 18.53 292 P **Pn 02 28 02.4 +0.2**
NE53 Naroch' 18.56 319 eS **S 02 31 19.1 -11**
NE53 Naroch' 18.56 319 ePcP PcP 02 32 26.8 -2.3
ZKR Zakros 18.67 253 eP **Pn 02 28 02.6 -1.4**
EKS2 Erkin-Say 18.80 81 P **Pn 02 28 07.4 +1.9**
SNR=15
IDID Didziasalis 18.81 320 eP **Pn 02 28 03.2 -2.4**
IDID AMb AMB 02 28 06.5
comp=Z,1μm,0.6s
IDID Didziasalis 18.81 320 eP **Pn 02 28 03.2 -2.4**
comp=Z,1μm,0.6s
AML Almayashu 18.82 83 P **Pn 02 28 08.2 +2.4**
SNR=27
HORT Hortiatis 18.85 272 eP **Pn 02 28 05.5 -0.6**
KNT Kendrikon 18.87 274 eP **Pn 02 28 05.4 -0.9**
KWP Kalwaria 18.91 300 eP **Pn 02 28 06.0 -0.8**
KWP epP pP 02 28 12.4 -5.8
HATD Hatta, Dubai 18.99 157 P **Pn 02 28 04.0 -3.7**
SNR=40
UZH Uzhgorod 19.00 297 ⇑eP **Pn 02 28 10.0 +2.1**
UZH eS **S 02 31 40.0 +0.7**
UZH pmax pmax
comp=Z,24nm,1.0s
UZH MLR MLR
comp=Z,400nm,12.0s
KOLS Kolonicke sedl 19.06 298 eP **Pn 02 28 07.5 -1.1**
KOLS epP pP 02 28 19.2 -0.7
VAY Valandovo 19.07 275 eP **Pn 02 28 01.8 -6.9**
VAY Valandovo 19.07 275 eP **Pn 02 28 08.1 -0.6**
ASHO Ashiyiah 19.10 158 P **Pn 02 28 06.3 -2.8**
SNR=8.4
USP Ospenovka 19.24 79 P **Pn 02 28 09.3 -1.4**
SNR=20
BZS Buzias 19.26 288 ⇓i P **Pn 02 28 10.2 -0.8**
BZS Buzias 19.26 288 P **Pn 02 28 10.1 -0.9**
BZS Buzias 19.26 288 P **Pn 02 28 10.1 -0.9**
STIP Stip 19.27 276 eP **Pn 02 28 03.0 -8.2**
STIP Stip 19.27 276 eP **Pn 02 28 10.6 -0.6**
GRG Griva 19.28 274 eP **Pn 02 28 09.9 -1.4**
IZAR Zarasai 19.28 320 eP **Pn 02 28 08.1 -3.2**
IZAR AMb AMB 02 28 17.1
comp=Z,1μm,0.6s
AAK Ala-Archa 19.32 81 eP **Pn 02 28 09.2 -2.5**
AAK pmax pmax
comp=Z,52nm,1.9s
AAK Ala-Archa 19.32 81 ePn **Pn 02 28 10.0 -1.8**
AAK Ala-Archa 19.32 81 ePn **Pn 02 28 10.0 -1.7**
AAK Ala-Archa 19.32 81 P **Pn 02 28 10.8 -0.9**
SNR=16
FRU Bishkek 19.38 81 eP **Pn 02 28 13.0 +0.6**
FRU pmax pmax
comp=Z,136nm,2.2s
CHMS Chumysh 19.45 80 P **Pn 02 28 13.2 0.0**
SNR=11
IDI Anoyia 19.53 256 P **Pn 02 28 11.0 -3.2**
comp=Z,9.5nm,0.3s,baz=40,slow=16,SNR=21
IDI S **S 02 31 47.9 -1.9**
comp=Z,0.5nm,0.3s,baz=0.0,slow=17,SNR=3.1
IDI Anoyia 19.53 256 P **Pn 02 28 10.9 -3.3**
IDI S **S 02 31 47.9 -1.9**
CRVS Cervenica-Dubn 19.59 298 eP **Pn 02 28 13.0 -1.8**
CRVS e 02 28 18.3
KBK Karagaybulak 19.65 81 P **Pn 02 28 14.8 -0.8**
SNR=24
SIVA Sivas 19.72 255 eP **Pn 02 28 14.5 -1.9**
SKO Skopje 19.77 277 eP **Pn 02 28 16.0 -1.0**
SKO Skopje 19.77 277 eP **Pn 02 28 15.9 -1.1**
STHS Stebnicka Huta 19.81 299 eP **Pn 02 28 17.4 0.0**
STHS pmax pmax
comp=Z,10.0nm,0.9s
STHS Stebnicka Huta 19.81 299 eP **Pn 02 28 17.4 0.0**
comp=Z,9.5nm,0.9s
AGG Agios Georgios 19.88 268 eP **Pn 02 28 16.8 -1.5**
SUW Suwalki 20.00 313 eP **Pn 02 28 17.1 -2.6**
KRUS Krusevo 20.03 275 eP **P 02 28 19.0 +1.1**
KRUS Krusevo 20.03 275 eP **P 02 28 18.9 +1.0**
BIA Bitola 20.06 274 eP **P 02 28 18.6 +0.4**
BIA Bitola 20.06 274 eP **P 02 28 18.6 +0.4**
BIA Bitola 20.06 274 eP **P 02 28 18.5 +0.3**
FNA Florina 20.07 274 eP **P 02 28 19.0 +0.7**
TKM2 Tokmak 2 20.08 80 P **P 02 28 18.6 +0.1**
SNR=15
TKM2 Tokmak 2 20.08 80 ⇑P **P 02 28 19.4 +1.0**
comp=Z,6.1nm,1.1s
KARN Karanos 20.17 257 eP **P 02 28 18.9 -0.5**
KECS Kecovo 20.17 296 eP **P 02 28 19.6 +0.2**
KECS pmax pmax
comp=Z,11nm,0.6s
KECS Kecovo 20.17 296 eP **P 02 28 19.6 +0.2**
comp=Z,10nm,0.6s
PUL Pulkovo 20.31 333 eP **P 02 28 20.5 -0.5**
PUL pmax pmax
comp=E,185nm,1.0s
PUL pmax pmax
comp=Z,241nm,1.0s
PUL pmax pmax
comp=N,260nm,0.9s
PUL MLR MLR
comp=Z,446nm,16.0s,MS3.9
PUL MLR MLR
comp=N,277nm,15.0s,MS4.1
PUL MLR MLR
comp=E,611nm,19.0s,MS4.1
GVD Gavdhos 20.32 255 eP **P 02 28 20.2 -0.8**
GVD Gavdhos 20.32 255 eP **P 02 28 21.3 +0.3**
GVD Gavdhos 20.32 255 eP **P 02 28 21.3 +0.3**
NIE Niedzica 20.41 299 eP **P 02 28 22.8 +0.8**
OHR Ohrid 20.42 275 eP **P 02 28 22.4 +0.3**
OHR Ohrid 20.42 275 eP **P 02 28 22.4 +0.3**
OHR Ohrid 20.42 275 eP **P 02 28 22.3 +0.2**
DIVS Divcibare 20.50 284 eP **P 02 28 23.1 0.0**
DIVS Divcibare 20.50 284 eP **P 02 28 23.0 0.0**
ARQ Araqi 20.51 158 P **P 02 28 21.3 -1.8**
SNR=13
HOQ Hoqain 20.51 155 ⇑P **P 02 28 22.3 -0.8**
SNR=10
PSZ Piszkesteto 20.51 295 ⇓i eP **P 02 28 24.4 +1.3**
PSZ Piszkesteto 20.51 295 ⇓i P **P 02 28 24.3 +1.2**
PSZ Piszkesteto 20.51 295 P **P 02 28 24.6 +1.5**
PSZ Piszkesteto 20.51 295 eP **P 02 28 24.0 +0.9**
PSZ Piszkesteto 20.51 295 eP **P 02 28 24.0 +0.9**
VSU Vasula 20.70 327 eP **P 02 28 25.0 -0.2**
PVY Plav 20.72 279 ⇑i P **P 02 28 25.4 0.0**
IVA Berane 20.73 280 eP **P 02 28 26.3 +0.8**
OJC Ojcow 20.87 301 eP **P 02 28 26.7 -0.2**
OJC eS **S 02 32 22.3 +5.9**
OJC L 02 37 11.8
comp=E,1.5nm,19.4s
OJC Ojcow 20.87 301 eP **P 02 28 26.7 -0.2**
OJC eS **S 02 32 22.3 +5.9**
PLE Pljevlja 21.03 282 eP **P 02 28 29.1 +0.4**
BUD Budapest 21.08 293 ⇑eP **P 02 28 29.8 +0.6**
KSH Kashi 21.14 89 eP **P 02 28 30.8 +1.0**
KSH eAP 02 28 41.0
KSH eXP sP 02 28 46.0 -3.8
KSH ePP 02 28 53.1
KSH eS **S 02 32 15.5 -6.2**
KSH AMB AMB
comp=Z,214nm,2.0s,mb5.1
KSH LR LR
comp=N,2μm,3.8s
KSH LR LR
comp=E,1μm,3.2s
KSH LR LR
comp=Z,757nm,5.8s
SMDO Samad 21.23 154 ⇓P **P 02 28 29.6 -1.3**
SNR=22
BSY Bisya 21.26 157 ⇓P **P 02 28 29.2 -2.0**
SNR=16
VYHS Vyhne 21.27 296 eP **P 02 28 30.8 -0.4**
VYHS pmax pmax
comp=Z,29nm,1.8s,mb4.3
VYHS Vyhne 21.27 296 eP **P 02 28 30.8 -0.4**
comp=Z,29nm,1.8s,mb4.3
TTG Podgorica 21.27 279 ⇑i P **P 02 28 31.2 -0.1**
BSYO Bisya 21.29 156 P **P 02 28 29.2 -2.3**
SNR=16
PKSM Moragy 21.33 290 ⇑i P **P 02 28 33.0 +1.1**
PKSM Moragy 21.33 290 P **P 02 28 32.5 +0.6**
PKSM Moragy 21.33 290 P **P 02 28 32.5 +0.6**
ULC Ulcinj 21.37 278 ⇑i P **P 02 28 32.5 +0.2**
NKY Niksic 21.39 280 ⇑i P **P 02 28 32.3 -0.3**
UPM Unac-Piva 21.40 281 ⇑i P **P 02 28 32.7 +0.1**
BUM Brajici-Budva 21.56 279 ⇑i P **P 02 28 34.3 -0.1**
BRY Bratogost 21.71 281 ⇑i P **P 02 28 35.3 -0.6**
HCY Herceg Novi 21.82 279 ⇑i P **P 02 28 37.5 +0.3**
OKC Ostrava-Krasne 21.86 299 eP **P 02 28 37.0 -0.6**
JMDO Jabal Madar 21.89 155 ⇓P **P 02 28 36.0 -1.9**
SNR=6.5
SMOL Smolenice 22.20 296 eP **P 02 28 42.8 +1.6**
MORC Moravsky Berou 22.24 299 ⇓i P **P 02 28 41.4 -0.2**
MORC Moravsky Berou 22.24 299 eP **P 02 28 40.6 -1.0**
MORC Moravsky Berou 22.24 299 eP **P 02 28 40.6 -1.0**
TMCR Tamitsa 22.29 348 d i P **P 02 28 42.0 -0.1**
TMCR e* SP sP 02 28 46.1 -16
TMCR eS **S 02 32 41.7 -2.4**
TMCR pmax pmax
comp=Z,209nm,1.1s,mb5.5
ZST Bratislava 22.40 295 eP **P 02 28 44.2 +0.9**
ZST pmax pmax
comp=Z,27nm,1.0s,mb4.6
ZST MLR MLR
comp=Z,100nm,17.3s,MS3.3
ZST Bratislava 22.40 295 eP **P 02 28 44.2 +0.9**
comp=Z,27nm,1.0s,mb4.6
ZST LR LR
comp=Z,100nm,17.3s,MS3.3
ZST Bratislava 22.40 295 eP **P 02 28 44.2 +0.9**
comp=Z,27nm,1.0s,mb4.6
JOF Joensuu 22.54 340 ep **P 02 28 44.7 -0.1**
comp=Z,45nm,0.5s,mb5.2
LCI Lecce 22.59 274 P **P 02 28 45.5 +0.2**
LCI pmax pmax
comp=Z,25nm,0.7s,mb4.8
LCI Lecce 22.59 274 P **P 02 28 45.5 +0.2**
comp=Z,25nm,0.7s,mb4.8
SOP Sopron 22.75 294 ⇓eP **P 02 28 48.1 +1.1**
VRAC Vranov 22.81 298 P **P 02 28 47.0 -0.7**
comp=Z,2.1nm,0.5s,mb3.9,baz=92,slow=9.8,SNR=7.0
VRAC LR LR 02 39 11.3
comp=Z,218nm,18.8s,MS3.6,baz=88,slow=41
VRAC Vranov 22.81 298 ⇓i P **P 02 28 47.5 -0.1**
VRAC Vranov 22.81 298 ⇓P **P 02 28 47.5 -0.1**
SISC Sisak 22.95 288 iP **P 02 28 49.4 +0.3**
FIA1 FINESS Array S 22.97 332 eP **P 02 28 49.5 +0.2**
FIA1 eS **S 02 32 55.9 +0.7**
FIA1 FINESS Array S 22.97 332 eP **P 02 28 49.5 +0.2**
FIA1 eS **S 02 32 55.9 +0.7**
FINES FINESS Array B 22.97 332 P **P 02 28 49.0 -0.3**
comp=Z,15nm,0.5s,mb4.7,baz=134,slow=11,SNR=92
FINES S **S 02 32 56.5 +1.3**
comp=Z,6.5nm,0.9s,baz=152,slow=15,SNR=2.8
FINES FINESS Array B 22.97 332 P **P 02 28 49.0 -0.3**
FINES S **S 02 32 56.5 +1.3**
KOGS Kog 22.98 290 eP **P 02 28 48.8 -0.6**
GKP Gorka Klasztor 23.09 308 eP **P 02 28 51.0 +0.5**
GKP Gorka Klasztor 23.09 308 eP **P 02 28 51.0 +0.5**
GKP Gorka Klasztor 23.09 308 eP **P 02 28 51.0 +0.5**
DPC Dobruska-Polom 23.09 300 eP **P 02 28 50.4 -0.2**
DPC AMS AMS 02 38 30.0
comp=Z,300nm,19.2s
KSP Ksiaz 23.17 302 eP **P 02 28 52.1 +0.6**
CONA Conrad Observa 23.22 294 ⇑i P **P 02 28 51.8 -0.1**
comp=Z,15nm,0.8s,mb4.5,SNR=18
UPC Upice 23.31 301 eP **P 02 28 52.3 -0.4**
KAF Kangasniemi 23.37 334 ep **P 02 28 52.7 -0.6**
comp=Z,46nm,0.6s,mb5.1,baz=135,slow=11
KAF Kangasniemi 23.37 334 eP **P 02 28 52.7 -0.6**
KAF pmax pmax
comp=Z,46nm,0.6s,mb5.1
ARSA Arzberg 23.45 292 ⇑i P **P 02 28 53.9 -0.2**
comp=Z,13nm,1.0s,mb4.3,SNR=8.9
GROS Grobnik 23.49 291 eP **P 02 28 54.0 -0.3**

CRES Cresnjev 23.56 289 *i* P P **02 28 54.8 -0.2**
BOJS Bojanci 23.73 288 *e*P P **02 28 56.5 -0.1**
PERS Pernice 23.75 291 *i* P P **02 28 56.7 0.0**
ORI Oriolo Calabro 23.89 274 P P **02 28 57.0 -1.0**
OBKA Obir 24.15 291 ⇑*i*P P **02 29 00.6 +0.2**
comp=Z,40nm,1.2s,mb4.7,SNR=18
LJU Ljubljana 24.19 290 *e*P P **02 29 00.8 0.0**
PRU Pruhonice 24.19 299 *e*P P **02 29 01.0 +0.2**
PRU AMS AMS 02 40 00.0
comp=Z,200nm,14.1s
PVCC Panska Ves 24.23 301 *e*P P **02 29 01.8 +0.7**
FG4 Candela 24.29 277 P P **02 29 02.6 +1.0**
FG4 pmax pmax
comp=Z,155nm,1.2s,mb5.3
FG4 Candela 24.29 277 P P **02 29 02.6 +1.0**
comp=Z,155nm,1.2s,mb5.3
MOA Molln 24.30 294 ⇓*i*P P **02 29 01.3 -0.4**
comp=Z,8.6nm,0.6s,mb4.4,SNR=8.8
CUC Castrocucco 24.38 275 P P **02 29 02.8 +0.3**
MK05 Makanchi Array 24.45 69 ⇑P P **02 29 04.1 +1.0**
comp=Z,8.9nm,0.5s,mb4.5
MK31 Makanchi Array 24.45 69 P P **02 29 03.7 +0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.4s,mb4.3
MKAR Makanchi Array 24.45 69 P P **02 29 04.2 +1.2**
comp=Z,9.3nm,0.4s,mb4.5,baz=281,slow=7.3,SNR=49
VOY Vojsko 24.63 290 *e*P P **02 29 04.2 -0.6**
VOY *e* 02 29 09.6
VOY *e* 02 29 24.7
BRG Berggiesshubel 24.66 301 *e*P P **02 29 05.5 +0.5**
comp=Z,8.9nm,0.7s,mb4.4
BRG
comp=N,336nm,25.0s
BRG
comp=E,133nm,12.5s
BRG
comp=Z,192nm,17.1s
GEC2 GERESS Array S 24.68 296 *e*P P **02 29 04.6 -0.6**
comp=Z,22nm,0.9s,mb4.7
GEC2 GERESS Array S 24.68 296 *e*P P **02 29 04.6 -0.6**
GEC2 pmax pmax
comp=Z,22nm,0.9s,mb4.7
GERES GERESS Array B 24.68 296 P P **02 29 05.0 -0.2**
comp=Z,12nm,0.7s,mb4.5,baz=93,slow=8.2,SNR=58
GERES LR LR 02 40 20.8
comp=Z,186nm,19.2s,MS3.6,baz=253,slow=40
CADS Cadrg 24.73 290 *i* P P **02 29 05.2 -0.5**
KHC Kasperske Hory 24.77 297 *e*P P **02 29 05.4 -0.6**
KHC AMS AMS 02 39 40.0
comp=Z,200nm,21.1s
BSD Bornholm Skovb 24.89 311 ⇑*i*P P **02 29 06.3 -0.8**
comp=Z,43nm,0.6s,mb5.2
BSD Bornholm Skovb 24.89 311 ⇑*i*P P **02 29 06.3 -0.8**
BSD pmax pmax
comp=Z,43nm,0.6s,mb5.2
KBA Koelnbreinsper 24.94 292 ⇑*i*P P **02 29 07.7 +0.1**
comp=Z,73nm,0.7s,mb5.3,SNR=104
KBA Koelnbreinsper 24.94 292 ⇑*i*P P **02 29 07.7 +0.1**
KBA pmax pmax
comp=Z,73nm,0.7s,mb5.3
RUE Ruedersdorf 24.97 305 *e*P P **02 29 08.4 +0.6**
comp=Z,62nm,0.9s,mb5.1
RUE Ruedersdorf 24.97 305 *e*P P **02 29 08.4 +0.5**
comp=Z,62nm,0.9s,mb5.1
PTCC Patocco-Chiusa 24.98 291 P P **02 29 07.7 -0.2**
comp=Z,25nm,0.6s,mb4.9
GMNA Gemona 25.07 290 P P **02 29 09.4 +0.7**
comp=Z,371nm,0.8s,mb6.0
MIDA Miranda 25.08 279 P P **02 29 09.6 +0.7**
WHFO Wadi Hawf 25.15 167 ⇑P P **02 29 07.8 -1.7**
SNR=11
WET Wettzell 25.23 297 *e*P P **02 29 08.9 -1.3**
comp=Z,3.0nm,0.7s,mb3.9
WET Wettzell 25.23 297 *e*P P **02 29 08.9 -1.3**
WET pmax pmax
comp=Z,30nm,0.7s,mb4.9
CLL Collm 25.29 302 *e*P P **02 29 11.1 +0.3**
comp=Z,20nm,0.8s,mb4.7
CLL Collm 25.29 302 ⇑*i*P P **02 29 11.0 +0.2**
comp=Z,24nm,1.0s,mb4.7
CLL *i* PP 02 29 40.6
CLL *ex* x 02 34 11.0
CLL Collm 25.29 302 ⇑*i*P P **02 29 11.0 +0.2**
CLL pmax pmax
comp=Z,24nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,400nm,22.6s,MS3.9
CLL Collm 25.29 302 ⇑*i*P P **02 29 11.0 +0.2**
comp=Z,24nm,1.0s,mb4.7
CLL *i* PP 02 29 40.6
CLL LR LR
comp=Z,400nm,22.6s,MS3.9
RFI Roccamonfina 25.36 279 P P **02 29 11.7 +0.3**
comp=Z,5.4nm,0.8s,mb4.1
CING Cingoli 25.48 284 P P **02 29 12.8 +0.3**
AQU L'Aquila 25.54 281 ⇓*i*P P **02 29 14.1 +1.1**
AQU L'Aquila 25.54 281 *e*P P **02 29 13.8 +0.8**
AQU L'Aquila 25.54 281 *e*P P **02 29 13.8 +0.8**
NKC Novy Kostel 25.55 300 *e*P P **02 29 13.7 +0.5**
TANN Tannenbergstha 25.56 300 *e*P P **02 29 13.4 +0.2**
comp=Z,12nm,0.9s,mb4.4
RBK Rabkut 25.63 167 ⇑P P **02 29 12.4 -1.5**
SNR=11
ABTO Aybut 25.63 169 ⇓P P **02 29 12.3 -1.5**
SNR=11
RGN Rugen 25.64 310 *e*P P **02 29 14.7 +0.8**
RGN Rugen 25.64 310 *e*P P **02 29 14.7 +0.8**
ROTZ Rotzenmuhle 25.69 298 *e*P P **02 29 14.3 -0.1**
comp=Z,6.0nm,1.1s,mb4.0
SMLA Simla 25.76 107 *e*P P **02 29 15.3 +0.3**
SMLA AMb AMB 02 29 22.9
comp=Z,105nm,1.3s,mb5.2
MANZ Manzenberg 25.76 299 *e*P P **02 29 15.1 +0.1**
NVS Novosibirsk 25.81 50 *e*P P **02 29 15.3 -0.1**
NVS *e*S S 02 34 05.5 +25
NVS pmax pmax
comp=N,12nm,0.6s
NVS pmax pmax
comp=E,14nm,0.6s
NVS pmax pmax
comp=Z,25nm,0.6s,mb4.9
NVS smax
comp=N,35nm,1.8s
NVS smax
comp=E,15nm,1.1s
ASS Assisi 25.93 283 P P **02 29 18.1 +1.5**
ASS pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
ASS Assisi 25.93 283 P P **02 29 18.1 +1.5**
comp=Z,7.4nm,1.0s,mb4.2
CERT Cerreto 25.93 280 P P **02 29 16.6 0.0**
WTTA Wattenberg 26.10 293 *i* P P **02 29 17.4 -0.6**
comp=Z,29nm,0.6s,mb5.0,SNR=29
WTTA Wattenberg 26.10 293 *i* P P **02 29 17.4 -0.7**
WTTA pmax pmax
comp=Z,29nm,0.6s,mb5.0
MOX Moxa 26.11 300 *e*P P **02 29 18.2 0.0**
comp=Z,18nm,0.8s,mb4.7
MOX Moxa 26.11 300 *e*P P **02 29 18.6 +0.4**
comp=Z,38nm,1.3s,mb4.8
MOX
comp=Z,200nm,22.0s
MOX Moxa 26.11 300 *e*P P **02 29 18.6 +0.4**
MOX pmax pmax
comp=Z,38nm,1.3s,mb4.8
MOX MLR MLR
comp=Z,200nm,22.0s,MS3.6
WATA Walderalm 26.13 293 ⇑*i*P P **02 29 17.6 -0.8**
comp=Z,7.6nm,0.7s,mb4.3,SNR=14
WATA Walderalm 26.13 293 ⇑*i*P P **02 29 17.6 -0.8**
WATA pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
BADI Badiali 26.14 284 P P **02 29 18.7 +0.3**
CTI Castel Tesino 26.19 290 P P **02 29 18.7 -0.2**
CTI pmax pmax
comp=Z,12nm,0.6s,mb4.6
CTI Castel Tesino 26.19 290 P P **02 29 18.7 -0.2**
comp=Z,12nm,0.6s,mb4.6
VAE Valguarnera 26.25 270 P P **02 29 20.6 +1.2**
comp=Z,19nm,0.6s,mb4.8,baz=26,slow=23,SNR=7.7
LVZ Lovozero 26.28 348 *e*P P **02 29 20.7 +1.0**
LVZ pmax pmax
comp=Z,88nm,0.9s,mb5.3
LVZ pmax pmax
comp=N,51nm,0.8s
LVZ pmax pmax
comp=E,21nm,1.0s
LVZ MLR MLR
comp=Z,526nm,15.0s,MS4.2
LVZ MLR MLR
comp=N,398nm,16.0s,MS4.1
LVZ MLR MLR
comp=E,139nm,13.0s,MS4.1
FUR Furstenfeldbru 26.30 295 *e*P P **02 29 19.5 -0.4**
comp=Z,26nm,0.8s,mb4.8
FUR Furstenfeldbru 26.30 295 *e*P P **02 29 19.5 -0.4**
FUR pmax pmax
comp=Z,26nm,0.8s,mb4.8
GRA1 Grafenberg Arr 26.33 298 *e*P P **02 29 20.3 +0.2**
comp=Z,12nm,0.9s,mb4.4
GRA1 LR LR
comp=Z,200nm,21.9s,MS3.6
GRF Grafenberg Arr 26.33 298 *e*P P **02 29 20.3 +0.2**
comp=Z,12nm,0.9s,mb4.4
GRF *e*L 02 40 33.4
comp=Z,164nm,21.9s
GRF Grafenberg Arr 26.33 298 *e*P P **02 29 20.3 +0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.4
GRF MLR MLR
comp=Z,200nm,21.9s,MS3.6
GRF Grafenberg Arr 26.33 298 *e*P P **02 29 20.3 +0.2**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.4
GRF MLR MLR
comp=Z,200nm,21.9s,MS3.6
SQTA Sankt Quirin 26.39 293 ⇑*i*P P **02 29 19.7 -1.0**
comp=Z,11nm,1.0s,mb4.3,SNR=22
SQTA Sankt Quirin 26.39 293 ⇑*i*P P **02 29 19.7 -1.0**
SQTA pmax pmax
comp=Z,11nm,1.0s,mb4.3
SQTA Sankt Quirin 26.39 293 ⇑*i*P P **02 29 19.7 -1.0**
comp=Z,11nm,1.0s,mb4.3
COP Copenhagen 26.41 312 ⇓*i*P P **02 29 22.3 +1.4**
comp=Z,34nm,0.7s,mb5.0
COP Copenhagen 26.41 312 ⇓*i*P P **02 29 22.3 +1.4**
COP pmax pmax
comp=Z,34nm,0.7s,mb5.0
APPI Appiano 26.44 291 P P **02 29 20.5 -0.6**
MOTA Moosalm 26.45 293 ⇑*i*P P **02 29 20.0 -1.3**
comp=Z,6.8nm,0.8s,mb4.2,SNR=17
MOTA Moosalm 26.45 293 ⇑*i*P P **02 29 20.0 -1.3**
MOTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
ZAL Zalesovo 26.52 52 P P **02 29 22.8 +0.9**
comp=Z,4.9nm,0.6s,mb4.2,baz=203,slow=9.2,SNR=13
ZAL LR LR 02 41 51.2
comp=Z,203nm,18.9s,MS3.7,baz=214,slow=41
ZAL Zalesovo 26.52 52 P P **02 29 22.8 +0.9**
ZAL LR LR 02 41 51.2
TOLF Tolfa 26.62 281 P P **02 29 23.0 +0.2**
FNVD Fontana Vidola 26.82 286 P P **02 29 25.7 +1.2**
CSNT Castellina Chi 26.82 284 P P **02 29 24.4 -0.2**
comp=Z,74nm,1.4s,mb5.0
MABI Malga Bissina 26.97 290 P P **02 29 25.9 -0.1**
BRMO Bormio 27.02 291 P P **02 29 26.2 -0.2**
comp=Z,4.6nm,0.6s,mb4.2
GRFL Gerfalco 27.11 284 P P **02 29 27.1 -0.1**
comp=Z,10nm,0.7s,mb4.5
UBBA Unterbreizbach 27.14 301 *e*P P **02 29 27.6 +0.1**
comp=Z,10.0nm,0.9s,mb4.3
NRDL Niedersach Rie 27.20 304 *e*P P **02 29 28.0 0.0**
comp=Z,13nm,1.5s,mb4.2
HFS Hagfors 27.25 322 P P **02 29 29.1 +0.7**
comp=Z,22nm,0.7s,mb4.8,baz=112,slow=8.7,SNR=107
HFS LR LR 02 41 24.8
comp=Z,222nm,18.1s,MS3.8,baz=253,slow=39
HFS Hagfors 27.25 322 P P **02 29 29.1 +0.7**
HFS LR LR 02 41 24.8
NDI New Delhi 27.25 111 *e*P P **02 29 28.2 -0.2**
BSEG Bad Segeberg 27.26 308 *e*P P **02 29 29.3 +0.8**
comp=Z,26nm,1.3s,mb4.6
DAVA Damuels 27.29 293 ⇑*i*P P **02 29 27.7 -1.1**
comp=Z,11nm,0.6s,mb4.6,SNR=7.5
SARO Sassorosso 27.32 286 P P **02 29 28.1 -1.0**
VALM 27.41 287 P P **02 29 29.3 -0.5**
GRAM 27.51 287 P P **02 29 30.7 -0.1**
VINC Vinca 27.51 286 P P **02 29 30.0 -0.8**
BACM 27.54 286 P P **02 29 30.0 -1.0**
STU Stuttgart 27.66 296 *e*P P **02 29 32.0 -0.1**
comp=Z,28nm,0.9s,mb4.9
STU Stuttgart 27.66 296 *e*P P **02 29 32.3 +0.2**
STU pmax pmax
comp=Z,23nm,0.8s,mb4.9
STU Stuttgart 27.66 296 *e*P P **02 29 32.3 +0.2**
comp=Z,23nm,0.8s,mb4.9
STU Stuttgart 27.66 296 *e*P P **02 29 32.3 +0.2**
comp=Z,23nm,0.8s,mb4.9
CODM 27.68 287 P P **02 29 31.5 -0.8**
TNS Taunus Mts 28.12 299 *e*P P **02 29 36.6 +0.4**
comp=Z,9.0nm,1.0s,mb4.3
TNS Taunus Mts 28.12 299 *e*P P **02 29 36.6 +0.4**
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
BFO Black Forest 28.26 295 *e*P P **02 29 36.2 -1.2**
comp=Z,9.0nm,1.1s,mb4.3
BFO Black Forest 28.26 295 *e*P P **02 29 36.2 -1.2**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
MUD Monsted U'grnd 28.36 313 *i* P pP 02 29 49.5 -3.2
MUD Monsted U'grnd 28.36 313 *e*P pP 02 29 49.5 -3.2
FELD Feldberg im Sc 28.51 294 *e*P P **02 29 38.8 -0.9**
LANF Langenberg 28.57 297 *e*P P **02 29 40.5 +0.3**
PCP Pian Castagno 28.57 287 P P **02 29 38.9 -1.3**
WMQ Urumqi 28.61 74 *e*P P **02 29 41.8 +1.3**
WMQ AP pP 02 29 53.0 -1.9
WMQ XP sP 02 29 59.0 -2.7
WMQ PP PP 02 30 35.0 -11
WMQ S S **02 34 26.0 +1.1**
WMQ AMB AMB
comp=Z,21nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,163nm,3.7s
WMQ LR LR
comp=N,633nm,12.7s,MS4.7
WMQ LR LR
comp=E,865nm,11.0s,MS4.7
WMQ LR LR
comp=Z,549nm,13.6s,MS4.3
NB2 NORSAR Subarra 28.73 322 P P **02 29 41.6 -0.1**
comp=Z,7.0nm,0.6s,mb4.6,baz=110,slow=10
NOA NORSAR Array B 28.73 322 P P **02 29 41.6 -0.1**
comp=Z,18nm,0.8s,mb4.8,baz=116,slow=8.3,SNR=48
NOA LR LR 02 41 33.9
comp=Z,123nm,19.8s,MS3.5,baz=85,slow=37
ORO Oropa 28.79 290 P P **02 29 40.1 -2.0**
ORO pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ORO Oropa 28.79 290 P P **02 29 40.1 -2.0**
comp=Z,7.4nm,0.7s,mb4.5
NAO01 NORSAR Array S 28.81 322 *e*P P **02 29 42.6 +0.3**
comp=Z,11nm,0.6s,mb4.8
NAO01 NORSAR Array S 28.81 322 *e*P P **02 29 42.6 +0.3**
comp=Z,11nm,0.6s,mb4.8
FIN Finale Ligure 28.87 287 P P **02 29 41.9 -1.0**
FIN pmax pmax
comp=Z,15nm,0.5s,mb5.0
FIN Finale Ligure 28.87 287 P P **02 29 41.9 -1.0**
comp=Z,15nm,0.5s,mb5.0
CDF Champ du Feu 28.95 296 ⇑*i*P P **02 29 42.7 -0.9**
comp=Z,10.0nm,0.8s,mb4.3
CDF Champ du Feu 28.95 296 ⇑*i*P P **02 29 42.7 -0.9**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
CDF Champ du Feu 28.95 296 ⇑*i*P P **02 29 42.7 -0.9**
comp=Z,5.0nm,0.8s,mb4.3
KONO Kongsberg 29.00 319 *e*P P **02 29 44.0 0.0**
KONO Kongsberg 29.00 319 *e*P P **02 29 44.4 +0.4**
comp=Z,20nm,0.9s,mb4.8
KONO Kongsberg 29.00 319 *e*P P **02 29 44.3 +0.3**
comp=Z,20nm,0.9s,mb4.8
ECH Echery 29.05 295 *e*P P **02 29 43.8 -0.6**
ROB Roburent 29.09 287 P P **02 29 44.2 -0.6**
MOF Molkenrain 29.09 295 *e*P P **02 29 45.2 +0.3**
KEV Kevo 29.23 345 *e*P P **02 29 47.3 +1.2**
KEV pmax pmax
comp=Z,21nm,0.7s,mb5.0
KEV Kevo 29.23 345 *e*P P **02 29 47.3 +1.2**
comp=Z,21nm,0.7s,mb5.0
KEV Kevo 29.23 345 *e*P P **02 29 47.3 +1.2**
comp=Z,21nm,0.7s,mb5.0
VSL Villasalto 29.25 277 *e*P P **02 29 46.1 -0.1**
comp=Z,18nm,1.0s,mb4.8
VSL *e*pP pP 02 29 59.2 -1.4
VSL Villasalto 29.25 277 *e*P P **02 29 46.2 -0.1**
comp=Z,18nm,1.0s,mb4.8
VSL *e*pP pP 02 29 59.2 -1.4
HINF Hinteralfeld 29.29 294 *e*P P **02 29 45.2 -1.4**
comp=Z,4.8nm,0.6s,mb4.1
HINF Hinteralfeld 29.29 294 *e*P P **02 29 45.2 -1.4**
HINF pmax pmax
comp=Z,20nm,0.6s,mb5.0
HINF Hinteralfeld 29.29 294 *e*P P **02 29 45.2 -1.4**
comp=Z,2.4nm,0.6s,mb4.1
ARCES ARCESS Array B 29.34 344 P P **02 29 48.2 +1.1**
comp=Z,5.1nm,0.6s,mb4.4,baz=147,slow=8.9,SNR=24
ARCES LR LR 02 43 30.3
comp=Z,228nm,21.1s,MS3.8,baz=4.8,slow=40
ARCES ARCESS Array B 29.34 344 P P **02 29 48.2 +1.1**
ARCES LR LR 02 43 30.3
ARE0 ARCESS Array S 29.34 344 P P **02 29 48.1 +1.0**
ARE0 ARCESS Array S 29.34 344 P P **02 29 48.1 +1.0**
LOMF Lomont 29.35 294 *e*P P **02 29 45.4 -1.7**
SAOF Saorge 29.38 287 *e*P P **02 29 47.2 -0.2**
LSD Ceresole Reale 29.39 290 P P **02 29 46.3 -1.1**
KTK1 Kautokeino 29.42 342 *e*P P **02 29 49.4 +1.7**
KTK1 AMb AMB 02 29 51.2
comp=Z,40nm,1.1s,mb5.1
KTK1 Kautokeino 29.42 342 *e*P P **02 29 49.4 +1.7**
comp=Z,40nm,1.0s,mb5.1
KTK1 Kautokeino 29.42 342 *e*P P **02 29 49.4 +1.7**
comp=Z,40nm,1.0s,mb5.1
ENR Entracque 29.42 287 P P **02 29 46.7 -1.1**
AUTN L'Aution 29.46 287 *e*P P **02 29 47.9 -0.2**
SBF Sospel 29.49 286 ⇑*i*P P **02 29 48.1 -0.2**
comp=Z,62nm,0.8s,mb5.1
SBF Sospel 29.49 286 ⇑*i*P P **02 29 48.1 -0.2**
SBF pmax pmax
comp=Z,31nm,0.8s,mb5.1
SBF Sospel 29.49 286 ⇑*i*P P **02 29 48.1 -0.2**
comp=Z,31nm,0.8s,mb5.1
STV Sta Anna Valdi 29.49 287 P P **02 29 47.6 -0.7**
LUCF Luceram 29.54 286 *e*P P **02 29 49.0 +0.2**
TOUF Mont Tournerai 29.59 287 *e*P P **02 29 49.5 +0.3**
HAU Haudompre 29.61 295 *e*P P **02 29 48.5 -0.9**
comp=Z,50nm,0.7s,mb5.0
HAU *e*R
comp=Z,78nm,19.2s
HAU Haudompre 29.61 295 *e*P P **02 29 48.5 -0.9**
HAU pmax pmax
comp=Z,25nm,0.7s,mb5.0
HAU MLR MLR
comp=Z,80nm,19.3s,MS3.4
HAU Haudompre 29.61 295 *e*P P **02 29 48.5 -0.9**
comp=Z,25nm,0.7s,mb5.1
HAU LR LR
comp=Z,80nm,19.3s,MS3.4
WLF Walferdange 29.62 298 *e*P P **02 29 50.3 +0.8**
comp=Z,12nm,1.1s,mb4.5
WLF Walferdange 29.62 298 *e*P P **02 29 50.7 +1.2**
LPG La Plagne 29.66 290 ⇑*i*P P **02 29 49.2 -0.7**
comp=Z,12nm,0.6s,mb4.5
LPG La Plagne 29.66 290 ⇑*i*P P **02 29 49.2 -0.7**
LPG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
LPG La Plagne 29.66 290 ⇑*i*P P **02 29 49.2 -0.7**
comp=Z,6.0nm,0.6s,mb4.5
LPL La Plagne 29.67 290 ⇑*i*P P **02 29 49.3 -0.6**
comp=Z,16nm,0.5s,mb4.8
LPL La Plagne 29.67 290 ⇑*i*P P **02 29 49.3 -0.6**
LPL pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
LPL La Plagne 29.67 290 ⇑*i*P P **02 29 49.3 -0.6**
comp=Z,8.1nm,0.5s,mb4.8
MVIF Mont Vial 29.68 287 *e*P P **02 29 50.0 0.0**
MEM Membach 29.68 300 P P **02 29 51.1 +1.0**
RRL Cesana Torines 29.74 289 P P **02 29 49.8 -0.7**
MBDF Montbardon 29.78 288 ⇑*i*P P **02 29 50.6 -0.3**
comp=Z,57nm,0.7s,mb5.1
MBDF Montbardon 29.78 288 ⇑*i*P P **02 29 50.6 -0.3**
MBDF pmax pmax
comp=Z,29nm,0.7s,mb5.1
MBDF Montbardon 29.78 288 ⇑*i*P P **02 29 50.6 -0.3**
comp=Z,29nm,0.7s,mb5.1
BNI Bardonecchia 29.79 289 *e*P P **02 29 50.4 -0.6**
BNI pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
BNI Bardonecchia 29.79 289 *e*P P **02 29 50.4 -0.6**
comp=Z,8.2nm,0.5s,mb4.7
BNI Bardonecchia 29.79 289 *e*P P **02 29 50.4 -0.6**
comp=Z,8.1nm,0.5s,mb4.7
THEF They Montfort 29.83 295 *e*P P **02 29 50.6 -0.7**
CABF La Chapelle 29.95 292 ⇑*i*P P **02 29 51.6 -0.8**
comp=Z,36nm,0.8s,mb4.8
CABF La Chapelle 29.95 292 ⇑*i*P P **02 29 51.6 -0.8**
CABF pmax pmax
comp=Z,18nm,0.8s,mb4.8
CABF La Chapelle 29.95 292 ⇑*i*P P **02 29 51.6 -0.8**
comp=Z,18nm,0.8s,mb4.8
MOR8 Moi Rana 29.96 333 *e*P P **02 29 52.8 +0.3**
NSS Namsos 29.96 329 *e*P P **02 29 52.7 +0.2**
DOMB Dombas 30.07 324 *e*P P **02 29 54.3 +0.8**
DOMB AMb AMB 02 29 54.9
comp=Z,22nm,0.9s,mb4.9
DOMB Dombas 30.07 324 *e*P P **02 29 54.3 +0.8**
comp=Z,22nm,0.9s,mb4.9
FRF La Foret Royal 30.11 286 ⇑*i*P P **02 29 53.4 -0.5**
comp=Z,58nm,0.7s,mb5.1
FRF La Foret Royal 30.11 286 ⇑*i*P P **02 29 53.4 -0.5**
FRF pmax pmax
comp=Z,29nm,0.7s,mb5.1
FRF La Foret Royal 30.11 286 ⇑*i*P P **02 29 53.4 -0.5**
comp=Z,29nm,0.7s,mb5.1
BCLA Clavier 30.14 300 P P **02 29 54.9 +0.8**
LMR La Mourre 30.26 286 *e*P P **02 29 54.4 -0.8**
ORIF Oris-en-Rattie 30.37 289 *e*P P **02 29 55.4 -0.7**
comp=Z,11nm,0.7s,mb4.4
ORIF *e*R
comp=Z,118nm,20.2s
ORIF Oris-en-Rattie 30.37 289 *e*P P **02 29 55.4 -0.7**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ORIF Oris-en-Rattie 30.37 289 *e*P P **02 29 55.4 -0.7**
comp=Z,5.6nm,0.7s,mb4.4
MEZF Maizieres J'vi 30.42 296 *e*P P **02 29 56.3 -0.3**
comp=Z,22nm,0.7s,mb4.7
MEZF Maizieres J'vi 30.42 296 *e*P P **02 29 56.3 -0.3**
comp=Z,11nm,0.7s,mb4.7
GIVF Givet 30.46 299 ⇑*i*P P **02 29 57.9 +1.0**
comp=Z,19nm,0.8s,mb4.6
GIVF Givet 30.46 299 ⇑*i*P P **02 29 57.9 +1.0**
GIVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GIVF Givet 30.46 299 ⇑*i*P P **02 29 57.9 +1.0**
comp=Z,9.6nm,0.8s,mb4.6
BLS5 Blasjo 30.47 318 *e*P P **02 29 59.1 +2.1**
BLS5 AMb AMB 02 30 00.8
comp=Z,18nm,0.9s,mb4.8
BLS5 Blasjo 30.47 318 *e*P P **02 29 59.1 +2.1**
comp=Z,18nm,0.9s,mb4.8
BLS5 Blasjo 30.47 318 *e*P P **02 29 59.1 +2.1**
comp=Z,18nm,0.9s,mb4.8
TAVF Tavernes 30.52 286 *e*P P **02 29 57.2 -0.2**
STOK Stokkvaagen 30.53 333 *e*P P **02 29 58.2 +0.7**
STOK AMb AMB 02 30 03.2
comp=Z,84nm,1.1s,mb5.5
STOK Stokkvaagen 30.53 333 *e*P P **02 29 58.2 +0.7**
comp=Z,84nm,1.1s,mb5.5
STOK Stokkvaagen 30.53 333 *e*P P **02 29 58.2 +0.7**
comp=Z,84nm,1.1s,mb5.5
STOF St-Etienne Org 30.54 287 *e*P P **02 29 57.2 -0.4**
DOU Dourbes 30.60 299 P P **02 29 58.9 +0.7**
KEST Kesra 30.68 270 P P **02 29 59.2 +0.3**
comp=Z,10nm,0.9s,mb4.7,baz=317,slow=2.0,SNR=37
PUYF Puyloubier 30.79 286 *e*P P **02 29 59.6 -0.2**
BAIF Baives 30.85 299 ⇑*i*P P **02 30 01.6 +1.2**
comp=Z,27nm,0.8s,mb4.8
BAIF Baives 30.85 299 ⇑*i*P P **02 30 01.6 +1.2**
BAIF pmax pmax
comp=Z,14nm,0.8s,mb4.8
BAIF Baives 30.85 299 ⇑*i*P P **02 30 01.6 +1.2**
comp=Z,14nm,0.8s,mb4.8
TRO Tromso 30.90 341 *e*P P **02 30 00.8 -0.1**
TRO AMb AMB 02 30 09.9
comp=Z,73nm,1.8s,mb5.2
TRO Tromso 30.90 341 *e*P P **02 30 00.8 -0.1**
comp=Z,73nm,1.8s,mb5.2
TRO Tromso 30.90 341 *e*P P **02 30 00.8 0.0**

comp=Z,73nm,1.8s,mb5.2
TREF Trevaresse 30.99 287 *e*P **P 02 30 01.0 -0.6**
GELF Grande-Etoile 31.02 286 *e*P **P 02 30 02.2 +0.4**
BHPL Bhopal 31.04 119 *e*P **P 02 30 02.1 +0.1**
BHPL AMb AMB 02 30 07.7
comp=Z,23nm,0.6s,mb5.2
VIVF Saint-Julien-I 31.22 289⇑ *i*P **P 02 30 02.9 -0.8**
comp=Z,14nm,0.8s,mb4.5
VIVF Saint-Julien-I 31.22 289⇑ *i*P **P 02 30 02.9 -0.8**
VIVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
VIVF Saint-Julien-I 31.22 289⇑ *i*P **P 02 30 02.9 -0.8**
comp=Z,6.8nm,0.8s,mb4.5
LOR Lormes 31.36 294⇑ *i*P **P 02 30 03.8 -1.1**
comp=Z,12nm,0.7s,mb4.6
LOR *e*R
comp=Z,74nm,18.5s
LOR Lormes 31.36 294⇑ *i*P **P 02 30 03.8 -1.1**
LOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
LOR MLR MLR
comp=Z,70nm,18.5s,MS3.4
LOR Lormes 31.36 294⇑ *i*P **P 02 30 03.8 -1.1**
comp=Z,6.2nm,0.7s,mb4.5
LOR LR LR
comp=Z,70nm,18.5s,MS3.4
SMF Signal de Mont 31.47 293⇑ *i*P **P 02 30 04.9 -0.9**
comp=Z,12nm,0.6s,mb4.6
SMF Signal de Mont 31.47 293⇑ *i*P **P 02 30 04.9 -0.9**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
SMF Signal de Mont 31.47 293⇑ *i*P **P 02 30 04.9 -0.9**
comp=Z,5.9nm,0.6s,mb4.6
PLDF La Plantade 31.74 291 *e*P **P 02 30 07.6 -0.6**
AVF Avril sur Loir 31.78 293⇑ *i*P **P 02 30 07.8 -0.8**
comp=Z,23nm,0.8s,mb4.8
AVF Avril sur Loir 31.78 293⇑ *i*P **P 02 30 07.8 -0.8**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.7
AVF Avril sur Loir 31.78 293⇑ *i*P **P 02 30 07.8 -0.8**
comp=Z,11nm,0.8s,mb4.8
LASF Ste Croix 31.96 288⇑ *i*P **P 02 30 09.5 -0.7**
comp=Z,14nm,0.9s,mb4.5
LASF Ste Croix 31.96 288⇑ *i*P **P 02 30 09.5 -0.7**
comp=Z,7.2nm,0.9s,mb4.5
AGO Saint Agoulin 32.06 292 *e*P **P 02 30 10.7 -0.3**
MENF Mencas 32.14 300 *e*P **P 02 30 12.3 +0.6**
BGF Bois d'Agland 32.16 293 *e*P **P 02 30 11.8 -0.1**
comp=Z,14nm,0.6s,mb4.7
BGF Bois d'Agland 32.16 293 *e*P **P 02 30 11.8 -0.1**
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
BGF Bois d'Agland 32.16 293 *e*P **P 02 30 11.8 -0.1**
comp=Z,6.9nm,0.6s,mb4.7
HYF Humbligny 32.19 294 *e*P **P 02 30 11.8 -0.3**
KOLN Koldanda 32.27 106 *e*P **P 02 30 12.9 +0.1**
comp=Z,36nm,0.7s,mb5.3
AKL Akola 32.63 123 *ex* x 02 29 38.8
AKL AMb AMB 02 29 46.6
comp=Z,29nm,1.3s,mb5.0
TCF Toulx Ste Croi 32.64 292⇑ *i*P **P 02 30 15.9 -0.2**
comp=Z,31nm,1.1s,mb4.8
TCF Toulx Ste Croi 32.64 292⇑ *i*P **P 02 30 15.9 -0.2**
TCF pmax pmax
comp=Z,15nm,1.1s,mb4.8
TCF Toulx Ste Croi 32.64 292⇑ *i*P **P 02 30 15.9 -0.2**
comp=Z,15nm,1.1s,mb4.8
TFO1 Folkestone 32.74 301 *e*P **P 02 30 17.1 +0.1**
TFO1 Folkestone 32.74 301 *e*P **P 02 30 17.1 +0.1**
GKN Gorkha 32.87 105 *e*P **P 02 30 17.4 -0.7**
comp=Z,27nm,0.6s,mb5.3
CAF Calviac 33.02 290⇑ *i*P **P 02 30 19.2 -0.2**
comp=Z,8.7nm,0.7s,mb4.5
CAF Calviac 33.02 290⇑ *i*P **P 02 30 19.2 -0.2**
CAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CAF Calviac 33.02 290⇑ *i*P **P 02 30 19.2 -0.2**
comp=Z,4.3nm,0.7s,mb4.5
EJON La Jonquera 33.06 285 P **P 02 30 18.5 -1.2**
comp=Z,4.1nm,0.8s,mb4.4
EJON La Jonquera 33.06 285 P **P 02 30 18.5 -1.2**
comp=Z,4.1nm,0.8s,mb4.4
MTLF Montolieu 33.29 287⇑ *i*P **P 02 30 21.1 -0.7**
comp=Z,11nm,0.7s,mb4.6
MTLF Montolieu 33.29 287⇑ *i*P **P 02 30 21.1 -0.7**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MTLF Montolieu 33.29 287⇑ *i*P **P 02 30 21.1 -0.7**
comp=Z,5.4nm,0.7s,mb4.6
RJF Les Rejaudoux 33.31 291⇑ *i*P **P 02 30 22.1 +0.1**
comp=Z,10nm,0.7s,mb4.6
RJF *e*R
comp=Z,119nm,20.0s
RJF Les Rejaudoux 33.31 291⇑ *i*P **P 02 30 22.1 +0.1**
RJF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
RJF MLR MLR
comp=Z,120nm,20.0s,MS3.6
RJF Les Rejaudoux 33.31 291⇑ *i*P **P 02 30 22.1 +0.1**
comp=Z,5.2nm,0.7s,mb4.6
RJF LR LR
comp=Z,120nm,20.0s,MS3.6
TSA1 Sevenoaks 33.35 302 *e*P **P 02 30 22.6 +0.3**
TSA1 Sevenoaks 33.35 302 *e*P **P 02 30 22.6 +0.3**
DMN Daman 33.43 105 *e*P **P 02 30 23.2 +0.2**
comp=Z,20nm,0.4s,mb5.4
KKN Kakani 33.45 104 *e*P **P 02 30 23.1 -0.1**
NGP Nagpur 33.58 120 *e*P **P 02 30 25.4 +1.1**
NGP AMb AMB 02 30 47.8
comp=Z,118nm,2.2s,mb5.4
KAD Karad 33.61 131 *ex* x 02 30 46.9
KAD AMb AMB 02 30 49.4
comp=Z,26nm,1.4s,mb5.0
PKI Pulchoki 33.67 104 *e*P **P 02 30 25.0 -0.1**
comp=Z,35nm,0.8s,mb5.3
VALF Valcebollere 33.69 286 *e*P **P 02 30 24.3 -1.0**
GUN Gumba 33.81 103 *e*P **P 02 30 26.3 0.0**
comp=Z,30nm,0.6s,mb5.4
LDF La Druitiere 33.82 297 *e*P **P 02 30 25.9 -0.5**
comp=Z,28nm,0.9s,mb4.9
LDF La Druitiere 33.82 297 *e*P **P 02 30 25.9 -0.5**
LDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
LDF La Druitiere 33.82 297 *e*P **P 02 30 25.9 -0.5**
comp=Z,14nm,0.9s,mb4.9
SKP1 Kophill 33.91 303⇑ *e*P **P 02 30 27.0 -0.2**
SKP1 Kophill 33.91 303⇑ *e*P **P 02 30 27.0 -0.2**
LFF La Frestale 33.93 290⇑ *i*P **P 02 30 27.1 -0.3**
comp=Z,15nm,0.8s,mb4.7
LFF La Frestale 33.93 290⇑ *i*P **P 02 30 27.1 -0.3**
LFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LFF La Frestale 33.93 290⇑ *i*P **P 02 30 27.1 -0.3**
comp=Z,7.4nm,0.8s,mb4.7
ETOS Mallorca 33.94 281 P **P 02 30 26.5 -0.9**
comp=Z,12nm,0.8s,mb4.9
ETOS Mallorca 33.94 281 P **P 02 30 26.5 -0.9**
comp=Z,12nm,0.8s,mb4.9
FLN La Foliniere 34.03 297⇑ *i*P **P 02 30 27.7 -0.5**
comp=Z,40nm,0.8s,mb5.1
FLN *e*R
comp=Z,280nm,20.8s
FLN La Foliniere 34.03 297⇑ *i*P **P 02 30 27.7 -0.5**
FLN pmax pmax
comp=Z,20nm,0.8s,mb5.1
FLN MLR MLR
comp=Z,280nm,20.8s,MS4.0
FLN La Foliniere 34.03 297⇑ *i*P **P 02 30 27.7 -0.5**
comp=Z,20nm,0.8s,mb5.1
FLN LR LR
comp=Z,280nm,20.8s,MS4.0
JIRN Jiri 34.18 104 *e*P **P 02 30 30.0 +0.5**
comp=Z,81nm,0.7s,mb5.8
MFF Saint Martin d 34.18 294 *e*P **P 02 30 28.5 -1.0**
comp=Z,14nm,0.8s,mb4.7
MFF Saint Martin d 34.18 294 *e*P **P 02 30 28.5 -1.0**
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MFF Saint Martin d 34.18 294 *e*P **P 02 30 28.5 -1.0**
comp=Z,7.2nm,0.8s,mb4.7
MLS Moulis 34.19 287 *e*P **P 02 30 28.4 -1.2**
KBI1 Birley Grange 34.26 305 *e*P **P 02 30 29.6 -0.6**
KBI1 Birley Grange 34.26 305 *e*P **P 02 30 29.6 -0.6**
GRR Gorron 34.34 297⇑ *i*P **P 02 30 30.2 -0.7**
comp=Z,42nm,0.8s,mb5.1
GRR Gorron 34.34 297⇑ *i*P **P 02 30 30.2 -0.7**
GRR pmax pmax
comp=Z,21nm,0.8s,mb5.1
GRR Gorron 34.34 297⇑ *i*P **P 02 30 30.2 -0.7**
comp=Z,21nm,0.8s,mb5.1
LRW Lerwick 34.39 318 *e*P **P 02 30 30.7 -0.7**
LRW AMb AMB 02 30 33.0
comp=Z,49nm,1.4s,mb5.2
LRW Lerwick 34.39 318 *e*P **P 02 30 30.7 -0.7**
LRW AMb AMB 02 30 33.0
comp=Z,49nm,1.4s,mb5.2
SWN1 Swindon 34.55 302⇑ *e*P **P 02 30 33.0 +0.3**
SWN1 Swindon 34.55 302⇑ *e*P **P 02 30 33.0 +0.3**
LCHF La Chataignera 34.57 294 *e*P **P 02 30 32.7 -0.2**
XAL Allendale 34.62 308⇑ *e*P **P 02 30 33.4 +0.1**
XAL Allendale 34.62 308⇑ *e*P **P 02 30 33.4 +0.1**
XSO Sourhope Farm 34.64 309⇑ *e*P **P 02 30 33.4 -0.1**
XSO Sourhope Farm 34.64 309⇑ *e*P **P 02 30 33.4 -0.1**
EPOB Poblet 34.67 284 P **P 02 30 33.3 -0.5**
comp=Z,16nm,0.6s,mb5.1
EPOB Poblet 34.67 284 P **P 02 30 33.3 -0.5**
comp=Z,16nm,0.6s,mb5.1
EPF Esparros 34.70 287⇑ *i*P **P 02 30 32.3 -1.7**
comp=Z,9.2nm,0.7s,mb4.5
EPF Esparros 34.70 287⇑ *i*P **P 02 30 32.3 -1.7**
EPF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
EPF Esparros 34.70 287⇑ *i*P **P 02 30 32.3 -1.7**
comp=Z,4.6nm,0.7s,mb4.5
RESF Ens 34.76 287 *e*P **P 02 30 33.9 -0.6**
ESY Stoneypath 34.85 310 *e*P **P 02 30 35.7 +0.5**
ESY Stoneypath 34.85 310 *e*P **P 02 30 35.7 +0.5**
SWK Warminster 34.86 302⇑ *e*P **P 02 30 35.6 +0.2**
SWK Warminster 34.86 302⇑ *e*P **P 02 30 35.6 +0.2**
EBIE Bielsa 34.94 287 P **P 02 30 35.6 -0.4**
comp=Z,6.1nm,0.7s,mb4.6
EBIE Bielsa 34.94 287 P **P 02 30 35.6 -0.4**
comp=Z,6.1nm,0.7s,mb4.6
VIEF Viey 34.96 287 *e*P **P 02 30 36.2 -0.1**
BDL Dobcross Hall 35.04 308 *e*P **P 02 30 37.8 +0.8**
BDL Dobcross Hall 35.04 308 *e*P **P 02 30 37.8 +0.8**
EBL Broad Law 35.09 310⇑ *e*P **P 02 30 37.5 +0.2**
EBL Broad Law 35.09 310⇑ *e*P **P 02 30 37.5 +0.2**
ECK Cauldkaine Hil 35.14 309⇑ *e*P **P 02 30 37.5 -0.3**
ECK Cauldkaine Hil 35.14 309⇑ *e*P **P 02 30 37.5 -0.3**
CKE Keswick 35.15 308⇑ *e*P **P 02 30 37.9 +0.1**
CKE Keswick 35.15 308⇑ *e*P **P 02 30 37.9 +0.1**
EKA Eskdalemuir Ar 35.16 309 P **P 02 30 37.9 -0.1**
comp=Z,16nm,0.7s,mb5.1,baz=100,slow=8.4,SNR=74
EKA PcP PcP 02 33 08.4 +0.3
comp=Z,2.7nm,0.6s,baz=104,slow=3.5,SNR=3.5
EKA Eskdalemuir Ar 35.16 309 P **P 02 30 37.8 -0.1**
EKA Eskdalemuir Ar 35.16 309 PcP PcP 02 33 08.4 +0.3
HGH Gray Hill 35.16 303 *e*P **P 02 30 37.4 -0.5**
HGH Gray Hill 35.16 303 *e*P **P 02 30 37.4 -0.5**
ESK Eskdalemuir 35.19 309⇑ *e*P **P 02 30 38.1 -0.1**
ESK pmax pmax
comp=Z,17nm,0.8s,mb5.0
ESK Eskdalemuir 35.19 309⇑ *e*P **P 02 30 38.1 -0.1**
comp=Z,17nm,0.8s,mb5.0
ESK Eskdalemuir 35.19 309⇑ *e*P **P 02 30 38.1 -0.1**
comp=Z,17nm,0.8s,mb5.0
BHH Howats Hill 35.20 309 *e*P **P 02 30 38.2 0.0**
BHH Howats Hill 35.20 309 *e*P **P 02 30 38.2 0.0**
EMHD Djebel Mahouad 35.20 275 P **P 02 30 38.0 -0.3**
MCD Coleburn Disti 35.24 313⇑ *e*P **P 02 30 38.8 +0.2**
MCD Coleburn Disti 35.24 313⇑ *e*P **P 02 30 38.8 +0.2**
MCH1 Michaelchurch 35.24 303⇑ *e*P **P 02 30 38.1 -0.5**
MCH1 ⇑ *e*P 02 30 38.1
MCH1 AMb AMB 02 30 39.3
comp=Z,30nm,1.0s,mb5.2
MCH1 Michaelchurch 35.24 303⇑ *e*P **P 02 30 38.1 -0.5**
MCH1 ⇑ *e*P 02 30 38.1
MCH1 AMb AMB 02 30 39.3
comp=Z,30nm,1.0s,mb5.2
EIBI Ibiza 35.27 280 P **P 02 30 37.6 -1.3**
comp=Z,9.1nm,0.7s,mb4.8
EIBI Ibiza 35.27 280 P **P 02 30 37.6 -1.3**
comp=Z,9.1nm,0.7s,mb4.8
SBD1 Bryn Du 35.33 305 *e*P **P 02 30 39.9 +0.5**
SBD1 Bryn Du 35.33 305 *e*P **P 02 30 39.9 +0.5**
ERTA Horta de San J 35.33 284 P **P 02 30 38.4 -1.1**
comp=Z,17nm,1.1s,mb4.9
ERTA Horta de San J 35.33 284 P **P 02 30 38.4 -1.0**
comp=Z,17nm,1.1s,mb4.9
ETSF Etsaut 35.37 287⇑ *i*P **P 02 30 39.2 -0.6**
comp=Z,16nm,0.8s,mb4.7
ETSF Etsaut 35.37 287⇑ *i*P **P 02 30 39.2 -0.6**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETSF Etsaut 35.37 287⇑ *i*P **P 02 30 39.2 -0.6**
comp=Z,7.8nm,0.8s,mb4.7
XDE Dent Fell 35.37 308⇑ *e*P **P 02 30 39.9 +0.1**
XDE Dent Fell 35.37 308⇑ *e*P **P 02 30 39.9 +0.1**
HTR Trewern Hill 35.40 304⇑ *e*P **P 02 30 39.1 -0.9**
HTR Trewern Hill 35.40 304⇑ *e*P **P 02 30 39.1 -0.9**
BWH Wardlaw 35.45 309 *e*P **P 02 30 40.4 -0.1**
BWH Wardlaw 35.45 309 *e*P **P 02 30 40.4 -0.1**
ORE Reay 35.56 315 *e*P **P 02 30 41.6 +0.3**
ORE Reay 35.56 315 *e*P **P 02 30 41.6 +0.3**
ESAC San Caprasio 35.66 285 P **P 02 30 42.0 -0.3**
comp=Z,20nm,0.8s,mb5.1
ESAC San Caprasio 35.66 285 P **P 02 30 42.0 -0.3**
comp=Z,20nm,0.8s,mb5.1
SJPF Ste Jean 35.78 288 *e*P **P 02 30 42.6 -0.6**
comp=Z,10nm,0.8s,mb4.5
SJPF Ste Jean 35.78 288 *e*P **P 02 30 42.6 -0.6**
SJPF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SJPF Ste Jean 35.78 288 *e*P **P 02 30 42.6 -0.6**
comp=Z,5.1nm,0.8s,mb4.5
EAB Aberfoyle 35.81 311⇑ *e*P **P 02 30 43.6 0.0**
EAB Aberfoyle 35.81 311⇑ *e*P **P 02 30 43.6 0.0**
HEX Exmoor 35.85 302⇑ *e*P **P 02 30 43.1 -0.7**
HEX Exmoor 35.85 302⇑ *e*P **P 02 30 43.1 -0.7**
PGBU Glenifferbraes 35.90 310 *e*P **P 02 30 44.6 +0.3**
PGBU AMb AMB 02 30 46.5
comp=Z,26nm,1.2s,mb5.0
PGBU Glenifferbraes 35.90 310 *e*P **P 02 30 44.6 +0.3**
PGBU AMb AMB 02 30 46.5
comp=Z,26nm,1.2s,mb5.0
ROSF Rostrenen 35.93 297⇑ *i*P **P 02 30 44.4 -0.2**
comp=Z,50nm,0.8s,mb5.2
ROSF Rostrenen 35.93 297⇑ *i*P **P 02 30 44.4 -0.2**
ROSF pmax pmax
comp=Z,25nm,0.8s,mb5.2
ROSF Rostrenen 35.93 297⇑ *i*P **P 02 30 44.4 -0.2**
comp=Z,25nm,0.8s,mb5.2
QUIF Quistinic 35.94 296⇑ *i*P **P 02 30 44.3 -0.4**
comp=Z,32nm,0.8s,mb5.0
QUIF Quistinic 35.94 296⇑ *i*P **P 02 30 44.3 -0.4**
QUIF pmax pmax
comp=Z,16nm,0.8s,mb5.0
QUIF Quistinic 35.94 296⇑ *i*P **P 02 30 44.3 -0.4**
comp=Z,16nm,0.8s,mb5.0
DYA Yadsworthy 36.01 301⇑ *e*P **P 02 30 44.7 -0.6**
DYA Yadsworthy 36.01 301⇑ *e*P **P 02 30 44.7 -0.6**
GAL1 Galloway 36.06 308 *e*P **P 02 30 45.6 -0.1**
GAL1 AMb AMB 02 30 51.5
comp=Z,29nm,0.9s,mb5.2
GAL1 Galloway 36.06 308 *e*P **P 02 30 45.6 -0.1**
GAL1 AMb AMB 02 30 51.5
comp=Z,29nm,0.9s,mb5.2
HYB Hyderabad 36.07 125 *i* P **P 02 30 45.0 -0.7**
EMOS Mosqueruela 36.11 283 P **P 02 30 45.6 -0.5**
comp=Z,6.8nm,0.6s,mb4.8
EMOS Mosqueruela 36.11 283 P **P 02 30 45.6 -0.5**
comp=Z,6.8nm,0.6s,mb4.8
EBNR Beni Rached 36.20 276 P **P 02 30 45.0 -1.9**
HTL Hartland 36.28 302 *e*P **P 02 30 46.4 -1.2**
HTL Hartland 36.28 302 *e*P **P 02 30 46.4 -1.2**
KAC Achnashellach 36.34 313⇑ *e*P **P 02 30 48.3 +0.2**
KAC Achnashellach 36.34 313⇑ *e*P **P 02 30 48.3 +0.2**
BOK Bokaro 36.35 109 *e*P **P 02 30 47.8 -0.3**
BOK AMb AMB 02 30 53.5
comp=Z,19nm,0.9s,mb5.0
ECHA Ech Chlef 36.38 276 P **P 02 30 49.0 +0.6**
EBEN Beniarda 36.53 280 P **P 02 30 49.5 -0.1**
comp=Z,14nm,0.7s,mb4.9
KPL Plockton 36.53 313 *e*P **P 02 30 49.6 -0.1**
KPL AMb AMB 02 30 58.4
comp=Z,38nm,1.9s,mb4.9
KPL Plockton 36.53 313 *e*P **P 02 30 49.6 -0.1**
KPL AMb AMB 02 30 58.4
comp=Z,38nm,1.9s,mb4.9
KAR1 Arisaig 36.63 312⇑ *e*P **P 02 30 50.9 +0.3**
KAR1 Arisaig 36.63 312⇑ *e*P **P 02 30 50.9 +0.3**
CSA1 St Austell 36.63 301⇑ *e*P **P 02 30 50.3 -0.3**
CSA1 St Austell 36.63 301⇑ *e*P **P 02 30 50.3 -0.3**
EANR 'Ain N'Sour 36.66 276 P **P 02 30 50.0 -0.8**
ECHE Chera 36.74 282 P **P 02 30 51.4 0.0**
ECHE pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ECHE Chera 36.74 282 P **P 02 30 51.4 -0.1**
comp=Z,6.9nm,0.6s,mb4.7
ECHE Chera 36.74 282 P **P 02 30 51.4 0.0**
comp=Z,6.9nm,0.6s,mb4.7
ETRT Tiaret 36.76 275 P **P 02 30 52.0 +0.4**
CRQ2 Rosemanowes 2 36.84 301⇑ *e*P **P 02 30 52.2 -0.1**
CRQ2 Rosemanowes 2 36.84 301⇑ *e*P **P 02 30 52.2 -0.1**
CCA1 Carnmenellis 36.87 301⇑ *e*P **P 02 30 52.1 -0.5**
CCA1 Carnmenellis 36.87 301⇑ *e*P **P 02 30 52.1 -0.5**
CGW Gweek 36.88 301⇑ *e*P **P 02 30 52.1 -0.6**
CGW Gweek 36.88 301⇑ *e*P **P 02 30 52.1 -0.6**
CPZ Penzance 37.10 301⇑ *e*P **P 02 30 54.1 -0.4**
CPZ Penzance 37.10 301⇑ *e*P **P 02 30 54.1 -0.4**
ELAN Lanestosa 37.29 289 P **P 02 30 55.8 -0.3**
comp=Z,8.7nm,0.8s,mb4.6
ELAN Lanestosa 37.29 289 P **P 02 30 55.8 -0.3**
comp=Z,8.7nm,0.8s,mb4.6
ETOB Tobarra 37.51 281 P **P 02 30 58.0 +0.1**
comp=Z,10nm,0.7s,mb4.7
ETOB Tobarra 37.51 281 P **P 02 30 58.0 0.0**
comp=Z,10nm,0.7s,mb4.7
CART Cartagena 37.52 279 *e*P **P 02 30 57.2 -0.9**
comp=Z,11nm,0.8s,mb4.6
CART Cartagena 37.52 279 *e*P **P 02 30 57.2 -0.9**
comp=Z,11nm,0.8s,mb4.6
EMUR La Murta 37.59 280 P **P 02 30 57.6 -1.1**
comp=Z,9.5nm,0.8s,mb4.6
EMUR La Murta 37.59 280 P **P 02 30 57.6 -1.1**
comp=Z,9.5nm,0.8s,mb4.6
SPB4 Spitsbergen Ar 37.79 350 *e*P **P 02 31 01.9 +1.5**
SPB4 *e*PP PP 02 32 22.4 -5.1
SPB4 Spitsbergen Ar 37.79 350 *e*P **P 02 31 01.9 +1.5**
SPB4 Spitsbergen Ar 37.79 350 *e*PP PP 02 32 22.4 -5.1
ZAK Zakamensk 37.90 59 *e*P **P 02 31 03.2 +2.0**
ZAK *e* 02 33 17.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
TLY Talaya 37.91 57 *e*P **P 02 31 03.2 +1.8**
TLY *e*SS SS 02 39 53.3 +16
TLY *e*SSS 02 41 12.2
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,125nm,14.0s,MS3.9
TLY Talaya 37.91 57 *e*P **P 02 31 03.6 +2.3**
comp=Z,7.9nm,1.0s,mb4.4
TLY Talaya 37.91 57 *e*P **P 02 31 03.6 +2.2**
comp=Z,7.9nm,1.0s,mb4.4
EVIA Vianos 38.20 281 P **P 02 31 03.9 +0.1**
EVIA pmax pmax
comp=Z,12nm,0.6s,mb4.8
EVIA Vianos 38.20 281 P **P 02 31 03.9 +0.1**
comp=Z,12nm,0.6s,mb4.8
EVIA Vianos 38.20 281 P **P 02 31 03.9 +0.1**
comp=Z,12nm,0.6s,mb4.8
EARI Arriondas 38.50 290 P **P 02 31 06.0 -0.3**
comp=Z,7.4nm,0.8s,mb4.5
EARI Arriondas 38.50 290 P **P 02 31 06.0 -0.3**
comp=Z,7.4nm,0.8s,mb4.5
GTA Gaotai 38.57 77 *e*P **P 02 31 08.5 +1.5**
GTA AP pP 02 31 20.9 -0.7
GTA XP sP 02 31 25.8 -2.5
GTA PP PP 02 32 40.9 +4.8
GTA PCP PcP 02 33 19.7 +1.2
GTA S **S 02 37 02.5 +3.6**
GTA SCP ScP 02 37 04.5 +3.0
GTA PCS PcS 02 37 09.0 +1.2
GTA XS sS 02 37 21.9 -1.8
GTA SCS ScS 02 41 13.3 +1.3
GTA AMB AMB
comp=Z,7.0nm,2.0s,mb4.0
GTA AMB AMB
comp=Z,88nm,6.5s
GTA LR LR
comp=N,192nm,17.9s,MS4.1
GTA LR LR
comp=E,146nm,14.1s,MS4.1
GTA LR LR
comp=Z,164nm,12.6s,MS4.0
EHUE Huescar 38.59 280 P **P 02 31 06.4 -0.7**
EHUE pmax pmax
comp=Z,6.0nm,0.4s,mb4.7
EHUE Huescar 38.59 280 P **P 02 31 06.4 -0.7**
comp=Z,6.3nm,0.4s,mb4.7
EHUE Huescar 38.59 280 P **P 02 31 06.4 -0.7**
comp=Z,6.3nm,0.4s,mb4.7
GUD Guadarrama 38.64 285 P **P 02 31 06.8 -0.7**
GUD pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
GUD Guadarrama 38.64 285 P **P 02 31 06.8 -0.8**
comp=Z,9.1nm,0.5s,mb4.8
GUD Guadarrama 38.64 285 P **P 02 31 06.8 -0.7**
comp=Z,9.1nm,0.5s,mb4.8
ENIJ Nijar 38.65 279 P **P 02 31 07.1 -0.5**
ENIJ pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
ENIJ Nijar 38.65 279 P **P 02 31 07.1 -0.5**
comp=Z,6.8nm,0.5s,mb4.6
ENIJ Nijar 38.65 279 P **P 02 31 07.1 -0.5**
comp=Z,6.8nm,0.5s,mb4.6
VIS Vishakhapatnam 38.83 119 *e*P **P 02 31 10.1 +1.0**
VIS AMb AMB 02 31 15.9
comp=Z,18nm,1.2s,mb4.7
ESDC Sonseca Array 38.86 284 P **P 02 31 07.7 -1.6**
comp=Z,5.0nm,0.6s,mb4.4,baz=60,slow=8.7,SNR=59
ESDC PcP PcP 02 33 20.2 +0.8
comp=Z,2.7nm,1.0s,baz=54,slow=4.2,SNR=5.7
ESDC Sonseca Array 38.86 284 P **P 02 31 08.0 -1.3**
comp=Z,3.8nm,0.6s,mb4.3
ESDC Sonseca Array 38.86 284 P **P 02 31 08.0 -1.3**
comp=Z,3.8nm,0.6s,mb4.3
KBS Kingsbay 38.94 350 *e*P **P 02 31 10.1 +0.1**
KBS pmax pmax
comp=Z,18nm,0.8s,mb4.8
KBS Kingsbay 38.94 350 *e*P **P 02 31 10.1 +0.1**
comp=Z,18nm,0.8s,mb4.8
KBS Kingsbay 38.94 350 *e*P **P 02 31 10.1 +0.1**
comp=Z,18nm,0.8s,mb4.8
EQES Quesada 38.94 281 P **P 02 31 09.4 -0.6**
comp=Z,18nm,0.7s,mb4.9
EQES Quesada 38.94 281 P **P 02 31 09.4 -0.6**
comp=Z,18nm,0.7s,mb4.9
EBER Berja 39.18 279 P **P 02 31 12.1 +0.1**
comp=Z,20nm,0.8s,mb4.9
EBER Berja 39.18 279 P **P 02 31 12.1 +0.1**
comp=Z,20nm,0.8s,mb4.9
EBAN Banos Encina 39.31 281 P **P 02 31 12.9 -0.2**
EBAN pmax pmax
comp=Z,17nm,0.7s,mb4.9
EBAN Banos Encina 39.31 281 P **P 02 31 12.9 -0.3**
comp=Z,17nm,0.7s,mb4.9
EBAN Banos Encina 39.31 281 P **P 02 31 12.9 -0.2**
comp=Z,17nm,0.7s,mb4.9
ECOG Cogollos-Vega 39.51 280 P **P 02 31 13.9 -0.9**
ECOG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ECOG Cogollos-Vega 39.51 280 P **P 02 31 13.9 -0.9**
comp=Z,5.5nm,0.6s,mb4.5
ECOG Cogollos-Vega 39.51 280 P **P 02 31 13.9 -0.9**
comp=Z,5.5nm,0.6s,mb4.5
SHL Shillong 39.52 101 *ex* x 02 29 45.4
ERON Agron 39.80 280 P **P 02 31 16.0 -1.1**
comp=Z,7.9nm,0.6s,mb4.6
EPON Pontenova 39.84 290 P **P 02 31 16.9 -0.6**
comp=Z,5.4nm,0.6s,mb4.5
EPON Pontenova 39.84 290 P **P 02 31 16.9 -0.6**
comp=Z,5.4nm,0.6s,mb4.5
EADA Adamuz 39.88 282 P **P 02 31 16.8 -1.1**
comp=Z,8.5nm,0.6s,mb4.7
EADA Adamuz 39.88 282 P **P 02 31 16.8 -1.1**
comp=Z,8.5nm,0.6s,mb4.7
ELUQ Luque 39.91 281 P **P 02 31 17.2 -0.9**
ELUQ pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
ELUQ Luque 39.91 281 P **P 02 31 17.2 -0.9**
comp=Z,10nm,0.6s,mb4.7
ELUQ Luque 39.91 281 P **P 02 31 17.2 -0.9**
comp=Z,10nm,0.6s,mb4.7

ELOJ Sierra Loja 39.99 280 P P 02 31 17.5 -1.3
ELOJ pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ELOJ Sierra Loja 39.99 280 P P 02 31 17.5 -1.3
comp=Z,4.9nm,0.7s,mb4.3
ELOJ Sierra Loja 39.99 280 P P 02 31 17.5 -1.3
comp=Z,4.9nm,0.7s,mb4.3
ECAL Calabor 40.01 288 P P 02 31 18.2 -0.8
comp=Z,9.3nm,0.6s,mb4.7
ECAL Calabor 40.01 288 P P 02 31 18.2 -0.7
comp=Z,9.3nm,0.6s,mb4.7
PBRG Braganca 40.06 288 eP P 02 31 18.7 -0.6
comp=Z,11nm,1.3s,mb4.4
SONM Songino Array 40.45 62 P P 02 31 23.4 +0.9
comp=Z,1.1nm,0.5s,mb3.8,baz=279,slow=8.3,SNR=11
SONM PcP PcP 02 33 25.3 +0.9
comp=Z,2.4nm,0.9s,baz=263,slow=4.7,SNR=3.6
SONM LR LR 02 49 41.7
comp=Z,439nm,18.6s,MS4.3,baz=318,slow=38
SONM Songino Array 40.45 62 P P 02 31 23.4 +0.8
SONM 02 33 25.3
EMIJ Mijas 40.69 280 P P 02 31 22.2 -2.3
comp=Z,12nm,0.6s,mb4.7
EMIJ Mijas 40.69 280 P P 02 31 22.2 -2.3
comp=Z,12nm,0.6s,mb4.7
ULN Ulaanbaatar 40.87 62 eP P 02 31 26.6 +0.6
ULN Ulaanbaatar 40.87 62 eP P 02 31 27.7 +1.7
comp=Z,13nm,0.7s,mb4.7
ULN Ulaanbaatar 40.87 62 eP P 02 31 27.7 +1.7
comp=Z,13nm,0.7s,mb4.7
PVRL Vila Real 40.93 288 eP P 02 31 25.5 -1.0
comp=Z,19nm,1.2s,mb4.6
STS Santiago 40.95 290 P P 02 31 26.3 -0.4
PCAB Cabril 40.99 288 eP P 02 31 26.0 -1.0
comp=Z,16nm,1.0s,mb4.6
MTE Manteigas 41.13 286 eP P 02 31 27.8 -0.4
comp=Z,22nm,1.7s,mb4.5
MTE Manteigas 41.13 286 eP P 02 31 28.0 -0.2
comp=Z,29nm,1.4s,mb4.7
EJIF Jimena Fronter 41.24 280 P P 02 31 27.3 -1.8
EJIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
EJIF Jimena Fronter 41.24 280 P P 02 31 27.3 -1.8
comp=Z,2.9nm,0.5s,mb4.2
EJIF Jimena Fronter 41.24 280 P P 02 31 27.3 -1.8
comp=Z,2.9nm,0.5s,mb4.2
PVIS Viseu 41.26 287 eP P 02 31 28.8 -0.5
comp=Z,12nm,0.8s,mb4.6
PCBR Castelo Branco 41.30 286 eP P 02 31 28.9 -0.7
comp=Z,8.4nm,0.8s,mb4.4
ESPR Espera 41.35 281 P P 02 31 28.3 -1.6
comp=Z,14nm,0.8s,mb4.6
ESPR Espera 41.35 281 P P 02 31 28.3 -1.6
comp=Z,14nm,0.8s,mb4.6
EBAD Badajoz 41.40 284 P P 02 31 29.1 -1.3
comp=Z,6.9nm,0.6s,mb4.5
EBAD Badajoz 41.40 284 P P 02 31 29.1 -1.3
comp=Z,6.9nm,0.6s,mb4.5
EMIN Mina Concepcio 41.56 282 P P 02 31 30.3 -1.3
comp=Z,6.3nm,0.7s,mb4.3
EMIN Mina Concepcio 41.56 282 P P 02 31 30.3 -1.4
comp=Z,6.3nm,0.7s,mb4.3
PESTR Estremoz 41.77 284 eP P 02 31 32.4 -1.0
comp=Z,32nm,0.7s,mb5.1
SFS San Fernando 41.77 280 eP P 02 31 31.8 -1.6
SFS e*PP pP 02 31 46.0 -2.2
SFS pmax pmax
comp=Z,60nm,0.8s,mb5.3
SFS San Fernando 41.77 280 eP P 02 31 31.8 -1.6
comp=Z,60nm,0.8s,mb5.3
SFS epP pP 02 31 46.0 -2.2
SFS San Fernando 41.77 280 eP P 02 31 31.8 -1.6
comp=Z,60nm,0.8s,mb5.3
SFS epP pP 02 31 46.0 -2.2
PTOM Tomar 42.05 286 eP P 02 31 35.3 -0.4
comp=Z,13nm,0.8s,mb4.6
EVO Evora 42.20 284 eP P 02 31 36.1 -0.8
comp=Z,7.8nm,0.7s,mb4.1
EVO eR
comp=Z,63nm,23.0s
EGRO El Granado 42.24 282 P P 02 31 36.5 -0.8
comp=Z,22nm,1.2s,mb4.7
EGRO El Granado 42.24 282 P P 02 31 36.5 -0.7
comp=Z,22nm,1.2s,mb4.7
PBEJ Beja 42.31 283 eP P 02 31 36.9 -0.9
comp=Z,9.9nm,0.7s,mb4.5
LZH Lanzhou 42.85 80 eP P 02 31 44.0 +1.8
LZH AP pP 02 31 56.2 -0.8
LZH XP sP 02 32 01.5 -2.2
LZH PP PP 02 33 26.4 +3.9
LZH PCP PcP 02 33 34.1 +1.8
LZH eS **S** **02 38 04.5 +2.0**
LZH XS sS 02 38 25.4 -2.1
LZH SS SS 02 41 10.3 -5.1
LZH AMB AMB
comp=Z,25nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,137nm,6.4s
LZH LR LR
comp=E,713nm,14.6s
LZH LR LR
comp=Z,985nm,17.4s,MS4.8
PLOU Loures 42.87 285 eP P 02 31 42.2 -0.2
comp=Z,33nm,1.0s,mb5.0
BOD Bodaibo 42.91 46 eP P 02 31 33.7 -9.0
BOD e 02 31 42.5
PTEO Sao Teotonio 43.13 283 eP P 02 31 43.9 -0.5
comp=Z,25nm,1.1s,mb4.9
DAG Danmarks Havn 43.60 342⇑ iP P 02 31 49.6 +1.4
comp=Z,8.2nm,0.7s,mb4.6
DAG Danmarks Havn 43.60 342⇑ iP P 02 31 49.6 +1.4
DAG pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
BORG Borgarnes 43.87 325 P P 02 31 52.0 +1.6
comp=Z,114nm,1.5s,mb5.4
BORG Borgarnes 43.87 325 P P 02 31 52.0 +1.6
comp=Z,114nm,1.5s,mb5.4
KMBO Kilima Mbogo 44.72 196 P P 02 31 57.8 +0.6
comp=Z,2.5nm,0.8s,mb4.1,baz=31,slow=12,SNR=5.6
KMBO LR LR 02 49 30.9
comp=Z,89nm,19.9s,MS3.7,baz=112,slow=35
CD2 Chengdu 45.28 86 P P 02 32 03.0 +1.4
HHC Hu-ho-hao-te 46.30 70 eP P 02 32 11.3 +1.6
HHC AP pP 02 32 23.4 -1.3
HHC XP sP 02 32 29.1 -2.2
HHC PCP PcP 02 33 46.9 +2.7
HHC PP PP 02 33 59.7 +0.5
HHC SCP ScP 02 37 35.0 +2.5
HHC PCS PcS 02 37 40.0 +1.2
HHC S **S** **02 38 53.7 +1.2**
HHC SCS ScS 02 41 59.8 +0.2
HHC SS SS 02 42 11.5 -7.0
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,97nm,5.1s
HHC LR LR
comp=N,248nm,5.3s
HHC LR LR
comp=E,139nm,5.1s
HHC LR LR
comp=Z,171nm,6.9s
XAN Xi'an 47.49 79 P P 02 32 19.5 +0.6
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.9
KMI Kunming 47.71 93 P P 02 32 20.7 0.0
KMI AMB AMB
comp=Z,16nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,76nm,3.6s
KMI LR LR
comp=N,152nm,30.2s,MS3.9
KMI LR LR
comp=E,151nm,32.0s,MS3.9
KMI LR LR
comp=Z,152nm,24.3s
HIA Hailar 48.45 56 iP P 02 32 25.1 -1.2
HIA Hailar 48.45 56 P P 02 32 28.3 +2.0
comp=Z,5.0nm,0.8s,mb4.6
HIA Hailar 48.45 56 P P 02 32 28.3 +2.0
comp=Z,5.0nm,0.8s,mb4.6
CHTO Chiang Mai 48.82 103 eP P 02 32 28.9 -0.3
CHTO pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CHTO Chiang Mai 48.82 103 eP P 02 32 28.9 -0.4
comp=Z,10nm,0.8s,mb4.9
CHTO Chiang Mai 48.82 103 eP P 02 32 28.9 -0.3
comp=Z,10nm,0.8s,mb4.9
SUMG Summit 48.91 336 eP P 02 32 31.9 +2.0
comp=Z,26nm,1.4s,mb5.1
SUMG Summit 48.91 336 eP P 02 32 31.9 +2.0
comp=Z,26nm,1.4s,mb5.1
YAK Yakutsk 49.66 38 iP P 02 32 36.3 +0.6
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
TOA0 Torodi Ar. Sit 49.68 248 eP P 02 32 34.2 -1.6
TOA0 Torodi Ar. Sit 49.68 248 eP P 02 32 34.2 -1.6
TORD Torodi Ar. Bea 49.68 248 P P 02 32 34.1 -1.6
comp=Z,8.6nm,1.1s,mb4.7,baz=38,slow=6.4,SNR=30
GYA Guiyang 49.84 89 P P 02 32 36.7 -0.3
GYA AP pP 02 32 49.1 -3.0
GYA XP sP 02 32 54.4 -4.3
GYA PCP PcP 02 33 58.9 +2.0
GYA PP PP 02 34 31.5 -0.5
GYA S **S** **02 39 39.6 -2.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,140nm,4.2s
GYA LR LR
comp=N,480nm,15.8s,MS4.7
GYA LR LR
comp=E,460nm,16.7s,MS4.7
GYA LR LR
comp=Z,430nm,16.2s,MS4.5
NJ2 Nanjing 55.66 76 eP P 02 33 23.9 +4.0
NJ2 AP pP 02 33 36.8 +1.5
NJ2 XP sP 02 33 41.8 -0.1
NJ2 PP PP 02 35 30.2 +5.6
NJ2 S **S** **02 41 06.0 +4.2**
NJ2 XS sS 02 41 28.0 +0.3
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,530nm,5.0s
NJ2 LR LR
comp=N,430nm,24.0s,MS4.6
NJ2 LR LR
comp=E,330nm,21.7s,MS4.6
NJ2 LR LR
comp=Z,450nm,21.9s,MS4.5
MDJ Mudanjiang 56.52 58 P P 02 33 25.9 -0.2
MDJ AP pP 02 33 37.6 -3.9
MDJ PCS PcS 02 38 22.3 -0.6
MDJ S **S** **02 41 15.1 +1.8**
MDJ SS SS 02 45 02.5 +1.3
MDJ AMB AMB
comp=Z,5.0nm,1.1s,mb4.5
MDJ AMB AMB
comp=Z,112nm,4.8s
MDJ LR LR
comp=N,88nm,25.9s,MS3.8
MDJ LR LR
comp=E,51nm,30.9s,MS3.8
MDJ LR LR
comp=Z,54nm,25.9s,MS3.5
SSE Sheshan 57.85 76 P P 02 33 35.2 -0.2
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,189nm,3.7s
DBIC Dimbokro 58.79 248 P P 02 33 41.2 -0.8
comp=Z,11nm,0.5s,mb5.1,baz=32,slow=9.9,SNR=34
DBIC LR LR 03 01 49.9
comp=Z,42nm,18.1s,MS3.6,baz=235,slow=39
DBIC Dimbokro 58.79 248 P P 02 33 41.3 -0.7
DBIC pmax pmax
comp=Z,11nm,0.5s
DBIC MLR MLR
comp=Z,42nm,18.1s
DBIC Dimbokro 58.79 248 eP P 02 33 41.2 -0.8
DBIC Dimbokro 58.79 248 eP P 02 33 41.2 -0.8
SEY Seymchan 58.80 31 eP P 02 33 42.2 +0.1
LIC Lamto 59.23 248⇑ iP P 02 33 43.9 -1.1
comp=Z,66nm,0.5s,mb5.6
LIC Lamto 59.23 248⇑ iP P 02 33 43.9 -1.1
comp=Z,33nm,0.5s,mb5.6
MA2 Magadan 60.01 35 iP P 02 33 51.4 +1.0
MA2 pmax pmax
comp=Z,32nm,1.4s,mb5.2
BILL Bilibino 60.30 22 eP P 02 33 52.8 +0.4
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.0
LSZ Lusaka 60.55 202 eP P 02 33 53.9 -0.2
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LSZ Lusaka 60.55 202 eP P 02 33 53.9 -0.2
comp=Z,4.9nm,0.7s,mb4.8
LSZ Lusaka 60.55 202 eP P 02 33 53.9 -0.2
comp=Z,4.9nm,0.7s,mb4.8
YSS Yuzh-Sakhalins 63.13 50 iP P 02 34 12.5 +1.1
YSS pmax pmax
comp=Z,73nm,2.5s,mb5.4
MJAR Matsushiro Arr 66.40 62 P P 02 34 32.1 -0.7
comp=Z,2.3nm,0.6s,mb4.4,baz=314,slow=9.5,SNR=5.4
MJAR LR LR 03 05 44.5
comp=Z,157nm,18.4s,MS4.3,baz=175,slow=38
MJAR Matsushiro Arr 66.40 62 P P 02 34 32.1 -0.7
MJAR LR LR 03 05 44.5
TSUM Tsumeb 67.74 211 eP P 02 34 40.6 -0.6
comp=Z,4.1nm,0.6s,mb4.6
TSUM Tsumeb 67.74 211 eP P 02 34 40.7 -0.5
comp=Z,4.1nm,0.6s,mb4.6
SCHQ Schefferville 68.25 326 P P 02 34 45.1 +0.8
comp=Z,4.3nm,0.6s,mb4.7,baz=53,slow=6.6,SNR=7.6
SCHQ LR LR 03 06 31.5
comp=Z,41nm,18.5s,MS3.7,baz=336,slow=38
SCHQ Schefferville 68.25 326 eP P 02 34 44.8 +0.4
SCHQ pP pP 02 34 59.1 -1.1
SCHQ LR LR 03 06 31.5
SCHQ Schefferville 68.25 326 eP P 02 34 44.8 +0.4
SCHQ pP pP 02 34 59.1 -1.1
INK Inuvik 69.32 1 P P 02 34 51.5 +0.4
comp=Z,4.1nm,0.7s,mb4.5,baz=337,slow=9.9,SNR=3.6
INK Inuvik 69.32 1 eP P 02 34 51.1 +0.1
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 69.32 1 eP P 02 34 51.1 +0.1
comp=Z,4.9nm,0.8s,mb4.5
IMA2 Indian Mountai 70.26 9 eP P 02 34 58.1 +1.3
IMA2 Indian Mountai 70.26 9 eP P 02 34 58.1 +1.3
COLA College 72.04 7 eP P 02 35 08.3 +0.7
COLA College 72.04 7 eP P 02 35 08.4 +0.9
comp=Z,12nm,0.9s,mb4.8
COLA College 72.04 7 eP P 02 35 08.4 +0.8
comp=Z,12nm,0.9s,mb4.8
EGAK Eagle 72.62 4 eP P 02 35 11.8 +0.7
EGAK Eagle 72.62 4 eP P 02 35 11.8 +0.7
MCK McKinley 73.05 8 eP P 02 35 14.9 +1.3
DAWY Dawson 73.42 3 eP P 02 35 17.0 +1.2
DAWY Dawson 73.42 3 eP P 02 35 17.0 +1.2
BOSA Boshof 74.03 201 P P 02 35 19.2 -0.2
comp=Z,20nm,0.8s,mb5.1,baz=14,slow=5.8,SNR=31
BOSA Boshof 74.03 201 P P 02 35 19.2 -0.2
BOSA pmax pmax
comp=Z,20nm,0.8s,mb5.1
YKA Yellowknife Ar 74.25 352 P P 02 35 21.2 +0.6
comp=Z,2.8nm,0.7s,mb4.3,baz=9.3,slow=5.9,SNR=12
YKA LR LR 03 09 40.3
comp=Z,83nm,18.3s,MS4.1,baz=300,slow=37
YKA Yellowknife Ar 74.25 352 P P 02 35 21.2 +0.5
YKA pmax pmax
comp=Z,30nm,0.7s
YKA MLR MLR
comp=Z,83nm,18.3s
PMR Palmer 75.12 8 eP P 02 35 26.9 +1.2
PMR pmax pmax
comp=Z,13nm,1.0s,mb4.8
PMR Palmer 75.12 8 eP P 02 35 26.9 +1.2
comp=Z,13nm,1.0s,mb4.8
PMR Palmer 75.12 8 eP P 02 35 26.9 +1.2
comp=Z,13nm,1.0s,mb4.8
DIV Divide 75.91 7 eP P 02 35 32.8 +2.6
SLKM Skilak Lake 76.06 9 eP P 02 35 32.1 +1.1
KDAK Kodiak Island 78.39 11 P P 02 35 45.3 +1.2
comp=Z,16nm,0.8s,mb5.0,baz=36,slow=2.7,SNR=4.8
SUR Sutherland 78.82 203 eP P 02 35 47.2 +0.7
comp=Z,15nm,0.8s,mb5.0
SUR Sutherland 78.82 203 eP P 02 35 47.2 +0.7
comp=Z,15nm,0.8s,mb5.0
DLBC Dease Lake 79.22 359 P P 02 35 51.1 +2.4
comp=Z,5.4nm,0.7s,mb4.6,baz=345,slow=7.2,SNR=9.5
FFC Flin Flon 79.67 343 eP P 02 35 52.4 +1.3
FFC pmax pmax
comp=Z,13nm,1.1s,mb4.8
FFC Flin Flon 79.67 343 eP P 02 35 52.4 +1.3
comp=Z,14nm,1.1s,mb4.8
ULM Lac du Bonnet 82.25 338 P P 02 36 05.8 +0.9
comp=Z,2.3nm,0.5s,mb4.3,baz=37,slow=5.0,SNR=6.1
ULM LR LR 03 16 56.8
comp=Z,53nm,18.7s,MS3.9,baz=14,slow=39
EDM Edmonton 83.15 349 eP P 02 36 11.2 +1.7
WALA Waterton Lakes 87.28 348 eP P 02 36 31.4 +1.3
WALA Waterton Lakes 87.28 348 eP P 02 36 31.4 +1.2
LAO LASA Array 88.15 343 eP P 02 36 36.9 +2.6
ECSD EROS,Sioux Fal 88.36 335 eP P 02 36 36.5 +1.3
ECSD EROS,Sioux Fal 88.36 335 eP P 02 36 36.5 +1.2
NEW Newport 88.50 350 P P 02 36 37.9 +2.0
comp=Z,15nm,0.8s,mb5.4,baz=10,slow=4.5,SNR=50
NEW Newport 88.50 350 P P 02 36 37.9 +2.0
BSMT Bassoo Peak 88.59 349 eP P 02 36 38.4 +2.0
HRY Holter Researc 89.23 346 eP P 02 36 41.4 +2.1
HRY Holter Researc 89.23 346 eP P 02 36 41.4 +2.0
CHMT Chamberlain Mo 89.27 347 eP P 02 36 41.3 +1.7
CHMT Chamberlain Mo 89.27 347 eP P 02 36 41.3 +1.7
MSO Missoula 89.46 348 eP P 02 36 42.1 +1.7
comp=Z,7.5nm,1.4s,mb4.8
MSO Missoula 89.46 348 eP P 02 36 42.1 +1.6
comp=Z,7.5nm,1.4s,mb4.8
RSSD Black Hills 90.06 340 eP P 02 36 45.8 +2.5
RSSD pmax pmax
comp=Z,14nm,1.2s,mb5.2
RSSD Black Hills 90.06 340 eP P 02 36 45.8 +2.5
comp=Z,14nm,1.2s,mb5.2
DLMT Dillon 90.67 347 eP P 02 36 48.2 +2.1
comp=Z,15nm,1.4s,mb5.1
FLWY Flagg Ranch 91.56 345 eP P 02 36 53.5 +3.3
comp=Z,4.3nm,0.7s,mb4.9
IMW Indian Meadow 91.79 345 eP P 02 36 54.6 +3.3
LOHW Long Hollow 92.00 345 eP P 02 36 55.1 +2.8
comp=Z,4.4nm,1.0s,mb4.7
DCID1 Drake Creek 92.13 345 eP P 02 36 49.0 -3.8
REDW Red Top Meadow 92.29 345 eP P 02 36 56.4 +2.8
comp=Z,6.8nm,1.0s,mb4.9
PDAR Pinedale Array 92.60 344 P P 02 36 56.2 +1.2
comp=Z,0.3nm,0.5s,mb4.0,baz=29,slow=3.4,SNR=4.3
PDAR PP PP 02 40 37.5 +0.4
comp=Z,0.5nm,0.8s,baz=39,slow=7.6,SNR=3.6
PDAR LR LR 03 21 43.3
comp=Z,63nm,19.6s,MS4.1,baz=266,slow=38
HLID Hailey 92.72 347 eP P 02 36 58.0 +2.4
PHWY Pilot Hill 93.07 340 eP P 02 36 59.1 +1.9
WVOR Wild Horse Val 94.43 350 eP P 02 37 03.8 +0.3
WVOR pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
WVOR Wild Horse Val 94.43 350 eP P 02 37 03.8 +0.3
comp=Z,5.9nm,1.0s,mb5.0
ISCO Idaho Springs 94.53 340 eP P 02 37 05.2 +1.3
ISCO pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
ISCO Idaho Springs 94.53 340 eP P 02 37 05.2 +1.4
comp=Z,1.5nm,0.6s,mb4.6
MOD Modoc 95.15 351 eP P 02 37 09.4 +2.6
SMCO Snowmass 95.45 341 eP P 02 37 10.5 +2.4
comp=Z,3.7nm,0.9s,mb4.8
MIAR Mount Ida 95.55 329 eP P 02 37 09.8 +1.2
MIAR pmax pmax
comp=Z,12nm,1.4s,mb5.1
MIAR Mount Ida 95.55 329 eP P 02 37 09.8 +1.2
comp=Z,12nm,1.4s,mb5.1
SRU San Rafael 96.31 343 eP P 02 37 14.3 +2.3
PV10 Paradox Valley 96.70 342 eP P 02 37 16.3 +2.6
MSU Marysvale 97.23 345 eP P 02 37 19.3 +3.1
WMOK Wichita Mounta 97.23 333 eP P 02 37 17.7 +1.5
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
WMOK Wichita Mounta 97.23 333 eP P 02 37 17.7 +1.6
comp=Z,4.3nm,0.9s,mb4.9
ANMO Albuquerque 99.32 339 P P 02 37 26.3 +0.7
comp=Z,0.4nm,0.4s,mb4.3,baz=5.1,slow=11,SNR=3.5
ANMO Albuquerque 99.32 339 eP P 02 37 25.5 -0.1
ANMO Albuquerque 99.32 339 P P 02 37 26.3 +0.7
MNTX Cornudas Mount 102.09 337 ePdif Pdif 02 37 40.2 +2.3
CPUP Villa Florida 118.37 259 PKP PKPdf 02 42 29.9 -0.8
comp=Z,0.8nm,0.5s,baz=60,slow=1.4,SNR=6.0
SNAA Sanae 119.62 196 ePKPdf PKPdf 02 42 33.0 -0.1
SNAA e 02 42 38.8
SNAA e 02 42 44.2
SNAA e 02 42 50.3
VNA1 Neumayer--Stat 120.08 199 ePKPdf PKPdf 02 42 34.2 +0.2
VNA1 e 02 42 41.4
VNA1 e 02 42 47.2
VNA1 e 02 42 51.9
LPAZ La Paz 120.15 275 PKP PKPdf 02 42 35.5 +1.4
comp=Z,0.6nm,0.8s,baz=163,slow=19,SNR=3.5
LPAZ La Paz 120.15 275 PKP PKPdf 02 42 35.5 +1.4
DZM Mont Dzumac 125.18 89 PKP PKPdf 02 42 45.1 +1.4
comp=Z,3.9nm,0.6s,baz=33,slow=20,SNR=3.9
QSPA South Pole Qui 132.51 180 eP PKPdf 02 42 53.0 -4.7
PLCA Paso Flores 135.12 251 PKP PKPdf 02 43 03.3 +0.7
comp=Z,2.1nm,0.8s,baz=19,slow=13,SNR=3.1

PGC 11 02:28:49.2, 4997N×13007W, h10km, MLSn3.1/1, Mw3.7, 205km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.41**	**61**	Pn	Pn	02 29 12.7	-2.3
PHC	**Port Hardy**	**1.84**	**65**	⇑Pn	Pn	02 29 18.8	-2.2
PHC				Sn	Sn	02 29 40.7	-3.7
PHC				Trac		02 29 44.2	
comp=Z,80nm,0.5s							
EDB	**Eliza Dome**	**1.91**	**92**	Pn	Pn	02 29 19.6	-2.3
MAYB	**Maynard**	**1.91**	**76**	Pn	Pn	02 29 20.4	-1.4
MAYB				Trac		02 29 45.0	
comp=Z,13nm,0.3s							
WOSB	**Woss**	**2.27**	**84**	Pn	Pn	02 29 25.0	-1.7
BBB	**Bella Bella**	**2.54**	**28**	Pn	Pn	02 29 29.2	-1.2
BBB				Sn	Sn	02 29 57.5	-3.9
BBB				Trac		02 30 00.1	
comp=Z,54nm,0.5s							
NCRB	**Newcastle Ridg**	**2.62**	**79**	Pn	Pn	02 29 30.4	-1.2
NCRB				Trac		02 30 05.5	
comp=Z,16nm,0.5s							
GDR	**Gold River**	**2.62**	**93**	Pn	Pn	02 29 29.9	-1.7
CBB	**Campbell River**	**3.04**	**87**	Pn	Pn	02 29 35.9	-1.5
CBB				Sn	Sn	02 30 11.4	-2.4
CBB				Trac		02 30 16.6	
comp=Z,7.0nm,0.6s							
OZB	**Mount Ozzard**	**3.15**	**107**	Pn	Pn	02 29 38.4	-0.5
MGB	**Mount Grey**	**3.64**	**103**	Pn	Pn	02 29 45.5	-0.1
TXB	**Texada**	**3.66**	**92**	Pn	Pn	02 29 45.9	0.0
FSB	**Fort Saint Jam**	**5.73**	**36**	Pn	Pn	02 30 14.8	+0.5

IDC ***11*** *02:46:08.1±1.3, 2.95N×127.17E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, MS4.3/1, Ms1 4.3/1, ms1mx2.8/25, Error ellipse: s-maj=113.2km s-min=18.2km az=71.0*

ISCJB ***11*** *02:46:11.8±0.8, 27.7N±0.1×126.5E±0.2, h33km, mb3.9/8, MS4.2/1, Error ellipse: s-maj=26.0km s-min=12.3km az=127.4*

NEIC ***11*** *02:46:13.8±0.8, 2.71N×126.47E, h35km, mb4.2/2, Error ellipse: s-maj=28.4km s-min=13.6km az=64.0*

ISC 11 02:46:13.9±0.8, 26N±0.1×126.4E±0.2, h35km, n11, σ0.955/10, mb3.9/8, MS4.2/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**16.14**	**266**	ePn	**Pn**	**02 49 58.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**20.62**	**182**	P	**P**	**02 50 54.1**	**+3.9**
2.3nm,0.6s,baz=26,slow=14,SNR=6.3							
WRAB	**Tennant Creek**	**23.74**	**161**	eP	**P**	**02 51 22.7**	**-0.2**
5.6nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**23.74**	**161**	P	**P**	**02 51 23.0**	**0.0**
2.5nm,0.7s,mb3.8,baz=344,slow=9.8,SNR=8.2							
ASAR	**Alice Springs**	**27.14**	**165**	P	**P**	**02 51 52.9**	**-0.8**
0.9nm,0.8s,mb3.4,baz=342,slow=6.2,SNR=9.8							
HNR	**Honiara**	**35.49**	**110**	LR	LR	03 04 13.6	
comp=Z,443nm,20.6s,MS4.2,baz=186,slow=31							
STKA	**Stephens Creek**	**37.23**	**158**	P	**P**	**02 53 21.9**	**0.0**
4.3nm,1.0s,mb4.2,baz=342,slow=9.9,SNR=4.7							

ULN	**Ulaanbaatar**	**48.06**	**343**	eP	**P**	**02 54 50.0**	**+0.2**
	1.4nm,0.6s,mb4.2						
SONM	**Songino Array**	**48.23**	**342**	P	**P**	**02 54 51.0**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=156,slow=9.1,SNR=7.1						
MKAR	**Makanchi Array**	**58.28**	**326**	P	**P**	**02 56 04.9**	**-0.1**
	0.3nm,0.3s,mb3.7,baz=118,slow=8.7,SNR=3.5						
VNDA	**Vanda**	**82.39**	**173**	P	**P**	**02 58 33.3**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=323,slow=3.9,SNR=4.1						

IDC 11 03:23:24.5±1.2**,154S×1578W,h0km,mb3.8**/5**,mb1 4.0**/6**, mb1mx3.7**/24**,mbtmp3.9**/6**,ML3.4**/1**,MS3.7**/12**,Ms1 3.6**/12**, ms1mx3.4**/29**,Error ellipse: s-maj=44.2km s-min=21.8km az=144.0,North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.62**	**53**	Pn	Pn	03 26 38.6	-0.2
	0.2nm,0.3s,baz=224,slow=14,SNR=4.7						
DBIC				LR	LR	03 31 01.5	
	comp=Z,211nm,18.7s,baz=187,slow=34						
TORD	**Torodi Ar. Bea**	**22.66**	**49**	P	P	03 28 26.6	-0.7
	5.2nm,1.1s,baz=228,slow=9.6,SNR=10						
TORD				LR	LR	03 36 17.0	
	comp=Z,213nm,20.0s,baz=225,slow=34						
BDFB	**Brasilia**	**34.73**	**244**	P	P	03 30 16.0	-0.2
	5.3nm,1.0s,baz=56,slow=12,SNR=5.1						
BDFB				LR	LR	03 41 42.5	
	comp=Z,85nm,18.1s,baz=298,slow=32						
ESDC	**Sonseca Array**	**42.42**	**14**	LR	LR	03 50 21.9	
	comp=Z,40nm,19.0s,baz=310,slow=38						
KEST	**Kesra**	**43.88**	**30**	LR	LR	03 50 26.6	
	comp=Z,39nm,19.2s,baz=329,slow=37						
CPUP	**Villa Florida**	**46.91**	**235**	P	P	03 31 57.5	+0.8
	0.2nm,0.4s,baz=12,slow=9.3,SNR=2.8						
CPUP				LR	LR	03 48 03.8	
	comp=Z,79nm,20.6s,baz=52,slow=32						
BOSA	**Boshof**	**47.49**	**128**	P	P	03 32 01.9	+0.7
	2.3nm,0.9s,baz=309,slow=9.6,SNR=4.3						
BOSA				LR	LR	03 48 51.5	
	comp=Z,56nm,18.2s,baz=156,slow=32						
KMBO	**Kilima Mbogo**	**53.02**	**90**	LR	LR	03 53 28.1	
	comp=Z,153nm,18.7s,baz=272,slow=34						
LPAZ	**La Paz**	**53.57**	**251**	LR	LR	03 53 31.9	
	comp=Z,91nm,21.1s,baz=279,slow=34						
GERES	**GERESS Array B**	**56.30**	**23**	P	P	03 33 08.2	+1.3
	0.3nm,0.6s,baz=208,slow=10.0,SNR=2.7						
JMIC	**Jan Mayen**	**72.56**	**2**	LR	LR	04 03 55.9	
	comp=Z,41nm,20.7s,baz=264,slow=34						
ULM	**Lac du Bonnet**	**84.84**	**321**	LR	LR	04 07 13.9	
	comp=Z,38nm,18.6s,baz=84,slow=31						
PDAR	**Pinedale Array**	**93.82**	**313**	LR	LR	04 16 36.4	
	comp=Z,46nm,18.5s,baz=257,slow=34						

*ISCJB **11** 03:29:32.8±2.4,32S±0.1×1394E±0.1,h68km±21km, mb3.9/4,Error ellipse: s-maj=26.1km s-min=16.0km az=102.1*

*NEIC **11** 03:29:34.3±2.1,317S×13938E,h71km±17km,mb4.4/4, Error ellipse: s-maj=19.7km s-min=15.4km az=156.0*

*IDC **11** 03:29:36.5±3.4,323S×13942E,h89km±33km,mb3.9/5, mb1 4.1/7,mb1mx3.8/12,mbtmp4.3/7,MS3.1/6,Ms1 3.1/6, ms1mx2.8/15,Error ellipse: s-maj=36.8km s-min=16.0km az=91.0*

ISC 11 03:29:35.1±1.5**,32S**±01×**1392E**±01**,h70km**±12km**,n20,** σ**1.11**/26**,mb3.9**/4**,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.01**	**128**	P	**Pn**	**03 31 54.3**	**-1.7**
	0.8nm,0.3s,baz=240,slow=16,SNR=3.0						
KAKA	**Kakadu**	**11.54**	**215**	eP	**Pn**	**03 32 18.4**	**+1.5**
	40nm,0.4s						
KAKA				eS	**Sn**	**03 34 22.1**	**-1.8**
WRAB	**Tennant Creek**	**17.25**	**196**	ePn	**Pn**	**03 33 31.6**	**+0.3**
	20nm,0.8s						
WRAB				eSn	**Sn**	**03 36 34.5**	**-8.0**
WB2	**Warramunga Arr**	**17.25**	**196**	eP	**Pn**	**03 33 31.9**	**+0.5**
WB2				eS	**S**	**03 36 33.8**	**-14**
WRA	**Warramunga Arr**	**17.26**	**196**	P	**Pn**	**03 33 31.1**	**-0.3**
	2.6nm,0.3s,baz=20,slow=12,SNR=29						
WRA				S	**S**	**03 36 34.4**	**-13**
	0.5nm,0.3s,baz=16,slow=22,SNR=5.3						
WRA				LR	LR	03 39 26.6	
	comp=Z,18nm,21.9s,baz=120,slow=34						
GUMO	**Guam**	**17.65**	**19**	LR	LR	03 39 56.8	
	comp=Z,33nm,18.4s,baz=246,slow=35						
CTA	**Charters Tower**	**18.10**	**158**	LR	LR	03 39 60.0	
	comp=Z,66nm,18.6s,baz=230,slow=35						
FITZ	**Fitzroy Crossi**	**19.86**	**221**	eP	**Pn**	**03 34 03.4**	**+0.8**
	28nm,0.9s						
FITZ				eS	**S**	**03 37 38.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.86**	**221**	P	**Pn**	**03 34 03.4**	**+0.8**
	11nm,0.6s,baz=44,slow=12,SNR=37						
FITZ				S	**S**	**03 37 37.6**	**-2.5**
	20nm,0.9s,baz=156,slow=12,SNR=8.4						
FITZ				LR	LR	03 42 20.1	
	comp=Z,65nm,18.5s,baz=338,slow=38						
AS31	**Alice Springs**	**20.93**	**194**	eP	**P**	**03 34 12.8**	**+0.7**
AS31				eS	**S**	**03 38 02.7**	**+1.3**
ASAR	**Alice Springs**	**20.93**	**194**	P	**P**	**03 34 13.0**	**+0.9**
	6.3nm,0.6s,baz=26,slow=11,SNR=48						
ASAR				S	**S**	**03 38 02.3**	**+0.8**
	1.4nm,0.9s,baz=16,slow=17,SNR=4.3						
ASAR				LR	LR	03 41 49.7	
	comp=Z,79nm,20.1s,baz=173,slow=35						
ASPA	**Alice Springs**	**20.94**	**194**	eP	**P**	**03 34 12.8**	**+0.7**
ASPA				eS	**S**	**03 38 02.7**	**+1.2**
STKA	**Stephens Creek**	**28.57**	**176**	eP	**P**	**03 35 24.6**	**+0.2**
	3.1nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**28.57**	**176**	P	**P**	**03 35 24.7**	**+0.2**
	1.3nm,0.5s,mb3.8,baz=2.7,slow=16,SNR=5.0						
STKA				LR	LR	03 46 48.0	
	comp=Z,86nm,19.5s,baz=26,slow=36						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**03 40 42.2**	**-0.1**
	0.8nm,0.5s,mb3.8,baz=113,slow=8.0,SNR=9.5						
MKAR	**Makanchi Array**	**70.50**	**322**	P	**P**	**03 40 42.2**	**-0.1**
VNDA	**Vanda**	**75.21**	**175**	P	**P**	**03 41 09.5**	**-0.7**
	1.5nm,0.8s,mb3.8,baz=330,slow=6.5,SNR=11						
VNDA	**Vanda**	**75.21**	**175**	P	**P**	**03 41 09.5**	**-0.7**
QSPA	**South Pole Qui**	**86.70**	**180**	eP	**P**	**03 42 10.5**	**-0.8**
	2.1nm,0.7s,mb4.2						
DBIC	**Dimbokro**	**144.03**	**277**	PKP	PKPdf	03 49 01.6	-1.0
	4.4nm,0.6s,baz=109,slow=6.6,SNR=12						

*TEH **11** 04:34:16.7,3038N×5701E,h15km,Mn3.5*

*ISCJB **11** 04:34:17.5±0.7,3072N±005×5693E±005,h10km,Error ellipse: s-maj=7.4km s-min=5.6km az=178.8*

*CSEM **11** 04:34:17.5±0.1,3070N×5697E,h16km,ML3.5,Error ellipse: s-maj=2.7km s-min=2.4km az=136.0*

*THR **11** 04:34:18.3±0.3,3068N×5695E,h18km±6km,ML3.0*

ISC 11 04:34:18.6±0.7**,3068N**±005×**5695E**±005**,h10km,n20,** σ**0.94**/24**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.72**	**193**	ePG	**Pg**	**04 34 32.1**	**-0.3**
KRBR				AML	AML	04 34 48.9	
	comp=N,811nm,0.2s						
IBAF	**Bafgh**	**1.49**	**308**	ePn	**Pn**	**04 34 43.0**	**-2.4**
IMEH	**Mehriz**	**2.12**	**290**	ePn	**Pn**	**04 34 54.2**	**+0.1**
IKOO		**2.47**	**45**	ePn	**Pn**	**04 34 57.5**	**-1.3**
ICHK	**Chekchek**	**2.67**	**306**	ePn	**Pn**	**04 35 02.3**	**+0.7**
ICHK				eSn	**Sn**	**04 35 35.7**	**+1.7**
ITEG		**2.69**	**34**	ePn	**Sb**	**04 35 39.2**	**-0.5**
IDAH		**3.22**	**50**	ePn	**Pn**	**04 35 08.9**	**-0.3**
ZHSF	**Zahedan**	**3.48**	**107**	ePN	**Pn**	**04 35 13.8**	**+1.0**
ZHSF				AML	AML	04 36 15.3	
	comp=N,30nm,0.6s						
NASN	**Na'in**	**4.11**	**302**	ePN	**Pn**	**04 35 22.7**	**+1.3**
NASN				eSG	**Sg**	**04 36 26.1**	**-4.4**
IZEF	**Zefreh**	**4.51**	**300**	ePn	**Pn**	**04 35 26.7**	**-0.2**
IZEF				eSn	**Sn**	**04 36 18.0**	**-1.4**
IKLH	**Kalahroud**	**5.26**	**301**	ePn	**Pb**	**04 35 48.9**	**-1.8**
ISFB	**Sefidab**	**5.41**	**314**	ePn	**Pn**	**04 35 39.2**	**0.0**
IPIR	**Pirpir**	**5.53**	**293**	ePn	**Pn**	**04 35 48.7**	**+7.7**
ISHM	**Shahmirzad**	**5.96**	**330**	ePn	**Pn**	**04 35 47.3**	**+0.5**
ISHM				eSn	**Sn**	**04 36 55.4**	**+0.3**
IPAY	**Payeh**	**6.00**	**16**	ePn	**Pn**	**04 35 47.5**	**+0.1**
IAKL	**Akhlamad**	**6.06**	**14**	ePn	**Pn**	**04 35 48.5**	**+0.2**
IFIR	**Firoozkooh**	**6.07**	**326**	ePn	**Pn**	**04 35 48.5**	**+0.2**
IMYA	**Miamay**	**6.23**	**24**	ePn	**Pn**	**04 35 51.3**	**+0.8**
IDMV	**Damavand**	**6.39**	**321**	ePn	**Pn**	**04 35 53.6**	**+0.9**
ISFR	**Esferayen**	**6.40**	**8**	ePn	**Pn**	**04 35 52.8**	**-0.1**

*NEIC **11** 05:02:45.0,2866S×7128W,h35km,ML3.6(GUC),After GUC.*

GUC 11 05:02:45.0±0.6**,2866S**×**7128W,h35km**±4km**,ML3.6,2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**80**	⇓iP	Pb	05 02 57.8	+2.6
VACH				iS	Sb	05 03 04.8	+2.6
VACH				AML	AML	05 03 08.3	
	comp=E,4μm,0.1s						
VACH	**Vallenar**	**0.47**	**80**	⇓iP	Pb	05 02 57.8	+2.6
VACH				iS	Sb	05 03 04.8	+2.6
LCO	**Las Campanas**	**0.62**	**125**	eP	Pn	05 02 57.7	+0.4
LCO				iS	Sn	05 03 07.6	+1.5
LCO				AML	AML	05 03 09.2	
	comp=N,2μm,0.6s						
LCO	**Las Campanas**	**0.62**	**125**	eP	Pn	05 02 57.7	+0.4
LCO				iS	Sn	05 03 07.6	+1.5
LSCH	**La Serena**	**1.25**	**178**	eP	Pn	05 03 06.9	+1.0
LSCH				iS	Sn	05 03 23.4	+1.8
CPCH	**Copiapo**	**1.53**	**33**	eP	Pn	05 03 11.3	+1.4
CPCH				iS	Sn	05 03 31.6	+3.1
CPCH				AML	AML	05 03 35.7	
	comp=E,3μm,0.1s						
CPCH	**Copiapo**	**1.53**	**33**	eP	Pn	05 03 11.3	+1.4
CPCH				iS	Sn	05 03 31.6	+3.1
TLL	**Tololo Astrono**	**1.56**	**165**	eP	Pn	05 03 12.3	+2.0
TLL				iS	Sn	05 03 33.1	+3.8
TLL				AML	AML	05 03 41.0	
	comp=N,712nm,0.5s						
TLL	**Tololo Astrono**	**1.56**	**165**	eP	Pn	05 03 12.3	+2.0
TLL				iS	Sn	05 03 33.1	+3.8
CMCH	**Combarbala**	**2.52**	**174**	AML	AML	05 04 06.4	
	comp=E,857nm,0.5s						

NEIC 11 05:29:29.1,6227N×14867W,h7km,ML3.1(PMR)**, ML3.5**(AEIC)**,After AEIC.,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHO	**Glory Hole Cre**	**0.52**	**193**	P	Pg	05 29 40.0	+0.9
GHO				S	Sg	05 29 48.0	+2.2
PMR	**Palmer**	**0.72**	**198**	P	Pg	05 29 42.1	-0.7
KNK	**Knik Glacier**	**0.87**	**173**	P	Pg	05 29 45.1	-0.7
KNK				S	Sg	05 29 57.1	0.0
RC01	**Rabbit Creek A**	**1.29**	**204**	P	Pn	05 29 50.9	-2.6
RC01				S	Sb	05 30 08.2	-2.2
FIB	**Fire Island**	**1.32**	**213**	P	Pn	05 29 52.2	-1.7
FIB				S	Sb	05 30 10.7	-0.6
TRF	**Thorofare Moun**	**1.40**	**329**	P	Pn	05 29 53.0	-1.9
MCK	**McKinley**	**1.47**	**355**	P	Pn	05 29 54.9	-1.1
MCK				S	Sn	05 30 13.2	-2.3
KTH	**Kantishna Hill**	**1.65**	**322**	P	Pn	05 29 56.5	-1.9
DIV	**Divide**	**1.80**	**128**	P	Pn	05 29 59.4	-1.1
SLKM	**Skilak Lake**	**1.92**	**203**	P	Pn	05 30 00.2	-1.9
SEW	**Seward**	**2.21**	**190**	P	Pn	05 30 04.5	-1.7
EYAK	**Cordova Ski Ar**	**2.23**	**140**	P	Pn	05 30 05.0	-1.4
BMRM	**Bremner River**	**2.34**	**122**	P	Pn	05 30 06.3	-1.7
MENT	**Mentasta**	**2.39**	**72**	eP	Pn	05 30 08.8	+0.2
COLA	**College**	**2.64**	**8**	P	Pn	05 30 10.4	-1.6
RAGM	**Ragged Mountai**	**2.70**	**133**	P	Pn	05 30 11.5	-1.4
TTA	**Tatalina**	**3.46**	**284**	P	Pn	05 30 21.2	-2.1
SVW2	**Sparrevohn**	**3.50**	**253**	P	Pn	05 30 21.1	-2.8
EGAK	**Eagle**	**4.20**	**50**	ePn	Pn	05 30 33.5	0.0
EGAK				eSn	Sn	05 30 58.1	-25
IMA2	**Indian Mountai**	**4.40**	**332**	eP	Pn	05 30 34.2	-2.0
DAWY	**Dawson**	**4.58**	**63**	P	Pn	05 30 38.0	-0.7
KDAK	**Kodiak Island**	**4.91**	**205**	ePn	Pn	05 30 39.9	-3.4
KDAK				eSn	Sn	05 31 39.1	-1.3
COLD	**Coldfoot**	**5.02**	**353**	P	Pn	05 30 43.2	-1.6
INK	**Inuvik**	**8.75**	**40**	ePn	Pn	05 31 36.2	+0.2
	3.1nm,0.4s						
INK				eSn	Sn	05 33 10.9	-4.0
DGMT	**Dagmar**	**28.14**	**99**	eP	P	05 35 20.2	-1.5
	44nm,0.4s						

*ISCJB **11** 05:57:47.5±1.5,155S±03×1775W±02,h393km±22km, mb3.9/7,Error ellipse: s-maj=45.3km s-min=22.8km az=148.0*

*IDC **11** 05:57:48.7±2.2,1548S×17743W,h393km±29km,mb3.6/6, mb1 3.7/7,mb1mx3.6/13,mbtmp4.3/7,Error ellipse: s-maj=35.4km s-min=21.6km az=172.0*

*NEIC **11** 05:57:48.5±1.0,1545S×17746W,h393km±15km,mb4.0/1, Error ellipse: s-maj=27.9km s-min=14.7km az=163.0*

ISC 11 05:57:49.0±1.5**,156S**±03×**1774W**±02**,h396km**±22km**,n11,** σ**0.27**/11**,mb3.9**/7**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.67**	**74**	P	**Pn**	**05 59 17.8**	**0.0**
	9.5nm,0.3s,baz=214,slow=4.4,SNR=5.9						
STKA	**Stephens Creek**	**40.64**	**239**	P	**P**	**06 04 52.1**	**-0.3**
	1.3nm,0.3s,mb3.7,baz=72,slow=9.4,SNR=6.1						
WB2	**Warramunga Arr**	**46.06**	**257**	eP	**P**	**06 05 34.7**	**-0.4**
WRA	**Warramunga Arr**	**46.07**	**257**	P	**P**	**06 05 35.0**	**-0.1**
	2.0nm,0.3s,mb3.9,baz=83,slow=6.2,SNR=18						
AS31	**Alice Springs**	**46.41**	**252**	eP	**P**	**06 05 38.2**	**+0.4**
ASAR	**Alice Springs**	**46.41**	**252**	P	**P**	**06 05 38.1**	**+0.3**
	23nm,0.5s,mb4.7,baz=84,slow=7.5,SNR=384						
ASPA	**Alice Springs**	**46.41**	**252**	eP	**P**	**06 05 38.2**	**+0.4**
MBWA	**Marble Bar**	**59.62**	**254**	eP	**P**	**06 07 12.7**	**-0.3**
	5.2nm,0.9s,mb4.0						
VNDA	**Vanda**	**62.84**	**185**	P	**P**	**06 07 34.2**	**-0.1**
	0.8nm,0.5s,mb3.5,baz=357,slow=7.1,SNR=10						
PDAR	**Pinedale Array**	**84.98**	**43**	P	**P**	**06 09 41.0**	**0.0**
	0.3nm,0.3s,mb3.5,baz=222,slow=2.4,SNR=3.7						
MAW	**Mawson**	**86.38**	**199**	P	**P**	**06 09 47.9**	**+0.2**
	1.8nm,0.6s,mb4.0,baz=76,slow=4.9,SNR=4.5						

*IDC **11** 06:02:40.6±0.9,4123S×17274E,h173km±8km,mb4.0/4, mb1 4.2/6,mb1mx3.9/12,mbtmp4.5/6,Error ellipse: s-maj=17.4km s-min=9.8km az=135.0*

*ISCJB **11** 06:02:41.2±0.3,4127S±003×17266E±005,h190km±3km, mb4.2/8,Error ellipse: s-maj=7.5km s-min=3.6km az=85.0*

*NEIC **11** 06:02:43.4,4126S×17271E,h185km,mb4.3/4,After WEL.*

NEIC Felt in the northern part of the South Island. Also felt at Wellington on the North Island.

*WEL **11** 06:02:43.7±0.2,4127S×17271E,h183km±1km,ML5.2/25, Error ellipse: s-maj=1.7km s-min=1.6km az=90.0,reported intensity MM 4.*

WEL Felt from Wanganui to Canterbury, and from West Coast to Wairarapa, maximum.

ISC 11 06:02:42.0±0.3**,4127S**±004×**17267E**±005**,h187km**±3km**, n104,**σ**0.88**/124**,mb4.2**/8**,5C-3D,South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.46**	**346**	⇓P	**Pn**	**06 03 08.6**	**+1.1**
QRZ				S	**Sn**	**06 03 26.9**	**-0.2**
QRZ	**Quartz Range**	**0.46**	**346**	⇑PN	**Pn**	**06 03 08.6**	**+1.2**
QRZ				SN	**Sn**	**06 03 26.5**	**-0.6**
QRZ				SN	**Sn**	**06 03 26.9**	**-0.2**
THZ	**Tophouse**	**0.52**	**161**	P	**Pn**	**06 03 09.2**	**+1.5**
THZ				S	**Sn**	**06 03 27.8**	**+0.3**
THZ	**Tophouse**	**0.52**	**161**	PN	**Pn**	**06 03 09.2**	**+1.5**
THZ				SN	**Sn**	**06 03 27.8**	**+0.3**
THZ				SN	**Sn**	**06 03 28.0**	**+0.5**
NNZ	**Nelson**	**0.54**	**85**	P	**Pn**	**06 03 08.8**	**+1.0**
NNZ				S	**Sn**	**06 03 27.4**	**-0.2**
NNZ	**Nelson**	**0.54**	**85**	PN	**Pn**	**06 03 08.8**	**+1.0**
NNZ				SN	**Sn**	**06 03 27.4**	**-0.2**
DSZ	**Denniston Nort**	**0.81**	**234**	P	**Pn**	**06 03 10.2**	**+1.0**
DSZ				S	**Sn**	**06 03 29.5**	**-0.6**
DSZ	**Denniston Nort**	**0.81**	**234**	PN	**Pn**	**06 03 10.2**	**+1.0**
DSZ				SN	**Sn**	**06 03 29.6**	**-0.6**
TUWZ	**Tuamarina**	**0.97**	**100**	PN	**Pn**	**06 03 11.5**	**+1.3**
TUWZ				SN	**Sn**	**06 03 32.4**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.01**	**117**	P	**Pn**	**06 03 11.7**	**+1.2**
BSWZ	**Blackbirch Sta**	**1.01**	**117**	PN	**Pn**	**06 03 11.7**	**+1.2**
BSWZ				SN	**Sn**	**06 03 32.6**	**+0.2**
DUWZ	**D'Urville Isla**	**1.05**	**64**	⇑PN	**Pn**	**06 03 11.9**	**+1.1**
DUWZ				SN	**Sn**	**06 03 33.6**	**+0.5**
TCW	**Tory Channel**	**1.21**	**88**	P	**Pn**	**06 03 13.1**	**+1.1**
TCW	**Tory Channel**	**1.21**	**88**	PN	**Pn**	**06 03 13.1**	**+1.1**
TCW				SN	**Sn**	**06 03 35.4**	**+0.1**
CMWZ	**Cape Campbell**	**1.25**	**113**	PN	**Pn**	**06 03 13.9**	**+1.5**
CMWZ				eSN	**Sn**	**06 03 36.3**	**+0.5**
KHZ	**Kahutara**	**1.32**	**151**	P	**Pn**	**06 03 14.1**	**+1.2**
KHZ	**Kahutara**	**1.32**	**151**	⇑PN	**Pn**	**06 03 14.1**	**+1.2**
KHZ				SN	**Sn**	**06 03 36.6**	**-0.2**
MRW	**Makara Radio**	**1.53**	**89**	P	**Pn**	**06 03 15.6**	**+0.8**
MRW	**Makara Radio**	**1.53**	**89**	PN	**Pn**	**06 03 15.6**	**+0.8**
MRW				SN	**Sn**	**06 03 39.6**	**-0.6**
SNZO	**South Karori**	**1.53**	**92**	ePn	**Pn**	**06 03 15.6**	**+0.7**
SNZO				eSn	**Sn**	**06 03 39.4**	**-0.9**
SNZO	**South Karori**	**1.53**	**92**	PN	**Pn**	**06 03 15.6**	**+0.7**
SNZO				SN	**Sn**	**06 03 39.6**	**-0.7**
LTZ	**Lake Taylor**	**1.54**	**191**	P	**Pn**	**06 03 16.1**	**+1.1**
LTZ	**Lake Taylor**	**1.54**	**191**	⇑PN	**Pn**	**06 03 16.1**	**+1.2**
LTZ				SN	**Sn**	**06 03 39.5**	**-1.0**
WEL	**Wellington**	**1.58**	**91**	P	**Pn**	**06 03 16.2**	**+0.9**
WEL	**Wellington**	**1.58**	**91**	PN	**Pn**	**06 03 16.2**	**+0.9**
WEL				SN	**Sn**	**06 03 40.7**	**-0.4**
BHW	**Baring Head**	**1.66**	**95**	PN	**Pn**	**06 03 16.8**	**+0.7**
BHW				SN	**Sn**	**06 03 41.2**	**-1.3**
KIW	**Kapiti Island**	**1.74**	**77**	PN	**Pn**	**06 03 17.7**	**+0.8**
KIW				SN	**Sn**	**06 03 43.1**	**-0.8**
CAW	**Cannon Point**	**1.81**	**86**	PN	**Pn**	**06 03 18.4**	**+0.8**
CAW				SN	**Sn**	**06 03 44.3**	**-1.0**
MSWZ	**Moikau Station**	**1.94**	**95**	P	**Pn**	**06 03 19.7**	**+0.7**
MSWZ	**Moikau Station**	**1.94**	**95**	PN	**Pn**	**06 03 19.7**	**+0.7**
MSWZ				SN	**Sn**	**06 03 46.3**	**-1.3**
PAWZ	**Paruwai Farm**	**2.08**	**94**	P	**Pn**	**06 03 21.1**	**+0.7**
PAWZ	**Paruwai Farm**	**2.08**	**94**	PN	**Pn**	**06 03 21.1**	**+0.7**
MTW	**Mount Morrison**	**2.14**	**88**	P	**Pn**	**06 03 21.7**	**+0.7**
MTW	**Mount Morrison**	**2.14**	**88**	PN	**Pn**	**06 03 21.7**	**+0.6**
NRZ	**Ngariki Road**	**2.16**	**27**	P	**Pn**	**06 03 22.0**	**+0.7**
NRZ	**Ngariki Road**	**2.16**	**27**	PN	**Pn**	**06 03 21.8**	**+0.6**
NWEZ	**Newall Road**	**2.19**	**25**	P	**Pn**	**06 03 22.3**	**+0.6**
NWEZ	**Newall Road**	**2.19**	**25**	PN	**Pn**	**06 03 22.3**	**+0.7**
TRWZ	**Traveller**	**2.27**	**94**	⇑PN	**Pn**	**06 03 23.5**	**+1.0**
NEZ	**North Egmont**	**2.27**	**29**	P	**Pn**	**06 03 22.8**	**+0.2**
NEZ	**North Egmont**	**2.27**	**29**	PN	**Pn**	**06 03 22.7**	**+0.1**
MRZ	**Mangatainoka R**	**2.28**	**75**	⇓PN	**Pn**	**06 03 23.0**	**+0.4**
CRLZ	**Canterbury Las**	**2.30**	**181**	P	**Pn**	**06 03 23.3**	**+0.4**
CRLZ	**Canterbury Las**	**2.30**	**181**	PN	**Pn**	**06 03 23.1**	**+0.2**
PKE	**Pukeiti**	**2.30**	**26**	P	**Pn**	**06 03 23.4**	**+0.5**
PKE	**Pukeiti**	**2.30**	**26**	PN	**Pn**	**06 03 23.4**	**+0.5**
WVZ	**Waitaha Valley**	**2.31**	**218**	PN	**Pn**	**06 03 23.3**	**+0.3**
WAZ	**Wanganui**	**2.32**	**50**	P	**Pn**	**06 03 24.0**	**+0.9**
WAZ	**Wanganui**	**2.32**	**50**	PN	**Pn**	**06 03 23.7**	**+0.6**
RAEZ	**Rainy Point**	**2.38**	**34**	P	**Pn**	**06 03 24.1**	**+0.4**
RAEZ	**Rainy Point**	**2.38**	**34**	PN	**Pn**	**06 03 24.1**	**+0.4**
MQZ	**McQueen's Vall**	**2.44**	**180**	PN	**Pn**	**06 03 24.2**	**-0.2**
VRZ	**Vera Road**	**2.67**	**37**	P	**Pn**	**06 03 26.7**	**-0.4**
RPZ	**Rata Peaks**	**2.72**	**206**	P	**Pn**	**06 03 28.1**	**+0.4**
	95nm,0.3s,baz=330,slow=1.8,SNR=266						
RPZ				S	**Sn**	**06 04 01.5**	**-1.8**
	100nm,0.3s,baz=246,slow=4.8,SNR=6.3						
RPZ	**Rata Peaks**	**2.72**	**206**	P	**Pn**	**06 03 28.1**	**+0.4**
BFZ	**Birch Farm**	**2.77**	**79**	P	**Pn**	**06 03 28.8**	**+0.6**
TSZ	**Takapari Road**	**2.78**	**65**	P	**Pn**	**06 03 28.4**	**+0.1**
WNVZ	**Wahianoa**	**2.96**	**50**	P	**Pn**	**06 03 30.4**	**-0.1**
DRZ	**Dome Shelter**	**2.98**	**49**	P	**Pn**	**06 03 31.1**	**+0.4**
FWVZ	**Far West T-bar**	**2.98**	**49**	P	**Pn**	**06 03 30.6**	**-0.2**
MOVZ	**Moawhango**	**3.00**	**53**	P	**Pn**	**06 03 30.5**	**-0.5**
WPVZ	**Whakapapa**	**3.02**	**48**	P	**Pn**	**06 03 30.9**	**-0.3**
TUVZ	**Tukino**	**3.03**	**50**	P	**Pn**	**06 03 31.3**	**-0.1**
TWVZ	**Taurewa**	**3.05**	**45**	P	**Pn**	**06 03 31.1**	**-0.5**
NGZ	**Ngauruhoe**	**3.07**	**48**	P	**Pn**	**06 03 31.4**	**-0.4**
WTVZ	**West Tongariro**	**3.10**	**47**	P	**Pn**	**06 03 30.9**	**-1.3**
FOZ	**Fox Glacier**	**3.18**	**223**	P	**Pn**	**06 03 31.8**	**-1.4**
HIZ	**Hauiti**	**3.22**	**32**	P	**Pn**	**06 03 32.9**	**-0.8**
KATZ	**Kakaramea**	**3.26**	**46**	P	**Pn**	**06 03 33.8**	**-0.3**
RITZ	**Rihia Road**	**3.35**	**48**	P	**Pn**	**06 03 34.9**	**-0.3**
RATZ	**Rangitukua**	**3.38**	**46**	P	**Pn**	**06 03 35.0**	**-0.6**
WATZ	**Wairara**	**3.47**	**44**	P	**Pn**	**06 03 36.2**	**-0.6**
HATZ	**Hinemaiaia**	**3.54**	**49**	P	**Pn**	**06 03 36.3**	**-1.3**
BKZ	**Black Stump Fm**	**3.60**	**56**	P	**Pn**	**06 03 37.5**	**-0.8**
LBZ	**Lake Benmore**	**3.61**	**210**	P	**Pn**	**06 03 38.3**	**-0.2**
KNZ	**Kokohu**	**4.44**	**61**	P	**Pn**	**06 03 47.9**	**-1.0**
WKZ	**Wanaka**	**4.45**	**216**	P	**Pn**	**06 03 48.2**	**-0.9**
URZ	**Urewera**	**4.55**	**50**	P	**Pn**	**06 03 48.2**	**-2.1**
	24nm,0.3s,baz=246,slow=8.0,SNR=61						
URZ				S	**Sn**	**06 04 40.0**	**-4.0**
	142nm,0.3s,baz=116,slow=15,SNR=23						
URZ	**Urewera**	**4.55**	**50**	eP	**Pn**	**06 03 48.2**	**-2.1**
EAZ	**Earnscleugh**	**4.66**	**211**	eP	**Pn**	**06 03 50.7**	**-1.0**
MWZ	**Matawai**	**4.75**	**53**	eP	**Pn**	**06 03 51.1**	**-1.8**
MSZ	**Milford Sound**	**4.87**	**224**	P	**Pn**	**06 03 53.7**	**-0.7**
TUZ	**Tuapeka**	**5.18**	**204**	eP	**Pn**	**06 03 58.2**	**-0.2**
MLZ	**Mavora Lakes**	**5.23**	**217**	eP	**Pn**	**06 03 58.5**	**-0.6**
MXZ	**Matakaoa Point**	**5.72**	**51**	eP	**Pn**	**06 04 03.8**	**-1.6**
WHZ	**Wether Hill Ro**	**5.76**	**215**	P	**Pn**	**06 04 04.5**	**-1.4**
DCZ	**Deep Cove**	**5.82**	**222**	eP	**Pn**	**06 04 04.7**	**-2.0**
STKA	**Stephens Creek**	**26.55**	**281**	P	**P**	**06 08 03.5**	**+1.0**
	3.0nm,1.1s,mb3.9,baz=143,slow=11,SNR=4.5						
VNDA	**Vanda**	**36.64**	**184**	eP	**P**	**06 09 31.6**	**+1.2**
	5.6nm,1.6s,mb3.9						
ASAR	**Alice Springs**	**36.76**	**286**	P	**P**	**06 09 32.1**	**+0.7**
	3.2nm,0.5s,mb4.2,baz=125,slow=6.9,SNR=60						
ASAR				PcP	PcP	06 11 48.2	-1.4
	0.7nm,0.5s,baz=122,slow=3.5,SNR=4.2						
WRAB	**Tennant Creek**	**38.83**	**291**	eP	**P**	**06 09 49.0**	**+0.3**
	9.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**38.83**	**291**	P	**P**	**06 09 49.3**	**+0.5**
	12nm,0.6s,mb4.7,baz=128,slow=7.6,SNR=40						
MBWA	**Marble Bar**	**48.72**	**278**	eP	**P**	**06 11 07.4**	**-0.1**
	10.0nm,0.8s,mb4.5						
SNAA	**Sanae**	**67.32**	**182**	⇓i	**P**	**06 13 15.9**	**-0.8**
SNAA				e		06 13 16.9	
SNAA				e		06 13 19.8	
SNAA				e		06 13 21.7	
SNAA	**Sanae**	**67.32**	**182**	eP	**P**	**06 13 15.4**	**-1.3**
	3.8nm,0.7s,mb4.3						
VNA1	**Neumayer--Stat**	**68.39**	**180**	e	**P**	**06 13 23.4**	**0.0**
VNA1				e		06 13 24.2	
VNA1				e		06 13 26.6	
VNA1				e		06 13 29.4	
PLCA	**Paso Flores**	**80.27**	**136**	P	**P**	**06 14 33.9**	**+2.0**
	1.8nm,0.6s,mb3.9,baz=231,slow=10,SNR=7.5						
ULM	**Lac du Bonnet**	**121.07**	**49**	PKP	PKPdf	06 21 13.1	+0.8
	1.8nm,0.7s,baz=338,slow=5.4,SNR=3.3						
DBIC	**Dimbokro**	**145.47**	**184**	PKPbc	PKPbc	06 21 57.7	-0.4
	2.2nm,0.6s,baz=352,slow=0.5,SNR=7.6						
DBIC	**Dimbokro**	**145.47**	**184**	PKPbc	PKPbc	06 21 57.7	-0.4
ARCES	**ARCESS Array B**	**146.92**	**340**	PKPbc	PKPbc	06 22 01.0	-1.3
	2.9nm,0.8s,baz=66,slow=1.8,SNR=6.1						
BRTR	**Keskin Array B**	**149.01**	**281**	PKPbc	PKPbc	06 22 06.8	-1.1
	2.5nm,0.7s,baz=148,slow=6.0,SNR=12						
TORD	**Torodi Ar. Bea**	**150.89**	**198**	PKPbc	PKPbc	06 22 11.6	-0.8
	1.8nm,0.4s,baz=158,slow=2.2,SNR=70						
FINES	**FINESS Array B**	**151.48**	**326**	PKPbc	PKPbc	06 22 11.8	-1.8
	1.4nm,0.6s,baz=62,slow=4.7,SNR=8.8						

*NEIC **11** 06:10:02.3,14.15N×6130W,h165km,MD3.1(FDF),After FDF.*

TRN 11 06:10:02.3,1437N×6097W,h163km,MD3.8,M3.6(FDF)**, Md3.3**(FDF)**,2C-1D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.20**	**22**	eP	Pn	06 10 25.8	+1.6
FDF	**Fort de France**	**0.40**	**335**	⇓eP	Pn	06 10 25.8	+1.1
FDF				eS	Sn	06 10 42.0	+0.2
SSV	**Crater Summit**	**1.05**	**192**	eP	Pn	06 10 29.3	+0.5
SSV				eS	Sn	06 10 50.0	+1.0
SVB	**Belmont**	**1.12**	**194**	eP	Pn	06 10 29.8	+0.5
SVB				eS	Sn	06 10 51.0	+1.0
SVB				eS		18 04 19.4	
TBG	**Guadaloupe-3**	**1.61**	**336**	eP	Pn	06 10 34.7	+0.7
TBG				eS	Sn	06 10 49.7	-8.7
SCG	**Saint Claude**	**1.79**	**338**	⇑eP	Pn	06 10 37.0	+1.1
SCG				eS	Sn	06 11 02.6	+0.8
LZG	**Guadaloupe-1**	**1.93**	**336**	⇑eP	Pn	06 10 38.3	+0.9
DEG	**La Desirade**	**1.94**	**358**	eP	Pn	06 10 38.5	+0.9
SEG	**Port Louis**	**2.09**	**346**	eP	Pn	06 10 40.3	+1.1

*IDC **11** 07:11:09.7±1.5,2421S×6697W,h162km±14km,mb3.6/5, mb1 3.6/10,mb1mx3.5/18,mbtmp4.0/10,Error ellipse: s-maj=20.4km s-min=11.9km az=97.0*

ISCJB ***11*** *07:11:10.3±1.0, 24.18S±0.05×66.9W±0.1, h182km±12km, mb3.6/5, Error ellipse: s-maj=15.9km s-min=8.9km az=7.7*

ISC 11 07:11:11.1±1.0**, 24.17S**±0.06×**66.9W**±0.1**, h175**km±11km**, n15, σ0.87**/15**, mb3.6**/5**, 1C, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	7.50	189	P	Pn	07 12 57.1	-0.6
	0.1nm,0.3s,baz=6.6,slow=10.0,SNR=13						
CFAA				S	Sn	07 14 15.7	-6.3
	0.2nm,0.3s,baz=112,slow=20,SNR=10						
LPAZ	La Paz	7.93	351	P	Pn	07 13 05.0	+1.6
	0.5nm,0.3s,baz=166,slow=11,SNR=23						
LPAZ				S	Sn	07 14 32.0	-0.1
	0.1nm,0.3s,baz=103,slow=20,SNR=2.4						
CPUP	Villa Florida	8.93	106	P	Pn	07 13 17.2	+0.7
	0.3nm,0.3s,baz=277,slow=12,SNR=6.7						
SIV	San Ignacio	9.81	35	P	Pn	07 13 28.1	0.0
	1.1nm,0.3s,baz=223,slow=15,SNR=60						
SIV				S	Sn	07 15 14.8	-2.3
	0.1nm,0.3s,baz=205,slow=12,SNR=3.2						
PLCA	Paso Flores	16.80	190	P	Pn	07 14 55.7	-0.4
	0.1nm,0.3s,baz=14,slow=17,SNR=2.8						
BDFB	Brasilia	19.66	68	P	P	07 15 27.4	+0.9
	1.4nm,0.3s,baz=254,slow=11,SNR=18						
SYO	Syowa Base	73.36	159	⇑eP	P	07 22 23.0	-0.6
TORD	Torodi Ar. Bea	76.55	69	P	P	07 22 42.4	+0.6
	0.6nm,0.4s,mb3.5,baz=258,slow=5.8,SNR=22						
PDAR	Pinedale Array	77.34	329	P	P	07 22 47.0	+0.7
	0.3nm,0.5s,mb3.2,baz=128,slow=7.0,SNR=3.9						
ULM	Lac du Bonnet	78.42	341	P	P	07 22 51.5	-0.8
	1.0nm,0.5s,mb3.7,baz=0.0,slow=1.0,SNR=4.1						
MAW	Mawson	81.25	163	P	P	07 23 07.7	+0.3
	2.2nm,0.7s,mb3.9,baz=226,slow=9.0,SNR=13						
YKA	Yellowknife Ar	94.31	340	P	P	07 24 09.7	-0.8
	0.4nm,0.5s,mb3.8,baz=132,slow=4.3,SNR=5.8						
ASAR	Alice Springs	128.34	205	PKP	PKPdf	07 29 57.1	+0.5
	0.6nm,0.7s,baz=136,slow=2.2,SNR=6.5						
ZAL	Zalesovo	143.50	28	PKP	PKPdf	07 30 23.1	-1.6
	0.9nm,0.3s,baz=150,slow=9.0,SNR=4.0						
MKAR	Makanchi Array	146.60	40	PKPbc	PKPbc	07 30 32.2	+0.4
	1.5nm,0.5s,baz=290,slow=3.5,SNR=11						

STR ***11*** *07:53:32.9±0.4, 42.86N×2.81E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISCJB ***11*** *07:53:33.1±0.8, 42.87N±0.03×2.87E±0.06, h7km±8km, Error ellipse: s-maj=7.4km s-min=5.0km az=62.0*
LDG ***11*** *07:53:33.7±0.3, 42.79N×2.82E, h6km, Md1.8/1, Ml2.1/3, Error ellipse: s-maj=6.1km s-min=3.5km az=128.0*
MDD ***11*** *07:53:34.6±0.6, 42.78N×2.82E, h17km±9km, mbLg1.2/4, Error ellipse: s-maj=7.9km s-min=4.4km az=74.0, PRXIMO*

ISC 11 07:53:33.8±0.8**, 42.85N**±0.04×**2.80E**±0.07**, h14**km±9km**, n13, σ0.97**/18**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRDF	Laroque-de-Fa	0.21	296	Pg	Pg	07 53 37.6	-0.8
LRDF				Sg	Sg	07 53 40.8	-0.9
FILF	Fillols	0.34	212	Pg	Pg	07 53 40.9	+0.3
FILF				Sg	Sg	07 53 47.0	+1.8
EJON	La Jonquera	0.40	170	Pg	Pg	07 53 41.0	-0.8
	1.5nm,0.1s,SNR=7.9						
EJON				Lg		07 53 46.3	
	1.6nm,0.1s,SNR=7.9						
MTLF	Montolieu	0.65	320	ePg	Pg	07 53 47.4	+0.9
MTLF	Montolieu	0.65	320	ePn	Pn	07 53 48.6	0.0
MTLF				eSg	Sg	07 53 57.7	+2.6
MTLF				eSn	Sg	07 53 59.5	+4.4
	9.7nm,0.2s						
MTLF	Montolieu	0.65	320	Pg	Pg	07 53 47.4	+0.9
MTLF				Pn	Pn	07 53 48.6	0.0
MTLF				Lg		07 53 57.7	
MTLF				Sn	Sg	07 53 59.5	+4.4
	4.8nm,0.2s						
LASF	Ste Croix	1.45	32	ePg	Pg	07 54 01.6	-0.1
LASF				eSg	Sg	07 54 21.0	+0.5
	1.8nm,0.2s						
LASF	Ste Croix	1.45	32	Pg	Pg	07 54 01.6	-0.1
LASF				Lg		07 54 21.0	
	0.9nm,0.2s						
EBIE	Bielsa	1.96	266	Pg	Pg	07 54 09.7	-1.7
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		07 54 36.3	
	0.0nm,0.1s,SNR=7.9						
CAF	Calviac	2.15	346	eSg	Sg	07 54 43.3	+0.5
	1.7nm,0.2s						
CAF	Calviac	2.15	346	Lg		07 54 43.3	
	0.9nm,0.2s						
VIVF	Saint-Julien-l	2.42	33	eSg	Sg	07 54 51.2	-0.5
	1.5nm,0.3s						
VIVF	Saint-Julien-l	2.42	33	Lg		07 54 51.2	
	0.8nm,0.3s						

ISCJB ***11*** *08:07:26.9±6.2, 56.2S±0.1×26.7W±0.3, h49km±59km, mb4.3/10, MS3.6/6, Error ellipse: s-maj=27.1km s-min=15.3km az=115.3*
IDC ***11*** *08:07:31.6±5.8, 56.21S×26.71W, h74km±52km, mb3.9/8, mb1 4.0/10, mb1mx3.8/18, mbtmp4.2/10, ML4.3/2, MS3.5/7, Ms1 3.5/7, ms1mx3.3/18, Error ellipse: s-maj=25.7km s-min=15.5km az=59.0*
NEIC ***11*** *08:07:33.1±3.0, 56.22S×26.75W, h92km±28km, mb4.5/6, Error ellipse: s-maj=15.8km s-min=8.7km az=59.0*
BJI ***11*** *08:07:33.6, 56.20S×26.80W, h92km, mB4.9*

ISC 11 08:07:29.1±4.5**, 56.3S**±0.1×**26.8W**±0.3**, h55**km±44km**, n26, σ0.55**/17**, mb4.3**/10**, MS3.6**/5**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	18.45	156	P	Pn	08 11 40.7	-0.1
	0.2nm,0.3s,baz=316,slow=10,SNR=26						
SNAA				LR	LR	08 17 29.7	
	comp=Z,28nm,19.3s,baz=221,slow=32						
SNAA	Sanae	18.45	156	eP	Pn	08 11 41.0	+0.2
	4.7nm,0.7s						
PMSA	Palmer Station	19.95	230	P	Pn	08 11 58.4	-0.2
	0.5nm,0.3s,baz=52,slow=8.4,SNR=2.5						
PMSA				LR	LR	08 18 12.5	
	comp=Z,245nm,19.1s,baz=117,slow=32						
PLCA	Paso Flores	32.27	280	LR	LR	08 26 15.2	
	comp=Z,99nm,18.2s,MS3.5,baz=179,slow=35						
QSPA	South Pole Qui	33.99	180	eP	P	08 14 07.7	+0.2
	5.6nm,0.7s,mb4.6						
CPUP	Villa Florida	37.13	311	P	P	08 14 33.7	-0.7
	1.3nm,0.6s,mb4.0,baz=137,slow=7.8,SNR=7.3						
CPUP				PcP	PcP	08 16 53.0	-0.7
	0.9nm,0.6s,baz=62,slow=2.5,SNR=3.1						
CPUP				LR	LR	08 28 45.6	
	comp=Z,78nm,21.9s,MS3.5,baz=153,slow=34						
CPUP	Villa Florida	37.13	311	eP	P	08 14 33.5	-0.8
	6.7nm,0.6s,mb4.7						
MAW	Mawson	39.84	143	P	P	08 14 57.0	-0.1
	1.3nm,0.6s,mb3.9,baz=294,slow=5.5,SNR=9.5						
MAW	Mawson	39.84	143	eP	P	08 14 57.4	+0.3
BDFB	Brasilia	43.66	330	P	P	08 15 29.3	+1.0
	1.7nm,0.6s,mb4.0,baz=173,slow=7.3,SNR=3.7						
BDFB				LR	LR	08 30 56.8	
	comp=Z,73nm,19.8s,MS3.6,baz=199,slow=32						
BOSA	Boshof	45.79	75	LR	LR	08 30 36.3	
	comp=Z,111nm,19.4s,MS3.8,baz=49,slow=30						
VNDA	Vanda	46.38	183	P	P	08 15 50.0	+0.2
	1.8nm,0.6s,mb4.2,baz=181,slow=6.5,SNR=17						
VNDA	Vanda	46.38	183	eP	P	08 15 50.0	+0.1
	2.1nm,0.7s,mb4.2						
LPAZ	La Paz	50.69	305	P	P	08 16 24.2	+1.2
	3.8nm,0.6s,mb4.5,baz=167,slow=6.9,SNR=29						
LPAZ				PcP	PcP	08 17 40.9	+1.2
	1.5nm,0.7s,baz=199,slow=4.6,SNR=1.8						
LPAZ	La Paz	50.69	305	eP	P	08 16 23.9	+0.8
	4.4nm,0.7s,mb4.5						
LPAZ				ePcP	PcP	08 17 40.3	+0.6
SAML	Samuel	55.12	314	eP	P	08 16 54.9	-0.8
	8.1nm,1.4s,mb4.6						
SAML				e	pP	08 17 12.0	+1.5
DBIC	Dimbokro	65.25	24	P	P	08 18 04.5	-0.4
	3.9nm,1.0s,mb4.4,baz=287,slow=3.2,SNR=4.8						
DBIC				LR	LR	08 39 23.0	
	comp=Z,45nm,18.0s,MS3.7,baz=352,slow=29						
TORD	Torodi Ar. Bea	73.12	29	P	P	08 18 53.7	+0.1
	1.9nm,0.5s,mb4.3,baz=201,slow=6.4,SNR=26						
ASAR	Alice Springs	98.72	162	P	P	08 21 02.2	-0.3
	0.5nm,0.7s,mb4.2,baz=182,slow=4.1,SNR=7.7						
PDAR	Pinedale Array	120.66	302	PKP	PKPdf	08 26 13.1	-1.6
	0.2nm,0.5s,baz=138,slow=6.9,SNR=2.9						
FINES	FINESS Array B	124.45	28	PKP	PKPdf	08 26 20.1	-1.9
	0.7nm,0.5s,baz=128,slow=3.1,SNR=6.8						
ARCES	ARCESS Array B	131.05	22	PKP	PKPdf	08 26 32.4	-2.2
	2.7nm,0.9s,baz=153,slow=1.0,SNR=5.7						
WMQ	Urumqi	137.71	78	ePKP	PKPdf	08 26 50.0	+2.9
DAWY	Dawson	147.11	312	ePKPbc	PKPbc	08 27 03.8	-2.1
HHC	Hu-ho-hao-te	148.97	102	ePKP	PKPdf	08 27 06.4	-0.3
SONM	Songino Array	150.50	87	PKPbc	PKPbc	08 27 13.6	-1.0
	1.6nm,0.6s,baz=224,slow=2.5,SNR=13						
SONM				PKPab	PKPab	08 27 20.9	-0.4
	0.9nm,0.7s,baz=213,slow=3.8,SNR=4.8						

BGR ***11*** *08:25:24.0±0.6, 51.45N×16.15E, h1km, ML3.0, Error ellipse: s-maj=8.9km s-min=5.6km az=162.0*
IPEC ***11*** *08:25:23.5±0.3, 51.48N×16.25E, h0km, ML2.8/4, Error ellipse: s-maj=3.9km s-min=1.9km az=86.0*
ISCJB ***11*** *08:25:23.2±0.4, 51.36N±0.02×16.07E±0.02, h0km, mb3.3/1, Error ellipse: s-maj=3.3km s-min=1.8km az=34.2*
NEIC ***11*** *08:25:24.0, 51.45N×16.15E, h1km, ML3.0(SZGRF), After SZGRF.*
IDC ***11*** *08:25:24.9±0.7, 51.42N×16.05E, h0km, mb3.5/1, mb1 3.5/7, mb1mx3.4/21, mbtmp3.5/7, ML3.0/5, Error ellipse: s-maj=11.8km s-min=6.8km az=114.0*
WAR ***11*** *08:25:24.9, 51.44N×16.13E, ML3.0, Mining Induced*
VIE ***11*** *08:25:25.4±0.4, 51.28N×16.06E, h0km, mb2.5/4, ML3.0/4, Error ellipse: s-maj=2.5km s-min=2.3km az=172.0 69 km WNW of Breslau Suspected Mining induced.*
PRU ***11*** *08:25:25.8, 51.39N×16.04E, h0km*
CSEM ***11*** *08:25:25.5±0.2, 51.38N×16.10E, h0km, ML3.3/7, Error ellipse: s-maj=3.0km s-min=1.7km az=19.0*

ISC 11 08:25:23.6±0.3**, 51.45N**±0.02×**16.11E**±0.02**, h0**km**, n61, σ1.10**/126**, mb3.3**/1**, 4C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	169	i Pgd	Pg	08 25 36.0	+0.6
KSP				eSg	Sg	08 25 43.8	+0.4
KSP				eL		08 25 48.2	
KSP	Ksiaz	0.62	169	⇓iPg	Pg	08 25 36.0	+0.6
KSP				eSg	Sg	08 25 43.8	+0.4
KSP				e		08 25 48.6	
KSP	Ksiaz	0.62	169	⇓iPg	Pg	08 25 36.0	+0.6
KSP				eSg	Sg	08 25 43.3	-0.1
UPC	Upice	0.94	184	ePG	Pg	08 25 42.0	+0.3
DPC	Dobruska-Polom	1.11	173	ePG	Pg	08 25 44.8	0.0
DPC				eSG	Sg	08 25 59.4	+0.2
	84nm,0.6s						
DPC	Dobruska-Polom	1.11	173	ePg	Pg	08 25 44.8	0.0
DPC				eSg	Sg	08 25 58.9	-0.3
PVCC	Panska Ves	1.34	227	ePG	Pg	08 25 49.6	+0.4
BRG	Berggiesshubel	1.48	248	ePg	Pg	08 25 50.9	-1.0
BRG				eSg	Sg	08 26 12.6	+1.5
BRG	Berggiesshubel	1.48	248	PN	Pn	08 25 50.8	-0.6
BRG				PG	Pg	08 25 52.3	+0.4
BRG				SG	Sg	08 26 12.6	+1.5
	37nm,0.6s						
PRU	Pruhonice	1.77	215	ePN	Pn	08 25 55.3	-0.1
PRU				ePG	Pg	08 25 56.9	-0.6
PRU				eSG	Sg	08 26 19.9	-0.5
	37nm,0.6s						
RUE	Ruedersdorf	1.77	307	ePn	Pn	08 25 54.6	-0.9
RUE				ePg	Pg	08 25 58.1	+0.6
RUE				eSn	Sn	08 26 21.1	+2.4
RUE	Ruedersdorf	1.77	307	ePn	Pn	08 25 54.6	-0.8
RUE	Ruedersdorf	1.77	307	ePg	Pg	08 25 58.2	+0.7
FBE	Freiberg	1.81	254	ePn	Pn	08 25 56.6	+0.6
FBE				eSg	Sg	08 26 22.2	+0.4
MORC	Moravsky Berou	1.91	151	ePn	Pn	08 25 56.9	-0.4
MORC				eSn	Sn	08 26 20.5	-1.5
MORC	Moravsky Berou	1.91	151	ePn	Pn	08 25 56.8	-0.5
MORC				eSn	Sn	08 26 20.5	-1.5
MORC				eSg	Sg	08 26 22.7	-2.1
	46nm,0.6s						
CLL	Collm	1.95	267	ePn	Pn	08 25 57.3	-0.6
CLL				i Pg	Pg	08 26 00.9	0.0
CLL				eSg	Sg	08 26 27.9	+1.7
CLL	Collm	1.95	267	i Pn	Pn	08 25 57.4	-0.5
CLL				i Pg	Pg	08 26 00.9	0.0
CLL				i x	x	08 26 04.5	
CLL				i x	x	08 26 07.5	
CLL				ex	x	08 26 16.0	
CLL				eSg	Sg	08 26 27.0	+0.8
	comp=Z,35nm,1.0s						
CLL	Collm	1.95	267	i Pn	Pn	08 25 57.4	-0.5
CLL				i Pg	Pg	08 26 00.9	0.0
OKC	Ostrava-Krasne	2.07	140	ePG	Pg	08 26 02.4	-0.9
OKC				eSG	Sg	08 26 28.7	-1.4
	comp=Z,79nm,0.8s						
VRAC	Vranov	2.17	172	Pn	Pn	08 26 02.1	+1.3
	comp=Z,2.1nm,0.3s,baz=348,slow=15,SNR=8.9						
VRAC				Sn	Sn	08 26 27.1	-1.3
	comp=Z,2.6nm,0.3s,baz=258,slow=21,SNR=3.4						
VRAC				Lg		08 26 32.8	
	comp=Z,5.8nm,0.3s,baz=276,slow=20,SNR=9.7						
VRAC	Vranov	2.17	172	ePn	Pn	08 26 01.2	+0.3
VRAC				Sn	Sn	08 26 27.1	-1.3
VRAC				eSg	Sg	08 26 31.6	-1.5
	comp=Z,43nm,0.5s						
TREC	Trest	2.19	191	ePN	Pn	08 26 02.7	+1.5
TREC				ePG	Pg	08 26 04.8	-0.8
KRUC	Moravsky	2.40	175	ePn	Pn	08 26 04.4	+0.4
KRUC				eSg	Sg	08 26 39.2	-1.4
	comp=Z,44nm,1.0s						
TANN	Tannenbergstha	2.53	247	ePn	Pn	08 26 06.3	+0.4
TANN				eSg	Sg	08 26 45.4	+0.6
WERD	Werda	2.60	249	ePn	Pn	08 26 07.2	+0.3
WERD				eSg	Sg	08 26 45.6	-1.6
WERD	Werda	2.60	249	Pn	Pn	08 26 07.2	+0.3
WERD				Sg	Sg	08 26 45.6	-1.6
NKC	Novy Kostel	2.62	244	ePN	Pn	08 26 07.2	+0.1
NKC				eSG	Sg	08 26 47.4	-0.3
	comp=Z,34nm,0.3s						
GUNZ	Gunzen	2.62	247	ePn	Pn	08 26 08.2	+1.0
GUNZ				eSg	Sg	08 26 47.1	-0.8
WERN	Wernitzgruen	2.63	245	ePn	Pn	08 26 07.7	+0.4
WERN				eSg	Sg	08 26 47.1	-1.1
OJC	Ojcow	2.64	116	ePg	Pg	08 26 13.7	-0.6
OJC				eSg	Sg	08 26 48.4	-0.1
JAVC	Velka Javorina	2.78	158	ePn	Pn	08 26 10.4	+1.1
JAVC				eSg	Sg	08 26 53.6	+0.7
	comp=Z,42nm,0.7s						
KHC	Kasperske Hory	2.83	216	ePN	Pn	08 26 10.5	+0.5
KHC				ePG	Pg	08 26 16.5	-1.3
KHC				eSN	Sn	08 26 43.7	-1.1
KHC				eSG	Sg	08 26 53.4	-1.1
	comp=Z,22nm,0.5s						
MANZ	Manzenberg	2.93	242	ePn	Pn	08 26 12.3	+0.9
MOX	Moxa	2.95	256	ePn	Pn	08 26 12.4	+0.8
MOX				ePg	Pg	08 26 20.7	+0.7
MOX				eSg	Sg	08 26 59.5	+1.3
ROTZ	Rotzenmuhle	3.00	237	ePn	Pn	08 26 13.1	+0.8
ROTZ				eSg	Sg	08 26 59.6	-0.4
ROTZ	Rotzenmuhle	3.00	237	Pn	Pn	08 26 13.1	+0.8
ROTZ				Sg	Sg	08 26 59.6	-0.4
GEC2	GERESS Array S	3.03	212	ePn	Pn	08 26 14.0	+1.2
GEC2				eSg	Sg	08 27 01.2	+0.3
GEC2	GERESS Array S	3.03	212	ePn	Pn	08 26 14.0	+1.2
GEC2				eSg	Sg	08 27 01.2	+0.3
GERES	GERESS Array B	3.03	212	Pn	Pn	08 26 13.9	+1.2
	comp=Z,0.8nm,0.3s,baz=32,slow=13,SNR=12						
GERES				Pg	Pg	08 26 19.6	-2.0
	comp=Z,4.6nm,0.3s,baz=31,slow=17,SNR=40						
GERES				Sn	Sn	08 26 46.0	-3.7
	comp=Z,1.6nm,0.3s,baz=36,slow=25,SNR=6.2						
GERES				Lg		08 26 59.2	
	comp=Z,3.7nm,0.3s,baz=35,slow=26,SNR=8.7						
GERES	GERESS Array B	3.03	212	Pg	Pg	08 26 19.6	-2.0
SMOL	Smolenice	3.06	163	ePG	Pg	08 26 22.8	+0.6
SMOL				eSG	Sg	08 27 05.9	+4.0
WET	Wettzell	3.10	223	ePn	Pn	08 26 13.9	+0.2
NIE	Niedzica	3.37	125	eP	Pg	08 26 28.6	+0.4
NIE				eS	Sg	08 27 13.6	+1.7
VYHS	Vyhne	3.44	148	ePG	Pg	08 26 29.0	-0.5
VYHS				eSG	Sg	08 27 17.5	+3.3
CONA	Conrad Observa	3.53	183	⇑iPn	Pn	08 26 19.3	-0.3
CONA				⇑iSg	Sg	08 27 16.7	-0.2
	comp=Z,24nm,0.5s						
GRF	Grafenberg Arr	3.58	242	eSg	Sg	08 27 19.7	+1.2
BSD	Bornholm Skovb	3.74	349	i P	Pn	08 26 21.1	-1.4
BSD				eS	Sn	08 27 04.8	-2.5
MOA	Molln	3.80	199	⇑iPn	Pn	08 26 22.8	-0.5
MOA				⇑iSg	Sg	08 27 25.5	0.0
	comp=Z,21nm,0.7s						
STHS	Stebnicka Huta	3.86	120	ePN	Pn	08 26 25.7	+1.5
STHS				ePG	Pg	08 26 39.2	+1.6
STHS				eSG	Sg	08 27 32.4	+4.7
STHS	Stebnicka Huta	3.86	120	ePn	Pn	08 26 25.7	+1.5
STHS				ePg	Pg	08 26 39.3	+1.7
STHS				eSg	Sg	08 27 32.4	+4.7
KECS	Kecovo	4.10	135	ePN	Pn	08 26 27.2	-0.2
KECS				ePG	Pg	08 26 43.2	+1.1
KECS				eSG	Sg	08 27 38.4	+3.2
KECS	Kecovo	4.10	135	ePn	Pn	08 26 27.3	-0.1
KECS				ePg	Pg	08 26 43.2	+1.1
KECS				eSg	Sg	08 27 38.4	+3.2
CRVS	Cervenica-Dubn	4.28	124	ePG	Pg	08 26 47.1	+1.5
CRVS				eSG	Sg	08 27 43.7	+2.6
AKASG	Malin Array Be	8.30	90	Pn	Pn	08 27 23.1	-2.1
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=5.5						
AKASG				Sn	Sn	08 28 55.1	-4.4
	comp=Z,0.5nm,0.3s,baz=266,slow=24,SNR=2.7						
AKASG				Lg		08 29 48.2	
	comp=Z,0.4nm,0.3s,baz=248,slow=4.8,SNR=2.7						
AKASG	Malin Array Be	8.30	90	Pn	Pn	08 27 23.1	-2.1
AKASG				Sn	Sn	08 28 55.1	-4.4
AKASG				Lg		08 29 48.2	
AKASG	Malin Array Be	8.30	90	Pn	Pn	08 27 23.0	-2.1
AKASG				Sn	Sn	08 28 55.1	-4.4
HFS	Hagfors	8.81	352	Pn	Pn	08 27 30.5	-1.7
	comp=Z,0.2nm,0.3s,baz=155,slow=18,SNR=4.1						
FINES	FINESS Array B	11.42	25	Pn	Pn	08 28 05.2	-2.6
	comp=Z,0.2nm,0.3s,baz=207,slow=11,SNR=6.7						
FINES				Sn	Sn	08 30 08.7	-7.5
	comp=Z,0.2nm,0.3s,baz=204,slow=18,SNR=6.3						
ARCES	ARCESS Array B	18.68	10	Pn	Pn	08 29 39.2	-4.3
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=6.3						
TORD	Torodi Ar. Bea	39.94	202	P	P	08 32 59.8	+0.3
	comp=Z,0.8nm,1.0s,mb3.3,baz=355,slow=10,SNR=3.2						

NEIC ***11*** *08:47:45.2, 46.42N×8.0E, h5km, ML3.1(STR), ML3.1(LDG), After LDG.*
CSEM ***11*** *08:47:45.0±0.0, 46.42N×8.0E, h5km, ML3.1/27, Error ellipse: s-maj=0.7km s-min=0.6km az=176.0*
STR ***11*** *08:47:46.0±0.4, 46.36N×6.9E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 11 08:47:45.2±0.0**, 46.42N**×**8.0E, h5**km**, Md3.1**/3**, Ml3.1**/30**, Error ellipse: s-maj=0.7km s-min=0.6km az=170.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MFF	Saint Martin d	0.68	286	ePg	Pg	08 47 57.9	-0.4
	SNR=1.0						
MFF				eSg	Sg	08 48 06.4	-0.7
	29nm,0.2s						
MFF				eSn	Sg	08 48 09.9	+2.8
MFF	Saint Martin d	0.68	286	ePg	Pg	08 47 57.9	-0.4
	SNR=1.0						
MFF				eSg	Sg	08 48 06.4	-0.7
	15nm,0.2s						
MFF				eSn	Sg	08 48 09.9	+2.8
CHIF	Chize	0.89	252	Pg	Pg	08 48 01.7	-0.5
CHIF				Sg	Sg	08 48 12.9	-0.8
MATF	Mathat	0.96	233	Pn	Pn	08 48 03.1	-2.2
TCF	Toulx Ste Croi	0.98	97	ePn	Pn	08 48 04.1	-1.5
	SNR=1.0						
TCF				eSg	Sg	08 48 16.4	-0.4
	63nm,0.2s,SNR=1.0						
TCF	Toulx Ste Croi	0.98	97	ePn	Pn	08 48 04.1	-1.5
	SNR=1.0						
TCF				eSg	Sg	08 48 16.4	-0.4
	31nm,0.2s,SNR=1.0						
LCHF	La Chataignera	1.09	284	Pg	Pg	08 48 05.8	-0.4
LCHF				Sg	Sg	08 48 19.6	-0.8
RJF	Les Rejaudoux	1.22	156	ePg	Pg	08 48 08.0	-0.6
RJF				eSn	Sn	08 48 22.8	-2.9
	74nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	1.22	156	ePn	Pn	08 48 07.1	-1.8
RJF				ePg	Pg	08 48 08.0	-0.6
RJF				eSn	Sn	08 48 22.8	-2.9
RJF	Les Rejaudoux	1.22	156	ePg	Pg	08 48 08.0	-0.6
RJF				eSn	Sn	08 48 22.8	-2.9
	37nm,0.2s,SNR=1.0						
VERF	Verneugheol	1.35	119	Pn	Pn	08 48 09.4	-1.2
BGF	Bois d'Agland	1.42	84	ePg	Pg	08 48 11.6	-0.8
	SNR=1.0						
BGF				eSg	Sg	08 48 29.7	-1.1
	291nm,0.4s						
BGF	Bois d'Agland	1.42	84	ePn	Pn	08 48 10.3	-1.3
BGF				ePg	Pg	08 48 11.6	-0.8
BGF				eSg	Sg	08 48 29.7	-1.1
BGF	Bois d'Agland	1.42	84	ePg	Pg	08 48 11.6	-0.8
	SNR=1.0						
BGF				eSg	Sg	08 48 29.7	-1.1
	146nm,0.4s						
LFF	La Frestale	1.48	182	ePg	Pg	08 48 12.5	-1.0
LFF				eSn	Sn	08 48 28.8	-3.3
	71nm,0.3s,SNR=1.0						
LFF	La Frestale	1.48	182	ePn	Pn	08 48 10.7	-1.7
LFF				ePg	Pg	08 48 12.5	-1.0
LFF				eSn	Sn	08 48 28.8	-3.3
LFF	La Frestale	1.48	182	ePg	Pg	08 48 12.5	-1.0
LFF				eSn	Sn	08 48 28.8	-3.3
	35nm,0.3s,SNR=1.0						
HYF	Humbligny	1.52	55	ePg	Pg	08 48 13.6	-0.8
HYF				eSg	Sg	08 48 33.8	-0.3
AGO	Saint Agoulin	1.66	102	Pn	Pn	08 48 16.2	+1.3
PYM	Petit Puy Mans	1.67	113	Pn	Pn	08 48 15.9	+0.8
CAF	Calviac	1.73	149	ePg	Pg	08 48 17.5	-0.9
	SNR=1.0						
CAF				eSn	Sn	08 48 35.4	-3.1
	32nm,0.2s,SNR=1.0						
CAF				eSg	Sg	08 48 39.6	-1.3
	34nm,0.2s						
CAF	Calviac	1.73	149	ePn	Pn	08 48 14.5	-1.5
CAF				ePg	Pg	08 48 17.5	-0.9
CAF				eSn	Sn	08 48 35.4	-3.1
CAF				eSg	Sg	08 48 39.6	-1.3
CAF	Calviac	1.73	149	ePg	Pg	08 48 17.5	-0.9
	SNR=1.0						
CAF				eSn	Sn	08 48 35.4	-3.1
	16nm,0.2s,SNR=1.0						
CAF				eSg	Sg	08 48 39.6	-1.3
	17nm,0.2s						
AVF	Avril sur Loir	1.80	77	ePg	Pg	08 48 18.3	-1.4
	SNR=1.0						
AVF				eSn	Sn	08 48 36.8	-3.2
AVF				eSg	Sg	08 48 41.2	-1.8
	34nm,0.3s						
AVF	Avril sur Loir	1.80	77	ePn	Pn	08 48 15.7	-1.1
AVF				ePg	Pg	08 48 18.3	-1.4
AVF				eSn	Sn	08 48 36.8	-3.2
AVF				eSg	Sg	08 48 41.2	-1.8
AVF	Avril sur Loir	1.80	77	ePg	Pg	08 48 18.3	-1.4
	SNR=1.0						
AVF				eSn	Sn	08 48 36.8	-3.2
AVF				eSg	Sg	08 48 41.2	-1.8
	17nm,0.3s						
PLDF	La Plantade	2.01	102	Pn	Pn	08 48 21.2	+1.5
LBL	Lubilhac	2.08	124	Pn	Pn	08 48 19.5	-1.2
SMF	Signal de Mont	2.11	83	ePg	Pg	08 48 24.3	-1.4
	SNR=1.0						
SMF				eSg	Sg	08 48 51.2	-1.8
	17nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.11	83	ePn	Pn	08 48 19.8	-1.3
SMF				ePg	Pg	08 48 24.3	-1.4
SMF				eSg	Sg	08 48 51.2	-1.8
SMF	Signal de Mont	2.11	83	ePg	Pg	08 48 24.3	-1.4
	SNR=1.0						
SMF				eSg	Sg	08 48 51.2	-1.8
	8.6nm,0.2s,SNR=1.0						
LOR	Lormes	2.27	67	ePg	Pg	08 48 27.0	-1.6
	baz=248,SNR=1.0						
LOR				eSg	Sg	08 48 55.6	-2.4
	20nm,0.2s,SNR=1.0						
LOR	Lormes	2.27	67	ePn	Pn	08 48 22.1	-1.2
LOR				ePg	Pg	08 48 27.0	-1.6
LOR				eSg	Sg	08 48 55.6	-2.4
LOR	Lormes	2.27	67	ePg	Pg	08 48 27.0	-1.6
	SNR=1.0						
LOR				eSg	Sg	08 48 55.6	-2.4

	10nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.27	344	ePg	Pg	08 48 27.7	-0.9
	SNR=1.0						
LDF				eSg	Sg	08 48 56.0	-2.0
	14nm,0.2s						
LDF	La Druitiere	2.27	344	ePg	Pg	08 48 27.7	-0.9
	SNR=1.0						
LDF				eSg	Sg	08 48 56.0	-2.0
	6.9nm,0.2s						
GRR	Gorron	2.27	331	ePg	Pg	08 48 27.2	-1.6
	SNR=1.0						
GRR				eSg	Sg	08 48 56.5	-1.7
	19nm,0.2s,SNR=1.0						
GRR	Gorron	2.27	331	ePg	Pg	08 48 27.2	-1.6
	SNR=1.0						
GRR				eSg	Sg	08 48 56.5	-1.7
	9.4nm,0.2s,SNR=1.0						
FLN	La Foliniere	2.50	340	ePg	Pg	08 48 32.0	-1.2
	baz=161,SNR=1.0						
FLN				eSg	Sg	08 49 03.3	-2.3
	20nm,0.3s,SNR=1.0						
FLN	La Foliniere	2.50	340	ePg	Pg	08 48 32.0	-1.2
	SNR=1.0						
FLN				eSg	Sg	08 49 03.3	-2.3
	10nm,0.3s,SNR=1.0						
QUIF	Quistinic	3.10	300	ePg	Pg	08 48 42.5	-2.0
	SNR=1.0						
QUIF				eSn	Sn	08 49 07.7	-4.3
QUIF				eSg	Sg	08 49 22.3	-2.3
	8.2nm,0.2s,SNR=1.0						
QUIF	Quistinic	3.10	300	ePg	Pg	08 48 42.5	-2.0
	SNR=1.0						
QUIF				eSn	Sn	08 49 07.7	-4.3
QUIF				eSg	Sg	08 49 22.3	-2.3
	4.1nm,0.2s,SNR=1.0						
VIVF	Saint-Julien-l	3.13	118	ePg	Pg	08 48 43.3	-1.9
VIVF				eSg	Sg	08 49 23.8	-2.0
	19nm,0.7s						
VIVF	Saint-Julien-l	3.13	118	ePg	Pg	08 48 43.3	-1.9
VIVF				eSg	Sg	08 49 23.8	-2.0
	9.6nm,0.7s						
LASF	Ste Croix	3.18	136	ePg	Pg	08 48 44.3	-1.9
	SNR=1.0						
LASF				eSn	Sn	08 49 09.8	-4.4
LASF				eSg	Sg	08 49 24.9	-2.6
	11nm,0.3s						
LASF	Ste Croix	3.18	136	ePn	Pn	08 48 34.0	-1.9
LASF				ePg	Pg	08 48 44.3	-1.9
LASF				eSn	Sn	08 49 09.8	-4.4
LASF				eSg	Sg	08 49 24.9	-2.6
LASF	Ste Croix	3.18	136	ePg	Pg	08 48 44.3	-1.9
	SNR=1.0						
LASF				eSn	Sn	08 49 09.8	-4.4
LASF				eSg	Sg	08 49 24.9	-2.6
	5.4nm,0.3s						
MTLF	Montolieu	3.23	161	ePn	Pn	08 48 34.8	-1.8
MTLF				eSn	Sn	08 49 10.4	-5.1
MTLF				eSg	Sg	08 49 26.7	-2.4
	4.9nm,0.2s						
MTLF	Montolieu	3.23	161	ePn	Pn	08 48 34.8	-1.8
MTLF				eSn	Sn	08 49 10.4	-5.1
MTLF				eSg	Sg	08 49 26.7	-2.4
	2.5nm,0.2s						
ROSF	Rostrenen	3.37	306	ePg	Pg	08 48 47.7	-2.1
ROSF				eSn	Sn	08 49 14.4	-4.4
ROSF				eSg	Sg	08 49 30.1	-3.4
	5.1nm,0.2s						
ROSF	Rostrenen	3.37	306	ePn	Pn	08 48 37.2	-1.3
ROSF				ePg	Pg	08 48 47.7	-2.1
ROSF				eSn	Sn	08 49 14.4	-4.4
ROSF				eSg	Sg	08 49 30.1	-3.4
ROSF	Rostrenen	3.37	306	ePg	Pg	08 48 47.7	-2.1
ROSF				eSn	Sn	08 49 14.4	-4.4
ROSF				eSg	Sg	08 49 30.1	-3.4
	2.5nm,0.2s						
SFTF	Sexfontaines	3.39	57	ePg	Pg	08 48 47.6	-2.6
SFTF				eSg	Sg	08 49 31.0	-3.2
	7.4nm,0.2s						
SFTF	Sexfontaines	3.39	57	ePg	Pg	08 48 47.6	-2.6
SFTF				eSg	Sg	08 49 31.0	-3.2
	3.7nm,0.2s						
EPF	Esparros	3.40	186	ePg	Pg	08 48 48.3	-2.1
EPF				eSn	Sn	08 49 13.3	-6.3
EPF				eSg	Sg	08 49 32.1	-2.4
	7.7nm,0.2s						
EPF	Esparros	3.40	186	ePn	Pn	08 48 37.0	-1.9
EPF				ePg	Pg	08 48 48.3	-2.1
EPF				eSn	Sn	08 49 13.3	-6.3
EPF				eSg	Sg	08 49 32.1	-2.4
EPF	Esparros	3.40	186	ePg	Pg	08 48 48.3	-2.1
EPF				eSg	Sg	08 49 32.1	-2.4
	3.8nm,0.2s						
MEZF	Maizieres J'vi	3.56	53	ePg	Pg	08 48 51.0	-2.4
	baz=243						
MEZF				eSg	Sg	08 49 36.5	-3.0
	15nm,0.3s						
MEZF	Maizieres J'vi	3.56	53	ePg	Pg	08 48 51.0	-2.4
MEZF				eSg	Sg	08 49 36.5	-3.0
	7.7nm,0.3s						
SJPF	Ste Jean	3.60	204	ePg	Pg	08 48 51.7	-2.6
SJPF				eSn	Sn	08 49 19.8	-4.8
SJPF				eSg	Sg	08 49 38.2	-2.8
	3.6nm,0.3s						
SJPF	Ste Jean	3.60	204	ePn	Pn	08 48 39.6	-2.1
SJPF				ePg	Pg	08 48 51.7	-2.6
SJPF				eSn	Sn	08 49 19.8	-4.8
SJPF				eSg	Sg	08 49 38.2	-2.8
SJPF	Ste Jean	3.60	204	ePg	Pg	08 48 51.7	-2.6
SJPF				eSg	Sg	08 49 38.2	-2.8
	1.8nm,0.3s						
ETSF	Etsaut	3.65	196	ePg	Pg	08 48 52.5	-2.6
ETSF				eSn	Sn	08 49 21.0	-4.7
ETSF				eSg	Sg	08 49 39.8	-2.6
	3.2nm,0.3s						
ETSF	Etsaut	3.65	196	ePg	Pg	08 48 52.5	-2.6
ETSF				eSg	Sg	08 49 39.8	-2.6
	1.6nm,0.3s						
CABF	La Chapelle	3.66	85	ePg	Pg	08 48 52.9	-2.3
CABF				eSg	Sg	08 49 39.3	-3.3
	7.0nm,0.5s						
CABF	La Chapelle	3.66	85	ePg	Pg	08 48 52.9	-2.3
CABF				eSg	Sg	08 49 39.3	-3.3
	3.5nm,0.5s						
ORIF	Oris-en-Rattie	3.86	111	eSg	Sg	08 49 46.2	-3.1
	2.6nm,0.3s						
RFYF	Reffroy	3.86	53	ePg	Pg	08 48 56.7	-2.5
	baz=237						
RFYF				eSg	Sg	08 49 46.1	-3.2
	11nm,0.3s						
RFYF	Reffroy	3.86	53	ePg	Pg	08 48 56.7	-2.5
RFYF				eSg	Sg	08 49 46.1	-3.2
	5.4nm,0.3s						
HAU	Haudompre	4.10	65	ePg	Pg	08 49 01.1	-2.7
HAU				eSg	Sg	08 49 53.5	-3.4
	7.2nm,0.3s						
HAU	Haudompre	4.10	65	ePg	Pg	08 49 01.1	-2.7
HAU				eSg	Sg	08 49 53.5	-3.4
	3.6nm,0.3s						
HINF	Hinteralfeld	4.36	69	ePg	Pg	08 49 06.0	-2.8
HINF				eSn	Sn	08 49 37.9	-5.4
HINF				eSg	Sg	08 50 01.4	-3.9
	7.4nm,0.3s						
HINF	Hinteralfeld	4.36	69	ePg	Pg	08 49 06.0	-2.8
HINF				eSn	Sn	08 49 37.9	-5.4
HINF				eSg	Sg	08 50 01.4	-3.9
	3.7nm,0.3s						
CDF	Champ du Feu	4.83	63	ePg	Pg	08 49 14.3	-3.4
CDF				eSg	Sg	08 50 16.4	-3.8
	3.8nm,0.4s						
CDF	Champ du Feu	4.83	63	ePg	Pg	08 49 14.3	-3.4
CDF				eSg	Sg	08 50 16.4	-3.8
	1.9nm,0.4s						

*ISCJB **11** 09:08:46.2±0.3, 1775S±006×7127W±008, h37^{km}, mb4.5/38, MS3.6/7, Error ellipse: s-maj=12.3km s-min=6.4km az=123.9*
*NEIC **11** 09:08:48.0±0.3, 1778S×7125W, mb4.5/30, Error ellipse: s-maj=10.4km s-min=5.6km az=63.0*
NEIC Felt [III] at Ilo.
*BJI **11** 09:08:47.9, 1780S×7130W, h37^{km}, mB5.1, Ms5.0, Msz4.8*
*IDC **11** 09:08:48.8±0.6, 1772S×7120W, h42^{km}±4^{km}, mb4.2/13, mb1 4.3/15, mb1mx4.2/19, mbtmp4.4/15, ML3.2/2, MS3.4/9, Ms1 3.4/9, ms1mx3.3/26, Error ellipse: s-maj=19.6km s-min=14.3km az=73.0*

ISC 11 09:08:48.3±0.3**, 1782S**±005×**7131W**±008**, h39**^{km}**, h39**^{km}±1.3^{km}**:pP-P, n78,** σ0^{s}**89**/63**, mb4.4**/38**, MS3.6**/7**, 1C-4D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	1.36	353⇓	iP	Pn	09 09 12.0	+1.2
ARE				eS	Sn	09 09 29.0	+1.3
LPAZ	La Paz	3.40	64	P	Pn	09 09 45.4	+6.6
	19nm,0.3s,baz=246,slow=9.7,SNR=291						
LPAZ	La Paz	3.40	64	ePn	Pn	09 09 45.3	+6.4
NNA	Nana	7.89	317	P	Pn	09 10 39.9	-0.5
	0.9nm,0.3s,baz=134,slow=5.7,SNR=2.2						
NNA				S	Sn	09 12 02.6	-5.9
	3.8nm,0.3s,baz=195,slow=8.8,SNR=2.2						
NNA	Nana	7.89	317	ePn	Pn	09 10 42.8	+2.4
	65nm,0.8s						
SIV	San Ignacio	9.96	81	P	Pn	09 11 10.9	+2.0
	8.7nm,0.3s,baz=273,slow=9.4,SNR=161						
ATAH	Atahualpa	12.78	326	P	Pn	09 11 51.4	+3.9
	0.1nm,0.3s,baz=46,slow=12,SNR=2.2						
CFAA	Coronel Fontan	14.00	169	P	Pn	09 12 04.3	+0.2
	0.0nm,0.3s,baz=346,slow=12,SNR=28						
CFAA				LR	LR	09 17 23.1	
	comp=Z,14nm,21.2s,baz=141,slow=36						
CPUP	Villa Florida	15.47	126	P	Pn	09 12 20.2	-3.4
	0.2nm,0.3s,baz=288,slow=14,SNR=2.8						
CPUP				LR	LR	09 19 23.2	
	comp=Z,133nm,20.7s,baz=274,slow=41						
CPUP	Villa Florida	15.47	126	P	Pn	09 12 20.2	-3.4
CPUP				LR	LR	09 19 23.2	
TRQA	Tornquist	21.75	160	eP	P	09 13 35.6	-0.8
	24nm,1.3s,mb4.5						
BDFB	Brasilia	22.41	88	P	P	09 13 43.9	+0.4
	4.2nm,0.6s,mb4.1,baz=250,slow=9.2,SNR=6.7						
ROSC	El Rosal	22.73	352	P	P	09 13 46.0	-0.9
	2.5nm,0.4s,mb4.0,baz=104,slow=20,SNR=2.4						
ROSC				LR	LR	09 23 47.4	
	comp=Z,158nm,18.8s,MS3.5,baz=13,slow=40						
PLCA	Paso Flores	22.84	179	P	P	09 13 47.7	-0.3
	12nm,0.9s,mb4.4,baz=354,slow=11,SNR=24						
PLCA	Paso Flores	22.84	179	eP	P	09 13 48.8	+0.8
	14nm,0.9s,mb4.4						
SDV	Santo Domingo	26.55	1	P	P	09 14 21.8	-0.6
	3.6nm,0.6s,mb4.1,baz=224,slow=7.5,SNR=4.9						
SDV				LR	LR	09 26 00.3	
	comp=Z,100nm,21.1s,MS3.3,baz=195,slow=39						
SDV	Santo Domingo	26.55	1	eP	P	09 14 21.8	-0.7
	14nm,1.0s,mb4.4						
PCRV	Puerto La Cruz	28.59	14	LR	LR	09 26 38.1	
	comp=Z,107nm,21.8s,MS3.4,baz=17,slow=38						
SWET	Sewanee	54.54	345	eP	P	09 18 11.0	-1.4
WVT	Waverly	55.89	344	eP	P	09 18 20.2	-2.0
	1.3nm,0.5s,mb4.2						
MIAR	Mount Ida	56.22	338	eP	P	09 18 24.3	-0.2
	6.1nm,0.6s,mb4.8						
MIAR				epP	pP	09 18 36.3	+0.5
SIUC	Southern Illin	57.75	343	eP	P	09 18 34.2	-1.1
	22nm,0.5s,mb5.4						
SIUC				epP	pP	09 18 46.4	-0.4
FVM	French Village	58.34	342	eP	P	09 18 38.8	-0.7
	5.3nm,0.6s,mb4.8						
WMOK	Wichita Mounta	58.43	334	eP	P	09 18 39.3	-0.8
	1.6nm,0.6s,mb4.2						
WMOK				epP	pP	09 18 50.2	-1.3
WMOK				ePcP	PcP	09 19 30.9	+0.4
ACSO	Alum Creek Sta	58.77	350	eP	P	09 18 41.3	-1.1
	4.1nm,0.6s,mb4.6						
ACSO				epP	pP	09 18 52.1	-1.8
MNTX	Cornudas Mount	59.10	326	eP	P	09 18 44.0	-0.7
	3.1nm,1.1s,mb4.2						
MNTX				epP	pP	09 18 54.9	-1.2
ANMO	Albuquerque	62.20	328	eP	P	09 19 06.3	+0.4
	1.4nm,0.8s,mb4.1						
SDCO	Great Sand Dun	63.95	330	eP	P	09 19 18.3	+0.8
	9.3nm,1.1s,mb4.7						
SDCO				epP	pP	09 19 28.0	-1.0
VNA3	Neumayer Olymp	64.27	162⇓	iP	P	09 19 20.1	+0.6
VNA3				e		09 19 20.9	
VNA3				e	pP	09 19 31.5	+0.4
VNA3				e		09 19 34.5	
VNA3				e		09 19 42.5	
VNA1	Neumayer--Stat	64.49	161⇓	iP	P	09 19 21.8	+0.8
VNA1				e		09 19 22.4	
VNA1				e	pP	09 19 32.4	-0.1
VNA1				e		09 19 36.3	
ECSD	EROS,Sioux Fal	65.50	340	eP	P	09 19 26.6	-1.0
ISCO	Idaho Springs	65.65	332	eP	P	09 19 28.8	+0.2
	3.5nm,1.1s,mb4.3						
ISCO				epP	pP	09 19 39.3	-0.8
PV01	Paradox Valley	65.74	328	eP	P	09 19 29.9	+0.8
PV01				epP	pP	09 19 40.4	-0.3
SMCO	Snowmass	65.78	330	eP	P	09 19 30.1	+0.7
	3.2nm,0.6s,mb4.5						
SNAA	Sanae	66.47	161	LR	LR	09 46 42.6	
	comp=Z,18nm,19.2s,MS3.3,baz=68,slow=34						
SNAA	Sanae	66.47	161⇓	iP	P	09 19 34.0	+0.2
SNAA				e		09 19 34.8	
SNAA				e	pP	09 19 43.7	-1.7
SNAA				e		09 19 48.5	
SNAA	Sanae	66.47	161	eP	P	09 19 33.2	-0.6
	4.5nm,0.8s,mb4.5						
SRU	San Rafael	67.47	328	eP	P	09 19 40.3	+0.1
	2.3nm,0.8s,mb4.3						
RSSD	Black Hills	68.52	335	eP	P	09 19 47.0	+0.2
	1.8nm,0.5s,mb4.3						
DUG	Dugway	69.46	327	eP	P	09 19 53.7	+1.1
	3.4nm,0.9s,mb4.3						
PDAR	Pinedale Array	69.81	331	P	P	09 19 55.0	+0.2
	1.1nm,0.7s,mb3.9,baz=124,slow=5.6,SNR=12						
HWUT	Hardware Ranch	69.88	329	eP	P	09 19 55.5	+0.3
	3.2nm,0.8s,mb4.3						
DBIC	Dimbokro	69.94	76	P	P	09 19 54.6	-1.0
	7.2nm,0.6s,mb4.8,baz=228,slow=5.6,SNR=14						
DBIC				LR	LR	09 48 11.4	
	comp=Z,44nm,20.1s,MS3.7,baz=228,slow=34						
DBIC	Dimbokro	69.94	76	eP	P	09 19 55.0	-0.6
	7.2nm,0.6s,mb4.8						
RRI2	Red Ridge	71.08	330	eP	P	09 20 03.0	+0.5
	5.9nm,0.8s,mb4.6						
ULM	Lac du Bonnet	71.16	344	P	P	09 20 01.8	-1.2
	3.7nm,0.5s,mb4.6,baz=147,slow=6.4,SNR=14						
FLWY	Flagg Ranch	71.36	331	eP	P	09 20 05.1	+0.9
	6.2nm,0.8s,mb4.6						
QSPA	South Pole Qui	72.35	180	eP	P	09 20 10.7	+0.6
	6.3nm,0.8s,mb4.6						
SCHQ	Schefferville	72.46	3	P	P	09 20 10.0	-0.8
	3.5nm,0.8s,mb4.3,baz=62,slow=18,SNR=3.2						
HLID	Hailey	72.74	329	eP	P	09 20 13.6	+1.1
	2.0nm,0.7s,mb4.2						
HLID				epP	pP	09 20 24.3	+0.1
EGMT	Eagleton	74.02	334	eP	P	09 20 20.0	0.0
	12nm,1.5s,mb4.6						
EGMT				epP	pP	09 20 29.9	-1.8
BMO	Blue Mountains	75.11	328	eP	P	09 20 26.8	+0.4
	2.5nm,0.8s,mb4.2						
WALA	Waterton Lakes	76.58	333	eP	P	09 20 34.9	+0.3
	3.2nm,0.8s,mb4.3						
TOA0	Torodi Ar. Sit	78.32	72	eP	P	09 20 43.5	-0.9
TOA0				epP	pP	09 20 56.9	+0.7
TORD	Torodi Ar. Bea	78.32	72	P	P	09 20 43.9	-0.5
	6.1nm,0.5s,mb4.8,baz=250,slow=5.7,SNR=90						
TORD				pP	pP	09 20 58.0	+1.8
	5.1nm,0.6s,baz=257,slow=4.9,SNR=9.5						
TORD				LR	LR	09 54 32.7	
	comp=Z,70nm,18.2s,MS4.0,baz=210,slow=35						
EDM	Edmonton	79.49	336	eP	P	09 20 49.7	-1.1
EDM				epP	pP	09 21 01.2	-1.5
VNDA	Vanda	80.06	190	P	P	09 20 55.0	+1.0
	1.6nm,0.8s,mb4.0,baz=134,slow=5.0,SNR=10						
VNDA	Vanda	80.06	190	eP	P	09 20 54.7	+0.7
	1.4nm,0.8s,mb3.9						
MDT	Midelt	81.18	52	LR	LR	09 53 01.0	
	comp=Z,43nm,21.2s,MS3.8,baz=236,slow=33						
TSUM	Tsumeb	83.29	108	eP	P	09 21 10.9	0.0
	6.8nm,0.8s,mb4.7						
ESDC	Sonseca Array	84.85	46	P	P	09 21 19.8	+0.9
	0.9nm,0.5s,mb4.2,baz=253,slow=5.9,SNR=7.9						
ESDC				pP	pP	09 21 30.2	-0.6
	1.5nm,0.5s,baz=256,slow=5.1,SNR=3.2						
ESDC				sP	sP	09 21 35.7	+0.5
	1.3nm,0.3s,baz=297,slow=9.8,SNR=4.9						
YKA	Yellowknife Ar	86.99	341	P	P	09 21 28.6	-0.9
	4.5nm,0.6s,mb4.9,baz=134,slow=4.9,SNR=19						
MAW	Mawson	88.48	164⇑	iP	P	09 21 36.7	+0.1
	6.3nm,0.8s,mb4.9						
MAW	Mawson	88.48	164	P	P	09 21 36.8	+0.2
	7.7nm,0.7s,mb5.0,baz=218,slow=6.1,SNR=29						
AKTO	Aktyubinsk	128.31	39	PKP	PKPdf	09 27 50.8	+0.2
	0.6nm,0.6s,baz=260,slow=6.1,SNR=3.5						
AKTO				pPKP	pPKPdf	09 28 03.8	+0.8
	0.6nm,0.4s,baz=330,slow=4.2,SNR=2.9						
ASAR	Alice Springs	131.98	212	PKP	PKPdf	09 27 57.2	-0.3
	0.9nm,0.8s,baz=125,slow=1.8,SNR=8.7						
WRA	Warramunga Arr	134.81	215	PKP	PKPdf	09 28 03.7	+0.8
	2.4nm,0.7s,baz=151,slow=1.8,SNR=18						
WRA				pPKP	pPKPdf	09 28 16.7	+1.4
	0.8nm,0.7s,baz=135,slow=1.5,SNR=3.4						
MBWA	Marble Bar	139.78	196	ePKPdf	PKPdf	09 28 12.9	+0.9
MJAR	Matsushiro Arr	147.99	312	PKPbc	PKPbc	09 28 30.3	+0.9
	13nm,0.8s,baz=85,slow=1.9,SNR=30						
MJAR				pPKPbc	pPKPbc	09 28 42.9	+1.2
	12nm,0.8s,baz=79,slow=1.8,SNR=13						
MAJO	Matsushiro	147.99	312	ePKPbc	PKPbc	09 28 30.2	+0.7
MAT	Matsushiro	147.99	312	PKP	PKPbc	09 28 30.1	+0.6
WMQ	Urumqi	148.61	30	ePKP	PKPdf	09 28 26.0	-1.4
SONM	Songino Array	150.01	3	PKPbc	PKPbc	09 28 35.5	+1.0
	6.3nm,0.7s,baz=332,slow=1.9,SNR=16						
SONM				pPKPbc	pPKPbc	09 28 47.5	+0.6
	3.7nm,0.6s,baz=348,slow=1.6,SNR=6.6						
CN2	Changchun	150.49	335	ePKP	PKPdf	09 28 30.6	+0.2
HHC	Hu-ho-hao-te	156.92	354	ePKP	PKPdf	09 28 38.5	-1.0
HHC				APKP		09 28 49.2	
HHC				XPKP		09 28 52.9	
HHC				PKP2	PKPab	09 29 10.6	+1.0
HHC				PKS		09 32 11.2	
HHC				PP	PP	09 32 50.0	+2.1
HHC				SKS	SKSdf	09 35 39.3	-3.2
HHC				SKKS	SKKSac	09 39 33.7	-0.7
HHC				SS	SS	09 52 37.0	-1.3
HHC				PP	PP		
	comp=Z,224nm,8.2s						
LZH	Lanzhou	161.31	12	ePKP	PKPdf	09 28 42.7	-2.0
LZH				APKP		09 28 54.1	
LZH				XPKP		09 28 57.9	
LZH				LR	LR		
	comp=N,118nm,18.2s						
LZH				LR	LR		
	comp=Z,154nm,20.3s						
SSE	Sheshan	162.59	322	PKP	PKPdf	09 28 45.1	-0.9
NJ2	Nanjing	163.12	329	ePKP	PKPdf	09 28 46.9	+0.4

IDC 11 09:19:05.3±1.4**, 2164N**×**14322E, h315**^{km}±14^{km}**, mb3.5**/7**, mb1 3.6**/10**, mb1mx3.5**/22**, mbtmp4.3**/10**, Error ellipse: s-maj=40.2km s-min=11.0km az=86.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.51	350	P	Pn	09 20 30.6	+1.3
	12nm,0.3s,baz=283,slow=22,SNR=17						
CBIJ				S	S	09 21 35.5	-1.5
	4.6nm,0.3s,baz=116,slow=24,SNR=3.0						
GUMO	Guam	8.16	169	P	Pn	09 21 02.8	+1.8
	3.5nm,0.3s,baz=314,slow=2.9,SNR=4.0						
JHJ	Hachijo jima 2	11.83	346	P	Pn	09 21 46.5	+1.1
	5.3nm,0.3s,baz=207,slow=12,SNR=9.2						
JHJ				S	S	09 23 53.9	-3.3
	2.5nm,0.3s,baz=217,slow=23,SNR=2.1						
WRA	Warramunga Arr	42.23	192	P	P	09 26 28.2	0.0
	0.6nm,0.3s,baz=16,slow=9.2,SNR=31						
ASAR	Alice Springs	45.94	192	P	P	09 26 57.0	-0.4
	0.2nm,0.3s,baz=13,slow=6.7,SNR=9.7						
STKA	Stephens Creek	53.24	182	P	P	09 27 51.7	-0.4
	2.1nm,1.0s,baz=58,slow=3.1,SNR=3.6						
BVAR	Borovoye Array	62.73	320	P	P	09 28 57.8	+0.4
	3.6nm,0.3s,baz=99,slow=7.4,SNR=10						
YKA	Yellowknife Ar	76.49	28	P	P	09 30 20.5	-0.4
	0.9nm,0.6s,baz=291,slow=5.3,SNR=3.0						
ARCES	ARCESS Array B	78.98	342	P	P	09 30 34.8	+0.2
	3.4nm,1.0s,baz=76,slow=9.3,SNR=8.5						
FINES	FINESS Array B	83.24	334	P	P	09 30 56.1	-0.8
	1.4nm,0.4s,baz=61,slow=5.1,SNR=5.0						

*SKHL **11** 09:20:36.1±0.1, 5546N×14272E, h13^{km}±3^{km}, mb5.8/1, Ms4.8/9*
SKHL Felt (II) at Okha.
*BJI **11** 09:20:37.5, 5569N×14339E, h19^{km}, mB5.1, mb4.9, Ms4.9, Msz4.7*
*IDC **11** 09:20:37.2±0.4, 5547N×14351E, h0^{km}, mb4.6/28, mb1 4.7/30, mb1mx4.7/31, mbtmp4.6/30, ML3.9/2, MS4.0/21, Ms1 4.0/21, ms1mx3.8/36, Error ellipse: s-maj=11.0km s-min=8.8km az=107.0*
*ISCJB **11** 09:20:38.8±0.1, 5550N±002×14339E±003, h20^{km}, mb4.9/203, MS4.2/43, Error ellipse: s-maj=3.3km s-min=2.3km az=132.7*
*MOS **11** 09:20:38.0±0.8, 5549N×14341E, h16^{km}, mb5.1/83, MS4.1/23, Error ellipse: s-maj=7.3km s-min=4.1km az=103.7*
MOS Felt (II) at Okha.
*NEIC **11** 09:20:39.0±0.1, 5549N×14335E, h10^{km}, mb5.1/136, Error ellipse: s-maj=3.5km s-min=2.4km az=175.0*
NEIC Felt [II] at Okha.
*GCMT **11** 09:20:39.0±0.2, 5554N×14326E, h12^{km}±1^{km}, MW4.8/57, Moment Tensor Solution. s25,c29; s57,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.13; $M_{\theta\theta}$-0.23±.08; $M_{\phi\phi}$-1.60±.08; $M_{r\theta}$-0.29±.27; $M_{\theta\phi}$0.73±.06; $M_{\phi r}$-0.41±.20; Best double couple: $M_0$1.94000×10^{16} NP1:ϕ_s324.00000°, δ42.00000°, λ71.00000°. NP2: ϕ_s169.00000°, δ50.00000°, λ107.00000°. Principal axes: T 1.9450, Plg77.0000°, Azm140.0000°; N -0.0120, Plg13.0000°, Azm338.0000°; P -1.9360, Plg4.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **11** 09:20:45.2, 5593N×14276E, h33^{km}, mb5.2, Sea of Okhotsk*

ISC 11 09:20:40.7±0.1**, 5552N**±002×**14334E**±003**, h21**^{km}**, h21**^{km}±1.7^{km}**:pP-P, n563,** σ0^{s}**92**/569**, mb4.9**/203**, MS4.2**/43**, 21C-24D, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	Okha	1.99	187	eP	Pn	09 21 07.5	-5.6
OKH				AMB	AMB	09 21 08.1	
	2μm,0.9s						
OKH				ePg	Pn	09 21 13.4	+0.3
OKH				eS	Sn	09 21 31.0	-6.4
OKH				eSb	Sb	09 21 32.5	-8.0
OKH				A		09 21 33.9	
	9μm,0.9s						
OKH				A		09 21 33.9	
	20μm,0.9s						
OKH	Okha	1.99	187	i P	Pn	09 21 07.7	-5.4
OKH				i S	Sn	09 21 32.1	-5.3
OKH				smax			
	comp=N,15nm,0.9s						
NKL	Nikolayevsk	2.84	214	eP	Pn	09 21 19.0	-5.8
NKL				AMB	AMB	09 21 20.0	
	comp=N,610nm,0.3s						
NKL				AMB	AMB	09 21 20.0	
	comp=N,1μm,0.3s						
NKL				sP		09 21 22.5	
NKL				ePg	Pn	09 21 29.0	+4.2
NKL				eS	Sn	09 21 51.2	-7.2
NKL				A		09 21 54.0	
	comp=N,4μm,0.4s						
NKL				A		09 21 54.0	
	comp=N,4μm,1.5s						
NKL				AMS	AMS	09 23 29.0	
	comp=N,3μm,8.0s						
NKL				AMS	AMS	09 23 29.0	
	comp=N,3μm,8.0s						
TYV	Tymovskoe	4.69	185	ePb	Pn	09 21 54.7	+4.5
TYV				AMB	AMB	09 22 06.0	
	comp=N,108nm,0.8s						
TYV				erx	rx	09 22 25.5	
GRNR	Gornyy	6.32	224	eP	Pn	09 22 07.6	-5.0
GRNR				AMB	AMB	09 22 08.4	
	comp=N,84nm,0.6s						
GRNR				AMB	AMB	09 22 08.4	
	comp=N,50nm,0.6s						
GRNR				AMB	AMB	09 22 08.4	
	comp=N,11nm,0.6s						

UGL Uglegorsk 6.50 187 *e*Pb **Pb 09 22 31.0 -2.1**
UGL AMB AMB 09 22 40.5
comp=N,55nm,0.6s
UGL AMB AMB 09 22 49.0
comp=N,600nm,2.0s
UGL *e*Sb **Sb 09 23 39.5 -11**
UGL AMS AMS 09 25 54.0
comp=N,2μm,14.0s
UGL AMS AMS 09 25 54.0
comp=N,4μm,14.0s
UGL Uglegorsk 6.50 187 P **Pb 09 22 30.7 -2.4**
UGL pmax pmax
comp=Z,55nm,0.6s
UGL pmax pmax
comp=Z,600nm,2.0s
UGL MLR MLR
comp=N,2μm,14.0s
UGL MLR MLR
comp=E,4μm,14.0s
UGL MLR MLR
comp=Z,2μm,14.0s
EKMR Ekimchan 6.56 252 *e*P **Pn 09 22 13.0 -2.9**
EKMR AMB AMB 09 22 43.4
comp=Z,180nm,0.6s
EKMR *e*S **Sn 09 23 22.5 -7.6**
EKMR *e*Sg Sn 09 24 02.0 +32
EKMR A 09 24 13.9
comp=Z,460nm,0.6s
EKMR A 09 24 13.9
comp=Z,380nm,0.6s
EKMR A 09 24 13.9
comp=Z,310nm,0.6s
BMKR Bomnak 8.35 270 *e*P **Pn 09 22 37.5 -3.0**
BMKR AMB AMB 09 22 40.8
comp=Z,42nm,0.8s
BMKR *e*S **Sn 09 24 08.5 -5.7**
BMKR A 09 25 10.5
comp=Z,162nm,0.8s
YSS Yuzh-Sakhalins 8.59 183 *e*P **Pn 09 22 42.0 -1.7**
YSS AMB AMB 09 22 45.0
comp=Z,30nm,0.5s
YSS sP 09 22 49.2
YSS sP 09 22 50.0
YSS *e*S **Sn 09 24 17.0 -3.0**
YSS A 09 24 19.9
comp=Z,50nm,0.9s
YSS AMS AMS 09 26 51.0
comp=Z,2μm,17.0s
YSS AMS AMS 09 26 51.0
comp=Z,3μm,17.0s
YSS AMS AMS 09 26 51.0
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 8.59 183 *e*P **Pn 09 22 41.6 -2.1**
YSS *e* 09 24 14.4
YSS pmax pmax
comp=Z,30nm,0.5s
YSS pmax pmax
comp=Z,70nm,0.6s
YSS smax
comp=N,50nm,0.9s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,15.0s
YSS Yuzh-Sakhalins 8.59 183 *e*Pn **Pn 09 22 42.2 -1.6**
HABR Khabarovsk 8.71 219 *e*P **Pn 09 22 49.1 +3.7**
SKR Severo-Kuril's 9.08 117 *e*P **Pn 09 22 54.0 +3.5**
SKR AMB AMB 09 22 54.5
comp=N,220nm,1.0s
SKR sP 09 23 02.0
SKR AMS AMS 09 27 09.0
comp=N,1μm,11.0s
SKR AMS AMS 09 27 09.0
comp=N,1μm,11.0s
SKR AMS AMS 09 27 09.0
comp=N,2μm,11.0s
SKR Severo-Kuril's 9.08 117 *e*P **Pn 09 22 50.0 -0.5**
SKR *e*S **Sn 09 24 25.5 -6.6**
SKR pmax pmax
comp=Z,220nm,1.0s
SKR smax
comp=N,180nm,1.0s
SKR smax
comp=E,200nm,1.0s
SKR MLR MLR
comp=E,1μm,12.0s
SKR MLR MLR
comp=Z,2μm,12.0s
SKR MLR MLR
comp=N,1μm,10.0s
YASR Yasnyy 9.23 262 *e*P **Pn 09 22 50.4 -2.2**
YASR AMB AMB 09 22 54.3
comp=N,50nm,0.9s
PET Petropavlovsk 9.30 99 *e*P **Pn 09 22 52.0 -1.5**
PET *e*S **Sn 09 24 38.3 +0.8**
PET pmax pmax
comp=Z,100nm,4.5s
PET pmax pmax
comp=Z,81nm,0.6s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 9.30 99 *e*Pn **Pn 09 22 52.4 -1.1**
PET *e*Sn **Sn 09 24 37.9 +0.4**
KLR Kul'dur 9.48 233 *e*P **Pn 09 22 56.8 +0.9**
KLR AMS AMS 09 26 55.5
comp=Z,4μm,12.0s
KLR AMS AMS 09 26 55.5
comp=Z,3μm,12.0s
KLR AMS AMS 09 26 55.5
comp=Z,5μm,12.0s
KLR AMS AMS 09 27 44.0
comp=Z,3μm,8.0s
KLR AMS AMS 09 27 44.0
comp=Z,2μm,8.0s
KLR AMS AMS 09 27 44.0
comp=Z,5μm,8.0s
KROS Kirovskiy 9.48 270 *e*P **Pn 09 22 53.3 -2.6**
KROS AMB AMB 09 22 58.0
comp=Z,10.0nm,0.7s
ZEA Zeya 9.50 266 *e*rx rx 09 24 36.0
ZEA AMS AMS 09 26 46.0
comp=Z,2μm,10.0s
ZEA AMS AMS 09 26 46.0
comp=Z,3μm,10.0s
ZEA AMS AMS 09 26 46.0
comp=Z,2μm,10.0s
YAK Yakutsk 9.62 318 *e*P **Pn 09 22 59.4 +1.5**
YAK *e* 09 24 40.6
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,29nm,1.1s
YAK pmax pmax
comp=E,56nm,1.2s
YAK smax
comp=N,51nm,1.2s
YAK smax
comp=E,84nm,1.2s
YAK smax
comp=Z,36nm,1.0s
YAK Yakutsk 9.62 318 *e*Pn **Pn 09 22 56.9 -1.0**
CLNS Chul'man 10.37 285 *e*P **Pn 09 23 08.8 +0.7**
CLNS *e*S **Sn 09 25 09.6 +5.9**
CLNS pmax pmax
comp=Z,46nm,0.9s
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=E,36nm,0.8s
CLNS smax
comp=N,49nm,0.9s
CLNS smax
comp=E,41nm,0.9s
CLNS smax
comp=Z,33nm,0.9s
CLNS MLR MLR
comp=E,2μm,12.0s
CLNS MLR MLR
comp=Z,2μm,12.0s
CLNS MLR MLR
comp=N,500nm,11.0s
NRGR Nerungri 10.46 284 *e*P **Pn 09 23 12.7 +3.3**
NRGR S **Sn 09 25 08.5 +2.5**
NRGR smax
comp=E,29nm,0.3s
KUR Kuril'sk 10.70 163 *e*P **Pn 09 23 14.0 +1.4**
KUR AMS AMS 09 28 22.0
comp=E,2μm,14.0s
KUR AMS AMS 09 28 22.0
comp=E,2μm,14.0s
KUR AMS AMS 09 28 22.0
comp=E,2μm,14.0s
TEY Ternei 11.34 205 *e*S **Sn 09 25 25.5 -2.0**
TEY AMS AMS 09 28 52.0
comp=E,2μm,6.0s
ASAJ Asahikawa 11.43 183 Pn **Pn 09 23 22.4 -0.2**
comp=E,0.9nm,0.3s,baz=354,slow=15,SNR=9.1
ASAJ LR LR 09 28 48.7
comp=E,1μm,18.2s,baz=25,slow=43
ASAJ Asahikawa 11.43 183 P **Pn 09 23 22.5 -0.1**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,1μm,18.2s
YUK Yuzh-Kuril'sk 11.61 171 AMS AMS 09 29 24.8
comp=Z,3μm,16.0s
YUK AMS AMS 09 29 24.8
comp=Z,3μm,17.0s
YUK AMS AMS 09 29 24.8
comp=Z,3μm,17.0s
MDJ Mudanjiang 14.01 225 P **Pn 09 24 00.6 +2.7**
MDJ AP 09 24 04.0
MDJ XP 09 24 06.2
MDJ PP 09 24 09.7
MDJ S **Sn 09 26 34.1 +1.4**
MDJ SS 09 26 50.2
MDJ PCS PcS 09 32 55.5 +2.6
MDJ AMB AMB
comp=Z,15nm,1.9s
MDJ AMB AMB
comp=Z,179nm,7.8s
MDJ LR LR
comp=E,2μm,10.9s
MDJ LR LR
comp=Z,2μm,11.4s
MDJ Mudanjiang 14.01 225 *e*Pn **Pn 09 23 59.7 +1.8**
comp=Z,23nm,1.0s
VLA Vladivostok 14.46 216 P **Pn 09 24 06.0 +2.0**
VLA pmax pmax
comp=Z,34nm,1.2s
VLA MLR MLR
comp=Z,1μm,10.7s
HIA Hailar 15.66 256 *e*P **Pn 09 24 20.2 +0.2**
HIA pmax pmax
comp=E,15nm,0.6s
HIA Hailar 15.66 256 *e*Pn **Pn 09 24 20.2 +0.2**
comp=Z,14nm,0.6s
BOD Bodaibo 16.23 290 *e*P **Pn 09 24 26.8 -0.5**
BOD pmax pmax
comp=Z,35nm,0.9s
CN2 Changchun 16.43 232 ⇓P **Pn 09 24 31.3 +1.4**
CN2 *e*XP sP 09 24 38.5 -2.5
CN2 *e*S **Sn 09 27 32.7 +1.2**
CN2 AMB AMB
comp=Z,20nm,1.0s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,11.0s
CN2 LR LR
comp=E,2μm,11.0s
CN2 LR LR
comp=Z,2μm,13.0s
BILL Bilibino 16.43 31 *i*P **Pn 09 24 32.8 +2.9**
TIXI Tiksi 17.33 345 *e*P **Pn 09 24 37.9 -3.3**
TIXI *e*S **Sn 09 27 53.3 -0.1**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI MLR MLR
comp=Z,1μm,12.0s
TIXI Tiksi 17.33 345 *i*P **Pn 09 24 42.7 +1.5**
CIT Chita 17.88 271 *e*P **Pn 09 24 48.8 +0.7**
CIT pmax pmax
comp=Z,139nm,3.4s
SNY Shenyang 18.83 232 ⇓P **Pn 09 25 01.3 +1.7**
SNY AP pP 09 25 04.7 -0.1
SNY XP sP 09 25 09.1 +1.6
SNY PP 09 25 17.3
SNY S **Sn 09 28 25.5 -4.2**
SNY XS sS 09 28 33.9 -7.6
SNY SS 09 28 50.7
SNY AMB AMB
comp=Z,47nm,0.8s
SNY AMB AMB
comp=Z,501nm,4.1s
SNY LR LR
comp=N,1μm,12.6s
SNY LR LR
comp=E,997nm,9.0s
SNY LR LR
comp=Z,2μm,14.4s
MAJO Matsushiro 19.30 193 *e*P **Pn 09 25 03.4 -2.0**
MAT Matsushiro 19.30 193 P **Pn 09 25 03.3 -2.1**
MAT S **Sn 09 28 46.0 +4.8**
MJAR Matsushiro Arr 19.31 193 P **Pn 09 25 03.8 -1.5**
comp=Z,0.5nm,0.3s,baz=360,slow=10,SNR=25
MJAR S **Sn 09 28 41.2 0.0**
comp=Z,0.5nm,0.3s,baz=78,slow=1.8,SNR=13
MJAR LR LR 09 33 13.4
comp=Z,158nm,18.7s,baz=20,slow=39
MJAR Matsushiro Arr 19.31 193 P **Pn 09 25 03.8 -1.6**
MJAR S **Sn 09 28 41.2 0.0**
KS15 Wonju Array Si 20.90 216 *e*Pn **P 09 25 24.2 +2.6**
DL2 Dalian 22.07 230 *e*P **P 09 25 36.6 +2.4**
DL2 S **S 09 29 39.3 +2.7**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
DL2 LR LR
comp=N,500nm,10.1s,MS4.4
DL2 LR LR
comp=E,670nm,11.0s,MS4.4
DL2 LR LR
comp=Z,810nm,11.6s,MS4.4
JHJ Hachijo jima 2 22.54 188 LR LR 09 34 38.0
comp=Z,146nm,20.4s,MS3.4,baz=76,slow=37
IRK Irkutsk 23.05 278 *e*P **P 09 25 43.2 -1.4**
IRK pmax pmax
comp=Z,79nm,2.8s,mb4.7
ULN Ulaanbaatar 23.54 266 P **P 09 25 50.8 +1.1**
SNR=19
ULN Ulaanbaatar 23.54 266 ⇑*i*P **P 09 25 50.1 +0.5**
ULN Ulaanbaatar 23.54 266 *e*P **P 09 25 49.7 +0.1**
comp=Z,51nm,1.1s,mb4.9
TLY Talaya 23.64 277 P **P 09 25 51.7 +1.2**
comp=Z,116nm,1.0s,mb5.3,SNR=9.0
TLY Talaya 23.64 277 P **P 09 25 51.7 +1.2**
SNR=15
TLY Talaya 23.64 277*c i*P **P 09 25 50.2 -0.3**
TLY *e* 09 26 20.4
TLY *e*S **S 09 30 07.2 +3.4**
TLY *e*SS 09 30 47.7
TLY pmax pmax
comp=Z,46nm,1.7s,mb4.6
TLY MLR MLR
comp=Z,546nm,15.0s,MS4.1
TLY Talaya 23.64 277 *e*P **P 09 25 51.3 +0.8**
comp=Z,12nm,0.7s,mb4.4
BJI Beijing 23.72 241 P **P 09 25 50.9 -0.4**
BJI S **S 09 30 06.5 +1.3**
BJI AMB AMB
comp=Z,68nm,1.5s,mb4.9
BJI AMB AMB
comp=Z,360nm,4.1s
BJI LR LR
comp=N,516nm,9.8s
BJI LR LR
comp=E,2μm,9.8s
BJI LR LR
comp=Z,448nm,12.0s,MS4.2
BJT Baijiatuau 23.74 241 *e*P **P 09 25 51.1 -0.4**
BJT pmax pmax
comp=Z,75nm,1.0s
BJT Baijiatuau 23.74 241 *e*P **P 09 25 51.1 -0.4**
comp=Z,75nm,1.0s,mb5.1
SONM Songino Array 23.93 267 P **P 09 25 54.0 +0.8**
comp=Z,20nm,1.1s,mb4.5,baz=60,slow=8.7,SNR=40
SONM S **S 09 30 16.5 +8.0**
comp=Z,0.2nm,0.3s,baz=202,slow=38,SNR=3.2
SONM LR LR 09 35 06.4
comp=Z,540nm,21.7s,MS4.0,baz=59,slow=36
ZAK Zakamensk 24.42 275 *e*P **P 09 25 58.1 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.3
MOY Mondy 25.14 279 *e*P **P 09 26 05.4 +1.2**
MOY pmax pmax
comp=Z,55nm,2.2s,mb4.7
HHC Hu-ho-hao-te 25.49 248 *e*P **P 09 26 08.5 +1.1**
HHC AP pP 09 26 12.8 -0.9
HHC XP sP 09 26 15.5 -0.8
HHC PP 09 26 47.4
HHC AMB AMB
comp=Z,26nm,0.5s,mb5.0
HHC LR LR
comp=N,1μm,10.7s
HHC LR LR
comp=E,1μm,9.2s
HHC LR LR
comp=Z,2μm,12.0s,MS4.9
TIA Tai'an 26.31 234 ⇓P **P 09 26 15.2 +0.4**
BTO Baotou 26.48 250 *e*P **P 09 26 16.1 -0.3**
BTO S **S 09 30 54.6 +5.4**
BTO LR LR
comp=N,428nm,5.9s
BTO LR LR
comp=E,411nm,6.3s
KRAR Krasnoyarsk 27.89 292 *i*P **P 09 26 29.1 +0.1**
CBIJ Chichi jima 28.41 182 P **P 09 26 31.8 -2.0**
comp=E,38nm,0.8s,mb5.1,baz=86,slow=21,SNR=4.5
SSE Sheshan 29.01 222 P **P 09 26 39.8 +0.8**
SSE XP sP 09 26 48.6 +0.7
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,191nm,3.9s
SSE LR LR
comp=N,209nm,20.5s,MS4.0
SSE LR LR
comp=E,338nm,20.5s,MS4.0
SSE LR LR
comp=Z,232nm,20.9s,MS3.8
NJ2 Nanjing 29.09 226 *e*P **P 09 26 41.7 +2.0**
NJ2 AP pP 09 26 47.7 +1.7
NJ2 XP sP 09 26 50.5 +1.9
NJ2 PP PP 09 27 35.6 -10
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,560nm,5.2s
NJ2 LR LR
comp=N,1μm,21.1s,MS4.7
NJ2 LR LR
comp=E,2μm,21.5s,MS4.7
NJ2 LR LR
comp=Z,2μm,21.4s,MS4.6
JOW Kunigami 30.69 207 LR LR 09 38 49.0
comp=Z,391nm,18.8s,MS4.1,baz=233,slow=36
TTA Tatalina 30.80 51 *e*P **P 09 26 55.2 +0.4**
IMA2 Indian Mountai 31.08 45 *e*P **P 09 26 56.9 -0.4**
SVW2 Sparrevohn 31.51 54 *e*P **P 09 27 00.9 -0.2**
GTA Gaotai 32.91 259 *e*P **P 09 27 14.2 +0.8**
GTA AP pP 09 27 18.3 -1.4
GTA XP sP 09 27 21.5 -0.8
GTA PP PP 09 28 24.9 -3.0
GTA PCP PcP 09 29 58.5 +1.0
GTA S **S 09 32 32.1 +2.1**
GTA XS sS 09 32 38.9 -1.6
GTA SCP ScP 09 33 40.4 0.0
GTA PCS PcS 09 33 42.5 -0.3
GTA SS SS 09 34 30.7 -21
GTA SCS ScS 09 37 39.9 -0.6
GTA AMB AMB
comp=Z,21nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,118nm,4.9s
GTA LR LR
comp=N,2μm,16.7s,MS5.0
GTA LR LR
comp=E,2μm,14.8s,MS5.0
GTA LR LR
comp=Z,926nm,13.7s,MS4.7
ZAL Zalesovo 32.98 292 P **P 09 27 14.4 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=68,slow=9.0,SNR=5.3
ZAL PcP PcP 09 29 56.4 -1.4
comp=Z,2.2nm,0.4s,baz=346,slow=5.0,SNR=5.5
ZAL LR LR 09 40 59.0
comp=Z,327nm,21.0s,MS4.0,baz=55,slow=37
ZAL Zalesovo 32.98 292 P **P 09 27 14.4 +0.4**
ZAL 09 29 56.4
LZH Lanzhou 33.09 251 *e*P **P 09 27 16.0 +1.0**
LZH AP pP 09 27 20.5 -0.8
LZH XP sP 09 27 23.2 -0.7
LZH PP PP 09 28 26.5 -3.4
LZH AMB AMB
comp=Z,26nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,167nm,5.7s
LZH LR LR
comp=N,1μm,13.4s
LZH LR LR
comp=Z,3μm,17.2s,MS5.0
NVS Novosibirsk 33.39 294 *e*P **P 09 27 16.0 -1.6**
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,33nm,1.4s
NVS pmax pmax
comp=Z,38nm,1.4s,mb5.1
MCK McKinley 33.64 48 *e*P **P 09 27 20.1 +0.4**
MCK pmax pmax
comp=Z,12nm,1.1s,mb4.7
MCK McKinley 33.64 48 *e*P **P 09 27 20.1 +0.3**
comp=Z,12nm,1.1s,mb4.7
COLA College 33.74 46 ⇑*i*P **P 09 27 20.1 -0.5**
COLA College 33.74 46 *e*P **P 09 27 19.9 -0.7**
comp=Z,15nm,1.1s,mb4.8
KDAK Kodiak Island 34.13 59 P **P 09 27 23.5 -0.5**
comp=Z,6.1nm,0.8s,mb4.6,baz=226,slow=18,SNR=3.8
KDAK LR LR 09 42 13.0
comp=Z,340nm,20.0s,MS4.1,baz=269,slow=38
PMR Palmer 34.27 52 *e*P **P 09 27 24.3 -1.0**
PMR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PMR Palmer 34.27 52 *e*P **P 09 27 24.3 -1.0**
comp=Z,9.5nm,0.8s,mb4.8
EYAK Cordova Ski Ar 36.20 52 *e*P **P 09 27 41.9 +0.1**
EGAK Eagle 36.46 44 *e*P **P 09 27 42.9 -1.2**
EGAK *e* pP 09 27 50.5 0.0
WMQ Urumqi 36.89 275 P **P 09 27 50.1 +2.4**
WMQ AP pP 09 27 54.5 +0.4
WMQ XP sP 09 27 57.0 +0.3
WMQ AMB AMB
comp=Z,38nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,226nm,4.6s
WMQ LR LR
comp=N,2μm,17.2s,MS5.2
WMQ LR LR
comp=E,2μm,13.0s,MS5.2
WMQ LR LR
comp=Z,1μm,15.8s,MS4.9
CD2 Chengdu 37.14 245 *e*P **P 09 27 49.5 -0.4**
CD2 AP pP 09 27 53.9 -2.4
CD2 XP sP 09 27 56.8 -2.0
CD2 PP PP 09 29 16.2 +1.6
CD2 S **S 09 33 34.5 -0.7**
CD2 SS SS 09 36 05.9 -12
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=E,690nm,12.0s
CD2 LR LR
comp=Z,640nm,12.0s,MS4.6
DAWY Dawson 37.45 45 *e*P **P 09 27 51.5 -1.0**
KURK Kurchatov 37.88 291 P **P 09 27 55.8 -0.3**
comp=Z,151nm,0.6s,mb5.9,SNR=20
INK Inuvik 37.92 37 P **P 09 27 56.4 -0.1**
comp=Z,6.0nm,0.7s,mb4.5,baz=305,slow=4.5,SNR=9.0
INK LR LR 09 46 28.0
comp=Z,289nm,18.7s,MS4.1,baz=139,slow=41
INK Inuvik 37.92 37 *e*P **P 09 27 56.5 0.0**
INK pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 37.92 37 *e*P **P 09 27 56.5 0.0**
comp=Z,17nm,1.0s,mb4.7
MK31 Makanchi Array 38.11 283 P **P 09 27 57.6 -0.5**

MK31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
MKAR Makanchi Array 38.11 283 P **P** **09 27 57.9 -0.2**
comp=Z,5.2nm,0.9s,mb4.3,baz=52,slow=9.9,SNR=21
MKAR Makanchi Array 38.11 283 P **P** **09 27 57.9 -0.2**
GYA Guiyang 39.34 238⇑ *i*P **P** **09 28 08.2 -0.2**
GYA AP pP 09 28 14.2 -0.6
GYA XP sP 09 28 16.8 -0.6
GYA PP PP 09 29 45.3 +6.5
GYA SCP ScP 09 33 58.7 -5.3
GYA S **S** **09 34 14.9 +6.5**
GYA XS sS 09 34 26.4 +7.4
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.3
GYA AMB AMB
comp=Z,230nm,5.7s
GYA LR LR
comp=N,720nm,14.9s,MS4.9
GYA LR LR
comp=E,850nm,12.0s,MS4.9
GYA LR LR
comp=Z,590nm,15.0s,MS4.5
CHKZ Chkalovo 40.39 299 *e*P **P** **09 28 16.4 -0.7**
CHKZ pmax pmax
comp=Z,19nm,0.8s,mb4.9
CHKZ Chkalovo 40.39 299 *e*P **P** **09 28 16.4 -0.7**
comp=Z,19nm,0.8s,mb4.9
VOSK Vostochnaya 40.74 297 P **P** **09 28 19.2 -0.8**
VOSK pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
BVA0 Borovoye Array 40.87 298 *i*P **P** **09 28 20.4 -0.6**
BVAR Borovoye Array 40.87 298 P **P** **09 28 20.6 -0.5**
comp=Z,7.1nm,0.8s,mb4.3,baz=60,slow=8.8,SNR=16
BVAR PP PP 09 29 54.2 -1.2
comp=Z,2.4nm,0.8s,baz=56,slow=11,SNR=2.9
BVAR PcP PcP 09 30 20.7 -0.8
comp=Z,2.8nm,0.5s,baz=66,slow=5.0,SNR=4.0
BVAR LR LR 09 46 20.2
comp=Z,175nm,19.2s,MS3.9,baz=139,slow=38
BVAR Borovoye Array 40.87 298 P **P** **09 28 20.6 -0.4**
BVAR 09 29 54.2
BVAR 09 30 20.7
BRVK Borovoye 40.90 298 P **P** **09 28 20.0 -1.3**
comp=Z,93nm,0.6s,mb5.6,SNR=6.0
BRVK Borovoye 40.90 298 *e*P **P** **09 28 21.0 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
BRVK Borovoye 40.90 298 *e*P **P** **09 28 21.0 -0.3**
comp=Z,8.4nm,0.8s,mb4.4
SKAG Skagway 41.32 50 *e*P **P** **09 28 25.4 +0.6**
ZRNK Zerenda 41.60 299 *e*P **P** **09 28 26.5 -0.6**
ZRNK *e* 09 30 02.9
ZRNK pmax pmax
comp=Z,11nm,0.9s,mb4.5
ZRNK Zerenda 41.60 299 *e*P **P** **09 28 26.5 -0.5**
comp=Z,11nm,0.9s,mb4.5
ZRNK *e*PP PP 09 30 02.9 -0.4
GUMO Guam 41.86 178 LR LR 09 43 37.3
comp=Z,105nm,20.6s,MS3.7,baz=181,slow=33
KMI Kunming 42.38 241 P **P** **09 28 31.8 -1.6**
KMI PP PP 09 30 13.2 +1.5
KMI S **S** **09 34 55.6 +2.0**
KMI XS sS 09 35 03.2 -1.0
KMI SS SS 09 37 56.8 -6.0
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.3
KMI AMB AMB
comp=Z,77nm,3.6s
KMI LR LR
comp=N,640nm,10.8s,MS4.8
KMI LR LR
comp=E,434nm,14.2s,MS4.8
KMI LR LR
comp=Z,578nm,11.8s,MS4.7
KBS Kingsbay 42.75 348 *i*P **P** **09 28 37.5 +1.1**
SVE Sverdlovsk 43.38 307⇑ *e*P **P** **09 28 41.8 +0.2**
SVE *e*S **S** **09 35 12.0 +3.6**
SVE *e* 09 38 16.0
SVE *e*SS SS 09 39 06.0 +44
SVE pmax pmax
comp=Z,48nm,1.6s,mb5.0
SVE MLR MLR
comp=N,400nm,9.0s
SVE MLR MLR
comp=E,400nm,9.0s
SVE MLR MLR
comp=Z,400nm,9.0s
SOKR Solikamsk 43.49 312 *e*P **P** **09 28 42.4 -0.1**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb4.7
SOKR MLR MLR
comp=Z,180nm,14.0s,MS4.1
DLBC Dease Lake 44.18 49 P **P** **09 28 48.3 +0.3**
comp=Z,10nm,1.1s,mb4.5,baz=301,slow=6.0,SNR=8.6
TKM2 Tokmak 2 44.25 283 P **P** **09 28 49.1 +0.6**
SNR=6.2
ULHL Ulahol 44.33 282 P **P** **09 28 50.5 +1.3**
SNR=9.1
QIZ Qiongzhong 44.34 228 *e*P **P** **09 28 51.8 +2.5**
QIZ *e*S **S** **09 35 26.9 +4.6**
QIZ XS sS 09 35 35.2 +2.2
QIZ AMB AMB
comp=Z,25nm,2.0s,mb4.6
QIZ LR LR
comp=N,724nm,12.5s
QIZ LR LR
comp=Z,910nm,14.0s,MS4.8
WRAK Wrangell Islan 44.34 52 *e*P **P** **09 28 50.4 +1.1**
RES Resolute Bay 44.48 19 *e*P **P** **09 28 50.2 -0.2**
RES pmax pmax
comp=Z,24nm,0.9s,mb4.9
RES Resolute Bay 44.48 19 *e*P **P** **09 28 50.1 -0.3**
comp=Z,24nm,0.9s,mb4.9
ARU Arti 44.55 308 P **P** **09 28 50.9 0.0**
comp=Z,178nm,0.4s,SNR=6.2
ARU Arti 44.55 308⇑ *i*P **P** **09 28 50.6 -0.3**
ARU *e* 09 29 00.8
ARU *e* 09 30 32.4
ARU *e*PPP 09 31 09.8
ARU *e*S **S** **09 35 25.3 0.0**
ARU *e*SS SS 09 38 43.2 -1.9
ARU pmax pmax
comp=Z,23nm,1.1s,mb4.9
ARU MLR MLR
comp=Z,200nm,15.0s,MS4.2
ARU MLR MLR
comp=N,100nm,16.0s,MS4.0
ARU MLR MLR
comp=E,100nm,14.0s,MS4.0
ARU Arti 44.55 308 P **P** **09 28 50.7 -0.2**
USP Ospenovka 44.63 284 P **P** **09 28 52.1 +0.6**
SNR=10
CHMS Chumysh 44.66 284 P **P** **09 28 50.2 -1.7**
SNR=5.8
FRU Bishkek 44.85 284 *e*P **P** **09 28 52.0 -1.3**
FRU pmax pmax
comp=Z,36nm,1.5s,mb5.0
LSA Lhasa 44.86 257 P **P** **09 28 55.1 +1.7**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.9
LSA Lhasa 44.86 257 *e*P **P** **09 28 54.9 +1.5**
LSA pmax pmax
comp=Z,19nm,0.7s,mb5.0
LSA Lhasa 44.86 257 *e*P **P** **09 28 54.9 +1.4**
comp=Z,19nm,0.7s,mb5.0
AAK Ala-Archa 45.05 283 P **P** **09 28 55.5 +0.6**
SNR=5.4
AAK Ala-Archa 45.05 283 P **P** **09 28 54.6 -0.3**
SNR=5.9
AAK Ala-Archa 45.05 283 *e*P **P** **09 28 54.5 -0.4**
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
AAK Ala-Archa 45.05 283 *e*P **P** **09 28 54.5 -0.4**
comp=Z,9.4nm,0.9s,mb4.6
EKS2 Erkin-Say 45.42 284 P **P** **09 28 59.0 +1.1**
SNR=5.9
KSH Kashi 46.33 279 *e*P **P** **09 29 05.0 0.0**
KSH *e*AP pP 09 29 13.6 +2.1
KSH *e*XP sP 09 29 16.4 +2.4
KSH *e*PCP PcP 09 30 41.1 +1.1
KSH *e*PP PP 09 30 54.2 +0.4
KSH *e*SCP ScP 09 34 31.2 -0.9
KSH *e*PCS PcS 09 34 34.6 0.0
KSH *e*S **S** **09 35 47.6 -3.4**
KSH *e*XS sS 09 36 03.0 +1.3
KSH *e*SCS ScS 09 38 56.1 -3.0
KSH *e*SS SS 09 39 09.4 -7.2
KSH AMB AMB
comp=Z,470nm,4.3s
KSH LR LR
comp=N,1μm,6.6s
KSH LR LR
comp=E,998nm,6.7s
KSH LR LR
comp=Z,594nm,5.9s
ARCES ARCESS Array B 47.42 335 P **P** **09 29 13.1 -0.4**
comp=Z,3.9nm,0.5s,mb4.6,baz=43,slow=7.4,SNR=32
ARCES LR LR 09 54 36.4
comp=Z,144nm,18.1s,MS4.0,baz=354,slow=43
YKA Yellowknife Ar 47.67 38 P **P** **09 29 15.1 -0.4**
comp=Z,0.8nm,0.5s,mb4.0,baz=304,slow=6.6,SNR=4.8
YKA LR LR 09 49 23.8
comp=Z,159nm,21.9s,MS4.0,baz=270,slow=36
AB31 Akbulak array 48.38 299 *i*P **P** **09 29 20.4 -0.6**
AKTK Aktyubinsk 48.55 302 P **P** **09 29 21.9 -0.4**
AKTK PcP PcP 09 30 46.9 -1.0
AKTK LR LR 09 50 34.6
AKTO Aktyubinsk 48.55 302 P **P** **09 29 21.9 -0.4**
comp=Z,8.6nm,0.7s,mb4.9,baz=56,slow=9.5,SNR=22
AKTO PcP PcP 09 30 46.9 -1.0
comp=Z,4.4nm,0.7s,baz=6.9,slow=2.2,SNR=3.2
AKTO LR LR 09 50 34.6
comp=Z,97nm,18.1s,MS3.8,baz=218,slow=37
AKTO Aktyubinsk 48.55 302 P **P** **09 29 21.9 -0.4**
AKTO 09 30 46.9
NANT Nan 48.72 239 ⇓P **P** **09 29 23.5 -0.1**
comp=Z,100nm,0.7s,mb6.0
GUN Gumba 49.18 260 *e*P **P** **09 29 27.2 +0.1**
comp=Z,54nm,0.9s,mb5.6
JIRN Jiri 49.20 260 *e*P **P** **09 29 27.5 +0.2**
comp=Z,68nm,0.9s,mb5.7
CHG Chiang Mai 49.57 241⇑P **P** **09 29 29.7 -0.4**
comp=Z,16nm,0.6s,mb5.2
CHTO Chiang Mai 49.57 241⇑P **P** **09 29 29.9 -0.2**
SNR=5.8
CHTO Chiang Mai 49.57 241 *e*P **P** **09 29 30.1 0.0**
CHTO *e* 09 31 22.1
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHTO Chiang Mai 49.57 241 *e*P **P** **09 29 30.1 0.0**
comp=Z,11nm,0.8s,mb5.0
CHTO *e*PP PP 09 31 22.1 -2.3
KKN Kakani 49.61 261 *e*P **P** **09 29 30.6 +0.2**
comp=Z,80nm,0.8s,mb5.8
PKI Pulchoki 49.70 261 *e*P **P** **09 29 31.2 +0.1**
comp=Z,40nm,1.0s,mb5.4
GKN Gorkha 49.81 262 *e*P **P** **09 29 32.3 +0.4**
comp=Z,143nm,0.6s
DMN Daman 49.85 261 *e*P **P** **09 29 32.6 +0.4**
comp=Z,36nm,0.8s,mb5.5
KOLN Koldanda 50.57 262 *e*P **P** **09 29 38.0 +0.3**
comp=Z,80nm,0.9s,mb5.6
JOF Joensuu 50.67 327 *e*p **P** **09 29 37.4 -1.1**
comp=Z,15nm,1.0s,mb4.9
KLP Kalpa 50.76 270 *e*P **P** **09 29 38.9 -0.2**
SMLA Simla 51.67 271 *e*P **P** **09 29 46.2 +0.2**
SMLA AMb AMB 09 29 48.2
comp=Z,37nm,1.2s,mb5.2
NST Nakhon Sawan 51.68 237 P **P** **09 29 47.0 +1.0**
SUMG Summit 52.19 1 *e*P **P** **09 29 49.9 +0.1**
comp=Z,10nm,1.0s,mb4.7
SUMG *e* pP 09 29 56.9 +0.5
BOK Bokaro 52.39 257 *e*P **P** **09 29 51.0 -0.3**
BOK AMb AMB 09 29 55.7
comp=Z,16nm,1.4s,mb4.7
KAF Kangasniemi 52.81 328 *e*p **P** **09 29 53.7 -0.8**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 52.81 328 *e*P **P** **09 29 53.7 -0.8**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
FIA1 FINESS Array S 53.40 328 *e*P **P** **09 29 58.5 -0.3**
FINES FINESS Array B 53.40 328 P **P** **09 29 58.7 -0.1**
comp=Z,6.3nm,0.7s,mb4.7,baz=35,slow=9.4,SNR=28
FINES PcP PcP 09 31 04.0 -1.9
comp=Z,3.9nm,0.8s,baz=58,slow=4.4,SNR=4.9
FINES LR LR 09 54 27.6
comp=Z,42nm,21.1s,MS3.5,baz=318,slow=38
FINES FINESS Array B 53.40 328 P **P** **09 29 58.7 -0.1**
FINES 09 31 04.0
NDI New Delhi 53.49 269 *ex* x 09 29 49.2
NDI AMb AMB 09 29 59.8
comp=Z,28nm,1.5s,mb5.0
AYAN Aya Nagar 53.69 268 *e*P **P** **09 30 00.1 -0.8**
SONA Sohna 53.89 268 *e*P **P** **09 30 02.1 -0.3**
SONA AMb AMB 09 30 04.2
comp=Z,15nm,0.9s,mb4.9
AGRA Agra 54.18 267 *e*P **P** **09 30 04.1 -0.4**
AGRA AMb AMB 09 30 07.2
comp=Z,36nm,0.3s,mb5.7
CMW Cultus Mountai 54.30 55 P **P** **09 30 05.8 +0.4**
JCW Jim Creek 54.55 55 P **P** **09 30 07.5 +0.3**
OBN Obninsk 54.62 318 *i*P **P** **09 30 07.6 -0.1**
OBN 09 31 09.4
OBN *e* 09 41 25.9 -3.3
OBN *e*SS SS
OBN pmax pmax
comp=Z,15nm,0.5s,mb5.3
OBN MLR MLR
comp=Z,100nm,10.0s,MS4.2
EDM Edmonton 54.65 46 *e*P **P** **09 30 07.3 -0.6**
KHET Khetri 54.75 269 *e*P **P** **09 30 06.8 -1.8**
VSU Vasula 55.54 325⇑ *e*P **P** **09 30 14.4 +0.1**
FMW Mount Fremont 55.59 56 P **P** **09 30 14.9 +0.2**
LON Longmire 55.66 56 *e*P **P** **09 30 15.8 +0.6**
TBM Table Mountain 55.92 55 P **P** **09 30 17.3 +0.2**
EBG Ellensburg 56.12 55 P **P** **09 30 18.7 +0.2**
EPH Ephrata 56.25 54 P **P** **09 30 19.2 -0.2**
VRSR Storozhevoye 56.49 313 *e*P **P** **09 30 20.7 -0.5**
VRSR pmax pmax
comp=N,60nm,1.1s
VRSR pmax pmax
comp=Z,30nm,1.1s,mb5.2
VRSR pmax pmax
comp=E,50nm,1.0s
AJM Ajmer 56.64 269 *ex* x 09 29 59.3
NEW Newport 56.70 52 P **P** **09 30 22.3 -0.3**
comp=E,1.2nm,0.8s,mb4.0,baz=304,slow=6.8,SNR=6.2
NEW Newport 56.70 52 P **P** **09 30 22.3 -0.3**
NEW pmax pmax
comp=Z,1.0nm,0.8s
NEW Newport 56.70 52 *e*P **P** **09 30 21.9 -0.7**
comp=Z,4.2nm,1.0s,mb4.4
MDW Midway 56.72 55 P **P** **09 30 22.9 +0.2**
TDH Tom, Dick, Har 56.73 57 P **P** **09 30 23.3 +0.5**
HOOD Mount Hood Mea 56.77 57 *e*P **P** **09 30 24.0 +0.9**
FCC Fort Churchill 57.15 32 *e*P **P** **09 30 24.8 -1.0**
FCC pmax pmax
comp=Z,11nm,0.5s,mb5.1
FCC Fort Churchill 57.15 32 *e*P **P** **09 30 24.8 -1.0**
comp=Z,11nm,0.5s,mb5.1
ABKT Ailbek 57.25 290 P **P** **09 30 27.8 +1.3**
comp=Z,268nm,0.7s,SNR=5.9
ABKT Ailbek 57.25 290 P **P** **09 30 27.4 +0.9**
WALA Waterton Lakes 57.52 50 *e*P **P** **09 30 28.7 +0.3**
comp=Z,17nm,1.3s,mb4.9
BHPL Bhopal 57.58 264 *e*P **P** **09 30 28.6 -0.3**
BHPL AMb AMB 09 30 31.1
comp=Z,39nm,1.4s,mb5.2
NB2 NORSAR Subarra 57.80 335 P **P** **09 30 29.9 -0.5**
comp=Z,40nm,1.2s,mb5.3,baz=30,slow=7.4
NOA NORSAR Array B 57.80 335 P **P** **09 30 29.9 -0.4**
comp=Z,13nm,0.9s,mb5.0,baz=30,slow=7.2,SNR=13
NOA PcP PcP 09 31 21.4 -1.5
comp=Z,1.8nm,0.8s,baz=30,slow=3.1,SNR=4.3
NOA LR LR 10 00 59.4
comp=Z,60nm,18.6s,MS3.7,baz=20,slow=42
NOA NORSAR Array B 57.80 335 P **P** **09 30 30.0 -0.4**
NOA 09 31 21.4
FFC Flin Flon 57.84 39 P **P** **09 30 30.5 -0.2**
comp=Z,152nm,0.8s,SNR=8.3
FFC Flin Flon 57.84 39 *e*P **P** **09 30 29.7 -1.0**
FFC pmax pmax
comp=Z,29nm,1.0s,mb5.3
FFC Flin Flon 57.84 39 *e*P **P** **09 30 29.7 -1.0**
comp=Z,29nm,1.0s,mb5.3
BSMT Bassoo Peak 58.05 51 P **P** **09 30 32.6 +0.4**
MNK Minsk 58.31 322 *e*P **P** **09 30 32.0 -2.0**
VIS Vishakhapatnam 58.68 255 *e*P **P** **09 30 39.0 +2.4**
YBH Yreka Blue Hor 58.92 61 *e*P **P** **09 30 39.7 +1.4**
YBH pmax pmax
comp=Z,7.0nm,0.7s
YBH Yreka Blue Hor 58.92 61 *e*P **P** **09 30 39.6 +1.4**
comp=Z,7.2nm,0.7s,mb4.8
BMO Blue Mountains 59.17 55 *e*P **P** **09 30 40.4 +0.4**
MSO Missoula 59.20 51 *e*P **P** **09 30 40.5 +0.3**
LHEM Herd Peak 59.24 60 P **P** **09 30 41.6 +1.1**
KONO Kongsberg 59.41 335⇓ *e*P **P** **09 30 42.2 +0.6**
CHMT Chamberlain Mo 59.44 51 *e*P **P** **09 30 41.5 -0.3**
MOD Modoc 59.98 59 *e*P **P** **09 30 46.3 +0.8**
comp=Z,16nm,1.4s,mb4.8
EGMT Eagleton 60.09 48 *e*P **P** **09 30 46.6 +0.3**
comp=Z,9.3nm,0.8s,mb4.9
KSM Kuching 60.16 219 *e*P **P** **09 30 47.6 +0.8**
HRY Holter Researc 60.22 50 *e*P **P** **09 30 47.7 +0.5**
SUW Suwalki 60.30 324 *e*P **P** **09 30 47.3 -0.5**
WVOR Wild Horse Val 60.38 57 *e*P **P** **09 30 48.8 +0.5**
WVOR pmax pmax
comp=Z,14nm,0.9s,mb5.0
WVOR Wild Horse Val 60.38 57 *e*P **P** **09 30 48.8 +0.5**
comp=Z,14nm,0.9s,mb5.0
KIV Kislovodsk 60.46 305 P **P** **09 30 50.6 +1.7**
SNR=6.3
KIV Kislovodsk 60.46 305 *e*P **P** **09 30 49.9 +1.1**
KIV pmax pmax
comp=Z,35nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,213nm,16.0s,MS4.4
KIV Kislovodsk 60.46 305 *e*P **P** **09 30 50.0 +1.2**
comp=Z,50nm,1.3s,mb5.4
LRM Limekiln Ridge 60.63 51 *e*P **P** **09 30 50.8 +0.8**
ZEI Tsey 60.80 304 *e*P **P** **09 30 50.7 -0.5**
AKASG Malin Array Be 60.85 318 P **P** **09 30 50.6 -0.9**
comp=Z,8.4nm,0.8s,mb4.9,baz=33,slow=6.9,SNR=46
AKBB Malin Array Si 60.85 318 *e*P **P** **09 30 50.5 -1.0**
DLMT Dillon 60.93 51 *e*P **P** **09 30 52.5 +0.5**
comp=Z,13nm,0.9s,mb5.0
MCMT McKenzie Canyo 61.23 52 *e*P **P** **09 30 54.4 +0.4**
OHCM Honcut 61.35 62 *e*P **P** **09 30 55.1 +0.2**
HLID Hailey 61.50 54 *e*P **P** **09 30 56.5 +0.6**
comp=Z,30nm,1.5s,mb5.2
QLMT Earthquake Lak 61.86 51 *e*P **P** **09 30 58.9 +0.6**
GCMT Greycliff 61.88 49 *e*P **P** **09 30 59.2 +0.8**
BSD Bornholm Skovb 61.95 329 *i*P **P** **09 30 58.3 -0.7**
comp=Z,28nm,1.2s,mb5.3
BSD Bornholm Skovb 61.95 329 *i*P **P** **09 30 58.3 -0.7**
BSD pmax pmax
comp=Z,29nm,1.2s,mb5.3
PAHR Pah Rah Range 62.10 60 *e*P **P** **09 31 00.4 +0.4**
comp=Z,12nm,1.1s,mb4.9
ANN Anapa 62.18 309 *e*P **P** **09 30 50.1 -10**
ANN pmax pmax
comp=Z,35nm,1.2s,mb5.4
YNR Norris Junctio 62.28 51 *e*P **P** **09 31 03.5 +2.4**
GNI Garni 62.41 301 LR LR 10 00 49.9
comp=Z,127nm,18.9s,MS4.1,baz=202,slow=39
GNI Garni 62.41 301 P **P** **09 31 04.5 +2.4**
SNR=6.1
GNI Garni 62.41 301 *e*P **P** **09 31 04.7 +2.7**
GNI pmax pmax
comp=Z,7.0nm,0.3s
GNI Garni 62.41 301 *e*P **P** **09 31 04.7 +2.7**
comp=Z,6.9nm,0.3s,mb5.3
IMW Indian Meadow 62.81 51 *e*P **P** **09 31 06.3 +1.7**
comp=Z,22nm,1.4s,mb5.1
CMB Columbia Colle 62.90 62 *e*P **P** **09 31 05.4 +0.2**
CMB pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
CMB Columbia Colle 62.90 62 *e*P **P** **09 31 05.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.6
WAKR Walker 63.01 61 *e*P **P** **09 31 07.0 +1.0**
RRI2 Red Ridge 63.07 52 *e*P **P** **09 31 07.7 +1.3**
comp=Z,13nm,0.7s,mb5.2
TPAW Teton Pass 63.12 52 *e*P **P** **09 31 08.2 +1.5**
comp=Z,33nm,1.2s,mb5.3
LOHW Long Hollow 63.18 51 *e*P **P** **09 31 08.5 +1.3**
comp=Z,33nm,1.2s,mb5.3
SNOW Snow King Moun 63.23 52 *e*P **P** **09 31 08.8 +1.4**
comp=Z,37nm,1.3s,mb5.3
REDW Red Top Meadow 63.27 52 *e*P **P** **09 31 09.4 +1.7**
comp=Z,48nm,1.3s,mb5.5
HVU Hansel Valley 63.65 54 *e*P **P** **09 31 11.6 +1.4**
ULM Lac du Bonnet 63.65 38 P **P** **09 31 08.3 -2.0**
comp=Z,5.8nm,0.6s,mb4.8,baz=322,slow=7.7,SNR=8.2
ULM LR LR 10 01 19.5
comp=Z,116nm,19.6s,MS4.1,baz=32,slow=38
ULM Lac du Bonnet 63.65 38 *e*P **P** **09 31 08.5 -1.7**
comp=Z,9.7nm,0.9s,mb4.8
LRV Little Rabbit 63.82 63 *e*P **P** **09 31 11.1 -0.3**
KIS Kishinev 64.02 316 *e*P **P** **09 31 10.0 -2.7**
KIS *e*S **S** **09 39 40.0 -7.8**
KIS *e* 09 40 00.0
KIS *e* 09 41 07.0
KIS *e* 09 44 00.0
KIS MLR MLR
comp=Z,300nm,15.0s,MS4.6
KIS MLR MLR
comp=Z,300nm,16.0s
KWP Kalwaria 64.12 322 *e*P **P** **09 31 13.8 +0.5**
KWP *e* 09 31 26.0
KAD Karad 64.12 263 *e*P **P** **09 31 12.8 -0.5**
KAD AMb AMB 09 31 14.2
comp=Z,40nm,1.3s,mb5.3
BGU Big Grassy Mou 64.20 55 *e*P **P** **09 31 14.2 +0.4**
BSEG Bad Segeberg 64.28 331 *e*P **P** **09 31 14.6 +0.2**
comp=Z,19nm,1.3s,mb5.0
BW06 Boulder Array 64.32 51 *e*P **P** **09 31 15.0 +0.3**
comp=Z,26nm,1.4s,mb5.1
PDAR Pinedale Array 64.32 51 P **P** **09 31 14.8 +0.2**
comp=Z,4.9nm,0.9s,mb4.6,baz=338,slow=3.2,SNR=39
PDAR LR LR 10 01 07.1
comp=Z,190nm,19.3s,MS4.3,baz=350,slow=38
MTUM Tungsten Hills 64.33 61 *e*P **P** **09 31 15.9 +1.2**
HWUT Hardware Ranch 64.34 53 *e*P **P** **09 31 15.6 +0.9**
comp=Z,24nm,1.1s,mb5.1
TPH Tonopah 64.43 60 *e*P **P** **09 31 15.8 +0.4**
TPH pmax pmax
comp=Z,17nm,1.1s,mb5.0
TPH Tonopah 64.43 60 *e*P **P** **09 31 15.8 +0.4**
comp=Z,17nm,1.1s,mb5.0
OJC Ojcow 64.63 324 *e*P **P** **09 31 16.8 +0.2**
TCUT Toone Canyon 64.80 54 *e*P **P** **09 31 19.0 +1.3**
STHS Stebnicka Huta 64.81 322 *e*P **P** **09 31 18.3 +0.4**
STHS pmax pmax
comp=Z,15nm,1.0s,mb5.0
STHS Stebnicka Huta 64.81 322 *e*P **P** **09 31 18.3 +0.4**
comp=Z,15nm,1.0s,mb5.0
PTRM Twissleman Ran 64.83 63 *e*P **P** **09 31 18.6 +0.6**
KOLS Kolonicke sedl 64.86 321 *e*P **P** **09 31 18.4 +0.2**
KOLS *e* 09 44 40.6
KOLS *e* 09 45 51.2
DUG Dugway 64.88 55 *e*P **P** **09 31 19.0 +0.7**
DUG pmax pmax
comp=Z,23nm,1.4s,mb5.0
DUG Dugway 64.88 55 *e*P **P** **09 31 19.0 +0.7**
comp=Z,23nm,1.4s,mb5.0
BURAR Bucovina Array 64.89 319⇓ *i*P **P** **09 31 18.6 +0.2**
BURAR Bucovina Array 64.89 319 ⇓P **P** **09 31 18.6 +0.2**
NIE Niedzica 65.13 323 *e*P **P** **09 31 21.0 +1.0**
CRVS Cervenica-Dubn 65.17 322 *e*P **P** **09 31 20.2 0.0**
KSP Ksiaz 65.24 326 *e*P **P** **09 31 19.7 -0.9**
NLU North Lily Min 65.41 55 *e*P **P** **09 31 22.5 +0.8**
OKC Ostrava-Krasne 65.50 324 *e*P **P** **09 31 22.8 +0.4**
OKC AMS AMS 10 02 50.0
comp=Z,200nm,15.3s
MPU Maple Canyon 65.57 55 *e*P **P** **09 31 23.5 +0.7**
comp=Z,8.0nm,0.7s,mb4.9
RSSD Black Hills 65.60 47 *e*P **P** **09 31 22.9 -0.1**
RSSD pmax pmax
comp=Z,18nm,0.9s,mb5.1
RSSD Black Hills 65.60 47 *e*P **P** **09 31 22.9 -0.1**
comp=Z,18nm,0.9s,mb5.1
UPC Upice 65.62 326 *e*P **P** **09 31 23.1 0.0**
NRDL Niedersach Rie 65.62 331 *e*P **P** **09 31 23.0 -0.1**
comp=Z,22nm,1.4s,mb5.0
DPC Dobruska-Polom 65.65 326 *e*P **P** **09 31 23.3 0.0**
DPC AMS AMS 10 06 40.0
comp=Z,200nm,16.4s
ISA Isabella 65.70 62 *e*P **P** **09 31 23.1 -0.5**
MORC Moravsky Berou 65.76 325⇓ *i*P **P** **09 31 24.8 +0.8**
MORC Moravsky Berou 65.76 325 *e*P **P** **09 31 24.4 +0.4**
comp=Z,18nm,1.1s,mb5.0
CLL Collm 65.84 328 *e*P **P** **09 31 24.2 -0.3**
comp=Z,35nm,1.2s,mb5.3
CLL Collm 65.84 328⇑ *i*P **P** **09 31 24.2 -0.3**
comp=Z,35nm,1.3s,mb5.2
CLL Collm 65.84 328⇑ *i*P **P** **09 31 24.2 -0.3**

CLL pmax pmax
comp=Z,35nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,200nm,16.5s,MS4.4
CLL Collm 65.84 328 ⇑*iP* **P 09 31 24.2 -0.3**
comp=Z,35nm,1.3s,mb5.2
CLL LR LR
comp=Z,200nm,16.5s,MS4.4
KECS Kecovo 65.87 322 *eP* **P 09 31 24.5 -0.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KECS Kecovo 65.87 322 *eP* **P 09 31 24.5 -0.2**
comp=Z,2.8nm,0.9s,mb4.3
BRG Berggiesshubel 65.94 328 *eP* **P 09 31 24.9 -0.2**
comp=Z,6.2nm,1.2s,mb4.5
BRG *e* pP 09 31 32.5 +0.6
comp=Z,2.6nm,0.7s
BRG Berggiesshubel 65.94 328 *eP* **P 09 31 24.9 -0.3**
BRG *e* pP 09 31 32.5 +0.6
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
RWWY Rawlins 66.22 51 *eP* **P 09 31 27.3 +0.4**
comp=Z,14nm,0.8s,mb5.0
MSL Mosul 66.24 300 *ex* x 09 31 32.5
TMUT Trail Mountain 66.34 55 *eP* **P 09 31 28.4 +0.7**
MLR Muntele Rosu 66.39 317 P **P 09 31 29.1 +1.0**
comp=Z,5.1nm,0.9s,mb4.5,baz=71,slow=1.0,SNR=4.6
VYHS Vyhne 66.43 323 *eP* **P 09 31 28.7 +0.4**
VYHS pmax pmax
comp=Z,13nm,1.6s,mb4.7
VYHS Vyhne 66.43 323 *eP* **P 09 31 28.7 +0.4**
comp=Z,13nm,1.6s,mb4.7
VYHS *e* 09 44 04.0
VRAC Vranov 66.47 325 ⇓*iP* **P 09 31 29.6 +1.0**
VRAC Vranov 66.47 325 ⇓P **P 09 31 29.6 +1.0**
ARUT Antelope Range 66.49 57 *eP* **P 09 31 28.8 +0.1**
DRGR 66.51 320 ⇓*iP* **P 09 31 29.5 +0.7**
MSU Marysvale 66.52 56 *eP* **P 09 31 29.9 +1.0**
PRU Pruhonice 66.53 327 *eP* **P 09 31 28.9 -0.1**
PRU AMS AMS 10 04 50.0
comp=Z,200nm,12.4s
PSZ Piszkesteto 66.56 322 ⇓*iP* **P 09 31 30.2 +1.1**
PSZ Piszkesteto 66.56 322 *eP* **P 09 31 29.9 +0.8**
PSZ pmax pmax
comp=Z,17nm,1.1s,mb5.0
PSZ Piszkesteto 66.56 322 *eP* **P 09 31 29.9 +0.8**
comp=Z,17nm,1.1s,mb5.0
SHPR Sheep Range 66.68 59 *eP* **P 09 31 30.7 +0.8**
CCUT Cedar City 66.72 57 *eP* **P 09 31 30.6 +0.5**
TANN Tannenbergstha 66.79 328 *eP* **P 09 31 30.7 +0.1**
comp=Z,13nm,1.4s,mb4.8
SRU San Rafael 66.81 54 *eP* **P 09 31 30.8 +0.1**
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
SRU San Rafael 66.81 54 *eP* **P 09 31 30.8 +0.1**
comp=Z,8.8nm,0.9s,mb4.8
GSC Goldstone 66.82 61 *eP* **P 09 31 30.9 +0.1**
MOX Moxa 66.84 329 *eP* **P 09 31 30.9 0.0**
comp=Z,27nm,1.5s,mb5.1
MOX Moxa 66.84 329 *eP* **P 09 31 30.8 -0.1**
comp=Z,27nm,1.6s,mb5.0
MOX
comp=Z,100nm,16.0s
MOX Moxa 66.84 329 *eP* **P 09 31 30.8 -0.1**
MOX pmax pmax
comp=Z,27nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,100nm,16.0s,MS4.1
MALT Malatya 66.88 304 ⇑*iP* **P 09 31 32.8 +1.6**
MALT Malatya 66.88 304 *eP* **P 09 31 32.5 +1.3**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MALT Malatya 66.88 304 *eP* **P 09 31 32.5 +1.3**
comp=Z,9.0nm,0.9s,mb4.8
NKC Novy Kostel 66.96 328 *eP* **P 09 31 31.7 0.0**
EYMN Ely 67.12 37 *eP* **P 09 31 31.1 -1.6**
UBBA Unterbreizbach 67.15 330 *eP* **P 09 31 32.7 -0.2**
comp=Z,33nm,1.8s,mb5.1
SCHQ Schefferville 67.27 18 P **P 09 31 32.3 -1.4**
comp=Z,1.9nm,0.4s,mb4.5,baz=340,slow=9.4,SNR=10
ZST Bratislava 67.27 324 *eP* **P 09 31 34.9 +1.2**
MANZ Manzenberg 67.28 328 *eP* **P 09 31 34.0 +0.3**
BUG Bochum--Univer 67.35 332 *eP* **P 09 31 34.0 -0.1**
ROTZ Rotzenmuhle 67.44 328 *eP* **P 09 31 35.2 +0.4**
comp=Z,18nm,1.4s,mb4.9
KHC Kasperske Hory 67.59 327 *eP* **P 09 31 36.0 +0.3**
KHC AMS AMS 10 07 30.0
comp=Z,200nm,14.2s
KHC Kasperske Hory 67.59 327*c iP* **P 09 31 36.2 +0.5**
GZR Gura Zlata 67.67 319 ⇓*iP* **P 09 31 36.5 +0.3**
GZR Gura Zlata 67.67 319 ⇓P **P 09 31 36.5 +0.3**
WET Wettzell 67.79 327 *eP* **P 09 31 37.4 +0.5**
comp=Z,15nm,1.0s,mb5.0
WET Wettzell 67.79 327 *eP* **P 09 31 37.4 +0.5**
WET pmax pmax
comp=Z,15nm,1.0s,mb5.0
GEC2 GERESS Array S 67.80 327 *eP* **P 09 31 36.6 -0.4**
comp=Z,10.0nm,1.3s,mb4.7
GEC2 GERESS Array S 67.80 327 *eP* **P 09 31 36.6 -0.4**
GEC2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
GERES GERESS Array B 67.80 327 P **P 09 31 36.6 -0.4**
comp=Z,1.3nm,0.6s,mb4.2,baz=38,slow=5.0,SNR=14
GRA1 Grafenberg Arr 67.80 329 *eP* **P 09 31 37.7 +0.7**
comp=Z,16nm,0.7s,mb5.2
GRF Grafenberg Arr 67.80 329 *eP* **P 09 31 37.7 +0.7**
GRF pmax pmax
comp=Z,16nm,0.7s,mb5.2
GRF Grafenberg Arr 67.80 329 *eP* **P 09 31 37.7 +0.7**
GRF pmax pmax
comp=Z,16nm,0.7s,mb5.2
GRF Grafenberg Arr 67.80 329 *eP* **P 09 31 37.7 +0.7**
comp=Z,16nm,0.7s,mb5.2
BZS Buzias 67.91 320 ⇓*iP* **P 09 31 37.8 +0.1**
BZS Buzias 67.91 320 ⇓P **P 09 31 37.8 0.0**
BRTR Keskin Array B 67.93 308 P **P 09 31 37.9 0.0**
comp=Z,4.9nm,0.9s,mb4.5,baz=67,slow=3.2,SNR=12
PV10 Paradox Valley 68.08 54 *eP* **P 09 31 39.5 +0.7**
TNS Taunus Mts 68.12 331 *eP* **P 09 31 39.5 +0.4**
comp=Z,24nm,1.4s,mb5.0
TNS Taunus Mts 68.12 331 *eP* **P 09 31 39.5 +0.4**
TNS pmax pmax
comp=Z,24nm,1.4s,mb5.0
PFO Pinyon Flat Ob 68.34 62 *eP* **P 09 31 40.3 -0.1**
SMCO Snowmass 68.37 52 *eP* **P 09 31 41.4 +0.8**
comp=Z,19nm,0.8s,mb5.2
MEM Membach 68.44 332 P **P 09 31 40.8 -0.2**
ISCO Idaho Springs 68.46 51 *eP* **P 09 31 41.9 +0.7**
ISCO pmax pmax
comp=Z,18nm,1.3s,mb4.9
ISCO Idaho Springs 68.46 51 *eP* **P 09 31 41.9 +0.7**
comp=Z,18nm,1.3s,mb4.9
PV01 Paradox Valley 68.50 54 *eP* **P 09 31 41.5 +0.1**
MOA Molln 68.50 326 ⇑*iP* **P 09 31 41.8 +0.4**
comp=Z,11nm,1.2s,mb4.8
TOD Tromm 68.58 330 *eP* **P 09 31 41.8 -0.1**
ARSA Arzberg 68.62 325 ⇑*iP* **P 09 31 43.1 +0.9**
comp=Z,9.8nm,1.4s,mb4.6
ABH Altenburg 68.68 331 *eP* **P 09 31 42.6 +0.1**
BCLA Clavier 68.79 333 P **P 09 31 43.1 -0.2**
ECSD EROS,Sioux Fal 68.89 42 *eP* **P 09 31 42.5 -1.3**
GIVF Givet 69.21 333 *eP* **P 09 31 45.2 -0.6**
DOU Dourbes 69.27 333 P **P 09 31 45.5 -0.7**
PERS Pernice 69.29 325 *eP* **P 09 31 46.8 +0.5**
WUAZ Wupatki 69.30 57 *eP* **P 09 31 47.3 +0.9**
comp=Z,20nm,1.0s,mb5.0
GROS Grobnik 69.32 324 *eP* **P 09 31 46.8 +0.3**
BAIF Baives 69.41 333 *eP* **P 09 31 46.5 -0.5**
comp=Z,13nm,0.8s,mb4.6
BAIF Baives 69.41 333 *eP* **P 09 31 46.5 -0.5**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BAIF Baives 69.41 333 *eP* **P 09 31 46.5 -0.5**
comp=Z,6.5nm,0.8s,mb4.6
KBA Koelnbreinsper 69.47 326 ⇑*iP* **P 09 31 48.6 +1.1**
comp=Z,64nm,1.6s,mb5.3
KBA Koelnbreinsper 69.47 326 ⇑*iP* **P 09 31 48.6 +1.2**
KBA pmax pmax
comp=Z,65nm,1.6s,mb5.3
OBKA Obir 69.59 325 ⇑*iP* **P 09 31 48.8 +0.6**
comp=Z,36nm,1.4s,mb5.1
GLA Glamis 69.60 61 *eP* **P 09 31 48.8 +0.6**
WTTA Wattenberg 69.84 327 ⇓*iP* **P 09 31 50.6 +0.8**
comp=Z,60nm,1.8s,mb5.2
WTTA Wattenberg 69.84 327 ⇓*iP* **P 09 31 50.6 +0.9**
WTTA pmax pmax
comp=Z,60nm,1.8s,mb5.2
BFO Black Forest 69.87 330 *eP* **P 09 31 49.6 -0.3**
comp=Z,20nm,1.5s,mb4.8
BFO Black Forest 69.87 330 *eP* **P 09 31 49.6 -0.3**
BFO pmax pmax
comp=Z,20nm,1.5s,mb4.8
VTS Vitosha 69.89 317 ⇓*iP* **P 09 31 50.5 +0.5**
VTS Vitosha 69.89 317 ⇓P **P 09 31 50.5 +0.5**
CDF Champ du Feu 70.09 331 *eP* **P 09 31 50.8 -0.4**
comp=Z,26nm,1.1s,mb4.8
CDF Champ du Feu 70.09 331 *eP* **P 09 31 50.8 -0.4**
CDF pmax pmax
comp=Z,13nm,1.1s,mb4.8
CDF Champ du Feu 70.09 331 *eP* **P 09 31 50.8 -0.4**
comp=Z,13nm,1.1s,mb4.8
SDCO Great Sand Dun 70.20 52 *eP* **P 09 31 52.2 +0.3**
comp=Z,15nm,0.9s,mb4.9
BOJS Bojanci 70.24 324 *eP* **P 09 31 52.1 0.0**
CEY Cerknica 70.31 325 *eP* **P 09 31 52.0 -0.6**
DAVA Damuels 70.36 328 ⇑*iP* **P 09 31 53.1 +0.2**
comp=Z,9.5nm,1.1s,mb4.6
FELD Feldberg im Sc 70.37 330 *eP* **P 09 31 52.5 -0.5**
MOF Molkenrain 70.64 330 *eP* **P 09 31 53.5 -1.1**
HAU Haudompre 70.72 331 *eP* **P 09 31 54.4 -0.7**
HAU *eR*
comp=Z,74nm,18.2s
HAU Haudompre 70.72 331 *eP* **P 09 31 54.4 -0.7**
HAU LR LR
comp=Z,70nm,18.3s,MS4.0
HINF Hinteralfeld 70.75 331 *eP* **P 09 31 54.4 -0.9**
BBS Basel-Blauen 70.89 330 *eP* **P 09 31 55.9 -0.2**
FLN La Foliniere 71.76 336 *eP* **P 09 32 00.6 -0.8**
comp=Z,19nm,1.1s,mb4.6
FLN *eR*
comp=Z,107nm,20.5s
FLN La Foliniere 71.76 336 *eP* **P 09 32 00.6 -0.8**
FLN pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
FLN MLR MLR
comp=Z,110nm,20.5s,MS4.1
FLN La Foliniere 71.76 336 *eP* **P 09 32 00.6 -0.8**
comp=Z,9.3nm,1.1s,mb4.6
FLN LR LR
comp=Z,110nm,20.5s,MS4.1
LDF La Druitiere 71.83 335 *eP* **P 09 32 01.0 -0.8**
LOR Lormes 72.07 332 *eP* **P 09 32 02.3 -0.9**
comp=Z,18nm,1.0s,mb4.6
LOR *eR*
comp=Z,110nm,19.2s
LOR Lormes 72.07 332 *eP* **P 09 32 02.3 -0.9**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,110nm,19.3s,MS4.1
LOR Lormes 72.07 332 *eP* **P 09 32 02.3 -0.9**
comp=Z,8.8nm,1.0s,mb4.6
LOR LR LR
comp=Z,110nm,19.3s,MS4.1
ANMO Albuquerque 72.07 54⇑*eP* **P 09 32 03.8 +0.5**
ANMO Albuquerque 72.07 54 *eP* **P 09 32 03.7 +0.4**
comp=Z,7.9nm,1.1s,mb4.6
TUC Tucson 72.19 59 *eP* **P 09 32 04.4 +0.4**
TUC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TUC Tucson 72.19 59 *eP* **P 09 32 04.4 +0.4**
comp=Z,4.0nm,0.8s,mb4.4
GRR Gorron 72.20 336 *eP* **P 09 32 03.4 -0.6**
comp=Z,24nm,1.0s,mb4.8
GRR Gorron 72.20 336 *eP* **P 09 32 03.4 -0.6**
GRR pmax pmax
comp=Z,12nm,1.0s,mb4.8
GRR Gorron 72.20 336 *eP* **P 09 32 03.4 -0.6**
comp=Z,12nm,1.0s,mb4.8
ASF Jabal al Asfar 72.58 302 P **P 09 32 06.9 +0.6**
comp=Z,6.2nm,0.9s,mb4.5,baz=285,slow=4.0,SNR=6.4
ASF LR LR 10 05 05.6
comp=Z,79nm,19.0s,MS4.0,baz=71,slow=37
AVF Avril sur Loir 72.64 332 *eP* **P 09 32 05.7 -1.0**
SMF Signal de Mont 72.65 332 *eP* **P 09 32 05.8 -0.9**
comp=Z,32nm,1.3s,mb4.8
SMF Signal de Mont 72.65 332 *eP* **P 09 32 05.8 -0.9**
SMF pmax pmax
comp=Z,16nm,1.3s,mb4.8
SMF Signal de Mont 72.65 332 *eP* **P 09 32 05.8 -0.9**
comp=Z,16nm,1.3s,mb4.8
KSU1 Kansas State U 72.84 45 *eP* **P 09 32 05.1 -2.7**
LPL La Plagne 72.88 330 *eP* **P 09 32 08.3 +0.2**
comp=Z,37nm,1.3s,mb4.9
LPL La Plagne 72.88 330 *eP* **P 09 32 08.3 +0.2**
LPL pmax pmax
comp=Z,18nm,1.3s,mb4.8
LPL La Plagne 72.88 330 *eP* **P 09 32 08.3 +0.2**
comp=Z,18nm,1.3s,mb4.8
LPG La Plagne 72.89 330 *eP* **P 09 32 08.5 +0.3**
comp=Z,41nm,1.2s,mb4.9
LPG La Plagne 72.89 330 *eP* **P 09 32 08.5 +0.3**
LPG pmax pmax
comp=Z,21nm,1.2s,mb4.9
LPG La Plagne 72.89 330 *eP* **P 09 32 08.5 +0.3**
comp=Z,21nm,1.2s,mb4.9
PLDF La Plantade 73.33 332 *eP* **P 09 32 10.7 0.0**
AGO Saint Agoulin 73.38 332 *eP* **P 09 32 11.0 0.0**
TCF Toulx Ste Croi 73.41 333 *eP* **P 09 32 10.5 -0.7**
MBDF Montbardon 73.59 329 *eP* **P 09 32 11.8 -0.5**
ORIF Oris-en-Rattie 73.67 330 *eP* **P 09 32 12.8 0.0**
comp=Z,11nm,0.8s,mb4.5
ORIF *eR*
comp=Z,124nm,22.0s
ORIF Oris-en-Rattie 73.67 330 *eP* **P 09 32 12.8 0.0**
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 73.67 330 *eP* **P 09 32 12.8 0.0**
comp=Z,3.3nm,0.8s,mb4.5
MFF Saint Martin d 73.70 335 *eP* **P 09 32 12.6 -0.3**
comp=Z,41nm,1.4s,mb4.9
MFF Saint Martin d 73.70 335 *eP* **P 09 32 12.6 -0.3**
MFF pmax pmax
comp=Z,21nm,1.4s,mb4.9
MFF Saint Martin d 73.70 335 *eP* **P 09 32 12.6 -0.3**
comp=Z,21nm,1.4s,mb4.9
VIVF Saint-Julien-l 74.07 331 *eP* **P 09 32 14.8 -0.3**
comp=Z,33nm,1.3s,mb4.8
VIVF Saint-Julien-l 74.07 331 *eP* **P 09 32 14.8 -0.3**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb4.8
VIVF Saint-Julien-l 74.07 331 *eP* **P 09 32 14.8 -0.3**
comp=Z,16nm,1.3s,mb4.8
SBF Sospel 74.18 328 *eP* **P 09 32 14.7 -1.0**
comp=Z,82nm,1.4s,mb5.2
SBF Sospel 74.18 328 *eP* **P 09 32 14.7 -1.0**
SBF pmax pmax
comp=Z,41nm,1.4s,mb5.2
SBF Sospel 74.18 328 *eP* **P 09 32 14.7 -1.0**
comp=Z,41nm,1.4s,mb5.2
RJF Les Rejaudoux 74.50 333 *eP* **P 09 32 17.3 -0.3**
RJF *eR*
comp=Z,120nm,19.2s
RJF Les Rejaudoux 74.50 333 *eP* **P 09 32 17.3 -0.3**
RJF LR LR
comp=Z,120nm,19.3s,MS4.2
SMRF Simiane la Rot 74.62 330 *eP* **P 09 32 18.3 0.0**
comp=Z,20nm,1.2s,mb4.6
SMRF Simiane la Rot 74.62 330 *eP* **P 09 32 18.3 0.0**
comp=Z,20nm,1.2s,mb4.9
CAF Calviac 74.71 333 *eP* **P 09 32 19.0 +0.2**
TAVF Tavernes 74.81 329 *eP* **P 09 32 19.5 +0.1**
FITZ Fitzroy Crossi 74.86 197 *eP* **P 09 32 18.8 -0.8**
comp=Z,12nm,1.0s,mb4.8
PRAF Pradon 74.90 330 *eP* **P 09 32 20.1 +0.2**
LMR La Mourre 74.94 329 *eP* **P 09 32 19.7 -0.4**
comp=Z,14nm,0.8s,mb4.7
LMR La Mourre 74.94 329 *eP* **P 09 32 19.7 -0.4**
LMR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LMR La Mourre 74.94 329 *eP* **P 09 32 19.7 -0.4**
comp=Z,7.1nm,0.8s,mb4.7
PUYF Puyloubier 75.00 330 *eP* **P 09 32 20.7 +0.2**
LASF Ste Croix 75.01 331 *eP* **P 09 32 20.9 +0.3**
comp=Z,33nm,1.4s,mb4.8
LFF La Frestale 75.04 333 *eP* **P 09 32 20.8 +0.1**
MNTX Cornudas Mount 75.27 55 *eP* **P 09 32 22.4 +0.4**
comp=Z,20nm,1.0s,mb5.0
CTA Charters Tower 75.35 177 *eP* **P 09 32 21.3 -1.2**
comp=Z,6.1nm,1.5s,mb4.3
CTA Charters Tower 75.35 177 *eP* **P 09 32 21.3 -1.2**
CTA pmax pmax
comp=Z,6.0nm,1.5s
CTAO Charters Tower 75.35 177 *eP* **P 09 32 21.9 -0.6**
CTAO pmax pmax
comp=Z,29nm,1.5s,mb5.0
CTAO Charters Tower 75.35 177 *eP* **P 09 32 21.9 -0.6**
comp=Z,29nm,1.5s,mb5.0
WRAB Tennant Creek 75.54 189 P **P 09 32 23.0 -0.6**
comp=Z,144nm,1.2s,mb5.8,SNR=6.7
WRAB Tennant Creek 75.54 189 *eP* **P 09 32 22.7 -0.9**
WRAB pmax pmax
comp=Z,46nm,1.1s,mb5.3
WRAB Tennant Creek 75.54 189 *eP* **P 09 32 22.7 -0.9**
comp=Z,46nm,1.1s,mb5.3
WB2 Warramunga Arr 75.55 189 *eP* **P 09 32 22.6 -1.0**
WRA Warramunga Arr 75.55 189 P **P 09 32 22.7 -1.0**
comp=Z,15nm,1.0s,mb4.9,baz=6.4,slow=6.4,SNR=52
EIL Elat 75.58 301 *eP* **P 09 32 24.1 +0.3**
comp=Z,745nm,1.3s
WMOK Wichita Mounta 75.67 49 *eP* **P 09 32 24.1 -0.2**
WMOK pmax pmax
comp=Z,22nm,0.9s,mb5.1
WMOK Wichita Mounta 75.67 49 *eP* **P 09 32 24.1 -0.2**
comp=Z,22nm,0.9s,mb5.1
ERPA Erie 76.00 32 *eP* **P 09 32 25.5 -0.7**
MTLF Montolieu 76.14 332 *eP* **P 09 32 27.2 +0.2**
comp=Z,32nm,1.4s,mb4.8
MTLF Montolieu 76.14 332 *eP* **P 09 32 27.2 +0.2**
MTLF pmax pmax
comp=Z,16nm,1.4s,mb4.8
MTLF Montolieu 76.14 332 *eP* **P 09 32 27.2 +0.2**
comp=Z,16nm,1.4s,mb4.8
FVM French Village 76.20 41 *eP* **P 09 32 26.2 -1.2**
FVM pmax pmax
comp=Z,15nm,0.5s,mb5.2
FVM French Village 76.20 41 *eP* **P 09 32 26.1 -1.2**
comp=Z,15nm,0.5s,mb5.2
BLO Bloomington 76.56 38 *eP* **P 09 32 28.4 -1.0**
BLO pmax pmax
comp=Z,29nm,0.9s,mb5.2
BLO Bloomington 76.56 38 *eP* **P 09 32 28.4 -1.0**
comp=Z,29nm,0.9s,mb5.2
ACCN Adirondack Com 76.59 27 *eP* **P 09 32 28.4 -1.1**
EJON La Jonquera 76.79 331 P **P 09 32 30.0 -0.7**
comp=Z,19nm,0.9s,mb5.0
ACSO Alum Creek Sta 76.79 35 *eP* **P 09 32 29.9 -0.8**
comp=Z,16nm,1.0s,mb4.9
SIUC Southern Illin 76.89 40 *eP* **P 09 32 30.5 -0.8**
comp=Z,22nm,0.8s,mb5.1
EPF Esparros 76.92 333 *eP* **P 09 32 31.0 -0.5**
EALK Alkurruntz 77.21 334 P **P 09 32 32.2 -0.9**
comp=Z,39nm,2.0s,mb5.0
USIN University of 77.23 39 *eP* **P 09 32 32.7 -0.4**
comp=Z,31nm,0.9s,mb5.2
ETSF Etsaut 77.28 334 *eP* **P 09 32 33.9 +0.5**
comp=Z,6.7nm,0.7s,mb4.4
ETSF Etsaut 77.28 334 *eP* **P 09 32 33.9 +0.5**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 77.28 334 *eP* **P 09 32 33.9 +0.5**
comp=Z,3.3nm,0.6s,mb4.4
EBIE Bielsa 77.30 333 P **P 09 32 33.7 +0.1**
comp=Z,5.1nm,0.9s,mb4.5
WCI Wyandotte Cave 77.48 38 *eP* **P 09 32 33.0 -1.6**
WCI pmax pmax
comp=Z,31nm,0.8s,mb5.3
WCI Wyandotte Cave 77.48 38 *eP* **P 09 32 33.0 -1.6**
comp=Z,30nm,0.8s,mb5.3
PARMO Parma 77.62 41 *eP* **P 09 32 34.4 -0.9**
ELAN Lanestosa 77.66 336 P **P 09 32 34.3 -1.3**
comp=Z,56nm,1.7s,mb5.2
MIAR Mount Ida 77.99 45 *eP* **P 09 32 37.2 -0.2**
MIAR pmax pmax
comp=Z,16nm,1.1s,mb4.9
MIAR Mount Ida 77.99 45 *eP* **P 09 32 37.2 -0.2**
comp=Z,16nm,1.1s,mb4.9
EARI Arriondas 78.00 337 P **P 09 32 36.7 -0.7**
comp=Z,62nm,1.6s,mb5.3
WES Weston 78.12 26 *eP* **P 09 32 38.0 -0.1**
HBAR Harrisburg 78.25 42 *eP* **P 09 32 38.9 0.0**
UALR University of 78.28 44 *eP* **P 09 32 38.3 -0.7**
EPOB Poblet 78.30 332 P **P 09 32 38.4 -0.7**
comp=Z,24nm,1.1s,mb5.0
MCWV Mont Chateau 78.30 33 *eP* **P 09 32 38.7 -0.4**
comp=Z,24nm,1.1s,mb5.0
ESAC San Caprasio 78.36 333 P **P 09 32 39.0 -0.5**
comp=Z,66nm,1.0s,mb5.5
WVT Waverly 78.80 40 *eP* **P 09 32 40.9 -1.0**
WVT pmax pmax
comp=Z,15nm,0.9s,mb4.9
WVT Waverly 78.80 40 *eP* **P 09 32 40.9 -1.0**
comp=Z,15nm,0.9s,mb4.9
JCT Junction City 78.85 52 *eP* **P 09 32 41.8 -0.4**
JCT pmax pmax
comp=Z,25nm,0.9s,mb5.1
JCT Junction City 78.85 52 *eP* **P 09 32 41.8 -0.3**
comp=Z,24nm,0.9s,mb5.1
STS Santiago 79.10 339 P **P 09 32 40.3 -3.2**
STS pmax pmax
comp=Z,23nm,1.4s,mb4.9
STS Santiago 79.10 339 P **P 09 32 40.3 -3.2**
comp=Z,23nm,1.4s,mb4.9
AS31 Alice Springs 79.28 189 *eP* **P 09 32 43.9 -0.6**
ASAR Alice Springs 79.28 189 P **P 09 32 44.0 -0.5**
comp=Z,7.1nm,0.8s,mb4.7,baz=5.1,slow=6.3,SNR=64
ASPA Alice Springs 79.28 189 *eP* **P 09 32 43.9 -0.6**
PLAL Pickwick Lake 79.73 41 *eP* **P 09 32 45.7 -1.3**
comp=Z,21nm,0.9s,mb5.1
DZM Mont Dzumac 79.75 158 P **P 09 32 48.1 +1.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=192,slow=2.2,SNR=3.6
TZTN Tazewell 79.94 37 *eP* **P 09 32 47.3 -0.8**
NATX Nacogdoches 79.97 47 *eP* **P 09 32 49.4 +1.1**
comp=Z,42nm,1.0s,mb5.3
GUD Guadarrama 80.29 335 P **P 09 32 49.8 -0.2**
GUD pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
GUD Guadarrama 80.29 335 P **P 09 32 49.8 -0.2**
comp=Z,8.8nm,1.3s,mb4.5
SWET Sewanee 80.31 39 *eP* **P 09 32 48.9 -1.2**
ECHE Chera 80.49 333 P **P 09 32 50.4 -0.7**
ECHE pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
ECHE Chera 80.49 333 P **P 09 32 50.4 -0.6**
comp=Z,9.3nm,1.4s,mb4.5
KEST Kesra 80.98 324 P **P 09 32 53.6 0.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=339,slow=3.4,SNR=4.5
HKT Hockley 81.05 49 *eP* **P 09 32 54.0 0.0**
HKT pmax pmax
comp=Z,23nm,1.4s,mb4.9
HKT Hockley 81.05 49 *eP* **P 09 32 54.0 0.0**
comp=Z,23nm,1.4s,mb4.9
EBEN Beniarda 81.13 332 P **P 09 32 54.3 -0.2**
comp=Z,75nm,1.7s,mb5.3
ESDC Sonseca Array 81.16 335 P **P 09 32 55.0 +0.3**
comp=Z,3.4nm,0.7s,mb4.4,baz=13,slow=5.7,SNR=19
ESDC Sonseca Array 81.16 335 P **P 09 32 54.3 -0.3**
comp=Z,13nm,1.1s,mb4.8
ESLA Sonseca Array 81.16 335 *eP* **P 09 32 54.7 +0.1**
comp=Z,5.6nm,1.3s,mb4.3
ETOB Tobarra 81.53 333 P **P 09 32 56.7 +0.1**
comp=Z,33nm,1.6s,mb5.0
EVIA Vianos 81.78 334 P **P 09 32 58.4 +0.5**
EVIA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
EVIA Vianos 81.78 334 P **P 09 32 58.4 +0.5**
comp=Z,3.1nm,0.8s,mb4.3
LRAL Lakeview Retre 81.87 41 *eP* **P 09 32 56.9 -1.5**
EQES Quesada 82.72 334 P **P 09 33 01.2 -1.6**
comp=Z,24nm,1.7s,mb5.0
EADA Adamuz 82.74 335 P **P 09 33 00.4 -2.5**
comp=Z,18nm,1.3s,mb4.9
EBAD Badajoz 82.74 337 P **P 09 33 00.5 -2.5**
comp=Z,16nm,1.3s,mb4.9
EVO Evora 83.17 338 *eP* **P 09 33 04.8 -0.4**
comp=Z,87nm,1.7s,mb5.2
EVO *eR*
comp=Z,67nm,21.8s
ECOG Cogollos-Vega 83.34 334 P **P 09 33 06.8 +0.8**
ECOG pmax pmax
comp=Z,24nm,1.6s,mb5.0
ECOG Cogollos-Vega 83.34 334 P **P 09 33 06.8 +0.8**
comp=Z,24nm,1.6s,mb5.0
ELOJ Sierra Loja 83.61 334 P **P 09 33 08.3 +0.9**
ELOJ pmax pmax
comp=Z,21nm,1.6s,mb5.0
ELOJ Sierra Loja 83.61 334 P **P 09 33 08.3 +0.8**
comp=Z,21nm,1.6s,mb5.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMIN	Mina Concepcio	83.61	337	P	P	09 33 07.2	-0.2
	comp=Z,25nm,1.3s,mb5.2						
EGUA	Guajares	83.76	334	P	P	09 33 07.6	-0.6
EGUA				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.1						
EGUA	Guajares	83.76	334	P	P	09 33 07.6	-0.6
	comp=Z,2.3nm,1.2s,mb4.2						
EGRO	El Granado	84.01	337	P	P	09 33 09.6	+0.1
	comp=Z,19nm,1.1s,mb5.1						
ESPR	Espera	84.28	336	P	P	09 33 10.6	-0.3
	comp=Z,33nm,1.2s,mb5.3						
EMIJ	Mijas	84.31	335	P	P	09 33 09.5	-1.6
	comp=Z,14nm,1.1s,mb5.0						
EJIF	Jimena Fronter	84.59	335	P	P	09 33 13.1	+0.7
EJIF				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.3						
EJIF	Jimena Fronter	84.59	335	P	P	09 33 13.1	+0.7
	comp=Z,23nm,0.9s,mb5.3						
STKA	Stephens Creek	87.06	181	eP	P	09 33 22.5	-2.2
	comp=Z,2.7nm,0.8s,mb4.5						
STKA	Stephens Creek	87.06	181	P	P	09 33 23.6	-1.1
	comp=Z,3.5nm,0.8s,mb4.6,baz=331,slow=4.8,SNR=6.4						
RAR	Rarotonga	90.34	129	LR	LR	10 12 55.1	
	comp=Z,234nm,18.8s,MS4.6,baz=283,slow=35						
PPT	Papeete	92.03	118	LR	LR	10 08 36.5	
	comp=Z,87nm,19.2s,MS4.2,baz=309,slow=31						
TORD	Torodi Ar. Bea	104.39	321	PP	PP	09 39 03.9	+1.5
	comp=Z,1.1nm,0.9s,baz=18,slow=7.9,SNR=4.5						
VNDA	Vanda	133.28	175	PKP	PKPdf	09 39 52.7	-2.3
	comp=Z,1.4nm,0.9s,baz=299,slow=3.3,SNR=8.5						
LPAZ	La Paz	134.03	44	PKP	PKPdf	09 39 57.5	+1.1
	comp=Z,0.5nm,0.7s,baz=48,slow=4.7,SNR=4.0						
LPAZ	La Paz	134.03	44	PKP	PKPdf	09 39 57.5	+1.1
SIV	San Ignacio	136.32	35	PKP	PKPdf	09 39 59.6	-1.1
	comp=Z,1.3nm,0.9s						
MAW	Mawson	136.36	213	PKP	PKPdf	09 39 56.9	-3.9
	comp=Z,1.5nm,0.9s,baz=5.3,slow=9.0,SNR=3.5						
SYO	Syowa Base	144.69	217	⇓ePKPbc	PKPdf	09 40 12.4	-3.4
SYO	Syowa Base	144.69	217	⇓ePKPab	PKPdf	09 40 14.8	-1.0
QSPA	South Pole Qui	145.27	180	eP	PKPbc	09 40 13.8	-2.7
CPUP	Villa Florida	147.18	36	PKPbc	PKPbc	09 40 20.8	-1.4
	comp=Z,1.2nm,0.5s,baz=312,slow=2.0,SNR=8.1						
CPUP	Villa Florida	147.18	36	PKP2	PKPab	09 40 20.8	-3.1
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	Villa Florida	147.18	36	ePKPdf	PKPdf	09 40 20.6	+0.6
CFAA	Coronel Fontan	147.39	56	PKPbc	PKPbc	09 40 21.9	-0.9
	comp=Z,0.8nm,0.8s,baz=320,slow=3.5,SNR=5.9						
MDZ	Mendoza	148.15	58	ePKP2	PKPab	09 40 23.7	-4.1
PLCA	Paso Flores	153.30	71	PKPbc	PKPbc	09 40 36.4	-0.7
	comp=Z,5.9nm,1.1s,baz=267,slow=4.8,SNR=5.1						
PLCA				PKPab	PKPab	09 40 48.4	-0.7
	comp=Z,3.6nm,0.7s,baz=288,slow=6.1,SNR=5.1						
SNAA	Sanae	158.40	209	PKP	PKPdf	09 40 33.5	-2.9
	comp=Z,1.4nm,1.3s,baz=3.3,slow=4.7,SNR=3.7						
SNAA				PKPab	PKPab	09 41 09.3	-1.6
	comp=Z,4.7nm,0.9s,baz=130,slow=4.2,SNR=26						
SNAA	Sanae	158.40	209	⇓iPKPdf	PKPab	09 41 09.9	-1.0
SNAA				e		09 41 12.9	
SNAA				e		09 41 15.1	
VNA3	Neumayer Olymp	160.44	206	ePKPdf	PKPab	09 41 18.7	-1.0
VNA3				e		09 41 21.1	
VNA3				e		09 41 24.2	
VNA1	Neumayer--Stat	160.44	208	⇓iPKPdf	PKPab	09 41 19.2	-0.6
VNA1				e		09 41 21.8	
VNA1				e		09 41 23.9	

IDC 11 09:26:44.2±62.0**,1561S**×**17629W,h0**km**,mb4.0**/3**, mb1 4.2**/3**,mb1mx3.8**/12**,mbtmp4.0**/3**,Error ellipse: s-maj=1158.0km s-min=170.8km az=77.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.52	239	P	P	09 34 33.1	0.0
	0.9nm,0.4s,baz=84,slow=9.2,SNR=5.2						
WRA	Warramunga Arr	47.08	257	P	P	09 35 18.2	+0.5
	0.2nm,0.3s,baz=90,slow=8.1,SNR=10.0						
ASAR	Alice Springs	47.40	252	P	P	09 35 20.6	+0.4
	2.9nm,0.5s,baz=89,slow=8.1,SNR=50						

*ISCJB **11** 09:39:59.5±0.6,5951N±003×2441E±007,h0km,Error ellipse: s-maj=5.7km s-min=4.4km az=107.7*
*IDC **11** 09:40:02.5±2.6,5955N×2472E,h0km,mb1 3.1/4, mb1mx3.0/21,mbtmp3.1/4,ML2.8/3,Error ellipse: s-maj=32.2km s-min=10.0km az=154.0*
*NAO **11** 09:40:03.0±1.0,5961N×2465E,ML2.1*
*HEL **11** 09:40:03.0±0.1,5956N×2466E,h0km,ML1.9, ML2.1(NAO),Explosion*
*BER **11** 09:40:03.7±3.5,5960N×2460E,h0km,ML2.1(NAO), Suspected explosion*
ISC 11 09:40:00.9±0.6**,5955N**±003×**2458E**±007**,h0**km**,n19, σ1§17**/29**,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	0.68	352	eP	Pg	09 40 14.8	+0.9
MEF				eS	Sg	09 40 23.7	+0.9
PVF	Pernaja	1.19	32	eP	Pg	09 40 23.7	-0.1
PVF				eS	Sg	09 40 38.3	-1.0
VSU	Vasula	1.56	133	eP	Pn	09 40 30.3	+0.4
VSU				eS	Sn	09 40 50.6	-0.2
VSU	Vasula	1.56	133	Pg	Pg	09 40 30.3	-0.5
VSU				Lg		09 40 53.8	
RAF	Rauma	2.04	318	eP	Pn	09 40 39.0	+2.5
RAF				eSG	Sg	09 41 06.4	-0.1
FIA0	FINESS Array S	2.04	21	eP	Pn	09 40 38.2	+1.7
FIA0				eSG	Sg	09 41 04.9	-1.7
FIA0	FINESS Array S	2.04	21	Pn	Pn	09 40 38.6	+2.1
	baz=202,slow=16						
FIA0				Lg		09 41 04.8	
	baz=200,slow=37						
FINES	FINESS Array B	2.04	21	Pn	Pn	09 40 38.8	+2.2
	2.4nm,0.3s,baz=201,slow=15,SNR=115						
FINES				Sn	Sn	09 41 04.9	+2.1
	2.9nm,0.3s,baz=198,slow=26,SNR=16						
KEF	Keuruu	2.63	3	ePB	Pb	09 40 47.6	-1.4
KEF				eSB	Sb	09 41 21.9	0.0
KEF				MSG		09 41 24.0	
	comp=Z,5.1nm,0.1s						
KAF	Kangasniemi	2.71	17	MSG		09 41 25.0	
	comp=Z,3.0nm,0.1s						
HFS	Hagfors	5.52	281	eP	Pn	09 41 25.4	+1.1
HFS				eS	Sn	09 42 28.1	-0.4
HFS	Hagfors	5.52	281	Pn	Pn	09 41 25.3	+0.9
	comp=Z,0.1nm,0.3s,baz=103,slow=12,SNR=4.8						
HFS				Sn	Sn	09 42 28.1	-0.4
	comp=Z,0.2nm,0.3s,baz=86,slow=25,SNR=3.9						
HFS	Hagfors	5.52	281	Pn	Pn	09 41 25.4	+1.1
	baz=108,slow=12						
HFS				Sn	Sn	09 42 28.1	-0.4
	baz=82,slow=28						
NB2	NORSAR Subarra	6.81	288	eP	Pn	09 41 42.1	0.0
NB2				eSG		09 43 32.0	
NB2	NORSAR Subarra	6.81	288	Pn	Pn	09 41 42.1	0.0
	baz=95,slow=14						
NB2				Lg		09 43 32.0	
NOA	NORSAR Array B	6.81	288	Pn	Pn	09 41 40.9	-1.2
	comp=Z,0.2nm,0.3s,baz=188,slow=7.6,SNR=2.6						
NOA				Sn	Sn	09 42 57.7	-2.6
	comp=Z,0.2nm,0.3s,baz=91,slow=16,SNR=2.4						
ARA0	ARCESS Array S	10.04	2	Pn	Pn	09 42 25.5	-0.9
	baz=184,slow=12						
ARA0	ARCESS Array S	10.04	2	eP	Pn	09 42 25.5	-0.9
ARCES	ARCESS Array B	10.04	2	Pn	Pn	09 42 25.8	-0.5
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=7.9						

*NEIC **11** 09:40:05.2,2937S×7052W,h79km,MD4.0(GUC),After GUC.*
GUC 11 09:40:05.2±1.1**,2937S**×**7052W,h79**km±8km**,MD3.8, ML3.9,5C-1D,Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.39	336	eP	Pn	09 40 18.7	+0.8
LCO				i S	Sn	09 40 28.9	+1.7
VACH	Vallenar	0.82	345	⇑iP	Pn	09 40 26.0	+4.0
VACH				i S	Sn	09 40 38.5	+4.0
VACH				AML	AML	09 40 38.9	
	comp=E,5µm,0.1s						
VACH	Vallenar	0.82	345	⇑iP	Pn	09 40 26.0	+4.0
VACH				i S	Sn	09 40 38.5	+4.0
LSCH	La Serena	0.83	229	⇑iP	Pn	09 40 22.8	+0.7
LSCH				i S	Sn	09 40 35.3	+0.5
TLL	Tololo Astrono	0.83	197	eP	Pn	09 40 23.6	+1.4
TLL				i S	Sn	09 40 36.9	+2.1
OVCH	Ovalle	1.37	205	eP	Pn	09 40 29.1	+0.3
OVCH				i S	Sn	09 40 46.5	0.0
OVCH				AML	AML	09 40 49.4	
	comp=E,865nm,0.6s						
OVCH	Ovalle	1.37	205	eP	Pn	09 40 29.1	+0.3
OVCH				i S	Sn	09 40 46.5	0.0
CMCH	Combarbala	1.85	193	⇓iP	Pn	09 40 35.5	+0.5
CMCH				i S	Sn	09 40 58.4	+0.7
CPCH	Copiapo	2.01	4	⇑iP	Pn	09 40 39.0	+1.9
CPCH				i S	Sn	09 41 03.2	+1.8
CPCH				AML	AML	09 41 08.4	
	comp=E,5µm,0.1s						
CPCH	Copiapo	2.01	4	⇑iP	Pn	09 40 39.0	+1.9
CPCH				i S	Sn	09 41 03.2	+1.8
CDCH	Caldera	2.30	353	eP	Pn	09 40 41.3	+0.2
PTCH	Petorca	2.91	187	AML	AML	09 41 38.9	
	comp=E,431nm,0.3s						

*ISCJB **11** 09:43:07.8±0.4,5144N±002×1612E±002,h0km,Error ellipse: s-maj=3.5km s-min=1.8km az=24.3*
*IPEC **11** 09:43:07.4±3.1,5160N×1623E,h0km,ML2.9/4,Error ellipse: s-maj=41.3km s-min=18.6km az=84.0*
*NEIC **11** 09:43:08.2,5149N×1625E,h1km,ML3.5(SZGRF),After SZGRF.*
*BGR **11** 09:43:08.2±0.6,5149N×1625E,h1km,ML3.5,Error ellipse: s-maj=8.9km s-min=5.6km az=161.0*
*CSEM **11** 09:43:09.6±0.1,5152N×1614E,h1km,ML3.8/10,Error ellipse: s-maj=2.0km s-min=1.1km az=10.0*
*VIE **11** 09:43:10.8±0.4,5134N×1608E,h0km,mb2.8/6,ML3.3/6, Error ellipse: s-maj=2.7km s-min=2.1km az=13.0 70 km WNW of Breslau Suspected Mining induced.*
*IDC **11** 09:43:10.4±0.9,5150N×1610E,h0km,mb1 3.5/5, mb1mx3.3/20,mbtmp3.4/5,ML3.2/5,Error ellipse: s-maj=14.0km s-min=7.0km az=125.0*
*PRU **11** 09:43:10.4,5147N×1607E,h0km*
*WAR **11** 09:43:10.0,5152N×1611E,ML3.2,Mining Induced*
ISC 11 09:43:08.2±0.4**,5154N**±002×**1614E**±002**,h0**km**,n63, σ1§05**/126**,5C-5D,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.71	172	i Pgd	Pg	09 43 22.5	+0.7
KSP				eSg	Sg	09 43 32.0	+1.0
KSP				eL		09 43 36.8	
KSP	Ksiaz	0.71	172	⇓iPg	Pg	09 43 22.4	+0.6
KSP				eSg	Sg	09 43 32.0	+1.0
KSP				e		09 43 36.8	
KSP	Ksiaz	0.71	172	⇓iPg	Pg	09 43 22.4	+0.6
KSP				eSg	Sg	09 43 32.0	+1.0
UPC	Upice	1.04	184	ePG	Pg	09 43 28.5	+0.4
DPC	Dobruska-Polom	1.20	174	ePG	Pg	09 43 31.1	-0.1
DPC				eSG	Sg	09 43 47.5	+0.7
	156nm,0.5s						
DPC	Dobruska-Polom	1.20	174	ePg	Pg	09 43 31.1	-0.1
DPC				eSg	Sg	09 43 46.8	0.0
PVCC	Panska Ves	1.42	225	ePG	Pg	09 43 35.6	+0.2
BRG	Berggiesshubel	1.54	245	ePg	Pg	09 43 36.9	-0.7
BRG				eSg	Sg	09 43 58.4	+0.9
BRG	Berggiesshubel	1.54	245	PN	Pn	09 43 37.0	+0.1
BRG				PG	Pg	09 43 38.3	+0.6
BRG				SG	Sg	09 43 58.5	+0.9
	207nm,0.9s						
BRG	Berggiesshubel	1.54	245	Pn	Pn	09 43 37.0	+0.2
PRA	Prague	1.83	217	PG	Pg	09 43 40.0	-3.3
PRA				SG	Sg	09 44 07.0	0.0
FBE	Freiberg	1.86	252	ePn	Pn	09 43 41.0	-0.2
FBE				eSg	Sg	09 44 08.1	+0.2
PRU	Pruhonice	1.86	214	ePN	Pn	09 43 41.1	-0.2
PRU				ePG	Pg	09 43 43.0	-0.8
PRU				eSG	Sg	09 44 07.1	-0.8
	108nm,0.6s						
RAC	Raciborz	1.96	137	ePg	Pg	09 43 44.2	-1.6
RAC				eSg	Sg	09 44 10.7	-0.5
CLL	Collm	1.98	264	ePn	Pn	09 43 42.5	-0.5
CLL				i Pg	Pg	09 43 46.5	+0.4
CLL				eSg	Sg	09 44 12.9	+1.2
CLL	Collm	1.98	264	ePn	Pn	09 43 43.0	+0.1
CLL				i Pg	Pg	09 43 46.5	+0.4
CLL				ex	x	09 43 49.0	
CLL				i Sg	Sg	09 44 12.0	+0.3
	comp=Z,160nm,0.7s						
CLL	Collm	1.98	264	ePn	Pn	09 43 43.0	+0.1
CLL				i Pg	Pg	09 43 46.5	+0.4
CLL				i Sg	Sg	09 44 12.0	+0.3
MORC	Moravsky Berou	1.98	153	ePn	Pn	09 43 42.9	-0.1
MORC				eSn	Sn	09 44 11.1	+2.6
MORC	Moravsky Berou	1.98	153	ePn	Pn	09 43 42.6	-0.4
MORC				eSg	Sg	09 44 10.2	-1.7
	comp=Z,67nm,0.2s						
OKC	Ostrava-Krasne	2.13	142	ePG	Pg	09 43 48.8	-0.3
OKC				eSG	Sg	09 44 16.1	-0.6
	comp=Z,202nm,0.9s						
VRAC	Vranov	2.26	172	Pn	Pn	09 43 49.1	+2.3
	comp=Z,7.3nm,0.3s,baz=347,slow=15,SNR=15						
VRAC				Lg		09 44 21.8	
	comp=Z,13nm,0.3s,baz=256,slow=18,SNR=9.7						
VRAC	Vranov	2.26	172	ePn	Pn	09 43 46.7	-0.1
VRAC				eSg	Sg	09 44 19.4	-1.3
TREC	Trest	2.29	191	ePN	Pn	09 43 48.5	+1.3
TREC				ePG	Pg	09 43 51.3	-0.8
KRUC	Moravsky	2.49	176	ePn	Pn	09 43 50.0	0.0
KRUC				eSg	Sg	09 44 27.0	-1.2
	comp=Z,30nm,0.2s						
TANN	Tannenbergstha	2.58	246	ePn	Pn	09 43 52.1	+0.9
TANN				eSg	Sg	09 44 30.2	-1.0
TANN	Tannenbergstha	2.58	246	Pn	Pn	09 43 52.1	+0.8
TANN				Sg	Sg	09 44 30.2	-1.0
WERD	Werda	2.66	247	ePn	Pn	09 43 52.3	+0.1
WERD				eSg	Sg	09 44 34.1	+0.5
WERD	Werda	2.66	247	Pn	Pn	09 43 52.3	0.0
WERD				Sg	Sg	09 44 34.1	+0.5
OJC	Ojcow	2.67	118	ePn	Pn	09 43 50.9	-1.6
OJC				ePg	Pg	09 43 59.4	0.0
OJC				eSg	Sg	09 44 34.5	+0.5
NKC	Novy Kostel	2.68	242	ePN	Pn	09 43 53.5	+0.9
NKC				ePG	Pg	09 43 59.4	-0.2
NKC				eSG	Sg	09 44 35.0	+0.7
	comp=Z,143nm,0.4s						
GUNZ	Gunzen	2.68	245	ePn	Pn	09 43 53.3	+0.7
GUNZ				eSg	Sg	09 44 34.6	+0.2
WERN	Wernitzgruen	2.69	244	eSg	Sg	09 44 34.6	-0.1
JAVC	Velka Javorina	2.86	159	ePn	Pn	09 43 56.3	+1.2
JAVC				eSg	Sg	09 44 40.1	-0.1
	comp=Z,73nm,0.8s						
KHC	Kasperske Hory	2.92	215	ePN	Pn	09 43 55.9	0.0
KHC				ePG	Pg	09 44 02.1	-2.1
KHC				ex	x	09 44 32.5	
KHC				eSG	Sg	09 44 40.6	-1.4
	comp=Z,45nm,0.5s						
MOX	Moxa	2.99	254	ePn	Pn	09 43 57.2	+0.4
MOX				ePg	Pg	09 44 05.9	+0.4
MOX				eSg	Sg	09 44 45.4	+1.1
MOX	Moxa	2.99	254	ePN	Pn	09 43 57.9	+1.1
MOX				ePG	Pg	09 44 05.9	+0.4
MOX				eSG	Sg	09 44 45.1	+0.8
MANZ	Manzenberg	3.00	240	eSg	Sg	09 44 45.9	+1.5
ROTZ	Rotzenmuhle	3.07	236	ePn	Pn	09 43 58.5	+0.6
GEC2	GERESS Array S	3.12	211	ePn	Pn	09 43 59.2	+0.6
GEC2				eSg	Sg	09 44 46.0	-2.6
GEC2	GERESS Array S	3.12	211	ePn	Pn	09 43 59.2	+0.5
GEC2				eSg	Sg	09 44 46.0	-2.5
GERES	GERESS Array B	3.12	211	Pn	Pn	09 43 60.0	+1.3
	comp=Z,1.4nm,0.3s,baz=24,slow=13,SNR=22						
GERES				Pg	Pg	09 44 06.3	-1.8
	comp=Z,4.0nm,0.3s,baz=27,slow=16,SNR=47						
GERES				Sn	Sn	09 44 35.7	-0.9
	comp=Z,4.5nm,0.3s,baz=40,slow=23,SNR=6.7						
GERES				Lg		09 44 46.9	
	comp=Z,11nm,0.3s,baz=33,slow=27,SNR=15						
GERES	GERESS Array B	3.12	211	Pg	Pg	09 44 06.3	-1.7
SMOL	Smolenice	3.14	164	ePG	Pg	09 44 08.1	-0.4
SMOL				eSG	Sg	09 44 51.5	+2.2
WET	Wettzell	3.18	222	eSg	Sg	09 44 46.5	-4.0
ZST	Bratislava	3.41	169	ePG	Pg	09 44 12.9	-0.6
ZST				eSG	Sg	09 44 57.5	-0.2
ZST	Bratislava	3.41	169	ePg	Pg	09 44 12.9	-0.6
ZST				eSg	Sg	09 44 57.6	-0.1
NIE	Niedzica	3.41	127	eP	Pg	09 44 13.5	-0.1
NIE				eS	Sg	09 44 57.1	-0.7
VYHS	Vyhne	3.51	149	ePG	Pg	09 44 16.2	+0.6
VYHS				eSG	Sg	09 45 02.1	+1.0
CONA	Conrad Observa	3.62	183	⇑iPn	Pn	09 44 05.7	+0.1
CONA				⇓iSg	Sg	09 45 03.9	-0.7
	comp=Z,45nm,0.5s						
GRF	Grafenberg Arr	3.64	241	eSg	Sg	09 45 05.8	+0.7
BSD	Bornholm Skovb	3.65	349	i P	Pn	09 44 05.7	-0.3
BSD				i		09 44 07.2	
BSD				i S	Sn	09 44 47.2	-2.5
MOA	Molln	3.89	199	⇑iPn	Pn	09 44 09.4	+0.2
	SNR=7.0						
MOA				⇑iSg	Sg	09 45 13.1	-0.2
	comp=Z,48nm,0.5s						
STHS	Stebnicka Huta	3.89	121	ePG	Pg	09 44 25.3	+2.4
STHS				eSG	Sg	09 45 15.1	+1.8
KECS	Kecovo	4.15	136	ePN	Pn	09 44 14.9	+2.1
KECS				ePG	Pg	09 44 28.3	+0.5
KECS				eSG	Sg	09 45 23.4	+1.8
ARSA	Arzberg	4.32	186	⇑iPn	Pn	09 44 14.7	-0.4
ARSA				⇓iSg	Sg	09 45 25.3	-1.5
	comp=Z,34nm,0.6s						
CRVS	Cervenica-Dubn	4.32	126	ePG	Pg	09 44 32.5	+1.5
CRVS				eSG	Sg	09 45 32.1	+5.1
KWP	Kalwaria	4.60	112	ePn	Pg	09 44 33.9	-2.5
KBA	Koelnbreinsper	4.83	203	⇑iPn	Pn	09 44 22.5	+0.4
KBA				⇓iSg	Sg	09 45 43.7	+0.4
	comp=Z,17nm,0.4s						
AKASG	Malin Array Be	8.28	91	Pn	Pn	09 45 08.4	-1.1
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=6.6						
AKASG				Sn	Sn	09 46 36.5	-7.2
	comp=Z,2.6nm,0.3s,baz=272,slow=22,SNR=5.6						
AKASG				Lg		09 47 38.4	
	comp=Z,0.4nm,0.3s,baz=205,slow=29,SNR=4.3						
AKASG	Malin Array Be	8.28	91	Pn	Pn	09 45 08.4	-1.1
AKASG				Sn	Sn	09 46 36.5	-7.2
AKASG				Lg		09 47 38.4	
AKASG	Malin Array Be	8.28	91	Pn	Pn	09 45 08.4	-1.1
AKASG				Sn	Sn	09 46 36.5	-7.2
FINES	FINESS Array B	11.33	25	Pn	Pn	09 45 50.6	-0.6
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=3.8						
FINES				Sn	Sn	09 47 49.5	-9.0
	comp=Z,0.3nm,0.3s,baz=211,slow=20,SNR=5.0						
ARCES	ARCESS Array B	18.59	10	Pn	Pn	09 47 23.8	-3.2
	comp=Z,0.2nm,0.3s,baz=196,slow=8.4,SNR=5.5						

MOS 11 09:51:45.5±2.0**,5105N**×**9820E,h10**km**,mb4.4**/1**,1C, Error ellipse: s-maj=21.8km s-min=15.9km az=175.6, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOY	Mondy	1.86	69	⇑iPN	Pn	09 52 19.3	+1.9
MOY				e		09 52 43.8	
MOY				pmax	pmax		
	comp=Z,132nm,0.4s						
MOY				smax			
	comp=E,653nm,1.2s						
ARS	Arshan	2.78	70	ePN	Pn	09 52 33.2	+3.1
ARS				e		09 53 12.5	
ARS				pmax	pmax		
	comp=Z,104nm,0.4s						
ARS				smax			
	comp=N,325nm,0.5s						
ZAK	Zakamensk	3.30	100	ePN	Pn	09 52 39.5	+2.3
ZAK				e		09 52 44.6	
ZAK				e		09 53 27.8	
ZAK				pmax	pmax		
	comp=Z,43nm,0.6s						
ZAK				smax			
	comp=N,281nm,1.0s						
TLY	Talaya	3.47	77	ePN	Pn	09 52 48.2	+8.7
TLY				e		09 53 32.9	
TLY				pmax	pmax		
	comp=Z,27nm,0.4s						
TLY				smax			
	comp=E,86nm,0.5s						
IRK	Irkutsk	3.97	70	ePN	Pn	09 52 56.3	+10
IRK				e		09 53 47.2	
IRK				pmax	pmax		
	comp=Z,145nm,0.2s						
IRK				smax			
	comp=N,418nm,1.0s						
OGRR	Ongureny	6.32	62	ePN	Pn	09 53 20.5	+1.9
OGRR				e		09 53 39.9	
OGRR				e		09 55 00.7	
OGRR				pmax	pmax		
	comp=Z,15nm,1.3s						
OGRR				smax			
	comp=E,102nm,1.3s						

PGC 11 10:09:18.4,4994N×**13003W,h10**km**,MLSn2.9**/1**,Mw3.5, 2D,203km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia,Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.40	59	Pn	Pn	10 09 41.8	-2.2
BPBC	Brooks Peninsu	1.47	81	Pn	Pn	10 09 42.7	-2.2
BPBC				Sn	Sn	10 10 00.2	-4.0
	comp=Z,57nm,0.3s						
BPBC				Trac		10 10 05.8	
	comp=Z,57nm,0.3s						
PHC	Port Hardy	1.83	64	⇓Pn	Pn	10 09 48.0	-1.9
PHC				Sn	Sn	10 10 09.5	-3.6
PHC				Trac		10 10 13.4	
	comp=Z,33nm,0.4s						
EDB	Eliza Dome	1.88	91	Pn	Pn	10 09 48.5	-2.1
MAYB	Maynard	1.89	75	Pn	Pn	10 09 48.3	-2.4
MAYB				Trac		10 10 20.2	
	comp=Z,12nm,0.4s						
WOSB	Woss	2.24	83	Pn	Pn	10 09 54.3	-1.2
BBB	Bella Bella	2.55	28	⇓Pn	Pn	10 09 58.6	-1.2
BBB				Sn	Sn	10 10 26.9	-4.0
BBB				Trac		10 10 29.9	
	comp=Z,31nm,0.3s						
GDR	Gold River	2.59	92	Pn	Pn	10 09 59.8	-0.6
NCRB	Newcastle Ridg	2.59	78	Pn	Pn	10 09 59.6	-0.8
CBB	Campbell River	3.01	86	Pn	Pn	10 10 04.8	-1.3
CBB				Trac		10 10 46.3	
	comp=Z,6.0nm,0.7s						
OZB	Mount Ozzard	3.12	107	Pn	Pn	10 10 07.3	-0.2
OZB				Sn	Sn	10 10 42.9	-2.0
OZB				Trac		10 10 44.9	
	comp=Z,4.0nm,0.4s						
TXB	Texada	3.63	92	Pn	Pn	10 10 14.9	+0.3

*IDC **11** 10:32:51.4±1.3,1003S×12334E,h0km,mb3.7/2, mb1 3.8/5,mb1mx3.7/13,mbtmp3.7/5,ML3.5/2,Error ellipse: s-maj=97.2km s-min=24.8km az=64.0*
NEIC 11 10:32:56.6±0.8**,989S**×**12370E,h35**km**,Error ellipse: s-maj=37.7km s-min=10.2km az=60.0,Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.38	167	eP	Pn	10 34 55.5	-0.1
	3.6nm,0.3s						
FITZ				eS	Sn	10 36 19.2	-10
FITZ	Fitzroy Crossi	8.38	167	Pn	Pn	10 34 54.0	-1.6
	0.3nm,0.3s,baz=340,slow=15,SNR=20						
FITZ				Sn	Sn	10 36 18.7	-10
	0.8nm,0.3s,baz=66,slow=13,SNR=6.0						
WRA	Warramunga Arr	14.33	135	Pn	Pn	10 36 16.7	-0.3
	0.4nm,0.3s,baz=306,slow=15,SNR=13						
WRA				Sn	Sx	10 38 47.4	
	0.9nm,0.3s,baz=316,slow=24,SNR=9.0						
WB2	Warramunga Arr	14.34	135	eP	Pn	10 36 17.1	0.0
WB2				eS	Sx	10 38 47.3	
ASPA	Alice Springs	16.81	146	eP	Pn	10 36 48.8	-0.5
ASPA				eS	S	10 39 46.8	-18
AS31	Alice Springs	16.81	146	eP	Pn	10 36 50.5	+1.2
AS31				eS	S	10 39 46.8	-18
ASAR	Alice Springs	16.81	146	Pn	Pn	10 36 49.5	+0.3
	0.3nm,0.3s,baz=320,slow=13,SNR=31						
ASAR				Sn	Sx	10 39 45.4	
	0.2nm,0.3s,baz=310,slow=20,SNR=5.8						

ASAR	**Alice Springs**	**16.81**	**146**	Pn	Pn	10 36 49.5	+0.3
ASAR				Sn	Sx	10 39 45.4	
SONM	**Songino Array**	**59.48**	**347**	P	P	10 42 56.7	+0.6
	0.4nm,0.4s,baz=163,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**67.43**	**331**	P	P	10 43 48.3	-0.4
	0.6nm,0.7s,baz=119,slow=9.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**123.18**	**279**	PKP	PKPdf	10 51 50.5	+0.9
	0.4nm,0.5s,baz=70,slow=1.7,SNR=6.8						

---

*GRAL **11** 10:33:49.6±0.8, 3368N×3700E, h33km±77km, MD3.1*
*CSEM **11** 10:33:50.4±0.1, 3365N×3682E, h8km, Mc1.5, Error ellipse: s-maj=3.2km s-min=2.6km az=120.0*
*ISCJB **11** 10:33:51.7±0.8, 3369N±003×3677E±005, h11km±6km, Error ellipse: s-maj=7.0km s-min=4.2km az=5.3*
*NSSC **11** 10:33:52.3, 3366N×3674E, h18km±3km*
ISC 11 10:33:52.3±0.6**, 3367N**±003×**3676E**±004**, h19**km±4km**, n21, σ0.s92**/36**, 7D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**0.41**	**222**	⇓P	**Pg**	**10 34 00.1**	**-0.6**
TOTH				⇓S	**Sg**	**10 34 06.9**	**+0.4**
TOTH	**TOTAH**	**0.41**	**222**	⇓*i*P	**Pg**	**10 34 00.1**	**-0.7**
QASN	**Qassioun**	**0.42**	**252**	⇑P	**Pg**	**10 34 00.4**	**-0.6**
QASN				⇑S	**Sg**	**10 34 07.9**	**+1.0**
QASN	**Qassioun**	**0.42**	**252**	⇑*i*P	**Pg**	**10 34 00.4**	**-0.6**
MARH	**Ras Al Marh**	**0.43**	**327**	⇑P	**Pg**	**10 34 01.5**	**+0.4**
MARH				⇑S	**Sg**	**10 34 06.2**	**-0.8**
MARH	**Ras Al Marh**	**0.43**	**327**	⇑*i*P	**Pg**	**10 34 01.5**	**+0.4**
ROOS	**tl_alroos**	**0.67**	**41**	⇓P	**Pb**	**10 34 04.4**	**-0.9**
ROOS				⇓S	**Sg**	**10 34 16.3**	**+1.9**
ROOS	**tl_alroos**	**0.67**	**41**	⇓*i*P	**Pb**	**10 34 04.4**	**-0.9**
ROOS				⇓*i*S	**Sg**	**10 34 16.3**	**+1.9**
BRBR	**Barbar**	**0.72**	**250**	⇑P	**Pb**	**10 34 05.7**	**-0.5**
BRBR				⇑S	**Sb**	**10 34 16.0**	**+0.3**
BRBR	**Barbar**	**0.72**	**250**	⇑*i*P	**Pb**	**10 34 05.7**	**-0.5**
RCY	**Rachaya**	**0.81**	**257**	*e*Pg	**Pg**	**10 34 06.9**	**-1.1**
RCY				*e*Sg	**Sg**	**10 34 20.8**	**+2.0**
ZALF	**Zalf**	**0.88**	**147**	⇑P	**Pb**	**10 34 09.2**	**+0.3**
ZALF	**Zalf**	**0.88**	**147**	⇑*i*P	**Pb**	**10 34 09.2**	**+0.2**
HWQ	**Hawqa**	**0.91**	**312**	*e*Pg	**Pg**	**10 34 08.3**	**-1.7**
HWQ				*e*Sg	**Sg**	**10 34 22.3**	**+0.2**
BHL	**Bhannes**	**0.95**	**285**	*e*Pg	**Pg**	**10 34 09.4**	**-1.4**
BHL				*e*Sg	**Sg**	**10 34 24.0**	**+0.7**
SALA	**Sala**	**0.95**	**181**	⇑P	**Pb**	**10 34 09.7**	**-0.5**
SALA				⇑S	**Sb**	**10 34 22.5**	**+0.1**
SALA	**Sala**	**0.95**	**181**	⇑*i*P	**Pb**	**10 34 09.7**	**-0.4**
SALA				⇑*i*S	**Sb**	**10 34 22.5**	**+0.2**
BIDA	**Albida**	**1.39**	**345**	⇑P	**Pn**	**10 34 16.8**	**+0.2**
BIDA				⇑S	**Sn**	**10 34 33.9**	**-0.6**
BIDA	**Albida**	**1.39**	**345**	⇑*i*P	**Pn**	**10 34 16.8**	**+0.1**
BIDA				⇑*i*S	**Sn**	**10 34 33.9**	**-0.6**
WRDH	**Warideh**	**1.86**	**351**	⇑P	**Pn**	**10 34 23.9**	**+0.8**
WRDH				⇑S	**Sn**	**10 34 47.0**	**+0.9**
WRDH	**Warideh**	**1.86**	**351**	⇑*i*P	**Pn**	**10 34 23.9**	**+0.8**
WRDH				⇑*i*S	**Sn**	**10 34 47.0**	**+0.9**

---

*UPP **11** 10:38:39.0, 5785N×2222E, h1km, ML2.9, Suspected Mining explosion.*
*CSEM **11** 10:38:41.1±0.2, 5785N×2183E, h1km, ML2.0, Error ellipse: s-maj=5.5km s-min=2.0km az=154.0, Mining explosion.*
*IDC **11** 10:38:42.9±5.8, 5786N×2204E, h18km±21km, mb1 3.3/3, mb1mx3.1/18, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=56.7km s-min=17.7km az=173.0*
*BER **11** 10:38:43.6±3.8, 5800N×2181E, h0km, ML2.2(NAO), Suspected explosion*
*NAO **11** 10:38:49.9±5.0, 5845N×2157E, h22km±21km, ML2.2*
HEL 11 10:38:42.5±0.2**, 5795N×2173E, h0**km**, ML2.0, ML2.9**(UPP)**, ML2.2**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.71**	**262**	*e*P	Pn	10 39 13.2	-0.4
GOTU				*e*S	Sn	10 39 39.1	+3.0
GOTU	**Gotland**	**1.71**	**262**	P	Pn	10 39 13.1	-0.4
GOTU				S	Sn	10 39 39.1	+3.0
SRPE	**Suurupi**	**2.05**	**41**	*e*P	Pn	10 39 17.4	-0.9
SRPE				*e*S	Sn	10 39 44.9	+0.3
SRPE	**Suurupi**	**2.05**	**41**	P	Pn	10 39 17.4	-0.9
SRPE				S	Sn	10 39 44.8	+0.2
NYNU	**Nynaeshamn**	**2.22**	**300**	*e*P	Pn	10 39 20.6	0.0
BYXU	**Byxelkrok**	**2.62**	**257**	*e*P	Pn	10 39 26.0	-0.1
MEF	**Metsahovi**	**2.66**	**30**	*e*P	Pn	10 39 27.1	+0.5
MEF				*e*SB	Sb	10 40 02.6	-1.5
MEF				MSG		10 40 06.1	
	comp=Z,12nm,0.1s						
VSU	**Vasula**	**2.70**	**77**	*e*P	Pn	10 39 27.0	-0.2
VSU				*e*S	Sn	10 39 59.6	-0.9
VSU	**Vasula**	**2.70**	**77**	P	Pn	10 39 26.9	-0.2
VSU				S	Sn	10 39 59.6	-0.9
VIKU	**Vikbolandet**	**2.72**	**284**	*e*P	Pn	10 39 27.6	+0.2
VSTU	**Vaestervik**	**2.79**	**266**	*e*P	Pn	10 39 28.6	+0.1
VSTU	**Vaestervik**	**2.79**	**266**	P	Pn	10 39 28.5	+0.1
RAF	**Rauma**	**3.08**	**0**	*e*P	Pn	10 39 31.7	-0.8
RAF				*e*SG	Sg	10 40 16.2	-5.3
RAF				MSG		10 40 20.9	
	comp=Z,4.1nm,0.2s						
RAF	**Rauma**	**3.08**	**0**	P	Pn	10 39 31.6	-0.8
RAF				Sg	Sg	10 40 16.2	-5.4
LNKU	**Linkoeping**	**3.32**	**277**	*e*P	Pn	10 39 35.5	-0.1
LNKU	**Linkoeping**	**3.32**	**277**	P	Pn	10 39 35.5	-0.1
PVF	**Pernaja**	**3.36**	**37**	*e*P	Pn	10 39 36.6	+0.3
PVF				*e*SB	Sb	10 40 23.1	-1.2
PVF				MSG		10 40 27.7	
	comp=Z,2.1nm,0.1s						
PVF	**Pernaja**	**3.36**	**37**	P	Pn	10 39 36.5	+0.3
VXJU	**Vaexsjoe**	**3.81**	**257**	*e*P	Pn	10 39 41.2	-1.2
FIA0	**FINESS Array S**	**4.14**	**30**	*e*P	Pn	10 39 46.6	-0.4
FIA0				*e*SG	Sg	10 40 49.9	-5.6
FIA0	**FINESS Array S**	**4.14**	**30**	Pn	Pn	10 39 46.0	-1.0
	baz=206,slow=12						
FIA0				Pg	Pg	10 39 55.4	-6.5
	baz=208,slow=14						
FIA0				Lg		10 40 49.0	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**4.14**	**30**	Pg	Pg	10 39 55.3	-6.5
	SNR=6.3						
FINES	**FINESS Array B**	**4.14**	**30**	Pn	Pn	10 39 46.2	-0.7
	comp=Z,0.2nm,0.3s,baz=212,slow=13,SNR=28						
FINES				Pg	Pg	10 39 55.1	-6.7
	comp=Z,0.8nm,0.3s,baz=210,slow=15,SNR=14						
FINES				Lg		10 40 48.3	
	comp=Z,1.0nm,0.3s,baz=208,slow=23,SNR=9.1						
HFS	**Hagfors**	**4.69**	**301**	*e*P	Pn	10 39 54.0	-0.5
HFS				*e*SG		10 41 06.8	
HFS	**Hagfors**	**4.69**	**301**	Pn	Pn	10 39 54.0	-0.5
	baz=134,slow=14						
HFS				Lg		10 41 06.8	
	baz=101,slow=37						
BSD	**Bornholm Skovb**	**4.72**	**236**	*i* P	Pn	10 39 52.4	-2.6
BSD				*i* S	Sn	10 40 46.3	-4.1
VAF	**Ylistaro**	**5.13**	**5**	*e*P	Pn	10 40 00.4	-0.2
VAF				*e*SG	Sg	10 41 20.4	-6.9
VAF	**Ylistaro**	**5.13**	**5**	P	Pn	10 40 00.3	-0.3
NB2	**NORSAR Subarra**	**6.18**	**304**	*e*P	Pn	10 40 14.7	-0.4
NB2				*e*SG		10 41 56.0	
NB2	**NORSAR Subarra**	**6.18**	**304**	Pn	Pn	10 40 14.7	-0.4
	baz=122,slow=14						
NB2				Lg		10 41 56.0	
NB2	**NORSAR Subarra**	**6.18**	**304**	Pn	Pn	10 40 14.6	-0.4
	SNR=1.7						
NOA	**NORSAR Array B**	**6.18**	**304**	Pn	Pn	10 40 13.7	-1.3
	comp=Z,0.2nm,0.3s,baz=203,slow=18,SNR=2.7						
NOA				Sn	Sn	10 41 23.3	-3.1
	comp=Z,0.2nm,0.3s,baz=138,slow=14,SNR=2.5						
NOA				Lg		10 41 54.8	
	comp=Z,0.5nm,0.3s,baz=223,slow=18,SNR=2.8						
ARA0	**ARCESS Array S**	**11.75**	**7**	Pn	Pn	10 41 26.2	-5.1
	baz=188,slow=14						
ARA0	**ARCESS Array S**	**11.75**	**7**	*e*P	Pn	10 41 26.2	-5.1
ARCES	**ARCESS Array B**	**11.75**	**7**	Pn	Pn	10 41 25.9	-5.4
	comp=Z,0.1nm,0.3s,baz=192,slow=13,SNR=5.1						

---

*GRAL **11** 10:57:47.8±0.3, 3362N×3691E, h14km±168km, MD3.0*
*CSEM **11** 10:57:47.4±0.1, 3361N×3686E, h8km, Mc1.7, Error ellipse: s-maj=2.9km s-min=2.3km az=92.0*
*ISCJB **11** 10:57:48.7±0.7, 3366N±003×3679E±004, h8km±6km, Error ellipse: s-maj=6.2km s-min=4.6km az=24.4*
*NSSC **11** 10:57:48.8, 3365N×3678E, h6km±3km*
ISC 11 10:57:49.2±0.5**, 3365N**±004×**3679E**±004**, h12**km±7km**, n16, σ0.s61**/28**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTH	**TOTAH**	**0.42**	**227**	⇑P	**Pg**	**10 57 57.0**	**-0.4**
TOTH	**TOTAH**	**0.42**	**227**	⇑*i*P	**Pg**	**10 57 57.0**	**-0.4**
QASN	**Qassioun**	**0.45**	**255**	⇑P	**Pg**	**10 57 57.6**	**-0.4**
QASN				⇑S	**Sg**	**10 58 04.9**	**+1.0**
QASN	**Qassioun**	**0.45**	**255**	⇑*i*P	**Pg**	**10 57 57.6**	**-0.3**
ROOS	**tl_alroos**	**0.67**	**38**	⇑P	**Pg**	**10 58 01.7**	**-0.4**
ROOS				⇑S	**Sg**	**10 58 11.6**	**+0.8**
ROOS	**tl_alroos**	**0.67**	**38**	⇑*i*P	**Pg**	**10 58 01.7**	**-0.4**
ROOS				⇑*i*S	**Sg**	**10 58 11.6**	**+0.7**
RCY	**Rachaya**	**0.83**	**259**	*e*Pg	**Pg**	**10 58 04.5**	**-0.6**
RCY				*e*Sg	**Sg**	**10 58 16.8**	**+0.8**
ZALF	**Zalf**	**0.85**	**148**	⇑P	**Pg**	**10 58 05.4**	**-0.3**
ZALF				⇑S	**Sg**	**10 58 17.4**	**+0.6**
ZALF	**Zalf**	**0.85**	**148**	⇑*i*P	**Pg**	**10 58 05.4**	**-0.2**
ZALF				⇑*i*S	**Sg**	**10 58 17.4**	**+0.6**
SALA	**Sala**	**0.93**	**183**	⇑P	**Pg**	**10 58 06.3**	**-0.8**
SALA				⇑S	**Sg**	**10 58 19.6**	**+0.3**
SALA	**Sala**	**0.93**	**183**	⇑*i*P	**Pg**	**10 58 06.3**	**-0.9**
SALA				⇑*i*S	**Sg**	**10 58 19.6**	**+0.2**
HWQ	**Hawqa**	**0.94**	**312**	*e*Pg	**Pg**	**10 58 06.5**	**-0.9**
BIDA	**Albida**	**1.42**	**344**	⇑P	**Pn**	**10 58 14.4**	**-0.3**
BIDA				⇑S	**Sn**	**10 58 33.1**	**-0.3**
BIDA	**Albida**	**1.42**	**344**	⇑*i*P	**Pn**	**10 58 14.4**	**-0.4**
BIDA				⇑*i*S	**Sn**	**10 58 33.1**	**-0.3**
WRDH	**Warideh**	**1.88**	**351**	⇑P	**Pn**	**10 58 21.8**	**+0.6**
WRDH				⇑S	**Sn**	**10 58 45.3**	**+0.4**
WRDH	**Warideh**	**1.88**	**351**	⇑*i*P	**Pn**	**10 58 21.8**	**+0.6**
WRDH				⇑*i*S	**Sn**	**10 58 45.3**	**+0.5**

---

*ISCJB **11** 10:58:39.0±0.7, 5803N±006×2170E±006, h0km, Error ellipse: s-maj=8.8km s-min=3.7km az=141.6*
*CSEM **11** 10:58:38.9±0.1, 5797N×2175E, h1km, ML2.0, Error ellipse: s-maj=3.8km s-min=1.8km az=167.0, Mining explosion.*
*IDC **11** 10:58:39.6±3.0, 5796N×2197E, h0km, mb1 3.4/3, mb1mx3.1/19, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=32.2km s-min=12.0km az=161.0*
*HEL **11** 10:58:39.7±0.2, 5797N×2172E, h0km, ML2.0, ML2.5(UPP), ML2.3(NAO), Explosion*
*NAO **11** 10:58:39.6±2.6, 5795N×2185E, ML2.3*
*BER **11** 10:58:39.7±3.6, 5788N×2190E, h0km, ML2.3(NAO), Suspected explosion*
*UPP **11** 10:58:39.0, 5793N×2184E, h0km, ML2.5, Suspected Mining explosion.*
ISC 11 10:58:40.4±0.6**, 5808N**±005×**2173E**±006**, h0**km**, n44, σ0.s97**/59**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.73**	**258**	*e*S	**Sn**	**10 59 36.8**	**+2.2**
SRPE	**Suurupi**	**1.96**	**44**	*e*P	**Pn**	**10 59 14.9**	**0.0**
SRPE				*e*S	**Sn**	**10 59 41.9**	**+1.7**
SRPE	**Suurupi**	**1.96**	**44**	P	**Pn**	**10 59 14.8**	**-0.1**
SRPE				S	**Sn**	**10 59 41.8**	**+1.6**
NYNU	**Nynaeshamn**	**2.16**	**297**	*e*P	**Pn**	**10 59 18.1**	**+0.4**
NYNU	**Nynaeshamn**	**2.16**	**297**	P	**Pn**	**10 59 18.0**	**+0.3**
NRTU	**Norrtaelje**	**2.27**	**316**	*e*P	**Pn**	**10 59 19.8**	**+0.6**
NRTU	**Norrtaelje**	**2.27**	**316**	P	**Pn**	**10 59 19.7**	**+0.5**
MEF	**Metsahovi**	**2.55**	**31**	*e*PB	**Pb**	**10 59 24.7**	**-2.3**
MEF				*e*SB	**Sb**	**11 00 00.1**	**+1.1**
MEF				MSG		11 00 02.7	
	comp=Z,8.9nm,0.1s						
BYXU	**Byxelkrok**	**2.65**	**255**	*e*P	**Pn**	**10 59 23.2**	**-1.3**
VSU	**Vasula**	**2.67**	**80**	*e*P	**Pn**	**10 59 23.9**	**-0.8**
VSU				*e*S	**Sn**	**10 59 57.9**	**+0.1**
VIKU	**Vikbolandet**	**2.69**	**281**	*e*P	**Pn**	**10 59 24.7**	**-0.2**
GRAU	**Graesoe**	**2.80**	**325**	*e*P	**Pn**	**10 59 26.7**	**+0.3**
VSTU	**Vaestervik**	**2.81**	**264**	*e*P	**Pn**	**10 59 26.0**	**-0.6**
VSTU	**Vaestervik**	**2.81**	**264**	P	**Pn**	**10 59 25.9**	**-0.6**
FLYU	**Flymyra**	**2.86**	**318**	*e*P	**Pn**	**10 59 28.0**	**+0.8**
RAF	**Rauma**	**2.96**	**0**	*e*P	**Pn**	**10 59 29.1**	**+0.5**
RAF				*e*SG	**Sg**	**11 00 13.8**	**-1.6**
RAF				MSG		11 00 15.8	
	comp=Z,2.2nm,0.1s						
BACU	**Backbrunna**	**2.98**	**309**	*e*P	**Pn**	**10 59 29.5**	**+0.5**
ESKU	**Eskilstuna**	**3.02**	**295**	*e*P	**Pn**	**10 59 29.6**	**+0.2**
OSTU	**Oestervaala**	**3.20**	**314**	*e*P	**Pn**	**10 59 32.3**	**+0.3**
PVF	**Pernaja**	**3.26**	**39**	*e*P	**Pn**	**10 59 34.0**	**+1.2**
PVF				*e*SB	**Sb**	**11 00 20.4**	**+1.0**
PVF				MSG		11 00 28.8	
	comp=Z,4.1nm,0.2s						
PVF	**Pernaja**	**3.26**	**39**	P	**Pn**	**10 59 33.9**	**+1.1**
LNKU	**Linkoeping**	**3.30**	**275**	*e*P	**Pn**	**10 59 33.4**	**0.0**
LNKU	**Linkoeping**	**3.30**	**275**	P	**Pn**	**10 59 33.3**	**-0.1**
NRAU	**Nora**	**3.79**	**296**	*e*P	**Pn**	**10 59 40.3**	**+0.3**
VXJU	**Vaexsjoe**	**3.84**	**255**	*e*P	**Pn**	**10 59 39.4**	**-1.4**
FALU	**Falun**	**3.88**	**311**	*e*P	**Pn**	**10 59 41.2**	**-0.1**
FIA0	**FINESS Array S**	**4.03**	**31**	*e*P	**Pn**	**10 59 43.5**	**+0.2**
FIA0				*e*SG	**Sg**	**11 00 47.9**	**-2.1**
FIA0	**FINESS Array S**	**4.03**	**31**	Pn	**Pn**	**10 59 43.7**	**+0.3**
	baz=207,slow=14						
FIA0				Pg	**Pg**	**10 59 52.8**	**-4.9**
	baz=208,slow=16						
FIA0				Lg		11 00 47.5	
	baz=225,slow=28						
FIA0	**FINESS Array S**	**4.03**	**31**	P	**Pn**	**10 59 43.5**	**+0.1**
FIA0	**FINESS Array S**	**4.03**	**31**	Pg	**Pg**	**10 59 52.8**	**-4.9**
	SNR=4.8						
FINES	**FINESS Array B**	**4.03**	**31**	Pn	**Pn**	**10 59 43.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=24						
FINES				Pg	**Pg**	**10 59 51.3**	**-6.4**
	comp=Z,0.9nm,0.3s,baz=208,slow=15,SNR=20						
FINES				Sn	**Sn**	**11 00 31.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=220,slow=21,SNR=3.0						
FINES				Lg		11 00 47.5	
	comp=Z,1.3nm,0.3s,baz=218,slow=27,SNR=9.3						
HFS	**Hagfors**	**4.63**	**300**	Pn	**Pn**	**10 59 51.5**	**0.0**
	baz=133,slow=16						
HFS				Sn	**Sn**	**11 00 47.2**	**+1.2**
	baz=120,slow=28						
HFS				Lg		11 01 06.2	
	baz=113,slow=37						
HFS	**Hagfors**	**4.63**	**300**	*e*P	**Pn**	**10 59 51.5**	**0.0**
HFS				*e*S	**Sn**	**11 00 47.2**	**+1.2**
HFS				*e*SG		11 01 06.2	
HFS	**Hagfors**	**4.63**	**300**	P	**Pn**	**10 59 51.5**	**-0.1**
HFS				S	**Sn**	**11 00 47.2**	**+1.2**
HFS				Sg		11 01 06.2	
BSD	**Bornholm Skovb**	**4.79**	**235**	*i* P	**Pn**	**10 59 49.3**	**-4.6**
BSD				*i* S	**Sn**	**11 00 44.0**	**-6.1**
HASU	**Hassela**	**4.82**	**330**	*e*P	**Pn**	**10 59 54.3**	**0.0**
HEMU	**Hemsoen**	**4.96**	**340**	*e*P	**Pn**	**10 59 56.7**	**+0.4**
NB2	**NORSAR Subarra**	**6.11**	**304**	Pn	**Pn**	**11 00 10.9**	**-1.1**
	baz=118,slow=14						
NB2	**NORSAR Subarra**	**6.11**	**304**	*e*P	**Pn**	**11 00 10.9**	**-1.1**
NOA	**NORSAR Array B**	**6.11**	**304**	Pn	**Pn**	**11 00 11.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=103,slow=8.3,SNR=3.3						
NOA				Sn	**Sn**	**11 01 21.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=137,slow=18,SNR=1.9						
NOA				Lg		11 01 52.8	
	comp=Z,0.6nm,0.3s,baz=239,slow=9.7,SNR=2.7						
LILU	**Lilltraesk**	**7.29**	**354**	*e*P	**Pn**	**11 00 27.4**	**-0.7**
ARA0	**ARCESS Array S**	**11.62**	**7**	Pn	**Pn**	**11 01 23.8**	**-3.8**
	baz=187,slow=16						
ARA0	**ARCESS Array S**	**11.62**	**7**	*e*P	**Pn**	**11 01 23.8**	**-3.8**
ARCES	**ARCESS Array B**	**11.62**	**7**	Pn	**Pn**	**11 01 23.4**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=5.3						

---

*ISCJB **11** 11:06:25.2±1.5, 61.15N±008×306E±0.1, h0km, Error ellipse: s-maj=12.3km s-min=9.6km az=133.8*
*HEL **11** 11:06:30.7±0.2, 61.15N×3032E, h0km, ML2.3, ML2.3(NAO), Explosion*
*BER **11** 11:06:30.4±1.3, 61.13N×3025E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **11** 11:06:32.4±2.3, 61.15N×3003E, h0km, mb1 3.4/2, mb1mx3.1/19, mbtmp3.3/2, ML3.2/2, Error ellipse: s-maj=20.6km s-min=10.0km az=154.0*
*NAO **11** 11:06:32.6±1.9, 6121N×3002E, ML2.3*
ISC 11 11:06:30.6±1.2**, 6122N**±006×**302E**±01**, h0**km**, n16, σ1.s27**/28**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**1.78**	**16**	*e*P	**Pn**	**11 07 03.1**	**+0.6**
JOF				*e*S	**Sn**	**11 07 26.6**	**+0.7**
FIA0	**FINESS Array S**	**2.02**	**278**	*e*P	**Pn**	**11 07 06.3**	**+0.5**
FIA0				*e*SB	**Sb**	**11 07 33.5**	**-0.2**
FIA0	**FINESS Array S**	**2.02**	**278**	Pg	**Pg**	**11 07 06.4**	**-2.8**
	baz=96,slow=16						
FIA0				Lg		11 07 32.8	
	baz=95,slow=28						
FIA0				Rg		11 07 46.0	
	baz=95,slow=37						
FINES	**FINESS Array B**	**2.02**	**278**	Pg	**Pg**	**11 07 06.2**	**-3.1**
	1.6nm,0.3s,baz=99,slow=17,SNR=93						
FINES				Lg		11 07 33.5	
	4.3nm,0.3s,baz=93,slow=31,SNR=28						
KAF	**Kangasniemi**	**2.08**	**297**	*e*P	**Pn**	**11 07 08.1**	**+1.4**
KAF				*e*SB	**Sb**	**11 07 35.4**	**-0.1**
KAF				MSG		11 07 39.2	
	comp=Z,17nm,0.2s						
PVF	**Pernaja**	**2.24**	**254**	*e*P	**Pn**	**11 07 08.9**	**0.0**
PVF				*e*S	**Sn**	**11 07 37.7**	**+0.4**
PVF				MSG		11 07 42.6	
	comp=Z,10nm,0.2s						
SUF	**Sumiainen**	**2.44**	**310**	*e*P	**Pn**	**11 07 13.8**	**+2.1**
SUF				*e*SB	**Sb**	**11 07 46.3**	**+0.2**
KEF	**Keuruu**	**2.73**	**293**	*e*P	**Pn**	**11 07 17.4**	**+1.8**
KEF				*e*S	**Sn**	**11 07 50.3**	**+1.0**
KEF				MSG		11 07 54.8	
	comp=Z,10.0nm,0.2s						
HFS	**Hagfors**	**8.19**	**270**	Pn	**Pn**	**11 08 29.4**	**-1.3**
	baz=74,slow=12						
HFS				Sn	**Sn**	**11 09 57.6**	**-6.4**
	baz=74,slow=22						
HFS	**Hagfors**	**8.19**	**270**	*e*P	**Pn**	**11 08 29.4**	**-1.3**
HFS				*e*S	**Sn**	**11 09 57.6**	**-6.4**
ARA0	**ARCESS Array S**	**8.57**	**349**	Pn	**Pn**	**11 08 35.1**	**-0.8**
	baz=159,slow=16						
ARA0				Sn	**Sn**	**11 10 08.6**	**-4.8**
ARA0	**ARCESS Array S**	**8.57**	**349**	*e*P	**Pn**	**11 08 35.1**	**-0.8**
ARA0				*e*S	**Sn**	**11 10 08.6**	**-4.8**
ARCES	**ARCESS Array B**	**8.57**	**349**	Pn	**Pn**	**11 08 35.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=160,slow=15,SNR=15						
ARCES				Sn	**Sn**	**11 10 10.4**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=162,slow=24,SNR=3.0						
NB2	**NORSAR Subarra**	**9.20**	**277**	Pn	**Pn**	**11 08 42.3**	**-2.2**
	baz=82,slow=14						
NB2	**NORSAR Subarra**	**9.20**	**277**	*e*P	**Pn**	**11 08 42.3**	**-2.2**
NOA	**NORSAR Array B**	**9.20**	**277**	Pn	**Pn**	**11 08 42.5**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=108,slow=12,SNR=3.0						
NOA				Sn	**Sn**	**11 10 19.3**	**-9.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=7.6,SNR=2.7						

IDC 11 11:39:34.5±1.2**, 2297S×6929W, h99**km±7km**, mb3.7**/2**, mb1 3.6**/3**, mb1mx3.3**/14**, mbtmp3.9**/3**, Error ellipse: s-maj=56.2km s-min=27.0km az=104.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.74**	**10**	P	Pn	11 41 11.1	+0.4
	0.4nm,0.3s,baz=200,slow=9.1,SNR=13						
CFAA	**Coronel Fontan**	**8.65**	**174**	P	Pn	11 41 33.6	-3.1
	0.1nm,0.3s,baz=352,slow=17,SNR=5.1						
CFAA				S	Sn	11 43 03.8	-8.9
	0.1nm,0.3s,baz=235,slow=12,SNR=2.2						
SIV	**San Ignacio**	**10.40**	**50**	P	Pn	11 41 55.2	-5.4
	1.3nm,0.3s,baz=237,slow=10,SNR=25						
SIV				S	Sn	11 43 40.1	-15
	0.0nm,0.3s,baz=297,slow=22,SNR=3.3						
BDFB	**Brasilia**	**21.35**	**74**	P	P	11 44 09.4	-4.2
	4.0nm,0.6s,baz=272,slow=15,SNR=6.7						
TORD	**Torodi Ar. Bea**	**78.18**	**70**	P	P	11 51 24.0	+1.1
	1.1nm,0.7s,baz=261,slow=5.5,SNR=12						
TORD				pP	pP	11 51 47.9	-0.6
	1.3nm,0.6s,baz=256,slow=5.3,SNR=4.7						
MAW	**Mawson**	**83.03**	**163**	P	P	11 51 48.5	-0.3
	1.4nm,1.0s,baz=231,slow=6.5,SNR=5.4						
MAW				pP	pP	11 52 14.5	-0.2
	1.6nm,0.8s,baz=254,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**128.45**	**207**	PKP	PKPdf	11 58 29.6	0.0
	0.3nm,0.8s,baz=139,slow=1.4,SNR=4.3						
WRA	**Warramunga Arr**	**131.51**	**210**	PKP	PKPdf	11 58 36.0	+0.6
	0.5nm,1.0s,baz=142,slow=1.4,SNR=6.1						
MKAR	**Makanchi Array**	**147.02**	**37**	PKPbc	PKPbc	11 59 04.7	-0.9
	0.3nm,0.5s,baz=336,slow=3.2,SNR=3.0						
MKAR				pPKPbc	pPKPbc	11 59 32.9	+0.2
	0.6nm,0.6s,baz=330,slow=4.2,SNR=4.7						

---

*ISCJB **11** 11:50:37.7±1.4, 6106N±007×305E±0.1, h0km, Error ellipse: s-maj=11.6km s-min=6.6km az=92.3*
*HEL **11** 11:50:39.6±0.3, 6106N×3050E, h0km, ML2.3, ML2.3(NAO), Explosion*
*IDC **11** 11:50:42.7±2.0, 61.14N×3006E, h0km, mb1 3.3/3, mb1mx3.1/20, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=18.5km s-min=10.8km az=150.0*
*BER **11** 11:50:42.0±3.4, 6131N×3022E, h0km, ML2.3(NAO), Suspected explosion*
*NAO **11** 11:50:43.3±2.1, 6129N×3004E, ML2.3*
ISC 11 11:50:38.8±1.3**, 6108N**±006×**305E**±01**, h0**km**, n16, σ1.s00**/27**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOF	**Joensuu**	**1.89**	**11**	*e*P	**Pn**	**11 51 13.1**	**+0.7**
JOF				*e*S	**Sn**	**11 51 37.3**	**+0.4**
FIA0	**FINESS Array S**	**2.17**	**282**	*e*P	**Pn**	**11 51 16.6**	**+0.4**
FIA0				*e*S	**Sn**	**11 51 43.8**	**-0.1**
FIA0	**FINESS Array S**	**2.17**	**282**	Pg	**Pg**	**11 51 16.5**	**-4.0**
	baz=86,slow=16						
FIA0				Lg		11 51 43.9	
	baz=100,slow=28						
FIA0				Rg		11 51 56.5	
	baz=101,slow=37						
FINES	**FINESS Array B**	**2.17**	**282**	Pg	**Pg**	**11 51 16.5**	**-4.0**
	1.8nm,0.3s,baz=94,slow=17,SNR=53						
FINES				Lg		11 51 44.0	
	3.6nm,0.3s,baz=97,slow=30,SNR=9.4						
FINES				Rg		11 51 55.7	
	11nm,0.8s,baz=97,slow=33,SNR=9.9						
KAF	**Kangasniemi**	**2.26**	**299**	*e*P	**Pn**	**11 51 18.1**	**+0.6**
KAF				*e*S	**Sn**	**11 51 46.4**	**+0.3**
KAF				MSG		11 51 48.0	
	comp=Z,13nm,0.2s						
PVF	**Pernaja**	**2.34**	**259**	*e*P	**Pn**	**11 51 18.5**	**0.0**
PVF				*e*S	**Sn**	**11 51 47.8**	**-0.1**
PVF				MSG		11 51 52.1	
	comp=Z,8.9nm,0.2s						
SUF	**Sumiainen**	**2.64**	**311**	*e*P	**Pn**	**11 51 23.8**	**+1.1**
SUF				*e*S	**Sn**	**11 51 56.3**	**+0.9**
KEF	**Keuruu**	**2.91**	**295**	*e*P	**Pn**	**11 51 27.6**	**+1.2**
KEF				*e*S	**Sn**	**11 52 01.9**	**-0.1**
KEF				MSG		11 52 04.9	
	comp=Z,15nm,0.3s						
KJN	**Kajaani**	**3.29**	**338**	*e*P	**Pn**	**11 51 32.9**	**+1.3**
KJN				*e*SB	**Sb**	**11 52 17.3**	**-1.2**
HFS	**Hagfors**	**8.32**	**271**	*e*P	**Pn**	**11 52 40.2**	**-0.6**
HFS	**Hagfors**	**8.32**	**271**	Pn	**Pn**	**11 52 39.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=78,slow=13,SNR=12						
HFS	**Hagfors**	**8.32**	**271**	Pn	**Pn**	**11 52 40.2**	**-0.6**
	baz=81,slow=12						
ARA0	**ARCESS Array S**	**8.75**	**348**	Pn	**Pn**	**11 52 45.3**	**-1.2**
	baz=160,slow=14						
ARA0				Sn	**Sn**	**11 54 18.2**	**-7.6**
	baz=166,slow=28						
ARA0				Lg		11 55 00.8	
	baz=167,slow=28						
ARA0	**ARCESS Array S**	**8.75**	**348**	*e*P	**Pn**	**11 52 45.3**	**-1.2**
ARA0				*e*S	**Sn**	**11 54 18.2**	**-7.6**
ARA0				*e*		11 55 00.8	
ARCES	**ARCESS Array B**	**8.75**	**348**	Pn	**Pn**	**11 52 45.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=164,slow=14,SNR=12						
ARCES				Sn	**Sn**	**11 54 21.6**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=164,slow=20,SNR=3.9						
ARCES				Lg		11 54 59.7	
	comp=Z,0.6nm,0.3s,baz=162,slow=29,SNR=4.3						
NOA	**NORSAR Array B**	**9.35**	**278**	Pn	**Pn**	**11 52 52.7**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=78,slow=13,SNR=2.7						
NOA				Sn	**Sn**	**11 54 23.4**	**-17**
	comp=Z,0.4nm,0.3s,baz=190,slow=15,SNR=3.2						

MAN 11 12:01:28.3, 1581N×12232E, h31km, mb2.5, ML4.0, MS1.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALP	**Baler**	**0.72**	**265**	*e*P	Pn	12 01 42.5	+0.2
BALP				*e*S	Sb	12 01 48.6	-3.3
PCPH	**Palayan**	**1.20**	**259**	*e*P	Pn	12 01 48.9	0.0
PCPH				*e*S	Sn	12 02 10.5	+6.3
CAUP	**Cauayan**	**1.23**	**337**	*e*P	Pn	12 01 48.5	-0.8
CAUP				*e*S	Sn	12 01 55.3	-10
PALP	**Palanan**	**1.25**	**5**	*e*P	Pn	12 01 49.7	0.0

---

*ISCJB **11** 12:12:54.3±0.7, 5794N±005×2155E±007, h0km, Error ellipse: s-maj=8.4km s-min=4.3km az=132.6*
*HEL **11** 12:12:56.8±0.2, 5795N×2169E, h0km, ML2.2, ML2.2(NAO), Explosion*
*BER **11** 12:12:57.0±3.3, 5787N×2181E, h0km, ML2.2(NAO), Suspected explosion*
*NAO **11** 12:12:58.1±2.5, 5805N×2177E, ML2.2*
*IDC **11** 12:12:59.4±3.5, 5798N×2206E, h22km±20km, mb1 3.3/4, mb1mx3.1/20, mbtmp3.2/4, ML2.6/4, Error ellipse: s-maj=29.5km s-min=14.5km az=166.0*
ISC 11 12:12:56.1±0.7, **5799N**±005×**2161E**±007, **h0**km, **n18**, σ**1s21**/32, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**2.07**	**43**	*e*P	**Pn**	**12 13 32.3**	**+0.3**
SRPE				*e*S	**Sn**	**12 13 59.2**	**+0.7**
MEF	**Metsahovi**	**2.66**	**32**	*e*P	**Pn**	**12 13 41.2**	**+1.1**
MEF				*e*SB	**Sb**	**12 14 16.7**	**-1.0**
MEF				MSG		12 14 18.1	
	comp=Z,8.5nm,0.1s						
VSU	**Vasula**	**2.75**	**78**	*e*P	**Pn**	**12 13 41.3**	**-0.1**
VSU				*e*S	**Sn**	**12 14 15.1**	**-0.2**
RAF	**Rauma**	**3.04**	**1**	*e*P	**Pn**	**12 13 46.4**	**+1.0**
RAF				*e*SG	**Sg**	**12 14 30.8**	**-3.1**
RAF				MSG		12 14 34.7	
	comp=Z,4.0nm,0.2s						
PVF	**Pernaja**	**3.37**	**39**	*e*P	**Pn**	**12 13 50.7**	**+0.8**
PVF				*e*SB	**Sb**	**12 14 38.0**	**0.0**
PVF				MSG		12 14 47.7	
	comp=Z,7.8nm,0.2s						
FIA0	**FINESS Array S**	**4.14**	**31**	*e*P	**Pn**	**12 14 01.4**	**+0.9**
FIA0				*e*SG	**Sg**	**12 15 04.8**	**-4.1**
FIA0	**FINESS Array S**	**4.14**	**31**	Pn	**Pn**	**12 14 00.4**	**0.0**
	baz=205,slow=14						
FIA0				Pg	**Pg**	**12 14 10.2**	**-5.2**
	baz=209,slow=16						
FIA0				Sn	**Sn**	**12 14 49.2**	**-0.3**
	baz=211,slow=22						
FIA0				Lg		12 15 04.9	
	baz=222,slow=28						
FINES	**FINESS Array B**	**4.14**	**31**	Pn	**Pn**	**12 14 00.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=34						
FINES				Pg	**Pg**	**12 14 09.8**	**-5.5**
	comp=Z,0.9nm,0.3s,baz=214,slow=15,SNR=20						
FINES				Lg		12 15 05.2	
	comp=Z,1.5nm,0.3s,baz=208,slow=26,SNR=9.8						
HFS	**Hagfors**	**4.62**	**301**	*e*P	**Pn**	**12 14 09.3**	**+2.2**
HFS				*e*S	**Sn**	**12 15 01.8**	**+0.4**
HFS				*e*SG		12 15 23.2	
HFS	**Hagfors**	**4.62**	**301**	Pn	**Pn**	**12 14 09.2**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=115,slow=16,SNR=6.0						
HFS				Sn	**Sn**	**12 15 01.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=127,slow=25,SNR=3.7						
HFS				Lg		12 15 22.9	
	comp=Z,0.2nm,0.3s,baz=135,slow=30,SNR=6.4						
HFS	**Hagfors**	**4.62**	**301**	Pn	**Pn**	**12 14 09.3**	**+2.2**
	baz=133,slow=16						
HFS				Sn	**Sn**	**12 15 01.8**	**+0.4**
	baz=117,slow=22						
HFS				Lg		12 15 23.2	
	baz=115,slow=28						
BSD	**Bornholm Skovb**	**4.70**	**235**	*i* P	**Pn**	**12 14 07.3**	**-0.8**
BSD				*i*		12 14 22.6	
BSD				*e*S	**Sn**	**12 15 01.2**	**-2.1**
NB2	**NORSAR Subarra**	**6.11**	**304**	Pn	**Pn**	**12 14 28.6**	**+0.9**
	baz=122,slow=14						
NB2	**NORSAR Subarra**	**6.11**	**304**	*e*P	**Pn**	**12 14 28.6**	**+0.9**
NOA	**NORSAR Array B**	**6.11**	**304**	Pn	**Pn**	**12 14 28.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=16,SNR=2.3						
NOA				Sn	**Sn**	**12 15 38.4**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=225,slow=11,SNR=2.2						
NOA				Lg		12 16 09.3	
	comp=Z,0.6nm,0.3s,baz=150,slow=19,SNR=3.2						
ARA0	**ARCESS Array S**	**11.71**	**7**	Pn	**Pn**	**12 15 41.1**	**-3.3**
	baz=188,slow=14						
ARA0	**ARCESS Array S**	**11.71**	**7**	*e*P	**Pn**	**12 15 41.1**	**-3.3**
ARCES	**ARCESS Array B**	**11.71**	**7**	Pn	**Pn**	**12 15 40.9**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=5.4						

---

*ISCJB **11** 12:17:44.8±1.7, 6108N±008×308E±02, h0km, Error ellipse: s-maj=14.0km s-min=8.8km az=78.8*
*HEL **11** 12:17:49.5±0.3, 6108N×3044E, h0km, ML2.1, ML2.4(NAO), Explosion*
*IDC **11** 12:17:50.8±1.9, 61.14N×30.12E, h0km, mb1 3.3/3, mb1mx3.1/20, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=18.2km s-min=10.7km az=155.0*
*BER **11** 12:17:50.7±2.5, 6132N×3027E, h0km, ML2.4(NAO), Suspected explosion*
*NAO **11** 12:17:51.8±2.0, 6127N×30.13E, ML2.4*
ISC 11 12:17:48.5±1.4, **6108N**±007×**305E**±01, **h0**km, **n17**, σ**1s01**/26, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOF	**Joensuu**	**1.89**	**12**	*e*P	**Pn**	**12 18 22.5**	**+0.6**
JOF				*e*S	**Sn**	**12 18 46.9**	**+0.5**
JOF				MSG		12 18 50.0	
	comp=Z,8.0nm,0.2s						
FIA0	**FINESS Array S**	**2.15**	**282**	*e*P	**Pn**	**12 18 25.9**	**+0.3**
FIA0				*e*S	**Sn**	**12 18 53.0**	**-0.1**
FIA0	**FINESS Array S**	**2.15**	**282**	Pg	**Pg**	**12 18 26.0**	**-3.8**
	baz=87,slow=14						
FIA0				Lg		12 18 53.6	
	baz=100,slow=28						
FIA0				Rg		12 19 05.8	
	baz=98,slow=37						
FINES	**FINESS Array B**	**2.15**	**282**	Pn	**Pn**	**12 18 25.9**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=94,slow=16,SNR=46						
FINES				Lg		12 18 52.7	
	comp=Z,3.4nm,0.3s,baz=99,slow=27,SNR=18						
FINES				Rg		12 19 06.0	
	comp=Z,8.9nm,0.7s,baz=92,slow=33,SNR=9.5						
KAF	**Kangasniemi**	**2.25**	**299**	*e*P	**Pn**	**12 18 27.7**	**+0.9**
KAF				*e*S	**Sn**	**12 18 55.3**	**+0.1**
KAF				MSG		12 18 58.8	
	comp=Z,13nm,0.2s						
PVF	**Pernaja**	**2.32**	**259**	*e*P	**Pn**	**12 18 28.7**	**+0.8**
PVF				*e*S	**Sn**	**12 18 57.1**	**-0.1**
PVF				MSG		12 19 01.1	
	comp=Z,8.9nm,0.2s						
SUF	**Sumiainen**	**2.62**	**311**	*e*P	**Pn**	**12 18 33.3**	**+1.2**
SUF				*e*S	**Sn**	**12 19 05.3**	**+0.6**
KJN	**Kajaani**	**3.28**	**338**	*e*P	**Pn**	**12 18 42.7**	**+1.6**
KJN				*e*S	**Sn**	**12 19 19.7**	**-1.0**
HFS	**Hagfors**	**8.31**	**271**	*e*P	**Pn**	**12 19 49.5**	**-0.7**
HFS	**Hagfors**	**8.31**	**271**	Pn	**Pn**	**12 19 48.8**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=72,slow=11,SNR=8.3						
HFS				Sn	**Sn**	**12 21 18.1**	**-6.6**
	comp=Z,0.5nm,0.3s,baz=82,slow=30,SNR=5.9						
HFS	**Hagfors**	**8.31**	**271**	Pn	**Pn**	**12 19 49.5**	**-0.7**
	baz=81,slow=11						
ARA0	**ARCESS Array S**	**8.74**	**348**	Pn	**Pn**	**12 19 54.5**	**-1.6**
	baz=158,slow=16						
ARA0				Sn	**Sn**	**12 21 25.4**	**-10**
ARA0				Lg		12 22 10.5	
	baz=161,slow=37						
ARA0	**ARCESS Array S**	**8.74**	**348**	*e*P	**Pn**	**12 19 54.5**	**-1.6**
ARA0				*e*		12 21 25.4	
ARA0				*e*		12 22 10.5	
ARCES	**ARCESS Array B**	**8.74**	**348**	Pn	**Pn**	**12 19 54.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=160,slow=13,SNR=8.4						
ARCES				Sn	**Sn**	**12 21 27.4**	**-7.8**
	comp=Z,0.2nm,0.3s,baz=168,slow=18,SNR=3.6						
NB2	**NORSAR Subarra**	**9.33**	**278**	Pn	**Pn**	**12 20 03.0**	**-1.2**
	baz=79,slow=16						
NB2	**NORSAR Subarra**	**9.33**	**278**	*e*P	**Pn**	**12 20 03.0**	**-1.2**
NOA	**NORSAR Array B**	**9.33**	**278**	Pn	**Pn**	**12 20 01.0**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=81,slow=14,SNR=2.7						

---

*ISCJB **11** 12:27:37.3±3.7, 63S±02×1475E±02, h55km±34km, mb3.8/3, Error ellipse: s-maj=37.5km s-min=17.5km az=115.0*
*NEIC **11** 12:27:41.2±3.0, 652S×14755E, h66km±27km, mb3.6/1, Error ellipse: s-maj=39.9km s-min=12.7km az=151.0*
*IDC **11** 12:27:43.4±4.9, 677S×14773E, h83km±43km, mb3.5/3, mb1 3.7/6, mb1mx3.5/14, mbtmp4.0/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/18, Error ellipse: s-maj=56.9km s-min=30.0km az=153.0*
ISC 11 12:27:38.7±3.1, **63S**±02×**1475E**±02, **h46**km±34km, **n14**, σ**0s67**/12, **mb3.8**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.08**	**186**	P	**Pn**	**12 28 24.5**	**-0.4**
	18nm,0.3s,baz=55,slow=7.8,SNR=41						
PMG				S	**Sn**	**12 29 01.0**	**+0.5**
	24nm,0.3s,baz=132,slow=17,SNR=5.7						
HNR	**Honiara**	**12.74**	**105**	P	**Pn**	**12 30 36.7**	**-0.5**
	2.0nm,0.3s,baz=273,slow=8.0,SNR=4.1						
HNR	**Honiara**	**12.74**	**105**	*e*P	**Pn**	**12 30 38.1**	**+0.9**
	85nm,1.4s						
CTA	**Charters Tower**	**13.74**	**185**	LR	LR	12 34 57.9	
	comp=Z,51nm,18.0s,baz=284,slow=33						
WRAB	**Tennant Creek**	**18.59**	**222**	*e*P	**Pn**	**12 31 52.4**	**-0.2**
	3.0nm,0.7s						
WRA	**Warramunga Arr**	**18.60**	**222**	P	**Pn**	**12 31 51.8**	**-1.0**
	0.2nm,0.3s,baz=52,slow=11,SNR=11						
AS31	**Alice Springs**	**21.62**	**216**	*e*P	**P**	**12 32 25.2**	**+0.2**
ASAR	**Alice Springs**	**21.63**	**216**	P	**P**	**12 32 25.2**	**+0.3**
	0.8nm,0.4s,mb3.5,baz=54,slow=8.5,SNR=33						
ASPA	**Alice Springs**	**21.63**	**216**	*e*P	**P**	**12 32 25.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.30**	**239**	P	**P**	**12 32 52.9**	**+1.1**
	4.0nm,0.6s,mb4.0,baz=53,slow=9.1,SNR=20						
STKA	**Stephens Creek**	**26.02**	**191**	P	**P**	**12 33 06.4**	**-1.0**
	3.9nm,1.2s,mb3.8,baz=330,slow=22,SNR=2.9						
STKA	**Stephens Creek**	**26.02**	**191**	*e*P	**P**	**12 33 06.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**145.62**	**284**	PKPbc	PKPbc	12 47 13.5	+1.3
	0.6nm,0.3s,baz=73,slow=3.5,SNR=24						
TORD	**Torodi Ar. Bea**	**145.62**	**284**	PKPbc	PKPbc	12 47 13.5	+1.3

---

*IDC **11** 12:32:51.8±2.4, 0.19N×9724E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=69.1km s-min=24.4km az=65.0*
*ISCJB **11** 12:32:55.0±1.5, 03N±0.1×973E±02, h33km, mb3.6/5, Error ellipse: s-maj=33.0km s-min=15.7km az=163.5*
*NEIC **11** 12:32:56.2±1.4, 021N×9727E, h30km, mb4.2/1, Error ellipse: s-maj=32.6km s-min=15.3km az=80.0*
ISC 11 12:32:57.5±1.6, **03N**±01×**973E**±02, **h35**km, **n8**, σ**0s91**/8, **mb3.6**/5, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.97**	**32**	Pn	**Pn**	**12 33 41.9**	**-0.2**
	0.8nm,0.3s,baz=144,slow=17,SNR=3.9						
PSI	**Prapat**	**2.97**	**32**	Pn	**Pn**	**12 33 41.9**	**-0.2**
KULM	**Kulim**	**5.98**	**34**	*e*P	**Pn**	**12 34 23.6**	**+0.1**
WRA	**Warramunga Arr**	**41.43**	**121**	P	**P**	**12 40 39.2**	**-1.4**
	0.9nm,0.7s,mb3.5,baz=304,slow=8.9,SNR=8.7						
WRAB	**Tennant Creek**	**41.44**	**121**	*e*P	**P**	**12 40 40.4**	**-0.3**
	4.7nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**42.73**	**126**	P	**P**	**12 40 53.0**	**+1.8**
	0.2nm,0.6s,mb3.0,baz=293,slow=7.5,SNR=4.5						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**12 41 33.8**	**+0.7**
	0.4nm,0.6s,mb3.6,baz=198,slow=6.8,SNR=2.9						
MKAR	**Makanchi Array**	**48.17**	**346**	P	**P**	**12 41 33.8**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=160,slow=7.5,SNR=3.7						

---

*CSEM **11** 12:36:13.1±0.2, 5787N×2173E, h1km, ML2.9, Error ellipse: s-maj=6.4km s-min=2.2km az=178.0, Mining explosion.*
*BER **11** 12:36:14.0±4.3, 5786N×2190E, h0km, ML2.2(NAO), Suspected explosion*
*NAO **11** 12:36:16.7±2.5, 58.14N×2176E, ML2.2*
*UPP **11** 12:36:17.4, 5809N×2142E, h0km, ML2.9, Suspected Mining explosion.*
HEL 11 12:36:13.6±0.3, **5784N**×**2174E**, **h0**km, **ML2.1**, **ML2.9**(UPP), **ML2.2**(NAO), **Explosion**, **Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**2.13**	**39**	*e*P	Pn	12 36 49.7	-0.8
SRPE				*e*S	Sn	12 37 17.6	-0.1
SRPE	**Suurupi**	**2.13**	**39**	P	Pn	12 36 49.6	-0.9
SRPE				S	Sn	12 37 17.6	-0.1
NYNU	**Nynaeshamn**	**2.28**	**302**	*e*P	Pn	12 36 52.8	+0.3
NYNU	**Nynaeshamn**	**2.28**	**302**	P	Pn	12 36 52.7	+0.2
NRTU	**Norrtaelje**	**2.45**	**320**	*e*P	Pn	12 36 54.6	-0.2
VSU	**Vasula**	**2.72**	**75**	*e*P	Pn	12 36 58.7	+0.2
VSU				*e*S	Sn	12 37 33.4	+1.2
VSU	**Vasula**	**2.72**	**75**	P	Pn	12 36 58.7	+0.2
VSU				S	Sn	12 37 33.3	+1.1
MEF	**Metsahovi**	**2.75**	**29**	*e*P	Pn	12 36 59.3	+0.4
MEF				*e*S	Sn	12 37 33.3	+0.4
MEF				MSG		12 37 34.9	
	comp=Z,7.3nm,0.1s						
MEF	**Metsahovi**	**2.75**	**29**	P	Pn	12 36 59.3	+0.4
MEF				S	Sn	12 37 33.2	+0.3
	comp=Z,7.3nm,0.1s						
VIKU	**Vikbolandet**	**2.75**	**286**	*e*P	Pn	12 36 59.8	+0.9
FLYU	**Flymyra**	**3.04**	**321**	*e*P	Pn	12 37 02.8	-0.1
ESKU	**Eskilstuna**	**3.13**	**299**	*e*P	Pn	12 37 04.4	+0.2
ESKU	**Eskilstuna**	**3.13**	**299**	P	Pn	12 37 04.3	+0.2
BACU	**Backbrunna**	**3.14**	**312**	*e*P	Pn	12 37 04.3	+0.1
BACU	**Backbrunna**	**3.14**	**312**	P	Pn	12 37 04.3	0.0
RAF	**Rauma**	**3.19**	**0**	*e*P	Pn	12 37 03.4	-1.6
RAF				*e*SB	Sb	12 37 48.1	-2.4
RAF				*e*SG	Sg	12 37 51.6	-4.6
RAF				MSG		12 37 52.1	
	comp=Z,2.4nm,0.1s						
RAF	**Rauma**	**3.19**	**0**	P	Pn	12 37 03.3	-1.7
RAF				Sg	Sg	12 37 51.5	-4.6
PVF	**Pernaja**	**3.44**	**36**	*e*P	Pn	12 37 08.2	-0.3
PVF				*e*SB	Sb	12 37 57.0	-0.8
PVF				MSG		12 38 05.0	
	comp=Z,5.8nm,0.2s						
PVF	**Pernaja**	**3.44**	**36**	P	Pn	12 37 08.1	-0.4
FIA0	**FINESS Array S**	**4.23**	**30**	*e*P	Pn	12 37 18.8	-0.5
FIA0				*e*SG	Sg	12 38 24.2	-5.3
FIA0	**FINESS Array S**	**4.23**	**30**	Pn	Pn	12 37 18.4	-0.9
	baz=205,slow=14						
FIA0				Pg	Pg	12 37 27.6	-7.1
	baz=209,slow=16						
FIA0				Sn	Sn	12 38 06.6	-2.8
	baz=197,slow=28						
FIA0				Lg		12 38 19.9	
	baz=215,slow=28						
FIA0	**FINESS Array S**	**4.23**	**30**	P	Pn	12 37 18.7	-0.6
FIA0	**FINESS Array S**	**4.23**	**30**	Pg	Pg	12 37 27.6	-7.1
	SNR=6.9						
FIA0				Sn	Sn	12 38 06.6	-2.8
	SNR=3.7						
BSD	**Bornholm Skovb**	**4.67**	**237**	*i* P	Pn	12 37 24.1	-1.2
BSD				*i*		12 37 39.9	
BSD				*i* S	Sn	12 38 16.6	-3.5
HFS	**Hagfors**	**4.75**	**302**	Pn	Pn	12 37 26.6	+0.2
	baz=136,slow=16						
HFS				Sn	Sn	12 38 19.6	-2.7
	baz=124,slow=28						
HFS				Lg		12 38 40.9	
	baz=107,slow=28						
HFS	**Hagfors**	**4.75**	**302**	*e*P	Pn	12 37 26.6	+0.2
HFS				*e*S	Sn	12 38 19.6	-2.7
HFS				*e*SG		12 38 40.9	
HFS	**Hagfors**	**4.75**	**302**	P	Pn	12 37 26.6	+0.1
HFS				S	Sn	12 38 19.5	-2.8
NB2	**NORSAR Subarra**	**6.25**	**305**	Pn	Pn	12 37 45.6	-1.5
	baz=122,slow=14						
NB2				Lg		12 39 29.9	
	baz=126,slow=37						
NB2	**NORSAR Subarra**	**6.25**	**305**	*e*P	Pn	12 37 45.6	-1.5
NB2				*e*		12 39 29.9	
ARA0	**ARCESS Array S**	**11.85**	**6**	Pn	Pn	12 38 58.6	-5.3
	baz=188,slow=14						
ARA0	**ARCESS Array S**	**11.85**	**6**	*e*P	Pn	12 38 58.6	-5.3

---

*SZGRF **11** 12:47:14.2, 4622N×2842W, h33km, mb5.1, Northern Mid-Atlantic Ridge*
*BJI **11** 12:47:14.6, 46.15N×2820W, h24km, mB5.3, mb5.2, Ms5.2, Msz4.9*
*MOS **11** 12:47:15.8±1.0, 4638N×2754W, h10km, mb5.1/80, Error ellipse: s-maj=7.0km s-min=3.8km az=153.6*
*IDC **11** 12:47:15.7±0.5, 4639N×2751W, h0km, mb4.5/27, mb1 4.6/29, mb1mx4.6/32, mbtmp4.5/29, ML4.3/2, MS4.3/29, Ms1 4.3/29, ms1mx4.3/30, Error ellipse: s-maj=13.2km s-min=11.2km az=12.0*
*ISCJB **11** 12:47:15.6±0.1, 4626N±002×2753W±002, h10km, mb4.9/170, MS4.4/44, Error ellipse: s-maj=3.1km s-min=2.2km az=19.6*
*GCMT **11** 12:47:17.7±0.2, 4638N×2736W, h12km, MW5.0/86, Moment Tensor Solution. s37,c51; s86,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.92±.09; $M_{\theta\theta}$0.21±.10; $M_{\phi\phi}$3.71±.08; $M_{r\theta}$0.56±.29; $M_{\theta\phi}$-0.30±.07; $M_{\phi r}$0.23±.24; Best double couple: $M_0$3.87200×10^{16} NP1:ϕ_s347.00000°, δ44.00000°, λ-101.00000°. NP2: ϕ_s183.00000°, δ47.00000°, λ-79.00000°. Principal axes: T 3.7390, Plg1.0000°, Azm265.0000°; N 0.2670, Plg8.0000°, Azm356.0000°; P -4.0050, Plg82.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **11** 12:47:17.7±0.1, 4635N×2753W, h10km, mb4.9/148, MS4.4/7 Error ellipse: s-maj=5.2km s-min=2.0km az=7.0*
*CSEM **11** 12:47:20.7±0.5, 46.13N×2673W, h10km, mb5.1/14, Ms4.2, Error ellipse: s-maj=15.9km s-min=5.0km az=116.0*
ISC 11 12:47:17.6±0.1, **4633N**±002×**2749W**±002, **h10**km, **(h15**km±.5km**:pP-P)**, **n563**, σ**1s07**/554, **mb4.9**/170, **MS4.4**/44, **30C-15D**, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBIS	**Biscoitos**	**7.56**	**179**	*e*pP	**Pn**	**12 49 08.8**	**+1.0**
PVNV	**Vila Nova**	**7.56**	**178**	*e*pP	**Pn**	**12 49 08.6**	**+0.7**
PFAV	**Pico das Favas**	**7.62**	**178**	*e*pP	**Pn**	**12 49 09.3**	**+0.7**
RIB2	**Ribeirinha**	**7.66**	**178**	*e*pP	**Pn**	**12 49 10.1**	**+1.0**
ADH	**Angra Heroismo**	**7.67**	**178**	*e*pP	**Pn**	**12 49 09.7**	**+0.4**
SET4	**Mosteiros**	**8.54**	**171**	*e*-	**Pn**	**12 49 22.5**	**+1.3**
PSAN	**Santo Antonio**	**8.57**	**171**	*e*pP	**Pn**	**12 49 22.1**	**+0.4**
PFET	**Feteiras**	**8.60**	**171**	*e*pP	**Pn**	**12 49 21.9**	**-0.1**
PSET	**Sete Cidades**	**8.60**	**171**	*e*pP	**Pn**	**12 49 21.5**	**-0.5**
PFAD	**Fenais da Ajud**	**8.63**	**168**	*e*pP	**Pn**	**12 49 22.1**	**-0.4**
PVER	**Pico Vermelho**	**8.65**	**170**	*e*pP	**Pn**	**12 49 22.8**	**+0.1**
MESC	**Monte Escuro**	**8.66**	**169**	*e*pP	**Pn**	**12 49 22.9**	**0.0**
CML	**Cha da Macela**	**8.67**	**170**	*e*pP	**Pn**	**12 49 23.0**	**0.0**
LFA	**Lagoa do Fogo**	**8.68**	**169**	*e*pP	**Pn**	**12 49 23.1**	**0.0**
CMLA	**Cha da Macela**	**8.68**	**170**	*e*Pn	**Pn**	**12 49 22.2**	**-1.0**
CMLA				*e*LR	LR	12 51 20.1	
CMLA	**Cha da Macela**	**8.68**	**170**	*e*pP	**Pn**	**12 49 23.5**	**+0.3**
CMLA				*e*LQ		12 50 56.4	
CMLA				*e*LR	LR	12 51 09.7	
CMLA	**Cha da Macela**	**8.68**	**170**	*e*P	**Pn**	**12 49 21.3**	**-1.9**
	97nm,0.7s						
PDA	**Ponta Delgada**	**8.68**	**170**	*e*pP		12 49 23.6	
PDA				*e*LR	LR	12 51 25.0	
MIRA	**Miradouro**	**8.69**	**168**	*e*pP	**Pn**	**12 49 23.0**	**-0.3**
VIF	**Vila Franca**	**8.71**	**169**	*e*-	**Pn**	**12 49 23.8**	**+0.2**
PRCH	**Ribeira Ch**	**8.72**	**169**	*e*pP	**Pn**	**12 49 24.0**	**+0.3**
FRA1	**Furnas**	**8.72**	**169**	*e*-	**Pn**	**12 49 23.7**	**-0.1**
PSMN	**Pico do Norte,**	**9.49**	**168**	*e*pP	**Pn**	**12 49 33.8**	**-0.5**
EMAZ	**Mazaricos**	**13.61**	**98**	P	**Pn**	**12 50 27.4**	**-3.2**
	178nm,0.6s						
STS	**Santiago**	**13.92**	**97**	P	**Pn**	**12 50 32.0**	**-2.9**
STS				pmax	pmax		
	comp=Z,82nm,0.6s						
STS	**Santiago**	**13.92**	**97**	P	**Pn**	**12 50 32.0**	**-2.9**
	comp=Z,82nm,0.6s						
EZAM	**Zamans**	**14.10**	**100**	P	**Pn**	**12 50 34.7**	**-2.7**
EZAM				pmax	pmax		
	comp=Z,234nm,0.4s						
EZAM	**Zamans**	**14.10**	**100**	P	**Pn**	**12 50 34.7**	**-2.6**
	comp=Z,234nm,0.4s						
PCAB	**Cabril**	**14.74**	**101**	*e*Pn	**Pn**	**12 50 43.1**	**-2.9**
PCAB							
	comp=Z,184nm,1.1s						
PCAB	**Cabril**	**14.74**	**101**	*e*Pn	**Pn**	**12 50 43.1**	**-2.9**
	comp=Z,184nm,1.1s						
EPON	**Pontenova**	**14.74**	**94**	P	**Pn**	**12 50 42.8**	**-3.3**
	comp=Z,112nm,1.3s						
DCN	**Croghan**	**14.78**	**54**	*e*P	**Pn**	**12 50 39.9**	**-6.7**
PVRL	**Vila Real**	**15.14**	**102**	*e*Pn	**Pn**	**12 50 48.0**	**-3.4**
PVRL							
	comp=Z,67nm,1.5s						
PVRL	**Vila Real**	**15.14**	**102**	*e*Pn	**Pn**	**12 50 48.0**	**-3.4**
	comp=Z,67nm,1.5s						
DLF	**Lyons Farm**	**15.19**	**55**	*e*P	**Pn**	**12 50 45.7**	**-6.4**
PVIS	**Viseu**	**15.27**	**105**	*e*Pn	**Pn**	**12 50 49.8**	**-3.3**
PMAFR	**Mafra**	**15.27**	**112**	*e*Pn	**Pn**	**12 50 49.7**	**-3.5**
PMAFR				*e*LR	LR	12 54 24.1	
PLOU	**Loures**	**15.40**	**112**	*e*Pn	**Pn**	**12 50 52.1**	**-2.7**
PLOU							
	comp=Z,182nm,1.2s						
PLOU	**Loures**	**15.40**	**112**	*e*Pn	**Pn**	**12 50 52.1**	**-2.7**
	comp=Z,182nm,1.2s						
PTOM	**Tomar**	**15.47**	**109**	*e*Pn	**Pn**	**12 50 53.3**	**-2.5**
ECAL	**Calabor**	**15.52**	**99**	P	**Pn**	**12 50 53.8**	**-2.7**
	comp=Z,23nm,0.7s						
PBRG	**Braganca**	**15.58**	**99**	*e*Pn	**Pn**	**12 50 54.9**	**-2.2**
PBRG							
	comp=Z,44nm,1.2s						
PBRG	**Braganca**	**15.58**	**99**	*e*Pn	**Pn**	**12 50 54.9**	**-2.2**
	comp=Z,44nm,1.2s						
MTE	**Manteigas**	**15.65**	**105**	*e*Pn	**Pn**	**12 50 55.4**	**-2.8**
MTE	**Manteigas**	**15.65**	**105**	*e*Pn	**Pn**	**12 50 56.7**	**-1.5**
MTE				*e*LR	LR	12 54 30.7	
	comp=Z,2μm,20.0s						
MTE							
	comp=Z,38nm,1.5s						
MTE	**Manteigas**	**15.65**	**105**	*e*P	**Pn**	**12 50 54.9**	**-3.3**
	comp=Z,46nm,1.1s						
PCBR	**Castelo Branco**	**15.98**	**107**	*e*Pn	**Pn**	**12 50 59.3**	**-3.0**
EARI	**Arriondas**	**16.09**	**93**	P	**Pn**	**12 51 01.1**	**-2.8**
	comp=Z,211nm,1.5s						
EVO	**Evora**	**16.33**	**112**	*e*P	**Pn**	**12 51 01.9**	**-5.0**
	comp=Z,21nm,0.6s						
EVO				*e*R			
	comp=Z,1μm,20.5s						
PESTR	**Estremoz**	**16.42**	**110**	*e*Pn	**Pn**	**12 51 04.1**	**-3.9**
PESTR				*e*LR	LR	12 54 56.2	
PESTR							
	comp=Z,56nm,1.3s						
PTEO	**Sao Teotonio**	**16.46**	**116**	*e*Pn	**Pn**	**12 51 05.7**	**-2.9**
PTEO							
	comp=Z,96nm,1.4s						
ROSF	**Rostrenen**	**16.53**	**74**	*e*P	**Pn**	**12 51 07.6**	**-1.8**
	comp=Z,186nm,1.3s						
ROSF	**Rostrenen**	**16.53**	**74**	*e*P	**Pn**	**12 51 07.6**	**-1.8**
ROSF				pmax	pmax		
	comp=Z,93nm,1.3s						
ROSF	**Rostrenen**	**16.53**	**74**	*e*P	**Pn**	**12 51 07.6**	**-1.8**
	comp=Z,93nm,1.3s						
QUIF	**Quistinic**	**16.62**	**76**	*e*P	**Pn**	**12 51 08.5**	**-2.1**
	comp=Z,93nm,1.3s						
QUIF	**Quistinic**	**16.62**	**76**	*e*P	**Pn**	**12 51 08.5**	**-2.1**
QUIF				pmax	pmax		
	comp=Z,46nm,1.3s						
QUIF	**Quistinic**	**16.62**	**76**	*e*P	**Pn**	**12 51 08.5**	**-2.1**
	comp=Z,46nm,1.3s						
PBEJ	**Beja**	**16.72**	**113**	*e*Pn	**Pn**	**12 51 09.3**	**-2.5**
EBAD	**Badajoz**	**16.85**	**109**	P	**Pn**	**12 51 08.8**	**-4.7**
	comp=Z,75nm,1.4s						
EGRO	**El Granado**	**17.25**	**113**	P	**Pn**	**12 51 15.7**	**-2.9**
	comp=Z,67nm,1.2s						
ELAN	**Lanestosa**	**17.34**	**92**	P	**Pn**	**12 51 17.1**	**-2.5**
	comp=Z,48nm,0.7s						
EMIN	**Mina Concepcio**	**17.63**	**112**	P	**Pn**	**12 51 20.0**	**-3.3**
	comp=Z,65nm,1.2s						
ESK	**Eskdalemuir**	**17.71**	**51**	*e*P	**Pn**	**12 51 23.8**	**-0.4**
ESK				pmax	pmax		
	comp=Z,97nm,1.4s						
ESK	**Eskdalemuir**	**17.71**	**51**	*e*P	**Pn**	**12 51 23.8**	**-0.4**
	comp=Z,97nm,1.4s						
EKA	**Eskdalemuir Ar**	**17.74**	**51**	P	**Pn**	**12 51 23.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=250,slow=12,SNR=32						
GUD	**Guadarrama**	**17.84**	**100**	P	**Pn**	**12 51 26.6**	**+0.8**
GUD				pmax	pmax		
	comp=Z,33nm,0.6s						
GUD	**Guadarrama**	**17.84**	**100**	P	**Pn**	**12 51 26.6**	**+0.8**

comp=Z,33nm,0.6s
GRR Gorron 18.13 74 *e*P **Pn 12 51 29.1 -0.3**
comp=Z,86nm,1.2s
GRR Gorron 18.13 74 *e*P **Pn 12 51 29.1 -0.3**
GRR pmax pmax
comp=Z,43nm,1.2s
GRR Gorron 18.13 74 *e*P **Pn 12 51 29.1 -0.3**
comp=Z,43nm,1.2s
FLN La Foliniere 18.36 73⇑*i*P **Pn 12 51 33.1 +0.8**
comp=Z,191nm,1.3s
FLN La Foliniere 18.36 73⇑*i*P **Pn 12 51 33.1 +0.8**
FLN pmax pmax
comp=Z,95nm,1.3s
FLN La Foliniere 18.36 73⇑*i*P **Pn 12 51 33.1 +0.8**
comp=Z,95nm,1.3s
LCHF La Chataignera 18.39 79 *e*P **Pn 12 51 32.9 +0.2**
ESDC Sonseca Array 18.41 103 P **Pn 12 51 32.2 -0.7**
comp=Z,1.3nm,0.3s,baz=295,slow=12,SNR=24
ESDC LR LR 12 57 07.9
comp=Z,1µm,19.1s,baz=300,slow=32
ESDC Sonseca Array 18.41 103 P **Pn 12 51 32.1 -0.7**
comp=Z,16nm,0.8s
ESLA Sonseca Array 18.41 103 P **Pn 12 51 30.8 -2.1**
comp=Z,13nm,1.4s
LDF La Druitiere 18.61 73 *e*P **Pn 12 51 35.4 +0.1**
comp=Z,98nm,1.4s
LDF La Druitiere 18.61 73 *e*P **Pn 12 51 35.4 +0.1**
LDF pmax pmax
comp=Z,49nm,1.4s
LDF La Druitiere 18.61 73 *e*P **Pn 12 51 35.4 +0.1**
comp=Z,49nm,1.4s
EALK Alkurruntz 18.68 90 P **Pn 12 51 35.0 -1.1**
comp=Z,57nm,0.8s
ELIZ Elizondo 18.68 90 P **Pn 12 51 37.6 +1.4**
ELIZ pmax pmax
comp=Z,7.0nm,0.7s
ELIZ Elizondo 18.68 90 P **Pn 12 51 37.6 +1.5**
comp=Z,6.8nm,0.7s
ESPR Espera 18.69 113 P **Pn 12 51 36.2 -0.1**
comp=Z,51nm,1.2s
BORG Borgarnes 18.77 8 LR LR 12 56 41.4
comp=Z,594nm,20.8s,baz=353,slow=30
EADA Adamuz 18.78 108 P **Pn 12 51 34.8 -2.5**
comp=Z,40nm,1.4s
MFF Saint Martin d 18.81 79 *e*P **Pn 12 51 37.3 -0.4**
comp=Z,194nm,1.1s
MFF Saint Martin d 18.81 79 *e*P **Pn 12 51 37.3 -0.4**
MFF pmax pmax
comp=Z,97nm,1.1s
MFF Saint Martin d 18.81 79 *e*P **Pn 12 51 37.3 -0.4**
comp=Z,97nm,1.1s
OSSF Osses 18.84 90 *e*P **Pn 12 51 38.4 +0.3**
SJPF Ste Jean 18.91 90 *e*P **Pn 12 51 38.9 0.0**
comp=Z,62nm,0.9s
SJPF Ste Jean 18.91 90 *e*P **Pn 12 51 38.9 0.0**
SJPF pmax pmax
comp=Z,31nm,0.9s
SJPF Ste Jean 18.91 90 *e*P **Pn 12 51 38.9 0.0**
comp=Z,31nm,0.9s
LARF Larrau 19.10 90 *e*P **Pn 12 51 40.8 -0.4**
EJIF Jimena Fronter 19.19 113 P **Pn 12 51 41.6 -0.7**
EJIF pmax pmax
comp=Z,13nm,1.0s
EJIF Jimena Fronter 19.19 113 P **Pn 12 51 41.6 -0.7**
comp=Z,13nm,1.0s
EBAN Banos Encina 19.30 107 P **Pn 12 51 42.4 -1.2**
EBAN pmax pmax
comp=Z,3.0nm,0.5s
EBAN Banos Encina 19.30 107 P **Pn 12 51 42.4 -1.2**
comp=Z,2.8nm,0.5s
ETSF Etsaut 19.44 90 *e*P **Pn 12 51 44.3 -1.0**
comp=Z,134nm,0.9s
ETSF Etsaut 19.44 90 *e*P **Pn 12 51 44.3 -1.0**
ETSF pmax pmax
comp=Z,67nm,0.9s
ETSF Etsaut 19.44 90 *e*P **Pn 12 51 44.3 -1.0**
comp=Z,67nm,0.9s
REYF Montagne du Re 19.50 90 *e*P **Pn 12 51 46.0 0.0**
EMIJ Mijas 19.57 112 P **Pn 12 51 46.4 -0.4**
comp=Z,29nm,1.2s
ELOJ Sierra Loja 19.63 110 P **Pn 12 51 48.0 +0.5**
ELOJ pmax pmax
comp=Z,15nm,1.0s
ELOJ Sierra Loja 19.63 110 P **Pn 12 51 48.0 +0.5**
comp=Z,15nm,1.0s
LFF La Frestale 19.75 84 *e*P **Pn 12 51 47.3 -1.7**
comp=Z,206nm,1.5s
LFF La Frestale 19.75 84 *e*P **Pn 12 51 47.3 -1.7**
LFF pmax pmax
comp=Z,103nm,1.5s
LFF La Frestale 19.75 84 *e*P **Pn 12 51 47.3 -1.7**
comp=Z,103nm,1.5s
VIEF Viey 19.85 90 *e*P **Pn 12 51 50.4 +0.2**
EVIA Vianos 19.91 104 P **Pn 12 51 51.1 +0.2**
EVIA pmax pmax
comp=Z,35nm,1.3s
EVIA Vianos 19.91 104 P **Pn 12 51 51.1 +0.2**
comp=Z,35nm,1.3s
ESAC San Caprasio 19.93 94 P **Pn 12 51 49.6 -1.5**
comp=Z,126nm,1.7s
ERON Agron 19.93 109 P **Pn 12 51 50.7 -0.4**
comp=Z,10nm,0.8s
ECOG Cogollos-Vega 19.94 108 P **Pn 12 51 51.1 -0.1**
ECOG pmax pmax
comp=Z,3.0nm,0.4s
ECOG Cogollos-Vega 19.94 108 P **Pn 12 51 51.1 -0.1**
comp=Z,3.2nm,0.4s
EQES Quesada 19.97 107 P **Pn 12 51 49.6 -2.1**
comp=Z,59nm,1.6s
EBIE Bielsa 20.00 90 P **Pn 12 51 52.2 +0.2**
comp=Z,87nm,1.7s
EPF Esparros 20.02 89 *e*P **P 12 51 50.2 -0.3**
MENF Mencas 20.05 67 *e*P **P 12 51 52.0 +1.2**
RJF Les Rejaudoux 20.20 82 *e*P **P 12 51 52.4 0.0**
RJF *e*R
comp=Z,3µm,22.5s
RJF Les Rejaudoux 20.20 82 *e*P **P 12 51 52.4 0.0**
RJF LR LR
comp=Z,3µm,22.5s,MS4.5
MELF Melles 20.36 90 *e*P **P 12 51 56.1 +1.9**
TCF Toulx Ste Croi 20.47 79⇑*i*P **P 12 51 55.7 +0.4**
comp=Z,309nm,1.1s
TCF Toulx Ste Croi 20.47 79⇑*i*P **P 12 51 55.7 +0.4**
TCF pmax pmax
comp=Z,155nm,1.1s
TCF Toulx Ste Croi 20.47 79⇑*i*P **P 12 51 55.7 +0.4**
comp=Z,155nm,1.1s
EMOS Mosqueruela 20.48 97 P **P 12 51 56.9 +1.5**
comp=Z,97nm,1.3s
ETOB Tobarra 20.55 103 P **P 12 51 56.4 +0.1**
comp=Z,58nm,2.0s
MLS Moulis 20.57 89 *e*P **P 12 51 56.1 -0.3**
HYF Humbligny 20.59 76 *e*P **P 12 51 58.5 +1.8**
EBER Berja 20.60 108 P **P 12 51 57.1 +0.4**
comp=Z,46nm,1.6s
CAF Calviac 20.67 83 *e*P **P 12 51 57.4 -0.1**
comp=Z,97nm,1.0s
CAF Calviac 20.67 83 *e*P **P 12 51 57.4 -0.1**
CAF pmax pmax
comp=Z,49nm,1.0s
CAF Calviac 20.67 83 *e*P **P 12 51 57.4 -0.1**
comp=Z,48nm,1.0s
SALF Salau 20.70 90 *e*P **P 12 51 58.3 +0.4**
VERF Verneugheol 20.77 81 *e*P **P 12 51 58.7 +0.1**
ERTA Horta de San J 20.78 95 P **P 12 51 58.7 0.0**
comp=Z,141nm,1.9s
BGF Bois d'Agland 20.85 78 *e*P **P 12 51 59.6 +0.1**
comp=Z,367nm,1.3s
BGF Bois d'Agland 20.85 78 *e*P **P 12 51 59.6 +0.1**
BGF pmax pmax
comp=Z,183nm,1.3s
BGF Bois d'Agland 20.85 78 *e*P **P 12 51 59.6 +0.1**
comp=Z,183nm,1.3s
PYM Petit Puy Mans 21.12 80 *e*P **P 12 52 03.0 +0.6**
EPOB Poblet 21.14 93 P **P 12 52 02.1 -0.5**
comp=Z,31nm,1.5s,mb4.4
AGO Saint Agoulin 21.14 80 *e*P **P 12 52 03.2 +0.6**
AVF Avril sur Loir 21.15 77⇑*i*P **P 12 52 02.9 +0.2**
comp=Z,234nm,1.2s,mb5.1
AVF Avril sur Loir 21.15 77⇑*i*P **P 12 52 02.9 +0.2**
AVF pmax pmax
comp=Z,117nm,1.2s,mb5.1
AVF Avril sur Loir 21.15 77⇑*i*P **P 12 52 02.9 +0.2**
comp=Z,117nm,1.2s,mb5.1
EMUR La Murta 21.18 104 P **P 12 52 03.0 +0.1**
comp=Z,62nm,1.4s,mb4.7
MTLF Montolieu 21.22 87 *e*P **P 12 52 03.2 -0.3**
comp=Z,226nm,1.3s,mb5.0
MTLF Montolieu 21.22 87 *e*P **P 12 52 03.2 -0.3**
MTLF pmax pmax
comp=Z,113nm,1.3s,mb5.0
MTLF Montolieu 21.22 87 *e*P **P 12 52 03.2 -0.3**
comp=Z,113nm,1.3s,mb5.0
CARF Carcanieres 21.35 89 *e*P **P 12 52 09.2 +4.3**
BAIF Baives 21.37 68⇑*i*P **P 12 52 06.4 +1.3**
comp=Z,203nm,1.3s,mb5.0
BAIF Baives 21.37 68⇑*i*P **P 12 52 06.4 +1.3**
BAIF pmax pmax
comp=Z,101nm,1.3s,mb5.0
BAIF Baives 21.37 68⇑*i*P **P 12 52 06.4 +1.3**
comp=Z,101nm,1.3s,mb5.0
VALF Valcebollere 21.40 90 *e*P **P 12 52 06.3 +0.9**
LBL Lubilhac 21.41 82 *e*P **P 12 52 05.6 +0.1**
SNF Seneffe 21.41 67 P **P 12 52 05.5 0.0**
LOR Lormes 21.41 76 *e*P **P 12 52 05.3 -0.3**
comp=Z,508nm,1.6s,mb5.3
LOR *e*R
comp=Z,1µm,21.0s
LOR Lormes 21.41 76 *e*P **P 12 52 05.3 -0.3**
LOR pmax pmax
comp=Z,254nm,1.6s,mb5.3
LOR MLR MLR
comp=Z,1µm,21.0s,MS4.3
LOR Lormes 21.41 76 *e*P **P 12 52 05.3 -0.3**
comp=Z,254nm,1.6s,mb5.3
LOR LR LR
comp=Z,1µm,21.0s,MS4.3
EBEN Beniarda 21.42 101 P **P 12 52 05.9 +0.3**
comp=Z,121nm,1.4s,mb5.0
UCC Uccle 21.45 66 P **P 12 52 05.8 -0.1**
CART Cartagena 21.47 105 P **P 12 52 07.8 +1.6**
comp=Z,100nm,1.4s,mb5.0
PLDF La Plantade 21.50 80 *e*P **P 12 52 07.1 +0.7**
SMF Signal de Mont 21.51 78 *e*P **P 12 52 06.5 -0.1**
comp=Z,471nm,1.4s,mb5.4
SMF Signal de Mont 21.51 78 *e*P **P 12 52 06.5 -0.1**
SMF pmax pmax
comp=Z,236nm,1.4s,mb5.4
SMF Signal de Mont 21.51 78 *e*P **P 12 52 06.5 -0.1**
comp=Z,236nm,1.4s,mb5.4
LRDF Laroque-de-Fa 21.58 88 *e*P **P 12 52 07.6 +0.3**
DOU Dourbes 21.62 68 P **P 12 52 07.7 -0.1**
COLF Collangettes 21.64 81 *e*P **P 12 52 08.5 +0.5**
GIVF Givet 21.77 68⇑*i*P **P 12 52 10.4 +1.1**
comp=Z,174nm,1.1s,mb5.1
GIVF Givet 21.77 68⇑*i*P **P 12 52 10.4 +1.1**
GIVF pmax pmax
comp=Z,87nm,1.1s,mb5.1
GIVF Givet 21.77 68⇑*i*P **P 12 52 10.4 +1.1**
comp=Z,87nm,1.1s,mb5.1
EJON La Jonquera 21.99 89 P **P 12 52 15.0 +3.3**
comp=Z,57nm,1.4s,mb4.8
MEZF Maizieres J'vi 22.04 72 *e*P **P 12 52 13.7 +1.4**
comp=Z,136nm,0.9s,mb5.1
MEZF Maizieres J'vi 22.04 72 *e*P **P 12 52 13.7 +1.4**
comp=Z,68nm,0.9s,mb5.1
BCLA Clavier 22.06 67 P **P 12 52 13.2 +0.7**
MDT Miolet 22.11 120 P **P 12 52 12.3 -0.6**
comp=Z,13nm,1.1s,mb4.3,baz=327,slow=9.7,SNR=8.3
MDT LR LR 12 59 09.0
comp=Z,594nm,21.3s,MS4.0,baz=322,slow=32
LASF Ste Croix 22.13 84 *e*P **P 12 52 13.2 -0.1**
comp=Z,297nm,1.4s,mb5.2
LASF Ste Croix 22.13 84 *e*P **P 12 52 13.2 -0.1**
comp=Z,148nm,1.4s,mb5.2
BEBN Eben Emael 22.29 66 P **P 12 52 15.6 +0.6**
HGN Heimansgroeve 22.45 66 *e*P **P 12 52 15.6 -1.1**
comp=Z,28nm,1.5s,mb4.5
HGN *e*S **S 12 56 25.6 +2.3**
VIVF Saint-Julien-l 22.48 82 *e*P **P 12 52 17.2 +0.3**
comp=Z,254nm,1.5s,mb5.1
VIVF Saint-Julien-l 22.48 82 *e*P **P 12 52 17.2 +0.3**
VIVF pmax pmax
comp=Z,127nm,1.5s,mb5.1
VIVF Saint-Julien-l 22.48 82 *e*P **P 12 52 17.2 +0.3**
comp=Z,127nm,1.5s,mb5.1
MEM Membach 22.50 67 P **P 12 52 18.8 +1.6**
WLF Walferdange 22.65 69 *e*P **P 12 52 19.5 +0.7**
comp=Z,73nm,1.3s,mb5.0
WLF Walferdange 22.65 69 P **P 12 52 20.1 +1.3**
WLF Walferdange 22.65 69 *e*P **P 12 52 19.4 +0.6**
WLF pmax pmax
comp=Z,79nm,1.3s,mb5.0
WLF Walferdange 22.65 69 *e*P **P 12 52 19.4 +0.6**
comp=Z,79nm,1.3s,mb5.0
THEF They Montfort 22.70 73 *e*P **P 12 52 19.5 +0.3**
WIT Witteveen 22.93 61 *e*P **P 12 52 24.0 +2.3**
HAU Haudompre 22.97 73 *e*P **P 12 52 23.1 +1.0**
comp=Z,176nm,1.2s,mb5.1
HAU *e*R
comp=Z,1µm,21.8s
HAU Haudompre 22.97 73 *e*P **P 12 52 23.1 +1.0**
HAU pmax pmax
comp=Z,88nm,1.2s,mb5.1
HAU MLR MLR
comp=Z,1µm,21.8s,MS4.3
HAU Haudompre 22.97 73 *e*P **P 12 52 23.1 +1.0**
comp=Z,88nm,1.2s,mb5.1
HAU LR LR
comp=Z,1µm,21.8s,MS4.3
WTSB Winterswijk 22.98 63 *e*P **P 12 52 21.0 -1.3**
comp=Z,46nm,1.1s,mb4.8
OCF Saint Nazaire 22.99 82 *e*P **P 12 52 23.2 +0.9**
OG26 St.-Nazaire-De 22.99 82 *e*P **P 12 52 23.2 +0.9**
ETOS Mallorca 23.01 96 P **P 12 52 21.8 -0.7**
comp=Z,100nm,1.7s,mb5.0
CABF La Chapelle 23.04 77 *e*P **P 12 52 24.0 +1.2**
comp=Z,242nm,1.5s,mb5.1
CABF La Chapelle 23.04 77 *e*P **P 12 52 24.0 +1.2**
CABF pmax pmax
comp=Z,121nm,1.5s,mb5.1
CABF La Chapelle 23.04 77 *e*P **P 12 52 24.0 +1.2**
comp=Z,121nm,1.5s,mb5.1
PRAF Pradon 23.12 84 *e*P **P 12 52 25.4 +1.7**
BUG Bochum--Univer 23.28 65 *e*P **P 12 52 26.6 +1.2**
comp=Z,70nm,1.2s,mb5.0
ORIF Oris-en-Rattie 23.29 81 *e*P **P 12 52 26.6 +1.1**
ORIF *e*R
comp=Z,2µm,21.8s
TREF Trevaresse 23.32 85 *e*P **P 12 52 27.8 +1.9**
HINF Hinteralfeld 23.33 74 *e*P **P 12 52 26.0 0.0**
comp=Z,216nm,1.5s,mb5.0
HINF Hinteralfeld 23.33 74 *e*P **P 12 52 26.0 0.0**
HINF pmax pmax
comp=Z,108nm,1.5s,mb5.1
HINF Hinteralfeld 23.33 74 *e*P **P 12 52 26.0 0.0**
comp=Z,108nm,1.5s,mb5.0
SMRF Simiane la Rot 23.35 84 *e*P **P 12 52 26.6 +0.5**
comp=Z,222nm,1.7s,mb5.0
SMRF Simiane la Rot 23.35 84 *e*P **P 12 52 26.6 +0.5**
comp=Z,111nm,1.7s,mb5.0
LOMF Lomont 23.39 75 *e*P **P 12 52 28.0 +1.4**
ECH Echery 23.47 73 *e*P **P 12 52 27.8 +0.4**
VILF Villemus 23.48 84 *e*P **P 12 52 29.3 +1.8**
MOF Molkenrain 23.51 74 *e*P **P 12 52 28.5 +0.6**
CDF Champ du Feu 23.52 72 *e*P **P 12 52 27.8 -0.2**
comp=Z,185nm,1.7s,mb4.9
CDF Champ du Feu 23.52 72 *e*P **P 12 52 27.8 -0.2**
CDF pmax pmax
comp=Z,92nm,1.7s,mb4.9
CDF Champ du Feu 23.52 72 *e*P **P 12 52 27.8 -0.2**
comp=Z,92nm,1.7s,mb4.9
ABH Alteburg 23.53 68 *e*P **P 12 52 29.0 +0.9**
PUYF Puyloubier 23.57 85 *e*P **P 12 52 26.5 -1.9**
STOF St-Etienne Org 23.57 83 *e*P **P 12 52 31.1 +2.7**
WLS Welschbruch 23.57 72 *e*P **P 12 52 27.5 -0.9**
OG25 Le Caire 23.57 83 *e*P **P 12 52 20.9 -7.6**
IBBN Ibbenburen 23.58 62 *e*P **P 12 52 28.4 -0.1**
comp=Z,104nm,1.4s,mb5.1
LPL La Plagne 23.72 79 *e*P **P 12 52 28.2 -1.6**
comp=Z,58nm,1.2s,mb4.6
LPL La Plagne 23.72 79 *e*P **P 12 52 28.2 -1.6**
LPL pmax pmax
comp=Z,29nm,1.2s,mb4.6
LPL La Plagne 23.72 79 *e*P **P 12 52 28.2 -1.6**
comp=Z,29nm,1.2s,mb4.6
LPG La Plagne 23.74 79 *e*P **P 12 52 28.1 -1.8**
TAVF Tavernes 23.79 84 *e*P **P 12 52 31.9 +1.5**
LANF Langenberg 23.80 71 *e*P **P 12 52 31.9 +1.4**
BNI Bardonecchia 23.80 81 *e*P **P 12 52 31.4 +0.9**
BNI pmax pmax
comp=Z,41nm,1.4s,mb4.7
BNI Bardonecchia 23.80 81 *e*P **P 12 52 31.4 +0.8**
comp=Z,42nm,1.4s,mb4.7
MBDF Montbardon 23.95 81 *e*P **P 12 52 32.8 +0.9**
comp=Z,180nm,1.5s,mb5.0
MBDF Montbardon 23.95 81 *e*P **P 12 52 32.8 +0.9**
MBDF pmax pmax
comp=Z,90nm,1.5s,mb5.0
MBDF Montbardon 23.95 81 *e*P **P 12 52 32.8 +0.9**
comp=Z,90nm,1.5s,mb5.0
SFJD Kangerlussuaq 24.02 338 P **P 12 52 30.9 -1.6**
comp=Z,5.1nm,0.6s,mb4.1,baz=150,slow=20,SNR=3.4
SFJD LR LR 12 59 49.7
comp=Z,797nm,21.0s,MS4.2,baz=117,slow=32
SFJD Kangerlussuaq 24.02 338 *i* P **P 12 52 30.4 -2.1**
comp=Z,19nm,1.0s,mb4.5
SFJD *i* 12 59 07.8
SFJD
comp=Z,60nm,14.0s
SFJD Kangerlussuaq 24.02 338 *e*P **P 12 52 30.4 -2.1**
SFJD pmax pmax
comp=Z,19nm,1.0s,mb4.5
SFJD MLR MLR
comp=Z,60nm,14.0s
SFJD Kangerlussuaq 24.02 338 *e*P **P 12 52 30.4 -2.1**
comp=Z,19nm,1.0s,mb4.5
SFJD *i* 12 59 07.8
SFJD LR LR
comp=Z,60nm,14.0s
FELD Feldberg im Sc 24.09 73 *e*P **P 12 52 33.0 -0.1**
RSP Reno Suriore 24.17 80 P **P 12 52 36.8 +2.9**
FRF La Foret Royal 24.21 84 *e*P **P 12 52 34.7 +0.4**
comp=Z,88nm,1.3s,mb4.7
FRF La Foret Royal 24.21 84 *e*P **P 12 52 34.7 +0.4**
FRF pmax pmax
comp=Z,44nm,1.3s,mb4.7
FRF La Foret Royal 24.21 84 *e*P **P 12 52 34.7 +0.4**
comp=Z,44nm,1.3s,mb4.7
BFO Black Forest 24.23 72 *e*P **P 12 52 34.2 -0.2**
comp=Z,52nm,1.7s,mb4.7
BFO Black Forest 24.23 72 *e*P **P 12 52 34.2 -0.2**
BFO pmax pmax
comp=Z,52nm,1.7s,mb4.7
DOI San Damiano 24.34 82 P **P 12 52 37.0 +1.5**
DOI pmax pmax
comp=Z,68nm,1.2s,mb5.0
DOI San Damiano 24.34 82 P **P 12 52 37.0 +1.5**
comp=Z,68nm,1.2s,mb5.0
TOD Tromm 24.37 69 *e*P **P 12 52 35.6 -0.2**
STV Sta Anna Valdi 24.47 82 P **P 12 52 38.7 +2.1**
STV pmax pmax
comp=Z,34nm,1.1s,mb4.7
STV Sta Anna Valdi 24.47 82 P **P 12 52 38.7 +2.1**
comp=Z,34nm,1.1s,mb4.7
TOUF Mont Tournerai 24.49 83 *e*P **P 12 52 39.2 +2.4**
ORO Oropa 24.54 79 P **P 12 52 39.8 +2.5**
LUCF Luceram 24.59 83 *e*P **P 12 52 39.6 +1.9**
AUTN L'Aution 24.62 83 *e*P **P 12 52 41.0 +3.0**
REVF Revere 24.65 83 *e*P **P 12 52 40.7 +2.4**
SBF Sospel 24.66 83 *e*P **P 12 52 39.6 +1.2**
comp=Z,157nm,1.0s,mb5.2
SBF Sospel 24.66 83 *e*P **P 12 52 39.6 +1.2**
SBF pmax pmax
comp=Z,79nm,1.0s,mb5.2
SBF Sospel 24.66 83 *e*P **P 12 52 39.6 +1.2**
comp=Z,79nm,1.0s,mb5.2
SAOF Saorge 24.71 83 *e*P **P 12 52 40.0 +1.2**
STU Stuttgart 24.73 71 *e*P **P 12 52 39.9 +0.9**
comp=Z,79nm,1.1s,mb5.2
STU Stuttgart 24.73 71 *e*P **P 12 52 39.5 +0.5**
STU pmax pmax
comp=Z,90nm,1.1s,mb5.2
STU Stuttgart 24.73 71 *e*P **P 12 52 39.5 +0.4**
comp=Z,90nm,1.1s,mb5.2
MUD Monsted U'grnd 24.74 52 *i* P **P 12 52 40.1 +1.0**
comp=Z,27nm,1.0s,mb4.7
MUD *i* 12 57 23.7
MUD
comp=Z,870nm,18.0s
MUD Monsted U'grnd 24.74 52 *i* P **P 12 52 40.1 +1.0**
comp=Z,27nm,1.0s,mb4.7
MUD *i* 12 57 23.7
NRDL Niedersach Rie 25.02 62 *e*P **P 12 52 41.8 +0.2**
comp=Z,81nm,1.1s,mb5.2
UBBA Unterbreizbach 25.03 66 *e*P **P 12 52 41.5 -0.2**
BSEG Bad Segeberg 25.16 59 *e*P **P 12 52 42.9 0.0**
comp=Z,92nm,1.3s,mb5.2
TUE Stuetta 25.26 76 P **P 12 52 47.0 +3.1**
comp=Z,58nm,1.2s,mb5.0
DAVA Damuels 25.44 74⇑*i*P **P 12 52 46.5 +1.0**
comp=Z,100nm,1.5s,mb5.1,SNR=19
KONO Kongsberg 25.61 45*c i*P **P 12 52 50.0 +3.0**
KONO Kongsberg 25.61 45 *e*P **P 12 52 46.4 -0.5**
comp=Z,60nm,1.2s,mb5.0
BOB Bobbio (Coli) 25.77 80 P **P 12 52 53.3 +4.8**
GRA1 Grafenberg Arr 25.92 68 *e*P **P 12 52 49.8 0.0**
comp=Z,55nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,900nm,18.5s,MS4.3
GRF Grafenberg Arr 25.92 68 *e*P **P 12 52 49.8 0.0**
comp=Z,55nm,1.1s,mb5.0
GRF *e*L 13 01 15.0
comp=Z,910nm,18.5s
GRF Grafenberg Arr 25.92 68 *e*P **P 12 52 49.8 0.0**
GRF pmax pmax
comp=Z,55nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,900nm,18.5s,MS4.3
GRF Grafenberg Arr 25.92 68 *e*P **P 12 52 49.8 0.0**
GRF pmax pmax
comp=Z,55nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,900nm,18.5s,MS4.3
BRMO Bormio 25.95 76 P **P 12 52 57.8 +7.7**
MOX Moxa 26.06 66 *e*P **P 12 52 51.0 -0.1**
comp=Z,26nm,1.4s,mb4.6
MOX Moxa 26.06 66 *e*(P) **P 12 52 48.5 -2.6**
MOX *e* 12 52 54.7
comp=Z,31nm,1.5s
MOX
comp=Z,700nm,23.0s
MOX Moxa 26.06 66 *e*P **P 12 52 48.5 -2.6**
comp=Z,31nm,1.5s,mb4.6
MOX LR LR
comp=Z,700nm,23.0s,MS4.1
SCHQ Schefferville 26.09 303 P **P 12 52 50.2 -1.1**
comp=Z,9.1nm,0.9s,mb4.3,baz=92,slow=12,SNR=5.9
SCHQ LR LR 13 01 33.2
comp=Z,591nm,18.7s,MS4.2,baz=149,slow=33
SCHQ Schefferville 26.09 303 *e*P **P 12 52 50.3 -1.0**
comp=Z,58nm,1.3s,mb5.0
FUR Furstenfeldbru 26.20 72 *e*P **P 12 52 53.5 +1.2**
comp=Z,30nm,0.8s,mb4.9
FUR Furstenfeldbru 26.20 72 *e*P **P 12 52 53.5 +1.2**
FUR pmax pmax
comp=Z,30nm,0.8s,mb4.9
MOTA Moosalm 26.25 74⇑*i*P **P 12 52 53.3 +0.5**
comp=Z,21nm,1.1s,mb4.6
MOTA Moosalm 26.25 74⇑*i*P **P 12 52 53.3 +0.5**
MOTA pmax pmax
comp=Z,21nm,1.1s,mb4.6
JMIC Jan Mayen 26.37 14 LR LR 13 00 51.3
comp=Z,311nm,18.6s,MS3.9,baz=75,slow=31
MANZ Manzenberg 26.45 67 *e*P **P 12 52 55.1 +0.5**
comp=Z,75nm,1.3s,mb5.1
ERBM Eremo 26.53 80 P **P 12 52 52.0 -3.4**
ROTZ Rotzenmuhle 26.55 68 *e*P **P 12 52 55.5 0.0**
comp=Z,17nm,1.2s,mb4.5
WTTA Wattenberg 26.62 74⇑*i*P **P 12 52 56.9 +0.8**
comp=Z,83nm,1.7s,mb5.0,SNR=11
WTTA Wattenberg 26.62 74⇑*i*P **P 12 52 57.0 +0.9**
WTTA pmax pmax
comp=Z,83nm,1.7s,mb5.0
TANN Tannenbergstha 26.62 66 *e*P **P 12 52 55.6 -0.6**
comp=Z,31nm,1.2s,mb4.7
NKC Novy Kostel 26.64 67 *e*P **P 12 52 55.1 -1.2**
NKC *e*pP pP 12 52 59.5 +0.1
NKC AMS AMS 13 02 10.0
comp=Z,1µm,21.4s
NKC Novy Kostel 26.64 67 *e*P **P 12 52 55.1 -1.2**
NKC *e* pP 12 52 59.5 +0.1
GSCL Gusciola 26.67 80 P **P 12 52 58.2 +1.6**
comp=Z,42nm,1.1s,mb4.9
NB2 NORSAR Subarra 26.75 43 P **P 12 52 57.0 -0.3**
comp=Z,11nm,1.1s,mb4.3,baz=254,slow=9.3
NOA NORSAR Array B 26.75 43 P **P 12 52 56.5 -0.7**
comp=Z,6.2nm,1.0s,mb4.1,baz=255,slow=9.6,SNR=4.2
NOA LR LR 13 01 59.2

comp=Z,350nm,20.9s,MS3.9,baz=255,slow=33
SUMG Summit 26.82 353 *e*P P **12 52 57.2 -0.8**
comp=Z,40nm,1.0s,mb4.9
CLL Collm 26.87 64 *e*P P **12 52 58.3 -0.1**
comp=Z,16nm,1.1s,mb4.5
CLL Collm 26.87 64 *i* P P **12 52 58.3 -0.1**
comp=Z,11nm,1.0s,mb4.3
CLL *i* (sP) sP 12 53 05.8 +3.1
CLL *e*S **S** **12 57 37.0 +2.1**
CLL Collm 26.87 64 *i* P P **12 52 58.3 -0.1**
CLL *i* 12 53 05.8
CLL *e*S **S** **12 57 37.0 +2.1**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.3
CLL MLR MLR
comp=Z,1µm,16.3s,MS4.5
CLL Collm 26.87 64 *i* P P **12 52 58.3 -0.1**
comp=Z,11nm,1.0s,mb4.3
CLL *i* 12 53 05.8
CLL *e*S **S** **12 57 37.0 +2.1**
CLL LR LR
comp=Z,1µm,16.3s,MS4.5
CTI Castel Tesino 26.92 76 P P **12 52 59.5 +0.7**
WET Wettzell 27.07 69 *e*P P **12 53 00.1 -0.1**
comp=Z,11nm,1.0s,mb4.3
WET Wettzell 27.07 69 *e*P P **12 53 00.1 -0.1**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.3
BRG Berggiesshubel 27.51 65 *e*P P **12 53 03.9 -0.2**
comp=Z,35nm,1.5s,mb4.8
BRG Berggiesshubel 27.51 65 *e*P P **12 53 04.2 0.0**
comp=Z,7.0nm,1.3s,mb4.1
BRG *e* 12 53 08.9
comp=Z,21nm,1.5s
BRG S **S** **12 57 47.0 +2.0**
BRG
comp=N,242nm,12.1s
BRG
comp=E,360nm,15.1s
BRG
comp=Z,591nm,17.1s
BRG Berggiesshubel 27.51 65 *e*P P **12 53 04.2 +0.1**
BRG *e* pP 12 53 08.9 +1.7
BRG S **S** **12 57 47.0 +2.0**
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
BRG MLR MLR
comp=Z,590nm,17.1s,MS4.2
BRG Berggiesshubel 27.51 65 *e*P P **12 53 04.2 0.0**
comp=Z,7.0nm,1.3s,mb4.1
BRG *e* 12 53 08.9
BRG S **S** **12 57 47.0 +2.0**
BRG LR LR
comp=Z,590nm,17.1s,MS4.2
KHC Kasperske Hory 27.53 69 *e*P P **12 53 04.1 -0.2**
KHC *e*pP pP 12 53 09.1 +1.7
KHC AMS AMS 13 03 20.0
comp=Z,2µm,18.3s
FVI Forni Avoltri 27.54 75 P P **12 53 05.4 +1.0**
GEC2 GERESS Array S 27.66 70 *e*P P **12 53 05.5 0.0**
comp=Z,19nm,1.1s,mb4.6
GEC2 GERESS Array S 27.66 70 *e*P P **12 53 05.5 0.0**
GEC2 pmax pmax
comp=Z,19nm,1.1s,mb4.6
GERES GERESS Array B 27.66 70 P P **12 53 03.8 -1.7**
comp=Z,7.7nm,1.0s,mb4.3,baz=282,slow=8.0,SNR=20
GERES LR LR 13 03 45.7
comp=Z,1µm,18.0s,MS4.6,baz=265,slow=36
GERES GERESS Array B 27.66 70 P P **12 53 03.8 -1.7**
GERES LR LR 13 03 45.7
SFI Santa Sofia 27.67 81 P P **12 53 09.7 +4.1**
SFI pmax pmax
comp=Z,5.0nm,0.2s,mb4.8
SFI Santa Sofia 27.67 81 P P **12 53 09.7 +4.1**
comp=Z,5.4nm,0.2s,mb4.8
HFS Hagfors 27.73 45 P P **12 53 05.2 -0.9**
comp=Z,1.3nm,0.8s,baz=301,slow=6.1,SNR=3.6
HFS LR LR 13 02 30.2
comp=Z,450nm,20.2s,MS4.0,baz=253,slow=33
KBA Koelnbreinsper 27.80 73⇑ *i*P P **12 53 07.1 +0.4**
comp=Z,69nm,2.6s,mb4.8
KBA Koelnbreinsper 27.80 73⇑ *i*P P **12 53 07.1 +0.4**
KBA pmax pmax
comp=Z,69nm,2.6s,mb4.8
GMNA Gemona 27.92 75 P P **12 53 08.4 +0.6**
PTCC Patocco-Chiusa 27.97 75 P P **12 53 09.4 +1.2**
PRU Pruhonice 28.01 67 *e*P P **12 53 09.0 +0.4**
PRU AMS AMS 13 03 20.0
comp=Z,2µm,18.1s
CADS Cadrg 28.27 75 *i* P P **12 53 10.8 -0.1**
VOY Vojsko 28.43 75 *e*P P **12 53 08.8 -3.5**
VOY *e* pP 12 53 12.2 -3.2
VOY *e* 12 53 16.2
FRB Frobisher Bay 28.58 322 P P **12 53 12.2 -1.5**
comp=Z,35nm,1.1s,mb5.0,baz=113,slow=11,SNR=4.5
FRB LR LR 13 01 57.1
comp=Z,503nm,18.1s,MS4.2,baz=45,slow=31
TREC Trest 28.73 68 AMS AMS 13 04 10.0
comp=Z,2µm,16.8s
OBKA Obir 28.74 74⇑ *i*P P **12 53 14.7 -0.4**
comp=Z,45nm,1.3s,mb5.0,SNR=13
MNS Montasola 28.77 83 P P **12 53 15.5 +0.1**
LJU Ljubljana 28.85 75 *e*P P **12 53 17.0 +0.9**
UPC Upice 28.86 66 *e*P P **12 53 15.9 -0.3**
PKME Peaks-Kenny Pk 28.92 283 *e*P P **12 53 14.2 -2.6**
DPC Dobruska-Polom 29.08 66 *e*P P **12 53 17.4 -0.8**
DPC *e*pP pP 12 53 21.5 +0.3
DPC AMS AMS 13 04 00.0
comp=Z,1µm,20.0s
PERS Pernice 29.08 74 *e*P P **12 53 17.2 -1.0**
PDKS Podkum 29.16 75 *e*P P **12 53 18.4 -0.4**
ARSA Arzberg 29.20 72⇑ *i*P P **12 53 18.9 -0.3**
comp=Z,28nm,1.2s,mb4.9,SNR=8.9
VRAC Vranov 29.44 68 P P **12 53 21.8 +0.5**
comp=Z,3.1nm,0.4s,mb4.4,baz=253,slow=10,SNR=4.9
VRAC LR LR 13 04 53.0
comp=Z,2µm,18.4s,MS4.7,baz=270,slow=36
KEST Kesra 29.50 98 P P **12 53 22.5 +0.7**
comp=Z,7.8nm,1.0s,mb4.4,baz=263,slow=5.5,SNR=11
KEST LR LR 13 04 02.5
comp=Z,637nm,19.1s,MS4.3,baz=92,slow=34
VVLD Villa Vallelon 29.62 84 P P **12 53 23.7 +0.8**
MORC Moravsky Berou 29.96 67⇑ *i*P P **12 53 26.3 +0.4**
MORC Moravsky Berou 29.96 67 *e*P P **12 53 25.8 -0.1**
comp=Z,14nm,1.1s,mb4.6
OKC Ostrava-Krasne 30.33 66 AMS AMS 13 05 10.0
comp=Z,1µm,17.2s
VYHS Vyhne 31.06 69 *e*P P **12 53 35.4 -0.3**
VYHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
VYHS Vyhne 31.06 69 *e*P P **12 53 35.4 -0.3**
comp=Z,4.4nm,1.1s,mb4.2
OJC Ojcow 31.30 65 *e*P P **12 53 37.7 -0.1**
PKSM Moragy 31.54 73⇓ *i*P P **12 53 39.1 -0.8**
PKSM Moragy 31.54 73⇓ P P **12 53 39.1 -0.8**
NIE Niedzica 31.79 67 *e*P P **12 53 43.6 +1.5**
PSZ Piszkesteto 31.89 70 *e*P P **12 53 43.1 +0.1**
PSZ pmax pmax
comp=Z,32nm,1.3s,mb5.0
PSZ Piszkesteto 31.89 70 *e*P P **12 53 43.1 +0.1**
comp=Z,32nm,1.3s,mb5.0
KECS Kecovo 32.13 68 *e*P P **12 53 45.0 -0.1**
KECS Kecovo 32.13 68 *e*P P **12 53 45.1 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KECS Kecovo 32.13 68 *e*P P **12 53 45.1 0.0**
comp=Z,4.9nm,0.8s,mb4.4
STHS Stebnicka Huta 32.39 66 *e*P P **12 53 48.2 +0.9**
STHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
STHS Stebnicka Huta 32.39 66 *e*P P **12 53 48.2 +0.9**
comp=Z,9.3nm,0.9s,mb4.6
ACCN Adirondack Com 32.51 282 *e*P P **12 53 49.2 +0.8**
CRVS Cervenica-Dubn 32.65 67 *e*P P **12 53 50.0 +0.4**
LONY Lake Ozonia 32.69 284 *e*P P **12 53 49.6 -0.4**
MSNY Massena 32.75 285 *e*P P **12 53 51.0 +0.5**
KOLS Kolonicke sedl 33.16 67 *e*P P **12 53 54.5 +0.4**
UZH Uzhgorod 33.25 68 *e*P P **12 53 55.4 +0.5**
BZS Buzias 33.70 73⇓ *i*P P **12 53 59.3 +0.5**
BZS Buzias 33.70 73⇓ P P **12 53 59.3 +0.5**
FINES FINESS Array B 33.90 44 P P **12 53 59.9 -0.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=289,slow=5.8,SNR=7.8
FINES PcP PcP 12 56 37.9 -1.1
comp=Z,3.8nm,0.9s,baz=75,slow=2.2,SNR=6.0
FINES LR LR 13 06 22.2
comp=Z,348nm,21.3s,MS4.0,baz=348,slow=34
FINES FINESS Array B 33.90 44 P P **12 53 59.9 -0.6**
FINES 12 56 37.9
FINES FINESS Array B 33.90 44 P P **12 53 59.9 -0.6**
FINES PcP PcP 12 56 37.9 -1.1
FINES LR LR 13 06 22.2
KAF Kangasniemi 34.03 43 *ep* P **12 54 00.3 -1.4**
comp=Z,12nm,0.7s,mb4.9
KAF Kangasniemi 34.03 43 *e*P P **12 54 00.3 -1.4**
KAF pmax pmax
comp=Z,12nm,0.7s,mb4.9
DRGR 34.05 71⇓ *i*P P **12 54 01.1 -0.7**
DRGR 34.05 71⇑ P P **12 54 01.6 -0.2**
BINY Binghamton 34.54 281 *e*P P **12 54 06.8 +0.7**
comp=Z,70nm,1.3s,mb5.4
ARCES ARCESS Array B 34.76 30 P P **12 54 06.8 -1.2**
comp=Z,9.4nm,1.0s,mb4.7,baz=283,slow=11,SNR=7.0
ARCES LR LR 13 06 26.7
comp=Z,284nm,19.9s,MS4.0,baz=82,slow=33
BURAR Bucovina Array 35.42 68⇓ *i*P P **12 54 15.2 +1.5**
BURAR Bucovina Array 35.42 68⇓ P P **12 54 15.2 +1.5**
SADO Sadowa 35.68 287 P P **12 54 15.8 -0.1**
comp=Z,18nm,1.1s,mb4.9,baz=96,slow=4.1,SNR=3.5
SADO Sadowa 35.68 287 P P **12 54 15.8 -0.2**
JOF Joensuu 36.36 41 *ep* P **12 54 20.3 -1.5**
comp=Z,10nm,0.9s,mb4.8
MLR Muntele Rosu 36.60 71⇓ *i*P P **12 54 24.1 +0.3**
MLR Muntele Rosu 36.60 71⇓ P P **12 54 24.1 +0.3**
AKASG Malin Array Be 37.04 62 P P **12 54 26.0 -1.5**
comp=Z,12nm,1.0s,mb4.7,baz=283,slow=8.6,SNR=26
AKASG PP PP 12 55 50.5 -1.3
comp=Z,0.3nm,0.3s,baz=285,slow=12,SNR=4.8
AKASG PcP PcP 12 56 45.3 -2.9
comp=Z,0.4nm,0.3s,baz=289,slow=3.2,SNR=6.5
AKASG LR LR 13 10 26.5
comp=Z,646nm,18.1s,MS4.5,baz=285,slow=38
AKASG Malin Array Be 37.04 62 P P **12 54 26.0 -1.5**
AKASG 12 55 50.6
AKASG 12 56 45.3
AKBB Malin Array Si 37.04 62 *e*P P **12 54 26.2 -1.3**
APA Apatity 37.34 34⇓ *i*P P **12 54 29.4 -0.7**
APA *i* pP 12 54 33.5 +0.4
APA pmax pmax
comp=Z,21nm,1.0s,mb4.9
APA MLR MLR
comp=Z,900nm,17.0s,MS4.6
ACSO Alum Creek Sta 40.15 282 *e*P P **12 54 55.1 +1.4**
comp=Z,54nm,1.4s,mb5.1
OBN Obninsk 40.16 53⇑ *e*P P **12 54 54.1 +0.3**
OBN *e*SS SS 13 03 50.9 -7.1
OBN pmax pmax
comp=Z,7.0nm,0.3s,mb4.9
OBN MLR MLR
comp=Z,800nm,25.0s,MS4.5
TOA0 Torodi Ar. Sit 41.21 134 *e*P P **12 55 02.0 -0.4**
TORD Torodi Ar. Bea 41.21 134 P P **12 55 02.2 -0.2**
comp=Z,24nm,0.9s,mb4.8,baz=329,slow=6.8,SNR=79
TORD LR LR 13 10 58.3
comp=Z,1µm,19.0s,MS4.7,baz=325,slow=34
TORD Torodi Ar. Bea 41.21 134 P P **12 55 02.2 -0.2**
TORD LR LR 13 10 58.3
VRSR Storozhevoye 42.86 58 *e*P P **12 55 14.7 -1.2**
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR MLR MLR
comp=Z,600nm,18.0s,MS4.5
VRSR MLR MLR
comp=N,260nm,16.0s,MS4.5
VRSR MLR MLR
comp=E,450nm,17.0s,MS4.5
DBIC Dimbokro 44.07 147 P P **12 55 25.2 -0.4**
comp=E,5.3nm,0.7s,mb4.4,baz=319,slow=12,SNR=7.9
DBIC LR LR 13 12 14.2
comp=E,392nm,19.3s,MS4.3,baz=319,slow=34
BR131 Keskin Array S 44.20 76 P P **12 55 24.8 -1.9**
comp=E,6.7nm,0.9s,mb4.4
BRTR Keskin Array B 44.20 76 P P **12 55 27.2 +0.6**
comp=E,7.6nm,1.1s,mb4.3,baz=293,slow=6.6,SNR=9.6
BRTR PcP PcP 12 57 10.4 -0.9
comp=E,2.1nm,0.7s,baz=262,slow=2.6,SNR=5.8
BRTR LR LR 13 14 24.4
comp=E,229nm,18.8s,MS4.1,baz=302,slow=37
BRTR Keskin Array B 44.20 76 *i* P P **12 55 27.2 +0.5**
BRTR pmax pmax
comp=Z,8.0nm,1.1s
ULM Lac du Bonnet 44.22 301 P P **12 55 26.1 -0.8**
comp=Z,5.8nm,0.9s,mb4.3,baz=30,slow=7.7,SNR=5.6
ULM LR LR 13 11 53.7
comp=Z,409nm,20.2s,MS4.3,baz=71,slow=34
WVT Waverly 45.50 280 *e*P P **12 55 35.8 -1.3**
WVT pmax pmax
comp=Z,17nm,1.0s,mb4.9
WVT Waverly 45.50 280 *e*P P **12 55 35.8 -1.3**
comp=Z,17nm,1.0s,mb4.9
FFC Flin Flon 45.99 309 *e*P P **12 55 40.3 -0.6**
FFC pmax pmax
comp=Z,16nm,1.0s,mb4.9
FFC Flin Flon 45.99 309 *e*P P **12 55 40.3 -0.7**
comp=Z,16nm,1.0s,mb4.9
PLAL Pickwick Lake 46.29 278 *e*P P **12 55 43.5 +0.1**
comp=Z,16nm,0.9s,mb5.0
ECSD EROS,Sioux Fal 47.49 293 *e*P P **12 55 53.1 +0.4**
MALT Malatya 48.12 75 *e*P P **12 55 57.8 +0.2**
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MALT Malatya 48.12 75 *e*P P **12 55 57.8 +0.2**
comp=Z,8.8nm,1.0s,mb4.7
SOKR Solikamsk 49.03 42 *e*P P **12 56 04.4 -0.2**
SOKR S S **13 03 19.9 +11**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
YKA Yellowknife Ar 49.10 322 P P **12 56 04.0 -1.1**
comp=Z,8.9nm,0.8s,mb4.8,baz=68,slow=7.4,SNR=16
YKA Yellowknife Ar 49.10 322 P P **12 56 04.0 -1.1**
ZEI Tsey 49.41 67 *e*P P **12 56 08.8 +1.3**
ZEI *e**PP pP 12 56 12.4 +1.7
ZEI *e* 12 57 31.5
ZEI *e* 12 58 02.4
ZEI pmax pmax
comp=Z,14nm,0.8s,mb5.0
KSU1 Kansas State U 49.83 288 *e*P P **12 56 10.6 -0.1**
MIAR Mount Ida 50.29 281 *e*P P **12 56 14.5 +0.3**
MIAR pmax pmax
comp=Z,31nm,1.1s,mb5.2
MIAR Mount Ida 50.29 281 *e*P P **12 56 14.5 +0.3**
comp=Z,30nm,1.1s,mb5.2
ARU Arti 51.25 45⇑ *i*P P **12 56 20.7 -0.7**
ARU *e* 12 58 14.9
ARU *e*PPP 12 59 14.7
ARU *e*S **S** **13 03 40.3 +0.3**
ARU *e*SS SS 13 07 12.2 -3.2
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.2
ARU MLR MLR
comp=N,100nm,17.0s,MS4.2
ARU MLR MLR
comp=E,200nm,18.5s,MS4.2
LAO LASA Array 51.96 301 *e*P P **12 56 27.5 +0.8**
comp=E,34nm,1.1s,mb5.2
SVE Sverdlovsk 52.07 44⇓ *e*P P **12 56 26.0 -1.6**
SVE *e* 12 56 35.0
SVE *e*S **S** **13 03 44.0 -7.4**
SVE *e* 13 04 12.0
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.0
SVE MLR MLR
comp=N,300nm,16.0s,MS4.5
SVE MLR MLR
comp=E,100nm,16.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.4
SDV Santo Domingo 52.39 239 *e*P P **12 56 31.5 +1.6**
comp=Z,7.7nm,0.9s,mb4.6
INK Inuvik 53.26 334 *e*P P **12 56 34.8 -1.6**
INK pmax pmax
comp=Z,17nm,1.1s
INK Inuvik 53.26 334 *e*P P **12 56 34.8 -1.6**
comp=Z,17nm,1.1s,mb4.9
EGMT Eagleton 53.34 304 *e*P P **12 56 37.1 +0.1**
comp=Z,11nm,1.1s,mb4.7
WMOK Wichita Mounta 53.70 285 *e*P P **12 56 39.4 -0.2**
WMOK pmax pmax
comp=Z,14nm,1.2s,mb4.8
WMOK Wichita Mounta 53.70 285 *e*P P **12 56 39.4 -0.1**
comp=Z,14nm,1.2s,mb4.8
AKTO Aktyubinsk 53.92 52 P P **12 56 40.7 -0.5**
AKTO pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GCMT Greycliff 54.47 302 *e*P P **12 56 45.3 +0.1**
WALA Waterton Lakes 55.15 307 *e*P P **12 56 49.8 -0.3**
comp=Z,18nm,1.0s,mb5.1
RWWY Rawlins 55.23 296 *e*P P **12 56 51.4 +0.8**
comp=Z,25nm,1.0s,mb5.2
HRY Holter Researc 55.24 304 *e*P P **12 56 50.6 -0.2**
ISCO Idaho Springs 55.28 293 *e*P P **12 56 52.3 +1.2**
ISCO pmax pmax
comp=Z,11nm,1.1s,mb4.8
ISCO Idaho Springs 55.28 293 *e*P P **12 56 52.3 +1.2**
comp=Z,11nm,1.1s,mb4.8
AB31 Akbulak array 55.60 52 *i* P P **12 56 53.1 -0.3**
AB31 pmax pmax
comp=Z,27nm,1.1s,mb5.2
CHMT Chamberlain Mo 55.94 304 *e*P P **12 56 55.6 -0.2**
FLWY Flagg Ranch 56.02 300 *e*P P **12 56 56.6 +0.2**
comp=Z,13nm,1.1s,mb4.9
PDAR Pinedale Array 56.07 298 P P **12 56 56.1 -0.6**
comp=Z,4.1nm,1.0s,mb4.4,baz=51,slow=6.7,SNR=22
PDAR LR LR 13 19 35.1
comp=Z,443nm,18.3s,MS4.6,baz=61,slow=35
LOHW Long Hollow 56.23 300 *e*P P **12 56 58.1 +0.2**
comp=Z,10nm,1.1s,mb4.8
IMW Indian Meadow 56.27 300 *e*P P **12 56 58.4 +0.2**
comp=Z,8.3nm,1.0s,mb4.7
MSO Missoula 56.38 305 *e*P P **12 56 58.4 -0.6**
comp=Z,5.3nm,1.2s,mb4.5
SDCO Great Sand Dun 56.38 291 *e*P P **12 56 59.6 +0.7**
comp=Z,9.4nm,1.1s,mb4.7
SNOW Snow King Moun 56.40 300 *e*P P **12 56 59.6 +0.5**
comp=Z,12nm,1.2s,mb4.8
DLMT Dillon 56.43 303 *e*P P **12 56 59.7 +0.4**
comp=Z,20nm,1.3s,mb5.0
SMCO Snowmass 56.50 294 *e*P P **12 56 57.5 -2.3**
comp=Z,10nm,1.2s,mb4.7
REDW Red Top Meadow 56.52 300 *e*P P **12 56 59.9 -0.1**
comp=Z,32nm,1.2s,mb5.2
RRI2 Red Ridge 56.81 300 P P **12 56 59.8 -2.2**
comp=Z,21nm,1.6s,mb4.9
MCMT McKenzie Canyo 56.88 302 *e*P P **12 57 03.1 +0.6**
JCT Junction City 56.93 281 *e*P P **12 57 02.3 -0.6**
JCT pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
JCT Junction City 56.93 281 *e*P P **12 57 02.3 -0.6**
comp=Z,8.2nm,0.8s,mb4.8
NEW Newport 57.36 307 *e*P P **12 57 05.2 -0.7**
NEW pmax pmax
comp=Z,22nm,1.1s
NEW Newport 57.36 307 *e*P P **12 57 05.2 -0.7**
comp=Z,22nm,1.1s,mb5.1
DAWY Dawson 57.73 331 *e*P P **12 57 08.1 -0.5**
ROSC El Rosal 57.79 239 LR LR 13 18 03.6
comp=Z,370nm,21.8s,MS4.5,baz=31,slow=32
EGAK Eagle 57.84 332 *e*P P **12 57 07.8 -1.5**
HWUT Hardware Ranch 57.95 298 *e*P P **12 57 10.0 -0.1**
comp=Z,10nm,1.0s,mb4.8
ZRNK Zerenda 58.23 45 *e*P P **12 57 11.5 -0.5**
ZRNK pmax pmax
comp=Z,15nm,1.0s,mb5.0
ZRNK Zerenda 58.23 45 *e*P P **12 57 11.4 -0.6**
comp=Z,15nm,1.0s,mb5.0
PV10 Paradox Valley 58.28 294 *e*P P **12 57 13.3 +1.0**
HLID Hailey 58.52 302 *e*P P **12 57 13.3 -0.8**
comp=Z,15nm,1.3s,mb4.8
CHKZ Chkalovo 58.58 44 *e*P P **12 57 13.6 -0.9**
CHKZ pmax pmax
comp=Z,22nm,0.9s,mb5.2
CHKZ Chkalovo 58.58 44 *e*P P **12 57 13.6 -0.8**
comp=Z,22nm,0.9s,mb5.2
ANMO Albuquerque 58.66 289 *i* P P **12 57 16.3 +1.3**
ANMO Albuquerque 58.66 289 *e*P P **12 57 16.4 +1.3**
comp=Z,12nm,1.1s,mb4.8
SPUT South Promonto 58.67 299 *e*P P **12 57 15.0 -0.1**
SRU San Rafael 58.78 295 P P **12 57 16.3 +0.5**
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SRU San Rafael 58.78 295 P P **12 57 16.3 +0.5**
comp=Z,6.9nm,0.9s,mb4.7
BRVK Borovoye 58.79 44 P P **12 57 16.1 +0.2**
SNR=12
BRVK Borovoye 58.79 44 *e*P P **12 57 15.9 0.0**
BRVK pmax pmax
comp=Z,18nm,0.9s,mb5.1
BRVK Borovoye 58.79 44 *e*P P **12 57 15.9 0.0**
comp=Z,18nm,0.9s,mb5.1
BVA0 Borovoye Array 58.86 44 *i* P P **12 57 16.1 -0.3**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
TMUT Trail Mountain 59.09 296 *e*P P **12 57 19.0 +0.9**
SKAG Skagway 59.24 326 *e*P P **12 57 18.9 -0.1**
comp=Z,26nm,1.4s,mb5.1
NLU North Lily Min 59.24 297 *e*P P **12 57 19.6 +0.6**
BMO Blue Mountains 59.45 304 *e*P P **12 57 19.2 -1.2**
comp=Z,2.9nm,1.1s,mb4.2
DUG Dugway 59.55 298 *e*P P **12 57 21.8 +0.6**
DUG pmax pmax
comp=Z,17nm,1.1s,mb5.0
DUG Dugway 59.55 298 *e*P P **12 57 21.8 +0.6**
comp=Z,17nm,1.1s,mb5.0
COLA College 59.84 335⇓ *e*P P **12 57 23.5 +0.3**
TBM Table Mountain 59.90 308 P P **12 57 23.1 -0.6**
MENT Mentasta 59.93 332 *e*P P **12 57 23.7 -0.1**
MNTX Cornudas Mount 59.94 286 *e*P P **12 57 23.9 0.0**
comp=Z,7.2nm,1.1s,mb4.6
MSU Marysvale 60.17 296 *e*P P **12 57 26.5 +1.0**
IMA2 Indian Mountai 60.57 338 *e*P P **12 57 28.1 -0.1**
HDW Hoodsport 60.94 310 P P **12 57 30.4 -0.3**
TIXI Tiksi 61.13 8 *i* P P **12 57 31.3 -0.7**
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.2
OSD Olympics--Snow 61.18 310 P P **12 57 33.0 +0.7**
OBC Olympics--Boni 61.24 310 P P **12 57 33.4 +0.7**
ARUT Antelope Range 61.40 296 *e*P P **12 57 34.8 +1.0**
WUAZ Wupatki 61.50 293 *e*P P **12 57 35.6 +1.2**
comp=Z,18nm,1.1s,mb5.1
CCUT Cedar City 61.50 296 *e*P P **12 57 35.5 +1.0**
WVOR Wild Horse Val 61.68 303 *e*P P **12 57 36.0 +0.3**
WVOR pmax pmax
comp=Z,31nm,1.4s,mb5.2
WVOR Wild Horse Val 61.68 303 *e*P P **12 57 36.0 +0.3**
comp=Z,31nm,1.4s,mb5.2
BMN Battle Mountai 62.08 300 *e*P P **12 57 39.2 +0.8**
BMN pmax pmax
comp=Z,19nm,1.3s,mb5.1
BMN Battle Mountai 62.08 300 *e*P P **12 57 39.2 +0.8**
comp=Z,19nm,1.3s,mb5.1
PMR Palmer 62.66 333 *e*P P **12 57 41.7 -0.6**
PMR pmax pmax
comp=Z,32nm,1.4s,mb5.3
PMR Palmer 62.66 333 *e*P P **12 57 41.7 -0.6**
comp=Z,32nm,1.4s,mb5.3
MOD Modoc 62.98 303 *e*P P **12 57 44.4 0.0**
comp=Z,8.0nm,1.2s,mb4.7
TUC Tucson 63.12 289 *e*P P **12 57 46.3 +0.9**
TUC pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
TUC Tucson 63.12 289 *e*P P **12 57 46.3 +0.9**
comp=Z,9.6nm,1.1s,mb4.8
NVS Novosibirsk 63.50 37 *i* P P **12 57 45.8 -2.1**
NVS pmax pmax
comp=Z,33nm,1.6s,mb5.2
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,1.0s
TTA Tatalina 63.66 336 *e*P P **12 57 47.8 -1.2**
TTA pmax pmax
comp=Z,31nm,1.8s,mb5.0
TTA Tatalina 63.66 336 *e*P P **12 57 47.8 -1.2**
comp=Z,31nm,1.8s,mb5.0
BDFB Brasilia 64.40 202 P P **12 57 53.2 -0.6**
comp=Z,9.8nm,0.9s,mb4.8,baz=16,slow=7.5,SNR=6.8
BDFB LR LR 13 21 02.6
comp=Z,469nm,20.4s,MS4.7,baz=19,slow=31
ZAL Zalesovo 64.78 37 P P **12 57 55.4 -0.9**
comp=Z,2.5nm,0.7s,mb4.4,baz=175,slow=5.9,SNR=15
ZAL LR LR 13 27 17.0
comp=Z,283nm,19.9s,MS4.5,baz=160,slow=37

ZAL Zalesovo 64.78 37 *i* P P 12 57 56.5 +0.2
ZAL pmax pmax
comp=Z,3.0nm,0.7s
MTUM Tungsten Hills 64.83 298 *e*P P 12 57 57.2 +0.6
KK31 Karatay Array 65.15 53 *i* P P 12 57 58.9 +0.2
KKAR Karatay Array 65.15 53 P P 12 57 58.9 +0.2
OHCM Honcut 65.31 302 *e*P P 12 57 58.9 -0.8
BILL Bilibino 65.49 354 *e*P P 12 58 00.0 -0.9
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CMB Columbia Colle 65.50 300 *e*P P 12 58 01.4 +0.5
CMB pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CMB Columbia Colle 65.50 300 *e*P P 12 58 01.4 +0.4
comp=Z,9.3nm,1.1s,mb4.7
EKS2 Erkin-Say 67.24 52 P P 12 58 13.1 +1.0
SNR=15
AML Almayashu 67.55 52 P P 12 58 15.8 +1.7
SNR=7.6
BANOM Banah 67.61 76 P P 12 58 14.3 -0.1
SNR=9.5
AAK Ala-Archa 67.65 51 P P 12 58 16.6 +2.0
SNR=5.7
AAK Ala-Archa 67.65 51 P P 12 58 15.4 +0.7
SNR=7.6
AAK Ala-Archa 67.65 51⇑*e*P P 12 58 14.4 -0.3
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AAK MLR MLR
comp=Z,500nm,21.0s,MS4.7
AAK Ala-Archa 67.65 51 *e*P P 12 58 14.7 0.0
comp=Z,12nm,1.1s,mb4.8
TKM2 Tokmak 2 68.04 50 P P 12 58 18.1 +0.9
SNR=11
KZA Kyzart 68.44 51 P P 12 58 21.1 +1.5
SNR=8.1
MK31 Makanchi Array 68.73 44 P P 12 58 20.9 -0.6
MK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MKAR Makanchi Array 68.73 44 P P 12 58 21.0 -0.5
comp=Z,10nm,0.6s,mb4.9,baz=324,slow=6.0,SNR=94
YAK Yakutsk 70.45 11 *e*P P 12 58 31.3 -0.8
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK Yakutsk 70.45 11 *e*P P 12 58 30.8 -1.3
comp=N,28nm,0.8s,mb5.2
BOD Bodaibo 71.41 21 *e*P P 12 58 35.2 -2.7
BOD pmax pmax
comp=Z,17nm,1.6s,mb4.7
LPAZ La Paz 72.30 221 P P 12 58 44.4 +1.1
comp=Z,2.3nm,1.0s,mb4.0,baz=20,slow=9.4,SNR=5.1
LPAZ LR LR 13 28 10.5
comp=Z,70nm,21.4s,MS3.9,baz=199,slow=34
MOY Mondy 72.81 31 *e*P P 12 58 47.3 +1.0
WMQ Urumqi 73.50 43 P P 12 58 51.0 +0.6
WMQ AP pP 12 58 56.0 +2.3
WMQ XP sP 12 58 58.5 +3.6
WMQ PCP PcP 12 59 07.0 +0.6
WMQ PP PP 13 01 36.0 +1.8
WMQ S S 13 08 20.0 -0.1
WMQ SS SS 13 13 05.0 +2.4
WMQ AMB AMB
comp=Z,9.0nm,1.2s,mb4.6
WMQ AMB AMB
comp=Z,100nm,5.2s
WMQ LR LR
comp=N,678nm,15.4s,MS5.1
WMQ LR LR
comp=E,553nm,16.6s,MS5.1
WMQ LR LR
comp=Z,732nm,21.4s,MS4.9
KMBO Kilima Mbogo 73.65 110 P P 12 58 52.8 +1.5
comp=Z,3.5nm,0.9s,mb4.3,baz=344,slow=5.1,SNR=6.8
KMBO LR LR 13 30 45.4
comp=Z,271nm,21.2s,MS4.5,baz=278,slow=35
CLNS Chul'man 74.64 15 *e*P P 12 58 53.5 -3.6
CLNS pmax pmax
comp=Z,20nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,9.0nm,0.6s
CLNS pmax pmax
comp=E,16nm,0.9s
ZAK Zakamensk 74.69 30⇓*i*P P 12 58 57.3 0.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
CPUP Villa Florida 77.21 207 P P 12 59 11.2 -0.6
comp=Z,0.3nm,0.3s,baz=280,slow=2.7,SNR=4.0
CPUP LR LR 13 28 11.5
comp=Z,153nm,21.4s,MS4.3,baz=4.0,slow=32
SONM Songino Array 77.93 30 P P 12 59 15.8 +0.1
comp=Z,11nm,0.9s,mb4.8,baz=316,slow=6.0,SNR=61
SONM LR LR 13 36 48.9
comp=Z,129nm,18.3s,MS4.3,baz=309,slow=38
ULN Ulaanbaatar 78.13 29 P P 12 59 17.6 +0.8
SNR=7.0
ULN Ulaanbaatar 78.13 29*d i*P P 12 59 16.9 +0.1
ULN Ulaanbaatar 78.13 29 *e*P P 12 59 17.1 +0.2
comp=Z,15nm,0.9s,mb4.9
LSZ Lusaka 79.15 126 *e*P P 12 59 22.1 -0.3
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSZ Lusaka 79.15 126 *e*P P 12 59 22.1 -0.4
comp=Z,7.2nm,1.0s,mb4.6
GTA Gaotai 82.50 38 *e*P P 12 59 40.3 -0.1
GTA AP pP 12 59 44.6 +0.9
GTA XP sP 12 59 47.7 +2.8
GTA PP PP 13 02 50.8 +1.3
GTA S S 13 09 54.0 -3.1
GTA AMB AMB
comp=Z,13nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,95nm,5.3s
GTA LR LR
comp=N,278nm,21.3s,MS4.7
GTA LR LR
comp=E,136nm,20.1s,MS4.7
GTA LR LR
comp=Z,262nm,20.5s,MS4.6
KLR Kul'dur 83.13 14 *e*P P 12 59 38.9 -4.7
KLR pmax pmax
comp=Z,48nm,1.2s,mb5.4
KOLN Koldanda 83.50 56 *e*P P 12 59 44.1 -1.5
comp=Z,22nm,1.2s,mb5.2
GKN Gorkha 83.92 55 *e*P P 12 59 47.5 -0.2
HABR Khabarovsk 84.36 12 *e*P P 12 59 50.3 +0.3
HABR *e*S S 13 10 13.1 -2.8
KKN Kakani 84.45 55 *e*P P 12 59 50.6 +0.2
DMN Daman 84.49 55 *e*P P 12 59 51.2 +0.6
comp=Z,16nm,0.8s,mb5.2
PKI Pulchoki 84.69 55 *e*P P 12 59 51.8 +0.2
GUN Gumba 84.70 55 *e*P P 12 59 52.9 +1.2
comp=Z,47nm,0.9s,mb5.6
HHC Hu-ho-hao-te 85.83 30 *e*P P 12 59 55.4 -1.9
HHC AP pP 13 00 00.2 -0.5
HHC PP PP 13 03 15.5 -1.2
HHC SKS 13 10 16.9
HHC S S 13 10 24.9 -5.6
HHC AMB AMB
comp=Z,12nm,0.3s,mb5.6
HHC AMB AMB
comp=Z,82nm,3.3s
HHC LR LR
comp=N,82nm,4.5s
HHC LR LR
comp=E,123nm,4.0s
HHC LR LR
comp=Z,149nm,5.7s
MDJ Mudanjiang 87.20 16 P P 13 00 01.5 -2.6
MDJ S S 13 10 40.7 -3.1
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,66nm,4.4s
SNY Shenyang 88.53 21 ⇓P P 13 00 11.6 +1.2
SNY AMB AMB
comp=Z,11nm,0.4s,mb5.5
BOSA Boshof 88.55 136 P P 13 00 11.0 +0.5
comp=Z,8.2nm,1.1s,mb5.0,baz=344,slow=6.6,SNR=4.7
BOSA LR LR 13 36 20.1
comp=Z,174nm,21.4s,MS4.4,baz=315,slow=33
BOSA Boshof 88.55 136 P P 13 00 11.0 +0.5
BOSA LR LR 13 36 20.1
VLA Vladivostok 89.08 15 *i* P P 13 00 11.1 -1.9
VLA pmax pmax
comp=Z,57nm,2.1s,mb5.5
CD2 Chengdu 91.39 40 *e*P P 13 00 21.0 -2.7
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,6.8s
PLCA Paso Flores 94.81 211 LR LR 13 38 37.4
comp=Z,196nm,20.7s,MS4.6,baz=5.7,slow=32
KMI Kunming 95.81 44 P P 13 00 43.6 -0.5
KMI AP pP 13 00 48.5 +1.0
KMI XP sP 13 00 50.9 +2.3
KMI PP PP 13 04 38.1 +2.2
KMI S S 13 11 56.7 -5.3
KMI SS SS 13 18 29.8 -1.8
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb5.1
KMI AMB AMB
comp=Z,63nm,3.6s
KMI LR LR
comp=N,299nm,10.5s,MS5.0
KMI LR LR
comp=E,125nm,12.5s,MS5.0
KMI LR LR
comp=Z,167nm,20.5s
NJ2 Nanjing 96.26 28 *e*P P 13 00 46.5 +0.4
NJ2 AP pP 13 00 51.4 +1.9
NJ2 XP sP 13 00 53.4 +2.7
NJ2 PP PP 13 04 42.9 +3.6
NJ2 SKS 13 11 22.0
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.7
NJ2 LR LR
comp=N,3μm,21.8s
NJ2 LR LR
comp=E,3μm,21.6s
NJ2 LR LR
comp=Z,5μm,21.4s
SSE Sheshan 97.89 27 P P 13 00 51.2 -2.3
SSE PP PP 13 04 48.6 -3.3
SSE S S 13 12 16.5 -3.4
SSE SS SS 13 18 57.8 -3.1
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.8
SSE AMB AMB
comp=Z,96nm,5.5s
SSE LR LR
comp=N,61nm,21.1s,MS4.2
SSE LR LR
comp=E,51nm,20.7s,MS4.2
SSE LR LR
comp=Z,84nm,20.7s,MS4.2
PPT Papeete 124.57 281 *e*LR LR 13 44 59.7
comp=Z,244nm,25.8s
TBI Tubuai 128.41 276 *e*LR LR 13 46 45.7
comp=Z,198nm,40.8s
QSPA South Pole Qui 136.21 180 *e*P PKPdf 13 06 38.6 -0.6
SBA Scott Base 147.87 186 *e*PKP2 PKPab 13 07 02.3 -3.1
VNDA Vanda 148.48 184 PKP PKPdf 13 06 59.9 -1.0
comp=Z,11nm,1.1s,baz=333,slow=4.5,SNR=8.3
VNDA PKPbc PKPbc 13 07 04.0 -0.4
comp=Z,9.6nm,1.0s,baz=253,slow=3.9,SNR=29
VNDA Vanda 148.48 184 *e*PKPdf PKPdf 13 06 58.5 -2.4
VNDA *e*PKPbc PKPbc 13 07 03.8 -0.6
WRAB Tennant Creek 149.75 36 *e*PKP2 PKPbc 13 07 06.7 -0.9
WRA Warramunga Arr 149.75 36 PKPbc PKPbc 13 07 06.6 -1.0
comp=Z,21nm,0.9s,baz=333,slow=3.1,SNR=82
WB2 Warramunga Arr 149.76 36 *e*PKP PKPbc 13 07 07.0 -0.7
AS31 Alice Springs 152.87 40 *i* PKP PKPbc 13 07 14.2 -0.7
ASPA Alice Springs 152.87 40 *i* PKP PKPbc 13 07 14.2 -0.7
ASAR Alice Springs 152.87 40 PKP PKPdf 13 07 06.2 -1.4
comp=Z,1.1nm,1.0s,baz=300,slow=1.7,SNR=6.5
ASAR PKPbc PKPbc 13 07 14.1 -0.8
comp=Z,14nm,1.0s,baz=340,slow=2.0,SNR=86
ASAR PP PP 13 10 59.6 +0.9
comp=Z,0.7nm,1.0s,baz=335,slow=5.7,SNR=4.1

NEIC ***11*** *13:17:20.9, 3260S×7162W, h14km, ML3.4(GUC), After GUC.*

GUC 11 13:17:20.9±0.9**, 3260S**×**7162W, h14**km±4km**, MD4.2, ML3.4, 5C-1D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IHA Instituto Hidr 0.43 182⇑*i*P Pg 13 17 29.8 +0.4
IHA *i* S Sg 13 17 36.2 +1.0
ROCH El Roble 0.64 126⇑*i*P Pg 13 17 33.5 +0.1
ROCH *i* S Sg 13 17 42.6 +0.9
CHNG Los Chungos 0.72 8 *e*P Pg 13 17 34.1 -0.8
CHNG *i* S Sg 13 17 44.0 -0.4
JACH Jahuel 0.87 96⇑*i*P Pg 13 17 37.0 -0.8
JACH *i* S Sg 13 17 49.0 -0.2
LCCH Las Cruces 0.88 177 *e*P Pg 13 17 36.8 -1.1
LCCH *i* S Sg 13 17 49.1 -0.3
PEL Peldehue 0.96 125⇑*i*P Pb 13 17 37.7 -1.5
PEL *i* S Sb 13 17 51.6 -0.2
PEL AML AML 13 17 52.6
comp=N,3μm,0.3s
PEL Peldehue 0.96 125⇑*i*P Pb 13 17 37.7 -1.5
PEL *i* S Sb 13 17 51.6 -0.2
RCDM Rinconada Maip 1.12 143 *e*P Pb 13 17 40.8 -1.3
RCDM *i* S Sb 13 17 55.8 -0.7
RCDM AML AML 13 17 57.0
comp=N,1μm,0.1s
RCDM Rinconada Maip 1.12 143 *e*P Pb 13 17 40.8 -1.3
RCDM *i* S Sb 13 17 55.8 -0.7
SAN Santiago 1.17 137 *i* S Sb 13 17 57.2 -0.8
TACH Talagante 1.20 152 *e*P Pn 13 17 42.1 -1.1
TACH *i* S Sb 13 17 57.7 -1.1
FCH Farellones 1.33 123⇓*e*P Pn 13 17 44.2 -0.9
FCH *i* S Sb 13 18 01.0 -1.6
FCH AML AML 13 18 03.3
comp=N,515nm,0.2s
LNV Longovilo 1.37 173 *e*P Pn 13 17 43.6 -1.9
CHCH Chadas Angostu 1.56 149 *e*P Pn 13 17 47.9 -0.3
LMEL Las Melosas 1.72 137 *e*P Pn 13 17 50.3 -0.2
LMEL *i* S Sn 13 18 12.8 +0.6
LMEL AML AML 13 18 16.6
comp=N,589nm,0.2s
LMEL Las Melosas 1.72 137 *e*P Pn 13 17 50.3 -0.2
LMEL *i* S Sn 13 18 12.8 +0.6
CACH El Canelo 1.74 151 *e*P Pn 13 17 51.2 +0.5
CICH Cipreses 1.99 150 *e*P Pn 13 17 54.3 +0.2
SFDO San Fernando 2.08 166 *e*P Pn 13 17 54.6 -0.7
SFDO *i* S Sn 13 18 21.2 +0.3
TLL Tololo Astrono 2.52 16 *e*P Pn 13 18 01.3 -0.1
TLL *i* S Sn 13 18 35.0 +3.1
TLL AML AML 13 18 43.4
comp=E,454nm,0.4s
TLL Tololo Astrono 2.52 16 P Pn 13 18 01.3 -0.1
TLL *i* S Sn 13 18 35.0 +3.1

CASC 11 13:21:49.8±2.1**, 857N**×**8285W, h34**km±7km**, MD3.7, 2C, Panama-Costa Rica border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTCR Cotoan 0.34 16⇑*e*P Pb 13 21 58.6 +0.4
CNI Changuinola 0.91 21 *e*P Pn 13 22 05.5 -0.7
CNI *e*S Sn 13 22 19.8 +1.7
BUS Buena Vista 1.33 318 *e*P Pn 13 22 11.7 -0.2
BUS *e*S Sn 13 22 29.3 +0.9
LCR2 La Lucha 2 1.63 316⇑*e*P Pn 13 22 16.3 +0.2
LAJ Bijagual 1.80 316 *e*P Pn 13 22 23.1 +4.7
LAJ *e*S Sn 13 22 48.7 +8.7
PRS1 Puriscal 2.01 315 *e*P Pn 13 22 21.3 -0.1
PRS1 *e*S Sn 13 22 46.4 +1.0

ISCJB ***11*** *13:38:17.8±0.3, 3108N±002×3517E±005, h0km, Error ellipse: s-maj=6.1km s-min=2.5km az=31.8*
HLW ***11*** *13:38:17.6, 3122N×3514E, h5km, Mb3.1*
GII ***11*** *13:38:17.4±0.8, 3109N×3520E, h0km, ML2.4/5*
CSEM ***11*** *13:38:17.8±0.1, 3106N×3518E, h1km, ML2.4, Error ellipse: s-maj=3.4km s-min=1.8km az=107.0, Mining explosion.*

ISC 11 13:38:18.3±0.3**, 3109N**±002×**3516E**±005**, h0**km**, n33,** σ**0**ˢ**96**/44**, 4C-3D, Dead Sea region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YTIR Yattir 0.28 352 Pg Pg 13 38 24.6 +1.0
MZDA Masada 0.28 37 T 13 39 41.3
MZDA Masada 0.28 37 Pg Pg 13 38 23.4 -0.2
MZDA Sg Sg 13 38 27.8 +0.4
MASH Mash'abbe Sade 0.34 255 Pg Pg 13 38 25.6 +0.9
RTMI Retamim 0.41 266 Pg Pg 13 38 26.9 +0.9
SVTA Shivta 0.49 252 Pg Pg 13 38 28.3 +0.6
DSI Dead Sea 0.52 21 Pg Pg 13 38 29.1 +1.0
ZFRI Zfri 0.53 179 Pg Pg 13 38 28.8 +0.4
ZFRI Zfri 0.53 179 Pg Pg 13 38 29.6 +1.2
KZIT Kziot 0.68 255 Pg Pg 13 38 31.8 +0.4
KZIT Sg Sg 13 38 43.7 +3.5
KZIT Kziot 0.68 255 Pg Pg 13 38 31.7 +0.4
KZIT Sg Sg 13 38 43.7 +3.6
PRNI Paran 0.74 191 Pg Pg 13 38 32.8 +0.3
PRNI Sg Sg 13 38 45.0 +2.8
KMTI Karmit 1.05 201 Pg Pg 13 38 38.6 +0.3
HRFI Mount Harif 1.05 186 Pg Pg 13 38 37.9 -0.5
HRFI Sg Sg 13 38 53.7 +1.7
SLTI Sal'it 1.16 355 Pg Pg 13 38 39.7 -0.8
HMDT Nahal Hemdat 1.21 15 Pg Pg 13 38 40.8 -0.6
MBH Mount Berech 1.30 189 Pn Pn 13 38 42.8 -0.9
MBH Sn Sn 13 39 02.1 +0.2
AQBJ Aqaba 1.36 184 Pn Pn 13 38 43.8 -0.6
MMLI Mount Malkishu 1.37 9 Pn Pn 13 38 43.1 -1.4
MMLI Sn Sn 13 39 03.5 +0.1
EIL Elat 1.42 187 Pn Pn 13 38 44.6 -0.8
EIL Sn Sn 13 39 05.0 +0.3
HNKL Nakhl 1.54 222 ⇑P Pn 13 38 46.0 -0.9
OFRI 'Ofer 1.54 354 Pn Pn 13 38 45.9 -1.0
AMAG Maghara 1.74 256 ⇓P Pn 13 38 47.9 -1.8
AMAG S Sn 13 39 09.9 -2.6
HBST Basata 1.90 191 ⇑P Pn 13 38 51.8 -0.1
MMA1 Mount Meron ar 1.94 6 Pn Pn 13 38 52.2 -0.2
MMA1 Sn Sn 13 39 19.0 +1.5
MMC1 Mount Meron ar 1.95 6 Pn Pn 13 38 52.9 +0.2
MMC1 Sn Sn 13 39 19.2 +1.4
MMC1 Mount Meron ar 1.95 6 Pn Pn 13 38 52.8 +0.2
HNTI Hanita 1.99 0 Pn Pn 13 38 53.2 0.0
KSDI Kefar Szold 2.14 11 Pn Pn 13 38 54.9 -0.3
SUZ 2.36 239 ⇑P Pn 13 38 57.2 -1.0
HDHB Dhahab 2.40 191 ⇓P Pn 13 38 58.2 -0.6
HKAT Jabal Katrina 2.75 202 ⇓P Pn 13 39 03.4 -0.2
HKAT S Sn 13 39 36.9 -0.5
TR2 2.97 205 ⇑P Pn 13 39 06.0 -0.6

TEH ***11*** *14:00:34.5, 3291N×6057E, h5km, ML4.6*
THR ***11*** *14:01:11.3±0.3, 3354N×6058E, h14km, ML4.3*
IDC ***11*** *14:01:15.9±0.7, 3301N×6034E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/25, mbtmp4.3/20, ML4.1/1, MS3.5/14, Ms1 3.6/14, ms1mx3.3/38, Error ellipse: s-maj=17.3km s-min=14.2km az=13.0*
ISCJB ***11*** *14:01:16.1±0.8, 3306N±003×6033E±003, h10km±5km, mb4.4/53, MS3.7/18, Error ellipse: s-maj=5.2km s-min=3.6km az=15.1*
SZGRF ***11*** *14:01:16.9, 3259N×6088E, h33km, mb4.2, Northern and central Iran*
CSEM ***11*** *14:01:17.0±0.1, 3304N×6035E, h20km, mb4.4/27, Ms4.2, Error ellipse: s-maj=3.0km s-min=1.5km az=152.0*
BJI ***11*** *14:01:18.7, 33.16N×5982E, h53km, mB5.0, mb4.7, Ms4.5, Msz4.3*
MOS ***11*** *14:01:19.3±1.0, 3306N×6033E, h33km, mb4.5/25, Error ellipse: s-maj=8.2km s-min=5.5km az=110.4*
NEIC ***11*** *14:01:20.0±1.1, 3308N×6033E, h27km±8km, mb4.4/20, MS4.3/1, ML4.5(THR), MN4.6(TEH), Error ellipse: s-maj=4.9km s-min=3.8km az=135.0*

ISC 11 14:01:17.5±0.8**, 3307N**±003×**6033E**±002**, h7**km±5km**, n236,** σ**1**ˢ**04**/233**, mb4.4**/53**, MS3.7**/18**, 2C, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IDAH 0.51 230 *e*Pg Pg 14 01 26.5 -0.8
IMON 0.57 283 *e*Pg Pg 14 01 27.3 -1.2
IKOO 1.29 240 *e*Pg Pg 14 01 41.1 -1.1
ITEG 1.34 263 *e*Pn Pn 14 01 41.2 -1.3
IMOG Moghan 3.14 345 *e*Pn Pn 14 02 07.9 +0.6
IMOG Moghan 3.14 345 Pn Pn 14 02 07.8 +0.5
IMYA Miamay 3.27 357 *e*Pn Pn 14 02 09.7 +0.6
IMYA Miamay 3.27 357 Pn Pn 14 02 09.6 +0.5
MHI Mashhad 3.31 348 *e*Pn Pn 14 02 10.7 +1.1
MHI Mashhad 3.31 348 Pn Pn 14 02 10.6 +1.0
ZHSF Zahedan 3.47 174 *e*PN Pn 14 02 13.2 +1.5
ZHSF Zahedan 3.47 174 *e*Pn Pn 14 02 13.0 +1.2
ZHSF Zahedan 3.47 174 *e*Pn Pn 14 02 13.2 +1.4
SNR=52
IPAY Payeh 3.55 342 *e*Pn Pn 14 02 14.2 +1.3
IAKL Akhlamad 3.75 340 *e*Pn Pn 14 02 17.1 +1.5
IAKL Akhlamad 3.75 340 Pn Pn 14 02 17.0 +1.4
IKRD Kardeh 3.98 339 *e*Pn Pn 14 02 16.7 -2.2
IBAF Bafgh 4.29 251 *e*Pn Pn 14 02 23.3 +0.2
KRBR Kerman 4.33 226 *e*PN Pn 14 02 25.6 +1.9
KRBR AML AML 14 03 42.1
comp=N,326nm,0.9s
KRBR AML AML 14 03 47.8
comp=E,348nm,1.1s
KRBR Kerman 4.33 226 *e*Pn Pn 14 02 25.0 +1.4
ISFR Esferayen 4.40 335 *e*Pn Pn 14 02 25.6 +1.0
IEMG Emamqoli 4.54 343 *e*Pn Pn 14 02 27.6 +1.0
IEMG Emamqoli 4.54 343 Pn Pn 14 02 27.5 +0.9
ISHV Shirvan 4.95 335 *e*Pn Pn 14 02 32.8 +0.6
ISHV Shirvan 4.95 335 Pn Pn 14 02 32.7 +0.5
ICHK Chekchek 5.06 262 *e*Pn Pn 14 02 34.3 +0.6
ICHK Chekchek 5.06 262 Pn Pn 14 02 34.2 +0.5
IMEH Mehriz 5.12 252 *e*Pn Pn 14 02 34.6 0.0
IMEH Mehriz 5.12 252 Pn Pn 14 02 34.5 -0.1
IKIA Kiasar 6.31 302 *e*Pn Pn 14 02 51.5 +0.7
IKIA Kiasar 6.31 302 Pn Pn 14 02 51.4 +0.6
NASN Na'in 6.33 270 *e*Pn Pn 14 02 50.1 -1.0
NASN AML AML 14 03 41.1
comp=N,24nm,0.6s
NASN Na'in 6.33 270 *e*Pn Pn 14 02 49.0 -2.1
IGLO Galoogah 6.49 302 *e*Pn Pn 14 02 52.3 -1.0
BNDS Bandar-Abbas 6.70 214 *e*PN Pn 14 02 58.6 +2.4
BNDS Bandar-Abbas 6.70 214 *e*Pn Pn 14 02 58.0 +1.8
IZEF Zefreh 6.72 271 *e*Pn Pn 14 02 56.8 +0.3
IZEF Zefreh 6.72 271 Pn Pn 14 02 56.7 +0.2
IFIR Firoozkooh 6.77 294 *e*Pn Pn 14 02 58.0 +0.8
IFIR Firoozkooh 6.77 294 Pn Pn 14 02 57.9 +0.7
ISFB Sefidab 6.86 283 *e*Pn Pn 14 02 58.9 +0.4
ISFB Sefidab 6.86 283 Pn Pn 14 02 58.8 +0.3
IDMV Damavand 7.30 292 *e*Pn Pn 14 03 05.1 +0.6
IDMV Damavand 7.30 292 Pn Pn 14 03 05.0 +0.5
IKLH Kalahroud 7.34 274 *e*Pn Pn 14 03 05.9 +0.9
IKLH Kalahroud 7.34 274 Pn Pn 14 03 05.8 +0.8
DAMV Damavand 7.37 293 *e*PN Pn 14 03 01.3 -4.1
DAMV Damavand 7.37 293 *e*Pn Pn 14 03 01.0 -4.4
IPRN Paran-Amol 7.38 298 *e*Pn Pn 14 03 06.1 +0.6
IPRN Paran-Amol 7.38 298 Pn Pn 14 03 06.0 +0.5
IVRN Varamin 7.39 287 *e*Pn Pn 14 03 06.3 +0.6
IVRN Varamin 7.39 287 Pn Pn 14 03 06.2 +0.5
IPIR Pirpir 7.95 270 *e*Pn Pn 14 03 13.7 +0.4
IPIR *e*Lg 14 05 30.0
IPIR *e*Lg 14 05 30.1
IPIR Pirpir 7.95 270 Pn Pn 14 03 13.6 +0.3
IPIR Lg 14 05 30.0
IPIR Pirpir 7.95 270 *e*Pn Pn 14 03 13.7 +0.4
THKV Tehran--Karaj 8.30 293 *e*PN Pn 14 03 14.0 -4.2
THKV Tehran--Karaj 8.30 293 *e*Pn Pn 14 03 14.0 -4.2
IMHD Mahdasht 8.40 291 *e*Pn Pn 14 03 20.2 +0.6
KK31 Karatay Array 12.82 36 *i* P Pn 14 04 18.7 -1.4
KK31 pmax pmax
comp=Z,5.0nm,0.3s
KKAR Karatay Array 12.82 36 P Pn 14 04 18.7 -1.4
KKAR pmax pmax
comp=Z,2.0nm,0.4s
AJM Ajmer 14.05 114 *e*P Pn 14 04 34.2 -2.7
AJM AMb AMB 14 04 42.3
comp=Z,6.3nm,0.7s
KSH Kashi 14.16 59 *e*P Pn 14 04 40.5 +2.2
KSH *e*AP pP 14 04 48.2 +0.2
KSH *e*PP 14 04 52.0
KSH *e*XP sP 14 04 53.1 +4.1
KSH *e*S Sn 14 07 15.9 +0.3
KSH *e*SS 14 07 34.3
KSH AMB AMB
comp=Z,115nm,2.0s
KSH LR LR

comp=N,2µm,6.1s
KSH LR LR
comp=E,2µm,6.7s
KSH LR LR
comp=Z,873nm,6.5s
KHET Khetri 14.23 106 *e*P **Pn 14 04 38.7 -0.6**
KHET AMb AMB 14 04 52.1
comp=Z,10.0nm,1.0s
GNI Garni 14.37 304 Pn **Pn 14 04 47.9 +6.7**
comp=Z,0.9nm,0.3s,baz=355,slow=11,SNR=4.1
GNI LR LR 14 10 48.6
comp=Z,108nm,20.9s,baz=16,slow=40
GNI Garni 14.37 304 P **Pn 14 04 47.2 +6.0**
GNI pmax pmax
comp=Z,20nm,0.9s
GNI Garni 14.37 304 P **Pn 14 04 47.2 +6.1**
comp=Z,20nm,0.9s
SMLA Simla 14.41 93 *e*P **Pn 14 04 41.1 -0.6**
SMLA AMb AMB 14 04 48.4
comp=Z,15nm,1.4s
AAK Ala-Archa 14.69 45[1] *e*P **Pn 14 04 44.1 -1.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK MLR MLR
comp=Z,500nm,22.0s
AAK Ala-Archa 14.69 45 *e*P **Pn 14 04 43.8 -1.8**
comp=Z,12nm,0.8s
AAK Ala-Archa 14.69 45 *e*P **Pn 14 04 44.1 -1.5**
comp=Z,500nm,22.0s
KUDL Kundal 14.75 105 *e*P **Pn 14 04 46.3 -0.1**
KUDL AMb AMB 14 04 51.1
comp=Z,7.5nm,1.1s
FRU Bishkek 14.88 45 *e*P **Pn 14 04 47.5 -0.7**
FRU pmax pmax
comp=Z,30nm,1.4s
FRU Bishkek 14.88 45 P **Pn 14 04 47.5 -0.7**
comp=Z,30nm,1.4s
AYAN Aya Nagar 15.14 103 *e*P **Pn 14 04 49.3 -2.4**
SONA Sohna 15.20 104 *e*P **Pn 14 04 51.8 -0.6**
SONA AMb AMB 14 04 56.6
comp=Z,14nm,1.0s
KLP Kalpa 15.24 91 *e*P **Pn 14 04 51.6 -1.4**
KLP AMb AMB 14 05 03.1
comp=Z,12nm,1.1s
KLP *ex* x 14 08 29.8
ZEI Tsey 16.16 312 *e*P **Pn 14 05 09.3 +4.4**
AB31 Akbulak array 16.18 359 *i* P **Pn 14 05 02.0 -3.2**
AB31 pmax pmax
comp=Z,42nm,1.1s
JOSI Joshimath 16.54 94 *ex* x 14 04 49.8
AKTK Aktyubinsk 17.44 355 P **Pn 14 05 20.0 -1.1**
AKTK LR LR 14 13 07.5
AKTO Aktyubinsk 17.44 355 P **Pn 14 05 20.0 -1.1**
comp=Z,0.7nm,0.3s,baz=188,slow=13,SNR=11
AKTO LR LR 14 13 07.6
comp=Z,107nm,18.2s,baz=320,slow=41
KIV Kislovodsk 17.54 313 *e*P **Pn 14 05 26.6 +4.3**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,24nm,13.0s
KIV Kislovodsk 17.54 313 *e*P **Pn 14 05 23.9 +1.6**
KIV Kislovodsk 17.54 313 *e*P **Pn 14 05 24.0 +1.7**
BHPL Bhopal 17.95 119 *e*P **Pn 14 05 27.2 -0.3**
MALT Malatya 18.53 293 *e*P **Pn 14 05 38.7 +4.1**
MALT pmax pmax
comp=Z,7.0nm,1.0s
MALT Malatya 18.53 293 *e*P **Pn 14 05 38.7 +4.1**
comp=Z,6.6nm,1.0s
ASF Jabal al Asfar 19.75 274 P **Pn 14 05 51.5 +2.2**
comp=Z,0.1nm,0.3s,baz=326,slow=5.1,SNR=9.3
NGP Nagpur 20.42 121 *e*P **P 14 05 55.7 +0.6**
KOLN Koldanda 20.74 99 *e*P **P 14 05 58.4 -0.1**
comp=Z,92nm,1.4s
ZRNK Zerenda 20.83 15 *e*P **P 14 06 00.4 +0.8**
ZRNK pmax pmax
comp=Z,11nm,1.0s
ZRNK Zerenda 20.83 15 *e*P **P 14 06 00.4 +0.9**
comp=Z,11nm,1.0s
ZRNK Zerenda 20.83 15 *e*P **P 14 06 00.4 +0.8**
comp=Z,11nm,1.0s
VOSK Vostochnaya 21.09 18 P **P 14 06 03.2 +0.8**
VOSK pmax pmax
comp=Z,18nm,1.2s,mb4.3
VOSK Vostochnaya 21.09 18 P **P 14 06 03.2 +0.8**
comp=Z,18nm,1.2s,mb4.3
BVA0 Borovoye Array 21.22 17 *i* P **P 14 06 04.1 +0.4**
BVAR Borovoye Array 21.22 17 P **P 14 06 04.2 +0.4**
comp=Z,5.6nm,0.5s,mb4.1,baz=199,slow=11,SNR=23
BVAR S **S 14 09 49.5 -10**
comp=Z,1.3nm,0.8s,baz=193,slow=19,SNR=3.3
BVAR LR LR 14 15 26.0
comp=Z,295nm,18.2s,MS3.7,baz=140,slow=40
BVAR Borovoye Array 21.22 17 P **P 14 06 04.2 +0.5**
BVAR S **S 14 09 49.5 -10**
BRVK Borovoye 21.22 17 *e*P **P 14 06 04.2 +0.4**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.2
BRVK Borovoye 21.22 17 *e*P **P 14 06 04.2 +0.4**
comp=Z,11nm,0.9s,mb4.2
BRVK Borovoye 21.22 17 *e*P **P 14 06 04.2 +0.4**
comp=Z,11nm,0.9s,mb4.2
GKN Gorkha 21.52 97 *e*P **P 14 06 07.4 +0.4**
comp=Z,23nm,0.7s,mb4.7
MK31 Makanchi Array 21.62 44 P **P 14 06 08.2 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
MK31 Makanchi Array 21.62 44 P **P 14 06 08.2 +0.1**
comp=Z,4.0nm,0.8s,mb3.9
MKAR Makanchi Array 21.62 44 P **P 14 06 08.3 +0.2**
comp=Z,3.9nm,0.8s,mb3.9,baz=232,slow=9.1,SNR=17
MKAR Makanchi Array 21.62 44 *i* P **P 14 06 10.6 +2.5**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 21.62 44 P **P 14 06 08.3 +0.2**
CHKZ Chkalovo 21.87 17 *e*P **P 14 06 10.5 -0.2**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
CHKZ Chkalovo 21.87 17 *e*P **P 14 06 10.5 -0.3**
comp=Z,7.4nm,0.8s,mb4.2
CHKZ Chkalovo 21.87 17 *e*P **P 14 06 10.5 -0.2**
comp=Z,7.0nm,0.8s,mb4.1
EIL Elat 21.92 268 *e*P **P 14 06 12.7 +1.5**
comp=Z,507nm,1.1s
DMN Daman 22.04 98 *e*P **P 14 06 13.8 +1.2**
comp=Z,24nm,0.8s,mb4.7
KKN Kakani 22.13 97 *e*P **P 14 06 14.1 +0.6**
PKI Pulchoki 22.31 98 *e*P **P 14 06 17.3 +1.9**
BR131 Keskin Array S 22.44 295 *e*P **P 14 06 16.9 +0.1**
comp=Z,16nm,0.9s,mb4.5
BR131 Keskin Array S 22.44 295 *e*P **P 14 06 16.9 +0.1**
comp=Z,16nm,0.9s,mb4.5
BRTR Keskin Array B 22.44 295 P **P 14 06 17.5 +0.7**
comp=Z,17nm,0.9s,mb4.5,baz=118,slow=7.1,SNR=43
BRTR Keskin Array B 22.44 295 *i* P **P 14 06 19.7 +2.9**
BRTR pmax pmax
comp=Z,17nm,0.9s
GUN Gumba 22.59 96 *e*P **P 14 06 20.0 +1.6**
comp=Z,54nm,0.9s,mb5.0
ARU Arti 23.39 358 *e*P **P 14 06 27.0 +0.1**
ARU *e*PPP 14 07 02.9
ARU *e*S **S 14 10 38.6 -1.3**
ARU *e*SSS 14 11 24.1
ARU MLR MLR
comp=Z,90nm,17.0s,MS3.3
ARU MLR MLR
comp=N,90nm,18.0s,MS3.3
ARU MLR MLR
comp=E,40nm,20.5s,MS3.3
SIM Simferopol' 23.46 308 *e*P **P 14 06 32.0 +4.4**
SIM pmax pmax
comp=Z,19nm,1.1s,mb4.4
SVE Sverdlovsk 23.76 0 *e*P **P 14 06 31.8 +1.3**
SVE *e* 14 07 02.5
SVE MLR MLR
comp=N,300nm,11.0s,MS4.1
SVE MLR MLR
comp=E,200nm,11.0s,MS4.1
SVE MLR MLR
comp=Z,200nm,11.0s,MS3.8
VRSR Storozhevoye 23.82 326 *e*P **P 14 06 30.9 -0.2**
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
VRSR pmax pmax
comp=N,60nm,3.2s
VRSR pmax pmax
comp=E,8.0nm,0.7s
VRSR Storozhevoye 23.82 326 *e*P **P 14 06 30.9 -0.2**
comp=E,60nm,3.2s
WMQ Urumqi 23.87 55 *e*P **P 14 06 32.0 +0.5**
WMQ PP 14 07 05.0
WMQ S **S 14 10 43.5 -4.2**
WMQ SS 14 11 34.0
WMQ AMB AMB
comp=Z,11nm,0.6s,mb4.5
WMQ AMB AMB
comp=Z,240nm,4.8s
WMQ LR LR
comp=N,462nm,20.0s,MS4.1
WMQ LR LR
comp=E,506nm,18.6s,MS4.1
WMQ LR LR
comp=Z,494nm,19.8s,MS4.0
BOK Bokaro 24.25 106 *e*P **P 14 06 33.8 -1.1**
BOK AMb AMB 14 06 36.2
comp=Z,13nm,0.7s,mb4.4
ATD Arta Tunnel 26.77 221 LR LR 14 19 22.0
comp=Z,67nm,20.9s,MS3.2,baz=67,slow=41
NVS Novosibirsk 27.08 30 *i* P **P 14 07 00.5 -0.1**
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=E,5.0nm,1.6s
NVS pmax pmax
comp=Z,14nm,1.6s,mb4.2
ZAL Zalesovo 27.15 32 P **P 14 07 01.1 -0.1**
comp=Z,4.1nm,0.8s,mb4.0,baz=242,slow=10,SNR=24
ZAL LR LR 14 20 08.3
comp=Z,165nm,21.2s,MS3.6,baz=71,slow=42
ZAL Zalesovo 27.15 32 *i* P **P 14 07 02.0 +0.8**
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL Zalesovo 27.15 32 *i* P **P 14 07 02.0 +0.8**
comp=Z,4.0nm,0.8s,mb4.0
OBN Obninsk 27.62 330 *e*P **P 14 07 07.5 +2.0**
OBN *e* 14 07 17.9
OBN *e* 14 10 22.0
OBN pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
OBN Obninsk 27.62 330 *e*P **P 14 07 07.5 +2.0**
comp=Z,4.0nm,1.0s,mb4.0
OBN Obninsk 27.62 330 *e*PcP PcP 14 10 22.0 -0.8
AKASG Malin Array Be 28.80 317 P **P 14 07 15.3 -0.6**
comp=Z,4.2nm,0.9s,mb4.2,baz=117,slow=8.2,SNR=9.9
AKASG Malin Array Be 28.80 317 *i* P **P 14 07 18.5 +2.5**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 28.80 317 *i* P **P 14 07 18.5 +2.5**
comp=Z,4.0nm,0.9s,mb4.2
MLR Muntele Rosu 29.14 305 P **P 14 07 20.0 +1.0**
comp=Z,3.1nm,0.8s,mb4.1,baz=84,slow=14,SNR=3.9
MLR LR LR 14 20 46.9
comp=Z,47nm,18.5s,MS3.1,baz=184,slow=40
GTA Gaotai 32.28 67 *e*P **P 14 07 48.8 +2.1**
GTA AP pP 14 07 57.5 +8.5
GTA XP sP 14 08 05.2 +15
GTA AMB AMB
comp=Z,8.0nm,1.6s,mb4.3
KOLS Kolonicke sedl 32.41 311 *e*P **P 14 07 49.1 +1.3**
CRVS Cervenica-Dubn 32.92 310 *e* **P 14 07 57.1 +4.8**
PSZ Piszkesteto 33.72 308 P **P 14 08 00.2 +0.9**
VYHS Vyhne 34.53 309 *e*P **P 14 08 06.6 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 34.53 309 *e*P **P 14 08 06.6 +0.3**
comp=Z,3.3nm,1.1s,mb4.2
OKC Ostrava-Krasne 35.24 311 AMS AMS 14 57 00.0
comp=Z,300nm,19.5s
ZAK Zakamensk 35.84 48 *e*P **P 14 08 19.3 +1.7**
FINES FINESS Array B 35.93 333 P **P 14 08 17.6 -0.7**
comp=Z,2.8nm,1.1s,mb4.1,baz=148,slow=8.7,SNR=5.6
FINES LR LR 14 24 21.3
comp=Z,43nm,19.0s,MS3.2,baz=151,slow=38
DPC Dobruska-Polom 36.50 312 *e*P **P 14 08 23.6 +0.4**
DPC AMS AMS 14 57 30.0
comp=Z,500nm,19.8s
UPC Upice 36.72 312 *e*P **P 14 08 26.0 +0.9**
TREC Trest 36.84 310 AMS AMS 14 57 20.0
comp=Z,200nm,15.9s
SONM Songino Array 37.46 53 P **P 14 08 32.0 +0.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=261,slow=10.0,SNR=12
PRU Pruhonice 37.56 311 AMS AMS 14 57 30.0
comp=Z,200nm,18.4s
KMI Kunming 37.70 91 P **P 14 08 34.8 +1.4**
KMI AMB AMB
comp=Z,9.0nm,0.7s,mb4.6
ULN Ulaanbaatar 37.90 53 *e*P **P 14 08 35.0 -0.1**
ULN Ulaanbaatar 37.90 53 *e*P **P 14 08 37.0 +1.8**
GERES GERESS Array B 37.94 309 P **P 14 08 35.6 +0.1**
comp=Z,3.9nm,0.9s,mb4.1,baz=84,slow=9.1,SNR=6.5
KHC Kasperske Hory 38.06 309 *e*P **P 14 08 36.3 -0.2**
KHC AMS AMS 14 57 30.0
comp=Z,200nm,23.0s
KHC Kasperske Hory 38.06 309 *i* P **P 14 08 36.4 -0.1**
BRG Berggiesshubel 38.08 312 *e*(P) **P 14 08 37.0 +0.3**
comp=Z,2.1nm,0.8s,mb3.9
BRG Berggiesshubel 38.08 312 P **P 14 08 37.0 +0.3**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
CLL Collm 38.74 312 *e*P **P 14 08 43.0 +0.8**
comp=Z,6.0nm,1.0s,mb4.3
CLL Collm 38.74 312 *e*P **P 14 08 38.0 -4.2**
CLL *i* 14 08 44.6
MOX Moxa 39.51 311 *e*P **P 14 08 48.0 -0.7**
GRA1 Grafenberg Arr 39.65 310 *e*P **P 14 08 50.6 +0.8**
comp=Z,5.0nm,0.8s,mb4.3
GRF Grafenberg Arr 39.65 310 *e*P **P 14 08 50.6 +0.8**
comp=Z,5.0nm,0.8s,mb4.3
GRF Grafenberg Arr 39.65 310 *e*P **P 14 08 50.6 +0.8**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
GRF Grafenberg Arr 39.65 310 *e*P **P 14 08 50.6 +0.8**
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KMBO Kilima Mbogo 40.38 217 LR LR 14 25 56.5
comp=Z,71nm,19.5s,MS3.5,baz=257,slow=37
HFS Hagfors 40.65 326 LR LR 14 26 46.2
comp=Z,41nm,20.7s,MS3.3,baz=321,slow=38
HHC Hu-ho-hao-te 41.18 64 *e*P **P 14 09 02.4 -0.1**
HHC PP PP 14 10 40.3 +2.9
HHC PCP PcP 14 11 02.9 +1.3
HHC PCS PcS 14 14 52.5 -0.2
HHC S **S 14 15 13.6 -2.5**
HHC SS SS 14 18 11.1 -7.7
HHC AMB AMB
comp=Z,11nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,92nm,4.2s
HHC LR LR
comp=N,121nm,5.5s
HHC LR LR
comp=E,84nm,5.9s
HHC LR LR
comp=Z,132nm,9.0s
ARCES ARCESS Array B 41.34 342 P **P 14 09 03.1 -0.7**
comp=Z,7.2nm,1.1s,mb4.2,baz=71,slow=4.5,SNR=3.9
ARCES LR LR 14 28 09.9
comp=Z,87nm,18.0s,MS3.7,baz=132,slow=39
KEST Kesra 41.77 288 P **P 14 09 08.7 +1.4**
comp=Z,4.9nm,0.9s,mb4.1,baz=22,slow=2.0,SNR=8.9
NB2 NORSAR Subarra 42.11 327 P **P 14 09 09.3 -0.8**
comp=Z,3.4nm,0.8s,mb4.0,baz=109,slow=8.6
NOA NORSAR Array B 42.11 327 P **P 14 09 08.9 -1.1**
comp=Z,5.0nm,1.0s,mb4.1,baz=110,slow=7.9,SNR=4.0
NOA LR LR 14 27 52.1
comp=Z,25nm,18.6s,MS3.1,baz=100,slow=38
SBF Sospel 42.15 301 *e*P **P 14 09 09.4 -1.0**
comp=Z,31nm,0.8s,mb4.7
SBF Sospel 42.15 301 *e*P **P 14 09 09.4 -1.0**
SBF pmax pmax
comp=Z,15nm,0.8s,mb4.7
SBF Sospel 42.15 301 *e*P **P 14 09 09.4 -1.0**
comp=Z,15nm,0.8s,mb4.7
CDF Champ du Feu 42.16 308 *e*P **P 14 09 10.0 -0.5**
LPG La Plagne 42.55 303 *e*P **P 14 09 12.7 -1.0**
comp=Z,16nm,1.0s,mb4.4
LPG La Plagne 42.55 303 *e*P **P 14 09 12.7 -1.0**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
LPG La Plagne 42.55 303 *e*P **P 14 09 12.7 -1.0**
comp=Z,8.2nm,1.0s,mb4.4
LPL La Plagne 42.56 303 *e*P **P 14 09 12.8 -1.0**
MBDF Montbardon 42.57 302 *e*P **P 14 09 12.6 -1.3**
comp=Z,6.8nm,0.6s,mb4.2
MBDF Montbardon 42.57 302 *e*P **P 14 09 12.6 -1.3**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
MBDF Montbardon 42.57 302 *e*P **P 14 09 12.6 -1.3**
comp=Z,3.4nm,0.6s,mb4.2
CABF La Chapelle 42.97 305 *e*P **P 14 09 16.6 -0.5**
comp=Z,23nm,1.0s,mb4.5
CABF La Chapelle 42.97 305 *e*P **P 14 09 16.6 -0.5**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.5
CABF La Chapelle 42.97 305 *e*P **P 14 09 16.6 -0.5**
comp=Z,11nm,1.0s,mb4.5
VIVF Saint-Julien-l 44.05 302 *e*P **P 14 09 24.5 -1.4**
comp=Z,10nm,0.9s,mb4.3
VIVF Saint-Julien-l 44.05 302 *e*P **P 14 09 24.5 -1.4**
VIVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
VIVF Saint-Julien-l 44.05 302 *e*P **P 14 09 24.5 -1.4**
comp=Z,5.2nm,0.9s,mb4.3
LOR Lormes 44.48 306 *e*P **P 14 09 28.0 -1.2**
comp=Z,7.3nm,0.7s,mb4.2
LOR Lormes 44.48 306 *e*P **P 14 09 28.0 -1.2**
LOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LOR Lormes 44.48 306 *e*P **P 14 09 28.0 -1.2**
comp=Z,3.7nm,0.7s,mb4.2
SMF Signal de Mont 44.52 305 *e*P **P 14 09 28.6 -1.0**
comp=Z,25nm,1.0s,mb4.7
SMF Signal de Mont 44.52 305 *e*P **P 14 09 28.6 -1.0**
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.7
SMF Signal de Mont 44.52 305 *e*P **P 14 09 28.6 -1.0**
comp=Z,13nm,1.0s,mb4.7
LASF Ste Croix 44.71 301 *e*P **P 14 09 29.9 -1.2**
AVF Avril sur Loir 44.85 305 *e*P **P 14 09 31.2 -1.0**
CAF Calviac 45.90 303 *e*P **P 14 09 39.7 -0.8**
MTLF Montolieu 45.97 301 *e*P **P 14 09 40.1 -1.0**
comp=Z,12nm,0.8s,mb4.6
MTLF Montolieu 45.97 301 *e*P **P 14 09 40.1 -1.0**
MTLF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MTLF Montolieu 45.97 301 *e*P **P 14 09 40.1 -1.0**
comp=Z,5.9nm,0.8s,mb4.6
RJF Les Rejaudoux 46.24 303 *e*P **P 14 09 42.6 -0.6**
PSI Prapat 47.01 122 P **P 14 09 48.8 -0.5**
comp=Z,8.1nm,0.9s,mb4.7,baz=307,slow=8.4,SNR=6.9
LDF La Druitiere 47.08 308 *e*P **P 14 09 48.5 -1.3**
MFF Saint Martin d 47.26 305 *e*P **P 14 09 49.8 -1.4**
GRR Gorron 47.58 308 *e*P **P 14 09 52.7 -1.0**
ETSF Etsaut 48.05 300 *e*P **P 14 09 56.7 -0.6**
comp=Z,5.4nm,0.8s,mb4.3
ETSF Etsaut 48.05 300 *e*P **P 14 09 56.7 -0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
ETSF Etsaut 48.05 300 *e*P **P 14 09 56.7 -0.6**
comp=Z,2.7nm,0.8s,mb4.3
NJ2 Nanjing 48.77 74 *e*P **P 14 10 04.1 +1.2**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
ROSF Rostrenen 49.19 308 *e*P **P 14 10 05.2 -0.9**
comp=Z,20nm,1.0s,mb4.8
ROSF Rostrenen 49.19 308 *e*P **P 14 10 05.2 -0.9**
ROSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ROSF Rostrenen 49.19 308 *e*P **P 14 10 05.2 -0.9**
comp=Z,10nm,1.0s,mb4.8
ESDC Sonseca Array 51.21 297 P **P 14 10 20.8 -0.6**
comp=Z,0.3nm,0.3s,mb3.6,baz=68,slow=8.1,SNR=4.4
YAK Yakutsk 51.79 34 *c* *i*P **P 14 10 26.0 +0.2**
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.9
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.2
YAK Yakutsk 51.79 34 *e*P **P 14 10 24.6 -1.2**
comp=Z,18nm,0.8s,mb5.0
YAK Yakutsk 51.79 34 *i* P **P 14 10 26.0 +0.2**
comp=Z,200nm,17.0s
MDJ Mudanjiang 53.67 56 P **P 14 10 39.2 -0.5**
MDJ S **S 14 18 12.8 -1.0**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,53nm,6.6s
TOA0 Torodi Ar. Sit 56.74 264 *e*P **P 14 11 01.0 -0.8**
TORD Torodi Ar. Bea 56.74 264 P **P 14 11 01.1 -0.7**
comp=Z,7.0nm,0.9s,mb4.7,baz=57,slow=6.9,SNR=25
TORD LR LR 14 38 09.4
comp=Z,122nm,18.3s,MS4.0,baz=55,slow=39
YSS Yuzh-Sakhalins 61.87 50 *e*P **P 14 11 37.0 -0.4**
YSS MLR MLR
comp=Z,300nm,19.0s,MS4.5
YSS Yuzh-Sakhalins 61.87 50 *e*P **P 14 11 37.0 -0.4**
comp=Z,300nm,19.0s
BILL Bilibino 65.39 23 *e*P **P 14 12 00.1 -0.5**
BILL *e* 14 12 31.7
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.1
BILL Bilibino 65.39 23 *e*P **P 14 12 00.1 -0.5**
comp=Z,10.0nm,1.3s,mb4.7
BILL Bilibino 65.39 23 *e*PcP PcP 14 12 31.7 -0.9
comp=Z,100nm,17.0s
DBIC Dimbokro 65.62 262 LR LR 14 43 00.3
comp=Z,117nm,18.4s,MS4.1,baz=316,slow=38
BOSA Boshof 69.79 213 P **P 14 12 28.3 -0.1**
comp=Z,4.3nm,0.7s,mb4.5,baz=52,slow=4.5,SNR=9.0
BOSA LR LR 14 46 39.7
comp=Z,78nm,19.1s,MS4.0,baz=135,slow=39
YKA Yellowknife Ar 84.69 358 P **P 14 13 51.4 -0.5**
comp=Z,3.6nm,0.8s,mb4.5,baz=358,slow=5.2,SNR=8.2
YKA Yellowknife Ar 84.69 358 P **P 14 13 51.4 -0.5**
YKA Yellowknife Ar 84.69 358 P **P 14 13 51.4 -0.5**
WRA Warramunga Ar 88.08 115 P **P 14 14 08.3 -0.4**
comp=Z,5.1nm,0.6s,mb4.9,baz=317,slow=4.0,SNR=19
WRAB Tennant Creek 88.08 115 *i* P **P 14 14 08.8 +0.2**
ASAR Alice Springs 89.95 118 P **P 14 14 17.2 -0.2**
comp=Z,3.2nm,0.5s,mb4.9,baz=309,slow=5.2,SNR=51
ASAR Alice Springs 89.95 118 P **P 14 14 17.2 -0.2**

NIED ***11*** *14:04:00.2800N×130.10E,h11km,Mw4.6 Best double couple: M0 7.93000×10^15 NP1:φ=330.00000°,δ=80.00000°, λ=166.00000°. NP2:φ=62.00000°,δ=76.00000°,λ=11.00000°.*
BJI ***11*** *14:04:50.9,27.35N×130.39E,h17km,mB4.8,mb4.3,Ms4.6, Msz4.3*
ISCJB ***11*** *14:04:56.9±0.8,2798N±003×130.10E±004,h29km±5km, mb4.6/30,MS4.3/23,Error ellipse: s-maj=6.0km s-min=4.5km az=42.4*
MOS ***11*** *14:04:57.9±1.1,2804N×130.05E,h33km,mb4.9/10, MS4.1/4,Error ellipse: s-maj=15.4km s-min=9.1km az=92.8*
JMA ***11*** *14:04:57.2±0.1,2801N×130.12E,h35km±1km,M5.0 JMA Felt II J1.*
IDC ***11*** *14:04:59.6±4.1,2804N×129.84E,h33km±32km,mb4.1/15, mb1 4.2/18,mb1mx4.1/26,mbtmp4.3/18,ML3.7/3,MS4.1/16, Ms1 4.1/16,ms1mx3.8/34,Error ellipse: s-maj=21.7km s-min=12.2km az=79.0*
NEIC ***11*** *14:04:59.1±0.3,2802N×129.90E,mb4.8/13,MW4.5(NIED), Error ellipse: s-maj=8.2km s-min=6.0km az=106.0*
SZGRF ***11*** *14:05:00.3,2864N×131.62E,h30km,mb4.8,Southeast of Ryukyu Islands, Japan*

ISC 11 14:04:58.0±0.8,2800N±003×13005E±004,h22km±5km, h31km±2.7km:pP-P,n95,σ1.9 01/98,mb4.6/30,MS4.3/23, 3C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.32**	**348**	P		**Pb**	**14 05 05.3**	**+0.1**
JAM	**Amami Oshima**	**0.57**	**316**	P		**Pb**	**14 05 09.1**	**-0.2**
JAM				S		**Sb**	**14 05 17.8**	**+0.8**
JTK	**Tokunoshima**	**1.00**	**258**	P		**Pb**	**14 05 16.3**	**-0.3**
JTK				*e*S		**Sb**	**14 05 30.3**	**+1.1**
JNN	**Nakanoshima**	**1.84**	**355**	P		**Pn**	**14 05 27.8**	**-0.5**
JOW	**Kunigami**	**1.96**	**234**	Pn		**Pn**	**14 05 29.4**	**-0.5**
	332nm,0.3s,baz=99,slow=20,SNR=1017							
JOW				LR		LR	14 05 50.6	
	comp=Z,3µm,20.4s,baz=248,slow=28							
JOW	**Kunigami**	**1.96**	**234**	P		**Pn**	**14 05 29.3**	**-0.6**
JIH	**Iheya**	**2.08**	**243**	P		**Pn**	**14 05 31.1**	**-0.5**
JMZ	**Minamidaito 2**	**2.41**	**154**	P		**Pn**	**14 05 34.5**	**-1.5**

JMZ				eS	**Sn**	**14 06 01.8**	**-3.0**
JKC	**Kuchinoerabu**	**2.46**	**3**	P	**Pn**	**14 05 36.2**	**-0.5**
JKC				eS	**Sn**	**14 06 05.1**	**-1.0**
NAH1	**Naha**	**2.76**	**230**	P	**Pn**	**14 05 40.4**	**-0.5**
JJT2	**Tamagusuku 2**	**2.76**	**228**	P	**Pn**	**14 05 40.5**	**-0.4**
JTN	**Tanegashima 3**	**2.77**	**17**	P	**Pn**	**14 05 40.3**	**-0.7**
JTN				eS	**Sn**	**14 06 12.6**	**-1.1**
JAGN	**Aguni-jima**	**2.87**	**241**	P	**Pn**	**14 05 41.7**	**-0.6**
JKE	**Kume jima 2**	**3.35**	**241**	P	**Pn**	**14 05 47.8**	**-1.2**
TATO	**Taipei**	**8.24**	**251**	P	**Pn**	**14 06 57.4**	**+1.3**
YHNB	**Yeheng**	**8.46**	**249**	P	**Pn**	**14 06 56.8**	**-2.3**
JHJ	**Hachijo jima 2**	**9.82**	**56**	Pn	**Pn**	**14 07 21.2**	**+3.5**
	15nm,0.3s,baz=224,slow=20,SNR=6.2						
JHJ				LR	LR	14 10 40.0	
	comp=Z,551nm,21.1s,baz=278,slow=34						
CBIJ	**Chichi jima**	**10.81**	**92**	Pn	**Pn**	**14 07 29.4**	**-1.9**
	12nm,0.3s,baz=287,slow=23,SNR=26						
CBIJ				LR	LR	14 10 50.8	
	comp=Z,439nm,19.7s,baz=306,slow=32						
MAJO	**Matsushiro**	**10.96**	**37**	eP	**Pn**	**14 07 35.1**	**+1.7**
MJAR	**Matsushiro Arr**	**10.96**	**37**	Pn	**Pn**	**14 07 34.2**	**+0.8**
	0.4nm,0.3s,baz=207,slow=13,SNR=4.6						
WHN	**Wuhan**	**13.94**	**284**	⇑P	**Pn**	**14 08 21.5**	**+7.4**
CN2	**Changchun**	**16.20**	**348**	eP	**Pn**	**14 08 45.7**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**16.59**	**320**	P	**Pn**	**14 08 49.1**	**-0.1**
BJT				pmax	pmax		
	comp=Z,72nm,1.3s						
BJT	**Baijiatuau**	**16.59**	**320**	P	**Pn**	**14 08 49.1**	**-0.1**
	comp=Z,72nm,1.3s						
BJI	**Beijing**	**16.61**	**320**	P	**Pn**	**14 08 53.4**	**+4.1**
BJI				S	**Sn**	**14 12 04.2**	**+11**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s						
BJI				AMB	AMB		
	comp=Z,207nm,5.0s						
BJI				LR	LR		
	comp=N,885nm,12.5s						
BJI				LR	LR		
	comp=E,1µm,13.5s						
BJI				LR	LR		
	comp=Z,611nm,17.1s						
ASAJ	**Asahikawa**	**18.98**	**29**	P	**Pn**	**14 09 18.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=260,slow=17,SNR=2.9						
BUKP	**Musuan**	**20.56**	**194**	eP	**P**	**14 09 36.5**	**+1.4**
GYA	**Guiyang**	**20.85**	**271**	⇑iP	**P**	**14 09 38.5**	**+0.3**
GYA				AP		14 09 47.7	
GYA				XP	sP	14 09 51.8	+4.5
GYA				PP		14 10 04.6	
GYA				S	**S**	**14 13 33.9**	**+4.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,310nm,4.2s						
GYA				LR	LR		
	comp=N,790nm,14.4s,MS4.4						
GYA				LR	LR		
	comp=E,980nm,14.6s,MS4.4						
GYA				LR	LR		
	comp=Z,960nm,11.2s,MS4.4						
KLR	**Kul'dur**	**21.24**	**3**	eP	**P**	**14 09 37.2**	**-5.2**
KLR				MLR	MLR		
	comp=N,900nm,12.0s						
KLR				MLR	MLR		
	comp=Z,1µm,12.0s,MS4.4						
YSS	**Yuzh-Sakhalins**	**21.39**	**24**	⇓eP	**P**	**14 09 44.1**	**+0.1**
YSS				eS	**S**	**14 13 55.0**	**+15**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.7						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS3.9						
YSS	**Yuzh-Sakhalins**	**21.39**	**24**	eP	**P**	**14 09 44.7**	**+0.7**
	comp=Z,67nm,1.3s,mb4.8						
CD2	**Chengdu**	**23.06**	**284**	P	**P**	**14 10 01.9**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
CD2				LR	LR		
	comp=N,2µm,14.4s						
CD2				LR	LR		
	comp=Z,2µm,13.8s,MS4.7						
LZH	**Lanzhou**	**23.58**	**297**	eP	**P**	**14 10 07.0**	**-0.2**
LZH				AP		14 10 15.1	
LZH				AMB	AMB		
	comp=Z,45nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,287nm,7.3s						
LZH				LR	LR		
	comp=N,864nm,12.3s						
LZH				LR	LR		
	comp=Z,1µm,15.2s,MS4.5						
KMI	**Kunming**	**24.58**	**270**	P	**P**	**14 10 16.4**	**+0.2**
KMI				AP		14 10 23.8	
KMI				PP		14 10 50.3	
KMI				S	**S**	**14 14 36.0**	**+0.1**
KMI				XS	sS	14 14 48.6	+1.6
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,85nm,3.1s						
KMI				LR	LR		
	comp=N,670nm,14.6s,MS4.4						
KMI				LR	LR		
	comp=E,621nm,15.4s,MS4.4						
KMI				LR	LR		
	comp=Z,526nm,17.0s,MS4.1						
SONM	**Songino Array**	**27.03**	**323**	P	**P**	**14 10 37.8**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=127,slow=7.0,SNR=4.9						
SONM				LR	LR	14 22 40.5	
	comp=Z,465nm,19.2s,MS4.1,baz=127,slow=40						
GTA	**Gaotai**	**27.48**	**302**	eP	**P**	**14 10 41.9**	**-0.6**
GTA				PP		14 11 39.2	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
GTA				AMB	AMB		
	comp=Z,83nm,7.6s						
GTA				LR	LR		
	comp=N,785nm,19.8s,MS4.6						
GTA				LR	LR		
	comp=E,1µm,16.0s,MS4.6						
GTA				LR	LR		
	comp=Z,1µm,14.8s,MS4.7						
CHTO	**Chiang Mai**	**29.91**	**259**	eP	**P**	**14 11 04.5**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**29.91**	**259**	eP	**P**	**14 11 04.5**	**+0.4**
	comp=Z,8.0nm,0.9s,mb4.5						
TLY	**Talaya**	**30.85**	**327**	eP	**P**	**14 11 04.4**	**-8.0**
TLY				MLR	MLR		
	comp=Z,905nm,14.0s,MS4.6						
KSM	**Kuching**	**32.44**	**219**	eP	**P**	**14 11 26.5**	**+0.1**
SHL	**Shillong**	**34.07**	**275**	ePG	**P**	**14 11 41.5**	**+0.9**
SHL				eSG	pP	14 11 52.5	+5.1
GUN	**Gumba**	**38.85**	**281**	eP	**P**	**14 12 22.2**	**+0.8**
	comp=Z,24nm,0.3s,mb5.3						
PKI	**Pulchoki**	**39.33**	**280**	eP	**P**	**14 12 25.4**	**0.0**
	comp=Z,26nm,0.7s,mb5.0						
KKN	**Kakani**	**39.40**	**281**	eP	**P**	**14 12 26.2**	**+0.2**
DMN	**Daman**	**39.59**	**280**	eP	**P**	**14 12 27.0**	**-0.5**
GKN	**Gorkha**	**39.92**	**281**	eP	**P**	**14 12 30.3**	**0.0**
	comp=Z,21nm,0.5s,mb5.2						
KOLN	**Koldanda**	**40.86**	**281**	eP	**P**	**14 12 38.2**	**+0.1**
	comp=Z,8.0nm,0.3s,mb4.9						
MKAR	**Makanchi Array**	**41.61**	**310**	P	**P**	**14 12 42.0**	**-2.3**
	comp=Z,0.8nm,0.9s,baz=81,slow=10,SNR=4.3						
MKAR	**Makanchi Array**	**41.61**	**310**	P	**P**	**14 12 42.0**	**-2.3**
ZAL	**Zalesovo**	**41.87**	**321**	LR	LR	14 32 35.0	
	comp=Z,317nm,18.7s,MS4.2,baz=358,slow=40						
FITZ	**Fitzroy Crossi**	**46.02**	**186**	eP	**P**	**14 13 20.1**	**+0.3**
	comp=Z,14nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**46.02**	**186**	P	**P**	**14 13 20.0**	**+0.2**
	comp=Z,7.5nm,0.8s,mb4.7,baz=11,slow=7.9,SNR=11						
WRAB	**Tennant Creek**	**47.83**	**175**	eP	**P**	**14 13 34.5**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**47.83**	**175**	eP	**P**	**14 13 34.5**	**+0.6**
	comp=Z,14nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**47.84**	**175**	P	**P**	**14 13 33.7**	**-0.2**
	comp=Z,9.5nm,0.9s,mb4.8,baz=350,slow=8.4,SNR=31						
WB2	**Warramunga Arr**	**47.84**	**175**	⇑iP	**P**	**14 13 34.6**	**+0.7**
BVAR	**Borovoye Array**	**50.06**	**317**	P	**P**	**14 13 49.9**	**-1.1**
	comp=Z,0.8nm,0.3s,mb4.3,baz=89,slow=9.8,SNR=7.8						
CTA	**Charters Tower**	**50.31**	**160**	P	**P**	**14 13 54.2**	**+1.3**
	comp=Z,11nm,1.1s,mb4.8,baz=49,slow=2.6,SNR=4.6						
CTA				LR	LR	14 36 24.9	
	comp=Z,94nm,18.5s,MS3.8,baz=56,slow=37						
CTA	**Charters Tower**	**50.31**	**160**	P	**P**	**14 13 54.2**	**+1.3**
CTA				LR	LR	14 36 24.9	
CTAO	**Charters Tower**	**50.31**	**160**	eP	**P**	**14 13 54.5**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**50.31**	**160**	eP	**P**	**14 13 54.5**	**+1.7**
	comp=Z,16nm,1.2s,mb4.9						
AS31	**Alice Springs**	**51.50**	**175**	eP	**P**	**14 14 02.5**	**+0.7**
ASAR	**Alice Springs**	**51.50**	**175**	P	**P**	**14 14 02.5**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.4,baz=6.7,slow=8.7,SNR=35						
AKTO	**Aktyubinsk**	**57.76**	**314**	LR	LR	14 41 30.1	
	comp=Z,239nm,19.7s,MS4.3,baz=264,slow=38						
IMA2	**Indian Mountai**	**59.20**	**27**	eP	**P**	**14 14 59.4**	**+2.1**
STKA	**Stephens Creek**	**60.55**	**169**	eP	**P**	**14 15 07.2**	**+0.7**
	comp=Z,4.2nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**60.55**	**169**	P	**P**	**14 15 06.9**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.6,baz=358,slow=8.2,SNR=7.8						
STKA				LR	LR	14 40 27.5	
	comp=Z,106nm,19.9s,MS4.0,baz=25,slow=35						
DZM	**Mont Dzumac**	**60.93**	**141**	LR	LR	14 38 45.7	
	comp=Z,182nm,19.0s,MS4.2,baz=318,slow=33						
MCK	**McKinley**	**61.34**	**30**	eP	**P**	**14 15 13.0**	**+1.1**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
MCK	**McKinley**	**61.34**	**30**	eP	**P**	**14 15 13.0**	**+1.1**
	comp=Z,5.4nm,1.1s,mb4.6						
ARCES	**ARCESS Array B**	**68.96**	**339**	P	**P**	**14 16 00.5**	**-0.9**
	comp=Z,5.1nm,1.1s,mb4.4,baz=61,slow=7.5,SNR=4.0						
ARCES				LR	LR	14 51 45.6	
	comp=Z,217nm,18.1s,MS4.4,baz=245,slow=41						
ARCES	**ARCESS Array B**	**68.96**	**339**	P	**P**	**14 16 00.5**	**-0.9**
ARCES				LR	LR	14 51 45.6	
JOF	**Joensuu**	**69.29**	**331**	ep	**P**	**14 16 01.6**	**-1.8**
	comp=Z,3.7nm,0.6s,mb4.5						
AFI	**Afiamalu**	**70.05**	**119**	LR	LR	14 46 16.1	
	comp=Z,110nm,18.3s,MS4.1,baz=82,slow=35						
FIA1	**FINESS Array S**	**72.12**	**331**	eP	**P**	**14 16 19.9**	**-0.7**
FINES	**FINESS Array B**	**72.13**	**331**	P	**P**	**14 16 19.4**	**-1.3**
	comp=Z,2.1nm,0.5s,mb4.3,baz=66,slow=6.4,SNR=17						
FINES				LR	LR	14 51 37.5	
	comp=Z,280nm,18.0s,MS4.6,baz=54,slow=39						
AKASG	**Malin Array Be**	**75.24**	**320**	P	**P**	**14 16 37.8**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=51,slow=5.6,SNR=15						
AKASG				LR	LR	14 52 54.0	
	comp=Z,205nm,19.4s,MS4.4,baz=55,slow=38						
BRTR	**Keskin Array B**	**77.23**	**308**	P	**P**	**14 16 50.8**	**+0.5**
	comp=Z,3.7nm,1.0s,mb4.3,baz=116,slow=4.8,SNR=11						
BRTR				LR	LR	14 56 40.4	
	comp=Z,75nm,19.1s,MS4.0,baz=265,slow=40						
NB2	**NORSAR Subarra**	**78.44**	**334**	P	**P**	**14 16 56.6**	**-0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=50,slow=5.3						
NOA	**NORSAR Array B**	**78.44**	**334**	P	**P**	**14 16 55.7**	**-1.3**
	comp=Z,2.9nm,0.8s,mb4.3,baz=51,slow=5.6,SNR=6.3						
MORC	**Moravsky Berou**	**82.18**	**323**	P	**P**	**14 17 18.5**	**+1.4**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**82.18**	**323**	P	**P**	**14 17 18.5**	**+1.4**
	comp=Z,4.3nm,0.9s,mb4.4						
VYHS	**Vyhne**	**82.19**	**321**	eP	**P**	**14 17 18.3**	**+1.1**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
VYHS	**Vyhne**	**82.19**	**321**	eP	**P**	**14 17 18.3**	**+1.1**
	comp=Z,5.9nm,1.3s,mb4.4						
CLL	**Collm**	**83.62**	**326**	⇓iP	**P**	**14 17 24.9**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.9						
CLL				i pP	pP	14 17 33.4	+1.4
	comp=Z,9.0nm,0.8s						
CLL	**Collm**	**83.62**	**326**	⇓iP	**P**	**14 17 24.9**	**+0.3**
CLL				i	pP	14 17 33.4	+1.4
CLL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
CLL				MLR	MLR		
	comp=Z,900nm,15.5s,MS5.2						
CLL	**Collm**	**83.62**	**326**	⇓iP	**P**	**14 17 24.9**	**+0.3**
	comp=Z,10.0nm,1.0s,mb4.9						
CLL				i	pP	14 17 33.4	+1.4
CLL				LR	LR		
	comp=Z,900nm,15.5s,MS5.2						
GERES	**GERESS Array B**	**84.76**	**324**	P	**P**	**14 17 29.7**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.4,baz=56,slow=5.0,SNR=12						
GERES				LR	LR	14 59 29.6	
	comp=Z,288nm,18.3s,MS4.7,baz=262,slow=39						
GRA1	**Grafenberg Arr**	**85.52**	**325**	eP	**P**	**14 17 35.4**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.9						
GRA1				epP	pP	14 17 44.2	+2.6
GRF	**Grafenberg Arr**	**85.52**	**325**	eP	**P**	**14 17 35.4**	**+1.2**
	comp=Z,8.0nm,1.0s,mb4.9						
GRF				epP	pP	14 17 44.2	+2.6
GRF	**Grafenberg Arr**	**85.52**	**325**	eP	**P**	**14 17 35.4**	**+1.2**
GRF				e*PP	pP	14 17 44.2	+2.6
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
GRF	**Grafenberg Arr**	**85.52**	**325**	eP	**P**	**14 17 35.4**	**+1.2**
GRF				e*PP	pP	14 17 44.2	+2.6
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**90.77**	**39**	P	**P**	**14 18 01.4**	**+2.1**
	comp=Z,0.3nm,0.4s,mb4.0,baz=48,slow=2.2,SNR=5.0						
KEST	**Kesra**	**95.50**	**315**	LR	LR	15 08 57.7	
	comp=Z,70nm,19.5s,MS4.1,baz=183,slow=40						
SCHQ	**Schefferville**	**96.24**	**10**	LR	LR	15 04 18.7	
	comp=Z,64nm,19.7s,MS4.1,baz=115,slow=37						

*BER **11** 14:21:05.2±4.2, 5780N×2197E, h0^{km}, ML2.2(NAO), Suspected explosion*
*HEL **11** 14:21:05.8±0.1, 5799N×2179E, h0^{km}, ML2.2, ML2.7(UPP), ML2.2(NAO), Explosion*
*ISCJB **11** 14:21:05.2±0.7, 5803N±007×2173E±006, h0^{km}, Error ellipse: s-maj=9.7km s-min=4.2km az=148.5*
*CSEM **11** 14:21:05.3±0.1, 5799N×2175E, h2^{km}, ML3.5/1, Error ellipse: s-maj=4.1km s-min=2.0km az=166.0, Mining explosion.*
*NAO **11** 14:21:06.0±2.5, 5797N×2189E, ML2.2*
*UPP **11** 14:21:07.5, 5800N×2149E, h0^{km}, ML2.7, Suspected Mining explosion.*
ISC 11 14:21:06.4±0.6**, 5809N**±005×**2175E**±006**, h0**^{km}**, n37,** σ**1**^{s}**03**/54**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.75**	**258**	eP	**Pn**	**14 21 36.4**	**-1.6**
SRPE	**Suurupi**	**1.94**	**44**	eP	**Pn**	**14 21 41.1**	**+0.5**
SRPE				eS	**Sn**	**14 22 08.6**	**+2.9**
NYNU	**Nynaeshamn**	**2.17**	**297**	eP	**Pn**	**14 21 44.3**	**+0.5**
NYNU	**Nynaeshamn**	**2.17**	**297**	P	**Pn**	**14 21 44.2**	**+0.4**
NRTU	**Norrtaelje**	**2.27**	**316**	eP	**Pn**	**14 21 45.8**	**+0.6**
MEF	**Metsahovi**	**2.53**	**31**	ePB	**Pb**	**14 21 50.8**	**-2.0**
MEF				eSG	**Sg**	**14 22 25.7**	**-2.2**
MEF				MSG		14 22 27.4	
	comp=Z,9.7nm,0.1s						
VSU	**Vasula**	**2.66**	**80**	eP	**Pn**	**14 21 50.2**	**-0.3**
VSU				eS	**Sn**	**14 22 24.3**	**+0.9**
VSU	**Vasula**	**2.66**	**80**	P	**Pn**	**14 21 50.1**	**-0.4**
VSU				S	**Sn**	**14 22 24.3**	**+0.9**
BYXU	**Byxelkrok**	**2.67**	**255**	eP	**Pn**	**14 21 49.8**	**-0.9**
BYXU	**Byxelkrok**	**2.67**	**255**	P	**Pn**	**14 21 49.7**	**-1.0**
VIKU	**Vikbolandet**	**2.70**	**281**	eP	**Pn**	**14 21 51.3**	**+0.2**
VIKU	**Vikbolandet**	**2.70**	**281**	P	**Pn**	**14 21 51.2**	**+0.1**
GRAU	**Graesoe**	**2.79**	**325**	eP	**Pn**	**14 21 52.6**	**+0.2**
VSTU	**Vaestervik**	**2.82**	**263**	eP	**Pn**	**14 21 52.1**	**-0.6**
VSTU	**Vaestervik**	**2.82**	**263**	P	**Pn**	**14 21 52.1**	**-0.6**
FLYU	**Flymyra**	**2.86**	**317**	eP	**Pn**	**14 21 53.9**	**+0.7**
RAF	**Rauma**	**2.95**	**0**	eP	**Pn**	**14 21 55.2**	**+0.7**
RAF				eSG	**Sg**	**14 22 39.7**	**-1.4**
RAF				MSG		14 22 43.8	
	comp=Z,4.7nm,0.2s						
RAF	**Rauma**	**2.95**	**0**	P	**Pn**	**14 21 55.1**	**+0.7**
RAF				Sg	**Sg**	**14 22 39.7**	**-1.4**
	comp=Z,4.7nm,0.2s						
BACU	**Backbrunna**	**2.99**	**308**	eP	**Pn**	**14 21 55.8**	**+0.8**
BACU	**Backbrunna**	**2.99**	**308**	P	**Pn**	**14 21 55.7**	**+0.7**
ESKU	**Eskilstuna**	**3.03**	**295**	eP	**Pn**	**14 21 55.8**	**+0.3**
OSTU	**Oestervaala**	**3.21**	**314**	eP	**Pn**	**14 21 58.5**	**+0.5**
PVF	**Pernaja**	**3.24**	**39**	eP	**Pn**	**14 21 58.6**	**+0.1**
PVF				eSG	**Sg**	**14 22 46.9**	**-3.8**
PVF				MSG		14 22 56.7	
	comp=Z,7.0nm,0.2s						
PVF	**Pernaja**	**3.24**	**39**	P	**Pn**	**14 21 58.5**	**0.0**
PVF				Sg	**Sg**	**14 22 46.8**	**-3.8**
	comp=Z,7.0nm,0.2s						
LNKU	**Linkoeping**	**3.31**	**275**	eP	**Pn**	**14 21 59.4**	**-0.1**
NRAU	**Nora**	**3.79**	**296**	eP	**Pn**	**14 22 06.2**	**+0.1**
VXJU	**Vaexsjoe**	**3.86**	**255**	eP	**Pn**	**14 22 05.6**	**-1.4**
FIA0	**FINESS Array S**	**4.01**	**31**	Pn	**Pn**	**14 22 10.1**	**+0.9**
	baz=203,slow=14						
FIA0				Pg	**Pg**	**14 22 18.9**	**-4.4**
	baz=210,slow=14						
FIA0				Sn	**Sn**	**14 22 58.3**	**+1.4**
	baz=205,slow=22						
FIA0				Lg		14 23 13.1	
	baz=232,slow=28						
FIA0	**FINESS Array S**	**4.01**	**31**	eP	**Pn**	**14 22 09.8**	**+0.7**
FIA0				eS	**Sn**	**14 22 58.0**	**+1.2**
FIA0				eSG	**Sg**	**14 23 14.4**	**-1.0**
FIA0	**FINESS Array S**	**4.01**	**31**	Pg	**Pg**	**14 22 18.9**	**-4.5**
	SNR=7.6						
FIA0				S	**Sn**	**14 22 58.0**	**+1.1**
FIA0				Sg	**Sg**	**14 23 14.3**	**-1.1**
HFS	**Hagfors**	**4.63**	**300**	Pn	**Pn**	**14 22 18.0**	**+0.4**
	baz=131,slow=14						
HFS				Sn	**Sn**	**14 23 13.3**	**+1.2**
	baz=130,slow=28						
HFS				Lg		14 23 35.0	
	baz=120,slow=28						
HFS	**Hagfors**	**4.63**	**300**	eP	**Pn**	**14 22 18.0**	**+0.4**
HFS				eS	**Sn**	**14 23 13.3**	**+1.2**
HFS				e		14 23 35.0	
BSD	**Bornholm Skovb**	**4.81**	**235**	i P	**Pn**	**14 22 15.7**	**-4.4**
BSD				i S	**Sn**	**14 23 09.1**	**-7.4**
NB2	**NORSAR Subarra**	**6.12**	**303**	Pn	**Pn**	**14 22 38.1**	**+0.1**
	baz=122,slow=14						
NB2				Lg		14 24 22.0	
NB2	**NORSAR Subarra**	**6.12**	**303**	eP	**Pn**	**14 22 38.1**	**+0.1**
NB2				e		14 24 22.0	
ARA0	**ARCESS Array S**	**11.61**	**7**	Pn	**Pn**	**14 23 49.6**	**-3.7**
	baz=184,slow=14						
ARA0	**ARCESS Array S**	**11.61**	**7**	eP	**Pn**	**14 23 49.6**	**-3.7**

IDC 11 14:29:29.2±3.1**, 590S**×**14837E, h80**^{km}±21^{km}**, mb3.8**/3**, mb1 4.1**/5**, mb1mx3.6**/14**, mbtmp4.2**/5**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.5**/19**, Error ellipse: s-maj=50.7km s-min=22.9km az=113.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.69**	**199**	P	Pn	14 30 24.0	+0.2
	16nm,0.3s,baz=356,slow=9.5,SNR=53						
PMG				S	Sn	14 31 07.2	+1.1
	25nm,0.3s,baz=321,slow=16,SNR=6.5						
HNR	**Honiara**	**11.99**	**108**	LR	LR	14 36 27.6	
	comp=Z,104nm,19.4s,baz=178,slow=35						
WB2	**Warramunga Arr**	**19.51**	**223**	eP	Pn	14 33 50.0	-2.0
WRA	**Warramunga Arr**	**19.52**	**223**	P	Pn	14 33 50.2	-1.9
	1.0nm,0.3s,baz=51,slow=11,SNR=68						
WRA				S	S	14 37 26.4	+0.1
	0.1nm,0.3s,baz=51,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**22.50**	**217**	P	P	14 34 21.7	-0.3
	3.4nm,0.4s,baz=56,slow=8.5,SNR=179						
ASAR				S	S	14 38 26.4	+3.2
	1.5nm,0.9s,baz=27,slow=23,SNR=7.2						
ASPA	**Alice Springs**	**22.50**	**217**	eP	P	14 34 21.6	-0.5
FITZ	**Fitzroy Crossi**	**25.29**	**239**	eP	P	14 34 48.2	0.0
	3.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**25.29**	**239**	P	P	14 34 48.3	+0.2
	2.1nm,0.4s,baz=71,slow=12,SNR=22						
STKA	**Stephens Creek**	**26.61**	**193**	P	P	14 35 00.6	+0.5
	1.6nm,0.4s,baz=11,slow=10,SNR=5.5						

IDC 11 14:48:15.1±2.5**, 050N**×**12572E, h0**^{km}**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.4**/16**, mbtmp3.4**/3**, Error ellipse: s-maj=313.1km s-min=24.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.00**	**158**	P	P	14 53 10.7	-0.1
	0.6nm,1.0s,baz=337,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**25.30**	**162**	P	P	14 53 43.9	+0.7
	0.2nm,0.3s,baz=344,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**59.65**	**327**	P	P	14 58 21.1	+0.1
	0.6nm,0.6s,baz=123,slow=9.2,SNR=11						

IDC 11 14:56:39.5±2.0**, 299N**×**12918E, h0**^{km}**, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/17**, mbtmp3.7**/4**, Error ellipse: s-maj=109.8km s-min=21.7km az=72.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.25**	**189**	P	P	15 01 27.7	+0.5
	1.8nm,0.9s,baz=13,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**23.35**	**168**	P	P	15 01 49.2	-0.4
	1.3nm,0.4s,baz=344,slow=10.0,SNR=26						
ASAR	**Alice Springs**	**26.89**	**170**	P	P	15 02 21.3	-0.8
	0.4nm,0.4s,baz=352,slow=7.5,SNR=22						
MKAR	**Makanchi Array**	**59.56**	**324**	P	P	15 06 46.1	+1.2
	0.4nm,0.4s,baz=119,slow=8.1,SNR=11						

*ISCJB **11** 14:58:07.7±0.7, 1072N±006×6192W±003, h52^{km}±10^{km}, Error ellipse: s-maj=9.4km s-min=5.0km az=178.7*
*FUNV **11** 14:58:07.0, 1081N×6177W, h30^{km}, MW3.1*
*NEIC **11** 14:58:08.3, 1080N×6187W, h21^{km}, MD3.3(TRN), After TRN.*
*TRN **11** 14:58:08.3, 1080N×6187W, h21^{km}, MD3.3*
ISC 11 14:58:08.6±0.6**, 1073N**±005×**6190W**±003**, h42**^{km}±12^{km}**, n12,** σ**0**^{s}**76**/21**, 1C-2D, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.33**	**255**	eP	**Pn**	**14 58 17.1**	**-0.3**
GUIV				eS	**Sn**	**14 58 23.9**	**+0.4**
TRN	**Trinidad (W)**	**0.50**	**100**	⇓iP	**Pn**	**14 58 18.7**	**-0.7**
TRN				eS	**Sn**	**14 58 25.6**	**-1.5**
TPP	**Pointe-a-Pierr**	**0.61**	**133**	eP	**Pn**	**14 58 20.6**	**-0.3**
TPP				eS	**Sn**	**14 58 30.5**	**+0.9**
TBH	**Brigand Hill**	**0.86**	**107**	⇑eP	**Pn**	**14 58 23.9**	**-0.4**
TBH				eS	**Sn**	**14 58 36.2**	**+0.6**
GUNV	**Guanoco**	**1.17**	**241**	eP	**Pn**	**14 58 29.3**	**+0.8**
TPR	**Prospect**	**1.19**	**68**	eP	**Pn**	**14 58 29.1**	**+0.2**
TPR				eS	**Sn**	**14 58 44.9**	**+1.1**
CRUV	**Carupano**	**1.31**	**268**	eP	**Pn**	**14 58 30.1**	**-0.4**
CRUV				eS	**Sn**	**14 58 47.7**	**+0.9**
ITEV	**Isla Los Testi**	**1.36**	**297**	eP	**Pn**	**14 58 30.6**	**-0.5**
ITEV				eS	**Sn**	**14 58 48.3**	**+0.4**
GRW	**Mount Saint Ca**	**1.44**	**9**	⇓eP	**Pn**	**14 58 33.4**	**+1.2**
GRW				eS	**Sn**	**14 58 49.1**	**-0.8**
CUPV	**Cœpira**	**3.88**	**260**	eP	**Pn**	**14 59 05.5**	**-0.2**
BIRV	**Birongo**	**4.30**	**267**	eP	**Pn**	**14 59 11.1**	**-0.4**
BAUV	**El Baul**	**6.30**	**254**	eP	**Pn**	**14 59 37.7**	**-1.3**
BAUV				eS	**Sn**	**15 00 45.1**	**-4.6**

*IDC **11** 14:58:11.7±1.4, 3198S×6762W, h0^{km}, mb3.9/1, mb1 3.9/3, mb1mx3.7/16, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=45.2km s-min=10.0km az=29.0*
*ISCJB **11** 14:58:13.5±0.7, 3157S±005×6743W±006, h10^{km}, mb3.7/1, Error ellipse: s-maj=7.1km s-min=6.8km az=83.9*
*NEIC **11** 14:58:14.5±0.7, 3154S×6741W, h10^{km}, ML4.1(GUC), Error ellipse: s-maj=13.2km s-min=9.3km az=156.0*
*GUC **11** 14:58:17.7±1.2, 3168S×6750W, h46^{km}±58^{km}, ML4.1*
ISC 11 14:58:15.5±0.7**, 3162S**±005×**6749W**±005**, h10**^{km}**, n29,** σ**1**^{s}**33**/39**, mb3.7**/1**, 3C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.64**	**271**	Pg	**Pg**	**14 58 25.1**	**-2.7**
	110nm,0.3s,baz=80,slow=14,SNR=4853						
CFAA				Lg		14 58 32.2	
	231nm,0.3s,baz=319,slow=17,SNR=115						
CFAA	**Coronel Fontan**	**0.64**	**271**	Pg	**Pg**	**14 58 25.1**	**-2.7**
CFAA				Lg		14 58 32.2	
MDZ	**Mendoza**	**1.71**	**222**	eP	**Pn**	**14 58 46.6**	**+1.3**
MDZ				e		14 59 06.8	
MDZ				eS	**Sg**	**14 59 16.5**	**+6.0**
JACH	**Jahuel**	**2.84**	**247**	⇑iP	**Pn**	**14 59 02.6**	**+1.8**
JACH				i S	**Sn**	**14 59 36.1**	**+1.0**
FCH	**Farellones**	**2.92**	**233**	eP	**Pn**	**14 59 02.3**	**+0.4**
PEL	**Peldehue**	**3.10**	**240**	eP	**Pn**	**14 59 04.6**	**+0.1**
PEL				i S	**Sn**	**14 59 39.7**	**-1.9**
PEL				AML	AML	14 59 45.0	
	comp=N,398nm,0.7s						
PEL	**Peldehue**	**3.10**	**240**	eP	**Pn**	**14 59 04.6**	**+0.1**

PEL				iS	Sn	14 59 39.7	-1.9
LMEL	**Las Melosas**	**3.19**	**225**	eP	**Pn**	**14 59 06.0**	**+0.3**
LMEL				iS	**Sn**	**14 59 41.6**	**-2.2**
LMEL				AML	AML	14 59 58.4	
	comp=N,264nm,0.6s						
LMEL	**Las Melosas**	**3.19**	**225**	eP	**Pn**	**14 59 06.0**	**+0.3**
LMEL				iS	**Sn**	**14 59 41.6**	**-2.2**
TLL	**Tololo Astrono**	**3.19**	**296**	⇑eP	**Pn**	**14 59 06.3**	**+0.5**
TLL				iS	**Sn**	**14 59 44.2**	**+0.4**
TLL				AML	AML	14 59 57.7	
	comp=N,867nm,0.4s						
TLL	**Tololo Astrono**	**3.19**	**296**	⇑eP	**Pn**	**14 59 06.3**	**+0.5**
TLL				iS	**Sn**	**14 59 44.2**	**+0.4**
RCDM	**Rinconada Maip**	**3.37**	**235**	eP	**Pn**	**14 59 08.3**	**+0.2**
RCDM				eS	**Sn**	**14 59 46.2**	**-1.9**
RCDM				AML	AML	14 59 55.4	
	comp=E,239nm,0.3s						
RCDM	**Rinconada Maip**	**3.37**	**235**	eP	**Pn**	**14 59 08.3**	**+0.2**
RCDM				eS	**Sn**	**14 59 46.2**	**-1.9**
CHNG	**Los Chungos**	**3.43**	**265**	eP	**Pn**	**14 59 07.3**	**-1.6**
CHCH	**Chadas Angostu**	**3.53**	**228**	eP	**Pn**	**14 59 12.2**	**+1.9**
TACH	**Talagante**	**3.55**	**234**	iP	**Pn**	**14 59 11.8**	**+1.2**
CACH	**El Canelo**	**3.62**	**226**	eP	**Pn**	**14 59 14.0**	**+2.4**
LCO	**Las Campanas**	**3.80**	**312**	eP	**Pn**	**14 59 14.0**	**-0.1**
LCO				eS	**Sn**	**14 59 58.2**	**-0.6**
LCO				AML	AML	15 00 08.2	
	comp=E,271nm,0.7s						
LCO	**Las Campanas**	**3.80**	**312**	eP	**Pn**	**14 59 14.0**	**-0.1**
LCO				eS	**Sn**	**14 59 58.2**	**-0.6**
SFDO	**San Fernando**	**4.21**	**224**	eP	**Pn**	**14 59 20.4**	**+0.7**
TRQA	**Tornquist**	**7.86**	**146**	Pn	**Pn**	**15 00 08.0**	**-1.8**
PLCA	**Paso Flores**	**9.43**	**194**	ePn	**Pn**	**15 00 21.9**	**-9.4**
CPUP	**Villa Florida**	**10.34**	**62**	Pn	**Pn**	**15 00 44.0**	**+0.3**
	comp=E,0.4nm,0.3s,baz=214,slow=13,SNR=2.9						
CPUP	**Villa Florida**	**10.34**	**62**	ePn	**Pn**	**15 00 42.7**	**-1.1**
	comp=E,15nm,0.4s						
LPAZ	**La Paz**	**15.27**	**358**	Pn	**Pn**	**15 01 55.9**	**+4.8**
	comp=E,0.4nm,0.3s,baz=144,slow=5.7,SNR=6.6						
LPAZ	**La Paz**	**15.27**	**358**	ePn	**Pn**	**15 01 54.3**	**+3.2**
TORD	**Torodi Ar. Bea**	**79.78**	**68**	P	**P**	**15 10 23.0**	**-0.9**
	comp=E,0.7nm,0.7s,mb3.7,baz=276,slow=4.4,SNR=4.1						
WRA	**Warramunga Arr**	**124.62**	**205**	PKP	PKPdf	15 17 12.5	-2.7
	comp=E,0.2nm,0.4s,baz=166,slow=1.7,SNR=9.6						
MKAR	**Makanchi Array**	**152.32**	**48**	PKPbc	PKPbc	15 18 10.0	-1.6
	comp=E,0.4nm,0.4s,baz=305,slow=0.9,SNR=5.1						

---

*MOS **11** 15:04:09.5±1.3, 4475N×781E, h10^{km}, mb3.7/1, Error ellipse: s-maj=4.8km s-min=3.3km az=89.6*
*IDC **11** 15:04:10.2±2.6, 4540N×703E, h0^{km}, mb1 3.9/4, mb1mx3.5/23, mbtmp3.8/4, ML3.9/4, Error ellipse: s-maj=50.7km s-min=20.8km az=152.0*
*ISCJB **11** 15:04:11.1±0.2, 4466N±001×774E±002, h78^{km}±3^{km}, Error ellipse: s-maj=2.3km s-min=2.0km az=142.5*
*PRU **11** 15:04:11.0, 4484N×799E, h0^{km}*
*SZGRF **11** 15:04:11.0, 4464N×771E, h10^{km}, mb3.6, Northern Italy*
*STR **11** 15:04:12.8±0.5, 4468N×740E, h10^{km}±1^{km}, Ml3.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **11** 15:04:12.4, 4462N×770E, h67^{km}, ML3.0*
*LDG **11** 15:04:12.4±0.1, 4468N×779E, h15^{km}, Md3.6/3, Ml3.7/31, Error ellipse: s-maj=1.7km s-min=1.5km az=115.0*
*NEIC **11** 15:04:12.6, 4461N×778E, h55^{km}, MD3.0(ROM), MD3.6(LDG), After ROM.*
*CSEM **11** 15:04:12.5±0.0, 4464N×785E, h43^{km}, ML3.8/29, Error ellipse: s-maj=0.8km s-min=0.7km az=178.0*
*ROM **11** 15:04:12.6±0.2, 4461N×778E, h55^{km}±4^{km}, Md3.0/25, Ml3.1/21, Error ellipse: s-maj=3.1km s-min=3.1km az=2.0*
*ZUR **11** 15:04:14.0, 4490N×790E, h0^{km}±1^{km}, mb3.0/13*
ISC 11 15:04:12.5±0.2**, 4466N**±001×**775E**±002**, h64**^{km}±4^{km}**, n222,** σ**1s22**/341**, 14C-35D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.39**	**247**	Pg	**Pn**	**15 04 23.1**	**-0.6**
DOI				Sg	**Sn**	**15 04 30.5**	**-1.5**
	6µm,0.2s						
MONC	**Moncucco Torin**	**0.43**	**17**	Pg	**Pn**	**15 04 25.3**	**+1.2**
MONC				Sg	**Sn**	**15 04 34.8**	**+2.2**
	1µm,0.3s						
STV	**Sta Anna Valdi**	**0.52**	**216**	Pg	**Pn**	**15 04 24.0**	**-0.9**
STV				Sg	**Sn**	**15 04 32.2**	**-1.8**
QLNO	**Quiliano**	**0.54**	**128**	⇓iPg	**Pn**	**15 04 24.9**	**-0.3**
QLNO				Sg	**Sn**	**15 04 33.6**	**-0.9**
	1µm,0.8s						
FIN	**Finale Ligure**	**0.56**	**144**	Pg	**Pn**	**15 04 24.9**	**-0.5**
FIN				Sg	**Sn**	**15 04 33.7**	**-1.1**
RORO		**0.59**	**158**	P	**Pn**	**15 04 25.8**	**+0.1**
RORO				S	**Sn**	**15 04 34.8**	**-0.7**
RSP	**Reno Superiore**	**0.60**	**325**	Pg	**Pn**	**15 04 25.8**	**0.0**
RSP				Sg	**Sn**	**15 04 35.9**	**+0.3**
	859nm,0.2s						
SAOF	**Saorge**	**0.69**	**192**	Pg	**Pn**	**15 04 26.5**	**-0.3**
SAOF				Sg	**Sn**	**15 04 36.1**	**-1.3**
MBDF	**Montbardon**	**0.70**	**276**	ePn	**Pn**	**15 04 27.7**	**+0.7**
	SNR=1.0						
MBDF				eSg	**Sn**	**15 04 36.0**	**-1.6**
	712nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**0.70**	**276**	ePn	**Pn**	**15 04 27.7**	**+0.7**
	SNR=1.0						
MBDF				eSg	**Sn**	**15 04 36.0**	**-1.6**
	356nm,0.2s,SNR=1.0						
AUTN	**L'Aution**	**0.71**	**199**	Pg	**Pn**	**15 04 26.8**	**-0.2**
AUTN				Sg	**Sn**	**15 04 37.0**	**-0.7**
TOUF	**Mont Tournerai**	**0.74**	**209**	Pg	**Pn**	**15 04 27.0**	**-0.4**
IMI	**Imperia**	**0.76**	**172**	Pg	**Pn**	**15 04 27.3**	**-0.3**
LUCF	**Luceram**	**0.82**	**201**	Pg	**Pn**	**15 04 28.4**	**0.0**
SBF	**Sospel**	**0.83**	**196**	ePn	**Pn**	**15 04 28.4**	**-0.1**
	SNR=1.0						
SBF				eSg	**Sn**	**15 04 40.0**	**-0.4**
	2µm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.83**	**196**	ePn	**Pn**	**15 04 28.4**	**-0.1**
	SNR=1.0						
SBF				eSg	**Sn**	**15 04 40.0**	**-0.4**
	1µm,0.2s,SNR=1.0						
BNI	**Bardonecchia**	**0.86**	**297**	Pg	**Pn**	**15 04 30.3**	**+1.5**
BNI				Sg	**Sn**	**15 04 43.3**	**+2.4**
BNI	**Bardonecchia**	**0.86**	**297**	eP	**Pn**	**15 04 30.2**	**+1.4**
BNI				e		15 04 42.3	
BNI	**Bardonecchia**	**0.86**	**297**	ePg	**Pn**	**15 04 30.2**	**+1.3**
BNI				eSn	**Sn**	**15 04 42.3**	**+1.4**
BNI				Sg	**Sn**	**15 04 43.3**	**+2.4**
BNI	**Bardonecchia**	**0.86**	**297**	ePg	**Pn**	**15 04 30.2**	**+1.4**
BNI				eSn	**Sn**	**15 04 42.3**	**+1.4**
BNI				Sg	**Sn**	**15 04 43.3**	**+2.4**
MVIF	**Mont Vial**	**0.88**	**210**	Pg	**Pn**	**15 04 29.1**	**0.0**
MVIF				Sg	**Sn**	**15 04 41.6**	**+0.2**
GENL	**Genova Univers**	**0.91**	**106**	P	**Pn**	**15 04 29.1**	**-0.4**
GENL				S	**Sn**	**15 04 37.1**	**-5.0**
REVF	**Revere**	**0.96**	**197**	Pg	**Pn**	**15 04 30.2**	**0.0**
ORO	**Oropa**	**0.98**	**9**	Pg	**Pn**	**15 04 30.6**	**+0.2**
ORO				Sg	**Sn**	**15 04 43.7**	**0.0**
	433nm,0.2s						
LPG	**La Plagne**	**1.10**	**320**	ePg	**Pn**	**15 04 33.9**	**+2.0**
	SNR=1.0						
LPG				eSg	**Sn**	**15 04 47.4**	**+1.1**
	167nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**1.10**	**320**	ePg	**Pn**	**15 04 33.9**	**+2.0**
	SNR=1.0						
LPG				eSg	**Sn**	**15 04 47.4**	**+1.1**
	84nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**1.12**	**320**	ePg	**Pn**	**15 04 34.3**	**+2.1**
	SNR=1.0						
LPL				eSg	**Sn**	**15 04 47.9**	**+1.0**
	322nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**1.12**	**320**	ePg	**Pn**	**15 04 34.3**	**+2.1**
	SNR=1.0						
LPL				eSg	**Sn**	**15 04 47.9**	**+1.0**
	161nm,0.3s,SNR=1.0						
MRGE	**Morge**	**1.21**	**336**	Pg	**Pn**	**15 04 35.0**	**+1.6**
	360nm,0.4s						
BOB	**Bobbio (Coli)**	**1.21**	**84**	⇓iPg	**Pn**	**15 04 35.7**	**+2.3**
	356nm,0.6s						
SC2M	**Scurtabr**	**1.30**	**101**	P	**Pn**	**15 04 34.0**	**-0.6**
ORIF	**Oris-en-Rattie**	**1.36**	**282**	ePg	**Pn**	**15 04 37.3**	**+2.0**
	SNR=1.0						
ORIF				eSg	**Sn**	**15 04 55.1**	**+2.6**
	474nm,0.3s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.36**	**282**	ePg	**Pn**	**15 04 37.3**	**+2.0**
	SNR=1.0						
ORIF				eSg	**Sn**	**15 04 55.1**	**+2.6**
	237nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.36**	**216**	ePn	**Pn**	**15 04 35.0**	**-0.3**
	SNR=1.0						
FRF				eSn	**Sn**	**15 04 51.4**	**-1.1**
	251nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**1.36**	**216**	ePn	**Pn**	**15 04 35.0**	**-0.3**
	SNR=1.0						
FRF				eSn	**Sn**	**15 04 51.4**	**-1.1**
	126nm,0.3s,SNR=1.0						
MMK	**Mattmark**	**1.40**	**6**	Pg	**Pn**	**15 04 36.6**	**+0.7**
MMK				Sg	**Sn**	**15 04 53.8**	**+0.3**
MMK	**Mattmark**	**1.40**	**6**	⇑iP	**Pn**	**15 04 36.6**	**+0.7**
DIX	**Grande Dixence**	**1.44**	**351**	⇓iPg	**Pn**	**15 04 38.0**	**+1.6**
DIX				Sg	**Sn**	**15 04 56.5**	**+2.1**
DIX	**Grande Dixence**	**1.44**	**351**	⇓iP	**Pn**	**15 04 30.5**	**-5.9**
STOF	**St-Etienne Org**	**1.48**	**244**	Pg	**Pn**	**15 04 38.6**	**+1.7**
STOF				Sg	**Sn**	**15 04 57.7**	**+2.3**
EMV	**Vieux Emosson**	**1.52**	**337**	eP	**Pn**	**15 04 35.6**	**-2.0**
	839nm,0.5s						
EMV	**Vieux Emosson**	**1.52**	**337**	eP	**Pn**	**15 04 40.6**	**+3.0**
EMV	**Vieux Emosson**	**1.52**	**337**	Pg	**Pn**	**15 04 40.7**	**+3.1**
MUGIO	**Muggio**	**1.56**	**35**	⇑iPg	**Pn**	**15 04 38.3**	**+0.3**
MUGIO				Sg	**Sn**	**15 04 57.1**	**-0.1**
SALAN	**Lac Salanfe**	**1.58**	**340**	⇓iP	**Pn**	**15 04 36.6**	**-1.7**
	94nm,0.5s						
SALAN	**Lac Salanfe**	**1.58**	**340**	⇓iP	**Pn**	**15 04 41.1**	**+2.8**
LMR	**La Mourre**	**1.60**	**214**	ePn	**Pn**	**15 04 38.0**	**-0.6**
LMR				eSn	**Sn**	**15 04 56.5**	**-1.8**
	107nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.60**	**214**	ePn	**Pn**	**15 04 38.0**	**-0.6**
LMR				eSn	**Sn**	**15 04 56.5**	**-1.8**
	54nm,0.2s,SNR=1.0						
TAVF	**Tavernes**	**1.60**	**230**	Pg	**Pn**	**15 04 38.9**	**+0.3**
GRYON	**Gryon**	**1.65**	**344**	⇓iP	**Pn**	**15 04 38.0**	**-1.3**
	89nm,0.3s						
GRYON	**Gryon**	**1.65**	**344**	⇓iP	**Pn**	**15 04 42.0**	**+2.7**
VILF	**Villemus**	**1.67**	**242**	Pg	**Pn**	**15 04 40.3**	**+0.8**
BACM		**1.71**	**102**	P	**Pn**	**15 04 39.7**	**-0.3**
SMRF	**Simiane la Rot**	**1.71**	**247**	ePn	**Pn**	**15 04 40.5**	**+0.5**
	SNR=1.0						
SMRF				eSn	**Sn**	**15 05 01.1**	**+0.3**
	156nm,0.3s,SNR=1.0						
SMRF				eSg	**Sn**	**15 05 07.0**	**+6.2**
SMRF	**Simiane la Rot**	**1.71**	**247**	ePn	**Pn**	**15 04 40.5**	**+0.5**
	SNR=1.0						
SMRF				eSn	**Sn**	**15 05 01.1**	**+0.3**
	78nm,0.3s,SNR=1.0						
SENIN	**Lac Senin**	**1.73**	**350**	⇓iP	**Pn**	**15 04 40.6**	**+0.3**
	317nm,0.4s						
SENIN	**Lac Senin**	**1.73**	**350**	⇓iP	**Pn**	**15 04 43.1**	**+2.8**
AIGLE	**Aigle**	**1.77**	**342**	⇓iP	**Pn**	**15 04 41.1**	**+0.2**
	388nm,0.6s						
AIGLE	**Aigle**	**1.77**	**342**	⇓iP	**Pn**	**15 04 43.1**	**+2.2**
VINC	**Vinca**	**1.80**	**106**	P	**Pn**	**15 04 40.4**	**-0.8**
VALM		**1.81**	**99**	P	**Pn**	**15 04 41.5**	**+0.1**
PUYF	**Puyloubier**	**1.86**	**233**	Pg	**Pn**	**15 04 42.2**	**+0.1**
ERBM	**Eremo**	**1.92**	**96**	Pg	**Pn**	**15 04 43.9**	**+1.0**
	216nm,1.1s						
VLC	**Villacollemand**	**1.95**	**104**	Pg	**Pn**	**15 04 42.7**	**-0.6**
	54nm,0.5s						
VLC	**Villacollemand**	**1.95**	**104**	ePn	**Pn**	**15 04 42.6**	**-0.8**
VLC				Pg	**Pn**	**15 04 42.7**	**-0.6**
VLC				eSn	**Sn**	**15 05 02.3**	**-4.5**
SARO	**Sassorosso**	**1.96**	**103**	P	**Pn**	**15 04 42.8**	**-0.6**
GROG	**Isola di Gorgo**	**1.98**	**128**	⇓iPg	**Pn**	**15 04 42.3**	**-1.3**
	236nm,0.2s						
TREF	**Trevaresse**	**2.00**	**239**	Pg	**Pn**	**15 04 44.2**	**+0.3**
WIMIS	**Wimmis**	**2.00**	**357**	⇓iP	**Pn**	**15 04 42.0**	**-2.0**
	486nm,0.6s						
WIMIS	**Wimmis**	**2.00**	**357**	⇓iP	**Pn**	**15 04 46.3**	**+2.3**
BERF	**Bertagne**	**2.01**	**229**	Pg	**Pn**	**15 04 44.1**	**0.0**
PRAF	**Pradon**	**2.04**	**246**	Pg	**Pn**	**15 04 44.8**	**+0.2**
GSCL	**Gusciola**	**2.05**	**98**	Pg	**Pn**	**15 04 45.8**	**+1.1**
	33nm,0.6s						
GELF	**Grande-Etoile**	**2.11**	**233**	Pg	**Pn**	**15 04 45.4**	**0.0**
BDI	**Bagni Di Lucca**	**2.13**	**105**	Pg	**Pn**	**15 04 44.8**	**-0.9**
	86nm,0.2s						
TUE	**Stuetta**	**2.13**	**31**	Pg	**Pn**	**15 04 47.2**	**+1.5**
TUE				Sg	**Sn**	**15 05 11.6**	**+0.5**
SALO	**Salr**	**2.18**	**63**	Pg	**Pn**	**15 04 46.4**	**0.0**
	620nm,0.6s						
VDL	**Val di Lei**	**2.19**	**33**	⇑iP	**Pn**	**15 04 42.8**	**-3.7**
	937nm,0.3s						
VDL	**Val di Lei**	**2.19**	**33**	iP	**Pn**	**15 04 47.9**	**+1.4**
VIVF	**Saint-Julien-l**	**2.20**	**276**	ePn	**Pn**	**15 04 47.3**	**+0.6**
	SNR=1.0						
VIVF				eSn	**Sn**	**15 05 12.7**	**-0.1**
	191nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.20**	**276**	ePn	**Pn**	**15 04 47.3**	**+0.6**
	SNR=1.0						
VIVF				eSn	**Sn**	**15 05 12.7**	**-0.1**
	95nm,0.3s,SNR=1.0						
BNALP	**Bannalp**	**2.26**	**12**	⇑iP	**Pn**	**15 04 43.5**	**-4.0**
	464nm,0.6s						
BNALP	**Bannalp**	**2.26**	**12**	⇑iP	**Pn**	**15 04 50.1**	**+2.6**
CABF	**La Chapelle**	**2.27**	**330**	ePn	**Pn**	**15 04 49.1**	**+1.5**
	SNR=1.0						
CABF				eSn	**Sn**	**15 05 13.6**	**-1.0**
	80nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.27**	**330**	ePn	**Pn**	**15 04 49.1**	**+1.5**
	SNR=1.0						
CABF				eSn	**Sn**	**15 05 13.6**	**-1.0**
	40nm,0.4s,SNR=1.0						
PZZT	**Monte Pizzetto**	**2.29**	**102**	Pg	**Pn**	**15 04 47.5**	**-0.4**
	66nm,0.5s						
MAGA	**Magasa**	**2.32**	**60**	Pg	**Pn**	**15 04 47.9**	**-0.4**
	414nm,0.3s						
ZCCA	**Zocca**	**2.33**	**97**	Pg	**Pn**	**15 04 50.7**	**+2.3**
	22nm,0.3s						
MABI	**Malga Bissina**	**2.40**	**53**	Pg	**Pn**	**15 04 49.3**	**0.0**
	25nm,0.5s						
BRANT	**Les Verrieres**	**2.45**	**339**	⇓iP	**Pn**	**15 04 43.9**	**-6.1**
	154nm,0.8s						
BRANT	**Les Verrieres**	**2.45**	**339**	⇓iP	**Pn**	**15 04 51.2**	**+1.2**
FNVD	**Fontana Vidola**	**2.47**	**100**	Pg	**Pn**	**15 04 52.2**	**+1.9**
	58nm,0.5s						
BRMO	**Bormio**	**2.58**	**44**	Pg	**Pn**	**15 04 53.5**	**+1.6**
	22nm,0.3s						
DAVOX	**Davos**	**2.59**	**34**	Pg	**Pn**	**15 04 53.7**	**+1.7**
DAVOX	**Davos**	**2.59**	**34**	⇑iP	**Pn**	**15 04 46.3**	**-5.7**
	247nm,0.5s						
DAVOX	**Davos**	**2.59**	**34**	⇑iP	**Pn**	**15 04 53.7**	**+1.7**
FUORN	**Ofenpass**	**2.63**	**41**	⇓iP	**Pn**	**15 04 47.9**	**-4.7**
	219nm,0.7s						
FUORN	**Ofenpass**	**2.63**	**41**	⇓iP	**Pn**	**15 04 54.7**	**+2.1**
LOMF	**Lomont**	**2.77**	**347**	Pn	**Pn**	**15 04 55.3**	**+0.9**
GRFL	**Gerfalco**	**2.78**	**122**	Pg	**Pn**	**15 04 54.3**	**-0.3**
	5.0nm,0.3s						
BBS	**Basel-Blauen**	**2.81**	**357**	Pn	**Pn**	**15 04 55.7**	**+0.8**
CSNT	**Castellina Chi**	**2.81**	**114**	⇓iPg	**Pn**	**15 04 54.5**	**-0.5**
	47nm,0.5s						
LASF	**Ste Croix**	**2.85**	**260**	ePn	**Pn**	**15 04 55.5**	**-0.1**
	SNR=1.0						
LASF				eSn	**Sn**	**15 05 27.5**	**-1.2**
	41nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.85**	**260**	ePn	**Pn**	**15 04 55.5**	**-0.1**
	SNR=1.0						
LASF				eSn	**Sn**	**15 05 27.5**	**-1.2**
	21nm,0.2s,SNR=1.0						
DAVA	**Damuels**	**3.02**	**29**	⇓iPn	**Pn**	**15 04 59.5**	**+1.7**
	SNR=26						
DAVA				⇓iSn	**Sn**	**15 05 36.1**	**+3.4**
DAVA	**Damuels**	**3.02**	**29**	ePn	**Pn**	**15 04 59.5**	**+1.7**
DAVA				eSn	**Sn**	**15 05 33.5**	**+0.8**
SFI	**Santa Sofia**	**3.04**	**103**	Pg	**Pn**	**15 04 57.5**	**-0.6**
	22nm,0.9s						
APPI	**Appiano**	**3.04**	**52**	Pg	**Pn**	**15 04 59.5**	**+1.3**
	90nm,0.6s						
CTI	**Castel Tesino**	**3.08**	**62**	Pg	**Pn**	**15 04 58.4**	**-0.2**
	73nm,0.3s						
PLDF	**La Plantade**	**3.19**	**296**	Pn	**Pn**	**15 05 00.7**	**+0.5**
CRE	**Caprese Michel**	**3.20**	**108**	Pg	**Pn**	**15 05 00.1**	**-0.2**
HINF	**Hinteralfeld**	**3.22**	**349**	ePn	**Pn**	**15 05 00.7**	**+0.2**
	SNR=1.0						
HINF				eSn	**Sn**	**15 05 36.1**	**-1.5**
	42nm,0.3s						
MOF	**Molkenrain**	**3.22**	**353**	Pn	**Pn**	**15 04 59.9**	**-0.7**
FELD	**Feldberg im Sc**	**3.22**	**3**	Pn	**Pn**	**15 05 00.4**	**-0.2**
ARCI	**Arcidosso**	**3.25**	**123**	⇓iPg	**Pn**	**15 05 00.2**	**-0.8**
	13nm,0.3s						
LBL	**Lubilhac**	**3.25**	**282**	Pn	**Pn**	**15 05 01.6**	**+0.6**
SMF	**Signal de Mont**	**3.38**	**307**	ePn	**Pn**	**15 05 03.6**	**+0.8**
	SNR=1.0						
SMF				eSn	**Sn**	**15 05 40.0**	**-1.7**
	39nm,0.3s						
SMF	**Signal de Mont**	**3.38**	**307**	ePn	**Pn**	**15 05 03.6**	**+0.8**
	SNR=1.0						
SMF				eSn	**Sn**	**15 05 40.0**	**-1.7**
	20nm,0.3s						
HAU	**Haudompre**	**3.48**	**344**	ePn	**Pn**	**15 05 04.1**	**-0.1**
HAU				eSn	**Sn**	**15 05 42.2**	**-2.0**
	106nm,0.3s,SNR=1.0						
SACS	**San Casciano d**	**3.52**	**120**	Pg	**Pn**	**15 05 04.7**	**+0.1**
	51nm,2.1s						
SQTA	**Sankt Quirin**	**3.52**	**42**	⇑iPn	**Pn**	**15 05 05.8**	**+1.2**
	SNR=20						
SQTA				⇑iSn	**Sn**	**15 05 48.7**	**+3.7**
PYM	**Petit Puy Mans**	**3.52**	**290**	Pn	**Pn**	**15 05 05.5**	**+0.8**
AGO	**Saint Agoulin**	**3.54**	**295**	Pn	**Pn**	**15 05 05.1**	**+0.1**
MOTA	**Moosalm**	**3.56**	**40**	⇓iPn	**Pn**	**15 05 06.5**	**+1.3**
	SNR=15						
MOTA				⇑iSn	**Sn**	**15 05 48.5**	**+2.5**
ECH	**Echery**	**3.58**	**354**	Pn	**Pn**	**15 05 05.5**	**0.0**
LATE	**Laterza**	**3.58**	**123**	⇓iPg	**Pn**	**15 05 05.3**	**-0.2**
	3.0nm,0.2s						
BFO	**Black Forest**	**3.69**	**6**	ePn	**Pn**	**15 05 06.9**	**-0.1**
BFO				eSn	**Sn**	**15 05 47.7**	**-1.6**
AVF	**Avril sur Loir**	**3.74**	**306**	ePn	**Pn**	**15 05 08.3**	**+0.6**
	SNR=1.0						
AVF				eSn	**Sn**	**15 05 49.0**	**-1.6**
	8.3nm,0.2s						
AVF	**Avril sur Loir**	**3.74**	**306**	ePn	**Pn**	**15 05 08.3**	**+0.6**
	SNR=1.0						
AVF				eSn	**Sn**	**15 05 49.0**	**-1.6**
	4.2nm,0.2s						
WTTA	**Wattenberg**	**3.76**	**45**	⇓iPn	**Pn**	**15 05 09.1**	**+1.2**
	SNR=21						
WTTA				⇓iSn	**Sn**	**15 05 53.7**	**+2.8**
WTTA	**Wattenberg**	**3.76**	**45**	ePn	**Pn**	**15 05 10.1**	**+2.2**
WTTA				eSn	**Sn**	**15 05 53.8**	**+2.9**
LOR	**Lormes**	**3.76**	**315**	ePn	**Pn**	**15 05 08.8**	**+0.8**
	baz=134,SNR=1.0						
LOR				eSn	**Sn**	**15 05 49.3**	**-1.7**
	27nm,0.2s						
LOR	**Lormes**	**3.76**	**315**	ePn	**Pn**	**15 05 08.8**	**+0.8**
	SNR=1.0						
LOR				eSn	**Sn**	**15 05 49.3**	**-1.7**
	14nm,0.2s						
WLS	**Welschbruch**	**3.76**	**356**	Pn	**Pn**	**15 05 07.8**	**-0.2**
CDF	**Champ du Feu**	**3.77**	**355**	ePn	**Pn**	**15 05 07.8**	**-0.2**
	SNR=1.0						
CDF				eSn	**Sn**	**15 05 48.9**	**-2.2**
	37nm,0.4s						
CDF	**Champ du Feu**	**3.77**	**355**	ePn	**Pn**	**15 05 07.8**	**-0.2**
	SNR=1.0						
CDF				eSn	**Sn**	**15 05 48.9**	**-2.2**
	18nm,0.4s						
THEF	**They Montfort**	**3.77**	**342**	Pn	**Pn**	**15 05 08.7**	**+0.6**
WATA	**Walderalm**	**3.78**	**44**	⇑iPn	**Pn**	**15 05 09.6**	**+1.4**
	SNR=8.2						
WATA				⇑iSn	**Sn**	**15 05 54.3**	**+2.9**
BGF	**Bois d'Agland**	**3.93**	**301**	ePn	**Pn**	**15 05 11.0**	**+0.7**
	SNR=1.0						
BGF				eSn	**Sn**	**15 05 53.5**	**-1.6**
	54nm,0.4s						
BGF	**Bois d'Agland**	**3.93**	**301**	ePn	**Pn**	**15 05 11.0**	**+0.7**
	SNR=1.0						
BGF				eSn	**Sn**	**15 05 53.5**	**-1.6**
	27nm,0.4s						
SFTF	**Sexfontaines**	**4.01**	**333**	ePn	**Pn**	**15 05 12.4**	**+1.0**
	baz=144						
SFTF				eSn	**Sn**	**15 05 55.2**	**-1.9**
	38nm,0.2s						
TOLF	**Tolfa**	**4.04**	**128**	⇓iPg	**Pn**	**15 05 11.2**	**-0.6**
	38nm,0.5s						
CAF	**Calviac**	**4.06**	**276**	ePn	**Pn**	**15 05 13.0**	**+1.0**
	SNR=1.0						
CAF				eSn	**Sn**	**15 05 56.8**	**-1.4**
	26nm,0.4s,SNR=1.0						
CAF	**Calviac**	**4.06**	**276**	ePn	**Pn**	**15 05 13.0**	**+1.0**
	SNR=1.0						
CAF				eSn	**Sn**	**15 05 56.8**	**-1.4**
	13nm,0.4s,SNR=1.0						
EJON	**La Jonquera**	**4.17**	**240**	Pn	**Pn**	**15 05 13.2**	**-0.3**
EJON				Sn	**Sn**	**15 05 56.2**	**-4.7**
EJON	**La Jonquera**	**4.17**	**240**	Pn	**Pn**	**15 05 13.2**	**-0.3**
	5.6nm,0.2s,SNR=13						
EJON				Sn	**Sn**	**15 05 56.2**	**-4.8**
	14nm,0.3s,SNR=7.9						
MTLF	**Montolieu**	**4.21**	**254**	ePn	**Pn**	**15 05 14.3**	**+0.3**
	SNR=1.0						
MTLF				eSn	**Sn**	**15 05 58.5**	**-3.4**
	44nm,0.4s,SNR=1.0						
MTLF	**Montolieu**	**4.21**	**254**	ePn	**Pn**	**15 05 14.3**	**+0.3**
	SNR=1.0						
MTLF				eSn	**Sn**	**15 05 58.5**	**-3.4**
	22nm,0.4s,SNR=1.0						
STU	**Stuttgart**	**4.23**	**13**	eSn	**Sn**	**15 06 01.8**	**-0.7**
RFYF	**Reffroy**	**4.27**	**339**	ePn	**Pn**	**15 05 16.2**	**+1.3**
	baz=144						
RFYF				eSn	**Sn**	**15 06 01.7**	**-1.7**
	60nm,0.3s						
RFYF	**Reffroy**	**4.27**	**339**	ePn	**Pn**	**15 05 16.2**	**+1.3**
RFYF				eSn	**Sn**	**15 06 01.7**	**-1.7**
	30nm,0.3s						
MEZF	**Maizieres J'vi**	**4.27**	**335**	ePn	**Pn**	**15 05 16.5**	**+1.6**
	baz=156,SNR=1.0						
MEZF				eSn	**Sn**	**15 06 01.1**	**-2.3**
	32nm,0.3s						
MEZF	**Maizieres J'vi**	**4.27**	**335**	ePn	**Pn**	**15 05 16.5**	**+1.6**
	SNR=1.0						
MEZF				eSn	**Sn**	**15 06 01.1**	**-2.3**
	16nm,0.3s						
PTCC	**Patocco-Chiusa**	**4.30**	**64**	Pg	**Pn**	**15 05 15.1**	**-0.3**
	24nm,0.6s						
HYF	**Humbligny**	**4.42**	**308**	ePn	**Pn**	**15 05 17.6**	**+0.7**
HYF				ePg	**Pn**	**15 05 33.0**	**+16**
HYF				eSn	**Sn**	**15 06 05.6**	**-1.4**
RJF	**Les Rejaudoux**	**4.47**	**280**	ePn	**Pn**	**15 05 18.7**	**+1.0**
	SNR=1.0						
RJF				eSn	**Sn**	**15 06 07.5**	**-0.9**
CADS	**Cadrg**	**4.49**	**68**	iPn	**Pn**	**15 05 17.1**	**-0.9**
CADS				iSn	**Sn**	**15 06 04.8**	**-4.2**
VOJS	**Vojsko**	**4.54**	**70**	iPn	**Pn**	**15 05 17.8**	**-0.8**
VOY	**Vojsko**	**4.54**	**70**	eSn	**Sn**	**15 06 04.2**	**-5.9**
KBA	**Koelnbreinsper**	**4.59**	**56**	⇓iPn	**Pn**	**15 05 20.4**	**+1.1**
	SNR=5.1						
KBA				⇓iSn	**Sn**	**15 06 12.3**	**+0.9**
KBA	**Koelnbreinsper**	**4.59**	**56**	ePn	**Pn**	**15 05 20.4**	**+1.1**
JAVS	**Javornik**	**4.62**	**72**	ePn	**Pn**	**15 05 18.9**	**-0.8**
JAVS				iSn	**Sn**	**15 06 07.7**	**-4.4**
GORS	**Gorjuse**	**4.69**	**67**	iPn	**Pn**	**15 05 20.4**	**-0.3**
GORS				eSn	**Sn**	**15 06 09.5**	**-4.3**
BGLD	**Berchtesgaden**	**4.72**	**49**	⇑iPn	**Pn**	**15 05 22.2**	**+1.1**
LFF	**La Frestale**	**5.00**	**276**	ePn	**Pn**	**15 05 25.4**	**+0.5**
	SNR=1.0						
LFF				eSn	**Sn**	**15 06 19.1**	**-2.2**
	20nm,0.4s,SNR=1.0						
LFF	**La Frestale**	**5.00**	**276**	ePn	**Pn**	**15 05 25.4**	**+0.5**
	SNR=1.0						
LFF				eSn	**Sn**	**15 06 19.1**	**-2.2**
	10nm,0.4s,SNR=1.0						
NVLJ	**Novalja**	**5.08**	**89**	iPn	**Pn**	**15 05 24.8**	**-1.3**
NVLJ				iSn	**Sn**	**15 06 17.5**	**-5.9**
NVLJ	**Novalja**	**5.08**	**89**	iPn	**Pn**	**15 05 24.7**	**-1.4**
NVLJ				iSn	**Sn**	**15 06 17.5**	**-5.9**
OBKA	**Obir**	**5.12**	**66**	⇓iPn	**Pn**	**15 05 26.4**	**-0.1**
OBKA				⇓iSn	**Sn**	**15 06 20.9**	**-3.3**
WLF	**Walferdange**	**5.12**	**348**	ePn	**Pn**	**15 05 26.8**	**+0.2**
WLF				eSn	**Sn**	**15 06 22.8**	**-1.6**
MOA	**Molln**	**5.53**	**52**	⇓iPn	**Pn**	**15 05 32.2**	**0.0**
MOA				⇓iSn	**Sn**	**15 06 33.6**	**-0.7**
MOA	**Molln**	**5.53**	**52**	ePn	**Pn**	**15 05 32.6**	**+0.5**
GRF	**Grafenberg Arr**	**5.56**	**24**	eSn	**Sn**	**15 06 32.7**	**-2.4**
TNS	**Taunus Mts**	**5.58**	**5**	ePn	**Pn**	**15 05 33.0**	**+0.1**
TNS				eSn	**Sn**	**15 06 32.8**	**-2.9**
EPF	**Esparros**	**5.60**	**256**	ePn	**Pn**	**15 05 33.2**	**+0.1**
	SNR=1.0						
EPF				eSn	**Sn**	**15 06 32.5**	**-3.6**
	15nm,0.4s,SNR=1.0						
WET	**Wettzell**	**5.70**	**36**	ePn	**Pn**	**15 05 33.6**	**-0.8**
WET				eSn	**Sn**	**15 06 34.9**	**-3.5**
GIVF	**Givet**	**5.79**	**341**	ePn	**Pn**	**15 05 35.2**	**-0.6**
GIVF				eSn	**Sn**	**15 06 37.8**	**-3.0**
	7.7nm,0.2s						
GIVF	**Givet**	**5.79**	**341**	ePn	**Pn**	**15 05 35.2**	**-0.6**
GIVF				eSn	**Sn**	**15 06 37.8**	**-3.0**
	3.8nm,0.2s						
DOU	**Dourbes**	**5.84**	**340**	P	**Pn**	**15 05 36.8**	**+0.4**
GEC2	**GERESS Array S**	**5.85**	**42**	ePn	**Pn**	**15 05 36.1**	**-0.4**
GEC2				eSn	**Sn**	**15 06 38.8**	**-3.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**5.85**	**42**	Pn	**Pn**	**15 05 36.2**	**-0.3**
	7.5nm,0.3s,baz=233,slow=13,SNR=117						
GERES				Sn	**Sn**	**15 06 38.9**	**-3.3**
	3.6nm,0.3s,baz=233,slow=24,SNR=17						
MFF	**Saint Martin d**	**5.87**	**292**	*e*Pn	**Pn**	**15 05 38.4**	**+1.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**15 06 40.6**	**-2.0**
	4.2nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**5.87**	**292**	*e*Pn	**Pn**	**15 05 38.4**	**+1.6**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**15 06 40.6**	**-2.0**
	2.1nm,0.3s,SNR=1.0						
EPOB	**Poblet**	**5.90**	**238**	Pn	**Pn**	**15 05 38.3**	**+1.0**
EPOB				Sn	**Sn**	**15 06 39.6**	**-4.0**
EPOB	**Poblet**	**5.90**	**238**	Pn	**Pn**	**15 05 38.3**	**+1.0**
	1.6nm,0.2s,SNR=8.0						
BAIF	**Baives**	**5.91**	**337**	*e*Pn	**Pn**	**15 05 37.6**	**+0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**15 06 40.5**	**-3.2**
	5.9nm,0.3s,SNR=1.0						
BAIF	**Baives**	**5.91**	**337**	*e*Pn	**Pn**	**15 05 37.6**	**+0.2**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**15 06 40.5**	**-3.2**
	3.0nm,0.3s,SNR=1.0						
KHC	**Kasperske Hory**	**5.99**	**40**	*e*PN	**Pn**	**15 05 38.3**	**-0.2**
KHC				*e*SN	**Sn**	**15 06 42.5**	**-3.2**
KHC				*e*x	x	15 06 56.0	
KHC	**Kasperske Hory**	**5.99**	**40**	*e*Pn	**Pn**	**15 05 38.3**	**-0.2**
KHC				*e*Sn	**Sn**	**15 06 42.5**	**-3.2**
ARSA	**Arzberg**	**6.00**	**62**	⇑*i*Pn	**Pn**	**15 05 38.3**	**-0.4**
ARSA				⇓*i*Sn	**Sn**	**15 06 43.0**	**-3.0**
ARSA	**Arzberg**	**6.00**	**62**	*e*Pn	**Pn**	**15 05 38.3**	**-0.4**
ARSA				*e*Sn	**Sn**	**15 06 42.5**	**-3.5**
MEM	**Membach**	**6.07**	**349**	P	**Pn**	**15 05 39.3**	**-0.2**
ETOS	**Mallorca**	**6.11**	**219**	Pn	**Pn**	**15 05 40.3**	**+0.2**
ETOS	**Mallorca**	**6.11**	**219**	Pn	**Pn**	**15 05 40.3**	**+0.2**
	4.4nm,0.2s,SNR=28						
ETSF	**Etsaut**	**6.27**	**257**	*e*Pn	**Pn**	**15 05 42.9**	**+0.6**
ETSF				*e*Sn	**Sn**	**15 06 49.3**	**-3.2**
	17nm,0.5s,SNR=1.0						
ETSF	**Etsaut**	**6.27**	**257**	*e*Pn	**Pn**	**15 05 42.9**	**+0.6**
ETSF				*e*Sn	**Sn**	**15 06 49.3**	**-3.2**
	8.6nm,0.5s,SNR=1.0						
MOX	**Moxa**	**6.53**	**22**	(PN)	**Pn**	**15 05 42.9**	**-2.9**
MOX				*e*SN	**Sn**	**15 06 55.8**	**-3.1**
MOX	**Moxa**	**6.53**	**22**	*e*Pn	**Pn**	**15 05 42.9**	**-2.9**
MOX				*e*Sn	**Sn**	**15 06 55.8**	**-3.1**
TANN	**Tannenbergstha**	**6.58**	**27**	*e*Pn	**Pn**	**15 05 46.1**	**-0.4**
TANN				*e*Sn	**Sn**	**15 06 55.9**	**-4.2**
ERTA	**Horta de San J**	**6.59**	**238**	Pn	**Pn**	**15 05 48.1**	**+1.4**
ERTA	**Horta de San J**	**6.59**	**238**	Pn	**Pn**	**15 05 48.1**	**+1.4**
	3.6nm,0.2s,SNR=8.7						
SJPF	**Ste Jean**	**6.67**	**260**	*e*Pn	**Pn**	**15 05 47.6**	**-0.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**15 06 59.7**	**-2.6**
ESAC	**San Caprasio**	**6.69**	**247**	Pn	**Pn**	**15 05 50.3**	**+2.3**
	7.7nm,0.3s,SNR=5.8						
LDF	**La Druitiere**	**6.70**	**309**	*e*Pn	**Pn**	**15 05 48.1**	**0.0**
	SNR=1.0						
FLN	**La Foliniere**	**6.99**	**309**	*e*Pn	**Pn**	**15 05 52.1**	**0.0**
	baz=127,SNR=1.0						
GRR	**Gorron**	**7.01**	**305**	*e*Pn	**Pn**	**15 05 52.4**	**0.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**15 07 07.3**	**-3.4**
	3.6nm,0.3s						
GRR	**Gorron**	**7.01**	**305**	*e*Pn	**Pn**	**15 05 52.4**	**0.0**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**15 07 07.3**	**-3.4**
	1.8nm,0.3s						
PRU	**Pruhonice**	**7.05**	**38**	*e*PN	**Pn**	**15 05 51.0**	**-1.9**
PRU				*e*SN	**Sn**	**15 07 06.8**	**-4.8**
EIBI	**Ibiza**	**7.39**	**223**	Pn	**Pn**	**15 05 58.5**	**+0.9**
EIBI	**Ibiza**	**7.39**	**223**	Pn	**Pn**	**15 05 58.5**	**+0.9**
	SNR=7.9						
EMOS	**Mosqueruela**	**7.44**	**238**	Pn	**Pn**	**15 06 00.3**	**+2.0**
EMOS	**Mosqueruela**	**7.44**	**238**	Pn	**Pn**	**15 06 00.3**	**+2.0**
	3.8nm,0.4s,SNR=9.6						
UPC	**Upice**	**8.08**	**41**	*e*PN	**Pn**	**15 06 06.1**	**-1.0**
DPC	**Dobruska-Polom**	**8.12**	**43**	*e*PN	**Pn**	**15 06 06.1**	**-1.5**
DPC				*e*SN	**Sn**	**15 07 32.1**	**-5.9**
QUIF	**Quistinic**	**8.23**	**297**	*e*Pn	**Pn**	**15 06 09.2**	**+0.1**
ROSF	**Rostrenen**	**8.45**	**300**	*e*Pn	**Pn**	**15 06 12.0**	**-0.1**
	SNR=1.0						
EARI	**Arriondas**	**9.45**	**266**	Pn	**Pn**	**15 06 27.2**	**+1.5**
EARI				Sn	**Sn**	**15 08 04.8**	**-5.5**
ESDC	**Sonseca Array**	**10.02**	**244**	Pn	**Pn**	**15 06 33.6**	**+0.1**
	1.3nm,0.3s,baz=56,slow=14,SNR=5.4						
ESDC	**Sonseca Array**	**10.02**	**244**	Pn	**Pn**	**15 06 34.1**	**+0.5**
	1.0nm,0.3s						
MPAL	**Palemas**	**13.00**	**228**	*i* P	**Pn**	**15 07 18.0**	**+3.8**
TOU	**Touzarine**	**13.10**	**226**	*i* P	**Pn**	**15 07 20.0**	**+4.4**
FINES	**FINESS Array B**	**19.97**	**26**	P	**Pn**	**15 08 38.1**	**-3.5**
	0.1nm,0.3s,baz=212,slow=10,SNR=6.6						

*JMA **11** 15:20:34.0±0.2, 3240N×13803E, h422km, M3.5*
*ISCJB **11** 15:20:36.1±0.5, 3235N±006×13801E±009, h392km±6km, mb3.2/4, Error ellipse: s-maj=12.8km s-min=9.3km az=158.6*
*IDC **11** 15:20:37.2±1.2, 3238N×13769E, h377km±24km, mb3.0/4, mb1 3.1/6, mb1mx2.9/23, mbtmp3.7/6, Error ellipse: s-maj=62.3km s-min=14.1km az=74.0*
*NEIC **11** 15:20:37.0±1.0, 3231N×13766E, h373km±16km, MG3.5(JMA), Error ellipse: s-maj=35.7km s-min=15.4km az=79.0*
ISC 11 15:20:37.5±0.5**, 3243N**±007×**13797E**±010**, h385**km±6km**,**
n27, σ**1§09**/37**, mb3.2**/4**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.53**	**353**	P	**Pn**	**15 21 30.2**	**+0.9**
JHJ	**Hachijo jima 2**	**1.68**	**65**	P	**Pn**	**15 21 31.1**	**+1.1**
	27nm,0.3s,baz=74,slow=17,SNR=32						
JHJ				S	**S**	**15 22 14.1**	**+1.6**
	17nm,0.3s,baz=250,slow=22,SNR=3.5						
JHJ2	**Mitsune**	**1.70**	**66**	P	**Pn**	**15 21 30.5**	**+0.3**
JKO	**Kozu shima**	**2.01**	**29**	P	**Pn**	**15 21 33.3**	**+1.2**
JWZ	**Kozaga**	**2.19**	**301**	P	**Pn**	**15 21 33.0**	**-0.3**
JIE	**Ise**	**2.23**	**332**	P	**Pn**	**15 21 34.0**	**+0.4**
JWY	**Kouya**	**2.68**	**313**	P	**Pn**	**15 21 37.1**	**+0.2**
JOD2	**Odawara 2**	**2.98**	**18**	P	**Pn**	**15 21 39.7**	**+0.4**
JOD2				*e*S	**S**	**15 22 30.5**	**+1.2**
JYN	**Shimob**	**3.10**	**9**	P	**Pn**	**15 21 41.5**	**+1.1**
JAI	**Aioi**	**3.25**	**296**	P	**Pn**	**15 21 41.3**	**-0.4**
BSO1	**Boso 1**	**3.35**	**48**	P	**Pn**	**15 21 41.0**	**-1.6**
BSO1				*e*S	**S**	**15 22 32.7**	**-2.5**
JRY	**Ryogami san**	**3.67**	**12**	P	**Pn**	**15 21 45.9**	**+0.5**
JRY				*e*S	**S**	**15 22 39.6**	**-0.8**
JMN	**Monobe**	**3.67**	**292**	P	**Pn**	**15 21 45.4**	**-0.1**
MAJO	**Matsushiro**	**4.11**	**3**	*e*P	**Pn**	**15 21 49.6**	**-0.1**
MAT	**Matsushiro**	**4.11**	**3**	P	**Pn**	**15 21 49.7**	**0.0**
MAT				S	**S**	**15 22 46.3**	**-1.9**
MAT	**Matsushiro**	**4.11**	**3**	P	**Pn**	**15 21 48.9**	**-0.8**
MAT				*e*S	**S**	**15 22 46.4**	**-1.8**
MJAR	**Matsushiro Arr**	**4.11**	**3**	P	**Pn**	**15 21 49.5**	**-0.2**
	2.4nm,0.3s,baz=169,slow=10,SNR=22						
MJAR				S	**S**	**15 22 46.8**	**-1.3**
	0.5nm,0.3s,baz=243,slow=39,SNR=4.0						
JAG	**Ashikaga**	**4.17**	**17**	P	**Pn**	**15 21 49.4**	**-0.9**
JAG				S	**S**	**15 22 44.2**	**-5.1**
CBIJ	**Chichi jima**	**6.45**	**144**	P	**Pn**	**15 22 11.3**	**-3.2**
	3.2nm,0.3s,baz=287,slow=15,SNR=10						
CBIJ				S	**S**	**15 23 26.5**	**-7.0**
	18nm,0.3s,baz=284,slow=22,SNR=24						
CBIJ	**Chichi jima**	**6.45**	**144**	P	**Pn**	**15 22 12.1**	**-2.4**
CBIJ				*e*S	**S**	**15 23 26.2**	**-7.3**
ERM	**Erimo**	**10.42**	**22**	*e*P	**Pn**	**15 23 02.5**	**+2.1**
ASAJ	**Asahikawa**	**12.22**	**16**	P	**P**	**15 23 22.2**	**+2.1**
	1.1nm,0.3s,baz=246,slow=11,SNR=13						
MKAR	**Makanchi Array**	**44.33**	**306**	P	**P**	**15 28 10.9**	**-0.2**
	0.3nm,0.2s,mb3.2,baz=87,slow=9.8,SNR=3.5						
WRAB	**Tennant Creek**	**52.17**	**184**	*e*P	**P**	**15 29 10.1**	**-0.2**
WRA	**Warramunga Arr**	**52.19**	**184**	P	**P**	**15 29 09.9**	**-0.4**
	0.7nm,0.3s,mb3.4,baz=360,slow=7.6,SNR=52						
ASAR	**Alice Springs**	**55.91**	**185**	P	**P**	**15 29 37.0**	**+0.1**
	0.4nm,0.6s,mb3.0,baz=3.8,slow=6.7,SNR=10						
FINES	**FINESS Array B**	**71.55**	**332**	P	**P**	**15 31 17.4**	**-0.4**
	0.4nm,0.4s,mb3.3,baz=70,slow=6.3,SNR=6.3						

*IDC **11** 15:27:50.1±0.5, 5.17S×7647W, h0km, mb4.5/15, mb1 4.6/21, mb1mx4.6/26, mbtmp4.5/21, ML4.5/6, MS3.8/16, Ms1 3.8/16, ms1mx3.5/29, Error ellipse: s-maj=18.7km s-min=12.3km az=70.0*
*NEIC **11** 15:27:52.9±1.9, 5.18S×7649W, h17km±12km, mb4.8/44, MS4.0/3, Error ellipse: s-maj=5.7km s-min=3.3km az=55.0*
*BJI **11** 15:27:52.8, 520S×7650W, h17km, mB5.2, Ms5.1, Msz4.8*
*ISCJB **11** 15:27:53.8±0.3, 5.11S±004×7649W±005, h33km, mb4.7/55, MS4.1/16, Error ellipse: s-maj=8.1km s-min=5.4km az=120.7*
*MOS **11** 15:27:53.8±0.8, 523S×7653W, h33km, mb5.0/24, Error ellipse: s-maj=12.1km s-min=8.3km az=102.4*
ISC 11 15:27:53.7±2.9**, 515S**±005×**7644W**±005**, h20**km±18km**,**
n180, σ**0§76**/149**, mb4.7**/55**, MS4.1**/16**, 22C, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.67**	**226**	Pn	**Pn**	**15 28 37.5**	**+1.9**
	180nm,0.3s,baz=35,slow=8.9,SNR=295						
ATAH				Sn	**Sn**	**15 29 13.0**	**+5.6**
	257nm,0.3s,baz=171,slow=22,SNR=12						
ATAH				LR	LR	15 29 21.2	
	comp=Z,1µm,18.0s,baz=330,slow=33						
ROSC	**El Rosal**	**10.16**	**12**	Pn	**Pn**	**15 30 20.7**	**+2.1**
	3.0nm,0.3s,baz=108,slow=18,SNR=3.2						
ROSC	**El Rosal**	**10.16**	**12**	Pn	**Pn**	**15 30 20.2**	**+1.7**
ARE	**Arequipa**	**12.24**	**157**	*e*P	**Pn**	**15 30 51.0**	**+4.0**
SAML	**Samuel**	**13.69**	**107**	*e*Pn	**Pn**	**15 31 03.7**	**-3.0**
	2.0nm,0.6s						
LPAZ	**La Paz**	**13.75**	**144**	Pn	**Pn**	**15 31 07.2**	**-0.3**
	1.0nm,0.3s,baz=334,slow=12,SNR=33						
LPAZ	**La Paz**	**13.75**	**144**	*e*P	**Pn**	**15 31 07.4**	**-0.1**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LPAZ	**La Paz**	**13.75**	**144**	*e*Pn	**Pn**	**15 31 07.4**	**-0.1**
	comp=Z,4.7nm,0.6s						
SDV	**Santo Domingo**	**15.10**	**23**	Pn	**Pn**	**15 31 26.0**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=175,slow=21,SNR=6.1						
SDV				LR	LR	15 37 28.8	
	comp=Z,314nm,19.7s,baz=25,slow=38						
SDV	**Santo Domingo**	**15.10**	**23**	*e*Pn	**Pn**	**15 31 25.8**	**-0.1**
	comp=Z,31nm,0.9s						
JTS	**JuntasAbangare**	**17.53**	**331**	P	**Pn**	**15 31 56.7**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=217,slow=5.1,SNR=3.4						
JTS				LR	LR	15 38 13.4	
	comp=Z,245nm,21.3s,baz=202,slow=36						
JTS	**JuntasAbangare**	**17.53**	**331**	*e*P	**Pn**	**15 31 56.6**	**-0.3**
JTS				pmax	pmax		
	comp=Z,16nm,1.0s						
JTS	**JuntasAbangare**	**17.53**	**331**	*e*P	**Pn**	**15 31 56.6**	**-0.3**
	comp=Z,16nm,1.0s						
SIV	**San Ignacio**	**18.54**	**127**	P	**Pn**	**15 32 08.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=302,slow=14,SNR=22						
PCRV	**Puerto La Cruz**	**19.24**	**38**	P	**Pn**	**15 32 17.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=196,slow=15,SNR=3.0						
PCRV				LR	LR	15 40 53.6	
	comp=Z,793nm,18.9s,baz=335,slow=41						
SJG	**San Juan**	**25.25**	**23**	P	**P**	**15 33 18.8**	**+0.3**
	comp=Z,77nm,0.7s,mb5.3,baz=222,slow=3.4,SNR=37						
SJG				LR	LR	15 44 39.3	
	comp=Z,310nm,19.8s,MS3.8,baz=180,slow=40						
SJG	**San Juan**	**25.25**	**23**	*e*P	**P**	**15 33 18.6**	**+0.1**
SJG				pmax	pmax		
	comp=Z,80nm,0.8s						
SJG	**San Juan**	**25.25**	**23**	*e*P	**P**	**15 33 18.6**	**+0.1**
	comp=Z,80nm,0.8s,mb5.3						
CPD	**Cerro la Pandu**	**25.28**	**24**	*e*P	**P**	**15 33 18.6**	**-0.1**
MTP	**Monte Pirata**	**25.48**	**25**	*e*P	**P**	**15 33 20.4**	**-0.2**
CFAA	**Coronel Fontan**	**27.42**	**165**	P	**P**	**15 33 37.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=351,slow=8.6,SNR=8.3						
CFAA				LR	LR	15 43 15.2	
	comp=Z,12nm,20.4s,baz=244,slow=34						
CPUP	**Villa Florida**	**27.88**	**141**	P	**P**	**15 33 40.8**	**-1.4**
	comp=Z,16nm,0.7s,mb4.7,baz=306,slow=9.6,SNR=56						
CPUP	**Villa Florida**	**27.88**	**141**	*e*P	**P**	**15 33 41.0**	**-1.2**
CPUP				pmax	pmax		
	comp=Z,66nm,0.7s						
CPUP	**Villa Florida**	**27.88**	**141**	*e*P	**P**	**15 33 41.0**	**-1.2**
	comp=Z,66nm,0.7s,mb5.4						
BDFB	**Brasilia**	**29.80**	**113**	P	**P**	**15 33 58.8**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.1,baz=310,slow=9.1,SNR=4.5						
TRQA	**Tornquist**	**35.30**	**160**	P	**P**	**15 34 49.4**	**+2.0**
PLCA	**Paso Flores**	**35.82**	**172**	P	**P**	**15 34 51.1**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=337,slow=6.9,SNR=5.2						
PLCA				PcP	PcP	15 37 18.8	-0.4
	comp=Z,2.6nm,0.8s,baz=240,slow=3.2,SNR=3.8						
PLCA	**Paso Flores**	**35.82**	**172**	P	**P**	**15 34 51.1**	**-0.7**
PLCA						15 37 18.8	
PLCA				pmax	pmax		
	comp=Z,20nm,0.6s						
PLCA	**Paso Flores**	**35.82**	**172**	*e*P	**P**	**15 34 51.1**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.2						
LRAL	**Lakeview Retre**	**39.28**	**346**	*e*P	**P**	**15 35 20.5**	**-0.6**
	comp=Z,13nm,0.8s,mb4.7						
SWET	**Sewanee**	**41.13**	**348**	*e*P	**P**	**15 35 35.4**	**-1.1**
JCT	**Junction City**	**41.90**	**329**	P	**P**	**15 35 42.6**	**-0.1**
JCT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
JCT	**Junction City**	**41.90**	**329**	P	**P**	**15 35 42.6**	**-0.2**
	comp=Z,7.3nm,0.8s,mb4.4						
TZTN	**Tazewell**	**42.01**	**351**	*e*P	**P**	**15 35 43.3**	**-0.4**
WMOK	**Wichita Mounta**	**44.92**	**334**	*e*P	**P**	**15 36 06.9**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
WMOK	**Wichita Mounta**	**44.92**	**334**	*e*P	**P**	**15 36 06.9**	**-0.2**
	comp=Z,7.8nm,0.8s,mb4.6						
MNTX	**Cornudas Mount**	**45.87**	**325**	*e*P	**P**	**15 36 14.7**	**+0.1**
	comp=Z,9.4nm,1.0s,mb4.7						
ALLY	**Alegheny Colle**	**46.70**	**356**	P	**P**	**15 36 20.6**	**-0.6**
ANMO	**Albuquerque**	**48.88**	**327**	*e*P	**P**	**15 36 38.6**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,21nm,1.0s						
ANMO	**Albuquerque**	**48.88**	**327**	*e*P	**P**	**15 36 38.6**	**+0.5**
	comp=Z,22nm,1.0s,mb5.1						
TUC	**Tucson**	**49.54**	**321**	*e*P	**P**	**15 36 43.4**	**+0.3**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
TUC	**Tucson**	**49.54**	**321**	*e*P	**P**	**15 36 43.4**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.6						
SDCO	**Great Sand Dun**	**50.52**	**330**	*e*P	**P**	**15 36 51.4**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9						
ECSD	**EROS,Sioux Fal**	**51.96**	**341**	*e*P	**P**	**15 36 59.5**	**-1.8**
WUAZ	**Wupatki**	**52.08**	**324**	*e*P	**P**	**15 37 02.5**	**+0.3**
	comp=Z,25nm,1.0s,mb5.1						
ISCO	**Idaho Springs**	**52.18**	**332**	*e*P	**P**	**15 37 03.1**	**+0.1**
ISCO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ISCO	**Idaho Springs**	**52.18**	**332**	*e*P	**P**	**15 37 03.1**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.4						
PV01	**Paradox Valley**	**52.39**	**328**	*e*P	**P**	**15 37 05.2**	**+0.7**
RWWY	**Rawlins**	**54.42**	**332**	*e*P	**P**	**15 37 18.4**	**-1.0**
	comp=Z,14nm,1.1s,mb4.8						
MSU	**Marysvale**	**54.62**	**326**	*e*P	**P**	**15 37 21.5**	**+0.5**
CCUT	**Cedar City**	**54.64**	**324**	*e*P	**P**	**15 37 22.2**	**+1.1**
ARUT	**Antelope Range**	**54.84**	**324**	*e*P	**P**	**15 37 23.2**	**+0.6**
RSSD	**Black Hills**	**54.98**	**336**	*e*P	**P**	**15 37 24.1**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
RSSD	**Black Hills**	**54.98**	**336**	*e*P	**P**	**15 37 24.1**	**+0.6**
	comp=Z,7.1nm,0.8s,mb4.8						
TCUT	**Toone Canyon**	**56.06**	**329**	*e*P	**P**	**15 37 31.2**	**-0.2**
PDAR	**Pinedale Array**	**56.36**	**331**	P	**P**	**15 37 33.0**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.2,baz=140,slow=7.7,SNR=16						
PDAR				PcP	PcP	15 38 29.4	-1.1
	comp=Z,1.3nm,0.8s,baz=124,slow=5.4,SNR=4.1						
HWUT	**Hardware Ranch**	**56.50**	**329**	*e*P	**P**	**15 37 34.0**	**-0.5**
	comp=Z,16nm,1.3s,mb4.9						
RRI2	**Red Ridge**	**57.65**	**330**	*e*P	**P**	**15 37 42.6**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.8						
MTUM	**Tungsten Hills**	**57.67**	**321**	P	**P**	**15 37 43.1**	**+0.4**
ULM	**Lac du Bonnet**	**57.68**	**345**	P	**P**	**15 37 41.1**	**-1.7**
	comp=Z,9.5nm,0.6s,mb5.0,baz=162,slow=8.0,SNR=17						
IMW	**Indian Meadow**	**57.87**	**331**	*e*P	**P**	**15 37 43.8**	**-0.4**
	comp=Z,4.0nm,0.7s,mb4.6						
NVAR	**Mina Array Bea**	**58.17**	**322**	P	**P**	**15 37 46.6**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.4,baz=132,slow=6.9,SNR=17						
NVAR				PcP	PcP	15 38 37.7	+0.1
	comp=Z,1.3nm,0.7s,baz=108,slow=4.8,SNR=4.1						
NVAR	**Mina Array Bea**	**58.17**	**322**	P	**P**	**15 37 46.6**	**+0.4**
NVAR				PcP	PcP	15 38 37.7	+0.1
GCMT	**Greycliff**	**58.72**	**333**	*e*P	**P**	**15 37 50.0**	**0.0**
QLMT	**Earthquake Lak**	**58.80**	**332**	*e*P	**P**	**15 37 51.8**	**+1.1**
HLID	**Hailey**	**59.37**	**329**	*e*P	**P**	**15 37 54.6**	**0.0**
	comp=Z,7.7nm,1.2s,mb4.6						
MCMT	**McKenzie Canyo**	**59.49**	**331**	*e*P	**P**	**15 37 55.8**	**+0.4**
DLMT	**Dillon**	**59.75**	**331**	*e*P	**P**	**15 37 57.2**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.6						
SCHQ	**Schefferville**	**60.30**	**6**	P	**P**	**15 38 00.7**	**-0.3**
	comp=Z,7.7nm,0.6s,mb4.9,baz=221,slow=6.4,SNR=14						
SCHQ				LR	LR	16 02 57.0	
	comp=Z,43nm,21.2s,MS3.6,baz=101,slow=35						
HRY	**Holter Researc**	**60.40**	**333**	*e*P	**P**	**15 38 01.5**	**-0.2**
EGMT	**Eagleton**	**60.48**	**335**	*e*P	**P**	**15 38 01.9**	**-0.4**
	comp=Z,11nm,1.0s,mb4.8						
WVOR	**Wild Horse Val**	**60.90**	**325**	*e*P	**P**	**15 38 04.7**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
WVOR	**Wild Horse Val**	**60.90**	**325**	*e*P	**P**	**15 38 04.7**	**-0.4**
	comp=Z,13nm,1.4s,mb4.9						
MSO	**Missoula**	**61.46**	**332**	*e*P	**P**	**15 38 09.0**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.7						
WALA	**Waterton Lakes**	**63.08**	**333**	*e*P	**P**	**15 38 19.2**	**-0.5**
	comp=Z,6.3nm,0.7s,mb4.8						
LIC	**Lamto**	**72.18**	**82**	*e*P	**P**	**15 39 17.7**	**+0.5**
	comp=Z,19nm,0.9s,mb4.7						
LIC				*e*R			
	comp=Z,242nm,20.5s						
LIC	**Lamto**	**72.18**	**82**	*e*P	**P**	**15 39 17.7**	**+0.5**
	comp=Z,9.4nm,0.9s,mb4.7						
LIC				LR	LR		
	comp=Z,120nm,20.5s,MS4.2						
PPT	**Papeete**	**72.39**	**253**	LR	LR	16 05 40.2	
	comp=Z,124nm,19.0s,MS4.2,baz=84,slow=31						
DBIC	**Dimbokro**	**72.41**	**81**	P	**P**	**15 39 19.0**	**+0.5**
	comp=Z,19nm,0.8s,mb5.1,baz=260,slow=3.8,SNR=16						
DBIC				LR	LR	16 09 25.9	
	comp=Z,161nm,18.6s,MS4.3,baz=237,slow=34						
DBIC	**Dimbokro**	**72.41**	**81**	*e*P	**P**	**15 39 19.2**	**+0.7**
DBIC				pmax	pmax		
	comp=Z,23nm,1.0s						
DBIC	**Dimbokro**	**72.41**	**81**	*e*P	**P**	**15 39 19.1**	**+0.6**
	comp=Z,23nm,1.0s,mb5.1						
YKA	**Yellowknife Ar**	**73.47**	**343**	P	**P**	**15 39 23.6**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.3,baz=139,slow=5.9,SNR=10						
YKA				LR	LR	16 15 54.1	
	comp=Z,43nm,19.7s,MS3.7,baz=90,slow=39						
EVO	**Evora**	**76.60**	**49**	*e*P	**P**	**15 39 41.9**	**-1.0**
	comp=Z,16nm,1.0s,mb4.6						
EVO				*e*R			
	comp=Z,114nm,20.0s						
MDT	**Midelt**	**77.68**	**55**	P	**P**	**15 39 50.5**	**+1.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=271,slow=6.9,SNR=6.0						
TOA0	**Torodi Ar. Sit**	**79.67**	**76**	*e*P	**P**	**15 40 00.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**79.67**	**76**	P	**P**	**15 40 00.4**	**+0.5**
	comp=Z,6.4nm,0.8s,mb4.6,baz=278,slow=5.7,SNR=35						
TORD				LR	LR	16 12 21.0	
	comp=Z,160nm,20.6s,MS4.3,baz=235,slow=34						
TORD	**Torodi Ar. Bea**	**79.67**	**76**	P	**P**	**15 40 00.4**	**+0.5**
TORD				LR	LR	16 12 21.0	
ESDC	**Sonseca Array**	**79.94**	**48**	P	**P**	**15 40 02.6**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=282,slow=6.3,SNR=7.2						
ESDC				LR	LR	16 12 15.1	
	comp=Z,53nm,18.6s,MS3.9,baz=200,slow=33						
SNAA	**Sanae**	**80.00**	**162**	*e*P	**P**	**15 40 00.2**	**-1.5**
SNAA				*e*	pP	15 40 07.9	-0.3
SNAA				*e*		15 40 10.0	
SNAA	**Sanae**	**80.00**	**162**	*e*P	**P**	**15 40 00.9**	**-0.8**
SNAA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SNAA	**Sanae**	**80.00**	**162**	*e*P	**P**	**15 40 00.9**	**-0.8**
	comp=Z,9.1nm,0.8s,mb4.8						
SUMG	**Summit**	**81.29**	**11**	*e*P	**P**	**15 40 08.9**	**+0.3**
	comp=Z,20nm,1.1s,mb5.0						
ROSF	**Rostrenen**	**82.76**	**40**	*e*P	**P**	**15 40 16.7**	**+0.4**
	comp=Z,7.7nm,0.6s,mb4.6						
ROSF	**Rostrenen**	**82.76**	**40**	*e*P	**P**	**15 40 16.7**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ROSF	**Rostrenen**	**82.76**	**40**	*e*P	**P**	**15 40 16.7**	**+0.4**
	comp=Z,3.8nm,0.6s,mb4.6						
SJPF	**Ste Jean**	**82.80**	**46**	⇑*i*P	**P**	**15 40 17.5**	**+1.0**
	comp=Z,10nm,0.8s,mb4.6						
SJPF	**Ste Jean**	**82.80**	**46**	⇑*i*P	**P**	**15 40 17.5**	**+1.0**
SJPF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
SJPF	**Ste Jean**	**82.80**	**46**	⇑*i*P	**P**	**15 40 17.5**	**+1.0**
	comp=Z,5.1nm,0.8s,mb4.6						
DAWY	**Dawson**	**83.16**	**337**	*e*P	**P**	**15 40 17.2**	**-1.2**
ETSF	**Etsaut**	**83.22**	**46**	*e*P	**P**	**15 40 19.7**	**+1.0**
EPF	**Esparros**	**83.90**	**46**	⇑*i*P	**P**	**15 40 23.2**	**+1.0**
	comp=Z,27nm,1.3s,mb4.9						
EPF	**Esparros**	**83.90**	**46**	⇑*i*P	**P**	**15 40 23.2**	**+1.0**
EPF				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
EPF	**Esparros**	**83.90**	**46**	⇑*i*P	**P**	**15 40 23.2**	**+1.0**
	comp=Z,14nm,1.3s,mb4.9						
EGAK	**Eagle**	**84.16**	**337**	*e*P	**P**	**15 40 22.8**	**-0.7**
GRR	**Gorron**	**84.33**	**40**	⇑*i*P	**P**	**15 40 24.5**	**+0.1**
	comp=Z,15nm,0.7s,mb5.0						
GRR	**Gorron**	**84.33**	**40**	⇑*i*P	**P**	**15 40 24.5**	**+0.1**
GRR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
GRR	**Gorron**	**84.33**	**40**	⇑*i*P	**P**	**15 40 24.5**	**+0.1**
	comp=Z,7.3nm,0.7s,mb4.9						
MFF	**Saint Martin d**	**84.37**	**42**	⇑*i*P	**P**	**15 40 25.0**	**+0.4**
	comp=Z,17nm,0.7s,mb5.0						
MFF	**Saint Martin d**	**84.37**	**42**	⇑*i*P	**P**	**15 40 25.0**	**+0.4**
MFF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
MFF	**Saint Martin d**	**84.37**	**42**	⇑*i*P	**P**	**15 40 25.0**	**+0.4**
	comp=Z,8.3nm,0.7s,mb5.0						
LFF	**La Frestale**	**84.60**	**44**	⇑*i*P	**P**	**15 40 26.2**	**+0.4**
	comp=Z,24nm,0.7s,mb5.2						
LFF	**La Frestale**	**84.60**	**44**	⇑*i*P	**P**	**15 40 26.2**	**+0.4**
LFF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
LFF	**La Frestale**	**84.60**	**44**	⇑*i*P	**P**	**15 40 26.2**	**+0.4**
	comp=Z,12nm,0.7s,mb5.1						
FLN	**La Foliniere**	**84.67**	**40**	⇑*i*P	**P**	**15 40 26.5**	**+0.4**
	comp=Z,15nm,0.7s,mb4.9						
FLN				*e*R			
	comp=Z,37nm,19.5s						
FLN	**La Foliniere**	**84.67**	**40**	⇑*i*P	**P**	**15 40 26.5**	**+0.4**
FLN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
FLN				MLR	MLR		
	comp=Z,40nm,19.5s,MS3.8						
FLN	**La Foliniere**	**84.67**	**40**	⇑*i*P	**P**	**15 40 26.5**	**+0.4**
	comp=Z,7.3nm,0.7s,mb4.9						
FLN				LR	LR		
	comp=Z,40nm,19.5s,MS3.8						
EKA	**Eskdalemuir Ar**	**84.81**	**33**	P	**P**	**15 40 26.6**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.5,baz=250,slow=5.3,SNR=11						
LDF	**La Druitiere**	**84.86**	**40**	*e*P	**P**	**15 40 27.2**	**+0.2**
	comp=Z,15nm,0.9s,mb4.8						
LDF	**La Druitiere**	**84.86**	**40**	*e*P	**P**	**15 40 27.2**	**+0.2**
LDF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LDF	**La Druitiere**	**84.86**	**40**	*e*P	**P**	**15 40 27.2**	**+0.2**
	comp=Z,7.7nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**84.94**	**180**	*e*P	**P**	**15 40 27.3**	**-0.1**
	comp=Z,22nm,1.0s,mb5.2						
RJF	**Les Rejaudoux**	**85.22**	**44**	*e*P	**P**	**15 40 29.1**	**+0.3**
	comp=Z,15nm,0.9s,mb4.8						
RJF				*e*R			
	comp=Z,62nm,19.8s						
RJF	**Les Rejaudoux**	**85.22**	**44**	*e*P	**P**	**15 40 29.1**	**+0.3**
RJF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
RJF				MLR	MLR		
	comp=Z,60nm,19.8s,MS4.0						
RJF	**Les Rejaudoux**	**85.22**	**44**	*e*P	**P**	**15 40 29.1**	**+0.3**
	comp=Z,7.7nm,0.9s,mb4.8						
RJF				LR	LR		
	comp=Z,60nm,19.8s,MS4.0						
MTLF	**Montolieu**	**85.31**	**46**	*e*P	**P**	**15 40 29.7**	**+0.4**
CAF	**Calviac**	**85.52**	**44**	*e*P	**P**	**15 40 30.8**	**+0.5**
	comp=Z,4.2nm,0.5s,mb4.7						
CAF	**Calviac**	**85.52**	**44**	*e*P	**P**	**15 40 30.8**	**+0.5**
CAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.6						
CAF	**Calviac**	**85.52**	**44**	*e*P	**P**	**15 40 30.8**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.6						
SMF	**Signal de Mont**	**87.07**	**43**	*e*P	**P**	**15 40 38.3**	**+0.3**
	comp=Z,2.9nm,0.4s,mb4.5						
SMF	**Signal de Mont**	**87.07**	**43**	*e*P	**P**	**15 40 38.3**	**+0.3**
SMF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
SMF	**Signal de Mont**	**87.07**	**43**	*e*P	**P**	**15 40 38.3**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.6						
ORIF	**Oris-en-Rattie**	**88.18**	**45**	*e*P	**P**	**15 40 44.1**	**+0.8**
ORIF				*e*R			
	comp=Z,110nm,20.0s						
GIVF	**Givet**	**88.33**	**40**	*e*P	**P**	**15 40 44.1**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FRF	**La Foret Royal**	**88.52**	**46**	eP	**P**	**15 40 45.0**	**+0.1**
	comp=Z,10nm,0.8s,mb4.9						
FRF	**La Foret Royal**	**88.52**	**46**	eP	**P**	**15 40 45.0**	**+0.1**
FRF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
FRF	**La Foret Royal**	**88.52**	**46**	eP	**P**	**15 40 45.0**	**+0.1**
	comp=Z,5.1nm,0.8s,mb4.9						
CABF	**La Chapelle**	**88.59**	**43**	eP	**P**	**15 40 45.3**	**+0.1**
	comp=Z,9.5nm,0.8s,mb4.9						
CABF	**La Chapelle**	**88.59**	**43**	eP	**P**	**15 40 45.3**	**+0.1**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
CABF	**La Chapelle**	**88.59**	**43**	eP	**P**	**15 40 45.3**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.9						
SVW2	**Sparrevohn**	**89.24**	**332**	eP	**P**	**15 40 46.8**	**-1.5**
HINF	**Hinteralfeld**	**89.29**	**42**	eP	**P**	**15 40 48.5**	**0.0**
IMA2	**Indian Mountai**	**89.53**	**337**	eP	**P**	**15 40 48.9**	**-0.8**
CDF	**Champ du Feu**	**89.65**	**41**	⇑iP	**P**	**15 40 50.1**	**-0.1**
	comp=Z,9.5nm,0.8s,mb4.9						
CDF	**Champ du Feu**	**89.65**	**41**	⇑iP	**P**	**15 40 50.1**	**-0.1**
CDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
CDF	**Champ du Feu**	**89.65**	**41**	⇑iP	**P**	**15 40 50.1**	**-0.1**
	comp=Z,4.8nm,0.8s,mb4.9						
TTA	**Tatalina**	**89.82**	**333**	P	**P**	**15 40 50.2**	**-0.8**
VNDA	**Vanda**	**91.53**	**191**	P	**P**	**15 40 59.0**	**0.0**
	comp=Z,1.3nm,1.0s,mb4.2,baz=94,slow=2.5,SNR=5.3						
VNDA	**Vanda**	**91.53**	**191**	P	**P**	**15 40 59.0**	**0.0**
NOA	**NORSAR Array B**	**93.33**	**29**	LR	LR	16 24 23.0	
	comp=Z,23nm,18.1s,MS3.7,baz=280,slow=36						
GERES	**GERESS Array B**	**93.94**	**41**	P	**P**	**15 41 10.0**	**-0.1**
	comp=Z,0.5nm,0.5s,mb4.2,baz=212,slow=4.7,SNR=4.5						
GERES				LR	LR	16 23 46.1	
	comp=Z,32nm,18.3s,MS3.8,baz=278,slow=36						
SYO	**Syowa Base**	**94.26**	**161**	⇑ePcP	PcP	15 41 10.8	-1.2
BOSA	**Boshof**	**97.76**	**120**	LR	LR	16 23 46.8	
	comp=Z,111nm,19.2s,MS4.4,baz=137,slow=34						
ARCES	**ARCESS Array B**	**98.98**	**20**	LR	LR	16 22 21.4	
	comp=Z,32nm,20.1s,MS3.8,baz=358,slow=33						
ZRNK	**Zerenda**	**124.57**	**25**	ePKIKP	PKPdf	15 46 51.5	-0.2
BVAR	**Borovoye Array**	**125.08**	**24**	PKP	PKPdf	15 46 52.4	-0.3
	comp=Z,1.1nm,0.6s,baz=247,slow=1.8,SNR=8.2						
ZAL	**Zalesovo**	**129.02**	**14**	PKP	PKPdf	15 46 59.2	-1.0
	comp=Z,3.8nm,0.7s,baz=194,slow=1.6,SNR=25						
ZAL	**Zalesovo**	**129.02**	**14**	PKP	PKPdf	15 46 59.2	-1.0
MKAR	**Makanchi Array**	**134.63**	**20**	PKP	PKPdf	15 47 10.1	-0.7
	comp=Z,0.9nm,0.4s,baz=350,slow=2.1,SNR=14						
ZAK	**Zakamensk**	**134.93**	**0**	ePKIKP	PKPdf	15 47 11.8	+0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
CN2	**Changchun**	**136.95**	**337**	ePKP	PKPdf	15 47 13.5	-1.6
ULN	**Ulaanbaatar**	**137.34**	**357**	ePKIKP	PKPdf	15 47 16.1	+0.3
SONM	**Songino Array**	**137.41**	**357**	PKP	PKPdf	15 47 14.9	-1.1
	comp=Z,1.9nm,0.7s,baz=332,slow=0.9,SNR=12						
AS31	**Alice Springs**	**138.81**	**225**	PKPdf	PKPdf	15 47 18.2	-0.3
ASAR	**Alice Springs**	**138.81**	**225**	PKhKP		15 47 10.4	
	comp=Z,1.6nm,0.9s,baz=126,slow=3.2,SNR=8.0						
WMQ	**Urumqi**	**139.03**	**18**	ePKP	PKPdf	15 47 16.5	-2.4
WB2	**Warramunga Arr**	**140.77**	**230**	eP	PKPdf	15 47 14.5	-7.6
WRA	**Warramunga Arr**	**140.78**	**230**	PKhKP		15 47 14.2	
	comp=Z,1.8nm,0.8s,baz=122,slow=2.9,SNR=9.5						
HHC	**Hu-ho-hao-te**	**143.74**	**350**	ePKP	PKPdf	15 47 24.3	-3.1
HHC				APKP		15 47 34.8	
HHC				XPKP		15 47 38.7	
HHC				PP	PP	15 50 40.5	+0.4
HHC				PKS		15 50 58.7	
HHC				SKS	SKSdf	15 54 28.6	-7.3
HHC				SKKS	SKKSac	15 57 26.0	-5.9
HHC				PP	PP		
	comp=Z,27nm,6.3s						
GTA	**Gaotai**	**145.73**	**5**	PKP	PKPdf	15 47 31.6	+0.8
GTA				PP	PP	15 50 54.9	+2.9
GTA				PKS		15 51 05.9	
GTA				SKS	SKSdf	15 54 34.7	-4.1
GTA				SKKS	SKKSac	15 57 39.5	-3.8
GTA				SS	SS	16 09 41.1	-3.4
GTA				PP	PP		
	comp=Z,64nm,6.8s						
GTA				LR	LR		
	comp=N,53nm,12.2s,MS4.7						
GTA				LR	LR		
	comp=E,46nm,12.2s,MS4.7						
GTA				LR	LR		
	comp=Z,86nm,14.1s,MS4.7						
FITZ	**Fitzroy Crossi**	**148.24**	**223**	eP	PKPbc	15 47 38.2	-0.2
	comp=Z,24nm,0.8s						
LZH	**Lanzhou**	**149.22**	**360**	ePKP	PKPbc	15 47 41.5	+0.6
LZH				ePP	PP	15 51 19.6	+7.2
LZH				eSKS	SKSdf	15 54 45.2	+1.5
LZH				SKKS	SKKSac	15 58 06.5	+3.7
LZH				eSS	SS	16 10 27.6	+3.8
LZH				PP	PP		
	comp=Z,79nm,8.4s						
LZH				LR	LR		
	comp=N,137nm,18.3s						
LZH				LR	LR		
	comp=Z,198nm,20.1s,MS4.9						
SSE	**Sheshan**	**149.33**	**329**	PKP	PKPdf	15 47 33.6	-3.2
NJ2	**Nanjing**	**149.65**	**334**	ePKP	PKPdf	15 47 35.4	-1.9
KOLN	**Koldanda**	**150.57**	**38**	eP	PKPdf	15 47 39.8	+1.1
	comp=Z,14nm,0.4s						
GKN	**Gorkha**	**151.02**	**36**	eP	PKPdf	15 47 40.2	+0.8
	comp=Z,50nm,0.9s						
KKN	**Kakani**	**151.56**	**36**	eP	PKPbc	15 47 45.0	-1.5
	comp=Z,25nm,1.0s						
DMN	**Daman**	**151.59**	**36**	eP	PKPbc	15 47 46.1	-0.4
PKI	**Pulchoki**	**151.80**	**36**	eP	PKPbc	15 47 47.6	+0.6
CD2	**Chengdu**	**154.38**	**360**	ePKP	PKPdf	15 47 39.1	-5.3
KMI	**Kunming**	**160.13**	**2**	PKP	PKPdf	15 47 49.9	-1.7
KMI				APKP		15 47 57.2	
KMI				XPKP		15 48 00.6	
KMI				SS	SS	16 12 21.2	-1.1
KMI				LR	LR		
	comp=Z,31nm,21.0s						

*NEIC **11** 15:38:08.3, 2647S×7072W, h36km, ML3.9(GUC), After GUC.*
NEIC Felt [II] at Chanaral.
GUC 11 15:38:08.3±0.9**, 2647S×7072W, h36**km±3km**, MD4.0, ML3.9, 1C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.61**	**189**	⇑iP	Pn	15 38 20.6	+0.2
CDCH				iS	Sn	15 38 29.1	+0.1
CPCH	**Copiapo**	**0.94**	**160**	eP	Pn	15 38 25.5	+0.5
CPCH				iS	Sn	15 38 38.4	+1.1
CPCH				AML	AML	15 38 41.9	
	comp=N,6μm,0.1s						
CPCH	**Copiapo**	**0.94**	**160**	eP	Pn	15 38 25.5	+0.5
CPCH				iS	Sn	15 38 38.4	+1.1
VACH	**Vallenar**	**2.10**	**181**	eP	Pn	15 38 45.9	+5.0
VACH				iS	Sn	15 39 12.2	+6.5
LCO	**Las Campanas**	**2.53**	**180**	eP	Pn	15 38 48.7	+1.8
LCO				iS	Sn	15 39 19.6	+3.1
LCO				AML	AML	15 39 34.4	
	comp=E,82nm,0.6s						
LCO	**Las Campanas**	**2.53**	**180**	eP	Pn	15 38 48.7	+1.8
LCO				iS	Sn	15 39 19.6	+3.1
CEN1	**Los Morros**	**3.10**	**9**	eP	Pn	15 38 50.1	-4.7
CEN1				iS	Sn	15 39 28.9	-1.7
TLL	**Tololo Astrono**	**3.68**	**181**	eP	Pn	15 39 06.0	+3.3
TLL				iS	Sn	15 39 47.8	+2.9
TLL				AML	AML	15 40 14.4	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**3.68**	**181**	P	Pn	15 39 06.0	+3.3
TLL				iS	Sn	15 39 47.8	+2.9

IDC 11 15:49:19.1±48.0**, 2457S×17755W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/11**, mbtmp3.8**/3**, Error ellipse: s-maj=874.1km s-min=164.2km az=89.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.57**	**249**	P	P	15 56 26.0	-0.5
	1.0nm,0.7s,baz=76,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**44.14**	**261**	P	P	15 57 29.1	-0.2
	0.5nm,0.5s,baz=92,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**44.60**	**266**	P	P	15 57 34.3	+1.3
	0.5nm,0.3s,baz=104,slow=7.8,SNR=9.4						

*UPP **11** 15:55:06.5, 5789N×22.17E, h5km, ML2.6, Suspected Mining explosion.*
*ISCJB **11** 15:55:07.8±0.7, 5800N±006×2168E±006, h0km, Error ellipse: s-maj=8.5km s-min=3.9km az=135.5*
*BER **11** 15:55:07.5±4.9, 5777N×2196E, h0km, ML2.1(NAO), Suspected explosion*
*CSEM **11** 15:55:08.3±0.1, 5802N×2174E, h1km, ML2.2, Error ellipse: s-maj=3.3km s-min=1.7km az=157.0, Mining explosion.*
*HEL **11** 15:55:08.6±0.2, 5793N×2174E, h0km, ML2.2, ML2.6(UPP), ML2.1(NAO), Explosion*
*NAO **11** 15:55:09.3±2.5, 5800N×2182E, ML2.1*
ISC 11 15:55:08.6±0.6**, 5796N**±005×**2171E**±006**, h0**km**, n36, σ0.80**/51**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.70**	**262**	eS	**Sn**	**15 56 05.5**	**+3.6**
SRPE	**Suurupi**	**2.05**	**42**	eP	**Pn**	**15 55 43.8**	**-0.4**
SRPE				eS	**Sn**	**15 56 10.9**	**+0.3**
BYXU	**Byxelkrok**	**2.62**	**257**	eP	**Pn**	**15 55 52.7**	**+0.6**
MEF	**Metsahovi**	**2.65**	**30**	eP	**Pn**	**15 55 53.5**	**+0.9**
MEF				eS	**Sn**	**15 56 25.3**	**-0.1**
MEF				MSG		15 56 31.1	
	comp=Z,9.5nm,0.1s						
MEF	**Metsahovi**	**2.65**	**30**	P	**Pn**	**15 55 53.4**	**+0.8**
MEF				S	**Sn**	**15 56 25.3**	**-0.1**
	comp=Z,9.5nm,0.1s						
VIKU	**Vikbolandet**	**2.70**	**284**	eP	**Pn**	**15 55 54.1**	**+0.9**
VIKU	**Vikbolandet**	**2.70**	**284**	P	**Pn**	**15 55 54.1**	**+0.8**
VSU	**Vasula**	**2.71**	**77**	eP	**Pn**	**15 55 53.1**	**-0.2**
VSU				eS	**Sn**	**15 56 27.2**	**+0.5**
VSU	**Vasula**	**2.71**	**77**	P	**Pn**	**15 55 53.1**	**-0.2**
VSU				S	**Sn**	**15 56 27.2**	**+0.5**
VSTU	**Vaestervik**	**2.79**	**266**	eP	**Pn**	**15 55 55.0**	**+0.6**
BACU	**Backbrunna**	**3.05**	**310**	eP	**Pn**	**15 55 58.5**	**+0.5**
BACU	**Backbrunna**	**3.05**	**310**	P	**Pn**	**15 55 58.4**	**+0.4**
ESKU	**Eskilstuna**	**3.06**	**297**	eP	**Pn**	**15 55 58.6**	**+0.5**
RAF	**Rauma**	**3.07**	**1**	eP	**Pn**	**15 55 58.1**	**-0.2**
RAF				eSB	**Sb**	**15 56 41.8**	**-0.3**
RAF				MSG		15 56 46.5	
	comp=Z,3.3nm,0.1s						
RAF	**Rauma**	**3.07**	**1**	P	**Pn**	**15 55 58.0**	**-0.3**
OSTU	**Oestervaala**	**3.28**	**316**	eP	**Pn**	**15 56 01.6**	**+0.4**
OSTU	**Oestervaala**	**3.28**	**316**	P	**Pn**	**15 56 01.5**	**+0.4**
LNKU	**Linkoeping**	**3.30**	**277**	eP	**Pn**	**15 56 02.4**	**+0.8**
LNKU	**Linkoeping**	**3.30**	**277**	P	**Pn**	**15 56 02.3**	**+0.8**
PVF	**Pernaja**	**3.35**	**38**	eP	**Pn**	**15 56 02.2**	**0.0**
PVF				eS	**Sn**	**15 56 43.0**	**+0.3**
PVF				MSG		15 56 59.5	
	comp=Z,8.1nm,0.2s						
PVF	**Pernaja**	**3.35**	**38**	P	**Pn**	**15 56 02.1**	**-0.1**
PVF				S	**Sn**	**15 56 43.0**	**+0.3**
	comp=Z,8.1nm,0.2s						
VXJU	**Vaexsjoe**	**3.81**	**257**	eP	**Pn**	**15 56 08.1**	**-0.3**
NRAU	**Nora**	**3.83**	**298**	eP	**Pn**	**15 56 09.1**	**+0.4**
FALU	**Falun**	**3.94**	**313**	eP	**Pn**	**15 56 10.1**	**-0.2**
FIA0	**FINESS Array S**	**4.13**	**31**	Pn	**Pn**	**15 56 12.9**	**0.0**
	baz=204,slow=14						
FIA0				Pg	**Pg**	**15 56 21.9**	**-5.9**
	baz=210,slow=16						
FIA0				Sn	**Sn**	**15 57 01.2**	**-0.7**
	baz=186,slow=28						
FIA0				Lg		15 57 16.2	
	baz=228,slow=28						
FIA0	**FINESS Array S**	**4.13**	**31**	eP	**Pn**	**15 56 12.7**	**-0.2**
FIA0				eS	**Sn**	**15 57 01.0**	**-1.0**
FIA0				eSG	**Sg**	**15 57 17.1**	**-4.2**
FIA0	**FINESS Array S**	**4.13**	**31**	Pg	**Pg**	**15 56 21.9**	**-5.9**
	SNR=7.0						
FIA0				S	**Sn**	**15 57 00.9**	**-1.0**
NASU	**Vaermlandsnaes**	**4.58**	**286**	P	**Pn**	**15 56 18.6**	**-0.5**
HFS	**Hagfors**	**4.67**	**301**	Pn	**Pn**	**15 56 20.8**	**+0.4**
	baz=134,slow=16						
HFS				Sn	**Sn**	**15 57 14.5**	**-0.8**
	baz=100,slow=28						
HFS				Lg		15 57 37.4	
	baz=117,slow=28						
HFS	**Hagfors**	**4.67**	**301**	eP	**Pn**	**15 56 20.8**	**+0.4**
HFS				eS	**Sn**	**15 57 14.5**	**-0.8**
HFS				e		15 57 37.4	
BSD	**Bornholm Skovb**	**4.72**	**236**	iP	**Pn**	**15 56 18.4**	**-2.6**
BSD				iS	**Sn**	**15 57 13.6**	**-2.9**
NB2	**NORSAR Subarra**	**6.17**	**304**	Pn	**Pn**	**15 56 40.0**	**-0.9**
	baz=122,slow=14						
NB2				Lg		15 58 25.5	
NB2	**NORSAR Subarra**	**6.17**	**304**	eP	**Pn**	**15 56 40.0**	**-0.9**
NB2				e		15 58 25.5	
VRAC	**Vranov**	**9.19**	**201**	eSg	Sx	15 59 58.2	
ARA0	**ARCESS Array S**	**11.73**	**7**	Pn	**Pn**	**15 57 52.8**	**-4.4**
	baz=187,slow=14						
ARA0	**ARCESS Array S**	**11.73**	**7**	eP	**Pn**	**15 57 52.8**	**-4.4**

*IDC **11** 16:09:55.9±1.7, 10.18N×94.43E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.9/4, Error ellipse: s-maj=118.6km s-min=24.8km az=68.0*
*ISCJB **11** 16:09:59.0±1.1, 103N±02×946E±03, h33km, mb3.9/6, Error ellipse: s-maj=56.9km s-min=11.4km az=117.2*
*NEIC **11** 16:10:00.0±0.9, 10.19N×94.44E, h30km, mb4.0/3, Error ellipse: s-maj=44.7km s-min=9.4km az=58.0*
ISC 11 16:10:00.7±1.1**, 102N**±02×**944E**±03**, h35**km**, n10, σ0.56**/9**, mb3.9**/6**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.20**	**311**	eP	x	16 10 06.4	
PBA				eS	x	16 10 17.8	
PBA				ex	x	16 10 47.2	
	comp=E,342nm,1.2s						
PBA				ex	x	16 10 49.1	
	comp=N,415nm,0.9s						
KULM	**Kulim**	**7.86**	**128**	eP	**Pn**	**16 11 51.9**	**-0.6**
LSA	**Lhasa**	**19.63**	**351**	P	**Pn**	**16 14 27.8**	**0.0**
	comp=N,4.6nm,0.6s						
LSA				e		16 14 34.4	
MKAR	**Makanchi Array**	**37.89**	**346**	P	**P**	**16 17 14.8**	**+0.5**
	comp=N,0.9nm,0.6s,mb3.7,baz=168,slow=8.5,SNR=11						
ZAL	**Zalesovo**	**44.29**	**352**	P	**P**	**16 18 07.6**	**+0.7**
	comp=N,1.9nm,0.7s,mb3.9,baz=288,slow=6.2,SNR=8.6						
BRVK	**Borovoye**	**46.96**	**340**	eP	**P**	**16 18 27.3**	**-0.7**
	comp=N,1.2nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**47.37**	**341**	eP	**P**	**16 18 30.4**	**-0.8**
	comp=N,1.9nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**49.41**	**127**	P	**P**	**16 18 47.0**	**+0.1**
ASAR	**Alice Springs**	**51.21**	**132**	P	**P**	**16 19 01.3**	**+0.7**
	comp=N,0.6nm,0.9s,mb3.5,baz=325,slow=7.9,SNR=5.2						
VNDA	**Vanda**	**95.14**	**168**	P	**P**	**16 23 20.3**	**+0.1**
	comp=N,0.5nm,0.5s,mb4.2,baz=316,slow=6.5,SNR=4.0						

*ISCJB **11** 16:32:24.7±0.5, 5978N±003×2442E±007, h0km, Error ellipse: s-maj=5.3km s-min=3.9km az=176.1*
*HEL **11** 16:32:26.6±0.1, 5976N×2450E, h0km, ML2.0, Explosion*
*IDC **11** 16:32:28.7±2.4, 5990N×2454E, h0km, mb1 3.3/3, mb1mx3.0/21, mbtmp3.2/3, ML2.9/3, Error ellipse: s-maj=28.0km s-min=7.5km az=147.0*
ISC 11 16:32:25.7±0.5**, 5978N**±003×**2451E**±007**, h0**km**, n13, σ0.84**/19**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.32**	**192**	eP	**Pg**	**16 32 31.8**	**-0.1**
SRPE				eS	**Sg**	**16 32 35.9**	**-0.1**
MEF	**Metsahovi**	**0.44**	**353**	eP	**Pg**	**16 32 34.7**	**+0.5**
MEF				eS	**Sg**	**16 32 40.9**	**+1.0**
PVF	**Pernaja**	**1.02**	**41**	eP	**Pg**	**16 32 45.1**	**-0.2**
PVF				eS	**Sg**	**16 32 59.2**	**+0.7**
VSU	**Vasula**	**1.75**	**138**	eP	**Pn**	**16 32 57.9**	**+0.7**
VSU				eS	**Sn**	**16 33 19.2**	**-1.0**
FIA0	**FINESS Array S**	**1.84**	**24**	eP	**Pn**	**16 32 60.0**	**+1.5**
FIA0				eS	**Sn**	**16 33 23.0**	**+0.5**
FINES	**FINESS Array B**	**1.84**	**24**	Pg	**Pg**	**16 32 59.9**	**-1.1**
	2.2nm,0.3s,baz=206,slow=16,SNR=117						
FINES				Lg		16 33 21.8	
	0.8nm,0.3s,baz=208,slow=28,SNR=3.6						
RAF	**Rauma**	**1.85**	**314**	eP	**Pn**	**16 32 59.4**	**+0.8**
RAF				eSG	**Sg**	**16 33 24.2**	**-0.9**
KEF	**Keuruu**	**2.40**	**4**	ePB	**Pb**	**16 33 09.0**	**-0.8**
KEF				eSG	**Sg**	**16 33 40.8**	**-2.1**
KEF				MSG		16 33 42.9	
	comp=Z,6.1nm,0.2s						
KAF	**Kangasniemi**	**2.50**	**20**	MSG		16 33 46.1	
	comp=Z,5.3nm,0.2s						
SUF	**Sumiainen**	**3.06**	**14**	MSG		16 34 05.2	
	comp=Z,3.1nm,0.2s						
HFS	**Hagfors**	**5.45**	**278**	Pn	**Pn**	**16 33 48.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=110,slow=13,SNR=5.9						
HFS				Sn	**Sn**	**16 34 51.7**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=106,slow=30,SNR=6.1						
HFS				Lg		16 35 20.4	
	comp=Z,0.6nm,0.3s,baz=101,slow=30,SNR=6.0						
NOA	**NORSAR Array B**	**6.71**	**287**	Pn	**Pn**	**16 34 04.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**9.81**	**2**	Pn	**Pn**	**16 34 47.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=13						

*CSEM **11** 16:36:48.6, 4262N×4786E, h29km, mb3.8, Error ellipse: s-maj=25.8km s-min=17.5km az=353.0, After OBN*
MOS 11 16:36:48.6±3.0**, 4262N×4786E, h29**km**, mb3.8**/1**, Error ellipse: s-maj=25.8km s-min=17.5km az=125.3, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MNSR	**Manas**	**0.13**	**308**	ePG	Pb	16 36 51.0	-3.0
MAK	**Makhachkala**	**0.43**	**323**	ePG	Pb	16 37 01.4	+3.6
MAK				i		16 37 07.8	
MAK				pmax	pmax		
	comp=Z,40nm,0.2s						
MAK				smax			
	comp=N,498nm,0.3s						
MAK				smax			
	comp=E,252nm,0.2s						
MAK	**Makhachkala**	**0.43**	**323**	ePg	Pb	16 37 01.4	+3.6
	comp=E,40nm,0.2s						
MAK				iSg	Sb	16 37 07.8	+3.6
	comp=E,498nm,0.3s						
URKR	**Urkarakh**	**0.48**	**200**	iPG	Pb	16 36 57.5	-1.2
URKR				iS	Sb	16 37 06.0	+0.4
URKR				pmax	pmax		
	comp=Z,100nm,0.2s						
URKR	**Urkarakh**	**0.48**	**200**	iPg	Pb	16 36 57.5	-1.2
	comp=Z,100nm,0.2s						
URKR				iSg	Sb	16 37 06.0	+0.4
DRN	**Derbent**	**0.69**	**149**	ePG	Pb	16 37 03.5	+1.5
DRN				iS	Sb	16 37 13.0	+1.8
DRN				pmax	pmax		
	comp=Z,61nm,0.3s						
DRN	**Derbent**	**0.69**	**149**	ePg	Pb	16 37 03.5	+1.5
	comp=Z,61nm,0.3s						
DRN				iSg	Sb	16 37 13.0	+1.8
GNBR	**Gunib**	**0.70**	**251**	iPG	Pb	16 37 04.5	+2.2
GNBR				eS	Sb	16 37 16.5	+4.8
GNBR				pmax	pmax		
	comp=Z,38nm,0.2s						
GNBR	**Gunib**	**0.70**	**251**	iPg	Pb	16 37 04.5	+2.2
	comp=Z,38nm,0.2s						
GNBR				eSg	Sb	16 37 16.5	+4.8
DBC	**Dubki**	**0.86**	**298**	ePG	Pn	16 37 04.0	-0.7
DBC				eS	Sb	16 37 18.0	+1.9
BTLR	**Botlikh**	**1.21**	**273**	ePG	Pn	16 37 11.5	+2.0
BTLR				eS	Sn	16 37 28.5	+3.5
BTLR				pmax	pmax		
	comp=Z,53nm,0.3s						
BTLR	**Botlikh**	**1.21**	**273**	ePg	Pn	16 37 11.5	+2.0
	comp=Z,53nm,0.3s						
BTLR				eSg	Sn	16 37 28.5	+3.5

IDC 11 16:43:36.0±3.2**, 455N×9451E, h0**km**, mb3.4**/3**, mb1 3.5**/4**, mb1mx3.4**/22**, mbtmp3.4**/4**, ML3.2**/1**, Error ellipse: s-maj=133.9km s-min=27.3km az=53.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.74**	**111**	Pn	Pn	16 44 50.1	+1.5
	1.0nm,0.3s,baz=311,slow=11,SNR=2.8						
PSI				Sn	Sn	16 45 41.4	-2.8
	0.3nm,0.3s,baz=212,slow=17,SNR=3.2						
MKAR	**Makanchi Array**	**43.39**	**348**	P	P	16 51 40.2	0.0
	0.2nm,0.3s,baz=170,slow=8.1,SNR=5.4						
WRA	**Warramunga Arr**	**46.09**	**123**	P	P	16 52 00.8	-0.9
	0.3nm,0.6s,baz=301,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**47.55**	**128**	P	P	16 52 14.4	+1.2
	0.3nm,0.8s,baz=303,slow=7.5,SNR=3.4						

*CSEM **11** 16:47:54.1±0.1, 3905N×41.14E, h5km, MD3.6, Error ellipse: s-maj=2.2km s-min=1.8km az=176.0*
*ISK **11** 16:47:54.0, 3902N×41.13E, h4km, MD3.6*
*ISCJB **11** 16:47:55.1±0.6, 3903N±003×41.15E±003, h6km±4km, Error ellipse: s-maj=5.3km s-min=4.3km az=150.7*
ISC 11 16:47:55.9±0.5**, 3903N**±003×**4115E**±003**, h7**km±4km**, n27, σ0.94**/32**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.07**	**178**	iP	**Pg**	**16 47 57.7**	**-0.1**
BNGL				iS	**Sg**	**16 48 00.0**	**+1.0**
BINT	**Bingol**	**0.54**	**254**	iPG	**Pg**	**16 48 04.6**	**-1.6**
BINT				iSG	**Sg**	**16 48 12.7**	**-0.5**
BTMT	**Batman**	**0.88**	**162**	iPG	**Pg**	**16 48 11.9**	**-0.8**
EZM	**Erzurum**	**0.89**	**11**	iPG	**Pg**	**16 48 12.0**	**-1.0**
ERZM	**Erzurum**	**0.89**	**11**	iP	**Pg**	**16 48 12.4**	**-0.6**
ERZM				iS	**Sg**	**16 48 26.0**	**+1.4**
EZC	**Erzincan**	**1.26**	**305**	PN	**Pg**	**16 48 22.9**	**+2.9**
DIY	**Diyarbakir**	**1.34**	**213**	PN	**Pn**	**16 48 20.2**	**-0.8**
PTK	**Pertek**	**1.38**	**265**	PN	**Pn**	**16 48 19.8**	**-1.6**
MARD	**Mardin**	**1.73**	**190**	iP	**Pn**	**16 48 26.2**	**-0.2**
MARD				iS	**Sn**	**16 48 49.5**	**+0.7**
ELZG	**Elazig**	**1.77**	**253**	iP	**Pn**	**16 48 26.3**	**-0.6**
ELZG				iS	**Sn**	**16 48 52.2**	**+2.5**
VANB	**Van**	**1.80**	**103**	PN	**Pn**	**16 48 26.9**	**-0.5**
TVAN	**Van**	**1.83**	**105**	iP	**Pn**	**16 48 28.4**	**+0.6**
TVAN				iS	**Sg**	**16 48 55.9**	**+1.1**
VANT	**Van**	**1.85**	**108**	PN	**Pn**	**16 48 26.4**	**-1.5**
CLDR	**Caldiran**	**2.16**	**86**	PN	**Pn**	**16 48 31.9**	**-0.3**
KTUT	**Trabzon**	**2.23**	**332**	PN	**Pn**	**16 48 32.8**	**-0.4**
MYA	**Malataya**	**2.24**	**253**	PN	**Pn**	**16 48 32.8**	**-0.6**
URFA	**Urfa**	**2.42**	**230**	PN	**Pn**	**16 48 35.2**	**-0.6**
BCA	**Borcka**	**2.44**	**8**	ePN	**Pn**	**16 48 35.9**	**-0.2**
HKR	**Hakkari**	**2.50**	**125**	ePN	**Pn**	**16 48 37.4**	**+0.5**
CUKT	**Cukurca**	**2.63**	**132**	ePN	**Pn**	**16 48 38.8**	**+0.1**
GNI	**Garni**	**3.00**	**67**	ePN	**Pn**	**16 48 43.8**	**+0.1**
MSL	**Mosul**	**3.14**	**150**	ex	x	16 48 59.5	
MSL				ex	x	16 49 39.0	
SVSK	**Karacayir**	**3.33**	**287**	ePN	**Pn**	**16 48 48.8**	**+0.4**
GAZ	**Gaziantep**	**3.62**	**240**	ePN	**Pn**	**16 48 52.8**	**+0.5**
KMRS	**Kahramanmaras**	**3.67**	**247**	ePN	**Pn**	**16 48 53.6**	**+0.6**
BNN	**Bunyan**	**4.14**	**269**	ePN	**Pn**	**16 49 00.2**	**+0.8**
KOZT	**Kozan**	**4.46**	**251**	ePN	**Pn**	**16 49 05.0**	**+1.1**

*TIF **11** 17:02:44.0, 3948N×4397E, h15km±6km*
*CSEM **11** 17:02:49.0, 3944N×44.15E, h12km, MD3.4, After ISK*
ISK 11 17:02:49.0, 3944N×4415E, h12km**, MD3.4, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.35**	**211**	PG	Pg	17 02 55.8	-0.2
CLDR				SG	Sg	17 03 02.7	+2.0
GNI	**Garni**	**0.84**	**33**	PG	Pg	17 03 04.9	-0.4
GNI				SG	Sg	17 03 18.6	+2.3
VANB	**Van**	**1.03**	**215**	PG	Pg	17 03 09.0	+0.1
VANT	**Van**	**1.16**	**211**	ePN	Pn	17 03 12.4	+1.4
HKR	**Hakkari**	**1.89**	**190**	ePN	Pn	17 03 22.6	+1.5
EZM	**Erzurum**	**2.20**	**283**	ePN	Pn	17 03 26.0	+0.7
BTMT	**Batman**	**2.42**	**240**	ePN	Pn	17 03 32.1	+3.7
BCA	**Borcka**	**2.77**	**317**	ePN	Pn	17 03 34.5	+1.3
PTK	**Pertek**	**3.73**	**263**	ePN	Pn	17 03 48.7	+2.3

*ISCJB **11** 17:05:00.5±0.5, 5976N±003×2432E±007, h0km, Error ellipse: s-maj=5.2km s-min=3.7km az=26.3*
*CSEM **11** 17:05:01.7±0.1, 5977N×2408E, h1km, ML2.7, Error ellipse: s-maj=4.4km s-min=3.4km az=155.0, Mining explosion.*
*NAO **11** 17:05:02.6±1.0, 5977N×2452E, ML2.7*

HEL ***11*** *17:05:03.1±0.1, 5974N×2456E, h0km, ML2.7, ML2.7(NAO), Explosion*
IDC ***11*** *17:05:04.0±2.2, 5977N×2468E, h0km, mb1 3.5/3, mb1mx3.1/21, mbtmp3.4/3, ML3.5/3, Error ellipse: s-maj=23.0km s-min=6.5km az=144.0*
BER ***11*** *17:05:03.4±4.9, 5975N×2450E, h0km±20km, ML2.7(NAO)*
ISC 11 17:05:01.8±0.5**, 5975N**±003×**2453E**±007**, h0km, n26, σ1^{s}02**/44**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.30**	**195**	*e*P	**Pg**	**17 05 08.2**	**+0.6**
SRPE				*e*S	**Sg**	**17 05 12.1**	**+0.6**
SRPE	**Suurupi**	**0.30**	**195**	P	**Pg**	**17 05 08.1**	**+0.5**
MEF	**Metsahovi**	**0.47**	**352**	*e*P	**Pg**	**17 05 11.5**	**+0.7**
MEF				*e*S	**Sg**	**17 05 18.0**	**+1.0**
PVF	**Pernaja**	**1.04**	**39**	*e*P	**Pg**	**17 05 21.4**	**-0.3**
PVF				*e*S	**Sg**	**17 05 34.1**	**-1.1**
VSU	**Vasula**	**1.72**	**138**	*e*P	**Pn**	**17 05 33.7**	**+0.7**
VSU				*e*S	**Sn**	**17 05 55.5**	**-0.2**
VSU	**Vasula**	**1.72**	**138**	Pn	**Pn**	**17 05 33.6**	**+0.6**
VSU				Lg		17 05 56.2	
FIA0	**FINESS Array S**	**1.86**	**24**	*e*P	**Pn**	**17 05 36.2**	**+1.3**
FIA0				*e*S	**Sn**	**17 05 59.9**	**+0.8**
FIA0	**FINESS Array S**	**1.86**	**24**	Pn	**Pn**	**17 05 36.4**	**+1.5**
	baz=194,slow=18						
FIA0				Lg		17 06 00.1	
	baz=190,slow=37						
FINES	**FINESS Array B**	**1.86**	**24**	Pg	**Pg**	**17 05 36.3**	**-1.2**
	13nm,0.3s,baz=198,slow=16,SNR=441						
FINES				Lg		17 06 00.5	
	24nm,0.3s,baz=200,slow=29,SNR=28						
RAF	**Rauma**	**1.88**	**314**	*e*P	**Pn**	**17 05 36.4**	**+1.3**
RAF				*e*S	**Sn**	**17 06 01.0**	**+1.5**
KEF	**Keuruu**	**2.43**	**4**	*e*PB	**Pb**	**17 05 45.3**	**-1.1**
KEF				*e*SB	**Sb**	**17 06 16.4**	**-0.4**
KEF				MSG		17 06 20.4	
	comp=Z,33nm,0.3s						
KAF	**Kangasniemi**	**2.52**	**19**	MSG		17 06 22.3	
	comp=Z,40nm,0.3s						
SUF	**Sumiainen**	**3.08**	**14**	MSG		17 06 41.5	
	comp=Z,18nm,0.3s						
HFS	**Hagfors**	**5.46**	**279**	*e*P	**Pn**	**17 06 25.3**	**+0.8**
HFS				*e*S	**Sn**	**17 07 24.6**	**-3.4**
HFS				*e*SB		17 07 46.6	
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**17 06 25.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=87,slow=14,SNR=14						
HFS				Pg	**Pg**	**17 06 39.7**	**-6.8**
	comp=Z,0.8nm,0.3s,baz=83,slow=12,SNR=5.1						
HFS				Sn	**Sn**	**17 07 28.1**	**+0.1**
	comp=Z,2.6nm,0.3s,baz=87,slow=27,SNR=12						
HFS				Lg		17 07 54.6	
	comp=Z,2.9nm,0.3s,baz=89,slow=38,SNR=8.0						
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**17 06 25.3**	**+0.8**
	baz=90,slow=11						
HFS				Sn	**Sn**	**17 07 24.6**	**-3.4**
	baz=93,slow=28						
HFS				Lg		17 07 46.6	
	baz=108,slow=37						
HFS	**Hagfors**	**5.46**	**279**	P	**Pn**	**17 06 25.2**	**+0.8**
HFS				S	**Sn**	**17 07 24.5**	**-3.5**
HFS				Sb		17 07 46.6	
NB2	**NORSAR Subarra**	**6.72**	**287**	Pn	**Pn**	**17 06 41.4**	**-0.4**
	baz=96,slow=14						
NB2				Sn	**Sn**	**17 07 56.7**	**-2.4**
	baz=101,slow=22						
NB2				Lg		17 08 30.8	
	baz=99,slow=37						
NB2	**NORSAR Subarra**	**6.72**	**287**	*e*P	**Pn**	**17 06 41.4**	**-0.4**
NB2				*e*S	**Sn**	**17 07 56.7**	**-2.4**
NB2				*e*SG		17 08 30.8	
NB2	**NORSAR Subarra**	**6.72**	**287**	P	**Pn**	**17 06 41.4**	**-0.4**
NB2				S	**Sn**	**17 07 56.7**	**-2.4**
NOA	**NORSAR Array B**	**6.72**	**287**	Pn	**Pn**	**17 06 41.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=93,slow=14,SNR=4.8						
NOA				Sn	**Sn**	**17 07 58.3**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=129,slow=19,SNR=4.5						
BSD	**Bornholm Skovb**	**6.97**	**232**	*i* P	**Pn**	**17 06 45.1**	**0.0**
BSD				*e*S	**Sn**	**17 08 03.3**	**-1.7**
BSD	**Bornholm Skovb**	**6.97**	**232**	*e*P	**Pn**	**17 06 45.1**	**0.0**
BSD				*e*S	**Sn**	**17 08 03.3**	**-1.7**
ARA0	**ARCESS Array S**	**9.83**	**2**	Pn	**Pn**	**17 07 23.4**	**-1.0**
	baz=181,slow=14						
ARA0				Sn	**Sn**	**17 09 08.2**	**-7.3**
	baz=182,slow=22						
ARA0	**ARCESS Array S**	**9.83**	**2**	*e*P	**Pn**	**17 07 23.4**	**-1.0**
ARA0				*e*S	**Sn**	**17 09 08.2**	**-7.3**
ARCES	**ARCESS Array B**	**9.83**	**2**	Pn	**Pn**	**17 07 24.4**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=184,slow=12,SNR=48						

IDC 11 17:05:51.2±9.2**, 109S×10145E, h0km, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.3**/19**, mbtmp3.4**/3**, Error ellipse: s-maj=511.4km s-min=27.9km az=53.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.23**	**122**	P	P	17 13 05.3	+1.0
	0.3nm,0.7s,baz=309,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**38.64**	**128**	P	P	17 13 16.0	-0.2
	0.2nm,0.7s,baz=302,slow=8.1,SNR=5.5						
MKAR	**Makanchi Array**	**50.57**	**343**	P	P	17 14 51.5	0.0
	0.3nm,0.3s,baz=151,slow=7.7,SNR=7.4						

ROM ***11*** *17:55:52.0±1.1, 4589N×1432E, h10km, Md2.7/3, Error ellipse: s-maj=29.5km s-min=10.3km az=32.0*
ISCJB ***11*** *17:55:54.0±0.3, 4609N±002×1426E±002, h6km±4km, Error ellipse: s-maj=3.1km s-min=2.0km az=33.0*
VIE ***11*** *17:55:53.6±0.2, 4608N×1422E, h11km±1km, mb1.8/4, ML2.2/5, Error ellipse: s-maj=1.5km s-min=1.0km az=25.0 17 km ENE of Idrija*
CSEM ***11*** *17:55:54.0±0.1, 4607N×1423E, h12km, ML2.9/6, Error ellipse: s-maj=1.3km s-min=0.7km az=14.0*
LJU ***11*** *17:55:54.0, 4605N×1424E, h10km, ML2.2*
PRU ***11*** *17:55:58.2, 4626N×1445E, h0km*
ISC 11 17:55:54.7±0.3**, 4608N**±002×**1427E**±002**, h7km**±**4km, n56, σ0^{s}95**/100**, 22C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.18**	**100**	⇑*i*Pg	**Pg**	**17 55 58.8**	**+0.5**
LJU				*i* Sg	**Sg**	**17 56 02.0**	**+1.1**
LJU							
	comp=Z,808nm,0.2s						
LJU	**Ljubljana**	**0.18**	**100**	⇑*i*Pg	**Pg**	**17 55 58.8**	**+0.4**
LJU				*i* Sg	**Sg**	**17 56 02.0**	**+1.1**
	comp=Z,808nm,0.2s						
JAVS	**Javornik**	**0.23**	**218**	⇑*i*Pg	**Pg**	**17 55 58.5**	**-0.8**
JAVS				*i* Sg	**Sg**	**17 56 01.6**	**-0.7**
JAVS							
	comp=Z,282nm,0.1s						
JAVS	**Javornik**	**0.23**	**218**	Pg	**Pg**	**17 55 58.5**	**-0.7**
JAVS				*i* Sg	**Sg**	**17 56 01.6**	**-0.7**
	comp=Z,282nm,0.1s						
VOJS	**Vojsko**	**0.27**	**261**	⇑*i*Pg	**Pg**	**17 55 59.2**	**-0.8**
VOJS				*i* Sg	**Sg**	**17 56 03.2**	**-0.4**
GORS	**Gorjuse**	**0.31**	**322**	*i* Pg	**Pg**	**17 56 00.2**	**-0.4**
GORS							
	comp=Z,72nm,0.1s						
GORS	**Gorjuse**	**0.31**	**322**	*i* Pg	**Pg**	**17 56 00.2**	**-0.5**
	comp=Z,72nm,0.1s						
CEY	**Cerknica**	**0.35**	**162**	*i* Sg	**Sg**	**17 56 06.5**	**+0.3**
CEY							
	comp=Z,100nm,0.1s						
CEY	**Cerknica**	**0.35**	**162**	*i* Sg	**Sg**	**17 56 06.5**	**+0.3**
	comp=Z,100nm,0.1s						
CADS	**Cadrg**	**0.40**	**293**	*i* Pg	**Pg**	**17 56 01.4**	**-1.0**
CADS				*i* Sg	**Sg**	**17 56 07.5**	**-0.1**
CADS							
	comp=Z,109nm,0.1s						
CADS	**Cadrg**	**0.40**	**293**	*i* Pg	**Pg**	**17 56 01.4**	**-1.0**
CADS				*i* Sg	**Sg**	**17 56 07.6**	**-0.1**
	comp=Z,109nm,0.1s						
DRE	**Drenchia**	**0.45**	**283**	⇑*i*Pg	**Pg**	**17 56 02.1**	**-1.2**
DRE				*i* Sg	**Sg**	**17 56 08.9**	**-0.2**
OBKA	**Obir**	**0.48**	**24**	*e*Pg	**Pg**	**17 56 04.3**	**+0.4**
	SNR=60						
OBKA				⇑*i*Sg	**Sg**	**17 56 10.7**	**+0.6**
	comp=Z,36nm,0.1s						
VISS	**Visnje**	**0.48**	**124**	*i* Pg	**Pg**	**17 56 03.8**	**-0.2**
VISS				*i* Sg	**Sg**	**17 56 10.3**	**0.0**
VISS							
	comp=Z,18nm,0.1s						
VISS	**Visnje**	**0.48**	**124**	*i* Pg	**Pg**	**17 56 03.8**	**-0.2**
VISS				*i* Sg	**Sg**	**17 56 10.3**	**0.0**
	comp=Z,18nm,0.1s						
PDKS	**Podkum**	**0.51**	**91**	⇑*i*Pg	**Pg**	**17 56 04.8**	**+0.3**
PDKS							
	comp=Z,45nm,0.1s						
PDKS	**Podkum**	**0.51**	**91**	⇑*i*Pg	**Pg**	**17 56 04.8**	**+0.3**
	comp=Z,45nm,0.1s						
KNDS	**Knezji Dol**	**0.55**	**172**	*i* Pg	**Pg**	**17 56 04.1**	**-1.2**
KNDS				*i* Sg	**Sg**	**17 56 12.7**	**+0.2**
KNDS							
	comp=Z,55nm,0.1s						
KNDS	**Knezji Dol**	**0.55**	**172**	*i* Pg	**Pg**	**17 56 04.1**	**-1.2**
KNDS				*i* Sg	**Sg**	**17 56 12.7**	**+0.2**
	comp=Z,55nm,0.1s						
COLI	**Coloredo**	**0.62**	**276**	⇓*i*Pg	**Pg**	**17 56 05.8**	**-0.8**
COLI				*i* Sg	**Sg**	**17 56 15.3**	**+0.5**
LSR	**Lussari**	**0.65**	**308**	⇑*e*Pg	**Pg**	**17 56 06.3**	**-0.9**
LSR				*e*Sg	**Sg**	**17 56 16.7**	**+1.0**
LSR	**Lussari**	**0.65**	**308**	*e*Pg	**Pg**	**17 56 06.3**	**-0.9**
LSR				*e*Sg	**Sg**	**17 56 16.7**	**+1.0**
PTCC	**Patocco-Chiusa**	**0.72**	**298**	Pg	**Pg**	**17 56 07.7**	**-0.7**
PTCC				Sg	**Sg**	**17 56 19.6**	**+1.9**
	comp=Z,29nm,0.2s						
BAD	**Bernadia**	**0.73**	**283**	⇑*i*Pg	**Pg**	**17 56 07.5**	**-1.2**
BAD				*i* Sg	**Sg**	**17 56 18.5**	**+0.3**
LEGS	**Legarje**	**0.74**	**99**	*i* Pg	**Pg**	**17 56 09.1**	**+0.2**
GMNA	**Gemona**	**0.74**	**286**	Pg	**Pg**	**17 56 09.2**	**+0.2**
GMNA				Sg	**Sg**	**17 56 21.3**	**+2.7**
	comp=Z,186nm,0.6s						
BUA	**Buia**	**0.81**	**281**	⇑*e*Pg	**Pg**	**17 56 09.6**	**-0.6**
BUA				*e*Sg	**Sg**	**17 56 21.4**	**+0.7**
PERS	**Pernice**	**0.81**	**46**	*i* Pg	**Pg**	**17 56 10.0**	**-0.3**
PERS							
	comp=Z,26nm,0.1s						
PERS	**Pernice**	**0.81**	**46**	*i* Pg	**Pg**	**17 56 10.0**	**-0.3**
	comp=Z,26nm,0.1s						
DOBS	**Dobrina**	**0.84**	**84**	*i* Pg	**Pg**	**17 56 10.6**	**-0.2**
DOBS							
	comp=Z,32nm,0.1s						
DOBS	**Dobrina**	**0.84**	**84**	*i* Pg	**Pg**	**17 56 10.6**	**-0.2**
	comp=Z,32nm,0.1s						
CRES	**Cresnjev**	**0.87**	**106**	*i* Pg	**Pg**	**17 56 11.2**	**-0.1**
CRES							
	comp=Z,30nm,0.2s						
CRES	**Cresnjev**	**0.87**	**106**	*i* Pg	**Pg**	**17 56 11.2**	**-0.1**
	comp=Z,30nm,0.2s						
MPRI	**Monte Prat**	**0.91**	**281**	*e*Pg	**Pg**	**17 56 10.8**	**-1.2**
MPRI				*e*Sg	**Sg**	**17 56 25.3**	**+1.5**
PLRO	**Paularo**	**0.91**	**302**	⇑*i*Pg	**Pg**	**17 56 11.5**	**-0.6**
PLRO				*i* Sg	**Sg**	**17 56 25.3**	**+1.3**
GROS	**Grobnik**	**0.94**	**65**	*i* Pg	**Pg**	**17 56 12.2**	**-0.5**
GROS							
	comp=Z,12nm,0.1s						
GROS	**Grobnik**	**0.94**	**65**	*i* Pg	**Pg**	**17 56 12.2**	**-0.5**
	comp=Z,12nm,0.1s						
GOLS	**Golise**	**0.95**	**93**	*i* Pg	**Pg**	**17 56 12.6**	**-0.2**
GOLS				*i* Sg	**Sg**	**17 56 27.4**	**+2.2**
GOLS							
	comp=Z,21nm,0.1s						
GOLS	**Golise**	**0.95**	**93**	*i* Pg	**Pg**	**17 56 12.6**	**-0.2**
GOLS				*i* Sg	**Sg**	**17 56 27.4**	**+2.3**
	comp=Z,21nm,0.1s						
GCIS	**Gornji Cirnik**	**0.97**	**102**	*i* Pg	**Pg**	**17 56 13.3**	**0.0**
GCIS							
	comp=Z,30nm,0.2s						
ZOU	**Zoufplan**	**1.02**	**299**	⇑*e*Pg	**Pg**	**17 56 13.5**	**-0.7**
ZOU				*e*Sg	**Sg**	**17 56 28.2**	**+0.7**
FVI	**Forni Avoltri**	**1.16**	**297**	Pg	**Pg**	**17 56 16.0**	**-0.8**
FVI				Sg	**Sg**	**17 56 34.0**	**+2.2**
	comp=Z,21nm,0.2s						
MLNI	**Malnisio**	**1.16**	**274**	⇓*e*Pg	**Pg**	**17 56 16.8**	**0.0**
MLNI				*e*Sg	**Sg**	**17 56 33.9**	**+2.1**
KBA	**Koelnbreinsper**	**1.19**	**328**	⇓*i*Pg	**Pg**	**17 56 16.4**	**-1.0**
KBA				⇑*i*Sg	**Sg**	**17 56 32.8**	**-0.1**
	comp=Z,10nm,0.2s						
CAE	**Caneva**	**1.28**	**268**	⇓*i*Pg	**Pg**	**17 56 18.8**	**-0.3**
CAE				*i* Sg	**Sg**	**17 56 36.9**	**+1.2**
CSO	**Casso**	**1.36**	**279**	⇓*i*Pg	**Pg**	**17 56 19.9**	**-1.0**
CSO				*i* Sg	**Sg**	**17 56 39.1**	**+0.5**
ARSA	**Arzberg**	**1.46**	**36**	⇓*i*Pn	**Pn**	**17 56 20.3**	**-1.1**
ARSA				⇑*i*Pg	**Pg**	**17 56 22.2**	**-0.5**
ARSA	**Arzberg**	**1.46**	**36**	⇑*i*Sn	**Sn**	**17 56 40.5**	**-0.2**
ARSA				⇓*i*Sg	**Sg**	**17 56 42.2**	**+0.6**
	comp=Z,2.7nm,0.2s						
ARSA	**Arzberg**	**1.46**	**36**	⇓*i*Pn	**Pn**	**17 56 20.3**	**-1.1**
ARSA				⇑*i*Pg	**Pg**	**17 56 22.2**	**-0.5**
ARSA				⇑*i*Sn	**Sn**	**17 56 40.5**	**-0.2**
ARSA				⇓*i*Sg	**Sg**	**17 56 42.2**	**+0.6**
	comp=Z,2.7nm,0.2s						
NVLJ	**Novalja**	**1.57**	**164**	*i* Pn	**Pn**	**17 56 23.6**	**+0.7**
NVLJ				*i* Sn	**Sn**	**17 56 46.0**	**+2.5**
NVLJ	**Novalja**	**1.57**	**164**	*i* Pn	**Pn**	**17 56 23.6**	**+0.7**
NVLJ				*i* Sn	**Sn**	**17 56 45.9**	**+2.4**
MOA	**Molln**	**1.78**	**360**	⇓*i*Pn	**Pn**	**17 56 24.9**	**-0.9**
MOA				*e*Pg	**Pg**	**17 56 28.0**	**-0.7**
	SNR=7.5						
MOA	**Molln**	**1.78**	**360**	⇓*i*Pn	**Pn**	**17 56 24.9**	**-0.9**
MOA				*e*Pg	**Pg**	**17 56 28.0**	**-0.7**
	SNR=7.5						
MOA				⇑*i*Sg	**Sg**	**17 56 51.4**	**-0.3**
	comp=Z,4.5nm,0.4s						
MOA	**Molln**	**1.78**	**360**	Pg	**Pg**	**17 56 28.0**	**-0.7**
	SNR=7.5						
MOA				Sg	**Sg**	**17 56 51.4**	**-0.3**
	comp=Z,4.5nm,0.4s						
WTTA	**Wattenberg**	**2.17**	**304**	⇑*i*Pg	**Pg**	**17 56 34.8**	**-1.4**
WTTA				⇑*i*Sn	**Sn**	**17 56 56.4**	**-1.9**
WTTA				⇑*i*Sg	**Sg**	**17 57 04.1**	**-0.2**
	comp=Z,12nm,0.4s						
KHC	**Kasperske Hory**	**3.09**	**352**	*e*PN	**Pn**	**17 56 45.5**	**+1.6**
KHC				*e*SN	**Sn**	**17 57 21.9**	**+0.8**

ISCJB ***11*** *17:58:33.1±0.5, 5973N±003×2439E±007, h0km, Error ellipse: s-maj=5.0km s-min=3.7km az=173.6*
NAO ***11*** *17:58:34.3±1.0, 5971N×2448E, ML2.0*
IDC ***11*** *17:58:35.9±2.5, 5974N×2462E, h0km, mb1 3.5/2, mb1mx3.0/20, mbtmp3.3/2, ML3.5/2, Error ellipse: s-maj=27.0km s-min=8.7km az=143.0*
HEL ***11*** *17:58:35.1±0.1, 5970N×2449E, h0km, ML2.1, ML2.0(NAO), Explosion*
BER ***11*** *17:58:37.0±3.3, 5974N×2464E, h15km±32km, ML2.0(NAO)*
ISC 11 17:58:33.8±0.5**, 5972N**±003×**2442E**±006**, h0km, n20, σ1^{s}01**/31**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.26**	**185**	*e*P	**Pg**	**17 58 39.4**	**+0.6**
SRPE				*e*S	**Sg**	**17 58 42.8**	**+0.7**
MEF	**Metsahovi**	**0.50**	**359**	*e*P	**Pg**	**17 58 44.2**	**+0.8**
MEF				*e*S	**Sg**	**17 58 50.9**	**+1.0**
PVF	**Pernaja**	**1.10**	**40**	*e*P	**Pg**	**17 58 54.5**	**-0.4**
PVF				*e*S	**Sg**	**17 59 08.5**	**-0.6**
VSU	**Vasula**	**1.74**	**136**	*e*P	**Pn**	**17 59 05.6**	**+0.4**
VSU				*e*S	**Sn**	**17 59 26.9**	**-1.1**
VSU	**Vasula**	**1.74**	**136**	Pn	**Pn**	**17 59 05.6**	**+0.4**
VSU				Lg		17 59 28.0	
RAF	**Rauma**	**1.86**	**316**	*e*P	**Pn**	**17 59 08.7**	**+1.8**
RAF				*e*SG	**Sg**	**17 59 33.8**	**+0.2**
FIA0	**FINESS Array S**	**1.91**	**25**	*e*P	**Pn**	**17 59 09.1**	**+1.4**
FIA0				*e*S	**Sn**	**17 59 33.6**	**+1.2**
FIA0	**FINESS Array S**	**1.91**	**25**	Pn	**Pn**	**17 59 09.2**	**+1.5**
	baz=194,slow=16						
FIA0				Lg		17 59 33.5	
	baz=197,slow=28						
FINES	**FINESS Array B**	**1.91**	**25**	Pg	**Pg**	**17 59 09.1**	**-1.4**
	4.3nm,0.3s,baz=199,slow=15,SNR=155						
FINES				Lg		17 59 33.7	
	4.9nm,0.3s,baz=199,slow=28,SNR=20						
KEF	**Keuruu**	**2.47**	**5**	*e*PB	**Pb**	**17 59 18.0**	**-1.0**
KEF				*e*SB	**Sb**	**17 59 49.8**	**-0.2**
KEF				MSG		17 59 53.4	
	comp=Z,8.8nm,0.2s						
KAF	**Kangasniemi**	**2.57**	**20**	MSG		17 59 56.9	
	comp=Z,5.8nm,0.2s						
SUF	**Sumiainen**	**3.12**	**15**	MSG		18 00 13.9	
	comp=Z,4.8nm,0.2s						
HFS	**Hagfors**	**5.41**	**279**	Pn	**Pn**	**17 59 55.7**	**0.0**
	baz=83,slow=16						
HFS				Sn	**Sn**	**18 00 57.1**	**-1.6**
	baz=95,slow=28						
HFS				Lg		18 01 15.6	
	baz=84,slow=37						
HFS	**Hagfors**	**5.41**	**279**	*e*P	**Pn**	**17 59 55.7**	**0.0**
HFS				*e*S	**Sn**	**18 00 57.1**	**-1.6**
HFS				*e*SB	**Sb**	**18 01 15.6**	**+0.9**
NB2	**NORSAR Subarra**	**6.68**	**287**	Pn	**Pn**	**18 00 13.0**	**-0.2**
	baz=96,slow=14						
NB2				Sn	**Sn**	**18 01 27.4**	**-2.5**
	baz=97,slow=22						
NB2	**NORSAR Subarra**	**6.68**	**287**	*e*P	**Pn**	**18 00 13.0**	**-0.2**
NB2				*e*S	**Sn**	**18 01 27.4**	**-2.5**
NOA	**NORSAR Array B**	**6.68**	**287**	Pn	**Pn**	**18 00 13.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=126,slow=6.0,SNR=2.5						
NOA				Sn	**Sn**	**18 01 27.6**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=140,slow=19,SNR=2.3						
ARA0	**ARCESS Array S**	**9.87**	**2**	Pn	**Pn**	**18 00 55.8**	**-1.1**
	baz=176,slow=16						
ARA0	**ARCESS Array S**	**9.87**	**2**	*e*P	**Pn**	**18 00 55.8**	**-1.1**
ARCES	**ARCESS Array B**	**9.87**	**2**	Pn	**Pn**	**18 00 57.0**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=181,slow=13,SNR=56						

LDG ***11*** *18:12:18.8±0.1, 3546N×7817E, h10km, Mb5.6/41, Ms4.7/10, Error ellipse: s-maj=9.1km s-min=3.8km az=44.0*
CRAAG ***11*** *18:12:19.8, 3555N×7825E, Mw5.3*
ISCJB ***11*** *18:12:20.9±0.1, 3549N±001×7822E±002, h16km, mb5.5/299, MS5.1/181, Error ellipse: s-maj=2.2km s-min=1.6km az=95.5*
GCMT ***11*** *18:12:22.3±0.1, 3562N×7809E, h19km, MW5.5/88, Moment Tensor Solution. s70,c115; s88,c167; Duration: 1^{s}4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.95±.04; $M_{\theta\theta}$0.06±.03; $M_{\phi\phi}$0.89±.04; $M_{r\theta}$0.32±.07; $M_{\theta\phi}$1.98±.03; $M_{\phi r}$-0.41±.07; Best double couple: $M_0$2.16900×10^{17} NP1:ϕ_s260.00000°,δ68.00000°, λ-21.00000°. NP2:ϕ_s358.00000°,δ71.00000°, λ-157.00000°. Principal axes: T 2.5030, Plg2.0000°, Azm129.0000°; N -0.6690, Plg60.0000°, Azm35.0000°; P -1.8340, Plg30.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***11*** *18:12:22.0, 3564N×7835E, h14km, mB5.4, mb5.4, ML6.0, Ms5.5, Msz5.3*
NEIC ***11*** *18:12:22.3±0.1, 3547N×7823E, mb5.5/202, MS5.1/111, MW5.3, Error ellipse: s-maj=3.6km s-min=2.3km az=205.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1: ϕ_s34.00000°,δ49.00000°,λ-118.00000°. NP2: ϕ_s253.00000°,δ48.00000°,λ-62.00000°. Principal axes: T 1.0300, Plg1.0000°, Azm143.0000°; N -0.0100, Plg21.0000°, Azm53.0000°; P -1.0200, Plg69.0000°, Azm235.0000°;*
NEIC Felt in Hotan, China.
MOS ***11*** *18:12:24.3±1.0, 3562N×7823E, h37km, mb5.7/117, MS5.0/50 Error ellipse: s-maj=6.0km s-min=2.8km az=128.7*
IDC ***11*** *18:12:25.0±2.2, 3560N×7827E, h33km±15km, mb5.1/22, mb1 5.3/25, mb1mx5.3/25, mbtmp5.3/25, ML4.9/3, MS4.8/34, Ms1 4.8/34, ms1mx4.7/43, Error ellipse: s-maj=11.7km s-min=8.1km az=69.0*
SZGRF ***11*** *18:12:25.8, 3572N×7820E, h33km, mb5.6, MS5.2, Eastern Kashmir*
NNC ***11*** *18:12:27.5±3.8, 3580N×7793E, h30km±23km, mb5.5, mpv6.1, Error ellipse: s-maj=28.3km s-min=24.5km az=85.0*
BGS ***11*** *18:12:34.9±1.3, 3645N×7626E, h15km, mb5.5*
ISC 11 18:12:23.1±0.1**, 3557N**±001×**7825E**±002**, h17km, h17km**±1.0km**:pP-P, n1157, σ1^{s}01**/1224**, mb5.5**/299**, MS5.1**/181**, 52C-198D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.56**	**213**	*e*P	**Pn**	**18 13 20.0**	**+2.4**
DLH				*e*x	**Sb**	**18 14 09.0**	**+0.3**
THN	**Thein Dam**	**3.77**	**215**	*e*P	**Pn**	**18 13 21.7**	**+1.3**
KLP	**Kalpa**	**4.03**	**180**	*e*P	**Pn**	**18 13 26.8**	**+2.9**
KLP				*e*x	**Sn**	**18 14 04.4**	**-6.3**
SDNR	**Sundarnagar**	**4.20**	**195**	*e*P	**Pn**	**18 13 28.5**	**+2.2**
KSH	**Kashi**	**4.33**	**336**	⇑*i*P	**Pn**	**18 13 31.0**	**+2.9**
KSH				S	**Sn**	**18 14 23.1**	**+4.9**
BHK	**Bhakra**	**4.42**	**201**	*e*x	**Pn**	**18 13 35.0**	**+5.7**
BHK				*e*x	**Sb**	**18 14 37.0**	**+3.8**
SMLA	**Simla**	**4.52**	**192**	*e*P	**Pn**	**18 13 32.6**	**+1.8**
SMLA				*e*x	**Sb**	**18 14 40.3**	**+4.1**
CHCP	**Chirah Chowk**	**4.53**	**247**	⇓P	**Pn**	**18 13 33.1**	**+2.2**
NIL	**Nilore**	**4.54**	**246**	Pn	**Pn**	**18 13 32.4**	**+1.4**
	4μm,0.7s						
NIL	**Nilore**	**4.54**	**246**	Pn	**Pn**	**18 13 32.9**	**+1.8**
JOSI	**Joshimath**	**5.12**	**167**	*e*x	x	18 13 21.2	
DDI	**Dehra Dun**	**5.24**	**182**	*e*P	**Pn**	**18 13 43.5**	**+2.9**
DDI				*e*S	**Sn**	**18 14 38.5**	**-2.0**
KKR	**Kurukshetra**	**5.72**	**192**	*e*x	**Pn**	**18 13 50.8**	**+3.5**
SARP	**Sargodha**	**5.90**	**233**	P	**Pn**	**18 13 50.7**	**+1.0**
THW	**Thamme Wali**	**6.06**	**245**	P	**Pn**	**18 13 51.4**	**-0.5**
PTH	**Pithoragarh**	**6.23**	**164**	*e*P	**Pn**	**18 14 01.3**	**+7.1**
PTH				*e*S	**Sn**	**18 15 05.8**	**+0.8**
ASOR	**Ausora**	**6.81**	**184**	*e*P	**Pn**	**18 14 04.0**	**+1.9**
ULHL	**Ulahol**	**6.84**	**347**	P	**Pn**	**18 14 05.6**	**+2.9**
	SNR=289						
KZA	**Kyzart**	**6.90**	**341**	P	**Pn**	**18 14 05.9**	**+2.4**
	SNR=558						
NDI	**New Delhi**	**6.92**	**188**	*e*P	**Pn**	**18 14 05.0**	**+1.2**
NDI				*e*S	**Sn**	**18 15 18.6**	**-3.5**
BHGR	**Bahadurgarh**	**6.95**	**190**	*e*P	**Pn**	**18 14 05.2**	**+1.0**
SBDP	**Sheikh Budin**	**6.99**	**244**	⇓P	**Pn**	**18 14 04.9**	**+0.2**
AYAN	**Aya Nagar**	**7.13**	**188**	*e*P	**Pn**	**18 14 07.3**	**+0.7**
AYAN				*e*S	**Sn**	**18 15 23.5**	**-3.7**
SONA	**Sohna**	**7.37**	**188**	*e*P	**Pn**	**18 14 09.9**	**+0.1**
SONA				*e*S	**Sn**	**18 15 28.3**	**-4.7**
AML	**Almayashu**	**7.45**	**333**	P	**Pn**	**18 14 13.7**	**+2.8**
	SNR=9.7						
KBK	**Karagaybulak**	**7.52**	**341**	P	**Pn**	**18 14 14.9**	**+3.0**
	SNR=304						
KUDL	**Kundal**	**7.55**	**192**	*e*P	**Pn**	**18 14 13.4**	**+1.0**
KUDL				*e*S	**Sn**	**18 15 31.5**	**-6.1**
TKM2	**Tokmak 2**	**7.62**	**345**	P	**Pn**	**18 14 16.1**	**+2.8**
	SNR=160						
TKM2	**Tokmak 2**	**7.62**	**345**	⇑Pn	**Pn**	**18 14 16.4**	**+3.1**
	907nm,1.3s						
TKM2				⇑Pg	Pn	18 14 43.5	+30
TKM2				⇓Lg		18 16 24.2	
	2μm,1.3s						
TKM2	**Tokmak 2**	**7.62**	**345**	*i* P	**Pn**	**18 14 15.8**	**+2.5**
AAK	**Ala-Archa**	**7.63**	**339**	P	**Pn**	**18 14 16.2**	**+2.8**
	SNR=278						
AAK	**Ala-Archa**	**7.63**	**339**	Pn	**Pn**	**18 14 15.9**	**+2.5**
	5μm,0.7s						
AAK	**Ala-Archa**	**7.63**	**339**	⇑P	**Pn**	**18 14 15.3**	**+1.9**
	SNR=545						
AAK	**Ala-Archa**	**7.63**	**339***c*	*i*P	**Pn**	**18 14 15.2**	**+1.8**
AAK	**Ala-Archa**	**7.63**	**339**	*e*P	**Pn**	**18 14 15.0**	**+1.5**
	2μm,1.1s						
KNDC	**Almaty**	**7.70**	**353**	⇑Pn	**Pn**	**18 14 19.1**	**+4.7**
	3μm,1.3s						
KNDC				⇑Pg	Pn	18 14 42.7	+28
KNDC				⇑Lg		18 16 21.0	
	15μm,1.1s						
AAA	**Alma-Ata**	**7.75**	**353**	*i* P	**Pn**	**18 14 17.8**	**+2.6**
AAA				pmax	pmax		
	comp=Z,500nm,2.2s						
KHET	**Khetri**	**7.76**	**196**	*e*P	**Pn**	**18 14 15.6**	**+0.4**
KHET				*e*S	**Sn**	**18 15 36.3**	**-6.3**
FRU	**Bishkek**	**7.78**	**340**	⇑*i*P	**Pn**	**18 14 18.0**	**+2.5**
FRU				*e*S	**Sn**	**18 15 41.0**	**-2.1**
FRU				pmax	pmax		
	comp=Z,1μm,1.5s						
EKS2	**Erkin-Say**	**7.88**	**335**	P	**Pn**	**18 14 20.9**	**+3.9**
	SNR=113						
CHMS	**Chumysh**	**7.89**	**341**	P	**Pn**	**18 14 19.4**	**+2.3**
	SNR=260						
USP	**Ospenovka**	**8.21**	**340**	P	**Pn**	**18 14 23.2**	**+1.8**
	SNR=78						
AGRA	**Agra**	**8.32**	**182**	*e*P	**Pn**	**18 14 23.2**	**+0.3**
AGRA				*e*S	**Sn**	**18 15 50.6**	**-5.8**
KOLN	**Koldanda**	**9.02**	**148**	*e*Pn	**Pn**	**18 14 33.0**	**+0.5**
KOLN				*e*Sn	**Sn**	**18 16 14.1**	**+0.6**

comp=Z,4μm,1.4s
GKN Gorkha 9.30 142 *e*Pn **Pn** **18 14 35.9 -0.4**
GKN *e*Sn **Sn** **18 16 18.8 -1.7**
comp=Z,3μm,1.4s
AJM Ajmer 9.57 200 *e*P **Pn** **18 14 40.8 +0.7**
AJM *i* x **Sn** **18 16 25.0 -2.3**
KK31 Karatay Array 9.61 324 Pn **Pn** **18 14 41.2 +0.6**
comp=Z,76nm,0.5s,baz=319,slow=39,SNR=1594
KK31 ⇑Sn **Sn** **18 16 28.6 +0.4**
comp=Z,589nm,1.1s,baz=306,slow=36,SNR=5.1
KK31 Karatay Array 9.61 324 *i* P **Pn** **18 14 41.2 +0.6**
KKAR Karatay Array 9.61 324 P **Pn** **18 14 41.1 +0.5**
KKAR S **Sn** **18 16 31.9 +3.7**
KKAR pmax pmax
comp=Z,24nm,0.4s
KKAR smax
comp=N,335nm,0.8s
KKN Kakani 9.80 140 *e*Pn **Pn** **18 14 42.4 -0.8**
KKN *e*Sn **Sn** **18 16 30.6 -2.2**
comp=N,2μm,0.9s
DMN Daman 9.86 142 *e*Pn **Pn** **18 14 43.6 -0.4**
DMN *e*Sn **Sn** **18 16 32.8 -1.4**
comp=N,6μm,1.5s
GUN Gumba 10.03 138 *e*Pn **Pn** **18 14 46.1 -0.2**
GUN *e*Sn **Sn** **18 16 35.7 -2.6**
comp=N,3μm,1.3s
PKI Pulchoki 10.04 141 *e*Pn **Pn** **18 14 45.9 -0.6**
PKI *e*Sn **Sn** **18 16 37.0 -1.8**
comp=N,3μm,1.4s
JASL Jaisalmer 10.66 218 *e*P **Pn** **18 14 53.8 -1.2**
WMQ Urumqi 10.99 39⇓ *i*P **Pn** **18 14 58.7 -0.8**
WMQ AP 18 15 02.0
WMQ XP 18 15 05.0
WMQ S **Sn** **18 17 04.0 +2.1**
WMQ XS 18 17 12.0
WMQ SS 18 17 21.0
WMQ AMB AMB
comp=Z,119nm,0.8s
WMQ AMB AMB
comp=Z,989nm,3.6s
WMQ LR LR
comp=N,19μm,13.2s
WMQ LR LR
comp=E,15μm,14.0s
WMQ LR LR
comp=Z,17μm,14.6s
MK05 Makanchi Array 11.62 14 ⇑Pn **Pn** **18 15 08.2 +0.1**
comp=Z,136nm,0.6s
MK05 ⇓Sn **Sn** **18 17 15.0 -2.3**
comp=Z,1μm,1.1s
MKAR Makanchi Array 11.62 14 Pn **Pn** **18 15 07.6 -0.5**
comp=Z,11nm,0.3s,baz=191,slow=12,SNR=177
MKAR Sn **Sn** **18 17 15.4 -1.9**
comp=Z,15nm,0.3s,baz=193,slow=25,SNR=7.1
GTK Gangtok 12.07 130 *ex* x 18 15 35.0
BHPL Bhopal 12.31 184 *e*P **Pn** **18 15 16.1 -1.5**
BHPL AMb AMB 18 15 21.6
comp=Z,192nm,1.3s
BHPL *e*S **Sn** **18 17 23.9 -10**
LSA Lhasa 12.35 115 P **Pn** **18 15 20.2 +2.1**
LSA S **Sn** **18 17 39.9 +4.7**
LSA PCP PcP 18 20 59.6 +0.5
LSA LR LR
comp=N,13μm,14.8s
LSA LR LR
comp=E,17μm,13.5s
LSA Lhasa 12.35 115 *e*P **Pn** **18 15 20.0 +1.9**
LSA pmax pmax
comp=Z,161nm,0.8s
LSA Lhasa 12.35 115 *e*P **Pn** **18 15 20.0 +1.9**
comp=Z,161nm,0.8s
SLGI Shiliguri 12.41 133 *ex* **Pn** **18 15 17.8 -1.1**
JBP Jabalpur 12.45 173⇓ *e*P **Pn** **18 15 18.9 -0.7**
JBP *ex* **Sn** **18 17 29.9 -8.0**
BOK Bokaro 13.48 148 *e*P **Pn** **18 15 31.9 -1.6**
NGP Nagpur 14.39 177⇑ *ex* **Pn** **18 15 40.5 -5.4**
NGP *ex* x 18 18 11.2
BHV Bhavnagar 14.77 203 *i* x **Pn** **18 15 49.0 -2.1**
AKL Akola 14.85 184 *ex* **Pn** **18 15 49.4 -2.9**
KURK Kurchatov 15.14 1 Pn **Pn** **18 15 53.9 -2.2**
comp=Z,522nm,1.3s,SNR=25
SHL Shillong 15.39 127 *ex* **Pn** **18 15 54.5 -4.9**
SHL *ex* x 18 18 31.5
CAL Calcutta 15.68 143 *e*P **Pn** **18 16 03.1 -0.1**
CAL *e*S **Sn** **18 19 00.3 +3.7**
AGT Agartala 16.21 132 *i* P **Pn** **18 16 11.0 +1.0**
AGT *i* x x 18 16 41.0
ABKT Ailbek 16.30 284 Pn **Pn** **18 16 05.5 -5.7**
comp=Z,423nm,1.0s,SNR=11
ABKT Ailbek 16.30 284 Pn **Pn** **18 16 05.5 -5.7**
VAN Vannovskaya 16.31 284 *e*P **Pn** **18 16 05.5 -5.8**
VAN S **Sn** **18 19 02.6 -9.3**
IMP Imphal 17.29 124 *ex* **Pn** **18 16 20.0 -3.6**
IMP *ex* **Sn** **18 19 46.0 +11**
POO Poona 17.42 194⇓ *ix* **Pn** **18 16 17.0 -8.2**
comp=Z,230nm,1.0s
POO *ex* x 18 16 46.3
POO AMb AMB 18 17 00.2
comp=Z,684nm,1.7s
POO *i* x Sn 18 20 09.0 +30
POO *i* x x 18 24 40.0
GTA Gaotai 17.53 71 P **Pn** **18 16 27.2 +0.5**
GTA AP pP 18 16 31.3 -1.3
GTA XP sP 18 16 34.4 -0.4
GTA S **Sn** **18 19 44.0 +2.5**
GTA XS sS 18 19 48.6 -8.4
GTA PCP PcP 18 21 12.1 +5.8
GTA SCP ScP 18 24 44.2 +3.6
GTA PCS PcS 18 24 46.8 +4.2
GTA AMB AMB
comp=Z,72nm,1.7s
GTA AMB AMB
comp=Z,1μm,6.1s
GTA LR LR
comp=N,5μm,17.9s
GTA LR LR
comp=E,5μm,12.2s
GTA LR LR
comp=Z,6μm,12.6s
VOSK Vostochnaya 17.91 346 ⇓P **Pn** **18 16 29.8 -1.5**
comp=Z,274nm,1.4s
VOSK ⇓S **Sn** **18 19 54.3 +3.8**
comp=Z,575nm,1.9s
VOSK ⇑Lg 18 21 39.8
comp=Z,1μm,1.6s
VOSK Vostochnaya 17.91 346 P **Pn** **18 16 29.7 -1.6**
VOSK pmax pmax
comp=Z,397nm,1.5s
HYB Hyderabad 18.08 179 *i* P **Pn** **18 16 29.0 -4.5**
comp=Z,348nm,1.2s
HYB *e* 18 16 34.5
HYB *e* 18 16 40.0
HYB *e* 18 17 04.0
HYB *e* 18 19 38.0
HYB *e*S **Sn** **18 19 51.5 -3.3**
HYB LR LR 18 23 24.0
comp=Z,24nm,12.0s
HYB Hyderabad 18.08 179 *e*P **Pn** **18 16 29.0 -4.5**
HYB pmax pmax
comp=Z,349nm,1.2s
HYB Hyderabad 18.08 179 *e*P **Pn** **18 16 29.0 -4.5**
comp=Z,348nm,1.2s
HYB *e*S **Sn** **18 19 36.0 -19**
HYB *e*LR LR 18 23 22.0
BVA0 Borovoye Array 18.31 345 ⇑P **Pn** **18 16 34.7 -1.6**
comp=Z,79nm,1.4s,baz=150,slow=7.1,SNR=847
BVA0 ⇑S **Sn** **18 19 59.7 -0.7**
comp=Z,39nm,1.7s,baz=166,slow=11,SNR=7.1
BVA0 ⇑Lg 18 21 58.0
comp=Z,337nm,2.3s,baz=148,slow=25,SNR=4.2
BVA0 Borovoye Array 18.31 345 *i* P **Pn** **18 16 34.6 -1.7**
BVA0 pmax pmax
comp=Z,111nm,1.4s
BVAR Borovoye Array 18.31 345 P **Pn** **18 16 36.7 +0.4**
comp=Z,13nm,0.3s,baz=152,slow=12,SNR=263
BVAR S **Sn** **18 19 59.0 -1.4**
baz=166,slow=14,SNR=2.5
BVAR Lg 18 21 57.9
comp=Z,0.4nm,0.3s,baz=159,slow=25,SNR=4.4
BVAR LR LR 18 24 02.8
comp=Z,9μm,19.1s,baz=319,slow=38
BVAR Borovoye Array 18.31 345 P **Pn** **18 16 36.7 +0.4**
BVAR S **Sn** **18 19 59.0 -1.3**
VIS Vishakhapatnam 18.34 164 *ex* **Pn** **18 16 33.2 -3.5**
VIS AMb AMB 18 16 57.6
comp=Z,281nm,1.8s
BRVK Borovoye 18.37 345 P **Pn** **18 16 37.8 +0.9**
comp=Z,2μm,0.8s
BRVK Borovoye 18.37 345 *e*P **Pn** **18 16 35.4 -1.5**
BRVK pmax pmax
comp=Z,186nm,0.8s
BRVK Borovoye 18.37 345 *e*P **Pn** **18 16 35.4 -1.5**
comp=Z,186nm,0.8s
KAD Karad 18.55 192 *e*P **Pn** **18 16 38.7 -0.4**
KAD AMb AMB 18 16 43.0
comp=Z,464nm,1.1s
ZRNK Zerenda 18.57 342 ⇑P **Pn** **18 16 38.1 -1.2**
comp=Z,174nm,1.1s
ZRNK ⇓S **Sn** **18 20 04.2 -2.3**
comp=Z,1μm,1.4s
ZRNK ⇑Lg 18 22 06.0
comp=Z,3μm,4.5s
ZRNK Zerenda 18.57 342 *e*P **Pn** **18 16 37.7 -1.6**
ZRNK pmax pmax
comp=Z,28nm,0.4s
ZRNK Zerenda 18.57 342 *e*P **Pn** **18 16 37.7 -1.6**
comp=Z,28nm,0.4s
CHKZ Chkalovo 18.88 346 ⇑P **Pn** **18 16 42.2 -0.9**
comp=Z,288nm,1.5s
CHKZ ⇓S **Sn** **18 20 13.9 -0.1**
comp=Z,620nm,1.5s
CHKZ ⇑Lg 18 22 14.0
comp=Z,1μm,2.1s
CHKZ Chkalovo 18.88 346⇑ *i*P **Pn** **18 16 42.0 -1.1**
CHKZ pmax pmax
comp=Z,99nm,0.4s
CHKZ Chkalovo 18.88 346⇑ *i*P **Pn** **18 16 42.0 -1.1**
comp=Z,99nm,0.4s
ZAL Zalesovo 18.93 12 P **Pn** **18 16 42.5 -1.2**
comp=Z,4.4nm,0.3s,baz=268,slow=12,SNR=41
ZAL S **Sn** **18 20 12.6 -2.6**
comp=Z,1.3nm,0.3s,baz=348,slow=18,SNR=2.9
AB31 Akbulak array 19.16 321 ⇑P **Pn** **18 16 44.0 -2.4**
comp=Z,168nm,0.8s
AB31 ⇑S **Sn** **18 20 11.3 -9.4**
comp=Z,361nm,1.9s
AB31 Akbulak array 19.16 321 P **Pn** **18 16 44.0 -2.5**
AB31 S **Sn** **18 20 11.3 -9.4**
AB31 pmax pmax
comp=Z,109nm,0.8s
AB31 smax
comp=N,441nm,1.5s
NVS Novosibirsk 19.58 9 *i* P **Pn** **18 16 50.0 -1.5**
NVS *i* S **Sn** **18 20 27.0 -3.9**
NVS pmax pmax
comp=Z,268nm,0.5s
NVS pmax pmax
comp=N,587nm,1.0s
NVS pmax pmax
comp=E,127nm,0.7s
NVS smax
comp=N,956nm,1.9s
NVS smax
comp=E,453nm,2.1s
LZH Lanzhou 20.75 81 ⇓P **P** **18 17 04.5 +1.6**
LZH AP 18 17 11.2
LZH XP sP 18 17 14.8 +4.7
LZH PP 18 17 25.6
LZH S **S** **18 20 48.0 -5.9**
LZH XS sS 18 20 57.5 -4.3
LZH SS 18 21 18.3
LZH AMB AMB
comp=Z,307nm,1.2s
LZH AMB AMB
comp=Z,1μm,4.5s
LZH LR LR
comp=N,12μm,13.5s
LZH LR LR
comp=Z,15μm,15.6s,MS5.5
AKTK Aktyubinsk 20.87 322 P **P** **18 17 03.6 -0.5**
AKTK S **S** **18 20 53.6 -2.6**
AKTK LR LR 18 25 44.0
AKTO Aktyubinsk 20.87 322 ⇑P **P** **18 17 03.6 -0.6**
comp=Z,42nm,2.1s
AKTO ⇓S **S** **18 20 52.7 -3.5**
comp=Z,25nm,2.1s
AKTO Aktyubinsk 20.87 322 P **P** **18 17 03.6 -0.5**
comp=Z,80nm,0.7s,baz=118,slow=9.9,SNR=156
AKTO S **S** **18 20 53.6 -2.6**
comp=Z,14nm,1.0s,baz=12,slow=15,SNR=3.4
AKTO LR LR 18 25 44.0
comp=Z,6μm,20.3s,MS5.0,baz=356,slow=38
AKTO Aktyubinsk 20.87 322 P **P** **18 17 03.6 -0.6**
AKTO S **S** **18 20 53.6 -2.6**
BANOM Banah 21.13 249 P **P** **18 17 06.3 -0.8**
SNR=42
WBK Wadi Bani Khal 21.18 238 ⇓P **P** **18 17 08.4 +0.9**
SNR=33
BIDO Bidbid 21.18 241 ⇑P **P** **18 17 07.6 +0.1**
SNR=34
SMDO Samad 21.53 240 ⇓P **P** **18 17 11.6 +0.3**
SNR=49
HOQ Hoqain 21.73 242 ⇓P **P** **18 17 13.9 +0.5**
SNR=55
CD2 Chengdu 21.82 95⇓ *i*P **P** **18 17 15.5 +1.1**
CD2 AP 18 17 18.9
CD2 XP sP 18 17 21.7 +0.1
CD2 PP 18 17 38.9
CD2 S **S** **18 21 12.5 -2.4**
CD2 XS sS 18 21 20.7 -2.1
CD2 SS 18 21 51.0
CD2 AMB AMB
comp=Z,340nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,1μm,3.6s
CD2 LR LR
comp=N,21μm,12.6s
CD2 LR LR
comp=Z,10μm,10.2s,MS5.5
JMDO Jabal Madar 21.93 239 ⇑P **P** **18 17 16.2 +0.5**
SNR=30
ASHO Ashiyiah 22.00 247 P **P** **18 17 17.0 +0.7**
SNR=147
BSY Bisya 22.33 241 ⇓P **P** **18 17 20.4 +0.6**
SNR=22
ARQ Araqi 22.45 243 P **P** **18 17 22.7 +1.5**
SNR=21
MDRS Chennai 22.48 175 *ex* **P** **18 17 25.9 +4.4**
MDRS *e*S **S** **18 21 29.9 +2.2**
MNGI Mangalore 22.74 189 *e*P **P** **18 17 25.3 +1.0**
MNGI *ex* x 18 17 30.8
comp=Z,495nm,1.2s
MNGI *i* S **S** **18 21 35.2 +2.7**
MOY Mondy 22.88 38 *e*P **P** **18 17 27.1 +1.4**
MOY pmax pmax
comp=Z,409nm,2.6s,mb5.4
ZAK Zakamensk 23.40 43⇑ *i*P **P** **18 17 32.2 +1.0**
ZAK pmax pmax
comp=Z,77nm,1.8s,mb4.8
KMI Kunming 23.51 110 P **P** **18 17 31.9 -0.4**
KMI AP 18 17 37.5
KMI XP sP 18 17 40.7 +1.2
KMI PP 18 18 02.3
KMI S **S** **18 21 38.2 -6.8**
KMI XS sS 18 21 47.8 -5.8
KMI SS 18 22 22.4
KMI AMB AMB
comp=Z,109nm,0.7s,mb5.4
KMI AMB AMB
comp=Z,1μm,6.3s
KMI LR LR
comp=N,4μm,12.3s,MS5.3
KMI LR LR
comp=E,4μm,10.7s,MS5.3
KMI LR LR
comp=Z,5μm,10.7s,MS5.3
SONM Songino Array 24.18 51 P **P** **18 17 39.7 +1.2**
comp=Z,168nm,0.7s,mb5.6,baz=246,slow=8.8,SNR=585
SONM PcP PcP 18 21 19.5 +0.5
comp=Z,11nm,0.7s,baz=214,slow=2.7,SNR=8.8
SONM LR LR 18 28 06.3
comp=Z,4μm,20.5s,MS4.9,baz=4.8,slow=39
SONM Songino Array 24.18 51 P **P** **18 17 39.7 +1.2**
SONM 18 21 19.5
TLY Talaya 24.26 41 P **P** **18 17 41.3 +2.1**
comp=Z,341nm,1.9s,mb5.5,SNR=30
TLY Talaya 24.26 41 ⇓P **P** **18 17 41.2 +2.1**
SNR=68
TLY Talaya 24.26 41*d* *i*P **P** **18 17 41.1 +1.9**
TLY pmax pmax
comp=Z,146nm,1.9s,mb5.1
TLY MLR MLR
comp=Z,7μm,15.0s,MS5.3
TLY Talaya 24.26 41⇓ *i*P **P** **18 17 41.0 +1.8**
comp=Z,198nm,1.6s,mb5.3
SVE Sverdlovsk 24.36 336 *i* P **P** **18 17 45.0 +4.9**
SVE *e*PP 18 18 11.0
SVE *e* 18 22 00.0
ULN Ulaanbaatar 24.61 51 ⇓P **P** **18 17 44.2 +1.8**
SNR=126
CHG Chiang Mai 24.77 127 ⇓P **P** **18 17 42.8 -1.0**
comp=Z,119nm,0.7s,mb5.5
CHTO Chiang Mai 24.77 127 *e*P **P** **18 17 42.5 -1.3**
CHTO pmax pmax
comp=Z,67nm,0.7s,mb5.3
CHTO MLR MLR
comp=Z,3μm,21.0s,MS4.7
CHTO Chiang Mai 24.77 127 *e*P **P** **18 17 42.5 -1.3**
comp=Z,67nm,0.7s,mb5.3
CHTO LR LR
comp=Z,3μm,21.0s,MS4.7
ARU Arti 24.77 333 P **P** **18 17 44.3 +0.4**
comp=Z,2μm,0.8s,mb6.6,SNR=97
ARU Arti 24.77 333 *e*P **P** **18 17 44.0 +0.1**
ARU *e* 18 18 16.5
ARU *e*PPP 18 18 25.9
ARU *e*S **S** **18 22 06.4 +1.0**
ARU *e*SS 18 22 53.2
ARU MLR MLR
comp=Z,2μm,16.0s,MS4.8
ARU MLR MLR
comp=N,1μm,22.0s
ARU MLR MLR
comp=E,2μm,18.0s
ARU Arti 24.77 333 P **P** **18 17 44.0 +0.2**
MAK Makhachkala 24.82 297*c* *i*P **P** **18 17 49.6 +5.3**
MAK *i* PPP 18 18 24.4
MAK *e*S **S** **18 22 08.4 +2.2**
MAK *e*SS 18 22 56.4
MAK pmax pmax
comp=Z,299nm,1.6s,mb5.6
MAK MLR MLR
comp=Z,9μm,16.0s,MS5.4
IRK Irkutsk 24.89 40 *e*P **P** **18 17 45.8 +0.9**
IRK pmax pmax
comp=Z,285nm,2.6s,mb5.3
CM31 Chiang Mai Arr 25.03 128 *e*P **P** **18 17 45.6 -0.5**
comp=Z,131nm,1.0s,mb5.4
CM31 LR LR
comp=Z,2μm,19.0s,MS4.6
XAN Xi'an 25.19 85 P **P** **18 17 48.1 +0.4**
XAN S **S** **18 22 02.4 -10**
XAN AMB AMB
comp=Z,77nm,1.1s,mb5.2
XAN AMB AMB
comp=Z,312nm,8.9s
XAN LR LR
comp=N,7μm,17.8s,MS5.3
XAN LR LR
comp=E,4μm,19.5s,MS5.3
XAN LR LR
comp=Z,9μm,14.1s
BTO Baotou 25.43 69 *e*P **P** **18 17 51.2 +1.4**
BTO S **S** **18 22 18.5 +2.6**
BTO LR LR
comp=N,971nm,10.6s,MS4.8
BTO LR LR
comp=E,1μm,12.9s,MS4.8
GYA Guiyang 25.92 103⇓ *i*P **P** **18 17 55.4 +1.1**
GYA AP pP 18 18 02.5 +2.9
GYA XP sP 18 18 06.0 +4.3
GYA PCP PcP 18 21 23.3 +0.5
GYA S **S** **18 22 23.0 -0.7**
GYA PCS PcS 18 25 03.0 -0.6
GYA AMB AMB
comp=Z,240nm,0.9s,mb5.7
GYA AMB AMB
comp=Z,830nm,3.7s
GYA LR LR
comp=N,3μm,11.1s,MS5.5
GYA LR LR
comp=E,6μm,11.1s,MS5.5
GYA LR LR
comp=Z,3μm,10.2s,MS5.1
NANT Nan 25.94 124 ⇓P **P** **18 17 52.0 -2.5**
comp=Z,1μm,0.4s
DGRG David-gareji 26.28 293 P **P** **18 17 59.7 +2.1**
DGRG S **S** **18 22 46.0 +17**
UMR Umm Al-Rimmam 26.36 266 *e*P **P** **18 17 58.6 +0.4**
UMR AMb AMB 18 18 02.2
comp=Z,629nm,1.0s,mb6.1
QRN Al-Qurain 26.49 264 *e*P **P** **18 17 59.2 -0.3**
QRN AMb AMB 18 18 08.7
comp=Z,788nm,1.8s,mb5.9
KBD Kabd 26.51 265 *e*P **P** **18 18 00.0 +0.4**
KBD AMb AMB 18 18 05.5
comp=Z,2μm,1.0s,mb6.5
MIB Mutribah 26.57 266 *e*P **P** **18 18 00.7 +0.5**
MIB AMb AMB 18 18 05.5
comp=Z,1μm,0.9s,mb6.4
HHC Hu-ho-hao-te 26.61 69 *e*P **P** **18 18 01.7 +1.2**
HHC AP pP 18 18 05.9 +0.2
HHC XP sP 18 18 08.6 +0.7
HHC PP 18 18 45.7
HHC PCP PcP 18 21 26.3 +1.9
HHC S **S** **18 22 34.7 +0.2**
HHC XS sS 18 22 41.0 -2.2
HHC SS 18 23 44.7
HHC SCP ScP 18 25 04.3 +0.7
HHC PCS PcS 18 25 06.1 +0.5
HHC SCS ScS 18 28 53.5 -0.5
HHC AMB AMB
comp=Z,12nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,352nm,3.2s
HHC LR LR
comp=N,4μm,12.7s
HHC LR LR
comp=E,2μm,8.7s
HHC LR LR
comp=Z,3μm,14.5s,MS4.9
RDF Al-Radifah 26.72 264 *e*P **P** **18 18 01.7 +0.1**
RDF AMb AMB 18 18 11.4
comp=Z,876nm,1.2s,mb6.2
MTA Mtatsminda 26.73 293 P **P** **18 18 02.6 +1.1**
MTA S **S** **18 22 52.2 +16**
GNI Garni 26.75 290 *e*P **P** **18 18 03.5 +1.7**
GNI Garni 26.75 290 P **P** **18 18 03.4 +1.6**
comp=Z,252nm,0.9s,mb5.7,baz=104,slow=0.6,SNR=23
GNI PcP PcP 18 21 25.3 +0.6
comp=Z,27nm,0.5s,baz=136,slow=9.7,SNR=9.0
GNI Garni 26.75 290 P **P** **18 18 03.4 +1.6**
GNI 18 21 25.3
GNI pmax pmax
comp=Z,253nm,0.9s
GNI Garni 26.75 290 *e*P **P** **18 18 03.9 +2.2**
comp=Z,624nm,1.1s,mb6.0
GNI LR LR
comp=Z,3μm,20.0s,MS4.9
TBLG Delisi 26.77 293 P **P** **18 18 03.5 +1.6**
TBLG S S 18 23 05.2 +28
DUS Dusheti 26.81 294 P **P** **18 18 06.8 +4.4**
NAY Al-Naaiem 26.85 265 *e*P **P** **18 18 02.9 +0.2**
NAY AMb AMB 18 18 07.1
comp=Z,265nm,1.0s,mb5.7
CLDR Calditan 27.42 288 *e*P **P** **18 18 09.5 +1.7**
ZEI Tsey 27.44 296 *e*P **P** **18 18 08.8 +0.8**
ZEI *e**PP pP 18 18 18.2 +4.9
ZEI pmax pmax
comp=Z,42nm,0.7s,mb5.1
ONI Oni 27.76 295 P **P** **18 18 12.9 +2.0**
ONI S **S** **18 22 53.7 +1.0**
SOKR Solikamsk 27.78 336*d* *i*P **P** **18 18 12.6 +1.5**
SOKR S **S** **18 22 54.3 +1.2**
SOKR pmax pmax
comp=Z,90nm,0.9s,mb5.4
SOKR MLR MLR
comp=Z,3μm,16.0s,MS5.0
CUKT Cukurca 27.84 284 *e*P **P** **18 18 11.9 +0.4**
NST Nakhon Sawan 27.85 130 ⇑P **P** **18 18 12.1 +0.4**
comp=Z,60nm,0.7s,mb5.3
TVAN Van 27.86 287 *i* P **P** **18 18 13.7 +2.0**
RBK Rabkut 27.92 236 ⇑P **P** **18 18 11.6 -0.6**
SNR=6.7
WHFO Wadi Hawf 27.93 237 ⇓P **P** **18 18 11.4 -0.9**
SNR=17

BHD **Baghdad** 27.95 275 *ex* x 18 18 07.0
BHD *ex* x 18 19 12.0
BHD *ex* x 18 19 22.0
BHD *ex* x 18 22 55.0
BHD *ex* x 18 24 18.0
BHD *ex* x 18 24 38.0
PALK Pallekele 28.25 175 *eP* **P 18 18 16.1 +0.9**
comp=Z,91nm,1.3s,mb5.2
PALK LR LR
comp=Z,1μm,20.0s,MS4.4
MSL Mosul 28.38 282 *i* x x 18 18 57.0
MSL *ex* x 18 19 19.5
MSL *ex* x 18 19 37.5
MSL *ex* x 18 23 15.5
KIV Kislovodsk 28.41 298 P **P 18 18 17.0 +0.3**
comp=Z,224nm,1.5s,mb5.6,SNR=9.7
KIV Kislovodsk 28.41 298 ⇑P **P 18 18 17.5 +0.9**
SNR=14
KIV Kislovodsk 28.41 298*d* *i*P **P 18 18 17.1 +0.4**
KIV *e* 18 19 06.3
KIV *e* 18 21 29.7
KIV *e*S **S 18 23 02.2 -0.8**
KIV pmax pmax
comp=Z,51nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,3μm,15.0s,MS5.0
KIV Kislovodsk 28.41 298 *eP* **P 18 18 17.5 +0.8**
comp=Z,92nm,0.9s,mb5.4
KIV LR LR
comp=Z,715nm,22.0s,MS4.2
ABTO Aybut 28.64 237 ⇑P **P 18 18 17.8 -0.9**
SNR=7.6
BCA Borcka 29.10 293 *eP* **P 18 18 24.2 +1.4**
KKTK Khon Kaen 29.11 125 ⇓P **P 18 18 22.8 -0.1**
comp=Z,1μm,0.8s
ERZM Erzurum 29.35 290 *i* P **P 18 18 27.3 +2.4**
EZM Erzurum 29.35 290 *eP* **P 18 18 28.2 +3.2**
BTMT Batman 29.40 286 *eP* **P 18 18 27.3 +1.9**
BNGL BINGOL 29.58 288 *i* P **P 18 18 32.4 +5.3**
CIT Chita 29.95 46 *eP* **P 18 18 31.0 +0.6**
CIT *e* 18 19 30.7
CIT pmax pmax
comp=Z,185nm,2.8s,mb5.3
NNT Nongplab 30.00 134 P **P 18 18 32.0 +1.2**
MARD Mardin 30.07 285 *i* P **P 18 18 34.8 +3.5**
BJT Baijiatuau 30.14 70 *eP* **P 18 18 32.9 +0.9**
BJT *e* 18 21 33.9
BJT pmax pmax
comp=Z,22nm,0.6s
BJT MLR MLR
comp=Z,4μm,19.0s
BJT Baijiatuau 30.14 70 *eP* **P 18 18 32.9 +0.9**
comp=Z,22nm,0.6s,mb5.1
BJT *e*PcP PcP 18 21 33.9 +0.8
BJT LR LR
comp=Z,4μm,19.0s,MS5.1
BJI Beijing 30.14 70 P **P 18 18 34.1 +2.1**
BJI S **S 18 23 28.9 -1.3**
BJI AMB AMB
comp=Z,49nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,400nm,5.2s
BJI LR LR
comp=N,1μm,16.9s,MS5.0
BJI LR LR
comp=E,3μm,16.9s,MS5.0
KTUT Trabzon 30.51 292 *eP* **P 18 18 33.8 -1.5**
MACK Trabzon 30.51 292 *i* P **P 18 18 36.4 +1.1**
EZC Erzincan 30.55 289 *eP* **P 18 18 41.0 +5.4**
WHN Wuhan 30.56 89 ⇓P **P 18 18 37.0 +1.3**
WHN S **S 18 23 32.0 -4.7**
WHN AMB AMB
comp=Z,64nm,0.9s,mb5.5
WHN LR LR
comp=Z,12μm,11.7s,MS5.8
KELT Kelkit 30.95 290 *i* P **P 18 18 40.9 +1.7**
PTK Pertek 30.95 288 *eP* **P 18 18 40.8 +1.6**
PECR Pechory 31.05 323 *eP* **P 18 18 39.6 -0.4**
PECR *eS* **S 18 23 44.4 +0.1**
PECR pmax pmax
comp=Z,360nm,2.0s,mb5.9
PECR pmax pmax
comp=Z,500nm,2.0s,mb6.0
PECR smax
comp=E,1μm,11.0s
PECR MLR MLR
comp=Z,3μm,12.0s,MS5.2
PECR MLR MLR
comp=E,4μm,11.0s
ELZG Elazig 31.32 287 *i* P **P 18 18 44.1 +1.7**
TIA Tai'an 31.36 77 ⇓P **P 18 18 43.8 +1.0**
TIA S **S 18 23 56.6 +7.3**
TIA LR LR
comp=N,1μm,13.1s,MS4.9
TIA LR LR
comp=E,1μm,13.1s,MS4.9
GRSN GIRESUNGRSN 31.65 292 *i* P **P 18 18 45.8 +0.5**
MALT Malatya 31.77 287⇓*i*P **P 18 18 48.3 +1.9**
MALT Malatya 31.77 287 *eP* **P 18 18 47.2 +0.8**
comp=E,71nm,1.0s,mb5.5
MYA Malataya 31.77 287 *eP* **P 18 18 47.8 +1.4**
VORD Divnogorie 31.84 311 *eP* **P 18 18 46.2 -0.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,50nm,0.9s
VRSR Storozhevoye 31.96 312*c* *i*P **P 18 18 47.4 -0.7**
VRSR *e* 18 19 49.9
VRSR *eS* **S 18 23 56.9 -1.7**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,8.0nm,0.6s
VRSR pmax pmax
comp=E,50nm,0.7s
VRSR smax
comp=N,130nm,1.0s
VRSR smax
comp=Z,20nm,1.3s
VRSR smax
comp=E,70nm,1.1s
VRSR MLR MLR
comp=Z,3μm,20.0s,MS5.0
VRSR MLR MLR
comp=N,820nm,18.0s,MS5.0
VRSR MLR MLR
comp=E,3μm,19.0s,MS5.0
VOR Voronezh 32.08 312 P **P 18 18 49.0 -0.1**
VOR pmax pmax
comp=N,50nm,1.4s
VOR pmax pmax
comp=E,150nm,1.4s
ANN Anapa 32.22 299 *eP* **P 18 18 50.3 -0.1**
ANN *i* 18 19 57.7
ANN *eS* **S 18 24 03.3 +0.6**
ANN *eSS* SS 18 25 59.5 -22
ANN pmax pmax
comp=Z,166nm,1.2s,mb5.7
ANN MLR MLR
comp=N,2μm,18.0s,MS5.0
ANN MLR MLR
comp=E,2μm,18.0s,MS5.0
ANN MLR MLR
comp=Z,2μm,18.0s,MS4.8
QIZ Qiongzhong 32.37 112 P **P 18 18 53.6 +1.9**
QIZ S **S 18 24 06.0 +1.0**
QIZ XS sS 18 24 12.1 -1.7
QIZ SS SS 18 26 02.0 -22
QIZ AMB AMB
comp=Z,29nm,1.7s,mb4.8
QIZ AMB AMB
comp=Z,380nm,5.9s
QIZ LR LR
comp=N,2μm,16.1s
QIZ LR LR
comp=Z,3μm,15.6s,MS5.1
QIZ Qiongzhong 32.37 112 *eP* **P 18 18 51.1 -0.6**
QIZ LR LR
comp=Z,3μm,22.0s,MS4.9
BOD Bodaibo 32.51 36 *eP* **P 18 18 53.0 +0.1**
BOD pmax pmax
comp=Z,22nm,1.5s,mb4.9
GZT Gaziantep 32.59 285 *i* P **P 18 18 54.0 +0.4**
SVSK Karacayir 32.69 290 *eP* **P 18 18 56.4 +1.9**
GZH Guangzhou 32.86 103 P **P 18 18 54.5 -1.4**
GZH S **S 18 24 12.3 -0.3**
GZH LR LR
comp=N,6μm,17.7s,MS5.4
GZH LR LR
comp=E,3μm,16.8s,MS5.4
GZH LR LR
comp=Z,5μm,10.6s
GAZ Gaziantep 32.90 285 *eP* **P 18 18 57.7 +1.4**
TOKT Tokat 33.00 291 *eP* **P 18 18 58.5 +1.3**
KMRS Kahramanmaras 33.09 286 *eP* **P 18 19 01.4 +3.4**
HIA Hailar 33.12 53 *eP* **P 18 18 59.5 +1.3**
HIA pmax pmax
comp=Z,60nm,1.4s
HIA MLR MLR
comp=Z,2μm,22.0s
HIA Hailar 33.12 53 *eP* **P 18 18 59.5 +1.3**
comp=Z,60nm,1.4s,mb5.3
HIA LR LR
comp=Z,2μm,22.0s,MS4.7
KVT Kavak 33.31 292 *eP* **P 18 19 05.7 +5.8**
NJ2 Nanjing 33.76 84 *eP* **P 18 19 05.4 +1.6**
NJ2 AP pP 18 19 09.8 +0.7
NJ2 XP sP 18 19 12.5 +1.3
NJ2 PP PP 18 20 18.6 -1.6
NJ2 S **S 18 24 29.0 +2.5**
NJ2 XS sS 18 24 43.0 +7.7
NJ2 AMB AMB
comp=Z,120nm,0.8s,mb5.9
NJ2 AMB AMB
comp=Z,830nm,5.2s
NJ2 LR LR
comp=N,7μm,23.5s,MS5.4
NJ2 LR LR
comp=E,6μm,22.5s,MS5.4
NJ2 LR LR
comp=Z,6μm,22.5s,MS5.3
DIKM Dikmen 33.87 294 *eP* **P 18 19 04.7 -0.1**
KOZT Kozan 33.93 286 *eP* **P 18 19 04.1 -1.2**
BOYT Boyabat 34.15 293 *i* P **P 18 19 07.8 +0.6**
MOS Moscow 34.15 319 *eP* **P 18 19 07.3 +0.1**
MOS *e* 18 20 15.9
MOS *i* S **S 18 24 32.3 -0.3**
MOS *eSS* SS 18 26 43.9 -17
MOS *eSSS* 18 26 59.3
MOS pmax pmax
comp=Z,800nm,1.8s,mb6.3
MOS pmax pmax
comp=Z,384nm,1.2s,mb6.2
MOS smax
comp=N,800nm,1.9s
MOS smax
comp=E,500nm,2.2s
MOS MLR MLR
comp=Z,3μm,18.0s,MS5.1
BYBT Boyabat 34.25 293 *eP* **P 18 19 10.1 +2.0**
CTKT Corum 34.30 292 *i* P **P 18 19 09.6 +1.1**
DL2 Dalian 34.46 71 PR **P 18 19 11.5 +1.6**
DL2 S **S 18 24 42.1 +4.7**
DL2 XS sS 18 24 48.1 +1.9
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,170nm,3.7s
DL2 LR LR
comp=N,980nm,13.9s,MS4.8
DL2 LR LR
comp=E,1μm,15.5s,MS4.8
DL2 LR LR
comp=Z,2μm,16.1s,MS4.9
CORM Corum 34.47 291 *eP* **P 18 19 08.4 -1.6**
AVNT Avonos 34.48 288 *i* P **P 18 19 13.8 +3.8**
OBN Obninsk 34.53 318 P **P 18 19 10.1 -0.4**
comp=Z,700nm,1.0s,mb6.5,SNR=11
OBN Obninsk 34.53 318*c* *i*P **P 18 19 10.2 -0.3**
OBN *e* 18 19 27.8
OBN *e* 18 20 26.3
OBN *e* 18 21 44.6
OBN *eS* **S 18 24 36.8 -1.6**
OBN *eSS* SS 18 26 50.3 -18
OBN pmax pmax
comp=Z,77nm,0.8s,mb5.7
OBN MLR MLR
comp=Z,2μm,21.0s,MS4.9
OBN Obninsk 34.53 318 *eP* **P 18 19 09.9 -0.5**
comp=Z,142nm,1.0s,mb5.8
OBN LR LR
comp=Z,477nm,20.0s,MS4.2
KARA Karaisali 34.58 286 *eP* **P 18 19 11.9 +1.0**
SIM Simferopol' 34.59 299 *i* P **P 18 19 12.0 +1.1**
SIM *i* S **S 18 24 41.0 +1.7**
SIM *eSS* SS 18 26 51.0 -18
SIM *eSSS* 18 27 13.0
SIM pmax pmax
comp=Z,136nm,0.9s,mb5.9
BZK Bozkurt 34.78 294 *eP* **P 18 19 12.4 -0.2**
TOS Tosya 34.84 293 *eP* **P 18 19 13.2 0.0**
MERS Mersin 35.07 285 *eP* **P 18 19 12.6 -2.6**
BALT Daday 35.27 294 *i* P **P 18 19 18.0 +1.1**
KAMT Kaman 35.28 290 *eP* **P 18 19 17.4 +0.5**
BR131 Keskin Array S 35.29 290 *eP* **P 18 19 17.6 +0.6**
comp=Z,98nm,1.0s,mb5.7
BR131 LR LR
comp=Z,1μm,19.0s,MS4.6
BRTR Keskin Array B 35.29 290 P **P 18 19 17.3 +0.3**
comp=Z,64nm,1.0s,mb5.5,baz=105,slow=7.6,SNR=84
ELDT Eldivan 35.35 292 *i* P **P 18 19 18.9 +1.3**
SNY Shenyang 35.60 66 ⇓P **P 18 19 20.4 +0.7**
SNY AP pP 18 19 30.3 +5.3
SNY XP sP 18 19 34.3 +7.1
SNY PP PP 18 20 45.6 +5.0
SNY S **S 18 25 02.7 +7.7**
SNY AMB AMB
comp=Z,27nm,0.9s,mb5.2
SNY AMB AMB
comp=Z,199nm,4.9s
SNY LR LR
comp=N,5μm,12.2s
SNY LR LR
comp=Z,2μm,12.6s,MS5.2
SAFT Safranbolu 35.83 293 *eP* **P 18 19 23.1 +1.4**
ANTO Ankara 35.91 291 *eP* **P 18 19 21.8 -0.6**
ANTO Ankara 35.91 291⇓*i*P **P 18 19 22.6 +0.2**
ANTO Ankara 35.91 291 P **P 18 19 24.0 +1.6**
SNR=30
ANTO Ankara 35.91 291 *eP* **P 18 19 23.3 +0.9**
ANTO pmax pmax
comp=Z,141nm,1.1s,mb5.8
ANTO MLR MLR
comp=Z,1μm,20.0s,MS4.7
ANTO Ankara 35.91 291 *eP* **P 18 19 23.3 +0.9**
comp=Z,141nm,1.1s,mb5.8
ANTO LR LR
comp=Z,1μm,20.0s,MS4.7
SSE Sheshan 35.95 85 P **P 18 19 24.1 +1.4**
SSE XP sP 18 19 28.5 -1.6
SSE PP PP 18 20 45.8 +1.4
SSE PCP PcP 18 21 49.8 +0.5
SSE S **S 18 25 04.3 +4.1**
SSE XS sS 18 25 10.1 +1.1
SSE AMB AMB
comp=Z,87nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,228nm,3.8s
SSE LR LR
comp=N,1μm,15.0s,MS5.2
SSE LR LR
comp=E,3μm,15.1s,MS5.2
SSE LR LR
comp=Z,4μm,12.5s,MS5.4
QZH Quanzhou 36.20 96 *eP* **P 18 19 21.0 -3.9**
QZH S **S 18 24 59.1 -5.1**
QZH LR LR
comp=N,5μm,13.0s,MS5.7
QZH LR LR
comp=E,6μm,10.4s,MS5.7
QZH LR LR
comp=Z,13μm,14.0s,MS5.8
SGKT Sivrigoynuk 36.38 292 *i* P **P 18 19 27.9 +1.5**
KULM Kulim 36.53 140 *eP* **P 18 19 27.1 -0.5**
KONT Konya--Tatoy 36.56 288 *eP* **P 18 19 28.3 +0.4**
EIL Elat 36.71 273 *eP* **P 18 19 28.8 -0.4**
comp=Z,907nm,1.2s,mb6.5
CN2 Changchun 36.82 62 ⇓P **P 18 19 30.2 0.0**
CN2 AP pP 18 19 38.0 +2.5
CN2 *eS* **S 18 25 12.4 -1.3**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4μm,14.0s,MS5.5
CN2 LR LR
comp=E,2μm,14.0s,MS5.5
CN2 LR LR
comp=Z,4μm,16.0s,MS5.3
MDU Mudurnu 37.03 292 *eP* **P 18 19 32.5 +0.6**
ESKT Eskisehir 37.45 291 *eP* **P 18 19 35.6 +0.1**
ESKT Eskisehir 37.45 291 *i* P **P 18 19 35.5 +0.1**
TMCR Tamitsa 37.50 332*d* *i*P **P 18 19 36.3 +0.4**
TMCR *e* 18 21 02.4
TMCR *eS* **S 18 25 24.3 +0.4**
TMCR pmax pmax
comp=Z,327nm,1.5s,mb5.9
CLNS Chul'man 37.68 41 *eP* **P 18 19 37.9 +0.4**
CLNS *e*PPP 18 21 10.7
CLNS *e* 18 21 51.1
CLNS *eS* **S 18 25 25.6 -1.1**
CLNS pmax pmax
comp=Z,29nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS smax
comp=N,31nm,10.1s
CLNS smax
comp=Z,127nm,10.9s
CLNS smax
comp=E,158nm,12.5s
CLNS MLR MLR
comp=Z,11μm,20.0s,MS5.7
CLNS MLR MLR
comp=N,1μm,11.0s
CLNS MLR MLR
comp=E,5μm,15.0s
ISP Isparta 38.01 288 *eP* **P 18 19 43.0 +2.8**
ISP Isparta 38.01 288 *eP* **P 18 19 41.2 +1.0**
ISP pmax pmax
comp=Z,43nm,0.9s,mb5.2
ISP Isparta 38.01 288 *eP* **P 18 19 41.2 +1.0**
comp=Z,43nm,0.9s,mb5.2
AKASG Malin Array Be 38.10 309 P **P 18 19 40.5 -0.4**
comp=Z,15nm,0.5s,mb5.0,baz=82,slow=7.8,SNR=105
AKASG PP PP 18 21 08.4 +0.3
comp=Z,19nm,1.0s,baz=81,slow=9.7,SNR=4.7
AKASG PcP PcP 18 21 55.4 -0.5
comp=Z,8.9nm,0.8s,baz=82,slow=3.3,SNR=5.0
AKASG S **S 18 25 31.6 -1.4**
comp=Z,1.9nm,0.7s,baz=93,slow=13,SNR=4.8
AKASG LR LR 18 38 40.0
comp=Z,1μm,18.9s,MS4.8,baz=105,slow=41
AKASG Malin Array Be 38.10 309 P **P 18 19 40.6 -0.4**
AKASG 18 21 08.4
AKASG 18 21 55.4
AKASG S **S 18 25 31.6 -1.5**
AKBB Malin Array Si 38.10 309 *eP* **P 18 19 40.1 -0.9**
TKTP Tekketepe 38.12 288 *i* P **P 18 19 42.4 +1.2**
HRT Hereke 38.14 293 *eP* **P 18 19 40.3 -1.0**
ADVT Abdulvahap 38.15 292 *eP* **P 18 19 40.9 -0.5**
KIS Kishinev 38.27 303*d* *i*P **P 18 19 40.0 -2.4**
KIS *e* 18 21 10.0
KIS *e* 18 21 40.0
KIS *eS* **S 18 25 23.0 -13**
KIS *i* 18 25 44.0
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.1
KIS MLR MLR
comp=Z,1μm,15.0s,MS4.8
KIS MLR MLR
comp=Z,2μm,20.0s
GDZ Gediz 38.57 290 *i* P **P 18 19 42.0 -2.9**
YHNB Yeheng 38.59 94 *eP* **P 18 19 46.3 +1.2**
INCN Inchon 38.59 72 P **P 18 19 46.6 +1.5**
SNR=9.0
INCN Inchon 38.59 72 *eP* **P 18 19 45.6 +0.5**
comp=Z,156nm,1.3s,mb5.6
INCN LR LR
comp=Z,682nm,19.0s,MS4.5
ULDT Uludag 38.65 292 *i* P **P 18 19 46.0 +0.4**
TIRR Tirgusor 38.67 299⇓*i*P **P 18 19 46.5 +0.8**
TIRR Tirgusor 38.67 299 *eP* **P 18 19 46.0 +0.3**
ELL Elmali 38.71 286 *eP* **P 18 19 41.9 -4.2**
CFR Carcaliu 38.81 300⇑*i*P **P 18 19 47.6 +0.6**
CFR Carcaliu 38.81 300 P **P 18 19 47.9 +0.9**
PSN Preselentsi 38.90 298 *eP* **P 18 19 52.2 +4.5**
NACB Ninganchiao 38.99 95 *eP* **P 18 19 50.6 +2.2**
HARR Harsova 38.99 299⇓*i*P **P 18 19 49.5 +1.0**
HARR Harsova 38.99 299 P **P 18 19 49.6 +1.1**
PUL Pulkovo 39.11 323 *eP* **P 18 19 50.5 +1.0**
PUL *e* 18 21 19.8
PUL *eS* **S 18 25 46.4 -1.9**
PUL pmax pmax
comp=Z,502nm,1.1s,mb6.2
PUL pmax pmax
comp=N,407nm,0.8s
PUL pmax pmax
comp=E,1μm,1.6s
PUL pmax pmax
comp=N,89nm,0.6s
PUL pmax pmax
comp=Z,260nm,0.6s,mb6.1
PUL pmax pmax
comp=E,819nm,1.4s
PUL smax
comp=N,961nm,1.6s
PUL smax
comp=Z,104nm,0.8s
PUL smax
comp=E,456nm,1.5s
PUL MLR MLR
comp=Z,2μm,14.0s,MS5.1
PUL MLR MLR
comp=N,513nm,9.0s
PUL MLR MLR
comp=E,2μm,15.0s
PUL Pulkovo 39.11 323 *i* P **P 18 19 50.8 +1.3**
MNK Minsk 39.34 315 *eP* **P 18 19 48.0 -3.3**
MNK *eS* **S 18 25 49.0 -2.7**
MNK *eSSS* 18 29 14.0
MNK MLR MLR
comp=Z,7μm,14.0s,MS5.6
MNK Minsk 39.34 315 *eP* **P 18 19 49.0 -2.3**
PRD Provadia 39.52 297 *eP* **P 18 19 54.6 +1.8**
JOF Joensuu 39.67 328 *ep* **P 18 19 53.3 -0.8**
comp=Z,67nm,0.5s,mb5.6
MDJ Mudanjiang 39.73 61 P **P 18 19 56.3 +1.6**
MDJ XP sP 18 20 00.6 -1.6
MDJ PP PP 18 21 28.0 +2.0
MDJ PCP PcP 18 22 01.3 +0.3
MDJ SCP ScP 18 25 49.9 +0.9
MDJ PCS PcS 18 25 51.2 +0.2
MDJ S **S 18 26 01.9 +4.2**
MDJ XS sS 18 26 06.4 -0.1
MDJ AMB AMB
comp=Z,98nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,252nm,4.6s
MDJ LR LR
comp=N,3μm,15.5s,MS5.2
MDJ LR LR
comp=E,1μm,14.0s,MS5.2
MDJ LR LR
comp=Z,4μm,14.1s,MS5.4
MDJ Mudanjiang 39.73 61 *eP* **P 18 19 56.1 +1.4**
comp=Z,90nm,0.9s,mb5.5
MDJ LR LR
comp=Z,2μm,20.0s,MS4.9
MRMT Marmara Adasi 39.73 293 *eP* **P 18 19 53.1 -1.6**
AKHS Akhisar 39.88 290 *i* P **P 18 19 55.3 -0.6**
IDID Didziasalis 40.07 316 *eP* **P 18 19 57.5 0.0**
IDID AMb AMB 18 20 00.0
comp=Z,786nm,0.6s,mb6.6
EDRB Edirne 40.17 295 *eP* **P 18 19 53.2 -5.1**
JMB Yambol 40.20 296 *eP* **P 18 19 59.0 +0.4**
JMB Yambol 40.20 296 *eP* **P 18 20 00.0 +1.4**
ARG Arkhangelos 40.24 286 *eP* **P 18 20 03.0 +4.2**
MLR Muntele Rosu 40.33 301⇓*i*P **P 18 20 01.3 +1.7**
MLR Muntele Rosu 40.33 301 P **P 18 20 01.3 +1.6**

BUC1	Bucharest	40.38 299	P	P	18 20 05.3	+5.3
KDAG	Bornova	40.40 290	i P	P	18 19 59.9	-0.3
IZM	Izmir	40.40 290	eP	P	18 19 59.5	-0.7
IZAR	Zarasai	40.41 317	eP	P	18 20 00.3	+0.1
IZAR			AMb	AMB	18 20 02.9	
	comp=Z,3µm,0.5s					
SZH	Strazhica	40.57 297	eP	P	18 20 09.1	+7.5
LVZ	Lovozero	40.58 336	P	P	18 20 01.3	-0.4
	comp=Z,945nm,1.0s,mb6.4,SNR=17					
LVZ	Lovozero	40.58 336	eP	P	18 20 02.5	+0.8
LVZ			e		18 21 34.8	
LVZ			eS	S	18 25 57.2	-13
LVZ			pmax	pmax		
	comp=Z,200nm,1.1s,mb5.7					
LVZ			pmax	pmax		
	comp=N,33nm,1.3s					
LVZ			pmax	pmax		
	comp=E,43nm,0.8s					
LVZ			pmax	pmax		
	comp=N,101nm,1.5s					
LVZ			pmax	pmax		
	comp=Z,320nm,1.5s,mb5.7					
LVZ			pmax	pmax		
	comp=E,308nm,2.1s					
LVZ			smax			
	comp=N,447nm,3.0s					
LVZ			smax			
	comp=Z,882nm,4.7s					
LVZ			smax			
	comp=E,801nm,3.3s					
LVZ			MLR	MLR		
	comp=Z,6µm,14.0s,MS5.6					
LVZ			MLR	MLR		
	comp=N,2µm,12.0s,MS5.5					
LVZ			MLR	MLR		
	comp=E,4µm,16.0s,MS5.5					
LVZ	Lovozero	40.58 336	P	P	18 20 01.8	+0.1
VSU	Vasula	40.59 321	i P	P	18 20 01.5	-0.3
VSU	Vasula	40.59 321	i Pr	P	18 20 01.5	-0.3
BURAR	Bucovina Array	40.70 304⇑	iP	P	18 20 03.5	+0.9
BURAR	Bucovina Array	40.70 304	⇑P	P	18 20 03.5	+0.8
ENEZ	Enez	40.79 293	eP	P	18 20 03.4	0.0
APA	Apatity	40.83 336⇑	iP	P	18 20 04.2	+0.4
APA			i		18 21 39.6	
APA			i S	S	18 26 15.0	+0.9
APA			eSS	SS	18 29 13.0	-2.4
APA			pmax	pmax		
	comp=Z,190nm,1.7s,mb5.5					
APA			MLR	MLR		
	comp=Z,4µm,7.0s					
ALN	Alexandroupoli	40.84 294	eP	P	18 20 03.7	-0.1
ZIMR		40.93 298	P	P	18 20 06.1	+1.5
KLR	Kul'dur	40.96 54⇑	iP	P	18 20 02.7	-2.1
KLR			eS	S	18 26 18.0	+2.0
KLR			pmax	pmax		
	comp=E,180nm,2.0s					
KLR			pmax	pmax		
	comp=Z,200nm,2.0s,mb5.4					
KLR			pmax	pmax		
	comp=Z,500nm,7.0s					
KLR			MLR	MLR		
	comp=E,4µm,11.0s					
KLR			MLR	MLR		
	comp=Z,9µm,11.0s,MS5.9					
MTUR	Matau	40.98 300⇑	iP	P	18 20 06.2	+1.3
MTUR	Matau	40.98 300	⇑P	P	18 20 06.2	+1.2
PRK	Paraskevi	40.98 291	eP	P	18 20 05.5	+0.5
PVL	Pavlikeni	41.01 297	eP	P	18 20 07.0	+1.8
DIM	Dimitrovgrad	41.04 296	eP	P	18 20 08.7	+3.3
RDO	Rodhopi	41.18 294	eP	P	18 20 07.0	+0.4
KDZ	Kurdzhali	41.19 295	eP	P	18 20 08.0	+1.3
YAK	Yakutsk	41.38 34	eP	P	18 20 08.8	+0.5
YAK			e		18 21 46.4	
YAK			e		18 22 04.4	
YAK			ePPP		18 22 14.1	
YAK			eS	S	18 26 22.2	0.0
YAK			eSSS		18 30 00.0	
YAK			e		18 30 09.9	
YAK			pmax	pmax		
	comp=E,46nm,1.1s					
YAK			pmax	pmax		
	comp=Z,80nm,1.1s,mb5.3					
YAK			pmax	pmax		
	comp=N,19nm,1.2s					
YAK			pmax	pmax		
	comp=Z,39nm,1.5s,mb4.8					
YAK			pmax	pmax		
	comp=N,16nm,1.2s					
YAK			pmax	pmax		
	comp=E,33nm,1.4s					
YAK			smax			
	comp=N,12nm,1.3s					
YAK			smax			
	comp=E,11nm,1.5s					
YAK			MLR	MLR		
	comp=Z,4µm,18.0s,MS5.3					
YAK			MLR	MLR		
	comp=N,3µm,15.0s,MS5.4					
YAK			MLR	MLR		
	comp=E,2µm,17.0s,MS5.4					
YAK	Yakutsk	41.38 34	eP	P	18 20 07.7	-0.6
	comp=E,86nm,0.9s,mb5.4					
LVV	L'vov	41.41 307d	iP	P	18 20 07.3	-1.2
LVV			e		18 21 45.7	
LVV			ePPP		18 22 22.9	
LVV			eS	S	18 26 22.7	+0.1
LVV			MLR	MLR		
	comp=Z,500nm,9.0s					
LVV			MLR	MLR		
	comp=N,300nm,10.0s,MS4.8					
LVV			MLR	MLR		
	comp=E,600nm,10.0s,MS4.8					
VLA	Vladivostok	41.56 63c	eP	P	18 20 10.5	+0.8
VLA			eS	S	18 26 29.8	+4.9
VLA			pmax	pmax		
	comp=Z,161nm,1.8s,mb5.3					
VLA			MLR	MLR		
	comp=Z,2µm,11.0s,MS5.2					
FIA1	FINESS Array S	41.57 325	eP	P	18 20 08.9	-0.9
FINES	FINESS Array B	41.57 325	P	P	18 20 09.6	-0.2
	comp=Z,41nm,0.4s,mb5.4,baz=111,slow=9.5,SNR=363					
FINES			S	S	18 26 21.8	-3.2
	comp=Z,4.1nm,0.8s,baz=91,slow=16,SNR=4.9					
FINES			PKiKP	PKiKP	18 29 12.8	-1.2
	comp=Z,1.4nm,0.9s,baz=119,slow=2.4,SNR=3.7					
FINES			LR	LR	18 38 11.3	
	comp=Z,2µm,18.2s,MS5.1,baz=98,slow=37					
FINES	FINESS Array B	41.57 325	P	P	18 20 09.6	-0.2
FINES			S	S	18 26 21.8	-3.2
KAF	Kangasniemi	41.63 326	ep	P	18 20 09.6	-0.7
	comp=Z,60nm,1.0s,mb5.2,baz=105,slow=8.3					
KAF	Kangasniemi	41.63 326	eP	P	18 20 09.6	-0.7
KAF			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.2					
PLD	Plovdiv	41.64 296	eP	P	18 20 14.1	+3.7
RZN	Rozhen	41.70 295	eP	P	18 20 11.6	+0.7
PGB	Panagyurishte	41.96 296	P	P	18 20 13.6	+0.6
SUW	Suwalki	42.01 314	eP	P	18 20 12.8	-0.6
SUW			epP	pP	18 20 17.9	-0.9
SUW			ePP	PP	18 21 54.2	+3.5
SUW			eS	S	18 26 31.5	0.0
SUW			L		18 38 40.2	
	comp=Z,2.6nm,22.9s					
SUW	Suwalki	42.01 314	eP	P	18 20 12.8	-0.6
SUW			epP	pP	18 20 17.9	-0.9
SUW			ePP	PP	18 21 54.2	+3.5
SUW			eS	S	18 26 31.5	0.0
APE	Apeiranthos	42.05 288⇓	iP	P	18 20 14.6	+0.9
APE	Apeiranthos	42.05 288	⇓P	P	18 20 14.6	+0.9
KWP	Kalwaria	42.27 307	eP	P	18 20 15.5	-0.1
KWP			epP	pP	18 20 21.1	+0.1
KWP			ePP	PP	18 21 57.3	+3.8
KWP			eS	S	18 26 36.9	+1.5
KWP			L		18 38 36.7	
	comp=Z,1.9nm,24.6s					
KWP	Kalwaria	42.27 307	eP	P	18 20 15.5	-0.1
KWP			epP	pP	18 20 21.1	+0.1
KWP			ePP	PP	18 21 57.3	+3.8
KWP			eS	S	18 26 36.9	+1.5
NVR	Nevrokopi	42.39 295	eP	P	18 20 17.0	+0.5
MMB	Musomiste	42.44 295	P	P	18 20 17.0	0.0
DRGR		42.46 303⇓	iP	P	18 20 18.2	+1.1
DRGR		42.46 303	P	P	18 20 18.3	+1.2
OUR	Ouranopolis	42.49 293	eP	P	18 20 17.5	+0.1

GZR	Gura Zlata	42.56 301⇑	iP	P	18 20 18.7	+0.8
GZR	Gura Zlata	42.56 301	P	P	18 20 18.8	+0.9
KOLS	Kolonicke sedl	42.59 306	eP	P	18 20 18.6	+0.4
KOLS			ePP	PcP	18 22 06.3	-4.0
KOLS			eS	S	18 26 36.6	-3.5
KOLS			eSS	SS	18 29 48.2	-2.0
KOLS	Kolonicke sedl	42.59 306	eP	P	18 20 18.6	+0.4
KOLS			ePcP	PcP	18 22 06.3	-4.0
KOLS			eS	S	18 26 36.6	-3.5
KOLS			eSS	SS	18 29 48.3	-1.9
UZH	Uzhgorod	42.60 306⇓	iP	P	18 20 18.6	+0.4
UZH			i		18 20 26.4	
UZH			e		18 22 04.0	
UZH			e		18 22 30.8	
UZH			i S	S	18 26 42.0	+1.8
UZH			i		18 29 41.0	
UZH			i		18 30 11.0	
UZH			e		18 30 26.0	
UZH			MLR	MLR		
	comp=Z,2µm,20.0s,MS4.9					
VTS	Vitosha	42.65 297⇓	iP	P	18 20 19.4	+0.8
VTS	Vitosha	42.65 297	P	P	18 20 20.0	+1.3
PAIG	Paliouri	42.80 293	eP	P	18 20 20.3	+0.4
KKB	Krupnik	42.87 296	P	P	18 20 20.7	+0.3
PLG	Polygyros	42.89 293	eP	P	18 20 21.0	+0.4
CRVS	Cervenica-Dubn	43.13 306	eP	P	18 20 22.5	0.0
CRVS			ePP	PP	18 22 09.9	+7.2
CRVS			eS	S	18 26 45.0	-3.0
CRVS			eSS	SS	18 30 01.2	+0.5
CRVS	Cervenica-Dubn	43.13 306	eP	P	18 20 22.5	0.0
CRVS			e		18 22 09.9	
CRVS			eS	S	18 26 45.0	-3.0
KNT	Kendrikon	43.14 295	eP	P	18 20 22.4	-0.2
HABR	Khabarovsk	43.17 54⇓	iP	P	18 20 24.5	+1.6
HABR			eS	S	18 26 50.6	+1.9
HABR			pmax	pmax		
	comp=Z,71nm,1.6s,mb5.2					
STHS	Stebnicka Huta	43.24 307	i P	P	18 20 23.4	0.0
STHS			pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9					
STHS	Stebnicka Huta	43.24 307	i P	P	18 20 23.4	0.0
	comp=Z,22nm,0.9s,mb4.9					
STHS			eS	S	18 27 05.1	+16
WAR	Warsaw	43.27 311	eP	P	18 20 24.4	+0.7
WAR			epP	pP	18 20 29.7	+0.6
WAR			eS	S	18 26 52.0	+1.9
WAR			L		18 41 35.8	
	comp=Z,3.4nm,18.0s					
NEO	Neokhori	43.28 292	eP	P	18 20 24.0	+0.2
JOW	Kunigami	43.28 87	LR	LR	18 39 38.2	
	comp=Z,2µm,18.2s,MS5.1,baz=240,slow=38					
XOR	Xorichti	43.29 292	eP	P	18 20 23.8	-0.1
BZS	Buzias	43.34 301⇑	iP	P	18 20 25.2	+1.0
BZS	Buzias	43.34 301	P	P	18 20 25.3	+1.1
VAY	Valandovo	43.35 295	eP	P	18 20 21.8	-2.5
VAY			ePP	PP	18 22 03.6	-1.5
GRG	Griva	43.55 295	eP	P	18 20 25.5	-0.3
BARS	Barje	43.62 297	i P	P	18 20 27.6	+1.2
LIT	Litokhoron	43.66 293	eP	P	18 20 25.5	-1.3
GVD	Gavdhos	43.78 285	eP	P	18 20 23.0	-4.8
GVD	Gavdhos	43.78 285	eP	P	18 20 26.9	-0.9
	comp=Z,74nm,0.8s,mb5.5					
KECS	Kecovo	43.80 306	i P	P	18 20 28.6	+0.6
KECS			e		18 22 18.9	
KECS			pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7					
KECS	Kecovo	43.80 306	i P	P	18 20 28.6	+0.6
	comp=Z,14nm,1.0s,mb4.7					
KECS			ePcP	PcP	18 22 18.9	+4.5
TGY	Tagaytay City	43.81 108	LR	LR	18 37 43.4	
	comp=Z,2.9nm,21.5s,baz=147,slow=35					
NIE	Niedzica	43.84 307	i Pd	P	18 20 29.5	+1.2
KEV	Kevo	43.90 337	P	P	18 20 28.4	-0.3
KEV			pmax	pmax		
	comp=Z,85nm,1.0s,mb5.4					
KEV	Kevo	43.90 337	eP	P	18 20 27.6	-1.1
	comp=Z,85nm,1.0s,mb5.4					
KEV			LR	LR		
	comp=Z,4µm,19.0s,MS5.3					
AGG	Agios Georgios	44.02 292	eP	P	18 20 29.4	-0.3
SKO	Skopje	44.05 296	eP	P	18 20 29.3	-0.7
OJC	Ojcow	44.12 308	eP	P	18 20 30.6	+0.1
OJC			epP	pP	18 20 33.8	-2.1
OJC			ePcP	PcP	18 22 14.9	-0.5
OJC			eS	S	18 27 03.6	+1.1
OJC			eSS	SS	18 30 21.4	+1.3
OJC			L		18 41 57.7	
	comp=Z,5.6nm,20.1s					
VLI	Veliai	44.15 288	eP	P	18 20 28.0	-2.7
PSZ	Piszkesteto	44.25 305⇓	eP	P	18 20 32.2	+0.6
PSZ	Piszkesteto	44.25 305⇓	iP	P	18 20 32.3	+0.7
PSZ	Piszkesteto	44.25 305	P	P	18 20 32.4	+0.8
PSZ	Piszkesteto	44.25 305	eP	P	18 20 32.1	+0.6
	comp=Z,102nm,1.4s,mb5.4					
ARCES	ARCESS Array B	44.30 336	P	P	18 20 32.3	+0.4
	comp=Z,119nm,0.9s,mb5.6,baz=104,slow=5.9,SNR=150					
ARCES			S	S	18 27 05.2	+0.2
	comp=Z,8.8nm,1.0s,baz=84,slow=12,SNR=4.0					
ARCES			LR	LR	18 38 38.4	
	comp=Z,2µm,19.2s,MS5.1,baz=112,slow=36					
ARCES	ARCESS Array B	44.30 336	P	P	18 20 32.3	+0.4
ARCES			S	S	18 27 05.3	+0.2
ARE0	ARCESS Array S	44.30 336	eP	P	18 20 31.9	0.0
KRUS	Krusevo	44.31 295	eP	P	18 20 31.8	-0.3
BIA	Bitola	44.33 295	eP	P	18 20 29.4	-2.7
EVR	Evrytania	44.44 292	eP	P	18 20 32.5	-0.6
TIXI	Tiksi	44.51 20	eP	P	18 20 32.3	-1.3
TIXI			eS	S	18 27 02.3	-5.9
TIXI			eSS	SS	18 30 20.6	-7.1
TIXI			pmax	pmax		
	comp=Z,46nm,1.0s,mb5.3					
TIXI			MLR	MLR		
	comp=Z,1µm,12.0s,MS5.1					
TIXI	Tiksi	44.51 20	i Pr	P	18 20 33.4	-0.2
MEV	Metsovon	44.67 293	eP	P	18 20 34.6	-0.3
OHR	Ohrid	44.70 295	i P	P	18 20 32.1	-3.0
DIVS	Divcibare	44.71 299	i P	P	18 20 35.6	+0.4
DIVS	Divcibare	44.71 299	eP	P	18 20 35.4	+0.2
ITM	Ithomi	44.80 289	eP	P	18 20 35.0	-0.9
KTK1	Kautokeino	44.87 335⇓	iP	P	18 20 37.5	+1.0
KTK1			AMb	AMB	18 20 44.2	
	comp=Z,194nm,1.4s,mb5.8					
KTK1	Kautokeino	44.87 335⇓	iP	P	18 20 37.5	+1.0
	comp=Z,194nm,1.4s,mb5.7					
BUD	Budapest	44.89 304⇓	eP	P	18 20 37.2	+0.6
VYHS	Vyhne	44.90 306	eP	P	18 20 37.4	+0.7
VYHS			eS	S	18 27 14.5	+0.7
VYHS			pmax	pmax		
	comp=Z,68nm,1.4s,mb5.3					
VYHS	Vyhne	44.90 306	eP	P	18 20 37.4	+0.7
	comp=Z,68nm,1.4s,mb5.3					
VYHS			e	pP	18 20 41.4	-0.7
VYHS			eS	S	18 27 14.5	+0.7
VYHS			eSS	SS	18 30 42.4	+7.2
JAN	Janina	44.99 293	eP	P	18 20 38.0	+0.6
KSM	Kuching	45.13 132	eP	P	18 20 38.6	0.0
KSM			ePcP	PcP	18 22 19.7	+0.8
OKC	Ostrava-Krasne	45.21 308	eP	P	18 20 39.8	+0.6
OKC			epP	pP	18 20 43.2	-1.4
OKC			ePP	PP	18 22 29.8	+4.8
OKC			eS	S	18 27 17.9	-0.4
OKC			eSS	SS	18 30 45.7	+4.4
OKC			AMS	AMS	18 42 30.0	
	comp=Z,1µm,11.0s					
OKC	Ostrava-Krasne	45.21 308	eP	P	18 20 39.8	+0.6
OKC			e		18 22 29.8	
OKC			eS	S	18 27 17.9	-0.4
OKC	Ostrava-Krasne	45.21 308	eP	P	18 20 39.8	+0.6
OKC			epP	pP	18 20 43.2	-1.4
OKC			ePP	PP	18 22 29.8	+4.8
OKC			eS	S	18 27 17.9	-0.4
OKC			eSS	SS	18 30 45.7	+4.4
PKSM	Moragy	45.32 303⇓	iP	P	18 20 40.4	+0.3
PKSM	Moragy	45.32 303	P	P	18 20 40.7	+0.7
LKD	Levkas	45.37 292	eP	P	18 20 39.2	-1.2
IGT	Igoumenitsa	45.41 293	eP	P	18 20 39.4	-1.3
GKP	Gorka Klasztor	45.54 313	eP	P	18 20 42.0	+0.2
GKP			epP	pP	18 20 47.2	-0.1
GKP			eS	S	18 27 24.1	+1.0
GKP			L		18 41 18.7	
	comp=Z,3.5nm,20.2s					
GKP	Gorka Klasztor	45.54 313	eP	P	18 20 42.0	+0.2

GKP			epP	pP	18 20 47.2	-0.1
GKP			eS	S	18 27 24.1	+1.0
GKP			L		18 41 18.7	
	comp=Z,3.5nm,20.2s					
GKP	Gorka Klasztor	45.54 313	eP	P	18 20 42.0	+0.2
GKP			epP	pP	18 20 47.2	-0.1
GKP			eS	S	18 27 24.1	+1.0
GKP			L		18 41 18.7	
	comp=Z,3.5nm,20.2s					
VLS	Valsamata	45.56 291	eP	P	18 20 40.0	-1.9
KKM	Kota Kinabalu	45.59 121	eP	P	18 20 43.0	+0.7
MORC	Moravsky Berou	45.61 308⇑	iP	P	18 20 42.9	+0.6
MORC	Moravsky Berou	45.61 308	eP	P	18 20 42.6	+0.2
	comp=Z,115nm,1.3s,mb5.7					
KEK	Kerkira	45.76 293	eP	P	18 20 42.0	-1.6
SMOL	Smolenice	45.82 306	eP	P	18 20 44.4	+0.4
ZST	Bratislava	46.08 306	eP	P	18 20 46.3	+0.2
ZST			ePP	PP	18 22 35.5	+1.3
ZST	Bratislava	46.08 306	eP	P	18 20 46.3	+0.2
ZST			e		18 22 35.5	
ZST			pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1					
ZST			MLR	MLR		
	comp=Z,2µm,17.0s,MS5.0					
ZST	Bratislava	46.08 306	eP	P	18 20 46.3	+0.2
	comp=Z,20nm,0.9s,mb5.1					
ZST			ePcP	PcP	18 22 35.5	+13
ZST			LR	LR		
	comp=Z,2µm,17.0s,MS5.0					
VRAC	Vranov	46.27 307	LR	LR	18 42 13.3	
	comp=Z,1µm,21.9s,MS4.8,baz=80,slow=39					
VRAC	Vranov	46.27 307⇑	iP	P	18 20 48.4	+0.8
VRAC	Vranov	46.27 307	P	P	18 20 48.5	+0.9
KSP	Ksiaz	46.30 309	eP	P	18 20 48.2	+0.4
KSP			epP	pP	18 20 53.5	+0.3
KSP			eS	S	18 27 36.4	+2.4
KSP			L		18 43 31.0	
	comp=Z,3.9nm,18.3s					
KSP	Ksiaz	46.30 309⇓	eP	P	18 20 48.1	+0.3
KSP			epP	pP	18 20 51.2	-2.0
KSP			ePP	PP	18 22 37.0	+0.5
KSP			eS	S	18 27 33.5	-0.5
KSP			eSS	SS	18 30 54.0	-5.5
KSP			LR	LR		
	comp=Z,4µm,18.3s,MS5.5					
DPC	Dobruska-Polom	46.33 309	eP	P	18 20 49.0	+1.0
DPC			epP	pP	18 20 54.0	+0.5
DPC			ex	x	18 22 46.9	
DPC			eS	S	18 27 34.6	+0.1
DPC			eSS	SS	18 30 53.3	-6.7
DPC			AMS	AMS	18 43 10.0	
	comp=Z,2µm,22.4s					
UPC	Upice	46.51 309	eP	P	18 20 50.1	+0.6
UPC			epP	pP	18 20 53.7	-1.2
UPC			ePP	PP	18 22 45.8	+7.1
SOP	Sopron	46.51 305⇓	eP	P	18 20 49.8	+0.3
TRO	Tromso	46.52 335	eP	P	18 20 48.6	-0.9
TRO			AMb	AMB	18 20 55.6	
	comp=Z,149nm,1.9s,mb5.6					
TRO			eS	S	18 27 30.5	-6.6
TRO			eSS	SS	18 31 01.0	-2.0
TRO			AMS	AMS	18 41 46.1	
	comp=Z,1µm,20.7s,MS4.9					
TRO	Tromso	46.52 335	eP	P	18 20 48.6	-0.9
TRO			pmax	pmax		
	comp=Z,149nm,1.9s,mb5.6					
TRO			MLR	MLR		
	comp=Z,1µm,20.7s,MS4.9					
TRO	Tromso	46.52 335	eP	P	18 20 48.6	-0.9
	comp=Z,149nm,1.9s,mb5.6					
TRO			LR	LR		
	comp=Z,1µm,20.7s,MS4.9					
BSD	Bornholm Skovb	46.82 315	i P	P	18 20 50.7	-1.2
	comp=Z,22nm,0.7s,mb5.2					
BSD			i		18 22 48.5	
BSD			i S	S	18 27 39.7	-1.8
BSD			i		18 30 55.3	
BSD						
	comp=Z,2µm,18.0s					
BSD	Bornholm Skovb	46.82 315	i P	P	18 20 50.7	-1.2
	comp=Z,22nm,0.7s,mb5.2					
BSD			i		18 22 48.5	
BSD			i S	S	18 27 39.7	-1.8
BSD			i		18 30 55.3	
CONA	Conrad Observa	46.94 305	i P	P	18 20 53.4	+0.6
	comp=Z,129nm,1.1s,mb5.8,SNR=54					
TREC	Trest	46.99 307	eP	P	18 20 54.3	+1.1
TREC			epP	pP	18 20 58.9	+0.2
TREC			ePP	PP	18 22 49.4	+5.6
TREC			eS	S	18 27 47.6	+3.7
TREC			eSS	SS	18 31 15.9	+5.1
TREC			AMS	AMS	18 42 00.0	
	comp=Z,1µm,17.3s					
TREC	Trest	46.99 307	eP	P	18 20 54.3	+1.1
TREC			e		18 22 49.4	
TREC			eS	S	18 27 47.6	+3.7
TREC			MLR	MLR		
	comp=Z,1µm,17.3s,MS5.0					
ARSA	Arzberg	47.27 304⇓	iP	P	18 20 55.3	-0.2
	comp=Z,90nm,1.4s,mb5.5,SNR=15					
HFS	Hagfors	47.41 322	LR	LR	18 41 53.9	
	comp=Z,3µm,18.9s,MS5.2,baz=100,slow=37					
GROS	Grobnik	47.42 303	eP	P	18 20 56.7	+0.1
PVCC	Panska Ves	47.42 309	eP	P	18 20 56.9	+0.3
PVCC			epP	pP	18 21 00.3	-1.7
PVCC			eS	S	18 27 51.4	+1.3
PVCC			AMS	AMS	18 42 50.0	
PVCC	Panska Ves	47.42 309	eP	P	18 20 56.9	+0.3
PVCC			epP	pP	18 21 00.3	-1.7
PVCC			eS	S	18 27 51.4	+1.3
PRU	Pruhonice	47.51 308	eP	P	18 20 57.8	+0.5
PRU			epP	pP	18 21 02.9	+0.2
PRU			ePP	PP	18 22 54.2	+5.5
PRU			eS	S	18 27 50.7	-0.6
PRU			eSS	SS	18 31 22.5	+3.3
PRU			AMS	AMS	18 44 00.0	
	comp=Z,2µm,21.0s					
PRU	Pruhonice	47.51 308	eP	P	18 20 57.8	+0.5
PRU			e		18 22 54.2	
PRU			eS	S	18 27 50.7	-0.6
PRU			MLR	MLR		
	comp=Z,2µm,21.0s,MS5.0					
MOR8	Moi Rana	47.52 330⇓	iP	P	18 20 56.6	-0.7
MOR8			AMb	AMB	18 21 03.2	
	comp=Z,266nm,1.6s,mb6.0					
MOR8	Moi Rana	47.52 330⇓	iP	P	18 20 56.6	-0.7
	comp=Z,266nm,1.6s,mb6.0					
PRA	Prague	47.57 308	P	P	18 20 59.0	+1.3
PRA			pP	pP	18 21 02.0	-1.2
CRES	Cresnjev	47.57 303	eP	P	18 20 57.9	+0.1
CRES			ePP	PP	18 22 53.5	+4.3
CRES			eS	S	18 27 53.4	+1.3
LEGS	Legarje	47.64 303	eP	P	18 20 58.1	-0.2
PERS	Pernice	47.65 304	eP	P	18 20 58.7	+0.3
PERS			e	pP	18 21 03.9	+0.1
PERS			ePcP	PcP	18 22 26.7	-1.0
PERS			ePP	PP	18 22 53.5	+3.5
BOJS	Bojanci	47.77 302	eP	P	18 20 59.4	+0.1
BOJS			ePcP	PcP	18 22 28.2	0.0
BOJS			ePP	PP	18 22 55.4	+4.3
BOJS			eS	S	18 27 55.7	+0.7
BRG	Berggiesshubel	47.78 310	eP	P	18 20 59.3	0.0
	comp=Z,141nm,1.4s,mb5.8					
BRG			ePcP	PcP	18 22 27.7	-0.5
BRG			eS	S	18 27 53.1	-2.0
BRG	Berggiesshubel	47.78 310	i P	P	18 20 59.9	+0.6
	comp=Z,44nm,1.3s,mb5.3					
BRG			i	pP	18 21 05.1	+0.3
	comp=Z,85nm,1.4s					
BRG			PP	PP	18 22 50.0	-1.1
BRG			S	S	18 27 51.0	-4.1
BRG			SS	SS	18 31 14.0	-9.5
BRG						
	comp=N,611nm,10.7s					
BRG						
	comp=E,1µm,15.2s					
BRG						
	comp=Z,1µm,15.8s					
BRG	Berggiesshubel	47.78 310	i P	P	18 20 59.9	+0.6
BRG					18 22 50.0	
BRG			S	S	18 27 51.0	-4.1
BRG			SS	SS	18 31 14.0	-9.5
BRG			pmax	pmax		

comp=Z,44nm,1.3s,mb5.3
BRG MLR MLR
comp=Z,1µm,15.8s,MS5.1
BRG Berggiesshubel 47.78 310 *i* P **P 18 20 59.9 +0.6**
comp=Z,44nm,1.3s,mb5.3
BRG *i* pP 18 21 05.1 +0.3
BRG PP PP 18 22 50.0 -1.1
BRG S **S 18 27 51.0 -4.1**
BRG SS SS 18 31 14.0 -9.5
BRG LR LR
comp=Z,1µm,15.8s,MS5.1
RGN Rugen 47.78 315 *e*P **P 18 20 59.2 -0.1**
comp=Z,432nm,1.4s,mb6.3
MAJO Matsushiro 47.78 70 P **P 18 20 59.3 -0.1**
MAJO pmax pmax
comp=Z,38nm,0.8s,mb5.5
MAJO Matsushiro 47.78 70 *e*P **P 18 20 58.8 -0.5**
comp=Z,38nm,0.8s,mb5.5
MAJO LR LR
comp=Z,951nm,20.0s,MS4.8
MAT Matsushiro 47.78 70 P **P 18 20 59.0 -0.4**
MAT S **S 18 28 00.0 +4.8**
MJAR Matsushiro Arr 47.78 70 P **P 18 20 59.7 +0.3**
comp=Z,31nm,0.8s,mb5.4,baz=290,slow=9.7,SNR=79
MJAR LR LR 18 42 20.3
comp=Z,743nm,18.6s,MS4.7,baz=300,slow=38
BJO Bjornoya 47.90 342 AMS AMS 18 42 57.2
comp=Z,2µm,19.1s,MS5.1
TSM Tawau 47.99 121 P **P 18 21 01.0 -0.1**
MOA Molln 48.01 305 *i* P **P 18 21 01.3 +0.1**
comp=Z,154nm,1.7s,mb5.8,SNR=26
OBKA Obir 48.06 304⇑ *i*P **P 18 21 02.0 +0.5**
comp=Z,152nm,1.4s,mb5.8,SNR=21
STOK Stokkvaagen 48.11 331⇓ *e*P **P 18 21 01.8 -0.1**
STOK AMb AMB 18 21 08.6
comp=Z,127nm,1.1s,mb5.9
STOK Stokkvaagen 48.11 331⇓ *e*P **P 18 21 01.8 -0.1**
comp=Z,127nm,1.1s,mb5.9
FGMS Monte Sant'Ang 48.11 297 P **P 18 21 02.2 +0.3**
comp=Z,49nm,0.8s,mb5.6
LOF Lofoten 48.13 333 *e*P **P 18 21 03.5 +1.4**
LOF AMb AMB 18 21 12.0
comp=Z,249nm,1.5s,mb6.0
LOF Lofoten 48.13 333 *e*P **P 18 21 03.5 +1.4**
comp=Z,249nm,1.5s,mb6.0
LJU Ljubljana 48.17 303 *e*P **P 18 21 03.1 +0.8**
LJU *i* pP 18 21 07.9 +0.1
LJU *e*S **S 18 28 01.8 +1.2**
COP Copenhagen 48.20 316 *i* P **P 18 21 03.2 +0.6**
comp=Z,57nm,1.0s,mb5.5
COP *i* 18 22 52.2
COP *i* S **S 18 28 00.1 -1.0**
COP *i* S **S 18 28 06.1 +5.0**
COP *i* 18 31 29.5
COP
comp=Z,870nm,20.0s
COP Copenhagen 48.20 316 *i* P **P 18 21 03.2 +0.6**
COP *i* 18 22 52.2
COP *i* S **S 18 28 00.1 -1.0**
COP *i* S **S 18 28 06.1 +5.0**
COP *i* 18 31 29.5
COP pmax pmax
comp=Z,57nm,1.0s,mb5.6
COP MLR MLR
comp=Z,880nm,20.0s,MS4.7
GEC2 GERESS Array S 48.22 307 *e*P **P 18 21 02.7 -0.1**
comp=Z,77nm,1.3s,mb5.6
GEC2 *e*S **S 18 28 00.1 -1.3**
GEC2 GERESS Array S 48.22 307 P **P 18 21 03.1 +0.3**
GERES GERESS Array B 48.22 307 P **P 18 21 03.2 +0.4**
comp=Z,14nm,0.9s,mb5.0,baz=79,slow=6.9,SNR=95
GERES LR LR 18 43 32.6
comp=Z,1µm,20.8s,MS4.9,baz=79,slow=39
NVLJ Novalja 48.23 301 *i* P **P 18 21 00.3 -2.5**
KHC Kasperske Hory 48.26 307 *e*P **P 18 21 03.5 +0.5**
KHC *e*pP pP 18 21 08.9 +0.4
KHC *e*PP PP 18 23 01.0 +5.5
KHC *e*S **S 18 28 02.8 +0.9**
KHC *e*SS SS 18 31 36.3 +5.0
KHC AMS AMS 18 44 10.0
comp=Z,2µm,13.1s
KHC Kasperske Hory 48.26 307 *e*P **P 18 21 03.5 +0.5**
KHC *e* 18 23 01.0
KHC *e*S **S 18 28 02.8 +0.9**
KHC MLR MLR
comp=Z,2µm,13.1s,MS5.2
CLL Collm 48.31 310 *e*P **P 18 21 02.6 -0.8**
comp=Z,78nm,1.2s,mb5.6
CLL *e*PcP PcP 18 22 30.0 -0.1
CLL *e*PP PP 18 22 55.4 -0.5
CLL *e*S **S 18 27 59.2 -3.4**
CLL Collm 48.31 310⇓ *i*P **P 18 21 03.4 0.0**
comp=Z,27nm,0.9s,mb5.3
CLL *i* pP pP 18 21 08.5 -0.4
comp=Z,78nm,1.2s
CLL *i* x x 18 21 15.5
CLL *i* x x 18 21 44.2
CLL *i* PcP PcP 18 22 30.0 -0.1
CLL *e*PPk 18 22 56.0
CLL *e*PP PP 18 23 01.0 +5.1
CLL *e*S **S 18 28 01.0 -1.6**
CLL *ex* x 18 30 19.0
CLL *e*SS SS 18 31 39.0 +6.9
CLL Lm 18 43 00.0
comp=N,1µm,21.6s
CLL Lm 18 43 00.0
comp=E,2µm,18.0s
CLL Collm 48.31 310⇓ *i*P **P 18 21 03.4 0.0**
CLL *e*S **S 18 28 01.0 -1.6**
CLL pmax pmax
comp=Z,27nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,3µm,17.7s,MS5.3
CLL Collm 48.31 310⇓ *i*P **P 18 21 03.4 0.0**
comp=Z,27nm,0.9s,mb5.3
CLL *i* pP pP 18 21 08.5 -0.4
CLL *e*S **S 18 28 01.0 -1.6**
CLL LR LR
comp=Z,3µm,17.7s,MS5.3
NSS Namsos 48.39 328 *e*P **P 18 21 03.2 -0.9**
NSS *e*SS SS 18 31 37.0 +3.5
NSS AMS AMS 18 43 04.2
comp=Z,1µm,18.8s,MS4.9
YSS Yuzh-Sakhalins 48.53 56*d* *i*P **P 18 21 05.4 +0.2**
YSS pmax pmax
comp=Z,104nm,1.7s,mb5.6
YSS MLR MLR
comp=Z,1µm,14.0s,MS5.1
YSS Yuzh-Sakhalins 48.53 56 *e*P **P 18 21 05.2 +0.1**
comp=Z,83nm,1.3s,mb5.6
VOY Vojsko 48.60 303 *e*P **P 18 21 05.5 -0.2**
VOY *e* pP 18 21 10.2 -1.0
VOY *e* 18 21 17.9
NB2 NORSAR Subarra 48.64 323 P **P 18 21 05.6 -0.4**
comp=Z,36nm,0.8s,mb5.5,baz=89,slow=7.9
NOA NORSAR Array B 48.64 323 P **P 18 21 05.5 -0.5**
comp=Z,55nm,0.8s,mb5.7,baz=90,slow=7.6,SNR=88
NOA LR LR 18 42 40.4
comp=Z,2µm,18.2s,MS5.2,baz=85,slow=37
CUC Castrocucco 48.65 295 P **P 18 21 06.4 +0.3**
CADS Cadrg 48.67 303 *e*P **P 18 21 06.0 -0.2**
CADS *i* pP 18 21 11.1 -0.6
CADS *e*S **S 18 28 08.0 +0.3**
CADS *e*SS SS 18 31 32.3 -5.6
WET Wettzell 48.71 307 *e*P **P 18 21 06.4 -0.1**
comp=Z,104nm,1.5s,mb5.6
WET *e*S **S 18 28 09.4 +1.1**
WET Wettzell 48.71 307 *e*P **P 18 21 06.4 -0.1**
WET *e*S **S 18 28 09.4 +1.1**
WET pmax pmax
comp=Z,104nm,1.5s,mb5.6
KBA Koelnbreinsper 48.77 305⇓ *i*P **P 18 21 06.9 -0.1**
comp=Z,98nm,1.7s,mb5.6,SNR=17
KBA Koelnbreinsper 48.77 305⇓ *i*P **P 18 21 06.9 -0.1**
KBA pmax pmax
comp=Z,98nm,1.7s,mb5.6
TANN Tannenbergstha 48.77 309 *e*P **P 18 21 06.8 -0.2**
comp=Z,58nm,1.3s,mb5.5
TANN *e*PcP PcP 18 22 32.0 +0.2
NAO01 NORSAR Array S 48.80 323 *e*P **P 18 21 06.7 -0.6**
comp=Z,66nm,0.9s,mb5.7
NKC Novy Kostel 48.81 309 *e*P **P 18 21 08.2 +0.9**
NKC *e*pP pP 18 21 12.7 -0.1
NKC *e*PP PP 18 23 05.4 +4.9
NKC *e*S **S 18 28 11.8 +2.1**
NKC *ex* x 18 31 58.6
NKC AMS AMS 18 44 40.0
comp=Z,3µm,13.9s
NKC Novy Kostel 48.81 309 *e*P **P 18 21 08.2 +0.9**
NKC *e* 18 23 05.4
NKC *e*S **S 18 28 11.8 +2.1**
NKC Novy Kostel 48.81 309 *e*P **P 18 21 08.2 +0.9**
NKC *e*pP pP 18 21 12.7 -0.1
NKC *e*PP PP 18 23 05.4 +4.9
NKC *e*S **S 18 28 11.8 +2.1**
NKC *e*SS SS 18 31 58.6 +18
PTCC Patocco-Chiusa 48.89 304 P **P 18 21 07.9 -0.1**
comp=Z,102nm,1.6s,mb5.6
GMNA Gemona 49.00 304 P **P 18 21 09.2 +0.4**
comp=Z,349nm,1.0s,mb6.3
ROTZ Rotzenmuhle 49.04 308 *e*P **P 18 21 09.4 +0.3**
comp=Z,91nm,1.3s,mb5.7
ROTZ *e*S **S 18 28 11.7 -1.2**
MANZ Manzenberg 49.06 309 *e*P **P 18 21 09.5 +0.2**
comp=Z,53nm,1.3s,mb5.4
MANZ *e*S **S 18 28 12.1 -1.2**
SCLL Scilla 49.22 293 P **P 18 21 10.6 +0.1**
comp=Z,52nm,1.0s,mb5.5
MSLP Maasin 49.26 109 *e*P **P 18 21 11.6 +0.9**
MOX Moxa 49.27 310 *e*P **P 18 21 10.5 -0.3**
comp=Z,70nm,1.2s,mb5.6
MOX *e*S **S 18 28 12.6 -3.6**
MOX Moxa 49.27 310 *e*P **P 18 21 11.1 +0.3**
MOX pmax pmax
comp=Z,43nm,1.1s,mb5.4
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.0
MOX Moxa 49.27 310 *e*P **P 18 21 11.1 +0.3**
comp=Z,43nm,1.1s,mb5.4
MOX *e*PcP PcP 18 22 38.0 +4.4
MOX *e*S **S 18 28 18.0 +1.8**
MOX *e* 18 32 08.0
MOX LR LR
comp=Z,2µm,21.0s,MS5.0
MIDA Miranda 49.36 297 P **P 18 21 12.4 +0.9**
KONO Kongsberg 49.49 322 *e*P **P 18 21 12.2 -0.3**
KONO *e*SS SS 18 31 54.2 +3.1
KONO AMb AMB 18 43 22.1
comp=Z,17µm,18.4s
KONO Kongsberg 49.49 322 P **P 18 21 12.5 0.0**
KONO pmax pmax
comp=Z,37nm,0.7s,mb5.5
KONO Kongsberg 49.49 322 *e*P **P 18 21 12.2 -0.3**
comp=Z,36nm,0.7s,mb5.5
KONO LR LR
comp=Z,2µm,20.0s,MS5.0
BSEG Bad Segeberg 49.59 314 *e*P **P 18 21 13.2 -0.1**
comp=Z,79nm,1.0s,mb5.7
BSEG *e*PcP PcP 18 22 34.4 -0.4
BSEG *e*S **S 18 28 20.2 -0.5**
DOMB Dombas 49.66 325 *e*P **P 18 21 13.6 -0.2**
DOMB AMb AMB 18 21 20.5
comp=Z,180nm,1.5s,mb5.9
DOMB Dombas 49.66 325 *e*P **P 18 21 13.6 -0.2**
comp=Z,180nm,1.5s,mb5.9
CING Cingoli 49.68 300 P **P 18 21 14.3 +0.3**
GRA1 Grafenberg Arr 49.68 308 *e*P **P 18 21 14.4 +0.4**
comp=Z,135nm,1.3s,mb5.8
GRA1 *e*PP PP 18 23 07.1 -1.4
GRA1 *e*S **S 18 28 23.0 +1.1**
GRA1 LR LR
comp=Z,2µm,18.0s,MS5.2
GRF Grafenberg Arr 49.68 308 *e*P **P 18 21 14.4 +0.4**
comp=Z,135nm,1.3s,mb5.8
GRF *e*PP PP 18 23 07.1 -1.4
GRF *e*S **S 18 28 23.0 +1.1**
GRF *e*L 18 45 49.3
comp=Z,2µm,18.0s
GRF Grafenberg Arr 49.68 308 *e*P **P 18 21 14.4 +0.4**
GRF *e* 18 23 07.1
GRF *e*S **S 18 28 23.0 +1.1**
GRF pmax pmax
comp=Z,135nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,2µm,18.0s,MS5.2
GRF Grafenberg Arr 49.68 308 *e*P **P 18 21 14.4 +0.4**
GRF *e* 18 23 07.1
GRF *e*S **S 18 28 23.0 +1.1**
GRF pmax pmax
comp=Z,135nm,1.3s,mb5.8
GRF MLR MLR
comp=Z,2µm,18.0s,MS5.2
SPB4 Spitsbergen Ar 49.77 346 *e*P **P 18 21 15.0 +0.3**
AQU L'Aquila 49.79 299⇓ *i*P **P 18 21 16.0 +1.2**
AQU L'Aquila 49.79 299 *e*P **P 18 21 15.4 +0.6**
comp=Z,48nm,0.9s,mb5.5
WTTA Wattenberg 49.87 305 *i* P **P 18 21 15.0 -0.4**
comp=Z,125nm,1.5s,mb5.7,SNR=19
WTTA Wattenberg 49.87 305 *i* P **P 18 21 15.0 -0.4**
WTTA pmax pmax
comp=Z,125nm,1.5s,mb5.7
WATA Walderalm 49.90 305⇓ *i*P **P 18 21 15.0 -0.6**
comp=Z,49nm,1.2s,mb5.4
WATA Walderalm 49.90 305⇓ *i*P **P 18 21 15.0 -0.6**
WATA pmax pmax
comp=Z,49nm,1.2s,mb5.4
NRDL Niedersach Rie 49.92 312 *e*P **P 18 21 15.7 -0.1**
comp=Z,196nm,1.5s,mb5.9
NRDL *e*S **S 18 28 23.8 -1.4**
ERM Erimo 49.93 62 PFAKE 18 21 30.0 +14
ERM LR LR
comp=Z,251nm,21.0s,MS4.2
FUR Furstenfeldbru 49.93 306 *e*P **P 18 21 16.4 +0.5**
comp=Z,217nm,1.1s,mb6.1
FUR *e*S **S 18 28 22.8 -2.6**
FUR Furstenfeldbru 49.93 306 *e*P **P 18 21 16.4 +0.5**
FUR *e*S **S 18 28 22.8 -2.6**
FUR pmax pmax
comp=Z,217nm,1.1s,mb6.1
MUD Monsted U'grnd 49.96 317⇓ *i*P **P 18 21 16.3 +0.2**
comp=Z,71nm,1.3s,mb5.5
MUD *i* S **S 18 28 29.5 +3.7**
MUD *i* 18 32 05.7
MUD
comp=Z,1µm,20.0s
MUD Monsted U'grnd 49.96 317⇓ *i*P **P 18 21 16.3 +0.2**
comp=Z,71nm,1.3s,mb5.5
MUD *i* S **S 18 28 29.5 +3.7**
MUD *i* 18 32 05.7
FIAM Fiamignano 50.02 298 P **P 18 21 17.1 +0.6**
CTI Castel Tesino 50.12 304 P **P 18 21 17.0 -0.3**
CTI pmax pmax
comp=Z,51nm,0.8s,mb5.6
CTI Castel Tesino 50.12 304 P **P 18 21 17.0 -0.3**
comp=Z,51nm,0.8s,mb5.6
ASS Assisi 50.14 300 P **P 18 21 18.4 +0.9**
comp=Z,2.3nm,0.6s
SQTA Sankt Quirin 50.17 305⇑ *i*P **P 18 21 17.0 -0.7**
comp=Z,48nm,1.2s,mb5.4,SNR=11
SQTA Sankt Quirin 50.17 305⇑ *i*P **P 18 21 17.0 -0.7**
SQTA pmax pmax
comp=Z,48nm,1.2s,mb5.4
CERT Cerreto 50.20 298 P **P 18 21 17.6 -0.3**
MOTA Moosalm 50.21 305⇓ *i*P **P 18 21 17.5 -0.5**
comp=Z,40nm,1.0s,mb5.4,SNR=20
MOTA Moosalm 50.21 305⇓ *i*P **P 18 21 17.5 -0.5**
MOTA pmax pmax
comp=Z,40nm,1.0s,mb5.4
UBBA Unterbreizbach 50.25 310 *e*P **P 18 21 17.7 -0.6**
comp=Z,58nm,1.4s,mb5.4
HMDC Modica 50.32 291 P **P 18 21 19.7 +0.8**
MOL Molde 50.35 325 *e*P **P 18 21 19.7 +0.6**
MOL AMS AMS 18 43 49.5
comp=Z,2µm,18.3s,MS5.2
COCO West Island 50.65 156 PFAKE 18 21 30.0 +8.7
COCO LR LR
comp=Z,571nm,19.0s,MS4.6
SNART Snartemo 50.82 320⇓ *i*P **P 18 21 22.6 0.0**
SNART AMb AMB 18 21 29.8
comp=Z,108nm,1.4s,mb5.6
KBS Kingsbay 50.84 347 *e*P **P 18 21 23.1 +0.4**
KBS AMb AMB 18 21 30.1
comp=Z,76nm,2.2s,mb5.2
KBS *e*S **S 18 28 35.5 -2.5**
KBS *e*SS SS 18 32 14.4 +1.8
KBS AMS AMS 18 47 03.6
comp=Z,2µm,22.0s,MS5.1
KBS Kingsbay 50.84 347 P **P 18 21 22.9 +0.2**
KBS pmax pmax
comp=Z,120nm,1.4s,mb5.6
KBS *e*PP PP 18 23 17.3 -1.7
KBS LR LR
comp=Z,4µm,20.0s,MS5.5
TOLF Tolfa 50.87 299 P **P 18 21 22.7 -0.3**
BRMO Bormio 50.89 304 P **P 18 21 22.6 -0.5**
MABI Malga Bissina 50.89 304 P **P 18 21 22.5 -0.7**
FUORN Ofenpass 50.93 305⇓ *e*P **P 18 21 22.5 -0.9**
comp=Z,86nm,1.7s,mb5.4
FNVD Fontana Vidola 50.94 301 P **P 18 21 24.7 +1.2**
ODD1 Odda 50.97 322 *e*P **P 18 21 22.4 -1.3**
ODD1 AMb AMB 18 21 30.0
comp=Z,65nm,1.5s,mb5.3
ODD1 Odda 50.97 322 *e*P **P 18 21 22.4 -1.3**
comp=Z,65nm,1.5s,mb5.3
USI Ustica 50.98 294 P **P 18 21 23.7 -0.1**
comp=Z,169nm,1.2s,mb5.8
DAVA Damuels 51.04 306 *i* P **P 18 21 23.8 -0.4**
comp=Z,156nm,1.1s,mb5.9,SNR=73
BLS5 Blasjo 51.10 321 *e*P **P 18 21 27.1 +2.4**
BLS5 AMb AMB 18 21 33.2
comp=Z,88nm,1.5s,mb5.5
BLS5 Blasjo 51.10 321 *e*P **P 18 21 27.1 +2.4**
comp=Z,88nm,1.5s,mb5.5
BERNI Berninapass 51.14 304⇓ *e*P **P 18 21 24.5 -0.5**
comp=Z,60nm,0.8s,mb5.6
BERNI Berninapass 51.14 304⇓ *e*P **P 18 21 24.6 -0.4**
DAVOX Davos 51.15 305⇓ *i*P **P 18 21 24.6 -0.5**
comp=Z,196nm,2.3s,mb5.6
DAVOX Davos 51.15 305⇓ *i*P **P 18 21 24.5 -0.6**
STU Stuttgart 51.16 308 *e*P **P 18 21 25.3 +0.1**
comp=Z,111nm,1.0s,mb5.8
STU *e*S **S 18 28 41.1 -1.4**
STU Stuttgart 51.16 308 P **P 18 21 26.0 +0.8**
STU pmax pmax
comp=Z,100nm,1.0s,mb5.7
STU Stuttgart 51.16 308 *e*P **P 18 21 25.5 +0.3**
comp=Z,102nm,1.0s,mb5.7
TOD Tromm 51.24 309 *e*P **P 18 21 26.1 +0.3**
LIENZ Alp Oberkamor 51.29 306⇓ *i*P **P 18 21 25.6 -0.5**
comp=Z,148nm,2.1s,mb5.5
GRFL Gerfalco 51.30 300 P **P 18 21 25.8 -0.4**
comp=Z,53nm,1.2s,mb5.3
YUK Yuzh-Kuril'sk 51.31 59 *e*P **P 18 21 26.9 +0.6**
YUK pmax pmax
comp=Z,2µm,2.0s
YUK MLR MLR
comp=Z,3µm,18.0s,MS5.4
YUK MLR MLR
comp=N,3µm,17.0s,MS5.5
YUK MLR MLR
comp=E,3µm,17.0s,MS5.5
TNS Taunus Mts 51.34 309 *e*P **P 18 21 26.2 -0.3**
comp=Z,39nm,1.0s,mb5.3
TNS *e*S **S 18 28 44.5 -0.5**
TNS Taunus Mts 51.34 309 *e*P **P 18 21 26.2 -0.3**
TNS *e*S **S 18 28 44.5 -0.5**
TNS pmax pmax
comp=Z,39nm,1.0s,mb5.3
IBBN Ibbenburen 51.37 312 *e*P **P 18 21 26.7 0.0**
comp=Z,97nm,1.1s,mb5.7
IBBN *e*S **S 18 28 45.2 -0.2**
MAON Monte Argentar 51.39 299 P **P 18 21 26.2 -0.7**
PLONS Plons 51.42 305⇓ *i*P **P 18 21 26.3 -0.8**
comp=Z,168nm,1.5s,mb5.8
VLC Villacollemand 51.45 302 *e*P **P 18 21 27.4 +0.1**
comp=Z,54nm,0.8s,mb5.5
BER Bergen 51.56 323 *e*P **P 18 21 29.1 +0.9**
BER AMb AMB 18 21 35.9
comp=Z,214nm,1.5s,mb5.9
BER Bergen 51.56 323 *e*P **P 18 21 29.1 +0.9**
comp=Z,214nm,1.5s,mb5.8
TUE Stuetta 51.58 305 P **P 18 21 27.9 -0.4**
ASK Askoy 51.62 323 *e*P **P 18 21 28.8 +0.2**
ASK AMb AMB 18 21 34.4
comp=Z,195nm,1.4s,mb5.8
ASK Askoy 51.62 323 *e*P **P 18 21 28.8 +0.2**
comp=Z,195nm,1.4s,mb5.8
EGD Espegrend 51.63 323 *e*P **P 18 21 30.0 +1.4**
LLS Linth-Limmern 51.72 305⇓ *e*P **P 18 21 28.5 -0.8**
comp=Z,50nm,1.0s,mb5.4
LLS Linth-Limmern 51.72 305⇓ *e*P **P 18 21 28.1 -1.2**
DAV Davao City (W) 51.74 112 PFAKE 18 21 40.0 +10
DAV LR LR
comp=Z,1µm,20.0s,MS5.0
BFO Black Forest 51.82 307 P **P 18 21 30.8 +0.7**
comp=Z,152nm,1.2s,mb5.8,SNR=8.5
BFO Black Forest 51.82 307 *e*P **P 18 21 29.3 -0.8**
comp=Z,44nm,1.3s,mb5.2
BFO *e*S **S 18 28 49.7 -1.9**
BFO Black Forest 51.82 307 *e*P **P 18 21 29.3 -0.8**
BFO *e*S **S 18 28 49.7 -1.9**
BFO pmax pmax
comp=Z,44nm,1.3s,mb5.2
BUG Bochum--Univer 51.83 311 *e*P **P 18 21 30.2 0.0**
comp=Z,95nm,1.2s,mb5.6
BUG *e*S **S 18 28 48.9 -2.8**
MUGIO Muggio 51.92 304⇓ *e*P **P 18 21 28.8 -2.1**
comp=Z,34nm,0.5s,mb5.5
MUO Muotathal 51.94 305⇓ *e*P **P 18 21 30.0 -1.0**
comp=Z,133nm,0.8s,mb5.9
BOB Bobbio (Coli) 51.94 302 P **P 18 21 31.9 +0.9**
BOB pmax pmax
comp=Z,52nm,0.6s,mb5.6
BOB Bobbio (Coli) 51.94 302 P **P 18 21 31.9 +0.9**
comp=Z,52nm,0.6s,mb5.6
ABH Alteburg 51.98 309 *e*P **P 18 21 31.4 +0.1**
LANF Langenberg 52.01 308 *e*P **P 18 21 31.9 +0.4**
WTSB Winterswijk 52.01 312 *e*P **P 18 21 31.3 -0.3**
WTSB *e*P 18 21 31.6
comp=Z,66nm,1.0s
FUSIO Fusio 52.04 305⇓ *i*P **P 18 21 31.0 -0.8**
comp=Z,43nm,0.8s,mb5.4
BNALP Bannalp 52.10 305⇓ *i*P **P 18 21 31.5 -0.7**
comp=Z,93nm,0.8s,mb5.8
STR Strasbourg 52.13 308 *e*P **P 18 21 33.0 +0.6**
FELD Feldberg im Sc 52.14 307⇓ *e*P **P 18 21 32.1 -0.4**
SULZ Sulz-Cheisache 52.15 306⇓ *i*P **P 18 21 31.7 -0.8**
comp=Z,117nm,0.9s,mb5.8
HASLI Hasliberg 52.31 305⇓ *i*P **P 18 21 32.9 -0.9**
comp=Z,80nm,0.8s,mb5.7
RUP Ruppelstein 52.33 309 *e*P **P 18 21 34.4 +0.5**
WLS Welschbruch 52.43 307 *e*P **P 18 21 34.6 -0.1**
BALST Balsthal 52.47 306⇓ *i*P **P 18 21 34.0 -0.9**
comp=Z,80nm,0.9s,mb5.7
CDF Champ du Feu 52.48 307⇓ *i*P **P 18 21 34.5 -0.5**
comp=Z,154nm,1.2s,mb5.5
CDF Champ du Feu 52.48 307⇓ *i*P **P 18 21 34.5 -0.5**
CDF pmax pmax
comp=Z,77nm,1.2s,mb5.5
CDF Champ du Feu 52.48 307⇓ *i*P **P 18 21 34.5 -0.5**
comp=Z,77nm,1.2s,mb5.5
BBS Basel-Blauen 52.56 306 *e*P **P 18 21 34.8 -0.8**
ECH Echery 52.61 307 *e*P **P 18 21 35.8 -0.1**
MOF Molkenrain 52.71 307 *e*P **P 18 21 36.8 +0.1**
ORO Oropa 52.72 304 P **P 18 21 35.3 -1.4**
ORO pmax pmax
comp=Z,53nm,1.0s,mb5.4
ORO Oropa 52.72 304 P **P 18 21 35.3 -1.4**
comp=Z,53nm,1.0s,mb5.4
LKBD Leukerbad 52.76 305⇓ *e*P **P 18 21 36.1 -0.9**
comp=Z,124nm,0.9s,mb5.8
MEM Membach 52.78 310 P **P 18 21 37.6 +0.3**
HGN Heimansgroeve 52.80 311 *e*P **P 18 21 35.2 -2.2**
comp=Z,25nm,1.0s,mb5.1
HGN *e*S **S 18 29 05.5 +0.5**
HGN *e*SS SS 18 32 49.3 +5.6
KMBO Kilima Mbogo 52.85 235 P **P 18 21 38.2 +0.5**
comp=Z,46nm,1.1s,mb5.3,baz=32,slow=9.4,SNR=52
KMBO LR LR 18 43 39.5
comp=Z,1µm,21.2s,MS5.0,baz=93,slow=35
HINF Hinteralfeld 52.90 307⇓ *i*P **P 18 21 37.6 -0.5**
comp=Z,199nm,0.9s,mb5.7
HINF Hinteralfeld 52.90 307⇓ *i*P **P 18 21 37.6 -0.5**
HINF pmax pmax
comp=Z,100nm,0.9s,mb5.8
HINF Hinteralfeld 52.90 307⇓ *i*P **P 18 21 37.6 -0.5**
comp=Z,100nm,0.9s,mb5.7
WLF Walferdange 52.91 309 *e*P **P 18 21 38.1 -0.1**
comp=Z,95nm,1.2s,mb5.6
WLF *e*PP PP 18 23 35.2 -2.5
WLF Walferdange 52.91 309 P **P 18 21 38.1 0.0**
WLF Walferdange 52.91 309 *e*P **P 18 21 38.9 +0.7**
WLF pmax pmax
comp=Z,41nm,0.8s,mb5.4

WLF **Walferdange 52.91 309** *eP* **P 18 21 38.9 +0.7**
comp=Z,41nm,0.8s,mb5.4
FIN **Finale Ligure 52.95 302** P **P 18 21 37.7 -0.7**
FIN pmax pmax
comp=Z,21nm,0.5s,mb5.3
FIN **Finale Ligure 52.95 302** P **P 18 21 37.7 -0.7**
comp=Z,21nm,0.5s,mb5.3
LOMF **Lomont 53.04 306** *eP* **P 18 21 38.5 -0.6**
DGI **Dorgali Grotta 53.11 297** P **P 18 21 38.9 -0.8**
GRYON **Gryon 53.13 305**⇓*iP* **P 18 21 39.5 -0.3**
comp=Z,149nm,1.4s,mb5.7
HAU **Haudompre 53.19 307**⇓*iP* **P 18 21 39.6 -0.6**
comp=Z,202nm,1.1s,mb5.7
HAU *eR*
comp=Z,1µm,21.2s
HAU **Haudompre 53.19 307**⇓*iP* **P 18 21 39.6 -0.6**
HAU pmax pmax
comp=Z,101nm,1.1s,mb5.7
HAU MLR MLR
comp=Z,1µm,21.3s,MS4.8
HAU **Haudompre 53.19 307**⇓*iP* **P 18 21 39.6 -0.6**
comp=Z,101nm,1.1s,mb5.7
HAU LR LR
comp=Z,1µm,21.3s,MS4.8
AIGLE **Aigle 53.22 305**⇓*iP* **P 18 21 39.7 -0.7**
comp=Z,88nm,0.7s,mb5.8
BCLA **Clavier 53.27 310** P **P 18 21 41.4 +0.5**
THEF **They Montfort 53.36 307** *eP* **P 18 21 41.4 -0.1**
OG01 **Vacheresse 53.40 305** *eP* **P 18 21 41.7 -0.1**
SAOF **Saorge 53.46 302** *eP* **P 18 21 42.6 +0.4**
DOI **San Damiano 53.52 303** P **P 18 21 44.6 +1.9**
VSL **Villasalto 53.54 296** *eP* **P 18 21 41.6 -1.2**
comp=Z,95nm,1.4s,mb5.5
AUTN **L'Aution 53.55 302** *eP* **P 18 21 43.4 +0.5**
SBF **Sospel 53.58 302**⇓*iP* **P 18 21 42.9 -0.2**
comp=Z,277nm,0.8s,mb5.9
SBF **Sospel 53.58 302**⇓*iP* **P 18 21 42.9 -0.2**
SBF pmax pmax
comp=Z,138nm,0.8s,mb5.9
SBF **Sospel 53.58 302**⇓*iP* **P 18 21 42.9 -0.2**
comp=Z,138nm,0.8s,mb5.9
LPG **La Plagne 53.58 304**⇓*iP* **P 18 21 43.3 +0.2**
comp=Z,250nm,0.9s,mb5.8
LPG **La Plagne 53.58 304**⇓*iP* **P 18 21 43.3 +0.2**
LPG pmax pmax
comp=Z,125nm,0.9s,mb5.8
LPG **La Plagne 53.58 304**⇓*iP* **P 18 21 43.3 +0.2**
comp=Z,125nm,0.9s,mb5.8
LPL **La Plagne 53.59 304**⇓*iP* **P 18 21 43.2 0.0**
comp=Z,194nm,0.8s,mb5.8
LPL **La Plagne 53.59 304**⇓*iP* **P 18 21 43.2 0.0**
LPL pmax pmax
comp=Z,97nm,0.8s,mb5.8
LPL **La Plagne 53.59 304**⇓*iP* **P 18 21 43.2 0.0**
comp=Z,97nm,0.8s,mb5.8
RSL **Roselend 53.61 304** *eP* **P 18 21 43.5 +0.1**
GIMEL **Gimel 53.62 305**⇓*iP* **P 18 21 43.4 0.0**
comp=Z,81nm,0.9s,mb5.6
GIVF **Givet 53.64 310**⇓*iP* **P 18 21 43.5 -0.1**
comp=Z,238nm,1.2s,mb5.7
GIVF **Givet 53.64 310**⇓*iP* **P 18 21 43.5 -0.1**
GIVF pmax pmax
comp=Z,119nm,1.2s,mb5.7
GIVF **Givet 53.64 310**⇓*iP* **P 18 21 43.5 -0.1**
comp=Z,119nm,1.2s,mb5.7
OG22 **Abries 53.64 303** *eP* **P 18 21 43.5 -0.1**
CABF **La Chapelle 53.72 306**⇓*iP* **P 18 21 43.8 -0.3**
comp=Z,135nm,1.1s,mb5.5
CABF **La Chapelle 53.72 306**⇓*iP* **P 18 21 43.8 -0.3**
CABF pmax pmax
comp=Z,68nm,1.1s,mb5.5
CABF **La Chapelle 53.72 306**⇓*iP* **P 18 21 43.8 -0.3**
comp=Z,68nm,1.1s,mb5.5
BNI **Bardonecchia 53.76 304** *eP* **P 18 21 44.1 -0.3**
BNI pmax pmax
comp=Z,126nm,1.4s,mb5.7
BNI **Bardonecchia 53.76 304** *eP* **P 18 21 44.1 -0.3**
comp=Z,126nm,1.4s,mb5.7
UCC **Uccle 53.76 311** P **P 18 21 44.5 0.0**
MVIF **Mont Vial 53.76 302** *eP* **P 18 21 45.1 +0.6**
DOU **Dourbes 53.78 310** P **P 18 21 44.8 +0.1**
MBDF **Montbardon 53.78 303**⇓*iP* **P 18 21 43.8 -0.8**
comp=Z,93nm,0.9s,mb5.4
MBDF **Montbardon 53.78 303**⇓*iP* **P 18 21 43.8 -0.8**
MBDF pmax pmax
comp=Z,47nm,0.9s,mb5.4
MBDF **Montbardon 53.78 303**⇓*iP* **P 18 21 43.8 -0.8**
comp=Z,47nm,0.9s,mb5.4
SNF **Seneffe 53.88 311** P **P 18 21 45.1 -0.2**
MEZF **Maizieres J'vi 53.90 308** *eP* **P 18 21 45.2 -0.2**
comp=Z,268nm,1.2s,mb5.7
MEZF **Maizieres J'vi 53.90 308** *eP* **P 18 21 45.2 -0.2**
comp=Z,268nm,1.2s,mb5.0
BAIF **Baives 54.03 310**⇓*iP* **P 18 21 46.3 -0.1**
comp=Z,271nm,1.4s,mb5.7
BAIF **Baives 54.03 310**⇓*iP* **P 18 21 46.3 -0.1**
BAIF pmax pmax
comp=Z,136nm,1.4s,mb5.7
BAIF **Baives 54.03 310**⇓*iP* **P 18 21 46.3 -0.1**
comp=Z,136nm,1.4s,mb5.7
FRF **La Foret Royal 54.21 302**⇓*iP* **P 18 21 47.1 -0.7**
comp=Z,146nm,1.1s,mb5.5
FRF **La Foret Royal 54.21 302**⇓*iP* **P 18 21 47.1 -0.7**
FRF pmax pmax
comp=Z,73nm,1.1s,mb5.5
FRF **La Foret Royal 54.21 302**⇓*iP* **P 18 21 47.1 -0.7**
comp=Z,73nm,1.1s,mb5.5
OG05 **Jujurieux 54.30 305** *eP* **P 18 21 48.6 +0.2**
ORIF **Oris-en-Rattie 54.34 304**⇓*iP* **P 18 21 47.6 -1.0**
comp=Z,65nm,1.0s,mb5.2
ORIF *eR*
comp=Z,1µm,21.2s
ORIF **Oris-en-Rattie 54.34 304**⇓*iP* **P 18 21 47.6 -1.0**
ORIF pmax pmax
comp=Z,32nm,1.0s,mb5.2
ORIF **Oris-en-Rattie 54.34 304**⇓*iP* **P 18 21 47.6 -1.0**
comp=Z,32nm,1.0s,mb5.2
OG25 **Le Caire 54.37 303** *eP* **P 18 21 40.1 -8.8**
LMR **La Mourre 54.38 302**⇓*iP* **P 18 21 48.2 -0.7**
comp=Z,79nm,1.1s,mb5.2
LMR **La Mourre 54.38 302**⇓*iP* **P 18 21 48.2 -0.7**
LMR pmax pmax
comp=Z,40nm,1.1s,mb5.3
LMR **La Mourre 54.38 302**⇓*iP* **P 18 21 48.2 -0.7**
comp=Z,40nm,1.1s,mb5.3
STOF **St-Etienne Org 54.59 302** *eP* **P 18 21 50.2 -0.3**
TAVF **Tavernes 54.60 302** *eP* **P 18 21 50.7 +0.1**
VILF **Villemus 54.77 302** *eP* **P 18 21 52.1 +0.3**
LRW **Lerwick 54.81 323** *eP* **P 18 21 51.7 -0.3**
LRW *eP* 18 21 51.7
LRW AMb AMB 18 21 58.8
comp=Z,130nm,1.5s,mb5.7
LRW **Lerwick 54.81 323** *eP* **P 18 21 51.7 -0.3**
LRW *eP* 18 21 51.7
LRW AMb AMB 18 21 58.8
comp=Z,130nm,1.5s,mb5.7
SMRF **Simiane la Rot 54.83 303**⇓*iP* **P 18 21 51.7 -0.5**
comp=Z,41nm,1.1s,mb5.1
SMRF **Simiane la Rot 54.83 303**⇓*iP* **P 18 21 51.7 -0.5**
comp=Z,41nm,1.1s,mb5.4
OCF **Saint Nazaire 54.83 303** *eP* **P 18 21 52.4 +0.2**
OG26 **St.-Nazaire-De 54.83 303** *eP* **P 18 21 52.4 +0.2**
KEST **Kesra 54.87 292** P **P 18 21 52.8 +0.3**
comp=Z,4.4nm,0.8s,mb4.6,baz=330,slow=2.9,SNR=14
KEST LR LR 18 51 14.9
comp=Z,166nm,20.0s,MS4.1,baz=174,slow=42
PUYF **Puyloubier 54.88 302** *eP* **P 18 21 52.4 -0.2**
BERF **Bertagne 54.95 302** *eP* **P 18 21 53.3 +0.2**
LOR **Lormes 55.01 307**⇓*iP* **P 18 21 52.4 -1.1**
comp=Z,64nm,0.8s,mb5.4
LOR *eR*
comp=Z,711nm,17.2s
LOR **Lormes 55.01 307**⇓*iP* **P 18 21 52.4 -1.1**
LOR pmax pmax
comp=Z,32nm,0.8s,mb5.4
LOR MLR MLR
comp=Z,710nm,17.3s,MS4.8
LOR **Lormes 55.01 307**⇓*iP* **P 18 21 52.4 -1.1**
comp=Z,32nm,0.8s,mb5.4
LOR LR LR
comp=Z,710nm,17.3s,MS4.8
TREF **Trevaresse 55.07 302** *eP* **P 18 21 54.3 +0.4**
GELF **Grande-Etoile 55.11 302** *eP* **P 18 21 54.1 -0.2**
PRAF **Pradon 55.16 302** *eP* **P 18 21 55.3 +0.7**
VIVF **Saint-Julien-I 55.17 304**⇓*iP* **P 18 21 54.2 -0.5**
comp=Z,102nm,1.2s,mb5.4
VIVF **Saint-Julien-I 55.17 304**⇓*iP* **P 18 21 54.2 -0.5**
VIVF pmax pmax
comp=Z,51nm,1.2s,mb5.4
VIVF **Saint-Julien-I 55.17 304**⇓*iP* **P 18 21 54.2 -0.5**
comp=Z,51nm,1.2s,mb5.4
MENF **Mencas 55.18 311** *eP* **P 18 21 54.7 0.0**
SMF **Signal de Mont 55.20 306**⇓*iP* **P 18 21 54.0 -0.9**
comp=Z,209nm,0.9s,mb5.9
SMF **Signal de Mont 55.20 306**⇓*iP* **P 18 21 54.0 -0.9**
SMF pmax pmax
comp=Z,104nm,0.9s,mb5.9
SMF **Signal de Mont 55.20 306**⇓*iP* **P 18 21 54.0 -0.9**
comp=Z,104nm,0.9s,mb5.9
AVF **Avril sur Loir 55.48 306**⇓*iP* **P 18 21 56.1 -0.8**
comp=Z,207nm,1.1s,mb5.8
AVF **Avril sur Loir 55.48 306**⇓*iP* **P 18 21 56.1 -0.8**
AVF pmax pmax
comp=Z,103nm,1.1s,mb5.8
AVF **Avril sur Loir 55.48 306**⇓*iP* **P 18 21 56.1 -0.8**
comp=Z,103nm,1.1s,mb5.8
PLDF **La Plantade 55.54 305** *eP* **P 18 21 57.0 -0.4**
COLF **Collangettes 55.63 305** *eP* **P 18 21 58.2 +0.2**
JMIC **Jan Mayen 55.79 337** LR LR 18 46 44.8
comp=Z,925nm,18.4s,MS4.9,baz=91,slow=37
JMIC **Jan Mayen 55.79 337** *eP* **P 18 21 52.9 -6.2**
JMIC *eS* **S 18 29 46.8 +1.5**
JMIC AMS AMS 18 46 51.2
comp=Z,636nm,16.9s,MS4.8
HYF **Humbligny 55.80 307** *eP* **P 18 21 58.9 -0.3**
AGO **Saint Agoulin 55.84 306** *eP* **P 18 21 59.5 0.0**
BGF **Bois d'Agland 55.88 306**⇓*iP* **P 18 21 58.8 -1.0**
comp=Z,86nm,1.0s,mb5.5
BGF **Bois d'Agland 55.88 306**⇓*iP* **P 18 21 58.8 -1.0**
BGF pmax pmax
comp=Z,43nm,1.0s,mb5.4
BGF **Bois d'Agland 55.88 306**⇓*iP* **P 18 21 58.8 -1.0**
comp=Z,43nm,1.0s,mb5.4
LASF **Ste Croix 55.97 303**⇓*iP* **P 18 22 00.3 -0.2**
comp=Z,100nm,1.1s,mb5.5
CMAH **Djebel Manchou 55.98 294** P **P 18 22 00.0 -0.5**
PYM **Petit Puy Mans 56.02 305** *eP* **P 18 22 00.4 -0.4**
LBL **Lubilhac 56.02 305** *eP* **P 18 22 00.4 -0.4**
VERF **Verneugheol 56.37 305** *eP* **P 18 22 03.3 0.0**
TCF **Toulx Ste Croi 56.38 306**⇓*iP* **P 18 22 03.0 -0.4**
comp=Z,198nm,1.1s,mb5.8
TCF **Toulx Ste Croi 56.38 306**⇓*iP* **P 18 22 03.0 -0.4**
TCF pmax pmax
comp=Z,99nm,1.1s,mb5.8
TCF **Toulx Ste Croi 56.38 306**⇓*iP* **P 18 22 03.0 -0.4**
comp=Z,99nm,1.1s,mb5.8
MCD **Coleburn Disti 56.44 320** *eP* **P 18 22 03.5 -0.3**
MCD **Coleburn Disti 56.44 320** *eP* **P 18 22 03.5 -0.3**
XSO **Sourhope Farm 56.44 318** *eP* **P 18 22 03.1 -0.7**
XSO **Sourhope Farm 56.44 318** *eP* **P 18 22 03.1 -0.7**
ORE **Reay 56.46 321** *eP* **P 18 22 03.5 -0.4**
ORE **Reay 56.46 321** *eP* **P 18 22 03.5 -0.4**
ESY **Stoneypath 56.53 318** *eP* **P 18 22 03.4 -1.1**
ESY **Stoneypath 56.53 318** *eP* **P 18 22 03.4 -1.1**
XAL **Allendale 56.59 317** *eP* **P 18 22 04.1 -0.7**
XAL **Allendale 56.59 317** *eP* **P 18 22 04.1 -0.7**
SKP1 **Kophill 56.65 313** *eP* **P 18 22 04.7 -0.6**
SKP1 **Kophill 56.65 313** *eP* **P 18 22 04.7 -0.6**
EBL **Broad Law 56.80 318** *eP* **P 18 22 05.7 -0.7**
EBL **Broad Law 56.80 318** *eP* **P 18 22 05.7 -0.7**
CASM **Ain Smara 56.82 293** P **P 18 22 07.0 +0.5**
BILL **Bilibino 56.83 27** *eP* **P 18 22 07.4 +0.8**
BILL pmax pmax
comp=Z,17nm,0.4s,mb5.4
BILL MLR MLR
comp=Z,2µm,19.0s,MS5.2
BILL **Bilibino 56.83 27** *eP* **P 18 22 07.4 +0.8**
comp=Z,17nm,0.4s,mb5.4
BILL LR LR
comp=Z,2µm,19.0s,MS5.2
MVH1 **Achvaich 56.83 321** *eP* **P 18 22 05.9 -0.6**
MVH1 **Achvaich 56.83 321** *eP* **P 18 22 05.9 -0.6**
EDI **Edinburgh 56.84 318** AMb AMB 18 22 13.6
comp=Z,143nm,1.2s,mb5.9
EDI **Edinburgh 56.84 318** AMb AMB 18 22 13.6
comp=Z,143nm,1.2s,mb5.9
EDI **Edinburgh 56.84 318** AMb AMB 18 22 13.6
comp=Z,143nm,1.2s,mb5.9
KWE **Weaver Farm 56.89 315** *eP* **P 18 22 06.4 -0.6**
KWE **Weaver Farm 56.89 315** *eP* **P 18 22 06.4 -0.6**
CAF **Calviac 56.91 305**⇓*iP* **P 18 22 06.9 -0.2**
comp=Z,107nm,1.1s,mb5.5
CAF **Calviac 56.91 305**⇓*iP* **P 18 22 06.9 -0.2**
CAF pmax pmax
comp=Z,53nm,1.1s,mb5.5
CAF **Calviac 56.91 305**⇓*iP* **P 18 22 06.9 -0.2**
comp=Z,54nm,1.1s,mb5.5
EAU **Auchinoon 57.00 318** *eP* **P 18 22 07.3 -0.5**
EAU **Auchinoon 57.00 318** *eP* **P 18 22 07.3 -0.5**
ECK **Cauldkaine Hil 57.01 317** *eP* **P 18 22 06.7 -1.1**
ECK **Cauldkaine Hil 57.01 317** *eP* **P 18 22 06.7 -1.1**
ESK **Eskdalemuir 57.01 318** P **P 18 22 07.3 -0.6**
comp=Z,311nm,1.0s,mb6.3,SNR=13
ESK **Eskdalemuir 57.01 318** *eP* **P 18 22 07.3 -0.5**
ESK AMb AMB 18 22 13.6
comp=Z,120nm,1.5s,mb5.7
ESK **Eskdalemuir 57.01 318** *eP* **P 18 22 07.3 -0.5**
ESK AMb AMB 18 22 13.6
comp=Z,120nm,1.5s,mb5.7
ESK **Eskdalemuir 57.01 318** P **P 18 22 07.7 -0.2**
ESK pmax pmax
comp=Z,69nm,1.1s,mb5.6
ESK **Eskdalemuir 57.01 318** *eP* **P 18 22 07.3 -0.5**
comp=Z,68nm,1.1s,mb5.6
ESK LR LR
comp=Z,441nm,20.0s,MS4.6
PET **Petropavlovsk 57.07 45** *iP* **P 18 22 06.8 -1.5**
PET pmax pmax
comp=Z,32nm,1.0s,mb5.3
PET MLR MLR
comp=Z,2µm,28.0s,MS5.1
PET **Petropavlovsk 57.07 45** *eP* **P 18 22 07.2 -1.1**
comp=Z,49nm,1.4s,mb5.3
PET LR LR
comp=Z,2µm,20.0s,MS5.1
BHH **Howats Hill 57.08 317** *eP* **P 18 22 08.0 -0.4**
BHH **Howats Hill 57.08 317** *eP* **P 18 22 08.0 -0.4**
RJF **Les Rejaudoux 57.15 305**⇓*iP* **P 18 22 08.7 -0.2**
comp=Z,182nm,1.3s,mb5.7
RJF *eR*
comp=Z,685nm,21.8s
RJF **Les Rejaudoux 57.15 305**⇓*iP* **P 18 22 08.7 -0.2**
RJF pmax pmax
comp=Z,91nm,1.3s,mb5.7
RJF MLR MLR
comp=Z,690nm,21.8s,MS4.7
RJF **Les Rejaudoux 57.15 305**⇓*iP* **P 18 22 08.7 -0.2**
comp=Z,91nm,1.3s,mb5.6
RJF LR LR
comp=Z,690nm,21.8s,MS4.7
CKE **Keswick 57.16 317** *eP* **P 18 22 08.6 -0.3**
CKE **Keswick 57.16 317** *eP* **P 18 22 08.6 -0.3**
LDF **La Druitiere 57.16 309**⇓*iP* **P 18 22 08.0 -0.9**
comp=Z,143nm,0.7s,mb5.8
LDF **La Druitiere 57.16 309**⇓*iP* **P 18 22 08.0 -0.9**
LDF pmax pmax
comp=Z,72nm,0.7s,mb5.8
LDF **La Druitiere 57.16 309**⇓*iP* **P 18 22 08.0 -0.9**
comp=Z,72nm,0.7s,mb5.8
DFRA **Djebel Bou Aff 57.17 294** P **P 18 22 08.0 -0.9**
EJON **La Jonquera 57.18 302** P **P 18 22 08.4 -0.7**
comp=Z,9.8nm,1.0s,mb4.8
DAG **Danmarks Havn 57.25 344**⇑*iP* **P 18 22 08.6 -0.9**
comp=Z,26nm,0.7s,mb5.4
DAG
comp=Z,2µm,19.0s
DAG **Danmarks Havn 57.25 344**⇑*iP* **P 18 22 08.6 -0.9**
DAG pmax pmax
comp=Z,26nm,0.7s,mb5.4
DAG MLR MLR
comp=Z,2µm,19.0s,MS5.1
LRDF **Laroque-de-Fa 57.26 302** *eP* **P 18 22 09.7 +0.1**
BWH **Wardlaw 57.30 318** *eP* **P 18 22 09.3 -0.6**
BWH **Wardlaw 57.30 318** *eP* **P 18 22 09.3 -0.6**
MTLF **Montolieu 57.34 303**⇓*iP* **P 18 22 09.7 -0.5**
comp=Z,42nm,0.9s,mb5.2
MTLF **Montolieu 57.34 303**⇓*iP* **P 18 22 09.7 -0.5**
MTLF pmax pmax
comp=Z,21nm,0.9s,mb5.2
MTLF **Montolieu 57.34 303**⇓*iP* **P 18 22 09.7 -0.5**
comp=Z,21nm,0.9s,mb5.2
FLN **La Foliniere 57.34 310**⇓*iP* **P 18 22 09.0 -1.2**
comp=Z,125nm,1.0s,mb5.6
FLN *eR*
comp=Z,2µm,21.0s
FLN **La Foliniere 57.34 310**⇓*iP* **P 18 22 09.0 -1.2**
FLN pmax pmax
comp=Z,63nm,1.0s,mb5.6
FLN MLR MLR
comp=Z,2µm,21.0s,MS5.2
FLN **La Foliniere 57.34 310**⇓*iP* **P 18 22 09.0 -1.2**
comp=Z,63nm,1.0s,mb5.6
FLN LR LR
comp=Z,2µm,21.0s,MS5.2
FILF **Fillols 57.37 302** *eP* **P 18 22 10.6 +0.2**
EAB **Aberfoyle 57.38 319** *eP* **P 18 22 09.9 -0.6**
EAB **Aberfoyle 57.38 319** *eP* **P 18 22 09.9 -0.6**
KAC **Achnashellach 57.52 321** *eP* **P 18 22 10.8 -0.7**
KAC **Achnashellach 57.52 321** *eP* **P 18 22 10.8 -0.7**
GCD **Castle Douglas 57.55 317** *eP* **P 18 22 11.3 -0.3**
GCD **Castle Douglas 57.55 317** *eP* **P 18 22 11.3 -0.3**
PGBU **Glenifferbraes 57.57 318** *eP* **P 18 22 11.7 -0.1**
PGBU AMb AMB 18 22 19.6
comp=Z,80nm,2.0s,mb5.4
PGBU **Glenifferbraes 57.57 318** *eP* **P 18 22 11.7 -0.1**
PGBU AMb AMB 18 22 19.6
comp=Z,80nm,2.0s,mb5.4
HAE **Alders End 57.59 314** *eP* **P 18 22 11.3 -0.7**
HAE **Alders End 57.59 314** *eP* **P 18 22 11.3 -0.7**
CARF **Carcanieres 57.63 302** *eP* **P 18 22 11.9 -0.3**
HLM1 **Long Mynd 57.64 314** *eP* **P 18 22 11.2 -1.0**
HLM1 **Long Mynd 57.64 314** *eP* **P 18 22 11.2 -1.0**
CKHR **Kef el Ahmar 57.64 294** P **P 18 22 13.0 +0.7**
SET **Setif 57.65 294** P **P 18 22 13.0 +0.6**
KSB **Sheil Bridge 57.67 320** *eP* **P 18 22 11.7 -0.8**
KSB **Sheil Bridge 57.67 320** *eP* **P 18 22 11.7 -0.8**
GRR **Gorron 57.70 309**⇓*iP* **P 18 22 11.7 -1.0**
comp=Z,253nm,0.9s,mb5.9
GRR **Gorron 57.70 309**⇓*iP* **P 18 22 11.7 -1.0**
GRR pmax pmax
comp=Z,126nm,0.9s,mb6.0
GRR **Gorron 57.70 309**⇓*iP* **P 18 22 11.7 -1.0**
comp=Z,126nm,0.9s,mb6.0
PMSU **Muirshiel 57.70 319** *eP* **P 18 22 12.2 -0.6**
PMSU **Muirshiel 57.70 319** *eP* **P 18 22 12.2 -0.6**
SBD1 **Bryn Du 57.74 315** *eP* **P 18 22 12.7 -0.3**
SBD1 **Bryn Du 57.74 315** *eP* **P 18 22 12.7 -0.3**
KPL **Plockton 57.75 320** *eP* **P 18 22 12.8 -0.3**
KPL AMb AMB 18 22 19.0
comp=Z,127nm,1.3s,mb5.8
KPL **Plockton 57.75 320** *eP* **P 18 22 12.8 -0.3**
KPL AMb AMB 18 22 19.0
comp=Z,127nm,1.3s,mb5.8
LFF **La Frestale 57.79 305**⇓*iP* **P 18 22 13.0 -0.4**
comp=Z,78nm,1.0s,mb5.4
LFF **La Frestale 57.79 305**⇓*iP* **P 18 22 13.0 -0.4**
LFF pmax pmax
comp=Z,39nm,1.0s,mb5.4
LFF **La Frestale 57.79 305**⇓*iP* **P 18 22 13.0 -0.4**
comp=Z,39nm,1.0s,mb5.4
VALF **Valcebollere 57.80 302** *eP* **P 18 22 13.6 +0.2**
MFF **Saint Martin d 57.82 307**⇓*iP* **P 18 22 12.5 -1.1**
comp=Z,73nm,1.0s,mb5.4
MFF **Saint Martin d 57.82 307**⇓*iP* **P 18 22 12.5 -1.1**
MFF pmax pmax
comp=Z,36nm,1.0s,mb5.4
MFF **Saint Martin d 57.82 307**⇓*iP* **P 18 22 12.5 -1.1**
comp=Z,36nm,1.0s,mb5.4
HGH **Gray Hill 57.86 313** *eP* **P 18 22 12.8 -1.1**
HGH **Gray Hill 57.86 313** *eP* **P 18 22 12.8 -1.1**
MCH1 **Michaelchurch 57.87 314** *eP* **P 18 22 13.1 -0.8**
MCH1 *eP* 18 22 13.1
MCH1 AMb AMB 18 22 19.6
comp=Z,115nm,1.2s,mb5.8
MCH1 **Michaelchurch 57.87 314** *eP* **P 18 22 13.1 -0.8**
MCH1 *eP* 18 22 13.1
MCH1 AMb AMB 18 22 19.6
comp=Z,115nm,1.2s,mb5.8
KAR1 **Arisaig 57.97 320** *eP* **P 18 22 14.5 0.0**
KAR1 **Arisaig 57.97 320** *eP* **P 18 22 14.5 0.0**
GAL1 **Galloway 57.97 317** *eP* **P 18 22 14.1 -0.5**
GAL1 *eP* 18 22 14.1
GAL1 AMb AMB 18 22 20.6
comp=Z,96nm,1.5s,mb5.6
GAL1 **Galloway 57.97 317** *eP* **P 18 22 14.1 -0.5**
GAL1 *eP* 18 22 14.1
GAL1 AMb AMB 18 22 20.6
comp=Z,96nm,1.5s,mb5.6
HTR **Trewern Hill 58.00 314** *eP* **P 18 22 14.1 -0.7**
HTR **Trewern Hill 58.00 314** *eP* **P 18 22 14.1 -0.7**
WPM1 **Penmaenmawr 58.00 315** *eP* **P 18 22 14.2 -0.7**
WPM1 **Penmaenmawr 58.00 315** *eP* **P 18 22 14.2 -0.7**
WIM **Isle of Man 58.17 317** *eP* **P 18 22 15.4 -0.6**
WIM **Isle of Man 58.17 317** *eP* **P 18 22 15.4 -0.6**
LCHF **La Chataignera 58.19 307** *eP* **P 18 22 16.0 -0.1**
YLL **Llanberis 58.19 315** *eP* **P 18 22 15.6 -0.6**
YLL **Llanberis 58.19 315** *eP* **P 18 22 15.6 -0.6**
ETOS **Mallorca 58.19 299** P **P 18 22 16.2 +0.1**
comp=Z,44nm,1.0s,mb5.4
MLS **Moulis 58.24 303** *eP* **P 18 22 15.9 -0.6**
SALF **Salau 58.25 302** *eP* **P 18 22 15.5 -1.1**
WCB1 **Church Bay 58.33 316** *eP* **P 18 22 16.9 -0.2**
WCB1 **Church Bay 58.33 316** *eP* **P 18 22 16.9 -0.2**
YRC **Rhoscolyn 58.39 316** *eP* **P 18 22 17.2 -0.3**
YRC **Rhoscolyn 58.39 316** *eP* **P 18 22 17.2 -0.3**
YRE **Yr Eifl 58.39 315** *eP* **P 18 22 17.4 -0.1**
YRE **Yr Eifl 58.39 315** *eP* **P 18 22 17.4 -0.1**
HEX **Exmoor 58.64 313** *eP* **P 18 22 18.0 -1.3**
HEX **Exmoor 58.64 313** *eP* **P 18 22 18.0 -1.3**
EPF **Esparros 58.73 303**⇓*iP* **P 18 22 18.5 -1.4**
comp=Z,26nm,0.8s,mb5.0
EPF **Esparros 58.73 303**⇓*iP* **P 18 22 18.5 -1.4**
EPF pmax pmax
comp=Z,13nm,0.8s,mb5.0
EPF **Esparros 58.73 303**⇓*iP* **P 18 22 18.5 -1.4**
comp=Z,13nm,0.8s,mb5.0
RESF **Ens 58.81 303** *eP* **P 18 22 20.7 +0.2**
EPOB **Poblet 58.84 301** P **P 18 22 19.8 -0.9**
comp=Z,15nm,0.7s,mb5.1
GMM **Mts of Mourne 58.85 317** *eP* **P 18 22 20.6 -0.2**
GMM **Mts of Mourne 58.85 317** *eP* **P 18 22 20.6 -0.2**
EBIE **Bielsa 58.99 303** P **P 18 22 21.2 -0.6**
comp=Z,13nm,0.8s,mb5.0
VIEF **Viey 59.00 303** *eP* **P 18 22 21.7 -0.1**
HTL **Hartland 59.07 313** *eP* **P 18 22 22.0 -0.3**
HTL **Hartland 59.07 313** *eP* **P 18 22 22.0 -0.3**
ABA **Alger-Bouzarea 59.17 295** P **P 18 22 20.0 -3.0**
REYF **Montagne du Re 59.22 303** *eP* **P 18 22 23.5 +0.2**
ROSF **Rostrenen 59.23 310**⇓*iP* **P 18 22 22.6 -0.8**
comp=Z,113nm,0.9s,mb5.6
ROSF **Rostrenen 59.23 310**⇓*iP* **P 18 22 22.6 -0.8**
ROSF pmax pmax
comp=Z,57nm,0.9s,mb5.6
ROSF **Rostrenen 59.23 310**⇓*iP* **P 18 22 22.6 -0.8**
comp=Z,57nm,0.9s,mb5.6
QUIF **Quistinic 59.31 309**⇓*iP* **P 18 22 22.9 -1.0**
comp=Z,76nm,0.8s,mb5.5
QUIF **Quistinic 59.31 309**⇓*iP* **P 18 22 22.9 -1.0**
QUIF pmax pmax
comp=Z,38nm,0.8s,mb5.5
QUIF **Quistinic 59.31 309**⇓*iP* **P 18 22 22.9 -1.0**
comp=Z,38nm,0.8s,mb5.5
ETSF **Etsaut 59.40 303**⇓*iP* **P 18 22 24.3 -0.2**
comp=Z,51nm,0.8s,mb5.3
ETSF **Etsaut 59.40 303**⇓*iP* **P 18 22 24.3 -0.2**
ETSF pmax pmax
comp=Z,25nm,0.8s,mb5.3
ETSF **Etsaut 59.40 303**⇓*iP* **P 18 22 24.3 -0.2**
comp=Z,25nm,0.8s,mb5.3
EMHD **Djebel Mahouad 59.47 295** P **P 18 22 25.0 -0.1**
DLF **Lyons Farm 59.49 316**⇓*iP* **P 18 22 23.8 -1.4**
ERTA **Horta de San J 59.51 301** P **P 18 22 24.9 -0.4**
comp=Z,16nm,0.9s,mb5.0
CSA1 **St Austell 59.53 312** *eP* **P 18 22 25.4 0.0**
CSA1 **St Austell 59.53 312** *eP* **P 18 22 25.4 0.0**
EIBI **Ibiza 59.53 298** P **P 18 22 26.0 +0.5**
comp=Z,17nm,1.0s,mb5.0
LARF **Larrau 59.64 303** *eP* **P 18 22 25.9 -0.3**
SJPF **Ste Jean 59.77 304** *eP* **P 18 22 26.8 -0.3**
comp=Z,47nm,1.0s,mb5.2
SJPF **Ste Jean 59.77 304** *eP* **P 18 22 26.8 -0.3**
SJPF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SJPF **Ste Jean 59.77 304** *eP* **P 18 22 26.8 -0.3**
comp=Z,24nm,1.0s,mb5.2

ESAC San Caprasio 59.77 302 P **P** **18 22 27.1 0.0**
comp=Z,28nm,0.6s,mb5.5
CGH1 Goonhilly 59.80 312 *e*P **P** **18 22 26.8 -0.5**
CGH1 Goonhilly 59.80 312 *e*P **P** **18 22 26.8 -0.5**
CGW Gweek 59.82 312 *e*P **P** **18 22 26.4 -1.0**
CGW Gweek 59.82 312 *e*P **P** **18 22 26.4 -1.0**
DCN Croghan 59.89 316 ||*i*P **P** **18 22 27.6 -0.3**
EALK Alkurruntz 59.92 304 P **P** **18 22 27.9 -0.3**
comp=Z,33nm,1.0s,mb5.3
EMOS Mosqueruela 60.30 300 P **P** **18 22 30.3 -0.5**
comp=Z,10nm,0.8s,mb4.9
EBNR Beni Rached 60.49 295 P **P** **18 22 33.0 +1.0**
ALE Alert 60.57 355 P **P** **18 22 32.9 +0.3**
comp=Z,133nm,1.3s,mb5.9,SNR=5.8
ECHA Ech Chlef 60.66 295 P **P** **18 22 36.5 +3.3**
EBEN Beniarda 60.78 299 P **P** **18 22 34.4 +0.4**
comp=Z,10.0nm,0.9s,mb5.0
EANR 'Ain N'Sour 60.94 295 P **P** **18 22 32.0 -3.1**
ETRT Tiaret 61.03 295 P **P** **18 22 36.0 +0.3**
ELAN Lanestosa 61.22 304 P **P** **18 22 36.5 -0.5**
comp=Z,56nm,1.0s,mb5.7
ETOB Tobarra 61.75 299 P **P** **18 22 40.6 0.0**
comp=Z,34nm,0.9s,mb5.5
CART Cartagena 61.80 298 *e*P **P** **18 22 40.9 -0.1**
comp=Z,82nm,0.8s,mb5.9
EMUR La Murta 61.86 298 P **P** **18 22 41.3 -0.1**
comp=Z,18nm,1.0s,mb5.2
BORG Borgarnes 62.29 331 LR LR 18 49 56.5
comp=Z,1µm,18.5s,MS5.0,baz=64,slow=36
BORG Borgarnes 62.29 331 PFAKE 18 23 00.0 +16
BORG LR LR
comp=Z,472nm,22.0s,MS4.6
EARI Arriondas 62.38 305 P **P** **18 22 44.2 -0.7**
comp=Z,35nm,1.0s,mb5.4
EVIA Vianos 62.43 299 P **P** **18 22 45.9 +0.7**
EVIA pmax pmax
comp=Z,28nm,0.9s,mb5.4
EVIA Vianos 62.43 299 P **P** **18 22 45.9 +0.7**
comp=Z,28nm,0.9s,mb5.4
GUD Guadarrama 62.76 302 P **P** **18 22 47.5 +0.2**
GUD pmax pmax
comp=Z,27nm,1.0s,mb5.3
GUD Guadarrama 62.76 302 P **P** **18 22 47.5 +0.2**
comp=Z,27nm,1.0s,mb5.3
EHUE Huescar 62.85 299 P **P** **18 22 48.8 +0.9**
EHUE pmax pmax
comp=Z,11nm,0.5s,mb5.2
EHUE Huescar 62.85 299 P **P** **18 22 48.8 +0.8**
comp=Z,11nm,0.5s,mb5.2
ENIJ Nijar 62.93 298 P **P** **18 22 48.8 +0.3**
ENIJ pmax pmax
comp=Z,58nm,0.8s,mb5.8
ENIJ Nijar 62.93 298 P **P** **18 22 48.8 +0.3**
comp=Z,58nm,0.8s,mb5.8
ESDC Sonseca Array 63.03 301 P **P** **18 22 48.5 -0.7**
comp=Z,9.9nm,0.7s,mb5.1,baz=54,slow=6.9,SNR=33
ESDC Sonseca Array 63.03 301 P **P** **18 22 49.7 +0.6**
comp=Z,12nm,0.4s,mb5.4
ESLA Sonseca Array 63.03 301 *e*P **P** **18 22 49.1 -0.1**
comp=Z,9.5nm,1.2s,mb4.8
ESLA LR LR
comp=Z,3µm,21.0s,MS5.4
EQES Quesada 63.19 299 P **P** **18 22 49.7 -0.6**
comp=Z,54nm,0.9s,mb5.7
GUMO Guam 63.27 92 LR LR 18 49 32.1
comp=Z,510nm,21.0s,MS4.7,baz=113,slow=35
GUMO Guam 63.27 92 PFAKE 18 23 00.0 +9.2
GUMO LR LR
comp=Z,2.0nm,21.0s
EBER Berja 63.45 298 P **P** **18 22 51.3 -0.6**
comp=Z,16nm,0.7s,mb5.2
EBAN Banos Encina 63.55 299 P **P** **18 22 52.8 +0.2**
EBAN pmax pmax
comp=Z,63nm,0.8s,mb5.7
EBAN Banos Encina 63.55 299 P **P** **18 22 52.8 +0.2**
comp=Z,63nm,0.8s,mb5.7
EPON Pontenova 63.66 306 P **P** **18 22 53.1 -0.2**
comp=Z,4.7nm,0.5s,mb4.8
ECOG Cogollos-Vega 63.78 298 P **P** **18 22 53.6 -0.5**
ECOG pmax pmax
comp=Z,14nm,0.8s,mb5.0
ECOG Cogollos-Vega 63.78 298 P **P** **18 22 53.6 -0.5**
comp=Z,14nm,0.8s,mb5.0
SUMG Summit 63.78 343 *e*P **P** **18 22 54.3 +0.2**
comp=Z,128nm,1.0s,mb5.9
EGUA Guajares 63.97 298 P **P** **18 22 54.9 -0.4**
comp=Z,1.6nm,0.6s
ECAL Calabor 63.97 304 P **P** **18 22 54.8 -0.6**
comp=Z,20nm,0.8s,mb5.2
PBRG Bragança 64.03 304 *e*P **P** **18 22 55.8 0.0**
comp=Z,39nm,1.6s,mb5.2
ERON Agron 64.06 298 P **P** **18 22 55.4 -0.6**
comp=Z,22nm,0.6s,mb5.4
EADA Adamuz 64.11 300 P **P** **18 22 55.5 -0.7**
comp=Z,23nm,1.0s,mb5.2
ELUQ Luque 64.15 299 P **P** **18 22 55.8 -0.8**
ELUQ pmax pmax
comp=Z,86nm,0.8s,mb5.8
ELUQ Luque 64.15 299 P **P** **18 22 55.8 -0.8**
comp=Z,86nm,0.8s,mb5.8
ELOJ Sierra Loja 64.25 298 P **P** **18 22 56.4 -0.8**
ELOJ pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ELOJ Sierra Loja 64.25 298 P **P** **18 22 56.4 -0.9**
comp=Z,9.3nm,0.7s,mb4.9
PCAB Cabril 64.94 304 *e*P **P** **18 23 02.3 +0.6**
comp=Z,84nm,1.3s,mb5.6
EMIJ Mijas 64.96 298 P **P** **18 22 59.4 -2.4**
comp=Z,20nm,0.7s,mb5.2
MTE Manteigas 65.19 303 *e*P **P** **18 23 04.0 +0.7**
comp=Z,64nm,1.7s,mb5.4
MTE Manteigas 65.19 303 *e*P **P** **18 23 04.4 +1.1**
comp=Z,64nm,1.7s,mb5.4
MTE *e*S S 18 31 49.1 +3.4
MTE Manteigas 65.19 303 *i* - 18 44 30.2
MTE Manteigas 65.19 303 *e*P **P** **18 23 03.8 +0.4**
comp=Z,54nm,1.1s,mb5.5
EZAM Zamans 65.19 305 P **P** **18 23 03.6 +0.2**
EZAM pmax pmax
comp=Z,32nm,0.8s,mb5.4
EZAM Zamans 65.19 305 P **P** **18 23 03.6 +0.3**
comp=Z,32nm,0.8s,mb5.4
PVIS Viseu 65.29 303 *e*P **P** **18 23 04.4 +0.4**
comp=Z,58nm,1.2s,mb5.5
PCBR Castelo Branco 65.39 302 *e*P **P** **18 23 04.9 +0.2**
comp=Z,22nm,1.4s,mb5.0
EJIF Jimena Fronter 65.51 298 P **P** **18 23 04.5 -0.9**
EJIF pmax pmax
comp=Z,32nm,1.0s,mb5.3
EJIF Jimena Fronter 65.51 298 P **P** **18 23 04.5 -0.9**
comp=Z,32nm,1.0s,mb5.3
EBAD Badajoz 65.56 301 P **P** **18 23 04.1 -1.7**
comp=Z,28nm,0.9s,mb5.3
ESPR Espera 65.60 299 P **P** **18 23 04.8 -1.2**
comp=Z,37nm,1.0s,mb5.4
EMIN Mina Concepcio 65.77 300 P **P** **18 23 06.1 -1.0**
comp=Z,26nm,0.7s,mb5.4
SMY Shemya 65.85 42 PFAKE 18 23 20.0 +12
SMY LR LR
comp=Z,3µm,20.0s,MS5.5
PTOM Tomar 66.14 303 *e*P **P** **18 23 10.1 +0.6**
comp=Z,87nm,1.2s,mb5.7
EVO Evora 66.36 301 *e*P **P** **18 23 10.4 -0.5**
comp=Z,94nm,1.4s,mb5.3
EVO *e*R
comp=Z,502nm,21.5s
EGRO El Granado 66.45 300 P **P** **18 23 10.4 -1.0**
comp=Z,34nm,1.0s,mb5.3
PBEJ Beja 66.49 301 *e*P **P** **18 23 11.9 +0.2**
comp=Z,38nm,1.3s,mb5.3
MDT Midelt 66.56 294 LR LR 18 57 28.8
comp=Z,268nm,19.9s,MS4.5,baz=226,slow=41
TNA Tin City 67.07 24 *e*P **P** **18 23 16.5 +1.1**
comp=Z,39nm,1.1s,mb5.3
MBWA Marble Bar 68.76 138 ||*i*P **P** **18 23 24.6 -1.5**
comp=Z,63nm,1.1s,mb5.5
MBWA LR LR
comp=Z,632nm,20.0s,MS4.8
LSZ Lusaka 69.30 232 P **P** **18 23 29.5 +0.1**
SNR=11
LSZ Lusaka 69.30 232 P **P** **18 23 28.9 -0.5**
LSZ pmax pmax
comp=Z,60nm,1.3s,mb5.4
LSZ Lusaka 69.30 232 *e*P **P** **18 23 28.8 -0.6**
comp=Z,60nm,1.3s,mb5.4
LSZ LR LR
comp=Z,720nm,19.0s,MS4.9

FITZ Fitzroy Crossi 69.75 132 *e*P **P** **18 23 31.1 -1.1**
comp=Z,42nm,0.9s,mb5.4
FITZ Fitzroy Crossi 69.75 132 LR LR 18 57 32.6
comp=Z,239nm,20.8s,MS4.4,baz=189,slow=39
KAKA Kakadu 70.20 123 *e*P **P** **18 23 33.8 -1.1**
comp=Z,43nm,0.6s,mb5.5
SFJD Kangerlussuaq 70.64 341 *i* P **P** **18 23 37.0 -0.6**
comp=Z,60nm,0.8s,mb5.6
SFJD *i* S S 18 32 53.2 +2.3
SFJD
comp=Z,740nm,18.0s
SFJD Kangerlussuaq 70.64 341 *i* P **P** **18 23 37.0 -0.6**
SFJD *i* S S 18 32 53.2 +2.3
SFJD pmax pmax
comp=Z,60nm,0.8s,mb5.6
SFJD MLR MLR
comp=Z,740nm,18.0s,MS5.0
IMA2 Indian Mountai 71.11 20 *e*P **P** **18 23 40.4 -0.1**
TOA0 Torodi Ar. Sit 71.60 273 *e*P **P** **18 23 42.1 -1.3**
TORD Torodi Ar. Bea 71.60 273 P **P** **18 23 42.1 -1.3**
comp=Z,23nm,0.9s,mb5.1,baz=45,slow=5.7,SNR=119
TORD LR LR 18 59 09.0
comp=Z,926nm,18.4s,MS5.1,baz=60,slow=39
TTA Tatalina 72.72 23 *e*P **P** **18 23 51.1 +1.0**
COLA College 73.60 19 *i* P **P** **18 23 55.4 0.0**
COLA College 73.60 19 *e*P **P** **18 23 54.7 -0.6**
comp=Z,98nm,1.0s,mb5.7
COLA LR LR
comp=Z,892nm,20.0s,MS5.0
INK Inuvik 73.75 12 P **P** **18 23 56.3 +0.1**
INK pmax pmax
comp=Z,58nm,1.0s
INK Inuvik 73.75 12 *e*P **P** **18 23 56.1 -0.1**
comp=Z,58nm,1.1s,mb5.4
SVW2 Sparrevohn 74.19 24 *e*P **P** **18 24 00.1 +1.3**
MCK McKinley 74.21 20 P **P** **18 23 58.5 -0.4**
MCK pmax pmax
comp=Z,44nm,1.3s,mb5.2
MCK McKinley 74.21 20 *e*P **P** **18 23 58.3 -0.7**
comp=Z,44nm,1.4s,mb5.2
MCK LR LR
comp=Z,381nm,19.0s,MS4.7
EGAK Eagle 75.33 16 *e*P **P** **18 24 04.9 -0.5**
CFTV Fuerteventura 75.82 295 P **P** **18 24 08.1 -0.1**
comp=Z,28nm,1.0s,mb5.2
PMR Palmer 75.84 21 P **P** **18 24 07.9 -0.4**
PMR pmax pmax
comp=Z,26nm,0.8s,mb5.2
PMR Palmer 75.84 21 *e*P **P** **18 24 07.5 -0.9**
comp=Z,26nm,0.8s,mb5.2
PMR LR LR
comp=Z,1µm,17.0s,MS5.2
MUN Mundaring 76.05 147 *e*P **P** **18 24 08.1 -1.4**
DAWY Dawson 76.33 16 *e*P **P** **18 24 10.5 -0.7**
SLKM Skilak Lake 76.36 22 P **P** **18 24 10.8 -0.5**
SLKM Skilak Lake 76.36 22 *e*P **P** **18 24 10.7 -0.6**
KLBR Kellerberrin 76.42 146 *e*P **P** **18 24 09.8 -1.8**
comp=Z,43nm,0.8s,mb5.4
WRA Warramunga Arr 76.62 127 P **P** **18 24 12.0 -0.7**
comp=Z,46nm,0.9s,mb5.4,baz=327,slow=5.4,SNR=218
WRA PKKPbc PKKPbc 18 43 23.6 +0.1
comp=Z,0.8nm,0.8s,baz=143,slow=1.8,SNR=5.3
WRA LR LR 19 05 53.9
comp=Z,197nm,18.4s,MS4.5,baz=235,slow=42
WRAB Tennant Creek 76.62 127 P **P** **18 24 12.6 -0.1**
comp=Z,498nm,1.1s,mb6.4,SNR=18
WRAB Tennant Creek 76.62 127 *d*iP **P** **18 24 12.1 -0.6**
WRAB Tennant Creek 76.62 127 *e*P **P** **18 24 11.6 -1.2**
comp=Z,126nm,1.0s,mb5.8
WB2 Warramunga Arr 76.62 127 ||*i*P **P** **18 24 11.9 -0.9**
EOSO Osorio 77.09 295 P **P** **18 24 15.3 -0.2**
comp=Z,71nm,1.1s,mb5.5
DIV Divide 77.19 20 *e*P **P** **18 24 17.0 +1.1**
comp=Z,147nm,1.3s,mb5.8
DIV LR LR
comp=Z,4µm,20.0s,MS5.7
NWAO Narrogin (SRO) 77.31 147 LR LR 18 57 20.3
comp=Z,1µm,20.8s,MS5.2,baz=331,slow=35
EBAJ Bajamar 77.42 296 P **P** **18 24 17.0 -0.2**
comp=Z,20nm,0.6s,mb5.2
FRB Frobisher Bay 77.56 346 LR LR 19 01 18.7
comp=Z,1µm,20.4s,MS5.2,baz=210,slow=38
EYAK Cordova Ski Ar 77.67 21 *e*P **P** **18 24 19.3 +0.7**
KDAK Kodiak Island 77.69 25 P **P** **18 24 19.3 +0.5**
comp=Z,441nm,0.8s,mb6.4,SNR=6.9
KDAK Kodiak Island 77.69 25 *e*P **P** **18 24 18.9 +0.2**
comp=Z,133nm,1.3s,mb5.7
KDAK LR LR
comp=Z,479nm,19.0s,MS4.8
CCAN Las Canadas 77.78 296 P **P** **18 24 20.4 +1.1**
comp=Z,36nm,0.9s,mb5.3
LBTB Lobatse 78.16 227 P **P** **18 24 21.2 -0.2**
LBTB pmax pmax
comp=Z,230nm,1.1s,mb6.0
LBTB Lobatse 78.16 227 *e*P **P** **18 24 21.1 -0.2**
comp=Z,233nm,1.1s,mb6.0
LBTB LR LR
comp=Z,674nm,20.0s,MS5.0
EGOM La Gomera 78.26 296 P **P** **18 24 21.6 -0.4**
comp=Z,56nm,0.8s,mb5.5
PMG Port Moresby 78.73 110 LR LR 19 03 15.5
comp=Z,228nm,19.3s,MS4.5,baz=151,slow=39
PMG Port Moresby 78.73 110 P **P** **18 24 25.1 +0.5**
PMG pmax pmax
comp=Z,160nm,0.9s
PMG Port Moresby 78.73 110 *e*P **P** **18 24 25.0 +0.4**
comp=Z,165nm,0.8s,mb6.0
ASPA Alice Springs 79.02 130 *e*P **P** **18 24 25.3 -0.8**
AS31 Alice Springs 79.02 130 *e*P **P** **18 24 25.3 -0.8**
ASAR Alice Springs 79.02 130 P **P** **18 24 25.2 -0.9**
comp=Z,34nm,0.8s,mb5.3,baz=316,slow=5.5,SNR=359
ASAR PKKPbc PKKPbc 18 43 18.8 +0.6
comp=Z,1.1nm,0.7s,baz=125,slow=2.3,SNR=11
ASAR PKPPKP 18 51 26.1
comp=Z,0.9nm,0.9s,baz=119,slow=1.5,SNR=4.9
ASAR LR LR 19 07 45.4
comp=Z,272nm,20.8s,MS4.6,baz=310,slow=42
TSUM Tsumeb 79.15 237 *e*P **P** **18 24 27.1 +0.2**
comp=Z,48nm,1.2s,mb5.3
DBIC Dimbokro 80.56 271 P **P** **18 24 33.9 -0.6**
comp=Z,48nm,1.0s,mb5.4,baz=41,slow=6.5,SNR=25
DBIC LR LR 19 03 35.0
comp=Z,776nm,19.2s,MS5.1,baz=34,slow=38
DBIC Dimbokro 80.56 271 P **P** **18 24 33.9 -0.6**
DBIC pmax pmax
comp=Z,48nm,1.0s
DBIC MLR MLR
comp=Z,776nm,19.2s
DBIC Dimbokro 80.56 271 *e*P **P** **18 24 33.5 -0.9**
comp=Z,54nm,1.0s,mb5.4
DBIC LR LR
comp=Z,869nm,21.0s,MS5.1
FORT Forrest 80.92 138 *e*P **P** **18 24 35.0 -1.4**
comp=Z,138nm,0.7s,mb6.0
LIC Lamto 80.95 271 *e*P **P** **18 24 35.0 -1.6**
comp=Z,130nm,1.1s,mb5.5
LIC *e*R
comp=Z,2µm,22.2s
LIC Lamto 80.95 271 *e*P **P** **18 24 35.0 -1.6**
comp=Z,65nm,1.1s,mb5.5
LIC LR LR
comp=Z,790nm,22.3s,MS5.0
BOSA Boshof 81.05 225 P **P** **18 24 36.5 -0.5**
comp=Z,99nm,0.9s,mb5.7,baz=43,slow=6.6,SNR=74
BOSA LR LR 19 04 18.3
comp=Z,510nm,18.2s,MS4.9,baz=27,slow=38
BOSA Boshof 81.05 225 P **P** **18 24 36.6 -0.5**
BOSA pmax pmax
comp=Z,99nm,1.0s,mb5.7
BOSA MLR MLR
comp=Z,510nm,18.2s,MS4.9
BOSA Boshof 81.05 225 *e*P **P** **18 24 36.4 -0.7**
comp=Z,137nm,1.0s,mb5.8
BOSA LR LR
comp=Z,573nm,19.0s,MS5.0
SKAG Skagway 81.31 17 *e*P **P** **18 24 39.2 +0.7**
comp=Z,198nm,1.8s,mb5.7
SKAG LR LR
comp=Z,500nm,18.0s,MS4.9
YKA Yellowknife Ar 81.73 6 P **P** **18 24 39.8 -0.9**
comp=Z,27nm,0.7s,mb5.3,baz=344,slow=5.2,SNR=38
YKA LR LR 19 04 31.3
comp=Z,995nm,18.6s,MS5.2,baz=5.0,slow=38
YKA Yellowknife Ar 81.73 6 P **P** **18 24 39.8 -0.9**
YKA LR LR 19 04 31.3
SIT Sitka 83.46 18 PFAKE 18 25 00.0 +10
SIT LR LR
comp=Z,1µm,19.0s,MS5.3
WRAK Wrangell Islan 84.75 16 *e*P **P** **18 24 57.3 +1.0**
CTA Charters Tower 84.88 119 ||*i*P **P** **18 24 56.5 -0.4**
comp=Z,86nm,0.8s,mb5.9
CTA Charters Tower 84.88 119 LR LR 19 06 28.3
comp=Z,354nm,21.3s,MS4.7,baz=285,slow=38
CTA Charters Tower 84.88 119 ||*i*P **P** **18 24 56.5 -0.4**
CTA pmax pmax
comp=Z,86nm,0.8s
CTAO Charters Tower 84.88 119 P **P** **18 24 56.8 -0.1**
CTAO pmax pmax
comp=Z,150nm,1.0s,mb6.1
CTAO Charters Tower 84.88 119 *e*P **P** **18 24 56.5 -0.4**
comp=Z,147nm,0.9s,mb6.1
CTAO LR LR
comp=Z,528nm,22.0s,MS4.9
SCHQ Schefferville 85.09 341 P **P** **18 24 58.0 0.0**
comp=Z,5.7nm,0.7s,mb4.8,baz=43,slow=11,SNR=3.8
SCHQ LR LR 19 03 15.8
comp=Z,1µm,21.6s,MS5.2,baz=20,slow=36
FCC Fort Churchill 85.80 356 P **P** **18 25 01.6 +0.1**
FCC pmax pmax
comp=Z,190nm,1.7s,mb6.0
FCC Fort Churchill 85.80 356 *e*P **P** **18 25 01.4 -0.2**
comp=Z,194nm,1.8s,mb6.0
SUR Sutherland 86.41 226 P **P** **18 25 05.6 +1.1**
comp=Z,457nm,1.1s,mb6.6,SNR=5.6
SUR Sutherland 86.41 226 P **P** **18 25 05.9 +1.3**
SNR=8.0
SUR Sutherland 86.41 226 *e*P **P** **18 25 05.5 +1.0**
comp=Z,713nm,2.1s,mb6.5
BBOO Buckleboo 86.94 134 *e*P **P** **18 25 04.9 -2.2**
comp=Z,30nm,0.9s,mb5.5
HNR Honiara 88.75 102 LR LR 19 02 26.3
comp=Z,215nm,18.4s,MS4.6,baz=360,slow=34
HNR Honiara 88.75 102 PFAKE 18 25 30.0 +14
HNR LR LR
comp=Z,269nm,20.0s,MS4.7
STKA Stephens Creek 89.61 130 P **P** **18 25 18.9 -1.0**
comp=Z,15nm,0.8s,mb5.4,baz=326,slow=5.0,SNR=22
STKA LR LR 19 12 36.9
comp=Z,460nm,18.6s,MS4.9,baz=293,slow=40
STKA Stephens Creek 89.61 130 *e*P **P** **18 25 18.5 -1.3**
FFC Flin Flon 90.07 0 P **P** **18 25 21.9 -0.1**
comp=Z,193nm,1.2s,mb6.3,SNR=10
FFC Flin Flon 90.07 0 *e*P **P** **18 25 21.1 -0.9**
FFC pmax pmax
comp=Z,50nm,1.1s,mb5.8
FFC MLR MLR
comp=Z,351nm,19.0s,MS4.8
FFC Flin Flon 90.07 0 *e*P **P** **18 25 21.1 -0.9**
comp=Z,50nm,1.1s,mb5.8
FFC LR LR
comp=Z,351nm,19.0s,MS4.8
EDM Edmonton 91.00 7 *e*P **P** **18 25 26.1 -0.2**
PNT Penticton 94.01 12 P **P** **18 25 40.3 +0.1**
MCW Mount Constitu 94.04 14 P **P** **18 25 41.2 +0.8**
ULM Lac du Bonnet 94.39 356 P **P** **18 25 40.5 -1.5**
comp=Z,8.3nm,0.9s,mb5.2,baz=9.3,slow=7.6,SNR=6.2
ULM LR LR 19 13 12.7
comp=Z,976nm,18.1s,MS5.3,baz=252,slow=39
ULM Lac du Bonnet 94.39 356 *e*P **P** **18 25 40.0 -1.9**
comp=Z,42nm,1.5s,mb5.7
OBC Olympics--Boni 94.41 15 P **P** **18 25 43.7 +1.6**
CMW Cultus Mountai 94.43 13 P **P** **18 25 42.7 +0.6**
JCW Jim Creek 94.68 13 P **P** **18 25 43.8 +0.5**
WALA Waterton Lakes 95.05 8 *e*P **P** **18 25 44.4 -0.6**
comp=Z,22nm,1.3s,mb5.4
ARMA Armidale 95.19 124 *e*P **P** **18 25 45.4 -0.2**
NEW Newport 95.42 10 P **P** **18 25 47.1 +0.5**
NEW pmax pmax
comp=Z,10.0nm,0.9s
NEW Newport 95.42 10 *e*P **P** **18 25 46.3 -0.3**
comp=Z,9.9nm,0.9s,mb5.2
NEW LR LR
comp=Z,1µm,21.0s,MS5.3
TOO Toolangi 95.80 133 *e*P **P** **18 25 48.2 -0.2**
comp=Z,8.9nm,0.9s,mb5.2
TOO Toolangi 95.80 133 *e*P **P** **18 25 48.2 -0.2**
TOO pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
FMW Mount Fremont 95.94 14 P **P** **18 25 49.6 +0.6**
LBNH Lisbon 96.07 339 PFAKE 18 26 00.0 +10
LBNH LR LR
comp=Z,1µm,22.0s,MS5.3
DGMT Dagmar 96.30 2 *e*P **P** **18 25 51.3 +0.6**
comp=Z,36nm,1.1s,mb5.7
DGMT LR LR
comp=Z,1µm,19.0s,MS5.3
EYMN Ely 96.35 353 *e*P **P** **18 25 49.6 -1.3**
comp=Z,2.3nm,1.1s,mb4.5
EYMN LR LR
comp=Z,92nm,20.0s,MS4.3
LONY Lake Ozonia 96.46 341 *e*P **P** **18 25 51.6 +0.2**
EGMT Eagleton 96.47 5 PFAKE 18 26 00.0 +8.6
EGMT LR LR
comp=Z,769nm,19.0s,MS5.2
HAWA Hanford 96.85 12 PFAKE 18 26 00.0 +6.8
HAWA LR LR
comp=Z,81nm,21.0s,MS4.2
NCB Newcomb 96.97 340 PFAKE 18 26 00.0 +6.3
NCB LR LR
comp=Z,791nm,20.0s,MS5.2
CHMT Chamberlain Mo 97.24 8 *e*P **P** **18 25 54.5 -0.4**
MSO Missoula 97.25 8 PFAKE 18 26 10.0 +15
MSO LR LR
comp=Z,660nm,20.0s,MS5.1
HRV Harvard--Oak R 97.54 338 PFAKE 18 26 10.0 +14
HRV LR LR
comp=Z,847nm,20.0s,MS5.2
HRY Holter Researc 97.59 7 *e*P **P** **18 25 56.7 +0.1**
COR Corvallis 97.86 15 PFAKE 18 26 10.0 +12
COR LR LR
comp=Z,570nm,21.0s,MS5.0
LAO LASA Array 98.02 3 PFAKE 18 26 10.0 +12
LAO LR LR
comp=Z,741nm,19.0s,MS5.2
GCMT Greycliff 98.70 6 *e*P **P** **18 26 02.0 +0.5**
BMO Blue Mountains 98.72 11 PFAKE 18 26 10.0 +8.4
BMO LR LR
comp=Z,711nm,21.0s,MS5.1
BINY Binghamton 99.09 341 PFAKE 18 26 10.0 +6.8
BINY LR LR
comp=Z,913nm,20.0s,MS5.3
MCMT McKenzie Canyo 99.35 8 *e*P **P** **18 26 04.2 -0.2**
LKWY Lake 99.85 6 PFAKE 18 26 20.0 +13
LKWY LR LR
comp=Z,2µm,20.0s,MS5.5
ERPA Erie 100.16 344 PFAKE 18 26 20.0 +12
ERPA LR LR
comp=Z,1µm,20.0s,MS5.3
HLID Hailey 100.40 9 PFAKE 18 26 20.0 +11
HLID LR LR
comp=Z,972nm,19.0s,MS5.3
RSSD Black Hills 100.66 2 P Pdif 18 26 12.5 +2.3
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 100.66 2 *e*Pdif Pdif 18 26 10.6 +0.4
comp=Z,4.2nm,0.9s
AAM Ann Arbor 100.75 346 PFAKE 18 26 20.0 +9.4
AAM LR LR
comp=Z,544nm,19.0s,MS5.1
ECSD EROS,Sioux Fal 100.93 356 *e*Pdif Pdif 18 26 11.4 -0.1
MOD Modoc 101.05 14 PFAKE 18 26 20.0 +8.1
MOD LR LR
comp=Z,406nm,21.0s,MS4.9
JFWS Jewell Farm 101.19 351 PFAKE 18 26 20.0 +7.5
JFWS LR LR
comp=Z,1µm,20.0s,MS5.5
AHID Auburn Hatcher 101.57 7 PFAKE 18 26 30.0 +16
AHID LR LR
comp=Z,833nm,20.0s,MS5.2
BW06 Boulder Array 101.71 6 PFAKE 18 26 30.0 +15
BW06 LR LR
comp=Z,1µm,19.0s,MS5.4
PDAR Pinedale Array 101.71 6 Pdiff Pdif 18 26 14.7 -0.2
comp=Z,0.3nm,0.7s,baz=60,slow=3.9,SNR=3.1
PDAR PP PP 18 30 22.9 -2.4
comp=Z,0.9nm,0.9s,baz=45,slow=6.5,SNR=4.1
PDAR PKiKP PKiKP 18 30 38.1 -0.1
comp=Z,2.4nm,0.7s,baz=43,slow=3.1,SNR=11
PDAR Pinedale Array 101.71 6 Pdif Pdif 18 26 14.7 -0.2
PDAR PP PP 18 30 22.9 -2.4
MCWV Mont Chateau 102.46 343 PFAKE 18 26 30.0 +12
MCWV LR LR
comp=Z,1µm,20.0s,MS5.4

ACSO	**Alum Creek Sta**	**102.61**	**345**	PFAKE		18 26 30.0	+11
ACSO				LR	LR		
	comp=Z,303nm,19.0s,MS4.8						
HWUT	**Hardware Ranch**	**102.67**	**8**	PFAKE		18 26 30.0	+11
HWUT				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
BMN	**Battle Mountai**	**103.04**	**12**	PFAKE		18 26 30.0	+9.2
BMN				LR	LR		
	comp=Z,757nm,20.0s,MS5.2						
ELK	**Elko**	**103.05**	**10**	PFAKE		18 26 30.0	+9.2
ELK				LR	LR		
	comp=Z,901nm,20.0s,MS5.3						
CBN	**Corbin**	**103.20**	**340**	PFAKE		18 26 30.0	+8.5
CBN				LR	LR		
	comp=Z,823nm,19.0s,MS5.3						
HOPS	**Hopland**	**103.23**	**17**	PFAKE		18 26 30.0	+8.3
HOPS				LR	LR		
	comp=Z,606nm,19.0s,MS5.2						
MAW	**Mawson**	**103.51**	**186**	PFAKE		18 26 30.0	+7.1
MAW				LR	LR		
	comp=Z,940nm,20.0s,MS5.3						
FUNA	**Funafuti**	**103.80**	**91**	PFAKE		18 26 40.0	+16
FUNA				LR	LR		
	comp=Z,10µm,19.0s						
DUG	**Dugway**	**103.92**	**9**	PFAKE		18 26 40.0	+15
DUG				LR	LR		
	comp=Z,562nm,20.0s,MS5.1						
MPU	**Maple Canyon**	**104.24**	**8**	PFAKE		18 26 40.0	+14
MPU				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
CASY	**Casey**	**104.53**	**167**	PFAKE		18 26 40.0	+13
CASY				LR	LR		
	comp=Z,620nm,21.0s,MS5.1						
CMB	**Columbia Colle**	**104.75**	**15**	PFAKE		18 26 40.0	+12
CMB				LR	LR		
	comp=Z,801nm,19.0s,MS5.3						
NVAR	**Mina Array Bea**	**104.79**	**13**	Pdiff	Pdif	18 26 29.3	+0.7
	comp=Z,0.5nm,0.7s,baz=357,slow=3.3,SNR=4.8						
NVAR				PKiKP	PKiKP	18 30 45.0	+1.2
	comp=Z,1.7nm,0.9s,baz=327,slow=1.6,SNR=6.5						
ISCO	**Idaho Springs**	**104.92**	**3**	PFAKE		18 31 00.0	+16
ISCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
BLA	**Blacksburg**	**104.92**	**343**	PFAKE		18 31 00.0	+16
BLA				LR	LR		
	comp=Z,88nm,21.0s,MS4.3						
SMCO	**Snowmass**	**105.47**	**4**	*e*PKiKP	PKiKP	18 30 41.6	-3.6
SDCO	**Great Sand Dun**	**106.97**	**3**	PFAKE		18 31 00.0	+12
SDCO				LR	LR		
	comp=Z,2µm,19.0s,MS5.6						
DAC	**Darwin (Calif)**	**107.01**	**13**	PFAKE		18 31 00.0	+12
DAC				LR	LR		
	comp=Z,873nm,20.0s,MS5.3						
ISA	**Isabella**	**107.44**	**14**	P	Pdif	18 26 53.9	+14
ISA	**Isabella**	**107.44**	**14**	PFAKE		18 31 00.0	+11
ISA				LR	LR		
	comp=Z,128nm,19.0s,MS4.5						
PLAL	**Pickwick Lake**	**108.66**	**348**	PFAKE		18 31 00.0	+9.0
PLAL				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
ANMO	**Albuquerque**	**109.70**	**4**	PFAKE		18 31 00.0	+7.0
ANMO				LR	LR		
	comp=Z,844nm,19.0s,MS5.3						
PFO	**Pinyon Flat Ob**	**109.82**	**13**	PFAKE		18 31 00.0	+6.8
PFO				LR	LR		
	comp=Z,185nm,19.0s,MS4.7						
MIAR	**Mount Ida**	**109.83**	**353**	PFAKE		18 31 00.0	+6.8
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.6						
LRAL	**Lakeview Retre**	**110.37**	**347**	PFAKE		18 31 10.0	+16
LRAL				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
DRV	**Dumont d'Urvil**	**112.18**	**158**	PP	PP	18 31 41.0	-1.2
NATX	**Nacogdoches**	**112.69**	**353**	PFAKE		18 31 10.0	+11
NATX				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
RCBR	**Riachuelo**	**112.97**	**280**	PFAKE		18 31 10.0	+11
RCBR				LR	LR		
	comp=Z,537nm,20.0s,MS5.1						
MNTX	**Cornudas Mount**	**113.00**	**3**	*e*PKiKP	PKiKP	18 30 59.8	+0.6
MNTX				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
DWPF	**Disney**	**113.82**	**340**	PFAKE		18 31 10.0	+9.2
DWPF				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
JCT	**Junction City**	**114.27**	**358**	PFAKE		18 31 10.0	+8.3
JCT				LR	LR		
	comp=Z,976nm,20.0s,MS5.4						
HKT	**Hockley**	**114.59**	**354**	PFAKE		18 31 10.0	+7.7
HKT				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
URZ	**Urewera**	**117.13**	**119**	PKP	PKPdf	18 31 04.1	-3.1
	comp=Z,17nm,0.8s,baz=254,slow=3.6						
SNAA	**Sanae**	**120.62**	**201**	PKP	PKPdf	18 31 12.2	-1.7
	comp=Z,2.7nm,0.9s,baz=81,slow=2.5,SNR=21						
SNAA	**Sanae**	**120.62**	**201**	PKIKP	PKPdf	18 31 12.2	-1.7
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SNAA	**Sanae**	**120.62**	**201**	*e*PKPdf	PKPdf	18 31 11.7	-2.2
VNDA	**Vanda**	**123.06**	**165**	PKP	PKPdf	18 31 15.7	-2.9
	comp=Z,3.3nm,0.9s,baz=285,slow=4.1,SNR=13						
SBA	**Scott Base**	**124.16**	**165**	PKIKP	PKPdf	18 31 19.7	-1.0
SBA	**Scott Base**	**124.16**	**165**	*e*PKPdf	PKPdf	18 31 19.2	-1.4
QSPA	**South Pole Qui**	**125.36**	**180**	*e*P	PKPdf	18 31 20.5	-2.5
SDV	**Santo Domingo**	**126.92**	**320**	*e*PKPdf	PKPdf	18 31 25.7	-0.3
BDFB	**Brasilia**	**128.29**	**278**	PKP	PKPdf	18 31 28.8	+0.2
	comp=Z,10nm,1.0s,baz=85,slow=1.4,SNR=7.4						
BDFB	**Brasilia**	**128.29**	**278**	PKP	PKPdf	18 31 28.8	+0.2
BDFB				LR	LR		
	comp=Z,795nm,20.0s,MS5.4						
JTS	**JuntasAbangare**	**131.70**	**338**	PFAKE		18 31 50.0	+15
JTS				LR	LR		
	comp=Z,152nm,19.0s,MS4.7						
ROSC	**El Rosal**	**132.25**	**322**	PKP	PKPdf	18 31 37.1	+1.0
	comp=Z,11nm,0.5s,baz=118,slow=22,SNR=13						
ROSC	**El Rosal**	**132.25**	**322**	*e*PKPdf	PKPdf	18 31 38.5	+2.4
SAML	**Samuel**	**135.99**	**298**	*e*PKPdf	PKPdf	18 31 42.6	-0.5
SAML				LR	LR		
	comp=Z,460nm,22.0s,MS5.2						
TAOE	**Nuku Hiva Isla**	**136.06**	**62**	*e*LR	LR	19 15 29.5	
	comp=Z,714nm,23.4s						
TBI	**Tubuai**	**137.09**	**87**	*e*LR	LR	19 15 57.6	
	comp=Z,324nm,24.8s						
CPUP	**Villa Florida**	**141.07**	**271**	PKhKP		18 31 47.0	
	comp=Z,2.1nm,0.7s,baz=76,slow=5.7,SNR=6.8						
CPUP				PKP	PKPdf	18 31 51.6	-0.8
	comp=Z,6.6nm,0.9s,baz=30,slow=5.9,SNR=8.6						
CPUP	**Villa Florida**	**141.07**	**271**	*e*PKPpre		18 31 47.1	
CPUP				PKP	PKPdf	18 31 51.6	-0.8
CPUP				*e*PKPdf	PKPdf	18 31 52.1	-0.3
PAYG	**Puerto Ayora**	**143.68**	**340**	PFAKE		18 32 10.0	+13
PAYG				LR	LR		
	comp=Z,560nm,20.0s,MS5.3						
LPAZ	**La Paz**	**144.43**	**294**	PKP	PKPdf	18 31 57.2	-1.2
	comp=Z,6.8nm,0.8s,baz=55,slow=3.7,SNR=14						
LPAZ	**La Paz**	**144.43**	**294**	PKIKP	PKPdf	18 31 57.2	-1.2
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPAZ	**La Paz**	**144.43**	**294**	*e*PKPpre		18 31 56.6	
LPAZ				LR	LR		
	comp=Z,817nm,22.0s,MS5.5						
EFI	**East Falkland**	**145.11**	**229**	PKIKP	PKPdf	18 31 58.0	-1.5
EFI	**East Falkland**	**145.11**	**229**	*e*PKPdf	PKPdf	18 31 57.8	-1.7
ARE	**Arequipa**	**147.01**	**297**⇑	*i*PKP2	PKPab	18 32 04.9	-1.4
TRQA	**Tornquist**	**148.22**	**254**	*e*PKPdf	PKPdf	18 32 04.8	0.0
PLCA	**Paso Flores**	**155.00**	**249**	PKP	PKPdf	18 32 14.3	-0.7
	comp=Z,13nm,1.1s,baz=157,slow=2.4,SNR=9.9						
PLCA				PKPab	PKPab	18 32 38.4	-0.9
	comp=Z,6.0nm,1.0s,baz=150,slow=7.0,SNR=4.1						
PLCA	**Paso Flores**	**155.00**	**249**	*e*PKPdf	PKPdf	18 32 14.7	-0.4

*IDC **11** 18:31:23.5±1.3, 1645S×16825E, h0^{km}, mb4.2/8, mb1 4.4/9, mb1mx4.2/16, mbtmp4.2/9, ML4.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=39.3km s-min=21.1km az=125.0*
*ISCJB **11** 18:31:24.4±6.6, 1652S±0.10×1682E±02, h16^{km}±47^{km}, mb4.1/9, Error ellipse: s-maj=30.2km s-min=15.4km az=20.5*
*NEIC **11** 18:31:25.0±0.8, 1644S×16825E, h10^{km}, mb4.2/1, Error ellipse: s-maj=21.8km s-min=12.7km az=117.0*
ISC 11 18:31:26.5±6.7**, 1650S**±008×**1683E**±02**, h18**^{km}±41^{km}**, n16,** σ**0^{s}80**/16**, mb4.1**/9**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.81**	**197**	*e*P	**Pn**	**18 32 51.3**	**-0.4**
DZM				*e*S	**Sn**	**18 33 56.6**	**-1.3**
DZM	**Mont Dzumac**	**5.81**	**197**	Pn	**Pn**	**18 32 51.7**	**-0.1**
	18nm,0.3s,baz=49,slow=16,SNR=118						
DZM				Sn	**Sn**	**18 33 58.8**	**+1.0**
	2.5nm,0.3s,baz=316,slow=22,SNR=7.3						
HNR	**Honiara**	**10.73**	**310**	LR	LR	18 37 38.5	
	comp=Z,87nm,19.6s,baz=359,slow=35						
CTA	**Charters Tower**	**21.21**	**257**	P	**P**	**18 36 14.7**	**+3.5**
	2.7nm,0.6s,mb3.7,baz=79,slow=15,SNR=4.0						
STKA	**Stephens Creek**	**28.65**	**233**	*e*P	**P**	**18 37 23.3**	**+1.2**
	4.3nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**28.65**	**233**	P	**P**	**18 37 22.9**	**+0.9**
	5.5nm,0.8s,mb4.3,baz=68,slow=6.3,SNR=7.4						
WRA	**Warramunga Arr**	**32.39**	**259**	P	**P**	**18 37 55.1**	**0.0**
	1.0nm,0.8s,mb3.7,baz=91,slow=8.3,SNR=6.5						
AS31	**Alice Springs**	**33.00**	**252**	*e*P	**P**	**18 38 00.4**	**-0.1**
ASAR	**Alice Springs**	**33.00**	**252**	P	**P**	**18 38 00.6**	**+0.1**
	8.8nm,0.6s,mb4.8,baz=78,slow=8.2,SNR=152						
ASPA	**Alice Springs**	**33.00**	**252**	*e*P	**P**	**18 38 00.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.68**	**261**	P	**P**	**18 39 05.2**	**-0.5**
	1.4nm,0.8s,mb3.6,baz=129,slow=13						
NWAO	**Narrogin (SRO)**	**48.70**	**241**	P	**P**	**18 40 09.2**	**-0.6**
	5.9nm,0.7s,mb4.7,baz=132,slow=15,SNR=4.6						
MJAR	**Matsushiro Arr**	**59.91**	**332**	P	**P**	**18 41 30.1**	**-1.3**
	1.1nm,0.8s,mb3.9,baz=160,slow=8.9,SNR=4.3						
SONM	**Songino Array**	**84.49**	**323**	P	**P**	**18 43 59.2**	**+0.9**
	0.9nm,1.1s,mb3.8,baz=116,slow=6.8,SNR=3.9						
NVAR	**Mina Array Bea**	**87.69**	**49**	P	**P**	**18 44 14.3**	**+0.3**
	0.9nm,0.8s,mb4.1,baz=234,slow=8.8,SNR=6.0						
ARCES	**ARCESS Array B**	**122.20**	**345**	PKP	PKPdf	18 50 19.2	-1.0
	1.4nm,0.7s,baz=48,slow=1.8,SNR=4.7						

*ISCJB **11** 18:40:37.9±0.6, 32N±02×1219E±04, h600^{km}, mb3.6/8, Error ellipse: s-maj=62.3km s-min=10.1km az=133.3*
*IDC **11** 18:40:38.2±5.2, 302N×12147E, h575^{km}±78^{km}, mb3.0/8, mb1 3.1/8, mb1mx2.9/20, mbtmp3.9/8, Error ellipse: s-maj=82.3km s-min=17.5km az=67.0*
*NEIC **11** 18:40:39.9±0.5, 334N×122.13E, h600^{km}, mb4.5/1, Error ellipse: s-maj=58.6km s-min=8.8km az=66.0*
ISC 11 18:40:39.7±0.6**, 33N**±02×**1220E**±05**, h600**^{km}**, n14,** σ**0^{s}79**/14**, mb3.6**/8**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**18.97**	**147**	*e*P	**P**	**18 44 24.2**	**+0.2**
	8.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.53**	**170**	*e*P	**P**	**18 44 44.2**	**-2.9**
	12nm,1.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**21.53**	**170**	P	**P**	**18 44 44.1**	**-3.0**
	1.4nm,0.8s,mb3.6,baz=193,slow=15,SNR=6.2						
WRAB	**Tennant Creek**	**26.06**	**153**	*e*P	**P**	**18 45 27.2**	**0.0**
WRA	**Warramunga Arr**	**26.06**	**153**	P	**P**	**18 45 27.0**	**-0.1**
	2.3nm,0.4s,mb4.2,baz=335,slow=9.6,SNR=47						
WB2	**Warramunga Arr**	**26.07**	**153**	*e*P	**P**	**18 45 27.0**	**-0.2**
ASAR	**Alice Springs**	**29.18**	**157**	P	**P**	**18 45 55.1**	**+0.8**
	1.0nm,0.6s,mb3.7,baz=332,slow=7.2,SNR=19						
STKA	**Stephens Creek**	**39.61**	**153**	*e*P	**P**	**18 47 21.7**	**+0.8**
STKA	**Stephens Creek**	**39.61**	**153**	P	**P**	**18 47 21.1**	**+0.2**
	0.7nm,0.3s,mb3.6,baz=332,slow=22,SNR=8.3						
SONM	**Songino Array**	**46.39**	**346**	P	**P**	**18 48 14.1**	**+0.6**
	1.2nm,0.6s,mb3.6,baz=162,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**55.32**	**328**	P	**P**	**18 49 18.9**	**+0.9**
	1.2nm,0.4s,mb3.6,baz=123,slow=7.8,SNR=26						
MKAR				PcP	PcP	18 50 09.2	-0.2
	0.4nm,0.5s,baz=123,slow=4.5,SNR=5.0						
YAK	**Yakutsk**	**58.92**	**4**	P	**P**	**18 49 41.6**	**-0.9**
ZAL	**Zalesovo**	**58.94**	**335**	P	**P**	**18 49 41.8**	**-0.8**
	0.8nm,0.3s,mb3.3,baz=303,slow=4.3,SNR=3.1						
BVAR	**Borovoye Array**	**65.18**	**329**	P	**P**	**18 50 22.9**	**0.0**
	0.3nm,0.3s,mb3.2,baz=152,slow=8.0,SNR=4.7						

*NEIC **11** 18:41:12.0, 3238S×11888E, h2^{km}, ML2.5(AUST), After AUST.*
AUST 11 18:41:12.1, 3238S×11888E, h2^{km}, ML2.5, 2C-2D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.24**	**309**⇓	*i*P	Pg	18 41 34.3	-1.5
KLBR				*e*S	Sg	18 41 50.0	-1.9
	170nm,0.5s						
NWAO	**Narrogin (SRO)**	**1.49**	**248**⇓	*i*P	Pn	18 41 38.2	-1.6
NWAO				*e*S	Sb	18 41 58.0	-1.8
	141nm,0.2s						
MUN	**Mundaring**	**2.30**	**279**	*e*P	Pn	18 41 50.7	-0.3
MUN				*e*S	Sn	18 42 18.7	-1.1
RKGY	**Rocky Gully**	**2.73**	**215**	*e*P	Pn	18 41 56.6	-0.3
RKGY				*e*S	Sn	18 42 30.5	0.0
	11nm,0.2s						
KMBL	**Kambalda**	**2.75**	**69**	*e*P	Pn	18 41 55.3	-1.9
KMBL				*e*S	Sn	18 42 28.5	-2.5
	19nm,0.2s						
KMBL				*e*RG		18 42 51.9	
MORW	**Morawa**	**4.11**	**323**	*e*P	Pn	18 42 13.5	-2.4
MORW				*e*S	Sn	18 42 59.4	-5.1
	4.5nm,0.2s						
MEEK	**Meekatharra**	**5.73**	**358**⇑	*i*P	Pn	18 42 35.9	-2.2
MEEK				*e*S	Sn	18 43 35.6	-8.8
	9.7nm,0.4s						
MEEK	**Meekatharra**	**5.73**	**358**⇑	*i*P	Pn	18 42 35.9	-2.2
	9.7nm,0.4s						
MEEK				*e*S	Sn	18 43 35.6	-8.8
FORT	**Forrest**	**8.00**	**81**	*e*P	Pn	18 43 06.0	-3.3
FORT				*e*S	Sn	18 44 33.0	-7.2
	8.5nm,0.6s						
FORT	**Forrest**	**8.00**	**81**	*e*P	Pn	18 43 06.0	-3.3
	8.5nm,0.6s						
FORT				*e*S	Sn	18 44 33.0	-7.2

*ISCJB **11** 18:42:43.8±0.5, 5976N±003×2441E±009, h0^{km}, Error ellipse: s-maj=6.3km s-min=4.1km az=162.4*
*HEL **11** 18:42:45.6±0.1, 5976N×2449E, h0^{km}, ML2.2, Explosion*
*IDC **11** 18:42:47.6±0.9, 5987N×2446E, h0^{km}, mb1 3.3/4, mb1mx3.1/22, mbtmp3.2/4, ML3.4/4, Error ellipse: s-maj=10.3km s-min=5.8km az=140.0*
ISC 11 18:42:44.7±0.5**, 5976N**±003×**2450E**±008**, h0**^{km}**, n14,** σ**0^{s}74**/20**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.30**	**192**	*e*P	**Pg**	**18 42 50.9**	**+0.5**
SRPE				*e*S	**Sg**	**18 42 54.1**	**-0.2**
MEF	**Metsahovi**	**0.47**	**354**	*e*P	**Pg**	**18 42 53.8**	**+0.2**
MEF				*e*S	**Sg**	**18 42 59.7**	**+0.1**
PVF	**Pernaja**	**1.04**	**40**	*e*P	**Pg**	**18 43 04.2**	**-0.5**
VSU	**Vasula**	**1.74**	**137**	*e*P	**Pn**	**18 43 16.7**	**+0.6**
VSU				*e*S	**Sn**	**18 43 39.1**	**+0.2**
RAF	**Rauma**	**1.86**	**314**	*e*P	**Pn**	**18 43 18.5**	**+0.8**
RAF				*e*S	**Sn**	**18 43 42.5**	**+0.6**
FIA0	**FINESS Array S**	**1.86**	**24**	*e*P	**Pn**	**18 43 18.8**	**+1.0**
FIA0				*e*S	**Sn**	**18 43 41.9**	**-0.2**
FINES	**FINESS Array B**	**1.86**	**24**	Pg	**Pg**	**18 43 18.9**	**-1.5**
	5.2nm,0.3s,baz=203,slow=16,SNR=319						
FINES				Lg		18 43 43.2	
	7.5nm,0.3s,baz=203,slow=26,SNR=26						
FINES				Sn	**Sn**	**18 43 45.2**	**+3.2**
	8.2nm,0.3s,baz=206,slow=25,SNR=21						
KEF	**Keuruu**	**2.43**	**4**	MSG		18 44 02.2	
	comp=Z,15nm,0.2s						
KAF	**Kangasniemi**	**2.52**	**20**	MSG		18 44 03.2	
	comp=Z,9.2nm,0.2s						
SUF	**Sumiainen**	**3.08**	**14**	MSG		18 44 21.9	
	comp=Z,4.1nm,0.2s						
HFS	**Hagfors**	**5.45**	**279**	Pn	**Pn**	**18 44 07.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=12						
HFS				Pg	**Pg**	**18 44 21.7**	**-7.3**
	comp=Z,0.3nm,0.3s,baz=73,slow=17,SNR=5.6						
HFS				Sn	**Sn**	**18 45 10.2**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=102,slow=28,SNR=8.4						
HFS				Lg		18 45 35.4	
	comp=Z,0.8nm,0.3s,baz=87,slow=30,SNR=6.0						
NOA	**NORSAR Array B**	**6.71**	**287**	Pn	**Pn**	**18 44 23.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=116,slow=17,SNR=4.7						
NOA				Sn	**Sn**	**18 45 37.6**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=134,slow=23,SNR=3.0						
AKASG	**Malin Array Be**	**9.46**	**161**	Pn	**Pn**	**18 45 01.5**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=342,slow=12,SNR=7.3						
ARCES	**ARCESS Array B**	**9.83**	**2**	Pn	**Pn**	**18 45 06.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=179,slow=13,SNR=37						

*NEIC **11** 18:47:40.0±0.7, 395N×12362E, h600^{km}, mb4.3/1, Error ellipse: s-maj=35.8km s-min=12.1km az=65.0*
*ISCJB **11** 18:47:41.4±3.1, 38N±02×1236E±03, h653^{km}±50^{km}, mb3.6/10, Error ellipse: s-maj=45.2km s-min=14.8km az=117.0*
*IDC **11** 18:47:45.4±2.3, 357N×12333E, h689^{km}±35^{km}, mb2.9/9, mb1 3.0/9, mb1mx2.8/21, mbtmp4.0/9, Error ellipse: s-maj=31.9km s-min=9.3km az=66.0*
ISC 11 18:47:43.1±3.2**, 39N**±02×**1236E**±03**, h647**^{km}±46^{km}**, n14,** σ**0^{s}81**/17**, mb3.6**/10**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.93**	**175**	P	**P**	**18 51 51.5**	**-0.5**
	2.1nm,0.8s,mb3.6,baz=108,slow=10,SNR=6.7						
FITZ				S	**S**	**18 55 04.1**	**-7.7**
	1.4nm,0.8s,baz=299,slow=23,SNR=3.5						
PSI	**Prapat**	**24.65**	**268**	P	**P**	**18 52 16.0**	**+0.1**
	3.1nm,0.3s,mb4.2,baz=208,slow=7.3,SNR=3.9						
PSI	**Prapat**	**24.65**	**268**	P	**P**	**18 52 16.0**	**+0.1**
WRAB	**Tennant Creek**	**25.92**	**156**	*e*P	**P**	**18 52 28.2**	**+1.2**
	3.3nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**25.92**	**156**	P	**P**	**18 52 28.1**	**+1.0**
	1.5nm,0.3s,mb4.0,baz=335,slow=9.7,SNR=41						
ASAR	**Alice Springs**	**29.16**	**160**	P	**P**	**18 52 52.8**	**-2.4**
	0.3nm,0.6s,mb3.0,baz=339,slow=7.0,SNR=5.9						
ASAR				S	**S**	**18 57 04.3**	**-0.1**
	0.1nm,0.4s,baz=281,slow=20,SNR=3.8						
ASAR	**Alice Springs**	**29.16**	**160**	P	**P**	**18 52 52.8**	**-2.4**
ASAR				S	**S**	**18 57 04.3**	**-0.1**
SONM	**Songino Array**	**46.23**	**344**	P	**P**	**18 55 12.3**	**-0.3**
	0.4nm,0.6s,mb3.0,baz=160,slow=8.8,SNR=4.5						
MKAR	**Makanchi Array**	**55.68**	**327**	P	**P**	**18 56 20.7**	**+0.2**
	1.7nm,0.3s,mb3.6,baz=119,slow=7.3,SNR=50						
MKAR				PcP	PcP	18 57 10.9	+1.1
	0.5nm,0.6s,baz=123,slow=4.5,SNR=4.8						
MKAR	**Makanchi Array**	**55.68**	**327**	P	**P**	**18 56 20.7**	**+0.2**
MKAR				PcP	PcP	18 57 10.9	+1.1
ZAL	**Zalesovo**	**59.07**	**334**	P	**P**	**18 56 42.8**	**-0.6**
	1.0nm,0.3s,mb3.4,baz=343,slow=5.6,SNR=3.4						
BVAR	**Borovoye Array**	**65.51**	**328**	P	**P**	**18 57 24.6**	**-0.1**
	0.5nm,0.5s,mb3.1,baz=131,slow=6.1,SNR=4.2						
AKTK	**Aktyubinsk**	**71.61**	**322**	P	**P**	**18 58 01.6**	**+0.4**
AKTO	**Aktyubinsk**	**71.61**	**322**	P	**P**	**18 58 01.6**	**+0.4**
	1.3nm,0.4s,mb3.7,baz=106,slow=5.6,SNR=5.7						

*CSEM **11** 18:53:52.4±0.1, 3504N×393W, h10^{km}, ML3.2/3, Error ellipse: s-maj=3.8km s-min=2.6km az=103.0*
*ISCJB **11** 18:53:52.5±0.6, 35.11N±0.02×4.05W±0.03, h9^{km}±4^{km}, Error ellipse: s-maj=3.6km s-min=2.8km az=30.8*
*LDG **11** 18:53:52.0±0.5, 3483N×389W, h10^{km}, Ml3.1/1, Error ellipse: s-maj=9.7km s-min=4.1km az=175.0*
*SFS **11** 18:53:53.0, 35.10N×4.00W, h0^{km}, ML2.5*
*MDD **11** 18:53:53.6±0.3, 3509N×398W, h0^{km}, mb3.6/20, Error ellipse: s-maj=3.3km s-min=2.9km az=68.0, PRXIMO*
*CNRM **11** 18:53:54.7, 3504N×395W, h1^{km}, MD3.6*
*INMG **11** 18:53:54.6±1.5, 35.13N×396W, h14^{km}±20^{km}, ML2.2, Error ellipse: s-maj=20.1km s-min=6.6km az=173.0*
ISC 11 18:53:53.5±0.5**, 3509N**±002×**400W**±003**, h13**^{km}±4^{km}**, n64,** σ**1^{s}28**/104**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.14**	**18**	*i* P	**Pg**	**18 53 57.0**	**0.0**
TOU	**Touzarine**	**0.24**	**123**	P	**Pg**	**18 53 57.5**	**-1.1**
TOU				S	**Sg**	**18 54 01.0**	**-1.0**
TOU	**Touzarine**	**0.24**	**123**	*i* P	**Pg**	**18 53 57.5**	**-1.1**
EMEL	**Melilla**	**0.88**	**76**	P	**Pg**	**18 54 09.7**	**-0.8**
	204nm,0.2s,SNR=13						
EMEL				S	**Sg**	**18 54 23.5**	**+1.5**
	278nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.88**	**76**	P	**Pg**	**18 54 09.7**	**-0.9**
	204nm,0.2s,SNR=13						
EMLI				S	**Sg**	**18 54 23.5**	**+1.4**
	278nm,0.1s,SNR=7.9						
TZK	**Tazeka**	**1.01**	**189**	*i* P	**Pb**	**18 54 12.0**	**-0.9**
TZK				*i* S	**Sb**	**18 54 26.0**	**-0.2**
ZAI	**Zaio**	**1.03**	**96**	*i* P	**Pb**	**18 54 12.5**	**-0.8**
ZAI				*i* S	**Sb**	**18 54 27.0**	**+0.2**
EALB	**Alboran**	**1.15**	**43**	P	**Pb**	**18 54 14.0**	**-1.3**
	26nm,0.2s,SNR=17						
EALB				S	**Sb**	**18 54 29.8**	**-0.5**
	110nm,0.3s,SNR=6.1						
EALB	**Alboran**	**1.15**	**43**	P	**Pb**	**18 54 14.0**	**-1.4**
	26nm,0.2s,SNR=17						
EALB				S	**Sb**	**18 54 29.8**	**-0.5**
	110nm,0.3s,SNR=6.1						
TGT	**Taghat**	**1.34**	**221**	*i* P	**Pn**	**18 54 20.0**	**+2.0**
TGT				*i* S	**Sb**	**18 54 36.0**	**+0.3**
MDAL	**Dalia**	**1.46**	**304**	*i* S	**Sn**	**18 54 40.0**	**+1.5**
RSA	**Sarsar**	**1.52**	**262**	*i* P	**Pn**	**18 54 23.0**	**+2.6**
RSA				*i* S	**Sn**	**18 54 40.0**	**-0.1**
EMIJ	**Mijas**	**1.60**	**337**	P	**Pn**	**18 54 20.1**	**-1.4**
	3.2nm,0.2s,SNR=11						
EMIJ				S	**Sn**	**18 54 39.2**	**-2.9**
	18nm,0.2s,SNR=7.9						
MAL	**Malaga**	**1.67**	**348**	*e*S	**Sn**	**18 54 41.8**	**-1.9**
EGUA	**Guajares**	**1.77**	**11**	P	**Pn**	**18 54 22.5**	**-1.4**
	0.8nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**18 54 46.5**	**+0.1**
	3.6nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.81**	**319**	P	**Pn**	**18 54 25.6**	**+1.2**
	3.6nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**18 54 48.6**	**+1.3**
	12nm,0.6s,SNR=7.9						
ERON	**Agron**	**1.93**	**5**	P	**Pn**	**18 54 26.2**	**+0.1**
	5.7nm,0.2s,SNR=10.0						
MIF	**Mishlifen**	**1.96**	**212**	*i* P	**Pn**	**18 54 26.0**	**-0.6**
MIF				*i* S	**Sn**	**18 54 51.0**	**-0.1**
EBER	**Berja**	**2.01**	**26**	P	**Pn**	**18 54 26.2**	**-1.0**
	4.1nm,0.2s,SNR=19						
EBER				S	**Sn**	**18 54 52.9**	**+0.6**
	20nm,0.6s,SNR=7.9						
EBER	**Berja**	**2.01**	**26**	P	**Pn**	**18 54 26.2**	**-1.0**
	4.1nm,0.2s,SNR=19						
EBER				S	**Sn**	**18 54 52.9**	**+0.6**
	20nm,0.6s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.06**	**357**	P	**Pn**	**18 54 28.7**	**+0.9**
	11nm,0.5s,SNR=17						
LIJA	**Lijar**	**2.14**	**328**	*e*P	**Pn**	**18 54 31.0**	**+2.0**
EQUE	**Quentar**	**2.16**	**12**	P	**Pn**	**18 54 29.0**	**-0.2**
	2.1nm,0.3s,SNR=8.1						
EQUE				S	**Sn**	**18 54 56.2**	**+0.4**
	3.2nm,0.5s,SNR=6.4						
ECOG	**Cogollos-Vega**	**2.21**	**9**	P	**Pn**	**18 54 31.4**	**+1.5**
	2.2nm,0.2s,SNR=5.5						
ECOG				S	**Sn**	**18 54 58.2**	**+1.1**
	7.4nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**2.23**	**203**	*e*P	**Pn**	**18 54 30.0**	**-0.2**
CZD				*i* S	**Sn**	**18 54 57.0**	**-0.6**
ESPR	**Espera**	**2.33**	**320**	P	**Pn**	**18 54 34.3**	**+2.8**
	1.4nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**18 55 01.1**	**+1.0**
	16nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.33**	**320**	P	**Pn**	**18 54 34.3**	**+2.7**
	1.4nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**18 55 01.1**	**+1.0**
	16nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**2.47**	**355**	P	**Pn**	**18 54 35.0**	**+1.4**
	10.0nm,0.6s,SNR=7.9						
ELUQ				S	**Sn**	**18 55 06.8**	**+3.1**
	5.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.81**	**15**	P	**Pn**	**18 54 39.5**	**+1.4**
	3.4nm,0.2s,SNR=16						
EQES				S	**Sn**	**18 55 13.4**	**+1.6**
	14nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.81**	**15**	P	**Pn**	**18 54 39.5**	**+1.4**
	3.4nm,0.2s,SNR=16						
EQES				S	**Sn**	**18 55 13.4**	**+1.5**
	14nm,0.4s,SNR=7.9						
KIB	**El Ksiba**	**3.03**	**215**	*e*P	**Pn**	**18 54 42.5**	**+1.3**
KIB				*i* S	**Sn**	**18 55 17.0**	**-0.4**
ZFT	**Errachidia**	**3.06**	**186**	*e*P	**Pn**	**18 54 43.0**	**+1.3**
ZFT				*i* S	**Sn**	**18 55 18.0**	**-0.2**
EBAN	**Banos Encina**	**3.07**	**3**	P	**Pn**	**18 54 43.6**	**+1.8**
	1.2nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**18 55 20.7**	**+2.3**
	4.9nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.10**	**352**	P	**Pn**	**18 54 42.8**	**+0.5**
	2.9nm,0.3s,SNR=13						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EADA				S	Sn	18 55 20.2	+1.0
	7.2nm,0.3s,SNR=7.9						
EADA	Adamuz	3.10	352	P	Pn	18 54 42.8	+0.6
	2.9nm,0.3s,SNR=13						
EADA				S	Sn	18 55 20.2	+1.0
	7.2nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.43	322	P	Pn	18 54 46.3	-0.5
	1.2nm,0.2s,SNR=12						
EMIN				S	Sn	18 55 24.6	-2.7
	2.7nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.43	322	P	Pn	18 54 46.3	-0.5
	1.2nm,0.2s,SNR=12						
EGRO	El Granado	3.72	312	P	Pn	18 54 50.5	-0.2
	1.0nm,0.2s,SNR=5.5						
EGRO				S	Sn	18 55 31.6	-2.9
	3.1nm,0.2s,SNR=7.9						
EGRO	El Granado	3.72	312	P	Pn	18 54 50.5	-0.3
	1.0nm,0.2s,SNR=5.5						
ETOB	Tobarra	4.05	28	P	Pn	18 54 56.9	+1.7
	1.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.05	28	P	Pn	18 54 56.9	+1.6
	1.5nm,0.2s,SNR=7.9						
PBEJ	Beja	4.28	314	ePn	Pn	18 54 59.2	+0.9
PBEJ				eSn	Sn	18 55 46.1	-2.0
PBEJ							
	2.3nm,0.2s						
PBEJ	Beja	4.28	314	ePn	Pn	18 54 59.2	+0.9
PBEJ				eSn	Sn	18 55 46.1	-2.0
	2.3nm,0.2s						
EBAD	Badajoz	4.38	327	P	Pn	18 54 59.9	+0.1
	0.6nm,0.2s,SNR=6.3						
EBAD				S	Sn	18 55 47.8	-3.0
	6.0nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.38	327	P	Pn	18 54 59.9	+0.1
	0.6nm,0.2s,SNR=6.3						
PTEO	Sao Teotonio	4.54	304	eSn	Sn	18 55 53.0	-1.5
ESDC	Sonseca Array	4.58	0	P	Pn	18 55 03.3	+0.8
	1.5nm,0.3s,baz=182,slow=12,SNR=19						
EVO	Evora	4.71	318	ePn	Pn	18 55 04.7	+0.4
EVO				eSn	Sn	18 55 59.5	+0.7
	5.2nm,0.3s						
PESTR	Estremoz	4.74	324	ePn	Pn	18 55 05.3	+0.6
PESTR				eSn	Sn	18 55 57.0	-2.6
PESTR							
	4.2nm,0.3s						
PESTR	Estremoz	4.74	324	ePn	Pn	18 55 05.3	+0.6
PESTR				eSn	Sn	18 55 57.0	-2.6
	4.2nm,0.3s						
PCBR	Castelo Branco	5.49	331	ePn	Pn	18 55 15.4	+0.4
PCBR				eSn	Sn	18 56 15.0	-3.0
PCBR							
	1.8nm,0.2s						
GUD	Guadarrama	5.54	359	P	Pn	18 55 16.5	+0.8
	2.6nm,0.4s,SNR=6.0						
MTE	Manteigas	6.00	333	ePn	Pn	18 55 22.2	+0.2
MTE				eSn	Sn	18 56 27.8	-2.8
MTE							
	2.3nm,0.3s						
PBRG	Braganca	7.04	343	ePn	Pn	18 55 36.9	+0.6
PBRG				eSn	Sn	18 56 53.1	-3.1
PBRG							
	0.9nm,0.1s						
ECAL	Calabor	7.17	343	P	Pn	18 55 38.7	+0.7
	2.4nm,0.4s,SNR=5.0						
ECAL				S	Sn	18 56 56.5	-2.9
	2.6nm,0.3s,SNR=7.9						
ETSF	Etsaut	8.24	18	ePn	Pn	18 55 52.6	-0.2
SJPF	Ste Jean	8.29	14	ePn	Pn	18 55 52.7	-0.8
EPF	Esparros	8.61	22	ePn	Pn	18 55 56.9	-1.0
LFF	La Frestale	10.48	19	ePn	Pn	18 56 21.9	-1.6
CAF	Calviac	10.86	23	ePn	Pn	18 56 27.6	-1.1
VIVF	Saint-Julien-l	11.79	32	ePn	Pn	18 56 40.0	-1.5
TCF	Toulx Ste Croi	12.13	21	ePn	Pn	18 56 44.9	-1.2
ORIF	Oris-en-Rattie	12.38	35	ePn	Pn	18 56 48.1	-1.4
MBDF	Montbardon	12.67	37	ePn	Pn	18 56 52.2	-1.3

---

*IDC **11** 19:37:14.0±1.9, 6.91S×128.04E, h0km, mb3.7/1, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=87.5km s-min=26.9km az=73.0*

*NEIC **11** 19:37:16.2±1.1, 7.05S×127.65E, h10km, Error ellipse: s-maj=33.1km s-min=13.2km az=65.0*

*ISCJB **11** 19:37:31.1±2.4, 7.8S±0.2×127.6E±0.2, h177km±27km, mb3.4/1, Error ellipse: s-maj=34.0km s-min=18.4km az=103.5*

ISC 11 19:37:32.8±1.8**, 7.8S**±0.1×**127.6E**±0.2**, h175**km±18km**, n9, σ1s.34**/12**, mb3.4**/1**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.81	136	eP	Pn	19 39 12.2	+1.9
	51nm,0.1s						
KAKA				eS	Sn	19 40 25.3	-1.9
FITZ	Fitzroy Crossi	10.38	190	eP	Pn	19 39 56.1	-1.2
	5.6nm,0.4s						
FITZ				eS	Sx	19 41 47.8	
FITZ	Fitzroy Crossi	10.38	190	Pn	Pn	19 39 56.4	-0.9
	0.8nm,0.3s,baz=22,slow=14,SNR=23						
FITZ				Sn	Sx	19 41 44.5	
	0.3nm,0.3s,baz=38,slow=11,SNR=3.4						
WRAB	Tennant Creek	13.70	152	eP	Pn	19 40 40.0	+0.2
	6.2nm,0.5s						
WRAB				eS	Sx	19 43 06.3	
WRA	Warramunga Arr	13.70	152	Pn	Pn	19 40 40.3	+0.4
	1.0nm,0.3s,baz=336,slow=12,SNR=29						
WRA				Sn	Sn	19 43 08.3	-3.9
	1.4nm,0.3s,baz=325,slow=24,SNR=8.1						
WB2	Warramunga Arr	13.71	152	eP	Pn	19 40 39.8	-0.2
AS31	Alice Springs	16.87	160	eP	Pn	19 41 21.9	+3.2
ASAR	Alice Springs	16.87	160	P	Pn	19 41 20.5	+1.8
	0.7nm,0.3s,baz=338,slow=11,SNR=48						
ASAR				S	S	19 44 24.6	-0.3
	0.4nm,0.3s,baz=326,slow=18,SNR=5.2						
MKAR	Makanchi Array	67.63	328	P	P	19 48 09.4	-1.2
	0.4nm,0.5s,mb3.4,baz=121,slow=7.3,SNR=7.9						

IDC 11 19:51:42.6±2.1**, 0.09N×97.24E, h0**km**, mb3.5**/5**, mb1 3.6**/6**, mb1mx3.5**/21**, mbtmp3.4**/6**, Error ellipse: s-maj=64.2km s-min=23.4km az=61.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.18	32	Pn	Pn	19 52 32.9	-1.0
	0.8nm,0.3s,baz=210,slow=12,SNR=5.8						
WRA	Warramunga Arr	41.43	121	P	P	19 59 31.2	+0.4
	1.0nm,1.1s,baz=302,slow=8.9,SNR=4.8						
ASAR	Alice Springs	42.71	126	P	P	19 59 41.5	+0.2
	0.3nm,0.9s,baz=293,slow=8.0,SNR=4.3						
SONM	Songino Array	48.22	8	P	P	20 00 25.7	+0.8
	0.4nm,0.8s,baz=189,slow=7.5,SNR=4.0						
MKAR	Makanchi Array	48.32	346	P	P	20 00 25.2	-0.5
	0.2nm,0.3s,baz=156,slow=9.2,SNR=5.2						
ZAL	Zalesovo	54.65	351	P	P	20 01 13.1	-0.1
	0.9nm,0.5s,baz=236,slow=3.6,SNR=3.9						

---

*IDC **11** 20:59:26.2±0.6, 21.50S×174.58W, h0km, mb4.7/13, mb1 4.9/15, mb1mx4.8/20, mbtmp4.8/15, ML5.0/2, MS4.8/15, Ms1 4.8/15, ms1mx4.6/24, Error ellipse: s-maj=22.8km s-min=15.1km az=126.0*

*BJI **11** 20:59:26.8, 21.50S×174.50W, h10km, mB5.8, mb5.4, Ms5.3, Msz4.9*

*SZGRF **11** 20:59:27.1, 21.71S×174.85W, h33km, mb5.4, Tonga Islands*

*GCMT **11** 20:59:27.4±0.2, 21.71S×173.82W, h15km, MW5.3/97, Moment Tensor Solution. s69,c118; s97,c186; Duration: 1s.1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.82±.02; $M_{\theta\theta}$-0.20±.01; $M_{\phi\phi}$-0.62±.01; $M_{r\theta}$0.43±.04; $M_{\theta\phi}$-0.41±.01; $M_{\phi r}$0.84±.05; Best double couple: $M_0$1.27100×10^{17} NP1:ϕ_s215.00000°, δ21.00000°, λ96.00000°. NP2:ϕ_s28.00000°, δ69.00000°, λ88.00000°. Principal axes: T 1.2490, Plg66.0000°, Azm294.0000°; N 0.0440, Plg2.0000°, Azm29.0000°; P -1.2930, Plg24.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **11** 20:59:27.6±0.3, 21.59S±0.05×174.59W±0.06, h17km, mb5.2/53, MS5.0/150 Error ellipse: s-maj=9.3km s-min=6.4km az=80.4*

*NEIC **11** 20:59:27.4±0.2, 21.54S×174.53W, h10km, mb5.2/26, MS5.1/129, Error ellipse: s-maj=10.1km s-min=5.9km az=132.0*

*MOS **11** 20:59:33.4±3.1, 21.52S×175.15W, h33km, mb5.2/17, MS5.0/25, Error ellipse: s-maj=14.2km s-min=10.7km az=100.5*

ISC 11 20:59:29.2±0.3**, 21.58S**±0.05×**174.46W**±0.06**, h18**km±2.5km**: pP-P, n388, σ1s.18**/125**, mb5.2**/53**, MS5.0**/150**, 28C-22D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.04	19	Pn	Pn	21 01 18.4	-6.7
	6.4nm,0.3s,baz=65,slow=11,SNR=7.5						
AFI				Sn	Sn	21 02 39.9	-16
	6.2nm,0.3s,baz=36,slow=19,SNR=2.7						
AFI	Afiamalu	8.04	19	eP	Pn	21 01 18.6	-6.4
	54nm,0.5s						
AFI				eS	Sn	21 02 40.9	-15
RAO	Raoul Island	8.26	202	Pn	Pn	21 01 27.3	-0.7
	76nm,0.3s,baz=66,slow=20,SNR=3.1						
RAO				Sn	Sn	21 02 55.1	-5.6
	53nm,0.3s,baz=258,slow=21,SNR=12						
RAO	Raoul Island	8.26	202	P	Pn	21 01 27.3	-0.7
RAO						21 02 55.1	
RAO				pmax	pmax		
	comp=Z,76nm,0.3s						
RAO				smax			
	comp=N,53nm,0.3s						
RAO	Raoul Island	8.26	202	Pn	Pn	21 01 27.3	-0.7
RAO				Sn	Sn	21 02 55.1	-5.6
RAR	Rarotonga	13.68	91	Pn	Pn	21 02 31.0	-11
	comp=N,12nm,0.3s,baz=255,slow=11,SNR=11						
RAR				Sn	Sn	21 04 46.7	-27
	comp=N,2.3nm,0.3s,baz=342,slow=20,SNR=3.2						
RAR				LR	LR	21 07 02.7	
	comp=N,6μm,18.0s,baz=287,slow=33						
DZM	Mont Dzumac	17.74	265	eP	Pn	21 03 37.8	+2.6
DZM	Mont Dzumac	17.74	265	Pn	Pn	21 03 38.9	+3.7
	comp=N,0.5nm,0.3s,baz=87,slow=18,SNR=19						
URZ	Urewera	18.15	202	P	Pn	21 03 39.6	-0.6
	comp=N,1.3nm,0.3s,baz=25,slow=1.5,SNR=7.1						
URZ				S	Sn	21 06 45.3	-17
	comp=N,1.0nm,0.3s,baz=5.2,slow=7.9,SNR=3.8						
SNZO	South Karori	21.70	203	PFAKE		21 04 30.0	+11
SNZO				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
TBI	Tubuai	23.16	99	eLR	LR	21 09 38.5	
	comp=Z,3μm,21.5s,baz=274						
PPT	Papeete	23.77	85	eLR	LR	21 09 54.7	
	comp=Z,2μm,20.8s,baz=254						
PPT	Papeete	23.77	85	LR	LR	21 11 59.7	
	comp=Z,3μm,20.2s,MS4.8,baz=261,slow=32						
RPZ	Rata Peaks	25.15	205	P	P	21 04 52.7	-0.5
	comp=Z,20nm,0.6s,mb4.8,baz=305,slow=0.3,SNR=8.6						
RPZ				LR	LR	21 13 38.8	
	comp=Z,2μm,18.7s,MS4.7,baz=24,slow=34						
HNR	Honiara	27.41	292	LR	LR	21 14 20.2	
	comp=Z,542nm,18.9s,MS4.1,baz=180,slow=33						
HNR	Honiara	27.41	292	PFAKE		21 05 20.0	+6.4
HNR				LR	LR		
	comp=Z,530nm,19.0s,MS4.1						
TAOE	Nuku Hiva Isla	35.34	74	eLR	LR	21 15 11.7	
	comp=Z,4μm,21.5s						
CTA	Charters Tower	36.69	265	⇓iP	P	21 06 34.6	-0.3
	comp=Z,12nm,0.9s,mb4.7						
CTA				e		21 08 04.0	
CTA				e		21 12 16.6	
CTA	Charters Tower	36.69	265	P	P	21 06 34.7	-0.2
	comp=Z,11nm,0.7s,mb4.8,baz=98,slow=12,SNR=10						
CTA	Charters Tower	36.69	265	P	P	21 06 34.7	-0.2
CTA				pmax	pmax		
	comp=Z,11nm,0.7s						
CTAO	Charters Tower	36.69	265	PFAKE		21 06 50.0	+15
CTAO				LR	LR		
	comp=Z,802nm,20.0s,MS4.5						
PMG	Port Moresby	38.81	282	i P	P	21 06 53.8	+1.0
PMG	Port Moresby	38.81	282	PFAKE		21 07 00.0	+7.2
PMG				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
STKA	Stephens Creek	40.34	246	eP	P	21 07 04.4	-1.2
	comp=Z,16nm,1.0s,mb4.7						
STKA	Stephens Creek	40.34	246	P	P	21 07 04.5	-1.1
	comp=Z,18nm,1.0s,mb4.8,baz=105,slow=8.5,SNR=14						
STKA				LR	LR	21 22 35.4	
	comp=Z,1μm,20.6s,MS4.7,baz=76,slow=34						
AS31	Alice Springs	47.50	257	⇓iP	P	21 08 02.3	-0.8
ASAR	Alice Springs	47.50	257	P	P	21 08 02.2	-0.9
	comp=Z,29nm,0.9s,mb5.3,baz=90,slow=8.4,SNR=161						
ASAR				S	S	21 14 53.0	-4.0
	comp=Z,1.5nm,1.0s,baz=99,slow=16,SNR=5.7						
ASAR				LR	LR	21 27 55.2	
	comp=Z,1μm,18.2s,MS5.0,baz=105,slow=36						
ASAR	Alice Springs	47.50	257	P	P	21 08 02.3	-0.8
ASAR				S	S	21 14 53.0	-4.0
ASAR				pmax	pmax		
	comp=Z,29nm,0.9s						
ASAR				smax			
	comp=N,2.0nm,1.0s						
ASAR				MLR	MLR		
	comp=Z,1μm,18.2s						
ASPA	Alice Springs	47.50	257	⇓iP	P	21 08 02.3	-0.8
WB2	Warramunga Arr	47.72	262	⇓iP	P	21 08 03.4	-1.4
WRAB	Tennant Creek	47.73	262	P	P	21 08 03.0	-1.8
	comp=Z,312nm,1.1s,mb6.2,SNR=12						
WRAB	Tennant Creek	47.73	262c	iP	P	21 08 03.1	-1.7
WRAB	Tennant Creek	47.73	262	eP	P	21 08 03.2	-1.6
	comp=Z,86nm,1.0s,mb5.7						
WRAB				LR	LR		
	comp=Z,427nm,19.0s,MS4.4						
WRA	Warramunga Arr	47.73	262	P	P	21 08 03.2	-1.7
	comp=Z,39nm,1.1s,mb5.3,baz=93,slow=8.3,SNR=119						
WRA				S	S	21 14 56.6	-3.6
	comp=Z,1.3nm,1.1s,baz=106,slow=14,SNR=3.0						
WRA	Warramunga Arr	47.73	262	P	P	21 08 03.2	-1.7
WRA				S	S	21 14 56.6	-3.6
WRA				pmax	pmax		
	comp=Z,39nm,1.1s						
WRA				smax			
	comp=N,1.0nm,1.1s						
WRA	Warramunga Arr	47.73	262	P	P	21 08 03.2	-1.7
WRA				S	S	21 14 56.6	-3.6
MIDW	Midway	49.58	357	PFAKE		21 08 30.0	+11
MIDW				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
KAKA	Kakadu	51.30	271	eP	P	21 08 30.8	-1.3
	comp=Z,28nm,1.0s,mb5.1						
FORT	Forrest	51.92	247	eP	P	21 08 35.8	-0.9
	comp=Z,42nm,0.8s,mb5.4						
GUMO	Guam	53.05	308	P	P	21 08 46.0	+0.9
	comp=Z,111nm,1.1s,mb5.7,baz=214,slow=9.9,SNR=4.2						
GUMO	Guam	53.05	308	P	P	21 08 46.0	+0.9
GUMO				LR	LR		
	comp=Z,2.0nm,21.0s						
DRV	Dumont d'Urvil	53.48	201	S	S	21 16 23.0	+2.9
DRV				L		21 21 00.0	
FITZ	Fitzroy Crossi	56.16	262	⇓iP	P	21 09 07.5	-0.2
	comp=Z,37nm,1.0s,mb5.4						
SBA	Scott Base	57.05	185	eP	P	21 09 16.7	+2.7
	comp=Z,156nm,1.9s,mb5.7						
SBA				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
VNDA	Vanda	57.16	186	P	P	21 09 15.4	+0.6
	comp=Z,4.3nm,1.0s,mb4.4,baz=8.1,slow=7.4,SNR=13						
VNDA				LR	LR	21 30 14.8	
	comp=Z,783nm,19.4s,MS4.8,baz=13,slow=32						
VNDA	Vanda	57.16	186	P	P	21 09 15.4	+0.6
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA				MLR	MLR		
	comp=Z,783nm,19.4s						
VNDA	Vanda	57.16	186	eP	P	21 09 15.5	+0.7
	comp=Z,48nm,1.9s,mb5.2						
VNDA				LR	LR		
	comp=Z,701nm,20.0s,MS4.8						
MBWA	Marble Bar	60.85	257	eP	P	21 09 39.1	-1.2
	comp=Z,32nm,1.0s,mb5.4						
MBWA				LR	LR		
	comp=Z,885nm,19.0s,MS4.9						
NWAO	Narrogin (SRO)	60.85	243	PFAKE		21 09 50.0	+10
NWAO				LR	LR		
	comp=Z,912nm,20.0s,MS4.9						
CASY	Casey	64.42	206	eP	P	21 10 03.5	-0.7
CASY				LR	LR		
	comp=Z,825nm,20.0s,MS4.9						
DAV	Davao City (W)	65.31	289	PFAKE		21 10 20.0	+10
DAV				LR	LR		
	comp=Z,525nm,19.0s,MS4.8						
QSPA	South Pole Qui	68.50	180	eP	P	21 10 31.9	+1.6
	comp=Z,109nm,1.7s,mb5.6						
QSPA				LR	LR		
	comp=Z,2.0nm,20.0s						
MIR	Mirnyy	71.42	205d	iP	P	21 10 51.0	+2.7
MIR				pmax	pmax		
	comp=Z,220nm,2.0s,mb5.7						
MIR				pmax	pmax		
	comp=Z,500nm,4.0s						
MJAR	Matsushiro Arr	73.07	322	P	P	21 10 57.4	-0.7
	comp=Z,16nm,0.8s,mb5.0,baz=159,slow=5.8,SNR=40						
MJAR				LR	LR	21 41 06.7	
	comp=Z,234nm,19.8s,MS4.5,baz=115,slow=34						
MJAR	Matsushiro Arr	73.07	322	P	P	21 10 57.4	-0.7
MJAR				pmax	pmax		
	comp=Z,16nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,235nm,19.8s						
MAJO	Matsushiro	73.07	322	eP	P	21 10 58.2	+0.1
	comp=Z,27nm,0.9s,mb5.2						
MAJO				LR	LR		
	comp=Z,356nm,20.0s,MS4.6						
MAT	Matsushiro	73.07	322	P	P	21 10 57.6	-0.5
MAT				S	S	21 20 29.0	+4.4
KKM	Kota Kinabalu	73.23	284	eP	P	21 10 59.3	+0.2
ERM	Erimo	74.42	329	PFAKE		21 11 20.0	+14
ERM				LR	LR		
	comp=Z,160nm,21.0s,MS4.3						
SMY	Shemya	74.66	353	PFAKE		21 11 20.0	+13
SMY				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
UNV	Unalaska Valle	75.42	5	PFAKE		21 11 20.0	+8.2
UNV				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
SNCC	San Nicolas Is	75.60	45	PFAKE		21 11 20.0	+7.1
SNCC				LR	LR		
	comp=Z,976nm,19.0s,MS5.1						
SKR	Severo-Kuril's	76.49	341	eP	P	21 11 12.0	-5.9
SKR				e		21 11 23.0	
SKR				ePPP		21 16 05.0	
SKR				eS	S	21 20 58.0	-4.7
SKR				e		21 21 30.0	
SKR				e		21 21 47.0	
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				smax			
	comp=N,1μm,12.0s						
SKR				smax			
	comp=E,1μm,12.0s						
SAO	San Andreas Ge	76.59	41	PFAKE		21 11 30.0	+11
SAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
KSM	Kuching	76.83	277	eP	P	21 11 20.1	+0.2
HOPS	Hopland	77.08	39	PFAKE		21 11 30.0	+8.7
HOPS				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
ISA	Isabella	77.77	44	eP	P	21 11 24.8	-0.4
	comp=Z,0.3nm,0.3s						
ISA				LR	LR		
	comp=Z,232nm,20.0s,MS4.5						
PFO	Pinyon Flat Ob	77.87	46	PFAKE		21 11 40.0	+14
PFO				LR	LR		
	comp=Z,191nm,20.0s,MS4.4						
PET	Petropavlovsk	77.87	344	eP	P	21 11 22.5	-3.2
PET				eS	S	21 21 18.8	+1.0
PET				eSS	SS	21 26 23.6	+5.2
PET				pmax	pmax		
	comp=Z,300nm,9.7s						
PET				smax			
	comp=N,500nm,13.6s						
PET				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.1						
PET	Petropavlovsk	77.87	344	PFAKE		21 11 40.0	+14
PET				LR	LR		
	comp=Z,691nm,19.0s,MS5.0						
CMB	Columbia Colle	78.06	41	eP	P	21 11 30.0	+3.3
	comp=Z,39nm,1.5s,mb5.1						
CMB				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
YSS	Yuzh-Sakhalins	78.37	332α	eP	P	21 11 29.0	+0.5
YSS				eS	S	21 21 23.0	-0.1
YSS				ePS		21 21 47.0	
YSS				ePPS		21 22 07.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
YSS				smax			
	comp=N,600nm,9.0s						
YSS				MLR	MLR		
	comp=N,400nm,19.0s						
YSS				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.9						
YSS	Yuzh-Sakhalins	78.37	332	eP	P	21 11 28.7	+0.3
	comp=Z,40nm,1.0s,mb5.3						
YSS				LR	LR		
	comp=Z,579nm,22.0s,MS4.9						
WDC	Whiskeytown Da	78.44	38	PFAKE		21 11 40.0	+11
WDC				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
YBH	Yreka Blue Hor	79.11	37	P	P	21 11 32.8	+0.3
	comp=Z,4.3nm,1.0s,mb4.3,baz=164,slow=12,SNR=3.3						
YBH	Yreka Blue Hor	79.11	37	P	P	21 11 32.8	+0.3
YBH				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
NVAR	Mina Array Bea	79.58	42	P	P	21 11 34.6	-0.5
	comp=Z,3.4nm,1.1s,mb4.2,baz=204,slow=6.5,SNR=3.4						
PAHR	Pah Rah Range	79.72	40	eP	P	21 11 39.1	+3.3
	comp=Z,16nm,1.3s,mb4.8						
TPH	Tonopah	80.04	42	PFAKE		21 11 50.0	+12
TPH				LR	LR		
	comp=Z,980nm,21.0s,MS5.1						
MOD	Modoc	80.58	38	eP	P	21 11 40.3	-0.2
	comp=Z,13nm,1.3s,mb4.7						
MOD				LR	LR		
	comp=Z,735nm,20.0s,MS5.0						
COR	Corvallis	80.71	34	PFAKE		21 11 50.0	+8.8
COR				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
INCN	Inchon	80.75	316	PFAKE		21 11 50.0	+8.6
INCN				LR	LR		
	comp=Z,325nm,19.0s,MS4.7						
SSE	Sheshan	80.93	308	P	P	21 11 41.6	-0.8
SSE				XP	sP	21 11 54.8	+4.1
SSE				S	S	21 21 52.1	+1.9
SSE				SS	SS	21 27 09.5	+5.2
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,210nm,5.2s						
SSE				LR	LR		
	comp=N,79nm,24.2s,MS4.3						
SSE				LR	LR		
	comp=E,129nm,24.5s,MS4.3						
SSE				LR	LR		
	comp=Z,140nm,20.6s,MS4.3						
TUC	Tucson	81.08	50	PFAKE		21 11 50.0	+6.9
TUC				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
VLA	Vladivostok	81.09	323d	eP	P	21 11 42.4	-0.8
VLA				S	S	21 21 57.0	+5.2
VLA				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3						
VLA				MLR	MLR		
	comp=Z,900nm,21.5s,MS5.1						
KDAK	Kodiak Island	81.14	12	PFAKE		21 11 50.0	+6.5
KDAK				LR	LR		
	comp=Z,262nm,19.0s,MS4.6						
BMN	Battle Mountai	81.47	40	eP	P	21 11 44.7	-0.6
	comp=Z,27nm,1.5s,mb5.0						
BMN				LR	LR		
	comp=Z,832nm,19.0s,MS5.1						
MAW	Mawson	81.65	199	eS	S	21 21 57.9	+0.2
MAW	Mawson	81.65	199	P	P	21 11 46.7	+0.5
	comp=Z,3.5nm,0.7s,mb4.4,baz=124,slow=7.5,SNR=6.1						
MAW				LR	LR	21 46 39.7	
	comp=Z,1μm,18.9s,MS5.3,baz=112,slow=35						
MAW	Mawson	81.65	199	P	P	21 11 46.7	+0.5
MAW				pmax	pmax		
	comp=Z,40nm,0.7s						
MAW				MLR	MLR		
	comp=Z,1μm,18.9s						
MAW	Mawson	81.65	199	eP	P	21 11 46.4	+0.2
	comp=Z,6.3nm,0.9s,mb4.5						
MAW				eS	S	21 21 57.9	+0.2
MAW				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
WVOR	Wild Horse Val	81.88	38	eP	P	21 11 45.6	-1.8

WVOR LR LR
comp=Z,2śm,19.0s,MS5.4
WUAZ Wupatki 82.40 47 PFAKE 21 12 00.0 +10
WUAZ LR LR
comp=Z,680nm,19.0s,MS5.0
ELK Elko 82.86 41 PFAKE 21 12 00.0 +7.5
ELK LR LR
comp=Z,1śm,19.0s,MS5.3
HABR Khabarovsk 83.04 329⇓ *e*P **P 21 11 56.8 +3.3**
HABR *e*S S 21 22 14.0 +2.0
HABR pmax pmax
comp=Z,58nm,0.9s,mb5.6
HABR MLR MLR
comp=Z,400nm,17.0s,MS4.9
NJ2 Nanjing 83.13 308 *e*P **P 21 11 54.0 +0.1**
NJ2 AP pP 21 11 59.0 -1.0
NJ2 XP sP 21 12 01.1 -1.1
NJ2 PP PP 21 15 06.9 +1.9
NJ2 S S 21 22 13.0 +0.2
NJ2 XS sS 21 22 22.0 -0.9
NJ2 AMB AMB
comp=Z,80nm,0.9s,mb5.8
NJ2 AMB AMB
comp=Z,730nm,9.0s
NJ2 LR LR
comp=N,710nm,22.8s,MS5.1
NJ2 LR LR
comp=E,630nm,25.8s,MS5.1
NJ2 LR LR
comp=Z,550nm,27.6s,MS4.8
MDJ Mudanjiang 83.32 323 P **P 21 11 55.6 +0.7**
MDJ AP pP 21 11 58.8 -2.2
MDJ XP sP 21 12 00.1 -3.1
MDJ PP PP 21 15 07.3 +0.7
MDJ AMB AMB
comp=Z,33nm,1.8s,mb5.1
MDJ AMB AMB
comp=Z,451nm,4.6s
MDJ Mudanjiang 83.32 323 PFAKE 21 12 10.0 +15
MDJ LR LR
comp=Z,968nm,20.0s,MS5.2
MSU Marysvale 83.52 44 *e*P **P 21 11 56.6 +0.8**
HAWA Hanford 83.90 35 *e*P **P 21 11 57.5 -0.3**
comp=Z,3.0nm,1.4s,mb4.2
HAWA LR LR
comp=Z,207nm,19.0s,MS4.5
DUG Dugway 84.05 43 PFAKE 21 12 10.0 +11
DUG LR LR
comp=Z,803nm,19.0s,MS5.1
BMO Blue Mountains 84.14 37 PFAKE 21 12 10.0 +11
BMO LR LR
comp=Z,1śm,19.0s,MS5.3
QIZ Qiongzhong 84.32 293 P **P 21 12 01.2 +1.2**
QIZ S S 21 22 23.8 -1.0
QIZ XS sS 21 22 31.4 -3.6
QIZ AMB AMB
comp=Z,313nm,12.1s
PAYG Puerto Ayora 84.33 88 PFAKE 21 12 10.0 +10
PAYG LR LR
comp=Z,2śm,20.0s,MS5.4
TMUT Trail Mountain 84.58 44 *e*P **P 21 12 01.8 +0.4**
MPU Maple Canyon 84.70 43 PFAKE 21 12 10.0 +8.1
MPU LR LR
comp=Z,2śm,19.0s,MS5.5
MNTX Cornudas Mount 84.71 53 PFAKE 21 12 10.0 +8.0
MNTX LR LR
comp=Z,879nm,19.0s,MS5.2
DL2 Dalian 84.80 315 ⇑P **P 21 12 03.2 +0.8**
DL2 S S 21 22 30.3 +0.7
DL2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
DL2 AMB AMB
comp=Z,190nm,5.0s
DL2 LR LR
comp=N,130nm,15.4s,MS4.5
DL2 LR LR
comp=E,120nm,17.9s,MS4.5
DL2 LR LR
comp=Z,200nm,14.5s,MS4.6
SRU San Rafael 84.92 45 *e*P **P 21 12 01.7 -1.3**
comp=Z,16nm,1.2s,mb5.0
SIT Sitka 84.94 20 PFAKE 21 12 10.0 +6.9
SIT LR LR
comp=Z,599nm,20.0s,MS5.0
HLID Hailey 85.02 39 *e*P **P 21 12 02.5 -1.0**
comp=Z,16nm,1.5s,mb4.9
HLID LR LR
comp=Z,600nm,19.0s,MS5.0
KLR Kul'dur 85.16 328 *e*P **P 21 12 00.0 -4.3**
KLR *e*S S 21 22 36.0 +2.8
KLR pmax pmax
comp=Z,230nm,3.0s
KLR pmax pmax
comp=Z,1śm,6.0s
KLR smax
comp=N,1śm,11.0s
KLR smax
comp=E,600nm,11.0s
SNY Shenyang 85.18 319 ⇑P **P 21 12 04.6 +0.3**
SNY AP pP 21 12 14.9 +4.4
SNY XP sP 21 12 19.6 +6.9
SNY PP PP 21 15 22.1 +0.3
SNY S S 21 22 32.1 -1.3
SNY XS sS 21 22 45.3 +1.8
SNY AMB AMB
comp=Z,25nm,1.9s,mb5.0
SNY AMB AMB
comp=Z,312nm,3.5s
SNY LR LR
comp=N,231nm,12.6s,MS4.9
SNY LR LR
comp=E,244nm,16.8s,MS4.9
SNY LR LR
comp=Z,287nm,16.8s,MS4.7
CN2 Changchun 85.19 321 ⇑P **P 21 12 04.5 +0.1**
CN2 *e*XP sP 21 12 11.0 -1.8
CN2 *e*S S 21 22 33.0 -0.5
CN2 AMB AMB
comp=Z,30nm,1.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,17.0s,MS4.9
CN2 LR LR
comp=E,400nm,17.0s,MS4.9
CN2 LR LR
comp=Z,500nm,19.0s,MS4.9
PMR Palmer 85.34 12 PFAKE 21 12 20.0 +15
PMR LR LR
comp=Z,523nm,19.0s,MS5.0
TCUT Toone Canyon 85.46 43 *e*P **P 21 12 06.7 +1.0**
TTA Tatalina 85.48 8 *e*P **P 21 12 05.6 -0.2**
comp=Z,67nm,1.6s,mb5.5
ANMO Albuquerque 85.53 50 P **P 21 12 08.4 +2.3**
comp=Z,10nm,1.2s,mb5.0,baz=229,slow=5.2,SNR=8.9
ANMO Albuquerque 85.53 50 P **P 21 12 08.4 +2.3**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 85.53 50 *e*P **P 21 12 06.0 -0.1**
comp=Z,14nm,1.1s,mb5.1
ANMO LR LR
comp=Z,1śm,19.0s,MS5.3
DIV Divide 85.61 14 PFAKE 21 12 20.0 +14
DIV LR LR
comp=Z,2śm,19.0s,MS5.6
HWUT Hardware Ranch 85.63 42 PFAKE 21 12 20.0 +13
HWUT LR LR
comp=Z,1śm,19.0s,MS5.2
WHN Wuhan 85.76 305 ⇑P **P 21 12 08.0 +0.8**
PLCA Paso Flores 86.12 132 LR LR 21 44 58.7
comp=Z,828nm,19.1s,MS5.2,baz=202,slow=32
PLCA Paso Flores 86.12 132 PFAKE 21 12 20.0 +11
PLCA LR LR
comp=Z,2śm,19.0s,MS5.4
NEW Newport 86.35 34 PFAKE 21 12 20.0 +10
NEW LR LR
comp=Z,3śm,19.0s,MS5.6
SYO Syowa Base 86.38 192⇓ *e*P **P 21 12 08.5 -1.8**
SYO Syowa Base 86.38 192⇓ *e*PcP PcP 21 12 11.2 -1.6
TIA Tai'an 86.46 311 ⇓P **P 21 12 11.7 +1.0**
TIA AMB AMB
comp=Z,22nm,1.1s,mb5.3
AHID Auburn Hatcher 86.56 41 PFAKE 21 12 20.0 +8.8
AHID LR LR
comp=Z,669nm,20.0s,MS5.0
SNAA Sanae 86.82 177 *e*P **P 21 12 12.1 -0.3**
SNAA *e* 21 12 14.6
SNAA *e* pP 21 12 16.2 -2.4
SNAA *e* pP 21 12 17.7 -0.9
SNAA Sanae 86.82 177⇑ *e*P **P 21 12 13.3 +0.9**
SNAA Sanae 86.82 177 *e*P **P 21 12 11.3 -1.1**
comp=Z,55nm,1.8s,mb5.5
VNA3 Neumayer Olymp 86.82 175 *e*P **P 21 12 12.1 -0.4**
VNA3 *e* 21 12 14.8
VNA3 *e* pP 21 12 16.2 -2.4
VNA3 *e* pP 21 12 17.1 -1.5
SKAG Skagway 86.88 19 *e*P **P 21 12 13.2 +0.5**
TNA Tin City 87.00 3 PFAKE 21 12 20.0 +6.7
TNA LR LR
comp=Z,382nm,20.0s,MS4.8
KULM Kulim 87.19 277 *e*P **P 21 12 16.1 +1.9**
MSO Missoula 87.21 37 PFAKE 21 12 30.0 +16
MSO LR LR
comp=Z,1śm,19.0s,MS5.3
MCK McKinley 87.34 11 *e*P **P 21 12 13.8 -1.2**
comp=Z,11nm,1.2s,mb5.0
MCK LR LR
comp=Z,378nm,20.0s,MS4.8
VNA1 Neumayer--Stat 87.51 175 *e*P **P 21 12 17.4 +1.6**
VNA1 *e* 21 12 19.6
VNA1 *e* 21 12 20.7
VNA1 *e* pP 21 12 22.4 +0.4
BW06 Boulder Array 87.51 42 PFAKE 21 12 30.0 +14
BW06 LR LR
comp=Z,694nm,20.0s,MS5.1
PDAR Pinedale Array 87.51 42 P **P 21 12 14.5 -1.3**
comp=Z,1.0nm,0.8s,baz=192,slow=4.4,SNR=6.0
PDAR LR LR 21 49 03.5
comp=Z,469nm,18.1s,MS4.9,baz=253,slow=34
SDCO Great Sand Dun 87.59 48 PFAKE 21 12 30.0 +14
SDCO LR LR
comp=Z,739nm,21.0s,MS5.1
NVL N'lazarevskaya 87.80 182 *e*P **P 21 12 25.2 +8.0**
NVL *i* S S 21 22 56.9 -2.0
NVL pmax pmax
comp=Z,21nm,1.5s,mb5.2
NVL smax
comp=Z,1śm,19.3s
SNG Songkhla 87.92 278 P **P 21 12 20.0 +2.2**
comp=Z,2śm,0.7s
LKWY Lake 87.97 40 PFAKE 21 12 30.0 +12
LKWY LR LR
comp=Z,1śm,19.0s,MS5.3
JCT Junction City 88.39 56 PFAKE 21 12 30.0 +10
JCT LR LR
comp=Z,1śm,19.0s,MS5.3
ISCO Idaho Springs 88.53 46 PFAKE 21 12 30.0 +9.4
ISCO LR LR
comp=Z,381nm,20.0s,MS4.8
COLA College 88.58 11⇑ *i*P **P 21 12 19.1 -1.8**
COLA LR LR
comp=Z,619nm,19.0s,MS5.0
IMA2 Indian Mountai 88.79 8 *e*P **P 21 12 20.6 -1.3**
BJT Baijiatuau 88.99 314 PFAKE 21 12 30.0 +7.2
BJT LR LR
comp=Z,529nm,20.0s,MS5.0
DAWY Dawson 89.62 15 *e*P **P 21 12 25.5 -0.3**
GYA Guiyang 90.06 298⇓ *i*P **P 21 12 28.8 +1.0**
GYA PP PP 21 16 04.2 +3.2
GYA SKS 21 22 57.4
GYA S S 21 23 19.0 -1.1
GYA SS SS 21 29 20.9 +2.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,180nm,4.2s
GYA LR LR
comp=N,420nm,20.4s,MS5.1
GYA LR LR
comp=E,540nm,21.6s,MS5.1
GYA LR LR
comp=Z,480nm,21.8s,MS4.9
EGMT Eagleton 90.23 37 PFAKE 21 12 40.0 +11
EGMT LR LR
comp=Z,1śm,20.0s,MS5.3
BILL Bilibino 90.47 353 *e*P **P 21 12 29.8 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
BILL Bilibino 90.47 353 PFAKE 21 12 40.0 +10
BILL LR LR
comp=Z,1śm,19.0s,MS5.3
WMOK Wichita Mounta 91.02 53 PFAKE 21 12 40.0 +7.7
WMOK LR LR
comp=Z,723nm,20.0s,MS5.1
HKT Hockley 91.28 58 PFAKE 21 12 40.0 +6.5
HKT LR LR
comp=Z,958nm,19.0s,MS5.3
XAN Xi'an 91.43 306 P **P 21 12 35.0 +0.8**
XAN AMB AMB
comp=Z,38nm,1.4s,mb5.5
HIA Hailar 91.51 323 PFAKE 21 12 40.0 +5.4
HIA LR LR
comp=Z,1śm,20.0s,MS5.3
NST Nakhon Sawan 91.51 286 P **P 21 12 37.1 +2.5**
LAO LASA Array 91.58 40 PFAKE 21 12 50.0 +15
LAO LR LR
comp=Z,466nm,19.0s,MS5.0
RSSD Black Hills 91.66 43 PFAKE 21 12 50.0 +15
RSSD LR LR
comp=Z,994nm,21.0s,MS5.2
NANT Nan 92.17 289 ⇓P **P 21 12 40.0 +2.4**
comp=Z,188nm,0.5s
HHC Hu-ho-hao-te 92.48 313 *e*P **P 21 12 39.2 +0.1**
HHC AP pP 21 12 44.1 -1.2
HHC XP sP 21 12 46.2 -1.2
HHC PP PP 21 16 23.3 +3.1
HHC SKS 21 23 10.3
HHC S S 21 23 39.9 -2.2
HHC XS sS 21 23 47.9 -4.5
HHC SS SS 21 29 55.3 +1.8
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,320nm,4.3s
HHC LR LR
comp=N,143nm,5.5s
HHC LR LR
comp=E,175nm,4.9s
HHC LR LR
comp=Z,239nm,21.1s,MS4.6
KMI Kunming 92.79 296 P **P 21 12 42.3 +1.8**
KMI AP pP 21 12 51.0 +4.3
KMI XP sP 21 12 54.9 +6.0
KMI PP PP 21 16 23.5 +0.9
KMI SKS 21 23 15.7
KMI S S 21 23 46.6 +1.7
KMI XS sS 21 23 59.0 +3.9
KMI AMB AMB
comp=Z,23nm,1.3s,mb5.5
KMI AMB AMB
comp=Z,350nm,5.0s
KMI LR LR
comp=N,346nm,16.7s,MS5.0
KMI LR LR
comp=E,355nm,20.9s,MS5.0
KMI LR LR
comp=Z,434nm,16.7s,MS5.0
NATX Nacogdoches 92.93 57 PFAKE 21 12 50.0 +8.9
NATX LR LR
comp=Z,1śm,19.0s,MS5.4
TRQA Tornquist 93.24 133 PFAKE 21 12 50.0 +7.5
TRQA LR LR
comp=Z,1śm,20.0s,MS5.3
JTS JuntasAbangare 93.27 80 PFAKE 21 12 50.0 +7.3
JTS LR LR
comp=Z,130nm,21.0s,MS4.4
CM31 Chiang Mai Arr 93.59 288 PFAKE 21 13 00.0 +16
CM31 LR LR
comp=Z,187nm,19.0s,MS4.6
DGMT Dagmar 93.65 39 PFAKE 21 13 00.0 +16
DGMT LR LR
comp=Z,739nm,20.0s,MS5.1
CHG Chiang Mai 93.72 289 ⇑P **P 21 12 46.5 +1.7**
comp=Z,19nm,0.7s,mb5.6
CHTO Chiang Mai 93.72 289 *e*P **P 21 12 46.7 +1.9**
comp=Z,12nm,0.9s,mb5.3
CHTO LR LR
comp=Z,215nm,20.0s,MS4.6
CD2 Chengdu 94.16 301 *e*P **P 21 12 45.4 -1.4**
CD2 AP pP 21 12 50.2 -2.8
CD2 XP sP 21 12 52.8 -2.4
CD2 PP PP 21 16 34.9 +1.6
CD2 SKS 21 23 18.4
CD2 S S 21 23 53.1 -3.8
CD2 SS SS 21 30 18.0 +0.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,60nm,9.2s
CD2 LR LR
comp=N,240nm,16.8s
CD2 LR LR
comp=Z,360nm,18.0s,MS4.9
YAK Yakutsk 94.37 337 *i*P **P 21 12 46.8 -0.9**
YAK pmax pmax
comp=Z,6.0nm,0.4s,mb5.4
MIAR Mount Ida 94.86 55 PFAKE 21 13 00.0 +10
MIAR LR LR
comp=Z,1śm,20.0s,MS5.3
LZH Lanzhou 96.06 306 *e*P **P 21 12 56.5 +1.0**
LZH AP pP 21 13 06.8 +5.1
LZH XP sP 21 13 09.6 +5.7
LZH *e*SKS 21 23 28.5
LZH *e*S S 21 24 08.7 -4.7
LZH SS SS 21 30 43.3 -1.2
LZH AMB AMB
comp=Z,35nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,168nm,9.1s
LZH LR LR
comp=N,399nm,16.7s
LZH LR LR
comp=Z,735nm,18.5s,MS5.2
YKA Yellowknife Ar 96.13 24 LR LR 21 53 47.6
comp=Z,351nm,18.6s,MS4.9,baz=270,slow=34
FFC Flin Flon 97.77 34 PFAKE 21 13 10.0 +6.8
FFC LR LR
comp=Z,334nm,20.0s,MS4.8
ULN Ulaanbaatar 98.35 318⇓ *e*P **P 21 13 09.8 +4.0**
ULN Ulaanbaatar 98.35 318 PFAKE 21 13 20.0 +14
ULN LR LR
comp=Z,295nm,19.0s,MS4.8
LPAZ La Paz 98.59 111 LR LR 21 52 07.3
comp=Z,975nm,18.2s,MS5.3,baz=69,slow=32
LPAZ La Paz 98.59 111 PFAKE 21 13 20.0 +13
LPAZ LR LR
comp=Z,1śm,19.0s,MS5.4
SONM Songino Array 98.75 318 P **P 21 13 06.9 -0.7**
comp=Z,0.6nm,1.2s,mb4.0,baz=115,slow=6.8,SNR=3.1
SONM PP PP 21 17 10.5 +1.7
comp=Z,0.4nm,0.9s,baz=90,slow=6.1,SNR=3.8
SONM LR LR 21 57 31.9
comp=Z,212nm,18.5s,MS4.7,baz=114,slow=35
SONM Songino Array 98.75 318 P **P 21 13 06.9 -0.7**
SONM 21 17 10.5
SONM pmax pmax
comp=Z,10.0nm,1.2s
SONM MLR MLR
comp=Z,212nm,18.5s
PLAL Pickwick Lake 99.23 56 PFAKE 21 13 20.0 +10
PLAL LR LR
comp=Z,966nm,20.0s,MS5.3
ULM Lac du Bonnet 99.33 40 LR LR 21 53 58.8
comp=Z,870nm,19.1s,MS5.3,baz=265,slow=33
ULM Lac du Bonnet 99.33 40 PFAKE 21 13 20.0 +10
ULM LR LR
comp=Z,1śm,20.0s,MS5.5
LRAL Lakeview Retre 99.42 58 PFAKE 21 13 20.0 +9.4
LRAL LR LR
comp=Z,913nm,19.0s,MS5.3
WVT Waverly 99.81 55 PFAKE 21 13 20.0 +7.7
WVT LR LR
comp=Z,1śm,20.0s,MS5.4
GTA Gaotai 100.22 308 *e*P Pdif 21 13 19.4 +5.2
GTA AP 21 13 23.9
GTA XP 21 13 27.0
GTA SKS 21 23 56.0
GTA S Sdif 21 24 48.9 +0.1
GTA XS 21 24 58.4
GTA SS SS 21 31 46.8 +3.8
GTA AMB AMB
comp=Z,3.0nm,2.4s
GTA AMB AMB
comp=Z,125nm,6.8s
GTA LR LR
comp=N,141nm,18.6s,MS4.8
GTA LR LR
comp=E,232nm,17.5s,MS4.8
GTA LR LR
comp=Z,235nm,18.3s,MS4.7
JFWS Jewell Farm 100.31 48 PFAKE 21 13 30.0 +15
JFWS LR LR
comp=Z,779nm,19.0s,MS5.2
TIXI Tiksi 100.65 344 *i*P Pdif 21 13 17.1 +1.0
TIXI pmax pmax
comp=Z,14nm,1.3s
TIXI MLR MLR
comp=Z,500nm,24.0s,MS4.9
EYMN Ely 101.19 43 PFAKE 21 13 30.0 +12
EYMN LR LR
comp=Z,63nm,20.0s,MS4.1
ZAK Zakamensk 101.58 320 *e*P Pdif 21 13 21.8 +1.6
ZAK pmax pmax
comp=Z,20nm,2.1s
TLY Talaya 101.80 321 *e*P Pdif 21 13 17.0 -4.2
TLY *e* 21 17 30.4
TLY *e*PS PS 21 26 39.2 +2.7
TLY pmax pmax
comp=Z,10.0nm,3.8s
TLY MLR MLR
comp=Z,531nm,19.0s,MS5.1
TLY Talaya 101.80 321 PFAKE 21 13 30.0 +8.8
TLY LR LR
comp=Z,142nm,20.0s,MS4.5
DWPF Disney 102.40 65 PFAKE 21 13 40.0 +16
DWPF LR LR
comp=Z,440nm,20.0s,MS5.0
LSA Lhasa 104.02 297 PFAKE 21 13 40.0 +9.0
LSA LR LR
comp=Z,223nm,19.0s,MS4.7
ACSO Alum Creek Sta 104.69 52 PFAKE 21 13 50.0 +16
ACSO LR LR
comp=Z,635nm,19.0s,MS5.2
AAM Ann Arbor 104.76 50 PFAKE 21 13 50.0 +16
AAM LR LR
comp=Z,1śm,20.0s,MS5.4
BLA Blacksburg 105.81 56 PFAKE 21 18 00.0 +8.4
BLA LR LR
comp=Z,52nm,19.0s,MS4.1
SDV Santo Domingo 106.01 87 PFAKE 21 18 00.0 +8.0
SDV LR LR
comp=Z,206nm,20.0s,MS4.7
SAML Samuel 106.09 107 PFAKE 21 18 00.0 +7.8
SAML LR LR
comp=Z,886nm,19.0s,MS5.3
PALK Pallekele 106.41 271 PFAKE 21 18 00.0 +7.3
PALK LR LR
comp=Z,168nm,19.0s,MS4.6
MCWV Mont Chateau 106.87 54 PFAKE 21 18 10.0 +16
MCWV LR LR
comp=Z,2śm,20.0s,MS5.6
ERPA Erie 107.35 51 PFAKE 21 18 10.0 +16
ERPA LR LR
comp=Z,1śm,19.0s,MS5.5
CBN Corbin 108.40 55 PFAKE 21 18 10.0 +14
CBN LR LR
comp=Z,1śm,20.0s,MS5.4
SSPA Standing Stone 108.56 53 PFAKE 21 18 10.0 +13
SSPA LR LR
comp=Z,1śm,20.0s,MS5.5
WMQ Urumqi 110.14 310 *e*PKP PKiKP 21 17 59.0 -0.7
WMQ PP PP 21 18 37.0 +3.6
WMQ PKS 21 21 34.0
WMQ PP PP
comp=Z,135nm,6.0s
WMQ LR LR
comp=N,256nm,19.4s,MS5.0
WMQ LR LR
comp=E,349nm,22.8s,MS5.0
WMQ LR LR
comp=Z,341nm,21.4s,MS4.9
BINY Binghamton 110.28 52 PFAKE 21 18 10.0 +10
BINY LR LR
comp=Z,2śm,20.0s,MS5.6
NCB Newcomb 111.86 50 PFAKE 21 18 10.0 +7.0

NCB LR LR
comp=Z,1μm,20.0s,MS5.5
SJG San Juan 113.02 79 PFAKE 21 18 20.0 +15
SJG LR LR
comp=Z,347nm,19.0s,MS5.0
LBNH Lisbon 113.54 50 PFAKE 21 18 20.0 +14
LBNH LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Harvard--Oak R 113.56 52 PFAKE 21 18 20.0 +14
HRV LR LR
comp=Z,1μm,20.0s,MS5.6
WES Weston 113.72 52 PFAKE 21 18 20.0 +13
WES LR LR
comp=Z,2μm,19.0s,MS5.6
BDFB Brasilia 115.77 121 PFAKE 21 18 20.0 +10
BDFB LR LR
comp=Z,1μm,20.0s,MS5.4
SCHQ Schefferville 117.47 38 PFAKE 21 18 20.0 +6.3
SCHQ LR LR
comp=Z,701nm,20.0s,MS5.3
KSH Kashi 118.22 304 *e*PKP PKPdf 21 18 09.0 -6.2
KSH *e*XPKP 21 18 23.2
KSH *e*PKS 21 21 44.4
KSH PP PP
comp=Z,377nm,6.0s
KSH LR LR
comp=N,292nm,4.9s
KSH LR LR
comp=E,384nm,5.3s
KSH LR LR
comp=Z,328nm,5.5s
AAK Ala-Archa 119.57 308 PFAKE 21 18 30.0 +12
AAK LR LR
comp=Z,85nm,20.0s,MS4.4
CHKZ Chkalovo 121.82 321 *e*PKPdf PKPdf 21 18 20.4 -1.7
BRVK Borovoye 122.09 320⇓ *e*PKP PKPdf 21 18 21.9 -0.7
BRVK LR LR
comp=Z,70nm,21.0s,MS4.3
ZRNK Zerenda 122.87 320 *e*P PKPdf 21 18 23.2 -0.9
SUR Sutherland 124.39 196 PFAKE 21 18 40.0 +13
SUR LR LR
comp=Z,289nm,20.0s,MS4.9
BOSA Boshof 126.60 202 PFAKE 21 18 40.0 +8.8
BOSA LR LR
comp=Z,952nm,19.0s,MS5.5
SVE Sverdlovsk 126.74 326 *e*PKIKP PKPdf 21 18 31.0 -0.5
SVE pmax pmax
comp=N,200nm,18.0s
SVE pmax pmax
comp=E,200nm,18.0s
SVE pmax pmax
comp=Z,400nm,18.0s
ARU Arti 127.96 326 *i* PKIKP PKPdf 21 18 31.0 -2.8
ARU *e* 21 25 32.8
ARU Arti 127.96 326 PFAKE 21 18 40.0 +6.2
ARU LR LR
comp=Z,129nm,20.0s,MS4.6
LBTB Lobatse 129.76 204 PFAKE 21 18 50.0 +13
LBTB LR LR
comp=Z,619nm,20.0s,MS5.3
ARCES ARCESS Array B 130.54 351 PKP PKPdf 21 18 37.9 -0.8
comp=Z,1.4nm,0.7s,baz=101,slow=2.5,SNR=6.0
ARCES ARCESS Array B 130.54 351 PKIKP PKPdf 21 18 37.9 -0.8
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 130.54 351 PKP PKPdf 21 18 37.9 -0.8
RCBR Riachuelo 131.09 119 PFAKE 21 18 50.0 +10
RCBR LR LR
comp=Z,759nm,19.0s,MS5.4
LSZ Lusaka 137.16 213 PFAKE 21 19 00.0 +8.8
LSZ LR LR
comp=Z,846nm,19.0s,MS5.5
FINES FINESS Array B 137.69 346 PKP PKPdf 21 18 50.3 -1.9
comp=Z,2.0nm,1.0s,baz=48,slow=2.1,SNR=3.3
FINES FINESS Array B 137.69 346 PKIKP PKPdf 21 18 50.3 -1.8
FINES pmax pmax
comp=Z,2.0nm,1.0s
TSUM Tsumeb 137.79 197 PFAKE 21 19 00.0 +7.7
TSUM LR LR
comp=Z,505nm,19.0s,MS5.3
OBN Obninsk 139.25 333 *i* PKIKP PKPdf 21 18 55.6 +0.6
OBN *e* 21 21 48.9
OBN *e* 21 26 00.2
OBN *e*SS SS 21 40 05.7 +0.5
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.9
OBN Obninsk 139.25.333 *i* PKP PKPdf 21 18 55.7 +0.7
OBN LR LR
comp=Z,81nm,19.0s,MS4.5
KMBO Kilima Mbogo 141.68 238 PKhKP 21 18 57.0
comp=Z,2.7nm,1.0s,baz=200,slow=4.1,SNR=4.8
KMBO PKP PKPdf 21 19 01.4 +2.0
comp=Z,2.6nm,0.9s,baz=9.9,slow=3.9,SNR=5.1
KMBO Kilima Mbogo 141.68 238 PKHKP 21 18 57.0
KMBO 21 19 01.4
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 141.68 238 *i* PKIKP PKPdf 21 19 03.2 +3.8
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KONO Kongsberg 141.86 357 PFAKE 21 19 10.0 +10
KONO LR LR
comp=Z,239nm,19.0s,MS5.0
GNI Garni 141.97 308 PFAKE 21 19 10.0 +10
GNI LR LR
comp=Z,198nm,19.0s,MS4.9
KIV Kislovodsk 142.07 315 *i* PKIKP PKPdf 21 19 06.9 +6.8
KIV *e* 21 22 01.6
KIV *e*SSS 21 45 54.6
KIV pmax pmax
comp=Z,6.0nm,1.2s
KIV Kislovodsk 142.07 315 PFAKE 21 19 10.0 +10
KIV LR LR
comp=Z,81nm,19.0s,MS4.5
BHD Baghdad 143.81 297 *ex* x 21 18 57.0
MSL Mosul 144.26 303 *ex* x 21 19 08.0
ERZM Erzurum 144.50 309 *i* P PKPdf 21 19 04.1 -0.3
SUW Suwalki 144.95 342 *e*PKP PKPdf 21 19 03.8 -1.4
BNGL BINGOL 144.98 308 *i* P PKPbc 21 19 04.8 +0.3
BNGL BINGOL 144.98 308 *i* P PKPbc 21 19 06.4 +1.9
ANN Anapa 145.02 319 *i* PKHKP 21 19 03.6
ANN pmax pmax
comp=Z,92nm,1.1s
MUD Monsted U'grnd 145.06 356 *i* P PKPbc 21 19 02.4 -2.4
comp=Z,61nm,1.3s
MUD *i* 21 27 09.7
MUD
comp=Z,390nm,18.0s
MUD Monsted U'grnd 145.06 356 *i* P PKPbc 21 19 02.4 -2.4
MUD *i* 21 27 09.7
MACK Trabzon 145.25 312 *i* P PKPbc 21 19 05.7 +0.3
AKASG Malin Array Be 145.51 333 PKPbc PKPbc 21 19 04.0 -2.2
comp=Z,12nm,0.8s,baz=36,slow=3.7,SNR=54
COP Copenhagen 145.55 353 *i* P PKPdf 21 19 05.1 -1.1
comp=Z,24nm,1.1s
COP
comp=Z,150nm,19.0s
ESK Eskdalemuir 145.68 9 PFAKE 21 19 20.0 +14
ESK LR LR
comp=Z,120nm,19.0s,MS4.7
DESE Dese 145.75 258 *e*P PKPbc 21 19 10.0 +3.1
MARD Mardin 145.77 305 *i* P PKPdf 21 19 07.7 +1.2
BSD Bornholm Skovb 145.78 350⇑ *i*P PKPdf 21 19 05.5 -1.1
comp=Z,46nm,1.2s
BSD
comp=Z,420nm,18.0s
KELT Kelkit 145.92 311 *i* P PKPdf 21 19 06.5 -0.3
ELZG Elazig 146.73 308 *i* P PKPbc 21 19 11.6 +1.7
SIM Simferopol' 146.92 322 *i* PKP2 PKPab 21 19 11.0 -0.8
SIM *e* 21 22 40.0
SIM pmax pmax
comp=Z,15nm,0.9s
SIM pmax pmax
comp=Z,40nm,9.3s
GKP Gorka Klasztor 147.12 347 *e*PKP PKPdf 21 19 10.6 +1.8
GKP Gorka Klasztor 147.12 347 *e*PKP PKPdf 21 19 10.6 +1.8
GKP Gorka Klasztor 147.12 347 *e*PKP PKPdf 21 19 10.6 +1.8
MALT Malatya 147.20 308⇑ *i*P PKPbc 21 19 12.4 +1.2
MALT Malatya 147.20 308 *e*PKPbc PKPbc 21 19 12.3 +1.0
BSEG Bad Segeberg 147.49 355 *e*PKPbc PKPbc 21 19 10.5 -1.5
GZT Gaziantep 148.18 307 *i* P PKPbc 21 19 15.0 +1.1
LVV L'vov 148.25 337 *e*PKIKP PKPdf 21 19 13.4 +2.7
KIS Kishinev 148.41 329 *e*PKIKP PKPdf 21 19 12.0 +1.0
CMLA Cha da Macela 148.74 52 PFAKE 21 19 20.0 +8.5
CMLA LR LR
comp=Z,327nm,21.0s,MS5.1
KWP Kalwaria 148.87 338 *e*PKP PKPbc 21 19 15.9 +0.2
NRDL Niedersach Rie 148.94 355 *e*PKPbc PKPbc 21 19 15.2 -0.6
BALT Daday 149.25 317 *i* P PKPab 21 19 23.5 +2.4
IBBN Ibbenburen 149.28 357 *e*PKPbc PKPbc 21 19 15.9 -0.8
OJC Ojcow 149.28 342 *e*PKP PKPbc 21 19 16.4 -0.3
STHS Stebnicka Huta 149.55 340 *e*PKP PKPbc 21 19 17.4 0.0
BURAR Bucovina Array 149.57 335⇓ *i*P PKPbc 21 19 18.6 +1.2
KSP Ksiaz 149.60 346 *e*PKP PKPbc 21 19 18.0 +0.5
KSP Ksiaz 149.60 346 *e*PKHKP PKPbc 21 19 17.6 +0.1
KSP *e* 21 19 23.3
KSP *e*SS SS 21 42 04.0 +0.1
KOLS Kolonicke sedl 149.62 338 *e*PKP PKPbc 21 19 17.6 +0.1
KOLS *e* 21 19 28.9
KOLS Kolonicke sedl 149.62 338 *e*PKP PKPbc 21 19 17.6 +0.1
KOLS *e* 21 19 29.0
WTSB Winterswijk 149.65 358 *e*PKP PKPdf 21 19 16.4 +3.4
WTSB *e*PKP PKPdf 21 19 16.9 +3.9
CLL Collm 149.76 351 *e*PKPdf PKPdf 21 19 12.8 -0.4
CLL *e*PKPbc PKPbc 21 19 17.4 -0.5
CLL Collm 149.76 351 *i* PKPbc PKPbc 21 19 17.2 -0.7
comp=Z,36nm,1.3s
CLL *i* PKPab PKPab 21 19 22.4 -0.8
comp=Z,21nm,1.1s
CLL *i* pPKPab pPKPab 21 19 26.3 -3.2
CLL Collm 149.76 351 *i* PKHKP PKPbc 21 19 17.2 -0.7
CLL *i* 21 19 22.4
CLL pmax pmax
comp=Z,36nm,1.3s
CLL pmax pmax
comp=Z,21nm,1.1s
CLL MLR MLR
comp=Z,500nm,16.1s,MS5.4
ELDT Eldivan 149.76 315 *i* P PKPbc 21 19 18.4 +0.5
NIE Niedzica 149.84 341 *e*PKP PKPbc 21 19 18.8 +0.7
UZH Uzhgorod 149.87 338⇓ *i*PKHKP PKPbc 21 19 17.4 -0.7
UZH pmax pmax
comp=Z,67nm,1.2s
CRVS Cervenica-Dubn 149.92 339 *e*PKP PKPbc 21 19 18.0 -0.3
UPC Upice 149.97 347⇑ *e*PKPB PKPbc 21 19 18.8 +0.4
BR131 Keskin Array S 150.00 313 *e*PKPbc PKPbc 21 19 18.7 +0.2
BR131 LR LR
comp=Z,201nm,19.0s,MS4.9
BRTR Keskin Array B 150.00 313 PKPbc PKPbc 21 19 18.8 +0.3
comp=Z,8.4nm,1.1s,baz=142,slow=2.8,SNR=22
BRTR Keskin Array B 150.00 313 PKHKP PKPbc 21 19 18.8 +0.3
BRTR pmax pmax
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 150.03 349 *e*PKPdf PKPdf 21 19 13.5 -0.1
BRG *e*PKPbc PKPbc 21 19 17.6 -0.9
BRG Berggiesshubel 150.03 349 *e*PKPDF PKPdf 21 19 13.4 -0.2
comp=Z,5.9nm,1.5s
BRG Berggiesshubel 150.03 349⇑ *i*PKPB PKPbc 21 19 18.5 0.0
comp=Z,23nm,1.4s
BRG
comp=N,119nm,18.6s
BRG
comp=E,125nm,24.5s
BRG
comp=Z,315nm,18.2s
BRG Berggiesshubel 150.03 349 *e*PKIKP PKPdf 21 19 13.4 -0.2
BRG *i* 21 19 18.5
BRG pmax pmax
comp=Z,1.0nm,1.5s
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG MLR MLR
comp=N,23μm,18.6s
BRG MLR MLR
comp=E,119nm,24.5s
BRG MLR MLR
comp=Z,125nm,18.2s,MS4.8
BRG Berggiesshubel 150.03 349 *e*PKPdf PKPdf 21 19 13.4 -0.2
BRG *i* PKPbc PKPbc 21 19 18.5 0.0
BRG LR LR
comp=Z,320nm,18.2s,MS5.2
CFR Carcaliu 150.03 327 PKHKP PKPbc 21 19 19.3 +0.8
DPC Dobruska-Polom 150.06 346 *e*PKPDF PKPdf 21 19 13.8 +0.2
DPC ⇑*e*PKPB PKPbc 21 19 19.1 +0.5
DPC AMS AMS 22 30 20.0
comp=Z,400nm,16.1s
OKC Ostrava-Krasne 150.09 344 *e*PKPDF PKPdf 21 19 14.4 +0.7
OKC ⇑*e*PKPB PKPbc 21 19 18.9 +0.2
OKC AMS AMS 22 27 20.0
comp=Z,400nm,22.1s
OKC Ostrava-Krasne 150.09 344 *e*PKP PKPdf 21 19 14.4 +0.7
OKC *e* 21 19 18.9
BUG Bochum--Univer 150.16 358 *e*PKPbc PKPbc 21 19 18.0 -0.9
ASF Jabal al Asfar 150.21 297 PKPbc PKPbc 21 19 19.4 +0.4
comp=Z,4.1nm,1.0s,baz=350,slow=3.6,SNR=7.7
ASF Jabal al Asfar 150.21 297 PKHKP PKPbc 21 19 19.4 +0.4
ASF pmax pmax
comp=Z,4.0nm,1.0s
PVCC Panska Ves 150.25 348⇑ *e*PKPB PKPbc 21 19 19.3 +0.2
MORC Moravsky Berou 150.30 344⇑ *i*P PKPdf 21 19 13.7 -0.3
MORC Moravsky Berou 150.30 344 ⇑P PKPdf 21 19 13.7 -0.3
MORC *e*PKPbc PKPbc 21 19 19.1 -0.1
TIRR Tirgusor 150.38 326⇓ *i*P PKPbc 21 19 21.4 +2.0
ANTO Ankara 150.49 314⇑ *i*P PKPbc 21 19 19.8 +0.2
ANTO Ankara 150.49 314 *e*PKPbc PKPbc 21 19 18.6 -1.1
ANTO LR LR
comp=Z,310nm,19.0s,MS5.1
MOX Moxa 150.60 352 *e*PKPbc PKPbc 21 19 19.0 -0.9
MOX Moxa 150.60 352 *e*PKP PKPbc 21 19 19.2 -0.7
comp=Z,48nm,1.7s
MOX
comp=Z,400nm,19.0s
MOX Moxa 150.60 352 *e*PKIKP PKPbc 21 19 19.2 -0.7
MOX pmax pmax
comp=Z,48nm,1.7s
MOX MLR MLR
comp=Z,400nm,19.0s,MS5.2
UBBA Unterbreizbach 150.61 354 *e*PKPbc PKPbc 21 19 19.1 -0.8
KECS Kecovo 150.61 340 *e*PKP PKPbc 21 19 19.4 -0.5
SGKT Sivrigoynuk 150.61 316 *i* P PKPbc 21 19 16.8 +2.3
TANN Tannenbergstha 150.71 351 *e*PKPbc PKPbc 21 19 18.9 -1.3
PRU Pruhonice 150.77 348 *e*PKPDF PKPdf 21 19 14.4 -0.3
PRU ⇑*e*PKPB PKPbc 21 19 20.5 +0.2
PRU *e*PKPAB PKPab 21 19 29.1 +1.7
PRU AMS AMS 22 31 00.0
comp=Z,200nm,15.6s
BEBN Eben Emael 150.84 360 PKPbc PKPbc 21 19 21.2 +0.7
HGN Heimansgroeve 150.87 359 *e*PKP PKPbc 21 19 18.3 -2.2
comp=Z,43nm,3.2s
MLR Muntele Rosu 150.87 330⇑ *i*P PKPbc 21 19 21.2 +0.7
NKC Novy Kostel 150.89 351⇑ *e*PKPB PKPbc 21 19 20.9 +0.3
NKC AMS AMS 22 26 50.0
comp=Z,300nm,16.9s
MENF Mencas 150.96 4 PKP PKPbc 21 19 19.1 -1.6
MENF Mencas 150.96 4 *e*P PKPbc 21 19 19.1 -1.6
VRAC Vranov 150.97 345⇑ *i*P PKPbc 21 19 20.4 -0.4
MEM Membach 151.02 359 PKPbc PKPbc 21 19 20.7 -0.2
MEM APKPab 21 19 33.8
SNF Seneffe 151.11 2 PKPbc PKPbc 21 19 21.1 0.0
VYHS Vyhne 151.11 342 *e*PKP PKPbc 21 19 20.9 -0.2
VYHS *e* 21 19 33.6
MANZ Manzenberg 151.18 351 *e*PKPdf PKPdf 21 19 15.2 -0.2
MANZ *e*PKPbc PKPbc 21 19 20.8 -0.5
BCLA Clavier 151.22 0 PKPab PKPab 21 19 27.3 -1.9
TREC Trest 151.23 346⇑ *e*PKPB PKPbc 21 19 21.6 +0.2
TREC AMS AMS 22 28 50.0
comp=Z,300nm,17.7s
DRGR 151.25 335⇑ *i*P PKPbc 21 19 20.6 -0.8
PSZ Piszkesteto 151.29 340 *e*pPKP/F PKPdf 21 19 17.6 +2.1
PSZ Piszkesteto 151.29 340 PKIKP PKPbc 21 19 21.7 +0.2
PSZ Piszkesteto 151.29 340 *e*PKPbc PKPbc 21 19 20.0 -1.5
PSZ *e*PKPab PKPab 21 19 30.1 +0.5
TNS Taunus Mts 151.32 356 *e*PKPdf PKPdf 21 19 15.3 -0.3
TNS *e*PKPbc PKPbc 21 19 21.3 -0.3
ROTZ Rotzenmuhle 151.38 351 *e*PKPbc PKPbc 21 19 21.2 -0.5
GIVF Givet 151.53 1 *e*PKIKP PKPbc 21 19 21.0 -1.1
comp=Z,83nm,1.2s
DOU Dourbes 151.53 1 PKPbc PKPbc 21 19 21.3 -0.7
BAIF Baives 151.56 2 *e*PKIKP PKPbc 21 19 21.3 -0.8
comp=Z,57nm,1.2s
GRF Grafenberg Arr 151.59 352 *e*PKPbc PKPbc 21 19 21.6 -0.6
GRF *e*L 22 36 32.5
comp=Z,497nm,18.1s
KHC Kasperske Hory 151.77 349 *e*PKPDF PKPdf 21 19 16.3 0.0
KHC ⇑*e*PKPB PKPbc 21 19 22.8 +0.2
KHC *e*PKPAB PKPab 21 19 31.6 +0.1
KHC AMS AMS 22 33 20.0
comp=Z,300nm,20.4s
WET Wettzell 151.88 350 *e*PKPdf PKPdf 21 19 16.4 0.0
ERMK Ermenek 151.89 308 *i* P PKPbc 21 19 21.8 -1.1
BUD Budapest 151.96 340 *e*pcPKP/F PKPbc 21 19 22.1 -0.9
ESKT Eskisehir 151.96 315 *i* P PKPdf 21 19 18.3 +1.7
WLF Walferdange 151.97 359 *e*PKPdf PKPdf 21 19 16.6 0.0
WLF *e*PKPbc PKPbc 21 19 23.4 +0.3
WLF Walferdange 151.97 359 PKPbc PKPbc 21 19 23.6 +0.5
WLF Walferdange 151.97 359 *e*PKPbc PKPbc 21 19 22.9 -0.2
BORA Eskisehir 152.02 316 *i* P PKPdf 21 19 22.7 -0.5
GEC2 GERESS Array S 152.02 348 *e*PKPdf PKPdf 21 19 16.4 -0.2
GEC2 *e*PKPbc PKPbc 21 19 22.9 -0.3
GERES GERESS Array B 152.02 348 PKP PKPdf 21 19 16.4 -0.3
comp=Z,0.4nm,0.7s,baz=222,slow=1.8,SNR=5.5
GERES PKPbc PKPbc 21 19 22.9 -0.3
comp=Z,3.9nm,1.0s,baz=48,slow=2.0,SNR=21
GERES GERESS Array B 152.02 348 PKIKP PKPdf 21 19 16.4 -0.2
GERES 21 19 22.9
GERES pmax pmax
comp=Z,4.0nm,1.0s
EIL Elat 152.34 293 *e*PKPbc PKPbc 21 19 24.6 +0.6
CONA Conrad Observa 152.43 345⇓ *i*PKiKP PKiKP 21 19 24.5 +0.1
comp=Z,7.5nm,1.1s
FLN La Foliniere 152.45 9 *e*PKIKP PKPbc 21 19 22.7 -1.5
comp=Z,26nm,0.9s
FLN *e*R
comp=Z,516nm,18.5s
LANF Langenberg 152.60 357 PKP PKPbc 21 19 25.5 +1.0
BZS Buzias 152.64 335⇓ *i*P PKPdf 21 19 16.6 -1.0
LDF La Druitiere 152.66 8 *e*PKIKP PKPbc 21 19 23.1 -1.5
comp=Z,50nm,1.4s
STU Stuttgart 152.71 355 *e*PKPdf PKPdf 21 19 17.6 -0.1
STU *e*PKPbc PKPbc 21 19 24.4 -0.3
STU *e*PKPab PKPab 21 19 33.9 -1.6
GRR Gorron 152.76 9 *e*PKIKP PKPbc 21 19 23.5 -1.4
MEZF Maizieres J'vi 153.13 1 *e*PKIKP PKPbc 21 19 24.8 -0.9
comp=Z,39nm,1.3s
WLS Welschbruch 153.19 357 PKP PKPbc 21 19 26.5 +0.7
CDF Champ du Feu 153.19 357 *e*PKIKP PKPbc 21 19 24.7 -1.1
comp=Z,17nm,1.2s
PKSM Moragy 153.20 340⇓ *i*P PKPdf 21 19 16.3 -2.1
PKSM Moragy 153.20 340 ⇓P PKPdf 21 19 16.3 -2.1
BFO Black Forest 153.21 356 *e*PKPbc PKPbc 21 19 25.5 -0.4
BFO *e*PKPab PKPab 21 19 36.1 -1.5
THEF They Montfort 153.41 359 PKP PKPbc 21 19 26.9 +0.6
KOGS Kog 153.70 343 *e*PKPdf PKPdf 21 19 17.1 -2.0
KOGS *e* 21 19 37.7
HINF Hinteralfeld 153.80 358 *e*PKIKP PKPbc 21 19 24.7 -2.4
PERS Pernice 153.82 345 *e*PKPdf PKPdf 21 19 17.8 -1.4
PERS *e* 21 19 38.8
DAVA Damuels 154.11 353⇑ *i*P PKPbc 21 19 28.5 +0.7
comp=Z,8.2nm,1.2s
LOMF Lomont 154.27 358 PKP PKPbc 21 19 33.3 +5.2
LOR Lormes 154.33 3 *e*PKIKP PKPbc 21 19 26.3 -2.0
LOR *e*R
comp=Z,694nm,19.0s
VTS Vitosha 154.35 329⇑ *i*P PKPab 21 19 42.2 -0.2
MFF Saint Martin d 154.61 9 *e*PKIKP PKPbc 21 19 26.5 -2.4
CABF La Chapelle 155.02 359 *e*PKIKP PKPdf 21 19 26.2 +5.3
TCF Toulx Ste Croi 155.20 6 *e*PKIKP PKPdf 21 19 26.8 +5.6
RJF Les Rejaudoux 156.10 7 *e*PKIKP PKPdf 21 19 28.5 +6.1
RJF *e*R
comp=Z,471nm,20.2s
CAF Calviac 156.54 6 *e*PKIKP PKPdf 21 19 28.1 +5.1
ESLA Sonseca Array 160.22 22 PFAKE 21 19 40.0 +13
ESLA LR LR
comp=Z,3μm,19.0s
DBIC Dimbokro 162.09 144 PFAKE 21 19 40.0 +11
DBIC LR LR
comp=Z,665nm,19.0s

IDC 11 21:27:36.2±1.7, 367S×15182E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.2/13, mbtmp3.1/2, Error ellipse: s-maj=86.2km s-min=39.7km az=132.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.50**	**225**	P	P	21 32 49.2	+1.3
	0.3nm,0.4s,baz=52,slow=10.0,SNR=4.9						
ASAR	**Alice Springs**	**26.36**	**219**	P		21 33 14.0	0.0
	0.2nm,0.7s,baz=45,slow=10,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.02**	**290**	PKPbc	PKPbc	21 47 26.1	-0.2
	0.4nm,0.6s,baz=85,slow=1.6,SNR=9.5						
BDFB	**Brasilia**	**152.55**	**135**	PKPbc	PKPbc	21 47 36.4	+1.8
	2.7nm,0.4s,baz=212,slow=7.4,SNR=4.9						

TIR **11** *22:42:07.7, 40.15N×1977E, h12km*
ISCJB **11** *22:42:08.2±0.9, 40.14N±003×1967E±007, h10km, Error ellipse: s-maj=7.3km s-min=5.0km az=6.6*
CSEM **11** *22:42:08.0±0.2, 40.15N×1973E, h5km, MD3.5, Error ellipse: s-maj=4.9km s-min=3.7km az=82.0*
ATH **11** *22:42:08.0, 4007N×1949E, h15km, MD3.5/3*
SKO **11** *22:42:10.2, 4008N×1974E, h16km*

ISC 11 22:42:08.2±1.1, 4012N±004×1964E±007, h2km±7km, n15, σ0s95/26, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.34**	**58**	*i* Pg	**Pg**	**22 42 12.9**	**-1.7**
TPE				*i* Sg	**Sg**	**22 42 18.0**	**-1.0**
TPE	**Tepelena**	**0.34**	**58**	*e*Pg	**Pg**	**22 42 12.9**	**-1.7**
TPE				*i* Sg	**Sg**	**22 42 18.0**	**-1.0**
SRN	**Sarande**	**0.36**	**130**	*i* Pg	**Pg**	**22 42 14.4**	**-0.8**
SRN				*i* Sg	**Sg**	**22 42 21.1**	**+1.2**
SRN	**Sarande**	**0.36**	**130**	*e*Pg	**Pg**	**22 42 14.4**	**-0.8**
SRN				*i* Sg	**Sg**	**22 42 21.1**	**+1.2**
VLO	**Vlora**	**0.37**	**343**	*i* Pg	**Pg**	**22 42 15.7**	**+0.5**
VLO				*i* Sg	**Sg**	**22 42 24.9**	**+4.9**
VLO	**Vlora**	**0.37**	**343**	*e*Pg	**Pg**	**22 42 15.7**	**+0.5**
VLO				*i* Sg	**Sg**	**22 42 24.9**	**+4.9**
KER	**Kerkira**	**0.42**	**163**	*e*PB	**Pg**	**22 42 16.5**	**+0.2**
LSK	**Leskovik**	**0.74**	**87**	*i* Pg	**Pg**	**22 42 20.7**	**-1.6**
LSK				*i* Sg	**Sg**	**22 42 32.6**	**+0.7**
LSK	**Leskovik**	**0.74**	**87**	*e*Pg	**Pg**	**22 42 20.7**	**-1.6**
LSK				*i* Sg	**Sg**	**22 42 32.6**	**+0.7**
JAN	**Janina**	**1.04**	**116**	*e*PN	**Pn**	**22 42 29.0**	**-0.8**
JAN				*e*SN	**Sn**	**22 42 44.4**	**-0.4**
OHR	**Ohrid**	**1.33**	**41**	*e*Pg	**Pg**	**22 42 34.1**	**+0.5**
OHR				*e*Sg	**Sg**	**22 42 51.3**	**+0.5**
BIA	**Bitola**	**1.57**	**54**	*e*Pn	**Pn**	**22 42 36.5**	**-0.6**
BIA				*e*Sg	**Sg**	**22 42 59.9**	**+1.3**
BIA	**Bitola**	**1.57**	**54**	*e*Pn	**Pn**	**22 42 36.4**	**-0.6**
KRUS	**Krusevo**	**1.75**	**44**	*e*Pn	**Pn**	**22 42 40.1**	**+0.6**
EVR	**Evrytania**	**2.06**	**125**	*e*PN	**Pn**	**22 42 45.2**	**+1.4**

ISCJB **11** *22:43:55.6±0.2, 49.35N±001×676E±003, h0km, Error ellipse: s-maj=2.4km s-min=1.7km az=9.3*
STR **11** *22:43:57.8±0.3, 4937N×693E, h1km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR **11** *22:43:57.6±0.6, 49.38N×692E, h1km, ML2.2/2, Error ellipse: s-maj=7.8km s-min=5.6km az=69.0*
NEIC **11** *22:43:58.1, 49.38N×689E, h1km, ML2.1(SZGRF), ML2.6(STR), ML2.8(LDG), After LDG.*
CSEM **11** *22:43:58.0±0.0, 49.39N×691E, h1km, ML2.8/26, Error ellipse: s-maj=0.6km s-min=0.6km az=117.0*
BNS **11** *22:43:58.6±0.8, 49.42N×687E, h1km, ML1.8*
LDG **11** *22:43:58.1±0.1, 49.38N×689E, h1km, Md2.7/3, Ml2.8/32, Error ellipse: s-maj=1.1km s-min=1.0km az=95.0, Suspected Mining induced.*

ISC 11 22:43:56.7±0.2, 4936N±001×682E±002, h0km, n96, σ0s94/192, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.38**	**25**	Pg	**Pg**	**22 44 04.3**	**+0.4**
RUP				Sg	**Sg**	**22 44 08.7**	**0.0**
WLF	**Walferdange**	**0.53**	**305**	*e*Pg	**Pg**	**22 44 08.5**	**+1.7**
	SNR=11						
WLF				*e*Sg	**Sg**	**22 44 16.0**	**+2.3**
WLF	**Walferdange**	**0.53**	**305**	*e*P	**Pg**	**22 44 08.5**	**+1.7**
WLF				*e*S	**Sg**	**22 44 15.1**	**+1.4**
ABH	**Alteburg**	**0.70**	**42**	Pg	**Pg**	**22 44 10.1**	**-0.1**
LANF	**Langenberg**	**0.75**	**120**	Pg	**Pg**	**22 44 11.4**	**+0.3**
BGG	**Burgeitz**	**0.91**	**22**	*e*Pg	**Pg**	**22 44 14.3**	**+0.2**
BGG				*e*Sg	**Sg**	**22 44 26.6**	**+0.7**

CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**22 44 18.0**	**+0.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 44 30.0**	**+1.3**
	39nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pg	**Pg**	**22 44 16.7**	**+0.9**
CDF				*e*Pn	**Pn**	**22 44 18.0**	**+0.1**
CDF				*e*Sg	**Sg**	**22 44 30.0**	**+1.3**
CDF	**Champ du Feu**	**1.00**	**162**	*e*Pn	**Pn**	**22 44 18.0**	**+0.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 44 30.0**	**+1.3**
	20nm,0.3s,SNR=1.0						
WLS	**Welschbruch**	**1.01**	**159**	Pg	**Pg**	**22 44 17.1**	**+1.0**
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**22 44 20.7**	**+2.0**
	baz=51						
RFYF				*e*Sg	**Sg**	**22 44 36.3**	**+2.7**
	48nm,0.3s						
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**22 44 20.7**	**+2.0**
RFYF				*e*Sg	**Sg**	**22 44 36.3**	**+2.7**
	24nm,0.3s						
ECH	**Echery**	**1.17**	**169**	Pg	**Pg**	**22 44 20.5**	**+1.4**
ECH				Sg	**Sg**	**22 44 35.1**	**+0.9**
STB	**Steinbach**	**1.23**	**1**	*e*Sg	**Sg**	**22 44 37.0**	**+0.6**
	19nm,0.6s						
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**22 44 21.6**	**+0.7**
TOD	**Tromm**	**1.32**	**79**	Pg	**Pg**	**22 44 21.4**	**-0.6**
LIBD	**Limburg**	**1.32**	**156**	Pg	**Pg**	**22 44 23.3**	**+1.3**
KLL	**Kalltalsperre**	**1.33**	**346**	*e*Pg	**Pg**	**22 44 22.0**	**-0.1**
MEM	**Membach**	**1.35**	**338**	P	**Pg**	**22 44 22.8**	**+0.2**
DREG	**Dreilaegerbach**	**1.36**	**344**	*e*Pg	**Pg**	**22 44 22.8**	**+0.2**
DREG				*e*Sg	**Sg**	**22 44 39.4**	**-0.8**
	17nm,0.8s						
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**22 44 21.8**	**-1.0**
	SNR=9.8						
TNS				*e*Sg	**Sg**	**22 44 39.7**	**-0.8**
	SNR=2.8						
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**22 44 22.8**	**0.0**
TNS				*e*Sg	**Sg**	**22 44 42.1**	**+1.6**
TNS	**Taunus Mts**	**1.36**	**50**	*e*Pg	**Pg**	**22 44 22.8**	**0.0**
TNS				Sg	**Sg**	**22 44 39.7**	**-0.8**
	SNR=2.8						
HAU	**Haudompre**	**1.39**	**193**	*e*Pn	**Pn**	**22 44 23.5**	**+0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 44 41.8**	**-0.6**
	43nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.39**	**193**	*e*Pn	**Pn**	**22 44 23.5**	**+0.2**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**22 44 41.8**	**-0.6**
	21nm,0.3s,SNR=1.0						
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**22 44 24.6**	**+0.4**
	SNR=5.6						
BFO				*e*Sg	**Sg**	**22 44 42.1**	**-0.8**
	SNR=14						
BFO	**Black Forest**	**1.44**	**135**	*e*Pg	**Pg**	**22 44 24.5**	**+0.3**
BFO				*e*Sg	**Sg**	**22 44 42.9**	**0.0**
BCLA	**Clavier**	**1.44**	**318**	P	**Pn**	**22 44 23.6**	**-0.4**
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**22 44 25.5**	**+1.1**
	baz=59,SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 44 45.2**	**+2.0**
	22nm,0.3s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.45**	**234**	*e*Pg	**Pg**	**22 44 25.5**	**+1.1**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**22 44 45.2**	**+2.0**
	11nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.49**	**301**	*e*Pn	**Pn**	**22 44 24.9**	**+0.2**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**22 44 44.3**	**-0.5**
	36nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.49**	**301**	*e*Pn	**Pn**	**22 44 24.9**	**+0.2**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**22 44 44.3**	**-0.5**
	18nm,0.4s,SNR=1.0						
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pg	**Pg**	**22 44 24.8**	**-0.9**
	baz=120						
HGN				*e*Sg	**Sg**	**22 44 44.9**	**-0.4**
HGN				*e*Rg		22 45 10.0	
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pg	**Pg**	**22 44 24.8**	**-0.9**
HGN				*e*Sg	**Sg**	**22 44 44.9**	**-0.4**
MOF	**Molkenrain**	**1.53**	**172**	Pg	**Pg**	**22 44 26.9**	**+1.0**
MOF				Sg	**Sg**	**22 44 46.7**	**+1.0**
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**22 44 26.7**	**+0.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 44 47.4**	**+1.0**
	76nm,0.3s						
HINF	**Hinteralfeld**	**1.55**	**179**	*e*Pg	**Pg**	**22 44 26.7**	**+0.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**22 44 47.4**	**+1.0**
	38nm,0.3s						
DOU	**Dourbes**	**1.62**	**298**	P	**Pn**	**22 44 26.9**	**+0.4**
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pn	**Pn**	**22 44 27.4**	**+0.5**
	baz=54						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pg	**Pg**	**22 44 29.9**	**+1.6**
	baz=56						
SFTF				*e*Sn	**Sn**	**22 44 48.5**	**-0.3**
	13nm,0.2s						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pn	**Pn**	**22 44 27.4**	**+0.5**
SFTF				*e*Pg	**Pg**	**22 44 29.9**	**+1.6**
SFTF				*e*Sn	**Sn**	**22 44 48.5**	**-0.3**
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pg	**Pg**	**22 44 29.9**	**+1.6**
SFTF				*e*Sn	**Sn**	**22 44 48.5**	**-0.3**
	6.6nm,0.2s						
FELD	**Feldberg im Sc**	**1.68**	**152**	Pg	**Pg**	**22 44 28.7**	**-0.2**
FELD				Sg	**Sg**	**22 44 50.8**	**+0.1**
BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**22 44 32.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**22 44 52.5**	**-0.7**
	10nm,0.2s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**22 44 57.3**	**+1.8**
	16nm,0.3s						
BAIF	**Baives**	**1.83**	**293**	*e*Pn	**Pn**	**22 44 29.6**	**+0.2**
BAIF				*e*Pg	**Pg**	**22 44 32.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**22 44 52.5**	**-0.7**
BAIF				*e*Sg	**Sg**	**22 44 57.3**	**+1.8**
BAIF	**Baives**	**1.83**	**293**	*e*Pg	**Pg**	**22 44 32.7**	**+0.9**
BAIF				*e*Sn	**Sn**	**22 44 52.5**	**-0.7**
	5.2nm,0.2s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**22 44 57.3**	**+1.8**
	7.8nm,0.3s						
LOMF	**Lomont**	**2.01**	**180**	Pg	**Pg**	**22 44 36.2**	**+0.9**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**22 44 50.5**	**+0.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 45 27.2**	**+0.7**
	13nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**2.80**	**190**	*e*Pn	**Pn**	**22 44 42.5**	**-0.1**
CABF				*e*Pg	**Pg**	**22 44 50.5**	**+0.2**
CABF				*e*Sg	**Sg**	**22 45 27.2**	**+0.7**
CABF	**La Chapelle**	**2.80**	**190**	*e*Pg	**Pg**	**22 44 50.5**	**+0.2**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**22 45 27.2**	**+0.7**
	6.6nm,0.5s,SNR=1.0						
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**22 44 43.1**	**-0.7**
	baz=46,SNR=1.0						
LOR				*e*Sn	**Sn**	**22 45 17.6**	**-1.5**
	14nm,0.4s,SNR=1.0						
LOR				*e*Sg	**Sg**	**22 45 30.3**	**+1.1**
	9.2nm,0.3s						
LOR	**Lormes**	**2.88**	**224**	*e*Pn	**Pn**	**22 44 43.1**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**22 45 17.6**	**-1.5**
	7.1nm,0.4s,SNR=1.0						
LOR				*e*Sg	**Sg**	**22 45 30.3**	**+1.1**
	4.6nm,0.3s						
MOX	**Moxa**	**3.35**	**66**	*e*Pg	**Pg**	**22 44 58.8**	**-2.1**
	SNR=2.0						
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pg	**Pg**	**22 45 01.8**	**+0.5**
SMF				*e*Sn	**Sn**	**22 45 29.7**	**-1.6**
	5.6nm,0.3s,SNR=1.0						
SMF				*e*Sg	**Sg**	**22 45 45.6**	**+0.6**
	7.4nm,0.4s						
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pn	**Pn**	**22 44 50.0**	**-0.6**
SMF				*e*Pg	**Pg**	**22 45 01.8**	**+0.5**
SMF				*e*Sn	**Sn**	**22 45 29.7**	**-1.6**
SMF				*e*Sg	**Sg**	**22 45 45.6**	**+0.6**
SMF	**Signal de Mont**	**3.37**	**217**	*e*Pg	**Pg**	**22 45 01.8**	**+0.5**
SMF				*e*Sn	**Sn**	**22 45 29.7**	**-1.6**
	2.8nm,0.3s,SNR=1.0						
SMF				*e*Sg	**Sg**	**22 45 45.6**	**+0.6**
	3.7nm,0.4s						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pg	**Pg**	**22 45 03.0**	**-0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**22 45 31.6**	**-2.0**
	3.4nm,0.4s						
AVF				*e*Sg	**Sg**	**22 45 48.8**	**+0.8**
	9.3nm,0.6s						
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pn	**Pn**	**22 44 50.9**	**-0.9**
AVF				*e*Pg	**Pg**	**22 45 03.0**	**-0.1**
AVF				*e*Sn	**Sn**	**22 45 31.6**	**-2.0**
AVF				*e*Sg	**Sg**	**22 45 48.8**	**+0.8**
AVF	**Avril sur Loir**	**3.47**	**223**	*e*Pg	**Pg**	**22 45 03.0**	**-0.1**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**22 45 31.6**	**-2.0**
	1.7nm,0.4s						
AVF				*e*Sg	**Sg**	**22 45 48.8**	**+0.8**
	4.7nm,0.6s						
HYF	**Humbligny**	**3.49**	**235**	*e*Pn	**Pn**	**22 44 52.3**	**+0.2**
HYF				*e*Pg	**Pg**	**22 45 03.8**	**+0.3**
HYF				*e*Sg	**Sg**	**22 45 48.8**	**+0.1**
GUNZ	**Gunzen**	**3.71**	**72**	*e*Pg	**Pg**	**22 45 06.3**	**-1.4**
	SNR=1.9						
LPL	**La Plagne**	**3.85**	**181**	*e*Pn	**Pn**	**22 44 57.1**	**0.0**
LPL				*e*Sg	**Sg**	**22 45 59.7**	**-0.6**
	4.0nm,0.5s						
LPL	**La Plagne**	**3.85**	**181**	*e*Pn	**Pn**	**22 44 57.1**	**0.0**
LPL				*e*Sg	**Sg**	**22 45 59.7**	**-0.6**
	2.0nm,0.5s						
LPG	**La Plagne**	**3.87**	**181**	*e*Pn	**Pn**	**22 44 57.6**	**+0.2**
LPG				*e*Sg	**Sg**	**22 45 59.9**	**-1.0**
	2.6nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**3.87**	**181**	*e*Pn	**Pn**	**22 44 57.6**	**+0.2**
LPG				*e*Sg	**Sg**	**22 45 59.9**	**-1.0**
	1.3nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pn	**Pn**	**22 44 56.7**	**-0.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 45 41.3**	**-2.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 46 01.1**	**+0.1**
	29nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.87**	**225**	*e*Pn	**Pn**	**22 44 56.7**	**-0.7**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**22 45 41.3**	**-2.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**22 46 01.1**	**+0.1**
	14nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pg	**Pg**	**22 45 20.0**	**-0.4**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 46 16.6**	**-0.4**
	2.8nm,0.4s						
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pn	**Pn**	**22 45 04.3**	**0.0**
TCF				*e*Pg	**Pg**	**22 45 20.0**	**-0.4**
TCF				*e*Sg	**Sg**	**22 46 16.6**	**-0.4**
TCF	**Toulx Ste Croi**	**4.37**	**227**	*e*Pg	**Pg**	**22 45 20.0**	**-0.4**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**22 46 16.6**	**-0.4**
	1.4nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.49**	**189**	*e*Pn	**Pn**	**22 45 05.1**	**-0.8**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 46 19.4**	**-1.6**
	4.7nm,0.6s						
ORIF	**Oris-en-Rattie**	**4.49**	**189**	*e*Pn	**Pn**	**22 45 05.1**	**-0.8**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**22 46 19.4**	**-1.6**
	2.3nm,0.6s						
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**22 45 06.9**	**+0.1**
	SNR=10						
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**22 45 07.1**	**+0.3**
GEC2	**GERESS Array S**	**4.55**	**94**	*e*Pn	**Pn**	**22 45 07.1**	**+0.3**
LDF	**La Druitiere**	**4.63**	**263**	*e*Pg	**Pg**	**22 45 24.6**	**-0.9**
LDF				*e*Sg	**Sg**	**22 46 24.9**	**-0.6**
	2.0nm,0.3s						
LDF	**La Druitiere**	**4.63**	**263**	*e*Pn	**Pn**	**22 45 08.0**	**+0.1**
LDF				*e*Pg	**Pg**	**22 45 24.6**	**-0.9**
LDF				*e*Sg	**Sg**	**22 46 24.9**	**-0.6**
LDF	**La Druitiere**	**4.63**	**263**	*e*Pg	**Pg**	**22 45 24.6**	**-0.9**
LDF				*e*Sg	**Sg**	**22 46 24.9**	**-0.6**
	1.0nm,0.3s						
MBDF	**Montbardon**	**4.64**	**180**	*e*Pn	**Pn**	**22 45 08.0**	**0.0**
MBDF				*e*Sg	**Sg**	**22 46 24.3**	**-1.4**
	2.0nm,0.5s						
MBDF	**Montbardon**	**4.64**	**180**	*e*Pn	**Pn**	**22 45 08.0**	**0.0**
MBDF				*e*Sg	**Sg**	**22 46 24.3**	**-1.4**
	1.0nm,0.5s						
VIVF	**Saint-Julien-l**	**4.74**	**199**	*e*Pn	**Pn**	**22 45 09.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**22 46 27.9**	**-1.0**
	3.1nm,0.5s						
VIVF	**Saint-Julien-l**	**4.74**	**199**	*e*Pn	**Pn**	**22 45 09.2**	**-0.2**
VIVF				*e*Sg	**Sg**	**22 46 27.9**	**-1.0**
	1.5nm,0.5s						
FLN	**La Foliniere**	**4.84**	**266**	*e*Pn	**Pn**	**22 45 10.5**	**-0.2**
	baz=86						
FLN	**La Foliniere**	**4.84**	**266**	*e*Pg	**Pg**	**22 45 28.3**	**-1.0**
FLN				*e*Sg	**Sg**	**22 46 31.2**	**-0.8**
	2.8nm,0.5s						
FLN	**La Foliniere**	**4.84**	**266**	*e*Pn	**Pn**	**22 45 10.5**	**-0.2**
FLN				*e*Pg	**Pg**	**22 45 28.3**	**-1.0**
FLN				*e*Sg	**Sg**	**22 46 31.2**	**-0.8**
FLN	**La Foliniere**	**4.84**	**266**	*e*Pg	**Pg**	**22 45 28.3**	**-1.0**
FLN				*e*Sg	**Sg**	**22 46 31.2**	**-0.8**
	1.4nm,0.5s						
GRR	**Gorron**	**5.16**	**262**	*e*Pn	**Pn**	**22 45 15.2**	**+0.1**
GRR				*e*Sn	**Sn**	**22 46 11.9**	**-3.4**
	3.5nm,0.4s						
GRR	**Gorron**	**5.16**	**262**	*e*Pn	**Pn**	**22 45 15.2**	**+0.1**
GRR				*e*Sn	**Sn**	**22 46 11.9**	**-3.4**
	1.8nm,0.4s						
MFF	**Saint Martin d**	**5.43**	**242**	*e*Pn	**Pn**	**22 45 18.7**	**-0.1**
SMRF	**Simiane la Rot**	**5.46**	**189**	*e*Pn	**Pn**	**22 45 18.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**22 46 18.9**	**-3.7**
	0.7nm,0.3s						
SMRF	**Simiane la Rot**	**5.46**	**189**	*e*Pn	**Pn**	**22 45 18.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**22 46 18.9**	**-3.7**
	0.3nm,0.3s						
CAF	**Calviac**	**5.50**	**218**	*e*Pn	**Pn**	**22 45 18.5**	**-1.2**
LASF	**Ste Croix**	**5.67**	**202**	*e*Sg	**Sg**	**22 46 56.6**	**-2.0**
	2.7nm,0.6s						
LASF	**Ste Croix**	**5.67**	**202**	*e*Sg	**Sg**	**22 46 56.6**	**-2.0**
	1.4nm,0.6s						
ROSF	**Rostrenen**	**6.74**	**265**	*e*Pn	**Pn**	**22 45 36.4**	**-0.4**
ROSF				*e*Sn	**Sn**	**22 46 50.1**	**-4.2**
	1.1nm,0.4s						
ROSF	**Rostrenen**	**6.74**	**265**	*e*Pn	**Pn**	**22 45 36.4**	**-0.4**
ROSF				*e*Sn	**Sn**	**22 46 50.1**	**-4.2**
	0.6nm,0.4s						

---

*MDD **11** 22:54:55.2±0.4, 41.19N×8.46W, h12^{km}±1^{km}, mbLg1.9/11, Error ellipse: s-maj=3.9km s-min=3.8km az=114.0, PRXIMO*

*CSEM **11** 22:54:55.1±0.1, 41.19N×8.46W, h15^{km}, ML1.5, Error ellipse: s-maj=2.3km s-min=2.0km az=63.0*

INMG 11 22:54:55.4±1.1**, 4121N**×**843W, h0**^{km}±3^{km}**, MD2.3, ML1.5, Error ellipse: s-maj=2.7km s-min=1.9km az=100.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTO	**Porto**	**0.15**	**243**	*e*Pg	Pg	22 54 58.2	0.0
PTO				*e*Sg	Sg	22 55 00.2	+0.1
PTO							
	197nm,0.1s						
PTO	**Porto**	**0.15**	**243**	*e*Pg	Pg	22 54 58.2	0.0
PTO				*e*Sg	Sg	22 55 00.2	+0.1
	197nm,0.1s						
PVRL	**Vila Real**	**0.54**	**82**	*e*Pg	Pg	22 55 05.5	-0.3
PVRL				*e*Sg	Sg	22 55 12.9	+0.1
PVRL							
	23nm,0.1s						
PVRL	**Vila Real**	**0.54**	**82**	*e*Pg	Pg	22 55 05.5	-0.3
PVRL				*e*Sg	Sg	22 55 12.9	+0.1
	23nm,0.1s						
PCAB	**Cabril**	**0.59**	**31**	*e*Pg	Pg	22 55 06.3	-0.4
PCAB				*e*Sg	Sg	22 55 14.3	0.0
PCAB							
	26nm,0.1s						
PCAB	**Cabril**	**0.59**	**31**	*e*Pg	Pg	22 55 06.3	-0.4
PCAB				*e*Sg	Sg	22 55 14.3	0.0
	26nm,0.1s						
PVIS	**Viseu**	**0.64**	**140**	*e*Pg	Pg	22 55 07.1	-0.5
PVIS				*e*Sg	Sg	22 55 15.5	-0.3
PVIS							
	19nm,0.1s						
PVIS	**Viseu**	**0.64**	**140**	*e*Pg	Pg	22 55 07.1	-0.5
PVIS				*e*Sg	Sg	22 55 15.5	-0.3
	19nm,0.1s						
EZAM	**Zamans**	**0.96**	**348**	Pg	Pg	22 55 12.9	-1.0
	SNR=7.9						
MTE	**Manteigas**	**1.05**	**140**	*e*P	Pg	22 55 14.6	-0.9
MTE				*e*S	Sg	22 55 28.4	-0.7
MTE							
	15nm,0.3s						
PBRG	**Braganca**	**1.40**	**64**	*e*P	Pn	22 55 21.2	-1.0
PBRG				*e*S	Sg	22 55 39.5	-1.0
PBRG							
	3.4nm,0.1s						
ECAL	**Calabor**	**1.47**	**59**	Pn	Pn	22 55 20.3	-2.8
	0.0nm,0.1s,SNR=7.9						
ECAL				Pg	Pg	22 55 22.7	-0.8
	0.7nm,0.2s,SNR=12						
ECAL				Sn	Sn	22 55 38.9	-4.1
	2.7nm,0.2s,SNR=7.9						
ECAL				Lg		22 55 42.3	
	9.2nm,0.4s,SNR=11						
ECAL	**Calabor**	**1.47**	**59**	Pn	Pn	22 55 20.3	-2.8
	SNR=7.9						
ECAL	**Calabor**	**1.47**	**59**	Pg	Pg	22 55 22.7	-0.8
	0.7nm,0.2s,SNR=12						
ECAL				Sn	Sn	22 55 38.9	-4.1
	SNR=7.9						
PCBR	**Castelo Branco**	**1.54**	**152**	*e*S	Sn	22 55 43.0	-1.9
PCBR							
	1.3nm,0.1s						
PCBR	**Castelo Branco**	**1.54**	**152**	Lg		22 55 43.0	
	0.6nm,0.1s						
EMAZ	**Mazaricos**	**1.79**	**347**	Pn	Pn	22 55 24.5	-3.1
	0.3nm,0.1s,SNR=7.9						
EMAZ				Pg	Pg	22 55 27.4	-2.3
	0.7nm,0.1s,SNR=7.9						
EMAZ				Lg		22 55 50.8	
	1.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**1.79**	**347**	Pn	Pn	22 55 24.5	-3.0
	0.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.79**	**347**	Pg	Pg	22 55 27.4	-2.3
	0.7nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.32**	**24**	Lg		22 56 07.9	
	1.5nm,0.2s,SNR=5.9						
EBAD	**Badajoz**	**2.68**	**156**	Sn	Sn	22 56 07.7	-5.1
	0.2nm,0.1s,SNR=4.0						
EBAD				Lg		22 56 16.6	
	1.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.68**	**156**	Sn	Sn	22 56 07.7	-5.2
	SNR=4.0						
EARI	**Arriondas**	**3.18**	**48**	Pn	Pn	22 55 44.6	-2.0
	4.5nm,1.1s,SNR=4.0						
EARI				Sn	Sn	22 56 21.5	-3.7
	0.0nm,0.1s,SNR=7.9						
EARI				Lg		22 56 33.3	
	14nm,1.2s,SNR=7.9						
EARI	**Arriondas**	**3.18**	**48**	Pn	Pn	22 55 44.6	-2.0
	4.5nm,1.1s,SNR=4.0						
EARI				Sn	Sn	22 56 21.5	-3.7
	SNR=7.9						

---

*ISCJB **11** 22:57:01.0±0.4, 5978N±003×2438E±007, h0^{km}, Error ellipse: s-maj=5.4km s-min=3.8km az=23.5*

*CSEM **11** 22:57:02.7±0.2, 5972N×2442E, h1^{km}, ML2.7, Error ellipse: s-maj=6.3km s-min=4.9km az=71.0, Mining explosion.*

*NAO **11** 22:57:03.7±0.9, 5978N×2474E, ML2.8*

*HEL **11** 22:57:04.0±0.1, 5974N×2454E, h0^{km}, ML2.7, ML2.8(NAO), Explosion*

*BER **11** 22:57:04.7±3.7, 5980N×2469E, h0^{km}±15^{km}, ML2.8(NAO)*

*IDC **11** 22:57:05.8±0.8, 5986N×2449E, h0^{km}, mb1 3.6/6, mb1mx3.3/24, mbtmp3.4/6, ML3.7/6, Error ellipse: s-maj=10.8km s-min=6.5km az=127.0*

ISC 11 22:57:02.6±0.4**, 5976N**±002×**2453E**±007**, h0**^{km}**, n31,** σ**1**^{s}**12**/49**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.30**	**194**	*e*P	**Pg**	**22 57 09.1**	**+0.6**
SRPE				*e*S	**Sg**	**22 57 12.9**	**+0.5**
SRPE	**Suurupi**	**0.30**	**194**	P	**Pg**	**22 57 09.0**	**+0.6**
MEF	**Metsahovi**	**0.47**	**352**	*e*P	**Pg**	**22 57 12.4**	**+0.8**
MEF				*e*S	**Sg**	**22 57 18.9**	**+1.2**
PVF	**Pernaja**	**1.04**	**40**	*e*P	**Pg**	**22 57 22.5**	**0.0**
PVF				*e*S	**Sg**	**22 57 35.8**	**-0.2**
VSU	**Vasula**	**1.73**	**138**	*e*P	**Pn**	**22 57 34.4**	**+0.5**
VSU				*e*S	**Sn**	**22 57 56.7**	**0.0**
VSU	**Vasula**	**1.73**	**138**	Pn	**Pn**	**22 57 34.5**	**+0.6**
VSU				Lg		22 57 56.6	
VSU	**Vasula**	**1.73**	**138**	P	**Pn**	**22 57 34.4**	**+0.5**
VSU				S	**Sn**	**22 57 56.6**	**0.0**
FIA0	**FINESS Array S**	**1.86**	**24**	*e*P	**Pn**	**22 57 37.1**	**+1.4**
FIA0				*e*S	**Sn**	**22 58 00.7**	**+0.8**
FIA0	**FINESS Array S**	**1.86**	**24**	Pn	**Pn**	**22 57 37.2**	**+1.5**
	baz=193,slow=18						
FIA0				Lg		22 58 00.0	
	baz=188,slow=37						
FINES	**FINESS Array B**	**1.86**	**24**	Pg	**Pg**	**22 57 37.4**	**-0.9**
	25nm,0.3s,baz=198,slow=15,SNR=867						
FINES				Lg		22 58 01.6	
	6.8nm,0.3s,baz=201,slow=31,SNR=4.1						
RAF	**Rauma**	**1.87**	**314**	*e*P	**Pn**	**22 57 37.4**	**+1.5**
RAF				*e*S	**Sn**	**22 58 01.2**	**+1.0**
KEF	**Keuruu**	**2.43**	**4**	*e*PB	**Pb**	**22 57 46.3**	**-0.8**
KEF				*e*SG	**Sg**	**22 58 18.1**	**-2.5**
KEF				MSG		22 58 20.3	
	comp=Z,27nm,0.2s						
KAF	**Kangasniemi**	**2.52**	**19**	MSG		22 58 23.1	
	comp=Z,45nm,0.3s						
HFS	**Hagfors**	**5.46**	**279**	*e*P	**Pn**	**22 58 26.4**	**+1.2**
HFS				*e*S	**Sn**	**22 59 28.6**	**-0.2**
HFS				*e*		22 59 56.8	
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**22 58 26.2**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=88,slow=12,SNR=25						
HFS				Sn	**Sn**	**22 59 28.5**	**-0.2**
	comp=Z,3.7nm,0.3s,baz=89,slow=28,SNR=12						
HFS	**Hagfors**	**5.46**	**279**	Pn	**Pn**	**22 58 26.4**	**+1.2**
	baz=92,slow=12						
HFS				Sn	**Sn**	**22 59 28.6**	**-0.2**
	baz=83,slow=28						
HFS				Lg		22 59 56.8	
	baz=87,slow=28						
HFS	**Hagfors**	**5.46**	**279**	P	**Pn**	**22 58 26.4**	**+1.2**
HFS				S	**Sn**	**22 59 28.5**	**-0.2**
NB2	**NORSAR Subarra**	**6.72**	**287**	Pn	**Pn**	**22 58 42.6**	**0.0**
	baz=96,slow=14						
NB2				Sn	**Sn**	**22 59 57.5**	**-2.3**
	baz=101,slow=22						
NB2				Lg		23 00 31.1	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**6.72**	**287**	*e*P	**Pn**	**22 58 42.6**	**0.0**
NB2				*e*S	**Sn**	**22 59 57.5**	**-2.3**
NB2				*e*SG		23 00 31.1	
NB2	**NORSAR Subarra**	**6.72**	**287**	P	**Pn**	**22 58 42.5**	**-0.1**
NB2				Sg		23 00 31.1	
NOA	**NORSAR Array B**	**6.72**	**287**	Pn	**Pn**	**22 58 42.6**	**0.0**
	comp=Z,1.4nm,0.3s,baz=93,slow=14,SNR=9.7						
NOA				Sn	**Sn**	**22 59 55.8**	**-4.1**
	comp=Z,1.9nm,0.3s,baz=100,slow=17,SNR=5.6						
NOA				Lg		23 00 29.5	
	comp=Z,3.0nm,0.3s,baz=107,slow=14,SNR=7.5						
BSD	**Bornholm Skovb**	**6.97**	**232**	*i* P	**Pn**	**22 58 45.1**	**-0.8**
BSD				*i*		22 59 09.4	
BSD				*i* S	**Sn**	**23 00 02.6**	**-3.2**
BSD				*i* LG		23 00 38.0	
APA0	**Apatity Array**	**8.72**	**22**	Pn	**Pn**	**22 59 10.2**	**+0.3**
	baz=209,slow=14						
APA0	**Apatity Array**	**8.72**	**22**	*e*P	**Pn**	**22 59 10.2**	**+0.3**
APA0	**Apatity Array**	**8.72**	**22**	Pn	**Pn**	**22 59 10.2**	**+0.2**
	SNR=5.4						
AKASG	**Malin Array Be**	**9.46**	**162**	Pn	**Pn**	**22 59 19.8**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=341,slow=13,SNR=4.3						
ARA0	**ARCESS Array S**	**9.83**	**2**	Pn	**Pn**	**22 59 23.9**	**-1.2**
	baz=177,slow=14						
ARA0				Sn	**Sn**	**23 01 07.9**	**-8.3**
	baz=178,slow=28						
ARA0	**ARCESS Array S**	**9.83**	**2**	*e*P	**Pn**	**22 59 23.9**	**-1.2**
ARA0				*e*S	**Sn**	**23 01 07.9**	**-8.3**
ARCES	**ARCESS Array B**	**9.83**	**2**	Pn	**Pn**	**22 59 24.1**	**-1.0**
	comp=Z,2.0nm,0.3s,baz=182,slow=13,SNR=107						
ARCES				Sn	**Sn**	**23 01 09.5**	**-6.8**
	comp=Z,0.5nm,0.3s,baz=182,slow=24,SNR=4.1						
GERES	**GERESS Array B**	**12.61**	**215**	Pn	**Pn**	**23 00 01.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=27,slow=15,SNR=3.8						
EKA	**Eskdalemuir Ar**	**15.45**	**265**	Pn	**Pn**	**23 00 44.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=62,slow=10,SNR=4.4						

---

*ISCJB **11** 23:02:15.2±0.4, 4287N±003×024W±002, h14^{km}±3^{km}, Error ellipse: s-maj=5.2km s-min=3.0km az=3.2*

*LDG **11** 23:02:15.8±0.1, 4282N×026W, h2^{km}, Md1.7/3, Ml1.7/3, Error ellipse: s-maj=1.9km s-min=0.7km az=2.0*

*MDD **11** 23:02:16.5±0.2, 4285N×025W, h0^{km}, mbLg1.2/7, Error ellipse: s-maj=3.0km s-min=1.6km az=13.0, PRXIMO*

STR ***11*** *23:02:16.2±0.1, 4305N×008W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 11 23:02:15.8±0.5**, 4285N**±003×**025W**±002**, h13**km±4km**, n28, σ0s56**/41**, 1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VIEF	**Viey**	**0.20**	**81**	Pg	**Pg**	**23 02 20.2**	**-0.1**
VIEF				Sg	**Sg**	**23 02 23.2**	**-0.1**
VIEF	**Viey**	**0.20**	**81**	P	**Pg**	**23 02 20.2**	**-0.1**
VIEF				S	**Sg**	**23 02 23.1**	**-0.2**
ETSF	**Etsaut**	**0.23**	**281**	*e*Pg	**Pg**	**23 02 20.5**	**-0.2**
ETSF				*e*Sg	**Sg**	**23 02 23.7**	**-0.4**
	13nm,0.2s						
ETSF	**Etsaut**	**0.23**	**281**	Pg	**Pg**	**23 02 20.5**	**-0.2**
ETSF				Lg		23 02 23.7	
	6.6nm,0.2s						
FDAF	**Les Forges d'A**	**0.23**	**262**	P	**Pg**	**23 02 20.6**	**-0.2**
FDAF				S	**Sg**	**23 02 23.8**	**-0.4**
REYF	**Montagne du Re**	**0.24**	**334**	Pg	**Pg**	**23 02 21.0**	**+0.1**
REYF				Sg	**Sg**	**23 02 24.6**	**+0.3**
LABF	**Labassere**	**0.31**	**51**	P	**Pg**	**23 02 22.3**	**+0.2**
LABF				S	**Sg**	**23 02 26.8**	**+0.5**
EBIE	**Bielsa**	**0.33**	**120**	⇑Pg	**Pg**	**23 02 22.6**	**0.0**
	0.9nm,0.1s,SNR=18						
EBIE				Lg		23 02 26.9	
	3.0nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.40**	**305**	P	**Pg**	**23 02 23.8**	**0.0**
ATE				S	**Sg**	**23 02 29.2**	**0.0**
RESF	**Ens**	**0.44**	**96**	P	**Pg**	**23 02 24.4**	**0.0**
RESF				S	**Sg**	**23 02 30.1**	**-0.2**
EPF	**Esparros**	**0.47**	**68**	*e*Pg	**Pg**	**23 02 25.2**	**+0.2**
EPF				*e*Sg	**Sg**	**23 02 31.9**	**+0.6**
	6.4nm,0.2s						
EPF	**Esparros**	**0.47**	**68**	Pg	**Pg**	**23 02 25.2**	**+0.2**
EPF				Lg		23 02 31.9	
	3.2nm,0.2s						
LARF	**Larrau**	**0.57**	**289**	P	**Pg**	**23 02 27.1**	**+0.2**
LARF				S	**Sg**	**23 02 34.5**	**0.0**
SJPF	**Ste Jean**	**0.76**	**290**	*e*Pg	**Pg**	**23 02 30.4**	**-0.1**
SJPF				*e*Sg	**Sg**	**23 02 40.3**	**-0.2**
	4.3nm,0.3s						
SJPF	**Ste Jean**	**0.76**	**290**	Pg	**Pg**	**23 02 30.4**	**-0.1**
SJPF				Lg		23 02 40.3	
	2.2nm,0.3s						
IUSE	**Utxeti**	**0.96**	**276**	Lg		23 02 50.1	
	0.5nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.99**	**289**	Pg	**Pg**	**23 02 36.2**	**+1.4**
	0.2nm,0.1s,SNR=7.9						
ELIZ				Lg		23 02 51.5	
	1.1nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.99**	**292**	Lg		23 02 50.4	
	1.6nm,0.1s,SNR=7.9						
SALF	**Salau**	**1.06**	**95**	S	**Sb**	**23 02 50.7**	**+0.9**
ESAC	**San Caprasio**	**1.14**	**188**	Pg	**Pg**	**23 02 39.6**	**+1.8**
	3.2nm,0.2s,SNR=7.9						
ESAC				Lg		23 02 54.5	
	13nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.80**	**146**	Pg	**Pg**	**23 02 48.8**	**-1.4**
	0.1nm,0.1s,SNR=4.0						
EPOB				Lg		23 03 12.8	
	0.2nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.87**	**74**	*e*Pg	**Pg**	**23 02 51.1**	**-0.6**
MTLF				*e*Sg	**Sg**	**23 03 15.5**	**-0.5**
	0.8nm,0.3s						
MTLF	**Montolieu**	**1.87**	**74**	Pg	**Pg**	**23 02 51.1**	**-0.6**
MTLF				Lg		23 03 15.5	
	0.4nm,0.3s						
ERTA	**Horta de San J**	**1.94**	**167**	Pg	**Pg**	**23 02 52.9**	**-0.2**
	0.2nm,0.1s,SNR=4.0						
ERTA				Lg		23 03 18.6	
	0.3nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.21**	**19**	*e*Pg	**Pg**	**23 02 57.5**	**-0.6**
LFF				*e*Sg	**Sg**	**23 03 26.8**	**+0.1**
	1.4nm,0.3s						
LFF	**La Frestale**	**2.21**	**19**	Pg	**Pg**	**23 02 57.5**	**-0.6**
LFF				Lg		23 03 26.8	
	0.7nm,0.3s						
CAF	**Calviac**	**2.66**	**38**	*e*Pn	**Pn**	**23 02 58.2**	**-0.2**
CAF				*e*Sn	**Sn**	**23 03 29.9**	**-0.6**
	0.5nm,0.2s						
CAF	**Calviac**	**2.66**	**38**	Pn	**Pn**	**23 02 58.2**	**-0.2**
CAF				Sn	**Sn**	**23 03 29.9**	**-0.6**
	0.2nm,0.2s						

BJI 11 23:20:54.0, 3730N×7723E, h14km, ML2.5, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.42**	**336**	*e*P	Pn	23 21 34.4	+1.2
KSH				S	Sn	23 22 07.5	+4.9
KSH				Smax			
	comp=N,31nm,0.2s						
KSH				Smax			
	comp=E,37nm,0.5s						
KK31	**Karatay Array**	**7.75**	**321**	⇓Pn	Pn	23 22 43.3	-3.0
	comp=E,0.3nm,0.3s,baz=150,slow=13,SNR=12						
KK31				⇓Sn	Sn	23 24 09.4	-4.5
	comp=E,1.7nm,0.7s,baz=157,slow=22,SNR=7.5						
AB31	**Akbulak array**	**17.31**	**319**	P	Pn	23 24 49.6	-5.6
	comp=E,0.7nm,0.6s,baz=127,slow=13,SNR=7.2						

CASC 11 23:23:34.9±2.4**, 1285N×8878W, h37**km±694km**, MD3.7, 4C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.76**	**356**	⇓*e*P	x	23 23 50.1	
SNVI				*e*S	x	23 24 01.3	
VSM	**San Miguel**	**0.76**	**41**	⇓*e*P	x	23 23 51.4	
VSM				*e*S	x	23 24 03.7	
BLLM	**Bellamira**	**0.79**	**42**	⇑*e*P	x	23 23 51.6	
BLLM				*e*S	x	23 24 03.3	
LFRS	**El Faro**	**0.81**	**341**	⇓*e*P	x	23 23 50.5	
LFRS				*e*S	x	23 24 00.1	
LCBS	**La Ceiba**	**0.82**	**347**	⇓*e*P	x	23 23 50.6	
LBRS	**Las Brisas**	**0.92**	**344**	⇑*e*P	x	23 23 52.3	
LBRS				*e*S	x	23 24 04.7	
LFU	**La Fuente**	**0.95**	**340**	⇑*e*P	x	23 23 52.6	
LFU				*e*S	x	23 24 03.6	
PICS	**Picacho**	**0.99**	**333**	*e*P	x	23 23 53.7	
BOQS	**Boqueron**	**1.00**	**331**	⇓*e*P	x	23 23 53.4	
BOQS				*e*S	x	23 24 05.9	
CNCH	**Conchagua**	**1.02**	**65**	⇑*e*P	x	23 23 55.2	
CNCH				*e*S	x	23 24 10.2	
SBLS	**San Blas**	**1.28**	**320**	*e*P	x	23 23 57.5	
SNJE	**San Jose**	**1.29**	**322**	*e*P	x	23 23 57.5	
SNJE				*e*S	x	23 24 13.0	
RTR	**El Retiro**	**1.33**	**321**	*e*P	x	23 23 58.6	
RTR				*e*S	x	23 24 14.2	
RBDL	**Robledal**	**1.53**	**325**	*e*P	x	23 24 00.7	
RBDL				*e*S	x	23 24 19.4	
LEON	**Leon**	**1.90**	**103**	*e*P	Pn	23 24 03.2	-1.6
TELN	**Telica**	**1.92**	**97**	*e*P	Pn	23 24 04.3	-0.7
MIRN	**Miramar**	**2.06**	**101**	*e*P	Pn	23 24 07.7	+0.6
CNGN	**Cerro Negro**	**2.06**	**100**	*e*P	Pn	23 24 07.7	+0.6
MOMJ	**Momotombo**	**2.23**	**101**	*e*P	Pn	23 24 09.3	-0.1
COPN	**Copaltepe**	**2.24**	**107**	*e*P	Pn	23 24 09.3	-0.2

ISCJB ***11*** *23:24:37.7±3.3, 393N±02×735E±01, h10km, Error ellipse: s-maj=34.5km s-min=13.6km az=26.7*

NNC ***11*** *23:24:42.0±5.4, 3979N×7384E, h11km±17km, mb3.4, mpv3.0, Error ellipse: s-maj=38.0km s-min=19.2km az=157.0*

ISC 11 23:24:39.1±3.5**, 393N**±03×**736E**±01**, h10**km**, n11, σ1s28**/13**, 6C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.87**	**1**	P	**Pn**	**23 25 24.1**	**-0.7**
	SNR=22						
KZA	**Kyzart**	**3.08**	**23**	P	**Pn**	**23 25 27.3**	**-0.4**
	SNR=43						
EKS2	**Erkin-Say**	**3.40**	**2**	P	**Pn**	**23 25 34.8**	**+2.7**
	SNR=6.4						
AAK	**Ala-Archa**	**3.43**	**11**	P	**Pn**	**23 25 33.8**	**+1.1**
	SNR=10.0						
KBK	**Karagaybulak**	**3.54**	**16**	P	**Pn**	**23 25 32.2**	**-1.8**
	SNR=12						
ULHL	**Ulahol**	**3.58**	**33**	P	**Pn**	**23 25 35.8**	**+1.0**
	SNR=9.7						
CHMS	**Chumysh**	**3.83**	**13**	P	**Pn**	**23 25 38.9**	**+0.8**
	SNR=8.1						
TKM2	**Tokmak 2**	**3.95**	**22**	⇑Pn	**Pn**	**23 25 37.0**	**-2.7**
	0.5nm,0.5s						
TKM2				⇑Lg		23 26 29.9	
	2.3nm,0.5s						
USP	**Ospenovka**	**4.06**	**9**	P	**Pn**	**23 25 45.2**	**+4.0**
	SNR=9.2						
KK31	**Karatay Array**	**4.50**	**330**	⇑Pn	**Pn**	**23 25 46.6**	**-0.6**
	2.8nm,0.5s,baz=132,slow=12,SNR=38						
KK31				⇓Pg	**Pg**	**23 25 57.2**	**-8.1**
	4.5nm,0.7s,baz=317,slow=79,SNR=5.5						
KK31				⇑Sn	**Sn**	**23 26 39.6**	**0.0**
	14nm,0.7s						
KK31				⇑Lg		23 26 54.8	
	19nm,0.6s,baz=111,slow=13,SNR=4.1						
AB31	**Akbulak array**	**13.97**	**320**	⇑Pn	**Pn**	**23 27 57.4**	**+0.3**
	0.8nm,0.8s,baz=124,slow=13,SNR=5.0						

NIED ***11*** *23:45:00, 2640N×12430E, h200km, Mw4.0 Best double couple: M0 1.01000×10^15 NP1:φs345.00000°, δ58.00000°, λ-56.00000°. NP2:φs113.00000°, δ45.00000°, λ-132.00000°.*

ISCJB ***11*** *23:45:50.7±0.3, 2622N±005×12458E±004, h222km±4km, mb3.6/18, Error ellipse: s-maj=9.4km s-min=3.9km az=120.4*

IDC ***11*** *23:45:52.4±2.7, 2627N×12455E, h221km±29km, mb3.5/12, mb1 3.6/14, mb1mx3.5/25, mbtmp4.0/14, Error ellipse: s-maj=38.9km s-min=16.7km az=62.0*

NEIC ***11*** *23:45:52.2±0.5, 2626N×12454E, h221km±5km, mb3.6/5, Error ellipse: s-maj=7.0km s-min=6.7km az=142.0*

JMA ***11*** *23:45:53.6±0.4, 2642N×12429E, h173km, M4.3*

ISC 11 23:45:51.6±0.3**, 2625N**±005×**12455E**±004**, h213**km±4km**, n46, σ1s13**/66**, mb3.6**/18**, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.58**	**155**	P	**Pn**	**23 46 29.0**	**+1.8**
JMJ				S	**S**	**23 46 55.2**	**+0.3**
JTJ	**Tarama**	**1.61**	**175**	P	**Pn**	**23 46 28.6**	**+1.2**
JTJ				S	**S**	**23 46 54.7**	**-0.7**
JOGS	**Gusukube**	**1.68**	**152**	P	**Pn**	**23 46 30.2**	**+2.2**
JOGS				*e*S	**S**	**23 46 57.2**	**+0.8**
JIJ	**Ishigaki jima**	**1.92**	**191**	P	**Pn**	**23 46 30.3**	**0.0**
JIJ				*e*S	**S**	**23 46 58.0**	**-2.5**
JKE	**Kume jima 2**	**2.00**	**87**	P	**Pn**	**23 46 32.9**	**+1.8**
JKE				*e*S	**S**	**23 47 02.1**	**+0.1**
IRIF	**Iriomote-Funau**	**2.05**	**201**	P	**Pn**	**23 46 31.7**	**+0.1**
IRIF				S	**S**	**23 47 01.1**	**-1.8**
JKRS	**Kuro-shima**	**2.07**	**194**	P	**Pn**	**23 46 32.1**	**+0.3**
JKRS				S	**S**	**23 47 01.5**	**-1.7**
YOJ	**Yonaguni jima**	**2.27**	**218**	P	**Pn**	**23 46 34.2**	**+0.4**
YOJ				*e*S	**S**	**23 47 04.9**	**-1.9**
HATJ	**Hateruma jima**	**2.29**	**197**	P	**Pn**	**23 46 34.2**	**+0.1**
HATJ				*e*S	**S**	**23 47 05.4**	**-1.9**
JAGN	**Aguni-jima**	**2.43**	**82**	P	**Pn**	**23 46 37.1**	**+1.5**
JAGN				S	**S**	**23 47 09.7**	**-0.3**
NAH1	**Naha**	**2.82**	**90**	*e*S	**S**	**23 47 17.4**	**-0.3**
JJT2	**Tamagusuku 2**	**2.87**	**92**	P	**Pn**	**23 46 42.6**	**+2.2**
JJT2				*e*S	**S**	**23 47 19.2**	**+0.4**
TATO	**Taipei**	**3.05**	**246**	*e*Pn	**Pn**	**23 46 44.5**	**+2.1**
TATO				S	**S**	**23 47 26.8**	**+4.4**
JIH	**Iheya**	**3.15**	**75**	P	**Pn**	**23 46 45.2**	**+1.5**
JIH				*e*S	**S**	**23 47 23.8**	**-0.8**
YHNB	**Yeheng**	**3.28**	**242**	*e*Pn	**Pn**	**23 46 46.6**	**+1.5**
YHNB				*e*S	**S**	**23 47 28.4**	**+1.1**
JOW	**Kunigami**	**3.38**	**79**	P	**Pn**	**23 46 47.6**	**+1.2**
	16nm,0.3s,baz=84,slow=9.2,SNR=50						
JOW				S	**S**	**23 47 27.1**	**-2.3**
	198nm,0.3s,baz=124,slow=26,SNR=52						
JOW	**Kunigami**	**3.38**	**79**	P	**Pn**	**23 46 47.5**	**+1.1**
JOW				*e*S	**S**	**23 47 27.7**	**-1.7**
NACB	**Ninganchiao**	**3.39**	**233**	*e*Pn	**Pn**	**23 46 45.8**	**-0.6**
NACB				*e*S	**S**	**23 47 24.1**	**-5.5**
JTK	**Tokunoshima**	**4.21**	**68**	P	**Pn**	**23 46 56.7**	**+0.3**
JTK				*e*S	**S**	**23 47 45.5**	**-2.0**
JAM	**Amami Oshima**	**4.98**	**63**	P	**Pn**	**23 47 05.9**	**-0.1**
JAM				*e*S	**S**	**23 48 01.8**	**-3.1**
JMZ	**Minamidaito 2**	**6.01**	**93**	P	**Pn**	**23 47 20.5**	**+1.3**
JMZ				*e*S	**S**	**23 48 25.4**	**-3.3**
QIZ	**Qiongzhong**	**15.36**	**245**	P	**Pn**	**23 49 17.2**	**-0.4**
MAJO	**Matsushiro**	**15.51**	**45**	P	**Pn**	**23 49 18.0**	**-1.3**
MJAR	**Matsushiro Arr**	**15.51**	**45**	P	**Pn**	**23 49 20.2**	**+0.8**
	0.6nm,0.3s,baz=236,slow=11,SNR=5.8						
SONM	**Songino Array**	**25.84**	**331**	P	**P**	**23 51 04.0**	**+0.6**
	0.6nm,0.4s,mb3.6,baz=153,slow=10,SNR=7.5						
LSA	**Lhasa**	**29.64**	**284**	P	**P**	**23 51 37.8**	**+0.7**
MKAR	**Makanchi Array**	**39.08**	**313**	P	**P**	**23 52 58.0**	**0.0**
	1.0nm,0.4s,mb3.7,baz=94,slow=11,SNR=13						
MKAR				PcP	PcP	23 55 03.1	-0.2
	0.5nm,0.6s,baz=78,slow=4.8,SNR=4.2						
ZAL	**Zalesovo**	**40.27**	**324**	P	**P**	**23 53 07.2**	**-0.5**
	2.2nm,0.3s,mb4.1,baz=14,slow=8.3,SNR=9.2						
WRAB	**Tennant Creek**	**46.89**	**167**	*e*P	**P**	**23 54 00.7**	**+0.2**
	1.0nm,0.7s,mb3.2						
WRA	**Warramunga Arr**	**46.89**	**167**	P	**P**	**23 54 00.8**	**+0.2**
	0.6nm,0.5s,mb3.2,baz=350,slow=8.4,SNR=3.2						
WB2	**Warramunga Arr**	**46.90**	**167**	P	**P**	**23 54 01.3**	**+0.8**
MBWA	**Marble Bar**	**47.36**	**186**	P	**P**	**23 54 03.2**	**-0.9**
BVAR	**Borovoye Array**	**48.07**	**319**	P	**P**	**23 54 09.4**	**-0.2**
	0.7nm,0.3s,mb3.5,baz=105,slow=9.4,SNR=10.0						
BVAR				PcP	PcP	23 55 33.8	0.0
	0.8nm,0.6s,baz=117,slow=5.2,SNR=6.7						
CHKZ	**Chkalovo**	**48.08**	**320**	*e*P	**P**	**23 54 08.3**	**-1.3**
	0.6nm,0.3s,mb3.4						
BRVK	**Borovoye**	**48.14**	**319**	*e*P	**P**	**23 54 09.9**	**-0.2**
	0.9nm,0.3s,mb3.6						
ZRNK	**Zerenda**	**48.88**	**319**	*e*P	**P**	**23 54 14.9**	**-0.8**
	1.4nm,0.5s,mb3.5						
CTAO	**Charters Tower**	**50.65**	**153**	*e*P	**P**	**23 54 29.6**	**+0.5**
	1.7nm,0.5s,mb3.7						
JOF	**Joensuu**	**68.41**	**331**	*e*p	**P**	**23 56 28.9**	**-1.4**
	1.9nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**68.77**	**338**	P	**P**	**23 56 31.6**	**-0.8**
	1.3nm,0.9s,mb3.6,baz=74,slow=8.3,SNR=5.6						
FINES	**FINESS Array B**	**71.20**	**330**	P	**P**	**23 56 47.0**	**-0.3**
	1.9nm,0.4s,mb4.0,baz=66,slow=5.8,SNR=27						
AKASG	**Malin Array Be**	**73.35**	**319**	P	**P**	**23 56 59.2**	**-0.7**
	0.3nm,0.3s,mb3.4,baz=50,slow=6.1,SNR=6.0						
BRTR	**Keskin Array B**	**74.39**	**307**	P	**P**	**23 57 06.4**	**+0.4**
	1.0nm,0.4s,mb3.8,baz=111,slow=2.1,SNR=12						
MLR	**Muntele Rosu**	**77.40**	**315**	P	**P**	**23 57 23.8**	**+0.8**
	0.9nm,0.4s,mb3.8,baz=341,slow=17,SNR=4.3						
NB2	**NORSAR Subarra**	**77.81**	**333**	P	**P**	**23 57 24.7**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.4,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**77.81**	**333**	P	**P**	**23 57 24.7**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.5,baz=60,slow=8.9,SNR=3.7						
GERES	**GERESS Array B**	**83.16**	**322**	P	**P**	**23 57 53.8**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.2,baz=57,slow=5.4,SNR=4.4						

MAN 11 23:57:07.2, 1112N×12544E, h26km**, mb2.2, ML3.9, MS2.8, 1C, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	**Palo**	**0.46**	**275**	*e*P	Pb	23 57 17.7	+1.0
PLP				*i* S	Sb	23 57 26.2	+3.0
MSLP	**Maasin**	**1.14**	**210**	*e*P	Pn	23 57 28.1	+0.7
SCPH	**Surigao**	**1.33**	**178**	⇑*e*P	Pn	23 57 29.9	-0.1
SCPH				*e*S	Sn	23 57 47.1	+0.2
PVCP	**Virac**	**2.76**	**333**	*e*P	Pn	23 57 50.8	+1.1
GUIM	**Jordan**	**2.85**	**260**	*e*P	Pn	23 57 51.3	+0.4
LUBP	**Lubang**	**5.70**	**298**	*e*P	Pb	23 58 45.5	-0.4

NEIC ***12*** *00:10:43.4±2.5, 744S×12789E, h89km±23km, mb3.7/2, Error ellipse: s-maj=26.1km s-min=11.7km az=223.0*

IDC ***12*** *00:10:44.8±4.7, 761S×12766E, h98km±42km, mb3.6/3, mb1 3.9/6, mb1mx3.7/15, mbtmp4.1/6, MS2.5/1, Ms1 2.5/1, ms1mx2.4/15, Error ellipse: s-maj=49.0km s-min=21.6km az=61.0*

ISCJB ***12*** *00:10:46.3±2.2, 772S±007×12770E±009, h136km±23km, mb3.6/4, Error ellipse: s-maj=15.7km s-min=10.3km az=143.0*

ISC 12 00:10:51.0±2.0**, 797S**±008×**1277E**±01**, h174**km±20km**, n20, σ1s00**/22**, mb3.6**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.27**	**191**	P	**Pn**	**00 13 14.5**	**+0.4**
	1.8nm,0.3s,baz=33,slow=12,SNR=45						
FITZ				S	**Sn**	**00 15 08.4**	**+0.2**
	1.2nm,0.3s,baz=198,slow=20,SNR=2.8						
FITZ				LR	LR	00 16 34.6	
	comp=Z,29nm,20.8s,baz=359,slow=33						
WRAB	**Tennant Creek**	**13.53**	**152**	*e*Pn	**Pn**	**00 13 56.1**	**+0.1**
	6.0nm,0.4s						
WRAB				*e*Sn	**Sn**	**00 16 18.5**	**-7.9**
WRA	**Warramunga Arr**	**13.53**	**152**	P	**Pn**	**00 13 55.8**	**-0.3**
	1.2nm,0.3s,baz=327,slow=12,SNR=17						
WRA				S	**Sn**	**00 16 20.1**	**-6.3**
	1.9nm,0.3s,baz=337,slow=22,SNR=9.4						
WB2	**Warramunga Arr**	**13.54**	**152**	*e*Pn	**Pn**	**00 13 52.8**	**-3.4**
MBWA	**Marble Bar**	**15.20**	**210**	*e*Pn	**Pn**	**00 14 21.3**	**+4.6**
	2.9nm,0.4s						
MBWA				*e*Sn	**Sn**	**00 17 05.8**	**-0.5**
AS31	**Alice Springs**	**16.71**	**160**	*e*Pn	**Pn**	**00 14 38.2**	**+3.2**
AS31				*e*Sn	**Sn**	**00 17 36.2**	**-6.1**
ASAR	**Alice Springs**	**16.71**	**160**	P	**Pn**	**00 14 38.6**	**+3.6**
	0.8nm,0.3s,baz=335,slow=10,SNR=36						
ASAR				S	**S**	**00 17 39.7**	**-0.3**
	0.5nm,0.3s,baz=322,slow=17,SNR=6.3						
CTAO	**Charters Tower**	**21.64**	**126**	*e*P	**P**	**00 15 31.2**	**+3.7**
STKA	**Stephens Creek**	**27.08**	**153**	P	**P**	**00 16 21.0**	**+3.6**
KULM	**Kulim**	**30.02**	**295**	P	**P**	**00 16 43.0**	**-0.5**
PSI	**Prapat**	**30.63**	**289**	P	**P**	**00 16 49.7**	**+1.0**
	3.2nm,0.6s,mb4.2,baz=108,slow=3.2,SNR=4.5						
PSI	**Prapat**	**30.63**	**289**	P	**P**	**00 16 49.7**	**+1.0**
SONM	**Songino Array**	**58.67**	**343**	P	**P**	**00 20 29.4**	**-0.7**
	0.3nm,0.4s,mb3.5,baz=165,slow=6.7,SNR=4.8						
MKAR	**Makanchi Array**	**67.80**	**328**	P	**P**	**00 21 29.8**	**-0.3**
	0.5nm,0.5s,mb3.5,baz=120,slow=8.5,SNR=10						
BRVK	**Borovoye**	**77.75**	**329**	*e*P	**P**	**00 22 28.9**	**+0.3**
	0.4nm,0.5s,mb3.3						
ZRNK	**Zerenda**	**78.36**	**328**	P	**P**	**00 22 32.0**	**0.0**
TORD	**Torodi Ar. Bea**	**126.74**	**280**	PKP	PKPdf	00 29 36.4	+2.6
	0.3nm,0.6s,baz=44,slow=1.9,SNR=7.1						
CPUP	**Villa Florida**	**145.56**	**172**	PKPbc	PKPbc	00 30 12.8	+3.9
	0.6nm,0.5s,baz=123,slow=1.2,SNR=4.5						
CPUP	**Villa Florida**	**145.56**	**172**	PKPbc	PKPbc	00 30 12.8	+3.9
LPAZ	**La Paz**	**151.26**	**147**	PKPab	PKPab	00 30 38.8	+6.4
	1.1nm,0.6s,baz=252,slow=3.2,SNR=6.7						

NAO ***12*** *00:26:17.5±1.1, 6440N×2070E, ML2.2*

BER ***12*** *00:26:20.4±2.0, 6422N×2105E, h18km±23km, MD2.9, ML1.8*

CSEM ***12*** *00:26:20.2±0.1, 6441N×2091E, h20km, ML2.3, Error ellipse: s-maj=2.8km s-min=2.0km az=90.0*

UPP ***12*** *00:26:20.7, 6440N×2070E, h12km, ML2.1*

HEL 12 00:26:21.1±0.1**, 6441N×2081E, h21**km±1km**, ML2.3, ML2.1**(UPP)**, ML2.2**(NAO)**, 4C-2D, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BURU	**Burvik**	**0.30**	**55**	*i* P	Pb	00 26 27.2	-0.6
BURU				*i* S	Sb	00 26 31.8	-0.6
LILU	**Lilltraesk**	**0.97**	**335**	⇑*e*P	Pb	00 26 38.3	-0.9
LILU				*e*S	Sb	00 26 51.0	-0.6
BREU	**Bredtraesk**	**1.11**	**243**	⇓*e*P	Pn	00 26 40.3	-1.1
BREU				*e*S	Sb	00 26 54.5	-1.2
SJUU	**Sjulsmark**	**1.15**	**17**	⇑*e*P	Pn	00 26 41.6	-0.3
HUSU	**Husum**	**1.29**	**214**	⇑*e*P	Pn	00 26 43.2	-0.6
HUSU				*e*S	Sn	00 26 59.3	-1.1
VAF	**Ylistaro**	**1.61**	**148**	*e*P	Pn	00 26 48.6	+0.4
VAF				*e*S	Sn	00 27 07.9	-0.4
SOLU	**Sollefteaa**	**1.96**	**235**	⇑*e*P	Pn	00 26 53.7	+0.6
HEMU	**Hemsoen**	**2.14**	**217**	⇓*e*P	Pn	00 26 55.9	+0.3
HEMU	**Hemsoen**	**2.14**	**217**	P	Pn	00 26 55.8	+0.2
ERTU	**Ertsjaerv**	**2.23**	**14**	*e*P	Pn	00 26 58.4	+1.7
OUL	**Oulu**	**2.28**	**71**	*e*P	Pn	00 26 57.3	-0.2
OUL				*e*S	Sn	00 27 24.9	-0.1
OUL				*e*SB	Sb	00 27 29.3	-0.1
OUL	**Oulu**	**2.28**	**71**	P	Pn	00 26 57.3	-0.2
OUL				S	Sn	00 27 24.8	-0.2
DUNU	**Dundret**	**2.72**	**358**	*e*P	Pn	00 27 04.3	+0.8
DUNU	**Dundret**	**2.72**	**358**	P	Pn	00 27 04.3	+0.7
PAJU	**Pajala**	**2.79**	**19**	*e*P	Pn	00 27 04.9	+0.5
NOD	**Norderasen**	**2.80**	**252**	*e*P	Pn	00 27 05.0	+0.3
KEF	**Keuruu**	**2.91**	**139**	*e*P	Pn	00 27 06.6	+0.5
KEF				*e*S	Sn	00 27 41.2	+0.9
KEF				*e*SB	Sb	00 27 49.6	+2.3
KEF	**Keuruu**	**2.91**	**139**	P	Pn	00 27 06.6	+0.5
KEF				S	Sn	00 27 41.2	+0.8
SUF	**Sumiainen**	**2.93**	**123**	*e*P	Pn	00 27 06.6	+0.1
SUF				*e*S	Sn	00 27 40.9	-0.1
SUF				*e*SB	Sb	00 27 50.6	+2.5
SUF	**Sumiainen**	**2.93**	**123**	P	Pn	00 27 06.5	+0.1
SUF				S	Sn	00 27 40.9	-0.1
KJN	**Kajaani**	**3.03**	**93**	*e*P	Pn	00 27 07.1	-0.7
KJN				*e*SB	Sb	00 27 50.9	0.0
KJN				MSG		00 27 55.6	
	comp=Z,11nm,0.3s						
MOR8	**Moi Rana**	**3.21**	**306**	*e*P	Pn	00 27 11.0	+0.8
MOR8				*e*Sg	Pb	00 27 59.0	+42
MOR8				AML	AML	00 28 00.1	
	comp=Z,7.1nm,0.4s						
KAF	**Kangasniemi**	**3.39**	**130**	*e*P	Pn	00 27 13.9	+1.1
KAF				*e*S	Sn	00 27 52.2	-0.2
KAF				*e*SB	Sb	00 28 03.7	+2.4
KAF				MSG		00 28 07.7	
	comp=Z,7.0nm,0.2s						
KAF	**Kangasniemi**	**3.39**	**130**	P	Pn	00 27 13.8	+1.0
KAF				S	Sn	00 27 52.1	-0.2
RAF	**Rauma**	**3.43**	**172**	*e*P	Pn	00 27 15.2	+1.9
RAF				*e*S	Sn	00 27 55.5	+2.1
RAF				*e*		00 28 07.0	
RAF	**Rauma**	**3.43**	**172**	P	Pn	00 27 15.1	+1.8
RAF				S	Sn	00 27 55.4	+2.1
NIKU	**Nikkaluokta**	**3.54**	**349**	*e*P	Pn	00 27 16.1	+1.2
NIKU	**Nikkaluokta**	**3.54**	**349**	P	Pn	00 27 16.0	+1.1
LANU	**Lannavaara**	**3.68**	**7**	*e*P	Pn	00 27 17.5	+0.8
MSF	**Maaselka**	**3.78**	**63**	*e*P	Pn	00 27 16.5	-1.6
MSF				*e*S	Sn	00 28 00.1	-2.0
MSF				*e*SB	Sb	00 28 14.8	+2.3
STOK	**Stokkvaagen**	**3.79**	**304**	*e*Sg	Pb	00 28 19.5	+52
FIA0	**FINESS Array S**	**3.83**	**139**	*e*P	Pn	00 27 18.9	+0.1
FIA0				*e*S	Sn	00 28 02.1	-1.1
FIA0				*e*		00 28 17.9	
FIA0				MSG		00 28 21.0	
	comp=Z,4.8nm,0.2s						
FIA0	**FINESS Array S**	**3.83**	**139**	Pn	Pn	00 27 19.4	+0.6
	baz=336,slow=14						
FIA0				Sn	Sn	00 28 03.3	+0.1
	baz=332,slow=28						
FIA0				Lg		00 28 17.8	
	baz=324,slow=28						
FIA0	**FINESS Array S**	**3.83**	**139**	P	Pn	00 27 18.8	0.0
FIA0	**FINESS Array S**	**3.83**	**139**	Pn	Pn	00 27 19.4	+0.6
FIA0				S	Sn	00 28 02.0	-1.2
	comp=Z,4.8nm,0.2s						
NSS	**Namsos**	**3.83**	**276**	*e*P	Pn	00 27 18.3	-0.5
NSS				*e*Sg	Pb	00 28 17.6	+50
NSS				AML	AML	00 28 19.1	
	comp=Z,7.0nm,0.5s						
SGF	**Sodankyl**	**3.84**	**35**	*e*P	Pn	00 27 19.1	+0.2
SGF				*e*S	Sn	00 28 02.1	-1.3
SGF				*e*SB	Sb	00 28 15.7	+1.6
SGF	**Sodankyl**	**3.84**	**35**	P	Pn	00 27 19.1	+0.2
KU4	**Liikasenvaara**	**4.16**	**58**	*e*P	Pn	00 27 21.8	-1.5
KU4				*e*S	Sn	00 28 09.3	-1.9
KU4				*e*SB	Sb	00 28 26.1	+2.8
KU4	**Liikasenvaara**	**4.16**	**58**	P	Pn	00 27 21.7	-1.6
MEF	**Metsahovi**	**4.53**	**157**	*e*S	Sn	00 28 19.9	-0.6
MEF				*e*		00 28 39.4	
MEF				MSG		00 28 40.4	
	comp=Z,4.2nm,0.3s						
MEF	**Metsahovi**	**4.53**	**157**	S	Sn	00 28 19.8	-0.6
	comp=Z,4.2nm,0.3s						
PVF	**Pernaja**	**4.53**	**147**	*e*S	Sn	00 28 19.2	-1.3
PVF				*e*		00 28 38.7	
PVF				MSG		00 28 39.1	
	comp=Z,3.7nm,0.3s						
KIF	**Kilpisjarvi**	**4.61**	**360**	*e*P	Pn	00 27 30.4	+0.8
KIF				*e*S	Sn	00 28 21.2	-1.3
KIF	**Kilpisjarvi**	**4.61**	**360**	P	Pn	00 27 30.3	+0.8
KTK1	**Kautokeino**	**4.72**	**11**	*e*P	Pn	00 27 31.6	+0.6
KTK1				*e*S	Sn	00 28 23.9	-1.1
JOF	**Joensuu**	**4.91**	**103**	*e*P	Pn	00 27 32.4	-1.3
JOF				*e*S	Sn	00 28 27.6	-2.2
JOF				*e*		00 28 48.9	
TRO	**Tromso**	**5.29**	**353**	*e*P	Pn	00 27 39.0	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TRO				eS	Sn	00 28 37.8	-1.5
TRO				AML	AML	00 28 43.4	
	comp=Z,2.0nm,0.7s						
HFS	Hagfors	5.43	221	eS	Sn	00 28 37.8	-4.8
HFS				eSB	Sb	00 29 02.9	+3.0
HFS	Hagfors	5.43	221	Sn	Sn	00 28 37.8	-4.8
HFS				Lg		00 29 02.9	
	baz=43,slow=37						
ARA0	ARCESS Array S	5.46	18	Pn	Pn	00 27 40.3	-0.9
	baz=200,slow=16						
ARA0				Sn	Sn	00 28 39.0	-4.4
	baz=203,slow=28						
ARA0				Lg		00 29 04.8	
	baz=196,slow=28						
ARA0	ARCESS Array S	5.46	18	eP	Pn	00 27 40.3	-0.9
ARA0				eS	Sn	00 28 39.0	-4.4
ARA0				e		00 29 04.8	
NB2	NORSAR Subarra	5.56	237	Lg		00 29 12.5	
	baz=50,slow=37						
NB2	NORSAR Subarra	5.56	237	e		00 29 12.5	
NB2	NORSAR Subarra	5.56	237	Lg		00 29 12.5	
	baz=50,slow=37						
KEV	Kevo	5.88	22	eP	Pn	00 27 47.5	+0.5
KEV				eS	Sn	00 28 49.6	-4.2
KEV				e		00 29 19.1	

*CSEM **12** 01:08:11.8±0.1, 4641N×080E, h8km, ML2.8/25, Error ellipse: s-maj=0.9km s-min=0.8km az=37.0*
*STR **12** 01:08:13.4±0.6, 46.15N×073E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **12** 01:08:13.4, 46.15N×073E, h5km, ML2.8(LDG), ML2.8(STR), After STR.*
LDG 12 01:08:11.8±0.0**, 4641N×079E, h4km, Md2.8**/3**, Ml2.8**/28**, Error ellipse: s-maj=0.9km s-min=0.9km az=15.0, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MFF	Saint Martin d	0.68	287	ePg	Pg	01 08 24.7	-0.1
	SNR=1.0						
MFF				eSg	Sg	01 08 33.1	-0.4
	13nm,0.2s,SNR=1.0						
MFF	Saint Martin d	0.68	287	ePg	Pg	01 08 24.7	-0.1
	SNR=1.0						
MFF				eSg	Sg	01 08 33.1	-0.4
	6.3nm,0.2s,SNR=1.0						
CHIF	Chize	0.88	252	Pg	Pg	01 08 28.3	-0.4
CHIF				Sg	Sg	01 08 39.3	-0.7
TCF	Toulx Ste Croi	0.99	97	ePn	Pn	01 08 30.8	-1.6
	SNR=1.0						
TCF				eSg	Sg	01 08 43.1	-0.5
	68nm,0.4s,SNR=1.0						
TCF	Toulx Ste Croi	0.99	97	ePn	Pn	01 08 30.8	-1.6
	SNR=1.0						
TCF				eSg	Sg	01 08 43.1	-0.5
	34nm,0.4s,SNR=1.0						
RJF	Les Rejaudoux	1.22	155	ePg	Pg	01 08 34.8	-0.3
	SNR=1.0						
RJF				eSg	Sg	01 08 49.6	-1.3
	44nm,0.2s						
RJF	Les Rejaudoux	1.22	155	ePn	Pn	01 08 33.7	-1.9
RJF				ePg	Pg	01 08 34.8	-0.3
RJF				eSg	Sg	01 08 49.6	-1.3
RJF	Les Rejaudoux	1.22	155	ePg	Pg	01 08 34.8	-0.3
	SNR=1.0						
RJF				eSg	Sg	01 08 49.6	-1.3
	22nm,0.2s						
BGF	Bois d'Agland	1.43	83	ePg	Pg	01 08 38.4	-0.7
BGF				eSg	Sg	01 08 56.4	-1.2
	133nm,0.4s						
BGF	Bois d'Agland	1.43	83	ePn	Pn	01 08 37.1	-1.4
BGF				ePg	Pg	01 08 38.4	-0.7
BGF				eSg	Sg	01 08 56.4	-1.2
BGF	Bois d'Agland	1.43	83	ePg	Pg	01 08 38.4	-0.7
BGF				eSg	Sg	01 08 56.4	-1.2
	67nm,0.4s						
LFF	La Frestale	1.47	181	ePg	Pg	01 08 39.3	-0.7
	SNR=1.0						
LFF				eSn	Sn	01 08 55.6	-3.2
	34nm,0.3s,SNR=1.0						
LFF	La Frestale	1.47	181	ePn	Pn	01 08 37.5	-1.6
LFF				ePg	Pg	01 08 39.3	-0.7
LFF				eSn	Sn	01 08 55.6	-3.2
LFF	La Frestale	1.47	181	ePg	Pg	01 08 39.3	-0.7
	SNR=1.0						
LFF				eSn	Sn	01 08 55.6	-3.2
	17nm,0.3s,SNR=1.0						
HYF	Humbligny	1.53	55	ePg	Pg	01 08 40.4	-0.7
HYF				eSg	Sg	01 09 00.5	-0.5
AGO	Saint Agoulin	1.66	102	Pn	Pn	01 08 42.9	+1.2
PYM	Petit Puy Mans	1.68	112	Pn	Pn	01 08 42.8	+0.9
CAF	Calviac	1.73	149	ePg	Pg	01 08 44.3	-0.7
CAF				eSn	Sn	01 09 02.1	-3.1
CAF				eSg	Sg	01 09 06.4	-1.1
	17nm,0.2s,SNR=1.0						
CAF	Calviac	1.73	149	ePn	Pn	01 08 40.9	-1.8
CAF				ePg	Pg	01 08 44.3	-0.7
CAF				eSn	Sn	01 09 02.1	-3.1
CAF				eSg	Sg	01 09 06.4	-1.1
CAF	Calviac	1.73	149	ePg	Pg	01 08 44.3	-0.7
CAF				eSn	Sn	01 09 02.1	-3.1
CAF				eSg	Sg	01 09 06.4	-1.1
	8.6nm,0.2s,SNR=1.0						
AVF	Avril sur Loir	1.81	77	ePg	Pg	01 08 45.1	-1.3
AVF				eSg	Sg	01 09 07.7	-2.1
	12nm,0.3s						
AVF	Avril sur Loir	1.81	77	ePn	Pn	01 08 42.6	-1.1
AVF				ePg	Pg	01 08 45.1	-1.3
AVF				eSg	Sg	01 09 07.7	-2.1
AVF	Avril sur Loir	1.81	77	ePg	Pg	01 08 45.1	-1.3
AVF				eSg	Sg	01 09 07.7	-2.1
	6.1nm,0.3s						
PLDF	La Plantade	2.01	102	Pg	Pg	01 08 49.9	-0.5
LBL	Lubilhac	2.08	124	Pg	Pg	01 08 50.7	-1.0
LBL	Lubilhac	2.08	124	Pn	Pn	01 08 46.4	-1.1
LBL				Pg	Pg	01 08 50.7	-1.0
LBL	Lubilhac	2.08	124	Pg	Pg	01 08 50.7	-1.0
SMF	Signal de Mont	2.12	83	ePg	Pg	01 08 51.1	-1.3
SMF				eSn	Sn	01 09 11.3	-3.4
	SNR=1.0						
SMF				eSg	Sg	01 09 17.8	-2.0
	8.7nm,0.2s,SNR=1.0						
SMF	Signal de Mont	2.12	83	ePn	Pn	01 08 46.6	-1.4
SMF				ePg	Pg	01 08 51.1	-1.3
SMF				eSn	Sn	01 09 11.3	-3.4
SMF				eSg	Sg	01 09 17.8	-2.0
SMF	Signal de Mont	2.12	83	ePg	Pg	01 08 51.1	-1.3
SMF				eSn	Sn	01 09 11.3	-3.4
	SNR=1.0						
SMF				eSg	Sg	01 09 17.8	-2.0
	4.3nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.27	344	eP	Pn	01 08 51.6	+1.6
	SNR=1.0						
LDF	La Druitiere	2.27	344	ePg	Pg	01 08 54.6	-0.7
LDF				eSn	Sn	01 09 14.3	-4.2
	SNR=1.0						
LDF				eSg	Sg	01 09 22.3	-2.4
	6.7nm,0.2s,SNR=1.0						
LDF	La Druitiere	2.27	344	ePn	Pn	01 08 49.6	-0.4
LDF				eP		01 08 51.6	
LDF				ePg	Pg	01 08 54.6	-0.7
LDF				eSn	Sn	01 09 14.3	-4.2
LDF				eSg	Sg	01 09 22.3	-2.4
LDF	La Druitiere	2.27	344	eP	Pn	01 08 51.6	+1.6
	SNR=1.0						
LDF	La Druitiere	2.27	344	ePg	Pg	01 08 54.6	-0.7
LDF				eSn	Sn	01 09 14.3	-4.2
	SNR=1.0						
LDF				eSg	Sg	01 09 22.3	-2.4
	3.3nm,0.2s,SNR=1.0						
LOR	Lormes	2.27	67	ePn	Pn	01 08 48.9	-1.2
	baz=242,SNR=1.0						
LOR	Lormes	2.27	67	ePg	Pg	01 08 53.8	-1.6
	baz=247						
LOR				eSg	Sg	01 09 22.3	-2.5
	9.2nm,0.2s						
LOR	Lormes	2.27	67	ePn	Pn	01 08 48.9	-1.2
LOR				ePg	Pg	01 08 53.8	-1.6
LOR				eSg	Sg	01 09 22.3	-2.5
LOR	Lormes	2.27	67	ePg	Pg	01 08 53.8	-1.6
LOR				eSg	Sg	01 09 22.3	-2.5
	4.6nm,0.2s						
GRR	Gorron	2.27	331	ePg	Pg	01 08 53.9	-1.5
	SNR=1.0						
GRR				eSn	Sn	01 09 14.5	-4.1
	8.8nm,0.2s,SNR=1.0						
GRR				eSg	Sg	01 09 23.2	-1.6
	8.9nm,0.2s						
GRR	Gorron	2.27	331	ePn	Pn	01 08 47.8	-2.3
GRR				ePg	Pg	01 08 53.9	-1.5
GRR				eSn	Sn	01 09 14.5	-4.1
GRR				eSg	Sg	01 09 23.2	-1.6
GRR	Gorron	2.27	331	ePg	Pg	01 08 53.9	-1.5
	SNR=1.0						
GRR				eSn	Sn	01 09 14.5	-4.1
	4.4nm,0.2s,SNR=1.0						
GRR				eSg	Sg	01 09 23.2	-1.6
	4.4nm,0.2s						
FLN	La Foliniere	2.50	340	ePn	Pn	01 08 51.4	-1.9
	baz=156						
FLN	La Foliniere	2.50	340	ePg	Pg	01 08 58.7	-1.1
	baz=162,SNR=1.0						
FLN				eSn	Sn	01 09 20.5	-3.8
	SNR=1.0						
FLN				eSg	Sg	01 09 29.5	-2.8
	11nm,0.3s,SNR=1.0						
FLN	La Foliniere	2.50	340	ePn	Pn	01 08 51.4	-1.9
FLN				ePg	Pg	01 08 58.7	-1.1
FLN				eSn	Sn	01 09 20.5	-3.8
FLN				eSg	Sg	01 09 29.5	-2.8
FLN	La Foliniere	2.50	340	ePg	Pg	01 08 58.7	-1.1
	SNR=1.0						
FLN				eSn	Sn	01 09 20.5	-3.8
	SNR=1.0						
FLN				eSg	Sg	01 09 29.5	-2.8
	5.4nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	3.13	118	ePg	Pg	01 09 10.0	-1.9
	SNR=1.0						
VIVF				eSg	Sg	01 09 50.6	-1.9
	4.4nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	3.13	118	ePg	Pg	01 09 10.0	-1.9
	SNR=1.0						
VIVF				eSg	Sg	01 09 50.6	-1.9
	2.2nm,0.4s,SNR=1.0						
LASF	Ste Croix	3.18	136	ePg	Pg	01 09 10.8	-2.0
	SNR=1.0						
LASF				eSn	Sn	01 09 36.5	-4.5
LASF				eSg	Sg	01 09 51.3	-2.8
	5.6nm,0.3s,SNR=1.0						
LASF	Ste Croix	3.18	136	ePn	Pn	01 09 01.2	-1.4
LASF				ePg	Pg	01 09 10.8	-2.0
LASF				eSn	Sn	01 09 36.5	-4.5
LASF				eSg	Sg	01 09 51.3	-2.8
LASF	Ste Croix	3.18	136	ePg	Pg	01 09 10.8	-2.0
	SNR=1.0						
LASF				eSn	Sn	01 09 36.5	-4.5
LASF				eSg	Sg	01 09 51.3	-2.8
	2.8nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.23	161	ePg	Pg	01 09 11.3	-2.5
MTLF				eSn	Sn	01 09 37.0	-5.2
	SNR=1.0						
MTLF				eSg	Sg	01 09 53.3	-2.4
	3.3nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.23	161	ePn	Pn	01 09 01.4	-1.9
MTLF				ePg	Pg	01 09 11.3	-2.5
MTLF				eSn	Sn	01 09 37.0	-5.2
MTLF				eSg	Sg	01 09 53.3	-2.4
MTLF	Montolieu	3.23	161	ePg	Pg	01 09 11.3	-2.5
MTLF				eSn	Sn	01 09 37.0	-5.2
	SNR=1.0						
MTLF				eSg	Sg	01 09 53.3	-2.4
	1.6nm,0.3s,SNR=1.0						
ROSF	Rostrenen	3.37	306	ePg	Pg	01 09 14.2	-2.1
	SNR=1.0						
ROSF				eSn	Sn	01 09 40.9	-4.7
	SNR=1.0						
ROSF				eSg	Sg	01 09 56.4	-3.6
	1.6nm,0.2s,SNR=1.0						
ROSF	Rostrenen	3.37	306	ePn	Pn	01 09 03.8	-1.4
ROSF				ePg	Pg	01 09 14.2	-2.1
ROSF				eSn	Sn	01 09 40.9	-4.7
ROSF				eSg	Sg	01 09 56.4	-3.6
ROSF	Rostrenen	3.37	306	ePg	Pg	01 09 14.2	-2.1
	SNR=1.0						
ROSF				eSn	Sn	01 09 40.9	-4.7
	SNR=1.0						
ROSF				eSg	Sg	01 09 56.4	-3.6
	0.8nm,0.2s,SNR=1.0						
EPF	Esparros	3.40	186	ePg	Pg	01 09 15.1	-1.8
EPF				eSn	Sn	01 09 40.0	-6.3
	SNR=1.0						
EPF				eSg	Sg	01 09 58.7	-2.2
	3.7nm,0.2s,SNR=1.0						
EPF	Esparros	3.40	186	ePn	Pn	01 09 03.5	-2.0
EPF				ePg	Pg	01 09 15.1	-1.8
EPF				eSn	Sn	01 09 40.0	-6.3
EPF				eSg	Sg	01 09 58.7	-2.2
EPF	Esparros	3.40	186	ePg	Pg	01 09 15.1	-1.8
EPF				eSg	Sg	01 09 58.7	-2.2
	1.9nm,0.2s,SNR=1.0						
MEZF	Maizieres J'vi	3.57	53	ePg	Pg	01 09 17.9	-2.2
	baz=240,SNR=1.0						
MEZF				eSn	Sn	01 09 46.2	-4.3
	2.9nm,0.3s						
MEZF				eSg	Sg	01 10 04.0	-2.4
	5.7nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	3.57	53	ePg	Pg	01 09 17.9	-2.2
	SNR=1.0						
MEZF				eSn	Sn	01 09 46.2	-4.3
	1.5nm,0.3s						
MEZF				eSg	Sg	01 10 04.0	-2.4
	2.8nm,0.3s,SNR=1.0						
SJPF	Ste Jean	3.60	204	ePg	Pg	01 09 18.5	-2.2
SJPF				eSn	Sn	01 09 46.2	-5.0
SJPF				eSg	Sg	01 10 04.9	-2.5
	1.8nm,0.3s,SNR=1.0						
SJPF	Ste Jean	3.60	204	ePn	Pn	01 09 06.6	-1.7
SJPF				ePg	Pg	01 09 18.5	-2.2
SJPF				eSn	Sn	01 09 46.2	-5.0
SJPF				eSg	Sg	01 10 04.9	-2.5
SJPF	Ste Jean	3.60	204	ePg	Pg	01 09 18.5	-2.2
SJPF				eSg	Sg	01 10 04.9	-2.5
	0.9nm,0.3s,SNR=1.0						
ETSF	Etsaut	3.64	196	ePg	Pg	01 09 19.3	-2.3
ETSF				eSn	Sn	01 09 47.3	-5.1
ETSF				eSg	Sg	01 10 06.3	-2.5
	2.8nm,0.5s,SNR=1.0						
ETSF	Etsaut	3.64	196	ePn	Pn	01 09 06.1	-2.8
ETSF				ePg	Pg	01 09 19.3	-2.3
ETSF				eSn	Sn	01 09 47.3	-5.1
ETSF				eSg	Sg	01 10 06.3	-2.5
ETSF	Etsaut	3.64	196	ePg	Pg	01 09 19.3	-2.3
ETSF				eSg	Sg	01 10 06.3	-2.5
	1.4nm,0.5s,SNR=1.0						
CABF	La Chapelle	3.66	85	ePg	Pg	01 09 19.7	-2.3
CABF				eSg	Sg	01 10 06.1	-3.3
	2.6nm,0.5s,SNR=1.0						
CABF	La Chapelle	3.66	85	ePg	Pg	01 09 19.7	-2.3
CABF				eSg	Sg	01 10 06.1	-3.3
	1.3nm,0.5s,SNR=1.0						
ORIF	Oris-en-Rattie	3.87	111	eSg	Sg	01 10 12.9	-3.1
	0.9nm,0.3s						
HAU	Haudompre	4.11	65	ePg	Pg	01 09 27.9	-2.6
HAU				eSg	Sg	01 10 20.9	-2.9
	3.8nm,0.3s,SNR=1.0						
HAU	Haudompre	4.11	65	ePn	Pn	01 09 13.3	-2.0
HAU				ePg	Pg	01 09 27.9	-2.6
HAU				eSg	Sg	01 10 20.9	-2.9
HAU	Haudompre	4.11	65	ePg	Pg	01 09 27.9	-2.6
HAU				eSg	Sg	01 10 20.9	-2.9
	1.9nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	4.37	69	ePg	Pg	01 09 32.6	-2.9
HINF				eSg	Sg	01 10 28.8	-3.4
	3.3nm,0.3s,SNR=1.0						
HINF	Hinteralfeld	4.37	69	ePg	Pg	01 09 32.6	-2.9
HINF				eSg	Sg	01 10 28.8	-3.4
	1.6nm,0.3s,SNR=1.0						
CDF	Champ du Feu	4.83	63	eSg	Sg	01 10 42.9	-4.2
	1.9nm,0.4s,SNR=1.0						
CDF	Champ du Feu	4.83	63	eSg	Sg	01 10 42.9	-4.2
	0.9nm,0.4s,SNR=1.0						

PGC 12 01:08:26.6, 6570N×13478W, h1km, ML3.6/4, 194km southwest of Ft. McPherson, Nt Mackenzie Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAWY	Dawson	2.56	232	Pn	Pn	01 09 08.6	-0.7
DAWY				Pg	Pg	01 09 14.3	-1.4
DAWY				Sn	Sn	01 09 37.9	-3.1
DAWY				Sg	Sg	01 09 46.9	-2.0
DAWY				Trac		01 09 54.1	
	comp=Z,143nm,0.3s						
INK	Inuvik	2.67	10	Pn	Pn	01 09 08.9	-1.8
INK				Pg	Pg	01 09 14.7	-3.1
INK				Sn	Sn	01 09 41.7	-2.1
INK				Sg	Sg	01 09 49.6	-2.8
INK				Trac		01 09 55.3	
	comp=Z,164nm,0.2s						
HYT	Haines Junctio	5.04	195	Pn	Pn	01 09 43.2	-0.2
HYT				Sg	Sg	01 11 05.2	-3.3
HYT				Trac		01 11 11.7	
	comp=Z,45nm,0.7s						
WHY	Whitehorse	5.05	181	Pn	Pn	01 09 43.1	-0.4
WHY				Sg	Sg	01 11 03.5	-5.5
WHY				Trac		01 11 16.1	
	comp=Z,21nm,0.8s						
PLBC	Pleasant Camp	6.30	187	Sg	Sg	01 11 41.8	-7.3
DLBC	Dease Lake	7.62	161	Trac		01 12 41.3	
	comp=Z,25nm,1.2s						
DLBC	Dease Lake	7.62	161	Sg	Sg	01 12 23.4	-7.7
YKW3	Yellowknife Ar	9.34	100	Pn	Pn	01 10 41.0	-1.4
YKW3				Pn	Pn	01 10 41.2	-1.1
YKW3				Sn	Sn	01 12 15.7	-12
YKW3				Sn	Sn	01 12 15.7	-12
YKW3				Sg	Sn	01 13 17.6	+50
YKW3				Trac		01 13 22.7	
	comp=Z,9.0nm,0.5s						
YKW3				Trac		01 13 22.9	
	comp=Z,10.0nm,0.6s						

CASC 12 01:12:12.0±1.9**, 1196N×8910W, h33km±15km, MD3.8, ML3.0, 6C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LFRS	El Faro	1.66	1	eP	x	01 12 38.8	
LFRS				eS	x	01 12 58.0	
SNVI	San Vicente	1.66	9	eP	x	01 12 38.9	
VSM	San Miguel	1.67	29⇑	eP	x	01 12 39.2	
VSM				eS	x	01 13 01.2	
LCBS	La Ceiba	1.69	4	eP	x	01 12 39.1	
LCBS				eS	x	01 12 59.5	
BLLM	Bellamira	1.70	30⇑	eP	x	01 12 39.4	
BLLM				eS	x	01 13 01.9	
LBRS	Las Brisas	1.77	2⇓	eP	x	01 12 40.9	
BOQS	Boqueron	1.77	354⇓	eP	x	01 12 41.0	
BOQS				eS	x	01 13 03.3	
LFU	La Fuente	1.78	360⇑	eP	x	01 12 41.0	
CNCH	Conchagua	1.80	43	eP	x	01 12 40.9	
CNCH			⇓	eP	x	01 12 41.0	
SBLS	San Blas	1.94	345	eP	x	01 12 43.2	
SBLS				eS	x	01 13 07.5	
SNJE	San Jose	1.96	345⇑	eP	x	01 12 43.4	
SNJE				eS	x	01 13 07.6	
RTR	El Retiro	2.00	345⇑	eP	x	01 12 44.1	
RTR				eS	x	01 13 08.6	
RBDL	Robledal	2.22	345⇓	eP	x	01 12 47.7	
RBDL				eS	x	01 13 13.9	
TELN	Telica	2.31	74	eP	Pn	01 12 47.2	-0.5
TELN				eS	Sn	01 13 15.9	+1.0
MIRN	Miramar	2.38	78⇓	eP	Pn	01 12 48.2	-0.5
MIRN				eS	Sn	01 13 18.1	+1.4
CNGN	Cerro Negro	2.41	77	eP	Pn	01 12 49.1	+0.1
CNGN				eS	Sn	01 13 19.8	+2.4
MTO2	Montecristo 2	2.44	354⇓	eP	x	01 12 50.5	
MTO2				eS	x	01 13 19.9	
COPN	Copaltepe	2.46	85	eP	Pn	01 12 49.6	-0.2
COPN				eS	Sn	01 13 19.2	+0.5
MOMJ	Momotombo	2.54	80	eP	Pn	01 12 50.3	-0.6
MOMJ				eS	Sn	01 13 22.9	+2.2
MGAN	Managua	2.80	86	eS	Sn	01 13 26.7	-0.2
MGAN				i		01 13 28.3	
	comp=E,82nm,0.2s						
TICN	Ticuantepe	2.81	88	eP	Pn	01 12 54.9	+0.3
TP2	Tecpan 2	3.37	327⇑	eP	Pn	01 13 04.4	+2.0
TP2				eS	Sn	01 13 43.1	+1.8
CONN	Concepcion	3.42	96	eP	Pn	01 13 03.1	0.0

*IDC **12** 01:14:58.7±0.6, 2504S×7161W, h0km, mb4.5/10, mb1 4.4/14, mb1mx4.3/20, mbtmp4.3/14, ML3.4/3, MS3.6/4, Ms1 3.6/4, ms1mx3.3/16, Error ellipse: s-maj=21.3km s-min=17.6km az=72.0*
*ISCJB **12** 01:15:02.0±0.3, 25.16S±0.03×71.54W±0.06, h33km, mb4.5/30, MS3.6/3, Error ellipse: s-maj=7.6km s-min=4.0km az=167.5*
*NEIC **12** 01:15:02.2, 25.17S×71.37W, h38km, mb4.6/28, ML4.7(GUC), After GUC.*
*GUC **12** 01:15:02.2±0.5, 25.17S×71.37W, h38km±11km, ML4.7*
*BJI **12** 01:15:06.2, 2520S×7140W, h37km, mB5.2, Ms4.8, Msz4.8*
ISC 12 01:15:04.0±0.3**, 2516S**±003×**7148W**±006**, h35km, n96, σ1s03**/79**, mb4.5**/30**, MS3.6**/3**, 3C-4D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANCH	Antofagasta	1.77	34⇑	iP	**Pn**	**01 15 31.1**	**-1.0**
ANCH				i S	**Sn**	**01 15 52.4**	**-0.9**
ANCH				AML	AML	01 15 54.7	
	comp=E,4μm,0.6s						
ANCH	Antofagasta	1.77	34⇑	iP	**Pn**	**01 15 31.1**	**-1.0**
ANCH				i S	**Sn**	**01 15 52.4**	**-0.9**
CEN1	Los Morros	2.12	34⇓	iP	**Pn**	**01 15 32.6**	**-4.3**
CEN1				i S	**Sn**	**01 15 56.0**	**-5.9**
CPCH	Copiapo	2.41	155	eP	**Pn**	**01 15 39.8**	**-1.1**
CPCH				i S	**Sn**	**01 16 08.3**	**-0.9**
CPCH				AML	AML	01 16 11.0	
	comp=E,9μm,0.1s						
CPCH	Copiapo	2.41	155	eP	**Pn**	**01 15 39.8**	**-1.1**
CPCH				i S	**Sn**	**01 16 08.3**	**-0.9**
VACH	Vallenar	3.46	169	eP	**Pn**	**01 15 54.9**	**-0.5**
VACH				i S	**Sn**	**01 16 34.4**	**-0.8**
VACH				AML	AML	01 16 38.2	
	comp=N,3μm,0.8s						
VACH	Vallenar	3.46	169	eP	**Pn**	**01 15 54.9**	**-0.5**
VACH				i S	**Sn**	**01 16 34.4**	**-0.8**
TLL	Tololo Astrono	5.02	173	eP	**Pn**	**01 16 16.5**	**-0.3**
CFAA	Coronel Fontan	7.03	157	Pn	**Pn**	**01 16 45.0**	**+0.7**
	comp=N,0.3nm,0.3s,baz=325,slow=13,SNR=21						
CFAA				Sn	**Sn**	**01 18 01.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=254,slow=17,SNR=6.6						
CFAA	Coronel Fontan	7.03	157	Pn	**Pn**	**01 16 45.0**	**+0.7**
CFAA				Sn	**Sn**	**01 18 01.5**	**-1.5**
ARE	Arequipa	8.65	360	eP	**Pn**	**01 17 05.0**	**-1.7**
ARE				e		01 18 38.0	
LPAZ	La Paz	9.37	20	Pn	**Pn**	**01 17 18.0**	**+1.6**
	comp=N,1.3nm,0.3s,baz=195,slow=8.9,SNR=59						
LPAZ	La Paz	9.37	20	ePn	**Pn**	**01 17 18.1**	**+1.6**
	comp=N,22nm,0.8s						
LPAZ				Sn	**Sn**	**01 19 04.9**	**+4.4**
CPUP	Villa Florida	12.81	98	Pn	**Pn**	**01 18 04.0**	**+0.5**
	comp=N,0.0nm,0.3s,baz=266,slow=13,SNR=2.4						
CPUP				LR	LR	01 23 32.0	
	comp=N,298nm,18.7s,baz=260,slow=40						
CPUP	Villa Florida	12.81	98	ePn		01 18 10.5	
CPUP				eSn	**Sn**	**01 20 30.8**	**+6.0**
SIV	San Ignacio	13.34	49	Pn	**Pn**	**01 18 08.5**	**-2.3**
	comp=N,3.1nm,0.3s,baz=264,slow=12,SNR=97						
SIV				Sn	**Sn**	**01 20 30.3**	**-7.6**
	comp=N,0.3nm,0.3s,baz=309,slow=19,SNR=6.9						
TRQA	Tornquist	15.18	150	ePn	pP	01 18 41.3	-8.2
	comp=N,57nm,0.8s						
PLCA	Paso Flores	15.55	177	Pn	**Pn**	**01 18 39.5**	**-1.0**
	comp=N,0.1nm,0.3s,baz=8.8,slow=13,SNR=4.1						
PLCA	Paso Flores	15.55	177	ePn	**Pn**	**01 18 45.1**	**+4.6**
	comp=N,18nm,1.3s						
SAML	Samuel	17.96	28	Pn	**Pn**	**01 19 11.4**	**+0.7**
	comp=N,16nm,1.2s						
BDFB	Brasilia	23.91	71	P	**P**	**01 20 15.2**	**+0.6**
	comp=N,16nm,0.9s,mb4.4,baz=245,slow=13,SNR=12						
BDFB				LR	LR	01 30 45.3	
	comp=N,125nm,20.7s,MS3.4,baz=269,slow=40						
BDFB	Brasilia	23.91	71	eP	**P**	**01 20 16.7**	**+2.1**
	comp=N,9.4nm,0.5s,mb4.5						
CAM4	Nova Friburgo	26.59	90	(P)	pP	01 20 45.0	-3.8

CAM4				*i*		01 20 57.4	
SDV	**Santo Domingo**	**33.85**	**2**	P	**P**	**01 21 40.8**	**-2.2**
	comp=N,0.9nm,0.3s,mb4.2,baz=172,slow=19,SNR=2.4						
SDV	**Santo Domingo**	**33.85**	**2**	*e*P	**P**	**01 21 42.9**	**-0.1**
	comp=N,3.6nm,0.8s,mb4.3						
VNA3	**Neumayer Olymp**	**57.42**	**160**⇓	*i*	**P**	**01 24 49.6**	**+0.6**
VNA3				*e*		01 24 50.4	
VNA3				*e*		01 24 54.0	
VNA1	**Neumayer--Stat**	**57.67**	**159**⇓	*i*	**P**	**01 24 51.4**	**+0.5**
VNA1				*e*		01 24 52.2	
VNA1				*e*		01 24 55.7	
SNAA	**Sanae**	**59.64**	**160**⇓	*i*	**P**	**01 25 04.7**	**+0.2**
SNAA				*e*		01 25 05.4	
SNAA	**Sanae**	**59.64**	**160**	*e*P	**P**	**01 25 04.6**	**+0.1**
	comp=N,17nm,0.8s,mb5.1						
SWET	**Sewanee**	**61.59**	**347**	P	**P**	**01 25 16.1**	**-1.6**
WVT	**Waverly**	**62.88**	**345**	*e*P	**P**	**01 25 24.4**	**-2.1**
	comp=N,4.5nm,0.9s,mb4.6						
MIAR	**Mount Ida**	**62.97**	**340**	*e*P	**P**	**01 25 26.4**	**-0.6**
	comp=N,20nm,1.5s,mb5.0						
WMOK	**Wichita Mounta**	**64.95**	**335**	*e*P	**P**	**01 25 38.8**	**-1.3**
	comp=N,1.5nm,0.8s,mb4.1						
MNTX	**Cornudas Mount**	**65.16**	**328**	*e*P	**P**	**01 25 40.5**	**-1.0**
	comp=N,4.2nm,0.8s,mb4.5						
MNTX				*e*PP	PP	01 28 07.4	+2.5
ERPA	**Erie**	**67.40**	**353**	P	**P**	**01 25 55.7**	**-0.1**
ANMO	**Albuquerque**	**68.36**	**330**	*e*P	**P**	**01 26 02.5**	**+0.7**
	comp=N,1.6nm,0.6s,mb4.2						
SDCO	**Great Sand Dun**	**70.26**	**332**	*e*P	**P**	**01 26 14.2**	**+0.6**
	comp=N,11nm,1.3s,mb4.6						
SBA	**Scott Base**	**71.81**	**191**	*e*P	**P**	**01 26 24.1**	**+1.1**
	comp=N,4.2nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**72.04**	**73**	P	**P**	**01 26 26.0**	**+1.6**
	comp=N,15nm,0.8s,mb5.0,baz=216,slow=6.8,SNR=17						
DBIC				LR	LR	01 53 22.0	
	comp=N,50nm,21.5s,MS3.8,baz=237,slow=32						
DBIC	**Dimbokro**	**72.04**	**73**	*e*P	**P**	**01 26 26.2**	**+1.8**
	comp=N,11nm,0.6s,mb5.0						
PV10	**Paradox Valley**	**72.35**	**330**	*e*P	**P**	**01 26 26.7**	**+0.5**
PV10				*e*pP	pP	01 26 34.4	-2.6
VNDA	**Vanda**	**72.84**	**191**	P	**P**	**01 26 29.8**	**+0.6**
	comp=N,1.4nm,1.0s,mb3.9,baz=146,slow=5.9,SNR=5.4						
VNDA	**Vanda**	**72.84**	**191**	*e*P	**P**	**01 26 29.6**	**+0.5**
	comp=N,3.7nm,1.3s,mb4.2						
SYO	**Syowa Base**	**73.92**	**160**⇑	*e*P	**P**	**01 26 35.0**	**-0.5**
MSU	**Marysvale**	**73.93**	**328**	*e*P	**P**	**01 26 36.6**	**+1.1**
RSSD	**Black Hills**	**75.12**	**336**	*e*P	**P**	**01 26 42.7**	**+0.3**
	comp=N,1.6nm,0.6s,mb4.1						
HWUT	**Hardware Ranch**	**76.10**	**330**	*e*P	**P**	**01 26 48.1**	**+0.1**
	comp=N,6.6nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**76.16**	**332**	P	**P**	**01 26 47.2**	**-1.1**
	comp=N,0.5nm,0.7s,mb3.5,baz=116,slow=6.9,SNR=5.6						
SPUT	**South Promonto**	**76.26**	**329**	*e*P	**P**	**01 26 48.5**	**-0.5**
NVAR	**Mina Array Bea**	**76.98**	**324**	P	**P**	**01 26 53.8**	**+0.8**
	comp=N,1.4nm,0.8s,mb3.9,baz=166,slow=6.2,SNR=11						
RRI2	**Red Ridge**	**77.38**	**331**	*e*P	**P**	**01 26 55.4**	**+0.1**
	comp=N,6.0nm,1.1s,mb4.4						
FLWY	**Flagg Ranch**	**77.71**	**332**	*e*P	**P**	**01 26 57.6**	**+0.5**
	comp=N,5.9nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**78.13**	**344**	P	**P**	**01 26 58.1**	**-1.3**
	comp=N,5.0nm,1.2s,mb4.3,baz=137,slow=8.1,SNR=3.5						
YMR	**Madison River**	**78.30**	**332**	P	**P**	**01 26 60.0**	**-0.4**
	comp=N,14nm,0.4s,mb5.2						
PAHR	**Pah Rah Range**	**78.48**	**324**	*e*P	**P**	**01 27 02.2**	**+0.8**
	comp=N,9.4nm,1.0s,mb4.7						
GCMT	**Greycliff**	**78.68**	**334**	*e*P	**P**	**01 27 02.9**	**+0.4**
HLID	**Hailey**	**78.93**	**330**	*e*P	**P**	**01 27 04.7**	**+0.8**
	comp=N,11nm,1.2s,mb4.7						
DGMT	**Dagmar**	**78.94**	**339**	P	**P**	**01 27 03.3**	**-0.6**
	comp=N,9.2nm,0.8s,mb4.8						
MCMT	**McKenzie Canyo**	**79.23**	**331**	*e*P	**P**	**01 27 06.2**	**+0.8**
SCHQ	**Schefferville**	**79.76**	**3**	*e*P	**P**	**01 27 07.1**	**-1.3**
TOA0	**Torodi Ar. Sit**	**80.80**	**71**	*e*P	**P**	**01 27 15.3**	**+1.4**
TORD	**Torodi Ar. Bea**	**80.80**	**71**	P	**P**	**01 27 15.4**	**+1.4**
	comp=N,20nm,0.9s,mb5.1,baz=261,slow=5.1,SNR=144						
TORD				LR	LR	02 00 07.3	
	comp=N,40nm,18.7s,MS3.8,baz=165,slow=34						
TSUM	**Tsumeb**	**81.25**	**107**	*e*P	**P**	**01 27 19.0**	**+2.7**
	comp=N,4.2nm,0.7s,mb4.5						
BMO	**Blue Mountains**	**81.26**	**329**	*e*P	**P**	**01 27 16.4**	**0.0**
	comp=N,7.4nm,1.3s,mb4.5						
MAW	**Mawson**	**81.50**	**164**	*e*P	**P**	**01 27 17.9**	**+0.2**
	comp=N,4.1nm,0.9s,mb4.4						
MAW	**Mawson**	**81.50**	**164**	P	**P**	**01 27 18.4**	**+0.6**
	comp=N,7.2nm,1.1s,mb4.5,baz=221,slow=6.9,SNR=12						
WALA	**Waterton Lakes**	**83.02**	**333**	*e*P	**P**	**01 27 25.6**	**0.0**
	comp=N,5.2nm,0.7s,mb4.7						
BOSA	**Boshof**	**83.80**	**119**	P	**P**	**01 27 31.4**	**+1.7**
	comp=N,6.5nm,0.9s,mb4.8,baz=224,slow=3.5,SNR=7.0						
CASY	**Casey**	**88.84**	**181**	*e*P	**P**	**01 27 54.5**	**+0.1**
	comp=N,7.0nm,0.9s,mb5.0						
LSZ	**Lusaka**	**92.08**	**108**	P	**P**	**01 28 10.4**	**+0.9**
ASAR	**Alice Springs**	**125.58**	**209**	PKP	PKPdf	01 34 01.7	+0.2
	comp=N,2.0nm,0.7s,baz=131,slow=1.7,SNR=19						
WRA	**Warramunga Arr**	**128.61**	**212**	PKP	PKPdf	01 34 08.1	+0.8
	comp=N,3.7nm,0.7s,baz=160,slow=1.7,SNR=19						
AKTK	**Aktyubinsk**	**133.92**	**43**	PKP	PKPdf	01 34 18.2	+0.9
AKTO	**Aktyubinsk**	**133.92**	**43**	PKP	PKPdf	01 34 18.2	+0.9
	comp=N,0.5nm,0.5s,baz=294,slow=7.6,SNR=3.6						
ZRNK	**Zerenda**	**139.43**	**36**	*e*PKPdf	PKPdf	01 34 27.5	0.0
ZAL	**Zalesovo**	**146.26**	**25**	PKPbc	PKPbc	01 34 40.5	-0.2
	comp=N,11nm,0.8s,baz=157,slow=4.1,SNR=55						
ASAJ	**Asahikawa**	**146.50**	**313**	PKPbc	PKPbc	01 34 41.3	-0.2
	comp=N,9.0nm,0.7s,baz=254,slow=10,SNR=3.8						
EKS2	**Erkin-Say**	**146.59**	**50**	P	PKPbc	01 34 42.5	+0.8
	SNR=12						
AML	**Almayashu**	**146.72**	**51**	P	PKPbc	01 34 44.9	+2.8
	SNR=14						
USP	**Ospenovka**	**146.87**	**48**	P	PKPbc	01 34 44.2	+1.7
	SNR=7.0						
AAK	**Ala-Archa**	**147.10**	**49**	P	PKPbc	01 34 45.5	+2.3
	SNR=10						
AAK	**Ala-Archa**	**147.10**	**49**	*e*PKPdf	PKPdf	01 34 42.2	+1.2
CHMS	**Chumysh**	**147.14**	**49**	P	PKPbc	01 34 45.1	+1.8
	SNR=7.0						
KBK	**Karagaybulak**	**147.40**	**49**	P	PKPbc	01 34 46.5	+2.5
	SNR=8.3						
TKM2	**Tokmak 2**	**147.75**	**48**	P	PKPbc	01 34 46.7	+1.8
	SNR=9.2						
ULHL	**Ulahol**	**148.44**	**49**	P	PKPbc	01 34 49.1	+2.3
	SNR=5.2						
MKAR	**Makanchi Array**	**149.97**	**37**	PKPbc	PKPbc	01 34 50.7	+0.1
	comp=N,6.7nm,0.8s,baz=338,slow=2.9,SNR=46						
MKAR	**Makanchi Array**	**149.97**	**37**	PKPbc	PKPbc	01 34 50.7	+0.1
MJAR	**Matsushiro Arr**	**152.21**	**301**	PKPbc	PKPbc	01 34 55.8	-0.1
	comp=N,3.2nm,0.8s,baz=269,slow=1.2,SNR=8.0						
MDJ	**Mudanjiang**	**154.14**	**324**	PKP	PKPdf	01 34 52.0	+0.1
WMQ	**Urumqi**	**154.80**	**37**	*e*PKP	PKPdf	01 34 56.0	+3.2
SONM	**Songino Array**	**157.31**	**4**	PKPab	PKPab	01 35 26.8	-0.6
	comp=N,2.1nm,1.0s,baz=332,slow=4.1,SNR=8.2						
HHC	**Hu-ho-hao-te**	**164.15**	**352**	*e*PKP	PKPdf	01 35 03.0	-0.6
HHC				APKP		01 35 19.9	
HHC				PKP2	PKPab	01 35 58.6	+1.4
HHC				PKS		01 38 34.7	
HHC				PP	PP	01 39 45.7	+2.7
HHC				PP	PP		
	comp=Z,57nm,4.3s						
NJ2	**Nanjing**	**168.62**	**309**	*e*PKP	PKPdf	01 35 10.6	+3.6
XAN	**Xi'an**	**171.14**	**358**	PKP	PKPdf	01 35 13.9	+5.4
CD2	**Chengdu**	**172.90**	**35**	*e*PKP	PKPdf	01 35 07.1	-2.2

*ISCJB **12** 01:15:36.3±0.5, 5970N±003×2420E±006, h0km, Error ellipse: s-maj=4.7km s-min=3.5km az=74.5*

*CSEM **12** 01:15:38.2±0.4, 5969N×2412E, h1km, ML2.3, Error ellipse: s-maj=9.4km s-min=8.3km az=94.0, Mining explosion.*

*NAO **12** 01:15:39.3±1.0, 5976N×2452E, ML2.5*

*HEL **12** 01:15:39.9±0.1, 5973N×2447E, h0km, ML2.3, ML2.3(BER), ML2.5(NAO), Explosion*

*BER **12** 01:15:41.4±3.3, 5966N×2443E, h0km±13km, ML2.3, ML2.5(NAO)*

*IDC **12** 01:15:41.3±0.9, 5988N×2441E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.6/4, Error ellipse: s-maj=11.1km s-min=6.4km az=134.0*

ISC 12 01:15:38.7±0.4**, 5974N**±002×**2434E**±006**, h0**km**, n44, σ1s32**/81**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.28**	**176**	*e*P	**Pg**	**01 15 44.9**	**+0.8**
SRPE				*e*S	**Sg**	**01 15 48.6**	**+0.9**
SRPE	**Suurupi**	**0.28**	**176**	P	**Pg**	**01 15 44.8**	**+0.8**
MEF	**Metsahovi**	**0.48**	**3**	*e*P	**Pg**	**01 15 48.2**	**+0.4**
MEF				*e*S	**Sg**	**01 15 54.5**	**+0.5**
PVF	**Pernaja**	**1.11**	**43**	*e*P	**Pg**	**01 15 58.8**	**-1.1**
PVF				*e*S	**Sg**	**01 16 13.1**	**-1.1**
VSU	**Vasula**	**1.78**	**135**	*e*P	**Pn**	**01 16 10.2**	**-0.4**
VSU				*e*S	**Sn**	**01 16 30.2**	**-3.8**
VSU	**Vasula**	**1.78**	**135**	Pn	**Pn**	**01 16 11.0**	**+0.3**
VSU				Lg		01 16 33.6	
RAF	**Rauma**	**1.81**	**316**	*e*P	**Pn**	**01 16 13.0**	**+1.9**
RAF				*e*S	**Sn**	**01 16 36.3**	**+1.5**
FIA0	**FINESS Array S**	**1.91**	**26**	*e*P	**Pn**	**01 16 13.4**	**+0.9**
FIA0				*e*S	**Sn**	**01 16 36.9**	**-0.3**
FIA0	**FINESS Array S**	**1.91**	**26**	Pn	**Pn**	**01 16 13.6**	**+1.1**
	baz=197,slow=18						
FIA0				S	**Sn**	**01 16 37.3**	**+0.1**
	baz=201,slow=28						
FIA0	**FINESS Array S**	**1.91**	**26**	P	**Pn**	**01 16 13.3**	**+0.8**
FIA0				S	**Sn**	**01 16 36.9**	**-0.3**
FINES	**FINESS Array B**	**1.91**	**26**	Pn	**Pn**	**01 16 13.5**	**+1.0**
	12nm,0.3s,baz=203,slow=15,SNR=533						
FINES				Lg		01 16 37.3	
	9.3nm,0.3s,baz=204,slow=27,SNR=20						
KEF	**Keuruu**	**2.45**	**6**	*e*P	**Pn**	**01 16 22.4**	**+2.5**
KEF				*e*S	**Sn**	**01 16 51.7**	**+1.2**
KEF	**Keuruu**	**2.45**	**6**	P	**Pn**	**01 16 22.3**	**+2.5**
KEF				S	**Sn**	**01 16 51.7**	**+1.2**
KAF	**Kangasniemi**	**2.56**	**21**	*e*P	**Pn**	**01 16 22.9**	**+1.4**
KAF				*e*S	**Sn**	**01 16 54.0**	**+0.6**
KAF				*e*SG	**Sg**	**01 16 58.6**	**-2.5**
KAF				MSG		01 17 01.0	
	comp=Z,14nm,0.3s						
KAF	**Kangasniemi**	**2.56**	**21**	P	**Pn**	**01 16 22.9**	**+1.4**
KAF				S	**Sn**	**01 16 53.9**	**+0.5**
KAF				Sg	**Sg**	**01 16 58.6**	**-2.5**
SUF	**Sumiainen**	**3.11**	**16**	*e*P	**Pn**	**01 16 31.3**	**+2.3**
SUF				*e*S	**Sn**	**01 17 07.4**	**+0.5**
SUF				*e*SG	**Sg**	**01 17 15.8**	**-2.9**
SUF				MSG		01 17 17.3	
	comp=Z,9.2nm,0.3s						
SUF	**Sumiainen**	**3.11**	**16**	P	**Pn**	**01 16 31.3**	**+2.3**
SUF				S	**Sn**	**01 17 07.4**	**+0.5**
SUF				Sg	**Sg**	**01 17 15.7**	**-3.0**
VAF	**Ylistaro**	**3.41**	**347**	*e*P	**Pn**	**01 16 35.5**	**+2.5**
VAF				*e*S	**Sn**	**01 17 15.5**	**+1.3**
VAF	**Ylistaro**	**3.41**	**347**	P	**Pn**	**01 16 35.5**	**+2.4**
VAF				S	**Sn**	**01 17 15.4**	**+1.2**
JOF	**Joensuu**	**4.63**	**44**	*e*P	**Pn**	**01 16 49.6**	**-0.2**
JOF				*e*S	**Sn**	**01 17 42.4**	**-1.9**
HFS	**Hagfors**	**5.37**	**279**	*e*P	**Pn**	**01 17 00.7**	**+0.7**
HFS				*e*S	**Sn**	**01 18 02.2**	**-0.3**
HFS				*e*SG		01 18 28.2	
HFS	**Hagfors**	**5.37**	**279**	Pn	**Pn**	**01 17 01.2**	**+1.1**
	comp=Z,0.9nm,0.3s,baz=103,slow=14,SNR=58						
HFS				Sn	**Sn**	**01 18 01.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=94,slow=24,SNR=9.1						
HFS				Lg		01 18 25.8	
	comp=Z,1.3nm,0.3s,baz=77,slow=32,SNR=7.3						
HFS	**Hagfors**	**5.37**	**279**	Pn	**Pn**	**01 17 00.7**	**+0.7**
	baz=85,slow=16						
HFS				Sn	**Sn**	**01 18 02.2**	**-0.3**
	baz=95,slow=28						
HFS				Lg		01 18 28.2	
HFS	**Hagfors**	**5.37**	**279**	P	**Pn**	**01 17 00.6**	**+0.6**
HFS				S	**Sn**	**01 18 02.2**	**-0.3**
NB2	**NORSAR Subarra**	**6.64**	**287**	Pn	**Pn**	**01 17 17.0**	**-0.4**
	baz=95,slow=14						
NB2				Sn	**Sn**	**01 18 31.4**	**-2.3**
	baz=93,slow=28						
NB2				Lg		01 19 05.0	
	baz=99,slow=28						
NB2	**NORSAR Subarra**	**6.64**	**287**	*e*P	**Pn**	**01 17 17.0**	**-0.4**
NB2				*e*S	**Sn**	**01 18 31.4**	**-2.3**
NB2				*e*SG		01 19 05.0	
NB2	**NORSAR Subarra**	**6.64**	**287**	P	**Pn**	**01 17 16.9**	**-0.5**
NB2				S	**Sn**	**01 18 31.4**	**-2.3**
NB2				Sg		01 19 05.0	
NOA	**NORSAR Array B**	**6.64**	**287**	Pn	**Pn**	**01 17 17.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=84,slow=14,SNR=6.2						
NOA				Sn	**Sn**	**01 18 31.1**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=124,slow=22,SNR=3.0						
NOA				Lg		01 19 04.6	
	comp=Z,1.4nm,0.3s,baz=138,slow=25,SNR=4.3						
BSD	**Bornholm Skovb**	**6.88**	**232**	*i* P	**Pn**	**01 17 21.0**	**+0.2**
BSD				*i* S	**Sn**	**01 18 37.8**	**-2.0**
BSD				*i* LG		01 19 10.6	
KONO	**Kongsberg**	**7.46**	**276**	*e*S	**Sn**	**01 18 50.1**	**-3.9**
NSS	**Namsos**	**7.52**	**315**	*e*P	**Pn**	**01 17 30.2**	**+0.6**
NSS				*e*S	**Sn**	**01 18 54.7**	**-0.9**
NSS	**Namsos**	**7.52**	**315**	P	**Pn**	**01 17 30.1**	**+0.5**
MOR8	**Moi Rana**	**7.86**	**329**	*e*P	**Pn**	**01 17 35.2**	**+0.9**
MOR8				*e*S	**Sn**	**01 19 02.1**	**-1.8**
MOR8				AML	AML	01 19 03.7	
	comp=Z,3.7nm,0.3s						
MOR8	**Moi Rana**	**7.86**	**329**	P	**Pn**	**01 17 35.1**	**+0.8**
STOK	**Stokkvaagen**	**8.37**	**327**	*e*P	**Pn**	**01 17 41.0**	**-0.2**
MUD	**Monsted U'grnd**	**8.68**	**254**	*i* P	**Pn**	**01 17 45.7**	**+0.2**
MUD				*e*S	**Sn**	**01 19 15.2**	**-8.8**
APA0	**Apatity Array**	**8.77**	**22**	Pn	**Pn**	**01 17 44.9**	**-1.8**
	baz=217,slow=16						
APA0	**Apatity Array**	**8.77**	**22**	*e*P	**Pn**	**01 17 44.9**	**-1.8**
SNART	**Snartemo**	**8.94**	**268**	*e*P	**Pn**	**01 17 47.6**	**-1.4**
SNART				*e*S	**Sn**	**01 19 23.8**	**-6.7**
KTK1	**Kautokeino**	**9.32**	**358**	*e*P	**Pn**	**01 17 56.0**	**+1.7**
KTK1				AML	AML	01 19 54.5	
	comp=Z,1.9nm,0.7s						
AKASG	**Malin Array Be**	**9.48**	**161**	Pn	**Pn**	**01 17 55.6**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=341,slow=12,SNR=7.2						
ARA0	**ARCESS Array S**	**9.85**	**2**	Pn	**Pn**	**01 18 00.1**	**-1.4**
	baz=175,slow=16						
ARA0				Sn	**Sn**	**01 19 45.8**	**-7.0**
	baz=182,slow=28						
ARA0	**ARCESS Array S**	**9.85**	**2**	*e*P	**Pn**	**01 18 00.1**	**-1.4**
ARA0				*e*S	**Sn**	**01 19 45.8**	**-7.0**
ARCES	**ARCESS Array B**	**9.85**	**2**	Pn	**Pn**	**01 18 00.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=182,slow=13,SNR=72						
ARCES				Sn	**Sn**	**01 19 43.4**	**-9.3**
	comp=Z,0.2nm,0.3s,baz=182,slow=19,SNR=3.1						

*IDC **12** 01:36:15.4±1.1, 5827S×2944W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, MS3.9/7, Ms1 3.8/7, ms1mx3.6/17, Error ellipse: s-maj=50.5km s-min=29.7km az=94.0*

*ISCJB **12** 01:36:19.6±4.6, 582S±0.1×295W±02, h43km±44km, mb4.0/6, MS3.9/7, Error ellipse: s-maj=23.8km s-min=16.5km az=112.6*

*NEIC **12** 01:36:20.3±0.4, 5822S×2943W, h35km, mb4.0/6, Error ellipse: s-maj=15.7km s-min=9.6km az=58.0*

ISC 12 01:36:21.3±4.3**, 583S**±01×**294W**±03**, h45**km±42km**, n24, σ0s60**/14**, mb4.0**/6**, MS3.9**/7**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.28**	**152**	*e*P	**Pn**	**01 40 19.2**	**0.0**
	0.8nm,0.6s						
TRIS	**Tristan da Cun**	**24.01**	**35**	P	**P**	**01 41 31.4**	**-0.4**
TRQA	**Tornquist**	**29.22**	**300**	P	**P**	**01 42 19.4**	**+0.7**
PLCA	**Paso Flores**	**31.32**	**286**	LR	LR	01 52 44.9	
	comp=Z,140nm,21.4s,MS3.6,baz=179,slow=32						
CPUP	**Villa Florida**	**37.48**	**316**	LR	LR	01 57 30.4	
	comp=Z,125nm,18.2s,MS3.8,baz=164,slow=34						
MAW	**Mawson**	**39.10**	**143**	LR	LR	01 57 55.6	
	comp=Z,84nm,18.1s,MS3.6,baz=76,slow=33						
MAW	**Mawson**	**39.10**	**143**	*e*P	**P**	**01 43 44.0**	**-0.1**
	3.6nm,0.8s,mb4.2						
SBA	**Scott Base**	**43.76**	**185**	*e*P	**P**	**01 44 17.7**	**-4.6**
	28nm,2.0s,mb4.7						
VNDA	**Vanda**	**44.28**	**183**	P	**P**	**01 44 26.4**	**-0.2**
	1.7nm,0.7s,mb3.9,baz=189,slow=6.2,SNR=14						
VNDA	**Vanda**	**44.28**	**183**	*e*P	**P**	**01 44 26.2**	**-0.3**
	1.5nm,0.6s,mb3.9						
BDFB	**Brasilia**	**44.77**	**334**	LR	LR	02 00 37.1	
	comp=Z,88nm,18.7s,MS3.7,baz=179,slow=33						
LPAZ	**La Paz**	**50.76**	**309**	P	**P**	**01 45 17.4**	**+0.7**
	0.5nm,0.6s,mb3.6,baz=157,slow=7.7,SNR=3.3						
LPAZ	**La Paz**	**50.76**	**309**	*e*P	**P**	**01 45 17.2**	**+0.5**
	0.9nm,0.6s,mb3.9						
SAML	**Samuel**	**55.58**	**318**	*e*P	**P**	**01 45 51.6**	**-0.7**
	0.7nm,0.6s,mb3.9						
LSZ	**Lusaka**	**60.30**	**70**	P	**P**	**01 46 25.3**	**0.0**
SDV	**Santo Domingo**	**74.78**	**318**	P	**P**	**01 47 55.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**75.59**	**31**	P	**P**	**01 48 02.4**	**+1.0**
	0.9nm,0.6s,mb3.9,baz=199,slow=6.8,SNR=23						
KMBO	**Kilima Mbogo**	**76.95**	**70**	LR	LR	02 17 51.6	
	comp=Z,75nm,20.6s,MS4.0,baz=189,slow=32						
NWAO	**Narrogin (SRO)**	**84.95**	**152**	P	**P**	**01 48 52.0**	**+0.3**
STKA	**Stephens Creek**	**89.88**	**172**	LR	LR	02 27 43.0	
	comp=Z,101nm,19.4s,MS4.3,baz=206,slow=34						
PPT	**Papeete**	**89.92**	**236**	*e*LR	LR	01 48 37.6	
	161nm,29.0s						
PPT	**Papeete**	**89.92**	**236**	LR	LR	02 20 41.9	
	comp=Z,152nm,18.1s,MS4.5,baz=142,slow=30						
ZAL	**Zalesovo**	**144.38**	**68**	PKP	PKPdf	01 55 50.1	-2.3
	1.0nm,0.3s,baz=149,slow=12,SNR=3.7						
SONM	**Songino Array**	**151.97**	**92**	PKPbc	PKPbc	01 56 10.5	-0.9
	0.5nm,0.6s,baz=225,slow=3.5,SNR=5.0						

*ISCJB **12** 01:38:22.6±0.5, 5977N±002×2461E±008, h0km, Error ellipse: s-maj=5.6km s-min=3.6km az=12.8*

*IDC **12** 01:38:24.2±1.9, 5979N×2464E, h0km, mb1 3.2/3, mb1mx3.0/21, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=21.6km s-min=7.0km az=143.0*

*HEL **12** 01:38:24.3±0.2, 5976N×2454E, h0km, ML1.8, Explosion*

ISC 12 01:38:23.2±0.5**, 5977N**±002×**2457E**±007**, h0**km**, n15, σ1s20**/32**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.33**	**197**	*e*P	**Pg**	**01 38 29.4**	**0.0**
SRPE				*e*S	**Sg**	**01 38 33.6**	**-0.1**
MEF	**Metsahovi**	**0.45**	**349**	*e*P	**Pg**	**01 38 32.1**	**+0.2**
MEF				*e*S	**Sg**	**01 38 37.7**	**-0.1**
PVF	**Pernaja**	**1.01**	**39**	*e*P	**Pg**	**01 38 42.7**	**+0.1**
PVF				*e*S	**Sg**	**01 38 55.8**	**+0.1**
VSU	**Vasula**	**1.73**	**139**	*e*P	**Pn**	**01 38 55.3**	**+0.9**
VSU				*e*S	**Sn**	**01 39 15.1**	**-2.1**
FIA0	**FINESS Array S**	**1.83**	**23**	*e*P	**Pn**	**01 38 56.8**	**+0.8**
FIA0				*e*S	**Sn**	**01 39 20.1**	**+0.2**
FINES	**FINESS Array B**	**1.83**	**23**	Pn	**Pn**	**01 38 57.3**	**+1.4**
	1.9nm,0.3s,baz=198,slow=14,SNR=230						
FINES				Lg		01 39 20.4	
	3.2nm,0.3s,baz=203,slow=27,SNR=24						
FINES				Sn	**Sn**	**01 39 23.6**	**+3.7**
	3.2nm,0.3s,baz=207,slow=24,SNR=21						
RAF	**Rauma**	**1.87**	**313**	*e*P	**Pn**	**01 38 57.3**	**+0.8**
RAF				*e*S	**Sn**	**01 39 20.9**	**+0.1**
KEF	**Keuruu**	**2.41**	**3**	*e*P	**Pn**	**01 39 06.2**	**+2.4**
KEF				*e*S	**Sn**	**01 39 35.1**	**+1.1**
KEF				*e*SG	**Sg**	**01 39 38.6**	**-1.9**
KEF				MSG		01 39 39.5	
	comp=Z,4.4nm,0.2s						
KAF	**Kangasniemi**	**2.50**	**19**	*e*P	**Pn**	**01 39 06.8**	**+1.7**
KAF				*e*S	**Sn**	**01 39 35.6**	**-0.6**
KAF				*e*SG	**Sg**	**01 39 41.8**	**-1.6**
KAF				MSG		01 39 42.3	
	comp=Z,2.8nm,0.2s						
SUF	**Sumiainen**	**3.05**	**14**	*e*P	**Pn**	**01 39 15.1**	**+2.4**
SUF				*e*S	**Sn**	**01 39 50.4**	**+0.5**
SUF				*e*SG	**Sg**	**01 40 00.0**	**-1.3**
SUF				MSG		01 40 02.4	
	comp=Z,2.3nm,0.3s						
VAF	**Ylistaro**	**3.40**	**345**	*e*P	**Pn**	**01 39 19.9**	**+2.4**
VAF				*e*S	**Sn**	**01 39 59.1**	**+0.5**
JOF	**Joensuu**	**4.53**	**43**	*e*P	**Pn**	**01 39 32.9**	**-0.1**
JOF				*e*S	**Sn**	**01 40 25.3**	**-1.0**
HFS	**Hagfors**	**5.48**	**278**	Pn	**Pn**	**01 39 45.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=71,slow=14,SNR=12						
HFS				Sn	**Sn**	**01 40 48.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=90,slow=27,SNR=5.6						
NOA	**NORSAR Array B**	**6.74**	**287**	Pn	**Pn**	**01 40 02.2**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=106,slow=6.2,SNR=3.1						
NOA				Sn	**Sn**	**01 41 16.4**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=2.8						
ARCES	**ARCESS Array B**	**9.81**	**2**	Pn	**Pn**	**01 40 44.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=179,slow=13,SNR=15						

CASC 12 01:59:51.4±2.5**, 1125N**×**8617W, h63**km±12km**, MD3.5, ML3.3, 2C-9D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	**San Juan del S**	**0.32**	**84**⇓	*i*P	Pn	02 00 02.1	+0.1
SSNN				*e*S	Sn	02 00 10.2	+0.6
CONN	**Concepcion**	**0.62**	**60**⇓	*i*P	Pn	02 00 04.9	0.0
MADN	**Villa Maderas**	**0.64**	**76**⇓	*i*P	Pn	02 00 05.2	0.0
TICN	**Ticuantepe**	**0.78**	**356**	*e*P	Pn	02 00 07.5	+0.8
TICN				*e*S	Sn	02 00 18.2	+0.1
TISN	**Laguna Tiscapa**	**0.89**	**354**⇓	*e*P	Pn	02 00 08.9	+0.8
TISN				*e*S	Sn	02 00 20.8	+0.3
MGAN	**Managua**	**0.89**	**355**⇓	*e*P	Pn	02 00 08.7	+0.6
MGAN				*e*S	Sn	02 00 21.6	+1.1
MGAN				*i*		02 00 22.8	
	comp=E,1μm,0.3s						
RIN3	**Volcan Rincon**	**0.90**	**121**⇓	*e*P	Pn	02 00 07.8	-0.5
XAVN	**Gruta Xavier**	**0.90**	**350**	*e*P	Pn	02 00 09.2	+0.9
XAVN				*e*S	Sn	02 00 22.5	+1.7
COPN	**Copaltepe**	**1.01**	**336**⇓	*e*P	Pn	02 00 10.1	+0.4
COPN				*e*S	Sn	02 00 22.3	-0.9
LIM1	**Limonal**	**1.05**	**121**⇓	*e*P	Pn	02 00 09.7	-0.6
LIM1				*e*S	Sn	02 00 24.6	+0.4
MOMJ	**Momotombo**	**1.20**	**343**	*e*P	Pn	02 00 12.7	+0.5
MOMJ				*e*S	Sn	02 00 27.6	-0.1
VCR	**Vista de Mar**	**1.24**	**155**	*e*P	Pn	02 00 12.1	-0.5
MIRN	**Miramar**	**1.29**	**336**	*e*P	Pn	02 00 14.1	+0.7
MIRN				*e*S	Sn	02 00 31.3	+1.4
CNGN	**Cerro Negro**	**1.34**	**337**⇓	*e*P	Pn	02 00 14.6	+0.5
CNGN				*e*S	Sn	02 00 32.1	+1.1
LEON	**Leon**	**1.35**	**329**⇑	*e*P	Pn	02 00 14.8	+0.6
LEON				*e*S	Sn	02 00 31.8	+0.5
	comp=Z,337nm,0.2s						
TELN	**Telica**	**1.49**	**334**	*e*P	Pn	02 00 17.0	+1.0
JCR	**Jicaral**	**1.74**	**143**	*e*P	Pn	02 00 19.2	-0.2
CAO	**Cobano**	**1.86**	**146**	*e*P	Pn	02 00 20.5	-0.5
EPA	**Esparza**	**1.99**	**129**	*e*P	Pn	02 00 22.9	+0.1
CGA2	**Cerro Gallo 2**	**2.08**	**126**	*e*P	Pn	02 00 23.9	-0.1
CGA2				*e*S	Sn	02 00 51.4	+2.7
POA2	**Poas 2**	**2.17**	**119**	*e*P	Pn	02 00 26.4	+1.2
PRS1	**Puriscal**	**2.22**	**124**	*e*P	Pn	02 00 26.2	+0.3
LAJ	**Bijagual**	**2.44**	**124**⇑	*e*P	Pn	02 00 25.9	-3.0
LCR2	**La Lucha 2**	**2.61**	**125**	*e*P	Pn	02 00 31.6	+0.4
LCR2				*e*S	Sn	02 01 04.4	+2.8
BUS	**Buena Vista**	**2.91**	**125**	*e*P	Pn	02 00 38.0	+2.8

GUC 12 02:19:03.1±0.8**, 3266S**×**7046W, h12**km±2km**, MD3.6, ML2.1, 3C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.11**	**260**⇑	*i*P	Pg	02 19 06.6	+0.6
JACH				*i* S	Sg	02 19 09.0	+0.8
PEL	**Peldehue**	**0.51**	**201**⇓	*i*P	Pg	02 19 13.6	+0.4
PEL				*i* S	Sg	02 19 21.3	+1.3
PEL				AML	AML	02 19 24.9	
	comp=E,182nm,0.5s						
ROCH	**El Roble**	**0.55**	**236**⇑	*i*P	Pg	02 19 14.5	+0.6
ROCH				*i* S	Sg	02 19 23.1	+1.9
PTCH	**Petorca**	**0.56**	**315**⇓	*i*P	Pg	02 19 14.4	+0.4
PTCH				*i* S	Sg	02 19 22.8	+1.4
PTCH				AML	AML	02 19 23.0	
	comp=N,700nm,0.1s						
FCH	**Farellones**	**0.68**	**168**⇑	*i*P	Pg	02 19 16.1	-0.1
FCH				*i* S	Sg	02 19 25.6	+0.4
RCDM	**Rinconada Maip**	**0.87**	**199**	*e*P	Pg	02 19 20.0	+0.1
RCDM				*i* S	Sg	02 19 31.8	+0.4
RCDM				AML	AML	02 19 49.0	
	comp=E,94nm,0.1s						
ANTU	**Antumapu**	**0.92**	**189**	*i* P	Pg	02 19 20.7	-0.1
ANTU				*i* S	Sg	02 19 33.6	+0.9
LMEL	**Las Melosas**	**1.20**	**170**	*e*P	Pn	02 19 25.3	-0.4
LMEL				*i* S	Sb	02 19 41.0	-0.3
LMEL				AML	AML	02 19 58.4	
	comp=N,62nm,0.1s						
LCCH	**Las Cruces**	**1.23**	**229**	*e*P	Pn	02 19 25.8	-0.4
LCCH				*i* S	Sb	02 19 42.2	+0.1
CHCH	**Chadas Angostu**	**1.28**	**187**	*i* S	Sb	02 19 42.9	-0.6

WEL 12 02:41:40.3±0.5**, 3812S**×**17596E, h180**km±6km**, ML3.5**/8**, Error ellipse: s-maj=6.6km s-min=5.7km az=90.0, North Island**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
URZ	Urewera	0.91	99	PN	Pn	02 42 07.3	-0.1
NGZ	Ngauruhoe	1.09	195	ePN	Pn	02 42 08.9	+0.2
BKZ	Black Stump Fm	1.12	159	PN	Pn	02 42 09.2	+0.2
BKZ				SN	Sn	02 42 30.8	-0.2
TUVZ	Tukino	1.17	192	PN	Pn	02 42 09.9	+0.5
MWZ	Matawai	1.25	100	PN	Pn	02 42 10.2	+0.2
MWZ				SN	Sn	02 42 33.5	+0.6
MOVZ	Moawhango	1.29	187	PN	Pn	02 42 10.2	-0.2
KNZ	Kokohu	1.61	124	PN	Pn	02 42 13.5	+0.2
PUZ	Puketiti	1.81	89	PN	Pn	02 42 15.0	-0.3
TSZ	Takapari Road	1.94	180	PN	Pn	02 42 16.1	-0.6
MRZ	Mangatainoka R	2.55	187	PN	Pn	02 42 22.1	-1.6
KIW	Kapiti Island	2.85	196	PN	Pn	02 42 24.8	-2.4
TCW	Tory Channel	3.35	202	PN	Pn	02 42 30.9	-2.3

*ISCJB **12** 02:46:37.7±0.4, 5154N±003×674E±006, h0^{km}, Error ellipse: s-maj=5.5km s-min=3.3km az=57.7*
*CSEM **12** 02:46:39.8±0.1, 5157N×685E, h5^{km}, ML2.5/3, Error ellipse: s-maj=3.3km s-min=2.0km az=95.0*
*BNS **12** 02:46:39.8±0.9, 5154N×688E, h1^{km}, ML1.6*
*BGR **12** 02:46:39.1±0.6, 5147N×690E, h1^{km}, ML1.8/3, Error ellipse: s-maj=10.0km s-min=4.4km az=107.0*
*LDG **12** 02:46:39.6±0.2, 5155N×689E, h1^{km}, Md2.5/2, Ml2.4/3, Error ellipse: s-maj=3.9km s-min=2.1km az=25.0, Suspected Mining induced.*
ISC 12 02:46:38.5±0.4, 5153N±002×684E±005, h0^{km}, n36, σ1^{s}03/47, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAUG	Laupendahl	0.19	159	i Pg	Pg	02 46 43.1	+1.0
BUG	Bochum--Univer	0.28	108	ePg	Pg	02 46 44.4	+0.5
	SNR=2.4						
WTSB	Winterswijk	0.44	357	ePg	Pg	02 46 47.6	+0.6
WTSB				eSg	Sg	02 46 52.4	-0.2
BNS	Bensberg	0.60	159	i Pg	Pg	02 46 51.9	+1.8
HOBG	Hohbusch	0.63	150	i Pg	Pg	02 46 51.4	+0.8
STB	Steinbach	0.94	180	i Pg	Pg	02 46 57.9	+1.4
STB				eSg	Sg	02 47 10.9	+2.2
	9.8nm,0.3s						
KLL	Kalltalsperre	0.94	201	i Pg	Pg	02 46 57.9	+1.3
DREG	Dreilaegerbach	0.95	204	i Pg	Pg	02 46 58.1	+1.4
HGN	Heimansgroeve	0.95	217	ePn	Pn	02 46 57.8	-1.4
HGN				ePg	Pg	02 46 58.5	+1.6
	11nm,0.2s						
HGN				eSg	Sg	02 47 13.0	+3.8
IBBN	Ibbenburen	0.96	36	ePg	Pg	02 46 57.9	+0.8
	SNR=2.2						
IBBN				eSg	Sg	02 47 10.1	+0.5
	SNR=3.2						
BEBN	Eben Emael	1.03	225	P	Pg	02 46 59.7	+1.3
BEBN	Eben Emael	1.03	225	P	Pg	02 46 59.6	+1.2
MEM	Membach	1.06	210	P	Pg	02 46 59.7	+0.9
BGG	Burgeitz	1.36	166	ePg	Pg	02 47 04.3	-0.3
BCLA	Clavier	1.48	222	P	Pn	02 47 06.1	-0.2
TNS	Taunus Mts	1.66	141	ePg	Pg	02 47 08.6	-1.7
	SNR=1.9						
TNS				eSg	Sg	02 47 29.2	-2.7
	SNR=3.2						
GIVF	Givet	1.92	223	ePn	Pn	02 47 12.2	-0.2
GIVF	Givet	1.92	223	ePg	Pg	02 47 15.7	+0.4
GIVF				eSg	Sg	02 47 40.6	+0.5
	7.0nm,0.3s						
GIVF	Givet	1.92	223	ePg	Pg	02 47 15.7	+0.4
GIVF				eSg	Sg	02 47 40.6	+0.5
	3.5nm,0.3s						
WLF	Walferdange	1.92	193	ePg	Pg	02 47 15.1	-0.2
	SNR=2.3						
WLF				eSg	Sg	02 47 37.7	-2.5
	SNR=2.9						
DOU	Dourbes	2.02	226	P	Pn	02 47 13.2	-0.7
BAIF	Baives	2.23	230	ePn	Pn	02 47 16.0	-0.7
BAIF	Baives	2.23	230	ePg	Pg	02 47 21.5	+0.3
BAIF				eSg	Sg	02 47 50.3	+0.3
	3.1nm,0.3s						
BAIF	Baives	2.23	230	ePg	Pg	02 47 21.5	+0.3
BAIF				eSg	Sg	02 47 50.3	+0.3
	1.5nm,0.3s						
RFYF	Reffroy	3.03	197	ePn	Pn	02 47 27.0	-0.8
CDF	Champ du Feu	3.13	175	ePn	Pn	02 47 28.6	-0.5
MEZF	Maizieres J'vi	3.24	201	ePn	Pn	02 47 29.9	-0.7
	baz=27						
SFTF	Sexfontaines	3.52	200	ePn	Pn	02 47 34.1	-0.4
LOR	Lormes	4.69	206	ePn	Pn	02 47 49.7	-0.8
	baz=27						
CABF	La Chapelle	4.95	186	ePn	Pn	02 47 53.1	-1.0
AVF	Avril sur Loir	5.26	207	ePn	Pn	02 47 57.6	-0.8
LDF	La Druitiere	5.36	239	ePn	Pn	02 47 59.1	-0.6
FLN	La Foliniere	5.46	242	ePn	Pn	02 48 00.7	-0.4
BGF	Bois d'Agland	5.62	209	ePn	Pn	02 48 02.6	-0.8
GRR	Gorron	5.88	241	ePn	Pn	02 48 06.3	-0.6
TCF	Toulx Ste Croi	6.07	212	ePn	Pn	02 48 08.6	-0.9

*LDG **12** 03:01:43.7±0.4, 4297N×153W, h2^{km}, Md2.0/3, Ml1.9/1, Error ellipse: s-maj=6.2km s-min=3.7km az=60.0*
*STR **12** 03:01:44.0±0.2, 4298N×146W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 12 03:01:44.5±0.2, 4297N×148W, h0^{km}, mbLg1.1/8, 2C, Error ellipse: s-maj=2.0km s-min=1.3km az=129.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUSE	Utxeti	0.05	249	⇑Pg	Pg	03 01 45.4	-0.1
	31nm,0.1s,SNR=18						
IUSE				Lg		03 01 46.5	
	116nm,0.1s,SNR=7.9						
IPRE	Itoiz	0.18	149	Pg	Pg	03 01 48.3	+0.3
	1.8nm,0.1s,SNR=4.0						
IPRE				Lg		03 01 50.2	
	4.5nm,0.1s,SNR=7.9						
ELIZ	Elizondo	0.20	351	⇑Pg	Pg	03 01 48.2	-0.1
	4.4nm,0.1s,SNR=18						
ELIZ				Lg		03 01 51.8	
	9.8nm,0.1s,SNR=7.9						
EARA	Aranguren	0.20	200	Pg	Pg	03 01 48.1	-0.3
	8.5nm,0.1s,SNR=7.9						
EARA				Lg		03 01 51.4	
	4.6nm,0.1s,SNR=7.9						
SJPF	Ste Jean	0.24	52	ePg	Pg	03 01 48.7	-0.4
SJPF				eSg	Sg	03 01 51.8	-0.4
	28nm,0.3s						
SJPF	Ste Jean	0.24	52	Pg	Pg	03 01 48.7	-0.4
SJPF				Lg		03 01 51.8	
	14nm,0.3s						
EALK	Alkurruntz	0.26	356	Pg	Pg	03 01 49.2	-0.2
	2.9nm,0.1s,SNR=7.9						
EALK				Lg		03 01 52.6	
	1.2nm,0.1s,SNR=7.9						
OSSF	Osses	0.33	29	Pg	Pg	03 01 50.2	-0.7
OSSF				Sg	Sg	03 01 55.0	-0.2
OSSF	Osses	0.33	29	P	Pg	03 01 50.3	-0.6
OSSF				S	Sg	03 01 54.9	-0.3
LARF	Larrau	0.37	78	Pg	Pg	03 01 51.0	-0.6
LARF				Sg	Sg	03 01 56.0	-0.4
LARF	Larrau	0.37	78	P	Pg	03 01 51.0	-0.6
ATE	Arette	0.59	78	P	Pg	03 01 55.2	-0.6
ATE				S	Sg	03 02 03.0	-0.4
ETSF	Etsaut	0.68	95	ePg	Pg	03 01 57.4	-0.2
ETSF				eSg	Sg	03 02 06.3	-0.1
	1.9nm,0.2s						
ETSF	Etsaut	0.68	95	Pg	Pg	03 01 57.4	-0.2
ETSF				Lg		03 02 06.3	
	0.9nm,0.2s						
EBIE	Bielsa	1.23	103	Pg	Pg	03 02 08.5	+0.5
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		03 02 23.9	
	0.4nm,0.1s,SNR=7.9						
EPF	Esparros	1.34	87	ePg	Pg	03 02 09.2	-1.0
EPF				eSg	Sg	03 02 27.5	0.0
	1.6nm,0.2s						
EPF	Esparros	1.34	87	Pg	Pg	03 02 09.2	-1.0
EPF				Lg		03 02 27.5	
	0.8nm,0.2s						
ESAC	San Caprasio	1.45	148	Pg	Pg	03 02 11.2	-1.1
	1.1nm,0.1s,SNR=7.9						
ESAC				Lg		03 02 31.6	
	3.1nm,0.2s,SNR=7.9						
ELAN	Lanestosa	1.45	281	Pg	Pg	03 02 11.8	-0.6
	0.2nm,0.2s,SNR=7.9						
ELAN				Lg		03 02 31.6	
	0.1nm,0.1s,SNR=7.9						

*LDG **12** 03:05:17.4±0.2, 4299N×151W, h2^{km}, Md1.8/3, Ml1.3/1, Error ellipse: s-maj=3.4km s-min=2.8km az=66.0*
MDD 12 03:05:18.0±0.2, 4297N×149W, h0^{km}, mbLg0.8/7, 2C, Error ellipse: s-maj=2.5km s-min=1.3km az=119.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IUSE	Utxeti	0.05	243	⇑Pg	Pg	03 05 18.9	0.0
	14nm,0.3s,SNR=18						
IUSE				Lg		03 05 20.0	
	33nm,0.1s,SNR=7.9						
IPRE	Itoiz	0.19	149	Lg		03 05 23.7	
	1.8nm,0.1s,SNR=7.9						
ELIZ	Elizondo	0.20	352	⇑Pg	Pg	03 05 21.7	-0.1
	2.0nm,0.6s,SNR=18						
ELIZ				Lg		03 05 24.0	
	1.0nm,0.1s,SNR=12						
EARA	Aranguren	0.21	199	Pg	Pg	03 05 21.7	-0.3
	0.3nm,0.1s,SNR=7.9						
EARA				Lg		03 05 24.9	
	2.7nm,0.1s,SNR=7.9						
SJPF	Ste Jean	0.24	53	ePg	Pg	03 05 22.2	-0.5
SJPF				eSg	Sg	03 05 25.3	-0.5
	7.8nm,0.3s						
SJPF	Ste Jean	0.24	53	Pg	Pg	03 05 22.2	-0.5
SJPF				Lg		03 05 25.3	
	3.9nm,0.3s						
EALK	Alkurruntz	0.25	357	Pg	Pg	03 05 22.8	-0.1
	17nm,1.2s						
EALK				Lg		03 05 26.1	
	1.8nm,0.1s,SNR=7.8						
ETSF	Etsaut	0.69	96	ePg	Pg	03 05 30.8	-0.4
ETSF				eSg	Sg	03 05 39.9	-0.2
	0.8nm,0.3s						
ETSF	Etsaut	0.69	96	Pg	Pg	03 05 30.8	-0.4
ETSF				Lg		03 05 39.9	
	0.4nm,0.3s						
EBIE	Bielsa	1.23	103	Pg	Pg	03 05 42.2	+0.6
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		03 05 59.1	
	2.9nm,0.7s,SNR=7.9						
EPF	Esparros	1.34	87	ePg	Pg	03 05 42.6	-1.2
EPF				eSg	Sg	03 06 00.4	-0.8
	0.6nm,0.3s						
EPF	Esparros	1.34	87	Pg	Pg	03 05 42.6	-1.2
EPF				Lg		03 06 00.4	
	0.3nm,0.3s						

*IDC **12** 03:10:59.0±2.1, 038N×12707E, h0^{km}, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=153.5km s-min=28.2km az=66.0*
*ISCJB **12** 03:11:01.6±1.1, 05N±02×1273E±04, h33^{km}, mb3.8/4, Error ellipse: s-maj=53.4km s-min=18.4km az=150.6*
*NEIC **12** 03:11:03.2±0.8, 052N×12739E, h30^{km}, mb4.2/1, Error ellipse: s-maj=38.4km s-min=13.2km az=75.0*
ISC 12 03:11:04.2±1.1, 05N±02×1273E±04, h35^{km}, n7, σ0^{s}27/7, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.43	162	eP	P	03 15 49.4	+0.2
	4.0nm,0.4s,mb4.1						
WRA	Warramunga Arr	21.43	162	P	P	03 15 48.8	-0.4
	2.4nm,0.4s,mb3.9,baz=340,slow=11,SNR=30						
WB2	Warramunga Arr	21.44	162	eP	P	03 15 49.3	0.0
AS31	Alice Springs	24.84	165	eP	P	03 16 23.7	+0.5
ASAR	Alice Springs	24.84	165	P	P	03 16 22.9	-0.3
	1.5nm,0.7s,mb3.6,baz=352,slow=15,SNR=16						
MKAR	Makanchi Array	60.54	326	P	P	03 21 10.9	0.0
	0.3nm,0.5s,mb3.7,baz=118,slow=8.6,SNR=2.8						
POHA	Pohakuloa	77.78	70	eP	P	03 22 57.8	0.0
	262nm,0.9s						

IGQ 12 03:31:40.3, 094S×8091W, h25^{km}±15^{km}, Mb4.4, Ms4.2, 5C-6D, Error ellipse: s-maj=13.5km s-min=4.3km az=9.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	1.43	53	P	Pn	03 32 06.7	+2.1
MAG1				S	Sn	03 32 24.9	+2.3
IGUA	Igualata	2.34	104	P	Pn	03 32 21.0	+3.9
JUA2	San Juan 2	2.42	73	⇑P	Pn	03 32 20.0	+1.8
JUA2				S	Sn	03 32 48.6	+1.6
CAMI	Rancho Maria	2.42	84	P	Pn	03 32 20.9	+2.6
CAMI				S	Sn	03 32 48.8	+1.7
TERV	Terraza Guagua	2.43	72	⇓P	Pn	03 32 20.4	+2.0
TERV				S	Sn	03 32 49.0	+1.7
PINO	Pino	2.43	71	P	Pn	03 32 20.3	+1.9
PINO				S	Sn	03 32 48.6	+1.3
GGP	Refugio Guagua	2.44	72	⇑P	Pn	03 32 19.9	+1.4
NAS1	Nasa	2.45	83	P	Pn	03 32 21.8	+3.1
NAS1				S	Sn	03 32 52.4	+4.6
YANA	Yana	2.48	71	⇓P	Pn	03 32 21.1	+2.0
JUIV	Juive	2.49	101	P	Pn	03 32 21.3	+2.0
JUIV				S	Sn	03 32 51.1	+2.3
RETU	Refugio	2.52	102	P	Pn	03 32 24.3	+4.7
ARRY	Arrayan	2.52	103	⇓P	Pn	03 32 22.1	+2.5
VC1	Cotopaxi 1	2.52	83	⇑P	Pn	03 32 22.8	+3.1
VC1				S	Sn	03 32 52.8	+3.1
PISA	Pisayambo	2.53	93	P	Pn	03 32 23.1	+3.3
PISA				S	Sn	03 32 52.6	+2.9
RUN5	Runtun	2.53	101	P	Pn	03 32 23.3	+3.5
PATA	Patacocha	2.54	103	P	Pn	03 32 22.5	+2.5
PATA				S	Sn	03 32 51.9	+1.9
ULBA	Ulba	2.55	101	⇓P	Pn	03 32 23.3	+3.2
TAMB	Tambo	2.55	85	P	Pn	03 32 24.1	+4.0
ANTI	Antisana	2.79	80	⇑P	Pn	03 32 26.8	+3.4
COTA	Cotacachi	2.87	64	P	Pn	03 32 27.3	+2.9
COTA				S	Sn	03 33 02.7	+4.5
CAYR	Refugio Cayamb	3.05	72	⇓P	Pn	03 32 30.8	+3.8
CAYA	Cayambe	3.09	71	⇑P	Pn	03 32 31.5	+4.0
CAYA				S	Sn	03 33 08.4	+4.8
CONE	Cono NE Rev Vo	3.38	75	⇓P	Pn	03 32 40.0	+8.5
CONE				S	Sn	03 33 22.0	+11

MAN 12 03:49:38.5, 1685N×12260E, h11^{km}, mb2.5, ML4.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PALP	Palanan	0.28	322	⇓iP	Pg	03 49 45.1	+1.0
PALP				i S	Sg	03 49 49.5	+1.6
PALP	Palanan	0.28	322	eP	Pg	03 49 45.0	+0.9
PALP				eS	Sg	03 49 49.5	+1.6
CAUP	Cauayan	0.75	278	eP	Pg	03 49 52.6	-0.5
CAUP				eS	Sg	03 50 04.1	+1.2
BALP	Baler	1.48	222	eP	Pn	03 50 04.3	-0.7
BALP				eS	Sn	03 50 23.5	-0.7

*ISCJB **12** 04:02:08.6±0.7, 5798N±004×2153E±006, h0^{km}, Error ellipse: s-maj=6.7km s-min=4.0km az=135.0*
*HEL **12** 04:02:10.4±0.1, 5789N×2170E, h0^{km}, ML2.0, ML2.2(NAO), Explosion*
*BER **12** 04:02:10.3±4.3, 5782N×2193E, h0^{km}±25^{km}, ML2.2(NAO)*
*IDC **12** 04:02:11.1±2.8, 5792N×2189E, h0^{km}, mb1 3.2/3, mb1mx3.0/20, mbtmp3.0/3, ML2.5/3, Error ellipse: s-maj=28.7km s-min=10.5km az=164.0*
*NAO **12** 04:02:12.0±2.6, 5800N×2185E, ML2.2*
ISC 12 04:02:10.0±0.7, 5794N±004×2167E±006, h0^{km}, n21, σ1^{s}08/46, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRPE	Suurupi	2.09	42	eP	Pn	04 02 46.8	+0.5
SRPE				eS	Sn	04 03 13.3	+0.4
MEF	Metsahovi	2.69	30	eP	Pn	04 02 55.7	+1.2
MEF				eS	Sn	04 03 28.5	+0.7
VSU	Vasula	2.74	77	eP	Pn	04 02 55.1	0.0
VSU				eS	Sn	04 03 28.6	-0.3
RAF	Rauma	3.10	1	eP	Pn	04 03 01.4	+1.3
RAF				eS	Sn	04 03 38.2	+0.3
PVF	Pernaja	3.39	38	eP	Pn	04 03 04.9	+0.7
PVF				eS	Sn	04 03 44.8	-0.4
FIA0	FINESS Array S	4.17	31	eP	Pn	04 03 15.7	+0.9
FIA0				eS	Sn	04 04 03.7	-0.7
FIA0				eSG	Sg	04 04 19.6	-4.4
FIA0				MSG		04 04 22.5	
	comp=Z,2.9nm,0.3s						
FIA0	FINESS Array S	4.17	31	Pn	Pn	04 03 15.2	+0.4
	baz=204,slow=14						
FIA0				Pg	Pg	04 03 24.4	-5.5
	baz=209,slow=16						
FIA0				Lg		04 04 19.5	
	baz=225,slow=22						
FINES	FINESS Array B	4.17	31	Pn	Pn	04 03 15.2	+0.3
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=17						
FINES				Pg	Pg	04 03 24.7	-5.2
	comp=Z,0.8nm,0.3s,baz=210,slow=14,SNR=21						
FINES				Sn	Sn	04 04 03.8	-0.5
	comp=Z,0.3nm,0.3s,baz=196,slow=20,SNR=3.6						
FINES				Lg		04 04 20.4	
	comp=Z,1.2nm,0.3s,baz=222,slow=24,SNR=14						
KEF	Keuruu	4.54	19	eP	Pn	04 03 20.9	+1.0
KEF				eS	Sn	04 04 13.0	-0.5
KEF				eSG	Sg	04 04 31.1	-4.8
KEF				MSG		04 04 34.1	
	comp=Z,1.6nm,0.2s						
HFS	Hagfors	4.67	302	eP	Pn	04 03 23.3	+1.6
HFS				ePG	Pg	04 03 34.9	-4.6
HFS				eS	Sn	04 04 18.6	+2.0
HFS				eSG	Sg	04 04 39.1	-0.9
HFS	Hagfors	4.67	302	Pn	Pn	04 03 23.3	+1.6
	baz=135,slow=16						
HFS				Pg	Pg	04 03 34.9	-4.6
	baz=110,slow=18						
HFS				Sn	Sn	04 04 18.6	+2.0
	baz=115,slow=28						
HFS				Lg		04 04 39.1	
	baz=109,slow=28						
BSD	Bornholm Skovb	4.69	236	i P	Pn	04 03 21.1	-0.9
BSD				i S	Sn	04 04 15.5	-1.6
BSD				eLG		04 04 31.0	
KAF	Kangasniemi	4.79	27	eP	Pn	04 03 23.1	-0.3
KAF				eS	Sn	04 04 18.3	-1.4
KAF				eSB	Sb	04 04 33.8	+0.7
KAF				MSG		04 04 42.0	
	comp=Z,1.8nm,0.3s						
VAF	Ylistaro	5.15	5	eP	Pn	04 03 28.6	+0.3
VAF				eS	Sn	04 04 27.3	-1.2
VAF				eSG	Sg	04 04 49.8	-5.7
SUF	Sumiainen	5.29	23	eP	Pn	04 03 31.0	+0.7
SUF				eS	Sn	04 04 29.4	-2.6
SUF				eSG	Sg	04 04 53.2	-6.8
SUF				MSG		04 04 53.7	
	comp=Z,1.1nm,0.3s						
NB2	NORSAR Subarra	6.17	305	Pn	Pn	04 03 42.8	+0.5
	baz=122,slow=14						
NB2				Lg		04 05 26.4	
NB2	NORSAR Subarra	6.17	305	eP	Pn	04 03 42.8	+0.5
NB2				e		04 05 26.4	
NOA	NORSAR Array B	6.17	305	Pn	Pn	04 03 43.0	+0.6
	comp=Z,0.2nm,0.3s,baz=116,slow=11,SNR=2.7						
NOA				Sn	Sn	04 04 53.3	-0.2
	comp=Z,0.1nm,0.3s,baz=248,slow=14,SNR=2.9						
NOA				Lg		04 05 25.7	
	comp=Z,0.5nm,0.3s,baz=217,slow=14,SNR=2.5						
ARA0	ARCESS Array S	11.77	7	Pn	Pn	04 04 55.6	-3.5
	baz=186,slow=14						
ARA0	ARCESS Array S	11.77	7	eP	Pn	04 04 55.6	-3.5
ARCES	ARCESS Array B	11.77	7	Pn	Pn	04 04 55.8	-3.3
	comp=Z,0.1nm,0.3s,baz=184,slow=13,SNR=7.0						

*IDC **12** 04:42:37.5±0.6, 5.14S×7641W, h0^{km}, mb4.4/12, mb1 4.5/17, mb1mx4.4/25, mbtmp4.4/17, ML4.1/5, MS4.0/11, Ms1 4.0/11, ms1mx3.6/32, Error ellipse: s-maj=19.3km s-min=13.6km az=75.0*
*ISCJB **12** 04:42:40.2±2.5, 5.19S±004×7636W±006, h30^{km}±18^{km}, mb4.6/24, MS4.3/12, Error ellipse: s-maj=9.9km s-min=5.8km az=138.9*
*MOS **12** 04:42:41.0±0.8, 520S×7638W, h35^{km}, mb5.1/4, Error ellipse: s-maj=24.6km s-min=8.9km az=117.3*
*NEIC **12** 04:42:42.8±0.3, 520S×7636W, h35^{km}, mb4.9/12, Error ellipse: s-maj=10.0km s-min=5.3km az=59.0*
*BJI **12** 04:42:42.7, 520S×7640W, h35^{km}, mB5.3, Ms5.3, Msz5.0*
ISC 12 04:42:42.6±2.5, 520S±004×7638W±006, h31^{km}±18^{km}, n86, σ0^{s}92/65, mb4.6/24, MS4.3/12, 1C-1D, Northern Peru

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.69	228	Pn	Pn	04 43 25.1	+1.3
	56nm,0.3s,baz=34,slow=7.7,SNR=170						
ATAH				Sn	Sn	04 44 00.8	+5.6
	107nm,0.3s,baz=181,slow=22,SNR=12						
ROSC	El Rosal	10.20	12	Pn	Pn	04 45 11.3	+4.5
	0.8nm,0.3s,baz=115,slow=11,SNR=5.9						
ROSC				Lg		04 48 09.2	
	1.5nm,0.3s,baz=310,slow=21,SNR=2.3						
ARE	Arequipa	12.18	157	eP	Pn	04 45 34.0	+0.2
SAML	Samuel	13.61	107	ePn	Pn	04 45 50.9	-2.5
LPAZ	La Paz	13.67	144	Pn	Pn	04 45 54.5	+0.2
	0.5nm,0.3s,baz=339,slow=16,SNR=25						
LPAZ				Sn	Sn	04 48 25.8	+0.8
	0.5nm,0.3s,baz=152,slow=14,SNR=3.1						
LPAZ				Lg		04 49 40.5	
	0.9nm,0.3s,baz=201,slow=15,SNR=3.0						
LPAZ	La Paz	13.67	144	ePn	Pn	04 45 54.6	+0.4
SDV	Santo Domingo	15.12	22	Pn	Pn	04 46 13.3	-0.6
	0.4nm,0.3s,baz=230,slow=13,SNR=4.0						
SDV				Sn	Sn	04 49 00.5	+0.3
	0.8nm,0.3s,baz=235,slow=20,SNR=2.4						
SDV				Lg		04 50 32.0	
	0.5nm,0.3s,baz=29,slow=17,SNR=3.0						
SDV	Santo Domingo	15.12	22	ePn	Pn	04 46 15.5	+1.6
JTS	JuntasAbangare	17.60	331	P	Pn	04 46 44.4	-1.0
	0.3nm,0.3s,baz=153,slow=13,SNR=2.9						
JTS				LR	LR	04 53 11.3	
	comp=Z,355nm,20.5s,baz=22,slow=36						
JTS	JuntasAbangare	17.60	331	eP	Pn	04 46 44.7	-0.7
SIV	San Ignacio	18.45	127	P	Pn	04 46 54.4	-1.5
	0.4nm,0.3s,baz=298,slow=14,SNR=18						
SIV				Lg		04 52 22.4	
	2.0nm,0.3s,baz=48,slow=23,SNR=3.6						
PCRV	Puerto La Cruz	19.23	37	P	Pn	04 47 08.3	+2.9
	0.4nm,0.3s,baz=180,slow=10,SNR=2.6						
PCRV				Lg		04 53 07.2	
	0.4nm,0.3s,baz=336,slow=19,SNR=2.9						
PCRV				LR	LR	04 55 31.3	
	comp=Z,780nm,18.6s,baz=332,slow=40						
PCRV	Puerto La Cruz	19.23	37	P	Pn	04 47 08.3	+2.9
PCRV				Lg		04 53 07.2	
PCRV				LR	LR	04 55 31.2	
MPR	Mayaguez	24.98	21	eP	P	04 48 03.9	+0.5
SJG	San Juan	25.26	23	P	P	04 48 05.4	-0.5
	32nm,0.7s,mb5.0,baz=212,slow=4.5,SNR=17						
SJG				LR	LR	04 59 35.4	
	comp=Z,384nm,18.8s,MS3.9,baz=90,slow=40						
SJG	San Juan	25.26	23	eP	P	04 48 06.0	0.0
SJG				pmax	pmax		
	comp=Z,69nm,1.1s						
SJG	San Juan	25.26	23	eP	P	04 48 06.0	+0.1
	comp=Z,69nm,1.1s,mb5.1						
CPD	Cerro la Pandu	25.29	24	eP	P	04 48 05.4	-0.8
HUMP	Col San Antoni	25.41	24	eP	P	04 48 07.0	-0.3
MTP	Monte Pirata	25.49	25	eP	P	04 48 08.7	+0.7
CBYP	Canovanas	25.52	24	eP	P	04 48 08.1	-0.2
CFAA	Coronel Fontan	27.36	165	P	P	04 48 24.4	-0.4
	comp=Z,0.8nm,0.9s,mb3.3,baz=330,slow=9.0,SNR=8.9						
CPUP	Villa Florida	27.80	141	P	P	04 48 28.6	-0.3
	comp=Z,14nm,0.8s,mb4.6,baz=306,slow=9.3,SNR=37						
CPUP				LR	LR	05 01 16.3	
	comp=Z,174nm,19.0s,MS3.7,baz=107,slow=40						
CPUP	Villa Florida	27.80	141	eP	P	04 48 29.0	+0.2
BDFB	Brasilia	29.72	113	P	P	04 48 46.6	+0.7
	comp=Z,4.1nm,0.9s,mb4.1,baz=290,slow=8.9,SNR=3.9						
PLCA	Paso Flores	35.76	172	P	P	04 49 38.5	-0.1
	comp=Z,4.7nm,1.1s,mb4.3,baz=354,slow=12,SNR=4.0						
SIUC	Southern Illin	44.34	345	eP	P	04 50 50.7	+0.9
	comp=Z,14nm,0.2s,mb5.3						
WMOK	Wichita Mounta	44.99	334	eP	P	04 50 55.5	+0.5
MNTX	Cornudas Mount	45.94	325	eP	P	04 51 01.9	-0.6
	comp=Z,22nm,1.6s,mb4.8						
KSU1	Kansas State U	47.89	339	eP	P	04 51 16.6	-1.1
ANMO	Albuquerque	48.96	327	eP	P	04 51 26.2	+0.2
ANMO				pmax	pmax		
	comp=Z,15nm,1.1s						
ANMO	Albuquerque	48.96	327	eP	P	04 51 26.2	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,15nm,1.1s,mb4.9						
TUC	**Tucson**	**49.62**	**321**	*e*P	**P**	**04 51 31.6**	**+0.6**
WUAZ	**Wupatki**	**52.16**	**324**	*e*P	**P**	**04 51 50.8**	**+0.6**
	comp=Z,20nm,1.1s,mb5.0						
ISCO	**Idaho Springs**	**52.26**	**332**	*e*P	**P**	**04 51 50.2**	**-0.7**
ISCO				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
ISCO	**Idaho Springs**	**52.26**	**332**	*e*P	**P**	**04 51 50.2**	**-0.7**
	comp=Z,1.7nm,0.3s,mb4.5						
SMCO	**Snowmass**	**52.43**	**330**	*e*P	**P**	**04 51 56.5**	**+4.3**
	comp=Z,14nm,1.6s,mb4.7						
GLA	**Glamis**	**52.69**	**319**	*e*P	**P**	**04 51 54.5**	**+0.5**
SRU	**San Rafael**	**54.22**	**327**	*e*P	**P**	**04 52 05.6**	**+0.3**
RWWY	**Rawlins**	**54.49**	**332**	*e*P	**P**	**04 52 08.5**	**+1.3**
	comp=Z,38nm,1.6s,mb5.1						
MSU	**Marysvale**	**54.70**	**326**	*e*P	**P**	**04 52 09.5**	**+0.7**
SHPR	**Sheep Range**	**55.10**	**322**	*e*P	**P**	**04 52 12.0**	**+0.4**
GSC	**Goldstone**	**55.37**	**320**	*e*P	**P**	**04 52 14.3**	**+0.7**
PDAR	**Pinedale Array**	**56.43**	**331**	P	**P**	**04 52 19.4**	**-1.8**
	comp=Z,3.5nm,1.1s,mb4.3,baz=146,slow=6.4,SNR=11						
HWUT	**Hardware Ranch**	**56.58**	**329**	*e*P	**P**	**04 52 21.5**	**-0.7**
	comp=Z,13nm,1.3s,mb4.8						
HWUT				*e*PcP	PcP	04 53 19.5	+1.0
RRI2	**Red Ridge**	**57.73**	**330**	*e*P	**P**	**04 52 30.0**	**-0.4**
	comp=Z,4.4nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**57.74**	**345**	P	**P**	**04 52 28.2**	**-2.3**
	comp=Z,3.3nm,0.8s,mb4.4,baz=173,slow=9.7,SNR=5.2						
MTUM	**Tungsten Hills**	**57.75**	**321**	*e*P	**P**	**04 52 30.3**	**-0.2**
FLWY	**Flagg Ranch**	**57.97**	**331**	*e*P	**P**	**04 52 32.1**	**0.0**
	comp=Z,19nm,1.3s,mb5.0						
NVAR	**Mina Array Bea**	**58.25**	**322**	P	**P**	**04 52 34.1**	**+0.1**
	comp=Z,2.9nm,1.1s,mb4.2,baz=149,slow=6.9,SNR=8.6						
GCMT	**Greycliff**	**58.79**	**333**	*e*P	**P**	**04 52 37.2**	**-0.6**
RKT	**Rikitea**	**59.15**	**246**	*e*LR	LR	05 10 33.8	
	comp=Z,200nm,30.2s						
MCMT	**McKenzie Canyo**	**59.56**	**331**	*e*P	**P**	**04 52 43.4**	**+0.3**
SCHQ	**Schefferville**	**60.34**	**6**	LR	LR	05 17 54.3	
	comp=Z,91nm,18.6s,MS4.0,baz=240,slow=35						
DBIC	**Dimbokro**	**72.35**	**81**	P	**P**	**04 54 06.7**	**+1.3**
	comp=Z,17nm,1.0s,mb4.9,baz=230,slow=10,SNR=10.0						
DBIC				LR	LR	05 24 12.5	
	comp=Z,151nm,18.1s,MS4.3,baz=240,slow=34						
TBI	**Tubuai**	**72.44**	**247**	*e*LR	LR	05 16 43.4	
	comp=Z,109nm,29.5s						
PPT	**Papeete**	**72.45**	**253**	*e*LR	LR	05 16 44.4	
	comp=Z,193nm,29.2s						
PPT	**Papeete**	**72.45**	**253**	LR	LR	05 17 44.1	
	comp=Z,175nm,19.4s,MS4.3,baz=103,slow=29						
YKA	**Yellowknife Ar**	**73.53**	**343**	LR	LR	05 31 29.3	
	comp=Z,49nm,18.8s,MS3.8,baz=270,slow=40						
MDT	**Midelt**	**77.65**	**55**	LR	LR	05 25 36.6	
	comp=Z,83nm,19.7s,MS4.1,baz=290,slow=33						
VNA1	**Neumayer--Stat**	**77.96**	**162**	*e*P	**P**	**04 54 36.5**	**-1.2**
VNA1				*e*		04 54 38.7	
VNA1				*e*	pP	04 54 43.8	-3.7
VNA1				*e*		04 54 51.5	
VNA1				*e*		04 54 57.3	
TORD	**Torodi Ar. Bea**	**79.62**	**76**	P	**P**	**04 54 47.8**	**+1.0**
	comp=Z,9.3nm,1.1s,mb4.6,baz=275,slow=5.7,SNR=23						
TORD				LR	LR	05 27 29.7	
	comp=Z,152nm,20.6s,MS4.3,baz=235,slow=34						
ESDC	**Sonseca Array**	**79.92**	**48**	P	**P**	**04 54 49.1**	**+0.7**
	comp=Z,0.1nm,0.3s,mb3.2,baz=256,slow=5.4,SNR=4.6						
SNAA	**Sanae**	**79.94**	**162**	*e*P	**P**	**04 54 46.0**	**-2.5**
SNAA				*e*		04 54 48.7	
SNAA				*e*		04 54 53.1	
SNAA				*e*		04 55 01.4	
SNAA				*e*		04 55 09.3	
SNAA	**Sanae**	**79.94**	**162**	⇑*e*P	**P**	**04 54 47.9**	**-0.6**
NVL	**N'lazarevskaya**	**84.53**	**161**	⇓*i*P	**P**	**04 55 12.9**	**+0.3**
NVL				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
QSPA	**South Pole Qui**	**84.89**	**180**	*e*P	**P**	**04 55 14.7**	**+0.3**
	comp=Z,22nm,1.0s,mb5.2						
COLA	**College**	**86.92**	**336**	*i* P	**P**	**04 55 22.7**	**-1.7**
VNDA	**Vanda**	**91.50**	**191**	P	**P**	**04 55 46.3**	**+0.3**
	comp=Z,1.5nm,0.9s,mb4.3,baz=131,slow=5.0,SNR=5.5						
GERES	**GERESS Array B**	**93.92**	**41**	LR	LR	05 33 38.3	
	comp=Z,33nm,21.0s,MS3.8,baz=105,slow=33						
YSS	**Yuzh-Sakhalins**	**126.50**	**327**	*i* PKIKP	PKPdf	05 01 40.3	-2.2
ZAL	**Zalesovo**	**129.05**	**14**	PKP	PKPdf	05 01 48.4	+1.0
	comp=Z,2.1nm,0.3s,baz=214,slow=3.7,SNR=10						
MDJ	**Mudanjiang**	**134.63**	**334**	PKP	PKPdf	05 01 57.3	-0.6
MKAR	**Makanchi Array**	**134.65**	**21**	PKP	PKPdf	05 01 58.8	+0.9
	comp=Z,0.3nm,0.6s,baz=280,slow=3.3,SNR=2.8						
ULN	**Ulaanbaatar**	**137.39**	**357**	*i* PKIKP	PKPdf	05 02 03.7	+0.7
SONM	**Songino Array**	**137.46**	**357**	PKP	PKPdf	05 02 03.1	-0.1
	comp=Z,1.1nm,0.9s,baz=45,slow=0.6,SNR=6.0						
SONM				SKPbc	SKPbc	05 05 37.2	+2.9
	comp=Z,0.3nm,0.6s,baz=46,slow=4.3,SNR=4.0						
ASAR	**Alice Springs**	**138.82**	**225**	PKhKP		05 02 02.5	
	comp=Z,1.9nm,0.8s,baz=87,slow=1.9,SNR=6.4						
WMQ	**Urumqi**	**139.05**	**18**	*e*PKP	PKPdf	05 02 02.7	-3.4
WMQ				PP	PP	05 05 00.2	+1.5
WMQ				PKS		05 05 37.7	
WMQ				SKS	SKSdf	05 09 05.2	-9.1
WMQ				PP	PP		
	comp=Z,93nm,5.7s						
WMQ				LR	LR		
	comp=N,128nm,22.5s,MS4.7						
WMQ				LR	LR		
	comp=E,113nm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,109nm,22.8s,MS4.5						
WRA	**Warramunga Arr**	**140.81**	**229**	PKhKP		05 02 07.5	
	comp=Z,2.9nm,0.9s,baz=118,slow=2.9,SNR=5.8						
HHC	**Hu-ho-hao-te**	**143.80**	**350**	*e*PKP	PKPdf	05 02 11.7	-2.9
HHC				APKP		05 02 29.5	
HHC				PP	PP	05 05 29.3	+1.7
HHC				PKS		05 05 45.9	
HHC				SS	SS	05 24 04.2	-4.3
HHC				PP	PP		
	comp=Z,105nm,5.3s						
GTA	**Gaotai**	**145.77**	**5**	PKP	PKPdf	05 02 18.6	+0.6
GTA				APKP		05 02 29.3	
GTA				XPKP		05 02 33.5	
GTA				PP	PP	05 05 39.8	+0.4
GTA				PKS		05 05 53.1	
GTA				SKS	SKSdf	05 09 22.6	-2.2
GTA				SKKS	SKKSac	05 12 27.0	-2.4
GTA				SS	SS	05 24 26.0	-5.0
GTA				PP	PP		
	comp=Z,81nm,6.8s						
GTA				LR	LR		
	comp=N,273nm,20.5s,MS5.1						
GTA				LR	LR		
	comp=E,166nm,18.6s,MS5.1						
GTA				LR	LR		
	comp=Z,227nm,18.6s,MS5.0						
FITZ	**Fitzroy Crossi**	**148.26**	**223**	*e*P	PKPdf	05 02 25.2	+3.1
	comp=Z,18nm,0.8s						
LZH	**Lanzhou**	**149.26**	**360**	*e*PKP	PKPdf	05 02 25.5	+1.7
LZH				PP	PP	05 06 06.7	+6.8
LZH				SS	SS	05 25 15.3	+4.9
LZH				PP	PP		
	comp=Z,96nm,5.6s						
LZH				LR	LR		
	comp=E,357nm,19.6s						
LZH				LR	LR		
	comp=Z,476nm,20.3s,MS5.3						
NJ2	**Nanjing**	**149.72**	**334**	*e*PKP	PKPdf	05 02 26.5	+2.0
NJ2				APKP		05 02 37.1	
NJ2				PKP2	PKPab	05 02 38.8	+4.3
NJ2				XPKP		05 02 40.7	
NJ2				PP	PP	05 06 10.0	+7.5
NJ2				SKS	SKSdf	05 09 30.0	-0.2
NJ2				SKKS	SKKSac	05 12 54.0	+2.5
NJ2				SS	SS	05 25 19.0	+3.5
NJ2				PP	PP		
	comp=Z,500nm,9.0s						
CD2	**Chengdu**	**154.42**	**360**	*e*PKP	PKPdf	05 02 26.5	-5.0
KMI	**Kunming**	**160.17**	**2**	PKP	PKPdf	05 02 38.7	-0.1
KMI				APKP		05 02 48.1	

*CSEM **12** 05:24:53.8±0.1, 3690N×496W, h2^{km}, ML2.9/6, Error ellipse: s-maj=2.4km s-min=1.5km az=4.0*
*INMG **12** 05:24:54.6±1.4, 3687N×491W, h20^{km}±4^{km}, ML2.4, Error ellipse: s-maj=3.1km s-min=2.1km az=26.0*
*SFS **12** 05:24:54.0, 3688N×491W, h0^{km}, ML2.4*
MDD 12 05:24:54.4±0.2**, 3690N×491W, h17**^{km}±4^{km}**, mbLg2.3**/26**, 4C, Error ellipse: s-maj=3.3km s-min=2.4km az=168.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.35**	**162**	⇑Pg	Pg	05 25 00.6	-1.1
	14nm,0.1s,SNR=18						
EMIJ				Lg		05 25 07.2	
	436nm,0.4s,SNR=5.0						
LIJA	**Lijar**	**0.40**	**271**	⇑P	Pg	05 25 01.2	-1.3
LIJA				S	Sg	05 25 08.2	+0.2
LIJA	**Lijar**	**0.40**	**271**	*i* P	Pg	05 25 01.2	-1.4
MAL	**Malaga**	**0.43**	**113**	*e*P	Pg	05 25 02.8	-0.4
REAL	**Reales**	**0.48**	**210**	⇑P	Pg	05 25 03.6	-0.4
REAL				S	Sg	05 25 11.9	+1.4
REAL	**Reales**	**0.48**	**210**	*i* P	Pg	05 25 03.6	-0.4
REAL				*e*S	Sg	05 25 11.9	+1.4
EJIF	**Jimena Fronter**	**0.64**	**225**	Pg	Pg	05 25 06.6	-0.3
	9.8nm,0.3s,SNR=16						
EJIF				Lg		05 25 20.2	
	58nm,0.5s,SNR=4.0						
ELOJ	**Sierra Loja**	**0.65**	**67**	⇑Pg	Pg	05 25 06.2	-1.0
	15nm,0.5s,SNR=18						
ELOJ				Lg		05 25 18.5	
	64nm,0.6s,SNR=5.0						
ESPR	**Espera**	**0.76**	**268**	Pg	Pg	05 25 08.6	-0.6
	5.0nm,0.1s,SNR=42						
ESPR				Lg		05 25 19.9	
	117nm,0.6s,SNR=4.0						
ESPR	**Espera**	**0.76**	**268**	Pg	Pg	05 25 08.6	-0.7
	5.0nm,0.1s,SNR=42						
ELUQ	**Luque**	**0.83**	**38**	Pg	Pg	05 25 09.7	-1.0
	11nm,0.2s,SNR=7.9						
ELUQ				Lg		05 25 21.0	
	41nm,0.3s,SNR=7.9						
GIBL	**Gibalbin**	**0.85**	**266**	P	Pb	05 25 11.0	+0.3
GIBL				S	Sb	05 25 25.0	+3.1
GIBL	**Gibalbin**	**0.85**	**266**	*e*P	Pb	05 25 11.0	+0.2
GIBL				*e*S	Sb	05 25 25.0	+3.1
ERON	**Agron**	**0.89**	**82**	Pg	Pg	05 25 10.5	-1.2
	3.6nm,0.2s,SNR=4.0						
ERON				Lg		05 25 25.5	
	27nm,0.4s,SNR=4.0						
EGUA	**Guajares**	**1.08**	**93**	Pg	Pg	05 25 14.5	-0.7
	1.1nm,0.2s,SNR=7.9						
EGUA				Lg		05 25 29.1	
	2.5nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.14**	**70**	Pg	Pg	05 25 15.5	-0.8
	9.0nm,0.2s,SNR=15						
ECOG				Lg		05 25 33.4	
	27nm,0.4s,SNR=4.0						
EQUE	**Quentar**	**1.21**	**75**	Pg	Pg	05 25 17.3	-0.5
	5.6nm,0.2s,SNR=25						
EQUE				Lg		05 25 36.4	
	22nm,0.2s,SNR=6.2						
EADA	**Adamuz**	**1.29**	**12**	Pg	Pg	05 25 16.1	-3.2
	5.1nm,0.1s,SNR=54						
EADA				Lg		05 25 33.6	
	51nm,0.3s,SNR=25						
EADA	**Adamuz**	**1.29**	**12**	Pg	Pg	05 25 16.1	-3.2
	5.1nm,0.1s,SNR=54						
EBAN	**Banos Encina**	**1.55**	**35**	Pn	Pn	05 25 20.5	-0.6
	2.3nm,0.1s,SNR=8.3						
EBAN				Pg	Pg	05 25 22.2	-2.0
	9.6nm,0.2s,SNR=9.6						
EBAN				Lg		05 25 41.1	
	185nm,0.5s,SNR=45						
EBER	**Berja**	**1.62**	**89**	Pg	Pg	05 25 25.4	-0.1
	12nm,0.5s,SNR=7.9						
EBER				Lg		05 25 51.4	
	33nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.62**	**89**	Pg	Pg	05 25 25.4	-0.1
	12nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.65**	**302**	Pn	Pn	05 25 20.2	-2.4
	0.4nm,0.1s,SNR=25						
EMIN				Pg	Pg	05 25 24.1	-2.0
	3.9nm,0.1s,SNR=7.7						
EMIN				Sn	Sn	05 25 40.3	-3.2
	3.0nm,0.3s,SNR=7.9						
EMIN				Lg		05 25 43.9	
	21nm,0.3s,SNR=13						
EMIN	**Mina Concepcio**	**1.65**	**302**	Pn	Pn	05 25 20.2	-2.4
	0.4nm,0.1s,SNR=25						
EMIN	**Mina Concepcio**	**1.65**	**302**	Pg	Pg	05 25 24.1	-2.1
	3.9nm,0.1s,SNR=7.7						
EQES	**Quesada**	**1.72**	**58**	Pn	Pn	05 25 23.8	+0.3
	0.7nm,0.1s,SNR=18						
EQES				Lg		05 25 49.8	
	92nm,0.5s,SNR=5.0						
EQES	**Quesada**	**1.72**	**58**	Pn	Pn	05 25 23.8	+0.3
	0.7nm,0.1s,SNR=18						
EGRO	**El Granado**	**2.15**	**288**	Pn	Pn	05 25 27.1	-2.4
	0.9nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	05 25 53.0	-2.8
	21nm,0.8s,SNR=5.5						
EGRO				Lg		05 26 00.5	
	23nm,0.4s,SNR=6.9						
EGRO	**El Granado**	**2.15**	**288**	Pn	Pn	05 25 27.1	-2.4
	0.9nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	05 25 53.0	-2.8
	21nm,0.8s,SNR=5.5						
EBAD	**Badajoz**	**2.49**	**319**	Pn	Pn	05 25 32.0	-2.2
	0.8nm,0.1s,SNR=13						
EBAD				Pg	Pg	05 25 38.5	-3.7
	1.1nm,0.1s,SNR=5.6						
EBAD				Sn	Sn	05 26 01.7	-2.5
	5.4nm,0.3s,SNR=4.5						
EBAD				Lg		05 26 11.9	
	12nm,0.2s,SNR=7.5						
EBAD	**Badajoz**	**2.49**	**319**	Pn	Pn	05 25 32.0	-2.2
	0.8nm,0.1s,SNR=13						
EBAD	**Badajoz**	**2.49**	**319**	Pg	Pg	05 25 38.5	-3.7
	1.1nm,0.1s,SNR=5.6						
EBAD				Sn	Sn	05 26 01.7	-2.5
	5.4nm,0.3s,SNR=4.5						
EVIA	**Vianos**	**2.58**	**47**	Pn	Pn	05 25 34.9	-0.5
	0.6nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	05 25 40.8	-3.0
	3.9nm,0.3s,SNR=5.8						
EVIA				Lg		05 26 19.9	
	23nm,0.4s,SNR=4.0						
PBEJ	**Beja**	**2.61**	**296**	*e*Pn	Pn	05 25 35.1	-0.7
PBEJ	**Beja**	**2.61**	**296**	*e*Pg	Pg	05 25 41.4	-3.0
PBEJ				*e*Sg	Sg	05 26 14.9	-3.4
PBEJ							
	4.3nm,0.4s						
PBEJ	**Beja**	**2.61**	**296**	Pn	Pn	05 25 35.1	-0.7
PBEJ				Pg	Pg	05 25 41.4	-3.0
PBEJ				Lg		05 26 14.9	
	2.2nm,0.4s						
PBEJ	**Beja**	**2.61**	**296**	*e*Pg	Pg	05 25 41.4	-3.0
PBEJ				*e*Sg	Sg	05 26 14.9	-3.4
	4.3nm,0.4s						
ESDC	**Sonseca Array**	**2.87**	**15**	Pn	Pn	05 25 39.1	-0.2
	0.7nm,0.1s,baz=195,slow=12,SNR=4.3						
ESDC				Pg	Pg	05 25 46.9	-2.5
	1.3nm,0.2s,baz=194,slow=16,SNR=5.3						
ESDC				Lg		05 26 20.9	
	13nm,0.6s,baz=197,slow=28,SNR=16						
PESTR	**Estremoz**	**2.89**	**314**	*e*Pn	Pn	05 25 39.0	-0.7
PESTR				*e*Sn	Sn	05 26 11.6	-2.5
PESTR				*e*Sg	Sg	05 26 23.8	-3.5
PESTR							
	11nm,0.4s						
PESTR	**Estremoz**	**2.89**	**314**	*e*Pn	Pn	05 25 39.0	-0.7
PESTR				*e*Sn	Sn	05 26 11.6	-2.5
PESTR				*e*Sg	Sg	05 26 23.8	-3.5
	11nm,0.4s						
PTEO	**Sao Teotonio**	**3.11**	**283**	*e*Pn	Pn	05 25 41.5	-1.2
PTEO				*e*Sn	Sn	05 26 16.9	-2.6
PTEO				*e*Sg	Sg	05 26 30.8	-3.6
PTEO							
	13nm,0.5s						
PTEO	**Sao Teotonio**	**3.11**	**283**	*e*Pn	Pn	05 25 41.5	-1.2
PTEO				*e*Sn	Sn	05 26 16.9	-2.6
PTEO				*e*Sg	Sg	05 26 30.8	-3.6
	13nm,0.5s						
ETOB	**Tobarra**	**3.18**	**56**	Pn	Pn	05 25 41.3	-2.3
	0.3nm,0.1s,SNR=4.0						
ETOB				Pg	Pg	05 25 53.2	-2.2
	5.3nm,0.4s,SNR=7.9						
ETOB				Sn	Sn	05 26 21.4	+0.2
	1.1nm,0.2s,SNR=4.0						
ETOB				Lg		05 26 34.5	
	16nm,0.4s,SNR=6.8						
PCBR	**Castelo Branco**	**3.56**	**326**	*e*Pn	Pn	05 25 48.1	-0.8
PCBR				*e*Sn	Sn	05 26 28.1	-2.5
PCBR				*e*Sg	Sg	05 26 44.6	-4.3
PCBR							
	4.7nm,0.5s						
PCBR	**Castelo Branco**	**3.56**	**326**	*e*Pn	Pn	05 25 48.1	-0.8
PCBR				*e*Sn	Sn	05 26 28.1	-2.5
PCBR				*e*Sg	Sg	05 26 44.6	-4.3
	4.7nm,0.5s						
GUD	**Guadarrama**	**3.79**	**9**	Pn	Pn	05 25 51.4	-0.6
	0.6nm,0.2s,SNR=5.1						
GUD				Lg		05 26 47.8	
	3.5nm,0.4s,SNR=4.0						
PTOM	**Tomar**	**3.87**	**316**	*e*Sn	Sn	05 26 35.9	-2.3
PTOM				*e*Sg	Sg	05 26 53.4	-5.2
MTE	**Manteigas**	**4.06**	**330**	*e*Sn	Sn	05 26 40.5	-2.4
MTE				*e*Sg	Sg	05 26 59.9	-4.8
MTE							
	12nm,0.6s						
PVIS	**Viseu**	**4.47**	**329**	*e*Sg	Sg	05 27 12.3	-5.5
EMOS	**Mosqueruela**	**4.90**	**44**	Lg		05 27 27.8	
	2.5nm,0.5s,SNR=4.0						
PBRG	**Braganca**	**5.10**	**344**	*e*Sg	Sg	05 27 32.0	-6.1
ECAL	**Calabor**	**5.23**	**345**	Sn	Sn	05 27 08.9	-2.8
	0.3nm,0.1s,SNR=4.0						
ECAL				Lg		05 27 35.4	
	12nm,0.7s,SNR=4.0						
PCAB	**Cabril**	**5.38**	**334**	*e*Sg	Sg	05 27 40.3	-6.7
PCAB							
	4.9nm,0.5s						
PCAB	**Cabril**	**5.38**	**334**	Lg		05 27 40.3	
	2.5nm,0.5s						

MAN 12 05:25:09.0, 957N×12544E, h0^{km}, mb2.5, ML4.0, MS5.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.22**	**12**	⇓*e*P	Pg	05 25 13.8	+0.6
SCPH				*e*S	Sg	05 25 25.1	+9.0
MSLP	**Maasin**	**0.81**	**315**	*e*P	Pg	05 25 24.0	-0.4
MSLP				*e*S	Sg	05 25 44.3	+9.4
BUKP	**Musuan**	**1.72**	**193**	*e*P	Pn	05 25 39.4	-0.8
BUKP				*e*S	Sn	05 26 11.5	+8.7
PAGZ	**Pagadian**	**2.66**	**230**	*e*P	Pn	05 25 55.4	+2.3

IGQ 12 05:31:48.3, 088S×8095W, h25^{km}±13^{km}, Mb4.2, Ms4.0, 6C-6D, Error ellipse: s-maj=12.3km s-min=4.2km az=12.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.42**	**56**	P	Pn	05 32 15.0	+2.5
MAG1				S	Sn	05 32 33.9	+3.5
IGUA	**Igualata**	**2.39**	**105**	P	Pn	05 32 28.5	+2.7
JUA2	**San Juan 2**	**2.44**	**74**	P	Pn	05 32 28.2	+1.8
JUA2				S	Sn	05 32 58.1	+2.6
TERV	**Terraza Guagua**	**2.45**	**73**	⇑P	Pn	05 32 29.2	+2.6
TERV				S	Sn	05 32 57.7	+2.0
PINO	**Pino**	**2.45**	**73**	⇓P	Pn	05 32 28.6	+2.0
PINO				S	Sn	05 32 56.8	+1.0
CAMI	**Rancho Maria**	**2.45**	**85**	⇓P	Pn	05 32 29.5	+2.9
CAMI				S	Sn	05 32 57.9	+2.1
GGP	**Refugio Guagua**	**2.46**	**73**	⇓P	Pn	05 32 28.8	+2.0
NAS1	**Nasa**	**2.48**	**84**	⇑P	Pn	05 32 30.3	+3.2
NAS1				S	Sn	05 32 59.8	+3.2
YANA	**Yana**	**2.50**	**72**	⇓P	Pn	05 32 29.6	+2.3
YANA				S	Sn	05 32 59.6	+2.7
VC1	**Cotopaxi 1**	**2.56**	**85**	⇑P	Pn	05 32 31.3	+3.2
RETU	**Refugio**	**2.57**	**103**	P	Pn	05 32 31.6	+3.3
PISA	**Pisayambo**	**2.57**	**94**	P	Pn	05 32 31.6	+3.3
PISA				S	Sn	05 33 00.3	+1.5
ARRY	**Arrayan**	**2.57**	**104**	⇑P	Pn	05 32 30.4	+2.1
RUN5	**Runtun**	**2.58**	**102**	⇓P	Pn	05 32 31.9	+3.5
TAMB	**Tambo**	**2.59**	**86**	P	Pn	05 32 32.7	+4.2
TAMB				S	Sn	05 33 03.1	+4.0
PATA	**Patacocha**	**2.59**	**104**	P	Pn	05 32 31.5	+3.0
PATA				S	Sn	05 33 01.4	+2.1
ULBA	**Ulba**	**2.60**	**103**	P	Pn	05 32 31.8	+3.1
ULBA				S	Sn	05 33 02.6	+3.1
ANTI	**Antisana**	**2.82**	**81**	⇓P	Pn	05 32 35.0	+3.3
ANTI				S	Sn	05 33 09.2	+4.3
COTA	**Cotacachi**	**2.88**	**65**	P	Pn	05 32 35.8	+3.3
COTA				S	Sn	05 33 10.1	+3.8
CAYR	**Refugio Cayamb**	**3.08**	**73**	⇑P	Pn	05 32 39.8	+4.5
CAYR				S	Sn	05 33 14.4	+3.2
CAYA	**Cayambe**	**3.11**	**72**	⇑P	Pn	05 32 40.9	+5.2
CAYA				S	Sn	05 33 17.6	+5.6

*IDC **12** 05:35:29.9±0.7, 5161N×15943E, h0^{km}, mb4.6/25, mb1 4.7/26, mb1mx4.7/30, mbtmp4.6/26, ML4.2/1, MS4.0/16, Ms1 4.0/16, ms1mx3.8/41, Error ellipse: s-maj=18.2km s-min=14.5km az=132.0*
*KRSC **12** 05:35:32, 5147N×15992E, h33^{km}, ML5.0*
*MOS **12** 05:35:37.8±1.3, 5174N×15856E, h43^{km}, mb5.0/47, MS4.1/18, Error ellipse: s-maj=9.7km s-min=4.7km az=101.9*
*BJI **12** 05:35:37.8, 5194N×15867E, h43^{km}, mB5.0, mb4.9, Ms4.6, Msz4.4*
*ISCJB **12** 05:35:39.0±0.6, 5186N±004×15858E±005, h49^{km}±4^{km}, mb4.8/114, MS4.2/39, Error ellipse: s-maj=7.6km s-min=4.0km az=118.3*
*NEIC **12** 05:35:39.3±0.4, 5184N×15847E, h35^{km}, mb4.7/47, MS4.1/2, Error ellipse: s-maj=10.6km s-min=5.8km az=176.0*
*SZGRF **12** 05:35:45.2, 5293N×15885E, h33^{km}, mb4.6, Near east coast of Kamchatka Peninsula, Russia*
ISC 12 05:35:41.1±0.5**, 5194N**±004×**15850E**±005**, h51**^{km}±3^{km}**, h53**^{km}±2.2^{km}**: pP-P, n318, σ1ˢ13**/334**, mb4.8**/114**, MS4.2**/39**, 28C-17D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.49**	**1**	*i* P	**Pn**	**05 35 54.5**	**+2.1**
RUS				*i* S	**Sn**	**05 36 11.4**	**+11**
GRL	**Gorelyy**	**0.66**	**337**	*e*P	**Pn**	**05 35 59.3**	**+4.8**
GRL				*i* S	**Sn**	**05 36 19.3**	**+15**
PET	**Petropavlovsk**	**1.09**	**5**	*i* PN	**Pn**	**05 36 01.0**	**+0.9**
PET				*e*S	**Sn**	**05 36 26.3**	**+12**
PET				pmax	pmax		
	comp=Z,132nm,0.5s						
PET				smax			
	comp=E,7μm,0.7s						
PET				smax			
	comp=N,9μm,0.5s						
PET				smax			
	comp=E,8μm,0.5s						
PET				smax			
	comp=E,1μm,1.8s						
PET				MLR	MLR		
	comp=Z,750nm,11.0s						
PET				MLR	MLR		
	comp=N,1.0nm,14.0s						
PET				MLR	MLR		
	comp=E,1.0nm,14.0s						
PET				MLR	MLR		
	comp=Z,1μm,14.0s						
PET	**Petropavlovsk**	**1.09**	**5**	*e*Pn	**Pn**	**05 36 01.1**	**+1.0**
PET	**Petropavlovsk**	**1.09**	**5**	*e*P	**Pn**	**05 36 01.3**	**+1.2**
PET				*i* S	**Sn**	**05 36 22.7**	**+8.6**
MIPR	**Malaya Ipel'ka**	**1.12**	**288**	*e*P	**Pn**	**05 36 06.7**	**+6.2**
MIPR				*i* S	**Sn**	**05 36 32.4**	**+17**
INSR	**Institute**	**1.13**	**3**	*e*P	**Pn**	**05 36 02.6**	**+2.0**
INSR				*i* S	**Sn**	**05 36 24.9**	**+10**
AVH	**Avacha**	**1.33**	**6**	*e*P	**Pn**	**05 36 03.8**	**+0.4**
NLC	**Nalytchevo**	**1.34**	**22**	*e*P	**Pn**	**05 36 01.6**	**-1.8**
SPN	**Mys Shipunski**	**1.49**	**38**	*e*P	**Pn**	**05 35 59.7**	**-5.8**
SPN				*i* S	**Sn**	**05 36 19.8**	**-3.9**
GNL	**Ganaly**	**1.79**	**349**	*e*P	**Pn**	**05 36 13.1**	**+3.5**
SKR	**Severo-Kuril's**	**1.95**	**231**	*e*PN	**Pn**	**05 36 07.0**	**-4.8**
SKR				*i* S	**Sn**	**05 36 34.5**	**-0.7**
SKR				pmax	pmax		
	comp=Z,240nm,0.6s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR				smax			
	comp=N,2μm,0.5s						

SKR smax
comp=E,3µm,0.5s
SKR smax
comp=N,6µm,2.0s
SKR smax
comp=E,8µm,2.0s
ALID Alaid 2.13 241 *e*P **Pn** **05 36 15.7 +1.4**
ALID *i* S **Sn** **05 36 47.3 +7.7**
KII Karymskiy 2.17 15 *e*P **Pn** **05 36 14.4 -0.5**
MKZ Mys Kozlova 3.26 35 *e*P **Pn** **05 36 22.4 -7.3**
MKZ *i* S **Sn** **05 36 58.8 -8.5**
ZLN Zelenaya 4.30 18 *e*P **Pn** **05 36 43.7 -0.4**
CIRR Tsirk 4.39 17 *e*P **Pn** **05 36 44.6 -0.6**
KRSR Krestovskiy 4.45 15 *e*P **Pn** **05 36 46.7 +0.6**
KLY Klyuchi 4.56 15 *e*P **Pn** **05 36 47.2 -0.4**
BDR Baidarnaya 4.90 18 *e*P **Pn** **05 36 50.9 -1.3**
SMKR Semkarok 4.96 19 *e*P **Pn** **05 36 51.1 -2.0**
KBTR Krutoberegovo 4.97 29 *e*P **Pn** **05 36 47.6 -5.6**
KBTR *i* S **Sn** **05 37 44.2 -5.2**
SRKR Sorokina 4.97 17 *e*P **Pn** **05 36 51.6 -1.6**
KUR Kuril'sk 9.72 231 PN **Pn** **05 37 50.5 -7.8**
KUR pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 11.39 250 *e*PN **Pn** **05 38 25.0 +3.9**
YSS MLR MLR
comp=Z,1µm,18.0s
ASAJ Asahikawa 13.19 240 Pn **Pn** **05 38 44.7 -1.0**
comp=Z,1.6nm,0.3s,baz=60,slow=15,SNR=14
ASAJ LR LR 05 45 04.2
comp=Z,420nm,18.7s,baz=143,slow=42
ASAJ Asahikawa 13.19 240 PN **Pn** **05 38 44.7 -1.0**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,420nm,18.7s
HABR Khabarovsk 15.39 266 *e*P **Pn** **05 39 23.3 +8.4**
HABR pmax pmax
comp=Z,79nm,1.6s
HABR MLR MLR
comp=Z,900nm,15.0s
BILL Bilibino 16.59 10 *e*P **Pn** **05 39 29.7 -0.4**
BILL pmax pmax
comp=Z,55nm,2.5s
BILL MLR MLR
comp=Z,500nm,17.0s
KLR Kul'dur 17.16 271 *e*P **Pn** **05 39 38.2 +0.9**
KLR MLR MLR
comp=N,600nm,14.0s
KLR MLR MLR
comp=E,1µm,14.0s
KLR MLR MLR
comp=Z,2µm,14.0s
YAK Yakutsk 18.50 314 *e*P **Pn** **05 39 54.5 +0.8**
YAK pmax pmax
comp=Z,191nm,0.8s
YAK pmax pmax
comp=N,32nm,1.3s
YAK pmax pmax
comp=E,73nm,1.3s
YAK MLR MLR
comp=E,676nm,16.0s
YAK MLR MLR
comp=Z,839nm,16.0s
YAK MLR MLR
comp=N,358nm,13.0s
VLA Vladivostok 19.92 254 *e*P **Pn** **05 40 07.3 -3.3**
VLA pmax pmax
comp=Z,22nm,0.7s
VLA MLR MLR
comp=Z,600nm,17.5s
CLNS Chul'man 20.04 297 *e*P **P** **05 40 11.6 +1.8**
CLNS *e* 05 40 23.8
CLNS *e*PPP 05 40 35.6
CLNS *e* 05 44 18.6
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=E,300nm,13.0s,MS3.9
CLNS MLR MLR
comp=Z,600nm,13.0s,MS4.1
CLNS MLR MLR
comp=N,100nm,12.0s,MS3.9
MDJ Mudanjiang 20.49 261 P **P** **05 40 13.6 -1.1**
MDJ S **S** **05 43 59.1 -2.1**
MDJ XS sS 05 44 18.4 -1.7
MDJ PCP PcP 05 44 25.0 +0.2
MDJ SCP ScP 05 47 57.0 0.0
MDJ PCS PcS 05 48 02.8 +0.3
MDJ AMB AMB
comp=Z,27nm,0.9s
MDJ AMB AMB
comp=Z,49nm,3.0s
MDJ LR LR
comp=N,312nm,15.7s,MS4.1
MDJ LR LR
comp=E,595nm,17.5s,MS4.1
MDJ LR LR
comp=Z,684nm,18.6s,MS4.0
MDJ Mudanjiang 20.49 261⇓ *e*P **P** **05 40 13.9 -0.8**
comp=Z,23nm,0.8s
MAJO Matsushiro 21.06 231⇑ *e*P **P** **05 40 19.3 -1.6**
MAJO pmax pmax
comp=Z,39nm,0.8s,mb4.8
MAJO Matsushiro 21.06 231⇑ *e*P **P** **05 40 19.2 -1.7**
comp=Z,39nm,0.8s,mb4.8
MAT Matsushiro 21.06 231 P **P** **05 40 19.2 -1.7**
MAT S **S** **05 44 22.0 +9.5**
MJAR Matsushiro Arr 21.06 231 P **P** **05 40 19.5 -1.4**
comp=Z,23nm,0.8s,mb4.5,baz=31,slow=9.6,SNR=49
CN2 Changchun 23.45 263 *e*P **P** **05 40 45.0 -1.0**
CN2 *e*S **S** **05 44 50.1 -5.4**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,19.0s,MS4.2
CN2 LR LR
comp=E,300nm,19.0s,MS4.2
CN2 LR LR
comp=Z,600nm,19.0s,MS4.1
TIXI Tiksi 23.74 337 *e*P **P** **05 40 47.9 -0.7**
TIXI pmax pmax
comp=Z,35nm,0.7s,mb4.9
TIXI MLR MLR
comp=Z,374nm,13.0s,MS4.0
TIXI Tiksi 23.74 337 *e*P **P** **05 40 48.7 +0.1**
HIA Hailar 24.55 279*c* *i*P **P** **05 40 56.1 +0.1**
HIA Hailar 24.55 279 *e*P **P** **05 40 55.8 -0.2**
SNY Shenyang 25.69 261⇑P **P** **05 41 05.8 -0.6**
SNY AP pP 05 41 20.3 +1.0
SNY XP sP 05 41 27.6 +2.2
SNY PP 05 41 51.4
SNY S **S** **05 45 38.1 +6.7**
SNY XS sS 05 45 54.1 +0.7
SNY AMB AMB
comp=Z,13nm,1.1s,mb4.4
SNY AMB AMB
comp=Z,106nm,4.3s
SNY LR LR
comp=N,646nm,21.2s,MS4.2
SNY LR LR
comp=E,366nm,22.3s,MS4.2
SNY LR LR
comp=Z,542nm,16.0s
BOD Bodaibo 25.87 301 *e*P **P** **05 41 08.2 +0.2**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.4
TTA Tatalina 26.25 48 *e*P **P** **05 41 09.1 -2.3**
IMA2 Indian Mountai 27.55 41 *e*P **P** **05 41 17.5 -5.6**
COLA College 29.91 44 *e*P **P** **05 41 39.2 -4.9**
BJI Beijing 31.28 265 *e*P **P** **05 42 01.9 +5.7**
BJI S **S** **05 47 06.2 +6.9**
BJI AMB AMB
comp=Z,13nm,0.6s,mb4.9
BJI LR LR
comp=N,606nm,18.3s,MS4.4
BJI LR LR
comp=E,406nm,20.1s,MS4.4
BJI LR LR
comp=Z,343nm,20.1s,MS4.0

EGAK Eagle 32.77 43 *e*P **P** **05 42 01.8 -7.5**
ULN Ulaanbaatar 32.81 284 *e*P **P** **05 42 10.1 +0.5**
SONM Songino Array 33.22 284 P **P** **05 42 14.9 +1.7**
comp=Z,2.2nm,0.5s,mb4.3,baz=58,slow=6.4,SNR=19
SONM PcP PcP 05 44 52.5 -2.2
comp=Z,1.4nm,0.8s,baz=55,slow=2.7,SNR=5.6
SONM LR LR 05 57 35.6
comp=Z,552nm,19.5s,MS4.3,baz=193,slow=39
SONM Songino Array 33.22 284 P **P** **05 42 14.9 +1.7**
SONM 05 44 52.5
TLY Talaya 33.23 292 *e*P **P** **05 42 15.3 +2.0**
DAWY Dawson 33.62 45 *e*P **P** **05 42 11.2 -5.4**
HHC Hu-ho-hao-te 33.66 270 *e*P **P** **05 42 18.6 +1.6**
HHC AP pP 05 42 33.6 +3.5
HHC PP PP 05 43 32.8 -1.0
HHC PCP PcP 05 44 57.9 +1.9
HHC S **S** **05 47 35.7 -0.5**
HHC XS sS 05 48 01.2 +2.7
HHC SCP ScP 05 48 36.1 -0.2
HHC PCS PcS 05 48 42.7 +0.8
HHC SS SS 05 49 43.5 -20
HHC SCS ScS 05 52 36.0 -1.7
HHC AMB AMB
comp=Z,7.0nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,72nm,5.5s
HHC LR LR
comp=N,406nm,13.3s,MS4.5
HHC LR LR
comp=E,477nm,15.3s,MS4.5
HHC LR LR
comp=Z,670nm,14.2s,MS4.5
JOW Kunigami 33.84 234 P **P** **05 42 16.7 -1.9**
comp=Z,13nm,0.8s,mb4.9,baz=309,slow=6.5,SNR=2.9
ZAK Zakamensk 33.96 290⇑ *i*P **P** **05 42 20.9 +1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SSE Sheshan 34.31 247 P **P** **05 42 23.4 +0.7**
SSE S **S** **05 47 47.2 +0.8**
SSE SCS ScS 05 52 40.5 -0.7
SSE AMB AMB
comp=Z,39nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,224nm,3.9s
SSE LR LR
comp=N,131nm,21.8s,MS3.7
SSE LR LR
comp=E,86nm,21.8s,MS3.7
SSE LR LR
comp=Z,107nm,14.9s
MOY Mondy 34.76 293 *e*P **P** **05 42 28.5 +2.0**
MOY pmax pmax
comp=Z,18nm,1.1s,mb4.9
NJ2 Nanjing 34.96 251 *e*P **P** **05 42 30.6 +2.3**
NJ2 AP pP 05 42 45.6 +4.1
NJ2 PP PP 05 43 50.5 +2.3
NJ2 S **S** **05 47 57.0 +0.6**
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,670nm,5.0s
NJ2 LR LR
comp=N,1µm,24.8s,MS4.7
NJ2 LR LR
comp=E,1µm,23.2s,MS4.7
NJ2 LR LR
comp=Z,1µm,22.5s,MS4.6
INK Inuvik 35.38 37 P **P** **05 42 25.9 -5.9**
comp=Z,4.6nm,0.8s,mb4.5,baz=303,slow=9.5,SNR=6.6
XAN Xi'an 39.56 263 P **P** **05 43 08.1 +0.9**
XAN AMB AMB
comp=Z,11nm,1.3s,mb4.4
LZH Lanzhou 41.35 270 *e*P **P** **05 43 23.4 +1.4**
LZH AP pP 05 43 36.0 +0.5
LZH XP sP 05 43 43.0 +1.6
LZH PP PP 05 45 01.4 +3.2
LZH *e*S **S** **05 49 28.0 -5.0**
LZH XS sS 05 49 54.2 -1.4
LZH AMB AMB
comp=Z,18nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,103nm,4.6s
LZH LR LR
comp=E,357nm,11.6s
LZH LR LR
comp=Z,476nm,15.0s,MS4.5
GTA Gaotai 41.77 276 *e*P **P** **05 43 26.1 +0.7**
GTA AP pP 05 43 41.4 +2.5
GTA PP PP 05 45 06.2 +3.5
GTA PCP PcP 05 45 20.8 -0.1
GTA SCP ScP 05 49 05.3 -1.5
GTA PCS PcS 05 49 13.1 +0.7
GTA S **S** **05 49 38.8 -0.3**
GTA XS sS 05 50 05.8 +4.1
GTA SS SS 05 52 41.7 -4.6
GTA SCS ScS 05 53 21.3 -2.5
GTA AMB AMB
comp=Z,6.0nm,1.2s,mb4.1
GTA AMB AMB
comp=Z,173nm,6.1s
GTA LR LR
comp=N,543nm,16.0s,MS4.7
GTA LR LR
comp=E,385nm,13.3s,MS4.7
GTA LR LR
comp=Z,403nm,12.5s,MS4.5
ZAL Zalesovo 42.60 303 P **P** **05 43 32.0 -0.2**
comp=Z,3.1nm,0.7s,mb4.1,baz=44,slow=7.6,SNR=15
ZAL PcP PcP 05 45 21.3 -2.4
comp=Z,2.1nm,0.3s,baz=45,slow=6.0,SNR=4.8
ZAL LR LR 06 03 49.0
comp=Z,536nm,19.0s,MS4.5,baz=70,slow=39
ZAL Zalesovo 42.60 303 P **P** **05 43 32.0 -0.2**
ZAL 05 45 21.3
ZAL Zalesovo 42.60 303 P **P** **05 43 32.0 -0.1**
ZAL PcP PcP 05 45 21.3 -2.4
ZAL LR LR 06 03 49.0
NVS Novosibirsk 42.97 305 *i* P **P** **05 43 33.5 -1.7**
NVS pmax pmax
comp=E,21nm,0.9s
NVS pmax pmax
comp=Z,32nm,0.9s,mb5.0
NVS pmax pmax
comp=N,6.0nm,0.7s
GYA Guiyang 46.29 257⇑ *i*P **P** **05 44 01.7 0.0**
GYA AP pP 05 44 17.2 +1.9
GYA XP sP 05 44 24.3 +3.1
GYA PCP PcP 05 45 37.9 +1.6
GYA PP PP 05 45 50.4 -0.6
GYA SCP ScP 05 49 24.4 -0.9
GYA S **S** **05 50 41.5 -3.5**
GYA XS sS 05 51 08.1 +0.3
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,370nm,17.6s,MS4.6
GYA LR LR
comp=E,480nm,17.0s,MS4.6
GYA LR LR
comp=Z,430nm,17.2s,MS4.5
WMQ Urumqi 46.43 289⇑ *i*P **P** **05 44 03.8 +1.1**
WMQ AP pP 05 44 19.0 +2.6
WMQ PP PP 05 45 53.0 +0.6
WMQ SCP ScP 05 49 27.0 +1.1
WMQ S **S** **05 50 45.5 -1.4**
WMQ XS sS 05 51 13.0 +3.2
WMQ SCS ScS 05 53 50.0 -3.3
WMQ AMB AMB
comp=Z,26nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,153nm,4.4s
WMQ LR LR
comp=N,626nm,14.2s,MS4.9
WMQ LR LR
comp=E,924nm,15.8s,MS4.9
WMQ LR LR
comp=Z,738nm,16.6s,MS4.7
MK31 Makanchi Array 47.77 296 P **P** **05 44 12.9 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MKAR Makanchi Array 47.77 296 P **P** **05 44 13.2 -0.1**
comp=Z,2.7nm,0.7s,mb4.4,baz=56,slow=6.9,SNR=25
KBS Kingsbay 47.88 352⇑ *e*P **P** **05 44 12.9 -1.1**
KBS Kingsbay 47.88 352 *e*P **P** **05 44 13.6 -0.5**
KBS *e*pP pP 05 44 24.8 -2.9

SPB4 Spitsbergen Ar 48.11 350 *e*P **P** **05 44 15.1 -0.7**
KMI Kunming 49.66 259 P **P** **05 44 28.0 +0.3**
KMI AP pP 05 44 38.0 -3.4
KMI XP sP 05 44 42.9 -4.4
KMI PP PP 05 46 22.3 -0.1
KMI S **S** **05 51 33.1 +0.6**
KMI XS sS 05 51 52.4 -3.2
KMI SS SS 05 54 57.7 -7.5
KMI AMB AMB
comp=Z,20nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,104nm,4.2s
KMI LR LR
comp=N,274nm,19.0s,MS4.4
KMI LR LR
comp=E,212nm,18.1s,MS4.4
KMI LR LR
comp=Z,207nm,14.0s,MS4.3
CHKZ Chkalovo 49.84 309 *e*P **P** **05 44 28.3 -0.8**
VOSK Vostochnaya 50.23 308 P **P** **05 44 31.0 -1.0**
VOSK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EDM Edmonton 50.24 51 *e*P **P** **05 44 33.0 +0.9**
BVA0 Borovoye Array 50.34 308 *i* P **P** **05 44 32.0 -0.8**
BVAR Borovoye Array 50.34 308 P **P** **05 44 32.0 -0.8**
comp=Z,18nm,0.6s,mb5.3,baz=56,slow=7.8,SNR=93
BRVK Borovoye 50.37 308⇑P **P** **05 44 32.3 -0.8**
SNR=9.7
BRVK Borovoye 50.37 308 *e*P **P** **05 44 32.3 -0.7**
ZRNK Zerenda 51.05 309 P **P** **05 44 37.5 -0.7**
ZRNK pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZRNK Zerenda 51.05 309 *e*P **P** **05 44 37.3 -0.9**
comp=Z,18nm,0.8s,mb5.0
SVE Sverdlovsk 52.45 317⇓ *e*P **P** **05 44 48.8 +0.2**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.1
SVE MLR MLR
comp=N,400nm,14.0s,MS4.8
SVE MLR MLR
comp=E,400nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,14.0s,MS4.7
WALA Waterton Lakes 52.51 56 *e*P **P** **05 44 48.2 -0.9**
comp=Z,7.8nm,1.1s,mb4.5
BSMT Bassoo Peak 52.82 58 *e*P **P** **05 44 51.9 +0.6**
BMO Blue Mountains 53.38 62 *e*P **P** **05 44 55.0 -0.5**
BMO *e*pP pP 05 45 08.5 -0.8
ARU Arti 53.58 317 *e*P **P** **05 44 55.9 -1.0**
ARU *e* 05 45 58.0
ARU *e*S **S** **05 52 27.4 +0.9**
ARU *e*SS SS 05 56 05.0 -2.4
ARU MLR MLR
comp=N,300nm,16.0s,MS4.5
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.4
ARU MLR MLR
comp=E,200nm,17.0s,MS4.5
ARU Arti 53.58 317 *e*P **P** **05 44 56.0 -1.0**
comp=E,14nm,0.5s,mb5.1
KEV Kevo 53.59 341 *e*p **P** **05 44 54.3 -2.7**
comp=E,5.3nm,0.6s,mb4.7
KEV Kevo 53.59 341 *e*P **P** **05 44 54.3 -2.7**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MOD Modoc 53.61 66 *e*P **P** **05 44 56.8 -0.4**
MSO Missoula 53.91 58 *e*P **P** **05 44 59.3 -0.1**
ARCES ARCESS Array B 54.08 341 P **P** **05 44 59.6 -0.9**
comp=Z,19nm,0.8s,mb5.0,baz=32,slow=7.1,SNR=28
ARCES LR LR 06 14 19.7
comp=Z,124nm,18.1s,MS4.0,baz=234,slow=43
ARE0 ARCESS Array S 54.08 341 *e*P **P** **05 44 59.8 -0.7**
OHCM Honcut 54.62 70 *e*P **P** **05 45 03.6 -0.9**
OHCM *e*pP pP 05 45 17.5 -0.9
AAK Ala-Archa 54.71 296 *e*P **P** **05 45 03.6 -1.6**
SUMG Summit 55.22 6 *e*P **P** **05 45 08.9 +0.1**
comp=Z,12nm,0.9s,mb4.9
PAHR Pah Rah Range 55.58 68 *e*P **P** **05 45 11.8 +0.3**
comp=Z,7.9nm,1.0s,mb4.7
PAHR *e*pP pP 05 45 25.6 +0.2
NANT Nan 55.66 256 P **P** **05 45 13.0 +1.0**
comp=Z,102nm,0.8s,mb5.9
CMB Columbia Colle 56.13 70 *e*P **P** **05 45 15.5 +0.2**
comp=Z,7.6nm,1.1s,mb4.6
BMN Battle Mountai 56.33 66 *e*P **P** **05 45 17.0 +0.2**
BMN pmax pmax
comp=Z,15nm,1.2s,mb4.9
BMN Battle Mountai 56.33 66 *e*P **P** **05 45 17.0 +0.2**
comp=Z,14nm,1.2s,mb4.9
WAKR Walker 56.36 69 *e*P **P** **05 45 15.2 -1.8**
CHTO Chiang Mai 56.71 258⇑P **P** **05 45 20.5 +1.0**
SNR=5.6
NVAR Mina Array Bea 57.06 68 P **P** **05 45 15.4 -6.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=292,slow=7.7,SNR=7.9
IMW Indian Meadow 57.44 59 *e*P **P** **05 45 25.0 +0.4**
comp=Z,6.6nm,1.0s,mb4.6
FLWY Flagg Ranch 57.44 59 *e*P **P** **05 45 26.8 +2.1**
RRI2 Red Ridge 57.61 60 *e*P **P** **05 45 27.8 +2.0**
TPAW Teton Pass 57.71 59 *e*P **P** **05 45 27.4 +0.9**
comp=Z,11nm,1.3s,mb4.7
AB31 Akbulak array 57.79 310 P **P** **05 45 26.2 -0.9**
AB31 pmax pmax
comp=Z,13nm,1.0s,mb4.9
LOHW Long Hollow 57.81 59 *e*P **P** **05 45 29.0 +1.8**
REDW Red Top Meadow 57.85 59 *e*P **P** **05 45 28.0 +0.5**
comp=Z,10nm,1.3s,mb4.7
AKTK Aktyubinsk 57.88 312 P **P** **05 45 26.6 -1.2**
AKTO Aktyubinsk 57.88 312 P **P** **05 45 26.6 -1.2**
comp=Z,3.7nm,0.5s,mb4.7,baz=58,slow=8.1,SNR=12
JIRN Jiri 58.03 275 *e*P **P** **05 45 29.6 +0.8**
GUN Gumba 58.04 275 *e*P **P** **05 45 30.0 +1.1**
AHID Auburn Hatcher 58.12 60 *e*P **P** **05 45 30.9 +1.5**
comp=Z,4.5nm,0.6s,mb4.7
JOF Joensuu 58.20 335 *e*p **P** **05 45 28.4 -1.5**
comp=Z,5.3nm,0.4s,mb4.9
KKN Kakani 58.49 276 *e*P **P** **05 45 32.9 +0.9**
comp=Z,22nm,0.5s,mb5.4
PKI Pulchoki 58.57 276 *e*P **P** **05 45 33.4 +0.8**
comp=Z,20nm,0.8s,mb5.2
HWUT Hardware Ranch 58.67 61 *e*P **P** **05 45 34.7 +1.4**
DMN Daman 58.73 276 *e*P **P** **05 45 34.8 +1.1**
comp=Z,59nm,1.0s,mb5.6
GKN Gorkha 58.74 276 *e*P **P** **05 45 34.3 +0.6**
comp=Z,42nm,0.8s,mb5.5
BW06 Boulder Array 58.95 59 *e*P **P** **05 45 34.7 -0.4**
comp=Z,2nm,1.0s,mb4.7
PDAR Pinedale Array 58.95 59 P **P** **05 45 28.8 -6.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=307,slow=4.3,SNR=9.7
DUG Dugway 58.95 63 *e*P **P** **05 45 36.4 +1.2**
DUG *e**PP pP 05 45 47.1 -2.2
KOLN Koldanda 59.54 277 *e*P **P** **05 45 39.8 +0.5**
comp=Z,41nm,1.1s,mb5.4
KLP Kalpa 60.11 284 *e*P **P** **05 45 42.9 -0.3**
KLP AMb AMB 05 45 44.1
comp=Z,7.9nm,0.5s,mb5.0
KAF Kangasniemi 60.16 336 *e*p **P** **05 45 41.8 -1.7**
comp=Z,7.9nm,0.5s,mb5.0,baz=31,slow=6.4
KAF Kangasniemi 60.16 336 *e*P **P** **05 45 41.8 -1.7**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
FINES FINESS Array B 60.78 336 P **P** **05 45 47.0 -0.8**
comp=Z,12nm,0.8s,mb5.1,baz=38,slow=9.6,SNR=24
FINES LR LR 06 16 45.5
comp=Z,115nm,19.7s,MS4.0,baz=343,slow=40
RSSD Black Hills 60.86 55 *e*P **P** **05 45 42.0 -6.3**
SRU San Rafael 60.98 63 *e*P **P** **05 45 43.9 -5.2**
BISR Bishrakh 62.72 282 *ex* x 05 45 04.4
BISR AMb AMB 05 45 07.1
comp=Z,2.0nm,0.6s,mb4.4
GLA Glamis 62.84 70 *e*P **P** **05 46 01.3 -0.3**
GLA *e**PP pP 05 46 15.6 -0.2
OBN Obninsk 62.95 327⇑ *e*P **P** **05 46 01.1 -1.3**
OBN *e**PP pP 05 46 17.2 +0.6
OBN *e* 05 46 39.9
OBN *e*S **S** **05 54 27.6 -1.1**
OBN *e*SS SS 05 58 33.6 -1.0
OBN pmax pmax
comp=Z,14nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.1
WUAZ Wupatki 63.06 66 *e*P **P** **05 46 04.2 +1.2**
comp=Z,7.4nm,1.2s,mb4.7
ISCO Idaho Springs 63.14 59 *e*P **P** **05 46 03.4 -0.2**
ISCO pmax pmax
comp=Z,4.0nm,0.4s,mb4.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ISCO	**Idaho Springs**	**63.14**	**59**	eP	**P**	**05 46 03.4**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.9						
SONA	**Sohna**	**63.17**	**282**	eP	**P**	**05 46 03.0**	**-0.8**
SONA				AMb	AMB	05 46 13.3	
	comp=Z,7.9nm,0.3s,mb5.3						
AGRA	**Agra**	**63.39**	**281**	ex	x	05 46 59.6	
BORG	**Borgarnes**	**63.65**	**360**	LR	LR	06 12 38.8	
	comp=Z,85nm,18.3s,MS4.0,baz=343,slow=35						
KHET	**Khetri**	**64.07**	**283**	ex	x	05 46 22.5	
KHET				AMb	AMB	05 46 25.0	
	comp=Z,2.4nm,0.3s,mb4.7						
NB2	**NORSAR Subarra**	**64.37**	**343**	P	**P**	**05 46 10.4**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.8,baz=20,slow=6.9						
NOA	**NORSAR Array B**	**64.37**	**343**	P	**P**	**05 46 10.1**	**-1.6**
	comp=Z,7.2nm,0.8s,mb4.8,baz=21,slow=6.6,SNR=18						
NOA				LR	LR	06 16 47.6	
	comp=Z,43nm,18.4s,MS3.7,baz=65,slow=38						
HFS	**Hagfors**	**64.74**	**341**	P	**P**	**05 46 12.9**	**-1.2**
	comp=Z,10nm,0.5s,mb5.1,baz=53,slow=5.9,SNR=24						
HFS				LR	LR	06 19 15.5	
	comp=Z,131nm,18.3s,MS4.2,baz=138,slow=40						
VRSR	**Storozhevoye**	**65.17**	**323**	eP	**P**	**05 46 16.4**	**-0.5**
VRSR				pmax	pmax		
	comp=E,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
VRSR				pmax	pmax		
	comp=N,20nm,1.9s						
ANMO	**Albuquerque**	**66.22**	**63**	eP	**P**	**05 46 22.0**	**-1.7**
BHPL	**Bhopal**	**66.64**	**278**	eP	**P**	**05 46 26.3**	**-0.1**
BHPL				AMb	AMB	05 46 27.2	
	comp=Z,27nm,1.1s,mb5.2						
SCHQ	**Schefferville**	**67.12**	**27**	P	**P**	**05 46 24.5**	**-4.9**
	comp=Z,2.9nm,0.7s,mb4.4,baz=280,slow=6.1,SNR=3.7						
SCHQ				LR	LR	06 19 18.8	
	comp=Z,85nm,18.9s,MS4.0,baz=72,slow=39						
VIS	**Vishakhapatnam**	**67.13**	**270**	eP	**P**	**05 46 28.9**	**-0.5**
VIS				AMb	AMB	05 46 35.2	
	comp=Z,14nm,1.2s,mb4.8						
AKASG	**Malin Array Be**	**69.09**	**328**	P	**P**	**05 46 39.9**	**-1.9**
	comp=Z,27nm,0.7s,mb5.3,baz=30,slow=6.1,SNR=103						
AKASG	**Malin Array Be**	**69.09**	**328**	iP	**P**	**05 46 40.7**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,27nm,0.7s						
MNTX	**Cornudas Mount**	**69.24**	**65**	eP	**P**	**05 46 40.5**	**-2.2**
MNTX				epP	pP	05 46 53.8	-3.3
KIV	**Kislovodsk**	**69.60**	**316**	eP	**P**	**05 46 41.6**	**-3.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KIV				MLR	MLR		
	comp=Z,378nm,21.0s,MS4.6						
ZEI	**Tsey**	**70.02**	**315**	eP	**P**	**05 46 46.2**	**-1.3**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
HYB	**Hyderabad**	**70.32**	**273**	iP	**P**	**05 46 49.0**	**-0.3**
HYB	**Hyderabad**	**70.32**	**273**	eP	**P**	**05 46 49.0**	**-0.3**
GNI	**Garni**	**71.75**	**312**	LR	LR	06 23 25.9	
	comp=Z,208nm,18.3s,MS4.4,baz=152,slow=40						
EKA	**Eskdalemuir Ar**	**72.01**	**349**	P	**P**	**05 47 00.5**	**+0.9**
	comp=Z,6.1nm,0.5s,mb4.8,baz=15,slow=4.9,SNR=38						
OJC	**Ojcow**	**72.35**	**334**	eP	**P**	**05 47 01.4**	**-0.2**
KIS	**Kishinev**	**72.42**	**326**	eP	**P**	**05 47 10.0**	**+8.0**
KIS				e		05 57 20.0	
STHS	**Stebnicka Huta**	**72.67**	**332**	eP	**P**	**05 47 03.7**	**+0.2**
STHS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
STHS	**Stebnicka Huta**	**72.67**	**332**	eP	**P**	**05 47 03.7**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8						
KSP	**Ksiaz**	**72.71**	**336**	eP	**P**	**05 47 02.0**	**-1.7**
KOLS	**Kolonicke sedl**	**72.80**	**331**	eP	**P**	**05 47 03.9**	**-0.4**
NIE	**Niedzica**	**72.93**	**333**	eP	**P**	**05 47 05.6**	**+0.6**
CRVS	**Cervenica-Dubn**	**73.07**	**332**	eP	**P**	**05 47 05.4**	**-0.4**
BURAR	**Bucovina Array**	**73.07**	**329**	⇑iP	**P**	**05 47 05.9**	**0.0**
BURAR	**Bucovina Array**	**73.07**	**329**	⇑P	**P**	**05 47 05.9**	**+0.1**
CLL	**Collm**	**73.07**	**338**	iP	**P**	**05 47 05.1**	**-0.8**
CLL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
CLL				MLR	MLR		
	comp=Z,200nm,16.3s,MS4.5						
CLL	**Collm**	**73.07**	**338**	iP	**P**	**05 47 05.1**	**-0.8**
	comp=Z,12nm,1.0s,mb4.8						
CLL				LR	LR		
	comp=Z,200nm,16.3s,MS4.5						
UPC	**Upice**	**73.09**	**336**	eP	**P**	**05 47 05.2**	**-0.8**
KAD	**Karad**	**73.09**	**277**	eP	**P**	**05 47 06.0**	**0.0**
KAD				AMb	AMB	05 47 07.0	
	comp=Z,37nm,0.6s,mb5.5						
DPC	**Dobruska-Polom**	**73.16**	**336**	eP	**P**	**05 47 05.8**	**-0.5**
BRG	**Berggiesshubel**	**73.26**	**337**	eP	**P**	**05 47 06.4**	**-0.5**
	comp=Z,3.5nm,1.0s,mb4.2						
BRG							
	comp=N,134nm,16.3s						
BRG							
	comp=E,64nm,15.3s						
BRG							
	comp=Z,111nm,15.4s						
BRG	**Berggiesshubel**	**73.26**	**337**	eP	**P**	**05 47 06.4**	**-0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRG				MLR	MLR		
	comp=N,134nm,16.3s,MS4.4						
BRG				MLR	MLR		
	comp=E,64nm,15.3s,MS4.4						
BRG				MLR	MLR		
	comp=Z,111nm,15.4s,MS4.2						
MORC	**Moravsky Berou**	**73.36**	**335**	⇓iP	**P**	**05 47 07.2**	**-0.4**
MORC	**Moravsky Berou**	**73.36**	**335**	eP	**P**	**05 47 06.5**	**-1.1**
MORC				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MORC	**Moravsky Berou**	**73.36**	**335**	eP	**P**	**05 47 06.5**	**-1.1**
	comp=Z,11nm,0.9s,mb4.8						
KECS	**Kecovo**	**73.73**	**332**	eP	**P**	**05 47 09.2**	**-0.5**
KECS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KECS	**Kecovo**	**73.73**	**332**	eP	**P**	**05 47 09.2**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.4						
PRU	**Pruhonice**	**73.93**	**337**	eP	**P**	**05 47 10.3**	**-0.6**
PRU				AMS	AMS	06 25 30.0	
	comp=Z,400nm,12.6s						
VRAC	**Vranov**	**74.04**	**335**	P	**P**	**05 47 10.9**	**-0.7**
	comp=Z,9.0nm,0.7s,mb4.8,baz=19,slow=4.8,SNR=7.9						
VRAC				LR	LR	06 24 24.3	
	comp=Z,80nm,18.8s,MS4.0,baz=196,slow=39						
VRAC	**Vranov**	**74.04**	**335**	⇓iP	**P**	**05 47 12.1**	**+0.5**
VRAC	**Vranov**	**74.04**	**335**	P	**P**	**05 47 10.9**	**-0.7**
VRAC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
VRAC				MLR	MLR		
	comp=Z,80nm,18.8s						
VRAC	**Vranov**	**74.04**	**335**	⇓P	**P**	**05 47 12.1**	**+0.5**
VYHS	**Vyhne**	**74.19**	**333**	eP	**P**	**05 47 11.9**	**-0.5**
VYHS				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
VYHS	**Vyhne**	**74.19**	**333**	eP	**P**	**05 47 11.9**	**-0.5**
	comp=Z,7.3nm,1.2s,mb4.5						
CFR	**Carcaliu**	**74.24**	**326**	⇑iP	**P**	**05 47 13.3**	**+0.6**
CFR	**Carcaliu**	**74.24**	**326**	⇑P	**P**	**05 47 13.3**	**+0.6**
TREC	**Trest**	**74.34**	**336**	AMS	AMS	06 26 50.0	
	comp=Z,200nm,16.6s						
PSZ	**Piszkesteto**	**74.41**	**332**	⇑iP	**P**	**05 47 14.5**	**+0.8**
PSZ	**Piszkesteto**	**74.41**	**332**	eP	**P**	**05 47 13.9**	**+0.2**
PSZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
PSZ	**Piszkesteto**	**74.41**	**332**	eP	**P**	**05 47 13.9**	**+0.2**
	comp=Z,11nm,0.9s,mb4.8						
DRGR		**74.59**	**330**	⇓iP	**P**	**05 47 14.5**	**-0.2**
DRGR		**74.59**	**330**	⇓P	**P**	**05 47 14.5**	**-0.2**
WRAB	**Tennant Creek**	**74.62**	**204**	eP	**P**	**05 47 12.6**	**-2.3**
WB2	**Warramunga Arr**	**74.62**	**204**	eP	**P**	**05 47 09.3**	**-5.6**
WRA	**Warramunga Arr**	**74.63**	**204**	P	**P**	**05 47 09.3**	**-5.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=19,slow=5.9,SNR=9.3						
MLR	**Muntele Rosu**	**74.71**	**328**	P	**P**	**05 47 14.8**	**-0.6**
	comp=Z,8.3nm,0.6s,mb4.9,baz=287,slow=1.6,SNR=16						
MLR	**Muntele Rosu**	**74.71**	**328**	⇓iP	**P**	**05 47 15.8**	**+0.4**
MLR	**Muntele Rosu**	**74.71**	**328**	P	**P**	**05 47 14.8**	**-0.6**
MLR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MLR	**Muntele Rosu**	**74.71**	**328**	⇓P	**P**	**05 47 15.8**	**+0.4**
TIRR	**Tirgusor**	**74.77**	**325**	⇓iP	**P**	**05 47 15.7**	**-0.1**
TIRR	**Tirgusor**	**74.77**	**325**	⇓P	**P**	**05 47 15.7**	**-0.1**
KHC	**Kasperske Hory**	**74.96**	**337**	eP	**P**	**05 47 16.7**	**-0.2**
KHC				AMS	AMS	06 26 10.0	
	comp=Z,400nm,16.1s						
KHC	**Kasperske Hory**	**74.96**	**337**	⇑eP	**P**	**05 47 16.4**	**-0.5**
GRA1	**Grafenberg Arr**	**74.99**	**339**	eP	**P**	**05 47 16.8**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**74.99**	**339**	eP	**P**	**05 47 16.8**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**74.99**	**339**	eP	**P**	**05 47 16.8**	**-0.2**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
GRF	**Grafenberg Arr**	**74.99**	**339**	eP	**P**	**05 47 16.8**	**-0.2**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MEM	**Membach**	**75.20**	**342**	P	**P**	**05 47 18.2**	**0.0**
GERES	**GERESS Array B**	**75.20**	**337**	P	**P**	**05 47 18.0**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=40,slow=4.4,SNR=13						
CONA	**Conrad Observa**	**75.50**	**335**	⇑iP	**P**	**05 47 20.2**	**+0.2**
	comp=Z,5.9nm,1.3s,mb4.4						
GZR	**Gura Zlata**	**75.82**	**330**	⇑iP	**P**	**05 47 21.5**	**-0.3**
GZR	**Gura Zlata**	**75.82**	**330**	⇑P	**P**	**05 47 21.5**	**-0.3**
GIVF	**Givet**	**75.90**	**343**	eP	**P**	**05 47 24.1**	**+1.8**
DOU	**Dourbes**	**75.95**	**343**	P	**P**	**05 47 23.2**	**+0.7**
BZS	**Buzias**	**75.98**	**330**	⇓iP	**P**	**05 47 22.1**	**-0.6**
BZS	**Buzias**	**75.98**	**330**	⇓P	**P**	**05 47 22.1**	**-0.6**
MALT	**Malatya**	**76.06**	**315**	⇑iP	**P**	**05 47 24.3**	**+1.1**
MALT	**Malatya**	**76.06**	**315**	eP	**P**	**05 47 25.0**	**+1.8**
PKSM	**Moragy**	**76.32**	**333**	⇓iP	**P**	**05 47 24.2**	**-0.4**
PKSM	**Moragy**	**76.32**	**333**	⇓P	**P**	**05 47 24.2**	**-0.5**
BR131	**Keskin Array S**	**76.88**	**319**	eP	**P**	**05 47 28.1**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**76.88**	**319**	P	**P**	**05 47 27.8**	**0.0**
	comp=Z,11nm,1.0s,mb4.8,baz=46,slow=3.6,SNR=30						
BRTR				LR	LR	06 27 42.4	
	comp=Z,60nm,18.4s,MS3.9,baz=227,slow=40						
BRTR	**Keskin Array B**	**76.88**	**319**	⇑eP	**P**	**05 47 27.7**	**-0.1**
KBA	**Koelnbreinsper**	**76.93**	**336**	⇑iP	**P**	**05 47 28.4**	**+0.3**
	comp=Z,33nm,1.0s,mb5.2						
KBA	**Koelnbreinsper**	**76.93**	**336**	⇑iP	**P**	**05 47 28.4**	**+0.3**
KBA				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2						
CDF	**Champ du Feu**	**77.05**	**341**	eP	**P**	**05 47 27.9**	**-0.8**
BANOM	**Banah**	**77.07**	**295**	P	**P**	**05 47 29.4**	**+0.5**
	SNR=7.6						
WTTA	**Wattenberg**	**77.17**	**338**	⇑iP	**P**	**05 47 29.7**	**+0.2**
	comp=Z,9.7nm,1.0s,mb4.7						
WTTA	**Wattenberg**	**77.17**	**338**	⇑iP	**P**	**05 47 29.7**	**+0.2**
WTTA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
HAU	**Haudompre**	**77.62**	**341**	eP	**P**	**05 47 31.2**	**-0.8**
HAU				eR			
	comp=Z,151nm,17.8s						
HAU	**Haudompre**	**77.62**	**341**	eP	**P**	**05 47 31.2**	**-0.8**
HAU				LR	LR		
	comp=Z,150nm,17.8s,MS4.4						
HINF	**Hinteralfeld**	**77.70**	**341**	eP	**P**	**05 47 30.4**	**-2.0**
HATD	**Hatta, Dubai**	**78.03**	**295**	P	**P**	**05 47 34.0**	**-0.2**
	SNR=7.1						
FLN	**La Foliniere**	**78.08**	**346**	eP	**P**	**05 47 35.7**	**+1.2**
	comp=Z,20nm,0.8s,mb4.8						
FLN				eR			
	comp=Z,71nm,19.8s						
FLN	**La Foliniere**	**78.08**	**346**	eP	**P**	**05 47 35.7**	**+1.2**
	comp=Z,10nm,0.8s,mb4.8						
FLN				LR	LR		
	comp=Z,70nm,19.8s,MS4.0						
ASHO	**Ashiyiah**	**78.18**	**295**	P	**P**	**05 47 35.1**	**0.0**
	SNR=8.1						
VTS	**Vitosha**	**78.19**	**328**	⇓iP	**P**	**05 47 35.0**	**-0.1**
VTS	**Vitosha**	**78.19**	**328**	⇓P	**P**	**05 47 35.0**	**-0.1**
LDF	**La Druitiere**	**78.19**	**346**	eP	**P**	**05 47 36.2**	**+1.1**
ASAR	**Alice Springs**	**78.31**	**203**	P	**P**	**05 47 31.1**	**-4.6**
	comp=Z,2.4nm,0.6s,mb4.3,baz=16,slow=5.4,SNR=41						
ASAR				LR	LR	06 19 26.4	
	comp=Z,90nm,19.8s,MS4.1,baz=181,slow=34						
HOQ	**Hoqain**	**78.33**	**293**	⇑P	**P**	**05 47 35.2**	**-0.7**
	SNR=6.3						
GRR	**Gorron**	**78.50**	**346**	eP	**P**	**05 47 38.1**	**+1.2**
	comp=Z,26nm,0.9s,mb4.8						
GRR	**Gorron**	**78.50**	**346**	eP	**P**	**05 47 38.1**	**+1.2**
GRR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
GRR	**Gorron**	**78.50**	**346**	eP	**P**	**05 47 38.1**	**+1.2**
	comp=Z,13nm,0.9s,mb4.9						
MIB	**Mutribah**	**78.80**	**304**	eP	**P**	**05 47 37.6**	**-0.9**
MIB				AMb	AMB	05 47 39.5	
	comp=Z,109nm,0.8s,mb5.8						
LOR	**Lormes**	**78.81**	**343**	eP	**P**	**05 47 39.6**	**+1.1**
	comp=Z,24nm,1.0s,mb4.8						
LOR				eR			
	comp=Z,117nm,17.2s						
LOR	**Lormes**	**78.81**	**343**	eP	**P**	**05 47 39.6**	**+1.1**
LOR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
LOR				MLR	MLR		
	comp=Z,120nm,17.3s,MS4.3						
LOR	**Lormes**	**78.81**	**343**	eP	**P**	**05 47 39.6**	**+1.1**
	comp=Z,12nm,1.0s,mb4.8						
LOR				LR	LR		
	comp=Z,120nm,17.3s,MS4.3						
JMDO	**Jabal Madar**	**78.83**	**292**	P	**P**	**05 47 38.8**	**+0.2**
	SNR=8.2						
ROSF	**Rostrenen**	**78.89**	**348**	eP	**P**	**05 47 40.5**	**+1.5**
	comp=Z,28nm,1.1s,mb4.8						
ROSF	**Rostrenen**	**78.89**	**348**	eP	**P**	**05 47 40.5**	**+1.5**
ROSF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ROSF	**Rostrenen**	**78.89**	**348**	eP	**P**	**05 47 40.5**	**+1.5**
	comp=Z,14nm,1.0s,mb4.8						
BSY	**Bisya**	**79.05**	**293**	⇑P	**P**	**05 47 39.6**	**-0.2**
	SNR=6.8						
RST	**Umm Al-Ruwaisa**	**79.22**	**304**	eP	**P**	**05 47 39.8**	**-1.0**
RST				AMb	AMB	05 47 40.7	
	comp=Z,79nm,0.8s,mb5.7						
NAY	**Al-Naaiem**	**79.30**	**304**	eP	**P**	**05 47 40.4**	**-0.9**
NAY				AMb	AMB	05 47 41.3	
	comp=Z,34nm,0.9s,mb5.3						
AVF	**Avril sur Loir**	**79.36**	**343**	eP	**P**	**05 47 42.9**	**+1.4**
	comp=Z,19nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**79.36**	**343**	eP	**P**	**05 47 42.9**	**+1.4**
AVF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**79.36**	**343**	eP	**P**	**05 47 42.9**	**+1.4**
	comp=Z,9.4nm,0.9s,mb4.7						
QRN	**Al-Qurain**	**79.36**	**303**	eP	**P**	**05 47 40.9**	**-0.6**
QRN				AMb	AMB	05 47 42.6	
	comp=Z,54nm,0.8s,mb5.5						
RDF	**Al-Radifah**	**79.40**	**304**	eP	**P**	**05 47 41.4**	**-0.4**
RDF				AMb	AMB	05 47 43.1	
	comp=Z,92nm,0.9s,mb5.7						
SMF	**Signal de Mont**	**79.41**	**343**	eP	**P**	**05 47 42.1**	**+0.3**
	comp=Z,8.3nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**79.41**	**343**	eP	**P**	**05 47 42.1**	**+0.3**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
SMF	**Signal de Mont**	**79.41**	**343**	eP	**P**	**05 47 42.1**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.5						
BGF	**Bois d'Agland**	**79.67**	**343**	eP	**P**	**05 47 44.6**	**+1.3**
LPL	**La Plagne**	**79.92**	**340**	eP	**P**	**05 47 46.8**	**+2.2**
	comp=Z,6.2nm,0.5s,mb4.5						
LPL	**La Plagne**	**79.92**	**340**	eP	**P**	**05 47 46.8**	**+2.2**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
LPL	**La Plagne**	**79.92**	**340**	eP	**P**	**05 47 46.8**	**+2.2**
	comp=Z,3.1nm,0.5s,mb4.5						
LPG	**La Plagne**	**79.94**	**340**	eP	**P**	**05 47 47.0**	**+2.3**
	comp=Z,18nm,1.0s,mb4.7						
LPG	**La Plagne**	**79.94**	**340**	eP	**P**	**05 47 47.0**	**+2.3**
LPG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
LPG	**La Plagne**	**79.94**	**340**	eP	**P**	**05 47 47.0**	**+2.3**
	comp=Z,8.9nm,1.0s,mb4.7						
TCF	**Toulx Ste Croi**	**80.05**	**344**	eP	**P**	**05 47 46.9**	**+1.6**
	comp=Z,20nm,1.1s,mb4.6						
TCF	**Toulx Ste Croi**	**80.05**	**344**	eP	**P**	**05 47 46.9**	**+1.6**
TCF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**80.05**	**344**	eP	**P**	**05 47 46.9**	**+1.6**
	comp=Z,9.9nm,1.1s,mb4.7						
MFF	**Saint Martin d**	**80.14**	**345**	eP	**P**	**05 47 47.5**	**+1.8**
	comp=Z,20nm,1.0s,mb4.7						
MFF	**Saint Martin d**	**80.14**	**345**	eP	**P**	**05 47 47.5**	**+1.8**
MFF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
MFF	**Saint Martin d**	**80.14**	**345**	eP	**P**	**05 47 47.5**	**+1.8**
	comp=Z,9.8nm,1.0s,mb4.7						
MBDF	**Montbardon**	**80.67**	**340**	eP	**P**	**05 47 50.2**	**+1.6**
	comp=Z,8.0nm,0.6s,mb4.5						
MBDF	**Montbardon**	**80.67**	**340**	eP	**P**	**05 47 50.2**	**+1.6**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MBDF	**Montbardon**	**80.67**	**340**	eP	**P**	**05 47 50.2**	**+1.6**
	comp=Z,4.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**80.67**	**341**	eP	**P**	**05 47 48.3**	**-0.3**
	comp=Z,8.5nm,0.7s,mb4.5						
ORIF				eR			
	comp=Z,119nm,21.2s						
ORIF	**Oris-en-Rattie**	**80.67**	**341**	eP	**P**	**05 47 48.3**	**-0.3**
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ORIF	**Oris-en-Rattie**	**80.67**	**341**	eP	**P**	**05 47 48.3**	**-0.3**
	comp=Z,4.3nm,0.7s,mb4.5						
VIVF	**Saint-Julien-l**	**80.97**	**341**	eP	**P**	**05 47 52.2**	**+2.0**
	comp=Z,13nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**80.97**	**341**	eP	**P**	**05 47 52.2**	**+2.0**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**80.97**	**341**	eP	**P**	**05 47 52.2**	**+2.0**
	comp=Z,6.6nm,0.8s,mb4.6						
RJF	**Les Rejaudoux**	**81.12**	**344**	eP	**P**	**05 47 53.1**	**+2.1**
RJF				eR			
	comp=Z,102nm,18.0s						
RJF	**Les Rejaudoux**	**81.12**	**344**	eP	**P**	**05 47 53.1**	**+2.1**
RJF				LR	LR		
	comp=Z,100nm,18.0s,MS4.2						
SBF	**Sospel**	**81.35**	**339**	eP	**P**	**05 47 53.7**	**+1.5**
	comp=Z,17nm,0.6s,mb4.8						
SBF	**Sospel**	**81.35**	**339**	eP	**P**	**05 47 53.7**	**+1.5**
SBF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SBF	**Sospel**	**81.35**	**339**	eP	**P**	**05 47 53.7**	**+1.5**
	comp=Z,8.4nm,0.6s,mb4.8						
CAF	**Calviac**	**81.39**	**343**	eP	**P**	**05 47 54.8**	**+2.3**
	comp=Z,14nm,0.8s,mb4.6						
CAF	**Calviac**	**81.39**	**343**	eP	**P**	**05 47 54.8**	**+2.3**
CAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CAF	**Calviac**	**81.39**	**343**	eP	**P**	**05 47 54.8**	**+2.3**
	comp=Z,6.9nm,0.8s,mb4.6						
LFF	**La Frestale**	**81.61**	**344**	eP	**P**	**05 47 55.9**	**+2.3**
	comp=Z,17nm,0.7s,mb4.8						
LFF	**La Frestale**	**81.61**	**344**	eP	**P**	**05 47 55.9**	**+2.3**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LFF	**La Frestale**	**81.61**	**344**	eP	**P**	**05 47 55.9**	**+2.3**
	comp=Z,8.4nm,0.7s,mb4.8						
ASF	**Jabal al Asfar**	**81.89**	**313**	P	**P**	**05 47 55.5**	**+0.4**
	comp=Z,6.3nm,0.7s,mb4.6,baz=328,slow=1.6,SNR=9.4						
ASF				LR	LR	06 31 27.0	
	comp=Z,135nm,19.1s,MS4.3,baz=247,slow=41						
PPT	**Papeete**	**82.61**	**131**	eLR	LR	06 13 36.4	
	comp=Z,102nm,22.5s						
PPT	**Papeete**	**82.61**	**131**	LR	LR	06 18 00.3	
	comp=Z,40nm,21.1s,MS3.8,baz=354,slow=31						
SJPF	**Ste Jean**	**83.71**	**345**	eP	**P**	**05 48 07.3**	**+2.8**
ETSF	**Etsaut**	**83.81**	**345**	eP	**P**	**05 48 07.8**	**+2.8**
	comp=Z,9.8nm,0.9s,mb4.7						
ETSF	**Etsaut**	**83.81**	**345**	eP	**P**	**05 48 07.8**	**+2.8**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
ETSF	**Etsaut**	**83.81**	**345**	eP	**P**	**05 48 07.8**	**+2.8**
	comp=Z,4.9nm,0.9s,mb4.6						
EIL	**Elat**	**84.89**	**313**	eP	**P**	**05 48 10.6**	**+0.1**
ESDC	**Sonseca Array**	**87.49**	**347**	P	**P**	**05 48 20.0**	**-3.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=12,slow=4.8,SNR=5.3						
ESDC				LR	LR	06 36 14.3	
	comp=Z,47nm,18.4s,MS3.9,baz=150,slow=41						
KEST	**Kesra**	**88.61**	**335**	P	**P**	**05 48 27.3**	**-1.3**
	comp=Z,4.9nm,0.8s,mb4.9,baz=350,slow=2.1,SNR=11						
RKT	**Rikitea**	**94.57**	**122**	eLR	LR	06 19 09.1	
	comp=Z,98nm,24.0s						
TORD	**Torodi Ar. Bea**	**112.13**	**336**	PP	PP	05 54 52.3	-3.3
	comp=Z,1.8nm,0.9s,baz=5.9,slow=6.0,SNR=6.6						

*UPP **12** 05:42:36.4, 5788N×2205E, h0^{km}, ML3.1, Suspected Mining explosion.*
*BER **12** 05:42:38.6±4.3, 5787N×2196E, h0^{km}±32^{km}, ML2.1(NAO)*
*NAO **12** 05:42:38.8±2.6, 5797N×2189E, ML2.1*
*CSEM **12** 05:42:38.3±0.1, 5800N×2171E, h2^{km}, ML2.1, Error ellipse: s-maj=3.1km s-min=1.8km az=150.0, Mining explosion.*
HEL 12 05:42:37.8±0.3**, 5781N×2181E, h0^{km}, ML2.1, ML3.1**(UPP)**, ML2.1**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOTU	**Gotland**	**1.74**	**267**	eS	Sn	05 43 34.9	+2.7
SRPE	**Suurupi**	**2.13**	**38**	eP	Pn	05 43 14.1	-0.6
SRPE				eS	Sn	05 43 42.6	+0.7
SRPE	**Suurupi**	**2.13**	**38**	P	Pn	05 43 14.0	-0.7
SRPE				S	Sn	05 43 42.5	+0.6
BYXU	**Byxelkrok**	**2.64**	**261**	eP	Pn	05 43 22.4	+0.8
VSU	**Vasula**	**2.69**	**74**	eP	Pn	05 43 22.8	+0.4
VSU	**Vasula**	**2.69**	**74**	P	Pn	05 43 22.7	+0.4
MEF	**Metsahovi**	**2.76**	**28**	eP	Pn	05 43 23.4	+0.1
MEF				eS	Sn	05 43 56.9	-0.4
MEF	**Metsahovi**	**2.76**	**28**	P	Pn	05 43 23.3	0.0
MEF				S	Sn	05 43 56.8	-0.5
VIKU	**Vikbolandet**	**2.80**	**287**	eP	Pn	05 43 23.9	+0.1
VSTU	**Vaestervik**	**2.83**	**269**	eP	Pn	05 43 24.7	+0.4
ESKU	**Eskilstuna**	**3.18**	**299**	eP	Pn	05 43 28.6	-0.5
ESKU	**Eskilstuna**	**3.18**	**299**	P	Pn	05 43 28.5	-0.5
RAF	**Rauma**	**3.22**	**360**	eP	Pn	05 43 28.1	-1.5
RAF				eS	Sn	05 44 06.5	-2.3
RAF				eSG	Sg	05 44 16.7	-4.7
RAF				MSG		05 44 18.6	
	comp=Z,3.4nm,0.2s						
RAF	**Rauma**	**3.22**	**360**	P	Pn	05 43 28.1	-1.6
RAF				S	Sn	05 44 06.4	-2.3
LNKU	**Linkoeping**	**3.38**	**280**	eP	Pn	05 43 32.1	+0.3
PVF	**Pernaja**	**3.44**	**36**	eP	Pn	05 43 32.6	-0.1
PVF				eS	Sn	05 44 13.7	-0.5
PVF				eSG	Sg	05 44 25.4	-3.1
PVF				MSG		05 44 30.8	
	comp=Z,4.5nm,0.2s						
PVF	**Pernaja**	**3.44**	**36**	P	Pn	05 43 32.6	-0.1
PVF				S	Sn	05 44 13.7	-0.5
VXJU	**Vaexsjoe**	**3.83**	**259**	eP	Pn	05 43 37.9	-0.1
VXJU	**Vaexsjoe**	**3.83**	**259**	P	Pn	05 43 37.8	-0.2
FIA0	**FINESS Array S**	**4.24**	**29**	eP	Pn	05 43 42.5	-1.1
FIA0				eS	Sn	05 44 32.1	-1.7
FIA0				eSG	Sg	05 44 49.8	-4.2
FIA0				MSG		05 44 50.3	
	comp=Z,3.1nm,0.3s						
FIA0	**FINESS Array S**	**4.24**	**29**	Pn	Pn	05 43 42.4	-1.2
	baz=203,slow=12						
FIA0				Pg	Pg	05 43 51.5	-7.6
	baz=205,slow=14						
FIA0				Lg		05 44 46.4	
	baz=203,slow=28						
FIA0	**FINESS Array S**	**4.24**	**29**	Pg	Pg	05 43 51.5	-7.6
	SNR=4.5						
FIA0				S	Sn	05 44 32.0	-1.8
KEF	**Keuruu**	**4.63**	**18**	eP	Pn	05 43 48.7	-0.4
KEF				eS	Sn	05 44 40.7	-2.8
KEF				eSG	Sg	05 45 00.7	-5.9
KEF				MSG		05 45 02.4	
	comp=Z,3.1nm,0.2s						
KEF	**Keuruu**	**4.63**	**18**	P	Pn	05 43 48.6	-0.4
KEF				S	Sn	05 44 40.7	-2.8
BSD	**Bornholm Skovb**	**4.68**	**238**	iP	Pn	05 43 47.8	-1.9
BSD				iS	Sn	05 44 42.2	-2.6
BSD				iLG		05 45 04.8	
HFS	**Hagfors**	**4.80**	**302**	Pn	Pn	05 43 50.6	-0.7
	baz=133,slow=16						
HFS				Sn	Sn	05 44 46.6	-1.1
	baz=109,slow=22						
HFS				Lg		05 45 06.5	
	baz=113,slow=28						
HFS	**Hagfors**	**4.80**	**302**	eP	Pn	05 43 50.6	-0.7
HFS				eS	Sn	05 44 46.6	-1.1
HFS				eSG		05 45 06.5	
HFS	**Hagfors**	**4.80**	**302**	P	Pn	05 43 50.6	-0.8
HFS				S	Sn	05 44 46.6	-1.1
KAF	**Kangasniemi**	**4.87**	**26**	eP	Pn	05 43 51.4	-0.9
KAF				eS	Sn	05 44 47.5	-1.9
KAF	**Kangasniemi**	**4.87**	**26**	P	Pn	05 43 51.3	-1.0
SUF	**Sumiainen**	**5.38**	**22**	eP	Pn	05 43 58.9	-0.3
SUF				eS	Sn	05 44 59.1	-2.8
NB2	**NORSAR Subarra**	**6.30**	**305**	Pn	Pn	05 44 10.5	-1.5
	baz=122,slow=14						
NB2	**NORSAR Subarra**	**6.30**	**305**	eP	Pn	05 44 10.5	-1.5

MAN 12 05:59:32.9, 948N×12565E, h8km, mb2.1, ML3.8, MS1.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.34	332	⇑eP	Pg	05 59 40.8	+1.2
SCPH				eS	Sg	05 59 51.2	+7.1
BUTP	Butuan	0.51	183	eP	Pg	05 59 43.1	+0.3
BUTP				eS	Sg	05 59 56.0	+6.6
MSLP	Maasin	1.01	310	eP	Pg	05 59 51.6	-0.8
BUKP	Musuan	1.69	200	eP	Pn	06 00 02.4	-0.4
PAGZ	Pagadian	2.77	234	eP	Pn	06 00 18.6	+1.0

ISCJB ***12*** *06:09:51.1±0.5, 5975N±002×2433E±007, h0km, Error ellipse: s-maj=5.3km s-min=3.5km az=178.9*
NAO ***12*** *06:09:52.2±1.0, 5977N×2449E, ML2.4*
HEL ***12*** *06:09:52.6±0.1, 5974N×2441E, h0km, ML2.2, ML2.4(NAO), Explosion*
IDC ***12*** *06:09:53.9±1.0, 5987N×2448E, h0km, mb1 3.5/4, mb1mx3.2/22, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=12.5km s-min=6.3km az=137.0*
BER ***12*** *06:09:53.1±4.2, 5975N×2445E, h0km±19km, ML2.4(NAO)*
ISC 12 06:09:51.8±0.4**, 5974N**±002×**2439E**±007**, h0km, n23, σ1s06**/42**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRPE	Suurupi	0.28	181	eP	Pg	06 09 57.4	+0.2
SRPE				eS	Sg	06 10 00.7	-0.1
MEF	Metsahovi	0.47	0	eP	Pg	06 10 00.9	0.0
MEF				eS	Sg	06 10 06.5	-0.5
PVF	Pernaja	1.09	42	eP	Pg	06 10 11.6	-1.0
PVF				eS	Sg	06 10 25.9	-0.9
VSU	Vasula	1.77	136	eP	Pn	06 10 23.6	+0.1
VSU				eS	Sn	06 10 47.0	+0.3
VSU	Vasula	1.77	136	Pn	Pn	06 10 23.8	+0.3
VSU				Lg		06 10 46.4	
RAF	Rauma	1.83	316	eP	Pn	06 10 25.4	+0.9
RAF				eS	Sn	06 10 49.3	+0.9
FIA0	FINESS Array S	1.90	25	eP	Pn	06 10 25.9	+0.5
FIA0				eS	Sn	06 10 49.8	-0.1
FIA0	FINESS Array S	1.90	25	Pn	Pn	06 10 26.2	+0.8
	baz=199,slow=18						
FIA0				Lg		06 10 49.9	
	baz=196,slow=37						
FINES	FINESS Array B	1.90	25	Pn	Pn	06 10 26.2	+0.8
	7.8nm,0.3s,baz=201,slow=16,SNR=294						
FINES				Lg		06 10 49.5	
	7.1nm,0.3s,baz=197,slow=28,SNR=16						
FINES				Sn	Sn	06 10 51.9	+1.9
	7.5nm,0.3s,baz=199,slow=25,SNR=18						
KEF	Keuruu	2.44	5	eP	Pn	06 10 34.5	+1.6
KEF				eS	Sn	06 11 03.5	+0.1
KAF	Kangasniemi	2.56	21	eP	Pn	06 10 36.2	+1.8
KAF				eS	Sn	06 11 06.5	+0.3
KAF				eSG	Sg	06 11 12.3	-1.5
KAF				MSG		06 11 13.3	
	comp=Z,11nm,0.3s						
SUF	Sumiainen	3.10	15	eP	Pn	06 10 43.0	+1.0
SUF				eS	Sn	06 11 20.6	+0.8
SUF				eSG	Sg	06 11 28.0	-3.5
SUF				MSG		06 11 30.8	
	comp=Z,5.4nm,0.2s						
VAF	Ylistaro	3.41	347	eP	Pn	06 10 47.7	+1.5
VAF				eS	Sn	06 11 27.8	+0.4
HFS	Hagfors	5.39	279	eP	Pn	06 11 13.5	+0.1
HFS				eS	Sn	06 12 15.7	-0.5
HFS				eSG		06 12 38.1	
HFS	Hagfors	5.39	279	Pn	Pn	06 11 13.6	+0.1
	comp=Z,0.7nm,0.3s,baz=109,slow=13,SNR=28						
HFS				Sn	Sn	06 12 16.4	+0.1
	comp=Z,0.9nm,0.3s,baz=99,slow=28,SNR=7.7						
HFS				Lg		06 12 37.9	
	comp=Z,2.2nm,0.3s,baz=91,slow=31,SNR=8.0						
HFS	Hagfors	5.39	279	Pn	Pn	06 11 13.5	+0.1
	baz=88,slow=14						
HFS				Sn	Sn	06 12 15.7	-0.5
	baz=109,slow=22						
HFS				Lg		06 12 38.1	
	baz=86,slow=28						
NB2	NORSAR Subarra	6.66	287	eP	Pn	06 11 30.2	-0.6
NB2				eSG		06 13 18.1	
NB2	NORSAR Subarra	6.66	287	Pn	Pn	06 11 30.2	-0.6
	baz=94,slow=14						
NB2				Lg		06 13 18.1	
	baz=97,slow=28						
NOA	NORSAR Array B	6.66	287	Pn	Pn	06 11 30.4	-0.4
	comp=Z,0.7nm,0.3s,baz=96,slow=12,SNR=3.1						
NOA				Sn	Sn	06 12 44.8	-2.6
	comp=Z,0.4nm,0.3s,baz=129,slow=22,SNR=2.6						
NOA				Lg		06 13 17.4	
	comp=Z,1.0nm,0.3s,baz=280,slow=18,SNR=3.0						
AKASG	Malin Array Be	9.47	161	Pn	Pn	06 12 08.2	-1.2
	comp=Z,1.0nm,0.3s,baz=343,slow=12,SNR=4.4						
ARA0	ARCESS Array S	9.84	2	Pn	Pn	06 12 12.9	-1.6
	baz=175,slow=16						
ARA0				Sn	Sn	06 13 59.2	-6.5
	baz=182,slow=28						
ARA0	ARCESS Array S	9.84	2	eP	Pn	06 12 12.9	-1.6
ARA0				eS	Sn	06 13 59.2	-6.5
ARCES	ARCESS Array B	9.84	2	Pn	Pn	06 12 12.9	-1.6
	comp=Z,0.7nm,0.3s,baz=180,slow=13,SNR=43						

NIED ***12*** *06:39:00, 4260N×13500E, h440km, Mw4.5 Best double couple: M0 5.91000×10^15 NP1:φs268.00000°, δ46.00000°, λ-95.00000°. NP2:φs96.00000°, δ44.00000°, λ-85.00000°.*
SKHL ***12*** *06:39:32.7±1.8, 4280N×13451E, h418km±7km, mb5.0/3, msh4.7/3*
MOS ***12*** *06:39:32.7±0.7, 4272N×13438E, h415km, mb4.4/47, Error ellipse: s-maj=10.3km s-min=5.2km az=113.6*
ISCJB ***12*** *06:39:32.8±0.2, 4268N±003×13452E±003, h419km±2km, mb4.3/114, Error ellipse: s-maj=4.0km s-min=3.7km az=21.0*
JMA ***12*** *06:39:33.4±0.3, 4264N×13498E, h469km±4km, M3.9*
IDC ***12*** *06:39:33.1±1.2, 4274N×13443E, h408km±13km, mb3.8/26, mb1 3.9/29, mb1mx3.9/33, mbtmp4.6/29, Error ellipse: s-maj=9.5km s-min=8.2km az=42.0*
NEIC ***12*** *06:39:34.2±0.4, 4272N×13444E, h421km±4km, mb4.4/66, Error ellipse: s-maj=5.3km s-min=3.8km az=190.0*
BJI ***12*** *06:39:34.2, 4288N×13445E, h446km, mB4.5, mb4.8*
SZGRF ***12*** *06:39:36.5, 4330N×13464E, h33km, mb4.7, Primorye, Russia*
ISC 12 06:39:33.7±0.2**, 4275N**±003×**13455E**±003**, h415km**±2km**, n330, σ0s96**/341**, mb4.3**/114**, 17C-15D, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLA	Vladivostok	1.98	282	⇑iP	P	06 40 32.0	+1.2
VLA				AMB	AMB	06 40 33.4	
	335nm,0.6s						
VLA				eS	S	06 41 18.6	+1.5
VLA				A		06 41 19.0	
	60nm,1.4s						
VLA	Vladivostok	1.98	282	c iP	P	06 40 32.0	+1.2
VLA				eS	S	06 41 18.6	+1.5
VLA				pmax	pmax		
	comp=Z,335nm,0.6s						
VLA				smax			
	comp=N,60nm,1.4s						
TEY	Ternei	2.72	32	iP	P	06 40 35.3	-0.5
TEY				AMB	AMB	06 40 36.0	
	comp=N,109nm,0.7s						
TEY				iS	S	06 41 25.8	-0.4
TEY				A		06 41 27.5	
	comp=N,510nm,1.0s						
TEY				A		06 41 27.5	
	comp=N,470nm,1.0s						
TEY				A		06 41 28.0	
	comp=N,2μm,4.0s						
TEY				A		06 41 28.0	
	comp=N,3μm,4.0s						
JOSM	Okushiri--Mats	3.71	99	P	P	06 40 44.7	+0.7
JOSM				S	S	06 41 42.1	+1.0
MDJ	Mudanjiang	4.05	299	P	P	06 40 48.7	+1.7
MDJ				S	S	06 41 49.0	+2.4
MDJ				SCP	ScP	06 50 07.1	+0.8
MDJ				PCS	PcS	06 50 48.2	+0.7
MDJ	Mudanjiang	4.05	299	ePn	P	06 40 48.8	+1.7
MDJ				eS	S	06 41 47.8	+1.1
JKB	Kayabe	4.89	98	P	P	06 40 54.8	-0.4
JKB				eS	S	06 42 00.4	-1.1
JOT	Ohata	5.03	104	P	P	06 40 56.6	0.0
JOT				eS	S	06 42 01.3	-2.9
JHR	Hokuryu	5.34	77	P	P	06 41 01.0	+1.2
HABR	Khabarovsk	5.73	3	⇑iP	P	06 41 06.7	+2.8
HABR				AMB	AMB	06 41 07.6	
	comp=N,198nm,0.7s						
HABR				eS	S	06 42 19.8	+2.3
HABR	Khabarovsk	5.73	3	⇑iP	P	06 41 06.7	+2.8
HABR				eS	S	06 42 19.8	+2.3
HABR				pmax	pmax		
	comp=Z,198nm,0.7s						
JWK2	Keihoku	5.89	62	P	P	06 41 07.9	+2.4
JWK2				eS	S	06 42 21.2	+0.7
ASAJ	Asahikawa	6.02	74	P	P	06 41 07.7	+0.7
	comp=Z,8.7nm,0.3s,baz=264,slow=12,SNR=34						
ASAJ				S	S	06 42 20.6	-2.5
	comp=Z,0.4nm,0.3s,baz=106,slow=30,SNR=5.9						
ASAJ	Asahikawa	6.02	74	P	P	06 41 07.7	+0.8
ASAJ				S	S	06 42 20.6	-2.5
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JMK	Ichinoseki	6.33	125	P	P	06 41 09.1	-1.1
JMK				eS	S	06 42 24.0	-5.1
ERM	Erimo	6.42	94	eP	P	06 41 11.0	-0.3
ERM				pmax	pmax		
	comp=Z,37nm,0.3s						
ERM	Erimo	6.42	94	ePn	P	06 41 11.0	-0.3
	comp=Z,37nm,0.3s						
ERM				eS	S	06 42 20.7	-10
JCH	Churui	6.50	88	P	P	06 41 11.2	-0.9
JCH				eS	S	06 42 26.8	-5.8
CN2	Changchun	6.72	282	⇑P	P	06 41 16.0	+1.4
CN2				AMB	AMB		
	comp=Z,30nm,0.9s						
KLR	Kul'dur	6.76	344	⇓iP	P	06 41 12.7	-2.3
KLR				AMB	AMB	06 41 13.8	
	comp=Z,92nm,0.8s						
KLR				eS	S	06 42 35.5	-2.4
KLR	Kul'dur	6.76	344	⇓iP	P	06 41 12.7	-2.3
KLR				e		06 42 35.5	
KLR				pmax	pmax		
	comp=E,92nm,0.8s						
KLR				pmax	pmax		
	comp=Z,250nm,0.8s						
MAJO	Matsushiro	6.81	154	eP	P	06 41 15.5	-0.1
MAJO				pmax	pmax		
	comp=Z,43nm,0.8s						
MAJO	Matsushiro	6.81	154	ePn	P	06 41 15.5	-0.1
	comp=Z,43nm,0.8s						
MAT	Matsushiro	6.81	154	P	P	06 41 15.4	-0.2
MAT				S	S	06 42 34.0	-4.9
MAT	Matsushiro	6.81	154	P	P	06 41 15.8	+0.2
MJAR	Matsushiro Arr	6.82	154	P	P	06 41 16.1	+0.5
	comp=Z,1.9nm,0.3s,baz=337,slow=11,SNR=50						
JTKR	Abashiri--Toko	6.93	77	P	P	06 41 15.8	-1.1
JTKR				eS	S	06 42 38.6	-2.7
YSS	Yuzh-Sakhalins	7.19	51	eP	P	06 41 20.0	+0.3
YSS				eS	S	06 42 42.0	-4.4
YSS				A		06 42 44.9	
	comp=Z,20nm,0.3s						
JRY	Ryogami san	7.52	152	P	P	06 41 22.5	-0.9
JRY				eS	S	06 42 51.0	-2.3
JHS	Saijyo	7.82	189	P	P	06 41 28.4	+1.7
INCN	Inchon	8.03	232	eP	P	06 41 30.6	+1.7
	comp=Z,20nm,0.5s						
GRNR	Gornyy	8.12	8	eP	P	06 41 27.0	-3.0
GRNR				AMB	AMB	06 41 27.5	
	comp=Z,147nm,1.0s						
SNY	Shenyang	8.18	267	⇑P	P	06 41 34.2	+3.5
SNY				AMB	AMB		
	comp=Z,14nm,0.5s						
UGL	Uglegorsk	8.21	37	⇑iP	P	06 41 32.9	+1.9
UGL				AMB	AMB	06 41 34.0	
	comp=Z,130nm,0.5s						
NEM2	Nemuro 2	8.22	82	P	P	06 41 29.7	-1.4
NEM2				eS	S	06 43 00.1	-7.5
JOD2	Odawara 2	8.27	153	P	P	06 41 31.3	-0.4
JIE	Ise	8.52	168	P	P	06 41 33.9	-0.5
JTU	Tsushima	9.15	208	P	P	06 41 43.2	+1.8
JWZ	Kozaga	9.25	174	P	P	06 41 42.1	-0.5
BSO1	Boso 1	9.52	146	P	P	06 41 43.2	-2.3
BSO1				eS	S	06 43 29.1	-4.9
JTO	Tosashimizu	9.97	189	P	P	06 41 51.7	+1.2
EKMR	Ekimchan	10.38	355	⇑iP	P	06 41 52.7	-2.3
EKMR				AMB	AMB	06 41 54.0	
	comp=Z,49nm,0.6s						
JHJ	Hachijo jima 2	10.47	155	P	P	06 41 54.8	-1.2
	comp=Z,39nm,0.3s,baz=147,slow=12,SNR=8.2						
JHJ				S	S	06 43 48.8	-4.5
	comp=Z,12nm,0.3s,baz=231,slow=24,SNR=4.3						
JHJ2	Mitsune	10.48	155	P	P	06 41 54.8	-1.4
NKL	Nikolayevsk	11.18	19	eP	P	06 42 01.0	-2.9
NKL				AMB	AMB	06 42 01.8	
	comp=Z,50nm,0.7s						
JSJ	Shimokoshiki	11.70	201	P	P	06 42 11.5	+1.9
OKH	Okha	12.16	24	⇓iP	P	06 42 14.3	-0.3
HIA	Hailar	12.17	307	⇓iP	P	06 42 15.5	+0.8
BMKR	Bomnak	12.54	345	⇑iP	P	06 42 16.5	-2.3
BMKR				AMB	AMB	06 42 17.5	
	comp=Z,20nm,0.5s						
BJI	Beijing	14.05	265	eP	P	06 42 35.4	+0.1
BJI				AMB	AMB		
	comp=Z,30nm,0.8s						
BJT	Baijiatuau	14.07	265	eP	P	06 42 35.0	-0.4
BJT				pmax	pmax		
	comp=Z,24nm,0.9s						
BJT	Baijiatuau	14.07	265	eP	P	06 42 35.0	-0.5
	comp=Z,24nm,0.9s						
SSE	Sheshan	15.77	227	P	P	06 42 57.5	+3.7
SSE				AMB	AMB		
	comp=Z,64nm,0.7s						
SSE				AMB	AMB		
	comp=Z,158nm,3.8s						
CBIJ	Chichi jima	16.82	156	P	P	06 43 00.4	-4.6
HHC	Hu-ho-hao-te	17.23	271	eP	P	06 43 09.4	0.0
HHC				S	S	06 46 03.7	-4.1
HHC				PCP	PcP	06 47 31.3	+2.5
HHC				AMB	AMB		
	comp=Z,12nm,0.3s						
HHC				AMB	AMB		
	comp=Z,59nm,3.9s						
BTO	Baotou	18.43	272	eP	P	06 43 21.8	-0.2
YAK	Yakutsk	19.53	353	eP	P	06 43 21.9	-11
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,15nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
MA2	Magadan	19.58	25	eP	P	06 43 33.0	-0.2
MA2				pmax	pmax		
	comp=N,10.0nm,0.6s						
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
MA2	Magadan	19.58	25	eP	P	06 43 32.3	-0.9
	comp=Z,30nm,0.6s						
ULN	Ulaanbaatar	19.95	294	⇑eP	P	06 43 36.1	-0.4
ULN	Ulaanbaatar	19.95	294	eP	P	06 43 36.0	-0.6
	comp=Z,12nm,0.7s						
WHN	Wuhan	20.21	240	P	P	06 43 38.2	-0.8
SONM	Songino Array	20.39	294	P	P	06 43 40.0	-0.5
	comp=Z,7.5nm,0.6s,baz=98,slow=9.0,SNR=56						
SONM				PcP	PcP	06 47 34.2	-0.2
	comp=Z,1.3nm,0.6s,baz=147,slow=2.4,SNR=5.4						
XAN	Xi'an	21.82	255	P	P	06 43 52.6	-1.0
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.4						
ZAK	Zakamensk	22.68	300	eP	P	06 44 00.6	-0.8
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
SEY	Seymchan	22.75	21	eP	P	06 44 03.1	+1.1
LZH	Lanzhou	24.55	265	eP	P	06 44 18.4	+0.3
LZH				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.7						
LZH				AMB	AMB		
	comp=Z,77nm,4.6s						
GTA	Gaotai	26.28	275	P	P	06 44 33.7	+0.2
GTA				PCP	PcP	06 47 47.7	+0.7
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.4						
BILL	Bilibino	30.42	23	eP	P	06 45 10.6	+0.7
BILL				e*PP	pP	06 46 29.7	+4.8
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
KMI	Kunming	31.46	246	P	P	06 45 19.2	+0.3
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.4						
WMQ	Urumqi	33.77	288	⇑iP	P	06 45 39.0	+0.3
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,89nm,5.2s						
ZAL	Zalesovo	34.22	307	P	P	06 45 40.8	-1.7
	comp=Z,4.2nm,0.5s,mb4.1,baz=25,slow=8.1,SNR=15						
ZAL				PcP	PcP	06 48 07.6	-0.5
	comp=Z,5.7nm,0.5s,baz=8.2,slow=2.6,SNR=12						
ZAL	Zalesovo	34.22	307	P	P	06 45 40.8	-1.7
ZAL				PcP	PcP	06 48 07.6	-0.5
MKAR	Makanchi Array	36.75	295	P	P	06 46 03.2	-0.6
	comp=Z,9.9nm,0.7s,mb4.2,baz=84,slow=9.8,SNR=110						
MKAR				PcP	PcP	06 48 14.8	-0.8
	comp=Z,1.4nm,0.4s,baz=68,slow=2.6,SNR=11						
MKAR				S	S	06 51 17.9	+1.4
	comp=Z,1.7nm,0.8s,baz=29,slow=26,SNR=9.0						
JIRN	Jiri	41.71	265	eP	P	06 46 44.5	+0.3
	comp=Z,20nm,0.5s,mb4.7						
GUN	Gumba	41.80	265	eP	P	06 46 44.9	0.0
	comp=Z,75nm,0.5s,mb5.3						
ULHL	Ulahol	42.23	290	P	P	06 46 48.0	-0.3
	SNR=6.9						
KKN	Kakani	42.31	266	eP	P	06 46 48.8	-0.1
	comp=Z,14nm,0.4s,mb4.6						
PKI	Pulchoki	42.34	265	eP	P	06 46 48.9	-0.2
	comp=Z,26nm,0.6s,mb4.8						
TKM2	Tokmak 2	42.44	291	P	P	06 46 50.4	+0.5
	SNR=29						
DMN	Daman	42.54	266	eP	P	06 46 50.6	-0.1
	comp=Z,24nm,0.6s,mb4.7						
CHKZ	Chkalovo	42.59	308	eP	P	06 46 50.1	-1.0
CHKZ				e		06 48 33.1	
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.3						
CHKZ	Chkalovo	42.59	308	eP	P	06 46 50.1	-1.1
	comp=Z,12nm,0.8s,mb4.3						
CHKZ				e		06 48 33.1	
GKN	Gorkha	42.66	267	eP	P	06 46 51.3	-0.4
	comp=Z,41nm,0.5s,mb5.0						
BVAR	Borovoye Array	42.86	307	P	P	06 46 52.7	-0.6
	comp=Z,5.2nm,0.5s,mb4.1,baz=76,slow=7.8,SNR=30						
BVAR				PcP	PcP	06 48 35.2	-0.3
	comp=Z,5.1nm,0.4s,baz=87,slow=2.6,SNR=21						
BVAR				S	S	06 52 39.8	-6.5
	comp=Z,2.1nm,0.7s,baz=72,slow=27,SNR=7.1						
BRVK	Borovoye	42.92	307	eP	P	06 46 52.6	-1.1
BRVK				e		06 48 35.0	
BRVK				eS	S	06 52 40.9	-6.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
BRVK	Borovoye	42.92	307	eP	P	06 46 52.6	-1.1
	comp=Z,3.0nm,0.6s,mb3.8						
BRVK				e		06 48 35.0	
BRVK				eS	S	06 52 40.9	-6.2
KBK	Karagaybulak	42.98	291	P	P	06 46 54.3	+0.1
	SNR=12						
KZA	Kyzart	42.98	290	P	P	06 46 55.4	+1.1
	SNR=6.4						
AAK	Ala-Archa	43.30	291	P	P	06 46 56.3	-0.5
	SNR=8.5						
AAK	Ala-Archa	43.30	291	⇑eP	P	06 46 55.5	-1.2
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
AAK	Ala-Archa	43.30	291	eP	P	06 46 55.4	-1.4
	comp=Z,7.5nm,0.8s,mb4.1						
KOLN	Koldanda	43.56	267	eP	P	06 46 58.7	-0.1
	comp=Z,40nm,0.8s,mb4.8						
ZRNK	Zerenda	43.70	307	eP	P	06 46 59.4	-0.5
ZRNK				e		06 48 37.5	
ZRNK				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.5						
ZRNK	Zerenda	43.70	307	eP	P	06 46 59.4	-0.4
	comp=Z,16nm,0.6s,mb4.5						
ZRNK				e		06 48 37.5	
EKS2	Erkin-Say	43.78	292	P	P	06 47 00.2	-0.3
	SNR=8.2						
AML	Almayashu	44.03	291	P	P	06 47 03.2	+0.7
	SNR=5.2						
KDAK	Kodiak Island	46.58	45	P	P	06 47 21.9	-0.3
	comp=Z,2.9nm,0.5s,mb3.9,baz=251,slow=11,SNR=3.7						
KDAK				PcP	PcP	06 48 49.0	+0.6
	comp=Z,4.5nm,0.9s,baz=110,slow=14,SNR=3.5						
COLA	College	47.23	35	eP	P	06 47 28.1	+1.0
COLA	College	47.23	35	eP	P	06 47 27.3	+0.2
	comp=Z,3.0nm,0.6s,mb3.8						
SVE	Sverdlovsk	47.37	314	eP	P	06 47 28.3	+0.1
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
ARU	Arti	48.59	314	⇓iP	P	06 47 36.9	-0.5
ARU				e		06 48 52.7	
ARU				eS	S	06 54 03.8	-3.2
ARU				eSS	SS	06 57 41.6	-1.7
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.3						
ARU	Arti	48.59	314	eP	P	06 47 37.1	-0.3
	comp=Z,18nm,0.8s,mb4.5						
ARU				e	pP	06 48 54.6	-5.1
EGAK	Eagle	50.02	34	eP	P	06 47 48.2	+0.2
EGAK				e		06 49 00.9	
PSI	Prapat	50.89	229	P	P	06 47 55.0	+0.5
	comp=Z,3.1nm,0.5s,mb3.8,baz=2.1,slow=9.3,SNR=4.1						
PSI	Prapat	50.89	229	P	P	06 47 55.0	+0.5
AKTK	Aktyubinsk	50.97	307	P	P	06 47 54.6	-0.5
AKTK				PcP	PcP	06 49 03.8	-0.7
AKTO	Aktyubinsk	50.97	307	P	P	06 47 54.6	-0.5
	comp=Z,6.4nm,0.8s,mb3.9,baz=66,slow=14,SNR=17						
AKTO				PcP	PcP	06 49 03.8	-0.7
	comp=Z,3.0nm,0.7s,baz=100,slow=6.6,SNR=5.0						
INK	Inuvik	51.78	28	P	P	06 48 01.5	+0.5
	comp=Z,3.8nm,0.4s,mb4.0,baz=290,slow=5.9,SNR=24						
INK				PcP	PcP	06 49 07.7	+0.2
	comp=Z,3.7nm,0.5s,baz=336,slow=3.3,SNR=10.0						
INK	Inuvik	51.78	28	P	P	06 48 01.5	+0.5
INK						06 49 07.7	
INK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
INK	Inuvik	51.78	28	eP	P	06 48 00.9	-0.1
	comp=Z,4.2nm,0.5s,mb3.9						
INK				e		06 49 07.7	
KEV	Kevo	56.16	336	ep	P	06 48 30.4	-1.8
	comp=Z,6.0nm,0.4s,mb4.3						
KEV	Kevo	56.16	336	eP	P	06 48 31.6	-0.6
KEV				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
KEV	Kevo	56.16	336	eP	P	06 48 31.6	-0.6
	comp=Z,7.3nm,0.5s,mb4.3						
POO	Poona	56.24	264	eP	P	06 48 25.0	-7.8
ARCES	ARCESS Array B	56.73	337	P	P	06 48 35.6	-0.5
	comp=Z,3.6nm,0.4s,mb4.0,baz=61,slow=8.5,SNR=48						
ARCES				PcP	PcP	06 49 26.0	-0.6
	comp=Z,0.6nm,0.4s,baz=57,slow=4.5,SNR=4.8						
JOF	Joensuu	58.39	328	ep	P	06 48 45.8	-1.7
	comp=Z,7.8nm,0.4s,mb4.4						
OBN	Obninsk	60.34	319	eP	P	06 48 59.6	-1.1
OBN				e		06 49 39.9	
OBN				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
KAF	Kangasniemi	60.76	329	ep	P	06 49 02.0	-1.5
	comp=Z,9.1nm,0.5s,mb4.5,baz=51,slow=6.3						
KAF	Kangasniemi	60.76	329	ep	PcP	06 49 40.2	-2.5
KAF	Kangasniemi	60.76	329	eP	P	06 49 02.0	-1.5
KAF				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.5						
FITZ	Fitzroy Crossi	61.10	190	P	P	06 49 06.0	+0.2
	comp=Z,2.6nm,0.9s,mb3.7,baz=90,slow=14,SNR=3.7						
FITZ				PcP	PcP	06 49 44.4	+0.3
	comp=Z,1.8nm,1.1s,baz=69,slow=24,SNR=2.8						
VRSR	Storozhevoye	61.15	314	eP	P	06 49 05.6	-0.5
FINES	FINESS Array B	61.25	329	P	P	06 49 06.0	-0.7
	comp=Z,11nm,0.6s,mb4.5,baz=63,slow=7.5,SNR=45						
FINES				PcP	PcP	06 49 43.4	-1.3
	comp=Z,2.8nm,0.3s,baz=63,slow=4.0,SNR=9.3						
YKA	Yellowknife Ar	61.49	30	P	P	06 49 08.3	0.0
	comp=Z,1.6nm,0.6s,mb3.6,baz=316,slow=7.0,SNR=5.8						
WRA	Warramunga Arr	62.38	180	P	P	06 49 13.6	-0.6
	comp=Z,0.7nm,0.6s,mb3.3,baz=356,slow=7.1,SNR=3.7						
KIV	Kislovodsk	63.22	306	eP	P	06 49 20.2	+0.6
KIV				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.1						

KIV **Kislovodsk 63.22 306** *e*P P 06 49 20.2 +0.6
comp=Z,58nm,0.9s,mb5.1
ASAR **Alice Springs 66.09 181** P P 06 49 38.1 +0.2
comp=Z,0.8nm,0.6s,mb3.5,baz=357,slow=6.3,SNR=14
ASAR PcP PcP 06 50 03.8 -0.8
comp=Z,1.0nm,0.8s,baz=2.8,slow=6.2,SNR=5.9
AKASG **Malin Array Be 66.53 318** P P 06 49 39.6 -1.1
comp=Z,7.6nm,0.6s,mb4.4,baz=48,slow=6.2,SNR=7.3
AKBB **Malin Array Si 66.53 318** *e*P P 06 49 39.7 -1.0
NB2 **NORSAR Subarra 66.80 334** P P 06 49 41.6 -0.8
comp=Z,5.6nm,0.6s,mb4.4,baz=40,slow=6.5
NOA **NORSAR Array B 66.80 334** P P 06 49 41.7 -0.7
comp=Z,6.3nm,0.7s,mb4.3,baz=41,slow=6.1,SNR=19
NOA PcP PcP 06 50 06.8 -0.8
comp=Z,1.2nm,0.5s,baz=41,slow=4.3,SNR=3.4
NOA **NORSAR Array B 66.80 334** P P 06 49 41.7 -0.7
NOA PcP PcP 06 50 06.8 -0.8
UMR **Umm Al-Rimmam 68.44 291** *e*P P 06 49 51.5 -1.0
UMR AMb AMB 06 49 52.4
comp=Z,38nm,0.4s,mb5.3
RDF **Al-Radifah 68.94 290** *e*P P 06 49 54.6 -0.9
RDF AMb AMB 06 49 55.8
comp=Z,34nm,0.6s,mb5.2
NAY **Al-Naaiem 68.96 291** *e*P P 06 49 54.6 -1.0
NAY AMb AMB 06 49 55.5
comp=Z,16nm,0.7s,mb4.8
RST **Umm Al-Ruwaisa 68.97 291** *e*P P 06 49 54.2 -1.5
RST AMb AMB 06 49 55.3
comp=Z,32nm,0.6s,mb5.1
MALT **Malatya 69.16 303** ⇓P P 06 49 57.7 +0.9
MALT **Malatya 69.16 303** *e*P P 06 49 57.6 +0.7
comp=Z,10nm,0.9s,mb4.5
BSD **Bornholm Skovb 69.86 328** ⇓*i*P P 06 50 00.2 -0.9
comp=Z,9.6nm,0.5s,mb4.6
BSD **Bornholm Skovb 69.86 328** ⇓*i*P P 06 50 00.2 -0.9
BSD pmax pmax
comp=Z,10.0nm,0.5s,mb4.6
BURAR **Bucovina Array 70.54 317** ⇑*i*P P 06 50 05.4 +0.2
WALA **Waterton Lakes 70.64 40** *e*P P 06 50 06.5 +0.8
comp=Z,3.4nm,0.6s,mb4.0
KOLS **Kolonicke sedl 71.07 320** *e*P P 06 50 08.4 +0.1
BR131 **Keskin Array S 71.15 307** *e*P P 06 50 08.5 -0.3
comp=Z,2.0nm,0.4s,mb4.0
BRTR **Keskin Array B 71.15 307** P P 06 50 08.8 +0.1
comp=Z,4.6nm,0.6s,mb4.2,baz=87,slow=3.4,SNR=20
STHS **Stebnicka Huta 71.22 321** *e*P P 06 50 09.7 +0.5
OJC **Ojcow 71.32 322** *i* Pd P 06 50 10.1 +0.3
CRVS **Cervenica-Dubn 71.48 320** *e*P P 06 50 10.6 -0.1
NIE **Niedzica 71.65 321** *e*P P 06 50 12.6 +0.9
BSEG **Bad Segeberg 72.51 329** *e*P P 06 50 16.8 0.0
comp=Z,14nm,0.6s,mb4.7
BSEG **Bad Segeberg 72.51 329** *e*P P 06 50 16.8 0.0
BSEG pmax pmax
comp=Z,14nm,0.6s,mb4.7
MORC **Moravsky Berou 72.65 323** ⇑*i*P P 06 50 17.7 +0.1
MORC **Moravsky Berou 72.65 323** *e*P P 06 50 17.7 +0.1
MORC pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
MORC **Moravsky Berou 72.65 323** *e*P P 06 50 17.7 +0.1
comp=Z,6.7nm,0.8s,mb4.2
DPC **Dobruska-Polom 72.77 324** *e*P P 06 50 18.9 +0.6
UPC **Upice 72.79 324** *e*P P 06 50 18.7 +0.3
VYHS **Vyhne 72.99 321** *e*P P 06 50 19.3 -0.3
HRY **Holter Researc 73.28 41** *e*P P 06 50 22.1 +0.8
EGMT **Eagleton 73.33 39** *e*P P 06 50 21.8 +0.3
comp=Z,12nm,1.0s,mb4.4
EGMT *e* 06 52 08.8
BRG **Berggiesshubel 73.40 325** *e*P P 06 50 21.8 -0.1
comp=Z,5.0nm,0.7s,mb4.2
BRG **Berggiesshubel 73.40 325** *i* P P 06 50 22.1 +0.1
comp=Z,2.9nm,0.7s,mb3.9
BRG **Berggiesshubel 73.40 325** *i* P P 06 50 22.1 +0.2
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
CLL **Collm 73.46 326** *e*P P 06 50 21.9 -0.4
comp=Z,14nm,0.5s,mb4.8
CLL **Collm 73.46 326** ⇓*i*P P 06 50 22.0 -0.3
comp=Z,14nm,0.5s,mb4.8
CLL **Collm 73.46 326** ⇓*i*P P 06 50 22.0 -0.3
CLL pmax pmax
comp=Z,14nm,0.5s,mb4.8
CLL **Collm 73.46 326** ⇓*i*P P 06 50 22.0 -0.3
comp=Z,14nm,0.5s,mb4.8
FBE **Freiberg 73.61 326** *e*P P 06 50 23.1 0.0
comp=Z,9.0nm,0.9s,mb4.4
NRDL **Niedersach Rie 73.71 328** *e*P P 06 50 23.4 -0.3
comp=Z,6.0nm,0.8s,mb4.3
BZS **Buzias 73.72 318** ⇑*i*P P 06 50 23.5 -0.2
BZS **Buzias 73.72 318** ⇑P P 06 50 23.5 -0.2
PRU **Pruhonice 73.81 324** *e*P P 06 50 24.6 +0.3
DLMT **Dillon 73.86 43** *e*P P 06 50 25.6 +1.0
comp=Z,9.6nm,0.5s,mb4.7
ASF **Jabal al Asfar 74.02 299** P P 06 50 25.9 +0.4
comp=Z,5.9nm,0.8s,mb4.3,baz=288,slow=4.6,SNR=8.8
MCMT **McKenzie Canyo 74.11 43** *e*P P 06 50 26.4 +0.4
PAHR **Pah Rah Range 74.15 50** *e*P P 06 50 27.0 +0.8
comp=Z,9.8nm,1.0s,mb4.4
HLID **Hailey 74.20 45** *e*P P 06 50 28.0 +1.5
comp=Z,1.0nm,0.7s,mb3.5
WERD **Werda 74.40 326** *e*P P 06 50 27.8 +0.1
comp=Z,3.0nm,0.7s,mb4.0
GUNZ **Gunzen 74.46 326** *e*P P 06 50 27.9 -0.1
comp=Z,4.0nm,0.7s,mb4.2
WERN **Wernitzgruen 74.50 326** *e*P P 06 50 28.3 +0.1
comp=Z,6.0nm,0.6s,mb4.4
GTTG **Gyttingen 74.50 328** *e*P P 06 50 28.4 +0.2
comp=Z,7.0nm,0.7s,mb4.4
MOX **Moxa 74.54 326** *e*P P 06 50 28.2 -0.2
comp=Z,4.0nm,0.7s,mb4.2
STKA **Stephens Creek 74.55 174** P P 06 50 29.2 +0.8
comp=Z,2.8nm,0.5s,mb4.1,baz=353,slow=5.2,SNR=8.2
STKA **Stephens Creek 74.55 174** *e*P P 06 50 29.2 +0.8
CMB **Columbia Colle 74.71 52** *e*P P 06 50 30.3 +1.0
comp=Z,1.8nm,0.6s,mb3.9
MANZ **Manzenberg 74.84 326** *e*P P 06 50 30.4 +0.3
comp=Z,6.0nm,0.9s,mb4.2
KHC **Kasperske Hory 74.87 324** *e*P P 06 50 30.6 +0.3
KHC **Kasperske Hory 74.87 324** ⇑*e*P P 06 50 30.7 +0.4
ROTZ **Rotzenmuhle 74.97 325** *e*P P 06 50 31.1 +0.3
comp=Z,8.0nm,1.3s,mb4.2
GEC2 **GERESS Array S 75.03 324** *e*P P 06 50 31.0 -0.2
comp=Z,4.0nm,0.6s,mb4.2
GEC2 **GERESS Array S 75.03 324** *e*P P 06 50 31.0 -0.2
GEC2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
GERES **GERESS Array B 75.03 324** P P 06 50 31.3 +0.1
comp=Z,2.4nm,0.5s,mb4.1,baz=35,slow=5.3,SNR=21
VTS **Vitosha 75.04 315** ⇓*i*P P 06 50 31.8 +0.5
VTS **Vitosha 75.04 315** ⇓P P 06 50 31.8 +0.6
WET **Wettzell 75.16 325** *e*P P 06 50 32.2 +0.3
comp=Z,6.0nm,0.9s,mb4.2
WET **Wettzell 75.16 325** *e*P P 06 50 32.2 +0.3
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
GRA1 **Grafenberg Arr 75.43 326** *e*P P 06 50 34.0 +0.5
GRF **Grafenberg Arr 75.43 326** *e*P P 06 50 34.0 +0.5
NVAR **Mina Array Bea 75.64 51** P P 06 50 36.1 +1.5
comp=Z,4.7nm,0.6s,mb4.3,baz=295,slow=5.9,SNR=57
RLMT **Red Lodge 75.67 41** *e*P P 06 50 35.7 +0.9
IMW **Indian Meadow 75.74 43** *e*P P 06 50 37.0 +1.8
comp=Z,5.4nm,0.7s,mb4.3
RRI2 **Red Ridge 75.94 43** *e*P P 06 50 38.0 +1.7
comp=Z,7.5nm,0.9s,mb4.3
TPAW **Teton Pass 76.03 43** *e*P P 06 50 38.5 +1.8
comp=Z,2.9nm,0.6s,mb4.1
TNS **Taunus Mts 76.14 328** *e*P P 06 50 37.2 -0.2
comp=Z,6.0nm,0.9s,mb4.2
TNS **Taunus Mts 76.14 328** *e*P P 06 50 37.2 -0.2
TNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
HWUT **Hardware Ranch 77.07 45** *e*P P 06 50 43.8 +1.3
comp=Z,1.7nm,0.4s,mb4.0
BCLA **Clavier 77.19 329** P P 06 50 43.0 -0.2
BW06 **Boulder Array 77.25 43** *e*P P 06 50 44.2 +0.7
comp=Z,9.1nm,1.0s,mb4.4
PDAR **Pinedale Array 77.25 43** P P 06 50 44.3 +0.8
comp=Z,5.8nm,0.4s,mb4.5,baz=55,slow=0.9,SNR=64
DUG **Dugway 77.43 46** *e*P P 06 50 45.8 +1.3
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
DUG **Dugway 77.43 46** *e*P P 06 50 45.8 +1.3
comp=Z,3.9nm,0.8s,mb4.1
ULM **Lac du Bonnet 77.45 30** P P 06 50 44.2 -0.4
comp=Z,6.9nm,0.5s,mb4.5,baz=317,slow=7.1,SNR=23
ULM **Lac du Bonnet 77.45 30** P P 06 50 44.2 -0.4
TCUT **Toone Canyon 77.51 45** *e*P P 06 50 46.3 +1.3

GIVF **Givet 77.62 330** *e*P P 06 50 44.8 -0.8
BFO **Black Forest 77.68 327** *e*P P 06 50 45.7 -0.2
CDF **Champ du Feu 78.04 327** *e*P P 06 50 47.6 -0.3
comp=Z,8.6nm,0.7s,mb4.2
CDF **Champ du Feu 78.04 327** *e*P P 06 50 47.6 -0.3
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
CDF **Champ du Feu 78.04 327** *e*P P 06 50 47.6 -0.3
comp=Z,4.3nm,0.7s,mb4.2
HINF **Hinteralfeld 78.69 327** *e*P P 06 50 50.7 -0.7
comp=Z,3.3nm,0.5s,mb4.0
HINF **Hinteralfeld 78.69 327** *e*P P 06 50 50.7 -0.7
HINF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
HINF **Hinteralfeld 78.69 327** *e*P P 06 50 50.7 -0.7
comp=Z,1.6nm,0.4s,mb4.0
HAU **Haudompre 78.74 327** *e*P P 06 50 51.1 -0.5
comp=Z,17nm,0.7s,mb4.5
HAU **Haudompre 78.74 327** *e*P P 06 50 51.1 -0.5
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
HAU **Haudompre 78.74 327** *e*P P 06 50 51.1 -0.5
comp=Z,8.5nm,0.7s,mb4.5
RSSD **Black Hills 78.89 39** *e*P P 06 50 53.1 +0.7
RSSD pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
RSSD **Black Hills 78.89 39** *e*P P 06 50 53.0 +0.6
comp=Z,4.0nm,0.6s,mb4.2
TMUT **Trail Mountain 78.94 46** *e*P P 06 50 54.1 +1.4
MSU **Marysvale 78.98 47** *e*P P 06 50 54.6 +1.7
IDI **Anoyia 79.26 308** P P 06 50 53.2 -1.3
comp=Z,8.5nm,0.4s,mb4.7,baz=47,slow=5.1,SNR=16
SRU **San Rafael 79.43 46** *e*P P 06 50 56.2 +0.9
SRU pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
SRU **San Rafael 79.43 46** *e*P P 06 50 56.2 +0.8
comp=Z,3.1nm,0.4s,mb4.3
CABF **La Chapelle 79.97 327** *e*P P 06 50 57.8 -0.4
comp=Z,3.9nm,0.4s,mb4.0
CABF **La Chapelle 79.97 327** *e*P P 06 50 57.8 -0.4
CABF pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
CABF **La Chapelle 79.97 327** *e*P P 06 50 57.8 -0.4
comp=Z,2.0nm,0.4s,mb4.1
LOR **Lormes 80.31 328** *e*P P 06 50 59.3 -0.7
comp=Z,27nm,0.7s,mb4.7
LOR **Lormes 80.31 328** *e*P P 06 50 59.3 -0.7
LOR pmax pmax
comp=Z,13nm,0.7s,mb4.7
LOR **Lormes 80.31 328** *e*P P 06 50 59.3 -0.7
comp=Z,13nm,0.7s,mb4.7
LPL **La Plagne 80.59 326** *e*P P 06 51 01.6 +0.1
comp=Z,30nm,0.6s,mb4.9
LPL **La Plagne 80.59 326** *e*P P 06 51 01.6 +0.1
LPL pmax pmax
comp=Z,15nm,0.6s,mb4.9
LPL **La Plagne 80.59 326** *e*P P 06 51 01.6 +0.1
comp=Z,15nm,0.6s,mb4.9
LPG **La Plagne 80.60 326** *e*P P 06 51 01.8 +0.3
comp=Z,38nm,0.6s,mb5.0
LPG **La Plagne 80.60 326** *e*P P 06 51 01.8 +0.3
LPG pmax pmax
comp=Z,19nm,0.6s,mb5.0
LPG **La Plagne 80.60 326** *e*P P 06 51 01.8 +0.3
comp=Z,19nm,0.6s,mb5.0
FLN **La Foliniere 80.66 332** *e*P P 06 51 01.2 -0.6
LDF **La Druitiere 80.67 331** *e*P P 06 51 01.3 -0.6
SMF **Signal de Mont 80.83 328** *e*P P 06 51 02.3 -0.4
comp=Z,17nm,0.6s,mb4.7
SMF **Signal de Mont 80.83 328** *e*P P 06 51 02.3 -0.4
SMF pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
SMF **Signal de Mont 80.83 328** *e*P P 06 51 02.3 -0.4
comp=Z,8.6nm,0.6s,mb4.7
AVF **Avril sur Loir 80.90 328** *e*P P 06 51 02.6 -0.5
comp=Z,33nm,0.8s,mb4.8
AVF **Avril sur Loir 80.90 328** *e*P P 06 51 02.6 -0.5
AVF pmax pmax
comp=Z,16nm,0.8s,mb4.8
AVF **Avril sur Loir 80.90 328** *e*P P 06 51 02.6 -0.5
comp=Z,16nm,0.8s,mb4.8
SCHQ **Schefferville 81.09 12** P P 06 51 03.8 -0.3
comp=Z,2.3nm,0.6s,mb4.1,baz=282,slow=16,SNR=4.4
GRR **Gorron 81.11 332** *e*P P 06 51 03.4 -0.7
comp=Z,5.9nm,0.4s,mb4.4
GRR **Gorron 81.11 332** *e*P P 06 51 03.4 -0.7
GRR pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
GRR **Gorron 81.11 332** *e*P P 06 51 03.4 -0.7
comp=Z,3.0nm,0.4s,mb4.4
PV01 **Paradox Valley 81.18 45** *e*P P 06 51 05.6 +1.1
MBDF **Montbardon 81.21 325** *e*P P 06 51 04.1 -0.6
comp=Z,20nm,0.7s,mb4.7
MBDF **Montbardon 81.21 325** *e*P P 06 51 04.1 -0.6
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MBDF **Montbardon 81.21 325** *e*P P 06 51 04.1 -0.6
comp=Z,10nm,0.7s,mb4.7
SMCO **Snowmass 81.23 44** *e*P P 06 51 06.2 +1.4
comp=Z,7.0nm,0.6s,mb4.6
BGF **Bois d'Agland 81.29 329** *e*P P 06 51 04.4 -0.7
ORIF **Oris-en-Rattie 81.43 326** *e*P P 06 51 05.6 -0.2
comp=Z,11nm,0.7s,mb4.4
ORIF **Oris-en-Rattie 81.43 326** *e*P P 06 51 05.6 -0.2
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
ORIF **Oris-en-Rattie 81.43 326** *e*P P 06 51 05.6 -0.2
comp=Z,5.6nm,0.7s,mb4.4
ISCO **Idaho Springs 81.44 43** *e*P P 06 51 07.2 +1.3
ISCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
ISCO **Idaho Springs 81.44 43** *e*P P 06 51 07.2 +1.3
comp=Z,3.5nm,0.7s,mb4.2
SBF **Sospel 81.63 324** *e*P P 06 51 06.0 -0.8
comp=Z,24nm,0.8s,mb4.7
SBF **Sospel 81.63 324** *e*P P 06 51 06.0 -0.8
SBF pmax pmax
comp=Z,12nm,0.8s,mb4.7
SBF **Sospel 81.63 324** *e*P P 06 51 06.0 -0.8
comp=Z,12nm,0.8s,mb4.7
TCF **Toulx Ste Croi 81.76 329** *e*P P 06 51 07.2 -0.3
comp=Z,3.1nm,0.4s,mb4.1
TCF **Toulx Ste Croi 81.76 329** *e*P P 06 51 07.2 -0.3
TCF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
TCF **Toulx Ste Croi 81.76 329** *e*P P 06 51 07.2 -0.3
comp=Z,1.5nm,0.4s,mb4.1
VIVF **Saint-Julien-l 81.98 327** *e*P P 06 51 08.4 -0.2
comp=Z,19nm,0.7s,mb4.6
VIVF **Saint-Julien-l 81.98 327** *e*P P 06 51 08.4 -0.2
VIVF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
VIVF **Saint-Julien-l 81.98 327** *e*P P 06 51 08.4 -0.2
comp=Z,9.6nm,0.7s,mb4.6
ROSF **Rostrenen 81.98 333** *e*P P 06 51 08.3 -0.3
comp=Z,14nm,0.7s,mb4.5
ROSF **Rostrenen 81.98 333** *e*P P 06 51 08.3 -0.3
ROSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ROSF **Rostrenen 81.98 333** *e*P P 06 51 08.3 -0.3
comp=Z,6.8nm,0.7s,mb4.5
FRF **La Foret Royal 82.21 325** *e*P P 06 51 09.0 -0.8
comp=Z,7.1nm,0.6s,mb4.3
FRF **La Foret Royal 82.21 325** *e*P P 06 51 09.0 -0.8
FRF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
FRF **La Foret Royal 82.21 325** *e*P P 06 51 09.0 -0.8
comp=Z,3.5nm,0.6s,mb4.3
SMRF **Simiane la Rot 82.33 326** *e*P P 06 51 10.0 -0.4
MFF **Saint Martin d 82.37 330** *e*P P 06 51 10.4 -0.3
comp=Z,15nm,0.8s,mb4.4
MFF **Saint Martin d 82.37 330** *e*P P 06 51 10.4 -0.3
MFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
MFF **Saint Martin d 82.37 330** *e*P P 06 51 10.4 -0.3
comp=Z,7.3nm,0.8s,mb4.5
LMR **La Mourre 82.45 325** *e*P P 06 51 10.4 -0.7
comp=Z,26nm,0.7s,mb4.8
LMR **La Mourre 82.45 325** *e*P P 06 51 10.4 -0.7
LMR pmax pmax
comp=Z,13nm,0.7s,mb4.8
LMR **La Mourre 82.45 325** *e*P P 06 51 10.4 -0.7
comp=Z,13nm,0.7s,mb4.8
RJF **Les Rejaudoux 82.85 329** *e*P P 06 51 12.9 -0.2
comp=Z,23nm,1.1s,mb4.5
RJF **Les Rejaudoux 82.85 329** *e*P P 06 51 12.9 -0.2
RJF pmax pmax
comp=Z,12nm,1.1s,mb4.5
RJF **Les Rejaudoux 82.85 329** *e*P P 06 51 12.9 -0.2
comp=Z,12nm,1.1s,mb4.5
LASF **Ste Croix 82.95 327** *e*P P 06 51 13.5 -0.1
comp=Z,28nm,1.2s,mb4.6
CAF **Calviac 82.95 328** *e*P P 06 51 14.0 +0.4
LFF **La Frestale 83.45 329** *e*P P 06 51 16.4 +0.3
comp=Z,26nm,0.5s,mb5.0
LFF **La Frestale 83.45 329** *e*P P 06 51 16.4 +0.3
LFF pmax pmax
comp=Z,13nm,0.5s,mb4.9
LFF **La Frestale 83.45 329** *e*P P 06 51 16.4 +0.3
comp=Z,13nm,0.5s,mb4.9
ATD **Arta Tunnel 83.52 280** P P 06 51 18.0 +1.6
comp=Z,7.5nm,0.7s,mb4.5,baz=274,slow=20,SNR=5.1
ATD **Arta Tunnel 83.52 280** P P 06 51 18.0 +1.6
MTLF **Montolieu 84.22 327** *e*P P 06 51 19.8 -0.2
comp=Z,8.1nm,0.9s,mb4.2
MTLF **Montolieu 84.22 327** *e*P P 06 51 19.8 -0.2
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MTLF **Montolieu 84.22 327** *e*P P 06 51 19.8 -0.2
comp=Z,4.1nm,0.9s,mb4.2
ANMO **Albuquerque 84.70 46** *e*P P 06 51 23.8 +1.5
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO **Albuquerque 84.70 46** *e*P P 06 51 23.8 +1.5
comp=Z,3.3nm,1.2s,mb3.9
EPF **Esparros 85.22 328** *e*P P 06 51 25.1 +0.2
ETSF **Etsaut 85.68 329** *e*P P 06 51 27.4 +0.3
comp=Z,6.1nm,0.5s,mb4.3
ETSF **Etsaut 85.68 329** *e*P P 06 51 27.4 +0.3
ETSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
ETSF **Etsaut 85.68 329** *e*P P 06 51 27.4 +0.3
comp=Z,3.0nm,0.5s,mb4.3
SJPF **Ste Jean 85.75 329** *e*P P 06 51 27.5 0.0
JCT **Junction City 91.68 45** *e*P P 06 51 55.8 +0.6
JCT pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
JCT **Junction City 91.68 45** *e*P P 06 51 55.8 +0.6
comp=Z,2.8nm,0.6s,mb4.4
TORD **Torodi Ar. Bea 109.58 311** PKiKP PKiKP 06 57 14.9 -1.0
comp=Z,0.4nm,0.4s,baz=14,slow=2.8,SNR=11
TORD PP PP 06 57 48.7 -5.5
comp=Z,0.7nm,0.7s,baz=26,slow=7.1,SNR=4.2
DBIC **Dimbokro 118.52 313** PKP PKPdf 06 57 32.5 -0.5
comp=Z,2.7nm,0.4s,baz=37,slow=2.6,SNR=10
DBIC **Dimbokro 118.52 313** PKP PKPdf 06 57 32.5 -0.5
LIC **Lamto 118.99 313** *e*PKIKP PKPdf 06 57 33.0 -0.9
comp=Z,4.6nm,0.4s
VNDA **Vanda 121.18 173** PKP PKPdf 06 57 36.2 -1.9
comp=Z,1.2nm,0.7s,baz=314,slow=3.3,SNR=8.6
VNDA **Vanda 121.18 173** PKP PKPdf 06 57 36.2 -1.9
MAW **Mawson 122.41 206** PKP PKPdf 06 57 38.8 -1.6
comp=Z,2.1nm,0.7s,baz=44,slow=5.4,SNR=12
SDV **Santo Domingo 123.70 30** *e*PKPdf PKPdf 06 57 42.7 -0.2
SAML **Samuel 142.91 30** *e*PKPdf PKPdf 06 58 15.6 -3.1
SNAA **Sanae 144.40 202** PKP PKPdf 06 58 18.3 -3.0
comp=Z,2.2nm,0.6s,baz=162,slow=2.8,SNR=70
SNAA **Sanae 144.40 202** ⇓*i*PKPdf PKPdf 06 58 18.9 -2.4
SNAA *e* 06 58 20.1
SNAA *e* 06 58 22.4
SNAA **Sanae 144.40 202** *e*PKPdf PKPdf 06 58 18.7 -2.7
VNA1 **Neumayer--Stat 146.44 201** ⇓*i*PKPdf PKPdf 06 58 25.5 +0.7
VNA1 *e* 06 58 26.7
VNA1 *e* 06 58 28.5
LPAZ **La Paz 147.27 43** PKPbc PKPbc 06 58 30.0 +0.8
comp=Z,3.9nm,0.7s,baz=0.2,slow=5.7,SNR=20
LPAZ **La Paz 147.27 43** *e*PKPdf PKPdf 06 58 25.5 -0.7
LPAZ PKPbc PKPbc 06 58 30.0 +0.8
LPAZ *e*PKPbc PKPbc 06 58 30.4 +1.3
BDFB **Brasilia 152.89 5** PKPbc PKPbc 06 58 42.1 -0.4
comp=Z,3.8nm,0.7s,baz=77,slow=1.8,SNR=5.3
BDFB PKPab PKPab 06 58 55.8 +0.2
comp=Z,4.0nm,0.6s,baz=228,slow=2.6,SNR=6.8
CPUP **Villa Florida 160.95 34** PKPab PKPab 06 59 30.8 +0.3
comp=Z,1.0nm,0.5s,baz=322,slow=5.5,SNR=8.2
CPUP **Villa Florida 160.95 34** PKP2 PKPab 06 59 30.8 +0.3
CPUP pmax pmax
comp=Z,1.0nm,0.5s

IDC ***12*** *06:45:03.2±1.4, 12.14N×125.83E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=173.5km s-min=18.2km az=69.0*
ISCJB ***12*** *06:45:08.3±1.0, 12.13N±0.06×125.56E±0.08, h46km±10km, mb3.9/7, Error ellipse: s-maj=14.6km s-min=8.8km az=133.4*
MAN ***12*** *06:45:08.3, 12.14N×125.50E, h23km, mb3.4, ML4.6, MS2.4*
ISC 12 06:45:09.3±1.2, 1209N±0.05×12560E±0.10, h40km±12km, n21, σ1s00/28, mb3.9/7, 2C, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.52**	**198**	*e*P			Pn	**06 45 19.7**	**-0.5**
BESP				*e*S			Sn	**06 45 27.7**	**-0.2**
PLP	**Palo**	**1.11**	**214**	*e*P			Pn	**06 45 27.0**	**-1.3**
PLP				*i* S			Sn	**06 45 41.0**	**-1.4**
OCLP	**Ormoc**	**1.42**	**223**	*e*P			Pn	**06 45 32.4**	**-0.2**
PVCP	**Virac**	**2.06**	**317**	*e*P			Pn	**06 45 40.4**	**-0.9**
PVCP				*e*S			Sn	**06 46 08.4**	**+2.7**
MSLP	**Maasin**	**2.08**	**201**	*e*P			Pn	**06 45 43.1**	**+1.5**
MSLP				*e*S			Sn	**06 46 12.3**	**+6.0**
SCPH	**Surigao**	**2.30**	**183** ⇑	*e*P			Pn	**06 45 45.2**	**+0.5**
LLP	**Lapu-Lapu**	**2.39**	**222**	*e*P			Pn	**06 45 45.6**	**-0.3**
LLP				*e*S			Sn	**06 46 08.8**	**+5.1**
RCP	**Roxas**	**2.85**	**260** ⇑	*e*P			Pn	**06 45 52.5**	**+0.3**
TBP	**Tagbilaran**	**2.94**	**216**	*e*P			Pn	**06 45 53.9**	**+0.5**
GUIM	**Jordan**	**3.30**	**244**	*e*P			Pn	**06 45 58.8**	**+0.4**
GUIM				*e*S			Sn	**06 46 36.6**	**+0.3**
OTRP	**Odiongan**	**3.51**	**275**	*e*P			Pn	**06 46 00.8**	**-0.5**
BUKP	**Musuan**	**4.22**	**187**	*e*P			Pn	**06 46 14.3**	**+3.2**
PAGZ	**Pagadian**	**4.75**	**208**	*e*P			Pn	**06 46 20.2**	**+1.9**
BALP	**Baler**	**5.33**	**313**	*e*P			Pn	**06 46 24.8**	**-1.6**
BALP				*e*S			Sn	**06 47 20.9**	**-5.5**
WRA	**Warramunga Arr**	**32.98**	**165**	P			P	**06 51 38.7**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=343,slow=8.8,SNR=4.5								
ASAR	**Alice Springs**	**36.45**	**167**	P			P	**06 52 09.9**	**-0.3**
	1.9nm,0.5s,mb4.2,baz=344,slow=7.3,SNR=21								
SONM	**Songino Array**	**39.09**	**339**	P			P	**06 52 32.2**	**-0.3**
	0.2nm,0.5s,mb3.1,baz=161,slow=9.2,SNR=2.1								
STKA	**Stephens Creek**	**46.33**	**161**	P			P	**06 53 31.6**	**+0.5**
	3.0nm,0.9s,mb4.2,baz=24,slow=7.6,SNR=4.6								
MKAR	**Makanchi Array**	**50.19**	**322**	P			P	**06 54 01.7**	**+0.7**
	1.3nm,0.6s,mb4.1,baz=114,slow=8.9,SNR=9.0								
ARCES	**ARCESS Array B**	**82.27**	**340**	P			P	**06 57 26.4**	**0.0**
	1.4nm,0.8s,mb3.9,baz=82,slow=6.6,SNR=5.1								
FINES	**FINESS Array B**	**83.99**	**332**	P			P	**06 57 35.5**	**+0.2**
	1.6nm,0.9s,mb4.2,baz=79,slow=14,SNR=3.6								

ISCJB ***12*** *06:48:24.8±2.2, 323S±0.1×1794E±0.4, h500km, mb3.5/3, Error ellipse: s-maj=43.4km s-min=13.0km az=148.3*
IDC ***12*** *06:48:25.9±7.2, 32.42S×179.38E, h496km±97km, mb3.0/3, mb1 3.3/4, mb1mx3.0/13, mbtmp4.1/4, Error ellipse: s-maj=125.0km s-min=35.4km az=5.0*
ISC 12 06:48:27.4±2.2, 324S±01×1792E±04, h500km, n12, σ0997/13, mb3.5/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.17**	**188**	*e*PN			P	**06 49 55.5**	**-0.4**
PUZ	**Puketiti**	**5.68**	**188**	*e*PN			P	**06 50 00.3**	**-0.4**
MWZ	**Matawai**	**6.05**	**193**	*e*PN			P	**06 50 04.2**	**0.0**
MWZ				SN			S	**06 51 24.7**	**+1.3**
URZ	**Urewera**	**6.07**	**196**	P			P	**06 50 04.0**	**-0.4**
	14nm,0.3s,baz=5.0,slow=4.6,SNR=67								
URZ				S			S	**06 51 22.0**	**-1.6**
	0.8nm,0.3s,baz=6.7,slow=6.2,SNR=4.3								
URZ	**Urewera**	**6.07**	**196**	*e*PN			P	**06 50 03.9**	**-0.4**
KNZ	**Kokohu**	**6.69**	**190**	*e*PN			P	**06 50 12.0**	**+1.5**
BKZ	**Black Stump Fm**	**7.08**	**198**	*e*PN			P	**06 50 13.0**	**-1.4**
THZ	**Tophouse**	**10.59**	**207**	*e*PN			P	**06 50 52.4**	**+1.4**
ASAR	**Alice Springs**	**40.70**	**271**	P			P	**06 55 23.6**	**-0.2**
	1.3nm,0.8s,mb3.4,baz=105,slow=7.3,SNR=13								
WRA	**Warramunga Arr**	**41.88**	**276**	P			P	**06 55 32.8**	**-0.3**
	0.8nm,0.3s,mb3.6,baz=111,slow=8.0,SNR=8.6								
FITZ	**Fitzroy Crossi**	**50.04**	**273**	P			P	**06 56 35.9**	**+0.5**
	1.3nm,0.8s,mb3.3,baz=106,slow=18,SNR=3.7								
FINES	**FINESS Array B**	**146.16**	**337**	PKPbc			PKPbc	07 07 08.5	-2.8
	1.4nm,0.6s,baz=51,slow=4.7,SNR=15								

MEX 12 06:52:16.7±1.6, 1714N×9469W, h133km±12km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.19**	**255**	*i* P	Pn	06 52 33.3	-1.5
CMIG				*i* S	Sn	06 52 46.5	-2.1
HUIG	**Huatulco**	**1.93**	**225**	*i* P	Pn	06 52 47.2	-2.8
HUIG				*i* S	Sn	06 53 13.3	-2.1
OXX	**Oaxaca**	**1.95**	**269**	*i* P	Pn	06 52 49.5	-0.6
OXX				*i* S	Sn	06 53 15.5	-0.2
VHO	**Vista Hermosa**	**1.96**	**268**	*i* P	Pn	06 52 49.1	-1.1
VHO				*i* S	Sn	06 53 15.0	-0.9
CCIG	**Comitan**	**2.59**	**109**	*i* P	Pn	06 52 58.0	-0.2
CCIG				*i* S	Sn	06 53 28.5	-1.5
TPIG	**Tehuac#an**	**2.84**	**297**	*i* P	Pn	06 53 00.4	-0.9
TPIG				*i* S	Sn	06 53 32.6	-3.2

CASC 12 07:16:33.9±2.9, 1370N×9144W, h66km±74km, MD3.6, 3C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.64**	**343**⇑	*e*P	Pn	07 16 48.5	+0.7
FUG	**Fuego 3**	**0.95**	**38**⇑	*e*P	Pn	07 16 52.5	+1.0
TER	**Terranova**	**0.95**	**51**	*e*P	Pn	07 16 52.5	+1.0
TP2	**Tecpan 2**	**1.15**	**21**⇓	*e*P	Pn	07 16 55.3	+1.1
TP2				*e*S	Sn	07 17 11.7	+2.5
RBDL	**Robledal**	**1.75**	**76**	*e*P	x	07 17 11.7	
RBDL				*e*S	x	07 17 36.3	
RTR	**El Retiro**	**1.76**	**83**	*e*P	x	07 17 11.1	
RTR				*e*S	x	07 17 32.8	
SNJE	**San Jose**	**1.79**	**84**	*e*P	x	07 17 11.0	
SNJE				*e*S	x	07 17 32.5	
LFRS	**El Faro**	**2.32**	**92**⇑	*e*P	x	07 17 19.2	
LFRS				*e*S	x	07 17 47.0	
LCBS	**La Ceiba**	**2.40**	**91**⇓	*e*P	x	07 17 20.0	
LCBS				*e*S	x	07 17 49.5	
VSM	**San Miguel**	**3.09**	**95**	*e*P	x	07 17 18.4	
VSM				*e*S	x	07 17 56.7	

*NIED **12** 07:42:00, 4300N×14680E, h47km, Mw3.9 Best double couple: $M_0$7.51000×10^{14} NP1:ϕ_s59.00000°, δ74.00000°, λ134.00000°. NP2:ϕ_s166.00000°, δ46.00000°, λ23.00000°.*
*SKHL **12** 07:42:43.4±0.3, 43.10N×146.90E, h52km±17km, mb5.3/2*
*ISCJB **12** 07:42:43.7±1.0, 4307N±006×14674E±008, h63km±7km, mb4.2/16, Error ellipse: s-maj=11.9km s-min=8.1km az=110.4*
*MOS **12** 07:42:43.2±1.0, 4324N×14682E, h54km, mb4.4/7, Error ellipse: s-maj=16.3km s-min=11.0km az=120.6*
*JMA **12** 07:42:43.2±0.1, 4302N×14678E, h58km±2km, M4.2*
*NEIC **12** 07:42:45.8±1.7, 43.15N×14670E, h62km±26km, mb4.4/5, Error ellipse: s-maj=40.4km s-min=10.7km az=175.0*
*IDC **12** 07:42:47.4±4.5, 43.17N×14672E, h75km±33km, mb3.8/10, mb1 4.0/11, mb1mx3.8/23, mbtmp4.2/11, MS2.7/3, Ms1 2.7/3, ms1mx2.4/40, Error ellipse: s-maj=77.4km s-min=21.0km az=178.0*
ISC 12 07:42:44.0±1.0, 4311N±006×14681E±007, h51km±7km, n51, σ0§88/63, mb4.2/16, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.82**	**288**	P	**Pn**	**07 42 59.2**	**-0.2**
NEM2				*e*S	**Sn**	**07 43 10.9**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.15**	**324**	*i* P	**Pn**	**07 43 03.6**	**-0.2**
YUK				AMB	AMB	07 43 04.4	
	350nm,0.4s						
YUK				AMB	AMB	07 43 04.4	
	310nm,0.4s						
YUK				AMB	AMB	07 43 04.4	
	2µm,0.1s						
YUK				*i* S	**Sn**	**07 43 18.6**	**+0.1**
YUK				A		07 43 19.5	
	7µm,2.0s						
YUK				A		07 43 19.5	
	15µm,2.0s						
YUK				A		07 43 20.0	
	6µm,0.5s						
YUK				A		07 43 20.0	
	10µm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**324**⇑	*i*PN	**Pn**	**07 43 03.6**	**-0.2**
YUK				*i* S	**Sn**	**07 43 18.6**	**+0.1**
YUK				pmax	pmax		
	comp=Z,2µm,0.2s						
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=E,310nm,0.4s						
YUK				smax			
	comp=N,7µm,1.5s						
YUK				smax			
	comp=E,15µm,1.0s						
YUK				smax			
	comp=N,6µm,0.5s						
YUK				smax			
	comp=E,10µm,0.5s						
JRA	**Rausu**	**1.48**	**304**	P	**Pn**	**07 43 08.6**	**+0.3**
JRA				*e*S	**Sn**	**07 43 27.4**	**+0.9**
JAK	**Akkeshi**	**1.56**	**266**	P	**Pn**	**07 43 08.6**	**-0.7**
JAK				*e*S	**Sn**	**07 43 27.2**	**-1.1**
JNK	**Nakash**	**1.60**	**288**	P	**Pn**	**07 43 09.5**	**-0.4**
JNK				*e*S	**Sn**	**07 43 28.7**	**-0.6**
JOB	**Onbets**	**2.19**	**266**	P	**Pn**	**07 43 17.6**	**-0.4**
JOB				*e*S	**Sn**	**07 43 43.4**	**-0.5**
JAR	**Ashorobuto**	**2.23**	**276**	P	**Pn**	**07 43 18.5**	**0.0**
JAR				*e*S	**Sn**	**07 43 45.1**	**+0.2**
KUR	**Kuril'sk**	**2.25**	**19**⇓	*i*P	**Pn**	**07 43 16.0**	**-2.8**
KUR				AMB	AMB	07 43 17.3	
	comp=E,60nm,0.3s						
KUR				AMB	AMB	07 43 17.3	
	comp=E,90nm,0.3s						
KUR				*i* S	**Sn**	**07 43 42.5**	**-2.9**
KUR				A		07 43 44.3	
	comp=E,330nm,0.4s						
KUR				A		07 43 44.3	
	comp=E,420nm,0.4s						
KUR	**Kuril'sk**	**2.25**	**19**⇓	*i*PN	**Pn**	**07 43 16.0**	**-2.8**
KUR				*i* S	**Sn**	**07 43 42.5**	**-2.9**
KUR				pmax	pmax		
	comp=N,60nm,0.3s						
KUR				pmax	pmax		
	comp=E,60nm,0.3s						
KUR				pmax	pmax		
	comp=Z,90nm,0.3s						
KUR				smax			
	comp=N,330nm,0.4s						
KUR				smax			
	comp=E,420nm,0.4s						
JTKR	**Abashiri--Toko**	**2.28**	**293**	P	**Pn**	**07 43 20.1**	**+0.9**
JTKR				*e*S	**Sn**	**07 43 47.4**	**+1.4**
JCH	**Churui**	**2.58**	**260**	P	**Pn**	**07 43 22.5**	**-0.8**
JCH				*e*S	**Sn**	**07 43 51.8**	**-1.7**
JMP	**Maruseppu**	**2.67**	**291**	P	**Pn**	**07 43 25.5**	**+1.1**
JEM	**Erimo**	**2.91**	**249**	P	**Pn**	**07 43 28.5**	**+0.7**
ERM	**Erimo**	**2.91**	**249**	*e*PN	**Pn**	**07 43 28.6**	**+0.8**
JKK2	**Kamakawa 2**	**3.05**	**286**	P	**Pn**	**07 43 31.0**	**+1.2**
JFR	**Furan**	**3.09**	**272**	P	**Pn**	**07 43 30.8**	**+0.6**
JFR				*e*S	**Sn**	**07 44 05.7**	**-0.2**
JNBK	**Urakawa-nobuka**	**3.11**	**256**	P	**Pn**	**07 43 30.0**	**-0.5**
ASAJ	**Asahikawa**	**3.22**	**290**	P	**Pn**	**07 43 34.0**	**+2.0**
	comp=E,18nm,0.3s,baz=108,slow=12,SNR=37						
ASAJ				S	**Sn**	**07 44 15.3**	**+6.1**
	comp=E,5.7nm,0.3s,baz=51,slow=34,SNR=5.3						
ASAJ	**Asahikawa**	**3.22**	**290**	PN	**Pn**	**07 43 34.1**	**+2.0**
ASAJ				S	**Sn**	**07 44 15.4**	**+6.2**
ASAJ				pmax	pmax		
	comp=Z,18nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.80**	**325**	*e*rx	rx	07 44 08.0	
MJAR	**Matsushiro Arr**	**9.31**	**228**	LR	LR	07 48 53.7	
	comp=N,29nm,20.1s,baz=5.0,slow=39						
JHJ	**Hachijo jima 2**	**11.40**	**211**	LR	LR	07 50 12.3	
	comp=N,34nm,18.8s,baz=148,slow=39						
HIA	**Hailar**	**19.66**	**298**	*e*P	**Pn**	**07 47 09.1**	**-1.4**
ULN	**Ulaanbaatar**	**28.05**	**294**	*e*P	**P**	**07 48 30.6**	**+0.1**
SONM	**Songino Array**	**28.50**	**294**	P	**P**	**07 48 35.1**	**+0.6**
	comp=N,2.0nm,0.6s,mb3.9,baz=86,slow=8.5,SNR=14						
IMA2	**Indian Mountai**	**39.35**	**34**	*e*P	**P**	**07 50 09.3**	**+0.9**
COLA	**College**	**41.73**	**36**	*e*P	**P**	**07 50 28.7**	**+0.7**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
COLA	**College**	**41.73**	**36**	*e*P	**P**	**07 50 28.7**	**+0.7**
	comp=Z,1.6nm,0.5s,mb3.9						
MKAR	**Makanchi Array**	**44.67**	**298**	P	**P**	**07 50 51.9**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.0,baz=76,slow=8.9,SNR=14						
INK	**Inuvik**	**47.08**	**30**	P	**P**	**07 51 11.5**	**+0.8**
	comp=Z,4.1nm,0.5s,mb4.6,baz=311,slow=5.9,SNR=34						
INK	**Inuvik**	**47.08**	**30**	*e*P	**P**	**07 51 11.2**	**+0.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**47.08**	**30**	*e*P	**P**	**07 51 11.2**	**+0.4**
	comp=Z,4.2nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**49.36**	**310**	*e*P	**P**	**07 51 27.7**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	**Chkalovo**	**49.36**	**310**	*e*P	**P**	**07 51 27.7**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**49.72**	**310**	P	**P**	**07 51 31.6**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.2,baz=88,slow=9.9,SNR=7.7						
ZRNK	**Zerenda**	**50.53**	**310**	*e*P	**P**	**07 51 37.2**	**+0.1**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	**Zerenda**	**50.53**	**310**	*e*P	**P**	**07 51 37.2**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.3						
AAK	**Ala-Archa**	**51.41**	**296**	*e*P	**P**	**07 51 44.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
ARCES	**ARCESS Array B**	**59.76**	**340**	P	**P**	**07 52 42.8**	**-0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=50,slow=8.4,SNR=5.9						
JOF	**Joensuu**	**62.54**	**332**	*e*p	**P**	**07 53 01.3**	**-1.2**
	comp=Z,1.9nm,0.3s,mb4.7						
SUMG	**Summit**	**64.56**	**2**	*e*P	**P**	**07 53 15.9**	**+0.1**
	comp=Z,3.4nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**64.78**	**333**	*e*p	**P**	**07 53 15.8**	**-1.4**
	baz=43,slow=6.2						
FINES	**FINESS Array B**	**65.33**	**333**	P	**P**	**07 53 20.1**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.3,baz=36,slow=8.2,SNR=10						
FINES	**FINESS Array B**	**65.33**	**333**	*i* P	**P**	**07 53 20.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**68.13**	**57**	P	**P**	**07 53 39.6**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=290,slow=7.7,SNR=5.8						
NB2	**NORSAR Subarra**	**70.11**	**339**	P	**P**	**07 53 50.7**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.5,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.11**	**339**	P	**P**	**07 53 50.9**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.5,baz=32,slow=6.4,SNR=13						
PDAR	**Pinedale Array**	**70.51**	**49**	P	**P**	**07 53 54.3**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=13,slow=0.3,SNR=4.6						
AKASG	**Malin Array Be**	**71.95**	**324**	P	**P**	**07 54 01.5**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=39,slow=5.9,SNR=7.7						
AKASG	**Malin Array Be**	**71.95**	**324**	P	**P**	**07 54 01.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **12** 08:09:23.9±0.8, 172N×9697E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, ML3.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/29, Error ellipse: s-maj=27.7km s-min=15.3km az=47.0*
*BJI **12** 08:09:26.2, 194N×9728E, h16km, mb4.7, Ms4.0, Msz3.7*
*ISCJB **12** 08:09:27.0±0.7, 175N±0.10×9700E±009, h33km, mb4.3/23, MS3.6/2, Error ellipse: s-maj=14.5km s-min=11.5km az=60.0*
*NEIC **12** 08:09:28.4±0.4, 172N×9700E, h30km, mb4.6/4, Error ellipse: s-maj=10.9km s-min=7.9km az=210.0*
ISC 12 08:09:29.4±0.7, 178N±010×9703E±009, h35km, n28, σ0§61/27, mb4.3/23, MS3.6/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.15**	**62**	Pn	**Pn**	**08 10 02.5**	**-0.3**
	5.4nm,0.3s,baz=270,slow=10,SNR=16						
PSI				LR	LR	08 10 40.1	
	comp=Z,340nm,19.5s,baz=250,slow=35						
KULM	**Kulim**	**5.02**	**46**	*e*Pn	**Pn**	**08 10 42.2**	**0.0**
KMI	**Kunming**	**23.85**	**13**	P	**P**	**08 14 37.9**	**-1.5**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,126nm,3.1s						
KMI				LR	LR		
	comp=N,274nm,15.3s,MS3.9						
KMI				LR	LR		
	comp=E,168nm,14.9s,MS3.9						
KMI				LR	LR		
	comp=Z,189nm,14.9s,MS3.7						
XAN	**Xi'an**	**33.97**	**18**	P	**P**	**08 16 08.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
GTA	**Gaotai**	**37.54**	**4**	*e*P	**P**	**08 16 40.2**	**+0.1**
GTA				AP	pP	08 16 45.2	-5.1
GTA				XP	sP	08 16 48.1	-6.4
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
BJT	**Baijiatuau**	**41.85**	**22**	*e*P	**P**	**08 17 17.0**	**+1.1**
	comp=Z,9.4nm,0.4s,mb4.8						
BJI	**Beijing**	**41.87**	**22**	*e*P	**P**	**08 17 16.8**	**+0.7**
BJI				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**42.49**	**122**	P	**P**	**08 17 21.1**	**-0.1**
	comp=Z,1.2nm,0.5s,mb3.8,baz=301,slow=9.2,SNR=14						
WRA				LR	LR	08 38 40.8	
	comp=Z,59nm,19.7s,MS3.5,baz=115,slow=41						
ASAR	**Alice Springs**	**43.88**	**127**	P	**P**	**08 17 32.4**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=299,slow=7.9,SNR=11						
SONM	**Songino Array**	**46.59**	**9**	P	**P**	**08 17 54.3**	**+0.4**
	comp=Z,2.2nm,0.4s,mb4.4,baz=189,slow=10,SNR=26						
SONM				PcP	PcP	08 19 27.8	+0.2
	comp=Z,0.6nm,0.4s,baz=189,slow=3.2,SNR=3.7						
MKAR	**Makanchi Array**	**46.64**	**346**	P	**P**	**08 17 55.1**	**+0.8**
	comp=Z,10nm,0.7s,mb4.9,baz=159,slow=7.9,SNR=60						
ULN	**Ulaanbaatar**	**46.72**	**9**	*e*P	**P**	**08 17 55.1**	**+0.2**
	comp=Z,2.0nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**51.38**	**43**	P	**P**	**08 18 30.5**	**-0.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=203,slow=6.2,SNR=4.4						
ZAL	**Zalesovo**	**52.95**	**351**	P	**P**	**08 18 43.1**	**+0.9**
	comp=Z,10nm,0.5s,mb5.0,baz=317,slow=6.1,SNR=9.3						
STKA	**Stephens Creek**	**53.87**	**132**	P	**P**	**08 18 49.2**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=314,slow=9.9,SNR=3.7						
STKA	**Stephens Creek**	**53.87**	**132**	P	**P**	**08 18 49.2**	**+0.1**
BVAR	**Borovoye Array**	**55.65**	**341**	P	**P**	**08 19 02.0**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=148,slow=10.0,SNR=19						
ZRNK	**Zerenda**	**56.05**	**340**	*e*P	**P**	**08 19 04.3**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**56.12**	**341**	*e*P	**P**	**08 19 05.4**	**+0.1**
	comp=Z,8.8nm,0.7s,mb4.9						
AKTK	**Aktyubinsk**	**58.64**	**332**	P	**P**	**08 19 22.6**	**-0.5**
AKTO	**Aktyubinsk**	**58.64**	**332**	P	**P**	**08 19 22.6**	**-0.5**
	comp=Z,1.5nm,0.4s,mb4.4,baz=126,slow=6.7,SNR=6.3						
BRTR	**Keskin Array B**	**68.59**	**312**	P	**P**	**08 20 28.4**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=116,slow=7.0,SNR=4.1						
AKASG	**Malin Array Be**	**74.69**	**322**	P	**P**	**08 21 04.2**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=85,slow=5.3,SNR=7.0						
FINES	**FINESS Array B**	**79.41**	**332**	P	**P**	**08 21 31.8**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=104,slow=8.0,SNR=6.3						
ARCES	**ARCESS Array B**	**81.93**	**340**	P	**P**	**08 21 45.6**	**+0.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=101,slow=4.5,SNR=27						
GERES	**GERESS Array B**	**84.26**	**319**	P	**P**	**08 21 58.7**	**+1.2**
	comp=Z,1.1nm,0.7s,mb4.1,baz=95,slow=6.7,SNR=9.2						
NOA	**NORSAR Array B**	**86.42**	**331**	P	**P**	**08 22 08.4**	**+0.2**
	comp=Z,0.9nm,0.9s,mb4.0,baz=195,slow=14,SNR=3.2						
CPUP	**Villa Florida**	**145.31**	**223**	PKPbc	PKPbc	08 29 04.5	+1.3
	comp=Z,2.7nm,0.7s,baz=133,slow=2.2,SNR=9.2						

*ISCJB **12** 08:21:37.9±0.3, 5976N±002×2455E±005, h0km, Error ellipse: s-maj=3.9km s-min=2.6km az=74.2*
*CSEM **12** 08:21:38.7±0.1, 5973N×2447E, h1km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.9km az=149.0, Mining explosion.*
*HEL **12** 08:21:39.7±0.1, 5974N×2453E, h0km, ML2.6, ML2.3(UPP), ML2.8(NAO), Explosion*
*NAO **12** 08:21:39.5±1.0, 5977N×2465E, ML2.8*
*BER **12** 08:21:40.3±3.6, 5976N×2458E, h0km, ML2.8(NAO), Suspected explosion*
*IDC **12** 08:21:41.0±0.9, 5986N×2465E, h0km, mb1 3.8/4, mb1mx3.3/22, mbtmp3.7/4, ML4.2/3, Error ellipse: s-maj=11.3km s-min=7.6km az=137.0*
*UPP **12** 08:21:44.2, 5979N×2388E, h0km, ML2.3, Suspected Mining explosion.*
ISC 12 08:21:39.0±0.3, 5976N±002×2459E±005, h0km, n65, σ0§91/92, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.32**	**200**	*e*P	**Pg**	**08 21 44.9**	**-0.2**
SRPE				*e*S	**Sg**	**08 21 49.0**	**-0.3**
MEF	**Metsahovi**	**0.47**	**348**	*e*P	**Pg**	**08 21 48.2**	**+0.3**
MEF				*e*S	**Sg**	**08 21 54.6**	**+0.6**
PVF	**Pernaja**	**1.01**	**39**	*e*P	**Pg**	**08 21 58.1**	**-0.2**
PVF				*e*S	**Sg**	**08 22 11.8**	**+0.4**
VJF	**Virojoki**	**1.67**	**61**	*e*P	**Pn**	**08 22 10.3**	**+0.8**
VJF				*e*S	**Sn**	**08 22 31.7**	**0.0**
VJF	**Virojoki**	**1.67**	**61**	P	**Pn**	**08 22 10.2**	**+0.7**
VJF				S	**Sn**	**08 22 31.6**	**-0.1**
VSU	**Vasula**	**1.71**	**139**	*e*P	**Pn**	**08 22 09.9**	**-0.2**
VSU				*e*S	**Sn**	**08 22 31.6**	**-1.0**
VSU	**Vasula**	**1.71**	**139**	Pn	**Pn**	**08 22 10.2**	**+0.1**
VSU				Lg		08 22 32.2	
VSU	**Vasula**	**1.71**	**139**	P	**Pn**	**08 22 09.8**	**-0.3**
VSU				S	**Sn**	**08 22 31.6**	**-1.0**
FIA0	**FINESS Array S**	**1.84**	**23**	*e*P	**Pn**	**08 22 12.8**	**+1.1**
FIA0				*e*S	**Sn**	**08 22 36.1**	**+0.4**
FIA0	**FINESS Array S**	**1.84**	**23**	Pn	**Pn**	**08 22 12.8**	**+1.1**
	baz=193,slow=18						
FIA0				Lg		08 22 36.4	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**1.84**	**23**	P	**Pn**	**08 22 12.8**	**+1.0**
FIA0				S	**Sn**	**08 22 36.1**	**+0.4**
FINES	**FINESS Array B**	**1.84**	**23**	Pn	**Pn**	**08 22 12.8**	**+1.0**
	22nm,0.3s,baz=199,slow=16,SNR=548						
FINES				Lg		08 22 36.0	
	18nm,0.3s,baz=203,slow=29,SNR=4.0						
RAF	**Rauma**	**1.89**	**313**	*e*P	**Pn**	**08 22 13.3**	**+0.8**
RAF				*e*S	**Sn**	**08 22 37.3**	**+0.3**
KEF	**Keuruu**	**2.42**	**3**	*e*P	**Pn**	**08 22 20.9**	**+1.2**
KEF				*e*S	**Sn**	**08 22 50.0**	**0.0**
KAF	**Kangasniemi**	**2.50**	**19**	*e*P	**Pn**	**08 22 22.6**	**+1.7**
KAF				*e*S	**Sn**	**08 22 53.3**	**+1.2**
NRTU	**Norrtaelje**	**3.02**	**271**	*e*P	**Pn**	**08 22 28.0**	**0.0**
SUF	**Sumiainen**	**3.06**	**14**	*e*P	**Pn**	**08 22 30.4**	**+1.8**
SUF				*e*S	**Sn**	**08 23 06.5**	**+0.6**
SUF				*e*SG	**Sg**	**08 23 16.5**	**-0.8**
SUF				MSG		08 23 18.3	
	comp=Z,17nm,0.3s						
SUF	**Sumiainen**	**3.06**	**14**	P	**Pn**	**08 22 30.4**	**+1.8**
SUF				S	**Sn**	**08 23 06.4**	**+0.5**
GRAU	**Graesoe**	**3.09**	**283**	*e*P	**Pn**	**08 22 28.6**	**-0.4**
FORU	**Forsmark**	**3.27**	**284**	*e*P	**Pn**	**08 22 32.9**	**+1.3**
FORU	**Forsmark**	**3.27**	**284**	P	**Pn**	**08 22 32.8**	**+1.3**
FLYU	**Flymyra**	**3.39**	**279**	*e*P	**Pn**	**08 22 33.0**	**-0.1**
FLYU	**Flymyra**	**3.39**	**279**	P	**Pn**	**08 22 33.0**	**-0.2**
VAF	**Ylistaro**	**3.42**	**345**	*e*P	**Pn**	**08 22 34.5**	**+1.0**
VAF				*e*S	**Sn**	**08 23 13.2**	**-1.5**
VAF				*e*SG	**Sg**	**08 23 27.0**	**-1.8**
VAF				MSG		08 23 28.2	
	comp=Z,9.5nm,0.2s						
NYNU	**Nynaeshamn**	**3.45**	**260**	*e*P	**Pn**	**08 22 33.5**	**-0.5**
GOTU	**Gotland**	**3.77**	**239**	*e*P	**Pn**	**08 22 39.0**	**+0.7**
GOTU	**Gotland**	**3.77**	**239**	P	**Pn**	**08 22 38.9**	**+0.6**
OSTU	**Oestervaala**	**3.77**	**280**	*e*P	**Pn**	**08 22 38.5**	**+0.1**
BACU	**Backbrunna**	**3.78**	**275**	*e*P	**Pn**	**08 22 39.1**	**+0.6**
HUDU	**Hudiksvall**	**4.17**	**302**	P	**Pn**	**08 22 44.2**	**+0.4**
ESKU	**Eskilstuna**	**4.21**	**266**	*e*P	**Pn**	**08 22 44.7**	**+0.3**
VIKU	**Vikbolandet**	**4.26**	**256**	*e*P	**Pn**	**08 22 44.6**	**-0.5**
HEMU	**Hemsoen**	**4.31**	**315**	*e*P	**Pn**	**08 22 47.0**	**+1.3**
HEMU	**Hemsoen**	**4.31**	**315**	P	**Pn**	**08 22 47.0**	**+1.2**
FALU	**Falun**	**4.44**	**283**	*e*P	**Pn**	**08 22 48.1**	**+0.6**
FALU	**Falun**	**4.44**	**283**	P	**Pn**	**08 22 48.1**	**+0.5**
JOF	**Joensuu**	**4.53**	**43**	*e*P	**Pn**	**08 22 49.0**	**+0.2**
JOF				*e*S	**Sn**	**08 23 41.6**	**-0.5**
JOF				*e*SG	**Sg**	**08 24 00.4**	**-4.0**
JOF				MSG		08 24 01.2	
	comp=Z,16nm,0.3s						
JOF	**Joensuu**	**4.53**	**43**	P	**Pn**	**08 22 48.9**	**+0.2**
KJN	**Kajaani**	**4.58**	**17**	*e*S	**Sn**	**08 23 42.3**	**-1.1**
KJN				*e*SG	**Sg**	**08 24 03.2**	**-2.9**
KJN				MSG		08 24 04.0	
	comp=Z,21nm,0.3s						
BYXU	**Byxelkrok**	**4.68**	**241**	*e*P	**Pn**	**08 22 51.8**	**+0.9**
VSTU	**Vaestervik**	**4.70**	**247**	*e*P	**Pn**	**08 22 51.7**	**+0.6**
LNKU	**Linkoeping**	**4.95**	**256**	*e*P	**Pn**	**08 22 55.0**	**+0.5**
SOLU	**Sollefteaa**	**4.95**	**318**	*e*P	**Pn**	**08 22 55.6**	**+1.0**
ASKU	**Askersund**	**5.08**	**264**	*e*P	**Pn**	**08 22 56.3**	**0.0**
HFS	**Hagfors**	**5.49**	**279**	*e*P	**Pn**	**08 23 02.4**	**+0.4**
HFS				*e*S	**Sn**	**08 24 04.5**	**-1.4**
HFS				*e*SG		08 24 27.5	
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**08 23 02.1**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=83,slow=12,SNR=21						
HFS				Sn	**Sn**	**08 24 05.1**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=87,slow=30,SNR=11						
HFS				Lg		08 24 27.0	
	comp=Z,3.2nm,0.3s,baz=75,slow=35,SNR=7.1						
HFS	**Hagfors**	**5.49**	**279**	Pn	**Pn**	**08 23 02.4**	**+0.4**
	baz=105,slow=12						
HFS				Sn	**Sn**	**08 24 04.5**	**-1.4**
HFS				Lg		08 24 27.5	
	baz=78,slow=28						
HFS	**Hagfors**	**5.49**	**279**	P	**Pn**	**08 23 02.3**	**+0.3**
HFS				S	**Sn**	**08 24 04.4**	**-1.4**
HFS				Sg		08 24 27.4	
VXJU	**Vaexsjoe**	**5.83**	**245**	*e*P	**Pn**	**08 23 06.6**	**0.0**
NASU	**Vaermlandsnaes**	**5.90**	**267**	P	**Pn**	**08 23 08.2**	**+0.6**
NOD	**Norderasen**	**5.93**	**313**	*e*P	**Pn**	**08 23 07.8**	**-0.3**
DEL	**Delary**	**6.57**	**244**	*e*P	**Pn**	**08 23 16.6**	**-0.2**
NB2	**NORSAR Subarra**	**6.75**	**287**	*e*P	**Pn**	**08 23 18.5**	**-0.8**
NB2				*e*SG		08 25 06.7	
NB2	**NORSAR Subarra**	**6.75**	**287**	Pn	**Pn**	**08 23 18.5**	**-0.8**
	baz=92,slow=14						
NB2				Lg		08 25 06.7	
	baz=104,slow=37						
NB2	**NORSAR Subarra**	**6.75**	**287**	P	**Pn**	**08 23 18.4**	**-0.9**
NB2				Sg		08 25 06.6	
NOA	**NORSAR Array B**	**6.75**	**287**	Pn	**Pn**	**08 23 17.7**	**-1.6**
	comp=Z,2.0nm,0.3s,baz=97,slow=12,SNR=7.9						
NOA				Sn	**Sn**	**08 24 35.0**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=111,slow=20,SNR=3.6						
NOA				Lg		08 25 05.9	
	comp=Z,2.7nm,0.3s,baz=133,slow=26,SNR=6.9						
STRU	**Stroemstad**	**6.89**	**270**	P	**Pn**	**08 23 20.0**	**-1.2**
APA0	**Apatity Array**	**8.70**	**22**	Pn	**Pn**	**08 23 45.8**	**-0.3**
	baz=212,slow=14						
APA0	**Apatity Array**	**8.70**	**22**	*e*P	**Pn**	**08 23 45.8**	**-0.3**
AKASG	**Malin Array Be**	**9.46**	**162**	Pn	**Pn**	**08 23 54.7**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=340,slow=13,SNR=6.8						
ARA0	**ARCESS Array S**	**9.82**	**2**	Pn	**Pn**	**08 23 59.9**	**-1.5**
	baz=176,slow=16						
ARA0				Sn	**Sn**	**08 25 46.2**	**-6.1**
	baz=183,slow=28						
ARA0	**ARCESS Array S**	**9.82**	**2**	*e*P	**Pn**	**08 23 59.9**	**-1.5**
ARA0				*e*S	**Sn**	**08 25 46.2**	**-6.1**
ARCES	**ARCESS Array B**	**9.82**	**2**	Pn	**Pn**	**08 23 59.9**	**-1.5**
	comp=Z,2.7nm,0.3s,baz=184,slow=12,SNR=106						
SPA0	**Spitsbergen Ar**	**18.70**	**355**	P	**Pn**	**08 25 58.8**	**-0.3**
	baz=156,slow=8.6						
SPA0	**Spitsbergen Ar**	**18.70**	**355**	*e*P	**Pn**	**08 25 58.8**	**-0.3**

*ISCJB **12** 08:40:13.2±0.9, 2381S±006×17975W±008, h483km±12km, mb4.2/21, Error ellipse: s-maj=12.4km s-min=8.3km az=74.5*
*IDC **12** 08:40:13.4±1.4, 2380S×17969W, h475km±13km, mb3.6/8, mb1 3.8/11, mb1mx3.7/15, mbtmp4.5/11, Error ellipse: s-maj=17.9km s-min=15.3km az=143.0*
*NEIC **12** 08:40:14.1±0.8, 2383S×17970W, h483km±9km, mb4.3/15, Error ellipse: s-maj=10.2km s-min=8.0km az=151.0*
ISC 12 08:40:14.3±0.9, 2391S±007×17968W±008, h483km±12km, n42, σ0§85/43, mb4.2/21, 1C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.55**	**164**	P	**P**	**08 41 47.2**	**+1.7**
	394nm,0.3s,baz=67,slow=23,SNR=14						
RAO	**Raoul Island**	**5.55**	**164**	P	**P**	**08 41 47.2**	**+1.7**
RAO				*e*Pn	**P**	**08 41 47.9**	**+2.4**
AFI	**Afiamalu**	**12.43**	**38**	P	**P**	**08 42 56.3**	**-1.2**
	5.3nm,0.3s,baz=218,slow=9.6,SNR=8.3						
AFI				S	**S**	**08 45 06.8**	**-5.3**
	3.0nm,0.3s,baz=212,slow=20,SNR=6.5						
AFI	**Afiamalu**	**12.43**	**38**	*e*Pn	**P**	**08 42 55.7**	**-1.8**
AFI				S	**S**	**08 45 06.8**	**-5.3**
AFI				*e*S	**S**	**08 45 11.3**	**-0.8**
DZM	**Mont Dzumac**	**12.91**	**275**	P	**P**	**08 43 02.2**	**-0.4**
	0.3nm,0.3s,baz=127,slow=20,SNR=2.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.57	190	P	P	08 43 20.2	0.0
	2.8nm,0.3s,baz=283,slow=10,SNR=16						
URZ				S	S	08 45 52.5	-1.1
	1.0nm,0.3s,baz=199,slow=21,SNR=6.6						
SNZO	South Karori	17.98	194	eP	P	08 43 53.9	-1.4
RPZ	Rata Peaks	21.18	199	P	P	08 44 23.9	-0.5
	15nm,0.5s,mb4.8,baz=346,slow=1.5,SNR=20						
ARMA	Armidale	26.30	249	eP	P	08 45 11.6	+1.5
CNB	Canberra Magne	29.11	240	eP	P	08 45 36.0	+1.2
	14nm,0.6s,mb4.6						
CTA	Charters Tower	31.77	270	⇓iP	P	08 45 58.7	+0.9
	17nm,0.3s,mb5.0						
CTAO	Charters Tower	31.77	270	eP	P	08 45 58.5	+0.7
	32nm,0.8s,mb4.8						
TOO	Toolangi	32.69	237	⇓iP	P	08 46 06.2	+0.5
	8.9nm,0.6s,mb4.4						
STKA	Stephens Creek	34.99	248	⇓iP	P	08 46 25.5	+0.4
	4.8nm,0.8s,mb4.0						
STKA	Stephens Creek	34.99	248	P	P	08 46 25.5	+0.4
	5.7nm,0.5s,mb4.2,baz=90,slow=9.9,SNR=28						
STKA	Stephens Creek	34.99	248	eP	P	08 46 25.3	+0.2
AS31	Alice Springs	42.33	261	eP	P	08 47 24.8	+0.1
ASAR	Alice Springs	42.33	261	P	P	08 47 24.8	+0.1
	6.8nm,0.5s,mb4.3,baz=97,slow=7.0,SNR=80						
ASAR				ScP	ScP	08 52 13.4	+1.8
	1.4nm,0.9s,baz=116,slow=3.9,SNR=7.1						
WB2	Warramunga Arr	42.69	266	⇓iP	P	08 47 27.1	-0.5
WRAB	Tennant Creek	42.69	266	eP	P	08 47 27.1	-0.5
	17nm,0.8s,mb4.5						
WRA	Warramunga Arr	42.70	266	P	P	08 47 27.3	-0.4
	12nm,0.4s,mb4.7,baz=96,slow=8.3,SNR=420						
WRA				ScP	ScP	08 52 14.8	+1.7
	1.1nm,0.9s,baz=96,slow=3.6,SNR=5.1						
FORT	Forrest	46.59	250	⇑iP	P	08 47 57.0	-0.7
	41nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	51.12	265	eP	P	08 48 31.8	+0.3
	14nm,0.8s,mb4.3						
SBA	Scott Base	54.39	184	eP	P	08 48 56.3	+1.4
	3.8nm,0.8s,mb3.8						
VNDA	Vanda	54.40	185	P	P	08 48 55.5	+0.5
	0.8nm,0.6s,mb3.2,baz=337,slow=7.2,SNR=7.6						
VNDA	Vanda	54.40	185	eP	P	08 48 55.2	+0.3
	0.7nm,0.6s,mb3.2						
MBWA	Marble Bar	55.66	260	eP	P	08 49 02.8	-1.0
	5.5nm,0.6s,mb4.1						
CASY	Casey	60.24	206	⇓iP	P	08 49 33.5	-1.5
CASY	Casey	60.24	206	eP	P	08 49 33.6	-1.4
	2.4nm,0.5s,mb3.9						
QSPA	South Pole Qui	66.18	180	eP	P	08 50 13.5	+0.3
	3.0nm,0.6s,mb4.1						
MAW	Mawson	77.85	200	eP	P	08 51 20.8	-0.4
	3.0nm,0.6s,mb3.9						
MAW	Mawson	77.85	200	P	P	08 51 20.9	-0.3
	3.4nm,0.6s,mb4.0,baz=128,slow=6.5,SNR=18						
MAW	Mawson	77.85	200	eP	P	08 51 20.6	-0.6
	4.0nm,0.6s,mb4.0						
CMB	Columbia Colle	83.00	43	eP	P	08 51 48.8	+0.7
	2.7nm,1.0s,mb3.7						
NVAR	Mina Array Bea	84.55	44	P	P	08 51 56.4	+0.6
	0.4nm,0.5s,mb3.3,baz=227,slow=8.1,SNR=6.9						
HWUT	Hardware Ranch	90.61	44	eP	P	08 52 24.5	+0.1
	1.6nm,0.6s,mb4.1						
ANMO	Albuquerque	90.73	52	eP	P	08 52 25.7	+0.8
	1.2nm,0.9s,mb3.8						
PDAR	Pinedale Array	92.49	44	P	P	08 52 32.6	-0.4
	0.7nm,0.7s,mb3.7,baz=239,slow=2.6,SNR=6.6						
ARCES	ARCESS Array B	131.95	348	PKP	PKPdf	08 58 30.4	-1.8
	3.7nm,0.9s,baz=15,slow=5.0,SNR=5.4						
ARCES				SKPbc	SKPbc	09 01 11.4	-1.3
	3.2nm,0.8s,baz=12,slow=6.6,SNR=4.7						
FINES	FINESS Array B	138.54	342	SKPbc	SKPbc	09 01 31.7	-1.4
	1.1nm,0.5s,baz=49,slow=6.3,SNR=5.4						
AKASG	Malin Array Be	145.13	327	SKPbc	SKPbc	09 01 48.7	-0.9
	0.7nm,0.4s,baz=46,slow=3.0,SNR=5.2						
TORD	Torodi Ar. Bea	169.22	187	PKPab	PKPab	09 00 40.6	-0.4
	0.4nm,0.6s,baz=162,slow=3.7,SNR=6.1						

*HLW **12** 08:51:20.0, 3149N×3551E, h10^{km}, Mb2.9*
*ISCJB **12** 08:51:26.0±0.5, 31.12N±003×35.14E±006, h5^{km}±6^{km}, Error ellipse: s-maj=8.5km s-min=4.1km az=17.1*
*GII **12** 08:51:25.2±1.7, 31.14N×35.11E, h0^{km}, ML2.2/8*
ISC 12 08:51:26.5±0.4**, 3112N**±003×**3515E**±006**, h7**^{km}±6^{km}**, n22, σ0^{s}95**/28**, 3C, Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YTIR	Yattir	0.24	353	Pg	Pg	08 51 30.4	-0.8
MZDA	Masada	0.26	44	Pg	Pg	08 51 31.5	-0.2
MZDA				Sg	Sg	08 51 36.8	+1.7
AMAZ	Amatzia	0.46	334	Pg	Pg	08 51 35.0	-0.3
AMAZ				Sg	Sg	08 51 42.5	+1.3
DSI	Dead Sea	0.49	24	Pg	Pg	08 51 36.0	+0.1
DRGI	Dragot	0.51	24	Pg	Pg	08 51 36.1	-0.2
ZFRI	Zfri	0.57	178	Pg	Pg	08 51 36.9	-0.5
MKRJ	Makawir	0.60	44	Pg	Pg	08 51 38.6	+0.6
RMNI	Mount Ramon	0.62	213	Pg	Pg	08 51 39.2	+0.7
PRNI	Paran	0.78	189	Pg	Pg	08 51 41.0	-0.4
PRNI				Sg	Sg	08 51 56.7	+5.1
KMTI	Karmit	1.08	200	Pg	Pg	08 51 46.4	-0.8
HRFI	Mount Harif	1.09	185	Pg	Pg	08 51 47.1	-0.2
HRFI				Sg	Sg	08 52 04.3	+2.8
SLTI	Sal'it	1.12	355	Pg	Pg	08 51 47.3	-0.7
HMDT	Nahal Hemdat	1.17	16	Pg	Pg	08 51 48.2	-0.8
MBH	Mount Berech	1.34	189	Pn	Pn	08 51 50.9	-0.8
MBH	Mount Berech	1.34	189	Pn	Pn	08 51 50.8	-0.8
AQBJ	Aqaba	1.39	184	Pn	Pn	08 51 51.9	-0.4
EIL	Elat	1.46	187	Pn	Pn	08 51 52.7	-0.5
OFRI	'Ofer	1.50	355	Pn	Pn	08 51 53.7	-0.1
HNKL	Nakhl	1.56	221	⇑P	Pn	08 51 53.5	-1.1
AMAG	Maghara	1.74	254	⇑P	Pn	08 51 55.9	-1.1
AMAG				S	Sn	08 52 20.9	+1.4
MMA0B	Mount Meron ar	1.90	6	Pn	Pn	08 51 59.8	+0.5
HKAT	Jabal Katrina	2.78	201	⇑P	Pn	08 52 11.1	-0.3
HKAT				S	Sn	08 52 47.5	+2.3

*IDC **12** 09:25:23.2±0.7, 5131N×17899W, h0^{km}, mb4.1/15, mb1 4.3/16, mb1mx4.2/24, mbtmp4.1/16, ML4.5/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/27, Error ellipse: s-maj=23.9km s-min=15.9km az=153.0*
*BJI **12** 09:25:24.6, 5130N×179.10W, h27^{km}, mB4.8, mb4.8, Ms4.5, Msz4.0*
*NEIC **12** 09:25:27.6±0.3, 5131N×17909W, mb4.3/10, ML4.2(AEIC), Error ellipse: s-maj=10.3km s-min=5.1km az=171.0*
*ISCJB **12** 09:25:28.7±0.8, 5149N±008×17894W±005, h43^{km}±7^{km}, mb4.4/36, MS3.5/11, Error ellipse: s-maj=13.2km s-min=4.9km az=152.4*
ISC 12 09:25:30.3±0.8**, 5142N**±008×**17898W**±006**, h45**^{km}±6^{km}**, h24**^{km}±2.3^{km}**:pP-P, n66, σ1^{s}10**/65**, mb4.3**/36**, MS3.5**/11**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.08	268	P	Pn	09 25 46.7	-2.2
AMKA				S	Sn	09 26 02.9	+0.2
ATKA	Atka Island	3.07	73	P	Pn	09 26 16.4	+0.2
NIKO	Nikolski	6.42	72	P	Pn	09 27 01.9	-0.3
SPIA	Saint Paul Isl	7.70	38	ePn	Pn	09 27 21.9	+2.1
SPIA				eSn	Sn	09 28 46.1	+0.4
AKUT	Akutan	8.46	66	ePn	Pn	09 27 30.9	+0.8
SDPT	Sand Point	11.72	63	P	Pn	09 28 13.5	-1.3
SVW2	Sparrevohn	16.12	44	eP	Pn	09 29 16.8	+3.1
KDAK	Kodiak Island	16.50	57	Pn	Pn	09 29 14.3	-4.1
	1.9nm,0.3s,baz=277,slow=5.5,SNR=13						
KDAK				Sn	Sn	09 32 16.5	-3.9
	0.2nm,0.3s,baz=325,slow=16,SNR=4.4						
IMA2	Indian Mountai	19.47	32	eP	Pn	09 29 54.7	-0.1
COLA	College	20.95	38	eP	P	09 30 09.2	0.0
	8.4nm,0.9s						
EGAK	Eagle	23.59	41	eP	P	09 30 36.3	-0.6
DAWY	Dawson	24.16	43	eP	P	09 30 39.5	-2.5
ASAJ	Asahikawa	26.59	269	LR	LR	09 41 42.9	
	comp=Z,23nm,18.1s,MS2.8,baz=332,slow=37						
INK	Inuvik	27.49	35	P	P	09 31 11.4	-0.8
	1.3nm,0.7s,mb3.6,baz=220,slow=9.5,SNR=4.2						
INK				LR	LR	09 43 39.2	
	comp=Z,80nm,18.7s,MS3.3,baz=278,slow=40						
MDJ	Mudanjiang	34.45	279	P	P	09 32 12.0	-1.5
MDJ				AP	pP	09 32 18.1	-7.6
MDJ				XP	sP	09 32 20.7	-10
MDJ				PP	PP	09 33 29.8	-2.4
MDJ				PCP	PcP	09 34 47.6	-0.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,23nm,4.6s						
YKA	Yellowknife Ar	35.29	46	P	P	09 32 19.8	-1.0
	comp=Z,1.2nm,0.7s,mb4.0,baz=280,slow=7.3,SNR=3.8						
YKA				LR	LR	09 48 26.2	
	comp=Z,78nm,18.6s,MS3.5,baz=270,slow=39						
CN2	Changchun	37.43	281	eP	P	09 32 38.6	-0.4
NEW	Newport	38.98	70	P	P	09 32 51.5	-0.5
	comp=Z,2.5nm,0.6s,mb4.1,baz=277,slow=7.4,SNR=6.6						
WVOR	Wild Horse Val	41.10	78	eP	P	09 33 10.3	+0.7
	comp=Z,3.9nm,0.8s,mb4.1						
WVOR				epP	pP	09 33 19.8	-2.2
HRY	Holter Researc	42.86	69	eP	P	09 33 23.1	-0.8
HLID	Hailey	43.04	74	eP	P	09 33 25.8	+0.3
	comp=Z,2.2nm,0.9s,mb3.9						
MCMT	McKenzie Canyo	43.27	72	eP	P	09 33 27.1	-0.3
NVAR	Mina Array Bea	43.66	83	P	P	09 33 34.1	+3.7
	comp=Z,0.4nm,0.6s,mb3.3,baz=298,slow=8.1,SNR=3.1						
FLWY	Flagg Ranch	44.97	71	eP	P	09 33 41.5	+0.6
	comp=Z,2.6nm,0.7s,mb4.2						
FLWY				epP	pP	09 33 49.0	-4.3
RLMT	Red Lodge	45.22	69	eP	P	09 33 43.1	+0.2
DUG	Dugway	45.97	77	eP	P	09 33 48.9	+0.1
	comp=Z,3.0nm,0.8s,mb4.3						
LAO	LASA Array	46.11	66	eP	P	09 33 49.3	-0.6
	comp=Z,5.4nm,0.7s,mb4.6						
ULN	Ulaanbaatar	46.14	296	eP	P	09 33 50.3	+0.2
	comp=Z,5.4nm,1.0s,mb4.4						
ULN				epP	pP	09 33 58.6	-4.0
PDAR	Pinedale Array	46.41	72	P	P	09 33 52.0	-0.2
	comp=Z,3.5nm,0.7s,mb4.4,baz=314,slow=4.2,SNR=24						
SONM	Songino Array	46.53	296	P	P	09 33 53.8	+0.6
	comp=Z,2.2nm,0.9s,mb4.1,baz=56,slow=10.0,SNR=14						
SONM				LR	LR	09 54 25.4	
	comp=Z,79nm,19.9s,MS3.7,baz=65,slow=37						
MSU	Marysvale	47.39	78	eP	P	09 34 00.7	+0.8
MSU				epP	pP	09 34 09.6	-2.9
TMUT	Trail Mountain	47.50	77	eP	P	09 34 01.2	+0.5
HHC	Hu-ho-hao-te	47.57	286	eP	P	09 34 00.9	-0.4
HHC				AP	pP	09 34 09.5	-4.3
HHC				XP	sP	09 34 12.4	-6.7
HHC				PCP	PcP	09 35 31.7	+1.1
HHC				SCP	ScP	09 39 22.7	+1.7
HHC				PCS	PcS	09 39 25.5	-0.6
HHC				S	S	09 40 52.2	-1.1
HHC				XS	sS	09 41 05.9	-8.3
HHC				SCS	ScS	09 43 50.6	-0.5
HHC				SS	SS	09 44 13.9	-7.7
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,61nm,3.9s						
HHC				LR	LR		
	comp=N,83nm,4.9s						
HHC				LR	LR		
	comp=E,90nm,5.3s						
HHC				LR	LR		
	comp=Z,89nm,5.9s						
SRU	San Rafael	48.03	77	eP	P	09 34 05.0	+0.1
	comp=Z,2.8nm,0.6s,mb4.5						
NJ2	Nanjing	48.70	272	eP	P	09 34 12.1	+2.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
PV10	Paradox Valley	49.40	77	eP	P	09 34 16.0	+0.7
PV10				epP	pP	09 34 23.4	-4.5
ULM	Lac du Bonnet	49.76	57	LR	LR	09 54 21.2	
	comp=Z,44nm,19.5s,MS3.5,baz=45,slow=35						
PV01	Paradox Valley	49.83	76	eP	P	09 34 19.1	+0.4
SMCO	Snowmass	50.14	74	eP	P	09 34 21.8	+0.7
	comp=Z,1.1nm,0.6s,mb4.1						
ZAL	Zalesovo	53.94	313	PcP	PcP	09 35 54.4	+0.2
	comp=Z,1.5nm,0.3s,baz=301,slow=1.2,SNR=3.7						
LZH	Lanzhou	55.26	286	eP	P	09 35 01.5	+2.6
LZH				AP	pP	09 35 08.0	-3.6
LZH				XP	sP	09 35 12.0	-4.8
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,59nm,4.3s						
GTA	Gaotai	55.45	292	eP	P	09 34 59.4	-0.8
GTA				AP	pP	09 35 05.5	-7.4
GTA				XP	sP	09 35 07.8	-10
GTA				PCP	PcP	09 36 00.3	+0.3
GTA				PP	PP	09 37 05.1	+0.8
GTA				SCP	ScP	09 39 57.3	+2.3
GTA				PCS	PcS	09 39 59.8	-0.3
GTA				S	S	09 42 41.6	-0.2
GTA				XS	sS	09 42 51.5	-12
GTA				SCS	ScS	09 44 41.5	-4.0
GTA				SS	SS	09 46 25.5	-1.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,83nm,4.6s						
GTA				LR	LR		
	comp=N,66nm,6.5s						
GTA				LR	LR		
	comp=E,60nm,6.5s						
GTA				LR	LR		
	comp=Z,45nm,10.3s,MS3.8						
ARCES	ARCESS Array B	58.03	350	P	P	09 35 17.5	-1.0
	comp=Z,2.1nm,0.9s,mb4.2,baz=19,slow=7.9,SNR=4.2						
MKAR	Makanchi Array	59.92	308	P	P	09 35 30.6	-1.0
	comp=Z,0.5nm,0.5s,mb3.8,baz=54,slow=7.4,SNR=6.2						
JOF	Joensuu	63.53	345	ep	P	09 35 54.4	-1.5
	comp=Z,3.4nm,0.6s,mb4.5						
KMI	Kunming	63.61	278	P	P	09 35 56.6	+0.2
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
KAF	Kangasniemi	65.05	347	ep	P	09 36 04.7	-1.1
	comp=Z,1.9nm,0.4s,mb4.5,baz=13,slow=5.7						
FINES	FINESS Array B	65.72	347	P	P	09 36 09.7	-0.5
	comp=Z,1.6nm,0.6s,mb4.2,baz=14,slow=9.8,SNR=6.7						
FINES				LR	LR	10 09 12.3	
	comp=Z,20nm,18.4s,MS3.4,baz=19,slow=40						
NOA	NORSAR Array B	67.59	355	P	P	09 36 21.8	-0.4
	comp=Z,0.5nm,0.6s,mb3.7,baz=1.3,slow=19,SNR=3.2						
NOA				LR	LR	10 04 44.8	
	comp=Z,18nm,20.2s,MS3.3,baz=80,slow=35						
GUN	Gumba	71.74	292	eP	P	09 36 49.5	+1.9
	comp=Z,29nm,0.7s,mb5.3						
JIRN	Jiri	71.74	291	eP	P	09 36 49.9	+2.2
	comp=Z,28nm,0.9s,mb5.2						
KKN	Kakani	72.17	292	eP	P	09 36 52.0	+1.7
PKI	Pulchoki	72.27	292	eP	P	09 36 52.4	+1.6
	comp=Z,13nm,0.6s,mb5.0						
GKN	Gorkha	72.39	293	eP	P	09 36 52.9	+1.4
	comp=Z,17nm,0.8s,mb5.0						
DMN	Daman	72.41	292	eP	P	09 36 53.4	+1.7
KOLN	Koldanda	73.16	293	eP	P	09 36 57.0	+0.9
AKASG	Malin Array Be	75.47	342	P	P	09 37 09.1	-0.5
	comp=Z,4.4nm,0.8s,mb4.4,baz=19,slow=5.9,SNR=12						
AKASG				LR	LR	10 14 05.1	
	comp=Z,26nm,18.7s,MS3.6,baz=60,slow=39						
AKASG	Malin Array Be	75.47	342	P	P	09 37 09.1	-0.5
GERES	GERESS Array B	79.53	352	P	P	09 37 31.6	-0.6
	comp=Z,0.6nm,0.5s,mb3.8,baz=38,slow=6.8,SNR=6.0						
GERES				LR	LR	10 15 14.0	
	comp=Z,26nm,19.4s,MS3.6,baz=274,slow=38						
WRA	Warramunga Arr	81.96	224	P	P	09 37 43.1	-2.1
	comp=Z,0.3nm,0.7s,mb3.3,baz=34,slow=6.5,SNR=4.8						
BRTR	Keskin Array B	84.86	335	P	P	09 38 00.1	0.0
	comp=Z,2.3nm,0.7s,mb4.4,baz=82,slow=2.5,SNR=8.7						
ASAR	Alice Springs	85.44	222	P	P	09 38 01.6	-1.5
	comp=Z,0.4nm,0.7s,mb3.7,baz=26,slow=5.9,SNR=7.0						
ASAR				LR	LR	10 14 43.6	
	comp=Z,98nm,19.0s,MS4.2,baz=15,slow=35						
STKA	Stephens Creek	89.90	213	P	P	09 38 23.6	-0.8
	comp=Z,4.8nm,1.2s,mb4.7,baz=315,slow=7.1,SNR=4.0						
TSUM	Tsumeb	145.30	332	PKPbc	PKPbc	09 45 03.0	+0.2
	comp=Z,4.7nm,0.8s,baz=325,slow=8.5,SNR=7.3						
MAW	Mawson	146.45	218	PKPbc	PKPbc	09 45 04.2	-2.1
	comp=Z,1.2nm,1.0s,baz=109,slow=5.5,SNR=3.9						
BOSA	Boshof	150.87	312	PKPbc	PKPbc	09 45 17.6	-0.2
	comp=Z,2.6nm,0.8s,baz=339,slow=5.4,SNR=6.9						

*ISCJB **12** 09:56:22.9±0.6, 1852N±005×7731W±004, h25^{km}±10^{km}, Error ellipse: s-maj=9.3km s-min=6.8km az=157.5*
*JSN **12** 09:56:25.0±0.9, 1844N×7731W, h10^{km}±9^{km}, MD3.2*
*SSNC **12** 09:56:27.4, 1854N×7727W, h25^{km}, MD3.0, ML2.7*
ISC 12 09:56:23.5±0.7**, 1848N**±005×**7731W**±004**, h23**^{km}±10^{km}**, n13, σ0^{s}86**/23**, 2C-6D, Jamaica region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBJ	Bamboo Saint A	0.10	159	⇑iP	Pb	09 56 27.2	-0.7
CVJ	Coleyville	0.33	221	⇑iP	Pb	09 56 30.9	0.0
BNJ	Bonny Gate	0.37	115	⇓eP	Pb	09 56 31.4	-0.1
BNJ				iS	Sb	09 56 37.0	+0.1
STH	Stony Hill	0.62	130	⇓iP	Pb	09 56 35.2	-0.4
STH				eS	Sb	09 56 43.3	-0.6
MCJ	Malvern	0.66	214	⇓eP	Pb	09 56 36.4	0.0
MCJ				iS	Sb	09 56 45.2	+0.1
GWJ	Greenwich	0.68	126	eP	Pb	09 56 36.4	-0.3
HOJ	Hope	0.71	132	⇓eP	Pb	09 56 37.3	+0.2
HOJ				iS	Sb	09 56 46.5	+0.1
PCJ	Portland Cotta	0.75	169	⇓iP	Pb	09 56 37.4	-0.4
PCJ				iS	Sb	09 56 46.8	-0.7
CMJ	Castle Mountai	0.95	111	⇓iP	Pb	09 56 41.5	+0.3
CMJ				iS	Sb	09 56 55.2	+1.9
LMGC	Las Mercedes	1.60	10	eP	Pn	09 56 51.7	+1.4
LMGC				eS	Sn	09 57 06.9	-3.4
	comp=N,80nm,0.1s						
LMGC				e			
	comp=E,52nm,0.1s						
RCC	Rio Carpintero	2.14	45	ePG	Pn	09 56 58.2	+0.5
RCC				eSG	Sn	09 57 22.3	-1.3
	comp=N,20nm,0.2s						
RCC				e			
	comp=E,20nm,0.2s						
HLGC	Holguin	2.67	26	eP	Pn	09 57 06.4	+1.4
HLGC				eS	Sn	09 57 35.9	-0.7
	comp=N,100nm,0.4s						
HLGC				e			
	comp=E,122nm,0.4s						
MOAC	Moa	3.10	45	eP	Pn	09 57 12.2	+1.3
MOAC				eS	Sn	09 57 46.0	-1.2
	comp=N,15nm,0.5s						
MOAC				e			
	comp=E,13nm,0.2s						

IDC 12 10:11:55.4±20.0**, 2008S**×**17930W, h0**^{km}**, mb4.0**/3**, mb1 4.3**/4**, mb1mx3.8**/13**, mbtmp4.1**/4**, ML4.4**/1**, Error ellipse: s-maj=378.7km s-min=52.0km az=60.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.38	189	P	Pn	10 16 11.5	-0.2
	1.3nm,0.3s,baz=329,slow=3.7,SNR=8.2						
STKA	Stephens Creek	36.88	243	P	P	10 19 05.4	-0.2
	2.1nm,0.9s,baz=84,slow=12,SNR=4.2						
ASAR	Alice Springs	43.43	256	P	P	10 20 00.0	+0.1
	1.7nm,0.6s,baz=90,slow=7.9,SNR=43						
WRA	Warramunga Arr	43.45	262	P	P	10 20 00.9	+0.8
	0.9nm,0.2s,baz=97,slow=7.7,SNR=67						

IDC 12 10:28:59.5±2.1**, 237N**×**9606E, h0**^{km}**, mb3.5**/4**, mb1 3.6**/5**, mb1mx3.4**/21**, mbtmp3.5**/5**, ML3.1**/1**, Error ellipse: s-maj=61.4km s-min=23.7km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.90	81	Pn	Pn	10 29 47.5	+0.6
	2.8nm,0.3s,baz=262,slow=9.6,SNR=12						
WRA	Warramunga Arr	43.62	122	P	P	10 37 05.7	+0.1
	0.5nm,0.7s,baz=302,slow=9.0,SNR=5.3						
ASAR	Alice Springs	45.01	127	P	P	10 37 17.1	+0.4
	0.3nm,0.8s,baz=300,slow=7.7,SNR=4.1						
MKAR	Makanchi Array	45.84	347	P	P	10 37 23.6	+0.3
	0.4nm,0.3s,baz=160,slow=8.7,SNR=8.2						
SONM	Songino Array	46.16	10	P	P	10 37 25.6	-0.2
	1.1nm,1.0s,baz=186,slow=8.8,SNR=7.0						

*NEIC **12** 10:44:02.5, 3302S×72.18W, h10^{km}, ML2.7(GUC), After GUC.*
GUC 12 10:44:02.5±0.8**, 3302S**×**7218W, h10**^{km}±2^{km}**, MD3.7, ML2.7, 6C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.45	91	⇑iP	Pg	10 44 12.0	+0.7
IHA				iS	Sg	10 44 18.7	+1.4
LCCH	Las Cruces	0.69	132	⇑iP	Pg	10 44 15.9	+0.1
LCCH				iS	Sg	10 44 25.6	+0.9
ROCH	El Roble	0.98	88	eP	Pg	10 44 20.8	-0.6
ROCH				iS	Sg	10 44 34.4	+0.3
LNV	Longovilo	1.14	146	⇑iP	Pb	10 44 22.7	-1.5
LNV				iS	Sb	10 44 38.2	-0.8
TACH	Talagante	1.22	122	eP	Pn	10 44 24.3	-1.2
TACH				iS	Sb	10 44 40.9	-0.5
RCDM	Rinconada Maip	1.24	113	eP	Pn	10 44 24.1	-1.8
RCDM				eS	Sb	10 44 41.1	-0.9
RCDM				AML	AML	10 44 48.2	
	comp=N,162nm,0.4s						
RCDM	Rinconada Maip	1.24	113	eP	Pn	10 44 24.1	-1.8
RCDM				eS	Sb	10 44 41.1	-0.9
PEL	Peldehue	1.26	96	⇑iP	Pn	10 44 25.5	-0.6
PEL				iS	Sb	10 44 42.4	-0.2
PEL				AML	AML	10 44 49.3	
	comp=E,384nm,0.9s						
PEL	Peldehue	1.26	96	⇑iP	Pn	10 44 25.5	-0.6
PEL				iS	Sb	10 44 42.4	-0.2
PTCH	Petorca	1.29	55	eP	Pn	10 44 25.4	-1.2
PTCH				iS	Sb	10 44 43.0	-0.5
PTCH				AML	AML	10 44 45.4	
	comp=E,396nm,0.3s						
PTCH	Petorca	1.29	55	eP	Pn	10 44 25.4	-1.2
PTCH				iS	Sb	10 44 43.0	-0.5
JACH	Jahuel	1.38	76	eP	Pn	10 44 26.7	-1.0
JACH				iS	Sb	10 44 45.5	-0.4
CHCH	Chadas Angostu	1.57	126	eP	Pn	10 44 30.1	-0.2
CHCH				iS	Sn	10 44 50.8	0.0
FCH	Farellones	1.61	102	eP	Pn	10 44 31.0	+0.1
FCH				iS	Sn	10 44 52.5	+0.7
FCH				AML	AML	10 45 00.7	
	comp=N,133nm,0.3s						
CACH	El Canelo	1.71	130	⇓iP	Pn	10 44 32.6	+0.2
LMEL	Las Melosas	1.85	117	eP	Pn	10 44 34.9	+0.7
LMEL				iS	Sn	10 44 58.9	+1.2
LMEL				AML	AML	10 45 04.9	
	comp=N,185nm,0.1s						
LMEL	Las Melosas	1.85	117	eP	Pn	10 44 34.9	+0.7
LMEL				iS	Sn	10 44 58.9	+1.2
CICH	Cipreses	1.96	132	⇑iP	Pn	10 44 35.7	-0.1

HEL 12 10:56:19.4±0.5**, 5731N**×**2466E, h0**^{km}**, ML4.2, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MEF	Metsahovi	2.92	357	eP	Pn	10 57 06.3	-0.8
MEF				eSB	Sb	10 57 47.1	-1.6
MEF	Metsahovi	2.92	357	P	Pn	10 57 06.2	-0.9
MEF				Sb	Sb	10 57 47.0	-1.6
PVF	Pernaja	3.31	10	eP	Pn	10 57 13.1	+0.7
PVF				eSG	Sg	10 58 01.5	-4.2
PVF	Pernaja	3.31	10	P	Pn	10 57 13.0	+0.6
PVF				Sg	Sg	10 58 01.5	-4.2
VJF	Virojoki	3.57	24	eSB	Sb	10 58 05.5	-1.9
VJF	Virojoki	3.57	24	Sb	Sb	10 58 05.4	-2.0
RAF	Rauma	4.01	339	eP	Pn	10 57 22.5	+0.4
RAF				eSG	Sg	10 58 22.4	-6.0
FIA0	FINESS Array S	4.21	9	ePB	Pb	10 57 30.7	-3.7
FIA0				eS	Sn	10 58 13.6	-1.2
FIA0				eSG	Sg	10 58 28.5	-6.2
FIA0				MSG		10 58 32.2	
	comp=Z,808nm,0.3s						
FIA0	FINESS Array S	4.21	9	Pb	Pb	10 57 30.6	-3.8
FIA0				S	Sn	10 58 13.5	-1.3
FIA0				Sg	Sg	10 58 28.5	-6.3
	comp=Z,808nm,0.3s						
FIA0				A		10 58 32.1	
	comp=Z,808nm,0.3s						
KEF	Keuruu	4.88	1	eSG	Sg	10 58 49.5	-6.5
KEF	Keuruu	4.88	1	Sg	Sg	10 58 49.5	-6.6
KAF	Kangasniemi	4.89	9	eSG	Sg	10 58 48.9	-7.7

*IDC **12** 10:59:55.6±0.6, 5158N×15937E, h0^{km}, mb4.4/21, mb1 4.6/22, mb1mx4.5/26, mbtmp4.4/22, ML3.7/1, MS4.1/12,*

Ms1 4.1/12, ms1mx3.7/40, Error ellipse: s-maj=17.6km s-min=14.3km az=133.0

*KRSC **12** 10:59:58, 5154N×15986E, h34km, ML5.3*

*MOS **12** 10:59:58.0±2.2, 5153N×15987E, h33km, mb5.0/39, MS4.3/19, Error ellipse: s-maj=8.5km s-min=4.2km az=100.1*

*ISCJB **12** 10:59:59.8±0.3, 5151N±003×15950E±006, h41km, mb4.7/95, MS4.3/35, Error ellipse: s-maj=6.1km s-min=3.4km az=61.4*

*BJI **12** 11:00:04.8, 5184N×15865E, h60km, mB4.8, mb4.9, Ms4.6, Msz4.3*

*SZGRF **12** 11:00:05.6, 5200N×15917E, h33km, mb4.9, Off east coast of Kamchatka Peninsula, Russia*

*NEIC **12** 11:00:06.9±0.5, 5200N×15836E, mb4.8/40, MS4.4/4, Error ellipse: s-maj=11.6km s-min=7.1km az=160.0*

ISC 12 11:00:02.3±0.3**, 5161N**±003×**15932E**±007**, h43km, h43km**±2.7km**:pP-P, n269,** σ1ˢ24/293**, mb4.7**/94**, MS4.3**/35**, 18C-9D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.96**	**329**	P	**Pn**	**11 00 20.1**	**+0.8**
RUS				S	**Sn**	**11 00 35.8**	**+3.9**
RUS	**Russkaya**	**0.96**	**329**	*i* P	**Pn**	**11 00 20.1**	**+0.8**
RUS				*i* S	**Sn**	**11 00 35.8**	**+3.9**
GRL	**Gorelyy**	**1.22**	**321**	*e*P	**Pn**	**11 00 25.1**	**+2.3**
GRL				*i* S	**Sn**	**11 00 44.5**	**+6.4**
PET	**Petropavlovsk**	**1.47**	**344**	P	**Pn**	**11 00 26.7**	**+0.4**
PET				S	**Sn**	**11 00 47.4**	**+3.0**
PET	**Petropavlovsk**	**1.47**	**344**	⇑*i*PN	**Pn**	**11 00 26.4**	**+0.1**
PET				*e*S	**Sn**	**11 00 47.2**	**+2.8**
PET				pmax	pmax		
	comp=Z,2μm,3.0s						
PET				pmax	pmax		
	comp=Z,1μm,0.8s						
PET				smax			
	comp=E,15μm,0.7s						
PET				smax			
	comp=N,12μm,0.5s						
PET				smax			
	comp=N,15μm,0.5s						
PET	**Petropavlovsk**	**1.47**	**344**	*e*Pn	**Pn**	**11 00 22.8**	**-3.5**
PET				*e*Sn	**Sn**	**11 00 37.8**	**-6.6**
PET	**Petropavlovsk**	**1.47**	**344**	*e*P	**Pn**	**11 00 26.7**	**+0.4**
PET				*i* S	**Sn**	**11 00 47.4**	**+3.0**
INSR	**Institute**	**1.52**	**343**	*e*P	**Pn**	**11 00 26.6**	**-0.4**
INSR				*i* S	**Sn**	**11 00 47.2**	**+1.6**
SPN	**Mys Shipunski**	**1.55**	**16**	P	**Pn**	**11 00 25.5**	**-1.9**
SPN				S	**Sn**	**11 00 45.0**	**-1.3**
SPN	**Mys Shipunski**	**1.55**	**16**	*e*P	**Pn**	**11 00 25.5**	**-1.9**
SPN				*i* S	**Sn**	**11 00 45.0**	**-1.3**
NLC	**Nalytchevo**	**1.56**	**0**	P	**Pn**	**11 00 27.1**	**-0.4**
NLC				S	**Sn**	**11 00 48.2**	**+1.6**
NLC	**Nalytchevo**	**1.56**	**0**	*e*P	**Pn**	**11 00 27.1**	**-0.4**
NLC				*i* S	**Sn**	**11 00 48.2**	**+1.6**
AVH	**Avacha**	**1.69**	**348**	*e*P	**Pn**	**11 00 30.1**	**+0.7**
MIPR	**Malaya Ipel'ka**	**1.72**	**294**	*e*P	**Pn**	**11 00 32.5**	**+2.8**
MIPR				*i* S	**Sn**	**11 00 57.6**	**+7.1**
SKR	**Severo-Kuril's**	**2.22**	**247**	*e*PN	**Pn**	**11 00 36.0**	**-0.6**
SKR				*i* S	**Sn**	**11 01 09.5**	**+6.7**
SKR				pmax	pmax		
	comp=E,270nm,1.0s						
SKR				pmax	pmax		
	comp=Z,490nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2μm,3.0s						
SKR				pmax	pmax		
	comp=N,1μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,3μm,0.5s						
SKR				smax			
	comp=N,6μm,4.0s						
SKR				smax			
	comp=E,7μm,4.0s						
SKR				MLR	MLR		
	comp=N,9μm,12.0s						
SKR				MLR	MLR		
	comp=E,12μm,12.0s						
SKR				MLR	MLR		
	comp=Z,9μm,12.0s						
GNL	**Ganaly**	**2.25**	**339**	*e*P	**Pn**	**11 00 38.7**	**+1.7**
KII	**Karymskiy**	**2.43**	**2**	P	**Pn**	**11 00 39.8**	**+0.3**
KII	**Karymskiy**	**2.43**	**2**	*e*P	**Pn**	**11 00 39.8**	**+0.3**
ALID	**Alaid**	**2.49**	**254**	*e*P	**Pn**	**11 00 41.5**	**+1.3**
ALID				*i* S	**Sn**	**11 01 13.0**	**+3.7**
MKZ	**Mys Kozlova**	**3.29**	**25**	P	**Pn**	**11 00 48.1**	**-3.1**
MKZ				S	**Sn**	**11 01 24.5**	**-4.6**
MKZ	**Mys Kozlova**	**3.29**	**25**	*e*P	**Pn**	**11 00 48.1**	**-3.1**
MKZ				*i* S	**Sn**	**11 01 24.5**	**-4.6**
ZLN	**Zelenaya**	**4.50**	**11**	*e*P	**Pn**	**11 01 08.1**	**+0.2**
CIRR	**Tsirk**	**4.59**	**10**	*e*P	**Pn**	**11 01 09.9**	**+0.8**
KRSR	**Krestovskiy**	**4.67**	**9**	*e*P	**Pn**	**11 01 10.6**	**+0.3**
KLY	**Klyuchi**	**4.78**	**9**	P	**Pn**	**11 01 11.8**	**+0.1**
KLY	**Klyuchi**	**4.78**	**9**	*e*P	**Pn**	**11 01 11.8**	**+0.1**
KBTR	**Krutoberegovo**	**5.05**	**23**	P	**Pn**	**11 01 13.5**	**-1.9**
KBTR				S	**Sn**	**11 02 09.5**	**-2.9**
KBTR	**Krutoberegovo**	**5.05**	**23**	*e*P	**Pn**	**11 01 13.5**	**-1.9**
KBTR				*i* S	**Sn**	**11 02 09.5**	**-2.9**
BDR	**Baidarnaya**	**5.09**	**12**	*e*P	**Pn**	**11 01 16.1**	**+0.1**
SMKR	**Semkarok**	**5.14**	**13**	*e*P	**Pn**	**11 01 16.6**	**0.0**
SRKR	**Sorokina**	**5.17**	**11**	*e*P	**Pn**	**11 01 17.7**	**+0.6**
KUR	**Kuril'sk**	**9.93**	**234**	*e*PN	**Pn**	**11 02 27.8**	**+5.5**
KUR				*i* S	**Sn**	**11 04 14.5**	**+2.1**
KUR				pmax	pmax		
	comp=Z,200nm,1.3s						
KUR				MLR	MLR		
	comp=N,3μm,15.0s						
KUR				MLR	MLR		
	comp=E,5μm,15.0s						
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.78**	**253**	*e*PN	**Pn**	**11 02 54.0**	**+6.4**
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
SEY	**Seymchan**	**11.95**	**345**	*i* PN	**Pn**	**11 02 50.1**	**+0.2**
ASAJ	**Asahikawa**	**13.48**	**243**	Pn	**Pn**	**11 03 10.2**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=82,slow=9.5,SNR=13						
ASAJ				LR	LR	11 08 26.2	
	comp=Z,565nm,20.0s,baz=273,slow=38						
ASAJ	**Asahikawa**	**13.48**	**243**	P	**Pn**	**11 03 10.3**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,565nm,20.0s						
HABR	**Khabarovsk**	**15.88**	**268**	*e*P	**Pn**	**11 03 49.2**	**+6.4**
HABR				*e*S	**S**	**11 06 49.4**	**-1.0**
HABR				pmax	pmax		
	comp=Z,49nm,1.3s						
HABR				MLR	MLR		
	comp=Z,1μm,14.0s						
BILL	**Bilibino**	**16.83**	**9**	*e*P	**Pn**	**11 03 53.9**	**-0.8**
BILL				pmax	pmax		
	comp=Z,76nm,2.5s						
BILL				MLR	MLR		
	comp=Z,800nm,21.0s						
KLR	**Kul'dur**	**17.69**	**273**	*e*P	**Pn**	**11 04 04.2**	**-1.2**
KLR				pmax	pmax		
	comp=E,62nm,1.0s						
KLR				pmax	pmax		
	comp=Z,68nm,1.0s						
KLR				MLR	MLR		
	comp=N,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,2μm,14.0s						
YAK	**Yakutsk**	**19.10**	**315**	*e*P	**Pn**	**11 04 20.2**	**-2.3**
YAK				*e*		11 04 37.3	
YAK				*e*S	**S**	**11 08 07.8**	**+12**
YAK				*e*		11 08 28.2	
YAK				pmax	pmax		
	comp=N,26nm,1.0s						
YAK				pmax	pmax		
	comp=E,54nm,1.0s						
YAK				pmax	pmax		
	comp=Z,187nm,1.0s						
YAK				smax			
	comp=E,3μm,1.2s						
YAK				smax			
	comp=N,1μm,1.0s						
YAK				MLR	MLR		
	comp=Z,1μm,15.0s						
YAK				MLR	MLR		
	comp=N,490nm,12.0s						
YAK				MLR	MLR		
	comp=E,770nm,13.0s						
YAK	**Yakutsk**	**19.10**	**315**	*e*P	**Pn**	**11 04 20.2**	**-2.3**
	comp=E,164nm,0.8s						
VLA	**Vladivostok**	**20.33**	**256**	*e*P	**P**	**11 04 31.1**	**-3.7**
VLA				pmax	pmax		
	comp=Z,30nm,1.0s						
VLA				MLR	MLR		
	comp=Z,500nm,14.8s,MS4.0						
CLNS	**Chul'man**	**20.64**	**298**	*e*P	**P**	**11 04 35.9**	**-2.3**
CLNS				*e*PPP		11 04 50.6	
CLNS				*e*SS		11 08 29.8	
CLNS				*e*		11 08 55.9	
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.1s						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,600nm,13.0s,MS4.2						
CLNS				MLR	MLR		
	comp=Z,700nm,13.0s,MS4.2						
MDJ	**Mudanjiang**	**20.95**	**262**	P	**P**	**11 04 39.4**	**-2.0**
MDJ				S	**S**	**11 08 22.3**	**-10**
MDJ				AMB	AMB		
	comp=Z,23nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,48nm,4.4s						
MDJ				LR	LR		
	comp=N,604nm,23.4s,MS4.0						
MDJ				LR	LR		
	comp=E,332nm,23.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,461nm,18.6s,MS3.9						
MDJ	**Mudanjiang**	**20.95**	**262**	*e*P	**P**	**11 04 39.6**	**-1.8**
	comp=Z,20nm,0.8s						
MJAR	**Matsushiro Arr**	**21.27**	**233**	P	**P**	**11 04 44.8**	**0.0**
	comp=Z,18nm,0.9s,mb4.4,baz=28,slow=9.8,SNR=33						
MJAR				LR	LR	11 13 46.6	
	comp=Z,416nm,20.2s,MS3.8,baz=355,slow=39						
MAJO	**Matsushiro**	**21.27**	**233**	*e*P	**P**	**11 04 45.4**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.6						
MAJO	**Matsushiro**	**21.27**	**233**	*e*P	**P**	**11 04 45.4**	**+0.5**
	comp=Z,30nm,0.9s,mb4.6						
MAT	**Matsushiro**	**21.27**	**233**	P	**P**	**11 04 45.2**	**+0.4**
MAT				S	**S**	**11 08 45.0**	**+6.3**
CN2	**Changchun**	**23.93**	**264**	*e*P	**P**	**11 05 12.4**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
TIXI	**Tiksi**	**24.25**	**337**	⇑*e*P	**P**	**11 05 14.7**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,38nm,1.1s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.2						
HIA	**Hailar**	**25.11**	**280**	*e*P	**P**	**11 05 22.4**	**-0.6**
HIA				pmax	pmax		
	comp=Z,64nm,0.9s						
HIA	**Hailar**	**25.11**	**280**	*e*P	**P**	**11 05 22.4**	**-0.6**
	comp=Z,64nm,0.9s,mb5.2						
SNY	**Shenyang**	**26.15**	**262**	⇓P	**P**	**11 05 29.6**	**-2.8**
SNY				S	**S**	**11 09 52.1**	**-9.0**
SNY				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.5						
SNY				AMB	AMB		
	comp=Z,171nm,4.5s						
SNY				LR	LR		
	comp=N,943nm,22.0s,MS4.3						
SNY				LR	LR		
	comp=E,433nm,21.0s,MS4.3						
SNY				LR	LR		
	comp=Z,657nm,14.5s						
BOD	**Bodaibo**	**26.48**	**301**	*e*P	**P**	**11 05 33.0**	**-2.4**
BOD				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
COLA	**College**	**29.80**	**43**	*e*P	**P**	**11 06 03.4**	**-1.6**
ULN	**Ulaanbaatar**	**33.39**	**285**	*e*P	**P**	**11 06 36.4**	**-0.2**
ULN	**Ulaanbaatar**	**33.39**	**285**	P	**P**	**11 06 35.9**	**-0.7**
	comp=Z,4.8nm,0.8s,mb4.5						
SONM	**Songino Array**	**33.80**	**285**	P	**P**	**11 06 39.7**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=52,slow=9.7,SNR=10						
SONM				PcP	PcP	11 09 18.5	0.0
	comp=Z,1.0nm,0.8s,baz=116,slow=3.4,SNR=3.7						
SONM				LR	LR	11 22 09.9	
	comp=Z,970nm,18.0s,MS4.6,baz=61,slow=39						
SONM	**Songino Array**	**33.80**	**285**	P	**P**	**11 06 39.7**	**-0.4**
SONM						11 09 18.5	
TLY	**Talaya**	**33.83**	**293**	*e*P	**P**	**11 06 40.2**	**-0.2**
TLY				*e*		11 08 04.4	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,282nm,15.0s,MS4.1						
ZAK	**Zakamensk**	**34.56**	**291**	⇑*i*P	**P**	**11 06 46.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
SSE	**Sheshan**	**34.66**	**249**	P	**P**	**11 06 46.9**	**-0.7**
SSE				AP	pP	11 06 58.0	-1.3
SSE				S	**S**	**11 12 08.8**	**-5.5**
SSE				AMB	AMB		
	comp=Z,37nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,196nm,4.3s						
SSE				LR	LR		
	comp=N,184nm,22.1s,MS3.8						
SSE				LR	LR		
	comp=E,111nm,22.1s,MS3.8						
SSE				LR	LR		
	comp=Z,119nm,19.8s,MS3.6						
INK	**Inuvik**	**35.34**	**36**	P	**P**	**11 06 52.0**	**-1.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=64,slow=8.4,SNR=6.2						
XAN	**Xi'an**	**40.04**	**264**	P	**P**	**11 07 30.7**	**-2.4**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
XAN				LR	LR		
	comp=N,303nm,16.6s,MS4.2						
XAN				LR	LR		
	comp=E,182nm,19.7s,MS4.2						
XAN				LR	LR		
	comp=Z,478nm,18.7s,MS4.4						
LZH	**Lanzhou**	**41.87**	**271**	*e*P	**P**	**11 07 49.5**	**+1.3**
LZH				AP	pP	11 08 03.0	+3.0
LZH				XP	sP	11 08 09.0	+3.9
LZH				PP	PP	11 09 31.6	+6.1
LZH				*e*S	**S**	**11 14 04.0**	**+0.9**
LZH				XS	sS	11 14 19.2	-3.7
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,153nm,4.4s						
LZH				LR	LR		
	comp=E,704nm,15.0s						
LZH				LR	LR		
	comp=Z,970nm,16.6s,MS4.8						
GTA	**Gaotai**	**42.32**	**277**	*e*P	**P**	**11 07 52.2**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**43.21**	**304**	P	**P**	**11 07 57.4**	**-1.7**
	comp=Z,3.0nm,0.6s,mb4.2,baz=66,slow=6.3,SNR=15						
ZAL				PcP	PcP	11 09 47.8	-0.1
	comp=Z,1.4nm,0.4s,baz=41,slow=5.4,SNR=4.5						
ZAL				LR	LR	11 28 14.2	
	comp=Z,706nm,19.1s,MS4.6,baz=75,slow=39						
ZAL	**Zalesovo**	**43.21**	**304**	P	**P**	**11 07 57.4**	**-1.7**
ZAL						11 09 47.8	
NVS	**Novosibirsk**	**43.58**	**305**	⇑*i*P	**P**	**11 07 59.5**	**-2.5**
NVS				*e*		11 09 56.4	
NVS				pmax	pmax		
	comp=E,20nm,0.9s						
NVS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
YKA	**Yellowknife Ar**	**44.58**	**41**	P	**P**	**11 08 09.5**	**-0.6**
	comp=N,1.7nm,0.8s,mb3.9,baz=285,slow=15,SNR=3.2						
CD2	**Chengdu**	**45.36**	**265**	P	**P**	**11 08 18.0**	**+1.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
GYA	**Guiyang**	**46.73**	**258**	P	**P**	**11 08 27.6**	**+0.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
WMQ	**Urumqi**	**47.03**	**290**	⇑*i*P	**P**	**11 08 29.8**	**+0.4**
WMQ				AP	pP	11 08 39.5	-1.9
WMQ				PP	PP	11 10 16.0	-4.3
WMQ				PCS	PcS	11 14 00.0	+3.9
WMQ				S	**S**	**11 15 05.5**	**-13**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,131nm,4.4s						
WMQ				LR	LR		
	comp=N,678nm,12.4s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,14.6s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,15.8s,MS5.0						
KBS	**Kingsbay**	**48.28**	**352**	⇑*e*P	**P**	**11 08 38.5**	**-0.6**
KBS				*e**PP	pP	11 08 48.9	-2.2
MK31	**Makanchi Array**	**48.38**	**296**	P	**P**	**11 08 38.5**	**-1.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**48.38**	**296**	P	**P**	**11 08 38.6**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=59,slow=7.9,SNR=17						
SPB4	**Spitsbergen Ar**	**48.52**	**350**	*e*P	**P**	**11 08 40.4**	**-0.5**
SPB4				*e*pP	pP	11 08 53.1	+0.1
SPB4				*e*sP	sP	11 09 00.7	+2.6
KMI	**Kunming**	**50.10**	**260**	P	**P**	**11 08 53.3**	**+0.3**
KMI				PP	PP	11 10 42.9	-5.5
KMI				S	**S**	**11 15 46.4**	**-15**
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,112nm,3.9s						
KMI				LR	LR		
	comp=N,305nm,17.5s,MS4.5						
KMI				LR	LR		
	comp=E,267nm,16.3s,MS4.5						
KMI				LR	LR		
	comp=Z,291nm,17.1s,MS4.3						
CHKZ	**Chkalovo**	**50.45**	**310**	P	**P**	**11 08 53.6**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**50.45**	**310**	*e*P	**P**	**11 08 53.5**	**-2.2**
	comp=Z,26nm,0.8s,mb5.3						
VOSK	**Vostochnaya**	**50.84**	**308**	P	**P**	**11 08 56.6**	**-2.0**
VOSK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BVA0	**Borovoye Array**	**50.95**	**309**	*i* P	**P**	**11 08 57.7**	**-1.7**
BVAR	**Borovoye Array**	**50.95**	**309**	P	**P**	**11 08 57.7**	**-1.7**
	comp=Z,17nm,0.8s,mb5.0,baz=55,slow=7.8,SNR=65						
BRVK	**Borovoye**	**50.98**	**309**	P	**P**	**11 08 58.3**	**-1.3**
	SNR=8.4						
BRVK	**Borovoye**	**50.98**	**309**	*e*P	**P**	**11 08 58.1**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
BRVK	**Borovoye**	**50.98**	**309**	*e*P	**P**	**11 08 58.1**	**-1.5**
	comp=Z,15nm,0.9s,mb4.9						
ZRNK	**Zerenda**	**51.66**	**310**	P	**P**	**11 09 03.0**	**-1.7**
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZRNK	**Zerenda**	**51.66**	**310**	*e*P	**P**	**11 09 02.8**	**-1.9**
	comp=Z,16nm,0.9s,mb4.9						
SVE	**Sverdlovsk**	**53.04**	**317**	*e*P	**P**	**11 09 12.2**	**-2.7**
SVE				MLR	MLR		
	comp=N,400nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,200nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,900nm,13.0s,MS5.0						
BMO	**Blue Mountains**	**53.08**	**62**	*e*P	**P**	**11 09 21.4**	**+6.2**
	comp=Z,3.2nm,1.4s,mb4.1						
MOD	**Modoc**	**53.27**	**67**	*e*P	**P**	**11 09 24.1**	**+7.4**
	comp=Z,6.9nm,1.2s,mb4.5						
MOD				*e*pP	pP	11 09 36.5	+7.7
MOD				*e*sP	sP	11 09 44.4	+11
WVOR	**Wild Horse Val**	**53.88**	**65**	*e*P	**P**	**11 09 27.8**	**+6.7**
WVOR				*e**PP	pP	11 09 41.1	+7.8
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**53.88**	**65**	*e*P	**P**	**11 09 27.8**	**+6.7**
	comp=Z,10nm,1.1s,mb4.7						
WVOR				*e*pP	pP	11 09 41.1	+7.8
KEV	**Kevo**	**54.07**	**341**	*e*p	**P**	**11 09 20.0**	**-2.5**
	comp=Z,14nm,1.0s,mb4.8						
KEV	**Kevo**	**54.07**	**341**	*e*P	**P**	**11 09 20.0**	**-2.5**
KEV				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
ARU	**Arti**	**54.17**	**318**	*e*P	**P**	**11 09 21.4**	**-1.8**
ARU				*e*		11 11 22.3	
ARU				*e*S	**S**	**11 16 58.1**	**+1.0**
ARU				*e*SS	SS	11 20 44.1	+4.9
ARU				MLR	MLR		
	comp=N,400nm,16.0s,MS4.6						
ARU				MLR	MLR		
	comp=E,200nm,16.0s,MS4.6						
ARU				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.7						
ARU	**Arti**	**54.17**	**318**	*e*P	**P**	**11 09 21.6**	**-1.6**
	comp=Z,16nm,0.9s,mb4.9						
ARCES	**ARCESS Array B**	**54.55**	**342**	P	**P**	**11 09 25.1**	**-0.9**
	comp=Z,19nm,0.9s,mb5.1,baz=40,slow=9.6,SNR=23						
ARCES				LR	LR	11 38 54.2	
	comp=Z,142nm,18.3s,MS4.1,baz=35,slow=43						
ARE0	**ARCESS Array S**	**54.55**	**342**	*e*P	**P**	**11 09 24.9**	**-1.1**
AAK	**Ala-Archa**	**55.32**	**297**	⇑*e*P	**P**	**11 09 30.5**	**-1.0**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
AAK				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.4						
AAK	**Ala-Archa**	**55.32**	**297**	*e*P	**P**	**11 09 29.8**	**-1.8**
	comp=Z,1.8nm,0.6s,mb4.3						
SUMG	**Summit**	**55.49**	**6**	*e*P	**P**	**11 09 35.2**	**+2.5**
	comp=Z,12nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**56.71**	**69**	P	**P**	**11 09 40.1**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=287,slow=7.6,SNR=9.1						
CHTO	**Chiang Mai**	**57.14**	**259**	*e*P	**P**	**11 09 46.2**	**+1.6**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**57.14**	**259**	*e*P	**P**	**11 09 46.2**	**+1.6**
	comp=Z,13nm,0.9s,mb5.0						
IMW	**Indian Meadow**	**57.16**	**59**	*e*P	**P**	**11 09 52.2**	**+7.5**
	comp=Z,8.3nm,1.2s,mb4.6						
FLWY	**Flagg Ranch**	**57.17**	**59**	*e*P	**P**	**11 09 52.5**	**+7.7**
	comp=Z,51nm,1.9s,mb5.2						
JMIC	**Jan Mayen**	**57.40**	**355**	LR	LR	11 34 21.2	
	comp=Z,93nm,18.9s,MS3.9,baz=269,slow=36						
LOHW	**Long Hollow**	**57.54**	**59**	*e*P	**P**	**11 09 54.9**	**+7.6**
	comp=Z,6.5nm,1.2s,mb4.5						
AB31	**Akbulak array**	**58.40**	**311**	P	**P**	**11 09 51.9**	**-1.5**
AB31				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
AKTK	**Aktyubinsk**	**58.48**	**313**	P	**P**	**11 09 52.2**	**-1.7**
AKTO	**Aktyubinsk**	**58.48**	**313**	P	**P**	**11 09 52.2**	**-1.7**
	comp=Z,2.6nm,0.5s,mb4.5,baz=53,slow=7.1,SNR=8.8						
JIRN	**Jiri**	**58.57**	**276**	*e*P	**P**	**11 09 55.4**	**+0.9**
	comp=Z,29nm,0.9s,mb5.3						
GUN	**Gumba**	**58.58**	**276**	*e*P	**P**	**11 09 55.9**	**+1.3**
DUG	**Dugway**	**58.64**	**64**	*e*P	**P**	**11 10 01.7**	**+6.6**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
DUG	**Dugway**	**58.64**	**64**	*e*P	**P**	**11 10 01.7**	**+6.6**
	comp=Z,7.0nm,1.1s,mb4.6						
PDAR	**Pinedale Array**	**58.67**	**60**	P	**P**	**11 09 55.3**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=322,slow=3.5,SNR=10						
JOF	**Joensuu**	**58.71**	**335**	*e*p	**P**	**11 09 53.5**	**-2.1**
KKN	**Kakani**	**59.04**	**277**	*e*P	**P**	**11 09 58.5**	**+0.7**
	comp=Z,21nm,0.7s,mb5.3						
PKI	**Pulchoki**	**59.12**	**276**	*e*P	**P**	**11 09 59.1**	**+0.8**
	comp=Z,38nm,1.0s,mb5.4						
DMN	**Daman**	**59.28**	**277**	*e*P	**P**	**11 10 00.3**	**+0.8**
	comp=Z,49nm,1.0s,mb5.5						
GKN	**Gorkha**	**59.29**	**277**	*e*P	**P**	**11 10 00.1**	**+0.6**
	comp=Z,59nm,1.1s,mb5.5						
ARUT	**Antelope Range**	**59.95**	**66**	*e*P	**P**	**11 10 10.7**	**+6.6**
KOLN	**Koldanda**	**60.09**	**278**	*e*P	**P**	**11 10 05.5**	**+0.4**
	comp=Z,28nm,0.9s,mb5.3						
RSSD	**Black Hills**	**60.63**	**55**	*e*P	**P**	**11 10 12.5**	**+3.7**
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
RSSD	**Black Hills**	**60.63**	**55**	*e*P	**P**	**11 10 12.4**	**+3.7**
	comp=Z,6.2nm,0.8s,mb4.8						
KAF	**Kangasniemi**	**60.66**	**337**	*e*p	**P**	**11 10 07.5**	**-1.5**
	baz=32,slow=6.3						
FINES	**FINESS Array B**	**61.29**	**336**	P	**P**	**11 10 12.7**	**-0.6**
	comp=Z,8.6nm,0.8s,mb4.9,baz=40,slow=10.0,SNR=20						

FINES LR LR 11 41 09.9
comp=Z,183nm,18.7s,MS4.3,baz=357,slow=40
BOK Bokaro 61.55 273 *ex* x 11 09 47.3
PV01 Paradox Valley 62.44 63 *e*Pn **P 11 10 27.6 +6.7**
ISCO Idaho Springs 62.87 60 *e*P **P 11 10 31.7 +7.9**
ISCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ISCO Idaho Springs 62.87 60 *e*P **P 11 10 31.7 +7.9**
comp=Z,2.9nm,0.7s,mb4.5
OBN Obninsk 63.51 327 *d* i P **P 11 10 27.5 -0.6**
OBN pmax pmax
comp=Z,56nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.6
VSU Vasula 63.69 334 *e*P **P 11 10 28.7 -0.5**
BORG Borgarnes 63.98 0 LR LR 11 37 11.3
comp=Z,79nm,19.0s,MS3.9,baz=3.9,slow=35
NB2 NORSAR Subarra 64.83 343 P **P 11 10 36.0 -0.7**
comp=Z,5.2nm,0.7s,mb4.7,baz=22,slow=6.9
NOA NORSAR Array B 64.85 343 P **P 11 10 36.4 -0.4**
comp=Z,7.2nm,0.9s,mb4.7,baz=21,slow=6.6,SNR=14
NOA LR LR 11 42 44.6
comp=Z,53nm,19.5s,MS3.7,baz=235,slow=40
ANMO Albuquerque 65.91 64⇑ *e*P **P 11 10 49.9 +6.2**
AJM Ajmer 66.52 283 *e*P **P 11 10 45.9 -1.7**
AJM AMb AMB 11 10 52.2
comp=Z,6.7nm,0.9s,mb4.7
SCHQ Schefferville 67.19 27 P **P 11 10 50.4 -1.5**
comp=Z,1.8nm,0.7s,mb4.2,baz=298,slow=15,SNR=2.5
BHPL Bhopal 67.20 279 *e*P **P 11 10 51.6 -0.3**
BHPL AMb AMB 11 10 52.9
comp=Z,34nm,1.1s,mb5.3
VIS Vishakhapatnam 67.64 271 *e*P **P 11 10 53.4 -1.4**
VIS AMb AMB 11 10 58.6
comp=Z,15nm,0.9s,mb5.0
SUW Suwalki 68.55 334 *e*P **P 11 10 59.8 -0.6**
AKASG Malin Array Be 69.64 329 P **P 11 11 06.3 -0.9**
comp=Z,28nm,0.8s,mb5.2,baz=30,slow=6.1,SNR=95
AKBB Malin Array Si 69.64 329 *e*P **P 11 11 06.1 -1.1**
KIV Kislovodsk 70.19 317 *e*P **P 11 11 00.3 -10**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,393nm,18.0s,MS4.7
HYB Hyderabad 70.85 274 *i* P **P 11 11 15.0 +0.4**
HYB Hyderabad 70.85 274 *e*P **P 11 11 15.0 +0.4**
KWP Kalwaria 72.59 332 *e*P **P 11 11 25.6 +0.6**
SIM Simferopol' 72.83 323 P **P 11 11 26.2 -0.3**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,500nm,15.5s,MS4.9
OJC Ojcow 72.88 334 *e*P **P 11 11 26.9 +0.2**
POO Poona 72.92 278 *ex* x 11 11 23.0
STHS Stebnicka Huta 73.20 333 *e*P **P 11 11 29.7 +1.0**
STHS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
STHS Stebnicka Huta 73.20 333 *e*P **P 11 11 29.7 +1.0**
comp=Z,10nm,0.9s,mb4.8
KOLS Kolonicke sedl 73.34 332 *e*P **P 11 11 29.6 +0.1**
KOLS Kolonicke sedl 73.34 332 *e*P **P 11 11 29.7 +0.2**
CLL Collm 73.57 339 *i* P **P 11 11 30.7 -0.1**
comp=Z,11nm,1.0s,mb4.7
CLL Collm 73.57 339 *i* P **P 11 11 30.7 -0.1**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL MLR MLR
comp=Z,200nm,15.6s,MS4.5
UPC Upice 73.60 337 *e*P **P 11 11 31.3 +0.3**
CRVS Cervenica-Dubn 73.60 333 *e*P **P 11 11 31.1 +0.1**
UZH Uzhgorod 73.61 332 *e*P **P 11 11 22.8 -8.2**
UZH *e* pP 11 11 33.0 -11
BURAR Bucovina Array 73.62 330⇓ *i*P **P 11 11 31.4 +0.3**
BURAR Bucovina Array 73.62 330⇓ *e*P **P 11 11 31.4 +0.3**
KAD Karad 73.64 277 *e*P **P 11 11 31.4 +0.1**
KAD *e*P 11 11 32.1
KAD AMb AMB 11 11 33.0
comp=Z,43nm,0.9s,mb5.4
DPC Dobruska-Polom 73.67 336 *e*P **P 11 11 32.0 +0.6**
DPC AMS AMS 11 49 30.0
comp=Z,300nm,13.8s
BRG Berggiesshubel 73.76 338 *e*P **P 11 11 32.0 +0.1**
comp=Z,3.1nm,0.9s,mb4.2
BRG Berggiesshubel 73.76 338 *e*P **P 11 11 32.0 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 73.88 335⇑ *i*P **P 11 11 33.0 +0.4**
MORC Moravsky Berou 73.88 335⇑ *e*P **P 11 11 33.0 +0.4**
KECS Kecovo 74.26 333 *e*P **P 11 11 35.2 +0.3**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 74.26 333 *e*P **P 11 11 35.2 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
PRU Pruhonice 74.44 337 *e*P **P 11 11 35.7 -0.2**
PRU AMS AMS 11 49 50.0
comp=Z,400nm,13.2s
MOX Moxa 74.50 339 *e*P **P 11 11 36.0 -0.3**
MOX LR LR
comp=Z,200nm,17.0s,MS4.5
WRA Warramunga Arr 74.53 204 P **P 11 11 34.9 -1.6**
comp=Z,1.3nm,0.5s,mb4.1,baz=22,slow=6.2,SNR=12
VRAC Vranov 74.56 336⇑ *i*P **P 11 11 37.8 +1.2**
VRAC Vranov 74.56 336⇑ *e*P **P 11 11 37.8 +1.2**
VYHS Vyhne 74.71 334 *e*P **P 11 11 38.0 +0.5**
VYHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
VYHS Vyhne 74.71 334 *e*P **P 11 11 38.0 +0.5**
comp=Z,5.9nm,1.3s,mb4.4
TREC Trest 74.85 336 AMS AMS 11 51 10.0
comp=Z,200nm,17.1s
PSZ Piszkesteto 74.94 333⇑ *i*P **P 11 11 39.2 +0.4**
PSZ Piszkesteto 74.94 333⇑ *e*P **P 11 11 39.2 +0.4**
MLR Muntele Rosu 75.26 328 P **P 11 11 41.5 +0.8**
comp=Z,6.5nm,0.7s,mb4.7,baz=161,slow=5.3,SNR=10
MLR Muntele Rosu 75.26 328⇑ *i*P **P 11 11 41.2 +0.6**
MLR Muntele Rosu 75.26 328⇑ *e*P **P 11 11 41.2 +0.5**
TIRR Tirgusor 75.33 326⇑ *i*P **P 11 11 40.9 -0.2**
FITZ Fitzroy Crossi 75.40 213 P **P 11 11 40.9 -0.5**
comp=Z,4.2nm,1.1s,mb4.3,baz=86,slow=13,SNR=3.1
ZST Bratislava 75.45 335 *e*P **P 11 11 42.7 +1.0**
ZST LR LR
comp=Z,200nm,16.7s,MS4.5
KHC Kasperske Hory 75.47 338 *e*P **P 11 11 42.2 +0.4**
KHC AMS AMS 11 50 30.0
comp=Z,500nm,15.3s
KHC Kasperske Hory 75.47 338⇑ *e*P **P 11 11 41.1 -0.7**
GRA1 Grafenberg Arr 75.48 339 *e*P **P 11 11 42.6 +0.7**
comp=Z,24nm,1.9s,mb4.8
GRF Grafenberg Arr 75.48 339 *e*P **P 11 11 42.6 +0.7**
comp=Z,24nm,1.9s,mb4.8
GRF Grafenberg Arr 75.48 339 *e*P **P 11 11 42.6 +0.7**
GRF pmax pmax
comp=Z,24nm,1.9s,mb4.8
GRF Grafenberg Arr 75.48 339 *e*P **P 11 11 42.6 +0.7**
GRF pmax pmax
comp=Z,24nm,1.9s,mb4.8
GERES GERESS Array B 75.70 337 P **P 11 11 43.6 +0.4**
comp=Z,1.6nm,0.6s,mb4.1,baz=44,slow=5.9,SNR=12
GERES LR LR 11 50 03.0
comp=Z,216nm,18.3s,MS4.5,baz=251,slow=40
TOD Tromm 76.08 341 *e*P **P 11 11 45.6 +0.3**
GZR Gura Zlata 76.36 330⇓ *i*P **P 11 11 47.3 +0.4**
GZR Gura Zlata 76.36 330⇓ *e*P **P 11 11 47.3 +0.4**
GIVF Givet 76.37 343 *e*P **P 11 11 48.3 +1.3**
BAIF Baives 76.52 344 *e*P **P 11 11 49.4 +1.6**
comp=Z,19nm,1.0s,mb4.7
BAIF Baives 76.52 344 *e*P **P 11 11 49.4 +1.6**
BAIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BAIF Baives 76.52 344 *e*P **P 11 11 49.4 +1.6**
comp=Z,9.4nm,1.0s,mb4.7
MALT Malatya 76.66 316⇓ *i*P **P 11 11 50.4 +1.8**
MALT Malatya 76.66 316⇓ *e*P **P 11 11 50.4 +1.8**
BR131 Keskin Array S 77.46 320 *e*P **P 11 11 54.0 +0.9**
comp=Z,14nm,1.1s,mb4.8
BRTR Keskin Array B 77.46 320 P **P 11 11 54.0 +0.9**
comp=Z,30nm,0.5s,mb5.5,baz=70,slow=3.5,SNR=2.2
BRTR LR LR 11 52 52.1
comp=Z,55nm,18.7s,MS3.9,baz=244,slow=41
WLS Welschbruch 77.51 341 *e*P **P 11 11 53.4 0.0**
CDF Champ du Feu 77.53 341 *e*P **P 11 11 53.2 -0.3**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 77.53 341 *e*P **P 11 11 53.2 -0.3**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CDF Champ du Feu 77.53 341 *e*P **P 11 11 53.2 -0.3**
comp=Z,8.6nm,1.0s,mb4.6
BANOM Banah 77.68 296 P **P 11 11 54.9 +0.6**
SNR=9.8
ECH Echery 77.74 341 *e*P **P 11 11 54.0 -0.7**
FELD Feldberg im Sc 77.89 341 *e*P **P 11 11 54.2 -1.3**
THEF They Montfort 77.96 342 *e*P **P 11 11 55.9 0.0**
MOF Molkenrain 78.09 341 *e*P **P 11 11 55.6 -1.0**
HAU Haudompre 78.10 342 *e*P **P 11 11 56.2 -0.5**
HAU *e*R
comp=Z,207nm,18.5s
HAU Haudompre 78.10 342 *e*P **P 11 11 56.2 -0.5**
HAU LR LR
comp=Z,210nm,18.5s,MS4.5
ASAR Alice Springs 78.21 204 P **P 11 11 56.9 -0.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=17,slow=5.0,SNR=11
BBS Basel-Blauen 78.38 341 *e*P **P 11 11 57.0 -1.2**
FLN La Foliniere 78.53 347 *e*P **P 11 12 00.7 +1.7**
comp=Z,32nm,1.1s,mb4.9
FLN *e*R
comp=Z,71nm,19.0s
FLN La Foliniere 78.53 347 *e*P **P 11 12 00.7 +1.7**
FLN pmax pmax
comp=Z,16nm,1.1s,mb4.9
FLN MLR MLR
comp=Z,70nm,19.0s,MS4.0
FLN La Foliniere 78.53 347 *e*P **P 11 12 00.7 +1.7**
comp=Z,16nm,1.1s,mb4.9
FLN LR LR
comp=Z,70nm,19.0s,MS4.0
LOMF Lomont 78.63 341 *e*P **P 11 12 00.5 +0.9**
HATD Hatta, Dubai 78.63 296 P **P 11 12 00.0 +0.4**
SNR=6.8
LDF La Druitiere 78.64 346 *e*P **P 11 12 01.3 +1.7**
ASHO Ashiyiah 78.78 295 P **P 11 12 01.1 +0.7**
SNR=5.5
GRR Gorron 78.95 347 *e*P **P 11 12 03.3 +2.0**
comp=Z,18nm,0.9s,mb4.7
GRR Gorron 78.95 347 *e*P **P 11 12 03.3 +2.0**
GRR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GRR Gorron 78.95 347 *e*P **P 11 12 03.3 +2.0**
comp=Z,9.1nm,0.9s,mb4.7
LOR Lormes 79.27 343 *e*P **P 11 12 04.7 +1.6**
comp=Z,19nm,1.0s,mb4.7
LOR *e*R
comp=Z,144nm,18.5s
LOR Lormes 79.27 343 *e*P **P 11 12 04.7 +1.6**
LOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,140nm,18.5s,MS4.3
LOR Lormes 79.27 343 *e*P **P 11 12 04.7 +1.6**
comp=Z,9.4nm,1.0s,mb4.7
LOR LR LR
comp=Z,140nm,18.5s,MS4.3
ROSF Rostrenen 79.32 348 *e*P **P 11 12 05.0 +1.6**
comp=Z,34nm,1.2s,mb4.9
ROSF Rostrenen 79.32 348 *e*P **P 11 12 05.0 +1.6**
ROSF pmax pmax
comp=Z,17nm,1.2s,mb4.8
ROSF Rostrenen 79.32 348 *e*P **P 11 12 05.0 +1.6**
comp=Z,17nm,1.2s,mb4.8
MIB Mutribah 79.42 305 *e*P **P 11 12 03.7 -0.2**
MIB AMb AMB 11 12 05.3
comp=Z,80nm,0.9s,mb5.7
UMR Umm Al-Rimmam 79.42 305 *e*P **P 11 12 03.4 -0.5**
UMR AMb AMB 11 12 04.4
comp=Z,37nm,0.8s,mb5.3
JMDO Jabal Madar 79.43 293 ⇓P **P 11 12 04.8 +0.8**
SNR=5.5
CABF La Chapelle 79.49 342 *e*P **P 11 12 06.2 +1.9**
BSY Bisya 79.65 293 P **P 11 12 06.1 +0.9**
SNR=6.4
AVF Avril sur Loir 79.83 343 *e*P **P 11 12 08.0 +1.9**
comp=Z,19nm,0.8s,mb4.8
AVF Avril sur Loir 79.83 343 *e*P **P 11 12 08.0 +1.9**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 79.83 343 *e*P **P 11 12 08.0 +1.9**
comp=Z,9.4nm,0.8s,mb4.8
SMF Signal de Mont 79.88 343 *e*P **P 11 12 08.2 +1.8**
NAY Al-Naaiem 79.91 305 *e*P **P 11 12 06.2 -0.4**
NAY AMb AMB 11 12 08.0
comp=Z,35nm,1.0s,mb5.3
BGF Bois d'Agland 80.14 344 *e*P **P 11 12 09.7 +1.9**
LPL La Plagne 80.41 341 *e*P **P 11 12 11.9 +2.7**
LPG La Plagne 80.42 341 *e*P **P 11 12 12.2 +2.9**
TCF Toulx Ste Croi 80.51 344 *e*P **P 11 12 12.0 +2.2**
comp=Z,14nm,1.0s,mb4.6
TCF Toulx Ste Croi 80.51 344 *e*P **P 11 12 12.0 +2.2**
TCF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 80.51 344 *e*P **P 11 12 12.0 +2.2**
comp=Z,7.3nm,1.0s,mb4.6
PLDF La Plantade 80.57 343 *e*P **P 11 12 10.8 +0.7**
AGO Saint Agoulin 80.58 343 *e*P **P 11 12 11.0 +0.8**
MFF Saint Martin d 80.58 346 *e*P **P 11 12 12.6 +2.4**
comp=Z,26nm,1.0s,mb4.8
MFF Saint Martin d 80.58 346 *e*P **P 11 12 12.6 +2.4**
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.8
MFF Saint Martin d 80.58 346 *e*P **P 11 12 12.6 +2.4**
comp=Z,13nm,1.0s,mb4.8
PYM Petit Puy Mans 80.89 343 *e*P **P 11 12 12.5 +0.7**
VIVF Saint-Julien-l 81.45 342 *e*P **P 11 12 17.2 +2.4**
RJF Les Rejaudoux 81.58 344 *e*P **P 11 12 16.9 +1.4**
RJF *e*R
comp=Z,147nm,18.0s
RJF Les Rejaudoux 81.58 344 *e*P **P 11 12 16.9 +1.4**
RJF LR LR
comp=Z,150nm,18.0s,MS4.4
CAF Calviac 81.86 344 *e*P **P 11 12 20.0 +3.0**
comp=Z,24nm,1.1s,mb4.7
CAF Calviac 81.86 344 *e*P **P 11 12 20.0 +3.0**
CAF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CAF Calviac 81.86 344 *e*P **P 11 12 20.0 +3.0**
comp=Z,12nm,1.1s,mb4.7
LFF La Frestale 82.06 345 *e*P **P 11 12 20.9 +2.8**
comp=Z,47nm,1.1s,mb5.0
LFF La Frestale 82.06 345 *e*P **P 11 12 20.9 +2.8**
LFF pmax pmax
comp=Z,24nm,1.1s,mb5.0
LFF La Frestale 82.06 345 *e*P **P 11 12 20.9 +2.8**
comp=Z,24nm,1.1s,mb5.0
ESDC Sonseca Array 87.93 347 P **P 11 12 46.5 -1.0**
comp=Z,0.2nm,0.3s,mb3.8,baz=48,slow=2.2,SNR=4.3
ESDC LR LR 11 59 30.0
comp=Z,52nm,19.9s,MS4.0,baz=0.0,slow=41
EVO Evora 89.55 350 *e*P **P 11 12 57.2 +2.1**
comp=Z,6.3nm,0.4s,mb5.0
EVO *e*R
comp=Z,162nm,17.5s
TORD Torodi Ar. Bea 112.64 336 PP PP 11 19 18.8 -2.5
comp=Z,2.5nm,1.0s,baz=16,slow=6.2,SNR=8.0

KRSC 12 11:03:30,5118N×15941E,h15km,ML3.7,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.37**	**336**	*e*P	Pn	11 03 54.6	0.0
RUS				*i* S	Sn	11 04 12.1	-0.4
GRL	**Gorelyy**	**1.60**	**329**	P	Pn	11 04 00.4	+2.6
GRL				*i* S	Sn	11 04 21.7	+3.5
PET	**Petropavlovsk**	**1.91**	**346**	P	Pn	11 04 03.5	+1.6
PET				*i* S	Sn	11 04 27.5	+1.9
SPN	**Mys Shipunski**	**1.96**	**11**	*e*P	Pn	11 04 05.1	+2.5
SPN				*i* S	Sn	11 04 30.1	+3.2
NLC	**Nalytchevo**	**2.00**	**359**	*e*P	Pn	11 04 05.2	+2.0
NLC				*i* S	Sn	11 04 30.4	+2.5
AVH	**Avacha**	**2.13**	**349**	P	Pn	11 04 08.5	+3.5
GNL	**Ganaly**	**2.67**	**341**	P	Pn	11 04 16.2	+3.7

*NEIC **12** 11:19:03.4, 3299S×72.18W, h24km, ML2.5(GUC), After GUC.*

GUC 12 11:19:03.4±0.8, 3299S×7218W, h24km±29km, MD3.7, ML2.5, 1C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.71**	**134**	i P	Pb	11 19 16.6	-0.5
LCCH				*i* S	Sb	11 19 26.4	0.0
ROCH	**El Roble**	**0.98**	**89**	*i* P	Pn	11 19 21.4	-0.3
ROCH				*i* S	Sb	11 19 34.6	+0.3
LNV	**Longovilo**	**1.16**	**147**⇓	*i* P	Pn	11 19 23.6	-0.6
LNV				*i* S	Sn	11 19 38.7	-0.6
TACH	**Talagante**	**1.24**	**123**⇓	*i* P	Pn	11 19 25.3	+0.1
TACH				*i* S	Sn	11 19 41.5	+0.4
PEL	**Peldehue**	**1.27**	**98**⇓	*i* P	Pn	11 19 26.5	+0.9
PEL				*i* S	Sn	11 19 43.2	+1.3
PEL				AML	AML	11 19 51.1	
	comp=E,163nm,0.6s						
PEL	**Peldehue**	**1.27**	**98**⇓	*i* P	Pn	11 19 26.5	+0.9
PEL				*i* S	Sn	11 19 43.2	+1.3
JACH	**Jahuel**	**1.37**	**78**	*i* P	Pn	11 19 26.8	-0.2
JACH				*i* S	Sn	11 19 45.6	+1.1
CHCH	**Chadas Angostu**	**1.59**	**127**	*i* P	Pn	11 19 30.7	+0.6
CHCH				*i* S	Sn	11 19 51.2	+1.3
FCH	**Farellones**	**1.62**	**103**	*e*P	Pn	11 19 31.7	+1.2
FCH				*i* S	Sn	11 19 52.3	+1.7
FCH				AML	AML	11 20 00.9	
	comp=N,62nm,0.6s						
CACH	**El Canelo**	**1.74**	**131**	*e*P	Pn	11 19 33.1	+1.1
LMEL	**Las Melosas**	**1.86**	**118**	*e*P	Pn	11 19 35.3	+1.5
LMEL				*i* S	Sn	11 19 59.2	+2.5
LMEL				AML	AML	11 20 06.0	
	comp=N,97nm,0.3s						
LMEL	**Las Melosas**	**1.86**	**118**	*e*P	Pn	11 19 35.3	+1.5
LMEL				*i* S	Sn	11 19 59.2	+2.5
SFDO	**San Fernando**	**1.89**	**149**	*e*P	Pn	11 19 34.4	+0.2

*NEIC **12** 11:36:46.8±3.3, 5.68S×14775E, h61km±22km, mb4.1/2, Error ellipse: s-maj=31.5km s-min=13.5km az=187.0*
*ISCJB **12** 11:36:49.5±4.2, 60S±02×1477E±01, h81km±29km, mb4.1/4, Error ellipse: s-maj=37.3km s-min=21.0km az=28.1*
*IDC **12** 11:36:49.7±3.1, 5.98S×14781E, h74km±23km, mb4.1/4, mb1 4.2/6, mb1mx3.9/15, mbtmp4.3/6, Error ellipse: s-maj=29.9km s-min=19.8km az=126.0*

ISC 12 11:36:48.9±2.7, 59S±02×1477E±01, h65km±20km, n12, σ0°81/13, mb4.1/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.53**	**189**	P	**Pn**	**11 37 42.1**	**+0.9**
	4.5nm,0.3s,baz=27,slow=6.8,SNR=16						
PMG				S	**Sn**	**11 38 21.5**	**-0.3**
	40nm,0.3s,baz=205,slow=21,SNR=14						
KAKA	**Kakadu**	**16.52**	**245**	*e*P	**Pn**	**11 40 36.6**	**+0.3**
	8.9nm,0.5s						
WRAB	**Tennant Creek**	**19.07**	**222**	*e*P	**Pn**	**11 41 06.4**	**-0.9**
	7.4nm,0.8s						
WB2	**Warramunga Arr**	**19.08**	**222**	*e*P	**Pn**	**11 41 05.9**	**-1.5**
WRA	**Warramunga Arr**	**19.08**	**222**	P	**Pn**	**11 41 06.6**	**-0.9**
	1.8nm,0.3s,baz=49,slow=11,SNR=172						
AS31	**Alice Springs**	**22.11**	**216**	*e*P	**P**	**11 41 39.5**	**+0.8**
ASAR	**Alice Springs**	**22.11**	**216**	P	**P**	**11 41 39.4**	**+0.6**
	3.6nm,0.5s,mb4.0,baz=29,slow=12,SNR=62						
ASAR				S	**S**	**11 45 39.5**	**+0.7**
	1.5nm,0.9s,baz=34,slow=20,SNR=7.6						
ASPA	**Alice Springs**	**22.12**	**216**	*e*P	**P**	**11 41 39.5**	**+0.7**
DZM	**Mont Dzumac**	**24.21**	**133**	P	**P**	**11 41 59.5**	**+0.2**
	16nm,1.1s,mb4.2,baz=130,slow=17,SNR=2.5						
FITZ	**Fitzroy Crossi**	**24.73**	**239**	P	**P**	**11 42 04.8**	**+0.7**
	13nm,0.4s,mb4.7,baz=70,slow=8.0,SNR=82						
VNDA	**Vanda**	**71.97**	**177**	P	**P**	**11 48 04.5**	**-1.0**
	0.5nm,0.8s,mb3.4,baz=333,slow=5.5,SNR=7.6						
TORD	**Torodi Ar. Bea**	**145.76**	**285**	PKPbc	PKPbc	11 56 20.1	-0.4
	0.5nm,0.6s,baz=64,slow=4.2,SNR=8.1						

*ISCJB **12** 11:38:57.7±0.2, 1799N×14700E±003, h31km, mb5.0/113, MS4.3/42, Error ellipse: s-maj=4.5km s-min=4.2km az=154.5*
*IDC **12** 11:38:57.4±2.0, 1798N×147.12E, h21km±11km, mb4.6/24, mb1 4.7/26, mb1mx4.7/29, mbtmp4.8/26, ML4.2/1, MS4.2/25, Ms1 4.2/25, ms1mx4.1/36, Error ellipse: s-maj=16.4km s-min=9.9km az=99.0*
*MOS **12** 11:38:57.8±0.9, 1800N×14693E, h33km, mb5.3/45, MS4.3/7, Error ellipse: s-maj=9.9km s-min=5.4km az=102.2*
*BJI **12** 11:38:58.0, 1800N×147.15E, h42km, mB5.1, mb4.9, Ms4.5, Msz4.4*
*NEIC **12** 11:38:59.9±0.2, **1801N**±003×**14704E**±003, **h33**km, **h33**km±.6km:**pP-P, n271**, σ0°93/274, **mb5.0**/113, **MS4.3**/42, **17C-11D, Mariana Islands region***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.87**	**206**	Pn	**Pn**	**11 40 11.4**	**+0.6**
	31nm,0.3s,baz=110,slow=4.3,SNR=17						
GUMO				Sn	**Sn**	**11 41 05.9**	**-0.1**
	59nm,0.3s,baz=118,slow=23,SNR=4.0						
GUMO				LR	LR	11 42 07.4	
	comp=Z,4μm,18.5s,baz=8.7,slow=39						
GUMO	**Guam**	**4.87**	**206**	P	**Pn**	**11 40 11.4**	**+0.6**
GUMO						11 41 05.9	
CBIJ	**Chichi jima**	**10.09**	**334**	Pn	**Pn**	**11 41 22.6**	**+0.2**
	8.0nm,0.3s,baz=279,slow=22,SNR=4.0						
CBIJ				Sn	**Sn**	**11 43 12.8**	**-1.6**
	7.7nm,0.3s,baz=298,slow=24,SNR=3.4						
JHJ	**Hachijo jima 2**	**16.39**	**338**	LR	LR	11 49 13.5	
	comp=Z,659nm,18.5s,baz=147,slow=38						
JOW	**Kunigami**	**19.42**	**300**	P	**Pn**	**11 43 26.5**	**+1.9**
	6.1nm,0.3s,baz=124,slow=10,SNR=17						
JOW				LR	LR	11 49 34.8	
	comp=Z,599nm,20.5s,baz=144,slow=33						
MJAR	**Matsushiro Arr**	**20.04**	**339**	P	**P**	**11 43 30.6**	**+0.6**
	21nm,0.8s,baz=165,slow=9.7,SNR=35						
MJAR				S	**S**	**11 47 22.0**	**+8.5**
	1.0nm,0.6s,baz=147,slow=14,SNR=4.1						
MJAR				ScP	ScP	11 51 17.2	-1.6
	3.4nm,1.1s,baz=146,slow=3.3,SNR=4.9						
MAJO	**Matsushiro**	**20.04**	**339**	*e*P	**P**	**11 43 30.4**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,81nm,0.8s						
MAJO	**Matsushiro**	**20.04**	**339**	*e*P	**P**	**11 43 30.4**	**+0.3**
	comp=Z,81nm,0.8s						
MAT	**Matsushiro**	**20.04**	**339**	P	**P**	**11 43 31.7**	**+1.7**
MAT				S	**S**	**11 47 18.0**	**+4.5**
YHNB	**Yeheng**	**24.78**	**290**	*e*P	**P**	**11 44 18.6**	**0.0**
KS15	**Wonju Array Si**	**25.64**	**323**	*e*P	**P**	**11 44 26.7**	**+0.3**
ASAJ	**Asahikawa**	**26.29**	**353**	P	**P**	**11 44 32.9**	**+0.5**
	comp=Z,20nm,0.9s,mb4.6,baz=214,slow=20,SNR=9.8						
ASAJ				LR	LR	11 56 26.6	
	comp=Z,207nm,18.2s,MS3.7,baz=177,slow=40						
INCN	**Inchon**	**26.39**	**321**	*e*P	**P**	**11 44 33.9**	**+0.6**
SSE	**Sheshan**	**26.80**	**304**	P	**P**	**11 44 36.2**	**-0.7**
SSE				AP	pP	11 44 47.0	+0.7
SSE				XP	sP	11 44 52.2	+1.9
SSE				S	**S**	**11 49 11.0**	**+0.2**
SSE				XS	sS	11 49 30.1	+3.6
SSE				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,349nm,4.1s						
SSE				LR	LR		
	comp=N,244nm,20.5s,MS3.9						
SSE				LR	LR		
	comp=E,205nm,20.5s,MS3.9						
SSE				LR	LR		
	comp=Z,292nm,21.7s,MS3.8						
PMG	**Port Moresby**	**27.25**	**180**	LR	LR	11 53 22.6	
	comp=Z,270nm,20.0s,MS3.8,baz=21,slow=32						
PMG	**Port Moresby**	**27.25**	**180**	*e*P	**P**	**11 44 40.6**	**-0.3**
PMG				pmax	pmax		
	comp=Z,55nm,0.9s						
PMG	**Port Moresby**	**27.25**	**180**	*e*P	**P**	**11 44 40.6**	**-0.3**
	comp=Z,55nm,0.9s,mb5.1						
VLA	**Vladivostok**	**28.13**	**336**	*c* iP	**P**	**11 44 49.7**	**+0.9**
VLA				*e*S	**S**	**11 49 35.2**	**+3.5**
VLA				pmax	pmax		
	comp=Z,99nm,1.6s,mb5.2						
VLA				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.0						
NJ2	**Nanjing**	**29.00**	**304**	*e*P	**P**	**11 44 58.6**	**+2.0**
NJ2				AP	pP	11 45 08.0	+1.9
NJ2				XP	sP	11 45 12.1	+2.1
NJ2				PP	PP	11 45 53.0	-9.3
NJ2				S	**S**	**11 49 46.0**	**+0.4**
NJ2				XS	sS	11 50 02.0	+0.8

NJ2 AMB AMB
comp=Z,50nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,410nm,7.0s
NJ2 LR LR
comp=N,980nm,18.7s,MS4.5
NJ2 LR LR
comp=E,890nm,21.4s,MS4.5
NJ2 LR LR
comp=Z,1μm,21.0s,MS4.5
YSS Yuzh-Sakhalins 29.08 354 *e*P **P** **11 44 58.0 +0.8**
HNR Honiara 30.10 154 LR LR 11 56 21.1
comp=Z,695nm,19.8s,MS4.3,baz=358,slow=35
MDJ Mudanjiang 30.29 335 P **P** **11 45 08.9 +0.9**
MDJ AP pP 11 45 17.6 +0.2
MDJ XP sP 11 45 21.6 +0.2
MDJ PCP PcP 11 48 08.4 +0.5
MDJ S **S** **11 50 09.2 +3.5**
MDJ XS sS 11 50 23.1 +1.7
MDJ SCP ScP 11 51 48.2 +0.5
MDJ PCS PcS 11 51 52.0 +0.6
MDJ SCS ScS 11 55 44.5 +0.9
MDJ AMB AMB
comp=Z,14nm,1.3s,mb4.5
MDJ AMB AMB
comp=Z,96nm,3.7s
MDJ LR LR
comp=N,320nm,20.2s,MS4.1
MDJ LR LR
comp=E,250nm,19.1s,MS4.1
MDJ LR LR
comp=Z,426nm,19.1s,MS4.1
MDJ Mudanjiang 30.29 335 *e*P **P** **11 45 08.9 +0.9**
comp=Z,13nm,1.0s,mb4.6
SNY Shenyang 31.06 325 ⇑P **P** **11 45 14.5 -0.3**
SNY AP pP 11 45 24.0 -0.3
SNY XP sP 11 45 28.1 -0.1
SNY AMB AMB
comp=Z,21nm,0.9s,mb5.0
SNY AMB AMB
comp=Z,169nm,4.5s
SNY LR LR
comp=N,496nm,19.0s,MS4.4
SNY LR LR
comp=E,530nm,16.9s,MS4.4
SNY LR LR
comp=Z,789nm,19.4s,MS4.4
CN2 Changchun 31.50 329 *e*P **P** **11 45 22.0 +3.4**
CN2 *e*XP sP 11 45 35.0 +2.9
CN2 *e*S **S** **11 50 27.6 +3.0**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,19.0s,MS4.4
CN2 LR LR
comp=E,400nm,19.0s,MS4.4
CN2 LR LR
comp=Z,600nm,19.0s,MS4.3
HABR Khabarovsk 31.91 345 ⇓*i*P **P** **11 45 24.0 +1.7**
HABR *e*S **S** **11 50 35.9 +4.8**
HABR pmax pmax
comp=Z,61nm,1.6s,mb5.2
KLR Kul'dur 33.50 342 ⇑*i*P **P** **11 45 33.8 -2.4**
KLR pmax pmax
comp=E,26nm,1.4s
KLR pmax pmax
comp=Z,55nm,1.4s,mb5.3
KAKA Kakadu 33.76 206 *e*P **P** **11 45 38.1 -0.3**
comp=Z,8.1nm,0.6s,mb4.8
BJT Baijiatuan 34.50 316 *e*P **P** **11 45 44.5 -0.3**
BJT pmax pmax
comp=Z,31nm,1.1s
BJT Baijiatuan 34.50 316 *e*P **P** **11 45 44.5 -0.3**
comp=Z,30nm,1.1s,mb5.1
BJI Beijing 34.51 316 *e*P **P** **11 45 44.2 -0.7**
BJI XP sP 11 45 59.8 +1.4
BJI S **S** **11 51 14.7 +3.3**
BJI XS sS 11 51 34.9 +7.8
BJI AMB AMB
comp=Z,22nm,1.1s,mb5.0
BJI LR LR
comp=N,406nm,20.9s,MS4.3
BJI LR LR
comp=E,340nm,17.0s,MS4.3
BJI LR LR
comp=Z,518nm,23.3s
HHC Hu-ho-hao-te 37.99 314 *e*P **P** **11 46 15.6 +1.0**
HHC AP pP 11 46 25.3 +1.1
HHC XP sP 11 46 29.3 +1.1
HHC PP PP 11 47 45.9 +4.2
HHC PCP PcP 11 48 31.2 +1.4
HHC S **S** **11 52 05.2 +0.6**
HHC SCP ScP 11 52 15.0 0.0
HHC PCS PcS 11 52 19.0 +0.3
HHC XS sS 11 52 21.2 +0.8
HHC SS SS 11 54 43.0 -9.1
HHC SCS ScS 11 56 22.7 -1.5
HHC AMB AMB
comp=Z,14nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,164nm,6.7s
HHC LR LR
comp=N,221nm,16.3s,MS4.3
HHC LR LR
comp=E,356nm,19.8s,MS4.3
HHC LR LR
comp=Z,381nm,20.1s,MS4.2
HIA Hailar 38.17 331 *e*P **P** **11 46 16.2 0.0**
HIA pmax pmax
comp=Z,54nm,1.0s
HIA Hailar 38.17 331 *e*P **P** **11 46 16.2 0.0**
comp=Z,54nm,1.0s,mb5.2
GYA Guiyang 38.18 290 ⇑*i*P **P** **11 46 17.4 +1.2**
GYA AP pP 11 46 27.2 +1.3
GYA XP sP 11 46 31.1 +1.3
GYA PP PP 11 47 48.5 +4.7
GYA PCP PcP 11 48 32.2 +1.8
GYA S **S** **11 52 08.4 +1.0**
GYA XS sS 11 52 24.5 +1.2
GYA SS SS 11 54 47.5 -7.8
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,140nm,4.2s
GYA LR LR
comp=N,540nm,17.3s,MS4.5
GYA LR LR
comp=E,410nm,17.6s,MS4.5
GYA LR LR
comp=Z,480nm,17.8s,MS4.4
BTO Baotou 38.94 313 *e*P **P** **11 46 22.2 -0.5**
KSM Kuching 39.62 250 *e*P **P** **11 46 28.2 -0.1**
WRAB Tennant Creek 39.71 199 P **P** **11 46 26.0 -3.1**
comp=Z,208nm,0.8s,mb5.9,SNR=6.0
WRAB Tennant Creek 39.71 199 *e*P **P** **11 46 27.5 -1.6**
WB2 Warramunga Arr 39.72 199 *e*P **P** **11 46 27.8 -1.4**
WB2 *e* 11 52 23.6
WRA Warramunga Arr 39.73 199 P **P** **11 46 26.8 -2.4**
comp=Z,7.1nm,0.8s,mb4.5,baz=22,slow=9.5,SNR=26
WRA PcP PcP 11 48 35.2 -0.1
comp=Z,1.8nm,0.4s,baz=17,slow=3.3,SNR=8.8
WRA ScP ScP 11 52 22.2 +0.6
comp=Z,4.6nm,0.8s,baz=18,slow=4.1,SNR=18
WRA LR LR 12 04 43.0
comp=Z,306nm,18.1s,MS4.2,baz=15,slow=39
WRA Warramunga Arr 39.73 199 P **P** **11 46 26.8 -2.4**
WRA 11 48 35.2
WRA 11 52 22.2
CD2 Chengdu 41.19 297 *e*P **P** **11 46 39.5 -1.8**
CD2 AP pP 11 46 49.3 -1.7
CD2 XP sP 11 46 53.3 -1.6
CD2 PP PP 11 48 17.8 +1.2
CD2 S **S** **11 52 49.5 -3.1**
CD2 SS SS 11 55 47.6 -8.6
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=E,390nm,21.6s
CD2 LR LR
comp=Z,380nm,15.6s
MA2 Magadan 41.59 3 *e*P **P** **11 46 44.3 -0.3**
MA2 pmax pmax
comp=Z,30nm,1.0s,mb4.9
FITZ Fitzroy Crossi 41.60 212 *e*P **P** **11 46 43.3 -1.4**
comp=Z,9.0nm,0.8s,mb4.5
FITZ Fitzroy Crossi 41.60 212 P **P** **11 46 43.4 -1.3**
comp=Z,1.7nm,0.4s,mb4.0,baz=22,slow=15,SNR=14
FITZ LR LR 12 02 25.7
comp=Z,123nm,19.1s,MS3.8,baz=22,slow=34
KMI Kunming 41.65 288 P **P** **11 46 45.6 +0.5**
KMI AP pP 11 46 55.0 +0.2
KMI XP sP 11 47 00.3 +1.6
KMI PP PP 11 48 22.8 +1.1
KMI *e*S **S** **11 52 58.6 -0.9**
KMI SS SS 11 55 57.9 -7.5
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.3
KMI AMB AMB
comp=Z,51nm,5.9s
KMI LR LR
comp=N,216nm,17.2s,MS4.2
KMI LR LR
comp=E,167nm,18.2s,MS4.2
KMI LR LR
comp=Z,154nm,18.2s,MS3.9
LZH Lanzhou 42.08 304 *e*P **P** **11 46 49.5 +0.9**
LZH AP pP 11 46 59.3 +1.0
LZH XP sP 11 47 01.5 -0.7
LZH PP PP 11 48 27.2 +0.9
LZH *e*S **S** **11 53 11.3 +5.5**
LZH SS SS 11 56 06.0 -7.8
LZH AMB AMB
comp=Z,19nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,89nm,5.0s
LZH LR LR
comp=N,627nm,14.8s
LZH LR LR
comp=Z,969nm,15.4s,MS4.8
CLNS Chul'man 42.17 342 *e*P **P** **11 46 44.9 -4.4**
CLNS *e**PP pP 11 46 53.4 -5.6
CLNS *e* 11 48 35.5
CLNS *e*PPP 11 48 45.9
CLNS *e*S **S** **11 53 04.3 -2.7**
CLNS pmax pmax
comp=Z,39nm,1.3s,mb4.9
CLNS pmax pmax
comp=N,17nm,1.1s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS smax
comp=N,93nm,12.0s
CLNS smax
comp=Z,52nm,12.4s
CLNS smax
comp=E,174nm,12.7s
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.3
CLNS MLR MLR
comp=Z,100nm,13.0s,MS3.9
CLNS MLR MLR
comp=N,100nm,11.0s,MS4.3
CIT Chita 42.94 330 *e*P **P** **11 46 56.2 +0.6**
CIT *e* 11 48 46.6
CIT pmax pmax
comp=Z,94nm,1.3s,mb5.4
AS31 Alice Springs 43.36 198 *e*P **P** **11 46 59.4 +0.4**
ASAR Alice Springs 43.36 198 P **P** **11 46 58.2 -0.8**
comp=Z,3.9nm,0.6s,mb4.3,baz=19,slow=7.3,SNR=17
ASAR PcP PcP 11 48 45.4 -1.8
comp=Z,3.4nm,0.7s,baz=19,slow=4.4,SNR=7.7
ASAR ScP ScP 11 52 36.8 +0.7
comp=Z,3.3nm,0.9s,baz=21,slow=4.0,SNR=13
ASAR S **S** **11 53 28.9 +4.2**
comp=Z,1.7nm,0.9s,baz=20,slow=18,SNR=6.4
ASAR LR LR 12 05 20.5
comp=Z,341nm,18.0s,MS4.3,baz=0.2,slow=36
ASAR Alice Springs 43.36 198 P **P** **11 46 58.2 -0.8**
ASAR 11 48 45.4
ASAR S **S** **11 53 28.9 +4.2**
ASPA Alice Springs 43.37 198 *e*P **P** **11 46 59.4 +0.4**
ULN Ulaanbaatar 44.09 322 *e*P **P** **11 47 05.2 +0.3**
DZM Mont Dzumac 44.13 154 P **P** **11 47 03.2 -2.0**
comp=Z,24nm,1.1s,mb4.8,baz=4.3,slow=7.7,SNR=3.8
DZM LR LR 12 02 31.3
comp=Z,472nm,20.7s,MS4.4,baz=203,slow=32
SONM Songino Array 44.47 321 P **P** **11 47 08.2 +0.3**
comp=Z,11nm,0.8s,mb4.6,baz=134,slow=9.8,SNR=69
SONM PcP PcP 11 48 51.6 +0.6
comp=Z,5.7nm,0.7s,baz=138,slow=3.8,SNR=7.1
SONM ScP ScP 11 52 39.9 -0.7
comp=Z,1.7nm,0.9s,baz=117,slow=3.4,SNR=8.8
SONM LR LR 12 07 07.7
comp=Z,626nm,18.3s,MS4.6,baz=113,slow=38
SONM Songino Array 44.47 321 P **P** **11 47 08.2 +0.3**
SONM 11 48 51.6
SEY Seymchan 45.03 3⇑ *e*P **P** **11 47 12.8 +0.5**
YAK Yakutsk 45.63 349 *e*P **P** **11 47 16.8 -0.3**
YAK *e**PP pP 11 47 25.2 -1.7
YAK *e* 11 48 53.5
YAK *e* 11 49 04.4
YAK *e*PPP 11 49 50.5
YAK *e*S **S** **11 54 03.8 +6.2**
YAK *e* 11 57 13.1
YAK pmax pmax
comp=Z,22nm,1.0s,mb5.0
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK smax
comp=N,7.0nm,1.4s
YAK smax
comp=E,3.0nm,1.4s
YAK MLR MLR
comp=Z,274nm,20.0s,MS4.2
YAK MLR MLR
comp=N,154nm,17.0s,MS4.2
YAK MLR MLR
comp=E,162nm,16.0s,MS4.2
GTA Gaotai 45.97 308 *e*P **P** **11 47 20.3 +0.5**
GTA AP pP 11 47 29.7 +0.1
GTA XP sP 11 47 34.1 +0.6
GTA PCP PcP 11 48 57.7 +1.5
GTA PP PP 11 49 08.1 +0.3
GTA SCP ScP 11 52 47.7 +0.9
GTA PCS PcS 11 52 52.6 +2.1
GTA S **S** **11 54 03.1 +0.6**
GTA XS sS 11 54 18.7 +0.2
GTA SCS ScS 11 57 11.7 -1.3
GTA SS SS 11 57 20.8 -6.7
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,190nm,4.6s
GTA LR LR
comp=N,371nm,19.4s,MS4.5
GTA LR LR
comp=E,354nm,19.4s,MS4.5
GTA LR LR
comp=Z,443nm,19.8s,MS4.4
BOD Bodaibo 46.64 336 *e*P **P** **11 47 24.5 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ZAK Zakamensk 47.46 323 ⇑*i*P **P** **11 47 31.1 -0.3**
ZAK *e* 11 49 01.5
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
IRK Irkutsk 47.78 326 *e*P **P** **11 47 32.6 -1.4**
IRK *e* pP 11 47 42.0 -1.8
IRK pmax pmax
comp=Z,45nm,1.0s,mb5.5
TLY Talaya 47.85 325 ⇓P **P** **11 47 34.3 -0.2**
SNR=7.3
TLY Talaya 47.85 325*d i*P **P** **11 47 34.2 -0.3**
TLY pmax pmax
comp=Z,19nm,1.3s,mb5.0
TLY Talaya 47.85 325 *e*P **P** **11 47 34.7 +0.2**
MOY Mondy 49.32 324 *e*P **P** **11 47 45.9 +0.1**
MOY pmax pmax
comp=Z,31nm,2.7s,mb4.9
PSI Prapat 49.49 258 P **P** **11 47 48.8 +1.7**
comp=Z,16nm,0.9s,mb5.0,baz=61,slow=3.7,SNR=11
STKA Stephens Creek 49.88 186 *e*P **P** **11 47 50.4 +0.4**
comp=Z,7.2nm,0.9s,mb4.7
STKA Stephens Creek 49.88 186 P **P** **11 47 48.4 -1.6**
comp=Z,2.5nm,0.5s,mb4.5,baz=352,slow=8.0,SNR=4.2
STKA LR LR 12 08 28.2
comp=Z,240nm,22.0s,MS4.2,baz=270,slow=36
BILL Bilibino 51.48 9 *e*P **P** **11 48 02.4 +0.3**
BILL *e* 11 48 16.9
BILL *e* 11 49 57.0
BILL *e*S **S** **11 55 19.1 -1.0**
BILL *e*SS SS 11 58 57.2 +1.0
BILL pmax pmax
comp=Z,50nm,2.0s,mb5.1
FORT Forrest 51.83 201 *e*P **P** **11 48 05.5 +0.8**
comp=Z,26nm,0.8s,mb5.2
LSA Lhasa 51.99 294 *e*P **P** **11 48 08.3 +2.4**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LSA Lhasa 51.99 294 *e*P **P** **11 48 08.2 +2.4**
comp=Z,9.0nm,0.6s,mb4.9
SDPT Sand Point 54.32 34 *e*P **P** **11 48 22.0 -1.1**
TIXI Tiksi 54.70 353 *e*P **P** **11 48 24.2 -1.6**
TIXI pmax pmax
comp=Z,149nm,1.0s,mb6.0
TIXI MLR MLR
comp=Z,1μm,14.0s,MS5.2
TIXI Tiksi 54.70 353 *e*P **P** **11 48 26.3 +0.5**
TOO Toolangi 55.30 181 *e*P **P** **11 48 31.4 +1.2**
comp=Z,2.7nm,0.7s,mb4.4
TOO Toolangi 55.30 181 *e*P **P** **11 48 31.4 +1.2**
TOO pmax pmax
comp=Z,30nm,0.7s,mb5.4
KRAR Krasnoyarsk 55.44 326 *e*P **P** **11 48 29.1 -2.1**
KRAR pmax pmax
comp=Z,32nm,1.3s,mb5.2
WMQ Urumqi 55.72 311 ⇑*i*P **P** **11 48 33.9 +0.8**
WMQ AP pP 11 48 44.0 +0.9
WMQ XP sP 11 48 48.0 +1.0
WMQ PCP PcP 11 49 34.0 +1.8
WMQ PP PP 11 50 40.0 +2.4
WMQ S **S** **11 56 16.5 -0.9**
WMQ XS sS 11 56 33.0 -0.8
WMQ SCS ScS 11 58 17.0 -2.8
WMQ AMB AMB
comp=Z,31nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,139nm,4.8s
WMQ LR LR
comp=N,356nm,18.9s,MS4.6
WMQ LR LR
comp=E,301nm,20.2s,MS4.6
WMQ LR LR
comp=Z,383nm,18.9s,MS4.5
JIRN Jiri 56.42 292 *e*P **P** **11 48 39.5 +1.3**
comp=Z,70nm,0.9s,mb5.7
GUN Gumba 56.68 292 *e*P **P** **11 48 41.3 +1.3**
comp=Z,105nm,1.1s,mb5.8
PKI Pulchoki 57.12 292 *e*P **P** **11 48 43.7 +0.6**
KKN Kakani 57.21 292 *e*P **P** **11 48 44.7 +0.9**
comp=Z,54nm,1.0s,mb5.5
DMN Daman 57.38 292 *e*P **P** **11 48 45.9 +0.9**
comp=Z,80nm,1.2s,mb5.6
GKN Gorkha 57.77 292 *e*P **P** **11 48 48.5 +0.8**
comp=Z,126nm,1.1s,mb5.9
KOLN Koldanda 58.70 292 *e*P **P** **11 48 55.1 +0.9**
comp=Z,55nm,0.9s,mb5.6
SVW2 Sparrevohn 58.81 29 *e*P **P** **11 48 54.6 -0.4**
KDAK Kodiak Island 59.24 33 P **P** **11 48 57.1 -0.8**
comp=Z,12nm,0.9s,mb4.9,baz=330,slow=2.5,SNR=6.5
TTA Tatalina 59.29 26 *e*P **P** **11 48 57.8 -0.5**
ZAL Zalesovo 59.34 323 P **P** **11 48 57.8 -0.8**
comp=Z,5.9nm,0.7s,mb4.7,baz=7.6,slow=7.7,SNR=28
ZAL PcP PcP 11 49 46.5 +0.1
comp=Z,6.4nm,1.0s,baz=348,slow=5.1,SNR=4.7
ZAL LR LR 12 15 50.4
comp=Z,346nm,20.5s,MS4.5,baz=16,slow=37
ZAL Zalesovo 59.34 323 *i* P **P** **11 48 58.5 -0.2**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 59.85 314 P **P** **11 49 02.6 +0.4**
MK31 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MKAR Makanchi Array 59.85 314 P **P** **11 49 02.3 +0.1**
comp=Z,13nm,0.8s,mb5.0,baz=92,slow=9.7,SNR=72
MKAR PcP PcP 11 49 48.8 +0.4
comp=Z,5.9nm,0.9s,baz=100,slow=6.7,SNR=5.3
MKAR ScP ScP 11 53 49.6 +2.6
comp=Z,0.6nm,0.6s,baz=86,slow=5.9,SNR=4.0
MKAR Makanchi Array 59.85 314 P **P** **11 49 02.3 +0.1**
MKAR 11 49 48.8
NVS Novosibirsk 60.41 323 ⇓*i*P **P** **11 49 04.6 -1.4**
NVS *i* 11 49 49.1
NVS pmax pmax
comp=E,24nm,1.3s
NVS pmax pmax
comp=Z,30nm,1.3s,mb5.2
NVS pmax pmax
comp=N,11nm,1.5s
IMA2 Indian Mountai 61.38 24 *e*P **P** **11 49 12.2 -0.4**
PMR Palmer 61.92 29 *e*P **P** **11 49 14.8 -1.5**
PMR pmax pmax
comp=Z,18nm,1.1s,mb5.1
PMR Palmer 61.92 29 *e*P **P** **11 49 14.8 -1.5**
comp=Z,18nm,1.1s,mb5.1
MCK McKinley 62.57 27 *e*P **P** **11 49 19.6 -1.0**
KURK Kurchatov 62.63 318 P **P** **11 49 20.6 -0.4**
comp=Z,145nm,1.2s,mb6.0,SNR=15
EYAK Cordova Ski Ar 63.30 31 *e*P **P** **11 49 25.1 -0.4**
COLA College 63.33 26 *e*P **P** **11 49 24.4 -1.2**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
COLA College 63.33 26 *e*P **P** **11 49 24.4 -1.2**
comp=Z,7.4nm,0.9s,mb4.8
DIV Divide 63.40 30 *e*P **P** **11 49 26.9 +0.7**
RAR Rarotonga 65.08 125 LR LR 12 12 20.0
comp=Z,170nm,19.7s,MS4.2,baz=263,slow=31
AAK Ala-Archa 65.29 309 ⇑P **P** **11 49 38.2 -0.2**
SNR=6.0
AAK Ala-Archa 65.29 309 *e*P **P** **11 49 37.9 -0.6**
EGAK Eagle 66.11 26 *e*P **P** **11 49 43.0 -0.8**
CHKZ Chkalovo 67.67 321 *e*P **P** **11 49 52.9 -0.8**
CHKZ pmax pmax
comp=Z,16nm,1.1s,mb5.0
CHKZ Chkalovo 67.67 321 *e*P **P** **11 49 52.9 -0.8**
comp=Z,16nm,1.1s,mb5.0
BVA0 Borovoye Array 67.81 321 *i* P **P** **11 49 54.3 -0.3**
BVAR Borovoye Array 67.81 321 P **P** **11 49 54.3 -0.3**
comp=Z,25nm,0.6s,mb5.4,baz=95,slow=8.0,SNR=116
BVAR LR LR 12 21 40.9
comp=Z,264nm,19.6s,MS4.5,baz=318,slow=38
BRVK Borovoye 67.87 321 P **P** **11 49 54.7 -0.3**
comp=Z,176nm,0.7s,mb6.2,SNR=10
BRVK Borovoye 67.87 321 P **P** **11 49 55.0 0.0**
SNR=13
BRVK Borovoye 67.87 321 *e*P **P** **11 49 54.7 -0.3**
BRVK pmax pmax
comp=Z,14nm,0.8s,mb5.0
BRVK Borovoye 67.87 321 *e*P **P** **11 49 54.7 -0.3**
comp=Z,14nm,0.8s,mb5.0
SKAG Skagway 68.39 32 *e*P **P** **11 49 58.3 +0.1**
ZRNK Zerenda 68.65 321 *e*P **P** **11 49 59.3 -0.5**
ZRNK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZRNK Zerenda 68.65 321 *e*P **P** **11 49 59.3 -0.5**
comp=Z,9.8nm,0.7s,mb4.8
INK Inuvik 69.50 23 P **P** **11 50 04.0 -1.1**
comp=Z,10nm,0.9s,mb4.8,baz=264,slow=5.7,SNR=12
INK Inuvik 69.50 23 *e*P **P** **11 50 04.1 -1.0**
INK pmax pmax
comp=Z,16nm,1.0s
INK Inuvik 69.50 23 *e*P **P** **11 50 04.1 -1.1**
comp=Z,16nm,1.0s,mb4.9
DLBC Dease Lake 71.16 33 P **P** **11 50 15.5 +0.3**
comp=Z,14nm,1.0s,mb4.9,baz=289,slow=7.0,SNR=22
PPT Papeete 71.67 116 *e*LR LR 12 11 32.6
comp=Z,148nm,21.5s
PPT Papeete 71.67 116 LR LR 12 17 53.4
comp=Z,203nm,18.5s,MS4.4,baz=269,slow=33
SVE Sverdlovsk 73.17 325 *e*P **P** **11 50 26.0 -1.3**
SVE *e* 11 50 40.3
SVE pmax pmax
comp=Z,80nm,2.4s,mb5.2
SVE MLR MLR

	comp=N,300nm,15.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,100nm,15.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
ARU	**Arti**	**74.36**	**325**	P	**P**	**11 50 33.3**	**-0.9**
	comp=Z,164nm,0.9s,mb6.0,SNR=8.1						
ARU	**Arti**	**74.36**	**325**	⇓*i*P	**P**	**11 50 33.7**	**-0.5**
ARU				*e*		11 50 45.6	
ARU				*e*		11 53 20.5	
ARU				*e*PPP		11 55 04.0	
ARU				*e*S	S	12 00 07.8	+1.5
ARU				*e*SS	SS	12 04 54.1	+1.5
ARU				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
ARU	**Arti**	**74.36**	**325**	P	**P**	**11 50 33.9**	**-0.3**
AB31	**Akbulak array**	**74.70**	**317**	*i* P	**P**	**11 50 35.3**	**-1.0**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
SOKR	**Solikamsk**	**74.78**	**328***c*	*i*P	**P**	**11 50 36.9**	**+0.2**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,280nm,22.0s,MS4.5						
AKTK	**Aktyubinsk**	**75.72**	**319**	P	**P**	**11 50 41.1**	**-1.0**
AKTK				LR	LR	12 25 19.8	
AKTO	**Aktyubinsk**	**75.72**	**319**	P	**P**	**11 50 41.1**	**-1.0**
	comp=Z,3.6nm,0.6s,mb4.5,baz=96,slow=7.4,SNR=18						
AKTO				LR	LR	12 25 19.8	
	comp=Z,116nm,19.2s,MS4.2,baz=74,slow=37						
GNW	**Green Mountain**	**77.02**	**44**	*e*P	**P**	**11 50 50.2**	**+0.7**
TDL	**Tradedollar La**	**77.70**	**45**	P	**P**	**11 50 54.0**	**+0.8**
LON	**Longmire**	**77.88**	**45**	*e*P	**P**	**11 50 54.3**	**0.0**
YKW3	**Yellowknife Ar**	**77.97**	**28**	*e*P	**P**	**11 50 53.9**	**-0.8**
YKA	**Yellowknife Ar**	**78.00**	**28**	P	**P**	**11 50 53.9**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8,baz=287,slow=5.6,SNR=19						
YKA				LR	LR	12 24 48.8	
	comp=Z,301nm,19.1s,MS4.6,baz=270,slow=35						
HOOD	**Mount Hood Mea**	**78.32**	**46**	*e*P	**P**	**11 50 57.3**	**+0.6**
HOOD				*e*pP	pP	11 51 07.5	+0.5
YBH	**Yreka Blue Hor**	**78.42**	**50**	*e*P	**P**	**11 50 57.9**	**+0.6**
ETW	**Entiat**	**78.66**	**44**	P	**P**	**11 50 58.7**	**+0.1**
EBG	**Ellensburg**	**78.67**	**44**	P	**P**	**11 50 58.9**	**+0.3**
WDC	**Whiskeytown Da**	**78.82**	**51**	*e*P	**P**	**11 50 59.7**	**+0.2**
MDW	**Midway**	**79.28**	**44**	P	**P**	**11 51 02.3**	**+0.3**
LTIM	**Timbered Crate**	**79.45**	**50**	P	**P**	**11 51 03.3**	**+0.4**
HAWA	**Hanford**	**79.49**	**45**	*e*P	**P**	**11 51 03.4**	**+0.3**
LBCM	**Butte Creek Ri**	**79.64**	**50**	P	**P**	**11 51 04.2**	**+0.2**
OHCM	**Honcut**	**79.92**	**52**	*e*P	**P**	**11 51 05.4**	**0.0**
MOD	**Modoc**	**80.12**	**49**	*e*P	**P**	**11 51 06.6**	**+0.1**
KBS	**Kingsbay**	**80.14**	**352**	⇑*e*P	**P**	**11 51 06.1**	**-0.6**
NEW	**Newport**	**80.56**	**42**	*e*P	**P**	**11 51 08.8**	**-0.1**
NEW				pmax	pmax		
	comp=Z,15nm,1.0s						
NEW	**Newport**	**80.56**	**42**	*e*P	**P**	**11 51 08.8**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
CMB	**Columbia Colle**	**81.09**	**53**	*e*P	**P**	**11 51 11.9**	**+0.1**
CMB				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
CMB	**Columbia Colle**	**81.09**	**53**	*e*P	**P**	**11 51 11.9**	**+0.2**
	comp=Z,19nm,1.3s,mb4.9						
WVOR	**Wild Horse Val**	**81.17**	**48**	*e*P	**P**	**11 51 11.9**	**-0.3**
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
WVOR	**Wild Horse Val**	**81.17**	**48**	*e*P	**P**	**11 51 11.9**	**-0.3**
	comp=Z,15nm,1.0s,mb4.9						
EDM	**Edmonton**	**81.37**	**37**	*e*P	**P**	**11 51 12.9**	**-0.3**
PAHR	**Pah Rah Range**	**81.39**	**51**	*e*P	**P**	**11 51 13.9**	**+0.6**
	comp=Z,14nm,1.3s,mb4.7						
BMO	**Blue Mountains**	**81.41**	**46**	*e*P	**P**	**11 51 13.5**	**0.0**
	comp=Z,20nm,1.3s,mb4.9						
LVZ	**Lovozero**	**81.53**	**339**	⇑*e*P	**P**	**11 51 13.5**	**-0.6**
LVZ				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.3						
WBK	**Wadi Bani Khal**	**81.54**	**291**	⇓P	**P**	**11 51 15.2**	**+1.1**
	SNR=6.6						
WAKR	**Walker**	**81.68**	**52**	*e*P	**P**	**11 51 14.6**	**-0.3**
TMCR	**Tamitsa**	**81.92**	**335**	*e*P	**P**	**11 51 14.9**	**-1.2**
TMCR				pmax	pmax		
	comp=Z,113nm,1.4s,mb5.6						
BIDO	**Bidbid**	**82.03**	**292**	⇓P	**P**	**11 51 17.7**	**+1.0**
	SNR=6.4						
APA	**Apatity**	**82.10**	**339**	⇑*i*P	**P**	**11 51 17.0**	**-0.1**
APA				*i*		11 51 30.9	
APA				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
BSMT	**Bassoo Peak**	**82.18**	**42**	P	**P**	**11 51 18.0**	**+0.5**
SMDO	**Samad**	**82.23**	**292**	⇓P	**P**	**11 51 18.4**	**+0.7**
WALA	**Waterton Lakes**	**82.36**	**41**	*e*P	**P**	**11 51 19.1**	**+0.7**
	comp=Z,21nm,1.4s,mb4.9						
JMDO	**Jabal Madar**	**82.37**	**291**	⇑P	**P**	**11 51 19.2**	**+0.7**
NVAR	**Mina Array Bea**	**82.56**	**52**	P	**P**	**11 51 19.7**	**+0.3**
	comp=Z,3.7nm,0.9s,mb4.4,baz=264,slow=7.2,SNR=30						
HOQ	**Hoqain**	**82.74**	**292**	⇓P	**P**	**11 51 21.1**	**+0.7**
	SNR=9.1						
BMN	**Battle Mountai**	**82.77**	**50**	*e*P	**P**	**11 51 21.2**	**+0.6**
BANOM	**Banah**	**82.96**	**295**	⇓P	**P**	**11 51 22.9**	**+1.3**
	SNR=12						
KEV	**Kevo**	**82.97**	**342**	*e*p	**P**	**11 51 20.8**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0						
KEV	**Kevo**	**82.97**	**342**	*e*P	**P**	**11 51 20.8**	**-0.8**
KEV				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
BSY	**Bisya**	**83.07**	**292**	⇑P	**P**	**11 51 22.8**	**+0.7**
ISA	**Isabella**	**83.24**	**55**	*e*P	**P**	**11 51 22.7**	**-0.3**
HATD	**Hatta, Dubai**	**83.42**	**294**	⇑P	**P**	**11 51 24.5**	**+0.6**
	SNR=7.4						
ARQ	**Araqi**	**83.50**	**292**	⇑P	**P**	**11 51 25.4**	**+1.0**
ASHO	**Ashiyiah**	**83.52**	**294**	⇓P	**P**	**11 51 25.1**	**+0.6**
	SNR=5.5						
ARCES	**ARCESS Array B**	**83.53**	**342**	P	**P**	**11 51 24.2**	**-0.2**
	comp=Z,12nm,0.7s,mb5.2,baz=76,slow=7.4,SNR=34						
ARCES				LR	LR	12 35 54.4	
	comp=Z,135nm,18.4s,MS4.4,baz=278,slow=41						
ARE0	**ARCESS Array S**	**83.53**	**342**	*e*P	**P**	**11 51 24.3**	**-0.2**
HLID	**Hailey**	**83.79**	**46**	*e*P	**P**	**11 51 25.9**	**+0.1**
	comp=Z,2.6nm,0.9s,mb4.4						
ELK	**Elko**	**84.11**	**49**	*e*P	**P**	**11 51 28.2**	**+0.7**
ELK				pmax	pmax		
	comp=Z,13nm,0.9s						
ELK	**Elko**	**84.11**	**49**	*e*P	**P**	**11 51 28.2**	**+0.8**
	comp=Z,13nm,0.9s,mb5.1						
LRM	**Limekiln Ridge**	**84.36**	**44**	*e*P	**P**	**11 51 28.9**	**+0.1**
DLMT	**Dillon**	**84.42**	**44**	*e*P	**P**	**11 51 26.9**	**-2.2**
	comp=Z,2.4nm,0.7s,mb4.4						
MCMT	**McKenzie Canyo**	**84.43**	**45**	*e*P	**P**	**11 51 29.3**	**+0.2**
HRY	**Holter Researc**	**84.46**	**43**	*e*P	**P**	**11 51 29.1**	**-0.1**
GSC	**Goldstone**	**84.64**	**55**	*e*P	**P**	**11 51 30.3**	**+0.1**
JOF	**Joensuu**	**85.17**	**336**	*e*p	**P**	**11 51 30.3**	**-2.5**
	comp=Z,15nm,0.4s,mb5.5						
EGMT	**Eagleton**	**85.31**	**41**	*e*P	**P**	**11 51 33.4**	**-0.1**
	comp=Z,14nm,1.3s,mb5.0						
QLMT	**Earthquake Lak**	**85.38**	**44**	*e*P	**P**	**11 51 34.3**	**+0.5**
HVU	**Hansel Valley**	**85.52**	**48**	*e*P	**P**	**11 51 35.1**	**+0.5**
HVU				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.3						
HVU	**Hansel Valley**	**85.52**	**48**	*e*P	**P**	**11 51 35.1**	**+0.5**
	comp=Z,28nm,1.5s,mb5.3						
SHPR	**Sheep Range**	**85.53**	**53**	*e*P	**P**	**11 51 35.3**	**+0.7**
MOS	**Moscow**	**85.72**	**328**	*e*P	**P**	**11 51 33.3**	**-2.3**
MOS				*e*	pP	11 51 42.9	-3.1
MOS				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.9						
YMR	**Madison River**	**85.75**	**44**	*e*P	**P**	**11 51 36.7**	**+1.0**
	comp=Z,14nm,0.8s,mb5.3						
SPUT	**South Promonto**	**85.91**	**48**	*e*P	**P**	**11 51 36.2**	**-0.3**
YNR	**Norris Junctio**	**85.92**	**44**	*e*P	**P**	**11 51 38.6**	**+2.1**
RRI2	**Red Ridge**	**85.98**	**46**	*e*P	**P**	**11 51 37.2**	**+0.4**
DUG	**Dugway**	**86.04**	**49**	*e*P	**P**	**11 51 37.4**	**+0.3**
DUG				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.2						
DUG	**Dugway**	**86.04**	**49**	*e*P	**P**	**11 51 37.4**	**+0.3**
	comp=Z,17nm,1.2s,mb5.1						
IMW	**Indian Meadow**	**86.04**	**45**	*e*P	**P**	**11 51 37.8**	**+0.6**
	comp=Z,11nm,0.9s,mb5.1						
FLWY	**Flagg Ranch**	**86.14**	**45**	*e*P	**P**	**11 51 38.5**	**+0.9**
	comp=Z,13nm,0.8s,mb5.2						
TPAW	**Teton Pass**	**86.18**	**46**	*e*P	**P**	**11 51 38.4**	**+0.6**
	comp=Z,16nm,1.3s,mb5.1						
GCMT	**Greycliff**	**86.19**	**43**	*e*P	**P**	**11 51 38.4**	**+0.5**
REDW	**Red Top Meadow**	**86.29**	**46**	*e*P	**P**	**11 51 39.1**	**+0.7**
AHID	**Auburn Hatcher**	**86.34**	**46**	*e*P	**P**	**11 51 39.0**	**+0.4**
LOHW	**Long Hollow**	**86.37**	**45**	*e*P	**P**	**11 51 39.3**	**+0.5**
	comp=Z,12nm,1.4s,mb4.9						
RKT	**Rikitea**	**86.43**	**116**	*e*LR	LR	12 18 22.7	
	comp=Z,89nm,23.2s						
HWUT	**Hardware Ranch**	**86.43**	**47**	*e*P	**P**	**11 51 38.9**	**-0.2**
	comp=Z,9.5nm,0.8s,mb5.1						
CCUT	**Cedar City**	**86.54**	**52**	*e*P	**P**	**11 51 40.0**	**+0.4**
OBN	**Obninsk**	**86.54**	**327**	⇑*e*P	**P**	**11 51 38.9**	**-0.7**
OBN				*e*	pP	11 51 48.0	-2.0
OBN				*e*S	S	12 02 02.4	-11
OBN				*e*SS	SS	12 07 57.4	+2.8
OBN				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.5						
OBN				MLR	MLR		
	comp=Z,200nm,22.0s,MS4.5						
CTU	**Camp Tracy**	**86.62**	**48**	*e*P	**P**	**11 51 40.4**	**+0.4**
RLMT	**Red Lodge**	**86.70**	**44**	*e*P	**P**	**11 51 41.3**	**+0.9**
TCUT	**Toone Canyon**	**86.71**	**48**	*e*P	**P**	**11 51 40.9**	**+0.4**
MPU	**Maple Canyon**	**86.95**	**49**	*e*P	**P**	**11 51 42.1**	**+0.5**
FFC	**Flin Flon**	**86.98**	**33**	*e*P	**P**	**11 51 41.2**	**-0.5**
MSU	**Marysvale**	**87.08**	**51**	*e*P	**P**	**11 51 42.7**	**+0.5**
ZEI	**Tsey**	**87.21**	**314**	*e*P	**P**	**11 51 41.5**	**-1.4**
ZEI				*e**PP	pP	11 51 50.9	-2.4
ZEI				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
PDAR	**Pinedale Array**	**87.39**	**46**	P	**P**	**11 51 43.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.3,baz=304,slow=1.8,SNR=14						
PDAR				LR	LR	12 28 03.0	
	comp=Z,115nm,19.7s,MS4.3,baz=294,slow=34						
TMUT	**Trail Mountain**	**87.51**	**50**	*e*P	**P**	**11 51 44.6**	**+0.3**
KAF	**Kangasniemi**	**87.56**	**336**	*e*p	**P**	**11 51 42.2**	**-2.3**
	comp=Z,4.3nm,0.4s,mb5.0,baz=50,slow=4.4						
KIV	**Kislovodsk**	**87.58**	**316**	*e*P	**P**	**11 51 43.6**	**-1.0**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,195nm,18.0s,MS4.6						
FINES	**FINESS Array B**	**88.03**	**336**	P	**P**	**11 51 45.1**	**-1.7**
	comp=Z,8.3nm,0.7s,mb5.1,baz=81,slow=6.0,SNR=31						
LAO	**LASA Array**	**88.04**	**41**	*e*P	**P**	**11 51 47.1**	**+0.2**
SRU	**San Rafael**	**88.07**	**49**	*e*P	**P**	**11 51 47.3**	**+0.3**
WUAZ	**Wupatki**	**88.75**	**53**	*e*P	**P**	**11 51 50.8**	**+0.6**
	comp=Z,15nm,1.0s,mb5.3						
PV10	**Paradox Valley**	**89.42**	**50**	*e*P	**P**	**11 51 53.8**	**+0.5**
VSU	**Vasula**	**89.48**	**333**	*e*P	**P**	**11 51 52.5**	**-1.1**
PV01	**Paradox Valley**	**89.86**	**50**	*e*P	**P**	**11 51 54.8**	**-0.6**
PV01				*e*pP	pP	11 52 02.9	-3.0
PV01				*e*sP	sP	11 52 08.5	-1.1
TUC	**Tucson**	**90.37**	**56**	*e*P	**P**	**11 51 58.8**	**+1.0**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb5.0						
TUC	**Tucson**	**90.37**	**56**	*e*P	**P**	**11 51 58.8**	**+1.0**
	comp=Z,9.9nm,1.4s,mb5.0						
SMCO	**Snowmass**	**90.59**	**48**	*e*P	**P**	**11 51 59.8**	**+0.9**
PHWY	**Pilot Hill**	**90.78**	**46**	*e*P	**P**	**11 52 01.0**	**+1.3**
MNK	**Minsk**	**91.21**	**329**	*e*P	**P**	**11 52 00.0**	**-1.7**
ISCO	**Idaho Springs**	**91.30**	**47**	*e*P	**P**	**11 52 02.8**	**+0.7**
ISCO				pmax	pmax		
	comp=Z,12nm,1.4s,mb5.0						
ISCO	**Idaho Springs**	**91.30**	**47**	*e*P	**P**	**11 52 02.8**	**+0.7**
	comp=Z,12nm,1.4s,mb5.0						
SDCO	**Great Sand Dun**	**92.23**	**49**	*e*P	**P**	**11 52 07.1**	**+0.6**
	comp=Z,9.7nm,1.4s,mb4.9						
ULM	**Lac du Bonnet**	**92.44**	**35**	P	**P**	**11 52 06.4**	**-1.0**
	comp=Z,4.5nm,0.8s,mb4.8,baz=304,slow=7.2,SNR=6.0						
ULM				LR	LR	12 32 02.5	
	comp=Z,138nm,18.3s,MS4.4,baz=347,slow=34						
AKASG	**Malin Array Be**	**92.59**	**326**	P	**P**	**11 52 04.8**	**-3.3**
	comp=Z,2.4nm,0.8s,mb4.7,baz=48,slow=4.4,SNR=12						
AKASG				LR	LR	12 37 36.0	
	comp=Z,86nm,18.2s,MS4.2,baz=40,slow=38						
ANMO	**Albuquerque**	**92.68**	**52**	*e*P	**P**	**11 52 09.3**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ANMO	**Albuquerque**	**92.68**	**52**	*e*P	**P**	**11 52 09.3**	**+0.8**
	comp=Z,4.6nm,1.1s,mb4.8						
HFS	**Hagfors**	**93.49**	**339**	P	**P**	**11 52 10.5**	**-1.7**
	comp=Z,1.3nm,0.5s,mb4.6,baz=104,slow=4.7,SNR=6.5						
HFS				PP	PP	11 55 57.0	+0.3
	comp=Z,3.9nm,0.9s,baz=287,slow=5.7,SNR=4.7						
HFS	**Hagfors**	**93.49**	**339**	P	**P**	**11 52 10.5**	**-1.7**
HFS				PP	PP	11 55 57.0	+0.3
NB2	**NORSAR Subarra**	**93.65**	**340**	P	**P**	**11 52 11.2**	**-1.7**
	comp=Z,4.7nm,1.0s,mb4.9,baz=42,slow=4.6						
NOA	**NORSAR Array B**	**93.65**	**340**	P	**P**	**11 52 11.7**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.7,baz=46,slow=4.7,SNR=8.1						
NOA				PP	PP	11 55 58.0	0.0
	comp=Z,1.8nm,0.8s,baz=44,slow=8.0,SNR=3.8						
NOA				LR	LR	12 40 14.9	
	comp=Z,94nm,19.1s,MS4.3,baz=60,slow=39						
NOA	**NORSAR Array B**	**93.65**	**340**	P	**P**	**11 52 11.7**	**-1.2**
NOA						11 55 58.0	
NOA	**NORSAR Array B**	**93.65**	**340**	P	**P**	**11 52 11.7**	**-1.2**
NOA				PP	PP	11 55 58.0	0.0
NOA				LR	LR	12 40 14.9	
SUW	**Suwalki**	**93.71**	**331**	*e*P	**P**	**11 52 12.3**	**-0.9**
LPIG	**La Paz**	**93.77**	**63**	LR	LR	12 24 28.7	
	comp=Z,154nm,21.8s,MS4.4,baz=295,slow=29						
MNTX	**Cornudas Mount**	**94.84**	**55**	*e*P	**P**	**11 52 19.0**	**+0.6**
	comp=Z,6.8nm,1.3s,mb4.9						
BRTR	**Keskin Array B**	**95.50**	**315**	LR	LR	12 41 42.0	
	comp=Z,69nm,20.7s,MS4.1,baz=221,slow=39						
CRVS	**Cervenica-Dubn**	**97.72**	**327**	*e*P	**P**	**11 52 30.1**	**-1.4**
VYHS	**Vyhne**	**99.32**	**328**	*e*P	**P**	**11 52 37.2**	**-1.5**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.7						
VYHS	**Vyhne**	**99.32**	**328**	*e*P	**P**	**11 52 37.2**	**-1.5**
	comp=Z,3.0nm,1.1s,mb4.7						
VYHS				*e*PP	PP	11 56 34.0	-7.8
CLL	**Collm**	**100.13**	**333**	*e*P	Pdif	11 52 41.0	-1.3
	comp=Z,10.0nm,1.2s						
CLL				*e*PP	PP	11 56 48.0	0.0
CLL				LmV		12 41 00.0	
	comp=Z,300nm,19.5s						
GERES	**GERESS Array B**	**101.58**	**331**	P	Pdif	11 52 47.5	-1.2
	comp=Z,0.7nm,0.6s,baz=66,slow=4.5,SNR=5.6						
MDT	**Midelt**	**122.64**	**332**	PKP	PKPdf	11 57 52.4	+0.3
	comp=Z,2.9nm,0.9s,baz=25,slow=8.6						
TORD	**Torodi Ar. Bea**	**133.87**	**310**	PKhKP		11 57 59.8	
	comp=Z,0.6nm,0.7s,baz=6.2,slow=1.5,SNR=3.7						
TORD				PKP	PKPdf	11 58 13.6	+0.1
	comp=Z,4.2nm,0.8s,baz=32,slow=1.0,SNR=17						
TORD				PP	PP	12 00 44.9	+1.6
	comp=Z,2.0nm,1.1s,baz=22,slow=6.1,SNR=3.9						
TORD				SKPbc	SKPbc	12 01 40.1	+0.1
	comp=Z,6.2nm,1.1s,baz=40,slow=3.2,SNR=12						
TORD	**Torodi Ar. Bea**	**133.87**	**310**	PKP	PKPdf	11 58 13.6	+0.1
TORD				PP	PP	12 00 44.9	+1.6
TORD				SKPbc	SKPbc	12 01 40.1	+0.1
PLCA	**Paso Flores**	**140.61**	**133**	PKhKP		11 58 20.8	
	comp=Z,1.3nm,0.7s,baz=210,slow=7.4,SNR=3.3						
PLCA				PKP	PKPdf	11 58 26.1	+0.2
	comp=Z,3.2nm,0.9s,baz=274,slow=4.1,SNR=3.3						
PLCA	**Paso Flores**	**140.61**	**133**	PKP	PKPdf	11 58 26.1	+0.2
DBIC	**Dimbokro**	**142.97**	**309**	PKhKP		11 58 26.9	
	comp=Z,6.8nm,0.8s,baz=84,slow=5.9,SNR=6.2						
LPAZ	**La Paz**	**146.38**	**92**	PKPbc	PKPbc	11 58 37.7	+0.4
	comp=Z,9.5nm,0.8s,baz=250,slow=2.8,SNR=32						
CPUP	**Villa Florida**	**156.00**	**114**	PKP	PKPdf	11 58 50.7	0.0
	comp=Z,0.4nm,0.3s,baz=176,slow=1.6,SNR=5.9						
CPUP				PKPab	PKPab	11 59 17.9	0.0
	comp=Z,0.3nm,0.4s,baz=246,slow=5.9,SNR=3.6						
CPUP	**Villa Florida**	**156.00**	**114**	PKP	PKPdf	11 58 50.7	0.0
CPUP				PKPab	PKPab	11 59 17.9	0.0

KRSC 12 11:51:03,5532N×16656E,h46km,ML3.5,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**2.89**	**257**	*e*P	Pn	11 51 49.3	+2.8
MKZ				*e*S	Sn	11 52 22.6	+2.6
SMKR	**Semkarok**	**3.13**	**296**	*e*P	Pn	11 51 52.2	+2.4
SMKR				*e*S	Sn	11 52 28.2	+2.3
BDR	**Baidarnaya**	**3.26**	**295**	*e*P	Pn	11 51 54.6	+3.0
BDR				*e*S	Sn	11 52 31.7	+2.6
SRKR	**Sorokina**	**3.31**	**296**	*e*P	Pn	11 51 55.1	+2.8
SRKR				*e*S	Sn	11 52 33.0	+2.6
ZLN	**Zelenaya**	**3.33**	**284**	*e*P	Pn	11 51 56.8	+4.2
ZLN				*e*S	Sn	11 52 35.7	+4.8
CIRR	**Tsirk**	**3.38**	**286**	*e*P	Pn	11 51 57.1	+3.8
CIRR				*e*S	Sn	11 52 36.3	+4.2
KLY	**Klyuchi**	**3.48**	**289**	*e*S	Sn	11 52 35.8	+1.3
SPN	**Mys Shipunski**	**4.44**	**243**	*e*P	Pn	11 52 09.7	+2.0
SPN				*e*S	Sn	11 52 58.0	-0.1
NLC	**Nalytchevo**	**4.75**	**246**	*e*S	Sn	11 53 07.7	+2.0
AVH	**Avacha**	**5.02**	**249**	*e*P	Pn	11 52 19.9	+4.1
GNL	**Ganaly**	**5.28**	**256**	*e*P	Pn	11 52 23.6	+4.3
RUS	**Russkaya**	**5.57**	**242**	*e*P	Pn	11 52 27.2	+3.9

*NEIC **12** 11:55:14.5,3299S×7226W,h15km,MD3.6(GUC),After GUC.*

GUC 12 11:55:14.5±0.6,**3299S×7226W,h15km**±999km,**MD3.6, 1C-1D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.76**	**130**	*e*P	Pg	11 55 28.4	-0.8
LCCH				*i* S	Sg	11 55 38.6	-0.6
ROCH	**El Roble**	**1.05**	**89**	⇑*i*P	Pb	11 55 33.1	-1.3
TACH	**Talagante**	**1.29**	**121**	⇓*i*P	Pn	11 55 37.1	-0.8
TACH				*i* S	Sb	11 55 53.5	-1.4
JACH	**Jahuel**	**1.44**	**78**	*i* P	Pn	11 55 39.4	-0.6
JACH				*i* S	Sn	11 55 58.2	-0.4
FCH	**Farellones**	**1.69**	**102**	*e*P	Pn	11 55 43.9	+0.5
FCH				*i* S	Sn	11 56 06.3	+1.6
SFDO	**San Fernando**	**1.92**	**148**	*i* P	Pn	11 55 46.7	+0.1

KRSC 12 11:57:27,5137N×15998E,h23km,ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.40**	**320**	*e*P	Pn	11 57 50.9	-0.2
RUS				*i* S	Sn	11 58 07.7	-1.1
GRL	**Gorelyy**	**1.67**	**316**	*e*P	Pn	11 57 56.7	+1.9
GRL				*i* S	Sn	11 58 18.2	+2.7
SPN	**Mys Shipunski**	**1.73**	**1**	*e*P	Pn	11 57 57.0	+1.3
SPN				*i* S	Sn	11 58 18.9	+1.9
NLC	**Nalytchevo**	**1.85**	**348**	*e*P	Pn	11 58 00.1	+2.9
NLC				*i* S	Sn	11 58 23.9	+4.0
PET	**Petropavlovsk**	**1.85**	**334**	*e*P	Pn	11 57 58.7	+1.4
PET				*i* S	Sn	11 58 21.9	+2.0
AVH	**Avacha**	**2.05**	**339**	*e*P	Pn	11 58 03.3	+3.3
AVH				*i* S	Sn	11 58 29.9	+5.1
MIPR	**Malaya Ipel'ka**	**2.20**	**296**	*e*P	Pn	11 58 03.3	+1.3
MIPR				*i* S	Sn	11 58 29.8	+1.3
GNL	**Ganaly**	**2.64**	**333**	*e*P	Pn	11 58 10.8	+2.6
ALID	**Alaid**	**2.84**	**262**	*e*P	Pn	11 58 12.5	+1.6
ALID				*i* S	Sn	11 58 45.9	+1.6
MKZ	**Mys Kozlova**	**3.36**	**18**	*e*P	Pn	11 58 18.9	+0.8
MKZ				*i* S	Sn	11 58 56.6	-0.7
ZLN	**Zelenaya**	**4.68**	**6**	P	Pn	11 58 38.7	+2.5
KBTR	**Krutoberegovo**	**5.13**	**18**	*e*P	Pn	11 58 45.5	+3.1

*NEIC **12** 12:13:59.5,3298S×72.16W,h29km,ML3.4(GUC),After GUC.*

GUC 12 12:13:59.5±0.6,**3298S×7216W,h29km**±3km,**MD4.1, ML3.4,7C-4D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.44**	**96**	⇓*i*P	Pb	12 14 08.6	-0.2
IHA				*i* S	Sb	12 14 15.2	-0.1
LCCH	**Las Cruces**	**0.69**	**135**	⇑*i*P	Pb	12 14 12.4	-0.7
LCCH				*i* S	Sb	12 14 22.5	+0.2
ROCH	**El Roble**	**0.96**	**90**	⇑*i*P	Pn	12 14 17.3	+0.2
ROCH				*i* S	Sn	12 14 30.5	+0.7
LNV	**Longovilo**	**1.15**	**147**	⇑*i*P	Pn	12 14 19.3	-0.4
LNV				*i* S	Sn	12 14 34.7	+0.3
TACH	**Talagante**	**1.22**	**123**	⇓*i*P	Pn	12 14 21.0	+0.5
TACH				*i* S	Sn	12 14 37.3	+1.2
CHNG	**Los Chungos**	**1.23**	**27**	⇑*i*P	Pn	12 14 20.9	+0.2
CHNG				*i* S	Sn	12 14 36.7	+0.3
RCDM	**Rinconada Maip**	**1.24**	**114**	*e*P	Pn	12 14 21.0	+0.1
RCDM				*i* S	Sn	12 14 37.1	+0.6
RCDM				AML	AML	12 14 44.9	
	comp=N,874nm,0.5s						
RCDM	**Rinconada Maip**	**1.24**	**114**	*e*P	Pn	12 14 21.0	+0.1
RCDM				*i* S	Sn	12 14 37.1	+0.6
SAN	**Santiago**	**1.34**	**111**	*e*P	Pn	12 14 23.0	+0.7
SAN				*i* S	Sn	12 14 40.5	+1.5
STL	**Santa Lucia**	**1.35**	**110**	*e*P	Pn	12 14 22.9	+0.5
STL				*i* S	Sn	12 14 40.8	+1.5
JACH	**Jahuel**	**1.35**	**78**	*e*P	Pn	12 14 22.9	+0.5
JACH				*i* S	Sn	12 14 40.8	+1.5
DSCH	**Colegio Aleman**	**1.40**	**108**	*e*P	Pn	12 14 23.6	+0.6
ANTU	**Antumapu**	**1.40**	**115**	*e*P	Pn	12 14 24.1	+0.9
ANTU				*i* S	Sn	12 14 42.0	+1.3
ANTU				AML	AML	12 14 46.9	
	comp=E,1µm,0.5s						
ANTU	**Antumapu**	**1.40**	**115**	*e*P	Pn	12 14 24.1	+0.9
ANTU				*i* S	Sn	12 14 42.0	+1.3
CLCH	**Cerro Calan**	**1.42**	**107**	*e*P	Pn	12 14 25.4	+2.0
CLCH				*i* S	Sn	12 14 44.3	+3.3
CLCH				AML	AML	12 14 56.2	
	comp=E,1µm,0.4s						
CLCH	**Cerro Calan**	**1.42**	**107**	*e*P	Pn	12 14 25.4	+2.0
CLCH				*i* S	Sn	12 14 44.3	+3.3
CHCH	**Chadas Angostu**	**1.57**	**127**	⇓*e*P	Pn	12 14 26.4	+0.9
CACH	**El Canelo**	**1.72**	**131**	⇑*i*P	Pn	12 14 28.9	+1.4
LMEL	**Las Melosas**	**1.85**	**118**	⇑*e*P	Pn	12 14 30.9	+1.7
LMEL				*i* S	Sn	12 14 54.7	+3.1
LMEL				AML	AML	12 15 01.9	
	comp=N,870nm,0.2s						
LMEL	**Las Melosas**	**1.85**	**118**	⇑*e*P	Pn	12 14 30.9	+1.7
LMEL				*i* S	Sn	12 14 54.7	+3.1
SFDO	**San Fernando**	**1.89**	**150**	*e*P	Pn	12 14 30.2	+0.5
CICH	**Cipreses**	**1.97**	**133**	⇓*i*P	Pn	12 14 32.1	+1.3
TLL	**Tololo Astrono**	**3.04**	**23**	*e*P	Pn	12 14 46.8	+1.2

*NIED **12** 12:14:00,2940N×13220E,h5km,Mw4.2 Best double couple: $M_0$2.31000×10[15] NP1:ϕ_s1.00000°,δ60.00000°, λ-90.00000°. NP2:ϕ_s181.00000°,δ30.00000°, λ-91.00000°.*

*IDC **12** 12:14:08.2±0.7,2940N×132.17E,h0km,mb4.0/13, mb1 4.1/17,mb1mx4.1/27,mbtmp4.1/17,ML4.1/4,MS3.1/5, Ms1 3.1/5,ms1mx2.8/32,Error ellipse: s-maj=19.1km s-min=15.7km az=71.0*

*BJI **12** 12:14:08.9,29.11N×13249E,h32km,mB4.6,mb4.3*

*ISCJB **12** 12:14:09.5±1.5,2937N±0.03×132.16E±0.03,h22km±11km, mb4.1/17,Error ellipse: s-maj=5.5km s-min=4.6km az=90.5*

*MOS **12** 12:14:10.0±0.8,2957N×13262E,h33km,mb4.7/3,Error ellipse: s-maj=58.7km s-min=16.1km az=118.9*

*JMA **12** 12:14:11.5±0.2,2941N×132.17E,h61km,M4.4*

*NEIC **12** 12:14:12.1±3.8,2938N×132.12E,h27km±27km,mb4.7/3, MW4.2(NIED),Error ellipse: s-maj=14.8km s-min=11.3km az=114.0*

ISC 12 12:14:11.3±1.6,**2939N**±0.03×**13209E**±0.04,**h20**km±12km, **n44**,σ1§**01**/55,**mb4.1**/17,**Southeast of Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.59**	**323**	P	**Pn**	**12 14 38.3**	**+0.1**
JTN				*e*S	**Sn**	**12 14 57.9**	**-0.2**
JKC	**Kuchinoerabu**	**1.96**	**304**	P	**Pn**	**12 14 44.1**	**+0.7**
JKC				S	**Sn**	**12 15 08.2**	**+0.8**
JNN	**Nakanoshima**	**1.98**	**284**	P	**Pn**	**12 14 44.5**	**+0.9**
JNN				S	**Sn**	**12 15 08.4**	**+0.5**
JTSR	**Tashiro 2**	**2.04**	**331**	P	**Pn**	**12 14 44.3**	**-0.2**
JTSR				S	**Sn**	**12 15 08.6**	**-0.7**
JZK	**Kikaishima**	**2.14**	**241**	*e*S	**Sn**	**12 15 13.0**	**+1.1**
JNAR	**Kushima--Naru**	**2.25**	**342**	P	**Pn**	**12 14 47.4**	**+0.1**
JNAR				S	**Sn**	**12 15 13.4**	**-1.0**
JAM	**Amami Oshima**	**2.39**	**247**	P	**Pn**	**12 14 49.2**	**0.0**
JAM				*e*S	**Sn**	**12 15 17.6**	**-0.3**
JTZ	**Takazaki**	**2.65**	**341**	P	**Pn**	**12 14 52.9**	**+0.1**
JTZ				S	**Sn**	**12 15 23.5**	**-0.9**
JSJ	**Shimokoshiki**	**3.07**	**319**	P	**Pn**	**12 14 58.2**	**-0.4**
JSJ				S	**Sn**	**12 15 34.0**	**-0.6**
JTK	**Tokunoshima**	**3.19**	**241**	P	**Pn**	**12 15 00.5**	**+0.2**
JTK				S	**Sn**	**12 15 37.6**	**-0.1**
JTO	**Tosashimizu**	**3.51**	**10**	P	**Pn**	**12 15 03.3**	**-1.4**
JTO				S	**Sn**	**12 15 39.0**	**-6.7**
JOW	**Kunigami**	**4.22**	**234**	Pn	**Pn**	**12 15 14.0**	**-0.5**
	15nm,0.3s,baz=88,slow=12,SNR=49						
JOW				Sn	**Sn**	**12 16 01.3**	**-1.9**
	12nm,0.3s,baz=154,slow=27,SNR=3.7						
JOW				LR	LR	12 17 04.2	
	comp=Z,219nm,19.4s,baz=142,slow=41						
JOW	**Kunigami**	**4.22**	**234**	P	**Pn**	**12 15 13.9**	**-0.6**
JIH	**Iheya**	**4.33**	**238**	P	**Pn**	**12 15 15.2**	**-0.7**

JHJ	**Hachijo jima 2**	**7.56**	**59**	Pn	**Pn**	**12 16 00.7**	**+0.3**
	17nm,0.3s,baz=65,slow=18,SNR=4.5						
JHJ				LR	LR	12 18 36.7	
	comp=Z,170nm,18.3s,baz=160,slow=36						
MAT	**Matsushiro**	**8.79**	**34**	P	**Pn**	**12 16 17.8**	**+0.6**
MAT				S	**Sn**	**12 17 58.0**	**+2.4**
MJAR	**Matsushiro Arr**	**8.79**	**34**	Pn	**Pn**	**12 16 17.6**	**+0.4**
	0.9nm,0.3s,baz=243,slow=13,SNR=11						
CBIJ	**Chichi jima**	**9.19**	**102**	Pn	**Pn**	**12 16 21.1**	**-1.6**
	11nm,0.3s,baz=91,slow=23,SNR=7.7						
CBIJ				LR	LR	12 18 57.5	
	comp=Z,81nm,21.8s,baz=273,slow=32						
BJI	**Beijing**	**16.83**	**313**	*e*P	**Pn**	**12 18 09.4**	**+3.7**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
ASAJ	**Asahikawa**	**16.92**	**27**	LR	LR	12 25 06.2	
	comp=Z,65nm,20.4s,baz=29,slow=39						
XAN	**Xi'an**	**20.23**	**289**	P	**P**	**12 18 47.3**	**+2.2**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s						
ULN	**Ulaanbaatar**	**26.70**	**321**	*e*P	**P**	**12 19 45.7**	**-3.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.4						
ULN	**Ulaanbaatar**	**26.70**	**321**	*e*P	**P**	**12 19 45.7**	**-3.4**
	comp=Z,4.2nm,0.3s,mb4.5						
SONM	**Songino Array**	**27.05**	**320**	P	**P**	**12 19 52.8**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.5,baz=134,slow=10,SNR=7.6						
SONM				LR	LR	12 32 06.9	
	comp=Z,57nm,18.7s,baz=175,slow=40						
ZAK	**Zakamensk**	**30.16**	**322**	*e*P	**P**	**12 20 19.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
MKAR	**Makanchi Array**	**42.12**	**309**	P	**P**	**12 22 04.0**	**+2.0**
	comp=Z,1.3nm,0.6s,mb3.7,baz=96,slow=10,SNR=17						
MKAR				PcP	PcP	12 23 55.8	-0.6
	comp=Z,0.2nm,0.2s,baz=102,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**49.09**	**177**	P	**P**	**12 22 56.7**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=354,slow=7.8,SNR=10						
BVAR	**Borovoye Array**	**50.28**	**316**	P	**P**	**12 23 07.4**	**+1.1**
	comp=Z,2.1nm,0.6s,mb4.3,baz=90,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**52.78**	**178**	P	**P**	**12 23 26.6**	**+1.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=12,slow=12,SNR=14						
KDAK	**Kodiak Island**	**57.95**	**38**	P	**P**	**12 24 01.6**	**-0.6**
	comp=Z,3.6nm,0.7s,mb4.5,baz=319,slow=7.0,SNR=3.4						
AKTK	**Aktyubinsk**	**58.10**	**314**	P	**P**	**12 24 03.9**	**+0.7**
AKTO	**Aktyubinsk**	**58.10**	**314**	P	**P**	**12 24 03.9**	**+0.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=74,slow=18,SNR=2.7						
STKA	**Stephens Creek**	**61.59**	**171**	P	**P**	**12 24 27.1**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.3,baz=0.2,slow=8.2,SNR=3.2						
ARCES	**ARCESS Array B**	**68.32**	**339**	P	**P**	**12 25 09.6**	**-1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=57,slow=7.4,SNR=4.1						
ARCES	**ARCESS Array B**	**68.32**	**339**	P	**P**	**12 25 09.6**	**-1.4**
JOF	**Joensuu**	**68.94**	**331**	*e*p	**P**	**12 25 12.4**	**-2.5**
	comp=Z,2.9nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**71.79**	**331**	P	**P**	**12 25 31.8**	**-0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=72,slow=6.2,SNR=8.8						
AKASG	**Malin Array Be**	**75.33**	**320**	P	**P**	**12 25 52.5**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.1,baz=56,slow=6.2,SNR=4.2						
BMO	**Blue Mountains**	**82.84**	**42**	*e*P	**P**	**12 26 34.4**	**+0.2**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BMO	**Blue Mountains**	**82.84**	**42**	*e*P	**P**	**12 26 34.4**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**85.86**	**48**	P	**P**	**12 26 49.8**	**+0.3**
	comp=Z,0.6nm,0.6s,mb4.0,baz=297,slow=6.3,SNR=7.7						
LOHW	**Long Hollow**	**87.43**	**40**	*e*P	**P**	**12 26 55.5**	**-1.8**
	comp=Z,6.3nm,0.3s						
PDAR	**Pinedale Array**	**88.56**	**40**	P	**P**	**12 27 02.9**	**+0.3**
	comp=Z,0.6nm,0.7s,mb4.0,baz=317,slow=6.1,SNR=5.8						
PV10	**Paradox Valley**	**91.68**	**44**	*e*P	**P**	**12 27 18.5**	**+1.3**

*GRAL **12** 12:15:19.8±0.6, 3471N×3669E, h22km±63km, MD2.8*
*CSEM **12** 12:15:19.6±0.2, 3441N×3680E, h8km, Mc1.8, Error ellipse: s-maj=4.2km s-min=2.2km az=120.0*
*ISCJB **12** 12:15:20.8±0.7, 3442N±004×3670E±004, h9km±8km, Error ellipse: s-maj=6.4km s-min=6.0km az=169.4*
*NSSC **12** 12:15:20.7, 3441N×3667E, h14km±5km*
ISC 12 12:15:21.3±0.7**, 3441N**±004×**3672E**±005**, h25**km±9km**, n12,** σ**0ˢ91**/22**, 4D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.44**	**207**	⇑P	**Pb**	**12 15 28.4**	**-2.0**
MARH	**Ras Al Marh**	**0.44**	**207**	⇑*i*P	**Pb**	**12 15 28.4**	**-2.0**
ROOS	**tl_alroos**	**0.53**	**117**	⇑P	**Pb**	**12 15 30.9**	**-1.0**
ROOS				⇑S	**Sb**	**12 15 40.5**	**+1.3**
ROOS	**tl_alroos**	**0.53**	**117**	⇑*i*P	**Pb**	**12 15 30.9**	**-1.0**
ROOS				⇑*i*S	**Sb**	**12 15 40.5**	**+1.3**
HWQ	**Hawqa**	**0.66**	**258**	*e*Pg	**Pb**	**12 15 33.5**	**-0.6**
HWQ				*e*Sg	**Sb**	**12 15 42.7**	**-0.1**
BIDA	**Albida**	**0.68**	**331**	⇑P	**Pb**	**12 15 34.8**	**+0.2**
BIDA				⇑S	**Sb**	**12 15 43.9**	**+0.3**
BIDA	**Albida**	**0.68**	**331**	⇑*i*P	**Pb**	**12 15 34.8**	**+0.3**
BIDA				⇑*i*S	**Sb**	**12 15 43.9**	**+0.3**
QASN	**Qassioun**	**0.95**	**203**	⇓P	**Pn**	**12 15 39.4**	**+0.3**
QASN				⇓S	**Sb**	**12 15 51.2**	**-0.1**
QASN	**Qassioun**	**0.95**	**203**	⇓*i*P	**Pn**	**12 15 39.4**	**+0.3**
QASN				⇓*i*S	**Sb**	**12 15 51.2**	**-0.1**
BHL	**Bhannes**	**1.02**	**240**	*e*Pg	**Pn**	**12 15 39.9**	**-0.1**
BHL				*e*Sg	**Sb**	**12 15 55.0**	**+1.7**
WRDH	**Warideh**	**1.12**	**347**	⇑P	**Pn**	**12 15 42.0**	**+0.7**
WRDH				⇑S	**Sn**	**12 15 55.2**	**-0.7**
WRDH	**Warideh**	**1.12**	**347**	⇑*i*P	**Pn**	**12 15 42.0**	**+0.7**
WRDH				⇑*i*S	**Sn**	**12 15 55.2**	**-0.7**

IDC 12 12:15:47.1±3.0**, 2114S**×**6689W, h210**km±21km**, mb3.8**/2**, mb1 3.5**/6**, mb1mx3.3**/19**, mbtmp4.0**/6**, Error ellipse: s-maj=35.3km s-min=19.9km az=38.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.97**	**346**	P	Pn	12 17 01.8	+0.5
	0.6nm,0.3s,baz=165,slow=12,SNR=11						
LPAZ				S	Sn	12 18 01.9	+2.0
	0.2nm,0.3s,baz=72,slow=22,SNR=9.0						
SIV	**San Ignacio**	**7.53**	**48**	P	Pn	12 17 34.2	+0.1
	2.8nm,0.3s,baz=235,slow=12,SNR=40						
SIV				S	Sn	12 18 58.8	-0.6
	1.2nm,0.3s,baz=222,slow=16,SNR=9.3						
CPUP	**Villa Florida**	**10.17**	**122**	P	Pn	12 18 07.9	-0.3
	0.9nm,0.3s,baz=278,slow=11,SNR=6.7						
BDFB	**Brasilia**	**18.72**	**76**	P	P	12 19 51.9	+1.9
	1.0nm,0.3s,baz=225,slow=10,SNR=4.8						
DBIC	**Dimbokro**	**66.83**	**73**	P	P	12 26 16.6	+0.4
	1.2nm,0.5s,baz=211,slow=5.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**75.46**	**70**	P	P	12 27 08.7	+0.7
	1.5nm,0.4s,baz=259,slow=5.7,SNR=22						
MKAR	**Makanchi Array**	**144.22**	**37**	PKP	PKPdf	12 34 56.8	-1.0
	0.2nm,0.3s,baz=324,slow=3.4,SNR=5.6						

*THE **12** 12:16:54.0, 4265N×2417E, h1km, ML2.5*
*ISCJB **12** 12:16:55.3±0.6, 4254N±004×2408E±005, h10km, Error ellipse: s-maj=5.3km s-min=4.7km az=77.1*
*CSEM **12** 12:16:55.0±0.4, 4255N×2401E, h2km, ML2.5, Error ellipse: s-maj=13.0km s-min=9.6km az=104.0*
*SKO **12** 12:16:55.2, 4254N×2409E, h0km*
ISC 12 12:16:56.2±0.7**, 4251N**±004×**2408E**±005**, h10**km**, n12,** σ**1ˢ29**/20**, 2C-2D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.62**	**131**	*e*Pg	**Pg**	**12 17 06.7**	**-1.4**
PLD				*e*Sg	**Sg**	**12 17 15.8**	**-0.5**
PLD	**Plovdiv**	**0.62**	**131**	*e*Sg	**Sg**	**12 17 15.8**	**-0.4**
VTS	**Vitosha**	**0.65**	**277**	*e*Pg	**Pg**	**12 17 07.2**	**-1.5**
VTS				*e*Sg	**Sg**	**12 17 17.1**	**-0.1**
VTS	**Vitosha**	**0.65**	**277**	⇑*i*P	**Pg**	**12 17 07.2**	**-1.5**
VTS				S	**Sg**	**12 17 17.3**	**+0.1**
MMB	**Musomiste**	**0.96**	**196**	*e*Pg	**Pg**	**12 17 14.4**	**-0.3**
MMB				*e*Sg	**Sg**	**12 17 30.8**	**+3.6**
KNT	**Kendrikon**	**1.61**	**214**	*e*Pb	**Pb**	**12 17 25.1**	**-1.0**
KNT				*e*Sb	**Sb**	**12 17 48.6**	**+2.2**
VAY	**Valandovo**	**1.64**	**224**	*e*Pn	**Pn**	**12 17 25.4**	**+0.4**
VAY				*e*Sg	**Sg**	**12 17 48.2**	**-0.7**
VAY	**Valandovo**	**1.64**	**224**	*e*Pn	**Pn**	**12 17 25.4**	**+0.4**
VAY				*e*Sg	**Sg**	**12 17 48.1**	**-0.8**
SOH	**Sokhos**	**1.78**	**198**	*e*Pb	**Pb**	**12 17 27.4**	**-1.4**
SOH				*e*Sb	**Sb**	**12 17 52.9**	**+1.7**
GZR	**Gura Zlata**	**3.03**	**342**	⇓*i*P	**Pn**	**12 17 43.3**	**-0.8**
MLR	**Muntele Rosu**	**3.27**	**24**	⇓*i*P	**Pn**	**12 17 49.3**	**+1.9**
PLOR	**Plostina**	**3.81**	**28**	⇑*i*P	**Pn**	**12 17 56.4**	**+1.5**

*NEIC **12** 12:17:15.0, 3299S×7221W, h27km, ML4.1(GUC), After GUC.*
GUC 12 12:17:15.0±0.7**, 3299S**×**7221W, h27**km±3km**, ML4.1, 9C-8D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.48**	**94**	⇓*i*P	Pb	12 17 24.7	-0.2
IHA				*i* S	Sb	12 17 31.5	-0.2
LCCH	**Las Cruces**	**0.72**	**132**	⇑*i*P	Pb	12 17 28.5	-0.4
LCCH				*i* S	Sb	12 17 38.3	-0.2
ROCH	**El Roble**	**1.01**	**89**	⇑*i*P	Pn	12 17 33.4	0.0
ROCH				*i* S	Sb	12 17 46.7	0.0
LNV	**Longovilo**	**1.17**	**145**	⇑*i*P	Pn	12 17 35.3	-0.3
LNV				*i* S	Sn	12 17 50.6	-0.1
TACH	**Talagante**	**1.25**	**122**	⇓*i*P	Pn	12 17 37.1	+0.4
TACH				*i* S	Sn	12 17 53.5	+0.8
RCDM	**Rinconada Maip**	**1.28**	**113**	*e*P	Pn	12 17 37.2	+0.1
RCDM				*i* S	Sn	12 17 54.0	+0.7
SAN	**Santiago**	**1.38**	**110**	*e*P	Pn	12 17 39.0	+0.6
SAN				*i* S	Sn	12 17 56.9	+1.1
STL	**Santa Lucia**	**1.39**	**109**	*i* P	Pn	12 17 39.2	+0.6
STL				*i* S	Sn	12 17 57.2	+1.1
JACH	**Jahuel**	**1.40**	**78**	⇓*i*P	Pn	12 17 39.1	+0.4
JACH				*i* S	Sn	12 17 57.7	+1.4
DSCH	**Colegio Aleman**	**1.44**	**107**	⇓*i*P	Pn	12 17 39.9	+0.6
DSCH				*i* S	Sn	12 17 58.6	+1.4
ANTU	**Antumapu**	**1.44**	**114**	⇓*i*P	Pn	12 17 40.3	+0.9
ANTU				*i* S	Sn	12 17 58.9	+1.5
ANTU				AML	AML	12 18 07.3	
	comp=E,4μm,0.5s						
ANTU	**Antumapu**	**1.44**	**114**	⇓*i*P	Pn	12 17 40.3	+0.9
ANTU				*i* S	Sn	12 17 58.9	+1.5
CLCH	**Cerro Calan**	**1.46**	**106**	*e*P	Pn	12 17 41.5	+1.9
CLCH				*i* S	Sn	12 18 01.1	+3.3
CLCH				AML	AML	12 18 12.5	
	comp=E,6μm,0.7s						
CLCH	**Cerro Calan**	**1.46**	**106**	*e*P	Pn	12 17 41.5	+1.9
CLCH				*i* S	Sn	12 18 01.1	+3.3
PCH	**Pirque**	**1.55**	**114**	⇑*i*P	Pn	12 17 42.1	+1.2
PCH				*i* S	Sn	12 18 02.2	+2.1
CHCH	**Chadas Angostu**	**1.60**	**126**	*i* P	Pn	12 17 42.6	+1.0
CHCH				*i* S	Sn	12 18 03.3	+1.9
SJCH	**San Jose de Ma**	**1.68**	**113**	⇑*i*P	Pn	12 17 43.7	+1.1
SJCH				*i* S	Sn	12 18 05.7	+2.3
SJCH				AML	AML	12 18 16.4	
	comp=N,2μm,0.6s						
SJCH	**San Jose de Ma**	**1.68**	**113**	⇑*i*P	Pn	12 17 43.7	+1.1
SJCH				*i* S	Sn	12 18 05.7	+2.3
CACH	**El Canelo**	**1.75**	**130**	⇑*i*P	Pn	12 17 45.1	+1.5
LMEL	**Las Melosas**	**1.88**	**117**	⇑*i*P	Pn	12 17 47.1	+1.7
LMEL				*i* S	Sn	12 18 11.5	+3.3
LMEL				AML	AML	12 18 17.0	
	comp=N,2μm,0.5s						
LMEL	**Las Melosas**	**1.88**	**117**	⇑*i*P	Pn	12 17 47.1	+1.7
LMEL				*i* S	Sn	12 18 11.5	+3.3
SFDO	**San Fernando**	**1.90**	**149**	⇓*i*P	Pn	12 17 46.4	+0.7
CICH	**Cipreses**	**2.00**	**132**	⇓*i*P	Pn	12 17 48.2	+1.3
NICH	**Los Niches**	**2.16**	**158**	*e*P	Pn	12 17 50.1	+0.8
TLL	**Tololo Astrono**	**3.06**	**23**	*e*P	Pn	12 18 02.8	+1.2
TLL				AML	AML	12 19 00.2	
	comp=N,1μm,0.6s						

*NEIC **12** 12:20:10.2, 3299S×7220W, h15km, ML3.3(GUC), After GUC.*
GUC 12 12:20:10.2±0.4**, 3299S**×**7220W, h15**km±431km**, MD4.0, ML3.3, 6C-3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.47**	**95**	⇓*i*P	Pg	12 20 19.7	0.0
IHA				*i* S	Sg	12 20 26.4	+0.3
LCCH	**Las Cruces**	**0.72**	**133**	⇑*i*P	Pg	12 20 23.4	-0.9
LCCH				*i* S	Sg	12 20 33.2	-0.5
ROCH	**El Roble**	**1.00**	**89**	⇑*i*P	Pb	12 20 28.3	-1.0
ROCH				*i* S	Sb	12 20 41.8	-0.4
TACH	**Talagante**	**1.25**	**122**	⇓*i*P	Pn	12 20 32.0	-1.1
TACH				*i* S	Sb	12 20 48.3	-1.1
CHNG	**Los Chungos**	**1.25**	**29**	*e*P	Pn	12 20 31.8	-1.3
CHNG				*i* S	Sb	12 20 48.1	-1.3
RCDM	**Rinconada Maip**	**1.27**	**113**	*e*P	Pn	12 20 32.2	-1.2
RCDM				*i* S	Sb	12 20 48.8	-1.2
RCDM				AML	AML	12 20 55.8	
	comp=N,629nm,0.5s						
RCDM	**Rinconada Maip**	**1.27**	**113**	*e*P	Pn	12 20 32.2	-1.2
RCDM				*i* S	Sb	12 20 48.8	-1.2
SAN	**Santiago**	**1.37**	**110**	*e*P	Pn	12 20 33.6	-1.1
SAN				*i* S	Sn	12 20 51.8	-0.9
JACH	**Jahuel**	**1.39**	**78**	⇑*i*P	Pn	12 20 34.4	-0.7
JACH				*i* S	Sn	12 20 52.8	-0.3
ANTU	**Antumapu**	**1.44**	**114**	⇑*i*P	Pn	12 20 34.8	-0.8
ANTU				*i* S	Sn	12 20 53.9	-0.4
ANTU				AML	AML	12 20 56.0	
	comp=E,883nm,0.5s						
ANTU	**Antumapu**	**1.44**	**114**	⇑*i*P	Pn	12 20 34.8	-0.8
ANTU				*i* S	Sn	12 20 53.9	-0.4
CLCH	**Cerro Calan**	**1.46**	**107**	*e*P	Pn	12 20 35.9	0.0
CLCH				*i* S	Sn	12 20 55.0	+0.3
CLCH				AML	AML	12 21 08.3	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.46**	**107**	*e*P	Pn	12 20 35.9	0.0
CLCH				*i* S	Sn	12 20 55.0	+0.3
PCH	**Pirque**	**1.55**	**114**	⇑*i*P	Pn	12 20 37.0	-0.2
SFDO	**San Fernando**	**1.90**	**149**	⇓*i*P	Pn	12 20 41.2	-0.8

*NEIC **12** 12:23:33.0, 3301S×72.17W, h32km, ML3.3(GUC), After GUC.*
GUC 12 12:23:33.0±0.6**, 3301S**×**7217W, h32**km±2km**, MD4.0, ML3.3, 10C-2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.44**	**92**	⇓*i*P	Pb	12 23 42.3	-0.4
IHA				*i* S	Sb	12 23 49.0	-0.3
LCCH	**Las Cruces**	**0.68**	**133**	⇑*i*P	Pn	12 23 46.1	-0.3
LCCH				*i* S	Sb	12 23 55.9	+0.1
ROCH	**El Roble**	**0.97**	**88**	⇑*i*P	Pn	12 23 50.9	+0.5
ROCH				*i* S	Sn	12 24 04.2	+1.1
LNV	**Longovilo**	**1.14**	**146**	⇓*i*P	Pn	12 23 52.9	+0.2
LNV				*i* S	Sn	12 24 07.8	+0.8
TACH	**Talagante**	**1.21**	**122**	*e*P	Pn	12 23 54.6	+0.9
TACH				*i* S	Sn	12 24 10.5	+1.5
RCDM	**Rinconada Maip**	**1.24**	**113**	*e*P	Pn	12 23 54.5	+0.5
PEL	**Peldehue**	**1.25**	**96**	⇑*i*P	Pn	12 23 55.8	+1.5
PEL				*i* S	Sn	12 24 12.7	+2.7
PEL				AML	AML	12 24 19.1	
	comp=E,944nm,0.7s						
PEL	**Peldehue**	**1.25**	**96**	⇑*i*P	Pn	12 23 55.8	+1.5
PEL				*i* S	Sn	12 24 12.7	+2.7
CHNG	**Los Chungos**	**1.26**	**27**	*e*P	Pn	12 23 54.6	+0.3
CHNG				*i* S	Sn	12 24 10.6	+0.5
JACH	**Jahuel**	**1.37**	**77**	⇑*i*P	Pn	12 23 57.0	+1.2
JACH				*i* S	Sn	12 24 15.1	+2.3
ANTU	**Antumapu**	**1.40**	**114**	⇑*i*P	Pn	12 23 57.8	+1.6
ANTU				*i* S	Sn	12 24 16.1	+2.5
CLCH	**Cerro Calan**	**1.42**	**106**	*e*P	Pn	12 23 59.1	+2.6
CLCH				*i* S	Sn	12 24 17.6	+3.5
CLCH				AML	AML	12 24 22.8	
	comp=E,1μm,0.7s						
CLCH	**Cerro Calan**	**1.42**	**106**	*e*P	Pn	12 23 59.1	+2.6
CLCH				*i* S	Sn	12 24 17.6	+3.5
CHCH	**Chadas Angostu**	**1.57**	**126**	*e*P	Pn	12 23 59.9	+1.3
CHCH				*i* S	Sn	12 24 20.5	+2.8
FCH	**Farellones**	**1.61**	**102**	⇑*e*P	Pn	12 24 01.1	+2.0
FCH				*i* S	Sn	12 24 22.7	+4.0
FCH				AML	AML	12 24 30.3	
	comp=N,365nm,0.3s						
CACH	**El Canelo**	**1.71**	**131**	⇑*i*P	Pn	12 24 02.7	+2.2
LMEL	**Las Melosas**	**1.84**	**117**	*e*P	Pn	12 24 04.2	+1.9
LMEL				*i* S	Sn	12 24 27.6	+3.0
LMEL				AML	AML	12 24 33.6	
	comp=N,410nm,0.4s						
LMEL	**Las Melosas**	**1.84**	**117**	*e*P	Pn	12 24 04.2	+1.9
LMEL				*i* S	Sn	12 24 27.6	+3.0
SFDO	**San Fernando**	**1.87**	**149**	⇑*i*P	Pn	12 24 04.0	+1.4
CICH	**Cipreses**	**1.96**	**132**	⇑*i*P	Pn	12 24 05.6	+1.7
TLL	**Tololo Astrono**	**3.06**	**23**	*e*P	Pn	12 24 20.8	+1.7

*ISCJB **12** 12:52:41.9±0.2, 4626N±002×1462E±002, h5km±5km, Error ellipse: s-maj=2.7km s-min=2.1km az=10.8*
*LJU **12** 12:52:41.8, 4625N×1462E, h13km, ML2.3*
*CSEM **12** 12:52:41.9±0.1, 4622N×1459E, h20km, ML2.8/2, Error ellipse: s-maj=2.2km s-min=1.8km az=24.0*
*NEIC **12** 12:52:42.6±0.7, 4627N×1460E, h5km, ML2.0(LJU), Error ellipse: s-maj=10.2km s-min=6.4km az=74.0*
NEIC Felt at Kamnik.
*PRU **12** 12:52:42.5, 4625N×1470E, h0km*
ISC 12 12:52:42.6±0.2**, 4626N**±002×**1463E**±002**, h6**km±5km**, n38,** σ**0ˢ66**/76**, 12C-18D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LJU	**Ljubljana**	**0.22**	**199**	⇓*i*Pg	**Pg**	**12 52 47.0**	**0.0**
LJU				*i* Sg	**Sg**	**12 52 50.1**	**0.0**
LJU							
	comp=Z,171nm,0.1s						
LJU	**Ljubljana**	**0.22**	**199**	⇓*i*Pg	**Pg**	**12 52 47.0**	**0.0**
LJU				*i* Sg	**Sg**	**12 52 50.1**	**0.0**
LJU	**Ljubljana**	**0.22**	**199**	⇓*i*Pg	**Pg**	**12 52 47.0**	**0.0**
LJU				*i* Sg	**Sg**	**12 52 50.1**	**+0.1**
	comp=Z,171nm,0.1s						
OBKA	**Obir**	**0.26**	**348**	⇓*e*Pg	**Pg**	**12 52 47.8**	**+0.1**
	SNR=132						
OBKA				⇓*i*Sg	**Sg**	**12 52 51.7**	**+0.5**
	comp=Z,496nm,0.2s						
PDKS	**Podkum**	**0.32**	**127**	⇑*i*Pg	**Pg**	**12 52 49.2**	**+0.3**
PDKS				*i* Sg	**Sg**	**12 52 53.6**	**+0.5**
PDKS							
	comp=Z,51nm,0.1s						
PDKS	**Podkum**	**0.32**	**127**	⇑*i*Pg	**Pg**	**12 52 49.2**	**+0.3**
PDKS				*i* Sg	**Sg**	**12 52 53.6**	**+0.5**
GORS	**Gorjuse**	**0.45**	**278**	⇑*i*Pg	**Pg**	**12 52 50.9**	**-0.3**
GORS				*i* Sg	**Sg**	**12 52 57.6**	**+0.6**
GORS							
	comp=Z,81nm,0.2s						
GORS	**Gorjuse**	**0.45**	**278**	⇑*i*Pg	**Pg**	**12 52 50.9**	**-0.3**
GORS				*i* Sg	**Sg**	**12 52 57.6**	**+0.6**
	comp=Z,81nm,0.2s						
PERS	**Pernice**	**0.51**	**41**	*i* Pg	**Pg**	**12 52 52.4**	**0.0**
PERS				*i* Sg	**Sg**	**12 52 59.1**	**0.0**
PERS							
	comp=Z,288nm,0.1s						
BISS	**Bistriski jare**	**0.52**	**41**	*i* Pg	**Pg**	**12 52 52.7**	**0.0**
BISS				*i* Sg	**Sg**	**12 52 59.3**	**-0.1**
BISS							
	comp=Z,456nm,0.1s						
JAVS	**Javornik**	**0.54**	**228**	*i* Pg	**Pg**	**12 52 52.4**	**-0.5**
JAVS				*i* Sg	**Sg**	**12 52 59.7**	**-0.2**
JAVS							
	comp=Z,65nm,0.1s						
CEY	**Cerknica**	**0.54**	**195**	*i* Pg	**Pg**	**12 52 52.5**	**-0.5**
CEY				*i* Sg	**Sg**	**12 52 59.1**	**-0.8**
VOJS	**Vojsko**	**0.56**	**247**	*i* Pg	**Pg**	**12 52 52.9**	**-0.6**
VOJS				*e*Sg	**Sg**	**12 53 01.0**	**+0.1**
LEGS	**Legarje**	**0.57**	**122**	*i* Pg	**Pg**	**12 52 53.6**	**+0.1**
LEGS				*e*Sg	**Sg**	**12 53 01.0**	**+0.1**
DOBS	**Dobrina**	**0.59**	**100**	*i* Pg	**Pg**	**12 52 53.9**	**-0.2**
CADS	**Cadrg**	**0.62**	**268**	⇑*i*Pg	**Pg**	**12 52 54.0**	**-0.6**
CADS				*e*Sg	**Sg**	**12 53 03.0**	**+0.4**
CADS							
	comp=Z,74nm,0.1s						
GROS	**Grobnik**	**0.64**	**71**	*i* Pg	**Pg**	**12 52 54.5**	**-0.4**
GROS				*i* Sg	**Sg**	**12 53 04.0**	**+0.9**
GROS							
	comp=Z,32nm,0.1s						
CESS	**Cesta pri Krsk**	**0.64**	**116**	*i* Pg	**Pg**	**12 52 55.3**	**+0.3**
CESS				*i* Sg	**Sg**	**12 53 04.2**	**+0.8**
DRE	**Drenchia**	**0.69**	**264**	⇑*i*Pg	**Pg**	**12 52 54.8**	**-1.1**
DRE				*i* Sg	**Sg**	**12 53 05.4**	**+0.6**
CRES	**Cresnjev**	**0.72**	**126**	*i* Pg	**Pg**	**12 52 56.1**	**-0.3**
CRES				*i* Sg	**Sg**	**12 53 05.6**	**-0.2**
GOLS	**Golise**	**0.73**	**109**	*i* Pg	**Pg**	**12 52 56.9**	**+0.2**
KNDS	**Knezji Dol**	**0.75**	**194**	*i* Pg	**Pg**	**12 52 56.4**	**-0.6**
KNDS				*i* Sg	**Sg**	**12 53 07.0**	**+0.3**
LSR	**Lussari**	**0.80**	**287**	⇓*i*Pg	**Pg**	**12 52 57.2**	**-0.7**
LSR				*i* Sg	**Sg**	**12 53 08.5**	**+0.3**
GCIS	**Gornji Cirnik**	**0.80**	**119**	*i* Pg	**Pg**	**12 52 57.9**	**-0.1**
GCIS				*e*Sg	**Sg**	**12 53 08.3**	**+0.1**
GCIS							
	comp=Z,62nm,0.2s						
BOJS	**Bojanci**	**0.87**	**150**	*i* Pg	**Pg**	**12 52 59.1**	**-0.1**
BOJS				*e*Sg	**Sg**	**12 53 11.5**	**+0.9**
BOJS							
	comp=Z,84nm,0.4s						
COLI	**Coloredo**	**0.88**	**262**	⇓*i*Pg	**Pg**	**12 52 59.1**	**-0.4**
COLI				*i* Sg	**Sg**	**12 53 12.8**	**+1.9**
BAD	**Bernadia**	**0.96**	**269**	⇓*i*Pg	**Pg**	**12 52 59.8**	**-1.3**
BAD				*i* Sg	**Sg**	**12 53 14.4**	**+0.8**
PLRO	**Paularo**	**1.07**	**287**	⇓*i*Pg	**Pg**	**12 53 02.1**	**-1.0**
PLRO				*i* Sg	**Sg**	**12 53 17.9**	**+0.9**
ARSA	**Arzberg**	**1.17**	**31**	⇓*e*Pg	**Pg**	**12 53 04.8**	**-0.3**
	SNR=9.6						
ARSA				⇑*i*Sg	**Sg**	**12 53 19.6**	**-0.6**
	comp=Z,15nm,0.2s						
ARSA	**Arzberg**	**1.17**	**31**	⇓*e*Pg	**Pg**	**12 53 04.8**	**-0.3**
ARSA				*i* Sg	**Sg**	**12 53 19.6**	**-0.6**
KBA	**Koelnbreinsper**	**1.21**	**313**	⇑*e*Pg	**Pg**	**12 53 05.2**	**-0.6**
	SNR=6.0						
KBA				⇓*i*Sg	**Sg**	**12 53 20.8**	**-0.7**
	comp=Z,9.8nm,0.2s						
MLNI	**Malnisio**	**1.41**	**266**	⇑*e*Pg	**Pg**	**12 53 08.7**	**-0.9**
MLNI				*e*Sg	**Sg**	**12 53 29.3**	**+1.4**
CAE	**Caneva**	**1.54**	**262**	⇓*i*Pg	**Pg**	**12 53 11.4**	**-0.8**
CAE				*i* Sg	**Sg**	**12 53 33.2**	**+0.9**
MOA	**Molln**	**1.61**	**351**	⇑*i*Pn	**Pn**	**12 53 11.3**	**-0.3**
MOA				⇓*i*Pg	**Pg**	**12 53 13.7**	**+0.1**
MOA	**Molln**	**1.61**	**351**	⇑*i*Pn	**Pn**	**12 53 11.3**	**-0.3**
MOA				⇓*i*Pg	**Pg**	**12 53 13.7**	**+0.1**
MOA				⇓*i*Sn	**Sn**	**12 53 33.2**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**12 53 36.0**	**+1.5**
	comp=Z,5.0nm,0.3s						
MOA	**Molln**	**1.61**	**351**	Pg	**Pg**	**12 53 13.7**	**+0.1**
MOA				Sg	**Sg**	**12 53 36.0**	**+1.5**
	comp=Z,5.0nm,0.3s						
CONA	**Conrad Observa**	**1.87**	**26**	⇓*i*Pn	**Pn**	**12 53 14.5**	**-0.7**
CONA				⇓*i*Sn	**Sn**	**12 53 39.8**	**+0.7**
KHC	**Kasperske Hory**	**2.96**	**347**	*e*PG	**Pg**	**12 53 35.1**	**-4.3**
KHC				*e*SG	**Sg**	**12 54 16.8**	**-1.0**

WEL 12 13:03:36.8±0.4**, 3711S**×**17660E, h275**km±5km**, ML3.6**/12**, Error ellipse: s-maj=7.3km s-min=6.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.22**	**161**	*e*PN	Pn	13 04 15.4	-0.3
URZ				SN	S	13 04 46.3	-0.2
MWZ	**Matawai**	**1.43**	**149**	*e*PN	Pn	13 04 17.1	+0.1
MWZ				SN	S	13 04 48.6	-0.3
MXZ	**Matakaoa Point**	**1.44**	**109**	PN	Pn	13 04 17.2	+0.2
PUZ	**Puketiti**	**1.63**	**127**	*e*PN	Pn	13 04 18.6	+0.2
PUZ				SN	S	13 04 50.4	-1.0
BKZ	**Black Stump Fm**	**2.06**	**182**	PN	Pn	13 04 22.1	+0.2
KNZ	**Kokohu**	**2.09**	**156**	*e*PN	Pn	13 04 22.5	+0.3
TUVZ	**Tukino**	**2.29**	**199**	PN	Pn	13 04 24.6	+0.8
FWVZ	**Far West T-bar**	**2.30**	**201**	PN	Pn	13 04 24.7	+0.7
WNVZ	**Wahianoa**	**2.36**	**199**	PN	Pn	13 04 25.1	+0.6
MOVZ	**Moawhango**	**2.39**	**196**	PN	Pn	13 04 25.0	+0.1
TSZ	**Takapari Road**	**2.99**	**189**	PN	Pn	13 04 30.0	-0.7
TSZ				SN	S	13 05 13.5	-0.2
MRZ	**Mangatainoka R**	**3.64**	**192**	PN	Pn	13 04 36.5	-1.2
TIWZ	**Tintock**	**3.71**	**188**	PN	Pn	13 04 37.6	-0.9
KIW	**Kapiti Island**	**3.98**	**199**	PN	Pn	13 04 40.1	-1.4
MTW	**Mount Morrison**	**4.14**	**192**	PN	Pn	13 04 41.6	-1.7
CAW	**Cannon Point**	**4.17**	**196**	PN	Pn	13 04 42.2	-1.5
DUWZ	**D'Urville Isla**	**4.24**	**209**	PN	Pn	13 04 43.0	-1.5
MRW	**Makara Radio**	**4.38**	**199**	PN	Pn	13 04 44.6	-1.5
SNZO	**South Karori**	**4.45**	**199**	PN	Pn	13 04 45.1	-1.8
TCW	**Tory Channel**	**4.48**	**203**	PN	Pn	13 04 45.6	-1.6
TUWZ	**Tuamarina**	**4.79**	**205**	PN	Pn	13 04 49.1	-1.7
NNZ	**Nelson**	**4.81**	**210**	PN	Pn	13 04 49.0	-2.2
QRZ	**Quartz Range**	**4.89**	**219**	PN	Pn	13 04 49.8	-2.3
THZ	**Tophouse**	**5.46**	**210**	PN	Pn	13 04 57.1	-1.9
KHZ	**Kahutara**	**5.81**	**203**	PN	Pn	13 05 01.3	-1.8
MQZ	**McQueen's Vall**	**7.25**	**203**	SN	S	13 06 38.1	-6.6

*NEIC **12** 13:07:11.4,1654N×9841W,h15km,MD3.9(MEX),After MEX.*

MEX 12 13:07:10.3±1.0**,1665N×9838W,h4**km±13km**,MD3.9,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.35	136	i P	Pg	13 07 16.4	-0.6
PNIG				i S	Sg	13 07 22.1	+0.6
UTMO	Huajuapan	1.30	25	i P	Pg	13 07 30.8	-4.4
UTMO				i S	Sg	13 07 47.2	-4.8
ACX	Acapulco	1.49	279	i P	Pn	13 07 33.2	-4.7
ACX				i S	Sn	13 07 50.5	-7.3
VHO	Vista Hermosa	1.63	75	i P	Pn	13 07 36.9	-2.9
VHO				i S	Sn	13 07 57.2	-4.0
VHO	Vista Hermosa	1.63	75	i P	Pn	13 07 36.9	-2.9
VHO				i S	Sn	13 07 58.4	-2.8
OXX	Oaxaca	1.64	74	i P	Pn	13 07 37.8	-2.1
OXX				i S	Sn	13 08 00.5	-1.0
MEIG	Mezcala	1.74	317	eP	Pn	13 07 38.3	-3.0
MEIG				i S	Sn	13 07 59.5	-4.5
CAIG	El Cayaco	1.85	283	i P	Pn	13 07 41.0	-1.9
CAIG				i S	Sn	13 08 03.0	-3.7
PLIG	Platanillo	2.04	328	eP	Pn	13 07 43.1	-2.4
PLIG				i S	Sn	13 08 07.7	-3.7
YAIG	Yautepec	2.30	343	i P	Pn	13 07 46.8	-2.2
YAIG				i S	Sn	13 08 15.8	-2.0
PPM	Popocatepetl	2.42	354	i P	Pn	13 07 49.2	-1.4
PPM				i S	Sn	13 08 18.9	-1.8
IIZ	Mezontepec	2.66	342	eP	Pn	13 07 50.6	-3.4
IIZ				i S	Sn	13 08 22.3	-4.3
CMIG	Matias Romero	3.37	82	i P	Pn	13 08 02.7	-1.1

*ISCJB **12** 13:07:44.3±1.2,2065S±006×177.14W±009,h280km±14km, mb4.2/16,Error ellipse: s-maj=13.3km s-min=9.0km az=34.1*

*NEIC **12** 13:07:46.4±1.3,2063S×177.14W,h290km±13km,mb4.4/7, Error ellipse: s-maj=12.7km s-min=9.0km az=151.0*

*IDC **12** 13:07:49.3±2.5,2074S×177.12W,h317km±24km,mb3.8/11, mb1 3.9/13,mb1mx3.9/17,mbtmp4.5/13,Error ellipse: s-maj=14.8km s-min=11.3km az=102.0*

ISC 12 13:07:46.0±1.1**,2074S**±006×**17708W**±008**,h282**km±13km**, n41,σ0^{s}94**/35**,mb4.2**/16**,3D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.47	38	P	Pn	13 09 44.1	-1.1
	4.9nm,0.3s,baz=35,slow=20,SNR=8.0						
AFI				S	S	13 11 10.5	-11
	12nm,0.3s,baz=36,slow=22,SNR=9.2						
RAO	Raoul Island	8.51	185	S	S	13 11 21.5	-1.3
	142nm,0.3s,baz=102,slow=23,SNR=3.7						
DZM	Mont Dzumac	15.40	262	eP	Pn	13 11 11.8	+2.0
DZM	Mont Dzumac	15.40	262	P	Pn	13 11 12.4	+2.6
	3.9nm,0.3s,baz=81,slow=16,SNR=38						
RAR	Rarotonga	16.17	95	P	P	13 11 18.8	+2.0
	0.9nm,0.3s,baz=255,slow=8.7,SNR=4.1						
RAR	Rarotonga	16.17	95	P	P	13 11 18.8	+2.0
PUZ	Puketiti	17.74	192	PN	P	13 11 34.0	+0.2
MWZ	Matawai	18.15	194	ePN	P	13 11 39.0	+0.8
URZ	Urewera	18.17	195	P	P	13 11 38.8	+0.3
	2.6nm,0.3s,baz=346,slow=4.1,SNR=20						
URZ				S	S	13 14 51.3	-0.2
	2.4nm,0.3s,baz=256,slow=22,SNR=15						
URZ	Urewera	18.17	195	ePN	P	13 11 39.4	+0.9
HNR	Honiara	24.83	293	P	P	13 12 42.0	-0.9
	27nm,0.6s,mb4.8,baz=260,slow=6.1,SNR=2.4						
CTA	Charters Tower	34.33	264	eP	P	13 14 07.1	+0.8
	23nm,0.6s,mb4.9						
CTA	Charters Tower	34.33	264	P	P	13 14 07.3	+1.0
	29nm,0.6s,mb5.0,baz=94,slow=11,SNR=45						
STKA	Stephens Creek	38.46	245	eP	P	13 14 41.6	+0.5
	4.3nm,0.5s,mb4.1						
STKA	Stephens Creek	38.46	245	P	P	13 14 42.0	+0.9
	5.6nm,0.5s,mb4.3,baz=93,slow=8.7,SNR=27						
AS31	Alice Springs	45.30	257	eP	P	13 15 36.0	-0.2
AS31				eP		13 15 36.2	
ASAR	Alice Springs	45.30	257	P	P	13 15 36.3	+0.1
	14nm,0.8s,mb4.2,baz=97,slow=8.6,SNR=136						
ASAR				PcP	PcP	13 17 09.8	-0.7
	1.2nm,0.6s,baz=110,slow=3.9,SNR=5.4						
ASAR				ScP	ScP	13 20 32.9	-2.9
	0.3nm,0.8s,baz=107,slow=4.6,SNR=4.3						
ASAR				S	S	13 21 50.2	-4.5
	0.4nm,0.7s,baz=87,slow=16,SNR=3.9						
ASPA	Alice Springs	45.31	257	eP	P	13 15 36.2	0.0
WB2	Warramunga Arr	45.41	262	⇓iP	P	13 15 36.3	-0.7
WB2				eP		13 15 36.5	
WRAB	Tennant Creek	45.41	262	eP	P	13 15 36.5	-0.5
	16nm,0.8s,mb4.3						
WRA	Warramunga Arr	45.42	262	P	P	13 15 36.4	-0.6
	11nm,0.7s,mb4.2,baz=95,slow=5.7,SNR=161						
KAKA	Kakadu	48.84	271	⇓iP	P	13 16 02.9	-0.4
	28nm,0.4s,mb4.9						
GUMO	Guam	50.62	309	P	P	13 16 17.5	+0.9
	70nm,0.7s,mb5.1,baz=151,slow=15,SNR=8.3						
FITZ	Fitzroy Crossi	53.85	262	eP	P	13 16 41.5	+1.2
	6.5nm,0.7s,mb4.1						
FITZ	Fitzroy Crossi	53.85	262	P	P	13 16 41.1	+0.8
	3.7nm,0.7s,mb3.9,baz=138,slow=3.5,SNR=22						
VNDA	Vanda	57.75	185	P	P	13 17 07.8	0.0
	0.5nm,0.7s,mb3.0,baz=23,slow=7.3,SNR=3.7						
CASY	Casey	64.12	205	eP	P	13 17 49.8	-0.7
	6.7nm,0.8s,mb4.3						
MJAR	Matsushiro Arr	70.91	323	P	P	13 18 31.7	-1.0
	2.1nm,0.5s,mb4.0,baz=151,slow=5.7,SNR=6.6						
NVAR	Mina Array Bea	80.61	43	P	P	13 19 28.8	+1.4
	0.9nm,0.6s,mb3.7,baz=223,slow=8.7,SNR=10						
MAW	Mawson	81.63	200	P	P	13 19 31.9	-0.9
	2.7nm,0.6s,mb4.2,baz=140,slow=5.7,SNR=20						
COLA	College	88.25	12	eP	P	13 20 03.8	-1.7
	2.7nm,0.8s,mb4.1						
PDAR	Pinedale Array	88.55	43	P	P	13 20 07.0	+0.1
	0.4nm,0.6s,mb3.5,baz=205,slow=3.1,SNR=5.2						
FWV	Forest Hill	107.15	56	eP	Pdif	13 21 27.1	-3.9
MKAR	Makanchi Array	111.99	313	PKiKP	PKiKP	13 25 45.3	-2.3
	0.4nm,0.5s,baz=162,slow=0.6,SNR=4.5						
FFD	Franklin Falls	115.00	51	ePKPdf	PKPdf	13 25 53.6	+0.2
BVAR	Borovoye Array	119.81	320	PKP	PKPdf	13 26 00.1	-2.6
	1.2nm,0.6s,baz=48,slow=2.2,SNR=5.9						
ARCES	ARCESS Array B	129.31	350	PKP	PKPdf	13 26 18.9	-1.9
	4.5nm,0.9s,baz=64,slow=2.8,SNR=4.8						
ARCES	ARCESS Array B	129.31	350	PKP	PKPdf	13 26 18.9	-1.9
AKASG	Malin Array Be	143.63	332	PKhKP		13 26 42.5	
	1.2nm,0.5s,baz=41,slow=4.2,SNR=9.9						
CLL	Collm	148.48	348	⇓iPKPbc	PKPbc	13 26 57.9	-1.5
	comp=Z,7.0nm,0.6s						
CLL				i PKPab	PKPab	13 27 00.5	-3.1
GERES	GERESS Array B	150.65	345	PKPbc	PKPbc	13 27 03.0	-1.6
	comp=Z,0.7nm,0.3s,baz=56,slow=1.8,SNR=5.5						

IDC 12 13:14:11.4±2.2**,006S×9735E,h0**km**,mb3.8**/6**,mb1 4.0**/6**, mb1mx3.8**/21**,mbtmp3.8**/6**,ML2.8**/1**,Error ellipse: s-maj=70.7km s-min=20.6km az=66.0,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	3.25	29	Pn	Pn	13 15 02.6	-0.9
	1.1nm,0.3s,baz=339,slow=10.0,SNR=3.9						
FITZ	Fitzroy Crossi	33.09	124	P	P	13 20 49.0	+0.2
	2.7nm,1.0s,baz=308,slow=12,SNR=2.8						
WRA	Warramunga Arr	41.26	121	P	P	13 21 58.7	+0.5
	2.9nm,0.5s,baz=303,slow=8.9,SNR=38						
ASAR	Alice Springs	42.53	126	P	P	13 22 09.2	+0.6
	0.6nm,0.6s,baz=297,slow=7.9,SNR=9.8						
SONM	Songino Array	48.34	8	P	P	13 22 55.5	+0.8
	0.2nm,0.5s,baz=205,slow=6.4,SNR=2.2						
MKAR	Makanchi Array	48.49	346	P	P	13 22 55.2	-0.6
	0.4nm,0.5s,baz=167,slow=8.8,SNR=4.2						
STKA	Stephens Creek	52.41	131	P	P	13 23 25.1	-0.5
	1.5nm,0.7s,baz=285,slow=12,SNR=3.4						

*IDC **12** 13:18:40.4±0.9,5828S×2965W,h0km,mb4.2/7,mb1 4.2/8, mb1mx4.0/18,mbtmp4.1/8,ML3.2/1,MS4.3/2,Ms1 4.2/2, ms1mx3.9/21,Error ellipse: s-maj=34.0km s-min=21.4km az=83.0*

*NEIC **12** 13:18:41.7±0.6,5826S×2969W,h10km,mb4.9/1,Error ellipse: s-maj=23.4km s-min=13.4km az=75.0*

*ISCJB **12** 13:18:44.0±5.8,582S±0.1×295W±0.4,h33km±52km, mb4.2/8,MS4.2/2,Error ellipse: s-maj=32.5km s-min=23.0km az=170.9*

ISC 12 13:18:47.5±5.5**,584S**±02×**296W**±04**,h53**km±51km**,n13, σ0^{s}66**/10**,mb4.2**/8**,MS4.2**/2**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	17.23	151	P	Pn	13 22 44.2	-0.2
	0.1nm,0.3s,baz=324,slow=12,SNR=16						
QSPA	South Pole Qui	31.89	180	eP	P	13 25 11.6	+4.0
	20nm,1.3s,mb4.8						
MAW	Mawson	39.07	143	P	P	13 26 09.3	0.0
	3.0nm,0.9s,mb4.0,baz=247,slow=14,SNR=4.4						
MAW				LR	LR	13 40 31.4	
	comp=Z,460nm,18.6s,MS4.3,baz=130,slow=34						
SUR	Sutherland	42.49	75	LR	LR	13 39 58.0	
	comp=Z,284nm,19.6s,MS4.2,baz=203,slow=30						
VNDA	Vanda	44.19	184	P	P	13 26 51.2	0.0
	2.9nm,0.7s,mb4.1,baz=183,slow=5.9,SNR=20						
LPAZ	La Paz	50.75	309	P	P	13 27 42.4	+0.3
	1.0nm,0.5s,mb4.0,baz=182,slow=6.3,SNR=6.5						
LBTB	Lobatse	50.90	74	P	P	13 27 43.9	+0.7
	0.9nm,0.5s,mb4.0,baz=225,slow=14,SNR=2.4						
LBTB	Lobatse	50.90	74	P	P	13 27 43.9	+0.7
DBIC	Dimbokro	67.81	27	P	P	13 29 38.6	-1.3
	4.3nm,1.0s,mb4.4,baz=300,slow=8.1,SNR=3.0						
TORD	Torodi Ar. Bea	75.70	31	P	P	13 30 27.8	+0.5
	2.8nm,0.8s,mb4.3,baz=198,slow=5.9,SNR=13						
ASAR	Alice Springs	97.13	165	P	P	13 32 13.6	-0.4
	0.5nm,0.6s,mb4.1,baz=179,slow=4.1,SNR=9.2						
ZAL	Zalesovo	144.47	68	PKP	PKPdf	13 38 15.7	-2.2
	1.7nm,0.5s,baz=192,slow=3.9,SNR=5.8						
SONM	Songino Array	152.03	93	PKPbc	PKPbc	13 38 36.3	-0.4
	0.4nm,0.5s,baz=219,slow=3.6,SNR=4.6						

*IDC **12** 13:21:47.0±0.6,5828S×2974W,h0km,mb4.3/15, mb1 4.3/16,mb1mx4.3/21,mbtmp4.2/16,ML2.8/1,Error ellipse: s-maj=20.8km s-min=14.8km az=40.0*

*ISCJB **12** 13:21:47.0±10.0,5825S±0.10×297W±02,h11km±65km, mb4.3/16,Error ellipse: s-maj=19.3km s-min=13.0km az=93.0*

*NEIC **12** 13:21:48.4±0.4,5827S×2975W,h10km,mb4.8/1,Error ellipse: s-maj=12.5km s-min=8.5km az=54.0*

ISC 12 13:21:50.9±7.8**,5832S**±010×**298W**±02**,h27**km±56km**,n24, σ0^{s}68**/21**,mb4.3**/16**,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	Sanae	17.33	151	P	Pn	13 25 50.6	-0.2
	0.0nm,0.3s,baz=315,slow=11,SNR=7.0						
PLCA	Paso Flores	31.15	286	P	P	13 28 07.2	-0.2
	2.6nm,0.9s,mb4.0,baz=142,slow=13,SNR=3.8						
QSPA	South Pole Qui	31.93	180	eP	P	13 28 15.0	+0.7
	14nm,1.0s,mb4.7						
CFAA	Coronel Fontan	37.29	299	P	P	13 29 00.1	-0.5
	0.7nm,0.7s,mb3.6,baz=158,slow=7.7,SNR=8.2						
CPUP	Villa Florida	37.38	317	P	P	13 29 00.5	-0.9
	0.4nm,0.3s,mb3.7,baz=159,slow=8.1,SNR=4.6						
CPUP	Villa Florida	37.38	317	P	P	13 29 00.5	-0.9
MAW	Mawson	39.17	143	P	P	13 29 16.4	-0.1
	3.4nm,0.9s,mb4.1,baz=233,slow=8.7,SNR=4.8						
VNDA	Vanda	44.23	184	P	P	13 29 58.6	+0.8
	5.1nm,0.8s,mb4.3,baz=181,slow=6.9,SNR=16						
BDFB	Brasilia	44.72	335	P	P	13 30 03.4	+1.6
	2.3nm,0.6s,mb4.2,baz=111,slow=9.3,SNR=3.2						
BOSA	Boshof	47.88	76	P	P	13 30 26.2	-0.4
	4.9nm,0.9s,mb4.5,baz=238,slow=9.9,SNR=5.4						
SIV	San Ignacio	48.22	318	P	P	13 30 28.2	-1.0
	1.2nm,0.8s,mb4.0,baz=135,slow=5.7,SNR=5.2						
LPAZ	La Paz	50.64	310	P	P	13 30 48.6	+0.9
	3.2nm,0.8s,mb4.3,baz=153,slow=6.6,SNR=12						
LBTB	Lobatse	51.00	74	P	P	13 30 50.6	+0.2
	6.2nm,0.9s,mb4.5,baz=216,slow=12,SNR=4.4						
MATP	Matopo	56.29	74	P	P	13 31 28.6	-0.5
	2.1nm,0.6s,mb4.4,baz=209,slow=6.2,SNR=6.9						
DBIC	Dimbokro	67.82	27	P	P	13 32 46.9	+0.3
	4.7nm,0.9s,mb4.5,baz=203,slow=5.9,SNR=3.7						
DBIC	Dimbokro	67.82	27	P	P	13 32 46.9	+0.3
TOA0	Torodi Ar. Sit	75.72	32	eP	P	13 33 34.2	+0.1
TORD	Torodi Ar. Bea	75.72	32	P	P	13 33 34.5	+0.4
	8.3nm,0.9s,mb4.7,baz=195,slow=6.2,SNR=29						
TORD	Torodi Ar. Bea	75.72	32	P	P	13 33 34.5	+0.4
STKA	Stephens Creek	89.86	173	P	P	13 34 47.0	-0.3
	2.3nm,0.8s,mb4.6,baz=177,slow=9.9,SNR=3.7						
ASAR	Alice Springs	97.20	165	P	P	13 35 20.2	-0.9
	0.8nm,0.6s,mb4.3,baz=169,slow=4.9,SNR=5.4						
BMO	Blue Mountains	125.51	299	ePKPdf	PKPdf	13 40 47.9	-1.7
ZAL	Zalesovo	144.56	68	PKP	PKPdf	13 41 21.9	-3.0
	2.9nm,0.7s,baz=239,slow=4.0,SNR=13						
SONM	Songino Array	152.15	93	PKPbc	PKPbc	13 41 42.3	-1.7
	2.8nm,0.9s,baz=228,slow=2.8,SNR=12						

*CRAAG **12** 13:30:50.9,2877S×6885W,Mb5.8*

*MOS **12** 13:30:52.3±1.5,2891S×6874W,h100km,mb6.0/52, MS4.9/46,Error ellipse: s-maj=9.3km s-min=6.1km az=80.7*

*GUC **12** 13:30:53.3±0.9,2885S×6908W,h124km±24km,ML6.0, MW6.0(NEIC)*

*ISCJB **12** 13:30:54.7±0.1,2897S±002×6897W±003,h118km, mb5.8/147,Error ellipse: s-maj=3.4km s-min=2.5km az=28.2*

*GCMT **12** 13:30:55.7±0.1,29.19S×69.13W,h114km,MW5.9/102, Moment Tensor Solution. s102,c229; s99,c292; Duration: 2^{s}2 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.60±.01; $M_{\theta\theta}$0.14±.01; $M_{\phi\phi}$0.45±.01; $M_{r\theta}$-0.21±.01; $M_{\theta\phi}$-0.46±.01; $M_{\phi r}$0.55±.01; Best double couple: $M_0$0.91300×10^{18} NP1:ϕ_s309.00000°,δ27.00000°, λ-115.00000°. NP2:ϕ_s156.00000°,δ66.00000°, λ-78.00000°. Principal axes: T 0.9920, Plg20.0000°, Azm237.0000°; N -0.1580, Plg11.0000°, Azm331.0000°; P -0.8340, Plg67.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **12** 13:30:55.7±0.1,2894S×6890W,h114km,mb5.8/136, ME5.5,MW6.0 Error ellipse: s-maj=3.8km s-min=3.5km az=75.0,Moment Tensor Solution. s56 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.20000×10^{18} NP1:ϕ_s154.00000°,δ69.00000°,λ-81.00000°. NP2: ϕ_s311.00000°,δ22.00000°,λ-111.00000°. Principal axes: T 1.1200, Plg24.0000°, Azm237.0000°; N 0.0600, Plg8.0000°, Azm331.0000°; P -1.1800, Plg65.0000°, Azm78.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s335.00000°,δ25.00000°,λ-90.00000°. NP2: ϕ_s155.00000°,δ65.00000°,λ-90.00000°. Principal axes: T Plg20.0000°, Azm245.0000°; N Plg0.0000°, Azm0.0000°; P Plg70.0000°, Azm65.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at La Rioja, San Fernando del Valle de Catamarca and San Juan; [III] at Cordoba, Mendoza and San Luis. Also felt [IV] at Copiapo and Vallenar; [III] at Illapel, La Serena and Tierra Amarilla; [II] at Alto del Carmen, Coquimbo, Santiago, Valparaiso and Vina del Mar, Chile.

*BJI **12** 13:30:56.6,2890S×6890W,h114km,mB5.7*

*IDC **12** 13:30:56.3±0.4,2880S×6873W,h116km±2km,mb5.3/22, mb1 5.4/23,mb1mx5.4/23,mbtmp5.7/23,MS4.9/8, Ms1 4.9/8,ms1mx4.7/17,Error ellipse: s-maj=9.7km s-min=7.2km az=72.0*

*LDG **12** 13:30:56.9±0.9,28.18S×6895W,h114km,Mb5.9/38, Ms4.8/10,Error ellipse: s-maj=60.9km s-min=27.5km az=69.0*

*SZGRF **12** 13:31:01.4,2883S×6702W,h112km,La Rioja Province, Argentina*

ISC 12 13:30:56.2±0.1**,2900S**±002×**6897W**±003**,h120**km**, h120**km±1.3km**:pP-P,n906,**σ**1^{s}08**/504**,mb5.8**/146**,48C-55D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCO	Las Campanas	1.51	269	⇑iP	Pn	13 31 21.0	-2.8
LCO				i S	Sn	13 31 42.1	-2.7
LCO				AML	AML	13 31 44.4	
	comp=E,163µm,0.6s						
LCO	Las Campanas	1.51	269	⇑iP	Pn	13 31 21.0	-2.8
LCO				i S	Sn	13 31 42.1	-2.7
VACH	Vallenar	1.62	285	⇑iP	Pn	13 31 24.7	-0.4
VACH				i S	Sn	13 31 45.5	-1.6
VACH				AML	AML	13 31 52.2	
	comp=N,394µm,0.3s						
VACH	Vallenar	1.62	285	⇑iP	Pn	13 31 24.7	-0.4
VACH				i S	Sn	13 31 45.5	-1.6
TLL	Tololo Astrono	1.97	234	⇑iP	Pn	13 31 28.1	-1.2
TLL				i S	Sn	13 31 54.4	-0.2
TLL				AML	AML	13 31 58.7	
	comp=N,124µm,0.5s						
TLL	Tololo Astrono	1.97	234	⇑iP	Pn	13 31 28.1	-1.2
TLL				i S	Sn	13 31 54.4	-0.2
CPCH	Copiapo	2.04	323	eP	Pn	13 31 25.5	-4.7
CPCH				i S	Sn	13 31 50.0	-6.2
CPCH				AML	AML	13 31 57.2	
	comp=E,181µm,0.4s						
CPCH	Copiapo	2.04	323	eP	Pn	13 31 25.5	-4.7
CPCH				i S	Sn	13 31 50.0	-6.2
LSCH	La Serena	2.18	245	eP	Pn	13 31 29.3	-2.6
LSCH				i S	Sn	13 31 56.2	-3.0
CDCH	Caldera	2.53	319	⇑iP	Pn	13 31 32.0	-4.3
CDCH				i S	Sn	13 32 00.9	-6.3
CDCH				AML	AML	13 32 07.7	
	comp=N,40µm,0.5s						
CDCH	Caldera	2.53	319	⇑iP	Pn	13 31 32.0	-4.3
CDCH				i S	Sn	13 32 00.9	-6.3
CFAA	Coronel Fontan	2.67	166	P	Pn	13 31 38.2	0.0
	comp=N,86nm,0.3s,baz=350,slow=12,SNR=999						
CFAA				S	Sn	13 32 09.6	-0.8
	comp=N,586nm,0.3s,baz=344,slow=14,SNR=49						
CFAA	Coronel Fontan	2.67	166	P	Pn	13 31 38.2	0.0
CFAA				S	Sn	13 32 09.6	-0.8
CHNG	Los Chungos	3.60	217	⇑iP	Pn	13 31 48.0	-2.5
CHNG				i S	Sn	13 32 30.7	-1.7
MDZ	Mendoza	3.87	178	⇑iP	Pn	13 31 53.5	-0.5
MDZ				i		13 32 23.6	
MDZ				S	Sn	13 32 27.1	-12
JACH	Jahuel	3.92	200	⇓iP	Pn	13 31 53.8	-0.9
PEL	Peldehue	4.38	199	⇓iP	Pn	13 31 59.0	-1.8
PEL				i S	Sn	13 32 49.3	-1.7
FCH	Farellones	4.46	194	⇑iP	Pn	13 32 02.0	+0.2
FCH				i S	Sn	13 32 55.0	+2.2
SAN	Santiago	4.67	198	i S	Sn	13 32 58.0	+0.2
RCDM	Rinconada Maip	4.74	199	eP	Pn	13 32 03.4	-2.2
RCDM				i S	Sn	13 32 58.1	-1.5
ANTU	Antumapu	4.77	197	eP	Pn	13 32 04.6	-1.4
ANTU				i S	Sn	13 32 59.9	-0.4
ANCH	Antofagasta	5.45	346	⇓iP	Pn	13 32 09.8	-5.5
ANCH				i S	Sn	13 33 08.9	-7.9
CPUP	Villa Florida	10.66	78	P	Pn	13 33 19.5	-6.0
	comp=N,66nm,0.3s,baz=236,slow=12,SNR=189						
CPUP	Villa Florida	10.66	78	ePn	Pn	13 33 19.6	-5.8
TRQA	Tornquist	10.75	149	ePn	Pn	13 33 23.2	-3.5
LPA	La Plata	11.07	125	deP	Pn	13 33 30.0	-0.9
	comp=N,2µm,1.0s						
LPA				eS	Sn	13 35 29.0	-3.8
PLCA	Paso Flores	11.77	186	P	Pn	13 33 37.5	-2.7
	comp=N,3.2nm,0.3s,baz=354,slow=13,SNR=60						
PLCA	Paso Flores	11.77	186	ePn	Pn	13 33 37.7	-2.6
LPAZ	La Paz	12.68	4	P	Pn	13 33 47.7	-4.5
	comp=N,3.8nm,0.3s,baz=205,slow=7.7,SNR=102						
LPAZ				S	Sn	13 36 11.8	0.0
	baz=7.0,slow=21,SNR=1.1						
LPAZ				LR	LR	13 39 26.1	
	comp=N,12µm,20.1s,baz=185,slow=41						
LPAZ	La Paz	12.68	4	P	Pn	13 33 47.7	-4.5
LPAZ				S	Sn	13 36 11.8	0.0
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,12µm,20.1s						
LPAZ	La Paz	12.68	4	ePn	Pn	13 33 47.6	-4.6
ARE	Arequipa	12.70	349	eP	Pn	13 33 52.0	-0.4
SIV	San Ignacio	14.86	31	P	Pn	13 34 15.2	-4.9
	comp=Z,4.3nm,0.3s,baz=217,slow=12,SNR=108						
VAO	Valinhos	20.65	78	⇓iP	P	13 35 25.3	-0.9
VAO				i		13 35 26.4	
VAO				i		13 35 45.9	
SAML	Samuel	20.68	16	ePn	P	13 35 25.4	-1.2
	comp=Z,322nm,1.0s						
SAML				LR	LR		
	comp=Z,6µm,22.0s						
BDFB	Brasilia	23.46	60	P	P	13 35 53.0	-1.7
	comp=Z,700nm,0.9s,mb6.0,baz=237,slow=8.2,SNR=327						
BDFB				S	S	13 39 53.8	-5.3
	comp=Z,51nm,0.9s,baz=171,slow=15,SNR=1.8						
BDFB	Brasilia	23.46	60	P	P	13 35 53.0	-1.7
BDFB				S	S	13 39 53.8	-5.3
BDFB				pmax	pmax		
	comp=Z,700nm,0.9s						
BDFB				smax			
	comp=N,51nm,0.9s						
BDFB	Brasilia	23.46	60	eP	P	13 35 52.6	-2.1
BDFB				LR	LR		
	comp=Z,13µm,19.0s						
BAO	Brasilia Array	23.48	60	P	P	13 35 54.0	-0.9
ATAH	Atahualpa	23.62	336	P	P	13 35 56.3	0.0
	comp=Z,65nm,0.7s,mb5.0,baz=160,slow=9.0,SNR=38						
ATAH				PcP	PcP	13 39 39.9	+2.3
	comp=Z,34nm,0.9s,baz=214,slow=7.3,SNR=4.2						
ATAH				S	S	13 40 09.8	+8.0
	comp=Z,12nm,0.8s,baz=91,slow=14,SNR=1.6						
EFI	East Falkland	24.07	163	eP	P	13 36 00.8	+0.5
EFI				pmax	pmax		
	comp=Z,168nm,0.8s,mb5.4						
EFI				MLR	MLR		
	comp=Z,596nm,21.0s						
EFI	East Falkland	24.07	163	eP	P	13 36 00.8	+0.5
	comp=Z,168nm,0.8s,mb5.4						
EFI				LR	LR		
	comp=Z,596nm,21.0s						
CAM4	Nova Friburgo	24.67	81	⇓iP	P	13 36 05.3	-0.5
CAM4				i		13 36 10.7	
CAM4				i		13 39 45.6	
CAM3	Guarapari	27.05	79	⇑eP	P	13 36 26.3	-0.9
CAM3				i		13 36 29.4	
CAM3				i		13 36 34.3	
CAM3				i	pP	13 36 53.3	+0.2
CAM3				i		13 38 06.8	
CAM3				i		13 39 46.0	
ROSC	El Rosal	34.06	350	P	P	13 37 29.3	+0.4
	comp=Z,13nm,0.5s,mb5.1,baz=117,slow=6.8,SNR=11						
ROSC	El Rosal	34.06	350	eP	P	13 37 29.9	+1.0
PAYG	Puerto Ayora	34.75	320	PFAKE		13 37 50.0	+15
PAYG				LR	LR		
	comp=Z,2µm,21.0s						
RPN	Rapa Nui	35.55	263	PFAKE		13 37 50.0	+8.4
RPN				LR	LR		
	comp=Z,1µm,19.0s						
PMSA	Palmer Station	35.92	176	PFAKE		13 38 00.0	+15
PMSA				LR	LR		
	comp=Z,4µm,21.0s						
SDV	Santo Domingo	37.70	357	P	P	13 37 58.1	-1.8
	comp=Z,202nm,1.1s,mb5.8,baz=254,slow=9.2,SNR=67						
SDV				S	S	13 43 35.3	-5.9
	comp=Z,4.6nm,0.7s,baz=254,slow=23,SNR=2.8						
SDV	Santo Domingo	37.70	357	eP	P	13 37 58.2	-1.7
	comp=Z,146nm,0.9s,mb5.8						
SDV				LR	LR		
	comp=Z,961nm,19.0s						
RCBR	Riachuelo	38.84	60	eP	P	13 38 09.9	+0.5
	comp=Z,92nm,1.0s,mb5.6						
RCBR				LR	LR		
	comp=Z,5µm,21.0s						
TRN	Trinidad (W)	40.09	12	eP	P	13 38 19.4	-0.4
JTS	JuntasAbangare	42.00	336	P	P	13 38 35.6	+0.1
	comp=Z,70nm,0.8s,mb5.4,baz=182,slow=2.1,SNR=40						
JTS				S	S	13 44 47.4	+2.1
	comp=Z,2.9nm,0.6s,baz=331,slow=19,SNR=1.7						
JTS	JuntasAbangare	42.00	336	P	P	13 38 35.6	+0.1
JTS				S	S	13 44 47.4	+2.1
JTS				pmax	pmax		
	comp=Z,70nm,0.8s						
JTS				smax			
	comp=N,3.0nm,0.6s						
JTS	JuntasAbangare	42.00	336	eP	P	13 38 35.7	+0.3
	comp=N,144nm,1.0s,mb5.7						
JTS				LR	LR		
	comp=Z,251nm,20.0s						
MVM	Montagne Vaucl	44.00	11	⇓eP	P	13 38 49.2	-2.4
FDF	Fort de France	44.13	11	⇑eP	P	13 38 50.6	-2.0

FDF eS sP 13 39 19.9 -14
TBG Guadaloupe-3 45.15 10 eP **P** **13 38 57.2 -3.5**
CPD Cerro la Pandu 46.86 4 eP **P** **13 39 11.4 -2.7**
SJG San Juan 46.92 4 eP **P** **13 39 12.1 -2.4**
SJG pmax pmax
comp=Z,150nm,1.1s
SJG MLR MLR
comp=Z,2µm,21.0s
SJG San Juan 46.92 4 eP **P** **13 39 12.1 -2.5**
comp=Z,150nm,1.1s,mb5.6
SJG LR LR
comp=Z,2µm,21.0s
MTP Monte Pirata 46.94 4 eP **P** **13 39 11.5 -3.2**
HUMP Col San Antoni 46.97 4 eP **P** **13 39 12.3 -2.6**
MPR Mayaguez 46.97 2 eP **P** **13 39 12.7 -2.3**
MPR epP pP 13 39 42.1 -0.6
CBYP Canovanas 47.09 4 eP **P** **13 39 13.3 -2.6**
CMJ Castle Mountai 47.40 350 ⇓*i*P **P** **13 39 18.3 0.0**
STH Stony Hill 47.41 350 ⇓*i*P **P** **13 39 18.1 -0.2**
TRIS Tristan da Cun 47.58 115 eP **P** **13 39 21.0 +1.4**
comp=Z,1µm,1.3s,mb6.5
SDDR Presa de Saban 47.76 357 eP **P** **13 39 19.6 -1.5**
BBJ Bamboo Saint A 47.78 349 ⇓*i*P **P** **13 39 20.8 -0.4**
RCC Rio Carpintero 49.14 352 eP **P** **13 39 31.0 -0.7**
baz=160
RCC eS **S** **13 46 20.8 -7.0**
comp=N,1µm,21.3s
RCC *e*
comp=E,2µm,18.8s
MASC Masc 49.15 353 eP **P** **13 39 32.0 +0.3**
LMGC Las Mercedes 49.39 350 eP **P** **13 39 34.2 +0.6**
MOAC Moa 49.71 353 eP **P** **13 39 24.4 -12**
CMIG Matias Romero 52.22 328 P **P** **13 39 55.0 +0.2**
comp=E,46nm,0.8s,mb5.5,baz=140,slow=5.1,SNR=40
CMIG S **S** **13 47 11.0 +0.8**
comp=E,2.0nm,0.9s,baz=253,slow=16,SNR=1.8
VNA3 Neumayer Olymp 53.05 160 ⇓*i*P **P** **13 40 01.8 +0.9**
VNA3 *e* 13 40 03.0
VNA3 *e* 13 40 04.7
VNA3 *e* 13 40 12.1
VNA3 *e* pP 13 40 28.2 -1.0
VNA3 *e* 13 40 41.9
VNA3 *e* 13 40 51.9
VNA3 *e* 13 40 58.8
VNA3 *e* 13 41 07.7
VNA3 eS **S** **13 47 24.4 +2.8**
VNA3 *e* 13 47 32.3
OXX Oaxaca 53.09 326 *i* P **P** **13 40 03.3 +2.2**
VNA1 Neumayer--Stat 53.30 159 ⇓*i*P **P** **13 40 04.0 +1.3**
VNA1 *e* 13 40 06.1
VNA1 *e* 13 40 07.1
VNA1 *e* pP 13 40 29.6 -1.5
VNA1 *e* 13 40 44.0
VNA1 *e* 13 40 55.5
VNA1 *e* 13 41 02.6
VNA1 *e* 13 41 09.1
SNAA Sanae 55.27 159 P **P** **13 40 17.5 +0.6**
comp=E,58nm,0.8s,mb5.7,baz=285,slow=7.2,SNR=361
SNAA S **S** **13 47 53.2 +1.8**
comp=E,0.3nm,0.8s,baz=49,slow=22,SNR=16
SNAA Sanae 55.27 159 ⇓*i*P **P** **13 40 17.5 +0.6**
SNAA *e* 13 40 19.4
SNAA *e* 13 40 20.1
SNAA *e* pP 13 40 44.1 -1.4
SNAA *e* 13 40 58.1
SNAA *e* 13 41 07.4
SNAA *e* 13 41 14.0
SNAA *e* 13 41 22.4
SNAA eS **S** **13 47 53.1 +1.7**
SNAA *e* 13 48 01.6
SNAA Sanae 55.27 159 eP **P** **13 40 17.6 +0.6**
PPM Popocatepetl 55.71 326 *i* P **P** **13 40 22.8 +2.7**
MOIG Morelia 57.53 323 *i* P **P** **13 40 34.7 +1.7**
DWPF Disney 58.03 347 eP **P** **13 40 36.0 -0.5**
DWPF LR LR
comp=Z,1µm,20.0s
RKT Rikitea 58.91 259 eS **S** **13 48 39.0 -0.2**
comp=Z,3µm,24.2s
CJM Chamela 59.48 320 *i* P **P** **13 40 47.5 +1.0**
NVL N'lazarevskaya 59.90 158 *d i*P **P** **13 40 49.8 +0.4**
NVL *i* *P pP 13 41 16.6 -1.8
NVL *i* 13 41 29.5
NVL *i* S **S** **13 48 53.5 +1.6**
NVL *i* 13 50 29.5
NVL eSSS 13 55 30.3
NVL pmax pmax
comp=Z,228nm,1.1s,mb6.1
NVL MLR MLR
comp=Z,1µm,20.8s
ZAIG Zacatecas 60.80 324 *i* P **P** **13 40 57.3 +1.8**
BBSR BB Station 61.17 4 eP **P** **13 40 57.5 -0.5**
QSPA South Pole Qui 61.22 180 ⇓*i*P **P** **13 40 59.6 +1.3**
comp=Z,54nm,0.9s,mb5.6
QSPA LR LR
comp=Z,2.0nm,19.0s
KVTX Kingsville 62.68 331 eP **P** **13 41 09.7 +1.6**
HKT Hockley 63.98 334 eP **P** **13 41 16.7 0.0**
HKT pmax pmax
comp=Z,151nm,1.3s,mb5.7
HKT MLR MLR
comp=Z,614nm,20.0s
HKT Hockley 63.98 334 eP **P** **13 41 16.7 +0.1**
comp=Z,151nm,1.3s,mb5.7
HKT LR LR
comp=Z,614nm,20.0s
JSC Jenkinsville 64.01 349 eP **P** **13 41 16.2 -0.6**
JSC Jenkinsville 64.01 349 eP **P** **13 41 15.8 -1.0**
LRAL Lakeview Retre 64.02 343 eP **P** **13 41 15.5 -1.4**
comp=Z,97nm,1.0s,mb5.6
LRAL LR LR
comp=Z,818nm,20.0s
NATX Nacogdoches 65.18 336 eP **P** **13 41 25.1 +0.6**
NATX LR LR
comp=Z,642nm,22.0s
SWET Sewanee 65.85 345 eP **P** **13 41 27.7 -1.0**
JCT Junction City 66.05 331 eP **P** **13 41 30.4 +0.4**
JCT MLR MLR
comp=Z,538nm,19.0s
PLAL Pickwick Lake 66.15 343 eP **P** **13 41 29.2 -1.5**
PLAL LR LR
comp=Z,656nm,21.0s
TZTN Tazewell 66.62 347 eP **P** **13 41 32.1 -1.6**
BLA Blacksburg 66.74 350 eP **P** **13 41 33.7 -0.7**
comp=Z,8.0nm,1.1s
BLA LR LR
comp=Z,74nm,19.0s
FWV Forest Hill 67.16 350 eP **P** **13 41 36.3 -0.8**
WVT Waverly 67.17 344 PFAKE 13 41 50.0 +13
WVT LR LR
comp=Z,626nm,21.0s
MIAR Mount Ida 67.35 338 eP **P** **13 41 37.9 -0.4**
MIAR MLR MLR
comp=Z,551nm,22.0s
HBAR Harrisburg 67.39 341 eP **P** **13 41 38.1 -0.4**
UTMT University of 67.64 343 eP **P** **13 41 39.8 -0.3**
GLAT Glass 67.68 342 eP **P** **13 41 39.7 -0.6**
SBA Scott Base 68.47 191 eP **P** **13 41 47.6 +2.3**
SBA MLR MLR
comp=Z,672nm,20.0s
WCI Wyandotte Cave 68.82 345 eP **P** **13 41 45.8 -1.7**
WCI pmax pmax
comp=Z,107nm,0.9s,mb5.7
WCI MLR MLR
comp=Z,802nm,22.0s
WCI Wyandotte Cave 68.82 345 eP **P** **13 41 45.8 -1.6**
comp=Z,107nm,0.9s,mb5.7
WCI LR LR
comp=Z,802nm,22.0s
MVL Millersville 68.99 354 eP **P** **13 41 48.5 0.0**
SIUC Southern Illin 69.03 343 eP **P** **13 41 47.9 -0.8**
MCWV Mont Chateau 69.06 351 eP **P** **13 41 48.5 -0.4**
comp=Z,171nm,1.0s,mb5.8
MCWV LR LR
comp=Z,972nm,22.0s
WMOK Wichita Mounta 69.37 334 eP **P** **13 41 50.1 -0.8**
WMOK pmax pmax
comp=Z,74nm,1.1s,mb5.4
WMOK MLR MLR
comp=Z,673nm,19.0s
WMOK Wichita Mounta 69.37 334 eP **P** **13 41 50.1 -0.8**
comp=Z,74nm,1.1s,mb5.4
WMOK LR LR
comp=Z,673nm,19.0s
VNDA Vanda 69.48 190 P **P** **13 41 53.5 +1.9**
comp=Z,10.0nm,0.7s,mb4.7,baz=136,slow=5.2,SNR=54
VNDA pP pP 13 42 20.4 -0.9
comp=Z,16nm,1.0s,baz=144,slow=6.9,SNR=4.9
VNDA S S 13 50 55.7 +6.3
comp=Z,0.8nm,1.1s,baz=310,slow=11,SNR=4.3
VNDA PKPPKP 14 09 51.3
comp=Z,7.7nm,1.1s,baz=295,slow=3.3,SNR=12
VNDA Vanda 69.48 190 P **P** **13 41 53.5 +1.9**
VNDA *PP pP 13 42 20.4 -0.9
VNDA S S 13 50 55.7 +6.2
VNDA pmax pmax
comp=Z,100nm,0.7s
VNDA smax
comp=N,1.0nm,1.1s
VNDA Vanda 69.48 190 PFAKE 13 42 00.0 +8.4
VNDA LR LR
comp=Z,2µm,21.0s
BRNJ Basking Ridge 69.53 355 eP **P** **13 41 52.4 +0.6**
SYO Syowa Base 69.55 159 ⇑*i*P **P** **13 41 52.0 +0.1**
MNTX Cornudas Mount 69.59 327 eP **P** **13 41 51.6 -0.7**
comp=Z,68nm,0.9s,mb5.5
MNTX LR LR
comp=Z,767nm,19.0s
FVM French Village 69.60 342 eP **P** **13 41 51.5 -0.8**
BLO Bloomington 69.77 346 eP **P** **13 41 51.9 -1.4**
SSPA Standing Stone 69.78 353 eP **P** **13 41 53.0 -0.3**
SSPA LR LR
comp=Z,896nm,19.0s
PAL Palisades 69.81 356 eP **P** **13 41 53.2 -0.3**
ACSO Alum Creek Sta 70.10 349 eP **P** **13 41 54.1 -1.2**
comp=Z,106nm,0.9s,mb5.7
ACSO LR LR
comp=Z,356nm,20.0s
SLM Saint Louis 70.16 342 eP **P** **13 41 54.8 -0.9**
LIC Lamto 70.70 71 ⇓*i*P **P** **13 41 59.5 +0.5**
comp=Z,618nm,0.9s,mb6.2
LIC *e*R
comp=Z,776nm,21.2s
LIC Lamto 70.70 71 ⇓*i*P **P** **13 41 59.5 +0.5**
comp=Z,309nm,0.9s,mb6.1
LIC LR LR
comp=Z,390nm,21.3s
QUA2 Belchertown 71.00 357 eP **P** **13 42 00.3 -0.5**
comp=Z,157nm,1.2s,mb5.7
ALLY Alegheny Colle 71.05 351 eP **P** **13 42 00.3 -0.9**
ALLY epP pP 13 42 32.6 +1.7
WES Weston 71.07 358 eP **P** **13 42 00.9 -0.3**
WES pmax pmax
comp=Z,77nm,0.9s,mb5.5
WES Weston 71.07 358 PFAKE 13 42 10.0 +8.8
WES LR LR
comp=Z,1µm,19.0s
DBIC Dimbokro 71.08 71 P **P** **13 42 02.0 +0.7**
comp=Z,482nm,0.8s,mb6.4,baz=212,slow=6.5,SNR=551
DBIC pP pP 13 42 29.9 -1.2
comp=Z,96nm,0.8s,baz=240,slow=5.5,SNR=3.3
DBIC sP sP 13 42 41.3 -2.8
comp=Z,78nm,0.9s,baz=201,slow=8.3,SNR=2.4
DBIC S S 13 51 08.2 +0.1
comp=Z,2.0nm,0.8s,baz=306,slow=17,SNR=2.0
DBIC Dimbokro 71.08 71 P **P** **13 42 02.0 +0.7**
DBIC *PP pP 13 42 29.9 -1.3
DBIC *SP sP 13 42 41.3 -2.8
DBIC S S 13 51 08.2 +0.1
DBIC pmax pmax
comp=Z,482nm,0.8s
DBIC smax
comp=N,2.0nm,0.9s
DBIC Dimbokro 71.08 71 eP **P** **13 42 02.1 +0.8**
DBIC LR LR
comp=Z,704nm,19.0s
BINY Binghamton 71.14 354 eP **P** **13 42 01.4 -0.2**
comp=Z,189nm,1.1s,mb5.8
BINY LR LR
comp=Z,2µm,20.0s
TBI Tubuai 71.15 253 ⇓*i*P **P** **13 42 05.3 +3.6**
comp=Z,348nm,1.1s,mb6.1
TBI eS S 13 51 08.8 0.0
comp=Z,2µm,29.0s
HRV Harvard--Oak R 71.19 358 eP **P** **13 42 01.8 -0.2**
HRV *PP pP 13 42 34.0 +2.2
HRV pmax pmax
comp=Z,127nm,0.9s,mb5.8
HRV Harvard--Oak R 71.19 358 eP **P** **13 42 01.8 -0.2**
comp=Z,127nm,0.9s,mb5.8
HRV epP pP 13 42 34.0 +2.2
ERPA Erie 71.49 351 eP **P** **13 42 03.0 -0.8**
ERPA epP pP 13 42 35.6 +2.0
ERPA LR LR
comp=Z,864nm,19.0s
ACCN Adirondack Com 72.16 356 eP **P** **13 42 07.6 -0.2**
AAM Ann Arbor 72.23 349 eP **P** **13 42 07.3 -0.9**
AAM *PP pP 13 42 39.5 +1.4
AAM pmax pmax
comp=Z,162nm,1.0s,mb5.8
AAM MLR MLR
comp=Z,927nm,20.0s
AAM Ann Arbor 72.23 349 eP **P** **13 42 07.2 -0.9**
comp=Z,162nm,1.0s,mb5.8
AAM epP pP 13 42 39.5 +1.4
AAM LR LR
comp=Z,927nm,20.0s
KSU1 Kansas State U 72.49 338 eP **P** **13 42 08.8 -1.0**
TUC Tucson 72.77 324 eP **P** **13 42 12.1 +0.8**
TUC MLR MLR
comp=Z,488nm,21.0s
NCB Newcomb 72.78 356 eP **P** **13 42 10.7 -0.7**
comp=Z,115nm,1.1s,mb5.6
NCB LR LR
comp=Z,951nm,22.0s
ANMO Albuquerque 72.79 328 eP **P** **13 42 12.5 +1.0**
ANMO MLR MLR
comp=Z,511nm,19.0s
LBNH Lisbon 72.94 358 eP **P** **13 42 12.4 0.0**
LBNH pmax pmax
comp=Z,119nm,0.8s,mb5.8
LBNH MLR MLR
comp=Z,2µm,20.0s
LBNH Lisbon 72.94 358 eP **P** **13 42 12.4 +0.1**
comp=Z,119nm,0.8s,mb5.8
LBNH LR LR
comp=Z,2µm,20.0s
VAH Vaihoa 73.00 262 ⇓*i*P **P** **13 42 16.4 +3.7**
comp=Z,84nm,1.0s,mb5.5
VAH epP pP 13 42 44.3 +1.6
comp=Z,125nm,1.3s
WVL Waterville 73.21 359 eP **P** **13 42 14.1 +0.1**
comp=Z,109nm,1.0s,mb5.6
TVO Taravao 73.30 259 ⇓*i*P **P** **13 42 18.4 +3.9**
comp=Z,395nm,1.3s,mb6.1
TVO Taravao 73.30 259 ⇓*i*P **P** **13 42 18.4 +3.9**
TVO pmax pmax
comp=Z,395nm,1.3s,mb6.1
PMOR Pomariorio Ree 73.34 262 ⇓*i*P **P** **13 42 18.3 +3.6**
comp=Z,102nm,1.1s,mb5.6
EMMW East Machias 73.37 1 eP **P** **13 42 15.0 +0.1**
comp=Z,130nm,0.7s,mb5.9
LONY Lake Ozonia 73.45 356 eP **P** **13 42 15.0 -0.3**
FRNY Flat Rock 73.60 357 eP **P** **13 42 16.0 -0.3**
PAE Paea 73.63 259 ⇓*i*P **P** **13 42 20.1 +3.6**
comp=Z,323nm,1.3s,mb5.9
PAE Paea 73.63 259 ⇓*i*P **P** **13 42 20.1 +3.6**
PAE pmax pmax
comp=Z,323nm,1.3s,mb5.9
PPT Papeete 73.67 259 ⇓*i*P **P** **13 42 20.6 +3.9**
comp=Z,188nm,1.3s,mb5.7
PPT Papeete 73.67 259 eS S 13 51 37.7 +0.2
comp=Z,3µm,25.2s
PPT Papeete 73.67 259 P **P** **13 42 20.0 +3.4**
comp=Z,85nm,1.0s,mb5.5,baz=94,slow=3.5,SNR=9.8
MSNY Massena 73.84 356 eP **P** **13 42 17.1 -0.6**
PKME Peaks-Kenny Pk 73.91 360 eP **P** **13 42 17.6 -0.5**
SCIA State Center 74.02 341 eP **P** **13 42 17.9 -0.8**
JFWS Jewell Farm 74.19 344 eP **P** **13 42 18.8 -0.9**
JFWS MLR MLR
comp=Z,939nm,21.0s
SDCO Great Sand Dun 74.69 331 eP **P** **13 42 23.6 +1.0**
comp=Z,117nm,1.3s,mb5.5
SDCO LR LR
comp=Z,833nm,21.0s
SUR Sutherland 74.94 119 eP **P** **13 42 26.1 +2.1**
SUR LR LR
comp=Z,309nm,21.0s
EGOM La Gomera 75.39 46 P **P** **13 42 26.3 -0.3**
comp=Z,720nm,2.1s,mb6.0
GLA Glamis 75.49 322 eP **P** **13 42 28.2 +1.0**
GLA *e*PP pP 13 42 58.3 +1.0
WUAZ Wupatki 75.60 325 eP **P** **13 42 29.3 +1.5**
comp=Z,206nm,1.1s,mb5.8
WUAZ LR LR
comp=Z,885nm,22.0s
CCAN Las Canadas 75.81 46 P **P** **13 42 29.0 0.0**
comp=Z,46nm,0.9s,mb5.2
EBAJ Bajamar 76.20 46 P **P** **13 42 31.5 +0.3**
comp=Z,762nm,1.8s,mb6.1
BAR Barrett 76.23 320 eP **P** **13 42 32.5 +1.1**
PV01 Paradox Valley 76.37 329 eP **P** **13 42 33.2 +1.1**
EOSO Osorio 76.38 47 P **P** **13 42 32.5 +0.2**
comp=Z,966nm,1.6s,mb6.3
ISCO Idaho Springs 76.47 332 eP **P** **13 42 33.5 +0.8**
ISCO pmax pmax
comp=Z,70nm,0.9s,mb5.4
ISCO MLR MLR
comp=Z,666nm,20.0s
ISCO Idaho Springs 76.47 332 eP **P** **13 42 33.5 +0.8**
comp=Z,70nm,0.9s,mb5.4
ISCO LR LR
comp=Z,666nm,20.0s
SMCO Snowmass 76.52 331 eP **P** **13 42 34.5 +1.5**
comp=Z,122nm,0.8s,mb5.7
ECSD EROS,Sioux Fal 76.69 340 eP **P** **13 42 33.2 -0.7**
PV10 Paradox Valley 76.78 329 eP **P** **13 42 34.9 +0.5**
PFO Pinyon Flat Ob 76.80 321 eP **P** **13 42 35.8 +1.2**
PFO pmax pmax
comp=Z,72nm,1.0s,mb5.4
PFO MLR MLR
comp=Z,189nm,21.0s
PFO Pinyon Flat Ob 76.80 321 eP **P** **13 42 35.8 +1.2**
comp=Z,72nm,1.0s,mb5.4
PFO LR LR
comp=Z,189nm,21.0s
MAW Mawson 77.20 163 ⇓*i*P **P** **13 42 37.5 +0.7**
comp=Z,84nm,0.9s,mb5.5
MAW epP pP 13 43 05.9 -1.2
MAW *i* S S 13 52 17.1 +0.7
MAW Mawson 77.20 163 P **P** **13 42 37.5 +0.7**
comp=Z,121nm,0.9s,mb5.6,baz=214,slow=6.5,SNR=203
MAW S S 13 52 16.2 -0.2
comp=Z,1.3nm,1.0s,baz=322,slow=20,SNR=2.7
MAW LR LR 14 15 32.1
comp=Z,700nm,20.9s,baz=226,slow=35
MAW Mawson 77.20 163 ⇓*i*P **P** **13 42 37.5 +0.7**
MAW *e*PP pP 13 43 05.9 -1.2
MAW *i* S S 13 52 17.1 +0.7
MAW pmax pmax
comp=Z,84nm,0.9s
MAW MLR MLR
comp=Z,1µm,19.0s
MAW Mawson 77.20 163 ⇓*i*P **P** **13 42 37.5 +0.7**
comp=Z,84nm,0.9s,mb5.5
MAW epP pP 13 43 05.9 -1.2
MAW *i* S S 13 52 17.1 +0.7
MAW LR LR
comp=Z,1µm,19.0s
CFTV Fuerteventura 77.56 48 P **P** **13 42 37.9 -1.0**
comp=Z,229nm,1.7s,mb5.6
PHWY Pilot Hill 77.67 333 eP **P** **13 42 40.1 +0.7**
PHWY epP pP 13 43 11.1 +1.3
ADH Angra Heroismo 77.78 32 eLR LR 14 07 32.5
PDA Ponta Delgada 77.81 34 eP **P** **13 42 43.0 +2.8**
PDA Ponta Delgada 77.81 34 eLR LR 14 08 18.0
CMLA Cha da Macela 77.89 34 eP **P** **13 42 41.1 +0.5**
CMLA Cha da Macela 77.89 34 eP **P** **13 42 41.3 +0.7**
CMLA epP pP 13 43 16.6 +5.6
CMLA *i* - 13 52 29.9
CMLA Cha da Macela 77.89 34 PFAKE 13 42 50.0 +9.4
CMLA LR LR
comp=Z,318nm,21.0s
TSUM Tsumeb 78.03 105 P **P** **13 42 42.9 +1.5**
TSUM pP pP 13 43 12.1 +0.4
TSUM sP sP 13 43 23.0 -1.6
TSUM Tsumeb 78.03 105 eP **P** **13 42 43.0 +1.6**
TSUM LR LR
comp=Z,1µm,20.0s
SRU San Rafael 78.06 328 eP **P** **13 42 42.2 +0.6**
SRU *e*PP pP 13 43 12.8 +0.9
MWC Mount Wilson 78.15 320 eP **P** **13 42 43.3 +1.2**
MWC *e*PP pP 13 43 13.2 +0.8
CCUT Cedar City 78.18 325 eP **P** **13 42 43.9 +1.7**
GSC Goldstone 78.26 322 eP **P** **13 42 43.9 +1.2**
GSC epP pP 13 43 15.0 +1.9
SNCC San Nicolas Is 78.28 319 eP **P** **13 42 43.5 +0.7**
comp=Z,0.2nm,1.1s
SNCC epP pP 13 43 14.8 +1.7
SHPR Sheep Range 78.29 324 eP **P** **13 42 44.1 +1.2**
MSU Marysvale 78.36 327 eP **P** **13 42 44.5 +1.3**
EFAM Famara 78.40 47 P **P** **13 42 44.0 +0.5**
comp=Z,1µm,2.3s,mb6.2
ARUT Antelope Range 78.41 325 eP **P** **13 42 44.8 +1.3**
TMUT Trail Mountain 78.52 328 eP **P** **13 42 45.2 +1.1**
TMUT epP pP 13 43 16.1 +1.6
RWWY Rawlins 78.71 332 eP **P** **13 42 46.2 +1.1**
EYMN Ely 79.23 345 eP **P** **13 42 46.9 -1.1**
EYMN LR LR
comp=Z,60nm,20.0s
MPU Maple Canyon 79.29 328 eP **P** **13 42 49.1 +0.8**
MPU epP pP 13 43 20.8 +2.0
MPU LR LR
comp=Z,834nm,19.0s
DAC Darwin (Calif) 79.41 322 eP **P** **13 42 50.0 +1.0**
DAC pmax pmax
comp=Z,117nm,1.0s,mb5.7
DAC MLR MLR
comp=Z,686nm,21.0s
DAC Darwin (Calif) 79.41 322 eP **P** **13 42 50.0 +1.0**
comp=Z,117nm,1.0s,mb5.7
DAC LR LR
comp=Z,686nm,21.0s
ISA Isabella 79.44 321 eP **P** **13 42 50.2 +1.0**
comp=Z,0.2nm,1.1s
ISA epP pP 13 43 20.6 +1.0
ISA LR LR
comp=Z,110nm,20.0s
NLU North Lily Min 79.45 328 eP **P** **13 42 50.2 +1.0**
NLU epP pP 13 43 21.4 +1.8
RSSD Black Hills 79.53 335 eP **P** **13 42 49.5 -0.1**
RSSD pmax pmax
comp=Z,90nm,0.8s,mb5.7
RSSD Black Hills 79.53 335 eP **P** **13 42 49.5 -0.1**
comp=Z,90nm,0.8s,mb5.7
CTU Camp Tracy 79.89 328 eP **P** **13 42 52.0 +0.4**
DUG Dugway 79.99 327 eP **P** **13 42 52.9 +0.8**
DUG pmax pmax
comp=Z,211nm,1.5s,mb5.8
DUG MLR MLR
comp=Z,612nm,20.0s
DUG Dugway 79.99 327 eP **P** **13 42 52.9 +0.8**
comp=Z,211nm,1.5s,mb5.8
DUG LR LR
comp=Z,612nm,20.0s
TOA0 Torodi Ar. Sit 80.01 69 eP **P** **13 42 52.2 0.0**
TORD Torodi Ar. Bea 80.01 69 P **P** **13 42 52.7 +0.5**
comp=Z,464nm,0.8s,mb6.4,baz=269,slow=5.4,SNR=1570
TORD pP pP 13 43 21.5 -1.2
comp=Z,236nm,1.0s,baz=258,slow=5.0,SNR=5.8
TORD sP sP 13 43 33.9 -1.6
comp=Z,110nm,0.8s,baz=255,slow=4.8,SNR=3.0
TORD S S 13 52 46.6 +0.2
comp=Z,2.6nm,1.2s,baz=255,slow=8.8,SNR=3.0
TORD PKKPbc PKKPbc 14 01 38.5 +2.6
comp=Z,1.3nm,1.0s,baz=46,slow=1.6,SNR=5.7
TORD LR LR 14 15 07.1
comp=Z,824nm,21.9s,baz=235,slow=33
TORD Torodi Ar. Bea 80.01 69 P **P** **13 42 52.7 +0.5**
TORD pP pP 13 43 21.5 -1.2
TORD sP sP 13 43 33.9 -1.6
TORD S S 13 52 46.6 +0.2
TORD PKKPbc PKKPbc 14 01 38.5 +2.6
TORD LR LR 14 15 07.1
NOQ North Oquirrh 80.02 328 eP **P** **13 42 52.6 +0.3**
comp=Z,33nm,1.0s,mb5.1
BOSA Boshof 80.04 117 P **P** **13 42 53.0 +0.7**
comp=Z,125nm,0.7s,mb5.8,baz=251,slow=4.0,SNR=236
BOSA pP pP 13 43 22.4 -0.4
comp=Z,53nm,0.9s,baz=246,slow=7.2,SNR=3.0
BOSA LR LR 14 13 50.4
comp=Z,801nm,20.5s,baz=240,slow=32
BOSA Boshof 80.04 117 eP **P** **13 42 53.2 +0.8**
BOSA pmax pmax
comp=Z,98nm,0.7s,mb5.8
BOSA MLR MLR

comp=Z,1µm,22.0s
BOSA Boshof 80.04 117 *e*P **P** **13 42 53.2 +0.8**
comp=Z,98nm,0.7s,mb5.8
BOSA LR LR
comp=Z,1µm,22.0s
TCUT Toone Canyon 80.07 329 *e*P **P** **13 42 53.3 +0.8**
HWUT Hardware Ranch 80.53 329 *e*P **P** **13 42 55.3 +0.3**
comp=Z,113nm,0.8s,mb5.8
HWUT LR LR
comp=Z,852nm,20.0s
TPH Tonopah 80.55 323 *e*P **P** **13 42 56.2 +1.1**
TPH pmax pmax
comp=Z,101nm,1.1s,mb5.6
TPH MLR MLR
comp=Z,592nm,22.0s
TPH Tonopah 80.55 323 *e*P **P** **13 42 56.2 +1.0**
comp=Z,101nm,1.1s,mb5.6
TPH *e*pP pP 13 43 27.5 +1.9
TPH LR LR
comp=Z,592nm,22.0s
BW06 Boulder Array 80.59 331 *e*P **P** **13 42 55.2 -0.1**
comp=Z,103nm,1.0s,mb5.6
BW06 LR LR
comp=Z,630nm,22.0s
PDAR Pinedale Array 80.59 331 P **P** **13 42 55.2 -0.1**
comp=Z,59nm,0.8s,mb5.5,baz=129,slow=7.0,SNR=222
PDAR pP pP 13 43 26.1 +0.3
comp=Z,53nm,1.0s,baz=160,slow=4.7,SNR=4.6
PDAR S S 13 52 52.5 +0.1
comp=Z,0.2nm,0.8s,baz=67,slow=36,SNR=2.1
PDAR PKKPbc PKKPbc 14 01 34.7 +0.1
comp=Z,1.6nm,0.6s,baz=50,slow=0.4,SNR=14
PDAR PKPPKP 14 09 39.5
comp=Z,0.7nm,0.9s,baz=341,slow=3.1,SNR=3.8
PDAR Pinedale Array 80.59 331 P **P** **13 42 55.2 -0.1**
PDAR pP pP 13 43 26.1 +0.3
PDAR S S 13 52 52.5 +0.1
PDAR PKKPbc PKKPbc 14 01 34.7 +0.1
PDAR P'P' 14 09 39.5
BGU Big Grassy Mou 80.66 328 *e*P **P** **13 42 55.8 +0.1**
RAR Rarotonga 80.67 251 P **P** **13 42 57.3 +1.6**
comp=Z,44nm,1.3s,mb5.2,baz=246,slow=6.6,SNR=3.7
RAR Rarotonga 80.67 251 P **P** **13 42 57.3 +1.6**
SPUT South Promonto 80.70 328 *e*P **P** **13 42 55.5 -0.4**
MTUM Tungsten Hills 80.73 322 *e*P **P** **13 42 57.0 +0.9**
HVU Hansel Valley 81.22 328 *e*P **P** **13 42 58.7 0.0**
AHID Auburn Hatcher 81.25 330 *e*P **P** **13 42 59.1 +0.2**
comp=Z,156nm,1.1s,mb5.8
AHID LR LR
comp=Z,882nm,22.0s
NVAR Mina Array Bea 81.39 323 P **P** **13 43 00.2 +0.7**
comp=Z,34nm,0.9s,mb5.2,baz=170,slow=6.1,SNR=198
NVAR pP pP 13 43 30.5 +0.4
comp=Z,12nm,0.9s,baz=175,slow=5.4,SNR=3.5
NVAR PKKPbc PKKPbc 14 01 34.9 +2.0
comp=Z,1.4nm,0.5s,baz=282,slow=3.3,SNR=17
NVAR PKPPKP 14 09 40.0
comp=Z,1.2nm,0.9s,baz=272,slow=3.2,SNR=6.1
LRV Little Rabbit 81.41 320 *e*P **P** **13 43 00.8 +1.2**
ELK Elko 81.58 326 *e*P **P** **13 43 01.1 +0.5**
ELK *e*pP pP 13 43 32.5 +1.4
ELK LR LR
comp=Z,872nm,20.0s
REDW Red Top Meadow 81.62 331 *e*P **P** **13 43 01.1 +0.2**
comp=Z,130nm,1.1s,mb5.7
SNOW Snow King Moun 81.66 331 *e*P **P** **13 43 01.6 +0.6**
comp=Z,182nm,1.1s,mb5.8
TPAW Teton Pass 81.77 331 *e*P **P** **13 43 02.0 +0.4**
comp=Z,128nm,1.1s,mb5.7
RRI2 Red Ridge 81.81 330 *e*P **P** **13 43 02.3 +0.5**
MOOW Moose Ponds 81.89 331 *e*P **P** **13 43 02.2 0.0**
SAO San Andreas Ge 81.89 320 *e*P **P** **13 43 02.9 +0.7**
SAO San Andreas Ge 81.89 320 PFAKE 13 43 10.0 +7.8
SAO LR LR
comp=Z,622nm,19.0s
DCID1 Drake Creek 81.95 330 *e*P **P** **13 43 03.6 +1.0**
LBTB Lobatse 81.98 114 *e*P **P** **13 43 03.4 +0.7**
LBTB pmax pmax
comp=Z,107nm,0.6s,mb5.8
LBTB MLR MLR
comp=Z,1µm,19.0s
LBTB Lobatse 81.98 114 *e*P **P** **13 43 03.4 +0.8**
comp=Z,107nm,0.6s,mb5.8
LBTB LR LR
comp=Z,1µm,19.0s
WAKR Walker 82.04 322 *e*P **P** **13 43 04.2 +1.2**
IMW Indian Meadow 82.09 331 *e*P **P** **13 43 03.7 +0.4**
comp=Z,115nm,0.9s,mb5.7
DRV Dumont d'Urvil 82.11 191 P **P** **13 42 59.0 -4.4**
DRV Dumont d'Urvil 82.11 191 S S 13 53 11.0 +2.8
DRV SP 13 53 58.0
DRV SS SS 13 58 32.0 +1.9
FLWY Flagg Ranch 82.14 331 *e*P **P** **13 43 04.6 +1.1**
CMB Columbia Colle 82.22 321 *e*P **P** **13 43 04.2 +0.3**
CMB MLR MLR
comp=Z,482nm,19.0s
BMN Battle Mountai 82.32 325 *e*P **P** **13 43 04.0 -0.4**
BMN MLR MLR
comp=Z,393nm,20.0s
RLMT Red Lodge 82.39 332 *e*P **P** **13 43 05.1 +0.3**
LKWY Lake 82.41 332 *e*P **P** **13 43 06.4 +1.5**
LKWY MLR MLR
comp=Z,825nm,21.0s
ULM Lac du Bonnet 82.43 343 P **P** **13 43 03.8 -1.3**
comp=Z,148nm,1.1s,mb5.7,baz=164,slow=4.4,SNR=65
ULM pP pP 13 43 34.9 -0.7
comp=Z,68nm,0.9s,baz=147,slow=5.5,SNR=5.3
ULM PKKPbc PKKPbc 14 01 31.6 +1.1
comp=Z,4.0nm,0.9s,baz=80,slow=3.0,SNR=6.2
ULM LR LR 14 21 13.7
comp=Z,1µm,21.9s,baz=309,slow=37
LAO LASA Array 82.52 335 *e*P **P** **13 43 05.4 -0.1**
comp=Z,161nm,0.9s,mb5.8
LAO LR LR
comp=Z,440nm,20.0s
YNR Norris Junctio 82.64 331 *e*P **P** **13 43 07.4 +1.3**
YMR Madison River 82.73 331 *e*P **P** **13 43 07.6 +1.0**
comp=Z,221nm,0.9s,mb6.0
YMR LR LR
comp=Z,1µm,19.0s
PAHR Pah Rah Range 82.89 323 *e*P **P** **13 43 08.5 +1.1**
comp=Z,111nm,1.0s,mb5.7
SAC San Andreas 83.02 320 *e*P **P** **13 43 09.2 +1.1**
SAC *e**PP pP 13 43 40.5 +1.8
QLMT Earthquake Lak 83.05 331 *e*P **P** **13 43 09.2 +0.9**
GCMT Greycliff 83.10 333 *e*P **P** **13 43 08.6 +0.1**
DGMT Dagmar 83.33 337 *e*P **P** **13 43 09.7 +0.1**
DGMT LR LR
comp=Z,512nm,21.0s
HLID Hailey 83.36 329 PFAKE 13 43 20.0 +10
HLID LR LR
comp=Z,563nm,20.0s
SCHQ Schefferville 83.51 1 P **P** **13 43 09.3 -1.3**
comp=Z,112nm,1.1s,mb5.6,baz=162,slow=3.6,SNR=37
SCHQ Schefferville 83.51 1 P **P** **13 43 09.3 -1.3**
SCHQ LR LR
comp=Z,828nm,20.0s
MCMT McKenzie Canyo 83.66 330 P **P** **13 43 12.2 +0.9**
MCCM Marconi Confer 83.67 320 *e*P **P** **13 43 12.2 +0.8**
OHCM Honcut 83.75 322 *e*P **P** **13 43 12.2 +0.5**
MIR Mirnyy 83.76 173 *d i*P **P** **13 43 13.0 +1.1**
MIR *e*S S 13 53 26.0 +1.2
MIR pmax pmax
comp=Z,320nm,1.5s,mb5.9
MIR pmax pmax
comp=Z,700nm,4.0s
MIR MLR MLR
comp=Z,1µm,18.0s
NSHM Saint Helena R 83.78 321 *e*P **P** **13 43 12.5 +0.6**
DLMT Dillon 83.97 331 *e*P **P** **13 43 13.3 +0.4**
comp=Z,89nm,1.0s,mb5.5
LRM Limekiln Ridge 84.28 331 *e*P **P** **13 43 14.9 +0.4**
HOPS Hopland 84.38 321 PFAKE 13 43 30.0 +15
HOPS LR LR
comp=Z,500nm,19.0s
WVOR Wild Horse Val 84.52 325 *e*P **P** **13 43 15.2 -0.5**
WVOR pmax pmax
comp=Z,39nm,1.2s,mb5.2
WVOR MLR MLR
comp=Z,522nm,19.0s
WVOR Wild Horse Val 84.52 325 *e*P **P** **13 43 15.2 -0.5**
comp=Z,39nm,1.2s,mb5.2
WVOR LR LR
comp=Z,522nm,19.0s
HRY Holter Researc 84.73 332 *e*P **P** **13 43 17.1 +0.3**
LBCM Butte Creek Ri 84.75 323 P **P** **13 43 17.0 +0.1**
EGMT Eagleton 84.97 334 *e*P **P** **13 43 17.1 -0.8**
comp=Z,82nm,1.1s,mb5.6
EGMT LR LR
comp=Z,498nm,19.0s
MOD Modoc 84.97 324 *e*P **P** **13 43 18.4 +0.4**
MOD LR LR
comp=Z,340nm,21.0s
CASY Casey 85.02 180 ⇓ *i*P **P** **13 43 19.0 +0.8**
CASY *i* pP pP 13 43 48.2 -0.8
CASY *e*S S 13 53 34.9 -2.5
CASY Casey 85.02 180 ⇓ *i*P **P** **13 43 19.0 +0.8**
CASY *i* pP pP 13 43 48.2 -0.8
CASY *e*S S 13 53 34.9 -2.5
CASY LR LR
comp=Z,802nm,20.0s
LTIM Timbered Crate 85.06 323 P **P** **13 43 18.6 +0.1**
KIPM Iron Peak 85.17 321 *e*P **P** **13 43 20.5 +1.6**
WDC Whiskeytown Da 85.20 322 *e*P **P** **13 43 18.2 -0.9**
WDC *e**PP pP 13 43 49.3 -0.6
WDC Whiskeytown Da 85.20 322 *e*pP pP 13 43 49.3 -0.6
WDC LR LR
comp=Z,426nm,22.0s
CHMT Chamberlain Mo 85.48 331 *e*P **P** **13 43 20.7 +0.2**
BMO Blue Mountains 85.69 328 *e*P **P** **13 43 21.2 -0.3**
BMO LR LR
comp=Z,675nm,19.0s
MSO Missoula 85.71 331 *e*P **P** **13 43 21.8 +0.2**
MSO LR LR
comp=Z,469nm,21.0s
HOG Hogback Mounta 85.94 324 P **P** **13 43 23.4 +0.6**
KHMM Horse Mountain 86.05 322 *e*P **P** **13 43 23.5 +0.1**
YBH Yreka Blue Hor 86.11 323 *e*P **P** **13 43 22.8 -0.8**
YBH MLR MLR
comp=Z,245nm,20.0s
KTRM Thompson Ridge 86.58 323 P **P** **13 43 26.8 +0.9**
KRMB Red Mountain 86.60 322 *e*P **P** **13 43 26.8 +0.8**
BSMT Bassoo Peak 86.86 331 P **P** **13 43 27.4 +0.1**
PTEO Sao Teotonio 86.97 44 *e*P **P** **13 43 28.5 +0.7**
comp=Z,282nm,1.4s,mb6.0
HBO Huckleberry Mo 87.40 324 P **P** **13 43 30.0 +0.1**
WALA Waterton Lakes 87.44 332 *e*P **P** **13 43 30.0 -0.1**
PMAFR Mafra 87.56 42 *e*P **P** **13 43 27.3 -3.3**
PMAFR Mafra 87.56 42 *e*P **P** **13 43 31.0 +0.4**
PMAFR Mafra 87.56 42 *i* - 13 54 42.1
PLOU Loures 87.59 42 *e*P **P** **13 43 31.7 +0.9**
EGRO El Granado 87.72 44 P **P** **13 43 29.9 -1.5**
comp=Z,570nm,1.9s,mb6.3
KEBM Edson Butte 87.76 323 *e*P **P** **13 43 32.6 +1.0**
BROR Big Rock Looko 87.77 325 P **P** **13 43 31.5 -0.1**
PBEJ Beja 87.80 44 *e*P **P** **13 43 32.2 +0.4**
comp=Z,140nm,1.6s,mb5.7
HAWA Hanford 87.88 328 *e*P **P** **13 43 32.1 0.0**
HAWA LR LR
comp=Z,47nm,20.0s
EUO Eugene 87.91 324 P **P** **13 43 32.4 +0.1**
VFP Flag Point 88.02 326 P **P** **13 43 33.4 +0.6**
EVO Evora 88.04 43 ⇓ *i*P **P** **13 43 32.6 -0.3**
comp=Z,100nm,1.0s,mb5.5
EVO *e*pP pP 13 44 01.6 -2.3
EVO *e*R
comp=Z,1µm,22.0s
FFC Flin Flon 88.09 342 *e*P **P** **13 43 31.9 -1.3**
FFC pmax pmax
comp=Z,65nm,1.3s,mb5.5
FFC MLR MLR
comp=Z,204nm,19.0s
FFC Flin Flon 88.09 342 *e*P **P** **13 43 31.9 -1.3**
comp=Z,65nm,1.3s,mb5.5
FFC LR LR
comp=Z,204nm,19.0s
HOOD Mount Hood Mea 88.12 326 *e*P **P** **13 43 33.7 +0.4**
TDH Tom, Dick, Har 88.16 326 P **P** **13 43 33.8 +0.3**
NEW Newport 88.19 330 *e*P **P** **13 43 32.5 -1.1**
NEW MLR MLR
comp=Z,539nm,21.0s
OD2 Odessa Site #2 88.24 329 P **P** **13 43 33.6 -0.3**
EJIF Jimena Fronter 88.30 46 P **P** **13 43 34.1 0.0**
EJIF pmax pmax
comp=Z,86nm,1.3s,mb5.6
EJIF Jimena Fronter 88.30 46 P **P** **13 43 34.1 0.0**
comp=Z,86nm,1.3s,mb5.6
ESPR Espera 88.31 46 ⇓P **P** **13 43 34.1 0.0**
comp=Z,232nm,1.3s,mb6.0
EMIN Mina Concepcio 88.37 45 P **P** **13 43 32.8 -1.7**
comp=Z,560nm,2.4s,mb6.2
COR Corvallis 88.42 324 *e*P **P** **13 43 35.6 +0.9**
PTOM Tomar 88.50 42 *e*P **P** **13 43 35.0 -0.1**
comp=Z,76nm,1.1s,mb5.6
PESTR Estremoz 88.51 43 *e*P **P** **13 43 34.2 -0.9**
comp=Z,58nm,1.3s,mb5.5
PESTR Estremoz 88.51 43 *e*P **P** **13 43 35.2 +0.1**
comp=Z,58nm,1.3s,mb5.5
PESTR Estremoz 88.51 43 *e*PP PP 13 47 04.5 -0.2
PESTR *i* - 13 54 42.6
EBAD Badajoz 88.78 44 P **P** **13 43 35.7 -0.7**
comp=Z,465nm,2.4s,mb6.1
LSZ Lusaka 88.80 107 *e*P **P** **13 43 38.4 +1.9**
LSZ pmax pmax
comp=Z,93nm,0.9s,mb5.8
LSZ MLR MLR
comp=Z,1µm,20.0s
LSZ Lusaka 88.80 107 *e*P **P** **13 43 38.4 +1.9**
comp=Z,92nm,0.9s,mb5.8
LSZ LR LR
comp=Z,1µm,20.0s
EMIJ Mijas 88.81 46 P **P** **13 43 35.9 -0.6**
comp=Z,126nm,1.3s,mb5.8
TBM Table Mountain 88.95 328 P **P** **13 43 37.4 +0.2**
URZ Urewera 88.97 226 P **P** **13 43 39.5 +2.2**
comp=Z,43nm,1.2s,mb5.4,baz=37,slow=4.8,SNR=4.2
PCBR Castelo Branco 89.19 43 *e*P **P** **13 43 37.9 -0.4**
comp=Z,55nm,1.1s,mb5.5
LON Longmire 89.22 327 *e*P **P** **13 43 37.9 -0.5**
FMW Mount Fremont 89.28 327 P **P** **13 43 38.4 -0.3**
PVIS Viseu 89.51 42 *e*P **P** **13 43 39.1 -0.7**
comp=Z,38nm,1.1s,mb5.4
MTE Manteigas 89.51 42 *e*P **P** **13 43 39.0 -0.8**
comp=Z,75nm,1.2s,mb5.7
MTE Manteigas 89.51 42 *e*PP PP 13 47 14.5 +1.8
MTE Manteigas 89.51 42 *e*P **P** **13 43 38.1 -1.7**
comp=Z,56nm,0.9s,mb5.7
ELOJ Sierra Loja 89.56 46 P **P** **13 43 40.1 +0.1**
ELOJ pmax pmax
comp=Z,83nm,1.4s,mb5.7
ELOJ Sierra Loja 89.56 46 P **P** **13 43 40.1 0.0**
comp=Z,83nm,1.4s,mb5.7
ERON Agron 89.70 47 P **P** **13 43 40.3 -0.4**
comp=Z,22nm,0.9s,mb5.3
ELUQ Luque 89.73 46 ⇓P **P** **13 43 41.0 +0.1**
ELUQ pmax pmax
comp=Z,81nm,0.9s,mb5.8
ELUQ Luque 89.73 46 ⇓P **P** **13 43 41.0 +0.2**
comp=Z,81nm,0.9s,mb5.8
EGUA Guajares 89.74 47 P **P** **13 43 40.7 -0.1**
comp=Z,5.6nm,1.3s
FCC Fort Churchill 89.90 347 *e*P **P** **13 43 40.7 -0.9**
EADA Adamuz 89.91 45 P **P** **13 43 40.1 -1.5**
comp=Z,91nm,1.3s,mb5.8
PVRL Vila Real 89.97 41 *e*P **P** **13 43 41.5 -0.5**
comp=Z,61nm,1.1s,mb5.6
ECOG Cogollos-Vega 90.01 46 P **P** **13 43 41.8 -0.3**
ECOG pmax pmax
comp=Z,70nm,1.2s,mb5.7
ECOG Cogollos-Vega 90.01 46 P **P** **13 43 41.8 -0.4**
comp=Z,70nm,1.2s,mb5.7
PCAB Cabril 90.07 41 *e*P **P** **13 43 42.0 -0.4**
comp=Z,64nm,1.2s,mb5.6
OLHC Oulhaca 90.19 49 P **P** **13 43 47.0 +4.0**
EBER Berja 90.21 47 P **P** **13 43 42.3 -0.8**
comp=Z,149nm,1.5s,mb5.9
GNW Green Mountain 90.28 327 *e*P **P** **13 43 43.4 -0.1**
EMAZ Mazaricos 90.33 39 P **P** **13 43 42.7 -0.9**
comp=Z,96nm,1.8s,mb5.6
ODZI Dziouia 90.34 49 P **P** **13 43 45.0 +1.3**
EBAN Banos Encina 90.40 46 P **P** **13 43 43.8 -0.2**
EBAN pmax pmax
comp=Z,264nm,1.3s,mb6.2
EBAN Banos Encina 90.40 46 P **P** **13 43 43.8 -0.1**
comp=Z,264nm,1.3s,mb6.2
EDM Edmonton 90.51 335 *e*P **P** **13 43 42.9 -1.6**
STS Santiago 90.53 40 P **P** **13 43 42.3 -2.3**
STS pmax pmax
comp=Z,66nm,1.5s,mb5.5
STS Santiago 90.53 40 P **P** **13 43 42.3 -2.2**
comp=Z,66nm,1.5s,mb5.5
OTSS Djebel Tessala 90.63 49 P **P** **13 43 48.0 +3.0**
EQES Quesada 90.64 46 P **P** **13 43 43.3 -1.8**
comp=Z,108nm,1.4s,mb5.8
ENIJ Nijar 90.69 47 P **P** **13 43 43.9 -1.4**
ENIJ pmax pmax
comp=Z,36nm,0.9s,mb5.5
ENIJ Nijar 90.69 47 P **P** **13 43 43.9 -1.4**
comp=Z,36nm,0.9s,mb5.5
RAO Raoul Island 90.80 236 PFAKE 13 44 00.0 +14
RAO LR LR
comp=Z,3µm,22.0s
PBRG Braganca 90.87 41 *e*P **P** **13 43 45.5 -0.6**
comp=Z,59nm,1.3s,mb5.6
EHUE Huescar 90.95 47 P **P** **13 43 44.4 -2.1**
EHUE pmax pmax
comp=Z,59nm,1.2s,mb5.6
EHUE Huescar 90.95 47 P **P** **13 43 44.4 -2.1**
comp=Z,59nm,1.2s,mb5.6
ECAL Calabor 90.96 41 P **P** **13 43 44.8 -1.8**
comp=Z,128nm,1.4s,mb5.9
ODJA Bouhanifia 91.09 50 P **P** **13 43 49.5 +2.4**
ESDC Sonseca Array 91.21 44 P **P** **13 43 47.5 -0.2**
comp=Z,10nm,0.8s,mb5.0,baz=245,slow=4.3,SNR=40
ESDC LR LR 14 21 27.8
comp=Z,637nm,20.2s,baz=245,slow=33
ESDC Sonseca Array 91.21 44 P **P** **13 43 45.9 -1.8**
comp=Z,50nm,1.5s,mb5.4
ESLA Sonseca Array 91.21 44 *e*P **P** **13 43 47.8 +0.1**
ESLA LR LR
comp=Z,5µm,21.0s
ESBB Sonseca Array 91.21 44 P **P** **13 43 45.9 -1.8**
comp=Z,170nm,2.0s,mb5.8
EVIA Vianos 91.50 46 P **P** **13 43 48.7 -0.3**
EVIA pmax pmax
comp=Z,24nm,0.6s,mb5.5
EVIA Vianos 91.50 46 P **P** **13 43 48.7 -0.3**
comp=Z,24nm,0.6s,mb5.5
OJBR Djebel Berber 91.56 50 P **P** **13 43 51.0 +1.7**
EPON Pontenova 91.60 40 P **P** **13 43 47.2 -2.3**
comp=Z,283nm,3.2s
GUD Guadarrama 91.68 44 P **P** **13 43 49.6 -0.3**
comp=Z,10nm,0.9s,mb5.1
OJGS Djebel Guires 91.79 50 P **P** **13 43 54.0 +3.6**
OKGL Djebel Kef Gue 92.02 49 P **P** **13 43 55.0 +3.5**
ETRT Tiaret 92.09 50 P **P** **13 43 53.0 +1.2**
ETOB Tobarra 92.10 46 ⇑P **P** **13 43 50.8 -1.1**
comp=Z,179nm,1.4s,mb6.1
EANR 'Ain N'Sour 92.28 50 P **P** **13 43 52.0 -0.6**
ECHA Ech Chlef 92.57 50 P **P** **13 44 00.0 +6.0**
EARI Arriondas 92.69 41 P **P** **13 43 53.4 -1.1**
comp=Z,427nm,3.5s
EBNR Beni Rached 92.75 50 P **P** **13 43 58.0 +3.2**
EBEN Beniarda 92.98 47 P **P** **13 43 55.2 -0.7**
comp=Z,206nm,1.8s,mb6.2
EMHD Djebel Mahouad 93.66 50 P **P** **13 44 01.0 +2.0**
ELAN Lanestosa 93.68 42 ⇓P **P** **13 43 58.6 -0.4**
comp=Z,226nm,1.2s,mb6.4
EMOS Mosqueruela 93.78 45 P **P** **13 43 58.9 -0.7**
comp=Z,148nm,1.5s,mb6.1
ABA Alger-Bouzarea 94.05 50 P **P** **13 44 05.0 +4.2**
EIBI Ibiza 94.17 47 P **P** **13 44 01.2 -0.1**
comp=Z,95nm,1.1s,mb6.0
AFI Afiamalu 94.20 252 PFAKE 13 44 10.0 +8.5
AFI LR LR
comp=Z,2µm,22.0s
ESAC San Caprasio 94.56 44 P **P** **13 44 02.6 -0.5**
comp=Z,206nm,1.1s,mb6.5
ERTA Horta de San J 94.62 45 ⇓P **P** **13 44 02.6 -0.9**
comp=Z,286nm,1.7s,mb6.4
ELIZ Elizondo 94.76 43 P **P** **13 44 03.6 -0.4**
ELIZ pmax pmax
comp=Z,20nm,0.9s,mb5.5
ELIZ Elizondo 94.76 43 P **P** **13 44 03.6 -0.5**
comp=Z,20nm,0.9s,mb5.6
EALK Alkurruntz 94.80 43 P **P** **13 43 59.7 -4.6**
comp=Z,268nm,2.7s,mb6.2
SJPF Ste Jean 94.91 43 *e*P **P** **13 44 04.7 0.0**
comp=Z,184nm,1.2s,mb6.1
SJPF *e*pP pP 13 44 35.1 -0.8
SJPF Ste Jean 94.91 43 *e*P **P** **13 44 04.7 0.0**
SJPF *e**PP pP 13 44 35.1 -0.8
SJPF pmax pmax
comp=Z,92nm,1.2s,mb6.1
SJPF Ste Jean 94.91 43 *e*P **P** **13 44 04.7 0.0**
comp=Z,92nm,1.2s,mb6.1
SJPF *e*pP pP 13 44 35.1 -0.8
LARF Larrau 95.01 43 *e*P **P** **13 44 05.5 +0.3**
ETSF Etsaut 95.18 43 *e*P **P** **13 44 06.0 0.0**
comp=Z,129nm,1.1s,mb6.0
ETSF Etsaut 95.18 43 *e*P **P** **13 44 06.0 0.0**
ETSF pmax pmax
comp=Z,64nm,1.1s,mb6.0
ETSF Etsaut 95.18 43 *e*P **P** **13 44 06.0 0.0**
comp=Z,64nm,1.1s,mb6.0
ATE Arette 95.21 43 *e*P **P** **13 44 06.3 +0.2**
CKHR Kef el Ahmar 95.30 52 P **P** **13 44 08.0 +1.5**
EPOB Poblet 95.31 45 P **P** **13 44 05.6 -0.9**
comp=Z,92nm,1.3s,mb6.0
SET Setif 95.32 51 P **P** **13 44 08.0 +1.4**
CMER Merouana 95.36 52 P **P** **13 44 10.0 +3.2**
REYF Montagne du Re 95.38 43 *e*P **P** **13 44 07.4 +0.5**
EBIE Bielsa 95.49 44 P **P** **13 44 07.5 +0.1**
comp=Z,71nm,1.0s,mb6.0
VIEF Viey 95.53 44 *e*P **P** **13 44 08.1 +0.5**
LABF Labassere 95.65 43 *e*P **P** **13 44 08.2 +0.1**
RESF Ens 95.67 44 *e*P **P** **13 44 09.5 +1.3**
EPF Esparros 95.80 44 *e*P **P** **13 44 08.6 -0.2**
comp=Z,90nm,1.3s,mb5.7
EPF Esparros 95.80 44 *e*P **P** **13 44 08.6 -0.2**
EPF pmax pmax
comp=Z,45nm,1.3s,mb5.7
EPF Esparros 95.80 44 *e*P **P** **13 44 08.6 -0.2**
comp=Z,45nm,1.3s,mb5.7
DFRA Djebel Bou Aff 95.83 51 P **P** **13 44 11.0 +2.1**
CTEI Djebel Teioual 95.94 52 P **P** **13 44 12.0 +2.5**
MELF Melles 95.97 44 *e*P **P** **13 44 10.3 +0.7**
MELF Melles 95.97 44 *e*P **P** **13 44 10.4 +0.8**
CASM Ain Smara 96.10 52 P **P** **13 44 11.0 +0.8**
SALF Salau 96.16 44 *e*P **P** **13 44 11.1 +0.6**
MLS Moulis 96.22 44 *e*P **P** **13 44 10.7 0.0**
MLS Moulis 96.22 44 *e*P **P** **13 44 10.6 -0.1**
CKFL Kef-Lekhel 96.34 52 P **P** **13 44 14.0 +2.8**
CARF Carcanieres 96.70 45 *e*P **P** **13 44 13.3 +0.4**
SFJD Kangerlussuaq 96.71 7 *i*P **P** **13 44 11.6 -1.3**
SFJD *i* 13 48 06.7
SFJD *i* S S 13 55 28.7 +4.6
SFJD *i* 13 56 17.7
SFJD *e* 13 57 31.1
SFJD
comp=Z,350nm,20.0s
SFJD Kangerlussuaq 96.71 7 *i*P **P** **13 44 11.6 -1.3**
SFJD *i* 13 48 06.7
SFJD *i* S S 13 55 28.7 +4.6
SFJD *e* 13 57 31.1
SFJD MLR MLR
comp=Z,350nm,20.0s
ABSA Djebel Ababsia 96.79 52 P **P** **13 44 14.5 +1.2**
ROSF Rostrenen 96.82 38 *e*P **P** **13 44 12.1 -1.3**
comp=Z,139nm,1.3s,mb5.9
ROSF *e*pP pP 13 44 42.5 -2.1
ROSF Rostrenen 96.82 38 *e*P **P** **13 44 12.1 -1.3**
ROSF *e**PP pP 13 44 42.5 -2.1
ROSF pmax pmax
comp=Z,70nm,1.3s,mb5.9
ROSF Rostrenen 96.82 38 *e*P **P** **13 44 12.1 -1.3**
comp=Z,70nm,1.3s,mb5.9
ROSF *e*pP pP 13 44 42.5 -2.1
FILF Fillols 96.90 45 *e*P **P** **13 44 15.3 +1.5**
CMAH Djebel Manchou 96.93 52 P **P** **13 44 14.0 +0.1**
MTLF Montolieu 97.11 44 *e*P **P** **13 44 14.0 -0.7**
comp=Z,123nm,1.2s,mb5.9
MTLF Montolieu 97.11 44 *e*P **P** **13 44 14.0 -0.7**
MTLF pmax pmax
comp=Z,62nm,1.2s,mb5.9
MTLF Montolieu 97.11 44 *e*P **P** **13 44 14.0 -0.7**
comp=Z,62nm,1.2s,mb5.9
LFF La Frestale 97.11 42 *e*P **P** **13 44 14.1 -0.7**
MFF Saint Martin d 97.54 40 *e*P **P** **13 44 15.8 -0.9**
comp=Z,123nm,1.0s,mb6.1
MFF Saint Martin d 97.54 40 *e*P **P** **13 44 15.8 -0.9**
MFF pmax pmax
comp=Z,62nm,1.0s,mb6.1
MFF Saint Martin d 97.54 40 *e*P **P** **13 44 15.8 -0.9**
comp=Z,62nm,1.0s,mb6.1
RJF Les Rejaudoux 97.78 42 *e*P **P** **13 44 16.8 -0.9**

RJF ep P pP 13 44 47.4 -1.5
RJF eR
comp=Z,787nm,21.2s
RJF Les Rejaudoux 97.78 42 *eP* **P 13 44 16.8 -0.9**
RJF *e*PP pP 13 44 47.4 -1.5
RJF pmax pmax
comp=Z,59nm,1.3s,mb6.0
RJF MLR MLR
comp=Z,790nm,21.3s
RJF Les Rejaudoux 97.78 42 *eP* **P 13 44 16.8 -0.9**
comp=Z,59nm,1.3s,mb6.0
RJF ep P pP 13 44 47.4 -1.5
RJF LR LR
comp=Z,790nm,21.3s
KEST Kesra 97.83 54 P **P 13 44 17.8 -0.2**
comp=Z,6.0nm,1.0s,mb5.1,baz=273,slow=7.3,SNR=8.1
KEST LR LR 14 31 02.7
comp=Z,498nm,18.3s,baz=188,slow=37
CAF Calviac 97.89 43 *eP* **P 13 44 17.7 -0.5**
comp=Z,73nm,1.0s,mb5.8
CAF Calviac 97.89 43 *eP* **P 13 44 17.7 -0.5**
CAF pmax pmax
comp=Z,36nm,1.0s,mb5.9
CAF Calviac 97.89 43 *eP* **P 13 44 17.7 -0.5**
comp=Z,36nm,1.0s,mb5.9
GRR Gorron 98.16 39 *eP* **P 13 44 17.9 -1.6**
comp=Z,84nm,1.0s,mb5.9
GRR Gorron 98.16 39 *eP* **P 13 44 17.9 -1.6**
GRR pmax pmax
comp=Z,42nm,1.0s,mb5.9
GRR Gorron 98.16 39 *eP* **P 13 44 17.9 -1.6**
comp=Z,42nm,1.0s,mb5.9
YKA Yellowknife Ar 98.21 340 P **P 13 44 18.3 -1.4**
comp=Z,14nm,0.7s,mb5.6,baz=140,slow=4.3,SNR=35
YKA pP pP 13 44 49.4 -1.4
comp=Z,5.1nm,0.8s,baz=256,slow=15,SNR=4.3
YKA PP PP 13 48 21.2 +0.6
comp=Z,6.2nm,1.0s,baz=135,slow=8.0,SNR=6.8
YKA LR LR 14 34 20.2
comp=Z,269nm,18.5s,baz=155,slow=39
YKA Yellowknife Ar 98.21 340 P **P 13 44 18.3 -1.4**
YKA *P*PP pP 13 44 49.4 -1.5
YKA 13 48 21.2
YKA Yellowknife Ar 98.21 340 P **P 13 44 18.3 -1.4**
YKA pP pP 13 44 49.4 -1.4
YKA PP PP 13 48 21.2 +0.6
YKA LR LR 14 34 20.1
YKW3 Yellowknife Ar 98.27 340 *eP* **P 13 44 18.0 -1.9**
LASF Ste Croix 98.51 44 *eP* **P 13 44 20.6 -0.4**
comp=Z,75nm,1.5s,mb5.7
FLN La Foliniere 98.58 39 *eP* **P 13 44 20.0 -1.3**
comp=Z,94nm,1.1s,mb5.9
FLN eR
comp=Z,468nm,21.5s
FLN La Foliniere 98.58 39 *eP* **P 13 44 20.0 -1.3**
FLN pmax pmax
comp=Z,47nm,1.1s,mb5.9
FLN MLR MLR
comp=Z,470nm,21.5s
FLN La Foliniere 98.58 39 *eP* **P 13 44 20.0 -1.3**
comp=Z,47nm,1.1s,mb5.9
FLN LR LR
comp=Z,470nm,21.5s
LDF La Druitiere 98.68 39 *eP* **P 13 44 20.5 -1.3**
comp=Z,70nm,1.0s,mb5.9
LDF ep P pP 13 44 50.8 -2.2
LDF La Druitiere 98.68 39 *eP* **P 13 44 20.5 -1.3**
LDF *e*PP pP 13 44 50.8 -2.2
LDF pmax pmax
comp=Z,35nm,1.0s,mb5.8
LDF La Druitiere 98.68 39 *eP* **P 13 44 20.5 -1.3**
comp=Z,35nm,1.0s,mb5.8
LDF ep P pP 13 44 50.8 -2.2
TCF Toulx Ste Croi 98.72 42 *eP* **P 13 44 21.0 -1.0**
comp=Z,74nm,1.1s,mb5.8
TCF ep P pP 13 44 51.4 -1.7
TCF Toulx Ste Croi 98.72 42 *eP* **P 13 44 21.0 -1.0**
TCF *e*PP pP 13 44 51.4 -1.7
TCF pmax pmax
comp=Z,37nm,1.1s,mb5.8
TCF Toulx Ste Croi 98.72 42 *eP* **P 13 44 21.0 -1.0**
comp=Z,37nm,1.1s,mb5.8
TCF ep P pP 13 44 51.4 -1.7
LBL Lubilhac 98.76 43 *eP* **P 13 44 22.7 +0.6**
PYM Petit Puy Mans 98.90 42 *eP* **P 13 44 22.7 -0.1**
GELF Grande-Étoile 99.11 45 *eP* **P 13 44 25.2 +1.5**
AGO Saint Agoulin 99.13 42 *eP* **P 13 44 23.8 0.0**
PRAF Pradon 99.17 45 *eP* **P 13 44 24.5 +0.5**
TREF Trevaresse 99.21 45 *eP* **P 13 44 26.1 +1.9**
BGF Bois d'Agland 99.24 42 *eP* **P 13 44 23.5 -0.8**
comp=Z,127nm,1.1s,mb6.1
BGF Bois d'Agland 99.24 42 *eP* **P 13 44 23.5 -0.8**
BGF pmax pmax
comp=Z,63nm,1.1s,mb6.1
BGF Bois d'Agland 99.24 42 *eP* **P 13 44 23.5 -0.8**
comp=Z,63nm,1.1s,mb6.1
BERF Bertagne 99.24 45 *eP* **P 13 44 26.3 +2.0**
PLDF La Plantade 99.38 42 *eP* Pdif 13 44 25.2 +0.3
VIVF Saint-Julien-l 99.42 44 *eP* Pdif 13 44 25.0 -0.1
comp=Z,92nm,1.2s
VIVF ep P pP 13 44 55.4 -0.9
VIVF Saint-Julien-l 99.42 44 *eP* Pdif 13 44 25.0 -0.1
VIVF *e*PP pP 13 44 55.4 -0.9
VIVF pmax pmax
comp=Z,46nm,1.2s,mb5.9
VIVF Saint-Julien-l 99.42 44 *eP* Pdif 13 44 25.0 -0.1
comp=Z,46nm,1.2s
VIVF ep P pP 13 44 55.4 -0.9
SMRF Simiane la Rot 99.51 45 *eP* Pdif 13 44 25.9 +0.4
comp=Z,105nm,1.3s
SMRF Simiane la Rot 99.51 45 *eP* Pdif 13 44 25.9 +0.4
comp=Z,105nm,1.3s
VILF Villemus 99.54 45 *eP* Pdif 13 44 27.3 +1.7
TAVF Tavernes 99.63 45 *eP* Pdif 13 44 27.6 +1.6
AVF Avril sur Loir 99.66 42 *eP* Pdif 13 44 25.2 -0.9
comp=Z,100nm,1.3s
AVF Avril sur Loir 99.66 42 *eP* Pdif 13 44 25.2 -0.9
AVF pmax pmax
comp=Z,50nm,1.3s,mb6.0
AVF Avril sur Loir 99.66 42 *eP* Pdif 13 44 25.2 -0.9
comp=Z,50nm,1.3s
LMR La Mourre 99.77 46 *eP* Pdif 13 44 26.4 -0.2
comp=Z,119nm,1.3s
LMR La Mourre 99.77 46 *eP* Pdif 13 44 26.4 -0.2
LMR pmax pmax
comp=Z,60nm,1.3s,mb6.1
LMR La Mourre 99.77 46 *eP* Pdif 13 44 26.4 -0.2
comp=Z,60nm,1.3s
SMF Signal de Mont 99.86 42 *eP* Pdif 13 44 26.5 -0.6
comp=Z,189nm,1.2s
SMF ep P pP 13 44 56.9 -1.4
SMF Signal de Mont 99.86 42 *eP* Pdif 13 44 26.5 -0.6
SMF *e*PP pP 13 44 56.9 -1.4
SMF pmax pmax
comp=Z,95nm,1.2s,mb6.3
SMF Signal de Mont 99.86 42 *eP* Pdif 13 44 26.5 -0.6
comp=Z,94nm,1.2s
SMF ep P pP 13 44 56.9 -1.4
FRF La Foret Royal 99.97 46 *eP* Pdif 13 44 27.3 -0.2
comp=Z,104nm,1.4s
FRF La Foret Royal 99.97 46 *eP* Pdif 13 44 27.3 -0.2
FRF pmax pmax
comp=Z,52nm,1.4s,mb6.0
FRF La Foret Royal 99.97 46 *eP* Pdif 13 44 27.3 -0.2
comp=Z,52nm,1.4s
ORIF Oris-en-Rattie 100.19 44 *eP* Pdif 13 44 28.9 +0.4
comp=Z,92nm,1.2s
ORIF eR
comp=Z,1μm,22.8s
ORIF Oris-en-Rattie 100.19 44 *eP* Pdif 13 44 28.9 +0.4
ORIF pmax pmax
comp=Z,46nm,1.2s
ORIF Oris-en-Rattie 100.19 44 *eP* Pdif 13 44 28.9 +0.4
comp=Z,46nm,1.2s
LOR Lormes 100.20 41 *eP* Pdif 13 44 27.5 -1.1
comp=Z,54nm,1.0s
LOR ep P 13 44 57.9
LOR eR
comp=Z,588nm,19.2s
LOR Lormes 100.20 41 *eP* Pdif 13 44 27.5 -1.1
LOR *e*PP 13 44 57.9
LOR pmax pmax
comp=Z,27nm,1.0s
LOR MLR MLR
comp=Z,590nm,19.3s
LOR Lormes 100.20 41 *eP* Pdif 13 44 27.5 -1.1
comp=Z,27nm,1.0s
LOR ep P 13 44 57.9
LOR LR LR
comp=Z,590nm,19.3s
MVIF Mont Vial 100.45 46 *eP* Pdif 13 44 30.6 +0.9
REVF Revere 100.51 46 *eP* Pdif 13 44 29.3 -0.6
BORG Borgarnes 100.52 19 PFAKE 13 44 40.0 +10
BORG LR LR
comp=Z,472nm,22.0s
LUCF Luceram 100.57 46 *eP* Pdif 13 44 29.7 -0.5
TOUF Mont Tournerai 100.57 45 *eP* Pdif 13 44 31.5 +1.3
SBF Sospel 100.61 46 *eP* Pdif 13 44 30.4 0.0
comp=Z,116nm,1.2s
SBF Sospel 100.61 46 *eP* Pdif 13 44 30.4 0.0
SBF pmax pmax
comp=Z,58nm,1.2s
SBF Sospel 100.61 46 *eP* Pdif 13 44 30.4 0.0
comp=Z,58nm,1.2s
MBDF Montbardon 100.63 45 *eP* Pdif 13 44 30.8 +0.3
comp=Z,70nm,1.1s
MBDF Montbardon 100.63 45 *eP* Pdif 13 44 30.8 +0.3
MBDF pmax pmax
comp=Z,35nm,1.1s
MBDF Montbardon 100.63 45 *eP* Pdif 13 44 30.8 +0.3
comp=Z,35nm,1.1s
AUTN L'Aution 100.67 46 *eP* Pdif 13 44 31.5 +0.8
BNI Bardonecchia 100.74 44 *eP* Pdif 13 44 31.6 +0.6
SAOF Saorge 100.75 46 *eP* Pdif 13 44 25.8 -5.2
ESK Eskdalemuir 100.97 32 *eP* Pdif 13 44 30.9 -1.1
ESK MLR MLR
comp=Z,146nm,20.0s
LPL La Plagne 101.01 44 *eP* Pdif 13 44 32.7 +0.6
comp=Z,88nm,1.1s
LPL La Plagne 101.01 44 *eP* Pdif 13 44 32.7 +0.6
LPL pmax pmax
comp=Z,44nm,1.1s
LPL La Plagne 101.01 44 *eP* Pdif 13 44 32.7 +0.6
comp=Z,44nm,1.1s
LPG La Plagne 101.01 44 *eP* Pdif 13 44 32.9 +0.8
comp=Z,94nm,1.1s
LPG La Plagne 101.01 44 *eP* Pdif 13 44 32.9 +0.8
LPG pmax pmax
comp=Z,47nm,1.1s
LPG La Plagne 101.01 44 *eP* Pdif 13 44 32.9 +0.8
comp=Z,47nm,1.1s
CABF La Chapelle 101.17 43 *eP* Pdif 13 44 32.6 -0.3
comp=Z,91nm,1.0s
CABF La Chapelle 101.17 43 *eP* Pdif 13 44 32.6 -0.3
CABF pmax pmax
comp=Z,46nm,1.0s
CABF La Chapelle 101.17 43 *eP* Pdif 13 44 32.6 -0.3
comp=Z,46nm,1.0s
MEZF Maizieres J'vi 101.53 41 *eP* Pdif 13 44 33.6 -0.9
BAIF Baives 101.86 39 *eP* Pdif 13 44 34.8 -1.1
comp=Z,64nm,1.4s
BAIF Baives 101.86 39 *eP* Pdif 13 44 34.8 -1.1
BAIF pmax pmax
comp=Z,32nm,1.4s
BAIF Baives 101.86 39 *eP* Pdif 13 44 34.8 -1.1
comp=Z,32nm,1.4s
THEF They Montfort 101.93 41 *eP* Pdif 13 44 36.9 +0.7
LOMF Lomont 101.98 42 *eP* Pdif 13 44 37.5 +1.0
HAU Haudompre 102.03 42 *eP* Pdif 13 44 35.8 -0.9
comp=Z,59nm,1.0s
HAU eR
comp=Z,453nm,22.8s
HAU Haudompre 102.03 42 *eP* Pdif 13 44 35.8 -0.9
HAU pmax pmax
comp=Z,30nm,1.0s
HAU MLR MLR
comp=Z,450nm,22.8s
HAU Haudompre 102.03 42 *eP* Pdif 13 44 35.8 -0.9
comp=Z,30nm,1.0s
HAU LR LR
comp=Z,450nm,22.8s
DOU Dourbes 102.09 39 P Pdif 13 44 36.6 -0.3
SNF Seneffe 102.13 39 P Pdif 13 44 37.4 +0.2
GIVF Givet 102.22 39 *eP* Pdif 13 44 36.6 -0.9
comp=Z,121nm,1.3s
GIVF Givet 102.22 39 *eP* Pdif 13 44 36.6 -0.9
GIVF pmax pmax
comp=Z,61nm,1.3s
GIVF Givet 102.22 39 *eP* Pdif 13 44 36.6 -0.9
comp=Z,61nm,1.3s
HINF Hinteralfeld 102.23 42 *eP* Pdif 13 44 36.6 -1.0
comp=Z,46nm,1.0s
HINF Hinteralfeld 102.23 42 *eP* Pdif 13 44 36.6 -1.0
HINF pmax pmax
comp=Z,23nm,1.0s
HINF Hinteralfeld 102.23 42 *eP* Pdif 13 44 36.6 -1.0
comp=Z,23nm,1.0s
SIT Sitka 102.24 329 PFAKE 13 44 50.0 +12
SIT LR LR
comp=Z,711nm,20.0s
UCC Uccle 102.32 38 P Pdif 13 44 38.7 +0.7
MOF Molkenrain 102.41 42 *eP* Pdif 13 44 39.0 +0.6
ECH Echery 102.60 42 *eP* Pdif 13 44 39.2 0.0
WLF Walferdange 102.74 40 *e*Pdiff Pdif 13 44 39.9 +0.1
WLF *es*SKSac 13 56 01.7
WLF Walferdange 102.74 40 P Pdif 13 44 40.3 +0.4
WLF Walferdange 102.74 40 *e*Pdif Pdif 13 44 40.3 +0.5
CDF Champ du Feu 102.77 42 *eP* Pdif 13 44 39.3 -0.7
comp=Z,64nm,1.1s
CDF *ep*P 13 45 09.7
CDF Champ du Feu 102.77 42 *eP* Pdif 13 44 39.3 -0.7
CDF pmax pmax
comp=Z,32nm,1.1s
CDF Champ du Feu 102.77 42 *eP* Pdif 13 44 39.3 -0.7
comp=Z,32nm,1.1s
CDF *ep*P 13 45 09.7
WLS Welschbruch 102.81 42 *eP* Pdif 13 44 40.3 +0.1
HGN Heimansgroeve 103.16 39 *eP* Pdif 13 44 42.4 +0.7
comp=Z,18nm,1.6s
HGN *e*PP PP 13 48 45.4 -13
HGN *es*SKS 13 55 09.3
HGN *es*SKSP 13 57 50.5
BFO Black Forest 103.34 42 *e*Pdiff Pdif 13 44 42.2 -0.3
BFO *e*PP PP 13 48 56.4 -2.9
BFO *es*PP 13 49 33.2
BFO *es*SKSac 13 56 03.7
BFO Black Forest 103.34 42 *eP* Pdif 13 44 42.2 -0.3
BFO *e* 13 48 56.4
BFO Black Forest 103.34 42 *e*Pdif Pdif 13 44 42.2 -0.3
BFO *e*PP PP 13 48 56.4 -2.9
BFO *es*PP 13 49 33.2
LANF Langenberg 103.35 41 *eP* Pdif 13 44 43.6 +1.1
SUMG Summit 103.45 9 *e*Pdif Pdif 13 44 42.3 -0.7
ABH Alteburg 103.64 40 *eP* Pdif 13 44 44.9 +1.1
DAVA Damuels 103.77 43 ⇑*i*P Pdif 13 44 45.3 +0.9
comp=Z,21nm,0.9s
DAVA *i* 13 48 59.0
STU Stuttgart 104.06 42 *e*Pdiff Pdif 13 44 45.9 +0.2
STU *es*SKSac 13 56 09.9
STU Stuttgart 104.06 42 P Pdif 13 44 45.9 +0.2
STU pmax pmax
comp=Z,46nm,1.0s
WTSB Winterswijk 104.23 38 *eP* Pdif 13 44 47.3 +0.9
comp=Z,29nm,2.0s
BUG Bochum--Univer 104.23 39 *e*Pdiff Pdif 13 44 46.8 +0.3
BUG *e*PP PP 13 49 03.1 -2.8
BUG *es*PP 13 49 41.1
BUG *es*SKSac 13 56 08.8
TNS Taunus Mts 104.31 40 *e*Pdiff Pdif 13 44 47.0 +0.2
TNS *e*PP PP 13 49 03.4 -3.1
TNS *es*SKSac 13 56 10.6
TNS Taunus Mts 104.31 40 *e*Pdif Pdif 13 44 47.0 +0.2
TNS *e*PP PP 13 49 03.4 -3.1
MOTA Moosalm 104.54 44 ⇑*i*P Pdif 13 44 48.1 +0.2
comp=Z,24nm,1.2s
MOTA Moosalm 104.54 44 ⇑*i*P Pdif 13 44 48.1 +0.3
MOTA pmax pmax
comp=Z,24nm,1.2s
SQTA Sankt Quirin 104.54 44 ⇑*i*P Pdif 13 44 48.6 +0.7
comp=Z,30nm,1.1s
SQTA Sankt Quirin 104.54 44 ⇑*i*P Pdif 13 44 48.6 +0.7
SQTA pmax pmax
comp=Z,31nm,1.1s
FUNA Funafuti 104.55 252 PFAKE 13 45 00.0 +12
FUNA LR LR
comp=Z,8μm,20.0s
WTTA Wattenberg 104.82 44 ⇑*i*P Pdif 13 44 50.0 +0.9
comp=Z,31nm,1.1s
WTTA Wattenberg 104.82 44 ⇑*i*P Pdif 13 44 50.0 +0.9
WTTA pmax pmax
comp=Z,31nm,1.1s
IBBN Ibbenburen 104.91 38 *e*Pdiff Pdif 13 44 49.6 +0.1
UBBA Unterbreizbach 105.46 40 *e*Pdiff Pdif 13 44 52.3 +0.4
UBBA *e*PP PP 13 49 11.7 -3.3
UBBA *es*PP 13 49 51.7
UBBA *es*SKSac 13 56 15.2
GRFO Grafenberg 105.66 42 *e*PP PP 13 49 13.3 -3.1
GRA1 Grafenberg Arr 105.66 42 *e*Pdif Pdif 13 44 53.3 +0.5
GRA1 *e*PP PP 13 49 13.5 -3.0
GRA1 *ep*PP 13 49 38.9
GRA1 *es*PP 13 49 50.5
GRF Grafenberg Arr 105.66 42 *e*Pdiff Pdif 13 44 53.3 +0.5
GRF *e*PP PP 13 49 13.5 -3.0
GRF *ep*PP 13 49 38.9
GRF *es*PP 13 49 50.5
GRF *es*SKSac 13 56 17.9
GRF Grafenberg Arr 105.66 42 *e*P Pdif 13 44 53.3 +0.5
GRF *e* 13 49 13.5
GRF Grafenberg Arr 105.66 42 *e*P Pdif 13 44 53.3 +0.5
GRF *e* 13 49 13.5
VOY Vojsko 105.68 46 *e* PKiKP 13 49 02.8 -2.5
VOY *e*PP PP 13 49 14.3 -2.3
VOY *e* 13 49 36.0
GTTG Gvttingen 105.77 40 *e*PP PP 13 49 14.1 -3.2
GTTG *es*PP 13 49 52.7
GTTG *es*SKSac 13 56 18.5
KBA Koelnbreinsper 105.79 45 ⇓*i* PP 13 49 15.3 -2.1
comp=Z,33nm,1.4s
KBA Koelnbreinsper 105.79 45 13 49 15.3 -2.1
comp=Z,33nm,1.4s
KBA Koelnbreinsper 105.79 45 ⇑*i*P Pdif 13 44 52.5 -0.9
KBA *i* 13 49 15.3
KBA pmax pmax
comp=Z,14nm,1.2s
KBA Koelnbreinsper 105.79 45 ⇑*i*P Pdif 13 44 52.5 -0.9
comp=Z,14nm,1.2s
KBA *i* 13 49 15.3
ROTZ Rotzenmuhle 106.27 42 *e*Pdiff Pdif 13 44 56.0 +0.5
ROTZ *e*PP PP 13 49 17.5 -3.4
ROTZ *es*SKSac 13 56 19.4
NRDL Niedersach Rie 106.28 39 *e*PP PP 13 49 17.8 -3.2
NRDL *es*SKSac 13 56 20.7
MANZ Manzenberg 106.31 42 *e*Pdiff Pdif 13 44 56.4 +0.7
MANZ *es*PP 13 49 55.1
MANZ *es*SKSac 13 56 20.6
MOX Moxa 106.31 41 *e*Pdiff Pdif 13 44 56.2 +0.5
MOX *e*PP PP 13 49 17.6 -3.6
MOX *es*PP 13 49 55.4
MOX *es*SKSac 13 56 20.8
MOX Moxa 106.31 41 *e*P Pdif 13 44 56.4 +0.7
MOX *e* 13 49 18.1
MOX
comp=Z,400nm,22.0s
MOX Moxa 106.31 41 *e*P Pdif 13 44 56.4 +0.7
MOX *e* 13 49 18.1
MOX Moxa 106.31 41 *e*P Pdif 13 44 56.4 +0.7
MOX *e*PP PP 13 49 18.1 -3.1
MOX *es*SKS SKSdf 13 56 20.0 +13
MOX *es*SS SS 14 04 19.0 +4.8
MOX LR LR
comp=Z,400nm,22.0s
WET Wettzell 106.39 43 *e*Pdiff Pdif 13 44 56.5 +0.4
WET *e*PP PP 13 49 17.8 -4.1
WET *es*PP 13 49 56.2
WET *es*SKSac 13 56 19.8
WET Wettzell 106.39 43 *e*P Pdif 13 44 56.5 +0.4
WET *e* 13 49 17.8
WET Wettzell 106.39 43 *e*Pdif Pdif 13 44 56.5 +0.4
WET *e*PP PP 13 49 17.8 -4.1
WET *es*PP 13 49 56.2
WERN Wernitzgruen 106.59 41 *e*Pdiff Pdif 13 44 57.5 +0.5
WERN *e*PP PP 13 49 19.8 -3.5
GUNZ Gunzen 106.60 41 *e*Pdiff Pdif 13 44 56.9 -0.1
GUNZ *e*PP PP 13 49 19.8 -3.5
NKC Novy Kostel 106.61 42 *e*PDIF Pdif 13 44 58.1 +1.1
NKC *e*PP PP 13 49 18.7 -4.7
NKC *es*SKS SKSac 13 55 30.7 +4.9
NKC *ex* x 13 56 24.7
NKC *ex* x 13 59 07.5
NKC AMS AMS 14 21 40.0
comp=Z,2μm,55.0s
NKC Novy Kostel 106.61 42 *e*P Pdif 13 44 58.1 +1.1
NKC *e* 13 49 18.7
NKC *e* 13 55 30.7
NKC Novy Kostel 106.61 42 *e*Pdif Pdif 13 44 58.1 +1.1
NKC *e*PP PP 13 49 18.7 -4.7
NKC *es*SKS SKSac 13 55 30.7 +4.9
NKC *es*Sdif SKKSac 13 56 24.7 +8.9
NKC *es*PS PS 13 59 07.5 +23
WERD Werda 106.62 41 *e*Pdiff Pdif 13 44 57.7 +0.6
WERD *e*PP PP 13 49 19.8 -3.7
TANN Tannenbergstha 106.69 41 *e*Pdiff Pdif 13 44 57.7 +0.3
TANN *e*PP PP 13 49 18.9 -5.2
TANN *es*PP 13 49 58.4
TANN *es*SKSac 13 56 22.0
GEC2 GERESS Array S 106.76 43 *e*Pdiff Pdif 13 44 57.4 -0.3
GEC2 *e*PP PP 13 49 20.5 -4.0
GEC2 *es*PP 13 49 57.9
GEC2 *es*SKSac 13 56 21.4
GEC2 *e*(pPS) 13 59 06.1
GEC2 GERESS Array S 106.76 43 *e*P Pdif 13 44 57.4 -0.3
GEC2 *e* 13 49 20.5
GEC2 GERESS Array S 106.76 43 *e*Pdif Pdif 13 44 57.4 -0.3
GEC2 *e*P 13 49 07.3
GEC2 *e*PP PP 13 49 20.5 -4.0
GEC2 *es*PP 13 49 57.9
GEC2 PPS 13 59 06.1
GERES GERESS Array B 106.76 43 Pdiff Pdif 13 44 55.5 -2.2
comp=Z,1.4nm,0.7s,baz=232,slow=3.2,SNR=10
GERES PKiKP PKiKP 13 49 07.3 -0.1
comp=Z,4.0nm,0.8s,baz=200,slow=2.7,SNR=4.3
KHC Kasperske Hory 106.81 43 *e*PDIF Pdif 13 44 58.8 +0.9
KHC *ex* x 13 48 03.0
KHC *e*PP PP 13 49 20.0 -4.9
KHC *e*SKS SKSdf 13 55 29.7 -38
KHC *ex* x 13 56 22.2
KHC *ex* x 13 59 08.0
KHC AMS AMS 14 22 20.0
comp=Z,1μm,39.8s
KHC Kasperske Hory 106.81 43 *e*P Pdif 13 44 58.8 +0.9
KHC *e* 13 49 20.0
KHC *e* 13 55 29.7
BSEG Bad Segeberg 107.02 37 *e*Pdiff Pdif 13 44 59.8 +0.9
BSEG *e*PP PP 13 49 23.5 -3.0
BSEG *es*SKSac 13 56 23.6
BSEG Bad Segeberg 107.02 37 *e*Pdif Pdif 13 44 59.8 +0.9
BSEG *e*PP PP 13 49 23.5 -3.0
CLL Collm 107.38 41 *e*Pdiff Pdif 13 44 59.6 -0.9
comp=Z,16nm,1.2s
CLL *e*PKiKP PKiKP 13 49 08.2 -0.3
CLL *e*PP PP 13 49 26.3 -2.8
CLL *ep*PP 13 49 53.3
CLL *es*SKSac SKSac 13 55 29.1 0.0
CLL *es*SKSac 13 56 25.1
CLL *e*SP SP 13 58 34.4 -3.7
CLL *e*PS PS 13 58 49.7 -3.0
CLL *ep*SP 13 59 13.0
CLL *es*PS 13 59 26.6
CLL *e*SS SS 14 04 36.8 +8.0
CLL *e*SSS 14 08 43.2
CLL *e*SSSS 14 12 04.2
CLL *e*LR LR 14 21 48.7
CLL *e*L 14 31 56.7
comp=Z,491nm,22.0s
CLL Collm 107.38 41 *i* Pdif Pdif 13 45 01.7 +1.2
comp=Z,16nm,1.2s
CLL *i* PKiKP PKiKP 13 49 08.4 -0.1
comp=Z,8.0nm,1.0s
CLL *i* PP PP 13 49 26.4 -2.7
comp=Z,86nm,2.5s
CLL *i* pPKiKP 13 49 41.4
CLL *i* pPP 13 49 53.8
CLL *es*PP 13 50 04.0
CLL *e*SKSac SKSac 13 55 32.0 +2.9
CLL *e*SKKSac SKKSac 13 56 25.0 +3.8
CLL *e*SP SP 13 58 31.0 -7.1
CLL *e*PS PS 13 58 53.0 +0.3
CLL *ep*SP 13 59 14.0
CLL *e*PPS 13 59 56.0
CLL *ep*PPS 14 00 13.0

CLL eSS SS 14 04 38.0 +9.2
CLL ex x 14 05 44.0
CLL e(SSS) 14 08 57.0
CLL eSSSS 14 12 00.0
CLL LV 14 31 00.0
comp=Z,500nm,21.8s
CLL Collm 107.38 41 *i* P Pdif 13 45 01.7 +1.2
CLL e 13 55 32.0
CLL pmax pmax
comp=Z,16nm,1.2s
CLL MLR MLR
comp=Z,500nm,25.9s
CLL Collm 107.38 41 *i* Pdif Pdif 13 45 01.7 +1.2
comp=Z,16nm,1.2s
CLL *i* PKP PKiKP 13 49 08.4 -0.1
CLL eSKS SKSac 13 55 32.0 +2.9
CLL eSKKS SKKSac 13 56 25.0 +3.8
CLL LR LR
comp=Z,500nm,25.9s
FBE Freiberg 107.42 41 *e*Pdiff Pdif 13 45 00.8 +0.1
FBE *e*PP PP 13 49 26.7 -2.7
MUD Monsted U'grnd 107.54 35 *i* P PP 13 49 21.3 -8.9
MUD *i* 13 50 07.1
MUD *i* S SKKSac 13 56 31.8 +10
MUD *e* 13 59 03.3
MUD
comp=Z,410nm,18.0s
PRU Pruhonice 107.73 42 *e*PDIF Pdif 13 45 02.6 +0.6
PRU *e*PP PP 13 49 26.8 -4.8
PRU eSKS SKSac 13 55 35.0 +4.3
PRU ex x 13 56 28.1
PRU ex x 13 59 21.3
PRU AMS AMS 14 22 10.0
comp=Z,2μm,61.8s
PRU Pruhonice 107.73 42 *e*P Pdif 13 45 02.6 +0.6
PRU *e* 13 49 26.8
PRU *e* 13 55 35.0
BRG Berggiesshubel 107.74 41 *e*PP PP 13 49 29.6 -2.1
BRG esPP 13 50 07.2
BRG esSKSac 13 56 26.6
BRG Berggiesshubel 107.74 41 *e*PDIF Pdif 13 45 01.9 -0.1
comp=Z,1.7nm,0.7s
BRG *e* 13 45 03.7
comp=Z,3.3nm,1.1s
BRG *e* 13 45 36.0
BRG *e* 13 46 05.0
BRG *e* 13 48 56.5
comp=Z,2.6nm,0.8s
BRG PP PKiKP 13 49 16.0 +6.8
BRG SKS SKSac 13 55 31.0 +0.3
BRG S 13 56 17.0
BRG *i* 13 58 57.0
BRG *e* 14 00 37.5
comp=Z,1.4nm,0.8s
BRG SS 14 03 12.0
BRG
comp=N,166nm,21.6s
BRG
comp=E,215nm,20.2s
BRG
comp=Z,240nm,22.9s
BRG Berggiesshubel 107.74 41 *e*P Pdif 13 45 01.9 -0.2
BRG 13 55 31.0
BRG *i* 13 58 57.0
BRG pmax pmax
comp=Z,20nm,0.7s
BRG MLR MLR
comp=N,166nm,21.6s
BRG MLR MLR
comp=E,215nm,20.2s
BRG MLR MLR
comp=Z,240nm,22.9s
BRG Berggiesshubel 107.74 41 *e*Pdif Pdif 13 45 01.9 -0.1
comp=Z,1.7nm,0.7s
BRG *e* 13 45 03.7
BRG *e* 13 45 36.0
BRG *e* 13 46 05.0
BRG *e* 13 48 56.5
BRG PP PP 13 49 16.0 -16
BRG SKS SKSdf 13 55 31.0 -39
BRG S Sdif 13 56 17.0 -39
BRG *i* 13 58 57.0
BRG *e* 14 00 37.5
BRG SS 14 03 12.0
BRG LR LR
comp=Z,240nm,22.9s
INK Inuvik 107.93 339 PKKPbc PKKPbc 14 00 21.3 -0.9
comp=Z,5.8nm,0.9s,baz=323,slow=6.9,SNR=5.7
INK PKKPab PKKPab 14 00 35.5 -1.0
comp=Z,7.4nm,0.9s,baz=345,slow=1.8,SNR=6.5
INK Inuvik 107.93 339 *e*P Pdif 13 45 02.2 -0.7
TREC Trest 108.02 43 *e*PP PP 13 49 28.8 -4.9
TREC AMS AMS 14 22 30.0
comp=Z,1μm,46.2s
SOP Sopron 108.03 45⇓ *e*PP PP 13 49 30.4 -3.4
PKSM Moragy 108.77 47⇑ *i*P PP 13 49 36.1 -3.1
UPC Upice 108.80 42 *e*PDIF Pdif 13 45 09.7 +2.9
UPC *e*PP PP 13 49 36.6 -2.9
COP Copenhagen 108.87 36 *i* P Pdif 13 45 08.7 +1.6
COP *i* 13 49 37.8
COP *i* 13 50 19.7
COP *i* S SKKSac 13 56 33.4 +1.8
COP
comp=Z,190nm,20.0s
COP Copenhagen 108.87 36 *i* P Pdif 13 45 08.7 +1.6
COP *i* 13 49 37.8
COP MLR MLR
comp=Z,200nm,20.0s
DPC Dobruska-Polom 108.93 42 *e*PDIF Pdif 13 45 08.5 +1.2
DPC *e*PP PP 13 49 36.3 -4.0
DPC eSKS SKSac 13 55 39.6 +3.8
DPC eSKKS SKKSac 13 56 32.5 +0.6
DPC ex x 13 59 33.1
DPC AMS AMS 14 22 40.0
comp=Z,1μm,44.4s
DPC Dobruska-Polom 108.93 42 *e*P Pdif 13 45 08.5 +1.2
DPC *e* 13 49 36.3
DPC *e* 13 55 39.6
DIV Divide 108.94 330 PFAKE 13 49 20.0 +8.6
DIV LR LR
comp=Z,1μm,19.0s
KSP Ksiaz 109.10 42 *e*Pdif Pdif 13 45 08.0 -0.1
KSP *e*PKPdf PKiKP 13 49 13.6 +1.9
KSP *e*PP PP 13 49 36.0 -5.6
KSP eSKKS SKKSac 13 56 27.5 -5.6
KSP ePS PS 13 59 20.0 +10
KONO Kongsberg 109.11 32 *e*PP PP 13 49 40.6 -1.1
KONO *i* 13 59 30.1
KONO Kongsberg 109.11 32 *e*PP PP 13 49 40.6 -1.1
KONO *i* 13 59 30.1
KONO LR LR
comp=Z,531nm,21.0s
MORC Moravsky Berou 109.44 43⇑ *i*P PKiKP 13 49 12.6 +0.3
BUD Budapest 109.49 46⇓ *e*PP PP 13 49 40.5 -3.9
VYHS Vyhne 109.75 45 PDIF Pdif 13 45 11.2 +0.2
VYHS Vyhne 109.75 45 *e*PKP PKiKP 13 49 12.5 -0.4
VYHS *e*PP PP 13 49 40.2 -6.1
VYHS Vyhne 109.75 45 *e*P Pdif 13 45 11.2 +0.2
VYHS *e*PP PP 13 49 40.2 -6.1
OKC Ostrava-Krasne 109.82 43 *e*PP PP 13 49 43.3 -3.5
OKC eSKS SKSac 13 55 39.8 +0.3
OKC eSKKS SKKSac 13 56 37.3 -0.8
OKC ex x 13 59 43.5
OKC AMS AMS 14 24 10.0
comp=Z,400nm,21.6s
SANT Santorini 109.84 59 *e*PKiKP PKiKP 13 49 08.6 -4.5
PSZ Piszkesteto 110.20 46⇓ *e*PKP/D 13 49 45.8
NB2 NORSAR Subarra110.41 31 PKiK PKiKP 13 49 13.4 -0.8
comp=Z,1.1nm,0.6s,baz=248,slow=1.9
NB2 NORSAR Subarra110.41 31 PKiK PKiKP 13 49 13.4 -0.8
baz=248,slow=1.9
NB2 NORSAR Subarra110.41 31 *e*P PKiKP 13 49 13.4 -0.8
NOA NORSAR Array B110.41 31 PKiKP PKiKP 13 49 13.7 -0.5
comp=Z,1.4nm,0.6s,baz=252,slow=2.0,SNR=6.1
BZS Buzias 110.48 49⇑ *i*P PKiKP 13 49 14.7 +0.4
BZS Buzias 110.48 49⇑ P PKiKP 13 49 14.7 +0.4
PMR Palmer 110.61 330 PFAKE 13 49 30.0 +15
PMR LR LR
comp=Z,491nm,21.0s
KECS Kecovo 110.77 45 *e*PKP PKiKP 13 49 14.3 -0.5
KECS *e* 13 49 48.3
KDAK Kodiak Island 110.80 325 PFAKE 13 49 30.0 +15
KDAK LR LR
comp=Z,136nm,22.0s
OJC Ojcow 110.95 43 *e*PKiKP PKiKP 13 49 15.4 +0.2
OJC *e*PP PP 13 49 54.0 -1.0
OJC *e*SKKSac SKKSac 13 56 41.6 -4.3
OJC *e*SS SS 14 05 16.3 -0.4
OJC L 14 30 52.1
comp=Z,2.2nm,25.4s
OJC Ojcow 110.95 43 *i* PKIKP PKiKP 13 49 15.4 +0.2
OJC *e* 13 49 54.0
OJC eSS SS 14 05 16.3 -0.4
COLA College 111.35 333 *e*PKP PKiKP 13 49 12.7 -3.2
COLA LR LR
comp=Z,332nm,19.0s
MCK McKinley 111.35 332 *e*PKIKP PKiKP 13 49 15.4 -0.5
MCK MLR MLR
comp=Z,171nm,20.0s
CRVS Cervenica-Dubn 111.52 45 *e*PP PP 13 49 56.4 -2.6
DRGR 111.60 48⇑ *i*P PKiKP 13 49 16.7 +0.3
DRGR 111.60 48⇑ P PKiKP 13 49 16.7 +0.3
KOLS Kolonicke sedl 112.04 45 *e* PP 13 50 08.9 +6.2
STKA Stephens Creek 112.84 208 *e*PKP PKiKP 13 49 19.4 +0.6
comp=Z,2.7nm,0.8s
STKA Stephens Creek 112.84 208 PKiKP PKiKP 13 49 19.4 +0.6
comp=Z,2.7nm,0.7s,baz=127,slow=2.4,SNR=6.1
STKA PP PP 13 50 09.5 +1.0
comp=Z,3.2nm,0.9s,baz=161,slow=4.8,SNR=3.7
STKA PKKPbc PKKPbc 14 00 06.3 0.0
comp=Z,4.1nm,0.8s,baz=332,slow=6.0,SNR=5.6
STKA PKKPab PKKPab 14 00 14.4 -0.3
comp=Z,6.1nm,1.0s,baz=339,slow=4.4,SNR=5.4
MLR Muntele Rosu 113.31 50⇑ *i*P PKiKP 13 49 20.3 +0.6
MLR Muntele Rosu 113.31 50 P PKiKP 13 49 19.6 -0.1
BURAR Bucovina Array 113.48 47⇓ *i*P PKiKP 13 49 19.8 -0.2
BURAR Bucovina Array 113.48 47⇓ P PKiKP 13 49 19.8 -0.2
PLOR Plostina 113.89 50⇑ *i*P PKiKP 13 49 20.2 -0.6
VRI Vrincioaia 113.95 50⇑ *i*P PKiKP 13 49 20.3 -0.6
VRI Vrincioaia 113.95 50⇑ P PKiKP 13 49 20.3 -0.6
IMA2 Indian Mountai 114.05 334 *e*PKiKP PKiKP 13 49 20.9 -0.2
TTA Tatalina 114.09 330 *e*PKIKP PKiKP 13 49 21.2 0.0
SUW Suwalki 114.13 40 *e*PKiKP PKiKP 13 49 20.4 -0.8
SUW Suwalki 114.13 40 *e*PKIKP PKiKP 13 49 20.5 -0.7
HARR Harsova 114.41 51⇓ *i*P PKiKP 13 49 22.4 +0.6
HARR Harsova 114.41 51 P PKiKP 13 49 22.2 +0.4
TIRR Tirgusor 114.67 51⇓ *i*P PKiKP 13 49 22.3 0.0
TIRR Tirgusor 114.67 51 P PKiKP 13 49 22.4 +0.2
CFR Carcaliu 114.69 51⇑ *i*P PKiKP 13 49 22.2 -0.1
CFR Carcaliu 114.69 51 P PKiKP 13 49 22.2 -0.1
EIL Elat 114.90 69 *e*PKiKP PKiKP 13 49 23.4 +0.7
CSS Prodhromos 115.37 63 *e*P PKPdf 13 49 24.6 +1.0
KIS Kishinev 115.66 49 *e*PKIKP PKPdf 13 49 22.0 -2.2
KIS *e* 13 50 24.0
TRO Tromso 116.14 23 *e*PP PP 13 50 29.9 -1.8
TRO *i* 14 00 17.9
ANTO Ankara 116.45 57⇑ *i*P PKPdf 13 49 26.6 +0.9
ANTO Ankara 116.45 57⇑ P PKPdf 13 49 26.6 +0.9
ANTO LR LR
comp=Z,355nm,21.0s
KBS Kingsbay 116.52 12 *e*PP PP 13 50 33.7 -0.7
KBS *i* 14 00 17.9
KBS AMS AMS 14 27 45.7
comp=Z,82nm,20.2s
KBS Kingsbay 116.52 12 PFAKE 13 49 40.0 +14
KBS LR LR
comp=Z,489nm,19.0s
AKASG Malin Array Be 116.85 45 PKP PKPdf 13 49 25.2 -1.3
comp=Z,15nm,0.7s,baz=264,slow=2.8,SNR=63
AKASG PP PP 13 50 32.0 -4.6
comp=Z,6.5nm,0.9s,baz=255,slow=7.0,SNR=9.4
BR131 Keskin Array S 117.04 58 *e*P PKPdf 13 49 26.9 +0.1
BR131 LR LR
comp=Z,248nm,20.0s
BRTR Keskin Array B 117.04 58 PKP PKPdf 13 49 26.6 -0.2
comp=Z,20nm,0.3s,baz=307,slow=5.2,SNR=2.0
VSU Vasula 117.14 36 *e*PKIKP PKPdf 13 49 25.9 -1.1
UNV Unalaska Valle 117.17 319 PFAKE 13 49 40.0 +13
UNV LR LR
comp=Z,1μm,21.0s
FINES FINESS Array B 117.39 33 PKP PKPdf 13 49 26.6 -0.9
comp=Z,5.7nm,0.8s,baz=116,slow=1.1,SNR=19
FINES PP PP 13 50 43.8 +3.3
comp=Z,6.8nm,1.0s,baz=211,slow=6.2,SNR=4.7
FINES PKKPab PKKPab 13 59 49.8 -4.8
comp=Z,0.9nm,0.5s,baz=116,slow=4.4,SNR=7.5
FINES FINESS Array B 117.39 33 PKIKP PKPdf 13 49 26.7 -0.8
FINES 13 50 43.8
KAF Kangasniemi 117.62 32 *e*pkp PKPdf 13 49 26.0 -2.0
NWAO Narrogin (SRO) 118.13 186 PFAKE 13 49 40.0 +11
NWAO LR LR
comp=Z,966nm,19.0s
ARCES ARCESS Array B 118.40 23 PKP PKPdf 13 49 27.8 -1.7
comp=Z,6.2nm,0.7s,baz=251,slow=2.9,SNR=20
ARCES PKKPbc PKKPbc 13 59 47.7 +0.6
comp=Z,3.8nm,0.7s,baz=88,slow=3.7,SNR=17
ARCES PKKP PKKPdf 14 00 18.9 +2.9
comp=Z,2.6nm,0.8s,baz=29,slow=2.8,SNR=4.0
ARCES ARCESS Array B 118.40 23 PKP PKPdf 13 49 27.8 -1.7
ARCES PKKPbc PKKPbc 13 59 47.7 +0.6
ARCES PKKP PKKPdf 14 00 18.9 +2.9
SIM Simferopol' 118.72 52 *d* iPKIKP PKPdf 13 49 29.9 -0.2
SIM *e* 13 50 44.0
SIM pmax pmax
comp=Z,39nm,0.9s
KEV Kevo 118.94 23 PFAKE 13 49 40.0 +9.5
KEV LR LR
comp=Z,465nm,21.0s
PUL Pulkovo 119.18 35 *i* PKIKP PKPdf 13 49 25.4 -5.6
PUL *e* 13 50 50.4
PUL *e*PPP 13 53 24.4
PUL eSP SP 14 00 43.2 +15
HNR Honiara 119.30 239 PFAKE 13 49 40.0 +8.8
HNR LR LR
comp=Z,470nm,20.0s
TNA Tin City 119.69 332 PFAKE 13 49 40.0 +8.1
TNA LR LR
comp=Z,257nm,21.0s
JOF Joensuu 120.03 31 *e*pkp PKPdf 13 49 30.6 -2.0
MALT Malatya 120.26 60⇑ *i*P PKPdf 13 49 34.3 +1.3
MALT Malatya 120.26 60 P PKPdf 13 49 34.1 +1.1
CTA Charters Tower 120.52 219 *e*PKP PKPdf 13 49 34.6 +1.1
comp=Z,6.1nm,0.8s
CTAO Charters Tower 120.52 219 PFAKE 13 49 50.0 +16
CTAO LR LR
comp=Z,445nm,19.0s
ANN Anapa 120.99 53 *i* PKIKP PKPdf 13 49 32.7 -1.7
ANN *e* 13 51 00.0
ANN *e*PPP 13 53 37.2
ANN *e* 13 56 18.4
ANN pmax pmax
comp=Z,184nm,1.6s
APA Apatity 121.16 26⇓ *i*PKIKP PKPdf 13 49 34.0 -0.8
APA *i* 13 50 05.6
APA eSS SS 14 08 05.0 +35
APA pmax pmax
comp=Z,22nm,0.8s
APA MLR MLR
comp=Z,500nm,19.0s
LVZ Lovozero 121.64 26 *i* PKIKP PKPdf 13 49 35.2 -0.5
LVZ *e* 13 51 05.9
LVZ eSS SS 14 07 29.2 -6.8
LVZ Lovozero 121.64 26⇑ *e*PKP PKPdf 13 49 34.7 -1.0
OBN Obninsk 121.98 41⇑ *i*PKIKP PKPdf 13 49 35.5 -0.8
OBN *e* 13 50 06.0
OBN *e* 13 56 20.4
OBN eSS SS 14 07 38.5 -1.9
OBN pmax pmax
comp=Z,59nm,1.0s
OBN MLR MLR
comp=Z,700nm,24.0s
OBN Obninsk 121.98 41 *e*PKPdf PKPdf 13 49 35.8 -0.6
OBN LR LR
comp=Z,165nm,22.0s
MOS Moscow 122.64 40 *e*PKIKP PKPdf 13 49 35.4 -2.2
MOS *e* 13 50 07.6
MOS *e* 13 51 12.4
MOS pmax pmax
comp=Z,76nm,0.9s
TMCR Tamitsa 123.08 30 *e*PKIKP PKPdf 13 49 37.4 -1.1
TMCR pmax pmax
comp=Z,77nm,1.2s
VRSR Storozhevoye 123.14 46 *i* PKIKP PKPdf 13 49 37.5 -1.1
VRSR *e* 13 51 19.2
VRSR pmax pmax
comp=Z,60nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
AS31 Alice Springs 123.19 205 *e*P PKPdf 13 49 38.8 +0.2
AS31 *i* PKP PKPdf 13 49 39.1 +0.4
ASAR Alice Springs 123.19 205 PKP PKPdf 13 49 39.0 +0.3
comp=E,19nm,0.7s,baz=134,slow=1.8,SNR=158
ASAR pPKP pPKPdf 13 50 10.8 -0.3
comp=E,5.5nm,0.7s,baz=135,slow=2.0,SNR=2.8
ASAR PKKPbc PKKPbc 13 59 29.4 +0.2
comp=E,8.6nm,0.9s,baz=336,slow=3.3,SNR=42
ASAR PKKP PKKPdf 14 00 00.3 -6.5
comp=E,3.6nm,1.1s,baz=343,slow=4.4,SNR=4.7
ASAR SKKPbc 14 03 00.1
comp=E,0.7nm,0.8s,baz=340,slow=6.8,SNR=4.1
ASAR PKPPKP 14 08 14.2
comp=E,0.4nm,0.8s,baz=2.7,slow=1.5,SNR=4.7
ASAR Alice Springs 123.19 205 PKIKP PKPdf 13 49 39.0 +0.3
ASAR 13 50 10.8
ASAR 14 08 14.3
ASPA Alice Springs 123.19 205 *i* PKP PKPdf 13 49 39.1 +0.4
MSL Mosul 123.37 64 *ex* x 13 49 46.0
BHD Baghdad 123.66 68 *ex* x 13 49 37.0
KIV Kislovodsk 124.55 55 *i* PKIKP PKPdf 13 49 39.8 -1.5
KIV *e* 13 51 25.7
KIV eSS SS 14 08 11.2 -1.7
KIV pmax pmax
comp=Z,118nm,1.1s
KIV Kislovodsk 124.55 55 *e*PKPdf PKPdf 13 49 41.5 +0.2
KIV LR LR
comp=Z,60nm,19.0s
NAY Al-Naaiem 124.94 73 *e*P PKPdf 13 49 42.2 +0.2
NAY AMb AMB 13 49 43.5
comp=Z,28nm,0.9s
RDF Al-Radifah 125.10 73 *e*P PKPdf 13 49 42.5 +0.2
RDF AMb AMB 13 49 44.9
comp=Z,58nm,1.0s
MIB Mutribah 125.17 72 *e*P PKPdf 13 49 42.7 +0.3
MIB AMb AMB 13 49 45.2
comp=Z,70nm,1.0s
ZEI Tsey 125.25 56 *e*PKIKP PKPdf 13 49 43.3 +0.7
ZEI *e* 13 51 28.3
UMR Umm Al-Rimmam125.42 73 *e*P PKPdf 13 49 43.6 +0.7
UMR AMb AMB 13 49 44.7
comp=Z,107nm,0.7s
GNI Garni 125.44 59⇑ *i*PKIKP PKPdf 13 49 43.7 +0.7
GNI Garni 125.44 59 *e*PKPdf PKPdf 13 49 44.0 +1.0
GNI LR LR
comp=Z,298nm,22.0s
WB2 Warramunga Arr 126.38 208 *i* PKP PKPdf 13 49 45.4 +0.6
WRA Warramunga Arr 126.39 208 PKhKP 13 49 37.3
comp=Z,0.7nm,0.6s,baz=239,slow=1.7,SNR=9.4
WRA PKP PKPdf 13 49 45.4 +0.6
comp=Z,49nm,0.6s,baz=165,slow=1.7,SNR=425
WRA pPKP pPKPdf 13 50 16.0 -1.2
comp=Z,15nm,0.9s,baz=168,slow=1.5,SNR=3.5
WRA PKKPbc 13 59 17.5
comp=Z,2.0nm,0.9s,baz=338,slow=4.4,SNR=6.2
WRA SKKPbc 14 02 49.8
comp=Z,4.7nm,1.1s,baz=351,slow=6.0,SNR=5.4
WRA Warramunga Arr 126.39 208 PKIKP PKPdf 13 49 45.4 +0.6
WRA 13 50 16.0
WRA Warramunga Arr 126.39 208 PKP PKPdf 13 49 45.4 +0.6
WRA pPKP pPKPdf 13 50 16.0 -1.2
WRA PKKPbc 13 59 17.5
WRA SKKPbc 14 02 49.8
WRAB Tennant Creek 126.39 208 *e*PKIKP PKPdf 13 49 45.4 +0.6
WRAB MLR MLR
comp=Z,140nm,21.0s
MAK Makhachkala 127.90 56 *i* PKIKP PKPdf 13 49 46.5 -1.2
MAK *e* 13 50 17.6
MAK *i* 13 51 47.3
MAK *e* 13 56 44.9
MAK eSP SP 14 01 39.2 -6.0
MAK *e*PS PS 14 01 54.6 -4.4
MAK *e* 14 03 14.1
MAK *e* 14 03 33.3
MAK pmax pmax
comp=Z,76nm,0.6s
PMG Port Moresby 128.30 228 PFAKE 13 50 00.0 +12
PMG LR LR
comp=Z,1μm,21.0s
SMY Shemya 128.62 316 PFAKE 13 50 00.0 +11
SMY LR LR
comp=Z,269nm,19.0s
BILL Bilibino 129.40 336 *e*PKIKP PKPdf 13 49 49.7 -0.8
BILL *e* 13 56 40.7
BILL pmax pmax
comp=Z,46nm,1.2s
BILL MLR MLR
comp=Z,478nm,25.0s
MBWA Marble Bar 129.43 191 *e*PKPdf PKPdf 13 49 51.1 +0.5
MBWA LR LR
comp=Z,483nm,19.0s
FITZ Fitzroy Crossi 131.09 199 *i* PKP PKPdf 13 49 54.7 +1.0
comp=Z,19nm,0.4s
FITZ *e*pPKP pPKPdf 13 50 25.1 -1.1
FITZ *e*SKP 13 53 08.5
FITZ *e*PKS 13 53 20.1
FITZ *e* 13 53 48.8
BSY Bisya 131.51 84⇑ P PKPdf 13 49 55.0 +0.5
SNR=6.6
BANOM Banah 131.70 80⇓ P PKPdf 13 49 55.6 +0.7
SNR=7.2
SMDO Samad 132.35 84⇑ P PKPdf 13 49 56.9 +0.7
SNR=11
SOKR Solikamsk 132.52 34 *d* iPKIKP PKPdf 13 49 57.6 +1.2
SOKR pmax pmax
comp=Z,60nm,1.1s
KAKA Kakadu 133.66 209 *e*PKP 13 49 48.6
comp=Z,13nm,0.5s
ARU Arti 134.23 38 *i* PKIKP PKPdf 13 49 59.3 -0.3
ARU *e* 13 52 28.9
ARU eSS SS 14 10 06.6 -5.3
ARU Arti 134.23 38 *e*PKPdf PKPdf 13 49 59.3 -0.4
ARU LR LR
comp=Z,127nm,21.0s
AKTO Aktyubinsk 135.06 46 PKIKP PKPdf 13 50 01.3 +0.1
AKTO pmax pmax
comp=Z,10.0nm,1.4s
SVE Sverdlovsk 135.23 37 *e*PKIKP PKPdf 13 49 55.0 -6.5
SVE *e* 13 50 35.0
SVE *e* 13 52 35.0
SVE *e* 14 02 40.0
SVE pmax pmax
comp=Z,130nm,2.9s
TIXI Tiksi 136.19 352 *e*PKIKP PKPdf 13 49 56.8 -6.5
TIXI *e* 14 04 55.5
TIXI pmax pmax
comp=Z,11nm,0.9s
TIXI Tiksi 136.19 352⇑ *e*PKP PKPdf 13 50 02.1 -1.2
TIXI LR LR
comp=Z,459nm,22.0s
AB31 Akbulak array 136.46 48 *i* PKHKP 13 49 51.8
AB31 pmax pmax
comp=Z,43nm,0.9s
SEY Seymchan 136.86 334 *e*PKIKP PKPdf 13 50 04.8 +0.3
PET Petropavlovsk 137.82 318 *e*PKHKP 13 49 56.3
PET *e* 13 52 55.3
PET eSS SS 14 11 02.7 +8.0
PET pmax pmax
comp=Z,100nm,16.4s
PET Petropavlovsk 137.82 318 PFAKE 13 50 20.0 +14
PET LR LR
comp=Z,268nm,20.0s
MA2 Magadan 139.29 330 PFAKE 13 50 20.0 +11
MA2 LR LR
comp=Z,496nm,22.0s
SKR Severo-Kuril's 139.96 316 *e*PKIKP PKPdf 13 50 06.0 -4.2
ZRNK Zerenda 141.06 40 PKIKP PKPdf 13 50 06.4 -5.8
ZRNK Zerenda 141.06 40 *e*PKPdf PKPdf 13 50 06.2 -6.1
CHKZ Chkalovo 141.68 38 PKIKP PKPdf 13 50 08.0 -5.3
CHKZ pmax pmax
comp=Z,30nm,0.9s
CHKZ Chkalovo 141.68 38 *e*PKPdf PKPdf 13 50 06.8 -6.5
BRVK Borovoye 141.74 40⇑ P PKPdf 13 50 08.5 -4.9
SNR=17
BRVK Borovoye 141.74 40 *e*PKPdf PKPdf 13 50 08.3 -5.1
BRVK LR LR
comp=Z,85nm,22.0s
BVA0 Borovoye Array 141.81 40 *i* PKIKP PKPdf 13 50 08.7 -4.9
BVAR Borovoye Array 141.81 40 SKKPbc 14 02 01.5
comp=Z,8.3nm,1.1s,baz=123,slow=5.5,SNR=12

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
VOSK	**Vostochnaya**	**142.26**	**40**	PKIKP	PKPdf	13 50 10.2	-4.2
VOSK				pmax	pmax		
	comp=Z,55nm,1.1s						
PALK	**Pallekele**	**144.17**	**121**	*e*PKPdf	PKPdf	13 50 17.6	-0.1
PALK				LR	LR		
	comp=Z,92nm,19.0s						
KAD	**Karad**	**144.32**	**101**	*e*P	PKPdf	13 50 16.5	-1.5
POO	**Poona**	**144.55**	**99**⇓	*i*P	PKPdf	13 50 15.0	-3.4
	comp=Z,130nm,1.0s						
KKAR	**Karatay Array**	**144.70**	**55**	PKIKP	PKPdf	13 50 17.5	-1.1
KKAR				pmax	pmax		
	comp=Z,395nm,1.4s						
YAK	**Yakutsk**	**144.75**	**345**⇓	*e*PKIKP	PKPdf	13 50 16.9	-1.8
YAK				*e*		13 50 48.4	
YAK				*e*		13 53 40.4	
YAK				*e*		14 06 16.8	
YAK				pmax	pmax		
	comp=Z,94nm,1.1s						
YAK				pmax	pmax		
	comp=N,143nm,1.2s						
YAK				pmax	pmax		
	comp=E,78nm,0.9s						
YAK	**Yakutsk**	**144.75**	**345**	*e*PKPdf	PKPdf	13 50 17.0	-1.7
YAK				LR	LR		
	comp=Z,335nm,20.0s						
GUMO	**Guam**	**145.09**	**251**	PKPbc	PKPbc	13 50 20.5	+1.4
	comp=Z,486nm,1.1s,baz=161,slow=3.8,SNR=20						
GUMO				pPKPbc		13 50 52.0	
	comp=Z,331nm,0.8s,baz=177,slow=8.3,SNR=6.5						
LATR	**Latur**	**146.84**	**101**	*e*P	PKPdf	13 50 22.2	-0.1
EKS2	**Erkin-Say**	**147.14**	**55**	P	PKPdf	13 50 24.5	+1.7
	SNR=114						
AML	**Almayashu**	**147.19**	**56**	P	PKPdf	13 50 24.9	+2.0
	SNR=28						
MDRS	**Chennai**	**147.32**	**113**	*e*P	PKPdf	13 50 22.2	-0.9
MDRS				*e*x	x	13 55 12.6	
NVS	**Novosibirsk**	**147.32**	**30**⇓	*i*PKIKP	PKPdf	13 50 22.5	-0.6
NVS				*i*		13 50 53.8	
NVS				pmax	pmax		
	comp=Z,47nm,1.0s						
NVS				pmax	pmax		
	comp=N,43nm,1.2s						
NVS				pmax	pmax		
	comp=E,108nm,1.1s						
USP	**Ospenovka**	**147.52**	**54**	P	PKPdf	13 50 24.6	+1.2
	SNR=158						
AAK	**Ala-Archa**	**147.67**	**55**	P	PKPdf	13 50 25.3	+1.6
	SNR=184						
AAK	**Ala-Archa**	**147.67**	**55**	P	PKPdf	13 50 24.5	+0.8
	SNR=244						
AAK	**Ala-Archa**	**147.67**	**55**⇑	*e*PKP	PKPdf	13 50 24.2	+0.5
AAK				LR	LR		
	comp=Z,85nm,22.0s						
FRU	**Bishkek**	**147.71**	**55**	*i* PKIKP	PKPdf	13 50 24.0	+0.3
FRU				pmax	pmax		
	comp=Z,110nm,1.2s						
FRU				pmax	pmax		
	comp=Z,3μm,4.0s						
CHMS	**Chumysh**	**147.77**	**54**	P	PKPdf	13 50 25.0	+1.1
	SNR=136						
UCH	**Uchtor**	**147.77**	**56**	P	PKPdf	13 50 26.4	+2.6
	SNR=13						
AJM	**Ajmer**	**147.78**	**86**	*e*P	PKPdf	13 50 24.9	+1.0
KBK	**Karagaybulak**	**147.99**	**55**	P	PKPdf	13 50 25.6	+1.4
	SNR=128						
HYB	**Hyderabad**	**148.11**	**104**	*i* PKP	PKPdf	13 50 26.0	+1.6
HYB				*e*		13 50 29.0	
HYB				*e*pPKP	pPKPdf	13 50 59.5	+2.6
HYB				*e*sPKP		13 51 12.0	
HYB				*e*PP	PP	13 53 57.0	+0.4
HYB				*e*		13 54 37.0	
HYB	**Hyderabad**	**148.11**	**104**	*e*P	PKPdf	13 50 24.0	-0.4
AKL	**Akola**	**148.14**	**97**	*e*P	PKPdf	13 50 26.2	+1.8
AKL				*i* P		13 50 26.3	
KZA	**Kyzart**	**148.34**	**56**	P	PKPdf	13 50 27.4	+2.6
	SNR=64						
TKM2	**Tokmak 2**	**148.39**	**54**	PKIKP	PKPdf	13 50 26.0	+1.2
TKM2				pmax	pmax		
	comp=Z,475nm,1.2s						
YUK	**Yuzh-Kuril'sk**	**148.51**	**308**	*e*PKP2	PKPab	13 50 27.5	-5.0
YUK				pmax	pmax		
	comp=Z,2μm,1.2s						
ZAL	**Zalesovo**	**148.61**	**30**	PKP	PKPdf	13 50 25.6	+0.4
	comp=Z,229nm,0.7s,baz=203,slow=2.8,SNR=71						
ZAL				PKPbc	PKPbc	13 50 29.1	+0.1
	comp=Z,229nm,0.7s,baz=166,slow=3.1,SNR=238						
ULHL	**Ulahol**	**149.01**	**55**	P	PKPdf	13 50 27.4	+1.6
	SNR=122						
AAA	**Alma-Ata**	**149.25**	**53**	*e*PKIKP	PKPdf	13 50 27.6	+1.4
AAA				*e*S		13 54 02.8	
AAA				pmax	pmax		
	comp=Z,2μm,3.5s						
BHPL	**Bhopal**	**149.36**	**93**	*e*P	PKPdf	13 50 26.0	-0.5
BHPL				AMS	AMS	14 49 36.4	
	comp=Z,263nm,17.5s						
KSH	**Kashi**	**149.36**	**61**	*i* PKP	PKPdf	13 50 30.0	+3.6
KSH				*e*PKS		13 54 04.2	
KSH				*e*SKS	SKSdf	13 57 22.2	-1.2
KSH				LR	LR		
	comp=N,351nm,5.6s						
KSH				LR	LR		
	comp=E,425nm,5.1s						
KSH				LR	LR		
	comp=Z,347nm,7.2s						
YSS	**Yuzh-Sakhalins**	**149.52**	**315**	*i* PKP2	PKPab	13 50 31.0	-5.6
YSS				*e*SS	SS	14 13 52.0	+43
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**149.52**	**315**	*e*PKPdf	PKPdf	13 50 27.0	+0.3
YSS				*e*PKPbc	PKPbc	13 50 31.2	-0.1
YSS				*e*PKPab	PKPab	13 50 36.3	-0.3
YSS				LR	LR		
	comp=Z,291nm,20.0s						
THN	**Thein Dam**	**149.54**	**75**	*e*P	PKPdf	13 50 27.0	+0.3
DLH	**Dalhousie**	**149.75**	**74**	*e*x	x	13 50 32.0	
KRAR	**Krasnoyarsk**	**150.06**	**21**	*i* PKP2	PKPbc	13 50 31.7	-0.9
BHK	**Bhakra**	**150.06**	**77**	*e*x	x	13 50 36.6	
NDI	**New Delhi**	**150.44**	**82**	*e*P	PKPdf	13 50 28.0	-0.1
NDI				*e*P		13 50 28.1	
CLNS	**Chul'man**	**150.50**	**344**	*e*PKIKP	PKPdf	13 50 27.9	-0.3
CLNS				pmax	pmax		
	comp=N,14nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,51nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
SDNR	**Sundarnagar**	**150.54**	**77**	*e*P	PKPdf	13 50 29.4	+1.1
SMLA	**Simla**	**150.68**	**77**	*e*P	PKPdf	13 50 29.4	+0.9
ASAJ	**Asahikawa**	**150.71**	**310**	PKP	PKPdf	13 50 29.6	+1.0
	comp=E,160nm,0.9s,baz=257,slow=4.7,SNR=40						
ASAJ				PKPbc	PKPbc	13 50 34.8	+0.6
	comp=E,160nm,0.9s,baz=256,slow=7.4,SNR=49						
ASAJ				PKPab	PKPab	13 50 42.1	+0.6
	comp=E,84nm,0.8s,baz=315,slow=2.6,SNR=16						
ASAJ	**Asahikawa**	**150.71**	**310**	PKIKP	PKPdf	13 50 29.6	+1.1
ASAJ						13 50 42.1	
ASAJ				pmax	pmax		
	comp=Z,161nm,1.0s						
ERM	**Erimo**	**150.98**	**305**	*e*PKPdf	PKPdf	13 50 30.4	+1.4
ERM				*e*PKPbc	PKPbc	13 50 35.9	+1.1
ERM				*e*PKPab	PKPab	13 50 43.8	+1.1
ERM				LR	LR		
	comp=Z,111nm,21.0s						
BOD	**Bodaibo**	**151.12**	**357**	*e*PKIKP	PKPdf	13 50 28.1	-1.1
BOD				pmax	pmax		
	comp=Z,25nm,1.3s						
DDI	**Dehra Dun**	**151.37**	**79**	*e*P	PKPdf	13 50 31.0	+1.4
DDI				*e*x	x	13 51 09.0	
MK31	**Makanchi Array**	**151.43**	**44**	PKIKP	PKPdf	13 50 29.5	-0.1
MK31				pmax	pmax		
	comp=Z,184nm,0.7s						
MKAR	**Makanchi Array**	**151.43**	**44**	PKP	PKPdf	13 50 29.4	-0.2
	comp=Z,15nm,0.9s,baz=318,slow=1.0,SNR=62						
MKAR				PKPbc	PKPbc	13 50 36.4	+0.5
	comp=Z,258nm,0.7s,baz=307,slow=2.3,SNR=377						
MKAR				PKPab	PKPab	13 50 44.6	+0.1
	comp=Z,177nm,0.8s,baz=299,slow=3.9,SNR=12						
MKAR				pPKPbc	pPKPbc	13 51 06.8	-1.3
	comp=Z,49nm,0.7s,baz=276,slow=1.6,SNR=2.2						
MKAR	**Makanchi Array**	**151.43**	**44**	PKP	PKPdf	13 50 29.4	-0.2
MKAR				PKPbc	PKPbc	13 50 36.4	+0.5
MKAR				PKPab	PKPab	13 50 44.6	+0.1
MKAR				pPKPbc	pPKPbc	13 51 06.8	-1.3
JBP	**Jabalpur**	**151.57**	**95**⇓	*e*P	PKPdf	13 50 31.0	+1.1
JBP				*i* x	x	13 51 07.6	
KGM	**Kluang**	**152.18**	**163**	P	PKPdf	13 50 35.8	+5.0
VIS	**Vishakhapatnam**	**152.27**	**108**	*e*P	PKPdf	13 50 30.8	-0.1
VIS				AMb	AMB	13 50 52.0	
	comp=Z,113nm,1.4s						
CBIJ	**Chichi jima**	**152.47**	**274**	PKPbc	PKPbc	13 50 38.0	-0.2
	comp=Z,86nm,0.8s,baz=262,slow=17,SNR=6.0						
KSM	**Kuching**	**152.62**	**178**	*e*PKPdf	PKPdf	13 50 31.8	+0.4
KSM				*e*PKPbc	PKPbc	13 50 38.8	+0.3
KSM				*e*PKPab	PKPab	13 50 50.6	+1.1
LGTI	**Lohaghat**	**153.17**	**81**	*i* P	PKPdf	13 50 33.5	+1.3
HABR	**Khabarovsk**	**153.19**	**323**	*e*PKIKP	PKPdf	13 50 32.4	+0.2
HABR				*e*		13 57 28.3	
IPM	**Ipoh**	**153.83**	**157**	P	PKPbc	13 50 42.0	+0.8
DAV	**Davao City (W)**	**154.22**	**215**	PFAKE		13 50 50.0	+16
DAV				LR	LR		
	comp=Z,443nm,19.0s						
KLR	**Kul'dur**	**154.34**	**328**	*e*PKIKP	PKPdf	13 50 30.2	-3.7
KLR				*e*		13 51 00.0	
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,600nm,8.0s						
KULM	**Kulim**	**154.45**	**155**	*e*PKPdf	PKPdf	13 50 34.7	+0.6
KULM				*e*PKPbc	PKPbc	13 50 43.0	+0.5
KULM				*e*PKPab	PKPab	13 50 58.4	+1.1
KOLN	**Koldanda**	**155.86**	**86**	*e*P	PKPdf	13 50 36.7	+0.8
MJAR	**Matsushiro Arr**	**155.99**	**295**	PKP	PKPdf	13 50 36.5	+0.4
	comp=Z,14nm,1.1s,baz=327,slow=0.8,SNR=19						
MJAR				PKPab	PKPab	13 51 04.0	+0.1
	comp=Z,13nm,0.7s,baz=70,slow=3.9,SNR=14						
MJAR				pPKPab	pPKPab	13 51 36.3	+1.1
	comp=Z,15nm,1.0s,baz=103,slow=2.4,SNR=3.6						
MJAR	**Matsushiro Arr**	**155.99**	**295**	PKIKP	PKPdf	13 50 36.5	+0.4
MJAR						13 51 04.0	
MJAR	**Matsushiro Arr**	**155.99**	**295**	PKP	PKPdf	13 50 36.5	+0.4
MJAR				PKPab	PKPab	13 51 04.0	+0.1
MJAR				pPKPab	pPKPab	13 51 36.3	+1.1
MAJO	**Matsushiro**	**155.99**	**295**	PKIKP	PKPdf	13 50 36.5	+0.4
MAJO	**Matsushiro**	**155.99**	**295**	*e*PKPdf	PKPdf	13 50 36.3	+0.2
MAJO				LR	LR		
	comp=Z,349nm,21.0s						
MAT	**Matsushiro**	**155.99**	**295**	PKP	PKPdf	13 50 36.0	-0.1
MOY	**Mondy**	**156.15**	**16**	*e*PKIKP	PKPdf	13 50 37.3	+1.0
MOY				pmax	pmax		
	comp=Z,192nm,3.3s						
WMQ	**Urumqi**	**156.21**	**45**	PKP	PKPdf	13 50 37.3	+0.9
WMQ				PKP2	PKPab	13 51 06.5	+1.7
WMQ				PKS		13 54 10.6	
WMQ				PP	PP	13 54 45.5	+2.9
WMQ				SKS	SKSdf	13 57 27.5	-4.0
WMQ				SKKS	SKKSac	14 01 19.0	-1.8
WMQ				PP	PP		
	comp=Z,1μm,5.5s						
WMQ				LR	LR		
	comp=N,1μm,23.0s						
WMQ				LR	LR		
	comp=E,1μm,27.2s						
WMQ				LR	LR		
	comp=Z,1μm,24.0s						
IRK	**Irkutsk**	**156.25**	**10**	*e*PKIKP	PKPdf	13 50 36.6	+0.1
IRK				*e*		13 51 03.6	
IRK				*e*		13 54 39.4	
IRK				pmax	pmax		
	comp=Z,133nm,1.5s						
TLY	**Talaya**	**156.68**	**12**	P	PKPdf	13 50 38.2	+1.2
	SNR=10						
TLY	**Talaya**	**156.68**	**12**	*i* PKIKP	PKPdf	13 50 37.5	+0.5
TLY				*e*		13 51 06.5	
TLY				*e*		13 54 43.1	
TLY				*e*SS		14 15 27.2	
TLY				pmax	pmax		
	comp=Z,143nm,1.2s						
TLY	**Talaya**	**156.68**	**12**	*e*PKPdf	PKPdf	13 50 37.1	+0.1
TLY				LR	LR		
	comp=Z,83nm,20.0s						
GKN	**Gorkha**	**156.80**	**86**	*e*P	PKPdf	13 50 37.9	+0.7
	comp=Z,104nm,1.1s						
BOK	**Bokaro**	**156.91**	**97**	*e*P	PKPdf	13 50 37.1	-0.2
CIT	**Chita**	**156.93**	**356**	*e*PKIKP	PKPdf	13 50 38.1	+0.8
CIT				*e*		13 51 07.8	
DMN	**Daman**	**157.15**	**87**	*e*P	PKPdf	13 50 38.5	+0.9
KKN	**Kakani**	**157.33**	**87**	*e*P	PKPdf	13 50 38.6	+0.8
	comp=Z,84nm,1.1s						
PKI	**Pulchoki**	**157.41**	**87**	*e*P	PKPdf	13 50 38.5	+0.6
ZAK	**Zakamensk**	**157.86**	**13**⇑	*i*PKIKP	PKPdf	13 50 38.7	+0.2
ZAK				*e*		13 51 10.3	
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s						
GUN	**Gumba**	**157.87**	**87**	*e*P	PKPdf	13 50 39.6	+1.1
VLA	**Vladivostok**	**158.10**	**316***c*	*e*PKIKP	PKPdf	13 50 37.3	-1.5
VLA				*e*		13 51 08.4	
VLA				*e*		13 51 10.4	
VLA				pmax	pmax		
	comp=Z,37nm,1.3s						
JIRN	**Jiri**	**158.10**	**88**	*e*P	PKPdf	13 50 39.8	+1.0
	comp=Z,34nm,0.7s						
MDJ	**Mudanjiang**	**158.54**	**322**	PKP	PKPdf	13 50 38.6	-0.7
MDJ				APKP		13 51 10.6	
MDJ				PP	PP	13 54 56.4	+0.9
MDJ				SS	SS	14 14 49.8	+2.6
MDJ				PP	PP		
	comp=Z,573nm,15.5s						
MDJ				LR	LR		
	comp=N,547nm,56.0s						
MDJ				LR	LR		
	comp=E,332nm,58.9s						
MDJ				LR	LR		
	comp=Z,390nm,35.3s						
MDJ	**Mudanjiang**	**158.54**	**322**	PFAKE		13 50 50.0	+11
MDJ				LR	LR		
	comp=Z,305nm,21.0s						
HIA	**Hailar**	**158.69**	**344**	PFAKE		13 50 50.0	+10
HIA				LR	LR		
	comp=Z,345nm,20.0s						
SONM	**Songino Array**	**160.86**	**10**	PKP	PKPdf	13 50 42.3	+0.4
	comp=Z,13nm,0.9s,baz=298,slow=0.2,SNR=62						
SONM				pPKP	pPKPdf	13 51 12.7	-1.9
	comp=Z,14nm,1.2s,baz=102,slow=1.4,SNR=2.9						
SONM				PKPab	PKPab	13 51 24.7	-0.3
	comp=Z,28nm,0.8s,baz=328,slow=4.1,SNR=13						
SONM				pPKPab	pPKPab	13 51 56.0	-0.2
	comp=Z,11nm,1.0s,baz=311,slow=3.6,SNR=2.1						
SONM				PP	PP	13 55 08.0	+0.1
	comp=Z,3.7nm,0.9s,baz=358,slow=4.5,SNR=3.9						
SONM	**Songino Array**	**160.86**	**10**	PKIKP	PKPdf	13 50 42.3	+0.3
SONM						13 51 12.7	
SONM						13 51 24.7	
SONM						13 55 08.0	
ULN	**Ulaanbaatar**	**160.92**	**8**	P	PKPdf	13 50 42.8	+0.8
	SNR=12						
ULN	**Ulaanbaatar**	**160.92**	**8**	*e*PKPdf	PKPdf	13 50 42.4	+0.3
CN2	**Changchun**	**161.26**	**326**	*e*PKP	PKPdf	13 50 42.5	+0.1
CN2				XPKP		13 51 26.5	
CN2				PP	PP	13 55 13.3	+3.2
CN2				*e*SS	SS	14 15 18.2	+2.5
CN2				LR	LR		
	comp=N,200nm,22.0s						
CN2				LR	LR		
	comp=E,200nm,22.0s						
CN2				LR	LR		
	comp=Z,400nm,21.0s						
AGT	**Agartala**	**161.58**	**101**	*i* x	x	13 50 47.0	
AGT				*i* x	x	13 51 19.0	
SHL	**Shillong**	**162.64**	**97**	*i* P	PKPdf	13 50 45.0	+1.2
SHL				*i* x	x	13 55 19.0	
LSA	**Lhasa**	**162.65**	**83**	PKP	PKPdf	13 50 42.3	-1.5
LSA				PP	PP	13 55 16.5	-1.0
LSA				LR	LR		
	comp=E,850nm,40.0s						
LSA				LR	LR		
	comp=Z,1μm,40.9s						
LSA	**Lhasa**	**162.65**	**83**	PFAKE		13 51 00.0	+16
LSA				LR	LR		
	comp=Z,364nm,22.0s						
SNY	**Shenyang**	**163.64**	**325**	PKP	PKPdf	13 50 44.8	+0.1
SNY				APKP		13 51 15.3	
SNY				XPKP		13 51 34.2	
SNY				PP	PP	13 55 21.2	-1.5
SNY				SKKS	SKKSac	14 02 01.7	+2.4
SNY				SS	SS	14 15 38.1	-2.3
SNY				PP	PP		
	comp=Z,795nm,7.5s						
INCN	**Inchon**	**164.46**	**307**	PFAKE		13 51 00.0	+15
INCN				LR	LR		
	comp=Z,398nm,20.0s						
CM31	**Chiang Mai Arr**	**164.76**	**131**	PFAKE		13 51 00.0	+14
CM31				LR	LR		
	comp=Z,377nm,19.0s						
CHG	**Chiang Mai**	**165.01**	**130**	⇓P	PKPdf	13 50 49.7	+3.7
	comp=Z,24nm,1.0s						
CHTO	**Chiang Mai**	**165.01**	**130**	PKPdf	PKPdf	13 50 47.0	+1.0
CHTO				pPKPdf	pPKPdf	13 51 17.7	-0.9
CHTO				PKPab	PKPab	13 51 43.3	+0.1
CHTO	**Chiang Mai**	**165.01**	**130**	P	PKPdf	13 50 47.3	+1.3
	SNR=7.7						
CHTO	**Chiang Mai**	**165.01**	**130**	*e*PKPdf	PKPdf	13 50 46.8	+0.9
CHTO				LR	LR		
	comp=Z,363nm,20.0s						
GTA	**Gaotai**	**166.09**	**39**	PKP	PKPdf	13 50 48.1	+1.3
GTA				APKP		13 51 19.2	
GTA				PKS		13 54 19.4	
GTA				PP	PP	13 55 33.8	-1.7
GTA				SKS	SKSdf	13 57 33.3	-6.5
GTA				SKKS	SKKSac	14 02 10.1	-1.6
GTA				PP	PP		
	comp=Z,639nm,9.1s						
GTA				LR	LR		
	comp=N,226nm,28.1s						
GTA				LR	LR		
	comp=E,165nm,25.1s						
GTA				LR	LR		
	comp=Z,729nm,34.6s						
DL2	**Dalian**	**166.78**	**321**	*i* PKP	PKPdf	13 50 47.5	+0.1
DL2				APKP		13 51 18.7	
DL2				XPKP		13 51 34.8	
DL2				PKP2	PKPab	13 51 51.4	+0.4
DL2				PP	PP	13 55 40.1	+1.0
DL2				SS	SS	14 16 15.1	+2.6
DL2				PP	PP		
	comp=Z,270nm,7.7s						
HHC	**Hu-ho-hao-te**	**168.17**	**358**	*e*PKP	PKPdf	13 50 48.7	+0.3
HHC				APKP		13 51 20.1	
HHC				XPKP		13 51 34.9	
HHC				PKP2	PKPab	13 51 58.3	+1.1
HHC				PKS		13 54 20.2	
HHC				PP	PP	13 55 48.8	+2.6
HHC				SKS	SKSdf	13 57 41.1	+0.1
HHC				SKKS	SKKSac	14 02 24.1	+2.1
HHC				SS	SS	14 16 23.9	-2.5
HHC				PP	PP		
	comp=Z,277nm,7.3s						
HHC				LR	LR		
	comp=N,186nm,4.3s						
HHC				LR	LR		
	comp=E,142nm,4.7s						
HHC				LR	LR		
	comp=Z,367nm,22.6s						
BJI	**Beijing**	**168.20**	**340**	PKP	PKPdf	13 50 48.8	+0.4
BJI				APKP		13 51 18.4	
BJI				PKP2	PKPab	13 51 56.6	-0.7
BJI				PP	PP		
	comp=Z,429nm,8.4s						
BJT	**Baijiatuau**	**168.23**	**340**	PFAKE		13 51 00.0	+12
BJT				LR	LR		
	comp=Z,439nm,22.0s						
BTO	**Baotou**	**168.40**	**4**	*e*PKP	PKPdf	13 50 47.4	-1.1
QIZ	**Qiongzhong**	**170.01**	**174**	PKP	PKPdf	13 50 52.0	+2.5
QIZ				APKP		13 51 19.4	
QIZ				PP	PP	13 56 02.2	+6.8
QIZ				SKS	SKSdf	13 57 38.0	-3.9
QIZ				PP	PP		
	comp=Z,685nm,13.2s						
QIZ	**Qiongzhong**	**170.01**	**174**	PFAKE		13 51 00.0	+10
QIZ				LR	LR		
	comp=Z,384nm,21.0s						
LZH	**Lanzhou**	**170.70**	**39**	*e*PKP	PKPdf	13 50 51.5	+1.6
LZH				APKP		13 51 23.0	
LZH				XPKP		13 51 37.0	
LZH				PP	PP	13 55 57.0	-1.9
LZH				SKKS	SKKSac	14 02 32.3	-2.0
LZH				SS	SS	14 16 56.0	+4.5
LZH				PP	PP		
	comp=Z,634nm,5.4s						
LZH				LR	LR		
	comp=N,1μm,19.8s						
LZH				LR	LR		
	comp=Z,2μm,20.3s						
SSE	**Sheshan**	**170.95**	**286**	PKP	PKPdf	13 50 53.0	+3.0
SSE				PP	PP	13 56 07.8	+7.7
SSE				PP	PP		
	comp=Z,291nm,12.0s						
SSE				LR	LR		
	comp=N,248nm,23.3s						
SSE				LR	LR		
	comp=E,309nm,23.3s						
SSE				LR	LR		
	comp=Z,540nm,20.0s						
TIA	**Tai'an**	**171.16**	**326**	⇓PKP	PKPdf	13 50 50.9	+0.8
KMI	**Kunming**	**171.66**	**116**	PKP	PKPdf	13 50 50.2	-0.2
KMI				APKP		13 51 22.8	
KMI				XPKP		13 51 36.4	
KMI				PKP2	PKPab	13 52 14.2	+1.5
KMI				PP	PP	13 56 03.8	+0.1
KMI				SS	SS	14 16 57.8	-3.2
KMI				PP	PP		
	comp=Z,927nm,9.5s						
KMI				LR	LR		
	comp=N,358nm,25.9s						
KMI				LR	LR		
	comp=E,394nm,21.3s						
KMI				LR	LR		
	comp=Z,997nm,42.1s						
QZH	**Quanzhou**	**172.13**	**241**	PKP	PKPdf	13 50 55.1	+4.5
QZH				SKKS	SKKSac	14 02 44.3	+3.0
CD2	**Chengdu**	**173.41**	**71**	PKP	PKPdf	13 50 52.2	+1.1
CD2				APKP		13 51 22.0	
CD2				PKP2	PKPab	13 52 18.4	-2.0
CD2				PKS		13 54 28.0	
CD2				PP	PP	13 56 10.0	-2.3
CD2				SKKS	SKKSac	14 02 47.8	+0.4
CD2				PP	PP		
	comp=Z,2μm,7.2s						
CD2				LR	LR		
	comp=N,1μm,18.6s						
CD2				LR	LR		
	comp=Z,870nm,19.8s						
XAN	**Xi'an**	**174.67**	**19**	PKP	PKPdf	13 50 52.2	+0.6
XAN				SS	SS	14 17 30.0	-0.1
XAN				PP	PP		
	comp=Z,564nm,20.3s						
XAN				LR	LR		
	comp=N,127nm,34.9s						
XAN				LR	LR		
	comp=E,293nm,51.5s						
XAN				LR	LR		
	comp=Z,654nm,47.6s						
GYA	**Guiyang**	**175.38**	**122**	*i* PKP	PKPdf	13 50 51.8	0.0
GYA				APKP		13 51 20.0	
GYA				PKS		13 54 22.4	
GYA				PP	PP	13 56 20.8	-0.9
GYA				SKKS	SKKSac	14 02 57.2	+0.5
GYA				PP	PP		
	comp=Z,720nm,6.9s						
GYA				LR	LR		
	comp=N,1μm,21.8s						
GYA				LR	LR		
	comp=E,1μm,20.9s						
GYA				LR	LR		
	comp=Z,1μm,21.4s						
WHN	**Wuhan**	**176.73**	**299**	PKP	PKPdf	13 50 53.5	+1.4
WHN				APKP		13 51 22.0	
WHN				PKP2	PKPab	13 52 36.0	+0.8
WHN				PP	PP	13 56 32.5	+4.4

IDC 12 14:05:42.5±2.6**, 616N**×**12480E, h0**km**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=266.5km s-min=24.4km az=64.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.59**	**160**	P	P	14 11 31.0	-0.3
	0.3nm,0.7s,baz=340,slow=8.5,SNR=5.1						
ASAR	**Alice Springs**	**30.95**	**164**	P	P	14 12 01.9	+0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.2nm,0.3s,baz=341,slow=7.4,SNR=13						
MKAR	Makanchi Array	54.47	325	P	P	14 15 11.9	+0.2
	1.5nm,0.4s,baz=117,slow=7.4,SNR=29						

*IDC **12** 15:02:55.1±0.7, 2139S×17454W, h0km, mb4.3/10, mb1 4.5/11, mb1mx4.4/17, mbtmp4.4/11, ML4.4/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/24, Error ellipse: s-maj=26.8km s-min=17.7km az=122.0*
*ISCJB **12** 15:02:58.5±0.4, 2148S±009×17459W±010, h33km, mb4.6/18, MS4.1/4, Error ellipse: s-maj=15.2km s-min=9.9km az=83.7*
*NEIC **12** 15:03:00.2±0.3, 2141S×17459W, h35km, mb4.8/11, Error ellipse: s-maj=12.4km s-min=7.7km az=132.0*
*BJI **12** 15:03:00.2, 2140S×17460W, h25km, mB5.3, mb4.9*
ISC 12 15:03:00.3±0.4, 2149S±009×17451W±010, h35km, n54, σ0.83/40, mb4.6/18, MS4.1/4, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.97	20	Pn	Pn	15 04 47.5	-6.0
	3.9nm,0.3s,baz=240,slow=23,SNR=14						
AFI				Sn	Sn	15 06 09.5	-13
	9.0nm,0.3s,baz=326,slow=17,SNR=4.3						
AFI				T		15 13 04.7	
	5.6nm,0.3s,baz=234,slow=19,SNR=5.7						
AFI	Afiamalu	7.97	20	Pn	Pn	15 04 47.5	-6.0
AFI				Sn	Sn	15 06 09.5	-13
RAO	Raoul Island	8.32	201	Pn	Pn	15 04 54.3	-4.1
	86nm,0.3s,baz=100,slow=21,SNR=3.4						
RAO	Raoul Island	8.32	201	Pn	Pn	15 04 54.3	-4.1
RAR	Rarotonga	13.74	92	Pn	Pn	15 06 00.4	-12
	8.3nm,0.3s,baz=230,slow=7.4,SNR=20						
RAR				Sn	Sn	15 08 14.9	-29
	2.8nm,0.3s,baz=13,slow=14,SNR=3.3						
DZM	Mont Dzumac	17.70	265	P	Pn	15 07 09.4	+5.5
	0.4nm,0.3s,baz=55,slow=18,SNR=4.6						
URZ	Urewera	18.21	202	P	Pn	15 07 10.0	-0.2
	1.3nm,0.3s,baz=29,slow=4.2,SNR=9.7						
URZ				LR	LR	15 12 09.5	
	comp=Z,225nm,21.6s,baz=52,slow=30						
PPT	Papeete	23.81	85	LR	LR	15 16 37.7	
	comp=Z,294nm,18.2s,MS3.8,baz=247,slow=34						
RPZ	Rata Peaks	25.21	205	P	P	15 08 25.2	+2.6
	14nm,0.6s,mb4.7,baz=168,slow=5.6,SNR=7.7						
CTA	Charters Tower	36.64	265	eP	P	15 10 02.3	-1.0
	15nm,1.8s,mb4.5						
CTA	Charters Tower	36.64	265	P	P	15 10 03.1	-0.3
	7.8nm,0.9s,mb4.5,baz=104,slow=15,SNR=4.2						
CTAO	Charters Tower	36.64	265	eP	P	15 10 03.8	+0.5
STKA	Stephens Creek	40.33	246	eP	P	15 10 33.7	-0.6
	4.2nm,1.1s,mb4.1						
STKA	Stephens Creek	40.33	246	P	P	15 10 34.0	-0.3
	3.6nm,1.0s,mb4.1,baz=117,slow=6.4,SNR=3.4						
STKA				LR	LR	15 26 14.8	
	comp=Z,238nm,18.6s,MS4.1,baz=228,slow=35						
AS31	Alice Springs	47.47	257	eP	P	15 11 31.5	-0.1
ASAR	Alice Springs	47.47	257	P	P	15 11 31.4	-0.2
	3.8nm,0.8s,mb4.4,baz=91,slow=8.1,SNR=29						
ASPA	Alice Springs	47.48	257	eP	P	15 11 31.5	-0.1
WB2	Warramunga Arr	47.68	262	eP	P	15 11 32.3	-1.0
WRAB	Tennant Creek	47.69	262	eP	P	15 11 32.9	-0.4
WRA	Warramunga Arr	47.70	262	P	P	15 11 33.3	-0.1
	4.4nm,0.9s,mb4.5,baz=95,slow=7.9,SNR=49						
FORT	Forrest	51.91	247	eP	P	15 12 05.2	-0.2
	18nm,0.7s,mb5.1						
SBA	Scott Base	57.13	185	eP	P	15 12 44.4	+1.1
	33nm,1.9s,mb5.0						
VNDA	Vanda	57.25	186	P	P	15 12 44.3	+0.2
	2.3nm,0.9s,mb4.2,baz=360,slow=6.0,SNR=13						
VNDA				LR	LR	15 33 08.2	
	comp=Z,152nm,18.2s,MS4.1,baz=329,slow=32						
VNDA	Vanda	57.25	186	eP	P	15 12 44.1	0.0
	2.6nm,1.0s,mb4.2						
VNDA				LR	LR	15 33 08.2	
KLBR	Kellerberrin	60.60	245	eP	P	15 13 11.2	+3.9
	59nm,1.7s,mb5.4						
QSPA	South Pole Qui	68.59	180	eP	P	15 13 59.2	-0.3
	5.1nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	72.96	322	P	P	15 14 27.4	+1.2
	5.4nm,0.7s,mb4.6,baz=158,slow=5.9,SNR=11						
NVAR	Mina Array Bea	79.55	42	P	P	15 15 03.8	+0.3
	1.9nm,1.0s,mb4.0,baz=229,slow=8.8,SNR=10						
MAW	Mawson	81.72	199	eP	P	15 15 15.0	-0.1
	3.2nm,0.8s,mb4.3						
MAW	Mawson	81.72	199	P	P	15 15 15.6	+0.4
	3.1nm,0.7s,mb4.3,baz=133,slow=8.4,SNR=18						
MAW				LR	LR	15 47 57.4	
	comp=Z,122nm,20.2s,MS4.3,baz=314,slow=33						
MDJ	Mudanjiang	83.22	323	P	P	15 15 24.6	+1.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.6						
MSU	Marysvale	83.49	44	eP	P	15 15 25.0	+0.7
BMO	Blue Mountains	84.10	37	eP	P	15 15 26.5	-1.0
	comp=Z,17nm,1.7s,mb4.9						
TMUT	Trail Mountain	84.55	44	P	P	15 15 28.9	-0.9
HLID	Hailey	84.98	39	eP	P	15 15 31.9	-0.1
TTA	Tatalina	85.39	8	P	P	15 15 34.0	0.0
	comp=Z,32nm,1.6s,mb5.2						
VNA3	Neumayer Olymp	86.92	175	e	P	15 15 40.2	-1.3
VNA3				e	pP	15 15 52.0	-0.6
MCK	McKinley	87.27	11	eP	P	15 15 43.2	+0.1
	comp=Z,11nm,1.4s,mb4.9						
PDAR	Pinedale Array	87.48	42	P	P	15 15 43.8	-0.5
	comp=Z,0.5nm,0.8s,mb3.8,baz=240,slow=2.9,SNR=4.6						
AKASG	Malin Array Be	145.41	333	PKPbc	PKPbc	15 22 34.4	0.0
	comp=Z,1.4nm,0.4s,baz=38,slow=4.2,SNR=13						
AKASG	Malin Array Be	145.41	333	PKPbc	PKPbc	15 22 34.4	0.0
AKBB	Malin Array Si	145.41	333	ePKP	PKPdf	15 22 34.6	+0.2
EKA	Eskdalemuir Ar	145.59	9	PKPbc	PKPbc	15 22 34.5	-0.5
	comp=Z,0.9nm,0.6s,baz=5.3,slow=2.7,SNR=4.9						
CLL	Collm	149.66	351⇓	iPKPbc	PKPbc	15 22 45.8	-0.3
	comp=Z,45nm,2.2s						
CLL				i PKPab	PKPab	15 22 52.0	+0.6
CRVS	Cervenica-Dubn	149.82	339	ePKP	PKPdf	15 22 47.3	+5.6
BR131	Keskin Array S	149.90	313	ePKPbc	PKPbc	15 22 47.4	+0.7
BRTR	Keskin Array B	149.90	313	PKPbc	PKPbc	15 22 46.7	0.0
	comp=Z,21nm,0.7s,baz=80,slow=2.7,SNR=2.4						
BRG	Berggiesshubel	149.93	349	eP	PKPdf	15 22 47.7	+5.8
	comp=Z,3.3nm,0.9s						
KECS	Kecovo	150.51	340	ePKP	PKPdf	15 22 50.0	+7.2
MLR	Muntele Rosu	150.77	330	PKPbc	PKPbc	15 22 48.7	-0.1
	comp=Z,1.2nm,0.6s,baz=342,slow=20,SNR=1.9						
VYHS	Vyhne	151.01	342	ePKP	PKPdf	15 22 49.9	+6.3
VYHS				e		15 22 50.1	
GRA1	Grafenberg Arr	151.49	352	ePKP	PKPab	15 22 56.4	-2.5
KHC	Kasperske Hory	151.67	349	ePKPbc	PKPbc	15 22 50.5	-0.4
GERES	GERESS Array B	151.92	348	PKPbc	PKPbc	15 22 51.9	+0.4
	comp=Z,0.3nm,0.3s,baz=5.7,slow=1.3,SNR=5.9						

*NEIC **12** 15:05:06.7, 3292S×7228W, h39km, MD3.5(GUC), After GUC.*
GUC 12 15:05:06.7±0.8, 3292S×7228W, h39km±4km, MD3.5, ML2.4, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.81	133⇑	iP	Pn	15 05 21.6	0.0
LCCH				i S	Sn	15 05 32.4	-0.1
ROCH	El Roble	1.07	93	i P	Pn	15 05 26.4	+1.3
TACH	Talagante	1.34	123⇑	iP	Pn	15 05 30.1	+1.3
TACH				i S	Sn	15 05 45.6	+0.1
PEL	Peldehue	1.36	100⇑	iP	Pn	15 05 30.9	+1.8
PEL				eS	Sn	15 05 49.0	+3.0
PEL				AML	AML	15 05 56.5	
	comp=E,151nm,0.4s						
PEL	Peldehue	1.36	100⇑	iP	Pn	15 05 30.9	+1.8
PEL				eS	Sn	15 05 49.0	+3.0
JACH	Jahuel	1.44	81⇓	iP	Pn	15 05 31.7	+1.4
JACH				i S	Sn	15 05 50.3	+2.3
FCH	Farellones	1.72	104	eP	Pn	15 05 36.0	+1.9
FCH				i S	Sn	15 05 58.2	+3.4
FCH				AML	AML	15 06 05.1	
	comp=N,41nm,0.4s						
LMEL	Las Melosas	1.97	118	eP	Pn	15 05 39.2	+1.7
LMEL				i S	Sn	15 06 03.7	+2.7
LMEL				AML	AML	15 06 09.7	
	comp=N,52nm,0.1s						
LMEL	Las Melosas	1.97	118	eP	Pn	15 05 39.2	+1.7
LMEL				i S	Sn	15 06 03.7	+2.7

*HEL **12** 15:13:21.6±0.4, 5521N×2023E, h0km, Explosion*
IDC 12 15:13:12.4±1.8, 5464N×1937E, h0km, mb1 3.4/5, mb1mx3.2/22, mbtmp3.3/5, ML3.3/5, Error ellipse: s-maj=29.6km s-min=11.2km az=45.0, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSD	Bornholm Skovb	2.62	282	i P	Pn	15 13 54.4	-1.5
BSD				e		15 14 09.7	
BSD				i S	Sn	15 14 31.6	+3.2
MEF	Metsahovi	6.21	24	eP	Pn	15 14 44.4	-1.0
MEF				eS	Sn	15 15 45.4	-12
HFS	Hagfors	6.30	333	Pn	Pn	15 14 45.4	-1.2
	0.7nm,0.3s,baz=144,slow=15,SNR=22						
HFS				Lg		15 16 29.0	
	1.6nm,0.3s,baz=149,slow=31,SNR=6.3						
RAF	Rauma	6.53	10	eP	Pn	15 14 49.1	-0.6
RAF				eS	Sn	15 15 55.4	-9.4
PVF	Pernaja	6.87	28	eP	Pn	15 14 52.7	-1.7
PVF				eS	Sn	15 16 00.2	-13
AKASG	Malin Array Be	7.17	119	Pn	Pn	15 14 55.1	-3.5
	1.3nm,0.3s,baz=313,slow=12,SNR=5.2						
FIA0	FINESS Array S	7.69	25	eP	Pn	15 15 03.4	-2.3
FIA0				eS	Sn	15 16 21.9	-12
FINES	FINESS Array B	7.69	25	Pn	Pn	15 15 04.3	-1.4
	0.7nm,0.3s,baz=204,slow=11,SNR=19						
NOA	NORSAR Array B	7.75	329	Pn	Pn	15 15 03.0	-3.4
	0.4nm,0.3s,baz=148,slow=13,SNR=2.4						
NOA				Sn	Sn	15 16 26.4	-8.4
	0.1nm,0.3s,baz=261,slow=6.7,SNR=2.1						
KEF	Keuruu	8.08	19	eP	Pn	15 15 10.0	-1.0
KEF				eS	Sn	15 16 31.4	-12
KAF	Kangasniemi	8.33	23	eP	Pn	15 15 12.6	-1.8
KAF				eS	Sn	15 16 36.1	-13
VAF	Ylistaro	8.60	10	eP	Pn	15 15 16.9	-1.2
SUF	Sumiainen	8.83	21	eP	Pn	15 15 19.3	-2.0
SUF				eS	Sn	15 16 48.8	-13
JOF	Joensuu	10.34	32	eP	Pn	15 15 39.0	-3.0
KJN	Kajaani	10.37	21	eP	Pn	15 15 39.8	-2.7
ARCES	ARCESS Array B	15.21	8	Pn	Pn	15 16 41.6	-6.8
	0.2nm,0.3s,baz=189,slow=14,SNR=12						

GUC 12 15:30:48.8±0.6, 3300S×7216W, h28km±17km, MD3.6, ML2.3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.69	134	eP	Pb	15 31 01.6	-0.7
LCCH				i S	Sb	15 31 11.6	+0.2
ROCH	El Roble	0.97	89	i P	Pn	15 31 06.5	0.0
ROCH				i S	Sb	15 31 20.4	+1.1
TACH	Talagante	1.22	123	eP	Pn	15 31 10.2	+0.3
TACH				i S	Sn	15 31 26.0	+0.4
RCDM	Rinconada Maip	1.24	114	eP	Pn	15 31 09.9	-0.3
RCDM				i S	Sn	15 31 26.1	+0.1
RCDM				AML	AML	15 31 30.5	
	comp=E,82nm,0.2s						
JACH	Jahuel	1.36	77	eP	Pn	15 31 12.2	+0.3
JACH				i S	Sn	15 31 30.5	+1.5
FCH	Farellones	1.60	102	eP	Pn	15 31 17.0	+1.7
FCH				i S	Sn	15 31 38.2	+3.1
FCH				AML	AML	15 31 46.3	
	comp=E,56nm,0.2s						
LMEL	Las Melosas	1.85	118	eP	Pn	15 31 20.5	+1.9
LMEL				i S	Sn	15 31 44.2	+3.2
LMEL				AML	AML	15 31 50.0	
	comp=N,73nm,0.1s						

*NEIC **12** 15:53:32.5±0.8, 4841N×921E, h10km, ML2.3(STR), ML2.5(LDG), Error ellipse: s-maj=10.3km s-min=5.8km az=101.0*
*LDG **12** 15:53:33.9±0.2, 4850N×912E, h10km, Md2.5/3, Ml2.5/8, Error ellipse: s-maj=3.9km s-min=2.6km az=86.0*
*CSEM **12** 15:53:34.3±0.1, 4857N×905E, h20km, ML2.6/5, Error ellipse: s-maj=3.2km s-min=1.6km az=125.0*
*ISCJB **12** 15:53:35.9±0.4, 4865N±002×880E±003, h10km, Error ellipse: s-maj=3.7km s-min=3.0km az=98.8*
*STR **12** 15:53:36.8±0.4, 4866N×893E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 12 15:53:36.3±0.4, 4866N±002×884E±003, h10km, n33, σ1.31/60, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STU	Stuttgart	0.26	64	eP	Pg	15 53 40.8	-0.7
STU	Stuttgart	0.26	64	eP	Pg	15 53 40.8	-0.7
BFO	Black Forest	0.48	226	P*	Pg	15 53 46.4	+0.8
BFO				S*	Sg	15 53 54.0	+2.1
GUT	Gutenstein	0.62	163	P*	Pb	15 53 49.6	+0.5
GUT				S*	Sb	15 53 56.8	-1.1
SWS	Schriesheim-Wi	0.83	354	P*	Pb	15 53 53.5	+0.8
SWS				S*	Sb	15 54 03.6	-0.4
SIND	Sindeldorf	0.85	36	P*	Pb	15 53 53.5	+0.4
SIND				S*	Sb	15 54 03.6	-1.0
HDH	Heidenheim-Cha	0.91	94	P*	Pb	15 53 53.2	-0.8
HDH				S*	Sb	15 54 06.5	+0.2
KIZ	Kirchzarten	0.94	222	Pg	Pg	15 53 55.5	+1.2
KIZ				Sg	Sg	15 54 09.3	+2.8
TOD	Tromm	0.95	358	Pg	Pg	15 53 54.9	+0.4
TOD				Sg	Sg	15 54 08.2	+1.4
FELD	Feldberg im Sc	0.96	216	Pg	Pg	15 53 55.4	+0.5
FELD				Sg	Sg	15 54 10.5	+3.1
FELD	Feldberg im Sc	0.96	216	Pg	Pg	15 53 55.2	+0.4
FELD				Sg	Sg	15 54 10.4	+3.0
FELD	Feldberg im Sc	0.96	216	Pg	Pg	15 53 55.2	+0.4
FELD				Sg	Sg	15 54 10.5	+3.1
WLS	Welschbruch	1.02	257	Pg	Pg	15 53 57.1	+1.2
WLS				Sg	Sg	15 54 12.1	+2.9
CDF	Champ du Feu	1.07	257	ePg	Pg	15 53 57.0	+0.1
CDF				eSg	Sg	15 54 12.5	+1.7
	44nm,0.5s						
CDF	Champ du Feu	1.07	257	ePg	Pg	15 53 57.0	+0.1
CDF				eSg	Sg	15 54 12.5	+1.7
	22nm,0.5s						
UBR	Ueberruh	1.29	139	Pg	Pg	15 54 01.9	+0.8
UBR				Sg	Sg	15 54 19.1	+1.2
HINF	Hinteralfeld	1.58	238	ePg	Pg	15 54 05.4	-1.1
HINF				eSg	Sg	15 54 26.6	-0.4
	13nm,0.3s						
HINF	Hinteralfeld	1.58	238	ePg	Pg	15 54 05.4	-1.1
HINF				eSg	Sg	15 54 26.6	-0.4
	6.6nm,0.3s						
HAU	Haudompre	1.79	249	ePg	Pg	15 54 09.7	-0.9
HAU				eSg	Sg	15 54 33.7	-0.1
	8.8nm,0.3s						
HAU	Haudompre	1.79	249	ePg	Pg	15 54 09.7	-0.9
HAU				eSg	Sg	15 54 33.7	-0.1
	4.4nm,0.3s						
CABF	La Chapelle	2.77	223	ePn	Pn	15 54 16.5	-4.2
CABF				eSg	Sg	15 55 02.0	-3.3
	4.9nm,0.6s						
CABF	La Chapelle	2.77	223	ePn	Pn	15 54 16.5	-4.2
CABF				eSg	Sg	15 55 02.0	-3.3
	2.5nm,0.6s						
GIVF	Givet	3.00	300	ePg	Pg	15 54 33.8	+0.1
LPL	La Plagne	3.46	205	ePn	Pn	15 54 25.4	-4.8
LPL				eSn	Sn	15 55 03.5	-7.7
	3.1nm,0.4s						
LPL	La Plagne	3.46	205	ePn	Pn	15 54 25.4	-4.8
LPL				eSn	Sn	15 55 03.5	-7.7
	1.5nm,0.4s						
LPG	La Plagne	3.47	205	ePn	Pn	15 54 25.7	-4.6
LPG				eSn	Sn	15 55 03.9	-7.6
	3.7nm,0.5s						
LPG	La Plagne	3.47	205	ePn	Pn	15 54 25.7	-4.6
LPG				eSn	Sn	15 55 03.9	-7.6
	1.9nm,0.5s						
LOR	Lormes	3.63	249	ePn	Pn	15 54 30.0	-2.5
LOR				eSg	Sg	15 55 30.8	-2.0
	1.6nm,0.3s						
LOR	Lormes	3.63	249	ePn	Pn	15 54 30.0	-2.5
LOR				eSg	Sg	15 55 30.8	-2.0
	0.8nm,0.3s						
VIVF	Saint-Julien-l	4.76	219	ePn	Pn	15 54 43.4	-4.7
VIVF				ePg	Pg	15 55 01.1	-6.4
SMRF	Simiane la Rot	5.20	207	ePn	Pn	15 54 48.9	-5.2
FRF	La Foret Royal	5.32	197	ePn	Pn	15 54 50.1	-5.7
GRR	Gorron	6.45	271	ePn	Pn	15 55 08.9	-2.4

*BJI **12** 15:56:28.4, 818N×12660E, h49km, mB5.3, mb5.1, Ms5.1, Msz5.0*
*ISCJB **12** 15:56:29.1±0.2, 832N±002×12673E±002, h38km, mb5.3/132, MS4.9/64, Error ellipse: s-maj=3.2km s-min=2.7km az=144.4*
*NEIC **12** 15:56:30.8±0.2, 828N×12649E, mb5.3/52, MS4.9/13, MW5.5, Error ellipse: s-maj=7.1km s-min=4.5km az=79.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^17Nm; Mrr-0.76; Mθθ0.74; Mφφ0.02; Mrθ-1.42; Mθφ1.30; Mφr0.60; Best double couple: M0 2.10000×10^17 NP1: φs92.00000°, δ75.00000°, λ-49.00000°. NP2: φs198.00000°, δ44.00000°, λ-158.00000°. Principal axes: T 2.0000, Plg19.0000°, Azm152.0000°; N 0.2700, Plg40.0000°, Azm259.0000°; P -2.2700, Plg44.0000°, Azm42.0000°;*
NEIC Felt [III PIVS] at Bislig, [II PIVS] at Butuan and [I PIVS] on Camiguin. Felt at Davao and Tagum. Also felt in Surigao del Norte.
*GCMT **12** 15:56:30.8±0.1, 819N×12655E, h40km, MW5.5/104, Moment Tensor Solution. s84,c153; s104,c205; Duration: 1.4 Moment tensor: Scale 10^17Nm; Mrr-1.28±.04; Mθθ1.35±.03; Mφφ-0.07±.04; Mrθ-1.73±.04; Mθφ1.26±.02; Mφr0.33±.04; Best double couple: M0 2.53200×10^17 NP1: φs208.00000°, δ35.00000°, λ-147.00000°. NP2: φs90.00000°, δ72.00000°, λ-59.00000°. Principal axes: T 2.5920, Plg21.0000°, Azm157.0000°; N -0.1240, Plg29.0000°, Azm259.0000°; P -2.4730, Plg53.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **12** 15:56:32.7±1.1, 830N×12652E, h70km, mb5.4/59, MS4.9/30 Error ellipse: s-maj=10.8km s-min=5.3km az=113.0*
*IDC **12** 15:56:32.8±2.0, 831N×12655E, h58km±18km, mb4.7/26, mb1 4.8/27, mb1mx4.8/28, mbtmp5.0/27, MS4.8/19, Ms1 4.8/19, ms1mx4.8/24, Error ellipse: s-maj=16.7km s-min=9.4km az=71.0*
*MAN **12** 15:56:33.0, 831N×12652E, h69km, mb5.3, ML5.8, MS5.0*
MAN F INTENSITY III - BISLIG SURIGAO DEL SUR INTENSITY II - BUTUAN CITY INTENSITY I - CAMIGUIN ISLAND.
ISC 12 15:56:31.2±0.2, 831N±002×12673E±002, h40km, h40km±1.4km:pP-P, n388, σ1.32/398, mb5.3/132, MS4.9/64, 43C-27D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.27	301	eP	Pn	15 56 53.5	+1.0
BUTP				eS	Sn	15 57 10.9	+2.5
MATI	Mati	1.44	199	eP	Pn	15 56 54.0	-0.7
MATI				eS	Sn	15 57 12.6	+0.2
DAV	Davao City (W)	1.68	223⇑	iP	Pn	15 57 00.0	+1.9
DAV	Davao City (W)	1.68	223⇑	iPn	Pn	15 56 59.7	+1.6
BUKP	Musuan	1.71	255	eP	Pn	15 56 59.0	+0.6
BUKP				eS	Sn	15 57 20.3	+1.3
DMPH	Davao City--Mi	1.72	225	eP	Pn	15 57 00.9	+2.3
SCPH	Surigao	1.91	320⇑	eP	Pn	15 57 03.5	+2.3
CGP	Cagayan de Oro	2.02	274⇑	iP	Pn	15 57 03.0	+0.3
CGP				i S	Sn	15 57 22.4	-4.3
KCP	Kidapawan	2.08	232⇓	eP	Pn	15 57 04.7	+1.2
KCP				i S	Sn	15 57 28.0	-0.2
MSLP	Maasin	2.58	315	eP	Pn	15 57 11.8	+1.3
MSLP				eS	Sn	15 57 47.9	+7.2
CTBH	Cotabato--PC H	2.69	246⇓	eP	Pn	15 57 12.5	+0.5
CTBH				i S	Sn	15 57 53.6	+10
TBP	Tagbilaran	3.15	296	i P	Pn	15 57 19.9	+1.7
TBP				i S	Sn	15 57 54.3	-0.2
PLP	Palo	3.32	329	eP	Pn	15 57 23.8	+3.2
PLP				eS	Sn	15 58 05.2	+6.5
PAGZ	Pagadian	3.35	262	eP	Pn	15 57 22.3	+1.4
DCPH	Dipolog City	3.35	275⇓	eP	Pn	15 57 22.0	+1.0
LLP	Lapu-Lapu	3.38	306⇑	eP	Pn	15 57 23.0	+1.6
LLP				eS	Sn	15 58 00.1	-0.1
OCLP	Ormoc	3.43	323	eP	Pn	15 57 25.8	+3.6
OCLP				eS	Sn	15 58 11.1	+10
BESP	Borongan	3.50	339	eP	Pn	15 57 25.8	+2.7
BESP				eS	Sn	15 58 12.0	+8.6
SNPH	Sibulan	3.60	287	i S	Sn	15 58 04.0	-1.7
IPIL	Ipil	4.15	263⇓	iP	Pn	15 57 33.8	+1.8
IPIL				i S	Sn	15 58 29.7	+10
IPIL	Ipil	4.15	263	eP	Pn	15 57 32.9	+0.9
GUIM	Jordan	4.69	300	eP	Pn	15 57 40.5	+1.1
ZMPH	Zamboanga City	4.82	254⇑	iP	Pn	15 57 42.2	+1.0
MMPH	Masbate	5.05	323⇑	eP	Pn	15 57 46.8	+2.5
MMPH				eS	Sn	15 58 48.4	+7.0
RCP	Roxas	5.08	310⇑	eP	Pn	15 57 47.2	+2.5
KALP	Kalibo	5.47	308⇓	eP	Pn	15 57 55.7	+5.6
PVCP	Virac	5.83	335⇑	iP	Pn	15 57 57.2	+2.1
PVCP	Virac	5.83	335	eP	Pn	15 57 56.7	+1.7
PVCP				eS	Sn	15 59 03.0	+2.4
OTRP	Odiongan	6.13	311	eP	Pn	15 58 01.9	+2.6
CUYO	Cuyo Island	6.17	295	eP	Pn	15 58 00.9	+1.1
AUQP	San Andres	6.38	322	eP	Pn	15 58 06.5	+3.9
BOAC	Boac	7.01	317	eP	Pn	15 58 14.1	+2.8
BUSP	Coron	7.40	300	eP	Pn	15 58 18.3	+1.7
ENPP	El Nido	7.75	292	eP	Pn	15 58 22.0	+0.6
POLP	Polilio Island	7.92	324	eP	Pn	15 58 25.5	+1.8
POLP				eS	Sn	15 59 56.7	+4.7
PPR	Puerto Princes	8.03	281⇓	iP	Pn	15 58 29.8	+4.4
TGY	Tagaytay City	8.09	316	P	Pn	15 58 30.0	+4.0
	55nm,0.3s,baz=132,slow=16,SNR=14						
TGY				LR	LR	16 03 00.0	
	comp=Z,82nm,18.1s,baz=262,slow=49						
LUBP	Lubang	8.34	311	eP	Pn	15 58 32.9	+3.4
BATP	Bataraza	8.84	274	eP	Pn	15 58 36.4	-0.1
BALP	Baler	8.94	326	eP	Pn	15 58 38.9	+1.2
BALP				eS	Sn	16 00 14.5	-2.5
PCPH	Palayan	9.07	323⇑	eP	Pn	15 58 46.0	+6.5
PALP	Palanan	9.66	335⇑	eP	Pn	15 58 46.6	-0.9
PALP	Palanan	9.66	335	eP	Pn	15 58 46.4	-1.1
PALP				eS	Sn	16 00 28.8	-5.9
TSM	Tawau	9.67	246	P	Pn	15 58 50.3	+2.7
CAUP	Cauayan	9.82	331	eP	Pn	15 58 48.9	-0.9
SCZP	Santa Cruz	9.97	319	eP	Pn	15 58 55.9	+4.0
BCPH	Baguio City Da	10.02	324⇑	iP	Pn	15 58 59.3	+6.8
BOLP	Bolinao	10.42	321	eP	Pn	15 59 05.1	+7.1
KKM	Kota Kinabalu	10.67	258	P	Pn	15 59 04.7	+3.3
KKM	Kota Kinabalu	10.67	258	P	Pn	15 59 03.3	+1.8
ABRA	Dolores	10.97	328	eP	Pn	15 59 09.2	+3.6
YHNB	Yeheng	17.05	343	eP	Pn	16 00 27.4	+0.9
KSM	Kuching	17.71	248	eP	Pn	16 00 33.6	-1.0
QZH	Quanzhou	18.27	336⇑	iP	Pn	16 00 43.5	+2.0
QZH				S	S	16 04 00.3	-7.9
QZH				AMB	AMB		
	comp=Z,4μm,5.5s						
QZH				LR	LR		
	comp=N,2μm,13.4s						
QZH				LR	LR		
	comp=E,12μm,23.7s						
QZH				LR	LR		
	comp=Z,12μm,29.0s						
HKC	Hong Kong	18.42	320⇑	iP	Pn	16 00 48.0	+4.6
HKC				i S	S	16 04 12.0	+0.7
JOW	Kunigami	18.48	4	P	Pn	16 00 48.2	+4.1
	comp=Z,9.2nm,0.3s,baz=203,slow=7.5,SNR=38						
JOW				LR	LR	16 07 28.7	
	comp=Z,4μm,21.9s,baz=182,slow=36						
GUMO	Guam	18.56	72	P	Pn	16 00 48.4	+3.3
	comp=Z,5.0nm,0.3s,baz=219,slow=5.1,SNR=8.5						
GUMO				LR	LR	16 06 30.9	
	comp=Z,2μm,20.7s,baz=251,slow=32						
GUMO	Guam	18.56	72	P	Pn	16 00 48.4	+3.3
GUMO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GUMO				MLR	MLR		
	comp=Z,2μm,20.7s						
GUMO	Guam	18.56	72	P	Pn	16 00 48.4	+3.3
GUMO				LR	LR	16 06 30.9	
GZH	Guangzhou	19.51	320	P	Pn	16 00 55.9	-0.6
GZH				LR	LR		
	comp=N,4μm,20.0s						
GZH				LR	LR		
	comp=E,6μm,23.4s						
GZH				LR	LR		
	comp=Z,8μm,23.4s						
QIZ	Qiongzhong	19.54	305	P	Pn	16 00 56.4	-0.4
QIZ				XP	sP	16 01 08.8	-1.5
QIZ				PP		16 01 14.4	
QIZ				S	S	16 04 29.2	-4.6

QIZ XS sS 16 04 42.6 -7.1
QIZ SS 16 04 55.7
QIZ AMB AMB
comp=Z,109nm,1.1s
QIZ AMB AMB
comp=Z,2μm,10.1s
QIZ LR LR
comp=E,4μm,17.0s
QIZ LR LR
comp=Z,7μm,17.8s
QIZ Qiongzhong 19.54 305 *e*P **Pn 16 00 56.2 -0.7**
comp=Z,215nm,1.3s
KAKA Kakadu 21.64 165 *e*P **P 16 01 18.1 0.0**
comp=Z,1μm,1.4s,mb6.1
KAKA *epP* 16 01 28.5
SSE Sheshan 23.25 348 P **P 16 01 33.6 -1.5**
SSE AP 16 01 49.4
SSE S **S 16 05 41.6 -2.5**
SSE AMB AMB
comp=Z,53nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,659nm,10.8s
SSE LR LR
comp=N,1μm,22.5s,MS4.4
SSE LR LR
comp=E,1μm,22.5s,MS4.4
SSE LR LR
comp=Z,2μm,22.0s,MS4.5
CBIJ Chichi jima 23.73 36 P **P 16 01 41.1 +1.5**
comp=Z,439nm,0.7s,mb6.0,baz=206,slow=3.1,SNR=53
CBIJ LR LR 16 08 55.4
comp=Z,3μm,21.0s,MS4.7,baz=227,slow=31
KGM Kluang 24.13 256 P **P 16 01 44.4 +1.2**
NJ2 Nanjing 24.73 344 *e*P **P 16 01 51.3 +2.6**
NJ2 AP 16 02 00.5
NJ2 XP sP 16 02 04.4 0.0
NJ2 PP 16 02 28.5
NJ2 S **S 16 06 12.0 +4.0**
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,2μm,10.4s
NJ2 LR LR
comp=N,2μm,20.6s,MS5.0
NJ2 LR LR
comp=E,4μm,16.0s,MS5.0
NJ2 LR LR
comp=Z,4μm,16.4s,MS5.0
WHN Wuhan 24.96 334 P **P 16 01 50.0 -0.9**
WHN AP 16 02 07.1
WHN S **S 16 06 00.5 -11**
WHN LR LR
comp=Z,10μm,27.0s,MS5.2
IPM Ipoh 25.82 263 P **P 16 01 59.6 +1.0**
SNG Songkhla 25.90 269 P **P 16 02 03.0 +3.7**
comp=Z,116nm,0.7s,mb5.5
KULM Kulim 26.07 265 *e*P **P 16 02 01.4 +0.6**
KULM *epP* pP 16 02 11.6 -0.2
GYA Guiyang 26.24 316⇑*i*P **P 16 02 03.7 +1.3**
GYA AP pP 16 02 13.2 -0.1
GYA XP sP 16 02 17.5 -0.6
GYA S **S 16 06 31.4 -0.6**
GYA AMB AMB
comp=Z,50nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,410nm,6.6s
GYA LR LR
comp=N,3μm,20.0s,MS5.0
GYA LR LR
comp=E,3μm,20.3s,MS5.0
GYA LR LR
comp=Z,5μm,19.4s,MS5.0
FITZ Fitzroy Crossi 26.27 182 *e*P **P 16 02 01.3 -1.4**
comp=Z,316nm,1.0s,mb5.8
FITZ *epP* pP 16 02 13.2 -0.4
FITZ eS **S 16 06 32.3 -0.2**
FITZ Fitzroy Crossi 26.27 182 P **P 16 02 02.7 0.0**
comp=Z,114nm,0.9s,mb5.4,baz=15,slow=10,SNR=85
NNT Nongplab 26.88 281 P **P 16 02 11.3 +3.1**
PMG Port Moresby 26.91 130 P **P 16 02 09.2 +0.8**
comp=Z,42nm,1.1s,mb4.9,baz=80,slow=6.1,SNR=5.0
PMG LR LR 16 13 45.8
comp=Z,1μm,19.0s,MS4.5,baz=129,slow=38
PMG Port Moresby 26.91 130⇑*e*P **P 16 02 09.8 +1.4**
PMG Port Moresby 26.91 130 *e*P **P 16 02 08.9 +0.5**
comp=Z,65nm,0.9s,mb5.2
PMG LR LR
comp=Z,2μm,20.0s,MS4.6
NST Nakhon Sawan 27.00 288 P **P 16 02 08.4 -0.9**
comp=Z,140nm,0.9s,mb5.5
NANT Nan 27.33 295⇓P **P 16 02 13.0 +0.8**
comp=Z,900nm,0.4s
JHJ Hachijo jima 2 27.48 24 LR LR 16 11 09.0
comp=Z,3μm,21.0s,MS4.8,baz=264,slow=32
PSI Prapat 28.20 260 P **P 16 02 20.6 +0.5**
comp=Z,19nm,1.1s,mb4.6,baz=71,slow=5.7,SNR=15
PSI Prapat 28.20 260 P **P 16 02 20.6 +0.6**
PSI pmax pmax
comp=Z,19nm,1.1s,mb4.6
KMI Kunming 28.33 309 P **P 16 02 21.2 +0.1**
KMI AP pP 16 02 33.2 +1.1
KMI XP sP 16 02 36.9 0.0
KMI PP PP 16 03 12.8 -13
KMI S **S 16 07 02.5 -2.4**
KMI XS sS 16 07 24.0 +0.8
KMI SS SS 16 08 25.2 -40
KMI AMB AMB
comp=Z,28nm,0.8s,mb4.9
KMI AMB AMB
comp=Z,215nm,4.9s
KMI LR LR
comp=N,1μm,24.1s,MS4.7
KMI LR LR
comp=E,2μm,24.8s,MS4.7
KMI LR LR
comp=Z,2μm,27.4s,MS4.7
CHRT Chiangrai 28.50 297⇑P **P 16 02 24.0 +1.3**
comp=Z,342nm,0.6s,mb6.2
CHG Chiang Mai 28.91 294⇓P **P 16 02 26.6 +0.3**
comp=Z,50nm,1.0s,mb5.2
CHTO Chiang Mai 28.91 294⇑P **P 16 02 27.0 +0.7**
SNR=20
CHTO Chiang Mai 28.91 294 *e*P **P 16 02 26.1 -0.2**
comp=Z,43nm,0.9s,mb5.2
WRAB Tennant Creek 29.05 165 P **P 16 02 26.2 -1.4**
comp=Z,443nm,0.9s,mb6.2,SNR=13
WRAB Tennant Creek 29.05 165 *e*P **P 16 02 26.1 -1.5**
WRAB Tennant Creek 29.05 165 *e*P **P 16 02 26.9 -0.7**
comp=Z,340nm,1.3s,mb5.9
WRAB LR LR
comp=Z,729nm,22.0s,MS4.2
WRA Warramunga Arr 29.06 165 P **P 16 02 26.7 -0.9**
comp=Z,13nm,0.8s,mb4.7,baz=341,slow=9.1,SNR=72
WRA Warramunga Arr 29.06 165 P **P 16 02 26.7 -0.9**
WRA pmax pmax
comp=Z,13nm,0.8s
WB2 Warramunga Arr 29.06 165⇑*i*P **P 16 02 26.3 -1.4**
TIA Tai'an 29.12 344⇓P **P 16 02 26.7 -1.5**
MAJO Matsushiro 29.98 19 *e*P **P 16 02 36.5 +0.7**
comp=Z,44nm,0.8s,mb5.2
MAT Matsushiro 29.98 19 P **P 16 02 35.9 +0.1**
MAT S **S 16 07 31.0 +0.1**
MJAR Matsushiro Arr 29.98 19 P **P 16 02 36.5 +0.7**
comp=Z,42nm,0.8s,mb5.2,baz=197,slow=8.8,SNR=99
MJAR LR LR 16 12 39.2
comp=Z,2μm,20.1s,MS4.7,baz=185,slow=32
MBWA Marble Bar 30.08 193⇑P **P 16 02 37.5 +0.7**
SNR=9.3
MBWA Marble Bar 30.08 193 *e*P **P 16 02 36.9 +0.2**
comp=Z,34nm,0.6s,mb5.3
MBWA *e* pP 16 02 45.3 -2.4
XAN Xi'an 30.41 330 P **P 16 02 37.5 -2.1**
XAN PP PP 16 03 42.6 -6.0
XAN S **S 16 07 37.4 -0.2**
XAN AMB AMB
comp=Z,25nm,1.0s,mb4.9
XAN LR LR
comp=N,1μm,22.0s
XAN LR LR
comp=E,665nm,31.5s
XAN LR LR
comp=Z,3μm,27.3s
DL2 Dalian 30.80 352 PR **P 16 02 43.1 0.0**
DL2 XP sP 16 02 55.5 -3.4
DL2 S **S 16 07 43.3 -0.5**
DL2 XS sS 16 08 01.4 -0.7
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,110nm,8.1s
DL2 LR LR
comp=N,700nm,16.5s,MS4.6
DL2 LR LR
comp=E,730nm,15.5s,MS4.6
DL2 LR LR
comp=Z,1μm,17.2s,MS4.5
CD2 Chengdu 31.07 319 P **P 16 02 43.8 -1.6**
CD2 AP pP 16 02 53.1 -3.3
CD2 XP sP 16 02 57.0 -4.2
CD2 PP PP 16 03 49.8 -6.2
CD2 S **S 16 07 47.1 -0.8**
CD2 XS sS 16 08 04.5 -1.8
CD2 SS SS 16 09 30.8 -31
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
CD2 AMB AMB
comp=Z,310nm,3.9s
CD2 LR LR
comp=N,4μm,17.4s
CD2 LR LR
comp=Z,6μm,18.6s,MS5.2
AS31 Alice Springs 32.55 168 *e*P **P 16 02 57.8 -0.6**
ASAR Alice Springs 32.55 168 P **P 16 02 58.0 -0.5**
comp=Z,8.9nm,0.3s,mb5.1,baz=341,slow=7.5,SNR=267
ASAR ScP ScP 16 09 22.6 -2.3
comp=Z,3.0nm,0.9s,baz=342,slow=3.2,SNR=5.5
ASPA Alice Springs 32.55 168 *e*P **P 16 02 57.8 -0.6**
BJT Baijiatuao 32.95 345 *e*P **P 16 03 01.1 -0.9**
comp=Z,46nm,1.0s,mb5.4
BJT LR LR
comp=Z,1μm,21.0s,MS4.6
BJI Beijing 32.97 345 *e*P **P 16 03 01.2 -0.9**
BJI S **S 16 08 12.0 -5.6**
BJI AMB AMB
comp=Z,40nm,1.3s,mb5.2
BJI AMB AMB
comp=Z,348nm,4.9s
BJI LR LR
comp=N,1μm,19.6s,MS4.7
BJI LR LR
comp=E,1μm,21.6s,MS4.7
BJI LR LR
comp=Z,1μm,23.5s,MS4.5
SNY Shenyang 33.49 356⇓P **P 16 03 07.0 +0.3**
SNY AP pP 16 03 21.7 +4.0
SNY XP sP 16 03 29.2 +6.7
SNY PP PP 16 04 20.9 -2.0
SNY S **S 16 08 25.2 -0.5**
SNY AMB AMB
comp=Z,86nm,1.0s,mb5.6
SNY AMB AMB
comp=Z,423nm,3.5s
SNY LR LR
comp=N,2μm,22.3s
SNY LR LR
comp=Z,2μm,21.7s,MS4.8
CTA Charters Tower 34.14 146 *e*P **P 16 03 09.6 -2.7**
comp=Z,25nm,1.0s,mb5.1
CTA eS **S 16 08 29.0 -6.7**
CTA Charters Tower 34.14 146 P **P 16 03 13.2 +0.9**
comp=Z,13nm,0.9s,mb4.9,baz=325,slow=12,SNR=7.2
CTA Charters Tower 34.14 146 P **P 16 03 13.2 +0.9**
CTA pmax pmax
comp=Z,13nm,0.9s
CTA Charters Tower 34.14 146 P **P 16 03 13.2 +0.9**
comp=Z,25nm,1.0s,mb5.1
CTA eS **S 16 08 29.0 -6.7**
CTAO Charters Tower 34.14 146 *e*P **P 16 03 13.8 +1.5**
comp=Z,309nm,2.2s,mb5.8
LZH Lanzhou 34.64 326 *e*P **P 16 03 15.6 -1.0**
LZH AP pP 16 03 23.5 -4.2
LZH PP PP 16 04 32.6 -2.9
LZH *e*S **S 16 08 42.2 -1.2**
LZH XS sS 16 09 02.0 +0.2
LZH SS SS 16 10 58.0 -17
LZH AMB AMB
comp=Z,65nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,178nm,4.1s
LZH LR LR
comp=N,3μm,15.4s
LZH LR LR
comp=Z,7μm,16.2s,MS5.5
VLA Vladivostok 34.96 7*c i*P **P 16 03 20.4 +1.0**
VLA *e**SP sP 16 03 37.0 +1.7
VLA *i* 16 04 42.0
VLA *i* S **S 16 08 45.2 -3.2**
VLA pmax pmax
comp=Z,168nm,1.7s,mb5.7
VLA MLR MLR
comp=Z,1μm,17.3s,MS4.8
HHC Hu-ho-hao-te 35.10 340 *e*P **P 16 03 20.5 0.0**
HHC PP PP 16 04 40.9 +0.3
HHC PCP PcP 16 05 50.4 -1.1
HHC S **S 16 08 47.6 -2.8**
HHC SCP ScP 16 09 28.1 -5.8
HHC PCS PcS 16 09 36.2 -2.2
HHC SS SS 16 11 08.0 -16
HHC SCS ScS 16 13 30.9 -6.9
HHC AMB AMB
comp=Z,31nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,191nm,6.9s
HHC LR LR
comp=N,1μm,17.8s,MS4.8
HHC LR LR
comp=E,810nm,15.7s,MS4.8
HHC LR LR
comp=Z,2μm,20.6s,MS4.7
IMP Imphal 35.31 302 *e*P **P 16 03 22.0 -0.4**
CN2 Changchun 35.37 358⇓P **P 16 03 22.5 -0.4**
CN2 PP PP 16 04 42.5 -1.1
CN2 *e*S **S 16 08 54.9 +0.3**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,18.0s,MS4.8
CN2 LR LR
comp=E,1μm,18.0s,MS4.8
CN2 LR LR
comp=Z,1μm,19.0s,MS4.6
BTO Baotou 35.43 338 *e*P **P 16 03 19.1 -4.3**
MDJ Mudanjiang 36.25 3 P **P 16 03 31.9 +1.5**
MDJ AP pP 16 03 40.6 -1.0
MDJ XP sP 16 03 44.6 -1.7
MDJ PP PP 16 04 55.3 +2.0
MDJ PCP PcP 16 05 56.1 +1.2
MDJ S **S 16 09 08.7 +0.6**
MDJ XS sS 16 09 26.7 +0.1
MDJ PCS PcS 16 09 43.9 +1.3
MDJ AMB AMB
comp=Z,78nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,236nm,3.6s
MDJ LR LR
comp=N,2μm,31.5s
MDJ LR LR
comp=Z,2μm,26.9s,MS4.8
MDJ Mudanjiang 36.25 3 *e*P **P 16 03 32.0 +1.6**
comp=Z,90nm,1.0s,mb5.7
MDJ *epP* pP 16 03 42.2 +0.6
ERM Erimo 36.57 21 P **P 16 03 36.9 +3.8**
comp=Z,608nm,1.1s,SNR=19
ERM Erimo 36.57 21 *e*P **P 16 03 36.2 +3.0**
comp=Z,59nm,0.8s,mb5.5
AGT Agartala 37.30 299 *i* x x 16 03 42.0
AGT *i* x x 16 03 55.0
SHL Shillong 37.32 302 *e*P **P 16 03 37.1 -2.5**
SHL *i* S **S 16 09 23.0 -1.5**
SHL *i* PCS PcS 16 09 45.0 -1.6
HNR Honiara 37.49 117 P **P 16 03 42.4 +1.4**
comp=Z,34nm,0.6s,mb5.4,baz=267,slow=5.3,SNR=4.1
HNR Honiara 37.49 117 P **P 16 03 42.4 +1.5**
HNR pmax pmax
comp=Z,35nm,0.6s,mb5.4
FORT Forrest 38.89 178⇑*i*P **P 16 03 52.9 +0.2**
comp=Z,48nm,0.5s,mb5.5
FORT *i* pP pP 16 04 03.4 -0.5
FORT *e*SCP ScP 16 09 45.7 -2.4
GTA Gaotai 39.24 326 P **P 16 03 55.0 -0.7**
GTA AP pP 16 04 04.2 -2.7
GTA XP sP 16 04 08.4 -3.3
GTA PP PP 16 05 29.5 +3.3
GTA PCP PcP 16 06 05.8 +1.7
GTA SCP ScP 16 09 50.1 +0.7
GTA S **S 16 09 51.5 -2.0**
GTA SS SS 16 12 36.5 -11
GTA SCS ScS 16 13 59.2 -2.0
GTA AMB AMB
comp=Z,33nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,233nm,7.6s
GTA LR LR
comp=N,2μm,24.7s,MS5.0
GTA LR LR
comp=E,2μm,22.8s,MS5.0
GTA LR LR
comp=Z,4μm,25.9s,MS5.2
YUK Yuzh-Kuril'sk 39.30 22 *e*P **P 16 03 58.7 +2.5**
YUK *e* 16 05 30.3
YUK *e*S **S 16 09 56.7 +2.4**
YUK pmax pmax
comp=Z,200nm,1.5s,mb5.6
YUK smax
comp=E,850nm,2.5s
YUK smax
comp=N,700nm,3.5s
CAL Calcutta 39.48 295 *e*P **P 16 04 00.2 +2.5**
CAL *e*S **S 16 09 59.7 +2.6**
LSA Lhasa 39.55 307 P **P 16 03 57.4 -0.8**
LSA PCP PcP 16 06 03.4 -1.7
LSA S **S 16 09 52.3 -5.7**
LSA SCS ScS 16 13 54.0 -8.9
LSA AMB AMB
comp=Z,30nm,1.3s,mb4.9
LSA LR LR
comp=N,650nm,21.3s,MS4.7
LSA LR LR
comp=E,1μm,22.3s,MS4.7
LSA LR LR
comp=Z,2μm,19.8s,MS4.9
LSA Lhasa 39.55 307 *e*P **P 16 03 59.4 +1.2**
comp=Z,96nm,1.3s,mb5.4
LSA *epP* pP 16 04 09.0 -0.5
KLBR Kellerberrin 40.60 192 *e*P **P 16 04 07.3 +0.4**
comp=Z,244nm,1.3s,mb5.7
KLBR *i* pP pP 16 04 17.3 -0.9
HABR Khabarovsk 40.64 9⇓*i*P **P 16 04 10.1 +2.8**
HABR *e*S **S 16 10 16.9 +2.6**
HABR pmax pmax
comp=Z,176nm,1.9s,mb5.4
HABR MLR MLR
comp=Z,900nm,17.0s,MS4.7
YSS Yuzh-Sakhalins 40.87 17 *e*P **P 16 04 11.0 +1.8**
YSS *e* 16 04 26.0
YSS *e* 16 05 44.0
YSS *e*PPP 16 06 14.0
YSS *e*S **S 16 10 09.0 -8.7**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.3
YSS MLR MLR
comp=N,2μm,18.0s,MS4.9
YSS MLR MLR
comp=E,700nm,18.0s,MS4.9
YSS MLR MLR
comp=Z,2μm,18.0s,MS4.9
YSS Yuzh-Sakhalins 40.87 17 *e*P **P 16 04 11.0 +1.8**
comp=Z,320nm,1.7s,mb5.7
YSS LR LR
comp=Z,2μm,19.0s,MS4.9
KLR Kul'dur 41.00 5α*i*P **P 16 04 07.5 -2.8**
KLR *e* 16 05 44.0
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.1
KLR MLR MLR
comp=N,500nm,17.0s,MS4.8
KLR MLR MLR
comp=E,1μm,17.0s,MS4.8
HIA Hailar 41.24 353*d i*P **P 16 04 11.5 -0.7**
HIA Hailar 41.24 353 *e*P **P 16 04 12.5 +0.3**
comp=E,25nm,0.9s,mb4.8
MUN Mundaring 41.31 194⇓*i*P **P 16 04 13.0 +0.2**
MUN *i* pP pP 16 04 23.1 -0.9
MUN eS **S 16 10 21.6 -2.7**
BOK Bokaro 41.98 296 *e*P **P 16 04 17.5 -0.8**
BOK AMb AMB 16 04 33.0
comp=Z,131nm,1.5s,mb5.3
NWAO Narrogin (SRO) 42.00 192 P **P 16 04 18.8 +0.3**
comp=Z,103nm,1.1s,mb5.4,baz=18,slow=9.0,SNR=22
NWAO Narrogin (SRO) 42.00 192 P **P 16 04 18.8 +0.4**
NWAO pmax pmax
comp=Z,103nm,1.1s
NWAO Narrogin (SRO) 42.00 192 *e*P **P 16 04 17.9 -0.5**
comp=Z,197nm,1.0s,mb5.7
NWAO *epP* pP 16 04 28.1 -1.7
STKA Stephens Creek 42.41 161⇑*i*P **P 16 04 22.0 +0.2**
comp=Z,28nm,0.9s,mb4.9
STKA *epP* pP 16 04 32.2 -0.9
STKA eS **S 16 10 37.9 -2.7**
STKA Stephens Creek 42.41 161 P **P 16 04 22.3 +0.5**
comp=Z,35nm,0.8s,mb5.1,baz=336,slow=7.5,SNR=61
STKA PP PP 16 06 00.2 -0.4
comp=Z,66nm,1.1s,baz=332,slow=9.0,SNR=4.4
STKA ScP ScP 16 10 00.9 -1.0
comp=Z,4.7nm,0.9s,baz=36,slow=4.1,SNR=2.9
STKA LR LR 16 23 59.1
comp=Z,1μm,21.0s,MS4.7,baz=327,slow=39
ULN Ulaanbaatar 42.80 341⇓P **P 16 04 24.7 -0.3**
SNR=11
ULN Ulaanbaatar 42.80 341⇑*e*P **P 16 04 24.4 -0.6**
ULN Ulaanbaatar 42.80 341 *e*P **P 16 04 24.1 -0.9**
comp=Z,22nm,0.8s,mb5.0
ULN LR LR
comp=Z,2μm,20.0s,MS5.0
SONM Songino Array 43.00 340 P **P 16 04 25.9 -0.7**
comp=Z,13nm,1.0s,mb4.6,baz=153,slow=7.9,SNR=62
SONM LR LR 16 25 32.9
comp=Z,1μm,18.6s,MS4.9,baz=156,slow=40
SONM Songino Array 43.00 340 P **P 16 04 25.9 -0.7**
SONM pmax pmax
comp=Z,13nm,1.0s
SONM MLR MLR
comp=Z,1μm,18.6s
GUN Gumba 43.17 302 *e*P **P 16 04 27.9 0.0**
comp=Z,404nm,0.8s,mb6.2
VIS Vishakhapatnam 43.22 287 *e*P **P 16 04 25.2 -3.1**
VIS AMb AMB 16 04 43.9
comp=Z,69nm,1.3s,mb5.2
VIS *i* x x 16 11 06.9
PKI Pulchoki 43.45 302 *e*P **P 16 04 29.6 -0.7**
comp=Z,62nm,0.6s,mb5.5
KKN Kakani 43.63 302 *e*P **P 16 04 31.1 -0.6**
DMN Daman 43.72 301 *e*P **P 16 04 32.0 -0.4**
comp=Z,98nm,0.7s,mb5.7
GKN Gorkha 44.24 302 *e*P **P 16 04 35.9 -0.7**
comp=Z,100nm,0.7s,mb5.6
CIT Chita 44.90 348 *e*P **P 16 04 41.5 -0.3**
CIT *e* 16 05 09.9
CIT pmax pmax
comp=Z,88nm,1.9s,mb5.3
KOLN Koldanda 45.04 301 *e*P **P 16 04 42.8 -0.2**
comp=Z,126nm,0.5s,mb6.0
ARMA Armidale 45.33 149 *e*P **P 16 04 47.1 +1.9**
ARMA *epP* pP 16 04 58.6 +2.0
MDRS Chennai 45.87 280 *ex* x 16 11 36.0
ZAK Zakamensk 46.24 339⇓*e*P **P 16 04 51.3 -1.1**
ZAK pmax pmax
comp=Z,40nm,1.5s,mb5.1
JBP Jabalpur 47.13 294⇓*i*P **P 16 04 59.9 +0.4**
JBP *i* x x 16 05 11.1
JBP *ex* x 16 05 15.5
comp=Z,91nm,1.5s
TLY Talaya 47.22 341 P **P 16 04 59.2 -0.9**
comp=Z,127nm,0.9s,mb5.8,SNR=10
TLY Talaya 47.22 341 *e*P **P 16 04 59.7 -0.4**
TLY *e*S **S 16 11 51.3 +1.1**
TLY *e*SSS 16 16 24.3
TLY pmax pmax
comp=Z,21nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,821nm,20.0s,MS4.7
TLY Talaya 47.22 341 *e*P **P 16 04 59.2 -0.8**

comp=Z,16nm,0.8s,mb5.0
IRK Irkutsk 47.50 341 *e*P **P** **16 05 00.9 -1.3**
IRK *e* 16 06 29.9
IRK pmax pmax
comp=Z,38nm,1.9s,mb5.0
HYB Hyderabad 47.72 286 *i* P **P** **16 05 03.5 -0.5**
HYB *e* pP 16 05 17.0 +1.6
HYB *e*S **S** **16 11 56.0 -1.3**
HYB *e* 16 12 14.0
RIV Riverview 47.90 152 *e*P pP 16 05 19.3 +2.5
MOY Mondy 48.12 339 *e*P **P** **16 05 05.8 -1.3**
MOY pmax pmax
comp=Z,47nm,2.6s,mb5.1
LGTI Lohaghat 48.35 302 *e*P **P** **16 05 09.0 +0.2**
CNB Canberra Magne 48.37 155 *e*P **P** **16 05 10.2 +1.2**
comp=Z,49nm,1.3s,mb5.4
CNB *i* pP pP 16 05 22.3 +1.9
CLNS Chul'man 48.42 359 *e*P **P** **16 05 09.3 -0.1**
CLNS *e* 16 06 38.4
CLNS *e*S **S** **16 12 02.7 -4.6**
CLNS pmax pmax
comp=N,32nm,0.9s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=Z,63nm,0.9s,mb5.7
CLNS smax
comp=E,146nm,9.3s
CLNS smax
comp=Z,168nm,10.5s
CLNS smax
comp=N,216nm,11.9s
CLNS MLR MLR
comp=E,870nm,18.0s,MS4.9
CLNS MLR MLR
comp=Z,1μm,18.0s,MS4.9
CLNS MLR MLR
comp=N,700nm,20.0s,MS4.9
SKR Severo-Kuril's 48.75 25 *e*P **P** **16 05 13.6 +1.7**
SKR *e* pP 16 05 26.5 +3.2
SKR *e*PPP 16 07 58.0
SKR S sS 16 12 30.0 -0.8
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.2
SKR pmax pmax
comp=N,1μm,2.0s
SKR pmax pmax
comp=E,1μm,2.0s
SKR pmax pmax
comp=Z,1μm,2.0s
SKR smax
comp=N,1μm,16.0s
SKR smax
comp=E,2μm,16.0s
SKR MLR MLR
comp=Z,1μm,18.0s,MS4.9
TOO Toolangi 48.90 160⇑ *i*P **P** **16 05 14.7 +1.6**
comp=Z,25nm,1.3s,mb5.1
TOO *i* pP pP 16 05 24.7 +0.2
WMQ Urumqi 49.04 323 P **P** **16 05 14.3 +0.2**
WMQ AP pP 16 05 24.0 -1.6
WMQ XP sP 16 05 28.0 -2.3
WMQ PCP PcP 16 06 38.5 +1.0
WMQ PCS PcS 16 10 33.0 -0.9
WMQ S **S** **16 12 14.0 -2.0**
WMQ XS sS 16 12 31.0 -4.0
WMQ SCS ScS 16 15 01.0 -2.0
WMQ SS SS 16 15 41.0 -6.2
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,232nm,3.8s
WMQ LR LR
comp=N,2μm,19.9s,MS5.2
WMQ LR LR
comp=E,2μm,19.1s,MS5.2
WMQ LR LR
comp=Z,3μm,24.2s
BHPL Bhopal 49.47 293 *e*P **P** **16 05 15.2 -2.2**
BHPL AMb AMB 16 05 32.1
comp=Z,42nm,0.6s,mb5.7
AKL Akola 49.49 290 *ex* x 16 05 09.1
AKL AMb AMB 16 05 32.0
comp=Z,110nm,2.0s,mb5.5
BOD Bodaibo 50.36 351⇓ *i*P **P** **16 05 24.3 +0.1**
BOD pmax pmax
comp=Z,37nm,1.6s,mb5.2
DDI Dehra Dun 50.42 303 *ex* x 16 05 35.0
NDI New Delhi 50.72 300 *e*P **P** **16 05 24.9 -2.0**
NDI AMb AMB 16 05 28.6
comp=Z,60nm,1.6s,mb5.3
SMLA Simla 51.37 303 *e*P **P** **16 05 31.4 -0.4**
SMLA AMb AMB 16 05 34.9
comp=Z,213nm,0.4s
PET Petropavlovsk 51.55 24k *i*P **P** **16 05 35.4 +2.3**
PET *e**PP pP 16 05 53.3 +8.7
PET *i* S **S** **16 12 49.9 -0.9**
PET *e**SS sS 16 13 21.4 +11
PET pmax pmax
comp=Z,137nm,1.8s,mb5.6
PET pmax pmax
comp=Z,900nm,6.8s
PET MLR MLR
comp=Z,800nm,17.0s,MS4.8
PET MLR MLR
comp=Z,900nm,20.0s
PET Petropavlovsk 51.55 24 *e*P **P** **16 05 35.4 +2.3**
comp=Z,253nm,1.3s,mb6.0
SDNR Sundarnagar 51.63 304 *e*P **P** **16 05 33.0 -0.7**
KAD Karad 51.88 285 *e*P **P** **16 05 34.2 -1.4**
KAD AMb AMB 16 05 49.1
comp=Z,38nm,1.1s,mb5.2
BHK Bhakra 52.06 303 *ex* x 16 05 40.5
POO Poona 52.27 287 *ex* x 16 05 44.5
AJM Ajmer 52.50 297 *e*P **P** **16 05 38.7 -1.5**
DLH Dalhousie 52.73 305 *e*P **P** **16 05 40.0 -1.9**
THN Thein Dam 52.90 305 *e*P **P** **16 05 40.7 -2.5**
YAK Yakutsk 53.66 2*d* *i*P **P** **16 05 48.8 +0.1**
YAK *e* 16 06 54.5
YAK *e* 16 07 48.4
YAK *e*S **S** **16 13 15.7 -3.9**
YAK *e* 16 15 30.3
YAK *e*SS SS 16 16 52.5 -8.0
YAK pmax pmax
comp=Z,100nm,0.9s,mb5.8
YAK pmax pmax
comp=N,47nm,1.0s
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.0
YAK pmax pmax
comp=N,15nm,1.3s
YAK pmax pmax
comp=E,13nm,1.3s
YAK smax
comp=N,12nm,1.5s
YAK smax
comp=Z,2.0nm,0.8s
YAK smax
comp=E,5.0nm,1.1s
MK31 Makanchi Array 53.85 323 P **P** **16 05 49.7 -0.4**
MK31 pmax pmax
comp=Z,19nm,0.7s,mb5.1
MKAR Makanchi Array 53.85 323 P **P** **16 05 49.8 -0.4**
comp=Z,7.6nm,0.4s,mb5.0,baz=118,slow=7.0,SNR=114
MKAR Makanchi Array 53.85 323 P **P** **16 05 49.8 -0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.4s
MA2 Magadan 54.29 15*d* *i*P **P** **16 05 55.2 +1.8**
MA2 *e* 16 13 34.7
MA2 pmax pmax
comp=N,40nm,0.9s
MA2 pmax pmax
comp=Z,70nm,0.9s,mb5.6
KSH Kashi 54.88 313 *e*P **P** **16 05 57.0 -0.6**
KSH *e*AP pP 16 06 08.3 -0.9
KSH *e*XP sP 16 06 12.1 -1.8
KSH *e*PCP PcP 16 07 00.3 +1.0
KSH *e*SCP ScP 16 10 54.0 -0.7
KSH *e*PCS PcS 16 10 58.1 -1.1
KSH *e*S **S** **16 13 31.2 -4.9**
KSH *e*XS sS 16 13 51.1 -4.3
KSH *e*SS SS 16 17 17.1 -2.7
KSH AMB AMB
comp=Z,254nm,2.0s,mb5.9
KSH LR LR
comp=N,2μm,18.1s,MS5.4
KSH LR LR
comp=E,1μm,14.5s,MS5.4
KSH LR LR
comp=Z,3μm,19.2s,MS5.4
ULHL Ulahol 55.69 316 P **P** **16 06 04.0 +0.6**
SNR=6.4
KZA Kyzart 56.31 316 P **P** **16 06 08.8 +1.0**
SNR=23
TKM2 Tokmak 2 56.38 317 P **P** **16 06 08.5 +0.1**
SNR=28
TKM2 Tokmak 2 56.38 317 P **P** **16 06 07.9 -0.5**
TKM2 pmax pmax
comp=Z,28nm,0.9s,mb5.3
ZAL Zalesovo 56.55 332 P **P** **16 06 08.7 -0.9**
comp=Z,7.9nm,0.3s,mb5.2,baz=1.0,slow=7.3,SNR=39
ZAL ScP ScP 16 10 58.4 -3.7
comp=Z,0.9nm,0.4s,baz=260,slow=9.0,SNR=2.6
ZAL LR LR 16 32 48.4
comp=Z,1μm,18.9s,MS4.9,baz=338,slow=38
ZAL Zalesovo 56.55 332 *i* P **P** **16 06 08.6 -1.0**
ZAL pmax pmax
comp=Z,8.0nm,0.3s
KBK Karagaybulak 56.73 316 P **P** **16 06 11.1 +0.3**
SNR=19
CHMS Chumysh 56.99 316 P **P** **16 06 12.3 -0.4**
SNR=13
FRU Bishkek 57.02 316 *e*P **P** **16 06 12.0 -0.9**
FRU *e* 16 06 27.0
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.4
AAK Ala-Archa 57.03 316 P **P** **16 06 14.4 +1.4**
SNR=8.8
AAK Ala-Archa 57.03 316 P **P** **16 06 12.4 -0.6**
SNR=15
AAK Ala-Archa 57.03 316⇑ *e*P **P** **16 06 12.2 -0.8**
AAK pmax pmax
comp=Z,34nm,1.6s,mb5.1
AAK Ala-Archa 57.03 316 *e*P **P** **16 06 11.6 -1.4**
comp=Z,51nm,1.4s,mb5.4
USP Ospenovka 57.26 317 P **P** **16 06 14.3 -0.3**
SNR=34
AML Almayashu 57.41 315 P **P** **16 06 16.4 +0.8**
SNR=21
EKS2 Erkin-Say 57.53 316 P **P** **16 06 16.9 +0.3**
SNR=46
SEY Seymchan 57.60 14⇑ *e*P **P** **16 06 19.8 +2.8**
NVS Novosibirsk 57.83 332 *e*P **P** **16 06 15.5 -3.1**
NVS *e*S **S** **16 14 10.9 -4.3**
NVS *i* PS 16 14 28.8
NVS pmax pmax
comp=Z,102nm,2.0s,mb5.5
NVS pmax pmax
comp=N,47nm,1.7s
NVS pmax pmax
comp=E,38nm,1.6s
NVS smax
comp=N,57nm,1.9s
NVS smax
comp=E,66nm,1.9s
KURK Kurchatov 57.93 326 P **P** **16 06 18.0 -1.3**
comp=E,415nm,1.1s,SNR=53
KK31 Karatay Array 59.95 315 *i* P **P** **16 06 32.4 -0.9**
KK31 pmax pmax
comp=Z,22nm,0.6s,mb5.4
KKAR Karatay Array 59.95 315 P **P** **16 06 32.4 -0.9**
KKAR pmax pmax
comp=Z,13nm,0.6s,mb5.1
AMKA Amchitka 60.73 35 *e*P **P** **16 06 41.2 +2.6**
VOSK Vostochnaya 63.08 326 P **P** **16 06 52.9 -1.5**
VOSK pmax pmax
comp=Z,26nm,1.3s,mb5.2
TIXI Tiksi 63.29 1 *e*P **P** **16 06 53.1 -2.7**
TIXI *e**PP pP 16 07 08.6 +1.0
TIXI *e*S **S** **16 15 18.4 -6.6**
TIXI *e* 16 15 41.9
TIXI *e*SS SS 16 19 36.1 +4.3
TIXI pmax pmax
comp=Z,73nm,1.0s,mb5.8
TIXI MLR MLR
comp=Z,318nm,18.0s,MS4.5
BVA0 Borovoye Array 63.52 326 *i* P **P** **16 06 56.3 -1.1**
BVA0 pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
BVAR Borovoye Array 63.52 326 P **P** **16 06 56.7 -0.7**
comp=E,18nm,0.8s,mb5.2,baz=118,slow=8.6,SNR=77
BVAR Borovoye Array 63.52 326 P **P** **16 06 56.7 -0.7**
BVAR pmax pmax
comp=E,18nm,0.8s
BRVK Borovoye 63.60 326 P **P** **16 06 57.5 -0.4**
comp=Z,222nm,1.1s,mb6.1,SNR=21
BRVK Borovoye 63.60 326⇓ P **P** **16 06 57.1 -0.8**
SNR=24
BRVK Borovoye 63.60 326 *e*P **P** **16 06 56.7 -1.2**
comp=Z,14nm,0.7s,mb5.1
BRVK LR LR
comp=Z,216nm,21.0s,MS4.3
CHKZ Chkalovo 63.66 327 P **P** **16 06 57.0 -1.3**
CHKZ pmax pmax
comp=Z,51nm,1.5s,mb5.3
CHKZ Chkalovo 63.66 327 *e*P **P** **16 06 56.9 -1.3**
comp=Z,21nm,0.8s,mb5.2
ZRNK Zerenda 64.27 325 P **P** **16 07 00.6 -1.7**
ZRNK pmax pmax
comp=Z,34nm,0.9s,mb5.4
ZRNK Zerenda 64.27 325 *e*P **P** **16 07 00.7 -1.6**
comp=Z,6.7nm,1.4s,mb4.5
BILL Bilibino 65.16 15 *i* P **P** **16 07 09.1 +1.0**
BILL *e* 16 07 28.5
BILL *e* 16 07 38.3
BILL *e* 16 09 34.8
BILL *e*S S 16 15 44.9 -3.2
BILL pmax pmax
comp=Z,86nm,1.5s,mb5.6
BILL MLR MLR
comp=Z,800nm,19.0s,MS4.9
BILL Bilibino 65.16 15 *e*P **P** **16 07 09.4 +1.3**
comp=Z,14nm,0.5s,mb5.2
BILL LR LR
comp=Z,923nm,19.0s,MS5.0
NIKO Nikolski 68.11 36 *e*P **P** **16 07 27.6 +0.7**
AB31 Akbulak array 68.65 320 *i* P **P** **16 07 28.8 -1.5**
AB31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SVE Sverdlovsk 70.09 328 *e*P **P** **16 07 38.0 -1.2**
SVE *e* 16 08 09.0
SVE *e*S S 16 17 02.0 +15
SVE *e*PS 16 17 37.0
SVE pmax pmax
comp=Z,96nm,2.0s,mb5.4
AKTK Aktyubinsk 70.11 321 P **P** **16 07 38.0 -1.3**
AKTO Aktyubinsk 70.11 321 P **P** **16 07 38.0 -1.3**
comp=Z,4.4nm,0.5s,mb4.7,baz=89,slow=6.7,SNR=21
AKTO Aktyubinsk 70.11 321 P **P** **16 07 38.0 -1.3**
AKTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
AKUT Akutan 70.18 35 *e*P **P** **16 07 41.5 +1.7**
comp=Z,165nm,0.9s,mb6.0
AKUT LR LR
comp=Z,2μm,23.0s,MS5.2
ARU Arti 71.10 327 P **P** **16 07 43.1 -2.2**
comp=Z,191nm,0.4s,mb6.4,SNR=7.1
ARU Arti 71.10 327 *e*P **P** **16 07 43.4 -1.9**
ARU *e* 16 10 18.8
ARU *e*S S 16 16 55.5 -3.5
ARU *e* 16 17 37.2
ARU MLR MLR
comp=Z,1μm,23.0s,MS5.0
ARU MLR MLR
comp=N,300nm,19.0s,MS4.8
ARU MLR MLR
comp=E,500nm,20.0s,MS4.8
ARU Arti 71.10 327 P **P** **16 07 43.8 -1.6**
SOKR Solikamsk 72.75 330 *e*P **P** **16 07 54.3 -1.0**
SOKR S S 16 17 15.9 -2.1
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SOKR MLR MLR
comp=Z,1μm,22.0s,MS5.1
SDPT Sand Point 73.43 35 *e*P **P** **16 08 00.8 +1.5**
comp=Z,119nm,1.2s,mb5.7
SDPT LR LR
comp=Z,2μm,23.0s,MS5.2
CHGN Chignik 74.73 34 *e*P **P** **16 08 08.4 +1.6**
CASY Casey 75.34 187 *e*P **P** **16 08 10.1 -0.2**
CASY *e*pP pP 16 08 21.3 -1.1
MAK Makhachkala 76.50 312 *i* P **P** **16 08 19.1 +2.1**
MAK *e*PPP 16 12 55.5
MAK *e*S S 16 18 01.4 +1.5
MAK pmax pmax
comp=Z,54nm,1.2s,mb5.3
MAK MLR MLR
comp=Z,1μm,20.0s,MS5.2
SVW2 Sparrevohn 76.82 29 *e*P **P** **16 08 21.6 +2.8**
TTA Tatalina 76.84 27 *e*P **P** **16 08 20.9 +2.0**
KDAK Kodiak Island 78.05 33 P **P** **16 08 27.0 +1.4**
comp=Z,205nm,0.9s,mb6.1,SNR=10
KDAK Kodiak Island 78.05 33 *e*P **P** **16 08 27.5 +1.9**
comp=Z,26nm,0.6s,mb5.3
DGRG David-gareji 78.08 311 P **P** **16 08 26.3 +0.5**
IMA2 Indian Mountai 78.22 24 *e*P **P** **16 08 28.6 +2.0**
MTA Mtatsminda 78.51 311 P **P** **16 08 27.6 -0.6**
TBLG Delisi 78.55 311 P **P** **16 08 28.2 -0.2**
DUS Dusheti 78.58 311 P **P** **16 08 23.4 -5.2**
GNI Garni 78.58 309⇑ *e*P **P** **16 08 28.5 -0.1**
GNI pmax pmax
comp=Z,49nm,1.6s
MIR Mirnyy 78.59 193*d* *i*P **P** **16 08 30.0 +1.4**
MIR pmax pmax
comp=Z,800nm,1.0s
KZR Kazreti 78.80 311 P **P** **16 08 29.2 -0.6**
GOR Gori 79.02 311 P **P** **16 08 30.5 -0.5**
BHD Baghdad 79.12 302 *ex* x 16 08 26.5
ZEI Tsey 79.16 312 *e*P **P** **16 08 30.5 -1.2**
ZEI *e* 16 11 30.0
ZEI pmax pmax
comp=Z,29nm,0.9s,mb5.2
SLKM Skilak Lake 79.39 30 *e*P **P** **16 08 33.9 +0.9**
PMR Palmer 79.95 29 *e*P **P** **16 08 36.4 +0.3**
comp=Z,26nm,0.8s,mb5.2
PMR LR LR
comp=Z,572nm,22.0s,MS4.9
KIV Kislovodsk 80.01 313 *e*P **P** **16 08 35.3 -1.1**
KIV *e*S S 16 18 33.4 -4.1
KIV *e*SS SS 16 23 44.9 -2.9
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,805nm,21.0s,MS5.0
KIV Kislovodsk 80.01 313 P **P** **16 08 37.6 +1.2**
comp=Z,28nm,0.9s,mb5.2
MSL Mosul 80.03 305 *ex* x 16 08 41.0
MSL *ex* x 16 18 38.0
MCK McKinley 80.09 27 *e*P **P** **16 08 37.3 +0.5**
comp=Z,28nm,1.0s,mb5.2
COLA College 80.58 26 *e*P **P** **16 08 39.2 -0.3**
COLA College 80.58 26 *e*P **P** **16 08 40.3 +0.9**
comp=Z,9.7nm,0.9s,mb4.7
COLA LR LR
comp=Z,490nm,21.0s,MS4.8
DIV Divide 81.57 29 *e*P **P** **16 08 47.1 +2.4**
comp=Z,56nm,0.8s,mb5.5
MOS Moscow 82.69 325 *e*P **P** **16 08 43.7 -6.9**
MOS *e*S S 16 18 55.8 -9.5
MOS *e* 16 19 48.9
MOS MLR MLR
comp=Z,1μm,19.0s,MS5.2
LVZ Lovozero 83.14 338⇑ *e*P **P** **16 08 51.6 -1.3**
LVZ *e*S S 16 19 01.1 -8.8
LVZ pmax pmax
comp=E,10.0nm,1.5s
LVZ pmax pmax
comp=Z,38nm,1.5s,mb5.2
LVZ pmax pmax
comp=N,15nm,1.6s
LVZ smax
comp=N,66nm,2.4s
OBN Obninsk 83.34 325 *e*P **P** **16 08 52.4 -1.5**
OBN *e**PP pP 16 09 09.5 +3.4
OBN *e**SP sP 16 09 18.5 +7.8
OBN *e*S S 16 19 10.1 -1.8
OBN *e*SS SS 16 24 36.6 -0.9
OBN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,700nm,19.0s,MS5.0
EGAK Eagle 83.44 26 *e*P **P** **16 08 55.7 +1.2**
MALT Malatya 83.58 308⇑ *i*P **P** **16 08 55.8 +0.6**
MALT Malatya 83.58 308 *e*P **P** **16 08 55.2 0.0**
comp=Z,24nm,1.3s,mb5.2
MALT *e*pP pP 16 09 07.0 -0.4
APA Apatity 83.65 337⇑ *i*P **P** **16 08 52.6 -2.9**
APA *i* 16 09 14.2
APA *e*S S 16 19 15.0 0.0
APA pmax pmax
comp=Z,51nm,1.5s,mb5.4
APA MLR MLR
comp=Z,1μm,20.0s,MS5.2
ANN Anapa 83.71 314 *e*P **P** **16 09 03.4 +7.5**
ANN *e**PP pP 16 09 25.8 +18
ANN pmax pmax
comp=Z,47nm,0.9s,mb5.6
DAWY Dawson 84.29 26 *e*P **P** **16 09 00.2 +1.4**
JOF Joensuu 85.13 333 *e*p **P** **16 09 00.4 -2.6**
comp=Z,14nm,0.6s,mb5.3
JOF Joensuu 85.13 333 *e*P **P** **16 09 00.4 -2.6**
JOF pmax pmax
comp=Z,14nm,0.6s,mb5.3
KEV Kevo 85.61 340 *e*p **P** **16 09 02.1 -3.3**
comp=Z,3.9nm,0.7s,mb4.8
INK Inuvik 85.93 22 *e*P **P** **16 09 07.3 +0.4**
comp=Z,49nm,1.4s,mb5.5
SIM Simferopol' 86.04 315 *e*P **P** **16 09 07.3 -0.2**
SIM pmax pmax
comp=Z,26nm,0.8s,mb5.5
ARCES ARCESS Array B 86.17 340 P **P** **16 09 06.8 -1.4**
comp=Z,10nm,0.8s,mb5.1,baz=78,slow=5.9,SNR=23
ARCES PKKPbc PKKPbc 16 27 06.0 -0.5
comp=Z,2.8nm,0.9s,baz=264,slow=4.4,SNR=5.7
ARCES LR LR 16 55 17.8
comp=Z,506nm,18.4s,MS5.0,baz=69,slow=41
PPT Papeete 86.53 108 *e*SS SS 16 25 31.7 +7.3
comp=Z,452nm,26.0s
PPT *e*LQ 16 32 42.2
comp=Z,1μm,31.8s
PPT *e*LR LR 16 36 43.0
comp=Z,375nm,21.8s,baz=284
PPT Papeete 86.53 108 LR LR 16 40 53.6
comp=Z,297nm,19.0s,MS4.7,baz=94,slow=31
BR131 Keskin Array S 87.12 310 *e*P **P** **16 09 10.9 -1.9**
comp=Z,2.6nm,0.6s,mb4.6
BRTR Keskin Array B 87.12 310 P **P** **16 09 11.3 -1.5**
comp=Z,2.4nm,0.5s,mb4.7,baz=134,slow=4.6,SNR=14
BRTR LR LR 16 54 06.1
comp=Z,488nm,21.9s,MS4.9,baz=236,slow=40
EIL Elat 87.48 299 *e*P **P** **16 09 14.1 -0.5**
comp=Z,196nm,1.3s,mb6.2
EIL *e*pP pP 16 09 25.9 -0.9
KAF Kangasniemi 87.56 332 *e*p **P** **16 09 12.4 -2.6**
comp=Z,6.7nm,0.5s,mb5.1,baz=71,slow=4.4
KAF Kangasniemi 87.56 332 *e*P **P** **16 09 12.4 -2.6**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
TBI Tubuai 87.62 114 *e*S S 16 19 58.2 +4.2
comp=Z,363nm,32.0s
TBI *e*SS SS 16 25 46.1 +5.7
TBI *e*LQ 16 33 28.9
comp=Z,392nm,31.8s
TBI *e*LR LR 16 37 03.6
comp=Z,864nm,33.2s
FIA1 FINESS Array S 87.82 332 *e*P **P** **16 09 14.1 -2.0**
FINES FINESS Array B 87.82 332 P **P** **16 09 14.5 -1.7**
comp=Z,5.0nm,0.4s,mb5.1,baz=86,slow=5.0,SNR=84
FINES LR LR 16 51 45.0
comp=Z,1μm,21.5s,MS5.2,baz=75,slow=38
FINES FINESS Array B 87.82 332 P **P** **16 09 14.5 -1.7**
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES MLR MLR
comp=Z,1μm,21.5s
FINES FINESS Array B 87.82 332 P **P** **16 09 14.5 -1.7**
FINES LR LR 16 51 45.0
VNDA Vanda 87.94 173 P **P** **16 09 16.6 -0.2**
comp=Z,9.3nm,0.7s,mb5.1,baz=318,slow=6.2,SNR=39
VNDA LR LR 16 47 21.0
comp=Z,576nm,21.7s,MS5.0,baz=346,slow=35
VNDA Vanda 87.94 173 P **P** **16 09 16.6 -0.2**
VNDA pmax pmax

comp=Z,9.0nm,0.7s
VNDA MLR MLR
comp=Z,576nm,21.7s
VNDA Vanda 87.94 173 *e*P **P 16 09 16.4 -0.4**
comp=Z,42nm,0.9s,mb5.7
VNDA *e*pP pP 16 09 27.3 -1.7
MAW Mawson 88.03 200 *e*P **P 16 09 16.2 -1.0**
comp=Z,2.6nm,1.0s,mb4.4
MAW *e*pP pP 16 09 27.9 -1.6
MAW Mawson 88.03 200 P **P 16 09 16.9 -0.3**
comp=Z,1.6nm,0.6s,mb4.4,baz=71,slow=5.9,SNR=15
MAW LR LR 16 44 14.2
comp=Z,442nm,21.4s,MS4.8,baz=50,slow=32
CSS Prodhromos 88.07 305 *e*P **P 16 09 16.4 -1.0**
comp=Z,20nm,0.8s,mb5.4
VSU Vasula 88.17 329 *i*P **P 16 09 16.4 -1.5**
AKASG Malin Array Be 88.36 321 P **P 16 09 16.8 -2.0**
comp=Z,3.7nm,0.5s,mb4.8,baz=64,slow=5.3,SNR=15
AKASG LR LR 16 54 50.5
comp=Z,568nm,20.1s,MS5.0,baz=85,slow=40
AKASG Malin Array Be 88.36 321 *i*P **P 16 09 16.7 -2.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 88.36 321 P **P 16 09 16.8 -2.0**
AKASG LR LR 16 54 50.5
AKBB Malin Array Si 88.36 321 *e*P **P 16 09 16.8 -1.9**
SBA Scott Base 88.85 172 *e*P **P 16 09 21.7 +0.7**
comp=Z,43nm,1.1s,mb5.7
SBA *e*pP pP 16 09 32.7 -0.6
SBA LR LR
comp=Z,452nm,21.0s,MS4.9
KIS Kishinev 89.34 317 *e*P **P 16 09 20.0 -3.4**
KIS *e*PS PS 16 21 25.0 +5.1
KIS MLR MLR
comp=E,600nm,20.0s
KIS MLR MLR
comp=Z,700nm,20.0s,MS5.1
KIS MLR MLR
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 89.64 269 P **P 16 09 24.8 0.0**
comp=Z,2.6nm,1.0s,mb4.5,baz=40,slow=12,SNR=5.5
KMBO LR LR 16 48 05.1
comp=Z,378nm,19.3s,MS4.8,baz=92,slow=35
KMBO Kilima Mbogo 89.64 269⇑ *e*P **P 16 09 25.5 +0.7**
KMBO Kilima Mbogo 89.64 269 P **P 16 09 24.8 0.0**
KMBO LR LR 16 48 05.1
CFR Carcaliu 90.17 316⇑ *i*P **P 16 09 27.7 +0.4**
CFR Carcaliu 90.17 316⇑P **P 16 09 27.7 +0.5**
BURAR Bucovina Array 91.60 318⇑ *i*P **P 16 09 33.2 -0.7**
MLR Muntele Rosu 91.61 316 P **P 16 09 32.2 -1.8**
comp=Z,2.4nm,0.6s,mb4.7,baz=134,slow=6.1,SNR=3.8
MLR Muntele Rosu 91.61 316 P **P 16 09 32.2 -1.8**
MLR pmax pmax
comp=Z,2.0nm,0.6s
LVV L'vov 91.80 321 *e*P **P 16 09 38.1 +3.3**
KOLS Kolonicke sedl 93.15 320 *e*P **P 16 09 40.3 -0.7**
UZH Uzhgorod 93.22 320⇓ *i*P **P 16 09 40.8 -0.6**
UZH *e*S S 16 20 39.0 -6.5
UZH MLR MLR
comp=Z,420nm,22.0s,MS4.8
STHS Stebnicka Huta 93.66 321 *e*P **P 16 09 42.9 -0.5**
STHS pmax pmax
comp=Z,9.0nm,1.5s,mb5.0
STHS Stebnicka Huta 93.66 321 *e*P **P 16 09 42.9 -0.5**
comp=Z,9.3nm,1.5s,mb5.0
CRVS Cervenica-Dubn 93.67 320 *e*P **P 16 09 43.0 -0.5**
CRVS *e*sP sP 16 09 58.8 -1.5
NIE Niedzica 94.24 321 *e*P **P 16 09 46.0 0.0**
OJC Ojcow 94.30 322 *e*P **P 16 09 45.7 -0.7**
OJC *e*S S 16 20 54.2 -0.8
OJC L 16 56 16.1
comp=Z,3.6nm,21.1s
TAOE Nuku Hiva Isla 94.31 98 *e*S S 16 20 58.5 +3.4
comp=Z,646nm,29.2s
TAOE *e*LR LR 16 40 03.3
comp=Z,1µm,21.6s
KECS Kecovo 94.41 320 *e* **P 16 09 53.5 +6.6**
NB2 NORSAR Subarra 94.70 334 P **P 16 09 45.8 -2.4**
comp=Z,1.2nm,0.5s,mb4.6,baz=64,slow=4.6
NOA NORSAR Array B 94.70 334 P **P 16 09 46.1 -2.1**
comp=Z,1.4nm,0.6s,mb4.6,baz=65,slow=4.6,SNR=8.5
NOA LR LR 16 58 45.8
comp=Z,615nm,19.7s,MS5.1,baz=65,slow=39
NOA NORSAR Array B 94.70 334 P **P 16 09 46.1 -2.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA MLR MLR
comp=Z,615nm,19.7s
YKA Yellowknife Ar 95.35 24 P **P 16 09 51.9 +0.8**
comp=Z,4.5nm,0.7s,mb5.0,baz=303,slow=4.4,SNR=7.7
YKA Yellowknife Ar 95.35 24 P **P 16 09 51.9 +0.8**
YKA pmax pmax
comp=Z,5.0nm,0.7s
OKC Ostrava-Krasne 95.44 322 *e*pP pP 16 10 06.3 +2.5
OKC *e*S S 16 21 01.8 -3.0
OKC AMS AMS 16 57 00.0
comp=Z,400nm,20.8s
VYHS Vyhne 95.45 321 *e*P **P 16 09 49.8 -1.8**
VYHS *e*pP pP 16 10 04.2 +0.3
DPC Dobruska-Polom 96.36 323 *e*PDIF **P 16 09 55.4 -0.3**
DPC *e*SKKS SKKSac 16 20 50.4 -4.1
DPC AMS AMS 16 55 10.0
comp=Z,500nm,19.1s
UPC Upice 96.49 323 *e*pP pP 16 10 13.5 +4.9
VRAC Vranov 96.57 322⇑ *i*P **P 16 09 56.5 -0.2**
VRAC Vranov 96.57 322⇑P **P 16 09 56.5 -0.1**
SYO Syowa Base 96.67 201⇓ *e*P **P 16 09 57.2 0.0**
SYO Syowa Base 96.67 201⇑ *e*pP pP 16 10 07.6 -1.9
SYO Syowa Base 96.67 201⇓ *e*sP sP 16 10 12.0 -2.0
TREC Trest 97.25 322 AMS AMS 16 58 10.0
comp=Z,600nm,19.1s
PRU Pruhonice 97.56 323 *e*P **P 16 10 00.4 -0.8**
PRU *e*S S 16 21 25.0 +1.9
PRU AMS AMS 16 59 20.0
comp=Z,600nm,24.8s
BRG Berggiesshubel 97.57 324 *e*P **P 16 10 00.7 -0.5**
comp=Z,6.0nm,1.4s,mb4.9
BRG *e* 16 10 22.8
comp=Z,3.2nm,1.0s
BRG
comp=N,328nm,24.9s
BRG
comp=E,218nm,22.6s
BRG
comp=Z,464nm,23.5s
BRG Berggiesshubel 97.57 324 *e*P **P 16 10 00.7 -0.5**
BRG *e* 16 10 22.8
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.9
BRG MLR MLR
comp=N,328nm,24.9s,MS4.8
BRG MLR MLR
comp=E,218nm,22.6s,MS4.8
BRG MLR MLR
comp=Z,464nm,23.5s,MS4.9
BRG Berggiesshubel 97.57 324 *e*P **P 16 10 00.7 -0.5**
comp=Z,6.0nm,1.4s,mb4.9
BRG *e* 16 10 22.8
BRG LR LR
comp=Z,460nm,23.5s,MS4.9
CLL Collm 97.94 325⇑ *i*P **P 16 10 01.5 -1.4**
comp=Z,15nm,1.5s,mb5.3
CLL *i* x x 16 10 43.4
CLL *e*(PP) 16 14 24.0
CLL *e*S S 16 21 27.0 +0.6
CLL *e*PS PS 16 22 54.0 -0.6
CLL *e*x x 16 28 42.0
CLL Collm 97.94 325⇑ *i*P **P 16 10 01.5 -1.4**
CLL *i* 16 10 33.3
CLL *e*S S 16 21 19.0 -7.4
CLL pmax pmax
comp=Z,15nm,1.5s,mb5.3
CLL MLR MLR
comp=Z,1µm,21.6s,MS5.3
CLL Collm 97.94 325⇑ *i*P **P 16 10 01.5 -1.4**
comp=Z,15nm,1.5s,mb5.3
CLL *i* 16 10 33.3
CLL *e*S S 16 21 19.0 -7.4
CLL LR LR
comp=Z,1µm,21.6s,MS5.3
QSPA South Pole Qui 98.19 180 *e*P **P 16 10 05.3 +1.3**
comp=Z,12nm,0.9s,mb5.4
KHC Kasperske Hory 98.47 322 *e*P **P 16 10 04.1 -1.1**
KHC *e*PP PP 16 14 09.0 +3.2
KHC *e*S S 16 21 28.0 -2.8
KHC AMS AMS 16 58 20.0
comp=Z,600nm,22.7s
GERES GERESS Array B 98.50 322 P **P 16 10 04.8 -0.6**
comp=Z,1.7nm,0.8s,mb4.7,baz=58,slow=5.0,SNR=14
GERES LR LR 16 59 35.1
comp=Z,574nm,21.8s,MS5.0,baz=65,slow=38
GERES GERESS Array B 98.50 322 P **P 16 10 04.8 -0.6**
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES MLR MLR
comp=Z,574nm,21.8s
NKC Novy Kostel 98.70 324 *e*P **P 16 10 05.9 -0.4**
NKC AMS AMS 16 55 00.0
comp=Z,700nm,25.8s
GRA1 Grafenberg Arr 99.64 324 *e*Pdif Pdif 16 10 10.2 -0.3
GRF Grafenberg Arr 99.64 324 *e*Pdiff Pdif 16 10 10.2 -0.3
RKT Rikitea 100.81 112 *e*S Sdif 16 21 51.4 +0.9
comp=Z,224nm,28.2s
RKT *e*SS SS 16 28 54.4 +6.0
comp=Z,256nm,29.5s
RKT *e*LQ 16 39 03.9
comp=Z,688nm,29.8s
RKT *e*LR LR 16 43 23.9
comp=Z,452nm,27.0s
NVAR Mina Array Bea 103.84 47 Pdiff Pdif 16 10 33.7 +4.6
comp=Z,0.2nm,0.5s,baz=313,slow=3.7,SNR=5.4
NVAR PP PP 16 14 46.3 -0.1
comp=Z,1.0nm,0.9s,baz=271,slow=8.4,SNR=4.7
NVAR PKKP PKKPbc 16 26 32.5 +13
comp=Z,0.7nm,0.7s,baz=173,slow=3.3,SNR=6.1
NVAR Mina Array Bea 103.84 47 Pdif Pdif 16 10 33.7 +4.6
NVAR PP PP 16 14 46.3 -0.1
NVAR PKKP PKKPbc 16 26 32.5 +13
PDAR Pinedale Array 107.90 40 PKiKP PKiKP 16 14 57.8 +3.4
comp=Z,0.5nm,0.6s,baz=325,slow=1.1,SNR=3.4
PDAR PKKP PKKPbc 16 26 18.5 +11
comp=Z,0.8nm,0.8s,baz=106,slow=3.2,SNR=4.7
ULM Lac du Bonnet 110.95 28 PKiKP PKiKP 16 15 01.1 +1.0
comp=Z,2.2nm,0.7s,baz=280,slow=1.3,SNR=3.2
ANMO Albuquerque 113.90 46⇑ *i*PKIKP PKiKP 16 15 08.2 +2.5
JCT Junction City 121.01 47 *e*PKPdf PKPdf 16 15 20.7 +1.4
TOA0 Torodi Ar. Sit 121.40 291 *e*PKPdf PKPdf 16 15 20.0 -0.1
TORD Torodi Ar. Bea 121.40 291 PKP PKPdf 16 15 20.1 +0.1
comp=Z,3.1nm,0.8s,baz=63,slow=2.1,SNR=18
MIAR Mount Ida 122.81 39 *e*PKPdf PKPdf 16 15 24.1 +1.3
WVT Waverly 125.13 34 *e*PKPdf PKPdf 16 15 28.1 +0.9
DBIC Dimbokro 129.49 286 PKP PKPdf 16 15 35.4 -0.2
comp=Z,3.5nm,0.9s,baz=119,slow=9.0,SNR=2.8
DBIC Dimbokro 129.49 286 PKIKP PKPdf 16 15 35.4 -0.2
DBIC pmax pmax
comp=Z,4.0nm,0.9s
PLCA Paso Flores 144.24 157 PKP PKPdf 16 16 01.9 -0.8
comp=Z,4.8nm,0.6s,baz=178,slow=3.8,SNR=15
PLCA Paso Flores 144.24 157 PKIKP PKPdf 16 16 01.9 -0.8
PLCA pmax pmax
comp=Z,5.0nm,0.6s
PLCA Paso Flores 144.24 157 *e*PKPdf PKPdf 16 16 02.1 -0.6
PLCA *e* 16 16 14.4
SDDR Presa de Saban 147.58 33 *e*PKPbc PKPbc 16 16 13.0 +1.9
TRQA Tornquist 149.36 166 *e*PKPbc PKPbc 16 16 16.8 +1.1
SJG San Juan 150.83 26 *e*PKPbc PKPbc 16 16 20.4 +1.2
CPD Cerro la Pandu 150.99 25 *e*PKPbc PKPbc 16 16 20.9 +1.2
MTP Monte Pirata 151.09 25 *e*PKPbc PKPbc 16 16 21.4 +1.5
ROSC El Rosal 155.25 59 PKP PKPdf 16 16 22.4 +2.3
comp=Z,7.0nm,0.4s,baz=270,slow=20,SNR=2.4
SDV Santo Domingo 155.69 46 PKPdf PKPdf 16 16 21.8 +1.2
LPAZ La Paz 163.47 120 PKP PKPdf 16 16 32.5 +3.0
comp=Z,2.7nm,0.8s,baz=273,slow=1.7,SNR=11
LPAZ La Paz 163.47 120 PKIKP PKPdf 16 16 32.5 +3.0
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 163.47 120 *e*PKPdf PKPdf 16 16 32.3 +2.8
LPAZ *e* 16 16 44.4
SAML Samuel 170.18 94 *e*PKPdf PKPdf 16 16 35.9 +1.4
SAML *e* 16 16 47.2

OTT 12 15:59:00.4±0.3, 5278N×6722W, h0km, MN2.9/6, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**2.07**	**6**	PN	Pn	15 59 37.0	+0.6
SCHQ				SG	Sg	16 00 04.3	-2.7
SCHQ				Trac		16 00 06.2	
	comp=Z,26nm,0.2s						
MNQ	**Manicouagan**	**2.45**	**204**	PN	Pn	15 59 41.3	-0.3
MNQ				SN	Sn	16 00 12.8	+0.6
MNQ				Trac		16 00 15.8	
	comp=Z,20nm,0.1s						
SMQ	**Clarke City**	**2.58**	**173**	PN	Pn	15 59 42.7	-0.7
SMQ				SN	Sn	16 00 14.1	-1.4
SMQ				Trac		16 00 24.8	
	comp=Z,17nm,0.2s						
ICQ	**Pointe Anglais**	**3.26**	**181**	PN	Pn	15 59 51.1	-1.7
ICQ				SN	Sn	16 00 30.1	-2.2
ICQ				Trac		16 00 34.5	
	comp=Z,8.2nm,0.1s						
CNQ	**Baie Comeau**	**3.52**	**189**	PN	Pn	15 59 56.6	+0.3
CNQ				Trac		16 00 53.2	
	comp=Z,7.1nm,0.2s						
NATG	**Natashquan Que**	**3.71**	**130**	PN	Pn	15 59 58.7	-0.3
NATG				SN	Sn	16 00 43.5	0.0
GSQ	**Grosses Roches**	**3.87**	**179**	PN	Pn	16 00 00.1	-1.1
GSQ				SN	Sn	16 00 45.2	-2.2
GSQ				Trac		16 01 02.9	
	comp=Z,9.0nm,0.2s						
DAQ	**Lac Daran**	**5.46**	**210**	PN	Pn	16 00 20.9	-2.2
BATG	**Bathurst New B**	**5.56**	**172**	PN	Pn	16 00 23.3	-1.1
LMQ	**La Malbaie**	**5.60**	**202**	PN	Pn	16 00 23.6	-1.3
LMQ				SN	Sn	16 01 24.2	-5.8
DRLN	**Deer Lake**	**7.07**	**116**	PN	Pn	16 00 39.6	-5.5
VLDQ	**Val d'Or**	**8.03**	**239**	PN	Pn	16 00 56.6	-1.7
MALO	**McAlpine Lake**	**8.32**	**256**	PN	Pn	16 00 58.9	-3.3
MALO				SN	Sn	16 02 27.5	-9.3
VIMO	**Victor Mine**	**10.02**	**277**	PN	Pn	16 01 21.3	-4.2
SILO	**Sutton Inlier**	**10.65**	**286**	PN	Pn	16 01 31.0	-3.2

*CSEM **12** 16:26:01.2,2792N×5737E, h32km, ML3.5, After THR*
*THR **12** 16:26:01.2±0.6, 2792N×5737E, h32km±7km, ML3.5*
*ISCJB **12** 16:26:02.8±1.2, 2810N±004×571E±0.1, h10km, Error ellipse: s-maj=15.5km s-min=5.3km az=20.8*

ISC 12 16:26:04.1±1.2, 2807N±004×571E±01, h10km, n7, σ0§97/12, 3C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.07**	**232**	*e*PG	**Pg**	**16 26 23.3**	**-1.4**
BNDS				*e*SG	**Sg**	**16 26 39.0**	**+0.3**
BNDS				AML	AML	16 26 41.5	
	comp=E,1µm,0.6s						
BNDS				AML	AML	16 26 43.2	
	comp=N,869nm,0.4s						
BNDS	**Bandar-Abbas**	**1.07**	**232**	*e*Pg	**Pg**	**16 26 23.3**	**-1.4**
	SNR=99						
BNDS				*e*Sg	**Sg**	**16 26 39.0**	**+0.3**
	comp=N,869nm,0.4s,SNR=99						
KRBR	**Kerman**	**1.93**	**351**	*e*PG	**Pg**	**16 26 39.1**	**-2.0**
KRBR				*e*Sg	**Sg**	**16 27 07.2**	**+1.2**
KRBR				AML	AML	16 27 09.0	
	comp=N,339nm,0.4s						
KRBR				AML	AML	16 27 10.3	
	comp=E,400nm,0.5s						
KRBR	**Kerman**	**1.93**	**351**	*e*Pg	**Pg**	**16 26 39.1**	**-1.9**
	SNR=94						
KRBR				*e*Sg	**Sg**	**16 27 07.2**	**+1.2**
	comp=E,400nm,0.5s,SNR=94						
BANOM	**Banah**	**2.26**	**199**	⇑P	**Pn**	**16 26 41.7**	**+0.2**
	SNR=23						
BANOM				⇑S	**Sn**	**16 27 09.5**	**+0.1**
ASHO	**Ashiyiah**	**3.51**	**196**	⇑P	**Pn**	**16 26 59.3**	**+0.7**
	SNR=9.9						
GHIR	**Ghir-Karzin**	**3.65**	**274**	*e*PN	**Pn**	**16 27 01.1**	**+0.5**
GHIR				AML	AML	16 28 13.2	
	comp=E,36nm,0.5s						

*CSEM **12** 16:29:32.8,2793N×5731E, h46km, ML3.5, After THR*

THR 12 16:29:32.8±0.4, 2793N×5731E, h46km±3km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.14**	**243**	*e*PG	Pn	16 29 54.6	+2.2
BNDS				*e*Sg	Sn	16 30 10.4	+3.5
BNDS				AML	AML	16 30 12.9	
	comp=E,891nm,0.4s						
BNDS	**Bandar-Abbas**	**1.14**	**243**	*e*Pg	Pn	16 29 54.6	+2.2
	SNR=107						
BNDS				*e*Sg	Sn	16 30 10.4	+3.6
	comp=E,891nm,0.4s,SNR=107						
KRBR	**Kerman**	**2.10**	**347**	*e*PG	Pn	16 30 10.7	+5.2
KRBR				*e*SG	Sn	16 30 38.4	+8.0
KRBR				AML	AML	16 30 40.2	
	comp=N,317nm,0.4s						
KRBR				AML	AML	16 30 41.5	
	comp=E,238nm,0.4s						
KRBR	**Kerman**	**2.10**	**347**	*e*Pg	Pn	16 30 10.7	+5.2
	SNR=98						
KRBR				*e*Sg	Sn	16 30 38.4	+8.0
	comp=E,238nm,0.4s,SNR=98						
GHIR	**Ghir-Karzin**	**3.84**	**276**	*e*PN	Pn	16 30 30.6	+1.3

IDC 12 17:11:12.1±2.5, 4516S×9693E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=75.3km s-min=34.1km az=121.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**36.84**	**67**	P	P	17 18 21.8	-0.1
	0.4nm,0.8s,baz=210,slow=8.2,SNR=4.3						
ASAR				PcP	PcP	17 20 42.9	-0.9
	0.8nm,1.0s,baz=217,slow=2.2,SNR=5.7						
STKA	**Stephens Creek**	**36.92**	**85**	P	P	17 18 22.6	0.0
	1.2nm,0.6s,baz=252,slow=4.8,SNR=5.7						
WRA	**Warramunga Arr**	**39.80**	**63**	P	P	17 18 46.8	0.0
	1.2nm,0.7s,baz=224,slow=8.2,SNR=14						
VNDA	**Vanda**	**40.98**	**163**	P	P	17 18 55.8	-0.8
	0.6nm,0.8s,baz=272,slow=9.7,SNR=4.4						
NVAR	**Mina Array Bea**	**153.04**	**92**	PKPbc	PKPbc	17 31 11.9	+0.4
	0.6nm,0.7s,baz=217,slow=4.1,SNR=9.0						

*ISCJB **12** 17:12:27.5±0.7, 5240N±009×17589W±0.10, h154km±5km, mb4.0/19, Error ellipse: s-maj=15.5km s-min=8.0km az=133.6*
*NEIC **12** 17:12:27.9±0.7, 5247N×17601W, h150km±6km, mb4.2/8, Error ellipse: s-maj=14.1km s-min=7.5km az=159.0*
*IDC **12** 17:12:30.7±3.8, 5248N×176.11W, h176km±34km, mb3.6/9, mb1 3.9/9, mb1mx3.5/25, mbtmp4.1/9, Error ellipse: s-maj=27.5km s-min=15.1km az=1.0*
*BJI **12** 17:12:30.6, 5240N×17670W, h119km, mB5.0, mb4.6*

ISC 12 17:12:27.8±0.7, 5245N±009×17599W±010, h149km±5km, h115km±1.9km:pP-P, n45, σ1§19/47, mb4.0/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.13**	**102**	P	**Pn**	**17 12 53.6**	**0.0**
ATKA				S	**Sn**	**17 13 13.2**	**-0.2**
AMKA	**Amchitka**	**3.10**	**252**	P	**Pn**	**17 13 18.0**	**+1.6**
NIKO	**Nikolski**	**4.37**	**80**	P	**Pn**	**17 13 32.5**	**-0.4**
SPIA	**Saint Paul Isl**	**5.79**	**33**	*e*Pn	**Pn**	**17 13 49.3**	**-2.3**
SPIA				*e*		17 13 54.9	
SDPT	**Sand Point**	**9.61**	**66**	P	**Pn**	**17 14 41.2**	**-1.4**
CHGN	**Chignik**	**10.95**	**62**	*e*P	**Pn**	**17 14 59.7**	**-0.6**
SVW2	**Sparrevohn**	**14.09**	**44**	*e*P	**Pn**	**17 15 42.6**	**+1.7**
KDAK	**Kodiak Island**	**14.38**	**59**	P	**Pn**	**17 15 41.7**	**-2.8**
	9.0nm,0.3s,baz=237,slow=8.4,SNR=22						
KDAK				S	**Sn**	**17 18 19.1**	**-4.8**
	0.2nm,0.3s,baz=263,slow=16,SNR=2.7						
KDAK	**Kodiak Island**	**14.38**	**59**	*e*P	**Pn**	**17 15 41.1**	**-3.4**
	23nm,0.5s						
TTA	**Tatalina**	**14.90**	**37**	*e*P	**Pn**	**17 15 53.2**	**+2.2**
SLKM	**Skilak Lake**	**16.27**	**50**	P	**Pn**	**17 16 06.5**	**-1.4**
IMA2	**Indian Mountai**	**17.63**	**31**	*e*P	**Pn**	**17 16 26.6**	**+2.3**
MCK	**McKinley**	**18.06**	**41**	*e*P	**P**	**17 16 27.6**	**-0.1**
	4.8nm,0.8s						
EYAK	**Cordova Ski Ar**	**18.41**	**52**	*e*P	**P**	**17 16 33.4**	**+1.8**
DIV	**Divide**	**18.54**	**50**	*e*P	**P**	**17 16 36.3**	**+3.4**
	26nm,0.6s						
EGAK	**Eagle**	**21.60**	**42**	*e*P	**P**	**17 17 05.3**	**-0.4**
DAWY	**Dawson**	**22.13**	**44**	*e*P	**P**	**17 17 10.6**	**-0.8**
TBM	**Table Mountain**	**35.38**	**76**	P	**P**	**17 19 09.5**	**+0.4**
EBG	**Ellensburg**	**35.53**	**76**	P	**P**	**17 19 11.1**	**+0.7**
EPH	**Ephrata**	**35.88**	**75**	P	**P**	**17 19 13.4**	**0.0**
MDJ	**Mudanjiang**	**36.11**	**280**	P	**P**	**17 19 20.2**	**+4.9**
MDJ				PP	PP	17 20 44.7	+4.2
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
MDJ				AMB	AMB		
	comp=Z,69nm,6.2s						
HAWA	**Hanford**	**36.41**	**76**	*e*P	**P**	**17 19 18.0**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.5						
YBH	**Yreka Blue Hor**	**37.03**	**85**	P	**P**	**17 19 25.3**	**+2.2**
	comp=Z,3.6nm,0.8s,mb4.1,baz=296,slow=7.9,SNR=5.2						
LTIM	**Timbered Crate**	**38.10**	**85**	P	**P**	**17 19 33.5**	**+1.4**
WVOR	**Wild Horse Val**	**39.10**	**81**	*e*P	**P**	**17 19 40.8**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.1						
CHMT	**Chamberlain Mo**	**39.83**	**72**	*e*P	**P**	**17 19 45.3**	**-1.3**
HLID	**Hailey**	**40.99**	**77**	*e*P	**P**	**17 19 55.5**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.2						
MCMT	**McKenzie Canyo**	**41.20**	**75**	*e*P	**P**	**17 19 56.6**	**-1.1**
NVAR	**Mina Array Bea**	**41.72**	**86**	P	**P**	**17 20 02.7**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.6,baz=291,slow=8.8,SNR=11						
NVAR	**Mina Array Bea**	**41.72**	**86**	P	**P**	**17 20 02.7**	**+0.8**
RRI2	**Red Ridge**	**42.95**	**75**	*e*P	**P**	**17 20 12.3**	**+0.4**
	comp=Z,4.4nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**44.34**	**75**	P	**P**	**17 20 22.8**	**-0.2**
	comp=Z,8.1nm,0.6s,mb4.5,baz=311,slow=3.7,SNR=67						
SRU	**San Rafael**	**46.01**	**80**	*e*P	**P**	**17 20 35.8**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**47.71**	**297**	P	**P**	**17 20 49.2**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.4,baz=50,slow=8.5,SNR=7.2						
SONM				ScP	ScP	17 25 52.2	-4.3
	comp=Z,0.4nm,0.7s,baz=45,slow=3.6,SNR=3.9						
HHC	**Hu-ho-hao-te**	**49.06**	**287**	*e*P	**P**	**17 21 04.5**	**+4.8**
HHC				AP	pP	17 21 32.1	-1.4
HHC				XP	sP	17 21 44.7	-5.4
HHC				PCP	PcP	17 22 25.8	+4.6
HHC				PP	PP	17 23 00.7	+6.1
HHC				SCP	ScP	17 26 09.2	+7.0
HHC				PCS	PcS	17 26 21.5	+3.8
HHC				S	**S**	**17 28 00.5**	**+7.5**
HHC				XS	sS	17 28 48.5	-3.2
HHC				SCS	ScS	17 30 42.2	+5.8
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,79nm,4.6s						
HHC				LR	LR		
	comp=N,78nm,4.1s						
HHC				LR	LR		
	comp=E,86nm,3.9s						
HHC				LR	LR		
	comp=Z,67nm,5.9s						
NJ2	**Nanjing**	**50.50**	**273**	*e*P	**P**	**17 21 16.3**	**+5.7**
LZH	**Lanzhou**	**56.74**	**287**	*e*P	**P**	**17 22 01.8**	**+5.8**
LZH				AP	pP	17 22 28.5	-2.3
LZH				XP	sP	17 22 41.1	-6.0
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.8						
WMQ	**Urumqi**	**60.20**	**304**	*e*P	**P**	**17 22 27.5**	**+7.5**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**60.71**	**310**	P	**P**	**17 22 21.9**	**-1.5**
	comp=Z,0.3nm,0.2s,mb3.7,baz=46,slow=7.0,SNR=2.8						
BVAR	**Borovoye Array**	**61.18**	**321**	P	**P**	**17 22 26.0**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=66,slow=5.9,SNR=4.5						
KMI	**Kunming**	**65.28**	**279**	P	**P**	**17 23 01.3**	**+7.7**
KMI				AP	pP	17 23 29.3	0.0
KMI				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**84.00**	**226**	P	**P**	**17 24 40.2**	**-1.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=32,slow=5.7,SNR=13						
FITZ	**Fitzroy Crossi**	**86.50**	**234**	P	**P**	**17 24 53.7**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.8,baz=68,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**87.46**	**225**	P	**P**	**17 24 58.0**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.1,baz=25,slow=5.1,SNR=42						
MAW	**Mawson**	**148.40**	**219**	PKPbc	PKPbc	17 31 54.5	-2.1
	comp=Z,1.2nm,0.4s,baz=101,slow=4.6,SNR=21						

MAN 12 17:23:24.2, 865N×12184E, h5km, mb2.3, ML3.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.11**	**140**⇓	*i*P	Pg	17 23 44.7	-0.9
IPIL				*i* S	Sg	17 23 58.1	-1.9
IPIL	**Ipil**	**1.11**	**140**	*e*P	Pg	17 23 44.6	-1.0
IPIL				*e*S	Sg	17 23 58.3	-1.8
PAGZ	**Pagadian**	**1.72**	**117**	*e*P	Pn	17 23 54.9	+0.2
PAGZ				*e*S	Sn	17 24 16.9	-0.1
GUIM	**Jordan**	**2.10**	**20**	*e*P	Pn	17 24 00.7	+0.7
GUIM				*e*S	Sn	17 24 27.2	+0.6

MAN 12 17:38:38.0, 820N×12666E, h44km, mb2.5, ML4.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.28**	**307**	*e*P	Pn	17 38 59.6	+0.1
BUTP				*e*S	Sn	17 39 16.6	+1.1
MATI	**Mati**	**1.30**	**198**	*e*P	Pn	17 39 00.3	+0.6
MATI				*e*S	Sn	17 39 18.0	+2.0
BUKP	**Musuan**	**1.61**	**259**	*e*P	Pn	17 39 05.2	+1.2
BUKP				*e*S	Sn	17 39 25.2	+1.6
SCPH	**Surigao**	**1.96**	**324**⇑	*e*P	Pn	17 39 10.0	+1.3

IDC 12 17:46:54.4±10.0**, 689S×12941E, h133km**±101km**, mb3.5**/2**, mb1 3.6**/5**, mb1mx3.4**/14**, mbtmp3.9**/5**, ML3.8**/3**, Error ellipse: s-maj=99.9km s-min=30.7km az=53.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.73**	**198**	P	Pn	17 49 38.1	+0.6
	0.4nm,0.3s,baz=31,slow=13,SNR=24						
FITZ				S	Sn	17 51 42.5	-4.3
	0.8nm,0.3s,baz=252,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**13.83**	**160**	P	Pn	17 50 03.3	-1.4
	0.4nm,0.3s,baz=340,slow=13,SNR=14						
WRA				S	Sn	17 52 29.8	-7.6
	1.1nm,0.3s,baz=227,slow=12,SNR=9.0						
ASAR	**Alice Springs**	**17.23**	**166**	P	Pn	17 50 48.0	+1.2
	0.4nm,0.3s,baz=344,slow=9.8,SNR=52						
ASAR				S	S	17 53 48.6	-10
	0.1nm,0.3s,baz=334,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**27.34**	**157**	P	P	17 52 26.7	-0.1
	0.6nm,0.3s,baz=352,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	17 57 38.1	+0.1
	0.4nm,0.4s,baz=122,slow=6.8,SNR=7.8						

*IDC **12** 18:02:43.2±2.1, 23.16S×11408W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.1/17, mbtmp4.1/6, MS4.0/9, Ms1 4.0/9, ms1mx4.0/14, Error ellipse: s-maj=75.1km s-min=23.6km az=39.0*

*ISCJB **12** 18:02:45.6±1.0, 227S±0.1×1136W±02, h10km, mb4.3/8, MS4.0/9, Error ellipse: s-maj=29.4km s-min=18.0km az=135.3*

*NEIC **12** 18:02:46.9±0.9, 2272S×11367W, h10km, mb4.6/3, Error ellipse: s-maj=35.0km s-min=22.1km az=50.0*

ISC 12 18:02:47.6±1.0**, 228S**±01×**1137W**±02**, h10km, n26, σ0s84**/11**, mb4.3**/8**, MS4.0**/9**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RKT	**Rikitea**	**19.61**	**265**	*e*LR	LR	18 11 36.6	
	1µm,28.8s,baz=89						
TAOE	**Nuku Hiva Isla**	**28.92**	**294**	*e*LR	LR	18 15 52.2	
	1µm,26.3s						
TBI	**Tubuai**	**32.87**	**262**	*e*LR	LR	18 17 43.1	
	744nm,28.2s,baz=93						
PPT	**Papeete**	**34.03**	**272**	*e*LR	LR	18 18 16.8	
	433nm,25.8s,baz=100						
PPT	**Papeete**	**34.03**	**272**	LR	LR	18 18 56.4	
	comp=Z,238nm,20.8s,MS3.9,baz=121,slow=29						
ATAH	**Atahualpa**	**37.41**	**71**	LR	LR	18 21 27.7	
	comp=Z,330nm,21.6s,MS4.1,baz=235,slow=30						
PLCA	**Paso Flores**	**40.34**	**127**	LR	LR	18 22 45.9	
	comp=Z,242nm,20.1s,MS4.0,baz=106,slow=30						
CFAA	**Coronel Fontan**	**41.12**	**112**	P	**P**	**18 10 31.7**	**0.0**
	0.4nm,0.4s,mb3.4,baz=276,slow=4.8,SNR=5.4						
CFAA	**Coronel Fontan**	**41.12**	**112**	P	**P**	**18 10 31.7**	**0.0**
LPAZ	**La Paz**	**43.28**	**90**	P	**P**	**18 10 50.8**	**+1.4**
	6.5nm,0.9s,mb4.4,baz=273,slow=6.4,SNR=28						
LPAZ				LR	LR	18 24 36.1	
	comp=Z,171nm,19.7s,MS4.0,baz=323,slow=30						
LPAZ	**La Paz**	**43.28**	**90**	*e*P	**P**	**18 10 49.9**	**+0.6**
	13nm,1.0s,mb4.6						
LPAZ				LR	LR	18 24 36.1	
ROSC	**El Rosal**	**47.26**	**59**	LR	LR	18 28 28.4	
	comp=Z,168nm,18.4s,MS4.0,baz=196,slow=32						
SIV	**San Ignacio**	**49.88**	**92**	P	**P**	**18 11 40.9**	**-0.1**
	4.0nm,0.9s,mb4.5,baz=256,slow=12,SNR=19						
MNTX	**Cornudas Mount**	**54.77**	**9**	*e*P	**P**	**18 12 17.3**	**-0.1**
	3.8nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**61.06**	**356**	P	**P**	**18 13 01.8**	**+0.2**
	1.6nm,0.7s,mb4.3,baz=181,slow=7.2,SNR=7.4						
BDFB	**Brasilia**	**61.99**	**96**	P	**P**	**18 13 07.3**	**-0.6**
	5.1nm,0.9s,mb4.7,baz=225,slow=8.6,SNR=4.6						
BDFB				LR	LR	18 36 46.7	
	comp=Z,192nm,21.1s,MS4.2,baz=90,slow=33						
PDAR	**Pinedale Array**	**65.35**	**3**	P	**P**	**18 13 29.8**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=152,slow=6.6,SNR=6.9						
PDAR				LR	LR	18 36 42.0	
	comp=Z,103nm,19.5s,MS4.0,baz=8.4,slow=31						
VNDA	**Vanda**	**66.70**	**194**	LR	LR	18 37 10.2	
	comp=Z,86nm,18.2s,MS4.0,baz=124,slow=31						
QSPA	**South Pole Qui**	**67.35**	**180**	*e*P	**P**	**18 13 44.2**	**+1.4**
	10nm,1.4s,mb4.7						
VNA3	**Neumayer Olymp**	**73.00**	**161**	*e*	**P**	**18 14 15.7**	**-1.7**
VNA3				*e*		18 14 29.6	
SCHQ	**Schefferville**	**87.09**	**25**	LR	LR	18 52 35.3	
	comp=Z,73nm,19.6s,MS4.1,baz=118,slow=34						
ARU	**Arti**	**145.93**	**8**	*e*P	PKPdf	18 22 22.9	-3.7
BRTR	**Keskin Array B**	**147.60**	**51**	PKPbc	PKPbc	18 22 30.7	-1.4
	1.5nm,0.9s,baz=246,slow=6.2,SNR=4.5						
BVAR	**Borovoye Array**	**149.67**	**355**	PKPbc	PKPbc	18 22 34.9	-2.6
	1.3nm,0.8s,baz=96,slow=1.4,SNR=3.9						
ZRNK	**Zerenda**	**149.83**	**357**	*e*P	PKPdf	18 22 34.3	+1.3
MKAR	**Makanchi Array**	**152.81**	**336**	PKPbc	PKPbc	18 22 42.2	-2.5
	1.4nm,0.9s,baz=17,slow=1.5,SNR=5.3						

*LDG **12** 18:06:00.4±0.0, 4302N×0.15E, h12km, Md1.4/2, Ml1.2/2, Error ellipse: s-maj=1.1km s-min=0.4km az=167.0*

*STR **12** 18:06:00.7±0.1, 4304N×005W, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 12 18:06:01.7±0.3**, 4300N×015E, h0km, mbLg0.8**/1**, Error ellipse: s-maj=2.5km s-min=2.3km az=167.0, PRXIMO, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**309**	Pg	Pg	18 06 03.1	+0.1
LABF				Sg	Sg	18 06 04.8	+0.8
LABF	**Labassere**	**0.07**	**309**	P	Pg	18 06 03.1	+0.1
LABF				S	Sg	18 06 04.9	+0.9
EPF	**Esparros**	**0.14**	**78**	*e*Pg	Pg	18 06 04.1	-0.3
EPF				*e*Sg	Sg	18 06 06.5	+0.2
	4.1nm,0.2s						
EPF	**Esparros**	**0.14**	**78**	Pg	Pg	18 06 04.1	-0.3
EPF				Lg		18 06 06.5	
	2.0nm,0.2s						
VIEF	**Viey**	**0.15**	**218**	Pg	Pg	18 06 04.4	-0.1
VIEF				Sg	Sg	18 06 07.2	+0.7
VIEF	**Viey**	**0.15**	**218**	P	Pg	18 06 04.5	-0.1
VIEF				S	Sg	18 06 07.0	+0.5
EBIE	**Bielsa**	**0.32**	**181**	Pg	Pg	18 06 07.4	-0.3
	0.0nm,0.1s,SNR=7.9						
EBIE				Lg		18 06 12.1	
	0.8nm,0.0s,SNR=11						
ETSF	**Etsaut**	**0.53**	**259**	*e*Pg	Pg	18 06 10.9	-0.9
ETSF				*e*Sg	Sg	18 06 17.8	-0.9
	2.4nm,0.3s						
ETSF	**Etsaut**	**0.53**	**259**	Pg	Pg	18 06 10.9	-0.9
ETSF				Lg		18 06 17.8	
	1.2nm,0.3s						
SJPF	**Ste Jean**	**1.01**	**277**	*e*Sg	Sg	18 06 32.6	-1.6
	0.5nm,0.2s						
SJPF	**Ste Jean**	**1.01**	**277**	Lg		18 06 32.6	
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.55**	**77**	*e*Pg	Pg	18 06 29.2	-2.2
MTLF				*e*Sg	Sg	18 06 49.3	-2.2
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.55**	**77**	Pg	Pg	18 06 29.2	-2.2
MTLF				Lg		18 06 49.3	
	0.2nm,0.2s						

*BJI **12** 18:09:41.4, 0.11S×12558E, h93km, mB5.1, mb4.8*

*MOS **12** 18:09:43.8±1.0, 047N×12547E, h78km, mb5.0/19, Error ellipse: s-maj=16.4km s-min=7.4km az=119.5*

*ISCJB **12** 18:09:44.3±0.6, 036N±003×12540E±005, h83km±6km, mb4.7/60, Error ellipse: s-maj=8.0km s-min=5.0km az=126.7*

*IDC **12** 18:09:45.4±3.1, 043N×12540E, h74km±28km, mb4.4/20, mb1 4.4/21, mb1mx4.4/23, mbtmp4.7/21, MS3.7/5, Ms1 3.7/5, ms1mx3.2/23, Error ellipse: s-maj=20.4km s-min=9.1km az=67.0*

*NEIC **12** 18:09:46.9±1.4, 039N×12547E, h93km±13km, mb4.7/23, Error ellipse: s-maj=10.1km s-min=5.7km az=61.0*

ISC 12 18:09:46.2±0.5**, 035N**±003×**12541E**±005**, h84km**±5km**, h95km**±2.4km**:pP-P, n138, σ1s15**/139**, mb4.7**/60**, 7C-3D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.88**	**145**	P	**Pn**	**18 10 56.1**	**-1.0**
	367nm,1.0s						
PCI	**Palu**	**5.71**	**257**	P	**Pn**	**18 11 08.4**	**-0.1**
	266nm,1.1s						
SWI	**Sorong**	**5.97**	**102**	P	**Pn**	**18 11 11.2**	**-0.8**
	131nm,0.9s						
MATI	**Mati**	**6.61**	**7**	*e*P	**Pn**	**18 11 22.3**	**+1.6**
MATI				*e*S	**Sn**	**18 12 39.0**	**+4.4**
DAV	**Davao City (W)**	**6.68**	**1**	P	**Pn**	**18 11 16.4**	**-5.3**
PAGZ	**Pagadian**	**7.72**	**345**	*e*P	**Pn**	**18 11 35.4**	**-0.5**
IPIL	**Ipil**	**7.92**	**339**⇓	*e*P	**Pn**	**18 11 38.1**	**-0.4**
IPIL	**Ipil**	**7.92**	**339**	*e*P	**Pn**	**18 11 38.3**	**-0.3**
TARAI	**Tarakan**	**8.38**	**291**	P	**Pn**	**18 11 43.7**	**-1.1**
	114nm,0.7s						
TSM	**Tawau**	**8.49**	**298**	P	**Pn**	**18 11 45.7**	**-0.7**
GUIM	**Jordan**	**10.59**	**345**	*e*P	**Pn**	**18 12 16.3**	**+1.3**
KKM	**Kota Kinabalu**	**10.79**	**302**	P	**Pn**	**18 12 19.6**	**+1.9**
KKM	**Kota Kinabalu**	**10.79**	**302**	*e*Pn	**Pn**	**18 12 18.8**	**+1.2**
CUYO	**Cuyo Island**	**11.31**	**337**	*e*P	**Pn**	**18 12 26.0**	**+1.2**
KAKA	**Kakadu**	**14.73**	**152**	*e*P	**Pn**	**18 13 07.6**	**-2.5**
	50nm,0.6s						
KSM	**Kuching**	**15.14**	**274**⇑	*i*Pn	**Pn**	**18 13 18.9**	**+3.5**
KRKI	**Karangkates**	**15.44**	**237**	P	**Pn**	**18 13 24.6**	**+5.5**
	164nm,1.1s						
BJII	**Banjamegara**	**17.42**	**244**	P	**Pn**	**18 13 45.4**	**+1.6**
	65nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.33**	**179**	*e*P	**Pn**	**18 13 53.8**	**-1.0**
	8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.33**	**179**	P	**Pn**	**18 13 53.7**	**-1.1**
	0.6nm,0.3s,baz=17,slow=14,SNR=22						
WRAB	**Tennant Creek**	**21.97**	**157**	*e*P	**P**	**18 14 32.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,52nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**21.97**	**157**	*e*Pn	**P**	**18 14 32.6**	**-0.6**
	comp=Z,52nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**21.98**	**157**	P	**P**	**18 14 32.5**	**-0.8**
	comp=Z,15nm,0.4s,mb4.7,baz=337,slow=11,SNR=146						
WB2	**Warramunga Arr**	**21.98**	**157**	*e*P	**P**	**18 14 32.3**	**-1.0**
MBWA	**Marble Bar**	**22.08**	**194**	*e*Pn	**P**	**18 14 34.2**	**-0.1**
PMG	**Port Moresby**	**23.72**	**115**	P	**P**	**18 14 51.4**	**+0.9**
	comp=Z,17nm,0.7s,mb4.5,baz=229,slow=6.9,SNR=3.9						
PMG	**Port Moresby**	**23.72**	**115**	P	**P**	**18 14 48.6**	**-1.9**
PMG				pmax	pmax		
	comp=Z,59nm,1.2s						
PMG	**Port Moresby**	**23.72**	**115**	P	**P**	**18 14 48.6**	**-1.9**
	comp=Z,59nm,1.2s,mb4.8						
IPM	**Ipoh**	**24.70**	**280**	P	**P**	**18 14 59.4**	**-0.1**
KULM	**Kulim**	**25.21**	**282**	*e*P	**P**	**18 15 03.5**	**-0.5**
AS31	**Alice Springs**	**25.25**	**161**⇓	*i*P	**P**	**18 15 05.6**	**+1.2**
ASAR	**Alice Springs**	**25.25**	**161**	P	**P**	**18 15 05.5**	**+1.1**
	comp=Z,9.2nm,0.4s,mb4.5,baz=348,slow=12,SNR=335						
ASAR				PcP	PcP	18 18 38.0	+2.3
	comp=Z,1.2nm,0.5s,baz=354,slow=2.6,SNR=5.7						
ASAR				S	**S**	**18 19 26.1**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=353,slow=23,SNR=4.6						
ASPA	**Alice Springs**	**25.25**	**162**⇓	*i*P	**P**	**18 15 05.6**	**+1.2**
JOW	**Kunigami**	**26.48**	**6**	P	**P**	**18 15 15.7**	**+0.2**
	comp=Z,44nm,0.7s,mb5.0,baz=199,slow=9.9,SNR=13						
JOW				LR	LR	18 25 27.5	
	comp=Z,82nm,18.4s,baz=199,slow=36						
PSI	**Prapat**	**26.59**	**276**	P	**P**	**18 15 17.4**	**+0.9**
	comp=Z,7.4nm,0.8s,mb4.3,baz=55,slow=4.8,SNR=5.6						
PSI				LR	LR	18 26 06.5	
	comp=Z,153nm,19.9s,baz=58,slow=37						
SSE	**Sheshan**	**30.84**	**353**	P	**P**	**18 15 53.5**	**-0.8**
SSE				S	**S**	**18 20 57.7**	**+5.8**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,240nm,4.5s						
SSE				LR	LR		
	comp=N,23nm,22.5s						
SSE				LR	LR		
	comp=E,51nm,22.5s						
SSE				LR	LR		
	comp=Z,72nm,19.0s						
COCO	**West Island**	**30.98**	**245**	*e*P	**P**	**18 15 56.5**	**+1.1**
	comp=Z,143nm,0.8s,mb5.8						
COCO				*e*		18 16 10.3	
CBIJ	**Chichi jima**	**31.10**	**30**	LR	LR	18 27 28.3	
	comp=Z,7.1nm,18.4s,baz=280,slow=34						
GYA	**Guiyang**	**31.62**	**327**⇑	*i*P	**P**	**18 16 01.4**	**+0.3**
GYA				AP	pP	18 16 23.4	+2.9
GYA				PP	PP	18 17 09.6	-4.4
GYA				S	**S**	**18 21 02.0**	**-2.0**
GYA				XS	sS	18 21 40.5	+3.0
GYA				SCP	ScP	18 22 24.8	-2.3
GYA				SCS	ScS	18 26 21.3	-3.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,60nm,3.9s						
GYA				LR	LR		
	comp=N,280nm,18.4s						
GYA				LR	LR		
	comp=E,310nm,17.8s						
GYA				LR	LR		
	comp=Z,290nm,18.0s						
CHTO	**Chiang Mai**	**31.81**	**307**	*e*P	**P**	**18 16 02.6**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**31.81**	**307**	*e*P	**P**	**18 16 02.6**	**-0.1**
	comp=Z,10nm,0.9s,mb4.6						
NJ2	**Nanjing**	**32.14**	**349**	*e*P	**P**	**18 16 07.7**	**+2.0**
NJ2				AP	pP	18 16 29.8	+4.7
NJ2				XP	sP	18 16 41.5	+6.7
NJ2				PP	PP	18 17 18.4	-1.3
NJ2				S	**S**	**18 21 14.0**	**+1.9**
NJ2				XS	sS	18 21 53.0	+7.4
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,300nm,10.6s						
NJ2				LR	LR		
	comp=N,310nm,20.6s						
NJ2				LR	LR		
	comp=E,170nm,17.6s						
NJ2				LR	LR		
	comp=Z,120nm,25.4s						
KMI	**Kunming**	**32.97**	**320**	P	**P**	**18 16 16.3**	**+3.4**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**35.52**	**156**	*e*P	**P**	**18 16 35.9**	**+0.9**
	comp=Z,8.1nm,1.4s,mb4.5						
STKA	**Stephens Creek**	**35.52**	**156**	P	**P**	**18 16 36.5**	**+1.5**
	comp=Z,4.9nm,0.5s,mb4.7,baz=324,slow=8.9,SNR=22						
HNR	**Honiara**	**35.73**	**107**	P	**P**	**18 16 38.0**	**+1.3**
	comp=Z,38nm,0.8s,mb5.3,baz=282,slow=2.5,SNR=5.2						
HNR	**Honiara**	**35.73**	**107**	*e*P	**P**	**18 16 37.3**	**+0.6**
HNR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
HNR	**Honiara**	**35.73**	**107**	*e*P	**P**	**18 16 37.3**	**+0.6**
	comp=Z,40nm,0.9s,mb5.3						
CD2	**Chengdu**	**36.69**	**328**	*e*P	**P**	**18 16 44.1**	**-0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,6.2s						
MJAR	**Matsushiro Arr**	**37.92**	**17**	P	**P**	**18 16 55.5**	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.5,baz=193,slow=8.1,SNR=19						
MAJO	**Matsushiro**	**37.92**	**17**	*e*P	**P**	**18 16 54.4**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
MAJO	**Matsushiro**	**37.92**	**17**	*e*P	**P**	**18 16 54.4**	**-0.9**
	comp=Z,11nm,0.7s,mb4.8						
MAT	**Matsushiro**	**37.92**	**17**	P	**P**	**18 16 55.3**	**0.0**
ARMA	**Armidale**	**39.47**	**143**	*e*P	**P**	**18 17 10.2**	**+1.9**
LZH	**Lanzhou**	**40.82**	**333**	*e*P	**P**	**18 17 19.9**	**+0.5**
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
SNY	**Shenyang**	**41.33**	**358**	⇑P	**P**	**18 17 24.0**	**+0.4**
SNY				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.9						
HHC	**Hu-ho-hao-te**	**42.23**	**344**	*e*P	**P**	**18 17 32.4**	**+1.4**
HHC				AP	pP	18 17 55.1	+4.0
HHC				XP	sP	18 18 06.6	+6.0
HHC				PP	PP	18 19 15.1	+4.9
HHC				PCP	PcP	18 19 24.6	+1.0
HHC				SCP	ScP	18 23 05.2	-1.3
HHC				PCS	PcS	18 23 15.1	-0.4
HHC				S	**S**	**18 23 46.3**	**+1.2**
HHC				XS	sS	18 24 26.0	+6.5
HHC				SS	SS	18 26 51.9	-4.3
HHC				SCS	ScS	18 27 21.9	-2.7
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,87nm,4.9s						
HHC				LR	LR		
	comp=N,634nm,4.1s						
HHC				LR	LR		
	comp=E,659nm,3.9s						
HHC				LR	LR		
	comp=Z,37µm,17.8s						
LSA	**Lhasa**	**43.78**	**315**	P	**P**	**18 17 44.6**	**+1.1**
LSA	**Lhasa**	**43.78**	**315**	*e*P	**P**	**18 17 44.7**	**+1.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
LSA	**Lhasa**	**43.78**	**315**	*e*P	**P**	**18 17 44.7**	**+1.2**
	comp=Z,10nm,0.6s,mb4.7						
MDJ	**Mudanjiang**	**44.24**	**4**	P	**P**	**18 17 47.9**	**+0.8**
MDJ				XP	sP	18 18 19.8	+2.9
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,61nm,4.9s						
MDJ				LR	LR		
	comp=N,25nm,23.8s						
MDJ				LR	LR		
	comp=E,36nm,24.5s						
MDJ				LR	LR		
	comp=Z,33nm,24.5s						
MDJ	**Mudanjiang**	**44.24**	**4**	*e*P	**P**	**18 17 47.8**	**+0.6**
	comp=Z,10nm,0.8s,mb4.6						
VIS	**Vishakhapatnam**	**44.83**	**295**	*e*P	**P**	**18 17 53.3**	**+1.4**
VIS				AMb	AMB	18 18 02.5	
	comp=Z,13nm,1.4s,mb4.5						
BOK	**Bokaro**	**44.85**	**304**	*e*P	**P**	**18 17 51.7**	**-0.3**
BOK				AMb	AMB	18 18 02.2	
	comp=Z,5.4nm,1.0s,mb4.2						
PALK	**Pallekele**	**45.11**	**280**	P	**P**	**18 17 52.1**	**-1.9**
	comp=Z,16nm,1.0s,mb4.7						
GTA	**Gaotai**	**45.38**	**332**	*e*P	**P**	**18 17 55.6**	**-0.6**
GTA				PCP	PcP	18 19 36.4	+2.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
HIA	**Hailar**	**48.98**	**355**	*e*P	**P**	**18 18 24.7**	**+0.5**
HIA	**Hailar**	**48.98**	**355**	P	**P**	**18 18 23.4**	**-0.7**
	comp=Z,16nm,1.5s,mb4.7						
ULN	**Ulaanbaatar**	**49.95**	**344**	*e*P	**P**	**18 18 30.8**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.3						
ULN				*e*PcP	PcP	18 19 51.5	+0.9
SONM	**Songino Array**	**50.10**	**343**	P	**P**	**18 18 32.2**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.3,baz=161,slow=8.5,SNR=20						
SONM				PcP	PcP	18 19 52.1	+1.0
	comp=Z,1.4nm,0.7s,baz=162,slow=4.1,SNR=5.8						
SONM				LR	LR	18 40 26.8	
	comp=Z,68nm,20.3s,baz=254,slow=37						
SONM	**Songino Array**	**50.10**	**343**	P	**P**	**18 18 32.2**	**-0.5**
SONM						18 19 52.1	
AKL	**Akola**	**51.41**	**296**	*e*P	**P**	**18 18 42.5**	**-0.1**
AKL				AMb	AMB	18 18 43.3	
	comp=Z,34nm,0.8s,mb5.4						
BHPL	**Bhopal**	**51.83**	**300**	*e*P	**P**	**18 18 46.0**	**+0.3**
BHPL				AMb	AMB	18 18 46.4	
	comp=Z,33nm,0.3s						
KAD	**Karad**	**53.13**	**291**	*e*P	**P**	**18 18 53.9**	**-1.4**
KAD				AMb	AMB	18 18 56.8	
	comp=Z,36nm,1.6s,mb5.2						
TLY	**Talaya**	**54.35**	**343**	*e*P	**P**	**18 19 04.1**	**0.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
TLY	**Talaya**	**54.35**	**343**	*e*P	**P**	**18 19 04.0**	**-0.2**
	comp=Z,4.6nm,0.8s,mb4.6						
WMQ	**Urumqi**	**54.78**	**327**⇑	*i*P	**P**	**18 19 09.2**	**+1.9**
WMQ				AP	pP	18 19 30.7	+2.5
WMQ				XP	sP	18 19 41.0	+3.4
WMQ				PCP	PcP	18 20 10.0	+1.2
WMQ				PP	PP	18 21 15.0	+4.3
WMQ				S	**S**	**18 26 42.0**	**+0.4**
WMQ				SCS	ScS	18 28 47.0	-1.5
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,210nm,4.4s						
WMQ				LR	LR		
	comp=N,232nm,21.2s						
WMQ				LR	LR		
	comp=E,168nm,22.0s						
WMQ				LR	LR		
	comp=Z,247nm,22.4s						
SMLA	**Simla**	**54.96**	**309**	*e*P	**P**	**18 19 09.2**	**+0.6**
MOY	**Mondy**	**55.13**	**342**	*e*P	**P**	**18 19 10.4**	**+0.6**
BOD	**Bodaibo**	**58.02**	**353**	*e*P	**P**	**18 19 30.6**	**+0.3**
BOD				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
MK31	**Makanchi Array**	**59.61**	**327**	P	**P**	**18 19 40.3**	**-1.0**
MK31				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
MKAR	**Makanchi Array**	**59.61**	**327**	P	**P**	**18 19 40.6**	**-0.8**
	comp=Z,4.1nm,0.4s,mb4.8,baz=122,slow=7.7,SNR=64						
MKAR				PcP	PcP	18 20 28.7	+1.0
	comp=Z,3.4nm,0.7s,baz=117,slow=4.2,SNR=6.9						
MKAR	**Makanchi Array**	**59.61**	**327**	P	**P**	**18 19 40.6**	**-0.7**
MKAR				PcP	PcP	18 20 28.7	+1.0
TKM2	**Tokmak 2**	**61.44**	**320**	P	**P**	**18 19 53.5**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
YAK	**Yakutsk**	**61.61**	**2**	*e*P	**P**	**18 19 55.5**	**+0.6**
YAK				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,6.0nm,0.9s						
YAK	**Yakutsk**	**61.61**	**2**	*e*P	**P**	**18 19 55.3**	**+0.3**
	comp=N,39nm,0.6s,mb5.6						
AAK	**Ala-Archa**	**62.01**	**320**	*e*P	**P**	**18 19 56.8**	**-0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**62.01**	**320**	*e*P	**P**	**18 19 56.8**	**-0.8**
	comp=Z,5.0nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**63.02**	**334**	P	**P**	**18 20 03.5**	**-0.9**
	comp=Z,4.7nm,0.4s,mb4.7,baz=355,slow=5.3,SNR=13						
ZAL				LR	LR	18 46 15.2	
	comp=Z,40nm,18.9s,baz=243,slow=35						
NVS	**Novosibirsk**	**64.31**	**334**	*e*P	**P**	**18 20 09.5**	**-3.3**
VOSK	**Vostochnaya**	**68.99**	**328**	P	**P**	**18 20 41.2**	**-1.4**
BVA0	**Borovoye Array**	**69.45**	**328**	*i* P	**P**	**18 20 44.6**	**-0.8**
BVAR	**Borovoye Array**	**69.45**	**328**	P	**P**	**18 20 44.4**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.1,baz=133,slow=11,SNR=17						
BRVK	**Borovoye**	**69.52**	**328**	*e*P	**P**	**18 20 44.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
BRVK	**Borovoye**	**69.52**	**328**	*e*P	**P**	**18 20 44.9**	**-1.0**
	comp=Z,1.8nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**69.65**	**329**	P	**P**	**18 20 45.5**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**69.65**	**329**	*e*P	**P**	**18 20 45.4**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.2						
ZRNK	**Zerenda**	**70.15**	**328**	P	**P**	**18 20 48.7**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**70.15**	**328**	*e*P	**P**	**18 20 48.6**	**-1.1**
	comp=Z,5.3nm,0.5s,mb4.6						
AB31	**Akbulak array**	**73.95**	**322**	*i* P	**P**	**18 21 11.5**	**-0.9**
AKTK	**Aktyubinsk**	**75.50**	**322**	P	**P**	**18 21 21.1**	**-0.2**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKTO	Aktyubinsk	75.50	322	P	P	18 21 21.1	-0.2
	comp=Z,7.6nm,0.7s,mb4.6,baz=106,slow=6.4,SNR=41						
ARU	Arti	77.09	328	⇑iP	P	18 21 29.2	-1.2
ARU				e		18 24 23.4	
ARU				ePPP		18 26 14.0	
ARU				eS	S	18 31 17.7	+5.2
ARU				eSS	SS	18 36 18.1	+6.8
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
MAW	Mawson	80.14	200	P	P	18 21 48.4	+1.3
	comp=Z,2.0nm,0.6s,mb4.1,baz=53,slow=6.0,SNR=9.8						
MAW	Mawson	80.14	200	eP	P	18 21 47.4	+0.3
MAW				pmax	pmax		
	comp=Z,11nm,1.2s						
MAW	Mawson	80.14	200	eP	P	18 21 47.4	+0.3
	comp=Z,11nm,1.2s,mb4.5						
VNDA	Vanda	80.26	172	P	P	18 21 48.9	+1.1
	comp=Z,0.3nm,0.6s,baz=326,slow=8.0,SNR=4.4						
VNDA	Vanda	80.26	172	eP	P	18 21 48.6	+0.9
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA	Vanda	80.26	172	eP	P	18 21 48.6	+0.9
	comp=Z,0.6nm,0.8s						
SDPT	Sand Point	80.72	34	eP	P	18 21 51.8	+1.6
SVW2	Sparrevohn	84.38	29	eP	P	18 22 11.5	+2.3
VRSR	Storozhevoye	87.36	321	eP	P	18 22 23.4	-0.5
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VRSR				pmax	pmax		
	comp=N,5.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
MALT	Malatya	87.42	308	eP	P	18 22 25.2	+1.0
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	Malatya	87.42	308	eP	P	18 22 25.2	+1.0
	comp=Z,3.2nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	88.17	269	P	P	18 22 30.8	+3.0
	comp=Z,7.3nm,0.8s,mb4.8,baz=58,slow=7.2,SNR=15						
KMBO	Kilima Mbogo	88.17	269	⇑eP	P	18 22 30.5	+2.7
ANN	Anapa	88.32	315	eP	P	18 22 25.6	-2.9
ANN				eS	S	18 32 50.8	-16
ANN				eSS	SS	18 38 58.4	+0.7
ANN				pmax	pmax		
	comp=Z,11nm,1.5s,mb4.7						
ASF	Jabal al Asfar	88.56	302	P	P	18 22 31.3	+1.7
	comp=Z,7.2nm,0.7s,mb4.8,baz=320,slow=4.8,SNR=14						
OBN	Obninsk	89.06	325	⇑eP	P	18 22 30.7	-1.2
OBN				eSS	SS	18 39 10.6	+2.2
OBN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
OBN	Obninsk	89.06	325	eP	P	18 22 31.2	-0.8
	comp=Z,16nm,0.7s,mb5.2						
EIL	Elat	90.23	300	eP	P	18 22 38.3	+0.9
	comp=Z,157nm,1.1s						
BRTR	Keskin Array B	91.15	310	P	P	18 22 41.0	-0.7
	comp=Z,1.8nm,0.8s,mb4.2,baz=96,slow=2.0,SNR=4.5						
JOF	Joensuu	91.57	333	ep	P	18 22 41.2	-2.4
	comp=Z,3.1nm,0.5s,mb4.8						
KEV	Kevo	92.59	340	ep	P	18 22 43.8	-4.6
ARCES	ARCESS Array B	93.15	340	P	P	18 22 49.8	-1.2
	comp=Z,5.8nm,0.9s,mb4.9,baz=27,slow=3.0,SNR=9.3						
AKASG	Malin Array Be	93.67	321	P	P	18 22 52.3	-1.0
	comp=Z,1.2nm,0.5s,mb4.5,baz=70,slow=4.7,SNR=9.2						
AKASG	Malin Array Be	93.67	321	iP	P	18 22 52.2	-1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	Kangasniemi	93.96	332	ep	P	18 22 52.7	-2.0
	comp=Z,1.2nm,0.4s,mb4.6						
KAF	Kangasniemi	93.96	332	eP	P	18 22 52.7	-2.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5						
FINES	FINESS Array B	94.17	332	P	P	18 22 54.6	-1.0
	comp=Z,1.2nm,0.6s,mb4.4,baz=49,slow=6.1,SNR=8.8						
FINES	FINESS Array B	94.17	332	iP	P	18 22 58.0	+2.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LSZ	Lusaka	97.06	255	P	P	18 23 09.7	+0.9
LSZ				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb5.1						
LSZ	Lusaka	97.06	255	P	P	18 23 09.7	+0.9
	comp=Z,10nm,1.3s,mb5.1						
BOSA	Boshof	99.08	241	LR	LR	19 02 12.0	
	comp=Z,78nm,19.6s,baz=321,slow=32						
HFS	Hagfors	100.37	332	P	Pdif	18 23 22.1	-1.5
	comp=Z,0.9nm,0.5s,baz=133,slow=8.5,SNR=3.6						
NOA	NORSAR Array B	101.20	333	P	Pdif	18 23 25.7	-1.6
	comp=Z,0.7nm,0.7s,baz=63,slow=1.7,SNR=3.5						
TORD	Torodi Ar. Bea	122.64	286	PKP	PKPdf	18 28 34.0	+2.0
	comp=Z,1.5nm,0.7s,baz=98,slow=1.0,SNR=11						
SCHQ	Schefferville	124.09	9	PKP	PKPdf	18 28 35.4	+0.5
	comp=Z,1.9nm,0.6s,baz=56,slow=3.6,SNR=3.9						

IDC 12 18:20:56.3±3.9, 316S×13938E, h0^{km}, mb3.1/3, mb1 3.5/4, mb1mx3.3/11, mbtmp3.3/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/11, Error ellipse: s-maj=120.5km s-min=32.1km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.39	196	Pn	Pn	18 24 58.7	-1.7
	0.1nm,0.3s,baz=18,slow=13,SNR=10						
FITZ	Fitzroy Crossi	20.05	221	P	P	18 25 31.3	+0.4
	1.3nm,0.8s,baz=53,slow=15,SNR=3.6						
ASAR	Alice Springs	21.06	194	P	P	18 25 43.0	+1.0
	0.3nm,0.7s,baz=24,slow=9.7,SNR=10						
JOW	Kunigami	31.69	341	LR	LR	18 38 28.4	
	comp=Z,58nm,19.0s,baz=82,slow=33						
MKAR	Makanchi Array	70.55	322	P	P	18 32 13.3	+0.2
	0.2nm,0.7s,baz=111,slow=7.9,SNR=3.0						

NEIC 12 18:24:31.9, 35.11S×70.49W, h11^{km}, ML3.2(GUC), After GUC.

GUC 12 18:24:31.9±1.0, 3511S×7049W, h11^{km}±11^{km}, MD3.7, ML3.2, 13C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TALC	Talca	0.98	253	⇑iP	Pg	18 24 49.2	-1.6
TALC				iS	Sg	18 25 03.2	-0.4
TALC				AML	AML	18 25 04.2	
	comp=N,3μm,0.1s						
TALC	Talca	0.98	253	⇑iP	Pg	18 24 49.2	-1.6
TALC				iS	Sg	18 25 03.2	-0.4
LMEL	Las Melosas	1.28	11	⇓iP	Pn	18 24 54.2	-1.4
LMEL				iS	Sb	18 25 10.8	-1.6
LMEL				AML	AML	18 25 12.3	
	comp=N,307nm,0.1s						
LMEL	Las Melosas	1.28	11	⇓iP	Pn	18 24 54.2	-1.4
LMEL				S	Sb	18 25 10.8	-1.6
PCH	Pirque	1.49	359	⇑iP	Pn	18 24 57.8	-0.7
TACH	Talagante	1.50	345	⇑iP	Pn	18 24 57.6	-1.1
TACH				iS	Sn	18 25 17.3	-0.9
ANTU	Antumapu	1.54	355	⇑iP	Pn	18 24 58.7	-0.6
ANTU				iS	Sn	18 25 18.8	-0.5
ANTU				AML	AML	18 25 20.2	
	comp=E,606nm,0.6s						
ANTU	Antumapu	1.54	355	⇑iP	Pn	18 24 58.7	-0.6
ANTU				iS	Sn	18 25 18.8	-0.5
RCDM	Rinconada Maip	1.64	351	⇑iP	Pn	18 25 00.3	-0.3
RCDM				iS	Sn	18 25 21.2	-0.4
RCDM				AML	AML	18 25 23.1	
	comp=E,342nm,0.1s						
RCDM	Rinconada Maip	1.64	351	⇑iP	Pn	18 25 00.3	-0.3
RCDM				iS	Sn	18 25 21.2	-0.4
CLCH	Cerro Calan	1.71	359	⇑iP	Pn	18 25 01.6	0.0
CLCH				iS	Sn	18 25 24.5	+1.1
CLCH				AML	AML	18 25 28.3	
	comp=E,472nm,0.7s						
CLCH				AML	AML	18 25 28.8	
	comp=E,642nm,0.8s						
FCH	Farellones	1.79	5	⇑iP	Pn	18 25 03.3	+0.7
FCH				iS	Sn	18 25 26.5	+1.3
FCH				AML	AML	18 25 27.5	
	comp=E,267nm,0.3s						
LCCH	Las Cruces	1.86	331	⇓iP	Pn	18 25 03.6	0.0
LCCH				iS	Sn	18 25 27.7	+0.6
PEL	Peldehue	1.97	355	⇑iP	Pn	18 25 05.8	+0.7
PEL				iS	Sn	18 25 31.5	+1.7
PEL				AML	AML	18 25 33.7	
	comp=N,406nm,0.6s						
PEL	Peldehue	1.97	355	⇑iP	Pn	18 25 05.8	+0.7
PEL				iS	Sn	18 25 31.5	+1.7
ROCH	El Roble	2.18	348	⇑iP	Pn	18 25 09.5	+1.5
ROCH				iS	Sn	18 25 37.1	+2.2
JACH	Jahuel	2.42	358	iP	Pn	18 25 13.0	+1.7
JACH				iS	Sn	18 25 44.5	+3.5

IDC 12 18:29:01.8±4.5, 1323N×9289E, h0^{km}, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=274.0km s-min=29.6km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	1.57	185	eS	x	18 29 38.7	
PBA				ex	x	18 29 41.5	
	comp=E,596nm,0.3s						
PBA				ex	x	18 29 41.5	
	comp=N,431nm,0.4s						
VIS	Vishakhapatnam	10.24	297	iP	Pn	18 31 24.0	-5.9
VIS				iS	Sn	18 33 06.4	-19
MKAR	Makanchi Array	34.63	347	P	P	18 35 52.4	-0.1
	comp=N,0.2nm,0.7s,baz=147,slow=6.5,SNR=3.1						
FITZ	Fitzroy Crossi	44.87	133	P	P	18 37 17.9	+0.1
	comp=N,1.5nm,0.9s,baz=331,slow=10,SNR=4.8						
WRA	Warramunga Arr	52.44	128	P	P	18 38 16.7	+0.6
	comp=N,0.4nm,0.7s,baz=307,slow=9.7,SNR=7.0						
WRA				PcP	PcP	18 39 27.2	+0.3
	comp=N,0.3nm,0.5s,baz=320,slow=3.2,SNR=8.0						
ASAR	Alice Springs	54.34	132	P	P	18 38 30.6	+0.5
	comp=N,0.2nm,0.3s,baz=313,slow=7.1,SNR=5.2						

MAN 12 19:13:58.0, 1152N×12562E, h19^{km}, mb3.5, ML4.6, MS3.6, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	Borongan	0.19	293	eP	Pg	19 14 04.5	+1.6
PLP	Palo	0.72	240	eP	Pb	19 14 11.8	-0.1
PLP				eS	Sb	19 14 23.6	+2.2
OCLP	Ormoc	1.10	245	eP	Pn	19 14 19.0	+0.7
MSLP	Maasin	1.57	208	eP	Pn	19 14 25.2	+0.4
MSLP				eS	Sn	19 14 48.3	+3.7
SCPH	Surigao	1.74	184	⇑eP	Pn	19 14 25.0	-2.1
PVCP	Virac	2.51	325	eP	Pn	19 14 37.5	-0.2
BUTP	Butuan	2.54	180	eP	Pn	19 14 39.6	+1.4
BUTP				eS	Sn	19 15 17.5	+8.9
GUIM	Jordan	3.10	254	eP	Pn	19 14 47.8	+1.9

CASC 12 19:22:53.7±2.9, 932N×8252W, h11^{km}±7^{km}, MD4.2, 9C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNI	Changuinola	0.10	1	⇑iP	Pg	19 22 56.9	+0.6
CTCR	Cotoan	0.48	210	⇓iP	Pg	19 23 02.9	-0.2
CTCR				eS	Sg	19 23 11.2	+1.7
BRU	Baru	0.51	185	⇑eP	Pg	19 23 04.2	+0.5
DVD	David	0.88	176	⇑eP	Pg	19 23 10.7	0.0
ACR	Cerro Adams	0.92	224	eP	Pg	19 23 10.3	-1.1
BUS	Buena Vista	1.25	281	⇑eP	Pn	19 23 15.7	-1.4
BUS				eS	Sb	19 23 36.1	+2.8
VTU	Volcan Turrial	1.41	300	⇑eP	Pn	19 23 18.3	-1.0
VTU				eS	Sn	19 23 37.5	-0.3
IRZ2	Volcan Irazu 2	1.51	296	eP	Pn	19 23 20.0	-0.7
LCR2	La Lucha 2	1.52	286	⇑eP	Pn	19 23 20.4	-0.5
OCM	Ochomogo	1.53	292	eP	Pn	19 23 20.1	-1.0
OCM				eS	Sn	19 23 40.7	-0.2
SJS	Escuela Geolog	1.64	292	eP	Pn	19 23 21.1	-1.4
SJS				eS	Sn	19 23 44.7	+1.2
LAJ	Bijagual	1.67	289	eP	Pn	19 23 28.9	+6.0
LAJ				eS	Sn	19 23 56.8	+12
PRS1	Puriscal	1.89	291	⇓eP	Pn	19 23 26.6	+0.7
PRS1				eS	Sn	19 23 51.8	+2.0
POA2	Poas 2	1.91	297	⇓eP	Pn	19 23 26.9	+0.7
CGA2	Cerro Gallo 2	2.04	290	eP	Pn	19 23 28.8	+0.8
CGA2				eS	Sn	19 23 55.8	+2.3
EPA	Esparza	2.15	288	⇑eP	Pn	19 23 30.7	+1.1
EPA				eS	Sn	19 23 57.9	+1.6
CAO	Cobano	2.58	279	eP	Pn	19 23 33.7	-1.7
ACH	Altos	2.64	104	⇑eP	Pn	19 23 36.9	+0.6
ACH				eS	Sn	19 24 09.3	+1.0
ZANG	Zanguenga, Cho	2.64	98	eP	Pn	19 23 36.6	+0.3
ZANG				eS	Sn	19 24 08.4	+0.1
AZU	Azuero	2.69	124	eP	Pn	19 23 38.0	+1.1
ACLA	Agua Clara, Si	2.77	89	⇑eP	Pn	19 23 37.6	-0.5
ACLA				eS	Sn	19 24 09.8	-1.8
ACLA				eS	Sn	19 24 10.0	-1.6
VCR	Vista de Mar	3.17	285	eP	Pn	19 23 43.9	+0.3
PTP	Ponta Puerca	18.64	60	eP		19 23 15.3	

NIED 12 19:31:00, 3660N×14130E, h44^{km}, Mw4.0 Best double couple: Mo1.24000×10^{15} NP1:ϕ_s261.00000°, δ58.00000°, λ-103.00000°. NP2:ϕ_s105.00000°, δ34.00000°, λ-70.00000°.

ISCJB 12 19:31:20.1±0.9, 3653N±004×14142E±008, h39^{km}±8^{km}, mb3.8/10, MS3.9/2, Error ellipse: s-maj=10.3km s-min=5.9km az=16.8

JMA 12 19:31:22.6±0.1, 3658N×141.19E, h48^{km}±2^{km}, M3.9 Broadband fault plane solution: P waves. NP1: ϕ_s252.00000°, δ49.00000°, λ-121.00000°. NP2: ϕ_s114.00000°, δ49.00000°, λ-59.00000°. Principal axes: T Plg0.0000°, Azm183.0000°; N Plg23.0000°, Azm273.0000°; P Plg67.0000°, Azm93.0000°;

JMA Felt II J1.

IDC 12 19:31:22.1±3.5, 3653N×14129E, h36^{km}±28^{km}, mb3.6/9, mb1 3.8/13, mb1mx3.7/24, mbtmp3.9/13, ML3.8/4, MS3.5/3, Ms1 3.5/3, ms1mx2.8/30 Error ellipse: s-maj=25.0km s-min=14.5km az=73.0

NEIC 12 19:31:25.1±2.0, 3651N×141.13E, h62^{km}±16^{km}, mb4.5/1, MW4.0(NIED), Error ellipse: s-maj=22.3km s-min=9.9km az=70.0

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

ISC 12 19:31:20.0±1.1, 3654N±003×14140E±006, h21^{km}±7^{km}, n28, σ0^{s}84/35, mb3.8/10, MS3.9/2, 4C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHO	Hitachi	0.67	276	⇓P	Pb	19 31 33.6	+0.6
JHO				S	Sb	19 31 41.5	-0.3
ONAJ	Iwakimizuishiy	0.74	319	⇑P	Pb	19 31 34.7	+0.6
ONAJ				S	Sb	19 31 43.3	-0.4
JFK	Kawauchi	0.92	333	⇑P	Pb	19 31 37.6	+0.3
JFK				S	Sb	19 31 48.4	-0.7
JYT	Yasato	1.02	252	⇓P	Pb	19 31 38.7	-0.3
JYT				S	Sb	19 31 50.5	-1.4
JFT	Otama	1.29	319	⇑P	Pn	19 31 43.5	+0.7
JFT				S	Sn	19 31 58.3	-1.1
JMM	Marumori	1.41	340	⇑P	Pn	19 31 44.6	+0.2
JMM				S	Sn	19 32 01.3	-1.0
JAG	Ashikaga	1.57	266	P	Pn	19 31 46.4	-0.2
JFY	Yanaizu	1.61	303	P	Pn	19 31 47.7	+0.6
JKT	Katashina	1.74	278	P	Pn	19 31 49.7	+0.7
MJAR	Matsushiro Arr	2.57	271	Pn	Pn	19 32 01.0	+0.7
	12nm,0.3s,baz=91,slow=8.9,SNR=98						
MJAR				Sn	Sn	19 32 30.9	0.0
	23nm,0.3s,baz=81,slow=10,SNR=17						
MAJO	Matsushiro	2.57	271	eP	Pn	19 32 01.8	+1.4
MAT	Matsushiro	2.57	271	P	Pn	19 32 01.5	+1.1
MAT				S	Sn	19 32 33.5	+2.6
JHJ	Hachijo jima 2	3.66	202	Pn	Pn	19 32 16.1	+0.7
	25nm,0.3s,baz=62,slow=23,SNR=20						
JHJ				Sn	Sn	19 32 57.0	-0.9
	64nm,0.3s,baz=66,slow=23,SNR=12						
ASAJ	Asahikawa	7.62	7	Pn	Pn	19 33 10.4	+0.6
	1.1nm,0.3s,baz=212,slow=10,SNR=23						
ASAJ				LR	LR	19 36 24.5	
	comp=Z,59nm,20.7s,baz=109,slow=40						
CBIJ	Chichi jima	9.44	176	Pn	Pn	19 33 33.5	-1.3
	7.0nm,0.3s,baz=275,slow=24,SNR=10						
CBIJ				Sn	Sn	19 35 12.5	-7.8
	5.8nm,0.3s,baz=270,slow=20,SNR=4.1						
SONM	Songino Array	28.05	305	P	P	19 37 09.6	-0.2
	1.2nm,0.6s,mb3.7,baz=97,slow=8.4,SNR=11						
ZAL	Zalesovo	42.25	313	P	P	19 39 11.2	-0.5
	1.0nm,0.6s,mb3.6,baz=321,slow=6.0,SNR=3.7						
MKAR	Makanchi Array	44.37	303	P	P	19 39 27.9	-0.9
	0.6nm,0.7s,mb3.4,baz=88,slow=9.9,SNR=7.2						
HNR	Honiara	48.95	155	LR	LR	19 57 20.3	
	comp=Z,64nm,18.7s,MS3.6,baz=181,slow=32						
BVAR	Borovoye Array	50.89	313	P	P	19 40 18.3	-1.1
	0.4nm,0.6s,mb3.5,baz=65,slow=6.8,SNR=4.0						
WRAB	Tennant Creek	56.56	188	eP	P	19 41 00.8	-0.2
	2.7nm,0.6s,mb4.5						
WRA	Warramunga Arr	56.57	188	P	P	19 41 00.8	-0.2
	1.9nm,0.5s,mb4.3,baz=6.6,slow=7.5,SNR=47						
ASAR	Alice Springs	60.30	188	P	P	19 41 27.1	0.0
	1.1nm,0.7s,mb4.0,baz=13,slow=7.5,SNR=13						
STKA	Stephens Creek	68.06	180	P	P	19 42 18.2	+0.3
	0.9nm,0.8s,mb3.9,baz=352,slow=14,SNR=2.9						
AKASG	Malin Array Be	74.68	322	P	P	19 42 57.0	-0.9
	0.2nm,0.2s,mb3.6,baz=42,slow=5.2,SNR=2.8						
PDAR	Pinedale Array	78.02	45	P	P	19 43 18.3	+1.4
	0.3nm,0.6s,mb3.4,baz=264,slow=3.0,SNR=4.3						
PPT	Papeete	84.43	116	LR	LR	20 16 18.9	
	comp=Z,105nm,19.3s,MS4.2,baz=298,slow=32						
LPAZ	La Paz	146.95	60	PKPbc	PKPbc	19 51 02.4	+1.5
	0.9nm,0.6s,baz=301,slow=3.6,SNR=4.8						

MEX 12 19:49:12.6±0.6, 1766N×10113W, h50^{km}±11^{km}, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.33	261	iP	Pn	19 49 20.3	-1.7
ZIIG				iS	Sn	19 49 27.3	-1.3
CAIG	El Cayaco	1.02	126	iP	Pn	19 49 29.0	-1.6
CAIG				iS	Sn	19 49 42.0	-1.9
ACX	Acapulco	1.40	124	eP	Pn	19 49 35.5	-0.2
MEIG	Mezcala	1.46	79	iP	Pn	19 49 35.0	-1.6
MEIG				iS	Sn	19 49 52.7	-1.8
MOIG	Morelia	2.01	358	iP	Pn	19 49 44.5	+0.5
MOIG				iS	Sn	19 50 05.9	-2.1
IIZ	Mezontepec	2.35	49	eP	Pn	19 49 47.0	-1.6
IIZ				iS	Sn	19 50 15.8	-0.5
UTMO	Huajuapan	3.17	86	iP	Pn	19 49 59.4	-0.6
UTMO				iS	Sn	19 50 35.3	-1.3

NEIC 12 19:55:12.5, 33.14S×70.25W, h4^{km}, ML2.5(GUC), After GUC.

GUC 12 19:55:12.5±1.0, 3314S×7025W, h4^{km}±3^{km}, MD3.7, ML2.5, 5C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCH	Farellones	0.19	190	⇑iP	Pg	19 55 17.3	+1.2
FCH				iS	Sg	19 55 20.1	+1.5
FCH				AML	AML	19 55 20.5	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	0.35	223	⇑iP	Pg	19 55 20.5	+1.3
CLCH				iS	Sg	19 55 25.9	+2.3
CLCH				AML	AML	19 55 29.6	
	comp=N,2μm,0.6s						
CLCH				AML	AML	19 55 30.1	
	comp=N,2μm,0.5s						
PEL	Peldehue	0.36	270	⇓iP	Pg	19 55 20.3	+0.8
PEL				iS	Sg	19 55 25.7	+1.5
PEL				AML	AML	19 55 32.1	
	comp=N,1μm,0.6s						
PEL	Peldehue	0.36	270	⇓iP	Pg	19 55 20.3	+0.8
PEL				iS	Sg	19 55 25.7	+1.5
JACH	Jahuel	0.54	328	⇓iP	Pg	19 55 23.5	+0.6
JACH				iS	Sg	19 55 32.0	+2.0
RCDM	Rinconada Maip	0.58	233	⇑iP	Pg	19 55 24.5	+0.9
RCDM				AML	AML	19 55 45.9	
	comp=N,213nm,0.5s						
ROCH	El Roble	0.66	285	⇓iP	Pg	19 55 25.8	+0.6
LMEL	Las Melosas	0.70	177	⇑iP	Pg	19 55 26.7	+0.7
LMEL				iS	Sg	19 55 36.9	+1.8
LMEL				AML	AML	19 55 42.0	
	comp=N,252nm,0.2s						
LMEL	Las Melosas	0.70	177	⇑iP	Pg	19 55 26.7	+0.7
LMEL				S	Sg	19 55 36.9	+1.8
TACH	Talagante	0.77	228	⇓iP	Pg	19 55 27.7	+0.5
TACH				iS	Sg	19 55 39.0	+1.9
CHCH	Chadas Angostu	0.85	203	⇓iP	Pg	19 55 29.3	+0.4
CHCH				iS	Sg	19 55 41.2	+1.2
LCCH	Las Cruces	1.15	253	⇓iP	Pg	19 55 34.3	-0.3
LNV	Longovilo	1.26	230	⇓iP	Pg	19 55 36.0	-0.7

IDC 12 19:55:27.1±2.0, 3257S×17871W, h0^{km}, mb3.8/2, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=46.8km s-min=42.5km az=58.0

ISCJB 12 19:55:29.3±3.5, 3284S±0.10×1790W±03, h14^{km}±25^{km}, mb3.6/2, Error ellipse: s-maj=42.2km s-min=15.6km az=17.9

ISC 12 19:55:30.8±4.3, 328S±01×1788W±03, h18^{km}±30^{km}, n9, σ0^{s}39/9, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	5.78	204	ePN	Pn	19 56 55.4	-0.4
PUZ				SN	Sn	19 58 01.0	-0.6
MWZ	Matawai	6.28	207	ePN	Pn	19 57 02.7	+0.1
URZ	Urewera	6.38	210	Pn	Pn	19 57 04.7	+0.7
	2.0nm,0.3s,baz=88,slow=12,SNR=10						
URZ				Sn	Sn	19 58 17.0	+0.6
	2.1nm,0.3s,baz=136,slow=23,SNR=7.2						
URZ	Urewera	6.38	210	ePN	Pn	19 57 03.8	-0.2
ASAR	Alice Springs	42.35	270	P	P	20 03 23.9	0.0
	0.5nm,0.6s,mb3.4,baz=106,slow=7.6,SNR=8.5						
WRA	Warramunga Arr	43.56	275	P	P	20 03 33.5	-0.2
	0.7nm,0.4s,mb3.8,baz=113,slow=7.8,SNR=25						
VNA3	Neumayer Olymp	75.96	176	e	P	20 07 16.9	+0.2
VNA3				e		20 07 29.2	
FINES	FINESS Array B	147.13	338	PKPbc	PKPbc	20 15 10.2	-2.6
	1.2nm,0.7s,baz=81,slow=8.6,SNR=5.4						
TORD	Torodi Ar. Bea	160.43	181	PKPab	PKPab	20 16 10.7	+0.2
	0.4nm,0.6s,baz=176,slow=3.9,SNR=6.4						

ISCJB 12 20:06:25.3±0.3, 43.19N±0.02×0.23W±0.02, h10^{km}, Error ellipse: s-maj=2.6km s-min=2.0km az=147.0

STR 12 20:06:26.9±0.1, 4307N×025W, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 12 20:06:26.7±0.1, 4308N×026W, h10^{km}, Md2.4/3, Ml2.2/9, Error ellipse: s-maj=1.2km s-min=0.9km az=163.0

MDD 12 20:06:27.5±0.2, 4308N×025W, h0^{km}, mbLg1.6/12, Error ellipse: s-maj=3.1km s-min=1.5km az=8.0, PRXIMO

ISC 12 20:06:26.5±0.3, 4314N±002×024W±002, h6^{km}±5^{km}, n54, σ0^{s}78/77, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.14	238	Pg	Pg	20 06 29.3	0.0
REYF				Sg	Sg	20 06 31.1	-0.1
REYF	Montagne du Re	0.14	238	P	Pg	20 06 29.3	0.0
REYF				S	Sg	20 06 31.1	0.0
LABF	Labassere	0.24	112	Pg	Pg	20 06 31.7	+0.4
LABF				Sg	Sg	20 06 35.1	+0.5
LABF	Labassere	0.24	112	P	Pg	20 06 31.5	+0.2
LABF				S	Sg	20 06 35.5	+1.0
VIEF	Viey	0.32	143	Pg	Pg	20 06 32.6	-0.1
VIEF				Sg	Sg	20 06 36.3	-0.6
VIEF	Viey	0.32	143	P	Pg	20 06 32.6	-0.1
VIEF				S	Sg	20 06 36.4	-0.5
ETSF	Etsaut	0.34	225	ePg	Pg	20 06 32.4	-0.7
ETSF				eSg	Sg	20 06 36.2	-1.3
	33nm,0.2s						
ETSF	Etsaut	0.34	225	Pg	Pg	20 06 32.4	-0.7
ETSF				Lg		20 06 36.2	
	17nm,0.2s						
ATE	Arette	0.34	261	Pg	Pg	20 06 33.3	+0.1
ATE				Sg	Sg	20 06 37.9	+0.2
ATE	Arette	0.34	261	P	Pg	20 06 33.1	-0.1
ATE				S	Sg	20 06 37.9	+0.2
FDAF	Les Forges d'A	0.40	217	P	Pg	20 06 33.6	-0.7
FDAF				S	Sg	20 06 38.7	-0.9
EPF	Esparros	0.43	104	ePg	Pg	20 06 35.4	+0.5
EPF				eSg	Sg	20 06 41.4	+0.8
	6.4nm,0.2s						
EPF	Esparros	0.43	104	Pg	Pg	20 06 35.4	+0.5
EPF				Lg		20 06 41.4	
	3.2nm,0.2s						
ORDF	Ordiarp	0.52	278	Pg	Pg	20 06 37.5	+1.0
ORDF				Sg	Sg	20 06 44.5	+1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.52	278	P	Pg	20 06 37.3	+0.8
ORDF				S	Sg	20 06 44.6	+1.4
EBIE	Bielsa	0.53	148	Pg	Pg	20 06 36.3	-0.4
	0.9nm,0.3s,SNR=20						
EBIE				Lg		20 06 42.8	
	7.6nm,0.1s,SNR=7.9						
RESF	Ens	0.54	128	Pg	Pg	20 06 36.8	0.0
RESF				Sg	Sg	20 06 43.8	0.0
RESF	Ens	0.54	128	P	Pg	20 06 36.9	0.0
RESF				S	Sg	20 06 43.8	-0.1
LARF	Larrau	0.56	260	Pg	Pg	20 06 37.5	+0.2
LARF				Sg	Sg	20 06 45.0	+0.4
LARF	Larrau	0.56	260	P	Pg	20 06 37.4	+0.1
LARF				S	Sg	20 06 45.0	+0.4
SJPF	Ste Jean	0.72	268	*e*Pg	Pg	20 06 40.0	-0.4
SJPF				*e*Sg	Sg	20 06 49.2	-0.7
	4.1nm,0.2s						
SJPF	Ste Jean	0.72	268	Pg	Pg	20 06 40.0	-0.4
SJPF				Lg		20 06 49.2	
	2.0nm,0.2s						
OSSF	Osses	0.76	279	S	Sg	20 06 52.4	+1.4
IPRE	Itoiz	0.89	248	Lg		20 06 55.5	
	1.3nm,0.1s,SNR=7.9						
EALK	Alkurruntz	0.93	275	Lg		20 06 58.6	
	0.6nm,0.1s,SNR=7.9						
ELIZ	Elizondo	0.95	272	Pg	Pg	20 06 44.8	+0.1
	1.2nm,0.2s,SNR=7.9						
ELIZ				Lg		20 06 57.8	
	2.5nm,0.2s,SNR=7.9						
IUSE	Utxeti	0.98	259	Pg	Pg	20 06 47.3	+1.9
	0.8nm,0.1s,SNR=7.9						
IUSE				Lg		20 06 59.6	
	0.8nm,0.1s,SNR=7.9						
SALF	Salau	1.11	110	Pg	Pg	20 06 49.5	+1.6
SALF				Sg	Sg	20 07 03.3	+1.0
SALF	Salau	1.11	110	S	Sg	20 07 03.4	+1.1
CSOR	Sort	1.27	127	Pg	Pg	20 06 50.7	-0.1
CSOR				Lg		20 07 07.8	
	1.8nm,0.3s						
ESAC	San Caprasio	1.43	187	Pg	Pg	20 06 53.8	-0.1
	6.2nm,0.2s,SNR=7.9						
ESAC				Lg		20 07 11.6	
	25nm,0.3s,SNR=7.9						
CAVN	Les Avellanes	1.45	150	Pg	Pg	20 06 53.1	-1.3
CAVN				Lg		20 07 13.7	
	4.9nm,0.2s						
CORG	Organya	1.46	128	S	Sn	20 07 13.8	+0.9
CLLI	Llivia	1.75	111	S	Sn	20 07 21.2	+1.1
MTLF	Montolieu	1.80	83	*e*Pg	Pg	20 07 01.2	+0.1
MTLF				*e*Sg	Sg	20 07 24.6	+0.1
	1.4nm,0.2s						
MTLF	Montolieu	1.80	83	Pg	Pg	20 07 01.2	+0.1
MTLF				Lg		20 07 24.6	
	0.7nm,0.2s						
LFF	La Frestale	1.93	21	*e*Pg	Pg	20 07 03.7	+0.2
LFF				*e*Sg	Sg	20 07 29.6	+1.0
	4.3nm,0.2s						
LFF	La Frestale	1.93	21	Pg	Pg	20 07 03.7	+0.2
LFF				Lg		20 07 29.6	
	2.2nm,0.2s						
EPOB	Poblet	2.04	151	Lg		20 07 30.4	
	1.3nm,0.2s,SNR=7.9						
CAF	Calviac	2.44	42	*e*Pn	Pn	20 07 05.8	-1.0
CAF	Calviac	2.44	42	*e*Pg	Pg	20 07 13.2	0.0
CAF				*e*Sg	Sg	20 07 45.2	+0.4
	1.8nm,0.2s						
CAF	Calviac	2.44	42	Pn	Pn	20 07 05.8	-1.0
CAF				Pg	Pg	20 07 13.2	0.0
CAF				Lg		20 07 45.2	
	0.9nm,0.2s						
RJF	Les Rejaudoux	2.50	30	*e*Pn	Pn	20 07 06.3	-1.5
RJF	Les Rejaudoux	2.50	30	*e*Pg	Pg	20 07 14.2	-0.3
RJF				*e*Sg	Sg	20 07 47.4	+0.5
	1.5nm,0.2s						
RJF	Les Rejaudoux	2.50	30	Pn	Pn	20 07 06.3	-1.5
RJF				Pg	Pg	20 07 14.2	-0.3
RJF				Lg		20 07 47.4	
	0.8nm,0.2s						
EMOS	Mosqueruela	2.78	184	Lg		20 07 53.2	
	113nm,1.3s,SNR=7.9						
LASF	Ste Croix	3.12	71	*e*Pg	Pg	20 07 25.3	-0.9
LASF				*e*Sg	Sg	20 08 06.1	-0.5
	1.3nm,0.3s						
LASF	Ste Croix	3.12	71	Pg	Pg	20 07 25.3	-0.9
LASF				Lg		20 08 06.1	
	0.6nm,0.3s						
MFF	Saint Martin d	3.46	1	*e*Pg	Pg	20 07 32.3	-0.5
MFF				*e*Sg	Sg	20 08 17.1	-0.6
	1.0nm,0.3s						
MFF	Saint Martin d	3.46	1	Pg	Pg	20 07 32.3	-0.5
MFF				Lg		20 08 17.1	
	0.5nm,0.3s						
TCF	Toulx Ste Croi	3.60	28	*e*Pg	Pg	20 07 34.6	-0.8
TCF				*e*Sg	Sg	20 08 21.5	-0.6
	0.9nm,0.3s						
TCF	Toulx Ste Croi	3.60	28	Pg	Pg	20 07 34.6	-0.8
TCF				Lg		20 08 21.5	
	0.4nm,0.3s						
VIVF	Saint-Julien-l	3.93	62	*e*Sg	Sg	20 08 31.6	-1.3
	1.3nm,0.3s						
VIVF	Saint-Julien-l	3.93	62	Lg		20 08 31.6	
	0.6nm,0.3s						

---

*IDC **12** 20:09:02.5±1.2, 2953N×13169E, h0^{km}, mb3.6/5, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML3.7/2, Error ellipse: s-maj=37.7km s-min=20.3km az=76.0*
*ISCJB **12** 20:09:04.8±0.7, 2952N±003×13181E±006, h33^{km}, mb3.5/5, Error ellipse: s-maj=7.7km s-min=4.1km az=31.0*
*JMA **12** 20:09:05.7±0.2, 2955N×13178E, h58^{km}, M3.3*
ISC 12 20:09:05.8±2.0, **2954N**±003×**13172E**±007, **h25**^{km}±17^{km}, **n18**, σ**0^{s}82**/29, **mb3.5**/5, **Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	Tanegashima 3	1.28	330	P	Pn	20 09 28.0	0.0
JTN				S	Sn	20 09 44.6	+0.2
JKC	Kuchinoerabu	1.61	305	P	Pn	20 09 33.5	+1.0
JKC				S	Sn	20 09 53.2	+0.7
JNN	Nakanoshima	1.63	281	P	Pn	20 09 33.5	+0.6
JNN				*e*S	Sn	20 09 54.2	+1.2
JTSR	Tashiro 2	1.76	337	P	Pn	20 09 34.7	+0.1
JTSR				*e*S	Sn	20 09 55.6	-0.6
JZK	Kikaishima	1.96	232	P	Pn	20 09 37.9	+0.5
JZK				*e*S	Sn	20 10 02.3	+1.1
JNAR	Kushima--Naru	2.01	349	P	Pn	20 09 38.3	+0.2
JNAR				*e*S	Sn	20 10 02.5	0.0
JAM	Amami Oshima	2.17	239	P	Pn	20 09 40.0	-0.2
JAM				*e*S	Sn	20 10 05.0	-1.3
JTZ	Takazaki	2.41	347	P	Pn	20 09 44.0	+0.4
JTZ				S	Sn	20 10 11.8	-0.5
JSJ	Shimokoshiki	2.74	321	P	Pn	20 09 48.1	0.0
JTK	Tokunoshima	3.00	235	P	Pn	20 09 51.6	-0.1
JTK				*e*S	Sn	20 10 26.1	-0.7
JIU2	Izumi 2	3.09	346	P	Pn	20 09 51.5	-1.5
JIU2				S	Sn	20 10 27.8	-1.3
JOW	Kunigami	4.07	229	Pn	Pn	20 10 05.6	-0.8
	8.4nm,0.3s,baz=353,slow=16,SNR=3.9						
JOW				Sn	Sn	20 10 50.5	-2.7
	12nm,0.3s,baz=228,slow=28,SNR=7.5						
MJAR	Matsushiro Arr	8.85	36	Pn	Pn	20 11 12.1	0.0
	0.9nm,0.3s,baz=216,slow=14,SNR=8.8						
SONM	Songino Array	26.72	320	P	P	20 14 42.9	-0.2
	0.2nm,0.5s,mb2.9,baz=134,slow=8.3,SNR=2.8						
MKAR	Makanchi Array	41.77	308	P	P	20 16 53.8	+0.8
	0.2nm,0.2s,mb3.3,baz=103,slow=8.8,SNR=3.6						
WRA	Warramunga Arr	49.26	177	P	P	20 17 52.1	-0.2
	1.1nm,0.8s,mb4.0,baz=354,slow=8.3,SNR=6.8						
BVAR	Borovoye Array	49.95	316	P	P	20 17 58.4	+0.9
	0.5nm,0.7s,mb3.7,baz=91,slow=9.3,SNR=5.0						
ASAR	Alice Springs	52.94	177	P	P	20 18 21.2	+1.2
	0.8nm,0.5s,mb3.9,baz=10,slow=13,SNR=14						

---

*ISCJB **12** 20:34:59.6±0.5, 4120N±002×845W±005, h14^{km}±3^{km}, Error ellipse: s-maj=6.3km s-min=3.7km az=2.1*
*MDD **12** 20:35:01.4±0.4, 4120N×845W, h11^{km}, mbLg2.1/16, Error ellipse: s-maj=3.6km s-min=3.0km az=109.0, PRXIMO*
*INMG **12** 20:35:01.7±1.0, 41.19N×842W, h0^{km}±3^{km}, MD2.1, ML1.9, Error ellipse: s-maj=2.2km s-min=1.4km az=86.0*
ISC 12 20:35:00.4±0.5, **4120N**±002×**845W**±005, **h13**^{km}±3^{km}, **n20**, σ**0^{s}86**/33, **Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTO	Porto	0.13	244	*i* Pg	Pg	20 35 04.2	+0.4
PTO				*e*Sg	Sg	20 35 06.3	0.0
PTO							
	350nm,0.1s						
PVRL	Vila Real	0.56	82	*e*Pg	Pg	20 35 11.5	+0.2
PVRL				*e*Sg	Sg	20 35 18.5	-0.3
PVRL							
	97nm,0.2s						
PCAB	Cabril	0.60	31	*i* Pg	Pg	20 35 12.3	+0.1
PCAB				*e*Sg	Sg	20 35 21.0	+0.8
PCAB							
	30nm,0.1s						
PVIS	Viseu	0.64	139	*e*Pg	Pg	20 35 13.1	+0.2
PVIS				*e*Sg	Sg	20 35 21.6	+0.3
PVIS							
	52nm,0.1s						
EZAM	Zamans	0.97	349	Pg	Pg	20 35 19.1	0.0
	6.8nm,0.2s,SNR=7.9						
EZAM				Lg		20 35 33.1	
	10nm,0.2s,SNR=7.9						
MTE	Manteigas	1.05	139	*e*P	Pb	20 35 20.9	+0.5
MTE				*e*S	Sb	20 35 34.3	+0.2
MTE							
	34nm,0.4s						
PBRG	Braganca	1.42	64	*e*P	Pn	20 35 26.9	+1.1
PBRG				*e*S	Sn	20 35 45.7	+1.4
PBRG							
	17nm,0.3s						
ECAL	Calabor	1.48	59	Pn	Pn	20 35 26.2	-0.5
	0.5nm,0.1s,SNR=24						
ECAL				Pg	Pg	20 35 28.7	-0.2
	5.3nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	20 35 45.2	-0.7
	6.5nm,0.2s,SNR=7.9						
ECAL				Lg		20 35 47.8	
	19nm,0.3s,SNR=11						
PCBR	Castelo Branco	1.54	151	*e*Pg	Pg	20 35 29.4	-0.7
PCBR				*e*Sg	Sg	20 35 50.3	+0.2
PCBR							
	5.0nm,0.2s						
PTOM	Tomar	1.58	179	*e*Sg	Sg	20 35 51.0	-0.2
PTOM							
	14nm,0.2s						
PTOM	Tomar	1.58	179	Lg		20 35 51.0	
	6.8nm,0.2s						
STS	Santiago	1.69	357	Lg		20 35 54.0	
	5.0nm,0.2s,SNR=4.0						
EMAZ	Mazaricos	1.79	347	Pg	Pg	20 35 34.8	-0.1
	1.6nm,0.2s,SNR=7.9						
EMAZ				Lg		20 35 56.9	
	5.6nm,0.2s,SNR=8.3						
EPON	Pontenova	2.34	24	Pn	Pn	20 35 38.0	-0.5
	0.2nm,0.1s,SNR=7.9						
EPON				Pg	Pg	20 35 44.3	-0.9
	0.6nm,0.1s,SNR=4.0						
EPON				Sn	Sn	20 36 06.6	-0.4
	2.1nm,0.2s,SNR=7.9						
EPON				Lg		20 36 13.3	
	2.7nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.68	155	Pn	Pn	20 35 43.9	+0.8
	0.1nm,0.1s,SNR=7.9						
EBAD				Pg	Pg	20 35 50.2	-1.5
	0.1nm,0.1s,SNR=7.9						
EBAD				Lg		20 36 24.4	
	2.7nm,0.2s,SNR=7.0						
EARI	Arriondas	3.19	48	Pn	Pn	20 35 50.7	+0.4
	0.1nm,0.0s,SNR=5.7						
EARI				Pg	Pg	20 36 00.6	-1.0
	0.4nm,0.2s,SNR=7.9						
EARI				Sn	Sn	20 36 27.3	-0.8
	0.2nm,0.1s,SNR=7.9						
EARI				Lg		20 36 41.5	
	0.4nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.30	98	Lg		20 36 44.9	
	2.8nm,0.3s,SNR=6.7						
EMIN	Mina Concepcio	3.69	158	Pn	Pn	20 35 57.7	+0.6
	0.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	20 36 38.0	-2.4
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		20 36 56.9	
	0.2nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	3.75	112	Pn	Pn	20 35 59.8	+1.9
	0.2nm,0.2s,baz=294,slow=13,SNR=4.1						
EADA	Adamuz	4.25	134	Pn	Pn	20 36 06.8	+2.1
	0.2nm,0.1s,SNR=7.9						
EADA				Sn	Sn	20 36 53.1	-1.1
	0.4nm,0.1s,SNR=7.9						
EADA				Lg		20 37 15.8	
	2.0nm,0.5s,SNR=7.9						

---

*IDC **12** 20:39:36.0±2.9, 8172N×407W, h0^{km}, mb3.5/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.7/1, MS3.0/4, Ms1 2.9/4, ms1mx2.6/29, Error ellipse: s-maj=52.7km s-min=38.4km az=127.0*
*NEIC **12** 20:39:37.6±1.6, 8135N×422W, h10^{km}, mb4.0/4, Error ellipse: s-maj=31.6km s-min=11.7km az=182.0*
*BER **12** 20:39:38.0±5.6, 8191N×173W, h16^{km}±621^{km}, MD2.2, ML2.5, ML2.6(NAO)*
*CSEM **12** 20:39:39.8±0.9, 8143N×451W, h30^{km}, mb4.0/4, Error ellipse: s-maj=29.8km s-min=6.7km az=2.0*
*ISCJB **12** 20:39:42.7±0.8, 803N±0.1×43W±03, h10^{km}, mb3.8/7, MS3.0/3, Error ellipse: s-maj=18.2km s-min=6.7km az=29.4*
*NAO **12** 20:39:42.3±6.5, 82.12N×471E, ML2.6*
ISC 12 20:39:45.2±2.8, **804N**±01×**43W**±04, **h20**^{km}±19^{km}, **n28**, σ**1^{s}33**/37, **mb3.8**/7, **MS3.0**/3, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	Kingsbay	3.28	109	Pn	Pn	20 40 34.2	-1.4
KBS				Sn	Sn	20 41 14.3	+0.2
KBS	Kingsbay	3.28	109	*e*P	Pn	20 40 34.3	-1.2
KBS				*e*S	Sn	20 41 14.0	-0.1
KBS				AML	AML	20 41 18.2	
	comp=Z,24nm,0.1s						
KBS	Kingsbay	3.28	109	*e*Pn	Pn	20 40 34.4	-1.2
KBS				*e*Sn	Sn	20 41 13.5	-0.5
KBS	Kingsbay	3.28	109	*e*Pn	Pn	20 40 34.4	-1.2
KBS				*e*Sn	Sn	20 41 13.5	-0.5
SPB4	Spitsbergen Ar	4.44	110	*e*Pn	Pn	20 40 49.9	-1.6
SPB4				*e*Sn	Sn	20 41 41.9	-0.7
SPB4	Spitsbergen Ar	4.44	110	*e*Pn	Pn	20 40 49.9	-1.6
SPB4				*e*Sn	Sn	20 41 41.9	-0.7
SPA0	Spitsbergen Ar	4.44	110	Pn	Pn	20 40 49.3	-2.2
	baz=353,slow=7.4						
SPA0				Sn	Sn	20 41 42.8	+0.2
HSP	Hornsund	5.17	121	Pg	Pn	20 41 03.2	+1.8
SUMG	Summit	10.95	243	*e*Pn	Pn	20 42 19.3	-1.5
SUMG				*e*Sn	Sn	20 44 16.4	-6.3
SUMG	Summit	10.95	243	*e*Pn	Pn	20 42 19.3	-1.5
SUMG				*e*Sn	Sn	20 44 16.4	-6.3
ARA0	ARCESS Array S	13.10	130	Pn	Pn	20 42 51.5	+1.2
	baz=348,slow=12						
ARA0				Sn	Sn	20 45 13.9	-1.5
	baz=5.2,slow=22						
ARCES	ARCESS Array B	13.10	130	Pn	Pn	20 42 51.5	+1.3
	comp=Z,0.5nm,0.3s,baz=353,slow=8.6,SNR=12						
ARCES				Sn	Sn	20 45 15.4	0.0
	comp=Z,0.1nm,0.3s,baz=358,slow=19,SNR=3.2						
ARCES				LR	LR	20 48 11.0	
	comp=Z,23nm,20.3s,baz=293,slow=37						
ARCES	ARCESS Array B	13.10	130	Pn	Pn	20 42 51.5	+1.3
ARCES				Sn	Sn	20 45 15.4	0.0
NB2	NORSAR Subarra	20.00	158	P	P	20 44 23.5	+6.9
	comp=Z,4.4nm,1.1s,baz=353,slow=11						
NOA	NORSAR Array B	20.00	158	P	P	20 44 24.2	+7.6
	comp=Z,0.9nm,0.8s,baz=345,slow=9.2,SNR=3.1						
FIA1	FINESS Array S	20.94	137	*e*P	sP	20 44 39.0	+4.1
FINES	FINESS Array B	20.94	137	P	P	20 44 30.0	+3.2
	comp=Z,1.4nm,0.9s,baz=356,slow=5.9,SNR=2.8						
FINES				LR	LR	20 52 15.4	
	comp=Z,28nm,19.7s,MS2.6,baz=158,slow=35						
YKA	Yellowknife Ar	32.19	305	LR	LR	20 58 48.5	
	comp=Z,44nm,19.3s,MS3.2,baz=40,slow=37						
GERES	GERESS Array B	32.31	158	P	P	20 46 17.8	+5.0
	comp=Z,0.6nm,0.7s,mb3.5,baz=3.4,slow=6.7,SNR=4.8						
CHKZ	Chkalovo	35.08	92	*e*P	P	20 46 38.3	+1.3
	comp=Z,1.7nm,1.0s,mb3.9						
ZRNK	Zerenda	35.51	94	*e*P	P	20 46 42.1	+1.5
	comp=Z,0.6nm,0.6s,mb3.7						
ZAL	Zalesovo	37.18	78	LR	LR	21 04 39.0	
	comp=Z,34nm,20.1s,MS3.1,baz=79,slow=41						
MKAR	Makanchi Array	43.68	83	P	P	20 47 40.9	-7.8
	comp=Z,0.2nm,0.2s,mb3.4,baz=344,slow=9.6,SNR=2.8						
WALA	Waterton Lakes	45.12	299	*e*P	P	20 47 58.7	-1.5
	comp=Z,3.6nm,0.8s,mb4.2						
ULN	Ulaanbaatar	46.53	60	P	P	20 48 00.2	-11
	comp=Z,2.3nm,0.9s,mb4.1						
ULN				*e*		20 48 08.3	
KSU1	Kansas State U	52.12	280	*e*P	P	20 48 43.1	-11
TOA0	Torodi Ar. Sit	67.37	174	P	P	20 50 40.1	+1.1
TORD	Torodi Ar. Bea	67.37	174	P	P	20 50 40.0	+0.9
	comp=Z,0.8nm,0.6s,mb3.9,baz=354,slow=6.5,SNR=23						

MAN 12 20:57:48.9, 817N×12656E, h51^{km}, mb2.9, ML4.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.22	311	*e*P	Pn	20 58 10.0	+0.4
BUTP				*e*S	Sn	20 58 27.2	+2.2
MATI	Mati	1.25	194	*e*P	Pn	20 58 10.7	+0.7
MATI				*e*S	Sn	20 58 27.3	+1.5
BUKP	Musuan	1.51	259	*e*P	Pn	20 58 15.2	+1.7
CGP	Cagayan de Oro	1.86	279⇓	*i*P	Pn	20 58 18.9	+0.5
CGP				*i* S	Sn	20 58 42.0	+1.2
SCPH	Surigao	1.92	327⇑	*e*P	Pn	20 58 20.5	+1.3

---

*ISCJB **12** 21:10:13.4±1.2, 1090N±005×9338E±006, h51^{km}±11^{km}, mb4.3/27, MS3.5/2, Error ellipse: s-maj=12.0km s-min=6.4km az=113.9*
*IDC **12** 21:10:21.2±3.4, 1102N×9354E, h107^{km}±29^{km}, mb3.8/13, mb1 3.9/13, mb1mx3.7/24, mbtmp4.2/13, Error ellipse: s-maj=24.9km s-min=11.3km az=60.0*
*NEIC **12** 21:10:24.7±1.5, 1107N×9360E, h142^{km}±14^{km}, mb4.3/12, Error ellipse: s-maj=14.5km s-min=6.4km az=64.0*
*BJI **12** 21:10:24.0, 1125N×9346E, h127^{km}, mB4.9, mb4.4*
ISC 12 21:10:14.5±1.1, **1092N**±005×**9343E**±005, **h40**^{km}±10^{km}, **n56**, σ**1^{s}30**/58, **mb4.3**/27, **MS3.5**/2, **1C**, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	0.99	317	*e*x	x	21 10 26.2	
PBA				*e*S	Sn	21 10 43.0	-1.6
PBA				*e*x	x	21 10 46.2	
	comp=E,13μm,0.4s						
PBA				*e*x	x	21 10 46.3	
	comp=N,15μm,0.4s						
CHTO	Chiang Mai	9.48	34	*e*Pn	Pn	21 12 35.0	+6.4
	comp=N,4.2nm,0.8s						
CHTO				*e*Sn	Sn	21 14 12.7	-1.1
PSI	Prapat	9.74	146	P	Pn	21 12 44.3	+12
	comp=N,0.4nm,0.3s,baz=318,slow=16,SNR=4.5						
VIS	Vishakhapatnam	11.89	306	*e*P	Pn	21 12 59.8	-1.6
VIS				*e*S	Sn	21 15 01.8	-11
VIS				AML	AML	21 15 17.8	
	comp=N,70nm,0.2s						
VIS				AML	AML	21 15 18.1	
	comp=E,36nm,0.2s						
MDRS	Chennai	13.07	281	*e*S	Sn	21 15 34.2	-7.3
PALK	Pallekele	13.08	255	Pn	Pn	21 13 18.9	+1.2
	comp=E,38nm,1.2s						
SHL	Shillong	14.64	354	*e*x	x	21 13 40.0	
SHL				*e*S	Sn	21 16 09.8	-10
BOK	Bokaro	14.68	332	*e*P	Pn	21 13 36.7	-2.7
BOK				*e*S	Sn	21 16 15.0	-5.7
KMI	Kunming	16.66	31	P	Pn	21 14 10.2	+5.3
KMI				AMB	AMB		
	comp=Z,14nm,0.9s						
KMI				LR	LR		
	comp=Z,28nm,21.6s						
JBP	Jabalpur	17.68	315⇑	*i*x	x	21 14 28.4	
JBP				*e*x	x	21 14 28.7	
	comp=Z,12nm,0.5s						
JBP				*i* S	S	21 17 29.4	-10
PKI	Pulchoki	18.20	337	*e*P	Pn	21 14 26.4	+2.5
	comp=Z,14nm,0.2s						
GUN	Gumba	18.32	338	*e*P	Pn	21 14 27.4	+1.9
	comp=Z,45nm,0.6s						
DMN	Daman	18.35	336	*e*P	Pn	21 14 28.1	+2.3
	comp=Z,65nm,0.7s						
DMN				*e*S	S	21 17 45.2	-7.9
KKN	Kakani	18.44	337	*e*P	Pn	21 14 28.8	+1.9
AKL	Akola	18.53	304	*e*P	Pn	21 14 27.9	-0.1
AKL				AMb	AMB	21 14 30.8	
	comp=Z,19nm,2.2s						
AKL				*e*x	x	21 17 48.6	
LSA	Lhasa	18.80	354	P	Pn	21 14 32.0	+0.7
LSA				S	S	21 17 42.1	-20
LSA				AMB	AMB		
	comp=Z,20nm,0.6s						
LSA	Lhasa	18.80	354	*e*P	Pn	21 14 31.9	+0.6
GKN	Gorkha	18.89	335	*e*P	Pn	21 14 34.0	+1.7
	comp=Z,77nm,0.5s						
KOLN	Koldanda	19.13	333	*e*P	Pn	21 14 36.6	+1.3
	comp=Z,36nm,0.5s						
KOLN				*e*S	S	21 18 02.2	-6.7
KSM	Kuching	19.21	118	P	Pn	21 14 35.0	-1.2
BHPL	Bhopal	19.57	311	*e*P	Pn	21 14 39.6	-0.8
BHPL				AMb	AMB	21 14 44.4	
	comp=Z,4.2nm,0.4s						
BHPL				*e*x	x	21 18 13.9	
POO	Poona	20.37	294	*e*x	x	21 18 41.0	
CD2	Chengdu	22.08	24	*e*P	P	21 15 05.9	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
KKM	Kota Kinabalu	23.05	100	*e*P	P	21 15 18.9	+2.6
NDI	New Delhi	23.29	322	*e*x	x	21 19 31.0	
GTA	Gaotai	28.93	10	*e*P	P	21 16 10.6	+0.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
WMQ	Urumqi	33.15	352	*e*P	P	21 16 48.5	+1.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,98nm,5.3s						
WMQ				LR	LR		
	comp=N,248nm,17.7s,MS4.1						
WMQ				LR	LR		
	comp=E,202nm,16.4s,MS4.1						
WMQ				LR	LR		
	comp=Z,196nm,15.1s,MS3.9						
HHC	Hu-ho-hao-te	33.83	25	*e*P	P	21 16 55.1	+2.2
HHC				PP	PP	21 18 09.1	-0.8
HHC				PCP	PcP	21 19 33.4	+2.2
HHC				PCS	PcS	21 23 18.4	+1.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,66nm,4.4s						
HHC				LR	LR		
	comp=N,72nm,4.7s						
HHC				LR	LR		
	comp=E,107nm,3.7s						
HHC				LR	LR		
	comp=Z,111nm,5.3s						
AAK	Ala-Archa	35.65	336	*e*P	P	21 17 08.8	+0.2
	comp=Z,2.8nm,0.8s,mb4.2						
MKAR	Makanchi Array	36.98	347	P	P	21 17 19.5	-0.4
	comp=Z,2.8nm,0.7s,mb4.2,baz=164,slow=8.2,SNR=36						
SONM	Songino Array	38.38	14	P	P	21 17 32.0	+0.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=206,slow=8.2,SNR=7.0						
SONM				PcP	PcP	21 19 44.1	-0.6
	comp=Z,1.6nm,0.7s,baz=201,slow=4.1,SNR=8.9						
SONM				ScP	ScP	21 23 19.9	-9.4
	comp=Z,0.2nm,0.7s,baz=197,slow=3.0,SNR=5.1						
MBWA	Marble Bar	41.04	141	P	P	21 17 53.2	-0.7
	comp=Z,16nm,1.1s,mb4.6						
FITZ	Fitzroy Crossi	42.93	132	P	P	21 18 09.1	-0.3
	comp=Z,2.0nm,0.6s,mb4.1,baz=317,slow=7.0,SNR=12						
FITZ				PcP	PcP	21 19 58.8	-0.7
	comp=Z,2.0nm,0.5s,baz=289,slow=4.6,SNR=10						
ZAL	Zalesovo	43.45	353	P	P	21 18 13.0	-0.5
	comp=Z,2.6nm,0.4s,mb4.4,baz=306,slow=7.1,SNR=9.9						
MDJ	Mudanjiang	45.73	36	P	P	21 18 31.5	-0.2
MDJ				PP	PP	21 20 18.9	-0.3
MDJ				PCS	PcS	21 24 02.9	-0.3
MDJ				AMB	AMB		
	comp=Z,1.0nm,0.6s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,28nm,5.5s						
MDJ				LR	LR		

comp=E,21nm,18.6s,MS3.2
MDJ LR LR
comp=N,18nm,17.9s,MS3.2
MDJ LR LR
comp=Z,12nm,17.9s,MS2.9
BVAR Borovoye Array 45.89 341 P P 21 18 32.1 -0.9
comp=Z,2.5nm,0.6s,mb4.3,baz=136,slow=8.4,SNR=18
BRVK Borovoye 45.96 341 eP P 21 18 32.2 -1.2
comp=Z,2.8nm,0.6s,mb4.4
ZRNK Zerenda 46.29 340 eP P 21 18 35.0 -1.1
comp=Z,2.9nm,0.6s,mb4.4
CHKZ Chkalovo 46.38 341 eP P 21 18 36.0 -0.7
comp=Z,11nm,0.6s,mb5.0
AKTK Aktyubinsk 48.95 331 P P 21 18 56.1 -0.6
AKTO Aktyubinsk 48.95 331 P P 21 18 56.1 -0.6
comp=Z,1.7nm,0.3s,mb4.5,baz=112,slow=8.9,SNR=9.4
WRA Warramunga Arr 50.62 127 P P 21 19 08.7 -0.8
comp=Z,1.5nm,0.4s,mb4.2,baz=300,slow=10.0,SNR=31
WRA PcP PcP 21 20 25.9 -0.7
comp=Z,0.5nm,0.4s,baz=318,slow=2.9,SNR=7.8
WRAB Tennant Creek 50.63 127 eP P 21 19 08.8 -0.7
comp=Z,5.4nm,0.6s,mb4.7
ASAR Alice Springs 52.42 131 P P 21 19 22.0 -0.9
comp=Z,1.6nm,0.5s,mb4.2,baz=304,slow=7.3,SNR=26
ASAR PcP PcP 21 20 32.9 -0.4
comp=Z,1.2nm,0.8s,baz=300,slow=4.0,SNR=6.1
STKA Stephens Creek 62.72 134 P P 21 20 36.6 +1.3
comp=Z,1.4nm,0.6s,mb4.3,baz=320,slow=7.9,SNR=4.6
STKA Stephens Creek 62.72 134 P P 21 20 36.5 +1.1
LSZ Lusaka 69.65 249 P P 21 21 21.1 +1.3
comp=Z,0.9nm,0.5s,mb4.0
FINES FINESS Array B 69.70 332 P P 21 21 18.2 -1.9
comp=Z,0.7nm,0.4s,mb4.0,baz=141,slow=7.1,SNR=3.2
ARCES ARCESS Array B 72.18 340 P P 21 21 33.9 -1.2
comp=Z,2.5nm,0.8s,mb4.2,baz=86,slow=6.3,SNR=7.8
LBTB Lobatse 75.10 240 eP P 21 21 53.5 +1.2
comp=Z,3.3nm,0.6s,mb4.4
BOSA Boshof 76.62 237 P P 21 22 02.1 +1.1
comp=Z,3.5nm,0.5s,mb4.5,baz=67,slow=7.3,SNR=15
BOSA Boshof 76.62 237 eP P 21 22 01.8 +0.8
comp=Z,4.9nm,0.8s,mb4.5
CASY Casey 78.02 173 eP P 21 22 07.7 -1.1
comp=Z,1.8nm,0.8s,mb4.0
TORD Torodi Ar. Bea 89.22 283 P P 21 23 05.3 -0.8
comp=Z,0.4nm,0.8s,mb3.8,baz=64,slow=6.6,SNR=4.2
PDAR Pinedale Array 122.58 20 PKP PKPdf 21 29 04.2 -1.4
comp=Z,0.8nm,0.6s,baz=313,slow=1.7,SNR=7.5
PLCA Paso Flores 147.11 203 PKPbc PKPbc 21 29 52.4 -0.7
comp=Z,1.8nm,0.7s,baz=208,slow=3.7,SNR=7.3

IDC 12 21:15:06.1±37.0**,605N**×**12252E,h0**km**,mb3.9**/3**,**
mb1 4.1/3**,mb1mx3.6**/19**,mbtmp3.9**/3**,Error ellipse:**
s-maj=636.9km s-min=337.1km az=148.0,Mindanao

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 28.33 156 P P 21 21 01.8 +0.3
0.7nm,0.4s,baz=335,slow=9.8,SNR=5.4
ASAR Alice Springs 31.56 160 P P 21 21 30.9 +0.7
0.4nm,0.3s,baz=334,slow=7.8,SNR=5.6
STKA Stephens Creek 41.88 155 P P 21 22 57.8 -0.2
1.0nm,0.4s,baz=318,slow=12,SNR=5.6

---

*ISCJB **12** 21:17:56.8±0.3,5146N±002×1604E±002,h0km,mb3.7/4, Error ellipse: s-maj=2.2km s-min=1.7km az=0.5*
*MOS **12** 21:17:58.0±2.9,5161N×1591E,h10km,mb4.0/3,Error ellipse: s-maj=5.5km s-min=3.4km az=75.2*
*CSEM **12** 21:17:59.0±0.1,5152N×1606E,h1km,mb3.9/3,ML3.8/35, Ms3.5,Error ellipse: s-maj=1.5km s-min=1.0km az=7.0*
*LDG **12** 21:17:59.0±0.1,5151N×1609E,h1km,Ml3.8/29,Error ellipse: s-maj=2.8km s-min=1.4km az=4.0,Suspected Mining induced.*
*NEIC **12** 21:17:59.0±0.5,5155N×1599E,h5km,mb4.0/1, ML3.5(STR),ML3.5(SZGRF),Error ellipse: s-maj=6.0km s-min=4.5km az=5.0*
*IPEC **12** 21:17:59.6±0.3,5150N×1624E,h0km,ML3.3/4,Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
*BGR **12** 21:18:00.8±0.6,5148N×1610E,h1km,ML3.5,Error ellipse: s-maj=6.7km s-min=3.3km az=152.0*
*PRU **12** 21:18:01.7,5141N×1611E,h0km,Felt In Harrachov*
*IDC **12** 21:18:01.1±0.6,5145N×1599E,h0km,mb3.6/3, mb1 3.6/11,mb1mx3.5/24,mbtmp3.5/11,ML3.5/8,Error ellipse: s-maj=10.6km s-min=6.4km az=111.0*
*WAR **12** 21:18:01.7,5144N×1613E,ML3.4,Mining Induced*
*VIE **12** 21:18:03.1±0.7,5123N×1609E,h0km,mb2.9/9,ML3.2/11, Ms3.5/1,Error ellipse: s-maj=4.0km s-min=2.8km az=3.0 66 km WNW of Breslau Suspected Mining induced.*
*STR **12** 21:18:16.3±1.7,5075N×1461E,h5km±1km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 12 21:17:59.5±0.2**,5148N**±001×**1612E**±002**,h0**km**,n190,**
σ**1§38**/312**,mb3.7**/4**,22C-15D,Poland**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KSP Ksiaz 0.65 170 i Pgd Pg 21 18 12.8 +0.8
KSP i Sg Sg 21 18 20.6 +0.2
KSP eL 21 18 25.6
KSP Ksiaz 0.65 170⇓iP Pg 21 18 12.8 +0.8
KSP i 21 18 20.6
KSP Ksiaz 0.65 170 ePg Pg 21 18 12.3 +0.3
KSP i Sg Sg 21 18 20.6 +0.2
UPC Upice 0.98 184 ePG Pg 21 18 19.1 +0.8
DPC Dobruska-Polom 1.14 173 ePG Pg 21 18 21.7 +0.3
DPC eSG Sg 21 18 36.4 +0.2
297nm,0.6s
DPC Dobruska-Polom 1.14 173 ePg Pg 21 18 21.5 +0.1
DPC eSg Sg 21 18 36.4 +0.2
PVCC Panska Ves 1.37 226 ePg Pg 21 18 26.6 +0.9
PVCC eSg Sg 21 18 44.7 +1.2
BRG Berggiesshubel 1.50 247 ePg Pg 21 18 27.8 -0.4
BRG eSg Sg 21 18 48.5 +0.8
BRG Berggiesshubel 1.50 247 P Pn 21 18 27.8 +0.2
BRG 21 18 49.4
BRG smax
comp=N,116nm,0.6s
BRG smax
comp=N,2.0nm,0.5s
BRG smax
comp=N,4.0nm,0.6s
RUE Ruedersdorf 1.76 306 ePn Pn 21 18 31.7 +0.5
RUE eSn Sn 21 18 56.4 +2.2
RUE Ruedersdorf 1.76 306 ePn Pn 21 18 31.7 +0.5
PRA Prague 1.77 218 PG Pg 21 18 32.0 -1.5
PRA SG Sg 21 18 55.0 -1.5
PRU Pruhonice 1.80 214 ePN Pn 21 18 32.0 +0.2
PRU ePG Pg 21 18 34.0 0.0
PRU eSG Sg 21 18 56.9 -0.5
comp=N,145nm,0.7s
FBE Freiberg 1.83 253 ePn Pn 21 18 33.5 +1.4
FBE eSg Sg 21 18 58.7 +0.5
GKP Gorka Klasztor 1.92 21 ePn Pn 21 18 35.7 +2.3
GKP eSg Sg 21 19 06.4 +5.3
GKP Gorka Klasztor 1.92 21 ePn Pn 21 18 35.7 +2.3
GKP eSg Sg 21 19 06.4 +5.3
GKP Gorka Klasztor 1.92 21 ePn Pn 21 18 35.7 +2.3
GKP eSg Sg 21 19 06.4 +5.3
RAC Raciborz 1.92 136 ePn Pn 21 18 33.4 -0.1
RAC ePg Pg 21 18 36.8 +0.4
RAC eSg Sg 21 19 02.2 +0.9
RAC Raciborz 1.92 136 ePg Pg 21 18 36.8 +0.4
RAC eSg Sg 21 19 02.2 +0.9
MORC Moravsky Berou 1.94 151⇓iP Pn 21 18 33.7 +0.1
MORC Moravsky Berou 1.94 151 S Sn 21 19 00.3 +1.7
MORC Moravsky Berou 1.94 151 ⇓P Pn 21 18 33.7 +0.1
MORC S Sn 21 19 00.3 +1.7
MORC Moravsky Berou 1.94 151 ePn Pn 21 18 33.5 -0.1
MORC eSn Sn 21 19 00.4 +1.8
MORC Moravsky Berou 1.94 151 ePn Pn 21 18 33.5 -0.1
MORC eSg Sg 21 18 59.5 -2.2
comp=N,133nm,0.5s
MORC eSn Sn 21 19 00.4 +1.8
CLL Collm 1.96 266 ePn Pn 21 18 34.3 +0.3
CLL i Pg Pg 21 18 37.7 +0.7
CLL eSg Sg 21 19 04.0 +1.6
CLL Collm 1.96 266 i Pn Pn 21 18 34.3 +0.4
CLL i Pg Pg 21 18 37.7 +0.7
CLL i x x 21 18 41.7
CLL ex x 21 18 53.0
CLL eSg Sg 21 19 04.0 +1.6
comp=Z,117nm,1.0s
CLL Collm 1.96 266 i Pn Pn 21 18 34.3 +0.4
CLL i Pg Pg 21 18 37.7 +0.7
CLL eSg Sg 21 19 04.0 +1.6
OKC Ostrava-Krasne 2.09 141 ePN Pn 21 18 35.7 -0.1
OKC ePG Pg 21 18 39.5 -0.1
OKC eSG Sg 21 19 05.9 -0.9
comp=Z,258nm,0.9s
VRAC Vranov 2.20 172 Pn Pn 21 18 38.0 +0.8
comp=Z,5.9nm,0.3s,baz=348,slow=14,SNR=23
VRAC Lg 21 19 09.7
comp=Z,30nm,0.3s,baz=83,slow=17,SNR=10
VRAC Vranov 2.20 172⇑iP Pn 21 18 38.1 +0.9
VRAC Vranov 2.20 172 P Pn 21 18 38.0 +0.8
VRAC 21 19 09.7
VRAC pmax pmax
comp=Z,6.0nm,0.3s
VRAC Vranov 2.20 172 ⇑P Pn 21 18 38.1 +0.9
VRAC S Sn 21 19 07.1 +2.0
VRAC Vranov 2.20 172 ePn Pn 21 18 37.6 +0.4
VRAC S Sn 21 19 07.1 +2.0
VRAC eSg Sg 21 19 08.6 -1.6
comp=Z,165nm,0.6s
KRUC Moravsky 2.43 176 ePn Pn 21 18 40.9 +0.5
KRUC eSg Sg 21 19 16.1 -1.5
comp=Z,106nm,0.7s
TANN Tannenbergstha 2.55 247 ePn Pn 21 18 43.0 +1.0
TANN eSg Sg 21 19 20.6 -0.7
WERD Werda 2.62 248 ePn Pn 21 18 44.1 +1.0
WERD eSg Sg 21 19 23.7 -0.1
NKC Novy Kostel 2.64 243 ePN Pn 21 18 44.4 +1.1
NKC ePG Pg 21 18 50.4 +0.3
NKC eSG Sg 21 19 25.7 +1.4
comp=Z,96nm,0.4s
GUNZ Gunzen 2.65 246 ePn Pn 21 18 44.9 +1.6
GUNZ eSg Sg 21 19 24.0 -0.5
OJC Ojcow 2.65 117 ePn Pn 21 18 42.3 -1.2
OJC i Pg Pg 21 18 50.6 +0.2
OJC eSg Sg 21 19 25.0 +0.2
WERN Wernitzgruen 2.66 245 ePn Pn 21 18 44.4 +0.9
JAVC Velka Javorina 2.81 159 eSg Sg 21 19 27.9 -1.9
comp=Z,172nm,0.8s
KHC Kasperske Hory 2.86 216 ePN Pn 21 18 46.8 +0.4
KHC ePG Pg 21 18 53.3 -1.1
KHC eSN Sn 21 19 20.5 -1.0
KHC eSG Sg 21 19 30.2 -1.3
comp=Z,74nm,0.5s
KHC Kasperske Hory 2.86 216 eP Pn 21 18 46.8 +0.4
KHC e 21 19 20.5
MANZ Manzenberg 2.96 241 ePn Pn 21 18 49.0 +1.3
MOX Moxa 2.96 255 ePn Pn 21 18 48.5 +0.7
MOX ePg Pg 21 18 57.3 +1.0
MOX eSg Sg 21 19 35.5 +0.8
MOX Moxa 2.96 255 ePN Pn 21 18 48.5 +0.8
MOX ePG Pg 21 18 57.3 +1.0
MOX eSG Sg 21 19 36.6 +1.9
ROTZ Rotzenmuhle 3.02 237 ePn Pn 21 18 49.5 +0.9
ROTZ eSg Sg 21 19 36.6 -0.1
MZEK Zeckenberg-Ebn 3.06 242⇑iPn Pn 21 18 49.8 +0.8
GEC2 GERESS Array S 3.06 211 ePn Pn 21 18 50.4 +1.2
GEC2 eSg Sg 21 19 38.1 +0.1
GEC2 GERESS Array S 3.06 211 ePn Pn 21 18 50.4 +1.3
GEC2 eSg Sg 21 19 38.1 +0.2
GERES GERESS Array B 3.06 211 Pn Pn 21 18 49.6 +0.5
comp=Z,2.5nm,0.3s,baz=28,slow=13,SNR=79
GERES Pg Pg 21 18 56.5 -1.7
comp=Z,14nm,0.3s,baz=33,slow=17,SNR=80
GERES Sn Sn 21 19 23.3 -3.2
comp=Z,6.0nm,0.3s,baz=39,slow=26,SNR=7.4
GERES Lg 21 19 35.5
comp=Z,14nm,0.3s,baz=34,slow=27,SNR=8.6
GERES GERESS Array B 3.06 211 P Pn 21 18 49.6 +0.5
GERES 21 19 23.3
GERES GERESS Array B 3.06 211 Pg Pg 21 18 56.5 -1.7
GERES S Sn 21 19 23.3 -3.2
SMOL Smolenice 3.09 164 ePG Pg 21 18 59.0 +0.3
SMOL eSG Sg 21 19 39.6 +0.8
WET Wettzell 3.13 223 ePn Pn 21 18 50.7 +0.7
WET eSg Sg 21 19 39.8 -0.3
ZST Bratislava 3.35 169 ePG Pg 21 19 01.8 -1.9
ZST eSG Sg 21 19 45.3 -1.9
ZST Bratislava 3.35 169 eP Pg 21 19 01.8 -1.9
ZST e 21 19 45.4
ZST smax
comp=N,70nm,0.8s
ZST Bratislava 3.35 169 ePg Pg 21 19 01.8 -1.9
ZST eSg Sg 21 19 45.4 -1.8
NIE Niedzica 3.39 126 ePn Pn 21 18 54.2 +0.6
NIE ePg Pg 21 19 04.2 -0.2
NIE eSg Sg 21 19 49.1 +0.8
VYHS Vyhne 3.47 149 ePN Pn 21 18 54.5 -0.2
VYHS eSG Sg 21 19 51.3 +0.4
VYHS Vyhne 3.47 149 ePn Pn 21 18 54.6 -0.1
VYHS eSg Sg 21 19 51.3 +0.4
CONA Conrad Observa 3.56 183 i Pn Pn 21 18 56.9 +0.9
SNR=5.7
CONA ⇑iSg Sg 21 19 52.7 -1.3
comp=N,80nm,0.5s
GRA1 Grafenberg Arr 3.60 242 ePn Pn 21 18 57.5 +1.0
GRA1 eSg Sg 21 19 54.7 -0.4
GRF Grafenberg Arr 3.60 242 ePn Pn 21 18 57.5 +1.0
GRF eSg Sg 21 19 54.7 -0.4
BSD Bornholm Skovb 3.71 349 i P Pn 21 18 58.2 +0.2
BSD i S Sn 21 19 40.5 -1.9
BSD i LG 21 20 03.0
BSD Bornholm Skovb 3.71 349 i P Pn 21 18 58.2 +0.2
BSD i S Sn 21 19 40.5 -1.9
SOP Sopron 3.81 176⇑eSB Pn 21 19 00.4 +0.9
SOP e 21 20 00.3
MOA Molln 3.83 199⇓iPn Pn 21 19 00.4 +0.7
SNR=17
MOA ⇑iSg Sg 21 20 02.1 -0.5
comp=N,88nm,0.7s
STHS Stebnicka Huta 3.88 120 ePN Pn 21 19 02.3 +2.0
STHS e 21 19 16.1
STHS Stebnicka Huta 3.88 120 eSG Sg 21 20 07.3 +3.3
STHS Stebnicka Huta 3.88 120 ePn Pn 21 19 02.3 +2.0
STHS e 21 19 16.1
STHS eSg Sg 21 20 07.3 +3.3
HROE Hohe Rhon--Fla 3.88 258⇓iPn Pn 21 19 01.4 +1.0
KECS Kecovo 4.12 135 ePN Pn 21 19 03.0 -0.6
KECS e 21 19 20.2
KECS Kecovo 4.12 135 eSG Sg 21 20 10.6 -1.2
KECS Kecovo 4.12 135 ePn Pn 21 19 03.0 -0.6
KECS e 21 19 20.2
KECS eSg Sg 21 20 10.6 -1.2
ARSA Arzberg 4.25 185⇑iPn Pn 21 19 06.3 +0.8
SNR=8.6
ARSA ⇑iSg Sg 21 20 17.3 +1.1
comp=N,82nm,0.8s
CRVS Cervenica-Dubn 4.30 125 ePN Pn 21 19 07.1 +1.0
PSZ Piszkesteto 4.33 144⇑eSn Pn 21 19 07.1 +0.6
PSZ Piszkesteto 4.33 144⇓iP Pn 21 19 08.1 +1.6
PSZ Piszkesteto 4.33 144 ePn Pn 21 19 07.3 +0.7
PSZ Piszkesteto 4.33 144 ePn Pn 21 19 07.3 +0.8
BUD Budapest 4.43 154⇓eSB Pb 21 19 17.7 -0.4
KWP Kalwaria 4.59 111 ePn Pn 21 19 10.4 +0.2
KWP ePg Pg 21 19 24.6 -2.9
KWP eSg Sg 21 20 32.7 +5.7
KOLS Kolonicke sedl 4.71 120 ePN Pn 21 19 12.2 +0.5
KOLS e 21 19 33.5
KOLS Kolonicke sedl 4.71 120 eSG Sg 21 20 34.1 +3.4
KOLS Kolonicke sedl 4.71 120 ePn Pn 21 19 12.2 +0.5
KOLS e 21 19 33.5
KOLS eSg Sg 21 20 34.1 +3.4
KBA Koelnbreinsper 4.77 203⇑iPn Pn 21 19 13.8 +1.2
SNR=11
KBA ⇑iSg Sg 21 20 33.3 +0.6
comp=N,33nm,0.5s
PERS Pernice 4.90 188 i Pn Pn 21 19 16.6 +2.3
UZH Uzhgorod 4.90 123 eP Pn 21 19 09.8 -4.5
UZH eS Sn 21 20 08.2 -3.5
SUW Suwalki 4.98 57 ePn Pn 21 19 16.4 +0.9
TOD Tromm 5.03 251 P Pn 21 19 16.1 0.0
TOD S Sn 21 20 06.3 -8.6
OBKA Obir 5.08 192⇓iPn Pn 21 19 18.5 +1.5
OBKA ⇓iSg Sg 21 20 42.8 0.0
comp=N,59nm,0.8s
OBKA Obir 5.08 192⇓iPn Pn 21 19 18.4 +1.5
OBKA i Sg Sg 21 20 42.9 0.0
OBKA Obir 5.08 192 Pn Pn 21 19 18.5 +1.6
OBKA Sg Sg 21 20 42.8 0.0
comp=N,59nm,0.8s
WATA Walderalm 5.10 217⇓iPn Pn 21 19 18.4 +1.2
WATA ⇓iSg Sg 21 20 44.9 +1.6
comp=N,24nm,0.6s
WTTA Wattenberg 5.14 216⇑iPn Pn 21 19 19.0 +1.4
WTTA ⇓iSg Sg 21 20 46.0 +1.5
comp=N,48nm,0.8s
STU Stuttgart 5.21 241 eP Pn 21 19 18.7 0.0
STU pmax pmax
comp=Z,7.0nm,0.4s
STU Stuttgart 5.21 241 ePn Pn 21 19 18.7 0.0
comp=Z,6.8nm,0.4s
MOTA Moosalm 5.28 220⇑iPn Pn 21 19 20.5 +1.0
SNR=5.8
MOTA ⇑iSg Sg 21 20 48.7 -0.4
comp=Z,17nm,0.5s
MOTA Moosalm 5.28 220⇑iPn Pn 21 19 20.6 +1.0
MOTA i Sg Sg 21 20 48.7 -0.4
MOTA Moosalm 5.28 220 Pn Pn 21 19 20.5 +0.9
SNR=5.8
MOTA Sg Sg 21 20 48.7 -0.3
comp=Z,17nm,0.5s
LVV L'vov 5.30 105 eP Pn 21 19 28.0 +8.1
LVV e 21 20 33.6
SQTA Sankt Quirin 5.34 219⇑iPn Pn 21 19 21.3 +0.9
SNR=11
SQTA ⇓iSg Sg 21 20 51.9 +1.0
comp=Z,13nm,0.4s
SQTA Sankt Quirin 5.34 219⇑iPn Pn 21 19 21.3 +0.9
SQTA i Sg Sg 21 20 51.9 +1.0
PKSM Moragy 5.53 162⇓iP Pn 21 19 24.3 +1.2
PKSM Moragy 5.53 162 ⇑P Pn 21 19 24.3 +1.2
ABH Alteburg 5.68 257 P Pn 21 19 26.3 +1.2
DAVA Damuels 5.85 227⇑iPn Pn 21 19 27.9 +0.5
DAVA ⇑iSg Sg 21 21 10.8 +3.5
comp=Z,34nm,0.9s
LANF Langenberg 5.89 248 P Pn 21 19 29.9 +1.9
BOJS Bojanci 6.01 186 i Pn Pn 21 19 31.4 +1.8
FELD Feldberg im Sc 6.38 239 P Pn 21 19 34.4 -0.4
WLS Welschbruch 6.44 245 P Pn 21 19 34.6 -0.9
MEM Membach 6.44 266 P Pn 21 19 35.5 0.0
CDF Champ du Feu 6.48 245 ePn Pn 21 19 34.5 -1.6
CDF eSg Sg 21 21 21.1 -6.5
comp=Z,52nm,0.9s
CDF Champ du Feu 6.48 245 ePn Pn 21 19 34.5 -1.6
CDF eSg Sg 21 21 21.1 -6.5
comp=Z,26nm,0.9s
BCLA Clavier 6.92 265 P Pn 21 19 44.0 +1.9
HINF Hinteralfeld 7.04 242 ePg Pg 21 20 08.6 -5.9
HINF eSg Sg 21 21 39.5 -6.2
comp=Z,40nm,1.1s
HINF Hinteralfeld 7.04 242 ePn Pn 21 19 41.3 -2.5
HINF ePg Pg 21 20 08.6 -5.9
HINF eSg Sg 21 21 39.5 -6.2
HINF Hinteralfeld 7.04 242 ePg Pg 21 20 08.6 -5.9
HINF eSg Sg 21 21 39.5 -6.2
comp=Z,20nm,1.1s
BURAR Bucovina Array 7.07 120⇑iP Pn 21 19 44.9 +0.7
BURAR Bucovina Array 7.07 120 ⇑P Pn 21 19 44.9 +0.7
HAU Haudompre 7.22 245 ePg Pg 21 20 12.0 -5.9
HAU eSg Sg 21 21 45.0 -6.4
comp=Z,29nm,0.8s
HAU Haudompre 7.22 245 ePn Pn 21 19 43.8 -2.5
HAU ePg Pg 21 20 12.0 -5.9
HAU eSg Sg 21 21 45.0 -6.4
HAU Haudompre 7.22 245 ePg Pg 21 20 12.0 -5.9
HAU eSg Sg 21 21 45.0 -6.4
comp=Z,14nm,0.8s
GIVF Givet 7.29 263 ePn Pn 21 19 43.7 -3.5
GIVF eSg Sg 21 21 46.9 -6.8
comp=Z,38nm,1.0s
GIVF Givet 7.29 263 ePn Pn 21 19 43.7 -3.5
GIVF eSg Sg 21 21 46.9 -6.8
comp=Z,19nm,1.0s
DOU Dourbes 7.44 264 P Pn 21 19 51.5 +2.3
BAIF Baives 7.69 264 ePn Pn 21 19 49.4 -3.3
BAIF eSg Sg 21 21 58.5 -7.8
comp=Z,29nm,1.1s
BAIF Baives 7.69 264 ePn Pn 21 19 49.4 -3.3
BAIF eSg Sg 21 21 58.5 -7.8
comp=Z,14nm,1.1s
MEZF Maizieres J'vi 7.73 252 ePn Pn 21 19 49.3 -4.0
MEZF eSn Sn 21 21 12.9 -8.6
comp=Z,3.6nm,0.4s
MEZF eSg Sg 21 22 00.7 -7.0
comp=Z,66nm,1.1s
MEZF Maizieres J'vi 7.73 252 ePn Pn 21 19 49.3 -4.0
MEZF eSn Sn 21 21 12.9 -8.6
comp=Z,1.8nm,0.4s
MEZF eSg Sg 21 22 00.7 -7.0
comp=Z,33nm,1.1s
SFTF Sexfontaines 7.88 250 ePn Pn 21 19 52.6 -2.7
SFTF eSg Sg 21 22 05.2 -7.2
comp=Z,58nm,1.2s
SFTF Sexfontaines 7.88 250 ePn Pn 21 19 52.6 -2.7
SFTF eSg Sg 21 22 05.2 -7.2
comp=Z,29nm,1.2s
CABF La Chapelle 8.19 237 ePg Pg 21 20 30.2 -6.2
CABF eSg Sg 21 22 14.3 -8.3
comp=Z,50nm,1.1s
CABF La Chapelle 8.19 237 ePn Pn 21 19 56.6 -3.0
CABF ePg Pg 21 20 30.2 -6.2
CABF eSg Sg 21 22 14.3 -8.3
CABF La Chapelle 8.19 237 ePg Pg 21 20 30.2 -6.2
CABF eSg Sg 21 22 14.3 -8.3
comp=Z,25nm,1.1s
AKASG Malin Array Be 8.29 90 Pn Pn 21 19 59.8 -1.1
comp=Z,1.6nm,0.3s,baz=278,slow=12,SNR=18
AKASG Sn Sn 21 21 30.6 -4.7
comp=Z,1.2nm,0.3s,baz=265,slow=24,SNR=4.7
AKASG Lg 21 22 27.5
comp=Z,0.4nm,0.3s,baz=269,slow=27,SNR=4.3
AKASG Malin Array Be 8.29 90 P Pn 21 19 59.8 -1.2
AKASG 21 21 30.6
AKBB Malin Array Si 8.29 90 ePn Pn 21 19 58.2 -2.8
LPL La Plagne 8.63 230 ePn Pn 21 20 03.6 -1.9
LPL eSn Sn 21 21 34.6 -8.9
LPL eSg Sg 21 22 28.9 -7.5
comp=Z,16nm,1.0s
LPL La Plagne 8.63 230 eP Pn 21 20 03.6 -1.9
LPL e 21 21 34.6
LPG La Plagne 8.63 230 ePn Pn 21 20 03.4 -2.2
LPG eSn Sn 21 21 35.1 -8.5
LPG eSg Sg 21 22 30.3 -6.3
comp=Z,17nm,1.0s
LPG La Plagne 8.63 230 eP Pn 21 20 03.4 -2.2
LPG e 21 21 35.1
HFS Hagfors 8.78 352 Pn Pn 21 20 06.8 -0.8
comp=Z,0.4nm,0.3s,baz=167,slow=14,SNR=10.0
KONO Kongsberg 8.97 338 eP Pn 21 20 02.2 -8.1
LOR Lormes 9.04 247 ePn Pn 21 20 08.2 -3.0
LOR eSg Sg 21 22 41.9 -7.8
comp=Z,13nm,0.8s
LOR Lormes 9.04 247 ePn Pn 21 20 08.2 -3.0
LOR eSg Sg 21 22 41.9 -7.8
comp=Z,6.4nm,0.8s
MBDF Montbardon 9.20 226 ePn Pn 21 20 10.9 -2.6
MBDF eSg Sn 21 22 47.5 +50
comp=Z,10nm,1.0s
SMF Signal de Mont 9.40 244 ePn Pn 21 20 12.7 -3.4
SMF ePg Pn 21 20 52.5 +36
SMF eSg Sn 21 22 52.6 +50
ORIF Oris-en-Rattie 9.47 230 ePn Pn 21 20 15.1 -2.1
ORIF eSg Sn 21 22 55.8 +51
comp=Z,19nm,1.2s
AVF Avril sur Loir 9.59 246 ePn Pn 21 20 15.3 -3.5
AVF eSg Sn 21 22 58.1 +51
comp=Z,12nm,0.9s
AVF Avril sur Loir 9.59 246 ePn Pn 21 20 15.3 -3.5
AVF eSg Sn 21 22 58.1 +51
comp=Z,5.9nm,0.9s
SBF Sospel 9.61 221 ePn Pn 21 20 16.4 -2.6
SBF eSg Sn 21 22 59.6 +52
comp=Z,22nm,0.8s
NAO01 NORSAR Array S 9.82 345 ePn Pn 21 20 17.6 -4.3
NAO01 NORSAR Array S 9.82 345 ePn Pn 21 20 17.6 -4.3
NOA NORSAR Array B 9.96 346 Pn Pn 21 20 22.1 -1.7
comp=Z,0.3nm,0.3s,baz=164,slow=12,SNR=3.5
BGF Bois d'Agland 10.01 246 ePn Pn 21 20 20.8 -3.7
BGF eSg Sn 21 23 11.3 +54
comp=Z,15nm,0.8s
BGF Bois d'Agland 10.01 246 ePn Pn 21 20 20.8 -3.7
BGF eSg Sn 21 23 11.3 +54
comp=Z,7.3nm,0.8s

VIVF	Saint-Julien-l	10.11	233	ePn	Pn	21 20 22.0	-3.9
VIVF				eSg	Sn	21 23 15.6	+56
	comp=Z,3.9nm,0.7s						
VIVF	Saint-Julien-l	10.11	233	ePn	Pn	21 20 22.0	-3.9
VIVF				eSg	Sn	21 23 15.6	+56
	comp=Z,2.0nm,0.7s						
FRF	La Foret Royal	10.18	223	ePn	Pn	21 20 24.5	-2.4
FRF				eSg	Sn	21 23 17.8	+56
	comp=Z,19nm,1.1s						
SMRF	Simiane la Rot	10.33	227	ePn	Pn	21 20 26.7	-2.2
SMRF				eSg	Sn	21 23 22.2	+57
	comp=Z,1.9nm,0.7s						
SMRF	Simiane la Rot	10.33	227	ePn	Pn	21 20 26.7	-2.2
SMRF				eSg	Sn	21 23 22.2	+57
	comp=Z,0.9nm,0.7s						
TCF	Toulx Ste Croi	10.53	246	ePn	Pn	21 20 28.0	-3.6
TCF				eSg	Sn	21 23 27.5	+57
	comp=Z,1.3nm,0.5s						
TCF	Toulx Ste Croi	10.53	246	ePn	Pn	21 20 28.0	-3.6
TCF				eSg	Sn	21 23 27.5	+57
	comp=Z,0.6nm,0.5s						
LASF	Ste Croix	11.08	233	ePn	Pn	21 20 35.8	-3.3
LASF				eSg	Sn	21 23 45.8	+62
	comp=Z,7.1nm,0.9s						
LASF	Ste Croix	11.08	233	ePn	Pn	21 20 35.8	-3.3
LASF				eSg	Sn	21 23 45.8	+62
	comp=Z,3.5nm,0.9s						
FINES	FINESS Array B	11.38	25	Pn	Pn	21 20 42.0	-1.4
	comp=Z,0.5nm,0.3s,baz=204,slow=11,SNR=21						
FINES				Sn	Sn	21 22 45.6	-5.6
	comp=Z,0.6nm,0.3s,baz=202,slow=20,SNR=8.3						
FINES	FINESS Array B	11.38	25	P	Pn	21 20 42.0	-1.3
FINES						21 22 45.6	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				smax			
	comp=N,1.0nm,0.3s						
RJF	Les Rejaudoux	11.50	243	ePn	Pn	21 20 39.8	-5.1
MFF	Saint Martin d	11.73	252	eSn	Sn	21 22 48.5	-11
	comp=N,1.5nm,0.7s						
MFF	Saint Martin d	11.73	252	eSn	Sn	21 22 48.5	-11
	comp=N,0.8nm,0.7s						
EKA	Eskdalemuir Ar	12.12	296	Pn	Pn	21 20 52.0	-1.5
	comp=N,0.2nm,0.3s,baz=101,slow=14,SNR=4.2						
LFF	La Frestale	12.16	243	ePn	Pn	21 20 49.9	-4.0
MTLF	Montolieu	12.43	234	ePn	Pn	21 20 54.5	-3.2
OBN	Obninsk	12.75	65	eP	Pn	21 20 58.5	-3.5
OBN				eS	Sn	21 23 19.9	-4.8
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ROSF	Rostrenen	12.88	263	ePn	Pn	21 21 00.5	-3.3
ROSF				eSn	Sn	21 23 15.6	-12
	comp=Z,3.4nm,0.8s						
ROSF	Rostrenen	12.88	263	ePn	Pn	21 21 00.5	-3.3
ROSF				eSn	Sn	21 23 15.6	-12
	comp=Z,1.7nm,0.8s						
ARCES	ARCESS Array B	18.65	10	Pn	Pn	21 22 15.3	-3.7
	comp=Z,0.8nm,0.3s,baz=196,slow=12,SNR=18						
ARCES	ARCESS Array B	18.65	10	P	Pn	21 22 15.4	-3.6
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV	Kislovodsk	19.32	102	eP	Pn	21 22 31.6	+4.5
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,13nm,14.0s						
KIV	Kislovodsk	19.32	102	P	Pn	21 22 29.1	+2.0
ZRNK	Zerenda	31.83	66	eP	P	21 24 27.4	+1.5
ZRNK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	Zerenda	31.83	66	eP	P	21 24 27.4	+1.5
	comp=Z,2.0nm,1.0s,mb4.0						
ZRNK	Zerenda	31.83	66	eP	P	21 24 27.4	+1.5
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	Borovoye Array	32.60	66	P	P	21 24 33.8	+1.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=298,slow=6.6,SNR=4.7						
BVAR	Borovoye Array	32.60	66	P	P	21 24 33.8	+1.2
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	Torodi Ar. Bea	39.98	202	P	P	21 25 36.6	+0.9
	comp=Z,1.2nm,0.9s,mb3.5,baz=4.5,slow=7.9,SNR=6.7						
SONM	Songino Array	54.93	55	P	P	21 27 34.0	+1.9
	comp=Z,0.5nm,0.8s,mb3.6,baz=291,slow=9.4,SNR=4.4						
SONM	Songino Array	54.93	55	P	P	21 27 34.0	+2.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						

---

*NEIC **12** 21:31:04.1, 3302S×7226W, h15^{km}, ML2.5(GUC), After GUC.*

GUC 12 21:31:04.1±0.6**, 3302S×7226W, h15^{km}, MD3.5, ML2.5, 3C-7D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.74	128	⇓iP	Pg	21 31 17.6	-0.9
LCCH				iS	Sg	21 31 27.7	-0.5
ROCH	El Roble	1.05	88	⇑iP	Pb	21 31 22.8	-1.2
TACH	Talagante	1.27	120	⇑iP	Pn	21 31 26.2	-1.1
TACH				iS	Sb	21 31 42.7	-1.3
PEL	Peldehue	1.33	96	⇓iP	Pn	21 31 27.4	-0.6
PEL				iS	Sn	21 31 45.0	-0.4
PEL				AML	AML	21 31 52.8	
	comp=E,186nm,0.6s						
PEL	Peldehue	1.33	96	⇓iP	Pn	21 31 27.4	-0.6
PEL				iS	Sn	21 31 45.0	-0.4
JACH	Jahuel	1.44	77	⇓iP	Pn	21 31 28.7	-1.0
FCH	Farellones	1.68	101	⇑iP	Pn	21 31 33.5	+0.6
FCH				iS	Sn	21 31 55.2	+1.0
FCH				AML	AML	21 32 02.1	
	comp=N,60nm,0.3s						
SFDO	San Fernando	1.90	147	⇓iP	Pn	21 31 36.1	+0.2
LMEL	Las Melosas	1.91	116	⇓iP	Pn	21 31 36.3	+0.3
LMEL				iS	Sn	21 32 01.3	+1.5
LMEL				AML	AML	21 32 07.5	
	comp=N,70nm,0.5s						
LMEL	Las Melosas	1.91	116	⇓iP	Pn	21 31 36.3	+0.3
LMEL				iS	Sn	21 32 01.3	+1.5

---

*IDC **12** 21:33:58.1±2.7, 238S×13521E, h0^{km}, mb3.9/2, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=97.4km s-min=27.4km az=83.0*

*ISCJB **12** 21:34:02.9±1.8, 25S±0.1×1350E±03, h33^{km}, mb3.9/2, Error ellipse: s-maj=43.5km s-min=15.0km az=138.3*

*NEIC **12** 21:34:05.0±1.9, 253S×13493E, h35^{km}, mb3.9/1, Error ellipse: s-maj=47.7km s-min=15.5km az=70.0*

ISC 12 21:34:05.5±1.9**, 25S**±01×**1349E**±03**, h35^{km}, n10, σ1^{s}14**/11**, mb3.9**/2**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	17.32	182	eP	Pn	21 38 04.6	+0.2
	7.8nm,0.8s						
WB2	Warramunga Arr	17.33	182	eP	Pn	21 38 05.7	+1.2
WB2	Warramunga Arr	17.33	182	ePn	Pn	21 38 04.7	+0.1
WRA	Warramunga Arr	17.33	182	P	Pn	21 38 02.4	-2.1
	0.4nm,0.3s,baz=2.8,slow=12,SNR=36						
WRA				S	S	21 41 06.7	-17
	0.1nm,0.3s,baz=351,slow=25,SNR=4.2						
FITZ	Fitzroy Crossi	17.95	210	P	Pn	21 38 10.9	-1.4
	0.1nm,0.3s,baz=32,slow=13,SNR=4.5						
AS31	Alice Springs	21.04	183	eP	P	21 38 47.3	+1.0
ASAR	Alice Springs	21.05	183	P	P	21 38 46.5	+0.2
	5.2nm,0.8s,mb3.9,baz=7.2,slow=12,SNR=36						
ASPA	Alice Springs	21.05	183	eP	P	21 38 47.3	+1.0
KSM	Kuching	24.91	279	P	P	21 39 26.5	+1.4
MKAR	Makanchi Array	67.35	324	P	P	21 44 55.9	-1.1
	0.5nm,0.4s,mb3.9,baz=119,slow=6.8,SNR=5.4						

CASC 12 21:39:45.4±2.3**, 1279N×8805W, h37^{km}**±999^{km}**, MD3.5, ML3.6, 3C-1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	San Vicente	1.12	317	eP	x	21 40 06.1	
SNVI				eS	x	21 40 19.3	
LEON	Leon	1.19	108	⇓eP	Pn	21 40 04.5	-1.1
LEON				eS	Sn	21 40 20.8	+0.2
LCBS	La Ceiba	1.24	314	eP	x	21 40 06.9	
LCBS				eS	x	21 40 21.8	
LFRS	El Faro	1.28	310	eP	x	21 40 07.6	
LFRS				eS	x	21 40 24.0	
CNGN	Cerro Negro	1.35	102	eP	Pn	21 40 07.1	-0.7
CNGN				eS	Sn	21 40 26.9	+2.4
MIRN	Miramar	1.36	105	eP	Pn	21 40 07.2	-0.7
MIRN				eS	Sn	21 40 25.9	+1.4
BOQS	Boqueron	1.52	308	eP	x	21 40 11.6	
BOQS				eS	x	21 40 30.1	
MOMJ	Momotombo	1.53	104	⇑eP	Pn	21 40 09.2	-0.9
MOMJ				eS	Sn	21 40 28.6	-0.2
COPN	Copaltepe	1.55	113	⇑eP	Pn	21 40 09.9	-0.6
COPN				eS	Sn	21 40 30.0	+0.6
SBLS	San Blas	1.85	304	eP	x	21 40 15.5	
SBLS				eS	x	21 40 37.4	
SNJE	San Jose	1.85	305	⇑eP	x	21 40 15.8	
SNJE				eS	x	21 40 37.4	
MGAN	Managua	1.88	110	eS	Sn	21 40 39.6	+2.2
MGAN				i		21 40 43.4	
	comp=N,654nm,0.1s						
TICN	Ticuantepe	1.93	113	eP	Pn	21 40 14.7	-1.0
TICN				eS	Sn	21 40 40.6	+1.8
RBDL	Robledal	2.06	310	eP	x	21 40 18.8	

IDC 12 21:40:44.3±53.0**, 2290S×17505W, h0^{km}, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, mbtmp3.9**/3**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx3.0**/24**, Error ellipse: s-maj=999.2km s-min=177.8km az=87.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.05	267	LR	LR	21 59 25.6	
	comp=Z,49nm,18.4s,baz=229,slow=31						
STKA	Stephens Creek	39.31	247	P	P	21 48 15.0	+0.1
	2.0nm,0.8s,baz=101,slow=8.9,SNR=3.3						
ASAR	Alice Springs	46.69	258	P	P	21 49 14.8	+0.1
	0.4nm,0.4s,baz=92,slow=6.7,SNR=7.5						
WRA	Warramunga Arr	47.03	264	P	P	21 49 18.0	+0.6
	1.1nm,0.3s,baz=102,slow=8.2,SNR=42						
YKA	Yellowknife Ar	97.55	24	LR	LR	22 30 11.9	
	comp=Z,33nm,19.0s,baz=90,slow=30						

---

*ISCJB **12** 22:00:04.2±0.2, 4650N±001×1381E±001, h10^{km}, Error ellipse: s-maj=2.0km s-min=1.4km az=25.0*

*LJU **12** 22:00:04.6, 4647N×1381E, h12^{km}, ML2.2*

*VIE **12** 22:00:04.4±0.2, 4645N×1378E, h11^{km}±2^{km}, mb2.3/5, ML2.7/8, Error ellipse: s-maj=1.7km s-min=0.8km az=22.0 4 km S of Kranjska Gora*

*CSEM **12** 22:00:04.6±0.0, 4645N×1379E, h15^{km}, ML3.1/16, Error ellipse: s-maj=1.1km s-min=0.7km az=10.0*

*NEIC **12** 22:00:04.0, 4645N×1385E, h15^{km}, ML2.3(LJU), ML2.4(ROM), After ROM.*

NEIC Felt [IV] at Kranjska Gora.

*ROM **12** 22:00:05.4±1.2, 4642N×1376E, h10^{km}, Md2.9/5, Ml2.3/2, Error ellipse: s-maj=14.7km s-min=11.9km az=146.0*

*PRU **12** 22:00:06.6, 4655N×1389E, h0^{km}*

ISC 12 22:00:05.1±0.2**, 4649N**±001×**1381E**±001**, h10^{km}, n82, σ0^{s}96**/152**, 30C-13D, Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSR	Lussari	0.20	266	⇑iPg	Pg	22 00 09.2	-0.1
LSR				iSg	Sg	22 00 12.4	+0.3
GORS	Gorjuse	0.21	144	⇓iPg	Pg	22 00 09.3	-0.3
GORS				iSg	Sg	22 00 12.5	-0.1
GORS							
	comp=Z,511nm,0.1s						
GORS	Gorjuse	0.21	144	Pg	Pg	22 00 09.3	-0.3
GORS				iSg	Sg	22 00 12.5	-0.1
	comp=Z,511nm,0.1s						
CADS	Cadrg	0.27	191	⇑iPg	Pg	22 00 09.8	-0.8
CADS				iSg	Sg	22 00 13.6	-0.7
CADS							
	comp=Z,3µm,0.2s						
CADS	Cadrg	0.27	191	⇑iPg	Pg	22 00 09.8	-0.8
CADS				iSg	Sg	22 00 13.6	-0.6
	comp=Z,3µm,0.2s						
PTCC	Patocco-Chiusa	0.33	255	Pg	Pg	22 00 11.1	-0.6
PTCC				Sg	Sg	22 00 16.2	+0.1
DRE	Drenchia	0.34	200	⇑iPg	Pg	22 00 10.6	-1.3
DRE				iSg	Sg	22 00 15.3	-1.1
GMNA	Gemona	0.45	242	Pg	Pg	22 00 14.2	+0.2
GMNA				Sg	Sg	22 00 22.1	+2.1
PLRO	Paularo	0.46	277	⇓iPg	Pg	22 00 14.1	0.0
PLRO				iSg	Sg	22 00 20.8	+0.5
VOJS	Vojsko	0.46	174	iPg	Pg	22 00 13.1	-1.0
VOJS				iSg	Sg	22 00 20.6	+0.3
COLI	Coloredo	0.47	220	⇑iPg	Pg	22 00 14.1	-0.2
COLI				iSg	Sg	22 00 21.3	+0.9
BAD	Bernadia	0.47	237	⇑iPg	Pg	22 00 13.2	-1.1
BAD				iSg	Sg	22 00 20.5	0.0
OBKA	Obir	0.51	88	⇑ePg	Pg	22 00 15.1	0.0
	SNR=64						
OBKA				⇓iSg	Sg	22 00 22.6	+0.9
	comp=Z,274nm,0.3s						
OBKA	Obir	0.51	88	Pg	Pg	22 00 15.1	+0.1
	SNR=64						
OBKA				Sg	Sg	22 00 22.6	+0.8
	comp=Z,274nm,0.3s						
BOO	Bordano	0.52	251	⇑iPg	Pg	22 00 14.4	-0.9
BUA	Buia	0.55	240	⇑iPg	Pg	22 00 14.8	-1.0
BUA				iSg	Sg	22 00 23.4	+0.3
ZOU	Zoufplan	0.58	277	⇓iPg	Pg	22 00 16.4	-0.1
ZOU				iSg	Sg	22 00 25.0	+0.9
JAVS	Javornik	0.62	164	iPg	Pg	22 00 16.0	-1.2
JAVS				iSg	Sg	22 00 25.6	+0.2
JAVS							
	comp=Z,58nm,0.2s						
JAVS	Javornik	0.62	164	iPg	Pg	22 00 16.0	-1.2
JAVS				iSg	Sg	22 00 25.5	+0.1
	comp=Z,58nm,0.2s						
MPRI	Monte Prat	0.62	247	⇓ePg	Pg	22 00 16.3	-0.9
MPRI				eSg	Sg	22 00 25.8	+0.5
LJU	Ljubljana	0.67	132	ePg	Pg	22 00 17.8	-0.3
LJU				iSg	Sg	22 00 26.4	-0.4
LJU							
	comp=Z,46nm,0.1s						
LJU	Ljubljana	0.67	132	ePg	Pg	22 00 17.8	-0.3
LJU				iSg	Sg	22 00 26.4	-0.4
LJU	Ljubljana	0.67	132	ePg	Pg	22 00 17.8	-0.3
LJU				iSg	Sg	22 00 26.4	-0.4
	comp=Z,46nm,0.1s						
KBA	Koelnbreinsper	0.67	331	⇑ePg	Pg	22 00 18.6	+0.5
	SNR=34						
KBA				⇑iSg	Sg	22 00 28.0	+1.1
	comp=Z,71nm,0.2s						
FVI	Forni Avoltri	0.72	279	Pg	Pg	22 00 18.6	-0.5
FVI				Sg	Sg	22 00 29.2	+0.7
	comp=Z,156nm,0.3s						
CSMI	Casera Mimoias	0.80	272	⇑iPg	Pg	22 00 20.4	-0.2
CSMI				iSg	Sg	22 00 31.9	+0.8
CEY	Cerknica	0.87	150	iPg	Pg	22 00 21.0	-0.8
CEY				iSg	Sg	22 00 33.4	+0.3
CEY							
	comp=Z,47nm,0.2s						
CEY	Cerknica	0.87	150	iPg	Pg	22 00 21.0	-0.8
CEY				iSg	Sg	22 00 33.4	+0.3
CEY	Cerknica	0.87	150	iPg	Pg	22 00 21.0	-0.8
CEY				iSg	Sg	22 00 33.4	+0.3
	comp=Z,47nm,0.2s						
MLNI	Malnisio	0.90	248	⇑iPg	Pg	22 00 21.5	-0.9
MLNI				iSg	Sg	22 00 35.7	+1.4
PERS	Pernice	0.91	80	iPg	Pg	22 00 22.4	-0.3
PERS				iSg	Sg	22 00 34.7	+0.1
PERS							
	comp=Z,69nm,0.2s						
PERS	Pernice	0.91	80	iPg	Pg	22 00 22.4	-0.3
PERS				iSg	Sg	22 00 34.7	+0.1
PERS	Pernice	0.91	80	iPg	Pg	22 00 22.4	-0.3
PERS				iSg	Sg	22 00 34.7	+0.2
	comp=Z,69nm,0.2s						
BISS	Bistriski jare	0.92	80	iPg	Pg	22 00 22.5	-0.3
PDKS	Podkum	0.93	117	iPg	Pg	22 00 22.8	-0.2
PDKS				eSg	Sg	22 00 34.5	-0.6
PDKS							
	comp=Z,28nm,0.1s						
PDKS	Podkum	0.93	117	iPg	Pg	22 00 22.8	-0.2
PDKS				eSg	Sg	22 00 34.5	-0.6
CAE	Caneva	1.07	244	Pg	Pg	22 00 25.6	-0.1
CAE				Sg	Sg	22 00 41.4	+1.8
SEST	Monte Rota	1.13	284	Pg	Pg	22 00 26.3	-0.6
GROS	Grobnik	1.17	91	iPg	Pg	22 00 27.1	-0.5
GROS							
	comp=Z,23nm,0.2s						
GROS	Grobnik	1.17	91	iPg	Pg	22 00 27.1	-0.5
	comp=Z,23nm,0.2s						
LEGS	Legarje	1.18	117	iPg	Pg	22 00 28.0	+0.2
LEGS				eSg	Sg	22 00 44.1	+1.1
DOBS	Dobrina	1.20	106	iPg	Pg	22 00 28.1	0.0
DOBS	Dobrina	1.20	106	iPg	Pg	22 00 28.1	0.0
CESS	Cesta pri Krsk	1.26	114	iPg	Pg	22 00 29.6	+0.3
CESS				iSg	Sg	22 00 47.2	+1.6
BGLD	Berchtesgaden	1.28	335	⇓iPg	Pg	22 00 29.7	-0.1
IESO	Jesolo	1.31	223	Pg	Pg	22 00 29.8	-0.6
CRES	Cresnjev	1.32	120	iPg	Pg	22 00 30.3	-0.2
CRES				eSg	Sg	22 00 48.5	+0.8
CRES							
	comp=Z,28nm,0.3s						
CRES	Cresnjev	1.32	120	iPg	Pg	22 00 30.3	-0.2
CRES				eSg	Sg	22 00 48.5	+0.8
CRES	Cresnjev	1.32	120	iPg	Pg	22 00 30.3	-0.2
CRES				eSg	Sg	22 00 48.5	+0.8
	comp=Z,28nm,0.3s						
GOLS	Golise	1.35	110	ePg	Pg	22 00 30.3	-0.7
GOLS				iSg	Sg	22 00 49.9	+1.4
GOLS							
	comp=Z,20nm,0.3s						
GOLS	Golise	1.35	110	ePg	Pg	22 00 30.3	-0.7
GOLS				iSg	Sg	22 00 49.9	+1.4
GOLS	Golise	1.35	110	ePg	Pg	22 00 30.3	-0.7
GOLS				iSg	Sg	22 00 49.9	+1.4
	comp=Z,20nm,0.3s						
MOA	Molln	1.39	13	⇑ePg	Pg	22 00 32.5	+0.6
	SNR=22						
MOA				⇑iSg	Sg	22 00 52.5	+2.5
	comp=Z,32nm,0.4s						
ARSA	Arzberg	1.40	56	⇓iPn	Pn	22 00 31.0	+0.3
ARSA				⇑ePg	Pg	22 00 31.9	-0.1
	SNR=40						
ARSA	Arzberg	1.40	56	⇓iPn	Pn	22 00 31.0	+0.3
ARSA				⇑ePg	Pg	22 00 31.9	-0.1
	SNR=40						
ARSA				⇓iSn	Sn	22 00 50.3	+1.1
ARSA				⇓iSg	Sg	22 00 51.6	+1.5
	comp=Z,8.5nm,0.2s						
ARSA	Arzberg	1.40	56	Pg	Pg	22 00 31.9	-0.1
	SNR=40						
ARSA				Sn	Sn	22 00 50.3	+1.1
ARSA				Sg	Sg	22 00 51.6	+1.5
	comp=Z,8.5nm,0.2s						
GCIS	Gornji Cirnik	1.41	116	ePg	Pg	22 00 31.6	-0.6
GCIS				iSg	Sg	22 00 51.0	+0.5
GCIS							
	comp=Z,20nm,0.2s						
BOJS	Bojanci	1.41	134	⇑iPg	Pg	22 00 31.2	-0.9
BOJS							
	comp=Z,20nm,0.2s						
BOJS	Bojanci	1.41	134	⇑iPg	Pg	22 00 31.2	-1.0
	comp=Z,20nm,0.2s						
SCE	Schlegeis	1.54	292	⇑iPg	Pg	22 00 34.0	-0.8
CTI	Castel Tesino	1.56	254	Pg	Pg	22 00 34.6	-0.6
	comp=Z,25nm,0.2s						
WTTA	Wattenberg	1.68	298	ePg	Pg	22 00 36.5	-0.9
	SNR=29						
WTTA				⇓iSg	Sg	22 00 59.5	+0.3
	comp=Z,30nm,0.4s						
KOGS	Kog	1.69	91	iPn	Pn	22 00 35.4	+0.8
WATA	Walderalm	1.75	300	ePg	Pg	22 00 37.9	-0.9
	SNR=16						
WATA				⇑iSg	Sg	22 01 02.0	+0.5
	comp=Z,7.7nm,0.2s						
WATA	Walderalm	1.75	300	Pg	Pg	22 00 37.8	-0.9
	SNR=16						
WATA				Sg	Sg	22 01 02.0	+0.6
	comp=Z,7.7nm,0.2s						
APPI	Appiano	1.79	271	Pg	Pg	22 00 38.3	-1.1
	comp=Z,21nm,0.8s						
SQTA	Sankt Quirin	1.93	293	ePg	Pg	22 00 41.0	-1.2
	SNR=16						
SQTA				⇑iSg	Sg	22 01 08.1	+0.9
	comp=Z,6.2nm,0.2s						
CONA	Conrad Observa	2.00	43	⇑iPn	Pn	22 00 40.7	+1.6
CONA				⇓iSn	Sn	22 01 06.2	+2.1
MOTA	Moosalm	2.04	296	⇑iPg	Pg	22 00 43.7	-0.6
MOTA				⇑iSg	Sg	22 01 12.0	+1.2
	comp=Z,9.5nm,0.4s						
NVLJ	Novalja	2.07	159	iPn	Pn	22 00 41.7	+1.8
NVLJ				iSn	Sn	22 01 10.6	+4.9
KHC	Kasperske Hory	2.65	357	ePN	Pn	22 00 50.5	+2.7
KHC				ePG	Pg	22 00 56.5	+0.7
KHC				eSG	Sg	22 01 29.5	-0.6
	comp=Z,22nm,0.9s						
DAVA	Damuels	2.81	288	⇑iSn	Sn	22 01 25.3	+1.2
DAVA				⇑iSg	Sg	22 01 35.8	+0.3
	comp=Z,7.6nm,0.4s						
DAVA	Damuels	2.81	288	⇓iPn	Pn	22 00 49.6	-0.5
DAVA				⇑iPg	Pg	22 00 58.3	-0.7
DAVA				⇑iSn	Sn	22 01 25.3	+1.2
DAVA				⇑iSg	Sg	22 01 35.8	+0.3
	comp=Z,7.6nm,0.4s						
ZST	Bratislava	2.81	51	ePG	Pg	22 00 58.0	-1.0
ZST				eSG	Sg	22 01 32.3	-3.2
ZST	Bratislava	2.81	51	ePg	Pg	22 00 58.1	-0.9
ZST				eSg	Sg	22 01 32.3	-3.2
PRU	Pruhonice	3.53	8	ePG	Pg	22 01 11.3	-1.5
PRU				eSG	Sg	22 01 56.9	-1.7
	comp=Z,12nm,0.8s						
NKC	Novy Kostel	3.85	347	ePG	Pg	22 01 17.7	-1.3
NKC				eSG	Sg	22 02 08.5	-0.4
	comp=Z,7.7nm,0.6s						
DPC	Dobruska-Polom	4.21	22	eSG	Sg	22 02 18.2	-2.0
	comp=Z,11nm,1.1s						
UPC	Upice	4.28	19	ePN	Pn	22 01 13.5	+3.2
UPC				eSG	Sg	22 02 20.4	-2.1
BRG	Berggiesshubel	4.39	1	SG	Sg	22 02 25.4	-0.6
	comp=Z,4.0nm,0.6s						
MOX	Moxa	4.41	341	ePN	Pn	22 01 14.4	+2.4
MOX				eSN	Sn	22 02 03.4	0.0
CLL	Collm	4.85	354	eSg	Sg	22 02 40.0	-0.9

---

*ISCJB **12** 22:36:42.0±2.0, 497S±009×15230E±007, h92^{km}±18^{km}, mb4.1/12, Error ellipse: s-maj=16.2km s-min=11.7km az=136.5*

*IDC **12** 22:36:44.2±4.7, 508S×15225E, h96^{km}±38^{km}, mb3.7/7, mb1 3.9/8, mb1mx3.7/16, mbtmp4.1/8, MS3.5/4, Ms1 3.5/4, ms1mx3.2/22, Error ellipse: s-maj=29.3km s-min=24.0km az=36.0*

*NEIC **12** 22:36:44.0±1.2, 498S×15232E, h99^{km}±11^{km}, mb4.4/7, Error ellipse: s-maj=10.6km s-min=8.0km az=155.0*

ISC 12 22:36:43.9±1.5**, 501S**±009×**15231E**±007**, h96^{km}**±15^{km}**, n36, σ0^{s}79**/29**, mb4.1**/12**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.72	229	P	Pn	22 38 20.2	+0.3
	5.2nm,0.3s,baz=41,slow=15,SNR=10						
PMG				S	Sn	22 39 32.6	-2.3
	2.8nm,0.3s,baz=48,slow=12,SNR=5.2						
PMG	Port Moresby	6.72	229	eP	Pn	22 38 20.6	+0.7
	15nm,0.3s						
PMG				S	Sn	22 39 32.6	-2.3
HNR	Honiara	8.76	121	Pn	Pn	22 38 48.2	+0.5
CTA	Charters Tower	16.10	201	LR	LR	22 45 46.4	
	comp=Z,101nm,21.4s,baz=43,slow=34						
KAKA	Kakadu	21.05	247	⇓iP	P	22 41 20.5	+0.4
	39nm,1.0s,mb4.7						
DZM	Mont Dzumac	21.79	142	P	P	22 41 28.1	+0.1
	21nm,1.2s,mb4.3,baz=297,slow=18,SNR=6.1						
WRAB	Tennant Creek	22.92	228	eP	P	22 41 40.1	+0.4
	28nm,1.2s,mb4.5						
WB2	Warramunga Arr	22.93	228	eP	P	22 41 39.3	-0.5
WRA	Warramunga Arr	22.94	228	P	P	22 41 39.5	-0.4
	7.2nm,0.8s,mb4.0,baz=53,slow=9.8,SNR=21						
AS31	Alice Springs	25.66	222	eP	P	22 42 08.0	+3.4
ASAR	Alice Springs	25.66	222	P	P	22 42 05.1	+0.4
	2.0nm,0.7s,mb3.7,baz=56,slow=8.5,SNR=15						
ASAR				LR	LR	22 52 50.5	
	comp=Z,117nm,19.2s,baz=202,slow=38						
STKA	Stephens Creek	28.55	199	LR	LR	22 53 38.6	
	comp=Z,70nm,20.5s,baz=25,slow=36						
FITZ	Fitzroy Crossi	29.13	241	eP	P	22 42 35.7	+0.1
	8.6nm,0.7s,mb4.5						
FITZ	Fitzroy Crossi	29.13	241	P	P	22 42 35.6	-0.1
	2.5nm,0.5s,mb4.1,baz=71,slow=6.3,SNR=22						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MBWA	Marble Bar	35.44	240	eP	P	22 43 31.4	+0.6
	1.5nm,0.3s,mb4.3						
KKM	Kota Kinabalu	37.67	287	P	P	22 43 49.9	+0.2
NACB	Ninganchiao	41.67	315	P	P	22 44 22.5	-0.5
YHNB	Yeheng	42.15	316	P	P	22 44 27.9	+1.1
NWAO	Narrogin (SRO)	42.89	225	P	P	22 44 33.6	+0.8
VNDA	Vanda	72.64	178	P	P	22 48 00.4	-0.6
	0.2nm,0.4s,mb3.3,baz=316,slow=9.1,SNR=2.9						
VNDA	Vanda	72.64	178	eP	P	22 48 00.7	-0.3
	0.8nm,1.0s,mb3.5						
SVW2	Sparrevohn	77.21	23	eP	P	22 48 27.3	0.0
SLKM	Skilak Lake	79.07	25	eP	P	22 48 36.4	-1.1
MKAR	Makanchi Array	80.16	319	P	P	22 48 44.2	+0.8
	0.2nm,0.3s,mb3.5,baz=97,slow=8.8,SNR=4.7						
ZAL	Zalesovo	81.06	326	P	P	22 48 48.3	0.0
	1.2nm,0.6s,mb3.9,baz=343,slow=5.5,SNR=5.5						
MCK	McKinley	81.25	23	eP	P	22 48 47.8	-1.5
	3.1nm,0.5s,mb4.4						
EGAK	Eagle	84.75	23	eP	P	22 49 06.9	-0.4
MAW	Mawson	85.19	203	P	P	22 49 09.2	-0.4
ZRNK	Zerenda	89.93	323	eP	P	22 49 32.4	+0.1
	0.6nm,0.4s,mb4.1						
PDAR	Pinedale Array	99.35	48	LR	LR	23 31 32.5	
	comp=Z,58nm,18.9s,baz=256,slow=33						
EIL	Elat	116.18	301	PKPdf	PKPdf	22 55 17.2	+1.4
GERES	GERESS Array B	123.98	328	PKP	PKPdf	22 55 31.6	+0.8
	0.4nm,0.7s,baz=70,slow=1.6,SNR=4.7						
ESLA	Sonseca Array	139.38	332	ePKPdf	PKPdf	22 55 59.0	-0.8
TOA0	Torodi Ar. Sit	149.90	288	ePKPbc	PKPbc	22 56 24.6	+1.7
TORD	Torodi Ar. Bea	149.90	288	PKPbc	PKPbc	22 56 23.5	+0.6
	2.5nm,0.7s,baz=82,slow=2.2,SNR=50						
TORD	Torodi Ar. Bea	149.90	288	PKPbc	PKPbc	22 56 23.5	+0.6

*ISCJB **12** 22:55:22.4±0.6, 4121N±003×844W±007, h9^{km}±8^{km}, Error ellipse: s-maj=8.3km s-min=4.7km az=169.5*
*CSEM **12** 22:55:23.4±0.3, 41.18N×847W, h18^{km}±3^{km}, ML1.2, Error ellipse: s-maj=7.3km s-min=3.4km az=75.0*
*MDD **12** 22:55:24.0±0.4, 4120N×842W, h0^{km}, mbLg1.5/7, Error ellipse: s-maj=3.9km s-min=3.2km az=129.0, PRXIMO*
*INMG **12** 22:55:24.1±0.7, 4120N×842W, h0^{km}±4^{km}, ML1.2, Error ellipse: s-maj=1.9km s-min=1.3km az=99.0*
ISC 12 22:55:22.7±0.8, 4121N±003×848W±008, h15^{km}±7^{km}, n19, σ0^{s}66/25, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTO	Porto	0.12	233	ePg	Pg	22 55 26.8	+0.6
PTO				eSg	Sg	22 55 29.0	+0.5
PTO							
	55nm,0.1s						
PTO	Porto	0.12	233	ePg	Pg	22 55 26.8	+0.6
PTO				eSg	Sg	22 55 29.0	+0.5
	55nm,0.1s						
PCAB	Cabril	0.61	34	ePg	Pg	22 55 35.0	+0.4
PCAB				eSg	Sg	22 55 43.0	+0.3
PCAB							
	13nm,0.1s						
PCAB	Cabril	0.61	34	ePg	Pg	22 55 35.0	+0.4
PCAB				eSg	Sg	22 55 43.0	+0.3
	13nm,0.1s						
PVIS	Viseu	0.66	138	ePg	Pg	22 55 35.7	0.0
PVIS				eSg	Sg	22 55 44.0	-0.5
PVIS							
	13nm,0.1s						
PVIS	Viseu	0.66	138	ePg	Pg	22 55 35.7	0.0
PVIS				eSg	Sg	22 55 44.0	-0.5
	13nm,0.1s						
EZAM	Zamans	0.95	350	Pg	Pg	22 55 41.5	+0.3
	2.5nm,0.1s,SNR=7.9						
EZAM				Lg		22 55 55.8	
	2.6nm,0.1s,SNR=7.9						
MTE	Manteigas	1.08	138	eS	Sb	22 55 57.4	+0.5
MTE							
	5.0nm,0.5s						
MTE	Manteigas	1.08	138	eS	Sb	22 55 57.4	+0.5
	5.0nm,0.5s						
PBRG	Braganca	1.44	65	eS	Sn	22 56 07.9	+1.2
PBRG							
	1.7nm,0.1s						
PBRG	Braganca	1.44	65	Lg		22 56 07.9	
	0.9nm,0.1s						
ECAL	Calabor	1.50	60	Pg	Pg	22 55 51.8	+0.2
	0.7nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	22 56 07.7	-0.6
	1.2nm,0.2s,SNR=7.9						
ECAL				Lg		22 56 11.6	
	1.9nm,0.3s,SNR=7.9						
ECAL	Calabor	1.50	60	Pg	Pg	22 55 51.8	+0.2
	0.7nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	22 56 07.7	-0.6
	1.2nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	1.57	150	ePg	Pg	22 55 52.1	-0.7
PCBR				eSg	Sg	22 56 12.9	-0.3
STS	Santiago	1.68	358	Pg	Pg	22 55 53.3	-1.7
	0.5nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	1.78	348	Pg	Pg	22 55 56.6	-0.3
	0.1nm,0.1s,SNR=7.9						
EMAZ				Lg		22 56 20.5	
	0.6nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	1.78	348	Pg	Pg	22 55 56.6	-0.3
	0.1nm,0.1s,SNR=7.9						
EPON	Pontenova	2.34	25	Lg		22 56 38.0	
	1.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.70	155	Lg		22 56 47.6	
	0.6nm,0.2s,SNR=7.9						

*ISCJB **12** 23:10:47.7±0.5, 3146S±004×6791W±006, h114^{km}±6^{km}, mb3.5/4, Error ellipse: s-maj=8.0km s-min=5.7km az=19.6*
*IDC **12** 23:10:48.7±0.6, 3150S×68.18W, h107^{km}±4^{km}, mb3.4/3, mb1 3.5/5, mb1mx3.3/17, mbtmp3.8/5, Error ellipse: s-maj=34.1km s-min=13.1km az=104.0*
*NEIC **12** 23:10:48.5±0.5, 3146S×6787W, h106^{km}±6^{km}, mb3.9/3, Error ellipse: s-maj=9.2km s-min=7.2km az=88.0*
*GUC **12** 23:10:48.8±0.5, 3149S×68.12W, h150^{km}, MD3.9, ML4.1*
ISC 12 23:10:48.8±0.5, 3147S±003×6790W±005, h108^{km}±6^{km}, n39, σ0^{s}89/45, mb3.5/4, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.32	244	P	Pn	23 11 04.5	+0.1
	47nm,0.3s,baz=55,slow=3.8,SNR=6797						
CFAA				S	Sn	23 11 15.9	-0.2
	109nm,0.3s,baz=15,slow=24,SNR=98						
MDZ	Mendoza	1.63	209	eP	Pn	23 11 18.0	+1.0
MDZ				e		23 11 37.1	
MDZ				S	Sn	23 11 45.0	+6.5
JACH	Jahuel	2.59	241⇑	iP	Pn	23 11 29.9	+0.6
JACH				i S	Sn	23 12 00.7	+0.3
CMCH	Combarbala	2.67	275⇓	iP	Pn	23 11 30.2	-0.2
CMCH				i S	Sn	23 12 02.0	-0.4
CMCH				AML	AML	23 12 03.9	
	comp=E,2μm,0.5s						
CMCH	Combarbala	2.67	275⇓	iP	Pn	23 11 30.3	-0.1
CMCH				i S	Sn	23 12 01.8	-0.5
PTCH	Petorca	2.70	252	AML	AML	23 12 03.3	
	comp=N,1μm,0.4s						
PTCH	Petorca	2.70	252⇑	iP	Pn	23 11 30.7	0.0
PTCH				i S	Sn	23 12 02.2	-0.8
FCH	Farellones	2.75	227⇑	iP	Pn	23 11 32.6	+1.3
FCH				i S	Sn	23 12 05.4	+1.4
TLL	Tololo Astrono	2.81	297	i P	Pn	23 11 33.3	+1.0
TLL				i S	Sn	23 12 06.7	+0.9
TLL				AML	AML	23 12 10.5	
	comp=N,531nm,0.3s						
TLL	Tololo Astrono	2.81	297	eP	Pn	23 11 33.3	+1.1
TLL				i S	Sn	23 12 09.6	+3.9
PEL	Peldehue	2.89	234	AML	AML	23 12 10.0	
	comp=E,489nm,0.4s						
CLCH	Cerro Calan	2.95	229	AML	AML	23 12 12.3	
	comp=E,265nm,0.5s						
OVCH	Ovalle	2.96	286	i S	Sn	23 12 08.1	-1.1
OVCH				AML	AML	23 12 10.8	
	comp=E,532nm,0.5s						
OVCH	Ovalle	2.96	286⇓	iP	Pn	23 11 33.9	-0.3
OVCH				i S	Sn	23 12 08.1	-1.1
ROCH	El Roble	3.04	240	i P	Pn	23 11 36.6	+1.5
LMEL	Las Melosas	3.07	219⇑	iP	Pn	23 11 36.4	+0.8
LMEL				AML	AML	23 12 26.3	
	comp=N,113nm,0.4s						
LMEL	Las Melosas	3.07	219	eP	Pn	23 11 35.4	-0.2
LMEL				i S	Sn	23 12 09.6	-2.2
CHNG	Los Chungos	3.10	261	AML	AML	23 12 17.9	
	comp=N,167nm,0.2s						
RCDM	Rinconada Maip	3.18	230	AML	AML	23 12 17.0	
	comp=E,412nm,0.1s						
TACH	Talagante	3.37	229	eP	Pn	23 11 39.3	-0.3
TACH				i S	Sn	23 12 18.3	-0.5
CHCH	Chadas Angostu	3.38	223	eP	Pn	23 11 39.8	0.0
CHCH				i S	Sn	23 12 18.8	-0.4
LCO	Las Campanas	3.44	315⇑	iP	Pn	23 11 41.6	+0.9
CICH	Cipreses	3.55	216	i P	Pn	23 11 42.4	+0.4
TRQA	Tornquist	8.18	145	ePn	Pn	23 12 44.4	-0.3
	comp=E,14nm,0.6s						
TRQA				Sn	Sn	23 14 09.9	-5.4
LVC	Limon Verde	8.86	354	P	Pn	23 12 54.1	+0.2
	comp=E,2.5nm,0.3s,baz=173,slow=8.3,SNR=27						
LVC				S	Sn	23 14 31.2	-0.8
	comp=E,0.6nm,0.3s,baz=17,slow=19,SNR=3.2						
PLCA	Paso Flores	9.49	192	P	Pn	23 13 00.1	-2.4
	comp=E,0.1nm,0.3s,baz=0.0,slow=17,SNR=3.2						
CPUP	Villa Florida	10.58	64	P	Pn	23 13 16.4	-0.9
	comp=E,0.6nm,0.3s,baz=232,slow=9.3,SNR=4.6						
LPAZ	La Paz	15.11	359	pP		23 14 44.5	
	comp=E,0.2nm,0.3s,baz=193,slow=10,SNR=6.9						
LPAZ	La Paz	15.11	359	ePn	Pn	23 14 15.5	-1.0
	comp=E,0.6nm,0.7s						
SAML	Samuel	22.83	12	eP	P	23 15 43.9	+1.2
	comp=E,0.3nm,0.6s,mb2.8						
JTS	JuntasAbangare	44.62	336	eP	P	23 18 49.3	-1.0
SNAA	Sanae	52.65	159	P	P	23 19 51.7	0.0
	comp=E,0.2nm,0.4s,mb3.5,baz=295,slow=14,SNR=7.2						
SNAA	Sanae	52.65	159	eP	P	23 19 52.1	+0.3
	comp=E,1.0nm,0.8s,mb3.9						
MAW	Mawson	74.58	162	P	P	23 22 15.7	-0.2
	comp=E,1.3nm,0.9s,mb3.6,baz=265,slow=10,SNR=6.2						
TORD	Torodi Ar. Bea	80.05	68	P	P	23 22 47.4	+1.0
	comp=E,1.2nm,0.9s,mb3.7,baz=274,slow=4.9,SNR=6.4						
TORD				pP	pP	23 23 16.2	+2.1
	comp=E,0.7nm,0.7s,baz=282,slow=7.2,SNR=4.1						
TORD				sP	sP	23 23 25.9	+0.3
	comp=E,0.3nm,0.5s,baz=284,slow=6.9,SNR=1.6						
TORD	Torodi Ar. Bea	80.05	68	P	P	23 22 47.4	+1.0
TORD				pP	pP	23 23 16.2	+2.1
TORD				sP	sP	23 23 25.9	+0.3
WRA	Warramunga Arr	124.61	206	PKP	PKPdf	23 29 35.4	0.0
	comp=E,0.3nm,0.5s,baz=166,slow=1.5,SNR=4.8						
ZAL	Zalesovo	150.21	33	PKPbc	PKPbc	23 30 27.1	0.0
	comp=E,1.6nm,0.5s,baz=132,slow=0.3,SNR=6.6						
ZAL				pPKPbc	pPKPbc	23 30 57.2	+0.9
	comp=E,1.4nm,0.8s,baz=230,slow=1.0,SNR=1.8						
MKAR	Makanchi Array	152.48	48	PKPbc	PKPbc	23 30 32.2	-0.1
	comp=E,0.3nm,0.3s,baz=311,slow=1.6,SNR=7.4						
MKAR				pPKPbc	pPKPbc	23 31 01.5	-0.1
	comp=E,0.6nm,0.6s,baz=296,slow=1.9,SNR=3.4						

*IDC **12** 23:11:50.1±0.7, 1951N×12047E, h0^{km}, mb4.0/13, mb1 4.1/13, mb1mx4.0/22, mbtmp4.0/13, MS3.3/2, Ms1 3.4/2, ms1mx2.8/24, Error ellipse: s-maj=39.5km s-min=14.0km az=68.0*
*MAN **12** 23:11:52.7, 1961N×12086E, h0^{km}, mb3.2, ML4.5, MS2.7*
*ISCJB **12** 23:11:57.7±0.6, 1940N±004×12047E±007, h73^{km}±7^{km}, mb4.1/19, Error ellipse: s-maj=12.0km s-min=5.9km az=150.6*
*NEIC **12** 23:12:00.2±1.0, 1950N×12054E, h83^{km}±10^{km}, mb4.1/3, Error ellipse: s-maj=12.7km s-min=7.4km az=76.0*
*BJI **12** 23:12:00.0, 1948N×12042E, h80^{km}, mB4.7, mb4.6, Ms4.1, Msz3.8*
ISC 12 23:11:59.4±0.5, 1941N±004×12055E±008, h75^{km}±6^{km}, n42, σ1^{s}27/47, mb4.1/19, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.75	175	eP	Pn	23 12 27.3	-0.6
SGCP	Mt. Cagua	1.83	129	eP	Pn	23 12 24.5	-4.4
SGCP				eS	Sn	23 12 47.7	-3.6
CVP	Callao Caves	2.08	144	eP	Pn	23 12 30.0	-2.2
CVP				i S	Sn	23 12 57.5	+0.3
CAUP	Cauayan	2.73	154	eP	Pn	23 12 42.8	+1.7
BOLP	Bolinao	3.07	192	eP	Pn	23 12 47.2	+1.6
BALP	Baler	3.77	165	eP	Pn	23 12 54.9	-0.3
NACB	Ninganchiao	4.84	11	Pn	Pn	23 13 08.9	-0.9
YHNB	Yeheng	5.29	8	ePn	Pn	23 13 06.8	-9.2
TATO	Taipei	5.61	9	Pn	Pn	23 13 21.3	+1.1
LUBP	Lubang	5.65	183	eP	Pn	23 13 18.7	-2.0
QIZ	Qiongzhong	10.12	270	Pn	Pn	23 14 22.4	+0.5
NJ2	Nanjing	12.69	353	eP	Pn	23 14 58.5	+1.7
NJ2				AP		23 15 09.1	
NJ2				S	Sn	23 17 18.0	+1.9
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,330nm,7.3s						
NJ2				LR	LR		
	comp=N,450nm,21.1s						
NJ2				LR	LR		
	comp=E,380nm,18.2s						
NJ2				LR	LR		
	comp=Z,330nm,24.3s						
KMI	Kunming	17.43	292	P	Pn	23 15 54.2	-3.4
KMI				AMB	AMB		
	comp=Z,5.0nm,0.6s						
BJT	Baijiatuau	20.89	351	P	P	23 16 32.9	-2.5
HHC	Hu-ho-hao-te	22.72	342	eP	P	23 16 57.0	+2.1
HHC				AP		23 17 13.9	
HHC				XP	sP	23 17 23.7	+3.8
HHC				PP		23 17 28.8	
HHC				PCP	PcP	23 20 48.1	+3.6
HHC				S	S	23 20 55.0	-2.8
HHC				XS	sS	23 21 24.1	-1.5
HHC				SS		23 21 42.1	
HHC				SCP	ScP	23 24 18.2	+2.7
HHC				PCS	PcS	23 24 26.3	+2.9
HHC				AMB	AMB		
	comp=Z,24nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,65nm,5.4s						
HHC				LR	LR		
	comp=N,101nm,4.7s						
HHC				LR	LR		
	comp=E,148nm,4.1s						
HHC				LR	LR		
	comp=Z,125nm,6.9s						
MJAR	Matsushiro Arr	23.06	39	P	P	23 16 58.1	-0.3
	comp=Z,2.4nm,0.8s,mb3.5,baz=242,slow=10,SNR=5.5						
MDJ	Mudanjiang	26.25	15	P	P	23 17 28.6	+1.2
MDJ				AP	pP	23 17 46.8	+1.9
MDJ				XP	sP	23 17 56.5	+2.8
MDJ				S	S	23 21 55.2	+0.9
MDJ				XS	sS	23 22 28.4	+3.8
MDJ				SCP	ScP	23 24 25.2	-0.1
MDJ				PCS	PcS	23 24 33.9	+0.7
MDJ				SCS	ScS	23 28 15.3	0.0
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,29nm,4.0s						
MDJ				LR	LR		
	comp=N,61nm,17.1s						
MDJ				LR	LR		
	comp=E,49nm,14.4s						
MDJ				LR	LR		
	comp=Z,84nm,14.7s						
ULN	Ulaanbaatar	30.44	342	P	P	23 18 03.9	-0.8
SONM	Songino Array	30.61	341	P	P	23 18 03.3	-2.9
	comp=Z,0.7nm,0.6s,mb3.6,baz=152,slow=9.4,SNR=5.2						
SONM				LR	LR	23 31 21.2	
	comp=Z,40nm,18.3s,baz=218,slow=38						
TLY	Talaya	34.84	342	P	P	23 18 41.8	-1.4
WMQ	Urumqi	36.70	319	eP	P	23 19 03.2	+4.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	37.61	172	P	P	23 19 08.0	+1.3
	comp=Z,1.8nm,0.7s,mb4.0,baz=134,slow=18,SNR=7.0						
WRAB	Tennant Creek	41.37	160	eP	P	23 19 38.7	+0.6
	comp=Z,2.3nm,0.4s,mb4.4						
WRA	Warramunga Arr	41.37	160	P	P	23 19 38.2	+0.2
	comp=Z,1.0nm,0.4s,mb4.0,baz=342,slow=9.2,SNR=7.9						
WB2	Warramunga Arr	41.38	160	eP	P	23 19 38.5	+0.4
MKAR	Makanchi Array	41.48	320	P	P	23 19 39.4	+0.4
	comp=Z,2.8nm,0.9s,mb4.1,baz=115,slow=9.3,SNR=17						
YAK	Yakutsk	43.06	6	eP	P	23 19 51.5	-0.4
ASAR	Alice Springs	44.75	162	P	P	23 20 06.8	+1.5
	comp=Z,1.9nm,0.6s,mb4.0,baz=346,slow=7.1,SNR=29						
BVAR	Borovoye Array	51.06	323	P	P	23 20 53.9	-0.2
	comp=Z,0.7nm,0.7s,mb3.8,baz=107,slow=9.5,SNR=6.3						
BVAR				PcP	PcP	23 22 08.9	-0.1
	comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=4.6						
BRVK	Borovoye	51.14	323	P	P	23 20 53.6	-1.0
CHKZ	Chkalovo	51.18	324	eP	P	23 20 54.7	-0.2
	comp=Z,1.1nm,0.6s,mb4.1						
ZRNK	Zerenda	51.82	323	eP	P	23 21 00.3	+0.6
	comp=Z,1.7nm,1.0s,mb4.0						
ZRNK				epP	pP	23 21 18.9	+0.3
STKA	Stephens Creek	54.84	158	P	P	23 21 23.5	+1.7
	comp=Z,1.5nm,0.7s,mb4.2,baz=317,slow=16,SNR=3.2						
AKTK	Aktyubinsk	57.84	318	P	P	23 21 43.5	+0.3
AKTO	Aktyubinsk	57.84	318	P	P	23 21 43.5	+0.3
	comp=Z,0.8nm,0.4s,mb4.1,baz=82,slow=13,SNR=3.7						
ARCES	ARCESS Array B	73.74	339	P	P	23 23 25.3	-0.1
	comp=Z,2.3nm,0.8s,mb4.0,baz=89,slow=8.4,SNR=4.7						
FINES	FINESS Array B	75.27	330	P	P	23 23 33.7	-0.6
	comp=Z,2.0nm,0.8s,mb3.9,baz=49,slow=5.8,SNR=7.0						
FINES	FINESS Array B	75.27	330	P	P	23 23 33.7	-0.6
AKASG	Malin Array Be	76.06	319	P	P	23 23 37.9	-0.8
	comp=Z,1.4nm,0.6s,mb3.9,baz=62,slow=5.4,SNR=5.1						
AKASG	Malin Array Be	76.06	319	P	P	23 23 37.9	-0.8
NB2	NORSAR Subarra	82.16	332	P	P	23 24 11.0	-1.0
	comp=Z,0.1nm,0.6s,baz=65,slow=6.2						
NOA	NORSAR Array B	82.16	332	P	P	23 24 10.7	-1.4
	comp=Z,2.4nm,0.8s,mb4.1,baz=64,slow=5.3,SNR=7.7						
NOA				LR	LR	00 05 52.0	
	comp=Z,18nm,18.1s,baz=70,slow=40						

*NEIC **12** 23:16:54.4, 1850N×68.10W, h146^{km}, MD3.5(RSPR), After RSPR.*
RSPR 12 23:16:54.4, 1850N×6810W, h146^{km}±1^{km}, MD3.5/6, MD3.5/6, 7C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.06	117⇑	eP	Pn	23 17 18.7	-0.5
CRPR				eS	Sn	23 17 38.1	0.0
LRS	Lares	1.21	100⇑	eP	Pn	23 17 20.8	+0.2
LRS				eS	Sn	23 17 40.6	0.0
AOPR	Arecibo Observ	1.29	96⇑	eP	Pn	23 17 21.1	-0.2
AOPR				eS	Sn	23 17 42.1	+0.2
CELP	Cerrillos	1.50	106⇑	eP	Pn	23 17 23.9	+0.3
CELP				eS	Sn	23 17 46.6	+0.6
CBYP	Canovanas	2.14	96⇑	eP	Pn	23 17 30.7	-0.2
CBYP				eS	Sn	23 17 59.5	+0.5
HUMP	Col San Antoni	2.17	99⇑	eP	Pn	23 17 31.0	-0.1
HUMP				eS	Sn	23 17 59.7	+0.3
MTP	Monte Pirata	2.45	99⇑	eP	Pn	23 17 34.8	+0.2
MTP				eS	Sn	23 18 06.3	+0.7

IDC 13 00:22:10.9±8.9, 7167N×168E, h0^{km}, mb3.1/1, mb1 3.4/5, mb1mx3.2/24, mbtmp3.3/5, ML2.8/4, Error ellipse: s-maj=113.5km s-min=36.1km az=133.0, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	Lofoten	5.41	125	e	Pn	00 23 38.0	+5.1
TRO	Tromso	6.08	101	e	Pn	00 23 40.0	-2.0
KTK1	Kautokeino	7.72	100	e	Pn	00 24 07.0	+2.5
NSS	Namsos	8.12	147	e	Pn	00 24 11.3	+1.3
ARCES	ARCESS Array B	8.19	94	Pn	Pn	00 24 10.4	-0.5
	0.3nm,0.3s,baz=301,slow=11,SNR=22						
NOA	NORSAR Array B	11.32	156	Pn	Pn	00 24 55.5	+1.7
	0.1nm,0.3s,baz=347,slow=13,SNR=2.8						
HFS	Hagfors	12.54	151	Pn	Pn	00 25 12.6	+2.1
	0.1nm,0.3s,baz=336,slow=6.8,SNR=4.6						
FINES	FINESS Array B	13.98	125	Pn	Pn	00 25 29.6	-0.6
	0.1nm,0.3s,baz=334,slow=12,SNR=2.8						
GERES	GERESS Array B	23.57	160	P	P	00 27 22.5	-0.7
	0.2nm,0.5s,baz=350,slow=10,SNR=5.2						

*NEIC **13** 00:33:26.0, 2979S×6892W, h150^{km}, MG3.6(GUC), After GUC.*
GUC 13 00:33:26.0±0.4, 2979S×6892W, h150^{km}, ML3.6, 1C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	1.68	257⇑	iP	Pn	00 33 59.3	+1.9
TLL				i S	Sn	00 34 23.0	+1.5
TLL				AML	AML	00 34 26.3	
	comp=N,486nm,0.6s						
TLL	Tololo Astrono	1.68	257	P	Pn	00 33 59.3	+1.9
TLL				i S	Sn	00 34 23.0	+1.5
LCO	Las Campanas	1.73	296	eP	Pn	00 33 59.2	+1.2
LCO				i S	Sn	00 34 24.5	+1.8
LCO				AML	AML	00 34 26.0	
	comp=E,403nm,0.6s						
LCO	Las Campanas	1.73	296	eP	Pn	00 33 59.2	+1.2
LCO				i S	Sn	00 34 24.5	+1.8
VACH	Vallenar	2.01	307	i P	Pn	00 34 04.6	+3.4
VACH				i S	Sn	00 34 31.6	+3.3
VACH				AML	AML	00 34 34.2	
	comp=N,1μm,0.1s						
VACH	Vallenar	2.01	307	i P	Pn	00 34 04.6	+3.4
VACH				i S	Sn	00 34 31.6	+3.3
OVCH	Ovalle	2.13	247⇓	iP	Pn	00 34 03.0	+0.3
OVCH				i S	Sn	00 34 31.2	+0.3
OVCH				AML	AML	00 34 33.6	
	comp=E,236nm,0.4s						
OVCH	Ovalle	2.13	247⇓	iP	Pn	00 34 03.0	+0.3
OVCH				i S	Sn	00 34 31.2	+0.3
CMCH	Combarbala	2.26	232⇓	iP	Pn	00 34 04.4	+0.3
CMCH				i S	Sn	00 34 34.3	+0.7
CMCH				AML	AML	00 34 44.2	
	comp=E,398nm,0.7s						
CMCH	Combarbala	2.26	232	P	Pn	00 34 04.4	+0.3
CMCH				i S	Sn	00 34 34.3	+0.7
CPCH	Copiapo	2.73	332⇓	iP	Pn	00 34 10.6	+0.6
CPCH				i S	Sn	00 34 44.3	+0.5
CDCH	Caldera	3.19	328	i S	Sn	00 34 54.1	0.0

*ISCJB **13** 00:57:47.9±0.8, 1286N±009×4821E±005, h10^{km}, mb3.6/7, MS3.1/2, Error ellipse: s-maj=13.5km s-min=6.5km az=149.1*
*IDC **13** 00:57:47.2±1.5, 1246N×4836E, h0^{km}, mb3.6/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML4.2/1, MS3.2/3, Ms1 3.1/3, ms1mx2.7/22, Error ellipse: s-maj=37.4km s-min=24.5km az=168.0*
*NEIC **13** 00:57:48.3±0.9, 1247N×4838E, h10^{km}, mb3.8/2, Error ellipse: s-maj=22.8km s-min=12.4km az=152.0*
*CSEM **13** 00:57:48.8±0.2, 1275N×48.17E, h20^{km}, mb3.8/2, Error ellipse: s-maj=7.9km s-min=4.0km az=168.0*
*DHMR **13** 00:57:51.0±1.9, 1334N×4800E, h10^{km}, ML3.2*
ISC 13 00:57:50.6±3.5, 1296N±010×4821E±006, h13^{km}±23^{km}, n21, σ1^{s}21/23, mb3.6/7, MS3.1/2, 3C-1D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.71	28⇓	eP	Pn	00 58 18.3	-1.7
MUKL				i S	Sn	00 58 39.3	-2.3
MUKL				AML	AML	00 58 45.0	
	comp=Z,234nm,0.7s						
BDHA	Al Bayda'	2.76	292⇑	eP	Pn	00 58 34.4	0.0
BDHA				i S	Sn	00 59 07.5	-0.1
BDHA				AML	AML	00 59 10.7	
	comp=Z,188nm,0.5s						
BDHA	Al Bayda'	2.76	292⇑	eP	Pn	00 58 34.4	0.0
BDHA				i S	Sn	00 59 07.5	0.0
	comp=Z,94nm,0.5s						
LBOS		3.02	288⇑	iP	Pn	00 58 37.7	-0.2
LBOS				i S	Sn	00 59 13.1	-0.8
ATD	Arta Tunnel	5.43	255	Pn	Pn	00 59 10.6	-0.6
	comp=Z,7.9nm,0.3s,baz=131,slow=11,SNR=60						
ATD				Sn	Sn	01 00 13.4	0.0
	comp=Z,3.0nm,0.3s,baz=73,slow=23,SNR=9.6						
KMBO	Kilima Mbogo	17.72	219	LR	LR	01 07 57.8	
	comp=Z,62nm,19.9s,baz=82,slow=35						
MALT	Malatya	26.70	343	P	P	01 03 32.3	+2.9
MALT	Malatya	26.70	343	P	P	01 03 32.3	+2.9
GNI	Garni	27.25	354	LR	LR	01 16 24.7	
	comp=Z,26nm,19.1s,MS2.8,baz=337,slow=40						
BRTR	Keskin Array B	29.59	337	P	P	01 04 00.1	+4.9
	comp=Z,0.5nm,1.0s,mb3.2,baz=148,slow=14,SNR=2.4						
ZRNK	Zerenda	43.21	18	P	P	01 05 52.2	+1.0
ZRNK	Zerenda	43.21	18	P	P	01 05 52.2	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	**Makanchi Array**	**44.22**	**34**	P	**P**	**01 06 00.4**	**+1.1**
	comp=Z,0.4nm,0.7s,mb3.3,baz=219,slow=6.3,SNR=3.9						
CHKZ	**Chkalovo**	**44.33**	**19**	*e*P	**P**	**01 06 01.1**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.7						
CHKZ	**Chkalovo**	**44.33**	**19**	*e*P	**P**	**01 06 01.1**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.7						
TORD	**Torodi Ar. Bea**	**45.26**	**276**	P	**P**	**01 06 08.4**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.6,baz=83,slow=7.1,SNR=14						
GERES	**GERESS Array B**	**45.73**	**328**	P	**P**	**01 06 13.1**	**+1.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=107,slow=5.2,SNR=3.6						
BOSA	**Boshof**	**46.91**	**208**	LR	LR	01 25 25.8	
	comp=Z,45nm,18.2s,MS3.5,baz=258,slow=36						
DBIC	**Dimbokro**	**52.58**	**269**	*e*P	**P**	**01 07 03.0**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9						
DBIC	**Dimbokro**	**52.58**	**269**	*e*P	**P**	**01 07 03.0**	**-0.8**
	comp=Z,1.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**90.79**	**110**	P	**P**	**01 10 51.4**	**-2.0**
	comp=Z,0.9nm,0.6s,mb4.2,baz=296,slow=4.0,SNR=5.9						

*IDC **13** 01:24:23.9±1.7, 5.86S×129.60E, h0km, mb4.0/2, mb1 4.0/5, mb1mx3.8/14, mbtmp3.9/5, ML3.8/3, MS4.8/2, Ms1 4.8/2, ms1mx3.1/21, Error ellipse: s-maj=81.6km s-min=24.5km az=71.0*
*NEIC **13** 01:24:29.0±0.9, 5.98S×129.49E, h35km, mb3.8/2, Error ellipse: s-maj=33.4km s-min=9.5km az=65.0*
*ISCJB **13** 01:24:31.4±2.6, 6.49S±0.09×128.7E±0.2, h66km±29km, mb3.6/4, Error ellipse: s-maj=26.0km s-min=12.7km az=145.1*
ISC 13 01:24:32.4±2.5, **6.4S**±0.1×**128.7E**±0.2, **h58km**±27km, **n13, σ0.80**/15, **mb3.7**/4, **MS4.8**/2, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.98**	**194**	Pn	**Pn**	**01 27 26.7**	**+6.4**
	0.7nm,0.3s,baz=36,slow=13,SNR=46						
FITZ				Sn	**Sn**	**01 29 32.2**	**-0.1**
	1.4nm,0.3s,baz=304,slow=23,SNR=8.1						
WRAB	**Tennant Creek**	**14.48**	**158**	*e*Pn	**Pn**	**01 27 54.6**	**+0.6**
	2.4nm,0.4s						
WRA	**Warramunga Arr**	**14.48**	**158**	Pn	**Pn**	**01 27 52.6**	**-1.4**
	0.3nm,0.3s,baz=346,slow=12,SNR=4.3						
WRA				Sn	**Sn**	**01 30 22.2**	**-11**
	1.2nm,0.3s,baz=335,slow=23,SNR=7.5						
WB2	**Warramunga Arr**	**14.49**	**158**	*e*Pn	**Pn**	**01 27 54.3**	**+0.2**
WB2				*e*Sn	**Sn**	**01 30 22.3**	**-11**
KKM	**Kota Kinabalu**	**17.61**	**315**	Pn	**Pn**	**01 28 34.0**	**+0.5**
ASAR	**Alice Springs**	**17.84**	**164**	P	**Pn**	**01 28 36.6**	**+0.2**
	0.3nm,0.3s,baz=348,slow=10,SNR=24						
ASAR				S	**S**	**01 31 40.7**	**-18**
	0.1nm,0.3s,baz=345,slow=24,SNR=3.2						
STKA	**Stephens Creek**	**28.02**	**156**	P	**P**	**01 30 19.6**	**+1.8**
	1.5nm,1.0s,mb3.6,baz=323,slow=15,SNR=3.2						
TAU	**Tasmania Unive**	**39.86**	**159**	P	**P**	**01 31 59.5**	**-0.7**
RPZ	**Rata Peaks**	**52.44**	**142**	LR	LR	01 52 52.9	
	comp=Z,1μm,21.8s,MS5.0,baz=43,slow=33						
AFI	**Afiamalu**	**58.90**	**102**	LR	LR	01 55 13.0	
	comp=Z,519nm,21.6s,MS4.6,baz=156,slow=32						
MKAR	**Makanchi Array**	**67.08**	**327**	P	**P**	**01 35 19.0**	**-0.6**
	0.3nm,0.3s,mb3.8,baz=126,slow=7.4,SNR=6.0						
VNDA	**Vanda**	**73.15**	**173**	*e*P	**P**	**01 36 03.3**	**+6.5**
	0.4nm,0.4s,mb3.7						
CHKZ	**Chkalovo**	**77.13**	**329**	*e*P	**P**	**01 36 19.5**	**-0.2**
	0.5nm,0.4s,mb3.8						

NEIC 13 01:38:52.0, 61.18N×146.25W, h25km, ML3.8(AEIC), **ML4.0**(PMR), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYAK	**Cordova Ski Ar**	**0.68**	**159**	P	Pb	01 39 04.5	-0.7
EYAK				S	Sb	01 39 14.8	+0.5
KNK	**Knik Glacier**	**1.09**	**283**	P	Pn	01 39 10.6	-1.1
GHO	**Glory Hole Cre**	**1.41**	**296**	P	Pn	01 39 15.3	-0.8
PMR	**Palmer**	**1.45**	**288**	P	Pn	01 39 15.8	-0.8
PMR				S	Sn	01 39 34.6	-0.1
RC01	**Rabbit Creek A**	**1.69**	**268**	P	Pn	01 39 20.0	0.0
RC01				S	Sn	01 39 41.7	+0.9
MID	**Middleton Isla**	**1.76**	**181**	P	Pn	01 39 20.3	-0.6
FIB	**Fire Island**	**1.90**	**271**	P	Pn	01 39 23.3	+0.4
SEW	**Seward**	**1.91**	**237**	P	Pn	01 39 22.0	-1.0
SEW				S	Sn	01 39 45.9	-0.3
SLKM	**Skilak Lake**	**2.06**	**253**	P	Pn	01 39 24.5	-0.5
MENT	**Mentasta**	**2.13**	**33**	P	Pn	01 39 25.9	0.0
DOT	**Dot Lake**	**2.68**	**21**	P	Pn	01 39 33.9	+0.4
MCK	**McKinley**	**2.85**	**335**	P	Pn	01 39 35.9	+0.1
TRF	**Thorofare Moun**	**2.96**	**322**	P	Pn	01 39 37.2	-0.1
KTH	**Kantishna Hill**	**3.22**	**320**	P	Pn	01 39 41.1	+0.1
PNL	**Peninsula**	**3.72**	**111**	P	Pn	01 39 45.7	-2.2
COLA	**College**	**3.78**	**350**	P	Pn	01 39 48.4	-0.2
DAWY	**Dawson**	**4.29**	**45**	P	Pn	01 39 55.7	+0.1
EGAK	**Eagle**	**4.29**	**31**	*e*Pn	Pn	01 39 56.0	+0.3
EGAK				*e*S	Sn	01 40 49.2	+4.3
SVW2	**Sparrevohn**	**4.52**	**273**	P	Pn	01 39 57.0	-1.8
KDAK	**Kodiak Island**	**4.70**	**226**	P	Pn	01 39 59.6	-1.6
TTA	**Tatalina**	**4.92**	**295**	P	Pn	01 40 02.7	-1.6
WHY	**Whitehorse**	**5.57**	**90**	P	Pn	01 40 12.6	-0.7
SKAG	**Skagway**	**5.70**	**103**	*e*P	Pn	01 40 14.8	-0.2
COLD	**Coldfoot**	**6.31**	**346**	P	Pn	01 40 22.6	-0.8
SIT	**Sitka**	**6.98**	**122**	P	Pn	01 40 31.0	-1.6
CHGN	**Chignik**	**7.99**	**238**	*e*P	Pn	01 40 45.4	-1.1
INK	**Inuvik**	**8.96**	**32**	Pn	Pn	01 40 58.9	-1.0
INK				*e*Sn	Sn	01 42 37.7	-2.3

*THE **13** 01:39:47.5, 40.13N×19.49E, h10km, ML3.2*
*TIR **13** 01:39:48.2, 40.15N×19.78E, h16km*
*ISCJB **13** 01:39:48.5±0.8, 40.16N±0.03×19.64E±0.05, h3km±5km, Error ellipse: s-maj=6.0km s-min=5.5km az=26.6*
*ATH **13** 01:39:48.5, 40.12N×19.59E, h9km±3km, MD3.6/5*
*CSEM **13** 01:39:48.8±0.1, 40.03N×19.59E, h2km, MD3.6, Error ellipse: s-maj=3.2km s-min=2.5km az=42.0*
*NEIC **13** 01:39:49.1, 40.04N×19.59E, h16km, MD3.6(ATH), After ATH.*
*SKO **13** 01:39:51.6, 40.16N×19.89E, h2km*
ISC 13 01:39:48.6±0.7, **40.15N**±0.03×**19.61E**±0.05, **h0km**±5km, **n30, σ1.12**/40, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.33**	**344**	*i* Pg	**Pg**	**01 39 56.3**	**+1.4**
VLO				*i* Sg	**Sg**	**01 40 05.8**	**+6.6**
VLO	**Vlora**	**0.33**	**344**	*e*Pg	**Pg**	**01 39 56.3**	**+1.4**
VLO				*i* Sg	**Sg**	**01 40 05.8**	**+6.6**
TPE	**Tepelena**	**0.34**	**65**	*i* Pg	**Pg**	**01 39 53.8**	**-1.3**
TPE				*i* Sg	**Sg**	**01 39 59.0**	**-0.4**
TPE	**Tepelena**	**0.34**	**65**	*e*Pg	**Pg**	**01 39 53.8**	**-1.3**
TPE				*i* Sg	**Sg**	**01 39 59.0**	**-0.4**
SRN	**Sarande**	**0.40**	**132**	*i* Pg	**Pg**	**01 39 55.3**	**-1.0**
SRN				*i* Sg	**Sg**	**01 40 02.7**	**+1.2**
SRN	**Sarande**	**0.40**	**132**	*e*Pg	**Pg**	**01 39 55.3**	**-1.0**
KEK	**Kerkira**	**0.46**	**162**	*e*PB	**Pg**	**01 39 57.2**	**-0.2**
LSK	**Leskovik**	**0.76**	**90**	*i* Pg	**Pg**	**01 40 01.2**	**-1.9**
LSK				*i* Sg	**Sg**	**01 40 14.0**	**+1.1**
LSK	**Leskovik**	**0.76**	**90**	*e*Pg	**Pg**	**01 40 01.2**	**-1.9**
IGT	**Igoumenitsa**	**0.83**	**138**	*e*Pg	**Pg**	**01 40 03.1**	**-1.4**
JAN	**Janina**	**1.07**	**117**	*e*PB	**Pg**	**01 40 07.8**	**-1.4**
JAN				*e*SB	**Sg**	**01 40 23.2**	**+0.1**
LCI	**Lecce**	**1.16**	**280**	Pn	**Pg**	**01 40 12.0**	**+1.1**
TIR	**Tirane**	**1.21**	**9**	*e*Pg	**Pg**	**01 40 10.9**	**-0.9**
MEV	**Metsovon**	**1.29**	**106**	*e*Pg	**Pg**	**01 40 12.7**	**-0.8**
MEV	**Metsovon**	**1.29**	**106**	*e*Pg	**Pg**	**01 40 12.6**	**-0.8**
FNA	**Florina**	**1.49**	**64**	*e*Pg	**Pn**	**01 40 15.1**	**-1.4**
FNA				*e*Sg	**Sg**	**01 40 38.5**	**+2.1**
LKD	**Levkas**	**1.65**	**151**	*e*Pb	**Pn**	**01 40 17.9**	**-0.9**
KZN	**Kozani**	**1.66**	**84**	*e*PB	**Pb**	**01 40 20.2**	**+0.2**
KZN				*e*SB	**Sg**	**01 40 43.4**	**+1.5**
EVR	**Evrytania**	**2.10**	**125**	*e*PN	**Pn**	**01 40 25.9**	**+1.0**
VLS	**Valsamata**	**2.11**	**159**	*e*Pb	**Pn**	**01 40 24.4**	**-0.7**
LIT	**Litokhoron**	**2.21**	**90**	*e*Pn	**Pn**	**01 40 26.1**	**-0.3**
GRG	**Griva**	**2.27**	**68**	*e*Pn	**Pn**	**01 40 27.0**	**-0.3**
AGG	**Agios Georgios**	**2.38**	**117**	*e*Pn	**Pn**	**01 40 29.1**	**+0.3**
STIP	**Stip**	**2.48**	**51**	*e*Pn	**Pn**	**01 40 29.6**	**-0.6**
STIP	**Stip**	**2.48**	**51**	*e*Pn	**Pn**	**01 40 31.7**	**+1.4**
STIP				*e*Sn	**Sn**	**01 40 59.2**	**-2.0**
RLS	**Riolos of Patr**	**2.54**	**145**	*e*PN	**Pn**	**01 40 32.1**	**+1.1**
KNT	**Kendrikon**	**2.69**	**67**	*e*Pn	**Pn**	**01 40 33.5**	**+0.4**
LKR	**Lokris**	**3.02**	**119**	*e*PB	**Pn**	**01 40 39.6**	**+2.0**
OUR	**Ouranopolis**	**3.35**	**85**	*e*Pn	**Pn**	**01 40 42.9**	**+0.7**
ITM	**Ithomi**	**3.48**	**148**	*e*PN	**Pn**	**01 40 44.6**	**+0.7**

*ISCJB **13** 01:43:27.3±1.4, 33.39S±0.03×179.17W±0.06, h30km±10km, mb4.8/24, MS4.5/15, Error ellipse: s-maj=9.2km s-min=5.4km az=35.8*
*NEIC **13** 01:43:29.1±0.3, 33.35S×179.11W, mb4.9/13, Error ellipse: s-maj=10.6km s-min=5.2km az=109.0*
*MOS **13** 01:43:29.3±1.1, 33.27S×179.22W, h38km, mb5.0/7, Error ellipse: s-maj=15.7km s-min=13.1km az=66.9*
*BJI **13** 01:43:29.4, 33.42S×179.20W, h26km, mB5.2, mb5.2, Ms5.0, Msz4.6*
*GCMT **13** 01:43:29.1±0.2, 33.35S×179.06W, h57km, MW5.2/72, Moment Tensor Solution. s68,c109; s72,c124; Duration: 1.0 Moment tensor: Scale 10^17Nm; Mrr0.87±.02; Mθθ-0.03±.02; Mφφ-0.83±.02; Mrθ0.01±.01; Mθφ-0.30±.02; Mφr0.18±.01; Best double couple: M0 0.91900×10^17 NP1:φs202.00000°, δ40.00000°, λ95.00000°. NP2:φs15.00000°, δ50.00000°, λ86.00000°. Principal axes: T 0.8880, Plg84.0000°, Azm256.0000°; N 0.0610, Plg3.0000°, Azm18.0000°; P -0.9490, Plg5.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **13** 01:43:31.1±1.8, 33.28S×179.20W, h51km±16km, mb4.2/10, mb1 4.4/12, mb1mx4.3/16, mbtmp4.5/12, ML4.6/3, MS4.5/12, Ms1 4.5/12, ms1mx4.5/12 Error ellipse: s-maj=18.7km s-min=10.1km az=115.0*
ISC 13 01:43:28.6±1.4, **33.41S**±0.03×**179.09W**±0.06, **h27km**±9km, **h32km**±1.3km**:pP-P, n173, σ1.56**/147, **mb4.8**/24, **MS4.5**/15, **2C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.26**	**14**	P	**Pn**	**01 44 32.2**	**+0.4**
	215nm,0.3s,baz=114,slow=17,SNR=11						
RAO				S	**Sn**	**01 45 20.1**	**-0.6**
	407nm,0.3s,baz=120,slow=23,SNR=6.1						
RAO	**Raoul Island**	**4.26**	**14**	P	**Pn**	**01 44 32.2**	**+0.4**
RAO				S	**Sn**	**01 45 20.1**	**-0.5**
RAO				pmax	pmax		
	comp=Z,215nm,0.3s						
RAO				smax			
	comp=N,407nm,0.3s						
RAO	**Raoul Island**	**4.26**	**14**	*e*Pn	**Pn**	**01 44 31.3**	**-0.4**
RAO				*e*Sn	**Sn**	**01 45 20.9**	**+0.2**
MXZ	**Matakaoa Point**	**4.66**	**206**	P	**Pn**	**01 44 38.9**	**+1.7**
MXZ	**Matakaoa Point**	**4.66**	**206**	PN	**Pn**	**01 44 38.8**	**+1.6**
MXZ				SN	**Sn**	**01 45 30.5**	**+0.2**
WIZ	**White Island**	**5.11**	**215**	P	**Pn**	**01 44 47.6**	**+4.2**
WIZ	**White Island**	**5.11**	**215**	*e*PN	**Pn**	**01 44 45.4**	**+2.1**
PUZ	**Puketiti**	**5.13**	**204**	*e*P	**Pn**	**01 44 44.8**	**+1.2**
PUZ	**Puketiti**	**5.13**	**204**	*e*PN	**Pn**	**01 44 44.0**	**+0.4**
PUZ				SN	**Sn**	**01 45 41.9**	**-0.1**
MYRZ	**Mayor Island**	**5.43**	**223**	PN	**Pn**	**01 44 52.8**	**+5.0**
MWZ	**Matawai**	**5.63**	**208**	P	**Pn**	**01 44 51.5**	**+1.0**
MWZ	**Matawai**	**5.63**	**208**	*e*PN	**Pn**	**01 44 51.4**	**+0.8**
MARZ	**Manawahe**	**5.72**	**216**	P	**Pn**	**01 44 55.3**	**+3.5**
MARZ	**Manawahe**	**5.72**	**216**	*e*PN	**Pn**	**01 44 54.9**	**+3.1**
URZ	**Urewera**	**5.74**	**211**	P	**Pn**	**01 44 53.2**	**+1.2**
	comp=N,27nm,0.3s,baz=59,slow=2.5,SNR=92						
URZ				S	**Sn**	**01 46 00.2**	**+3.2**
	comp=N,47nm,0.3s,baz=34,slow=17,SNR=5.1						
URZ	**Urewera**	**5.74**	**211**	*e*P	**Pn**	**01 44 53.1**	**+1.1**
URZ	**Urewera**	**5.74**	**211**	*e*PN	**Pn**	**01 44 51.7**	**-0.3**
EDRZ	**Edgecumbe**	**5.79**	**215**	P	**Pn**	**01 44 58.2**	**+5.5**
EDRZ	**Edgecumbe**	**5.79**	**215**	*e*PN	**Pn**	**01 44 57.0**	**+4.3**
WCZ	**Waipu Caves**	**5.97**	**243**	PN	**Pn**	**01 44 59.6**	**+4.4**
TAZ	**Tarawera**	**6.00**	**215**	P	**Pn**	**01 45 00.9**	**+5.4**
TAZ	**Tarawera**	**6.00**	**215**	*e*PN	**Pn**	**01 44 59.6**	**+4.1**
KNZ	**Kokohu**	**6.18**	**204**	*e*P	**Pn**	**01 44 58.5**	**+0.4**
KNZ	**Kokohu**	**6.18**	**204**	*e*PN	**Pn**	**01 44 58.2**	**+0.1**
OUZ	**Omahuta**	**6.32**	**251**	*e*P	**Pn**	**01 45 03.8**	**+3.9**
OUZ	**Omahuta**	**6.32**	**251**	PN	**Pn**	**01 45 03.1**	**+3.2**
OUZ				SN	**Sn**	**01 46 09.4**	**-1.8**
BKZ	**Black Stump Fm**	**6.76**	**211**	*e*P	**Pn**	**01 45 07.0**	**+0.9**
BKZ	**Black Stump Fm**	**6.76**	**211**	*e*PN	**Pn**	**01 45 04.5**	**-1.5**
KATZ	**Kakaramea**	**6.97**	**216**	P	**Pn**	**01 45 13.0**	**+4.0**
KATZ	**Kakaramea**	**6.97**	**216**	*e*PN	**Pn**	**01 45 12.0**	**+3.1**
HIZ	**Hauiti**	**7.07**	**222**	*e*P	**Pn**	**01 45 15.1**	**+4.8**
HIZ	**Hauiti**	**7.07**	**222**	*e*PN	**Pn**	**01 45 13.4**	**+3.1**
KRVZ	**Karewarewa**	**7.09**	**215**	*e*PN	**Pn**	**01 45 12.1**	**+1.5**
WTVZ	**West Tongariro**	**7.13**	**216**	P	**Pn**	**01 45 13.2**	**+2.0**
WTVZ	**West Tongariro**	**7.13**	**216**	*e*PN	**Pn**	**01 45 12.4**	**+1.2**
OTVZ	**Oturere**	**7.13**	**215**	*e*PN	**Pn**	**01 45 12.7**	**+1.6**
NGZ	**Ngauruhoe**	**7.17**	**215**	P	**Pn**	**01 45 13.8**	**+2.1**
NGZ	**Ngauruhoe**	**7.17**	**215**	*e*PN	**Pn**	**01 45 13.4**	**+1.7**
TUVZ	**Tukino**	**7.22**	**214**	P	**Pn**	**01 45 15.2**	**+2.8**
WPVZ	**Whakapapa**	**7.22**	**215**	P	**Pn**	**01 45 15.3**	**+2.9**
WPVZ	**Whakapapa**	**7.22**	**215**	*e*PN	**Pn**	**01 45 14.3**	**+1.9**
FWVZ	**Far West T-bar**	**7.26**	**215**	P	**Pn**	**01 45 15.7**	**+2.8**
FWVZ	**Far West T-bar**	**7.26**	**215**	*e*PN	**Pn**	**01 45 14.9**	**+2.0**
DRZ	**Dome Shelter**	**7.27**	**215**	P	**Pn**	**01 45 16.1**	**+3.1**
MOVZ	**Moawhango**	**7.29**	**213**	P	**Pn**	**01 45 13.9**	**+0.6**
MOVZ	**Moawhango**	**7.29**	**213**	*e*PN	**Pn**	**01 45 13.5**	**+0.2**
WNVZ	**Wahianoa**	**7.30**	**214**	P	**Pn**	**01 45 15.5**	**+2.1**
WNVZ	**Wahianoa**	**7.30**	**214**	*e*PN	**Pn**	**01 45 13.8**	**+0.4**
TSZ	**Takapari Road**	**7.73**	**209**	P	**Pn**	**01 45 19.4**	**0.0**
WAZ	**Wanganui**	**7.92**	**215**	P	**Pn**	**01 45 23.7**	**+1.7**
WAZ	**Wanganui**	**7.92**	**215**	*e*PN	**Pn**	**01 45 22.1**	**+0.1**
BFZ	**Birch Farm**	**8.16**	**206**	*e*P	**Pn**	**01 45 23.9**	**-1.3**
BFZ	**Birch Farm**	**8.16**	**206**	*e*PN	**Pn**	**01 45 23.6**	**-1.6**
MRZ	**Mangatainoka R**	**8.40**	**209**	P	**Pn**	**01 45 26.5**	**-2.0**
MRZ	**Mangatainoka R**	**8.40**	**209**	*e*PN	**Pn**	**01 45 25.8**	**-2.7**
KIW	**Kapiti Island**	**8.85**	**211**	P	**Pn**	**01 45 32.9**	**-1.7**
KIW	**Kapiti Island**	**8.85**	**211**	*e*PN	**Pn**	**01 45 32.0**	**-2.7**
MTW	**Mount Morrison**	**8.85**	**208**	P	**Pn**	**01 45 33.3**	**-1.4**
MTW	**Mount Morrison**	**8.85**	**208**	*e*PN	**Pn**	**01 45 32.3**	**-2.4**
CAW	**Cannon Point**	**8.98**	**210**	P	**Pn**	**01 45 35.2**	**-1.3**
TRWZ	**Traveller**	**8.99**	**206**	*e*PN	**Pn**	**01 45 34.1**	**-2.6**
PAWZ	**Paruwai Farm**	**9.07**	**207**	P	**Pn**	**01 45 35.6**	**-2.2**
MSWZ	**Moikau Station**	**9.17**	**208**	P	**Pn**	**01 45 37.4**	**-1.7**
MSWZ	**Moikau Station**	**9.17**	**208**	*e*PN	**Pn**	**01 45 37.0**	**-2.1**
MRW	**Makara Radio**	**9.24**	**211**	P	**Pn**	**01 45 38.3**	**-1.7**
MRW	**Makara Radio**	**9.24**	**211**	*e*PN	**Pn**	**01 45 37.5**	**-2.5**
SNZO	**South Karori**	**9.30**	**210**	*e*Pn	**Pn**	**01 45 38.8**	**-2.2**
SNZO				*e*Sn	**Sn**	**01 47 10.7**	**-14**
TCW	**Tory Channel**	**9.41**	**212**	P	**Pn**	**01 45 39.7**	**-2.7**
NNZ	**Nelson**	**9.83**	**215**	*e*P	**Pn**	**01 45 46.4**	**-1.8**
NNZ	**Nelson**	**9.83**	**215**	*e*PN	**Pn**	**01 45 44.8**	**-3.4**
QRZ	**Quartz Range**	**9.97**	**220**	*e*P	**Pn**	**01 45 48.2**	**-1.9**
QRZ	**Quartz Range**	**9.97**	**220**	*e*PN	**Pn**	**01 45 47.6**	**-2.6**
BSWZ	**Blackbirch Sta**	**9.99**	**212**	P	**Pn**	**01 45 47.9**	**-2.4**
THZ	**Tophouse**	**10.48**	**215**	*e*P	**Pn**	**01 45 54.2**	**-2.8**
THZ	**Tophouse**	**10.48**	**215**	*e*PN	**Pn**	**01 45 53.1**	**-3.9**
KHZ	**Kahutara**	**10.71**	**211**	*e*P	**Pn**	**01 45 56.7**	**-3.5**
LTZ	**Lake Taylor**	**11.56**	**213**	*e*P	**Pn**	**01 46 08.4**	**-3.5**
RPZ	**Rata Peaks**	**12.85**	**214**	P	**Pn**	**01 46 24.5**	**-4.9**
	comp=N,2.0nm,0.3s,baz=77,slow=8.5,SNR=8.2						
RPZ				S	**Sn**	**01 48 40.4**	**-11**
	comp=N,5.7nm,0.3s,baz=24,slow=21,SNR=8.7						
ODZ	**Otahua Downs**	**14.07**	**211**	*e*P	**Pn**	**01 46 41.1**	**-5.0**
JCZ	**Jackson Bay**	**14.24**	**218**	*e*P	**Pn**	**01 46 43.8**	**-4.6**
DZM	**Mont Dzumac**	**17.05**	**308**	P	**Pn**	**01 47 25.2**	**+0.1**
	comp=N,0.3nm,0.3s,baz=112,slow=16,SNR=5.3						
DZM				LR	LR	01 52 47.7	
	comp=N,3μm,18.5s,baz=309,slow=33						
AFI	**Afiamalu**	**20.52**	**21**	P	**P**	**01 48 02.7**	**-2.0**
	comp=N,25nm,0.7s,baz=191,slow=19,SNR=2.4						
AFI				S	**S**	**01 51 44.9**	**-8.1**
	comp=N,12nm,0.5s,baz=84,slow=18,SNR=2.1						
AFI	**Afiamalu**	**20.52**	**21**	*e*P	**P**	**01 48 04.7**	**-0.1**
TBI	**Tubuai**	**27.85**	**77**	*e*S	**S**	**01 53 56.4**	**-1.0**
	comp=N,438nm,30.5s						
TBI				*e*LR	LR	01 56 20.5	
	comp=N,2μm,27.0s,baz=242						
TAU	**Tasmania Unive**	**27.91**	**240**	P	**P**	**01 49 18.0**	**+1.7**
PPT	**Papeete**	**30.82**	**67**	*e*S	**S**	**01 54 41.8**	**-2.3**
	comp=N,455nm,28.5s						
PPT				*e*LR	LR	01 57 38.4	
	comp=N,2μm,26.2s,baz=233						
PPT	**Papeete**	**30.82**	**67**	LR	LR	01 59 04.7	
	comp=N,692nm,19.3s,MS4.3,baz=261,slow=30						
STKA	**Stephens Creek**	**33.01**	**262**	P	**P**	**01 50 02.7**	**+1.3**
	comp=N,1.0nm,0.4s,mb4.1,baz=100,slow=11,SNR=3.0						
STKA				LR	LR	02 02 14.1	
	comp=N,2μm,19.7s,MS4.7,baz=88,slow=34						
STKA	**Stephens Creek**	**33.01**	**262**	*e*P	**P**	**01 50 03.5**	**+2.1**
STKA				*e*	pP	01 50 10.6	+1.3
CTA	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**01 50 07.0**	**+1.3**
	comp=N,9.8nm,0.5s,mb5.0						
CTA				*e*S	**S**	**01 55 28.9**	**+2.9**
CTA	**Charters Tower**	**33.51**	**284**	P	**P**	**01 50 06.5**	**+0.8**
	comp=N,11nm,0.5s,mb5.0,baz=106,slow=10,SNR=8.8						
CTA	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**01 50 07.0**	**+1.3**
CTA				*e*S	**S**	**01 55 28.9**	**+2.9**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CTAO	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**01 50 06.9**	**+1.2**
CTAO				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**01 50 06.9**	**+1.2**
	comp=Z,25nm,0.9s,mb5.2						
PMG	**Port Moresby**	**39.17**	**300**	P	**P**	**01 50 54.7**	**+0.6**
PMG				*e*	pP	01 51 03.6	+1.5
RKT	**Rikitea**	**39.93**	**87**	*e*S	**S**	**01 57 06.2**	**+2.3**
	comp=Z,468nm,29.8s						
RKT				*e*LR	LR	02 01 59.6	
	comp=Z,2μm,27.0s,baz=246						
AS31	**Alice Springs**	**42.12**	**271**	*e*P	**P**	**01 51 18.0**	**-0.5**
ASAR	**Alice Springs**	**42.12**	**271**	P	**P**	**01 51 18.1**	**-0.4**
	comp=Z,4.7nm,0.4s,mb4.5,baz=110,slow=7.6,SNR=82						
ASAR				LR	LR	02 07 56.7	
	comp=Z,525nm,19.3s,MS4.4,baz=145,slow=35						
ASPA	**Alice Springs**	**42.12**	**271**	*e*P	**P**	**01 51 18.0**	**-0.5**
WB2	**Warramunga Arr**	**43.37**	**276**	*e*P	**P**	**01 51 27.5**	**-1.1**
WRAB	**Tennant Creek**	**43.38**	**276**	*e*P	**P**	**01 51 28.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**43.38**	**276**	*e*P	**P**	**01 51 28.4**	**-0.3**
	comp=Z,18nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**43.38**	**276**	P	**P**	**01 51 27.6**	**-1.1**
	comp=Z,6.9nm,0.4s,mb4.7,baz=116,slow=7.6,SNR=39						
WRA				LR	LR	02 08 17.5	
	comp=Z,658nm,21.4s,MS4.5,baz=120,slow=34						
TAOE	**Nuku Hiva Isla**	**43.39**	**65**	*e*S	**S**	**01 57 53.0**	**-2.1**
	comp=Z,1μm,30.6s						
TAOE				*e*LR	LR	02 03 26.4	
	comp=Z,3μm,29.4s						
FORT	**Forrest**	**44.45**	**258**	*e*P	**P**	**01 51 35.8**	**-1.5**
	comp=Z,15nm,0.5s,mb5.0						
SBA	**Scott Base**	**44.98**	**184**	*e*PcP	PcP	01 53 23.1	+0.8
	comp=Z,7.4nm,1.0s						
VNDA	**Vanda**	**45.02**	**186**	P	**P**	**01 51 43.3**	**+1.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=9.2,slow=6.5,SNR=6.3						
VNDA				LR	LR	02 07 47.6	
	comp=Z,211nm,19.8s,MS4.1,baz=27,slow=32						
KAKA	**Kakadu**	**48.62**	**283**	*e*P	**P**	**01 52 09.3**	**-0.7**
	comp=Z,11nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.50**	**273**	*e*P	**P**	**01 52 30.7**	**-1.1**
	comp=Z,8.9nm,0.6s,mb4.9						
CASY	**Casey**	**52.06**	**209**	*e*P	**P**	**01 52 35.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**52.52**	**252**	P	**P**	**01 52 37.0**	**-2.4**
	comp=Z,8.9nm,1.0s,mb4.7,baz=94,slow=12,SNR=3.3						
NWAO	**Narrogin (SRO)**	**52.52**	**252**	*e*P	**P**	**01 52 41.4**	**+2.0**
KLBR	**Kellerberrin**	**52.55**	**254**	*e*P	**P**	**01 52 37.4**	**-2.3**
	comp=Z,192nm,2.7s,mb5.5						
MBWA	**Marble Bar**	**55.04**	**266**	*e*P	**P**	**01 52 57.1**	**-0.7**
MBWA				*e*pP	pP	01 53 07.3	+1.3
MIR	**Mirnyy**	**59.03**	**208**	*d i*P	**P**	**01 53 27.0**	**+0.9**
MIR				pmax	pmax		
	comp=Z,25nm,1.8s,mb4.9						
MAW	**Mawson**	**69.17**	**201**	*e*P	**P**	**01 54 33.0**	**+0.3**
	comp=Z,2.8nm,0.4s,mb4.5						
MAW	**Mawson**	**69.17**	**201**	P	**P**	**01 54 31.7**	**-1.0**
	comp=Z,5.0nm,0.9s,mb4.4,baz=123,slow=8.3,SNR=10.0						
MAW				LR	LR	02 24 03.9	
	comp=Z,399nm,18.1s,MS4.7,baz=108,slow=35						
MAW	**Mawson**	**69.17**	**201**	*e*P	**P**	**01 54 33.0**	**+0.3**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PMSA	**Palmer Station**	**69.91**	**156**	*e*P	**P**	**01 54 36.9**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8						
SYO	**Syowa Base**	**73.98**	**194**⇑	*e*P	**P**	**01 55 00.4**	**-1.3**
SYO	**Syowa Base**	**73.98**	**194**⇑	*e*pP	pP	01 55 12.3	+2.2
SNAA	**Sanae**	**75.18**	**179**	*e*P	**P**	**01 55 08.8**	**+0.2**
SNAA				*e**PP	pP	01 55 18.7	+1.6
SNAA				pmax	pmax		
	comp=Z,13nm,1.0s						
SNAA	**Sanae**	**75.18**	**179**	*e*P	**P**	**01 55 08.8**	**+0.2**
	comp=Z,13nm,1.0s,mb4.8						
SNAA				*e*pP	pP	01 55 18.7	+1.6
MJAR	**Matsushiro Arr**	**80.20**	**326**	LR	LR	02 27 44.7	
	comp=Z,139nm,19.0s,MS4.3,baz=135,slow=33						
PLCA	**Paso Flores**	**81.14**	**133**	P	**P**	**01 55 42.5**	**+1.0**
	comp=Z,2.8nm,0.5s,mb4.4,baz=231,slow=5.5,SNR=15						
PLCA				LR	LR	02 22 36.4	
	comp=Z,201nm,20.6s,MS4.5,baz=66,slow=29						
PLCA	**Paso Flores**	**81.14**	**133**	*e*P	**P**	**01 55 44.3**	**+2.7**
	comp=Z,2.5nm,0.4s,mb4.5						
NJ2	**Nanjing**	**87.51**	**311**	*e*P	**P**	**01 56 15.9**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.8						
CMB	**Columbia Colle**	**89.61**	**42**	*e*P	**P**	**01 56 24.0**	**+0.2**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
CMB	**Columbia Colle**	**89.61**	**42**	*e*P	**P**	**01 56 24.0**	**+0.2**
	comp=Z,3.9nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**90.59**	**326**	P	**P**	**01 56 31.6**	**+3.2**
MDJ				AP	pP	01 56 41.2	+4.2
MDJ				XP	sP	01 56 44.9	+4.8
MDJ				PP	PP	02 00 06.8	+3.4
MDJ				XS	sS	02 07 42.0	+5.4
MDJ				SS	SS	02 13 27.0	+3.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,62nm,4.8s						
MDJ				LR	LR		
	comp=N,165nm,22.6s,MS4.5						
MDJ				LR	LR		
	comp=E,111nm,20.9s,MS4.5						
MDJ				LR	LR		
	comp=Z,258nm,22.6s,MS4.6						
NVAR	**Mina Array Bea**	**91.06**	**43**	P	**P**	**01 56 31.4**	**+0.8**
	comp=Z,1.8nm,0.9s,mb4.4,baz=222,slow=8.2,SNR=10.0						
NVAR	**Mina Array Bea**	**91.06**	**43**	P	**P**	**01 56 31.4**	**+0.8**
CN2	**Changchun**	**91.98**	**323**	*e*P	**P**	**01 56 38.7**	**+3.8**
ENH	**Enshi**	**92.54**	**305**	P	**P**	**01 56 38.0**	**+0.5**
KMI	**Kunming**	**94.36**	**297**	P	**P**	**01 56 50.9**	**+5.1**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb5.0						
CD2	**Chengdu**	**96.91**	**302**	*e*P	**P**	**01 56 58.0**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
HHC	**Hu-ho-hao-te**	**97.66**	**314**	*e*P	**P**	**01 57 03.7**	**+2.9**
HHC				AP	pP	01 57 14.2	+4.7
HHC				XP	sP	01 57 17.9	+5.3
HHC				PP	PP	02 01 04.6	+6.0
HHC				SKS		02 07 37.4	
HHC				S	S	02 08 23.1	-1.4
HHC				XS	sS	02 08 41.1	+2.2
HHC				SS	SS	02 15 07.7	+3.2
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,41nm,3.2s						
HHC				LR	LR		
	comp=N,81nm,4.9s						
HHC				LR	LR		
	comp=E,138nm,5.1s						
HHC				LR	LR		
	comp=Z,224nm,23.5s,MS4.6						
LPAZ	**La Paz**	**97.74**	**115**	P	**P**	**01 57 05.4**	**+4.2**
	comp=Z,0.5nm,0.7s,mb4.2,baz=214,slow=11,SNR=2.6						
LPAZ				LR	LR	02 31 24.2	
	comp=Z,150nm,21.8s,MS4.4,baz=164,slow=29						
LPAZ	**La Paz**	**97.74**	**115**	P	**P**	**01 57 05.4**	**+4.2**
LPAZ				LR	LR	02 31 24.2	
CPUP	**Villa Florida**	**98.82**	**129**	LR	LR	02 33 33.0	
	comp=Z,362nm,20.8s,MS4.8,baz=218,slow=30						
PDAR	**Pinedale Array**	**98.94**	**44**	LR	LR	02 32 22.4	
	comp=Z,223nm,21.6s,MS4.6,baz=240,slow=30						
LSA	**Lhasa**	**105.49**	**295**	*e*PKiKP	PKiKP	02 01 50.4	+1.2
BOSA	**Boshof**	**114.14**	**203**	PKP	PKiKP	02 02 05.6	+0.2
	comp=Z,0.8nm,0.4s,baz=312,slow=16,SNR=5.6						
WMQ	**Urumqi**	**114.33**	**308**	*e*PKP	PKiKP	02 02 07.0	+1.2
WMQ				XPKP		02 02 21.0	
WMQ				PP	PP	02 03 07.0	+5.4
WMQ				PKS		02 05 42.0	
WMQ				SKS	SKSdf	02 09 14.0	-2.1
WMQ				SKKS	SKKSac	02 09 56.0	-5.7
WMQ				SS	SS	02 18 52.0	+0.2
WMQ				PP	PP		
	comp=Z,132nm,4.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WMQ				LR	LR		
	comp=N,168nm,25.6s,MS4.7						
WMQ				LR	LR		
	comp=E,199nm,28.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,238nm,27.2s,MS4.7						
MKAR	**Makanchi Array**	**118.97**	**309**	PKP	PKPdf	02 02 12.6	-2.1
	comp=Z,0.4nm,0.4s,baz=107,slow=1.6,SNR=5.6						
MKAR	**Makanchi Array**	**118.97**	**309**	PKP	PKPdf	02 02 12.6	-2.1
CHKZ	**Chkalovo**	**127.81**	**315**	*e*PKIKP	PKPdf	02 02 29.7	-2.0
ZRNK	**Zerenda**	**128.69**	**314**	*e*PKIKP	PKPdf	02 02 31.5	-1.8
ARCES	**ARCESS Array B**	**141.31**	**346**	PKhKP		02 02 49.8	
	comp=Z,3.4nm,0.7s,baz=44,slow=3.1,SNR=12						
KTK1	**Kautokeino**	**142.19**	**347**	*e*P	PKPdf	02 02 53.5	-4.9
TRO	**Tromso**	**142.36**	**350**	*e*P	PKPdf	02 02 51.4	-7.3
LOF	**Lofoten**	**144.48**	**352**	*e*P	PKPdf	02 03 01.4	-1.0
JOF	**Joensuu**	**144.83**	**336**	*e*pkp	PKPdf	02 02 59.2	-3.8
MOR8	**Moi Rana**	**146.22**	**350**	*e*P	PKPdf	02 03 03.5	-1.9
KAF	**Kangasniemi**	**147.03**	**338**	*e*pkp	PKPdf	02 03 04.5	-2.3
OBN	**Obninsk**	**147.04**	**322**	⇓*e*PKP2	PKPbc	02 03 06.5	-2.4
OBN				pmax	pmax		
	comp=Z,16nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.6						
VRSR	**Storozhevoye**	**147.04**	**314**	*e*PKP2	PKPbc	02 03 07.2	-1.7
VRSR				pmax	pmax		
	comp=N,6.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FIA1	**FINESS Array S**	**147.60**	**338**	*e*PKPdf	PKPdf	02 03 07.4	-0.4
FINES	**FINESS Array B**	**147.61**	**338**	PKPbc	PKPbc	02 03 07.6	-2.9
	comp=Z,9.7nm,0.5s,baz=44,slow=4.1,SNR=97						
NSS	**Namsos**	**148.12**	**351**	*e*P	PKPdf	02 03 08.1	-0.5
NSS				AMb	AMB	02 03 14.8	
	comp=Z,52nm,1.9s						
MALT	**Malatya**	**149.34**	**290**	*e*PKIKP	PKPdf	02 03 09.5	-1.1
DOMB	**Dombas**	**150.88**	**352**	*e*P	PKPbc	02 03 16.6	-2.0
DOMB				AMb	AMB	02 03 20.7	
	comp=Z,22nm,1.5s						
DOMB	**Dombas**	**150.88**	**352**	*e*P	PKPbc	02 03 16.8	-1.8
NB2	**NORSAR Subarra**	**151.56**	**349**	PKPa	PKPbc	02 03 17.6	-2.6
	comp=Z,8.7nm,0.6s,baz=16,slow=2.6						
NB2	**NORSAR Subarra**	**151.56**	**349**	PKPa	PKPbc	02 03 17.6	-2.6
	baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.56**	**349**	PKPbc	PKPbc	02 03 17.9	-2.4
	comp=Z,8.7nm,0.7s,baz=13,slow=4.1,SNR=42						
NAO01	**NORSAR Array S**	**151.79**	**350**	*e*PKPbc	PKPbc	02 03 19.3	-1.5
AKASG	**Malin Array Be**	**153.03**	**318**	PKPbc	PKPbc	02 03 21.1	-2.4
	comp=Z,1.4nm,0.5s,baz=45,slow=2.8,SNR=14						
BR131	**Keskin Array S**	**153.07**	**293**	*e*PKPbc	PKPbc	02 03 22.1	-1.5
BRTR	**Keskin Array B**	**153.07**	**293**	PKPbc	PKPbc	02 03 21.1	-2.5
	comp=Z,4.4nm,1.0s,baz=121,slow=2.6,SNR=13						
TORD	**Torodi Ar. Bea**	**159.82**	**182**	PKP	PKPdf	02 03 25.8	+0.7
	comp=Z,1.2nm,0.9s,baz=315,slow=0.4,SNR=10						
TORD				PKPab	PKPab	02 04 03.7	-0.4
	comp=Z,9.0nm,1.0s,baz=159,slow=3.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**159.82**	**182**	PKP	PKPdf	02 03 25.8	+0.7
TORD				PKPab	PKPab	02 04 03.7	-0.4
ESDC	**Sonseca Array**	**172.62**	**31**	PKP	PKPdf	02 03 34.9	-0.2
	comp=Z,0.1nm,0.3s,baz=270,slow=1.3,SNR=4.0						

IGQ 13 02:23:44.1,211S×7809W,h151km±3km,Mb4.0,Ms3.8, 1C-11D,Error ellipse: s-maj=5.0km s-min=4.0km az=34.2,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.69**	**330**	⇓P	Pn	02 24 07.5	+0.9
PATA				S	Sn	02 24 24.3	+0.4
ARRY	**Arrayan**	**0.70**	**329**	⇓P	Pn	02 24 07.0	+0.3
ARRY				S	Sn	02 24 23.5	-0.4
ULBA	**Ulba**	**0.73**	**334**	⇓P	Pn	02 24 07.7	+0.7
RETU	**Refugio**	**0.74**	**331**	P	Pn	02 24 08.0	+1.0
RUN5	**Runtun**	**0.77**	**334**	⇓P	Pn	02 24 07.8	+0.6
JUIV	**Juive**	**0.78**	**331**	P	Pn	02 24 07.9	+0.7
IGUA	**Igualata**	**0.82**	**318**	P	Pn	02 24 08.5	+0.9
PISA	**Pisayambo**	**1.08**	**344**	⇓P	Pn	02 24 11.0	+1.3
TAMB	**Tambo**	**1.43**	**349**	⇓P	Pn	02 24 14.7	+1.7
CAMI	**Rancho Maria**	**1.48**	**344**	⇑P	Pn	02 24 15.3	+1.8
VC1	**Cotopaxi 1**	**1.49**	**348**	⇓P	Pn	02 24 15.3	+1.7
ANTI	**Antisana**	**1.65**	**358**	⇓P	Pn	02 24 16.8	+1.5
JUA2	**San Juan 2**	**1.95**	**345**	⇓P	Pn	02 24 19.8	+1.1
GGP	**Refugio Guagua**	**1.99**	**345**	⇓P	Pn	02 24 20.4	+1.2
TERV	**Terraza Guagua**	**1.99**	**345**	P	Pn	02 24 20.5	+1.3
PINO	**Pino**	**2.01**	**345**	⇓P	Pn	02 24 20.6	+1.3
PINO				S	Sn	02 25 01.5	+15
YANA	**Yana**	**2.04**	**346**	P	Pn	02 24 20.9	+1.2
CONE	**Cono NE Rev Vo**	**2.08**	**12**	P	Pn	02 24 20.1	-0.1
CAYR	**Refugio Cayamb**	**2.11**	**2**	P	Pn	02 24 22.7	+2.1
CAYA	**Cayambe**	**2.17**	**3**	P	Pn	02 24 23.3	+2.0
MAG1	**Magdalena**	**2.63**	**320**	P	Pn	02 24 27.3	+0.4
MAG1				P		18 41 07.2	

IDC 13 02:25:08.2±4.1,081N×9854E,h0km,mb3.5/4,mb1 3.7/4, mb1mx3.5/20,mbtmp3.5/4,Error ellipse: s-maj=168.4km s-min=24.8km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.70**	**122**	P	P	02 32 50.5	+0.1
	0.4nm,0.4s,baz=304,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**42.10**	**128**	P	P	02 33 02.5	+0.5
	0.8nm,0.8s,baz=296,slow=8.0,SNR=6.0						
SONM	**Songino Array**	**47.33**	**7**	P	P	02 33 44.8	+1.2
	0.2nm,0.3s,baz=179,slow=8.2,SNR=4.1						
MKAR	**Makanchi Array**	**47.95**	**345**	P	P	02 33 47.7	-0.8
	0.6nm,0.6s,baz=141,slow=7.8,SNR=5.4						

*ISCJB **13** 02:52:40.9±0.6,41.17N±0.03×8.42W±0.05,h7km±5km,Error ellipse: s-maj=6.0km s-min=4.3km az=43.2*
*MDD **13** 02:52:41.9±0.4,41.20N×8.42W,h0km,mbLg1.7/12,Error ellipse: s-maj=3.5km s-min=3.0km az=144.0,PRXIMO*
*CSEM **13** 02:52:41.5±0.3,41.17N×8.45W,h18km±2km,ML1.4,Error ellipse: s-maj=6.7km s-min=4.4km az=74.0*
*INMG **13** 02:52:42.1±0.8,41.19N×8.42W,h0km±3km,ML1.4,Error ellipse: s-maj=1.9km s-min=1.2km az=89.0*
ISC 13 02:52:41.3±0.6,41.19N±0.03×8.43W±0.05,h10km±5km,n21, σ0.43/28,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTO	**Porto**	**0.14**	**249**	*i* Pg	**Pg**	**02 52 44.7**	**+0.2**
PTO				*e*Sg	**Sg**	**02 52 46.8**	**+0.1**
PTO							
	67nm,0.1s						
PTO	**Porto**	**0.14**	**249**	*e*Sg	**Sg**	**02 52 46.8**	**+0.1**
	67nm,0.1s						
PVRL	**Vila Real**	**0.55**	**81**	*e*Pg	**Pg**	**02 52 52.1**	**+0.1**
PVRL				*e*Sg	**Sg**	**02 52 59.3**	**+0.1**
PVRL							
	23nm,0.1s						
PVRL	**Vila Real**	**0.55**	**81**	*e*Pg	**Pg**	**02 52 52.1**	**+0.1**
PVRL				*e*Sg	**Sg**	**02 52 59.3**	**+0.1**
	23nm,0.1s						
PCAB	**Cabril**	**0.60**	**30**	*e*Pg	**Pg**	**02 52 52.8**	**-0.3**
PCAB				*e*Sg	**Sg**	**02 53 01.4**	**+0.4**
PCAB							
	22nm,0.1s						
PCAB	**Cabril**	**0.60**	**30**	*e*Pg	**Pg**	**02 52 52.8**	**-0.3**
PCAB				*e*Sg	**Sg**	**02 53 01.4**	**+0.4**
	22nm,0.1s						
PVIS	**Viseu**	**0.62**	**139**	*e*Pg	**Pg**	**02 52 53.5**	**+0.1**
PVIS				*e*Sg	**Sg**	**02 53 02.0**	**+0.4**
PVIS							
	25nm,0.1s						
PVIS	**Viseu**	**0.62**	**139**	*e*Pg	**Pg**	**02 52 53.5**	**+0.1**
PVIS				*e*Sg	**Sg**	**02 53 02.0**	**+0.4**
	25nm,0.1s						
EZAM	**Zamans**	**0.98**	**349**	Pg	**Pg**	**02 52 59.9**	**-0.3**
	3.7nm,0.1s,SNR=7.9						
EZAM				Lg		02 53 12.9	
	3.5nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.04**	**139**	*e*P	**Pg**	**02 53 01.1**	**-0.2**
MTE				*e*S	**Sg**	**02 53 14.8**	**0.0**
MTE							
	4.2nm,0.2s						
MTE	**Manteigas**	**1.04**	**139**	*e*P	**Pg**	**02 53 01.1**	**-0.2**
MTE				*e*S	**Sg**	**02 53 14.8**	**0.0**
	4.2nm,0.2s						
PBRG	**Braganca**	**1.41**	**64**	*e*S	**Sn**	**02 53 26.4**	**+0.7**
PBRG							
	2.4nm,0.2s						
PBRG	**Braganca**	**1.41**	**64**	Lg		02 53 26.4	
	1.2nm,0.2s						
ECAL	**Calabor**	**1.48**	**59**	Pg	**Pg**	**02 53 09.2**	**-0.5**
	1.2nm,0.1s,SNR=6.8						
ECAL				Lg		02 53 28.6	
	2.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**1.48**	**59**	Pg	**Pg**	**02 53 09.2**	**-0.5**
	1.2nm,0.1s,SNR=6.8						
PCBR	**Castelo Branco**	**1.53**	**151**	*e*Pg	**Pg**	**02 53 10.1**	**-0.6**
PCBR				*e*Sg	**Sg**	**02 53 30.5**	**-0.1**
PCBR							
	2.0nm,0.2s						
PTOM	**Tomar**	**1.57**	**179**	*e*Sn	**Sn**	**02 53 30.2**	**+0.7**
PTOM				*e*Sg	**Sg**	**02 53 32.1**	**+0.3**
STS	**Santiago**	**1.70**	**357**	Lg		02 53 34.4	
	2.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.81**	**347**	Lg		02 53 37.3	
	1.9nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**2.34**	**24**	Lg		02 53 54.9	
	SNR=7.9						
EBAD	**Badajoz**	**2.66**	**155**	Sn	**Sn**	**02 53 55.5**	**-1.0**
	SNR=7.9						
EBAD				Lg		02 54 06.7	
	2.1nm,0.2s,SNR=7.9						

IDC 13 03:28:35.8±7.0,592S×15058E,h98km±47km,mb3.1/4, mb1 3.3/5,mb1mx3.2/14,mbtmp3.5/5,Error ellipse: s-maj=87.5km s-min=32.0km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.84**	**224**	P	Pn	03 29 45.5	-0.8
	7.9nm,0.3s,baz=48,slow=11,SNR=11						
PMG				S	Sn	03 30 42.9	+1.7
	4.8nm,0.3s,baz=69,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**21.06**	**227**	P	P	03 33 12.3	+0.5
	0.5nm,0.4s,baz=54,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**23.85**	**221**	P	P	03 33 40.6	+0.8
	0.8nm,0.9s,baz=53,slow=8.8,SNR=4.0						
FITZ	**Fitzroy Crossi**	**27.18**	**241**	P	P	03 34 09.0	-1.0
	0.8nm,0.7s,baz=50,slow=8.4,SNR=4.2						
SONM	**Songino Array**	**66.12**	**329**	P	P	03 39 12.9	+0.5
	0.2nm,0.6s,baz=153,slow=4.8,SNR=2.4						
TORD	**Torodi Ar. Bea**	**148.51**	**285**	PKPbc	PKPbc	03 48 12.0	+1.0
	0.6nm,0.7s,baz=92,slow=2.2,SNR=11						

IDC 13 03:44:28.3±10.0,546S×7862W,h0km,mb3.9/2, mb1 3.8/4,mb1mx3.6/19,mbtmp3.8/4,ML2.4/1,MS3.5/1, Ms1 3.4/1,ms1mx2.8/25,Error ellipse: s-maj=280.7km s-min=37.0km az=84.0,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**11.10**	**23**	Pn	Pn	03 47 10.5	+2.2
	0.6nm,0.3s,baz=113,slow=17,SNR=2.5						
LPAZ	**La Paz**	**14.89**	**137**	Pn	Pn	03 47 59.5	-0.5
	0.0nm,0.3s,baz=316,slow=13,SNR=3.4						
CPUP	**Villa Florida**	**29.06**	**138**	P	P	03 50 31.6	+1.3
	1.1nm,0.6s,baz=297,slow=12,SNR=5.7						
BDFB	**Brasilia**	**31.70**	**111**	LR	LR	04 03 13.3	
	comp=Z,87nm,20.5s,baz=293,slow=36						
TORD	**Torodi Ar. Bea**	**81.85**	**76**	P	P	03 56 49.4	0.0
	1.1nm,1.0s,baz=279,slow=5.5,SNR=6.2						

*IDC **13** 03:46:52.2±1.9,3727N×7337E,h0km,mb3.7/5,mb1 3.9/9, mb1mx3.6/24,mbtmp3.8/9,ML3.8/3,Error ellipse: s-maj=37.6km s-min=21.7km az=148.0*
*NEIC **13** 03:47:00.6±3.8,3731N×7356E,h70km±27km,mb3.6/3, Error ellipse: s-maj=35.2km s-min=19.2km az=186.0*
*ISCJB **13** 03:47:01.1±0.8,3754N±004×7324E±008,h81km±11km, mb3.6/5,Error ellipse: s-maj=11.8km s-min=5.1km az=138.4*
*NNC **13** 03:47:02.1±4.4,3795N×7276E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=39.8km s-min=27.1km az=143.0*
*BJI **13** 03:47:04.7,3728N×7365E,h58km,ML3.8,Ms3.5*
ISC 13 03:47:03.1±0.6,3754N±004×7331E±009,h84km±10km, n45,σ1.29/54,mb3.6/5,3C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.87**	**46**	*e*P	**Pn**	**03 47 50.0**	**+3.3**
KSH				S	**Sn**	**03 48 20.1**	**-0.2**
KSH				Smax			
	comp=N,938nm,0.9s						
KSH				Smax			
	comp=E,1μm,1.2s						
CHCP	**Chirah Chowk**	**3.88**	**181**	P	**Pn**	**03 48 05.0**	**+4.7**
CEP	**Cherat**	**3.88**	**197**	⇑P	**Pn**	**03 48 05.9**	**+5.5**
CEP				S	**Sn**	**03 48 58.0**	**+13**
AML	**Almayashu**	**4.59**	**4**	P	**Pn**	**03 48 10.1**	**0.0**
	SNR=11						
THW	**Thamme Wali**	**4.91**	**196**	P	**Pn**	**03 48 23.4**	**+9.0**
EKS2	**Erkin-Say**	**5.12**	**4**	P	**Pn**	**03 48 18.7**	**+1.4**
	SNR=9.9						
AAK	**Ala-Archa**	**5.16**	**10**	P	**Pn**	**03 48 18.5**	**+0.7**
	SNR=21						
AAK	**Ala-Archa**	**5.16**	**10**	*e*Pn	**Pn**	**03 48 16.8**	**-1.1**
	comp=E,17nm,0.5s						
ULHL	**Ulahol**	**5.21**	**25**	P	**Pn**	**03 48 19.0**	**+0.5**
	SNR=10.0						
KBK	**Karagaybulak**	**5.26**	**13**	P	**Pn**	**03 48 20.5**	**+1.4**
	SNR=5.8						
DLH	**Dalhousie**	**5.45**	**156**	*e*P	**Pn**	**03 48 23.0**	**+1.3**
DLH				*e*x	x	03 49 30.0	
THN	**Thein Dam**	**5.47**	**158**	*e*P	**Pn**	**03 48 21.9**	**-0.1**
TKM2	**Tokmak 2**	**5.65**	**17**	P	**Pn**	**03 48 24.9**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**5.65**	**17**	⇓Pn	**Pn**	**03 48 24.4**	**0.0**
	comp=E,0.7nm,0.7s						
TKM2				⇓Lg		03 49 54.1	
	comp=E,2.5nm,0.7s						
KK31	**Karatay Array**	**5.95**	**340**	Pn	**Pn**	**03 48 26.2**	**-2.3**
	comp=E,4.7nm,0.4s,baz=163,slow=12,SNR=54						
KK31				⇓Sn	**Sn**	**03 49 34.1**	**-1.1**
	comp=E,15nm,0.6s,baz=300,slow=37,SNR=3.9						
KK31				⇑Lg		03 49 54.1	
	comp=E,17nm,0.6s,baz=307,slow=35,SNR=6.7						
KLP	**Kalpa**	**7.25**	**144**	*e*P	**Pn**	**03 48 46.7**	**+0.4**
KLP				*e*x	x	03 50 01.5	
KLP				AMP		03 50 15.7	
KLP				AML	AML	03 50 16.0	
	comp=N,78nm,0.8s						
KLP				AML	AML	03 50 16.3	
	comp=E,91nm,0.7s						
AYAN	**Aya Nagar**	**9.59**	**159**	*e*P	**Pn**	**03 49 18.2**	**+0.1**
AYAN				*e*S	**Sn**	**03 50 55.0**	**-9.1**
KHET	**Khetri**	**9.68**	**167**	*e*x	x	03 49 11.1	
KHET				*e*S	**Sn**	**03 50 56.6**	**-10**
KHET				AML	AML	03 51 48.9	
	comp=N,8.5nm,0.1s						
KHET				AML	AML	03 51 49.0	
	comp=E,8.1nm,0.1s						
SONA	**Sohna**	**9.80**	**160**	*e*P	**Pn**	**03 49 20.9**	**-0.1**
SONA				*e*S	**Sn**	**03 50 58.7**	**-10**
SONA				AML	AML	03 51 10.4	
	comp=E,22nm,0.4s						
SONA				AML	AML	03 51 24.1	
	comp=N,11nm,0.4s						
AGRA	**Agra**	**11.00**	**158**	*e*x	x	03 49 32.4	
AGRA				*e*S	**Sn**	**03 51 27.2**	**-11**
AGRA				AML	AML	03 52 10.3	
	comp=E,80nm,0.8s						
AGRA				AML	AML	03 52 23.0	
	comp=N,101nm,0.7s						
MKAR	**Makanchi Array**	**11.39**	**33**	Pn	**Pn**	**03 49 42.2**	**-0.4**
	comp=N,0.1nm,0.3s,baz=219,slow=17,SNR=5.6						
MKAR				Lg		03 53 03.8	
	comp=N,0.1nm,0.3s,baz=236,slow=30,SNR=3.6						
KOLN	**Koldanda**	**13.04**	**135**	*e*P	**Pn**	**03 50 03.7**	**-1.1**
	comp=N,4.0nm,0.3s						
GKN	**Gorkha**	**13.46**	**132**	*e*P	**Pn**	**03 50 05.5**	**-4.9**
	comp=N,8.4nm,0.4s						
KKN	**Kakani**	**14.00**	**131**	*e*P	**Pn**	**03 50 13.3**	**-4.2**
	comp=N,10nm,0.6s						
DMN	**Daman**	**14.03**	**132**	*e*P	**Pn**	**03 50 11.4**	**-6.5**
	comp=N,8.8nm,0.4s						
PKI	**Pulchoki**	**14.24**	**131**	*e*P	**Pn**	**03 50 15.6**	**-5.0**
	comp=N,8.6nm,0.6s						
GUN	**Gumba**	**14.28**	**129**	*e*P	**Pn**	**03 50 20.6**	**-0.5**
	comp=N,10nm,0.4s						
JIRN	**Jiri**	**14.65**	**129**	*e*P	**Pn**	**03 50 24.8**	**-1.1**
AB31	**Akbulak array**	**15.18**	**325**	Pn	**Pn**	**03 50 28.6**	**-4.1**
	comp=N,2.0nm,0.6s,baz=135,slow=13,SNR=28						
AB31				⇑Sn	**Sn**	**03 53 12.0**	**-8.1**
	comp=N,2.6nm,0.7s,baz=135,slow=27,SNR=4.1						
BVAR	**Borovoye Array**	**15.61**	**353**	Pn	**Pn**	**03 50 34.2**	**-4.0**
	baz=222,slow=39,SNR=4.1						
BRVK	**Borovoye**	**15.66**	**353**	*e*Pn	**Pn**	**03 50 41.3**	**+2.6**
	comp=N,5.1nm,0.9s						
ZRNK	**Zerenda**	**15.70**	**350**	*e*Pn	**Pn**	**03 50 41.5**	**+2.3**
	comp=N,3.0nm,0.6s						
CHKZ	**Chkalovo**	**16.24**	**354**	*e*Pn	**Pn**	**03 50 47.5**	**+1.5**
	comp=N,3.6nm,1.0s						
AKTK	**Aktyubinsk**	**16.90**	**325**	P	**Pn**	**03 50 51.8**	**-2.4**
AKTK				S	**S**	**03 53 56.4**	**-10**
AKTO	**Aktyubinsk**	**16.90**	**325**	⇓Pn	**Pn**	**03 50 52.9**	**-1.3**
	comp=N,0.1nm,0.9s						
AKTO				⇓Sn	**Sn**	**03 53 55.4**	**-6.1**
	comp=N,0.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.90**	**325**	P	**Pn**	**03 50 51.8**	**-2.4**
	comp=N,0.3nm,0.3s,baz=114,slow=14,SNR=14						
AKTO				S	**S**	**03 53 56.4**	**-10**
	comp=N,0.2nm,0.3s,baz=2.9,slow=21,SNR=3.9						
ZAL	**Zalesovo**	**18.21**	**22**	P	**Pn**	**03 51 08.5**	**-1.6**
	comp=N,1.5nm,0.3s,baz=256,slow=9.3,SNR=8.1						
ZAL	**Zalesovo**	**18.21**	**22**	P	**Pn**	**03 51 08.5**	**-1.6**
SONM	**Songino Array**	**26.22**	**56**	P	**P**	**03 52 28.9**	**-1.1**
	comp=N,0.4nm,0.6s,mb3.0,baz=273,slow=13,SNR=3.3						
FINES	**FINESS Array B**	**37.67**	**325**	P	**P**	**03 54 10.8**	**+0.8**
	comp=N,2.5nm,1.0s,mb4.0,baz=116,slow=8.9,SNR=6.4						
ARCES	**ARCESS Array B**	**40.90**	**337**	P	**P**	**03 54 37.3**	**+0.3**
	comp=N,3.9nm,1.0s,mb4.2,baz=95,slow=11,SNR=3.6						
NB2	**NORSAR Subarra**	**44.67**	**322**	P	**P**	**03 55 08.4**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.4,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.67**	**322**	P	**P**	**03 55 08.3**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=93,slow=7.9,SNR=3.7						
NOA	**NORSAR Array B**	**44.67**	**322**	P	**P**	**03 55 08.3**	**+0.9**
TORD	**Torodi Ar. Bea**	**67.58**	**270**	P	**P**	**03 57 52.0**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=49,slow=5.4,SNR=8.2						

*MOS **13** 04:16:29.3±1.2,5170N×1601E,h10km,mb3.7/1,Error ellipse: s-maj=7.2km s-min=3.7km az=78.6*
*ISCJB **13** 04:16:29.5±0.3,5148N±002×16.11E±002,h0km,mb3.4/2, Error ellipse: s-maj=2.4km s-min=1.6km az=19.0*
*LDG **13** 04:16:30.6±0.3,5158N×1621E,h1km,Ml3.7/20,Error ellipse: s-maj=7.8km s-min=3.0km az=179.0,Suspected Mining induced.*
*NEIC **13** 04:16:30.7±0.3,5163N×16.11E,h5km,ML3.4(BRA), ML3.5(STR),ML3.5(FUR),ML3.7(SZGRF),Error ellipse: s-maj=4.0km s-min=3.7km az=181.0*
*IPEC **13** 04:16:31.9±0.3,5155N×1624E,h8km±1km,ML3.0/3,Error ellipse: s-maj=1.8km s-min=0.7km az=34.0*
*BGR **13** 04:16:31.7±0.5,5150N×1621E,h1km,ML3.7,Error ellipse: s-maj=4.4km s-min=3.3km az=147.0*
*IDC **13** 04:16:32.5±0.6,5155N×1607E,h0km,mb3.6/2,mb1 3.6/9, mb1mx3.5/23,mbtmp3.5/9,ML3.5/6,Error ellipse: s-maj=11.6km s-min=5.7km az=104.0*
*CSEM **13** 04:16:32.9±0.1,5150N×16.11E,h1km,ML3.8/28,Error ellipse: s-maj=1.7km s-min=1.0km az=8.0*
*PRU **13** 04:16:33.2,5147N×16.10E,h0km,Felt In Harrachov*
*WAR **13** 04:16:33.0,5152N×16.12E,ML3.1,Mining Induced*
*STR **13** 04:17:31.2±2.8,5120N×1172E,h5km±1km,Ml3.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 13 04:16:30.7±0.2,5156N±001×1614E±002,h0km,n153, σ1.18/253,mb3.4/2,15C-14D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**172**	*i* Pgd	**Pg**	**04 16 45.5**	**+1.0**
KSP				*i* Sg	**Sg**	**04 16 54.5**	**+0.6**
KSP				*e*L		04 16 59.6	
KSP	**Ksiaz**	**0.72**	**172**	⇓*i*P	**Pg**	**04 16 45.5**	**+1.0**
KSP				*i*		04 16 54.5	
KSP	**Ksiaz**	**0.72**	**172**	*e*Pg	**Pg**	**04 16 45.5**	**+1.0**
KSP				*i* Sg	**Sg**	**04 16 54.5**	**+0.6**
UPC	**Upice**	**1.05**	**185**	*e*PG	**Pg**	**04 16 51.6**	**+0.7**
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pg**	**04 16 54.3**	**+0.3**
DPC				*e*SG	**Sg**	**04 17 09.4**	**-0.3**
	271nm,0.9s						
PVCC	**Panska Ves**	**1.43**	**225**	*e*Pg	**Pg**	**04 16 58.2**	**0.0**
PVCC				*e*Sg	**Sg**	**04 17 18.3**	**+1.6**
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pg	**Pg**	**04 17 00.4**	**+0.1**
BRG				*e*Sg	**Sg**	**04 17 21.3**	**+0.9**
BRG	**Berggiesshubel**	**1.54**	**245**	PN	**Pn**	**04 16 59.4**	**-0.1**
BRG				PG	**Pg**	**04 17 01.3**	**+1.0**
BRG				SG	**Sg**	**04 17 21.4**	**+1.0**
	169nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**245**	P	**Pn**	**04 16 59.4**	**-0.1**
BRG						04 17 21.4	
BRG				smax			
	comp=N,169nm,0.5s						
BRG	**Berggiesshubel**	**1.54**	**245**	Pg	**Pg**	**04 17 01.3**	**+1.0**
BRG				*e*Sg	**Sg**	**04 17 20.8**	**+0.5**
RUE	**Ruedersdorf**	**1.73**	**303**	*e*Pn	**Pn**	**04 17 02.4**	**+0.3**
RUE				*e*Sg	**Sg**	**04 17 28.7**	**+2.4**
RUE	**Ruedersdorf**	**1.73**	**303**	*e*Pn	**Pn**	**04 17 02.4**	**+0.3**
RUE				*e*Sg	**Sg**	**04 17 28.7**	**+2.4**
PRA	**Prague**	**1.84**	**217**	PG	**Pg**	**04 17 03.0**	**-3.0**
PRA				SG	**Sg**	**04 17 29.0**	**-0.9**
FBE	**Freiberg**	**1.86**	**251**	*e*Pg	**Pg**	**04 17 05.8**	**-0.7**
FBE				*e*Sg	**Sg**	**04 17 31.1**	**+0.5**
PRU	**Pruhonice**	**1.87**	**214**	*e*PN	**Pn**	**04 17 03.9**	**-0.1**
PRU				*e*PG	**Pg**	**04 17 06.1**	**-0.5**
PRU				*e*SG	**Sg**	**04 17 29.7**	**-1.1**
	comp=N,161nm,0.3s						
RAC	**Raciborz**	**1.97**	**138**	*e*Pn	**Pn**	**04 17 04.6**	**-0.7**
RAC				*e*Pg	**Pg**	**04 17 08.3**	**-0.1**
RAC				*e*Sg	**Sg**	**04 17 34.9**	**+1.0**
RAC	**Raciborz**	**1.97**	**138**	*e*Pg	**Pg**	**04 17 08.3**	**-0.1**
RAC				*e*Sg	**Sg**	**04 17 34.9**	**+1.0**
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**04 17 05.5**	**0.0**
CLL				*i* Pg	**Pg**	**04 17 08.9**	**+0.2**
CLL				*e*Sg	**Sg**	**04 17 35.1**	**+0.7**
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**04 17 05.5**	**0.0**
CLL				*i* Pg	**Pg**	**04 17 08.9**	**+0.2**
CLL				*i* x	x	04 17 11.5	
CLL				*i* x	x	04 17 12.5	
CLL				*i* Sn	**Sn**	**04 17 30.2**	**-0.8**
CLL				*i* Sg	**Sg**	**04 17 34.9**	**+0.5**
	comp=Z,241nm,0.7s						
CLL	**Collm**	**1.98**	**264**	*i* Pn	**Pn**	**04 17 05.5**	**0.0**
CLL				*i* Pg	**Pg**	**04 17 08.9**	**+0.2**
CLL				*i* Sg	**Sg**	**04 17 34.9**	**+0.5**
CLL	**Collm**	**1.98**	**264**	Pg	**Pg**	**04 17 08.9**	**+0.2**
CLL				Sg	**Sg**	**04 17 35.1**	**+0.7**
MORC	**Moravsky Berou**	**1.99**	**153**	⇓*i*P	**Pn**	**04 17 05.9**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**153**	S	**Sn**	**04 17 35.0**	**+3.7**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*P	**Pn**	**04 17 05.5**	**-0.1**
MORC				*e*		04 17 33.7	
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**04 17 05.5**	**-0.1**
MORC				*e*Sn	**Sn**	**04 17 33.7**	**+2.4**
MORC				*e*Sg	**Sg**	**04 17 40.5**	**+5.8**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**04 17 05.5**	**-0.1**
MORC				*e*Sg	**Sg**	**04 17 33.4**	**-1.3**
	comp=Z,104nm,0.3s						
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PN	**Pn**	**04 17 07.7**	**0.0**
OKC				*e*PG	**Pg**	**04 17 11.9**	**+0.1**
OKC				*e*SG	**Sg**	**04 17 37.8**	**-1.7**
	comp=Z,196nm,0.7s						
VRAC	**Vranov**	**2.27**	**173**	Pn	**Pn**	**04 17 10.8**	**+1.4**
	comp=Z,11nm,0.3s,baz=348,slow=13,SNR=14						
VRAC				Pg	**Pg**	**04 17 15.6**	**+1.4**
	comp=Z,13nm,0.3s,baz=343,slow=15,SNR=16						
VRAC				Lg		04 17 42.2	
	comp=Z,22nm,0.3s,baz=95,slow=19,SNR=13						
VRAC	**Vranov**	**2.27**	**173**	⇓*i*P	**Pn**	**04 17 11.3**	**+1.8**
VRAC	**Vranov**	**2.27**	**173**	S	**Sn**	**04 17 42.0**	**+3.9**
VRAC	**Vranov**	**2.27**	**173**	⇑P	**Pn**	**04 17 10.9**	**+1.4**
VRAC				S	**Sn**	**04 17 42.0**	**+3.9**
VRAC	**Vranov**	**2.27**	**173**	*e*Pn	**Pn**	**04 17 10.2**	**+0.7**
VRAC				*e*Sg	**Sg**	**04 17 41.9**	**-1.7**
	comp=Z,140nm,0.6s						
TREC	**Trest**	**2.30**	**191**	*e*PN	**Pn**	**04 17 10.4**	**+0.5**
TREC				*e*PG	**Pg**	**04 17 14.1**	**-0.8**
TREC	**Trest**	**2.30**	**191**	*e*Pg	**Pg**	**04 17 14.1**	**-0.8**
TREC				*e*Sg	**Sg**	**04 17 43.9**	**-0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRUC	Moravsky	2.50	176	ePg	Pg	04 17 17.6	-1.1
KRUC				eSg	Sg	04 17 49.7	-1.4
	comp=Z,52nm,0.3s						
TANN	Tannenbergstha	2.59	245	ePn	Pn	04 17 14.8	+0.9
TANN				eSg	Sg	04 17 53.9	-0.1
WERD	Werda	2.67	247	ePn	Pn	04 17 15.5	+0.5
WERD				eSg	Sg	04 17 57.1	+0.7
OJC	Ojcow	2.67	119	ePg	Pg	04 17 23.0	+1.0
OJC				eSg	Sg	04 17 57.8	+1.1
NKC	Novy Kostel	2.69	242	ePN	Pn	04 17 15.7	+0.5
NKC				ePG	Pg	04 17 22.3	0.0
NKC				eSG	Sg	04 17 57.4	+0.3
	comp=Z,231nm,0.7s						
NKC	Novy Kostel	2.69	242	ePg	Pg	04 17 22.3	0.0
NKC				eSg	Sg	04 17 58.2	+1.1
GUNZ	Gunzen	2.69	245	ePn	Pn	04 17 16.1	+0.9
GUNZ				eSg	Sg	04 17 57.3	+0.2
WERN	Wernitzgruen	2.70	243	ePn	Pn	04 17 16.5	+1.1
WERN				eSg	Sg	04 17 57.2	-0.3
NEUB	Neuenburg	2.76	264	eSg	Sg	04 18 00.5	+1.1
KHC	Kasperske Hory	2.93	215	ePN	Pn	04 17 18.7	+0.1
KHC				ePG	Pg	04 17 25.3	-1.6
KHC				eSN	Sn	04 17 55.0	+0.5
KHC				eSG	Sg	04 18 02.5	-2.4
	comp=Z,55nm,0.4s						
KHC	Kasperske Hory	2.93	215	eP	Pn	04 17 18.7	+0.1
KHC				e		04 17 55.0	
KHC	Kasperske Hory	2.93	215	ePg	Pg	04 17 25.3	-1.6
KHC				eS	Sn	04 17 55.0	+0.5
KHC				eSg	Sg	04 18 02.5	-2.4
	comp=Z,55nm,0.4s						
MOX	Moxa	3.00	254	ePn	Pn	04 17 21.1	+1.7
MOX				ePg	Pg	04 17 28.0	-0.2
MOX				eSg	Sg	04 18 08.4	+1.3
MOX	Moxa	3.00	254	ePN	Pn	04 17 21.0	+1.5
MOX				ePG	Pg	04 17 28.0	-0.2
MOX				eSG	Sg	04 18 08.4	+1.4
MOX	Moxa	3.00	254	ePg	Pg	04 17 28.0	-0.2
MOX				eSg	Sg	04 18 07.9	+0.9
MANZ	Manzenberg	3.00	240	ePn	Pn	04 17 20.7	+1.1
MANZ				eSg	Sg	04 18 07.0	-0.3
ROTZ	Rotzenmuhle	3.08	236	ePn	Pn	04 17 21.4	+0.8
ROTZ				eSg	Sg	04 18 08.9	-0.8
MZEK	Zeckenberg-Ebn	3.10	241	⇑iPn	Pn	04 17 21.4	+0.4
GEC2	GERESS Array S	3.13	211	ePn	Pn	04 17 22.0	+0.7
GEC2				eSg	Sg	04 18 09.1	-2.3
GEC2	GERESS Array S	3.13	211	ePn	Pn	04 17 22.0	+0.6
GEC2				eSg	Sg	04 18 09.1	-2.3
GERES	GERESS Array B	3.13	211	Pn	Pn	04 17 21.9	+0.5
	comp=Z,4.3nm,0.3s,baz=31,slow=12,SNR=100						
GERES				Pg	Pg	04 17 30.1	-0.7
	comp=Z,11nm,0.3s,baz=33,slow=16,SNR=53						
GERES				Sn	Sn	04 18 00.3	+0.9
	comp=Z,5.7nm,0.3s,baz=25,slow=25,SNR=4.8						
GERES				Lg		04 18 08.7	
	comp=Z,11nm,0.3s,baz=31,slow=27,SNR=8.8						
GERES	GERESS Array B	3.13	211	P	Pn	04 17 21.9	+0.5
GERES						04 18 00.3	
GERES	GERESS Array B	3.13	211	Pg	Pg	04 17 30.1	-0.7
SMOL	Smolenice	3.15	164	ePN	Pn	04 17 23.7	+2.0
SMOL				ePG	Pg	04 17 31.1	-0.1
SMOL				eSG	Sg	04 18 12.0	-0.1
WET	Wettzell	3.19	222	ePn	Pn	04 17 23.0	+0.8
WET	Wettzell	3.19	222	ePn	Pn	04 17 23.0	+0.8
WET	Wettzell	3.19	222	ePn	Pn	04 17 22.8	+0.6
NIE	Niedzica	3.42	127	eP	Pg	04 17 35.1	-1.1
NIE				eS	Sg	04 18 19.4	-1.1
ZST	Bratislava	3.42	169	ePG	Pg	04 17 35.9	-0.4
ZST				eSG	Sg	04 18 20.3	-0.3
VYHS	Vyhne	3.52	149	ePN	Pn	04 17 26.6	-0.1
VYHS				ePG	Pg	04 17 39.2	+0.9
VYHS				eSG	Sg	04 18 22.8	-1.1
CONA	Conrad Observa	3.63	183	⇑iPn	Pn	04 17 28.5	+0.3
CONA				⇓iSg	Sg	04 18 25.4	-2.1
	comp=Z,52nm,0.5s						
BSD	Bornholm Skovb	3.64	349	i P	Pn	04 17 28.0	-0.3
BSD				i S	Sn	04 18 11.8	-0.2
BSD				eLG		04 18 28.1	
BSD	Bornholm Skovb	3.64	349	i P	Pn	04 17 28.0	-0.3
BSD				i S	Sn	04 18 11.8	-0.2
GRA1	Grafenberg Arr	3.65	241	ePn	Pn	04 17 29.6	+1.2
GRA1				eSg	Sg	04 18 28.7	+0.8
GRF	Grafenberg Arr	3.65	241	ePn	Pn	04 17 29.6	+1.2
GRF				eSg	Sg	04 18 28.7	+0.7
SOP	Sopron	3.88	176	⇑ePn	Pn	04 17 33.9	+2.2
STHS	Stebnicka Huta	3.90	121	ePN	Pn	04 17 33.1	+1.2
STHS				ePG	Pg	04 17 46.4	+0.9
STHS				eSG	Sg	04 18 37.8	+1.8
STHS	Stebnicka Huta	3.90	121	ePn	Pn	04 17 33.1	+1.2
STHS				ePg	Pg	04 17 46.5	+1.0
STHS				eSg	Sg	04 18 37.8	+1.8
MOA	Molln	3.90	199	⇑iPn	Pn	04 17 32.8	+0.8
	SNR=13						
MOA				⇓iSg	Sg	04 18 35.1	-1.1
	comp=Z,70nm,0.6s						
MOA	Molln	3.90	199	Pn	Pn	04 17 32.8	+0.8
	comp=Z,12nm,7.0s						
MOA				Sg	Sg	04 18 35.1	-1.1
	comp=Z,70nm,0.6s						
HROE	Hohe Rhon--Fla	3.91	257	⇓iPn	Pn	04 17 32.6	+0.5
KECS	Kecovo	4.16	136	ePN	Pn	04 17 35.7	+0.2
KECS				ePG	Pg	04 17 51.6	+1.1
KECS				eSG	Sg	04 18 42.9	-1.5
CRVS	Cervenica-Dubn	4.33	126	ePN	Pn	04 17 39.0	+1.3
CRVS				ePG	Pg	04 17 53.6	0.0
CRVS				eSG	Sg	04 18 50.8	+1.1
ARSA	Arzberg	4.33	186	⇑iPn	Pn	04 17 38.9	+1.1
ARSA				⇓iSg	Sg	04 18 47.9	-1.9
	comp=Z,81nm,0.8s						
PSZ	Piszkesteto	4.38	145	⇓ePn	Pn	04 17 39.9	+1.4
PSZ	Piszkesteto	4.38	145	ePn	Pn	04 17 39.5	+1.0
PSZ	Piszkesteto	4.38	145	ePn	Pn	04 17 39.5	+1.0
KOLS	Kolonicke sedl	4.73	121	ePN	Pn	04 17 44.1	+0.8
KOLS				ePG	Pg	04 18 01.6	+0.2
KBA	Koelnbreinsper	4.84	203	⇑iSg	Sg	04 19 05.0	-1.2
	comp=Z,45nm,0.8s						
KBA	Koelnbreinsper	4.84	203	i Pn	Pn	04 17 46.2	+1.4
	SNR=18						
KBA				⇑iSg	Sg	04 19 05.0	-1.2
	comp=Z,45nm,0.8s						
KBA	Koelnbreinsper	4.84	203	Pn	Pn	04 17 46.2	+1.4
	comp=Z,17nm,9.0s						
KBA				Sg	Sg	04 19 05.0	-1.2
	comp=Z,45nm,0.8s						
UZH	Uzhgorod	4.92	124	eP	Pn	04 17 43.0	-3.0
TOD	Tromm	5.07	250	P	Pg	04 18 09.4	+1.5
TOD				S	Sn	04 18 44.7	-2.5
WATA	Walderalm	5.17	217	⇑iPn	Pn	04 17 50.8	+1.5
WATA				⇓iSg	Sg	04 19 17.2	+0.4
	comp=Z,19nm,0.5s						
WTTA	Wattenberg	5.21	216	⇑iPn	Pn	04 17 51.3	+1.4
WTTA				⇓iSg	Sg	04 19 19.0	+1.0
	comp=Z,20nm,0.4s						
MOTA	Moosalm	5.34	220	⇑iPn	Pn	04 17 52.5	+0.8
MOTA				⇑iSg	Sg	04 19 22.9	+0.5
	comp=Z,20nm,0.7s						
SQTA	Sankt Quirin	5.40	219	⇑iPn	Pn	04 17 53.8	+1.3
SQTA				⇓iSg	Sg	04 19 25.1	+0.8
	comp=Z,10nm,0.3s						
PDKS	Podkum	5.55	188	ePn	Pn	04 17 56.1	+1.5
PKSM	Moragy	5.59	162	⇓iP	Pn	04 17 56.0	+0.8
PKSM	Moragy	5.59	162	P	Pn	04 17 56.3	+1.1
ABH	Alteburg	5.71	256	P	Pg	04 18 19.8	-0.4
CRES	Cresnjev	5.75	185	i Pn	Pn	04 17 58.6	+1.2
DAVA	Damuels	5.91	226	⇑iPn	Pn	04 17 59.6	+0.1
DAVA				⇓iSg	Sg	04 19 42.4	+1.8
	comp=Z,22nm,0.8s						
LANF	Langenberg	5.93	248	P	Pg	04 18 24.5	0.0
BOJS	Bojanci	6.08	186	i Pn	Pn	04 18 03.4	+1.5
DRGR		6.42	135	P	Pn	04 18 07.7	+1.1
FELD	Feldberg im Sc	6.43	238	P	Pg	04 18 35.6	+1.6
CDF	Champ du Feu	6.53	245	ePn	Pn	04 18 06.8	-1.2
CDF				eSg	Sg	04 19 55.6	-4.7
	comp=Z,71nm,1.1s						
CDF	Champ du Feu	6.53	245	ePn	Pn	04 18 06.8	-1.2
CDF				eSg	Sg	04 19 55.6	-4.7
	comp=Z,36nm,1.1s						
HINF	Hinteralfeld	7.09	242	ePn	Pn	04 18 14.6	-1.2
HINF				eSg	Sg	04 20 13.1	-5.4
	comp=Z,29nm,0.7s						
HINF	Hinteralfeld	7.09	242	ePn	Pn	04 18 14.6	-1.2
HINF				eSg	Sg	04 20 13.1	-5.4
	comp=Z,14nm,0.7s						
BURAR	Bucovina Array	7.09	120	⇓iP	Pn	04 18 17.4	+1.6
BURAR	Bucovina Array	7.09	120	⇑P	Pn	04 18 13.7	-2.0
HAU	Haudompre	7.27	245	ePn	Pn	04 18 16.8	-1.4
HAU				eSg	Sg	04 20 18.4	-5.8
	comp=Z,20nm,0.7s						
HAU	Haudompre	7.27	245	ePn	Pn	04 18 16.8	-1.4
HAU				eSg	Sg	04 20 18.4	-5.8
	comp=Z,9.9nm,0.7s						
GIVF	Givet	7.32	263	ePn	Pn	04 18 17.6	-1.2
GIVF				eSg	Sg	04 20 20.1	-5.6
	comp=Z,31nm,0.9s						
GIVF	Givet	7.32	263	ePn	Pn	04 18 17.6	-1.2
GIVF				eSg	Sg	04 20 20.1	-5.6
	comp=Z,16nm,0.9s						
RFYF	Reffroy	7.46	251	eSg	Sg	04 20 25.0	-5.4
	comp=Z,8.3nm,0.3s						
RFYF	Reffroy	7.46	251	eSg	Sg	04 20 25.0	-5.4
	comp=Z,4.2nm,0.3s						
SFTF	Sexfontaines	7.92	249	eSg	Sg	04 20 39.3	-5.7
	comp=Z,7.7nm,0.4s						
SFTF	Sexfontaines	7.92	249	eSg	Sg	04 20 39.3	-5.7
	comp=Z,3.8nm,0.4s						
CABF	La Chapelle	8.25	237	ePn	Pn	04 18 30.6	-1.0
CABF				eSg	Sg	04 20 49.7	-5.8
	comp=Z,29nm,0.9s						
CABF	La Chapelle	8.25	237	ePn	Pn	04 18 30.6	-1.0
CABF				eSg	Sg	04 20 49.7	-5.8
	comp=Z,15nm,0.9s						
AKASG	Malin Array Be	8.28	91	Pn	Pn	04 18 30.9	-1.1
	comp=Z,2.2nm,0.3s,baz=279,slow=12,SNR=10						
AKASG				Pg	Pg	04 19 06.4	-2.9
	comp=Z,0.7nm,0.3s,baz=281,slow=16,SNR=6.2						
AKASG				Lg		04 20 60.0	
	comp=Z,0.3nm,0.3s,baz=274,slow=27,SNR=3.6						
AKASG	Malin Array Be	8.28	91	eP	Pn	04 18 33.5	+1.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG	Malin Array Be	8.28	91	Pg	Pg	04 19 06.4	-2.9
LPL	La Plagne	8.69	230	ePn	Pn	04 18 36.4	-1.2
LPL				eSg	Sg	04 21 04.1	-5.5
	comp=Z,3.2nm,0.6s						
LPG	La Plagne	8.69	229	ePn	Pn	04 18 36.3	-1.4
LPG				eSg	Sg	04 21 03.7	-6.0
	comp=Z,20nm,1.1s						
HFS	Hagfors	8.71	352	Pn	Pn	04 18 37.2	-0.7
	comp=Z,0.2nm,0.3s,baz=174,slow=16,SNR=4.7						
HFS				Sn	Sn	04 20 12.8	-4.0
	comp=Z,0.2nm,0.3s,baz=182,slow=24,SNR=2.5						
LOR	Lormes	9.08	247	ePn	Pn	04 18 41.8	-1.3
LOR				eSg	Sn	04 21 16.0	+50
	comp=Z,3.9nm,0.5s						
LOR	Lormes	9.08	247	ePn	Pn	04 18 41.8	-1.3
LOR				eSg	Sn	04 21 16.0	+50
	comp=Z,2.0nm,0.5s						
MBDF	Montbardon	9.26	226	ePn	Pn	04 18 44.1	-1.5
MBDF				eSg	Sn	04 21 22.2	+52
	comp=Z,0.8nm,0.3s						
SMF	Signal de Mont	9.44	243	eSg	Sx	04 21 26.2	
	comp=Z,9.0nm,0.7s						
SMF	Signal de Mont	9.44	243	eSg	Sx	04 21 26.2	
	comp=Z,4.5nm,0.7s						
ORIF	Oris-en-Rattie	9.53	230	ePn	Pn	04 18 48.1	-1.1
ORIF				eSg	Sn	04 21 30.5	+53
	comp=Z,6.3nm,0.7s						
AVF	Avril sur Loir	9.63	245	ePn	Pn	04 18 49.1	-1.5
AVF				eSg	Sn	04 21 32.6	+53
	comp=Z,12nm,0.9s						
AVF	Avril sur Loir	9.63	245	ePn	Pn	04 18 49.1	-1.5
AVF				eSg	Sn	04 21 32.6	+53
	comp=Z,6.0nm,0.9s						
SBF	Sospel	9.67	221	ePn	Pn	04 18 49.3	-1.8
NOA	NORSAR Array B	9.89	346	Pn	Pn	04 18 52.6	-1.6
	comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=2.5						
NOA				Lg		04 21 48.4	
	comp=Z,0.2nm,0.3s,baz=243,slow=21,SNR=3.6						
NOA	NORSAR Array B	9.89	346	Pn	Pn	04 18 52.6	-1.6
NOA				Lg		04 21 48.4	
BGF	Bois d'Agland	10.05	245	eSg	Sx	04 21 45.4	
	comp=Z,11nm,0.8s						
BGF	Bois d'Agland	10.05	245	eSg	Sx	04 21 45.4	
	comp=Z,5.6nm,0.8s						
VIVF	Saint-Julien-l	10.17	233	eSg	Sx	04 21 50.0	
	comp=Z,1.0nm,0.4s						
VIVF	Saint-Julien-l	10.17	233	eSg	Sx	04 21 50.0	
	comp=Z,0.5nm,0.4s						
FRF	La Foret Royal	10.25	222	ePn	Pn	04 18 56.8	-2.2
SMRF	Simiane la Rot	10.39	227	ePn	Pn	04 18 58.8	-2.2
LMR	La Mourre	10.49	222	ePn	Pn	04 19 00.7	-1.6
FLN	La Foliniere	11.03	262	eSg	Sx	04 22 15.8	
	comp=Z,1.7nm,0.4s						
FLN	La Foliniere	11.03	262	eSg	Sx	04 22 15.8	
	comp=Z,0.9nm,0.4s						
FINES	FINESS Array B	11.31	25	Pn	Pn	04 19 10.9	-2.8
	comp=Z,0.3nm,0.3s,baz=206,slow=12,SNR=8.0						
FINES				Sn	Sn	04 21 11.5	-9.3
	comp=Z,0.2nm,0.3s,baz=216,slow=20,SNR=3.6						
FINES	FINESS Array B	11.31	25	Sn	Sn	04 21 11.5	-9.3
CAF	Calviac	11.48	240	ePn	Pn	04 19 14.2	-1.8
KAF	Kangasniemi	11.94	24	ep	Pn	04 19 20.2	-2.0
EKA	Eskdalemuir Ar	12.11	296	Pn	Pn	04 19 21.4	-3.0
	comp=Z,0.2nm,0.3s,baz=106,slow=12,SNR=4.8						
JOF	Joensuu	13.99	30	ep	Pn	04 19 46.9	-3.3
ARCES	ARCESS Array B	18.57	10	Pn	Pn	04 20 46.4	-3.0
	comp=Z,0.4nm,0.3s,baz=192,slow=11,SNR=13						
AKTK	Aktyubinsk	26.12	76	P	P	04 22 06.7	+0.3
AKTO	Aktyubinsk	26.12	76	P	P	04 22 06.7	+0.3
	comp=Z,0.7nm,0.5s,mb3.5,baz=300,slow=6.7,SNR=3.7						
TORD	Torodi Ar. Bea	40.05	202	P	P	04 24 07.9	+0.3
	comp=Z,0.6nm,0.8s,mb3.2,baz=10,slow=8.2,SNR=4.0						

---

*IDC **13** 04:23:04.9±5.5, 3251N×7661E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/23, mbtmp3.6/5, ML3.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=96.3km s-min=38.1km az=8.0*

*ISCJB **13** 04:23:06.9±0.5, 3283N±003×7676E±005, h10km, mb3.4/4, MS2.7/1, Error ellipse: s-maj=6.0km s-min=4.9km az=150.3*

*NDI **13** 04:23:06.3±2.9, 3298N×7663E, h33km, ML3.5, mb3.6(NEIC)*

*NEIC **13** 04:23:11.3±2.5, 3273N×7662E, h35km, mb3.6/3, Error ellipse: s-maj=36.5km s-min=20.4km az=181.0*

ISC 13 04:23:08.2±0.5**, 3277N**±003×**7674E**±004**, h10km, n16, σ1^{s}02**/21**, mb3.4**/4**, MS2.7**/1**, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	0.69	251	eP	Pg	04 23 20.0	-1.5
DLH				eS	Sg	04 23 31.0	+0.4
THN	Thein Dam	0.93	249	eP	Pg	04 23 24.6	-1.4
THN				ex	Sg	04 23 40.2	+2.1
SDNR	Sundarnagar	1.28	171	eP	Pn	04 23 30.4	-1.6
SDNR				eS	Sb	04 23 48.5	-0.2
BHK	Bhakra	1.37	192	eP	Pn	04 23 36.8	+3.4
BHK				eS	Sb	04 23 58.0	+6.5
SMLA	Simla	1.67	167	eP	Pn	04 23 37.7	+0.3
SMLA				eS	Sn	04 23 59.3	+0.3
	2μm,0.4s						
KLP	Kalpa	1.77	133	eP	Pn	04 23 39.8	+0.9
KLP				eS	Sn	04 24 01.2	-0.2
KLP				AML	AML	04 24 15.9	
	comp=E,327nm,0.7s						
KLP				AML	AML	04 24 17.9	
	comp=N,216nm,0.6s						
MKAR	Makanchi Array	14.64	15	Pn	Pn	04 26 37.0	+1.8
	comp=N,0.2nm,0.3s,baz=196,slow=12,SNR=5.4						
BVAR	Borovoye Array	20.76	349	P	P	04 27 49.0	-0.1
	comp=N,1.3nm,0.4s,baz=160,slow=11,SNR=8.9						
BRVK	Borovoye	20.81	349	eP	P	04 27 49.9	+0.2
	comp=N,2.3nm,0.7s						
ZRNK	Zerenda	20.93	347	eP	P	04 27 50.8	-0.1
	comp=N,2.1nm,0.6s						
CHKZ	Chkalovo	21.36	350	eP	P	04 27 54.5	-1.0
	comp=N,1.4nm,0.8s,mb3.3						
AKTK	Aktyubinsk	22.43	327	P	P	04 28 06.9	-0.1
AKTO	Aktyubinsk	22.43	327	P	P	04 28 06.9	-0.1
	comp=N,1.4nm,0.6s,mb3.6,baz=121,slow=9.4,SNR=5.9						
GNI	Garni	26.67	295	LR	LR	04 42 06.5	
	comp=N,20nm,18.5s,MS2.7,baz=64,slow=43						
SONM	Songino Array	26.96	47	P	P	04 28 50.4	+0.7
	comp=N,0.4nm,0.7s,mb3.0,baz=246,slow=10,SNR=3.2						
FINES	FINESS Array B	43.20	327	P	P	04 31 08.4	-0.8
	comp=N,0.8nm,0.6s,mb3.6,baz=117,slow=14,SNR=4.5						

---

*ATH **13** 04:41:02.9, 40.18N×1962E, h11km±2km, MD3.3/6*

*NEIC **13** 04:41:02.9, 40.18N×1962E, h11km, ML3.3(ATH), After ATH.*

*ISCJB **13** 04:41:03.7±1.3, 40.17N±005×1968E±009, h10km, Error ellipse: s-maj=10.3km s-min=5.8km az=53.6*

*CSEM **13** 04:41:03.4±0.6, 40.18N×1972E, h2km, MD3.3, Error ellipse: s-maj=11.2km s-min=5.1km az=118.0*

*SKO **13** 04:41:05.7, 4005N×1978E, h27km*

ISC 13 04:41:04.5±1.3**, 4017N**±005×**1971E**±009**, h10km, n12, σ0^{s}97**/20**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	Tepelena	0.26	61	i Pg	Pg	04 41 08.6	-1.2
TPE				i Sg	Sg	04 41 13.1	-0.3
TPE	Tepelena	0.26	61	ePg	Pg	04 41 08.6	-1.2
TPE				i Sg	Sg	04 41 13.1	-0.3
SRN	Sarande	0.36	142	i Pg	Pg	04 41 10.2	-1.5
SRN				i Sg	Sg	04 41 16.3	-0.3
KEK	Kerkira	0.46	171	ePB	Pg	04 41 12.4	-1.1
KEK				eSB	Sg	04 41 19.7	+0.1
LSK	Leskovik	0.68	91	i Pg	Pg	04 41 16.9	-0.8
LSK				i Sg	Sg	04 41 27.2	+0.6
LSK	Leskovik	0.68	91	ePg	Pg	04 41 16.9	-0.8
LSK				i Sg	Sg	04 41 27.2	+0.6
JAN	Janina	1.01	120	ePB	Pg	04 41 23.1	-0.9
JAN				eSB	Sg	04 41 37.6	+0.4
KZN	Kozani	1.58	84	ePB	Pn	04 41 34.0	+1.4
KZN				eSB	Sn	04 41 56.9	+3.8
EVR	Evrytania	2.05	127	ePN	Pn	04 41 40.6	+1.6
VLS	Valsamata	2.10	161	ePN	Pn	04 41 40.8	+1.1
VAY	Valandovo	2.46	61	ePn	Pn	04 41 44.7	+0.1
RLS	Riolos of Patr	2.51	146	ePB	Pn	04 41 46.0	+0.6

---

*MOS **13** 05:07:00.8±2.9, 4987N×12135E, h33km, mb4.4/1, Error ellipse: s-maj=13.4km s-min=10.9km az=123.0*

*BJI **13** 05:07:01.4, 5003N×12153E, h23km, ML4.2*

*BYKL **13** 05:07:02.5±1.3, 4964N×12154E*

ISC 13 05:07:00.7±0.6**, 4977N**±003×**12157E**±005**, h10km, n40, σ1^{s}60**/48**, mb4.2**/1**, 2D, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIA	Hailar	1.29	248	⇓iPg	Pn	05 07 24.4	-0.3
HIA				i Sg	Sg	05 07 41.1	-1.1
HIA	Hailar	1.29	248d	iP	Pn	05 07 24.4	-0.3
HIA				eS	Sb	05 07 39.8	-1.9
TUP	Tupik	4.77	349	ePn	Pn	05 08 14.4	+1.9
TUP				e		05 08 22.7	
TUP				ePg	Pg	05 08 28.9	-3.0
TUP				Pmax		05 08 34.7	
	47nm,0.5s						
TUP				eSg	Sg	05 09 32.7	-1.0
TUP				Smax		05 09 42.8	
	341nm,1.1s						
TUP	Tupik	4.77	349	eP	Pn	05 08 14.6	+2.1
TUP				eS	Sn	05 09 11.2	+3.4
TUP				pmax	pmax		
	comp=Z,47nm,0.4s						
TUP				smax			
	comp=E,262nm,1.0s						
CIT	Chita	5.55	297	ePn	Pn	05 08 25.1	+1.8
CIT				ePg	Pg	05 08 42.8	-4.1
CIT				Pmax		05 08 48.1	
	comp=E,27nm,0.6s						
CIT				eSn	Sn	05 09 28.3	+1.2
CIT				eSg	Sg	05 09 56.3	-2.5
CIT				Smax		05 10 06.6	
	comp=E,224nm,1.4s						
TNDR	Tynda	5.72	18	eSg	Sg	05 10 05.5	+1.2
KPC	Khapcheranga	5.96	273	ePn	Pn	05 08 30.2	+1.3
KPC				e		05 08 38.2	
KPC				ePg	Pg	05 08 47.9	-6.8
KPC				Pmax		05 08 57.8	
	comp=E,6.0nm,0.3s						
KPC				eSn	Sn	05 09 37.5	+0.3
KPC				eSg	Sg	05 10 04.9	-7.0
KPC				Smax		05 10 21.9	
	comp=E,149nm,1.2s						
KPC	Khapcheranga	5.96	273	eP	Pn	05 08 30.7	+1.8
KPC				pmax	pmax		
	comp=Z,11nm,0.3s						
CN2	Changchun	6.54	154	ePG	Pg	05 09 02.9	-3.0
CN2				Smax			
	comp=N,100nm,0.7s						
CN2				Smax			
	comp=E,100nm,0.7s						
KLR	Kul'dur	6.66	91	eP	Pb	05 08 50.0	-6.5
IENR	Iengra	6.77	16	eSn	Sn	05 09 56.8	-0.3
IENR				eSg	Sg	05 10 36.7	-1.2
KHNR	Khani	7.23	353	eSg	Sg	05 10 50.4	-2.2
CLNS	Chul'man	7.35	14	eSg	Sg	05 10 54.6	-2.0
CRS	Chara	7.41	346	ePn	Pn	05 08 50.8	+2.0
CRS				e		05 08 59.9	
CRS				ePg	Pg	05 09 17.6	-4.9
CRS				Pmax		05 09 20.5	
	comp=E,11nm,1.2s						
CRS				eSg	Sg	05 10 55.7	-2.7
CRS				Smax		05 11 03.5	
	comp=E,170nm,1.5s						
UKT	Uakit	7.49	323	ePn	Pn	05 08 51.7	+1.8
UKT				e		05 08 59.3	
UKT				eSg	Sg	05 10 55.7	-5.3
UKT				Smax		05 11 21.2	
	comp=E,58nm,0.8s						
UKT	Uakit	7.49	323	eP	Pn	05 08 51.6	+1.7
UKT				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NLYR	Nelyaty	7.60	335	ePn	Pn	05 08 53.1	+1.7
NLYR				e		05 09 22.8	
NLYR				eSg	Sg	05 11 03.3	-1.1
SVKR	Severomuysk	7.98	326	e	Px	05 10 06.4	
SVKR				eSg	Sx	05 11 12.9	
SVKR				Smax		05 11 30.0	
	comp=Z,206nm,1.6s						
YLYR	Ulyunkhan	8.17	313	ePn	Pn	05 09 00.6	+1.4
YLYR				e		05 09 10.0	
YLYR				eSg	Sn	05 11 17.1	+46
YLYR				Smax		05 11 21.3	
	comp=Z,121nm,1.8s						
YLYR	Ulyunkhan	8.17	313	eP	Pn	05 09 00.7	+1.5
YLYR				eS	Sn	05 10 33.1	+1.5
YLYR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
YLYR				smax			
	comp=E,122nm,1.8s						
SYVR	Suvo	8.17	303	ePn	Pn	05 09 00.9	+1.7
SYVR				e		05 10 12.6	
SYVR				eSg	Sn	05 11 17.5	+46
SYVR				Smax		05 11 22.1	
	comp=E,153nm,1.7s						
SYVR	Suvo	8.17	303	eP	Pn	05 09 00.6	+1.4
KMO	Kumora	8.76	318	ePn	Pn	05 09 09.4	+2.0
KMO				eSg	Sn	05 11 35.1	+49
KMO				Smax		05 11 46.0	
	comp=E,144nm,1.3s						
BOD	Bodaibo	9.21	334	ePn	Px	05 09 49.8	
BOD				eSg	Sx	05 11 51.7	
BOD				e		05 11 58.4	
BOD				max		05 11 59.2	
	comp=E,59nm,1.4s						
NIZ	Nizh Angarsk	9.44	314	ePn	Pn	05 09 18.9	+2.2
NIZ				eSg	Sn	05 11 58.7	+56
NIZ				Smax		05 12 08.1	
	comp=E,65nm,1.5s						
OGRR	Ongureny	9.50	299	ePn	Pn	05 09 18.5	+1.0
OGRR				e		05 09 27.1	
OGRR				e		05 11 14.5	
OGRR				eSg	Sn	05 11 58.4	+54
OGRR				Smax		05 12 08.7	
	comp=E,43nm,2.1s						
ULN	Ulaanbaatar	9.76	264	eSg	Sx	05 12 04.9	
ULN	Ulaanbaatar	9.76	264	eP	Pn	05 09 20.1	-1.0
ULN				S	Sn	05 11 09.3	-1.5
CGD	Chagda	10.43	27	eSg	Sx	05 12 30.1	
LSTR	Listvyanka	10.79	288	eSg	Sx	05 12 38.9	
LSTR				Smax		05 13 14.9	
	comp=E,47nm,2.8s						
IRK	Irkutsk	11.17	289	eSg	Sx	05 12 47.0	
IRK				Smax		05 12 50.3	

	comp=E,219nm,0.1s						
TLY	**Talaya**	**11.52**	**286**	*e*Sg	Sx	05 12 59.5	
TLY				Smax		05 13 10.5	
	comp=E,14nm,0.8s						
TLY	**Talaya**	**11.52**	**286**	*i* P	**Pn**	**05 09 42.9**	**-2.3**
ZAK	**Zakamensk**	**11.77**	**280**	*e*Sg	Sx	05 13 08.6	
ZAK				Smax		05 13 17.8	
	comp=E,164nm,2.1s						
ARS	**Arshan**	**12.29**	**287**	*e*Sg	Sx	05 13 21.1	
ARS				Smax		05 13 45.1	
	comp=E,53nm,1.3s						
YAK	**Yakutsk**	**13.09**	**17**	*e*P	**Pn**	**05 10 07.1**	**+0.5**
MOY	**Mondy**	**13.17**	**286**	*e*Sg	Sx	05 13 51.6	
MOY				Smax		05 14 14.1	
	comp=E,27nm,2.3s						
YSS	**Yuzh-Sakhalins**	**14.36**	**93**	*i* P	**Pn**	**05 10 23.0**	**-0.9**
YSS				pmax	pmax		
	comp=Z,33nm,2.2s						
SEY	**Seymchan**	**21.30**	**40**	*i* P	**P**	**05 11 46.8**	**-0.6**
TIXI	**Tiksi**	**22.21**	**6**	*i* P	**P**	**05 11 57.6**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,28nm,2.5s,mb4.2						

CASC 13 05:17:16.9±1.5**,1355N×9061W,h34km**±36km**,MD3.5, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.99**	**70**	*e*P	x	05 17 41.8	
RTR				*e*S	x	05 17 55.4	
SBLS	**San Blas**	**1.00**	**73**	*e*P	x	05 17 41.7	
SBLS				*e*S	x	05 17 54.8	
SNJE	**San Jose**	**1.02**	**72**	*e*P	x	05 17 42.0	
SNJE				*e*S	x	05 17 56.2	
RBDL	**Robledal**	**1.05**	**58**	*e*P	x	05 17 42.0	
RBDL				*e*S	x	05 17 56.7	
TP2	**Tecpan 2**	**1.29**	**342**	*e*P	Pn	05 17 39.5	+1.0
TP2				*e*S	Sn	05 17 56.5	+2.0
BOQS	**Boqueron**	**1.30**	**82**	*e*P	x	05 17 45.2	
BOQS				*e*S	x	05 18 02.4	
LFRS	**El Faro**	**1.50**	**87**	*e*P	x	05 17 48.3	
LFRS				*e*S	x	05 18 08.5	
LBRS	**Las Brisas**	**1.53**	**83**	*e*P	x	05 17 48.0	
SNVI	**San Vicente**	**1.72**	**88**	*e*P	x	05 17 51.4	

GUC 13 05:20:07.8±0.7**,3352S×6850W,h15km**±98km**,MD3.7, ML2.4,1D,Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.51**	**277**⇓	*e*P	Pn	05 20 32.8	-1.5
FCH				*i* S	Sn	05 20 51.7	-1.9
FCH				AML	AML	05 20 53.3	
	comp=N,46nm,0.6s						
CLCH	**Cerro Calan**	**1.71**	**273**	*e*P	Pn	05 20 36.0	-1.0
CLCH				*i* S	Sn	05 20 56.5	-2.0
CLCH				AML	AML	05 21 02.1	
	comp=E,83nm,0.3s						
CICH	**Cipreses**	**1.79**	**243**	*e*P	Pn	05 20 36.7	-1.4
CICH				*i* S	Sn	05 20 59.1	-1.4
CHCH	**Chadas Angostu**	**1.84**	**256**	*i* P	Pn	05 20 37.8	-1.0
CHCH				*i* S	Sn	05 21 00.3	-1.5
CACH	**El Canelo**	**1.85**	**250**	*e*P	Pn	05 20 37.8	-1.1
CACH				*i* S	Sn	05 21 00.4	-1.6
RCDM	**Rinconada Maip**	**1.93**	**270**	*e*P	Pn	05 20 39.7	-0.3
RCDM				*i* S	Sn	05 21 03.7	-0.2
RCDM				AML	AML	05 21 04.7	
	comp=E,60nm,0.2s						
CMCH	**Combarbala**	**3.15**	**317**	*e*P	Pn	05 20 59.9	+3.1

*IDC **13** 05:32:14.1±1.5,3307S×179.11W,h0km,mb4.2/4, mb1 4.3/5,mb1mx4.0/15,mbtmp4.2/5,ML4.3/1,MS3.4/1, Ms1 3.4/1,ms1mx2.7/26,Error ellipse: s-maj=39.2km s-min=34.4km az=173.0*
*ISCJB **13** 05:32:18.6±3.0,3334S±006×1794W±03,h29km±24km, mb4.2/7,Error ellipse: s-maj=35.7km s-min=10.2km az=12.3*
*NEIC **13** 05:32:19.2±0.8,33.11S×179.10W,h35km,mb4.1/2,Error ellipse: s-maj=17.5km s-min=15.0km az=96.0*
ISC 13 05:32:18.1±2.9**,3331S**±006×**1793W**±03**,h15km**±21km**,n25, σ1§21**/23**,mb4.2**/7**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.66**	**204**	*e*PN	**Pn**	**05 33 29.4**	**+1.6**
MXZ				SN	**Sn**	**05 34 21.2**	**-0.4**
PUZ	**Puketiti**	**5.14**	**202**	PN	**Pn**	**05 33 34.6**	**+0.1**
PUZ				SN	**Sn**	**05 34 34.8**	**+1.4**
MWZ	**Matawai**	**5.62**	**206**	*e*PN	**Pn**	**05 33 42.4**	**+1.4**
URZ	**Urewera**	**5.72**	**209**	Pn	**Pn**	**05 33 45.2**	**+2.8**
	7.2nm,0.3s,baz=252,slow=0.8,SNR=19						
URZ				Sn	**Sn**	**05 34 46.9**	**-0.9**
	8.4nm,0.3s,baz=274,slow=23,SNR=7.3						
URZ	**Urewera**	**5.72**	**209**	*e*PN	**Pn**	**05 33 44.8**	**+2.4**
OUZ	**Omahuta**	**6.15**	**250**	PN	**Pn**	**05 33 54.3**	**+6.0**
BKZ	**Black Stump Fm**	**6.74**	**209**	*e*PN	**Pn**	**05 33 56.9**	**+0.4**
BFZ	**Birch Farm**	**8.16**	**204**	*e*PN	**Pn**	**05 34 15.8**	**-0.1**
MRZ	**Mangatainoka R**	**8.38**	**207**	*e*PN	**Pn**	**05 34 16.8**	**-2.2**
KIW	**Kapiti Island**	**8.82**	**210**	*e*PN	**Pn**	**05 34 22.7**	**-2.4**
THZ	**Tophouse**	**10.44**	**214**	*e*PN	**Pn**	**05 34 44.8**	**-2.4**
THZ				SN	**Sn**	**05 36 35.5**	**-8.3**
DZM	**Mont Dzumac**	**16.82**	**308**	LR	LR	05 41 24.1	
	comp=Z,120nm,20.7s,baz=26,slow=33						
RAR	**Rarotonga**	**21.12**	**60**	P	**P**	**05 36 51.5**	**-11**
	19nm,0.6s,mb4.6,baz=206,slow=6.3,SNR=4.1						
CTA	**Charters Tower**	**33.28**	**285**	P	**P**	**05 38 54.1**	**-0.7**
	2.7nm,0.3s,mb4.6,baz=97,slow=14,SNR=2.5						
AS31	**Alice Springs**	**41.91**	**271**	*e*P	**P**	**05 40 08.3**	**+0.5**
ASAR	**Alice Springs**	**41.91**	**271**	P	**P**	**05 40 07.9**	**0.0**
	1.0nm,0.5s,mb3.8,baz=109,slow=7.7,SNR=23						
WRAB	**Tennant Creek**	**43.16**	**276**	*e*P	**P**	**05 40 18.9**	**+0.8**
	3.6nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**43.16**	**276**	P	**P**	**05 40 17.8**	**-0.2**
	2.1nm,0.6s,mb4.1,baz=118,slow=7.4,SNR=18						
FITZ	**Fitzroy Crossi**	**51.28**	**273**	P	**P**	**05 41 21.9**	**+0.5**
	0.7nm,0.5s,mb3.9,baz=120,slow=6.9,SNR=7.1						
SNAA	**Sanae**	**75.28**	**179**	*e*P	**P**	**05 43 59.6**	**-0.9**
	2.1nm,1.1s,mb4.0						
KAF	**Kangasniemi**	**146.86**	**338**	*e*pkp	PKPdf	05 51 54.1	-3.7
FINES	**FINESS Array B**	**147.43**	**337**	PKPbc	PKPbc	05 51 58.1	-3.2
	1.0nm,0.4s,baz=44,slow=4.1,SNR=9.5						
NB2	**NORSAR Subarra**	**151.42**	**349**	PKPa	PKPbc	05 52 08.7	-2.5
	comp=Z,1.0nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.42**	**349**	PKPbc	PKPbc	05 52 08.8	-2.5
	comp=Z,1.0nm,0.6s,baz=15,slow=4.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**159.91**	**183**	PKPab	PKPab	05 52 54.9	-0.9
	comp=Z,0.6nm,0.7s,baz=163,slow=3.3,SNR=4.6						

IDC 13 05:34:21.8±2.2**,2165N×14301E,h284km**±20km**,mb3.3**/5**, mb1 3.4**/7**,mb1mx3.1**/22**,mbtmp4.0**/7**,Error ellipse: s-maj=39.6km s-min=17.8km az=79.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.47**	**352**	P	Pn	05 35 44.9	+0.6
	12nm,0.3s,baz=281,slow=17,SNR=5.6						
CBIJ				S	S	05 36 51.0	+0.4
	7.7nm,0.3s,baz=309,slow=22,SNR=4.6						
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	Pn	05 37 42.8	-2.8
	0.3nm,0.3s,baz=167,slow=6.0,SNR=3.5						
WRA	**Warramunga Arr**	**42.20**	**192**	P	P	05 41 47.0	-0.2
	0.5nm,0.5s,baz=9.1,slow=8.0,SNR=9.3						
MKAR	**Makanchi Array**	**54.61**	**313**	P	P	05 43 22.4	+1.0
	0.2nm,0.3s,baz=93,slow=7.8,SNR=3.4						
BVAR	**Borovoye Array**	**62.60**	**320**	P	P	05 44 15.9	-0.3
	1.2nm,0.4s,baz=99,slow=8.8,SNR=5.1						
ARCES	**ARCESS Array B**	**78.91**	**341**	P	P	05 45 53.5	-0.5
	4.2nm,0.9s,baz=75,slow=9.2,SNR=4.9						
FINES	**FINESS Array B**	**83.15**	**334**	P	P	05 46 14.5	-1.7
	0.8nm,0.5s,baz=60,slow=7.5,SNR=6.7						
PLCA	**Paso Flores**	**145.85**	**132**	PKPbc	PKPbc	05 53 27.9	+0.1
	0.8nm,0.8s,baz=356,slow=14,SNR=3.2						
LPAZ	**La Paz**	**150.10**	**85**	PKPbc	PKPbc	05 53 40.8	+1.8
	0.4nm,0.4s,baz=43,slow=2.8,SNR=5.1						

*IDC **13** 05:47:37.8±2.3,22.17S×12664E,h0km,mb1 3.7/5, mb1mx3.5/14,mbtmp3.5/5,ML3.6/3,Error ellipse: s-maj=28.4km s-min=23.1km az=153.0*
*NEIC **13** 05:47:42.0,2207S×12656E,h1km,mb3.1/1, ML3.2(AUST),After AUST.*
*AUST **13** 05:47:42.1,2207S×12656E,h1km,ML3.2*
ISC 13 05:47:38.4±0.4**,2214S**±004×**12661E**±003**,h10km,n32, σ1§61**/65**,Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**4.12**	**347**	*e*P	**Pn**	**05 48 43.1**	**+1.7**
FITZ				*e*S	**Sn**	**05 49 28.7**	**-0.9**
	5.3nm,0.2s						
FITZ	**Fitzroy Crossi**	**4.12**	**347**	Pn	**Pn**	**05 48 42.8**	**+1.4**
	0.1nm,0.3s,baz=184,slow=14,SNR=17						
FITZ				Pg	**Pg**	**05 48 57.7**	**+0.4**
	1.1nm,0.3s,baz=174,slow=14,SNR=12						
FITZ				Sn	**Sn**	**05 49 28.7**	**-0.9**
	1.4nm,0.3s,baz=292,slow=12,SNR=6.2						
FITZ				Lg		05 49 42.4	
	2.2nm,0.3s,baz=86,slow=22,SNR=5.6						
MBWA	**Marble Bar**	**6.47**	**277**	*e*P	**Pn**	**05 49 14.3**	**+0.6**
MBWA				*e*S	**Sn**	**05 50 22.9**	**-4.7**
KNA	**Kununurra**	**6.68**	**18**	*e*P	**Pn**	**05 49 20.1**	**+3.6**
KNA				*e*S	**Sn**	**05 50 28.6**	**-4.0**
ASPA	**Alice Springs**	**6.89**	**104**	*e*P	**Pn**	**05 49 23.2**	**+3.8**
ASPA				*e*S	**Sn**	**05 50 37.9**	**0.0**
ASAR	**Alice Springs**	**6.89**	**104**	Pn	**Pn**	**05 49 21.8**	**+2.4**
	0.4nm,0.3s,baz=287,slow=12,SNR=25						
ASAR				Sn	**Sn**	**05 50 39.2**	**+1.3**
	1.0nm,0.3s,baz=280,slow=23,SNR=8.1						
ASAR				Lg		05 51 11.8	
	1.4nm,0.3s,baz=278,slow=30,SNR=7.1						
ASAR	**Alice Springs**	**6.89**	**104**	Pn	**Pn**	**05 49 21.9**	**+2.4**
ASAR				Sn	**Sn**	**05 50 39.2**	**+1.3**
ASAR				Lg		05 51 11.8	
AS31	**Alice Springs**	**6.89**	**104**	*e*P	**Pn**	**05 49 23.2**	**+3.7**
AS31				*e*S	**Sn**	**05 50 37.9**	**-0.1**
WRA	**Warramunga Arr**	**7.54**	**75**	Pn	**Pn**	**05 49 28.9**	**+0.5**
	0.5nm,0.3s,baz=260,slow=13,SNR=39						
WRA				Sn	**Sn**	**05 50 51.2**	**-2.7**
	1.2nm,0.3s,baz=250,slow=14,SNR=5.9						
WRA				Lg		05 51 35.4	
	1.5nm,0.3s,baz=252,slow=29,SNR=11						
WB2	**Warramunga Arr**	**7.55**	**75**	*e*P	**Pn**	**05 49 29.3**	**+0.8**
WB2				*e*S	**Sn**	**05 50 51.6**	**-2.6**
MEEK	**Meekatharra**	**8.55**	**237**	*e*P	**Pn**	**05 49 44.1**	**+1.9**
MEEK				*e*S	**Sn**	**05 51 14.7**	**-4.1**
	12nm,0.2s						
MEEK	**Meekatharra**	**8.55**	**237**	*e*P	**Pn**	**05 49 44.1**	**+1.9**
	12nm,0.2s						
MEEK				*e*S	**Sn**	**05 51 14.7**	**-4.1**
FORT	**Forrest**	**8.70**	**172**	*e*P	**Pn**	**05 49 47.6**	**+3.3**
FORT				*e*S	**Sn**	**05 51 21.0**	**-1.4**
	6.6nm,0.3s						
FORT	**Forrest**	**8.70**	**172**	*e*P	**Pn**	**05 49 47.6**	**+3.3**
	6.6nm,0.3s						
FORT				*e*S	**Sn**	**05 51 21.0**	**-1.4**
KMBL	**Kambalda**	**10.11**	**204**	*e*P	**Pn**	**05 50 04.9**	**+1.3**
KMBL				*e*S	**Sn**	**05 51 50.9**	**-6.2**
	29nm,0.3s						
KMBL	**Kambalda**	**10.11**	**204**	*e*P	**Pn**	**05 50 04.9**	**+1.3**
	29nm,0.3s						
KMBL				*e*S	**Sn**	**05 51 50.9**	**-6.2**
KAKA	**Kakadu**	**10.90**	**32**	*e*P	**Pn**	**05 50 14.0**	**-0.4**
KAKA				*e*S	**Sn**	**05 52 08.0**	**-8.4**
	4.2nm,0.2s						
KAKA	**Kakadu**	**10.90**	**32**	*e*P	**Pn**	**05 50 14.0**	**-0.4**
	4.2nm,0.2s						
KAKA				*e*S	**Sn**	**05 52 08.0**	**-8.4**
GIRL	**Giralia**	**11.46**	**265**	*e*P	**Pn**	**05 50 23.8**	**+1.7**
GIRL				*e*S	**Sn**	**05 52 22.8**	**-7.4**
	573nm,1.5s						
MORW	**Morawa**	**11.77**	**232**	*e*P	**Pn**	**05 50 25.9**	**-0.4**
MORW				*e*S	**Sn**	**05 52 26.3**	**-11**
	11nm,0.7s						
MORW	**Morawa**	**11.77**	**232**	*e*P	**Pn**	**05 50 25.9**	**-0.4**
	11nm,0.7s						
MORW				*e*S	**Sn**	**05 52 26.3**	**-11**
KLBR	**Kellerberrin**	**12.29**	**218**	*e*P	**Pn**	**05 50 34.3**	**+0.9**
KLBR				*e*S	**Sn**	**05 52 42.5**	**-7.8**
	25nm,1.1s						
KLBR	**Kellerberrin**	**12.29**	**218**	*e*P	**Pn**	**05 50 34.3**	**+0.9**
	25nm,1.1s						
KLBR				*e*S	**Sn**	**05 52 42.5**	**-7.8**
MUN	**Mundaring**	**13.48**	**221**	*e*P	**Pn**	**05 50 50.2**	**+0.6**
MUN				*e*S	**Sn**	**05 53 09.2**	**-10**
NWAO	**Narrogin (SRO)**	**13.58**	**216**	*e*P	**Pn**	**05 50 50.5**	**-0.5**
NWAO				*e*S	**Sn**	**05 53 09.9**	**-12**
	62nm,0.8s						
NWAO	**Narrogin (SRO)**	**13.58**	**216**	Pn	**Pn**	**05 50 50.9**	**-0.1**
	0.3nm,0.3s,baz=63,slow=8.8,SNR=3.8						
NWAO				Sn	**Sn**	**05 53 10.6**	**-11**
	0.7nm,0.3s,baz=277,slow=17,SNR=4.3						
NWAO				Lg		05 54 48.9	
	0.5nm,0.3s,baz=142,slow=19,SNR=3.3						
NWAO	**Narrogin (SRO)**	**13.58**	**216**	*e*P	**Pn**	**05 50 50.5**	**-0.5**
	62nm,0.8s						
NWAO				*e*S	**Sn**	**05 53 09.9**	**-12**
RKGY	**Rocky Gully**	**15.03**	**212**	*e*P	**Pn**	**05 51 11.0**	**+0.2**
RKGY				*e*S	**Sn**	**05 53 48.9**	**-8.3**
	66nm,1.4s						
RKGY	**Rocky Gully**	**15.03**	**212**	*e*P	**Pn**	**05 51 11.0**	**+0.2**
	66nm,1.4s						
RKGY				*e*S	**Sn**	**05 53 48.9**	**-8.3**
STKA	**Stephens Creek**	**16.49**	**129**	*e*P	**Pn**	**05 51 28.8**	**-0.9**
STKA				*e*S	**Sn**	**05 54 22.6**	**-10**
	1.0nm,0.6s						
STKA	**Stephens Creek**	**16.49**	**129**	Pn	**Pn**	**05 51 28.2**	**-1.5**
	0.4nm,0.3s,baz=315,slow=11,SNR=7.0						
STKA				Sn	**Sn**	**05 54 24.2**	**-8.5**
	0.2nm,0.3s,baz=150,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**16.49**	**129**	*e*P	**Pn**	**05 51 28.8**	**-0.9**
	1.0nm,0.6s						
STKA				*e*S	**Sn**	**05 54 22.6**	**-10**

*ISCJB **13** 05:50:38.7±1.6,299S±0.1×1784W±0.1,h29km±11km, mb4.5/12,MS3.8/4,Error ellipse: s-maj=23.2km s-min=10.7km az=84.8*
*IDC **13** 05:50:39.0±1.8,2980S×17769W,h60km±14km,mb4.0/6, mb1 4.2/6,mb1mx4.0/13,mbtmp4.3/6,MS3.5/4,Ms1 3.5/4, ms1mx3.2/17,Error ellipse: s-maj=31.2km s-min=26.7km az=176.0*
*NEIC **13** 05:50:41.9±0.7,2920S×17802W,h74km±6km,mb4.6/6, Error ellipse: s-maj=20.7km s-min=13.8km az=188.0*
*BJI **13** 05:50:44.9,2920S×17800W,h74km,mB5.3,mb5.0,Ms4.7, Msz4.4*
ISC 13 05:50:39.9±1.7**,2987S**±010×**1783W**±01**,h28km**±11km**,n33, σ1§17**/24**,mb4.5**/12**,MS3.8**/4**,1C-3D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.69**	**26**	P	**Pb**	**05 50 52.9**	**-0.4**
	247nm,0.3s,baz=258,slow=23,SNR=14						
RAO				S	**Sb**	**05 51 03.3**	**+0.8**
	2µm,0.3s,baz=82,slow=22,SNR=47						
RAO	**Raoul Island**	**0.69**	**26**	*e*Pn	**Pn**	**05 50 52.7**	**-0.9**
RAO				*e*Sn	**Sn**	**05 51 02.6**	**-0.8**
DZM	**Mont Dzumac**	**15.78**	**296**	LR	LR	05 59 06.4	
	comp=Z,91nm,19.8s,baz=5.2,slow=31						
CTA	**Charters Tower**	**33.49**	**279**⇓	*i*P	**P**	**05 57 18.9**	**+2.3**
	4.6nm,0.5s,mb4.7						
CTA	**Charters Tower**	**33.49**	**279**	P	**P**	**05 57 18.7**	**+2.1**
	5.6nm,0.4s,mb4.8,baz=128,slow=5.5,SNR=8.3						
CTA				LR	LR	06 08 50.8	
	comp=Z,86nm,18.4s,MS3.5,baz=230,slow=32						
CTAO	**Charters Tower**	**33.49**	**279**	*e*P	**P**	**05 57 18.6**	**+2.0**
	8.5nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.38**	**256**⇓	*i*P	**P**	**05 57 25.1**	**+0.8**
	2.8nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**34.38**	**256**	P	**P**	**05 57 25.2**	**+0.9**
	5.4nm,0.7s,mb4.6,baz=90,slow=8.5,SNR=9.6						
STKA				LR	LR	06 08 44.7	
	comp=Z,72nm,19.3s,MS3.4,baz=204,slow=31						
AS31	**Alice Springs**	**42.91**	**266**	*e*P	**P**	**05 58 34.8**	**-1.1**
ASAR	**Alice Springs**	**42.91**	**266**	P	**P**	**05 58 35.6**	**-0.3**
	1.7nm,0.5s,mb4.0,baz=105,slow=7.0,SNR=23						
ASPA	**Alice Springs**	**42.91**	**266**	*e*P	**P**	**05 58 34.8**	**-1.1**
WB2	**Warramunga Arr**	**43.84**	**272**⇓	*i*P	**P**	**05 58 43.3**	**-0.1**
WRAB	**Tennant Creek**	**43.84**	**272**	*e*P	**P**	**05 58 43.4**	**-0.1**
	8.1nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.85**	**272**	P	**P**	**05 58 42.5**	**-1.0**
	4.0nm,0.5s,mb4.4,baz=110,slow=8.1,SNR=35						
VNDA	**Vanda**	**48.60**	**186**	P	**P**	**05 59 17.6**	**-3.2**
	0.6nm,0.6s,mb3.8,baz=324,slow=4.8,SNR=3.1						
FITZ	**Fitzroy Crossi**	**52.13**	**270**	P	**P**	**05 59 46.2**	**-1.3**
	1.3nm,0.7s,mb4.0,baz=170,slow=15,SNR=5.9						
NWAO	**Narrogin (SRO)**	**54.37**	**249**	LR	LR	06 20 03.6	
	comp=Z,91nm,21.4s,MS3.8,baz=324,slow=32						
QSPA	**South Pole Qui**	**60.24**	**180**	*e*P	**P**	**06 00 46.7**	**+1.3**
	2.6nm,0.8s,mb4.3						
SYO	**Syowa Base**	**77.58**	**193**⇑	*e*X		06 02 27.5	
SNAA	**Sanae**	**78.69**	**179**	*e*P	**P**	**06 02 39.6**	**+0.2**
	0.9nm,0.7s,mb3.8						
VNA3	**Neumayer Olymp**	**78.85**	**176**	*e*	**P**	**06 02 34.4**	**-5.8**
VNA3				*e*	pP	06 02 41.7	-7.6
VNA3				*e*		06 02 47.7	
VNA3				*e*		06 02 56.0	
MDJ	**Mudanjiang**	**88.06**	**326**	P	**P**	**06 03 29.4**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,74nm,8.8s						
KMI	**Kunming**	**93.38**	**297**	P	**P**	**06 03 53.1**	**+0.8**
KMI				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.5						
CD2	**Chengdu**	**95.61**	**302**	*e*P	**P**	**06 04 02.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**95.70**	**314**	*e*P	**P**	**06 04 05.1**	**+2.1**
HHC				PP	PP	06 07 59.6	+5.0
HHC				S	S	06 15 17.5	-1.0
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,62nm,5.5s						
HHC				LR	LR		
	comp=Z,86nm,6.1s						
WMQ	**Urumqi**	**112.72**	**308**	*e*PKP	PKiKP	06 09 13.5	-0.2
WMQ				LR	LR		
	comp=Z,97nm,18.0s,MS4.4						
BVAR	**Borovoye Array**	**125.86**	**316**	PKP	PKPdf	06 09 33.8	-5.2
	comp=Z,0.7nm,0.7s,baz=72,slow=9.5,SNR=3.7						
FINES	**FINESS Array B**	**144.57**	**340**	PKP	PKPdf	06 10 07.7	-5.9
	comp=Z,4.3nm,0.7s,baz=68,slow=4.0,SNR=18						
NB2	**NORSAR Subarra**	**148.19**	**351**	PKPa	PKP	06 10 17.1	
	comp=Z,0.7nm,0.6s,baz=19,slow=3.0						
NOA	**NORSAR Array B**	**148.19**	**351**	PKPbc	PKPbc	06 10 17.5	-5.6
	comp=Z,1.3nm,0.8s,baz=16,slow=4.3,SNR=4.2						
AKASG	**Malin Array Be**	**150.74**	**323**	PKPbc	PKPbc	06 10 24.4	-4.9
	comp=Z,1.3nm,0.5s,baz=47,slow=2.9,SNR=7.0						
AKASG	**Malin Array Be**	**150.74**	**323**	PKPbc	PKPbc	06 10 24.4	-4.9
TORD	**Torodi Ar. Bea**	**163.36**	**180**	PKPab	PKPab	06 11 25.0	-5.6
	comp=Z,0.5nm,0.7s,baz=181,slow=3.0,SNR=4.4						

WEL 13 05:51:38.5±0.4**,3809S×17610E,h174km**±4km**,ML3.5**/11**, Error ellipse: s-maj=4.0km s-min=3.0km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**102**	PN	Pn	05 52 04.4	0.0
URZ				SN	Sn	05 52 24.0	-0.1
BKZ	**Black Stump Fm**	**1.12**	**164**	PN	Pn	05 52 06.9	+0.3
BKZ				SN	Sn	05 52 28.1	0.0
MWZ	**Matawai**	**1.15**	**103**	PN	Pn	05 52 07.1	+0.3
WNVZ	**Wahianoa**	**1.30**	**198**	PN	Pn	05 52 08.5	+0.4
MOVZ	**Moawhango**	**1.34**	**192**	PN	Pn	05 52 08.5	0.0
KNZ	**Kokohu**	**1.54**	**127**	SN	Sn	05 52 34.4	-0.6
MXZ	**Matakaoa Point**	**1.82**	**74**	PN	Pn	05 52 13.3	0.0
TSZ	**Takapari Road**	**1.97**	**183**	PN	Pn	05 52 14.2	-0.6
TSZ				SN	Sn	05 52 41.2	-1.7
BFZ	**Birch Farm**	**2.59**	**178**	PN	Pn	05 52 20.3	-1.6
MRZ	**Mangatainoka R**	**2.60**	**189**	PN	Pn	05 52 20.2	-1.8
MRZ				SN	Sn	05 52 53.2	-2.6
KIW	**Kapiti Island**	**2.92**	**198**	PN	Pn	05 52 23.4	-2.4
CAW	**Cannon Point**	**3.12**	**195**	PN	Pn	05 52 25.8	-2.5
TCW	**Tory Channel**	**3.42**	**204**	PN	Pn	05 52 29.4	-2.7
TUWZ	**Tuamarina**	**3.73**	**206**	PN	Pn	05 52 32.8	-3.1
NNZ	**Nelson**	**3.76**	**213**	SN	Sn	05 53 17.3	-4.3
THZ	**Tophouse**	**4.42**	**213**	PN	Pn	05 52 41.7	-3.0
KHZ	**Kahutara**	**4.75**	**204**	PN	Pn	05 52 45.5	-3.5

IDC 13 06:00:03.5±3.4**,2996S×13892E,h0km,mb1 3.0**/3**, mb1mx3.0**/12**,mbtmp2.8**/3**,ML2.4**/1**,Error ellipse: s-maj=139.3km s-min=16.2km az=47.0,South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.99**	**130**	Pn	Pn	06 00 52.1	0.0
	0.1nm,0.3s,baz=315,slow=13,SNR=3.0						
STKA				Sn	Sn	06 01 27.7	-0.8
	0.5nm,0.3s,baz=331,slow=19,SNR=5.3						
STKA				Lg		06 01 39.0	
	1.0nm,0.3s,baz=202,slow=19,SNR=8.3						
ASAR	**Alice Springs**	**7.71**	**323**	Pn	Pn	06 01 57.6	+0.6
	0.1nm,0.3s,baz=148,slow=12,SNR=3.5						
ASAR				Sn	Sn	06 03 25.4	+0.5
	0.1nm,0.3s,baz=150,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**10.81**	**336**	Pn	Pn	06 02 39.4	0.0
	baz=153,slow=13,SNR=2.9						

*ISCJB **13** 06:39:16.9±0.5,1172N±005×4324E±005,h10km,mb3.8/4, MS3.8/3,Error ellipse: s-maj=9.3km s-min=3.6km az=99.2*
*DHMR **13** 06:39:16.5±1.2,1179N×4323E,h18km±9km,ML4.8*
*CSEM **13** 06:39:16.3±0.2,1171N×43.17E,h15km,ML4.7,Error ellipse: s-maj=9.0km s-min=3.8km az=144.0*
*IDC **13** 06:39:18.9±1.8,1134N×4376E,h0km,mb3.8/4,mb1 3.8/5, mb1mx3.5/20,mbtmp3.8/5,ML3.3/1,MS3.7/4,Ms1 3.7/4, ms1mx3.2/25,Error ellipse: s-maj=52.7km s-min=29.0km az=139.0*
*NEIC **13** 06:39:19.1,1179N×4308E,h5km,ML4.6(CSEM), ML4.6(ARO),ML4.7(DHMR),After ARO.*
ISC 13 06:39:18.0±0.5**,1173N**±005×**4321E**±005**,h10km,n33, σ1§44**/49**,mb3.8**/4**,MS3.8**/3**,4C-2D,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBO	**Obock**	**0.26**	**18**	P	**Pg**	**06 39 24.7**	**+1.4**
TDD	**Tadjoura Ara**	**0.30**	**283**	P	**Pg**	**06 39 22.8**	**-1.2**
SGH	**Sud-Ghoubbet**	**0.64**	**242**	P	**Pg**	**06 39 29.5**	**-0.8**
DAF	**Dafare**	**0.68**	**259**	P	**Pg**	**06 39 29.6**	**-1.4**
GBR	**Grand-Bara**	**0.93**	**232**	P	**Pg**	**06 39 34.5**	**-1.4**
ADEN	**Aden**	**2.02**	**59**	*i* P	**Pn**	**06 39 51.1**	**-1.0**
ADEN				*i* S	**Sn**	**06 40 16.1**	**-1.3**
ADEN				AML	AML	06 40 28.5	
	comp=E,9µm,0.4s						
ADEN	**Aden**	**2.02**	**59**	P	**Pn**	**06 39 50.9**	**-1.2**
ADEN	**Aden**	**2.02**	**59**	*i* P	**Pn**	**06 39 51.1**	**-1.0**
ADEN				*i* S	**Sn**	**06 40 16.1**	**-1.3**
	comp=E,5µm,0.4s						
UDYN	**Al ‘Udayn**	**2.34**	**18**⇑	*e*P	**Pn**	**06 39 55.8**	**-0.7**
UDYN				*i* S	**Sn**	**06 40 26.3**	**+1.0**
UDYN	**Al ‘Udayn**	**2.34**	**18**	P	**Pn**	**06 39 55.7**	**-0.8**
UDYN				S	**Sn**	**06 40 22.3**	**-3.0**
LBOS		**2.91**	**43**⇑	*i*P	**Pn**	**06 40 03.9**	**-0.4**
LBOS				*i* S	**Sn**	**06 40 42.5**	**+3.1**
LBOS		**2.91**	**43**	P	**Pn**	**06 40 03.9**	**-0.4**
DHBB	**Dhamar BB**	**3.05**	**22**	*i* P	**Pn**	**06 40 05.7**	**-0.5**
DHBB				*i* S	**Sn**	**06 40 44.7**	**+2.0**
DHBB	**Dhamar BB**	**3.05**	**22**	P	**Pn**	**06 40 05.8**	**-0.4**
DHBB				S	**Sn**	**06 40 42.7**	**0.0**
BDHA	**Al Bayda’**	**3.20**	**46**⇑	*i*P	**Pn**	**06 40 08.1**	**-0.2**
BDHA				*i* S	**Sn**	**06 40 48.8**	**+2.3**
BDHA				AML	AML	06 41 06.7	
	comp=N,7µm,0.8s						
BDHA	**Al Bayda’**	**3.20**	**46**	P	**Pn**	**06 40 08.1**	**-0.2**
BDHA				S	**Sn**	**06 40 46.0**	**-0.6**
BDHA	**Al Bayda’**	**3.20**	**46**⇑	*i*P	**Pn**	**06 40 08.1**	**-0.2**
BDHA				*i* S	**Sn**	**06 40 48.8**	**+2.2**
	comp=N,3µm,0.8s						
DESE	**Dese**	**3.56**	**260**	*e*PN	**Pn**	**06 40 17.5**	**+4.3**
DESE				*e*S	**Sn**	**06 41 00.2**	**+5.0**
HAJJ	**Hajjah**	**3.96**	**5**⇓	*i*P	**Pn**	**06 40 18.1**	**-0.7**
HAJJ				*i* S	**Sn**	**06 41 06.1**	**+0.8**
HAJJ				AML	AML	06 41 30.7	
	comp=Z,4µm,0.7s						
HAJJ	**Hajjah**	**3.96**	**5**	P	**Pn**	**06 40 17.9**	**-0.8**
HAJJ				S	**Sn**	**06 41 03.9**	**-1.3**
HAJJ	**Hajjah**	**3.96**	**5**⇓	*i*P	**Pn**	**06 40 18.0**	**-0.7**
HAJJ				*i* S	**Sn**	**06 41 06.1**	**+0.9**
	comp=Z,2µm,0.7s						
FURI	**Furi**	**5.27**	**238**	*e*P	**Pn**	**06 40 43.8**	**+7.0**
FURI				S	**Pb**	**06 40 50.0**	**-0.3**
FURI				SN	**Sn**	**06 41 40.5**	**+2.9**
FURI				SG	**Sg**	**06 41 57.2**	**-10**

MUKL	Al Mukalla	6.30	64	*i* P	Pn	06 40 49.9	-1.0
MUKL				*i* S	Sn	06 42 01.8	-1.1
KMBO	Kilima Mbogo	14.08	205	Pn	Pn	06 42 39.9	+2.4
	comp=Z,0.1nm,0.3s,baz=42,slow=18,SNR=3.4						
KMBO				Lg		06 46 29.1	
	comp=Z,0.2nm,0.3s,baz=108,slow=21,SNR=4.5						
KMBO				LR	LR	06 48 00.5	
	comp=Z,267nm,18.5s,baz=200,slow=37						
BRTR	Keskin Array B	29.14	345	P	P	06 45 27.1	+8.0
	comp=Z,0.7nm,0.8s,mb3.5,baz=159,slow=12,SNR=3.0						
BOSA	Boshof	43.70	203	LR	LR	07 06 06.4	
	comp=Z,118nm,18.8s,MS3.8,baz=37,slow=37						
DBIC	Dimbokro	47.66	268	P	P	06 48 00.8	+6.4
	comp=Z,2.6nm,0.8s,mb4.3,baz=62,slow=6.5,SNR=4.1						
DBIC	Dimbokro	47.66	268	P	P	06 48 00.8	+6.4
MKAR	Makanchi Array	48.00	36	P	P	06 47 58.9	+1.9
	comp=Z,0.7nm,0.8s,mb3.7,baz=232,slow=9.2,SNR=5.1						
MKAR	Makanchi Array	48.00	36	P	P	06 47 58.9	+1.9
ZAL	Zalesovo	53.41	29	LR	LR	07 15 39.2	
	comp=Z,110nm,18.7s,MS3.9,baz=265,slow=41						
SONM	Songino Array	63.45	42	P	P	06 49 50.7	+2.7
	comp=Z,0.2nm,0.4s,mb3.6,baz=220,slow=8.8,SNR=3.7						
SONM				LR	LR	07 19 14.8	
	comp=Z,43nm,20.2s,MS3.6,baz=98,slow=38						
SONM	Songino Array	63.45	42	P	P	06 49 50.6	+2.7
SONM				LR	LR	07 19 14.8	

---

*ISCJB **13** 07:11:05.8±3.5, 2.6S±0.2×128.9E±0.4, h1^{km}±22^{km}, mb3.9/2, MS3.2/2, Error ellipse: s-maj=68.8km s-min=17.9km az=141.8*

*IDC **13** 07:11:17.2±4.1, 2.84S×128.61E, h75^{km}±38^{km}, mb3.5/2, mb1 3.8/4, mb1mx3.5/16, mbtmp3.8/4, ML3.6/2, MS3.3/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=82.8km s-min=14.5km az=70.0*

ISC 13 07:11:16.6±2.9**, 2.8S**±0.2×**128.9E**±0.4**, h69**^{km}±27^{km}**, n7, σ0^{s}.91**/8**, mb3.7**/2**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.54	191	P	Pn	07 14 51.2	-0.2
	0.1nm,0.3s,baz=4.1,slow=14,SNR=4.4						
WRA	Warramunga Arr	17.87	163	P	Pn	07 15 20.0	-0.4
	0.4nm,0.3s,baz=342,slow=12,SNR=7.0						
WRA				S	S	07 18 40.7	-1.1
	0.0nm,0.3s,baz=338,slow=22,SNR=2.9						
WB2	Warramunga Arr	17.87	163	*e*P	Pn	07 15 20.6	+0.2
ASAR	Alice Springs	21.32	167	P	P	07 15 58.0	+0.4
	6.8nm,0.6s,mb4.1,baz=347,slow=11,SNR=89						
ASAR				S	S	07 19 52.2	+1.7
	1.6nm,0.9s,baz=340,slow=18,SNR=3.8						
ASAR				LR	LR	07 25 15.3	
	comp=Z,84nm,19.5s,baz=180,slow=39						
ASPA	Alice Springs	21.32	167	*e*P	P	07 15 58.1	+0.4
STKA	Stephens Creek	31.32	159	LR	LR	07 31 12.1	
	comp=Z,53nm,21.7s,baz=200,slow=38						
MKAR	Makanchi Array	64.11	326	P	P	07 21 43.2	-0.2
	0.3nm,0.6s,mb3.3,baz=110,slow=7.8,SNR=3.1						

---

*NEIC **13** 07:30:55.9±4.9, 5.80S×146.44E, h63^{km}±39^{km}, mb4.3/2, Error ellipse: s-maj=50.7km s-min=25.7km az=162.0*

*IDC **13** 07:30:59.1±7.7, 6.23S×146.52E, h76^{km}±70^{km}, mb3.0/1, mb1 3.4/3, mb1mx3.2/13, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=60.5km s-min=52.2km az=126.0*

*ISCJB **13** 07:31:01.4±5.0, 6.4S±0.3×146.4E±0.3, h93^{km}±36^{km}, mb4.2/2, Error ellipse: s-maj=63.7km s-min=38.6km az=94.9*

ISC 13 07:31:02.7±4.9**, 6.4S**±0.3×**146.5E**±0.3**, h93**^{km}±34^{km}**, n11, σ0^{s}.83**/11**, mb3.9**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.09	167	P	Pn	07 31 49.2	-0.3
	4.5nm,0.3s,baz=321,slow=13,SNR=8.2						
PMG				S	Sn	07 32 24.8	-0.7
	6.5nm,0.3s,baz=161,slow=22,SNR=7.5						
COEN	Coen	8.20	203	*e*P	Pn	07 32 59.8	+1.0
	12nm,0.5s						
CTA	Charters Tower	13.63	181	P	Pn	07 34 15.2	+3.2
	0.3nm,0.3s,baz=12,slow=14,SNR=3.4						
WB2	Warramunga Arr	17.90	220	*e*P	Pn	07 35 04.7	-0.7
WRA	Warramunga Arr	17.90	220	P	Pn	07 35 04.8	-0.7
	0.2nm,0.3s,baz=42,slow=12,SNR=12						
AS31	Alice Springs	21.01	214	*e*P	P	07 35 39.2	+0.6
ASAR	Alice Springs	21.01	214	P	P	07 35 38.9	+0.3
	0.6nm,0.4s,mb3.3,baz=52,slow=9.1,SNR=21						
ASPA	Alice Springs	21.01	214	*e*P	P	07 35 39.2	+0.6
FITZ	Fitzroy Crossi	23.42	238	*e*P	P	07 36 02.7	-0.6
	5.6nm,0.6s,mb4.1						
MBWA	Marble Bar	29.76	238	*e*P	P	07 36 59.7	-0.5
	8.4nm,1.1s,mb4.3						
TORD	Torodi Ar. Bea	144.66	284	PKP	PKPdf	07 50 26.6	-1.7
	2.9nm,0.7s,baz=82,slow=3.6,SNR=24						

---

*IDC **13** 07:50:11.0±1.6, 42.29S×88.43E, h0^{km}, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, MS4.2/14, Ms1 4.1/14, ms1mx4.0/21, Error ellipse: s-maj=49.7km s-min=29.4km az=94.0*

NEIC 13 07:50:13.6±1.3**, 42.29S**×**88.68E, h10**^{km}**, mb4.1**/1**, Error ellipse: s-maj=39.8km s-min=18.0km az=107.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	24.38	77	LR	LR	08 03 08.2	
	comp=Z,422nm,19.3s,baz=166,slow=32						
MAW	Mawson	28.93	200	LR	LR	08 05 13.2	
	comp=Z,426nm,19.9s,baz=53,slow=31						
ASAR	Alice Springs	41.69	78	P	P	07 58 03.1	+0.7
	1.2nm,0.8s,baz=225,slow=7.4,SNR=14						
ASAR				PcP	PcP	07 59 57.6	-1.4
	0.6nm,0.8s,baz=237,slow=2.0,SNR=6.3						
ASAR				LR	LR	08 13 33.8	
	comp=Z,404nm,20.7s,baz=234,slow=34						
STKA	Stephens Creek	42.86	94	LR	LR	08 12 18.6	
	comp=Z,240nm,21.1s,baz=108,slow=31						
WRA	Warramunga Arr	44.34	74	P	P	07 58 23.7	-0.2
	1.0nm,1.0s,baz=230,slow=9.9,SNR=3.8						
WRA				PcP	PcP	08 00 08.0	+0.1
	0.5nm,0.8s,baz=224,slow=3.3,SNR=2.9						
WRA				LR	LR	08 14 56.5	
	comp=Z,263nm,20.3s,baz=255,slow=33						
VNDA	Vanda	45.48	163	P	P	07 58 32.0	-1.0
	0.9nm,0.6s,baz=281,slow=4.1,SNR=12						
VNDA				LR	LR	08 15 40.5	
	comp=Z,206nm,20.2s,baz=276,slow=34						
PSI	Prapat	45.84	14	P	P	07 58 35.1	-0.7
	2.5nm,0.5s,baz=171,slow=16,SNR=3.1						
QSPA	South Pole Qui	47.86	180	*e*P	P	07 58 51.8	+0.2
	0.5nm,0.3s						
BOSA	Boshof	52.32	263	LR	LR	08 16 43.0	
	comp=Z,240nm,18.8s,baz=119,slow=30						
PMG	Port Moresby	60.55	75	LR	LR	08 25 33.1	
	comp=Z,291nm,19.1s,baz=204,slow=35						
SONM	Songino Array	91.10	12	LR	LR	08 42 31.1	
	comp=Z,93nm,18.9s,baz=29,slow=34						
GNI	Garni	91.21	328	LR	LR	08 39 08.0	
	comp=Z,77nm,21.3s,baz=351,slow=32						
PLCA	Paso Flores	95.25	196	LR	LR	08 43 24.4	
	comp=Z,250nm,21.2s,baz=182,slow=34						
ZAL	Zalesovo	95.91	358	LR	LR	08 45 49.9	
	comp=Z,75nm,18.7s,baz=77,slow=35						
TORD	Torodi Ar. Bea	96.52	282	LR	LR	08 47 37.0	
	comp=Z,66nm,18.6s,baz=160,slow=36						
DBIC	Dimbokro	97.06	273	LR	LR	08 39 56.5	
	comp=Z,72nm,20.1s,baz=146,slow=31						
INK	Inuvik	145.76	26	PKPbc	PKPbc	08 09 48.8	-4.0
	2.9nm,0.9s,baz=314,slow=3.2,SNR=5.3						
NVAR	Mina Array Bea	159.11	92	PKPab	PKPab	08 10 51.8	+3.0
	0.2nm,0.5s,baz=225,slow=6.2,SNR=3.6						
PDAR	Pinedale Array	166.54	82	PKPab	PKPab	08 11 21.9	+0.6
	0.5nm,0.9s,baz=202,slow=1.9,SNR=3.6						

---

*ISCJB **13** 08:04:25.0±2.0, 39.6N±0.1×77.3E±0.1, h10^{km}, Error ellipse: s-maj=19.8km s-min=8.0km az=118.6*

*NNC **13** 08:04:28.9±10.0, 39.95N×76.65E, h0^{km}, mb3.4, mpv3.1, Error ellipse: s-maj=98.9km s-min=81.2km az=165.0*

*BJI **13** 08:04:30.9, 40.10N×76.82E, h15^{km}, ML3.3*

ISC 13 08:04:26.5±2.0**, 39.6N**±0.1×**77.3E**±0.1**, h10**^{km}**, n14, σ0^{s}.65**/15**, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.02	264	*e*PG	Pg	08 04 47.1	+1.0
KSH				SG	Sg	08 04 59.0	-0.3
KSH				Smax			
	comp=N,762nm,0.5s						
KSH				Smax			
	comp=E,903nm,0.4s						
ULHL	Ulahol	2.73	344	P	Pn	08 05 10.6	+0.3
	SNR=125						
KZA	Kyzart	2.89	328	P	Pn	08 05 12.1	-0.4
	SNR=29						
UCH	Uchtor	3.33	322	P	Sn	08 05 58.8	+0.5
	SNR=6.5						
KBK	Karagaybulak	3.50	330	P	Pn	08 05 20.9	0.0
	SNR=9.7						
TKM2	Tokmak 2	3.52	339	P	Pn	08 05 21.4	+0.2
	SNR=27						
TKM2	Tokmak 2	3.52	339	⇑Pn	Pn	08 05 21.6	+0.3
	comp=E,2.4nm,0.8s						
TKM2				⇑Lg		08 06 03.4	
	comp=E,2.5nm,0.5s						
AAK	Ala-Archa	3.66	326	P	Pn	08 05 22.9	-0.3
	SNR=15						
AML	Almayashu	3.69	314	P	Pn	08 05 23.3	-0.2
	SNR=21						
CHMS	Chumysh	3.86	331	P	Pn	08 05 25.7	-0.2
	SNR=17						
EKS2	Erkin-Say	4.02	320	P	Pn	08 05 28.1	+0.1
	SNR=55						
USP	Ospenovka	4.19	331	P	Pn	08 05 30.6	+0.1
	SNR=16						
KK31	Karatay Array	6.16	306	Pn	Pn	08 05 54.5	-3.0
	comp=E,3.6nm,0.7s,baz=113,slow=13,SNR=4.8						
KK31				⇑Lg		08 07 25.5	
	comp=E,3.8nm,0.5s,baz=319,slow=50,SNR=3.5						
MK02	Makanchi Array	8.02	26	⇓Pn	Pn	08 06 23.2	+0.2
	comp=E,0.9nm,0.8s,baz=201,slow=16						
MK02				⇓Lg		08 08 40.2	
	comp=E,5.5nm,1.0s,baz=216,slow=28						

IDC 13 08:05:57.4±2.3**, 1.05N**×**97.11E, h0**^{km}**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.4**/21**, mbtmp3.4**/4**, Error ellipse: s-maj=56.7km s-min=30.1km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	2.52	46	Pn	Pn	08 06 39.0	-0.6
	2.0nm,0.3s,baz=211,slow=9.4,SNR=8.1						
WRA	Warramunga Arr	42.03	122	P	P	08 13 51.0	+0.4
	0.3nm,0.9s,baz=292,slow=9.3,SNR=3.4						
SONM	Songino Array	47.30	9	P	P	08 14 32.2	-0.4
	0.6nm,0.5s,baz=188,slow=9.1,SNR=5.0						
MKAR	Makanchi Array	47.37	346	P	P	08 14 33.5	+0.3
	0.5nm,0.6s,baz=156,slow=7.9,SNR=5.3						

---

*NEIC **13** 08:38:38.0, 32.47S×72.02W, h45^{km}, MG2.5(GUC), After GUC.*

GUC 13 08:38:38.0±0.7**, 32.47S**×**72.02W, h45**^{km}±7^{km}**, MD3.8, ML2.5, 3D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.73	37	⇓*i*P	Pn	08 38 52.1	+0.2
CHNG				*i* S	Sn	08 39 02.8	+0.8
PTCH	Petorca	0.94	78	⇓*i*P	Pn	08 38 55.8	+1.0
PTCH				*i* S	Sn	08 39 09.1	+2.0
PTCH				AML	AML	08 39 11.8	
	comp=E,418nm,0.2s						
PTCH	Petorca	0.94	78	⇓*i*P	Pn	08 38 55.8	+1.0
PTCH				*i* S	Sn	08 39 09.1	+2.0
PEL	Peldehue	1.31	121	*e*P	Pn	08 39 00.7	+0.9
PEL				*i* S	Sn	08 39 17.9	+1.8
PEL				AML	AML	08 39 19.5	
	comp=E,268nm,0.2s						
PEL	Peldehue	1.31	121	*e*P	Pn	08 39 00.7	+0.9
PEL				*i* S	Sn	08 39 17.9	+1.8
RCDM	Rinconada Maip	1.44	135	*e*P	Pn	08 39 02.5	+0.9
RCDM				*i* S	Sn	08 39 20.6	+1.2
RCDM				AML	AML	08 39 22.6	
	comp=E,97nm,0.1s						
RCDM	Rinconada Maip	1.44	135	*e*P	Pn	08 39 02.5	+0.9
RCDM				*i* S	Sn	08 39 20.6	+1.2
FCH	Farellones	1.69	121	*e*P	Pn	08 39 06.4	+1.4
FCH				*i* S	Sn	08 39 27.6	+2.2
FCH				AML	AML	08 39 29.5	
	comp=E,42nm,0.3s						
LMEL	Las Melosas	2.05	133	*e*P	Pn	08 39 10.9	+0.9
LMEL				*i* S	Sn	08 39 36.5	+2.1
LMEL				AML	AML	08 39 38.9	
	comp=N,46nm,0.2s						
LMEL	Las Melosas	2.05	133	*e*P	Pn	08 39 10.9	+0.9
LMEL				*i* S	Sn	08 39 36.5	+2.1

---

*ISCJB **13** 08:49:08.6±0.8, 76.04N±0.03×23.4E±0.3, h10^{km}, Error ellipse: s-maj=8.8km s-min=4.3km az=7.0*

*HEL **13** 08:49:10.4±0.9, 76.00N×23.67E, h10^{km}, ML2.8, MD2.3(BER), ML2.7(BER)*

*CSEM **13** 08:49:11.4±0.6, 75.94N×23.77E, h20^{km}, ML2.8, Error ellipse: s-maj=23.4km s-min=8.6km az=79.0*

*NAO **13** 08:49:12.9±2.0, 75.86N×22.03E, h24^{km}±14^{km}, ML2.5*

*BER **13** 08:49:12.9±3.4, 76.03N×23.48E, h15^{km}±23^{km}, MD2.3, ML2.7, ML2.5(NAO)*

ISC 13 08:49:11.0±0.6**, 76.04N**±0.03×**23.1E**±0.2**, h10**^{km}**, n18, σ1^{s}.09**/37**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	Hopen	0.66	44	*e*P	Pg	08 49 24.6	+0.8
HOPEN				*e*S	Sg	08 49 32.7	+0.2
HOPEN				AML	AML	08 49 33.3	
	comp=N,2μm,0.1s						
BJO	Bjornoya	1.83	215	*e*S	Sn	08 50 05.5	-0.3
BJO				*e*Sg	Sg	08 50 12.8	+2.8
BJO				AML	AML	08 50 15.5	
	comp=Z,35nm,0.1s						
BJO1	Bjornoya	1.86	216	*e*S	Sn	08 50 05.5	-1.1
BJO1				*e*SG	Sg	08 50 12.8	+1.9
BJO1				AML	AML	08 50 15.5	
	comp=Z,35nm,0.1s						
BJO1	Bjornoya	1.86	216	S	Sn	08 50 05.4	-1.2
BJO1				Sg	Sg	08 50 12.8	+1.9
SPA0	Spitsbergen Ar	2.62	328	*e*P	Pn	08 49 54.2	+0.9
SPA0				*e*PG	Pg	08 50 02.4	+1.2
SPA0				*e*S	Sn	08 50 24.4	-0.7
SPA0				*e*SG	Sg	08 50 34.6	-0.5
SPA0	Spitsbergen Ar	2.62	328	Pn	Pn	08 49 54.2	+0.9
	baz=141,slow=18						
SPA0				Pg	Pg	08 50 02.4	+1.2
	baz=136,slow=22						
SPA0				Sn	Sn	08 50 24.4	-0.7
	baz=148,slow=28						
SPA0				Lg		08 50 34.6	
	baz=136,slow=37						
SPA0	Spitsbergen Ar	2.62	328	Pg	Pg	08 50 02.3	+1.1
	SNR=8.9						
SPA0				Sn	Sn	08 50 24.5	-0.6
	SNR=7.4						
KBS	Kingsbay	3.77	325	Pn	Pn	08 50 09.7	+0.6
KBS				Lg		08 51 10.8	
KBS	Kingsbay	3.77	325	*e*P	Pn	08 50 09.8	+0.7
KBS				*e*S	Sn	08 50 50.6	-2.9
KBS				AML	AML	08 51 17.0	
	comp=Z,20nm,0.6s						
KBS	Kingsbay	3.77	325	Pn	Pn	08 50 09.7	+0.6
KBS				S	Sn	08 50 50.6	-2.9
	comp=Z,20nm,0.6s						
KEV	Kevo	6.43	168	*e*P	Pn	08 50 45.3	-0.3
KEV				*e*S	Sn	08 51 51.2	-7.8
KEV				MSN		08 51 58.9	
	comp=Z,1.6nm,0.2s						
KEV	Kevo	6.43	168	P	Pn	08 50 45.3	-0.4
KEV				S	Sn	08 51 51.2	-7.8
	comp=Z,1.6nm,0.2s						
ARA0	ARCESS Array S	6.58	172	Pn	Pn	08 50 46.1	-1.7
	baz=357,slow=14						
ARA0				Sn	Sn	08 51 53.7	-9.2
	baz=2.6,slow=22						
ARA0	ARCESS Array S	6.58	172	*e*P	Pn	08 50 47.0	-0.8
ARA0				*e*S	Sn	08 51 54.1	-8.8
KIF	Kilpisjarvi	7.11	187	*e*P	Pn	08 50 55.4	+0.3
KIF				*e*S	Sn	08 52 05.5	-10
KIF	Kilpisjarvi	7.11	187	P	Pn	08 50 55.3	+0.3
KIF				S	Sn	08 52 05.4	-10
SGF	Sodankyl	8.71	171	*e*P	Pn	08 51 16.1	-0.9
SGF				*e*S	Sn	08 52 45.3	-10
SGF				MSN		08 52 52.6	
	comp=Z,2.1nm,0.2s						
KJN	Kajaani	12.12	170	*e*S	Sn	08 54 05.7	-13
KJN				MSN		08 54 10.0	
	comp=Z,0.5nm,0.2s						

---

*ISCJB **13** 09:02:02.0±0.4, 31.11N±0.02×35.17E±0.04, h5^{km}±3^{km}, Error ellipse: s-maj=6.2km s-min=2.6km az=31.7*

*GII **13** 09:02:01.1±0.7, 31.12N×35.19E, h0^{km}, ML2.7/8*

*HLW **13** 09:02:02.4, 31.21N×35.10E, h10^{km}, Mb2.9*

ISC 13 09:02:02.6±0.4**, 31.11N**±0.02×**35.18E**±0.04**, h7**^{km}±3^{km}**, n35, σ0^{s}.91**/53**, 8C-1D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MZDA	Masada	0.26	38	Pg	Pg	09 02 06.8	-0.9
MZDA				Sg	Sg	09 02 10.9	-0.3
YTIR	Yattir	0.26	348	Pg	Pg	09 02 07.1	-0.6
AMAZ	Amatzia	0.48	332	Pg	Pg	09 02 12.1	+0.2
AMAZ				Sg	Sg	09 02 19.3	+1.1
DSI	Dead Sea	0.49	21	Pg	Pg	09 02 11.9	-0.2
DRGI	Dragot	0.52	21	Pg	Pg	09 02 11.9	-0.7
DRGI				Sg	Sg	09 02 20.2	+0.8
DRGI	Dragot	0.52	21	Pg	Pg	09 02 11.9	-0.7
DRGI				Sg	Sg	09 02 20.2	+0.8
ZFRI	Zfri	0.55	180	Pg	Pg	09 02 13.0	-0.3
MKRJ	Makawir	0.59	42	Pg	Pg	09 02 14.1	0.0
MKRJ				Sg	Sg	09 02 23.3	+1.4
KZIT	Kziot	0.70	253	Pg	Pg	09 02 15.7	-0.4
KZIT				Sg	Sg	09 02 26.8	+1.5
PRNI	Paran	0.77	191	Pg	Pg	09 02 17.1	-0.3
PRNI				Sg	Sg	09 02 29.2	+1.8
KMTI	Karmit	1.07	201	Pg	Pg	09 02 22.9	-0.4
HRFI	Mount Harif	1.08	187	Pg	Pg	09 02 22.6	-0.7
HRFI				Sg	Sg	09 02 39.0	+1.8
SLTI	Sal’it	1.14	354	Pg	Pg	09 02 22.8	-1.6
SLTI				Sg	Sg	09 02 39.6	+0.5
HMDT	Nahal Hemdat	1.18	14	Pg	Pg	09 02 23.8	-1.4
HMDT				Sg	Sg	09 02 41.2	+0.6
MBH	Mount Berech	1.33	190	Pn	Pn	09 02 27.0	-0.6
MBH				Sn	Sn	09 02 46.8	+1.2
MMLI	Mount Malkishu	1.34	9	Pn	Pn	09 02 27.0	-0.7
MMLI				Sn	Sn	09 02 46.0	+0.2
AQBJ	Aqaba	1.38	185	Pn	Pn	09 02 28.1	-0.1
EIL	Elat	1.45	188	Pn	Pn	09 02 28.6	-0.6
EIL				Sn	Sn	09 02 49.2	+0.8
OFRI	‘Ofer	1.52	354	Pn	Pn	09 02 29.6	-0.5
OFRI				Sn	Sn	09 02 51.1	+1.0
HNKL	Nakhl	1.56	222	⇑*e*P	Pn	09 02 29.9	-0.9
HNKL	Nakhl	1.56	222	⇑*e*P	Pn	09 02 29.9	-0.9
HNKL				S	Sn	09 02 50.4	-0.9
HNKL	Nakhl	1.56	222	P	Pn	09 02 29.9	-0.9
HNKL				S	Sn	09 02 50.3	-1.0
AMAG	Maghara	1.76	255	⇑P	Pn	09 02 31.6	-1.8
AMAG	Maghara	1.76	255	⇑P	Pn	09 02 32.3	-1.1
AMAG	Maghara	1.76	255	P	Pn	09 02 32.3	-1.1
MMA0	Mount Meron ar	1.91	6	Pn	Pn	09 02 35.6	+0.1
MMA0				Sn	Sn	09 03 01.6	+1.8
SUZ		2.39	239	⇓*e*P	Pn	09 02 41.2	-0.9
SUZ		2.39	239	⇑P	Pn	09 02 40.8	-1.3
HKAT	Jabal Katrina	2.77	202	⇑P	Pn	09 02 46.9	-0.5
HKAT	Jabal Katrina	2.77	202	P	Pn	09 02 47.4	0.0
HKAT	Jabal Katrina	2.77	202	P	Pn	09 02 47.4	0.0
TR2		2.99	205	⇑P	Pn	09 02 50.0	-0.5
TR2				S	Sn	09 03 32.4	+5.9
TR2		2.99	205	⇑P	Pn	09 02 50.5	0.0
TR2		2.99	205	P	Pn	09 02 50.5	+0.1
SHRM		3.33	196	P	Pn	09 02 55.8	+0.8

CASC 13 09:11:22.0±1.7**, 8.48N**×**83.00W, h12**^{km}±6^{km}**, MD3.6, 3C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTCR	Cotoan	0.48	29	⇓*i*P	Pg	09 11 32.0	+0.6
CTCR				*e*S	Sg	09 11 40.2	+2.4
DVD	David	0.54	94	⇓*i*P	Pg	09 11 32.0	-0.6
DVD				*e*S	Sg	09 11 39.4	-0.4
CNI	Changuinola	1.05	27	*e*P	Pb	09 11 41.2	-0.9
BUS	Buena Vista	1.31	325	*e*P	Pn	09 11 44.7	-1.4
BUS				*e*S	Sb	09 12 03.9	+0.7
LCR2	La Lucha 2	1.60	322	⇑*e*P	Pn	09 11 50.7	+0.6
LCR2				*e*S	Sn	09 12 11.2	+0.5
PRS1	Puriscal	1.98	319	⇑*e*P	Pn	09 11 54.4	-0.9
PRS1				*e*S	Sn	09 12 20.6	+0.5
PTP	Ponta Puerca	19.48	58	⇑*i*P		09 11 28.0	
PTP				*e*S		09 11 34.3	

---

*IDC **13** 09:15:56.0±1.1, 0.54N×126.60E, h0^{km}, mb4.2/5, mb1 4.3/6, mb1mx4.1/16, mbtmp4.2/6, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.0/30, Error ellipse: s-maj=94.3km s-min=17.4km az=70.0*

*ISCJB **13** 09:15:58.8±0.9, 0.5N±0.2×126.6E±0.4, h33^{km}, mb4.5/6, Error ellipse: s-maj=62.7km s-min=13.3km az=143.2*

*NEIC **13** 09:16:01.0±0.7, 0.55N×126.72E, h35^{km}, mb4.6/2, Error ellipse: s-maj=49.8km s-min=9.8km az=71.0*

ISC 13 09:16:01.2±0.9**, 0.5N**±0.2×**126.7E**±0.4**, h35**^{km}**, n12, σ0^{s}.31**/12**, mb4.5**/6**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.53	183	P	Pn	09 20 15.3	+0.2
	0.3nm,0.3s,baz=14,slow=12,SNR=9.0						
FITZ				LR	LR	09 26 45.2	
	comp=Z,57nm,18.6s,baz=89,slow=35						
FITZ	Fitzroy Crossi	18.53	183	P	Pn	09 20 15.3	+0.2
FITZ				LR	LR	09 26 45.2	
WRAB	Tennant Creek	21.68	160	*e*P	P	09 20 49.1	+0.2
	24nm,0.4s,mb5.0						
WRA	Warramunga Arr	21.69	160	P	P	09 20 49.0	+0.1
	12nm,0.4s,mb4.7,baz=338,slow=11,SNR=209						
WB2	Warramunga Arr	21.69	160	*e*P	P	09 20 49.1	+0.1
AS31	Alice Springs	25.05	164	*e*P	P	09 21 21.7	-0.5
ASAR	Alice Springs	25.05	164	P	P	09 21 22.5	+0.3
	7.2nm,0.3s,mb4.7,baz=345,slow=11,SNR=159						
ASPA	Alice Springs	25.05	164	*e*P	P	09 21 21.7	-0.5
STKA	Stephens Creek	35.19	158	*e*P	P	09 22 51.9	0.0
	2.5nm,0.7s,mb4.2						
STKA	Stephens Creek	35.19	158	P	P	09 22 51.8	-0.1
	2.4nm,0.5s,mb4.4,baz=336,slow=6.5,SNR=23						
SONM	Songino Array	50.30	342	P	P	09 24 54.7	+0.4
	0.4nm,0.5s,mb3.7,baz=140,slow=9.1,SNR=3.2						
MKAR	Makanchi Array	60.15	326	P	P	09 26 04.9	-0.4
	1.4nm,0.4s,mb4.3,baz=117,slow=8.0,SNR=21						

IDC 13 09:17:45.1±1.5**, 42.11S**×**88.24E, h0**^{km}**, mb4.0**/6**, mb1 4.2**/6**, mb1mx3.9**/17**, mbtmp4.0**/6**, MS4.2**/24**, Ms1 4.2**/24**, ms1mx4.1**/29**, Error ellipse: s-maj=49.6km s-min=24.2km az=135.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	24.66	78	LR	LR	09 30 31.6	
	comp=Z,634nm,21.0s,baz=42,slow=31						
MAW	Mawson	28.98	200	LR	LR	09 32 48.5	
	comp=Z,850nm,20.3s,baz=34,slow=31						
FITZ	Fitzroy Crossi	39.78	65	LR	LR	09 40 54.8	
	comp=Z,199nm,18.6s,baz=51,slow=35						
ASAR	Alice Springs	41.98	79	P	P	09 25 38.2	+0.5
	3.7nm,0.6s,baz=224,slow=7.3,SNR=39						
ASAR				PcP	PcP	09 27 32.4	-0.7
	1.5nm,0.6s,baz=223,slow=2.5,SNR=4.6						
ASAR				LR	LR	09 40 57.7	
	comp=Z,721nm,21.3s,baz=240,slow=33						
STKA	Stephens Creek	43.21	94	P	P	09 25 47.2	-0.6
	1.2nm,0.7s,baz=270,slow=7.1,SNR=3.7						
STKA				LR	LR	09 41 12.2	
	comp=Z,254nm,19.9s,baz=105,slow=33						
WRA	Warramunga Arr	44.61	75	P	P	09 25 59.0	-0.1
	6.4nm,1.1s,baz=230,slow=8.2,SNR=15						
WRA				PcP	PcP	09 27 40.9	-1.1
	0.5nm,0.5s,baz=234,slow=3.2,SNR=5.5						
WRA				LR	LR	09 42 52.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,350nm,19.1s,baz=250,slow=34						
PSI	**Prapat**	**45.74**	**15**	LR	LR	09 41 07.4	
	comp=Z,684nm,19.6s,baz=192,slow=31						
VNDA	**Vanda**	**45.75**	**163**	P	P	09 26 07.2	-0.9
	0.9nm,0.8s,baz=278,slow=7.9,SNR=7.4						
VNDA				LR	LR	09 42 43.1	
	comp=Z,293nm,19.4s,baz=277,slow=33						
SNAA	**Sanae**	**51.00**	**204**	P	P	09 26 48.5	-0.1
	0.7nm,1.2s,baz=140,slow=7.9,SNR=2.8						
BOSA	**Boshof**	**52.01**	**264**	LR	LR	09 43 59.0	
	comp=Z,364nm,21.3s,baz=131,slow=30						
CTA	**Charters Tower**	**53.24**	**84**	P	P	09 27 06.1	+0.8
	3.5nm,0.7s,baz=270,slow=6.1,SNR=2.7						
CTA				LR	LR	09 46 42.8	
	comp=Z,175nm,21.6s,baz=231,slow=33						
SUR	**Sutherland**	**53.29**	**257**	LR	LR	09 43 36.3	
	comp=Z,242nm,19.4s,baz=210,slow=29						
LBTB	**Lobatse**	**53.76**	**268**	LR	LR	09 44 39.0	
	comp=Z,294nm,21.4s,baz=144,slow=30						
RPZ	**Rata Peaks**	**58.16**	**122**	LR	LR	09 47 43.5	
	comp=Z,239nm,19.5s,baz=125,slow=31						
KMBO	**Kilima Mbogo**	**61.22**	**298**	LR	LR	09 46 55.7	
	comp=Z,80nm,20.9s,baz=96,slow=29						
DZM	**Mont Dzumac**	**67.01**	**99**	LR	LR	09 51 27.9	
	comp=Z,227nm,19.2s,baz=203,slow=30						
HNR	**Honiara**	**70.17**	**85**	LR	LR	09 55 35.7	
	comp=Z,114nm,18.5s,baz=180,slow=32						
GUMO	**Guam**	**76.00**	**57**	LR	LR	10 03 43.3	
	comp=Z,33nm,18.6s,baz=360,slow=36						
AFI	**Afiamalu**	**88.04**	**107**	LR	LR	10 00 42.9	
	comp=Z,137nm,21.5s,baz=120,slow=29						
SONM	**Songino Array**	**90.99**	**12**	LR	LR	10 11 04.0	
	comp=Z,158nm,18.0s,baz=205,slow=35						
BRTR	**Keskin Array B**	**95.33**	**321**	LR	LR	10 10 42.6	
	comp=Z,68nm,18.4s,baz=354,slow=33						
PLCA	**Paso Flores**	**95.33**	**196**	LR	LR	10 09 08.4	
	comp=Z,270nm,20.3s,baz=184,slow=32						
ZAL	**Zalesovo**	**95.72**	**358**	LR	LR	10 13 14.0	
	comp=Z,89nm,21.1s,baz=155,slow=35						
TORD	**Torodi Ar. Bea**	**96.16**	**282**	LR	LR	10 10 42.5	
	comp=Z,147nm,21.1s,baz=155,slow=33						
DBIC	**Dimbokro**	**96.72**	**273**	LR	LR	10 08 51.5	
	comp=Z,76nm,19.1s,baz=124,slow=32						
INK	**Inuvik**	**145.75**	**26**	PKPbc	PKPbc	09 37 24.1	-1.8
	5.7nm,0.9s,baz=290,slow=3.2,SNR=13						

IDC 13 09:22:02.7±1.6**, 4205S**×**8800E, h0**km**, mb4.0**/6**, mb1 4.1**/6**, mb1mx3.9**/17**, mbtmp4.0**/6**, Error ellipse: s-maj=52.4km s-min=24.5km az=136.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.13**	**79**	P	P	09 29 56.8	+0.1
	2.3nm,0.7s,baz=225,slow=7.0,SNR=27						
ASAR				PcP	PcP	09 31 50.9	-0.4
	0.6nm,0.8s,baz=223,slow=1.8,SNR=7.7						
STKA	**Stephens Creek**	**43.38**	**95**	P	P	09 30 06.6	-0.2
	2.4nm,1.0s,baz=241,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**44.77**	**75**	P	P	09 30 18.0	+0.1
	2.5nm,1.0s,baz=229,slow=10,SNR=10						
VNDA	**Vanda**	**45.87**	**163**	P	P	09 30 26.0	-0.6
	0.8nm,0.7s,baz=290,slow=7.7,SNR=7.2						
SNAA	**Sanae**	**50.98**	**204**	P	P	09 31 05.6	-0.5
	0.7nm,1.1s,baz=124,slow=4.3,SNR=7.7						
CTA	**Charters Tower**	**53.40**	**85**	P	P	09 31 24.2	+0.1
	5.2nm,0.9s,baz=284,slow=21,SNR=2.4						
INK	**Inuvik**	**145.77**	**26**	PKPbc	PKPbc	09 41 41.6	-2.0
	5.0nm,0.9s,baz=317,slow=1.2,SNR=8.3						

---

*ISCJB **13** 09:44:06.3±0.9, 1031S±008×12371E±009, h100km, mb3.4/1, Error ellipse: s-maj=15.2km s-min=8.3km az=97.1*

*IDC **13** 09:44:08.1±8.8, 1036S×12367E, h102km±101km, mb3.3/1, mb1 3.4/4, mb1mx3.2/14, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=87.8km s-min=51.3km az=45.0*

*NEIC **13** 09:44:08.0±1.0, 1035S×12365E, h100km, mb4.6/2, Error ellipse: s-maj=22.1km s-min=13.3km az=223.0*

ISC 13 09:44:08.2±0.9**, 1034S**±009×**12376E**±009**, h100**km**, n12, σ1ˢ43**/21**, mb3.4**/1**, Timor region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.93**	**167**	*e*P	**Pn**	**09 46 01.3**	**+0.7**
	5.1nm,0.4s						
FITZ				*e*S	**Sn**	**09 47 31.9**	**+3.3**
FITZ	**Fitzroy Crossi**	**7.93**	**167**	P	**Pn**	**09 46 01.3**	**+0.7**
	0.5nm,0.3s,baz=359,slow=12,SNR=18						
FITZ				S	**Sn**	**09 47 28.7**	**+0.1**
	0.2nm,0.3s,baz=265,slow=16,SNR=3.2						
KAKA	**Kakadu**	**8.83**	**106**	*e*P	**Pn**	**09 46 14.8**	**+1.9**
	4.0nm,0.3s						
MBWA	**Marble Bar**	**11.43**	**199**	*e*Pn	**Pn**	**09 46 47.1**	**-1.0**
WRA	**Warramunga Arr**	**13.97**	**134**	P	**Pn**	**09 47 20.6**	**-1.1**
	0.4nm,0.3s,baz=306,slow=14,SNR=26						
WRA				S	**Sn**	**09 49 53.2**	**-2.2**
	0.3nm,0.3s,baz=318,slow=24,SNR=7.8						
WRAB	**Tennant Creek**	**13.97**	**134**	*e*Pn	**Pn**	**09 47 20.7**	**-1.0**
WRAB				*e*Sn	**Sn**	**09 49 51.0**	**-4.4**
WB2	**Warramunga Arr**	**13.98**	**134**	*e*P	**Pn**	**09 47 21.8**	**0.0**
WB2				*e*S	**Sn**	**09 49 53.1**	**-2.5**
WB2	**Warramunga Arr**	**13.98**	**134**	*e*P	**Pn**	**09 47 21.8**	**0.0**
WB2				*e*S	**Sn**	**09 49 53.1**	**-2.5**
WB2				*e*Sn	**Sn**	**09 49 56.4**	**+0.8**
AS31	**Alice Springs**	**16.41**	**145**	*e*P	**Pn**	**09 47 55.0**	**+2.6**
AS31				*e*Sn	**Sn**	**09 50 55.0**	**+0.8**
ASAR	**Alice Springs**	**16.41**	**145**	P	**Pn**	**09 47 54.8**	**+2.4**
	0.3nm,0.3s,baz=319,slow=12,SNR=18						
ASAR				S	**S**	**09 50 55.1**	**-4.8**
	0.1nm,0.3s,baz=322,slow=24,SNR=7.0						
KULM	**Kulim**	**27.76**	**303**	*e*P	**P**	**09 49 47.0**	**-0.4**
MKAR	**Makanchi Array**	**67.85**	**331**	P	**P**	**09 54 55.1**	**-0.5**
	0.4nm,0.6s,mb3.4,baz=144,slow=8.6,SNR=3.6						

IDC 13 09:46:24.4±17.0**, 2410S**×**17597W, h0**km**, mb4.2**/4**, mb1 4.4**/4**, mb1mx4.0**/14**, mbtmp4.2**/4**, Error ellipse: s-maj=323.6km s-min=131.7km az=84.0, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.16**	**269**	P	P	09 53 21.2	+1.4
	7.8nm,0.9s,baz=112,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**38.08**	**249**	P	P	09 53 43.1	-1.6
	1.2nm,0.5s,baz=97,slow=9.3,SNR=6.6						
ASAR	**Alice Springs**	**45.64**	**260**	P	P	09 54 46.5	-0.1
	1.8nm,0.4s,baz=91,slow=7.5,SNR=44						
WRA	**Warramunga Arr**	**46.07**	**265**	P	P	09 54 50.2	+0.2
	1.3nm,0.5s,baz=100,slow=7.6,SNR=19						
FITZ	**Fitzroy Crossi**	**54.49**	**264**	P	P	09 55 55.2	+1.4
	baz=117,slow=6.8						

---

*ISCJB **13** 09:48:21.1±1.2, 3788N±003×901W±009, h10km, Error ellipse: s-maj=10.9km s-min=4.8km az=167.8*

*MDD **13** 09:48:21.9±1.1, 3792N×897W, h0km, mbLg1.9/4, Error ellipse: s-maj=9.3km s-min=5.1km az=97.0, PRXIMO*

*CSEM **13** 09:48:21.1±0.3, 3784N×905W, h30km, ML1.6, Error ellipse: s-maj=7.0km s-min=3.3km az=91.0*

*INMG **13** 09:48:22.3±0.8, 3789N×900W, h0km±4km, ML1.6, Error ellipse: s-maj=3.5km s-min=1.8km az=87.0*

*IGIL **13** 09:48:22.3, 3790N×900W, h2km, ML2.0*

ISC 13 09:48:21.4±1.1**, 3790N**±003×**899W**±009**, h10**km**, n13, σ0ˢ89**/21**, Portugal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.41**	**149**	*e*Pg	**Pg**	**09 48 29.7**	**+0.3**
PTEO				*e*Sg	**Sg**	**09 48 35.6**	**+0.7**
PTEO							
	25nm,0.1s						
PTEO	**Sao Teotonio**	**0.41**	**149**	*e*Pg	**Pg**	**09 48 29.7**	**+0.3**
PTEO				*e*Sg	**Sg**	**09 48 35.6**	**+0.7**
	25nm,0.1s						
MORF	**Marmelete**	**0.65**	**156**	*e*P	**Pg**	**09 48 33.9**	**-0.1**
MORF				*e*S	**Sg**	**09 48 42.6**	**+0.1**
MORF				*e*S	**Sg**	**09 48 42.6**	**+0.1**
MORF				AML	AML	09 48 44.3	
	comp=N,60nm,0.1s						
MORF	**Marmelete**	**0.65**	**156**	*e*P	**Pg**	**09 48 33.9**	**-0.1**
MORF				*e*S	**Sg**	**09 48 42.6**	**+0.1**
PBEJ	**Beja**	**0.90**	**81**	*e*P	**Pg**	**09 48 38.5**	**-0.1**
PBEJ				*e*S	**Sg**	**09 48 51.2**	**+0.9**
PBEJ							
	comp=N,8.5nm,0.1s						
PBEJ	**Beja**	**0.90**	**81**	*e*P	**Pg**	**09 48 38.5**	**-0.1**
PBEJ				*e*S	**Sg**	**09 48 51.2**	**+0.9**
	comp=N,8.5nm,0.1s						
PLOU	**Loures**	**0.99**	**353**	*e*S	**Sg**	**09 48 53.6**	**+0.2**
EGRO	**El Granado**	**1.25**	**107**	Pg	**Pg**	**09 48 44.2**	**-1.2**
	comp=N,0.8nm,0.1s,SNR=7.9						
EGRO				Lg		09 49 02.0	
	comp=N,3.3nm,0.1s,SNR=6.6						
EGRO	**El Granado**	**1.25**	**107**	Pg	**Pg**	**09 48 44.2**	**-1.2**
	comp=N,0.8nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**1.46**	**48**	*e*P	**Pn**	**09 48 48.5**	**+0.7**
PESTR				*e*S	**Sn**	**09 49 08.0**	**+0.9**
PESTR							
	comp=N,2.8nm,0.2s						
EBAD	**Badajoz**	**1.77**	**61**	Pg	**Pg**	**09 48 52.5**	**-2.9**
	comp=N,0.8nm,0.1s,SNR=7.9						
EBAD				Lg		09 49 16.4	
	comp=N,3.0nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**1.77**	**61**	Pg	**Pg**	**09 48 52.5**	**-2.9**
	comp=N,0.8nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.84**	**93**	Pg	**Pg**	**09 48 55.6**	**-1.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
EMIN				Lg		09 49 19.2	
	comp=N,0.9nm,0.1s,SNR=7.9						

NEIC 13 10:19:45.6±3.1**, 4473N**×**12934W, h10**km**, mb3.7**/2**, Error ellipse: s-maj=35.2km s-min=9.2km az=82.0, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMOR	**Kings Mountain**	**4.23**	**76**	P	Pn	10 20 49.2	-0.9
COR	**Corvallis**	**4.31**	**90**	*e*Pn	Pn	10 20 49.8	-1.4
NLO	**Nicolai Mounta**	**4.36**	**70**	P	Pn	10 20 51.4	-0.4
OOW	**Octopus West**	**4.67**	**48**	P	Pn	10 20 55.8	-0.3
OTR	**Olympics--Tyee**	**4.81**	**44**	P	Pn	10 20 58.0	-0.1
SSOR	**Sweet Springs**	**4.89**	**86**	P	Pn	10 20 59.0	-0.2
OBC	**Olympics--Boni**	**4.91**	**46**	P	Pn	10 20 59.0	-0.4
PGO	**Gresham**	**4.93**	**79**	P	Pn	10 21 00.4	+0.7
BROR	**Big Rock Looko**	**4.95**	**93**	P	Pn	10 20 59.2	-0.8
LCW	**Lucas Creek**	**5.04**	**65**	P	Pn	10 21 00.9	-0.3
LVP	**Lakeview Peak**	**5.06**	**72**	P	Pn	10 21 01.6	+0.1
FL2	**Flat Top 2**	**5.13**	**71**	P	Pn	10 21 02.3	-0.1
IRO	**Indian Ridge**	**5.13**	**96**	P	Pn	10 21 01.6	-0.9
MTMW	**Mount Mitchell**	**5.18**	**73**	P	Pn	10 21 03.0	-0.1
VLMM	**Larch Mountain**	**5.22**	**79**	P	Pn	10 21 04.0	+0.2
HDW	**Hoodsport**	**5.25**	**54**	P	Pn	10 21 04.4	+0.4
MEW	**McNeil Island**	**5.28**	**60**	P	Pn	10 21 05.1	+0.6
LMW	**Ladd Mountain**	**5.30**	**66**	P	Pn	10 21 05.3	+0.5
KOSW	**Kosmos**	**5.30**	**68**	P	Pn	10 21 04.8	0.0
TDH	**Tom, Dick, Har**	**5.38**	**81**	P	Pn	10 21 06.1	+0.2
HOOD	**Mount Hood Mea**	**5.48**	**81**	P	Pn	10 21 07.7	+0.5
RVC	**Mount Rainier-**	**5.60**	**64**	P	Pn	10 21 09.3	+0.4
VFP	**Flag Point**	**5.61**	**81**	P	Pn	10 21 09.4	+0.4
ASR	**Mount Adams--S**	**5.63**	**73**	P	Pn	10 21 09.6	+0.3
YBH	**Yreka Blue Hor**	**5.69**	**119**	*e*Pn	Pn	10 21 09.9	-0.3
FMW	**Mount Fremont**	**5.79**	**65**	P	Pn	10 21 11.8	+0.3
GSM	**Grass Mountain**	**5.81**	**62**	P	Pn	10 21 12.3	+0.5
BMO	**Blue Mountains**	**8.56**	**85**	*e*Pn	Pn	10 21 48.7	-0.8
	1.4nm,0.4s						
MCMT	**McKenzie Canyo**	**11.72**	**84**	*e*Pn	Pn	10 22 35.5	+2.6
GCMT	**Greycliff**	**13.90**	**79**	*e*Pn	Pn	10 23 11.6	+9.1
SRU	**San Rafael**	**15.08**	**105**	*e*P	Pn	10 23 23.9	+5.3
	4.1nm,0.7s						
PV10	**Paradox Valley**	**16.45**	**106**	*e*P	Pn	10 23 37.4	+0.9
PV01	**Paradox Valley**	**16.89**	**106**	*e*P	Pn	10 23 44.0	+2.0
SDCO	**Great Sand Dun**	**19.20**	**103**	*e*P	Pn	10 24 09.0	-1.4
	2.4nm,1.1s						

---

*ISCJB **13** 10:37:42.5±1.5, 61.15N±009×303E±02, h0km, Error ellipse: s-maj=15.9km s-min=6.3km az=93.7*

*HEL **13** 10:37:43.7±0.4, 61.14N×3035E, h0km, ML2.0, Explosion*

*IDC **13** 10:37:46.2±2.3, 61.18N×2996E, h0km, mb1 3.3/3, mb1mx3.1/21, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=27.8km s-min=12.0km az=168.0*

ISC 13 10:37:42.6±1.5**, 6112N**±009×**304E**±02**, h0**km**, n10, σ1ˢ01**/14**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.50**	**248**	*e*P	**Pn**	**10 38 10.0**	**-0.7**
VJF				*e*S	**Sg**	**10 38 30.4**	**-0.3**
JOF	**Joensuu**	**1.86**	**14**	*e*P	**Pn**	**10 38 16.4**	**+0.7**
JOF				*e*S	**Sn**	**10 38 39.7**	**-0.2**
FIA0	**FINESS Array S**	**2.10**	**281**	*e*P	**Pn**	**10 38 19.4**	**+0.4**
FIA0				*e*S	**Sn**	**10 38 45.6**	**-0.1**
FIA0				MSG		10 38 47.5	
	comp=Z,6.4nm,0.2s						
FINES	**FINESS Array B**	**2.10**	**281**	Pg	**Pg**	**10 38 19.8**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=99,slow=16,SNR=74						
FINES				Lg		10 38 45.6	
	comp=Z,2.2nm,0.3s,baz=95,slow=29,SNR=28						
KAF	**Kangasniemi**	**2.18**	**299**	*e*P	**Pn**	**10 38 21.3**	**+1.2**
KAF				*e*S	**Sn**	**10 38 48.1**	**+0.3**
KAF				MSG		10 38 52.3	
	comp=Z,7.6nm,0.2s						
PVF	**Pernaja**	**2.28**	**257**	*e*P	**Pn**	**10 38 22.5**	**+1.0**
PVF				*e*S	**Sn**	**10 38 51.5**	**+1.2**
PVF				MSG		10 38 54.5	
	comp=Z,8.5nm,0.2s						
SUF	**Sumiainen**	**2.56**	**311**	MSG		10 39 01.3	
	comp=Z,5.4nm,0.2s						
HFS	**Hagfors**	**8.26**	**270**	Pn	**Pn**	**10 39 42.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=84,slow=15,SNR=5.6						
ARCES	**ARCESS Array B**	**8.69**	**349**	Pn	**Pn**	**10 39 48.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=159,slow=14,SNR=6.5						
NOA	**NORSAR Array B**	**9.28**	**278**	Pn	**Pn**	**10 39 54.3**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=2.5						

---

*ISCJB **13** 10:37:57.9±1.0, 3165N±003×5107E±003, h4km±6km, mb4.0/15, MS3.2/3, Error ellipse: s-maj=5.4km s-min=3.9km az=89.3*

*IDC **13** 10:37:58.1±1.1, 3168N×5093E, h0km, mb4.0/11, mb1 4.1/14, mb1mx3.9/27, mbtmp4.0/14, ML4.2/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=23.8km s-min=17.7km az=140.0*

*CSEM **13** 10:37:58.3±0.1, 3164N×51.10E, h14km, ML3.7, Error ellipse: s-maj=2.7km s-min=2.3km az=28.0*

*THR **13** 10:37:58.4±1.5, 3154N×51.15E, h14km±12km, ML3.7*

*KISR **13** 10:37:58.7±0.7, 3154N×5124E, h34km, ML3.9*

*NEIC **13** 10:37:59.4, 3169N×51.11E, h1km, mb3.9/3, ML3.7(THR), MN3.8(TEH), After TEH.*

*TEH **13** 10:37:59.4, 3169N×51.11E, h1km, Mn3.8*

ISC 13 10:37:59.2±1.1**, 3165N**±003×**5111E**±003**, h4**km±7km**, n72, σ1ˢ31**/79**, mb4.0**/15**, MS3.2**/3**, 1C, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.05**	**350**	Pn	**Pg**	**10 38 17.4**	**-1.9**
IPIR	**Pirpir**	**1.05**	**350**	*e*Pg	**Pg**	**10 38 17.5**	**-1.8**
IGAR	**Garneh**	**1.10**	**57**	*e*Pg	**Pg**	**10 38 18.4**	**-1.9**
IZEF	**Zefreh**	**1.62**	**39**	*e*Pn	**Pn**	**10 38 28.1**	**-0.4**
IZEF				*e*Sn	**Sn**	**10 38 49.7**	**-0.1**
IKLH	**Kalahroud**	**1.71**	**13**	*e*Pn	**Pn**	**10 38 29.9**	**+0.1**
IKLH				*e*Sn	**Sn**	**10 38 51.0**	**-1.1**
NASN	**Na'in**	**1.84**	**51**	*e*PG	**Pn**	**10 38 32.3**	**+0.7**
NASN				AML	AML	10 39 05.4	
	comp=N,404nm,0.5s						
NASN	**Na'in**	**1.84**	**51**	Pg	**Pn**	**10 38 32.0**	**+0.4**
SHGR	**Shooshtar-Gavs**	**2.02**	**284**	*e*Pg	**Pn**	**10 38 35.5**	**+1.5**
SHGR				AML	AML	10 39 13.8	
	comp=E,1µm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.02**	**284**	Pn	**Pn**	**10 38 35.0**	**+1.0**
SHGR	**Shooshtar-Gavs**	**2.02**	**284**	*e*Pg	**Pn**	**10 38 35.5**	**+1.5**
	SNR=90						
ISAD	**Sadrabad**	**2.21**	**82**	*e*Pn	**Pn**	**10 38 36.8**	**+0.2**
ISAD				Sn	**Sn**	**10 39 04.6**	**+0.2**
ISRV	**Sarvestan**	**2.84**	**142**	*e*Pn	**Pn**	**10 38 45.8**	**+0.4**
ICHK	**Chekchek**	**2.87**	**77**	Pn	**Pg**	**10 38 48.4**	**-5.8**
IMOK	**Mook**	**2.94**	**151**	Pn	**Pn**	**10 38 46.8**	**+0.1**
IMEH	**Mehriz**	**3.00**	**94**	*e*Pn	**Pn**	**10 38 47.5**	**-0.1**
ASAO	**Ashtian**	**3.03**	**343**	*e*PN	**Pn**	**10 38 50.2**	**+2.2**
ASAO				*e*SG	**Sg**	**10 39 37.2**	**+0.6**
ASAO				AML	AML	10 39 43.5	
	comp=N,367nm,0.7s						
ASAO				AML	AML	10 39 50.1	
	comp=E,316nm,0.7s						
ASAO	**Ashtian**	**3.03**	**343**	Pn	**Pn**	**10 38 50.0**	**+2.1**
ASAO				Sg	**Sg**	**10 39 37.0**	**+0.4**
GHIR	**Ghir-Karzin**	**3.73**	**154**	*e*PN	**Pn**	**10 38 56.4**	**-1.1**
GHIR				AML	AML	10 40 08.4	
	comp=E,124nm,0.7s						
GHIR				AML	AML	10 40 11.6	
	comp=N,147nm,0.4s						
GHIR	**Ghir-Karzin**	**3.73**	**154**	Pn	**Pn**	**10 38 56.0**	**-1.5**
GHIR	**Ghir-Karzin**	**3.73**	**154**	*e*Pn	**Pn**	**10 38 56.3**	**-1.2**
	SNR=52						
MIB	**Mutribah**	**3.73**	**241**	*e*P	**Pn**	**10 38 58.2**	**+0.7**
MIB				*e*S	**Sn**	**10 39 42.9**	**+0.9**
MIB				AML	AML	10 39 44.2	
	comp=Z,188nm,0.6s						
IBAF	**Bafgh**	**3.80**	**90**	Pn	**Pn**	**10 39 01.4**	**+2.8**
KBD	**Kabd**	**3.84**	**231**	*e*P	**Pn**	**10 38 59.7**	**+0.6**
KBD				*e*S	**Sn**	**10 39 44.7**	**0.0**
KBD				AML	AML	10 39 47.0	
	comp=Z,412nm,0.4s						
IDMV	**Damavand**	**3.99**	**11**	Pn	**Pn**	**10 39 00.6**	**-0.6**
ILAS	**Lasjerd**	**4.03**	**22**	*e*Pn	**Pn**	**10 39 04.0**	**+2.3**
DAMV	**Damavand**	**4.04**	**10**	*e*PN	**Pn**	**10 39 03.5**	**+1.8**
DAMV	**Damavand**	**4.04**	**10**	Pn	**Pn**	**10 39 03.0**	**+1.2**
IMHD	**Mahdasht**	**4.04**	**355**	Pn	**Pn**	**10 39 01.9**	**+0.1**
RDF	**Al-Radifah**	**4.10**	**230**	*e*P	**Pn**	**10 39 02.6**	**0.0**
RDF				*e*S	**Sn**	**10 39 51.7**	**+0.6**
RDF				AML	AML	10 39 54.3	
	comp=Z,193nm,0.4s						
NAY	**Al-Naaiem**	**4.11**	**235**	*e*P	**Pn**	**10 39 03.4**	**+0.7**
NAY				*e*S	**Sn**	**10 39 51.5**	**+0.3**
NAY				AML	AML	10 39 54.2	
	comp=Z,75nm,0.6s						
IFIR	**Firoozkooh**	**4.21**	**19**	*e*Pn	**Pn**	**10 39 06.3**	**+2.1**
IAFJ	**Afjeh**	**4.23**	**7**	Pn	**Pn**	**10 39 04.6**	**+0.2**
CHTH	**Charan**	**4.25**	**0**	*e*PN	**Pn**	**10 39 06.6**	**+1.9**
CHTH	**Charan**	**4.25**	**0**	Pn	**Pn**	**10 39 06.0**	**+1.3**
THKV	**Tehran--Karaj**	**4.26**	**357**	*e*PN	**Pn**	**10 39 07.1**	**+2.2**
THKV				AML	AML	10 40 30.1	
	comp=E,62nm,0.5s						
THKV				AML	AML	10 40 42.0	
	comp=N,65nm,0.5s						
THKV	**Tehran--Karaj**	**4.26**	**357**	Pn	**Pn**	**10 39 07.0**	**+2.2**
ISHM	**Shahmirzad**	**4.53**	**23**	*e*Pn	**Pn**	**10 39 11.0**	**+2.5**
BHD	**Baghdad**	**5.91**	**288**	*e*x	x	10 39 30.0	
BHD				*e*x	x	10 41 09.0	
BNDS	**Bandar-Abbas**	**6.11**	**133**	*e*PN	**Pn**	**10 39 29.8**	**-0.5**
BNDS	**Bandar-Abbas**	**6.11**	**133**	Pn	**Pn**	**10 39 29.0**	**-1.3**
ISFR	**Esferayen**	**7.84**	**45**	Pn	**Pn**	**10 39 56.9**	**+2.9**
ASF	**Jabal al Asfar**	**12.09**	**276**	Pn	**Pn**	**10 40 49.0**	**-3.2**
	comp=N,2.2nm,0.3s,baz=303,slow=10.0,SNR=8.4						
BR131	**Keskin Array S**	**16.30**	**304**	*e*P	**Pn**	**10 41 51.2**	**+2.3**
	comp=N,2.9nm,0.6s						
BR131	**Keskin Array S**	**16.30**	**304**	*e*P	**Pn**	**10 41 51.2**	**+2.2**
	comp=N,2.9nm,0.6s						
BRTR	**Keskin Array B**	**16.30**	**304**	Pn	**Pn**	**10 41 47.6**	**-1.3**
	comp=N,0.0nm,0.3s,baz=135,slow=14,SNR=4.0						
AKTK	**Aktyubinsk**	**19.46**	**13**	P	**Pn**	**10 42 26.2**	**-1.8**
AKTO	**Aktyubinsk**	**19.46**	**13**	P	**Pn**	**10 42 26.2**	**-1.8**
	comp=N,0.4nm,0.3s,baz=178,slow=8.2,SNR=5.3						
AKTO				LR	LR	10 51 47.8	
	comp=N,50nm,18.1s,baz=90,slow=43						
ATD	**Arta Tunnel**	**21.43**	**203**	LR	LR	10 51 42.0	
	comp=N,87nm,18.2s,MS3.2,baz=238,slow=38						
AAK	**Ala-Archa**	**21.56**	**53**	*e*P	**P**	**10 42 50.6**	**+1.0**
	comp=N,5.3nm,1.0s,mb3.9						
AAK	**Ala-Archa**	**21.56**	**53**	*e*P	**P**	**10 42 50.6**	**+1.0**
IDI	**Anoyia**	**22.15**	**287**	P	**P**	**10 42 55.8**	**-0.1**
	comp=N,3.9nm,0.5s,mb4.1,baz=49,slow=20,SNR=3.6						
MLR	**Muntele Rosu**	**23.92**	**312**	P	**P**	**10 43 15.5**	**+1.3**
	comp=N,2.5nm,0.5s,mb3.9,baz=145,slow=19,SNR=4.1						
ZRNK	**Zerenda**	**24.93**	**26**	*e*P	**P**	**10 43 22.9**	**-0.5**
	comp=N,6.3nm,1.0s,mb4.1						
AKASG	**Malin Array Be**	**25.01**	**326**	P	**P**	**10 43 22.4**	**-1.7**
	comp=N,2.2nm,0.3s,mb4.2,baz=134,slow=9.0,SNR=13						
AKBB	**Malin Array Si**	**25.01**	**326**	*e*P	**P**	**10 43 22.1**	**-2.0**
AKBB	**Malin Array Si**	**25.01**	**326**	*e*P	**P**	**10 43 22.1**	**-2.0**
BURAR	**Bucovina Array**	**25.36**	**316**	⇑*i*P	**P**	**10 43 27.8**	**+0.5**
BVAR	**Borovoye Array**	**25.52**	**28**	P	**P**	**10 43 28.7**	**-0.1**
	comp=N,1.8nm,0.6s,mb3.8,baz=206,slow=9.9,SNR=11						
BVAR				LR	LR	10 54 24.3	
	comp=N,45nm,20.5s,MS3.0,baz=137,slow=39						
MKAR	**Makanchi Array**	**28.27**	**49**	P	**P**	**10 43 53.9**	**+0.3**
	comp=N,0.3nm,0.5s,mb3.2,baz=233,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**28.27**	**49**	P	**P**	**10 43 53.8**	**+0.3**
JOF	**Joensuu**	**33.74**	**344**	*e*p	**P**	**10 44 38.3**	**-3.5**
	comp=N,0.9nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**33.98**	**339**	P	**P**	**10 44 42.1**	**-1.7**
	comp=N,1.2nm,0.5s,mb4.1,baz=144,slow=12,SNR=6.1						
HFS	**Hagfors**	**37.71**	**330**	P	**P**	**10 45 13.8**	**-2.1**
	comp=N,3.2nm,0.3s,mb4.5,baz=134,slow=7.9,SNR=21						
NB2	**NORSAR Subarra**	**39.23**	**330**	P	**P**	**10 45 26.3**	**-2.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=120,slow=8.6						
NOA	**NORSAR Array B**	**39.23**	**330**	P	**P**	**10 45 25.9**	**-2.7**
	comp=Z,1.1nm,0.7s,mb3.7,baz=142,slow=7.3,SNR=5.0						
NOA	**NORSAR Array B**	**39.23**	**330**	P	**P**	**10 45 25.9**	**-2.7**
ARCES	**ARCESS Array B**	**40.60**	**346**	P	**P**	**10 45 39.0**	**-0.9**
	comp=Z,1.8nm,0.6s,mb3.9,baz=153,slow=8.2,SNR=6.5						
SONM	**Songino Array**	**44.52**	**52**	P	**P**	**10 46 12.6**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=258,slow=5.9,SNR=3.7						
SONM				LR	LR	11 05 43.8	
	comp=Z,47nm,19.0s,MS3.4,baz=153,slow=37						
TOA0	**Torodi Ar. Sit**	**48.81**	**259**	*e*P	**P**	**10 46 43.8**	**-1.7**
TOA0	**Torodi Ar. Sit**	**48.81**	**259**	*e*P	**P**	**10 46 43.8**	**-1.7**
TORD	**Torodi Ar. Bea**	**48.81**	**259**	P	**P**	**10 46 43.6**	**-1.9**
	comp=Z,3.0nm,0.6s,mb4.5,baz=54,slow=8.3,SNR=36						
BOSA	**Boshof**	**64.78**	**205**	P	**P**	**10 48 38.5**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.2,baz=22,slow=7.2,SNR=3.1						

IDC 13 10:44:31.6±0.8**, 1991S**×**6682W, h238**km±12km**, mb3.5**/3**, mb1 3.5**/7**, mb1mx3.3**/20**, mbtmp4.0**/7**, Error ellipse: s-maj=22.8km s-min=9.6km az=103.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.32**	**216**	P	Pn	10 45 27.9	+1.0
	13nm,0.3s,baz=39,slow=9.5,SNR=286						
LVC				S	S	10 46 10.5	-0.1
	7.4nm,0.3s,baz=179,slow=18,SNR=15						
LPAZ	**La Paz**	**3.82**	**341**	P	Pn	10 45 35.1	+2.4
	0.9nm,0.3s,baz=126,slow=7.7,SNR=24						
LPAZ				S	S	10 46 22.3	+1.3
	0.9nm,0.3s,baz=300,slow=18,SNR=11						
SIV	**San Ignacio**	**6.71**	**55**	P	Pn	10 46 09.3	+0.8
	3.5nm,0.3s,baz=257,slow=11,SNR=78						
CFAA	**Coronel Fontan**	**11.71**	**186**	P	Pn	10 47 18.2	+6.4
	0.2nm,0.3s,baz=357,slow=12,SNR=14						
BDFB	**Brasilia**	**18.40**	**80**	P	P	10 48 30.6	+1.3
	0.7nm,0.3s,baz=263,slow=10,SNR=4.4						
PLCA	**Paso Flores**	**21.00**	**188**	P	P	10 48 58.2	+1.4
	1.5nm,0.5s,baz=4.1,slow=12,SNR=7.8						
TORD	**Torodi Ar. Bea**	**74.97**	**70**	P	P	10 55 46.3	-0.5
	2.4nm,0.4s,baz=255,slow=5.4,SNR=33						
YKA	**Yellowknife Ar**	**90.36**	**340**	P	P	10 57 05.4	-0.5
	0.2nm,0.3s,baz=130,slow=4.9,SNR=4.3						
ASAR	**Alice Springs**	**132.21**	**206**	PKP	PKPdf	11 03 17.9	+0.8
	0.6nm,1.1s,baz=121,slow=1.5,SNR=4.5						
WRA	**Warramunga Arr**	**135.30**	**209**	PKP	PKPdf	11 03 25.4	+2.5
	0.5nm,1.0s,baz=154,slow=2.0,SNR=5.1						

---

*NEIC **13** 11:08:49.0, 41.18S×17347E, h95km, ML4.2(WEL), After WEL.*

NEIC Felt in Nelson.

WEL 13 11:08:49.1±0.2**, 4119S**×**17347E, h95**km±2km**, ML4.2**/19**, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.07**	**243**	P	Pn	11 09 01.9	-0.4
NNZ				S	Sn	11 09 10.8	-1.3
NNZ	**Nelson**	**0.07**	**243**	PN	Pn	11 09 01.9	-0.4
NNZ				SN	Sn	11 09 10.8	-1.3
TUWZ	**Tuamarina**	**0.43**	**124**	PN	Pn	11 09 03.8	+0.1
TUWZ				SN	Sn	11 09 14.1	-0.7
DUWZ	**D'Urville Isla**	**0.52**	**42**	PN	Pn	11 09 04.7	+0.3
DUWZ				SN	Sn	11 09 16.0	+0.2
BSWZ	**Blackbirch Sta**	**0.61**	**150**	P	Pn	11 09 05.3	+0.1
BSWZ	**Blackbirch Sta**	**0.61**	**150**	PN	Pn	11 09 05.3	+0.1
TCW	**Tory Channel**	**0.61**	**93**	P	Pn	11 09 05.6	+0.4
TCW				S	Sn	11 09 16.6	-0.6

TCW	Tory Channel	0.61	93	PN	Pn	11 09 05.6	+0.4
TCW				SN	Sn	11 09 16.6	-0.5
THZ	Tophouse	0.71	216	P	Pn	11 09 06.0	-0.1
THZ	Tophouse	0.71	216	PN	Pn	11 09 06.0	-0.1
QRZ	Quartz Range	0.79	297	P	Pn	11 09 06.6	-0.3
QRZ	Quartz Range	0.79	297	PN	Pn	11 09 06.6	-0.2
CMWZ	Cape Campbell	0.80	135	P	Pn	11 09 07.2	+0.3
CMWZ	Cape Campbell	0.80	135	PN	Pn	11 09 07.2	+0.3
MRW	Makara Radio	0.93	93	P	Pn	11 09 08.3	0.0
MRW	Makara Radio	0.93	93	PN	Pn	11 09 08.3	0.0
SNZO	South Karori	0.94	98	P	Pn	11 09 08.3	-0.1
SNZO	South Karori	0.94	98	PN	Pn	11 09 08.3	-0.1
SNZO				PN	Pn	11 09 08.3	-0.1
WEL	Wellington	0.99	96	P	Pn	11 09 08.8	-0.1
WEL	Wellington	0.99	96	PN	Pn	11 09 08.8	-0.1
BHW	Baring Head	1.08	102	P	Pn	11 09 09.6	-0.4
BHW	Baring Head	1.08	102	PN	Pn	11 09 09.6	-0.4
KIW	Kapiti Island	1.14	74	P	Pn	11 09 10.9	+0.3
KIW	Kapiti Island	1.14	74	PN	Pn	11 09 10.9	+0.3
CAW	Cannon Point	1.21	87	P	Pn	11 09 11.3	-0.2
CAW	Cannon Point	1.21	87	PN	Pn	11 09 11.3	-0.3
KHZ	Kahutara	1.23	177	P	Pn	11 09 11.7	0.0
KHZ	Kahutara	1.23	177	PN	Pn	11 09 11.7	0.0
MSWZ	Moikau Station	1.36	100	P	Pn	11 09 12.7	-0.6
MSWZ	Moikau Station	1.36	100	PN	Pn	11 09 12.7	-0.6
DSZ	Denniston Nort	1.37	245	P	Pn	11 09 13.1	-0.3
DSZ	Denniston Nort	1.37	245	PN	Pn	11 09 13.1	-0.3
PAWZ	Paruwai Farm	1.49	98	P	Pn	11 09 14.2	-0.7
PAWZ	Paruwai Farm	1.49	98	PN	Pn	11 09 14.2	-0.7
MTW	Mount Morrison	1.54	90	PN	Pn	11 09 14.7	-0.8
MRZ	Mangatainoka R	1.69	73	eP	Pn	11 09 16.7	-0.6
MRZ	Mangatainoka R	1.69	73	PN	Pn	11 09 16.7	-0.6
TRWZ	Traveller	1.69	98	PN	Pn	11 09 16.7	-0.7
LTZ	Lake Taylor	1.83	209	P	Pn	11 09 18.8	-0.4
LTZ	Lake Taylor	1.83	209	PN	Pn	11 09 18.8	-0.4
WAZ	Wanganui	1.84	40	P	Pn	11 09 20.9	+1.6
WAZ	Wanganui	1.84	40	PN	Pn	11 09 20.9	+1.6
TIWZ	Tintock	1.88	78	PN	Pn	11 09 19.0	-0.8
NRZ	Ngariki Road	1.88	11	P	Pn	11 09 21.3	+1.4
NRZ	Ngariki Road	1.88	11	PN	Pn	11 09 21.3	+1.5
NWEZ	Newall Road	1.93	9	P	Pn	11 09 22.2	+1.7
NWEZ	Newall Road	1.93	9	PN	Pn	11 09 22.2	+1.6
NEZ	North Egmont	1.97	14	P	Pn	11 09 22.4	+1.4
NEZ	North Egmont	1.97	14	PN	Pn	11 09 22.4	+1.4
RAEZ	Rainy Point	2.02	21	P	Pn	11 09 23.7	+2.0
RAEZ	Rainy Point	2.02	21	PN	Pn	11 09 23.7	+2.0
PKE	Pukeiti	2.03	12	P	Pn	11 09 23.3	+1.5
PKE	Pukeiti	2.03	12	PN	Pn	11 09 23.3	+1.6
BFZ	Birch Farm	2.17	77	eP	Pn	11 09 22.5	-1.1
BFZ	Birch Farm	2.17	77	PN	Pn	11 09 22.5	-1.1
TSZ	Takapari Road	2.21	60	eP	Pn	11 09 23.3	-0.8
TSZ	Takapari Road	2.21	60	PN	Pn	11 09 23.3	-0.8
VRZ	Vera Road	2.28	26	P	Pn	11 09 26.6	+1.5
VRZ	Vera Road	2.28	26	PN	Pn	11 09 26.6	+1.5
PKVZ	Pokaka	2.38	38	PN	Pn	11 09 27.2	+0.9
CRLZ	Canterbury Las	2.47	194	P	Pn	11 09 25.8	-1.8
CRLZ	Canterbury Las	2.47	194	PN	Pn	11 09 25.8	-1.8
WNVZ	Wahianoa	2.47	42	P	Pn	11 09 28.3	+0.7
WNVZ	Wahianoa	2.47	42	PN	Pn	11 09 28.3	+0.7
MOVZ	Moawhango	2.49	45	P	Pn	11 09 28.0	+0.1
MOVZ	Moawhango	2.49	45	PN	Pn	11 09 28.0	+0.1
DRZ	Dome Shelter	2.49	41	PN	Pn	11 09 29.8	+1.9
FWVZ	Far West T-bar	2.50	40	ePN	Pn	11 09 29.2	+1.2
WPVZ	Whakapapa	2.54	40	P	Pn	11 09 29.2	+0.7
WPVZ	Whakapapa	2.54	40	PN	Pn	11 09 29.2	+0.7
TUVZ	Tukino	2.54	42	P	Pn	11 09 29.2	+0.6
TUVZ	Tukino	2.54	42	PN	Pn	11 09 29.2	+0.7
NGZ	Ngauruhoe	2.59	40	P	Pn	11 09 30.0	+0.8
MQZ	McQueen's Vall	2.59	193	P	Pn	11 09 27.0	-2.2
MQZ	McQueen's Vall	2.59	193	PN	Pn	11 09 27.0	-2.2
TWVZ	Taurewa	2.60	36	P	Pn	11 09 29.9	+0.6
TWVZ	Taurewa	2.60	36	PN	Pn	11 09 29.9	+0.6
OTVZ	Oturere	2.63	41	PN	Pn	11 09 30.5	+0.8
WTVZ	West Tongariro	2.63	39	P	Pn	11 09 30.8	+1.1
WTVZ	West Tongariro	2.63	39	PN	Pn	11 09 30.8	+1.1
KRVZ	Karewarewa	2.67	39	PN	Pn	11 09 30.8	+0.5
WVZ	Waitaha Valley	2.77	226	PN	Pn	11 09 30.6	-1.0
KATZ	Kakaramea	2.79	38	P	Pn	11 09 32.9	+1.0
KATZ	Kakaramea	2.79	38	PN	Pn	11 09 32.9	+1.1
HIZ	Hauiti	2.88	22	P	Pn	11 09 33.7	+0.7
HIZ	Hauiti	2.88	22	PN	Pn	11 09 33.7	+0.8
RATZ	Rangitukua	2.91	38	P	Pn	11 09 36.3	+2.8
WATZ	Wairara	3.03	36	P	Pn	11 09 37.1	+2.1
BKZ	Black Stump Fm	3.07	50	P	Pn	11 09 34.6	-1.0
BKZ	Black Stump Fm	3.07	50	PN	Pn	11 09 34.6	-1.0
RPZ	Rata Peaks	3.09	214	eP	Pn	11 09 34.1	-1.8
RPZ	Rata Peaks	3.09	214	PN	Pn	11 09 34.1	-1.8
FOZ	Fox Glacier	3.67	228	P	Pn	11 09 40.8	-2.9
FOZ	Fox Glacier	3.67	228	PN	Pn	11 09 40.8	-2.9
TOZ	Tahuroa Road	3.79	25	P	Pn	11 09 46.3	+1.0
TOZ	Tahuroa Road	3.79	25	PN	Pn	11 09 46.3	+1.0
LBZ	Lake Benmore	4.01	216	eP	Pn	11 09 45.7	-2.5
LBZ	Lake Benmore	4.01	216	PN	Pn	11 09 45.7	-2.6
URZ	Urewera	4.05	45	eP	Pn	11 09 45.5	-3.4
MWZ	Matawai	4.23	49	eP	Pn	11 09 48.8	-2.5
MWZ	Matawai	4.23	49	PN	Pn	11 09 48.8	-2.5
MKAZ	Moumakai	4.28	19	P	Pn	11 09 53.2	+1.3
MKAZ	Moumakai	4.28	19	PN	Pn	11 09 53.2	+1.3
WTAZ	Waiatarua	4.33	12	P	Pn	11 09 54.4	+1.8
WTAZ	Waiatarua	4.33	12	PN	Pn	11 09 54.4	+1.8
ODZ	Otahua Downs	4.38	207	eP	Pn	11 09 51.3	-1.9
ODZ	Otahua Downs	4.38	207	PN	Pn	11 09 51.3	-1.9
OTAZ	Otara	4.38	16	P	Pn	11 09 54.7	+1.4
OTAZ	Otara	4.38	16	PN	Pn	11 09 54.7	+1.4
JCZ	Jackson Bay	4.51	229	P	Pn	11 09 52.3	-2.8
JCZ	Jackson Bay	4.51	229	ePN	Pn	11 09 51.7	-3.3
MTAZ	Motutapu	4.53	15	P	Pn	11 09 56.0	+0.6
KUZ	Kuaotunu	4.77	22	P	Pn	11 09 59.1	+0.6
KUZ	Kuaotunu	4.77	22	PN	Pn	11 09 59.1	+0.5
WKZ	Wanaka	4.89	220	eP	Pn	11 09 56.3	-3.8
WKZ	Wanaka	4.89	220	PN	Pn	11 09 56.3	-3.8
EAZ	Earnscleugh	5.06	216	eP	Pn	11 09 58.6	-3.9
EAZ	Earnscleugh	5.06	216	PN	Pn	11 09 58.6	-3.9
WCZ	Waipu Caves	5.28	8	eP	Pn	11 10 05.9	+0.4
MSZ	Milford Sound	5.35	228	P	Pn	11 10 04.7	-1.8
MSZ	Milford Sound	5.35	228	PN	Pn	11 10 04.7	-1.8
TUZ	Tuapeka	5.52	209	eP	Pn	11 10 06.5	-2.2
TUZ	Tuapeka	5.52	209	PN	Pn	11 10 06.5	-2.3
MLZ	Mavora Lakes	5.68	221	eP	Pn	11 10 07.6	-3.3
OUZ	Omahuta	5.96	1	eP	Pn	11 10 17.2	+2.5

*ISCJB **13** 11:17:28.9±0.7, 3589N±003×2695E±003, h8^{km}±6^{km}, Error ellipse: s-maj=5.8km s-min=3.6km az=108.2*
*ISK **13** 11:17:28.3, 3595N×2686E, h11^{km}, MD3.2*
*NEIC **13** 11:17:29.1, 3584N×2704E, h34^{km}, MD3.3(ATH), After ATH.*
*ATH **13** 11:17:29.1, 3584N×2704E, h34^{km}±2^{km}, MD3.3/10*
*CSEM **13** 11:17:29.8±0.1, 3589N×2701E, h25^{km}, MD3.3, Error ellipse: s-maj=2.1km s-min=1.7km az=127.0*
ISC 13 11:17:29.9±0.6, **3588N**±003×**2698E**±003, **h15**^{km}±5^{km}, **n25**, σ**0^{s}85**/40, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KARP	Karpathos	0.37	156	ePB	Pg	11 17 37.3	-0.1
KARP				eSB	Sg	11 17 43.0	+0.6
NISR	Nisiros	0.74	9	ePN	Pg	11 17 44.5	+0.2
NISR				eSN	Sg	11 17 56.0	+2.0
DAT	Datca	0.97	30	PG	Pg	11 17 48.0	-0.7
DAT				SG	Sg	11 18 00.9	-0.6
ARG	Arkhangelos	0.99	70	ePN	Pb	11 17 48.0	-0.7
ARG				eSN	Sb	11 18 00.8	-0.7
BODT	Bodrum	1.21	13	PN	Pn	11 17 51.4	-0.8
BODT				SN	Sn	11 18 07.9	-0.3
BDRM	Kayabasi	1.24	18	iP	Pn	11 17 52.7	+0.1
BDRM				iS	Sb	11 18 08.7	-0.1
BDRM	Kayabasi	1.24	18	iP	Pn	11 17 52.7	+0.1
BDRM				iS	Sb	11 18 08.6	-0.1
NPS	Neapolis	1.27	241	ePN	Pn	11 17 52.5	-0.6
NPS				eSN	Sn	11 18 09.0	-0.9
SANT	Santorini	1.32	292	eP	Pn	11 17 53.1	-0.7
SANT				eS	Sn	11 18 12.0	+0.9
XRY	Khrisi	1.45	227	ePn	Pn	11 17 55.5	-0.1
DALT	Dalyan (Mudla)	1.60	56	PN	Pn	11 17 57.6	-0.1
DALT				SN	Sn	11 18 20.4	+2.3
YER	Yerkesik	1.63	40	ePN	Pn	11 17 57.4	-0.6
APE	Apeiranthos	1.66	316	eP	Pn	11 17 57.3	-1.1
APE	Apeiranthos	1.66	316	ePn	Pn	11 17 58.0	-0.4
APE				eS	Sn	11 18 19.2	-0.3
SMG	Samos	1.83	356	ePN	Pn	11 18 00.0	-0.7
FETY	Fethiye	1.86	66	ePN	Pn	11 18 01.4	+0.2
AYDN	Tasoluk	1.92	22	iP	Pn	11 18 06.5	+4.5
AYDN				iS	Sn	11 18 29.8	+4.1
AKAS	Kas	2.16	80	iP	Pn	11 18 06.2	+1.0
AKAS				iS	Sn	11 18 24.9	-6.9
AKAS	Kas	2.16	80	iP	Pn	11 18 06.2	+0.9
VAM	Vamos	2.31	259	ePN	Pn	11 18 08.0	+0.6
GOLH	Golhisar	2.48	56	iP	Pb	11 18 12.4	-1.8
GOLH				iS	Sb	11 18 44.7	+0.3
ELL	Elmali	2.52	69	ePN	Pn	11 18 11.3	+1.1
KARN	Karanos	2.54	260	eP	Pn	11 18 09.7	-0.8
KARN				eS	Sn	11 18 41.9	+0.8
GVD	Gavdhos	2.58	247	ePN	Pn	11 18 11.5	+0.4
VLI	Veliai	3.37	286	ePN	Pn	11 18 23.2	+1.3

IDC 13 11:20:45.2±4.6, **1193S**×**11616E**, **h0**^{km}, **mb3.5**/2, **mb1 3.6**/4, **mb1mx3.4**/15, **mbtmp3.4**/4, **ML3.4**/1, **Error ellipse: s-maj=270.9km s-min=25.4km az=45.0, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.02	125	Pn	Pn	11 23 22.3	-1.7
	0.2nm,0.3s,baz=262,slow=14,SNR=8.8						
FITZ				Sn	Sn	11 25 14.5	-14
	0.2nm,0.3s,baz=90,slow=20,SNR=4.3						
WRA	Warramunga Arr	19.20	117	P	Pn	11 25 10.0	-1.3
	0.1nm,0.3s,baz=286,slow=14,SNR=8.4						
WRA				S	Sn	11 28 25.0	-22
	0.1nm,0.3s,baz=284,slow=25,SNR=3.6						
ASAR	Alice Springs	20.51	127	P	P	11 25 26.8	+2.0
	0.4nm,0.6s,baz=300,slow=10,SNR=11						
ASAR				S	S	11 29 04.5	-11
	0.4nm,0.8s,baz=303,slow=22,SNR=3.5						
MKAR	Makanchi Array	65.85	335	P	P	11 31 32.5	0.0
	0.6nm,0.3s,baz=147,slow=8.1,SNR=5.7						

*IDC **13** 11:56:43.2±4.6, 1493S×16743E, h221^{km}±47^{km}, mb4.0/7, mb1 4.1/8, mb1mx3.8/16, mbtmp4.5/8, Error ellipse: s-maj=49.3km s-min=33.0km az=135.0*
*ISCJB **13** 11:56:44.5±3.2, 15.1S±02×1673E±02, h245^{km}±26^{km}, mb4.2/12, Error ellipse: s-maj=34.7km s-min=24.3km az=66.6*
*NEIC **13** 11:56:44.4±2.7, 1506S×16744E, h236^{km}±21^{km}, mb4.3/9, Error ellipse: s-maj=26.2km s-min=16.7km az=211.0*
ISC 13 11:56:44.4±3.3, **151S**±02×**1675E**±02, **h235**^{km}±27^{km}, **n22**, σ**0^{s}69**/24, **mb4.2**/12, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.03	188	eP	Pn	11 58 24.9	-0.4
DZM				eS	S	11 59 50.9	+4.8
DZM	Mont Dzumac	7.03	188	P	Pn	11 58 25.1	-0.2
	4.0nm,0.3s,baz=35,slow=18,SNR=32						
DZM				S	S	11 59 53.1	+7.1
	0.2nm,0.3s,baz=112,slow=19,SNR=1.9						
CTA	Charters Tower	20.82	253	eP	P	12 01 09.5	+1.5
	7.4nm,1.0s						
CTA	Charters Tower	20.82	253	P	P	12 01 09.4	+1.5
	9.7nm,0.9s,baz=66,slow=11,SNR=5.9						
CTAO	Charters Tower	20.82	253	eP	P	12 01 09.7	+1.7
	20nm,1.2s						
STKA	Stephens Creek	28.92	230	eP	P	12 02 23.0	+1.3
	7.3nm,0.6s,mb4.5						
STKA	Stephens Creek	28.92	230	P	P	12 02 23.3	+1.7
	8.9nm,0.6s,mb4.5,baz=40,slow=7.8,SNR=26						
WB2	Warramunga Arr	31.92	256	eP	P	12 02 46.9	-1.1
WRAB	Tennant Creek	31.92	256	eP	P	12 02 47.5	-0.4
	4.0nm,0.6s,mb4.1						
WRA	Warramunga Arr	31.93	256	P	P	12 02 47.7	-0.4
	2.9nm,0.7s,mb3.9,baz=84,slow=8.4,SNR=32						
AS31	Alice Springs	32.73	250	eP	P	12 02 54.7	-0.3
ASAR	Alice Springs	32.73	250	P	P	12 02 54.8	-0.2
	9.0nm,0.6s,mb4.5,baz=79,slow=9.1,SNR=136						
ASPA	Alice Springs	32.73	250	eP	P	12 02 54.7	-0.4
FORT	Forrest	39.29	240	eP	P	12 03 50.1	-0.4
	29nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	40.14	260	eP	P	12 03 57.7	+0.2
	11nm,0.6s,mb4.5						
MBWA	Marble Bar	45.64	255	eP	P	12 04 42.1	+0.6
	8.0nm,0.6s,mb4.2						
KLBR	Kellerberrin	48.11	241	eP	P	12 05 00.0	-0.5
	16nm,1.4s,mb4.2						
NWAO	Narrogin (SRO)	48.74	239	P	P	12 05 05.1	-0.3
	15nm,1.0s,mb4.3,baz=75,slow=6.6,SNR=6.1						
VNDA	Vanda	62.53	181	eP	P	12 06 42.6	-0.6
	1.6nm,1.1s,mb3.6						
SBA	Scott Base	62.80	180	eP	P	12 06 45.7	+0.7
SONM	Songino Array	82.88	324	P	P	12 08 42.8	+0.1
	1.2nm,0.8s,mb3.7,baz=128,slow=5.3,SNR=9.1						
MKAR	Makanchi Array	97.58	316	P	P	12 09 52.1	+0.3
	0.2nm,0.4s,mb3.8,baz=93,slow=5.0,SNR=5.2						

*HEL **13** 12:10:06.2±0.3, 61.15N×3037E, h0^{km}, ML2.1, ML2.3(NAO), Explosion*
*BER **13** 12:10:06.9±3.0, 6126N×3033E, h0^{km}, ML2.3(NAO), Suspected explosion*
*IDC **13** 12:10:07.9±2.0, 61.14N×3008E, h0^{km}, mb1 3.3/3, mb1mx3.1/21, mbtmp3.3/3, ML2.9/3, Error ellipse: s-maj=18.7km s-min=10.5km az=154.0*
*ISCJB **13** 12:10:08.8±1.0, 6158N±006×293E±02, h0^{km}, Error ellipse: s-maj=12.3km s-min=4.6km az=70.5*
*NAO **13** 12:10:09.4±2.1, 6132N×3000E, ML2.3*
ISC 13 12:10:09.0±1.1, **6145N**±006×**297E**±01, **h0**^{km}, **n17**, σ**1^{s}26**/28, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	1.38	229	eP	Pg	12 10 32.7	-2.7
VJF				eS	Sg	12 10 53.1	-0.1
JOF	Joensuu	1.66	27	eP	Pn	12 10 38.6	-0.8
JOF				eS	Sn	12 11 01.4	0.0
FIA0	FINESS Array S	1.72	271	eP	Pn	12 10 42.2	+2.0
FIA0				MSG		12 11 11.4	
	comp=Z,7.8nm,0.2s						
FIA0	FINESS Array S	1.72	271	Pg	Pg	12 10 42.3	+0.3
	baz=101,slow=16						
FIA0				Lg		12 11 09.2	
	baz=94,slow=37						
FINES	FINESS Array B	1.72	271	Pg	Pg	12 10 42.3	+0.3
	comp=Z,2.3nm,0.3s,baz=100,slow=17,SNR=95						
FINES				Lg		12 11 09.3	
	comp=Z,4.6nm,0.3s,baz=96,slow=30,SNR=19						
KAF	Kangasniemi	1.73	294	eP	Pn	12 10 43.9	+3.7
KAF				eS	Sn	12 11 10.3	+7.3
KAF				MSG		12 11 14.9	
	comp=Z,9.9nm,0.2s						
PVF	Pernaja	2.06	245	eP	Pn	12 10 44.7	-0.1
PVF				eS	Sn	12 11 13.7	+2.4
KEF	Keuruu	2.38	290	MSG		12 11 31.6	
	comp=Z,8.8nm,0.2s						
HFS	Hagfors	7.92	267	eP	Pn	12 12 06.2	+0.9
HFS				eS	Sn	12 13 35.4	-0.3
HFS				eSG	Sg	12 14 22.2	-1.2
HFS	Hagfors	7.92	267	Pn	Pn	12 12 05.0	-0.4
	comp=Z,0.3nm,0.3s,baz=89,slow=13,SNR=12						
HFS				Sn	Sn	12 13 34.3	-1.4
	comp=Z,0.5nm,0.3s,baz=86,slow=26,SNR=6.5						
HFS				Lg		12 14 21.8	
	comp=Z,0.5nm,0.3s,baz=81,slow=28,SNR=3.7						
HFS	Hagfors	7.92	267	Pn	Pn	12 12 06.2	+0.9
	baz=67,slow=12						
HFS				Sn	Sn	12 13 35.4	-0.3
	baz=84,slow=28						
HFS				Lg		12 14 22.2	
	baz=62,slow=37						
ARA0	ARCESS Array S	8.30	350	Pn	Pn	12 12 10.7	+0.1
	baz=158,slow=16						
ARA0				Sn	Sn	12 13 42.8	-2.2
ARA0				Lg		12 14 29.7	
	baz=168,slow=37						
ARA0	ARCESS Array S	8.30	350	eP	Pn	12 12 10.7	+0.1
ARA0				eS	Sn	12 13 42.8	-2.2
ARA0				eSG	Sg	12 14 29.7	-5.7
ARCES	ARCESS Array B	8.30	350	Pn	Pn	12 12 10.8	+0.3
	comp=Z,0.1nm,0.3s,baz=158,slow=15,SNR=7.9						
ARCES				Sn	Sn	12 13 46.4	+1.5
	comp=Z,0.2nm,0.3s,baz=158,slow=24,SNR=2.7						
NB2	NORSAR Subarra	8.90	275	Pn	Pn	12 12 19.1	+0.3
	baz=77,slow=12						
NB2	NORSAR Subarra	8.90	275	eP	Pn	12 12 19.1	+0.3
NOA	NORSAR Array B	8.90	275	Pn	Pn	12 12 17.1	-1.7
	comp=Z,0.2nm,0.3s,baz=77,slow=13,SNR=2.2						

WEL 13 12:20:59.6±0.4, **3681S**×**17765E**, **h152**^{km}±3^{km}, **ML3.7**/13, **Error ellipse: s-maj=5.0km s-min=3.6km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.92	145	ePN	Pn	12 21 23.8	-0.1
MXZ				SN	Sn	12 21 41.9	-0.5
PUZ	Puketiti	1.35	159	SN	Sn	12 21 49.0	-0.4
URZ	Urewera	1.51	196	PN	Pn	12 21 29.7	+0.3
MWZ	Matawai	1.53	184	PN	Pn	12 21 29.8	+0.3
MWZ				SN	Sn	12 21 52.5	-0.1
KNZ	Kokohu	2.21	179	PN	Pn	12 21 37.2	0.0
BKZ	Black Stump Fm	2.53	201	PN	Pn	12 21 40.6	-0.5
MOVZ	Moawhango	3.00	209	PN	Pn	12 21 46.5	-0.4
PXZ	Pawanui	3.28	191	PN	Pn	12 21 48.9	-1.6
PXZ				SN	Sn	12 22 28.0	-2.1
TSZ	Takapari Road	3.51	202	PN	Pn	12 21 51.8	-1.7
BFZ	Birch Farm	4.02	195	PN	Pn	12 21 58.1	-2.0
MRZ	Mangatainoka R	4.18	202	PN	Pn	12 21 59.6	-2.5
TIWZ	Tintock	4.20	199	PN	Pn	12 22 00.2	-2.2
KIW	Kapiti Island	4.58	207	PN	Pn	12 22 04.7	-2.7
MTW	Mount Morrison	4.66	200	PN	Pn	12 22 05.4	-3.0
CAW	Cannon Point	4.74	204	PN	Pn	12 22 06.4	-3.2
SNZO	South Karori	5.05	206	PN	Pn	12 22 10.2	-3.4
TCW	Tory Channel	5.12	210	PN	Pn	12 22 11.5	-3.1
TUWZ	Tuamarina	5.44	211	PN	Pn	12 22 15.4	-3.4
NNZ	Nelson	5.52	216	PN	Pn	12 22 16.6	-3.2
THZ	Tophouse	6.17	215	PN	Pn	12 22 25.7	-2.8

*IDC **13** 12:37:44.6±3.1, 3583N×7140E, h0^{km}, mb3.8/4, mb1 3.9/7, mb1mx3.6/23, mbtmp3.8/7, ML3.7/3, Error ellipse: s-maj=65.3km s-min=28.1km az=136.0*
*ISCJB **13** 12:37:57.6±1.2, 3631N±006×715E±0.1, h119^{km}±15^{km}, mb3.7/3, Error ellipse: s-maj=20.1km s-min=5.4km az=129.7*
*NNC **13** 12:38:00.5±5.3, 3693N×7076E, h0^{km}, mb4.2, mpv3.8, Error ellipse: s-maj=52.7km s-min=41.4km az=54.0*
ISC 13 12:37:59.2±1.0, **3633N**±006×**715E**±01, **h121**^{km}±13^{km}, **n28**, σ**0^{s}99**/33, **mb3.7**/3, **3C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.21	137	eP	Pn	12 39 16.6	+1.6
THN				eS	Sn	12 40 14.0	0.0
DLH	Dalhousie	5.27	134	ex	Pn	12 39 17.0	+1.2
DLH				ex	Sn	12 40 16.0	+0.5
AML	Almayashu	6.04	16	P	Pn	12 39 26.7	+0.6
	SNR=22						
EKS2	Erkin-Say	6.56	15	P	Pn	12 39 33.5	+0.2
	SNR=17						
SDNR	Sundarnagar	6.62	135	ex	Pn	12 39 34.5	+0.6
SDNR				ex	Sn	12 40 46.0	-1.9
AAK	Ala-Archa	6.71	19	P	Pn	12 39 36.0	+0.8
	SNR=5.8						
KK31	Karatay Array	6.81	354	P	Pn	12 39 35.1	-1.5
	23nm,0.4s,baz=173,slow=12,SNR=178						
KK31				⇑S	Sn	12 40 45.4	-7.3
	3.4nm,0.3s,baz=190,slow=25,SNR=5.1						
CHMS	Chumysh	7.11	20	P	Pn	12 39 41.1	+0.4
	SNR=6.1						
TKM2	Tokmak 2	7.30	24	P	Pn	12 39 43.9	+0.7
	SNR=15						
TKM2	Tokmak 2	7.30	24	⇓P	Pn	12 39 43.7	+0.5
	0.5nm,0.4s						
USP	Ospenovka	7.30	17	P	Pn	12 39 42.8	-0.5
	SNR=5.7						
MKAR	Makanchi Array	13.19	34	Pn	Pn	12 41 01.5	-0.3
	0.2nm,0.3s,baz=228,slow=15,SNR=3.0						
KOLN	Koldanda	13.33	126	eP	Pn	12 41 03.1	-0.5
	5.3nm,0.4s						
GKN	Gorkha	13.86	123	eP	Pn	12 41 09.9	-0.6
	12nm,0.4s						
DMN	Daman	14.43	123	eP	Pn	12 41 17.0	-0.8
	4.8nm,0.3s						
KKN	Kakani	14.44	122	eP	Pn	12 41 17.1	-0.7
	8.4nm,0.4s						
PKI	Pulchoki	14.66	123	eP	Pn	12 41 20.9	+0.2
	5.0nm,0.3s						
GUN	Gumba	14.77	121	eP	Pn	12 41 21.8	-0.3
	6.6nm,0.3s						
JIRN	Jiri	15.14	121	eP	Pn	12 41 26.7	0.0
	18nm,0.3s						
AB31	Akbulak array	15.44	330	⇑P	Pn	12 41 27.6	-2.7
	1.3nm,0.3s,baz=156,slow=11,SNR=106						
AB31				⇑S	S	12 44 10.0	-19
	1.1nm,0.7s,baz=154,slow=24,SNR=4.0						
BVAR	Borovoye Array	16.71	358	P	Pn	12 41 44.6	-1.5
	0.2nm,0.3s,baz=166,slow=14,SNR=7.5						
AKTO	Aktyubinsk	17.14	330	P	Pn	12 41 50.4	-0.8
AKTO	Aktyubinsk	17.14	330	P	Pn	12 41 50.9	-0.3
	0.7nm,0.3s,baz=145,slow=16,SNR=9.4						
ZAL	Zalesovo	19.89	24	P	P	12 42 22.1	+1.1
	2.7nm,0.3s,baz=263,slow=9.9,SNR=4.9						
FINES	FINESS Array B	37.86	326	P	P	12 45 06.1	+1.9
	3.8nm,1.1s,mb4.1,baz=121,slow=9.3,SNR=5.2						
NB2	NORSAR Subarra	44.77	323	P	P	12 46 02.0	+1.4
	comp=Z,0.6nm,0.5s,mb3.6,baz=95,slow=8.6						
NOA	NORSAR Array B	44.77	323	P	P	12 46 02.1	+1.5
	comp=Z,0.6nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=4.6						
TORD	Torodi Ar. Bea	66.13	269	P	P	12 48 33.3	-0.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=48,slow=5.5,SNR=7.5						

MEX 13 12:38:11.3±0.6, **1659N**×**10049W**, **h4**^{km}±7^{km}, **MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.51	25	iP	Pg	12 38 20.4	-0.6
CAIG				iS	Sg	12 38 28.2	+0.6
ACX	Acapulco	0.62	63	eP	Pg	12 38 23.5	+0.3
ACX				iS	Sg	12 38 34.5	+3.3
ZIIG	Zihuatanejo	1.38	318	iP	Pn	12 38 33.9	-3.3
ZIIG				iS	Sb	12 38 51.1	-4.4
PLIG	Platanillo	2.03	28	iP	Pn	12 38 43.9	-2.3
PLIG				iS	Sn	12 39 05.6	-6.3
IIZ	Mezontepec	2.85	25	iP	Pn	12 38 54.0	-3.4
IIZ				iS	Sn	12 39 28.2	-4.0
UTMO	Huajuapan	2.85	64	eP	Pn	12 38 55.8	-1.8
UTMO				iS	Sn	12 39 28.8	-3.5

WEL 13 12:52:51.4±0.2, **3798S**×**17726E**, **h61**^{km}±1^{km}, **ML3.5**/4, **Error ellipse: s-maj=1.8km s-min=1.5km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	0.30	203	P*	Pn	12 53 01.3	-0.3
URZ				S*	Sn	12 53 09.0	0.0
MWZ	Matawai	0.41	150	P*	Pn	12 53 02.3	-0.3
MWZ				S*	Sn	12 53 10.8	+0.2
EDRZ	Edgecumbe	0.43	253	P*	Pn	12 53 02.8	0.0
WIZ	White Island	0.46	352	P*	Pn	12 53 02.2	-0.8
MARZ	Manawahe	0.47	269	P*	Pn	12 53 02.9	-0.2
TAZ	Tarawera	0.65	247	P*	Pn	12 53 05.3	+0.2
MKRZ	Makatiti	0.65	256	P*	Pn	12 53 05.5	+0.4
LIRZ	Lichensteins R	0.70	268	P*	Pn	12 53 05.8	+0.1
PUZ	Puketiti	0.79	97	PN	Pn	12 53 07.2	+0.4
KARZ	Kaharoa	0.81	267	P*	Pn	12 53 06.9	-0.1
TGRZ	Tauranga	0.83	287	P*	Pn	12 53 06.9	-0.4
PATZ	Paeroa	0.89	243	P*	Pn	12 53 08.1	+0.1
MXZ	Matakaoa Point	0.92	64	P*	Pn	12 53 09.6	+1.1
KNZ	Kokohu	1.09	163	PN	Pn	12 53 10.1	-0.5
BKZ	Black Stump Fm	1.33	207	P*	Pn	12 53 13.6	-0.3
TOZ	Tahuroa Road	1.42	280	P*	Pn	12 53 15.0	0.0
KATZ	Kakaramea	1.58	231	eP*	Pn	12 53 17.4	+0.2
KRVZ	Karewarewa	1.69	228	P*	Pn	12 53 18.9	+0.2
KUZ	Kuaotunu	1.74	315	PN	Pn	12 53 19.2	-0.2
TWVZ	Taurewa	1.80	232	P*	Pn	12 53 20.2	+0.1
TUVZ	Tukino	1.80	224	P*	Pn	12 53 20.3	+0.1
WPVZ	Whakapapa	1.82	227	P*	Pn	12 53 20.8	+0.4
MOVZ	Moawhango	1.85	219	P*	Pn	12 53 20.5	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRZ	Mangatainoka R	2.98	205	PN	Pn	12 53 33.6	-2.7
KIW	Kapiti Island	3.41	212	PN	Pn	12 53 39.9	-2.1

---

*MOS **13** 12:55:50.7±0.9,5331N×15957E,h113km,mb4.3/1,Error ellipse: s-maj=55.0km s-min=13.3km az=73.0*

KRSC 13 12:55:51,5339N×15960E,h106km,ML4.0,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	Nalytchevo	0.27	215	eP	Pn	12 56 07.3	+1.2
NLC				i S	Sn	12 56 18.2	+0.7
SPN	Mys Shipunski	0.39	139	eP	Pn	12 56 07.8	+1.1
SPN				i S	Sn	12 56 19.4	+0.9
AVH	Avacha	0.53	257	i P	Pn	12 56 08.9	+1.3
AVH				i S	Sn	12 56 21.2	+1.1
KII	Karymskiy	0.65	352	eP	Pn	12 56 09.3	+0.7
KII				i S	Sn	12 56 21.9	+0.2
PET	Petropavlovsk	0.68	238⇑	iPN	Pn	12 56 09.7	+0.9
PET				eS	Sn	12 56 22.4	+0.3
PET				pmax	pmax		
	comp=Z,124nm,0.5s						
PET				smax			
	comp=E,842nm,0.5s						
PET				smax			
	comp=N,766nm,0.5s						
PET	Petropavlovsk	0.68	238	eP	Pn	12 56 09.8	+1.0
PET				i S	Sn	12 56 22.7	+0.6
GNL	Ganaly	1.04	288	i P	Pn	12 56 13.0	+0.8
GNL				i S	Sn	12 56 28.3	+0.1
RUS	Russkaya	1.16	215	eP	Pn	12 56 15.2	+1.6
RUS				i S	Sn	12 56 32.4	+1.7
GRL	Gorelyy	1.25	228	eP	Pn	12 56 17.0	+2.4
GRL				i S	Sn	12 56 35.3	+2.9
MKZ	Mys Kozlova	1.72	46	eP	Pn	12 56 21.7	+1.5
MKZ				i S	Sn	12 56 43.1	+0.6
TUMR	Tumrok	1.92	9	i P	Pn	12 56 25.0	+2.2
MIPR	Malaya Ipel'ka	2.05	238	i P	Pn	12 56 27.1	+2.6
MIPR				i S	Sn	12 56 52.6	+2.5
KMNR	Kamenistaya	2.40	9	eP	Pn	12 56 31.3	+2.3
KMNR				i S	Sn	12 57 00.4	+2.3
KPT	Kopyto	2.61	8	eP	Pn	12 56 34.0	+2.3
KOZ	Kozyrevsk	2.68	3	eP	Pn	12 56 34.3	+1.7
KOZR	Kozyr	2.69	4	PN	Pn	12 56 34.3	+1.6
ZLN	Zelenaya	2.72	14	eP	Pn	12 56 36.4	+3.2
ZLN				i S	Sn	12 57 08.7	+3.0
CIRR	Tsirk	2.81	13	eP	Pn	12 56 37.3	+2.9
KRSR	Krestovskiy	2.89	11	eP	Pn	12 56 37.5	+2.1
SRDR	Sredinnyy	2.93	1	i P	Pn	12 56 37.7	+1.7
KLY	Klyuchi	2.99	11	eP	Pn	12 56 39.4	+2.6
BDR	Baidarnaya	3.32	16	eP	Pn	12 56 44.4	+3.3
BDR				i S	Sn	12 57 23.4	+3.6
SMKR	Semkarok	3.38	18	eP	Pn	12 56 44.1	+2.2
SMKR				i S	Sn	12 57 23.8	+2.6
KBTR	Krutoberegovo	3.38	32	eP	Pn	12 56 44.7	+2.7
KBTR				i S	Sn	12 57 23.1	+1.8
SRKR	Sorokina	3.39	15	eP	Pn	12 56 45.2	+3.1
SKR	Severo-Kuril's	3.46	220	ePN	Pn	12 56 42.5	-0.5
SKR				eS	Sn	12 57 22.5	-0.7
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						

---

*ISCJB **13** 12:58:40.4±1.2,3238S±005×7159W±008,h62km±14km, Error ellipse: s-maj=12.6km s-min=8.2km az=129.4*

*NEIC **13** 12:58:40.9,3240S×7155W,h54km,MD3.8(GUC),After GUC.*

*GUC **13** 12:58:40.9±0.6,3240S×7155W,h54km±7km,MD3.8, ML2.7*

ISC 13 12:58:40.8±1.2,**3237S**±005×**7160W**±009,**h61**km±15km, **n18,**σ0s**30**/33,**2C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.49	9	i P	Pn	12 58 52.9	+0.2
CHNG				i S	Sn	12 59 01.6	+0.2
PTCH	Petorca	0.57	80⇓	iP	Pn	12 58 53.2	-0.4
PTCH				i S	Sn	12 59 02.9	0.0
PTCH				AML	AML	12 59 05.2	
	comp=N,663nm,0.1s						
PTCH	Petorca	0.57	80⇓	iP	Pn	12 58 53.2	-0.4
PTCH				i S	Sn	12 59 02.9	0.0
ROCH	El Roble	0.78	141⇓	iP	Pn	12 58 56.0	0.0
ROCH				i S	Sn	12 59 07.5	+0.3
JACH	Jahuel	0.90	111⇑	iP	Pn	12 58 57.3	-0.3
JACH				i S	Sn	12 59 09.4	-0.5
PEL	Peldehue	1.09	136	eP	Pn	12 58 59.9	-0.1
PEL				i S	Sn	12 59 13.9	-0.4
PEL				AML	AML	12 59 15.6	
	comp=N,298nm,0.8s						
PEL	Peldehue	1.09	136	eP	Pn	12 58 59.9	-0.1
PEL				i S	Sn	12 59 13.9	-0.4
LCCH	Las Cruces	1.11	179⇓	iP	Pn	12 59 00.2	0.0
LCCH				i S	Sn	12 59 14.7	0.0
RCDM	Rinconada Maip	1.30	150	eP	Pn	12 59 02.7	-0.1
RCDM				i S	Sn	12 59 19.4	+0.1
RCDM				AML	AML	12 59 19.9	
	comp=E,266nm,0.1s						
RCDM	Rinconada Maip	1.30	150	eP	Pn	12 59 02.7	-0.1
RCDM				i S	Sn	12 59 19.4	+0.1
CLCH	Cerro Calan	1.36	139	eP	Pn	12 59 03.7	+0.1
CLCH				i S	Sn	12 59 20.8	+0.1
CLCH				AML	AML	12 59 22.2	
	comp=E,342nm,0.3s						
TACH	Talagante	1.40	157⇑	iP	Pn	12 59 04.2	+0.1
TACH				i S	Sn	12 59 21.5	-0.1
FCH	Farellones	1.46	131	eP	Pn	12 59 05.2	+0.3
FCH				i S	Sn	12 59 23.2	+0.2
FCH				AML	AML	12 59 24.5	
	comp=N,122nm,0.1s						
LNV	Longovilo	1.59	174	i P	Pn	12 59 06.0	-0.7
CHCH	Chadas Angostu	1.75	153	eP	Pn	12 59 08.9	+0.1
LMEL	Las Melosas	1.88	142	eP	Pn	12 59 11.2	+0.5
LMEL				i S	Sn	12 59 33.9	+0.6
LMEL				AML	AML	12 59 36.5	
	comp=E,98nm,0.1s						
LMEL	Las Melosas	1.88	142	eP	Pn	12 59 11.2	+0.5
LMEL				i S	Sn	12 59 33.9	+0.6
SFDO	San Fernando	2.29	168	i P	Pn	12 59 16.1	-0.1

---

*ISCJB **13** 13:04:57.8±0.2,4631N±001×156E±002,h6km±2km,Error ellipse: s-maj=2.0km s-min=1.7km az=72.4*

*NEIC **13** 13:05:02.0,4630N×152E,h8km,ML3.5(STR), ML3.8(LDG),MN3.2(MDD),After LDG.*

*CSEM **13** 13:05:02.2±0.0,4631N×152E,h10km,ML3.9/29,Error ellipse: s-maj=0.7km s-min=0.6km az=118.0*

*LDG **13** 13:05:02.0±0.0,4630N×152E,h8km,Md3.7/3,Ml3.8/38, Error ellipse: s-maj=0.8km s-min=0.6km az=140.0*

*STR **13** 13:05:02.2±0.2,4624N×155E,h5km±1km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 13 13:05:00.3±0.2,**46299N**±0010×**153E**±001,**h15**km±1km, **n156,**σ1s**25**/378,**France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.47	91	ePg	Pg	13 05 11.7	+2.0
	SNR=1.0						
TCF				eSg	Sg	13 05 17.5	+1.5
	827nm,0.2s						
TCF				eSn	Sg	13 05 21.5	+5.5
TCF	Toulx Ste Croi	0.47	91	ePg	Pg	13 05 11.7	+2.0
	SNR=1.0						
TCF				eSg	Sg	13 05 17.5	+1.5
	414nm,0.2s						
TCF				eSn	Sg	13 05 21.5	+5.5
BGF	Bois d'Agland	0.94	74	ePg	Pg	13 05 20.7	+2.1
	SNR=1.0						
BGF				eSg	Sg	13 05 32.2	+1.2
	2μm,0.3s,SNR=1.0						
BGF	Bois d'Agland	0.94	74	ePn	Pn	13 05 20.4	+1.4
BGF				ePg	Pg	13 05 20.7	+2.1
BGF				eSg	Sg	13 05 32.2	+1.2
BGF	Bois d'Agland	0.94	74	ePg	Pg	13 05 20.7	+2.1
	SNR=1.0						
BGF				eSg	Sg	13 05 32.2	+1.2
	1μm,0.3s,SNR=1.0						
RJF	Les Rejaudoux	0.99	181	ePg	Pg	13 05 20.8	+1.2
	SNR=1.0						
RJF				eSg	Sg	13 05 32.9	+0.3
	497nm,0.2s,SNR=1.0						
RJF	Les Rejaudoux	0.99	181	ePn	Pn	13 05 20.6	+0.9
RJF				ePg	Pg	13 05 20.8	+1.2
RJF				eSg	Sg	13 05 32.9	+0.3
RJF	Les Rejaudoux	0.99	181	ePg	Pg	13 05 20.8	+1.2
	SNR=1.0						
RJF				eSg	Sg	13 05 32.9	+0.3
	249nm,0.2s,SNR=1.0						
AGO	Saint Agoulin	1.14	102	Pg	Pg	13 05 23.8	+1.5
AGO				Sg	Sg	13 05 38.9	+1.8
FRNF	Fournols	1.16	141	Pg	Pg	13 05 24.2	+1.5
FRNF				Sg	Sg	13 05 39.0	+1.1
PYM	Petit Puy Mans	1.17	118	Pg	Pg	13 05 24.2	+1.4
MFF	Saint Martin d	1.20	285	ePg	Pg	13 05 24.4	+1.0
	SNR=1.0						
MFF				eSg	Sg	13 05 39.8	+0.7
	695nm,0.2s,SNR=1.0						
MFF	Saint Martin d	1.20	285	ePn	Pn	13 05 22.9	+0.4
MFF				ePg	Pg	13 05 24.4	+1.0
MFF				eSg	Sg	13 05 39.8	+0.7
MFF	Saint Martin d	1.20	285	ePg	Pg	13 05 24.4	+1.0
	SNR=1.0						
MFF				eSg	Sg	13 05 39.8	+0.7
	347nm,0.2s,SNR=1.0						
HYF	Humbligny	1.23	38	ePg	Pg	13 05 26.1	+2.0
HYF				eSg	Sg	13 05 41.7	+1.6
HYF	Humbligny	1.23	38	ePn	Pn	13 05 23.7	+0.7
HYF				ePg	Pg	13 05 26.1	+2.0
HYF				eSg	Sg	13 05 41.7	+1.6
HYF	Humbligny	1.23	38	ePg	Pg	13 05 26.1	+2.0
HYF				eSg	Sg	13 05 41.7	+1.6
AVF	Avril sur Loir	1.35	68	ePg	Pg	13 05 26.7	+0.4
	SNR=1.0						
AVF				eSg	Sg	13 05 44.4	+0.6
	202nm,0.2s						
AVF	Avril sur Loir	1.35	68	ePg	Pg	13 05 26.7	+0.4
	SNR=1.0						
AVF				eSg	Sg	13 05 44.4	+0.6
	101nm,0.2s						
MATF	Mathat	1.35	250	Pn	Pn	13 05 27.9	+3.3
MATF				Sn	Sn	13 05 45.4	+3.1
CHIF	Chize	1.36	264	Pg	Pg	13 05 28.1	+1.6
CHIF				Sg	Sg	13 05 44.9	+0.8
CAF	Calviac	1.42	165	ePg	Pg	13 05 28.6	+0.9
	SNR=1.0						
CAF				eSn	Sn	13 05 44.0	-0.1
	SNR=1.0						
CAF				eSg	Sg	13 05 46.7	+0.5
	398nm,0.3s						
CAF	Calviac	1.42	165	ePn	Pn	13 05 26.8	+1.2
CAF				ePg	Pg	13 05 28.6	+0.9
CAF				eSn	Sn	13 05 44.0	-0.1
CAF				eSg	Sg	13 05 46.7	+0.5
CAF	Calviac	1.42	165	ePg	Pg	13 05 28.6	+0.9
	SNR=1.0						
CAF				eSn	Sn	13 05 44.0	-0.1
	SNR=1.0						
CAF				eSg	Sg	13 05 46.7	+0.5
	199nm,0.3s						
LFF	La Frestale	1.47	203	ePg	Pg	13 05 29.4	+0.8
	SNR=1.0						
LFF				eSn	Sn	13 05 44.5	-0.7
LFF				eSg	Sg	13 05 47.8	+0.1
	488nm,0.4s,SNR=1.0						
LFF	La Frestale	1.47	203	ePn	Pn	13 05 27.2	+1.0
LFF				ePg	Pg	13 05 29.4	+0.8
LFF				eSn	Sn	13 05 44.5	-0.7
LFF				eSg	Sg	13 05 47.8	+0.1
LFF	La Frestale	1.47	203	ePg	Pg	13 05 29.4	+0.8
	SNR=1.0						
LFF				eSn	Sn	13 05 44.5	-0.7
LFF				eSg	Sg	13 05 47.8	+0.1
	244nm,0.4s,SNR=1.0						
PLDF	La Plantade	1.49	102	Pn	Pn	13 05 30.1	+3.6
PLDF				Sg	Sg	13 05 49.6	+1.3
LBL	Lubilhac	1.61	131	Pg	Pg	13 05 32.5	+1.3
LCHF	La Chataignera	1.61	284	Pg	Pg	13 05 31.9	+0.6
LCHF				Sn	Sn	13 05 52.8	+4.0
SMF	Signal de Mont	1.63	77	ePg	Pg	13 05 32.8	+1.1
SMF				eSn	Sn	13 05 48.7	-0.5
	SNR=1.0						
SMF				eSg	Sg	13 05 53.6	+0.7
	352nm,0.3s,SNR=1.0						
SMF	Signal de Mont	1.63	77	ePn	Pn	13 05 30.6	+2.1
SMF				ePg	Pg	13 05 32.8	+1.1
SMF				eSn	Sn	13 05 48.7	-0.5
SMF				eSg	Sg	13 05 53.6	+0.7
SMF	Signal de Mont	1.63	77	ePg	Pg	13 05 32.8	+1.1
SMF				eSn	Sn	13 05 48.7	-0.5
	SNR=1.0						
SMF				eSg	Sg	13 05 53.6	+0.7
	176nm,0.3s,SNR=1.0						
COLF	Collangettes	1.70	117	Pg	Pg	13 05 33.8	+0.8
COLF				Sg	Sg	13 05 55.7	+0.7
OLEF	Ile d'Oleron	2.04	261	Pg	Pg	13 05 40.6	+1.2
OLEF				Sn	Sn	13 06 04.2	+5.0
LRYF	La Roche-sur-Y	2.15	279	Pn	Pn	13 05 37.7	+2.1
LRYF				Sn	Sn	13 06 07.9	+5.9
LDF	La Druitiere	2.56	335	ePg	Pg	13 05 49.8	+0.5
LDF				eSn	Sn	13 06 10.9	-1.1
LDF				eSg	Sg	13 06 21.5	-1.0
	169nm,0.3s,SNR=1.0						
LDF	La Druitiere	2.56	335	ePn	Pn	13 05 43.2	+2.0
LDF				ePg	Pg	13 05 49.8	+0.5
LDF				eSn	Sn	13 06 10.9	-1.1
LDF				eSg	Sg	13 06 21.5	-1.0
LDF	La Druitiere	2.56	335	ePg	Pg	13 05 49.8	+0.5
LDF				eSn	Sn	13 06 10.9	-1.1
LDF				eSg	Sg	13 06 21.5	-1.0
	85nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	2.63	122	ePg	Pg	13 05 51.3	+0.5
	SNR=1.0						
VIVF				eSg	Sg	13 06 24.5	-0.5
	51nm,0.3s,SNR=1.0						
VIVF	Saint-Julien-l	2.63	122	ePn	Pn	13 05 43.8	+1.5
VIVF				ePg	Pg	13 05 51.3	+0.5
VIVF				eSg	Sg	13 06 24.5	-0.5
VIVF	Saint-Julien-l	2.63	122	ePg	Pg	13 05 51.3	+0.5
	SNR=1.0						
VIVF				eSg	Sg	13 06 24.5	-0.5
	26nm,0.3s,SNR=1.0						
GRR	Gorron	2.65	323	ePg	Pg	13 05 51.3	+0.2
GRR				eSn	Sn	13 06 12.9	-1.4
GRR				eSg	Sg	13 06 24.5	-0.9
	119nm,0.2s,SNR=1.0						
GRR	Gorron	2.65	323	ePn	Pn	13 05 43.1	+0.7
GRR				ePg	Pg	13 05 51.3	+0.2
GRR				eSn	Sn	13 06 12.9	-1.4
GRR				eSg	Sg	13 06 24.5	-0.9
GRR	Gorron	2.65	323	ePg	Pg	13 05 51.3	+0.2
GRR				eSn	Sn	13 06 12.9	-1.4
GRR				eSg	Sg	13 06 24.5	-0.9
	60nm,0.2s,SNR=1.0						
LASF	Ste Croix	2.76	143	eP	Pn	13 05 47.6	+3.6
LASF	Ste Croix	2.76	143	ePg	Pg	13 05 53.8	+0.5
	SNR=1.0						
LASF				eSn	Sn	13 06 17.1	-0.1
	14nm,0.3s						
LASF				eSg	Sg	13 06 28.2	-0.9
	61nm,0.3s,SNR=1.0						
LASF	Ste Croix	2.76	143	ePn	Pn	13 05 44.7	+0.7
LASF				eP		13 05 47.6	
LASF				ePg	Pg	13 05 53.8	+0.5
LASF				eSn	Sn	13 06 17.1	-0.1
LASF				eSg	Sg	13 06 28.2	-0.9
LASF	Ste Croix	2.76	143	eP	Pn	13 05 47.6	+3.6
LASF	Ste Croix	2.76	143	ePg	Pg	13 05 53.8	+0.5
	SNR=1.0						
LASF				eSn	Sn	13 06 17.1	-0.1
	6.8nm,0.3s						
LASF				eSg	Sg	13 06 28.2	-0.9
	30nm,0.3s,SNR=1.0						
FLN	La Foliniere	2.82	332	ePn	Pn	13 05 45.9	+1.1
	baz=155						
FLN	La Foliniere	2.82	332	ePg	Pg	13 05 54.4	+0.1
	baz=158,SNR=1.0						
FLN				eSn	Sn	13 06 17.1	-1.4
	SNR=1.0						
FLN				eSg	Sg	13 06 30.1	-0.7
	128nm,0.3s,baz=157,SNR=1.0						
FLN	La Foliniere	2.82	332	ePn	Pn	13 05 45.9	+1.1
FLN				ePg	Pg	13 05 54.4	+0.1
FLN				eSn	Sn	13 06 17.1	-1.4
FLN				eSg	Sg	13 06 30.1	-0.7
FLN	La Foliniere	2.82	332	ePg	Pg	13 05 54.4	+0.1
	SNR=1.0						
FLN				eSn	Sn	13 06 17.1	-1.4
	SNR=1.0						
FLN				eSg	Sg	13 06 30.1	-0.7
	64nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.00	170	ePg	Pg	13 05 57.4	-0.4
	SNR=1.0						
MTLF				eSn	Sn	13 06 22.0	-0.9
	SNR=1.0						
MTLF				eSg	Sg	13 06 35.3	-1.3
	96nm,0.3s,SNR=1.0						
MTLF	Montolieu	3.00	170	ePn	Pn	13 05 48.3	+1.0
MTLF				ePg	Pg	13 05 57.4	-0.4
MTLF				eSn	Sn	13 06 22.0	-0.9
MTLF				eSg	Sg	13 06 35.3	-1.3
MTLF	Montolieu	3.00	170	ePg	Pg	13 05 57.4	-0.4
	SNR=1.0						
MTLF				eSn	Sn	13 06 22.0	-0.9
	SNR=1.0						
MTLF				eSg	Sg	13 06 35.3	-1.3
	48nm,0.3s,SNR=1.0						
SFTF	Sexfontaines	3.06	50	ePg	Pg	13 05 58.4	-0.5
	baz=231						
SFTF				eSn	Sn	13 06 23.4	-0.9
SFTF				eSg	Sg	13 06 37.9	-0.6
	52nm,0.2s,baz=236						
SFTF	Sexfontaines	3.06	50	ePn	Pn	13 05 49.4	+1.4
SFTF				ePg	Pg	13 05 58.4	-0.5
SFTF				eSn	Sn	13 06 23.4	-0.9
SFTF				eSg	Sg	13 06 37.9	-0.6
SFTF	Sexfontaines	3.06	50	ePg	Pg	13 05 58.4	-0.5
SFTF				eSn	Sn	13 06 23.4	-0.9
SFTF				eSg	Sg	13 06 37.9	-0.6
	26nm,0.2s						
CABF	La Chapelle	3.16	83	ePg	Pg	13 06 00.7	-0.2
CABF				eSn	Sn	13 06 26.2	-0.8
CABF				eSg	Sg	13 06 41.4	-0.5
	131nm,0.6s						
CABF	La Chapelle	3.16	83	ePn	Pn	13 05 50.3	+0.8
CABF				ePg	Pg	13 06 00.7	-0.2
CABF				eSn	Sn	13 06 26.2	-0.8
CABF				eSg	Sg	13 06 41.4	-0.5
CABF	La Chapelle	3.16	83	ePg	Pg	13 06 00.7	-0.2
CABF				eSn	Sn	13 06 26.2	-0.8
CABF				eSg	Sg	13 06 41.4	-0.5
	66nm,0.6s						
MEZF	Maizieres J'vi	3.25	46	ePn	Pn	13 05 51.7	+1.0
	baz=228						
MEZF	Maizieres J'vi	3.25	46	ePg	Pg	13 06 02.1	-0.5
	baz=226,SNR=1.0						
MEZF				eSn	Sn	13 06 27.8	-1.4
	baz=226,SNR=1.0						
MEZF				eSg	Sg	13 06 44.6	-0.1
	106nm,0.4s,baz=229,SNR=1.0						
MEZF	Maizieres J'vi	3.25	46	ePn	Pn	13 05 51.7	+1.0
MEZF				ePg	Pg	13 06 02.1	-0.5
MEZF				eSn	Sn	13 06 27.8	-1.4
MEZF				eSg	Sg	13 06 44.6	-0.1
MEZF	Maizieres J'vi	3.25	46	ePg	Pg	13 06 02.1	-0.5
	SNR=1.0						
MEZF				eSn	Sn	13 06 27.8	-1.4
	SNR=1.0						
MEZF				eSg	Sg	13 06 44.6	-0.1
	53nm,0.4s,SNR=1.0						
ORIF	Oris-en-Rattie	3.35	113	ePg	Pg	13 06 04.5	0.0
	SNR=1.0						
ORIF				eSg	Sg	13 06 46.7	-1.2
	28nm,0.5s,SNR=1.0						
ORIF	Oris-en-Rattie	3.35	113	ePn	Pn	13 05 52.8	+0.7
ORIF				ePg	Pg	13 06 04.5	0.0
ORIF				eSg	Sg	13 06 46.7	-1.2
EPF	Esparros	3.38	195	ePg	Pg	13 06 03.9	-1.1
	SNR=1.0						
EPF				eSn	Sn	13 06 30.5	-1.8
	SNR=1.0						
EPF				eSg	Sg	13 06 48.1	-0.7
	53nm,0.3s,SNR=1.0						
EPF	Esparros	3.38	195	ePn	Pn	13 05 53.3	+0.8
EPF				ePg	Pg	13 06 03.9	-1.1
EPF				eSn	Sn	13 06 30.5	-1.8
EPF				eSg	Sg	13 06 48.1	-0.7
EPF	Esparros	3.38	195	ePg	Pg	13 06 03.9	-1.1
	SNR=1.0						
EPF				eSg	Sg	13 06 48.1	-0.7
	26nm,0.3s,SNR=1.0						
LABF	Labassere	3.41	198	Pg	Pg	13 06 05.1	-0.6
LABF				Sg	Sg	13 06 49.2	-0.8
MELF	Melles	3.47	189	Pg	Pg	13 06 06.2	-0.6
REYF	Montagne du Re	3.51	204	Pg	Pg	13 06 07.1	-0.4
RFYF	Reffroy	3.55	47	ePn	Pn	13 05 55.9	+1.1
	baz=231						
RFYF	Reffroy	3.55	47	ePg	Pg	13 06 07.9	-0.4
	baz=226						
RFYF				eSn	Sn	13 06 34.9	-1.6
RFYF				eSg	Sg	13 06 53.6	-0.6
	132nm,0.4s						
RFYF	Reffroy	3.55	47	ePn	Pn	13 05 55.9	+1.1
RFYF				ePg	Pg	13 06 07.9	-0.4
RFYF				eSn	Sn	13 06 34.9	-1.6
RFYF				eSg	Sg	13 06 53.6	-0.6
RFYF	Reffroy	3.55	47	ePg	Pg	13 06 07.9	-0.4
RFYF				eSn	Sn	13 06 34.9	-1.6
RFYF				eSg	Sg	13 06 53.6	-0.6
	66nm,0.4s						
SALF	Salau	3.55	184	Pg	Pg	13 06 08.6	+0.3
ORDF	Ordiarp	3.55	211	Pg	Pg	13 06 08.1	-0.2
ORDF	Ordiarp	3.55	211	Pg	Pg	13 06 08.3	0.0
VIEF	Viey	3.58	198	Pg	Pg	13 06 08.0	-0.9
ATE	Arette	3.59	207	Pg	Pg	13 06 08.3	-0.7
THEF	They Montfort	3.59	56	Pg	Pg	13 06 09.9	+0.7
SMRF	Simiane la Rot	3.69	128	ePg	Pg	13 06 10.5	-0.4
SMRF				eSg	Sg	13 06 58.6	0.0
	22nm,0.5s,SNR=1.0						
SMRF	Simiane la Rot	3.69	128	ePn	Pn	13 05 58.1	+1.4
SMRF				ePg	Pg	13 06 10.5	-0.4
SMRF				eSg	Sg	13 06 58.6	0.0
SMRF	Simiane la Rot	3.69	128	ePg	Pg	13 06 10.5	-0.4
SMRF				eSg	Sg	13 06 58.6	0.0
	11nm,0.5s,SNR=1.0						
HAU	Haudompre	3.70	61	ePg	Pg	13 06 11.1	-0.1
HAU				eSn	Sn	13 06 39.0	-1.3
	SNR=1.0						
HAU				eSg	Sg	13 06 58.5	-0.7
	78nm,0.3s,SNR=1.0						
HAU	Haudompre	3.70	61	ePn	Pn	13 05 57.8	+0.9
HAU				ePg	Pg	13 06 11.1	-0.1
HAU				eSn	Sn	13 06 39.0	-1.3
HAU				eSg	Sg	13 06 58.5	-0.7
HAU	Haudompre	3.70	61	ePg	Pg	13 06 11.1	-0.1
HAU				eSn	Sn	13 06 39.0	-1.3
	SNR=1.0						
HAU				eSg	Sg	13 06 58.5	-0.7
	39nm,0.3s,SNR=1.0						
LPL	La Plagne	3.71	100	ePg	Pg	13 06 11.5	+0.1
LPL				eSn	Sn	13 06 38.9	-1.7
LPL				eSg	Sg	13 06 58.8	-0.8
	30nm,0.6s						
LPL	La Plagne	3.71	100	ePn	Pn	13 05 58.2	+1.1
LPL				ePg	Pg	13 06 11.5	+0.1
LPL				eSn	Sn	13 06 38.9	-1.7
LPL				eSg	Sg	13 06 58.8	-0.8
LPL	La Plagne	3.71	100	ePg	Pg	13 06 11.5	+0.1
LPL				eSg	Sg	13 06 58.8	-0.8
	15nm,0.6s						
ETSF	Etsaut	3.71	204	ePg	Pg	13 06 09.9	-1.6
	SNR=1.0						
ETSF				eSn	Sn	13 06 38.5	-2.1
ETSF				eSg	Sg	13 06 57.3	-2.3
	35nm,0.4s,SNR=1.0						
ETSF	Etsaut	3.71	204	ePn	Pn	13 05 57.1	0.0
ETSF				ePg	Pg	13 06 09.9	-1.6
ETSF				eSn	Sn	13 06 38.5	-2.1
ETSF				eSg	Sg	13 06 57.3	-2.3
LPG	La Plagne	3.73	101	ePg	Pg	13 06 10.9	-0.9
LPG				eSg	Sg	13 06 59.7	-0.4
	44nm,0.5s						
LPG	La Plagne	3.73	101	ePn	Pn	13 05 58.2	+0.9
LPG				ePg	Pg	13 06 10.9	-0.9
LPG				eSg	Sg	13 06 59.7	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LPG	La Plagne	3.73	101	ePg	Pg	13 06 10.9	-0.9
LPG				eSg	Sg	13 06 59.7	-0.4
	22nm,0.5s						
SJPF	Ste Jean	3.74	213	ePg	Pg	13 06 10.9	-1.1
	SNR=1.0						
SJPF				eSn	Sn	13 06 38.5	-2.8
	SNR=1.0						
SJPF				eSg	Sg	13 06 58.1	-2.4
	23nm,0.4s,SNR=1.0						
SJPF	Ste Jean	3.74	213	ePn	Pn	13 05 56.9	-0.6
SJPF				ePg	Pg	13 06 10.9	-1.1
SJPF				eSn	Sn	13 06 38.5	-2.8
SJPF				eSg	Sg	13 06 58.1	-2.4
EBIE	Bielsa	3.75	196	Pn	Pn	13 06 01.4	+3.9
EBIE				Pg	Pg	13 06 11.0	-1.0
EBIE				Sn	Sn	13 06 44.7	+3.3
EBIE				Lg		13 06 58.7	
EBIE	Bielsa	3.75	196	Pn	Pn	13 06 01.4	+3.8
EBIE	Bielsa	3.75	196	Pg	Pg	13 06 11.0	-1.1
EALK	Alkurruntz	3.76	216	Pn	Pn	13 05 58.3	+0.5
EALK				Pg	Pg	13 06 09.5	-2.9
EALK				Sn	Sn	13 06 39.2	-2.6
EALK				Lg		13 06 57.8	
EALK	Alkurruntz	3.76	216	Pn	Pn	13 05 58.3	+0.5
EALK	Alkurruntz	3.76	216	Pg	Pg	13 06 09.5	-2.9
ELIZ	Elizondo	3.82	216	Pn	Pn	13 05 58.7	+0.2
ELIZ				Pg	Pg	13 06 09.4	-4.1
ELIZ				Sn	Sn	13 06 40.0	-3.2
ELIZ				Lg		13 07 00.1	
ELIZ	Elizondo	3.82	216	Pn	Pn	13 05 58.7	+0.1
ELIZ	Elizondo	3.82	216	Pg	Pg	13 06 09.4	-4.1
ROSF	Rostrenen	3.85	304	ePg	Pg	13 06 13.3	-0.8
	SNR=1.0						
ROSF				eSn	Sn	13 06 42.0	-2.0
ROSF				eSg	Sg	13 07 01.8	-2.2
	72nm,0.6s,SNR=1.0						
ROSF	Rostrenen	3.85	304	ePn	Pn	13 06 00.8	+1.8
ROSF				ePg	Pg	13 06 13.3	-0.8
ROSF				eSn	Sn	13 06 42.0	-2.0
ROSF				eSg	Sg	13 07 01.8	-2.2
ROSF	Rostrenen	3.85	304	ePg	Pg	13 06 13.3	-0.8
	SNR=1.0						
ROSF				eSn	Sn	13 06 42.0	-2.0
ROSF				eSg	Sg	13 07 01.8	-2.2
	36nm,0.6s,SNR=1.0						
HINF	Hinteralfeld	3.94	65	ePg	Pg	13 06 15.4	-0.4
	SNR=1.0						
HINF				eSn	Sn	13 06 44.5	-1.7
HINF				eSg	Sg	13 07 05.5	-1.3
	54nm,0.3s						
HINF	Hinteralfeld	3.94	65	ePn	Pn	13 06 00.9	+0.7
HINF				ePg	Pg	13 06 15.4	-0.4
HINF				eSn	Sn	13 06 44.5	-1.7
HINF				eSg	Sg	13 07 05.5	-1.3
HINF	Hinteralfeld	3.94	65	ePg	Pg	13 06 15.4	-0.4
	SNR=1.0						
HINF				eSn	Sn	13 06 44.5	-1.7
HINF				eSg	Sg	13 07 05.5	-1.3
	27nm,0.3s						
EJON	La Jonquera	3.97	165	Pn	Pn	13 06 03.5	+2.8
EJON				Pg	Pg	13 06 16.3	-0.1
EJON				Lg		13 07 05.2	
EJON	La Jonquera	3.97	165	Pn	Pn	13 06 03.5	+2.9
EJON	La Jonquera	3.97	165	Pg	Pg	13 06 16.3	-0.1
MBDF	Montbardon	4.00	111	ePg	Pg	13 06 16.7	-0.3
MBDF				eSg	Sg	13 07 08.1	-0.8
	13nm,0.4s,SNR=1.0						
MBDF	Montbardon	4.00	111	ePn	Pn	13 06 02.1	+1.0
MBDF				ePg	Pg	13 06 16.7	-0.3
MBDF				eSg	Sg	13 07 08.1	-0.8
MBDF	Montbardon	4.00	111	ePg	Pg	13 06 16.7	-0.3
MBDF				eSg	Sg	13 07 08.1	-0.8
	6.7nm,0.4s,SNR=1.0						
MOF	Molkenrain	4.13	66	Pg	Pg	13 06 18.4	-1.0
BAIF	Baives	4.17	24	ePg	Pg	13 06 19.0	-1.1
	SNR=1.0						
BAIF				eSn	Sn	13 06 50.2	-1.5
BAIF				eSg	Sg	13 07 12.8	-1.3
	22nm,0.3s,SNR=1.0						
BAIF	Baives	4.17	24	ePn	Pn	13 06 04.0	+0.7
BAIF				ePg	Pg	13 06 19.0	-1.1
BAIF				eSn	Sn	13 06 50.2	-1.5
BAIF				eSg	Sg	13 07 12.8	-1.3
BAIF	Baives	4.17	24	ePg	Pg	13 06 19.0	-1.1
	SNR=1.0						
BAIF				eSn	Sn	13 06 50.2	-1.5
BAIF				eSg	Sg	13 07 12.8	-1.3
	11nm,0.3s,SNR=1.0						
ECH	Echery	4.28	61	Pg	Pg	13 06 18.7	-3.7
DOU	Dourbes	4.32	27	P	Pn	13 06 07.8	+2.4
DOU	Dourbes	4.32	27	P	Pn	13 06 07.7	+2.3
GIVF	Givet	4.39	29	ePg	Pg	13 06 23.5	-1.0
	SNR=1.0						
GIVF				eSn	Sn	13 06 55.5	-1.9
GIVF				eSg	Sg	13 07 19.6	-1.8
	30nm,0.4s						
GIVF	Givet	4.39	29	ePn	Pn	13 06 07.2	+0.7
GIVF				ePg	Pg	13 06 23.5	-1.0
GIVF				eSn	Sn	13 06 55.5	-1.9
GIVF				eSg	Sg	13 07 19.6	-1.8
GIVF	Givet	4.39	29	ePg	Pg	13 06 23.5	-1.0
	SNR=1.0						
GIVF				eSn	Sn	13 06 55.5	-1.9
GIVF				eSg	Sg	13 07 19.6	-1.8
	15nm,0.4s						
CDF	Champ du Feu	4.44	59	ePg	Pg	13 06 24.5	-0.8
CDF				eSn	Sn	13 06 56.3	-2.2
	SNR=1.0						
CDF				eSg	Sg	13 07 20.2	-2.6
	40nm,0.3s,SNR=1.0						
CDF	Champ du Feu	4.44	59	ePn	Pn	13 06 08.2	+1.1
CDF				ePg	Pg	13 06 24.5	-0.8
CDF				eSn	Sn	13 06 56.3	-2.2
CDF				eSg	Sg	13 07 20.2	-2.6
CDF	Champ du Feu	4.44	59	ePg	Pg	13 06 24.5	-0.8
CDF				eSn	Sn	13 06 56.3	-2.2
	SNR=1.0						
CDF				eSg	Sg	13 07 20.2	-2.6
	20nm,0.3s,SNR=1.0						
FRF	La Foret Royal	4.55	125	ePg	Pg	13 06 26.5	-0.9
	SNR=1.0						
FRF				eSg	Sg	13 07 24.0	-2.3
	8.1nm,0.4s						
FRF	La Foret Royal	4.55	125	ePn	Pn	13 06 09.7	+1.1
FRF				ePg	Pg	13 06 26.5	-0.9
FRF				eSg	Sg	13 07 24.0	-2.3
LMR	La Mourre	4.62	128	ePg	Pg	13 06 26.2	-2.5
LMR				eSg	Sg	13 07 26.5	-2.0
	5.7nm,0.3s						
ELAN	Lanestosa	4.68	231	Pn	Pn	13 06 10.9	+0.5
ELAN				Sn	Sn	13 06 59.7	-4.7
ELAN	Lanestosa	4.68	231	Pn	Pn	13 06 10.9	+0.5
ELAN				Sn	Sn	13 06 59.7	-4.7
ESAC	San Caprasio	4.80	198	Pn	Pn	13 06 15.0	+3.0
ESAC				Pg	Pg	13 06 28.8	-3.4
ESAC				Sn	Sn	13 07 07.2	-0.1
ESAC				Lg		13 07 33.7	
ESAC	San Caprasio	4.80	198	Pn	Pn	13 06 15.0	+3.0
ESAC	San Caprasio	4.80	198	Pg	Pg	13 06 28.8	-3.4
SBF	Sospel	4.84	118	eSg	Sg	13 07 33.8	-1.8
	17nm,0.5s,SNR=1.0						
EPOB	Poblet	4.96	184	Pn	Pn	13 06 16.4	+2.2
EPOB				Pg	Pg	13 06 33.3	-1.9
EPOB				Sn	Sn	13 07 13.7	+2.5
EPOB				Lg		13 07 36.6	
EPOB	Poblet	4.96	184	Pn	Pn	13 06 16.4	+2.2
EPOB	Poblet	4.96	184	Pg	Pg	13 06 33.3	-1.9
MEM	Membach	5.24	33	P	Pn	13 06 20.4	+2.3
ERTA	Horta de San J	5.41	190	Pn	Pn	13 06 25.0	+4.6
ERTA				Pg	Pg	13 06 41.9	-2.1
ERTA				Sn	Sn	13 07 23.1	+0.7
ERTA				Lg		13 07 53.9	
EARI	Arriondas	5.66	240	Pn	Pn	13 06 24.4	+0.6
EARI				Sn	Sn	13 07 22.5	-6.0
EPON	Pontenova	6.85	247	Pn	Pn	13 06 40.7	+0.5
EPON				Sn	Sn	13 07 51.4	-6.6
EPON	Pontenova	6.85	247	Pn	Pn	13 06 40.7	+0.5
GUD	Guadarrama	7.00	218	Pn	Pn	13 06 42.8	+0.5
GUD				Sn	Sn	13 07 55.1	-6.6
GUD	Guadarrama	7.00	218	Pn	Pn	13 06 42.8	+0.5
ECAL	Calabor	7.37	237	Pn	Pn	13 06 47.4	0.0
ECAL				Sn	Sn	13 08 03.1	-7.6
ECAL	Calabor	7.37	237	Pn	Pn	13 06 47.4	0.0

ISCJB ***13*** *13:17:58.3±0.4, 4631N±002×150E±003, h7km, Error ellipse: s-maj=3.4km s-min=2.7km az=173.4*
NEIC ***13*** *13:18:00.3, 4629N×152E, h7km, ML2.6(LDG), After LDG.*
CSEM ***13*** *13:18:00.4±0.1, 4630N×152E, h8km, ML2.6/15, Error ellipse: s-maj=1.3km s-min=1.2km az=15.0*
LDG ***13*** *13:18:00.3±0.1, 4629N×152E, h7km, Md2.6/3, Ml2.6/16, Error ellipse: s-maj=1.3km s-min=1.2km az=173.0*
STR ***13*** *13:18:01.6±0.4, 46.14N×149E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 13 13:17:59.2±0.3**, 4631N**±002×**152E**±003**, h9**km±6km**, n43,** σ**1ˢ02**/77**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.48	92	ePg	Pg	13 18 10.0	+1.4
TCF				eSg	Sg	13 18 15.8	+0.8
	27nm,0.2s						
TCF				eSn	Sg	13 18 19.9	+4.9
TCF	Toulx Ste Croi	0.48	92	ePg	Pg	13 18 10.0	+1.4
TCF				eSg	Sg	13 18 15.8	+0.8
	13nm,0.2s						
TCF				eSn	Sg	13 18 19.9	+4.9
VERF	Verneugheol	0.87	129	Pg	Pg	13 18 16.9	+0.8
VERF				Sg	Sg	13 18 28.2	+0.8
BGF	Bois d'Agland	0.95	74	ePg	Pg	13 18 19.0	+1.4
BGF				eSg	Sg	13 18 30.5	+0.5
	55nm,0.2s						
BGF	Bois d'Agland	0.95	74	ePn	Pn	13 18 18.8	0.0
BGF				ePg	Pg	13 18 19.0	+1.4
BGF				eSg	Sg	13 18 30.5	+0.5
BGF	Bois d'Agland	0.95	74	ePg	Pg	13 18 19.0	+1.4
BGF				eSg	Sg	13 18 30.5	+0.5
	27nm,0.2s						
RJF	Les Rejaudoux	1.00	180	ePg	Pg	13 18 19.1	+0.6
RJF				eSg	Sg	13 18 31.2	-0.3
	22nm,0.2s						
RJF	Les Rejaudoux	1.00	180	ePn	Pn	13 18 18.9	-0.5
RJF				ePg	Pg	13 18 19.1	+0.6
RJF				eSg	Sg	13 18 31.2	-0.3
RJF	Les Rejaudoux	1.00	180	ePg	Pg	13 18 19.1	+0.6
RJF				eSg	Sg	13 18 31.2	-0.3
	11nm,0.2s						
AGO	Saint Agoulin	1.15	102	Pg	Pg	13 18 22.3	+1.0
FRNF	Fournols	1.17	141	Pn	Pn	13 18 22.7	+0.9
PYM	Petit Puy Mans	1.18	118	Pg	Pg	13 18 22.7	+0.8
MFF	Saint Martin d	1.19	285	ePg	Pg	13 18 22.7	+0.7
MFF				eSg	Sg	13 18 38.2	+0.8
	13nm,0.2s						
MFF	Saint Martin d	1.19	285	ePg	Pg	13 18 22.7	+0.7
MFF				eSg	Sg	13 18 38.2	+0.8
	6.4nm,0.2s						
CHIF	Chize	1.35	263	Pg	Pg	13 18 26.6	+1.5
CHIF				Sg	Sg	13 18 43.5	+0.9
AVF	Avril sur Loir	1.36	68	ePg	Pg	13 18 25.1	-0.2
AVF				eSg	Sg	13 18 42.8	-0.1
	4.8nm,0.2s						
AVF	Avril sur Loir	1.36	68	ePg	Pg	13 18 25.1	-0.2
AVF				eSg	Sg	13 18 42.8	-0.1
	2.4nm,0.2s						
CAF	Calviac	1.43	164	ePg	Pg	13 18 27.0	+0.3
CAF				eSg	Sg	13 18 45.0	-0.3
	10nm,0.2s						
CAF	Calviac	1.43	164	ePg	Pg	13 18 27.0	+0.3
CAF				eSg	Sg	13 18 45.0	-0.3
	5.1nm,0.2s						
LFF	La Frestale	1.47	202	ePg	Pg	13 18 27.7	+0.2
LFF				eSg	Sg	13 18 46.0	-0.5
	21nm,0.4s						
LFF	La Frestale	1.47	202	ePn	Pn	13 18 25.6	-0.3
LFF				ePg	Pg	13 18 27.7	+0.2
LFF				eSg	Sg	13 18 46.0	-0.5
LFF	La Frestale	1.47	202	ePg	Pg	13 18 27.7	+0.2
LFF				eSg	Sg	13 18 46.0	-0.5
	11nm,0.4s						
LCHF	La Chataignera	1.60	284	Pn	Pn	13 18 31.1	+3.4
LBL	Lubilhac	1.62	131	Pg	Pg	13 18 31.0	+0.7
SMF	Signal de Mont	1.64	77	ePg	Pg	13 18 31.2	+0.4
SMF				eSg	Sg	13 18 52.0	-0.1
	8.7nm,0.2s						
SMF	Signal de Mont	1.64	77	ePn	Pn	13 18 29.0	+0.8
SMF				ePg	Pg	13 18 31.2	+0.4
SMF				eSg	Sg	13 18 52.0	-0.1
SMF	Signal de Mont	1.64	77	ePg	Pg	13 18 31.2	+0.4
SMF				eSg	Sg	13 18 52.0	-0.1
	4.3nm,0.2s						
LDF	La Druitiere	2.54	335	eSg	Sg	13 19 19.8	-1.2
	6.2nm,0.4s						
LDF	La Druitiere	2.54	335	eSg	Sg	13 19 19.8	-1.2
	3.1nm,0.4s						
GRR	Gorron	2.64	323	ePg	Pg	13 18 49.7	-0.1
GRR				eSg	Sg	13 19 22.8	-1.1
	3.2nm,0.2s						
GRR	Gorron	2.64	323	ePg	Pg	13 18 49.7	-0.1
GRR				eSg	Sg	13 19 22.8	-1.1
	1.6nm,0.2s						
VIVF	Saint-Julien-l	2.65	122	ePg	Pg	13 18 49.6	-0.4
VIVF				eSg	Sg	13 19 22.8	-1.5
	2.1nm,0.2s						
VIVF	Saint-Julien-l	2.65	122	ePg	Pg	13 18 49.6	-0.4
VIVF				eSg	Sg	13 19 22.8	-1.5
	1.0nm,0.2s						
FLN	La Foliniere	2.81	332	eSg	Sg	13 19 27.9	-1.5
	5.4nm,0.4s						
FLN	La Foliniere	2.81	332	eSg	Sg	13 19 27.9	-1.5
	2.7nm,0.4s						
MTLF	Montolieu	3.00	170	ePg	Pg	13 18 55.8	-1.0
MTLF				eSg	Sg	13 19 33.6	-2.2
	3.1nm,0.3s						
MTLF	Montolieu	3.00	170	ePg	Pg	13 18 55.8	-1.0
MTLF				eSg	Sg	13 19 33.6	-2.2
	1.5nm,0.3s						
CABF	La Chapelle	3.17	83	eSg	Sg	13 19 39.8	-1.4
	2.4nm,0.4s						
CABF	La Chapelle	3.17	83	eSg	Sg	13 19 39.8	-1.4
	1.2nm,0.4s						
ETSF	Etsaut	3.71	204	eSg	Sg	13 19 55.7	-2.8
	1.9nm,0.3s						
ETSF	Etsaut	3.71	204	eSg	Sg	13 19 55.7	-2.8
	0.9nm,0.3s						
HINF	Hinteralfeld	3.95	66	eSg	Sg	13 20 03.8	-2.3
	4.7nm,0.5s						
HINF	Hinteralfeld	3.95	66	eSg	Sg	13 20 03.8	-2.3
	2.3nm,0.5s						

CASC 13 13:19:44.2±2.1**, 1342N**×**9006W, h52**km±20km**, MD4.0, 5C-6D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.60	46	⇓iP	x	13 19 57.0	
SBLS				eS	x	13 20 09.7	
RTR	El Retiro	0.62	41	⇓eP	x	13 19 57.4	
SNJE	San Jose	0.63	45	⇓iP	x	13 19 57.4	
RBDL	Robledal	0.78	28	⇓iP	x	13 19 59.3	
BOQS	Boqueron	0.82	68	⇑eP	x	13 19 59.8	
BOQS				eS	x	13 20 11.4	
SNET	Serv Nac Est T	0.85	72	eP	x	13 19 58.5	
LFU	La Fuente	0.98	70	⇑eP	x	13 20 02.1	
LFRS	El Faro	1.00	78	⇓eP	x	13 20 01.4	
LBRS	Las Brisas	1.04	72	⇑eP	x	13 20 02.7	
LCBS	La Ceiba	1.08	77	eP	x	13 20 03.0	
LCBS				eS	x	13 20 20.1	
MTO2	Montecristo 2	1.19	35	⇓eP	x	13 20 04.4	
MTO2				eS	x	13 20 20.3	
SNVI	San Vicente	1.21	81	eP	x	13 20 04.8	
SNVI				eS	x	13 20 21.4	
TP2	Tecpan 2	1.64	326	eP	Pn	13 20 11.9	+1.2
TP2				eS	Sn	13 20 32.8	+2.2
VSM	San Miguel	1.74	90	eP	x	13 20 12.5	
BLLM	Bellamira	1.78	89	⇑eP	x	13 20 12.9	
BLLM				eS	x	13 20 34.6	
CNCH	Conchagua	2.18	94	⇑eP	x	13 20 18.1	

NIED ***13*** *13:25:00, 4640N×14670E, h380km, Mw5.5 Best double couple: $M_0$1.68000×10^{17} NP1:ϕ_s58.00000°, δ54.00000°, λ108.00000°. NP2:ϕ_s208.00000°, δ40.00000°, λ66.00000°.*
SZGRF ***13*** *13:25:05.1, 4730N×14686E, h33km, mb5.3, Northwest of Kuril Islands, Russia*
SKHL ***13*** *13:25:34.0±2.2, 4667N×14689E, h378km±11km, mb6.0/8, mbh5.9/5, Ms4.0/2, msh5.5/9*
MOS ***13*** *13:25:37.8±1.0, 4693N×14654E, h342km, mb5.1/80, Error ellipse: s-maj=8.9km s-min=5.7km az=103.8*
ISCJB ***13*** *13:25:38.9±0.1, 4691N±002×14641E±002, h342km, mb4.9/248, Error ellipse: s-maj=2.7km s-min=1.7km az=86.3*
JMA ***13*** *13:25:38.3±0.3, 4644N×14674E, h380km, M5.3*
JMA Felt I J1.
BJI ***13*** *13:25:38.9, 4708N×14642E, h344km, mB4.8, mb4.6*
IDC ***13*** *13:25:39.0±0.5, 4699N×14646E, h334km±5km, mb4.3/31, mb1 4.5/34, mb1mx4.5/35, mbtmp5.1/34, Error ellipse: s-maj=8.3km s-min=7.2km az=121.0*
GCMT ***13*** *13:25:40.1±0.3, 4675N×14646E, h351km±1km, MW5.3/65, Moment Tensor Solution. s65,c111; Duration: 1ˢ1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.75±.03; $M_{\theta\theta}$0.13±.05; $M_{\phi\phi}$-0.88±.05; $M_{r\theta}$0.66±.04; $M_{\theta\phi}$-0.52±.04; $M_{\phi r}$-0.37±.04; Best double couple: $M_0$1.21800×10^{17} NP1:ϕ_s54.00000°, δ53.00000°, λ139.00000°. NP2:ϕ_s171.00000°, δ59.00000°, λ45.00000°. Principal axes: T 1.3280, Plg52.0000°, Azm26.0000°; N -0.2190, Plg37.0000°, Azm199.0000°; P -1.1090, Plg3.0000°, Azm291.0000°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***13*** *13:25:40.1±0.1, 4697N×14636E, mb5.1/173 Error ellipse: s-maj=3.7km s-min=2.5km az=165.0*
NEIC Recorded [1 JMA] in eastern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
ISC 13 13:25:40.1±0.1**, 4691N**±002×**14637E**±002**, h344**km**, h344**km±2.7km**: pP-P, n691,** σ**1ˢ03**/736**, mb4.9**/248**, 72C-34D, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.97	148	⇓iP	Pn	13 26 25.0	-5.6
KUR				iP		13 26 25.0	
KUR				AMB	AMB	13 26 26.0	
	14μm,1.0s						
KUR				AMB	AMB	13 26 26.5	
	650nm,0.8s						
KUR				AMB	AMB	13 26 26.5	
	3μm,0.8s						
KUR				A		13 27 06.0	
	40μm,2.0s						
KUR				A		13 27 06.0	
	79μm,2.0s						
KUR				A		13 27 10.5	
	3μm,0.7s						
KUR				A		13 27 10.5	
	6μm,0.7s						
KUR	Kuril'sk	1.97	148	κ iPN	Pn	13 26 25.0	-5.6
KUR				iS	S	13 27 05.6	-5.5
KUR				pmax	pmax		
	comp=Z,14μm,1.2s						
KUR				pmax	pmax		
	comp=N,650nm,0.8s						
KUR				pmax	pmax		
	comp=E,650nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3μm,0.8s						
KUR				smax			
	comp=N,40μm,2.0s						
KUR				smax			
	comp=E,79μm,2.0s						
KUR				smax			
	comp=N,3μm,0.7s						
KUR				smax			
	comp=E,6μm,0.7s						
YSS	Yuzh-Sakhalins	2.48	272	⇓iP	Pn	13 26 35.6	+1.2
YSS				⇓iP		13 26 35.9	
YSS				AMB	AMB	13 26 37.0	
	comp=E,1μm,2.0s						
YSS				AMB	AMB	13 26 38.6	
	comp=E,360nm,0.9s						
YSS				AMB	AMB	13 26 38.6	
	comp=E,330nm,0.9s						
YSS				AMB	AMB	13 26 38.6	
	comp=E,890nm,0.9s						
YSS				iS	S	13 27 19.0	+0.9
YSS				A		13 27 22.1	
	comp=E,4μm,1.3s						
YSS				A		13 27 22.1	
	comp=E,4μm,1.3s						
YSS				A		13 27 24.0	
	comp=E,27μm,6.0s						
YSS				A		13 27 24.0	
	comp=E,25μm,4.0s						
YSS				AMS	AMS	13 28 48.0	
	comp=E,2μm,7.0s						
YSS				AMS	AMS	13 28 48.0	
	comp=E,1μm,7.0s						
YSS	Yuzh-Sakhalins	2.48	272	κ iPN	Pn	13 26 35.9	+1.5
YSS				iS	S	13 27 19.0	+0.9
YSS				pmax	pmax		
	comp=Z,1μm,2.0s						
YSS				pmax	pmax		
	comp=N,360nm,0.9s						
YSS				pmax	pmax		
	comp=E,330nm,0.9s						
YSS				pmax	pmax		
	comp=Z,890nm,0.9s						
YSS				smax			
	comp=N,383nm,1.2s						
YSS				smax			
	comp=E,385nm,1.3s						
YSS				smax			
	comp=E,27μm,6.0s						
YSS				MLR	MLR		
	comp=Z,1μm,7.0s						
YSS				MLR	MLR		
	comp=N,2μm,6.0s						
YSS	Yuzh-Sakhalins	2.48	272	ePn	Pn	13 26 35.7	+1.3
YUK	Yuzh-Kuril'sk	2.90	187	⇓iP	Pn	13 26 35.8	-2.2
YUK				iP		13 26 35.8	
YUK				AMB	AMB	13 26 37.1	
	comp=N,10μm,2.0s						
YUK				AMB	AMB	13 26 37.1	
	comp=N,5μm,2.0s						
YUK				AMB	AMB	13 26 37.1	
	comp=N,21μm,2.0s						
YUK				AMB	AMB	13 26 37.1	
	comp=N,460nm,0.5s						
YUK				AMB	AMB	13 26 37.1	
	comp=N,2μm,0.5s						
YUK				iS	S	13 27 21.0	-3.5
YUK				A		13 27 27.5	
	comp=N,50μm,2.0s						
YUK				A		13 27 27.5	
	comp=N,44μm,2.0s						
YUK				A		13 27 32.1	
	comp=N,18μm,0.5s						
YUK				A		13 27 32.1	
	comp=N,9μm,0.5s						
YUK	Yuzh-Kuril'sk	2.90	187	⇑iPN	Pn	13 26 35.8	-2.2
YUK				iS	S	13 27 21.0	-3.5
YUK				pmax	pmax		
	comp=Z,21μm,1.0s						
YUK				pmax	pmax		
	comp=N,10μm,2.0s						
YUK				pmax	pmax		
	comp=E,5μm,2.0s						
YUK				pmax	pmax		
	comp=Z,2μm,0.6s						
YUK				pmax	pmax		
	comp=N,460nm,0.5s						
YUK				smax			
	comp=N,50μm,2.0s						
YUK				smax			
	comp=E,44μm,1.0s						
YUK				smax			
	comp=N,18μm,0.6s						
JRA	Rausu	3.10	197	⇑P	Pn	13 26 38.0	-1.8
JRA				eS	S	13 27 25.7	-2.2
JSE	Soyaes	3.29	235	⇑P	Pn	13 26 42.0	+0.4
JSE				eS	S	13 27 31.3	+0.2
JTKR	Abashiri--Toko	3.41	211	⇑P	Pn	13 26 41.8	-1.0
JTKR				eS	S	13 27 31.8	-1.5
JWK2	Keihoku	3.50	245	P	Pn	13 26 45.2	+1.6
JWK2				eS	S	13 27 37.6	+2.8
JNK	Nakash	3.52	200	⇑P	Pn	13 26 41.7	-2.2
NEM2	Nemuro 2	3.57	187	⇑P	Pn	13 26 39.7	-4.6
NEM2				eS	S	13 27 28.2	-7.9

JMP Maruseppu 3.59 217 ⇑P Pn 13 26 43.9 -0.7
UGL Uglegorsk 3.62 308⇓iP Pn 13 26 45.4 +0.6
UGL ⇓iP 13 26 45.4
UGL AMB AMB 13 26 46.0
comp=N,280nm,0.5s
UGL AMB AMB 13 26 48.0
comp=N,2µm,5.0s
UGL AMB AMB 13 26 48.0
comp=N,2µm,5.0s
UGL AMB AMB 13 26 48.0
comp=N,4µm,5.0s
UGL eS S 13 27 40.0 +3.1
UGL A 13 27 42.5
comp=N,340nm,1.0s
UGL A 13 27 42.5
comp=N,280nm,1.0s
UGL A 13 27 43.0
comp=N,10µm,8.0s
UGL A 13 27 43.0
comp=N,15µm,8.0s
UGL A 13 27 43.0
comp=N,6µm,5.0s
UGL Uglegorsk 3.62 308⇓iPN Pn 13 26 45.4 +0.6
UGL iS S 13 27 38.0 +1.1
UGL pmax pmax
comp=Z,280nm,0.5s
UGL smax
comp=N,340nm,1.0s
UGL smax
comp=E,280nm,0.7s
ASAJ Asahikawa 3.85 225 P Pn 13 26 47.2 +0.1
comp=E,175nm,0.3s,baz=66,slow=4.9,SNR=1163
ASAJ S S 13 27 41.1 -0.1
comp=E,68nm,0.3s,baz=166,slow=33,SNR=8.4
ASAJ Asahikawa 3.85 225 PN Pn 13 26 47.3 +0.1
ASAJ S S 13 27 41.1 -0.1
ASAJ pmax pmax
comp=Z,175nm,0.3s
ASAJ smax
comp=N,68nm,0.3s
JKK2 Kamakawa 2 3.97 221 ⇑P Pn 13 26 48.3 0.0
JKK2 eS S 13 27 44.2 +0.9
JAR Ashorobuto 4.05 208 ⇑P Pn 13 26 47.7 -1.5
JAR eS S 13 27 42.2 -2.8
JAK Akkeshi 4.09 198 ⇑P Pn 13 26 45.9 -3.7
JAK eS S 13 27 38.5 -7.1
JYG Yagishiri 4.26 236 P Pn 13 26 51.9 +0.5
JYG eS S 13 27 48.5 -0.5
JAB Ashibetsu 4.49 222 ⇑P Pn 13 26 54.0 +0.2
JHR Hokuryu 4.56 228 P Pn 13 26 54.9 +0.4
JHR eS S 13 27 54.6 0.0
JFR Furan 4.60 217 ⇑P Pn 13 26 54.3 -0.7
JFR eS S 13 27 53.2 -2.4
JCH Churui 4.80 208 ⇑P Pn 13 26 53.9 -3.3
JCH eS S 13 27 51.7 -7.7
JBT2 Biratori 2 5.02 216 ⇑P Pn 13 26 57.8 -1.8
JNBK Urakawa-nobuka 5.30 210 ⇑P Pn 13 26 59.4 -3.3
JNBK eS S 13 28 00.8 -8.7
JEW Eniwo 5.37 222 P Pn 13 27 02.9 -0.5
JEW eS S 13 28 07.0 -3.8
ERM Erimo 5.41 206 Pn Pn 13 27 01.1 -2.8
comp=N,36µm,0.6s
ERM Erimo 5.41 206 ePN Pn 13 27 02.0 -1.9
ERM pmax pmax
comp=Z,4µm,0.8s
ERM Erimo 5.41 206 ePn Pn 13 27 02.0 -1.9
comp=Z,4µm,0.8s
ERM eS S 13 28 01.6 -10
JSK Shakotan 5.48 232 P Pn 13 27 05.0 +0.3
JSK eS S 13 28 11.3 -1.9
JSH Shimam 6.20 229 ⇑P Pn 13 27 12.8 -0.2
JKB Kayabe 6.31 219 P Pn 13 27 11.4 -2.8
JKB eS S 13 28 22.7 -7.9
JYM2 Yakumo 2 6.43 224 ⇑P Pn 13 27 14.1 -1.5
JOT Ohata 6.72 217 P Pn 13 27 15.4 -3.6
JOT eS S 13 28 29.6 -10
JOSM Okushiri--Mats 6.90 228 P Pn 13 27 19.7 -1.4
JOSM eS S 13 28 36.8 -6.3
OKH Okha 7.00 343⇑iP Pn 13 27 21.0 -1.3
OKH eP 13 27 21.4
OKH AMB AMB 13 27 22.3
comp=Z,400nm,0.9s
OKH AMB AMB 13 27 24.0
comp=Z,2µm,3.4s
OKH ⇑iS S 13 28 42.2 -3.2
OKH A 13 28 50.0
comp=Z,7µm,11.0s
OKH A 13 28 50.0
comp=Z,6µm,8.0s
OKH Okha 7.00 343 ePN Pn 13 27 21.4 -0.9
OKH iS S 13 28 44.2 -1.2
OKH pmax pmax
comp=Z,2µm,3.4s
OKH smax
comp=N,7µm,11.0s
TEY Ternei 7.06 258 iP Pn 13 27 22.0 -1.0
TEY AMB AMB 13 27 23.0
comp=N,2µm,4.0s
TEY AMB AMB 13 27 23.0
comp=N,3µm,4.0s
TEY AMB AMB 13 27 23.5
comp=N,130nm,1.5s
TEY AMB AMB 13 27 23.5
comp=N,270nm,1.5s
TEY AMB AMB 13 27 23.5
comp=N,980nm,1.5s
TEY iS S 13 28 44.0 -2.6
TEY A 13 28 46.0
comp=N,1µm,2.0s
TEY A 13 28 46.0
comp=N,610nm,2.0s
TEY A 13 28 50.0
comp=N,2µm,6.0s
TEY A 13 28 50.0
comp=N,8µm,10.0s
NKL Nikolayevsk 7.24 332⇓iP Pn 13 27 22.0 -3.1
NKL AMB AMB 13 27 23.8
comp=N,200nm,1.3s
NKL AMB AMB 13 27 23.8
comp=N,530nm,1.3s
NKL AMB AMB 13 27 26.0
comp=N,1µm,4.0s
NKL AMB AMB 13 27 26.0
comp=N,900nm,4.0s
NKL AMB AMB 13 27 26.0
comp=N,1µm,4.0s
NKL iS S 13 28 50.0 -0.5
NKL A 13 28 54.0
comp=N,4µm,10.0s
NKL A 13 28 54.0
comp=N,5µm,9.0s
NKL A 13 28 54.7
comp=N,540nm,1.8s
NKL AMS AMS 13 31 45.0
comp=N,600nm,9.0s
NKL AMS AMS 13 31 45.0
comp=N,400nm,9.0s
JSI2 Shiura 2 7.26 218 ⇑P Pn 13 27 22.1 -3.2
JANG Nango 7.42 210 P Pn 13 27 22.9 -4.3
JANG eS S 13 28 44.0 -10
SKR Severo-Kuril's 7.46 56 eP Pn 13 27 22.5 -5.2
SKR AMB AMB 13 27 26.0
comp=N,3µm,2.0s
SKR AMB AMB 13 27 26.0
comp=N,2µm,2.0s
SKR AMB AMB 13 27 26.0
comp=N,3µm,2.0s
SKR AMB AMB 13 27 26.0
comp=N,670nm,1.0s
SKR AMB AMB 13 27 26.0
comp=N,1µm,1.0s
SKR eS S 13 28 45.5 -10
SKR A 13 28 51.0
comp=N,5µm,8.0s
SKR A 13 28 51.0
comp=N,5µm,10.0s
SKR A 13 28 51.0
comp=N,5µm,8.0s
SKR A 13 28 51.0
comp=N,5µm,10.0s
SKR A 13 28 53.5
comp=N,1µm,1.0s
SKR A 13 28 53.5
comp=N,490nm,1.0s
SKR Severo-Kuril's 7.46 56 ePN Pn 13 27 22.5 -5.2
SKR eS S 13 28 45.5 -10
SKR pmax pmax
comp=N,670nm,1.0s
SKR pmax pmax
comp=E,670nm,1.0s
SKR pmax pmax
comp=Z,1µm,1.0s
SKR pmax pmax
comp=N,2µm,2.0s
SKR pmax pmax
comp=E,2µm,2.0s
SKR pmax pmax
comp=Z,3µm,2.0s
SKR smax
comp=N,5µm,10.0s
SKR smax
comp=E,5µm,8.0s
GRNR Gornyy 7.62 304 iP Pn 13 27 26.3 -3.2
GRNR AMB AMB 13 27 27.2
comp=E,230nm,1.0s
GRNR A 13 29 10.0
comp=E,50nm,1.0s
HABR Khabarovsk 7.80 286⇓iPN Pn 13 27 35.2 +3.5
HABR pmax pmax
comp=Z,3µm,1.5s
PAU Pauzhetka 8.22 52 iP Pn 13 27 35.5 -1.2
JMK Ichinoseki 8.80 207 P Pn 13 27 40.4 -3.2
JMK eS S 13 29 15.7 -8.9
JAW Awa shima 9.94 214 P Pn 13 27 56.0 -1.2
PET Petropavlovsk 10.00 48 eP Pn 13 27 56.9 -1.0
PET eS S 13 29 44.0 -6.9
PET A 13 29 51.9
comp=Z,2µm,9.7s
PET A 13 29 54.7
comp=Z,2µm,14.0s
PET AMS AMS 13 30 42.1
comp=Z,800nm,13.0s
PET Petropavlovsk 10.00 48 ePN Pn 13 27 56.9 -1.0
PET eS S 13 29 44.0 -6.9
PET pmax pmax
comp=Z,82nm,1.3s
PET smax
comp=N,2µm,9.7s
PET smax
comp=N,2µm,13.5s
PET MLR MLR
comp=Z,800nm,13.0s
PET Petropavlovsk 10.00 48 ePn Pn 13 27 57.1 -0.8
PET eS S 13 29 26.9 -24
KLR Kul'dur 10.06 289⇑iPN Pn 13 27 57.7 -1.0
KLR eS S 13 29 45.5 -6.9
KLR pmax pmax
comp=E,700nm,1.6s
KLR pmax pmax
comp=Z,600nm,1.6s
KLR pmax pmax
comp=Z,2µm,8.0s
KLR MLR MLR
comp=E,1µm,9.0s
KLR MLR MLR
comp=Z,2µm,9.0s
JNS Sasagawa 10.47 212 P Pn 13 28 02.8 -0.8
JSD Sado 10.69 217 P Pn 13 28 05.3 -1.0
VLA Vladivostok 10.93 255 ePN Pn 13 28 08.9 -0.2
VLA iS S 13 30 08.3 -3.2
VLA pmax pmax
comp=Z,1µm,1.5s
VLA MLR MLR
comp=Z,900nm,11.5s
JHK Hiroka 11.09 212 P Pn 13 28 10.3 -0.7
JHO Hitachi 11.16 205 P Pn 13 28 10.7 -1.1
JJN Nakama 11.54 215 P Pn 13 28 16.9 +0.6
JSZ Suzu 11.57 218 P Pn 13 28 16.6 -0.1
JGK Kuni 11.83 212 P Pn 13 28 20.5 +0.6
MDJ Mudanjiang 11.95 265 P Pn 13 28 22.3 +1.1
MDJ S S 13 30 34.1 +0.1
MDJ SCS ScS 13 40 14.6 +3.4
MDJ AMB AMB
comp=Z,605nm,5.3s
MDJ Mudanjiang 11.95 265 ePn Pn 13 28 22.2 +1.0
comp=Z,287nm,0.7s
MAJO Matsushiro 12.01 213 ePN Pn 13 28 22.1 +0.1
MAT Matsushiro 12.01 213 P Pn 13 28 21.5 -0.5
MAT S S 13 30 33.3 -2.2
MAT Matsushiro 12.01 213 P Pn 13 28 22.0 0.0
MJAR Matsushiro Arr 12.01 213 P Pn 13 28 21.4 -0.6
comp=Z,22nm,0.3s,baz=15,slow=12,SNR=225
MJAR S S 13 30 34.5 -0.9
baz=224,slow=51,SNR=3.7
JNG Nsakai 12.17 213 P Pn 13 28 23.4 -0.5
JRY Ryogami san 12.23 210 P Pn 13 28 24.1 -0.5
JJH Hakui 12.26 219 P Pn 13 28 25.1 +0.2
JGN Niukaw 12.64 216 P Pn 13 28 29.4 0.0
JYN Shimob 12.82 210 P Pn 13 28 31.3 -0.3
JOD2 Odawara 2 12.86 208 P Pn 13 28 31.0 -1.0
MA2 Magadan 12.96 10 iPN Pn 13 28 34.1 +1.0
MA2 eS S 13 30 52.9 -2.4
JNY Yasuok 13.19 212 P Pn 13 28 35.6 -0.3
JIM2 Oshima 3 13.26 206 P Pn 13 28 36.2 -0.5
JGM Miyama 13.33 216 P Pn 13 28 37.5 -0.1
JSG Sagara 13.69 210 P Pn 13 28 42.9 +1.1
ZEA Zeya 13.97 306 eP Pn 13 28 44.0 -1.1
ZEA AMB AMB 13 28 48.0
comp=Z,500nm,4.0s
ZEA AMB AMB 13 28 48.0
comp=Z,800nm,4.0s
ZEA AMB AMB 13 28 48.0
comp=Z,1µm,5.0s
ZEA eS S 13 31 14.0 -1.9
ZEA A 13 31 26.0
comp=Z,3µm,13.0s
ZEA A 13 31 26.0
comp=Z,2µm,8.0s
KROS Kirovskiy 14.39 309 eP P 13 28 46.6 -1.6
KROS AMB AMB 13 28 50.1
comp=Z,16nm,0.6s
KROS AMB AMB 13 28 50.1
comp=Z,31nm,0.6s
JHJ Hachijo jima 2 14.66 202 P P 13 28 53.0 +1.8
comp=Z,50nm,0.3s,baz=208,slow=4.3,SNR=8.3
JHJ S S 13 31 34.5 +4.8
comp=Z,39nm,0.3s,baz=65,slow=21,SNR=5.5
CN2 Changchun 15.03 266 eP P 13 28 55.3 +0.1
CN2 eXP 13 30 21.4
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2µm,12.0s
CN2 LR LR
comp=E,800nm,12.0s
CN2 LR LR
comp=Z,800nm,13.0s
JJG Jouge 15.80 224 P P 13 29 06.0 +2.4
SEY Seymchan 16.41 10c iP P 13 29 10.8 +0.6
CLNS Chul'man 16.50 315 eP P 13 29 12.5 +1.3
CLNS eS S 13 32 08.6 +2.2
CLNS pmax pmax
comp=Z,62nm,0.8s
CLNS pmax pmax
comp=N,56nm,1.1s
CLNS pmax pmax
comp=E,41nm,0.9s
CLNS smax
comp=N,113nm,1.6s
CLNS smax
comp=Z,22nm,0.9s
CLNS smax
comp=E,63nm,1.1s
CLNS MLR MLR
comp=N,100nm,12.0s
CLNS MLR MLR
comp=E,300nm,12.0s
CLNS MLR MLR
comp=Z,400nm,12.0s
JHM Kurahashi 16.50 224 P P 13 29 13.0 +1.8
NRGR Nerungri 16.50 314 eP P 13 29 13.9 +2.7
NRGR S S 13 32 08.8 +2.4
NRGR smax
comp=E,46nm,0.4s
KS15 Wonju Array Si 16.62 242 eP P 13 29 14.8 +2.3
SNY Shenyang 17.05 261 ⇑P P 13 29 19.0 +1.9
SNY XP sP 13 30 48.8 -1.8
SNY S S 13 32 19.3 +2.2
SNY PCP PcP 13 33 49.6 +6.8
SNY AMB AMB
comp=Z,260nm,1.0s
SNY LR LR
comp=N,2µm,9.9s
SNY LR LR
comp=E,1µm,14.1s
SNY LR LR
comp=Z,1µm,11.0s
INCN Inchon 17.36 244 eP P 13 29 22.5 +2.1
comp=Z,115nm,0.8s
YAK Yakutsk 17.90 334 eP P 13 29 25.7 -0.5
YAK eS S 13 32 31.4 -2.3
YAK pmax pmax
comp=Z,507nm,0.7s
YAK pmax pmax
comp=N,200nm,1.3s
YAK pmax pmax
comp=E,209nm,1.2s
YAK smax
comp=N,109nm,0.9s
YAK smax
comp=Z,173nm,1.2s
YAK smax
comp=E,323nm,1.1s
YAK Yakutsk 17.90 334 eP P 13 29 25.5 -0.7
comp=E,586nm,0.8s
YAK eS S 13 32 31.8 -1.9
HIA Hailar 17.92 287⇑iP P 13 29 26.2 -0.2
HIA Hailar 17.92 287 eP P 13 29 25.7 -0.7
comp=E,39nm,0.6s
DL2 Dalian 19.75 255 iPR P 13 29 46.9 +1.1
DL2 XP sP 13 31 25.8 +5.3
DL2 S S 13 33 09.3 +1.5
DL2 AMB AMB
comp=Z,40nm,0.9s
DL2 AMB AMB
comp=Z,180nm,3.6s
CBIJ Chichi jima 20.05 191 P P 13 29 49.5 +0.7
comp=Z,71nm,0.7s,baz=142,slow=3.9,SNR=8.1
CIT Chita 21.82 296 eP P 13 30 04.4 -0.6
CIT e 13 33 46.6
CIT pmax pmax
comp=Z,129nm,1.6s,mb4.9
BOD Bodaibo 22.36 311⇓iP P 13 30 08.9 -1.0
BOD pmax pmax
comp=Z,140nm,1.2s,mb5.1
BJI Beijing 22.87 264 eP P 13 30 18.3 +3.8
BJI XP sP 13 31 56.5 +2.0
BJI S S 13 33 57.3 -0.7
BJI AMB AMB
comp=Z,132nm,1.0s,mb5.1
BJI AMB AMB
comp=Z,762nm,3.7s
BJT Baijiatuau 22.88 264 eP P 13 30 18.0 +3.3
BJT pmax pmax
comp=Z,143nm,1.0s
BJT Baijiatuau 22.88 264 eP P 13 30 18.0 +3.3
comp=Z,144nm,1.0s,mb5.2
BILL Bilibino 23.51 19c iP P 13 30 19.2 -1.1
BILL i 13 31 56.5
BILL pmax pmax
comp=Z,78nm,1.6s,mb4.7
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 23.51 19 eP P 13 30 19.3 -1.1
comp=Z,70nm,1.1s,mb4.8
TIA Tai'an 24.22 254 eP P 13 30 28.0 +1.2
JOW Kunigami 24.61 222 P P 13 30 31.6 +1.3
comp=Z,28nm,0.8s,mb4.5,baz=62,slow=8.6,SNR=5.3
SSE Sheshan 25.00 240 P P 13 30 35.0 +1.3
SSE S S 13 34 34.4 +2.8
SSE AMB AMB
comp=Z,34nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,261nm,4.2s
SSE LR LR
comp=N,128nm,17.0s
SSE LR LR
comp=E,91nm,17.0s
SSE LR LR
comp=Z,160nm,17.0s
HHC Hu-ho-hao-te 25.66 269 eP P 13 30 41.4 +1.7
HHC AP 13 31 43.6
HHC XP sP 13 32 25.3 +2.0
HHC PCP PcP 13 34 02.3 +2.6
HHC S S 13 34 43.6 +1.4
HHC SCP ScP 13 37 08.3 +2.5
HHC PCS PcS 13 37 42.4 +1.7
HHC AMB AMB
comp=Z,28nm,0.5s,mb4.8
HHC LR LR
comp=N,968nm,11.8s
HHC LR LR
comp=E,615nm,11.4s
HHC LR LR
comp=Z,699nm,11.2s
NJ2 Nanjing 25.74 245 eP P 13 30 42.3 +2.0
NJ2 AP 13 31 44.0
NJ2 XP sP 13 32 25.5 +1.5
NJ2 S S 13 34 44.0 +0.7
NJ2 SCP ScP 13 37 06.8 +0.7
NJ2 AMB AMB
comp=Z,70nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,500nm,5.7s
NJ2 LR LR
comp=N,990nm,18.7s
NJ2 LR LR
comp=E,1µm,18.6s
NJ2 LR LR
comp=Z,1µm,17.2s
ULN Ulaanbaatar 26.45 287d iP P 13 30 48.1 +1.5
ULN Ulaanbaatar 26.45 287 eP P 13 30 46.7 +0.1
comp=Z,18nm,0.6s,mb4.5
ULN e 13 31 55.0
BTO Baotou 26.83 270 eP P 13 30 49.8 -0.2
SONM Songino Array 26.89 287 P P 13 30 50.5 0.0
comp=Z,5.2nm,0.3s,mb4.2,baz=85,slow=8.4,SNR=28
SONM pP 13 31 53.3
comp=Z,1.9nm,0.7s,baz=77,slow=6.8,SNR=1.4
SONM ScP ScP 13 37 09.2 -0.3
comp=Z,1.9nm,0.8s,baz=101,slow=1.6,SNR=5.0
SONM Songino Array 26.89 287 P P 13 30 50.5 0.0
SONM *PP 13 31 53.3
TLY Talaya 27.97 296 eP P 13 30 59.4 -0.7
TLY e 13 32 03.5
TLY eS S 13 35 16.2 -2.1
TLY pmax pmax
comp=Z,160nm,1.8s,mb5.0
TLY MLR MLR
comp=Z,254nm,15.0s
TLY Talaya 27.97 296 eP P 13 30 59.5 -0.6
TLY ePcP PcP 13 34 06.9 +1.6
ZAK Zakamensk 28.39 293⇑iP P 13 31 03.9 +0.1
ZAK e 13 34 05.7
ZAK pmax pmax
comp=Z,40nm,1.6s,mb4.4
XAN Xi'an 30.95 259 P P 13 31 27.8 +1.5
QZH Quanzhou 31.13 235 P P 13 31 30.0 +2.2
QZH AMB AMB
comp=Z,110nm,1.2s,mb5.0
LZH Lanzhou 33.27 267 eP P 13 31 49.0 +2.8
LZH AP pP 13 32 54.5 +3.0
LZH PP PP 13 33 17.4 +7.4
LZH XP sP 13 33 31.5 +0.2
LZH eS S 13 36 42.0 +1.5
LZH XS sS 13 38 41.0 +1.6
LZH SS SS 13 39 17.4 -4.0
LZH AMB AMB
comp=Z,27nm,1.0s,mb4.4
LZH AMB AMB
comp=Z,133nm,4.8s
KRAR Krasnoyarsk 33.76 306⇑iP P 13 31 49.7 -0.8
KRAR pmax pmax
comp=Z,19nm,0.5s,mb4.6
GTA Gaotai 34.36 275 P P 13 31 57.3 +1.7
GTA AP pP 13 33 05.4 +4.2
GTA XP sP 13 33 45.1 +4.2
GTA PCP PcP 13 34 23.3 +0.7
GTA S S 13 36 59.9 +2.7
GTA SCP ScP 13 37 36.1 +1.8
GTA PCS PcS 13 38 11.1 +1.7
GTA XS sS 13 38 58.4 +1.9
GTA SS SS 13 39 41.0 -2.4

GTA SCS ScS 13 41 40.5 +2.7
GTA AMB AMB
comp=Z,12nm,1.0s,mb4.1
GTA AMB AMB
comp=Z,222nm,5.7s
GTA LR LR
comp=N,584nm,19.0s
GTA LR LR
comp=E,692nm,13.3s
GTA LR LR
comp=Z,739nm,13.3s
CHGN Chignik 34.67 54 *e*P **P 13 31 58.1 -0.1**
TTA Tatalina 35.38 42 *e*P **P 13 32 05.5 +1.3**
SVW2 Sparrevohn 35.65 45 *e*P **P 13 32 06.3 -0.2**
CD2 Chengdu 36.32 259⇓*i*P **P 13 32 13.4 +1.3**
CD2 AP pP 13 33 22.1 +3.8
CD2 PP PP 13 33 48.1 +4.8
CD2 XP sP 13 34 01.9 +4.0
CD2 PCP PcP 13 34 30.9 +2.5
CD2 S **S 13 37 27.3 +0.4**
CD2 PCS PcS 13 38 17.9 +1.3
CD2 XS sS 13 39 26.5 -0.5
CD2 SS SS 13 40 17.1 -5.4
CD2 SCS ScS 13 41 48.3 -0.3
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.3
CD2 AMB AMB
comp=Z,130nm,7.8s
CD2 LR LR
comp=N,230nm,7.8s
CD2 LR LR
comp=Z,300nm,12.9s
IMA2 Indian Mountai 36.41 36 *e*P **P 13 32 11.3 -1.6**
GYA Guiyang 37.30 251⇓*i*P **P 13 32 22.0 +1.6**
GYA AP pP 13 33 29.4 +2.5
GYA XP sP 13 34 08.9 +2.5
GYA S **S 13 37 41.8 0.0**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,200nm,6.0s
GYA LR LR
comp=N,240nm,11.4s
GYA LR LR
comp=E,650nm,11.1s
GYA LR LR
comp=Z,280nm,10.0s
KDAK Kodiak Island 37.58 50 P **P 13 32 21.3 -1.3**
comp=Z,396nm,0.8s,mb5.7,SNR=12
KDAK Kodiak Island 37.58 50 P **P 13 32 21.4 -1.2**
comp=Z,38nm,0.5s,mb4.9,baz=292,slow=4.7,SNR=44
KDAK PcP PcP 13 34 30.8 -1.4
comp=Z,15nm,0.7s,baz=230,slow=3.8,SNR=4.3
KDAK Kodiak Island 37.58 50 *e*P **P 13 32 21.1 -1.5**
KDAK *e*PcP PcP 13 34 33.4 +1.1
SLKM Skilak Lake 38.33 46 *e*P **P 13 32 27.0 -1.8**
SLKM *e* 13 34 35.1
MCK McKinley 38.52 40 *e*P **P 13 32 29.5 -1.0**
comp=Z,17nm,0.7s,mb4.4
MCK *e*PcP PcP 13 34 35.2 0.0
PMR Palmer 38.69 44 *e*P **P 13 32 30.9 -0.9**
comp=Z,27nm,0.6s,mb4.7
PMR LR LR
comp=Z,200nm,17.0s
ZAL Zalesovo 38.74 304 P **P 13 32 31.2 -0.9**
comp=Z,3.6nm,0.4s,mb4.0,baz=57,slow=6.9,SNR=8.7
ZAL PcP PcP 13 34 36.1 +0.3
comp=Z,6.9nm,0.6s,baz=30,slow=3.4,SNR=15
ZAL S **S 13 37 50.9 -12**
comp=Z,1.9nm,0.8s,baz=27,slow=9.1,SNR=4.4
ZAL Zalesovo 38.74 304 P **P 13 32 31.3 -0.9**
ZAL 13 34 36.2
COLA College 38.89 38*c i*P **P 13 32 32.2 -1.2**
COLA College 38.89 38 *e*P **P 13 32 32.0 -1.4**
comp=Z,102nm,1.2s,mb4.9
NVS Novosibirsk 39.38 306 *e*P **P 13 32 35.6 -1.8**
NVS *e* pP 13 33 46.6 +1.9
NVS *e*S **S 13 38 08.7 -3.9**
NVS pmax pmax
comp=Z,22nm,1.4s,mb4.2
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,17nm,1.3s
NVS smax
comp=N,51nm,2.0s
NVS smax
comp=E,48nm,2.0s
DIV Divide 40.37 44 *e*P **P 13 32 45.6 0.0**
comp=E,209nm,0.6s,mb5.5
EYAK Cordova Ski Ar 40.50 45 *e*P **P 13 32 46.0 -0.5**
WMQ Urumqi 40.51 288 *e*P **P 13 32 48.4 +1.7**
WMQ AP pP 13 33 54.0 -0.4
WMQ XP sP 13 34 28.8 -4.7
WMQ PCP PcP 13 34 47.0 +5.4
WMQ S **S 13 38 33.0 +3.6**
WMQ SS SS 13 41 41.0 -3.9
WMQ AMB AMB
comp=Z,19nm,0.7s,mb4.4
WMQ AMB AMB
comp=Z,167nm,4.8s
WMQ LR LR
comp=N,610nm,12.2s
WMQ LR LR
comp=E,835nm,11.2s
WMQ LR LR
comp=Z,856nm,13.9s
KMI Kunming 40.78 253 P **P 13 32 49.6 +0.7**
KMI AP pP 13 33 57.8 +1.2
KMI PP PP 13 34 33.8 +2.5
KMI XP sP 13 34 35.8 +0.1
KMI PCP PcP 13 34 45.5 +3.0
KMI SCP ScP 13 38 00.9 +2.3
KMI S **S 13 38 33.4 +0.1**
KMI PCS PcS 13 38 35.1 +1.2
KMI XS sS 13 40 35.0 -0.5
KMI SS SS 13 41 43.4 -6.7
KMI SCS ScS 13 42 15.4 +0.7
KMI AMB AMB
comp=Z,18nm,0.9s,mb4.3
KMI AMB AMB
comp=Z,139nm,5.1s
KMI LR LR
comp=N,254nm,13.8s
KMI LR LR
comp=E,264nm,16.7s
KMI LR LR
comp=Z,231nm,15.9s
QIZ Qiongzhong 40.79 240 P **P 13 32 51.3 +2.4**
QIZ S **S 13 38 37.8 +4.4**
QIZ SCS ScS 13 42 09.6 -5.2
QIZ AMB AMB
comp=Z,10.0nm,0.9s,mb4.0
QIZ AMB AMB
comp=Z,205nm,3.4s
MENT Mentasta 40.97 41 *e*P **P 13 32 49.3 -1.1**
EGAK Eagle 41.73 38 *e*P **P 13 32 54.4 -2.1**
DAWY Dawson 42.63 39 *e*P **P 13 33 02.9 -0.8**
DAWY *e*PcP PcP 13 34 49.3 +0.6
MK31 Makanchi Array 42.71 294 P **P 13 33 04.2 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.0
MKAR Makanchi Array 42.71 294 P **P 13 33 04.3 0.0**
comp=Z,12nm,0.6s,mb4.2,baz=71,slow=8.4,SNR=66
MKAR PcP PcP 13 34 48.4 -0.5
comp=Z,5.9nm,0.7s,baz=71,slow=4.2,SNR=6.6
MKAR ScP ScP 13 38 07.6 +1.3
comp=Z,1.6nm,0.6s,baz=47,slow=1.3,SNR=4.0
MKAR Makanchi Array 42.71 294 P **P 13 33 04.3 0.0**
MKAR 13 34 48.4
KURK Kurchatov 43.37 301 P **P 13 33 09.6 0.0**
comp=Z,172nm,0.4s,mb5.5,SNR=13
INK Inuvik 43.98 32 P **P 13 33 12.6 -1.8**
comp=Z,14nm,0.4s,mb4.4,baz=279,slow=5.5,SNR=100
INK PcP PcP 13 34 52.0 -1.3
comp=Z,9.4nm,0.7s,baz=37,slow=1.2,SNR=5.5
INK Inuvik 43.98 32 *e*P **P 13 33 12.6 -1.8**
INK *e* 13 34 51.8
INK *e* 13 35 06.2
INK pmax pmax
comp=Z,17nm,0.4s
INK Inuvik 43.98 32 *e*P **P 13 33 12.6 -1.8**
comp=Z,17nm,0.4s,mb4.5
INK *e*PcP PcP 13 34 51.8 -1.4
INK *e*PP PP 13 35 06.2 +1.7

LSA Lhasa 45.65 268 P **P 13 33 28.4 +1.0**
LSA Lhasa 45.65 268 *e*P **P 13 33 29.9 +2.5**
LSA *e**PP pP 13 34 39.5 +2.7
LSA pmax pmax
comp=Z,17nm,0.4s,mb4.5
LSA Lhasa 45.65 268 *e*P **P 13 33 29.9 +2.5**
comp=Z,17nm,0.4s,mb4.5
LSA *e*pP pP 13 34 39.5 +2.7
SKAG Skagway 45.82 44 *e*P **P 13 33 30.6 +1.9**
comp=Z,82nm,1.5s,mb4.6
SKAG LR LR
comp=Z,100nm,18.0s
NANT Nan 46.61 249⇑P **P 13 33 34.0 -0.8**
comp=Z,94nm,0.8s,mb5.1
SIT Sitka 46.71 47 *e*P **P 13 33 38.2 +2.6**
comp=Z,228nm,1.7s,mb5.1
SIT LR LR
comp=Z,100nm,17.0s
VOSK Vostochnaya 46.92 306 P **P 13 33 36.5 -0.7**
VOSK pmax pmax
comp=Z,42nm,1.0s,mb4.6
BVA0 Borovoye Array 47.12 307 *i*P **P 13 33 38.3 -0.5**
BVAR Borovoye Array 47.12 307 P **P 13 33 38.2 -0.5**
comp=Z,13nm,0.5s,mb4.4,baz=60,slow=7.0,SNR=45
BVAR PcP PcP 13 35 04.0 -0.2
comp=Z,6.3nm,0.7s,baz=60,slow=3.6,SNR=7.3
BRVK Borovoye 47.17 307 P **P 13 33 39.5 +0.4**
comp=Z,330nm,0.6s,mb5.7,SNR=18
BRVK Borovoye 47.17 307⇓P **P 13 33 39.0 -0.1**
SNR=18
BRVK Borovoye 47.17 307 *e*P **P 13 33 38.8 -0.3**
BRVK *e*PcP PcP 13 35 05.2 +0.8
CHG Chiang Mai 47.73 251⇑P **P 13 33 44.3 +1.0**
comp=Z,14nm,0.8s,mb4.2
CHTO Chiang Mai 47.73 251⇓P **P 13 33 44.6 +1.3**
SNR=5.8
CHTO Chiang Mai 47.73 251 *e*P **P 13 33 44.3 +1.0**
CHTO *e* pP 13 34 57.1 +3.6
CHTO pmax pmax
comp=Z,15nm,0.8s,mb4.3
CHTO Chiang Mai 47.73 251 *e*P **P 13 33 44.3 +0.9**
comp=Z,15nm,0.8s,mb4.3
CHTO *e* pP 13 34 57.1 +3.6
ZRNK Zerenda 47.91 307 *e*P **P 13 33 44.2 -0.6**
ZRNK *e* 13 35 06.4
ZRNK *e*S **S 13 40 15.4 +0.1**
ZRNK pmax pmax
comp=Z,35nm,0.5s,mb4.8
ZRNK Zerenda 47.91 307 *e*P **P 13 33 44.2 -0.6**
comp=Z,35nm,0.5s,mb4.8
ZRNK *e*PcP PcP 13 35 06.4 -0.7
ZRNK *e*S **S 13 40 15.4 0.0**
CM31 Chiang Mai Arr 47.98 250 epP pP 13 34 49.7 -5.9
CRAG Craig 48.48 49 *e*P **P 13 33 50.0 +0.9**
ULHL Ulahol 48.65 292 P **P 13 33 51.6 +1.2**
SNR=20
TKM2 Tokmak 2 48.72 293 P **P 13 33 52.0 +1.1**
SNR=9.8
USP Ospenovka 49.23 294 P **P 13 33 55.6 +0.8**
SNR=20
AAK Ala-Archa 49.56 293 P **P 13 33 58.2 +1.0**
SNR=7.0
AAK Ala-Archa 49.56 293 *e*P **P 13 33 56.8 -0.4**
AAK *e* 13 35 13.5
AAK pmax pmax
comp=Z,6.0nm,0.6s,mb4.0
AAK Ala-Archa 49.56 293 *e*P **P 13 33 56.8 -0.4**
comp=Z,6.4nm,0.6s,mb4.0
AAK *e*PcP PcP 13 35 13.5 +0.4
EKS2 Erkin-Say 50.00 293 P **P 13 34 01.3 +0.8**
SNR=16
ALE Alert 50.01 5 P **P 13 33 58.3 -2.2**
comp=Z,164nm,1.3s,mb5.1,SNR=6.5
GUN Gumba 50.37 270 *e*P **P 13 34 04.4 +1.2**
comp=Z,54nm,0.4s,mb5.2
SVE Sverdlovsk 50.50 315⇑*e*P **P 13 34 02.3 -1.9**
SVE *e*PPP 13 37 12.0
SVE *e*S **S 13 40 51.0 -0.1**
SVE pmax pmax
comp=Z,56nm,1.3s,mb4.6
SVE MLR MLR
comp=N,200nm,13.0s
SVE MLR MLR
comp=E,200nm,13.0s
SVE MLR MLR
comp=Z,200nm,13.0s
KKN Kakani 50.86 270 *e*P **P 13 34 07.7 +0.9**
comp=Z,34nm,0.4s,mb4.9
PKI Pulchoki 50.91 270 *e*P **P 13 34 08.2 +1.0**
comp=Z,14nm,0.3s,mb4.7
SOKR Solikamsk 51.01 319 *e*P **P 13 34 09.1 +1.1**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb4.5
DMN Daman 51.09 270 *e*P **P 13 34 10.2 +1.7**
comp=Z,23nm,0.4s,mb4.8
GKN Gorkha 51.17 271 *e*P **P 13 34 10.2 +1.1**
comp=Z,60nm,0.3s,mb5.2
KBS Kingsbay 51.58 350⇑*e*P **P 13 34 11.2 -0.9**
KBS Kingsbay 51.58 350 *e*P **P 13 34 11.9 -0.2**
ARU Arti 51.70 315 P **P 13 34 11.3 -1.7**
comp=Z,381nm,0.6s,mb5.9,SNR=15
ARU Arti 51.70 315⇑*i*P **P 13 34 11.9 -1.1**
ARU *e* 13 35 18.3
ARU *e* pP 13 35 25.3 +0.9
ARU *e* 13 36 04.7
ARU *e* 13 43 23.2
ARU *e*SS SS 13 44 45.9 -2.9
ARU pmax pmax
comp=Z,43nm,0.8s,mb4.8
ARU Arti 51.70 315 *e*P **P 13 34 11.9 -1.1**
comp=Z,72nm,1.0s,mb5.0
KK31 Karatay Array 51.81 295 *i*P **P 13 34 13.4 -0.4**
KKAR Karatay Array 51.81 295 *i*P **P 13 34 13.4 -0.4**
KOLN Koldanda 52.02 272 *e*P **P 13 34 16.7 +1.3**
comp=Z,38nm,0.5s,mb5.0
RES Resolute Bay 52.11 17 *e*P **P 13 34 14.1 -1.9**
RES *e* pP 13 35 21.7 -5.8
RES pmax pmax
comp=Z,68nm,0.7s,mb5.1
RES Resolute Bay 52.11 17 *e*P **P 13 34 14.1 -1.9**
comp=Z,68nm,0.7s,mb5.1
RES *e* pP 13 35 21.7 -5.8
YKW3 Yellowknife Ar 53.46 35 *e*P **P 13 34 25.3 -0.4**
YKW3 *e*PcP PcP 13 35 28.9 +1.1
YKA Yellowknife Ar 53.50 35 P **P 13 34 24.0 -2.0**
comp=Z,4.3nm,0.6s,mb4.0,baz=304,slow=7.3,SNR=13
YKA PcP PcP 13 35 27.0 -0.9
comp=Z,5.1nm,0.7s,baz=305,slow=4.1,SNR=7.7
YKA Yellowknife Ar 53.50 35 *i*P **P 13 34 24.5 -1.6**
YKA pmax pmax
comp=Z,40nm,0.6s
AB31 Akbulak array 54.70 307 *i*P **P 13 34 34.4 -0.2**
AB31 pmax pmax
comp=Z,10.0nm,0.4s,mb4.5
LVZ Lovozero 54.70 334⇓*i*P **P 13 34 34.1 -0.6**
AKTK Aktyubinsk 55.10 309 P **P 13 34 36.8 -0.7**
AKTO Aktyubinsk 55.10 309 P **P 13 34 36.8 -0.7**
comp=Z,5.8nm,0.4s,mb4.2,baz=74,slow=8.2,SNR=30
AKTO Aktyubinsk 55.10 309 P **P 13 34 36.5 -1.0**
APA Apatity 55.28 335⇑*i*P **P 13 34 38.3 -0.5**
APA pmax pmax
comp=Z,43nm,1.4s,mb4.6
KEV Kevo 55.57 338 *e*p **P 13 34 38.5 -2.3**
comp=Z,2.0nm,0.3s,mb3.9
ARCES ARCESS Array B 56.10 339 P **P 13 34 43.3 -1.3**
comp=Z,4.9nm,0.5s,mb4.1,baz=48,slow=7.9,SNR=21
ARCES PcP PcP 13 35 37.4 -0.6
comp=Z,5.5nm,0.8s,baz=36,slow=6.3,SNR=5.8
ARCES ARCESS Array B 56.10 339 P **P 13 34 43.3 -1.3**
ARCES PcP PcP 13 35 37.4 -0.6
DAG Danmarks Havn 56.23 356⇓*i*P **P 13 34 42.7 -2.8**
comp=Z,42nm,1.2s,mb4.7
DAG Danmarks Havn 56.23 356⇓*e*P **P 13 34 42.7 -2.8**
DAG pmax pmax
comp=Z,42nm,1.2s,mb4.6
DAG Danmarks Havn 56.23 356⇓*e*P **P 13 34 42.7 -2.8**
comp=Z,42nm,1.2s,mb4.7
KULM Kulim 57.09 238 *e*P **P 13 34 52.4 +1.0**
GNW Green Mountain 58.05 53 *e*P **P 13 34 58.1 0.0**
JCW Jim Creek 58.17 52 P **P 13 34 58.9 0.0**
JOF Joensuu 59.05 331 *e*p **P 13 35 02.7 -2.2**
comp=Z,13nm,0.5s,mb4.6
LON Longmire 59.10 53 *e*P **P 13 35 05.8 +0.5**
TWW Teanaway 59.38 52 P **P 13 35 08.2 +1.1**
EDM Edmonton 59.46 43 *e*P **P 13 35 07.3 -0.4**

TBM Table Mountain 59.50 52 P **P 13 35 08.1 +0.2**
COR Corvallis 59.57 56 *e*P **P 13 35 08.8 +0.3**
comp=Z,44nm,0.8s,mb4.9
KEBM Edson Butte 60.02 58 *e*P **P 13 35 14.4 +2.9**
HOOD Mount Hood Mea 60.05 54 P **P 13 35 12.4 +0.7**
HAWA Hanford 60.56 52 *e*P **P 13 35 15.4 +0.3**
comp=Z,2.4nm,0.7s
KAKA Kakadu 60.65 196 *e*P **P 13 35 16.3 +0.6**
comp=Z,18nm,0.8s,mb4.5
KAKA *e*pP pP 13 36 30.4 +0.7
NEW Newport 60.68 50 P **P 13 35 15.6 -0.3**
comp=Z,41nm,1.0s,mb4.8,baz=317,slow=5.6,SNR=32
NEW Newport 60.68 50 *e*P **P 13 35 15.8 -0.1**
comp=Z,87nm,1.3s,mb5.0
SUMG Summit 60.77 2 *e*P **P 13 35 16.1 -0.4**
comp=Z,123nm,1.0s,mb5.3
KAF Kangasniemi 61.25 332 *ep* **P 13 35 17.5 -2.2**
comp=Z,26nm,0.6s,mb4.8,baz=42,slow=6.3
KAF Kangasniemi 61.25 332 *e*P **P 13 35 17.5 -2.2**
KAF pmax pmax
comp=Z,26nm,0.6s,mb4.8
MOS Moscow 61.59 322 *e*P **P 13 35 20.9 -1.1**
MOS *e* 13 37 07.0
MOS *e*S **S 13 43 14.8 -1.3**
BUOR Burton Butte 61.60 58 P **P 13 35 22.8 +0.7**
KHMM Horse Mountain 61.61 60 *e*P **P 13 35 23.4 +1.3**
YBH Yreka Blue Hor 61.67 58 *e*P **P 13 35 23.6 +1.1**
comp=Z,17nm,0.6s,mb4.8
FIA1 FINESS Array S 61.82 332 *e*P **P 13 35 21.8 -1.7**
FINES FINESS Array B 61.82 332 P **P 13 35 22.1 -1.4**
comp=Z,29nm,0.5s,mb5.0,baz=43,slow=7.1,SNR=202
WALA Waterton Lakes 61.82 47 *e*P **P 13 35 23.3 -0.2**
comp=Z,89nm,1.2s,mb5.2
WALA *e*PcP PcP 13 36 01.6 +0.7
BSMT Bassoo Peak 62.15 49 *e*P **P 13 35 26.4 +0.7**
OBN Obninsk 62.46 322*d i*P **P 13 35 26.9 -0.8**
OBN *e* 13 36 04.0
OBN *e*S **S 13 43 26.4 -0.5**
OBN pmax pmax
comp=Z,43nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 62.46 322 *e*P **P 13 35 26.7 -1.0**
comp=Z,48nm,1.0s,mb5.0
WDC Whiskeytown Da 62.50 59 *e*P **P 13 35 28.3 +0.4**
comp=Z,14nm,0.7s,mb4.6
LTIM Timbered Crate 62.73 58 P **P 13 35 29.8 +0.3**
BMO Blue Mountains 62.74 53 *e*P **P 13 35 29.8 +0.2**
comp=Z,56nm,1.3s,mb4.9
MOD Modoc 62.95 57 *e*P **P 13 35 31.2 +0.3**
comp=Z,37nm,1.1s,mb4.8
MSO Missoula 63.25 49 *e*P **P 13 35 32.8 -0.1**
comp=Z,66nm,1.3s,mb5.0
FFC Flin Flon 63.50 37 P **P 13 35 34.5 0.0**
comp=Z,442nm,0.6s,SNR=22
FFC Flin Flon 63.50 37 *e*P **P 13 35 34.0 -0.5**
FFC *e* 13 36 08.0
FFC pmax pmax
comp=Z,120nm,1.1s,mb5.3
FFC Flin Flon 63.50 37 *e*P **P 13 35 34.0 -0.5**
comp=Z,120nm,1.1s,mb5.3
FFC *e*PcP PcP 13 36 08.0 +0.3
CHMT Chamberlain Mo 63.55 49 *e*P **P 13 35 34.5 -0.4**
WVOR Wild Horse Val 63.56 55 *e*P **P 13 35 35.0 +0.1**
WVOR pmax pmax
comp=Z,73nm,1.3s,mb5.2
WVOR Wild Horse Val 63.56 55 *e*P **P 13 35 35.0 +0.1**
comp=Z,73nm,1.3s,mb5.2
FCC Fort Churchill 63.57 30 *e*P **P 13 35 32.9 -2.0**
FCC pmax pmax
comp=Z,17nm,0.5s,mb4.9
FCC Fort Churchill 63.57 30 *e*P **P 13 35 32.9 -2.0**
comp=Z,16nm,0.5s,mb4.9
NSHM Saint Helena R 63.77 61 *e*P **P 13 35 36.4 +0.1**
VSU Vasula 63.83 329*c i*P **P 13 35 35.5 -1.1**
OHCM Honcut 63.92 60 *e*P **P 13 35 37.0 -0.2**
HRY Holter Researc 64.42 48 *e*P **P 13 35 40.6 +0.2**
EGMT Eagleton 64.58 46 *e*P **P 13 35 41.2 -0.2**
comp=Z,46nm,0.8s,mb5.2
LRM Limekiln Ridge 64.69 49 *e*P **P 13 35 42.4 +0.2**
PAHR Pah Rah Range 64.91 58 *e*P **P 13 35 44.0 +0.5**
comp=Z,34nm,0.7s,mb5.1
DLMT Dillon 64.93 50 *e*P **P 13 35 44.6 +1.0**
comp=Z,52nm,0.7s,mb5.3
MCMT McKenzie Canyo 65.15 50 *e*P **P 13 35 45.2 +0.2**
MCMT *e*PcP PcP 13 36 16.5 +2.0
CMB Columbia Colle 65.42 60 *e*P **P 13 35 46.7 0.0**
comp=Z,65nm,1.1s,mb5.2
SAO San Andreas Ge 65.61 62 *e*P **P 13 35 49.2 +1.2**
WAKR Walker 65.67 59 *e*P **P 13 35 48.9 +0.5**
BMN Battle Mountai 65.68 56 *e*P **P 13 35 49.0 +0.6**
comp=Z,67nm,1.2s,mb5.2
SFJD Kangerlussuaq 65.69 7 P **P 13 35 47.0 -1.5**
comp=Z,20nm,0.8s,mb4.9,baz=328,slow=6.2,SNR=7.0
SFJD Kangerlussuaq 65.69 7 *i*P **P 13 35 46.9 -1.6**
comp=Z,21nm,0.8s,mb4.9
SFJD Kangerlussuaq 65.69 7 P **P 13 35 47.0 -1.5**
SFJD pmax pmax
comp=Z,20nm,0.8s,mb4.9
QLMT Earthquake Lak 65.89 50 *e*P **P 13 35 50.4 +0.5**
LRV Little Rabbit 66.10 62 *e*P **P 13 35 52.2 +1.1**
YMR Madison River 66.25 50 *e*P **P 13 35 52.7 +0.7**
comp=Z,48nm,0.8s,mb5.3
YNR Norris Junctio 66.36 49 *e*P **P 13 35 55.4 +2.6**
NVAR Mina Array Bea 66.38 59 P **P 13 35 52.6 -0.2**
comp=Z,30nm,0.7s,mb5.1,baz=287,slow=7.1,SNR=116
MNK Minsk 66.41 326 *e*P **P 13 35 48.0 -5.0**
NB2 NORSAR Subarra 66.47 338 P **P 13 35 52.0 -1.4**
comp=Z,53nm,1.0s,mb5.2,baz=30,slow=6.5
NOA NORSAR Array B 66.47 338 P **P 13 35 52.1 -1.3**
comp=Z,25nm,0.8s,mb5.0,baz=31,slow=6.3,SNR=90
LKWY Lake 66.61 49 *e*P **P 13 35 56.5 +2.2**
comp=Z,20nm,0.8s,mb4.9
CTA Charters Tower 66.68 180 *e*P **P 13 35 55.8 +1.1**
comp=Z,6.9nm,0.9s,mb4.4
CTA Charters Tower 66.68 180 *e*P **P 13 35 55.8 +1.1**
CTA pmax pmax
comp=Z,7.0nm,0.9s
CTAO Charters Tower 66.68 180 *e*P **P 13 35 56.1 +1.4**
comp=Z,1.6nm,0.4s,mb4.1
IMW Indian Meadow 66.79 50 *e*P **P 13 35 56.5 +1.0**
comp=Z,46nm,1.1s,mb5.1
RLMT Red Lodge 66.81 48 *e*P **P 13 35 55.8 +0.2**
DCID1 Drake Creek 66.87 50 *e*P **P 13 35 57.2 +1.3**
MTUM Tungsten Hills 66.95 60 *e*P **P 13 35 57.2 +0.8**
DGMT Dagmar 66.95 43 *e*P **P 13 35 56.1 -0.3**
comp=Z,79nm,0.6s,mb5.6
RRI2 Red Ridge 66.97 51 *e*P **P 13 35 57.4 +0.9**
comp=Z,194nm,0.7s,mb5.8
TPAW Teton Pass 67.06 50 *e*P **P 13 35 58.1 +1.0**
comp=Z,40nm,0.7s,mb5.2
PTRM Twissleman Ran 67.10 62 *e*P **P 13 35 57.6 +0.2**
LOHW Long Hollow 67.16 50 *e*P **P 13 35 58.5 +0.8**
comp=Z,77nm,1.3s,mb5.3
SNOW Snow King Moun 67.19 50 *e*P **P 13 35 59.3 +1.4**
comp=Z,53nm,0.9s,mb5.3
REDW Red Top Meadow 67.20 50 *e*P **P 13 35 59.2 +1.2**
comp=Z,61nm,1.0s,mb5.3
LAO LASA Array 67.24 45 *e*P **P 13 35 59.0 +0.8**
comp=Z,133nm,1.3s,mb5.5
TPH Tonopah 67.25 58 *e*P **P 13 35 58.7 +0.4**
comp=Z,48nm,0.9s,mb5.2
HVU Hansel Valley 67.25 53 *e*P **P 13 35 58.6 +0.3**
comp=Z,15nm,0.6s,mb4.9
KIV Kislovodsk 67.27 310 P **P 13 35 59.8 +1.4**
comp=Z,890nm,0.8s,SNR=12
KIV Kislovodsk 67.27 310⇓P **P 13 35 59.6 +1.1**
SNR=20
KIV Kislovodsk 67.27 310 *e*P **P 13 35 59.2 +0.8**
KIV *e**PP pP 13 37 17.0 +2.8
KIV *e*PPP 13 40 14.7
KIV *e*S S 13 44 26.1 +0.9
KIV pmax pmax
comp=Z,200nm,1.3s,mb5.7
KIV pmax pmax
comp=Z,106nm,0.7s,mb5.7
KIV MLR MLR
comp=Z,155nm,20.0s
KIV Kislovodsk 67.27 310 *e*P **P 13 35 59.6 +1.2**
comp=Z,110nm,0.8s,mb5.6
FITZ Fitzroy Crossi 67.35 201 *e*P **P 13 35 59.3 +0.4**
comp=Z,8.5nm,0.9s,mb4.5
FITZ *e*pP pP 13 37 17.4 +2.6
WRAB Tennant Creek 67.41 192 P **P 13 35 58.0 -1.3**
comp=Z,109nm,0.6s,mb5.8,SNR=15
WRAB Tennant Creek 67.41 192 *e*P **P 13 35 58.9 -0.3**

WRAB ePP pP 13 37 13.0 -2.1
WB2 Warramunga Arr 67.42 192 eP **P** **13 35 58.0 -1.3**
WB2 ePP pP 13 37 13.2 -2.0
WRA Warramunga Arr 67.42 192 P **P** **13 35 58.6 -0.8**
comp=Z,16nm,0.6s,mb5.0,baz=8.1,slow=6.7,SNR=144
WRA pP pP 13 37 13.3 -1.8
comp=Z,7.1nm,0.9s,baz=10,slow=6.8,SNR=5.1
ZEI Tsey 67.45 309 eP **P** **13 35 59.9 +0.3**
ZEI e 13 38 36.1
ZEI pmax pmax
comp=Z,41nm,0.8s,mb5.2
AHID Auburn Hatcher 67.48 51 eP **P** **13 36 00.3 +0.6**
comp=Z,24nm,0.7s,mb5.0
DUS Dusheti 67.49 308 P **P** **13 36 01.4 +1.6**
DGRG David-gareji 67.56 307 P **P** **13 36 00.9 +0.7**
BGU Big Grassy Mou 67.70 54 eP **P** **13 36 01.3 +0.2**
MTA Mtatsminda 67.71 308 P **P** **13 36 02.0 +0.8**
SPUT South Promonto 67.75 53 eP **P** **13 36 01.3 -0.1**
GOR Gori 67.88 308 P **P** **13 36 02.7 +0.5**
TRCR Troy Canyon 68.01 57 eP **P** **13 36 03.2 +0.2**
HWUT Hardware Ranch 68.03 52 eP **P** **13 36 03.7 +0.5**
comp=Z,28nm,0.7s,mb5.1
KZR Kazreti 68.13 308 P **P** **13 36 04.0 +0.2**
ISA Isabella 68.14 61 eP **P** **13 36 03.3 -0.5**
DAC Darwin (Calif) 68.25 60 eP **P** **13 36 04.4 -0.1**
DAC pmax pmax
comp=Z,32nm,1.0s,mb5.0
DAC Darwin (Calif) 68.25 60 eP **P** **13 36 04.4 0.0**
comp=Z,32nm,1.0s,mb5.0
BW06 Boulder Array 68.30 50 eP **P** **13 36 04.7 -0.1**
comp=Z,56nm,0.8s,mb5.3
PDAR Pinedale Array 68.30 50 P **P** **13 36 04.5 -0.3**
comp=Z,53nm,0.6s,mb5.4,baz=322,slow=0.8,SNR=167
DUG Dugway 68.32 54 eP **P** **13 36 05.5 +0.6**
DUG pmax pmax
comp=Z,47nm,0.7s,mb5.3
DUG Dugway 68.32 54 eP **P** **13 36 05.5 +0.6**
comp=Z,46nm,0.7s,mb5.3
NOQ North Oquirrh 68.39 53 eP **P** **13 36 06.1 +0.8**
TCUT Toone Canyon 68.45 53 eP **P** **13 36 06.2 +0.4**
SUW Suwalki 68.52 328 eP **P** **13 36 04.8 -1.4**
CTU Camp Tracy 68.56 53 eP **P** **13 36 07.4 +1.0**
comp=Z,16nm,0.7s,mb4.9
AKASG Malin Array Be 68.72 323 P **P** **13 36 06.2 -1.2**
comp=Z,18nm,0.5s,mb5.0,baz=36,slow=6.4,SNR=64
AKASG pP pP 13 37 22.8 -0.8
comp=Z,3.5nm,0.8s,baz=38,slow=6.7,SNR=3.0
AKASG Malin Array Be 68.72 323 P **P** **13 36 06.2 -1.2**
AKASG pP pP 13 37 22.8 -0.8
AKBB Malin Array Si 68.72 323 eP **P** **13 36 06.1 -1.3**
GNI Garni 68.80 306 P **P** **13 36 09.8 +1.9**
comp=Z,7.8nm,0.4s,mb4.8,baz=306,slow=2.7,SNR=10
GNI Garni 68.80 306 *i* P **P** **13 36 08.6 +0.7**
GNI pmax pmax
comp=Z,62nm,1.2s
GNI Garni 68.80 306 eP **P** **13 36 10.2 +2.3**
comp=Z,31nm,0.9s,mb5.0
NLU North Lily Min 68.89 54 eP **P** **13 36 09.2 +0.7**
MPU Maple Canyon 69.10 54 eP **P** **13 36 10.4 +0.8**
comp=Z,46nm,0.5s,mb5.5
ULM Lac du Bonnet 69.32 37 P **P** **13 36 09.8 -1.2**
comp=Z,40nm,0.8s,mb5.2,baz=316,slow=6.7,SNR=54
ULM Lac du Bonnet 69.32 37 eP **P** **13 36 09.4 -1.6**
comp=Z,77nm,1.0s,mb5.4
ANN Anapa 69.34 314 eP **P** **13 36 11.0 -0.2**
ANN e*PP pP 13 37 29.8 +2.3
ANN eS S 13 44 50.7 +1.3
ANN eSS SS 13 49 30.8 +6.8
ANN pmax pmax
comp=Z,104nm,1.2s,mb5.4
MWC Mount Wilson 69.36 62 eP **P** **13 36 12.7 +1.4**
GSC Goldstone 69.38 60 eP **P** **13 36 11.2 -0.2**
SHPR Sheep Range 69.52 58 eP **P** **13 36 13.0 +0.8**
ARUT Antelope Range 69.63 56 eP **P** **13 36 13.2 +0.3**
TMUT Trail Mountain 69.83 54 eP **P** **13 36 14.9 +0.8**
CCUT Cedar City 69.84 56 eP **P** **13 36 14.9 +0.7**
MSU Marysvale 69.84 55 eP **P** **13 36 15.0 +0.8**
RSSD Black Hills 70.16 46 eP **P** **13 36 15.7 -0.4**
RSSD pmax pmax
comp=Z,88nm,1.1s,mb5.4
RSSD Black Hills 70.16 46 eP **P** **13 36 15.7 -0.4**
comp=Z,88nm,1.1s,mb5.4
RWWY Rawlins 70.29 50 eP **P** **13 36 17.0 +0.1**
comp=Z,65nm,0.9s,mb5.4
SRU San Rafael 70.34 54 eP **P** **13 36 17.5 +0.3**
SRU pmax pmax
comp=Z,39nm,0.4s,mb5.5
SRU San Rafael 70.34 54 eP **P** **13 36 17.4 +0.3**
comp=Z,39nm,0.4s,mb5.5
BSD Bornholm Skovb 70.43 333 *i* P **P** **13 36 17.0 -0.7**
BSD *e* 13 41 20.2
PFO Pinyon Flat Ob 70.75 61 eP **P** **13 36 19.7 0.0**
PFO pmax pmax
comp=Z,44nm,1.3s,mb5.0
PFO Pinyon Flat Ob 70.75 61 eP **P** **13 36 19.7 0.0**
comp=Z,44nm,1.3s,mb5.0
SIM Simferopol' 70.84 316 P **P** **13 36 20.5 +0.3**
SIM pmax pmax
comp=Z,41nm,0.9s,mb5.2
AS31 Alice Springs 71.14 192 eP **P** **13 36 23.8 +1.8**
ASAR Alice Springs 71.14 192 P **P** **13 36 22.4 +0.4**
comp=Z,3.7nm,0.4s,mb4.5,baz=8.0,slow=6.3,SNR=36
ASAR pP pP 13 37 36.5 -2.2
comp=Z,2.3nm,0.8s,baz=13,slow=5.5,SNR=2.6
ASPA Alice Springs 71.14 192 eP **P** **13 36 23.8 +1.8**
BAR Barrett 71.27 62 eP **P** **13 36 23.0 +0.3**
PHWY Pilot Hill 71.48 49 eP **P** **13 36 24.5 +0.5**
LVV L'vov 71.52 325 *d* *i* P **P** **13 36 24.4 +0.2**
LVV *e* 13 40 56.0
PV10 Paradox Valley 71.68 53 eP **P** **13 36 25.8 +0.6**
KIS Kishinev 71.72 320 eP **P** **13 36 24.0 -1.4**
MBWA Marble Bar 71.89 206 eP **P** **13 36 26.9 +0.5**
comp=Z,4.3nm,0.6s,mb4.4
PV01 Paradox Valley 72.11 53 eP **P** **13 36 27.6 -0.1**
GLA Glamis 72.12 61 eP **P** **13 36 27.9 +0.2**
KWP Kalwaria 72.19 325 eP **P** **13 36 28.5 +0.3**
SMCO Snowmass 72.22 51 eP **P** **13 36 29.0 +0.7**
comp=Z,86nm,1.3s,mb5.3
WUAZ Wupatki 72.40 57 eP **P** **13 36 30.0 +0.6**
comp=Z,90nm,1.4s,mb5.3
MSL Mosul 72.44 304 *ex* x 13 36 37.0
MSL *ex* x 13 45 31.0
HATD Hatta, Dubai 72.46 288 ⇑P **P** **13 36 30.4 +0.7**
SNR=5.6
ISCO Idaho Springs 72.50 50 eP **P** **13 36 30.3 +0.3**
ISCO pmax pmax
comp=Z,71nm,1.4s,mb5.2
ISCO Idaho Springs 72.50 50 eP **P** **13 36 30.3 +0.3**
comp=Z,71nm,1.4s,mb5.2
BURAR Bucovina Array 72.78 323 ⇑*i*P **P** **13 36 31.7 +0.1**
OJC Ojcow 72.82 327 eP **P** **13 36 31.5 -0.3**
BSEG Bad Segeberg 72.83 335 eP **P** **13 36 31.4 -0.5**
comp=Z,29nm,1.0s,mb5.0
BSEG Bad Segeberg 72.83 335 eP **P** **13 36 31.4 -0.5**
BSEG pmax pmax
comp=Z,29nm,1.0s,mb5.0
KOLS Kolonicke sedl 72.92 325 eP **P** **13 36 32.1 -0.3**
EYMN Ely 72.92 37 eP **P** **13 36 31.1 -1.4**
comp=Z,8.2nm,0.6s,mb4.6
STHS Stebnicka Huta 72.93 326 eP **P** **13 36 33.1 +0.6**
STHS pmax pmax
comp=Z,25nm,1.1s,mb4.9
STHS Stebnicka Huta 72.93 326 eP **P** **13 36 33.1 +0.6**
comp=Z,25nm,1.1s,mb4.9
RUE Ruedersdorf 73.02 332 eP **P** **13 36 32.7 -0.3**
comp=Z,66nm,1.2s,mb5.2
UZH Uzhgorod 73.15 325 eP **P** **13 36 24.0 -10**
BSY Bisya 73.20 285 ⇓P **P** **13 36 35.3 +1.2**
SNR=5.3
CRVS Cervenica-Dubn 73.26 326 eP **P** **13 36 34.4 0.0**
NIE Niedzica 73.28 327 eP **P** **13 36 34.9 +0.4**
CFR Carcaliu 73.43 319 ⇓*i*P **P** **13 36 35.5 +0.1**
CFR Carcaliu 73.43 319 ⇑ P **P** **13 36 35.7 +0.3**
VRI Vrincioaia 73.51 321 ⇑*i*P **P** **13 36 37.1 +1.2**
VRI Vrincioaia 73.51 321 P **P** **13 36 37.1 +1.2**
MALT Malatya 73.55 309 ⇑*i*P **P** **13 36 37.9 +1.8**
MALT Malatya 73.55 309 eP **P** **13 36 37.7 +1.6**
MALT pmax pmax
comp=Z,45nm,1.4s,mb5.0
MALT Malatya 73.55 309 eP **P** **13 36 37.7 +1.6**
comp=Z,46nm,1.4s,mb5.0
KSP Ksiaz 73.56 330 eP **P** **13 36 35.7 -0.4**
OKC Ostrava-Krasne 73.74 328 eP **P** **13 36 36.8 -0.4**
TIRR Tirgusor 73.87 319 ⇑*i*P **P** **13 36 40.1 +2.2**
TIRR Tirgusor 73.87 319 ⇑P **P** **13 36 40.1 +2.2**
HARR Harsova 73.90 319 ⇑*i*P **P** **13 36 37.7 -0.4**
HARR Harsova 73.90 319 P **P** **13 36 38.7 +0.6**
UPC Upice 73.94 330 eP **P** **13 36 38.0 -0.3**
DPC Dobruska-Polom 73.96 329 eP **P** **13 36 38.2 -0.2**
KECS Kecovo 73.98 326 eP **P** **13 36 38.5 0.0**
KECS Kecovo 73.98 326 eP **P** **13 36 38.6 +0.1**
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
KECS Kecovo 73.98 326 eP **P** **13 36 38.6 +0.1**
comp=Z,8.2nm,0.9s,mb4.5
ECSD EROS,Sioux Fal 73.99 42 eP **P** **13 36 37.5 -1.2**
MORC Moravsky Berou 74.01 328 ⇓*i*P **P** **13 36 38.9 +0.2**
MORC Moravsky Berou 74.01 328 eP **P** **13 36 38.6 -0.1**
MORC pmax pmax
comp=Z,42nm,1.0s,mb5.1
MORC Moravsky Berou 74.01 328 eP **P** **13 36 38.6 -0.1**
comp=Z,42nm,1.0s,mb5.1
MLR Muntele Rosu 74.15 321 P **P** **13 36 39.1 -0.5**
comp=Z,19nm,0.8s,mb4.9,baz=53,slow=3.9,SNR=17
MLR Muntele Rosu 74.15 321 ⇑*i*P **P** **13 36 40.7 +1.2**
MLR Muntele Rosu 74.15 321 P **P** **13 36 39.1 -0.4**
MLR pmax pmax
comp=Z,19nm,0.8s
MLR Muntele Rosu 74.15 321 P **P** **13 36 40.9 +1.4**
NRDL Niedersach Rie 74.15 334 eP **P** **13 36 38.9 -0.6**
comp=Z,43nm,1.4s,mb5.0
CLL Collm 74.27 332 eP **P** **13 36 39.3 -0.9**
comp=Z,57nm,1.0s,mb5.3
CLL Collm 74.27 332 *i* P **P** **13 36 39.3 -0.9**
comp=Z,57nm,1.0s,mb5.3
CLL ePcP PcP 13 36 53.0 -0.2
CLL Collm 74.27 332 *i* P **P** **13 36 39.3 -0.9**
CLL *e* 13 36 53.0
CLL pmax pmax
comp=Z,57nm,1.0s,mb5.3
CLL MLR MLR
comp=Z,300nm,5.8s
BRG Berggiesshubel 74.33 331 eP **P** **13 36 39.9 -0.7**
comp=Z,39nm,1.6s,mb4.9
BRG Berggiesshubel 74.33 331 eP **P** **13 36 40.2 -0.4**
comp=Z,24nm,1.6s,mb4.7
BRG Berggiesshubel 74.33 331 eP **P** **13 36 40.2 -0.4**
BRG pmax pmax
comp=Z,24nm,1.6s,mb4.7
DRGR 74.47 324 ⇑*i*P **P** **13 36 43.4 +2.0**
DRGR 74.47 324 P **P** **13 36 41.9 +0.6**
FBE Freiberg 74.48 331 eP **P** **13 36 41.0 -0.4**
comp=Z,43nm,1.2s,mb5.0
VOIR 74.58 321 ⇓*i*P **P** **13 36 42.9 +0.9**
VOIR 74.58 321 ⇓P **P** **13 36 42.9 +0.9**
VYHS Vyhne 74.59 327 eP **P** **13 36 42.3 +0.2**
VYHS pmax pmax
comp=Z,15nm,1.0s,mb4.7
VYHS Vyhne 74.59 327 eP **P** **13 36 42.3 +0.2**
comp=Z,15nm,1.0s,mb4.7
VYHS ePcP PcP 13 36 51.2 -3.4
PSZ Piszkesteto 74.67 326 ⇑eP **P** **13 36 44.1 +1.6**
PSZ Piszkesteto 74.67 326 ⇑*i*P **P** **13 36 42.8 +0.3**
PSZ Piszkesteto 74.67 326 eP **P** **13 36 42.8 +0.3**
PSZ pmax pmax
comp=Z,19nm,0.8s,mb4.9
PSZ Piszkesteto 74.67 326 eP **P** **13 36 42.8 +0.3**
comp=Z,18nm,0.8s,mb4.9
VRAC Vranov 74.74 329 P **P** **13 36 42.6 -0.3**
comp=Z,18nm,0.9s,mb4.8,baz=35,slow=5.2,SNR=27
VRAC Vranov 74.74 329 ⇑*i*P **P** **13 36 43.3 +0.4**
VRAC Vranov 74.74 329 P **P** **13 36 43.7 +0.8**
SCHQ Schefferville 74.82 19 P **P** **13 36 41.7 -1.7**
comp=Z,3.2nm,0.4s,mb4.4,baz=304,slow=7.4,SNR=5.7
PRU Pruhonice 74.88 330 eP **P** **13 36 43.4 -0.3**
EKA Eskdalemuir Ar 74.94 343 P **P** **13 36 42.8 -1.3**
comp=Z,6.3nm,0.7s,mb4.5,baz=20,slow=5.2,SNR=12
BR131 Keskin Array S 74.99 313 eP **P** **13 36 45.1 +0.8**
comp=Z,2.7nm,0.3s,mb4.5
BRTR Keskin Array B 74.99 313 P **P** **13 36 44.5 +0.2**
comp=Z,13nm,0.9s,mb4.7,baz=77,slow=3.8,SNR=34
IBBN Ibbenburen 75.01 335 eP **P** **13 36 43.8 -0.6**
comp=Z,39nm,1.0s,mb5.1
GTTG Gyttingen 75.02 334 eP **P** **13 36 44.3 -0.2**
comp=Z,57nm,1.4s,mb5.1
TUC Tucson 75.04 59 eP **P** **13 36 45.1 +0.5**
comp=Z,13nm,1.0s,mb4.6
TANN Tannenbergstha 75.21 332 eP **P** **13 36 45.9 +0.3**
comp=Z,21nm,1.3s,mb4.7
WERD Werda 75.23 332 eP **P** **13 36 45.2 -0.5**
comp=Z,29nm,1.4s,mb4.8
MOX Moxa 75.29 332 eP **P** **13 36 45.3 -0.7**
comp=Z,46nm,1.4s,mb5.0
MOX Moxa 75.29 332 eP **P** **13 36 45.8 -0.2**
comp=Z,48nm,1.5s,mb5.0
MOX Moxa 75.29 332 eP **P** **13 36 45.8 -0.2**
MOX pmax pmax
comp=Z,48nm,1.5s,mb5.0
GUNZ Gunzen 75.30 332 eP **P** **13 36 45.8 -0.3**
comp=Z,46nm,1.6s,mb5.0
ANTO Ankara 75.30 313 ⇓*i*P **P** **13 36 47.5 +1.4**
ANTO Ankara 75.30 313 ⇓P **P** **13 36 47.3 +1.2**
SNR=9.0
ANTO Ankara 75.30 313 eP **P** **13 36 47.1 +1.0**
ANTO pmax pmax
comp=Z,39nm,0.8s,mb5.2
ANTO Ankara 75.30 313 eP **P** **13 36 47.0 +1.0**
comp=Z,39nm,0.8s,mb5.2
WERN Wernitzgruen 75.35 332 eP **P** **13 36 46.1 -0.3**
comp=Z,21nm,0.9s,mb4.9
BUD Budapest 75.36 326 ⇑eP **P** **13 36 47.9 +1.5**
NKC Novy Kostel 75.37 331 eP **P** **13 36 46.3 -0.2**
ZST Bratislava 75.48 328 eP **P** **13 36 47.7 +0.6**
ZST pmax pmax
comp=Z,18nm,1.0s,mb4.8
ZST Bratislava 75.48 328 eP **P** **13 36 47.7 +0.6**
comp=Z,18nm,1.0s,mb4.8
GZR Gura Zlata 75.57 323 ⇑*i*P **P** **13 36 47.9 +0.3**
GZR Gura Zlata 75.57 323 P **P** **13 36 47.9 +0.3**
WTSB Winterswijk 75.58 336 ⇑eP **P** **13 36 48.2 +0.6**
comp=Z,52nm,1.2s,mb5.1
ANMO Albuquerque 75.59 54 *c* *i*P **P** **13 36 48.1 +0.4**
ANMO Albuquerque 75.59 54 eP **P** **13 36 48.5 +0.8**
comp=Z,42nm,1.3s,mb5.0
UBBA Unterbreizbach 75.64 333 eP **P** **13 36 47.9 -0.1**
comp=Z,38nm,1.5s,mb4.9
MANZ Manzenberg 75.70 332 eP **P** **13 36 47.9 -0.4**
comp=Z,18nm,1.2s,mb4.7
ROTZ Rotzenmuhle 75.85 331 eP **P** **13 36 48.9 -0.3**
comp=Z,32nm,1.2s,mb4.9
BZS Buzias 75.87 324 ⇑*i*P **P** **13 36 49.5 +0.2**
BZS Buzias 75.87 324 P **P** **13 36 49.6 +0.3**
BUG Bochum--Univer 75.92 335 eP **P** **13 36 48.8 -0.7**
comp=Z,50nm,1.1s,mb5.2
KHC Kasperske Hory 75.94 330 eP **P** **13 36 49.7 0.0**
KHC Kasperske Hory 75.94 330 ⇑eP **P** **13 36 49.6 -0.1**
SOP Sopron 76.11 328 ⇑eP **P** **13 36 52.6 +1.9**
GEC2 GERESS Array S 76.14 330 eP **P** **13 36 50.3 -0.5**
comp=Z,17nm,1.0s,mb4.7
GEC2 GERESS Array S 76.14 330 eP **P** **13 36 50.3 -0.5**
GEC2 pmax pmax
comp=Z,17nm,1.0s,mb4.7
GERES GERESS Array B 76.14 330 P **P** **13 36 50.3 -0.5**
comp=Z,8.3nm,0.7s,mb4.5,baz=32,slow=5.3,SNR=36
CONA Conrad Observa 76.16 328 ⇑*i*P **P** **13 36 51.3 +0.4**
comp=Z,19nm,0.9s,mb4.8
WET Wettzell 76.17 331 eP **P** **13 36 51.0 +0.1**
comp=Z,46nm,1.1s,mb5.1
WET Wettzell 76.17 331 eP **P** **13 36 51.0 +0.1**
WET pmax pmax
comp=Z,46nm,1.1s,mb5.1
GRA1 Grafenberg Arr 76.24 332 eP **P** **13 36 51.6 +0.2**
comp=Z,56nm,0.9s,mb5.3
GRF Grafenberg Arr 76.24 332 eP **P** **13 36 51.6 +0.2**
comp=Z,56nm,0.9s,mb5.3
GRF Grafenberg Arr 76.24 332 eP **P** **13 36 51.6 +0.2**
GRF pmax pmax
comp=Z,56nm,0.9s,mb5.3
GRF Grafenberg Arr 76.24 332 eP **P** **13 36 51.6 +0.2**
GRF pmax pmax
comp=Z,56nm,0.9s,mb5.3
PKSM Moragy 76.56 326 ⇑*i*P **P** **13 36 52.4 -0.7**
PKSM Moragy 76.56 326 P **P** **13 36 53.0 -0.1**
TNS Taunus Mts 76.64 334 eP **P** **13 36 52.9 -0.7**
MOA Molln 76.80 329 ⇑*i*P **P** **13 36 54.3 -0.1**
comp=Z,59nm,2.2s,mb4.9,SNR=8.4
ARSA Arzberg 76.86 328 ⇑*i*P **P** **13 36 55.0 +0.2**
comp=Z,40nm,1.6s,mb4.9
HGN Heimansgroeve 76.90 335 ⇑eP **P** **13 36 54.2 -0.8**
comp=Z,42nm,1.3s,mb5.0
BEBN Eben Emael 76.95 336 P **P** **13 36 56.0 +0.8**
SCIA State Center 76.98 41 eP **P** **13 36 55.2 -0.2**
MEM Membach 77.02 335 P **P** **13 36 56.8 +1.1**
ARMA Armidale 77.11 175 eP **P** **13 36 58.0 +1.8**
KOGS Kog 77.27 327 eP **P** **13 36 56.4 -0.7**
UCC Uccle 77.31 336 P **P** **13 36 58.2 +0.9**
BCLA Clavier 77.39 336 P **P** **13 36 58.6 +0.9**
JFWS Jewell Farm 77.48 39 eP **P** **13 36 56.8 -1.4**
JFWS pmax pmax
comp=Z,25nm,0.6s,mb5.1
JFWS Jewell Farm 77.48 39 eP **P** **13 36 56.8 -1.4**
comp=Z,24nm,0.6s,mb5.1
PERS Pernice 77.53 328 eP **P** **13 36 58.3 -0.2**
FUR Furstenfeldbru 77.55 331 eP **P** **13 36 58.7 +0.1**
KSU1 Kansas State U 77.59 45 eP **P** **13 36 57.7 -1.2**
SNF Seneffe 77.59 336 P **P** **13 36 59.0 +0.1**
VTS Vitosha 77.65 321 ⇓*i*P **P** **13 36 59.8 +0.6**
VTS Vitosha 77.65 321 P **P** **13 36 59.9 +0.7**
STU Stuttgart 77.69 333 eP **P** **13 36 59.5 +0.1**
comp=Z,44nm,0.9s,mb5.2
KBA Koelnbreinsper 77.78 329 ⇑*i*P **P** **13 37 00.3 +0.5**
comp=Z,72nm,1.2s,mb5.3,SNR=15
KBA Koelnbreinsper 77.78 329 ⇑*i*P **P** **13 37 00.3 +0.4**
KBA pmax pmax
comp=Z,72nm,1.3s,mb5.2
GIVF Givet 77.81 336 eP **P** **13 36 59.2 -0.8**
comp=Z,110nm,1.4s,mb5.1
GIVF Givet 77.81 336 eP **P** **13 36 59.2 -0.8**
GIVF pmax pmax
comp=Z,55nm,1.4s,mb5.1
GIVF Givet 77.81 336 eP **P** **13 36 59.2 -0.8**
comp=Z,55nm,1.4s,mb5.1
WLF Walferdange 77.82 335 eP **P** **13 37 00.4 +0.3**
comp=Z,17nm,1.0s,mb4.7
WLF Walferdange 77.82 335 P **P** **13 37 01.7 +1.6**
OBKA Obir 77.84 328 ⇑*i*P **P** **13 36 58.3 -1.9**
comp=Z,39nm,1.5s,mb4.9
DOU Dourbes 77.88 336 P **P** **13 37 01.1 +0.7**
BAIF Baives 78.02 336 eP **P** **13 37 00.4 -0.8**
comp=Z,62nm,1.3s,mb4.9
BAIF Baives 78.02 336 eP **P** **13 37 00.4 -0.8**
BAIF pmax pmax
comp=Z,31nm,1.3s,mb4.9
BAIF Baives 78.02 336 eP **P** **13 37 00.4 -0.8**
comp=Z,31nm,1.3s,mb4.9
CRES Cresnjev 78.09 327 eP **P** **13 37 00.8 -0.7**
WATA Walderalm 78.17 330 ⇑*i*P **P** **13 37 02.1 +0.1**
comp=Z,39nm,1.1s,mb5.1
WATA Walderalm 78.17 330 ⇑*i*P **P** **13 37 02.1 +0.1**
WATA pmax pmax
comp=Z,39nm,1.1s,mb5.0
WTTA Wattenberg 78.21 330 ⇑*i*P **P** **13 37 02.5 +0.2**
comp=Z,99nm,1.4s,mb5.3,SNR=15
WTTA Wattenberg 78.21 330 ⇑*i*P **P** **13 37 02.5 +0.3**
WTTA pmax pmax
comp=Z,99nm,1.4s,mb5.3
LJU Ljubljana 78.25 328 eP **P** **13 37 01.5 -0.9**
MOTA Moosalm 78.32 331 ⇑*i*P **P** **13 37 02.8 0.0**
comp=Z,65nm,1.2s,mb5.2,SNR=11
MOTA Moosalm 78.32 331 ⇑*i*P **P** **13 37 02.8 0.0**
MOTA pmax pmax
comp=Z,65nm,1.2s,mb5.2
BFO Black Forest 78.35 333 eP **P** **13 37 02.4 -0.6**
comp=Z,34nm,1.1s,mb5.0
BFO Black Forest 78.35 333 eP **P** **13 37 02.4 -0.6**
BFO pmax pmax
comp=Z,34nm,1.1s,mb5.0
PTCC Patocco-Chiusa 78.36 329 P **P** **13 37 01.9 -1.1**
comp=Z,16nm,0.9s,mb4.7
SQTA Sankt Quirin 78.39 331 ⇑*i*P **P** **13 37 03.4 +0.2**
comp=Z,51nm,1.2s,mb5.1
SQTA Sankt Quirin 78.39 331 ⇑*i*P **P** **13 37 03.4 +0.2**
SQTA pmax pmax
comp=Z,51nm,1.2s,mb5.1
FVI Forni Avoltri 78.39 329 P **P** **13 37 03.6 +0.4**
FVI pmax pmax
comp=Z,31nm,1.6s,mb4.8
FVI Forni Avoltri 78.39 329 P **P** **13 37 03.6 +0.4**
comp=Z,31nm,1.6s,mb4.8
BOJS Bojanci 78.44 327 eP **P** **13 37 02.7 -0.7**
STKA Stephens Creek 78.54 184 eP **P** **13 37 04.5 +0.5**
comp=Z,5.8nm,1.2s,mb4.2
STKA epP pP 13 38 25.7 +3.3
STKA Stephens Creek 78.54 184 P **P** **13 37 04.6 +0.6**
comp=Z,6.3nm,1.0s,mb4.3,baz=348,slow=5.9,SNR=7.3
STKA pP pP 13 38 25.5 +3.1
comp=Z,8.4nm,0.9s,baz=356,slow=10.0,SNR=8.5
MNTX Cornudas Mount 78.60 56 eP **P** **13 37 04.3 0.0**
comp=Z,87nm,1.4s,mb5.3
CDF Champ du Feu 78.61 334 eP **P** **13 37 03.8 -0.5**
comp=Z,81nm,1.2s,mb5.0
CDF Champ du Feu 78.61 334 eP **P** **13 37 03.8 -0.5**
CDF pmax pmax
comp=Z,40nm,1.2s,mb5.0
CDF Champ du Feu 78.61 334 eP **P** **13 37 03.8 -0.5**
comp=Z,40nm,1.2s,mb5.0
DAVA Damuels 78.78 331 ⇑*i*P **P** **13 37 05.1 -0.2**
comp=Z,60nm,1.4s,mb5.1
FELD Feldberg im Sc 78.86 333 eP **P** **13 37 05.5 -0.2**
SKO Skopje 78.92 321 eP **P** **13 37 06.6 +0.6**
FORT Forrest 79.07 196 eP **P** **13 37 07.1 +0.2**
comp=Z,17nm,0.7s,mb4.9
FORT epP pP 13 38 26.2 +0.8
MEZF Maizieres J'vi 79.19 335 eP **P** **13 37 01.1 -0.4**
HAU Haudompre 79.25 334 eP **P** **13 37 07.0 -0.8**
comp=Z,67nm,1.3s,mb4.9
HAU Haudompre 79.25 334 eP **P** **13 37 07.0 -0.8**
HAU pmax pmax
comp=Z,33nm,1.3s,mb4.9
HAU Haudompre 79.25 334 eP **P** **13 37 07.0 -0.8**
comp=Z,33nm,1.3s,mb4.9
HINF Hinteralfeld 79.27 334 eP **P** **13 37 07.0 -0.9**
comp=Z,20nm,0.9s,mb4.5
HINF Hinteralfeld 79.27 334 eP **P** **13 37 07.0 -0.9**
HINF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
HINF Hinteralfeld 79.27 334 eP **P** **13 37 07.0 -0.9**
comp=Z,9.8nm,0.9s,mb4.5
BRMO Bormio 79.32 331 P **P** **13 37 08.7 +0.5**
comp=Z,18nm,1.0s,mb4.8
WMOK Wichita Mounta 79.88 49 eP **P** **13 37 10.9 -0.3**
comp=Z,32nm,0.9s,mb5.0
OHR Ohrid 79.90 321 eP **P** **13 37 08.2 -3.0**
FLN La Foliniere 80.45 338 eP **P** **13 37 13.4 -0.8**
comp=Z,29nm,0.8s,mb4.8
FLN La Foliniere 80.45 338 eP **P** **13 37 13.4 -0.8**
comp=Z,14nm,0.8s,mb4.8
LDF La Druitiere 80.51 338 eP **P** **13 37 13.7 -0.8**
comp=Z,76nm,1.4s,mb4.9
LDF La Druitiere 80.51 338 eP **P** **13 37 13.7 -0.8**
comp=Z,38nm,1.4s,mb4.9
CABF La Chapelle 80.58 333 eP **P** **13 37 14.4 -0.5**
AAM Ann Arbor 80.71 35 eP **P** **13 37 15.9 +0.4**
RSM Repubblica di 80.81 328 P **P** **13 37 16.9 +0.8**
comp=Z,154nm,1.3s,mb5.6
GRR Gorron 80.89 339 eP **P** **13 37 16.0 -0.5**
comp=Z,64nm,0.9s,mb5.0
GRR Gorron 80.89 339 eP **P** **13 37 16.0 -0.5**
comp=Z,32nm,0.9s,mb5.0
FSSB Fossombrone 80.90 328 P **P** **13 37 16.6 0.0**
comp=Z,47nm,0.9s,mb5.2
SLM Saint Louis 80.96 41 eP **P** **13 37 16.4 -0.4**
comp=Z,34nm,0.5s,mb5.3
SFI Santa Sofia 81.05 329 P **P** **13 37 18.2 +0.8**
comp=Z,44nm,1.2s,mb5.1
VMG Vicchio 81.11 329 P **P** **13 37 18.9 +1.2**
comp=Z,60nm,0.9s,mb5.3
BOB Bobbio (Coli) 81.13 331 P **P** **13 37 17.7 -0.1**
comp=Z,38nm,1.1s,mb5.0
SMF Signal de Mont 81.22 335 eP **P** **13 37 17.7 -0.5**
comp=Z,141nm,1.1s,mb5.3
SMF Signal de Mont 81.22 335 eP **P** **13 37 17.7 -0.5**
comp=Z,70nm,1.1s,mb5.3
AVF Avril sur Loir 81.22 335 eP **P** **13 37 17.7 -0.6**
comp=Z,102nm,1.2s,mb5.1
AVF Avril sur Loir 81.22 335 eP **P** **13 37 17.7 -0.6**
comp=Z,51nm,1.2s,mb5.1
CRE Caprese Michel 81.26 328 P **P** **13 37 19.0 +0.5**
comp=Z,6.2nm,0.5s,mb4.6
VLC Villacollemand 81.35 330 eP **P** **13 37 20.8 +1.9**
comp=Z,25nm,0.9s,mb4.9
LPL La Plagne 81.36 333 eP **P** **13 37 19.1 +0.2**
comp=Z,49nm,1.1s,mb4.8
LPL La Plagne 81.36 333 eP **P** **13 37 19.1 +0.2**
comp=Z,24nm,1.1s,mb4.8
LPG La Plagne 81.37 333 eP **P** **13 37 19.3 +0.3**

comp=Z,102nm,1.3s,mb5.1
LPG La Plagne 81.37 333 *e*P **P** **13 37 19.3 +0.3**
comp=Z,51nm,1.3s,mb5.1
FVM French Village 81.40 42 *e*P **P** **13 37 18.6 -0.6**
comp=Z,43nm,1.0s,mb5.1
ROSF Rostrenen 81.52 340 *e*P **P** **13 37 19.6 -0.2**
comp=Z,171nm,1.3s,mb5.4
ROSF Rostrenen 81.52 340 *e*P **P** **13 37 19.6 -0.2**
comp=Z,85nm,1.3s,mb5.4
MSNY Massena 81.54 28 *e*P **P** **13 37 18.6 -1.3**
MSNY *e*pP PcP 13 38 27.4 +63
BGF Bois d'Agland 81.58 336 *e*P **P** **13 37 19.6 -0.5**
comp=Z,32nm,0.9s,mb4.8
BGF Bois d'Agland 81.58 336 *e*P **P** **13 37 19.6 -0.5**
BGF pmax pmax
comp=Z,16nm,0.9s,mb4.8
BGF Bois d'Agland 81.58 336 *e*P **P** **13 37 19.6 -0.5**
comp=Z,16nm,0.9s,mb4.9
BNI Bardonecchia 81.79 332 *e*P **P** **13 37 22.0 +0.8**
BNI pmax pmax
comp=Z,11nm,1.0s,mb4.6
BNI Bardonecchia 81.79 332 *e*P **P** **13 37 22.0 +0.8**
comp=Z,11nm,1.0s,mb4.6
AQU L'Aquila 81.83 327 *e*P **P** **13 37 21.8 +0.4**
AQU pmax pmax
comp=Z,24nm,0.8s,mb5.1
AQU L'Aquila 81.83 327 *e*P **P** **13 37 21.8 +0.4**
comp=Z,24nm,0.8s,mb5.1
EIL Elat 81.92 305 *e*P **P** **13 37 22.9 +1.1**
comp=Z,434nm,0.9s
TCF Toulx Ste Croi 82.01 336 *e*P **P** **13 37 22.1 -0.2**
comp=Z,26nm,0.9s,mb4.8
TCF Toulx Ste Croi 82.01 336 *e*P **P** **13 37 22.1 -0.2**
TCF pmax pmax
comp=Z,13nm,0.9s,mb4.8
TCF Toulx Ste Croi 82.01 336 *e*P **P** **13 37 22.1 -0.2**
comp=Z,13nm,0.9s,mb4.8
MBDF Montbardon 82.05 332 *e*P **P** **13 37 22.0 -0.5**
comp=Z,11nm,0.5s,mb4.6
MBDF Montbardon 82.05 332 *e*P **P** **13 37 22.0 -0.5**
MBDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
MBDF Montbardon 82.05 332 *e*P **P** **13 37 22.0 -0.5**
comp=Z,5.6nm,0.5s,mb4.7
FRNY Flat Rock 82.09 27 *e*P **P** **13 37 22.7 -0.1**
BLO Bloomington 82.16 39 *e*P **P** **13 37 23.9 +0.8**
comp=Z,28nm,0.6s,mb5.3
ORIF Oris-en-Rattie 82.16 333 *e*P **P** **13 37 23.2 +0.1**
comp=Z,26nm,0.8s,mb4.8
ORIF Oris-en-Rattie 82.16 333 *e*P **P** **13 37 23.2 +0.1**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb4.8
ORIF Oris-en-Rattie 82.16 333 *e*P **P** **13 37 23.2 +0.1**
comp=Z,13nm,0.8s,mb4.8
SIUC Southern Illin 82.17 41 *e*P **P** **13 37 22.9 -0.3**
comp=Z,113nm,1.0s,mb5.7
ERPA Erie 82.28 33 *e*P **P** **13 37 24.3 +0.5**
KLBR Kellerberrin 82.29 204 *e*P **P** **13 37 23.4 -0.4**
comp=Z,5.2nm,0.7s,mb4.5
KLBR *e*pP pP 13 38 45.5 +2.5
MFF Saint Martin d 82.36 337 *e*P **P** **13 37 24.0 -0.1**
VIVF Saint-Julien-l 82.59 334 *e*P **P** **13 37 25.2 -0.1**
comp=Z,31nm,0.9s,mb4.8
VIVF Saint-Julien-l 82.59 334 *e*P **P** **13 37 25.2 -0.1**
VIVF pmax pmax
comp=Z,15nm,0.9s,mb4.8
VIVF Saint-Julien-l 82.59 334 *e*P **P** **13 37 25.2 -0.1**
comp=Z,15nm,0.9s,mb4.8
SBF Sospel 82.60 331 *e*P **P** **13 37 24.4 -1.0**
comp=Z,70nm,1.0s,mb5.1
SBF Sospel 82.60 331 *e*P **P** **13 37 24.4 -1.0**
SBF pmax pmax
comp=Z,35nm,1.0s,mb5.1
SBF Sospel 82.60 331 *e*P **P** **13 37 24.4 -1.0**
comp=Z,35nm,1.0s,mb5.1
JCT Junction City 82.63 53 *e*P **P** **13 37 25.2 -0.3**
comp=Z,36nm,0.8s,mb5.2
NCB Newcomb 82.66 28 *e*P **P** **13 37 25.9 +0.2**
comp=Z,64nm,1.3s,mb5.3
USIN University of 82.66 40 *e*P **P** **13 37 27.1 +1.5**
comp=Z,28nm,0.5s,mb5.3
MIAR Mount Ida 82.68 46 *e*P **P** **13 37 24.9 -0.8**
comp=Z,45nm,1.0s,mb5.3
ACSO Alum Creek Sta 82.74 36 *e*P **P** **13 37 25.1 -0.9**
comp=Z,49nm,1.0s,mb5.3
PARMO Parma 82.79 42 *e*P **P** **13 37 26.7 +0.3**
WCI Wyandotte Cave 83.04 39 *e*P **P** **13 37 27.2 -0.4**
comp=Z,33nm,0.8s,mb5.6
SMRF Simiane la Rot 83.10 333 *e*P **P** **13 37 27.7 -0.2**
RJF Les Rejaudoux 83.10 336 *e*P **P** **13 37 27.9 0.0**
comp=Z,69nm,1.4s,mb5.0
RJF Les Rejaudoux 83.10 336 *e*P **P** **13 37 27.9 0.0**
RJF pmax pmax
comp=Z,35nm,1.4s,mb5.0
RJF Les Rejaudoux 83.10 336 *e*P **P** **13 37 27.9 0.0**
comp=Z,35nm,1.4s,mb5.0
LBNH Lisbon 83.14 27 *e*P **P** **13 37 28.2 +0.1**
comp=Z,35nm,0.9s,mb5.2
HBAR Harrisburg 83.27 44 *e*P **P** **13 37 29.3 +0.5**
CAF Calviac 83.30 335 *e*P **P** **13 37 29.3 +0.4**
comp=Z,117nm,1.5s,mb5.2
CAF Calviac 83.30 335 *e*P **P** **13 37 29.3 +0.4**
CAF pmax pmax
comp=Z,58nm,1.5s,mb5.2
CAF Calviac 83.30 335 *e*P **P** **13 37 29.3 +0.4**
comp=Z,58nm,1.5s,mb5.2
GLAT Glass 83.33 42 *e*P **P** **13 37 30.1 +1.0**
ACCN Adirondack Com 83.36 28 *e*P **P** **13 37 28.8 -0.5**
LMR La Mourre 83.38 332 *e*P **P** **13 37 28.7 -0.6**
comp=Z,65nm,1.1s,mb5.1
LMR La Mourre 83.38 332 *e*P **P** **13 37 28.7 -0.6**
LMR pmax pmax
comp=Z,33nm,1.1s,mb5.1
LMR La Mourre 83.38 332 *e*P **P** **13 37 28.7 -0.6**
comp=Z,33nm,1.1s,mb5.1
HNH Hanover 83.52 27 *e*P **P** **13 37 30.4 +0.4**
comp=Z,2.1nm,0.6s,mb4.1
WVL Waterville 83.53 25 *e*P **P** **13 37 30.8 +0.8**
LASF Ste Croix 83.54 334 *e*P **P** **13 37 30.3 +0.2**
comp=Z,20nm,0.9s,mb4.7
BINY Binghamton 83.64 30 *e*P **P** **13 37 29.9 -0.8**
comp=Z,24nm,0.6s,mb5.2
LFF La Frestale 83.66 336 *e*P **P** **13 37 30.9 +0.2**
comp=Z,205nm,1.4s,mb5.5
LFF La Frestale 83.66 336 *e*P **P** **13 37 30.9 +0.2**
LFF pmax pmax
comp=Z,102nm,1.4s,mb5.5
LFF La Frestale 83.66 336 *e*P **P** **13 37 30.9 +0.2**
comp=Z,102nm,1.4s,mb5.5
TOO Toulangi 84.10 181 *e*P **P** **13 37 34.3 +1.3**
comp=Z,5.4nm,1.1s,mb4.3
WVT Waverly 84.11 41 *e*P **P** **13 37 32.3 -0.7**
comp=Z,34nm,0.8s,mb5.2
WVT *e*pP pP 13 38 47.1 -5.5
SSPA Standing Stone 84.34 32 *e*P **P** **13 37 33.4 -0.7**
comp=Z,33nm,0.7s,mb5.3
NATX Nacogdoches 84.35 48 *e*P **P** **13 37 35.3 +1.2**
comp=Z,113nm,0.8s,mb5.8
MCWV Mont Chateau 84.46 34 *e*P **P** **13 37 34.5 -0.2**
comp=Z,35nm,0.6s,mb5.4
MTLF Montolieu 84.70 335 *e*P **P** **13 37 36.3 +0.4**
comp=Z,29nm,0.9s,mb4.8
MTLF Montolieu 84.70 335 *e*P **P** **13 37 36.3 +0.4**
MTLF pmax pmax
comp=Z,14nm,0.9s,mb4.8
MTLF Montolieu 84.70 335 *e*P **P** **13 37 36.3 +0.4**
comp=Z,14nm,0.9s,mb4.8
HRV Harvard--Oak R 84.83 27 *e*P **P** **13 37 35.8 -0.7**
HRV pmax pmax
comp=Z,29nm,0.8s,mb5.2
HRV Harvard--Oak R 84.83 27 *e*P **P** **13 37 35.8 -0.7**
comp=Z,28nm,0.8s,mb5.2
PLAL Pickwick Lake 84.94 42 *e*P **P** **13 37 36.1 -1.1**
comp=Z,36nm,0.8s,mb5.2
HKT Hockley 85.17 50 *e*P **P** **13 37 39.6 +1.4**
comp=Z,37nm,1.5s,mb5.0
PAL Palisades 85.42 29 *e*P **P** **13 37 38.4 -1.0**
comp=Z,21nm,0.7s,mb5.1
MVL Millersville 85.46 32 *e*P **P** **13 37 39.5 -0.2**
EPF Esparros 85.53 336 *e*P **P** **13 37 39.8 -0.2**
comp=Z,18nm,0.9s,mb4.6
EPF Esparros 85.53 336 *e*P **P** **13 37 39.8 -0.2**
EPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
EPF Esparros 85.53 336 *e*P **P** **13 37 39.8 -0.2**
comp=Z,9.2nm,0.9s,mb4.6
TZTN Tazewell 85.64 38 *e*P **P** **13 37 40.3 -0.2**

FWV Forest Hill 85.88 36 *e*P **P** **13 37 41.6 -0.1**
SJPF Ste Jean 85.88 337 *e*P **P** **13 37 41.6 -0.1**
comp=Z,18nm,0.9s,mb4.6
SJPF Ste Jean 85.88 337 *e*P **P** **13 37 41.6 -0.1**
SJPF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
SJPF Ste Jean 85.88 337 *e*P **P** **13 37 41.6 -0.1**
comp=Z,9.1nm,0.9s,mb4.6
ETSF Etsaut 85.90 336 *e*P **P** **13 37 42.4 +0.6**
comp=Z,32nm,0.9s,mb4.9
ETSF Etsaut 85.90 336 *e*P **P** **13 37 42.4 +0.6**
ETSF pmax pmax
comp=Z,16nm,0.9s,mb4.8
ETSF Etsaut 85.90 336 *e*P **P** **13 37 42.4 +0.6**
comp=Z,16nm,0.9s,mb4.8
ELN Prospectdale 86.21 36 *e*P **P** **13 37 42.9 -0.4**
BLA Blacksburg 86.35 36 *e*P **P** **13 37 44.0 0.0**
comp=Z,3.4nm,1.2s,mb4.0
LRAL Lakeview Retre 87.06 42 *e*P **P** **13 37 46.7 -0.6**
comp=Z,12nm,0.6s,mb4.9
LRAL *e* pP 13 39 03.4 -4.1
JSC Jenkinsville 88.53 38 *e*P **P** **13 37 53.8 -0.5**
KEST Kesra 89.14 326 P **P** **13 37 55.7 -1.4**
comp=Z,2.1nm,0.8s,mb4.0,baz=210,slow=8.6,SNR=4.5
ESDC Sonseca Array 89.82 338 P **P** **13 38 00.4 +0.1**
comp=Z,0.4nm,0.3s,baz=15,slow=5.8,SNR=4.3
TORD Torodi Ar. Bea 112.36 322 PKKPab PKKPab 13 54 36.2 +0.5
comp=Z,0.8nm,0.7s,baz=206,slow=4.9,SNR=4.2
DBIC Dimbokro 120.86 326 PKP PKPdf 13 43 50.8 -0.9
comp=Z,3.7nm,0.6s,baz=15,slow=1.5,SNR=7.0
VNDA Vanda 124.53 176 PKP PKPdf 13 43 56.7 -2.0
comp=Z,1.8nm,0.7s,baz=332,slow=3.9,SNR=14
VNDA pPKP pPKPdf 13 45 24.7 +0.8
comp=Z,1.0nm,0.7s,baz=292,slow=5.6,SNR=4.4
VNDA Vanda 124.53 176 PKP PKPdf 13 43 56.7 -2.0
VNDA pPKP pPKPdf 13 45 24.7 +0.8
SBA Scott Base 125.12 175 *e*PKPdf PKPdf 13 43 58.7 -1.1
SBA epPKPdf pPKPdf 13 45 27.7 +2.7
MAW Mawson 129.99 210 PKP PKPdf 13 44 07.9 -1.2
comp=Z,0.9nm,0.4s,baz=180,slow=1.0,SNR=3.5
BOSA Boshof 131.17 270 PKP PKPdf 13 44 10.3 -1.0
comp=Z,2.7nm,0.8s,baz=18,slow=4.7,SNR=3.7
BOSA SKPbc SKPbc 13 47 04.5 +1.2
comp=Z,6.9nm,1.0s,baz=43,slow=2.9,SNR=4.9
BOSA Boshof 131.17 270 PKP PKPdf 13 44 10.3 -1.0
BOSA SKPbc SKPbc 13 47 04.5 +1.2
QSPA South Pole Qui 136.64 180 *e*P PKPdf 13 44 17.5 -4.1
LPAZ La Paz 138.20 55 PKP PKPdf 13 44 26.9 +2.4
comp=Z,2.4nm,0.6s,baz=18,slow=4.6,SNR=13
LPAZ La Paz 138.20 55 *e*PKPdf PKPdf 13 44 26.7 +2.2
BDFB Brasilia 146.60 26 PKPbc PKPbc 13 44 39.5 -2.0
comp=Z,25nm,0.9s,baz=352,slow=2.5,SNR=20
BDFB Brasilia 146.60 26 PKP2 PKPbc 13 44 39.5 -2.0
BDFB pmax pmax
comp=Z,25nm,0.9s
NVL N'lazarevskaya 147.80 206 *c i* PKP2 PKPbc 13 44 42.7 -2.0
NVL pmax pmax
comp=Z,51nm,1.2s
NVL pmax pmax
comp=N,15nm,0.9s
NVL pmax pmax
comp=E,7.0nm,0.9s
CFAA Coronel Fontan 149.44 72 PKPbc PKPbc 13 44 47.9 -1.0
comp=E,2.0nm,0.7s,baz=292,slow=3.0,SNR=22
SNAA Sanae 151.27 200 PKPbc PKPbc 13 44 51.2 -1.9
comp=E,2.9nm,0.4s,baz=150,slow=2.0,SNR=42
SNAA pPKPbc pPKPbc 13 46 13.4 -4.4
comp=E,2.2nm,1.1s,baz=177,slow=0.9,SNR=2.8
SNAA Sanae 151.27 200 *e*PKPdf PKPbc 13 44 51.4 -1.7
SNAA *e* 13 44 53.0
SNAA *e* 13 45 00.6
SNAA *e* 13 46 11.7
SNAA *e* 13 46 19.4
SNAA *e* 13 46 26.4
SNAA Sanae 151.27 200 *e*PKPbc PKPbc 13 44 51.0 -2.1
SNAA ep PKPdf pPKPdf 13 46 13.2 +1.0
CPUP Villa Florida 152.19 51 PKP PKPdf 13 44 48.0 -0.2
comp=E,1.6nm,0.6s,baz=157,slow=7.9,SNR=4.6
CPUP PKPbc PKPbc 13 44 54.5 -0.7
comp=E,3.8nm,0.6s,baz=310,slow=1.4,SNR=11
CPUP PKPab PKPab 13 45 06.3 -0.1
comp=E,7.2nm,0.8s,baz=340,slow=6.0,SNR=6.8
CPUP Villa Florida 152.19 51 *e*PKPdf PKPdf 13 44 47.5 -0.6
CPUP *e*PKPbc PKPbc 13 44 54.3 -0.9
CPUP *e*PKPab PKPab 13 45 06.4 0.0
PLCA Paso Flores 152.84 90 PKP PKPdf 13 44 49.0 -0.1
comp=E,7.3nm,1.2s,baz=321,slow=2.6,SNR=5.0
PLCA PKPbc PKPbc 13 44 56.1 -0.5
comp=E,12nm,0.7s,baz=270,slow=2.8,SNR=28
PLCA PKPab PKPab 13 45 10.4 +1.3
comp=E,8.6nm,0.8s,baz=280,slow=6.4,SNR=6.5
PLCA Paso Flores 152.84 90 PKP PKPdf 13 44 49.0 -0.1
PLCA PKPbc PKPbc 13 44 56.1 -0.5
PLCA PKPab PKPab 13 45 10.4 +1.3
VNA3 Neumayer Olymp 153.06 197 *e*PKPdf PKPbc 13 44 55.1 -2.0
VNA3 *e* 13 44 56.7
VNA3 *e* 13 44 57.7
VNA3 *e* 13 45 09.3
VNA3 *e* 13 46 17.3
VNA3 *e* 13 46 23.5
VNA3 *e* 13 46 29.7
VNA1 Neumayer--Stat 153.23 198 *e*PKPdf PKPbc 13 44 55.2 -2.3
VNA1 *e* 13 44 57.5
VNA1 *e* 13 44 58.3
VNA1 *e* 13 45 08.4
VNA1 *e* 13 46 18.2
VNA1 *e* 13 46 25.1
VNA1 *e* 13 46 26.9
VNA1 *e* 13 46 30.6

*ISCJB **13** 13:28:28.3±0.3, 4627N±002×150E±002, h9km±3km, Error ellipse: s-maj=2.9km s-min=2.6km az=23.3*
*STR **13** 13:28:30.9±0.3, 4631N×150E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **13** 13:28:31.1, 4628N×151E, h5km, ML2.7(STR), ML2.8(LDG), After LDG.*
*CSEM **13** 13:28:31.2±0.1, 4629N×152E, h12km, ML2.8/23, Error ellipse: s-maj=1.5km s-min=1.3km az=31.0*
*LDG **13** 13:28:31.1±0.1, 4628N×151E, h5km, Md2.7/3, Ml2.8/24, Error ellipse: s-maj=1.3km s-min=1.1km az=29.0*

ISC 13 13:28:29.6±0.3, 4628N±001×151E±002, h15km±3km, n60, σ1§16/125, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCF	**Toulx Ste Croi**	**0.48**	**89**	*e*Pg	**Pg**	**13 28 40.7**	**+1.4**
TCF				*e*Sg	**Sg**	**13 28 46.5**	**+0.7**
	62nm,0.2s						
TCF				*e*Sn	**Sg**	**13 28 50.5**	**+4.7**
TCF	**Toulx Ste Croi**	**0.48**	**89**	*e*Pg	**Pg**	**13 28 40.7**	**+1.4**
TCF				*e*Sg	**Sg**	**13 28 46.5**	**+0.7**
	31nm,0.2s						
TCF				*e*Sn	**Sg**	**13 28 50.5**	**+4.7**
BGF	**Bois d'Agland**	**0.96**	**73**	*e*Pn	**Pn**	**13 28 49.5**	**+0.9**
BGF				*e*Sg	**Sg**	**13 29 01.1**	**+0.2**
	153nm,0.3s						
BGF	**Bois d'Agland**	**0.96**	**73**	*e*Pn	**Pn**	**13 28 49.5**	**+0.9**
BGF				*e*Sg	**Sg**	**13 29 01.1**	**+0.2**
	77nm,0.3s						
RJF	**Les Rejaudoux**	**0.98**	**180**	*e*Pg	**Pg**	**13 28 49.6**	**+1.0**
RJF				*e*Sg	**Sg**	**13 29 01.8**	**+0.4**
	45nm,0.3s						
RJF	**Les Rejaudoux**	**0.98**	**180**	*e*Pg	**Pg**	**13 28 49.6**	**+1.0**
RJF				*e*Sg	**Sg**	**13 29 01.8**	**+0.4**
	23nm,0.3s						
AGO	**Saint Agoulin**	**1.15**	**101**	Pg	**Pg**	**13 28 53.0**	**+1.2**
AGO				Sg	**Sg**	**13 29 08.9**	**+2.1**
FRNF	**Fournols**	**1.16**	**140**	Pg	**Pg**	**13 28 53.2**	**+1.2**
FRNF				Sg	**Sg**	**13 29 06.9**	**-0.2**
PYM	**Petit Puy Mans**	**1.17**	**117**	Pg	**Pg**	**13 28 53.3**	**+1.1**
MFF	**Saint Martin d**	**1.19**	**286**	*e*Pg	**Pg**	**13 28 53.3**	**+0.7**
MFF				*e*Sn	**Sn**	**13 29 08.8**	**+1.2**
	32nm,0.2s						
MFF	**Saint Martin d**	**1.19**	**286**	*e*Pg	**Pg**	**13 28 53.3**	**+0.7**
MFF				*e*Sn	**Sn**	**13 29 08.8**	**+1.2**
	16nm,0.2s						
HYF	**Humbligny**	**1.25**	**38**	*e*Pg	**Pg**	**13 28 55.0**	**+1.2**
HYF				*e*Sg	**Sg**	**13 29 10.7**	**+0.5**
MATF	**Mathat**	**1.33**	**251**	Pg	**Pg**	**13 28 57.3**	**+2.0**
MATF				Sg	**Sg**	**13 29 14.4**	**+1.8**
CHIF	**Chize**	**1.34**	**264**	Pg	**Pg**	**13 28 57.0**	**+1.5**
CHIF				Sg	**Sg**	**13 29 14.1**	**+1.2**

AVF Avril sur Loir 1.37 68 *e*Pg **Pg** **13 28 55.7 -0.3**
AVF *e*Sg **Sg** **13 29 13.5 -0.3**
12nm,0.3s
AVF Avril sur Loir 1.37 68 *e*Pg **Pg** **13 28 55.7 -0.3**
AVF *e*Sg **Sg** **13 29 13.5 -0.3**
6.0nm,0.3s
CAF Calviac 1.41 164 *e*Pg **Pg** **13 28 57.2 +0.4**
CAF *e*Sg **Sg** **13 29 15.3 +0.1**
22nm,0.2s
CAF Calviac 1.41 164 *e*Pn **Pn** **13 28 55.8 +1.0**
CAF *e*Pg **Pg** **13 28 57.2 +0.4**
CAF *e*Sg **Sg** **13 29 15.3 +0.1**
CAF Calviac 1.41 164 *e*Pg **Pg** **13 28 57.2 +0.4**
CAF *e*Sg **Sg** **13 29 15.3 +0.1**
11nm,0.2s
LFF La Frestale 1.45 202 *e*Pg **Pg** **13 28 58.3 +0.8**
LFF *e*Sg **Sg** **13 29 16.7 +0.3**
40nm,0.4s
LFF La Frestale 1.45 202 *e*Pn **Pn** **13 28 56.2 +0.9**
LFF *e*Pg **Pg** **13 28 58.3 +0.8**
LFF *e*Sg **Sg** **13 29 16.7 +0.3**
LFF La Frestale 1.45 202 *e*Pg **Pg** **13 28 58.3 +0.8**
LFF *e*Sg **Sg** **13 29 16.7 +0.3**
20nm,0.4s
PLDF La Plantade 1.50 101 Pg **Pg** **13 28 59.4 +0.9**
LCHF La Chataignera 1.60 285 Pg **Pg** **13 29 01.8 +1.3**
LCHF Sg **Sg** **13 29 21.8 +0.5**
LBL Lubilhac 1.61 130 Pg **Pg** **13 29 01.6 +1.1**
SMF Signal de Mont 1.65 76 *e*Pg **Pg** **13 29 02.0 +0.6**
SMF *e*Sg **Sg** **13 29 22.6 -0.2**
16nm,0.2s
SMF Signal de Mont 1.65 76 *e*Pn **Pn** **13 28 59.5 +1.4**
SMF *e*Pg **Pg** **13 29 02.0 +0.6**
SMF *e*Sg **Sg** **13 29 22.6 -0.2**
SMF Signal de Mont 1.65 76 *e*Pg **Pg** **13 29 02.0 +0.6**
SMF *e*Sg **Sg** **13 29 22.6 -0.2**
8.1nm,0.2s
LDF La Druitiere 2.56 335 *e*Pg **Pg** **13 29 18.8 0.0**
LDF *e*Sg **Sg** **13 29 50.5 -1.5**
8.1nm,0.3s
LDF La Druitiere 2.56 335 *e*Pn **Pn** **13 29 12.2 +1.6**
LDF *e*Pg **Pg** **13 29 18.8 0.0**
LDF *e*Sg **Sg** **13 29 50.5 -1.5**
LDF La Druitiere 2.56 335 *e*Pg **Pg** **13 29 18.8 0.0**
LDF *e*Sg **Sg** **13 29 50.5 -1.5**
4.1nm,0.3s
VIVF Saint-Julien-l 2.64 122 *e*Pg **Pg** **13 29 20.3 +0.1**
VIVF *e*Sg **Sg** **13 29 53.5 -1.0**
4.5nm,0.3s
VIVF Saint-Julien-l 2.64 122 *e*Pg **Pg** **13 29 20.3 +0.1**
VIVF *e*Sg **Sg** **13 29 53.5 -1.0**
2.2nm,0.3s
GRR Gorron 2.65 323 *e*Pg **Pg** **13 29 19.2 -1.3**
GRR *e*Sg **Sg** **13 29 53.5 -1.4**
8.1nm,0.2s
GRR Gorron 2.65 323 *e*Pg **Pg** **13 29 19.2 -1.3**
GRR *e*Sg **Sg** **13 29 53.5 -1.4**
4.1nm,0.2s
LASF Ste Croix 2.76 142 *e*Pg **Pg** **13 29 22.8 +0.2**
LASF *e*Sn **Sn** **13 29 46.2 -0.2**
4.6nm,0.3s
LASF *e*Sg **Sg** **13 29 57.2 -1.2**
7.1nm,0.3s
LASF Ste Croix 2.76 142 *e*Pg **Pg** **13 29 22.8 +0.2**
LASF *e*Sn **Sn** **13 29 46.2 -0.2**
2.3nm,0.3s
LASF *e*Sg **Sg** **13 29 57.2 -1.2**
3.5nm,0.3s
FLN La Foliniere 2.82 332 *e*Pg **Pg** **13 29 23.2 -0.6**
FLN *e*Sn **Sn** **13 29 46.4 -1.5**
FLN *e*Sg **Sg** **13 29 58.8 -1.6**
6.8nm,0.3s
FLN La Foliniere 2.82 332 *e*Pg **Pg** **13 29 23.2 -0.6**
FLN *e*Sn **Sn** **13 29 46.4 -1.5**
FLN *e*Sg **Sg** **13 29 58.8 -1.6**
3.4nm,0.3s
MTLF Montolieu 2.98 170 *e*Pg **Pg** **13 29 26.1 -0.7**
MTLF *e*Sn **Sn** **13 29 51.0 -0.9**
MTLF *e*Sg **Sg** **13 30 04.2 -1.3**
7.1nm,0.3s
MTLF Montolieu 2.98 170 *e*Pn **Pn** **13 29 17.1 +0.7**
MTLF *e*Pg **Pg** **13 29 26.1 -0.7**
MTLF *e*Sn **Sn** **13 29 51.0 -0.9**
MTLF *e*Sg **Sg** **13 30 04.2 -1.3**
MTLF Montolieu 2.98 170 *e*Pg **Pg** **13 29 26.1 -0.7**
MTLF *e*Sn **Sn** **13 29 51.0 -0.9**
MTLF *e*Sg **Sg** **13 30 04.2 -1.3**
3.5nm,0.3s
ORIF Oris-en-Rattie 3.36 112 *e*Pg **Pg** **13 29 33.5 -0.5**
ORIF *e*Sg **Sg** **13 30 15.7 -1.8**
2.7nm,0.3s
ORIF Oris-en-Rattie 3.36 112 *e*Pg **Pg** **13 29 33.5 -0.5**
ORIF *e*Sg **Sg** **13 30 15.7 -1.8**
1.4nm,0.3s
EPF Esparros 3.36 195 *e*Pg **Pg** **13 29 32.9 -1.1**
EPF *e*Sn **Sn** **13 30 00.7 -0.4**
EPF *e*Sg **Sg** **13 30 17.1 -0.4**
4.1nm,0.2s
EPF Esparros 3.36 195 *e*Pg **Pg** **13 29 32.9 -1.1**
EPF *e*Sn **Sn** **13 30 00.7 -0.4**
EPF *e*Sg **Sg** **13 30 17.1 -0.4**
2.0nm,0.2s
SMRF Simiane la Rot 3.69 127 *e*Sg **Sg** **13 30 27.6 -0.4**
3.7nm,0.4s
SMRF Simiane la Rot 3.69 127 *e*Sg **Sg** **13 30 27.6 -0.4**
1.9nm,0.4s
ETSF Etsaut 3.69 204 *e*Pg **Pg** **13 29 38.9 -1.5**
ETSF *e*Sg **Sg** **13 30 26.3 -1.9**
2.5nm,0.3s
ETSF Etsaut 3.69 204 *e*Pg **Pg** **13 29 38.9 -1.5**
ETSF *e*Sg **Sg** **13 30 26.3 -1.9**
1.2nm,0.3s
SJPF Ste Jean 3.72 213 *e*Pg **Pg** **13 29 39.8 -1.1**
SJPF *e*Sg **Sg** **13 30 27.2 -1.9**
2.9nm,0.4s
SJPF Ste Jean 3.72 213 *e*Pg **Pg** **13 29 39.8 -1.1**
SJPF *e*Sg **Sg** **13 30 27.2 -1.9**
1.5nm,0.4s
HAU Haudompre 3.72 61 *e*Sg **Sg** **13 30 25.6 -3.6**
3.6nm,0.3s
HAU Haudompre 3.72 61 *e*Sg **Sg** **13 30 25.6 -3.6**
1.8nm,0.3s
ROSF Rostrenen 3.85 304 *e*Pg **Pg** **13 29 42.3 -1.1**
ROSF *e*Sg **Sg** **13 30 30.8 -2.4**
1.7nm,0.3s
ROSF Rostrenen 3.85 304 *e*Pg **Pg** **13 29 42.3 -1.1**
ROSF *e*Sg **Sg** **13 30 30.8 -2.4**
0.9nm,0.3s
HINF Hinteralfeld 3.96 65 *e*Sg **Sg** **13 30 34.5 -2.3**
3.7nm,0.3s
HINF Hinteralfeld 3.96 65 *e*Sg **Sg** **13 30 34.5 -2.3**
1.9nm,0.3s
FRF La Foret Royal 4.55 125 *e*Sg **Sg** **13 30 53.1 -2.6**
5.7nm,0.3s
FRF La Foret Royal 4.55 125 *e*Sg **Sg** **13 30 53.1 -2.6**
2.8nm,0.3s

*ISCJB **13** 13:43:15.8±0.4, 4627N±002×153E±002, h3km±4km, Error ellipse: s-maj=3.7km s-min=2.8km az=176.4*
*NEIC **13** 13:43:18.6, 4629N×151E, h6km, ML2.3(STR), ML2.5(LDG), After LDG.*
*CSEM **13** 13:43:18.6±0.1, 4630N×152E, h12km, ML2.6/21, Error ellipse: s-maj=1.3km s-min=1.1km az=16.0*
*LDG **13** 13:43:18.6±0.1, 4629N×151E, h6km, Md2.5/3, Ml2.5/22, Error ellipse: s-maj=1.1km s-min=0.9km az=10.0*
*STR **13** 13:43:18.6±0.5, 4625N×153E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 13 13:43:17.1±0.3, 4630N±002×152E±002, h11km±4km, n55, σ1§09/117, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCF	**Toulx Ste Croi**	**0.48**	**91**	*e*Pg	**Pg**	**13 43 28.3**	**+1.9**
TCF				*e*Sg	**Sg**	**13 43 34.1**	**+1.4**
	21nm,0.2s						
TCF				*e*Sn	**Sg**	**13 43 38.0**	**+5.3**
TCF	**Toulx Ste Croi**	**0.48**	**91**	*e*Pg	**Pg**	**13 43 28.3**	**+1.9**
TCF				*e*Sg	**Sg**	**13 43 34.1**	**+1.4**
	10nm,0.2s						
TCF				*e*Sn	**Sg**	**13 43 38.0**	**+5.3**
BGF	**Bois d'Agland**	**0.95**	**74**	*e*Pn	**Pn**	**13 43 37.1**	**+0.7**
BGF				*e*Sg	**Sg**	**13 43 48.6**	**+0.8**

	60nm,0.3s						
BGF	**Bois d'Agland**	**0.95**	**74**	*e*Pn	**Pn**	**13 43 37.1**	**+0.7**
BGF				*e*Sg	**Sg**	**13 43 48.6**	**+0.8**
	30nm,0.3s						
RJF	**Les Rejaudoux**	**0.99**	**180**	*e*Pg	**Pg**	**13 43 37.2**	**+1.0**
RJF				*e*Sg	**Sg**	**13 43 49.4**	**+0.3**
	17nm,0.2s						
RJF	**Les Rejaudoux**	**0.99**	**180**	*e*Pg	**Pg**	**13 43 37.2**	**+1.0**
RJF				*e*Sg	**Sg**	**13 43 49.4**	**+0.3**
	8.4nm,0.2s						
AGO	**Saint Agoulin**	**1.14**	**102**	Pg	**Pg**	**13 43 40.5**	**+1.4**
FRNF	**Fournols**	**1.17**	**141**	Pg	**Pg**	**13 43 40.8**	**+1.3**
FRNF				Sg	**Sg**	**13 43 55.1**	**+0.5**
PYM	**Petit Puy Mans**	**1.17**	**117**	Pg	**Pg**	**13 43 41.1**	**+1.5**
MFF	**Saint Martin d**	**1.19**	**285**	*e*Pg	**Pg**	**13 43 40.9**	**+0.9**
MFF				*e*Sn	**Sn**	**13 43 55.3**	**-0.6**
MFF				*e*Sg	**Sg**	**13 43 56.5**	**+1.0**
	14nm,0.3s						
MFF	**Saint Martin d**	**1.19**	**285**	*e*Pg	**Pg**	**13 43 40.9**	**+0.9**
MFF				*e*Sn	**Sn**	**13 43 55.3**	**-0.6**
MFF				*e*Sg	**Sg**	**13 43 56.5**	**+1.0**
	6.8nm,0.3s						
CHIF	**Chize**	**1.35**	**264**	Pg	**Pg**	**13 43 44.8**	**+1.8**
CHIF				Sg	**Sg**	**13 44 01.6**	**+1.1**
AVF	**Avril sur Loir**	**1.36**	**68**	*e*Pg	**Pg**	**13 43 43.4**	**+0.3**
AVF				*e*Sg	**Sg**	**13 44 01.1**	**+0.4**
	4.4nm,0.2s						
AVF	**Avril sur Loir**	**1.36**	**68**	*e*Pg	**Pg**	**13 43 43.4**	**+0.3**
AVF				*e*Sg	**Sg**	**13 44 01.1**	**+0.4**
	2.2nm,0.2s						
CAF	**Calviac**	**1.42**	**164**	*e*Pg	**Pg**	**13 43 45.2**	**+0.8**
CAF				*e*Sg	**Sg**	**13 44 03.0**	**+0.1**
	7.6nm,0.2s						
CAF	**Calviac**	**1.42**	**164**	*e*Pg	**Pg**	**13 43 45.2**	**+0.8**
CAF				*e*Sg	**Sg**	**13 44 03.0**	**+0.1**
	3.8nm,0.2s						
LFF	**La Frestale**	**1.47**	**202**	*e*Pg	**Pg**	**13 43 45.9**	**+0.7**
LFF				*e*Sg	**Sg**	**13 44 04.2**	**0.0**
	11nm,0.3s						
LFF	**La Frestale**	**1.47**	**202**	*e*Pn	**Pn**	**13 43 43.9**	**+0.5**
LFF				*e*Pg	**Pg**	**13 43 45.9**	**+0.7**
LFF				*e*Sg	**Sg**	**13 44 04.2**	**0.0**
LFF	**La Frestale**	**1.47**	**202**	*e*Pg	**Pg**	**13 43 45.9**	**+0.7**
LFF				*e*Sg	**Sg**	**13 44 04.2**	**0.0**
	5.5nm,0.3s						
PLDF	**La Plantade**	**1.50**	**102**	Pg	**Pg**	**13 43 46.4**	**+0.6**
PLDF				Sg	**Sg**	**13 44 05.9**	**+0.7**
LBL	**Lubilhac**	**1.61**	**131**	Pg	**Pg**	**13 43 48.9**	**+0.9**
SMF	**Signal de Mont**	**1.64**	**77**	*e*Pg	**Pg**	**13 43 49.5**	**+1.0**
SMF				*e*Sn	**Sn**	**13 44 05.3**	**-1.6**
SMF				*e*Sg	**Sg**	**13 44 10.3**	**+0.5**
	7.0nm,0.3s						
SMF	**Signal de Mont**	**1.64**	**77**	*e*Pn	**Pn**	**13 43 47.2**	**+1.4**
SMF				*e*Pg	**Pg**	**13 43 49.5**	**+1.0**
SMF				*e*Sn	**Sn**	**13 44 05.3**	**-1.6**
SMF				*e*Sg	**Sg**	**13 44 10.3**	**+0.5**
SMF	**Signal de Mont**	**1.64**	**77**	*e*Pg	**Pg**	**13 43 49.5**	**+1.0**
SMF				*e*Sn	**Sn**	**13 44 05.3**	**-1.6**
SMF				*e*Sg	**Sg**	**13 44 10.3**	**+0.5**
	3.5nm,0.3s						
LDF	**La Druitiere**	**2.55**	**335**	*e*Pg	**Pg**	**13 44 06.4**	**+0.4**
LDF				*e*Sg	**Sg**	**13 44 38.1**	**-1.0**
	4.7nm,0.3s						
LDF	**La Druitiere**	**2.55**	**335**	*e*Pg	**Pg**	**13 44 06.4**	**+0.4**
LDF				*e*Sg	**Sg**	**13 44 38.1**	**-1.0**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**2.64**	**122**	*e*Pg	**Pg**	**13 44 07.8**	**+0.1**
VIVF				*e*Sg	**Sg**	**13 44 41.1**	**-0.8**
	2.0nm,0.2s						
VIVF	**Saint-Julien-l**	**2.64**	**122**	*e*Pn	**Pn**	**13 44 00.9**	**+1.3**
VIVF				*e*Pg	**Pg**	**13 44 07.8**	**+0.1**
VIVF				*e*Sg	**Sg**	**13 44 41.1**	**-0.8**
VIVF	**Saint-Julien-l**	**2.64**	**122**	*e*Pg	**Pg**	**13 44 07.8**	**+0.1**
VIVF				*e*Sg	**Sg**	**13 44 41.1**	**-0.8**
	1.0nm,0.2s						
LASF	**Ste Croix**	**2.77**	**143**	*e*Pg	**Pg**	**13 44 10.4**	**+0.3**
LASF				*e*Sg	**Sg**	**13 44 44.9**	**-1.1**
	2.9nm,0.3s						
LASF	**Ste Croix**	**2.77**	**143**	*e*Pg	**Pg**	**13 44 10.4**	**+0.3**
LASF				*e*Sg	**Sg**	**13 44 44.9**	**-1.1**
	1.5nm,0.3s						
MTLF	**Montolieu**	**3.00**	**170**	*e*Pg	**Pg**	**13 44 14.1**	**-0.4**
MTLF				*e*Sg	**Sg**	**13 44 51.9**	**-1.4**
	3.0nm,0.3s						
MTLF	**Montolieu**	**3.00**	**170**	*e*Pn	**Pn**	**13 44 04.9**	**+0.4**
MTLF				*e*Pg	**Pg**	**13 44 14.1**	**-0.4**
MTLF				*e*Sg	**Sg**	**13 44 51.9**	**-1.4**
MTLF	**Montolieu**	**3.00**	**170**	*e*Pg	**Pg**	**13 44 14.1**	**-0.4**
MTLF				*e*Sg	**Sg**	**13 44 51.9**	**-1.4**
	1.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**3.35**	**113**	*e*Pg	**Pg**	**13 44 20.3**	**-1.0**
ORIF				*e*Sg	**Sg**	**13 45 03.3**	**-1.5**
	3.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**3.35**	**113**	*e*Pn	**Pn**	**13 44 10.3**	**+0.9**
ORIF				*e*Pg	**Pg**	**13 44 20.3**	**-1.0**
ORIF				*e*Sg	**Sg**	**13 45 03.3**	**-1.5**
ORIF	**Oris-en-Rattie**	**3.35**	**113**	*e*Pg	**Pg**	**13 44 20.3**	**-1.0**
ORIF				*e*Sg	**Sg**	**13 45 03.3**	**-1.5**
	1.9nm,0.6s						
EPF	**Esparros**	**3.37**	**195**	*e*Pg	**Pg**	**13 44 20.5**	**-1.2**
EPF				*e*Sg	**Sg**	**13 45 04.7**	**-0.7**
	2.1nm,0.3s						
EPF	**Esparros**	**3.37**	**195**	*e*Pg	**Pg**	**13 44 20.5**	**-1.2**
EPF				*e*Sg	**Sg**	**13 45 04.7**	**-0.7**
	1.0nm,0.3s						
SMRF	**Simiane la Rot**	**3.69**	**128**	*e*Pg	**Pg**	**13 44 27.2**	**-0.5**
SMRF				*e*Sg	**Sg**	**13 45 15.2**	**-0.3**
	10nm,0.7s						
SMRF	**Simiane la Rot**	**3.69**	**128**	*e*Pg	**Pg**	**13 44 27.2**	**-0.5**
SMRF				*e*Sg	**Sg**	**13 45 15.2**	**-0.3**
	5.2nm,0.7s						
HAU	**Haudompre**	**3.71**	**61**	*e*Sg	**Sg**	**13 45 15.0**	**-1.2**
	5.6nm,0.3s						
HAU	**Haudompre**	**3.71**	**61**	*e*Sg	**Sg**	**13 45 15.0**	**-1.2**
	2.8nm,0.3s						
LPL	**La Plagne**	**3.72**	**100**	*e*Pn	**Pn**	**13 44 14.9**	**+0.5**
LPL				*e*Sg	**Sg**	**13 45 15.4**	**-1.1**
	3.4nm,0.4s						
LPL	**La Plagne**	**3.72**	**100**	*e*Pn	**Pn**	**13 44 14.9**	**+0.5**
LPL				*e*Sg	**Sg**	**13 45 15.4**	**-1.1**
	1.7nm,0.4s						
LPG	**La Plagne**	**3.74**	**100**	*e*Pn	**Pn**	**13 44 15.4**	**+0.7**
LPG				*e*Sg	**Sg**	**13 45 16.3**	**-0.8**
	2.9nm,0.3s						
LPG	**La Plagne**	**3.74**	**100**	*e*Pn	**Pn**	**13 44 15.4**	**+0.7**
LPG				*e*Sg	**Sg**	**13 45 16.3**	**-0.8**
	1.5nm,0.3s						
SJPF	**Ste Jean**	**3.74**	**213**	*e*Pg	**Pg**	**13 44 27.5**	**-1.2**
SJPF				*e*Sg	**Sg**	**13 45 14.8**	**-2.3**
	2.1nm,0.4s						
SJPF	**Ste Jean**	**3.74**	**213**	*e*Pg	**Pg**	**13 44 27.5**	**-1.2**
SJPF				*e*Sg	**Sg**	**13 45 14.8**	**-2.3**
	1.0nm,0.4s						
ROSF	**Rostrenen**	**3.85**	**304**	*e*Pg	**Pg**	**13 44 29.7**	**-1.1**
ROSF				*e*Sg	**Sg**	**13 45 18.4**	**-2.2**
	1.8nm,0.4s						
ROSF	**Rostrenen**	**3.85**	**304**	*e*Pg	**Pg**	**13 44 29.7**	**-1.1**
ROSF				*e*Sg	**Sg**	**13 45 18.4**	**-2.2**
	0.9nm,0.4s						
GIVF	**Givet**	**4.40**	**29**	*e*Pg	**Pg**	**13 44 39.8**	**-1.5**
GIVF				*e*Sg	**Sg**	**13 45 36.3**	**-2.1**
	4.3nm,0.3s						
GIVF	**Givet**	**4.40**	**29**	*e*Pg	**Pg**	**13 44 39.8**	**-1.5**
GIVF				*e*Sg	**Sg**	**13 45 36.3**	**-2.1**
	2.2nm,0.3s						
FRF	**La Foret Royal**	**4.55**	**125**	*e*Pg	**Pg**	**13 44 43.1**	**-1.2**
FRF				*e*Sg	**Sg**	**13 45 40.6**	**-2.6**
	12nm,0.5s						
FRF	**La Foret Royal**	**4.55**	**125**	*e*Pg	**Pg**	**13 44 43.1**	**-1.2**
FRF				*e*Sg	**Sg**	**13 45 40.6**	**-2.6**
	6.2nm,0.5s						

*GEN **13** 13:47:25.7, 4469N×681E, h9^{km}, ML2.0*
*ISCJB **13** 13:47:25.1±0.2, 4470N±001×683E±002, h12^{km}±2^{km}, Error ellipse: s-maj=2.5km s-min=1.9km az=124.8*
*ROM **13** 13:47:25.0±0.3, 4471N×686E, h5^{km}±3^{km}, Md2.5/6, Ml2.3/4, Error ellipse: s-maj=5.5km s-min=3.2km az=9.0*
*CSEM **13** 13:47:26.4±0.0, 4468N×695E, h2^{km}, ML2.7/12, Error ellipse: s-maj=1.1km s-min=0.7km az=65.0*
*STR **13** 13:47:26.6±0.3, 4470N×686E, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 13:47:26.9±0.1, 4469N×689E, h2^{km}, Md2.7/3, Ml2.7/14, Error ellipse: s-maj=2.1km s-min=1.4km az=76.0*
*NEIC **13** 13:47:26.9, 4469N×689E, h2^{km}, ML2.3(ROM), ML2.6(STR), ML2.7(LDG), After LDG.*
ISC 13 13:47:25.9±0.2**, 4471N**±001×**686E**±002**, h10**^{km}±2^{km}**, n69,** σ**0**^{s}**79**/127**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.07**	**288**	*e*Pg	**Pg**	**13 47 27.9**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 47 29.4**	**-0.3**
	1μm,0.2s						
MBDF	**Montbardon**	**0.07**	**288**	*e*Pg	**Pg**	**13 47 27.9**	**-0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**13 47 29.4**	**-0.3**
	571nm,0.2s						
OG22	**Abries**	**0.13**	**27**	Pg	**Sg**	**13 47 31.6**	**+0.5**
OG22				Sg	**Sg**	**13 47 31.6**	**+0.5**
OG22	**Abries**	**0.13**	**27**	Pg	**Pg**	**13 47 29.4**	**+0.4**
OG22				Sg	**Sg**	**13 47 31.6**	**+0.5**
RRL	**Cesana Torines**	**0.22**	**346**	P	**Pg**	**13 47 30.8**	**+0.3**
PZZ	**Prazzo**	**0.27**	**139**	P	**Pg**	**13 47 31.4**	**+0.1**
DOI	**San Damiano**	**0.34**	**126**	Pg	**Pg**	**13 47 32.8**	**+0.1**
DOI				Sg	**Sg**	**13 47 37.8**	**+0.5**
	1μm,0.2s						
BNI	**Bardonecchia**	**0.37**	**340**	Pg	**Pg**	**13 47 33.3**	**+0.1**
BNI				Sg	**Sg**	**13 47 38.5**	**+0.4**
	89nm,0.4s						
BNI	**Bardonecchia**	**0.37**	**340**	*e*Pg	**Pg**	**13 47 33.1**	**-0.1**
BNI				*e*Sg	**Sg**	**13 47 38.3**	**+0.2**
BNI	**Bardonecchia**	**0.37**	**340**	Pg	**Pg**	**13 47 33.3**	**+0.1**
BNI				*e*Sg	**Sg**	**13 47 38.3**	**+0.2**
RSP	**Reno Superiore**	**0.53**	**32**	Pg	**Pg**	**13 47 36.6**	**+0.4**
RSP				Sg	**Sg**	**13 47 44.0**	**+0.9**
	113nm,0.1s						
STV	**Sta Anna Valdi**	**0.57**	**144**	Pg	**Pg**	**13 47 36.8**	**-0.1**
STV				Sg	**Sg**	**13 47 44.8**	**+0.4**
	117nm,0.1s						
STV	**Sta Anna Valdi**	**0.57**	**144**	P	**Pg**	**13 47 36.6**	**-0.3**
STV	**Sta Anna Valdi**	**0.57**	**144**	Pg	**Pg**	**13 47 36.8**	**-0.1**
STV				Sg	**Sg**	**13 47 44.8**	**+0.4**
	117nm,0.1s						
ENR	**Entracque**	**0.62**	**140**	P	**Pg**	**13 47 37.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.73**	**287**	*e*Pg	**Pg**	**13 47 39.5**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 47 48.1**	**-1.4**
	131nm,0.2s						
TOUF	**Mont Tournerai**	**0.75**	**158**	Pg	**Pg**	**13 47 40.4**	**+0.1**
LSD	**Ceresole Reale**	**0.78**	**15**	P	**Pg**	**13 47 40.8**	**-0.2**
LPG	**La Plagne**	**0.80**	**354**	*e*Pg	**Pg**	**13 47 41.2**	**0.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 47 51.3**	**-0.3**
	40nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**0.81**	**354**	*e*Pg	**Pg**	**13 47 41.6**	**0.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**13 47 52.5**	**+0.2**
	45nm,0.2s						
AUTN	**L'Aution**	**0.82**	**150**	Pg	**Pg**	**13 47 42.1**	**+0.4**
AUTN				Sg	**Sg**	**13 47 53.0**	**+0.6**
ROB	**Roburent**	**0.83**	**119**	P	**Pg**	**13 47 41.8**	**-0.1**
ROB				S	**Sg**	**13 47 52.6**	**-0.2**
MVIF	**Mont Vial**	**0.84**	**165**	Pg	**Pg**	**13 47 43.0**	**+1.0**
SAOF	**Saorge**	**0.88**	**145**	Pg	**Pg**	**13 47 42.7**	**-0.1**
SAOF				Sg	**Sg**	**13 47 54.7**	**+0.5**
LUCF	**Luceram**	**0.89**	**157**	Pg	**Pg**	**13 47 43.2**	**+0.2**
LUCF				Sg	**Sg**	**13 47 55.6**	**+1.1**
MONE	**Monesi**	**0.90**	**134**	P	**Pg**	**13 47 42.8**	**-0.4**
MONE				S	**Sg**	**13 47 54.3**	**-0.6**
SBF	**Sospel**	**0.94**	**154**	*e*Pg	**Pg**	**13 47 44.1**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**13 47 56.8**	**+0.6**
	127nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.94**	**154**	*e*Pg	**Pg**	**13 47 44.1**	**+0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**13 47 56.8**	**+0.6**
	64nm,0.3s,SNR=1.0						
STOF	**St-Etienne Org**	**0.98**	**224**	Pg	**Pg**	**13 47 46.0**	**+1.2**
STOF				Sg	**Sg**	**13 47 57.9**	**+0.3**
RORO		**1.05**	**124**	P	**Pg**	**13 47 44.7**	**-1.4**
NEGI	**Negi**	**1.05**	**144**	P	**Pg**	**13 47 45.4**	**-0.7**
FIN	**Finale Ligure**	**1.09**	**117**	P	**Pb**	**13 47 45.2**	**-1.5**
FIN	**Finale Ligure**	**1.09**	**117**	Pg	**Pg**	**13 47 46.4**	**-0.4**
FIN				S	**Sg**	**13 47 58.4**	**-2.5**
FIN				Sg	**Sg**	**13 48 00.8**	**-0.1**
	72nm,0.4s						
IMI	**Imperia**	**1.09**	**137**	Pg	**Pg**	**13 47 46.2**	**-0.6**
IMI				Sg	**Sg**	**13 48 01.0**	**+0.1**
	19nm,0.2s						
FRF	**La Foret Royal**	**1.16**	**188**	*e*Pg	**Pg**	**13 47 47.6**	**-0.5**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**13 48 02.1**	**-1.0**
	46nm,0.2s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.18**	**232**	*e*Pg	**Pg**	**13 47 48.9**	**+0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 48 03.3**	**-0.5**
	32nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.18**	**232**	*e*Pg	**Pg**	**13 47 48.9**	**+0.4**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**13 48 03.3**	**-0.5**
	16nm,0.3s,SNR=1.0						
VILF	**Villemus**	**1.19**	**224**	Pg	**Pg**	**13 47 49.0**	**+0.3**
VILF				Sg	**Sg**	**13 48 07.4**	**+3.3**
PCP	**Pian Castagno**	**1.21**	**97**	P	**Pn**	**13 47 47.9**	**-1.0**
ORX	**Oropa**	**1.22**	**40**	P	**Pn**	**13 47 47.9**	**-1.1**
TAVF	**Tavernes**	**1.23**	**208**	Pg	**Pg**	**13 47 49.7**	**+0.1**
TAVF				Sg	**Sg**	**13 48 06.7**	**+1.1**
LMR	**La Mourre**	**1.40**	**191**	*e*Pg	**Pg**	**13 47 51.9**	**-0.8**
LMR				*e*Sg	**Sg**	**13 48 09.5**	**-1.3**
	23nm,0.2s,SNR=1.0						
PUYF	**Puyloubier**	**1.44**	**216**	Pg	**Pg**	**13 47 54.3**	**+0.8**
PUYF				Sg	**Sg**	**13 48 13.0**	**+0.8**
PRAF	**Pradon**	**1.51**	**234**	Pg	**Pg**	**13 47 53.6**	**-1.3**
PRAF				Sg	**Sg**	**13 48 15.8**	**+1.2**
VIVF	**Saint-Julien-l**	**1.56**	**276**	*e*Pg	**Pg**	**13 47 56.1**	**+0.2**
VIVF				*e*Sg	**Sg**	**13 48 14.8**	**-1.4**
	23nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.56**	**276**	*e*Pn	**Pn**	**13 47 54.4**	**+0.7**
VIVF				*e*Pg	**Pg**	**13 47 56.1**	**+0.2**
VIVF				*e*Sg	**Sg**	**13 48 14.8**	**-1.4**
VIVF	**Saint-Julien-l**	**1.56**	**276**	*e*Pg	**Pg**	**13 47 56.1**	**+0.2**
CABF	**La Chapelle**	**1.98**	**344**	*e*Pg	**Pg**	**13 48 04.0**	**+0.1**
CABF				*e*Sg	**Sg**	**13 48 30.8**	**+1.2**
	6.3nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.98**	**344**	*e*Pn	**Pn**	**13 48 00.3**	**+0.9**
CABF				*e*Pg	**Pg**	**13 48 04.0**	**+0.1**
CABF				*e*Sg	**Sg**	**13 48 30.8**	**+1.2**
CABF	**La Chapelle**	**1.98**	**344**	*e*Pg	**Pg**	**13 48 04.0**	**+0.1**
CABF				*e*Sg	**Sg**	**13 48 30.8**	**+1.2**
	3.2nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.24**	**255**	*e*Pg	**Pg**	**13 48 08.3**	**-0.6**
LASF				*e*Sg	**Sg**	**13 48 38.1**	**+0.1**
	1.8nm,0.2s						
LASF	**Ste Croix**	**2.24**	**255**	*e*Pn	**Pn**	**13 48 03.3**	**+0.3**
LASF				*e*Pg	**Pg**	**13 48 08.3**	**-0.6**
LASF				*e*Sg	**Sg**	**13 48 38.1**	**+0.1**
LASF	**Ste Croix**	**2.24**	**255**	*e*Pg	**Pg**	**13 48 08.3**	**-0.6**
LASF				*e*Sg	**Sg**	**13 48 38.1**	**+0.1**
	0.9nm,0.2s						
SMF	**Signal de Mont**	**2.87**	**314**	*e*Pn	**Pn**	**13 48 12.5**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 48 46.4**	**+0.2**
	6.4nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.87**	**314**	*e*Pn	**Pn**	**13 48 12.5**	**+0.8**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**13 48 46.4**	**+0.2**
	3.2nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**3.11**	**360**	*e*Pn	**Pn**	**13 48 15.4**	**+0.4**
HINF				*e*Sn	**Sn**	**13 48 51.6**	**-0.6**
	1.8nm,0.2s						
HINF	**Hinteralfeld**	**3.11**	**360**	*e*Pn	**Pn**	**13 48 15.4**	**+0.4**
HINF				*e*Sn	**Sn**	**13 48 51.6**	**-0.6**
	0.9nm,0.2s						
AVF	**Avril sur Loir**	**3.22**	**312**	*e*Pn	**Pn**	**13 48 17.7**	**+1.2**
	SNR=1.0						
HAU	**Haudompre**	**3.32**	**354**	*e*Pn	**Pn**	**13 48 18.8**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**13 48 56.3**	**-1.0**
	4.9nm,0.3s						
HAU	**Haudompre**	**3.32**	**354**	*e*Pn	**Pn**	**13 48 18.8**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**13 48 56.3**	**-1.0**
	2.5nm,0.3s						
BGF	**Bois d'Agland**	**3.37**	**305**	*e*Pn	**Pn**	**13 48 19.8**	**+1.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**13 48 58.7**	**+0.1**
	9.0nm,0.3s						
BGF	**Bois d'Agland**	**3.37**	**305**	*e*Pn	**Pn**	**13 48 19.8**	**+1.3**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**13 48 58.7**	**+0.1**
	4.5nm,0.3s						
CAF	**Calviac**	**3.42**	**275**	*e*Pn	**Pn**	**13 48 19.8**	**+0.6**
MTLF	**Montolieu**	**3.62**	**249**	*e*Pn	**Pn**	**13 48 22.1**	**+0.2**
MTLF				*e*Sg	**Sg**	**13 49 20.1**	**-1.9**
	1.1nm,0.3s						
MTLF	**Montolieu**	**3.62**	**249**	*e*Pn	**Pn**	**13 48 22.1**	**+0.2**
MTLF				*e*Sg	**Sg**	**13 49 20.1**	**-1.9**
	0.6nm,0.3s						
CDF	**Champ du Feu**	**3.72**	**4**	*e*Pn	**Pn**	**13 48 23.7**	**+0.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**13 49 05.7**	**-1.4**
	1.1nm,0.2s						
CDF	**Champ du Feu**	**3.72**	**4**	*e*Pn	**Pn**	**13 48 23.7**	**+0.4**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**13 49 05.7**	**-1.4**
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**3.84**	**281**	*e*Pn	**Pn**	**13 48 25.3**	**+0.3**
RJF				*e*Pg	**Pg**	**13 48 38.6**	**-0.8**
MFF	**Saint Martin d**	**5.26**	**294**	*e*Pn	**Pn**	**13 48 45.0**	**+0.4**
MFF				*e*Pg	**Pg**	**13 49 04.5**	**-2.2**

*ISCJB **13** 13:59:41.9±0.5, 3470N±004×14008E±005, h83^{km}±4^{km}, mb3.8/3, Error ellipse: s-maj=7.2km s-min=5.5km az=97.3*
*IDC **13** 13:59:42.0±1.9, 3475N×14032E, h80^{km}±14^{km}, mb3.3/3, mb1 3.6/6, mb1mx3.3/23, mbtmp3.8/6, Error ellipse: s-maj=31.1km s-min=6.5km az=76.0*
*JMA **13** 13:59:42.3±0.1, 3469N×14004E, h78^{km}±2^{km}, M3.1*
ISC 13 13:59:42.6±0.5**, 3470N**±004×**14008E**±005**, h79**^{km}±4^{km}**, n22,** σ**0**^{s}**85**/33**, mb3.8**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO4	**Boso 4**	**0.36**	**36**	P	**Pn**	**13 59 55.3**	**+0.1**
BSO4				S	**Sn**	**14 00 05.4**	**+1.0**
TATJ	**Tateyama 2**	**0.36**	**335**	P	**Pn**	**13 59 55.3**	**+0.1**
TATJ				S	**Sn**	**14 00 04.8**	**+0.3**
BSO3	**Boso 3**	**0.37**	**74**	P	**Pn**	**13 59 55.2**	**0.0**
KTR	**Katsuura**	**0.48**	**23**	P	**Pn**	**13 59 55.9**	**-0.2**
KTR				S	**Sn**	**14 00 05.9**	**-0.2**
JIM2	**Oshima 3**	**0.53**	**272**	P	**Pn**	**13 59 55.7**	**-0.9**
JIM2				S	**Sn**	**14 00 05.6**	**-1.3**
BSO2	**Boso 2**	**0.56**	**85**	S	**Sn**	**14 00 06.9**	**-0.4**
BSO1	**Boso 1**	**0.74**	**93**	P	**Pn**	**13 59 58.5**	**-0.2**
BSO1				S	**Sn**	**14 00 10.9**	**+0.4**
JMY	**Miyakejima3**	**0.78**	**217**	S	**Sn**	**14 00 11.5**	**+0.2**
JOD2	**Odawara 2**	**0.99**	**305**	P	**Pn**	**14 00 00.5**	**-1.0**
JOD2				S	**Sn**	**14 00 14.4**	**-1.1**
JIZS	**Izushimoda**	**0.99**	**271**	P	**Pn**	**14 00 01.1**	**-0.4**
JIZS				S	**Sn**	**14 00 15.0**	**-0.5**
JYN	**Shimob**	**1.49**	**303**	P	**Pn**	**14 00 07.9**	**+0.2**
SHZ3	**Shizuoka 3**	**1.58**	**284**	P	**Pn**	**14 00 09.3**	**+0.4**
JHJ	**Hachijo jima 2**	**1.60**	**189**	P	**Pn**	**14 00 10.1**	**+0.9**
	105nm,0.3s,baz=314,slow=5.8,SNR=37						
JHJ				S	**Sn**	**14 00 30.6**	**+1.4**
	310nm,0.3s,baz=247,slow=23,SNR=16						
JHJ2	**Mitsune**	**1.60**	**188**	P	**Pn**	**14 00 09.9**	**+0.7**
JRY	**Ryogami san**	**1.63**	**324**	P	**Pn**	**14 00 09.6**	**0.0**
JRY				S	**Sn**	**14 00 29.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.39**	**321**	P	**Pn**	**14 00 20.3**	**+0.6**
	28nm,0.3s,baz=155,slow=12,SNR=233						
MJAR				S	**Sn**	**14 00 49.5**	**+1.6**
	23nm,0.3s,baz=135,slow=18,SNR=14						
MAT	**Matsushiro**	**2.39**	**321**	P	**Pn**	**14 00 20.6**	**+0.9**
MAT				S	**Sn**	**14 00 49.0**	**+1.0**
CBIJ	**Chichi jima**	**7.79**	**166**	P	**Pn**	**14 01 30.6**	**-2.6**
	6.0nm,0.3s,baz=295,slow=22,SNR=5.2						
ASAJ	**Asahikawa**	**9.60**	**11**	P	**Pn**	**14 01 55.2**	**-2.7**
	0.7nm,0.3s,baz=100,slow=32,SNR=9.2						
MKAR	**Makanchi Array**	**44.48**	**304**	P	**P**	**14 07 46.2**	**+0.2**
	0.5nm,0.6s,mb3.4,baz=87,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**54.61**	**187**	P	**P**	**14 09 02.3**	**-0.7**
	1.7nm,0.7s,mb4.2,baz=2.0,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**58.34**	**187**	P	**P**	**14 09 29.8**	**+0.3**
	0.4nm,0.6s,mb3.7,baz=21,slow=11,SNR=19						

*ISCJB **13** 14:17:03.6±0.4, 3750N±002×2210E±003, h5^{km}, Error ellipse: s-maj=3.7km s-min=3.1km az=105.8*
*NEIC **13** 14:17:03.4, 3749N×2211E, h5^{km}, ML3.2(ATH), After ATH.*
*ATH **13** 14:17:03.4, 3749N×2211E, h5^{km}±2^{km}, MD3.5/16, ML3.2*
*CSEM **13** 14:17:04.7±0.1, 3747N×2213E, h2^{km}, ML3.2, Error ellipse: s-maj=2.5km s-min=2.1km az=33.0*
*THE **13** 14:17:07.6, 3747N×2220E, h21^{km}, ML3.1*
ISC 13 14:17:04.0±0.4**, 3748N**±002×**2212E**±003**, h5**^{km}**, n31,** σ**0**^{s}**90**/43**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.34**	**207**	*e*PB	**Pg**	**14 17 10.1**	**-0.5**
ITM				*e*SB	**Sg**	**14 17 15.9**	**+0.9**
RLS	**Riolos of Patr**	**0.77**	**318**	*e*PB	**Pg**	**14 17 18.2**	**-0.6**
RLS				*e*SB	**Sg**	**14 17 29.0**	**+0.2**
VLI	**Veliai**	**1.00**	**139**	*e*PB	**Pg**	**14 17 23.0**	**-0.3**
VLI				*e*SB	**Sg**	**14 17 36.7**	**+0.4**
MGER	**Gerania Oros**	**1.03**	**61**	*e*PN	**Pn**	**14 17 23.5**	**-1.6**
MGER				*e*SB	**Sb**	**14 17 38.0**	**-0.2**
NAIG	**Nisos Aigina**	**1.12**	**75**	*e*PG	**Pg**	**14 17 24.5**	**-1.0**
NAIG				*e*SB	**Sb**	**14 17 41.0**	**+0.3**
KVR	**Kavouri**	**1.35**	**75**	*e*PG	**Pn**	**14 17 28.5**	**-1.0**
KVR				*e*SB	**Sb**	**14 17 47.5**	**+0.1**
ATH	**Athens Observa**	**1.36**	**68**	*e*PB	**Pb**	**14 17 29.5**	**-0.3**
ATH				*e*SB	**Sb**	**14 17 48.5**	**+1.0**
LKR	**Lokris**	**1.36**	**31**	*e*PB	**Pb**	**14 17 29.0**	**-0.8**
LKR				*e*SB	**Sb**	**14 17 48.4**	**+0.9**
VLS	**Valsamata**	**1.40**	**300**	*e*PB	**Pb**	**14 17 30.5**	**0.0**
KYTH	**Kithira**	**1.41**	**148**	*e*PB	**Pb**	**14 17 30.5**	**-0.2**
EVR	**Evrytania**	**1.45**	**350**	*e*PG	**Pg**	**14 17 30.5**	**-1.3**
PTL	**Penteli**	**1.49**	**67**	*e*PB	**Pb**	**14 17 32.0**	**-0.2**
AGG	**Agios Georgios**	**1.54**	**6**	*e*Pg	**Pg**	**14 17 32.4**	**-1.2**
AGG				*e*Sg	**Sg**	**14 17 52.4**	**-1.2**
LKD	**Levkas**	**1.68**	**317**	*e*Pb	**Pb**	**14 17 34.8**	**-0.6**
LKD				*e*Sb	**Sb**	**14 17 56.9**	**0.0**
XOR	**Xorichti**	**2.06**	**24**	*e*Pn	**Pn**	**14 17 39.5**	**+0.3**
AOS	**Alonnisos**	**2.18**	**39**	*e*Pn	**Pn**	**14 17 40.4**	**-0.4**
JAN	**Janina**	**2.39**	**336**	*e*PN	**Pb**	**14 17 46.0**	**-1.4**
LIT	**Litokhoron**	**2.63**	**6**	*e*Pn	**Pn**	**14 17 48.0**	**+1.0**
LIT				*e*Sn	**Sn**	**14 18 19.0**	**-0.3**
VAM	**Vamos**	**2.67**	**140**	*e*PN	**Pb**	**14 17 50.5**	**-1.7**
PAIG	**Paliouri**	**2.73**	**26**	*e*Pn	**Pn**	**14 17 49.2**	**+0.8**
APE	**Apeiranthos**	**2.75**	**98**	*e*Pn	**Pn**	**14 17 48.6**	**-0.1**
APE	**Apeiranthos**	**2.75**	**98**	*e*PN	**Pn**	**14 17 51.5**	**+2.8**
PLG	**Polygyros**	**3.06**	**19**	*e*PB	**Pn**	**14 17 54.5**	**+1.5**
HORT	**Hortiatis**	**3.20**	**13**	*e*Pn	**Pn**	**14 17 55.8**	**+0.9**
CHOS	**Chios island**	**3.24**	**73**	*e*Pn	**Pn**	**14 17 55.6**	**+0.1**
FNA	**Florina**	**3.34**	**350**	*e*Pn	**Pn**	**14 17 58.3**	**+1.4**
SOH	**Sokhos**	**3.47**	**16**	*e*Pn	**Pn**	**14 17 59.7**	**+1.1**
GRG	**Griva**	**3.48**	**4**	*e*Pn	**Pn**	**14 17 59.8**	**+1.1**
KNT	**Kendrikon**	**3.72**	**9**	*e*Pn	**Pn**	**14 18 02.8**	**+0.7**
KNT				*e*Sn	**Sn**	**14 18 46.2**	**-0.1**
BBLS	**Bajina Basta -**	**6.70**	**343**	*i* P	**Pn**	**14 18 46.4**	**+3.4**
DIVS	**Divcibare**	**6.80**	**347**	*i* P	**Pn**	**14 18 45.2**	**+0.8**

IDC 13 14:22:58.8±73.0**, 1738S**×**17634E, h0**^{km}**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/12**, mbtmp3.8**/3**, Error ellipse: s-maj=1290.0km s-min=144.1km az=76.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.55**	**239**	P	P	14 29 48.9	-0.1
	0.4nm,0.3s,baz=96,slow=9.2,SNR=4.4						
WB2	**Warramunga Arr**	**39.79**	**260**	*e*P	P	14 30 33.4	0.0
WRA	**Warramunga Arr**	**39.80**	**260**	P	P	14 30 34.1	+0.5
	0.2nm,0.5s,baz=92,slow=8.0,SNR=16						
ASAR	**Alice Springs**	**40.12**	**254**	P	P	14 30 36.5	+0.3
	2.3nm,0.5s,baz=90,slow=7.9,SNR=93						
ASPA	**Alice Springs**	**40.12**	**254**	*e*P	P	14 30 36.5	+0.3
KAKA	**Kakadu**	**42.58**	**270**	*e*P	P	14 30 57.1	+0.7
	2.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**48.17**	**261**	*e*P	P	14 31 38.0	-2.7
	4.2nm,1.0s						

*IDC **13** 14:27:31.0±4.1, 6.71S×155.14E, h79km±33km, mb3.4/2, mb1 3.7/4, mb1mx3.4/15, mbtmp3.9/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/16, Error ellipse: s-maj=52.9km s-min=19.0km az=2.0*

NEIC 13 14:27:31.2±2.0**, 6.76S×155.24E, h87**km±14km**, mb4.0**/2**, Error ellipse: s-maj=40.7km s-min=12.2km az=180.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.37**	**120**	P	Pn	14 28 48.7	-0.2
	5.5nm,0.3s,baz=274,slow=14,SNR=2.7						
HNR				S	Sn	14 29 53.0	+3.7
	4.9nm,0.3s,baz=275,slow=20,SNR=4.6						
HNR	**Honiara**	**5.37**	**120**	eP	Pn	14 28 49.0	+0.2
HNR				S	Sn	14 29 53.0	+3.7
PMG	**Port Moresby**	**8.42**	**251**	P	Pn	14 29 30.4	0.0
	1.4nm,0.3s,baz=92,slow=10,SNR=7.0						
PMG				LR	LR	14 32 37.7	
	comp=Z,66nm,18.0s,baz=136,slow=37						
PMG	**Port Moresby**	**8.42**	**251**	eP	Pn	14 29 30.4	0.0
PMG				eS	Sn	14 31 11.1	+7.4
PMG				LR	LR	14 32 37.7	
WRAB	**Tennant Creek**	**24.14**	**235**	eP	P	14 32 39.9	+0.9
	2.8nm,0.6s						
WB2	**Warramunga Arr**	**24.14**	**235**	eP	P	14 32 40.0	+1.0
WRA	**Warramunga Arr**	**24.15**	**235**	P	P	14 32 39.7	+0.6
	1.3nm,0.5s,baz=60,slow=9.5,SNR=34						
WRA				PcP	PcP	14 36 19.1	+1.2
	0.2nm,0.4s,baz=61,slow=2.5,SNR=8.7						
AS31	**Alice Springs**	**26.51**	**228**	eP	P	14 33 00.3	-0.2
ASAR	**Alice Springs**	**26.51**	**228**	P	P	14 33 00.2	-0.3
	0.4nm,0.4s,baz=57,slow=9.6,SNR=16						
ASAR				PcP	PcP	14 36 24.6	+1.5
	0.2nm,0.5s,baz=56,slow=2.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.97**	**246**	eP	P	14 33 40.5	+0.4
	4.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**153.19**	**286**	PKPbc	PKPbc	14 47 20.3	+1.4
	0.5nm,0.7s,baz=70,slow=1.6,SNR=4.0						
TORD				PKPab	PKPab	14 47 32.2	+1.3
	0.6nm,0.8s,baz=78,slow=3.4,SNR=3.6						

CASC 13 14:48:50.6±3.8**, 16.52N×89.65W, h0**km±144km**, MD4.1, 2C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**2.39**	**181**	⇑eP	x	14 49 38.6	
RBDL				eS	x	14 50 09.6	
RTR	**El Retiro**	**2.61**	**180**	⇑eP	x	14 49 39.6	
RTR				eS	x	14 50 14.6	
SNJE	**San Jose**	**2.64**	**179**	eP	x	14 49 41.2	
SNJE				eS	x	14 50 13.7	
BOQS	**Boqueron**	**2.79**	**173**	eP	x	14 49 45.7	
BOQS				eS	x	14 50 22.2	
LFRS	**El Faro**	**2.94**	**169**	eP	x	14 49 48.4	
LFRS				eS	x	14 50 28.1	

---

*ISCJB **13** 14:51:40.4±0.7, 60.8N±0.1×165.7E±0.2, h10km, mb3.9/6, Error ellipse: s-maj=16.5km s-min=10.4km az=159.1*
*IDC **13** 14:51:40.2±1.4, 60.81N×165.92E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=42.1km s-min=33.0km az=10.0*
*MOS **13** 14:51:40.4±1.3, 60.83N×165.52E, h10km, mb4.2/2, Error ellipse: s-maj=30.7km s-min=17.3km az=88.7*
*NEIC **13** 14:51:45.7±0.8, 60.81N×165.79E, h35km, mb4.0/2, Error ellipse: s-maj=27.0km s-min=14.5km az=177.0*

ISC 13 14:51:43.8±4.7**, 60.8N**±0.1×**165.6E**±0.2**, h23**km±34km**, n17, σ0^{s}90**/17**, mb3.9**/7**, 1C, Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**6.63**	**295**	⇑iPN	**Pn**	**14 53 20.2**	**+0.3**
BILL	**Bilibino**	**7.33**	**2**	ePN	**Pn**	**14 53 28.6**	**-0.8**
BILL				pmax	pmax		
	comp=Z,11nm,1.8s						
YAK	**Yakutsk**	**17.12**	**290**	eP	**Pn**	**14 55 42.5**	**+0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s						
YSS	**Yuzh-Sakhalins**	**19.16**	**234**	eP	**Pn**	**14 56 05.5**	**-1.0**
YSS				pmax	pmax		
	comp=Z,26nm,1.5s						
MCK	**McKinley**	**21.03**	**62**	eP	**P**	**14 56 25.5**	**-0.4**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.8						
MCK	**McKinley**	**21.03**	**62**	eP	**P**	**14 56 25.5**	**-0.4**
	comp=Z,3.9nm,0.9s,mb3.7						
COLA	**College**	**21.26**	**59**	i P	**P**	**14 56 30.2**	**+1.8**
MKAR	**Makanchi Array**	**47.77**	**293**	P	**P**	**15 00 18.9**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=51,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**47.77**	**293**	P	**P**	**15 00 18.9**	**-0.2**
BVAR	**Borovoye Array**	**48.15**	**306**	P	**P**	**15 00 22.6**	**+0.5**
	comp=Z,1.8nm,0.5s,mb4.4,baz=48,slow=6.7,SNR=9.4						
BRVK	**Borovoye**	**48.17**	**306**	eP	**P**	**15 00 22.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
BRVK	**Borovoye**	**48.17**	**306**	eP	**P**	**15 00 22.5**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.3						
PDAR	**Pinedale Array**	**51.55**	**69**	P	**P**	**15 00 46.5**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=328,slow=5.3,SNR=3.5						
NOA	**NORSAR Array B**	**56.95**	**345**	P	**P**	**15 01 26.0**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=13,slow=7.3,SNR=3.4						
NOA	**NORSAR Array B**	**56.95**	**345**	P	**P**	**15 01 26.0**	**-1.3**
ANMO	**Albuquerque**	**59.25**	**73**	i P	**P**	**15 01 44.3**	**+0.9**
WRA	**Warramunga Arr**	**84.28**	**209**	P	**P**	**15 04 14.1**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.5,baz=12,slow=5.3,SNR=5.0						

---

*IDC **13** 15:06:45.8±0.7, 35.96N×141.45E, h0km, mb3.9/10, mb1 4.1/14, mb1mx4.0/24, mbtmp4.0/14, ML3.9/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/30, Error ellipse: s-maj=20.9km s-min=15.7km az=77.0*
*NEIC **13** 15:06:46.0±4.4, 35.97N×141.50E, h3km±27km, mb4.2/1, Error ellipse: s-maj=13.3km s-min=9.9km az=129.0*
*ISCJB **13** 15:06:47.6±1.2, 36.01N±0.03×141.56E±0.06, h27km±8km, mb3.8/11, MS3.6/1, Error ellipse: s-maj=8.6km s-min=5.7km az=3.4*
*JMA **13** 15:06:49.8±0.1, 36.01N×141.35E, h43km±2km, M4.1*
JMA Felt I J1.
*NIED **13** 15:07:00, 36.00N×141.40E, h23km, Mw3.9 Best double couple: $M_0$8.45000×10^{14} NP1:ϕ_s20.00000°, δ57.00000°, λ87.00000°. NP2:ϕ_s205.00000°, δ33.00000°, λ94.00000°.*

ISC 13 15:06:48.2±1.1**, 36.02N**±0.03×**141.50E**±0.06**, h17**km±7km**, n32, σ0^{s}84**/39**, mb3.8**/11**, MS3.6**/1**, 7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.61**	**239**	⇓P	**Pg**	**15 07 00.6**	**+0.4**
CHOJ				S	**Sg**	**15 07 08.7**	**+0.4**
JHO	**Hitachi**	**0.95**	**309**	⇓P	**Pb**	**15 07 05.7**	**-0.5**
JYT	**Yasato**	**1.08**	**282**	⇓P	**Pb**	**15 07 07.0**	**-1.3**
ONAJ	**Iwakimizuishiy**	**1.22**	**333**	P	**Pn**	**15 07 09.9**	**-0.5**
BSO1	**Boso 1**	**1.43**	**197**	⇓P	**Pn**	**15 07 13.3**	**+0.1**
JFK	**Kawauchi**	**1.44**	**340**	P	**Pn**	**15 07 13.1**	**-0.3**
JFK				eS	**Sn**	**15 07 31.4**	**-0.4**
BSO3	**Boso 3**	**1.46**	**214**	⇓P	**Pn**	**15 07 14.2**	**+0.5**
JAG	**Ashikaga**	**1.70**	**284**	⇓P	**Pn**	**15 07 16.1**	**-0.9**
JFT	**Otama**	**1.76**	**328**	⇓P	**Pn**	**15 07 18.7**	**+0.8**
JFT				eS	**Sn**	**15 07 39.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.71**	**282**	Pn	**Pn**	**15 07 31.0**	**+0.1**
	11nm,0.3s,baz=112,slow=7.9,SNR=91						
MJAR				Sn	**Sn**	**15 08 02.6**	**-0.6**
	12nm,0.3s,baz=99,slow=37,SNR=7.3						
MJAR				LR	LR	15 08 36.7	
	comp=Z,257nm,18.8s,baz=155,slow=42						
MAJO	**Matsushiro**	**2.71**	**282**	ePn	**Pn**	**15 07 31.5**	**+0.6**
MAT	**Matsushiro**	**2.71**	**282**	P	**Pn**	**15 07 31.2**	**+0.3**
MAT				S	**Sn**	**15 08 04.7**	**+1.5**
JHJ	**Hachijo jima 2**	**3.22**	**207**	Pn	**Pn**	**15 07 38.5**	**+0.7**
	37nm,0.3s,baz=74,slow=23,SNR=12						
JHJ				Sn	**Sn**	**15 08 14.7**	**-1.2**
	60nm,0.3s,baz=247,slow=24,SNR=8.5						
ERM	**Erimo**	**6.13**	**12**	ePn	**Pn**	**15 08 18.5**	**+0.6**
ASAJ	**Asahikawa**	**8.13**	**6**	Pn	**Pn**	**15 08 45.0**	**-0.4**
	2.4nm,0.3s,baz=242,slow=10,SNR=28						
ASAJ				Sn	**Sn**	**15 10 15.9**	**-0.9**
	0.1nm,0.3s,baz=142,slow=28,SNR=3.5						
CBIJ	**Chichi jima**	**8.91**	**176**	Pn	**Pn**	**15 08 53.5**	**-2.7**
	4.2nm,0.3s,baz=274,slow=19,SNR=5.6						
CBIJ				Sn	**Sn**	**15 10 29.9**	**-6.2**
	7.3nm,0.3s,baz=275,slow=23,SNR=5.0						
YSS	**Yuzh-Sakhalins**	**10.97**	**5**	P	**Pn**	**15 09 23.1**	**-1.1**
SONM	**Songino Array**	**28.42**	**306**	P	**P**	**15 12 41.5**	**-0.3**
	0.7nm,0.5s,mb3.6,baz=102,slow=8.4,SNR=5.5						
ZAL	**Zalesovo**	**42.66**	**313**	P	**P**	**15 14 44.5**	**+0.7**
	1.0nm,0.3s,mb4.0,baz=264,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**44.72**	**303**	P	**P**	**15 15 01.1**	**+0.7**
	1.5nm,0.7s,mb3.9,baz=92,slow=10,SNR=9.4						
ZRNK	**Zerenda**	**52.14**	**313**	eP	**P**	**15 15 57.7**	**+0.2**
	3.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**56.05**	**188**	eP	**P**	**15 16 25.7**	**-0.3**
WRA	**Warramunga Arr**	**56.06**	**188**	P	**P**	**15 16 25.4**	**-0.7**
	1.1nm,0.4s,mb4.2,baz=6.4,slow=7.4,SNR=40						
ASAR	**Alice Springs**	**59.79**	**188**	P	**P**	**15 16 52.5**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=19,slow=12,SNR=20						
FINES	**FINESS Array B**	**69.74**	**332**	P	**P**	**15 17 57.2**	**0.0**
	0.6nm,0.7s,mb3.7,baz=18,slow=14,SNR=4.8						
FINES	**FINESS Array B**	**69.74**	**332**	P	**P**	**15 17 57.2**	**0.0**
AKASG	**Malin Array Be**	**75.14**	**322**	P	**P**	**15 18 29.1**	**-0.3**
	0.7nm,0.3s,mb4.1,baz=46,slow=5.9,SNR=5.2						
NB2	**NORSAR Subarra**	**75.15**	**337**	P	**P**	**15 18 29.6**	**+0.2**
	comp=Z,0.1nm,0.5s,mb3.0,baz=46,slow=6.2						
NOA	**NORSAR Array B**	**75.15**	**337**	P	**P**	**15 18 29.8**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=39,slow=5.8,SNR=4.1						
NOA				LR	LR	15 52 49.4	
	comp=Z,31nm,19.4s,MS3.6,baz=315,slow=37						
NVAR	**Mina Array Bea**	**75.54**	**53**	P	**P**	**15 18 34.1**	**+2.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=294,slow=6.1,SNR=5.1						
PDAR	**Pinedale Array**	**78.33**	**45**	P	**P**	**15 18 49.1**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=343,slow=2.0,SNR=4.9						
LPAZ	**La Paz**	**147.14**	**61**	PKPbc	PKPbc	15 26 30.9	+0.7
	comp=Z,0.9nm,0.7s,baz=316,slow=3.3,SNR=4.6						

---

*ISCJB **13** 15:40:39.3±0.5, 57.05N±0.04×11.33E±0.07, h10km, Error ellipse: s-maj=6.0km s-min=5.0km az=128.4*
*BER **13** 15:40:41.6±2.5, 56.98N×11.22E, h0km±15km, MD2.5, ML1.3, ML2.2(NAO)*
*NAO **13** 15:40:44.9±4.5, 57.16N×11.31E, h4km±21km, ML2.2*

ISC 13 15:40:40.0±0.5**, 56.98N**±0.04×**11.30E**±0.07**, h10**km**, n12, σ0^{s}91**/17**, 1C, Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.29**	**247**	⇑iP	**Pn**	**15 41 04.0**	**0.0**
MUD				i S	**Sb**	**15 41 21.5**	**+0.6**
MUD				i LG		15 41 23.1	
COP	**Copenhagen**	**1.44**	**154**	i P	**Pn**	**15 41 06.6**	**+0.4**
COP				i S	**Sn**	**15 41 25.9**	**+0.7**
SNART	**Snartemo**	**2.58**	**303**	eP	**Pn**	**15 41 21.8**	**-0.1**
SNART				eS	**Sn**	**15 41 52.8**	**-0.6**
SNART				AML	AML	15 42 07.0	
	comp=Z,3.2nm,0.5s						
BSD	**Bornholm Skovb**	**2.76**	**131**	i P	**Pn**	**15 41 23.7**	**-0.6**
BSD				i		15 41 28.4	
BSD				e		15 42 05.7	
BSD				eS	**Sg**	**15 42 07.2**	**-1.5**
KON	**Kongsberg**	**2.82**	**342**	Lg		15 42 09.8	
HFS	**Hagfors**	**3.40**	**21**	Pn	**Pn**	**15 41 35.1**	**+2.0**
	baz=208,slow=14						
HFS				Sn	**Sn**	**15 42 13.4**	**-0.1**
	baz=193,slow=28						
HFS				Lg		15 42 26.8	
	baz=199,slow=37						
BLS5	**Blasjo**	**3.54**	**316**	eP	**Pn**	**15 41 35.1**	**+0.1**
ODD1	**Odda**	**3.83**	**322**	eP	**Pn**	**15 41 38.5**	**-0.6**
ODD1				eS	**Sn**	**15 42 23.0**	**-1.0**
NB2	**NORSAR Subarra**	**4.07**	**359**	Pn	**Pn**	**15 41 43.6**	**+1.2**
	baz=180,slow=14						
NB2				Lg		15 42 46.7	
ASK	**Askoy**	**4.74**	**320**	eP	**Pn**	**15 41 51.4**	**-0.1**
FIA0	**FINESS Array S**	**8.79**	**53**	Pn	**Pn**	**15 42 48.5**	**+1.3**
	baz=253,slow=12						
ARA0	**ARCESS Array S**	**14.07**	**21**	Pn	**Pn**	**15 43 57.7**	**-1.6**
	baz=204,slow=14						

---

*ISCJB **13** 15:48:58.1±1.9, 6.38S±0.08×80.1W±0.1, h100km±16km, mb4.0/11, Error ellipse: s-maj=22.1km s-min=13.3km az=161.8*
*IDC **13** 15:48:59.0±2.5, 6.39S×80.05W, h93km±22km, mb3.7/10, mb1 3.9/13, mb1mx3.8/21, mbtmp4.1/13, MS3.7/4, Ms1 3.8/4, ms1mx3.4/27, Error ellipse: s-maj=21.6km s-min=16.1km az=81.0*
*NEIC **13** 15:48:59.8±3.5, 6.43S×80.08W, h100km±31km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=11.8km az=87.0*

ISC 13 15:48:59.2±2.0**, 6.43S**±0.08×**80.1W**±0.1**, h92**km±17km**, n26, σ1^{s}20**/22**, mb4.0**/11**, 3C, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**1.82**	**108**	P	**Pn**	**15 49 29.6**	**+0.5**
	2.5nm,0.3s,baz=287,slow=12,SNR=21						
ATAH				LR	LR	15 49 59.2	
	comp=Z,653nm,18.3s,baz=100,slow=33						
LPAZ	**La Paz**	**15.31**	**131**	P	**Pn**	**15 52 30.2**	**+0.2**
	0.4nm,0.3s,baz=317,slow=9.5,SNR=29						
LPAZ				LR	LR	15 58 49.3	
	comp=Z,212nm,19.3s,baz=287,slow=39						
SAML	**Samuel**	**16.99**	**100**	eP	**Pn**	**15 52 52.4**	**+1.5**
	23nm,1.5s						
JTS	**JuntasAbangare**	**17.29**	**344**	LR	LR	15 57 57.5	
	comp=Z,139nm,21.9s,baz=338,slow=31						
SDV	**Santo Domingo**	**17.92**	**32**	P	**Pn**	**15 53 00.7**	**-1.6**
	0.3nm,0.3s,baz=254,slow=14,SNR=3.2						
SDV				LR	LR	16 00 32.2	
	comp=Z,274nm,18.7s,baz=249,slow=39						
SDV	**Santo Domingo**	**17.92**	**32**	eP	**Pn**	**15 53 02.1**	**-0.2**
SDV				LR	LR	16 00 32.2	
LVC	**Limon Verde**	**19.39**	**147**	P	**Pn**	**15 53 17.9**	**-1.9**
	0.2nm,0.3s,baz=299,slow=11,SNR=4.4						
SIV	**San Ignacio**	**20.96**	**119**	P	**P**	**15 53 34.4**	**-0.3**
	13nm,0.9s,baz=299,slow=12,SNR=51						
PCRV	**Puerto La Cruz**	**22.59**	**43**	P	**P**	**15 53 53.1**	**+1.1**
	7.2nm,0.5s,mb4.3,baz=284,slow=4.5,SNR=4.9						
SJG	**San Juan**	**28.02**	**29**	P	**P**	**15 54 39.2**	**-2.2**
	11nm,0.4s,mb4.8,baz=9.4,slow=20,SNR=3.3						
CPUP	**Villa Florida**	**29.40**	**135**	P	**P**	**15 54 51.8**	**-1.9**
	0.2nm,0.3s,mb3.2,baz=323,slow=7.5,SNR=2.9						
BDFB	**Brasilia**	**32.79**	**109**	LR	LR	16 10 26.7	
	comp=Z,402nm,21.2s,baz=277,slow=39						
PLCA	**Paso Flores**	**35.22**	**167**	P	**P**	**15 55 44.2**	**-0.3**
	2.2nm,0.8s,mb4.0,baz=343,slow=12,SNR=3.8						
PLCA	**Paso Flores**	**35.22**	**167**	P	**P**	**15 55 44.2**	**-0.3**
PDAR	**Pinedale Array**	**55.79**	**334**	P	**P**	**15 58 27.0**	**+0.4**
	0.8nm,1.0s,mb3.7,baz=168,slow=4.6,SNR=4.6						
NVAR	**Mina Array Bea**	**56.99**	**325**	P	**P**	**15 58 34.2**	**-0.8**
	0.4nm,0.9s,mb3.5,baz=84,slow=8.3,SNR=2.7						
DBIC	**Dimbokro**	**76.23**	**82**	P	**P**	**16 00 38.6**	**+1.1**
	4.7nm,1.0s,mb4.2,baz=3.5,slow=19,SNR=3.1						
VNA3	**Neumayer Olymp**	**77.72**	**162**	⇑i	**P**	**16 00 46.6**	**+0.8**
VNA3				e		16 00 51.8	
VNA1	**Neumayer--Stat**	**78.00**	**161**	⇑i	**P**	**16 00 51.0**	**+3.6**
VNA1				e		16 00 53.3	
VNA1				e		16 00 56.6	
RAR	**Rarotonga**	**78.06**	**250**	P	**P**	**16 00 50.0**	**+2.2**
	44nm,0.7s,mb5.3,baz=43,slow=13,SNR=7.3						
SNAA	**Sanae**	**79.94**	**162**	⇑i	**P**	**16 00 58.9**	**+0.9**
SNAA				e		16 01 04.5	
ESDC	**Sonseca Array**	**83.54**	**49**	P	**P**	**16 01 16.9**	**0.0**
	0.5nm,0.3s,mb3.8,baz=271,slow=4.5,SNR=7.3						
TORD	**Torodi Ar. Bea**	**83.55**	**76**	P	**P**	**16 01 17.1**	**+0.1**
	2.2nm,1.0s,mb4.0,baz=284,slow=4.7,SNR=7.0						
VNDA	**Vanda**	**89.60**	**191**	P	**P**	**16 01 45.0**	**-1.4**
	0.6nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=4.2						
ASAR	**Alice Springs**	**135.29**	**227**	PKP	PKPdf	16 08 09.9	+1.9
	0.3nm,0.7s,baz=110,slow=3.2,SNR=5.4						
WRA	**Warramunga Arr**	**137.14**	**232**	PKP	PKPdf	16 08 13.6	+2.1
	1.7nm,1.1s,baz=122,slow=1.7,SNR=5.4						

---

*NIED **13** 15:51:00, 28.50N×128.70E, h110km, Mw4.8 Best double couple: $M_0$1.50000×10^{16} NP1:ϕ_s349.00000°, δ76.00000°, λ134.00000°. NP2:ϕ_s93.00000°, δ46.00000°, λ20.00000°.*
*BJI **13** 15:51:12.7, 28.25N×129.15E, h105km, mB4.7, mb4.7*
*MOS **13** 15:51:15.6±1.1, 28.59N×128.67E, h93km, mb4.6/22, Error ellipse: s-maj=10.6km s-min=6.3km az=109.0*
*SZGRF **13** 15:51:17.1, 29.75N×127.83E, h33km, mb5.0, Northwest of Ryukyu Islands, Japan*
*IDC **13** 15:51:18.4±0.7, 28.51N×128.69E, h110km±7km, mb4.0/17, mb1 4.1/20, mb1mx4.1/25, mbtmp4.4/20, MS3.4/7, Ms1 3.4/7, ms1mx3.1/31, Error ellipse: s-maj=15.7km s-min=8.7km az=91.0*
*NEIC **13** 15:51:19.0±0.3, 28.52N×128.71E, mb4.5/21, MW4.7(NIED), Error ellipse: s-maj=8.8km s-min=6.3km az=133.0*
NEIC Recorded [3 JMA] on Tokuno-shima, [2 JMA] on Amami-oshima and [1 JMA] on Okino-erabu-shima.
*ISCJB **13** 15:51:18.3±0.2, 28.50N±0.03×128.71E±0.03, h118km±2km, mb4.6/68, Error ellipse: s-maj=5.6km s-min=3.0km az=74.3*
*JMA **13** 15:51:19.5±0.1, 28.53N×128.62E, h108km±3km, M4.6*
JMA Felt III J1.

ISC 13 15:51:19.3±0.2**, 28.49N**±0.02×**128.73E**±0.03**, h116**km±2km**, h110**km±4.5km**:pP-P, n188, σ1^{s}02**/212**, mb4.6**/68**, 10C-9D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.73**	**165**	P	**Pn**	**15 51 38.9**	**+0.4**
JTK				S	**Sn**	**15 51 52.8**	**-0.2**
JAM	**Amami Oshima**	**0.78**	**96**	P	**Pn**	**15 51 39.2**	**+0.3**
JAM				S	**Sn**	**15 51 53.7**	**+0.1**
JZK	**Kikaishima**	**1.11**	**99**	P	**Pn**	**15 51 43.4**	**+1.3**
JZK				S	**Sn**	**15 52 00.8**	**+6.5**
JIH	**Iheya**	**1.60**	**205**	P	**Pn**	**15 51 47.8**	**+0.1**
JIH				S	**Sn**	**15 52 08.4**	**+2.1**
JNN	**Nakanoshima**	**1.67**	**36**	P	**Pn**	**15 51 49.0**	**+0.5**
JNN				S	**Sn**	**15 52 11.9**	**+3.9**
JOW	**Kunigami**	**1.70**	**194**	P	**Pn**	**15 51 48.7**	**-0.2**
	1µm,0.3s,baz=45,slow=7.6,SNR=1793						
JOW				S	**Sn**	**15 52 10.0**	**+1.3**
	2µm,0.3s,baz=113,slow=28,SNR=38						
JOW	**Kunigami**	**1.70**	**194**	P	**Pn**	**15 51 48.6**	**-0.3**
JOW				S	**Sn**	**15 52 10.7**	**+2.0**
JAGN	**Aguni-jima**	**2.31**	**215**	P	**Pn**	**15 51 56.4**	**-0.1**
JAGN				S	**Sn**	**15 52 23.9**	**+0.4**
JKC	**Kuchinoerabu**	**2.34**	**33**	P	**Pn**	**15 51 57.3**	**+0.5**
JKC				S	**Sn**	**15 52 26.0**	**+1.8**
NAH1	**Naha**	**2.46**	**202**	P	**Pn**	**15 51 58.3**	**-0.1**
NAH1				S	**Sn**	**15 52 27.0**	**-0.1**
JJT2	**Tamagusuku 2**	**2.50**	**201**	P	**Pn**	**15 51 59.1**	**+0.1**
JJT2				S	**Sn**	**15 52 28.8**	**+0.7**
JKE	**Kume jima 2**	**2.77**	**219**	P	**Pn**	**15 52 02.0**	**-0.4**
JKE				S	**Sn**	**15 52 35.0**	**+0.5**
JTN	**Tanegashima 3**	**2.91**	**42**	P	**Pn**	**15 52 03.8**	**-0.5**
JTN				S	**Sn**	**15 52 38.2**	**+0.2**
JTSR	**Tashiro 2**	**3.27**	**35**	P	**Pn**	**15 52 10.3**	**+1.3**
JTSR				S	**Sn**	**15 52 46.8**	**0.0**
JSJ	**Shimokoshiki**	**3.29**	**15**	P	**Pn**	**15 52 10.6**	**+1.4**
JSJ				S	**Sn**	**15 52 48.6**	**+1.5**
JSU	**Suzuyama**	**3.35**	**26**	P	**Pn**	**15 52 10.9**	**+0.8**
JSU				S	**Sn**	**15 52 50.9**	**+2.1**
SSE	**Sheshan**	**7.05**	**293**	P	**Pn**	**15 52 56.8**	**-3.0**
SSE				S	**Sn**	**15 54 14.8**	**-3.6**
SSE				Smax			
	comp=N,83nm,1.0s						
SSE				Smax			
	comp=E,48nm,0.9s						
SSE				LR	LR		
	comp=N,200nm,23.0s						
SSE				LR	LR		
	comp=E,184nm,23.0s						
SSE				LR	LR		
	comp=Z,246nm,25.0s						
YHNB	**Yeheng**	**7.61**	**242**	eP	**Pn**	**15 53 07.3**	**-0.1**
NACB	**Ninganchiao**	**7.71**	**238**	eP	**Pn**	**15 53 05.7**	**-3.1**
NJ2	**Nanjing**	**9.24**	**295**	eP	**Pn**	**15 53 29.8**	**+0.2**
NJ2				XP		15 53 58.6	
NJ2				S	**Sn**	**15 55 11.4**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,250nm,5.3s						
NJ2				Smax			
	comp=N,70nm,0.9s						
NJ2				Smax			
	comp=E,60nm,0.9s						
NJ2				LR	LR		
	comp=N,1µm,8.3s						
NJ2				LR	LR		
	comp=E,1µm,9.1s						
NJ2				LR	LR		
	comp=Z,1µm,9.7s						
JHJ	**Hachijo jima 2**	**10.56**	**61**	P	**Pn**	**15 53 50.1**	**+2.8**
	comp=Z,70nm,0.3s,baz=223,slow=15,SNR=18						
JHJ				LR	LR	15 57 25.3	
	comp=Z,310nm,22.0s,baz=260,slow=35						
MAJO	**Matsushiro**	**11.32**	**42**	eP	**Pn**	**15 53 56.3**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,196nm,1.4s						
MAJO	**Matsushiro**	**11.32**	**42**	eP	**Pn**	**15 53 56.3**	**-1.2**
	comp=Z,196nm,1.4s						
MAJO				e		15 54 08.6	
MAT	**Matsushiro**	**11.32**	**42**	P	**Pn**	**15 53 56.1**	**-1.4**
MJAR	**Matsushiro Arr**	**11.32**	**42**	P	**Pn**	**15 53 57.4**	**-0.1**
	comp=Z,4.3nm,0.3s,baz=243,slow=14,SNR=27						
MJAR				LR	LR	15 58 16.2	
	comp=Z,107nm,21.0s,baz=215,slow=37						
DL2	**Dalian**	**11.94**	**332**	eP	**Pn**	**15 54 09.3**	**+3.6**
DL2				eXP		15 54 37.9	
DL2				S	**Sn**	**15 56 21.9**	**+4.8**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CBIJ	**Chichi jima**	**11.99**	**94**	P	**Pn**	**15 54 05.3**	**-1.1**
	comp=Z,4.2nm,0.3s,baz=281,slow=18,SNR=5.5						
BJI	**Beijing**	**15.48**	**321**	eP	**Pn**	**15 54 53.1**	**+1.9**
BJI				XP	sP	15 55 26.0	-2.7
BJI				S	**S**	**15 57 49.3**	**-1.0**
BJI				AMB	AMB		
	comp=Z,91nm,1.4s						
BJI				AMB	AMB		
	comp=Z,396nm,5.3s						
MDJ	**Mudanjiang**	**16.11**	**2**	P	**Pn**	**15 54 57.4**	**-1.5**
MDJ				XP	sP	15 55 30.6	-5.0
MDJ				S	**S**	**15 58 00.8**	**-2.1**
MDJ				AMB	AMB		
	comp=Z,61nm,4.0s						
MDJ				LR	LR		
	comp=N,37nm,23.2s						
MDJ				LR	LR		
	comp=E,42nm,27.2s						
MDJ				LR	LR		
	comp=Z,48nm,17.3s						
XAN	**Xi'an**	**17.81**	**293**	P	**Pn**	**15 55 19.8**	**+0.2**
XAN				AMB	AMB		
	comp=Z,96nm,1.4s						
ERM	**Erimo**	**17.88**	**37c**	iP	**Pn**	**15 55 18.4**	**-2.1**
ERM	**Erimo**	**17.88**	**37**	eP	**Pn**	**15 55 17.9**	**-2.5**
	comp=Z,13nm,0.6s						
HHC	**Hu-ho-hao-te**	**18.70**	**316**	eP	**P**	**15 55 28.8**	**+0.3**
HHC				AP		15 55 45.6	
HHC				XP	sP	15 55 59.8	-4.5
HHC				S	**S**	**15 58 49.1**	**-6.3**
HHC				PCP	PcP	15 59 53.4	+1.7
HHC				SCP	ScP	16 03 18.8	+2.2
HHC				PCS	PcS	16 03 29.0	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s						
HHC				LR	LR		
	comp=N,165nm,4.9s						
HHC				LR	LR		
	comp=E,161nm,6.0s						
HHC				LR	LR		
	comp=Z,124nm,7.4s						
ASAJ	**Asahikawa**	**19.14**	**32**	P	**P**	**15 55 32.1**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=218,slow=18,SNR=20						
ASAJ				LR	LR	16 02 35.0	
	comp=Z,74nm,21.5s,baz=14,slow=35						
ASAJ	**Asahikawa**	**19.14**	**32**	P	**P**	**15 55 32.2**	**-1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,74nm,21.5s						
BTO	**Baotou**	**19.54**	**313**	eP	**P**	**15 55 37.3**	**-0.3**
QIZ	**Qiongzhong**	**19.66**	**246**	P	**P**	**15 55 41.3**	**+2.3**
QIZ				XP	sP	15 56 12.3	-2.6
QIZ				S	**S**	**15 59 15.0**	**+0.5**
QIZ				AMB	AMB		
	comp=Z,32nm,1.4s						
GYA	**Guiyang**	**19.68**	**269**	⇑iP	**P**	**15 55 40.3**	**+1.1**
GYA				XP	sP	15 56 12.8	-2.3
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,90nm,3.6s						
HABR	Khabarovsk	20.54	12	eP	P	15 55 45.2	-3.2
HABR				eS	S	15 59 29.8	-1.9
KLR	Kul'dur	20.84	6	eP	P	15 55 50.2	-1.4
GUMO	Guam	21.10	131	LR	LR	16 02 43.4	
	comp=Z,70nm,20.9s,baz=217,slow=32						
YSS	Yuzh-Sakhalins	21.45	27	eP	P	15 55 56.6	-1.6
YSS				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.5						
YSS	Yuzh-Sakhalins	21.45	27	eP	P	15 55 56.6	-1.6
	comp=Z,34nm,1.2s,mb4.6						
CD2	Chengdu	21.82	282	P	P	15 56 02.3	+0.3
CD2				XP	sP	15 56 34.8	-3.5
CD2				S	S	15 59 50.3	-5.9
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.6						
CD2				LR	LR		
	comp=N,280nm,6.0s						
CD2				LR	LR		
	comp=Z,470nm,8.4s						
LZH	Lanzhou	22.32	296	eP	P	15 56 07.1	-0.3
LZH				AP		15 56 27.0	
LZH				XP	sP	15 56 38.5	-5.2
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,222nm,4.5s						
KMI	Kunming	23.42	268	P	P	15 56 18.4	+0.5
KMI				AP		15 56 39.9	
KMI				XP	sP	15 56 52.4	-3.1
KMI				PCP	PcP	16 00 03.5	+2.7
KMI				S	S	16 00 20.8	-1.5
KMI				XS	sS	16 00 57.0	-7.7
KMI				SS		16 01 14.3	
KMI				AMB	AMB		
	comp=Z,128nm,3.1s						
KMI				LR	LR		
	comp=N,308nm,12.2s						
KMI				LR	LR		
	comp=E,166nm,12.8s						
KMI				LR	LR		
	comp=Z,205nm,13.1s						
ULN	Ulaanbaatar	25.62	325	⇓P	P	15 56 37.2	-0.6
	SNR=5.6						
ULN	Ulaanbaatar	25.62	325	eP	P	15 56 37.2	-0.6
ULN	Ulaanbaatar	25.62	325	eP	P	15 56 36.0	-1.9
	comp=Z,4.0nm,0.8s,mb3.9						
SONM	Songino Array	25.94	324	P	P	15 56 40.5	-0.2
	comp=Z,3.8nm,0.6s,mb4.0,baz=128,slow=8.1,SNR=28						
SONM				pP	pP	15 57 05.1	-0.7
	comp=Z,1.5nm,0.9s,baz=148,slow=11,SNR=2.3						
SONM				ScP	ScP	16 03 34.7	-0.4
	comp=Z,1.8nm,1.0s,baz=136,slow=3.3,SNR=7.5						
SONM				LR	LR	16 09 29.3	
	comp=Z,66nm,18.5s,baz=123,slow=42						
SONM	Songino Array	25.94	324	P	P	15 56 40.5	-0.2
SONM				*PP	pP	15 57 05.1	-0.7
GTA	Gaotai	26.24	302	P	P	15 56 42.5	-0.9
GTA				PP		15 57 29.8	
GTA				PCP	PcP	16 00 07.6	+0.6
GTA				S	S	16 01 07.4	+0.3
GTA				SS		16 02 24.4	
GTA				SCP	ScP	16 03 36.0	0.0
GTA				PCS	PcS	16 03 48.1	0.0
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.0						
GTA				AMB	AMB		
	comp=Z,174nm,5.3s						
GTA				LR	LR		
	comp=N,80nm,12.6s						
GTA				LR	LR		
	comp=E,148nm,10.3s						
GTA				LR	LR		
	comp=Z,114nm,10.3s						
KKTK	Khon Kaen	26.77	249	⇓P	P	15 56 49.5	+1.4
	comp=Z,494nm,1.0s						
NANT	Nan	27.37	256	⇓P	P	15 56 52.0	-1.5
	comp=Z,82nm,1.0s,mb5.2						
CHTO	Chiang Mai	28.87	257	⇓P	P	15 57 07.8	+1.0
	SNR=7.4						
CHTO	Chiang Mai	28.87	257	eP	P	15 57 06.8	-0.1
TLY	Talaya	29.81	328	eP	P	15 57 14.4	-0.7
LSA	Lhasa	32.77	281	P	P	15 57 42.3	+1.2
YAK	Yakutsk	33.54	1	eP	P	15 57 46.7	-1.2
YAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
WMQ	Urumqi	36.09	306	eP	P	15 58 09.5	-0.3
WMQ				AP	pP	15 58 33.0	-2.7
WMQ				XP	sP	15 58 46.0	-3.0
WMQ				PP	PP	15 59 35.0	+0.9
WMQ				S	S	16 03 40.0	-0.6
WMQ				AMB	AMB		
	comp=Z,16nm,1.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,153nm,5.3s						
WMQ				LR	LR		
	comp=Z,88nm,18.2s						
GUN	Gumba	37.62	280	eP	P	15 58 24.8	+2.1
	comp=Z,38nm,0.4s,mb5.6						
SEY	Seymchan	37.73	17	i P	P	15 58 22.0	-1.7
PKI	Pulchoki	38.10	279	eP	P	15 58 27.9	+1.2
	comp=Z,31nm,0.5s,mb5.4						
KKN	Kakani	38.16	280	eP	P	15 58 28.3	+1.0
	comp=Z,40nm,0.4s,mb5.6						
DMN	Daman	38.35	279	eP	P	15 58 30.3	+1.4
	comp=Z,13nm,0.5s,mb5.0						
GKN	Gorkha	38.68	280	eP	P	15 58 32.6	+1.0
	comp=Z,22nm,0.4s,mb5.3						
KOLN	Koldanda	39.63	280	eP	P	15 58 39.4	-0.1
	comp=Z,13nm,0.6s,mb4.9						
MK31	Makanchi Array	40.40	310	P	P	15 58 46.1	+0.3
MK31				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MKAR	Makanchi Array	40.40	310	P	P	15 58 44.3	-1.6
	comp=Z,7.5nm,0.7s,mb4.7,baz=92,slow=11,SNR=45						
MKAR				ScP	ScP	16 04 25.1	-0.2
	comp=Z,1.2nm,0.9s,baz=90,slow=4.9,SNR=5.2						
ZAL	Zalesovo	40.75	321	P	P	15 58 49.1	+0.4
	comp=Z,5.1nm,0.5s,mb4.6,baz=1.4,slow=8.2,SNR=15						
ULHL	Ulahol	44.29	302	P	P	15 59 18.7	+1.4
	SNR=8.4						
TKM2	Tokmak 2	44.77	303	P	P	15 59 23.2	+2.0
	SNR=21						
TKM2	Tokmak 2	44.77	303	P	P	15 59 21.2	0.0
TKM2				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
KBK	Karagaybulak	45.25	303	P	P	15 59 26.9	+1.9
	SNR=7.1						
CHMS	Chumysh	45.39	304	P	P	15 59 27.5	+1.4
	SNR=8.7						
USP	Ospenovka	45.58	304	P	P	15 59 28.8	+1.2
	SNR=6.1						
AAK	Ala-Archa	45.58	303	eP	P	15 59 27.8	+0.2
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
AAK	Ala-Archa	45.58	303	eP	P	15 59 27.8	+0.2
	comp=Z,4.6nm,0.4s,mb4.6						
FITZ	Fitzroy Crossi	46.42	184	P	P	15 59 34.4	+0.2
	comp=Z,4.1nm,0.7s,mb4.3						
HNR	Honiara	48.28	137	LR	LR	16 18 41.9	
	comp=Z,64nm,18.1s,baz=180,slow=34						
WRA	Warramunga Arr	48.46	173	P	P	15 59 49.6	-0.4
	comp=Z,0.6nm,0.5s,mb3.7,baz=353,slow=8.4,SNR=12						
WRA				pP	pP	16 00 16.9	-0.1
	comp=Z,1.0nm,0.5s,baz=353,slow=8.3,SNR=7.1						
KK31	Karatay Array	48.50	304	i P	P	15 59 49.5	-0.7
KK31				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
VOSK	Vostochnaya	48.52	317	P	P	15 59 49.6	-0.8
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BVA0	Borovoye Array	48.91	317	eP	P	15 59 51.4	-2.0
BVAR	Borovoye Array	48.91	317	P	P	15 59 53.1	-0.2
	baz=90,slow=9.4						
BVAR				LR	LR	16 19 43.7	
	comp=Z,46nm,20.6s,baz=319,slow=35						
BRVK	Borovoye	48.97	317	eP	P	15 59 54.0	+0.1
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
BRVK	Borovoye	48.97	317	eP	P	15 59 54.0	+0.1
	comp=Z,4.6nm,0.5s,mb4.7						
ZRNK	Zerenda	49.73	317	eP	P	15 59 57.2	-2.4
ZRNK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
ZRNK	Zerenda	49.73	317	eP	P	15 59 57.1	-2.5
	comp=Z,9.8nm,0.6s,mb4.9						
ASAR	Alice Springs	52.10	174	P	P	16 00 19.1	+1.7
	comp=Z,0.6nm,0.8s,mb3.7,baz=2.5,slow=13,SNR=13						
ASAR				pP	pP	16 00 43.2	-1.5
	comp=Z,0.4nm,0.5s,baz=5.7,slow=13,SNR=1.7						
SVE	Sverdlovsk	54.76	321	eP	P	16 00 38.5	+1.7
SVE				e		16 01 45.0	
AB31	Akbulak array	55.45	312	i P	P	16 00 41.4	-0.3
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KDAK	Kodiak Island	60.45	37	eP	P	16 01 15.9	-0.7
	comp=Z,32nm,1.3s,mb5.2						
DIV	Divide	63.35	33	eP	P	16 01 33.8	-2.2
	comp=Z,32nm,1.0s,mb5.2						
INK	Inuvik	66.64	24	eP	P	16 01 57.4	0.0
ARCES	ARCESS Array B	68.07	338	P	P	16 02 05.6	-0.8
	comp=Z,6.2nm,1.0s,mb4.4,baz=62,slow=8.3,SNR=3.6						
ARCES	ARCESS Array B	68.07	338	P	P	16 02 05.6	-0.8
KIV	Kislovodsk	68.15	309	eP	P	16 02 06.2	-0.7
KIV				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
JOF	Joensuu	68.29	331	ep	P	16 02 04.6	-3.1
	comp=Z,6.5nm,0.6s,mb4.6						
OBN	Obninsk	68.32	322	eP	P	16 02 06.6	-1.3
OBN				pmax	pmax		
	comp=Z,22nm,1.9s,mb4.7						
KAF	Kangasniemi	70.74	331	ep	P	16 02 20.0	-2.8
	baz=65,slow=5.7						
FINES	FINESS Array B	71.12	330	P	P	16 02 24.2	-0.8
	comp=Z,2.5nm,0.6s,mb4.2,baz=70,slow=5.9,SNR=30						
FINES	FINESS Array B	71.12	330	i P	P	16 02 24.2	-0.9
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MALT	Malatya	73.18	305	⇑iP	P	16 02 38.0	+0.7
AKASG	Malin Array Be	74.11	319	P	P	16 02 42.0	-0.8
	comp=Z,7.2nm,0.6s,mb4.6,baz=58,slow=6.3,SNR=28						
BR131	Keskin Array S	76.00	308	eP	P	16 02 52.9	-0.8
	comp=Z,5.0nm,0.9s,mb4.2						
BRTR	Keskin Array B	76.00	308	P	P	16 02 52.8	-0.9
	comp=Z,5.3nm,0.9s,mb4.3,baz=100,slow=4.7,SNR=23						
BRTR	Keskin Array B	76.00	308	i P	P	16 02 52.7	-0.9
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YKA	Yellowknife Ar	76.30	25	P	P	16 02 54.7	-0.5
	comp=Z,0.4nm,0.3s,mb3.6,baz=307,slow=6.3,SNR=7.8						
YKA	Yellowknife Ar	76.30	25	i P	P	16 02 55.4	+0.1
YKA	Yellowknife Ar	76.30	25	P	P	16 02 54.7	-0.5
TIRR	Tirgusor	77.39	314	⇑iP	P	16 03 01.9	+0.5
LVV	L'vov	77.47	320	eP	P	16 03 02.0	+0.1
NB2	NORSAR Subarra	77.49	334	P	P	16 03 00.2	-1.8
	comp=Z,1.3nm,0.5s,mb3.9,baz=51,slow=5.6						
NOA	NORSAR Array B	77.49	334	P	P	16 03 00.6	-1.4
	comp=Z,2.1nm,0.6s,mb4.0,baz=51,slow=5.6,SNR=14						
HARR	Harsova	77.58	314	⇓iP	P	16 03 03.7	+1.2
VRI	Vrincioaia	77.78	316	⇑iP	P	16 03 05.0	+1.4
BURAR	Bucovina Array	77.86	318	⇑iP	P	16 03 04.8	+0.8
MLR	Muntele Rosu	78.44	316	⇑iP	P	16 03 08.0	+0.7
STHS	Stebnicka Huta	79.24	321	eP	P	16 03 12.6	+1.0
STHS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
STHS	Stebnicka Huta	79.24	321	eP	P	16 03 12.6	+1.0
	comp=Z,5.0nm,1.1s,mb4.3						
CRVS	Cervenica-Dubn	79.39	320	e	P	16 03 10.0	-2.4
OJC	Ojcow	79.61	322	eP	P	16 03 14.0	+0.4
KECS	Kecovo	80.16	320	eP	P	16 03 16.5	-0.1
KECS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
KECS	Kecovo	80.16	320	eP	P	16 03 16.5	-0.1
	comp=Z,3.8nm,1.2s,mb4.1						
OKC	Ostrava-Krasne	80.72	322	eP	P	16 03 19.6	0.0
VYHS	Vyhne	81.08	321	eP	P	16 03 22.2	+0.7
VYHS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.6						
VYHS	Vyhne	81.08	321	eP	P	16 03 22.2	+0.7
	comp=Z,10nm,1.1s,mb4.6						
MORC	Moravsky Berou	81.08	322	⇓iP	P	16 03 22.2	+0.7
KSP	Ksiaz	81.14	324	eP	P	16 03 21.9	+0.1
DPC	Dobruska-Polom	81.41	323	eP	P	16 03 23.9	+0.7
UPC	Upice	81.48	323	eP	P	16 03 24.1	+0.5
VTS	Vitosha	81.60	314	⇑iP	P	16 03 25.6	+1.4
VRAC	Vranov	81.85	322	⇑iP	P	16 03 26.7	+1.2
ZST	Bratislava	82.20	321	eP	P	16 03 27.7	+0.3
ZST				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZST	Bratislava	82.20	321	eP	P	16 03 27.7	+0.3
	comp=Z,6.5nm,1.0s,mb4.4						
BSEG	Bad Segeberg	82.24	328	eP	P	16 03 27.6	0.0
	comp=Z,20nm,1.5s,mb4.7						
BSEG	Bad Segeberg	82.24	328	eP	P	16 03 27.6	0.0
BSEG				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.7						
BRG	Berggiesshubel	82.34	325	eP	P	16 03 28.5	+0.4
	comp=Z,5.0nm,0.8s,mb4.4						
BRG	Berggiesshubel	82.34	325	eP	P	16 03 28.5	+0.4
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
PKSM	Moragy	82.44	319	⇑iP	P	16 03 29.0	+0.4
PRU	Pruhonice	82.55	324	eP	P	16 03 29.3	+0.1
CLL	Collm	82.55	325	eP	P	16 03 28.9	-0.3
	comp=Z,18nm,0.9s,mb4.9						
CLL	Collm	82.55	325	⇓iP	P	16 03 29.2	0.0
	comp=Z,18nm,0.9s,mb4.9						
CLL	Collm	82.55	325	⇓iP	P	16 03 29.2	0.0
CLL				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
CLL	Collm	82.55	325	⇓iP	P	16 03 29.2	0.0
	comp=Z,18nm,0.9s,mb4.9						
FBE	Freiberg	82.61	325	eP	P	16 03 29.9	+0.4
	comp=Z,16nm,0.9s,mb4.8						
NRDL	Niedersach Rie	83.24	327	eP	P	16 03 33.1	+0.4
	comp=Z,7.0nm,1.1s,mb4.4						
TANN	Tannenbergstha	83.37	325	eP	P	16 03 33.5	+0.1
	comp=Z,9.0nm,1.2s,mb4.5						
WERD	Werda	83.42	325	eP	P	16 03 33.7	0.0
	comp=Z,16nm,1.3s,mb4.7						
GUNZ	Gunzen	83.46	325	eP	P	16 03 34.1	+0.2
	comp=Z,16nm,1.0s,mb4.8						
NKC	Novy Kostel	83.48	325	eP	P	16 03 34.2	+0.2
WERN	Wernitzgruen	83.49	325	eP	P	16 03 34.2	+0.2
	comp=Z,17nm,1.1s,mb4.8						
KHC	Kasperske Hory	83.56	323	eP	P	16 03 34.6	+0.2
KHC				e		16 03 35.0	
MOX	Moxa	83.65	325	eP	P	16 03 34.8	-0.1
	comp=Z,22nm,1.6s,mb4.7						
MOX	Moxa	83.65	325	eP	P	16 03 35.1	+0.2
GEC2	GERESS Array S	83.67	323	eP	P	16 03 35.1	+0.2
	comp=Z,12nm,1.0s,mb4.7						
GEC2	GERESS Array S	83.67	323	eP	P	16 03 35.1	+0.2
GEC2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
GERES	GERESS Array B	83.67	323	P	P	16 03 35.1	+0.2
	comp=Z,5.8nm,0.8s,mb4.5,baz=46,slow=4.4,SNR=36						
MANZ	Manzenberg	83.81	325	eP	P	16 03 36.2	+0.6
	comp=Z,14nm,1.3s,mb4.6						
ROTZ	Rotzenmuhle	83.89	324	eP	P	16 03 36.5	+0.4
	comp=Z,20nm,1.1s,mb4.9						
GTTG	Gvttingen	83.91	327	eP	P	16 03 36.3	+0.2
	comp=Z,12nm,0.7s,mb4.8						
WET	Wettzell	83.92	324	eP	P	16 03 36.5	+0.3
	comp=Z,10.0nm,1.2s,mb4.5						
WET	Wettzell	83.92	324	eP	P	16 03 36.5	+0.3
WET				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
PERS	Pernice	84.20	321	eP	P	16 03 37.5	-0.2
UBBA	Unterbreizbach	84.35	326	eP	P	16 03 38.7	+0.3
	comp=Z,19nm,1.4s,mb4.7						
GRA1	Grafenberg Arr	84.44	325	eP	P	16 03 39.5	+0.6
	comp=Z,50nm,1.7s,mb5.1						
GRF	Grafenberg Arr	84.44	325	eP	P	16 03 39.5	+0.6
	comp=Z,50nm,1.7s,mb5.1						
GRF	Grafenberg Arr	84.44	325	eP	P	16 03 39.5	+0.6
GRF				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.1						
BOJS	Bojanci	84.79	320	eP	P	16 03 40.2	-0.4
LJU	Ljubljana	84.88	320	eP	P	16 03 40.8	-0.3
CEY	Cerknica	85.12	320	eP	P	16 03 41.7	-0.5
CADS	Cadrg	85.22	321	eP	P	16 03 41.9	-0.9
VOY	Vojsko	85.25	321	eP	P	16 03 42.6	-0.3
BUG	Bochum--Univer	85.26	328	eP	P	16 03 43.5	+0.5
	comp=Z,8.0nm,0.9s,mb4.7						
KNDS	Knezji Dol	85.27	320	eP	P	16 03 42.5	-0.5
BMO	Blue Mountains	85.45	41	P	P	16 03 42.9	-1.0
	comp=Z,2.7nm,1.1s,mb4.1						
DLMT	Dillon	87.78	38	eP	P	16 03 56.0	+0.8
	comp=Z,5.0nm,0.9s,mb4.5						
HLID	Hailey	87.89	40	eP	P	16 03 56.6	+0.9
	comp=Z,4.7nm,1.0s,mb4.5						
NVAR	Mina Array Bea	88.62	46	P	P	16 03 58.4	-0.8
	comp=Z,0.5nm,0.7s,mb3.7,baz=269,slow=6.9,SNR=5.4						
BW06	Boulder Array	91.12	39	eP	P	16 04 11.4	+0.5
PDAR	Pinedale Array	91.12	39	P	P	16 04 11.7	+0.8
	comp=Z,0.9nm,0.9s,mb3.9,baz=302,slow=3.3,SNR=6.3						
KMBO	Kilima Mbogo	91.83	270	P	P	16 04 15.8	+1.6
	comp=Z,2.2nm,0.9s,mb4.4,baz=32,slow=11,SNR=3.6						
KMBO	Kilima Mbogo	91.83	270	P	P	16 04 15.8	+1.7
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULM	Lac du Bonnet	92.20	27	P	P	16 04 15.1	-0.8
	comp=Z,1.8nm,0.9s,mb4.3,baz=326,slow=3.7,SNR=3.5						
ULM	Lac du Bonnet	92.20	27	P	P	16 04 15.1	-0.8
TORD	Torodi Ar. Bea	114.15	302	PKiKP	PKiKP	16 09 44.8	-0.1
	comp=Z,1.1nm,0.8s,baz=109,slow=0.7,SNR=5.2						
DBIC	Dimbokro	123.23	301	PKP	PKPdf	16 10 02.8	+0.5
	comp=Z,3.6nm,0.7s,baz=337,slow=4.0,SNR=3.5						

IDC 13 15:57:15.0±72.0**, 1822S**×**17639E, h0**km**, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/12**, mbtmp4.0**/3**, Error ellipse: s-maj=1273.0km s-min=148.1km az=77.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.17	240	P	P	16 04 02.1	+0.2
	0.7nm,0.4s,baz=110,slow=12,SNR=3.9						
WRA	Warramunga Arr	39.71	261	P	P	16 04 49.2	+0.2
	0.6nm,0.7s,baz=94,slow=7.9,SNR=8.9						
ASAR	Alice Springs	39.94	255	P	P	16 04 51.5	+0.5
	3.4nm,0.5s,baz=89,slow=8.0,SNR=72						

---

*IDC **13** 16:12:41.0±3.1, 3243N×4839E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/32, Error ellipse: s-maj=62.8km s-min=20.5km az=0.0*

*ISCJB **13** 16:12:42.6±0.3, 3256N±003×4836E±002, h10km, mb4.1/20, Error ellipse: s-maj=4.0km s-min=2.8km az=32.3*

*MOS **13** 16:12:42.2±1.1, 3264N×4832E, h12km, mb4.5/11, Error ellipse: s-maj=12.1km s-min=8.0km az=117.4*

*CSEM **13** 16:12:45.0±0.1, 3259N×4839E, h25km, mb4.3/8, Error ellipse: s-maj=2.5km s-min=1.4km az=25.0*

*THR **13** 16:12:45.3±0.4, 3271N×4849E, h14km±3km, ML3.9*

*TEH **13** 16:12:45.5, 3261N×4842E, h3km, Mn3.8*

*NEIC **13** 16:12:45.3, 3271N×4849E, h14km, mb4.3/10, ML3.9(THR), After THR.*

ISC 13 16:12:44.5±0.3**, 3259N**±003×**4837E**±002**, h10**km**, n110, σ1**§**27**/131**, mb4.1**/20**, 3C-5D, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.60	143	ePG	Pg	16 12 57.8	+1.6
SHGR				AML	AML	16 13 27.0	
	comp=N,5μm,0.8s						
SHGR	Shooshtar-Gavs	0.60	143	ePg	Pg	16 12 57.0	+0.8
IKOM	Komasi	1.74	336	ePn	Pn	16 13 16.5	+1.8
IKOM				eSn	Sn	16 13 39.2	+2.3
IPIR	Pirpir	2.13	87	ePn	Pn	16 13 21.7	+1.6
IPIR				eSn	Sn	16 13 47.4	+0.8
IGHG	Ghaleghazi	2.30	320	ePn	Pn	16 13 24.0	+1.5
IGHG				eSn	Sn	16 13 52.1	+1.3
IVIS	Veys	2.31	327	ePn	Pn	16 13 24.6	+2.0
IVIS				eSn	Sn	16 13 52.9	+1.8
ASAO	Ashtian	2.39	35	ePN	Pn	16 13 24.3	+0.6
ASAO				eSG	Sn	16 13 55.8	+2.7
ASAO				AML	AML	16 14 01.9	
	comp=N,823nm,0.7s						
ASAO				AML	AML	16 14 04.2	
	comp=E,793nm,0.7s						
ASAO	Ashtian	2.39	35	ePn	Pn	16 13 24.0	+0.3
ASAO				eSg	Sn	16 13 55.0	+1.9
ASAO	Ashtian	2.39	35	ePn	Pn	16 13 24.3	+0.6
	SNR=52						
ASAO				eSg	Sn	16 13 55.0	+1.9
ILIN	Laeen	2.60	334	ePn	Pn	16 13 28.3	+1.7
ILIN				eSn	Sn	16 13 59.5	+1.2
SNGE	Sanandaj	2.64	341	ePN	Pn	16 13 28.6	+1.4
SNGE				AML	AML	16 14 15.5	
	comp=N,547nm,0.9s						
SNGE	Sanandaj	2.64	341	ePn	Pn	16 13 28.0	+0.9
IDHR	Dehrash	2.68	322	ePn	Pn	16 13 28.9	+1.2
IKLH	Kalahroud	2.79	74	ePn	Pn	16 13 30.6	+1.3
IKLH				eSn	Sn	16 14 03.4	+0.4
UMR	Umm Al-Rimmam	3.08	191	eP	Pg	16 13 44.6	+1.1
UMR				AMb	AMB	16 13 49.4	
	comp=Z,355nm,0.5s						
IRAZ	Razeghan	3.09	24	ePn	Pn	16 13 37.1	+3.7
IRAZ				eSn	Sn	16 14 10.4	0.0
IGAR	Garneh	3.25	95	ePn	Pn	16 13 35.0	-0.6
IGAR				eSn	Sn	16 14 10.4	-4.0
IZEF	Zefreh	3.35	84	ePn	Pn	16 13 38.4	+1.5
IZEF				eSn	Sn	16 14 15.4	-1.3
BHD	Baghdad	3.42	282	ex	x	16 13 47.0	
BHD				i x	x	16 14 39.0	
BHD				i x	x	16 14 52.0	
BHD				i x	x	16 15 08.0	
KBD	Kabd	3.45	190	eP	Pn	16 13 42.4	+4.0
KBD				AMb	AMB	16 13 45.5	
	comp=Z,87nm,0.5s						
NAY	Al-Naaiem	3.47	197	eP	Pn	16 13 42.3	+3.7
NAY				AMb	AMB	16 13 52.9	
	comp=Z,53nm,0.5s						
IMHD	Mahdasht	3.63	31	ePn	Pn	16 13 41.5	+0.8
IMHD				eSn	Sn	16 14 23.4	-0.2
ISFB	Sefidab	3.68	60	ePn	Pn	16 13 42.9	+1.5
ISFB				eSn	Sn	16 14 24.4	-0.4
IVRN	Varamin	3.68	48	ePn	Pn	16 13 42.6	+1.1
IVRN				eSn	Sn	16 14 24.5	-0.5
NASN	Na'in	3.75	86	ePn	Pn	16 13 43.6	+1.2
THKV	Tehran--Karaj	3.91	31	ePn	Pn	16 13 45.2	+0.5
CHTH	Charan	4.02	34	ePN	Pn	16 13 46.6	+0.5
CHTH	Charan	4.02	34	ePn	Pn	16 13 46.0	-0.1
DAMV	Damavand	4.25	44	ePN	Pn	16 13 49.7	+0.3
DAMV	Damavand	4.25	44	ePn	Pn	16 13 49.0	-0.4
IDMV	Damavand	4.25	45	ePn	Pn	16 13 49.6	+0.2
IDMV				eSn	Sn	16 14 38.3	-0.8
IAFJ	Afjeh	4.27	39	ePn	Pn	16 13 50.3	+0.7
ISAD	Sadrabad	4.55	97	ePn	Pn	16 13 54.6	+1.1
ISAD				eSn	Sn	16 14 44.2	-2.2
ILAS	Lasjerd	4.72	53	ePn	Pn	16 13 56.2	+0.4
IFIR	Firoozkooh	4.74	49	ePn	Pn	16 13 57.0	+1.0
IFIR				eSn	Sn	16 14 49.7	-1.3
IMOK	Mook	5.14	132	ePn	Pn	16 14 03.7	+2.2
IMOK				eSn	Sn	16 15 00.8	-0.1
ISRV	Sarvestan	5.18	127	ePn	Pn	16 14 04.8	+2.8
ISRV				eSn	Sn	16 15 00.6	-1.2
ISHM	Shahmirzad	5.19	50	ePn	Pn	16 14 02.9	+0.7
ISHM				eSn	Sn	16 14 59.2	-2.9
ISRB	Sarab	5.25	354	ePn	Pn	16 14 03.7	+0.6
ISRB				eSn	Sn	16 15 02.4	-1.3
IANJ	Anjiloo	5.42	57	ePn	Pn	16 14 05.3	-0.1
IANJ				eSn	Sn	16 15 05.0	-2.9
IMEH	Mehriz	5.44	101	ePn	Pn	16 14 06.7	+1.1
IAZR	Azarshahr	5.44	340	ePn	Pn	16 14 06.4	+0.7
MSL	Mosul	5.71	312	ex	x	16 14 29.5	
MSL				ex	x	16 15 48.0	
IBAF	Bafgh	6.19	97	ePn	Pn	16 14 16.7	+0.8
IMRD	Marand	6.48	341	ePn	Pn	16 14 20.0	0.0
ISFR	Esferayen	9.08	58	ePn	Pn	16 14 57.2	+1.6
ASF	Jabal al Asfar	9.71	271	Pn	Pn	16 15 04.0	-0.3
	comp=Z,0.9nm,0.3s,baz=328,slow=5.9,SNR=6.6						
AKTK	Aktyubinsk	19.21	19	P	Pn	16 17 08.6	-0.9
AKTO	Aktyubinsk	19.21	19	P	Pn	16 17 08.6	-0.9
	comp=Z,0.3nm,0.3s,baz=180,slow=10.0,SNR=6.2						
VRSR	Storozhevoye	19.80	343	eP	Pn	16 17 13.1	-3.4
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.9s						
VRSR	Storozhevoye	19.80	343	eP	Pn	16 17 13.1	-3.4
	comp=E,5.0nm,0.8s						
CFR	Carcaliu	20.09	315	⇑iP	P	16 17 18.4	+0.3
VRI	Vrincioaia	21.29	315	⇓iP	P	16 17 31.8	+0.6
PLOR	Plostina	21.33	315	⇑iP	P	16 17 32.5	+0.9
MLR	Muntele Rosu	21.58	313	P	P	16 17 35.4	+1.1
	comp=E,4.9nm,0.6s,mb4.1,baz=178,slow=6.7,SNR=6.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	21.58	313	⇓iP	P	16 17 36.5	+2.2
VOIR		22.11	312	⇓iP	P	16 17 40.1	+0.1
AKASG	Malin Array Be	22.95	328	P	P	16 17 48.9	0.0
	comp=E,1.4nm,0.5s,mb3.7,baz=128,slow=7.7,SNR=6.6						
AKASG	Malin Array Be	22.95	328	P	P	16 17 48.9	0.0
BURAR	Bucovina Array	23.09	317	⇓iP	P	16 17 49.9	-0.5
GZR	Gura Zlata	23.53	310	⇓iP	P	16 17 54.6	-0.4
DRGR		24.17	313	⇑iP	P	16 18 01.4	+0.5
ARU	Arti	24.86	14	eP	P	16 18 01.8	-5.4
ARU				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
ARU	Arti	24.86	14	eP	P	16 18 01.8	-5.4
	comp=Z,18nm,1.0s,mb4.6						
ZRNK	Zerenda	25.20	30	eP	P	16 18 08.7	-1.6
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
ZRNK	Zerenda	25.20	30	eP	P	16 18 08.7	-1.6
	comp=Z,4.2nm,1.1s,mb3.9						
ZRNK	Zerenda	25.20	30	eP	P	16 18 08.7	-1.6
	comp=Z,4.2nm,1.1s,mb3.9						
BRVK	Borovoye	25.83	31	eP	P	16 18 15.1	-0.8
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.1						
BRVK	Borovoye	25.83	31	eP	P	16 18 15.1	-0.8
	comp=Z,8.9nm,1.5s,mb4.1						
BRVK	Borovoye	25.83	31	eP	P	16 18 15.1	-0.8
	comp=Z,8.9nm,1.5s,mb4.1						
BVAR	Borovoye Array	25.85	31	P	P	16 18 14.9	-1.3
	comp=Z,1.4nm,0.6s,mb3.7,baz=209,slow=9.5,SNR=11						
PSZ	Piszkesteto	26.39	314	P	P	16 18 19.4	-1.6
MKAR	Makanchi Array	29.45	51	P	P	16 18 47.8	-0.6
	comp=Z,1.5nm,0.7s,mb3.8,baz=246,slow=8.5,SNR=12						
GERES	GERESS Array B	30.56	312	P	P	16 18 55.7	-2.5
	comp=Z,0.3nm,0.4s,mb3.5,baz=106,slow=10,SNR=2.9						
JOF	Joensuu	32.22	345	ep	P	16 19 09.3	-3.6
FINES	FINESS Array B	32.28	340	P	P	16 19 12.1	-1.3
	comp=Z,1.4nm,0.6s,mb4.0,baz=152,slow=6.5,SNR=6.3						
FINES	FINESS Array B	32.28	340	P	P	16 19 12.1	-1.3
KAF	Kangasniemi	32.76	341	ep	P	16 19 15.8	-1.8
	baz=142,slow=9.0						
MBDF	Montbardon	34.32	303	eP	P	16 19 30.6	-0.5
	comp=Z,9.8nm,0.7s,mb4.5						
MBDF	Montbardon	34.32	303	eP	P	16 19 30.6	-0.5
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MBDF	Montbardon	34.32	303	eP	P	16 19 30.6	-0.5
	comp=Z,4.9nm,0.7s,mb4.5						
BNI	Bardonecchia	34.42	303	eP	P	16 19 31.1	-0.9
BNI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BNI	Bardonecchia	34.42	303	eP	P	16 19 31.1	-1.0
	comp=Z,5.1nm,0.7s,mb4.6						
BNI	Bardonecchia	34.42	303	eP	P	16 19 31.0	-1.0
	comp=Z,5.1nm,0.7s,mb4.6						
LPG	La Plagne	34.42	304	eP	P	16 19 31.8	-0.2
LPL	La Plagne	34.44	304	eP	P	16 19 31.4	-0.8
	comp=Z,20nm,1.0s,mb4.7						
LPL	La Plagne	34.44	304	eP	P	16 19 31.4	-0.8
LPL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
LPL	La Plagne	34.44	304	eP	P	16 19 31.4	-0.8
	comp=Z,10nm,1.0s,mb4.7						
ORIF	Oris-en-Rattie	34.97	303	eP	P	16 19 35.2	-1.6
CABF	La Chapelle	35.03	306	eP	P	16 19 35.0	-2.3
	comp=Z,8.3nm,0.7s,mb4.5						
CABF	La Chapelle	35.03	306	eP	P	16 19 35.0	-2.3
CABF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CABF	La Chapelle	35.03	306	eP	P	16 19 35.0	-2.3
	comp=Z,4.2nm,0.7s,mb4.5						
SMF	Signal de Mont	36.57	306	eP	P	16 19 49.4	-1.1
LOR	Lormes	36.63	307	eP	P	16 19 49.5	-1.5
NB2	NORSAR Subarra	37.28	331	P	P	16 19 54.7	-1.8
	comp=Z,1.2nm,0.6s,mb3.9,baz=124,slow=8.6						
NOA	NORSAR Array B	37.28	331	P	P	16 19 54.8	-1.8
	comp=Z,2.0nm,0.7s,mb4.1,baz=123,slow=8.3,SNR=8.4						
ARCES	ARCESS Array B	39.16	348	P	P	16 20 12.2	-0.2
	comp=Z,2.8nm,0.8s,mb4.0,baz=152,slow=8.2,SNR=5.6						
LDF	La Druitiere	39.44	308	eP	P	16 20 12.9	-1.8
	comp=Z,5.9nm,0.7s,mb4.1						
LDF	La Druitiere	39.44	308	eP	P	16 20 12.9	-1.8
LDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
LDF	La Druitiere	39.44	308	eP	P	16 20 12.9	-1.8
	comp=Z,3.0nm,0.7s,mb4.1						
FLN	La Foliniere	39.70	309	eP	P	16 20 15.2	-1.7
ROSF	Rostrenen	41.51	308	eP	P	16 20 30.0	-1.9
	comp=Z,5.5nm,0.6s,mb4.1						
ROSF	Rostrenen	41.51	308	eP	P	16 20 30.0	-1.9
ROSF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ROSF	Rostrenen	41.51	308	eP	P	16 20 30.0	-1.9
	comp=Z,2.8nm,0.6s,mb4.1						
SONM	Songino Array	45.79	53	P	P	16 21 04.9	-1.4
	comp=Z,0.4nm,0.7s,mb3.5,baz=270,slow=6.6,SNR=4.2						
ULN	Ulaanbaatar	46.23	53	eP	P	16 21 08.9	-0.9
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ULN	Ulaanbaatar	46.23	53	eP	P	16 21 08.9	-0.9
	comp=Z,1.9nm,0.8s,mb4.1						
ULN	Ulaanbaatar	46.23	53	eP	P	16 21 08.9	-0.9
	comp=Z,1.9nm,0.8s,mb4.1						
BOD	Bodaibo	50.27	39	eP	P	16 21 39.1	-1.9
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BOD	Bodaibo	50.27	39	eP	P	16 21 39.1	-1.9
	comp=Z,3.0nm,1.2s,mb4.2						

*IDC **13** 16:14:05.9±1.4, 3704N×2780E, h0km, mb3.4/2, mb1 3.5/5, mb1mx3.3/22, mbtmp3.5/5, ML3.2/3, Error ellipse: s-maj=58.2km s-min=13.3km az=148.0*
*ISK **13** 16:14:07.4, 3698N×2795E, h8km, MD3.3*
*CSEM **13** 16:14:07.2±0.1, 3700N×2793E, h5km, MD3.3, Error ellipse: s-maj=1.4km s-min=1.1km az=166.0*
*ISCJB **13** 16:14:07.6±0.4, 3695N±002×2793E±003, h12km±3km, mb3.4/2, Error ellipse: s-maj=4.1km s-min=3.4km az=149.7*
*NEIC **13** 16:14:07.8±0.5, 3691N×2790E, h10km, MD3.5(ATH), Error ellipse: s-maj=7.9km s-min=6.7km az=165.0*
*ATH **13** 16:14:07.1, 3696N×2797E, h23km±1km, MD3.5/10*
ISC 13 16:14:08.0±0.4, **3696N**±002×**2791E**±003, **h8**km±3km, **n54**, σ**1.00**/66, **mb3.4**/2, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.35	60	i PG	Pg	16 14 14.1	-0.7
YER				i SG	Sg	16 14 18.9	-0.5
MLSB	Milas	0.35	343	i PG	Pg	16 14 14.5	-0.4
MLSB				i SG	Sg	16 14 20.5	+1.0
DAT	Datca	0.35	229	PG	Pg	16 14 15.1	+0.2
DAT				SG	Sg	16 14 22.1	+2.5
BDRM	Kayabasi	0.39	286	i P	Pg	16 14 15.8	+0.3
BDRM				i S	Sg	16 14 22.6	+1.9
BODT	Bodrum	0.49	282	PG	Pg	16 14 17.5	0.0
DALT	Dalyan (Mudla)	0.61	108	PG	Pg	16 14 19.2	-0.7
AYDN	Tasoluk	0.70	358	i P	Pg	16 14 21.1	-0.4
NISR	Nisiros	0.72	241	ePN	Pn	16 14 22.0	-2.5
ARG	Arkhangelos	0.76	167	ePN	Pn	16 14 22.4	-2.7
ARG				eSN	Sg	16 14 32.5	-0.2
FETY	Fethiye	1.00	109	PG	Pg	16 14 25.9	-1.3
SMG	Samos	1.14	312	ePN	Pn	16 14 30.0	-0.2
SMG				eSN	Sn	16 14 45.4	-0.6
DENT	Denizli	1.20	48	PN	Pn	16 14 29.8	-1.3
GOLH	Golhisar	1.35	78	i P	Pn	16 14 34.2	+1.0
GOLH				i S	Sb	16 14 54.9	+3.8
GOLH	Golhisar	1.35	78	i P	Pn	16 14 34.2	+1.0
GOLH				i S	Sb	16 14 54.8	+3.8
IZM	Izmir	1.52	341	PN	Pn	16 14 34.7	-0.9
KDAG	Bornova	1.53	341	i P	Pn	16 14 34.7	-0.9
KARP	Karpathos	1.53	203	⇑iPN	Pn	16 14 35.6	-0.1
KARP				eSN	Sn	16 14 56.1	+0.2
AKAS	Kas	1.55	117	i P	Pn	16 14 37.3	+1.4
KSL	Kastellorizon	1.57	120	ePN	Pn	16 14 35.0	-1.3
BLCB	Balcova	1.58	334	PN	Pn	16 14 35.8	-0.6
ELL	Elmali	1.62	97	PN	Pn	16 14 37.1	+0.2
URLA	Izmir	1.74	324	i P	Pn	16 14 39.2	+0.6
APE	Apeiranthos	1.91	274	ePB	Pb	16 14 41.0	-2.1
AKHS	Akhisar	1.92	358	i P	Pn	16 14 39.9	-1.1
AKS	Akhisar	1.92	358	PN	Pn	16 14 40.0	-1.0
BCK	Bucak	2.20	76	ePN	Pn	16 14 45.2	+0.3
ANTB	Antalya	2.20	91	ePN	Pn	16 14 45.4	+0.5
ISP	Isparta	2.25	66	ePN	Pn	16 14 46.0	+0.4
ISP	Isparta	2.25	66	ePg	Pg	16 14 50.1	-1.1
ISP	Isparta	2.25	66	ePg	Pg	16 14 50.1	-1.1
GDZ	Gediz	2.46	30	i P	Pn	16 14 48.0	-0.5
PRK	Paraskevi	2.62	331	ePN	Pn	16 14 51.0	+0.3
DST	Dursunbey	2.70	12	ePN	Pn	16 14 52.0	+0.2
XRY	Khrisi	2.75	221	ePN	Pn	16 14 53.0	+0.5
IDI	Anoyia	2.96	237	Pn	Pn	16 14 55.0	-0.3
	1.5nm,0.3s,baz=58,slow=15,SNR=9.2						
IDI				Pg	Pg	16 14 59.2	-5.5
	2.9nm,0.3s,baz=55,slow=13,SNR=16						
IDI				Sn	Sn	16 15 31.0	0.0
	1.9nm,0.3s,baz=338,slow=16,SNR=3.2						
IDI				Lg		16 15 37.7	
	3.4nm,0.3s,baz=303,slow=21,SNR=7.6						
IDI	Anoyia	2.96	237	Pg	Pg	16 14 59.2	-5.6
EZN	Ezine	3.12	337	ePN	Pn	16 14 58.1	+0.6
ESKT	Eskisehir	3.45	41	ePN	Pn	16 15 02.8	+0.7
LIA	Limnos Island	3.63	325	ePN	Pn	16 15 05.4	+0.8
HDMB	Hadim	3.67	89	ePN	Pn	16 15 06.4	+1.3
KONT	Konya--Tatoy	3.68	73	ePN	Pn	16 15 06.2	+1.0
KIZT	Kizilcal	3.68	57	ePN	Pn	16 15 06.0	+0.8
GVD	Gavdhos	3.75	237	eP	Pn	16 15 10.8	+4.6
YLV	Yalova	3.78	17	ePN	Pn	16 15 07.4	+0.8
RDO	Rodhopi	4.57	337	ePN	Pn	16 15 17.7	+0.2
IKL	Isikli	4.70	97	ePN	Pn	16 15 21.0	+1.7
BR131	Keskin Array S	5.28	57	eP	Pn	16 15 28.9	+1.6
	1.9nm,0.4s						
BR131	Keskin Array S	5.28	57	eP	Pn	16 15 28.9	+1.6
	1.9nm,0.4s						
BRTR	Keskin Array B	5.28	57	Pn	Pn	16 15 28.2	+1.0
	0.9nm,0.3s,baz=243,slow=17,SNR=12						
BRTR				Sn	Sn	16 16 29.3	+0.9
	0.4nm,0.3s,baz=231,slow=25,SNR=4.9						
ASF	Jabal al Asfar	8.82	120	Pn	Pn	16 16 16.3	+0.5
	0.5nm,0.3s,baz=322,slow=18,SNR=2.4						
TORD	Torodi Ar. Bea	33.35	232	P	P	16 20 46.2	-0.4
	0.4nm,0.4s,mb3.7,baz=39,slow=8.3,SNR=9.9						
TORD	Torodi Ar. Bea	33.35	232	P	P	16 20 46.2	-0.4
MKAR	Makanchi Array	40.93	58	P	P	16 21 49.2	-1.7
	0.3nm,0.7s,mb3.0,baz=263,slow=5.4,SNR=2.7						
MKAR	Makanchi Array	40.93	58	P	P	16 21 49.2	-1.7

*IDC **13** 16:30:09.5±0.8, 631S×8078W, h0km, mb4.1/7, mb1 4.2/13, mb1mx4.0/25, mbtmp4.1/13, ML3.8/6, MS3.9/11, Ms1 3.9/11, ms1mx3.7/27, Error ellipse: s-maj=25.6km s-min=15.2km az=55.0*
*ISCJB **13** 16:30:13.1±2.0, 642S±008×809W±0.1, h54km±19km, mb4.2/8, MS4.0/7, Error ellipse: s-maj=19.8km s-min=10.7km az=130.5*
*NEIC **13** 16:30:14.9±1.9, 637S×8077W, h50km±21km, mb4.2/2, Error ellipse: s-maj=19.1km s-min=8.9km az=70.0*
ISC 13 16:30:11.5±4.1, **638S**±007×**8092W**±008, **h17**km±27km, **n26**, σ**1.19**/19, **mb4.2**/8, **MS4.0**/7, **Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.58	104	Pn	Pn	16 30 53.6	+1.1
	4.6nm,0.3s,baz=89,slow=23,SNR=10						
ATAH				LR	LR	16 31 17.1	
	comp=Z,617nm,19.6s,baz=30,slow=27						
ATAH				Sn	Sn	16 31 24.4	+0.8
	8.8nm,0.3s,baz=278,slow=14,SNR=8.0						
NNA	Nana	6.87	144	Pn	Pn	16 31 53.0	+1.5
	1.4nm,0.3s,baz=266,slow=5.2,SNR=3.6						
LPAZ	La Paz	15.93	129	Pn	Pn	16 33 56.7	+1.8
	0.3nm,0.3s,baz=306,slow=9.3,SNR=20						
LPAZ				LR	LR	16 39 35.1	
	comp=Z,152nm,20.3s,baz=300,slow=36						
LPAZ	La Paz	15.93	129	Pn	Pn	16 33 54.2	-0.6
JTS	JuntasAbangare	17.04	346	P	Pn	16 34 10.0	+1.0
	0.4nm,0.3s,baz=313,slow=19,SNR=2.0						
JTS	JuntasAbangare	17.04	346	P	Pn	16 34 09.9	+1.0
SAML	Samuel	17.76	99	eP	Pn	16 34 16.7	-1.3
	6.8nm,1.1s						
SDV	Santo Domingo	18.31	34	P	Pn	16 34 24.2	-0.5
	0.3nm,0.3s,baz=200,slow=12,SNR=2.9						
SDV				LR	LR	16 41 56.9	
	comp=Z,658nm,18.1s,baz=236,slow=39						
LVC	Limon Verde	19.86	146	P	Pn	16 34 41.6	-1.8
	0.1nm,0.3s,baz=291,slow=13,SNR=2.8						
LVC				LR	LR	16 43 20.6	
	comp=Z,461nm,19.5s,baz=311,slow=40						
SIV	San Ignacio	21.67	118	P	P	16 34 59.0	-2.2
	9.8nm,0.9s,mb4.2,baz=299,slow=12,SNR=46						
PCRV	Puerto La Cruz	23.10	45	P	P	16 35 17.2	+0.7
	13nm,0.8s,mb4.4,baz=189,slow=3.6,SNR=4.6						
PCRV				LR	LR	16 45 05.7	
	comp=Z,343nm,19.3s,MS3.8,baz=42,slow=39						
CMIG	Matias Romero	27.10	330	P	P	16 35 52.6	-0.8
	3.0nm,0.3s,mb4.2,baz=88,slow=16,SNR=14						
CFAA	Coronel Fontan	27.76	156	LR	LR	16 44 38.5	
	comp=Z,28nm,21.8s,MS2.8,baz=106,slow=31						
CPUP	Villa Florida	29.99	134	LR	LR	16 50 56.8	
	comp=Z,276nm,18.7s,MS3.9,baz=301,slow=42						
BDFB	Brasilia	33.54	109	LR	LR	16 51 59.5	
	comp=Z,484nm,20.5s,MS4.2,baz=279,slow=39						
PLCA	Paso Flores	35.44	166	P	P	16 37 06.5	-0.3
	1.8nm,0.8s,mb4.0,baz=311,slow=18,SNR=3.4						
TRQA	Tornquist	35.92	154	P	P	16 37 10.7	-0.2
ACSO	Alum Creek Sta	46.42	358	eP	P	16 38 36.1	-1.1
	6.4nm,0.7s,mb4.7						
PDAR	Pinedale Array	55.41	335	P	P	16 39 46.2	+1.3
	0.5nm,1.0s,mb3.5,baz=192,slow=12,SNR=3.2						
PPT	Papeete	67.78	254	LR	LR	17 01 05.7	
	comp=Z,150nm,21.2s,MS4.2,baz=118,slow=27						
DBIC	Dimbokro	77.00	82	LR	LR	17 15 44.8	
	comp=Z,138nm,18.3s,MS4.3,baz=208,slow=36						
TORD	Torodi Ar. Bea	84.29	76	P	P	16 42 41.5	-0.9
	1.0nm,0.7s,mb4.1,baz=289,slow=4.5,SNR=9.4						
TORD				LR	LR	17 18 13.4	
	comp=Z,154nm,20.1s,MS4.4,baz=235,slow=34						
VNDA	Vanda	89.49	191	P	P	16 43 09.6	+1.8
	0.7nm,0.9s,mb4.0,baz=163,slow=2.5,SNR=5.4						
ZAL	Zalesovo	131.19	11	PKP	PKPdf	16 49 24.9	+2.3
	1.0nm,0.6s,baz=200,slow=5.6,SNR=4.2						
ASAR	Alice Springs	134.75	227	PKP	PKPdf	16 49 33.1	+3.8
	0.7nm,0.8s,baz=117,slow=1.4,SNR=7.2						
WRA	Warramunga Arr	136.56	232	PKP	PKPdf	16 49 36.4	+3.7
	1.5nm,0.9s,baz=123,slow=1.5,SNR=8.7						

*ISCJB **13** 16:46:57.2±0.7, 2250S±007×676W±0.1, h160km±11km, mb4.3/2, Error ellipse: s-maj=19.2km s-min=11.3km az=13.6*
*IDC **13** 16:46:57.9±0.8, 2243S×6751W, h147km±11km, mb4.2/2, mb1 3.7/7, mb1mx3.5/19, mbtmp4.2/7, Error ellipse: s-maj=22.0km s-min=12.8km az=126.0*
*NEIC **13** 16:46:58.3±0.7, 2249S×6755W, h153km±8km, mb4.6/1, Error ellipse: s-maj=14.3km s-min=11.3km az=130.0*
ISC 13 16:46:58.6±0.7, **2249S**±007×**675W**±01, **h149**km±12km, **n14**, σ**0.71**/17, **mb4.3**/2, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.29	264	P	Pn	16 47 26.1	+0.2
	193nm,0.3s,baz=73,slow=5.8,SNR=1944						
LVC				S	Sn	16 47 46.5	-0.2
	39nm,0.3s,baz=278,slow=20,SNR=18						
LVC	Limon Verde	1.29	264	ePn	Pn	16 47 25.6	-0.3
LVC				S	Sn	16 47 46.5	-0.2
LPAZ	La Paz	6.19	355	P	Pn	16 48 28.9	+1.1
	1.0nm,0.3s,baz=173,slow=6.4,SNR=17						
LPAZ				S	Sn	16 49 37.4	-0.2
	0.1nm,0.3s,baz=153,slow=13,SNR=2.5						
LPAZ	La Paz	6.19	355	eP	Pn	16 48 29.6	+1.8
LPAZ				S	Sn	16 49 37.4	-0.2
SIV	San Ignacio	8.88	44	P	Pn	16 49 02.2	-1.4
	3.5nm,0.3s,baz=237,slow=14,SNR=48						
SIV				S	Sn	16 50 36.7	-5.6
	4.1nm,0.3s,baz=132,slow=22,SNR=15						
CPUP	Villa Florida	10.05	114	P	Pn	16 49 19.6	+0.5
	baz=281,slow=11,SNR=5.6						
PLCA	Paso Flores	18.37	187	P	P	16 51 01.7	-0.2
	0.1nm,0.3s,baz=357,slow=9.8,SNR=3.9						
BDFB	Brasilia	19.65	73	P	P	16 51 16.6	+0.8
	1.5nm,0.3s,baz=246,slow=9.2,SNR=7.3						
DBIC	Dimbokro	67.80	72	P	P	16 57 39.7	-0.7
	5.4nm,0.7s,mb4.4,baz=287,slow=6.0,SNR=5.4						
DBIC	Dimbokro	67.80	72	eP	P	16 57 40.3	-0.1
	10nm,0.9s,mb4.5						
TOA0	Torodi Ar. Sit	76.48	70	eP	P	16 58 31.9	-0.1
TORD	Torodi Ar. Bea	76.48	70	P	P	16 58 31.9	-0.1
	3.5nm,0.5s,mb4.2,baz=256,slow=5.4,SNR=59						
ASAR	Alice Springs	129.61	206	PKP	PKPdf	17 05 49.8	0.0
	0.5nm,0.9s,baz=128,slow=1.5,SNR=5.5						
WRA	Warramunga Arr	132.73	208	PKP	PKPdf	17 05 55.5	-0.2
	0.8nm,1.1s,baz=153,slow=1.7,SNR=5.3						

*ISCJB **13** 17:16:46.2±1.3, 575S±006×1282E±0.1, h359km±15km, mb4.2/16, Error ellipse: s-maj=17.8km s-min=5.7km az=131.6*
*IDC **13** 17:16:49.9±2.9, 582S×12842E, h390km±35km, mb3.7/7, mb1 3.9/10, mb1mx3.7/17, mbtmp4.7/10, Error ellipse: s-maj=21.3km s-min=9.2km az=76.0*
*NEIC **13** 17:16:50.5±1.1, 592S×12805E, h388km±16km, mb3.9/4, Error ellipse: s-maj=12.7km s-min=7.5km az=52.0*
ISC 13 17:16:50.9±0.9, **593S**±006×**12813E**±010, **h397**km±11km, **n32**, σ**0.86**/38, **mb4.2**/16, **5C, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.96	148	⇑iP	Pn	17 18 45.7	+0.3
	249nm,0.6s						
FITZ	Fitzroy Crossi	12.34	191	⇑iP	P	17 19 34.3	-0.1
	5.5nm,0.5s						
FITZ	Fitzroy Crossi	12.34	191	P	P	17 19 34.6	+0.2
	0.6nm,0.3s,baz=23,slow=12,SNR=22						
FITZ				S	S	17 21 55.3	+5.7
	0.5nm,0.3s,baz=338,slow=14,SNR=2.3						
WRAB	Tennant Creek	15.17	157	eP	P	17 20 05.6	+0.3
	82nm,0.6s						
WRA	Warramunga Arr	15.18	157	P	P	17 20 05.1	-0.2
	9.3nm,0.3s,baz=336,slow=11,SNR=789						
WRA				S	S	17 22 45.4	-1.0
	0.3nm,0.3s,baz=337,slow=16,SNR=8.0						
WB2	Warramunga Arr	15.18	157	⇑iP	P	17 20 05.7	+0.3
WB2				eS	S	17 22 44.4	-2.0
KKM	Kota Kinabalu	16.82	315	eP	P	17 20 22.7	-0.3
MBWA	Marble Bar	17.19	207	eP	P	17 20 26.4	-0.6
AS31	Alice Springs	18.49	163	⇑iP	P	17 20 41.0	+0.4
AS31				eS	S	17 23 50.9	+0.4
ASAR	Alice Springs	18.49	163	P	P	17 20 40.9	+0.3
	6.4nm,0.3s,baz=343,slow=12,SNR=847						
ASAR				S	S	17 23 50.5	-0.1
	0.4nm,0.3s,baz=343,slow=21,SNR=17						
ASPA	Alice Springs	18.49	163	⇑iP	P	17 20 41.0	+0.4
ASPA				eS	S	17 23 50.9	+0.4
PMG	Port Moresby	19.17	102	P	P	17 20 49.4	+1.7
	0.5nm,0.3s,baz=297,slow=4.5,SNR=3.0						
KSM	Kuching	19.26	292	eP	P	17 20 47.5	-1.2
STKA	Stephens Creek	28.72	156	eP	P	17 22 14.6	+1.0
	2.8nm,0.5s,mb3.9						
STKA	Stephens Creek	28.72	156	P	P	17 22 13.9	+0.4
	3.3nm,0.5s,mb3.9,baz=332,slow=7.1,SNR=17						
PSI	Prapat	30.43	286	P	P	17 22 29.2	+0.7
	12nm,0.8s,mb4.3,baz=125,slow=4.3,SNR=14						
CBIJ	Chichi jima	35.54	22	P	P	17 23 09.6	-2.7
	67nm,1.0s,mb4.9,baz=124,slow=23,SNR=3.8						
CHTO	Chiang Mai	37.85	311	eP	P	17 23 30.8	-0.6
	6.7nm,0.8s,mb4.0						
CHTO				e		17 23 36.0	
JHJ	Hachijo jima 2	40.38	15	P	P	17 23 48.6	-3.5
	220nm,0.8s,mb5.5,baz=159,slow=8.6,SNR=2.9						
MJAR	Matsushiro Arr	43.29	12	P	P	17 24 13.8	-1.6
	2.9nm,0.9s,mb3.6,baz=191,slow=9.1,SNR=6.6						
LSA	Lhasa	50.15	317	eP	P	17 25 09.0	+1.2
GUN	Gumba	52.86	312	eP	P	17 25 27.8	+0.2
	30nm,0.5s,mb4.8						
PKI	Pulchoki	53.03	311	eP	P	17 25 28.7	-0.1
	11nm,0.5s,mb4.3						
KKN	Kakani	53.24	311	eP	P	17 25 30.3	0.0
	9.4nm,0.5s,mb4.3						
DMN	Daman	53.28	311	eP	P	17 25 30.6	0.0
	7.7nm,0.5s,mb4.2						
GKN	Gorkha	53.84	311	eP	P	17 25 34.6	0.0
	18nm,0.4s,mb4.7						
KOLN	Koldanda	54.50	310	eP	P	17 25 39.6	+0.3
	14nm,0.6s,mb4.4						
ULN	Ulaanbaatar	56.70	343	eP	P	17 25 55.8	+1.1
	1.0nm,0.4s,mb3.5						
SONM	Songino Array	56.86	343	P	P	17 25 56.6	+0.7
	1.4nm,0.6s,mb3.5,baz=164,slow=7.6,SNR=12						
MKAR	Makanchi Array	66.33	327	P	P	17 26 58.7	+0.4
	3.0nm,0.4s,mb4.2,baz=116,slow=8.7,SNR=39						
MKAR	Makanchi Array	66.33	327	P	P	17 26 58.7	+0.4
ZAL	Zalesovo	69.82	334	P	P	17 27 19.6	-0.1
	0.9nm,0.5s,mb3.6,baz=17,slow=5.6,SNR=3.8						

JMA 13 17:29:58.3±0.2, **4399N**×**14688E**, **h72**km±3km, **M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.03	233	P	Pn	17 30 17.6	+0.3
NEM2				S	Sn	17 30 31.2	-0.3
JRA	Rausu	1.27	268	P	Pn	17 30 20.6	+0.3
JRA				eS	Sn	17 30 37.1	+0.3
JNK	Nakash	1.62	256	P	Pn	17 30 25.2	+0.4
JNK				eS	Sn	17 30 45.3	+0.4
JAK	Akkeshi	1.87	239	P	Pn	17 30 28.3	0.0
JAK				S	Sn	17 30 50.7	-0.4
JTKR	Abashiri--Toko	2.15	271	P	Pn	17 30 32.1	+0.2
JAR	Ashorobuto	2.36	254	P	Pn	17 30 35.9	+1.1
JAR				eS	Sn	17 31 04.2	+1.4
JOB	Onbets	2.47	245	P	Pn	17 30 37.1	+0.8
JOB				eS	Sn	17 31 05.9	+0.5
JMP	Maruseppu	2.54	272	P	Pn	17 30 37.5	+0.2
JCH	Churui	2.91	243	P	Pn	17 30 42.5	+0.2
JCH				eS	Sn	17 31 16.4	+0.2
ASAJ	Asahikawa	3.09	274	P	Pn	17 30 45.7	+1.0
JFR	Furan	3.22	257	P	Pn	17 30 47.9	+1.4
JSE	Soyaes	3.22	289	P	Pn	17 30 46.5	0.0

*LDG **13** 18:05:35.8±0.1, 4347N×059W, h20km, Md2.1/3, Ml2.2/3, Error ellipse: s-maj=2.3km s-min=1.1km az=132.0*
*STR **13** 18:05:35.6±0.2, 4348N×054W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 13 18:05:36.4±0.5, **4349N**×**059W**, **h0**km, **mbLg1.6**/10, **Error ellipse: s-maj=3.8km s-min=2.8km az=164.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.37	223	Pg	Pg	18 05 43.7	+0.1
ORDF				Sg	Sg	18 05 49.1	+0.7
ORDF	Ordiarp	0.37	223	P	Pg	18 05 43.1	-0.5
ORDF				S	Sg	18 05 49.1	+0.7
ATE	Arette	0.41	192	Pg	Pg	18 05 43.7	-0.6
ATE				Sg	Sg	18 05 49.8	+0.2
ATE	Arette	0.41	192	P	Pg	18 05 43.8	-0.5
ATE				S	Sg	18 05 49.8	+0.2
REYF	Montagne du Re	0.44	161	P	Pg	18 05 44.3	-0.6
REYF				S	Sg	18 05 51.0	+0.4
LARF	Larrau	0.54	213	Pg	Pg	18 05 46.1	-0.6
LARF				Sg	Sg	18 05 53.9	+0.2
LARF	Larrau	0.54	213	P	Pg	18 05 45.8	-0.9
LARF				S	Sg	18 05 53.6	0.0
OSSF	Osses	0.54	245	Pg	Pg	18 05 46.5	-0.4
OSSF				Sg	Sg	18 05 54.7	+0.8
OSSF	Osses	0.54	245	P	Pg	18 05 46.4	-0.5
OSSF				S	Sg	18 05 54.1	+0.2
ETSF	Etsaut	0.59	178	ePg	Pg	18 05 47.1	-0.6
ETSF				eSg	Sg	18 05 54.7	-0.7
	12nm,0.2s						
ETSF	Etsaut	0.59	178	Pg	Pg	18 05 47.1	-0.6
ETSF				Lg		18 05 54.7	
	6.1nm,0.2s						
SJPF	Ste Jean	0.60	231	ePg	Pg	18 05 47.1	-0.8
SJPF				eSg	Sg	18 05 54.4	-1.2
	11nm,0.3s						
SJPF	Ste Jean	0.60	231	Pg	Pg	18 05 47.1	-0.8
SJPF				Lg		18 05 54.4	
	5.3nm,0.3s						
LABF	Labassere	0.65	132	P	Pg	18 05 48.5	-0.4
EALK	Alkurruntz	0.72	249	Pg	Pg	18 05 49.6	-0.7
	1.9nm,0.3s,SNR=7.9						
EALK				Lg		18 06 00.2	
	13nm,0.3s,SNR=9.5						
ELIZ	Elizondo	0.76	245	Pg	Pg	18 05 50.1	-0.9
	2.6nm,0.2s,SNR=6.9						
ELIZ				Lg		18 06 02.0	
	4.5nm,0.2s,SNR=8.9						
EPF	Esparros	0.82	124	ePg	Pg	18 05 51.6	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EPF				*e*Sg	Sg	18 06 02.5	-0.2
	12nm,0.2s						
EPF	**Esparros**	**0.82**	**124**	Pg	Pg	18 05 51.6	-0.5
EPF				Lg		18 06 02.5	
	6.0nm,0.2s						
IPRE	**Itoiz**	**0.88**	**220**	Lg		18 06 04.3	
	0.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.89**	**233**	Pg	Pg	18 05 52.7	-0.7
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		18 06 04.5	
	0.9nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.96**	**146**	Pg	Pg	18 05 53.5	-1.4
	4.7nm,0.8s,SNR=7.1						
EBIE				Lg		18 06 07.4	
	2.0nm,0.2s,SNR=7.2						
LFF	**La Frestale**	**1.74**	**33**	*e*Pg	Pg	18 06 08.5	-1.2
LFF				*e*Sg	Sg	18 06 31.5	-0.8
	6.5nm,0.2s						
LFF	**La Frestale**	**1.74**	**33**	Pg	Pg	18 06 08.5	-1.2
LFF				Lg		18 06 31.5	
	3.2nm,0.2s						
ESAC	**San Caprasio**	**1.77**	**177**	Pg	Pg	18 06 09.1	-1.2
	9.8nm,0.3s,SNR=4.0						
ESAC				Lg		18 06 32.5	
	41nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**2.09**	**264**	Pg	Pg	18 06 13.2	-3.4
	0.2nm,0.2s,SNR=4.0						
ELAN				Lg		18 06 43.6	
	1.6nm,0.2s,SNR=4.0						
RJF	**Les Rejaudoux**	**2.36**	**39**	*e*Pg	Pg	18 06 20.2	-1.5
RJF				*e*Sg	Sg	18 06 50.9	-1.4
	2.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.36**	**39**	Pg	Pg	18 06 20.2	-1.5
RJF				Lg		18 06 50.9	
	1.2nm,0.2s						
CAF	**Calviac**	**2.39**	**52**	*e*Pg	Pg	18 06 20.5	-1.7
CAF				*e*Sg	Sg	18 06 51.9	-1.3
	1.6nm,0.2s						
CAF	**Calviac**	**2.39**	**52**	Pg	Pg	18 06 20.5	-1.7
CAF				Lg		18 06 51.9	
	0.8nm,0.2s						

---

*ISCJB **13** 18:18:12.3±2.1, 3094S±007×17776W±04, h33^{km}, mb4.4/5, MS3.6/2, Error ellipse: s-maj=43.7km s-min=8.5km az=15.8*

*NEIC **13** 18:18:14.5±1.8, 3081S×17762W, h35^{km}±13^{km}, mb4.7/3, Error ellipse: s-maj=28.3km s-min=13.6km az=112.0*

*IDC **13** 18:18:15.4±7.4, 3071S×17785W, h28^{km}±49^{km}, mb4.2/3, mb1 4.3/4, mb1mx3.9/13, mbtmp4.3/4, ML3.3/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/19, Error ellipse: s-maj=37.9km s-min=18.6km az=112.0*

ISC 13 18:18:16.3±1.3, **3082S**±007×**1779W**±02, **h35**^{km}**, n35, σ1^{s}12**/29**, mb4.4**/5**, MS3.6**/2**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.56**	**359**	Pn	**Pn**	**18 18 40.0**	**-1.5**
	198nm,0.3s,baz=270,slow=20,SNR=6.5						
RAO				Sn	**Sn**	**18 18 56.2**	**-4.3**
	761nm,0.3s,baz=62,slow=21,SNR=11						
RAO	**Raoul Island**	**1.56**	**359**	Pn	**Pn**	**18 18 40.0**	**-1.5**
RAO				Sn	**Sn**	**18 18 56.2**	**-4.3**
PUZ	**Puketiti**	**7.91**	**203**	*e*PN	**Pn**	**18 20 08.7**	**0.0**
MWZ	**Matawai**	**8.40**	**206**	*e*PN	**Pn**	**18 20 14.6**	**-0.9**
URZ	**Urewera**	**8.49**	**208**	Pn	**Pn**	**18 20 16.4**	**-0.3**
	0.3nm,0.3s,baz=355,slow=12,SNR=5.3						
URZ				Sn	**Sn**	**18 21 52.0**	**+0.7**
	2.0nm,0.3s,baz=205,slow=17,SNR=13						
URZ				LR	LR	18 23 19.6	
	comp=Z,135nm,19.3s,baz=270,slow=35						
URZ	**Urewera**	**8.49**	**208**	Pn	**Pn**	**18 20 16.4**	**-0.3**
URZ				Sn	**Sn**	**18 21 52.0**	**+0.7**
URZ				LR	LR	18 23 19.6	
URZ	**Urewera**	**8.49**	**208**	*e*PN	**Pn**	**18 20 14.2**	**-2.6**
URZ				SN	**Sn**	**18 21 50.9**	**-0.5**
URZ				*e*SN	**Sn**	**18 21 51.4**	**+0.1**
MRZ	**Mangatainoka R**	**11.16**	**207**	*e*PN	**Pn**	**18 20 48.8**	**-4.5**
MRZ				SN	**Sn**	**18 22 49.4**	**-7.4**
TCW	**Tory Channel**	**12.15**	**209**	SN	**Sn**	**18 23 14.0**	**-7.1**
THZ	**Tophouse**	**13.20**	**212**	*e*PN	**Pn**	**18 21 19.5**	**-1.6**
MQZ	**McQueen's Vall**	**14.90**	**208**	SN	**Sn**	**18 24 14.6**	**-13**
DZM	**Mont Dzumac**	**16.51**	**298**	LR	LR	18 26 50.5	
	comp=Z,277nm,18.2s,baz=27,slow=31						
AFI	**Afiamalu**	**17.74**	**20**	LR	LR	18 27 19.6	
	comp=Z,149nm,21.6s,baz=125,slow=31						
TBI	**Tubuai**	**26.32**	**81**	*e*LR	LR	18 30 09.3	
	135nm,33.5s						
TBI	**Tubuai**	**26.32**	**81**	*e*T		18 51 43.0	
	6.3nm,0.3s						
PAE	**Paea**	**28.84**	**70**	*e*T		18 54 44.2	
	26nm,0.3s						
PPT	**Papeete**	**28.89**	**69**	*e*LR	LR	18 31 21.5	
	151nm,22.8s						
STKA	**Stephens Creek**	**34.49**	**258**	*e*P	**P**	**18 25 02.8**	**+2.0**
	11nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**34.49**	**258**	P	**P**	**18 25 02.9**	**+2.0**
	15nm,0.8s,mb5.0,baz=87,slow=9.1,SNR=26						
STKA				LR	LR	18 38 16.1	
	comp=Z,88nm,20.4s,MS3.5,baz=25,slow=35						
RKT	**Rikitea**	**38.81**	**89**	*e*LR	LR	18 35 55.0	
	88nm,30.5s						
AS31	**Alice Springs**	**43.19**	**267**	*e*P	**P**	**18 26 14.1**	**+0.4**
ASAR	**Alice Springs**	**43.19**	**267**	P	**P**	**18 26 13.4**	**-0.3**
	0.9nm,0.6s,mb3.7,baz=104,slow=7.6,SNR=24						
ASAR				LR	LR	18 43 45.1	
	comp=Z,116nm,19.4s,MS3.8,baz=84,slow=35						
ASPA	**Alice Springs**	**43.20**	**267**	*e*P	**P**	**18 26 14.1**	**+0.4**
WB2	**Warramunga Arr**	**44.21**	**273**	*e*P	**P**	**18 26 21.5**	**-0.4**
WRA	**Warramunga Arr**	**44.22**	**273**	P	**P**	**18 26 22.0**	**+0.1**
	2.7nm,0.5s,mb4.2,baz=111,slow=8.1,SNR=47						
FITZ	**Fitzroy Crossi**	**52.47**	**270**	*e*P	**P**	**18 27 25.9**	**+0.4**
	4.1nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**59.29**	**180**	*e*P	**P**	**18 28 22.5**	**+8.1**
	11nm,1.1s,mb4.8						
SNAA	**Sanae**	**77.74**	**178**	*e*	**P**	**18 30 16.8**	**+7.3**
SNAA				*e*		18 30 20.8	
VNA3	**Neumayer Olymp**	**77.88**	**176**	*e*	**P**	**18 30 13.0**	**+2.7**
VNA3				*e*		18 30 17.7	
KAF	**Kangasniemi**	**144.98**	**340**	*e*p	PKPdf	18 37 45.3	-4.4
FINES	**FINESS Array B**	**145.57**	**340**	PKPbc	PKPbc	18 37 49.5	-1.4
	3.2nm,0.8s,baz=72,slow=3.5,SNR=18						
NB2	**NORSAR Subarra**	**149.18**	**351**	PKPa	PKPdf	18 37 59.8	+3.1
	comp=Z,0.8nm,0.6s,baz=19,slow=2.6						
NOA	**NORSAR Array B**	**149.18**	**351**	PKPbc	PKPbc	18 38 00.0	-0.9
	comp=Z,0.9nm,0.6s,baz=13,slow=4.1,SNR=4.5						
AKASG	**Malin Array Be**	**151.70**	**322**	PKP	PKPdf	18 37 57.8	-2.8
	comp=Z,0.1nm,0.3s,baz=310,slow=24,SNR=3.8						
AKASG				PKPbc	PKPbc	18 38 06.2	-0.8
	comp=Z,0.7nm,0.5s,baz=44,slow=2.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**162.41**	**179**	PKPab	PKPab	18 39 03.0	+1.1
	comp=Z,0.8nm,0.9s,baz=189,slow=2.8,SNR=4.6						

---

*ISCJB **13** 18:42:25.3±6.8, 130N±0.1×930E±0.1, h0^{km}±43^{km}, mb3.6/7, Error ellipse: s-maj=26.2km s-min=15.6km az=51.6*

*IDC **13** 18:42:27.3±1.1, 1287N×9287E, h0^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=51.6km s-min=20.4km az=52.0*

*NEIC **13** 18:42:31.8±0.9, 1301N×9301E, h30^{km}, mb3.7/1, Error ellipse: s-maj=21.8km s-min=16.7km az=53.0*

ISC 13 18:42:31.1±5.0**, 131N**±01×**930E**±01**, h22**^{km}±36^{km}**, n15, σ0^{s}81**/15**, mb3.6**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.41**	**191**	*e*P	x	18 42 46.4	
PBA				*e*S	x	18 43 06.9	
PBA				*e*x	x	18 43 14.2	
	comp=E,1μm,0.4s						
PBA				*e*x	x	18 43 14.5	
	comp=N,828nm,0.5s						
CHTO	**Chiang Mai**	**8.08**	**44**	*e*P	**Pn**	**18 44 27.1**	**-0.1**
	comp=N,3.6nm,0.6s						
VIS	**Vishakhapatnam**	**10.44**	**298**	*i* P	**Pn**	**18 44 60.0**	**+0.5**
VIS				*i* S	**Sn**	**18 46 47.2**	**-8.5**
PKI	**Pulchoki**	**16.11**	**335**	*e*P	**Pn**	**18 46 15.8**	**-0.4**
	comp=N,8.1nm,0.5s						
DMN	**Daman**	**16.27**	**334**	*e*P	**Pn**	**18 46 18.0**	**-0.2**
	comp=N,10nm,0.6s						
KKN	**Kakani**	**16.35**	**335**	*e*P	**Pn**	**18 46 18.4**	**-0.9**
	comp=N,1.9nm,0.2s						
GKN	**Gorkha**	**16.81**	**334**	*e*P	**Pn**	**18 46 25.1**	**0.0**
	comp=N,9.1nm,0.4s						
KOLN	**Koldanda**	**17.09**	**330**	*e*P	**Pn**	**18 46 29.5**	**+0.9**
	comp=N,7.6nm,0.6s						
MKAR	**Makanchi Array**	**34.83**	**347**	P	**P**	**18 49 20.9**	**+0.4**
	comp=N,0.7nm,0.8s,mb3.6,baz=168,slow=6.8,SNR=6.2						
SONM	**Songino Array**	**36.43**	**15**	P	**P**	**18 49 35.8**	**+1.6**
	comp=N,0.3nm,0.5s,mb3.5,baz=205,slow=6.5,SNR=4.4						
BRVK	**Borovoye**	**43.83**	**340**	*e*P	**P**	**18 50 33.6**	**-1.9**
	comp=N,1.0nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**52.23**	**128**	P	**P**	**18 51 39.7**	**-0.8**
	comp=N,0.1nm,0.4s,mb3.1,baz=313,slow=8.1,SNR=9.1						
ASAR	**Alice Springs**	**54.13**	**132**	P	**P**	**18 51 55.0**	**+0.5**
	comp=N,0.3nm,0.4s,mb3.6,baz=310,slow=7.6,SNR=10						
BRTR	**Keskin Array B**	**58.29**	**309**	P	**P**	**18 52 24.1**	**-0.1**
	comp=N,0.9nm,0.7s,mb3.9,baz=113,slow=8.1,SNR=6.5						
GERES	**GERESS Array B**	**73.28**	**317**	P	**P**	**18 54 01.1**	**+0.3**
	comp=N,0.7nm,0.6s,mb3.8,baz=90,slow=5.3,SNR=7.3						

MAN 13 18:44:27.2, 1222N×12219E, h15^{km}, mb2.8, ML4.2, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.22**	**309**	*e*P	Pg	18 44 32.6	+0.5
OTRP				*e*S	Sg	18 44 36.7	+1.3
AUQP	**San Andres**	**1.19**	**23**	*e*P	Pn	18 44 48.2	-1.1
BOAC	**Boac**	**1.27**	**345**	*e*P	Pn	18 44 48.9	-1.5
BOAC				*e*S	Sb	18 45 07.7	+0.6
GUIM	**Jordan**	**1.64**	**166**	*e*P	Pn	18 44 54.3	-1.1
GUIM				*e*S	Sn	18 45 19.3	+3.1
CUYO	**Cuyo Island**	**1.79**	**220**	*e*P	Pn	18 44 56.8	-0.6
BUSP	**Coron**	**1.96**	**264**	*e*P	Pn	18 45 00.8	+0.9
LUBP	**Lubang**	**2.42**	**309**	*e*P	Pn	18 45 07.4	+1.2
ENPP	**El Nido**	**2.89**	**250**	*e*P	Pn	18 45 13.2	+0.4
MSLP	**Maasin**	**3.34**	**128**	*e*P	Pn	18 45 20.2	+1.4

---

*NNC **13** 18:52:46.4±3.9, 4235N×79.18E, h0^{km}, mb3.1, mpv2.7, Error ellipse: s-maj=49.9km s-min=18.8km az=168.0*

BJI 13 18:52:25.8, 4071N×7915E, h15^{km}, ML3.0, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.71**	**245**	*e*P	Pn	18 53 12.0	+3.2
KSH				S	Sn	18 53 44.6	+3.2
KSH				Smax			
	comp=N,55nm,0.3s						
KSH				Smax			
	comp=E,71nm,0.5s						
TKM2	**Tokmak 2**	**3.45**	**311**	⇑Pn	Pn	18 53 18.6	-0.4
	comp=E,0.5nm,0.5s						
TKM2				⇓Sn	Sn	18 54 05.4	+5.7
	comp=E,2.7nm,0.6s						
MK02	**Makanchi Array**	**6.47**	**20**	⇓Pn	Pn	18 54 01.1	+0.6
	comp=E,1.7nm,0.8s,baz=211,slow=14						
MK02				⇑Lg		18 55 26.8	
	comp=E,5.8nm,0.9s,baz=208,slow=30						
KK31	**Karatay Array**	**6.87**	**293**	Pn	Pb	18 54 24.9	0.0
	comp=E,0.9nm,0.5s,baz=117,slow=14,SNR=16						
KK31				Sn	Sb	18 55 44.4	-2.4
	comp=E,3.6nm,0.9s,baz=102,slow=28,SNR=5.0						

IDC 13 18:59:42.7±8.4**, 632S**×**14876E, h57**^{km}±69^{km}**, mb3.5**/2**, mb1 3.8**/4**, mb1mx3.4**/14**, mbtmp3.8**/4**, ML3.4**/2**, Error ellipse: s-maj=97.2km s-min=54.5km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**207**	P	Pn	19 00 34.6	+0.5
	7.9nm,0.3s,baz=20,slow=12,SNR=39						
PMG				S	Sn	19 01 14.7	+1.0
	13nm,0.3s,baz=170,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**19.49**	**225**	P	Pn	19 04 04.4	-2.2
	0.2nm,0.3s,baz=50,slow=11,SNR=24						
ASAR	**Alice Springs**	**22.40**	**218**	P	P	19 04 36.0	-0.3
	1.3nm,0.6s,baz=56,slow=9.5,SNR=62						
FITZ	**Fitzroy Crossi**	**25.42**	**240**	P	P	19 05 05.3	+0.4
	1.4nm,0.5s,baz=66,slow=9.6,SNR=16						
TORD	**Torodi Ar. Bea**	**146.87**	**284**	PKPbc	PKPbc	19 19 19.6	+1.0
	0.6nm,1.0s,baz=69,slow=2.5,SNR=4.0						

---

*IDC **13** 19:11:40.3±1.4, 3674N×7153E, h0^{km}, mb3.5/3, mb1 3.7/7, mb1mx3.5/24, mbtmp3.7/7, ML3.5/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/27, Error ellipse: s-maj=28.9km s-min=25.9km az=102.0*

*ISCJB **13** 19:11:46.8±1.8, 3704N±009×715E±02, h60^{km}±21^{km}, mb3.6/3, Error ellipse: s-maj=23.0km s-min=12.8km az=134.1*

*NEIC **13** 19:11:47.2±3.6, 3692N×7144E, h50^{km}±32^{km}, mb3.5/2, Error ellipse: s-maj=31.9km s-min=16.8km az=204.0*

*MOS **13** 19:11:50.1±1.7, 3722N×7145E, h87^{km}, mb4.0/1, Error ellipse: s-maj=32.8km s-min=11.3km az=89.1*

ISC 13 19:11:48.7±1.6**, 3706N**±009×**715E**±02**, h62**^{km}±20^{km}**, n18, σ1^{s}13**/18**, mb3.6**/3**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.78**	**142**	*e*P	**Pn**	**19 13 11.6**	**-0.2**
AAK	**Ala-Archa**	**6.03**	**22**	*e*PN	**Pn**	**19 13 17.0**	**+1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AAK	**Ala-Archa**	**6.03**	**22**	*e*P	**Pn**	**19 13 17.0**	**+1.8**
	comp=Z,5.2nm,0.6s						
MKAR	**Makanchi Array**	**12.60**	**36**	Pn	**Pn**	**19 14 45.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=229,slow=12,SNR=8.2						
BVAR	**Borovoye Array**	**15.98**	**358**	Pn	**Pn**	**19 15 26.9**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=6.8						
BVAR				LR	LR	19 22 34.0	
	comp=Z,28nm,20.0s,baz=300,slow=40						
ZRNK	**Zerenda**	**15.98**	**355**	*e*P	**Pn**	**19 15 30.7**	**+1.1**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZRNK	**Zerenda**	**15.98**	**355**	*e*P	**Pn**	**19 15 30.7**	**+1.1**
	comp=Z,4.1nm,1.0s						
BRVK	**Borovoye**	**16.02**	**357**	P	**Pn**	**19 15 26.3**	**-3.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BRVK	**Borovoye**	**16.02**	**357**	P	**Pn**	**19 15 26.2**	**-3.8**
	comp=Z,4.8nm,1.3s						
AKTK	**Aktyubinsk**	**16.50**	**328**	Pn	**Pn**	**19 15 35.5**	**-0.6**
AKTO	**Aktyubinsk**	**16.50**	**328**	Pn	**Pn**	**19 15 35.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=140,slow=8.0,SNR=18						
ZAL	**Zalesovo**	**19.22**	**24**	P	**Pn**	**19 16 08.0**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=255,slow=10.0,SNR=7.5						
ARU	**Arti**	**21.24**	**340**	*e*P	**P**	**19 16 30.8**	**+1.3**
ARU	**Arti**	**21.24**	**340**	*e*P	**P**	**19 16 30.8**	**+1.3**
NB2	**NORSAR Subarra**	**44.17**	**323**	P	**P**	**19 19 52.4**	**+1.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	**19 19 51.8**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.6,baz=96,slow=7.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**66.13**	**269**	P	**P**	**19 22 29.5**	**0.0**
	comp=Z,1.3nm,1.2s,mb3.8,baz=49,slow=4.9,SNR=4.4						
ASAR	**Alice Springs**	**84.25**	**125**	P	**P**	**19 24 13.7**	**+0.1**
	comp=Z,0.3nm,0.9s,mb3.4,baz=308,slow=4.4,SNR=4.7						

PRE 13 19:22:19.5±1.1**, 2131S×3344E, h5**^{km}**, ML3.7, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.34**	**251**	*e*P	Pn	19 23 13.3	+0.9
MSNA				*e*S	Sn	19 23 52.8	+0.5
MSNA				AML	AML	19 24 03.3	
	comp=Z,94nm,0.2s						
POGA	**Pongola**	**6.26**	**195**	*e*P	Pn	19 23 52.8	+0.3
POGA				*e*S	Sn	19 25 01.0	-3.3
POGA				AML	AML	19 25 45.2	
	comp=Z,11nm,0.5s						
LBTB	**Lobatse**	**8.10**	**241**	*e*P	Pn	19 24 19.7	+1.9
LBTB				*e*S	Sn	19 25 46.3	-3.5
LBTB				AML	AML	19 26 31.4	
	comp=Z,12nm,0.7s						
BOSA	**Boshof**	**10.39**	**224**	*e*P	Pn	19 24 49.8	+0.7
BOSA				*e*S	Sn	19 26 40.7	-5.2
BOSA				AML	AML	19 28 06.2	
	comp=Z,4.2nm,0.7s						

---

*ISCJB **13** 19:27:19.1±2.9, 36S±04×1013E±06, h13^{km}±21^{km}, mb4.2/8, Error ellipse: s-maj=116.4km s-min=15.7km az=107.5*

*NEIC **13** 19:27:20.7±1.6, 363S×10131E, h10^{km}, mb4.2/4, Error ellipse: s-maj=75.5km s-min=10.5km az=54.0*

*IDC **13** 19:27:28.2±3.5, 3.12S×102.16E, h39^{km}±40^{km}, mb4.0/6, mb1 4.1/6, mb1mx3.7/19, mbtmp4.2/6, Error ellipse: s-maj=111.9km s-min=16.7km az=56.0*

ISC 13 19:27:22.2±3.3**, 36S**±04×**1013E**±06**, h18**^{km}±23^{km}**, n13, σ0^{s}72**/17**, mb4.2**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.85**	**123**	*e*P	**P**	**19 33 10.3**	**-0.3**
	3.9nm,1.3s,mb3.9						
FITZ	**Fitzroy Crossi**	**27.85**	**123**	P	**P**	**19 33 09.5**	**-1.2**
	1.4nm,1.0s,mb3.6,baz=327,slow=19,SNR=6.5						
WRA	**Warramunga Arr**	**36.08**	**119**	P	**P**	**19 34 22.3**	**-0.4**
	1.1nm,0.3s,mb4.2,baz=301,slow=10.0,SNR=34						
WRA				S	**S**	**19 39 54.6**	**-6.5**
	0.5nm,1.0s,baz=292,slow=16,SNR=2.8						
WRAB	**Tennant Creek**	**36.08**	**119**	*e*P	**P**	**19 34 22.2**	**-0.6**
	4.7nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**36.09**	**119**	*e*P	**P**	**19 34 22.7**	**-0.1**
ASPA	**Alice Springs**	**37.27**	**125**	*e*P	**P**	**19 34 33.2**	**+0.3**
ASPA				*e*S	**S**	**19 40 20.2**	**+0.9**
ASAR	**Alice Springs**	**37.27**	**125**	P	**P**	**19 34 33.3**	**+0.4**
	1.9nm,0.4s,mb4.3,baz=301,slow=7.8,SNR=125						
ASAR				S	**S**	**19 40 16.9**	**-2.4**
	0.5nm,0.8s,baz=296,slow=15,SNR=4.6						
AS31	**Alice Springs**	**37.27**	**125**	*e*P	**P**	**19 34 33.2**	**+0.3**
AS31				*e*S	**S**	**19 40 20.2**	**+0.9**
STKA	**Stephens Creek**	**47.12**	**131**	*e*P	**P**	**19 35 54.0**	**+0.8**
	3.4nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**47.12**	**131**	P	**P**	**19 35 54.1**	**+0.9**
	1.9nm,0.6s,mb4.2,baz=320,slow=7.8,SNR=8.0						
SONM	**Songino Array**	**51.43**	**4**	P	**P**	**19 36 26.8**	**+0.6**
	1.7nm,0.8s,mb4.0,baz=186,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**52.93**	**344**	P	**P**	**19 36 37.5**	**+0.2**
	3.2nm,0.7s,mb4.4,baz=144,slow=7.9,SNR=25						
ZRNK	**Zerenda**	**62.57**	**339**	*e*P	**P**	**19 37 44.2**	**-0.9**
	0.8nm,0.7s,mb4.0						

---

*NEIC **13** 19:54:39.7, 4830N×12892W, h10^{km}, MW3.7(PGC), After PGC.*

PGC 13 19:54:39.7, 4830N×12892W, h10^{km}, MLSn3.1/1**, Mw3.7, 240km southwest of Tofino, Bc Northern Juan de Fuca ridge., Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.98**	**36**	Pn	Pn	19 55 10.4	-2.8
EDB				Sn	Sn	19 55 32.0	-6.0
EDB				Trac		19 55 35.9	
	comp=Z,19nm,0.6s						
EDB	**Eliza Dome**	**1.98**	**36**	*e*Pn	Pn	19 55 10.4	-2.8
EDB				*e*Sn	Sn	19 55 32.0	-6.0
BPBC	**Brooks Peninsu**	**2.01**	**22**	Pn	Pn	19 55 11.1	-2.6
BPBC				Sn	Sn	19 55 37.3	-1.6
	comp=Z,10.0nm,0.2s						
BPBC				Trac		19 55 40.2	
	comp=Z,10.0nm,0.2s						
BPBC	**Brooks Peninsu**	**2.01**	**22**	*e*Pn	Pn	19 55 11.1	-2.6
BPBC				*e*Sn	Sn	19 55 37.3	-1.6
OZB	**Mount Ozzard**	**2.37**	**72**	Pn	Pn	19 55 17.1	-1.5
OZB				Sn	Sn	19 55 44.4	-3.4
OZB				Trac		19 55 46.9	
	comp=Z,12nm,0.3s						
OZB	**Mount Ozzard**	**2.37**	**72**	*e*Pn	Pn	19 55 17.1	-1.5
OZB				*e*Sn	Sn	19 55 44.4	-3.4
MAYB	**Maynard**	**2.40**	**28**	Pn	Pn	19 55 17.6	-1.5
MAYB				Sn	Sn	19 55 46.6	-1.8
	comp=Z,16nm,0.5s						
MAYB				Trac		19 55 52.6	
	comp=Z,16nm,0.5s						
MAYB	**Maynard**	**2.40**	**28**	*e*Pn	Pn	19 55 17.6	-1.5
MAYB				*e*Sn	Sn	19 55 46.6	-1.8
HOLB	**Holberg**	**2.40**	**12**	Pn	Pn	19 55 18.3	-0.8
HOLB				Sn	Sn	19 55 45.5	-3.0
	comp=Z,11nm,0.3s						
HOLB				Trac		19 55 47.9	
	comp=Z,11nm,0.3s						
HOLB	**Holberg**	**2.40**	**12**	*e*Pn	Pn	19 55 18.3	-0.8
HOLB				*e*Sn	Sn	19 55 45.5	-3.0
WOSB	**Woss**	**2.42**	**39**	*e*Pn	Pn	19 55 17.5	-1.8
BTB	**Buttle Lake**	**2.53**	**61**	Pn	Pn	19 55 19.7	-1.2
BTB				Sn	Sn	19 55 48.6	-3.2
	comp=Z,12nm,0.3s						
BTB				Trac		19 55 52.2	
	comp=Z,12nm,0.3s						
BTB	**Buttle Lake**	**2.53**	**61**	*e*Pn	Pn	19 55 19.7	-1.2
BTB				*e*Sn	Sn	19 55 48.6	-3.2
PHC	**Port Hardy**	**2.60**	**21**	Pn	Pn	19 55 21.5	-0.3
PHC				Sn	Sn	19 55 47.2	-6.3
PHC				Trac		19 55 50.0	
	comp=Z,9.0nm,0.6s						
PHC	**Port Hardy**	**2.60**	**21**	*e*Pn	Pn	19 55 21.5	-0.3
PHC				*e*Sn	Sn	19 55 47.2	-6.3
NCRB	**Newcastle Ridg**	**2.82**	**41**	Pn	Pn	19 55 23.4	-1.4
NCRB				Sn	Sn	19 55 55.2	-3.8
	comp=Z,9.0nm,0.5s						
NCRB				Trac		19 56 00.2	
	comp=Z,9.0nm,0.5s						
NCRB	**Newcastle Ridg**	**2.82**	**41**	*e*Pn	Pn	19 55 23.4	-1.4
NCRB				*e*Sn	Sn	19 55 55.2	-3.8
MGB	**Mount Grey**	**2.89**	**74**	Pn	Pn	19 55 24.4	-1.4
MGB				Sn	Sn	19 55 57.7	-3.0
MGB				Trac		19 55 58.8	
	comp=Z,5.0nm,0.3s						
MGB	**Mount Grey**	**2.89**	**74**	*e*Pn	Pn	19 55 24.4	-1.4
MGB				*e*Sn	Sn	19 55 57.7	-3.0
CBB	**Campbell River**	**2.91**	**52**	Pn	Pn	19 55 25.4	-0.6
CBB				Sn	Sn	19 55 57.5	-3.6
CBB				Trac		19 56 00.6	
	comp=Z,5.0nm,0.3s						
CBB	**Campbell River**	**2.91**	**52**	*e*Pn	Pn	19 55 25.4	-0.6
CBB				*e*Sn	Sn	19 55 57.5	-3.6
PFB	**Port Renfrew**	**3.00**	**83**	*e*Pn	Pn	19 55 25.2	-2.1
PFB				*e*Sn	Sn	19 55 59.5	-3.8
TXB	**Texada**	**3.27**	**63**	Pn	Pn	19 55 30.0	-1.0
TXB				Sn	Sn	19 56 07.6	-2.4
	comp=Z,7.0nm,0.4s						
TXB				Trac		19 56 23.2	
	comp=Z,7.0nm,0.4s						
TXB	**Texada**	**3.27**	**63**	*e*Pn	Pn	19 55 30.0	-1.0
TXB				*e*Sn	Sn	19 56 07.6	-2.4
LZB	**Mount Lazard**	**3.41**	**83**	Pn	Pn	19 55 32.0	-0.9
LZB				Sn	Sn	19 56 09.8	-3.5
LZB				Trac		19 56 15.4	
	comp=Z,2.0nm,0.6s						
LZB	**Mount Lazard**	**3.41**	**83**	*e*Pn	Pn	19 55 32.0	-0.9
LZB				*e*Sn	Sn	19 56 09.8	-3.5
BBB	**Bella Bella**	**3.93**	**7**	Pn	Pn	19 55 39.0	-1.1
BBB				Sn	Sn	19 56 21.8	-4.4
BBB				Trac		19 56 27.8	
	comp=Z,20nm,0.8s						
BBB	**Bella Bella**	**3.93**	**7**	*e*Pn	Pn	19 55 39.0	-1.1
BBB				*e*Sn	Sn	19 56 21.8	-4.4

---

*LDG **13** 20:06:57.6±0.1, 4298N×028E, h10^{km}, Md1.8/3, Ml1.7/5, Error ellipse: s-maj=1.6km s-min=1.2km az=168.0*

*STR **13** 20:06:57.6±0.1, 4298N×029E, h5^{km}±1^{km}, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 13 20:06:58.3±0.2**, 4297N×029E, h0**^{km}**, mbLg1.3**/7**, Error ellipse: s-maj=2.2km s-min=2.0km az=2.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.07**	**29**	*e*Pg	Pg	20 07 00.0	+0.3
EPF				*e*Sg	Sg	20 07 01.1	+0.5
	8.6nm,0.2s						
EPF	**Esparros**	**0.07**	**29**	Pg	Pg	20 07 00.0	+0.3
EPF				Lg		20 07 01.1	
	4.3nm,0.2s						
RESF	**Ens**	**0.16**	**168**	Pg	Pg	20 07 01.7	+0.3
RESF				Sg	Sg	20 07 04.8	+1.2
RESF	**Ens**	**0.16**	**168**	P	Pg	20 07 01.6	+0.2
RESF				S	Sg	20 07 04.8	+1.2
LABF	**Labassere**	**0.18**	**296**	Pg	Pg	20 07 01.4	-0.3
LABF				Sg	Sg	20 07 04.6	+0.5
LABF	**Labassere**	**0.18**	**296**	P	Pg	20 07 01.4	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF				S	Sg	20 07 04.5	+0.4
VIEF	Viey	0.21	247	Pg	Pg	20 07 02.1	-0.3
VIEF				Sg	Sg	20 07 05.5	+0.3
VIEF	Viey	0.21	247	P	Pg	20 07 02.1	-0.3
VIEF				S	Sg	20 07 05.4	+0.2
EBIE	Bielsa	0.30	201	Pg	Pg	20 07 03.8	-0.3
	1.2nm,0.0s,SNR=7.9						
EBIE				Lg		20 07 08.1	
	18nm,0.1s,SNR=7.9						
MELF	Melles	0.36	105	Pg	Pg	20 07 04.8	-0.3
MELF	Melles	0.36	105	P	Pg	20 07 04.5	-0.6
MELF				S	Sg	20 07 09.1	-0.6
ETSF	Etsaut	0.63	264	ePg	Pg	20 07 09.1	-1.3
ETSF				eSg	Sg	20 07 17.2	-1.3
	4.7nm,0.2s						
ETSF	Etsaut	0.63	264	Pg	Pg	20 07 09.1	-1.3
ETSF				Lg		20 07 17.2	
	2.3nm,0.2s						
SALF	Salau	0.69	107	Pg	Pg	20 07 10.8	-0.7
SALF	Salau	0.69	107	P	Pg	20 07 10.8	-0.7
SALF				S	Sg	20 07 19.5	-1.0
CSOR	Sort	0.86	133	P	Pg	20 07 13.9	-0.8
CSOR				S	Sg	20 07 25.4	-0.5
CORG	Organya	1.06	134	S	Sg	20 07 32.3	+0.1
SJPF	Ste Jean	1.12	278	ePg	Pg	20 07 18.5	-1.3
SJPF				eSg	Sg	20 07 32.8	-1.6
	2.7nm,0.4s						
SJPF	Ste Jean	1.12	278	Pg	Pg	20 07 18.5	-1.3
SJPF				Lg		20 07 32.8	
	1.4nm,0.4s						
CAVN	Les Avellanes	1.14	162	P	Pg	20 07 19.3	-0.8
CAVN				Lg		20 07 34.5	
	0.9nm,0.2s						
CLLI	Llivia	1.33	111	S	Sg	20 07 40.5	-0.6
ELIZ	Elizondo	1.35	279	Pg	Pg	20 07 24.5	+0.3
	0.3nm,0.2s,SNR=7.9						
ELIZ				Lg		20 07 41.0	
	3.0nm,0.4s,SNR=7.9						
ESAC	San Caprasio	1.37	205	Pg	Pg	20 07 22.3	-2.2
	1.7nm,0.2s,SNR=7.9						
ESAC				Lg		20 07 41.2	
	8.9nm,0.3s,SNR=7.9						
MTLF	Montolieu	1.46	75	ePg	Pg	20 07 25.2	-1.0
MTLF				eSg	Sg	20 07 44.0	-1.1
	0.5nm,0.2s						
MTLF	Montolieu	1.46	75	Pg	Pg	20 07 25.2	-1.0
MTLF				Lg		20 07 44.0	
	0.2nm,0.2s						
EPOB	Poblet	1.72	160	Sn	Sn	20 07 50.7	-1.4
	0.5nm,0.1s,SNR=7.9						
LFF	La Frestale	2.00	9	ePg	Pg	20 07 34.3	-2.3
LFF				eSg	Sg	20 08 01.0	-1.5
	4.3nm,0.3s						
LFF	La Frestale	2.00	9	Pg	Pg	20 07 34.3	-2.3
LFF				Lg		20 08 01.0	
	2.2nm,0.3s						
RJF	Les Rejaudoux	2.50	20	ePg	Pg	20 07 43.7	-2.4
RJF				eSg	Sg	20 08 16.1	-2.4
	1.2nm,0.3s						
RJF	Les Rejaudoux	2.50	20	Pg	Pg	20 07 43.7	-2.4
RJF				Lg		20 08 16.1	
	0.6nm,0.3s						
LASF	Ste Croix	2.82	66	eSg	Sg	20 08 27.0	-1.9
	0.4nm,0.2s						
LASF	Ste Croix	2.82	66	Lg		20 08 27.0	
	0.2nm,0.2s						

*IDC **13** 20:07:37.6±6.9, 52.32N×170.70W, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/25, mbtmp3.9/7, Error ellipse: s-maj=168.0km s-min=29.9km az=168.0*
*ISCJB **13** 20:07:40.5±2.5, 52.0N±0.3×170.5W±0.1, h50km±11km, mb3.8/7, Error ellipse: s-maj=45.0km s-min=8.5km az=146.2*
*NEIC **13** 20:07:40.9, 52.02N×170.53W, h30km, ML3.4(AEIC), After AEIC.*
ISC 13 20:07:41.1±2.6, **52.0N**±0.3×**170.4W**±0.2, **h45**km±12km, **n16**, σ0s**82**/17, **mb3.8**/7, **Fox Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.41	43	P	Pn	20 08 03.0	-1.3
NIKO				S	Sn	20 08 20.9	-0.8
OKCD	Okmok Cone D	2.05	43	P	Pn	20 08 14.1	+1.1
ATKA	Atka Island	2.33	278	P	Pn	20 08 16.5	-0.4
ATKA				S	Sn	20 08 44.4	0.0
SPIA	Saint Paul Isl	5.24	1	P	Pn	20 08 58.2	+1.4
INK	Inuvik	24.06	33	P	P	20 12 52.0	0.0
	0.8nm,0.5s,mb3.4,baz=250,slow=6.4,SNR=4.9						
YKA	Yellowknife Ar	31.01	48	P	P	20 13 55.9	+1.7
	0.8nm,0.5s,mb3.9,baz=270,slow=7.7,SNR=4.8						
YKA	Yellowknife Ar	31.01	48	P	P	20 13 55.9	+1.7
SONM	Songino Array	50.95	301	P	P	20 16 38.4	+0.5
	0.7nm,0.6s,mb3.8,baz=61,slow=6.2,SNR=8.4						
KEV	Kevo	57.94	353	ep	pP	20 17 44.5	+3.0
	4.1nm,0.7s						
BVAR	Borovoye Array	63.66	324	P	P	20 18 07.7	+0.1
	1.8nm,0.4s,mb4.4,baz=56,slow=6.2,SNR=23						
JOF	Joensuu	64.20	349	ep	P	20 18 09.7	-1.4
KAF	Kangasniemi	65.51	351	ep	P	20 18 19.1	-0.5
FINES	FINESS Array B	66.19	351	P	P	20 18 23.5	-0.5
	1.4nm,0.8s,mb4.1,baz=2.5,slow=8.9,SNR=5.1						
NOA	NORSAR Array B	67.35	359	P	P	20 18 31.5	+0.1
	0.2nm,0.4s,mb3.5,baz=3.0,slow=7.2,SNR=2.7						
AKTK	Aktyubinsk	70.04	329	P	P	20 18 48.2	+0.1
AKTO	Aktyubinsk	70.04	329	P	P	20 18 48.2	0.0
	0.6nm,0.4s,mb3.9,baz=53,slow=7.1,SNR=3.6						

*NNC **13** 20:32:50.8±4.2, 42.24N×70.46E, h0km, mb3.2, mpv2.6, Error ellipse: s-maj=25.7km s-min=21.1km az=28.0*
*ISCJB **13** 20:32:53.6±4.1, 42.4N±0.2×70.2E±0.2, h26km±26km, Error ellipse: s-maj=36.4km s-min=8.8km az=67.6*
ISC 13 20:32:53.9±4.2, **42.4N**±0.2×**70.2E**±0.2, **h9**km±21km, **n13**, σ0s**86**/14, **2C-3D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	0.78	15	P	Pg	20 33 08.6	-0.3
	3.5nm,0.2s,baz=232,slow=27,SNR=3099						
KK31				⇑S	Sg	20 33 19.4	+0.3
	57nm,0.2s,baz=226,slow=20,SNR=50						
AML	Almayashu	2.57	94	P	Pn	20 33 35.5	-0.4
	SNR=64						
EKS2	Erkin-Say	2.63	82	P	Pn	20 33 36.7	+0.1
	SNR=32						
AAK	Ala-Archa	3.16	83	P	Pn	20 33 46.7	+2.9
	SNR=18						
USP	Ospenovka	3.27	72	P	Pn	20 33 44.5	-0.8
	SNR=9.1						
CHMS	Chumysh	3.39	77	P	Pn	20 33 46.3	-0.7
	SNR=6.7						
KBK	Karagaybulak	3.49	83	P	Pn	20 33 52.7	+4.2
	SNR=26						
KZA	Kyzart	3.73	93	P	Pn	20 33 56.9	+5.1
	SNR=9.0						
TKM2	Tokmak 2	3.99	80	P	Pn	20 34 00.2	+4.8
	SNR=8.6						
TKM2	Tokmak 2	3.99	80	⇓Pn	Pn	20 33 54.5	-0.8
	0.5nm,0.5s						
TKM2				⇑Lg		20 34 49.4	
	2.9nm,0.5s						
ULHL	Ulahol	4.45	89	P	Pn	20 34 02.1	+0.4
	SNR=8.3						
MK02	Makanchi Array	9.68	59	⇓Lg		20 37 54.9	
	4.4nm,0.6s						
AB31	Akbulak array	9.96	317	Pn	Pn	20 35 17.4	+0.2
	0.4nm,0.3s,baz=127,slow=14,SNR=12						
AB31				Sn	Sn	20 37 09.2	-0.1
	0.3nm,0.3s,baz=118,slow=25,SNR=5.7						
AB31				⇓Lg		20 38 17.8	
	1.4nm,0.6s						

*ISCJB **13** 21:03:10.4±0.4, 46.33N±0.02×1.48E±0.03, h2km±6km, Error ellipse: s-maj=3.6km s-min=2.9km az=10.0*
*STR **13** 21:03:11.9±1.2, 46.33N×1.48E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **13** 21:03:13.1±0.1, 46.30N×1.52E, h7km, Md2.1/3, Ml2.1/14, Error ellipse: s-maj=1.4km s-min=1.3km az=13.0*
ISC 13 21:03:11.8±0.3, **46.31N**±0.02×**1.50E**±0.03, **h10**km±6km, **n21**, σ0s**93**/38, **France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.49	92	ePg	Pg	21 03 22.8	+1.3
TCF				eSg	Sg	21 03 28.6	+0.6
	5.6nm,0.2s						
TCF				eSn	Sg	21 03 32.5	+4.5
BGF	Bois d'Agland	0.97	74	ePn	Pn	21 03 31.6	+0.2
BGF				eSg	Sg	21 03 43.1	+0.1
	18nm,0.3s						
RJF	Les Rejaudoux	1.00	179	ePg	Pg	21 03 31.6	+0.5
RJF				eSg	Sg	21 03 43.9	-0.2
	5.2nm,0.2s						
AGO	Saint Agoulin	1.16	102	Pg	Pg	21 03 35.0	+0.8
AGO				Sg	Sg	21 03 50.1	+0.8
MFF	Saint Martin d	1.17	285	ePn	Pn	21 03 34.4	+0.1
MFF	Saint Martin d	1.17	285	ePg	Pg	21 03 35.5	+1.1
MFF				eSn	Sn	21 03 50.1	-0.2
MFF				eSg	Sg	21 03 51.0	+1.3
	6.3nm,0.2s						
PYM	Petit Puy Mans	1.19	117	Pg	Pg	21 03 35.5	+0.8
HYF	Humbligny	1.24	39	ePg	Pg	21 03 37.4	+1.7
HYF				eSg	Sg	21 03 51.5	-0.4
CHIF	Chize	1.33	263	Pg	Pg	21 03 35.0	-2.5
CHIF				Sg	Sg	21 03 56.3	+1.5
AVF	Avril sur Loir	1.37	69	ePg	Pg	21 03 37.8	-0.3
AVF				eSg	Sg	21 03 55.5	-0.4
	2.2nm,0.3s						
CAF	Calviac	1.44	164	ePg	Pg	21 03 39.7	+0.3
CAF				eSg	Sg	21 03 57.8	-0.2
	5.2nm,0.4s						
LFF	La Frestale	1.47	202	ePg	Pg	21 03 40.5	+0.5
LFF				eSg	Sg	21 03 58.6	-0.4
	3.7nm,0.3s						
LBL	Lubilhac	1.63	131	Pg	Pg	21 03 43.6	+0.5
SMF	Signal de Mont	1.66	77	ePn	Pn	21 03 41.8	+0.9
SMF	Signal de Mont	1.66	77	ePg	Pg	21 03 44.2	+0.6
SMF				eSg	Sg	21 04 04.7	-0.4
	1.7nm,0.2s						
LOR	Lormes	1.89	58	ePg	Pg	21 03 47.9	-0.1
	baz=240						
LOR				eSg	Sg	21 04 11.5	-1.0
	1.3nm,0.2s						
LDF	La Druitiere	2.54	335	ePg	Pg	21 04 00.8	+0.3
LDF				eSg	Sg	21 04 32.7	-0.7
	0.4nm,0.2s						
GRR	Gorron	2.63	323	ePg	Pg	21 04 01.3	-0.9
GRR				eSg	Sg	21 04 35.5	-0.8
	1.4nm,0.3s						
VIVF	Saint-Julien-l	2.66	122	eSg	Sg	21 04 35.5	-1.8
	1.6nm,0.4s						
FLN	La Foliniere	2.80	332	eSg	Sg	21 04 40.5	-1.3
	2.3nm,0.3s						
MTLF	Montolieu	3.01	170	ePg	Pg	21 04 08.5	-1.0
MTLF				eSg	Sg	21 04 46.4	-2.1
	0.8nm,0.3s						

*CSEM **13** 21:09:17.2, 12.14N×43.44E, h4km, ML3.5, After DHMR*
DHMR 13 21:09:17.2±1.7, **12.14N**×**43.44E**, **h4**km±19km, **ML3.5, 2C-3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UDYN	Al 'Udayn	1.89	16	⇓iP	Pn	21 09 52.0	+1.8
UDYN				i S	Sn	21 10 17.9	+3.5
UDYN				AML	AML	21 10 31.1	
	comp=N,530nm,0.5s						
LBOS		2.46	45	i P	Pn	21 10 00.8	+2.7
LBOS				i S	Sn	21 10 33.4	+4.8
BDHA	Al Bayda'	2.76	48	⇑iP	Pn	21 10 04.8	+2.7
BDHA				i S	Sn	21 10 43.4	+7.5
BDHA				AML	AML	21 11 05.1	
	comp=N,258nm,0.5s						
BDHA	Al Bayda'	2.76	48	⇑iP	Pn	21 10 04.8	+2.6
BDHA				i S	Sn	21 10 43.4	+7.5
	comp=N,129nm,0.5s						
HAJJ	Hajjah	3.54	2	⇓iP	Pn	21 10 15.2	+2.3
HAJJ				i S	Sn	21 11 01.4	+6.2
HAJJ				AML	AML	21 11 26.2	
	comp=E,193nm,0.5s						
HAJJ	Hajjah	3.54	2	⇓iP	Pn	21 10 15.2	+2.3
HAJJ				i S	Sn	21 11 01.4	+6.2
	comp=E,97nm,0.5s						

*ISCJB **13** 22:04:27.7±1.4, 34.54N±0.09×25.10E±0.04, h4km±10km, Error ellipse: s-maj=14.3km s-min=5.1km az=1.9*
*NEIC **13** 22:04:28.1, 34.57N×25.18E, h41km, MD3.0(ATH), After ATH.*
*ATH **13** 22:04:28.1, 34.57N×25.18E, h41km±10km, MD3.0/4*
*CSEM **13** 22:04:28.1±0.3, 34.58N×25.20E, h15km, MD3.0, Error ellipse: s-maj=7.8km s-min=3.5km az=177.0*
*THE **13** 22:04:29.1, 34.59N×25.09E, h4km*
ISC 13 22:04:28.3±1.5, **34.54N**±0.09×**25.10E**±0.04, **h16**km±8km, **n9**, σ0s**83**/16, **Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.53	333	ePg	Pg	22 04 38.5	-0.4
SIVA				eSg	Sg	22 04 46.1	+0.1
XRY	Khrisi	0.59	55	eP	Pg	22 04 39.5	-0.4
XRY				eS	Sg	22 04 48.5	+0.7
NPS	Neapolis	0.83	30	eP	Pb	22 04 43.5	-0.9
GVD	Gavdhos	0.89	290	ePg	Pg	22 04 45.5	0.0
GVD				eSg	Sg	22 04 58.6	+1.3
GVD	Gavdhos	0.89	290	ePg	Pg	22 04 45.5	-0.1
GVD	Gavdhos	0.89	290	eP	Pb	22 04 46.5	+1.1
GVD				eSg	Sg	22 04 58.6	+1.3
ZKR	Zakros	1.08	58	ePg	Pg	22 04 48.9	-0.3
ZKR				eSg	Sg	22 05 04.3	+1.0
VAM	Vamos	1.14	320	eP	Pn	22 04 49.0	-0.6
VAM				eS	Sb	22 05 05.0	+0.8
KARN	Karanos	1.30	312	ePg	Pg	22 04 51.7	-1.6
KARN				eSg	Sg	22 05 09.6	-0.7

*THE **13** 22:06:29.4, 38.47N×20.54E, h10km, ML3.0*
*NEIC **13** 22:06:30.0, 38.50N×20.63E, h4km, MD3.5(ATH), After ATH.*
*ISCJB **13** 22:06:30.3±0.5, 38.50N±0.02×20.64E±0.04, h4km, Error ellipse: s-maj=4.9km s-min=3.0km az=150.0*
*CSEM **13** 22:06:30.6±0.2, 38.50N×20.54E, h2km±1km, ML3.0, Error ellipse: s-maj=3.5km s-min=2.1km az=83.0*
*ATH **13** 22:06:30.0, 38.50N×20.63E, h4km±2km, MD3.5/10*
*SKO **13** 22:06:51.1, 39.56N×21.21E, h0km*
ISC 13 22:06:30.6±0.5, **38.49N**±0.02×**20.61E**±0.04, **h4**km, **n26**, σ1s**06**/40, **1C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.22	8	ePg	Pg	22 06 34.2	-0.7
LKD				eSg	Sg	22 06 38.1	+0.3
VLS	Valsamata	0.31	183	⇑iPG	Pg	22 06 36.3	-0.2
VLS				eSG	Sg	22 06 41.7	+1.1
RLS	Riolos of Patr	0.80	122	ePG	Pg	22 06 45.0	-0.9
RLS				eSG	Sg	22 06 56.2	0.0
EVR	Evrytania	1.03	65	ePG	Pg	22 06 48.9	-1.4
EVR				eSG	Sg	22 07 02.5	-1.2
EVR	Evrytania	1.03	65	eSg	Sg	22 07 02.5	-1.2
IGT	Igoumenitsa	1.07	348	ePg	Pg	22 06 49.1	-1.9
IGT				eSg	Sg	22 07 05.2	+0.3
JAN	Janina	1.18	9	ePB	Pb	22 06 52.4	-1.2
JAN				eSB	Sb	22 07 08.0	-1.2
KEK	Kerkira	1.38	333	ePG	Pg	22 06 55.5	-1.5
KEK				eSB	Sb	22 07 14.7	-0.2
MEV	Metsovon	1.38	20	ePg	Pg	22 06 55.8	-1.3
MEV				eSg	Sg	22 07 15.5	+0.5
AGG	Agios Georgios	1.45	68	ePg	Pg	22 06 56.3	-2.0
AGG				eSg	Sg	22 07 18.2	+1.1
LSK	Leskovik	1.66	360	ePn	Pg	22 07 02.8	+0.4
LSK				i Sn	Sg	22 07 26.4	+2.4
ITM	Ithomi	1.67	141	ePB	Pb	22 07 01.8	-0.1
LKR	Lokris	1.88	84	ePB	Pb	22 07 04.9	-0.5
KZN	Kozani	2.03	26	ePN	Pn	22 07 06.5	+1.0
LIT	Litokhoron	2.17	42	ePn	Pn	22 07 07.4	-0.1
LIT				eSn	Sn	22 07 36.0	+1.1
XOR	Xorichti	2.20	66	ePn	Pn	22 07 07.1	-0.7
NEO	Neokhori	2.20	67	ePN	Pn	22 07 08.8	+1.0
FNA	Florina	2.37	14	ePn	Pn	22 07 09.5	-0.7
FNA				eSn	Sn	22 07 40.5	+0.8
VLI	Veliai	2.56	133	ePN	Pn	22 07 15.0	+2.2
BIA	Bitola	2.59	12	ePn	Pb	22 07 18.2	+0.6
BIA				eSn	Sn	22 07 38.9	-6.3
OHR	Ohrid	2.63	3	ePn	Pb	22 07 19.5	+1.3
PAIG	Paliouri	2.78	58	ePn	Pn	22 07 15.1	-0.9
GRG	Griva	2.83	29	ePn	Pn	22 07 16.3	-0.2
PLG	Polygyros	2.89	48	ePN	Pn	22 07 18.0	+0.6
SOH	Sokhos	3.15	41	ePn	Pn	22 07 21.8	+0.8
KNT	Kendrikon	3.20	33	ePn	Pn	22 07 21.8	+0.1
KNT				eSn	Sn	22 08 02.2	+2.0

*IDC **13** 22:17:07.1±3.0, 6.47S×147.40E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML2.8/2, Error ellipse: s-maj=66.0km s-min=33.1km az=90.0*
*ISCJB **13** 22:17:09.6±1.5, 6.5S±0.1×147.4E±0.2, h33km, mb3.7/3, Error ellipse: s-maj=27.4km s-min=15.4km az=153.0*
*NEIC **13** 22:17:11.7±1.0, 6.55S×147.43E, h35km, mb4.2/2, Error ellipse: s-maj=21.4km s-min=11.2km az=80.0*
ISC 13 22:17:11.5±1.5, **6.5S**±0.1×**147.5E**±0.2, **h35**km, **n12**, σ0s**63**/12, **mb3.7**/3, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.87	186	Pn	Pn	22 17 54.5	-0.3
	1.7nm,0.3s,baz=6.6,slow=16,SNR=4.7						
PMG				Sn	Sn	22 18 33.5	+5.4
	3.6nm,0.3s,baz=180,slow=20,SNR=3.7						
CTAO	Charters Tower	13.53	185	ePn	Pn	22 20 21.0	+0.1
WRAB	Tennant Creek	18.43	222	ePn	Pn	22 21 24.4	+0.2
	12nm,1.4s						
WB2	Warramunga Arr	18.44	222	ePn	Pn	22 21 24.2	-0.1
WRA	Warramunga Arr	18.45	222	P	Pn	22 21 24.0	-0.4
	0.1nm,0.3s,baz=48,slow=11,SNR=4.1						
ASAR	Alice Springs	21.46	216	P	P	22 21 57.4	+0.6
	0.5nm,0.5s,mb3.1,baz=49,slow=8.7,SNR=8.2						
FITZ	Fitzroy Crossi	24.20	240	P	P	22 22 24.1	-0.6
	0.9nm,0.4s,mb3.5,baz=59,slow=13,SNR=11						
STKA	Stephens Creek	25.81	192	eP	P	22 22 40.7	+1.4
KKM	Kota Kinabalu	33.60	291	P	P	22 23 48.5	0.0
TAU	Tasmania Unive	36.23	180	eP	P	22 24 09.9	-1.2
BRVK	Borovoye	87.54	324	P	P	22 29 55.9	+0.1
	0.7nm,0.3s,mb4.4						
TORD	Torodi Ar. Bea	145.67	284	PKPbc	PKPbc	22 36 48.9	+2.3
	0.2nm,0.8s,baz=72,slow=4.2,SNR=3.8						

CASC 13 22:17:22.2±3.6, **13.00N**×**88.82W**, **h20**km±23km, **MD4.0, ML3.3, 6C-10D, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNVI	San Vicente	0.61	358	⇓eP	x	22 17 42.0	
SNVI				eS	x	22 17 52.5	
LFRS	El Faro	0.66	339	⇓iP	x	22 17 42.1	
LFRS				eS	x	22 17 53.2	
LCBS	La Ceiba	0.67	346	⇓iP	x	22 17 42.4	
LCBS				eS	x	22 17 52.0	
VSM	San Miguel	0.68	51	⇑eP	x	22 17 44.2	
VSM				eS	x	22 17 52.9	
BLLM	Bellamira	0.71	52	⇓eP	x	22 17 44.1	
BLLM				eS	x	22 17 52.9	
LBRS	Las Brisas	0.77	343	⇓eP	x	22 17 44.0	
LBRS				eS	x	22 17 54.3	
BOQS	Boqueron	0.86	328	⇑eP	x	22 17 44.3	
BOQS				eS	x	22 17 57.5	
CNCH	Conchagua	0.99	74	⇑eP	x	22 17 47.5	
CNCH				eS	x	22 17 59.6	
SBLS	San Blas	1.15	317	⇓eP	x	22 17 47.2	
SBLS				eS	x	22 18 05.1	
SNJE	San Jose	1.16	318	⇓eP	x	22 17 47.4	
SNJE				eS	x	22 18 04.7	
RTR	El Retiro	1.20	318	⇓eP	x	22 17 48.2	
RTR				eS	x	22 18 04.2	
RBDL	Robledal	1.39	323	⇓eP	x	22 17 51.5	
RBDL				eS	x	22 18 09.2	
MTO2	Montecristo 2	1.49	339	⇓eP	x	22 17 54.7	
MTO2				eS	x	22 18 15.8	
LEON	Leon	1.96	107	⇑eP	Pn	22 17 53.8	-0.5
LEON				eS	Sn	22 18 19.0	+0.7
TELN	Telica	1.98	101	⇑eP	Pn	22 17 54.9	+0.4
CNGN	Cerro Negro	2.12	103	⇑eP	Pn	22 17 56.6	+0.1
CNGN				eS	Sn	22 18 24.9	+2.5
MOMJ	Momotombo	2.30	105	eP	Pn	22 17 58.8	-0.1
MOMJ				eS	Sn	22 18 27.8	+1.2
COPN	Copaltepe	2.32	110	eP	Pn	22 17 58.8	-0.4
COPN				eS	Sn	22 18 27.3	+0.1
MGAN	Managua	2.65	108	e	Sn	22 18 38.0	+2.7
	comp=N,183nm,0.3s						
TP2	Tecpan 2	2.78	310	eP	Pn	22 18 06.3	+0.8
TP2				eS	Sn	22 18 39.8	+1.3

*LDG **13** 22:33:18.3±0.2, 43.16N×1.70W, h5km, Md2.2/2, Ml2.1/7, Error ellipse: s-maj=3.4km s-min=1.9km az=61.0*
*STR **13** 22:33:18.8±0.3, 43.21N×1.66W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 13 22:33:19.2±0.4, **43.22N**×**1.66W**, **h10**km±1km, **mbLg1.5**/14, **3D, Error ellipse: s-maj=3.4km s-min=2.4km az=129.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALK	Alkurruntz	0.11	90	⇓Pg	Pg	22 33 22.0	0.0
	13nm,0.1s,SNR=18						
EALK				Lg		22 33 24.2	
	37nm,0.1s,SNR=7.9						
ELIZ	Elizondo	0.11	120	⇓Pg	Pg	22 33 21.8	-0.1
	47nm,0.1s,SNR=18						
ELIZ				Lg		22 33 24.1	
	73nm,0.1s,SNR=7.9						
IUSE	Utxeti	0.28	163	⇓Pg	Pg	22 33 24.6	-0.3
	21nm,0.1s,SNR=18						
IUSE				Lg		22 33 29.1	
	20nm,0.1s,SNR=7.9						
OSSF	Osses	0.29	83	Pg	Pg	22 33 24.7	-0.4
OSSF				Sg	Sg	22 33 29.3	+0.3
OSSF	Osses	0.29	83	P	Pg	22 33 24.6	-0.4
OSSF				S	Sg	22 33 28.8	-0.2
SJPF	Ste Jean	0.34	108	ePg	Pg	22 33 25.2	-0.7
SJPF				eSg	Sg	22 33 29.8	-0.6
	65nm,0.3s						
SJPF	Ste Jean	0.34	108	Pg	Pg	22 33 25.2	-0.7
SJPF				Lg		22 33 29.8	
	32nm,0.3s						
EARA	Aranguren	0.45	173	Pg	Pg	22 33 27.4	-0.6
	2.9nm,0.2s,SNR=7.9						
EARA				Lg		22 33 34.8	
	5.3nm,0.2s,SNR=7.9						
IPRE	Itoiz	0.47	152	Lg		22 33 35.7	
	1.8nm,0.2s,SNR=7.9						
LARF	Larrau	0.53	110	Pg	Pg	22 33 28.7	-0.7
LARF				Sg	Sg	22 33 36.3	0.0
LARF	Larrau	0.53	110	P	Pg	22 33 28.7	-0.7
LARF				S	Sg	22 33 35.8	-0.5
ORDF	Ordiarp	0.53	90	Pg	Pg	22 33 29.4	-0.1
ORDF				Sg	Sg	22 33 36.5	0.0
ORDF	Ordiarp	0.53	90	P	Pg	22 33 29.2	-0.3
ORDF				S	Sg	22 33 36.4	0.0
ATE	Arette	0.71	100	Pg	Pg	22 33 32.2	-0.8
ATE				Sg	Sg	22 33 42.2	-0.2
ATE	Arette	0.71	100	P	Pg	22 33 32.3	-0.8
ATE				S	Sg	22 33 42.0	-0.4
ETSF	Etsaut	0.87	111	ePg	Pg	22 33 34.6	-1.3
ETSF				eSg	Sg	22 33 45.5	-1.7
	5.9nm,0.2s						
ETSF	Etsaut	0.87	111	Pg	Pg	22 33 34.6	-1.3
ETSF				Lg		22 33 45.5	
	3.0nm,0.2s						
ELAN	Lanestosa	1.30	271	Pg	Pg	22 33 42.4	-1.7
	1.6nm,0.1s,SNR=7.9						
ELAN				Lg		22 33 59.5	
	1.6nm,0.1s,SNR=7.9						
EBIE	Bielsa	1.43	111	Pg	Pg	22 33 46.9	+0.3
	0.7nm,0.1s,SNR=7.9						
EBIE				Lg		22 34 05.4	
	1.3nm,0.2s,SNR=7.9						
EPF	Esparros	1.48	97	ePg	Pg	22 33 46.1	-1.4
EPF				eSg	Sg	22 34 06.0	-0.7
	3.8nm,0.2s						
EPF	Esparros	1.48	97	Pg	Pg	22 33 46.1	-1.4
EPF				Lg		22 34 06.0	
	1.9nm,0.2s						
ESAC	San Caprasio	1.74	149	Pn	Pn	22 33 48.9	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.5nm,0.1s,SNR=4.0						
ESAC				Lg		22 34 14.3	
	5.1nm,0.1s,SNR=7.9						
LFF	La Frestale	2.44	44	ePn	Pn	22 33 58.1	-1.0
LFF	La Frestale	2.44	44	ePg	Pg	22 34 04.3	-1.6
LFF				eSg	Sg	22 34 36.8	-0.8
	3.4nm,0.2s						
LFF	La Frestale	2.44	44	Pn	Pn	22 33 58.1	-1.0
LFF				Pg	Pg	22 34 04.3	-1.6
LFF				Lg		22 34 36.8	
	1.7nm,0.2s						
EARI	Arriondas	2.59	273	Pn	Pn	22 34 00.8	-0.5
	0.1nm,0.1s,SNR=7.9						
EARI				Sn	Sn	22 34 31.1	-1.7
	0.3nm,0.1s,SNR=7.9						
ERTA	Horta de San J	2.71	146	Sn	Sn	22 34 33.7	-1.8
	0.5nm,0.2s,SNR=4.0						
ERTA				Lg		22 34 45.9	
	0.1nm,0.2s,SNR=4.0						
EPOB	Poblet	2.76	132	Sn	Sn	22 34 34.5	-2.4
	0.4nm,0.1s,SNR=7.9						
MTLF	Montolieu	2.83	86	ePg	Pg	22 34 11.4	-2.1
MTLF				eSg	Sg	22 34 48.6	-1.6
	0.4nm,0.3s						
MTLF	Montolieu	2.83	86	Pg	Pg	22 34 11.4	-2.1
MTLF				Lg		22 34 48.6	
	0.2nm,0.3s						
RJF	Les Rejaudoux	3.09	46	ePn	Pn	22 34 06.7	-1.3
RJF	Les Rejaudoux	3.09	46	ePg	Pg	22 34 16.4	-2.0
RJF				eSg	Sg	22 34 56.6	-1.9
	2.8nm,0.3s						
RJF	Les Rejaudoux	3.09	46	Pn	Pn	22 34 06.7	-1.3
RJF				Pg	Pg	22 34 16.4	-2.0
RJF				Lg		22 34 56.6	
	1.4nm,0.3s						
CAF	Calviac	3.18	56	ePn	Pn	22 34 08.3	-1.0
CAF	Calviac	3.18	56	ePg	Pg	22 34 18.4	-1.7
CAF				eSg	Sg	22 35 00.4	-0.9
	1.3nm,0.3s						
CAF	Calviac	3.18	56	Pn	Pn	22 34 08.3	-1.0
CAF				Pg	Pg	22 34 18.4	-1.7
CAF				Lg		22 35 00.4	
	0.6nm,0.3s						
MFF	Saint Martin d	3.55	17	eSg	Sg	22 35 11.4	-1.8
	0.8nm,0.2s						
MFF	Saint Martin d	3.55	17	Lg		22 35 11.4	
	0.4nm,0.2s						

IDC 13 23:07:49.9±3.5, 964S×11362E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=170.0km s-min=23.0km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.48	119	P	P	23 12 51.3	+0.7
	0.3nm,0.5s,baz=294,slow=12,SNR=3.2						
ASAR	Alice Springs	23.88	128	P	P	23 13 05.1	0.0
	0.8nm,0.6s,baz=305,slow=8.5,SNR=16						
SONM	Songino Array	57.57	354	P	P	23 17 41.1	-0.2
	0.2nm,0.3s,baz=172,slow=9.0,SNR=3.7						
MKAR	Makanchi Array	62.75	336	P	P	23 18 17.2	+0.4
	0.3nm,0.4s,baz=154,slow=8.0,SNR=6.1						

ISCJB 13 23:12:16.6±0.7, 4159N±003×4435E±005, h10km, Error ellipse: s-maj=6.1km s-min=3.5km az=115.6
TIF 13 23:12:16.4, 4146N×4448E, h19km±1km
CSEM 13 23:12:23.0, 4189N×4441E, h18km, mb3.6, Error ellipse: s-maj=38.2km s-min=10.9km az=83.0, After OBN
MOS 13 23:12:23.0±1.6, 4189N×4441E, h18km, mb3.6/1, Error ellipse: s-maj=38.2km s-min=10.9km az=98.3
ISC 13 23:12:17.4±0.6, 4158N±003×4439E±005, h10km, n14, σ1s37/28, Western Caucasus

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZR	Kazreti	0.20	174	P	Pg	23 12 20.6	-1.0
KZR				S	Sg	23 12 23.0	-1.3
TBLG	Delisi	0.30	60	P	Pg	23 12 24.3	+0.8
TBLG				S	Sg	23 12 29.6	+2.0
MTA	Mtatsminda	0.33	69	P	Pg	23 12 23.9	0.0
MTA				S	Sg	23 12 28.9	+0.7
GOR	Gori	0.46	333	P	Pg	23 12 28.8	+2.4
GOR				S	Sg	23 12 37.3	+4.9
DUS	Dusheti	0.56	25	P	Pg	23 12 30.6	+2.3
DUS				S	Sg	23 12 40.6	+4.8
DGRG	David-gareji	0.75	99	P	Pg	23 12 30.5	-1.4
DGRG				S	Sg	23 12 41.3	-0.5
ONI	Oni	1.22	325	P	Pn	23 12 41.8	+1.3
ONI				S	Sb	23 12 59.8	+3.5
ZEI	Tsey	1.25	343	i Pg	Pg	23 12 42.8	+1.5
ZEI				eSg	Sg	23 12 57.2	-0.3
LACR	Lac	1.25	357	i Pg	Pg	23 12 42.2	+0.8
LACR				eSg	Sg	23 12 56.3	-1.3
DIGR	Digorskoe uzhe	1.45	336	i Pg	Pg	23 12 46.1	+0.9
DIGR				eSg	Sg	23 13 03.2	-0.9
VLKR	Vladikavkaz	1.48	8	ePg	Pg	23 12 46.1	+0.2
VLKR				eSg	Sg	23 13 03.0	-2.1
SNJR	Sundja	1.52	12	ePg	Pg	23 12 46.8	+0.2
SNJR				eSg	Sg	23 13 04.2	-2.2
KORR	Kora	1.53	351	ePg	Pg	23 12 46.8	+0.1
KORR				eSg	Sg	23 13 04.4	-2.1
ARNR	Ardon	1.61	357	ePg	Pg	23 12 48.2	-0.2
ARNR				eSg	Sg	23 13 06.7	-2.6

ISCJB 13 23:12:30.9±0.7, 24.11S±005×667W±0.1, h210km±14km, mb3.5/1, Error ellipse: s-maj=15.6km s-min=8.3km az=14.6
IDC 13 23:12:31.1±1.0, 24.15S×6664W, h186km±12km, mb3.5/1, mb1 3.4/8, mb1mx3.3/21, mbtmp3.8/8, Error ellipse: s-maj=16.4km s-min=12.4km az=95.0
NEIC 13 23:12:32.2±0.7, 2405S×6663W, h198km±8km, mb4.0/3, Error ellipse: s-maj=12.7km s-min=9.1km az=104.0
ISC 13 23:12:31.8±0.6, 2409S±005×6665W±010, h197km±13km, n16, σ0s95/18, mb3.5/1, Salta Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.55	305	P	Pn	23 13 17.2	+1.2
	21nm,0.3s,baz=128,slow=5.9,SNR=615						
LVC				S	Sn	23 13 50.3	-0.1
	35nm,0.3s,baz=251,slow=23,SNR=35						
LVC	Limon Verde	2.55	305	P	Pn	23 13 17.2	+1.2
LVC				S	Sn	23 13 50.3	-0.1
CFAA	Coronel Fontan	7.62	190	P	Pn	23 14 19.3	-0.7
	0.3nm,0.3s,baz=6.3,slow=13,SNR=51						
CFAA				S	Sn	23 15 39.2	-6.8
	0.5nm,0.3s,baz=138,slow=21,SNR=9.3						
LPAZ	La Paz	7.88	350	P	Pn	23 14 24.6	+1.1
	2.9nm,0.3s,baz=181,slow=11,SNR=61						
LPAZ				S	Sn	23 15 51.4	-1.0
	baz=72,slow=20,SNR=2.8						
CPUP	Villa Florida	8.73	107	P	Pn	23 14 35.6	+1.1
	0.2nm,0.3s,baz=289,slow=13,SNR=2.9						
SIV	San Ignacio	9.61	34	P	Pn	23 14 45.5	-0.4
	0.6nm,0.3s,baz=231,slow=11,SNR=17						
SIV				S	Sn	23 16 32.8	-0.6
	0.0nm,0.3s,baz=180,slow=19,SNR=1.8						
TRQA	Tornquist	14.48	165	ePn	Pn	23 15 45.8	-2.0
	2.9nm,0.4s						
SAML	Samuel	15.41	13	ePn	Pn	23 15 58.6	-0.6
	5.4nm,0.8s						
PLCA	Paso Flores	16.92	190	P	Pn	23 16 17.4	+0.3
	0.1nm,0.3s,baz=85,slow=12,SNR=3.4						
PLCA	Paso Flores	16.92	190	eP	Pn	23 16 18.0	+0.8
	2.1nm,0.6s						
BDFB	Brasilia	19.42	68	P	P	23 16 44.5	+1.4
	0.8nm,0.3s,baz=240,slow=9.0,SNR=8.6						
RCBR	Riachuelo	34.67	63	P	P	23 19 01.9	-0.7
TORD	Torodi Ar. Bea	76.30	69	P	P	23 23 59.4	+0.6
	0.6nm,0.4s,mb3.5,baz=257,slow=5.5,SNR=44						
ASAR	Alice Springs	128.51	204	PKP	PKPdf	23 31 16.4	+1.3
	0.3nm,0.5s,baz=124,slow=2.0,SNR=4.7						
WRA	Warramunga Arr	131.69	207	PKP	PKPdf	23 31 22.5	+1.3
	0.2nm,0.5s,baz=157,slow=1.7,SNR=2.6						
MKAR	Makanchi Array	146.39	40	PKPbc	PKPbc	23 31 49.9	+0.4
	0.4nm,0.4s,baz=335,slow=3.4,SNR=6.6						

CSEM 13 23:16:28.8±0.2, 6785N×2024E, h2km, ML2.6, Error ellipse: s-maj=6.0km s-min=4.6km az=37.0, Mining explosion.
UPP 13 23:16:30.1, 6784N×2020E, h0km, ML2.6, Mining explosion.
HEL 13 23:16:30.6±0.0, 6784N×2019E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.13	26	i P	Pg	23 16 32.7	-0.3
KUA				i S	Sg	23 16 34.6	-0.1
NIKU	Nikkaluokta	0.44	274	i P	Pg	23 16 38.5	-0.5
NIKU	Nikkaluokta	0.44	274	P	Pg	23 16 38.5	-0.5
LANU	Lannavaara	0.71	72	i P	Pg	23 16 43.4	-0.8
DUNU	Dundret	0.74	168	i P	Pg	23 16 43.7	-1.0
MASU	Masugnsbyn	0.79	118	i P	Pg	23 16 45.0	-0.8
KIF	Kilpisjarvi	1.19	11	eP	Pg	23 16 52.7	-0.8
KIF				eS	Sg	23 17 08.4	-0.5
KIF	Kilpisjarvi	1.19	11	P	Pg	23 16 52.6	-0.8
KIF				S	Sg	23 17 08.3	-0.6
PAJU	Pajala	1.40	125	eP	Pn	23 16 55.5	-1.8
PAJU	Pajala	1.40	125	P	Pn	23 16 55.4	-1.9
ERTU	Ertsjaerv	1.51	148	eP	Pn	23 16 58.5	-0.4
ERTU	Ertsjaerv	1.51	148	P	Pn	23 16 58.4	-0.5
SJUU	Sjulsmark	2.41	166	eP	Pn	23 17 11.4	+0.2
SJUU	Sjulsmark	2.41	166	P	Pn	23 17 11.4	+0.1

ROM 13 23:41:04.9±1.0, 43.18N×1560E, h10km, Md3.0/18, Ml2.4/7, Error ellipse: s-maj=16.0km s-min=4.3km az=130.0
CSEM 13 23:41:05.3±0.2, 43.18N×1561E, h10km, MD3.0/18, Error ellipse: s-maj=4.9km s-min=2.1km az=81.0
ISCJB 13 23:41:06.1±0.7, 43.12N±003×155E±0.1, h10km, Error ellipse: s-maj=10.7km s-min=4.1km az=2.6
VIE 13 23:41:07.7±0.8, 4307N×1496E, h10km, mb2.4/3, ML2.3/3, Error ellipse: s-maj=17.0km s-min=6.4km az=96.0 131 km WSW of Split
ISC 13 23:41:06.9±0.7, 4308N±003×155E±01, h10km, n24, σ0s85/28, 3C-2D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FG2	Serracapriola	1.30	190	Pn	Pn	23 41 30.8	-0.2
OFFI	Offida	1.32	264	Pn	Pn	23 41 31.7	+0.3
SGRT	San Giovanni R	1.34	171	Pn	Pn	23 41 31.9	+0.3
VCEL	Villa Celiera	1.39	241	Pn	Pn	23 41 31.9	-0.4
	29nm,0.4s						
RGNG	Rignano Grg	1.41	177	Pn	Pn	23 41 32.2	-0.4
AOI	Ancona	1.45	289	Pn	Pn	23 41 32.2	-0.8
	101nm,0.7s						
TERO	Teramo	1.45	252	Pn	Pn	23 41 32.6	-0.5
	22nm,0.3s						
CIGN	Sant'Elia a Pi	1.49	197	Pn	Pn	23 41 33.6	-0.1
NVLJ	Novalja	1.54	344	i Pn	Pn	23 41 32.6	-1.8
NVLJ				i Sn	Sn	23 41 54.3	-0.2
FAGN	Fagnano	1.62	240	Pn	Pn	23 41 36.0	+0.6
	20nm,0.3s						
BSSO	Busso	1.67	203	Pn	Pn	23 41 35.8	-0.3
	37nm,0.5s						
MIDA	Miranda	1.70	213	Pn	Pn	23 41 35.4	-1.2
	25nm,0.4s						
FG5	Orsara di Pugl	1.81	185	Pn	Pn	23 41 37.8	-0.2
VVLD	Villa Vallelon	1.83	229	Pn	Pn	23 41 38.3	0.0
CERA	Filignano	1.84	217	Pn	Pn	23 41 40.5	+2.1
LNSS	Leonessa	1.85	256	Pn	Pn	23 41 38.8	+0.1
	51nm,0.4s						
SNTG	Esanatoglia	1.86	276	Pn	Pn	23 41 37.6	-1.2
FIAM	Fiamignano	1.92	246	Pn	Pn	23 41 41.8	+2.2
FSSB	Fossombrone	2.06	288	Pn	Pn	23 41 40.7	-0.8
MNS	Montasola	2.17	252	Pn	Pn	23 41 44.0	+0.9
VOY	Vojsko	3.16	340	ePn	Pn	23 41 56.2	-0.4
VOY				e(Sn)	Sn	23 42 38.7	+4.4
VOY				e		23 42 49.2	
OBKA	Obir	3.49	349	⇓ iPn	Pn	23 42 01.9	+0.7
OBKA				⇑ iSn	Sn	23 42 43.2	+0.7
KBA	Koelnbreinsper	4.27	340	⇓ iPn	Pn	23 42 11.8	-0.1
MOA	Molln	4.84	350	⇑ iPn	Pn	23 42 20.8	+1.0
MOA				⇑ iSn	Sn	23 43 16.1	+0.2

JMA 13 23:52:47.6±0.3, 2455N×12191E, h85km, M3.5, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.01	95	P	Pn	23 53 07.2	+0.2
YOJ				S	Sn	23 53 22.0	+0.4
IRIF	Iriomote-Funau	1.67	97	P	Pn	23 53 15.4	+0.1
IRIF				eS	Sn	23 53 36.5	+0.2
HATJ	Hateruma jima	1.80	105	P	Pn	23 53 17.5	+0.6
HATJ				eS	Sn	23 53 39.6	+0.3
JKRS	Kuro-shima	1.94	99	P	Pn	23 53 19.5	+0.7
JKRS				eS	Sn	23 53 43.4	+0.8
JIJ	Ishigaki jima	2.04	95	P	Pn	23 53 20.5	+0.3
JIJ				eS	Sn	23 53 44.9	-0.1
JTJ	Tarama	2.54	87	P	Pn	23 53 28.4	+1.6
JTJ				eS	Sn	23 53 58.4	+1.4

MOS 13 23:54:08.6±1.1, 5504N×11139E, h25km, mb4.0/1, Error ellipse: s-maj=49.1km s-min=22.9km az=84.9
BYKL 13 23:54:08.3±0.3, 5508N×11138E, h33km±4km, 2C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.24	212	⇓ iPg	Pb	23 54 15.4	+0.1
YLYR				i Sg	Sb	23 54 20.0	-0.1
YLYR	Ulyunkhan	0.24	212	⇓ iPG	Pb	23 54 15.4	+0.1
YLYR				i		23 54 20.0	
YLYR				pmax	pmax		
	comp=Z,484nm,0.1s						
YLYR				smax			
	comp=N,3µm,0.1s						
KMO	Kumora	0.81	353	ePg	Pn	23 54 24.0	+0.5
KMO				eSg	Sn	23 54 35.0	+0.6
KMO				Pmax			
	comp=N,241nm,0.4s						
KMO				Smax			
	comp=N,699nm,0.7s						
KMO	Kumora	0.81	353	ePG	Pn	23 54 24.0	+0.5
KMO				e		23 54 34.8	
KMO				pmax	pmax		
	comp=Z,242nm,0.3s						
KMO				smax			
	comp=N,699nm,0.6s						
YOA	Uoyan	1.07	10	ePg	Pn	23 54 28.7	+1.7
YOA				eSg	Sn	23 54 44.0	+3.3
YOA				eSb	Sb	23 54 46.2	+4.1
YOA				Pmax			
	comp=N,248nm,0.2s						
YOA				max			
	comp=N,1µm,0.5s						
YOA	Uoyan	1.07	10	⇑ iPG	Pn	23 54 28.3	+1.3
YOA				e		23 54 43.4	
YOA				pmax	pmax		
	comp=Z,139nm,0.3s						
YOA				smax			
	comp=N,1µm,0.4s						
NIZ	Nizh Angarsk	1.26	304	ePg	Pn	23 54 32.1	+2.5
NIZ				eSg	Sn	23 54 49.2	+3.9
NIZ				Pmax			
	comp=N,65nm,0.5s						
NIZ				Smax			
	comp=N,411nm,0.4s						
NIZ	Nizh Angarsk	1.26	304	ePN	Pn	23 54 32.1	+2.5
NIZ				e		23 54 48.8	
NIZ				pmax	pmax		
	comp=Z,64nm,0.2s						
NIZ				smax			
	comp=N,411nm,0.4s						
UKT	Uakit	1.35	71	⇑ iPg	Pn	23 54 33.0	+2.2
UKT				i Sg	Sn	23 54 50.9	+3.3
UKT				Pmax			
	comp=N,64nm,0.3s						
UKT				Smax			
	comp=N,343nm,0.5s						
UKT	Uakit	1.35	71	ePN	Pn	23 54 32.7	+1.9
UKT				e		23 54 50.8	
UKT				pmax	pmax		
	comp=Z,73nm,0.3s						
UKT				smax			
	comp=N,343nm,0.3s						
SVKR	Severomuysk	1.61	49	ePg	Pn	23 54 38.5	+4.0
SVKR				eSg	Sn	23 55 00.3	+6.2
SVKR				Pmax			
	comp=N,136nm,0.3s						
SVKR				Smax			
	comp=N,709nm,0.4s						
SYVR	Suvo	1.64	210	Pg	Pn	23 54 39.2	+4.4
SYVR				e		23 54 45.2	
SYVR				e		23 54 55.8	
SYVR				eSg	Sn	23 55 01.9	+7.2
SYVR				max			
	comp=N,21nm,0.5s						
SYVR				Smax			
	comp=N,171nm,0.9s						
OGRR	Ongureny	2.64	239	ePn	Pn	23 54 48.8	+0.2
OGRR				ePg	Pn	23 54 55.8	+7.2
OGRR				eSg	Sn	23 55 31.2	+12
OGRR				Pmax			
	comp=N,15nm,0.5s						
OGRR				Smax			
	comp=N,49nm,0.2s						
NLYR	Nelyaty	2.82	58	ePn	Pn	23 54 53.2	+2.2
NLYR				ePg	Pn	23 54 59.1	+8.1
NLYR				eSg	Sn	23 55 36.4	+13
KELR	Kotokel	3.04	221	e	Pn	23 55 29.7	+36
KELR				eSg	Sn	23 55 43.5	+14
KELR				Smax			
	comp=N,156nm,0.3s						
BOD	Bodaibo	3.11	27	ePg	Pn	23 55 02.9	+7.9
BOD				eSg	Sn	23 55 43.4	+12
BOD				Pmax			
	comp=N,6.0nm,0.4s						
BOD				Smax			
	comp=N,29nm,0.7s						
CIT	Chita	3.33	156	ePg	Pn	23 55 07.3	+9.3
CIT				eSg	Sn	23 55 51.7	+15
CIT				Pmax			
	comp=N,14nm,0.5s						
CIT				Smax			
	comp=N,82nm,1.0s						
TRG	Tyrgan	3.77	234	ePn	Pn	23 55 06.2	+2.0
TRG				eSn	Sn	23 55 46.6	-0.8
TRG				eSg	Sn	23 56 04.6	+17
TRG				Smax			
	comp=N,22nm,0.3s						
CRS	Chara	4.28	62	ePg	Pn	23 55 24.5	+13
CRS				eSg	Sn	23 56 20.9	+21
CRS				Pmax			
	comp=N,2.0nm,0.1s						
CRS				Smax			
	comp=N,45nm,1.4s						
TUP	Tupik	5.01	94	ePn	Pn	23 55 21.3	+0.2
TUP				ePg	Pn	23 55 38.0	+17
TUP				eSg	Sn	23 56 44.0	+26
TUP				Pmax			
	comp=N,5.0nm,0.4s						
TUP				Smax			
	comp=N,43nm,1.5s						
KPC	Khapcheranga	5.42	173	e	Pn	23 55 32.8	+6.0
KPC				ePg	Pn	23 55 45.0	+18
KPC				eSg	Sn	23 56 56.5	+29
KPC				Pmax			
	comp=N,1.0nm,0.4s						
KPC				Smax			
	comp=N,21nm,1.3s						
TLY	Talaya	5.75	237	eSg	Sn	23 57 04.1	+28
ARS	Arshan	6.21	243	e		23 57 02.7	
ARS				eSg	Sn	23 57 19.5	+32
ARS				Smax			
	comp=N,47nm,0.9s						
MOY	Mondy	7.09	245	eSg	Sn	23 57 47.7	+39
MOY				Smax			
	comp=N,20nm,2.0s						
ORL	Orlik	7.31	254	e	Pn	23 56 57.4	+65
ORL				eSg	Sn	23 57 55.0	+41
ORL				Smax			
	comp=N,20nm,1.6s						

IDC 14 00:01:40.9±8.7, 2042S×168.10E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/12, mbtmp4.0/4, ML3.1/1, Error ellipse: s-maj=164.2km s-min=45.3km az=105.0
ISCJB 14 00:01:41.5±1.8, 204S±0.1×1684E±02, h33km, mb4.0/5, Error ellipse: s-maj=30.3km s-min=11.9km az=36.0
NEIC 14 00:01:46.9±2.3, 2052S×16793E, h35km, mb4.2/2, Error ellipse: s-maj=41.8km s-min=13.1km az=84.0
ISC 14 00:01:44.4±1.8, 204S±01×1683E±02, h35km, n11, σ0s77/12, mb4.0/5, Loyalty Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.38	226	eP	Pn	00 02 18.3	-2.6
DZM	Mont Dzumac	2.38	226	Pn	Pn	00 02 18.3	-2.7
	5.6nm,0.3s,baz=54,slow=17,SNR=56						
DZM				Sn	Sn	00 02 49.6	+0.6
	18nm,0.3s,baz=284,slow=24,SNR=7.3						
HNR	Honiara	13.58	322	Pn	Pn	00 04 54.5	+0.1
PMG	Port Moresby	23.15	295	P	P	00 06 47.8	+0.1
STKA	Stephens Creek	26.47	239	P	P	00 07 18.8	+0.6
	2.0nm,0.7s,mb3.8,baz=83,slow=11,SNR=5.5						
WRAB	Tennant Creek	31.84	265	eP	P	00 08 05.3	-0.6
	0.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	31.85	265	P	P	00 08 06.2	+0.3
	0.6nm,0.4s,mb3.7,baz=92,slow=8.3,SNR=3.6						
AS31	Alice Springs	32.00	258	eP	P	00 08 07.3	0.0
ASAR	Alice Springs	32.00	258	P	P	00 08 07.5	+0.3
	3.1nm,0.7s,mb4.2,baz=82,slow=9.3,SNR=32						
NWAO	Narrogin (SRO)	46.89	244	P	P	00 10 10.7	-0.5
CASY	Casey	58.69	204	eP	P	00 11 39.1	+0.7
	2.5nm,0.6s,mb4.4						

ISCJB 14 00:11:03.8±0.4, 3279N±002×11607W±003, h2km±3km, mb5.4/1, Error ellipse: s-maj=3.6km s-min=2.5km az=165.3
BJI 14 00:11:04.0, 3270N×116.10W, h8km, mB4.8, mb4.9, Ms4.4, Msz4.2
NEIC 14 00:11:06.1, 3271N×11606W, h5km, ML4.0(PAS), After PAS.
NEIC Felt [II] at EL Cajon and Ramona. Also felt at Borrego Springs, Carlsbad, Chula Vista, El Cajon, El Centro, Escondido, Holtville, Imperial Beach, Indio, La Jolla, Laguna Beach, Ocotillo, Pacifica, Pine Valley, Ramona, Rancho Cucamonga, San Diego, Santa Maria and Sierra Madre.
ECX 14 00:11:06.5±0.6, 3271N×11605W, h3km, MD4.1, ML4.3, Fault plane solution: NP1:ϕ_s245.00000°, δ65.00000°, λ-90.00000°.
ISC 14 00:11:05.3±0.3, 3274N±001×11607W±002, h3km±3km, n40, σ1s10/68, mb5.4/1, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RMX	La Rumorosa	0.14	181	⇑ iP	Pg	00 11 08.7	+0.8
RMX				eS	Sg	00 11 10.3	+0.6
YUH	Yuha Desert	0.16	125	⇓ iP	Pg	00 11 08.4	+0.1
CRR	Carrizo Plain	0.17	31	⇓ iP	Pg	00 11 09.9	+1.2
SGL	Mount Signal	0.31	107	⇑ iP	Pg	00 11 11.5	+0.4
YAQ	Yaqui Meadows	0.49	332	⇓ iP	Pg	00 11 16.1	+1.4
BAR	Barrett	0.51	264	⇑ iP	Pg	00 11 16.1	+1.1
BAR	Barrett	0.51	264	ePg	Pg	00 11 16.0	+1.0
BAR				eSg	Sg	00 11 23.2	+1.6
CBX	Cerro Bola	0.65	230	⇑ eP	Pg	00 11 18.4	+0.6
CBX				eS	Sg	00 11 27.3	+1.0
CPBX	Cerro Prieto	0.72	116	⇑ eP	Pg	00 11 19.3	+0.1
CPBX				eS	Sg	00 11 28.8	+0.2
RDX	Rancho Dowling	0.81	172	⇓ eP	Pg	00 11 20.4	-0.4
RDX				eS	Sg	00 11 30.8	-0.5
RDX				⇑ e		00 11 31.5	
	comp=E,8µm,0.5s						
PFO	Pinyon Flat Ob	0.93	340	ePg	Pg	00 11 23.5	+0.5
PFO				eSg	Sg	00 11 36.6	+1.6
ENX	Ensenada	0.99	211	⇑ eP	Pg	00 11 24.0	-0.2
ENX				eS	Sg	00 11 37.1	+0.1
EMX	El Mayor	1.03	136	⇑ eP	Pg	00 11 24.3	-0.7
EMX				eS	Sg	00 11 37.2	-1.0
EMX				e		00 11 39.2	
	comp=N,5µm,0.3s						
GLA	Glamis	1.09	73	ePn	Pn	00 11 25.0	-2.5
GLA				eSg	Sg	00 11 38.8	-1.7
PBX	Punta Banda	1.14	209	⇑ eP	Pg	00 11 26.7	-0.4
PBX				eS	Sg	00 11 41.6	-0.1

ECNX	**Esteban Cantu**	**1.17**	**203**	*e*P	**Pg**	**00 11 26.8**	**-0.8**
ECNX				*e*P		00 11 24.1	
ECNX				*e*S	**Sg**	**00 11 37.3**	**-5.5**
ECNX				*e*S	**Sg**	**00 11 42.5**	**-0.2**
SPX	**San Pedro Mart**	**1.77**	**163**	*e*P	**Pn**	**00 11 36.4**	**-0.3**
SPX				*e*S	**Sn**	**00 12 00.2**	**+0.5**
MWC	**Mount Wilson**	**2.22**	**312**	*e*Pg	**Pg**	**00 11 45.4**	**-2.5**
MWC				*e*Sg	**Sg**	**00 12 15.3**	**-1.4**
GSC	**Goldstone**	**2.63**	**347**	*e*Pn	**Pn**	**00 11 48.0**	**-0.6**
GSC				*e*Pg	**Pg**	**00 11 54.7**	**-0.9**
GSC				*e*Sn	**Sn**	**00 12 21.7**	**+0.7**
GSC				*e*Sg	**Sg**	**00 12 30.3**	**+0.6**
ISA	**Isabella**	**3.53**	**326**	*e*Pn	**Pn**	**00 12 00.8**	**-0.2**
ISA				*e*Sg	**Pg**	**00 12 12.1**	**-0.8**
ISA				*e*Sn	**Sn**	**00 12 41.4**	**-1.9**
ISA				*e*Sg	**Sg**	**00 12 54.3**	**-4.4**
DAC	**Darwin (Calif)**	**3.75**	**341**	*e*Pn	**Pn**	**00 12 03.0**	**-1.0**
DAC				*e*Pg	**Pg**	**00 12 15.7**	**-1.4**
DAC				*e*Sg	**Sg**	**00 13 05.5**	**-0.1**
SHPR	**Sheep Range**	**3.83**	**11**	*e*Pn	**Pn**	**00 12 05.2**	**0.0**
TUC	**Tucson**	**4.49**	**94**	*e*Pn	**Pn**	**00 12 14.1**	**-0.1**
WUAZ	**Wupatki**	**4.78**	**53**	*e*Pn	**Pn**	**00 12 19.0**	**+0.8**
MTUM	**Tungsten Hills**	**5.04**	**337**	*e*Pg	**Pg**	**00 12 39.2**	**-2.6**
TPH	**Tonopah**	**5.41**	**350**	*e*Pg	**Pg**	**00 12 46.5**	**-2.4**
ARUT	**Antelope Range**	**5.48**	**22**	*e*Pn	**Pn**	**00 12 28.6**	**+0.8**
ARUT				*e*Pg	**Pg**	**00 12 52.8**	**+2.6**
TRCR	**Troy Canyon**	**5.61**	**4**	Pn	**Pn**	**00 12 29.9**	**+0.3**
TRCR				*e*Pg	**Pg**	**00 12 53.9**	**+1.0**
TRCR				*e*Sn	**Sn**	**00 13 34.5**	**-0.1**
TRCR				*e*Sg	**Sg**	**00 14 08.1**	**+2.5**
CMB	**Columbia Colle**	**6.35**	**328**	*e*Pg	**Pg**	**00 13 07.1**	**+0.2**
CMB				*e*Sg	**Sg**	**00 14 26.0**	**-3.2**
WAKR	**Walker**	**6.37**	**335**	*e*Pn	**Pn**	**00 12 47.4**	**+7.3**
MSU	**Marysvale**	**6.58**	**28**	*e*Pn	**Pn**	**00 12 45.1**	**+2.2**
SRU	**San Rafael**	**7.79**	**34**	*e*Pn	**Pn**	**00 13 01.9**	**+2.4**
	comp=N,11nm,0.7s						
SRU				*e*Pg	**Pg**	**00 13 34.1**	**-0.3**
SRU				*e*Sn	**Sn**	**00 14 21.5**	**-6.7**
DUG	**Dugway**	**7.89**	**19**	*e*Pg	**Pg**	**00 13 35.9**	**-0.5**
MNTX	**Cornudas Mount**	**9.12**	**94**	*e*Pn	**Pn**	**00 13 18.3**	**+0.6**
CN2	**Changchun**	**85.40**	**320**	*e*P	**P**	**00 23 43.4**	**-0.7**
BJI	**Beijing**	**92.94**	**323**	P	**P**	**00 24 19.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**94.60**	**326**	*e*P	**P**	**00 24 28.1**	**+0.7**
HHC				AP	pP	00 24 34.0	+5.6
HHC				XP	sP	00 24 35.3	+6.6
HHC				PP	PP	00 28 18.1	+2.9
HHC				SKS		00 35 01.3	
HHC				S	S	00 35 36.0	-5.1
HHC				XS	sS	00 35 44.3	+1.6
HHC				SS	SS	00 42 01.3	-2.5
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,82nm,4.4s						
HHC				LR	LR		
	comp=N,66nm,3.8s						
HHC				LR	LR		
	comp=E,91nm,4.6s						
HHC				LR	LR		
	comp=Z,121nm,5.0s						
SSE	**Sheshan**	**96.57**	**313**	*e*P	**P**	**00 24 36.5**	**+0.1**
NJ2	**Nanjing**	**97.30**	**316**	*e*P	**P**	**00 24 40.4**	**+0.7**
WMQ	**Urumqi**	**100.78**	**343**	*e*P	Pdif	00 24 58.0	+2.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s						

*ISCJB **14** 01:08:42.6±6.5, 5833S±008×297W±01, h5km±42km, mb4.6/19, MS4.5/18, Error ellipse: s-maj=15.9km s-min=9.8km az=74.0*

*IDC **14** 01:08:43.2±0.6, 5834S×2973W, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.5/16, mbtmp4.5/12, ML3.2/1, MS4.4/18, Ms1 4.4/18, ms1mx4.4/21, Error ellipse: s-maj=24.1km s-min=15.9km az=58.0*

*NEIC **14** 01:08:45.4±0.3, 5830S×2978W, h10km, mb4.7/14, Error ellipse: s-maj=9.8km s-min=7.8km az=46.0*

*BJI **14** 01:08:45.4, 5830S×2980W, h10km, mB5.5, Ms5.2, Msz5.0*

*GCMT **14** 01:08:45.4±0.2, 5856S×2971W, h14km±1km, MW5.2/77, Moment Tensor Solution. s46,c73; s77,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.17±.21; $M_{\theta\theta}$-3.06±.20; $M_{\phi\phi}$4.23±.20; $M_{r\theta}$0.98±.41; $M_{\theta\phi}$5.91±.18; $M_{\phi r}$1.46±.39; Best double couple: $M_0$7.11600×10^{16} NP1:ϕ_s344.00000°,δ81.00000°,λ173.00000°. NP2: ϕ_s75.00000°,δ83.00000°,λ9.00000°. Principal axes: T 7.8690, Plg11.0000°, Azm299.0000°; N -1.5060, Plg79.0000°, Azm110.0000°; P -6.3630, Plg2.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 14 01:08:46.4±6.5**, 5839S**±008×**298W**±01**, h18**km±42km**, n66,** σ**0.91**/37**, mb4.6**/19**, MS4.5**/18**, 1C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.25**	**152**	*e*	**Pn**	**01 12 21.2**	**+0.5**
VNA1				*e*		01 12 30.0	
VNA1				*e*		01 12 33.3	
VNA1				*e*		01 12 37.9	
VNA1				*e*		01 12 48.5	
VNA3	**Neumayer Olymp**	**15.34**	**155**	*e*	**Pn**	**01 12 20.1**	**-1.8**
VNA3				*e*		01 12 28.6	
VNA3				*e*		01 12 33.2	
VNA3				*e*		01 12 37.0	
VNA3				*e*		01 12 42.6	
VNA3				*e*		01 12 47.8	
SNAA	**Sanae**	**17.26**	**151**	P	**Pn**	**01 12 46.9**	**+0.5**
	0.1nm,0.3s,baz=313,slow=12,SNR=25						
SNAA				LR	LR	01 17 52.3	
	comp=Z,693nm,19.4s,baz=190,slow=32						
SNAA	**Sanae**	**17.26**	**151**	*e*	**Pn**	**01 12 46.8**	**+0.4**
SNAA				*e*		01 12 55.3	
SNAA				*e*		01 12 58.3	
SNAA				*e*		01 13 01.9	
SNAA				*e*		01 13 06.4	
SNAA				*e*		01 13 14.7	
SNAA	**Sanae**	**17.26**	**151**	*e*Pn	**Pn**	**01 12 47.0**	**+0.7**
	32nm,1.3s						
PMSA	**Palmer Station**	**17.34**	**234**	*e*Pn	**Pn**	**01 12 47.8**	**+0.4**
	13nm,0.5s						
MAIT	**Maitri**	**21.14**	**142**	*e*P	**P**	**01 13 30.8**	**+0.6**
TRQA	**Tornquist**	**29.12**	**300**	*e*P	**P**	**01 14 46.6**	**+0.5**
	9.2nm,0.8s,mb4.6						
SYO	**Syowa Base**	**30.70**	**139**	⇑*e*P	**P**	**01 14 58.4**	**-1.6**
SYO	**Syowa Base**	**30.70**	**139**	⇓*e*pP	pP	01 15 01.6	-4.1
PLCA	**Paso Flores**	**31.17**	**286**	P	**P**	**01 15 02.6**	**-1.5**
	6.1nm,0.9s,mb4.4,baz=146,slow=9.5,SNR=13						
PLCA				LR	LR	01 27 49.9	
	comp=Z,1µm,20.4s,MS4.5,baz=140,slow=37						
CFAA	**Coronel Fontan**	**37.33**	**299**	LR	LR	01 30 52.0	
	comp=Z,106nm,21.6s,MS3.6,baz=189,slow=36						
CPUP	**Villa Florida**	**37.44**	**317**	P	**P**	**01 15 57.5**	**-0.9**
	2.0nm,0.8s,mb4.0,baz=134,slow=7.4,SNR=7.0						
CPUP				LR	LR	01 30 38.4	
	comp=Z,759nm,19.4s,MS4.5,baz=145,slow=35						
CPUP	**Villa Florida**	**37.44**	**317**	P	**P**	**01 15 57.5**	**-0.9**
CPUP				LR	LR	01 30 38.4	
MAW	**Mawson**	**39.12**	**143**	P	**P**	**01 16 12.0**	**-0.6**
	7.1nm,0.9s,mb4.4,baz=239,slow=9.8,SNR=8.4						
MAW				LR	LR	01 30 44.4	
	comp=Z,1µm,18.2s,MS4.8,baz=245,slow=34						
MAW	**Mawson**	**39.12**	**143**	*e*P	**P**	**01 16 12.0**	**-0.6**
	15nm,1.1s,mb4.6						
SUR	**Sutherland**	**42.61**	**75**	LR	LR	01 30 00.8	
	comp=Z,656nm,21.4s,MS4.5,baz=38,slow=30						
SBA	**Scott Base**	**43.63**	**185**	*e*P	**P**	**01 16 50.9**	**+1.2**
	12nm,0.9s,mb4.6						
VNDA	**Vanda**	**44.15**	**184**	P	**P**	**01 16 54.2**	**+0.3**
	11nm,1.0s,mb4.5,baz=193,slow=6.0,SNR=24						
VNDA	**Vanda**	**44.15**	**184**	*e*P	**P**	**01 16 54.4**	**+0.6**
	10nm,0.8s,mb4.6						
BDFB	**Brasilia**	**44.79**	**335**	P	**P**	**01 16 59.5**	**+0.5**
	5.8nm,0.9s,mb4.4,baz=176,slow=5.8,SNR=5.8						
BDFB				LR	LR	01 32 49.1	
	comp=Z,298nm,21.6s,MS4.2,baz=332,slow=32						
LVC	**Limon Verde**	**45.38**	**305**	*e*P	**P**	**01 17 04.1**	**+0.5**
	19nm,1.0s,mb4.9						
BOSA	**Boshof**	**47.90**	**76**	P	**P**	**01 17 23.4**	**-0.1**
	5.3nm,0.9s,mb4.6,baz=176,slow=11,SNR=3.5						
BOSA	**Boshof**	**47.90**	**76**	*e*P	**P**	**01 17 24.1**	**+0.7**
	4.9nm,0.6s,mb4.7						
LPAZ	**La Paz**	**50.69**	**310**	P	**P**	**01 17 45.6**	**+0.9**
	3.6nm,0.8s,mb4.4,baz=134,slow=7.1,SNR=18						
LPAZ				LR	LR	01 38 31.8	
	comp=Z,247nm,19.5s,MS4.2,baz=150,slow=35						
LPAZ	**La Paz**	**50.69**	**310**	*e*P	**P**	**01 17 45.5**	**+0.8**
	7.4nm,0.9s,mb4.6						
LBTB	**Lobatse**	**51.02**	**74**	LR	LR	01 34 29.9	
	comp=Z,584nm,21.3s,MS4.6,baz=225,slow=30						
LBTB	**Lobatse**	**51.02**	**74**	*e*P	**P**	**01 17 47.8**	**+0.5**
	8.1nm,0.8s,mb4.7						
ARE	**Arequipa**	**51.93**	**306**	*e*P	**P**	**01 17 55.0**	**+1.0**
TSUM	**Tsumeb**	**52.04**	**62**	LR	LR	01 35 26.1	
	comp=Z,252nm,19.8s,MS4.3,baz=301,slow=31						
TSUM	**Tsumeb**	**52.04**	**62**	P	**P**	**01 17 55.9**	**+1.1**
CASY	**Casey**	**52.16**	**161**	*e*P	**P**	**01 17 55.8**	**0.0**
	11nm,0.9s,mb4.8						
SAML	**Samuel**	**55.55**	**319**	*e*P	**P**	**01 18 19.2**	**-1.3**
	18nm,1.3s,mb4.9						
LSZ	**Lusaka**	**60.51**	**70**	LR	LR	01 40 20.8	
	comp=Z,414nm,21.1s,MS4.5,baz=310,slow=31						
LSZ	**Lusaka**	**60.51**	**70**	*e*P	**P**	**01 18 55.7**	**+0.4**
	13nm,1.1s,mb5.0						
DBIC	**Dimbokro**	**67.89**	**27**	P	**P**	**01 19 42.5**	**-1.2**
	11nm,1.1s,mb4.8,baz=109,slow=2.4,SNR=5.0						
DBIC				LR	LR	01 42 35.5	
	comp=Z,218nm,20.8s,MS4.4,baz=172,slow=30						
DBIC	**Dimbokro**	**67.89**	**27**	P	**P**	**01 19 42.6**	**-1.1**
ROSC	**El Rosal**	**72.39**	**313**	LR	LR	01 52 36.8	
	comp=Z,384nm,18.1s,MS4.7,baz=193,slow=36						
SDV	**Santo Domingo**	**74.74**	**318**	*e*P	**P**	**01 20 24.7**	**-0.4**
	2.7nm,0.7s,mb4.3						
TOA0	**Torodi Ar. Sit**	**75.79**	**32**	*e*P	**P**	**01 20 31.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**75.79**	**32**	P	**P**	**01 20 30.9**	**-0.3**
	8.2nm,0.8s,mb4.7,baz=199,slow=6.6,SNR=45						
TORD				LR	LR	01 49 36.3	
	comp=Z,176nm,18.6s,MS4.4,baz=215,slow=32						
KMBO	**Kilima Mbogo**	**77.17**	**71**	LR	LR	01 49 44.6	
	comp=Z,311nm,21.6s,MS4.6,baz=219,slow=32						
RKT	**Rikitea**	**78.18**	**245**	*e*LR	LR	01 45 14.5	
	189nm,28.0s						
PPT	**Papeete**	**89.69**	**236**	*e*LR	LR	01 50 35.1	
	183nm,23.5s						
STKA	**Stephens Creek**	**89.79**	**173**	P	**P**	**01 21 43.6**	**-0.1**
	4.1nm,1.0s,mb4.7,baz=164,slow=8.3,SNR=6.5						
STKA				LR	LR	02 00 13.3	
	comp=Z,380nm,18.9s,MS4.8,baz=200,slow=34						
STKA	**Stephens Creek**	**89.79**	**173**	*e*P	**P**	**01 21 46.0**	**+2.3**
MDT	**Midelt**	**93.27**	**21**	LR	LR	01 59 25.7	
	comp=Z,190nm,19.3s,MS4.6,baz=347,slow=33						
ASAR	**Alice Springs**	**97.13**	**165**	P	**P**	**01 22 16.1**	**-1.4**
	1.1nm,0.6s,mb4.5,baz=186,slow=4.8,SNR=11						
ASAR				LR	LR	02 03 11.9	
	comp=Z,477nm,19.3s,MS5.0,baz=187,slow=34						
WRAB	**Tennant Creek**	**100.87**	**165**	Pdif	Pdif	01 22 35.6	+1.4
FINES	**FINESS Array B**	**127.12**	**30**	PKP	PKPdf	01 27 47.6	-1.8
	1.8nm,0.9s,baz=131,slow=5.3,SNR=4.3						
KMI	**Kunming**	**132.97**	**114**	PKP	PKPdf	01 28 04.3	+3.8
KMI				XPKP		01 28 10.6	
KMI				PP	PP	01 30 31.3	+5.2
KMI				SS	SS	01 48 14.5	+7.2
KMI				PP	PP		
	comp=Z,200nm,7.2s						
KMI				LR	LR		
	comp=N,191nm,22.7s,MS5.0						
KMI				LR	LR		
	comp=E,229nm,20.5s,MS5.0						
KMI				LR	LR		
	comp=Z,251nm,19.4s,MS4.9						
YKA	**Yellowknife Ar**	**136.96**	**317**	PKP	PKPdf	01 28 05.5	-2.4
	comp=Z,1.3nm,0.6s,baz=135,slow=1.9,SNR=5.4						
WMQ	**Urumqi**	**139.67**	**83**	*e*PKP	PKPdf	01 28 16.0	+3.0
GTA	**Gaotai**	**142.90**	**98**	*e*PKP	PKPdf	01 28 22.3	+3.6
GTA				APKP		01 28 26.3	
ZAL	**Zalesovo**	**144.59**	**68**	PKP	PKPdf	01 28 17.7	-4.0
	comp=Z,3.7nm,0.6s,baz=230,slow=3.3,SNR=8.0						
ZAL	**Zalesovo**	**144.59**	**68**	PKP	PKPdf	01 28 17.7	-4.0
INK	**Inuvik**	**146.69**	**319**	*e*PKPdf	PKPdf	01 28 24.9	-0.4
INK				*e*PP	PP	01 31 50.0	-0.4
DAWY	**Dawson**	**147.27**	**310**	*e*PKPdf	PKPdf	01 28 23.5	-2.8
EGAK	**Eagle**	**148.25**	**311**	*e*PKPdf	PKPdf	01 28 28.2	+0.3
EYAK	**Cordova Ski Ar**	**148.54**	**302**	*e*PKPdf	PKPdf	01 28 27.3	-1.1
HHC	**Hu-ho-hao-te**	**149.98**	**109**	*e*PKP	PKPdf	01 28 30.1	-0.6
HHC				APKP		01 28 38.6	
HHC				PKP2	PKPab	01 28 42.9	+1.6
HHC				PKS		01 32 03.1	
HHC				PP	PP	01 32 13.1	+3.4
HHC				SKS	SKSdf	01 35 34.6	-3.1
HHC				SKKS	SKKSac	01 38 59.4	-0.6
HHC				SS	SS	01 51 26.0	+0.7
HHC				PP	PP		
	comp=Z,170nm,7.8s						
HHC				LR	LR		
	comp=N,119nm,5.9s						
HHC				LR	LR		
	comp=E,121nm,4.9s						
HHC				LR	LR		
	comp=Z,125nm,9.3s						
COLA	**College**	**150.99**	**309**	*e*PKPdf	PKPdf	01 28 33.4	+1.2
MCK	**McKinley**	**151.10**	**306**	*e*PKPbc	PKPbc	01 28 36.4	-1.8
SONM	**Songino Array**	**152.15**	**93**	PKPbc	PKPbc	01 28 38.1	-2.5
	comp=Z,1.5nm,0.7s,baz=218,slow=2.7,SNR=10						
ULN	**Ulaanbaatar**	**152.51**	**93**	*e*PKPdf	PKPdf	01 28 33.1	-1.5
IMA2	**Indian Mountai**	**153.64**	**310**	*e*PKPbc	PKPbc	01 28 43.5	-0.4

*ISCJB **14** 01:21:43.4±0.8, 290S±01×132W±01, h10km, mb4.0/7, MS4.2/6, Error ellipse: s-maj=21.6km s-min=15.8km az=174.7*

*IDC **14** 01:21:43.7±1.0, 2899S×1318W, h0km, mb4.1/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.1/7, MS4.2/6, Ms1 4.2/6, ms1mx3.8/22, Error ellipse: s-maj=28.2km s-min=22.2km az=180.0*

*NEIC **14** 01:21:45.0±0.6, 2897S×1322W, h10km, mb4.1/1, Error ellipse: s-maj=16.4km s-min=12.5km az=178.0*

ISC 14 01:21:45.6±0.8**, 290S**±01×**132W**±01**, h10**km**, n18,** σ**0.49**/11**, mb4.0**/7**, MS4.2**/6**, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**34.72**	**285**	P	**P**	**01 28 36.7**	**+1.0**
	2.2nm,0.6s,mb4.3,baz=124,slow=7.3,SNR=6.3						
BDFB	**Brasilia**	**34.72**	**285**	*e*P	**P**	**01 28 35.2**	**-0.5**
	2.2nm,0.7s,mb4.2						
DBIC	**Dimbokro**	**36.33**	**14**	P	**P**	**01 28 49.8**	**+0.2**
	5.5nm,0.9s,mb4.5,baz=142,slow=4.8,SNR=5.7						
MATP	**Matopo**	**38.64**	**87**	P	**P**	**01 29 08.6**	**-0.5**
	4.3nm,1.2s,mb4.1,baz=218,slow=9.3,SNR=4.2						
MATP	**Matopo**	**38.64**	**87**	P	**P**	**01 29 08.6**	**-0.5**
CPUP	**Villa Florida**	**39.04**	**263**	LR	LR	01 43 36.2	
	comp=Z,132nm,21.8s,MS3.7,baz=178,slow=34						
LSZ	**Lusaka**	**40.45**	**79**	P	**P**	**01 29 25.1**	**+0.9**
	1.3nm,0.7s,mb3.8,baz=246,slow=8.4,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**44.27**	**21**	P	**P**	**01 29 55.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**44.27**	**21**	P	**P**	**01 29 55.0**	**-0.3**
	2.3nm,0.9s,mb3.9,baz=195,slow=8.7,SNR=8.9						
LPAZ	**La Paz**	**51.87**	**272**	P	**P**	**01 30 53.8**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=64,slow=3.6,SNR=4.3						
MAW	**Mawson**	**58.25**	**154**	P	**P**	**01 31 40.1**	**-0.1**
	2.6nm,0.9s,mb4.3,baz=258,slow=11,SNR=4.3						
SDV	**Santo Domingo**	**66.94**	**295**	P	**P**	**01 32 38.5**	**+0.3**
ESDC	**Sonseca Array**	**68.83**	**8**	LR	LR	02 00 37.0	
	comp=Z,155nm,19.9s,MS4.2,baz=335,slow=34						
GERES	**GERESS Array B**	**81.11**	**18**	LR	LR	02 07 58.9	
	comp=Z,208nm,19.9s,MS4.5,baz=219,slow=34						
VRAC	**Vranov**	**82.33**	**19**	LR	LR	02 10 10.9	
	comp=Z,167nm,21.4s,MS4.4,baz=227,slow=35						
NOA	**NORSAR Array B**	**91.87**	**12**	LR	LR	02 13 12.7	
	comp=Z,82nm,19.9s,MS4.2,baz=255,slow=34						
SCHQ	**Schefferville**	**95.32**	**332**	LR	LR	02 07 12.6	
	comp=Z,125nm,21.4s,MS4.3,baz=132,slow=29						
ASAR	**Alice Springs**	**118.81**	**145**	PKP	PKPdf	01 40 33.5	-0.7
	0.2nm,0.6s,baz=189,slow=2.1,SNR=4.8						

*NEIC **14** 01:25:14.6, 3270N×11606W, h10km, ML3.6(PAS), After PAS.*

ECX 14 01:25:14.1±0.6**, 3274N**×**11604W, h2**km**, MD3.6, ML3.7, 4C-6D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.13**	**131**	⇓*e*P	Pg	01 25 16.3	-0.4
RMX	**La Rumorosa**	**0.14**	**193**	⇑*e*P	Pg	01 25 17.1	+0.4
RMX				*e*S	Sg	01 25 19.0	+0.4
RMX				⇑*e*		01 25 19.7	
	comp=E,13µm,0.4s						
CRR	**Carrizo Plain**	**0.16**	**23**	⇓*e*P	Pg	01 25 17.6	+0.3
SGL	**Mount Signal**	**0.28**	**108**	⇑*e*P	Pg	01 25 19.4	-0.1
BAR	**Barrett**	**0.53**	**264**	⇓*e*P	Pg	01 25 23.7	-0.6
CBX	**Cerro Bola**	**0.67**	**231**	*e*P	Pg	01 25 26.3	-0.7
CBX				*e*S	Sg	01 25 35.6	-0.1
CPBX	**Cerro Prieto**	**0.70**	**117**	*e*P	Pg	01 25 27.7	+0.2
CPBX				*e*S	Sg	01 25 37.0	+0.4
RDX	**Rancho Dowling**	**0.81**	**174**	*e*P	Pg	01 25 28.4	-1.2
RDX				*e*S	Sg	01 25 39.1	-0.9
RDX				⇓*e*		01 25 40.5	
	comp=N,2µm,0.4s						
PFO	**Pinyon Flat Ob**	**0.94**	**338**	*e*P	Pg	01 25 32.0	0.0
PFO				*e*S	Sg	01 25 44.4	+0.2
ENX	**Ensenada**	**1.00**	**212**	*e*P	Pg	01 25 32.0	-1.3
ENX				*e*S	Sg	01 25 45.5	-0.8
EMX	**El Mayor**	**1.01**	**138**	*e*P	Pg	01 25 32.2	-1.2
EMX				*e*S	Sg	01 25 45.8	-0.6
EMX				⇑*e*		01 25 47.2	
	comp=N,2µm,0.7s						
EMX				⇓*e*		01 25 49.2	
	comp=E,2µm,0.5s						
PBX	**Punta Banda**	**1.15**	**210**	*e*P	Pg	01 25 34.8	-1.3
PBX				*e*S	Sg	01 25 49.9	-1.1
ECNX	**Esteban Cantu**	**1.17**	**204**	*e*P	Pg	01 25 35.3	-1.3
ECNX				*e*S	Sg	01 25 51.2	-0.6
SPX	**San Pedro Mart**	**1.76**	**164**	⇓*e*P	Pn	01 25 44.9	-0.6
SPX				*e*S	Sn	01 26 08.9	+0.5
DAC	**Darwin (Calif)**	**3.76**	**340**	*e*Pn	Pn	01 26 12.3	-0.7
DAC				*e*Pg	Pg	01 26 24.2	-1.9
DAC				*e*Sn	Sn	01 26 60.0	+2.1
DAC				*e*Sg	Sg	01 27 13.8	-1.0
TUC	**Tucson**	**4.46**	**94**	*e*Pn	Pn	01 26 23.4	+0.6
TUC				*e*Pg	Pg	01 26 40.2	+0.6
TUC				Sn	Sn	01 27 14.0	-1.2
TUC				*e*Sg	Sg	01 27 46.7	+9.2
WUAZ	**Wupatki**	**4.76**	**53**	*e*Pn	Pn	01 26 26.7	-0.1
WUAZ				*e*Pg	Pg	01 26 46.7	+1.4
WUAZ				*e*Sn	Sn	01 27 17.0	-5.7
WUAZ				*e*Sg	Sg	01 27 52.0	+4.9
CCUT	**Cedar City**	**5.28**	**24**	*e*Pn	Pn	01 26 34.5	+0.5
CCUT				*e*Pg	Pg	01 26 58.1	+2.8
CCUT				*e*Sn	Sn	01 27 34.3	-1.1
CCUT				*e*Sg	Sg	01 28 13.7	+10
ARUT	**Antelope Range**	**5.47**	**22**	*e*Pn	Pn	01 26 37.0	+0.4
ARUT				*e*Pg	Pg	01 26 57.3	-1.7
ARUT				*e*Sg	Sg	01 28 13.5	+3.7
MSU	**Marysvale**	**6.57**	**28**	*e*Pn	Pn	01 26 55.9	+4.3
MSU				*e*Pg	Pg	01 27 24.9	+5.1
SRU	**San Rafael**	**7.78**	**34**	*e*Pn	Pn	01 27 08.1	-0.1
	comp=E,4.9nm,0.6s						
SRU				*e*Pg	Pg	01 27 20.6	-22
MNTX	**Cornudas Mount**	**9.09**	**94**	*e*Pn	Pn	01 27 25.9	-0.4

JMA 14 01:25:48.3±0.4**, 2621N**×**12391E, h220**km**, M4.1, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.72**	**155**	P	Pn	01 26 26.5	+0.8
JTJ				*e*S	S	01 26 55.0	+0.1
JIJ	**Ishigaki jima**	**1.85**	**173**	P	Pn	01 26 26.7	-0.2
JIJ				S	S	01 26 55.9	-1.2
JMJ	**Miyako jima 2**	**1.87**	**138**	*e*S	S	01 26 57.9	+0.5
IRIF	**Iriomote-Funau**	**1.87**	**185**	P	Pn	01 26 27.0	-0.1
IRIF				*e*S	S	01 26 57.0	-0.5
YOJ	**Yonaguni jima**	**1.92**	**205**	P	Pn	01 26 28.0	+0.5
JKRS	**Kuro-shima**	**1.97**	**177**	P	Pn	01 26 28.1	+0.1
JKRS				*e*S	S	01 26 57.5	-1.5
JOGS	**Gusukube**	**1.98**	**137**	*e*S	S	01 26 59.8	+0.6
JKE	**Kume jima 2**	**2.58**	**87**	P	Pn	01 26 34.1	-0.2
JKE				*e*S	S	01 27 10.2	-0.3
JOW	**Kunigami**	**3.96**	**80**	P	Pn	01 26 48.2	-2.1
JOW				*e*S	S	01 27 34.2	-5.0

*IDC **14** 01:56:58.5±1.2, 703S×12922E, h0km, mb4.2/4, mb1 4.5/7, mb1mx4.2/14, mbtmp4.3/7, ML4.5/3, Error ellipse: s-maj=84.2km s-min=19.8km az=73.0*

*NEIC **14** 01:57:05.1±1.8, 716S×12915E, h52km±19km, mb3.9/4, Error ellipse: s-maj=19.2km s-min=13.6km az=72.0*

*ISCJB **14** 01:57:13.1±1.7, 757S±007×12909E±010, h165km±19km, mb4.3/9, Error ellipse: s-maj=15.5km s-min=11.6km az=164.5*

ISC 14 01:57:09.8±2.2**, 75S**±01×**12880E**±009**, h97**km±24km**, n25,** σ**1.24**/33**, mb4.4**/9**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.33**	**146**	*e*P	**Pn**	**01 58 42.6**	**+2.1**
	40nm,0.2s						
KAKA				*e*S	**Sn**	**01 59 49.6**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.01**	**196**	*e*P	**Pn**	**01 59 45.3**	**+1.1**
	27nm,0.4s						
FITZ				*e*S	**Sn**	**02 01 41.5**	**-3.9**
FITZ	**Fitzroy Crossi**	**11.01**	**196**	Pn	**Pn**	**01 59 45.6**	**+1.4**
	2.9nm,0.3s,baz=29,slow=12,SNR=99						
FITZ				Sn	**Sn**	**02 01 41.8**	**-3.5**
	1.6nm,0.3s,baz=108,slow=19,SNR=6.2						
WRAB	**Tennant Creek**	**13.51**	**157**	*e*Pn	**Pn**	**02 00 16.3**	**-1.1**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**02 02 38.4**	**-7.7**
WRA	**Warramunga Arr**	**13.52**	**157**	Pn	**Pn**	**02 00 16.2**	**-1.3**
	1.9nm,0.3s,baz=335,slow=14,SNR=28						
WRA				Sn	**Sn**	**02 02 37.7**	**-8.5**
	7.6nm,0.3s,baz=331,slow=23,SNR=18						
WB2	**Warramunga Arr**	**13.52**	**157**	*e*P	**Pn**	**02 00 16.2**	**-1.4**
WB2				*e*S	**Sn**	**02 02 36.2**	**-10**
MBWA	**Marble Bar**	**16.19**	**212**	*e*Pn	**Pn**	**02 00 54.2**	**+2.8**
	6.0nm,0.8s						
MBWA				*e*Sn	**Sn**	**02 03 48.4**	**-2.3**
AS31	**Alice Springs**	**16.84**	**164**	*e*P	**Pn**	**02 01 01.0**	**+1.5**
ASPA	**Alice Springs**	**16.84**	**164**	*e*P	**Pn**	**02 01 01.0**	**+1.5**
ASAR	**Alice Springs**	**16.84**	**164**	P	**Pn**	**02 00 59.8**	**+0.3**
	1.8nm,0.3s,baz=340,slow=9.7,SNR=66						
ASAR				S	**S**	**02 03 57.3**	**-13**
	1.0nm,0.3s,baz=321,slow=19,SNR=6.9						
FORT	**Forrest**	**23.21**	**182**	*e*P	**P**	**02 02 09.9**	**+1.8**
	12nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**27.06**	**156**	*e*P	**P**	**02 02 43.2**	**+0.1**
	1.4nm,0.7s,mb3.6						
STKA	**Stephens Creek**	**27.06**	**156**	P	**P**	**02 02 44.1**	**+1.1**
	0.6nm,0.3s,mb3.6,baz=340,slow=10,SNR=3.8						
NWAO	**Narrogin (SRO)**	**27.52**	**201**	P	**P**	**02 02 51.8**	**+4.7**
GUN	**Gumba**	**54.37**	**312**	*e*P	**P**	**02 06 25.6**	**-0.9**
	15nm,0.6s,mb5.2						
PKI	**Pulchoki**	**54.53**	**312**	*e*P	**P**	**02 06 27.8**	**+0.2**
	5.5nm,0.5s,mb4.9						
KKN	**Kakani**	**54.74**	**312**	*e*P	**P**	**02 06 28.5**	**-0.7**
DMN	**Daman**	**54.77**	**311**	*e*P	**P**	**02 06 30.0**	**+0.6**
GKN	**Gorkha**	**55.34**	**312**	*e*P	**P**	**02 06 33.3**	**-0.1**
	15nm,0.5s,mb5.2						
KOLN	**Koldanda**	**55.99**	**311**	*e*P	**P**	**02 06 38.5**	**+0.4**
SONM	**Songino Array**	**58.51**	**342**	P	**P**	**02 06 55.9**	**0.0**
	0.6nm,0.5s,mb3.9,baz=162,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**02 07 57.8**	**-0.5**
	3.1nm,0.6s,mb4.3,baz=126,slow=7.8,SNR=37						
ZAL	**Zalesovo**	**71.48**	**334**	P	**P**	**02 08 19.4**	**-0.5**
	2.2nm,0.4s,mb4.3,baz=30,slow=7.5,SNR=4.3						
BRVK	**Borovoye**	**77.89**	**328**	P	**P**	**02 08 57.2**	**+0.4**
ZRNK	**Zerenda**	**78.51**	**328**	*e*P	**P**	**02 08 58.9**	**-1.4**
	1.4nm,0.7s,mb3.9						

IDC 14 01:58:06.0±13.0**, 2217N**×**14314E, h420**km±136km**, mb3.1**/5**, mb1 3.3**/5**, mb1mx3.1**/18**, mbtmp3.8**/5**, Error ellipse: s-maj=72.3km s-min=48.7km az=35.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**38.95**	**320**	P	P	02 04 54.2	+0.4
	0.1nm,0.4s,baz=133,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**54.35**	**312**	P	P	02 06 50.6	-0.7
	0.3nm,0.7s,baz=89,slow=7.7,SNR=3.3						
ARCES	**ARCESS Array B**	**78.47**	**341**	P	P	02 09 22.4	+0.4
	4.0nm,0.9s,baz=55,slow=6.4,SNR=5.9						
JOF	**Joensuu**	**79.88**	**334**	*e*p	P	02 09 28.2	-1.3
	1.2nm,0.4s						
FINES	**FINESS Array B**	**82.74**	**334**	P	P	02 09 43.4	-0.9
	1.5nm,0.6s,baz=74,slow=5.2,SNR=9.2						
NVAR	**Mina Array Bea**	**82.89**	**52**	P	P	02 09 44.9	-0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.5nm,0.8s,baz=268,slow=7.8,SNR=3.7						
PLCA	Paso Flores	146.09	131	PKPbc	PKPbc	02 16 56.9	-0.8
	0.7nm,0.6s,baz=16,slow=14,SNR=3.1						
LPAZ	La Paz	149.94	84	PKPbc	PKPbc	02 17 09.6	+2.1
	0.4nm,0.4s,baz=272,slow=7.0,SNR=5.8						

TEH **14** *02:24:50.5, 2923N×5134E, h5km, ML4.6*
BJI **14** *02:25:24.5, 2901N×5058E, h13km, mB5.1, mb4.9, Ms4.9, Msz4.5*
MOS **14** *02:25:30.0±1.1, 2927N×5132E, h33km, mb5.1/66, Error ellipse: s-maj=6.0km s-min=3.1km az=122.3*
IDC **14** *02:25:30.5±0.5, 2931N×5145E, h0km, mb4.6/22, mb1 4.6/26, mb1mx4.6/30, mbtmp4.6/26, ML4.2/3, MS3.6/9, Ms1 3.6/9, ms1mx3.4/35, Error ellipse: s-maj=12.7km s-min=11.7km az=76.0*
ISCJB **14** *02:25:32.0±0.2, 2935N±002×5132E±002, h19km, mb4.9/143, MS4.0/19, Error ellipse: s-maj=2.8km s-min=2.0km az=9.3*
CSEM **14** *02:25:32.4±0.1, 2920N×5133E, h30km, mb4.9/78, Error ellipse: s-maj=1.5km s-min=0.9km az=178.0*
NEIC **14** *02:25:32.3±0.8, 2926N×5135E, h13km±5km, mb4.9/71, ML4.6(THR), MN4.6(TEH), Error ellipse: s-maj=3.9km s-min=3.2km az=201.0*
THR **14** *02:25:33.8±0.5, 2928N×5140E, h38km±7km, ML4.6*
SZGRF **14** *02:25:35.6, 29.19N×5121E, h33km, mb4.9, Southern Iran*
ISC 14 02:25:33.9±0.2, **2931N**±002×**5133E**±002, **h20**km, **h20**km±1.8km**:pP-P, n576,** σ1**§15**/718, **mb4.9**/143, **MS4.0**/19, **18C-34D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHI	Shiraz	1.09	72	ePg	Pn	02 25 52.9	-1.1
SHI				ePg	Pn	02 25 54.7	+0.7
SHI				ePg	Pn	02 25 56.6	+2.6
SHI				eSg	Sb	02 26 07.3	-0.5
SHI	Shiraz	1.09	72	Pg	Pn	02 25 52.9	-1.1
SHI				Sg	Sb	02 26 07.2	-0.6
IMOK	Mook	1.24	102	ePg	Pn	02 25 54.0	-2.1
IMOK				ePg	Pn	02 25 58.2	+2.1
IMOK				ePg	Pn	02 25 58.3	+2.2
IMOK				eSg	Sn	02 26 11.4	-0.8
IMOK	Mook	1.24	102	Pg	Pn	02 25 53.9	-2.2
IMOK				Sg	Sn	02 26 11.4	-0.8
ISRV	Sarvestan	1.56	87	ePn	Pn	02 26 00.5	0.0
ISRV				ePn	Pn	02 26 02.5	+2.0
ISRV				ePn	Pn	02 26 03.3	+2.8
ISRV				eLg		02 26 21.5	
ISRV	Sarvestan	1.56	87	Pn	Pn	02 26 00.4	-0.1
ISRV				Lg		02 26 21.5	
GHIR	Ghir-Karzin	1.78	125	ePG	Pn	02 26 04.6	+1.2
GHIR				AML	AML	02 26 44.5	
	comp=N,4μm,0.4s						
GHIR				AML	AML	02 26 47.5	
	comp=E,6μm,0.8s						
GHIR	Ghir-Karzin	1.78	125	Pg	Pn	02 26 04.0	+0.5
IGAR	Garneh	3.02	14	ePn	Pn	02 26 23.8	+3.3
IGAR				ePn	Pn	02 26 23.9	+3.4
IGAR				ePn	Pn	02 26 24.3	+3.8
IGAR				eSn	Sn	02 27 01.5	+5.4
UMR	Umm Al-Rimmam	3.16	275	eP	Pn	02 26 24.6	+2.2
UMR				AML	AML	02 27 05.0	
	comp=Z,1μm,0.4s						
KBD	Kabd	3.18	268	eP	Pn	02 26 24.8	+2.1
KBD				AML	AML	02 27 04.9	
	comp=Z,2μm,0.3s						
IPIR	Pirpir	3.38	354	ePn	Pn	02 26 26.5	+1.0
IPIR				ePn	Pn	02 26 26.6	+1.1
IPIR				ePn	Pn	02 26 26.8	+1.3
IPIR				eSn	Sn	02 27 07.8	+2.7
IPIR	Pirpir	3.38	354	Pn	Pn	02 26 26.7	+1.2
IPIR				Sn	Sn	02 27 07.7	+2.6
IPIR	Pirpir	3.38	354	ePn	Pn	02 26 26.6	+1.1
IPIR				eSn	Sn	02 27 07.8	+2.7
MIB	Mutribah	3.51	279	eP	Pn	02 26 29.1	+1.9
MIB				AML	AML	02 27 13.9	
	comp=Z,991nm,0.5s						
IMEH	Mehriz	3.52	53	ePn	Pn	02 26 28.3	+0.9
IMEH				ePn	Pn	02 26 29.7	+2.3
IMEH				eSn	Sn	02 27 09.3	+0.9
IMEH	Mehriz	3.52	53	Pn	Pn	02 26 28.3	+0.9
IMEH				Sn	Sn	02 27 09.2	+0.8
SHGR	Shooshtar-Gavs	3.54	323	ePN	Pn	02 26 29.0	+1.4
SHGR				AML	AML	02 27 14.7	
	comp=N,3μm,0.6s						
NAY	Al-Naaiem	3.57	270	eP	Pn	02 26 30.3	+2.2
NAY				AML	AML	02 27 19.9	
	comp=Z,492nm,0.6s						
IZEF	Zefreh	3.68	13	ePn	Pn	02 26 30.1	+0.5
IZEF				ePn	Pn	02 26 31.2	+1.6
IZEF				ePn	Pn	02 26 31.8	+2.2
IZEF				eSn	Sn	02 27 14.0	+1.7
IZEF	Zefreh	3.68	13	Pn	Pn	02 26 30.1	+0.5
IZEF				Sn	Sn	02 27 13.9	+1.6
NASN	Na'in	3.70	20	ePn	Pn	02 26 30.8	+0.8
NASN	Na'in	3.70	20	Pn	Pn	02 26 30.0	+0.1
RST	Umm Al-Ruwaisa	3.78	274	eP	Pn	02 26 32.8	+1.8
RST				AML	AML	02 27 17.7	
	comp=Z,534nm,0.5s						
ICHK	Chekchek	3.95	41	ePn	Pn	02 26 34.3	+1.0
ICHK				ePn	Pn	02 26 35.6	+2.3
ICHK				ePn	Pn	02 26 35.7	+2.4
ICHK				eSn	Sn	02 27 19.8	+0.8
IKLH	Kalahroud	4.00	3	ePn	Pn	02 26 35.1	+1.1
IKLH				ePn	Pn	02 26 35.3	+1.3
IKLH				ePn	Pn	02 26 35.6	+1.6
IKLH	Kalahroud	4.00	3	Pn	Pn	02 26 35.0	+1.0
IBAF	Bafgh	4.31	57	ePn	Pn	02 26 39.1	+0.8
IBAF				ePn	Pn	02 26 39.2	+0.9
IBAF				ePn	Pn	02 26 39.7	+1.4
IBAF				eSn	Sn	02 27 27.1	-0.8
IBAF	Bafgh	4.31	57	Pn	Pn	02 26 39.0	+0.7
IBAF				Sn	Sn	02 27 27.0	-0.9
BNDS	Bandar-Abbas	4.68	113	ePN	Pn	02 26 42.9	-0.4
BNDS				AML	AML	02 27 40.1	
	comp=E,304nm,0.7s						
BNDS				AML	AML	02 27 53.2	
	comp=N,301nm,0.7s						
BNDS	Bandar-Abbas	4.68	113	Pn	Pn	02 26 42.0	-1.3
KRBR	Kerman	4.78	81	ePN	Pn	02 26 45.0	+0.3
KRBR				AML	AML	02 28 10.7	
	comp=E,452nm,0.6s						
KRBR				AML	AML	02 28 14.7	
	comp=N,308nm,0.8s						
KRBR	Kerman	4.78	81	eP	Pn	02 26 44.0	-0.7
KRBR	Kerman	4.78	81	ePn	Pn	02 26 45.0	+0.3
	SNR=54						
ISFB	Sefidab	5.09	9	ePn	Pn	02 26 49.0	0.0
ISFB				ePn	Pn	02 26 49.6	+0.6
ISFB				ePn	Pn	02 26 50.0	+1.0
ISFB				eSn	Sn	02 27 46.9	-0.2
ISFB	Sefidab	5.09	9	ePn	Pn	02 26 50.0	+1.0
ISFB				eSn	Sn	02 27 46.9	-0.2
ASAO	Ashtian	5.34	348	ePN	Pn	02 26 54.0	+1.6
IVRN	Varamin	5.68	3	ePn	Pn	02 26 57.1	0.0
IVRN				ePn	Pn	02 26 58.1	+1.0
IVRN				ePn	Pn	02 26 58.2	+1.1
IVRN				eSn	Sn	02 28 01.2	-0.5
IVRN	Varamin	5.68	3	Pn	Pn	02 26 57.0	-0.1
IVRN				Sn	Sn	02 28 01.2	-0.5
IVRN	Varamin	5.68	3	ePn	Pn	02 26 58.2	+1.1
IVRN				eSn	Sn	02 28 01.2	-0.5
IKOM	Komasi	5.84	327	ePn	Pn	02 27 00.1	+0.9
IKOM				ePn	Pn	02 27 00.6	+1.4
IKOM				ePn	Pn	02 27 01.4	+2.2
IKOM				eSn	Sn	02 28 04.2	-1.3
IKOM	Komasi	5.84	327	Pn	Pn	02 27 00.0	+0.8
IKOM				Sn	Sn	02 28 04.2	-1.3
IRAZ	Razeghan	6.19	349	ePn	Pn	02 27 05.4	+1.3
IRAZ				ePn	Pn	02 27 07.0	+2.9
IRAZ				ePn	Pn	02 27 07.5	+3.4
IRAZ				eSn	Sn	02 28 13.7	-0.6
IRAZ	Razeghan	6.19	349	Pn	Pn	02 27 05.4	+1.3
IRAZ				Sn	Sn	02 28 13.6	-0.7
ILAS	Lasjerd	6.21	12	ePn	Pn	02 27 04.6	+0.2
ILAS				ePn	Pn	02 27 05.0	+0.6
ILAS				ePn	Pn	02 27 05.3	+0.9
ILAS				eSn	Sn	02 28 14.0	-0.8
ILAS	Lasjerd	6.21	12	Pn	Pn	02 27 04.6	+0.2
ILAS				Sn	Sn	02 28 13.9	-0.9
ILAS	Lasjerd	6.21	12	ePn	Pn	02 27 05.3	+0.9
ILAS				eSn	Sn	02 28 14.0	-0.8
IDMV	Damavand	6.28	5	ePn	Pn	02 27 05.5	+0.2
IDMV				ePn	Pn	02 27 05.8	+0.5
IDMV				ePn	Pn	02 27 06.0	+0.7
IDMV				eSn	Sn	02 28 15.5	-0.9
IDMV	Damavand	6.28	5	ePn	Pn	02 27 06.0	+0.7
IDMV				eSn	Sn	02 28 15.5	-0.9
IFIR	Firoozkooh	6.43	10	ePn	Pn	02 27 07.6	+0.2
IFIR				ePn	Pn	02 27 07.9	+0.5
IFIR				ePn	Pn	02 27 08.6	+1.2
IFIR				eSn	Sn	02 28 18.9	-1.2
IFIR	Firoozkooh	6.43	10	Pn	Pn	02 27 07.6	+0.2
IFIR				Sn	Sn	02 28 18.8	-1.3
IFIR	Firoozkooh	6.43	10	ePn	Pn	02 27 08.6	+1.2
IFIR				eSn	Sn	02 28 18.9	-1.2
IGHG	Ghaleghazi	6.44	322	ePn	Pn	02 27 08.5	+1.0
IGHG				ePn	Pn	02 27 10.0	+2.5
IGHG				ePn	Pn	02 27 10.4	+2.9
IGHG				eSn	Sn	02 28 19.1	-1.2
IGHG	Ghaleghazi	6.44	322	Pn	Pn	02 27 08.5	+1.0
IGHG				Sn	Sn	02 28 19.0	-1.3
IVIS	Veys	6.44	325	ePn	Pn	02 27 08.5	+1.0
IVIS				ePn	Pn	02 27 08.8	+1.3
IVIS				ePn	Pn	02 27 09.9	+2.4
IVIS				eSn	Sn	02 28 19.1	-1.3
IVIS	Veys	6.44	325	Pn	Pn	02 27 08.5	+1.0
IVIS				Sn	Sn	02 28 19.0	-1.4
IANJ	Anjiloo	6.52	19	ePn	Pn	02 27 08.3	-0.3
IANJ				ePn	Pn	02 27 08.7	+0.1
IANJ				eSn	Sn	02 28 22.0	-0.3
IANJ	Anjiloo	6.52	19	ePn	Pn	02 27 08.7	+0.1
IANJ				eSn	Sn	02 28 22.0	-0.3
IAFJ	Afjeh	6.54	3	ePn	Pn	02 27 09.1	+0.3
IAFJ				ePn	Pn	02 27 10.0	+1.2
IAFJ				ePn	Pn	02 27 10.2	+1.4
IAFJ	Afjeh	6.54	3	ePn	Pn	02 27 10.2	+1.4
ISHM	Shahmirzad	6.69	14	ePn	Pn	02 27 11.3	+0.4
ISHM				ePn	Pn	02 27 11.4	+0.5
ISHM				ePn	Pn	02 27 11.8	+0.9
ISHM				eSn	Sn	02 28 25.1	-1.4
ISHM	Shahmirzad	6.69	14	ePn	Pn	02 27 11.8	+0.9
ISHM				eSn	Sn	02 28 25.1	-1.4
ILIN	Laeen	6.71	328	ePn	Pn	02 27 10.5	-0.7
ILIN				ePn	Pn	02 27 10.7	-0.5
ILIN				ePn	Pn	02 27 11.5	+0.3
ILIN				eSn	Sn	02 28 25.4	-1.5
ILIN	Laeen	6.71	328	Pn	Pn	02 27 11.4	+0.2
ILIN				Sn	Sn	02 28 25.4	-1.5
ILIN	Laeen	6.71	328	ePn	Pn	02 27 11.5	+0.3
ILIN				eSn	Sn	02 28 25.4	-1.5
IGZV	Gazvin	7.12	353	ePn	Pn	02 27 17.1	+0.3
IGZV				ePn	Pn	02 27 18.2	+1.4
IGZV				ePn	Pn	02 27 18.6	+1.8
IGZV				eSn	Sn	02 28 35.8	-1.3
IGZV	Gazvin	7.12	353	ePn	Pn	02 27 18.2	+1.4
IGZV				eSn	Sn	02 28 35.8	-1.3
BHD	Baghdad	7.13	305	ex	x	02 27 15.0	
BHD				ix	x	02 28 30.0	
BHD				ix	x	02 28 48.0	
BHD				ix	x	02 29 02.0	
IKOO		7.29	63	ePn	Pn	02 27 20.1	+0.8
IDAH		8.09	63	ePn	Pn	02 27 30.7	+0.5
IBST	Bostanabad	9.15	337	ePn	Pn	02 27 45.3	+0.6
IBST				ePn	Pn	02 27 45.4	+0.7
IBST				ePn	Pn	02 27 45.4	+0.7
IBST				eSn	Sn	02 29 23.0	-4.0
IBST	Bostanabad	9.15	337	Pn	Pn	02 27 45.2	+0.5
IBST				Sn	Sn	02 29 23.0	-4.0
IAZR	Azarshahr	9.46	333	ePn	Pn	02 27 49.6	+0.6
IAZR				ePn	Pn	02 27 49.7	+0.7
IAZR	Azarshahr	9.46	333	ePn	Pn	02 27 49.7	+0.7
ISFR	Esferayen	9.52	34	ePn	Pn	02 27 50.2	+0.4
ISFR				ePn	Pn	02 27 50.5	+0.7
ISFR				ePn	Pn	02 27 51.0	+1.2
ISFR	Esferayen	9.52	34	Pn	Pn	02 27 50.5	+0.7
ISFR	Esferayen	9.52	34	ePn	Pn	02 27 51.0	+1.2
IAKL	Akhlamad	9.54	39	ePn	Pn	02 27 50.8	+0.7
IAKL				ePn	Pn	02 27 51.7	+1.6
IAKL				eSn	Sn	02 29 31.8	-4.9
IAKL	Akhlamad	9.54	39	Pn	Pn	02 27 50.8	+0.7
IAKL				Sn	Sn	02 29 31.7	-5.0
IMOG	Moghan	9.56	43	ePn	Pn	02 27 51.0	+0.6
IMOG				ePn	Pn	02 27 51.3	+0.9
IMOG	Moghan	9.56	43	ePn	Pn	02 27 51.3	+0.9
IKRD	Kardeh	9.58	37	ePn	Pn	02 27 58.4	+7.8
IKRD				ePn	Pn	02 27 59.4	+8.8
IKRD				ePn	Pn	02 27 59.7	+9.1
IKRD				eSn	Sn	02 29 45.6	+8.0
IKRD	Kardeh	9.58	37	Pn	Pn	02 27 58.3	+7.7
IKRD				Sn	Sn	02 29 45.5	+7.9
IPAY	Payeh	9.60	40	ePn	Pn	02 27 51.7	+0.8
IPAY				ePn	Pn	02 27 51.8	+0.9
IPAY				ePn	Pn	02 27 52.0	+1.1
IPAY				eSn	Sn	02 29 33.6	-4.6
IPAY	Payeh	9.60	40	Pn	Pn	02 27 51.7	+0.8
IPAY				Sn	Sn	02 29 33.5	-4.7
IPAY	Payeh	9.60	40	ePn	Pn	02 27 51.8	+0.9
IPAY				eSn	Sn	02 29 33.6	-4.6
IHRS	Heris	9.66	340	ePn	Pn	02 27 52.2	+0.4
IHRS				ePn	Pn	02 27 52.6	+0.8
IHRS				ePn	Pn	02 27 52.9	+1.1
ISHV	Shirvan	9.78	31	ePn	Pn	02 27 53.6	+0.3
ISHV				ePn	Pn	02 27 54.7	+1.4
ISHV				ePn	Pn	02 27 56.8	+3.5
ISHV				eSn	Sn	02 29 36.5	-5.9
ISHV	Shirvan	9.78	31	ePn	Pn	02 27 54.7	+1.4
ISHV				eSn	Sn	02 29 36.5	-5.9
MSL	Mosul	9.82	317	ex	x	02 28 00.0	
MSL				ex	x	02 29 44.0	
MSL				ex	x	02 31 09.0	
MSL				ex	x	02 31 25.0	
ISHB	Shabestar	10.13	334	ePn	Pn	02 27 57.5	-0.6
ISHB				ePn	Pn	02 28 01.5	+3.4
ISHB				ePn	Pn	02 28 01.9	+3.8
ISHB				eSn	Sn	02 29 44.7	-6.4
ISHB	Shabestar	10.13	334	Pn	Pn	02 27 57.4	-0.7
ISHB				Sn	Sn	02 29 44.6	-6.5
IEMG	Emamqoli	10.13	35	ePn	Pn	02 27 58.6	+0.4
IEMG				ePn	Pn	02 28 01.1	+2.9
IEMG				ePn	Pn	02 28 03.2	+5.0
IMYA	Miamay	10.18	44	ePn	Pn	02 27 58.5	-0.3
IMYA				ePn	Pn	02 28 00.5	+1.7
IMYA				ePn	Pn	02 28 01.3	+2.5
IMYA	Miamay	10.18	44	Pn	Pn	02 27 58.4	-0.4
IMYA	Miamay	10.18	44	ePn	Pn	02 28 00.5	+1.7
HKR	Hakkari	10.39	324	P	Pn	02 28 00.3	-1.4
IMRD	Marand	10.47	335	ePn	Pn	02 28 02.8	0.0
IMRD				ePn	Pn	02 28 03.4	+0.6
IMRD				ePn	Pn	02 28 07.2	+4.4
IMRD	Marand	10.47	335	ePn	Pn	02 28 03.4	+0.6
VANT	Van	11.24	326	eP	Pn	02 28 11.4	-2.0
TVAN	Van	11.30	327	iP	Pn	02 28 14.9	+0.7
CLDR	Caldiran	11.56	330	eP	Pn	02 28 18.4	+0.7
MARD	Mardin	11.89	315	iP	Pn	02 28 19.1	-3.1
BTMT	Batman	12.05	320	eP	Pn	02 28 22.2	-2.3
GNI	Garni	12.09	335	eP	Pn	02 28 25.2	+0.3
GNI	Garni	12.09	335	Pn	Pn	02 28 25.9	+0.9
	comp=N,0.5nm,0.3s,baz=52,slow=8.1,SNR=13						
GNI				LR	LR	02 33 00.6	
	comp=N,65nm,19.6s,baz=333,slow=37						
GNI	Garni	12.09	335⇓	eP	Pn	02 28 27.0	+2.1
GNI				pmax	pmax		
	comp=Z,27nm,0.8s						
GNI				MLR	MLR		
	comp=Z,500nm,12.0s						
GNI	Garni	12.09	335	ePn	Pn	02 28 26.0	+1.1
GNI	Garni	12.09	335	eP	Pn	02 28 27.0	+2.1
	comp=Z,500nm,12.0s						
ASF	Jabal al Asfar	12.73	287	Pn	Pn	02 28 33.7	0.0
	comp=Z,2.8nm,0.3s,baz=259,slow=2.2,SNR=24						
ASF				Sn	Sn	02 30 44.4	-11
	comp=Z,0.5nm,0.3s,baz=116,slow=15,SNR=3.9						
ASF				Lg		02 32 29.7	
	comp=Z,0.4nm,0.3s,baz=108,slow=20,SNR=2.1						
ASF				LR	LR	02 34 38.0	
	comp=Z,174nm,21.1s,baz=160,slow=43						
BNGL	BINGOL	12.78	321	iP	Pn	02 28 32.8	-1.6
DGRG	David-gareji	13.04	340	P	Pn	02 28 41.3	+3.2
BINT	Bingol	13.09	320	eP	Pn	02 28 36.6	-2.1
URFA	Urfa	13.22	311	eP	Pn	02 28 39.1	-1.2
ERZM	Erzurum	13.37	325	iP	Pn	02 28 43.3	+0.9
EZM	Erzurum	13.37	325	eP	Pn	02 28 43.8	+1.3
MTA	Mtatsminda	13.45	339	P	Pn	02 28 45.9	+2.4
TBLG	Delisi	13.50	338	P	Pn	02 28 46.9	+2.7
ELZG	Elazig	13.74	315	iP	Pn	02 28 43.8	-3.7
PTK	Pertek	13.74	317	eP	Pn	02 28 44.4	-3.1
DUS	Dusheti	13.83	339	P	Pn	02 28 58.1	+9.4
MALT	Malatya	13.97	313	ePn	Pn	02 28 49.5	-1.2
MALT				eSn	Sn	02 31 11.5	-14
HWQ	Hawqa	13.98	295	ePn	Pn	02 28 53.3	+2.5
GZT	Gaziantep	14.02	308	iP	Pn	02 28 49.4	-1.8
EZC	Erzincan	14.07	321	eP	Pn	02 28 56.0	+3.9
BHL	Bhannes	14.12	293	ePn	Pn	02 28 48.3	-4.4
GAZ	Gaziantep	14.17	307	eP	Pn	02 28 57.6	+4.3
EIL	Elat	14.27	275	ePn	Pn	02 28 55.9	+1.2
EIL	Elat	14.27	275	ePn	Pn	02 28 55.9	+1.2
BCA	Borcka	14.45	329	eP	Pn	02 28 56.9	-0.3
KMRS	Kahramanmaras	14.55	308	eP	Pn	02 28 55.7	-2.8
COBT	Iskenderun	14.55	304	iP	Pn	02 28 59.3	+0.8
KELT	Kelkit	14.66	321	iP	Pn	02 28 59.7	-0.3
ZEI	Tsey	14.70	338	eP	Pn	02 29 03.4	+2.8
MUKL	Al Mukalla	14.91	189	iP	Pn	02 29 00.5	-3.0
MUKL				AMb	AMB	02 29 04.6	
	comp=Z,587nm,1.2s						
KTUT	Trabzon	14.99	324	eP	Pn	02 29 04.8	+0.3
KOZT	Kozan	15.28	306	eP	Pn	02 29 05.7	-2.6
HAJJ	Hajjah	15.30	209	eP	Pn	02 29 05.4	-3.2
KARA	Karaisali	15.73	304	eP	Pn	02 29 13.5	-0.7
SVSK	Karacayir	15.82	316	eP	Pn	02 29 14.5	-0.9
BNN	Bunyan	15.95	311	eP	Pn	02 29 16.2	-0.8
MERS	Mersin	15.96	303	eP	Pn	02 29 17.5	+0.3
KIV	Kislovodsk	16.16	337d	iP	Pn	02 29 21.1	+1.3
KIV				eS	Sn	02 32 20.4	+2.0
KIV				pmax	pmax		
	comp=Z,279nm,1.1s						
KIV				MLR	MLR		
	comp=Z,268nm,11.0s						
KIV	Kislovodsk	16.16	337	ePn	Pn	02 29 21.2	+1.4
KIV	Kislovodsk	16.16	337	iP	Pn	02 29 21.1	+1.3
	comp=Z,279nm,1.1s						
KIV				eS	Sn	02 32 20.4	+2.0
	comp=Z,268nm,11.0s						
CSS	Prodhromos	16.24	295	ePn	Pn	02 29 20.0	-0.8
CSS	Prodhromos	16.24	295	ePn	Pn	02 29 20.0	-0.8
IKL	Isikli	16.36	300	eP	Pn	02 29 22.1	-0.2
AVNT	Avonos	16.58	309	iP	Pn	02 29 26.3	+1.2
ERMK	Ermenek	17.08	300	iP	Pn	02 29 33.1	+1.7
KVT	Kavak	17.11	317	eP	Pn	02 29 30.7	-1.1
CORM	Corum	17.46	313	eP	Pn	02 29 35.8	-0.4
HDMB	Hadim	17.51	301	eP	Pn	02 29 34.0	-2.8
CTKT	Corum	17.61	314	iP	Pn	02 29 40.1	+2.2
KAMT	Kaman	17.64	309	eP	Pn	02 29 37.9	-0.5
BR131	Keskin Array S	17.87	310	ePn	Pn	02 29 41.1	0.0
BRTR	Keskin Array B	17.87	310	P	Pn	02 29 41.4	+0.2
	comp=Z,0.3nm,0.3s,baz=134,slow=14,SNR=23						
KONT	Konya--Tatoy	17.97	304	eP	Pn	02 29 40.1	-2.3
BOYT	Boyabat	18.00	317	iP	Pn	02 29 42.9	+0.1
BYBT	Boyabat	18.11	316	eP	Pn	02 29 44.5	+0.3
TOS	Tosya	18.32	314	eP	Pn	02 29 44.2	-2.5
ELDT	Eldivan	18.40	312	iP	Pn	02 29 48.1	+0.4
ANTO	Ankara	18.50	310	eP	Pn	02 29 48.0	-1.0
ANTO	Ankara	18.50	310	eP	Pn	02 29 48.9	-0.1
ANTO				pmax	pmax		
	comp=Z,35nm,1.1s						
ANTO	Ankara	18.50	310	eP	Pn	02 29 48.9	-0.1
	comp=Z,35nm,1.1s						
ANTO	Ankara	18.50	310	eP	Pn	02 29 48.9	-0.1
	comp=Z,35nm,1.1s						
KIZT	Kizilcal	18.69	306	eP	Pn	02 29 50.8	-0.5
ANN	Anapa	18.98	328	eP	Pn	02 29 53.2	-1.6
SAFT	Safranbolu	19.27	313	eP	Pn	02 29 57.8	-0.5
ISP	Isparta	19.29	302⇑	iP	Pn	02 29 59.1	+0.6
ISP	Isparta	19.29	302	eP	Pn	02 29 58.4	-0.1
	comp=Z,17nm,0.7s						
ATD	Arta Tunnel	19.38	206	P	Pn	02 29 60.0	+0.5
	comp=Z,0.8nm,0.3s,baz=5.7,slow=8.8,SNR=14						
ATD				Lg		02 35 58.5	
	comp=Z,0.6nm,0.3s,baz=198,slow=20,SNR=2.7						
ATD				LR	LR	02 37 13.9	
	comp=Z,69nm,20.5s,baz=33,slow=36						
ATD	Arta Tunnel	19.38	206	P	Pn	02 29 60.0	+0.5
ATD				Lg		02 35 58.5	
ATD				LR	LR	02 37 13.9	
ELL	Elmali	19.41	298	eP	Pn	02 30 01.8	+1.9
ESKT	Eskisehir	19.68	307	eP	Pn	02 30 03.2	0.0
FETY	Fethiye	20.01	297	eP	P	02 30 04.2	-1.0
DENT	Denizli	20.37	300	eP	P	02 30 02.7	-6.4
DALT	Dalyan (Mudla)	20.39	297	eP	P	02 30 10.2	+0.7
KK31	Karatay Array	20.65	43	iP	P	02 30 11.3	-0.9
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KK31	Karatay Array	20.65	43	iP	P	02 30 11.3	-0.9
	comp=Z,7.0nm,0.5s						
KKAR	Karatay Array	20.65	43	P	P	02 30 11.3	-0.9
SIM	Simferopol'	20.72	324d	iP	P	02 30 13.2	+0.3
SIM				eS	S	02 33 57.7	-5.6
SIM				pmax	pmax		
	comp=Z,44nm,0.8s						
SIM	Simferopol'	20.72	324	iP	P	02 30 13.2	+0.3
	comp=Z,44nm,0.8s						
SIM				eS	S	02 33 57.7	-5.6
YER	Yerkesik	20.76	298	eP	P	02 30 03.5	-10
AJM	Ajmer	20.80	92	eP	P	02 30 14.3	+0.5
AJM				AMb	AMB	02 30 20.8	
	comp=Z,21nm,1.7s						
ADVT	Abdulvahap	20.85	308	eP	P	02 30 14.4	+0.1
AB31	Akbulak array	20.98	16	iP	P	02 30 15.1	-0.6
AB31				pmax	pmax		
	comp=Z,11nm,0.6s						
AB31	Akbulak array	20.98	16	iP	P	02 30 15.1	-0.6
	comp=Z,11nm,0.6s						
THN	Thein Dam	21.16	75	eP	P	02 30 16.8	-0.9
MLSB	Milas	21.20	298	eP	P	02 30 20.6	+2.5
DAT	Datca	21.21	297	eP	P	02 30 19.5	+1.3
DST	Dursunbey	21.30	305	eP	P	02 30 20.1	+1.0
DLH	Dalhousie	21.37	75	ex	x	02 32 16.0	
BODT	Bodrum	21.50	297	eP	P	02 30 14.7	-6.6
KHET	Khetri	21.50	87	eP	P	02 30 19.1	-2.3
KHET				AMb	AMB	02 30 28.9	
	comp=Z,19nm,1.1s,mb4.4						
KHET				eS	S	02 34 19.9	+1.0
AKTK	Aktyubinsk	21.70	12	P	P	02 30 23.2	-0.2
AKTK				LR	LR	02 39 37.0	
AKTK	Aktyubinsk	21.70	12	P	P	02 30 23.2	-0.3
AKTO	Aktyubinsk	21.70	12	P	P	02 30 23.2	-0.2
	comp=Z,48nm,0.7s,mb5.0,baz=192,slow=13						
AKTO				LR	LR	02 39 37.0	
	comp=Z,104nm,20.5s,MS3.2,baz=3.0,slow=39						
IZM	Izmir	21.89	301	eP	P	02 30 25.0	-0.6
KUDL	Kundal	22.09	87	eP	P	02 30 26.8	-0.9
KUDL				AMb	AMB	02 30 32.0	
	comp=Z,46nm,1.3s,mb4.8						
SMLA	Simla	22.39	79	eP	P	02 30 30.9	0.0
SMLA				AMb	AMB	02 30 36.0	
	comp=Z,85nm,0.8s,mb5.2						
SONA	Sohna	22.59	86	eP	P	02 30 31.6	-1.4
SONA				AMb	AMB	02 30 41.0	
	comp=Z,38nm,0.9s,mb4.8						
AYAN	Aya Nagar	22.59	86	ex	x	02 30 40.8	
NDI	New Delhi	22.64	85	eP	P	02 30 31.5	-2.1
NDI				eP		02 30 33.2	
NDI				AMb	AMB	02 30 39.1	
	comp=Z,83nm,2.0s,mb4.8						
KSH	Kashi	22.68	57	eP	P	02 30 34.0	+0.1
KSH				eAP		02 30 40.9	
KSH				eXP	sP	02 30 45.5	+3.1
KSH				ePP		02 31 03.5	
KSH				ePCP	PcP	02 34 26.1	+0.1
KSH				eS	S	02 34 34.8	-6.7
KSH				eXS	sS	02 34 49.0	-2.0
KSH				AMB	AMB		
	comp=Z,593nm,2.0s,mb5.7						
KSH				LR	LR		
	comp=N,661nm,6.0s						
KSH				LR	LR		
	comp=E,1μm,9.4s						
KSH				LR	LR		
	comp=Z,1μm,9.8s						
AAK	Ala-Archa	22.90	48⇑	iP	P	02 30 35.6	-0.6
AAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.3						

AAK MLR MLR
comp=Z,200nm,15.0s,MS3.7
AAK Ala-Archa 22.90 48 *e*P **P 02 30 35.3 -0.9**
AAK Ala-Archa 22.90 48 *i* P **P 02 30 35.6 -0.6**
comp=Z,200nm,15.0s
FRU Bishkek 23.07 48 P **P 02 30 36.8 -1.3**
FRU *e* 02 31 07.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.5
FRU Bishkek 23.07 48 P **P 02 30 36.8 -1.3**
comp=Z,40nm,2.0s,mb4.5
IDI Anoyia 23.09 292 P **P 02 30 39.1 +0.8**
comp=Z,24nm,0.4s,mb5.0,baz=88,slow=11,SNR=13
POO Poona 23.18 113 *ex* x 02 30 38.5
KLP Kalpa 23.31 78 *e*P **P 02 30 40.2 -0.3**
KLP AMb AMB 02 30 53.1
comp=Z,53nm,1.4s,mb4.8
KLP *e*S **S 02 34 54.9 +3.2**
EDRB Edirne 23.49 309 *e*P **P 02 30 35.4 -7.1**
AGRA Agra 23.52 89 AMb AMB 02 30 40.8
comp=Z,76nm,0.2s,mb5.8
AGRA *e*P 02 30 41.2
TIRR Tirgusor 23.65 316⇑ *i*P **P 02 30 43.8 -0.1**
TIRR Tirgusor 23.65 316 *e*P **P 02 30 43.4 -0.5**
GVD Gavdhos 23.69 290 *e*P **P 02 30 45.5 +1.2**
comp=Z,34nm,0.9s,mb4.8
VRSR Storozhevoye 23.70 341 *d i*P **P 02 30 42.3 -2.1**
VRSR *i* S **S 02 34 56.6 -1.5**
VRSR pmax pmax
comp=Z,120nm,1.2s,mb5.2
VRSR pmax pmax
comp=N,210nm,1.1s
VRSR pmax pmax
comp=E,110nm,1.0s
VRSR smax
comp=N,290nm,1.1s
VRSR smax
comp=Z,20nm,0.7s
VRSR smax
comp=E,110nm,1.0s
VRSR MLR MLR
comp=Z,110nm,17.0s,MS3.4
VRSR MLR MLR
comp=N,270nm,22.0s
VRSR MLR MLR
comp=E,360nm,49.0s
VRSR Storozhevoye 23.70 341 *i* P **P 02 30 42.3 -2.1**
comp=E,210nm,1.1s,mb5.5
HARR Harsova 24.06 316⇑ *i*P **P 02 30 48.6 +0.9**
HARR Harsova 24.06 316 P **P 02 30 48.9 +1.2**
BHPL Bhopal 24.14 98 *e*P **P 02 30 48.1 -0.3**
BHPL AMb AMB 02 30 53.4
comp=Z,28nm,0.9s,mb4.7
VOR Voronezh 24.16 341 P **P 02 30 46.0 -2.6**
VOR *e* 02 35 05.0
VOR pmax pmax
comp=Z,150nm,1.3s,mb5.3
VOR Voronezh 24.16 341 P **P 02 30 46.0 -2.6**
comp=Z,150nm,1.3s,mb5.3
CFR Carcaliu 24.20 317⇑ *i*P **P 02 30 49.5 +0.5**
CFR Carcaliu 24.20 317 P **P 02 30 49.5 +0.5**
AKL Akola 24.77 104 *e*P **P 02 30 55.3 +1.1**
AKL AMb AMB 02 30 57.7
comp=Z,35nm,0.3s,mb5.3
KIS Kishinev 24.86 321 *e*P **P 02 30 53.0 -2.0**
KIS *e* 02 31 24.0
KIS *e* 02 35 20.0
KIS *e* 02 36 10.0
KIS *e* 02 36 25.0
KIS MLR MLR
comp=Z,300nm,16.0s,MS3.9
ZIMR 25.18 312 P **P 02 30 59.4 +1.5**
VRI Vrincioaia 25.41 317⇓ *i*P **P 02 31 01.2 +1.3**
VRI Vrincioaia 25.41 317 P **P 02 31 01.3 +1.4**
PLOR Plostina 25.44 317⇓ *i*P **P 02 31 02.0 +1.7**
IAS Iasi 25.67 321 P **P 02 31 03.2 +0.9**
MLR Muntele Rosu 25.68 316 P **P 02 31 04.7 +2.2**
comp=Z,55nm,0.8s,mb5.1,baz=359,slow=3.4,SNR=63
MLR LR LR 02 43 05.2
comp=Z,244nm,18.6s,MS3.8,baz=168,slow=41
MLR Muntele Rosu 25.68 316⇑ *i*P **P 02 31 04.8 +2.4**
MLR Muntele Rosu 25.68 316 P **P 02 31 04.8 +2.4**
MTUR Matau 26.09 315⇓ *i*P **P 02 31 06.0 -0.2**
VTS Vitosha 26.20 308⇓ *i*P **P 02 31 08.6 +1.5**
VTS Vitosha 26.20 308 P **P 02 31 09.1 +2.0**
VOIR 26.20 315⇓ *i*P **P 02 31 08.6 +1.4**
VOIR 26.20 315⇓ P **P 02 31 08.6 +1.5**
ZRNK Zerenda 26.97 24 *e*P **P 02 31 14.2 +0.1**
ZRNK pmax pmax
comp=Z,30nm,1.2s,mb4.7
ZRNK Zerenda 26.97 24 *e*P **P 02 31 14.2 +0.1**
comp=Z,30nm,1.2s,mb4.7
ZRNK Zerenda 26.97 24 *e*P **P 02 31 14.2 +0.1**
comp=Z,30nm,1.2s,mb4.7
AKASG Malin Array Be 27.07 328 P **P 02 31 14.2 -0.8**
comp=Z,7.4nm,0.4s,mb4.5,baz=133,slow=8.1,SNR=45
AKASG S **S 02 35 49.7 -2.1**
comp=Z,0.1nm,0.2s,baz=134,slow=17,SNR=4.2
AKASG ScP ScP 02 38 13.6 -1.2
comp=Z,0.3nm,0.4s,baz=102,slow=2.1,SNR=6.6
AKASG Malin Array Be 27.07 328 P **P 02 31 14.2 -0.8**
AKASG S **S 02 35 49.7 -2.1**
AKBB Malin Array Si 27.07 328 *e*P **P 02 31 14.0 -1.0**
BURAR Bucovina Array 27.22 319⇑ *i*P **P 02 31 17.9 +1.6**
BURAR Bucovina Array 27.22 319⇑ P **P 02 31 17.9 +1.5**
SKO Skopje 27.23 306 *e*P **P 02 31 14.3 -2.1**
BRVK Borovoye 27.52 25 *e*P **P 02 31 19.3 +0.3**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
BRVK Borovoye 27.52 25 *e*P **P 02 31 19.3 +0.3**
comp=Z,6.7nm,0.8s,mb4.3
BRVK Borovoye 27.52 25 *e*P **P 02 31 19.3 +0.3**
comp=Z,7.0nm,0.8s,mb4.3
BVAR Borovoye Array 27.53 25 P **P 02 31 19.5 +0.4**
comp=Z,7.7nm,0.6s,mb4.5,baz=216,slow=7.3,SNR=40
BVAR PcP PcP 02 34 36.5 -0.3
comp=Z,1.9nm,0.5s,baz=214,slow=3.4,SNR=7.2
BVAR ScP ScP 02 38 15.8 -0.4
comp=Z,1.9nm,0.8s,baz=150,slow=3.3,SNR=5.1
BVAR Borovoye Array 27.53 25 P **P 02 31 19.5 +0.4**
BVAR 02 34 36.5
ARU Arti 27.59 9 *e*P **P 02 31 19.7 +0.1**
ARU *e* 02 32 07.4
ARU *e*PPP 02 32 18.2
ARU *e*S **S 02 36 00.3 +0.3**
ARU *e*SS 02 37 12.7
ARU Arti 27.59 9 *e*P **P 02 31 19.1 -0.6**
comp=Z,25nm,0.9s,mb4.8
ARU Arti 27.59 9 *e*P **P 02 31 19.7 +0.1**
ARU *e*S **S 02 36 00.3 +0.3**
GZR Gura Zlata 27.60 313⇓ *i*P **P 02 31 20.9 +1.1**
GZR Gura Zlata 27.60 313 P **P 02 31 20.6 +0.8**
OBN Obninsk 27.89 342⇑ *e*P **P 02 31 21.9 -0.4**
OBN *e* pP 02 31 27.9 -0.6
OBN 02 32 12.0
OBN pmax pmax
comp=Z,53nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.4
OBN Obninsk 27.89 342 *e*P **P 02 31 23.0 +0.7**
comp=Z,32nm,0.8s,mb5.0
OBN Obninsk 27.89 342 *e*P **P 02 31 21.9 -0.4**
comp=Z,53nm,1.7s,mb4.9
MOS Moscow 28.17 344 *e*P **P 02 31 23.3 -1.5**
MOS *e* 02 31 31.5
MOS *e* 02 36 02.1
MOS pmax pmax
comp=Z,53nm,1.1s,mb5.1
MOS Moscow 28.17 344 *e*P **P 02 31 23.3 -1.5**
comp=Z,53nm,1.1s,mb5.1
DRGR 28.28 316⇑ *i*P **P 02 31 27.2 +1.4**
DRGR 28.28 316 P **P 02 31 27.1 +1.3**
SVE Sverdlovsk 28.28 11 *e*P **P 02 31 28.0 +2.2**
BZS Buzias 28.44 313⇓ *i*P **P 02 31 28.1 +0.9**
BZS Buzias 28.44 313 P **P 02 31 28.5 +1.3**
BZS Buzias 28.44 313 P **P 02 31 28.5 +1.3**
LVV L'vov 29.10 322 *e*P **P 02 31 33.2 +0.1**
UZH Uzhgorod 29.42 319⇓ *i*P **P 02 31 36.6 +0.6**
UZH *e* 02 32 26.2
KOLS Kolonicke sedl 29.59 320 *e*P **P 02 31 39.0 +1.6**
KWP Kalwaria 29.71 321 *e*P **P 02 31 39.0 +0.5**
MK31 Makanchi Array 29.72 45 P **P 02 31 38.4 -0.2**
MKAR Makanchi Array 29.72 45 P **P 02 31 38.4 -0.3**
comp=Z,3.9nm,0.6s,mb4.3,baz=239,slow=8.5,SNR=42

MKAR PcP PcP 02 34 41.8 -0.5
comp=Z,0.9nm,0.6s,baz=237,slow=2.0,SNR=4.1
MKAR ScP ScP 02 38 22.8 -0.4
comp=Z,1.5nm,0.9s,baz=265,slow=6.8,SNR=5.6
CRVS Cervenica-Dubn 30.03 319 *e*P **P 02 31 42.1 +0.7**
KECS Kecovo 30.40 318 *e*P **P 02 31 45.5 +0.9**
KECS pmax pmax
comp=Z,17nm,0.9s,mb4.8
KECS Kecovo 30.40 318 *e*P **P 02 31 45.5 +0.9**
comp=Z,17nm,0.9s,mb4.8
STHS Stebnicka Huta 30.41 320 *e*P **P 02 31 46.7 +2.0**
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
STHS Stebnicka Huta 30.41 320 *e*P **P 02 31 46.7 +2.0**
comp=Z,7.4nm,1.1s,mb4.3
SOKR Solikamsk 30.48 5 *e*P **P 02 31 46.7 +1.3**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.8
SOKR MLR MLR
comp=Z,290nm,16.0s,MS4.0
SOKR Solikamsk 30.48 5 *e*P **P 02 31 46.7 +1.3**
comp=Z,290nm,16.0s
PSZ Piszkesteto 30.50 316⇑ *e*P **P 02 31 46.5 +1.0**
PSZ Piszkesteto 30.50 316⇑ *i*P **P 02 31 46.5 +1.0**
PSZ Piszkesteto 30.50 316 *e*P **P 02 31 46.1 +0.7**
comp=Z,5.3nm,0.5s,mb4.5
PKSM Moragy 30.58 313⇓ *i*P **P 02 31 46.8 +0.6**
PKSM Moragy 30.58 313 P **P 02 31 47.2 +1.0**
PKSM Moragy 30.58 313⇑ *e*P **P 02 31 47.2 +1.0**
BUD Budapest 30.84 315⇑ *e*P **P 02 31 49.7 +1.2**
NIE Niedzica 30.94 319 *e*P **P 02 31 50.7 +1.3**
VYHS Vyhne 31.38 317 *e*P **P 02 31 53.9 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
VYHS Vyhne 31.38 317 *e*P **P 02 31 53.9 +0.6**
comp=Z,8.8nm,1.1s,mb4.5
OJC Ojcow 31.63 320 *e*P **P 02 31 55.9 +0.5**
SUW Suwalki 32.04 328 *e*P **P 02 31 58.8 -0.3**
KOGS Kog 32.21 312 *e*P **P 02 32 01.2 +0.6**
SMOL Smolenice 32.24 316 *e*P **P 02 32 01.6 +0.8**
ZST Bratislava 32.31 315 *e*P **P 02 32 02.0 +0.5**
ZST pmax pmax
comp=Z,12nm,0.8s,mb4.8
ZST Bratislava 32.31 315 *e*P **P 02 32 02.0 +0.5**
comp=Z,12nm,0.8s,mb4.8
WMQ Urumqi 32.32 53 *e*P **P 02 32 03.5 +2.0**
WMQ AP pP 02 32 08.0 +0.3
WMQ XP sP 02 32 11.0 +0.7
WMQ PP PP 02 33 11.0 -3.6
WMQ S **S 02 37 15.0 +0.8**
WMQ XS sS 02 37 26.0 +1.5
WMQ AMB AMB
comp=Z,22nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,178nm,4.1s
WMQ LR LR
comp=N,704nm,19.8s,MS4.6
WMQ LR LR
comp=E,1µm,22.2s,MS4.6
WMQ LR LR
comp=Z,614nm,21.8s,MS4.3
OKC Ostrava-Krasne 32.38 319 *e*P **P 02 32 02.3 +0.2**
SOP Sopron 32.45 314⇓ *e*P **P 02 32 03.6 +0.9**
BOJS Bojanci 32.57 310 *i* P **P 02 32 04.4 +0.6**
GROS Grobnik 32.70 312 *i* P **P 02 32 05.4 +0.5**
MORC Moravsky Berou 32.71 318⇓ *i*P **P 02 32 05.2 +0.3**
MORC Moravsky Berou 32.71 318 *e*P **P 02 32 05.2 +0.3**
comp=Z,33nm,1.0s,mb5.2
MORC Moravsky Berou 32.71 318 *e*P **P 02 32 05.2 +0.3**
ARSA Arzberg 32.95 313⇓ *i*P **P 02 32 07.8 +0.7**
comp=Z,20nm,1.6s,mb4.8
CONA Conrad Observa 32.98 314⇓ *i*P **P 02 32 07.8 +0.5**
comp=Z,25nm,1.3s,mb5.0
VRAC Vranov 33.07 317⇓ *i*P **P 02 32 08.6 +0.5**
VRAC Vranov 33.07 317 P **P 02 32 08.8 +0.7**
VRAC Vranov 33.07 317 *e*P **P 02 32 08.6 +0.5**
KMBO Kilima Mbogo 33.12 206 P **P 02 32 10.9 +2.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=9.6,slow=11,SNR=4.2
KMBO LR LR 02 46 34.2
comp=Z,223nm,19.1s,MS3.9,baz=22,slow=38
KMBO Kilima Mbogo 33.12 206⇑ *e*P **P 02 32 10.6 +2.1**
KMBO Kilima Mbogo 33.12 206 P **P 02 32 10.9 +2.4**
KMBO LR LR 02 46 34.2
LJU Ljubljana 33.22 310 *e*P **P 02 32 10.4 +1.0**
OBKA Obir 33.34 311⇓ *e*P **P 02 32 11.3 +0.8**
comp=Z,16nm,1.5s,mb4.7
JAVS Javornik 33.48 310 *i* P **P 02 32 12.1 +0.4**
VOY Vojsko 33.64 310 *e*P **P 02 32 13.4 +0.4**
VOY *e* 02 32 32.2
DPC Dobruska-Polom 33.67 318 *e*P **P 02 32 13.4 +0.1**
VSU Vasula 33.72 337 *i* P **P 02 32 13.1 -0.7**
TREC Trest 33.73 316 *e*P **P 02 32 14.4 +0.6**
CADS Cadrg 33.80 310 *e*P **P 02 32 14.6 +0.1**
KSP Ksiaz 33.90 319 *e*P **P 02 32 15.7 +0.4**
KSP Ksiaz 33.90 319⇓ *e*P **P 02 32 15.5 +0.2**
UPC Upice 33.91 319 *e*P **P 02 32 15.5 +0.1**
MOA Molln 33.96 313⇓ *i*P **P 02 32 16.3 +0.4**
comp=Z,29nm,1.1s,mb5.1
NVS Novosibirsk 34.30 33 *i* P **P 02 32 17.0 -1.8**
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=Z,17nm,1.3s,mb4.8
NVS pmax pmax
comp=E,5.0nm,1.2s
KBA Koelnbreinsper 34.31 312⇓ *i*P **P 02 32 18.9 +0.1**
comp=E,44nm,1.4s,mb5.2
KBA Koelnbreinsper 34.31 312⇓ *i*P **P 02 32 18.9 +0.1**
KBA pmax pmax
comp=Z,44nm,1.4s,mb5.2
GKP Gorka Klasztor 34.53 324 *e*P **P 02 32 20.5 -0.3**
GKP Gorka Klasztor 34.53 324 *e*P **P 02 32 20.5 -0.3**
GKP Gorka Klasztor 34.53 324 *e*P **P 02 32 20.5 -0.3**
LSA Lhasa 34.55 79 *e*P **P 02 32 21.9 +1.0**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.1
LSA Lhasa 34.55 79 *e*P **P 02 32 21.9 +0.9**
comp=Z,14nm,0.6s,mb5.1
LSA Lhasa 34.55 79 *e*P **P 02 32 21.9 +1.0**
comp=Z,14nm,0.6s,mb5.1
ZAL Zalesovo 34.56 35 P **P 02 32 21.0 -0.1**
comp=Z,5.8nm,0.5s,mb4.7,baz=196,slow=6.3,SNR=21
PRU Pruhonice 34.56 317 *e*P **P 02 32 21.0 -0.1**
GEC2 GERESS Array S 34.65 315 *e*P **P 02 32 21.4 -0.4**
comp=Z,9.0nm,0.9s,mb4.7
GEC2 GERESS Array S 34.65 315 *e*P **P 02 32 21.4 -0.4**
GEC2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GERES GERESS Array B 34.65 315 P **P 02 32 21.7 -0.1**
comp=Z,3.2nm,0.7s,mb4.4,baz=104,slow=8.2,SNR=22
GERES PcP PcP 02 34 55.6 -0.1
comp=Z,0.4nm,0.4s,baz=165,slow=4.1,SNR=3.5
PVCC Panska Ves 34.76 318 *e*P **P 02 32 22.1 -0.7**
KHC Kasperske Hory 34.83 315 *e*P **P 02 32 23.3 -0.1**
KHC Kasperske Hory 34.83 315 *e*P **P 02 32 23.8 +0.4**
BRG Berggiesshubel 35.26 318 *e*P **P 02 32 26.8 -0.3**
comp=Z,31nm,1.5s,mb5.0
BRG Berggiesshubel 35.26 318 *i* P **P 02 32 26.9 -0.2**
BRG pmax pmax
comp=Z,18nm,1.5s,mb4.8
BRG Berggiesshubel 35.26 318 *i* P **P 02 32 26.9 -0.2**
comp=Z,18nm,1.5s,mb4.8
WET Wettzell 35.27 315 *e*P **P 02 32 26.3 -0.8**
comp=Z,10.0nm,1.1s,mb4.7
WET Wettzell 35.27 315 *e*P **P 02 32 26.3 -0.8**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WTTA Wattenberg 35.48 311⇓ *i*P **P 02 32 29.1 +0.2**
comp=Z,55nm,1.2s,mb5.4
WTTA Wattenberg 35.48 311⇓ *i*P **P 02 32 29.1 +0.2**
WTTA pmax pmax
comp=Z,55nm,1.2s,mb5.4
WATA Walderalm 35.53 312⇓ *i*P **P 02 32 29.3 -0.1**
comp=Z,22nm,1.0s,mb5.0
WATA Walderalm 35.53 312⇓ *i*P **P 02 32 29.3 -0.1**
WATA pmax pmax
comp=Z,22nm,1.0s,mb5.0
FBE Freiberg 35.62 318 *e*P **P 02 32 30.2 0.0**
comp=Z,32nm,1.5s,mb5.0
SQTA Sankt Quirin 35.74 311⇓ *i*P **P 02 32 31.3 0.0**
comp=Z,54nm,1.5s,mb5.2
SQTA Sankt Quirin 35.74 311⇓ *i*P **P 02 32 31.3 +0.1**
SQTA pmax pmax
comp=Z,54nm,1.5s,mb5.3
KEST Kesra 35.77 291 P **P 02 32 33.8 +2.4**

comp=Z,2.7nm,0.8s,mb4.2,baz=50,slow=4.6,SNR=11
MOTA Moosalm 35.85 311⇓ *i*P **P 02 32 31.6 -0.5**
comp=Z,38nm,1.4s,mb5.1
MOTA Moosalm 35.85 311⇓ *i*P **P 02 32 31.6 -0.5**
MOTA pmax pmax
comp=Z,38nm,1.4s,mb5.1
TMCR Tamitsa 35.88 350 *e*P **P 02 32 31.3 -1.1**
TMCR pmax pmax
comp=Z,31nm,0.6s,mb5.4
TMCR Tamitsa 35.88 350 *e*P **P 02 32 31.3 -1.1**
comp=Z,31nm,0.6s,mb5.4
ROTZ Rotzenmuhle 35.89 316 *e*P **P 02 32 32.7 +0.2**
comp=Z,53nm,1.6s,mb5.2
NKC Novy Kostel 35.91 317 *e*P **P 02 32 33.0 +0.4**
TANN Tannenbergstha 35.96 317 *e*P **P 02 32 33.0 -0.1**
comp=Z,18nm,1.7s,mb4.7
FUR Furstenfeldbru 35.97 313 *e*P **P 02 32 32.6 -0.5**
comp=Z,63nm,1.0s,mb5.5
FUR Furstenfeldbru 35.97 313 *e*P **P 02 32 32.6 -0.5**
FUR pmax pmax
comp=Z,63nm,1.0s,mb5.5
WERN Wernitzgruen 35.97 317 *e*P **P 02 32 33.3 +0.1**
comp=Z,44nm,1.6s,mb5.1
CLL Collm 35.98 319 *e*P **P 02 32 32.8 -0.5**
comp=Z,38nm,1.2s,mb5.2
CLL Collm 35.98 319 *i* P **P 02 32 33.1 -0.2**
comp=Z,37nm,1.2s,mb5.2
CLL *i* pP pP 02 32 36.3 -3.2
CLL Collm 35.98 319 *i* P **P 02 32 33.1 -0.2**
CLL *i* 02 32 36.3
CLL pmax pmax
comp=Z,37nm,1.2s,mb5.2
RUE Ruedersdorf 36.02 321 *e*P **P 02 32 33.6 0.0**
comp=Z,59nm,1.1s,mb5.4
MANZ Manzenberg 36.02 316 *e*P **P 02 32 32.9 -0.7**
comp=Z,8.0nm,1.2s,mb4.5
JOF Joensuu 36.04 345 *e*p **P 02 32 33.0 -0.8**
comp=Z,18nm,0.9s,mb5.0
JOF Joensuu 36.04 345 *e*P **P 02 32 33.0 -0.8**
JOF pmax pmax
comp=Z,18nm,0.9s,mb5.0
WERD Werda 36.07 317 *e*P **P 02 32 34.0 0.0**
comp=Z,16nm,1.5s,mb4.7
FIA1 FINESS Array S 36.23 340 *e*P **P 02 32 34.5 -0.9**
FIA1 FINESS Array S 36.23 340 *e*P **P 02 32 34.5 -0.9**
FINES FINESS Array B 36.23 340 P **P 02 32 34.4 -0.9**
comp=Z,6.2nm,0.8s,mb4.6,baz=137,slow=9.3,SNR=15
FINES FINESS Array B 36.23 340 P **P 02 32 34.4 -0.9**
FINES FINESS Array B 36.23 340 *e*P **P 02 32 35.0 -0.4**
GRA1 Grafenberg Arr 36.47 315 *e*P **P 02 32 37.4 0.0**
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 36.47 315 *e*P **P 02 32 37.5 +0.1**
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 36.47 315 *e*P **P 02 32 37.4 0.0**
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.1
GRF Grafenberg Arr 36.47 315 *e*P **P 02 32 37.5 +0.1**
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.1
MOX Moxa 36.55 317 *e*P **P 02 32 37.6 -0.5**
comp=Z,21nm,1.5s,mb4.8
MOX Moxa 36.55 317 *e*P **P 02 32 38.4 +0.3**
MOX pmax pmax
comp=Z,24nm,1.6s,mb4.8
MOX Moxa 36.55 317 *e*P **P 02 32 38.4 +0.3**
comp=Z,24nm,1.6s,mb4.8
BSD Bornholm Skovb 36.63 325 *i* P **P 02 32 37.3 -1.6**
comp=Z,24nm,0.6s,mb5.2
BSD *i* 02 32 51.2
BSD Bornholm Skovb 36.63 325 *i* P **P 02 32 37.3 -1.6**
BSD pmax pmax
comp=Z,24nm,0.6s,mb5.2
DAVA Damuels 36.64 311⇓ *i*P **P 02 32 38.8 0.0**
comp=Z,45nm,1.0s,mb5.3
KAF Kangasniemi 36.68 341 *e*p **P 02 32 37.0 -2.3**
baz=141,slow=8.8
STU Stuttgart 37.47 313 *e*P **P 02 32 46.2 +0.3**
comp=Z,45nm,2.0s,mb5.0
UBBA Unterbreizbach 37.58 317 *e*P **P 02 32 46.7 -0.1**
comp=Z,38nm,1.5s,mb4.9
SBF Sospel 37.67 305 *e*P **P 02 32 46.8 -0.8**
comp=Z,89nm,1.1s,mb5.1
SBF Sospel 37.67 305 *e*P **P 02 32 46.8 -0.8**
SBF pmax pmax
comp=Z,44nm,1.1s,mb5.1
SBF Sospel 37.67 305 *e*P **P 02 32 46.8 -0.8**
comp=Z,44nm,1.1s,mb5.1
GTTG Gvttingen 37.84 318 *e*P **P 02 32 49.5 +0.4**
comp=Z,45nm,1.6s,mb5.0
BFO Black Forest 37.91 312 *e*P **P 02 32 49.4 -0.2**
comp=Z,37nm,1.9s,mb4.8
BFO Black Forest 37.91 312 *e*P **P 02 32 49.4 -0.2**
BFO pmax pmax
comp=Z,37nm,1.9s,mb4.8
NRDL Niedersach Rie 38.09 319 *e*P **P 02 32 51.9 +0.7**
comp=Z,118nm,1.4s,mb5.4
MBDF Montbardon 38.26 306 *e*P **P 02 32 51.3 -1.3**
comp=Z,20nm,0.7s,mb4.7
MBDF Montbardon 38.26 306 *e*P **P 02 32 51.3 -1.3**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MBDF Montbardon 38.26 306 *e*P **P 02 32 51.3 -1.3**
comp=Z,10nm,0.7s,mb4.7
TNS Taunus Mts 38.34 315 *e*P **P 02 32 53.6 +0.3**
comp=Z,14nm,1.2s,mb4.6
TNS Taunus Mts 38.34 315 *e*P **P 02 32 53.6 +0.3**
TNS pmax pmax
comp=Z,14nm,1.2s,mb4.6
BNI Bardonecchia 38.37 307 *e*P **P 02 32 53.5 -0.1**
BNI pmax pmax
comp=Z,35nm,1.2s,mb5.0
BNI Bardonecchia 38.37 307 *e*P **P 02 32 53.5 -0.1**
comp=Z,35nm,1.2s,mb5.0
BNI Bardonecchia 38.37 307 *e*P **P 02 32 53.5 -0.1**
comp=Z,35nm,1.2s,mb5.0
LPG La Plagne 38.39 307 *e*P **P 02 32 52.5 -1.2**
comp=Z,30nm,0.9s,mb4.7
LPG La Plagne 38.39 307 *e*P **P 02 32 52.5 -1.2**
LPG pmax pmax
comp=Z,15nm,0.9s,mb4.7
LPG La Plagne 38.39 307 *e*P **P 02 32 52.5 -1.2**
comp=Z,15nm,0.9s,mb4.7
LPL La Plagne 38.41 307 *e*P **P 02 32 52.5 -1.4**
comp=Z,22nm,0.7s,mb4.7
LPL La Plagne 38.41 307 *e*P **P 02 32 52.5 -1.4**
LPL pmax pmax
comp=Z,11nm,0.7s,mb4.7
LPL La Plagne 38.41 307 *e*P **P 02 32 52.5 -1.4**
comp=Z,11nm,0.7s,mb4.7
BSEG Bad Segeberg 38.51 321 *e*P **P 02 32 54.3 -0.5**
comp=Z,32nm,1.2s,mb4.9
BSEG Bad Segeberg 38.51 321 *e*P **P 02 32 54.3 -0.5**
BSEG pmax pmax
comp=Z,32nm,1.2s,mb4.9
CDF Champ du Feu 38.61 312 *e*P **P 02 32 53.2 -2.4**
HINF Hinteralfeld 38.75 311 *e*P **P 02 32 54.8 -2.0**
comp=Z,10nm,0.7s,mb4.4
HINF Hinteralfeld 38.75 311 *e*P **P 02 32 54.8 -2.0**
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
HINF Hinteralfeld 38.75 311 *e*P **P 02 32 54.8 -2.0**
comp=Z,5.2nm,0.7s,mb4.4
CABF La Chapelle 39.03 309 *e*P **P 02 32 58.0 -1.1**
comp=Z,51nm,0.9s,mb5.0
CABF La Chapelle 39.03 309 *e*P **P 02 32 58.0 -1.1**
CABF pmax pmax
comp=Z,25nm,0.9s,mb4.9
CABF La Chapelle 39.03 309 *e*P **P 02 32 58.0 -1.1**
comp=Z,25nm,0.9s,mb5.0
HAU Haudompre 39.12 311 *e*P **P 02 32 57.9 -2.0**
IBBN Ibbenburen 39.38 318 *e*P **P 02 33 02.8 +0.8**
comp=Z,118nm,1.7s,mb5.3
BUG Bochum--Univer 39.40 317 *e*P **P 02 33 03.5 +1.3**
comp=Z,24nm,1.2s,mb4.8
WLF Walferdange 39.62 314 *e*P **P 02 33 03.2 -0.8**
WLF pmax pmax
comp=Z,11nm,0.9s,mb4.6
WLF Walferdange 39.62 314 *e*P **P 02 33 03.2 -0.8**
comp=Z,11nm,0.9s,mb4.6
WLF Walferdange 39.62 314 *e*P **P 02 33 03.2 -0.8**
comp=Z,11nm,0.9s,mb4.6
WTSB Winterswijk 39.84 317⇓ *e*P **P 02 33 06.0 +0.2**
LVZ Lovozero 39.88 350 *e*P **P 02 33 05.9 -0.2**
LVZ pmax pmax
comp=Z,25nm,0.9s,mb4.9
LVZ Lovozero 39.88 350 *e*P **P 02 33 05.9 -0.2**
comp=Z,25nm,0.9s,mb4.9

MEZF Maizieres J'vi 40.07 312 eP P 02 33 06.3 -1.5
MUD Monsted U'grnd 40.13 325 i P P 02 33 09.0 +0.7
comp=Z,26nm,1.0s,mb4.9
MUD e 02 33 20.2
MUD Monsted U'grnd 40.13 325 eP P 02 33 09.0 +0.7
MUD pmax pmax
comp=Z,26nm,1.0s,mb4.9
MUD Monsted U'grnd 40.13 325 eP P 02 33 09.0 +0.7
comp=Z,26nm,1.0s,mb4.9
MUD e 02 33 20.2
GIVF Givet 40.56 314 eP P 02 33 10.7 -1.1
SMF Signal de Mont 40.57 309 eP P 02 33 10.1 -1.8
comp=Z,28nm,0.7s,mb4.7
SMF Signal de Mont 40.57 309 eP P 02 33 10.1 -1.8
SMF pmax pmax
comp=Z,14nm,0.7s,mb4.7
SMF Signal de Mont 40.57 309 eP P 02 33 10.1 -1.8
comp=Z,14nm,0.7s,mb4.7
LOR Lormes 40.65 310 eP P 02 33 10.5 -2.0
DOU Dourbes 40.70 314 P P 02 33 13.1 +0.1
GTA Gaotai 40.85 62 P P 02 33 15.4 +1.2
GTA AP pP 02 33 22.4 +1.9
GTA XP sP 02 33 26.3 +3.3
GTA PP PP 02 34 54.3 +5.8
GTA PCP PcP 02 35 16.3 +1.5
GTA SCP ScP 02 39 03.3 0.0
GTA PCS PcS 02 39 05.8 +0.1
GTA S S 02 39 27.3 +2.9
GTA XS sS 02 39 40.3 +5.5
GTA SS SS 02 42 26.0 +0.1
GTA SCS ScS 02 43 16.0 -2.2
GTA AMB AMB
comp=Z,34nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,206nm,5.3s
GTA LR LR
comp=N,87nm,11.0s,MS4.0
GTA LR LR
comp=E,116nm,14.8s,MS4.0
GTA LR LR
comp=Z,158nm,8.4s
AVF Avril sur Loir 40.92 309 eP P 02 33 12.8 -2.0
BAIF Baives 40.94 314 eP P 02 33 13.0 -1.9
comp=Z,52nm,1.2s,mb4.7
BAIF Baives 40.94 314 eP P 02 33 13.0 -1.9
BAIF pmax pmax
comp=Z,26nm,1.2s,mb4.7
BAIF Baives 40.94 314 eP P 02 33 13.0 -1.9
comp=Z,26nm,1.2s,mb4.7
BGF Bois d'Agland 41.23 308 eP P 02 33 15.8 -1.6
KONO Kongsberg 41.36 329 eP P 02 33 17.6 -0.8
comp=Z,18nm,1.0s,mb4.7
KONO Kongsberg 41.36 329 eP P 02 33 17.5 -0.9
NB2 NORSAR Subarra 41.36 332 P P 02 33 17.0 -1.4
comp=Z,10nm,0.8s,mb4.5,baz=123,slow=8.6
NOA NORSAR Array B 41.36 332 P P 02 33 17.2 -1.2
comp=Z,8.9nm,0.8s,mb4.5,baz=122,slow=8.3,SNR=28
NOA PP PP 02 34 54.0 0.0
comp=Z,4.9nm,0.8s,baz=112,slow=10,SNR=5.8
NOA S S 02 39 35.8 +3.9
comp=Z,3.2nm,0.9s,baz=122,slow=15,SNR=4.1
NOA LR LR 02 53 15.0
comp=Z,53nm,19.0s,MS3.4,baz=105,slow=40
NOA NORSAR Array B 41.36 332 P P 02 33 17.3 -1.1
NOA 02 34 54.0
NOA S S 02 39 35.8 +3.9
NOA NORSAR Array B 41.36 332 PP PP 02 34 54.0 0.0
NAO01 NORSAR Array S 41.40 331 eP P 02 33 17.4 -1.3
comp=Z,16nm,0.9s,mb4.7
NAO01 ePP PP 02 34 50.9 -3.5
CAF Calviac 41.61 306 eP P 02 33 19.3 -1.1
TCF Toulx Ste Croi 41.64 308 eP P 02 33 19.2 -1.5
RJF Les Rejaudoux 42.03 306 eP P 02 33 22.9 -1.0
LFF La Frestale 42.55 306 eP P 02 33 27.3 -0.8
comp=Z,15nm,0.8s,mb4.5
LFF La Frestale 42.55 306 eP P 02 33 27.3 -0.8
LFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
LFF La Frestale 42.55 306 eP P 02 33 27.3 -0.8
comp=Z,7.4nm,0.8s,mb4.5
KEV Kevo 42.81 348 ep P 02 33 29.4 -0.8
comp=Z,35nm,0.9s,mb5.1
KEV Kevo 42.81 348 eP P 02 33 29.4 -0.8
KEV pmax pmax
comp=Z,35nm,0.9s,mb5.1
MOY Mondy 42.85 44 eP P 02 33 31.7 +1.1
MOY pmax pmax
comp=Z,18nm,2.4s,mb4.4
MOY Mondy 42.85 44 eP P 02 33 31.7 +1.1
comp=Z,18nm,2.4s,mb4.4
ARCES ARCESS Array B 42.91 347 P P 02 33 30.3 -0.7
comp=Z,12nm,0.8s,mb4.7,baz=152,slow=7.7,SNR=22
ARCES PP PP 02 35 09.8 -1.0
comp=Z,5.2nm,0.7s,baz=134,slow=8.7,SNR=6.0
ARCES ARCESS Array B 42.91 347 PP PP 02 35 09.8 -0.9
ARE0 ARCESS Array S 42.91 347 eP P 02 33 31.4 +0.3
ARE0 ARCESS Array S 42.91 347 eP P 02 33 31.4 +0.4
KTK1 Kautokeino 42.95 346 eP P 02 33 30.5 -0.8
KTK1 epP pP 02 33 34.2 -3.5
KTK1 AMb AMB 02 33 34.5
comp=Z,55nm,1.1s,mb5.2
KTK1 Kautokeino 42.95 346 eP P 02 33 30.5 -0.8
comp=Z,55nm,1.1s,mb5.2
KTK1 Kautokeino 42.95 346 eP P 02 33 30.5 -0.9
comp=Z,55nm,1.1s,mb5.2
NSS Namsos 43.02 336 eP P 02 33 32.7 +0.7
MFF Saint Martin d 43.29 308 eP P 02 33 32.4 -1.7
ETSF Etsaut 43.41 303 eP P 02 33 34.1 -1.0
comp=Z,24nm,1.1s,mb4.5
ETSF Etsaut 43.41 303 eP P 02 33 34.1 -1.0
ETSF pmax pmax
comp=Z,12nm,1.1s,mb4.5
ETSF Etsaut 43.41 303 eP P 02 33 34.1 -1.0
comp=Z,12nm,1.1s,mb4.5
LDF La Druitiere 43.48 311 eP P 02 33 33.7 -2.0
comp=Z,14nm,0.5s,mb4.7
LDF La Druitiere 43.48 311 eP P 02 33 33.7 -2.0
LDF pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
LDF La Druitiere 43.48 311 eP P 02 33 33.7 -2.0
comp=Z,6.9nm,0.5s,mb4.7
FLN La Foliniere 43.74 311 eP P 02 33 35.8 -1.9
comp=Z,24nm,0.5s,mb4.9
FLN La Foliniere 43.74 311 eP P 02 33 35.8 -1.9
FLN pmax pmax
comp=Z,12nm,0.5s,mb4.9
FLN La Foliniere 43.74 311 eP P 02 33 35.8 -1.9
comp=Z,12nm,0.5s,mb4.9
SJPF Ste Jean 43.90 303 eP P 02 33 38.6 -0.4
comp=Z,30nm,0.9s,mb4.7
SJPF Ste Jean 43.90 303 eP P 02 33 38.6 -0.4
SJPF pmax pmax
comp=Z,15nm,0.9s,mb4.7
SJPF Ste Jean 43.90 303 eP P 02 33 38.6 -0.4
comp=Z,15nm,0.9s,mb4.7
GRR Gorron 43.95 311 eP P 02 33 37.6 -1.8
comp=Z,14nm,0.5s,mb4.6
GRR Gorron 43.95 311 eP P 02 33 37.6 -1.8
GRR pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
GRR Gorron 43.95 311 eP P 02 33 37.6 -1.8
comp=Z,6.8nm,0.5s,mb4.6
ZAK Zakamensk 44.05 46 eP P 02 33 40.2 0.0
ZAK e 02 35 23.6
ZAK pmax pmax
comp=Z,20nm,1.1s,mb4.8
ZAK Zakamensk 44.05 46 eP P 02 33 40.2 0.0
comp=Z,20nm,1.1s,mb4.8
LZH Lanzhou 44.27 67 eP P 02 33 42.5 +0.5
LZH AP pP 02 33 49.5 +1.2
LZH XP sP 02 33 52.5 +1.7
LZH PP PP 02 35 27.3 +2.0
LZH eS S 02 40 14.0 -0.7
LZH XS sS 02 40 26.5 +1.4
LZH AMB AMB
comp=Z,38nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,100nm,4.3s
LZH LR LR
comp=N,1μm,14.1s
LZH LR LR
comp=Z,2μm,16.4s,MS5.0
TRO Tromso 44.41 344 eP P 02 33 40.4 -2.7
TLY Talaya 44.48 45 eP P 02 33 44.5 +0.8
TLY e 02 35 19.8
TLY pmax pmax
comp=Z,9.0nm,1.7s,mb4.2
TLY MLR MLR
comp=Z,222nm,14.0s,MS4.2
TLY Talaya 44.48 45 eP P 02 33 44.5 +0.8
comp=Z,9.0nm,1.7s,mb4.2
LOF Lofoten 44.75 341 eP P 02 33 46.6 +0.8
CD2 Chengdu 45.04 74 eP P 02 33 46.3 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.6s
ROSF Rostrenen 45.55 310 eP P 02 33 50.4 -1.8
comp=Z,30nm,0.8s,mb5.0
ROSF Rostrenen 45.55 310 eP P 02 33 50.4 -1.8
ROSF pmax pmax
comp=Z,15nm,0.8s,mb5.0
ROSF Rostrenen 45.55 310 eP P 02 33 50.4 -1.8
comp=Z,15nm,0.8s,mb5.0
KMI Kunming 45.62 82 P P 02 33 50.5 -2.2
KMI AP pP 02 33 57.0 -2.1
KMI XP sP 02 34 01.6 0.0
KMI PP PP 02 35 36.8 -2.9
KMI S S 02 40 31.0 -3.2
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.9
KMI AMB AMB
comp=Z,128nm,3.6s
KMI LR LR
comp=N,171nm,12.3s,MS4.3
KMI LR LR
comp=E,131nm,12.9s,MS4.3
KMI LR LR
comp=Z,111nm,19.0s
SONM Songino Array 45.83 50 P P 02 33 54.5 +0.2
comp=Z,3.2nm,0.7s,mb4.4,baz=266,slow=9.2,SNR=21
ESDC Sonseca Array 46.09 298 P P 02 33 56.5 0.0
comp=Z,0.7nm,0.4s,mb3.9,baz=74,slow=7.6,SNR=12
ESLA Sonseca Array 46.09 298 eP P 02 33 55.3 -1.1
comp=Z,15nm,1.7s,mb4.6
ULN Ulaanbaatar 46.27 50 eP P 02 33 57.7 -0.2
comp=Z,9.3nm,0.9s,mb4.7
ULN Ulaanbaatar 46.27 50 eP P 02 33 57.9 0.0
ESK Eskdalemuir 46.42 320 eP P 02 33 58.9 -0.2
OPO Ambohidratompo 47.77 185 P P 02 34 10.4 +0.8
comp=Z,7.6nm,0.9s,mb4.7,baz=27,slow=10,SNR=7.2
BTO Baotou 48.60 60 eP P 02 34 15.4 -0.6
TOA0 Torodi Ar. Sit 48.61 262 eP P 02 34 16.4 +0.4
TOA0 Torodi Ar. Sit 48.61 262 eP P 02 34 16.5 +0.4
TORD Torodi Ar. Bea 48.61 262 P P 02 34 16.6 +0.5
comp=Z,22nm,1.1s,mb5.1,baz=55,slow=8.6,SNR=61
TORD LR LR 02 56 29.4
comp=Z,88nm,18.3s,MS3.8,baz=210,slow=38
GYA Guiyang 48.62 79 P P 02 34 15.4 -0.7
GYA AP pP 02 34 22.9 +0.4
GYA XP sP 02 34 26.3 +1.3
GYA PP PP 02 36 05.6 -3.5
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,110nm,4.6s
GYA LR LR
comp=N,420nm,17.9s,MS4.7
GYA LR LR
comp=E,480nm,17.4s,MS4.7
GYA LR LR
comp=Z,430nm,17.0s,MS4.5
XAN Xi'an 48.70 69 P P 02 34 15.9 -0.9
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
EVO Evora 49.35 297 eP P 02 34 22.4 +0.7
comp=Z,14nm,0.8s,mb4.8
LSZ Lusaka 49.64 210 eP P 02 34 24.7 +0.8
LSZ pmax pmax
comp=Z,26nm,1.4s,mb5.1
LSZ Lusaka 49.64 210 eP P 02 34 24.7 +0.7
comp=Z,26nm,1.4s,mb5.1
LSZ Lusaka 49.64 210 eP P 02 34 24.7 +0.8
comp=Z,26nm,1.4s,mb5.1
HHC Hu-ho-hao-te 49.74 60 eP P 02 34 24.9 +0.1
HHC AP pP 02 34 32.3 +1.1
HHC XP sP 02 34 35.5 +1.9
HHC PCP PcP 02 35 46.5 +0.9
HHC PP PP 02 36 19.9 +0.5
HHC SCP ScP 02 39 39.0 -1.0
HHC PCS PcS 02 39 41.8 -0.6
HHC S S 02 41 30.4 -2.4
HHC XS sS 02 41 42.9 -0.4
HHC SCS ScS 02 44 11.9 -3.3
HHC AMB AMB
comp=Z,17nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,143nm,5.3s
HHC LR LR
comp=N,178nm,5.5s
HHC LR LR
comp=E,166nm,5.5s
HHC LR LR
comp=Z,183nm,7.1s
BOD Bodaibo 51.25 38 eP P 02 34 38.9 +2.8
BOD pmax pmax
comp=Z,20nm,1.3s,mb4.9
PSI Prapat 52.27 111 P P 02 34 42.2 -1.5
comp=Z,4.0nm,0.5s,mb4.6,baz=320,slow=19,SNR=4.6
BJT Baijiatuau 53.34 60 eP P 02 34 51.7 0.0
BJT pmax pmax
comp=Z,14nm,0.6s
BJT Baijiatuau 53.34 60 eP P 02 34 51.7 0.0
comp=Z,14nm,0.6s,mb5.1
BJT Baijiatuau 53.34 60 eP P 02 34 51.7 0.0
comp=Z,14nm,0.6s,mb5.1
HIA Hailar 54.66 48 eP P 02 35 01.0 -0.3
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA Hailar 54.66 48 eP P 02 35 01.0 -0.3
comp=Z,4.9nm,0.4s,mb4.9
HIA Hailar 54.66 48 eP P 02 35 01.0 -0.3
comp=Z,5.0nm,0.4s,mb4.9
NJ2 Nanjing 57.27 69 eP P 02 35 20.9 +0.9
NJ2 AP pP 02 35 25.4 -1.1
NJ2 XP sP 02 35 28.0 -0.9
NJ2 PP PP 02 37 29.5 +2.4
NJ2 S S 02 43 16.0 +1.1
NJ2 XS sS 02 43 30.0 +4.4
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,810nm,8.9s
NJ2 LR LR
comp=N,750nm,25.5s,MS4.9
NJ2 LR LR
comp=E,1μm,25.3s,MS4.9
NJ2 LR LR
comp=Z,1μm,25.2s,MS4.9
DBIC Dimbokro 57.38 258 P P 02 35 21.6 +0.9
comp=Z,39nm,1.1s,mb5.4,baz=34,slow=7.2,SNR=15
DBIC LR LR 02 58 53.0
comp=Z,105nm,18.1s,MS4.0,baz=137,slow=35
DBIC Dimbokro 57.38 258 eP P 02 35 21.8 +1.0
DBIC pmax pmax
comp=Z,40nm,1.0s
DBIC Dimbokro 57.38 258 eP P 02 35 21.8 +1.1
comp=Z,40nm,1.0s,mb5.4
DBIC Dimbokro 57.38 258 eP P 02 35 21.8 +1.0
comp=Z,40nm,1.0s,mb5.4
DL2 Dalian 57.70 60 P P 02 35 23.3 +0.3
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
TSUM Tsumeb 58.19 218 eP P 02 35 27.7 +1.3
comp=Z,18nm,1.2s,mb5.0
TSUM Tsumeb 58.19 218 eP P 02 35 27.7 +1.3
comp=Z,18nm,1.2s,mb5.0
YAK Yakutsk 59.16 33 eP P 02 35 32.6 -0.6
YAK pmax pmax
comp=Z,17nm,0.6s,mb5.2
YAK Yakutsk 59.16 33 eP P 02 35 32.6 -0.6
comp=Z,17nm,0.6s,mb5.2
LBTB Lobatse 59.40 207 eP P 02 35 35.3 +0.5
LBTB pmax pmax
comp=Z,24nm,1.2s,mb5.1
LBTB Lobatse 59.40 207 eP P 02 35 35.3 +0.5
comp=Z,24nm,1.2s,mb5.1
LBTB Lobatse 59.40 207 eP P 02 35 35.3 +0.5
comp=Z,24nm,1.2s,mb5.1
CN2 Changchun 59.41 54 eP P 02 35 34.1 -0.8
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
SSE Sheshan 59.45 69 eP P 02 35 35.1 -0.1
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,211nm,3.5s
MDJ Mudanjiang 62.11 52 P P 02 35 53.8 +0.5
MDJ PCP PcP 02 36 30.5 -3.0
MDJ PP PP 02 38 12.8 +2.8
MDJ S S 02 44 20.1 +2.8
MDJ SCS ScS 02 45 44.8 +0.6
MDJ SS SS 02 48 22.3 +2.1
MDJ AMB AMB
comp=Z,7.0nm,0.5s,mb5.0
MDJ AMB AMB
comp=Z,92nm,7.5s
MDJ LR LR
comp=N,131nm,11.7s,MS4.5
MDJ LR LR
comp=E,99nm,10.4s,MS4.5
MDJ LR LR
comp=Z,109nm,10.0s,MS4.3
SUMG Summit 62.26 340 eP P 02 35 53.8 -0.5
comp=Z,12nm,1.0s,mb5.0
SUMG Summit 62.26 340 eP P 02 35 53.8 -0.5
comp=Z,12nm,1.0s,mb5.0
KLR Kul'dur 62.42 47 eP P 02 35 51.8 -3.6
BOSA Boshof 62.76 206 P P 02 35 57.3 -0.4
comp=Z,4.2nm,0.9s,mb4.6,baz=9.4,slow=7.9,SNR=6.9
BOSA Boshof 62.76 206 eP P 02 35 57.6 0.0
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
BOSA Boshof 62.76 206 eP P 02 35 57.6 0.0
comp=Z,6.9nm,0.9s,mb4.8
BOSA Boshof 62.76 206 eP P 02 35 57.6 0.0
comp=Z,7.0nm,0.9s,mb4.8
HABR Khabarovsk 64.72 47 eP P 02 36 11.9 +1.3
HABR eS S 02 44 48.6 -1.3
SEY Seymchan 69.12 29⇓i P P 02 36 38.8 +0.2
YSS Yuzh-Sakhalins 70.13 47⇑eP P 02 36 44.0 -0.8
YSS pmax pmax
comp=Z,30nm,1.7s,mb5.0
YSS Yuzh-Sakhalins 70.13 47 eP P 02 36 44.0 -0.8
comp=Z,30nm,1.7s,mb5.0
BILL Bilibino 71.78 21⇑eP P 02 36 55.4 +0.6
BILL pmax pmax
comp=Z,15nm,0.8s,mb5.0
BILL Bilibino 71.78 21 eP P 02 36 55.4 +0.6
comp=Z,15nm,0.8s,mb5.0
SCHQ Schefferville 80.86 329 P P 02 37 46.4 0.0
comp=Z,5.0nm,0.5s,mb4.7,baz=73,slow=3.0,SNR=18
SCHQ Schefferville 80.86 329 eP P 02 37 46.0 -0.3
comp=Z,17nm,0.9s,mb5.0
SCHQ Schefferville 80.86 329 eP P 02 37 46.0 -0.4
comp=Z,17nm,0.9s,mb5.0
INK Inuvik 82.61 2 eP P 02 37 54.5 -1.1
comp=Z,2.7nm,0.7s,mb4.4
INK Inuvik 82.61 2 eP P 02 37 54.6 -1.0
IMA2 Indian Mountai 83.00 10 eP P 02 37 57.0 -0.6
IMA2 Indian Mountai 83.00 10 eP P 02 37 57.0 -0.6
COLA College 84.94 8 eP P 02 38 06.8 -0.7
comp=Z,8.8nm,0.9s,mb4.9
COLA College 84.94 8 i P P 02 38 07.1 -0.4
EGAK Eagle 85.72 5 eP P 02 38 11.0 -0.4
EGAK Eagle 85.72 5 eP P 02 38 11.0 -0.4
FITZ Fitzroy Crossi 85.75 113 eP P 02 38 11.3 -0.2
comp=Z,12nm,0.8s,mb5.2
DAWY Dawson 86.56 5 eP P 02 38 15.2 -0.4
KAKA Kakadu 88.56 105 eP P 02 38 24.6 -0.6
comp=Z,17nm,0.9s,mb5.4
WRA Warramunga Arr 93.74 111 P P 02 38 48.6 -0.7
comp=Z,0.8nm,0.5s,mb4.4,baz=315,slow=4.0,SNR=11
WRA Warramunga Arr 93.74 111 eP P 02 38 48.5 -0.7
ASAR Alice Springs 95.22 114 P P 02 38 55.0 -1.1
comp=Z,1.2nm,0.7s,mb4.4,baz=304,slow=4.7,SNR=14
LPAZ La Paz 123.24 269 ePKIKP PKPdf 02 44 31.4 +2.2

ISCJB ***14*** *02:43:54.2±3.1, 198S±0.1×170.1E±02, h107km±24km, mb4.3/16, Error ellipse: s-maj=29.0km s-min=15.7km az=98.2*
BJI ***14*** *02:43:55.1, 2000S×16990E, h120km, mB4.9, mb4.5*
NEIC ***14*** *02:43:59.1±4.8, 2002S×16989E, h121km±25km, mb4.2/10, Error ellipse: s-maj=60.5km s-min=11.6km az=215.0*
IDC ***14*** *02:44:02.6±4.7, 2032S×16967E, h132km±33km, mb3.7/7, mb1 3.9/9, mb1mx3.8/16, mbtmp4.2/9, Error ellipse: s-maj=41.6km s-min=19.2km az=38.0*
ISC 14 02:43:54.7±2.8**, 198S**±01×**1702E**±01**, h99**km±21km**, n31, σ0**s**79**/30**, mb4.3**/16**, 1C, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
DZM Mont Dzumac 4.15 236 eP Pn 02 44 55.6 -0.3
DZM eS Sn 02 45 36.0 -7.4
DZM Mont Dzumac 4.15 236 P Pn 02 44 55.5 -0.4
24nm,0.3s,baz=53,slow=18,SNR=199
DZM S Sn 02 45 36.5 -6.9
35nm,0.3s,baz=150,slow=23,SNR=19
URZ Urewera 19.37 163 P Pn 02 48 14.5 -0.1
1.7nm,0.3s,baz=314,slow=4.7,SNR=14
CTA Charters Tower 22.48 265 eP P 02 48 47.5 +1.7
4.7nm,0.6s,mb4.0
CTA Charters Tower 22.48 265 P P 02 48 47.7 +1.9
5.3nm,0.8s,mb3.9,baz=90,slow=12,SNR=6.4
CTAO Charters Tower 22.48 265 eP P 02 48 46.3 +0.4
9.5nm,0.8s,mb4.2
RPZ Rata Peaks 23.87 178 P P 02 49 00.7 +1.7
6.6nm,0.8s,mb4.0,baz=343,slow=14,SNR=3.9
CNB Canberra Magne 23.99 226 eP P 02 48 59.7 -0.4
16nm,1.2s,mb4.2
STKA Stephens Creek 28.30 239 eP P 02 49 38.3 -0.6
2.3nm,0.6s,mb3.9
STKA Stephens Creek 28.30 239 P P 02 49 38.6 -0.3
4.2nm,0.8s,mb4.0,baz=80,slow=10,SNR=7.3
WRA Warramunga Arr 33.66 264 P P 02 50 26.2 +0.2
1.8nm,0.8s,mb4.0,baz=84,slow=7.4,SNR=6.6
WRA Warramunga Arr 33.66 264 P P 02 50 26.2 +0.2
AS31 Alice Springs 33.85 257 eP P 02 50 27.5 -0.1
ASAR Alice Springs 33.85 257 P P 02 50 27.4 -0.2
5.8nm,0.8s,mb4.5,baz=88,slow=9.4,SNR=55
ASPA Alice Springs 33.85 257 eP P 02 50 27.5 -0.1
FORT Forrest 39.41 245 eP P 02 51 13.8 -1.0
5.7nm,0.6s,mb4.6
FITZ Fitzroy Crossi 42.06 265 eP P 02 51 37.7 +1.1
6.6nm,0.6s,mb4.5
MBWA Marble Bar 47.11 259 eP P 02 52 16.5 -0.2
4.6nm,0.8s,mb4.3
VNDA Vanda 57.91 182 P P 02 53 36.1 -0.3
0.5nm,0.6s,mb3.8,baz=353,slow=7.3,SNR=6.2
VNDA Vanda 57.91 182 eP P 02 53 35.9 -0.5
0.8nm,0.6s,mb3.9
QSPA South Pole Qui 70.27 180 eP P 02 54 57.3 +0.1
6.0nm,0.9s,mb4.4
NJ2 Nanjing 71.21 316 eP P 02 55 02.4 -0.6
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
MDJ Mudanjiang 74.02 331 P P 02 55 19.3 -0.3
MDJ S S 03 04 50.4 +6.2
MDJ SS SS 03 09 36.5 +5.7
MDJ AMB AMB
comp=Z,2.0nm,0.3s,mb4.3
MDJ AMB AMB
comp=Z,146nm,6.1s
MDJ LR LR
comp=N,26nm,14.3s
MDJ LR LR
comp=E,36nm,19.8s
MDJ LR LR
comp=Z,28nm,18.0s
KMI Kunming 79.31 302 P P 02 55 50.1 +0.7
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
HHC Hu-ho-hao-te 81.21 319 eP P 02 56 00.4 +0.8
HHC PP PP 02 59 08.5 +2.4
HHC S S 03 06 07.3 +5.6
HHC AMB AMB
comp=Z,5.0nm,0.3s,mb4.8
HHC AMB AMB
comp=Z,147nm,8.0s
HHC LR LR
comp=N,82nm,4.7s
HHC LR LR
comp=E,83nm,4.1s
HHC LR LR
comp=Z,92nm,8.2s

SYO	Syowa Base	84.65	196	⇑ePcP	PcP	02 56 19.0	-1.7
SNAA	Sanae	88.65	182	P	P	02 56 36.4	-0.3
	comp=Z,0.4nm,0.7s,mb3.6,baz=195,slow=2.0,SNR=9.5						
SNAA	Sanae	88.65	182	eP	P	02 56 36.1	-0.7
	comp=Z,1.2nm,0.8s,mb4.0						
WMQ	Urumqi	98.22	314	eP	P	02 57 17.5	-3.2
EKA	Eskdalemuir Ar	144.16	353	PKP	PKPdf	03 03 21.2	+2.4
	comp=Z,0.6nm,0.5s,baz=322,slow=2.4,SNR=4.9						
GERES	GERESS Array B	145.39	332	PKPbc	PKPbc	03 03 25.7	+4.6
	comp=Z,0.4nm,0.6s,baz=23,slow=4.4,SNR=7.0						

*NNC **14** 02:44:05.7±4.3, 36.17N×75.94E, h48km±50km, mb4.4, mpv4.6, Error ellipse: s-maj=36.4km s-min=32.1km az=39.0*

*SZGRF **14** 02:44:08.9, 36.18N×77.78E, h146km, mb4.9, Kashmir-Xinjiang border region*

*BJI **14** 02:44:09.9, 36.80N×76.55E, h100km, mB5.0, mb4.7*

*MOS **14** 02:44:11.0±0.8, 36.68N×76.58E, h107km, mb5.0/72, Error ellipse: s-maj=6.9km s-min=3.2km az=125.8*

*IDC **14** 02:44:11.2±0.6, 36.56N×76.56E, h96km±4km, mb4.4/20, mb1 4.6/24, mb1mx4.5/27, mbtmp4.8/24, MS3.5/7, Ms1 3.5/7, ms1mx3.2/40, Error ellipse: s-maj=15.1km s-min=10.3km az=15.0*

*NEIC **14** 02:44:12.5±0.9, 36.66N×76.60E, h106km±7km, mb4.9/124, Error ellipse: s-maj=6.2km s-min=3.5km az=179.0*

*ISCJB **14** 02:44:12.6±0.1, 36.21N±0.02×76.71E±0.03, h147km, mb4.7/167, Error ellipse: s-maj=3.9km s-min=2.4km az=140.0*

ISC 14 02:44:14.1±0.1**, 36.18N**±0.02×**76.76E**±0.03**, h149km, h149km**±.5km**: pP-P, n493,** σ1.09/519**, mb4.7**/167**, 121C-19D, Kashmir-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRNI	Srinagar	2.60	218	ex	x	02 45 05.5	
SRNI				eS	Sn	02 45 17.5	-12
KSH	Kashi	3.39	350	⇑iP	Pn	02 44 57.0	-9.3
KSH				XP		02 45 22.3	
KSH				S	Sn	02 45 30.3	-17
DLH	Dalhousie	3.69	191	eP	Pn	02 45 10.0	-0.3
DLH				ex	Sn	02 45 56.0	+2.1
JMU	Jammu	3.79	205	eP	Pn	02 45 10.0	-1.5
JMU				ex	Sn	02 45 56.5	+0.4
CHCP	Chirah Chowk	3.82	230	P	Pn	02 45 09.2	-2.8
CEP	Cherat	4.63	241	P	Pn	02 45 18.0	-4.6
CEP				S	Sn	02 45 44.0	-32
SDNR	Sundarnagar	4.67	178	eP	Pn	02 45 24.0	+0.8
SDNR				ex	Sn	02 46 18.0	+1.0
BHK	Bhakra	4.76	184	eP	Pn	02 45 27.6	+3.3
BHK				eS	Sn	02 46 17.4	-1.7
KLP	Kalpa	4.80	165	eP	Pn	02 45 24.9	0.0
KLP				eS	Sn	02 46 15.2	-4.8
SMLA	Simla	5.05	176	eP	Pn	02 45 29.1	+0.9
SMLA				eS	Sn	02 46 19.1	-6.9
THW	Thamme Wali	5.35	232	P	Pn	02 45 28.3	-3.8
SARP	Sargodha	5.44	220	P	Pn	02 45 30.3	-3.0
DDI	Dehra Dun	5.94	169	eP	Pn	02 45 42.4	+2.4
DDI				ex	Sn	02 46 45.5	-1.7
ULHL	Ulahol	6.07	356	P	Pn	02 45 33.5	-8.1
	SNR=28						
SBDP	Sheikh Budin	6.27	234	P	Pn	02 45 40.6	-3.8
KBK	Karagaybulak	6.62	348	P	Pn	02 45 40.7	-8.3
	SNR=28						
AAK	Ala-Archa	6.68	345	P	Pn	02 45 42.3	-7.5
	SNR=25						
AAK	Ala-Archa	6.68	345	⇑eP	Pn	02 45 40.9	-8.9
AAK	Ala-Archa	6.68	345	ePn	Pn	02 45 40.6	-9.1
TKM2	Tokmak 2	6.79	353	P	Pn	02 45 43.0	-8.3
	SNR=37						
TKM2	Tokmak 2	6.79	353	⇓P	Pn	02 45 43.1	-8.2
	16nm,1.0s						
TKM2				⇓S	Sn	02 46 58.4	-9.0
	43nm,1.1s						
TKM2	Tokmak 2	6.79	353	P	Pn	02 45 42.8	-8.5
TKM2				pmax	pmax		
	comp=Z,51nm,0.9s						
FRU	Bishkek	6.84	347	eP	Pn	02 45 43.8	-8.2
FRU				eS	Sn	02 46 54.4	-14
FRU				pmax	pmax		
	comp=Z,450nm,1.6s						
FRU				smax			
	comp=E,520nm,1.8s						
EKS2	Erkin-Say	6.87	341	P	Pn	02 45 45.4	-7.0
	SNR=11						
CHMS	Chumysh	6.98	348	P	Pn	02 45 46.2	-7.6
	SNR=13						
KNDC	Almaty	7.03	1	⇓P	Pn	02 45 47.1	-7.4
	comp=E,107nm,0.7s						
KNDC				⇑S	Sn	02 47 08.3	-4.9
	comp=E,395nm,0.7s						
AAA	Alma-Ata	7.08	1	iP	Pn	02 45 47.2	-8.0
AAA				eS	Sn	02 47 11.5	-3.0
USP	Ospenovka	7.29	347	P	Pn	02 45 49.9	-8.0
	SNR=8.7						
NDI	New Delhi	7.49	177	eP	Pn	02 46 00.0	-0.6
	comp=E,22nm,0.5s						
NDI				eP		02 46 00.5	
NDI				eS	Sn	02 47 14.3	-10
AYAN	Aya Nagar	7.69	178	eP	Pn	02 46 03.5	+0.3
SONA	Sohna	7.92	178	eP	Pn	02 46 06.5	+0.1
SONA				ex	Sn	02 47 32.4	-2.1
KUDL	Kundal	8.02	182	eP	Pn	02 46 07.2	-0.5
KUDL				ex	x	02 47 22.4	
KHET	Khetri	8.13	186	eP	Pn	02 46 08.1	-1.0
KHET				AMb	AMB	02 46 10.2	
	comp=Z,61nm,1.0s						
KHET				eS	Sn	02 47 27.5	-12
KK31	Karatay Array	8.43	327	⇑P	Pn	02 46 02.4	-11
	comp=Z,13nm,0.5s,baz=153,slow=12,SNR=149						
KK31				⇑S	Sn	02 47 30.0	-17
	comp=Z,85nm,0.6s						
KK31	Karatay Array	8.43	327	iP	Pn	02 46 03.3	-10
KK31				pmax	pmax		
	comp=Z,20nm,0.3s						
KKAR	Karatay Array	8.43	327	P	Pn	02 46 03.3	-10
KKAR				S	Sn	02 47 27.6	-19
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KKAR				smax			
	comp=Z,46nm,0.5s						
AGRA	Agra	8.98	173	eP	Pn	02 46 20.6	+0.1
AGRA				ex	x	02 47 47.9	
AJM	Ajmer	9.84	191	eP	Pn	02 46 31.5	-0.5
KOLN	Koldanda	10.20	143	eP	Pn	02 46 35.4	-1.3
	comp=Z,197nm,0.6s						
JASL	Jaisalmer	10.49	210	eP	Pn	02 46 38.9	-1.7
GKN	Gorkha	10.54	139	eP	Pn	02 46 39.2	-2.0
	comp=Z,202nm,0.5s						
KKN	Kakani	11.05	137	eP	Pn	02 46 45.8	-2.2
	comp=Z,124nm,0.5s						
DMN	Daman	11.10	138	eP	Pn	02 46 46.6	-2.0
	comp=Z,56nm,0.4s						
PKI	Pulchoki	11.29	137	eP	Pn	02 46 49.1	-2.0
	comp=Z,91nm,0.7s						
GUN	Gumba	11.30	134	eP	Pn	02 46 49.4	-1.8
	comp=Z,67nm,0.4s						
WMQ	Urumqi	11.33	44	⇑iP	Pn	02 46 44.8	-6.8
WMQ				PP		02 46 56.0	
WMQ				XP		02 47 11.5	
WMQ				S	Sn	02 48 46.0	-11
WMQ				SS		02 49 04.0	
WMQ				AMB	AMB		
	comp=Z,65nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,243nm,6.0s						
WMQ				LR	LR		
	comp=N,498nm,6.0s						
WMQ				LR	LR		
	comp=E,504nm,5.5s						
WMQ				LR	LR		
	comp=Z,425nm,6.8s						
MK05	Makanchi Array	11.38	20	⇓P	Pn	02 46 44.3	-7.9
	comp=Z,14nm,0.4s						
MK31	Makanchi Array	11.38	20	P	Pn	02 46 43.7	-8.5
MK31						02 48 39.9	
MK31				pmax	pmax		
	comp=Z,14nm,0.4s						
MK31				smax			
	comp=Z,60nm,0.9s						
MKAR	Makanchi Array	11.38	20	P	Pn	02 46 45.1	-7.2
	comp=Z,20nm,0.3s,baz=202,slow=12,SNR=484						
MKAR				S	Sn	02 48 43.5	-14
	comp=Z,3.1nm,0.3s,baz=198,slow=24,SNR=6.4						
MKAR	Makanchi Array	11.38	20	iP	Pn	02 46 44.2	-8.0
MKAR				pmax	pmax		
	comp=Z,31nm,0.4s						
JIRN	Jiri	11.67	134	eP	Pn	02 46 54.8	-1.2
	comp=Z,96nm,0.3s						
BHPL	Bhopal	12.91	177	eP	Pn	02 47 12.5	+0.4
JBP	Jabalpur	13.27	167	ex	x	02 47 18.1	
	comp=Z,192nm,0.7s						
JBP				⇑eP		02 47 19.3	
JBP				iS	Sn	02 49 32.5	-11
BOK	Bokaro	14.65	145	eP	Pn	02 47 40.8	+6.7
BOK				ix	x	02 49 56.8	
NGP	Nagpur	15.11	172	eP	Pn	02 47 37.4	-2.5
NGP				eS	S	02 50 18.7	-15
AKL	Akola	15.43	179	ex	Pn	02 47 43.1	-0.6
SHL	Shillong	16.73	125	ex	Pn	02 47 57.0	-2.6
SHL				ex	x	02 50 49.0	
VOSK	Vostochnaya	17.04	348	⇓P	Pn	02 47 58.0	-5.4
	comp=Z,16nm,0.9s						
VOSK	Vostochnaya	17.04	348	P	Pn	02 47 55.9	-7.4
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVA0	Borovoye Array	17.43	347	⇓P	Pn	02 48 03.6	-4.4
	comp=Z,3.2nm,0.8s,baz=154,slow=10,SNR=6.5						
BVA0	Borovoye Array	17.43	347	P	Pn	02 48 02.1	-6.0
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BVAR	Borovoye Array	17.43	347	P	Pn	02 48 03.9	-4.2
	comp=Z,3.3nm,0.3s,baz=159,slow=12,SNR=36						
BVAR				LR	LR	02 54 08.3	
	comp=Z,119nm,19.1s,baz=52,slow=35						
BRVK	Borovoye	17.48	347	eP	Pn	02 48 03.7	-5.0
BRVK				pmax	pmax		
	comp=Z,54nm,1.2s						
BRVK	Borovoye	17.48	347	ePn	Pn	02 48 03.7	-5.0
	comp=Z,54nm,1.2s						
ZRNK	Zerenda	17.63	344	⇑P	Pn	02 48 05.5	-5.0
	comp=Z,12nm,1.0s						
ZRNK	Zerenda	17.63	344	eP	Pn	02 48 05.1	-5.4
ZRNK				pmax	pmax		
	comp=Z,27nm,1.0s						
ZRNK	Zerenda	17.63	344	eP	Pn	02 48 05.1	-5.4
	comp=Z,27nm,1.0s						
ZRNK				epP	pP	02 48 25.8	-9.2
POO	Poona	17.77	189	⇓ix	Pn	02 48 10.0	-2.2
	comp=Z,74nm,1.2s						
POO				ePP		02 48 26.5	
POO				ex	x	02 51 41.0	
AB31	Akbulak array	17.93	322	⇑P	Pn	02 48 05.5	-8.5
	comp=Z,21nm,0.5s,baz=131,slow=12,SNR=532						
AB31				S	S	02 51 18.5	-12
	comp=Z,4.6nm,0.5s,baz=129,slow=25,SNR=5.5						
AB31	Akbulak array	17.93	322	iP	Pn	02 48 05.4	-8.6
AB31						02 51 14.6	
AB31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
AB31				smax			
	comp=Z,1.0nm,0.5s						
GTA	Gaotai	18.49	73	eP	P	02 48 19.0	+0.3
GTA				AP		02 48 36.6	
GTA				XP	sP	02 48 51.8	-12
GTA				S	S	02 51 42.4	+0.6
GTA				PCP	PcP	02 52 47.3	+5.2
GTA				SCP	ScP	02 56 13.8	+10
GTA				PCS	PcS	02 56 19.8	+0.9
GTA				AMB	AMB		
	comp=Z,82nm,4.2s						
GTA				LR	LR		
	comp=N,168nm,9.5s						
GTA				LR	LR		
	comp=E,163nm,14.1s						
GTA				LR	LR		
	comp=Z,195nm,13.7s						
ZAL	Zalesovo	18.61	15	P	P	02 48 16.7	-3.3
	comp=Z,3.1nm,0.3s,baz=256,slow=3.9,SNR=8.7						
NVS	Novosibirsk	19.19	11	eP	P	02 48 21.2	-5.0
NVS				iS	S	02 51 47.0	-8.6
NVS				pmax	pmax		
	comp=N,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NVS				smax			
	comp=N,8.0nm,1.3s						
NVS				smax			
	comp=E,30nm,1.6s						
VIS	Vishakhapatnam	19.29	161	ex	P	02 48 33.2	+5.8
VIS				AMb	AMB	02 48 34.3	
	comp=Z,46nm,0.7s						
AKTK	Aktyubinsk	19.64	322	P	P	02 48 27.3	-3.9
AKTK				S	S	02 51 57.7	-7.0
AKTK				LR	LR	02 56 27.9	
AKTO	Aktyubinsk	19.64	322	⇓P	P	02 48 27.1	-4.1
	comp=Z,0.4nm,0.6s						
AKTO	Aktyubinsk	19.64	322	P	P	02 48 27.3	-3.9
	comp=Z,9.1nm,0.3s,baz=112,slow=11,SNR=180						
AKTO				S	S	02 51 57.7	-7.0
	comp=Z,0.4nm,0.3s,baz=311,slow=19,SNR=4.9						
AKTO				LR	LR	02 56 27.9	
	comp=Z,183nm,18.0s,baz=14,slow=38						
AKTO	Aktyubinsk	19.64	322	P	P	02 48 27.3	-3.9
AKTO				S	S	02 51 57.7	-7.0
LZH	Lanzhou	21.85	82	eP	P	02 48 52.0	-2.7
LZH				AP		02 49 12.5	
LZH				XP	sP	02 49 27.5	-13
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,123nm,5.0s						
SVE	Sverdlovsk	23.33	337	eP	P	02 49 05.0	-3.8
SVE				pmax	pmax		
	comp=Z,48nm,2.2s,mb4.5						
SVE				MLR	MLR		
	comp=N,100nm,14.0s						
SVE				MLR	MLR		
	comp=E,100nm,14.0s						
SVE				MLR	MLR		
	comp=Z,200nm,14.0s						
ARU	Arti	23.70	334	⇑iP	P	02 49 09.8	-2.4
ARU				e		02 49 41.3	
ARU				eS	S	02 53 14.8	-1.3
ARU				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.8						
ARU	Arti	23.70	334	eP	P	02 49 09.6	-2.6
	comp=Z,61nm,1.0s,mb5.1						
ZAK	Zakamensk	23.80	45	eP	P	02 49 14.1	+1.0
ZAK				e		02 49 35.2	
TLY	Talaya	24.60	43	eP	P	02 49 22.0	+1.6
TLY				eS	S	02 53 21.2	-9.3
TLY				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.0						
TLY				MLR	MLR		
	comp=Z,176nm,22.0s						
SONM	Songino Array	24.75	53	P	P	02 49 23.9	+2.1
	comp=Z,16nm,0.9s,mb4.6,baz=254,slow=9.7,SNR=48						
SONM				LR	LR	03 00 39.6	
	comp=Z,114nm,19.6s,baz=176,slow=40						
KMI	Kunming	24.84	109	P	P	02 49 29.0	+6.4
KMI				S	S	02 53 45.9	+12
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=Z,63nm,17.6s						
DGRG	David-gareji	24.94	292	P	P	02 49 24.6	+1.2
ULN	Ulaanbaatar	25.18	53	c iP	P	02 49 27.2	+1.5
ULN				i *PP	pP	02 49 48.7	-8.0
ULN				i *SP	sP	02 50 00.6	-13
ULN	Ulaanbaatar	25.18	53	eP	P	02 49 26.7	+1.0
	comp=Z,8.5nm,0.8s,mb4.3						
UMR	Umm Al-Rimmam	25.22	263	eP	P	02 49 28.9	+3.0
UMR				AMb	AMB	02 49 30.1	
	comp=Z,126nm,0.8s,mb5.5						
MTA	Mtatsminda	25.38	292	P	P	02 49 25.3	-2.2
KBD	Kabd	25.39	262	eP	P	02 49 29.2	+1.7
KBD				AMb	AMB	02 49 31.2	
	comp=Z,313nm,0.5s						
GNI	Garni	25.41	289	P	P	02 49 28.8	+1.1
	comp=Z,28nm,0.7s,mb4.9,baz=5.5,slow=5.6,SNR=12						
GNI	Garni	25.41	289	d iP	P	02 49 30.1	+2.4
GNI				pmax	pmax		
	comp=Z,77nm,1.3s						
GNI	Garni	25.41	289	eP	P	02 49 30.5	+2.8
	comp=Z,47nm,0.9s,mb5.0						
TBLG	Delisi	25.42	292	P	P	02 49 26.8	-1.0
MIB	Mutribah	25.43	264	eP	P	02 49 29.1	+1.3
MIB				AMb	AMB	02 49 32.1	
	comp=Z,189nm,0.7s,mb5.7						
DUS	Dusheti	25.46	293	P	P	02 49 30.6	+2.4
NAY	Al-Naaiem	25.72	263	eP	P	02 49 30.9	+0.5
NAY				AMb	AMB	02 49 34.4	
	comp=Z,38nm,0.8s,mb5.1						
RST	Umm Al-Ruwaisa	25.82	264	eP	P	02 49 32.2	+0.8
RST				AMb	AMB	02 49 35.7	
	comp=Z,132nm,0.9s,mb5.6						
GOR	Gori	25.90	293	P	P	02 49 32.2	+0.1
ZEI	Tsey	26.09	295	eP	P	02 49 34.7	+0.8
ZEI				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.9						
CHTO	Chiang Mai	26.10	126	eP	P	02 49 41.7	+7.8
CHTO				e*PP	pP	02 50 02.1	-3.0
CHTO				e*SP	sP	02 50 15.1	-7.3
CHTO				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.1						
CHTO	Chiang Mai	26.10	126	eP	P	02 49 41.7	+7.8
	comp=Z,5.3nm,0.9s,mb4.2						
CHTO				epP	pP	02 50 02.1	-3.0
CHTO				esP	sP	02 50 15.1	-7.3
KIV	Kislovodsk	27.06	297	eP	P	02 49 42.4	-0.2
KIV				e*PP	pP	02 50 04.6	-9.2
KIV				eS	S	02 54 13.1	+3.7
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.5						
KIV	Kislovodsk	27.06	297	eP	P	02 49 41.8	-0.8
	comp=Z,8.1nm,0.7s,mb4.5						
HHC	Hu-ho-hao-te	27.51	70	eP	P	02 49 49.5	+3.0
HHC				AP	pP	02 50 12.3	-5.6
HHC				XP	sP	02 50 24.3	-11
HHC				PP	PP	02 50 41.4	-10
HHC				PCP	PcP	02 53 06.3	+5.5
HHC				S	S	02 54 20.3	+3.9
HHC				XS	sS	02 55 00.5	-11
HHC				SS	SS	02 55 45.8	-33
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,85nm,6.1s						
HHC				LR	LR		
	comp=N,156nm,5.9s						
HHC				LR	LR		
	comp=E,151nm,6.5s						
HHC				LR	LR		
	comp=Z,154nm,7.1s						
MALT	Malatya	30.45	286	eP	P	02 50 14.4	+1.9
MALT				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
MALT	Malatya	30.45	286	eP	P	02 50 14.4	+1.9
	comp=Z,12nm,0.9s,mb4.6						
VRSR	Storozhevoye	30.66	311	c iP	P	02 50 12.2	-2.2
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
VRSR				pmax	pmax		
	comp=N,9.0nm,1.2s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.6s						
BJI	Beijing	31.07	71	P	P	02 50 21.4	+3.4
SIM	Simferopol'	33.24	299	eP	P	02 50 36.6	-0.3
SIM				e*PP	pP	02 51 10.0	+1.2
SIM				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
OBN	Obninsk	33.27	317	⇓eP	P	02 50 35.5	-1.7
OBN				e	pP	02 51 08.0	-1.0
OBN				e		02 51 50.6	
OBN				S	S	02 55 46.0	-0.3
OBN				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
HIA	Hailar	33.71	54	eP	P	02 50 41.4	+0.4
BR131	Keskin Array S	33.95	289	eP	P	02 50 42.9	-0.1
	comp=Z,10nm,0.9s,mb4.6						
BRTR	Keskin Array B	33.95	289	P	P	02 50 43.5	+0.5
	comp=Z,7.5nm,0.8s,mb4.5,baz=98,slow=7.4,SNR=37						
BRTR				sP	sP	02 51 16.4	-16
	comp=Z,3.8nm,0.8s,baz=98,slow=6.4,SNR=4.3						
BRTR	Keskin Array B	33.95	289	iP	P	02 50 43.5	+0.4
BRTR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NJ2	Nanjing	34.89	84	eP	P	02 50 56.8	+5.6
NJ2				AP	pP	02 51 21.8	-1.4
NJ2				XP	sP	02 51 35.0	-5.3
NJ2				PP	PP	02 52 18.5	+5.2
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.5s						
NJ2				LR	LR		
	comp=N,440nm,20.0s						
NJ2				LR	LR		
	comp=E,390nm,20.2s						
NJ2				LR	LR		
	comp=Z,400nm,21.7s						
EIL	Elat	35.48	272	eP	P	02 50 56.9	+0.6
	comp=Z,100nm,0.9s,mb5.5						
AKASG	Malin Array Be	36.78	308	P	P	02 51 05.6	-1.7
	comp=Z,3.8nm,0.5s,mb4.3,baz=79,slow=7.4,SNR=23						
AKASG				pP	pP	02 51 28.4	-11
	comp=Z,3.0nm,0.5s,baz=78,slow=8.2,SNR=4.3						
AKASG				PP	PP	02 52 28.8	-5.3
	comp=Z,1.1nm,0.5s,baz=85,slow=11,SNR=5.5						
AKASG	Malin Array Be	36.78	308	P	P	02 51 05.6	-1.7
AKASG				pP	pP	02 51 28.4	-11
AKASG				PP	PP	02 52 28.8	-5.3
AKBB	Malin Array Si	36.78	308	eP	P	02 51 05.3	-2.0
AKBB				e*PP	pP	02 51 29.3	-10
AKBB				e*PP	pP	02 51 38.5	-1.1
SSE	Sheshan	37.09	85	eP	P	02 51 12.5	+2.6
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,297nm,4.0s						
CFR	Carcaliu	37.47	299	⇓iP	P	02 51 12.8	-0.3
CFR	Carcaliu	37.47	299	⇓P	P	02 51 12.8	-0.2
CN2	Changchun	37.61	63	eP	P	02 51 16.8	+2.5
VRI	Vrincioaia	38.41	300	⇓iP	P	02 51 21.8	+0.8
PLOR	Plostina	38.47	300	⇓iP	P	02 51 22.6	+1.2
PLOR	Plostina	38.47	300	⇓P	P	02 51 22.7	+1.3
JOF	Joensuu	38.52	328	ep	P	02 51 19.6	-2.3
	comp=Z,79nm,0.5s,mb5.6						
JOF	Joensuu	38.52	328	eP	P	02 51 19.6	-2.3
JOF				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.6						
MLR	Muntele Rosu	38.98	300	P	P	02 51 26.9	+1.1
	comp=Z,27nm,0.8s,mb4.9,baz=36,slow=1.1,SNR=58						
MLR	Muntele Rosu	38.98	300	⇑iP	P	02 51 27.1	+1.3
MLR	Muntele Rosu	38.98	300	⇑P	P	02 51 27.1	+1.4
BURAR	Bucovina Array	39.36	303	⇑iP	P	02 51 28.5	-0.4
BURAR	Bucovina Array	39.36	303	⇑P	P	02 51 28.5	-0.3
VSU	Vasula	39.36	321	c iP	P	02 51 27.1	-1.8
LVZ	Lovozero	39.54	337	eP	P	02 51 28.2	-2.2
LVZ				pmax	pmax		
	comp=Z,113nm,2.7s,mb5.0						
VOIR		39.62	300	⇑iP	P	02 51 31.6	+0.6
VOIR		39.62	300	⇑P	P	02 51 31.6	+0.6
LVV	L'vov	40.08	307	eP	P	02 51 34.1	-0.7
LVV				e	pP	02 52 06.9	-0.7
LVV				eS	S	02 57 25.5	-4.2
LVV				MLR	MLR		
	comp=Z,600nm,16.0s						
FIA1	FINESS Array S	40.38	325	eP	P	02 51 35.7	-1.6
FINES	FINESS Array B	40.38	325	P	P	02 51 35.9	-1.4
	comp=Z,65nm,0.4s,mb5.6,baz=112,slow=9.5,SNR=926						
FINES				LR	LR	03 09 16.7	
	comp=Z,84nm,21.3s,baz=242,slow=38						
FINES	FINESS Array B	40.38	325	P	P	02 51 35.9	-1.4
FINES				LR	LR	03 09 16.7	
KAF	Kangasniemi	40.45	326	ep	P	02 51 35.7	-2.2
	comp=Z,8.0nm,0.3s,mb4.8,baz=105,slow=8.3						
KAF	Kangasniemi	40.45	326	eP	P	02 51 35.7	-2.2
KAF				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb4.8						
SUW	Suwalki	40.72	313	eP	P	02 51 38.6	-1.5
KWP	Kalwaria	40.95	307	eP	P	02 51 41.9	0.0
GZR	Gura Zlata	41.21	300	⇑iP	P	02 51 43.8	-0.3
GZR	Gura Zlata	41.21	300	⇑P	P	02 51 43.8	-0.3
KOLS	Kolonicke sedl	41.26	306	eP	P	02 51 44.0	-0.5
UZH	Uzhgorod	41.26	305	⇑iP	P	02 51 44.2	-0.3

UZH *i* pP 02 52 17.0 -0.4
VTS Vitosha 41.30 296 ⇓*i*P **P 02 51 45.6 +0.8**
VTS Vitosha 41.30 296 ⇓P **P 02 51 45.6 +0.8**
KLR Kul'dur 41.57 54 *e*P **P 02 51 47.0 0.0**
IDI Anoyia 41.70 285 P **P 02 51 48.2 +0.2**
comp=Z,16nm,0.7s,mb4.8,baz=69,slow=7.6,SNR=11
CRVS Cervenica-Dubn 41.80 306 *e*P **P 02 51 49.2 +0.3**
STHS Stebnicka Huta 41.91 306 *e*P **P 02 51 49.1 -0.7**
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
STHS Stebnicka Huta 41.91 306 *e*P **P 02 51 49.1 -0.7**
comp=Z,6.2nm,0.7s,mb4.3
BZS Buzias 42.00 301⇑*i*P **P 02 51 50.8 +0.3**
BZS Buzias 42.00 301 ⇑P **P 02 51 50.8 +0.3**
GVD Gavdhos 42.46 284 *e*P **P 02 51 54.2 0.0**
comp=Z,138nm,1.0s,mb5.5
KECS Kecovo 42.47 305 *e*P **P 02 51 54.1 -0.2**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
KECS Kecovo 42.47 305 *e*P **P 02 51 54.1 -0.2**
comp=Z,2.8nm,0.7s,mb4.0
NIE Niedzica 42.51 306 *e*Pc **P 02 51 55.1 +0.4**
OJC Ojcow 42.80 308 *e*P **P 02 51 56.5 -0.5**
KEV Kevo 42.87 337 *e*p **P 02 51 55.5 -2.0**
comp=Z,5.4nm,0.4s,mb4.5
KEV Kevo 42.87 337 *e*P **P 02 51 55.5 -2.0**
KEV pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
PSZ Piszkesteto 42.92 304 *e*P **P 02 51 58.4 +0.5**
ARCES ARCESS Array B 43.26 336 P **P 02 51 59.3 -1.3**
comp=Z,27nm,0.7s,mb5.0,baz=107,slow=8.4,SNR=164
ARCES pP pP 02 52 22.3 -11
comp=Z,3.3nm,0.5s,baz=112,slow=9.7,SNR=2.2
ARCES LR LR 03 13 29.9
comp=Z,51nm,20.4s,baz=299,slow=41
ARCES ARCESS Array B 43.26 336 P **P 02 51 59.3 -1.4**
ARCES *PP pP 02 52 22.3 -11
ARE0 ARCESS Array S 43.26 336 *e*P **P 02 51 59.2 -1.5**
VYHS Vyhne 43.56 305 *e*P **P 02 52 03.0 -0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.4s,mb4.0
VYHS Vyhne 43.56 305 *e*P **P 02 52 03.0 -0.1**
comp=Z,4.9nm,1.4s,mb3.9
HABR Khabarovsk 43.80 55 *e*P **P 02 52 04.9 -0.1**
HABR eS **S 02 58 27.1 +2.7**
KTK1 Kautokeino 43.82 335 *e*P **P 02 52 04.0 -1.2**
OKC Ostrava-Krasne 43.89 307 *e*P **P 02 52 05.4 -0.3**
PKSM Moragy 43.98 302⇑*i*P **P 02 52 06.2 -0.2**
PKSM Moragy 43.98 302 ⇑P **P 02 52 06.2 -0.2**
GKP Gorka Klasztor 44.24 312 *e*P **P 02 52 07.4 -1.1**
GKP Gorka Klasztor 44.24 312 *e*P **P 02 52 07.4 -1.1**
GKP Gorka Klasztor 44.24 312 *e*P **P 02 52 07.4 -1.1**
MORC Moravsky Berou 44.28 307 ⇓*i*P **P 02 52 08.6 -0.2**
MORC Moravsky Berou 44.28 307 *e*P **P 02 52 08.4 -0.4**
MORC pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
MORC Moravsky Berou 44.28 307 *e*P **P 02 52 08.4 -0.4**
comp=Z,2.9nm,0.5s,mb4.2
ZST Bratislava 44.74 305 *e*P **P 02 52 12.6 +0.1**
ZST pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
ZST Bratislava 44.74 305 *e*P **P 02 52 12.6 +0.1**
comp=Z,5.8nm,0.9s,mb4.2
DPC Dobruska-Polom 45.01 308 *e*P **P 02 52 14.6 0.0**
DPC *e*pP pP 02 52 47.6 -0.3
UPC Upice 45.19 308 *e*P **P 02 52 15.8 -0.2**
UPC *e*pP pP 02 52 48.7 -0.7
TRO Tromso 45.46 335 *e*P **P 02 52 15.8 -2.3**
CONA Conrad Observa 45.61 305⇑*i*P **P 02 52 19.6 +0.3**
comp=Z,12nm,0.7s,mb4.7
CONA Conrad Observa 45.61 305 P pP 02 52 52.9 +0.2
comp=Z,13nm,1.0s
TREC Trest 45.67 307 *e*P **P 02 52 18.8 -1.0**
TREC *e*pP pP 02 52 52.7 -0.5
ARSA Arzberg 45.94 304⇑*i*P **P 02 52 21.9 0.0**
comp=Z,5.8nm,0.6s,mb4.4
PRU Pruhonice 46.19 308 *e*P **P 02 52 23.8 -0.1**
PRU *e*pP pP 02 52 56.3 -1.1
CRES Cresnjev 46.23 302 *e*P **P 02 52 24.4 +0.2**
PERS Pernice 46.31 303 *i*P **P 02 52 24.9 0.0**
PERS *e*pP pP 02 52 58.6 +0.2
MOR8 Moi Rana 46.39 330 *e*P **P 02 52 23.1 -2.3**
MOR8 AMb AMB 02 52 24.1
comp=Z,65nm,0.7s,mb5.4
MOR8 Moi Rana 46.39 330 *e*P **P 02 52 23.1 -2.3**
comp=Z,65nm,0.7s,mb5.4
BOJS Bojanci 46.43 301 *e*P **P 02 52 25.8 +0.1**
BRG Berggiesshubel 46.46 309 *e*P **P 02 52 25.7 -0.3**
comp=Z,22nm,1.2s,mb4.7
BRG *e*pP pP 02 52 58.9 -0.6
BRG Berggiesshubel 46.46 309 *i*P **P 02 52 25.8 -0.1**
comp=Z,8.2nm,0.7s,mb4.5
BRG *e* pP 02 52 59.2 -0.3
comp=Z,6.3nm,0.8s
BRG Berggiesshubel 46.46 309 *i*P **P 02 52 25.8 -0.2**
BRG *e* pP 02 52 59.2 -0.3
BRG pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
MOA Molln 46.68 305⇑*i* pP 02 53 00.9 -0.4
comp=Z,6.1nm,0.8s
MOA Molln 46.68 305⇑*i*P **P 02 52 27.5 -0.2**
comp=Z,10nm,0.8s,mb4.5
MOA *i* pP 02 53 00.9 -0.4
OBKA Obir 46.72 303 *i*P **P 02 52 28.3 +0.3**
comp=Z,13nm,0.8s,mb4.6
OBKA *i* pP 02 53 02.0 +0.4
FBE Freiberg 46.82 309 *e*P **P 02 52 28.7 -0.1**
comp=Z,33nm,1.2s,mb4.8
FBE *e*pP pP 02 53 02.0 -0.4
LJU Ljubljana 46.82 302 *i*P **P 02 52 29.3 +0.5**
LJU *i*pP pP 02 53 02.9 +0.5
GEC2 GERESS Array S 46.89 306 *e*P **P 02 52 29.1 -0.2**
comp=Z,10.0nm,1.2s,mb4.3
GEC2 *e*pP pP 02 53 02.9 0.0
GEC2 GERESS Array S 46.89 306 *e*P **P 02 52 29.1 -0.2**
GEC2 *e**PP pP 02 53 02.9 0.0
GEC2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
GERES GERESS Array B 46.89 306 P **P 02 52 29.4 +0.1**
comp=Z,4.5nm,0.8s,mb4.1,baz=74,slow=7.1,SNR=34
GERES sP pP 02 53 02.5 -0.4
comp=Z,3.0nm,0.9s,baz=71,slow=8.6,SNR=4.9
GERES PP PP 02 54 19.9 -1.2
comp=Z,2.5nm,1.0s,baz=81,slow=8.2,SNR=4.0
KHC Kasperske Hory 46.93 307 *e*P **P 02 52 29.4 -0.2**
KHC *e*pP pP 02 53 02.7 -0.5
KHC Kasperske Hory 46.93 307*c i*P **P 02 52 29.5 -0.1**
CLL Collm 46.99 310 *e*P **P 02 52 29.3 -0.8**
comp=Z,8.0nm,0.9s,mb4.3
CLL *e*pP pP 02 53 02.8 -0.9
CLL Collm 46.99 310⇑*i*P **P 02 52 29.0 -1.1**
comp=Z,9.0nm,0.9s,mb4.4
CLL *i* sP pP 02 53 02.0 -1.7
CLL Collm 46.99 310⇑*i*P **P 02 52 29.0 -1.1**
CLL *i* pP 02 53 02.0 -1.7
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CLL Collm 46.99 310⇑*i*P **P 02 52 29.0 -1.1**
comp=Z,9.0nm,0.9s,mb4.4
CLL *i* pP 02 53 02.0 -1.7
KNDS Knezji Dol 47.03 302 *e*P **P 02 52 30.3 0.0**
KNDS *e*pP pP 02 53 04.2 +0.2
LOF Lofoten 47.04 333 *e*P **P 02 52 30.4 -0.1**
LOF *e*pP pP 02 52 51.9 -12
FG4 Candela 47.22 296 P **P 02 52 33.0 +1.1**
FG4 pmax pmax
comp=Z,31nm,0.6s,mb5.1
FG4 Candela 47.22 296 P **P 02 52 33.0 +1.1**
comp=Z,31nm,0.6s,mb5.1
NSS Namsos 47.24 328 *e*P **P 02 52 29.4 -2.6**
CADS Cadrg 47.33 303 *i*P **P 02 52 32.3 -0.4**
CADS *i*pP pP 02 53 06.1 -0.3
WET Wettzell 47.38 307 *e*P **P 02 52 33.1 0.0**
comp=Z,7.0nm,0.7s,mb4.4
WET *e*pP pP 02 53 06.2 -0.6
WET Wettzell 47.38 307 *e*P **P 02 52 33.1 0.0**
WET *e**PP pP 02 53 06.2 -0.6
WET pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
KBA Koelnbreinsper 47.43 304⇑*i*P **P 02 52 33.3 -0.2**
comp=Z,4.6nm,0.6s,mb4.3,SNR=7.1
KBA Koelnbreinsper 47.43 304⇑*i*P **P 02 52 33.3 -0.2**
KBA pmax pmax
comp=Z,5.0nm,0.6s,mb4.3

NB2 NORSAR Subarra 47.43 323 P **P 02 52 32.0 -1.5**
comp=Z,37nm,0.6s,mb5.2,baz=91,slow=7.9
NOA NORSAR Array B 47.43 323 P **P 02 52 32.0 -1.6**
comp=Z,34nm,0.6s,mb5.2,baz=91,slow=7.6,SNR=207
NOA LR LR 03 14 26.7
comp=Z,61nm,18.5s,baz=90,slow=39
TANN Tannenbergstha 47.45 309 *e*P **P 02 52 33.2 -0.5**
comp=Z,6.0nm,0.7s,mb4.3
TANN *e*pP pP 02 53 06.5 -0.9
NKC Novy Kostel 47.49 308 *e*P **P 02 52 33.8 -0.2**
NKC *e*pP pP 02 53 06.5 -1.1
GUNZ Gunzen 47.54 308 *e*P **P 02 52 34.4 0.0**
comp=Z,8.0nm,0.7s,mb4.5
GUNZ *e*pP pP 02 53 07.7 -0.4
WERD Werda 47.55 309 *e*P **P 02 52 34.2 -0.2**
comp=Z,8.0nm,0.7s,mb4.5
NAO01 NORSAR Array S 47.59 323 *e*P **P 02 52 33.2 -1.5**
comp=Z,21nm,0.6s,mb5.0
ROTZ Rotzenmuhle 47.71 308 *e*P **P 02 52 36.1 +0.4**
comp=Z,11nm,1.1s,mb4.4
ROTZ *e*pP pP 02 53 09.6 +0.2
MANZ Manzenberg 47.74 308 *e*P **P 02 52 36.1 +0.2**
comp=Z,6.0nm,0.8s,mb4.3
MANZ *e*pP pP 02 53 09.4 -0.2
MOX Moxa 47.95 309 *e*P **P 02 52 37.3 -0.2**
comp=Z,15nm,1.3s,mb4.5
MOX *e*pP pP 02 53 10.4 -0.9
MOX Moxa 47.95 309 *e*P **P 02 52 37.2 -0.3**
comp=Z,17nm,1.1s,mb4.6
MOX *e* pP 02 53 10.8 -0.5
MOX Moxa 47.95 309 *e*P **P 02 52 37.2 -0.3**
MOX *e* pP 02 53 10.8 -0.5
MOX pmax pmax
comp=Z,17nm,1.1s,mb4.6
KONO Kongsberg 48.26 321 *e*P **P 02 52 38.9 -1.0**
KONO Kongsberg 48.26 321*c i*P **P 02 52 38.6 -1.3**
KONO Kongsberg 48.26 321 *e*P **P 02 52 38.8 -1.1**
BSEG Bad Segeberg 48.30 313 *e*P **P 02 52 39.9 -0.3**
comp=Z,18nm,0.8s,mb4.8
BSEG Bad Segeberg 48.30 313 *e*P **P 02 52 39.9 -0.3**
BSEG pmax pmax
comp=Z,18nm,0.8s,mb4.8
GRA1 Grafenberg Arr 48.36 308 *e*P **P 02 52 41.3 +0.7**
comp=Z,11nm,0.9s,mb4.5
GRA1 *e*pP pP 02 53 14.7 +0.3
GRF Grafenberg Arr 48.36 308 *e*P **P 02 52 41.3 +0.7**
comp=Z,11nm,0.9s,mb4.5
GRF *e*pP pP 02 53 14.7 +0.3
GRF Grafenberg Arr 48.36 308 *e*P **P 02 52 41.3 +0.7**
GRF *e**PP pP 02 53 14.7 +0.3
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.5
GRF Grafenberg Arr 48.36 308 *e*P **P 02 52 41.3 +0.7**
GRF *e**PP pP 02 53 14.7 +0.3
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.5
AQU L'Aquila 48.44 298 *e*P **P 02 52 41.1 -0.2**
AQU pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
AQU L'Aquila 48.44 298 *e*P **P 02 52 41.1 -0.1**
comp=Z,9.7nm,0.8s,mb4.5
DOMB Dombas 48.46 324 *e*P **P 02 52 40.4 -1.0**
DOMB AMb AMB 02 52 41.9
comp=Z,42nm,0.9s,mb5.1
DOMB Dombas 48.46 324 *e*P **P 02 52 40.4 -1.0**
comp=Z,42nm,0.9s,mb5.1
WTTA Wattenberg 48.54 304⇑*i*P **P 02 52 41.3 -0.7**
WTTA *i* pP 02 53 15.0 -0.8
WTTA pmax pmax
comp=Z,11nm,1.2s,mb4.4
WTTA Wattenberg 48.54 304⇑*i*P **P 02 52 41.3 -0.7**
comp=Z,11nm,1.2s,mb4.4
WTTA *i* pP 02 53 15.0 -0.8
SNTG Esanatoglia 48.54 299 P **P 02 52 42.7 +0.7**
comp=Z,18nm,0.6s,mb4.9
WATA Walderalm 48.56 305⇑*e*P **P 02 52 41.2 -1.0**
comp=Z,3.3nm,0.9s,mb4.0
FUR Furstenfeldbru 48.60 306 *e*P **P 02 52 42.8 +0.3**
comp=Z,42nm,0.7s,mb5.2
FUR *e*pP pP 02 53 16.1 -0.2
FUR Furstenfeldbru 48.60 306 *e*P **P 02 52 42.8 +0.3**
FUR *e**PP pP 02 53 16.1 -0.2
FUR pmax pmax
comp=Z,42nm,0.7s,mb5.2
NRDL Niedersach Rie 48.62 312 *e*P **P 02 52 42.4 -0.2**
comp=Z,16nm,0.8s,mb4.7
NRDL *e*pP pP 02 53 15.7 -0.7
MAJO Matsushiro 48.71 70 *e*P **P 02 52 45.2 +1.9**
MAJO pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
MAJO Matsushiro 48.71 70 *e*P **P 02 52 45.2 +1.9**
comp=Z,6.7nm,0.6s,mb4.5
MOTA Moosalm 48.88 305⇑*i*P **P 02 52 43.6 -1.0**
comp=Z,6.7nm,1.0s,mb4.2
MOTA Moosalm 48.88 305⇑*i*P **P 02 52 43.6 -1.0**
MOTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
UBBA Unterbreizbach 48.94 309 *e*P **P 02 52 44.5 -0.6**
comp=Z,3.0nm,0.6s,mb4.1
SFI Santa Sofia 49.15 300 P **P 02 52 47.9 +1.2**
SFI pmax pmax
comp=Z,40nm,0.8s,mb5.1
SFI Santa Sofia 49.15 300 P **P 02 52 47.9 +1.2**
comp=Z,40nm,0.8s,mb5.1
VMG Vicchio 49.35 300 P **P 02 52 49.8 +1.6**
comp=Z,70nm,0.7s,mb5.4
ZCCA Zocca 49.65 301 P **P 02 52 52.2 +1.8**
comp=Z,16nm,0.8s,mb4.7
CSNT Castellina Chi 49.65 300 P **P 02 52 50.4 -0.1**
comp=Z,16nm,0.6s,mb4.8
DAVA Damuels 49.70 305⇓*i* pP 02 53 24.7 -0.1
comp=Z,15nm,0.7s
DAVA Damuels 49.70 305⇑*i*P **P 02 52 50.5 -0.3**
comp=Z,36nm,0.6s,mb5.2
DAVA *i* pP 02 53 24.7 -0.1
ODD1 Odda 49.74 322 *e*P **P 02 52 49.3 -1.9**
ODD1 AMb AMB 02 52 53.3
comp=Z,27nm,1.6s,mb4.6
ODD1 Odda 49.74 322 *e*P **P 02 52 49.3 -1.9**
comp=Z,27nm,1.6s,mb4.6
STU Stuttgart 49.84 307 *e*P **P 02 52 52.0 +0.1**
comp=Z,35nm,1.6s,mb4.7
STU Stuttgart 49.84 307 *e*P **P 02 52 51.5 -0.4**
STU pmax pmax
comp=Z,11nm,0.6s,mb4.7
STU Stuttgart 49.84 307 *e*P **P 02 52 51.5 -0.4**
comp=Z,11nm,0.6s,mb4.7
BLS5 Blasjo 49.87 321 *e*P **P 02 52 53.4 +1.3**
GSCL Gusciola 49.92 301 P **P 02 52 53.7 +1.2**
comp=Z,14nm,0.6s,mb4.8
KBS Kingsbay 49.97 347 *e*P **P 02 52 52.3 -0.6**
ERBM Eremo 50.02 301 P **P 02 52 55.1 +1.8**
comp=Z,24nm,0.8s,mb4.9
TNS Taunus Mts 50.02 309 *e*P **P 02 52 53.0 -0.3**
comp=Z,7.0nm,0.9s,mb4.3
TNS Taunus Mts 50.02 309 *e*P **P 02 52 53.0 -0.3**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
VLC Villacollemand 50.10 301 *e*P **P 02 52 54.3 +0.4**
BER Bergen 50.35 322 *e*P **P 02 52 55.4 -0.4**
ASK Askoy 50.41 322 *e*P **P 02 52 55.5 -0.7**
EGD Espegrend 50.41 322 *e*P **P 02 52 54.7 -1.5**
EGD AMb AMB 02 52 57.4
comp=Z,85nm,1.7s,mb5.1
BFO Black Forest 50.49 306 *e*P **P 02 52 56.4 -0.4**
comp=Z,5.0nm,1.0s,mb4.1
BFO Black Forest 50.49 306 *e*P **P 02 52 56.4 -0.4**
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
BUG Bochum-Univer 50.52 311 *e*P **P 02 52 57.1 +0.1**
comp=Z,13nm,0.9s,mb4.6
BOB Bobbio (Coli) 50.60 302 P **P 02 52 58.7 +1.1**
comp=Z,32nm,0.6s,mb5.1
FELD Feldberg im Sc 50.81 306 *e*P **P 02 52 58.4 -0.8**
CDF Champ du Feu 51.16 307⇑*i*P **P 02 53 01.2 -0.6**
comp=Z,7.6nm,0.6s,mb4.2
CDF Champ du Feu 51.16 307⇑*i*P **P 02 53 01.2 -0.6**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
CDF Champ du Feu 51.16 307⇑*i*P **P 02 53 01.2 -0.6**
comp=Z,3.8nm,0.6s,mb4.2
MOF Molkenrain 51.38 306 *e*P **P 02 53 03.4 -0.1**
MEM Membach 51.47 310 P **P 02 53 04.1 0.0**
HINF Hinteralfeld 51.57 306⇑*i*P **P 02 53 04.5 -0.4**
comp=Z,20nm,0.6s,mb4.6
HINF Hinteralfeld 51.57 306⇑*i*P **P 02 53 04.5 -0.4**
HINF pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
HINF Hinteralfeld 51.57 306⇑*i*P **P 02 53 04.5 -0.4**
comp=Z,9.9nm,0.6s,mb4.6
WLF Walferdange 51.59 309 *e*P **P 02 53 05.1 +0.1**
comp=Z,19nm,0.8s,mb4.8
WLF Walferdange 51.59 309 P **P 02 53 05.6 +0.6**
WLF Walferdange 51.59 309 *e*P **P 02 53 05.1 +0.1**
WLF pmax pmax
comp=Z,13nm,0.6s,mb4.7
WLF Walferdange 51.59 309 *e*P **P 02 53 05.1 +0.1**
comp=Z,13nm,0.6s,mb4.7
HAU Haudompre 51.86 306⇑*i*P **P 02 53 06.6 -0.4**
comp=Z,18nm,0.5s,mb4.7
HAU Haudompre 51.86 306⇑*i*P **P 02 53 06.6 -0.4**
HAU pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
HAU Haudompre 51.86 306⇑*i*P **P 02 53 06.6 -0.4**
comp=Z,9.2nm,0.5s,mb4.7
THEF They Montfort 52.04 307 *e*P **P 02 53 08.0 -0.3**
SEY Seymchan 52.08 34⇑*i*P **P 02 53 09.3 +0.7**
SBF Sospel 52.23 301⇑*i*P **P 02 53 10.2 +0.4**
comp=Z,76nm,0.7s,mb5.1
SBF Sospel 52.23 301⇑*i*P **P 02 53 10.2 +0.4**
SBF pmax pmax
comp=Z,38nm,0.7s,mb5.1
SBF Sospel 52.23 301⇑*i*P **P 02 53 10.2 +0.4**
comp=Z,38nm,0.7s,mb5.1
LPG La Plagne 52.24 303 *e*P **P 02 53 10.5 +0.7**
comp=Z,55nm,0.8s,mb4.9
LPG La Plagne 52.24 303 *e*P **P 02 53 10.5 +0.7**
LPG pmax pmax
comp=Z,27nm,0.8s,mb4.9
LPG La Plagne 52.24 303 *e*P **P 02 53 10.5 +0.7**
comp=Z,27nm,0.8s,mb4.9
LPL La Plagne 52.25 303⇑*i*P **P 02 53 10.4 +0.5**
comp=Z,75nm,0.7s,mb5.1
LPL La Plagne 52.25 303⇑*i*P **P 02 53 10.4 +0.5**
LPL pmax pmax
comp=Z,38nm,0.7s,mb5.1
LPL La Plagne 52.25 303⇑*i*P **P 02 53 10.4 +0.5**
comp=Z,38nm,0.7s,mb5.1
GIVF Givet 52.33 309⇑*i*P **P 02 53 10.5 +0.1**
comp=Z,21nm,0.6s,mb4.7
GIVF Givet 52.33 309⇑*i*P **P 02 53 10.5 +0.1**
GIVF pmax pmax
comp=Z,11nm,0.6s,mb4.7
GIVF Givet 52.33 309⇑*i*P **P 02 53 10.5 +0.1**
comp=Z,11nm,0.6s,mb4.7
CABF La Chapelle 52.39 305 *e*P **P 02 53 10.8 -0.1**
comp=Z,24nm,0.6s,mb4.7
CABF La Chapelle 52.39 305 *e*P **P 02 53 10.8 -0.1**
CABF pmax pmax
comp=Z,12nm,0.6s,mb4.7
CABF La Chapelle 52.39 305 *e*P **P 02 53 10.8 -0.1**
comp=Z,12nm,0.6s,mb4.7
BNI Bardonecchia 52.41 303 *e*P **P 02 53 11.1 0.0**
BNI pmax pmax
comp=Z,15nm,0.9s,mb4.6
BNI Bardonecchia 52.41 303 *e*P **P 02 53 11.1 0.0**
comp=Z,15nm,0.9s,mb4.6
MBDF Montbardon 52.44 302 *e*P **P 02 53 11.0 -0.3**
comp=Z,24nm,0.6s,mb4.7
MBDF Montbardon 52.44 302 *e*P **P 02 53 11.0 -0.3**
MBDF pmax pmax
comp=Z,12nm,0.6s,mb4.7
MBDF Montbardon 52.44 302 *e*P **P 02 53 11.0 -0.3**
comp=Z,12nm,0.6s,mb4.7
DOU Dourbes 52.47 309 P **P 02 53 11.7 +0.2**
MEZF Maizieres J'vi 52.57 307⇑*i*P **P 02 53 12.3 0.0**
comp=Z,29nm,0.6s,mb4.9
MEZF Maizieres J'vi 52.57 307⇑*i*P **P 02 53 12.3 0.0**
comp=Z,29nm,0.6s,mb5.2
BAIF Baives 52.72 309⇑*i*P **P 02 53 13.4 +0.1**
comp=Z,10nm,0.5s,mb4.5
BAIF Baives 52.72 309⇑*i*P **P 02 53 13.4 +0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
BAIF Baives 52.72 309⇑*i*P **P 02 53 13.4 +0.1**
comp=Z,5.2nm,0.5s,mb4.5
FRF La Foret Royal 52.87 301 *e*P **P 02 53 14.4 0.0**
comp=Z,28nm,0.7s,mb4.8
FRF La Foret Royal 52.87 301 *e*P **P 02 53 14.4 0.0**
FRF pmax pmax
comp=Z,14nm,0.7s,mb4.8
FRF La Foret Royal 52.87 301 *e*P **P 02 53 14.4 0.0**
comp=Z,14nm,0.7s,mb4.8
OG05 Jujurieux 52.96 304 *e*P **P 02 53 15.3 +0.2**
ORIF Oris-en-Rattie 53.00 303 *e*P **P 02 53 14.8 -0.6**
comp=Z,18nm,0.9s,mb4.5
ORIF Oris-en-Rattie 53.00 303 *e*P **P 02 53 14.8 -0.6**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 53.00 303 *e*P **P 02 53 14.8 -0.6**
comp=Z,8.9nm,0.9s,mb4.5
LMR La Mourre 53.03 301⇑*i*P **P 02 53 16.1 +0.5**
comp=Z,8.7nm,0.7s,mb4.3
LMR La Mourre 53.03 301⇑*i*P **P 02 53 16.1 +0.5**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
LMR La Mourre 53.03 301⇑*i*P **P 02 53 16.1 +0.5**
comp=Z,4.3nm,0.6s,mb4.4
SMRF Simiane la Rot 53.48 302 *e*P **P 02 53 19.4 +0.5**
comp=Z,5.5nm,0.6s,mb4.2
SMRF Simiane la Rot 53.48 302 *e*P **P 02 53 19.4 +0.5**
comp=Z,5.5nm,0.6s,mb4.5
KEST Kesra 53.52 291 P **P 02 53 20.3 +1.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=47,slow=3.6,SNR=11
KEST sP pP 02 53 53.5 -0.2
comp=Z,3.7nm,1.1s,baz=14,slow=5.3,SNR=3.5
LOR Lormes 53.67 306⇑*i*P **P 02 53 19.6 -0.7**
comp=Z,15nm,0.6s,mb4.6
LOR Lormes 53.67 306⇑*i*P **P 02 53 19.6 -0.7**
LOR pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
LOR Lormes 53.67 306⇑*i*P **P 02 53 19.6 -0.7**
comp=Z,7.7nm,0.6s,mb4.6
VIVF Saint-Julien-l 53.84 303⇑*i*P **P 02 53 21.5 0.0**
comp=Z,12nm,0.5s,mb4.6
VIVF Saint-Julien-l 53.84 303⇑*i*P **P 02 53 21.5 0.0**
VIVF pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
VIVF Saint-Julien-l 53.84 303⇑*i*P **P 02 53 21.5 0.0**
comp=Z,6.3nm,0.5s,mb4.6
SMF Signal de Mont 53.86 305⇑*i*P **P 02 53 21.3 -0.4**
comp=Z,48nm,0.6s,mb5.1
SMF Signal de Mont 53.86 305⇑*i*P **P 02 53 21.3 -0.4**
SMF pmax pmax
comp=Z,24nm,0.6s,mb5.1
SMF Signal de Mont 53.86 305⇑*i*P **P 02 53 21.3 -0.4**
comp=Z,24nm,0.6s,mb5.1
AVF Avril sur Loir 54.14 306⇑*i*P **P 02 53 23.4 -0.3**
comp=Z,51nm,0.5s,mb5.2
AVF Avril sur Loir 54.14 306⇑*i*P **P 02 53 23.4 -0.3**
AVF pmax pmax
comp=Z,25nm,0.5s,mb5.2
AVF Avril sur Loir 54.14 306⇑*i*P **P 02 53 23.4 -0.3**
comp=Z,26nm,0.5s,mb5.2
PLDF La Plantade 54.21 305 *e*P **P 02 53 23.9 -0.3**
COLF Collangettes 54.30 304 *e*P **P 02 53 24.9 +0.1**
HYF Humbligny 54.47 306 *e*P **P 02 53 26.1 0.0**
AGO Saint Agoulin 54.51 305 *e*P **P 02 53 26.2 -0.2**
BGF Bois d'Agland 54.55 306⇑*i*P **P 02 53 26.2 -0.4**
comp=Z,15nm,0.7s,mb4.6
BGF Bois d'Agland 54.55 306⇑*i*P **P 02 53 26.2 -0.4**
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
BGF Bois d'Agland 54.55 306⇑*i*P **P 02 53 26.2 -0.4**
comp=Z,7.6nm,0.7s,mb4.5
LASF Ste Croix 54.63 302⇑*i*P **P 02 53 27.6 +0.4**
comp=Z,31nm,0.8s,mb4.8
LBL Lubilhac 54.68 304 *e*P **P 02 53 27.8 +0.2**
PYM Petit Puy Mans 54.68 305 *e*P **P 02 53 27.5 -0.1**

TCF	Toulx Ste Croi	55.05	305	⇑iP	P	02 53 30.3	+0.1
	comp=Z,28nm,0.6s,mb4.9						
TCF	Toulx Ste Croi	55.05	305	⇑iP	P	02 53 30.3	+0.1
TCF				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
TCF	Toulx Ste Croi	55.05	305	⇑iP	P	02 53 30.3	+0.1
	comp=Z,14nm,0.6s,mb4.9						
CAF	Calviac	55.57	304	⇑iP	P	02 53 34.4	+0.4
	comp=Z,30nm,0.7s,mb5.0						
CAF	Calviac	55.57	304	⇑iP	P	02 53 34.4	+0.4
CAF				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.9						
CAF	Calviac	55.57	304	⇑iP	P	02 53 34.4	+0.4
	comp=Z,15nm,0.7s,mb4.9						
ESK	Eskdalemuir	55.75	317	eP	P	02 53 34.2	-1.0
ESK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
ESK	Eskdalemuir	55.75	317	eP	P	02 53 34.1	-1.1
	comp=Z,9.9nm,0.8s,mb4.7						
RJF	Les Rejaudoux	55.82	304	⇑iP	P	02 53 36.2	+0.5
	comp=Z,17nm,0.7s,mb4.7						
RJF	Les Rejaudoux	55.82	304	⇑iP	P	02 53 36.2	+0.5
RJF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
RJF	Les Rejaudoux	55.82	304	⇑iP	P	02 53 36.2	+0.5
	comp=Z,8.6nm,0.7s,mb4.7						
LDF	La Druitiere	55.85	309	⇑iP	P	02 53 35.4	-0.5
	comp=Z,58nm,0.5s,mb5.3						
LDF	La Druitiere	55.85	309	⇑iP	P	02 53 35.4	-0.5
LDF				pmax	pmax		
	comp=Z,29nm,0.5s,mb5.4						
LDF	La Druitiere	55.85	309	⇑iP	P	02 53 35.4	-0.5
	comp=Z,29nm,0.5s,mb5.4						
MTLF	Montolieu	56.00	302	⇑iP	P	02 53 37.3	+0.3
	comp=Z,11nm,0.6s,mb4.5						
MTLF	Montolieu	56.00	302	⇑iP	P	02 53 37.3	+0.3
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MTLF	Montolieu	56.00	302	⇑iP	P	02 53 37.3	+0.3
	comp=Z,5.4nm,0.6s,mb4.5						
FLN	La Foliniere	56.02	309	⇑iP	P	02 53 36.4	-0.8
	comp=Z,16nm,0.7s,mb4.7						
FLN	La Foliniere	56.02	309	⇑iP	P	02 53 36.4	-0.8
FLN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
FLN	La Foliniere	56.02	309	⇑iP	P	02 53 36.4	-0.8
	comp=Z,8.1nm,0.7s,mb4.7						
GRR	Gorron	56.38	309	⇑iP	P	02 53 39.1	-0.6
	comp=Z,70nm,0.6s,mb5.4						
GRR	Gorron	56.38	309	⇑iP	P	02 53 39.1	-0.6
GRR				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.4						
GRR	Gorron	56.38	309	⇑iP	P	02 53 39.1	-0.6
	comp=Z,35nm,0.6s,mb5.4						
LFF	La Frestale	56.46	304	⇑iP	P	02 53 40.6	+0.3
	comp=Z,28nm,0.6s,mb5.0						
LFF	La Frestale	56.46	304	⇑iP	P	02 53 40.6	+0.3
LFF				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
LFF	La Frestale	56.46	304	⇑iP	P	02 53 40.6	+0.3
	comp=Z,14nm,0.6s,mb5.0						
MFF	Saint Martin d	56.49	306	⇑iP	P	02 53 39.9	-0.6
	comp=Z,14nm,0.6s,mb4.7						
MFF	Saint Martin d	56.49	306	⇑iP	P	02 53 39.9	-0.6
MFF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
MFF	Saint Martin d	56.49	306	⇑iP	P	02 53 39.9	-0.6
	comp=Z,7.1nm,0.6s,mb4.7						
BILL	Bilibino	56.82	27	P	P	02 53 48.0	+5.1
BILL				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.6						
ETOS	Mallorca	56.85	298	P	P	02 53 44.6	+1.5
	comp=Z,27nm,0.6s,mb5.2						
EPF	Esparros	57.39	302	⇑iP	P	02 53 46.9	0.0
	comp=Z,6.8nm,0.5s,mb4.4						
EPF	Esparros	57.39	302	⇑iP	P	02 53 46.9	0.0
EPF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
EPF	Esparros	57.39	302	⇑iP	P	02 53 46.9	0.0
	comp=Z,3.4nm,0.5s,mb4.4						
EPOB	Poblet	57.49	300	P	P	02 53 48.0	+0.5
	comp=Z,13nm,0.7s,mb4.9						
EBIE	Bielsa	57.65	302	P	P	02 53 49.3	+0.6
	comp=Z,6.1nm,0.5s,mb4.7						
ROSF	Rostrenen	57.91	309	eP	P	02 53 50.2	-0.3
	comp=Z,45nm,0.7s,mb5.1						
ROSF	Rostrenen	57.91	309	eP	P	02 53 50.2	-0.3
ROSF				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
ROSF	Rostrenen	57.91	309	eP	P	02 53 50.2	-0.3
	comp=Z,22nm,0.7s,mb5.1						
ETSF	Etsaut	58.05	302	⇑iP	P	02 53 52.1	+0.6
	comp=Z,19nm,0.5s,mb4.9						
ETSF	Etsaut	58.05	302	⇑iP	P	02 53 52.1	+0.6
ETSF				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
ETSF	Etsaut	58.05	302	⇑iP	P	02 53 52.1	+0.6
	comp=Z,9.4nm,0.5s,mb4.9						
ERTA	Horta de San J	58.16	300	P	P	02 53 53.2	+1.0
	comp=Z,16nm,0.8s,mb4.9						
SJPF	Ste Jean	58.43	303	eP	P	02 53 54.0	-0.1
	comp=Z,19nm,0.9s,mb4.6						
SJPF	Ste Jean	58.43	303	eP	P	02 53 54.0	-0.1
SJPF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
SJPF	Ste Jean	58.43	303	eP	P	02 53 54.0	-0.1
	comp=Z,9.7nm,0.9s,mb4.6						
ETOB	Tobarra	60.40	298	P	P	02 54 09.3	+1.7
	comp=Z,20nm,0.7s,mb5.1						
CART	Cartagena	60.45	297	eP	P	02 54 09.0	+1.1
	comp=Z,63nm,0.6s,mb5.6						
EARI	Arriondas	61.04	304	P	P	02 54 12.4	+0.4
	comp=Z,8.0nm,0.7s,mb4.7						
EVIA	Vianos	61.09	298	P	P	02 54 13.6	+1.4
EVIA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
EVIA	Vianos	61.09	298	P	P	02 54 13.6	+1.4
	comp=Z,11nm,0.6s,mb4.9						
GUD	Guadarrama	61.41	301	P	P	02 54 15.1	+0.7
GUD				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
GUD	Guadarrama	61.41	301	P	P	02 54 15.1	+0.7
	comp=Z,4.5nm,0.6s,mb4.5						
ENIJ	Nijar	61.58	297	P	P	02 54 16.8	+1.2
ENIJ				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
ENIJ	Nijar	61.58	297	P	P	02 54 16.8	+1.3
	comp=Z,20nm,0.6s,mb5.1						
ESDC	Sonseca Array	61.68	300	P	P	02 54 16.5	+0.3
	comp=Z,6.2nm,0.6s,mb4.6,baz=54,slow=7.0,SNR=46						
ESDC				pP	pP	02 54 40.5	-11
	comp=Z,0.5nm,0.4s,baz=54,slow=6.7,SNR=1.7						
ESDC	Sonseca Array	61.68	300	P	P	02 54 16.7	+0.5
	comp=Z,3.7nm,0.4s,mb4.6						
ESLA	Sonseca Array	61.68	300	eP	P	02 54 16.4	+0.1
	comp=Z,1.1nm,0.6s,mb3.9						
EQES	Quesada	61.84	298	P	P	02 54 18.3	+1.0
	comp=Z,22nm,0.7s,mb5.1						
EBER	Berja	62.10	297	P	P	02 54 21.0	+1.9
	comp=Z,28nm,0.6s,mb5.3						
EBAN	Banos Encina	62.20	298	P	P	02 54 20.7	+1.0
EBAN				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
EBAN	Banos Encina	62.20	298	P	P	02 54 20.7	+1.0
	comp=Z,20nm,0.6s,mb5.1						
EPON	Pontenova	62.32	305	P	P	02 54 21.1	+0.6
	comp=Z,14nm,0.5s,mb5.0						
ECOG	Cogollos-Vega	62.43	297	P	P	02 54 21.6	+0.4
ECOG				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
ECOG	Cogollos-Vega	62.43	297	P	P	02 54 21.6	+0.4
	comp=Z,5.5nm,0.6s,mb4.6						
EGUA	Guajares	62.62	297	P	P	02 54 23.0	+0.5
ERON	Agron	62.71	297	P	P	02 54 23.4	+0.3
	comp=Z,12nm,0.4s,mb5.1						
EADA	Adamuz	62.76	299	P	P	02 54 24.3	+0.9
	comp=Z,7.6nm,0.9s,mb4.5						
ELUQ	Luque	62.80	298	P	P	02 54 23.9	+0.2
SUMG	Summit	62.83	342	eP	P	02 54 24.4	+0.5
	comp=Z,14nm,0.9s,mb4.8						
ELOJ	Sierra Loja	62.90	298	P	P	02 54 24.4	0.0
ELOJ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ELOJ	Sierra Loja	62.90	298	P	P	02 54 24.4	0.0
	comp=Z,5.9nm,0.7s,mb4.5						
EJIF	Jimena Fronter	64.16	297	P	P	02 54 33.0	+0.4
EBAD	Badajoz	64.21	300	P	P	02 54 33.6	+0.6
	comp=Z,13nm,0.9s,mb4.8						
ESPR	Espera	64.25	298	P	P	02 54 34.6	+1.4
	comp=Z,10nm,0.7s,mb4.8						
EMIN	Mina Concepcio	64.42	299	P	P	02 54 35.2	+0.9
	comp=Z,11nm,0.7s,mb4.8						
TOA0	Torodi Ar. Sit	70.37	272	eP	P	02 55 13.1	+1.3
TORD	Torodi Ar. Bea	70.37	272	P	P	02 55 12.8	+1.0
	comp=Z,8.2nm,0.5s,mb4.7,baz=47,slow=5.5,SNR=292						
IMA2	Indian Mountai	70.94	19	eP	P	02 55 15.6	+0.4
INK	Inuvik	73.39	11	eP	P	02 55 30.3	+0.6
INK				pmax	pmax		
	comp=Z,17nm,0.9s						
INK	Inuvik	73.39	11	eP	P	02 55 30.3	+0.6
	comp=Z,17nm,0.9s,mb4.8						
COLA	College	73.40	18c	iP	P	02 55 30.6	+0.8
COLA	College	73.40	18	eP	P	02 55 30.7	+0.9
	comp=Z,16nm,0.9s,mb4.7						
MCK	McKinley	74.04	19	eP	P	02 55 34.2	+0.7
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
MCK	McKinley	74.04	19	eP	P	02 55 34.2	+0.7
	comp=Z,2.2nm,0.6s,mb4.1						
EGAK	Eagle	75.07	16	eP	P	02 55 40.0	+0.6
PMR	Palmer	75.70	21	eP	P	02 55 43.8	+0.7
PMR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
PMR	Palmer	75.70	21	eP	P	02 55 43.8	+0.7
	comp=Z,7.7nm,0.8s,mb4.4						
DAWY	Dawson	76.08	16	eP	P	02 55 45.8	+0.7
SLKM	Skilak Lake	76.25	22	eP	P	02 55 46.5	+0.4
KDAK	Kodiak Island	77.64	25	P	P	02 55 55.9	+1.9
	comp=Z,18nm,0.6s,mb4.9,baz=308,slow=3.5,SNR=15						
LBTB	Lobatse	77.70	226	eP	P	02 55 58.6	+4.4
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
LBTB	Lobatse	77.70	226	eP	P	02 55 58.6	+4.4
	comp=Z,4.6nm,0.8s,mb4.2						
WRA	Warramunga Arr	77.95	126	P	P	02 56 01.0	+5.4
	comp=Z,0.3nm,0.3s,baz=315,slow=6.9,SNR=15						
WRAB	Tennant Creek	77.95	126	eP	P	02 56 01.2	+5.6
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WRAB	Tennant Creek	77.95	126	eP	P	02 56 01.1	+5.5
	comp=Z,4.7nm,0.8s,mb4.2						
DBIC	Dimbokro	79.34	270	P	P	02 56 05.7	+2.4
	comp=Z,14nm,0.8s,mb4.6,baz=42,slow=5.5,SNR=16						
DBIC	Dimbokro	79.34	270	eP	P	02 56 05.7	+2.4
DBIC				pmax	pmax		
	comp=Z,12nm,0.8s						
DBIC	Dimbokro	79.34	270	eP	P	02 56 05.7	+2.4
	comp=Z,12nm,0.8s,mb4.6						
ASAR	Alice Springs	80.34	129	P	P	02 56 13.9	+5.4
	comp=Z,1.2nm,0.8s,mb3.6,baz=323,slow=5.9,SNR=13						
ASAR				pP	pP	02 56 39.4	-6.3
	comp=Z,2.8nm,0.8s,baz=320,slow=5.7,SNR=9.3						
BOSA	Boshof	80.64	224	P	P	02 56 14.5	+4.3
	comp=Z,2.3nm,0.8s,mb3.9,baz=52,slow=3.7,SNR=3.9						
YKW3	Yellowknife Ar	81.17	5	eP	P	02 56 12.3	-0.7
YKA	Yellowknife Ar	81.24	5	P	P	02 56 14.0	+0.6
	comp=Z,14nm,0.6s,mb4.8,baz=345,slow=5.4,SNR=49						
YKA				LR	LR	03 35 36.4	
	comp=Z,30nm,21.1s,baz=105,slow=38						
YKA	Yellowknife Ar	81.24	5	P	P	02 56 14.0	+0.6
YKA				LR	LR	03 35 36.4	
FFC	Flin Flon	89.45	359	eP	P	02 56 55.1	+1.0
FFC				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
FFC	Flin Flon	89.45	359	eP	P	02 56 55.1	+1.0
	comp=Z,8.7nm,0.8s,mb4.7						
EDM	Edmonton	90.53	6	eP	P	02 57 00.2	+1.1
ULM	Lac du Bonnet	93.69	355	P	P	02 57 14.3	+0.6
	comp=Z,5.7nm,0.8s,mb4.7,baz=338,slow=3.8,SNR=7.9						
ULM	Lac du Bonnet	93.69	355	eP	P	02 57 13.8	+0.1
	comp=Z,7.5nm,1.0s,mb4.8						
NEW	Newport	95.02	9	eP	P	02 57 21.2	+1.4
NEW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NEW	Newport	95.02	9	eP	P	02 57 21.2	+1.4
	comp=Z,2.9nm,0.6s,mb4.7						
EYMN	Ely	95.59	352	eP	P	02 57 23.8	+1.4
BSMT	Bassoo Peak	95.71	8	eP	P	02 57 25.3	+2.4
SDV	Santo Domingo	125.68	319	ePKPdf	PKPdf	03 03 01.0	+3.2
SAML	Samuel	134.64	297	ePKPdf	PKPdf	03 03 18.8	+4.0
NNA	Nana	146.14	309	ePKPdf	PKPdf	03 03 39.0	+3.5
TRQA	Tornquist	147.24	254	ePKPbc	PKPbc	03 03 43.2	+3.3
LVC	Limon Verde	147.36	285	ePKPbc	PKPbc	03 03 44.3	+4.1

---

*IDC **14** 03:18:18.1±0.8, 2748N×5533E, h0^{km}, mb3.9/17, mb1 4.0/18, mb1mx3.9/29, mbtmp3.9/18, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/39, Error ellipse: s-maj=18.8km s-min=17.9km az=142.0*
*ISCJB **14** 03:18:19.1±0.3, 2751N±003×5510E±004, h10^{km}, mb3.9/19, MS3.1/1, Error ellipse: s-maj=5.1km s-min=3.6km az=114.2*
*CSEM **14** 03:18:20.3±0.1, 2745N×5518E, h20^{km}, mb3.7/3, Error ellipse: s-maj=3.2km s-min=2.4km az=35.0*
*NEIC **14** 03:18:20.5, 2746N×5533E, h15^{km}, mb3.8/4, ML3.7(THR), MN3.8(TEH), After THR.*
*THR **14** 03:18:21.8±0.3, 2759N×5530E, h15^{km}, ML3.6*
*KISR **14** 03:18:22.5±1.1, 2850N×5503E, h22^{km}±999^{km}, ML3.6*
*TEH **14** 03:18:23.1, 2744N×5518E, h19^{km}, Mn3.8*
ISC 14 03:18:21.1±0.3**, 2754N**±003×**5515E**±004**, h10**^{km}**, n60,** σ1§**25**/70**, mb3.9**/19**, MS3.1**/1**, 3C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.92	98	ePG	Pg	03 18 37.2	-1.6
BNDS				AML	AML	03 18 59.2	
	comp=E,2μm,1.2s						
BNDS	Bandar-Abbas	0.92	98	Pg	Pg	03 18 34.0	-4.7
IBND		1.24	94	ePg	Pg	03 18 45.0	+0.1
BANOM	Banah	1.91	147	⇓P	Pn	03 18 53.9	+0.3
	SNR=241						
GHIR	Ghir-Karzin	2.06	292	ePG	Pg	03 19 01.1	+0.6
GHIR				AML	AML	03 19 41.8	
	comp=E,605nm,0.6s						
GHIR				AML	AML	03 19 50.8	
	comp=N,476nm,0.6s						
GHIR	Ghir-Karzin	2.06	292	Pg	Pg	03 19 01.0	+0.5
ISRV	Sarvestan	2.57	316	ePn	Pn	03 19 04.5	+1.8
IMOK	Mook	2.62	306	ePn	Pn	03 19 06.4	+2.9
KRBR	Kerman	2.82	30	ePN	Pn	03 19 07.2	+1.0
KRBR				AML	AML	03 19 48.2	
	comp=E,242nm,0.6s						
KRBR				AML	AML	03 19 49.2	
	comp=N,205nm,0.8s						
KRBR	Kerman	2.82	30	Pn	Pn	03 19 07.0	+0.9
ASHO	Ashiyiah	2.96	164	⇑P	Pn	03 19 09.2	+1.1
	SNR=96						
IMEH	Mehriz	3.87	353	ePn	Pn	03 19 22.2	+1.6
IBAF	Bafgh	4.05	5	ePn	Pn	03 19 24.1	+0.9
IBAF				eSn	Sn	03 20 11.1	+0.4
ICHK	Chekchek	4.74	352	ePn	Pn	03 19 34.3	+1.8
ICHK				eSn	Sn	03 20 28.2	+0.7
BIDO	Bidbid	4.82	145	⇑P	Pn	03 19 33.7	+0.1
	SNR=9.2						
SMDO	Samad	5.17	149	⇓P	Pn	03 19 40.2	+1.6
	SNR=15						
JMDO	Jabal Madar	5.80	152	⇓P	Pn	03 19 47.8	+0.7
	SNR=9.7						
IZEF	Zefreh	5.87	336	ePn	Pn	03 19 49.0	+0.9
IZEF				eSn	Sn	03 20 54.0	-1.5
IKOO		5.91	34	ePn	Pn	03 19 48.6	0.0
WBK	Wadi Bani Khal	6.00	144	P	Pn	03 19 49.9	-0.1
	SNR=14						
IPIR	Pirpir	6.32	325	ePn	Pn	03 19 55.5	+1.2
IPIR				eSn	Sn	03 21 04.6	-1.9
IKLH	Kalahroud	6.54	333	ePn	Pn	03 19 58.7	+1.5
IKLH				eSn	Sn	03 21 09.0	-2.8
RDF	Al-Radifah	6.85	283	eP	Pn	03 20 02.9	+1.3
RDF				eS	Sn	03 21 18.0	-1.5
RDF				AML	AML	03 21 21.1	
	comp=Z,22nm,0.5s						
NAY	Al-Naaiem	7.17	286	eP	Pn	03 20 07.4	+1.4
NAY				eS	Sn	03 21 26.0	-1.5
NAY				AML	AML	03 21 26.2	
	comp=Z,7.1nm,0.4s						
RST	Umm Al-Ruwaisa	7.43	287	eP	Pn	03 20 10.1	+0.5
RST				eS	Sn	03 21 31.0	-3.0
RST				AML	AML	03 21 31.3	
	comp=Z,8.5nm,0.5s						
IKOM	Komasi	9.32	317	ePn	Pn	03 20 36.5	+1.1
IKOM				eSn	Sn	03 22 15.7	-4.5
WHFO	Wadi Hawf	9.66	188	⇑P	Pn	03 20 39.4	-0.7
IGHG	Ghaleghazi	10.00	315	ePn	Pn	03 20 46.5	+1.7
IGHG				eSn	Sn	03 22 32.1	-5.0
RBK	Rabkut	10.02	185	⇓P	Pn	03 20 45.1	0.0
ABTO	Aybut	10.28	190	⇓P	Pn	03 20 47.7	-0.8
ASF	Jabal al Asfar	16.49	291	Pn	Pn	03 22 12.2	-0.3
	comp=Z,0.3nm,0.3s,baz=137,slow=19,SNR=2.6						
MALT	Malatya	17.65	312	eP	Pn	03 22 27.8	+0.7
	comp=Z,5.2nm,0.9s						
MALT	Malatya	17.65	312	eP	Pn	03 22 27.8	+0.8
	comp=Z,5.2nm,0.9s						
BR131	Keskin Array S	21.59	310	eP	P	03 23 11.4	+0.5
	comp=Z,3.0nm,0.8s,mb3.8						
BR131	Keskin Array S	21.59	310	eP	P	03 23 11.4	+0.5
	comp=Z,3.0nm,0.8s,mb3.8						
BRTR	Keskin Array B	21.59	310	P	P	03 23 10.9	0.0
	comp=Z,2.3nm,0.7s,mb3.7,baz=130,slow=13,SNR=11						
AAK	Ala-Archa	21.77	41	eP	P	03 23 09.9	-3.1
	comp=Z,4.7nm,1.0s,mb3.9						
AAK	Ala-Archa	21.77	41	eP	P	03 23 09.9	-3.0
	comp=Z,4.7nm,1.0s,mb3.9						
AKTK	Aktyubinsk	22.97	5	P	P	03 23 24.3	-1.4
AKTO	Aktyubinsk	22.97	5	P	P	03 23 24.3	-1.4
	comp=Z,1.8nm,0.7s,mb3.6,baz=188,slow=9.7,SNR=6.1						
IDI	Anoyia	26.88	294	P	P	03 24 02.7	+0.7
	comp=Z,5.7nm,0.8s,mb4.1,baz=189,slow=17,SNR=3.5						
BVAR	Borovoye Array	27.87	20	P	P	03 24 09.0	-1.9
	comp=Z,0.6nm,0.4s,mb3.5,baz=180,slow=9.7,SNR=4.0						
BVAR				LR	LR	03 37 00.5	
	comp=Z,45nm,18.1s,MS3.1,baz=154,slow=40						
MKAR	Makanchi Array	28.71	41	P	P	03 24 16.9	-1.5
	comp=Z,0.5nm,0.5s,mb3.5,baz=228,slow=10,SNR=5.5						
MORC	Moravsky Berou	36.27	318	eP	P	03 25 24.0	-0.5
	comp=Z,1.0nm,0.6s,mb3.9						
MORC	Moravsky Berou	36.27	318	eP	P	03 25 24.0	-0.5
	comp=Z,1.0nm,0.6s,mb3.9						
FINES	FINESS Array B	39.08	338	P	P	03 25 46.3	-2.0
	comp=Z,1.3nm,0.9s,mb3.6,baz=147,slow=9.4,SNR=3.9						
KEST	Kesra	39.55	294	P	P	03 25 53.9	+1.6
	comp=Z,1.4nm,0.8s,mb3.7,baz=36,slow=14,SNR=5.8						
HFS	Hagfors	43.01	331	P	P	03 26 19.3	-1.3
	comp=Z,0.9nm,0.6s,mb3.7,baz=115,slow=13,SNR=6.5						
NB2	NORSAR Subarra	44.52	331	P	P	03 26 33.8	+1.0
	comp=Z,1.0nm,0.8s,mb3.7,baz=115,slow=7.9						
NOA	NORSAR Array B	44.52	331	P	P	03 26 34.0	+1.2
	comp=Z,0.7nm,0.8s,mb3.6,baz=116,slow=7.6,SNR=3.4						
NOA	NORSAR Array B	44.52	331	P	P	03 26 34.0	+1.1
ESDC	Sonseca Array	49.89	300	P	P	03 27 13.7	-0.9
	comp=Z,0.3nm,0.4s,mb3.7,baz=71,slow=7.3,SNR=4.7						
EKA	Eskdalemuir Ar	49.91	321	P	P	03 27 15.2	+0.4
	comp=Z,1.6nm,0.9s,mb4.0,baz=113,slow=12,SNR=2.9						
MDT	Midelt	51.35	291	P	P	03 27 26.3	+0.6
	comp=Z,1.1nm,0.5s,mb4.0,baz=214,slow=23,SNR=4.9						
TORD	Torodi Ar. Bea	51.76	265	P	P	03 27 27.9	-0.8
	comp=Z,2.8nm,0.5s,mb4.4,baz=63,slow=7.3,SNR=69						
TORD	Torodi Ar. Bea	51.76	265	P	P	03 27 27.9	-0.8
DBIC	Dimbokro	60.40	262	P	P	03 28 30.0	-0.6
	comp=Z,1.4nm,0.4s,mb4.3,baz=195,slow=20,SNR=6.3						
BOSA	Boshof	62.76	210	P	P	03 28 46.1	-0.4
	comp=Z,2.0nm,0.5s,mb4.5,baz=45,slow=11,SNR=12						
WRA	Warramunga Arr	89.95	112	P	P	03 31 18.4	-2.2
	comp=Z,0.4nm,0.7s,mb3.9,baz=320,slow=3.6,SNR=5.5						
ASAR	Alice Springs	91.42	116	P	P	03 31 25.9	-1.5
	comp=Z,0.6nm,0.7s,mb4.0,baz=304,slow=4.6,SNR=6.3						

---

*ISCJB **14** 03:32:08.6±0.5, 3965N±003×14153E±009, h111^{km}±3^{km}, mb3.7/7, Error ellipse: s-maj=11.5km s-min=4.9km az=27.6*
*NEIC **14** 03:32:09.6±1.9, 4005N×14135E, h83^{km}±30^{km}, MG3.5(JMA), Error ellipse: s-maj=38.5km s-min=15.0km az=155.0*
*JMA **14** 03:32:10.3±0.1, 3963N×14146E, h103^{km}±1^{km}, M3.5*
JMA Felt I J1.
*IDC **14** 03:32:11.1±2.3, 3982N×14132E, h108^{km}±17^{km}, mb3.4/7, mb1 3.5/9, mb1mx3.3/24, mbtmp3.8/9, Error ellipse: s-maj=33.4km s-min=17.0km az=121.0*
ISC 14 03:32:09.5±0.5**, 3965N**±003×**14155E**±009**, h107**^{km}±3^{km}**, n26,** σ0§**69**/37**, mb3.7**/7**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MIYJ	Miyakonagasawa	0.22	109	P	Pn	03 32 25.6	+1.0
MIYJ				S	Sn	03 32 36.4	+0.5
JOM	Ohasama	0.26	228	P	Pn	03 32 24.8	+0.1
JOM				S	Sn	03 32 35.7	-0.4
JKZ	Kuzumaki	0.37	334	P	Pn	03 32 25.7	+0.4
JKZ				S	Sn	03 32 37.1	0.0
JANG	Nango	0.72	358	P	Pn	03 32 28.1	+0.3
JMK	Ichinoseki	0.74	200	P	Pn	03 32 27.9	0.0
JMK				S	Sn	03 32 41.0	-0.8
JAH	Hinai	0.88	308	P	Pn	03 32 29.5	+0.2
JAH				S	Sn	03 32 44.0	-0.1
JYK	Kaneyama	1.17	232	P	Pn	03 32 32.4	+0.1
JYK				S	Sn	03 32 49.1	-0.5
JTM	Tenmabayashi	1.19	342	P	Pn	03 32 33.1	+0.5
JTM				S	Sn	03 32 50.0	0.0
JIO	Ouri	1.20	187	P	Pn	03 32 32.6	-0.1
JIO				S	Sn	03 32 49.3	-0.8
JOU	Okura	1.45	208	P	Pn	03 32 35.8	+0.2
JOU				S	Sn	03 32 55.1	-0.2
JOT	Ohata	1.77	348	P	Pn	03 32 39.8	+0.3
JMM	Marumori	1.87	199	P	Pn	03 32 40.6	-0.2
JMM				S	Sn	03 33 03.8	-0.8
MAJO	Matsushiro	4.07	221	ePn	Pn	03 33 13.6	+3.9
MAT	Matsushiro	4.07	221	P	Pn	03 33 10.6	+0.9
MAT				eS	Sn	03 33 56.5	+0.1
MJAR	Matsushiro Arr	4.07	221	P	Pn	03 33 11.3	+1.6
	1.7nm,0.3s,baz=26,slow=15,SNR=8.2						
MJAR	Matsushiro Arr	4.07	221	P	Pn	03 33 11.3	+1.6
ASAJ	Asahikawa	4.53	10	P	Pn	03 33 16.1	+0.1
	3.9nm,0.3s,baz=225,slow=12,SNR=16						
ASAJ				S	Sn	03 34 06.5	-1.1
	2.3nm,0.3s,baz=97,slow=33,SNR=8.7						
PET	Petropavlovsk	17.78	36	eP	Pn	03 36 08.4	-1.7
	4.2nm,0.4s						
MKAR	Makanchi Array	42.87	300	P	P	03 39 56.6	-0.6
	0.4nm,0.6s,mb3.3,baz=73,slow=8.9,SNR=3.2						
BVAR	Borovoye Array	48.92	311	P	P	03 40 44.1	-0.6
	0.4nm,0.5s,mb3.6,baz=263,slow=39,SNR=2.7						
INK	Inuvik	52.03	28	P	P	03 41 08.1	+0.1
	0.8nm,0.4s,mb4.1,baz=326,slow=7.3,SNR=5.3						
WRA	Warramunga Arr	59.66	188	pP	pP	03 42 27.6	-1.0
	0.7nm,0.7s,baz=7.0,slow=7.3,SNR=3.6						
FINES	FINESS Array B	66.56	332	P	P	03 42 47.6	-0.5
	1.2nm,0.6s,mb3.9,baz=47,slow=11,SNR=5.0						
HFS	Hagfors	71.75	335	P	P	03 43 20.1	-0.1
	0.8nm,0.3s,mb4.0,baz=39,slow=5.5,SNR=9.0						
NOA	NORSAR Array B	71.82	337	P	P	03 43 20.6	0.0
	0.6nm,0.7s,mb3.5,baz=41,slow=6.2,SNR=2.9						
PDAR	Pinedale Array	75.77	46	P	P	03 43 45.4	+1.8
	0.3nm,0.5s,mb3.3,baz=270,slow=0.9,SNR=3.6						

---

*MDD **14** 03:36:34.9±0.3, 4286N×1.10W, h0^{km}, mbLg0.9/9, Error ellipse: s-maj=2.7km s-min=1.9km az=148.0, PRXIMO*
*STR **14** 03:36:34.1±0.6, 4312N×071W, h2^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 14 03:36:34.0±0.5**, 4290N**×**104W, h20**^{km}**, Md1.9**/2**, Ml1.7**/1**, 1C, Error ellipse: s-maj=12.7km s-min=2.2km az=29.0, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LARF	Larrau	0.15	16	Pg		03 36 38.3	
LARF				Sg		03 36 41.7	
LARF	Larrau	0.15	16	P	Pb	03 36 38.5	+0.1
LARF				S		03 36 41.8	
IPRE	Itoiz	0.25	248	⇑Pg	Pb	03 36 38.4	+1.4
	3.0nm,0.1s,SNR=18						
IPRE				Lg		03 36 41.5	
	7.7nm,0.2s,SNR=7.9						
SJPF	Ste Jean	0.25	328	ePg		03 36 39.7	
SJPF				eSg		03 36 43.7	
	17nm,0.2s						
SJPF	Ste Jean	0.25	328	Pg	Pb	03 36 39.7	+0.2
SJPF				Lg		03 36 43.7	
	8.3nm,0.2s						
ETSF	Etsaut	0.36	90	ePg	Pb	03 36 41.9	+0.3
ETSF				eSg		03 36 47.4	
	7.9nm,0.3s						
ETSF	Etsaut	0.36	90	Pg		03 36 41.9	

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ETSF				Lg		03 36 47.4	
	4.0nm,0.3s						
IUSE	**Utxeti**	**0.37**	**278**	Pg	Pb	03 36 41.3	+0.6
	1.0nm,0.1s,SNR=7.9						
IUSE				Lg		03 36 46.7	
	1.7nm,0.1s,SNR=7.9						
OSSF	**Osses**	**0.39**	**336**	Pg	Pb	03 36 42.4	+0.2
OSSF				Sg		03 36 48.1	
OSSF	**Osses**	**0.39**	**336**	P		03 36 42.5	
OSSF				S		03 36 48.2	
EARA	**Aranguren**	**0.41**	**253**	Pg	Pb	03 36 42.5	+0.1
	4.3nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.44**	**307**	Pg	Pb	03 36 42.8	+0.3
	2.5nm,0.2s,SNR=7.9						
ELIZ				Lg		03 36 49.2	
	1.6nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.47**	**314**	Pg	Pb	03 36 43.5	0.0
	2.8nm,0.2s,SNR=13						
EALK				Lg		03 36 50.7	
	3.9nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**0.90**	**103**	Pg	Pb	03 36 52.3	+1.4
	0.3nm,0.1s,SNR=7.9						
EBIE				Lg		03 37 06.3	
	1.2nm,0.3s,SNR=7.9						
EPF	**Esparros**	**1.02**	**82**	*e*Pg	Pb	03 36 53.3	+0.3
EPF				*e*Sg		03 37 07.2	
	2.4nm,0.3s						
EPF	**Esparros**	**1.02**	**82**	Pg		03 36 53.3	
EPF				Lg		03 37 07.2	
	1.2nm,0.3s						
ESAC	**San Caprasio**	**1.25**	**160**	Pg	Pn	03 36 59.2	+2.9
	2.6nm,0.1s,SNR=7.9						
ESAC				Lg		03 37 14.6	
	12nm,0.4s,SNR=7.9						
BRG	**Berggiesshubel**	**12.97**	**47**	*e*P	Pn	03 39 10.3	+27
	2.1nm,0.5s						

CASC 14 03:45:46.7±2.3**, 1133N×8595W, h99**^{km}±10^{km}**, MD3.5, ML2.6, 8C-3D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.39**	**53**	⇑*i*P	Pn	03 46 02.5	+0.9
MADN	**Villa Maderas**	**0.41**	**79**	⇑*e*P	Pn	03 46 02.8	+1.0
TICN	**Ticuantepe**	**0.75**	**338**	⇑*e*P	Pn	03 46 05.3	+0.8
MGAN	**Managua**	**0.86**	**340**	⇑*e*P	Pn	03 46 06.0	+0.5
MGAN				*e*		03 46 06.1	
MGAN				*e*		03 46 24.8	
	comp=E,107nm,0.2s						
TISN	**Laguna Tiscapa**	**0.87**	**339**	⇓*e*P	Pn	03 46 06.1	+0.4
XAVN	**Gruta Xavier**	**0.90**	**335**	⇑*e*P	Pn	03 46 06.4	+0.5
COPN	**Copaltepe**	**1.06**	**323**	⇓*e*P	Pn	03 46 07.9	+0.2
COPN				*e*S	Sn	03 46 23.2	-0.2
MOMJ	**Momotombo**	**1.22**	**332**	*e*P	Pn	03 46 09.6	+0.1
MOMJ				*e*S	Sn	03 46 26.0	-0.7
VCR	**Vista de Mar**	**1.23**	**165**	*e*P	Pn	03 46 09.7	0.0
VCR				*e*S	Sn	03 46 27.4	+0.4
MIRN	**Miramar**	**1.33**	**326**	⇑*e*P	Pn	03 46 11.4	+0.6
MIRN				*e*S	Sn	03 46 29.4	+0.3
CNGN	**Cerro Negro**	**1.38**	**328**	⇓*e*P	Pn	03 46 11.8	+0.4
CNGN				*e*S	Sn	03 46 31.1	+1.0
LEON	**Leon**	**1.42**	**319**	⇑*e*P	Pn	03 46 12.2	+0.3
LEON				*e*S	Sn	03 46 30.9	-0.1
JCR	**Jicaral**	**1.68**	**151**	*e*P	Pn	03 46 15.4	+0.2
JCR				*e*S	Sn	03 46 37.1	+0.3
EPA	**Esparza**	**1.88**	**135**	*e*P	Pn	03 46 19.3	+1.7
CGA2	**Cerro Gallo 2**	**1.95**	**132**	*e*P	Pn	03 46 19.9	+1.3
CGA2				*e*S	Sn	03 46 43.2	+0.3
PRS1	**Puriscal**	**2.09**	**130**	*e*P	Pn	03 46 22.1	+1.8
PRS1				*e*S	Sn	03 46 46.9	+0.8
LAJ	**Bijagual**	**2.31**	**129**	*e*P	Pn	03 46 21.1	-2.2
IRZ2	**Volcan Irazu 2**	**2.42**	**124**	*e*P	Pn	03 46 25.4	+0.7
LCR2	**La Lucha 2**	**2.48**	**129**	⇑*e*P	Pn	03 46 26.1	+0.7
LCR2				*e*S	Sn	03 46 55.5	+0.3
BUS	**Buena Vista**	**2.78**	**129**	*e*P	Pn	03 46 31.4	+1.9
BUS				*e*S	Sn	03 47 05.1	+2.7

*ISCJB **14** 04:04:32.9±0.5, 4455N±002×692E±005, h10^{km}, Error ellipse: s-maj=5.3km s-min=2.8km az=150.2*
*LDG **14** 04:04:33.6±0.1, 4457N×692E, h13^{km}, Md1.7/1, Ml1.6/5, Error ellipse: s-maj=2.0km s-min=1.0km az=75.0*
*STR **14** 04:04:34.1±0.2, 4458N×695E, h2^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 14 04:04:33.3±0.7**, 4456N**±002×**691E**±006**, h18**^{km}±7^{km}**, n12,** σ**0**^{s}**44**/22**, France**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.10**	**223**	Pg	**Pg**	**04 04 37.3**	**+0.4**
SURF				Sg	**Sg**	**04 04 39.1**	**-0.2**
MBDF	**Montbardon**	**0.20**	**330**	*e*Pg	**Pg**	**04 04 38.2**	**+0.1**
MBDF				*e*Sg	**Sg**	**04 04 41.3**	**-0.1**
	24nm,0.2s						
TOUF	**Mont Tournerai**	**0.59**	**156**	Pg	**Pg**	**04 04 45.6**	**+0.6**
LUCF	**Luceram**	**0.73**	**155**	Pg	**Pg**	**04 04 48.1**	**+0.4**
LUCF				Sg	**Sg**	**04 04 58.6**	**+1.2**
SAOF	**Saorge**	**0.73**	**141**	Pg	**Pg**	**04 04 47.9**	**+0.2**
SBF	**Sospel**	**0.79**	**151**	*e*Pg	**Pg**	**04 04 48.1**	**-0.6**
SBF				*e*Sg	**Sg**	**04 04 58.3**	**-0.8**
	1.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.82**	**297**	*e*Pg	**Pg**	**04 04 49.6**	**+0.3**
ORIF				*e*Sg	**Sg**	**04 05 00.1**	**0.0**
	7.4nm,0.6s						
LPG	**La Plagne**	**0.95**	**353**	*e*Pg	**Pg**	**04 04 51.6**	**-0.1**
LPG				*e*Sg	**Sg**	**04 05 04.0**	**-0.2**
	0.9nm,0.2s						
LPL	**La Plagne**	**0.97**	**353**	*e*Pg	**Pg**	**04 04 52.0**	**-0.1**
LPL				*e*Sg	**Sg**	**04 05 04.7**	**-0.1**
	1.0nm,0.3s						
FRF	**La Foret Royal**	**1.01**	**191**	*e*Pg	**Pg**	**04 04 52.6**	**-0.3**
FRF				*e*Sg	**Sg**	**04 05 06.0**	**-0.3**
	3.2nm,0.3s						
SMRF	**Simiane la Rot**	**1.12**	**239**	*e*Pg	**Pg**	**04 04 55.1**	**+0.1**
SMRF				*e*Sg	**Sg**	**04 05 10.1**	**+0.4**
	1.8nm,0.2s						
LMR	**La Mourre**	**1.26**	**194**	*e*Pg	**Pg**	**04 04 57.1**	**-0.4**
LMR				*e*Sg	**Sg**	**04 05 13.5**	**-0.5**
	1.0nm,0.2s						

*ISCJB **14** 04:07:17.3±1.9, 1941N±006×78.1W±0.1, h10^{km}, Error ellipse: s-maj=17.7km s-min=5.5km az=44.1*
*JSN **14** 04:07:18.4±1.2, 1948N×7823W, h30^{km}±999^{km}, MD3.4*
*SSNC **14** 04:07:24.6, 1965N×7776W, h0^{km}, MD3.1, ML2.5*
ISC 14 04:07:18.1±2.0**, 1942N**±008×**781W**±01**, h18**^{km}±12^{km}**, n7,** σ**0**^{s}**61**/12**, 1C-4D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**1.20**	**58**	*e*PG	**Pg**	**04 07 41.6**	**+0.2**
	baz=232						
LMGC				*e*SG	**Sg**	**04 07 56.7**	**-0.5**
	comp=N,941nm,0.1s						
LMGC				*e*			
	comp=E,618nm,0.1s						
BBJ	**Bamboo Saint A**	**1.29**	**143**	⇓*i*P	**Pn**	**04 07 41.3**	**0.0**
BBJ				*i* S	**Sb**	**04 07 58.5**	**+0.4**
CVJ	**Coleyville**	**1.30**	**156**	⇓*e*P	**Pn**	**04 07 40.9**	**-0.5**
MCJ	**Malvern**	**1.54**	**166**	⇓*i*P	**Pn**	**04 07 44.8**	**+0.2**
MCJ				*e*S	**Sn**	**04 08 02.9**	**-1.2**
STH	**Stony Hill**	**1.80**	**138**	⇑*e*P	**Pn**	**04 07 47.9**	**-0.4**
PCJ	**Portland Cotta**	**1.89**	**152**	⇓*i*P	**Pn**	**04 07 49.9**	**+0.4**
PCJ				*e*S	**Sn**	**04 08 13.7**	**+0.8**
RCC	**Rio Carpintero**	**2.33**	**75**	*e*P	**Pn**	**04 07 56.5**	**+1.0**
RCC				*e*S	**Sn**	**04 08 23.2**	**-0.4**
	comp=N,8.1nm,0.2s						
RCC				*e*			
	comp=E,10nm,0.3s						

PRE 14 04:32:09.6±1.2**, 2181S×3319E, h5**^{km}**, ML3.8, Mozambique**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.99**	**259**	*e*P	Pn	04 32 58.7	+1.1
MSNA				*e*S	Sn	04 33 34.7	+0.9
MSNA				AML	AML	04 33 57.3	
	comp=Z,123nm,0.5s						
POGA	**Pongola**	**5.72**	**194**	*e*P	Pn	04 33 35.9	+0.7
POGA				*e*S	Sn	04 34 38.4	-2.8
POGA				AML	AML	04 35 29.0	
	comp=Z,28nm,0.5s						
KSR	**Koster**	**7.03**	**234**	*e*P	Pn	04 33 54.5	+1.4
KSR				*e*S	Sn	04 35 10.4	-3.0
KSR				AML	AML	04 35 36.9	
	comp=Z,11nm,0.5s						
LBTB	**Lobatse**	**7.67**	**244**	*e*P	Pn	04 34 02.5	+0.5
LBTB				*e*S	Sn	04 35 26.3	-3.0
LBTB				AML	AML	04 36 20.5	
	comp=Z,17nm,0.5s						
BOSA	**Boshof**	**9.87**	**225**	*e*P	Pn	04 34 33.0	+0.9
BOSA				*e*S	Sn	04 36 18.0	-5.4
BOSA				AML	AML	04 37 45.4	
	comp=Z,11nm,0.6s						
UPI	**Upington**	**12.63**	**236**	*e*P	Pn	04 35 11.5	+1.7
UPI				*e*S	Sn	04 37 25.0	-6.0

IDC 14 04:34:31.6±2.5**, 310S×12447E, h0**^{km}**, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.4**/16**, mbtmp3.5**/3**, ML3.5**/1**, Error ellipse: s-maj=317.1km s-min=26.5km az=69.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.31**	**151**	P	Pn	04 38 58.1	-1.0
	0.1nm,0.3s,baz=326,slow=12,SNR=9.4						
ASAR	**Alice Springs**	**22.39**	**157**	P	P	04 39 32.1	+0.7
	0.8nm,0.3s,baz=333,slow=11,SNR=8.6						
SONM	**Songino Array**	**53.14**	**345**	P	P	04 43 51.2	+0.1
	0.6nm,0.8s,baz=145,slow=5.3,SNR=4.9						

*IDC **14** 05:16:43.3±1.1, 561N×12638E, h0^{km}, mb3.9/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.9/5, Error ellipse: s-maj=128.3km s-min=18.5km az=68.0*
*ISCJB **14** 05:16:47.3±0.9, 50N±02×1248E±02, h33^{km}, mb3.8/6, Error ellipse: s-maj=38.2km s-min=13.7km az=116.8*
*NEIC **14** 05:16:49.4±0.9, 488N×12465E, h35^{km}, mb3.9/1, Error ellipse: s-maj=39.1km s-min=13.8km az=59.0*
ISC 14 05:16:49.8±0.9**, 49N**±02×**1247E**±03**, h35**^{km}**, n10,** σ**1**^{s}**22**/10**, mb3.8**/6**, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KULM	**Kulim**	**23.92**	**272**	*e*P	**P**	**05 21 59.8**	**-0.5**
WRAB	**Tennant Creek**	**26.47**	**159**	*e*P	**P**	**05 22 23.5**	**-0.1**
	1.9nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**26.48**	**159**	P	**P**	**05 22 24.0**	**+0.4**
	2.9nm,0.7s,mb3.9,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**26.48**	**159**	*e*P	**P**	**05 22 23.0**	**-0.6**
ASAR	**Alice Springs**	**29.81**	**163**	P	**P**	**05 22 55.8**	**+2.5**
	1.0nm,0.8s,mb3.6,baz=349,slow=7.2,SNR=9.3						
ASAR				PcP	PcP	05 25 54.3	-1.9
	0.3nm,0.5s,baz=349,slow=2.4,SNR=5.0						
STKA	**Stephens Creek**	**39.99**	**157**	P	**P**	**05 24 18.2**	**-2.7**
	2.0nm,0.7s,mb4.0,baz=338,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**39.99**	**157**	*e*P	**P**	**05 24 19.6**	**-1.4**
SONM	**Songino Array**	**45.54**	**343**	P	**P**	**05 25 05.0**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=162,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**45.54**	**343**	P	**P**	**05 25 05.0**	**-0.9**
MKAR	**Makanchi Array**	**55.41**	**326**	P	**P**	**05 26 22.0**	**+1.5**
	0.7nm,0.3s,mb4.1,baz=115,slow=7.2,SNR=13						

*VIE **14** 05:31:15.8±1.0, 4450N×1054E, h8^{km}, mb2.1/1, ML2.7/4, Error ellipse: s-maj=11.1km s-min=7.2km az=101.0 63 km W of Bologna*
*ROM **14** 05:31:17.4±0.3, 4477N×1069E, h3^{km}±4^{km}, Md2.5/11, Ml2.1/6, Error ellipse: s-maj=3.5km s-min=3.1km az=95.0*
*ISCJB **14** 05:31:18.3±0.4, 4476N±002×1059E±007, h10^{km}, Error ellipse: s-maj=7.0km s-min=2.6km az=172.1*
*CSEM **14** 05:31:18.4±0.1, 4473N×1066E, h12^{km}, ML2.9/3, Error ellipse: s-maj=3.6km s-min=1.7km az=94.0*
ISC 14 05:31:18.9±0.4**, 4477N**±002×**1062E**±007**, h10**^{km}**, n16,** σ**1**^{s}**01**/26**, 4C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.38**	**203**	Pg	**Pg**	**05 31 26.4**	**+0.1**
	85nm,1.0s						
GSCL	**Gusciola**	**0.42**	**183**	Pg	**Pg**	**05 31 27.0**	**-0.1**
	35nm,0.4s						
ZCCA	**Zocca**	**0.49**	**148**	Pg	**Pg**	**05 31 28.5**	**+0.1**
	59nm,0.5s						
VLC	**Villacollemand**	**0.63**	**195**	Pg	**Pg**	**05 31 30.4**	**-0.7**
VLC				Sg	**Sg**	**05 31 40.3**	**+1.0**
PZZT	**Monte Pizzetto**	**0.66**	**165**	Pg	**Pg**	**05 31 30.6**	**-1.0**
PZZT				Sg	**Sg**	**05 31 40.8**	**+0.6**
	54nm,0.3s						
FNVD	**Fontana Vidola**	**0.70**	**149**	Pg	**Pg**	**05 31 31.4**	**-1.0**
FNVD				Sg	**Sg**	**05 31 42.0**	**+0.5**
	35nm,0.4s						
BDI	**Bagni Di Lucca**	**0.70**	**181**	Pg	**Pg**	**05 31 31.5**	**-1.0**
	79nm,0.4s						
BOB	**Bobbio (Coli)**	**0.83**	**270**	Pg	**Pg**	**05 31 35.5**	**+0.5**
	19nm,0.5s						
SALO	**Salr**	**0.85**	**356**	Pg	**Pg**	**05 31 35.1**	**-0.2**
MAGA	**Magasa**	**1.01**	**0**	Pg	**Pg**	**05 31 36.7**	**-1.6**
MAGA				Sg	**Sg**	**05 31 51.4**	**0.0**
	297nm,0.3s						
MDI	**Monti di Nese**	**1.20**	**328**	Pg	**Pg**	**05 31 40.8**	**-1.1**
MDI				Sg	**Sg**	**05 31 58.6**	**+1.2**
	38nm,0.3s						
MABI	**Malga Bissina**	**1.29**	**357**	Pg	**Pg**	**05 31 41.5**	**-2.2**
MABI				Sg	**Sg**	**05 31 58.6**	**-1.8**
SQTA	**Sankt Quirin**	**2.49**	**9**	⇓*i*Pn	**Pn**	**05 32 00.9**	**+1.4**
	1.6nm,0.1s						
SQTA				⇑*e*Sn	**Sb**	**05 32 35.7**	**+1.4**
	11nm,0.3s						
WTTA	**Wattenberg**	**2.60**	**15**	⇓*e*Pn	**Pn**	**05 32 01.9**	**+1.0**
	1.8nm,0.2s						
WTTA				⇑*i*Sn	**Sb**	**05 32 38.5**	**+1.1**
MOTA	**Moosalm**	**2.60**	**7**	⇓*e*Pn	**Pn**	**05 32 02.1**	**+1.1**
	1.6nm,0.2s						
MOTA				⇑*i*Sn	**Sb**	**05 32 37.5**	**-0.1**
	2.0nm,0.2s						
WATA	**Walderalm**	**2.66**	**14**	⇑*e*Pn	**Pn**	**05 32 02.9**	**+1.2**
	1.8nm,0.2s						
WATA				⇓*i*Sn	**Sb**	**05 32 38.3**	**-0.9**
	2.7nm,0.2s						

*IDC **14** 06:01:22.7±0.9, 654S×8105W, h0^{km}, mb4.4/11, mb1 4.5/15, mb1mx4.3/24, mbtmp4.4/15, ML3.9/4, MS3.9/7, Ms1 3.9/7, ms1mx3.5/25, Error ellipse: s-maj=27.8km s-min=15.3km az=72.0*
*ISCJB **14** 06:01:28.8±1.7, 663S±006×809W±0.1, h57^{km}±15^{km}, mb4.4/30, MS4.1/4, Error ellipse: s-maj=18.2km s-min=7.3km az=131.1*
*NEIC **14** 06:01:31.3±1.3, 658S×8082W, h62^{km}±13^{km}, mb4.5/23, Error ellipse: s-maj=13.5km s-min=6.3km az=61.0*
ISC 14 06:01:30.9±1.4**, 661S**±006×**809W**±01**, h57**^{km}±13^{km}**, n68,** σ**0**^{s}**99**/62**, mb4.4**/30**, MS4.1**/4**, Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.50**	**99**	Pn	**Pn**	**06 02 10.7**	**+1.6**
	11nm,0.3s,baz=288,slow=11,SNR=20						
ATAH				Sn	**Sn**	**06 02 43.7**	**+5.3**
	15nm,0.3s,baz=119,slow=16,SNR=7.8						
ATAH				LR	LR	06 02 48.1	
	comp=Z,637nm,21.0s,baz=114,slow=32						
NNA	**Nana**	**6.66**	**144**	Pn	**Pn**	**06 03 03.5**	**-2.6**
	1.3nm,0.3s,baz=309,slow=13,SNR=3.9						
NNA	**Nana**	**6.66**	**144**	*e*Pn	**Pn**	**06 03 06.3**	**+0.1**
NNA				*e*Sn	**Sn**	**06 04 20.1**	**-0.5**
LPAZ	**La Paz**	**15.76**	**129**	Pn	**Pn**	**06 05 09.8**	**+0.7**
	0.3nm,0.3s,baz=306,slow=10,SNR=48						
LPAZ				LR	LR	06 11 21.6	
	comp=Z,123nm,18.1s,baz=307,slow=38						
JTS	**JuntasAbangare**	**17.27**	**346**	P	**Pn**	**06 05 29.5**	**+1.4**
	baz=174,slow=8.2,SNR=4.5						
SAML	**Samuel**	**17.68**	**99**	*e*Pn	**Pn**	**06 05 31.7**	**-1.4**
	11nm,1.0s						
SAML				*e*pPn		06 05 42.2	
SDV	**Santo Domingo**	**18.47**	**34**	P	**Pn**	**06 05 40.3**	**-2.4**
	0.2nm,0.3s,baz=247,slow=9.4,SNR=9.0						
SDV	**Santo Domingo**	**18.47**	**34**	*e*P	**Pn**	**06 05 41.7**	**-1.0**
	7.9nm,0.9s						
LVC	**Limon Verde**	**19.65**	**145**	P	**Pn**	**06 05 55.6**	**-1.2**
	0.1nm,0.3s,baz=303,slow=3.9,SNR=4.9						
LVC				LR	LR	06 13 04.9	
	comp=Z,397nm,21.8s,baz=306,slow=36						
SIV	**San Ignacio**	**21.52**	**117**	P	**P**	**06 06 15.6**	**+0.5**
	22nm,0.9s,mb4.6,baz=300,slow=12,SNR=103						
PCRV	**Puerto La Cruz**	**23.23**	**44**	P	**P**	**06 06 33.5**	**+0.3**
	36nm,0.8s,mb4.8,baz=211,slow=2.6,SNR=17						
PCRV				LR	LR	06 16 21.8	
	comp=Z,248nm,18.4s,MS3.7,baz=46,slow=38						
CFAA	**Coronel Fontan**	**27.53**	**156**	P	**P**	**06 07 13.3**	**+1.1**
	0.1nm,0.3s,mb2.9,baz=319,slow=11,SNR=3.0						
CFAA	**Coronel Fontan**	**27.53**	**156**	P	**P**	**06 07 13.3**	**+1.1**
SJG	**San Juan**	**28.55**	**30**	P	**P**	**06 07 20.7**	**-0.4**
	20nm,0.8s,mb4.9,baz=253,slow=4.5,SNR=9.0						
SJG	**San Juan**	**28.55**	**30**	*e*P	**P**	**06 07 20.8**	**-0.3**
	20nm,0.7s,mb5.0						
SJG				*e*	pP	06 07 34.0	-1.4
HUMP	**Col San Antoni**	**28.72**	**31**	*e*P	**P**	**06 07 26.9**	**+4.2**
CBYP	**Canovanas**	**28.83**	**31**	*e*P	**P**	**06 07 29.2**	**+5.5**
CPUP	**Villa Florida**	**29.80**	**134**	P	**P**	**06 07 32.7**	**+0.4**
	1.1nm,0.7s,mb3.7,baz=278,slow=12,SNR=3.8						
CPUP	**Villa Florida**	**29.80**	**134**	P	**P**	**06 07 32.7**	**+0.4**
BDFB	**Brasilia**	**33.43**	**108**	LR	LR	06 23 06.6	
	comp=Z,531nm,19.7s,MS4.3,baz=282,slow=39						
PLCA	**Paso Flores**	**35.21**	**166**	P	**P**	**06 08 19.5**	**0.0**
	2.4nm,0.8s,mb4.2,baz=324,slow=12,SNR=4.9						
PLCA	**Paso Flores**	**35.21**	**166**	P	**P**	**06 08 19.5**	**0.0**
NATX	**Nacogdoches**	**40.36**	**342**	*e*P	**P**	**06 09 03.2**	**+0.2**
	6.7nm,0.5s,mb4.6						
SWET	**Sewanee**	**41.87**	**354**	*e*P	**P**	**06 09 15.7**	**+0.2**
MIAR	**Mount Ida**	**42.66**	**344**	*e*P	**P**	**06 09 21.5**	**-0.3**
	3.5nm,0.8s,mb4.1						
WVT	**Waverly**	**43.01**	**352**	*e*P	**P**	**06 09 22.8**	**-1.9**
	3.4nm,0.9s,mb4.1						
WMOK	**Wichita Mounta**	**44.47**	**339**	*e*P	**P**	**06 09 36.1**	**-0.2**
	11nm,1.4s,mb4.4						
SIUC	**Southern Illin**	**44.78**	**351**	*e*P	**P**	**06 09 38.3**	**-0.5**
	9.7nm,0.7s,mb4.7						
ACSO	**Alum Creek Sta**	**46.65**	**358**	*e*P	**P**	**06 09 52.3**	**-1.3**
	6.2nm,0.8s,mb4.6						
ACSO				*e*	pP	06 10 09.4	+0.9
BRNJ	**Basking Ridge**	**47.42**	**7**	*e*P	**P**	**06 09 59.4**	**-0.1**
ANMO	**Albuquerque**	**47.87**	**331**	*e*P	**P**	**06 10 03.8**	**+0.7**
	2.2nm,1.0s,mb4.1						
TUC	**Tucson**	**48.06**	**325**	*e*P	**P**	**06 10 11.2**	**+6.6**
BINY	**Binghamton**	**48.78**	**5**	*e*P	**P**	**06 10 09.8**	**-0.3**
SDCO	**Great Sand Dun**	**49.74**	**334**	*e*P	**P**	**06 10 18.0**	**+0.5**
	1.8nm,0.7s,mb4.2						
ACCN	**Adirondack Com**	**50.19**	**7**	*e*P	**P**	**06 10 26.0**	**+5.2**
WUAZ	**Wupatki**	**50.79**	**328**	*e*P	**P**	**06 10 25.9**	**+0.6**
	6.3nm,0.9s,mb4.5						
RSSD	**Black Hills**	**54.66**	**340**	*e*P	**P**	**06 10 53.9**	**0.0**
	4.7nm,1.1s,mb4.4						
EYMN	**Ely**	**55.12**	**351**	*e*P	**P**	**06 10 56.3**	**-0.9**
HWUT	**Hardware Ranch**	**55.60**	**332**	*e*P	**P**	**06 10 59.5**	**-1.2**
	3.8nm,0.9s,mb4.4						
HWUT				*e*PcP	PcP	06 12 02.2	+2.5
HWUT				*e*		06 13 10.8	
BW06	**Boulder Array**	**55.64**	**335**	*e*P	**P**	**06 11 08.0**	**+7.0**
	6.1nm,1.4s,mb4.4						
PDAR	**Pinedale Array**	**55.64**	**335**	P	**P**	**06 10 59.8**	**-1.2**
	0.7nm,0.9s,mb3.7,baz=148,slow=8.7,SNR=5.3						
REDW	**Red Top Meadow**	**56.67**	**334**	*e*P	**P**	**06 11 16.3**	**+8.0**
TPAW	**Teton Pass**	**56.82**	**334**	*e*P	**P**	**06 11 12.1**	**+2.7**
	4.0nm,0.9s,mb4.5						
RRI2	**Red Ridge**	**56.87**	**334**	*e*P	**P**	**06 11 10.0**	**+0.3**
	7.3nm,1.1s,mb4.6						
ULM	**Lac du Bonnet**	**58.10**	**349**	P	**P**	**06 11 17.4**	**-1.1**
	2.9nm,0.9s,mb4.3,baz=170,slow=5.1,SNR=3.3						
GCMT	**Greycliff**	**58.17**	**337**	*e*P	**P**	**06 11 19.7**	**+0.8**
MCMT	**McKenzie Canyo**	**58.71**	**334**	*e*P	**P**	**06 11 24.7**	**+2.0**
DLMT	**Dillon**	**59.02**	**334**	*e*P	**P**	**06 11 32.7**	**+7.9**
	16nm,1.4s,mb4.8						
MSO	**Missoula**	**60.76**	**335**	*e*P	**P**	**06 11 37.4**	**+0.7**
	12nm,1.5s,mb4.8						
WALA	**Waterton Lakes**	**62.50**	**336**	*e*P	**P**	**06 11 48.8**	**+0.4**
	2.2nm,0.6s,mb4.5						
EDM	**Edmonton**	**65.63**	**339**	*e*P	**P**	**06 12 09.0**	**0.0**
DBIC	**Dimbokro**	**76.99**	**82**	P	**P**	**06 13 19.3**	**+1.8**
	6.5nm,0.9s,mb4.6,baz=282,slow=3.9,SNR=6.4						
DBIC				LR	LR	06 43 40.5	
	comp=Z,94nm,19.0s,MS4.1,baz=247,slow=33						
VNA3	**Neumayer Olymp**	**77.78**	**162**	*e*	**P**	**06 13 21.8**	**-0.1**
VNA3				*e*		06 13 29.2	
VNA1	**Neumayer--Stat**	**78.07**	**161**	*e*	**P**	**06 13 23.5**	**0.0**
VNA1				*e*		06 13 32.5	
SNAA	**Sanae**	**80.00**	**162**	*e*	**P**	**06 13 33.4**	**-0.7**
SNAA				*e*		06 13 41.3	
INK	**Inuvik**	**83.23**	**343**	P	**P**	**06 13 50.1**	**-0.9**
	3.2nm,1.1s,mb4.3,baz=109,slow=4.5,SNR=2.6						
INK	**Inuvik**	**83.23**	**343**	*e*P	**P**	**06 13 49.2**	**-1.9**
	6.5nm,1.1s,mb4.6						
EGAK	**Eagle**	**83.82**	**338**	*e*P	**P**	**06 13 53.0**	**-1.1**
EGAK				*e*PcP	PcP	06 14 01.0	+3.0
ESDC	**Sonseca Array**	**84.21**	**49**	P	**P**	**06 13 57.2**	**+1.0**
	6.1nm,0.8s,mb4.8,baz=264,slow=4.8,SNR=18						
ESLA	**Sonseca Array**	**84.21**	**49**	*e*P	**P**	**06 13 56.3**	**+0.2**
	0.9nm,0.8s,mb4.0						
TORD	**Torodi Ar. Bea**	**84.31**	**76**	P	**P**	**06 13 57.3**	**+0.7**
	3.5nm,0.8s,mb4.5,baz=298,slow=5.9,SNR=16						
TORD				LR	LR	06 49 36.4	
	comp=Z,137nm,18.8s,MS4.4,baz=215,slow=34						
ZAL	**Zalesovo**	**131.41**	**11**	PKP	PKPdf	06 20 37.0	+0.2
	2.0nm,0.3s,baz=171,slow=3.4,SNR=7.5						
ZAL	**Zalesovo**	**131.41**	**11**	PKP	PKPdf	06 20 37.0	+0.2
ASAR	**Alice Springs**	**134.62**	**227**	PKP	PKPdf	06 20 43.5	+0.7
	0.2nm,0.4s,baz=108,slow=3.0,SNR=3.5						
WRA	**Warramunga Arr**	**136.45**	**232**	PKP	PKPdf	06 20 47.8	+1.5
	1.0nm,1.0s,baz=133,slow=2.3,SNR=3.3						
MKAR	**Makanchi Array**	**137.43**	**17**	PKP	PKPdf	06 20 47.5	-0.6
	0.7nm,0.8s,baz=342,slow=1.9,SNR=3.8						
MKAR	**Makanchi Array**	**137.43**	**17**	PKP	PKPdf	06 20 47.5	-0.6
SONM	**Songino Array**	**138.46**	**353**	PKP	PKPdf	06 20 48.3	-1.6
	0.7nm,0.8s,baz=312,slow=1.7,SNR=4.6						

*NIED **14** 06:02:00, 4190N×14220E, h44^{km}, Mw4.1 Best double couple: M$_0$1.85000×10^{15} NP1:ϕ_s318.00000°, δ60.00000°, λ89.00000°. NP2:ϕ_s140.00000°, δ30.00000°, λ92.00000°.*
*JMA **14** 06:02:31.6±0.2, 4188N×14221E, h65^{km}±3^{km}, M4.0 Broadband fault plane solution: P waves. NP1: ϕ_s133.00000°, δ32.00000°, λ77.00000°. NP2: ϕ_s329.00000°, δ58.00000°, λ98.00000°. Principal axes: T Plg75.0000°, Azm262.0000°; N Plg7.0000°, Azm145.0000°; P Plg13.0000°, Azm53.0000°;*
JMA Felt I J1.
*ISCJB **14** 06:02:31.5±0.3, 4191N±003×142.19E±004, h67^{km}±2^{km}, mb4.2/28 Error ellipse: s-maj=5.5km s-min=3.3km az=95.0*
*NEIC **14** 06:02:31.7, 4188N×14222E, h65^{km}, mb4.4/2, After JMA.*
NEIC Recorded [1 JMA] in south-central Hokkaido and southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.
*MOS **14** 06:02:31.2±1.1, 4189N×14224E, h72^{km}, mb4.5/16, Error ellipse: s-maj=11.7km s-min=8.0km az=94.8*
*IDC **14** 06:02:33.0±0.7, 4192N×142.11E, h65^{km}±5^{km}, mb3.8/13, mb1 4.0/15, mb1mx3.9/23, mbtmp4.1/15, MS3.2/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=17.7km s-min=8.0km az=100.0*
ISC 14 06:02:32.5±0.3**, 4192N**±003×**14218E**±003**, h60**^{km}±3^{km}**, h67**^{km}±3.3^{km}**:pP-P, n70,** σ**0**^{s}**96**/87**, mb4.3**/28**, 2C-11D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.56**	**49**	P	**Pn**	**06 02 44.1**	**-1.0**
JNBK				*e*S	**Sn**	**06 02 53.2**	**-1.1**
ERM	**Erimo**	**0.73**	**82**	*e*Pn	**Pn**	**06 02 46.9**	**-0.3**
ERM				*e*Sn	**Sn**	**06 02 57.0**	**-0.9**
JEM	**Erimo**	**0.73**	**82**	P	**Pn**	**06 02 46.7**	**-0.5**
JEM				*e*S	**Sn**	**06 02 57.8**	**-0.1**
JKB	**Kayabe**	**0.86**	**268**	⇓P	**Pn**	**06 02 48.3**	**-0.4**
JKB				*e*S	**Sn**	**06 03 00.3**	**-0.4**
JBT2	**Biratori 2**	**0.87**	**9**	⇓P	**Pn**	**06 02 48.6**	**-0.2**
JBT2				*e*S	**Sn**	**06 03 01.5**	**+0.6**
JOT	**Ohata**	**1.01**	**238**	⇓P	**Pn**	**06 02 50.2**	**-0.4**
JOT				*e*S	**Sn**	**06 03 03.6**	**-0.4**
JNB	**Noboribetsu**	**1.01**	**303**	⇓P	**Pn**	**06 02 50.0**	**-0.7**
JNB				S	**Sn**	**06 03 03.3**	**-0.9**
JEW	**Eniwo**	**1.07**	**330**	⇑P	**Pn**	**06 02 51.7**	**+0.3**
JEW				S	**Sn**	**06 03 06.1**	**+0.6**
JCH	**Churui**	**1.12**	**51**	⇓P	**Pn**	**06 02 52.1**	**0.0**
JCH				S	**Sn**	**06 03 07.6**	**+1.0**
JFR	**Furan**	**1.28**	**14**	⇓P	**Pn**	**06 02 53.9**	**-0.3**
JFR				*e*S	**Sn**	**06 03 10.7**	**+0.2**

JYM2	Yakumo 2	1.37	279	P	Pn	06 02 55.1	-0.3
JSR	Shiriuchi	1.38	254	⇓P	Pn	06 02 55.2	-0.3
JSR				eS	Sn	06 03 13.1	+0.3
JTM	Tenmabayashi	1.41	217	⇓P	Pn	06 02 55.9	-0.1
JANG	Nango	1.62	198	⇓P	Pn	06 02 58.3	-0.6
JANG				S	Sn	06 03 18.2	-0.6
JAR	Ashorobuto	1.81	40	⇓P	Pn	06 03 01.4	+0.1
JAR				eS	Sn	06 03 23.9	+0.7
ASAJ	Asahikawa	2.22	8	P	Pn	06 03 07.5	+0.6
	97nm,0.3s,baz=223,slow=12,SNR=104						
ASAJ				S	Sn	06 03 34.6	+1.5
	36nm,0.3s,baz=316,slow=33,SNR=10						
ASAJ	Asahikawa	2.22	8	P	Pn	06 03 07.5	+0.6
ASAJ				S	Sn	06 03 34.6	+1.5
ASAJ				pmax	pmax		
	comp=Z,97nm,0.3s						
ASAJ				smax			
	comp=N,36nm,0.3s						
YUK	Yuzh-Kuril'sk	3.43	51	⇑iP	Pn	06 03 24.8	+1.4
YUK				iS	Sn	06 04 02.5	-0.3
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				pmax	pmax		
	comp=E,730nm,0.4s						
YUK				pmax	pmax		
	comp=N,700nm,0.5s						
YUK				smax			
	comp=N,3µm,1.0s						
YUK				smax			
	comp=E,4µm,1.0s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,1µm,0.5s						
YSS	Yuzh-Sakhalins	5.05	4	eP	Pn	06 03 47.5	+1.9
YSS				pmax	pmax		
	comp=Z,34nm,0.8s						
YSS	Yuzh-Sakhalins	5.05	4	ePn	Pn	06 03 47.5	+1.8
	comp=Z,34nm,0.8s						
KUR	Kuril'sk	5.29	49	⇓iP	Pn	06 03 47.0	-1.9
KUR				eS	Sn	06 04 48.0	-0.6
KUR				pmax	pmax		
	comp=N,40nm,0.7s						
KUR				pmax	pmax		
	comp=E,50nm,0.7s						
KUR				pmax	pmax		
	comp=Z,260nm,0.7s						
KUR				smax			
	comp=N,130nm,0.7s						
KUR				smax			
	comp=E,190nm,0.7s						
MAJO	Matsushiro	6.19	211	eP	Pn	06 04 02.4	+1.1
MAJO				pmax	pmax		
	comp=Z,27nm,0.5s						
MAJO	Matsushiro	6.19	211	ePn	Pn	06 04 02.4	+1.1
	comp=Z,27nm,0.5s						
MAT	Matsushiro	6.19	211	P	Pn	06 04 03.2	+1.9
MAT				eS	Sn	06 05 13.6	+2.9
MJAR	Matsushiro Arr	6.19	211	P	Pn	06 04 03.4	+2.1
	comp=Z,3.3nm,0.3s,baz=1.5,slow=18,SNR=19						
MJAR				LR	LR	06 06 46.5	
	comp=Z,240nm,21.8s,baz=50,slow=41						
HIA	Hailar	17.30	303	eP	Pn	06 06 32.1	+2.3
ULN	Ulaanbaatar	25.43	296	eP	P	06 07 53.3	-1.2
SONM	Songino Array	25.88	295	P	P	06 07 58.7	+0.2
	comp=Z,1.8nm,0.5s,mb3.9,baz=78,slow=8.9,SNR=17						
TLY	Talaya	27.84	304	eP	P	06 08 16.2	+0.1
BILL	Bilibino	29.19	18	P	P	06 08 30.0	+1.8
ZAL	Zalesovo	39.23	308	P	P	06 09 55.0	+0.1
	comp=Z,4.1nm,0.6s,mb4.3,baz=25,slow=9.0,SNR=13						
ZAL	Zalesovo	39.23	308	iP	P	06 09 55.5	+0.6
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	Makanchi Array	42.20	298	P	P	06 10 18.4	-0.9
MK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
MKAR	Makanchi Array	42.20	298	P	P	06 10 18.9	-0.4
	comp=Z,3.4nm,0.7s,mb4.1,baz=76,slow=10,SNR=21						
MKAR	Makanchi Array	42.20	298	iP	P	06 10 19.6	+0.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GUN	Gumba	47.44	272	eP	P	06 11 02.2	+1.2
	comp=Z,36nm,0.6s,mb5.5						
CHKZ	Chkalovo	47.52	310	eP	P	06 11 00.9	-0.7
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	Chkalovo	47.52	310	eP	P	06 11 00.9	-0.7
	comp=Z,2.2nm,0.5s,mb4.4						
VOSK	Vostochnaya	47.58	309	P	P	06 10 57.9	-4.2
VOSK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
KKN	Kakani	47.95	272	eP	P	06 11 06.2	+1.2
	comp=Z,23nm,0.8s,mb5.3						
PKI	Pulchoki	47.98	272	eP	P	06 11 05.8	+0.6
TKM2	Tokmak 2	47.98	295	P	P	06 11 02.2	-2.9
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
DMN	Daman	48.18	272	eP	P	06 11 07.5	+0.8
	comp=Z,12nm,0.7s,mb5.0						
GKN	Gorkha	48.32	273	eP	P	06 11 08.3	+0.5
	comp=Z,12nm,0.7s,mb5.0						
ZRNK	Zerenda	48.66	310	eP	P	06 11 09.7	-0.7
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZRNK	Zerenda	48.66	310	eP	P	06 11 09.7	-0.6
	comp=Z,1.8nm,0.5s,mb4.4						
AAK	Ala-Archa	48.83	295	eP	P	06 11 09.9	-1.9
KOLN	Koldanda	49.22	273	eP	P	06 11 15.5	+0.8
INK	Inuvik	49.80	29	P	P	06 11 19.8	+0.7
	comp=Z,0.8nm,0.4s,mb4.1,baz=302,slow=4.3,SNR=7.7						
KK31	Karatay Array	51.31	297	iP	P	06 11 29.8	-0.7
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KKAR	Karatay Array	51.31	297	P	P	06 11 29.8	-0.7
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ARU	Arti	53.17	316	eP	P	06 11 42.7	-1.6
ARU				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
AB31	Akbulak array	55.33	308	iP	P	06 12 00.1	+0.1
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AKTO	Aktyubinsk	55.93	310	P	P	06 12 13.3	+9.0
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.8						
JOF	Joensuu	61.96	331	ep	P	06 12 44.7	-1.4
	comp=Z,3.1nm,0.4s,mb4.8						
JOF	Joensuu	61.96	331	eP	P	06 12 44.7	-1.4
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.8						
WRA	Warramunga Arr	61.97	188	P	P	06 12 45.7	-0.5
	comp=Z,1.5nm,0.4s,mb4.5,baz=6.5,slow=6.9,SNR=35						
WRA				pP	pP	06 13 03.3	+1.0
	comp=Z,1.3nm,0.5s,baz=5.7,slow=6.8,SNR=5.1						
FINES	FINESS Array B	64.79	332	P	P	06 13 03.8	-1.0
	comp=Z,2.0nm,0.5s,mb4.4,baz=54,slow=7.8,SNR=14						
FINES				pP	pP	06 13 21.6	+0.5
	comp=Z,2.0nm,0.6s,baz=56,slow=7.1,SNR=3.1						
ASAR	Alice Springs	65.70	188	P	P	06 13 10.3	-0.4
	comp=Z,0.6nm,0.4s,mb4.0,baz=5.1,slow=7.2,SNR=11						
ASAR				pP	pP	06 13 28.6	+1.7
	comp=Z,1.1nm,0.7s,baz=3.5,slow=4.9,SNR=5.9						
NB2	NORSAR Subarra	69.92	337	P	P	06 13 36.7	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=37,slow=6.2						
NOA	NORSAR Array B	69.92	337	P	P	06 13 36.7	-0.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=36,slow=6.1,SNR=5.4						
NOA				pP	pP	06 13 52.5	-1.2
	comp=Z,0.8nm,0.8s,baz=40,slow=6.0,SNR=2.4						
NOA	NORSAR Array B	69.92	337	P	P	06 13 36.7	-0.5
NOA				*PP	pP	06 13 52.5	-1.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	Malin Array Be	70.82	322	P	P	06 13 42.3	-0.4
	comp=Z,1.3nm,0.4s,mb4.2,baz=44,slow=6.4,SNR=14						
AKASG	Malin Array Be	70.82	322	P	P	06 13 42.3	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	Mina Array Bea	71.63	55	P	P	06 13 48.5	+1.0
	comp=Z,0.5nm,0.5s,mb3.7,baz=298,slow=5.8,SNR=5.7						
PDAR	Pinedale Array	73.85	47	P	P	06 14 01.8	+1.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=287,slow=1.6,SNR=9.6						
BRTR	Keskin Array B	76.08	311	P	P	06 14 13.6	0.0
	comp=Z,1.3nm,0.7s,mb4.0,baz=84,slow=4.6,SNR=5.7						
BRTR	Keskin Array B	76.08	311	P	P	06 14 13.6	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	78.88	328	P	P	06 14 28.3	-0.9
	comp=Z,0.4nm,0.3s,mb3.9,baz=61,slow=6.3,SNR=3.6						
SIV	San Ignacio	147.32	45	PKPbc	PKPbc	06 22 08.3	-0.9
	comp=Z,2.0nm,0.8s,baz=270,slow=2.8,SNR=11						

LDG 14 06:53:56.6±0.1, 43.13N×1.04W, h22km, Md2.1/2, Ml2.3/3, Error ellipse: s-maj=2.6km s-min=1.3km az=13.0

STR 14 06:53:57.4±0.3, 43.22N×0.97W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

MDD 14 06:53:57.6±0.3, 43.17N×1.02W, h16km±3km, mbLg1.9/11, Error ellipse: s-maj=3.5km s-min=1.7km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	Ordiarp	0.08	54	P	Pg	06 54 00.7	-0.1
ORDF				S	Sg	06 54 03.8	+0.9
LARF	Larrau	0.13	168	Pg	Pg	06 54 01.0	-0.3
LARF				Sg	Sg	06 54 04.3	+0.5
LARF	Larrau	0.13	168	P	Pg	06 54 01.1	-0.2
LARF				S	Sg	06 54 04.4	+0.6
SJPF	Ste Jean	0.16	250	ePg	Pg	06 54 01.6	-0.1
SJPF				eSg	Sg	06 54 04.4	0.0
	51nm,0.2s						
SJPF	Ste Jean	0.16	250	Pg	Pg	06 54 01.6	-0.1
SJPF				Lg		06 54 04.4	
	26nm,0.2s						
OSSF	Osses	0.20	297	Pg	Pg	06 54 02.0	-0.3
OSSF				Sg	Sg	06 54 05.3	-0.1
OSSF	Osses	0.20	297	P	Pg	06 54 01.8	-0.4
OSSF				S	Sg	06 54 05.3	-0.1
ATE	Arette	0.25	109	Pg	Pg	06 54 02.6	-0.6
ATE				Sg	Sg	06 54 07.2	+0.3
ATE	Arette	0.25	109	P	Pg	06 54 02.4	-0.8
ATE				S	Sg	06 54 06.6	-0.3
EALK	Alkurruntz	0.36	279	Pg	Pg	06 54 04.4	-0.7
	8.9nm,0.1s,SNR=7.9						
EALK				Lg		06 54 09.7	
	78nm,0.1s,SNR=41						
ELIZ	Elizondo	0.37	270	Pg	Pg	06 54 04.5	-0.7
	8.3nm,0.1s,SNR=37						
ELIZ				Lg		06 54 09.3	
	37nm,0.1s,SNR=44						
ETSF	Etsaut	0.43	128	ePg	Pg	06 54 05.6	-0.8
ETSF				eSg	Sg	06 54 11.5	-0.8
	105nm,0.2s						
ETSF	Etsaut	0.43	128	Pg	Pg	06 54 05.6	-0.8
ETSF				Lg		06 54 11.5	
	52nm,0.2s						
IPRE	Itoiz	0.43	214	Pg	Pg	06 54 06.7	+0.3
	1.2nm,0.1s,SNR=9.5						
IPRE				Lg		06 54 12.3	
	8.1nm,0.2s,SNR=7.9						
IUSE	Utxeti	0.44	240	Pg	Pg	06 54 06.0	-0.5
	2.1nm,0.1s,SNR=12						
IUSE				Lg		06 54 11.8	
	40nm,0.2s,SNR=5.6						
REYF	Montagne du Re	0.47	102	Pg	Pg	06 54 06.4	-0.7
REYF	Montagne du Re	0.47	102	P	Pg	06 54 06.5	-0.6
REYF				S	Sg	06 54 12.3	-1.1
FDAF	Les Forges d'A	0.48	136	P	Pg	06 54 06.2	-1.1
FDAF				S	Sg	06 54 13.1	-0.7
EARA	Aranguren	0.57	226	Pg	Pg	06 54 08.7	-0.2
	5.3nm,0.1s,SNR=7.9						
EARA				Lg		06 54 16.6	
	7.7nm,0.1s,SNR=7.9						
LABF	Labassere	0.81	98	S	Sb	06 54 23.3	-0.8
VIEF	Viey	0.82	110	Pg	Pg	06 54 12.3	-1.3
VIEF				Sg	Sg	06 54 22.7	-1.7
VIEF	Viey	0.82	110	P	Pb	06 54 12.5	-1.0
VIEF				S	Sb	06 54 22.8	-1.6
EBIE	Bielsa	0.98	119	Lg		06 54 28.4	
	10nm,0.1s,SNR=7.7						
EPF	Esparros	1.01	97	ePg	Pg	06 54 16.0	-1.2
EPF				eSg	Sg	06 54 30.1	-0.3
	8.2nm,0.2s						
EPF	Esparros	1.01	97	Pg	Pg	06 54 16.0	-1.2
EPF				Lg		06 54 30.1	
	4.1nm,0.2s						
RESF	Ens	1.06	109	S	Sb	06 54 31.1	-0.3
ESAC	San Caprasio	1.50	164	Pg	Pg	06 54 25.3	-1.3
	5.8nm,0.2s,SNR=7.8						
ESAC				Lg		06 54 44.4	
	7.2nm,0.1s,SNR=103						
SALF	Salau	1.68	103	S	Sn	06 54 49.8	+2.3
ELAN	Lanestosa	1.76	273	Pn	Pn	06 54 27.5	0.0
	0.7nm,0.3s,SNR=5.5						
ELAN				Sn	Sn	06 54 50.1	+0.4
	0.2nm,0.3s,SNR=7.9						
LFF	La Frestale	2.18	35	eSg	Sg	06 55 06.7	-1.1
	4.7nm,0.2s						
LFF	La Frestale	2.18	35	Lg		06 55 06.7	
	2.3nm,0.2s						
MTLF	Montolieu	2.38	85	eSg	Sg	06 55 12.0	-2.0
	1.4nm,0.3s						
MTLF	Montolieu	2.38	85	Lg		06 55 12.0	
	0.7nm,0.3s						
EPOB	Poblet	2.39	139	Pg	Pg	06 54 38.8	-4.7
	0.5nm,0.2s,SNR=7.9						
EPOB				Sn	Sn	06 55 03.1	-2.0
	0.7nm,0.1s,SNR=7.9						
EPOB				Lg		06 55 11.0	
	0.8nm,0.1s,SNR=7.9						

MAN 14 07:35:47.3, 8.50N×126.43E, h59km, mb3.4, ML4.6, MS4.3, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	1.58	324	⇑eP	Pn	07 36 13.9	+0.9
SCPH				eS	Sn	07 36 35.8	+3.5
DAV	Davao City (W)	1.65	211	eP	Pn	07 36 20.0	+6.0
CGP	Cagayan de Oro	1.72	269	⇑iP	Pn	07 36 17.1	+2.2
CGP				iS	Sn	07 36 37.9	+2.1
TBP	Tagbilaran	2.80	295	eP	Pn	07 36 31.2	+1.6
TBP				eS	Sn	07 37 03.5	+1.3
LLP	Lapu-Lapu	3.03	307	⇑eP	Pn	07 36 34.6	+1.9
LLP				eS	Sn	07 37 09.2	+1.4
DCPH	Dipolog City	3.04	272	⇑eP	Pn	07 36 34.4	+1.4
DCPH				eS	Sn	07 37 05.4	-2.8

IDC 14 07:37:09.2±0.7, 20.43S×174.23W, h0km, mb4.6/9, mb1 4.9/12, mb1mx4.7/19, mbtmp4.7/12, ML5.2/2, MS4.1/17, Ms1 4.1/17, ms1mx3.9/27, Error ellipse: s-maj=26.8km s-min=15.9km az=124.0

SZGRF 14 07:37:13.0, 21.52S×173.45W, h40km, Tonga Islands

ISCJB 14 07:37:13.5±3.3, 20.71S±0.08×174.38W±0.09, h33km±29km, mb4.9/38, MS4.1/18, Error ellipse: s-maj=14.3km s-min=12.7km az=82.6

BJI 14 07:37:17.0, 20.49S×174.71W, h49km, mB5.2, mb4.9, Ms5.3, Msz4.8

NEIC 14 07:37:19.6±0.6, 20.63S×174.89W, h47km±5km, mb4.9/24, Error ellipse: s-maj=13.6km s-min=6.9km az=134.0

MOS 14 07:37:19.5±2.5, 20.69S×175.00W, h52km, mb5.2/10, Error ellipse: s-maj=12.9km s-min=10.6km az=45.9

ISC 14 07:37:16.7±2.3, 20.70S±0.08×174.27W±0.08, h47km±20km, h45km±9km:pP-P, n168, σ1.08/105, mb4.9/38, MS4.1/18, 2C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.16	20	Pn	Pn	07 38 50.5	-8.3
	21nm,0.3s,baz=64,slow=8.5,SNR=17						
AFI				Sn	Sn	07 40 02.9	-16
	54nm,0.3s,baz=102,slow=18,SNR=6.1						
RAO	Raoul Island	9.13	201	Pn	Pn	07 39 24.9	-0.9
	44nm,0.3s,baz=49,slow=19,SNR=2.8						
RAO				Sn	Sn	07 41 06.3	-1.0
	77nm,0.3s,baz=76,slow=23,SNR=7.7						
RAO	Raoul Island	9.13	201	eP	Pn	07 39 26.3	+0.5
RAO						07 41 06.3	
RAO	Raoul Island	9.13	201	ePn	Pn	07 39 26.3	+0.4
RAO				eSn	Sn	07 41 06.0	-1.2
RAO				Sn	Sn	07 41 06.3	-1.0
RAR	Rarotonga	13.55	95	Pn	Pn	07 40 16.2	-10
	5.7nm,0.3s,baz=156,slow=6.4,SNR=8.8						
RAR				Sn	Sn	07 42 28.2	-27
	8.8nm,0.3s,baz=242,slow=23,SNR=5.2						
RAR				LR	LR	07 44 10.4	
	comp=Z,875nm,21.9s,baz=285,slow=31						
DZM	Mont Dzumac	18.01	262	P	Pn	07 41 26.4	+2.8
	1.8nm,0.3s,baz=91,slow=16,SNR=16						
DZM				LR	LR	07 46 31.0	
	comp=Z,175nm,21.9s,baz=23,slow=31						
URZ	Urewera	19.02	201	P	Pn	07 41 35.6	-0.1
	3.4nm,0.3s,baz=354,slow=4.3,SNR=21						
URZ				S	S	07 44 52.9	-15
	0.7nm,0.3s,baz=113,slow=19,SNR=6.0						
NNZ	Nelson	22.98	204	ePN	P	07 42 15.9	-1.4
QRZ	Quartz Range	22.99	206	ePN	P	07 42 19.9	+2.5
PPT	Papeete	23.53	87	eLR	LR	07 47 37.6	
	2µm,27.2s,baz=254						
PPT	Papeete	23.53	87	LR	LR	07 50 02.8	
	comp=Z,275nm,19.5s,MS3.7,baz=301,slow=33						
THZ	Tophouse	23.64	204	ePN	P	07 42 21.8	-1.8
WVZ	Waitaha Valley	25.61	206	ePN	P	07 42 42.6	+1.1
RPZ	Rata Peaks	26.01	205	P	P	07 42 47.5	+2.2
	8.0nm,0.4s,mb4.6,baz=25,slow=9.0,SNR=13						
HNR	Honiara	27.25	290	LR	LR	07 52 15.2	
	comp=Z,402nm,20.4s,MS4.0,baz=180,slow=33						
HNR	Honiara	27.25	290	eP	P	07 42 58.0	+1.6
HNR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
HNR	Honiara	27.25	290	eP	P	07 42 58.0	+1.6
	comp=Z,123nm,0.9s,mb5.4						
TAOE	Nuku Hiva Isla	34.95	75	eLR	LR	07 52 51.1	
	comp=Z,2µm,28.4s						
CNB	Canberra Magne	35.04	238	eP	P	07 44 05.1	+0.2
	comp=Z,18nm,0.8s,mb5.0						
RKT	Rikitea	36.47	101	eLR	LR	07 53 26.1	
	comp=Z,1µm,29.8s,baz=269						
CTA	Charters Tower	36.95	264	eP	P	07 44 21.3	+0.1
	comp=Z,8.7nm,0.4s,mb4.9						
CTA	Charters Tower	36.95	264	P	P	07 44 21.3	+0.1
	comp=Z,12nm,0.5s,mb5.0,baz=87,slow=10,SNR=28						
CTA	Charters Tower	36.95	264	P	P	07 44 21.3	+0.1
CTA				pmax	pmax		
	comp=Z,12nm,0.5s						
CTAO	Charters Tower	36.95	264	eP	P	07 44 19.0	-2.2
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb5.0						
CTAO	Charters Tower	36.95	264	eP	P	07 44 19.0	-2.2
	comp=Z,10nm,0.4s,mb5.0						
TOO	Toolangi	38.63	235	eP	P	07 44 36.0	+0.6
	comp=Z,12nm,0.6s,mb4.8						
TOO	Toolangi	38.63	235	eP	P	07 44 36.0	+0.6
TOO				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
PMG	Port Moresby	38.80	281	LR	LR	07 58 04.1	
	comp=Z,195nm,20.6s,MS3.9,baz=167,slow=32						
PMG	Port Moresby	38.80	281	eP	P	07 44 37.5	+0.6
PMG				pmax	pmax		
	comp=Z,13nm,0.6s						
PMG	Port Moresby	38.80	281	eP	P	07 44 37.5	+0.6
	comp=Z,13nm,0.6s,mb4.8						
STKA	Stephens Creek	40.86	245	eP	P	07 44 53.7	-0.2
	comp=Z,9.7nm,0.8s,mb4.5						
STKA	Stephens Creek	40.86	245	P	P	07 44 53.5	-0.4
	comp=Z,9.7nm,0.6s,mb4.6,baz=88,slow=9.5,SNR=26						
STKA				LR	LR	08 01 09.6	
	comp=Z,236nm,19.5s,MS4.1,baz=30,slow=35						
AS31	Alice Springs	47.87	256	⇓iP	P	07 45 49.7	-0.3
ASAR	Alice Springs	47.87	256	P	P	07 45 49.5	-0.5
	comp=Z,29nm,1.0s,mb5.2,baz=99,slow=7.6,SNR=132						
ASAR				PcP	PcP	07 47 18.4	+0.3
	comp=Z,1.0nm,0.4s,baz=103,slow=4.8,SNR=3.3						
ASAR				LR	LR	08 03 39.5	
	comp=Z,263nm,20.3s,MS4.2,baz=178,slow=33						
ASAR	Alice Springs	47.87	256	P	P	07 45 49.5	-0.5
ASAR						07 47 18.4	
ASPA	Alice Springs	47.87	256	⇓iP	P	07 45 49.7	-0.3
WB2	Warramunga Arr	48.02	261	eP	P	07 45 49.9	-1.2
WB2	Warramunga Arr	48.02	261	eP	P	07 45 50.3	-0.8
WRAB	Tennant Creek	48.02	261	eP	P	07 45 49.0	-2.1
WRAB				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
WRAB	Tennant Creek	48.02	261	eP	P	07 45 49.0	-2.2
	comp=Z,23nm,0.8s,mb5.3						
WRA	Warramunga Arr	48.03	261	P	P	07 45 50.1	-1.1
	comp=Z,3.5nm,0.4s,mb4.7,baz=95,slow=7.5,SNR=105						
WRA				PcP	PcP	07 47 19.1	+0.5
	comp=Z,2.3nm,0.5s,baz=100,slow=3.2,SNR=5.8						
WRA				LR	LR	08 05 28.9	
	comp=Z,124nm,19.7s,MS3.9,baz=85,slow=35						
WRA	Warramunga Arr	48.03	261	P	P	07 45 50.1	-1.1
WRA						07 47 19.1	
WRA	Warramunga Arr	48.03	261	P	P	07 45 50.1	-1.1
WRA				PcP	PcP	07 47 19.1	+0.5
WRA				LR	LR	08 05 28.9	
KAKA	Kakadu	51.47	270	⇓iP	P	07 46 17.0	-0.3
	comp=Z,15nm,0.4s,mb5.3						
FORT	Forrest	52.42	247	eP	P	07 46 23.7	-0.7
	comp=Z,19nm,0.5s,mb5.3						
FITZ	Fitzroy Crossi	56.46	262	eP	P	07 46 53.8	+0.1
	comp=Z,7.8nm,0.4s,mb5.1						
SBA	Scott Base	57.93	185	eP	P	07 47 05.3	+1.2
SBA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
SBA	Scott Base	57.93	185	eP	P	07 47 05.3	+1.2
	comp=Z,6.2nm,0.8s,mb4.7						
VNDA	Vanda	58.05	186	P	P	07 47 05.7	+0.7
	comp=Z,0.8nm,0.8s,mb3.8,baz=360,slow=7.3,SNR=7.5						
VNDA				LR	LR	08 07 34.7	
	comp=Z,168nm,21.4s,MS4.1,baz=310,slow=31						
KLBR	Kellerberrin	61.13	245	eP	P	07 47 26.5	+0.3
	comp=Z,55nm,1.4s,mb5.5						
MBWA	Marble Bar	61.21	257	eP	P	07 47 26.2	-0.5
	comp=Z,21nm,0.5s,mb5.5						
NWAO	Narrogin (SRO)	61.40	243	eP	P	07 47 28.7	+0.7
NWAO				pmax	pmax		
	comp=Z,18nm,1.3s						
NWAO	Narrogin (SRO)	61.40	243	eP	P	07 47 28.7	+0.8
	comp=Z,18nm,1.3s,mb5.0						
MUN	Mundaring	62.38	244	eP	P	07 47 35.5	+0.9
CBIJ	Chichi jima	63.53	317	LR	LR	08 08 58.5	
	comp=Z,239nm,19.9s,MS4.4,baz=21,slow=30						
QSPA	South Pole Qui	69.37	180	eP	P	07 48 19.2	-0.3
	comp=Z,11nm,1.1s,mb4.7						
MJAR	Matsushiro Arr	72.49	321	P	P	07 48 37.9	-0.6
	comp=Z,3.7nm,0.5s,mb4.6,baz=156,slow=5.4,SNR=12						
MJAR				LR	LR	08 19 22.0	
	comp=Z,103nm,19.0s,MS4.1,baz=145,slow=35						
MJAR	Matsushiro Arr	72.49	321	P	P	07 48 37.9	-0.6
MJAR				LR	LR	08 19 22.0	
MAJO	Matsushiro	72.49	321	eP	P	07 48 38.2	-0.3
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
MAJO	Matsushiro	72.49	321	eP	P	07 48 38.2	-0.3
	comp=Z,6.9nm,0.4s,mb4.9						
MAT	Matsushiro	72.49	321	P	P	07 48 37.8	-0.7
MAT				eS	S	07 57 58.0	-1.2
JOW	Kunigami	73.01	308	LR	LR	08 17 52.2	
	comp=Z,119nm,19.3s,MS4.2,baz=98,slow=34						
ASAJ	Asahikawa	75.62	329	LR	LR	08 15 36.8	
	comp=Z,176nm,22.0s,MS4.3,baz=158,slow=31						
ISA	Isabella	77.02	44	eP	P	07 49 11.9	+7.2
	comp=Z,0.7nm,0.5s,mb3.9						
CMB	Columbia Colle	77.28	41	eP	P	07 49 11.7	+5.6
CMB				e	pP	07 49 24.2	+4.5
CMB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CMB	Columbia Colle	77.28	41	eP	P	07 49 11.7	+5.6
	comp=Z,2.5nm,0.6s,mb4.3						
CMB				e	pP	07 49 24.2	+4.4
YSS	Yuzh-Sakhalins	77.69	331	eP	P	07 49 08.0	-0.4
YSS				e	pP	07 49 21.0	-1.0
YSS				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
YSS	Yuzh-Sakhalins	77.69	331	eP	P	07 49 08.3	-0.1
	comp=Z,24nm,1.0s,mb5.1						
MTUM	Tungsten Hills	77.99	42	eP	P	07 49 15.1	+5.0
NVAR	Mina Array Bea	78.81	42	P	P	07 49 13.7	-0.9
	comp=Z,1.9nm,0.8s,mb4.1,baz=215,slow=7.9,SNR=13						
TUC	Tucson	80.39	50	eP	P	07 49 23.1	-0.1
TUC				e*PP	pP	07 49 42.5	+5.7
SSE	Sheshan	80.53	308	eP	P	07 49 23.3	-0.6
SSE				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,105nm,3.5s						
SSE				LR	LR		
	comp=Z,92nm,37.0s,MS3.9						
WUAZ	Wupatki	81.68	47	eP	P	07 49 35.5	+5.5
	comp=Z,7.2nm,1.1s,mb4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WUAZ				*e*PcP	PcP	07 49 41.2	+5.5
HABR	**Khabarovsk**	**82.39**	**329**	*e*P	**P**	**07 49 34.8**	**+1.1**
HABR				*e*S	S	07 59 40.1	-6.2
MDJ	**Mudanjiang**	**82.73**	**323**	P	**P**	**07 49 35.1**	**-0.4**
MDJ				AP	pP	07 49 47.4	-1.8
MDJ				XP	sP	07 49 52.0	-2.5
MDJ				PP	PP	07 52 42.5	-3.3
MDJ				S	S	07 59 45.3	-4.5
MDJ				XS	sS	08 00 07.4	-5.4
MDJ				SS	SS	08 05 05.8	-6.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,95nm,5.1s						
MDJ				LR	LR		
	comp=N,95nm,19.6s,MS4.3						
MDJ				LR	LR		
	comp=E,93nm,18.2s,MS4.3						
MDJ				LR	LR		
	comp=Z,150nm,28.0s						
MDJ	**Mudanjiang**	**82.73**	**323**	*e*P	**P**	**07 49 35.5**	**-0.1**
	comp=Z,16nm,1.1s,mb5.0						
MSU	**Marysvale**	**82.77**	**44**	*e*P	**P**	**07 49 40.9**	**+5.2**
SVW2	**Sparrevohn**	**82.89**	**9**	*e*P	**P**	**07 49 36.6**	**+0.3**
SVW2				*e*	pP	07 49 49.5	-0.6
TMUT	**Trail Mountain**	**83.83**	**44**	*e*P	**P**	**07 49 40.8**	**-0.4**
MNTX	**Cornudas Mount**	**84.05**	**53**	*e*P	**P**	**07 49 48.0**	**+5.7**
	comp=Z,3.7nm,1.2s,mb4.4						
SRU	**San Rafael**	**84.18**	**45**	*e*P	**P**	**07 49 50.0**	**+7.0**
HLID	**Hailey**	**84.23**	**39**	*e*P	**P**	**07 49 42.2**	**-1.0**
	comp=Z,8.1nm,1.1s,mb4.8						
CN2	**Changchun**	**84.63**	**321**	*e*P	**P**	**07 49 45.8**	**+0.6**
ANMO	**Albuquerque**	**84.83**	**50**	*e*P	**P**	**07 49 52.8**	**+6.5**
ANMO	**Albuquerque**	**84.83**	**50**	*e*P	**P**	**07 49 53.4**	**+7.1**
HWUT	**Hardware Ranch**	**84.86**	**42**	*e*P	**P**	**07 49 55.5**	**+9.1**
MCMT	**McKenzie Canyo**	**85.88**	**39**	*e*P	**P**	**07 49 56.1**	**+4.6**
RRI2	**Red Ridge**	**85.97**	**41**	*e*P	**P**	**07 49 57.2**	**+5.3**
	comp=Z,8.3nm,1.4s,mb4.8						
REDW	**Red Top Meadow**	**86.27**	**41**	*e*P	**P**	**07 49 58.0**	**+4.6**
	comp=Z,12nm,1.5s,mb4.9						
DLMT	**Dillon**	**86.33**	**38**	*e*P	**P**	**07 49 59.2**	**+5.5**
	comp=Z,5.8nm,1.1s,mb4.7						
MCK	**McKinley**	**86.46**	**11**	*e*P	**P**	**07 49 56.0**	**+1.7**
MCK				*e*	pP	07 50 09.3	+1.2
PLCA	**Paso Flores**	**86.58**	**132**	LR	LR	08 21 28.4	
	comp=Z,324nm,21.5s,MS4.7,baz=48,slow=31						
PDAR	**Pinedale Array**	**86.75**	**42**	P	**P**	**07 49 53.1**	**-2.7**
	comp=Z,0.8nm,0.9s,mb4.0,baz=196,slow=2.6,SNR=5.8						
PDAR				LR	LR	08 24 58.6	
	comp=Z,62nm,18.1s,MS4.1,baz=354,slow=33						
SYO	**Syowa Base**	**87.27**	**192**	⇑*e*P	**P**	**07 50 04.2**	**+5.9**
SYO	**Syowa Base**	**87.27**	**192**	⇓*e*PcP	PcP	07 50 06.0	+5.7
SEY	**Seymchan**	**87.41**	**345**	*e*P	**P**	**07 49 56.9**	**-2.0**
VNA3	**Neumayer Olymp**	**87.68**	**175**	*e*P	**P**	**07 50 06.7**	**+6.4**
VNA3				*e*		07 50 08.1	
VNA3				*e*		07 50 11.7	
VNA3				*e*	pP	07 50 19.1	+5.0
VNA3				*e*		07 50 28.3	
VNA3				*e*		07 50 37.2	
SNAA	**Sanae**	**87.68**	**177**	*e*P	**P**	**07 50 08.9**	**+8.6**
SNAA				*e*		07 50 10.2	
SNAA				*e*		07 50 15.8	
SNAA				*e*	pP	07 50 20.9	+6.8
COLA	**College**	**87.70**	**11**	*e*P	**P**	**07 50 01.6**	**+1.3**
COLA				*e*	pP	07 50 15.4	+1.2
COLA				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.3						
COLA	**College**	**87.70**	**11**	*e*P	**P**	**07 50 01.7**	**+1.4**
COLA	**College**	**87.70**	**11**	*e*P	**P**	**07 50 01.6**	**+1.2**
	comp=Z,17nm,0.9s,mb5.3						
COLA				*e*	pP	07 50 15.3	+1.2
VNA1	**Neumayer--Stat**	**88.37**	**175**	*e*P	**P**	**07 50 11.3**	**+7.8**
VNA1				*e*		07 50 12.8	
VNA1				*e*		07 50 17.2	
VNA1				*e*	pP	07 50 24.5	+7.1
VNA1				*e*		07 50 31.2	
BJI	**Beijing**	**88.52**	**314**	P	**P**	**07 50 04.6**	**+0.4**
DAWY	**Dawson**	**88.73**	**15**	*e*P	**P**	**07 50 05.7**	**+0.5**
DAWY				*e*	pP	07 50 19.4	+0.3
EGAK	**Eagle**	**88.94**	**14**	*e*P	**P**	**07 50 08.2**	**+2.0**
EGAK				*e*	pP	07 50 21.5	+1.4
BILL	**Bilibino**	**89.63**	**353**	*e*P	**P**	**07 50 08.8**	**-0.7**
BILL				pmax	pmax		
	comp=Z,100nm,3.0s						
RSSD	**Black Hills**	**90.90**	**43**	*e*pP	pP	07 50 33.7	+4.5
HIA	**Hailar**	**90.92**	**323**	*e*P	**P**	**07 50 10.3**	**-5.1**
HHC	**Hu-ho-hao-te**	**92.02**	**313**	*e*P	**P**	**07 50 21.0**	**+0.5**
HHC				AP	pP	07 50 34.5	+0.1
HHC				XP	sP	07 50 39.6	0.0
HHC				PP	PP	07 53 59.8	-0.7
HHC				SKS		08 00 47.0	
HHC				S	S	08 01 12.1	-6.8
HHC				XS	sS	08 01 34.8	-7.4
HHC				SS	SS	08 07 19.0	-9.4
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.7						
HHC				AMB	AMB		
	comp=Z,116nm,4.6s						
HHC				LR	LR		
	comp=N,132nm,6.5s						
HHC				LR	LR		
	comp=E,113nm,7.5s						
HHC				LR	LR		
	comp=Z,109nm,8.8s						
KMI	**Kunming**	**92.57**	**296**	P	**P**	**07 50 23.9**	**+0.8**
KMI				S	S	08 01 16.0	-7.8
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb5.2						
KMI				LR	LR		
	comp=Z,136nm,28.3s,MS4.2						
DGMT	**Dagmar**	**92.86**	**39**	*e*pP	pP	07 50 43.4	+5.1
LZH	**Lanzhou**	**95.68**	**306**	*e*P	**P**	**07 50 38.5**	**+1.1**
LZH				AP	pP	07 50 50.5	-0.8
LZH				XP	sP	07 50 54.5	-2.0
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.5						
ULN	**Ulaanbaatar**	**97.82**	**318**	*e*P	**P**	**07 50 45.0**	**-2.1**
SONM	**Songino Array**	**98.22**	**318**	LR	LR	08 33 27.8	
	comp=Z,63nm,18.4s,MS4.1,baz=357,slow=34						
LPAZ	**La Paz**	**98.74**	**111**	LR	LR	08 23 19.3	
	comp=Z,60nm,20.4s,MS4.1,baz=244,slow=28						
ARU	**Arti**	**127.33**	**326**	*e*PKIKP	PKPdf	07 56 13.9	-2.2
ARCES	**ARCESS Array B**	**129.70**	**351**	PKP	PKPdf	07 56 18.2	-2.4
	comp=Z,2.0nm,0.7s,baz=304,slow=0.9,SNR=6.9						
AKASG	**Malin Array Be**	**144.81**	**334**	PKP	PKPdf	07 56 46.0	-2.5
	comp=Z,3.7nm,0.5s,baz=34,slow=3.6,SNR=26						
AKASG	**Malin Array Be**	**144.81**	**334**	PKHKP		07 56 46.0	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKBB	**Malin Array Si**	**144.81**	**334**	*e*PKHKP		07 56 45.9	
BSEG	**Bad Segeberg**	**146.64**	**355**	*e*PKPbc	PKPbc	07 56 52.2	-1.0
MALT	**Malatya**	**146.80**	**309**	*e*PKIKP	PKPdf	07 56 54.2	+2.4
RUE	**Ruedersdorf**	**147.67**	**351**	*e*PKPbc	PKPbc	07 56 55.1	-1.0
NRDL	**Niedersach Rie**	**148.09**	**355**	*e*PKPbc	PKPbc	07 56 56.2	-1.0
IBBN	**Ibbenburen**	**148.41**	**358**	*e*PKPbc	PKPbc	07 56 57.1	-0.9
KSP	**Ksiaz**	**148.79**	**347**	*e*PKIKP	PKPdf	07 56 58.2	+3.1
KOLS	**Kolonicke sedl**	**148.87**	**339**	*e*PKP	PKPbc	07 56 59.4	+0.2
CLL	**Collm**	**148.93**	**351**	*e*PKPbc	PKPbc	07 56 58.4	-0.9
CLL	**Collm**	**148.93**	**351**	*i* PKPbc	PKPbc	07 56 58.6	-0.7
	comp=Z,33nm,1.9s						
CLL				*i* (PKPab)	PKPab	07 57 06.6	+3.2
CLL				*i* pPKPbc	pPKPbc	07 57 10.8	-2.8
	comp=Z,28nm,1.4s						
CLL				*e*pPKiKP		07 57 17.0	
CLL	**Collm**	**148.93**	**351**	*i* PKIKP	PKPbc	07 56 58.6	-0.7
CLL				*i*		07 57 06.6	
CLL				*i*		07 57 10.8	
CLL				pmax	pmax		
	comp=Z,33nm,1.9s						
GTTG	**Gvttingen**	**149.04**	**355**	*e*PKPbc	PKPbc	07 56 58.7	-0.9
UZH	**Uzhgorod**	**149.12**	**338**	⇑*i*PKIKP	PKPbc	07 56 59.8	0.0
UZH				*i*		07 57 12.2	
UPC	**Upice**	**149.17**	**347**	*e*PKP	PKPdf	07 56 55.7	0.0
CRVS	**Cervenica-Dubn**	**149.17**	**340**	*e*PKP	PKPbc	07 57 00.3	+0.4
BRG	**Berggiesshubel**	**149.20**	**350**	*e*PKPbc	PKPbc	07 56 59.4	-0.6
BRG	**Berggiesshubel**	**149.20**	**350**	*e*PKP	PKPdf	07 56 59.2	+3.4
	comp=Z,12nm,1.6s						
BRG				*e*		07 57 07.7	
	comp=Z,5.5nm,1.1s						
BRG				*e*		07 57 17.8	
	comp=Z,15nm,1.5s						
BRG				*e*		07 57 24.2	
	comp=Z,12nm,1.2s						
DPC	**Dobruska-Polom**	**149.25**	**347**	*e*PKP	PKPbc	07 56 59.9	-0.2
FBE	**Freiberg**	**149.25**	**351**	*e*PKPbc	PKPbc	07 56 59.6	-0.5
BUG	**Bochum--Univer**	**149.30**	**358**	*e*PKPbc	PKPbc	07 56 59.2	-1.1
MORC	**Moravsky Berou**	**149.50**	**345**	*e*PKHKP	PKPbc	07 56 59.7	-1.1
BR131	**Keskin Array S**	**149.51**	**315**	*e*PKPdf	PKPdf	07 56 59.4	+3.1
BRTR	**Keskin Array B**	**149.51**	**315**	PKPbc	PKPbc	07 57 00.5	-0.3
	comp=Z,2.0nm,0.8s,baz=146,slow=2.4,SNR=10						
BRTR	**Keskin Array B**	**149.51**	**315**	PKIKP	PKPbc	07 57 00.5	-0.3
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
UBBA	**Unterbreizbach**	**149.76**	**355**	*e*PKPbc	PKPbc	07 57 00.5	-0.9
MOX	**Moxa**	**149.76**	**353**	*e*PKPbc	PKPbc	07 57 00.7	-0.7
MOX				*e*pPKPbc	pPKPbc	07 57 12.8	-2.9
MOX	**Moxa**	**149.76**	**353**	*e*PKP	PKPab	07 57 12.6	+5.8
	comp=Z,29nm,1.6s						
MOX				*e*		07 57 19.6	
MOX	**Moxa**	**149.76**	**353**	*e*PKP2	PKPab	07 57 12.6	+5.8
MOX				pmax	pmax		
	comp=Z,29nm,1.6s						
WERD	**Werda**	**149.86**	**352**	*e*PKPbc	PKPbc	07 57 01.0	-0.7
WERD				*e*pPKPbc	pPKPbc	07 57 13.6	-2.3
TANN	**Tannenbergstha**	**149.87**	**351**	*e*PKPbc	PKPbc	07 57 01.1	-0.6
GUNZ	**Gunzen**	**149.94**	**352**	*e*PKPbc	PKPbc	07 57 01.4	-0.4
GUNZ				*e*pPKPbc	pPKPbc	07 57 13.5	-2.6
PRU	**Pruhonice**	**149.95**	**349**	*e*PKP	PKPdf	07 57 01.1	+4.2
PRU				*e*x	x	07 57 09.0	
WERN	**Wernitzgruen**	**150.01**	**351**	*e*PKPbc	PKPbc	07 57 01.6	-0.4
WERN				*e*pPKPbc	pPKPbc	07 57 13.7	-2.6
VYHS	**Vyhne**	**150.34**	**342**	*e*PKP	PKPbc	07 57 02.4	-0.4
VYHS				*e*		07 57 09.0	
VYHS				*e*		07 57 21.2	
VYHS	**Vyhne**	**150.34**	**342**	*e*PKIKP	PKPbc	07 57 02.4	-0.4
VYHS				*e*		07 57 09.1	
VYHS				*e*		07 57 21.2	
MANZ	**Manzenberg**	**150.34**	**352**	*e*PKPbc	PKPbc	07 57 02.4	-0.4
MANZ				*e*pPKPbc	pPKPbc	07 57 14.4	-2.7
BCLA	**Clavier**	**150.34**	**1**	E		07 56 48.5	
ROTZ	**Rotzenmuhle**	**150.54**	**351**	*e*PKPbc	PKPbc	07 57 02.8	-0.5
ROTZ				*e*pPKPbc	pPKPbc	07 57 15.1	-2.5
DOU	**Dourbes**	**150.66**	**1**	E		07 56 53.4	
GRF	**Grafenberg Arr**	**150.74**	**353**	*e*PKPbc	PKPbc	07 57 03.4	-0.4
GRFO	**Grafenberg**	**150.75**	**353**	*e*PKPbc	PKPbc	07 57 03.4	-0.4
KHC	**Kasperske Hory**	**150.95**	**349**	*e*PKP	PKPdf	07 57 02.9	+4.4
KHC				*e*x	x	07 57 11.3	
WET	**Wettzell**	**151.05**	**350**	*e*PKPbc	PKPbc	07 57 03.9	-0.6
WLF	**Walferdange**	**151.10**	**359**	*e*PKPbc	PKPbc	07 57 04.2	-0.4
GEC2	**GERESS Array S**	**151.20**	**349**	*e*PKPbc	PKPbc	07 57 04.1	-0.7
STU	**Stuttgart**	**151.86**	**355**	*e*PKPbc	PKPbc	07 57 05.5	-0.8
EIL	**Elat**	**152.15**	**295**	*e*PKPdf	PKPdf	07 57 03.4	+3.1
FUR	**Furstenfeldbru**	**152.24**	**352**	*e*PKPbc	PKPbc	07 57 06.2	-1.0
BFO	**Black Forest**	**152.36**	**356**	*e*PKPbc	PKPbc	07 57 06.4	-1.1

MAN 14 08:08:18.9, 894N×12536E, h0km, mb1.8, ML3.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.84**	**9**	⇑*e*P	Pg	08 08 29.6	-5.5

IDC 14 08:30:23.4±0.9**, 2189S×6968W, h85**km±6km**, mb3.5**/3**, mb1 3.7**/5**, mb1mx3.5**/17**, mbtmp3.9**/5**, Error ellipse: s-maj=28.6km s-min=19.7km az=25.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.01**	**135**	P	Pn	08 30 43.5	+0.6
	129nm,0.3s,baz=286,slow=9.9,SNR=3042						
LVC				S	Sn	08 30 58.1	+0.7
	758nm,0.3s,baz=52,slow=23,SNR=73						
LPAZ	**La Paz**	**5.76**	**15**	P	Pn	08 31 52.0	+5.6
	3.5nm,0.3s,baz=204,slow=7.8,SNR=138						
CFAA	**Coronel Fontan**	**9.76**	**173**	P	Pn	08 32 35.2	-5.6
	0.0nm,0.3s,baz=0.4,slow=14,SNR=5.0						
SIV	**San Ignacio**	**10.04**	**56**	P	Pn	08 32 45.1	+0.5
	2.1nm,0.3s,baz=250,slow=14,SNR=55						
CPUP	**Villa Florida**	**12.11**	**114**	P	Pn	08 33 12.1	-0.7
	0.1nm,0.3s,baz=262,slow=14,SNR=3.5						
BDFB	**Brasilia**	**21.42**	**77**	P	P	08 35 05.6	+1.1
	3.8nm,0.5s,baz=273,slow=9.9,SNR=4.2						
PDAR	**Pinedale Array**	**74.10**	**331**	P	P	08 41 50.8	+0.4
	0.3nm,0.5s,baz=137,slow=7.6,SNR=3.8						
PDAR				pP	pP	08 42 12.9	+0.5
	0.2nm,0.5s,baz=148,slow=5.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**78.16**	**71**	P	P	08 42 13.3	-0.1
	0.4nm,0.5s,baz=254,slow=4.1,SNR=5.3						
TORD				pP	pP	08 42 36.0	+0.3
	0.8nm,0.4s,baz=249,slow=5.4,SNR=3.5						
RAR	**Rarotonga**	**82.42**	**250**	P	P	08 42 36.8	+0.6
	15nm,0.4s,baz=180,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**132.25**	**211**	PKP	PKPdf	08 49 28.1	+0.5
	0.3nm,0.5s,baz=153,slow=1.9,SNR=9.3						
MKAR	**Makanchi Array**	**146.37**	**36**	PKPbc	PKPbc	08 49 54.2	-0.2
	0.8nm,0.7s,baz=320,slow=3.6,SNR=6.3						
MKAR				pPKPbc	pPKPbc	08 50 17.1	-0.8
	0.8nm,0.7s,baz=349,slow=5.2,SNR=3.7						

NIED ***14*** *08:55:00, 4350N×14740E, h29km, Mw3.7 Best double couple: M₀3.58000×10¹⁴ NP1:φs235.00000°, δ85.00000°, λ-136.00000°. NP2:φs140.00000°, δ46.00000°, λ-7.00000°.*

ISCJB ***14*** *08:55:46.0±1.0, 4372N±006×14748E±008, h46km±11km, mb4.6/5, Error ellipse: s-maj=12.3km s-min=6.8km az=89.7*

MOS ***14*** *08:55:45.5±1.6, 4368N×14743E, h40km, mb4.4/4, Error ellipse: s-maj=22.6km s-min=18.1km az=99.9*

JMA ***14*** *08:55:46.2±0.3, 4351N×14737E, h22km±4km, M4.0*

NEIC ***14*** *08:55:50.4±1.9, 4369N×14701E, h74km±18km, mb3.9/2, Error ellipse: s-maj=25.4km s-min=13.0km az=117.0*

ISC 14 08:55:46.7±1.1**, 4371N**±006×**14751E**±009**, h42**km±12km**, n22,** σ**1ˢ06**/30**, mb4.6**/5**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.23**	**286**	⇑*i*PN	**Pn**	**08 56 07.4**	**-0.1**
YUK				*i* S	**Sn**	**08 56 22.5**	**-0.4**
YUK				pmax	pmax		
	comp=N,810nm,0.5s						
YUK				pmax	pmax		
	comp=E,770nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				smax			
	comp=N,6μm,0.5s						
YUK				smax			
	comp=E,270nm,0.5s						
YUK				smax			
	comp=N,14μm,1.0s						
YUK				smax			
	comp=E,6μm,1.0s						
NEM2	**Nemuro 2**	**1.33**	**256**	P	**Pn**	**08 56 07.6**	**-1.1**
NEM2				*e*S	**Sn**	**08 56 23.4**	**-1.8**
KUR	**Kuril'sk**	**1.55**	**9**	*e*PN	**Pn**	**08 56 10.5**	**-1.3**
KUR				*e*S	**Sn**	**08 56 29.5**	**-1.1**
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
KUR				smax			
	comp=N,760nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
JRA	**Rausu**	**1.74**	**278**	P	**Pn**	**08 56 14.8**	**+0.4**
JRA				*e*S	**Sn**	**08 56 36.3**	**+0.9**
JNK	**Nakash**	**2.03**	**268**	P	**Pn**	**08 56 18.3**	**0.0**
JNK				*e*S	**Sn**	**08 56 42.5**	**+0.1**
JAK	**Akkeshi**	**2.17**	**252**	P	**Pn**	**08 56 20.0**	**-0.3**
JTKR	**Abashiri--Toko**	**2.62**	**277**	P	**Pn**	**08 56 27.9**	**+1.5**
JAR	**Ashorobuto**	**2.75**	**263**	P	**Pn**	**08 56 28.8**	**+0.5**
JAR				*e*S	**Sn**	**08 57 00.7**	**+0.5**
JOB	**Onbets**	**2.80**	**255**	P	**Pn**	**08 56 29.5**	**+0.6**
JMP	**Maruseppu**	**3.02**	**277**	P	**Pn**	**08 56 33.4**	**+1.5**
JCH	**Churui**	**3.22**	**252**	P	**Pn**	**08 56 35.6**	**+0.8**
JCH				*e*S	**Sn**	**08 57 11.8**	**-0.1**
ERM	**Erimo**	**3.62**	**244**	*e*PN	**Pn**	**08 56 39.5**	**-0.7**
YSS	**Yuzh-Sakhalins**	**4.67**	**316**	*e*Pn	**Pn**	**08 56 55.3**	**+0.7**
YSS				*e*Sn	**Sn**	**08 57 47.3**	**-0.1**
TATO	**Taipei**	**28.29**	**237**	*e*P	**P**	**09 01 34.3**	**-1.8**
	comp=E,95nm,1.3s,mb5.3						
COLA	**College**	**40.96**	**36**	*e*P	**P**	**09 03 27.0**	**+1.8**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
COLA	**College**	**40.96**	**36**	*e*P	**P**	**09 03 27.0**	**+1.8**
	comp=Z,1.1nm,0.6s,mb3.7						
AAK	**Ala-Archa**	**51.61**	**296**	*e*P	**P**	**09 04 46.8**	**-2.1**
AAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**51.61**	**296**	*e*P	**P**	**09 04 46.8**	**-2.0**
	comp=Z,14nm,0.8s,mb4.9						
RSSD	**Black Hills**	**71.80**	**46**	*e*P	**P**	**09 07 06.9**	**+2.1**
RSSD				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
RSSD	**Black Hills**	**71.80**	**46**	*e*P	**P**	**09 07 06.9**	**+2.1**
	comp=Z,0.9nm,0.6s,mb3.9						
TAU	**Tasmania Unive**	**86.23**	**180**	*e*P	**P**	**09 08 23.2**	**-0.5**
TAU				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
TAU	**Tasmania Unive**	**86.23**	**180**	*e*P	**P**	**09 08 23.2**	**-0.6**
	comp=Z,12nm,1.0s,mb5.1						

IDC ***14*** *09:02:44.6±1.4, 4210N×8433E, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML3.2/4, Error ellipse: s-maj=33.4km s-min=18.3km az=60.0*

BJI ***14*** *09:02:45.5, 4184N×8385E, h21km, mB4.6, mb4.3, ML3.8*

ISCJB ***14*** *09:02:48.3±2.3, 42.1N±0.1×84.10E±0.10, h35km±22km, mb3.7/3, Error ellipse: s-maj=25.6km s-min=10.1km az=35.0*

MOS ***14*** *09:02:48.4±1.4, 4216N×8413E, h35km, mb4.3/1, Error ellipse: s-maj=21.9km s-min=11.2km az=108.8*

NEIC ***14*** *09:02:48.1±7.8, 4209N×8423E, h22km±56km, mb4.3/1, Error ellipse: s-maj=36.1km s-min=12.9km az=187.0*

NNC ***14*** *09:02:50.2±0.4, 4225N×8365E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=3.7km s-min=2.0km az=141.0*

ISC 14 09:02:51.2±1.7**, 422N**±01×**8407E**±010**, h50**km±17km**, n27,** σ**1ˢ10**/24**, mb3.7**/3**, 7C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK03	**Makanchi Array**	**4.77**	**345**	⇓Pn	**Pn**	**09 04 01.2**	**+0.7**
	2.8nm,0.7s,baz=167,slow=15						
MK03				⇑Pg	**Pn**	**09 04 14.3**	**+14**
	23nm,0.6s,baz=156,slow=15						
MK03				⇑Lg		09 05 17.0	
	212nm,1.1s,baz=172,slow=28						
MKAR	**Makanchi Array**	**4.80**	**345**	Pn	**Pn**	**09 04 00.1**	**-0.9**
	0.4nm,0.3s,baz=163,slow=14,SNR=6.3						
MKAR				Pg	**Pn**	**09 04 13.4**	**+12**
	3.3nm,0.3s,baz=156,slow=14,SNR=30						
MKAR				Lg		09 05 22.1	
	8.4nm,0.3s,baz=174,slow=26,SNR=7.2						
KNDC	**Almaty**	**5.34**	**284**	⇑Lg		09 05 30.0	
	450nm,1.1s						
TKM2	**Tokmak 2**	**6.30**	**280**	⇓Pn	**Pn**	**09 04 20.2**	**-1.4**
	0.6nm,0.7s						
TKM2				⇓Pg	**Pn**	**09 04 39.1**	**+18**
	1.1nm,0.6s						
TKM2				⇑Lg		09 06 00.3	
	13nm,0.8s						
KK31	**Karatay Array**	**10.04**	**280**	⇑Lg		09 07 58.1	
	15nm,0.7s						
ZAL	**Zalesovo**	**11.79**	**2**	Pn	**Pn**	**09 05 36.7**	**+0.1**
	0.8nm,0.3s,baz=282,slow=11,SNR=2.7						
ZAL	**Zalesovo**	**11.79**	**2**	Pn	**Pn**	**09 05 36.7**	**0.0**
GTA	**Gaotai**	**12.25**	**98**	*e*P	**Pn**	**09 05 44.3**	**+1.3**
GTA				AP		09 05 48.6	
GTA				XP		09 05 51.9	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s						
GTA				AMB	AMB		
	comp=Z,96nm,8.0s						
VOSK	**Vostochnaya**	**13.76**	**325**	⇑Lg		09 09 58.7	
	comp=Z,21nm,1.2s						
BVA0	**Borovoye Array**	**14.23**	**324**	⇓Lg		09 10 13.3	
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**14.23**	**324**	Pn	**Pn**	**09 06 07.9**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=228,slow=36,SNR=3.3						
BRVK	**Borovoye**	**14.30**	**324**	*e*P	**Pn**	**09 06 12.1**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**14.30**	**324**	*e*Pn	**Pn**	**09 06 12.1**	**+1.4**
	comp=Z,2.0nm,0.7s						
CHKZ	**Chkalovo**	**14.60**	**327**	⇓Lg		09 10 25.6	
	comp=Z,27nm,1.8s						
CHKZ	**Chkalovo**	**14.60**	**327**	*e*P	**Pn**	**09 06 14.7**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**14.60**	**327**	*e*Pn	**Pn**	**09 06 14.7**	**0.0**
	comp=Z,0.9nm,0.4s						
CHKZ				*e*		09 06 31.4	
ZRNK	**Zerenda**	**14.79**	**322**	⇑Lg		09 10 30.9	
	comp=Z,25nm,1.4s						
ZRNK	**Zerenda**	**14.79**	**322**	*e*P	**Pn**	**09 06 17.6**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**14.79**	**322**	*e*Pn	**Pn**	**09 06 17.6**	**+0.3**
	comp=Z,2.5nm,0.8s						
ZAK	**Zakamensk**	**15.59**	**52**	*e*P	**Pn**	**09 06 28.8**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	**Songino Array**	**16.75**	**63**	Pn	**Pn**	**09 06 40.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=257,slow=13,SNR=2.9						
AKTK	**Aktyubinsk**	**19.73**	**304**	P	**Pn**	**09 07 18.2**	**-0.3**
AKTO	**Aktyubinsk**	**19.73**	**304**	P	**Pn**	**09 07 18.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=101,slow=17,SNR=4.2						
NJ2	**Nanjing**	**29.34**	**99**	*e*P	**P**	**09 08 48.0**	**-1.3**
BRTR	**Keskin Array B**	**37.72**	**284**	P	**P**	**09 10 03.8**	**+1.8**
	comp=Z,0.3nm,0.4s,mb3.4,baz=116,slow=5.6,SNR=2.4						
WRA	**Warramunga Arr**	**77.27**	**132**	P	**P**	**09 14 39.7**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=327,slow=5.6,SNR=5.2						
HWUT	**Hardware Ranch**	**95.42**	**12**	*e*P	**P**	**09 16 10.9**	**+0.6**
	comp=Z,0.9nm,0.7s,mb4.3						

ISCJB ***14*** *09:03:47.6±0.5, 5134N±003×1607E±003, h0km, Error ellipse: s-maj=4.2km s-min=2.1km az=31.0*

NEIC ***14*** *09:03:47.5±0.9, 5148N×16.17E, h5km, ML3.2(SZGRF), Error ellipse: s-maj=9.7km s-min=7.0km az=54.0*

BGR ***14*** *09:03:48.7±0.7, 5146N×1606E, h1km, ML3.2, Error ellipse: s-maj=16.7km s-min=6.7km az=159.0*

IPEC ***14*** *09:03:49.1±0.3, 5143N×16.14E, h6km±1km, ML2.6/3, Error ellipse: s-maj=2.2km s-min=0.7km az=27.0*

VIE ***14*** *09:03:49.8±0.5, 5127N×1606E, h0km, mb2.4/4, ML3.2/4, Error ellipse: s-maj=2.9km s-min=2.6km az=172.0 69 km WNW of Breslau Suspected Mining induced.*

CSEM ***14*** *09:03:49.1±0.1, 5142N×1609E, h1km, ML3.5/5, Error ellipse: s-maj=2.9km s-min=1.4km az=15.0*

WAR ***14*** *09:03:49.0, 5146N×16.10E, ML2.9, Mining Induced*

PRU ***14*** *09:03:50.0, 5137N×1605E, h0km*

ISC 14 09:03:48.1±0.5**, 5142N**±003×**1609E**±003**, h0**km**, n47,** σ**0ˢ89**/85**, 4C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**167**	*i* Pgd	**Pg**	**09 04 00.4**	**+0.9**
KSP				*e*Sg	**Sg**	**09 04 08.8**	**+1.7**
KSP	**Ksiaz**	**0.59**	**167**	*e*Pg	**Pg**	**09 04 00.3**	**+0.8**
KSP				*e*Sg	**Sg**	**09 04 08.5**	**+1.4**
UPC	**Upice**	**0.91**	**183**	*e*PG	**Pg**	**09 04 06.3**	**+0.7**
DPC	**Dobruska-Polom**	**1.08**	**172**	*e*PG	**Pg**	**09 04 09.1**	**+0.3**
DPC				*e*SG	**Sg**	**09 04 23.6**	**+0.8**
	149nm,0.6s						
PVCC	**Panska Ves**	**1.31**	**228**	*e*PG	**Pg**	**09 04 13.6**	**+0.4**
PVCC	**Panska Ves**	**1.31**	**228**	*e*Pn	**Pn**	**09 04 14.1**	**+0.5**
PVCC				*e*Sg	**Sg**	**09 04 31.8**	**+1.6**
BRG	**Berggiesshubel**	**1.46**	**249**	*e*Pn	**Pn**	**09 04 16.0**	**+0.3**
BRG				*e*Sg	**Sg**	**09 04 36.2**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**249**	PG	**Pg**	**09 04 16.1**	**0.0**
BRG				SG	**Sg**	**09 04 36.2**	**+1.3**
	112nm,0.3s						
BRG	**Berggiesshubel**	**1.46**	**249**	Pn	**Pn**	**09 04 16.0**	**+0.3**
BRG				*e*Sg	**Sg**	**09 04 36.0**	**+1.1**
PRU	**Pruhonice**	**1.74**	**215**	*e*PG	**Pg**	**09 04 20.4**	**-1.0**
PRU				*e*SG	**Sg**	**09 04 43.8**	**-0.1**
	106nm,0.4s						
PRU	**Pruhonice**	**1.74**	**215**	*e*Pn	**Pn**	**09 04 20.1**	**+0.6**
PRU				*e*Sg	**Sg**	**09 04 43.8**	**-0.1**
FBE	**Freiberg**	**1.79**	**255**	*e*Pn	**Pn**	**09 04 21.8**	**+1.5**
FBE				*e*Sg	**Sg**	**09 04 45.5**	**-0.2**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*Pn	**Pn**	**09 04 21.3**	**-0.3**
MORC				*e*Sg	**Sg**	**09 04 48.1**	**-0.7**
	30nm,0.2s						
CLL	**Collm**	**1.94**	**268**	*e*Pn	**Pn**	**09 04 21.9**	**-0.4**
CLL				*i* Pg	**Pg**	**09 04 24.6**	**-0.6**
CLL				*i* Sg	**Sg**	**09 04 51.8**	**+1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CLL	Collm	1.94	268	ePn	Pn	09 04 22.0	-0.3
CLL				i Pg	Pg	09 04 24.6	-0.6
CLL				i x	x	09 04 27.2	
CLL				i x	x	09 04 31.5	
CLL				i Sg	Sg	09 04 51.8	+1.5
	comp=Z,45nm,0.4s						
CLL	Collm	1.94	268	ePn	Pn	09 04 22.0	-0.3
CLL				i Pg	Pg	09 04 24.6	-0.6
CLL				i Sg	Sg	09 04 51.8	+1.5
OKC	Ostrava-Krasne	2.06	140	ePG	Pg	09 04 26.1	-1.4
OKC				eSG	Sg	09 04 53.3	-0.9
VRAC	Vranov	2.14	171	⇓iP	Pn	09 04 22.4	-2.6
VRAC	Vranov	2.14	171	ePn	Pn	09 04 25.7	+0.7
VRAC				eSg	Sg	09 04 55.8	-1.0
	comp=Z,38nm,0.4s						
TREC	Trest	2.16	190	ePN	Pn	09 04 26.8	+1.4
TREC				ePG	Pg	09 04 28.9	-0.6
TREC	Trest	2.16	190	ePn	Pn	09 04 26.8	+1.4
TREC				eSg	Sg	09 04 56.9	-0.7
KRUC	Moravsky	2.37	175	ePn	Pn	09 04 29.3	+1.1
KRUC	Moravsky	2.37	175	ePg	Pg	09 04 32.3	-1.2
KRUC				eSg	Sg	09 05 03.5	-0.7
	comp=Z,28nm,0.5s						
TANN	Tannenbergstha	2.50	248	eSg	Sg	09 05 07.4	-1.2
NKC	Novy Kostel	2.59	244	ePN	Pn	09 04 32.0	+0.7
NKC				eSG	Sg	09 05 10.9	-0.6
	comp=Z,116nm,0.3s						
NKC	Novy Kostel	2.59	244	ePn	Pn	09 04 31.6	+0.3
NKC				eSg	Sg	09 05 10.6	-0.9
GUNZ	Gunzen	2.60	248	eSg	Sg	09 05 11.1	-0.7
WERN	Wernitzgruen	2.61	246	ePn	Pn	09 04 31.9	+0.3
OJC	Ojcow	2.64	116	ePg	Pg	09 04 38.7	-0.1
OJC				eSg	Sg	09 05 13.5	+0.5
KHC	Kasperske Hory	2.80	216	ePN	Pn	09 04 34.6	+0.5
KHC				ePG	Pg	09 04 40.1	-1.7
KHC				eSN	Sn	09 05 07.5	-1.1
KHC				eSG	Sg	09 05 17.7	-0.4
	comp=Z,28nm,0.4s						
KHC	Kasperske Hory	2.80	216	ePn	Pn	09 04 34.5	+0.4
MOX	Moxa	2.93	256	ePn	Pn	09 04 35.6	-0.3
MOX				ePg	Pg	09 04 44.2	0.0
MOX				eSg	Sg	09 05 21.9	-0.3
MOX	Moxa	2.93	256	ePG	Pg	09 04 44.2	0.0
MOX				eSG	Sg	09 05 23.6	+1.4
MOX	Moxa	2.93	256	Pg	Pg	09 04 44.2	0.0
MOX				Sg	Sg	09 05 21.9	-0.3
ROTZ	Rotzenmuhle	2.97	238	ePn	Pn	09 04 37.0	+0.5
ROTZ				eSg	Sg	09 05 22.8	-0.9
GEC2	GERESS Array S	3.00	212	ePn	Pn	09 04 38.0	+1.2
SMOL	Smolenice	3.04	163	eSG	Sg	09 05 25.9	+0.3
ZST	Bratislava	3.29	168	eSG	Sg	09 05 34.1	+0.2
NIE	Niedzica	3.36	125	eP	Pg	09 04 51.3	-1.3
NIE				eS	Sg	09 05 36.1	-0.1
VYHS	Vyhne	3.42	148	ePG	Pg	09 04 53.5	-0.2
VYHS				eSG	Sg	09 05 39.6	+1.5
CONA	Conrad Observa	3.50	182	⇑iPn	Pn	09 04 43.3	-0.4
CONA				⇑iSg	Sg	09 05 40.2	-0.3
	comp=Z,24nm,0.4s						
GRF	Grafenberg Arr	3.55	243	eSg	Sg	09 05 42.3	0.0
MOA	Molln	3.76	199	⇓iPn	Pn	09 04 47.4	0.0
MOA				⇑iSg	Sg	09 05 49.3	+0.3
	comp=Z,34nm,0.6s						
BSD	Bornholm Skovb	3.77	350	i P	Pn	09 04 45.2	-2.3
BSD				i S	Sn	09 05 26.2	-6.3
STHS	Stebnicka Huta	3.86	119	ePG	Pg	09 05 03.9	+1.8
CRVS	Cervenica-Dubn	4.28	124	eSG	Sg	09 06 10.0	+4.5
BURAR	Bucovina Array	7.06	119	⇑iP	Pn	09 05 32.7	+0.1

---

*CSEM **14** 09:05:06.5±0.1, 4196N×2336E, h2km, MD2.6, Error ellipse: s-maj=1.4km s-min=0.9km az=101.0*
*NEIC **14** 09:05:06.7, 4193N×2338E, h10km, MD2.6(SOF), After SOF.*
*ISCJB **14** 09:05:06.4±0.4, 4191N±002×2333E±003, h8km±7km, Error ellipse: s-maj=4.7km s-min=3.3km az=68.0*
*SOF **14** 09:05:06.7, 4193N×2338E, h10km, MD2.6*
*THE **14** 09:05:08.0, 4188N×2329E, h1km, ML2.6*
*SKO **14** 09:05:08.1, 4191N×2331E, h0km*
ISC 14 09:05:07.1±0.5**, 4192N**±002×**2332E**±004**, h11**km±7km**, n24, σ0^{s}74**/45**, 1D, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.18	254	i Pg	Pg	09 05 11.3	+0.2
KKB				Sg	Sg	09 05 13.6	-0.2
MMB	Musomiste	0.45	137	ePg	Pg	09 05 16.4	+0.5
MMB				eSg	Sg	09 05 22.8	+1.0
MMB	Musomiste	0.45	137	i Pg	Pg	09 05 16.4	+0.5
MMB				Sg	Sg	09 05 22.2	+0.3
MMB	Musomiste	0.45	137	i Pg	Pg	09 05 16.4	+0.5
MMB				eSg	Sg	09 05 22.8	+0.9
VTS	Vitosha	0.68	353	i Pg	Pg	09 05 20.5	+0.3
VTS				Sg	Sg	09 05 30.0	+0.9
VTS	Vitosha	0.68	353	⇓iP	Pg	09 05 20.2	0.0
VTS	Vitosha	0.68	353	ePg	Pg	09 05 21.1	+0.9
KNT	Kendrikon	0.82	203	ePg	Pg	09 05 22.7	-0.2
KNT				eSg	Sg	09 05 33.2	-0.3
VAY	Valandovo	0.82	224	ePg	Pg	09 05 22.5	-0.4
VAY				eSg	Sg	09 05 33.9	+0.3
VAY	Valandovo	0.82	224	ePg	Pg	09 05 22.6	-0.3
VAY				eSg	Sg	09 05 33.5	-0.1
VAY	Valandovo	0.82	224	ePg	Pg	09 05 22.5	-0.4
VAY				eSg	Sg	09 05 33.4	-0.2
PGB	Panagyurishte	0.89	45	Pg	Pg	09 05 23.7	-0.6
PGB				Sg	Sg	09 05 34.5	-1.4
PLD	Plovdiv	1.05	79	ePg	Pg	09 05 27.7	+0.5
PLD				eSg	Sg	09 05 43.6	+2.7
PLD	Plovdiv	1.05	79	i Pg	Pg	09 05 27.3	+0.1
PLD				i Sg	Sg	09 05 42.6	+1.7
PLD	Plovdiv	1.05	79	i Pg	Pg	09 05 27.3	+0.1
PLD				eSg	Sg	09 05 43.6	+2.7
RZN	Rozhen	1.07	102	i Pg	Pg	09 05 26.9	-0.7
RZN				i Sg	Sg	09 05 42.2	+0.6
RZN				Sg	Sg	09 05 54.7	+13
SOH	Sokhos	1.10	179	ePg	Pg	09 05 27.7	-0.5
SOH				eSg	Sg	09 05 42.9	+0.5
GRG	Griva	1.18	216	ePg	Pg	09 05 29.5	-0.3
GRG				eSg	Sg	09 05 45.6	+0.4
THE	Thessaloniki	1.31	192	ePg	Pg	09 05 31.8	-0.5
THE				eSg	Sg	09 05 49.6	+0.3
HORT	Hortiatis	1.33	187	ePg	Pg	09 05 32.1	-0.5
HORT				eSg	Sg	09 05 50.4	+0.5
KDZ	Kurdzhali	1.59	99	i P	Pn	09 05 34.8	-0.3
KDZ				i Sg	Sg	09 05 56.7	-1.6
DIM	Dimitrovgrad	1.66	85	P	Pn	09 05 37.2	+1.2
DIM				Sg	Sg	09 06 08.0	+7.7
OUR	Ouranopolis	1.66	162	ePb	Pb	09 05 37.1	-0.5
PVL	Pavlikeni	1.98	48	Sg	Sg	09 06 05.4	-5.1

---

*CSEM **14** 09:40:40.7, 5182N×6258E, h0km, mb3.5, After NNC*
NNC 14 09:40:40.7±0.9**, 5182N×6258E, h0km, mb3.5, mpv3.1, 6C-3D, Error ellipse: s-maj=20.5km s-min=5.6km az=151.0, Western Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AB31	Akbulak array	3.07	214	⇓Pn	Pn	09 41 31.2	+0.7
	3.7nm,0.6s,baz=35,slow=14,SNR=19						
AB31				⇑Lg		09 42 17.5	
	14nm,0.7s,baz=26,slow=28						
AKTO	Aktyubinsk	3.19	246	⇑Pg	Pg	09 41 38.7	-3.2
AKTO				⇑Lg		09 42 20.3	
	0.2nm,0.8s						
ZRNK	Zerenda	4.09	71	⇑Pn	Pn	09 41 44.6	0.0
	2.6nm,1.1s						
ZRNK				⇑Lg		09 42 49.8	
	4.3nm,1.1s						
BVA0	Borovoye Array	4.93	73	⇑Lg		09 43 17.1	
	0.9nm,1.1s,baz=230,slow=25,SNR=5.9						
BVAR	Borovoye Array	4.93	73	Lg		09 43 17.1	
	0.9nm,1.1s,SNR=5.9						
CHKZ	Chkalovo	5.22	66	⇓Pg	Pg	09 42 15.6	-5.2
	10nm,2.0s						
CHKZ				⇓Lg		09 43 26.2	
	3.1nm,0.7s						

---

*NAO **14** 10:09:32.6±2.2, 61.13N×30.00E, ML2.5*
*HEL **14** 10:09:33.4, 6120N×3004E, h0km, ML1.6(FIA0), Explosion*
*IDC **14** 10:09:35.7±2.2, 6126N×2986E, h0km, mb1 3.3/3, mb1mx3.1/21, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=21.8km s-min=11.7km az=148.0*
BER 14 10:09:34.5±2.5**, 6116N×2995E, h0km, ML2.5**(NAO)**, Suspected explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	1.89	280	eP	Pn	10 10 07.3	-0.7
FIA0				eSG	Sg	10 10 33.4	-1.9
FIA0				eRG		10 10 46.0	
FIA0	FINESS Array S	1.89	280	Pn	Pn	10 10 07.4	-0.6
	baz=106,slow=16						
FIA0				Lg		10 10 33.5	
	baz=90,slow=37						
FIA0				Rg		10 10 43.9	
	baz=90,slow=37						
FINES	FINESS Array B	1.89	280	Pg	Pg	10 10 07.4	-3.4
	2.5nm,0.3s,baz=98,slow=16,SNR=53						
FINES				Lg		10 10 33.7	
	3.4nm,0.3s,baz=72,slow=18,SNR=5.4						
HFS	Hagfors	8.06	270	Pn	Pn	10 11 31.3	-1.4
	0.6nm,0.3s,baz=90,slow=8.9,SNR=10						
ARA0	ARCESS Array S	8.61	350	Pn	Pn	10 11 37.4	-3.0
	baz=166,slow=12						
ARA0				Sn	Sn	10 13 11.8	-6.4
	baz=166,slow=28						
ARA0	ARCESS Array S	8.61	350	eP	Pn	10 11 37.4	-3.0
ARA0				eS	Sn	10 13 11.8	-6.4
ARCES	ARCESS Array B	8.61	350	Pn	Pn	10 11 37.5	-2.8
	0.2nm,0.3s,baz=166,slow=11,SNR=5.1						
ARCES				Sn	Sn	10 13 09.3	-8.8
	0.2nm,0.3s,baz=166,slow=21,SNR=2.9						
ARCES				Lg		10 13 58.4	
	0.8nm,0.3s,baz=168,slow=30,SNR=5.9						
NB2	NORSAR Subarra	9.07	277	Pn	Pn	10 11 44.2	-2.4
	baz=78,slow=14						
NB2	NORSAR Subarra	9.07	277	eP	Pn	10 11 44.2	-2.4
NOA	NORSAR Array B	9.07	277	Pn	Pn	10 11 44.5	-2.2
	0.4nm,0.3s,baz=79,slow=12,SNR=2.5						

---

*ISCJB **14** 10:19:13.6±3.0, 12.1S±0.1×11881E±009, h4km±20km, mb4.6/2, Error ellipse: s-maj=19.7km s-min=11.6km az=76.7*
*IDC **14** 10:19:15.4±1.7, 1209S×11895E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=49.6km s-min=15.9km az=44.0*
*NEIC **14** 10:19:19.5±0.9, 12.12S×11888E, h30km, mb4.0/3, Error ellipse: s-maj=16.7km s-min=13.3km az=48.0*
ISC 14 10:19:21.0±1.4**, 1228S**±008×**11885E**±007**, h42**km±13km**, n17, σ1^{s}09**/27**, mb4.6**/2**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	8.74	132	eP	Pn	10 21 27.0	+2.2
	12nm,0.4s						
FITZ				eS	Sn	10 23 09.2	+7.2
FITZ	Fitzroy Crossi	8.74	132	Pn	Pn	10 21 27.4	+2.6
	1.5nm,0.3s,baz=339,slow=8.1,SNR=91						
FITZ				Sn	Sn	10 23 08.4	+6.4
	1.4nm,0.3s,baz=172,slow=18,SNR=6.1						
MBWA	Marble Bar	8.87	175	ePn	Pn	10 21 25.8	-0.8
	31nm,0.3s						
MBWA				eSn	Sn	10 23 03.1	-2.0
WRA	Warramunga Arr	16.71	119	Pn	Pn	10 23 11.4	-0.6
	0.6nm,0.3s,baz=290,slow=14,SNR=59						
WRA				Sn	Sn	10 26 15.5	-1.0
	0.2nm,0.3s,baz=290,slow=21,SNR=3.7						
WRAB	Tennant Creek	16.71	119	eP	Pn	10 23 11.8	-0.2
	3.6nm,0.6s						
WB2	Warramunga Arr	16.72	119	eP	Pn	10 23 12.0	-0.1
ASPA	Alice Springs	18.23	130	eP	Pn	10 23 35.7	+4.9
ASPA				eS	S	10 26 57.5	+0.4
AS31	Alice Springs	18.24	130	eP	Pn	10 23 35.7	+4.9
AS31				eS	S	10 26 57.5	+0.4
ASAR	Alice Springs	18.24	130	P	Pn	10 23 31.8	+0.9
	0.7nm,0.3s,baz=308,slow=12,SNR=34						
ASAR				S	S	10 26 56.7	-0.4
	0.2nm,0.3s,baz=301,slow=22,SNR=4.9						
ASAR	Alice Springs	18.24	130	P	Pn	10 23 31.8	+0.9
ASAR				S	S	10 26 56.7	-0.4
KLBR	Kellerberrin	19.24	183	eP	Pn	10 23 43.3	+0.3
	9.6nm,1.1s						
KLBR				eS	S	10 27 02.3	-15
MUN	Mundaring	19.75	187	eP	Pn	10 23 50.3	+1.3
MUN				eS	S	10 27 11.5	-16
NWAO	Narrogin (SRO)	20.60	184	P	P	10 23 58.4	+1.9
	5.3nm,0.5s,baz=1.6,slow=14,SNR=12						
NWAO	Narrogin (SRO)	20.60	184	eP	P	10 23 58.0	+1.5
	21nm,1.2s						
MKAR	Makanchi Array	67.30	334	P	P	10 30 11.0	-0.4
	0.7nm,0.5s,mb4.0,baz=139,slow=7.6,SNR=3.5						
MKAR	Makanchi Array	67.30	334	P	P	10 30 11.0	-0.4
ARU	Arti	84.64	331	eP	P	10 31 48.8	-1.4
	12nm,0.6s,mb5.2						
ARU				e	pP	10 32 02.3	-0.5

MAN 14 10:38:39.9, 1726N×11967E, h19km, mb3.4, ML4.6, MS2.5, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.91	165	eP	Pb	10 38 56.9	-0.2
BOLP				eS	Sb	10 39 09.5	+0.8
ABRA	Dolores	1.07	69	eP	Pb	10 38 57.3	-2.5
BCPH	Baguio City Da	1.24	135	⇑iP	Pn	10 39 00.5	-1.7
BCPH				i S	Sb	10 39 16.5	-1.7
PIP	Pasuquin	1.39	40	⇓iP	Pn	10 39 03.5	-0.8
SCZP	Santa Cruz	1.50	171	eP	Pn	10 39 05.5	-0.2
CAUP	Cauayan	2.08	98	eP	Pn	10 39 15.6	+1.7
CVP	Callao Caves	2.10	78	⇑eP	Pn	10 39 13.2	-0.9
CVP				i S	Sn	10 39 39.0	-0.7
PCPH	Palayan	2.17	141	⇑eP	Pn	10 39 15.3	+0.2
PCPH				eS	Sn	10 39 42.8	+1.3
BALP	Baler	2.37	129	eP	Pn	10 39 20.1	+2.3
SGCP	Mt. Cagua	2.47	66	eP	Pn	10 39 19.6	+0.5
PALP	Palanan	2.64	94	eP	Pn	10 39 22.8	+1.3
LUBP	Lubang	3.55	171	eP	Pn	10 39 37.5	+3.5

---

*ISCJB **14** 11:09:25.0±0.4, 2990N±004×13921E±010, h430km±5km, mb3.4/9, Error ellipse: s-maj=13.6km s-min=5.9km az=152.3*
*IDC **14** 11:09:26.0±1.0, 2991N×13884E, h416km±19km, mb3.2/8, mb1 3.4/13, mb1mx3.2/25, mbtmp4.2/13, Error ellipse: s-maj=52.7km s-min=10.3km az=75.0*
*MOS **14** 11:09:25.6±1.2, 2995N×13883E, h428km, mb3.6/6, Error ellipse: s-maj=43.0km s-min=14.6km az=103.6*
*JMA **14** 11:09:25.3±0.2, 2992N×13934E, h436km, M4.3*
ISC 14 11:09:26.0±0.4**, 2995N**±004×**13930E**±010**, h425**km±6km**, n36, σ1^{s}15**/47**, mb3.5**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.18	8	P	P	11 10 34.6	+2.1
JHJ2				S	S	11 11 26.3	-0.2
JHJ	Hachijo jima 2	3.19	7	P	P	11 10 34.6	+2.1
	93nm,0.3s,baz=63,slow=22,SNR=12						
JHJ				S	S	11 11 26.8	+0.2
	78nm,0.3s,baz=241,slow=23,SNR=9.8						
CBIJ	Chichi jima	3.81	138	P	P	11 10 37.9	+0.1
	8.2nm,0.3s,baz=276,slow=19,SNR=4.3						
CBIJ				S	S	11 11 35.1	-1.1
	177nm,0.3s,baz=299,slow=22,SNR=40						
CBIJ	Chichi jima	3.81	138	P	P	11 10 38.0	+0.2
CBIJ				S	S	11 11 34.9	-1.3
JHHJ	Haha-jima-NKT	4.17	142	P	P	11 10 41.1	0.0
JHHJ				S	S	11 11 40.4	-1.8
JWZ	Kozaga	4.70	320	P	P	11 10 46.8	+0.7
BSO1	Boso 1	4.90	16	P	P	11 10 49.1	+1.0
BSO1				eS	S	11 11 54.0	-1.0
JIE	Ise	4.94	334	P	P	11 10 50.4	+1.9
JOD2	Odawara 2	5.30	358	P	P	11 10 52.7	+0.6
JOD2				S	S	11 12 00.9	-1.5
JRY	Ryogami san	6.06	357	P	P	11 11 00.7	+0.7
JRY				S	S	11 12 14.2	-2.6
JTO	Tosashimizu	6.26	299	P	P	11 11 02.1	-0.1
MJAR	Matsushiro Arr	6.64	352	P	P	11 11 05.6	-0.5
	4.3nm,0.3s,baz=245,slow=9.0,SNR=48						
MJAR	Matsushiro Arr	6.64	352	P	P	11 11 05.6	-0.6
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAT	Matsushiro	6.64	352	P	P	11 11 06.1	-0.1
MAT				S	S	11 12 26.6	-1.5
MAT	Matsushiro	6.64	352	P	P	11 11 06.0	-0.2
MAT				S	S	11 12 26.6	-1.5
JHS	Saijyo	7.25	316	P	P	11 11 13.5	+0.7
JMK	Ichinoseki	9.12	9	P	P	11 11 35.5	+2.1
JMK				S	S	11 13 17.9	-0.2
JOW	Kunigami	10.19	255	P	P	11 11 44.5	-0.7
	comp=Z,1.8nm,0.3s,baz=66,slow=10.0,SNR=7.2						
ASAJ	Asahikawa	14.38	10	P	P	11 12 33.3	+2.4
	comp=Z,0.3nm,0.3s,baz=214,slow=10,SNR=3.4						
GUMO	Guam	17.08	161	P	P	11 13 03.2	+3.4
	comp=Z,6.3nm,0.3s,baz=181,slow=9.8,SNR=5.9						
GUMO	Guam	17.08	161	P	P	11 13 03.2	+3.5
GUMO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SONM	Songino Array	30.91	315	P	P	11 15 04.9	-0.8
	comp=Z,0.6nm,0.8s,mb3.0,baz=112,slow=6.8,SNR=4.2						
SONM	Songino Array	30.91	315	P	P	11 15 04.9	-0.9
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZAK	Zakamensk	33.80	317	eP	P	11 15 29.6	-0.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.1						
WRA	Warramunga Arr	49.83	186	P	P	11 17 38.1	0.0
	comp=Z,0.6nm,0.4s,mb3.3,baz=3.4,slow=7.7,SNR=36						
WRA	Warramunga Arr	49.83	186	P	P	11 17 38.1	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ASAR	Alice Springs	53.56	186	P	P	11 18 05.5	+0.1
	comp=Z,0.3nm,0.4s,mb2.9,baz=356,slow=5.7,SNR=14						
BVAR	Borovoye Array	54.23	316	P	P	11 18 08.9	-1.2
	comp=Z,2.4nm,0.5s,mb3.7,baz=90,slow=8.5,SNR=11						
BVAR	Borovoye Array	54.23	316	P	P	11 18 08.9	-1.2
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
STKA	Stephens Creek	61.53	178	P	P	11 19 00.8	+0.7
	comp=Z,0.9nm,0.5s,mb3.6,baz=283,slow=5.8,SNR=5.0						
ARCES	ARCESS Array B	70.01	340	P	P	11 19 53.7	+0.3
	comp=Z,6.0nm,1.0s,mb4.1,baz=60,slow=9.4,SNR=2.3						
ARCES	ARCESS Array B	70.01	340	P	P	11 19 53.7	+0.3
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NOA	NORSAR Array B	80.02	337	P	P	11 20 49.0	-0.8
	comp=Z,1.4nm,0.8s,mb3.6,baz=48,slow=4.8,SNR=3.5						
NOA	NORSAR Array B	80.02	337	P	P	11 20 49.0	-0.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	Keskin Array B	82.21	311	P	P	11 21 00.3	-0.8
	comp=Z,1.8nm,0.8s,mb3.9,baz=76,slow=5.2,SNR=7.7						
BRTR	Keskin Array B	82.21	311	P	P	11 21 00.4	-0.8
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						

---

*IDC **14** 11:10:55.7±0.9, 3468N×7366E, h0km, mb4.1/6, mb1 4.3/8, mb1mx3.9/23, mbtmp4.1/8, ML4.3/2, Error ellipse: s-maj=28.3km s-min=21.1km az=53.0*
*NDI **14** 11:10:56.8±5.1, 3483N×7342E, h10km, ML3.6*
*ISCJB **14** 11:10:58.2±0.5, 3473N±005×7380E±010, h33km, mb3.9/5, Error ellipse: s-maj=13.2km s-min=4.5km az=117.2*
*NNC **14** 11:11:07.2±10.0, 3585N×7585E, h134km±82km, mb2.8, mpv4.3, Error ellipse: s-maj=258.7km s-min=81.4km az=61.0*
ISC 14 11:11:00.5±2.1**, 3480N**±006×**738E**±01**, h33**km±17km**, n31, σ1^{s}45**/36**, mb3.9**/5**, 3C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRNI	Srinagar	1.13	128	eP	Pn	11 11 11.5	-8.5
SRNI				eS	Sn	11 11 30.5	-3.9
JMU	Jammu	2.28	155	ex	x	11 11 48.5	
JMU				eS	Sn	11 12 09.0	+6.3
THN	Thein Dam	2.86	145	eP	Pn	11 11 46.6	+2.8
DLH	Dalhousie	2.90	140	eP	Pn	11 11 46.0	+1.7
DLH				eSB	Sb	11 12 30.0	+3.4
BHK	Bhakra	4.04	146	ex	x	11 12 17.0	
SDNR	Sundarnagar	4.25	140	eP	Pn	11 12 03.8	+1.0
SDNR				ex	x	11 13 09.6	
SMLA	Simla	4.64	141	eP	Pn	11 12 10.6	+2.4
SMLA				eP		11 12 10.9	
SMLA				ex	x	11 13 03.2	
SMLA				AML	AML	11 13 26.1	
	comp=N,332nm,0.3s						
SMLA				AML	AML	11 13 26.5	
	comp=E,362nm,0.3s						
KLP	Kalpa	4.97	130	eP	Pn	11 12 15.7	+2.9
KLP				eS	Sn	11 13 10.5	+1.5
KLP				AML	AML	11 13 46.4	
	comp=N,608nm,0.3s						
KLP				AML	AML	11 13 49.3	
	comp=E,602nm,0.7s						
NDI	New Delhi	6.76	153	ex	x	11 12 29.5	
NDI				eS	Sn	11 13 53.0	-0.2
NDI				AML	AML	11 14 50.3	
	comp=E,33nm,0.3s						
NDI				AML	AML	11 14 51.8	
	comp=N,25nm,0.7s						
AYAN	Aya Nagar	6.92	155	eS	Sn	11 13 57.1	+0.2
KHET	Khetri	6.92	165	eP	Pn	11 12 36.6	-3.0
KHET				eS	Sn	11 13 52.1	-5.1
KHET				AML	AML	11 14 51.8	
	comp=N,22nm,0.4s						
KHET				AML	AML	11 14 53.4	
	comp=E,19nm,0.7s						
SONA	Sohna	7.11	156	eP	Pn	11 12 42.7	+0.5
SONA				eS	Sn	11 13 59.3	-2.5
SONA				AML	AML	11 14 50.0	
	comp=N,20nm,0.5s						
SONA				AML	AML	11 14 50.1	
	comp=E,26nm,0.6s						
KK31	Karatay Array	8.67	344	⇑P	Pn	11 13 05.0	+1.4
	comp=E,5.5nm,0.4s,baz=148,slow=12						
KK31				⇓S	Sn	11 14 38.0	-2.2
	comp=E,7.2nm,0.4s,baz=188,slow=35						
KOLN	Koldanda	10.94	127	eP	Pn	11 13 32.9	-1.7
	comp=E,13nm,0.3s						
GKN	Gorkha	11.49	123	eP	Pn	11 13 41.2	-0.9
	comp=E,20nm,0.3s						
DMN	Daman	12.06	123	eP	Pn	11 13 48.8	-1.1
	comp=E,17nm,0.4s						
KKN	Kakani	12.07	122	eP	Pn	11 13 48.6	-1.4
	comp=E,23nm,0.4s						
PKI	Pulchoki	12.29	123	eP	Pn	11 13 51.4	-1.7
	comp=E,10.0nm,0.3s						
GUN	Gumba	12.41	120	eP	Pn	11 13 53.1	-1.7
	comp=E,18nm,0.4s						
JIRN	Jiri	12.79	120	eP	Pn	11 13 58.7	-1.1
	comp=E,20nm,0.2s						
MKAR	Makanchi Array	13.60	26	Pn	Pn	11 14 18.7	+7.8
	comp=E,0.4nm,0.3s,baz=207,slow=10,SNR=7.5						
AB31	Akbulak array	17.68	329	⇑P	Pn	11 15 03.5	-0.6
	comp=E,0.8nm,0.5s,baz=133,slow=13,SNR=5.3						
BVAR	Borovoye Array	18.38	354	P	Pn	11 15 13.8	+1.2
	comp=E,1.4nm,0.3s,baz=158,slow=8.2,SNR=11						
AKTO	Aktyubinsk	19.39	328	⇑P	Pn	11 15 23.8	-1.0
	comp=E,0.1nm,0.9s						
AKTO	Aktyubinsk	19.39	328	P	Pn	11 15 24.0	-0.8
	comp=E,0.6nm,0.3s,baz=136,slow=11,SNR=9.8						
ZAL	Zalesovo	20.65	19	P	P	11 15 37.3	+0.1
	comp=E,8.1nm,0.3s,baz=257,slow=8.7,SNR=7.7						
SONM	Songino Array	27.53	52	P	P	11 16 45.6	+1.6
	comp=E,1.1nm,0.5s,mb3.8,baz=248,slow=8.4,SNR=7.8						
ARCES	ARCESS Array B	43.58	338	P	P	11 19 01.7	+0.4
	comp=E,1.8nm,0.6s,mb4.0,baz=114,slow=8.1,SNR=6.3						
TORD	Torodi Ar. Bea	67.97	271	P	P	11 21 56.1	+0.1
	comp=E,1.9nm,0.7s,mb4.2,baz=51,slow=5.4,SNR=9.3						
WRA	Warramunga Arr	79.18	123	P	P	11 23 03.0	+1.0
	comp=E,0.9nm,0.5s,mb3.9,baz=320,slow=4.8,SNR=27						
ASAR	Alice Springs	81.43	126	P	P	11 23 14.8	+0.8
	comp=E,1.0nm,0.7s,mb3.8,baz=308,slow=5.3,SNR=16						

IDC 14 11:42:29.4±1.7**, 139N×12447E, h0km, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, ML3.3**/1**, Error ellipse: s-maj=126.2km s-min=23.8km az=66.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.40	177	P	Pn	11 46 56.4	-1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.1nm,0.3s,baz=1.6,slow=9.5,SNR=5.0						
WRA	**Warramunga Arr**	**23.31**	**156**	P	P	11 47 38.7	-0.2
	2.7nm,0.6s,baz=335,slow=10,SNR=35						
ASAR	**Alice Springs**	**26.54**	**160**	P	P	11 48 09.9	+1.2
	0.3nm,0.6s,baz=342,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**58.23**	**327**	P	P	11 52 25.5	+0.1
	0.4nm,0.4s,baz=120,slow=8.4,SNR=6.4						

GUC 14 11:49:19.5±0.5**,2836S×7057W,h98**^{km}±3^{km}**,MD3.0, ML3.5,1C-1D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.27**	**218**	⇓ *i*P	Pn	11 49 37.6	+3.9
VACH				*i* S	Sn	11 49 48.5	+4.3
VACH				AML	AML	11 49 50.2	
	comp=E,9μm,0.1s						
LCO	**Las Campanas**	**0.66**	**190**	*i* P	Pn	11 49 37.1	+0.9
LCO				*i* S	Sn	11 49 50.6	+1.8
CPCH	**Copiapo**	**1.02**	**11**	*i* P	Pn	11 49 40.4	+0.5
CPCH				*i* S	Sn	11 49 55.7	+0.5
CPCH				AML	AML	11 49 56.3	
	comp=E,10μm,0.1s						
CDCH	**Caldera**	**1.30**	**350**	⇑ *i*P	Pn	11 49 43.5	+0.3
CDCH				*i* S	Sn	11 50 01.4	+0.3
CDCH				AML	AML	11 50 02.6	
	comp=N,178nm,0.4s						
TLL	**Tololo Astrono**	**1.81**	**186**	*i* P	Pn	11 49 50.4	+0.8
TLL				*i* S	Sn	11 50 14.1	+1.7
TLL				AML	AML	11 50 15.8	
	comp=N,161nm,0.5s						

BJI 14 11:53:01.3,2241N×11400E,h15^{km}**,mB4.5,mb4.4, ML4.2,Ms4.5,Msz4.0,Near coast of southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HKC	**Hong Kong**	**0.19**	**124**	*i* P	Pg	11 53 06.0	+0.2
NJ2	**Nanjing**	**10.53**	**23**	*e*P	Pn	11 55 35.9	+4.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
LZH	**Lanzhou**	**16.24**	**329**	*e*P	Pn	11 56 51.5	+2.7
LZH				AP	pP	11 56 54.5	-1.6
LZH				XP	sP	11 56 57.0	-1.0
LZH				AMB	AMB		
	comp=Z,17nm,1.0s						
HHC	**Hu-ho-hao-te**	**18.50**	**354**	*e*P	Pn	11 57 16.9	-0.1
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,123nm,7.0s						

IDC 14 12:11:31.9±33.0**,604N×12309E,h0**^{km}**,mb4.1**/3**, mb1 4.2**/3**,mb1mx3.7**/19**,mbtmp4.1**/3**,Error ellipse: s-maj=566.8km s-min=207.5km az=155.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.09**	**157**	P	P	12 17 25.6	+0.4
	1.4nm,0.5s,baz=338,slow=9.4,SNR=43						
ASAR	**Alice Springs**	**31.35**	**161**	P	P	12 17 53.8	-0.4
	0.4nm,0.3s,baz=343,slow=15,SNR=14						
STKA	**Stephens Creek**	**41.63**	**156**	P	P	12 19 22.9	+1.1
	4.4nm,0.7s,baz=325,slow=5.8,SNR=3.4						

*ISCJB **14** 12:22:17.4±0.7,522N±0.1×177.15W±0.09,h124km±6km, mb4.1/15,Error ellipse: s-maj=18.2km s-min=7.7km az=143.6*
*IDC **14** 12:22:17.9±0.8,5226N×17722W,h118km±7km,mb3.9/9, mb1 4.1/10,mb1mx3.7/24,mbtmp4.3/10,Error ellipse: s-maj=30.7km s-min=13.1km az=146.0*
*NEIC **14** 12:22:17.9±0.5,52.10N×177.15W,mb3.9/10,Error ellipse: s-maj=16.7km s-min=7.6km az=159.0*
ISC 14 12:22:18.4±0.7**,522N**±0.1**×17715W**±0.09**,h122**^{km}±6^{km}**, h119**^{km}±1.5^{km}**:pP-P,n39,**σ**0**^{s}**99**/36**,mb4.1**/15**,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.82**	**88**	P	**Pn**	**12 22 49.1**	**-0.7**
ATKA				S	**Sn**	**12 23 12.5**	**-1.2**
AMKA	**Amchitka**	**2.34**	**251**	P	**Pn**	**12 22 56.0**	**-0.2**
SMY	**Shemya**	**5.38**	**279**	*e*P	**Pn**	**12 23 36.9**	**+0.5**
OKCD	**Okmok Cone D**	**5.63**	**74**	P	**Pn**	**12 23 40.7**	**+0.9**
SPIA	**Saint Paul Isl**	**6.42**	**36**	*e*Pn	**Pn**	**12 23 54.0**	**+3.6**
AKLV	**Akutan Long Va**	**7.02**	**69**	P	**Pn**	**12 23 59.2**	**+0.6**
AKUT	**Akutan**	**7.12**	**70**	*e*P	**Pn**	**12 24 01.7**	**+1.7**
KDAK	**Kodiak Island**	**15.13**	**59**	P	**Pn**	**12 25 43.1**	**-2.5**
	3.4nm,0.3s,baz=335,slow=11,SNR=25						
KDAK				S	**S**	**12 28 29.8**	**-12**
	0.7nm,0.3s,baz=321,slow=21,SNR=6.9						
PMR	**Palmer**	**17.84**	**47**	*e*P	**Pn**	**12 26 22.2**	**+3.4**
	1.9nm,0.4s						
MCK	**McKinley**	**18.73**	**41**	*e*P	**P**	**12 26 26.1**	**-1.4**
	2.6nm,0.9s						
COLA	**College**	**19.65**	**38**	*e*P	**P**	**12 26 38.4**	**+0.9**
	4.9nm,0.7s						
EGAK	**Eagle**	**22.27**	**42**	*e*P	**P**	**12 27 05.2**	**-0.3**
DAWY	**Dawson**	**22.82**	**44**	*e*P	**P**	**12 27 10.2**	**-0.8**
DAWY				*e*		12 27 38.4	
INK	**Inuvik**	**26.22**	**35**	P	**P**	**12 27 41.2**	**-0.5**
	1.4nm,0.5s,mb3.7,baz=236,slow=11,SNR=19						
INK	**Inuvik**	**26.22**	**35**	*e*P	**P**	**12 27 41.3**	**-0.5**
	2.1nm,0.7s,mb3.7						
YKA	**Yellowknife Ar**	**33.94**	**48**	P	**P**	**12 28 48.2**	**-1.7**
	0.6nm,0.3s,mb3.9,baz=215,slow=12,SNR=13						
YKA				PcP	PcP	12 31 24.1	-1.3
	0.4nm,0.3s,baz=278,slow=3.0,SNR=6.2						
YKA	**Yellowknife Ar**	**33.94**	**48**	P	**P**	**12 28 48.2**	**-1.7**
YKA				PcP	PcP	12 31 24.1	-1.3
NEW	**Newport**	**37.65**	**71**	P	**P**	**12 29 21.3**	**-0.3**
	1.4nm,0.5s,mb4.0,baz=319,slow=9.3,SNR=2.9						
NEW	**Newport**	**37.65**	**71**	P	**P**	**12 29 21.3**	**-0.3**
HLID	**Hailey**	**41.75**	**76**	*e*P	**P**	**12 29 55.6**	**+0.2**
	0.9nm,0.8s,mb3.5						
MCMT	**McKenzie Canyo**	**41.96**	**74**	*e*P	**P**	**12 29 56.8**	**-0.4**
NVAR	**Mina Array Bea**	**42.45**	**85**	P	**P**	**12 30 02.4**	**+1.3**
	1.1nm,0.6s,mb3.8,baz=300,slow=6.9,SNR=12						
NVAR				PcP	PcP	12 31 52.6	+0.8
	1.0nm,0.7s,baz=310,slow=2.0,SNR=7.2						
NVAR	**Mina Array Bea**	**42.45**	**85**	P	**P**	**12 30 02.4**	**+1.3**
NVAR				PcP	PcP	12 31 52.6	+0.8
DUG	**Dugway**	**44.70**	**79**	*e*P	**P**	**12 30 19.9**	**+0.7**
	1.9nm,0.3s,mb4.3						
BW06	**Boulder Array**	**45.10**	**74**	*e*P	**P**	**12 30 22.1**	**-0.2**
	1.6nm,0.4s,mb4.1						
PDAR	**Pinedale Array**	**45.10**	**74**	P	**P**	**12 30 22.2**	**-0.1**
	1.5nm,0.3s,mb4.2,baz=346,slow=2.4,SNR=24						
PDAR				pP	pP	12 30 48.6	-1.6
	0.4nm,0.6s,baz=302,slow=8.4,SNR=2.0						
PDAR				PcP	PcP	12 32 00.5	-0.4
	0.5nm,0.5s,baz=86,slow=1.1,SNR=5.2						
SRU	**San Rafael**	**46.76**	**79**	*e*P	**P**	**12 30 35.6**	**+0.3**
	3.3nm,0.5s,mb4.3						
SRU				*e*PcP	PcP	12 32 06.2	-0.5
SONM	**Songino Array**	**47.20**	**297**	PcP	PcP	12 32 07.6	-0.7
	0.5nm,0.6s,baz=74,slow=5.4,SNR=3.7						
SMCO	**Snowmass**	**48.85**	**76**	*e*P	**P**	**12 30 51.3**	**-0.1**
	1.0nm,0.4s,mb4.1						
SDCO	**Great Sand Dun**	**50.66**	**77**	*e*P	**P**	**12 31 05.4**	**+0.2**
	1.9nm,0.9s,mb4.1						
ECSD	**EROS,Sioux Fal**	**51.97**	**65**	*e*P	**P**	**12 31 17.1**	**+2.2**
ARCES	**ARCESS Array B**	**57.48**	**351**	P	**P**	**12 31 54.5**	**-0.1**
	6.2nm,1.0s,mb4.6,baz=26,slow=8.5,SNR=3.1						
BVAR	**Borovoye Array**	**60.94**	**320**	pP	pP	12 32 44.6	-3.2
	1.7nm,0.6s,baz=42,slow=6.8,SNR=3.9						
WRA	**Warramunga Arr**	**83.30**	**225**	P	**P**	**12 34 30.9**	**-0.6**
	1.2nm,0.8s,mb3.8,baz=36,slow=6.0,SNR=13						
WRA				pP	pP	12 35 01.7	-0.8
	0.8nm,0.8s,baz=41,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**86.77**	**224**	P	**P**	**12 34 48.9**	**+0.1**
	2.2nm,0.7s,mb4.2,baz=24,slow=5.6,SNR=38						
ASAR				pP	pP	12 35 19.6	-0.4
	1.1nm,0.9s,baz=23,slow=4.1,SNR=5.1						
STKA	**Stephens Creek**	**91.15**	**214**	P	**P**	**12 35 09.1**	**-0.3**
	2.4nm,0.9s,mb4.3,baz=37,slow=8.8,SNR=5.5						
CPUP	**Villa Florida**	**128.49**	**84**	PKP	PKPdf	12 41 09.5	-1.3
	0.2nm,0.3s,baz=345,slow=2.7,SNR=3.4						
MAW	**Mawson**	**147.74**	**218**	PKPbc	PKPbc	12 41 47.0	-1.8
	2.0nm,0.4s,baz=262,slow=10,SNR=4.2						
BOSA	**Boshof**	**151.16**	**316**	PKPbc	PKPbc	12 41 55.8	-1.4
	3.0nm,0.5s,baz=0.2,slow=2.0,SNR=10						

*ISCJB **14** 12:53:44.0±0.5,4122N±0.02×843W±0.04,h7km±4km,Error ellipse: s-maj=5.2km s-min=3.9km az=175.3*
*CSEM **14** 12:53:44.6±0.1,4120N×847W,h15km,ML1.8,Error ellipse: s-maj=2.9km s-min=2.3km az=97.0*
*MDD **14** 12:53:45.0±0.4,4121N×841W,h0km,mbLg2.1/12,Error ellipse: s-maj=3.7km s-min=2.9km az=144.0,PRXIMO*
*INMG **14** 12:53:45.4±0.9,4121N×842W,h0km±3km,ML1.8,Error ellipse: s-maj=2.1km s-min=1.4km az=91.0*
ISC 14 12:53:44.4±0.5**,4121N**±0.02**×842W**±0.04**,h10**^{km}±3^{km}**,n29,** σ**0**^{s}**82**/41**,Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTO	**Porto**	**0.15**	**243**	*e*Pg	**Pg**	**12 53 48.0**	**+0.2**
PTO				*e*Sg	**Sg**	**12 53 50.2**	**+0.1**
PTO							
	230nm,0.1s						
PTO	**Porto**	**0.15**	**243**	*e*Pg	**Pg**	**12 53 48.0**	**+0.2**
PTO				*e*Sg	**Sg**	**12 53 50.2**	**+0.1**
	230nm,0.1s						
PVRL	**Vila Real**	**0.54**	**82**	*e*Pg	**Pg**	**12 53 55.3**	**+0.4**
PVRL				*e*Sg	**Sg**	**12 54 02.3**	**+0.3**
PVRL							
	50nm,0.1s						
PVRL	**Vila Real**	**0.54**	**82**	*e*Pg	**Pg**	**12 53 55.3**	**+0.4**
PVRL				*e*Sg	**Sg**	**12 54 02.3**	**+0.3**
	50nm,0.1s						
PCAB	**Cabril**	**0.59**	**31**	*e*Pg	**Pg**	**12 53 56.1**	**+0.3**
PCAB				*e*Sg	**Sg**	**12 54 04.2**	**+0.7**
PCAB							
	57nm,0.1s						
PCAB	**Cabril**	**0.59**	**31**	*e*Pg	**Pg**	**12 53 56.1**	**+0.3**
PCAB				*e*Sg	**Sg**	**12 54 04.2**	**+0.7**
	57nm,0.1s						
PVIS	**Viseu**	**0.63**	**141**	*e*Pg	**Pg**	**12 53 56.8**	**+0.1**
PVIS				*e*Sg	**Sg**	**12 54 05.3**	**+0.3**
PVIS							
	46nm,0.1s						
PVIS	**Viseu**	**0.63**	**141**	*e*Pg	**Pg**	**12 53 56.8**	**+0.1**
PVIS				*e*Sg	**Sg**	**12 54 05.3**	**+0.3**
	46nm,0.1s						
EZAM	**Zamans**	**0.96**	**348**	Pg	**Pg**	**12 54 01.9**	**-1.0**
	SNR=7.9						
EZAM				Lg		12 54 16.4	
	11nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**1.05**	**140**	*e*P	**Pg**	**12 54 04.5**	**-0.1**
MTE				*e*S	**Sg**	**12 54 18.6**	**+0.4**
MTE							
	21nm,0.4s						
MTE	**Manteigas**	**1.05**	**140**	*e*P	**Pg**	**12 54 04.5**	**-0.1**
MTE				*e*S	**Sg**	**12 54 18.6**	**+0.4**
	21nm,0.4s						
PBRG	**Braganca**	**1.40**	**64**	*e*P	**Pn**	**12 54 10.2**	**+0.2**
PBRG				*e*S	**Sn**	**12 54 29.3**	**+0.8**
PBRG							
	5.2nm,0.1s						
ECAL	**Calabor**	**1.46**	**59**	Pg	**Pg**	**12 54 11.6**	**-0.9**
	4.5nm,0.1s,SNR=7.4						
ECAL				Sn	**Sn**	**12 54 29.3**	**-0.8**
	2.8nm,0.1s,SNR=7.9						
ECAL				Lg		12 54 31.8	
	3.6nm,0.1s,SNR=7.2						
ECAL	**Calabor**	**1.46**	**59**	Pg	**Pg**	**12 54 11.6**	**-0.9**
	4.5nm,0.1s,SNR=7.4						
ECAL				Sn	**Sn**	**12 54 29.4**	**-0.7**
	SNR=7.9						
PCBR	**Castelo Branco**	**1.54**	**152**	*e*S	**Sn**	**12 54 32.6**	**+0.5**
PCBR							
	6.1nm,0.2s						
PCBR	**Castelo Branco**	**1.54**	**152**	Lg		12 54 32.6	
	3.0nm,0.2s						
PTOM	**Tomar**	**1.59**	**180**	*e*S	**Sn**	**12 54 33.6**	**+0.4**
PTOM							
	11nm,0.1s						
PTOM	**Tomar**	**1.59**	**180**	Sn	**Sn**	**12 54 33.6**	**+0.4**
	5.4nm,0.1s						
STS	**Santiago**	**1.68**	**357**	Sn	**Sn**	**12 54 36.2**	**+0.7**
	7.3nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.79**	**347**	Pn	**Pn**	**12 54 15.8**	**+0.4**
	1.9nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**12 54 38.9**	**+0.7**
	4.8nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**1.79**	**347**	Pg	**Pg**	**12 54 17.5**	**-1.3**
	1.9nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**2.32**	**24**	Pg	**Pg**	**12 54 25.5**	**-3.5**
	1.4nm,0.3s,SNR=7.9						
EPON				Lg		12 54 57.6	
	8.6nm,0.2s,SNR=5.6						
EPON	**Pontenova**	**2.32**	**24**	Pg	**Pg**	**12 54 25.5**	**-3.4**
	SNR=7.9						
EBAD	**Badajoz**	**2.68**	**156**	Pn	**Pn**	**12 54 28.1**	**+0.5**
	0.4nm,0.1s,SNR=7.9						
EBAD				Lg		12 55 07.6	
	2.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.68**	**156**	Pg	**Pg**	**12 54 31.3**	**-4.4**
	SNR=7.9						
GUD	**Guadarrama**	**3.28**	**98**	Lg		12 55 28.8	
	1.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.69**	**158**	Sn	**Sn**	**12 55 21.8**	**-3.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				Lg		12 55 39.4	
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.25**	**134**	Sn	**Sn**	**12 55 37.0**	**-1.7**
	0.1nm,0.2s,SNR=7.9						
EADA				Lg		12 55 58.2	
	0.7nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**4.25**	**134**	Sn	**Sn**	**12 55 37.0**	**-1.8**
	SNR=7.9						

*ISCJB **14** 13:23:32.1±5.2,66S±0.2×1524E±0.2,h44km±40km, mb4.0/6,Error ellipse: s-maj=41.7km s-min=26.1km az=34.3*
*IDC **14** 13:23:33.8±7.6,666S×15241E,h46km±59km,mb3.8/6, mb1 4.0/7,mb1mx3.9/14,mbtmp4.1/7,ML2.9/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/20,Error ellipse: s-maj=61.6km s-min=28.2km az=93.0*
ISC 14 13:23:33.6±4.8**,67S**±0.2**×1524E**±0.3**,h44**^{km}±36^{km}**,n13,** σ**0**^{s}**54**/12**,mb4.0**/6**,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.89**	**242**	P	**Pn**	**13 24 58.4**	**0.0**
	2.1nm,0.3s,baz=51,slow=14,SNR=14						
PMG				S	**Sn**	**13 26 04.6**	**0.0**
	2.0nm,0.3s,baz=83,slow=16,SNR=4.9						
CTA	**Charters Tower**	**14.63**	**204**	LR	LR	13 32 10.3	
	comp=Z,55nm,19.1s,baz=228,slow=35						
WB2	**Warramunga Arr**	**21.96**	**231**	*e*P	**P**	**13 28 22.4**	**-1.3**
WRA	**Warramunga Arr**	**21.97**	**231**	P	**P**	**13 28 24.4**	**+0.7**
	2.9nm,0.8s,mb3.8,baz=53,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**24.56**	**225**	P	**P**	**13 28 49.8**	**+0.5**
	6.5nm,0.8s,mb4.2,baz=60,slow=9.0,SNR=24						
ASPA	**Alice Springs**	**24.56**	**225**	*e*P	**P**	**13 28 49.7**	**+0.4**
STKA	**Stephens Creek**	**27.05**	**201**	*e*P	**P**	**13 29 11.7**	**-0.1**
	2.0nm,0.9s,mb3.6						
STKA	**Stephens Creek**	**27.05**	**201**	P	**P**	**13 29 11.6**	**-0.3**
	0.9nm,0.5s,mb3.6,baz=24,slow=14,SNR=5.4						
FITZ	**Fitzroy Crossi**	**28.49**	**244**	*e*P	**P**	**13 29 24.0**	**-0.7**
	5.4nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.49**	**244**	P	**P**	**13 29 24.7**	**+0.1**
	3.1nm,0.5s,mb4.2,baz=48,slow=7.8,SNR=40						
SONM	**Songino Array**	**67.70**	**328**	P	**P**	**13 34 26.7**	**+0.3**
	1.5nm,0.9s,mb4.0,baz=136,slow=4.6,SNR=7.7						
MKAR	**Makanchi Array**	**81.48**	**319**	P	**P**	**13 35 46.0**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=100,slow=6.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.48**	**285**	PKPbc	PKPbc	13 43 20.8	+0.3
	1.5nm,0.7s,baz=68,slow=2.7,SNR=8.0						

*NEIC **14** 13:27:03.8,3964N×3760E,h8km,ML3.6(ISK),After ISK.*
*ISCJB **14** 13:27:04.7±0.3,3964N±0.02×3755E±0.02,h11km,Error ellipse: s-maj=3.3km s-min=2.4km az=53.3*
*ISK **14** 13:27:04.2,3963N×3759E,h11km,MD3.7*
*CSEM **14** 13:27:04.1±0.1,3964N×3759E,h10km,MD3.7,Error ellipse: s-maj=2.0km s-min=1.4km az=41.0*
ISC 14 13:27:04.7±0.6**,3959N**±0.02**×3758E**±0.03**,h3**^{km}±5^{km}**,n61,** σ**0**^{s}**99**/84**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SVSK	**Karacayir**	**0.56**	**306**	*i* PG	**Pg**	**13 27 14.5**	**-0.9**
SVSK				*i* SG	**Sg**	**13 27 23.2**	**+0.6**
SVSK	**Karacayir**	**0.56**	**306**	Pg	**Pg**	**13 27 14.2**	**-1.1**
SVSK				Sg	**Sg**	**13 27 22.2**	**-0.4**
TOKT	**Tokat**	**1.08**	**313**	*i* PG	**Pg**	**13 27 25.1**	**-0.3**
TOKT				*i* SG	**Sg**	**13 27 40.1**	**+0.7**
TOKT	**Tokat**	**1.08**	**313**	Pg	**Pg**	**13 27 24.4**	**-1.0**
TOKT				Sg	**Sg**	**13 27 39.4**	**0.0**
TOKT	**Tokat**	**1.08**	**313**	Pg	**Pg**	**13 27 24.4**	**-1.0**
TOKT				Sg	**Sg**	**13 27 39.4**	**0.0**
GRSN	**GIRESUNGRSN**	**1.44**	**21**	*i* P	**Pn**	**13 27 32.6**	**+1.0**
GRSN				*i* S	**Sb**	**13 27 52.8**	**+2.0**
BNN	**Bunyan**	**1.54**	**242**	PN	**Pn**	**13 27 32.0**	**-1.0**
BNN				SN	**Sn**	**13 27 53.5**	**+0.1**
BNN	**Bunyan**	**1.54**	**242**	Pn	**Pn**	**13 27 30.1**	**-2.9**
ELZG	**Elazig**	**1.54**	**134**	*i* P	**Pn**	**13 27 31.5**	**-1.6**
ELZG				*i* S	**Sn**	**13 27 53.6**	**0.0**
PTK	**Pertek**	**1.57**	**116**	PN	**Pn**	**13 27 32.9**	**-0.5**
PTK	**Pertek**	**1.57**	**116**	Pn	**Pn**	**13 27 32.4**	**-1.0**
EZC	**Erzincan**	**1.73**	**84**	*i* PN	**Pn**	**13 27 29.7**	**-6.0**
EZC				*i* SN	**Sn**	**13 27 48.9**	**-9.4**
EZC	**Erzincan**	**1.73**	**84**	Pn	**Pn**	**13 27 29.8**	**-5.9**
EZC				Sn	**Sn**	**13 27 48.8**	**-10**
YOZ	**Yozgat**	**1.75**	**272**	PN	**Pn**	**13 27 35.0**	**-0.9**
KVT	**Kavak**	**1.90**	**322**	PN	**Pn**	**13 27 37.2**	**-0.8**
KMRS	**Kahramanmaras**	**2.15**	**195**	PN	**Pn**	**13 27 41.9**	**+0.5**
MACK	**Trabzon**	**2.15**	**50**	*i* P	**Pg**	**13 27 44.8**	**-1.1**
MACK				*i* S	**Sg**	**13 28 15.7**	**+1.9**
KTUT	**Trabzon**	**2.18**	**49**	PN	**Pn**	**13 27 41.0**	**-0.8**
ATAB	**Bozova**	**2.19**	**165**	*i* P	**Pb**	**13 27 44.4**	**-0.5**
ATAB				*i* S	**Sg**	**13 28 14.5**	**-0.5**
GZT	**Gaziantep**	**2.23**	**180**	*i* P	**Pn**	**13 27 42.0**	**-0.5**
GZT				*i* S	**Sn**	**13 28 09.7**	**-0.8**
AVNT	**Avonos**	**2.27**	**250**	*i* P	**Pn**	**13 27 41.5**	**-1.6**
AVNT				*i* S	**Sg**	**13 28 20.2**	**+2.6**
AVNT	**Avonos**	**2.27**	**250**	*i* P	**Pn**	**13 27 41.5**	**-1.6**
AVNT				*i* S	**Sn**	**13 28 09.7**	**-1.8**
CORM	**Corum**	**2.35**	**286**	PN	**Pn**	**13 27 44.2**	**+0.1**
URFA	**Urfa**	**2.35**	**155**	PN	**Pn**	**13 27 44.7**	**+0.5**
URFA	**Urfa**	**2.35**	**155**	Pn	**Pn**	**13 27 44.7**	**+0.5**
BINT	**Bingol**	**2.37**	**107**	PN	**Pn**	**13 27 43.8**	**-0.6**
BINT	**Bingol**	**2.37**	**107**	Pn	**Pn**	**13 27 43.8**	**-0.6**
CTKT	**Corum**	**2.38**	**297**	*i* P	**Pn**	**13 27 45.4**	**+0.8**
CTKT				*i* S	**Sg**	**13 28 21.4**	**+0.3**
CTKT	**Corum**	**2.38**	**297**	*i* P	**Pn**	**13 27 45.3**	**+0.7**
GAZ	**Gaziantep**	**2.43**	**187**	PN	**Pn**	**13 27 46.1**	**+0.8**
GAZ	**Gaziantep**	**2.43**	**187**	Pn	**Pn**	**13 27 46.1**	**+0.8**
CDAG	**Cicekdag**	**2.48**	**272**	*i* P	**Pn**	**13 27 45.2**	**-0.8**
CDAG				*i* S	**Sb**	**13 28 22.5**	**+1.7**
KOZT	**Kozan**	**2.51**	**214**	PN	**Pn**	**13 27 47.0**	**+0.6**
DIKM	**Dikmen**	**2.71**	**320**	PN	**Pn**	**13 27 48.9**	**-0.3**
BOYT	**Boyabat**	**2.74**	**313**	*i* P	**Pb**	**13 27 51.5**	**-2.8**
BOYT				*i* S	**Sg**	**13 28 31.9**	**-0.9**
BYBT	**Boyabat**	**2.85**	**312**	*e*PN	**Pn**	**13 27 50.3**	**-0.8**
BYBT	**Boyabat**	**2.85**	**312**	Pn	**Pn**	**13 27 50.3**	**-0.8**
EZM	**Erzurum**	**2.93**	**83**	*e*PN	**Pn**	**13 27 51.7**	**-0.5**
EZM	**Erzurum**	**2.93**	**83**	Pn	**Pn**	**13 27 51.7**	**-0.5**
ERZM	**Erzurum**	**2.94**	**83**	*i* P	**Pb**	**13 27 58.2**	**+0.6**
ERZM				*i* S	**Sg**	**13 28 45.1**	**+6.1**
KAMT	**Kaman**	**3.00**	**267**	*e*PN	**Pn**	**13 27 53.1**	**-0.1**
KAMT	**Kaman**	**3.00**	**267**	Pn	**Pn**	**13 27 53.2**	**0.0**
KAMT	**Kaman**	**3.00**	**267**	Pn	**Pn**	**13 27 53.2**	**0.0**
KARA	**Karaisali**	**3.06**	**221**	*e*PN	**Pn**	**13 27 54.9**	**+1.0**
TOS	**Tosya**	**3.08**	**299**	*e*PN	**Pn**	**13 27 54.5**	**+0.3**
TOS	**Tosya**	**3.08**	**299**	Pn	**Pn**	**13 27 54.5**	**+0.3**
CANT	**Cankiri**	**3.20**	**290**	*e*PN	**Pn**	**13 27 55.4**	**-0.5**
CANT	**Cankiri**	**3.20**	**290**	Pn	**Pn**	**13 27 55.4**	**-0.5**
COBT	**Iskenderun**	**3.24**	**199**	*i* P	**Pn**	**13 27 56.3**	**-0.1**
COBT				*i* S	**Sb**	**13 28 42.6**	**0.0**
ELDT	**Eldivan**	**3.31**	**287**	*i* P	**Pn**	**13 27 57.6**	**+0.1**
ELDT				*i* S	**Sg**	**13 28 51.0**	**-0.2**
MARD	**Mardin**	**3.38**	**131**	*i* P	**Pn**	**13 27 57.5**	**-0.9**
MARD				*i* S	**Sb**	**13 28 48.1**	**+1.3**
MERS	**Mersin**	**3.63**	**223**	*e*PN	**Pn**	**13 28 02.8**	**+1.0**
HTY	**Hatay**	**3.64**	**199**	*e*PN	**Pn**	**13 28 03.3**	**+1.3**
HTY	**Hatay**	**3.64**	**199**	Pn	**Pn**	**13 28 03.4**	**+1.4**
ANTO	**Ankara**	**3.70**	**276**	*e*PN	**Pn**	**13 28 03.8**	**+1.0**
ANTO	**Ankara**	**3.70**	**276**	Pn	**Pn**	**13 28 03.8**	**+1.0**
BALT	**Daday**	**3.74**	**303**	*i* P	**Pn**	**13 28 04.2**	**+0.9**
BALT				*i* S	**Sg**	**13 29 04.7**	**-0.1**
KIZT	**Kizilcal**	**4.48**	**263**	*e*PN	**Pn**	**13 28 14.5**	**+1.0**
KIZT	**Kizilcal**	**4.48**	**263**	Pn	**Pn**	**13 28 14.5**	**+1.0**
IKL	**Isikli**	**4.55**	**224**	*e*PN	**Pn**	**13 28 15.9**	**+1.5**
IKL	**Isikli**	**4.55**	**224**	Pn	**Pn**	**13 28 15.9**	**+1.5**

MAN 14 13:34:27.5,819N×12664E,h10^{km}**,mb3.3,ML4.6,MS4.2, Mindanao**

KRSC 14 14:50:35,5605N×16329E,h16^{km}**,ML3.7,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.31**	**301**	*i* P	Pg	14 50 42.7	+1.2
KBTR				*i* S	Sg	14 50 48.0	+2.1
SMKR	**Semkarok**	**1.15**	**298**	*e*P	Pn	14 50 57.1	+0.7
SMKR				*i* S	Sb	14 51 13.0	+1.9
BDR	**Baidarnaya**	**1.27**	**295**	*e*P	Pn	14 50 59.4	+1.3
BDR				*i* S	Sb	14 51 16.9	+2.2
SRKR	**Sorokina**	**1.33**	**298**	*e*P	Pn	14 51 00.2	+1.3
SRKR				*i* S	Sn	14 51 18.3	+2.1
ZLN	**Zelenaya**	**1.40**	**270**	*e*P	Pn	14 51 02.1	+2.3
ZLN				*i* S	Sn	14 51 21.0	+3.1
CIRR	**Tsirk**	**1.43**	**274**	*e*P	Pn	14 51 02.4	+2.2
CIRR				*i* S	Sn	14 51 21.5	+2.9
KLY	**Klyuchi**	**1.50**	**281**	*e*P	Pn	14 51 01.4	+0.2
KLY				*i* S	Sn	14 51 19.8	-0.6
KRSR	**Krestovskiy**	**1.53**	**277**	*e*P	Pn	14 51 03.5	+1.8
KRSR				*i* S	Sn	14 51 23.7	+2.4
KPT	**Kopyto**	**1.73**	**268**	*e*P	Pn	14 51 07.3	+3.0
KPT				*i* S	Sn	14 51 30.9	+4.9
MKZ	**Mys Kozlova**	**1.74**	**211**	*e*P	Pn	14 51 06.4	+1.8
MKZ				*i* S	Sn	14 51 27.9	+1.5
KMNR	**Kamenistaya**	**1.74**	**262**	*e*P	Pn	14 51 07.4	+2.8
KMNR				*i* S	Sn	14 51 30.3	+3.8
KOZ	**Kozyrevsk**	**1.92**	**272**	*e*P	Pn	14 51 10.0	+3.0
KOZ				*i* S	Sn	14 51 35.6	+4.9
TUMR	**Tumrok**	**1.94**	**248**	*e*P	Pn	14 51 10.1	+2.8
TUMR				*i* S	Sn	14 51 35.1	+3.8
SRDR	**Sredinnyy**	**2.02**	**279**	*e*P	Pn	14 51 11.0	+2.7
SRDR				*i* S	Sn	14 51 36.9	+3.7
SPN	**Mys Shipunski**	**3.52**	**214**	*e*P	Pn	14 51 30.1	+1.1
SPN				*i* S	Sn	14 52 08.5	-1.7
NLC	**Nalytchevo**	**3.69**	**220**	*e*P	Pn	14 51 33.4	+2.1
NLC				*i* S	Sn	14 52 14.3	-0.1
AVH	**Avacha**	**3.84**	**225**	*e*P	Pn	14 51 37.2	+3.7
GNL	**Ganaly**	**3.89**	**235**	*e*P	Pn	14 51 36.9	+2.8
PET	**Petropavlovsk**	**4.06**	**224**	*e*P	Pn	14 51 39.3	+2.9
PET				*i* S	Sn	14 52 24.9	+1.3
RUS	**Russkaya**	**4.58**	**220**	*e*P	Pn	14 51 45.5	+1.9

IDC 14 14:53:48.9±2.9**,339N×12791E,h0**^{km}**,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.6**/18**,mbtmp3.7**/4**,Error ellipse: s-maj=98.0km s-min=50.7km az=83.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.47**	**186**	P	P	14 58 39.4	+0.5
	1.3nm,1.0s,baz=84,slow=18,SNR=4.1						
WRA	**Warramunga Arr**	**24.02**	**165**	P	P	14 59 05.5	+0.1
	1.3nm,0.5s,baz=345,slow=10,SNR=57						
ASAR	**Alice Springs**	**27.51**	**168**	P	P	14 59 37.1	+0.1
	0.5nm,1.0s,baz=348,slow=6.3,SNR=7.7						
ASAR				PcP	PcP	15 02 55.8	+0.6
	0.3nm,0.3s,baz=356,slow=2.1,SNR=11						
STKA	**Stephens Creek**	**37.40**	**161**	P	P	15 01 03.6	+0.1
	1.9nm,0.3s,baz=333,slow=9.5,SNR=9.0						

*NIED **14** 14:56:00,4230N×14300E,h53km,Mw3.9 Best double couple: $M_0$9.04000×10^{14} NP1:ϕ_s20.00000°,δ67.00000°, λ79.00000°. NP2:ϕ_s227.00000°,δ25.00000°,λ115.00000°.*
*ISCJB **14** 14:56:16.3±0.4,4223N±0.04×14305E±0.06,h70km±3km, mb4.0/16,Error ellipse: s-maj=8.6km s-min=5.2km az=70.7*
*MOS **14** 14:56:16.1±1.3,4226N×14298E,h68km,mb4.4/6,Error*

ellipse: s-maj=14.9km s-min=9.0km az=90.8

*NEIC **14** 14:56:17.9±0.9, 4224N×143.11E, h72km±10km, mb4.2/5, Error ellipse: s-maj=27.0km s-min=12.3km az=116.0*

NEIC Recorded [2 JMA] in south-central Hokkaido.

*IDC **14** 14:56:18.2±2.2, 4226N×143.14E, h69km±14km, mb3.8/10, mb1 3.9/12, mb1mx3.7/25, mbtmp4.1/12, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=30.0km s-min=14.1km az=98.0*

*JMA **14** 14:56:18.6±0.1, 4232N×14302E, h51km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs239.00000°, δ34.00000°, λ117.00000°. NP2: φs28.00000°, δ60.00000°, λ73.00000°. Principal axes: T Plg70.0000°, Azm260.0000°; N Plg15.0000°, Azm37.0000°; P Plg13.0000°, Azm130.0000°;*

JMA Felt II J1.

ISC 14 14:56:17.5±0.4**, 4226N**±004×**14302E**±006**, h64**km±3km**, n46, σ0s97**/56**, mb4.1**/16**, 5C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.20	276	⇑P	Pn	14 56 26.9	-0.5
JNBK				eS	Sn	14 56 33.7	-0.8
ERM	Erimo	0.26	157	⇓iPn	Pn	14 56 28.0	+0.3
ERM				eSn	Sn	14 56 33.0	-2.1
JEM	Erimo	0.26	157	⇑P	Pn	14 56 28.1	+0.4
JEM				eS	Sn	14 56 35.4	+0.2
JCH	Churui	0.44	35	⇑P	Pn	14 56 28.7	-0.4
JCH				eS	Sn	14 56 36.7	-0.9
JBT2	Biratori 2	0.71	317	⇓P	Pn	14 56 32.1	0.0
JOB	Onbets	0.88	43	⇑P	Pn	14 56 34.8	+0.6
JOB				eS	Sn	14 56 46.9	+0.4
JFR	Furan	0.96	341	⇓P	Pn	14 56 34.1	-1.0
JAR	Ashorobuto	1.18	28	⇑P	Pn	14 56 37.8	-0.2
JAR				eS	Sn	14 56 51.9	-1.3
JEW	Eniwo	1.30	297	⇓P	Pn	14 56 40.2	+0.6
JAB	Ashibetsu	1.38	335	⇓P	Pn	14 56 41.2	+0.6
ASAJ	Asahikawa	1.88	351	P	Pn	14 56 48.2	+0.8
	72nm,0.3s,baz=202,slow=12,SNR=360						
ASAJ				S	Sn	14 57 11.7	+1.6
	23nm,0.3s,baz=312,slow=30,SNR=11						
ASAJ	Asahikawa	1.88	351	PN	Pn	14 56 48.2	+0.8
ASAJ				S	Sn	14 57 11.7	+1.6
ASAJ				pmax	pmax		
	comp=Z,72nm,0.3s						
ASAJ				smax			
	comp=N,23nm,0.3s						
YUK	Yuzh-Kuril'sk	2.73	49	ePN	Pn	14 57 00.5	+1.5
YUK				iS	Sn	14 57 31.3	+0.4
YUK				pmax	pmax		
	comp=N,190nm,0.4s						
YUK				pmax	pmax		
	comp=E,140nm,0.4s						
YUK				pmax	pmax		
	comp=Z,300nm,0.4s						
YUK				smax			
	comp=N,780nm,0.4s						
YUK				smax			
	comp=E,560nm,0.4s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,2μm,0.8s						
KUR	Kuril'sk	4.60	48	ePN	Pn	14 57 24.0	-0.5
KUR				eS	Sn	14 58 17.5	+0.9
KUR				pmax	pmax		
	comp=Z,90nm,0.9s						
KUR				smax			
	comp=N,210nm,0.9s						
KUR				smax			
	comp=E,140nm,0.9s						
YSS	Yuzh-Sakhalins	4.70	358	ePN	Pn	14 57 27.3	+1.5
MAJO	Matsushiro	6.81	215	PN	Pn	14 57 55.9	+1.1
MJAR	Matsushiro Arr	6.81	215	P	Pn	14 57 56.0	+1.2
	comp=E,0.5nm,0.3s,baz=30,slow=12,SNR=7.4						
JHJ	Hachijo jima 2	9.48	197	P	Pn	14 58 32.3	+1.1
	comp=E,14nm,0.3s,baz=264,slow=18,SNR=2.8						
YAK	Yakutsk	21.34	343	P	P	15 00 55.0	-4.3
ULN	Ulaanbaatar	25.85	295	eP	P	15 01 41.5	-1.5
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
ULN	Ulaanbaatar	25.85	295	eP	P	15 01 41.5	-1.5
	comp=Z,2.5nm,1.0s,mb3.7						
SONM	Songino Array	26.30	295	P	P	15 01 47.9	+0.8
	comp=Z,1.6nm,0.7s,mb3.7,baz=71,slow=8.4,SNR=12						
SONM				LR	LR	15 13 06.4	
	comp=Z,39nm,19.3s,baz=54,slow=38						
ZAK	Zakamensk	28.34	300	eP	P	15 02 04.5	-0.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.4						
ZAL	Zalesovo	39.51	308	P	P	15 03 42.9	+0.9
	comp=Z,1.6nm,0.5s,mb4.0,baz=28,slow=8.5,SNR=6.5						
MKAR	Makanchi Array	42.59	298	P	P	15 04 07.9	+0.6
	comp=Z,1.3nm,0.5s,mb3.9,baz=74,slow=10,SNR=8.9						
CHKZ	Chkalovo	47.78	310	eP	P	15 04 45.3	-3.0
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	Chkalovo	47.78	310	eP	P	15 04 45.3	-3.0
	comp=Z,4.6nm,0.8s,mb4.6						
BVAR	Borovoye Array	48.10	309	P	P	15 04 51.5	+0.6
	comp=Z,1.5nm,0.5s,mb4.3,baz=75,slow=9.2,SNR=14						
ZRNK	Zerenda	48.92	309	eP	P	15 04 57.4	+0.3
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZRNK	Zerenda	48.92	309	eP	P	15 04 57.4	+0.3
	comp=Z,2.7nm,0.8s,mb4.3						
INK	Inuvik	49.20	29	P	P	15 04 58.7	-0.5
	comp=Z,0.9nm,0.5s,mb4.1,baz=304,slow=3.3,SNR=3.1						
INK	Inuvik	49.20	29	eP	P	15 04 58.6	-0.7
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	Inuvik	49.20	29	eP	P	15 04 58.6	-0.7
	comp=Z,3.1nm,0.9s,mb4.3						
ARCES	ARCESS Array B	59.56	339	P	P	15 06 14.1	-0.4
	comp=Z,3.2nm,0.9s,mb4.3,baz=75,slow=11,SNR=3.8						
ARCES	ARCESS Array B	59.56	339	P	P	15 06 14.1	-0.4
JOF	Joensuu	61.96	331	ep	P	15 06 29.6	-1.2
	comp=Z,1.3nm,0.4s,mb4.4						
JOF	Joensuu	61.96	331	eP	P	15 06 29.6	-1.2
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
KAF	Kangasniemi	64.25	332	ep	P	15 06 43.0	-2.9
	comp=Z,0.9nm,0.4s,mb4.2						
KAF	Kangasniemi	64.25	332	eP	P	15 06 43.0	-2.9
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	64.79	332	P	P	15 06 48.9	-0.5
	comp=Z,1.2nm,0.4s,mb4.3,baz=53,slow=6.5,SNR=19						
FINES	FINESS Array B	64.79	332	P	P	15 06 48.9	-0.5
HFS	Hagfors	69.84	336	P	P	15 07 21.3	-0.1
	comp=Z,1.3nm,0.4s,mb4.2,baz=46,slow=8.5,SNR=15						
NB2	NORSAR Subarra	69.85	337	P	P	15 07 20.9	-0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=34,slow=6.5						
NOA	NORSAR Array B	69.85	337	P	P	15 07 21.2	-0.3
	comp=Z,0.5nm,0.4s,mb3.8,baz=35,slow=6.3,SNR=4.3						
NOA	NORSAR Array B	69.85	337	P	P	15 07 21.2	-0.3
AKASG	Malin Array Be	70.94	322	P	P	15 07 27.4	-0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=40,slow=5.3,SNR=5.2						

CASC 14 15:15:13.3±4.6**, 1381N×9082W, h20**km±26km**, MD3.7, 3C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TP2	Tecpan 2	0.99	349	⇓eP	Pb	15 15 31.1	-0.7
TP2				eS	Sb	15 15 46.3	+1.9
SBLS	San Blas	1.16	88	⇓eP	x	15 15 43.9	
SBLS				eS	x	15 16 01.2	
SNJE	San Jose	1.18	87	⇑eP	x	15 15 44.4	
SNJE				eS	x	15 16 01.0	
BOQS	Boqueron	1.50	93	⇑eP	x	15 15 48.9	
BOQS				eS	x	15 16 08.4	
LFRS	El Faro	1.72	96	⇑eP	x	15 15 51.9	
LFRS				eS	x	15 16 13.8	
LCBS	La Ceiba	1.80	95	⇓eP	x	15 15 52.6	
LCBS				eS	x	15 16 19.2	
SNVI	San Vicente	1.94	95	eP	x	15 15 55.0	
SNVI				eS	x	15 16 19.6	

IDC 14 15:25:19.7±4.0**, 1153S×16647E, h0**km**, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.9**/4**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx2.9**/25**, Error ellipse: s-maj=95.7km s-min=74.1km az=153.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	21.21	244	LR	LR	15 37 25.9	
	comp=Z,89nm,19.7s,baz=229,slow=34						
STKA	Stephens Creek	30.59	225	P	P	15 31 36.5	+1.2
	1.2nm,0.6s,baz=33,slow=10,SNR=6.2						
WRA	Warramunga Arr	31.99	251	P	P	15 31 47.5	0.0
	1.1nm,0.8s,baz=85,slow=9.2,SNR=9.6						
ASAR	Alice Springs	33.22	244	P	P	15 31 58.4	+0.1
	1.2nm,0.7s,baz=69,slow=9.9,SNR=25						
ASAR				PcP	PcP	15 34 41.0	0.0
	0.5nm,1.0s,baz=85,slow=2.5,SNR=4.8						
ASAR				LR	LR	15 43 34.1	
	comp=Z,57nm,18.8s,baz=180,slow=33						
FITZ	Fitzroy Crossi	39.95	256	P	P	15 32 56.1	+0.4
	0.9nm,0.7s,baz=95,slow=11,SNR=5.2						

*ISCJB **14** 15:32:36.3±3.2, 403N±02×730E±0.1, h10km, Error ellipse: s-maj=35.0km s-min=11.3km az=28.0*

*NNC **14** 15:32:42.6±4.8, 4079N×73.19E, h4km±21km, mb3.5, mpv3.2, Error ellipse: s-maj=39.0km s-min=15.6km az=2.0*

ISC 14 15:32:38.9±3.3**, 404N**±03×**731E**±01**, h10**km**, n10, σ0s56**/12**, 4C, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	1.83	15	P	Pn	15 33 10.1	-0.4
	SNR=57						
EKS2	Erkin-Say	2.36	13	P	Pn	15 33 19.1	+1.4
	SNR=27						
KBK	Karagaybulak	2.70	31	P	Pn	15 33 22.5	+0.1
	SNR=74						
CHMS	Chumysh	2.93	25	P	Pn	15 33 25.4	-0.1
	SNR=20						
ULHL	Ulahol	3.05	51	P	Pn	15 33 27.1	-0.2
	SNR=23						
USP	Ospenovka	3.10	20	P	Pn	15 33 32.5	+4.6
	SNR=10						
TKM2	Tokmak 2	3.19	36	P	Pn	15 33 28.7	-0.4
	SNR=13						
TKM2	Tokmak 2	3.19	36	⇑Pn	Pn	15 33 28.5	-0.6
	1.4nm,0.6s						
TKM2				⇑Lg		15 34 12.2	
	1.7nm,0.5s						
KK31	Karatay Array	3.34	326	Pn	Pn	15 33 30.9	-0.3
	6.4nm,0.5s,baz=133,slow=16,SNR=106						
KK31				Pg	Pg	15 33 38.1	-4.9
	7.0nm,0.2s,baz=318,slow=75,SNR=23						
KK31				⇑Sn	Sn	15 34 10.7	-0.2
	11nm,0.3s,baz=302,slow=27,SNR=7.1						
KK31				Lg		15 34 20.8	
AB31	Akbulak array	12.86	318	⇑P	Pn	15 35 42.1	+0.3
	0.5nm,0.5s,baz=127,slow=12,SNR=5.2						

*ISCJB **14** 15:34:26.0±1.6, 831N±008×1269E±0.1, h43km±17km, mb3.7/6, Error ellipse: s-maj=21.1km s-min=10.3km az=131.6*

*MAN **14** 15:34:27.8, 823N×12670E, h44km, mb3.5, ML4.7, MS4.4*

*IDC **14** 15:34:28.2±2.1, 761N×12705E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=121.7km s-min=25.9km az=68.0*

*NEIC **14** 15:34:33.7±1.2, 759N×12688E, h35km, mb4.0/3, Error ellipse: s-maj=25.7km s-min=14.5km az=222.0*

ISC 14 15:34:27.0±3.1**, 832N**±008×**12686E**±009**, h30**km±24km**, n21, σ0s85**/24**, mb3.7**/6**, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	1.39	298	eP	Pn	15 34 50.0	-0.2
MATI	Mati	1.49	204	eP	Pn	15 34 50.6	-1.1
DAV	Davao City (W)	1.77	226	eP	Pn	15 34 57.5	+1.9
DAV	Davao City (W)	1.77	226	ePn	Pn	15 34 56.4	+0.9
BUKP	Musuan	1.83	256	eP	Pn	15 34 55.5	-0.8
SCPH	Surigao	1.99	317	⇑eP	Pn	15 34 59.4	+0.9
SCPH				eS	Sn	15 35 22.9	+0.5
CGP	Cagayan de Oro	2.15	274	⇑eP	Pn	15 35 00.1	-0.6
CGP				iS	Sn	15 35 27.6	+1.2
TBP	Tagbilaran	3.26	295	eP	Pn	15 35 15.8	-0.3
LLP	Lapu-Lapu	3.48	305	⇑eP	Pn	15 35 19.7	+0.7
LLP				eS	Sn	15 35 57.2	-2.0
KAKA	Kakadu	21.61	165	eP	P	15 39 14.9	+0.4
	8.2nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	26.28	183	eP	P	15 39 59.5	-0.1
	4.7nm,1.0s,mb4.0						
FITZ	Fitzroy Crossi	26.28	183	P	P	15 39 59.3	-0.3
	2.3nm,0.7s,mb3.8,baz=357,slow=8.0,SNR=11						
WRAB	Tennant Creek	29.02	165	ePn	P	15 40 23.2	-1.0
WRA	Warramunga Arr	29.03	165	P	P	15 40 23.5	-0.8
	0.6nm,0.8s,mb3.4,baz=346,slow=9.7,SNR=5.4						
WB2	Warramunga Arr	29.03	165	eP	P	15 40 24.9	+0.6
AS31	Alice Springs	32.52	168	eP	P	15 40 55.8	+0.7
ASAR	Alice Springs	32.52	168	P	P	15 40 54.8	-0.3
	0.3nm,0.3s,mb3.6,baz=342,slow=7.4,SNR=27						
ASPA	Alice Springs	32.52	168	eP	P	15 40 55.8	+0.7
STKA	Stephens Creek	42.38	161	eP	P	15 42 18.4	0.0
	1.5nm,1.4s,mb3.4						
STKA	Stephens Creek	42.38	161	P	P	15 42 18.4	0.0
	1.5nm,0.8s,mb3.6,baz=320,slow=7.9,SNR=4.2						
MKAR	Makanchi Array	53.93	323	P	P	15 43 58.5	+11
	0.2nm,0.4s,mb3.4,baz=117,slow=8.3,SNR=4.2						

MAN 14 15:42:45.4, 1038N×12192E, h33km**, mb1.6, ML3.5, MS4.4, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CUYO	Cuyo Island	1.00	298	eP	Pn	15 43 03.1	0.0
CUYO				eS	Sn	15 43 15.0	-1.1
OTRP	Odiongan	1.98	3	eP	Pn	15 43 17.3	+0.7
BUSP	Coron	2.34	314	eP	Pn	15 43 20.3	-1.1
ENPP	El Nido	2.59	289	eP	Pn	15 43 26.0	+1.1

WEL 14 15:43:20.1±0.1**, 4192S×17400E, h12**km**, ML3.7**/25**, 1C-1D, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSWZ	Blackbirch Sta	0.22	336	PG	Pg	15 43 24.1	-0.7
BSWZ				SG	Sg	15 43 27.8	-0.2
CMWZ	Cape Campbell	0.24	44	PG	Pg	15 43 25.3	+0.3
CMWZ				SG	Sg	15 43 30.5	+2.1
TUWZ	Tuamarina	0.49	355	⇑PG	Pg	15 43 29.4	-0.2
KHZ	Kahutara	0.60	214	P*	Pb	15 43 31.3	-1.3
TCW	Tory Channel	0.74	17	P*	Pb	15 43 33.8	-1.1
TCW				SG	Sg	15 43 44.4	+0.4
SNZO	South Karori	0.81	41	P*	Pb	15 43 35.9	-0.2
BHW	Baring Head	0.83	52	P*	Pb	15 43 36.6	+0.2
THZ	Tophouse	0.83	280	⇓P*	Pb	15 43 35.2	-1.2
MRW	Makara Radio	0.87	38	P*	Pb	15 43 36.7	-0.3
MSWZ	Moikau Station	1.07	62	P*	Pb	15 43 40.2	-0.2
DUWZ	D'Urville Isla	1.12	357	P*	Pb	15 43 40.2	-1.1
CAW	Cannon Point	1.14	45	P*	Pb	15 43 41.7	-0.1
CAW				S*	Sb	15 43 58.4	+1.9
PAWZ	Paruwai Farm	1.20	64	P*	Pb	15 43 41.7	-1.0
KIW	Kapiti Island	1.26	33	P*	Pb	15 43 43.2	-0.5
MTW	Mount Morrison	1.36	57	P*	Pb	15 43 44.0	-1.5
TRWZ	Traveller	1.37	68	eP*	Pb	15 43 43.8	-1.8
LTZ	Lake Taylor	1.54	235	PN	Pn	15 43 47.0	-0.3
QRZ	Quartz Range	1.55	314	PN	Pn	15 43 47.7	+0.2
DSZ	Denniston Nort	1.65	275	PN	Pn	15 43 49.8	+1.0
MRZ	Mangatainoka R	1.73	44	PN	Pn	15 43 49.5	-0.5
CRLZ	Canterbury Las	1.94	211	PN	Pn	15 43 51.1	-1.8
MQZ	McQueen's Vall	2.04	209	PN	Pn	15 43 51.9	-2.4
TSZ	Takapari Road	2.38	39	PN	Pn	15 43 58.2	-0.7
NWEZ	Newall Road	2.64	358	ePN	Pn	15 44 06.6	+4.1
WVZ	Waitaha Valley	2.67	243	ePN	Pn	15 44 02.5	-0.4
PKE	Pukeiti	2.72	360	ePN	Pn	15 44 05.4	+1.8
RPZ	Rata Peaks	2.81	229	ePN	Pn	15 44 03.2	-1.6
RPZ				SN	Sn	15 44 35.4	-3.3
VRZ	Vera Road	2.85	12	PN	Pn	15 44 06.7	+1.3
FWVZ	Far West T-bar	2.91	25	PN	Pn	15 44 07.5	+1.3
TUVZ	Tukino	2.93	26	ePN	Pn	15 44 07.2	+0.7
NGZ	Ngauruhoe	3.00	25	ePN	Pn	15 44 08.4	+1.0
HIZ	Hauiti	3.46	11	ePN	Pn	15 44 15.5	+1.7
ODZ	Otahua Downs	3.96	217	ePN	Pn	15 44 18.2	-2.5

*NIED **14** 15:59:00, 4330N×14680E, h47km, Mw3.4 Best double couple: M0 1.30000×10[14] NP1:φs26.00000°, δ61.00000°, λ55.00000°. NP2:φs262.00000°, δ44.00000°, λ136.00000°.*

JMA 14 15:59:00.3±0.2**, 4333N×14679E, h43**km±2km**, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.77	273	P	Pn	15 59 14.9	+0.2
NEM2				eS	Sn	15 59 25.4	+0.4
JRA	Rausu	1.35	297	P	Pn	15 59 23.2	+0.5
JRA				eS	Sn	15 59 40.1	+0.6
JNK	Nakash	1.53	280	P	Pn	15 59 25.5	+0.4
JNK				eS	Sn	15 59 44.1	+0.3
JAK	Akkeshi	1.57	258	P	Pn	15 59 26.2	+0.6
JAK				eS	Sn	15 59 45.5	+0.8
JTKR	Abashiri--Toko	2.19	288	P	Pn	15 59 35.9	+1.8
JAR	Ashorobuto	2.21	270	P	Pn	15 59 35.8	+1.4
JAR				eS	Sn	16 00 02.7	+2.3
JOB	Onbets	2.21	260	P	Pn	15 59 35.7	+1.3
JOB				eS	Sn	16 00 02.2	+1.8
JMP	Maruseppu	2.58	286	P	Pn	15 59 41.5	+2.0
JCH	Churui	2.62	255	P	Pn	15 59 41.5	+1.5
JCH				eS	Sn	16 00 13.0	+2.5
JKK2	Kamakawa 2	2.99	282	P	Pn	15 59 47.5	+2.4

*CSEM **14** 16:15:47.3, 1310N×4807E, h10km, ML3.5, After DHMR*

DHMR 14 16:15:47.3±1.9**, 1310N×4807E, h10**km**, ML3.5, 3C-1D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.66	34	iP	Pn	16 16 17.1	+0.7
MUKL				iS	Sn	16 16 39.7	+1.9
MUKL				AML	AML	16 16 40.4	
	comp=E,398nm,0.5s						
BDHA	Al Bayda'	2.58	290	⇑iP	Pn	16 16 33.2	+4.1
BDHA				iS	Sn	16 17 06.8	+6.2
BDHA				AML	AML	16 17 11.7	
	comp=N,414nm,0.5s						
BDHA	Al Bayda'	2.58	290	⇑iP	Pn	16 16 33.2	+4.1
BDHA				iS	Sn	16 17 06.8	+6.2
	comp=N,207nm,0.5s						
LBOS		2.85	286	⇓eP	Pn	16 16 36.8	+4.0
LBOS				iS	Sn	16 17 13.8	+6.7
TRBA	At Turbah	3.85	272	⇑iP	Pn	16 16 48.7	+2.1
TRBA				iS	Sn	16 17 36.4	+4.5

*ISCJB **14** 16:24:42.8±0.3, 5138N±007×17898W±004, h43km, mb4.6/73, MS3.8/23, Error ellipse: s-maj=10.0km s-min=3.6km az=164.9*

*IDC **14** 16:24:43.0±3.9, 5138N×17905W, h32km±28km, mb4.1/22, mb1 4.3/23, mb1mx4.3/27, mbtmp4.3/23, ML4.6/1, MS3.8/17, Ms1 3.8/17, ms1mx3.6/42, Error ellipse: s-maj=17.7km s-min=12.3km az=158.0*

*MOS **14** 16:24:44.1±0.7, 5141N×17897W, h55km, mb4.9/32, Error ellipse: s-maj=12.0km s-min=8.0km az=89.1*

*NEIC **14** 16:24:44.7±0.7, 5142N×17901W, h48km±6km, mb4.6/39, ML4.4(AEIC), Error ellipse: s-maj=7.9km s-min=4.0km az=175.0*

*BJI **14** 16:24:44.5, 5148N×17959W, h43km, mb4.8, mB5.1, Ms4.8, Msz4.3*

ISC 14 16:24:44.6±0.3**, 5146N**±007×**17900W**±004**, h45**km**, h45**km±2.3km**:pP-P, n192, σ0s92**/187**, mb4.6**/73**, MS3.8**/23**, 6C-1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	1.07	266	P	Pn	16 25 01.5	-1.6
AMKA				S	Sn	16 25 17.9	+1.1
ATKA	Atka Island	3.07	74	P	Pn	16 25 31.2	+0.6
ATKA				S	Sn	16 26 08.1	+2.0
SMY	Shemya	4.44	289	P	Pn	16 25 51.2	+1.9
SPIA	Saint Paul Isl	7.68	38	ePn	Pn	16 26 37.4	+3.7
SDPT	Sand Point	11.71	63	Pn	Pn	16 27 24.6	-4.4
PET	Petropavlovsk	13.77	285	⇑eP	Pn	16 28 08.6	+12
PET				pmax	pmax		
	comp=Z,27nm,1.4s						
SVW2	Sparrevohn	16.10	44	ePn	Pn	16 28 28.5	+0.9
KDAK	Kodiak Island	16.48	57	Pn	Pn	16 28 30.9	-1.6
	comp=Z,2.1nm,0.3s,baz=247,slow=6.7,SNR=13						
KDAK				Sn	Sn	16 31 29.2	-5.3
	comp=Z,0.4nm,0.3s,baz=313,slow=16,SNR=2.1						
KDAK	Kodiak Island	16.48	57	Pn	Pn	16 28 30.9	-1.6
KDAK				Sn	Sn	16 31 29.2	-5.3
SLKM	Skilak Lake	18.33	49	eP	Pn	16 28 57.2	+1.9
SEY	Seymchan	19.10	318	⇑eP	Pn	16 29 09.6	+5.0
MCK	McKinley	20.02	41	eP	P	16 29 11.7	-1.8
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	McKinley	20.02	41	eP	P	16 29 11.7	-1.8
	comp=Z,4.6nm,0.7s						
COLA	College	20.92	38	⇓eP	P	16 29 27.1	+3.8
COLA	College	20.92	38	P	P	16 29 21.1	-2.2
	comp=Z,15nm,0.9s						
EGAK	Eagle	23.57	41	eP	P	16 29 50.9	-0.1
DAWY	Dawson	24.13	43	eP	P	16 29 55.5	-0.7
YSS	Yuzh-Sakhalins	25.19	275	⇑eP	P	16 30 07.1	+1.3
YSS				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.8						
YSS	Yuzh-Sakhalins	25.19	275	eP	P	16 30 06.7	+0.9
	comp=Z,18nm,0.6s,mb4.8						
ASAJ	Asahikawa	26.58	269	P	P	16 30 18.9	+0.5
	comp=Z,9.8nm,0.8s,mb4.4,baz=122,slow=2.7,SNR=12						
ASAJ				LR	LR	16 38 43.6	
	comp=Z,114nm,21.9s,MS3.4,baz=88,slow=32						
INK	Inuvik	27.46	35	P	P	16 30 26.5	+0.2
	comp=Z,3.2nm,0.6s,mb4.0,baz=266,slow=1.8,SNR=3.9						
INK				PcP	PcP	16 33 43.4	-0.5
	comp=Z,1.4nm,0.5s,baz=270,slow=2.0,SNR=2.8						
INK				LR	LR	16 41 14.5	
	comp=Z,144nm,20.5s,MS3.5,baz=24,slow=36						
INK	Inuvik	27.46	35	eP	P	16 30 26.3	0.0
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	Inuvik	27.46	35	eP	P	16 30 26.3	0.0
	comp=Z,7.0nm,0.9s,mb4.2						
DLBC	Dease Lake	28.42	56	LR	LR	16 41 56.8	
	comp=Z,180nm,18.9s,MS3.7,baz=288,slow=36						
HABR	Khabarovsk	29.33	282	eP	P	16 30 43.9	+1.0
KLR	Kul'dur	31.04	286	eP	P	16 30 54.9	-3.1
KLR				pmax	pmax		
	comp=E,20nm,1.2s						
KLR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.0						
MJAR	Matsushiro Arr	33.67	261	LR	LR	16 42 23.9	
	comp=Z,166nm,21.5s,MS3.7,baz=95,slow=32						
MDJ	Mudanjiang	34.44	279	P	P	16 31 26.3	-1.4
MDJ				AP	pP	16 31 39.3	-0.5
MDJ				XP	sP	16 31 45.5	+0.4
MDJ				PP	PP	16 32 44.8	-1.5
MDJ				PCP	PcP	16 34 01.0	-1.3
MDJ				S	S	16 36 51.6	-1.1
MDJ				XS	sS	16 37 12.1	-0.8
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,72nm,8.4s						
MDJ				LR	LR		
	comp=Z,114nm,26.9s,MS3.5						
YKA	Yellowknife Ar	35.27	46	P	P	16 31 34.7	-0.1
	comp=Z,0.9nm,0.3s,mb4.1,baz=283,slow=7.6,SNR=8.4						
YKA				PcP	PcP	16 34 04.6	-0.2
	comp=Z,0.6nm,0.5s,baz=284,slow=2.9,SNR=4.6						
YKA				LR	LR	16 47 39.4	
	comp=Z,118nm,18.7s,MS3.7,baz=270,slow=39						
YKA	Yellowknife Ar	35.27	46	P	P	16 31 34.7	-0.2
YKA						16 34 04.6	
YKA	Yellowknife Ar	35.27	46	P	P	16 31 34.7	-0.1
YKA				PcP	PcP	16 34 04.6	-0.2
YKA				LR	LR	16 47 39.4	
CN2	Changchun	37.41	281	eP	P	16 31 53.8	+0.7
BOD	Bodaibo	37.83	307	eP	P	16 31 51.9	-4.8
CBIJ	Chichi jima	38.00	245	LR	LR	16 44 43.4	
	comp=Z,90nm,20.2s,MS3.6,baz=173,slow=32						
HIA	Hailar	38.14	292	eP	P	16 31 59.5	+0.2
HAWA	Hanford	38.46	73	eP	P	16 32 02.5	+0.5
	comp=Z,0.7nm,0.5s,mb3.6						
HAWA				e	pP	16 32 13.3	-0.9
EDM	Edmonton	38.88	61	eP	P	16 32 05.4	-0.1

NEW Newport 38.97 70 P **P 16 32 06.8 +0.5**
comp=Z,7.4nm,0.5s,mb4.7,baz=303,slow=6.5,SNR=7.2
NEW Newport 38.97 70 P **P 16 32 06.8 +0.5**
YBH Yreka Blue Hor 38.99 82 P **P 16 32 06.8 +0.4**
comp=Z,1.3nm,0.6s,mb3.8,baz=173,slow=8.8,SNR=2.2
WALA Waterton Lakes 40.45 67 *eP* **P 16 32 18.5 -0.1**
comp=Z,3.7nm,0.7s,mb4.2
WVOR Wild Horse Val 41.11 78 *eP* **P 16 32 24.7 +0.7**
WVOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
WVOR Wild Horse Val 41.11 78 *eP* **P 16 32 24.6 +0.7**
comp=Z,4.4nm,0.6s,mb4.3
HRY Holter Researc 42.85 69 *eP* **P 16 32 38.0 -0.2**
HLID Hailey 43.04 74 *eP* **P 16 32 40.2 +0.4**
comp=Z,3.2nm,0.8s,mb4.1
MCMT McKenzie Canyo 43.27 72 *eP* **P 16 32 41.8 +0.1**
EGMT Eagleton 43.36 66 *eP* **P 16 32 41.6 -0.7**
comp=Z,3.4nm,0.6s,mb4.2
BOZ Bozeman (W) 43.54 70 *eP* **P 16 32 43.8 0.0**
BOZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
BOZ Bozeman (W) 43.54 70 *eP* **P 16 32 43.8 0.0**
comp=Z,5.1nm,0.6s,mb4.4
NVAR Mina Array Bea 43.67 83 P **P 16 32 45.4 +0.6**
comp=Z,1.0nm,0.5s,mb3.8,baz=305,slow=6.4,SNR=7.6
GCMT Greycliff 44.61 69 *eP* **P 16 32 52.8 +0.4**
GCMT *e* pP 16 33 03.6 -1.2
RRI2 Red Ridge 45.02 73 *eP* **P 16 32 57.1 +1.5**
comp=Z,6.6nm,0.6s,mb4.6
HVU Hansel Valley 45.05 75 *eP* **P 16 32 56.4 +0.5**
HVU pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
HVU Hansel Valley 45.05 75 *eP* **P 16 32 56.4 +0.5**
comp=Z,7.5nm,0.6s,mb4.7
RLMT Red Lodge 45.22 69 *eP* **P 16 32 57.3 +0.1**
DUG Dugway 45.97 77 *eP* **P 16 33 03.6 +0.4**
DUG pmax pmax
comp=Z,11nm,1.0s,mb4.7
DUG Dugway 45.97 77 *eP* **P 16 33 03.6 +0.4**
comp=Z,11nm,1.0s,mb4.7
ULN Ulaanbaatar 46.11 296 *eP* **P 16 33 04.3 +0.1**
ULN *e* pP 16 33 14.9 -1.8
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ULN Ulaanbaatar 46.11 296 *eP* **P 16 33 04.3 +0.1**
comp=Z,3.4nm,0.6s,mb4.5
ULN *e* pP 16 33 14.8 -1.8
PDAR Pinedale Array 46.40 72 P **P 16 33 07.0 +0.4**
comp=Z,10nm,0.5s,mb5.0,baz=312,slow=3.6,SNR=86
PDAR LR LR 16 49 16.6
comp=Z,98nm,21.5s,MS3.7,baz=127,slow=32
SONM Songino Array 46.50 296 P **P 16 33 08.4 +1.1**
comp=Z,1.7nm,0.5s,mb4.3,baz=65,slow=6.8,SNR=26
SONM PcP PcP 16 34 41.7 +0.5
comp=Z,0.8nm,0.5s,baz=65,slow=2.2,SNR=4.6
SONM ScP ScP 16 38 32.5 +1.6
comp=Z,0.8nm,1.0s,baz=84,slow=3.0,SNR=4.0
SONM LR LR 16 53 38.1
comp=Z,222nm,19.8s,MS4.1,baz=54,slow=37
SONM Songino Array 46.50 296 P **P 16 33 08.4 +1.1**
SONM 16 34 41.7
ZAK Zakamensk 46.80 301 *eP* **P 16 33 10.0 +0.3**
MSU Marysvale 47.40 78 *eP* **P 16 33 15.4 +1.1**
TMUT Trail Mountain 47.50 77 *eP* **P 16 33 17.1 +2.0**
HHC Hu-ho-hao-te 47.55 286 *eP* **P 16 33 16.0 +0.6**
HHC AP pP 16 33 29.1 +1.2
HHC XP sP 16 33 34.4 +1.2
HHC PCP PcP 16 34 46.6 +1.7
HHC PP PP 16 35 07.3 +0.2
HHC SCP ScP 16 38 34.9 -0.4
HHC PCS PcS 16 38 40.6 +0.3
HHC S **S 16 40 05.1 -2.2**
HHC XS sS 16 40 27.3 -0.8
HHC SCS ScS 16 43 03.3 -2.0
HHC SS SS 16 43 27.3 -8.3
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,166nm,6.4s
HHC LR LR
comp=N,200nm,6.5s
HHC LR LR
comp=E,141nm,5.1s
HHC LR LR
comp=Z,180nm,7.1s
GUMO Guam 47.67 231 LR LR 16 52 28.8
comp=Z,37nm,18.0s,MS3.4,baz=54,slow=35
SSE Sheshan 47.87 269 *eP* **P 16 33 16.8 -1.2**
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,304nm,4.3s
SSE LR LR
comp=Z,63nm,18.8s,MS3.6
NJ2 Nanjing 48.68 272 *eP* **P 16 33 26.3 +2.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.4
RSSD Black Hills 48.84 67 *eP* **P 16 33 25.0 -0.5**
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
RSSD Black Hills 48.84 67 *eP* **P 16 33 25.0 -0.5**
comp=Z,5.9nm,0.6s,mb4.8
SDCO Great Sand Dun 51.95 75 *eP* **P 16 33 49.4 +0.5**
comp=Z,3.1nm,0.6s,mb4.4
ZAL Zalesovo 53.90 313 PcP PcP 16 35 08.5 +0.2
comp=Z,1.2nm,0.6s,baz=26,slow=4.2,SNR=5.9
ZAL LR LR 16 58 57.7
comp=Z,100nm,20.1s,MS3.9,baz=268,slow=38
GTA Gaotai 55.42 292 *eP* **P 16 34 15.4 +1.1**
GTA AP pP 16 34 28.3 +1.3
GTA XP sP 16 34 34.4 +2.2
GTA PCP PcP 16 35 17.1 +2.9
GTA PP PP 16 36 22.3 +3.9
GTA SCP ScP 16 39 09.8 +0.5
GTA PCS PcS 16 39 15.4 +1.1
GTA S **S 16 41 57.1 +1.4**
GTA XS sS 16 42 18.8 +1.9
GTA SCS ScS 16 43 57.1 -2.6
GTA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,124nm,7.2s
GTA LR LR
comp=N,114nm,8.8s
GTA LR LR
comp=E,168nm,10.3s
GTA LR LR
comp=Z,120nm,8.4s
ARCES ARCESS Array B 57.99 350 P **P 16 34 32.2 -0.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=21,slow=8.3,SNR=12
ARCES PcP PcP 16 35 22.9 -1.3
comp=Z,3.2nm,0.7s,baz=38,slow=6.1,SNR=4.5
ARCES LR LR 17 03 53.8
comp=Z,61nm,18.6s,MS3.7,baz=351,slow=40
ARCES ARCESS Array B 57.99 350 P **P 16 34 32.2 -0.3**
ARCES 16 35 23.0
WMOK Wichita Mounta 57.99 73 *eP* **P 16 34 31.8 -0.8**
WMOK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
WMOK Wichita Mounta 57.99 73 *eP* **P 16 34 31.8 -0.7**
comp=Z,4.9nm,0.6s,mb4.7
CD2 Chengdu 58.83 282 *eP* **P 16 34 37.8 -0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 LR LR
comp=Z,30nm,5.6s
WMQ Urumqi 59.19 303 *eP* **P 16 34 43.0 +2.1**
WMQ AP pP 16 34 56.0 +2.3
WMQ XP sP 16 35 02.0 +3.1
WMQ *eS* **S 16 42 45.0 -0.3**
WMQ XS sS 16 43 06.0 -0.7
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,99nm,4.6s
WMQ LR LR
comp=N,180nm,21.0s,MS4.3
WMQ LR LR
comp=E,152nm,24.2s,MS4.3
WMQ LR LR
comp=Z,200nm,22.2s,MS4.2
MKAR Makanchi Array 59.88 308 P **P 16 34 44.4 -1.3**
comp=Z,0.8nm,0.4s,mb4.1,baz=42,slow=7.0,SNR=17
MKAR PcP PcP 16 35 31.9 +0.1
comp=Z,0.9nm,0.5s,baz=39,slow=4.4,SNR=4.3

MKAR Makanchi Array 59.88 308⇑ *eP* **P 16 34 45.0 -0.7**
MKAR Makanchi Array 59.88 308 P **P 16 34 44.4 -1.3**
MKAR PcP PcP 16 35 31.9 +0.1
SCHQ Schefferville 60.02 38 P **P 16 34 45.6 -1.0**
comp=Z,1.2nm,0.5s,mb4.2,baz=294,slow=6.9,SNR=6.4
BVAR Borovoye Array 60.74 320 LR LR 17 02 37.1
comp=Z,137nm,18.1s,MS4.1,baz=319,slow=37
MIAR Mount Ida 61.22 70 *eP* **P 16 34 54.5 -0.2**
MIAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MIAR Mount Ida 61.22 70 *eP* **P 16 34 54.5 -0.3**
comp=Z,5.6nm,0.8s,mb4.8
ZRNK Zerenda 61.36 320 *eP* **P 16 34 55.1 -0.6**
ZRNK pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
ZRNK Zerenda 61.36 320 *eP* **P 16 34 55.1 -0.6**
comp=Z,3.9nm,0.5s,mb4.8
USIN University of 62.20 63 *eP* **P 16 34 59.2 -2.1**
comp=Z,41nm,0.6s,mb5.7
ACSO Alum Creek Sta 63.15 59 *eP* **P 16 35 07.1 -0.6**
comp=Z,18nm,0.7s,mb5.3
HNR Honiara 63.32 203 LR LR 17 01 31.2
comp=Z,71nm,18.8s,MS3.9,baz=360,slow=35
WVT Waverly 63.41 65 *eP* **P 16 35 09.0 -0.4**
WVT pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
WVT Waverly 63.41 65 *eP* **P 16 35 09.0 -0.4**
comp=Z,3.7nm,0.6s,mb4.7
JOF Joensuu 63.48 345 *ep* **P 16 35 09.0 -0.9**
comp=Z,4.4nm,0.5s,mb4.8
JOF Joensuu 63.48 345 *eP* **P 16 35 09.0 -0.9**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
KMI Kunming 63.59 278 P **P 16 35 10.6 0.0**
KMI S **S 16 43 39.9 -1.2**
KMI AMB AMB
comp=Z,5.0nm,1.5s,mb4.3
KMI LR LR
comp=Z,58nm,24.8s,MS3.7
PLAL Pickwick Lake 64.09 66 *eP* **P 16 35 13.1 -0.8**
comp=Z,12nm,0.6s,mb5.1
KAF Kangasniemi 65.00 347 *ep* **P 16 35 19.0 -0.9**
comp=Z,4.2nm,0.4s,mb4.8,baz=14,slow=5.8
KAF Kangasniemi 65.00 347 *eP* **P 16 35 19.0 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
FINES FINESS Array B 65.67 347 P **P 16 35 24.4 +0.2**
comp=Z,2.1nm,0.4s,mb4.5,baz=24,slow=8.4,SNR=18
FINES FINESS Array B 65.67 347 *i* **P 16 35 24.3 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 67.29 289 P **P 16 35 37.0 +2.4**
LSA Lhasa 67.29 289 *eP* **P 16 35 36.7 +2.1**
LSA pmax pmax
comp=Z,11nm,0.5s,mb5.1
LSA Lhasa 67.29 289 *eP* **P 16 35 36.7 +2.1**
comp=Z,11nm,0.5s,mb5.2
AKTO Aktyubinsk 67.54 325 LR LR 17 04 39.3
comp=Z,103nm,20.3s,MS4.0,baz=219,slow=36
NB2 NORSAR Subarra 67.55 355 P **P 16 35 36.9 +0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=6.0,slow=6.5
NOA NORSAR Array B 67.55 355 P **P 16 35 35.1 -1.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=6.6,slow=6.4,SNR=6.7
NOA LR LR 17 05 52.6
comp=Z,49nm,19.8s,MS3.7,baz=0.0,slow=36
NOA NORSAR Array B 67.55 355 P **P 16 35 35.1 -1.1**
NOA LR LR 17 05 52.6
OBN Obninsk 69.75 339 P **P 16 35 50.0 +0.1**
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.2
GUN Gumba 71.71 292 *eP* **P 16 36 03.2 +1.4**
comp=Z,73nm,0.5s
KKN Kakani 72.15 292 *eP* **P 16 36 05.7 +1.3**
comp=Z,34nm,0.5s,mb5.6
PKI Pulchoki 72.24 292 *eP* **P 16 36 06.1 +1.1**
comp=Z,24nm,0.5s,mb5.4
GKN Gorkha 72.36 293 *eP* **P 16 36 06.8 +1.1**
comp=Z,21nm,0.4s,mb5.4
DMN Daman 72.38 292 *eP* **P 16 36 07.2 +1.4**
comp=Z,8.9nm,0.5s,mb5.0
KOLN Koldanda 73.13 293 *eP* **P 16 36 11.2 +0.9**
AKASG Malin Array Be 75.43 342 P **P 16 36 23.0 -0.7**
comp=Z,1.8nm,0.4s,mb4.3,baz=18,slow=5.7,SNR=15
AKASG LR LR 17 11 35.3
comp=Z,46nm,18.6s,MS3.8,baz=35,slow=37
KIV Kislovodsk 78.33 331 *eP* **P 16 36 35.7 -4.3**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,63nm,20.0s,MS3.9
GIVF Givet 78.76 357 *eP* **P 16 36 42.3 0.0**
BAIF Baives 78.82 358 *eP* **P 16 36 42.7 0.0**
comp=Z,3.9nm,0.5s,mb4.3
BAIF Baives 78.82 358 *eP* **P 16 36 42.7 0.0**
BAIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BAIF Baives 78.82 358 *eP* **P 16 36 42.7 0.0**
comp=Z,2.0nm,0.5s,mb4.3
GERES GERESS Array B 79.48 352 P **P 16 36 46.6 +0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=19,slow=5.5,SNR=7.9
FLN La Foliniere 80.15 1 *eP* **P 16 36 49.5 -0.4**
comp=Z,4.1nm,0.4s,mb4.4
LDF La Druitiere 80.32 1 *eP* **P 16 36 50.4 -0.4**
comp=Z,10nm,0.5s,mb4.7
LDF La Druitiere 80.32 1 *eP* **P 16 36 50.4 -0.4**
LDF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LDF La Druitiere 80.32 1 *eP* **P 16 36 50.4 -0.4**
comp=Z,5.2nm,0.5s,mb4.7
CDF Champ du Feu 80.36 356 *eP* **P 16 36 51.2 +0.2**
ROSF Rostrenen 80.51 3 *eP* **P 16 36 51.9 0.0**
comp=Z,8.2nm,0.7s,mb4.5
ROSF Rostrenen 80.51 3 *eP* **P 16 36 51.9 0.0**
ROSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ROSF Rostrenen 80.51 3 *eP* **P 16 36 51.9 0.0**
comp=Z,4.1nm,0.6s,mb4.5
GRR Gorron 80.52 1 *eP* **P 16 36 51.7 -0.2**
comp=Z,8.3nm,0.6s,mb4.5
GRR Gorron 80.52 1 *eP* **P 16 36 51.7 -0.2**
GRR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GRR Gorron 80.52 1 *eP* **P 16 36 51.7 -0.2**
comp=Z,4.2nm,0.6s,mb4.5
SGMF Saint Gilles 80.62 2 *eP* **P 16 36 52.4 0.0**
comp=Z,16nm,0.6s,mb4.8
SGMF Saint Gilles 80.62 2 *eP* **P 16 36 52.4 0.0**
SGMF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SGMF Saint Gilles 80.62 2 *eP* **P 16 36 52.4 0.0**
comp=Z,8nm,0.6s,mb4.8
QUIF Quistinic 80.94 3 *eP* **P 16 36 54.2 +0.1**
HINF Hinteralfeld 80.97 356 *eP* **P 16 36 54.1 -0.2**
LOR Lormes 81.62 358 *eP* **P 16 36 57.8 +0.1**
WB2 Warramunga Arr 81.98 224 *eP* **P 16 37 06.7 +7.1**
WRA Warramunga Arr 81.98 224 P **P 16 36 57.9 -1.7**
comp=Z,1.4nm,0.6s,mb4.0,baz=32,slow=6.3,SNR=18
AVF Avril sur Loir 82.11 358 *eP* **P 16 37 00.1 -0.2**
comp=Z,3.9nm,0.5s,mb4.3
AVF Avril sur Loir 82.11 358 *eP* **P 16 37 00.1 -0.2**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
AVF Avril sur Loir 82.11 358 *eP* **P 16 37 00.1 -0.2**
comp=Z,2.0nm,0.5s,mb4.3
CABF La Chapelle 82.21 356 *eP* **P 16 37 00.8 0.0**
comp=Z,3.3nm,0.5s,mb4.2
CABF La Chapelle 82.21 356 *eP* **P 16 37 00.8 0.0**
CABF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CABF La Chapelle 82.21 356 *eP* **P 16 37 00.8 0.0**
comp=Z,1.6nm,0.5s,mb4.2
SMF Signal de Mont 82.24 358 *eP* **P 16 37 01.1 +0.1**
comp=Z,11nm,0.7s,mb4.6
SMF Signal de Mont 82.24 358 *eP* **P 16 37 01.1 +0.1**
SMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
SMF Signal de Mont 82.24 358 *eP* **P 16 37 01.1 +0.1**
comp=Z,5.6nm,0.7s,mb4.6
MFF Saint Martin d 82.31 1 *eP* **P 16 37 01.2 -0.2**
comp=Z,17nm,0.9s,mb4.7
MFF Saint Martin d 82.31 1 *eP* **P 16 37 01.2 -0.2**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MFF Saint Martin d 82.31 1 *eP* **P 16 37 01.2 -0.2**
comp=Z,8.5nm,0.9s,mb4.7
TCF Toulx Ste Croi 82.62 359 *eP* **P 16 37 03.0 0.0**

LPL La Plagne 83.28 356 *eP* **P 16 37 06.4 0.0**
ORIF Oris-en-Rattie 83.91 357 *eP* **P 16 37 09.6 0.0**
LFF La Frestale 83.98 0 *eP* **P 16 37 09.6 -0.4**
comp=Z,13nm,0.6s,mb5.0
LFF La Frestale 83.98 0 *eP* **P 16 37 09.6 -0.4**
LFF pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
LFF La Frestale 83.98 0 *eP* **P 16 37 09.6 -0.4**
comp=Z,6.7nm,0.6s,mb5.0
VIVF Saint-Julien-l 84.01 357 *eP* **P 16 37 09.8 -0.3**
MBDF Montbardon 84.06 356 *eP* **P 16 37 09.5 -0.9**
comp=Z,8.2nm,0.6s,mb4.7
MBDF Montbardon 84.06 356 *eP* **P 16 37 09.5 -0.9**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
MBDF Montbardon 84.06 356 *eP* **P 16 37 09.5 -0.9**
comp=Z,4.1nm,0.6s,mb4.7
FITZ Fitzroy Crossi 84.42 232⇑ *iP* **P 16 37 11.5 -0.7**
comp=Z,5.9nm,0.6s,mb4.9
FITZ Fitzroy Crossi 84.42 232 P **P 16 37 11.6 -0.6**
comp=Z,3.2nm,0.6s,mb4.7,baz=48,slow=4.3,SNR=21
BRTR Keskin Array B 84.82 335 P **P 16 37 14.7 +0.4**
comp=Z,1.8nm,0.6s,mb4.4,baz=31,slow=2.7,SNR=11
BRTR LR LR 17 16 11.9
comp=Z,40nm,18.5s,MS3.8,baz=176,slow=36
SMRF Simiane la Rot 84.86 357 *eP* **P 16 37 14.2 -0.2**
SBF Sospel 84.89 355 *eP* **P 16 37 14.3 -0.3**
FRF La Foret Royal 85.23 356 *eP* **P 16 37 16.0 -0.3**
comp=Z,17nm,0.8s,mb5.0
FRF La Foret Royal 85.23 356 *eP* **P 16 37 16.0 -0.3**
FRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
FRF La Foret Royal 85.23 356 *eP* **P 16 37 16.0 -0.3**
comp=Z,8.4nm,0.8s,mb4.9
AS31 Alice Springs 85.46 222 *eP* **P 16 37 16.4 -1.0**
ASAR Alice Springs 85.46 222 P **P 16 37 16.3 -1.1**
comp=Z,1.7nm,0.7s,mb4.3,baz=26,slow=5.7,SNR=39
ASPA Alice Springs 85.46 222 *eP* **P 16 37 16.4 -1.1**
LMR La Mourre 85.46 356 *eP* **P 16 37 16.9 -0.6**
MTLF Montolieu 85.57 359 *eP* **P 16 37 17.7 -0.3**
comp=Z,3.6nm,0.5s,mb4.6
MTLF Montolieu 85.57 359 *eP* **P 16 37 17.7 -0.3**
MTLF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
MTLF Montolieu 85.57 359 *eP* **P 16 37 17.7 -0.3**
comp=Z,1.8nm,0.5s,mb4.6
SJPF Ste Jean 85.79 2 *eP* **P 16 37 18.3 -0.7**
EPF Esparros 85.89 0 *eP* **P 16 37 19.3 -0.2**
ETSF Etsaut 86.01 1 *eP* **P 16 37 19.9 -0.3**
ESDC Sonseca Array 89.14 4 P **P 16 37 33.4 -1.8**
comp=Z,0.8nm,0.6s,mb4.2,baz=343,slow=4.0,SNR=3.5
STKA Stephens Creek 89.93 213⇑ *iP* **P 16 37 38.2 -0.7**
comp=Z,3.3nm,0.6s,mb4.8
STKA Stephens Creek 89.93 213 P **P 16 37 38.2 -0.6**
comp=Z,3.9nm,0.6s,mb4.9,baz=349,slow=8.0,SNR=18
KEST Kesra 92.87 353 P **P 16 37 52.3 -0.2**
comp=Z,2.2nm,1.1s,mb4.5,baz=326,slow=3.6,SNR=2.8
TORD Torodi Ar. Bea 115.66 359 PKP PKPdf 16 43 21.2 -0.6
comp=Z,0.4nm,0.4s,baz=345,slow=2.0,SNR=8.3
TORD Torodi Ar. Bea 115.66 359 PKP PKPdf 16 43 21.2 -0.6
DBIC Dimbokro 121.88 7 PKP PKPdf 16 43 32.6 -1.1
comp=Z,1.2nm,0.4s,baz=4.3,slow=2.5,SNR=3.6
MAW Mawson 146.47 218 PKPbc PKPbc 16 44 17.6 -3.1
comp=Z,3.8nm,0.7s,baz=101,slow=5.2,SNR=6.5
LBTB Lobatse 147.58 315 *e*PKP2 PKPab 16 44 24.1 -2.0
BOSA Boshof 150.83 312 PKPbc PKPbc 16 44 32.3 +0.3
comp=Z,4.1nm,0.5s,baz=21,slow=1.3,SNR=13

NEIC ***14*** *16:38:13.6, 3670S×17763E, h160km, MG4.0(WEL), After WEL.*
WEL 14 16:38:14.2±0.4, 3677S×17758E, h157km±3km, ML3.8/13, Error ellipse: s-maj=3.0km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.98**	**144**	*eP*	Pn	16 38 39.6	+0.2
MXZ	**Matakaoa Point**	**0.98**	**144**	PN	Pn	16 38 39.4	0.0
MXZ				SN	Sn	16 38 58.4	-0.4
PUZ	**Puketiti**	**1.41**	**158**	*eP*	Pn	16 38 43.6	+0.3
PUZ	**Puketiti**	**1.41**	**158**	*e*PN	Pn	16 38 43.5	+0.2
PUZ				SN	Sn	16 39 05.5	-0.1
KUZ	**Kuaotunu**	**1.49**	**270**	P	Pn	16 38 44.1	-0.1
KUZ	**Kuaotunu**	**1.49**	**270**	PN	Pn	16 38 44.1	0.0
URZ	**Urewera**	**1.53**	**194**	P	Pn	16 38 45.5	+1.0
URZ	**Urewera**	**1.53**	**194**	PN	Pn	16 38 44.9	+0.4
MWZ	**Matawai**	**1.56**	**181**	P	Pn	16 38 45.6	+0.7
MWZ				S	Sn	16 39 09.5	+1.1
MWZ	**Matawai**	**1.56**	**181**	*e*PN	Pn	16 38 45.1	+0.2
KNZ	**Kokohu**	**2.25**	**178**	*eP*	Pn	16 38 52.7	+0.2
KNZ	**Kokohu**	**2.25**	**178**	*e*PN	Pn	16 38 52.6	0.0
BKZ	**Black Stump Fm**	**2.54**	**199**	*eP*	Pn	16 38 57.1	+1.0
BKZ	**Black Stump Fm**	**2.54**	**199**	*e*PN	Pn	16 38 55.7	-0.3
HIZ	**Hauiti**	**2.77**	**230**	*eP*	Pn	16 39 00.8	+1.9
HIZ	**Hauiti**	**2.77**	**230**	*e*PN	Pn	16 39 00.6	+1.7
WPVZ	**Whakapapa**	**2.91**	**213**	P	Pn	16 39 02.8	+2.2
WPVZ				S	Sn	16 39 32.1	-4.5
WPVZ	**Whakapapa**	**2.91**	**213**	*e*PN	Pn	16 39 02.1	+1.4
TUVZ	**Tukino**	**2.92**	**211**	P	Pn	16 39 02.1	+1.4
TUVZ	**Tukino**	**2.92**	**211**	PN	Pn	16 39 02.1	+1.4
FWVZ	**Far West T-bar**	**2.95**	**212**	PN	Pn	16 39 02.4	+1.3
MOVZ	**Moawhango**	**3.00**	**208**	P	Pn	16 39 02.0	+0.3
MOVZ	**Moawhango**	**3.00**	**208**	*e*PN	Pn	16 39 00.9	-0.9
PKVZ	**Pokaka**	**3.07**	**214**	*e*PN	Pn	16 39 04.2	+1.6
PXZ	**Pawanui**	**3.30**	**190**	PN	Pn	16 39 04.9	-0.7
TSZ	**Takapari Road**	**3.52**	**201**	P	Pn	16 39 07.3	-1.0
TSZ	**Takapari Road**	**3.52**	**201**	PN	Pn	16 39 07.3	-1.1
WAZ	**Wanganui**	**3.61**	**214**	*eP*	Pn	16 39 10.4	+0.9
WAZ	**Wanganui**	**3.61**	**214**	*e*PN	Pn	16 39 09.3	-0.2
MRZ	**Mangatainoka R**	**4.19**	**201**	*eP*	Pn	16 39 15.1	-1.9
MRZ	**Mangatainoka R**	**4.19**	**201**	PN	Pn	16 39 15.1	-1.9
KIW	**Kapiti Island**	**4.58**	**206**	P	Pn	16 39 20.0	-2.2
KIW	**Kapiti Island**	**4.58**	**206**	PN	Pn	16 39 20.0	-2.1
MTW	**Mount Morrison**	**4.67**	**200**	P	Pn	16 39 20.8	-2.5
MTW	**Mount Morrison**	**4.67**	**200**	PN	Pn	16 39 20.8	-2.5
CAW	**Cannon Point**	**4.75**	**204**	P	Pn	16 39 21.6	-2.7
CAW	**Cannon Point**	**4.75**	**204**	PN	Pn	16 39 21.6	-2.7
TRWZ	**Traveller**	**4.85**	**197**	PN	Pn	16 39 23.3	-2.3
MSWZ	**Moikau Station**	**4.98**	**201**	P	Pn	16 39 24.7	-2.6
MSWZ	**Moikau Station**	**4.98**	**201**	PN	Pn	16 39 24.7	-2.7
WEL	**Wellington**	**5.01**	**205**	P	Pn	16 39 25.2	-2.5
TCW	**Tory Channel**	**5.12**	**209**	P	Pn	16 39 26.5	-2.8
TCW	**Tory Channel**	**5.12**	**209**	PN	Pn	16 39 26.5	-2.8
TUWZ	**Tuamarina**	**5.44**	**210**	PN	Pn	16 39 30.6	-2.9
NNZ	**Nelson**	**5.51**	**215**	*e*PN	Pn	16 39 30.7	-3.7
QRZ	**Quartz Range**	**5.65**	**223**	P	Pn	16 39 34.4	-1.8
BSWZ	**Blackbirch Sta**	**5.71**	**209**	P	Pn	16 39 35.1	-1.9
THZ	**Tophouse**	**6.16**	**215**	P	Pn	16 39 40.3	-2.7
THZ	**Tophouse**	**6.16**	**215**	PN	Pn	16 39 40.3	-2.7
KHZ	**Kahutara**	**6.44**	**208**	*eP*	Pn	16 39 43.4	-3.3
KHZ	**Kahutara**	**6.44**	**208**	PN	Pn	16 39 43.4	-3.3
MQZ	**McQueen's Vall**	**7.88**	**207**	SN	Sn	16 41 24.7	-9.1

NIED ***14*** *16:42:00, 2530N×12760E, h23km, Mw4.0 Best double couple: M0 1.11000×10^15 NP1:φ=25.00000°, δ=66.00000°, λ=57.00000°. NP2:φ=263.00000°, δ=40.00000°, λ=141.00000°.*
IDC ***14*** *16:42:10.8±0.9, 2538N×12748E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, MS3.7/1, Ms1 3.7/1, ms1mx2.8/35, Error ellipse: s-maj=36.8km s-min=17.9km az=75.0*
ISCJB ***14*** *16:42:11.9±1.7, 2527N±004×12757E±005, h24km±14km, mb3.8/10, MS3.7/1, Error ellipse: s-maj=9.1km s-min=5.6km az=66.4*
JMA ***14*** *16:42:13.3±0.2, 2531N×12761E, h61km±4km, M3.5*
NEIC ***14*** *16:42:15.7±0.7, 2540N×12749E, h35km, MG3.5(JMA), Error ellipse: s-maj=15.0km s-min=12.0km az=117.0*
ISC 14 16:42:14.2±1.1, 2533N±004×12756E±006, h28km±8km, n28, σ0=85/36, mb3.8/10, MS3.7/1, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**0.82**	**12**	P	**Pb**	**16 42 29.6**	**-0.3**
JJT2				*eS*	**Sb**	**16 42 41.8**	**+1.2**
NAH1	**Naha**	**0.88**	**8**	P	**Pn**	**16 42 30.1**	**-0.5**
NAH1				*eS*	**Sb**	**16 42 42.5**	**+0.4**
JKE	**Kume jima 2**	**1.21**	**325**	P	**Pn**	**16 42 35.0**	**-0.3**
JKE				*eS*	**Sn**	**16 42 51.1**	**+0.4**
JAGN	**Aguni-jima**	**1.28**	**347**	P	**Pn**	**16 42 36.2**	**-0.1**
JAGN				*eS*	**Sn**	**16 42 52.6**	**+0.1**

JOW	**Kunigami**	**1.62**	**23**	Pn	**Pn**	**16 42 40.4**	**-0.6**
	12nm,0.3s,baz=184,slow=12,SNR=75						
JOW	**Kunigami**	**1.62**	**23**	P	**Pn**	**16 42 40.3**	**-0.7**
JOW				*e*S	**Sn**	**16 43 00.2**	**-0.7**
JIH	**Iheya**	**1.73**	**12**	P	**Pn**	**16 42 42.3**	**-0.2**
JIH				*e*S	**Sn**	**16 43 03.5**	**-0.1**
JTK	**Tokunoshima**	**2.74**	**27**	P	**Pn**	**16 42 56.3**	**0.0**
JIJ	**Ishigaki jima**	**3.25**	**253**	P	**Pn**	**16 43 03.4**	**+0.1**
JIJ				*e*S	**Sn**	**16 43 40.0**	**-1.1**
JMZ	**Minamidaito 2**	**3.34**	**81**	P	**Pn**	**16 43 02.4**	**-2.1**
JMZ				*e*S	**Sn**	**16 43 38.1**	**-5.1**
JAM	**Amami Oshima**	**3.57**	**30**	P	**Pn**	**16 43 07.5**	**-0.2**
JZK	**Kikaishima**	**3.67**	**35**	P	**Pn**	**16 43 09.4**	**+0.3**
NACB	**Ninganchiao**	**5.55**	**259**	*e*Pn	**Pn**	**16 43 33.6**	**-1.3**
YHNB	**Yeheng**	**5.65**	**265**	Pn	**Pn**	**16 43 37.0**	**+0.7**
ULN	**Ulaanbaatar**	**27.71**	**330**	P	**P**	**16 47 59.8**	**-0.3**
SONM	**Songino Array**	**27.99**	**329**	P	**P**	**16 48 01.9**	**-0.6**
	0.7nm,0.5s,mb3.5,baz=142,slow=9.4,SNR=6.5						
MKAR	**Makanchi Array**	**41.69**	**313**	P	**P**	**16 49 60.0**	**-0.4**
	2.2nm,0.5s,mb4.0,baz=95,slow=11,SNR=12						
MKAR	**Makanchi Array**	**41.69**	**313**	P	**P**	**16 49 60.0**	**-0.4**
ZAL	**Zalesovo**	**42.61**	**324**	P	**P**	**16 50 06.9**	**-1.0**
	0.8nm,0.4s,mb3.9,baz=12,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**45.48**	**171**	P	**P**	**16 50 31.4**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=353,slow=8.8,SNR=4.1						
ASAR	**Alice Springs**	**49.09**	**172**	P	**P**	**16 51 00.8**	**+1.8**
	0.3nm,0.7s,mb3.5,baz=360,slow=14,SNR=8.9						
ASAR				LR	LR	17 12 42.5	
	comp=Z,76nm,20.4s,MS3.7,baz=184,slow=37						
BVAR	**Borovoye Array**	**50.55**	**319**	P	**P**	**16 51 09.6**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=101,slow=8.9,SNR=4.6						
FINES	**FINESS Array B**	**73.35**	**331**	P	**P**	**16 53 44.1**	**+0.8**
	1.2nm,0.8s,mb3.9,baz=44,slow=5.8,SNR=5.2						
AKASG	**Malin Array Be**	**75.82**	**320**	P	**P**	**16 53 59.7**	**+2.0**
	0.9nm,0.4s,mb4.1,baz=57,slow=7.1,SNR=4.7						
AKASG	**Malin Array Be**	**75.82**	**320**	P	**P**	**16 53 59.6**	**+2.0**
BRTR	**Keskin Array B**	**77.11**	**308**	P	**P**	**16 54 06.5**	**+1.6**
	0.8nm,0.8s,mb3.7,baz=90,slow=10.0,SNR=4.2						
NB2	**NORSAR Subarra**	**79.85**	**334**	P	**P**	**16 54 20.4**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.85**	**334**	P	**P**	**16 54 20.8**	**+0.7**
	comp=Z,2.5nm,0.9s,mb4.2,baz=54,slow=5.8,SNR=6.3						

*BJI **14** 16:50:23.2, 2733N×14048E, h439km, mB4.6, mb4.4*
*MOS **14** 16:50:27.5±0.9, 2764N×14003E, h452km, mb4.5/18, Error ellipse: s-maj=15.9km s-min=6.5km az=112.6*
*ISCJB **14** 16:50:27.9±0.3, 2770N±004×14020E±007, h457km±3km, mb4.2/61, Error ellipse: s-maj=9.8km s-min=5.2km az=154.3*
*IDC **14** 16:50:28.2±0.5, 2763N×14006E, h442km±5km, mb3.7/20, mb1 3.8/23, mb1mx3.8/26, mbtmp4.5/23, Error ellipse: s-maj=13.7km s-min=7.0km az=77.0*
*NEIC **14** 16:50:29.5±0.7, 2767N×14008E, h459km±8km, mb4.4/16, Error ellipse: s-maj=10.1km s-min=5.4km az=79.0*
*JMA **14** 16:50:29.8±0.3, 2790N×14066E, h457km±4km, M4.0*
ISC 14 16:50:28.9±0.3**, 2767N**±004×**14027E**±007**, h457**km±3km**, n133,** σ0^s**98**/143**, mb4.2**/61**, 8C-1D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.79**	**108**	P	**P**	**16 51 29.2**	**+0.2**
	172nm,0.3s,baz=297,slow=3.5,SNR=54						
CBIJ				S	**S**	**16 52 15.8**	**-2.0**
	307nm,0.3s,baz=280,slow=22,SNR=15						
CBIJ	**Chichi jima**	**1.79**	**108**	P	**P**	**16 51 29.1**	**+0.1**
CBIJ				S	**S**	**16 52 15.4**	**-2.4**
JHHJ	**Haha-jima-NKT**	**1.99**	**121**	P	**P**	**16 51 30.6**	**+0.6**
JHHJ				S	**S**	**16 52 18.9**	**-0.7**
JHJ2	**Mitsune**	**5.44**	**356**	P	**P**	**16 51 57.1**	**-0.7**
JHJ	**Hachijo jima 2**	**5.45**	**356**	P	**P**	**16 51 57.3**	**-0.6**
	51nm,0.3s,baz=114,slow=7.1,SNR=6.4						
JHJ				S	**S**	**16 53 06.5**	**-4.1**
	10nm,0.3s,baz=63,slow=23,SNR=2.5						
BSO1	**Boso 1**	**6.99**	**5**	P	**P**	**16 52 14.1**	**+0.5**
JWZ	**Kozaga**	**7.04**	**327**	P	**P**	**16 52 16.2**	**+2.0**
BSO3	**Boso 3**	**7.11**	**2**	P	**P**	**16 52 15.5**	**+0.5**
JIE	**Ise**	**7.36**	**336**	P	**P**	**16 52 19.5**	**+1.9**
JKN2	**Miekihoku**	**7.39**	**333**	P	**P**	**16 52 19.7**	**+1.8**
JNY	**Yasuok**	**7.93**	**346**	P	**P**	**16 52 24.2**	**+0.5**
JHU	**Hanno**	**8.20**	**354**	P	**P**	**16 52 25.3**	**-1.2**
JTO	**Tosashimizu**	**8.27**	**310**	P	**P**	**16 52 28.8**	**+1.5**
JRY	**Ryogami san**	**8.40**	**352**	P	**P**	**16 52 28.6**	**-0.1**
JRY				S	**S**	**16 54 02.3**	**-4.8**
JYT	**Yasato**	**8.53**	**360**	P	**P**	**16 52 29.7**	**-0.4**
JYT				S	**S**	**16 54 04.9**	**-4.7**
JAG	**Ashikaga**	**8.76**	**356**	P	**P**	**16 52 31.5**	**-1.0**
JAG				S	**S**	**16 54 07.7**	**-6.4**
MJAR	**Matsushiro Arr**	**9.02**	**349**	P	**P**	**16 52 34.2**	**-1.2**
	1.9nm,0.3s,baz=171,slow=10.0,SNR=15						
MJAR				S	**S**	**16 54 15.2**	**-4.0**
	0.6nm,0.3s,baz=123,slow=9.1,SNR=5.4						
MAJO	**Matsushiro**	**9.02**	**349**	*e*P	**P**	**16 52 34.9**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**9.02**	**349**	*e*Pn	**P**	**16 52 34.9**	**-0.4**
	comp=Z,15nm,0.6s						
MAT	**Matsushiro**	**9.02**	**349**	P	**P**	**16 52 34.9**	**-0.4**
MAT				S	**S**	**16 54 14.8**	**-4.5**
MAT	**Matsushiro**	**9.02**	**349**	P	**P**	**16 52 35.8**	**+0.5**
MAT				*e*S	**S**	**16 54 16.1**	**-3.2**
JHS	**Saijyo**	**9.53**	**322**	P	**P**	**16 52 42.5**	**+1.6**
JHS				*e*S	**S**	**16 54 30.7**	**+1.3**
JOW	**Kunigami**	**10.71**	**268**	P	**P**	**16 52 54.5**	**+0.8**
	comp=Z,4.8nm,0.3s,baz=108,slow=9.9,SNR=15						
GUMO	**Guam**	**14.65**	**162**	P	**P**	**16 53 38.0**	**+1.8**
	comp=Z,3.3nm,0.3s,baz=163,slow=14,SNR=3.2						
ASAJ	**Asahikawa**	**16.52**	**6**	P	**P**	**16 53 59.2**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=260,slow=8.8,SNR=4.3						
VLA	**Vladivostok**	**16.84**	**338**	*i* P	**P**	**16 54 00.6**	**+1.3**
VLA				pmax	pmax		
	comp=Z,108nm,0.9s						
MDJ	**Mudanjiang**	**18.95**	**336**	P	**P**	**16 54 20.0**	**-0.2**
MDJ				XP	sP	16 56 14.3	-5.8
MDJ				S	**S**	**16 57 30.9**	**+1.8**
MDJ				PCP	PcP	16 58 22.3	-0.3
MDJ				SCP	ScP	17 01 17.1	+2.6
MDJ				PCS	PcS	17 01 59.8	0.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,146nm,8.9s						
CN2	**Changchun**	**20.05**	**327**	*e*P	**P**	**16 54 30.3**	**+0.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
HABR	**Khabarovsk**	**21.16**	**350**	*e*P	**P**	**16 54 41.5**	**+1.1**
HIA	**Hailar**	**26.73**	**329**	*e*P	**P**	**16 55 30.1**	**-0.1**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**26.73**	**329**	*e*P	**P**	**16 55 30.1**	**0.0**
	comp=Z,14nm,0.7s,mb4.5						
HHC	**Hu-ho-hao-te**	**26.99**	**307**	*e*P	**P**	**16 55 33.3**	**+0.9**
HHC				XP	sP	16 57 42.1	-2.9
HHC				PCP	PcP	16 58 42.8	+3.2
HHC				S	**S**	**16 59 37.8**	**+1.3**
HHC				SCP	ScP	17 01 37.3	+1.4
HHC				PCS	PcS	17 02 22.4	+0.8
HHC				SCS	ScS	17 05 29.3	+1.4
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,181nm,8.4s						
XAN	**Xi'an**	**27.58**	**291**	P	**P**	**16 55 36.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
PET	**Petropavlovsk**	**28.77**	**23**	*e*P	**P**	**16 55 48.1**	**0.0**
PET				pmax	pmax		
	comp=Z,100nm,5.0s						
LZH	**Lanzhou**	**31.91**	**294**	*e*P	**P**	**16 56 14.5**	**-0.7**
LZH				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
ULN	**Ulaanbaatar**	**32.74**	**317⇑**	*e*P	**P**	**16 56 22.4**	**0.0**
ULN	**Ulaanbaatar**	**32.74**	**317**	*e*P	**P**	**16 56 22.2**	**-0.2**
	comp=Z,14nm,1.1s,mb4.3						
ULN				*e*PcP	PcP	16 58 54.6	-0.1
SONM	**Songino Array**	**33.13**	**317**	P	**P**	**16 56 25.6**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.0,baz=126,slow=8.5,SNR=27						
SONM				PcP	PcP	16 58 56.6	+0.7
	comp=Z,0.6nm,0.4s,baz=137,slow=3.0,SNR=7.0						
SONM				ScP	ScP	17 01 56.3	+0.2
	comp=Z,0.6nm,0.8s,baz=130,slow=3.0,SNR=4.1						
SONM	**Songino Array**	**33.13**	**317**	P	**P**	16 56 25.6	-0.1
SONM						16 58 56.6	
KMI	**Kunming**	**33.63**	**274**	P	**P**	**16 56 30.1**	**+0.1**
KMI				AP	pP	16 57 51.1	-0.4
KMI				XP	sP	16 58 41.5	-2.8
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb3.9						
KMI				AMB	AMB		
	comp=Z,121nm,10.5s						
YAK	**Yakutsk**	**35.08**	**351⇑**	*e*P	**P**	**16 56 42.1**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
YAK	**Yakutsk**	**35.08**	**351**	*e*P	**P**	**16 56 41.5**	**-0.6**
	comp=Z,5.1nm,0.6s,mb4.1						
BOD	**Bodaibo**	**35.33**	**336**	*e*P	**P**	**16 56 43.4**	**-0.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb3.9						
GTA	**Gaotai**	**35.42**	**300**	P	**P**	**16 56 44.6**	**-0.4**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
ZAK	**Zakamensk**	**36.06**	**319⇑**	*e*P	**P**	**16 56 49.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
SEY	**Seymchan**	**36.15**	**9**	*e*P	**P**	**16 56 52.5**	**+1.4**
TLY	**Talaya**	**36.42**	**321**	*e*P	**P**	**16 56 52.3**	**-1.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
TLY	**Talaya**	**36.42**	**321**	*e*P	**P**	**16 56 52.2**	**-1.1**
	comp=Z,5.8nm,0.8s,mb4.1						
PMG	**Port Moresby**	**37.46**	**169**	P	**P**	**16 57 02.9**	**+1.0**
	comp=Z,6.3nm,0.6s,mb4.2,baz=336,slow=10.0,SNR=4.0						
TIXI	**Tiksi**	**44.48**	**355⇑**	*e*P	**P**	**16 57 59.3**	**+1.2**
WMQ	**Urumqi**	**44.86**	**305⇑**	*i*P	**P**	**16 58 01.6**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,176nm,5.6s						
PSI	**Prapat**	**46.57**	**245**	P	**P**	**16 58 14.2**	**0.0**
	comp=Z,2.1nm,0.4s,mb3.9,baz=334,slow=3.3,SNR=2.8						
PSI				PcP	PcP	16 59 40.4	+1.0
	comp=Z,2.3nm,0.4s,baz=329,slow=22,SNR=2.9						
FITZ	**Fitzroy Crossi**	**47.66**	**199**	P	**P**	**16 58 23.0**	**+0.6**
	comp=Z,1.1nm,0.5s,mb3.4,baz=292,slow=19,SNR=10.0						
WRAB	**Tennant Creek**	**47.67**	**188**	*e*P	**P**	**16 58 22.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.3						
WRAB	**Tennant Creek**	**47.67**	**188**	*e*P	**P**	**16 58 22.2**	**-0.3**
	comp=Z,6.8nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**47.68**	**188**	P	**P**	**16 58 22.6**	**+0.1**
	comp=Z,7.6nm,0.5s,mb4.2,baz=3.8,slow=7.6,SNR=196						
WRA				PcP	PcP	16 59 43.8	+0.5
	comp=Z,0.8nm,0.6s,baz=0.6,slow=3.9,SNR=4.6						
WRA				ScP	ScP	17 02 53.6	+0.3
	comp=Z,1.9nm,0.9s,baz=360,slow=4.3,SNR=7.4						
WRA				S	**S**	**17 04 41.0**	**-2.8**
	comp=Z,0.8nm,0.8s,baz=6.5,slow=14,SNR=3.9						
WRA	**Warramunga Arr**	**47.68**	**188**	P	**P**	**16 58 22.6**	**0.0**
WRA						16 59 43.8	
WRA				S	**S**	**17 04 41.0**	**-2.7**
WRA	**Warramunga Arr**	**47.68**	**188**	P	**P**	**16 58 22.6**	**+0.1**
WRA				PcP	PcP	16 59 43.8	+0.5
WRA				ScP	ScP	17 02 53.6	+0.3
WRA				S	**S**	**17 04 41.0**	**-2.8**
GUN	**Gumba**	**47.77**	**284**	*e*P	**P**	**16 58 23.8**	**+0.5**
	comp=Z,37nm,0.5s,mb5.0						
ZAL	**Zalesovo**	**47.95**	**319**	P	**P**	**16 58 24.3**	**-0.3**
	comp=Z,8.6nm,0.4s,mb4.4,baz=2.7,slow=7.1,SNR=26						
ZAL				PcP	PcP	16 59 43.8	-0.5
	comp=Z,1.3nm,0.5s,baz=344,slow=3.9,SNR=3.9						
PKI	**Pulchoki**	**48.26**	**283**	*e*P	**P**	**16 58 26.8**	**-0.1**
	comp=Z,10nm,0.5s,mb4.5						
KKN	**Kakani**	**48.32**	**284**	*e*P	**P**	**16 58 27.5**	**+0.1**
DMN	**Daman**	**48.51**	**283**	*e*P	**P**	**16 58 29.1**	**+0.3**
	comp=Z,10nm,0.4s,mb4.5						
MK31	**Makanchi Array**	**48.80**	**309**	P	**P**	**16 58 28.8**	**-2.1**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**48.80**	**309**	P	**P**	**16 58 30.8**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.0,baz=87,slow=9.8,SNR=41						
MKAR				PcP	PcP	16 59 47.6	+0.2
	comp=Z,2.3nm,0.8s,baz=59,slow=5.8,SNR=5.6						
MKAR				ScP	ScP	17 02 57.7	-0.4
	comp=Z,0.5nm,0.5s,baz=99,slow=4.5,SNR=3.2						
MKAR	**Makanchi Array**	**48.80**	**309⇑**	*e*P	**P**	**16 58 30.7**	**-0.2**
MKAR	**Makanchi Array**	**48.80**	**309**	P	**P**	**16 58 30.8**	**-0.2**
MKAR				PcP	PcP	16 59 47.6	+0.2
MKAR				ScP	ScP	17 02 57.7	-0.4
GKN	**Gorkha**	**48.82**	**284**	*e*P	**P**	**16 58 31.1**	**0.0**
KOLN	**Koldanda**	**49.77**	**284**	*e*P	**P**	**16 58 38.2**	**0.0**
	comp=Z,26nm,0.9s,mb4.6						
AS31	**Alice Springs**	**51.41**	**187**	*e*P	**P**	**16 58 50.0**	**-0.2**
ASAR	**Alice Springs**	**51.41**	**187**	P	**P**	**16 58 50.5**	**+0.3**
	comp=Z,1.6nm,0.4s,mb3.7,baz=357,slow=4.7,SNR=110						
MBWA	**Marble Bar**	**52.45**	**204**	*e*P	**P**	**16 58 57.5**	**-0.3**
	comp=Z,2.1nm,0.6s,mb3.6						
TKM2	**Tokmak 2**	**53.69**	**305**	*i* P	**P**	**16 59 06.6**	**0.0**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.2						
VOSK	**Vostochnaya**	**56.12**	**317**	P	**P**	**16 59 22.5**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**56.31**	**318**	*e*P	**P**	**16 59 24.4**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**56.31**	**318**	*e*P	**P**	**16 59 24.4**	**-0.7**
	comp=Z,15nm,0.7s,mb4.4						
BVA0	**Borovoye Array**	**56.47**	**317**	*i* P	**P**	**16 59 26.1**	**0.0**
BVAR	**Borovoye Array**	**56.47**	**317**	P	**P**	**16 59 26.1**	**0.0**
	comp=Z,37nm,0.4s,mb5.0,baz=91,slow=7.3,SNR=213						
BRVK	**Borovoye**	**56.53**	**317**	*e*P	**P**	**16 59 26.0**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.6						
BRVK	**Borovoye**	**56.53**	**317**	*e*P	**P**	**16 59 25.9**	**-0.6**
	comp=Z,18nm,0.6s,mb4.6						
MCK	**McKinley**	**57.08**	**30**	*e*P	**P**	**16 59 31.2**	**+0.9**
	comp=Z,2.2nm,0.8s,mb3.5						
ZRNK	**Zerenda**	**57.31**	**317**	*e*P	**P**	**16 59 31.6**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.6						
ZRNK	**Zerenda**	**57.31**	**317**	*e*P	**P**	**16 59 31.6**	**-0.3**
	comp=Z,16nm,0.5s,mb4.6						
KK31	**Karatay Array**	**57.37**	**305**	*i* P	**P**	**16 59 32.3**	**0.0**
KK31				pmax	pmax		
	comp=Z,12nm,0.4s,mb4.6						
KKAR	**Karatay Array**	**57.37**	**305**	P	**P**	**16 59 32.3**	**0.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**59.23**	**179**	P	**P**	**16 59 45.5**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.5,baz=328,slow=2.2,SNR=4.7						
STKA	**Stephens Creek**	**59.23**	**179**	*e*P	**P**	**16 59 45.3**	**+0.3**
ARU	**Arti**	**62.93**	**322⇓**	*i*P	**P**	**17 00 08.8**	**-0.6**
ARU				*e*		17 00 39.0	
ARU				*e*		17 02 27.6	
ARU				*e*S	S	17 08 30.6	+28
ARU				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.7						
ARU	**Arti**	**62.93**	**322**	*e*P	**P**	**17 00 08.7**	**-0.7**
	comp=Z,41nm,1.2s,mb4.8						
INK	**Inuvik**	**63.22**	**25**	P	**P**	**17 00 11.9**	**+0.7**
	comp=Z,1.1nm,0.6s,mb3.6,baz=294,slow=2.5,SNR=3.0						
AB31	**Akbulak array**	**63.48**	**314**	*i* P	**P**	**17 00 12.2**	**-0.7**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**64.43**	**315**	P	**P**	**17 00 18.7**	**-0.4**
AKTO	**Aktyubinsk**	**64.43**	**315**	P	**P**	**17 00 18.7**	**-0.4**
	comp=Z,10nm,0.7s,mb4.5,baz=87,slow=6.9,SNR=35						
KEV	**Kevo**	**71.87**	**340**	*e*p	**P**	**17 01 04.0**	**-0.5**
	comp=Z,5.1nm,0.5s,mb4.3						
KEV	**Kevo**	**71.87**	**340**	*e*P	**P**	**17 01 04.0**	**-0.5**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**72.44**	**340**	P	**P**	**17 01 08.3**	**+0.5**
	comp=Z,6.3nm,0.6s,mb4.3,baz=72,slow=8.1,SNR=37						
ARCES	**ARCESS Array B**	**72.44**	**340**	P	**P**	**17 01 08.3**	**+0.5**
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**17 01 09.0**	**+1.2**
	comp=Z,2.6nm,0.5s,mb4.0,baz=297,slow=6.2,SNR=10						
YKA	**Yellowknife Ar**	**72.44**	**28**	P	**P**	**17 01 09.0**	**+1.2**
JOF	**Joensuu**	**73.81**	**333**	*e*p	**P**	**17 01 14.5**	**-1.2**
	comp=Z,8.7nm,0.4s,mb4.6						
JOF	**Joensuu**	**73.81**	**333**	*e*P	**P**	**17 01 14.5**	**-1.2**
JOF				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.7						
OBN	**Obninsk**	**75.09**	**325⇑**	*e*P	**P**	**17 01 23.1**	**+0.2**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
OBN	**Obninsk**	**75.09**	**325**	*e*P	**P**	**17 01 22.4**	**-0.5**
VRSR	**Storozhevoye**	**75.41**	**320**	*e*P	**P**	**17 01 24.5**	**-0.2**
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
KAF	**Kangasniemi**	**76.21**	**334**	*e*p	**P**	**17 01 27.9**	**-1.3**
	comp=N,12nm,0.5s,mb4.7,baz=55,slow=5.2						
KAF	**Kangasniemi**	**76.21**	**334**	*e*P	**P**	**17 01 27.9**	**-1.3**
KAF				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.7						
KIV	**Kislovodsk**	**76.41**	**313**	*e*P	**P**	**17 01 31.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
KIV	**Kislovodsk**	**76.41**	**313**	*e*P	**P**	**17 01 31.7**	**+1.4**
FINES	**FINESS Array B**	**76.68**	**333**	P	**P**	**17 01 31.5**	**-0.2**
	comp=Z,10nm,0.4s,mb4.7,baz=72,slow=5.5,SNR=112						
FINES	**FINESS Array B**	**76.68**	**333**	P	**P**	**17 01 31.5**	**-0.3**
MIB	**Mutribah**	**79.11**	**298**	*e*P	**P**	**17 01 44.9**	**-0.1**
MIB				AMb	AMB	17 01 45.8	
	comp=Z,43nm,0.5s,mb5.2						
RDF	**Al-Radifah**	**79.32**	**297**	*e*P	**P**	**17 01 46.0**	**0.0**
RDF				AMb	AMB	17 01 47.0	
	comp=Z,27nm,0.5s,mb5.0						
ANN	**Anapa**	**79.39**	**315**	*e*P	**P**	**17 01 44.8**	**-1.7**
ANN				*e*		17 01 50.0	
ANN				*e*		17 04 54.2	
ANN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
NAY	**Al-Naaiem**	**79.42**	**297**	*e*P	**P**	**17 01 46.5**	**-0.1**
NAY				AMb	AMB	17 01 47.5	
	comp=Z,23nm,0.6s,mb4.9						
AKASG	**Malin Array Be**	**81.14**	**323**	P	**P**	**17 01 55.0**	**-0.6**
	comp=Z,1.5nm,0.4s,mb3.9,baz=48,slow=5.7,SNR=16						
AKASG	**Malin Array Be**	**81.14**	**323**	*i* P	**P**	**17 01 55.0**	**-0.6**
NVAR	**Mina Array Bea**	**81.49**	**51**	P	**P**	**17 02 00.3**	**+2.9**
	comp=Z,1.5nm,0.6s,mb3.7,baz=296,slow=5.0,SNR=6.3						
MALT	**Malatya**	**81.84**	**309**	*e*P	**P**	**17 02 00.5**	**+1.3**
MALT				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.4						
MALT	**Malatya**	**81.84**	**309**	*e*P	**P**	**17 02 00.5**	**+1.3**
	comp=Z,15nm,1.3s,mb4.4						
NB2	**NORSAR Subarra**	**82.44**	**338**	P	**P**	**17 02 01.4**	**-0.9**
	comp=Z,4.9nm,0.8s,mb4.1,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**82.44**	**338**	P	**P**	**17 02 01.4**	**-0.9**
	comp=Z,6.0nm,0.6s,mb4.3,baz=46,slow=4.9,SNR=24						
BR131	**Keskin Array S**	**84.36**	**312**	*e*P	**P**	**17 02 11.4**	**-0.5**
	comp=Z,1.5nm,0.8s,mb3.6						
BRTR	**Keskin Array B**	**84.36**	**312**	P	**P**	**17 02 11.6**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.6,baz=100,slow=3.5,SNR=7.7						
PDAR	**Pinedale Array**	**84.99**	**44**	P	**P**	**17 02 17.1**	**+2.1**
	comp=Z,1.4nm,1.0s,mb3.5,baz=333,slow=1.7,SNR=5.9						
UZH	**Uzhgorod**	**86.01**	**324**	*e*P	**P**	**17 02 17.0**	**-2.9**
KHC	**Kasperske Hory**	**89.99**	**328⇑**	*e*P	**P**	**17 02 36.6**	**-2.0**
GERES	**GERESS Array B**	**90.13**	**328**	P	**P**	**17 02 38.6**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=155,slow=32,SNR=4.8						
MAW	**Mawson**	**110.64**	**204**	PKiKP	PKiKP	17 08 06.1	-2.6
	comp=Z,4.6nm,0.6s,baz=108,slow=9.8,SNR=8.4						
TORD	**Torodi Ar. Bea**	**122.92**	**310**	PKP	PKPdf	17 08 32.8	+0.5
	comp=Z,0.9nm,0.7s,baz=36,slow=1.4,SNR=9.5						
VNA3	**Neumayer Olymp**	**133.27**	**193**	*e*PKPdf	PKPdf	17 08 53.2	+1.3
VNA1	**Neumayer--Stat**	**133.45**	**194**	*e*PKPdf	PKPdf	17 09 03.1	+11
LPAZ	**La Paz**	**151.40**	**73**	PKPbc	PKPbc	17 09 33.2	+3.2
	comp=Z,1.8nm,0.7s,baz=277,slow=4.5,SNR=9.2						
PLCA	**Paso Flores**	**151.53**	**125**	PKPbc	PKPbc	17 09 32.5	+2.1
	comp=Z,1.8nm,0.5s,baz=246,slow=2.9,SNR=7.2						

*ISCJB **14** 17:42:09.9±1.5, 1272N±004×4823E±003, h4km±9km, mb4.5/52, MS4.2/27, Error ellipse: s-maj=6.4km s-min=4.4km az=166.7*
*BJI **14** 17:42:09.4, 1254N×4842E, h7km, mB5.1, mb4.7, Ms5.0, Msz4.7*
*IDC **14** 17:42:10.9±0.5, 1263N×4836E, h0km, mb4.2/24, mb1 4.3/26, mb1mx4.2/31, mbtmp4.2/26, ML4.0/2, MS4.1/19, Ms1 4.1/19, ms1mx4.0/31, Error ellipse: s-maj=15.0km s-min=10.9km az=108.0*
*MOS **14** 17:42:10.7±0.9, 1263N×4829E, h10km, mb4.8/11, Error ellipse: s-maj=12.7km s-min=6.7km az=90.7*
*CSEM **14** 17:42:11.0±0.1, 1272N×4822E, h10km, mb4.5/10, Error ellipse: s-maj=2.9km s-min=2.3km az=109.0*
*NEIC **14** 17:42:12.4±0.3, 1260N×4832E, h10km, mb4.6/12, Error ellipse: s-maj=6.9km s-min=5.7km az=102.0*
*DHMR **14** 17:42:13.0±1.7, 1316N×4809E, h17km±16km, ML4.3*
ISC 14 17:42:12.3±1.7**, 1272N**±004×**4822E**±003**, h7**km±10km**, h15**km±2.5km**: pP-P, n144,** σ1^s**16**/144**, mb4.5**/52**, MS4.2**/27**, 10C-5D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.92**	**25⇑**	*i*P	**Pn**	**17 42 41.3**	**-4.0**
MUKL				*i* S	**Sn**	**17 43 03.0**	**-6.6**
BDHA	**Al Bayda'**	**2.86**	**296⇑**	*e*P	**Pn**	**17 42 57.8**	**-0.6**
BDHA				*i* S	**Sn**	**17 43 31.2**	**-1.8**
BDHA				AML	AML	17 43 34.1	
	comp=N,2μm,0.5s						
BDHA	**Al Bayda'**	**2.86**	**296⇑**	*e*P	**Pn**	**17 42 57.8**	**-0.5**
BDHA				*i* S	**Sn**	**17 43 31.2**	**-1.8**
	comp=N,1μm,0.5s						
LBOS		**3.10**	**292⇑**	*e*P	**Pn**	**17 43 01.1**	**-0.6**
LBOS				*i* S	**Sn**	**17 43 37.7**	**-1.3**
TRBA	**At Turbah**	**4.03**	**278⇓**	*i*P	**Pn**	**17 43 13.1**	**-1.3**
TRBA				*i* S	**Sn**	**17 44 03.1**	**+1.4**
UDYN	**Al 'Udayn**	**4.32**	**287⇓**	*e*P	**Pn**	**17 43 17.6**	**-0.8**
UDYN				*i* S	**Sn**	**17 44 07.4**	**-1.5**
ATD	**Arta Tunnel**	**5.38**	**258**	Pn	**Pn**	**17 43 33.5**	**+0.6**
	comp=N,19nm,0.3s,baz=216,slow=4.8,SNR=26						
ATD				Sn	**Sn**	**17 44 37.3**	**+2.1**
	comp=N,9.7nm,0.3s,baz=61,slow=23,SNR=8.0						
ATD				LR	LR	17 45 09.5	
	comp=N,1μm,20.0s,baz=76,slow=32						
ATD	**Arta Tunnel**	**5.38**	**258**	Pn	**Pn**	**17 43 33.5**	**+0.5**
ATD				Sn	**Sn**	**17 44 37.3**	**+2.1**
ARQ	**Araqi**	**13.18**	**36**	⇓P	**Pn**	**17 45 21.2**	**+1.4**
	SNR=5.6						
HOQ	**Hoqain**	**13.82**	**37**	⇑P	**Pn**	**17 45 30.1**	**+1.5**
	SNR=8.5						
BIDO	**Bidbid**	**14.28**	**40**	⇓P	**Pn**	**17 45 36.5**	**+1.6**
	SNR=12						
RDF	**Al-Radifah**	**16.13**	**358**	*e*P	**Pn**	**17 45 58.1**	**-1.4**
RDF				AMb	AMB	17 46 06.0	
	comp=Z,138nm,1.1s						
NAY	**Al-Naaiem**	**16.47**	**357**	*e*P	**Pn**	**17 46 02.1**	**-1.7**
NAY				AMb	AMB	17 46 08.5	
	comp=Z,49nm,1.0s						
RST	**Umm Al-Ruwaisa**	**16.73**	**356**	*e*P	**Pn**	**17 46 05.2**	**-1.9**
RST				AMb	AMB	17 46 14.3	
	comp=Z,68nm,1.0s						
MIB	**Mutribah**	**17.02**	**357**	*e*P	**Pn**	**17 46 09.0**	**-1.7**
MIB				AMb	AMB	17 46 17.5	
	comp=Z,83nm,1.6s						
KMBO	**Kilima Mbogo**	**17.54**	**219**	P	**Pn**	**17 46 16.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=234,slow=24,SNR=5.0						
KMBO				LR	LR	17 52 44.5	
	comp=Z,798nm,19.1s,baz=277,slow=36						
BHD	**Baghdad**	**20.75**	**351**	*i* x	x	17 46 51.0	
BHD				*e*x	x	17 50 46.0	
BHD				*e*x	x	17 53 35.0	
BHD				*e*x	x	17 55 09.0	
BHD				*e*x	x	17 56 47.0	
BHD				*e*x	x	17 58 10.0	
EIL	**Elat**	**20.88**	**326**	*e*P	**P**	**17 46 58.1**	**+3.2**
	comp=Z,125nm,0.8s						
EIL	**Elat**	**20.88**	**326**	*e*P	**P**	**17 46 58.1**	**+3.2**
	comp=Z,125nm,0.8s						
ASF	**Jabal al Asfar**	**21.97**	**334**	P	**P**	**17 47 09.4**	**+2.7**
	comp=Z,9.7nm,1.0s,mb4.2,baz=223,slow=6.0,SNR=12						
ASF				LR	LR	17 55 06.4	
	comp=Z,259nm,20.7s,MS3.6,baz=160,slow=35						
MSL	**Mosul**	**23.91**	**350**	*e*x	x	17 47 37.0	
MSL				*e*x	x	17 48 14.0	
MSL				*e*x	x	17 51 56.0	
CSS	**Prodhromos**	**25.92**	**331**	*e*P	**P**	**17 47 43.4**	**-1.7**
	comp=Z,16nm,0.9s,mb4.6						
CSS	**Prodhromos**	**25.92**	**331**	*e*P	**P**	**17 47 43.3**	**-1.7**
	comp=Z,16nm,0.9s,mb4.6						
MALT	**Malatya**	**26.93**	**343**	*e*P	**P**	**17 47 57.5**	**+3.3**
MALT				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.4						
MALT	**Malatya**	**26.93**	**343**	*e*P	**P**	**17 47 57.5**	**+3.3**
	comp=Z,20nm,1.5s,mb4.4						
MALT	**Malatya**	**26.93**	**343**	*e*P	**P**	**17 47 57.5**	**+3.3**

comp=Z,20nm,1.5s,mb4.4
GNI Garni 27.49 354 LR LR 18 00 29.2
comp=Z,1μm,21.1s,MS4.4,baz=164,slow=40
HYB Hyderabad 29.64 77 *i* P **P 17 48 18.0 -0.3**
HYB Hyderabad 29.64 77 *eP* **P 17 48 18.0 -0.3**
BRTR Keskin Array B 29.82 337 P **P 17 48 20.9 +1.0**
comp=Z,0.3nm,0.5s,mb3.3,baz=334,slow=17,SNR=5.9
BRTR LR LR 18 02 15.5
comp=Z,332nm,18.3s,MS4.0,baz=304,slow=40
BRTR Keskin Array B 29.82 337 P **P 17 48 20.9 +1.0**
BRTR LR LR 18 02 15.5
BR131 Keskin Array S 29.82 337 P **P 17 48 22.2 +2.3**
comp=Z,8.2nm,1.6s,mb4.2
BR131 Keskin Array S 29.82 337 P **P 17 48 22.2 +2.3**
comp=Z,8.2nm,1.6s,mb4.2
MAK Makhachkala 30.13 359 *i* P **P 17 48 19.6 -3.1**
MAK *eS* **S 17 53 17.8 -4.0**
MAK *eSS* SS 17 54 58.5 -31
MAK pmax pmax
comp=Z,147nm,1.5s,mb5.5
MAK MLR MLR
comp=Z,2μm,21.0s,MS4.8
ZEI Tsey 30.17 354 *eP* **P 17 48 24.5 +1.5**
ZEI pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
KIV Kislovodsk 31.48 352 *eP* **P 17 48 28.3 -6.3**
KIV *eS* **S 17 53 34.6 -8.3**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
KIV MLR MLR
comp=Z,443nm,15.0s,MS4.3
LSZ Lusaka 34.16 216 P **P 17 48 58.3 +0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=34,slow=11,SNR=5.4
LSZ PcP PcP 17 51 35.6 +0.6
comp=Z,0.3nm,0.3s,baz=43,slow=4.8,SNR=4.0
LSZ LR LR 18 02 58.5
comp=Z,530nm,19.0s,MS4.3,baz=28,slow=36
LSZ Lusaka 34.16 216 P **P 17 48 58.3 +0.3**
LSZ 17 51 35.6
LSZ Lusaka 34.16 216 PcP PcP 17 51 35.6 +0.6
ANR Andizhan 35.04 33 *eP* **P 17 49 03.4 -2.2**
KOLN Koldanda 36.26 60 *eP* **P 17 49 15.6 -0.5**
comp=Z,34nm,1.1s,mb5.2
GKN Gorkha 37.21 60 *eP* **P 17 49 23.1 -1.1**
DMN Daman 37.49 61 *eP* **P 17 49 26.3 -0.3**
comp=Z,18nm,0.9s,mb4.9
KKN Kakani 37.69 61 *eP* **P 17 49 27.5 -0.8**
comp=Z,17nm,0.7s,mb4.9
PKI Pulchoki 37.74 61 *eP* **P 17 49 29.1 +0.4**
MATP Matopo 38.23 211 P **P 17 49 33.0 +0.2**
comp=Z,1.9nm,0.7s,mb4.0,baz=52,slow=7.9,SNR=6.8
MATP PcP PcP 17 51 47.7 +0.6
comp=Z,1.7nm,0.8s,baz=359,slow=3.8,SNR=3.2
MATP Matopo 38.23 211 P **P 17 49 33.0 +0.2**
MATP PcP PcP 17 51 47.7 +0.6
MATP Matopo 38.23 211 PcP PcP 17 51 47.7 +0.6
GUN Gumba 38.24 61 *eP* **P 17 49 32.1 -0.8**
AKTK Aktyubinsk 38.45 10 P **P 17 49 35.1 +0.5**
AKTK Aktyubinsk 38.45 10 P **P 17 49 35.1 +0.4**
AKTO Aktyubinsk 38.45 10 P **P 17 49 35.1 +0.4**
comp=Z,1.7nm,0.5s,mb4.0,baz=184,slow=9.2,SNR=6.8
VRSR Storozhevoye 39.08 351 *eP* **P 17 49 40.5 +0.5**
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,20nm,0.8s
AKASG Malin Array Be 40.92 342 P **P 17 49 55.5 +0.2**
comp=N,0.6nm,0.4s,mb3.6,baz=154,slow=7.5,SNR=11
AKASG PcP PcP 17 51 55.5 -0.2
comp=N,0.7nm,0.6s,baz=129,slow=2.6,SNR=4.5
AKASG LR LR 18 08 18.6
comp=N,129nm,21.5s,MS3.8,baz=90,slow=38
AKASG Malin Array Be 40.92 342 *i* P **P 17 49 55.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 40.92 342 P **P 17 49 55.5 +0.2**
AKASG PcP PcP 17 51 55.5 -0.2
AKASG LR LR 18 08 18.6
AKASG Malin Array Be 40.92 342 PcP PcP 17 51 55.5 -0.2
AKBB Malin Array Si 40.92 342 *eP* **P 17 49 55.3 +0.1**
KEST Kesra 41.81 310 LR LR 18 07 57.4
comp=Z,109nm,18.9s,MS3.8,baz=358,slow=37
PSZ Piszkesteto 42.29 332 P **P 17 50 08.4 +1.9**
LSA Lhasa 43.16 60 P **P 17 50 16.4 +2.9**
LSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
LSA Lhasa 43.16 60 P **P 17 50 16.4 +2.9**
comp=Z,3.5nm,0.7s,mb4.2
OBN Obninsk 43.27 350|| *eP* **P 17 50 15.5 +1.1**
OBN 17 51 56.0
OBN 17 52 02.0
OBN PPP 17 52 32.0
OBN *eS* **S 17 56 49.1 +7.3**
OBN pmax pmax
comp=Z,44nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.1
OBN Obninsk 43.27 350 P **P 17 50 15.6 +1.2**
comp=Z,12nm,0.5s,mb4.9
OBN Obninsk 43.27 350 P **P 17 50 15.6 +1.2**
comp=Z,12nm,0.5s,mb4.9
ZRNK Zerenda 43.43 18 *eP* **P 17 50 15.7 0.0**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
ZRNK Zerenda 43.43 18 *eP* **P 17 50 15.7 0.0**
comp=Z,4.9nm,1.0s,mb4.2
ZRNK Zerenda 43.43 18 *eP* **P 17 50 15.7 0.0**
comp=Z,4.9nm,1.0s,mb4.2
LBTB Lobatse 43.52 210 P **P 17 50 16.8 +0.4**
comp=Z,3.8nm,0.9s,mb4.1,baz=65,slow=10,SNR=4.6
LBTB PcP PcP 17 52 05.7 +1.4
comp=Z,2.7nm,0.9s,baz=45,slow=1.4,SNR=3.5
LBTB Lobatse 43.52 210 PcP PcP 17 52 05.7 +1.4
MOS Moscow 43.70 351 *eP* **P 17 50 18.5 +0.6**
MOS *e* 17 52 04.3
TSUM Tsumeb 43.79 224 P **P 17 50 18.9 +0.3**
comp=Z,2.5nm,0.9s,mb4.0,baz=171,slow=6.5,SNR=2.7
BVAR Borovoye Array 43.93 19 P **P 17 50 20.0 +0.3**
comp=Z,1.6nm,0.6s,mb3.9,baz=194,slow=5.6,SNR=9.4
BVAR PcP PcP 17 52 05.4 -0.3
comp=Z,0.9nm,0.7s,baz=264,slow=1.4,SNR=3.7
BVAR Borovoye Array 43.93 19 PcP PcP 17 52 05.4 -0.3
ARU Arti 44.34 8↑ *iP* **P 17 50 22.8 -0.2**
ARU *e* 17 52 03.6
ARU *eS* **S 17 56 56.4 -1.1**
ARU *eSS* SS 18 00 11.0 -4.9
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ARU MLR MLR
comp=Z,300nm,19.0s,MS4.2
ARU MLR MLR
comp=N,200nm,20.0s,MS4.1
ARU MLR MLR
comp=E,100nm,18.0s,MS4.1
ARU Arti 44.34 8 *eP* **P 17 50 23.4 +0.4**
comp=E,9.4nm,0.9s,mb4.5
ARU Arti 44.34 8 *eP* **P 17 50 23.4 +0.4**
comp=E,9.4nm,0.9s,mb4.5
MKAR Makanchi Array 44.41 33 P **P 17 50 23.3 -0.3**
comp=E,2.8nm,0.7s,mb4.1,baz=222,slow=6.5,SNR=17
MKAR Makanchi Array 44.41 33↑ *eP* **P 17 50 23.7 +0.1**
MKAR Makanchi Array 44.41 33 P **P 17 50 23.3 -0.3**
MORC Moravsky Berou 44.71 332 *eP* **P 17 50 26.6 +0.6**
MORC pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
MORC Moravsky Berou 44.71 332 *eP* **P 17 50 26.6 +0.6**
comp=Z,5.8nm,1.1s,mb4.3
MORC Moravsky Berou 44.71 332 *eP* **P 17 50 26.6 +0.6**
comp=Z,5.8nm,1.1s,mb4.3
TOA0 Torodi Ar. Sit 45.29 276 *eP* **P 17 50 31.5 +0.9**
TOA0 Torodi Ar. Sit 45.29 276 *eP* **P 17 50 31.5 +0.9**
TORD Torodi Ar. Bea 45.29 276 P **P 17 50 31.4 +0.8**
comp=Z,2.9nm,0.6s,mb4.3,baz=90,slow=7.7,SNR=23
TORD PcP PcP 17 52 10.8 +0.4
comp=Z,2.3nm,1.0s,baz=72,slow=3.1,SNR=5.6
TORD LR LR 18 09 11.0
comp=Z,95nm,18.9s,MS3.8,baz=145,slow=36
TORD Torodi Ar. Bea 45.29 276 PcP PcP 17 52 10.8 +0.4
WMQ Urumqi 45.88 40 *eP* **P 17 50 36.0 +0.7**
WMQ AP pP 17 50 40.0 +2.5
WMQ XP sP 17 50 43.0 +4.7
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,103nm,5.1s
WMQ LR LR
comp=N,285nm,23.2s,MS4.2
WMQ LR LR
comp=E,230nm,26.0s,MS4.2
WMQ LR LR
comp=Z,226nm,24.2s,MS4.0
GERES GERESS Array B 45.94 329 P **P 17 50 36.3 +0.6**
comp=Z,2.3nm,1.0s,mb4.1,baz=134,slow=7.6,SNR=10
KHC Kasperske Hory 46.18 329 *i* P **P 17 50 39.1 +1.4**
BOSA Boshof 46.71 208 P **P 17 50 41.0 -0.8**
comp=Z,3.6nm,1.0s,mb4.3,baz=19,slow=7.2,SNR=4.7
BOSA LR LR 18 09 30.9
comp=Z,331nm,19.9s,MS4.3,baz=37,slow=35
BOSA Boshof 46.71 208 P **P 17 50 41.0 -0.8**
BOSA LR LR 18 09 30.9
SOKR Solikamsk 47.20 6 *eP* **P 17 50 47.3 +1.7**
SOKR S **S 17 57 52.6 +14**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SOKR MLR MLR
comp=Z,200nm,16.0s,MS4.2
GRA1 Grafenberg Arr 47.74 328 *eP* **P 17 50 50.4 +0.6**
GRF Grafenberg Arr 47.74 328 *eP* **P 17 50 50.4 +0.6**
ZAL Zalesovo 50.23 27 P **P 17 51 08.2 -0.7**
comp=Z,1.6nm,0.5s,mb4.3,baz=265,slow=4.8,SNR=5.5
ZAL LR LR 18 16 16.0
comp=Z,145nm,18.9s,MS4.0,baz=277,slow=41
FINES FINESS Array B 51.23 347 P **P 17 51 16.8 +0.3**
comp=Z,2.7nm,0.6s,mb4.4,baz=145,slow=12,SNR=12
FINES LR LR 18 15 18.7
comp=Z,166nm,18.8s,MS4.1,baz=146,slow=39
JOF Joensuu 51.55 350 *ep* **P 17 51 18.1 -0.7**
comp=Z,3.4nm,0.5s,mb4.5
KAF Kangasniemi 51.77 347 *ep* **P 17 51 19.6 -0.9**
baz=149,slow=7.4
GTA Gaotai 52.56 50 *eP* **P 17 51 26.3 -0.1**
GTA AP pP 17 51 30.4 +1.8
GTA XP sP 17 51 33.6 +4.1
GTA PCP PcP 17 52 37.6 +0.9
GTA PP PP 17 53 26.9 +1.6
GTA SCP ScP 17 56 32.6 -1.7
GTA PCS PcS 17 56 33.8 -1.3
GTA S **S 17 58 54.3 +0.7**
GTA SCS ScS 18 01 13.8 -2.9
GTA SS SS 18 02 26.4 -5.3
GTA AMB AMB
comp=Z,5.0nm,2.5s,mb4.0
GTA AMB AMB
comp=Z,60nm,5.3s
GTA LR LR
comp=N,156nm,14.1s,MS4.3
GTA LR LR
comp=E,161nm,17.5s,MS4.3
GTA LR LR
comp=Z,310nm,19.8s,MS4.3
DBIC Dimbokro 52.58 269 LR LR 18 14 06.5
comp=Z,86nm,19.0s,MS3.8,baz=62,slow=36
KMI Kunming 52.72 68 P **P 17 51 27.1 -0.5**
KMI AMB AMB
comp=Z,6.0nm,1.8s,mb4.2
ESDC Sonseca Array 53.06 310 P **P 17 51 33.0 +2.9**
comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=7.4,SNR=4.2
ESDC LR LR 18 13 58.1
comp=Z,84nm,21.2s,MS3.8,baz=190,slow=36
CD2 Chengdu 54.10 61 *eP* **P 17 51 37.9 +0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NB2 NORSAR Subarra 55.22 339 P **P 17 51 45.7 -0.1**
comp=Z,8.6nm,1.2s,mb4.7,baz=135,slow=7.4
NOA NORSAR Array B 55.22 339 P **P 17 51 45.6 -0.2**
comp=Z,0.7nm,0.8s,mb3.8,baz=134,slow=7.1,SNR=2.9
NOA LR LR 18 18 40.2
comp=Z,140nm,18.3s,MS4.1,baz=135,slow=40
MOY Mondy 57.40 36 *eP* **P 17 52 04.5 +3.1**
ZAK Zakamensk 58.27 38 *eP* **P 17 52 07.3 -0.3**
KEV Kevo 58.55 352 *ep* **P 17 52 06.4 -3.0**
ARCES ARCESS Array B 58.57 351 P **P 17 52 09.3 -0.3**
comp=Z,2.5nm,0.6s,mb4.4,baz=161,slow=7.7,SNR=9.1
ARCES LR LR 18 20 28.0
comp=Z,225nm,19.3s,MS4.3,baz=73,slow=39
ARCES ARCESS Array B 58.57 351 P **P 17 52 09.3 -0.3**
ARCES LR LR 18 20 28.0
SONM Songino Array 59.45 42 P **P 17 52 15.6 -0.1**
comp=Z,2.1nm,0.9s,mb4.2,baz=242,slow=7.0,SNR=13
ULN Ulaanbaatar 59.88 42|| *eP* **P 17 52 19.5 +0.8**
ULN Ulaanbaatar 59.88 42 *eP* **P 17 52 19.4 +0.7**
comp=Z,3.0nm,0.9s,mb4.3
ULN Ulaanbaatar 59.88 42 *eP* **P 17 52 19.4 +0.7**
comp=Z,3.0nm,0.9s,mb4.3
HHC Hu-ho-hao-te 61.67 50 *eP* **P 17 52 33.5 +2.7**
HHC AP pP 17 52 38.0 +4.9
HHC XP sP 17 52 40.4 +6.5
HHC PCP PcP 17 53 14.3 +2.0
HHC PP PP 17 54 51.8 +5.3
HHC AMB AMB
comp=Z,16nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,127nm,6.0s
HHC LR LR
comp=N,225nm,9.2s
HHC LR LR
comp=E,223nm,11.8s
HHC LR LR
comp=Z,222nm,12.3s,MS4.5
NJ2 Nanjing 67.03 60 *eP* **P 17 53 03.4 -2.6**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
SSE Sheshan 69.05 61 *eP* **P 17 53 17.1 -1.6**
SSE AP pP 17 53 27.0 +6.0
SSE XP sP 17 53 29.8 +8.0
SSE PCP PcP 17 53 40.9 -1.9
SSE PP PP 17 55 48.6 -2.5
SSE S S 18 02 18.4 -5.7
SSE XS sS 18 02 37.3 +9.5
SSE SCS ScS 18 03 14.8 -5.0
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,443nm,4.9s
SSE LR LR
comp=N,49nm,16.9s,MS4.4
SSE LR LR
comp=E,173nm,16.9s,MS4.4
SSE LR LR
comp=Z,202nm,15.2s,MS4.5
CN2 Changchun 72.12 48 *eP* **P 17 53 38.8 +1.4**
MDJ Mudanjiang 75.07 47 P **P 17 53 54.5 -0.3**
MDJ AP pP 17 53 57.8 +0.7
MDJ XP sP 17 53 59.0 +1.1
MDJ PP PP 17 56 42.4 -0.3
MDJ AMB AMB
comp=Z,2.0nm,0.4s,mb4.4
MDJ AMB AMB
comp=Z,87nm,5.0s
MDJ LR LR
comp=N,250nm,13.1s
MDJ LR LR
comp=E,203nm,18.9s
MDJ LR LR
comp=Z,266nm,13.1s,MS4.7
NWAO Narrogin (SRO) 79.90 127 P **P 17 54 20.1 -1.7**
comp=Z,10nm,0.8s,mb4.8,baz=315,slow=4.9,SNR=5.2
NWAO Narrogin (SRO) 79.90 127 P **P 17 54 19.6 -2.2**
NWAO pmax pmax
comp=Z,15nm,1.0s
NWAO Narrogin (SRO) 79.90 127 P **P 17 54 19.6 -2.1**
comp=Z,15nm,1.0s,mb4.9
NWAO Narrogin (SRO) 79.90 127 P **P 17 54 19.6 -2.2**
comp=Z,15nm,1.0s,mb4.9
MAW Mawson 80.81 174 P **P 17 54 26.7 0.0**
comp=Z,3.4nm,0.8s,mb4.3,baz=320,slow=8.1,SNR=4.2
FITZ Fitzroy Crossi 82.27 110 P **P 17 54 33.4 -1.0**
comp=Z,4.4nm,1.0s,mb4.4,baz=352,slow=3.8,SNR=6.8
MJAR Matsushiro Arr 82.54 54 P **P 17 54 36.3 +0.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=271,slow=2.0,SNR=4.1
MJAR Matsushiro Arr 82.54 54 P **P 17 54 36.2 +0.4**
ASAJ Asahikawa 84.37 46 LR LR 18 36 10.5
comp=Z,120nm,19.6s,MS4.3,baz=335,slow=38
BILL Bilibino 88.27 19 P **P 17 55 11.0 +6.6**
BILL pmax pmax
comp=Z,29nm,1.8s,mb5.2
WRA Warramunga Arr 90.70 110 P **P 17 55 15.4 -0.3**
comp=Z,15nm,0.8s,mb5.4,baz=297,slow=3.7,SNR=96
WRAB Tennant Creek 90.70 110|| *eP* **P 17 55 15.3 -0.5**
WRAB Tennant Creek 90.70 110 *eP* **P 17 55 15.5 -0.3**
comp=Z,30nm,0.9s,mb5.6
WRAB Tennant Creek 90.70 110 *eP* **P 17 55 15.5 -0.3**
comp=Z,30nm,0.9s,mb5.6
WB2 Warramunga Arr 90.71 110 *eP* **P 17 55 15.2 -0.6**
WB2 Warramunga Arr 90.71 110 *eP* **P 17 55 15.2 -0.6**
SNAA Sanae 90.78 194 *eP* **P 17 55 16.4 +0.3**
SNAA *e* 17 55 20.7
SNAA Sanae 90.78 194↑ *eP* **P 17 55 14.8 -1.3**
ASAR Alice Springs 91.15 114 P **P 17 55 17.4 -0.5**
comp=Z,7.2nm,1.0s,mb5.0,baz=285,slow=4.5,SNR=38
AS31 Alice Springs 91.15 114 *eP* **P 17 55 17.2 -0.7**
VNA1 Neumayer--Stat 91.53 196 *eP* **P 17 55 20.2 +0.6**
VNA1 *e* 17 55 24.5
VNA1 *e* 17 55 34.2
VNA3 Neumayer Olymp 92.25 196 *eP* **P 17 55 23.3 +0.3**
VNA3 *e* 17 55 38.1
INK Inuvik 99.17 1 LR LR 18 46 25.6
comp=Z,114nm,18.3s,MS4.4,baz=239,slow=39
STKA Stephens Creek 99.44 121 LR LR 18 33 32.8
comp=Z,282nm,20.1s,MS4.8,baz=338,slow=31

MOS **14** *17:46:43.8± 1.1, 1267N× 4847E, h10km, mb4.7/10, Error ellipse: s-maj=16.9km s-min=9.0km az=88.3*
IDC **14** *17:46:43.8± 0.5, 1264N× 4839E, h0km, mb4.1/24, mb1 4.3/25, mb1mx4.2/31, mbtmp4.2/25, ML5.0/1, Error ellipse: s-maj=15.8km s-min=11.8km az=107.0*
ISCJB **14** *17:46:43.8± 0.4, 1275N± 005× 4822E± 003, h10km, mb4.2/32, Error ellipse: s-maj=7.5km s-min=4.7km az=171.8*
CSEM **14** *17:46:44.2± 0.1, 1276N× 4821E, h10km, mb4.4/9, Error ellipse: s-maj=3.3km s-min=2.4km az=154.0*
NEIC **14** *17:46:45.2± 0.5, 1262N× 4838E, h10km, mb4.5/7, Error ellipse: s-maj=12.4km s-min=6.9km az=119.0*
DHMR **14** *17:46:45.5± 2.1, 1317N× 4805E, h10km, ML4.2*

ISC 14 17:46:46.0± 0.4, 1276N± 005× 4820E± 003, h10km, n69, σ1§08/71, mb4.2/32, 4C-3D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.89**	**25**				**Pn**	**17 47 14.1**	**-4.2**
MUKL				*i*	*iP*	*i* S	**Sn**	**17 47 36.6**	**-5.5**
BDHA	**Al Bayda'**	**2.83**	**296**	↑	*iP*	**Pn**	**17 47 30.7**	**-0.6**
BDHA				*i*	S	**Sn**	**17 48 03.9**	**-1.6**
BDHA					AML	AML	17 48 06.0	
	comp=N,2μm,0.4s							
BDHA	**Al Bayda'**	**2.83**	**296**	↑	*iP*	**Pn**	**17 47 30.7**	**-0.6**
BDHA				*i*	S	**Sn**	**17 48 03.9**	**-1.5**
	comp=N,855nm,0.4s							
LBOS		**3.08**	**291**	↑	*eP*	**Pn**	**17 47 34.5**	**-0.1**
LBOS				*i*	S	**Sn**	**17 48 10.6**	**-0.9**
TRBA	**At Turbah**	**4.01**	**277**	||	*eP*	**Pn**	**17 47 45.6**	**-1.8**
TRBA				*i*	S	**Sn**	**17 48 34.5**	**0.0**
UDYN	**Al 'Udayn**	**4.29**	**287**	||	*iP*	**Pn**	**17 47 51.1**	**-0.2**
UDYN				*i*	S	**Sn**	**17 48 39.3**	**-2.1**
ATD	**Arta Tunnel**	**5.38**	**257**		Pn	**Pn**	**17 48 06.4**	**+0.2**
	comp=N,49nm,0.3s,baz=164,slow=3.8,SNR=60							
ATD					Sn	**Sn**	**17 49 09.5**	**+1.4**
	comp=N,9.5nm,0.3s,baz=91,slow=21,SNR=5.7							
ATD	**Arta Tunnel**	**5.38**	**257**		Pn	**Pn**	**17 48 06.4**	**+0.2**
ATD					Sn	**Sn**	**17 49 09.5**	**+1.4**
KMBO	**Kilima Mbogo**	**17.56**	**219**		P	**Pn**	**17 50 54.1**	**+3.3**
	comp=N,0.1nm,0.3s,baz=45,slow=22,SNR=3.6							
EIL	**Elat**	**20.84**	**326**		P	**P**	**17 51 29.4**	**+1.7**
	comp=N,148nm,1.0s							
EIL	**Elat**	**20.84**	**326**		P	**P**	**17 51 29.4**	**+1.6**
	comp=N,148nm,1.0s							
ASF	**Jabal al Asfar**	**21.93**	**334**		P	**P**	**17 51 42.8**	**+3.3**
	comp=N,12nm,1.0s,mb4.3,baz=190,slow=1.5,SNR=7.3							
MALT	**Malatya**	**26.90**	**343**		P	**P**	**17 52 29.2**	**+2.2**
MALT					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9							
MALT	**Malatya**	**26.90**	**343**		P	**P**	**17 52 29.2**	**+2.2**
	comp=Z,3.7nm,1.0s,mb3.9							
BRTR	**Keskin Array B**	**29.78**	**337**		P	**P**	**17 52 55.5**	**+2.7**
	comp=Z,0.8nm,0.8s,mb3.5,baz=169,slow=8.8,SNR=3.6							
LSZ	**Lusaka**	**34.18**	**216**		P	**P**	**17 53 31.9**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=45,slow=8.0,SNR=5.0							
MATP	**Matopo**	**38.25**	**211**		P	**P**	**17 54 05.6**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.0,baz=7.2,slow=11,SNR=5.3							
MATP	**Matopo**	**38.25**	**211**		P	**P**	**17 54 05.6**	**-0.6**
AKTK	**Aktyubinsk**	**38.42**	**10**		P	**P**	**17 54 08.0**	**+0.4**
AKTK	**Aktyubinsk**	**38.42**	**10**		P	**P**	**17 54 08.0**	**+0.4**
AKTO	**Aktyubinsk**	**38.42**	**10**		P	**P**	**17 54 08.0**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.8,baz=162,slow=9.6,SNR=3.5							
AKASG	**Malin Array Be**	**40.88**	**342**		P	**P**	**17 54 29.8**	**+1.7**
	comp=Z,0.7nm,0.4s,mb3.6,baz=151,slow=7.4,SNR=9.8							
AKASG					PcP	PcP	17 56 26.4	-2.3
	comp=Z,1.5nm,0.8s,baz=178,slow=2.4,SNR=6.3							
AKASG	**Malin Array Be**	**40.88**	**342**		PcP	PcP	17 56 26.5	-2.2
OBN	**Obninsk**	**43.23**	**350**	||	*eP*	**P**	**17 54 53.1**	**+5.8**
OBN					pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**43.40**	**18**		*eP*	**P**	**17 54 48.3**	**-0.4**
ZRNK					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2							
ZRNK	**Zerenda**	**43.40**	**18**		*eP*	**P**	**17 54 48.3**	**-0.4**
	comp=Z,4.6nm,1.0s,mb4.2							
ZRNK	**Zerenda**	**43.40**	**18**		*eP*	**P**	**17 54 48.3**	**-0.4**
	comp=Z,4.6nm,1.0s,mb4.2							
LBTB	**Lobatse**	**43.54**	**210**		P	**P**	**17 54 50.3**	**+0.5**
	comp=Z,4.8nm,1.0s,mb4.2,baz=58,slow=6.7,SNR=4.4							
LBTB					PcP	PcP	17 56 36.3	-1.2
	comp=Z,1.7nm,0.8s,baz=54,slow=3.2,SNR=3.6							
LBTB	**Lobatse**	**43.54**	**210**		PcP	PcP	17 56 36.3	-1.2
TSUM	**Tsumeb**	**43.80**	**224**		P	**P**	**17 54 53.1**	**+1.2**
	comp=Z,2.0nm,1.0s,mb3.8,baz=134,slow=18,SNR=2.7							
BVAR	**Borovoye Array**	**43.90**	**19**		P	**P**	**17 54 53.5**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.0,baz=208,slow=5.0,SNR=8.0							
BVAR					PcP	PcP	17 56 39.0	+0.3
	comp=Z,1.6nm,0.8s,baz=205,slow=3.0,SNR=4.2							
BVAR	**Borovoye Array**	**43.90**	**19**		PcP	PcP	17 56 39.0	+0.3
ARU	**Arti**	**44.31**	**8**		*eP*	**P**	**17 54 55.9**	**0.0**
ARU					pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3							
ARU	**Arti**	**44.31**	**8**		*eP*	**P**	**17 54 55.9**	**-0.1**
	comp=Z,6.4nm,0.9s,mb4.3							
ARU	**Arti**	**44.31**	**8**		*eP*	**P**	**17 54 55.9**	**0.0**
	comp=Z,6.4nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**44.39**	**33**		P	**P**	**17 54 55.5**	**-1.1**
	comp=Z,2.1nm,0.6s,mb4.0,baz=224,slow=6.8,SNR=12							
TOA0	**Torodi Ar. Sit**	**45.27**	**276**		*eP*	**P**	**17 55 04.2**	**+0.6**
TOA0	**Torodi Ar. Sit**	**45.27**	**276**		*eP*	**P**	**17 55 04.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**45.27**	**276**		P	**P**	**17 55 04.4**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.3,baz=90,slow=7.2,SNR=22							
TORD					PcP	PcP	17 56 43.3	-0.1
	comp=Z,1.3nm,0.8s,baz=73,slow=2.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**45.27**	**276**		PcP	PcP	17 56 43.3	-0.1
GERES	**GERESS Array B**	**45.90**	**329**		P	**P**	**17 55 09.4**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=128,slow=8.6,SNR=7.3							
BOSA	**Boshof**	**46.73**	**208**		P	**P**	**17 55 14.1**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=1.1,slow=14,SNR=3.9							
ZAL	**Zalesovo**	**50.20**	**27**		P	**P**	**17 55 39.8**	**-2.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=225,slow=8.3,SNR=5.0							
FINES	**FINESS Array B**	**51.19**	**347**		P	**P**	**17 55 49.5**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=140,slow=10.0,SNR=9.4							
FINES					PcP	PcP	17 57 04.5	-0.2
	comp=Z,1.9nm,0.8s,baz=270,slow=1.0,SNR=2.7							
FINES	**FINESS Array B**	**51.19**	**347**		PcP	PcP	17 57 04.5	-0.2
JOF	**Joensuu**	**51.51**	**350**		*ep*	**P**	**17 55 52.0**	**+0.2**
	comp=Z,5.4nm,0.5s,mb4.7							
KAF	**Kangasniemi**	**51.73**	**347**		*ep*	**P**	**17 55 53.9**	**+0.5**
	baz=150,slow=7.5							
DBIC	**Dimbokro**	**52.57**	**269**		P	**P**	**17 56 04.9**	**+5.2**
DBIC					pmax	pmax		
	comp=Z,16nm,1.3s							
DBIC	**Dimbokro**	**52.57**	**269**		P	**P**	**17 56 04.9**	**+5.2**
	comp=Z,16nm,1.3s,mb4.8							
ESDC	**Sonseca Array**	**53.03**	**310**		P	**P**	**17 56 03.9**	**+0.9**
	comp=Z,1.2nm,0.8s,mb3.9,baz=92,slow=7.4,SNR=4.5							
NB2	**NORSAR Subarra**	**55.18**	**339**		P	**P**	**17 56 17.6**	**-1.1**
	comp=Z,4.6nm,1.1s,mb4.4,baz=137,slow=7.4							
NOA	**NORSAR Array B**	**55.18**	**339**		P	**P**	**17 56 17.9**	**-0.9**
	comp=Z,1.7nm,1.1s,mb4.0,baz=128,slow=7.9,SNR=2.8							
KEV	**Kevo**	**58.51**	**352**		*ep*	**P**	**17 56 42.2**	**-0.2**
	comp=Z,4.9nm,0.7s,mb4.7							
KEV	**Kevo**	**58.51**	**352**		*eP*	**P**	**17 56 42.2**	**-0.2**
KEV					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7							
ARCES	**ARCESS Array B**	**58.53**	**351**		P	**P**	**17 56 42.5**	**0.0**
	comp=Z,6.3nm,0.9s,mb4.6,baz=160,slow=3.9,SNR=12							
SONM	**Songino Array**	**59.43**	**42**		P	**P**	**17 56 48.2**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.2,baz=246,slow=6.4,SNR=15							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULN	Ulaanbaatar	59.87	42	P	P	17 56 51.2	-0.6
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ULN	Ulaanbaatar	59.87	42	P	P	17 56 51.2	-0.6
	comp=Z,1.8nm,0.9s,mb4.1						
ULN	Ulaanbaatar	59.87	42	P	P	17 56 51.2	-0.6
	comp=Z,2.0nm,0.9s,mb4.2						
NWAO	Narrogin (SRO)	79.93	127	P	P	17 58 53.6	-1.5
	comp=Z,5.6nm,0.8s,mb4.5,baz=250,slow=6.2,SNR=3.0						
NWAO	Narrogin (SRO)	79.93	127	P	P	17 58 53.6	-1.5
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FITZ	Fitzroy Crossi	82.30	110	P	P	17 59 07.0	-0.7
	comp=Z,2.1nm,0.9s,mb4.1,baz=315,slow=4.3,SNR=2.8						
MJAR	Matsushiro Arr	82.53	54	P	P	17 59 08.7	-0.2
	comp=Z,1.8nm,0.8s,mb4.1,baz=265,slow=4.1,SNR=4.8						
MJAR	Matsushiro Arr	82.53	54	P	P	17 59 08.7	-0.2
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	90.72	110	P	P	17 59 48.2	-0.9
	comp=Z,6.4nm,0.9s,mb5.0,baz=298,slow=3.7,SNR=12						
WRA	Warramunga Arr	90.72	110	P	P	17 59 48.2	-0.8
WRA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAR	Alice Springs	91.18	114	P	P	17 59 50.6	-0.5
	comp=Z,2.3nm,0.7s,mb4.7,baz=293,slow=3.8,SNR=4.4						
ASAR	Alice Springs	91.18	114	P	P	17 59 50.7	-0.5
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NVAR	Mina Array Bea	127.54	347	PKP	PKPdf	18 05 53.3	+2.0
	comp=Z,0.3nm,0.3s,baz=336,slow=4.0,SNR=3.8						

*IDC **14** 17:49:26.5±0.4, 662N×9290E, h0km, mb4.3/24, mb1 4.3/25, mb1mx4.3/30, mbtmp4.2/25, ML4.0/1, MS4.0/7, Ms1 4.0/7, ms1mx3.7/32, Error ellipse: s-maj=17.5km s-min=11.1km az=50.0*

*MOS **14** 17:49:29.4±1.1, 664N×9301E, h33km, mb4.9/14, Error ellipse: s-maj=13.2km s-min=7.2km az=115.0*

*ISCJB **14** 17:49:30.5±0.9, 651N±004×9298E±004, h43km±8km, mb4.6/59, MS4.2/18, Error ellipse: s-maj=7.4km s-min=6.0km az=78.9*

*BJI **14** 17:49:30.0, 669N×9295E, h31km, mB5.0, mb4.7, Ms4.6, Msz4.4*

*NEIC **14** 17:49:31.6±1.0, 660N×9295E, h37km±9km, mb4.7/16, Error ellipse: s-maj=8.2km s-min=6.3km az=224.0*

ISC 14 17:49:33.2±0.8**, 657N**±004×**9295E**±004**, h47**km±7km**, h31**km±1.2km**: pP-P, n122,** σ1**§08**/125**, mb4.6**/59**, MS4.2**/18**, 1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	5.06	358	eP	Pn	17 50 47.6	+1.1
PBA				ex	x	17 51 24.3	
PSI	Prapat	7.03	122	Pn	Pn	17 51 12.7	-0.9
	2.5nm,0.3s,baz=310,slow=11,SNR=12						
PSI				Sn	Sn	17 52 50.6	+18
	1.4nm,0.3s,baz=273,slow=15,SNR=1.5						
PALK	Pallekele	12.18	274	ePn	Pn	17 52 21.6	-2.3
	29nm,0.6s						
PALK				eSn	Sn	17 54 27.0	-11
CM31	Chiang Mai Arr	13.18	26	ePn	Pn	17 52 37.1	-0.5
CHTO	Chiang Mai	13.50	25	eP	Pn	17 52 43.6	+1.6
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CHTO	Chiang Mai	13.50	25	ePn	Pn	17 52 43.6	+1.6
	comp=Z,7.4nm,0.5s						
VIS	Vishakhapatnam	14.53	321	eP	Pn	17 52 54.8	-1.1
SALM	Salem	15.41	290	eP	Pn	17 53 09.0	+1.6
SALM				ex	x	17 55 47.0	
TRD	Trivandrum	15.97	278	eP	Pn	17 53 14.5	-0.1
TRD				AMb	AMB	17 53 24.2	
	comp=Z,46nm,0.9s						
TRD				ex	x	17 55 34.1	
CAL	Calcutta	16.49	345	ex	x	17 55 49.7	
CAL				ex	x	18 00 28.4	
HYB	Hyderabad	17.72	309	i P	Pn	17 53 37.0	+0.6
HYB				eS	S	17 56 51.5	-6.7
HYB	Hyderabad	17.72	309	eP	Pn	17 53 37.0	+0.6
HYB				eS	S	17 56 51.5	-6.7
BOK	Bokaro	18.43	339	eP	Pn	17 53 46.3	+1.2
BOK				AMb	AMB	17 53 47.8	
	comp=Z,36nm,0.2s						
NGP	Nagpur	19.78	318	eP	Pn	17 54 00.3	-0.9
NGP				ex	x	17 54 05.2	
	comp=Z,132nm,1.6s						
NGP				ex	x	17 57 35.6	
LATR	Latur	19.84	308	eP	Pn	17 54 00.3	-1.6
LATR				ex	x	17 57 30.7	
QIZ	Qiongzhong	20.58	51	P	P	17 54 09.3	+1.2
QIZ				XP	sP	17 54 24.9	-0.1
QIZ				S	S	17 57 58.6	+2.9
QIZ				AMB	AMB		
	comp=Z,39nm,1.7s						
QIZ				LR	LR		
	comp=E,991nm,12.4s						
QIZ				LR	LR		
	comp=Z,1µm,11.9s,MS4.5						
QIZ	Qiongzhong	20.58	51	eP	P	17 54 08.8	+0.7
	comp=Z,48nm,1.1s						
KMI	Kunming	20.70	26	P	P	17 54 10.3	+1.0
KMI				AP		17 54 18.4	
KMI				XP	sP	17 54 21.9	-4.3
KMI				PP		17 54 33.3	
KMI				S	S	17 57 57.3	-0.6
KMI				XS	sS	17 58 10.5	-5.2
KMI				AMB	AMB		
	comp=Z,19nm,1.1s						
KMI				AMB	AMB		
	comp=Z,144nm,3.1s						
KMI				LR	LR		
	comp=N,524nm,13.8s,MS4.2						
KMI				LR	LR		
	comp=E,497nm,13.5s,MS4.2						
KMI				LR	LR		
	comp=Z,603nm,13.2s,MS4.1						
AKL	Akola	20.88	314	eP	P	17 54 12.9	+1.6
AKL				AMb	AMB	17 54 17.0	
	comp=Z,38nm,0.9s						
KAD	Karad	21.21	302	eP	P	17 54 17.8	+2.9
KAD				AMb	AMB	17 54 29.1	
	comp=Z,28nm,0.6s,mb4.8						
POO	Poona	22.08	304	ex	x	17 54 31.0	
PKI	Pulchoki	22.08	342	eP	P	17 54 24.5	+0.3
	comp=Z,65nm,0.8s,mb5.1						
DMN	Daman	22.21	341	eP	P	17 54 27.0	+1.4
	comp=Z,109nm,1.0s,mb5.2						
GUN	Gumba	22.26	343	eP	P	17 54 25.9	-0.2
	comp=Z,223nm,1.3s,mb5.4						
BHPL	Bhopal	22.32	320	eP	P	17 54 26.0	-0.7
BHPL				AMb	AMB	17 54 33.2	
	comp=Z,36nm,1.4s,mb4.6						
KKN	Kakani	22.33	342	eP	P	17 54 27.0	+0.2
	comp=Z,38nm,0.9s,mb4.8						
GKN	Gorkha	22.73	341	eP	P	17 54 30.6	-0.5
	comp=Z,68nm,0.5s,mb5.3						
KOLN	Koldanda	22.88	338	eP	P	17 54 32.4	-0.2
	comp=Z,78nm,0.8s,mb5.2						
LSA	Lhasa	23.07	356	P	P	17 54 33.4	-1.3
LSA				AP		17 54 42.0	
LSA				XP	sP	17 54 45.4	-6.3
LSA				PCP	PcP	17 58 18.1	-4.3
LSA				S	S	17 58 38.5	-3.6
LSA				SCP	ScP	18 01 54.3	-2.1
LSA				PCS	PcS	18 01 57.3	-4.3
LSA				SCS	ScS	18 05 40.8	-1.6
LSA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
LSA				LR	LR		
	comp=N,280nm,19.4s,MS4.1						
LSA				LR	LR		
	comp=E,490nm,16.4s,MS4.1						
LSA				LR	LR		
	comp=Z,550nm,18.1s,MS4.0						
LSA	Lhasa	23.07	356	eP	P	17 54 33.1	-1.6
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.5						
LSA	Lhasa	23.07	356	eP	P	17 54 33.1	-1.6
	comp=Z,13nm,0.6s,mb4.5						
GYA	Guiyang	23.71	32⇑	iP	P	17 54 40.3	-0.5
GYA				AP		17 54 49.8	
GYA				XP	sP	17 54 53.8	-4.7
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,3.9s						
GYA				LR	LR		
	comp=N,730nm,16.5s,MS4.5						
GYA				LR	LR		
	comp=E,1µm,16.8s,MS4.5						
GYA				LR	LR		
	comp=Z,730nm,16.4s,MS4.2						
CD2	Chengdu	26.25	21	eP	P	17 55 03.3	-0.6
CD2				AP	pP	17 55 12.6	-3.5
CD2				XP	sP	17 55 16.8	-4.9
CD2				PP		17 55 46.6	
CD2				S	S	17 59 32.4	-0.6
CD2				XS	sS	17 59 48.0	-5.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=E,490nm,12.0s						
CD2				LR	LR		
	comp=Z,530nm,10.8s,MS4.3						
AJM	Ajmer	26.39	321	ex	x	17 55 59.5	
AJM				AMb	AMB	17 56 02.2	
	comp=Z,11nm,0.6s,mb4.6						
NDI	New Delhi	26.56	328	eP	P	17 55 08.0	+1.4
NDI				AMb	AMB	17 55 12.7	
	comp=Z,26nm,1.6s,mb4.5						
SMLA	Simla	28.56	331	ex	x	17 55 21.6	
SMLA				AMb	AMB	17 55 28.2	
	comp=Z,21nm,2.1s,mb4.5						
XAN	Xi'an	31.08	26	P	P	17 55 45.3	-1.5
XAN				S	S	18 00 42.5	-6.4
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
XAN				LR	LR		
	comp=N,291nm,15.7s,MS4.3						
XAN				LR	LR		
	comp=E,424nm,17.4s,MS4.3						
XAN				LR	LR		
	comp=Z,601nm,13.5s,MS4.4						
WHN	Wuhan	31.19	37	eP	P	17 55 51.0	+3.2
NJ2	Nanjing	35.02	40	eP	P	17 56 21.1	-0.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
WMQ	Urumqi	37.39	354	eP	P	17 56 41.5	0.0
WMQ				AP	pP	17 56 51.0	-2.9
WMQ				XP	sP	17 56 55.0	-4.5
WMQ				PP	PP	17 58 09.0	+1.7
WMQ				eS	S	18 02 27.0	+0.7
WMQ				XS	sS	18 02 43.0	-4.2
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,134nm,4.2s						
WMQ				LR	LR		
	comp=N,362nm,18.9s,MS4.5						
WMQ				LR	LR		
	comp=E,644nm,23.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,464nm,26.0s,MS4.2						
HHC	Hu-ho-hao-te	37.97	23	eP	P	17 56 46.5	+0.1
HHC				AP	pP	17 56 56.4	-2.5
HHC				XP	sP	17 57 00.3	-4.1
HHC				PP	PP	17 58 17.3	+3.5
HHC				PCP	PcP	17 59 01.9	+0.6
HHC				S	S	18 02 36.8	+1.7
HHC				SCP	ScP	18 02 45.8	+0.7
HHC				PCS	PcS	18 02 49.6	-0.6
HHC				XS	sS	18 02 52.9	-3.2
HHC				SS	SS	18 05 15.0	-7.6
HHC				SCS	ScS	18 06 53.8	-0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,91nm,3.9s						
HHC				LR	LR		
	comp=N,343nm,14.1s,MS4.5						
HHC				LR	LR		
	comp=E,334nm,10.2s,MS4.5						
HHC				LR	LR		
	comp=Z,301nm,12.7s,MS4.3						
JOW	Kunigami	39.17	55	P	P	17 56 57.6	+1.2
	comp=Z,11nm,0.5s,mb4.9,baz=263,slow=9.0,SNR=7.8						
BJT	Baijiatuau	39.29	29	eP	P	17 56 57.8	+0.4
BJT				pmax	pmax		
	comp=Z,27nm,1.4s						
BJT	Baijiatuau	39.29	29	eP	P	17 56 57.8	+0.4
	comp=Z,27nm,1.4s,mb4.8						
KBK	Karagaybulak	39.31	339	P	P	17 56 59.0	+1.4
	SNR=27						
TKM2	Tokmak 2	39.31	340	P	P	17 56 58.3	+0.7
	SNR=6.8						
AML	Almayashu	39.32	337	P	P	17 56 59.2	+1.6
	SNR=14						
FRU	Bishkek	39.58	339	P	P	17 57 01.0	+1.2
FRU				e		17 58 58.0	
CHMS	Chumysh	39.68	339	P	P	17 57 01.4	+0.8
	SNR=5.3						
EKS2	Erkin-Say	39.74	338	P	P	17 57 02.4	+1.2
	SNR=15						
USP	Ospenovka	40.00	339	P	P	17 57 03.9	+0.5
	SNR=9.5						
FITZ	Fitzroy Crossi	40.52	128	eP	P	17 57 06.8	-0.8
	comp=Z,4.8nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	40.52	128	P	P	17 57 07.0	-0.6
	comp=Z,1.0nm,0.4s,mb3.8,baz=342,slow=15,SNR=12						
FITZ				PcP	PcP	17 59 11.0	+1.7
	comp=Z,1.0nm,0.5s,baz=340,slow=7.2,SNR=7.2						
MKAR	Makanchi Array	41.12	349	P	P	17 57 11.9	-0.6
	comp=Z,1.9nm,0.5s,mb4.0,baz=169,slow=9.5,SNR=11						
SONM	Songino Array	42.69	13	P	P	17 57 25.1	-0.3
	comp=Z,1.4nm,0.4s,mb4.0,baz=198,slow=8.0,SNR=20						
SONM				PcP	PcP	17 59 17.3	+0.8
	comp=Z,1.7nm,0.5s,baz=202,slow=4.0,SNR=11						
ZAK	Zakamensk	44.52	9	eP	P	17 57 39.9	-0.2
ZAK				e		17 59 23.5	
NWAO	Narrogin (SRO)	45.56	151	P	P	17 57 48.3	0.0
	comp=Z,1.5nm,0.5s,mb4.2,baz=7.1,slow=8.1,SNR=3.4						
CN2	Changchun	46.76	32	eP	P	17 57 58.8	+1.0
ZAL	Zalesovo	47.69	353	P	P	17 58 03.9	-1.1
	comp=Z,13nm,0.4s,mb5.3,baz=305,slow=6.2,SNR=33						
ZAL	Zalesovo	47.69	353	P	P	17 58 03.9	-1.1
HIA	Hailar	48.18	23	eP	P	17 58 08.3	-0.5
HIA				pmax	pmax		
	comp=Z,23nm,1.5s						
HIA	Hailar	48.18	23	eP	P	17 58 08.3	-0.5
	comp=Z,23nm,1.5s,mb5.0						
WRA	Warramunga Arr	48.49	124	P	P	17 58 11.5	+0.3
	comp=Z,2.2nm,0.4s,mb4.6,baz=305,slow=8.5,SNR=49						
WRA				PcP	PcP	17 59 38.1	+1.4
	comp=Z,1.1nm,0.5s,baz=308,slow=2.7,SNR=6.2						
WRA				LR	LR	18 19 10.6	
	comp=Z,140nm,19.0s,MS4.0,baz=310,slow=37						
WRA	Warramunga Arr	48.49	124	P	P	17 58 11.5	+0.3
WRA						17 59 38.1	
WRAB	Tennant Creek	48.50	124	eP	P	17 58 11.1	-0.2
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
WRAB	Tennant Creek	48.50	124	eP	P	17 58 11.1	-0.2
	comp=Z,10nm,0.6s,mb5.0						
WB2	Warramunga Arr	48.50	124	eP	P	17 58 11.4	+0.1
NVS	Novosibirsk	48.77	353	i P	P	17 58 11.2	-2.1
MDJ	Mudanjiang	49.55	34	P	P	17 58 19.9	+0.6
MDJ				AP	pP	17 58 29.0	-3.2
MDJ				XP	sP	17 58 32.8	-4.8
MDJ				PP	PP	18 00 14.5	+0.7
MDJ				PCS	PcS	18 03 37.1	-0.1
MDJ				S	S	18 05 28.0	+4.2
MDJ				XS	sS	18 05 43.6	-1.7
MDJ				SCS	ScS	18 08 08.8	+1.9
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.5						
MDJ				LR	LR		
	comp=N,250nm,12.7s						
MDJ				LR	LR		
	comp=E,203nm,18.7s						
MDJ				LR	LR		
	comp=Z,266nm,13.5s,MS4.4						
BVAR	Borovoye Array	49.85	342	P	P	17 58 20.9	-0.7
	comp=Z,3.1nm,0.7s,mb4.5,baz=140,slow=9.1,SNR=17						
BVAR				PcP	PcP	17 59 41.5	-0.1
	comp=Z,1.1nm,0.7s,baz=140,slow=7.0,SNR=2.7						
BRVK	Borovoye	49.91	342	eP	P	17 58 18.5	-3.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BRVK	Borovoye	49.91	342	eP	P	17 58 18.5	-3.6
	comp=Z,3.1nm,0.9s,mb4.3						
AS31	Alice Springs	50.01	128	eP	P	17 58 22.1	-0.8
ASAR	Alice Springs	50.01	128	P	P	17 58 23.2	+0.4
	comp=Z,2.0nm,0.6s,mb4.3,baz=299,slow=7.6,SNR=26						
ASAR				PcP	PcP	17 59 44.1	+1.9
	comp=Z,1.6nm,0.5s,baz=306,slow=4.0,SNR=6.4						
ASAR				LR	LR	18 18 49.6	
	comp=Z,136nm,21.9s,MS3.9,baz=164,slow=35						
ASAR	Alice Springs	50.01	128	P	P	17 58 23.2	+0.4
ASAR						17 59 44.1	
ZRNK	Zerenda	50.22	341	eP	P	17 58 23.4	-1.0
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZRNK	Zerenda	50.22	341	eP	P	17 58 23.4	-1.0
	comp=Z,4.1nm,0.8s,mb4.5						
CHKZ	Chkalovo	50.35	343	eP	P	17 58 24.8	-0.6
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
CHKZ	Chkalovo	50.35	343	eP	P	17 58 24.8	-0.6
	comp=Z,9.8nm,0.7s,mb5.0						
MJAR	Matsushiro Arr	50.91	47	LR	LR	18 23 00.5	
	comp=Z,156nm,19.2s,MS4.0,baz=315,slow=40						
AKTK	Aktyubinsk	52.54	333	P	P	17 58 41.5	-0.3
AKTO	Aktyubinsk	52.54	333	P	P	17 58 41.5	-0.3
	comp=Z,1.7nm,0.5s,mb4.2,baz=101,slow=3.6,SNR=6.1						
BOD	Bodaibo	53.69	14	eP	P	17 58 49.7	-0.5
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
GNI	Garni	54.52	315	P	P	17 58 55.5	-0.7
	comp=Z,13nm,1.0s,mb4.9,baz=163,slow=18,SNR=3.1						
KMBO	Kilima Mbogo	56.11	264	P	P	17 59 06.5	-1.2
	comp=Z,0.5nm,0.4s,mb3.9,baz=54,slow=24,SNR=2.1						
KMBO				LR	LR	18 18 55.1	
	comp=Z,190nm,19.5s,MS4.2,baz=92,slow=32						
SVE	Sverdlovsk	56.19	339	eP	P	17 59 06.8	-1.4
SVE				pmax	pmax		
	comp=Z,40nm,1.9s,mb5.1						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.5						
ARU	Arti	56.64	338	eP	P	17 59 10.2	-1.3
ARU				e	pP	17 59 19.2	-5.4
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ARU	Arti	56.64	338	eP	P	17 59 10.2	-1.2
	comp=Z,11nm,1.1s,mb4.8						
ARU				e	pP	17 59 19.2	-5.3
KIV	Kislovodsk	57.50	319	P	P	17 59 17.1	-0.5
KIV				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
KIV	Kislovodsk	57.50	319	P	P	17 59 17.1	-0.4
	comp=Z,7.8nm,0.9s,mb4.7						
STKA	Stephens Creek	60.08	133	P	P	17 59 36.3	+0.8
	comp=Z,1.3nm,0.5s,mb4.2,baz=350,slow=8.7,SNR=8.5						
STKA	Stephens Creek	60.08	133	P	P	17 59 33.4	-2.1
YAK	Yakutsk	61.60	19	eP	P	17 59 44.4	-1.4
YAK				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.9						
YAK	Yakutsk	61.60	19	eP	P	17 59 44.6	-1.3
	comp=Z,17nm,0.8s,mb5.2						
BR131	Keskin Array S	62.39	312	eP	P	17 59 50.3	-0.9
	comp=Z,3.3nm,0.7s,mb4.6						
BRTR	Keskin Array B	62.39	312	P	P	17 59 50.7	-0.4
	comp=Z,2.5nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=11						
OBN	Obninsk	65.86	328	P	P	18 00 14.0	+0.2
OBN				e	pP	18 00 22.3	-4.9
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
LSZ	Lusaka	67.72	251	P	P	18 00 27.5	+1.8
LSZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
LSZ	Lusaka	67.72	251	P	P	18 00 27.5	+1.8
	comp=Z,3.4nm,1.2s,mb4.2						
AKASG	Malin Array Be	68.45	322	P	P	18 00 28.7	-1.6
	comp=Z,1.7nm,0.7s,mb4.2,baz=92,slow=5.1,SNR=12						
AKASG	Malin Array Be	68.45	322	P	P	18 00 28.7	-1.6
MA2	Magadan	68.46	28	P	P	18 00 27.1	-3.3
MA2				e	pP	18 00 36.5	-7.3
MA2				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.3						
MA2	Magadan	68.46	28	P	P	18 00 27.1	-3.3
	comp=Z,42nm,1.4s,mb5.3						
MA2				e	pP	18 00 36.5	-7.3
MATP	Matopo	68.75	245	P	P	18 00 33.9	+1.8
	comp=Z,1.3nm,0.9s,mb3.9,baz=60,slow=16,SNR=2.7						
JOF	Joensuu	71.52	335	ep	P	18 00 47.8	-1.3
	comp=Z,4.1nm,0.5s,mb4.6						
LBTB	Lobatse	72.58	241	P	P	18 00 56.7	+1.2
	comp=Z,2.3nm,0.7s,mb4.2,baz=102,slow=8.9,SNR=4.9						
FINES	FINESS Array B	73.31	333	P	P	18 00 59.1	-0.7
	comp=Z,4.2nm,0.7s,mb4.5,baz=88,slow=6.1,SNR=10						
KAF	Kangasniemi	73.41	333	ep	P	18 00 59.3	-1.1
	comp=Z,1.5nm,0.4s,mb4.3,baz=106,slow=5.6						
KAF	Kangasniemi	73.41	333	eP	P	18 00 59.3	-1.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BOSA	Boshof	73.89	238	P	P	18 01 04.8	+1.6
	comp=Z,3.4nm,1.0s,mb4.2,baz=148,slow=8.0,SNR=4.0						
BOSA				LR	LR	18 30 32.2	
	comp=Z,94nm,18.6s,MS4.1,baz=78,slow=33						
BOSA	Boshof	73.89	238	P	P	18 01 04.8	+1.6
BOSA				LR	LR	18 30 32.2	
ARCES	ARCESS Array B	76.09	340	P	P	18 01 15.6	-0.2
	comp=Z,5.8nm,0.8s,mb4.5,baz=98,slow=5.0,SNR=14						
GERES	GERESS Array B	78.01	318	P	P	18 01 27.2	+0.6
	comp=Z,1.9nm,0.7s,mb4.1,baz=93,slow=5.3,SNR=17						
TSUM	Tsumeb	78.46	249	P	P	18 01 30.3	+1.1
	comp=Z,1.9nm,0.8s,mb4.1,baz=90,slow=8.1,SNR=3.0						
NB2	NORSAR Subarra	80.28	331	P	P	18 01 38.0	-1.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=96,slow=5.6						
NOA	NORSAR Array B	80.28	331	P	P	18 01 38.2	-0.8
	comp=Z,1.5nm,0.8s,mb4.0,baz=94,slow=5.6,SNR=6.6						
TORD	Torodi Ar. Bea	89.74	283	P	P	18 02 28.0	+1.5
	comp=Z,0.5nm,0.7s,mb3.9,baz=73,slow=2.6,SNR=3.7						
TORD				LR	LR	18 42 59.2	
	comp=Z,89nm,18.6s,MS4.2,baz=195,slow=36						
ESDC	Sonseca Array	91.15	310	P	P	18 02 33.0	0.0
	comp=Z,0.7nm,0.5s,mb4.3,baz=56,slow=4.1,SNR=5.0						
DBIC	Dimbokro	96.94	278	LR	LR	18 44 01.4	
	comp=Z,79nm,18.2s,MS4.2,baz=69,slow=34						
NVAR	Mina Array Bea	126.64	31	PKP	PKPdf	18 08 31.2	-0.1
	comp=Z,0.5nm,0.3s,baz=354,slow=0.9,SNR=3.7						
PDAR	Pinedale Array	126.80	21	PKP	PKPdf	18 08 33.0	+1.5
	comp=Z,1.5nm,0.8s,baz=31,slow=1.3,SNR=12						
CPUP	Villa Florida	145.53	232	PKPbc	PKPbc	18 09 07.5	+1.2
	comp=Z,0.9nm,0.4s,baz=138,slow=4.3,SNR=7.6						

IDC 14 18:30:55.2±1.2**, 5680S**×**13998W, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/14**, mbtmp3.7**/4**, MS4.1**/9**, Ms1 4.1**/9**, ms1mx3.8**/21**, Error ellipse: s-maj=50.9km s-min=26.9km az=4.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	33.18	272	LR	LR	18 47 45.1	
	comp=Z,249nm,19.1s,baz=5.6,slow=30						
PLCA	Paso Flores	46.39	101	LR	LR	18 53 29.9	
	comp=Z,348nm,18.7s,baz=183,slow=29						
SNAA	Sanae	48.35	163	P	P	18 39 37.9	-0.7
	0.2nm,0.6s,baz=214,slow=11,SNR=11						
DZM	Mont Dzumac	52.05	289	LR	LR	18 56 17.0	
	comp=Z,207nm,18.9s,baz=202,slow=29						
STKA	Stephens Creek	57.81	260	LR	LR	19 01 03.2	
	comp=Z,118nm,19.1s,baz=206,slow=31						
CPUP	Villa Florida	64.43	99	LR	LR	19 04 04.3	
	comp=Z,116nm,21.7s,baz=167,slow=31						
LPAZ	La Paz	66.58	84	P	P	18 41 47.9	+0.7
	0.6nm,0.7s,baz=236,slow=3.6,SNR=2.4						
LPAZ				LR	LR	19 03 41.2	
	comp=Z,90nm,20.5s,baz=43,slow=30						
ASAR	Alice Springs	68.44	260	P	P	18 41 58.9	-0.1
	1.3nm,0.8s,baz=138,slow=6.6,SNR=17						
WRA	Warramunga Arr	71.21	262	P	P	18 42 16.1	0.0
	0.9nm,0.9s,baz=149,slow=5.6,SNR=6.4						
WRA				LR	LR	19 10 45.2	
	comp=Z,87nm,21.3s,baz=130,slow=34						
BDFB	Brasilia	78.14	100	LR	LR	19 13 03.3	
	comp=Z,182nm,18.9s,baz=184,slow=32						
BOSA	Boshof	94.01	167	LR	LR	19 27 04.6	
	comp=Z,70nm,19.2s,baz=223,slow=36						

MOS **14** *18:50:31.2±1.3, 35.10N×45.85E, h33km, mb4.3/3, Error ellipse: s-maj=13.6km s-min=7.8km az=96.2*
IDC **14** *18:50:32.0±2.0, 35.27N×45.77E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.6/24, mbtmp3.7/9, ML3.4/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=37.3km s-min=24.1km az=162.0*
CSEM **14** *18:50:35.1±0.1, 35.53N×45.76E, h20km, ML3.9, Error ellipse: s-maj=2.6km s-min=1.8km az=61.0*
ISCJB **14** *18:50:35.4±0.8, 35.50N±0.03×45.86E±0.04, h14km±6km, mb3.7/7, MS3.1/1, Error ellipse: s-maj=5.4km s-min=4.0km az=110.4*
THR **14** *18:50:36.6±0.8, 35.63N×45.93E, h14km, ML3.5*
TEH **14** *18:50:36.9, 35.58N×45.81E, h10km, Mn3.9*
NEIC **14** *18:50:37.0, 35.64N×46.08E, h17km, mb4.0/2, ML3.9(THR), After THR.*
ISC 14 18:50:36.1±0.9**, 35.55N**±0.03×**45.87E**±0.04**, h5**km±7km**, n101, σ1.24**/108**, mb3.7**/7**, MS3.1**/1**, 3C-2D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.95**	**154**	eSg	**Sg**	**18 51 07.9**	**+1.2**
ILIN	**Laeen**	**1.09**	**125**	ePg	**Pg**	**18 50 55.3**	**-1.8**
SNGE	**Sanandaj**	**1.29**	**110**	ePg	**Pg**	**18 50 58.0**	**-2.9**
IVIS	**Veys**	**1.30**	**142**	ePg	**Pg**	**18 50 59.4**	**-1.7**
IVIS				eSg	**Sg**	**18 51 19.7**	**+1.7**
IGHG	**Ghaleghazi**	**1.35**	**155**	ePg	**Pg**	**18 51 01.5**	**-0.5**
IAZR	**Azarshahr**	**2.12**	**2**	ePn	**Pn**	**18 51 12.0**	**-0.2**
BHD	**Baghdad**	**2.59**	**209**	ex	x	18 51 12.0	
BHD				ex	x	18 51 15.0	
BHD				i x	x	18 51 20.5	
BHD				ex	x	18 51 44.0	
BHD				i x	x	18 51 49.0	
BHD				i x	x	18 51 54.0	
BHD	**Baghdad**	**2.59**	**209**	eP	**Pn**	**18 51 15.0**	**-3.7**
BHD	**Baghdad**	**2.59**	**209**	i Pg	**Pg**	**18 51 20.5**	**-5.3**
BHD				eSn	**Sn**	**18 51 44.0**	**-6.5**
BHD				i S	**Sn**	**18 51 49.0**	**-1.5**
BHD				i Sg	**Sg**	**18 51 54.0**	**-5.4**
HKR	**Hakkari**	**2.65**	**320**	PN	**Pn**	**18 51 18.8**	**-0.7**
HKR				SN	**Sn**	**18 51 53.5**	**+1.5**
ITBZ	**Tabriz**	**2.68**	**5**	ePn	**Pn**	**18 51 19.6**	**-0.3**
ISRB	**Sarab**	**2.69**	**32**	ePn	**Pn**	**18 51 19.9**	**-0.1**
IHRS	**Heris**	**2.91**	**18**	ePn	**Pn**	**18 51 23.2**	**+0.1**
IMRD	**Marand**	**3.16**	**358**	ePn	**Pn**	**18 51 26.1**	**-0.3**
ASAO	**Ashtian**	**3.55**	**105**	ePN	**Pn**	**18 51 33.6**	**+1.7**
ASAO				AML	AML	18 52 48.7	
	comp=N,188nm,0.6s						
TVAN	**Van**	**3.56**	**327**	i P	**Pn**	**18 51 37.0**	**+5.0**
IGZV	**Gazvin**	**3.62**	**75**	ePn	**Pn**	**18 51 33.8**	**+1.0**
VANB	**Van**	**3.63**	**328**	eP	**Pn**	**18 51 34.2**	**+1.3**
GRMI	**Germi**	**3.63**	**26**	ePn	**Pn**	**18 51 32.9**	**0.0**
GRMI				AML	AML	18 52 42.8	
	comp=E,55nm,0.8s						
GRMI	**Germi**	**3.63**	**26**	ePn	**Pn**	**18 51 32.0**	**-0.9**
GRMI				eSg	**Sg**	**18 52 25.0**	**-7.7**
GRMI	**Germi**	**3.63**	**26**	ePn	**Pn**	**18 51 32.9**	**0.0**
	SNR=52						
GRMI				eSg	**Sg**	**18 52 25.0**	**-7.7**
CLDR	**Caldiran**	**3.91**	**337**	eP	**Pn**	**18 51 38.1**	**+1.3**
IMHD	**Mahdasht**	**3.91**	**87**	ePn	**Pn**	**18 51 37.1**	**+0.3**
MAKU	**Maku**	**3.91**	**346**	ePN	**Pn**	**18 51 37.8**	**+1.0**
MAKU	**Maku**	**3.91**	**346**	ePn	**Pn**	**18 51 37.0**	**+0.2**
SHGR	**Shooshtar-Gavs**	**4.21**	**144**	ePN	**Pn**	**18 51 42.8**	**+1.8**
SHGR	**Shooshtar-Gavs**	**4.21**	**144**	ePn	**Pn**	**18 51 42.0**	**+1.0**
CHTH	**Charan**	**4.29**	**84**	ePn	**Pn**	**18 51 43.2**	**+1.2**
CHTH	**Charan**	**4.29**	**84**	ePn	**Pn**	**18 51 41.0**	**-1.0**
BTMT	**Batman**	**4.39**	**308**	P	**Pn**	**18 51 42.1**	**-1.3**
MARD	**Mardin**	**4.47**	**295**	i P	**Pn**	**18 51 44.6**	**+0.2**
GNI	**Garni**	**4.67**	**349**	Pn	**Pn**	**18 51 51.9**	**+4.6**
	comp=E,0.7nm,0.3s,baz=202,slow=22,SNR=2.1						
GNI				Lg		18 53 00.7	
	comp=E,0.8nm,0.3s,baz=284,slow=22,SNR=2.6						
GNI	**Garni**	**4.67**	**349**	eP	**Pn**	**18 51 51.4**	**+4.1**
GNI				Pn	**Pn**	**18 51 51.9**	**+4.6**
GNI				Lg		18 53 00.8	
GNI	**Garni**	**4.67**	**349**	eP	**Pn**	**18 51 49.5**	**+2.2**
GNI	**Garni**	**4.67**	**349**	Pn	**Pn**	**18 51 51.9**	**+4.6**
IVRN	**Varamin**	**4.82**	**95**	ePn	**Pn**	**18 51 49.8**	**+0.5**
DAMV	**Damavand**	**4.97**	**87**	ePN	**Pn**	**18 51 52.4**	**+1.1**
DAMV	**Damavand**	**4.97**	**87**	ePn	**Pn**	**18 51 51.0**	**-0.4**
IDMV	**Damavand**	**5.02**	**88**	ePn	**Pn**	**18 51 52.4**	**+0.3**
IPIR	**Pirpir**	**5.05**	**123**	ePn	**Pn**	**18 51 52.7**	**+0.2**
BNGL	**BINGOL**	**5.07**	**313**	i P	**Pb**	**18 52 08.1**	**+2.8**
DIY	**Diyarbakir**	**5.10**	**299**	eP	**Pn**	**18 51 58.9**	**+5.7**
IKLH	**Kalahroud**	**5.22**	**114**	ePn	**Pn**	**18 51 56.6**	**+1.9**
ISFB	**Sefidab**	**5.36**	**101**	ePn	**Pn**	**18 51 56.7**	**-0.1**
BINT	**Bingol**	**5.43**	**309**	eP	**Pn**	**18 52 01.1**	**+3.5**
IFIR	**Firoozkooh**	**5.61**	**87**	ePn	**Pn**	**18 52 00.0**	**-0.1**
ERZM	**Erzurum**	**5.62**	**322**	i P	**Pn**	**18 52 04.7**	**+4.4**
EZM	**Erzurum**	**5.62**	**322**	eP	**Pn**	**18 52 02.6**	**+2.2**
ILAS	**Lasjerd**	**5.79**	**90**	ePn	**Pn**	**18 52 03.1**	**+0.5**
MIB	**Mutribah**	**5.87**	**167**	eP	**Pn**	**18 52 03.8**	**+0.1**
MIB				AML	AML	18 53 09.4	
	comp=Z,28nm,0.3s						
DGRG	**David-gareji**	**5.90**	**356**	P	**Pg**	**18 52 24.2**	**-5.0**
IZEF	**Zefreh**	**5.97**	**115**	ePn	**Pn**	**18 52 05.6**	**+0.5**
URFA	**Urfa**	**5.98**	**290**	eP	**Pn**	**18 52 13.1**	**+7.8**
ISHM	**Shahmirzad**	**6.04**	**85**	ePn	**Pn**	**18 52 06.1**	**0.0**
RST	**Umm Al-Ruwaisa**	**6.11**	**171**	eP	**Pn**	**18 52 07.2**	**+0.1**
RST				AML	AML	18 53 19.2	
	comp=Z,91nm,0.4s						
PTK	**Pertek**	**6.15**	**305**	eP	**Pn**	**18 52 12.4**	**+4.8**
UMR	**Umm Al-Rimmam**	**6.18**	**165**	eP	**Pn**	**18 52 08.1**	**0.0**
UMR				AML	AML	18 53 19.3	
	comp=Z,70nm,0.5s						
MTA	**Mtatsminda**	**6.19**	**352**	P	**Pg**	**18 52 29.9**	**-4.8**
TBLG	**Delisi**	**6.23**	**352**	P	**Pb**	**18 52 25.6**	**+0.5**
ELZG	**Elazig**	**6.24**	**300**	i P	**Pn**	**18 52 10.6**	**+1.8**
NASN	**Na'in**	**6.37**	**114**	ePN	**Pn**	**18 52 11.4**	**+0.8**
NASN	**Na'in**	**6.37**	**114**	ePn	**Pn**	**18 52 11.0**	**+0.4**
NAY	**Al-Naaiem**	**6.39**	**169**	eP	**Pn**	**18 52 11.1**	**+0.1**
NAY				AML	AML	18 53 24.2	
	comp=Z,28nm,0.6s						
MALT	**Malatya**	**6.57**	**297**	eP	**Pn**	**18 52 10.1**	**-3.2**
MALT				pmax	pmax		
	comp=Z,53nm,1.0s						
MALT	**Malatya**	**6.57**	**297**	eP	**Pn**	**18 52 10.1**	**-3.2**
	comp=Z,53nm,1.0s						
MALT	**Malatya**	**6.57**	**297**	eP	**Pn**	**18 52 10.1**	**-3.2**
	comp=Z,53nm,1.0s						
RDF	**Al-Radifah**	**6.76**	**167**	eP	**Pn**	**18 52 16.8**	**+0.8**
RDF				AML	AML	18 53 32.0	
	comp=Z,54nm,0.4s						
GZT	**Gaziantep**	**6.93**	**287**	i P	**Pn**	**18 52 18.3**	**0.0**
QRN	**Al-Qurain**	**7.01**	**165**	eP	**Pn**	**18 52 19.9**	**+0.5**
QRN				AML	AML	18 53 39.0	
	comp=Z,52nm,0.3s						
GAZ	**Gaziantep**	**7.17**	**286**	eP	**Pn**	**18 52 29.3**	**+7.7**
ZEI	**Tsey**	**7.37**	**349**	eP	**Pn**	**18 52 30.9**	**+6.6**
KMRS	**Kahramanmaras**	**7.48**	**288**	eP	**Pn**	**18 52 33.1**	**+7.2**
ASF	**Jabal al Asfar**	**8.19**	**248**	Pn	**Pn**	**18 52 34.6**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=294,slow=6.7,SNR=13						
ASF				Lg		18 54 55.3	
	comp=Z,0.7nm,0.3s,baz=166,slow=14,SNR=3.2						
CEYT	**Ceyhan**	**8.30**	**283**	eP	**Pn**	**18 52 45.3**	**+8.1**
KOZT	**Kozan**	**8.31**	**286**	eP	**Pn**	**18 52 44.5**	**+7.2**
KIV	**Kislovodsk**	**8.74**	**345**	eP	**Pn**	**18 52 47.5**	**+4.4**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,72nm,8.0s						
BRTR	**Keskin Array B**	**10.55**	**297**	Pn	**Pn**	**18 53 06.8**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=143,slow=15,SNR=2.6						
ASHO	**Ashiyiah**	**13.96**	**138**	⇓P	**Pn**	**18 53 50.3**	**-4.2**
	SNR=18						
BSY	**Bisya**	**16.13**	**139**	⇑P	**Pn**	**18 54 18.7**	**-4.8**
	SNR=8.2						
JMDO	**Jabal Madar**	**16.92**	**138**	⇓P	**Pn**	**18 54 28.7**	**-4.9**
	SNR=13						
AKTK	**Aktyubinsk**	**17.29**	**27**	P	**Pn**	**18 54 38.0**	**-0.2**
AKTO	**Aktyubinsk**	**17.29**	**27**	P	**Pn**	**18 54 38.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=206,slow=11,SNR=8.6						
WHFO	**Wadi Hawf**	**18.91**	**156**	⇑P	**Pn**	**18 54 53.8**	**-4.3**
	SNR=11						
AKASG	**Malin Array Be**	**19.34**	**327**	P	**Pn**	**18 54 59.9**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=132,slow=12,SNR=7.3						
RBK	**Rabkut**	**19.45**	**155**	P	**Pn**	**18 55 01.6**	**-3.0**
	SNR=10						
SHAO	**Shalim**	**19.49**	**151**	P	**Pn**	**18 55 00.7**	**-4.4**
	SNR=7.9						
OBN	**Obninsk**	**20.59**	**345**	⇑eP	**P**	**18 55 17.5**	**+1.6**
OBN				pmax	pmax		
	comp=Z,16nm,1.0s						
OBN	**Obninsk**	**20.59**	**345**	eP	**P**	**18 55 17.5**	**+1.6**
	comp=Z,16nm,1.0s						
ARU	**Arti**	**22.59**	**19**	P	**P**	**18 55 36.3**	**-1.1**
ARU	**Arti**	**22.59**	**19**	P	**P**	**18 55 36.3**	**-1.1**
ZRNK	**Zerenda**	**23.85**	**36**	eP	**P**	**18 55 48.4**	**-1.9**
BRVK	**Borovoye**	**24.53**	**37**	P	**P**	**18 55 55.3**	**-1.2**
BVAR	**Borovoye Array**	**24.57**	**37**	P	**P**	**18 55 55.3**	**-1.5**
	comp=Z,1.0nm,0.8s,mb3.4,baz=234,slow=7.3,SNR=6.1						
BVAR				LR	LR	19 07 11.5	
	comp=Z,56nm,18.1s,MS3.1,baz=142,slow=40						
MORC	**Moravsky Berou**	**25.03**	**313**	P	**P**	**18 55 59.4**	**-1.7**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
MORC	**Moravsky Berou**	**25.03**	**313**	P	**P**	**18 55 59.4**	**-1.7**
	comp=Z,4.0nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**25.06**	**36**	eP	**P**	**18 55 58.3**	**-3.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**25.06**	**36**	eP	**P**	**18 55 58.3**	**-3.0**
	comp=Z,3.0nm,0.9s,mb3.8						
VRAC	**Vranov**	**25.42**	**312**	P	**P**	**18 56 01.4**	**-3.2**
	comp=Z,1.4nm,0.4s,mb3.9,baz=144,slow=19,SNR=1.6						
FINES	**FINESS Array B**	**28.80**	**340**	P	**P**	**18 56 33.5**	**-1.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=153,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**29.37**	**56**	P	**P**	**18 56 39.3**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=270,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**45.53**	**252**	P	**P**	**18 58 52.6**	**-4.0**
	comp=Z,0.7nm,0.9s,mb3.6,baz=59,slow=7.3,SNR=3.1						

ISCJB **14** *18:53:40.6±4.0, 17.2S±0.9×178.6W±0.5, h519km±53km, mb4.0/5, Error ellipse: s-maj=151.0km s-min=24.7km az=126.4*
IDC **14** *18:53:42.7±3.3, 17.48S×178.39W, h538km±40km, mb3.4/4, mb1 3.7/4, mb1mx3.3/13, mbtmp4.4/4, Error ellipse: s-maj=92.2km s-min=17.1km az=152.0*
NEIC **14** *18:53:47.6±1.5, 17.55S×178.52W, h600km, mb4.0/2, Error ellipse: s-maj=100.0km s-min=17.1km az=150.0*
ISC 14 18:53:41.7±3.8**, 17.4S**±0.9×**178.4W**±0.5**, h520**km±53km**, n10, σ0.33**/10**, mb4.0**/5**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.86**	**241**	eP	**P**	**19 00 21.7**	**-0.2**
	2.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.86**	**241**	P	**P**	**19 00 21.6**	**-0.3**
	4.0nm,0.6s,mb4.2,baz=84,slow=10,SNR=15						
WB2	**Warramunga Arr**	**44.69**	**259**	eP	**P**	**19 01 07.9**	**-0.1**
WRAB	**Tennant Creek**	**44.70**	**259**	eP	**P**	**19 01 07.2**	**-0.8**
	2.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**44.70**	**259**	P	**P**	**19 01 08.2**	**+0.2**
	1.0nm,0.3s,mb3.9,baz=94,slow=7.2,SNR=86						
WRA				PcP	PcP	19 02 39.1	-0.2
	0.3nm,0.3s,baz=91,slow=3.8,SNR=5.9						
AS31	**Alice Springs**	**44.91**	**254**	⇓iP	**P**	**19 01 09.9**	**+0.3**
ASAR	**Alice Springs**	**44.91**	**254**	P	**P**	**19 01 10.0**	**+0.4**
	18nm,0.6s,mb4.8,baz=88,slow=8.4,SNR=365						
ASAR				PcP	PcP	19 02 39.5	-0.5
	1.3nm,0.6s,baz=103,slow=3.7,SNR=9.9						
ASAR				S	**S**	**19 07 09.3**	**0.0**
	0.4nm,0.9s,baz=90,slow=15,SNR=4.4						
ASPA	**Alice Springs**	**44.91**	**254**	⇓iP	**P**	**19 01 09.9**	**+0.2**
NVAR	**Mina Array Bea**	**79.06**	**44**	P	**P**	**19 04 51.7**	**0.0**
	0.3nm,0.3s,mb3.1,baz=222,slow=12,SNR=2.7						
GERES	**GERESS Array B**	**147.10**	**345**	PKPbc	PKPbc	19 12 25.2	-0.9
	0.2nm,0.6s,baz=0.0,slow=4.2,SNR=3.9						

CASC 14 19:15:33.8±4.6**, 12.43N**×**87.96W, h20**km±24km**, MD3.6, ML3.6, 4C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.85**	**8**	⇑eP	x	19 16 02.7	
CNCH				eS	x	19 16 13.7	
LEON	**Leon**	**1.04**	**90**	⇑eP	Pb	19 15 52.9	-0.2
VSM	**San Miguel**	**1.04**	**343**	⇑eP	x	19 16 06.1	
VSM				eS	x	19 16 20.4	
BLLM	**Bellamira**	**1.05**	**345**	⇓eP	x	19 16 05.3	
BLLM				eS	x	19 16 19.4	
TEL3	**Telica 3**	**1.09**	**82**	eP	Pn	19 15 54.5	+0.6
MIRN	**Miramar**	**1.22**	**89**	⇓eP	Pn	19 15 55.8	+0.2
MIRN				eS	Sb	19 16 10.8	-0.5
MIRN				i		19 16 12.3	
	comp=Z,1μm,0.2s						
CNGN	**Cerro Negro**	**1.23**	**86**	eP	Pn	19 15 55.5	-0.3
CNGN				eS	Sb	19 16 11.5	-0.2
COPN	**Copaltepe**	**1.35**	**100**	⇑eP	Pn	19 15 57.5	-0.1
COPN				eS	Sn	19 16 14.2	-0.7
MOMJ	**Momotombo**	**1.38**	**91**	eP	Pn	19 15 57.7	-0.3
SNVI	**San Vicente**	**1.46**	**324**	⇓eP	x	19 16 11.3	
SNVI				eS	x	19 16 29.3	
LCBS	**La Ceiba**	**1.58**	**321**	eP	x	19 16 13.0	
LCBS				eS	x	19 16 31.7	
LFRS	**El Faro**	**1.61**	**318**	⇓eP	x	19 16 13.3	
LFRS				eS	x	19 16 33.1	
TICN	**Ticuantepe**	**1.73**	**103**	⇓eP	Pn	19 16 03.2	+0.5
BOQS	**Boqueron**	**1.83**	**315**	eP	x	19 16 17.2	
BOQS				eS	x	19 16 38.5	
SBLS	**San Blas**	**2.15**	**311**	⇓eP	x	19 16 21.3	
SBLS				eS	x	19 16 46.3	
SNJE	**San Jose**	**2.15**	**312**	eP	x	19 16 21.7	
SNJE				eS	x	19 16 46.6	

IDC 14 19:27:30.7±1.4**, 57.90S**×**139.95W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.7**/4**, MS3.8**/3**, Ms1 3.8**/3**, ms1mx3.4**/18**, Error ellipse: s-maj=60.6km s-min=30.3km az=4.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**33.25**	**274**	LR	LR	19 43 31.9	
	comp=Z,182nm,20.0s,baz=272,slow=29						
SNAA	**Sanae**	**47.30**	**163**	P	P	19 36 05.1	-0.8
	0.2nm,0.8s,baz=289,slow=13,SNR=3.3						
LPAZ	**La Paz**	**66.69**	**83**	P	P	19 38 24.1	+0.7
	1.8nm,1.1s,baz=217,slow=5.1,SNR=3.9						
ASAR	**Alice Springs**	**68.26**	**260**	P	P	19 38 33.7	+0.4
	1.9nm,1.0s,baz=135,slow=6.8,SNR=9.0						
ASAR				LR	LR	20 06 36.5	
	comp=Z,62nm,20.2s,baz=353,slow=34						
WRA	**Warramunga Arr**	**71.08**	**263**	P	P	19 38 50.2	-0.6
	1.7nm,1.1s,baz=150,slow=5.1,SNR=5.7						
ROSC	**El Rosal**	**81.45**	**67**	LR	LR	20 05 48.7	
	comp=Z,66nm,19.7s,baz=231,slow=28						

IDC 14 19:35:04.8±1.3**, 57.16S**×**139.95W, h0**km**, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.8**/4**, Error ellipse: s-maj=52.3km s-min=27.5km az=3.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNAA	**Sanae**	**48.01**	**163**	P	P	19 43 44.8	-0.7
	0.5nm,1.1s,baz=221,slow=9.3,SNR=3.7						
LPAZ	**La Paz**	**66.61**	**84**	P	P	19 45 57.7	+0.7
	2.1nm,1.1s,baz=224,slow=2.2,SNR=3.7						
ASAR	**Alice Springs**	**68.39**	**260**	P	P	19 46 08.5	+0.2
	1.1nm,0.9s,baz=140,slow=6.3,SNR=7.4						
WRA	**Warramunga Arr**	**71.18**	**262**	P	P	19 46 25.1	-0.3
	1.0nm,1.0s,baz=149,slow=5.9,SNR=3.5						

IDC 14 19:45:10.5±1.4**, 56.85S**×**140.04W, h0**km**, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.7**/4**, MS4.0**/1**, Ms1 4.0**/1**, ms1mx3.1**/24**, Error ellipse: s-maj=55.0km s-min=29.2km az=8.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**33.66**	**285**	LR	LR	20 03 30.6	
	comp=Z,207nm,18.4s,baz=218,slow=33						
SNAA	**Sanae**	**48.31**	**163**	P	P	19 53 52.9	-0.7
	0.4nm,1.0s,baz=229,slow=11,SNR=5.3						
LPAZ	**La Paz**	**66.63**	**84**	P	P	19 56 03.5	+0.7
	0.5nm,0.4s,baz=225,slow=7.1,SNR=4.0						
ASAR	**Alice Springs**	**68.40**	**260**	P	P	19 56 14.1	0.0
	0.9nm,0.7s,baz=145,slow=6.9,SNR=9.9						
WRA	**Warramunga Arr**	**71.17**	**262**	P	P	19 56 31.0	-0.1
	1.4nm,1.1s,baz=146,slow=5.5,SNR=4.5						

ISCJB **14** *19:53:36.5±0.5, 41.20N±0.02×8.43W±0.05, h19km±4km, Error ellipse: s-maj=5.8km s-min=3.9km az=178.6*
MDD **14** *19:53:37.0±0.4, 41.20N×8.45W, h11km, mbLg2.3/18, Error ellipse: s-maj=3.5km s-min=2.9km az=96.0, PRXIMO*
CSEM **14** *19:53:36.7±0.1, 41.21N×8.44W, h10km, ML2.5/7, Error ellipse: s-maj=1.9km s-min=1.1km az=74.0*
INMG **14** *19:53:37.3±1.1, 41.20N×8.42W, h0km±3km, ML2.0, Error ellipse: s-maj=2.4km s-min=1.5km az=101.0*
ISC 14 19:53:36.0±0.5**, 41.22N**±0.02×**8.45W**±0.04**, h15**km±3km**, n36, σ1.00**/62**, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTO	**Porto**	**0.14**	**234**	i Pg	**Pg**	**19 53 40.0**	**+0.2**
PTO				eSg	**Sg**	**19 53 42.1**	**-0.2**
PTO							
	776nm,0.1s						
PTO	**Porto**	**0.14**	**234**	eSg	**Sg**	**19 53 42.1**	**-0.2**
	776nm,0.1s						
PVRL	**Vila Real**	**0.56**	**84**	ePg	**Pg**	**19 53 47.2**	**+0.2**
PVRL				eSg	**Sg**	**19 53 54.5**	**+0.1**
PVRL							
	57nm,0.2s						
PVRL	**Vila Real**	**0.56**	**84**	ePg	**Pg**	**19 53 47.2**	**+0.2**
PVRL				eSg	**Sg**	**19 53 54.5**	**+0.1**
	57nm,0.2s						
PCAB	**Cabril**	**0.58**	**33**	ePg	**Pg**	**19 53 48.1**	**+0.6**
PCAB				eSg	**Sg**	**19 53 55.9**	**+0.6**
PCAB							
	29nm,0.2s						
PCAB	**Cabril**	**0.58**	**33**	ePg	**Pg**	**19 53 48.1**	**+0.6**
PCAB				eSg	**Sg**	**19 53 55.9**	**+0.6**
	29nm,0.2s						
PVIS	**Viseu**	**0.66**	**140**	ePg	**Pg**	**19 53 48.6**	**-0.3**
PVIS				eSg	**Sg**	**19 53 57.1**	**-0.5**
PVIS							
	97nm,0.1s						
PVIS	**Viseu**	**0.66**	**140**	ePg	**Pg**	**19 53 48.6**	**-0.3**
PVIS				eSg	**Sg**	**19 53 57.1**	**-0.5**
	97nm,0.1s						
EZAM	**Zamans**	**0.94**	**349**	Pg	**Pg**	**19 53 54.3**	**+0.1**
	6.4nm,0.2s,SNR=7.9						
EZAM				Lg		19 54 07.2	
	24nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**1.07**	**140**	eP	**Pb**	**19 53 56.4**	**+0.2**
MTE				eS	**Sb**	**19 54 10.0**	**0.0**
MTE							
	33nm,0.1s						
PBRG	**Braganca**	**1.41**	**65**	eP	**Pn**	**19 54 02.4**	**+1.3**
PBRG				eS	**Sn**	**19 54 20.9**	**+1.5**
PBRG							
	14nm,0.2s						
ECAL	**Calabor**	**1.48**	**60**	Pg	**Pg**	**19 54 04.7**	**+0.3**
	3.8nm,0.2s,SNR=13						
ECAL				Sn	**Sn**	**19 54 20.6**	**-0.3**
	4.7nm,0.1s,SNR=6.8						
ECAL				Lg		19 54 23.7	
	33nm,0.3s,SNR=5.0						
ECAL	**Calabor**	**1.48**	**60**	Pg	**Pg**	**19 54 04.7**	**+0.4**
	3.8nm,0.2s,SNR=13						
ECAL				Sn	**Sn**	**19 54 20.6**	**-0.3**
	4.7nm,0.1s,SNR=6.8						
PCBR	**Castelo Branco**	**1.57**	**151**	eP	**Pn**	**19 54 04.6**	**+1.4**
PCBR				eS	**Sn**	**19 54 24.4**	**+1.2**
PCBR							
	12nm,0.2s						
PTOM	**Tomar**	**1.60**	**179**	eP	**Pn**	**19 54 05.4**	**+1.7**
PTOM				eS	**Sn**	**19 54 25.6**	**+1.5**
PTOM							
	14nm,0.3s						
STS	**Santiago**	**1.67**	**358**	Pg	**Pg**	**19 54 07.1**	**-0.9**
	3.6nm,0.2s,SNR=7.9						
STS				Lg		19 54 28.9	
	4.7nm,0.2s,SNR=7.9						
STS	**Santiago**	**1.67**	**358**	Pg	**Pg**	**19 54 07.1**	**-0.9**
	3.6nm,0.2s,SNR=7.9						
STS				Sn	**Sn**	**19 54 23.0**	**-2.6**
	3.2nm,0.2s,SNR=4.0						
EMAZ	**Mazaricos**	**1.77**	**347**	Pg	**Pg**	**19 54 09.5**	**-0.4**
	4.4nm,0.2s,SNR=5.6						
EMAZ				Sn	**Sn**	**19 54 27.9**	**-0.3**
	1.7nm,0.2s,SNR=4.0						
EMAZ				Lg		19 54 32.4	
	15nm,0.2s,SNR=6.2						
EMAZ	**Mazaricos**	**1.77**	**347**	Pg	**Pg**	**19 54 09.5**	**-0.5**
	4.4nm,0.2s,SNR=5.6						
EMAZ				Sn	**Sn**	**19 54 27.9**	**-0.3**
	1.7nm,0.2s,SNR=4.0						
EPLA	**Plasencia**	**2.14**	**122**	Pn	**Pn**	**19 54 12.7**	**+1.5**
	0.3nm,0.1s,SNR=7.9						
EPLA				Pg	**Pg**	**19 54 17.1**	**0.0**
	2.7nm,0.3s,SNR=6.9						
EPLA				Sn	**Sn**	**19 54 36.6**	**-0.8**
	3.3nm,0.3s,SNR=4.9						
EPLA				Lg		19 54 43.4	
	6.1nm,0.1s,SNR=4.6						
EPLA	**Plasencia**	**2.14**	**122**	Pg	**Pg**	**19 54 17.1**	**0.0**
	2.7nm,0.3s,SNR=6.9						
EPLA				Sn	**Sn**	**19 54 36.6**	**-0.8**
	3.3nm,0.3s,SNR=4.9						
EPON	**Pontenova**	**2.32**	**24**	Pg	**Pg**	**19 54 19.8**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
EPON				Lg		19 54 49.0	
	3.4nm,0.2s,SNR=5.8						
EPON	**Pontenova**	**2.32**	**24**	Pg	**Pg**	**19 54 19.8**	**-0.6**
	SNR=7.9						
EBAD	**Badajoz**	**2.70**	**155**	Pn	**Pn**	**19 54 18.9**	**+0.2**
	0.4nm,0.1s,SNR=7.9						
EBAD				Pg	**Pg**	**19 54 25.7**	**-2.1**
	1.5nm,0.1s,SNR=7.7						
EBAD				Sn	**Sn**	**19 54 50.1**	**-1.0**
	1.4nm,0.2s,SNR=4.0						
EBAD				Lg		19 54 59.7	
	11nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**2.70**	**155**	Pn	**Pn**	**19 54 18.9**	**+0.1**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.70**	**155**	Pg	**Pg**	**19 54 25.7**	**-2.0**
	1.5nm,0.1s,SNR=7.7						
EBAD				Sn	**Sn**	**19 54 50.1**	**-1.1**
	1.4nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**3.18**	**48**	Sn	**Sn**	**19 55 03.1**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EARI				Lg		19 55 16.6	
	0.3nm,0.2s,SNR=4.0						
EARI	**Arriondas**	**3.18**	**48**	Sn	**Sn**	**19 55 03.1**	**+0.1**
	SNR=7.9						
GUD	**Guadarrama**	**3.31**	**99**	Lg		19 55 19.9	
	5.6nm,0.4s,SNR=7.1						
EMIN	**Mina Concepcio**	**3.71**	**158**	Pn	**Pn**	**19 54 32.8**	**+0.1**
	0.2nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**19 55 13.5**	**-2.7**
	0.3nm,0.1s,SNR=7.9						
EMIN				Lg		19 55 31.3	
	6.8nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.71**	**158**	Pn	**Pn**	**19 54 32.8**	**+0.1**
	SNR=7.9						
EMIN				Sn	**Sn**	**19 55 13.5**	**-2.7**
	0.3nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**3.76**	**113**	Pn	**Pn**	**19 54 33.6**	**+0.2**
	0.7nm,0.1s,baz=299,slow=13,SNR=5.8						
ESDC				Sn	**Sn**	**19 55 15.6**	**-1.6**
	0.5nm,0.1s,baz=299,slow=24,SNR=5.5						
ESDC				Lg		19 55 33.3	
	1.2nm,0.2s,baz=299,slow=28,SNR=3.6						
ESDC	**Sonseca Array**	**3.76**	**113**	Pn	**Pn**	**19 54 33.6**	**+0.3**
	0.7nm,0.1s,slow=13,SNR=5.8						
ESDC				Sn	**Sn**	**19 55 15.6**	**-1.7**
	0.5nm,0.1s,slow=24,SNR=5.5						
ELAN	**Lanestosa**	**4.23**	**60**	Lg		19 55 50.4	
	1.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.27**	**134**	Pn	**Pn**	**19 54 40.8**	**+0.4**
	0.1nm,0.1s,SNR=4.0						
EADA				Sn	**Sn**	**19 55 28.7**	**-1.3**
	0.6nm,0.2s,SNR=7.9						
EADA				Lg		19 55 49.7	
	0.9nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**4.27**	**134**	Pn	**Pn**	**19 54 40.8**	**+0.4**
	SNR=4.0						
EADA				Sn	**Sn**	**19 55 28.7**	**-1.2**
	0.6nm,0.2s,SNR=7.9						

ISCJB **14** *19:54:57.0±0.3, 37.64N±0.03×48.98E±0.05, h10km, mb3.2/2,*

Error ellipse: s-maj=6.2km s-min=3.7km az=93.4
*THR **14** 19:54:56.2±0.3, 3759N×4909E, h17km±3km, ML3.5*
*CSEM **14** 19:54:57.2±0.1, 3758N×4896E, h20km, ML3.7, Error ellipse: s-maj=3.6km s-min=1.9km az=31.0*
*TEH **14** 19:54:57.4, 3757N×4896E, h2km, Mn3.7*
*NNC **14** 19:55:09.5±10.0, 3840N×4938E, h18km±108km, mb3.1, Error ellipse: s-maj=113.9km s-min=61.0km az=86.0*
ISC 14 19:54:58.3±0.3**, 3761N**±003×**4894E**±005**, h10**km**, n36, σ1^{s}06**/43**, mb3.2**/2**, 6C-1D, Northwestern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRB	Sarab	1.03	282	ePg	Pg	19 55 16.3	-1.8
GRMI	Germi	1.45	326	ePG	Pn	19 55 24.5	-0.1
GRMI				eSg	Sg	19 55 45.2	+0.2
GRMI				AML	AML	19 55 46.4	
	comp=N,765nm,0.4s						
GRMI				AML	AML	19 55 46.5	
	comp=E,1μm,0.2s						
GRMI	Germi	1.45	326	ePg	Pn	19 55 24.5	-0.1
	SNR=91						
GRMI				eSg	Sg	19 55 45.2	+0.2
	SNR=91						
IGZV	Gazvin	1.60	140	ePn	Pn	19 55 24.5	-2.1
IBST	Bostanabad	1.63	274	ePg	Pn	19 55 26.6	-0.4
THKV	Tehran--Karaj	2.30	137	ePG	Pn	19 55 36.3	+0.1
IAZR	Azarshahr	2.35	273	ePn	Pn	19 55 37.2	+0.3
IMHD	Mahdasht	2.37	144	ePn	Pn	19 55 36.3	-0.9
IMHD				eSg	Sn	19 56 09.3	+2.9
CHTH	Charan	2.44	133	ePG	Pn	19 55 38.7	+0.5
CHTH				eSG	Sn	19 56 10.0	+1.8
CHTH				AML	AML	19 56 13.0	
	comp=N,137nm,0.4s						
CHTH	Charan	2.44	133	ePg	Pn	19 55 38.7	+0.5
	SNR=91						
CHTH				eSg	Sn	19 56 10.0	+1.8
	SNR=91						
ISHB	Shabestar	2.71	285	ePn	Pn	19 55 41.4	-0.5
IMRD	Marand	2.78	294	ePn	Pn	19 55 43.4	+0.6
SNGE	Sanandaj	2.82	208	ePN	Pn	19 55 43.3	-0.1
IAFJ	Afjeh	2.83	127	ePn	Pn	19 55 42.4	-1.2
ILIN	Laeen	3.13	211	ePn	Pn	19 55 47.5	-0.1
IDMV	Damavand	3.21	128	ePn	Pn	19 55 48.5	-0.3
IKOM	Komasi	3.62	199	ePn	Pn	19 55 55.0	+0.6
IFIR	Firoozkooh	3.64	122	ePn	Pn	19 55 55.7	+1.0
IGHG	Ghaleghazi	3.80	211	ePn	Pn	19 55 57.6	+0.8
ILAS	Lasjerd	3.93	123	ePn	Pn	19 55 57.8	-0.9
ISHM	Shahmirzad	3.93	116	ePn	Pn	19 55 58.7	0.0
ISFB	Sefidab	4.21	140	ePn	Pn	19 56 01.3	-1.2
DGRG	David-gareji	4.72	325	P	Pn	19 56 14.1	+4.5
IKLH	Kalahroud	4.79	153	ePn	Pn	19 56 11.3	+0.8
IPIR	Pirpir	5.17	161	ePn	Pn	19 56 15.2	-0.5
MTA	Mtatsminda	5.18	323	P	Pn	19 56 23.1	+7.2
TBLG	Delisi	5.24	323	P	Pn	19 56 18.2	+1.6
IZEF	Zefreh	5.46	148	ePn	Pn	19 56 20.0	+0.3
DUS	Dusheti	5.53	325	P	Pn	19 56 21.3	+0.6
MRVT	Maraveh tapeh	5.67	87	ePn	Pn	19 56 20.4	-2.3
AB31	Akbulak array	14.10	31	⇑P	Pn	19 58 17.8	-0.2
	comp=N,0.3nm,0.5s,baz=203,slow=14,SNR=4.5						
AB31				⇑S	Sn	20 00 44.0	-11
	comp=N,0.7nm,0.5s,baz=219,slow=24						
AKTO	Aktyubinsk	14.37	24	⇑P	Pn	19 58 19.2	-2.6
	comp=N,0.1nm,1.1s						
AKTO				⇑S	Sn	20 00 51.3	-10
ZRNK	Zerenda	20.74	36	⇑P	P	19 59 41.0	+2.0
	comp=N,5.9nm,1.9s						
BVA0	Borovoye Array	21.44	37	⇓P	P	19 59 47.2	+0.7
	comp=N,0.5nm,0.6s,mb3.0,baz=236,slow=9.1,SNR=22						
BVAR	Borovoye Array	21.44	37	P	P	19 59 47.2	+0.6
	SNR=22						
VOSK	Vostochnaya	21.55	38	⇑P	P	19 59 48.0	+0.3
	comp=N,3.0nm,1.6s,mb3.5						

IDC 14 20:01:03.2±5.8**, 3094S×17889W, h0**km**, mb3.4**/2**, mb1 3.6**/2**, mb1mx3.6**/11**, mbtmp3.4**/2**, Error ellipse: s-maj=223.6km s-min=61.0km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	42.32	268	P	P	20 08 58.6	-0.2
	0.6nm,1.0s,baz=101,slow=7.4,SNR=4.4						
WRA	Warramunga Arr	43.36	273	P	P	20 09 07.6	+0.4
	0.4nm,0.4s,baz=114,slow=8.0,SNR=16						
FINES	FINESS Array B	145.38	339	PKPbc	PKPbc	20 20 41.5	-1.4
	0.8nm,0.7s,baz=45,slow=6.5,SNR=3.9						

IDC 14 20:24:01.7±2.1**, 598S×12984E, h0**km**, mb4.0**/1**, mb1 4.2**/4**, mb1mx3.8**/14**, mbtmp4.1**/4**, ML4.1**/3**, Error ellipse: s-maj=93.7km s-min=26.8km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.73	198	Pn	Pn	20 27 05.9	+2.0
	0.7nm,0.3s,baz=36,slow=13,SNR=20						
FITZ				Sn	Sn	20 29 19.7	-6.7
	0.5nm,0.3s,baz=108,slow=20,SNR=4.0						
WRA	Warramunga Arr	14.56	163	Pn	Pn	20 27 27.7	-1.2
	1.0nm,0.3s,baz=343,slow=13,SNR=23						
WRA				Sn	Sn	20 29 57.6	-13
	0.9nm,0.3s,baz=330,slow=23,SNR=9.4						
ASAR	Alice Springs	18.02	168	P	Pn	20 28 13.3	-0.2
	0.6nm,0.3s,baz=347,slow=11,SNR=21						
ASAR				S	Sn	20 31 22.1	-13
	0.2nm,0.3s,baz=358,slow=28,SNR=4.6						
MKAR	Makanchi Array	67.28	327	P	P	20 34 58.3	+0.2
	0.9nm,0.5s,baz=113,slow=7.6,SNR=12						

*ISCJB **14** 20:42:48.9±0.6, 2433S±004×6696W±007, h166km±6km, mb4.2/18, Error ellipse: s-maj=10.8km s-min=6.5km az=154.5*
*IDC **14** 20:42:50.0±0.9, 2426S×6700W, h164km±7km, mb4.1/11, mb1 4.3/17, mb1mx4.2/21, mbtmp4.6/17, Error ellipse: s-maj=12.8km s-min=10.3km az=49.0*
*NEIC **14** 20:42:50.3±0.6, 2429S×6697W, h167km±5km, mb4.6/10, Error ellipse: s-maj=8.5km s-min=6.2km az=87.0*
ISC 14 20:42:49.9±0.6**, 2433S**±004×**6699W**±007**, h162**km±5km**, n62, σ0^{s}93**/51**, mb4.2**/18**, 1C-4D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.46	314	P	Pn	20 43 32.3	+2.7
	132nm,0.3s,baz=135,slow=7.4,SNR=866						
LVC				S	Sn	20 44 02.8	+3.6
	497nm,0.3s,baz=359,slow=20,SNR=102						
CFAA	Coronel Fontan	7.33	188	P	Pn	20 44 34.0	-0.1
	0.5nm,0.3s,baz=3.0,slow=11,SNR=39						
CFAA				S	Sn	20 45 52.8	-3.5
	0.6nm,0.3s,baz=106,slow=23,SNR=11						
LPAZ	La Paz	8.07	352	P	Pn	20 44 44.9	+0.9
	14nm,0.3s,baz=162,slow=7.8,SNR=199						
LPAZ				S	Sn	20 46 14.5	+0.2
	2.2nm,0.3s,baz=343,slow=18,SNR=6.1						
LPAZ	La Paz	8.07	352	P	Pn	20 44 44.9	+0.9
LPAZ				S	Sn	20 46 14.4	+0.2
MDZ	Mendoza	8.67	190	eP	Pn	20 44 54.5	+2.6
ARE	Arequipa	8.89	331	eP	Pn	20 44 52.0	-2.8
ARE				eS	Sn	20 46 27.0	-6.9
CPUP	Villa Florida	8.97	105	P	Pn	20 44 56.2	+0.4
	1.2nm,0.3s,baz=269,slow=11,SNR=57						
CPUP	Villa Florida	8.97	105	eP	Pn	20 44 56.1	+0.3
CPUP				e		20 45 07.4	
SIV	San Ignacio	9.99	35	P	Pn	20 45 08.7	-0.5
	4.1nm,0.3s,baz=226,slow=16,SNR=228						
SIV				S	Sn	20 46 49.7	-11
	0.5nm,0.3s,baz=225,slow=17,SNR=8.6						
TRQA	Tornquist	14.33	164	eP	Pn	20 46 03.0	-2.4
	78nm,0.8s						
SAML	Samuel	15.72	14	eP	Pn	20 46 21.2	-1.5
	24nm,1.0s						
PLCA	Paso Flores	16.62	189	P	Pn	20 46 33.2	-0.3
	1.0nm,0.3s,baz=7.2,slow=14,SNR=25						
BDFB	Brasilia	19.80	68	P	P	20 47 08.6	+0.8
	11nm,0.3s,baz=248,slow=10,SNR=64						
BAO	Brasilia Array	19.83	68	P	P	20 47 09.0	+1.0
VNA3	Neumayer Olymp	56.84	161	⇓i	P	20 52 17.5	+0.1
VNA3				e		20 52 18.2	
VNA3				e		20 52 23.1	
VNA1	Neumayer--Stat	57.04	160	⇓i	P	20 52 19.5	+0.7
VNA1				e		20 52 20.2	
SNAA	Sanae	59.04	161	⇓i	P	20 52 32.4	-0.3
SNAA				e		20 52 33.3	
SNAA				e		20 52 37.3	
SNAA	Sanae	59.04	161	eP	P	20 52 31.9	-0.8
	24nm,1.1s,mb4.9						
QSPA	South Pole Qui	65.87	180	eP	P	20 53 18.4	+0.3
	21nm,0.7s,mb5.1						
DBIC	Dimbokro	67.90	71	P	P	20 53 30.7	-0.3
	7.2nm,0.7s,mb4.5,baz=212,slow=5.4,SNR=16						
DBIC	Dimbokro	67.90	71	P	P	20 53 30.7	-0.3
SYO	Syowa Base	73.24	159	⇑eP	P	20 54 02.6	-0.6
VNDA	Vanda	74.38	190	P	P	20 54 10.5	+0.7
	6.9nm,0.9s,mb4.4,baz=132,slow=4.6,SNR=28						
CCUT	Cedar City	75.43	324	eP	P	20 54 17.2	+1.3
MSU	Marysvale	75.50	325	eP	P	20 54 16.8	+0.5
RSSD	Black Hills	76.10	333	eP	P	20 54 19.7	0.0
	3.5nm,0.8s,mb4.0						
TORD	Torodi Ar. Bea	76.68	69	P	P	20 54 22.7	-0.2
	4.4nm,0.4s,mb4.5,baz=269,slow=6.1,SNR=116						
PDAR	Pinedale Array	77.43	329	P	P	20 54 26.9	-0.2
	0.8nm,0.6s,mb3.5,baz=128,slow=7.8,SNR=9.1						
HWUT	Hardware Ranch	77.51	327	eP	P	20 54 27.0	-0.6
	3.7nm,0.6s,mb4.2						
ULM	Lac du Bonnet	78.54	342	P	P	20 54 32.1	-1.2
	2.4nm,0.5s,mb4.0,baz=152,slow=6.9,SNR=4.8						
RRI2	Red Ridge	78.71	329	eP	P	20 54 34.0	-0.2
	19nm,1.4s,mb4.5						
NVAR	Mina Array Bea	78.80	321	P	P	20 54 35.2	+0.5
	0.8nm,0.5s,mb3.6,baz=140,slow=7.1,SNR=3.1						
GCMT	Greycliff	79.83	331	eP	P	20 54 40.3	+0.1
HLID	Hailey	80.37	327	eP	P	20 54 43.6	+0.5
	14nm,1.1s,mb4.5						
HLID				e		20 55 31.4	
MCMT	McKenzie Canyo	80.55	329	eP	P	20 54 45.1	+1.0
BOSA	Boshof	80.58	117	P	P	20 54 44.9	+0.6
	4.0nm,0.7s,mb4.2,baz=247,slow=6.8,SNR=15						
MAW	Mawson	81.12	163	⇓iP	P	20 54 47.2	+0.1
	9.2nm,0.7s,mb4.5						
MAW	Mawson	81.12	163	P	P	20 54 47.3	+0.2
	10.0nm,0.5s,mb4.7,baz=218,slow=5.0,SNR=15						
MDT	Midelt	82.23	49	P	P	20 54 54.4	+1.4
	2.2nm,0.7s,mb3.9,baz=254,slow=4.9,SNR=3.8						
MOD	Modoc	82.28	323	eP	P	20 54 53.4	+0.1
	1.3nm,0.8s,mb3.6						
ESDC	Sonseca Array	86.63	44	P	P	20 55 14.9	-0.2
	1.4nm,0.8s,mb3.9,baz=233,slow=5.6,SNR=6.6						
EDM	Edmonton	87.06	334	eP	P	20 55 15.6	-1.6
CASY	Casey	89.66	179	eP	P	20 55 29.6	+0.2
YKA	Yellowknife Ar	94.44	340	P	P	20 55 49.9	-1.5
	2.0nm,0.8s,mb4.3,baz=129,slow=4.9,SNR=6.4						
YKA	Yellowknife Ar	94.44	340	P	P	20 55 49.9	-1.5
AKASG	Malin Array Be	112.28	43	PKKP	PKKPdf	21 12 16.6	+0.5
	0.5nm,0.4s,baz=32,slow=6.6,SNR=4.9						
ASAR	Alice Springs	128.16	205	PKP	PKPdf	21 01 36.5	-0.3
	3.8nm,0.8s,baz=151,slow=2.1,SNR=30						
ASPA	Alice Springs	128.16	205	eP	PKPdf	21 01 36.4	-0.4
AKTK	Aktyubinsk	130.52	44	PKP	PKPdf	21 01 42.0	+0.7
AKTK				SKPbc	SKPbc	21 04 48.1	-1.6
AKTO	Aktyubinsk	130.52	44	PKP	PKPdf	21 01 42.0	+0.7
	0.4nm,0.3s,baz=297,slow=1.9,SNR=4.8						
AKTO				SKPbc	SKPbc	21 04 48.1	-1.6
	6.7nm,1.2s,baz=273,slow=6.4,SNR=7.4						
WB2	Warramunga Arr	131.33	207	eP	PKPdf	21 01 42.5	-0.3
WRA	Warramunga Arr	131.34	207	PKP	PKPdf	21 01 43.0	+0.1
	2.8nm,0.7s,baz=164,slow=1.6,SNR=26						
WRA				SKPbc	SKPbc	21 04 51.3	-1.5
	1.7nm,0.9s,baz=154,slow=3.6,SNR=12						
BVAR	Borovoye Array	137.06	37	PKP	PKPdf	21 01 53.4	-0.1
	0.7nm,0.6s,baz=318,slow=2.0,SNR=4.6						
ZAL	Zalesovo	143.68	28	PKP	PKPdf	21 02 02.6	-2.8
	1.7nm,0.6s,baz=173,slow=5.1,SNR=8.6						
ZAL				SKPbc	SKPbc	21 05 27.9	-1.0
	1.8nm,0.9s,baz=190,slow=3.8,SNR=6.0						
MKAR	Makanchi Array	146.78	40	PKPbc	PKPbc	21 02 10.7	-2.1
	10nm,0.9s,baz=338,slow=2.0,SNR=35						
HYB	Hyderabad	147.14	95	i PKP	PKPdf	21 02 14.5	+3.1
HYB	Hyderabad	147.14	95	eP	PKPdf	21 02 14.5	+3.1
GUMO	Guam	148.10	256	PKPbc	PKPbc	21 02 16.4	0.0
	24nm,0.4s,baz=198,slow=6.2,SNR=6.7						
ASAJ	Asahikawa	148.82	317	PKPbc	PKPbc	21 02 17.9	-0.3
	14nm,1.0s,baz=121,slow=3.1,SNR=4.3						
MJAR	Matsushiro Arr	155.18	305	PKPab	PKPab	21 02 49.0	-0.3
	3.7nm,0.8s,baz=70,slow=2.5,SNR=7.6						
MJAR	Matsushiro Arr	155.18	305	PKPab	PKPab	21 02 49.0	-0.3
SONM	Songino Array	155.96	11	PKP	PKPdf	21 02 24.6	-0.1
	0.6nm,0.8s,baz=230,slow=1.8,SNR=6.5						
SONM				PKPab	PKPab	21 02 51.9	-0.8
	0.4nm,0.7s,baz=330,slow=2.1,SNR=3.2						

*NIED **14** 20:47:00, 2480N×122.10E, h122km, Mw4.1 Best double couple: M$_0$1.62000×10^{15} NP1:ϕ$_s$328.00000°, δ86.00000°, λ-69.00000°. NP2:ϕ$_s$68.00000°, δ21.00000°, λ-170.00000°.*
*BJI **14** 20:47:33.1, 2488N×12196E, h107km, mB4.6, mb4.2*
*ISCJB **14** 20:47:33.1±0.3, 2490N±005×12198E±003, h115km±4km, mb3.9/9, Error ellipse: s-maj=9.0km s-min=4.3km az=1.8*
*NEIC **14** 20:47:34.1±0.5, 2490N×12202E, h113km±4km, mb4.0/1, Error ellipse: s-maj=10.0km s-min=9.4km az=150.0*
NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien, Miao-li, T'ai-chung, T'ai-pei and T'ao-yuan Counties.
*IDC **14** 20:47:36.0±4.0, 2499N×122.19E, h130km±40km, mb3.5/8, mb1 3.6/10, mb1mx3.5/22, mbtmp3.9/10, Error ellipse: s-maj=31.1km s-min=14.5km az=65.0*
*JMA **14** 20:47:35.0±0.1, 2483N×12206E, h120km±2km, M4.0*
ISC 14 20:47:34.2±0.3**, 2493N**±005×**12197E**±003**, h108**km±4km**, n37, σ1^{s}11**/50**, mb3.9**/9**, 1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	Taipei	0.43	276	eP	Pn	20 47 51.5	+1.1
TATO				eSn	Sn	20 48 01.6	-1.0
YHNB	Yeheng	0.60	244	eP	Pn	20 47 52.0	+0.5
NACB	Ninganchiao	0.83	204	eP	Pn	20 47 53.5	0.0
NACB				eS	Sn	20 48 06.2	-1.8
YOJ	Yonaguni jima	1.06	116	P	Pn	20 47 56.6	+0.8
YOJ				eS	Sn	20 48 13.1	+5.4
IRIF	Iriomote-Funau	1.71	110	P	Pn	20 48 03.7	+0.3
IRIF				eS	Sn	20 48 25.5	+2.0
JKRS	Kuro-shima	1.98	110	P	Pn	20 48 07.4	+0.5
JKRS				eS	Sn	20 48 31.7	+1.5
JIJ	Ishigaki jima	2.06	105	P	Pn	20 48 08.3	+0.5
JIJ				eS	Sn	20 48 33.0	+1.0
JTJ	Tarama	2.50	96	eS	Sn	20 48 44.3	+1.5
JMJ	Miyako jima 2	3.02	92	eS	Sn	20 48 56.3	+0.8
QZH	Quanzhou	3.06	271	⇓iP	Pn	20 48 21.4	+0.5
QZH				S	Sn	20 48 55.5	-0.9
QZH				Smax			
	comp=N,1μm,0.6s						
QZH				Smax			
	comp=E,360nm,0.5s						
JKE	Kume jima 2	4.57	71	P	Pn	20 48 42.8	+1.7
JAGN	Aguni-jima	5.04	70	P	Pn	20 48 48.7	+1.3
JIH	Iheya	5.79	68	P	Pn	20 48 58.4	+0.8
JIH				eS	Sn	20 50 01.8	-0.9
JOW	Kunigami	5.99	70	P	Pn	20 49 00.1	-0.2
	comp=E,5.9nm,0.3s,baz=214,slow=25,SNR=40						
JOW				S	Sn	20 50 05.0	-2.5
	comp=E,11nm,0.3s,baz=110,slow=26,SNR=12						
JOW	Kunigami	5.99	70	P	Pn	20 49 00.1	-0.2
JOW				eS	Sn	20 50 05.6	-1.9
JTK	Tokunoshima	6.88	64	P	Pn	20 49 11.8	-0.6
JTK				eS	Sn	20 50 27.7	-1.4
NJ2	Nanjing	7.60	340	eP	Pn	20 49 23.4	+1.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
JAM	Amami Oshima	7.66	61	P	Pn	20 49 22.2	-0.8
CD2	Chengdu	17.15	294	eP	Pn	20 51 25.0	-2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KMI	Kunming	17.43	275	P	Pn	20 51 32.3	+1.9
KMI				AMB	AMB		
	comp=Z,4.0nm,1.4s						
HHC	Hu-ho-hao-te	18.09	334	eP	P	20 51 40.4	+3.1
HHC				XP	sP	20 52 15.1	+4.1
HHC				S	S	20 54 56.0	-3.0
HHC				PCP	PcP	20 56 08.5	+2.1
HHC				SCS	ScS	21 03 10.6	-1.9
HHC				AMB	AMB		
	comp=Z,15nm,0.5s						
HHC				AMB	AMB		
	comp=Z,152nm,8.8s						
HHC				LR	LR		
	comp=N,158nm,6.5s						
HHC				LR	LR		
	comp=E,111nm,6.3s						
HHC				LR	LR		
	comp=Z,80nm,6.9s						
MJAR	Matsushiro Arr	18.11	46	P	P	20 51 36.1	-1.3
	comp=Z,0.2nm,0.3s,baz=257,slow=11,SNR=3.2						
CN2	Changchun	19.04	8	eP	P	20 51 50.3	+2.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
MDJ	Mudanjiang	20.59	16	P	P	20 52 05.9	+1.4
MDJ				AP		20 52 26.5	
MDJ				XP	sP	20 52 40.8	+2.4
MDJ				S	S	20 55 52.0	+3.3
MDJ				PCS	PcS	20 59 49.3	+0.6
MDJ				SCS	ScS	21 03 19.0	-1.7
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,58nm,4.4s						
MDJ				LR	LR		
	comp=N,30nm,15.5s						
MDJ				LR	LR		
	comp=E,25nm,18.1s						
MDJ				LR	LR		
	comp=Z,34nm,18.7s						
MDJ	Mudanjiang	20.59	16	eP	P	20 52 05.3	+0.9
	comp=Z,5.6nm,0.8s						
SONM	Songino Array	25.97	336	P	P	20 52 57.4	+0.8
	comp=Z,2.7nm,1.0s,mb3.6,baz=153,slow=10,SNR=15						
WMQ	Urumqi	33.66	313	eP	P	20 54 05.0	+0.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,82nm,3.7s						
MKAR	Makanchi Array	38.31	315	P	P	20 54 44.5	+0.4
	comp=Z,0.5nm,0.5s,mb3.6,baz=92,slow=11,SNR=9.2						
ZAL	Zalesovo	40.02	326	P	P	20 54 58.5	+0.2
	comp=Z,0.5nm,0.4s,mb3.7,baz=330,slow=1.5,SNR=3.2						
WRA	Warramunga Arr	46.20	164	P	P	20 55 47.6	-0.5
	comp=Z,1.4nm,0.5s,mb3.9,baz=346,slow=8.8,SNR=15						
CHKZ	Chkalovo	47.60	321	P	P	20 55 58.4	-0.6
ASAR	Alice Springs	49.68	166	P	P	20 56 15.1	+0.2
	comp=Z,0.9nm,0.8s,mb3.8,baz=340,slow=6.3,SNR=9.8						
JOF	Joensuu	68.41	331	ep	P	20 58 22.7	-1.5
FINES	FINESS Array B	71.16	330	P	P	20 58 40.5	-0.5
	comp=Z,3.4nm,0.9s,mb4.2,baz=46,slow=5.5,SNR=6.8						
BRTR	Keskin Array B	73.30	306	P	P	20 58 54.1	+0.4
	comp=Z,1.1nm,0.9s,mb3.7,baz=55,slow=7.6,SNR=3.4						
YKA	Yellowknife Ar	82.01	23	P	P	20 59 40.7	-1.4
	comp=Z,0.7nm,0.5s,mb3.7,baz=311,slow=5.5,SNR=5.6						
YKA	Yellowknife Ar	82.01	23	P	P	20 59 40.7	-1.4

*ISCJB **14** 20:53:13.8±0.3, 4982N±002×1840E±002, h0km, Error ellipse: s-maj=3.3km s-min=1.9km az=25.1*
*BGR **14** 20:53:13.9±0.8, 4979N×1863E, h1km, ML3.4, Error ellipse: s-maj=12.2km s-min=6.7km az=179.0*
*NEIC **14** 20:53:14.4±0.4, 4992N×1850E, h5km, ML3.2(BUC), ML3.4(SZGRF), Error ellipse: s-maj=6.2km s-min=3.7km az=194.0*
*CSEM **14** 20:53:14.7±0.1, 4977N×1856E, h0km, ML3.3/8, Error ellipse: s-maj=1.8km s-min=1.1km az=2.0*
*IPEC **14** 20:53:15.0±0.2, 4984N×1855E, h9km±1km, ML2.6/3, Error ellipse: s-maj=1.8km s-min=1.0km az=170.0*
*IDC **14** 20:53:15.5±1.0, 4976N×1851E, h0km, mb1 3.2/4, mb1mx3.1/20, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=20.0km s-min=8.0km az=153.0*
*PRU **14** 20:53:16.3, 4983N×1843E, h0km*
*VIE **14** 20:53:16.2±0.5, 4968N×1838E, h0km, mb2.5/6, ML2.6/6, Error ellipse: s-maj=3.4km s-min=2.0km az=87.0 19 km SSE of Ostrava Suspected Mining induced.*
ISC 14 20:53:14.9±0.3**, 4981N**±002×**1847E**±002**, h0**km**, n73, σ1^{s}06**/122**, 14C-9D, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.21	276	ePG	Pg	20 53 20.4	+1.5
OKC				eSG	Sg	20 53 24.1	+2.4
	1μm,0.6s						
OKC	Ostrava-Krasne	0.21	276	ePg	Pg	20 53 20.3	+1.4
OKC				eSg	Sg	20 53 24.1	+2.4
	1μm,0.6s						
RAC	Raciborz	0.33	326	ePg	Pg	20 53 22.1	+1.0
RAC				eSg	Sg	20 53 28.1	+2.8
MORC	Moravsky Berou	0.60	267	⇑iP	Pg	20 53 27.5	+1.1
MORC				S	Sg	20 53 37.0	+2.7
MORC	Moravsky Berou	0.60	267	eP	Pg	20 53 26.7	+0.3
MORC	Moravsky Berou	0.60	267	ePg	Pg	20 53 26.9	+0.5
MORC				eSg	Sg	20 53 36.0	+1.7
	95nm,0.3s						
OJC	Ojcow	0.95	64	ePg	Pg	20 53 32.5	-0.5
OJC				eSg	Sg	20 53 45.6	+0.4
OJC	Ojcow	0.95	64	ePg	Pg	20 53 32.4	-0.6
OJC				eSg	Sg	20 53 45.6	+0.4
JAVC	Velka Javorina	1.09	209	ePn	Pn	20 53 37.2	-0.2
NIE	Niedzica	1.26	108	ePg	Pg	20 53 38.9	-0.1
NIE				eSg	Sg	20 53 56.9	+1.6
VRAC	Vranov	1.32	248	Pg	Pg	20 53 40.2	-0.1
	36nm,0.3s,baz=68,slow=15,SNR=233						
VRAC				Lg		20 53 58.5	
	42nm,0.3s,baz=338,slow=22,SNR=18						
VRAC	Vranov	1.32	248	⇓iP	Pg	20 53 40.1	-0.2
VRAC				S	Sg	20 53 59.0	+1.6
VRAC	Vranov	1.32	248	⇓P	Pg	20 53 40.1	-0.1
VRAC				S	Sg	20 53 59.0	+1.6
VRAC	Vranov	1.32	248	ePn	Pg	20 53 40.1	-0.2
VRAC				eSg	Sg	20 53 58.3	+0.9
	157nm,0.5s						
VYHS	Vyhne	1.34	170	i PN	Pn	20 53 40.0	-0.8
VYHS				eSN	Sn	20 53 58.8	-0.6
SMOL	Smolenice	1.47	208	i PN	Pn	20 53 42.4	-0.2
SMOL				eSN	Sn	20 54 03.1	+0.5
DPC	Dobruska-Polom	1.49	292	ePG	Pg	20 53 42.8	-0.6
DPC				eSG	Sg	20 54 03.1	+0.5
	48nm,0.5s						
DPC	Dobruska-Polom	1.49	292	ePn	Pn	20 53 42.3	-0.5
DPC	Dobruska-Polom	1.49	292	ePg	Pg	20 53 42.8	-0.6
DPC				eSg	Sg	20 54 03.1	+0.5
KRUC	Moravsky	1.55	242	ePn	Pn	20 53 43.7	0.0
KRUC				eSg	Sg	20 54 05.3	+0.6
	51nm,0.4s						
UPC	Upice	1.73	295	ePG	Pg	20 53 46.9	-1.1
UPC				eSG	Sg	20 54 11.2	+0.8
KSP	Ksiaz	1.74	307	ePn	Pn	20 53 45.6	-0.7
KSP				ePg	Pg	20 53 47.4	-0.7
KSP				eSg	Sg	20 54 10.7	0.0
STHS	Stebnicka Huta	1.84	101	ePN	Pn	20 53 50.0	+2.3
STHS				eSN	Sn	20 54 17.2	+5.4
ZST	Bratislava	1.85	210	ePN	Pn	20 53 48.0	+0.1
ZST				eSN	Sn	20 54 12.2	+0.2
KECS	Kecovo	1.88	134	ePN	Pn	20 53 47.5	-0.7
KECS				eSN	Sn	20 54 13.0	+0.5
PSZ	Piszkesteto	2.12	153	⇑ePn	Pn	20 53 51.6	+0.1
PSZ	Piszkesteto	2.12	153	eP	Pn	20 53 51.0	-0.5
PSZ	Piszkesteto	2.12	153	eP	Pn	20 53 51.0	-0.5
CRVS	Cervenica-Dubn	2.16	114	ePN	Pn	20 53 53.0	+1.0
CRVS				eSN	Sn	20 54 23.7	+4.3
SOP	Sopron	2.48	211	⇑ePn	Pn	20 53 56.7	+0.2
PRU	Pruhonice	2.55	275	ePN	Pn	20 53 56.4	-1.0
PRU				ePG	Pg	20 54 00.5	-3.2
PRU				eSG	Sg	20 54 36.7	-0.1
	37nm,0.8s						
CONA	Conrad Observa	2.56	223	⇓iPn	Pn	20 53 57.0	-0.5
CONA				⇑iSg	Sg	20 54 36.9	-0.1
	17nm,0.6s						
PVCC	Panska Ves	2.61	287	ePG	Pg	20 54 02.8	-2.1
PRA	Prague	2.62	277	PG	Pg	20 54 03.0	-2.1
PRA				SG	Sg	20 54 40.0	+0.9
KOLS	Kolonicke sedl	2.63	108	ePN	Pn	20 54 00.1	+1.5
KOLS				ePG	Pg	20 54 07.0	+1.6
KWP	Kalwaria	2.75	92	ePg	Pg	20 54 04.8	-2.8
BRG	Berggiesshubel	3.09	292	ePg	Pg	20 54 11.6	-2.5
BRG				eSg	Sg	20 54 54.8	+0.6
BRG	Berggiesshubel	3.09	292	Pg	Pg	20 54 11.6	-2.5
BRG				Sg	Sg	20 54 53.4	-0.7
ARSA	Arzberg	3.23	219	⇓iPn	Pn	20 54 06.4	-0.4
ARSA				⇓iSg	Sg	20 54 58.2	-0.5
	9.3nm,0.6s						
KHC	Kasperske Hory	3.27	260	ePN	Pn	20 54 07.2	-0.1
KHC				ePG	Pg	20 54 15.1	-2.4
KHC				eSG	Sg	20 54 59.6	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	25nm,0.5s						
GEC2	**GERESS Array S**	**3.27**	**255**	*e*Pn	**Pn**	**20 54 07.8**	**+0.5**
GEC2				*e*Sg	**Sg**	**20 55 00.7**	**+0.8**
GEC2	**GERESS Array S**	**3.27**	**255**	*e*Pn	**Pn**	**20 54 07.8**	**+0.5**
GEC2				*e*Sg	**Sg**	**20 55 00.7**	**+0.8**
GERES	**GERESS Array B**	**3.27**	**255**	Pn	**Pn**	**20 54 07.8**	**+0.5**
	0.5nm,0.3s,baz=69,slow=13,SNR=9.9						
GERES				Pg	**Pg**	**20 54 16.3**	**-1.2**
	4.4nm,0.3s,baz=68,slow=16,SNR=48						
GERES				Sn	**Sn**	**20 54 47.6**	**+0.7**
	2.0nm,0.3s,baz=70,slow=27,SNR=6.0						
GERES				Lg		20 54 59.6	
	3.9nm,0.3s,baz=70,slow=29,SNR=6.0						
GERES	**GERESS Array B**	**3.27**	**255**	Pg	**Pg**	**20 54 16.3**	**-1.2**
MOA	**Molln**	**3.41**	**236**	⇑*i*Pn	**Pn**	**20 54 08.7**	**-0.5**
MOA				⇓*i*Sg	**Sg**	**20 55 04.9**	**+0.7**
	15nm,0.5s						
MOA	**Molln**	**3.41**	**236**	Pn	**Pn**	**20 54 08.7**	**-0.5**
MOA				Sg	**Sg**	**20 55 04.9**	**+0.6**
	15nm,0.5s						
PKSM	**Moragy**	**3.61**	**178**	⇓*i*P	**Pn**	**20 54 11.6**	**-0.4**
PKSM	**Moragy**	**3.61**	**178**	⇓P	**Pn**	**20 54 11.6**	**-0.3**
PKSM				S	**Sn**	**20 54 52.3**	**-2.9**
PKSM	**Moragy**	**3.61**	**178**	⇓P	**Pn**	**20 54 11.6**	**-0.4**
PKSM				S	**Sn**	**20 54 52.3**	**-2.9**
WET	**Wettzell**	**3.71**	**262**	*e*Pn	**Pn**	**20 54 12.7**	**-0.7**
WET				*e*Sg	**Sg**	**20 55 14.8**	**+0.7**
WET	**Wettzell**	**3.71**	**262**	*e*Pn	**Pn**	**20 54 12.7**	**-0.7**
WET				*e*Sg	**Sg**	**20 55 14.8**	**+0.7**
NKC	**Novy Kostel**	**3.91**	**278**	*e*SG	**Sg**	**20 55 19.7**	**-0.7**
	29nm,0.8s						
TANN	**Tannenbergstha**	**3.92**	**281**	*e*Pn	**Pn**	**20 54 15.6**	**-0.7**
WERN	**Wernitzgruen**	**3.96**	**279**	*e*Pn	**Pn**	**20 54 17.2**	**+0.4**
WERN				*e*Sg	**Sg**	**20 55 23.1**	**+1.1**
GUNZ	**Gunzen**	**3.99**	**280**	*e*Pn	**Pn**	**20 54 18.5**	**+1.2**
ROTZ	**Rotzenmuhle**	**4.06**	**272**	*e*Pn	**Pn**	**20 54 17.2**	**-1.0**
DRGR		**4.14**	**135**	⇑*i*P	**Pn**	**20 54 19.6**	**+0.3**
DRGR		**4.14**	**135**	⇑P	**Pn**	**20 54 19.6**	**+0.3**
DRGR				S	**Sn**	**20 55 08.7**	**+0.3**
DRGR		**4.14**	**135**	⇑P	**Pn**	**20 54 19.6**	**+0.3**
DRGR				S	**Sn**	**20 55 08.7**	**+0.3**
KBA	**Koelnbreinsper**	**4.38**	**233**	⇑*i*Pn	**Pn**	**20 54 21.8**	**-0.7**
KBA				⇑*i*Sg	**Sg**	**20 55 35.4**	**0.0**
	8.5nm,0.6s						
MOX	**Moxa**	**4.48**	**283**	*e*(Sg)	**Sg**	**20 55 38.7**	**-0.1**
MOX	**Moxa**	**4.48**	**283**	*e*Pg	**Pg**	**20 54 39.6**	**-1.1**
MOX				*e*Sg	**Sg**	**20 55 38.7**	**-0.1**
MOX	**Moxa**	**4.48**	**283**	*e*Pg	**Pg**	**20 54 39.6**	**-1.1**
MOX				Sg	**Sg**	**20 55 38.7**	**-0.1**
GRF	**Grafenberg Arr**	**4.70**	**271**	*e*Sg	**Sg**	**20 55 46.6**	**+0.6**
BZS	**Buzias**	**4.71**	**152**	⇑*i*P	**Pn**	**20 54 27.2**	**+0.1**
BZS	**Buzias**	**4.71**	**152**	⇑P	**Pn**	**20 54 27.2**	**+0.2**
BURAR	**Bucovina Array**	**4.98**	**114**	⇑*i*P	**Pn**	**20 54 32.0**	**+1.2**
BURAR	**Bucovina Array**	**4.98**	**114**	⇑P	**Pn**	**20 54 32.0**	**+1.3**
AKASG	**Malin Array Be**	**6.95**	**79**	Pn	**Pn**	**20 54 54.8**	**-3.1**
	0.6nm,0.3s,baz=259,slow=14,SNR=4.5						
AKASG				Lg		20 56 59.7	
	baz=271,slow=30,SNR=4.6						
AKASG	**Malin Array Be**	**6.95**	**79**	Pn	**Pn**	**20 54 54.8**	**-3.1**
AKASG				Lg		20 56 59.7	
NOA	**NORSAR Array B**	**11.97**	**343**	Pn	**Pn**	**20 56 03.0**	**-3.7**
	0.1nm,0.3s,baz=176,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**12.41**	**17**	Pn	**Pn**	**20 56 08.5**	**-4.2**
	0.1nm,0.3s,baz=195,slow=14,SNR=8.5						
JOF	**Joensuu**	**14.89**	**23**	*e*p	**Pn**	**20 56 39.9**	**-6.7**

*ISCJB **14** 21:01:07.9±1.4, 5136N±008×1599E±0.1, h55km±13km, Error ellipse: s-maj=16.0km s-min=7.8km az=106.2*
*MOS **14** 21:01:08.7±2.1, 5150N×15983E, h31km, mb4.3/2, Error ellipse: s-maj=47.4km s-min=23.0km az=96.2*
*KRSC **14** 21:01:08, 5151N×15989E, h32km, ML3.9*
ISC 14 21:01:09.0±1.3**, 5138N**±008×**1599E**±01**, h49**km±14km**, n17, σ1.21**/25**, 1C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.36**	**321**	*e*P	**Pn**	**21 01 30.8**	**-0.7**
RUS				*i* S	**Sn**	**21 01 47.0**	**-1.4**
GRL	**Gorelyy**	**1.63**	**317**	*e*P	**Pn**	**21 01 35.7**	**+0.5**
GRL				*i* S	**Sn**	**21 01 55.6**	**+0.6**
SPN	**Mys Shipunski**	**1.72**	**2**	*e*P	**Pn**	**21 01 35.9**	**-0.6**
SPN				*i* S	**Sn**	**21 01 56.0**	**-1.2**
PET	**Petropavlovsk**	**1.81**	**335**	⇑*i*PN	**Pn**	**21 01 40.7**	**+2.9**
PET				*i* S	**Sn**	**21 02 04.9**	**+5.3**
PET	**Petropavlovsk**	**1.81**	**335**	*e*P	**Pn**	**21 01 38.6**	**+0.8**
PET				*i* S	**Sn**	**21 02 00.2**	**+0.6**
NLC	**Nalytchevo**	**1.82**	**349**	*e*P	**Pn**	**21 01 37.9**	**0.0**
AVH	**Avacha**	**2.02**	**340**	*e*P	**Pn**	**21 01 41.5**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.15**	**296**	*e*P	**Pn**	**21 01 43.1**	**+0.8**
MIPR				*i* S	**Sn**	**21 02 08.1**	**+0.4**
SKR	**Severo-Kuril's**	**2.49**	**255**	*e*PN	**Pn**	**21 01 45.5**	**-1.5**
SKR				*e*S	**Sn**	**21 02 15.4**	**-0.8**
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				smax			
	comp=N,200nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
GNL	**Ganaly**	**2.61**	**333**	*e*P	**Pn**	**21 01 49.4**	**+0.8**
MKZ	**Mys Kozlova**	**3.37**	**18**	*e*P	**Pn**	**21 01 58.9**	**-0.1**
MKZ				*i* S	**Sn**	**21 02 35.8**	**-1.9**
TUMR	**Tumrok**	**3.91**	**2**	*e*P	**Pn**	**21 02 07.9**	**+1.4**
CIRR	**Tsirk**	**4.77**	**6**	*e*P	**Pn**	**21 02 21.7**	**+3.4**
SRKR	**Sorokina**	**5.33**	**8**	*e*P	**Pn**	**21 02 28.9**	**+2.9**
BILL	**Bilibino**	**17.00**	**8**	*e*P	**Pn**	**21 05 00.8**	**-2.4**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**51.40**	**309**	*e*P	**P**	**21 10 08.4**	**-0.5**
FINES	**FINESS Array B**	**61.65**	**337**	*i* P	**P**	**21 11 22.5**	**+0.8**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						

KRSC 14 21:02:41, 5164N×15998E, h16km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.21**	**312**	*e*P	Pn	21 03 02.9	-0.3
RUS				*i* S	Sb	21 03 19.0	+0.2
SPN	**Mys Shipunski**	**1.46**	**1**	P	Pn	21 03 07.7	+1.0
SPN				*i* S	Sn	21 03 27.6	+2.1
GRL	**Gorelyy**	**1.49**	**309**	*e*P	Pn	21 03 08.6	+1.5
GRL				*i* S	Sn	21 03 27.9	+1.7
NLC	**Nalytchevo**	**1.58**	**346**	*e*P	Pn	21 03 09.6	+1.2
PET	**Petropavlovsk**	**1.61**	**330**	*e*P	Pn	21 03 09.8	+1.1
PET				*i* S	Sn	21 03 29.7	+0.6
AVH	**Avacha**	**1.80**	**335**	P	Pn	21 03 13.8	+2.5
GNL	**Ganaly**	**2.40**	**330**	*e*P	Pn	21 03 22.2	+2.5

*NEIC **14** 21:07:33.1, 4200S×17406E, h27km, ML3.9(WEL), After WEL.*
NEIC Felt in Marlborough.
WEL 14 21:07:32.5±0.2**, 4201S×17409E, h21**km±2km**, ML3.9**/31**, 1D, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.28**	**20**	P	Pb	21 07 40.2	+1.2
CMWZ				S	Sb	21 07 46.3	+3.0
CMWZ	**Cape Campbell**	**0.28**	**20**	P*	Pb	21 07 40.2	+1.2
CMWZ				*e*S*	Sb	21 07 45.6	+2.3
BSWZ	**Blackbirch Sta**	**0.34**	**332**	⇓P*	Pb	21 07 39.5	-0.4
BSWZ				S*	Sb	21 07 44.1	-0.8
BSWZ				S*	Sb	21 07 44.1	-0.8
KHZ	**Kahutara**	**0.58**	**225**	P	Pb	21 07 44.4	+0.4
KHZ				S	Sb	21 07 53.6	+1.9
KHZ	**Kahutara**	**0.58**	**225**	P*	Pb	21 07 44.4	+0.4
KHZ				S*	Sb	21 07 53.0	+1.3
TUWZ	**Tuamarina**	**0.59**	**349**	P*	Pb	21 07 44.2	0.0
TUWZ				S*	Sb	21 07 52.2	+0.1
TCW	**Tory Channel**	**0.81**	**10**	P	Pb	21 07 47.9	0.0
TCW	**Tory Channel**	**0.81**	**10**	P*	Pb	21 07 47.9	0.0
SNZO	**South Karori**	**0.84**	**34**	P*	Pb	21 07 49.0	+0.6
BHW	**Baring Head**	**0.84**	**45**	P	Pb	21 07 49.0	+0.6
BHW	**Baring Head**	**0.84**	**45**	P*	Pb	21 07 49.0	+0.6
WEL	**Wellington**	**0.89**	**35**	P*	Pb	21 07 49.8	+0.6
MRW	**Makara Radio**	**0.91**	**31**	P	Pb	21 07 49.8	+0.3
MRW	**Makara Radio**	**0.91**	**31**	P*	Pb	21 07 49.8	+0.3
THZ	**Tophouse**	**0.92**	**285**	P*	Pb	21 07 48.7	-1.1
NNZ	**Nelson**	**0.95**	**326**	P	Pb	21 07 49.4	-1.0
NNZ	**Nelson**	**0.95**	**326**	P*	Pb	21 07 49.4	-1.0
MSWZ	**Moikau Station**	**1.05**	**56**	P	Pn	21 07 51.7	-0.3
MSWZ	**Moikau Station**	**1.05**	**56**	P*	Pb	21 07 51.7	-0.3
CAW	**Cannon Point**	**1.16**	**40**	P	Pn	21 07 53.4	-0.1
CAW	**Cannon Point**	**1.16**	**40**	P*	Pb	21 07 53.4	-0.6
PAWZ	**Paruwai Farm**	**1.18**	**58**	P	Pn	21 07 53.2	-0.6
PAWZ	**Paruwai Farm**	**1.18**	**58**	P*	Pb	21 07 53.2	-1.0
DUWZ	**D'Urville Isla**	**1.21**	**354**	P*	Pb	21 07 54.1	-0.7
KIW	**Kapiti Island**	**1.30**	**29**	P	Pn	21 07 55.8	+0.3
KIW	**Kapiti Island**	**1.30**	**29**	P*	Pb	21 07 55.8	-0.6
TRWZ	**Traveller**	**1.34**	**64**	P*	Pb	21 07 55.2	-1.8
MTW	**Mount Morrison**	**1.36**	**52**	P*	Pb	21 07 55.4	-1.9
LTZ	**Lake Taylor**	**1.55**	**240**	P	Pn	21 07 58.3	-0.6
LTZ	**Lake Taylor**	**1.55**	**240**	PN	Pn	21 07 58.3	-0.6
QRZ	**Quartz Range**	**1.67**	**315**	P	Pn	21 08 00.6	+0.1
QRZ	**Quartz Range**	**1.67**	**315**	PN	Pn	21 08 00.6	+0.2
DSZ	**Denniston Nort**	**1.73**	**278**	P	Pn	21 08 01.5	+0.2
MRZ	**Mangatainoka R**	**1.75**	**40**	P	Pn	21 08 01.0	-0.7
MRZ	**Mangatainoka R**	**1.75**	**40**	PN	Pn	21 08 01.0	-0.6
MQZ	**McQueen's Vall**	**2.00**	**211**	*e*P	Pn	21 08 02.9	-2.1
MQZ	**McQueen's Vall**	**2.00**	**211**	PN	Pn	21 08 02.9	-2.1
TSZ	**Takapari Road**	**2.41**	**37**	P	Pn	21 08 09.8	-0.9
DFE	**Dawson Falls**	**2.68**	**0**	P	Pn	21 08 23.9	+9.5
WVZ	**Waitaha Valley**	**2.70**	**246**	*e*PN	Pn	21 08 12.9	-1.8
RPZ	**Rata Peaks**	**2.81**	**232**	P	Pn	21 08 14.7	-1.5
RPZ	**Rata Peaks**	**2.81**	**232**	PN	Pn	21 08 14.7	-1.4
MOVZ	**Moawhango**	**2.89**	**26**	P	Pn	21 08 19.7	+2.4
VRZ	**Vera Road**	**2.93**	**10**	P	Pn	21 08 21.2	+3.4
HIZ	**Hauiti**	**3.54**	**10**	P	Pn	21 08 29.8	+3.6
HIZ	**Hauiti**	**3.54**	**10**	*e*PN	Pn	21 08 28.2	+2.0
FOZ	**Fox Glacier**	**3.59**	**243**	*e*P	Pn	21 08 25.1	-1.8
FOZ	**Fox Glacier**	**3.59**	**243**	*e*PN	Pn	21 08 24.9	-2.0
LBZ	**Lake Benmore**	**3.71**	**229**	*e*P	Pn	21 08 27.3	-1.3
LBZ	**Lake Benmore**	**3.71**	**229**	PN	Pn	21 08 27.3	-1.3
ODZ	**Otahua Downs**	**3.93**	**218**	*e*P	Pn	21 08 29.5	-2.1
ODZ	**Otahua Downs**	**3.93**	**218**	PN	Pn	21 08 29.5	-2.1
JCZ	**Jackson Bay**	**4.42**	**240**	*e*P	Pn	21 08 36.9	-1.4
JCZ	**Jackson Bay**	**4.42**	**240**	*e*PN	Pn	21 08 36.8	-1.5

*NEIC **14** 21:36:17.5, 38.16S×175.95E, h209km, MG3.9(WEL), After WEL.*
WEL 14 21:36:23.0±0.3**, 3828S×17608E, h158**km±3km**, ML3.5**/13**, Error ellipse: s-maj=2.8km s-min=2.6km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**89**	P	Pn	21 36 46.9	-0.1
URZ	**Urewera**	**0.81**	**89**	PN	Pn	21 36 46.9	-0.1
URZ				SN	Sn	21 37 05.3	0.0
TWVZ	**Taurewa**	**0.94**	**212**	P	Pn	21 36 48.4	+0.4
TWVZ	**Taurewa**	**0.94**	**212**	PN	Pn	21 36 48.4	+0.5
BKZ	**Black Stump Fm**	**0.95**	**160**	*e*P	Pn	21 36 48.1	+0.1
BKZ	**Black Stump Fm**	**0.95**	**160**	PN	Pn	21 36 48.1	+0.1
BKZ				SN	Sn	21 37 07.3	+0.1
MWZ	**Matawai**	**1.14**	**94**	P	Pn	21 36 49.8	+0.2
MWZ	**Matawai**	**1.14**	**94**	PN	Pn	21 36 49.8	+0.2
MOVZ	**Moawhango**	**1.16**	**193**	P	Pn	21 36 49.8	0.0
MOVZ	**Moawhango**	**1.16**	**193**	PN	Pn	21 36 49.8	0.0
KNZ	**Kokohu**	**1.45**	**121**	*e*P	Pn	21 36 52.9	+0.3
KNZ	**Kokohu**	**1.45**	**121**	PN	Pn	21 36 52.9	+0.3
PUZ	**Puketiti**	**1.73**	**84**	*e*P	Pn	21 36 55.1	-0.4
PUZ	**Puketiti**	**1.73**	**84**	PN	Pn	21 36 55.1	-0.4
PUZ				SN	Sn	21 37 19.5	-0.9
TSZ	**Takapari Road**	**1.79**	**183**	P	Pn	21 36 55.7	-0.4
TSZ	**Takapari Road**	**1.79**	**183**	PN	Pn	21 36 55.7	-0.5
TSZ				*e*SN	Sn	21 37 19.7	-1.9
PXZ	**Pawanui**	**1.86**	**161**	PN	Pn	21 36 57.0	+0.1
PXZ				*e*SN	Sn	21 37 22.2	-0.8
MXZ	**Matakaoa Point**	**1.90**	**69**	*e*P	Pn	21 36 57.2	-0.2
MXZ	**Matakaoa Point**	**1.90**	**69**	PN	Pn	21 36 57.2	-0.2
MRZ	**Mangatainoka R**	**2.42**	**189**	P	Pn	21 37 01.8	-1.6
MRZ	**Mangatainoka R**	**2.42**	**189**	PN	Pn	21 37 01.8	-1.6
MRZ				*e*SN	Sn	21 37 32.1	-2.6
KIW	**Kapiti Island**	**2.74**	**199**	P	Pn	21 37 05.1	-2.2
KIW	**Kapiti Island**	**2.74**	**199**	PN	Pn	21 37 05.1	-2.2
MTW	**Mount Morrison**	**2.92**	**189**	P	Pn	21 37 07.0	-2.5
MTW	**Mount Morrison**	**2.92**	**189**	PN	Pn	21 37 07.0	-2.5
CAW	**Cannon Point**	**2.94**	**195**	P	Pn	21 37 07.5	-2.3
CAW	**Cannon Point**	**2.94**	**195**	PN	Pn	21 37 07.5	-2.3
DUWZ	**D'Urville Isla**	**3.03**	**213**	PN	Pn	21 37 08.4	-2.5
MRW	**Makara Radio**	**3.14**	**199**	PN	Pn	21 37 09.6	-2.7
MSWZ	**Moikau Station**	**3.20**	**191**	P	Pn	21 37 10.3	-2.8
MSWZ	**Moikau Station**	**3.20**	**191**	PN	Pn	21 37 10.3	-2.9
TCW	**Tory Channel**	**3.25**	**205**	PN	Pn	21 37 11.0	-2.7
THZ	**Tophouse**	**4.25**	**214**	*e*P	Pn	21 37 23.0	-3.7
THZ	**Tophouse**	**4.25**	**214**	PN	Pn	21 37 23.0	-3.7
KHZ	**Kahutara**	**4.57**	**204**	*e*P	Pn	21 37 27.5	-3.3
KHZ	**Kahutara**	**4.57**	**204**	PN	Pn	21 37 27.5	-3.3
MQZ	**McQueen's Vall**	**6.01**	**204**	*e*P	Pn	21 37 44.2	-5.7
MQZ	**McQueen's Vall**	**6.01**	**204**	PN	Pn	21 37 44.2	-5.7

*NIED **14** 22:21:00, 2430N×12520E, h44km, Mw4.0 Best double couple: M₀1.17000×10^15 NP1:φs48.00000°, δ72.00000°, λ71.00000°. NP2:φs276.00000°, δ26.00000°, λ135.00000°.*
*IDC **14** 22:21:26.1±0.9, 2437N×125.13E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.7/21, mbtmp3.7/9, ML3.2/2, Error ellipse: s-maj=34.2km s-min=19.3km az=70.0*
*ISCJB **14** 22:21:30.7±0.7, 2437N±008×12527E±005, h46km±5km, mb3.6/9, Error ellipse: s-maj=13.6km s-min=5.4km az=135.0*
*JMA **14** 22:21:30.2±0.2, 2428N×12523E, h21km, M3.5*
*NEIC **14** 22:21:32.5±1.2, 2432N×12523E, h50km±12km, mb3.4/1, Error ellipse: s-maj=14.8km s-min=10.6km az=153.0*
ISC 14 22:21:31.8±0.8**, 2440N**±007×**12526E**±005**, h39**km±7km**, n26, σ1.21**/35**, mb3.6**/9**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.39**	**21**	P	**Pn**	**22 21 40.3**	**-0.7**
JOGS				*e*S	**Sn**	**22 21 48.0**	**+0.6**
JMJ	**Miyako jima 2**	**0.42**	**5**	P	**Pn**	**22 21 40.6**	**-0.8**
JMJ				*e*S	**Sn**	**22 21 48.1**	**0.0**
JTJ	**Tarama**	**0.56**	**296**	P	**Pn**	**22 21 41.8**	**-1.5**
JTJ				*e*S	**Sn**	**22 21 49.9**	**-1.5**
JIJ	**Ishigaki jima**	**1.01**	**268**	P	**Pn**	**22 21 48.3**	**-1.2**
JIJ				*e*S	**Sn**	**22 22 02.1**	**-0.4**
JKRS	**Kuro-shima**	**1.15**	**262**	P	**Pn**	**22 21 50.7**	**-0.6**
JKRS				*e*S	**Sn**	**22 22 06.7**	**+0.9**
IRIF	**Iriomote-Funau**	**1.39**	**268**	P	**Pn**	**22 21 55.0**	**+0.3**
IRIF				*e*S	**Sn**	**22 22 13.6**	**+1.8**
YOJ	**Yonaguni jima**	**2.05**	**272**	P	**Pn**	**22 22 04.4**	**+0.7**
JKE	**Kume jima 2**	**2.37**	**35**	P	**Pn**	**22 22 07.5**	**-0.6**
NACB	**Ninganchiao**	**3.35**	**267**	*e*Pn	**Pn**	**22 22 20.2**	**-1.4**
NACB				*e*Sn	**Sn**	**22 22 55.5**	**-4.5**
TATO	**Taipei**	**3.48**	**280**	*e*Pn	**Pn**	**22 22 25.8**	**+2.5**
YHNB	**Yeheng**	**3.54**	**275**	*e*Pn	**Pn**	**22 22 25.5**	**+1.2**
YHNB				*e*Sn	**Sn**	**22 23 05.5**	**+0.6**
JOW	**Kunigami**	**3.65**	**48**	Pn	**Pn**	**22 22 25.6**	**-0.1**
	2.7nm,0.3s,baz=139,slow=20,SNR=8.4						
JOW				Sn	**Sn**	**22 23 19.7**	**+12**
	3.6nm,0.3s,baz=128,slow=19,SNR=2.2						
JOW	**Kunigami**	**3.65**	**48**	P	**Pn**	**22 22 25.8**	**+0.1**
MAJO	**Matsushiro**	**16.45**	**40**	*e*Pn	**Pn**	**22 25 22.0**	**+2.5**
MJAR	**Matsushiro Arr**	**16.45**	**40**	Pn	**Pn**	**22 25 21.9**	**+2.4**
	0.2nm,0.3s,baz=229,slow=10.0,SNR=4.7						
ULN	**Ulaanbaatar**	**27.52**	**333**	P	**P**	**22 27 15.7**	**+1.2**
SONM	**Songino Array**	**27.77**	**332**	P	**P**	**22 27 14.7**	**-2.1**
	0.1nm,0.3s,mb2.9,baz=146,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**40.81**	**314**	P	**P**	**22 29 08.9**	**-0.5**
	1.3nm,0.3s,mb4.0,baz=93,slow=9.3,SNR=17						
WRAB	**Tennant Creek**	**44.94**	**168**	*e*P	**P**	**22 29 41.9**	**-0.8**
	0.5nm,0.8s,mb3.4						
WRA	**Warramunga Arr**	**44.95**	**168**	P	**P**	**22 29 41.8**	**-1.1**
	0.4nm,0.5s,mb3.5,baz=348,slow=8.8,SNR=7.5						
ASAR	**Alice Springs**	**48.51**	**169**	P	**P**	**22 30 11.5**	**+0.9**
	0.2nm,0.4s,mb3.5,baz=2.2,slow=9.6,SNR=2.9						
JOF	**Joensuu**	**70.33**	**331**	*e*p	**P**	**22 32 39.8**	**-1.5**
	2.2nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**73.12**	**330**	P	**P**	**22 32 57.6**	**-0.5**
	1.3nm,0.6s,mb4.0,baz=58,slow=6.6,SNR=14						
BRTR	**Keskin Array B**	**76.02**	**307**	P	**P**	**22 33 17.1**	**+2.3**
	0.3nm,0.4s,mb3.5,baz=63,slow=3.5,SNR=2.7						
NB2	**NORSAR Subarra**	**79.74**	**333**	P	**P**	**22 33 34.7**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=58,slow=5.6						
NOA	**NORSAR Array B**	**79.74**	**333**	P	**P**	**22 33 35.1**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=55,slow=5.9,SNR=3.9						

IDC 14 22:44:19.7±1.0**, 1311N×5786E, h0**km**, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.6**/21**, mbtmp3.8**/6**, MS3.4**/2**, Ms1 3.4**/2**, ms1mx2.9**/24**, Error ellipse: s-maj=36.6km s-min=23.4km az=155.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**24.86**	**237**	P	P	22 49 44.6	+0.8
	1.9nm,0.8s,baz=47,slow=12,SNR=7.7						
KMBO				LR	LR	22 58 31.5	
	comp=Z,50nm,20.4s,baz=92,slow=34						
MKAR	**Makanchi Array**	**39.36**	**27**	P	P	22 51 50.5	-0.2
	0.2nm,0.3s,baz=208,slow=12,SNR=4.8						
SONM	**Songino Array**	**53.05**	**39**	P	P	22 53 39.1	+0.6
	0.6nm,0.8s,baz=240,slow=8.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**54.59**	**277**	P	P	22 53 50.3	+0.4
	1.2nm,1.0s,baz=66,slow=7.0,SNR=2.5						
MDT	**Midelt**	**59.95**	**300**	LR	LR	23 22 48.0	
	comp=Z,64nm,20.1s,baz=337,slow=38						
WRA	**Warramunga Arr**	**82.08**	**113**	P	P	22 56 42.6	+0.7
	0.9nm,0.8s,baz=297,slow=4.4,SNR=6.5						
ASAR	**Alice Springs**	**82.79**	**116**	P	P	22 56 46.4	+0.6
	0.5nm,0.6s,baz=287,slow=4.6,SNR=8.6						

*NIED **14** 22:52:00, 4220N×14300E, h38km, Mw3.8 Best double couple: M₀5.27000×10^14 NP1:φs199.00000°, δ69.00000°, λ-100.00000°. NP2:φs45.00000°, δ23.00000°, λ-65.00000°.*
*ISCJB **14** 22:52:22.9±0.6, 42.18N±0.05×142.93E±0.06, h50km, mb4.0/1, Error ellipse: s-maj=7.7km s-min=6.4km az=27.4*
*NEIC **14** 22:52:22.9±0.9, 4220N×14276E, h35km, mb3.9/1, Error ellipse: s-maj=32.4km s-min=14.8km az=211.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.
*JMA **14** 22:52:22.9±0.1, 42.19N×142.99E, h50km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φs22.00000°, δ22.00000°, λ-85.00000°. NP2:φs197.00000°, δ68.00000°, λ-92.00000°. Principal axes: T Plg23.0000°, Azm288.0000°; N Plg2.0000°, Azm197.0000°; P Plg67.0000°, Azm103.0000°;*
JMA Felt I J1.
ISC 14 22:52:23.2±0.7**, 4218N**±006×**14297E**±007**, h52**km±5km**, n12, σ0.60**/18**, mb4.0**/1**, 7C-1D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.19**	**303**	⇓P	**Pn**	**22 52 31.1**	**-0.6**
JNBK				*e*S	**Sn**	**22 52 38.0**	**+0.3**
JEM	**Erimo**	**0.21**	**139**	⇑P	**Pn**	**22 52 31.4**	**-0.4**
ERM	**Erimo**	**0.22**	**139**	*e*P	**Pn**	**22 52 31.5**	**-0.3**
ERM				*e*S	**Sn**	**22 52 38.9**	**+0.8**
JCH	**Churui**	**0.53**	**34**	⇑P	**Pn**	**22 52 34.2**	**-0.7**
JCH				*e*S	**Sn**	**22 52 43.0**	**-0.3**
JBT2	**Biratori 2**	**0.75**	**324**	⇑P	**Pn**	**22 52 37.3**	**-0.3**
JBT2				*e*S	**Sn**	**22 52 49.1**	**+1.0**
JOB	**Onbets**	**0.97**	**41**	⇑P	**Pn**	**22 52 40.7**	**+0.2**
JOB				*e*S	**Sn**	**22 52 54.5**	**+1.2**
JFR	**Furan**	**1.02**	**345**	⇑P	**Pn**	**22 52 40.1**	**-1.2**
JAR	**Ashorobuto**	**1.27**	**28**	⇑P	**Pn**	**22 52 43.9**	**-0.6**
JEW	**Eniwo**	**1.30**	**301**	⇑P	**Pn**	**22 52 45.2**	**+0.2**
JEW				*e*S	**Sn**	**22 53 01.2**	**-0.1**
TATO	**Taipei**	**24.68**	**233**	P	**P**	**22 57 39.5**	**+0.4**
BRVK	**Borovoye**	**48.17**	**309**	*e*P	**P**	**23 00 58.2**	**0.0**
	0.7nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**48.94**	**310**	*e*P	**P**	**23 01 04.6**	**+0.5**

JMA 14 22:59:56.6±0.2**, 3943N×14376E, h64**km**, M3.6, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.51**	**276**	P	Pn	23 00 22.1	+0.6
MIYJ				*e*S	Sn	23 00 41.1	+0.9
JTH	**Tanohata**	**1.55**	**290**	P	Pn	23 00 22.4	+0.4
JTH				*e*S	Sn	23 00 42.3	+1.1
OFUJ	**Ofunato**	**1.66**	**259**	P	Pn	23 00 23.9	+0.4
OFUJ				*e*S	Sn	23 00 44.2	+0.3
JOM	**Ohasama**	**1.91**	**272**	P	Pn	23 00 27.8	+0.9
JOM				*e*S	Sn	23 00 51.0	+1.1
JANG	**Nango**	**1.97**	**299**	P	Pn	23 00 27.8	+0.1
JANG				*e*S	Sn	23 00 51.2	-0.1
JMK	**Ichinoseki**	**2.03**	**257**	P	Pn	23 00 29.1	+0.6
JMK				*e*S	Sn	23 00 53.5	+0.7
JYK	**Kaneyama**	**2.69**	**260**	P	Pn	23 00 38.8	+1.3
JYK				*e*S	Sn	23 01 10.8	+1.8
JMM	**Marumori**	**2.80**	**237**	P	Pn	23 00 39.0	0.0
JMM				*e*S	Sn	23 01 09.8	-1.8
JOT	**Ohata**	**2.84**	**314**	P	Pn	23 00 40.5	+0.9
JOT				*e*S	Sn	23 01 12.5	-0.2
JNBK	**Urakawa-nobuka**	**2.95**	**345**	*e*S	Sn	23 01 16.3	+1.1
JCH	**Churui**	**3.19**	**355**	P	Pn	23 00 43.8	-0.6
JCH				*e*S	Sn	23 01 19.3	-2.0
JKB	**Kayabe**	**3.21**	**321**	*e*S	Sn	23 01 21.5	-0.2
JAK	**Akkeshi**	**3.63**	**11**	P	Pn	23 00 48.9	-1.4
JAK				*e*S	Sn	23 01 29.0	-3.0

*CSEM **14** 23:20:07.7, 1320N×4805E, h10km, ML3.6, After DHMR*
DHMR 14 23:20:07.7±1.9**, 1320N×4805E, h10**km**, ML3.6, 4C-2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.59**	**37**	⇓*i*P	Pn	23 20 36.2	+0.3
MUKL				*i* S	Sn	23 20 58.4	+1.8
BDHA	**Al Bayda'**	**2.53**	**288**	⇑*e*P	Pn	23 20 52.7	+3.8
BDHA				*i* S	Sn	23 21 25.1	+5.4
BDHA				AML	AML	23 21 29.4	
	comp=N,387nm,0.5s						
BDHA	**Al Bayda'**	**2.53**	**288**	⇑*e*P	Pn	23 20 52.7	+3.8
BDHA				*i* S	Sn	23 21 25.1	+5.3
	comp=N,193nm,0.5s						
LBOS		**2.80**	**284**	⇓*e*P	Pn	23 20 55.7	+3.1
LBOS				*i* S	Sn	23 21 32.1	+5.7
DHBB	**Dhamar BB**	**3.81**	**291**	*i* P	Pn	23 21 10.1	+3.7
DHBB				*i* S	Sn	23 21 57.9	+6.7
TRBA	**At Turbah**	**3.83**	**271**	⇑*e*P	Pn	23 21 07.5	+0.9
TRBA				*i* S	Sn	23 21 57.5	+5.7
UDYN	**Al 'Udayn**	**4.04**	**281**	⇑*e*P	Pn	23 21 12.9	+3.3
UDYN				*i* S	Sn	23 22 02.0	+5.1
HAJJ	**Hajjah**	**4.98**	**301**	*i* P	Pn	23 21 24.1	+1.7
HAJJ				*i* S	Sn	23 22 24.7	+4.7

*BJI **14** 23:35:54.6, 1263N×4838E, h6km, mB5.2, mb4.8, Ms4.8, Msz4.7*
*IDC **14** 23:35:54.9±0.6, 1266N×4831E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.3/26, mbtmp4.2/20, ML3.8/2, MS4.0/19, Ms1 3.9/19, ms1mx3.9/25, Error ellipse: s-maj=17.4km s-min=12.4km az=110.0*
*MOS **14** 23:35:54.6±1.0, 1265N×4828E, h10km, mb4.8/15, Error ellipse: s-maj=13.3km s-min=6.5km az=97.3*
*ISCJB **14** 23:35:54.9±0.3, 1272N±004×48.18E±003, h10km, mb4.6/50, MS4.0/22, Error ellipse: s-maj=6.1km s-min=3.9km az=176.4*
*CSEM **14** 23:35:55.2±0.1, 1266N×48.10E, h10km, mb4.6/18, Error ellipse: s-maj=3.5km s-min=3.2km az=88.0*
*NEIC **14** 23:35:56.6±0.3, 1265N×4831E, h10km, mb4.5/16, Error ellipse: s-maj=9.4km s-min=6.4km az=103.0*
*DHMR **14** 23:35:58.1±0.6, 1261N×4765E, h4km±5km, ML4.0*
*SZGRF **14** 23:36:01.7, 1284N×4768E, h33km, mb4.6, Eastern Gulf of Aden*
ISC 14 23:35:56.8±0.3**, 1272N**±004×**4814E**±003**, h10**km**, (h19**km±2.8km**:pP-P), n143, σ1.22**/143**, mb4.6**/50**, MS4.0**/22**, 2C-5D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.80**	**297**	⇓*e*P	**Pn**	**23 36 41.0**	**-0.6**
BDHA				*i* S	**Sn**	**23 37 14.2**	**-1.2**
BDHA				AML	AML	23 37 19.0	
	comp=N,3μm,0.5s						
BDHA	**Al Bayda'**	**2.80**	**297**	⇓*e*P	**Pn**	**23 36 41.0**	**-0.6**
BDHA				*i* S	**Sn**	**23 37 14.2**	**-1.2**
	comp=N,1μm,0.5s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LBOS		3.04	292⇓	eP	Pn	23 36 44.2	-0.8
LBOS				i S	Sn	23 37 20.6	-0.8
ADEN	Aden	3.08	271	eP	Pn	23 36 43.2	-2.4
ADEN				AML	AML	23 36 54.7	
	comp=E,437nm,0.4s						
ADEN				i S	Sn	23 37 18.6	-3.9
ADEN	Aden	3.08	271	eP	Pn	23 36 43.2	-2.3
ADEN				i S	Sn	23 37 18.6	-3.8
	comp=E,219nm,0.4s						
TRBA	At Turbah	3.96	278⇓	eP	Pn	23 36 55.9	-1.7
TRBA				i S	Sn	23 37 41.6	-2.4
DHBB	Dhamar BB	4.08	297⇓	eP	Pn	23 36 59.2	-0.1
DHBB				i S	Sn	23 37 46.5	-0.6
UDYN	Al ‘Udayn	4.25	287	eP	Pn	23 37 00.1	-1.4
UDYN				i S	Sn	23 37 48.2	-3.0
HAJJ	Hajjah	5.31	304	eP	Pn	23 37 16.2	+0.1
ATD	Arta Tunnel	5.31	258	Pn	Pn	23 37 16.9	+0.8
	comp=E,18nm,0.3s,baz=67,slow=7.7,SNR=85						
ATD				Sn	Sn	23 38 21.7	+4.3
	baz=90,slow=20,SNR=1.2						
ATD				LR	LR	23 38 52.3	
	comp=E,1μm,19.4s,baz=96,slow=32						
ATD	Arta Tunnel	5.31	258	Pn	Pn	23 37 16.9	+0.7
ATD				Sn	Sn	23 38 21.7	+4.3
ATD				LR	LR	23 38 52.3	
ATD	Arta Tunnel	5.31	258	Pn	Pn	23 37 16.9	+0.7
ATD				Sn	Sn	23 38 21.7	+4.3
DESE	Dese	8.47	260	ePN	Pn	23 38 03.5	+3.9
DESE				eS	Sn	23 39 55.0	+20
KMBO	Kilima Mbogo	17.49	219	P	Pn	23 40 00.5	-0.4
	comp=E,0.1nm,0.3s,baz=35,slow=12,SNR=11						
KMBO				Lg		23 44 54.4	
	comp=E,0.0nm,0.3s,baz=281,slow=23,SNR=3.2						
KMBO				LR	LR	23 46 27.8	
	comp=E,930nm,18.9s,baz=94,slow=36						
KMBO	Kilima Mbogo	17.49	219	P	Pn	23 40 00.5	-0.4
KMBO				Lg		23 44 54.4	
KMBO				LR	LR	23 46 27.8	
BHD	Baghdad	20.74	351	ex	x	23 40 36.0	
BHD				ex	x	23 44 28.0	
BHD				ex	x	23 47 36.0	
BHD				ex	x	23 48 50.0	
EIL	Elat	20.84	326	eP	P	23 40 40.9	+2.3
ASF	Jabal al Asfar	21.94	334	P	P	23 40 52.1	+1.6
	comp=E,6.3nm,0.9s,mb4.0,baz=32,slow=3.1,SNR=11						
ASF				Lg		23 47 21.7	
	comp=E,0.5nm,0.5s,baz=152,slow=19,SNR=3.1						
ASF				LR	LR	23 48 49.2	
	comp=E,197nm,21.6s,MS3.5,baz=204,slow=35						
ASF	Jabal al Asfar	21.94	334	P	P	23 40 52.1	+1.6
ASF				Lg		23 47 21.7	
ASF				LR	LR	23 48 49.1	
MSL	Mosul	23.91	350	ex	x	23 41 20.5	
MSL				ex	x	23 45 38.5	
MALT	Malatya	26.92	343	eP	P	23 41 41.1	+3.0
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
MALT	Malatya	26.92	343	eP	P	23 41 41.1	+3.0
	comp=Z,3.3nm,0.8s,mb3.9						
MALT	Malatya	26.92	343	eP	P	23 41 41.1	+3.0
	comp=Z,3.3nm,0.8s,mb3.9						
GNI	Garni	27.48	354	LR	LR	23 54 11.8	
	comp=Z,850nm,20.5s,MS4.3,baz=168,slow=40						
GNI	Garni	27.48	354	P	P	23 41 44.1	+0.9
DGRG	David-gareji	28.72	356	P	P	23 41 52.7	-1.5
MTA	Mtatsminda	29.01	355	P	P	23 41 59.5	+2.6
TBLG	Delisi	29.05	355	P	P	23 42 00.4	+3.2
BRTR	Keskin Array B	29.79	337	P	P	23 42 05.7	+2.0
	comp=Z,0.3nm,0.8s,baz=159,slow=9.3,SNR=2.8						
BRTR				LR	LR	23 55 58.1	
	comp=Z,193nm,18.8s,MS3.8,baz=296,slow=40						
KIV	Kislovodsk	31.48	352	eP	P	23 42 17.8	-0.8
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
KIV				MLR	MLR		
	comp=Z,365nm,14.0s,MS4.2						
KIV	Kislovodsk	31.48	352	eP	P	23 42 17.5	-1.1
	comp=Z,7.2nm,0.9s,mb4.5						
KIV	Kislovodsk	31.48	352	eP	P	23 42 17.5	-1.1
	comp=Z,7.2nm,0.9s,mb4.5						
LSZ	Lusaka	34.11	216	eP	P	23 42 42.1	+0.4
LSZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
LSZ	Lusaka	34.11	216	eP	P	23 42 42.1	+0.5
	comp=Z,7.0nm,1.1s,mb4.5						
LSZ	Lusaka	34.11	216	eP	P	23 42 42.1	+0.4
	comp=Z,7.0nm,1.1s,mb4.5						
KOLN	Koldanda	36.33	60	eP	P	23 43 00.3	-0.4
	comp=Z,53nm,1.1s,mb5.4						
GKN	Gorkha	37.27	60	eP	P	23 43 08.8	0.0
	comp=Z,55nm,1.5s,mb5.2						
DMN	Daman	37.56	61	eP	P	23 43 10.5	-0.7
	comp=Z,45nm,1.1s,mb5.1						
KKN	Kakani	37.76	61	eP	P	23 43 12.4	-0.5
	comp=Z,53nm,0.9s,mb5.3						
PKI	Pulchoki	37.81	61	eP	P	23 43 13.2	-0.1
MATP	Matopo	38.19	211	P	P	23 43 16.7	+0.2
	comp=Z,5.8nm,1.0s,mb4.3,baz=41,slow=10,SNR=8.4						
GUN	Gumba	38.30	61	eP	P	23 43 16.7	-0.8
	comp=Z,74nm,1.1s,mb5.3						
AKTK	Aktyubinsk	38.47	10	P	P	23 43 16.8	-2.1
AKTK	Aktyubinsk	38.47	10	P	P	23 43 16.8	-2.1
AKTO	Aktyubinsk	38.47	10	P	P	23 43 16.8	-2.1
	comp=Z,1.0nm,0.6s,mb3.7,baz=235,slow=16,SNR=2.5						
VRSR	Storozhevoye	39.07	351	eP	P	23 43 24.5	+0.5
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
VRSR				pmax	pmax		
	comp=N,20nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR	Storozhevoye	39.07	351	eP	P	23 43 24.5	+0.5
	comp=E,10.0nm,0.8s,mb4.6						
AKASG	Malin Array Be	40.90	342	P	P	23 43 39.9	+0.8
	comp=E,1.9nm,0.8s,mb3.8,baz=157,slow=7.3,SNR=12						
AKASG				PcP	PcP	23 45 39.0	-0.6
	comp=E,2.8nm,0.7s,baz=145,slow=2.6,SNR=7.1						
AKASG	Malin Array Be	40.90	342	P	P	23 43 39.9	+0.8
AKASG				PcP	PcP	23 45 39.0	-0.6
AKASG	Malin Array Be	40.90	342	PcP	PcP	23 45 39.0	-0.7
AKBB	Malin Array Si	40.90	342	eP	P	23 43 40.1	+0.9
KEST	Kesra	41.76	310	LR	LR	00 03 22.5	
	comp=E,62nm,18.1s,MS3.5,baz=5.3,slow=39						
KOLS	Kolonicke sedl	41.97	335	epP	pP	23 43 51.3	+0.2
CRVS	Cervenica-Dubn	42.29	334	eP	P	23 43 51.6	+1.0
KWP	Kalwaria	42.34	336	eP	P	23 43 52.7	+1.8
KWP				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
KWP	Kalwaria	42.34	336	eP	P	23 43 52.7	+1.8
	comp=Z,10nm,1.0s,mb4.4						
KWP	Kalwaria	42.34	336	eP	P	23 43 52.7	+1.8
	comp=Z,10nm,1.0s,mb4.4						
STHS	Stebnicka Huta	42.78	334	eP	P	23 43 56.0	+1.5
STHS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
STHS	Stebnicka Huta	42.78	334	eP	P	23 43 56.0	+1.5
	comp=Z,5.6nm,1.0s,mb4.2						
VYHS	Vyhne	43.16	332	eP	P	23 43 58.6	+0.9
OBN	Obninsk	43.26	350⇑	eP	P	23 43 59.1	+0.7
OBN				e		23 44 04.0	
OBN						23 45 48.0	
OBN				pmax	pmax		
	comp=Z,26nm,1.9s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.9						
OBN	Obninsk	43.26	350	eP	P	23 43 58.9	+0.5
	comp=Z,9.1nm,0.7s,mb4.6						
OBN	Obninsk	43.26	350	eP	P	23 43 59.1	+0.7
	comp=Z,26nm,1.9s,mb4.6						
ZRNK	Zerenda	43.46	18	eP	P	23 43 59.9	-0.1
ZRNK				e		23 45 49.4	
ZRNK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
ZRNK	Zerenda	43.46	18	eP	P	23 43 59.9	-0.1
	comp=Z,11nm,1.3s,mb4.4						
ZRNK				ePcP	PcP	23 45 49.4	+1.3
ZRNK	Zerenda	43.46	18	eP	P	23 43 59.9	-0.1
	comp=Z,11nm,1.3s,mb4.4						
ZRNK	Zerenda	43.46	18	ePcP	PcP	23 45 49.4	+1.3
LBTB	Lobatse	43.48	210	P	P	23 44 00.9	+0.7
	comp=Z,8.4nm,0.9s,mb4.5,baz=39,slow=8.3,SNR=7.6						
LBTB	Lobatse	43.48	210	eP	P	23 44 01.0	+0.8
LBTB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
LBTB	Lobatse	43.48	210	eP	P	23 44 01.0	+0.9
	comp=Z,11nm,1.0s,mb4.5						
LBTB	Lobatse	43.48	210	eP	P	23 44 01.0	+0.8
	comp=Z,11nm,1.0s,mb4.5						
MOS	Moscow	43.70	351	eP	P	23 44 01.9	0.0
MOS				pmax	pmax		
	comp=Z,78nm,1.5s,mb5.2						
MOS	Moscow	43.70	351	eP	P	23 44 01.9	0.0
	comp=Z,78nm,1.5s,mb5.2						
TSUM	Tsumeb	43.73	224	P	P	23 44 03.8	+1.5
	comp=Z,3.2nm,0.8s,mb4.1,baz=52,slow=8.4,SNR=5.0						
TSUM				PcP	PcP	23 45 50.8	+1.8
	comp=Z,3.2nm,0.9s,baz=322,slow=0.6,SNR=3.7						
TSUM	Tsumeb	43.73	224	P	P	23 44 05.8	+3.5
TSUM	Tsumeb	43.73	224	P	P	23 44 05.8	+3.6
ZST	Bratislava	43.78	330	eP	P	23 44 03.3	+0.7
BRVK	Borovoye	43.95	19	eP	P	23 44 04.3	+0.3
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BRVK	Borovoye	43.95	19	eP	P	23 44 04.3	+0.3
	comp=Z,4.4nm,1.0s,mb4.1						
MKAR	Makanchi Array	44.46	33	P	P	23 44 07.4	-0.7
	comp=Z,4.1nm,0.7s,mb4.2,baz=224,slow=6.8,SNR=15						
CHKZ	Chkalovo	44.58	19	eP	P	23 44 10.2	+1.2
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
CHKZ	Chkalovo	44.58	19	eP	P	23 44 10.2	+1.2
	comp=Z,3.9nm,0.8s,mb4.3						
CHKZ	Chkalovo	44.58	19	eP	P	23 44 10.2	+1.2
	comp=Z,3.9nm,0.8s,mb4.3						
SVE	Sverdlovsk	45.05	10	eP	P	23 44 12.0	-0.8
TOA0	Torodi Ar. Sit	45.22	276	eP	P	23 44 15.9	+1.8
TOA0	Torodi Ar. Sit	45.22	276	eP	P	23 44 15.9	+1.8
TORD	Torodi Ar. Bea	45.22	276	P	P	23 44 14.8	+0.7
	comp=Z,4.3nm,0.8s,mb4.3,baz=93,slow=7.4,SNR=28						
TORD				PcP	PcP	23 45 54.8	+0.7
	comp=Z,1.2nm,0.9s,baz=82,slow=3.6,SNR=4.0						
TORD				LR	LR	00 02 14.0	
	comp=Z,90nm,18.4s,MS3.7,baz=20,slow=35						
TORD	Torodi Ar. Bea	45.22	276	P	P	23 44 14.8	+0.7
TORD				PcP	PcP	23 45 54.8	+0.7
TORD				LR	LR	00 02 14.0	
TORD	Torodi Ar. Bea	45.22	276	PcP	PcP	23 45 54.8	+0.7
GERES	GERESS Array B	45.90	329	P	P	23 44 20.5	+0.9
	comp=Z,1.5nm,0.8s,mb4.0,baz=130,slow=7.2,SNR=12						
GERES				PcP	PcP	23 45 56.3	-0.3
	comp=Z,0.8nm,0.8s,baz=141,slow=5.0,SNR=3.7						
GERES	GERESS Array B	45.90	329	PcP	PcP	23 45 56.3	-0.2
WMQ	Urumqi	45.93	40	eP	P	23 44 19.5	-0.3
WMQ				AP	pP	23 44 29.0	+6.1
WMQ				XP	sP	23 44 33.0	+8.9
WMQ				S	S	23 51 04.0	-0.3
WMQ				SS	SS	23 54 22.0	-7.0
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,195nm,5.8s						
WMQ				LR	LR		
	comp=N,210nm,27.0s,MS4.2						
WMQ				LR	LR		
	comp=E,248nm,25.4s,MS4.2						
WMQ				LR	LR		
	comp=Z,304nm,28.7s,MS4.1						
KSP	Ksiaz	46.00	332	eP	P	23 44 21.6	+1.3
BOSA	Boshof	46.67	208	P	P	23 44 24.9	-0.6
	comp=Z,2.2nm,1.0s,mb4.1,baz=23,slow=16,SNR=2.3						
BOSA				LR	LR	00 03 37.4	
	comp=Z,319nm,21.1s,MS4.2,baz=45,slow=36						
BOSA	Boshof	46.67	208	eP	P	23 44 25.1	-0.5
BOSA	Boshof	46.67	208	eP	P	23 44 25.1	-0.5
BRG	Berggiesshubel	47.11	331	eP	P	23 44 28.9	-0.1
	comp=Z,34nm,2.5s,mb4.8						
BRG	Berggiesshubel	47.11	331	eP	P	23 44 28.9	-0.1
BRG				pmax	pmax		
	comp=Z,34nm,2.5s,mb4.8						
SOKR	Solikamsk	47.21	6	eP	P	23 44 35.5	+5.8
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
SOKR				MLR	MLR		
	comp=Z,380nm,23.0s,MS4.3						
GRA1	Grafenberg Arr	47.70	328	eP	P	23 44 33.2	-0.4
	comp=Z,5.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	47.70	328	eP	P	23 44 33.2	-0.4
	comp=Z,5.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	47.70	328	eP	P	23 44 33.2	-0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
GRF	Grafenberg Arr	47.70	328	eP	P	23 44 33.2	-0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CLL	Collm	47.84	331	eP	P	23 44 34.0	-0.7
	comp=Z,24nm,1.8s,mb4.9						
CLL	Collm	47.84	331	eP	P	23 44 34.0	-0.7
CLL				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.9						
NVS	Novosibirsk	50.19	26	i P	P	23 44 49.4	-3.3
CART	Cartagena	50.21	309	eP	P	23 44 56.6	+3.8
ZAL	Zalesovo	50.26	27	P	P	23 44 49.7	-3.5
	comp=Z,1.3nm,0.6s,mb4.1,baz=147,slow=16,SNR=7.7						
ZAL				LR	LR	00 06 37.2	
	comp=Z,21nm,20.1s,MS3.1,baz=244,slow=37						
FINES	FINESS Array B	51.22	347	P	P	23 45 00.8	+0.4
	comp=Z,3.3nm,0.7s,mb4.4,baz=137,slow=15,SNR=9.3						
FINES				LR	LR	00 09 12.6	
	comp=Z,113nm,18.4s,MS3.9,baz=135,slow=39						
FINES	FINESS Array B	51.22	347	P	P	23 45 00.8	+0.4
FINES				LR	LR	00 09 12.6	
JOF	Joensuu	51.54	350	ep	P	23 45 02.2	-0.6
	comp=Z,8.9nm,1.0s,mb4.7						
SUR	Sutherland	51.91	210	eP	P	23 45 07.3	+1.7
	comp=Z,17nm,1.1s,mb4.9						
SUR	Sutherland	51.91	210	eP	P	23 45 07.3	+1.7
	comp=Z,16nm,1.1s,mb4.9						
DBIC	Dimbokro	52.51	269	LR	LR	00 07 47.7	
	comp=Z,66nm,19.7s,MS3.7,baz=195,slow=36						
DBIC	Dimbokro	52.51	269	P	P	23 45 12.2	+2.1
GTA	Gaotai	52.62	50	eP	P	23 45 10.5	-0.4
GTA				AP	pP	23 45 15.3	+1.2
GTA				XP	sP	23 45 18.0	+2.7
GTA				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
KMI	Kunming	52.79	68	P	P	23 45 11.9	-0.2
KMI				AP	pP	23 45 16.6	+1.3
KMI				XP	sP	23 45 18.1	+1.6
KMI				PP	PP	23 47 10.3	-1.2
KMI				S	S	23 52 38.4	-2.0
KMI				SS	SS	23 56 14.8	-4.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,83nm,5.0s						
KMI				LR	LR		
	comp=N,274nm,21.4s,MS4.4						
KMI				LR	LR		
	comp=E,223nm,19.8s,MS4.4						
KMI				LR	LR		
	comp=Z,180nm,27.5s						
ESDC	Sonseca Array	53.01	310	P	P	23 45 15.4	+1.6
	comp=Z,1.5nm,0.8s,mb4.0,baz=100,slow=4.8,SNR=6.2						
LZH	Lanzhou	54.99	55	eP	P	23 45 28.6	+0.3
LZH				AP	pP	23 45 34.1	+2.6
LZH				XP	sP	23 45 37.5	+4.8
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.0						
NB2	NORSAR Subarra	55.20	339	P	P	23 45 29.2	-0.5
	comp=Z,6.1nm,1.2s,mb4.5,baz=133,slow=7.4						
NOA	NORSAR Array B	55.20	339	P	P	23 45 29.3	-0.4
	comp=Z,3.9nm,1.0s,mb4.4,baz=132,slow=7.1,SNR=5.6						
NOA				LR	LR	00 12 22.1	
	comp=Z,120nm,18.3s,MS4.0,baz=110,slow=40						
GYA	Guiyang	56.38	67⇑	iP	P	23 45 36.8	-1.4
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
ARCES	ARCESS Array B	58.56	351	P	P	23 45 53.5	-0.1
	comp=Z,7.2nm,0.9s,mb4.7,baz=180,slow=4.5,SNR=7.4						
ARCES				LR	LR	00 13 27.2	
	comp=Z,150nm,18.2s,MS4.2,baz=22,slow=38						
XAN	Xi’an	58.84	58	P	P	23 45 53.5	-2.1
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.8						
SONM	Songino Array	59.50	42	P	P	23 46 00.3	+0.1
	comp=Z,3.0nm,0.9s,mb4.3,baz=250,slow=6.9,SNR=13						
SONM				LR	LR	00 14 11.8	
	comp=Z,121nm,20.1s,MS4.0,baz=265,slow=39						
HHC	Hu-ho-hao-te	61.72	50	eP	P	23 46 16.8	+1.5
HHC				AP	pP	23 46 21.3	+2.8
HHC				XP	sP	23 46 23.5	+3.8
HHC				PCP	PcP	23 46 58.0	+1.4
HHC				PP	PP	23 48 34.5	+3.4
HHC				SCP	ScP	23 50 58.8	+0.4
HHC				PCS	PcS	23 50 59.8	+0.2
HHC				S	S	23 54 37.3	-0.8
HHC				XS	sS	23 54 43.8	+0.4
HHC				SCS	ScS	23 56 04.8	-2.3
HHC				SS	SS	23 58 39.8	+0.2
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,144nm,5.0s						
HHC				LR	LR		
	comp=N,172nm,5.7s						
HHC				LR	LR		
	comp=E,157nm,5.5s						
HHC				LR	LR		
	comp=Z,231nm,8.0s						
CN2	Changchun	72.17	48	eP	P	23 47 25.4	+3.6
KLR	Kul’dur	76.33	42	eP	P	23 47 43.0	-3.0
MAW	Mawson	80.82	174	LR	LR	00 19 38.9	
	comp=Z,106nm,21.7s,MS4.2,baz=241,slow=32						
MJAR	Matsushiro Arr	82.60	54	P	P	23 48 20.2	+0.1
	comp=Z,4.4nm,0.9s,mb4.5,baz=285,slow=4.2,SNR=6.1						
MJAR				LR	LR	00 30 45.5	
	comp=Z,91nm,19.2s,MS4.2,baz=230,slow=40						
MJAR	Matsushiro Arr	82.60	54	P	P	23 48 20.2	0.0
SNAA	Sanae	90.75	194	P	P	23 48 59.7	-0.3
	comp=Z,0.9nm,0.9s,mb4.1,baz=82,slow=7.6,SNR=7.5						
WRA	Warramunga Arr	90.76	110	P	P	23 48 59.0	-1.2
	comp=Z,8.8nm,0.7s,mb5.2,baz=298,slow=3.7,SNR=54						
WRAB	Tennant Creek	90.77	110	eP	P	23 48 59.6	-0.6
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.5						
WRAB	Tennant Creek	90.77	110	eP	P	23 48 59.6	-0.6
	comp=Z,20nm,0.8s,mb5.5						
WB2	Warramunga Arr	90.77	110	eP	P	23 48 59.0	-1.2
WB2	Warramunga Arr	90.77	110	eP	P	23 49 00.1	-0.1
WB2	Warramunga Arr	90.77	110	eP	P	23 49 00.1	-0.1
ASAR	Alice Springs	91.22	114	P	P	23 49 01.6	-0.6
	comp=Z,3.5nm,0.9s,mb4.7,baz=286,slow=5.1,SNR=13						
ASAR				LR	LR	00 28 30.5	
	comp=Z,72nm,18.1s,MS4.2,baz=182,slow=35						
BDFB	Brasilia	99.17	256	LR	LR	00 35 02.7	
	comp=Z,115nm,18.6s,MS4.4,baz=295,slow=36						
STKA	Stephens Creek	99.50	121	LR	LR	00 29 04.2	
	comp=Z,94nm,18.2s,MS4.3,baz=14,slow=32						
HWUT	Hardware Ranch	122.79	342	PKPdf	PKPdf	23 54 53.9	+0.9
NVAR	Mina Array Bea	127.56	347	PKP	PKPdf	23 55 03.5	+1.4
	comp=Z,0.5nm,0.6s,baz=269,slow=2.3,SNR=4.9						

---

*ATH **14** 23:54:19.2, 3936N×2557E, h27km±3km, MD3.5/4*
*ISK **14** 23:54:19.0, 3938N×2532E, h31km, MD3.4*
*SOF **14** 23:54:20.3, 3947N×2551E, h14km, MD2.7*
*THE **14** 23:54:20.1, 3935N×2554E, h6km, ML3.2*
*CSEM **14** 23:54:20.4±0.1, 3938N×2558E, h20km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.3km az=47.0*
*ISCJB **14** 23:54:20.5±0.4, 3937N±0.02×2554E±0.02, h20km±4km, Error ellipse: s-maj=3.9km s-min=2.8km az=68.0*
*NEIC **14** 23:54:20.1, 3937N×2554E, h6km, MD2.7(SOF), MD3.5(ATH), After ATH.*
ISC 14 23:54:19.7±0.3**, 3936N**±0.02×**2552E**±0.02**, h10**km±3km**, n64, σ0.91**/89**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LIA	Limnos Island	0.59	335	ePN	Pg	23 54 32.0	+0.8
LIA				eSN	Sg	23 54 40.2	+1.2
LIA	Limnos Island	0.59	335	ePb	Pg	23 54 31.7	+0.5
LIA				eSb	Sg	23 54 39.8	+0.8
PRK	Paraskevi	0.60	101⇑	iPN	Pg	23 54 31.0	-0.3
PRK				eSN	Sg	23 54 38.9	-0.2
PRK	Paraskevi	0.60	101	ePg	Pg	23 54 31.0	-0.3
PRK				eSb	Sg	23 54 39.4	+0.3
BOZC	Bozcaada	0.64	41	i P	Pg	23 54 31.4	-0.6
BOZC				i S	Sg	23 54 41.3	+1.0
LOS	Limnos	0.66	330	ePg	Pg	23 54 33.5	+1.0
LOS				eSg	Sg	23 54 43.7	+2.5
EZN	Ezine	0.78	53	PG	Pg	23 54 34.2	-0.5
GADA	Gvkgeada	0.88	19	PG	Pg	23 54 35.8	-0.8
GADA				SG	Sg	23 54 48.5	+0.4
AYVA	Ayvalik	0.91	93	i P	Pg	23 54 36.6	-0.6
AYVA				i S	Sg	23 54 49.1	0.0
CHOS	Chios island	1.06	156	ePg	Pg	23 54 39.5	-0.5
CHOS				eSg	Sg	23 54 54.7	+0.8
AOS	Alonnisos	1.28	262	ePg	Pg	23 54 43.3	-1.0
AOS				eSg	Sg	23 55 01.5	+0.5
URLA	Izmir	1.31	139	i P	Pn	23 54 43.8	-0.3
URLA				i S	Sb	23 55 01.4	+0.2
CANB	Canakkale	1.36	61	PN	Pn	23 54 43.9	-0.9
CANB				SN	Sn	23 55 02.4	-0.5
PAIG	Paliouri	1.53	292	ePg	Pn	23 54 46.6	-0.4
PAIG				eSg	Sg	23 55 08.5	-0.3
OUR	Ouranopolis	1.53	310	ePg	Pn	23 54 46.7	-0.4
BLCB	Balcova	1.54	129	PN	Pn	23 54 46.9	-0.3
ALN	Alexandroupoli	1.59	15	ePg	Pn	23 54 47.1	-0.8
ALN				eSg	Sg	23 55 08.8	-1.9
IZM	Izmir	1.67	125	PN	Pn	23 54 48.8	-0.2
KDAG	Bornova	1.67	124	i P	Pn	23 54 50.3	+1.3
KDAG				i S	Sg	23 55 16.8	+3.5
NEO	Neokhori	1.78	269	ePB	Pn	23 54 50.2	-0.3
NEO	Neokhori	1.78	269	ePn	Pg	23 54 53.7	-0.1
RDO	Rodhopi	1.78	1	ePN	Pn	23 54 50.6	0.0
RDO	Rodhopi	1.78	1	ePb	Pn	23 54 50.3	-0.3
XOR	Xorichti	1.80	271	ePb	Pn	23 54 50.8	0.0
RKY	Sarkoy-Tekirda	1.84	43	ePN	Pn	23 54 50.2	-1.2
SART	Tekirdag	1.84	43	i P	Pn	23 54 52.4	+1.0
SART				i S	Sn	23 55 17.7	+3.0
AKS	Akhisar	1.85	104	ePN	Pn	23 54 51.4	-0.1
AKHS	Akhisar	1.85	104	i P	Pg	23 54 53.6	-1.6
AKHS				i S	Sg	23 55 20.1	+0.8
PLG	Polygyros	1.89	303	ePg	Pg	23 54 55.3	-0.6
SMG	Samos	1.95	147	ePN	Pn	23 54 52.1	-0.8
SMG	Samos	1.95	147	ePn	Pn	23 54 55.7	+2.8
MFT	Murefte	1.97	43	ePN	Pn	23 54 52.8	-0.3
BTOK	Tokmak	1.99	78	i P	Pg	23 54 57.4	-0.4
BTOK				i S	Sn	23 55 18.4	+0.1
MRMT	Marmara Adasi	2.02	52	ePN	Pn	23 54 53.6	-0.3
LKR	Lokris	2.08	251	ePB	Pb	23 54 55.6	-2.0
SOH	Sokhos	2.21	312	ePn	Pn	23 54 57.0	+0.6
HORT	Hortiatis	2.23	304	ePn	Pn	23 54 57.4	+0.7
KDZ	Kurdzhali	2.29	358	i P	Pn	23 54 57.4	-0.1
KDZ				S	Sn	23 55 23.6	-2.2
NVR	Nevrokopi	2.35	328	ePN	Pn	23 54 58.9	+0.5
NVR	Nevrokopi	2.35	328	ePn	Pn	23 54 58.5	+0.1
RZN	Rozhen	2.40	346	i P	Pn	23 54 59.8	+0.7
RZN				S	Sn	23 55 28.6	0.0
DST	Dursunbey	2.42	83	ePN	Pn	23 55 00.1	+0.7
LIT	Litokhoron	2.45	289	ePn	Pn	23 55 00.3	+0.6
AYDN	Tasoluk	2.51	132	i P	Sn	23 55 29.9	-1.4
AYDN				i S	Sg	23 55 41.2	+0.7
MMB	Musomiste	2.61	329	i P	Pn	23 55 01.6	-0.4
MMB				S	Sn	23 55 32.7	-1.0
MMB				Sg	Sg	23 55 42.0	-1.5
MMB	Musomiste	2.61	329	ePn	Pn	23 55 02.0	0.0
EDRB	Edirne	2.65	20	ePN	Pn	23 55 01.7	-0.9
DIM	Dimitrovgrad	2.69	0	i P	Pn	23 55 03.3	+0.3
KNT	Kendrikon	2.69	313	ePn	Pn	23 55 03.8	+0.7
BODT	Bodrum	2.70	148	ePN	Pn	23 55 02.9	-0.2
MLSB	Milas	2.72	139	ePN	Pn	23 55 02.5	-1.0
PLD	Plovdiv	2.81	348	ePn	Pn	23 55 05.7	+1.0
PLD	Plovdiv	2.81	348	i P	Pn	23 55 05.7	+1.0
GRG	Griva	2.87	305	ePn	Pn	23 55 06.5	+1.0
ULDT	Uludag	2.90	73	i P	Pn	23 55 06.4	+0.5
ULDT				i S	Sg	23 55 52.9	+0.1
GEMT	Gemlik	3.02	68	ePN	Pn	23 55 08.1	+0.5
GDZ	Gediz	3.09	94	i P	Pg	23 55 16.0	-2.9
GDZ				i S	Sg	23 55 59.0	0.0
YLV	Yalova	3.20	67	ePN	Pn	23 55 10.9	+0.8
ISK	Istanbul-Kandi	3.20	57	ePN	Pn	23 55 10.8	+0.7
JMB	Yambol	3.21	14	ePn	Pn	23 55 10.7	+0.5
JMB	Yambol	3.21	14	i P	Pn	23 55 10.2	0.0
ADVT	Abdulvahap	3.42	70	ePN	Pn	23 55 14.1	+1.0
FNA	Florina	3.48	295	ePn	Pn	23 55 15.2	+1.3
ESKT	Eskisehir	4.13	86	ePN	Pn	23 55 23.8	+0.9

---

*ISCJB **14** 23:55:11.5±2.2, 85S±0.2×1476E±0.2, h132km±9km, mb3.6/3, Error ellipse: s-maj=34.6km s-min=30.9km*

az=43.5
*NEIC **14** 23:55:11.6±1.7, 8.45S×147.65E, h121km±10km, mb4.2/2, Error ellipse: s-maj=24.7km s-min=21.2km az=96.0*
*IDC **14** 23:55:12.2±3.2, 8.50S×147.60E, h127km±11km, mb3.3/2, mb1 3.3/4, mb1mx3.2/12, mbtmp3.6/4, Error ellipse: s-maj=53.1km s-min=42.1km az=134.0*
ISC 14 23:55:11.8±2.2**, 8.4S**±0.2×**147.7E**±0.2**, h123**km±10km**, n12, σ0.46**/13**, mb3.6**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.08**	**207**	P	**Pn**	**23 55 34.3**	**-0.4**
	52nm,0.3s,baz=31,slow=9.2,SNR=88						
PMG				S	**Sn**	**23 55 52.5**	**+0.3**
	37nm,0.3s,baz=246,slow=20,SNR=10.0						
WRAB	**Tennant Creek**	**17.21**	**227**	eP	**Pn**	**23 59 05.4**	**+0.8**
	23nm,1.3s						
WB2	**Warramunga Arr**	**17.22**	**227**	eP	**Pn**	**23 59 04.9**	**+0.2**
WB2	**Warramunga Arr**	**17.22**	**227**	eP	**Pn**	**23 59 05.2**	**+0.5**
WRA	**Warramunga Arr**	**17.23**	**227**	P	**Pn**	**23 59 04.1**	**-0.7**
	0.5nm,0.3s,baz=53,slow=11,SNR=34						
ASAR	**Alice Springs**	**20.07**	**219**	P	**P**	**23 59 35.5**	**+0.2**
	0.2nm,0.3s,baz=52,slow=8.7,SNR=9.7						
FITZ	**Fitzroy Crossi**	**23.46**	**244**	P	**P**	**00 00 09.6**	**-0.5**
	0.8nm,0.4s,mb3.4,baz=50,slow=6.5,SNR=11						
STKA	**Stephens Creek**	**23.99**	**193**	P	**P**	**00 00 14.2**	**-0.6**
	0.6nm,0.5s,mb3.2,baz=0.0,slow=10,SNR=2.8						
MBWA	**Marble Bar**	**29.75**	**242**	P	**P**	**00 01 06.3**	**-0.1**
TAU	**Tasmania Unive**	**34.33**	**180**	eP	**P**	**00 01 47.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**37.22**	**225**	eP	**P**	**00 02 11.0**	**-0.1**
	3.3nm,0.8s,mb4.3						
BRVK	**Borovoye**	**89.19**	**324**	P	**P**	**00 07 53.9**	**+0.4**

MEX 15 00:13:04.9±0.7**, 17.06N**×**100.76W, h10**km**, MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.47**	**91**	iP	Pg	00 13 13.2	-0.9
CAIG				iS	Sg	00 13 19.8	-0.4
ACX	**Acapulco**	**0.82**	**103**	iP	Pg	00 13 19.3	-1.5
ACX				iS	Sg	00 13 31.5	-0.1
MEIG	**Mezcala**	**1.39**	**51**	iP	Pn	00 13 26.6	-3.6
MEIG				iS	Sb	00 13 44.1	-4.5
UTMO	**Huajuapan**	**2.92**	**74**	eP	Pn	00 13 48.7	-2.7
UTMO				iS	Sn	00 14 23.2	-3.4

*CSEM **15** 00:25:49.9, 13.07N×48.09E, h10km, ML3.5, After DHMR*
DHMR 15 00:25:49.9±1.8**, 13.07N**×**48.09E, h10**km**, ML3.5, 2C-2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.67**	**33**	⇓eP	Pn	00 26 20.3	+1.1
MUKL				iS	Sn	00 26 42.4	+1.8
BDHA	**Al Bayda'**	**2.62**	**290**	⇓eP	Pn	00 26 36.5	+4.3
BDHA				AML	AML	00 26 37.1	
	comp=E,300nm,0.4s						
BDHA				iS	Sn	00 27 10.6	+6.5
LBOS		**2.88**	**286**	⇑iP	Pn	00 26 39.5	+3.7
LBOS				iS	Sn	00 27 16.6	+6.1
TRBA	**At Turbah**	**3.88**	**273**	⇑iP	Pn	00 26 51.1	+1.6
TRBA				iS	Sn	00 27 40.8	+5.6

*IDC **15** 00:35:35.8±1.7, 2.51S×122.31E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=188.4km s-min=26.0km az=62.0*
*ISCJB **15** 00:35:38.3±0.9, 2.5S±0.1×122.4E±0.2, h33km, mb3.6/3, Error ellipse: s-maj=28.1km s-min=14.0km az=133.5*
*NEIC **15** 00:35:40.7±0.7, 2.48S×122.37E, h35km, mb3.6/3, Error ellipse: s-maj=22.1km s-min=10.4km az=65.0*
ISC 15 00:35:40.8±0.9**, 2.5S**±0.1×**122.3E**±0.2**, h35**km**, n11, σ0.46**/11**, mb3.6**/3**, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.85**	**168**	eP	**Pn**	**00 39 21.2**	**+0.1**
	1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.85**	**168**	Pn	**Pn**	**00 39 21.2**	**+0.1**
	0.2nm,0.3s,baz=3.5,slow=12,SNR=10.0						
MBWA	**Marble Bar**	**18.72**	**188**	P	**Pn**	**00 39 57.3**	**+0.3**
WRAB	**Tennant Creek**	**20.94**	**147**	eP	**P**	**00 40 20.4**	**0.0**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**20.94**	**147**	P	**P**	**00 40 20.1**	**-0.4**
	0.7nm,0.7s,baz=315,slow=12,SNR=4.8						
WB2	**Warramunga Arr**	**20.95**	**147**	eP	**P**	**00 40 19.7**	**-0.8**
WB2	**Warramunga Arr**	**20.95**	**147**	eP	**P**	**00 40 20.1**	**-0.4**
ASAR	**Alice Springs**	**23.84**	**153**	P	**P**	**00 40 50.9**	**+0.2**
	0.8nm,0.6s,mb3.3,baz=335,slow=12,SNR=4.5						
PMG	**Port Moresby**	**25.62**	**107**	P	**P**	**00 41 07.4**	**+0.6**
MKAR	**Makanchi Array**	**60.39**	**329**	P	**P**	**00 45 47.0**	**+0.6**
	0.5nm,0.5s,mb3.9,baz=124,slow=6.3,SNR=4.7						
BRVK	**Borovoye**	**70.34**	**330**	eP	**P**	**00 46 50.1**	**-0.8**
	0.7nm,0.7s,mb3.7						

*IDC **15** 00:35:50.7±1.4, 8.09N×125.99E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=130.1km s-min=19.4km az=69.0*
*ISCJB **15** 00:35:58.7±0.8, 8.21N±0.05×126.51E±0.08, h83km±7km, mb3.9/12, Error ellipse: s-maj=13.7km s-min=6.6km az=141.5*
*MAN **15** 00:35:58.9, 8.23N×126.50E, h37km, mb3.8, ML4.9, MS5.8*
*NEIC **15** 00:36:01.6±1.4, 8.14N×126.25E, h93km±13km, mb3.9/5, Error ellipse: s-maj=27.1km s-min=8.1km az=73.0*
ISC 15 00:35:60.0±0.8**, 8.21N**±0.05×**126.50E**±0.08**, h76**km±7km**, n40, σ0.97**/44**, mb3.9**/12**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.15**	**311**	eP	**Pn**	**00 36 19.0**	**-1.6**
BUTP				eS	**Sn**	**00 36 36.4**	**+0.3**
MATI	**Mati**	**1.28**	**191**	eP	**Pn**	**00 36 19.7**	**-2.6**
DAV	**Davao City (W)**	**1.46**	**219**	eP	**Pn**	**00 36 26.0**	**+1.4**
DAV	**Davao City (W)**	**1.46**	**219**	eP	**Pn**	**00 36 25.5**	**+1.0**
BUKP	**Musuan**	**1.47**	**257**	eP	**Pn**	**00 36 24.4**	**-0.2**
BUKP				eS	**Sn**	**00 36 43.9**	**+0.6**
SCPH	**Surigao**	**1.85**	**327**	⇑eP	**Pn**	**00 36 28.6**	**-1.2**
SCPH				eS	**Sn**	**00 36 53.9**	**+1.4**
MSLP	**Maasin**	**2.51**	**320**	eP	**Pn**	**00 36 37.5**	**-1.1**
TBP	**Tagbilaran**	**3.00**	**300**	eP	**Pn**	**00 36 44.9**	**-0.2**
TBP				eS	**Sn**	**00 37 19.1**	**-0.8**
PAGZ	**Pagadian**	**3.11**	**264**	eP	**Pn**	**00 36 47.1**	**+0.4**
DCPH	**Dipolog City**	**3.14**	**277**	eP	**Pn**	**00 36 47.9**	**+0.8**
LLP	**Lapu-Lapu**	**3.26**	**310**	⇑eP	**Pn**	**00 36 48.7**	**-0.1**
LLP				eS	**Sn**	**00 37 26.8**	**+0.3**
SNPH	**Sibulan**	**3.42**	**289**	eP	**Pn**	**00 36 51.0**	**+0.1**
GUIM	**Jordan**	**4.55**	**302**	eP	**Pn**	**00 37 06.4**	**+0.2**
PVCP	**Virac**	**5.83**	**337**	eP	**Pn**	**00 37 25.5**	**+1.8**
NACB	**Ninganchiao**	**16.55**	**344**	P	**Pn**	**00 39 46.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**26.16**	**182**	P	**P**	**00 41 25.0**	**-2.2**
	0.7nm,0.4s,mb3.4,baz=18,slow=20,SNR=3.7						
PMG	**Port Moresby**	**27.01**	**130**	P	**P**	**00 41 36.7**	**+1.9**
ENH	**Enshi**	**27.12**	**326**	P	**P**	**00 41 34.9**	**-0.9**
WRAB	**Tennant Creek**	**29.02**	**165**	eP	**P**	**00 41 53.0**	**+0.4**
	1.2nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**29.02**	**165**	P	**P**	**00 41 52.7**	**0.0**
	0.2nm,0.3s,mb3.2,baz=343,slow=8.8,SNR=2.9						
INCN	**Inchon**	**29.14**	**0**	P	**P**	**00 41 54.1**	**+0.4**
MBWA	**Marble Bar**	**29.94**	**193**	eP	**P**	**00 41 57.7**	**-3.1**
MBWA				e	pP	00 42 13.8	-4.8
ASAR	**Alice Springs**	**32.50**	**167**	P	**P**	**00 42 23.6**	**+0.3**
	0.4nm,0.3s,mb3.6,baz=340,slow=7.0,SNR=10.0						
ASAR				PcP	PcP	00 45 10.2	+1.6
	0.4nm,0.5s,baz=345,slow=2.4,SNR=4.3						
STKA	**Stephens Creek**	**42.39**	**161**	eP	**P**	**00 43 47.5**	**+0.6**
	1.4nm,0.8s,mb3.7						
STKA	**Stephens Creek**	**42.39**	**161**	P	**P**	**00 43 47.7**	**+0.9**
	1.5nm,0.6s,mb3.9,baz=334,slow=9.7,SNR=4.1						
GUN	**Gumba**	**43.03**	**302**	eP	**P**	**00 43 53.6**	**+1.6**
	11nm,0.4s						
PKI	**Pulchoki**	**43.32**	**302**	eP	**P**	**00 43 54.1**	**-0.2**
	9.1nm,0.6s,mb4.7						
KKN	**Kakani**	**43.49**	**302**	eP	**P**	**00 43 56.0**	**+0.2**
	5.4nm,0.3s						
DMN	**Daman**	**43.59**	**302**	eP	**P**	**00 43 55.6**	**-0.9**
GKN	**Gorkha**	**44.10**	**302**	eP	**P**	**00 44 01.4**	**+0.8**
	3.3nm,0.3s,mb4.6						
TLY	**Talaya**	**47.24**	**341**	eP	**P**	**00 44 25.2**	**-0.2**
MKAR	**Makanchi Array**	**53.80**	**324**	P	**P**	**00 45 15.0**	**+0.2**
	0.3nm,0.3s,mb3.8,baz=118,slow=7.8,SNR=6.7						
MKAR	**Makanchi Array**	**53.80**	**324**	P	**P**	**00 45 15.0**	**+0.2**
BRVK	**Borovoye**	**63.55**	**326**	eP	**P**	**00 46 22.1**	**-0.4**
	0.8nm,0.5s,mb3.8						
CHKZ	**Chkalovo**	**63.62**	**327**	P	**P**	**00 46 22.5**	**-0.4**
ZRNK	**Zerenda**	**64.23**	**325**	eP	**P**	**00 46 26.4**	**-0.5**
	2.4nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**87.80**	**332**	P	**P**	**00 48 39.8**	**-0.9**
	1.0nm,0.4s,mb4.2,baz=85,slow=3.5,SNR=12						
VNDA	**Vanda**	**87.87**	**173**	P	**P**	**00 48 42.1**	**+1.0**
	0.5nm,0.4s,mb3.9,baz=334,slow=8.3,SNR=6.4						
VNDA	**Vanda**	**87.87**	**173**	eP	**P**	**00 48 42.0**	**+1.0**
	1.4nm,0.9s,mb4.0						
TORD	**Torodi Ar. Bea**	**121.22**	**291**	PKP	PKPdf	00 54 45.2	+1.1
	0.2nm,0.6s,baz=63,slow=1.2,SNR=7.3						

*IDC **15** 00:40:43.3±0.7, 0.80N×126.01E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/18, mbtmp4.1/10, ML3.3/1, MS3.3/1, Ms1 3.2/1, ms1mx2.4/24, Error ellipse: s-maj=38.1km s-min=14.9km az=72.0*
*ISCJB **15** 00:40:46.5±3.1, 0.80N±0.07×126.1E±0.1, h36km±30km, mb4.1/14, Error ellipse: s-maj=25.1km s-min=9.4km az=139.6*
*NEIC **15** 00:40:48.3±0.3, 0.79N×126.08E, h35km, mb4.1/7, Error ellipse: s-maj=14.4km s-min=5.7km az=69.0*
ISC 15 00:40:48.7±1.9**, 0.78N**±0.07×**126.1E**±0.1**, h37**km±19km**, n24, σ0.60**/23**, mb4.1**/14**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**14.11**	**336**	eP	**Pn**	**00 44 06.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**18.77**	**181**	P	**Pn**	**00 45 04.5**	**-0.7**
	0.1nm,0.3s,baz=9.3,slow=14,SNR=3.9						
WRAB	**Tennant Creek**	**22.12**	**159**	eP	**P**	**00 45 40.8**	**0.0**
	18nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**22.13**	**159**	P	**P**	**00 45 40.5**	**-0.4**
	1.9nm,0.3s,mb4.0,baz=340,slow=11,SNR=12						
WB2	**Warramunga Arr**	**22.13**	**159**	eP	**P**	**00 45 40.2**	**-0.7**
MBWA	**Marble Bar**	**22.67**	**196**	eP	**P**	**00 45 47.0**	**+0.3**
	5.1nm,0.9s,mb4.0						
AS31	**Alice Springs**	**25.46**	**163**	eP	**P**	**00 46 13.9**	**+0.9**
ASAR	**Alice Springs**	**25.46**	**163**	P	**P**	**00 46 14.1**	**+1.0**
	1.5nm,0.3s,mb4.0,baz=347,slow=12,SNR=20						
ASAR				PcP	PcP	00 49 45.3	+1.1
	0.3nm,0.6s,baz=351,slow=2.1,SNR=4.6						
KULM	**Kulim**	**25.79**	**281**	P	**P**	**00 46 16.6**	**+0.6**
PSI	**Prapat**	**27.22**	**275**	P	**P**	**00 46 28.4**	**-0.6**
	1.4nm,0.3s,mb3.9,baz=122,slow=13,SNR=3.5						
STKA	**Stephens Creek**	**35.65**	**157**	eP	**P**	**00 47 43.1**	**+0.1**
	1.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**35.65**	**157**	P	**P**	**00 47 43.2**	**+0.2**
	1.2nm,0.4s,mb4.2,baz=320,slow=5.7,SNR=5.0						
MJAR	**Matsushiro Arr**	**37.31**	**16**	P	**P**	**00 47 56.7**	**-0.5**
	2.6nm,0.8s,mb4.1,baz=186,slow=9.3,SNR=6.3						
SONM	**Songino Array**	**49.89**	**343**	P	**P**	**00 49 39.5**	**+1.2**
	0.3nm,0.3s,mb3.7,baz=154,slow=8.7,SNR=3.6						
SONM				PcP	PcP	00 50 59.6	+1.2
	0.5nm,0.6s,baz=153,slow=4.7,SNR=4.5						
MKAR	**Makanchi Array**	**59.62**	**327**	P	**P**	**00 50 48.3**	**-0.5**
	2.0nm,0.6s,mb4.3,baz=118,slow=8.4,SNR=18						
ZAL	**Zalesovo**	**62.93**	**334**	P	**P**	**00 51 10.6**	**-0.6**
	1.9nm,0.2s,mb4.8,baz=256,slow=6.0,SNR=3.4						
ZAL	**Zalesovo**	**62.93**	**334**	P	**P**	**00 51 10.6**	**-0.6**
CASY	**Casey**	**67.83**	**187**	P	**P**	**00 51 42.8**	**-0.1**
BRVK	**Borovoye**	**69.51**	**328**	eP	**P**	**00 51 52.6**	**-0.8**
	1.2nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**69.63**	**328**	eP	**P**	**00 51 54.8**	**+0.7**
	2.0nm,0.8s,mb4.1						
ZRNK	**Zerenda**	**70.15**	**327**	eP	**P**	**00 51 57.1**	**-0.2**
	2.7nm,0.5s,mb4.4						
VNDA	**Vanda**	**80.60**	**173**	P	**P**	**00 52 57.5**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=306,slow=7.3,SNR=3.9						
VNDA	**Vanda**	**80.60**	**173**	eP	**P**	**00 52 57.1**	**-0.2**
	0.3nm,0.4s,mb3.6						
TORD	**Torodi Ar. Bea**	**123.17**	**286**	PKP	PKPdf	00 59 42.7	+1.4
	0.4nm,0.6s,baz=58,slow=1.6,SNR=8.6						

*ISK **15** 00:57:46.4, 38.69N×26.45E, h33km, MD3.7*
*CSEM **15** 00:57:47.9±0.1, 38.80N×26.73E, h25km, ML3.6, Error ellipse: s-maj=1.9km s-min=1.3km az=47.0*
*ISCJB **15** 00:57:47.2±0.4, 38.85N±0.02×26.67E±0.02, h13km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=79.2*
*ATH **15** 00:57:48.0, 38.82N×26.54E, h28km±1km, MD3.8/6, ML3.6*
*NEIC **15** 00:57:48.0, 38.82N×26.54E, h28km, MD3.2(SOF), MD3.7(ISK), ML3.6(ATH), After ATH.*
*THE **15** 00:57:48.8, 38.83N×26.76E, h16km, ML3.8*
*SOF **15** 00:57:49.3, 39.19N×26.63E, h2km, MD3.2*
ISC 15 00:57:48.0±0.4**, 38.85N**±0.02×**26.67E**±0.02**, h11**km±3km**, n99, σ1.16**/128**, 4C-5D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.45**	**2**	iP	**Pg**	**00 57 56.1**	**-0.8**
AYVA				iS	**Sg**	**00 58 02.3**	**-0.6**
URLA	**Izmir**	**0.50**	**187**	iP	**Pg**	**00 57 58.5**	**+0.8**
URLA				iS	**Sg**	**00 58 08.2**	**+3.9**
PRK	**Paraskevi**	**0.50**	**322**	ePB	**Pg**	**00 57 58.1**	**+0.3**
PRK				eSB	**Sg**	**00 58 05.6**	**+1.2**
BLCB	**Balcova**	**0.55**	**148**	iPG	**Pg**	**00 57 58.4**	**-0.3**
BLCB				SG	**Sg**	**00 58 06.5**	**+0.5**
KDAG	**Bornova**	**0.65**	**134**	iP	**Pg**	**00 58 00.4**	**-0.2**
KDAG				iS	**Sg**	**00 58 13.0**	**+3.9**
IZM	**Izmir**	**0.65**	**134**	iPG	**Pg**	**00 57 59.9**	**-0.7**
CHOS	**Chios island**	**0.67**	**226**	ePg	**Pg**	**00 58 02.1**	**+1.2**
CHOS				eSg	**Sg**	**00 58 12.9**	**+3.1**
AKHS	**Akhisar**	**0.89**	**88**	iP	**Pg**	**00 58 04.3**	**-0.9**
AKHS				iS	**Sg**	**00 58 15.6**	**-1.3**
AKS	**Akhisar**	**0.89**	**88**	PN	**Pn**	**00 58 04.4**	**-2.1**
EZN	**Ezine**	**1.01**	**345**	PN	**Pn**	**00 58 06.6**	**-1.4**
EZN				SN	**Sn**	**00 58 21.1**	**-1.1**
BOZC	**Bozcaada**	**1.10**	**334**	iP	**Pb**	**00 58 08.9**	**0.0**
BOZC				iS	**Sb**	**00 58 24.4**	**+1.2**
SMG	**Samos**	**1.15**	**173**	ePN	**Pn**	**00 58 09.2**	**-0.8**
SMG				eSN	**Sn**	**00 58 25.8**	**+0.1**
CANB	**Canakkale**	**1.20**	**15**	PN	**Pn**	**00 58 09.5**	**-1.2**
BTOK	**Tokmak**	**1.39**	**49**	iP	**Pn**	**00 58 12.6**	**-0.7**
BTOK				iS	**Sn**	**00 58 31.7**	**+0.1**
AYDN	**Tasoluk**	**1.52**	**141**	iP	**Pn**	**00 58 13.6**	**-1.6**
AYDN				iS	**Sn**	**00 58 35.1**	**+0.2**
LIA	**Limnos Island**	**1.55**	**313**	ePN	**Pn**	**00 58 15.2**	**-0.3**
LIA				eSN	**Sn**	**00 58 34.8**	**-0.9**
LOS	**Limnos**	**1.64**	**312**	ePb	**Pb**	**00 58 17.1**	**-1.1**
DST	**Dursunbey**	**1.70**	**63**	PN	**Pn**	**00 58 16.6**	**-0.9**
MLSB	**Milas**	**1.78**	**150**	ePN	**Pn**	**00 58 15.1**	**-3.6**
BODT	**Bodrum**	**1.86**	**164**	ePN	**Pn**	**00 58 14.9**	**-4.8**
RKY	**Sarkoy-Tekirda**	**1.87**	**12**	ePN	**Pn**	**00 58 19.6**	**-0.3**
SART	**Tekirdag**	**1.87**	**12**	iP	**Pn**	**00 58 19.9**	**-0.1**
SART				iS	**Sn**	**00 58 47.0**	**+3.4**
MRMT	**Marmara Adasi**	**1.89**	**22**	ePN	**Pn**	**00 58 18.3**	**-1.8**
BDRM	**Kayabasi**	**1.89**	**161**	iP	**Pg**	**00 58 22.5**	**-1.7**
BDRM				iS	**Sg**	**00 58 49.3**	**+0.6**
MFT	**Murefte**	**1.99**	**14**	ePN	**Pn**	**00 58 21.4**	**-0.1**
APE	**Apeiranthos**	**2.00**	**207**	ePn	**Pn**	**00 58 20.9**	**-0.7**
ALN	**Alexandroupoli**	**2.10**	**347**	ePn	**Pn**	**00 58 22.5**	**-0.5**
ALN				eSn	**Sn**	**00 58 49.1**	**+0.1**
YER	**Yerkesik**	**2.14**	**143**	ePN	**Pn**	**00 58 20.8**	**-2.8**
DENT	**Denizli**	**2.16**	**120**	ePN	**Pn**	**00 58 22.3**	**-1.6**
AOS	**Alonnisos**	**2.20**	**279**	ePn	**Pn**	**00 58 24.7**	**+0.3**
GDZ	**Gediz**	**2.20**	**83**	iP	**Pb**	**00 58 27.6**	**-0.2**
GDZ				iS	**Sb**	**00 58 55.3**	**+0.2**
DAT	**Datca**	**2.24**	**161**	ePN	**Pn**	**00 58 21.4**	**-3.6**
ULDT	**Uludag**	**2.30**	**55**	iP	**Pn**	**00 58 24.8**	**-1.1**
ULDT				iS	**Sn**	**00 58 57.2**	**+3.0**
ULDT	**Uludag**	**2.30**	**55**	iP	**Pn**	**00 58 24.8**	**-1.0**
ULDT				iS	**Sn**	**00 58 55.3**	**+1.2**
ARMT	**Armutlu**	**2.40**	**44**	ePN	**Pn**	**00 58 28.5**	**+1.3**
RDO	**Rodhopi**	**2.45**	**340**	ePN	**Pn**	**00 58 27.9**	**0.0**
ATH	**Athens Observa**	**2.48**	**250**	ePN	**Pn**	**00 58 27.2**	**-1.1**
GEMT	**Gemlik**	**2.50**	**50**	ePN	**Pn**	**00 58 30.0**	**+1.4**
OUR	**Ouranopolis**	**2.55**	**306**	ePn	**Pn**	**00 58 29.5**	**+0.3**
PAIG	**Paliouri**	**2.55**	**296**	ePn	**Pn**	**00 58 29.3**	**+0.1**
DALT	**Dalyan (Mudla)**	**2.60**	**143**	ePN	**Pn**	**00 58 27.0**	**-2.9**
ELBA	**Catalca**	**2.66**	**30**	iP	**Pn**	**00 58 30.5**	**-0.2**
ELBA				iS	**Sg**	**00 59 11.2**	**-2.3**
YLV	**Yalova**	**2.70**	**50**	ePN	**Pn**	**00 58 32.1**	**+0.8**
XOR	**Xorichti**	**2.75**	**282**	ePn	**Pn**	**00 58 32.4**	**+0.3**
ADVT	**Abdulvahap**	**2.85**	**55**	ePN	**Pn**	**00 58 34.5**	**+1.2**
ISK	**Istanbul-Kandi**	**2.87**	**39**	ePN	**Pn**	**00 58 34.8**	**+1.1**
PLG	**Polygyros**	**2.92**	**302**	ePN	**Pn**	**00 58 34.5**	**+0.2**
FETY	**Fethiye**	**2.93**	**138**	ePN	**Pn**	**00 58 31.8**	**-2.6**
KDZ	**Kurdzhali**	**2.95**	**341**	iP	**Pn**	**00 58 33.9**	**-0.9**
KDZ				S	**Sn**	**00 59 09.1**	**-1.1**
TKTP	**Tekketepe**	**2.98**	**105**	iP	**Pn**	**00 58 35.0**	**-0.2**
TKTP				iS	**Sg**	**00 59 20.0**	**-3.7**
EDRB	**Edirne**	**2.99**	**1**	ePN	**Pn**	**00 58 35.0**	**-0.3**
KLYT	**Kilyos**	**3.01**	**36**	ePN	**Pn**	**00 58 36.9**	**+1.3**
HRT	**Hereke**	**3.03**	**49**	ePN	**Pn**	**00 58 37.3**	**+1.4**
GPA	**Golpazari**	**3.16**	**62**	ePN	**Pn**	**00 58 39.2**	**+1.6**
RZN	**Rozhen**	**3.20**	**333**	iP	**Pn**	**00 58 38.9**	**+0.7**
RZN				S	**Sn**	**00 59 14.8**	**-1.5**
SOH	**Sokhos**	**3.22**	**309**	ePn	**Pn**	**00 58 39.0**	**+0.6**
SOH	**Sokhos**	**3.22**	**309**	ePn	**Pn**	**00 58 39.0**	**+0.5**
NVR	**Nevrokopi**	**3.29**	**320**	ePN	**Pn**	**00 58 39.7**	**+0.2**
DIM	**Dimitrovgrad**	**3.31**	**345**	iP	**Pn**	**00 58 37.9**	**-1.8**
ELL	**Elmali**	**3.32**	**128**	ePN	**Pn**	**00 58 37.9**	**-1.9**
ESKT	**Eskisehir**	**3.32**	**77**	iP	**Pn**	**00 58 40.8**	**+1.1**
ESKT				iS	**Sg**	**00 59 35.7**	**+1.2**
ESKT	**Eskisehir**	**3.32**	**77**	ePn	**Pn**	**00 58 40.9**	**+1.1**
SEYT	**Eskypehyr**	**3.32**	**77**	iP	**Pn**	**00 58 40.8**	**+1.0**
THE	**Thessaloniki**	**3.36**	**303**	ePn	**Pn**	**00 58 40.7**	**+0.2**
AGG	**Agios Georgios**	**3.39**	**274**	ePn	**Pn**	**00 58 41.8**	**+1.0**
LIT	**Litokhoron**	**3.47**	**292**	ePn	**Pn**	**00 58 42.8**	**+1.0**
MMB	**Musomiste**	**3.54**	**321**	iP	**Pn**	**00 58 43.0**	**+0.1**
MMB				S	**Sn**	**00 59 21.7**	**-3.0**
MMB	**Musomiste**	**3.54**	**321**	ePn	**Pn**	**00 58 42.9**	**0.0**
PLD	**Plovdiv**	**3.58**	**336**	ePn	**Pn**	**00 58 43.9**	**+0.6**
PLD	**Plovdiv**	**3.58**	**336**	iP	**Pn**	**00 58 43.0**	**-0.4**
JMB	**Yambol**	**3.61**	**359**	ePn	**Pn**	**00 58 44.2**	**+0.4**
JMB	**Yambol**	**3.61**	**359**	iP	**Pn**	**00 58 44.7**	**+0.9**
KNT	**Kendrikon**	**3.70**	**310**	ePn	**Pn**	**00 58 46.2**	**+1.1**
ANTB	**Antalya**	**3.71**	**121**	ePN	**Pn**	**00 58 44.3**	**-0.9**
HENT	**Hendek**	**3.80**	**58**	iP	**Pb**	**00 58 53.2**	**-1.9**
HENT				iS	**Sg**	**00 59 50.0**	**-0.2**
MDU	**Mudurnu**	**3.86**	**64**	ePN	**Pn**	**00 58 49.2**	**+2.0**
GRG	**Griva**	**3.90**	**304**	ePn	**Pn**	**00 58 48.9**	**+1.2**
KIZT	**Kizilcal**	**4.07**	**88**	ePN	**Pn**	**00 58 51.3**	**+1.2**
FNA	**Florina**	**4.51**	**297**	ePn	**Pn**	**00 58 57.7**	**+1.5**
KONT	**Konya--Tatoy**	**4.56**	**100**	ePN	**Pn**	**00 58 57.6**	**+0.7**
VTS	**Vitosha**	**4.57**	**326**	⇑iP	**Pn**	**00 58 58.0**	**+1.0**
VTS	**Vitosha**	**4.57**	**326**	iP	**Pn**	**00 58 57.9**	**+0.9**
VTS				S	**Sn**	**00 59 48.8**	**-1.2**
VTS	**Vitosha**	**4.57**	**326**	ePn	**Pn**	**00 58 58.1**	**+1.1**
ANTO	**Ankara**	**4.85**	**76**	ePN	**Pn**	**00 59 03.1**	**+2.2**
HDMB	**Hadim**	**4.97**	**110**	ePN	**Pn**	**00 59 03.0**	**+0.5**
SAFT	**Safranbolu**	**5.20**	**61**	ePN	**Pn**	**00 59 08.2**	**+2.6**
BR131	**Keskin Array S**	**5.48**	**79**	ePn	**Pn**	**00 59 09.3**	**-0.2**
	6.2nm,0.8s						
BR131				eSn	**Sn**	**01 00 13.5**	**+1.0**
BR131	**Keskin Array S**	**5.48**	**79**	ePn	**Pn**	**00 59 09.3**	**-0.2**
	6.2nm,0.8s						
BR131				eSn	**Sn**	**01 00 13.5**	**+1.1**
KAMT	**Kaman**	**5.50**	**82**	ePN	**Pn**	**00 59 11.7**	**+1.9**
TIRR	**Tirgusor**	**5.75**	**13**	⇑iP	**Pn**	**00 59 12.6**	**-0.6**
TIRR	**Tirgusor**	**5.75**	**13**	⇑P	**Pn**	**00 59 12.6**	**-0.6**
TOS	**Tosya**	**6.06**	**67**	ePN	**Pn**	**00 59 19.6**	**+2.2**
CORM	**Corum**	**6.30**	**75**	ePN	**Pn**	**00 59 22.2**	**+1.5**
CFR	**Carcaliu**	**6.41**	**9**	⇓iP	**Pn**	**00 59 22.4**	**+0.1**
CFR	**Carcaliu**	**6.41**	**9**	⇓P	**Pn**	**00 59 22.4**	**0.0**
PLOR	**Plostina**	**6.99**	**360**	⇑iP	**Pn**	**00 59 31.1**	**+0.8**
GZR	**Gura Zlata**	**7.15**	**337**	⇓iP	**Pn**	**00 59 32.4**	**0.0**
GZR	**Gura Zlata**	**7.15**	**337**	⇓P	**Pn**	**00 59 32.4**	**0.0**
BZS	**Buzias**	**7.73**	**333**	⇓iP	**Pn**	**00 59 40.1**	**-0.3**

*CSEM **15** 01:02:47.6±0.1, 38.88N×26.77E, h2km, MD3.2, Error ellipse: s-maj=1.6km s-min=0.9km az=66.0*
*NEIC **15** 01:02:47.0, 38.88N×26.77E, h4km, MD3.2(ISK), MD3.5(ATH), After ISK.*
*ATH **15** 01:02:47.8, 38.88N×26.77E, h24km, MD3.5/3*
*ISCJB **15** 01:02:47.9±0.4, 38.90N±0.02×26.77E±0.03, h3km±4km, Error ellipse: s-maj=3.7km s-min=3.0km az=3.6*
*ISK **15** 01:02:48.1, 38.88N×26.77E, h5km, MD3.2*
*THE **15** 01:02:48.6, 38.81N×26.83E, h13km, ML3.0*
ISC 15 01:02:48.9±0.3**, 38.89N**±0.02×**26.74E**±0.03**, h9**km±3km**, n45, σ0.91**/61**, 1C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.42**	**354**	iP	**Pg**	**01 02 56.5**	**-0.6**
AYVA				iS	**Sg**	**01 03 03.4**	**+0.7**
PRK	**Paraskevi**	**0.51**	**314**	ePN	**Pg**	**01 02 58.6**	**-0.2**
PRK				eSN	**Sg**	**01 03 06.5**	**+0.9**
URLA	**Izmir**	**0.54**	**193**	iP	**Pg**	**01 02 59.1**	**-0.2**
URLA				iS	**Sg**	**01 03 08.0**	**+1.6**
BLCB	**Balcova**	**0.55**	**155**	iPG	**Pg**	**01 02 59.0**	**-0.6**
BLCB				SG	**Sg**	**01 03 07.1**	**+0.3**
KDAG	**Bornova**	**0.63**	**140**	iP	**Pg**	**01 03 00.7**	**-0.4**
KDAG				iS	**Sg**	**01 03 10.2**	**+0.8**
KDAG	**Bornova**	**0.63**	**140**	iP	**Pg**	**01 03 00.6**	**-0.5**
KDAG				iS	**Sg**	**01 03 10.2**	**+0.8**
IZM	**Izmir**	**0.64**	**140**	iPG	**Pg**	**01 03 00.4**	**-0.7**
CHOS	**Chios island**	**0.73**	**227**	ePg	**Pg**	**01 03 02.7**	**-0.4**
CHOS				eSg	**Sg**	**01 03 13.7**	**+1.0**
CHOS	**Chios island**	**0.73**	**227**	ePg	**Pg**	**01 03 02.7**	**-0.3**
CHOS				eSg	**Sg**	**01 03 13.6**	**+1.0**
AKS	**Akhisar**	**0.83**	**90**	PG	**Pg**	**01 03 04.5**	**-0.4**
AKHS	**Akhisar**	**0.83**	**90**	iP	**Pg**	**01 03 04.5**	**-0.4**
AKHS				iS	**Sg**	**01 03 16.0**	**+0.2**
EZN	**Ezine**	**0.99**	**341**	PG	**Pg**	**01 03 07.4**	**-0.5**
BOZC	**Bozcaada**	**1.09**	**331**	iP	**Pg**	**01 03 09.2**	**-0.6**
BOZC				iS	**Sg**	**01 03 24.8**	**+0.7**
CANB	**Canakkale**	**1.16**	**12**	PN	**Pn**	**01 03 10.7**	**-0.5**
SMG	**Samos**	**1.18**	**176**	⇑iPN	**Pn**	**01 03 10.1**	**-1.4**
SMG	**Samos**	**1.18**	**176**	ePb	**Pb**	**01 03 09.7**	**-1.7**
SMG				eSn	**Sn**	**01 03 28.4**	**+0.8**
BTOK	**Tokmak**	**1.33**	**48**	iP	**Pn**	**01 03 12.0**	**-1.5**
BTOK				iS	**Sb**	**01 03 31.4**	**+0.4**
AYDN	**Tasoluk**	**1.52**	**144**	iP	**Pn**	**01 03 16.3**	**+0.2**
AYDN				iS	**Sn**	**01 03 34.5**	**-1.5**
LIA	**Limnos Island**	**1.58**	**310**	ePN	**Pn**	**01 03 16.5**	**-0.5**
LIA	**Limnos Island**	**1.58**	**310**	ePn	**Pn**	**01 03 17.0**	**0.0**
DST	**Dursunbey**	**1.63**	**63**	PN	**Pn**	**01 03 16.9**	**-0.8**
MLSB	**Milas**	**1.79**	**153**	ePN	**Pn**	**01 03 20.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.83**	**10**	ePN	**Pn**	**01 03 21.1**	**+0.6**
MRMT	**Marmara Adasi**	**1.84**	**21**	ePN	**Pn**	**01 03 18.9**	**-1.6**
KCT	**Karacabey**	**1.86**	**42**	ePN	**Pn**	**01 03 21.8**	**+1.0**
BODT	**Bodrum**	**1.88**	**166**	ePN	**Pn**	**01 03 21.9**	**+0.8**
MFT	**Murefte**	**1.94**	**12**	ePN	**Pn**	**01 03 23.1**	**+1.1**
APE	**Apeiranthos**	**2.05**	**208**	ePn	**Pn**	**01 03 21.3**	**-2.3**
ALN	**Alexandroupoli**	**2.08**	**345**	ePn	**Pn**	**01 03 23.0**	**-0.8**
YER	**Yerkesik**	**2.13**	**145**	ePN	**Pn**	**01 03 25.2**	**+0.6**
GDZ	**Gediz**	**2.14**	**84**	iP	**Pg**	**01 03 29.0**	**-0.9**
GDZ				iS	**Sg**	**01 03 58.0**	**+0.3**
ULDT	**Uludag**	**2.23**	**55**	iP	**Pg**	**01 03 30.8**	**-0.9**
ULDT				iS	**Sg**	**01 03 59.6**	**-1.0**
DAT	**Datca**	**2.25**	**163**	ePN	**Pn**	**01 03 26.8**	**+0.5**
GEMT	**Gemlik**	**2.44**	**50**	ePN	**Pn**	**01 03 29.7**	**+0.9**
RDO	**Rodhopi**	**2.44**	**338**	ePN	**Pn**	**01 03 28.6**	**-0.2**
RDO	**Rodhopi**	**2.44**	**338**	ePn	**Pn**	**01 03 28.4**	**-0.4**
PAIG	**Paliouri**	**2.59**	**295**	ePn	**Pn**	**01 03 30.3**	**-0.7**
YLV	**Yalova**	**2.63**	**50**	ePN	**Pn**	**01 03 32.4**	**+0.9**
ADVT	**Abdulvahap**	**2.78**	**55**	ePN	**Pn**	**01 03 34.6**	**+1.1**
FETY	**Fethiye**	**2.91**	**140**	ePN	**Pn**	**01 03 36.4**	**+1.0**
EDRB	**Edirne**	**2.96**	**360**	ePN	**Pn**	**01 03 37.3**	**+1.3**
ESKT	**Eskisehir**	**3.25**	**77**	iP	**Pg**	**01 03 50.4**	**-0.8**
ESKT				iS	**Sg**	**01 04 35.3**	**+2.0**
ESKT	**Eskisehir**	**3.25**	**77**	ePn	**Pn**	**01 03 41.4**	**+1.4**
ELL	**Elmali**	**3.29**	**129**	ePN	**Pn**	**01 03 40.8**	**+0.2**
KNT	**Kendrikon**	**3.73**	**309**	ePn	**Pn**	**01 03 46.7**	**+0.2**

MAN 15 01:24:02.9, 13.97N×**120.61E, h127**km**, mb1.3, ML3.3, MS4.8, 1C, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.42**	**237**	eP	Pn	01 24 22.6	+1.4
LUBP				eS	Sn	01 24 34.1	-0.9
PGP	**Puerto Galera**	**0.57**	**144**	⇑iP	Pn	01 24 23.8	+1.7
BUSP	**Coron**	**1.99**	**192**	eP	Pn	01 24 37.1	+0.5
ENPP	**El Nido**	**2.98**	**203**	eP	Pn	01 24 50.5	+1.4
CUYO	**Cuyo Island**	**3.12**	**173**	eP	Pn	01 24 51.8	+0.8

FUNV 15 01:29:07.0, 8.31N×**73.19W, h163**km**, MW3.8, 1C-1D, Northern Colombia**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CAPV	Capacho	0.97	117⇑	iP	Pn	01 29 32.6	-0.2
CAPV				eS	Sn	01 29 50.8	-1.7
VIGV	El Vigia	1.88	74	eP	Pn	01 29 41.3	-0.3
VIGV				eS	Sn	01 30 05.5	-2.6
SOCV	Socops	2.31	90⇓	iP	Pn	01 29 46.3	-0.2
SOCV				eS	Sn	01 30 14.3	-2.7
VIRV	Villa del Rosa	2.31	19	eP	Pn	01 29 45.3	-1.2
VIRV				eS	Sn	01 30 13.9	-3.1
QARV	Quebrada Arrib	3.24	54	eP	Pn	01 29 57.4	-0.4
QARV				eS	Sn	01 30 34.0	-3.3
CURV	Curarigua	3.61	62	eP	Pn	01 30 01.6	-0.9
CURV				eS	Sn	01 30 41.2	-4.6
SANV	Sanarito	3.80	72	eP	Pn	01 30 03.3	-1.7
SANV				eS	Sn	01 30 46.4	-3.7
SIQV	Siquisique	4.07	55	eP	Pn	01 30 07.4	-1.0
IMOV	Isla Los Monje	4.61	29	eP	Pn	01 30 14.1	-1.4
IMOV				eS	Sn	01 31 03.3	-5.6
BAUV	El Baul	5.13	83	eP	Pn	01 30 20.2	-2.1
BAUV				eS	Sn	01 31 15.0	-6.2
CAOV	Caicara del Or	6.88	98	eP	Pn	01 30 42.4	-2.9

*BJI **15** 01:48:24.1, 1228N×4777E, h10^{km}, mB4.8, mb4.3, Ms4.7, Msz4.3*
*CSEM **15** 01:48:27.7±0.1, 1277N×48.17E, h2^{km}, mb4.0/6, Error ellipse: s-maj=3.1km s-min=2.0km az=145.0*
*DHMR **15** 01:48:28.5±1.6, 1306N×48.10E, h10^{km}, ML3.6*
*IDC **15** 01:48:28.9±0.7, 1265N×4831E, h0^{km}, mb4.0/16, mb1 4.1/18, mb1mx4.1/28, mbtmp4.0/18, ML3.9/2, MS3.7/10, Ms1 3.7/10, ms1mx3.5/24, Error ellipse: s-maj=19.5km s-min=14.0km az=116.0*
*ISCJB **15** 01:48:29.2±1.7, 1270N±005×48.18E±003, h12^{km}±11^{km}, mb4.0/25, MS3.7/8, Error ellipse: s-maj=8.1km s-min=5.3km az=158.5*
*NEIC **15** 01:48:30.5±0.4, 1262N×4833E, h10^{km}, mb4.0/6, Error ellipse: s-maj=10.9km s-min=6.3km az=114.0*
*MOS **15** 01:48:30.5±2.1, 1260N×4830E, h10^{km}, mb4.2/5, Error ellipse: s-maj=20.0km s-min=9.5km az=82.3*
ISC 15 01:48:29.8±2.3**, 1272N**±005×**4815E**±003**, h2**^{km}±15^{km}**, n70, σ1§10**/76**, mb4.0**/25**, MS3.7**/8**, 3C-3D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.95	26	eP	Pn	01 48 59.1	-4.8
MUKL				i S	Sn	01 49 21.2	-7.7
BDHA	Al Bayda’	2.81	297⇓	eP	Pn	01 49 15.4	-0.3
BDHA				i S	Sn	01 49 49.6	-0.6
BDHA				AML	AML	01 49 51.6	
	comp=E,991nm,0.3s						
BDHA	Al Bayda’	2.81	297⇓	eP	Pn	01 49 15.4	-0.3
BDHA				i S	Sn	01 49 49.6	-0.5
	comp=E,496nm,0.3s						
LBOS		3.05	292⇑	eP	Pn	01 49 17.9	-1.1
LBOS				i S	Sn	01 49 55.5	-0.6
LBOS				AML	AML	01 49 57.8	
	comp=E,232nm,0.7s						
LBOS		3.05	292⇑	eP	Pn	01 49 17.9	-1.1
LBOS				i S	Sn	01 49 55.5	-0.6
	comp=E,86nm,0.7s						
ADEN	Aden	3.09	271⇑	eP	Pn	01 49 19.0	-0.6
ADEN				AML	AML	01 49 55.3	
	comp=E,172nm,0.7s						
TRBA	At Turbah	3.97	278⇓	eP	Pn	01 49 30.3	-1.4
TRBA				i S	Sn	01 50 19.9	+1.2
DHBB	Dhamar BB	4.09	297	i P	Pn	01 49 31.2	-2.1
UDYN	Al ‘Udayn	4.26	287	eP	Pn	01 49 34.2	-1.4
UDYN				i S	Sn	01 50 24.1	-1.8
ATD	Arta Tunnel	5.32	258	Pn	Pn	01 49 51.4	+1.2
	comp=E,18nm,0.3s,baz=85,slow=6.9,SNR=53						
ATD				Sn	Sn	01 50 54.9	+2.7
	comp=E,3.1nm,0.3s,baz=73,slow=19,SNR=3.3						
ATD				LR	LR	01 51 45.3	
	comp=E,730nm,19.8s,baz=32,slow=36						
ATD	Arta Tunnel	5.32	258	Pn	Pn	01 49 51.4	+1.2
ATD				Sn	Sn	01 50 54.9	+2.7
ATD				LR	LR	01 51 45.3	
NAY	Al-Naaiem	16.47	357	eP	Pn	01 52 23.1	+1.1
NAY				AMb	AMB	01 52 27.8	
	comp=Z,23nm,1.0s						
RST	Umm Al-Ruwaisa	16.73	356	eP	Pn	01 52 26.8	+1.5
RST				AMb	AMB	01 52 33.5	
	comp=Z,70nm,1.2s						
UMR	Umm Al-Rimmam	16.75	359	eP	Pn	01 52 26.1	+0.5
MIB	Mutribah	17.02	358	eP	Pn	01 52 30.5	+1.6
MIB				AMb	AMB	01 52 36.7	
	comp=Z,63nm,1.2s						
KMBO	Kilima Mbogo	17.50	219	P	Pn	01 52 34.6	-0.3
	comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=4.4						
KMBO				LR	LR	01 59 03.5	
	comp=Z,280nm,19.8s,baz=78,slow=36						
BHD	Baghdad	20.75	351	ex	x	01 53 09.0	
BHD				ex	x	01 57 03.5	
BHD				ex	x	01 59 52.0	
EIL	Elat	20.85	326	eP	P	01 53 16.0	+3.2
	comp=Z,76nm,0.7s						
ASF	Jabal al Asfar	21.95	334	P	P	01 53 27.3	+2.7
	comp=Z,9.3nm,1.1s,mb4.2,baz=197,slow=1.9,SNR=7.0						
ASF				LR	LR	02 02 29.0	
	comp=Z,115nm,21.1s,MS3.3,baz=257,slow=38						
MALT	Malatya	26.92	343	eP	P	01 54 15.0	+2.7
MALT				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
MALT	Malatya	26.92	343	eP	P	01 54 14.9	+2.6
	comp=Z,2.0nm,0.9s,mb3.6						
GNI	Garni	27.49	354	LR	LR	02 06 44.6	
	comp=Z,336nm,19.3s,MS3.9,baz=163,slow=40						
BRTR	Keskin Array B	29.80	337	P	P	01 54 39.6	+1.7
	comp=Z,0.3nm,0.5s,mb3.3,baz=148,slow=7.2,SNR=3.6						
BRTR				LR	LR	02 08 31.9	
	comp=Z,93nm,19.1s,MS3.4,baz=136,slow=40						
LSZ	Lusaka	34.12	216	P	P	01 55 16.3	+0.3
	comp=Z,1.8nm,0.7s,mb4.1,baz=49,slow=9.7,SNR=6.7						
LSZ	Lusaka	34.12	216	eP	P	01 55 16.4	+0.5
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
LSZ	Lusaka	34.12	216	eP	P	01 55 16.4	+0.5
	comp=Z,1.3nm,0.6s,mb4.0						
LSZ	Lusaka	34.12	216	eP	P	01 55 16.4	+0.5
	comp=Z,1.3nm,0.6s,mb4.0						
MATP	Matopo	38.19	211	P	P	01 55 50.2	-0.5
	comp=Z,1.2nm,0.6s,mb3.8,baz=26,slow=13,SNR=4.1						
MATP	Matopo	38.19	211	P	P	01 55 50.2	-0.6
AKTK	Aktyubinsk	38.47	10	P	P	01 55 52.3	-0.8
AKTK	Aktyubinsk	38.47	10	P	P	01 55 52.3	-0.8
AKTO	Aktyubinsk	38.47	10	P	P	01 55 52.3	-0.8
	comp=Z,0.9nm,0.7s,mb3.6,baz=238,slow=8.9,SNR=4.7						
VRSR	Storozhevoye	39.08	351	eP	P	01 55 58.4	+0.2
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
VRSR				pmax	pmax		
	comp=N,20nm,1.0s						
VRSR				pmax	pmax		
	comp=E,9.0nm,1.0s						
VRSR	Storozhevoye	39.08	351	eP	P	01 55 58.4	+0.2
	comp=E,10.0nm,0.9s,mb4.5						
AKASG	Malin Array Be	40.91	342	P	P	01 56 13.4	0.0
	comp=E,0.2nm,0.3s,mb3.3,baz=160,slow=7.4,SNR=12						
AKASG	Malin Array Be	40.91	342	P	P	01 56 13.4	0.0
ZRNK	Zerenda	43.45	18	eP	P	01 56 33.6	-0.6
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
ZRNK	Zerenda	43.45	18	eP	P	01 56 33.6	-0.6
	comp=Z,4.8nm,1.1s,mb4.1						
ZRNK	Zerenda	43.45	18	eP	P	01 56 33.6	-0.6
	comp=Z,4.8nm,1.1s,mb4.1						
TSUM	Tsumeb	43.74	224	eP	P	01 56 36.6	+0.1
	comp=Z,1.3nm,0.7s,mb3.8						
TSUM	Tsumeb	43.74	224	eP	P	01 56 36.6	+0.1
	comp=Z,1.3nm,0.7s,mb3.8						
BRVK	Borovoye	43.95	19	eP	P	01 56 37.4	-0.8
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BRVK	Borovoye	43.95	19	eP	P	01 56 37.4	-0.8
	comp=Z,1.8nm,0.7s,mb3.9						
BRVK	Borovoye	43.95	19	eP	P	01 56 37.4	-0.8
	comp=Z,1.8nm,0.7s,mb3.9						
BVAR	Borovoye Array	43.95	19	P	P	01 56 37.7	-0.5
	comp=Z,0.7nm,0.5s,mb3.6,baz=204,slow=6.5,SNR=4.3						
MKAR	Makanchi Array	44.45	33	P	P	01 56 41.2	-1.0
	comp=Z,4.8nm,1.1s,mb4.1,baz=232,slow=5.9,SNR=8.4						
CHKZ	Chkalovo	44.58	19	eP	P	01 56 43.8	+0.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
CHKZ	Chkalovo	44.58	19	eP	P	01 56 43.8	+0.6
	comp=Z,1.3nm,0.6s,mb3.9						
CHKZ	Chkalovo	44.58	19	eP	P	01 56 43.8	+0.6
	comp=Z,1.3nm,0.6s,mb3.9						
TORD	Torodi Ar. Bea	45.23	276	P	P	01 56 49.7	+1.3
	comp=Z,1.0nm,0.5s,mb3.9,baz=90,slow=7.4,SNR=30						
TORD	Torodi Ar. Bea	45.23	276	P	P	01 56 49.7	+1.3
GERES	GERESS Array B	45.91	329	P	P	01 56 53.8	0.0
	comp=Z,0.7nm,0.6s,mb3.8,baz=128,slow=8.6,SNR=5.6						
WMQ	Urumqi	45.92	40	eP	P	01 56 55.0	+1.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
BOSA	Boshof	46.68	208	P	P	01 56 59.9	0.0
	comp=Z,1.6nm,0.8s,mb4.0,baz=342,slow=13,SNR=3.6						
BOSA				LR	LR	02 19 48.5	
	comp=Z,136nm,18.2s,MS3.9,baz=206,slow=40						
BOSA	Boshof	46.68	208	eP	P	01 57 00.8	+0.9
BOSA	Boshof	46.68	208	eP	P	01 57 00.8	+1.0
NVS	Novosibirsk	50.18	26	eP	P	01 57 26.0	-0.9
ZAL	Zalesovo	50.26	27	LR	LR	02 23 17.3	
	comp=Z,93nm,18.7s,MS3.8,baz=264,slow=42						
FINES	FINESS Array B	51.22	347	P	P	01 57 34.6	-0.1
	comp=Z,2.7nm,0.8s,mb4.2,baz=150,slow=9.7,SNR=6.0						
FINES				LR	LR	02 21 24.6	
	comp=Z,73nm,18.8s,MS3.7,baz=319,slow=38						
SUR	Sutherland	51.92	210	eP	P	01 57 40.8	+0.8
SUR	Sutherland	51.92	210	eP	P	01 57 40.8	+0.9
GTA	Gaotai	52.61	50	eP	P	01 57 44.1	-1.0
GTA				AP		01 57 48.4	
GTA				XP	sP	01 57 51.5	+5.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
NOA	NORSAR Array B	55.20	339	LR	LR	02 24 46.3	
	comp=Z,51nm,18.2s,MS3.6,baz=325,slow=39						
ARCES	ARCESS Array B	58.57	351	P	P	01 58 27.4	-0.5
	comp=Z,3.0nm,0.8s,mb4.4,baz=106,slow=4.3,SNR=7.5						
ARCES				LR	LR	02 24 52.3	
	comp=Z,63nm,21.1s,MS3.7,baz=60,slow=37						
SONM	Songino Array	59.49	42	P	P	01 58 33.6	-0.7
	comp=Z,1.6nm,1.0s,mb4.0,baz=240,slow=7.9,SNR=8.7						
HHC	Hu-ho-hao-te	61.72	50	eP	P	01 58 49.8	+0.3
HHC				AP		01 58 56.0	
HHC				XP	sP	01 58 59.1	+8.8
HHC				PCP	PcP	01 59 31.5	+0.7
HHC				PP	PP	02 01 07.0	+1.8
HHC				SCP	ScP	02 03 29.3	-4.3
HHC				PCS	PcS	02 03 32.9	-0.9
HHC				S	S	02 07 08.8	-4.3
HHC				SCS	ScS	02 08 36.0	-6.3
HHC				AMB	AMB		
	comp=Z,85nm,3.1s						
HHC				LR	LR		
	comp=N,157nm,5.1s						
HHC				LR	LR		
	comp=E,106nm,5.5s						
HHC				LR	LR		
	comp=Z,113nm,5.7s						
MDJ	Mudanjiang	75.12	47	P	P	02 00 12.1	-1.3
MDJ				AP		02 00 15.1	
MDJ				XP	sP	02 00 16.5	+2.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,61nm,4.5s						
WRA	Warramunga Arr	90.75	110	P	P	02 01 33.8	-0.6
	comp=Z,4.5nm,0.8s,mb4.8,baz=298,slow=3.7,SNR=22						
ASAR	Alice Springs	91.21	114	P	P	02 01 36.4	-0.1
	comp=Z,1.9nm,0.9s,mb4.4,baz=293,slow=4.5,SNR=14						
ASAR	Alice Springs	91.21	114	P	P	02 01 36.3	-0.2

*IDC **15** 02:07:32.2±67.0, 2244S×16968E, h0^{km}, mb4.4/3, mb1 4.5/3, mb1mx4.1/11, mbtmp4.4/3, Error ellipse: s-maj=1135.0km s-min=116.5km az=81.0*
NEIC 15 02:06:58.6±6.2**, 2191S**×**17920W, h600**^{km}**, mb4.2**/10**, Error ellipse: s-maj=119.0km s-min=31.9km az=79.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNB	Canberra Magne	30.52	237	eP	P	02 12 25.2	+0.5
	9.8nm,0.6s						
CTA	Charters Tower	32.27	267	eP	P	02 12 40.1	+0.6
	5.7nm,1.1s						
CTAO	Charters Tower	32.27	267	eP	P	02 12 40.0	+0.5
	4.8nm,0.8s						
TOO	Toolangi	34.17	235	eP	P	02 12 55.3	-0.2
	6.7nm,0.7s						
STKA	Stephens Creek	36.18	246	eP	P	02 13 12.2	+0.1
	3.0nm,0.5s						
STKA	Stephens Creek	36.18	246	P	P	02 13 12.7	+0.6
	3.5nm,0.5s,baz=95,slow=10,SNR=6.7						
AS31	Alice Springs	43.13	258	eP	P	02 14 08.1	+0.7
ASAR	Alice Springs	43.13	258	P	P	02 14 08.1	+0.6
	4.0nm,0.8s,baz=94,slow=8.0,SNR=26						
ASPA	Alice Springs	43.13	258	eP	P	02 14 08.1	+0.6
WB2	Warramunga Arr	43.31	264	eP	P	02 14 08.6	-0.3
WRAB	Tennant Creek	43.31	264	eP	P	02 14 08.8	-0.1
	2.2nm,0.6s						
WRA	Warramunga Arr	43.32	264	P	P	02 14 09.1	+0.2
	1.7nm,0.5s,baz=100,slow=9.4,SNR=28						
KAKA	Kakadu	46.91	273	eP	P	02 14 36.7	+0.4
	5.2nm,0.7s						
FORT	Forrest	47.72	248	eP	P	02 14 42.2	-0.1
	12nm,0.6s						
FITZ	Fitzroy Crossi	51.75	264	eP	P	02 15 13.0	+1.2
	1.2nm,0.3s						
MBWA	Marble Bar	56.47	259	eP	P	02 15 45.5	+0.7
	6.5nm,0.6s						

*IDC **15** 02:46:47.2±0.8, 0.16S×12540E, h0^{km}, mb4.2/10, mb1 4.2/11, mb1mx4.1/21, mbtmp4.2/11, ML3.7/1, Error ellipse: s-maj=51.0km s-min=14.1km az=73.0*
*ISCJB **15** 02:47:00.7±2.0, 028S±008×1257E±02, h132^{km}±19^{km}, mb4.1/17, Error ellipse: s-maj=26.9km s-min=8.7km az=133.2*
*NEIC **15** 02:47:01.3±2.3, 022S×12581E, h127^{km}±22^{km}, mb4.0/6, Error ellipse: s-maj=26.6km s-min=8.0km az=66.0*
*BJI **15** 02:47:02.3, 048S×12584E, h159^{km}, mB4.7, mb4.4*
ISC 15 02:47:02.3±1.9**, 030S**±008×**1257E**±01**, h130**^{km}±18^{km}**, n27, σ1§27**/28**, mb4.1**/17**, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	11.38	304	ePn	Pn	02 49 41.7	+0.8
FITZ	Fitzroy Crossi	17.69	180	eP	Pn	02 50 58.9	-1.6
	6.9nm,0.9s						
FITZ	Fitzroy Crossi	17.69	180	P	Pn	02 50 58.7	-1.7
	0.2nm,0.3s,baz=21,slow=9.0,SNR=9.7						
WRAB	Tennant Creek	21.27	157	eP	P	02 51 38.2	0.0
	8.4nm,0.9s,mb4.1						
WRA	Warramunga Arr	21.27	157	P	P	02 51 36.6	-1.7
	1.8nm,0.4s,mb3.7,baz=334,slow=11,SNR=20						
WB2	Warramunga Arr	21.28	157	eP	P	02 51 36.7	-1.6
MBWA	Marble Bar	21.53	195	eP	P	02 51 41.1	+0.1
	5.0nm,0.8s,mb4.0						
AS31	Alice Springs	24.55	162	eP	P	02 52 11.5	+1.6
ASAR	Alice Springs	24.55	162	P	P	02 52 11.0	+1.1
	1.7nm,0.5s,mb3.8,baz=340,slow=6.7,SNR=25						
ASPA	Alice Springs	24.55	162	eP	P	02 52 11.5	+1.6
JOW	Kunigami	27.09	5	P	P	02 52 32.0	-0.8
	8.6nm,0.6s,mb4.6,baz=191,slow=10,SNR=4.0						
NWAO	Narrogin (SRO)	33.42	193	P	P	02 53 29.6	+1.1
	3.8nm,0.7s,mb4.3,baz=116,slow=12,SNR=2.6						
KMI	Kunming	33.65	320	P	P	02 53 31.9	+1.4
KMI				AP	pP	02 54 03.8	+5.0
KMI				S	S	02 58 43.9	+0.1
KMI				XS	sS	02 59 39.8	+6.8
KMI				SS	SS	03 01 01.8	-13
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,117nm,5.0s						
KMI				LR	LR		
	comp=N,158nm,19.7s						
KMI				LR	LR		
	comp=E,126nm,21.6s						
KMI				LR	LR		
	comp=Z,123nm,23.2s						
STKA	Stephens Creek	34.81	156	eP	P	02 53 41.7	+1.1
	comp=Z,2.0nm,0.6s,mb3.9						
STKA	Stephens Creek	34.81	156	P	P	02 53 41.8	+1.2
	comp=Z,2.4nm,0.6s,mb4.0,baz=333,slow=8.2,SNR=8.9						
HHC	Hu-ho-hao-te	42.93	344	eP	P	02 54 50.3	+2.2
HHC				AP	pP	02 55 23.0	+5.6
HHC				XP	sP	02 55 39.8	+7.8
HHC				PP	PP	02 56 35.0	+4.7
HHC				PCP	PcP	02 56 37.3	+0.8
HHC				SCP	ScP	03 00 13.6	-1.8
HHC				PCS	PcS	03 00 29.4	+0.5
HHC				S	S	03 01 04.3	+1.0
HHC				XS	sS	03 02 02.0	+8.0
HHC				SS	SS	03 04 14.3	-5.6
HHC				SCS	ScS	03 04 31.4	-3.8
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,111nm,4.4s						
HHC				LR	LR		
	comp=N,91nm,5.5s						
HHC				LR	LR		
	comp=E,95nm,4.9s						
HHC				LR	LR		
	comp=Z,143nm,6.9s						
MDJ	Mudanjiang	44.86	4	P	P	02 55 05.3	+1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,123nm,6.9s						
MDJ				LR	LR		
	comp=N,28nm,23.7s						
MDJ				LR	LR		
	comp=E,31nm,24.9s						
MDJ				LR	LR		
	comp=Z,39nm,27.4s						
SONM	Songino Array	50.80	343	P	P	02 55 48.0	-1.3
	comp=Z,1.4nm,0.8s,mb3.6,baz=156,slow=8.8,SNR=4.4						
WMQ	Urumqi	55.48	327	eP	P	02 56 25.0	+1.4
MKAR	Makanchi Array	60.31	327	P	P	02 56 55.5	-1.8
	comp=Z,2.7nm,0.5s,mb4.4,baz=121,slow=8.2,SNR=15						
BVAR	Borovoye Array	70.15	328	P	P	02 57 59.7	-1.0
	comp=Z,1.6nm,0.7s,mb3.9,baz=123,slow=11,SNR=6.8						
CHKZ	Chkalovo	70.35	329	eP	P	02 58 00.8	-1.1
	comp=Z,1.7nm,0.7s,mb3.9						
ZRNK	Zerenda	70.85	328	eP	P	02 58 03.3	-1.7
	comp=Z,2.8nm,0.6s,mb4.2						
AKTK	Aktyubinsk	76.19	322	P	P	02 58 35.8	-0.4
AKTO	Aktyubinsk	76.19	322	P	P	02 58 35.8	-0.4
	comp=Z,1.3nm,0.3s,mb4.0,baz=94,slow=7.0,SNR=8.4						
BRTR	Keskin Array B	91.78	310	P	P	02 59 54.5	-0.9
	comp=Z,0.5nm,0.7s,mb3.7,baz=141,slow=9.3,SNR=3.5						
TORD	Torodi Ar. Bea	123.09	285	PKP	PKPdf	03 05 45.8	+2.4
	comp=Z,0.5nm,0.7s,baz=124,slow=1.3,SNR=4.1						

IDC 15 02:50:28.5±15.0**, 1332S**×**16997E, h635**^{km}±204^{km}**, mb2.8**/3**, mb1 3.1**/4**, mb1mx2.8**/15**, mbtmp4.0**/4**, Error ellipse: s-maj=283.2km s-min=43.1km az=177.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.33	201	P	P	02 52 41.5	+0.1
	0.6nm,0.3s,baz=282,slow=21,SNR=4.8						
WRA	Warramunga Arr	34.72	254	P	P	02 56 28.1	+0.1
	0.7nm,0.3s,baz=83,slow=7.8,SNR=8.9						
ASAR	Alice Springs	35.62	248	P	P	02 56 35.7	+0.3
	1.1nm,0.3s,baz=78,slow=9.5,SNR=15						
FITZ	Fitzroy Crossi	42.86	258	P	P	02 57 33.9	+0.8
	1.2nm,0.8s,baz=72,slow=13,SNR=6.1						
ARCES	ARCESS Array B	119.53	346	PKP	PKPdf	03 08 06.8	-0.7
	5.0nm,1.0s,baz=48,slow=2.7,SNR=7.1						

CASC 15 02:52:18.9±3.1**, 1316N**×**8963W, h20**^{km}±33^{km}**, MD3.5, 4C-3D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOQS	Boqueron	0.67	31⇑	eP	x	02 52 48.2	
BOQS				eS	x	02 52 58.2	
SBLS	San Blas	0.68	1⇓	eP	x	02 52 48.3	
SBLS				eS	x	02 52 57.8	
SNJE	San Jose	0.71	2⇓	eP	x	02 52 48.7	
SNJE				eS	x	02 52 58.2	
LFRS	El Faro	0.72	50⇑	eP	x	02 52 48.9	
LFRS				eS	x	02 52 59.8	
RTR	El Retiro	0.73	359⇓	eP	x	02 52 49.1	
RTR				eS	x	02 53 02.0	
LCBS	La Ceiba	0.81	52⇑	eP	x	02 52 50.2	
LCBS				eS	x	02 53 01.5	
LBRS	Las Brisas	0.81	45	eP	x	02 52 50.2	
LBRS				eS	x	02 53 03.2	
RBDL	Robledal	0.95	357⇑	eP	x	02 52 52.4	
RBDL				eS	x	02 53 06.6	
TP2	Tecpan 2	2.10	320	eP	Pn	02 52 54.5	+1.6
TP2				eS	Sn	02 53 19.2	+0.8

*IDC **15** 02:57:30.4±2.6, 1495S×16699E, h8^{km}±15^{km}, mb4.8/21, mb1 4.9/22, mb1mx4.9/22, mbtmp4.8/22, ML4.5/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/26, Error ellipse: s-maj=14.8km s-min=13.3km az=103.0*
*LDG **15** 02:57:31.9±0.2, 1477S×16656E, h10^{km}, Mb5.0/3, Error ellipse: s-maj=35.2km s-min=10.9km az=82.0*
*MOS **15** 02:57:33.7±1.2, 1492S×16689E, h41^{km}, mb4.9/26, Error ellipse: s-maj=12.7km s-min=11.4km az=133.9*
*ISCJB **15** 02:57:34.8±0.2, 1503S±004×16684E±005, h49^{km}, mb5.0/72, MS4.2/16, Error ellipse: s-maj=6.4km s-min=5.8km az=58.3*
*BJI **15** 02:57:35.7, 1479S×16730E, h63^{km}, mB5.2, mb5.0, Ms5.3, Msz4.8*
*GCMT **15** 02:57:36.5±0.6, 1503S×16689E, h37^{km}, MW5.0/35, Moment Tensor Solution. s23,c26; s35,c43; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.51±.25; $M_{\theta\theta}$-0.49±.19; $M_{\phi\phi}$-3.01±.15; $M_{r\theta}$-0.88±.24; $M_{\theta\phi}$0.43±.18; $M_{\phi r}$-0.21±.14; Best double couple: $M_0$3.39600×10^{16} NP1:ϕ_s338.00000°, δ46.00000°, λ73.00000°. NP2: ϕ_s183.00000°, δ47.00000°, λ107.00000°. Principal axes: T 3.7080, Plg78.0000°, Azm168.0000°; N -0.6200, Plg12.0000°, Azm351.0000°; P -3.0830, Plg1.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **15** 02:57:36.5±1.6, 1500S×16688E, h49^{km}±13^{km}, mb5.1/37 Error ellipse: s-maj=8.6km s-min=6.8km az=177.0*
ISC 15 02:57:37.0±1.8**, 1503S**±005×**16691E**±005**, h53**^{km}±16^{km}**, h73**^{km}±3.1^{km}**:pP-P, n276, σ1§01**/134**, mb5.0**/72**, MS4.2**/16**, 15C-4D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.02	184	eP	Pn	02 59 16.4	-0.7
DZM				eS	Sn	03 00 32.1	-3.4
DZM	Mont Dzumac	7.02	184	Pn	Pn	02 59 16.8	-0.3
	8.9nm,0.3s,baz=213,slow=23,SNR=33						
DZM				Sn	Sn	03 00 34.3	-1.2
	8.4nm,0.3s,baz=108,slow=19,SNR=3.1						
DZM				LR	LR	03 01 45.2	
	comp=Z,2µm,20.4s,baz=226,slow=36						
HNR	Honiara	8.79	308	LR	LR	03 02 40.6	
	comp=Z,1µm,21.6s,baz=177,slow=35						
PMG	Port Moresby	20.09	284⇑	eP	P	03 02 06.8	+0.8
PMG	Port Moresby	20.09	284	eP	P	03 02 07.9	+1.8
	35nm,0.9s						
CTA	Charters Tower	20.32	253	eP	P	03 02 10.0	+1.5
	14nm,0.8s						
CTA	Charters Tower	20.32	253	P	P	03 02 09.9	+1.4
	17nm,0.8s,baz=83,slow=10,SNR=14						
CTA				LR	LR	03 09 08.1	
	comp=Z,734nm,19.9s,MS4.0,baz=49,slow=34						
CTA	Charters Tower	20.32	253	P	P	03 02 09.9	+1.4
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTA				MLR	MLR		
	comp=Z,734nm,19.9s						
CTAO	Charters Tower	20.32	253	P	P	03 02 10.0	+1.5
CTAO	Charters Tower	20.32	253	eP	P	03 02 10.1	+1.6
ARMA	Armidale	20.78	220	eP	P	03 02 18.3	+4.8
ARMA				esS	sS	03 06 33.6	+12
URZ	Urewera	24.84	161	P	P	03 02 54.5	+0.3
	comp=Z,32nm,0.8s,mb4.9,baz=358,slow=4.4,SNR=14						
URZ				LR	LR	03 11 35.0	
	comp=Z,314nm,19.0s,MS3.8,baz=94,slow=34						

STKA Stephens Creek 28.53 230 *e*P P **03 03 25.9 -1.6**
comp=Z,7.5nm,0.6s,mb4.6
STKA *e*PCP PcP 03 06 37.8 -0.1
STKA *e*sS 03 09 40.2
STKA Stephens Creek 28.53 230 P P **03 03 28.1 +0.6**
comp=Z,7.7nm,0.6s,mb4.6,baz=47,slow=7.5,SNR=24
STKA PcP PcP 03 06 38.0 +0.1
comp=Z,3.9nm,0.8s,baz=56,slow=3.6,SNR=3.1
STKA LR LR 03 14 10.1
comp=Z,521nm,20.8s,MS4.1,baz=29,slow=35
RPZ Rata Peaks 28.81 174 P P **03 03 30.5 +0.6**
comp=Z,9.1nm,0.5s,mb4.7,baz=222,slow=2.0,SNR=10.0
RPZ LR LR 03 13 36.2
comp=Z,367nm,20.7s,MS4.0,baz=210,slow=33
WB2 Warramunga Arr 31.40 256⇑ *i*P P **03 03 51.7 -1.2**
WB2 *e*PCP PcP 03 06 45.8 +0.4
WRAB Tennant Creek 31.40 256 *e*P P **03 03 51.0 -1.9**
WRAB Tennant Creek 31.40 256 *e*P P **03 03 52.1 -0.7**
comp=Z,12nm,0.8s,mb4.8
WRA Warramunga Arr 31.41 256 P P **03 03 52.0 -1.0**
comp=Z,7.2nm,0.7s,mb4.6,baz=84,slow=8.9,SNR=60
WRA PcP PcP 03 06 45.2 -0.2
comp=Z,3.3nm,1.0s,baz=86,slow=3.0,SNR=6.2
WRA LR LR 03 16 01.1
comp=Z,768nm,19.8s,MS4.4,baz=90,slow=35
WRA Warramunga Arr 31.41 256 P P **03 03 52.0 -1.0**
WRA 03 06 45.2
WRA pmax pmax
comp=Z,7.0nm,0.7s
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA MLR MLR
comp=Z,768nm,19.8s
AS31 Alice Springs 32.24 249 *e*P P **03 03 59.8 -0.4**
ASAR Alice Springs 32.24 249 P P **03 03 59.9 -0.4**
comp=Z,6.5nm,0.8s,mb4.5,baz=80,slow=8.6,SNR=47
ASAR PcP PcP 03 06 47.0 -0.6
comp=Z,1.3nm,0.7s,baz=76,slow=3.1,SNR=4.0
ASAR LR LR 03 16 42.1
comp=Z,600nm,18.2s,MS4.3,baz=6.3,slow=36
ASAR Alice Springs 32.24 249 P P **03 03 59.9 -0.3**
ASAR 03 06 47.1
ASAR pmax pmax
comp=Z,7.0nm,0.8s
ASAR MLR MLR
comp=Z,600nm,18.3s
ASPA Alice Springs 32.24 249 *e*P P **03 03 59.8 -0.4**
KAKA Kakadu 33.52 270 *e*P P **03 04 10.4 -1.0**
comp=Z,6.1nm,0.6s,mb4.7
KAKA *e*PCP PcP 03 06 51.7 +0.5
GUMO Guam 35.83 321 LR LR 03 18 08.8
comp=Z,126nm,18.4s,MS3.7,baz=8.4,slow=35
FORT Forrest 38.84 239 *e*P P **03 04 57.3 +0.4**
comp=Z,88nm,0.7s,mb5.6
FITZ Fitzroy Crossi 39.62 260⇑ *i*P P **03 05 03.0 -0.3**
comp=Z,30nm,0.6s,mb5.2
FITZ *e*PCP PcP 03 07 10.2 +0.7
FITZ Fitzroy Crossi 39.62 260 P P **03 05 03.4 +0.1**
comp=Z,23nm,0.7s,mb5.0,baz=99,slow=8.0,SNR=79
PAE Paea 41.77 100 *e*P P **03 05 22.0 +0.9**
comp=Z,132nm,1.1s,mb5.5
PPT Papeete 41.78 100 *e*P P **03 05 22.5 +1.4**
comp=Z,64nm,0.9s,mb5.2
PPT Papeete 41.78 100 *e*LR LR 03 17 29.0
comp=Z,353nm,23.2s
PPT Papeete 41.78 100 P P **03 05 19.1 -2.0**
comp=Z,56nm,0.5s,mb5.4,baz=221,slow=5.9,SNR=2.5
PPT LR LR 03 17 58.6
comp=Z,102nm,19.2s,MS3.7,baz=303,slow=29
PPT Papeete 41.78 100 *e*P P **03 05 22.5 +1.4**
PPT LR LR 03 17 58.6
TVO Taravao 42.08 100 *e*P P **03 05 25.1 +1.5**
comp=Z,191nm,0.8s,mb5.8
PMOR Pomariorio Ree 43.60 96 *e*P P **03 05 37.7 +1.9**
comp=Z,183nm,1.2s,mb5.7
VAH Vaihoa 43.83 96 *e*P P **03 05 39.2 +1.5**
comp=Z,249nm,1.4s,mb5.8
MBWA Marble Bar 45.13 255 *e*P P **03 05 48.2 +0.1**
comp=Z,20nm,1.0s,mb4.9
MBWA *e*PcP PcP 03 07 27.7 -0.1
KLBR Kellerberrin 47.65 241⇑ *i*P P **03 06 07.2 -0.7**
comp=Z,14nm,0.7s,mb5.1
CBIJ Chichi jima 48.26 330 LR LR 03 23 02.5
comp=Z,98nm,19.9s,MS3.8,baz=320,slow=32
NWAO Narrogin (SRO) 48.30 239 LR LR 03 27 11.8
comp=Z,546nm,18.7s,MS4.6,baz=266,slow=37
NWAO Narrogin (SRO) 48.30 239 *e*P P **03 06 12.7 -0.2**
comp=Z,29nm,0.7s,mb5.4
MUN Mundaring 49.01 241⇑ *i*P P **03 06 18.4 +0.1**
KKM Kota Kinabalu 54.42 289 *e*P P **03 06 59.6 +0.9**
RKT Rikitea 55.22 108 *e*LR LR 03 23 39.5
comp=Z,274nm,26.0s
JOW Kunigami 56.03 318 P P **03 07 15.9 +5.7**
comp=Z,31nm,0.8s,mb5.4,baz=162,slow=11,SNR=6.4
MJAR Matsushiro Arr 58.01 333 P P **03 07 23.2 -1.0**
comp=Z,9.7nm,0.7s,mb4.9,baz=168,slow=7.8,SNR=18
MJAR LR LR 03 28 02.9
comp=Z,101nm,19.6s,MS3.9,baz=150,slow=32
MAJO Matsushiro 58.01 333 *e*P P **03 07 23.5 -0.8**
comp=Z,12nm,0.6s,mb5.1
MAT Matsushiro 58.01 333 P P **03 07 23.4 -0.8**
MAT *e*S **S** **03 15 09.0 -12**
KSM Kuching 58.32 281 *e*P P **03 07 27.2 +0.8**
ERM Erimo 60.84 340 *e*P P **03 07 44.3 +0.5**
comp=Z,18nm,0.8s,mb5.2
VNDA Vanda 62.56 181 P P **03 07 55.4 0.0**
comp=Z,6.3nm,0.5s,mb5.0,baz=1.2,slow=7.3,SNR=26
VNDA Vanda 62.56 181 P P **03 07 55.4 +0.1**
VNDA pmax pmax
comp=Z,6.0nm,0.5s
VNDA Vanda 62.56 181 *e*P P **03 07 55.4 0.0**
comp=Z,7.4nm,0.7s,mb4.9
SBA Scott Base 62.84 180 *e*P P **03 07 58.2 +1.0**
comp=Z,22nm,0.9s,mb5.3
ASAJ Asahikawa 62.90 341 P P **03 07 58.2 +0.6**
comp=Z,26nm,0.8s,mb5.4,baz=205,slow=8.2,SNR=21
ASAJ Asahikawa 62.90 341 P P **03 07 58.3 +0.7**
ASAJ pmax pmax
comp=Z,26nm,0.8s
CASY Casey 63.12 202 *e*P P **03 07 59.2 +0.1**
SSE Sheshan 63.49 317 *e*P P **03 08 02.9 +1.4**
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,405nm,6.0s
YSS Yuzh-Sakhalins 65.40 342⇑ *e*P P **03 08 14.5 +0.5**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 65.40 342 *e*P P **03 08 14.3 +0.4**
comp=Z,41nm,0.8s,mb5.5
NJ2 Nanjing 65.64 316 *e*P P **03 08 18.1 +2.5**
NJ2 AP pP 03 08 38.0 +7.7
NJ2 PP PP 03 10 45.5 +5.1
NJ2 S S 03 16 57.0 -0.3
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,450nm,7.4s
NJ2 LR LR
comp=N,1μm,26.0s,MS5.1
NJ2 LR LR
comp=E,1μm,26.9s,MS5.1
NJ2 LR LR
comp=Z,2μm,25.8s,MS5.2
MDJ Mudanjiang 68.38 332 P P **03 08 33.5 +0.6**
MDJ XP sP 03 09 00.0 +6.3
MDJ PP PP 03 11 04.6 +0.4
MDJ S S 03 17 32.9 +2.7
MDJ XS sS 03 18 01.4 +6.3
MDJ SCS ScS 03 18 26.3 -1.7
MDJ SS SS 03 21 49.9 -4.5
MDJ AMB AMB
comp=Z,18nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,127nm,7.2s
HABR Khabarovsk 69.28 338 *e*P P **03 08 37.4 -1.1**
HABR *e*S S 03 17 43.9 +3.0
PSI Prapat 69.56 279 P P **03 08 40.4 +0.2**
comp=Z,14nm,0.8s,mb5.0,baz=81,slow=4.8,SNR=17
PSI Prapat 69.56 279 P P **03 08 40.4 +0.2**
PSI pmax pmax
comp=Z,14nm,0.8s,mb4.9
CN2 Changchun 69.72 329 *e*P P **03 08 41.3 +0.1**
CN2 *e*AP pP 03 09 01.8 +5.7
CN2 *e*S S 03 17 45.5 -0.6
CN2 *e*SS SS 03 22 16.4 +1.3
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,100nm,3.0s
MIR Mirnyy 69.92 204*d i*P P **03 08 45.0 +2.6**
MIR pmax pmax
comp=Z,30nm,1.5s,mb5.0
KLR Kul'dur 71.14 336 *e*P P **03 08 47.0 -2.9**
KLR pmax pmax
comp=E,20nm,1.4s
KLR pmax pmax
comp=Z,30nm,1.4s,mb5.0
GYA Guiyang 71.59 305⇑ *i*P P **03 08 53.8 +1.2**
GYA AP pP 03 09 13.8 +6.3
GYA XP sP 03 09 22.3 +8.8
GYA PP PP 03 11 35.4 +3.4
GYA S S 03 18 05.8 -2.1
GYA SKS 03 18 45.8
GYA SS SS 03 22 44.3 +0.4
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,380nm,19.4s,MS4.8
GYA LR LR
comp=E,410nm,20.4s,MS4.8
GYA LR LR
comp=Z,390nm,21.0s,MS4.7
KMI Kunming 74.16 302 P P **03 09 09.9 +2.1**
KMI AP pP 03 09 28.8 +6.0
KMI AMB AMB
comp=Z,25nm,0.8s,mb5.2
CHTO Chiang Mai 74.88 295 *e*P P **03 09 13.4 +1.4**
comp=Z,4.4nm,0.6s,mb4.6
QSPA South Pole Qui 75.00 180 *e*P P **03 09 12.9 +0.2**
comp=Z,28nm,0.8s,mb5.2
MA2 Magadan 75.49 352 *e*P P **03 09 13.5 -2.0**
comp=Z,14nm,0.8s,mb5.0
HHC Hu-ho-hao-te 75.58 320 *e*P P **03 09 17.3 +1.3**
HHC PCP PcP 03 09 30.0 +1.2
HHC AP pP 03 09 37.5 +6.5
HHC PP PP 03 12 09.8 +3.9
HHC S S 03 18 51.6 -1.3
HHC SKS 03 19 15.6
HHC SCS ScS 03 19 21.3 -4.0
HHC XS sS 03 19 25.9 +7.8
HHC SS SS 03 23 46.5 +1.8
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,74nm,5.5s
HHC LR LR
comp=N,127nm,4.9s
HHC LR LR
comp=E,129nm,4.5s
HHC LR LR
comp=Z,137nm,6.1s
CD2 Chengdu 75.91 308 *e*P P **03 09 17.8 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,30nm,6.8s
HIA Hailar 76.37 330 *e*P P **03 09 20.2 -0.3**
LZH Lanzhou 78.26 312 *e*P P **03 09 32.5 +1.4**
LZH AMB AMB
comp=Z,42nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,163nm,4.3s
SEY Seymchan 78.53 353⇑ *e*P P **03 09 32.3 -0.3**
MAW Mawson 81.48 202 *e*P P **03 09 48.6 +0.1**
comp=Z,10.0nm,1.0s,mb4.7
MAW Mawson 81.48 202 P P **03 09 49.0 +0.5**
comp=Z,9.6nm,0.9s,mb4.7,baz=102,slow=5.7,SNR=13
MAW Mawson 81.48 202 P P **03 09 49.0 +0.5**
MAW pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 82.17 324⇑ *e*P P **03 09 52.5 +0.4**
ULN Ulaanbaatar 82.17 324 *e*P P **03 09 52.0 -0.1**
comp=Z,6.1nm,0.8s,mb4.6
YAK Yakutsk 82.21 343 *e*P P **03 09 51.2 -1.1**
YAK pmax pmax
comp=Z,52nm,0.9s,mb5.5
YAK Yakutsk 82.21 343 *e*P P **03 09 51.5 -0.8**
comp=Z,61nm,0.9s,mb5.5
SONM Songino Array 82.53 324 P P **03 09 54.0 0.0**
comp=Z,2.8nm,0.6s,mb4.5,baz=140,slow=6.0,SNR=16
SONM Songino Array 82.53 324 P P **03 09 54.0 0.0**
SONM pmax pmax
comp=Z,3.0nm,0.6s
GTA Gaotai 82.62 314 *e*P P **03 09 55.6 +1.1**
GTA PP PP 03 13 09.9 +5.4
GTA S S 03 20 07.0 -0.7
GTA SS SS 03 25 35.9 +5.7
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,136nm,6.1s
GTA LR LR
comp=N,103nm,7.6s
GTA LR LR
comp=E,114nm,8.0s
GTA LR LR
comp=Z,151nm,8.7s
BILL Bilibino 82.84 360 *e*P P **03 09 54.9 -0.7**
BILL *e* 03 13 04.9
BILL *e*S S 03 20 11.5 +1.6
BILL pmax pmax
comp=Z,48nm,1.0s,mb5.5
BILL Bilibino 82.84 360 *e*P P **03 09 55.1 -0.5**
comp=Z,19nm,0.4s,mb5.5
TTA Tatalina 82.90 16 *e*P P **03 09 55.8 -0.1**
comp=Z,12nm,1.3s,mb4.8
PMR Palmer 83.90 20 *e*P P **03 10 00.2 -0.8**
comp=Z,11nm,0.7s,mb5.1
BOD Bodaibo 84.59 335 *e*P P **03 10 00.2 -4.4**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
MCK McKinley 85.54 18 *e*P P **03 10 09.3 0.0**
comp=Z,7.0nm,0.8s,mb4.9
ZAK Zakamensk 85.59 325 *e*P P **03 10 08.0 -1.6**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
YBH Yreka Blue Hor 85.87 45 P P **03 10 10.4 -0.5**
comp=Z,3.3nm,0.8s,mb4.6,baz=126,slow=5.0,SNR=5.0
YBH Yreka Blue Hor 85.87 45 P P **03 10 10.4 -0.6**
YBH pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 86.04 326 *e*P P **03 10 11.6 -0.2**
TLY *e* pP 03 10 23.9 -3.2
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
CMB Columbia Colle 86.06 49 *e*P P **03 10 11.4 -0.5**
COLA College 86.70 18 *e*P P **03 10 13.3 -1.8**
COLA College 86.70 18 *e*P P **03 10 12.9 -2.2**
comp=Z,9.3nm,0.7s,mb5.1
NVAR Mina Array Bea 87.73 49 P P **03 10 20.0 0.0**
comp=Z,1.1nm,0.8s,mb4.2,baz=208,slow=5.7,SNR=5.6
SYO Syowa Base 88.32 197‖ *e*P P **03 10 21.8 -1.0**
SYO Syowa Base 88.32 197‖ *e*PcP PcP 03 10 23.0 -1.5
EGAK Eagle 88.71 20 *e*P P **03 10 22.9 -1.8**
WVOR Wild Horse Val 88.94 46 *e*P P **03 10 26.7 +1.0**
comp=Z,6.6nm,1.2s,mb4.8
BMN Battle Mountai 89.22 48 *e*P P **03 10 27.2 +0.2**
comp=Z,6.6nm,1.1s,mb4.9
GUN Gumba 89.23 299 *e*P P **03 10 28.0 +0.9**
comp=Z,36nm,0.9s,mb5.7
SHPR Sheep Range 89.42 52 *e*P P **03 10 28.5 +0.5**
PKI Pulchoki 89.53 299 *e*P P **03 10 29.1 +0.6**
KKN Kakani 89.70 299 *e*P P **03 10 30.0 +0.7**
DMN Daman 89.80 299 *e*P P **03 10 30.7 +0.9**
comp=Z,58nm,1.0s,mb5.8
HAWA Hanford 89.81 42 *e*P P **03 10 29.1 -0.8**
comp=Z,0.6nm,0.9s,mb3.9
TIXI Tiksi 90.19 349 *e*P P **03 10 25.9 -5.7**
GKN Gorkha 90.31 299 *e*P P **03 10 32.2 +0.1**
comp=Z,30nm,0.9s,mb5.6
BMO Blue Mountains 90.71 44 *e*P P **03 10 32.8 -1.2**
comp=Z,6.3nm,1.3s,mb4.8
KOLN Koldanda 91.12 298 *e*P P **03 10 35.8 -0.1**
comp=Z,19nm,1.2s,mb5.3
NEW Newport 92.02 40 P P **03 10 38.2 -1.8**
comp=Z,2.1nm,0.8s,mb4.5,baz=221,slow=6.1,SNR=5.0
NEW Newport 92.02 40 P P **03 10 38.2 -1.9**
NEW pmax pmax
comp=Z,2.0nm,0.8s
NEW Newport 92.02 40 *e*P P **03 10 38.8 -1.3**
comp=Z,3.5nm,1.0s,mb4.6
MSU Marysvale 92.30 51 *e*P P **03 10 42.1 +0.8**
WMQ Urumqi 92.69 315 *e*P P **03 10 43.5 +0.4**
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,128nm,6.3s
SNAA Sanae 93.23 183 *e*P P **03 10 44.5 -1.2**
SNAA *e* 03 10 45.1
SNAA *e* 03 10 49.4
SNAA *e* 03 11 05.9
SNAA Sanae 93.23 183⇑ *e*P P **03 10 44.0 -1.7**
SNAA Sanae 93.23 183 *e*P P **03 10 44.6 -1.0**
comp=Z,10.0nm,1.1s,mb5.2
VNA3 Neumayer Olymp 93.91 181 *e*P P **03 10 47.4 -1.4**
VNA3 *e* 03 10 50.6
VNA3 *e* 03 10 53.1
VNA3 *e* pP 03 11 03.7 -0.4
VNA3 *e* 03 11 10.0
DLMT Dillon 94.03 44 *e*P P **03 10 49.5 +0.2**
comp=Z,5.3nm,1.1s,mb4.9
VNA1 Neumayer--Stat 94.47 182 *e*P P **03 10 50.3 -1.1**
VNA1 *e* 03 10 51.2
VNA1 *e* 03 10 53.8
VNA1 *e* 03 10 56.0
MOOW Moose Ponds 94.84 46 *e*P P **03 10 52.5 -0.5**
comp=Z,27nm,1.0s,mb5.6
PDAR Pinedale Array 95.41 47 P P **03 10 56.5 +0.9**
comp=Z,0.2nm,0.4s,mb3.9,baz=200,slow=7.4,SNR=4.8
PDAR LR LR 03 43 59.2
comp=Z,100nm,20.9s,MS4.3,baz=110,slow=29
MKAR Makanchi Array 97.18 316 P P **03 11 04.1 +0.4**
comp=Z,4.8nm,0.7s,mb5.0,baz=92,slow=6.6,SNR=19
MKAR Makanchi Array 97.18 316⇑ *e*P P **03 11 04.0 +0.3**
MKAR Makanchi Array 97.18 316 P P **03 11 04.1 +0.4**
ZAL Zalesovo 97.43 324 P P **03 11 03.8 -1.0**
comp=Z,3.4nm,0.7s,mb4.9,baz=350,slow=6.8,SNR=6.6
ZAL LR LR 03 55 42.3
comp=Z,50nm,18.1s,MS4.0,baz=269,slow=36
ZAL Zalesovo 97.43 324 *i*P P **03 11 04.1 -0.7**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 97.97 27 P P **03 11 05.2 -2.0**
comp=Z,2.2nm,0.7s,mb4.8,baz=259,slow=4.8,SNR=6.0
YKA LR LR 03 52 08.2
comp=Z,62nm,18.2s,MS4.1,baz=270,slow=34
YKA Yellowknife Ar 97.97 27 P P **03 11 05.2 -2.0**
YKA LR LR 03 52 08.2
AKTK Aktyubinsk 113.46 319 PKPdf PKiKP 03 16 08.4 -0.6
AKTO Aktyubinsk 113.46 319 PKiKP PKiKP 03 16 08.4 -0.6
comp=Z,1.6nm,0.6s,baz=108,slow=7.1,SNR=6.6
AKTO Aktyubinsk 113.46 319 *i* PKIKP PKiKP 03 16 08.4 -0.6
AKTO pmax pmax
comp=Z,2.0nm,0.6s
LPAZ La Paz 117.38 118 PKP PKPdf 03 16 18.2 +1.6
comp=Z,1.2nm,0.8s,baz=114,slow=2.5,SNR=5.7
LPAZ La Paz 117.38 118 PKIKP PKPdf 03 16 18.2 +1.7
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 117.38 118 *e*PKPdf PKPdf 03 16 17.8 +1.2
LVZ Lovozero 118.97 341⇑ *i*PKIKP PKPdf 03 16 14.9 -4.7
LVZ Lovozero 118.97 341⇑ *e*PKP PKPdf 03 16 14.0 -5.6
ARCES ARCESS Array B 120.45 345 PKP PKPdf 03 16 21.3 -1.1
comp=Z,6.8nm,0.5s,baz=77,slow=2.0,SNR=46
ARCES PKKPbc PKKPbc 03 26 26.9 -1.5
comp=Z,1.8nm,0.8s,baz=237,slow=8.3,SNR=4.0
ARE0 ARCESS Array S 120.45 345 *e*PKPdf PKPdf 03 16 21.4 -1.0
CPUP Villa Florida 120.50 133 PKP PKPdf 03 16 22.6 0.0
comp=Z,0.3nm,0.3s,baz=251,slow=4.5,SNR=4.4
SCHQ Schefferville 122.74 34 PKP PKPdf 03 16 25.9 -0.9
comp=Z,5.1nm,0.9s,baz=37,slow=3.7,SNR=6.6
BOSA Boshof 122.92 221 PKP PKPdf 03 16 27.5 +0.4
comp=Z,2.4nm,0.8s,baz=150,slow=4.9,SNR=5.0
BOSA Boshof 122.92 221 PKIKP PKPdf 03 16 27.5 +0.3
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 122.92 221 *e*PKPdf PKPdf 03 16 28.2 +1.0
JOF Joensuu 123.03 338 *e*pkp PKPdf 03 16 25.4 -2.0
SDV Santo Domingo 123.50 89 *e*PKPdf PKPdf 03 16 28.8 +0.5
OBN Obninsk 124.77 328 *i* PKIKP PKPdf 03 16 29.0 -1.7
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN Obninsk 124.77 328 *e*PKP PKPdf 03 16 29.0 -1.7
KIV Kislovodsk 124.80 313 *i* PKIKP PKPdf 03 16 30.2 -0.6
KIV *e* 03 23 30.8
KIV pmax pmax
comp=Z,3.0nm,0.8s
SAML Samuel 124.94 112 *e*PKPdf PKPdf 03 16 31.2 +0.1
LBTB Lobatse 125.16 224 *e*PKPdf PKPdf 03 16 32.3 +0.9
KAF Kangasniemi 125.34 339 epkp PKPdf 03 16 29.1 -2.7
FINES FINESS Array B 125.87 338 PKP PKPdf 03 16 31.7 -1.1
comp=Z,1.7nm,0.4s,baz=38,slow=7.2,SNR=14
FINES FINESS Array B 125.87 338 PKIKP PKPdf 03 16 31.7 -1.1
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 125.87 338 PKP PKPdf 03 16 31.7 -1.1
KMBO Kilima Mbogo 127.69 257 PKP PKPdf 03 16 36.5 +0.2
comp=Z,1.8nm,0.8s,baz=146,slow=3.6,SNR=4.3
KMBO Kilima Mbogo 127.69 257 PKIKP PKPdf 03 16 36.5 +0.2
KMBO pmax pmax
comp=Z,2.0nm,0.8s
SJG San Juan 129.19 79 *e*PKPdf PKPdf 03 16 39.3 +0.1
LSZ Lusaka 129.29 235 *e*PKPdf PKPdf 03 16 39.9 +0.6
HUMP Col San Antoni 129.48 79 *e*PKPdf PKPdf 03 16 40.0 +0.3
AKASG Malin Array Be 130.78 326 PKP PKPdf 03 16 43.7 +1.6
comp=Z,0.6nm,0.4s,baz=43,slow=2.5,SNR=6.1
AKASG SKPbc SKPbc 03 20 05.8 +4.1
comp=Z,3.3nm,0.8s,baz=44,slow=3.7,SNR=4.0
AKASG Malin Array Be 130.78 326 PKIKP PKPdf 03 16 43.7 +1.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=N,3.0nm,0.8s
AKASG Malin Array Be 130.78 326 PKP PKPdf 03 16 43.7 +1.5
AKASG SKPbc SKPbc 03 20 05.8 +4.1
NB2 NORSAR Subarra130.82 345 PKPd PKPdf 03 16 42.1 -0.1
comp=Z,1.0nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 130.82 345 PKP PKPdf 03 16 42.1 -0.1
comp=Z,1.5nm,0.6s,baz=35,slow=2.1,SNR=7.9
NOA SKPbc SKPbc 03 20 06.4 +4.5
comp=Z,1.8nm,0.8s,baz=31,slow=2.8,SNR=4.8
NOA NORSAR Array B 130.82 345 PKIKP PKPdf 03 16 42.1 -0.1
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=N,2.0nm,0.8s
BRTR Keskin Array B 132.44 310 PKP PKPdf 03 16 46.3 +1.0
comp=N,1.3nm,0.8s,baz=38,slow=6.3,SNR=6.5
BRTR Keskin Array B 132.44 310 PKIKP PKPdf 03 16 46.3 +1.0
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BDFB Brasilia 133.97 130 PKP PKPdf 03 16 48.0 -0.2
comp=Z,3.3nm,0.7s,baz=228,slow=1.1,SNR=4.1
BDFB Brasilia 133.97 130 PKIKP PKPdf 03 16 48.0 -0.2
BDFB pmax pmax
comp=Z,3.0nm,0.7s
TSUM Tsumeb 134.52 223 *e*PKPdf PKPdf 03 16 51.1 +1.9
MORC Moravsky Berou 137.32 331 *e*PKPdf PKPdf 03 16 54.4 0.0
EKA Eskdalemuir Ar 139.05 351 PKhKP 03 16 47.2
comp=Z,1.5nm,0.8s,baz=2.7,slow=3.1,SNR=3.5
EKA Eskdalemuir Ar 139.05 351 PKHKP 03 16 47.3
EKA pmax pmax
comp=Z,2.0nm,0.9s
KHC Kasperske Hory 139.59 333⇑ *i*PKIKP PKPdf 03 17 00.6 +2.0
GERES GERESS Array B 139.75 333 PKhKP 03 16 53.2
comp=Z,1.0nm,0.7s,baz=50,slow=2.1,SNR=8.6
GERES GERESS Array B 139.75 333 PKIKP 03 16 53.2
GERES pmax pmax
comp=Z,1.0nm,0.7s
MOTA Moosalm 142.02 333‖ *i*P PKPdf 03 17 01.4 -1.5
comp=Z,22nm,1.6s
BAIF Baives 142.34 342 *e*PKP1 PKPdf 03 17 01.7 -1.8
DAVA Damuels 142.59 334⇑ *i*P PKPdf 03 17 00.4 -3.6
comp=Z,14nm,1.4s
CDF Champ du Feu 142.72 337 *e*PKP1 PKPdf 03 17 03.7 -0.5
comp=Z,38nm,1.2s
MEZF Maizieres J'vi 143.43 340 *e*PKP1 PKPdf 03 17 03.9 -1.6
comp=Z,30nm,0.7s
SNTG Esanatoglia 144.12 327 P PKPdf 03 17 05.9 -0.8
SFI Santa Sofia 144.23 329 P PKPdf 03 17 06.8 -0.1
ZCCA Zocca 144.33 330 P PKPdf 03 17 06.8 -0.2
VMG Vicchio 144.34 329 P PKPdf 03 17 07.2 +0.1
SEI Scarperia 144.36 329 P PKPdf 03 17 06.8 -0.3
CRE Caprese Michel 144.38 328 P 03 16 58.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AQU	L'Aquila	144.48	325	ePKPdf	PKPdf	03 17 06.1	-1.2
GSCL	Gusciola	144.52	330	P	PKPdf	03 17 05.9	-1.5
ERBM	Eremo	144.55	330	P	PKPdf	03 17 06.1	-1.3
CABF	La Chapelle	144.66	337	ePKP1	PKPdf	03 17 07.4	-0.2
	comp=Z,44nm,0.9s						
BOB	Bobbio (Coli)	144.74	332	P	PKPdf	03 17 07.4	-0.4
FLN	La Foliniere	144.80	345	ePKP1	PKPdf	03 17 06.7	-1.2
	comp=Z,26nm,0.6s						
CSNT	Castellina Chi	144.82	329	P	PKPdf	03 17 06.3	-1.6
LDF	La Druitiere	144.87	345	ePKP1	PKPdf	03 17 07.5	-0.5
	comp=Z,26nm,0.7s						
LOR	Lormes	144.90	340	ePKP1	PKPdf	03 17 07.7	-0.3
	comp=Z,72nm,1.1s						
PII	Pisa	145.02	330	P	PKPbc	03 17 06.5	-1.2
GRR	Gorron	145.24	346	ePKP1	PKPbc	03 17 08.4	0.0
	comp=Z,92nm,0.7s						
HYF	Humbligny	145.29	341	ePKP1	PKPbc	03 17 09.2	+0.6
LPL	La Plagne	145.32	335	ePKP1	PKPbc	03 17 09.5	+0.9
	comp=Z,124nm,1.0s						
LPG	La Plagne	145.32	335	ePKP1	PKPbc	03 17 09.7	+1.0
	comp=Z,81nm,0.8s						
SMF	Signal de Mont	145.44	339	ePKP1	PKPbc	03 17 09.3	+0.3
	comp=Z,103nm,0.9s						
AVF	Avril sur Loir	145.48	340	ePKP1	PKPbc	03 17 09.4	+0.2
	comp=Z,70nm,0.9s						
SOI	Samo	145.51	317	P	PKPdf	03 17 09.8	+0.7
BNI	Bardonecchia	145.72	335	ePKPbc	PKPbc	03 17 10.7	+0.8
FIN	Finale Ligure	145.73	332	P	PKPdf	03 17 09.3	-0.2
SGMF	Saint Gilles	145.74	347	ePKP1	PKPbc	03 17 09.9	-0.1
	comp=Z,123nm,0.9s						
MTTG	Motta San Giov	145.79	317	P	PKPdf	03 17 10.5	+0.9
ROSF	Rostrenen	145.81	348	ePKP1	PKPbc	03 17 10.2	0.0
	comp=Z,90nm,1.0s						
GDM	Grand'Maison	145.82	336	PKP	PKPdf	03 17 11.4	+1.8
BGF	Bois d'Agland	145.85	340	ePKP1	PKPbc	03 17 10.6	+0.3
	comp=Z,137nm,0.9s						
GRN	Grenoble	145.94	336	PKP	PKPdf	03 17 11.6	+1.8
MBDF	Montbardon	145.94	334	ePKP1	PKPbc	03 17 10.9	+0.3
	comp=Z,79nm,0.9s						
PLDF	La Plantade	146.11	339	PKP	PKPdf	03 17 11.5	+1.4
IMI	Imperia	146.11	332	P	PKPdf	03 17 11.1	+1.0
SURF	Saint Ours	146.12	334	PKP	PKPdf	03 17 12.1	+2.0
ORIF	Oris-en-Rattie	146.15	335	ePKP1	PKPbc	03 17 11.8	+0.6
	comp=Z,165nm,0.7s						
QUIF	Quistinic	146.19	348	ePKP1	PKPbc	03 17 11.1	-0.2
	comp=Z,37nm,0.8s						
SAOF	Saorge	146.20	333	PKP	PKPdf	03 17 11.8	+1.5
AGO	Saint Agoulin	146.20	340	PKP	PKPdf	03 17 12.0	+1.7
AUTN	L'Aution	146.25	333	PKP	PKPdf	03 17 13.0	+2.7
TCF	Toulx Ste Croi	146.30	341	ePKP1	PKPbc	03 17 12.0	+0.4
	comp=Z,66nm,0.8s						
TOUF	Mont Tournerai	146.31	333	PKP	PKPdf	03 17 11.8	+1.4
SBF	Sospel	146.35	333	ePKP1	PKPbc	03 17 11.7	-0.1
	comp=Z,187nm,0.8s						
LUCF	Luceram	146.37	333	PKP	PKPdf	03 17 12.5	+2.0
MVIF	Mont Vial	146.45	333	PKP	PKPdf	03 17 12.7	+2.0
PYM	Petit Puy Mans	146.51	339	PKP	PKPdf	03 17 13.2	+2.4
VIVF	Saint-Julien-l	146.68	337	ePKP1	PKPbc	03 17 13.3	+0.5
	comp=Z,55nm,1.0s						
MFF	Saint Martin d	146.71	344	ePKP1	PKPbc	03 17 13.1	+0.3
	comp=Z,106nm,0.8s						
LBL	Lubilhac	146.88	339	PKP	PKPdf	03 17 14.4	+3.0
FRF	La Foret Royal	146.94	333	ePKP1	PKPbc	03 17 13.6	+0.1
	comp=Z,153nm,1.0s						
SMRF	Simiane la Rot	147.05	335	ePKP1	PKPbc	03 17 14.6	+0.8
	comp=Z,84nm,0.8s						
VILF	Villemus	147.10	335	PKP	PKPbc	03 17 17.8	+3.9
LMR	La Mourre	147.18	333	ePKP1	PKPbc	03 17 14.4	+0.2
	comp=Z,122nm,1.0s						
PRAF	Pradon	147.36	335	PKP	PKPbc	03 17 17.1	+2.4
RJF	Les Rejaudoux	147.39	341	ePKP1	PKPbc	03 17 15.2	+0.4
	comp=Z,63nm,0.9s						
BERF	Bertagne	147.55	334	PKP	PKPbc	03 17 16.1	+0.9
CAF	Calviac	147.55	340	ePKP1	PKPbc	03 17 15.8	+0.6
	comp=Z,41nm,0.9s						
LASF	Ste Croix	147.65	337	ePKP1	PKPbc	03 17 16.1	+0.6
	comp=Z,57nm,0.9s						
LFF	La Frestale	147.97	341	ePKP1	PKPbc	03 17 16.8	+0.5
	comp=Z,171nm,1.0s						
VSL	Villasalto	148.66	325	ePKPbc	PKPbc	03 17 18.0	-0.1
VSL				ePKPab	PKPab	03 17 21.9	+0.1
MTLF	Montolieu	148.89	338	ePKP1	PKPbc	03 17 18.9	+0.2
	comp=Z,27nm,0.8s						
EJON	La Jonquera	149.40	336	PKP	PKPbc	03 17 19.2	-0.8
EPF	Esparros	149.81	340	ePKP1	PKPbc	03 17 21.6	+0.6
	comp=Z,47nm,1.1s						
EBIE	Bielsa	150.18	340	PKP	PKPdf	03 17 19.4	+2.6
EALK	Alkurruntz	150.20	343	PKP	PKPbc	03 17 21.0	-0.9
ETSF	Etsaut	150.21	341	ePKP1	PKPbc	03 17 22.9	+0.9
	comp=Z,48nm,0.8s						
SJPF	Ste Jean	150.22	342	ePKP1	PKPbc	03 17 22.6	+0.6
	comp=Z,38nm,0.9s						
ELAN	Lanestosa	150.70	345	PKP	PKPbc	03 17 23.1	0.0
EPOB	Poblet	151.03	338	PKP	PKPbc	03 17 23.9	0.0
KEST	Kesra	151.21	320	PKPbc	PKPbc	03 17 25.2	+0.9
	comp=Z,9.1nm,0.9s,baz=232,slow=1.3,SNR=22						
ESAC	San Caprasio	151.24	340	PKP	PKPbc	03 17 22.5	-1.9
EPON	Pontenova	151.34	351	PKP	PKPbc	03 17 24.9	+0.3
ERTA	Horta de San J	151.65	338	PKP	PKPbc	03 17 25.8	+0.5
STS	Santiago	151.96	353	PKP	PKPbc	03 17 26.3	+0.3
EMOS	Mosqueruela	152.46	339	PKP	PKPbc	03 17 23.6	-3.6
GUD	Guadarrama	153.32	345	PKP	PKPbc	03 17 28.6	-0.4
ESDC	Sonseca Array	154.17	344	PKPbc	PKPbc	03 17 31.7	+0.8
	comp=Z,0.7nm,0.5s,baz=356,slow=3.0,SNR=4.1						
ESDC				PKPab	PKPab	03 17 45.5	+0.7
	comp=Z,1.5nm,0.6s,baz=6.3,slow=4.7,SNR=5.4						
ESDC	Sonseca Array	154.17	344	PKP	PKPbc	03 17 29.3	-1.6
EPLA	Plasencia	154.31	348	PKP	PKPbc	03 17 33.4	+2.2
EQES	Quesada	155.64	340	PKP	PKPdf	03 17 28.6	+3.8
TOA0	Torodi Ar. Sit	165.53	264	ePKPdf	PKPdf	03 17 36.7	+1.2
TOA0				ePKPab	PKPab	03 18 34.8	+0.6
TORD	Torodi Ar. Bea	165.53	264	PKP	PKPdf	03 17 35.8	+0.3
	comp=Z,3.0nm,0.8s,baz=44,slow=0.6,SNR=14						
TORD				PKPab	PKPab	03 18 35.3	+1.1
	comp=Z,3.3nm,0.8s,baz=98,slow=4.1,SNR=11						
DBIC	Dimbokro	168.41	225	PKP	PKPdf	03 17 38.0	+0.4
	comp=Z,1.9nm,0.6s,baz=210,slow=5.7,SNR=5.3						
DBIC				PKPab	PKPab	03 18 48.0	+1.1
	comp=Z,2.5nm,0.8s,baz=87,slow=2.9,SNR=3.5						
DBIC	Dimbokro	168.41	225	PKIKP	PKPdf	03 17 38.1	+0.5
DBIC						03 18 48.0	
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
DBIC	Dimbokro	168.41	225	PKP	PKPdf	03 17 38.0	+0.4
DBIC				PKPab	PKPab	03 18 48.0	+1.1

IDC 15 03:23:03.2±7.4, 639S×14604E, h138km±73km, mb2.9/2, mb1 3.1/4, mb1mx2.9/14, mbtmp3.4/4, Error ellipse: s-maj=78.2km s-min=57.2km az=141.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.19	160	P	Pn	03 23 53.2	+0.7
	6.6nm,0.3s,baz=342,slow=9.6,SNR=32						
PMG				S	Sn	03 24 31.0	+0.3
	15nm,0.3s,baz=131,slow=20,SNR=13						
WRA	Warramunga Arr	17.62	219	P	Pn	03 26 59.4	-0.7
	0.1nm,0.3s,baz=45,slow=12,SNR=7.9						
ASAR	Alice Springs	20.76	213	P	P	03 27 34.5	+1.4
	0.4nm,0.4s,baz=30,slow=13,SNR=4.0						
FITZ	Fitzroy Crossi	23.05	238	P	P	03 27 55.8	-0.6
	1.3nm,0.8s,baz=36,slow=8.7,SNR=4.9						
TORD	Torodi Ar. Bea	144.25	284	PKP	PKPdf	03 42 23.3	+0.6
	0.6nm,0.9s,baz=87,slow=2.5,SNR=4.3						

ISCJB 15 03:23:07.1±0.5, 3890N±002×2677E±003, h6km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=159.1
ATH 15 03:23:07.0, 3888N×2679E, h23km±1km, MD3.4/3
CSEM 15 03:23:07.3±0.1, 3887N×2677E, h12km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.3km az=71.0
ISK 15 03:23:07.2, 3888N×2677E, h12km, MD3.1
ISC 15 03:23:08.1±0.4, 3889N±002×2676E±003, h11km±3km, n40, σ0s91/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.42	352	iP	Pg	03 23 15.8	-0.5
AYVA				iS	Sg	03 23 21.9	0.0
PRK	Paraskevi	0.52	313	ePN	Pg	03 23 18.2	0.0
PRK				eSN	Sg	03 23 26.0	+1.0
PRK	Paraskevi	0.52	313	ePb	Pg	03 23 17.7	-0.5
PRK				eSb	Sg	03 23 24.2	-0.8
URLA	Izmir	0.55	194	iP	Pg	03 23 18.1	-0.6
URLA				iS	Sg	03 23 28.1	+2.1
BLCB	Balcova	0.55	156	iPG	Pg	03 23 18.0	-0.8
KDAG	Bornova	0.63	141	iP	Pg	03 23 20.1	-0.1
KDAG				iS	Sg	03 23 32.8	+4.3
IZM	Izmir	0.63	141	iPG	Pg	03 23 19.6	-0.7
AKS	Akhisar	0.82	91	iPG	Pg	03 23 23.4	-0.5
AKHS	Akhisar	0.82	91	iP	Pg	03 23 23.8	-0.1
AKHS				iS	Sg	03 23 35.1	+0.4
EZN	Ezine	0.99	340	PG	Pg	03 23 26.9	-0.2
BOZC	Bozcaada	1.10	330	iP	Pb	03 23 28.7	-0.3
BOZC				iS	Sb	03 23 43.2	-0.1
CANB	Canakkale	1.15	12	PN	Pn	03 23 29.5	-0.6
CANB				SN	Sn	03 23 46.3	+0.5
SMG	Samos	1.18	177	ePN	Pn	03 23 29.3	-1.3
SMG				eSN	Sn	03 23 45.6	-1.1
SMG	Samos	1.18	177	ePb	Pb	03 23 28.9	-1.6
SMG				eSb	Sb	03 23 46.9	+1.0
BTOK	Tokmak	1.31	48	iP	Pn	03 23 31.4	-0.9
BTOK				iS	Sb	03 23 49.6	0.0
AYDN	Tasoluk	1.51	144	iP	Pn	03 23 34.3	-0.8
AYDN				iS	Sn	03 23 54.2	-0.6
LIA	Limnos Island	1.58	310	ePN	Pn	03 23 36.2	+0.1
MLSB	Milas	1.78	153	ePN	Pn	03 23 38.2	-0.6
RKY	Sarkoy-Tekirda	1.82	10	ePN	Pn	03 23 40.3	+1.0
MRMT	Marmara Adasi	1.83	20	ePN	Pn	03 23 37.4	-2.0
KCT	Karacabey	1.84	41	ePN	Pn	03 23 39.1	-0.6
BODT	Bodrum	1.88	166	ePN	Pn	03 23 39.9	-0.2
BDRM	Kayabasi	1.90	163	iP	Pg	03 23 45.4	+0.8
BDRM				iS	Sg	03 24 10.6	+1.4
MFT	Murefte	1.93	12	ePN	Pn	03 23 41.7	+0.8
YER	Yerkesik	2.13	145	ePN	Pn	03 23 42.8	-0.7
GDZ	Gediz	2.13	84	iP	Pg	03 23 49.0	+0.1
GDZ				iS	Sg	03 24 15.0	-1.5
ULDT	Uludag	2.22	55	iP	Pn	03 23 45.0	+0.1
ULDT				iS	Sg	03 24 18.2	-1.2
DAT	Datca	2.25	163	ePN	Pn	03 23 45.7	+0.4
GEMT	Gemlik	2.43	50	ePN	Pn	03 23 47.8	+0.1
RDO	Rodhopi	2.44	338	ePN	Pn	03 23 48.0	+0.2
YLV	Yalova	2.62	49	ePN	Pn	03 23 51.2	+0.9
ADVT	Abdulvahap	2.77	55	ePN	Pn	03 23 53.4	+1.1
ISK	Istanbul-Kandi	2.80	38	ePN	Pn	03 23 53.5	+0.7
FETY	Fethiye	2.91	140	ePN	Pn	03 23 54.9	+0.6
TKTP	Tekketepe	2.92	106	iP	Pg	03 24 05.6	+1.6
TKTP				iS	Sg	03 24 49.6	+7.8
KLYT	Kilyos	2.94	36	ePN	Pn	03 23 55.5	+0.8
EDRB	Edirne	2.95	360	ePN	Pn	03 23 55.9	+1.0
HRT	Hereke	2.95	48	ePN	Pn	03 23 56.0	+1.1
ESKT	Eskisehir	3.24	78	iP	Pg	03 24 08.5	-1.6
ESKT				iS	Sg	03 24 54.5	+2.4
ESKT	Eskisehir	3.24	78	ePn	Pn	03 23 59.1	+0.3

NEIC 15 03:35:09.7±2.6, 1691S×16845E, h208km±20km, mb4.1/2, Error ellipse: s-maj=26.9km s-min=15.7km az=210.0
ISCJB 15 03:35:10.0±3.9, 169S±02×1684E±02, h225km±29km, mb3.9/7, Error ellipse: s-maj=41.0km s-min=24.0km az=68.0
IDC 15 03:35:10.1±4.9, 1697S×16851E, h212km±40km, mb3.6/6, mb1 3.7/7, mb1mx3.5/16, mbtmp4.1/7, Error ellipse: s-maj=41.4km s-min=22.0km az=24.0
ISC 15 03:35:09.8±3.9, 169S±02×1685E±02, h210km±29km, n15, σ0s34/14, mb3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.49	200	P	Pn	03 36 30.6	+0.1
	0.4nm,0.3s,baz=101,slow=20,SNR=5.3						
DZM				S	Sn	03 37 34.5	0.0
	0.9nm,0.3s,baz=288,slow=23,SNR=6.8						
URZ	Urewera	22.57	162	P	P	03 39 51.9	-0.3
	4.7nm,0.7s,mb4.1,baz=14,slow=17,SNR=2.2						
STKA	Stephens Creek	28.57	234	eP	P	03 40 46.3	+0.1
	2.3nm,0.9s,mb3.8						
STKA	Stephens Creek	28.57	234	P	P	03 40 46.5	+0.3
	3.1nm,0.9s,mb4.0,baz=70,slow=5.9,SNR=6.4						
STKA	Stephens Creek	28.57	234	eP	P	03 40 46.1	0.0
WRA	Warramunga Arr	32.52	259	P	P	03 41 20.6	-0.2
	0.4nm,0.6s,mb3.2,baz=91,slow=9.8,SNR=9.8						
AS31	Alice Springs	33.08	253	eP	P	03 41 25.2	-0.5
ASAR	Alice Springs	33.08	253	P	P	03 41 25.6	-0.1
	8.4nm,0.6s,mb4.5,baz=79,slow=9.1,SNR=106						
ASPA	Alice Springs	33.09	253	eP	P	03 41 25.6	-0.1
FITZ	Fitzroy Crossi	40.83	262	eP	P	03 42 31.3	+0.4
	7.6nm,0.7s,mb4.2						
FITZ	Fitzroy Crossi	40.83	262	P	P	03 42 31.9	+1.1
	4.3nm,0.7s,mb4.0,baz=109,slow=7.9,SNR=17						
VNDA	Vanda	60.72	182	eP	P	03 44 59.5	+0.4
	4.5nm,1.5s,mb3.9						
SONM	Songino Array	84.95	323	P	P	03 47 21.3	0.0
	0.8nm,0.9s,mb3.4,baz=111,slow=3.7,SNR=4.3						
ARCES	ARCESS Array B	122.66	345	PKP	PKPdf	03 53 40.0	-0.4
	3.9nm,1.0s,baz=35,slow=2.2,SNR=6.0						
ARCES	ARCESS Array B	122.66	345	PKP	PKPdf	03 53 40.0	-0.4

MOS 15 03:45:32.8±1.2, 5500N×11170E, h17km, mb4.3/1, Error ellipse: s-maj=40.2km s-min=23.0km az=66.4
BYKL 15 03:45:32.6±0.2, 5503N×11166E, h14km±5km, 3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.33	242	⇑ iPg	Pg	03 45 39.0	-0.3
YLYR				iSg	Sg	03 45 43.9	+0.1
YLYR				Pmax			
	163nm,0.1s						
YLYR				Smax			
	4µm,0.1s						
YLYR	Ulyunkhan	0.33	242	ePG	Pg	03 45 39.0	-0.3
YLYR				e		03 45 43.9	
YLYR				pmax	pmax		
	comp=Z,164nm,0.1s						
YLYR				smax			
	comp=N,4µm,0.1s						
KMO	Kumora	0.90	343	⇑ iPg	Pg	03 45 48.7	-1.3
KMO				iSg	Sg	03 46 00.9	-0.8
KMO				Pmax			
	comp=N,56nm,0.4s						
KMO				Smax			
	comp=N,231nm,1.3s						
YOA	Uoyan	1.11	2	ePg	Pg	03 45 53.2	-0.7
YOA				eSg	Sg	03 46 08.7	+0.3
YOA				Pmax			
	comp=N,240nm,0.4s						
YOA				Smax			
	comp=N,628nm,0.5s						
YOA	Uoyan	1.11	2	ePG	Pg	03 45 54.1	+0.2
YOA				e		03 46 08.5	
YOA				pmax	pmax		
	comp=Z,98nm,0.2s						
YOA				smax			
	comp=N,741nm,0.5s						
UKT	Uakit	1.22	67	⇑ iPg	Pg	03 45 54.3	-1.7
UKT				iSg	Sg	03 46 10.7	-1.2
UKT				eSb	Sb	03 46 14.6	+3.7
UKT				Pmax			
	comp=N,53nm,0.3s						
UKT				max			
	comp=N,521nm,0.4s						
UKT	Uakit	1.22	67	ePG	Pg	03 45 54.3	-1.7
UKT				e		03 46 10.7	
UKT				pmax	pmax		
	comp=Z,53nm,0.2s						
UKT				smax			
	comp=N,525nm,0.4s						
NIZ	Nizh Angarsk	1.42	303	⇓ iPg	Pg	03 45 58.5	-1.4
NIZ				iSg	Sg	03 46 17.4	-1.0
NIZ				Pmax			
	comp=N,87nm,0.4s						
NIZ				Smax			
	comp=N,224nm,0.3s						
NIZ	Nizh Angarsk	1.42	303	ePN	Pn	03 45 58.4	+0.4
NIZ				e		03 46 17.5	
NIZ				pmax	pmax		
	comp=Z,86nm,0.2s						
NIZ				smax			
	comp=N,223nm,0.4s						
SVKR	Severomuysk	1.53	44	ePg	Pg	03 46 00.9	-1.2
SVKR				eSg	Sg	03 46 21.9	-0.1
SVKR				Pmax			
	comp=N,75nm,0.3s						
SVKR				Smax			
	comp=N,2µm,0.6s						
SVKR	Severomuysk	1.53	44	ePN	Pn	03 46 00.8	+1.3
SVKR				e		03 46 01.4	
SVKR				e		03 46 21.8	
SVKR				pmax	pmax		
	comp=Z,95nm,0.4s						
SVKR				smax			
	comp=N,2µm,0.8s						
SYVR	Suvo	1.68	216	ePg	Pg	03 46 02.9	-2.0
SYVR				eSg	Sg	03 46 26.0	-0.8
SYVR				Pmax			
	comp=N,34nm,0.9s						
SYVR				Smax			
	comp=N,106nm,0.4s						
NLYR	Nelyaty	2.71	56	ePn	Pn	03 46 16.6	+0.8
NLYR				ePg	Pg	03 46 21.0	-3.6
NLYR				eSg	Sg	03 46 57.0	-2.8
OGRR	Ongureny	2.76	241	ePn	Pn	03 46 17.4	+1.1
OGRR				ePg	Pg	03 46 21.1	-4.3
OGRR				eSn	Sn	03 46 50.2	+0.8
OGRR				eSg	Sg	03 46 58.3	-2.9
OGRR				Pmax			
	comp=N,12nm,0.3s						
OGRR				Smax			
	comp=N,42nm,0.4s						
BOD	Bodaibo	3.08	24	ePn	Pn	03 46 21.5	+0.6
BOD				ePg	Pg	03 46 26.1	-5.6
BOD				eSn	Sn	03 46 58.1	+0.6
BOD				eSg	Sg	03 47 06.4	-5.3
BOD				Pmax			
	comp=N,5.0nm,0.3s						
BOD				Smax			
	comp=N,43nm,0.6s						
CIT	Chita	3.22	159	ePg	Pg	03 46 29.5	-4.8
CIT				e		03 46 37.6	
CIT				eSg	Sg	03 47 12.1	-3.9
CIT				max			
	comp=N,14nm,0.6s						
CIT				Smax			
	comp=N,53nm,0.4s						
TRTB	Turuntaevo	3.69	222	eSg	Sg	03 47 27.3	-3.8
TRTB				Smax			
	comp=N,37nm,1.4s						
TRG	Tyrgan	3.88	236	eSn	Sn	03 47 18.0	+0.9
TRG				eSg	Sg	03 47 33.1	-4.1
TRG				Smax			
	comp=N,20nm,0.5s						
CRS	Chara	4.16	61	ePg	Pg	03 46 46.6	-5.7
CRS				e		03 46 48.7	
CRS				eSg	Sg	03 47 42.0	-4.2
CRS				max			
	comp=N,10.0nm,0.8s						
CRS				Smax			
	comp=N,84nm,1.6s						
CRS	Chara	4.16	61	ePN	Pn	03 46 48.3	+13
CRS				e		03 47 41.9	
CRS				pmax	pmax		
	comp=Z,26nm,1.3s						
CRS				smax			
	comp=E,85nm,1.4s						
TUP	Tupik	4.85	94	ePn	Pn	03 46 45.7	+0.6
TUP				e		03 46 48.3	
TUP				ePg	Pg	03 46 58.8	-6.6
TUP				eSg	Sg	03 48 02.3	-5.9
TUP				Pmax			
	comp=E,9.0nm,0.5s						
TUP				Smax			
	comp=E,43nm,1.3s						
KPC	Khapcheranga	5.35	175	e	Pn	03 47 10.4	+18
KPC				eSn	Sn	03 47 49.5	-4.0
KPC				eSg	Sg	03 48 19.0	-5.4
KPC				Smax			
	comp=E,28nm,1.2s						
ARS	Arshan	6.33	244	ePg	Pg	03 47 24.3	-10
ARS				eSg	Sg	03 48 46.7	-9.1
ARS				Pmax			
	comp=E,6.0nm,0.3s						
ARS				Smax			
	comp=E,42nm,0.4s						
ORL	Orlik	7.45	255	ePn	Pn	03 47 22.5	+1.6
ORL				eSn	Sn	03 48 44.2	-0.9
ORL				eSg	Sn	03 49 23.0	+38
ORL				Smax			
	comp=E,22nm,1.4s						

ISCJB 15 05:02:38.1±0.3, 2326S±003×6878W±005, h94km, mb4.3/34, Error ellipse: s-maj=6.9km s-min=4.8km az=174.1
NEIC 15 05:02:38.0, 2352S×6877W, h100km, mb4.4/30, MD4.3(GUC), After GUC.
BJI 15 05:02:38.4, 2339S×6847W, h100km, mB4.7
GUC 15 05:02:38.0±0.6, 2352S×6877W, h100km, MD4.3, ML4.5
IDC 15 05:02:39.7±0.5, 2305S×6876W, h91km±3km, mb4.0/11, mb1 4.1/13, mb1mx4.1/16, mbtmp4.3/13, MS3.2/1, Ms1 3.2/1, ms1mx2.6/18, Error ellipse: s-maj=18.6km s-min=11.7km az=67.0
ISC 15 05:02:39.9±0.2, 2324S±003×6881W±005, h96km, h96km±.8km:pP-P, n84, σ1s12/76, mb4.3/35, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.63	352	P	Pn	05 02 55.2	-1.1
	589nm,0.3s,baz=193,slow=7.5						
LVC				S	Sn	05 03 07.3	-1.3
	3µm,0.3s,baz=37,slow=20,SNR=61						
LVC	Limon Verde	0.63	352	⇓ ePn	Pn	05 02 55.3	-1.1
LVC				eSn	Sn	05 03 07.4	-1.2
CEN1	Los Morros	1.28	263	⇓ iP	Pn	05 03 04.2	+0.9
CEN1				iS	Sn	05 03 23.5	+2.5
CEN1				AML	AML	05 03 27.9	
	comp=E,8µm,0.7s						
ANCH	Antofagasta	1.53	253	eP	Pn	05 03 05.0	-1.3
ANCH				iS	Sn	05 03 25.6	-0.7
ANCH				AML	AML	05 03 29.6	
	comp=E,9µm,0.6s						
ANCH	Antofagasta	1.53	253	eP	Pn	05 03 05.0	-1.3
ANCH				iS	Sn	05 03 25.6	-0.7
CDCH	Caldera	4.23	205	eP	Pn	05 03 38.9	-3.2
CDCH				iS	Sn	05 04 25.0	-5.3
CPCH	Copiapo	4.33	198	eP	Pn	05 03 41.9	-1.6
VACH	Vallenar	5.59	198	eP	Pn	05 03 57.3	-3.3
LPAZ	La Paz	6.95	5	P	Pn	05 04 19.3	+0.3
	comp=E,1.1nm,0.3s,baz=189,slow=7.1,SNR=26						
LPAZ	La Paz	6.95	5	ePn	Pn	05 04 20.6	+1.6
ARE	Arequipa	7.20	339	eP	Pn	05 04 32.0	+10
ARE				eS	Sn	05 06 04.0	+21
CFAA	Coronel Fontan	8.35	177	P	Pn	05 04 36.0	-2.0
	comp=E,0.9nm,0.3s,baz=354,slow=14,SNR=134						
CFAA				S	Sn	05 06 12.4	+1.8
	comp=E,1.1nm,0.3s,baz=234,slow=15,SNR=5.3						
CPUP	Villa Florida	10.88	109	P	Pn	05 05 11.8	-0.8
	comp=E,2.1nm,0.3s,baz=274,slow=12,SNR=39						
CPUP				LR	LR	05 10 24.0	
	comp=E,135nm,19.9s,baz=52,slow=43						
CPUP	Villa Florida	10.88	109	ePn	Pn	05 05 12.1	-0.4
SAML	Samuel	15.20	22	ePn	Pn	05 06 10.0	+0.7
TRQA	Tornquist	15.88	160	ePn	Pn	05 06 16.6	-1.3
	comp=E,33nm,1.1s						
TRQA				eP		05 06 20.3	
PLCA	Paso Flores	17.50	184	P	Pn	05 06 38.3	+0.6
	comp=E,0.3nm,0.3s,baz=358,slow=13,SNR=7.9						
PLCA				sP	sP	05 07 08.9	+1.2
	comp=E,0.1nm,0.3s,baz=21,slow=8.2,SNR=2.7						
PLCA	Paso Flores	17.50	184	eP	Pn	05 06 39.0	+1.2
	comp=E,3.3nm,0.7s						
BDFB	Brasilia	21.00	73	P	P	05 07 15.1	-0.5
	comp=E,8.3nm,0.5s,mb4.3,baz=251,slow=11,SNR=16						
BDFB	Brasilia	21.00	73	eP	P	05 07 15.3	-0.3
	comp=E,21nm,0.9s,mb4.5						
SDV	Santo Domingo	31.98	357	eP	P	05 08 55.2	-1.6
	comp=E,6.2nm,1.0s,mb4.3						
VNA3	Neumayer Olymp	58.41	161	eP	P	05 12 25.8	+0.4
VNA3				e		05 12 29.1	
VNA3				e		05 12 38.4	
VNA3				e	pP	05 12 47.8	-1.3
VNA3				e		05 12 59.7	
VNA3				e		05 13 15.2	

VNA1	**Neumayer--Stat**	**58.62**	**160**	*e*P	**P**	**05 12 27.8**	**+0.9**
VNA1				*e*		05 12 30.4	
VNA1				*e*	pP	05 12 51.5	+0.9
VNA1				*e*		05 13 00.8	
VNA1				*e*		05 13 17.0	
SWET	**Sewanee**	**60.36**	**344**	*e*P	**P**	**05 12 38.0**	**-0.8**
SNAA	**Sanae**	**60.61**	**161**	*e*P	**P**	**05 12 40.3**	**-0.3**
SNAA				*e*		05 12 43.9	
SNAA				*e*	pP	05 13 04.6	+0.2
SNAA				*e*		05 13 14.7	
SNAA				*e*		05 13 25.0	
SNAA	**Sanae**	**60.61**	**161**	*e*P	**P**	**05 12 40.5**	**0.0**
	comp=E,8.9nm,0.8s,mb4.8						
WVT	**Waverly**	**61.73**	**343**	*e*P	**P**	**05 12 45.9**	**-2.2**
	comp=E,2.9nm,0.6s,mb4.5						
WVT				*e*pP	pP	05 13 10.2	-1.8
WVT				*e*sP	sP	05 13 19.8	-2.7
WCI	**Wyandotte Cave**	**63.31**	**345**	*e*P	**P**	**05 12 55.9**	**-2.7**
	comp=E,4.2nm,0.7s,mb4.5						
FVM	**French Village**	**64.20**	**341**	*e*P	**P**	**05 13 02.6**	**-1.9**
	comp=E,5.6nm,0.6s,mb4.6						
FVM				*e*pP	pP	05 13 27.1	-1.4
FVM				*e*		05 13 37.4	
MNTX	**Cornudas Mount**	**64.88**	**326**	*e*P	**P**	**05 13 08.6**	**-0.2**
	comp=E,9.1nm,1.5s,mb4.4						
FFD	**Franklin Falls**	**66.43**	**358**	*e*P	**P**	**05 13 18.8**	**-0.1**
	comp=E,8.4nm,0.6s,mb4.8						
QSPA	**South Pole Qui**	**66.96**	**180**	*e*P	**P**	**05 13 23.3**	**+1.1**
	comp=E,8.4nm,0.6s,mb4.8						
ANMO	**Albuquerque**	**68.01**	**327**	*e*P	**P**	**05 13 29.5**	**+0.7**
	comp=E,2.8nm,0.8s,mb4.1						
ANMO				*e*pP	pP	05 13 53.5	+0.4
PKME	**Peaks-Kenny Pk**	**68.17**	**360**	*e*P	**P**	**05 13 29.4**	**-0.4**
PKME				*e*pP	pP	05 13 54.1	-0.1
DBIC	**Dimbokro**	**69.15**	**73**	P	**P**	**05 13 36.0**	**+0.1**
	comp=E,3.9nm,0.7s,mb4.3,baz=207,slow=9.1,SNR=11						
DBIC	**Dimbokro**	**69.15**	**73**	*e*P	**P**	**05 13 35.8**	**-0.1**
	comp=E,5.1nm,0.8s,mb4.4						
SDCO	**Great Sand Dun**	**69.78**	**330**	*e*P	**P**	**05 13 40.4**	**+0.6**
	comp=E,2.1nm,0.5s,mb4.2						
SDCO				*e*pP	pP	05 14 05.1	+0.9
SMCO	**Snowmass**	**71.62**	**330**	*e*P	**P**	**05 13 52.0**	**+1.1**
	comp=E,2.8nm,0.7s,mb4.2						
SMCO				*e*pP	pP	05 14 16.0	+0.6
CCUT	**Cedar City**	**73.57**	**324**	*e*P	**P**	**05 14 04.3**	**+1.8**
CCUT				*e*	pP	05 14 28.5	+1.4
RSSD	**Black Hills**	**74.40**	**334**	*e*P	**P**	**05 14 07.9**	**+0.5**
	comp=E,3.5nm,0.9s,mb4.1						
RSSD				*e*pP	pP	05 14 31.5	-0.4
SYO	**Syowa Base**	**74.85**	**159⇑**	*e*P	**P**	**05 14 09.9**	**0.0**
SYO	**Syowa Base**	**74.85**	**159⇓**	*e*PcP	PcP	05 14 22.8	-0.7
VNDA	**Vanda**	**75.16**	**190**	P	**P**	**05 14 12.8**	**+1.1**
	comp=E,1.7nm,0.8s,mb3.8,baz=142,slow=5.2,SNR=7.6						
VNDA	**Vanda**	**75.16**	**190**	*e*P	**P**	**05 14 12.8**	**+1.1**
	comp=E,1.3nm,0.6s,mb3.8						
BW06	**Boulder Array**	**75.66**	**330**	*e*P	**P**	**05 14 14.6**	**0.0**
	comp=E,0.6nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	**75.66**	**330**	P	**P**	**05 14 14.9**	**+0.3**
	comp=E,0.5nm,0.5s,mb3.5,baz=136,slow=7.5,SNR=5.7						
HWUT	**Hardware Ranch**	**75.70**	**328**	*e*P	**P**	**05 14 15.1**	**+0.3**
	comp=E,3.3nm,0.7s,mb4.2						
SNOW	**Snow King Moun**	**76.75**	**330**	*e*P	**P**	**05 14 21.3**	**+0.6**
	comp=E,5.1nm,0.8s,mb4.3						
LOHW	**Long Hollow**	**76.80**	**330**	*e*P	**P**	**05 14 21.8**	**+0.7**
	comp=E,2.6nm,0.6s,mb4.1						
LOHW				*e*	pP	05 14 45.5	-0.3
TPAW	**Teton Pass**	**76.86**	**330**	*e*P	**P**	**05 14 21.8**	**+0.4**
	comp=E,2.6nm,0.7s,mb4.1						
ELK	**Elko**	**76.90**	**326**	*e*P	**P**	**05 14 21.3**	**-0.3**
	comp=E,4.6nm,0.6s,mb4.4						
NVAR	**Mina Array Bea**	**76.91**	**322**	P	**P**	**05 14 22.8**	**+1.1**
	comp=E,1.0nm,0.8s,mb3.6,baz=170,slow=5.5,SNR=5.6						
RRI2	**Red Ridge**	**76.92**	**330**	*e*P	**P**	**05 14 20.7**	**-1.1**
	comp=E,3.3nm,0.9s,mb4.1						
RRI2				*e*pP	pP	05 14 47.1	+0.6
ULM	**Lac du Bonnet**	**77.00**	**343**	P	**P**	**05 14 21.2**	**-0.9**
	comp=E,3.7nm,0.5s,mb4.4,baz=151,slow=4.6,SNR=9.6						
ULM	**Lac du Bonnet**	**77.00**	**343**	*e*P	**P**	**05 14 20.8**	**-1.3**
	comp=E,4.6nm,0.5s,mb4.5						
IMW	**Indian Meadow**	**77.17**	**330**	*e*P	**P**	**05 14 24.0**	**+0.9**
FLWY	**Flagg Ranch**	**77.20**	**330**	*e*P	**P**	**05 14 24.9**	**+1.6**
SCHQ	**Schefferville**	**77.77**	**1**	P	**P**	**05 14 25.5**	**-1.0**
	comp=E,1.7nm,0.7s,mb3.9,baz=180,slow=5.1,SNR=3.9						
TOA0	**Torodi Ar. Sit**	**77.86**	**70**	*e*P	**P**	**05 14 26.9**	**-0.1**
TOA0				*e*pP	pP	05 14 51.4	-0.3
TORD	**Torodi Ar. Bea**	**77.86**	**70**	P	**P**	**05 14 27.2**	**+0.2**
	comp=E,37nm,0.6s,mb5.3,baz=255,slow=5.4,SNR=639						
TORD				pP	pP	05 14 51.6	-0.1
	comp=E,4.8nm,0.6s,baz=253,slow=5.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.86**	**70**	P	**P**	**05 14 27.2**	**+0.2**
TORD				pP	pP	05 14 51.6	-0.1
HLID	**Hailey**	**78.56**	**328**	*e*P	**P**	**05 14 31.7**	**+0.9**
	comp=E,6.2nm,1.2s,mb4.3						
HLID				*e*pP	pP	05 14 56.3	+0.7
TSUM	**Tsumeb**	**79.46**	**106**	*e*P	**P**	**05 14 36.9**	**+1.2**
	comp=E,8.7nm,0.9s,mb4.6						
BMO	**Blue Mountains**	**80.92**	**327**	*e*P	**P**	**05 14 43.8**	**+0.2**
	comp=E,6.6nm,1.5s,mb4.2						
BMO				*e*pP	pP	05 15 08.2	-0.3
BOSA	**Boshof**	**82.56**	**118**	P	**P**	**05 14 52.9**	**+0.7**
	comp=E,5.2nm,0.8s,mb4.4,baz=276,slow=5.0,SNR=7.2						
BOSA	**Boshof**	**82.56**	**118**	*e*P	**P**	**05 14 52.5**	**+0.4**
	comp=E,7.4nm,0.8s,mb4.6						
MAW	**Mawson**	**82.64**	**163**	P	**P**	**05 14 53.1**	**+0.5**
	comp=E,4.8nm,0.6s,mb4.5,baz=217,slow=7.1,SNR=5.4						
MAW				pP	pP	05 15 17.9	+0.2
	comp=E,4.1nm,0.5s,baz=223,slow=4.3,SNR=4.4						
LBTB	**Lobatse**	**84.21**	**115**	*e*P	**P**	**05 15 01.1**	**+0.5**
	comp=E,4.9nm,0.7s,mb4.5						
ESDC	**Sonseca Array**	**87.01**	**44**	P	**P**	**05 15 15.8**	**+1.3**
	comp=E,0.2nm,0.3s,mb3.6,baz=251,slow=3.9,SNR=4.0						
YKA	**Yellowknife Ar**	**92.85**	**341**	P	**P**	**05 15 40.4**	**-1.4**
	comp=E,1.7nm,0.6s,mb4.5,baz=138,slow=4.5,SNR=7.4						
ASAR	**Alice Springs**	**128.41**	**207**	PKP	PKPdf	05 21 36.3	+1.0
	comp=E,1.3nm,0.6s,baz=137,slow=1.8,SNR=16						
ASAR				pPKP	pPKPdf	05 22 02.0	+0.2
	comp=E,2.4nm,0.8s,baz=152,slow=2.5,SNR=12						
AS31	**Alice Springs**	**128.41**	**207**	*e*PKPdf	PKPdf	05 21 35.8	+0.4
WRA	**Warramunga Arr**	**131.50**	**210**	PKP	PKPdf	05 21 42.3	+1.1
	comp=E,1.3nm,0.4s,baz=154,slow=1.7,SNR=50						
WRA				pPKP	pPKPdf	05 22 08.6	+0.9
	comp=E,1.8nm,0.7s,baz=156,slow=1.7,SNR=7.4						
WRAB	**Tennant Creek**	**131.50**	**210**	*e*PKPdf	PKPdf	05 21 42.2	+1.0
MBWA	**Marble Bar**	**135.09**	**191**	*e*PKPdf	PKPdf	05 21 48.4	+0.5
ZRNK	**Zerenda**	**136.45**	**36**	*e*PKPdf	PKPdf	05 21 51.5	+1.0
ZRNK				*e*pPKPdf	pPKPdf	05 22 16.9	-0.1
CHKZ	**Chkalovo**	**136.97**	**35**	*e*PKPdf	PKPdf	05 21 51.8	+0.3
ZAL	**Zalesovo**	**143.48**	**26**	PKP	PKPdf	05 22 01.2	-2.0
	comp=E,2.7nm,0.5s,baz=160,slow=3.9,SNR=5.2						
MKAR	**Makanchi Array**	**146.97**	**38**	PKPbc	PKPbc	05 22 09.7	-1.6
	comp=E,6.4nm,0.8s,baz=318,slow=1.5,SNR=29						
MKAR				pPKPbc	pPKPbc	05 22 35.6	-1.9
	comp=E,5.6nm,0.7s,baz=307,slow=2.7,SNR=9.6						
WMQ	**Urumqi**	**151.80**	**38**	*e*PKP	PKPdf	05 22 16.0	-0.9
SONM	**Songino Array**	**155.16**	**8**	PKP	PKPdf	05 22 22.1	+0.4
	comp=E,0.2nm,0.4s,baz=231,slow=0.7,SNR=4.9						
SONM				PKPbc	PKPdf	05 22 31.2	+9.4
	comp=E,0.5nm,0.5s,baz=352,slow=2.2,SNR=4.1						
SONM				PKPab	PKPab	05 22 46.6	-0.3
	comp=E,0.9nm,0.7s,baz=322,slow=4.0,SNR=5.8						
CN2	**Changchun**	**156.36**	**334**	*e*PKP	PKPdf	05 22 22.9	-0.4
HHC	**Hu-ho-hao-te**	**162.44**	**359**	*e*PKP	PKPdf	05 22 28.8	-1.5
SSE	**Sheshan**	**168.16**	**313**	*e*PKP	PKPdf	05 22 34.1	-1.0

*IDC **15** 05:07:12.0±3.9, 2132S×17756W, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, ML3.8/2, Error ellipse: s-maj=70.6km s-min=56.8km az=68.0*

NEIC 15 05:07:47.7±1.7**, 2258S**×**17801W, h300**km**, mb3.9**/4**, Error ellipse: s-maj=34.2km s-min=22.3km az=73.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.39**	**269**	Pn	Pn	05 10 44.3	-15
	0.2nm,0.3s,baz=83,slow=19,SNR=2.6						
URZ	**Urewera**	**16.18**	**194**	P	P	05 11 17.3	-0.3
	0.6nm,0.3s,baz=340,slow=11,SNR=3.5						
CTAO	**Charters Tower**	**33.33**	**267**	*e*P	P	05 13 59.1	+1.2
	4.7nm,0.6s						
STKA	**Stephens Creek**	**36.92**	**247**	P	P	05 14 30.3	+1.9
	0.7nm,0.5s,baz=123,slow=17,SNR=2.6						
AS31	**Alice Springs**	**44.07**	**259**	*e*P	P	05 15 26.8	+0.3
ASAR	**Alice Springs**	**44.07**	**259**	P	P	05 15 26.9	+0.4
	2.5nm,0.7s,baz=94,slow=7.9,SNR=23						
ASPA	**Alice Springs**	**44.07**	**259**	*e*P	P	05 15 27.7	+1.2
WB2	**Warramunga Arr**	**44.33**	**264**	*e*P	P	05 15 28.4	-0.2
WB2	**Warramunga Arr**	**44.33**	**264**	*e*P	P	05 15 28.0	-0.6
WRAB	**Tennant Creek**	**44.33**	**264**	*e*P	P	05 15 28.3	-0.3
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**44.34**	**264**	P	P	05 15 28.7	0.0
	1.4nm,0.3s,baz=100,slow=8.2,SNR=29						
FITZ	**Fitzroy Crossi**	**52.77**	**264**	*e*P	P	05 16 32.7	+0.3
	2.5nm,0.4s						
MBWA	**Marble Bar**	**57.41**	**259**	*e*P	P	05 17 05.6	+0.2
	1.8nm,0.6s						
AKASG	**Malin Array Be**	**144.80**	**330**	PKP	PKPdf	05 26 48.8	0.0
	1.4nm,0.5s,baz=43,slow=4.1,SNR=11						

*IDC **15** 06:12:38.5±3.5, 5281N×167.19W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.6/4, Error ellipse: s-maj=119.4km s-min=26.5km az=25.0, Low Confidence*
*NEIC **15** 06:12:41.4, 5263N×16696W, h17km, ML3.1(AEIC), After AEIC.*
*ISCJB **15** 06:12:44.4±1.6, 528N±02×167.1W±0.1, h63km±11km, mb3.9/6, Error ellipse: s-maj=29.0km s-min=10.6km az=137.3*

ISC 15 06:12:45.1±1.7**, 528N**±02×**1671W**±01**, h56**km±12km**, n9,** σ**0s96**/11**, mb3.9**/6**, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.07**	**281**	P	**Pn**	**06 13 02.6**	**-1.2**
NIKO				S	**Sn**	**06 13 19.1**	**+1.4**
AKGG	**Akutan Green G**	**1.57**	**25**	P	**Pn**	**06 13 10.0**	**-0.7**
AKUT	**Akutan**	**1.58**	**30**	P	**Pn**	**06 13 09.4**	**-1.4**
AKUT				S	**Sn**	**06 13 31.4**	**+1.3**
NVAR	**Mina Array Bea**	**36.31**	**93**	P	**P**	**06 19 44.5**	**+1.1**
	0.3nm,0.6s,mb3.4,baz=304,slow=15,SNR=2.6						
PDAR	**Pinedale Array**	**38.98**	**81**	P	**P**	**06 20 06.2**	**+0.3**
	0.3nm,0.5s,mb3.3,baz=299,slow=3.7,SNR=6.1						
JOF	**Joensuu**	**63.73**	**351**	*e*p	**P**	**06 23 10.3**	**-0.7**
	2.0nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**64.50**	**315**	P	**P**	**06 23 16.3**	**+0.3**
	0.2nm,0.3s,mb3.6,baz=50,slow=5.7,SNR=4.4						
KAF	**Kangasniemi**	**64.96**	**353**	*e*p	**P**	**06 23 18.2**	**-0.8**
	2.5nm,0.5s,mb4.5,baz=4.2,slow=6.2						
FINES	**FINESS Array B**	**65.64**	**353**	P	**P**	**06 23 23.7**	**+0.3**
	0.8nm,0.3s,mb4.2,baz=15,slow=6.6,SNR=14						

*ISCJB **15** 06:28:56.4±0.5, 3364N±004×13980E±006, h142km±4km, mb3.7/6, Error ellipse: s-maj=8.6km s-min=5.9km az=134.6*
*NEIC **15** 06:28:57.0±1.8, 3362N×13985E, h130km±13km, mb4.6/1, Error ellipse: s-maj=82.6km s-min=15.1km az=74.0*
*IDC **15** 06:28:57.3±1.6, 3366N×13993E, h136km±4km, mb3.5/4, mb1 3.6/6, mb1mx3.4/21, mbtmp4.0/6, Error ellipse: s-maj=76.2km s-min=9.3km az=73.0*
*JMA **15** 06:28:58.4±0.2, 3372N×13978E, h129km±2km, M3.3*

ISC 15 06:28:57.7±0.5**, 3366N**±004×**13979E**±006**, h138**km±3km**, n29,** σ**0s55**/39**, mb3.7**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.47**	**331**	P	**Pn**	**06 29 17.1**	**-0.5**
JHJ	**Hachijo jima 2**	**0.54**	**181**	P	**Pn**	**06 29 18.4**	**+0.4**
	492nm,0.3s,baz=34,slow=2.7,SNR=56						
JHJ				S	**Sn**	**06 29 33.6**	**+0.3**
	339nm,0.3s,baz=302,slow=23,SNR=6.7						
JHJ2	**Mitsune**	**0.55**	**178**	P	**Pn**	**06 29 18.1**	**+0.1**
JHJ2				S	**Sn**	**06 29 33.9**	**+0.6**
JKO	**Kozu shima**	**0.76**	**314**	P	**Pn**	**06 29 18.8**	**-0.6**
JIM2	**Oshima 3**	**1.10**	**344**	P	**Pn**	**06 29 22.0**	**-0.3**
BSO3	**Boso 3**	**1.29**	**27**	P	**Pn**	**06 29 24.3**	**+0.2**
JIZS	**Izushimoda**	**1.30**	**325**	P	**Pn**	**06 29 23.9**	**-0.4**
JIZS				S	**Sn**	**06 29 43.8**	**-0.7**
BSO2	**Boso 2**	**1.35**	**36**	*e*S	**Sn**	**06 29 45.4**	**0.0**
BSO1	**Boso 1**	**1.40**	**44**	P	**Pn**	**06 29 25.4**	**+0.1**
BSO1				*e*S	**Sn**	**06 29 47.1**	**+0.8**
KTJJ	**Kamata 2**	**1.40**	**335**	P	**Pn**	**06 29 24.8**	**-0.5**
JOD2	**Odawara 2**	**1.70**	**340**	P	**Pn**	**06 29 28.5**	**-0.2**
JOD2				S	**Sn**	**06 29 51.8**	**-0.5**
TK04	**Tokai 4**	**1.75**	**295**	P	**Pn**	**06 29 29.5**	**+0.3**
TK04				S	**Sn**	**06 29 53.9**	**+0.6**
TK01	**Tokai 1**	**1.84**	**274**	S	**Sn**	**06 29 55.0**	**-0.1**
SHZ3	**Shizuoka 3**	**1.92**	**317**	P	**Pn**	**06 29 31.7**	**+0.5**
SHZ3				S	**Sn**	**06 29 57.1**	**+0.3**
JYN	**Shimob**	**2.10**	**331**	P	**Pn**	**06 29 33.7**	**+0.3**
MJAR	**Matsushiro Arr**	**3.15**	**336**	P	**Pn**	**06 29 46.3**	**-0.4**
	5.3nm,0.3s,baz=167,slow=12,SNR=27						
MJAR				S	**Sn**	**06 30 24.3**	**-0.1**
	2.5nm,0.3s,baz=271,slow=34,SNR=8.3						
MJAR	**Matsushiro Arr**	**3.15**	**336**	P	**Pn**	**06 29 46.3**	**-0.4**
MJAR				S	**Sn**	**06 30 24.3**	**-0.1**
MAJO	**Matsushiro**	**3.16**	**336**	*e*Pn	**Pn**	**06 29 46.4**	**-0.2**
MAJO				*e*Sn	**Sn**	**06 30 24.7**	**+0.3**
MAT	**Matsushiro**	**3.16**	**336**	P	**Pn**	**06 29 46.4**	**-0.2**
MAT				S	**Sn**	**06 30 24.5**	**+0.1**
CBIJ	**Chichi jima**	**6.86**	**162**	P	**Pn**	**06 30 33.0**	**-2.9**
	8.1nm,0.3s,baz=352,slow=19,SNR=3.6						
CBIJ				S	**Sn**	**06 31 46.5**	**-6.0**
	6.7nm,0.3s,baz=294,slow=19,SNR=4.3						
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**06 36 58.9**	**+0.7**
	0.1nm,0.3s,mb2.9,baz=76,slow=9.0,SNR=6.3						
MKAR	**Makanchi Array**	**44.87**	**305**	P	**P**	**06 36 58.9**	**+0.7**
WRAB	**Tennant Creek**	**53.54**	**186**	*e*P	**P**	**06 38 04.3**	**+0.2**
	9.9nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**53.55**	**186**	P	**P**	**06 38 03.4**	**-0.8**
	0.5nm,0.3s,mb3.7,baz=2.5,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**57.28**	**186**	P	**P**	**06 38 31.5**	**+0.7**
	0.6nm,0.6s,mb3.6,baz=14,slow=8.9,SNR=6.2						
FINES	**FINESS Array B**	**71.18**	**332**	P	**P**	**06 40 02.0**	**+0.6**
	0.6nm,0.4s,mb3.7,baz=59,slow=7.4,SNR=5.6						
AKASG	**Malin Array Be**	**76.15**	**322**	P	**P**	**06 40 30.2**	**-0.2**
	0.7nm,0.4s,mb3.6,baz=51,slow=6.6,SNR=4.9						
PPT	**Papeete**	**84.36**	**115**	*e*S	S	06 51 26.1	-2.5
	204nm,23.2s						
PPT				*e*LQ		06 54 34.8	
	1μm,28.2s						
PPT				*e*LR	LR	06 56 22.8	
	2μm,27.8s,baz=164						
TAOE	**Nuku Hiva Isla**	**86.68**	**103**	*e*S	S	06 52 01.8	+10
	600nm,27.0s						
TAOE				*e*LR	LR	06 58 11.8	
	3μm,27.2s						

*ISCJB **15** 06:57:29.2±5.1, 50S±02×1534E±02, h65km±39km, mb3.6/7, Error ellipse: s-maj=44.2km s-min=31.5km az=77.3*
*NEIC **15** 06:57:33.1±3.7, 501S×15323E, h85km±25km, mb4.2/2, Error ellipse: s-maj=34.6km s-min=24.8km az=93.0*
*IDC **15** 06:57:34.4±7.3, 507S×15322E, h92km±55km, mb3.3/5, mb1 3.5/6, mb1mx3.4/15, mbtmp3.7/6, ML3.2/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/10, Error ellipse: s-maj=50.4km s-min=32.2km az=82.0*

ISC 15 06:57:31.4±4.5**, 50S**±02×**1534E**±02**, h73**km±33km**, n13,** σ**0s42**/10**, mb3.6**/7**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.58**	**235**	P	**Pn**	**06 59 18.9**	**-0.3**
	2.2nm,0.3s,baz=37,slow=13,SNR=4.9						
PMG				S	**Sn**	**07 00 44.1**	**+0.6**
	2.6nm,0.3s,baz=60,slow=20,SNR=2.7						
DZM	**Mont Dzumac**	**21.12**	**145**	LR	LR	07 09 01.4	
	comp=Z,231nm,21.1s,baz=208,slow=32						
KAKA	**Kakadu**	**22.07**	**248**	*e*P	**P**	**07 02 19.7**	**-0.6**
	10nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**23.75**	**230**	*e*P	**P**	**07 02 36.4**	**-0.5**
	7.3nm,1.0s,mb4.0						
WB2	**Warramunga Arr**	**23.75**	**230**	*e*P	**P**	**07 02 37.1**	**+0.2**
WRA	**Warramunga Arr**	**23.76**	**230**	P	**P**	**07 02 36.8**	**-0.2**
	1.3nm,0.8s,mb3.3,baz=52,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**26.40**	**224**	P	**P**	**07 03 00.9**	**-0.1**
	0.3nm,0.6s,mb2.9,baz=64,slow=9.4,SNR=4.3						
STKA	**Stephens Creek**	**28.91**	**201**	LR	LR	07 13 58.4	
	comp=Z,151nm,19.5s,baz=198,slow=34						
FITZ	**Fitzroy Crossi**	**30.09**	**242**	P	**P**	**07 03 33.6**	**-0.3**
	0.8nm,0.6s,mb3.5,baz=69,slow=8.6,SNR=4.9						
VNDA	**Vanda**	**72.58**	**178**	P	**P**	**07 08 51.1**	**+0.4**
	1.3nm,0.9s,mb3.7,baz=344,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**07 09 38.2**	**+0.6**
	0.3nm,0.8s,mb3.2,baz=90,slow=7.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**150.97**	**288**	PKPbc	PKPbc	07 17 15.8	+0.1
	1.2nm,0.8s,baz=100,slow=1.4,SNR=7.0						
TORD				PKPab	PKPab	07 17 25.9	+2.5
	0.6nm,0.8s,baz=173,slow=1.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**150.97**	**288**	PKPbc	PKPbc	07 17 15.8	+0.1
TORD				PKPab	PKPab	07 17 25.9	+2.5

*NEIC **15** 07:08:46.6, 1575N×6104W, h93km, mb4.7/45, MD4.0(FDF), MD4.1(TRN), After TRN.*
NEIC Felt [II] on Guadeloupe and Martinique.
*BJI **15** 07:08:46.5, 1580N×6100W, h93km, mB5.2*
*TRN **15** 07:08:47.4, 1570N×61.18W, h92km, MD4.1, M3.9(FDF)*
TRN Felt Guadeloupe and Martinique I & II.
*ISCJB **15** 07:08:47.2±0.2, 1570N±002×6128W±004, h109km±1km, mb4.6/61, Error ellipse: s-maj=6.3km s-min=3.4km az=138.9*
*MOS **15** 07:08:47.3±0.6, 1558N×6139W, h112km, mb4.8/15, Error ellipse: s-maj=20.1km s-min=7.4km az=134.4*
*IDC **15** 07:08:49.5±1.9, 1560N×6138W, h115km±17km, mb4.0/19, mb1 4.2/21, mb1mx4.0/28, mbtmp4.4/21, MS3.3/2, Ms1 3.3/2, ms1mx2.9/27, Error ellipse: s-maj=12.1km s-min=9.9km az=84.0*

ISC 15 07:08:48.4±0.3**, 1570N**±002×**6128W**±004**, h101**km±2km**, n161,** σ**0s75**/169**, mb4.6**/61**, 8C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.13**	**194⇑**	*i*P	**Pn**	**07 09 02.4**	**0.0**
DWS				*e*S	**Sn**	**07 09 12.4**	**-0.5**
BBL	**Barber's Block**	**0.25**	**227⇑**	*e*P	**Pn**	**07 09 02.9**	**+0.1**
TBG	**Guadaloupe-3**	**0.39**	**293⇑**	*i*P	**Pn**	**07 09 03.2**	**-0.3**
TBG				*e*S	**Sn**	**07 09 14.4**	**-0.4**
DOG	**Dongo Capester**	**0.47**	**315⇑**	*i*P	**Pn**	**07 09 03.8**	**-0.2**
PHG	**Guadaloupe-2**	**0.47**	**312**	*e*P	**Pn**	**07 09 03.9**	**-0.1**
BCG	**Bois Riant Cap**	**0.51**	**319⇑**	*e*P	**Pn**	**07 09 04.0**	**-0.2**
SCG	**Saint Claude**	**0.51**	**310⇑**	*e*P	**Pn**	**07 09 04.2**	**-0.1**
SFG	**Saint Francois**	**0.56**	**8**	*e*P	**Pn**	**07 09 04.5**	**-0.1**
DEG	**La Desirade**	**0.65**	**19⇓**	*i*P	**Pn**	**07 09 04.6**	**-0.7**
LZG	**Guadaloupe-1**	**0.65**	**313⇑**	*e*P	**Pn**	**07 09 05.4**	**0.0**
SEG	**Port Louis**	**0.73**	**343⇑**	*e*P	**Pn**	**07 09 06.0**	**-0.1**
FDF	**Fort de France**	**0.97**	**173⇓**	*i*P	**Pn**	**07 09 07.8**	**-0.7**
FDF				*e*S	**Sn**	**07 09 22.6**	**-1.0**
BIM	**Bigot**	**1.19**	**170**	*e*P	**Pn**	**07 09 10.6**	**-0.3**
BIM				*e*S	**Sn**	**07 09 27.9**	**-0.1**
BPA	**Boggy Peak**	**1.45**	**338**	*e*P	**Pn**	**07 09 13.9**	**-0.2**
BPA	**Boggy Peak**	**1.45**	**338⇓**	*e*P	**Pn**	**07 09 14.7**	**+0.7**
BPA				*e*S	**Sn**	**07 09 33.5**	**0.0**
CPB	**Codrington**	**2.00**	**345**	*e*P	**Pn**	**07 09 21.1**	**+0.1**
CPB				*e*S	**Sn**	**07 09 44.1**	**-1.7**
SSV	**Crater Summit**	**2.36**	**178**	*e*P	**Pn**	**07 09 26.1**	**+0.5**
SSV				*e*S	**Sn**	**07 09 54.9**	**+0.8**
SVV	**Soufriere Volc**	**2.37**	**179**	*e*P	**Pn**	**07 09 26.5**	**+0.7**
SVB	**Belmont**	**2.41**	**179**	*e*P	**Pn**	**07 09 27.1**	**+0.7**
SVB				*e*S	**Sn**	**07 09 55.1**	**-0.3**
STAT	**Sint Eustatius**	**2.42**	**318**	*e*P	**Pn**	**07 09 28.6**	**+2.2**
STAT				*e*S	**Sn**	**07 09 57.7**	**+2.1**
SABT	**Saba**	**2.68**	**316**	*e*P	**Pn**	**07 09 31.4**	**+1.5**
SABT				*e*S	**Sn**	**07 10 06.3**	**+4.5**
STMA	**St. Maarten, A**	**2.92**	**323**	*e*P	**Pn**	**07 09 33.5**	**+0.5**
STMA				*e*S	**Sn**	**07 10 05.7**	**-1.7**
GRCU	**Cariacou**	**3.21**	**183**	*e*P	**Pn**	**07 09 36.5**	**-0.5**
MTP	**Monte Pirata**	**4.74**	**301**	*e*Pn	**Pn**	**07 09 58.1**	**+0.6**
MTP				*e*S	**Sn**	**07 10 52.6**	**+1.4**
HUMP	**Col San Antoni**	**5.01**	**300**	*e*Pn	**Pn**	**07 10 01.8**	**+0.6**
CPD	**Cerro la Pandu**	**5.01**	**298**	*e*Pn	**Pn**	**07 10 01.8**	**+0.5**
CPD				*e*Sn	**Sn**	**07 10 56.2**	**-1.7**
CBYP	**Canovanas**	**5.07**	**301**	*e*Pn	**Pn**	**07 10 03.2**	**+1.1**
SJG	**San Juan**	**5.25**	**298**	P	**Pn**	**07 10 04.7**	**+0.3**
	34nm,0.3s,baz=93,slow=10,SNR=27						
SJG				S	**Sn**	**07 11 04.8**	**+1.2**
	3.4nm,0.3s,baz=170,slow=21,SNR=5.7						
SJG				LR	LR	07 11 54.2	
	comp=Z,196nm,20.9s,baz=90,slow=36						
SJG	**San Juan**	**5.25**	**298**	*e*Pn	**Pn**	**07 10 04.7**	**+0.3**
SJG				*e*Sn	**Sn**	**07 11 00.3**	**-3.3**
MPR	**Mayaguez**	**6.14**	**295**	*e*Pn	**Pn**	**07 10 17.1**	**+0.6**
PCRV	**Puerto La Cruz**	**6.39**	**211**	P	**Pn**	**07 10 22.6**	**+2.7**
	1.3nm,0.3s,baz=15,slow=6.6,SNR=6.4						
PCRV				S	**Sn**	**07 11 35.1**	**+3.6**
	0.7nm,0.3s,baz=189,slow=15,SNR=1.9						
SDDR	**Presa de Saban**	**10.10**	**290**	*e*Pn	**Pn**	**07 11 09.6**	**-0.8**
SDV	**Santo Domingo**	**11.37**	**235**	P	**Pn**	**07 11 27.3**	**-0.3**
	0.9nm,0.3s,baz=39,slow=7.2,SNR=12						
SDV				S	**Sn**	**07 13 33.1**	**+0.5**
	baz=275,slow=22,SNR=3.1						
SDV				LR	LR	07 16 23.6	
	comp=Z,228nm,18.1s,baz=332,slow=40						
SDV	**Santo Domingo**	**11.37**	**235**	*e*Pn	**Pn**	**07 11 27.9**	**+0.2**
SDV				*e*Sn	**Sn**	**07 13 31.2**	**-1.4**
RCC	**Rio Carpintero**	**14.38**	**289**	*e*P	**Pn**	**07 12 11.5**	**+4.4**
LMGC	**Las Mercedes**	**15.59**	**288**	*e*P	**Pn**	**07 12 21.3**	**-1.1**
ROSC	**El Rosal**	**16.75**	**231**	P	**Pn**	**07 12 38.6**	**+1.8**
	1.4nm,0.3s,baz=90,slow=10,SNR=8.9						
ROSC	**El Rosal**	**16.75**	**231**	*e*Pn	**Pn**	**07 12 37.3**	**+0.5**
MGV	**Manicaragua**	**18.80**	**293**	*e*P	**P**	**07 13 00.3**	**+0.4**
SAML	**Samuel**	**24.56**	**185**	*e*P	**P**	**07 13 58.5**	**-0.2**
	6.0nm,0.8s,mb4.1						
MYNC	**Murphy**	**28.14**	**318**	*e*P	**P**	**07 14 31.0**	**+0.1**
MYNC				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
MYNC	**Murphy**	**28.14**	**318**	*e*P	**P**	**07 14 31.0**	**+0.1**
	comp=Z,14nm,0.9s,mb4.5						
ATAH	**Atahualpa**	**28.21**	**218**	P	**P**	**07 14 32.2**	**+0.6**
	comp=Z,12nm,0.7s,mb4.5,baz=340,slow=22,SNR=6.6						
TKL	**Tuckaleechee C**	**28.27**	**319**	P	**P**	**07 14 32.0**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.0,baz=138,slow=9.4,SNR=7.6						
LRAL	**Lakeview Retre**	**28.98**	**311**	*e*P	**P**	**07 14 38.7**	**+0.3**
	comp=Z,11nm,1.1s,mb4.4						
SWET	**Sewanee**	**29.41**	**316**	*e*P	**P**	**07 14 42.4**	**+0.1**
PLAL	**Pickwick Lake**	**30.75**	**314**	*e*P	**P**	**07 14 54.0**	**-0.1**
	comp=Z,25nm,0.6s,mb5.1						
WCI	**Wyandotte Cave**	**31.45**	**320**	*e*P	**P**	**07 15 00.3**	**+0.1**
WCI				*e*		07 17 51.0	
WCI				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
WCI	**Wyandotte Cave**	**31.45**	**320**	*e*P	**P**	**07 15 00.3**	**+0.1**
	comp=Z,13nm,0.8s,mb4.7						
WCI				*e*PcP	PcP	07 17 51.0	-0.1
SIV	**San Ignacio**	**31.49**	**180**	P	**P**	**07 15 00.8**	**+0.3**
	comp=Z,3.3nm,0.5s,mb4.3,baz=357,slow=9.3,SNR=58						
BLO	**Bloomington**	**32.18**	**322**	*e*P	**P**	**07 15 07.3**	**+0.7**
BLO				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
BLO	**Bloomington**	**32.18**	**322**	*e*P	**P**	**07 15 07.3**	**+0.7**
	comp=Z,13nm,0.7s,mb4.8						
LPAZ	**La Paz**	**32.49**	**192**	P	**P**	**07 15 08.8**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.5,baz=13,slow=6.8,SNR=3.2						
LPAZ				pP	pP	07 15 34.5	+2.6
	comp=Z,1.5nm,0.8s,baz=20,slow=10.0,SNR=4.0						
LPAZ	**La Paz**	**32.49**	**192**	*e*P	**P**	**07 15 09.3**	**0.0**
LPAZ				*e**PP	pP	07 15 35.0	+3.1
LPAZ				*e**SP	sP	07 15 49.4	+5.9
LPAZ				pmax	pmax		
	comp=Z,20nm,0.8s						
LPAZ	**La Paz**	**32.49**	**192**	*e*P	**P**	**07 15 09.3**	**0.0**
	comp=Z,1.6nm,0.8s,mb3.8						
LPAZ				*e*pP	pP	07 15 35.0	+3.1
LPAZ				*e*sP	sP	07 15 49.4	+5.8
SIUC	**Southern Illin**	**33.01**	**317**	*e*P	**P**	**07 15 13.9**	**+0.1**
	comp=Z,23nm,0.7s,mb5.1						
FVM	**French Village**	**33.95**	**316**	*e*P	**P**	**07 15 21.9**	**-0.1**
FVM				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.0						
FVM	**French Village**	**33.95**	**316**	*e*P	**P**	**07 15 21.9**	**-0.1**
	comp=Z,14nm,0.5s,mb5.0						
NATX	**Nacogdoches**	**34.32**	**304**	*e*P	**P**	**07 15 24.6**	**-0.6**
	comp=Z,18nm,0.5s,mb5.2						
MIAR	**Mount Ida**	**34.53**	**309**	*e*P	**P**	**07 15 25.9**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
MIAR	**Mount Ida**	**34.53**	**309**	*e*P	**P**	**07 15 25.9**	**-1.2**
	comp=Z,3.1nm,0.6s,mb4.3						
HKT	**Hockley**	**34.71**	**300**	*e*P	**P**	**07 15 27.4**	**-1.2**
HKT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
HKT	**Hockley**	**34.71**	**300**	*e*P	**P**	**07 15 27.4**	**-1.2**
	comp=Z,9.4nm,1.1s,mb4.5						
JFWS	**Jewell Farm**	**36.73**	**323**	*e*P	**P**	**07 15 45.8**	**0.0**
JFWS				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
JFWS	**Jewell Farm**	**36.73**	**323**	*e*P	**P**	**07 15 45.8**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JCT	Junction City	38.17	300	eP	P	07 15 57.3	-0.6
JCT				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
JCT	Junction City	38.17	300	eP	P	07 15 57.3	-0.7
	comp=Z,32nm,0.8s,mb5.2						
WMOK	Wichita Mounta	38.58	306	eP	P	07 16 00.6	-0.8
WMOK				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.9						
WMOK	Wichita Mounta	38.58	306	eP	P	07 16 00.6	-0.8
	comp=Z,10nm,0.5s,mb4.9						
KSU1	Kansas State U	38.71	314	eP	P	07 16 01.2	-1.3
SCHQ	Schefferville	39.29	355	P	P	07 16 07.5	+0.2
	comp=Z,2.0nm,0.5s,mb4.2,baz=182,slow=7.1,SNR=11						
ECSD	EROS,Sioux Fal	40.99	320	eP	P	07 16 20.7	-0.7
ECSD				ePcP	PcP	07 18 19.4	-0.3
CPUP	Villa Florida	41.95	175	P	P	07 16 28.2	-1.0
	comp=Z,0.3nm,0.3s,baz=327,slow=7.6,SNR=3.9						
CPUP	Villa Florida	41.95	175	P	P	07 16 28.2	-1.1
MNTX	Cornudas Mount	43.10	300	eP	P	07 16 38.3	-0.3
	comp=Z,12nm,0.4s,mb5.0						
ULM	Lac du Bonnet	44.34	329	P	P	07 16 47.2	-1.3
	comp=Z,6.8nm,0.5s,mb4.7,baz=129,slow=8.6,SNR=17						
ULM	Lac du Bonnet	44.34	329	eP	P	07 16 47.1	-1.3
	comp=Z,3.7nm,0.5s,mb4.4						
SDCO	Great Sand Dun	44.68	308	eP	P	07 16 51.0	-0.1
	comp=Z,9.7nm,0.8s,mb4.6						
ANMO	Albuquerque	44.68	304	eP	P	07 16 51.4	+0.2
ANMO				pmax	pmax		
	comp=Z,20nm,0.7s						
ANMO	Albuquerque	44.68	304	eP	P	07 16 51.4	+0.2
	comp=Z,2.2nm,0.7s,mb4.0						
ISCO	Idaho Springs	45.40	311	eP	P	07 16 57.2	+0.4
ISCO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ISCO	Idaho Springs	45.40	311	eP	P	07 16 57.2	+0.3
	comp=Z,2.7nm,0.6s,mb4.2						
PHWY	Pilot Hill	45.80	313	eP	P	07 17 00.3	+0.4
RSSD	Black Hills	45.90	317	eP	P	07 17 00.9	+0.1
SMCO	Snowmass	46.21	310	eP	P	07 17 03.1	-0.1
	comp=Z,8.6nm,1.1s,mb4.4						
PV01	Paradox Valley	47.12	308	eP	P	07 17 10.6	+0.3
PV01				ePcP	PcP	07 18 40.4	-0.2
CFAA	Coronel Fontan	47.50	188	P	P	07 17 10.3	-3.0
	comp=Z,0.4nm,1.0s,baz=2.2,slow=8.6,SNR=3.9						
CFAA	Coronel Fontan	47.50	188	P	P	07 17 10.3	-3.0
WUAZ	Wupatki	48.73	304	eP	P	07 17 23.0	+0.2
	comp=Z,15nm,0.8s,mb5.0						
SRU	San Rafael	48.84	308	eP	P	07 17 24.1	+0.5
BW06	Boulder Array	49.16	313	eP	P	07 17 26.0	0.0
	comp=Z,11nm,0.8s,mb4.8						
PDAR	Pinedale Array	49.16	313	P	P	07 17 25.9	-0.1
	comp=Z,11nm,0.8s,mb4.8,baz=114,slow=9.0,SNR=94						
PDAR				ScP	ScP	07 22 31.9	-1.9
	comp=Z,0.4nm,0.7s,baz=115,slow=6.7,SNR=4.0						
TMUT	Trail Mountain	49.41	309	eP	P	07 17 28.1	+0.2
RLMT	Red Lodge	49.74	316	eP	P	07 17 30.3	-0.1
MSU	Marysvale	49.96	307	eP	P	07 17 32.8	+0.7
TCUT	Toone Canyon	50.01	311	eP	P	07 17 32.8	+0.3
LOHW	Long Hollow	50.15	314	eP	P	07 17 33.3	-0.3
	comp=Z,6.5nm,0.8s,mb4.6						
CTU	Camp Tracy	50.15	310	eP	P	07 17 33.8	+0.3
	comp=Z,13nm,0.8s,mb4.9						
SNOW	Snow King Moun	50.21	314	eP	P	07 17 34.2	+0.2
	comp=Z,4.7nm,0.6s,mb4.6						
AHID	Auburn Hatcher	50.24	313	eP	P	07 17 34.1	-0.1
	comp=Z,14nm,0.9s,mb4.9						
AHID				ePcP	PcP	07 18 52.0	+0.2
REDW	Red Top Meadow	50.25	314	eP	P	07 17 34.1	-0.2
	comp=Z,6.7nm,0.8s,mb4.6						
HWUT	Hardware Ranch	50.26	311	eP	P	07 17 34.3	0.0
	comp=Z,4.6nm,0.7s,mb4.5						
TPAW	Teton Pass	50.35	314	eP	P	07 17 35.2	+0.2
	comp=Z,9.4nm,0.7s,mb4.8						
IMW	Indian Meadow	50.47	314	eP	P	07 17 35.7	-0.2
	comp=Z,2.9nm,0.6s,mb4.4						
IMW				e		07 17 54.4	
DCID1	Drake Creek	50.55	314	eP	P	07 17 36.1	-0.4
RRI2	Red Ridge	50.57	314	eP	P	07 17 37.1	+0.5
	comp=Z,8.9nm,0.8s,mb4.8						
CCUT	Cedar City	50.69	306	eP	P	07 17 37.6	+0.1
YMR	Madison River	50.73	315	eP	P	07 17 38.0	+0.1
	comp=Z,9.3nm,0.8s,mb4.9						
ARUT	Antelope Range	50.79	306	eP	P	07 17 38.0	-0.3
ARUT				e		07 18 27.4	
DUG	Dugway	50.82	309	eP	P	07 17 38.5	-0.1
DUG				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
DUG	Dugway	50.82	309	eP	P	07 17 38.5	0.0
	comp=Z,7.7nm,0.9s,mb4.7						
QLMT	Earthquake Lak	51.09	315	eP	P	07 17 41.8	+1.2
EGMT	Eagleton	51.10	320	eP	P	07 17 40.7	0.0
	comp=Z,11nm,0.8s,mb4.9						
BGU	Big Grassy Mou	51.15	310	eP	P	07 17 41.0	0.0
HVU	Hansel Valley	51.17	311	eP	P	07 17 41.0	-0.2
HVU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
HVU	Hansel Valley	51.17	311	eP	P	07 17 41.0	-0.2
	comp=Z,7.7nm,0.8s,mb4.8						
BOZ	Bozeman (W)	51.48	316	eP	P	07 17 43.6	+0.1
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BOZ	Bozeman (W)	51.48	316	eP	P	07 17 43.6	+0.1
	comp=Z,4.2nm,0.8s,mb4.5						
HRY	Holter Researc	51.96	318	eP	P	07 17 47.0	-0.1
DLMT	Dillon	52.04	316	eP	P	07 17 47.7	0.0
	comp=Z,6.8nm,0.7s,mb4.8						
MCMT	McKenzie Canyo	52.05	315	eP	P	07 17 48.1	+0.3
LRM	Limekiln Ridge	52.09	316	eP	P	07 17 48.3	+0.3
HLID	Hailey	52.79	313	eP	P	07 17 53.4	+0.2
	comp=Z,4.0nm,0.7s,mb4.6						
TRQA	Tornquist	53.47	181	eP	P	07 17 58.0	-0.2
	comp=Z,1.6nm,0.6s,mb4.2						
MDT	Midelt	53.79	61	P	P	07 18 02.2	+1.7
	comp=Z,3.3nm,0.9s,mb4.4,baz=250,slow=5.0,SNR=4.4						
DAC	Darwin (Calif)	53.84	304	eP	P	07 17 59.9	-1.0
DAC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
DAC	Darwin (Calif)	53.84	304	eP	P	07 17 59.9	-1.0
	comp=Z,11nm,0.8s,mb4.9						
WALA	Waterton Lakes	54.05	320	eP	P	07 18 01.7	-0.8
	comp=Z,2.0nm,0.4s,mb4.5						
BMN	Battle Mountai	54.17	309	eP	P	07 18 03.3	0.0
BMN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BMN	Battle Mountai	54.17	309	eP	P	07 18 03.3	0.0
	comp=Z,9.8nm,0.8s,mb4.9						
NVAR	Mina Array Bea	54.68	306	P	P	07 18 07.5	+0.5
	comp=Z,4.1nm,0.7s,mb4.6,baz=93,slow=7.0,SNR=35						
ESDC	Sonseca Array	55.08	52	P	P	07 18 10.7	+0.9
	comp=Z,0.3nm,0.3s,mb3.8,baz=254,slow=9.3,SNR=5.5						
BMO	Blue Mountains	55.12	314	eP	P	07 18 09.1	-1.1
BMO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BMO	Blue Mountains	55.12	314	eP	P	07 18 09.1	-1.0
	comp=Z,4.5nm,1.1s,mb4.4						
EDM	Edmonton	55.19	325	eP	P	07 18 09.8	-0.9
NEW	Newport	55.85	318	eP	P	07 18 14.8	-0.6
NEW				pmax	pmax		
	comp=Z,14nm,0.6s						
NEW	Newport	55.85	318	eP	P	07 18 14.8	-0.6
	comp=Z,14nm,0.6s,mb5.2						
DBIC	Dimbokro	55.93	93	P	P	07 18 16.7	+0.7
	comp=Z,5.0nm,0.6s,mb4.7,baz=259,slow=8.2,SNR=10						
DBIC	Dimbokro	55.93	93	P	P	07 18 16.7	+0.7
PLCA	Paso Flores	56.80	188	P	P	07 18 20.9	-1.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=338,slow=4.9,SNR=6.2						
OHCM	Honcut	57.26	307	eP	P	07 18 25.4	+0.1
YKA	Yellowknife Ar	59.65	334	P	P	07 18 40.7	-1.2
	comp=Z,5.5nm,0.5s,mb4.9,baz=105,slow=7.4,SNR=21						
YKA	Yellowknife Ar	59.65	334	P	P	07 18 40.7	-1.3
TORD	Torodi Ar. Bea	60.85	84	P	P	07 18 50.4	+0.2
	comp=Z,3.4nm,0.6s,mb4.6,baz=270,slow=6.4,SNR=29						
TORD				pP	pP	07 19 17.1	+2.2
	comp=Z,1.7nm,0.8s,baz=284,slow=5.4,SNR=3.4						
JMIC	Jan Mayen	63.57	17	P	P	07 19 09.4	+1.0
	comp=Z,75nm,0.6s,baz=256,slow=4.5,SNR=2.5						
KEST	Kesra	65.40	58	P	P	07 19 21.9	+1.7
	comp=Z,3.5nm,0.7s,mb4.3,baz=264,slow=9.2,SNR=9.0						
NOA	NORSAR Array B	67.92	30	P	P	07 19 36.6	+0.4
	comp=Z,0.6nm,0.6s,mb3.6,baz=262,slow=6.6,SNR=2.6						
DAWY	Dawson	70.81	333	eP	P	07 19 54.1	+0.1
EGAK	Eagle	71.61	334	eP	P	07 19 58.8	-0.1
BRTR	Keskin Array B	83.83	51	P	P	07 21 07.3	+0.6
	comp=Z,0.7nm,0.7s,mb3.6,baz=297,slow=6.3,SNR=3.0						
BOSA	Boshof	94.41	118	P	P	07 21 55.6	-1.4
	comp=Z,1.7nm,0.8s,mb4.4,baz=180,slow=6.1,SNR=3.2						
WMQ	Urumqi	114.33	24	ePKP	PKiKP	07 27 17.0	+0.8
WMQ				XPKP		07 27 54.0	
WMQ				ePP	PP	07 28 20.0	+6.8
WMQ				PKS		07 30 53.0	
WMQ				SKS	SKSdf	07 34 18.0	-1.2
WMQ				PP	PP		
	comp=Z,114nm,5.3s						
WMQ				LR	LR		
	comp=N,245nm,27.2s						
WMQ				LR	LR		
	comp=E,298nm,28.0s						
WMQ				LR	LR		
	comp=Z,242nm,23.6s						
MDJ	Mudanjiang	119.17	351	PKP	PKPdf	07 27 25.3	-0.2
MDJ				PP	PP	07 28 46.0	-1.0
MDJ				PP	PP		
	comp=Z,93nm,8.5s						
CN2	Changchun	120.47	354	ePKP	PKPdf	07 27 21.9	-6.2
GTA	Gaotai	122.41	17	PKP	PKPdf	07 27 26.5	-5.3
GTA				PKS		07 31 01.0	
GTA				PP	PP		
	comp=Z,149nm,6.5s						
GTA				LR	LR		
	comp=N,108nm,8.0s						
GTA				LR	LR		
	comp=E,138nm,7.6s						
GTA				LR	LR		
	comp=Z,115nm,9.5s						
HHC	Hu-ho-hao-te	123.35	6	ePKP	PKPdf	07 27 33.0	-0.6
HHC				PP	PP	07 29 18.4	+2.9
HHC				PKS		07 31 08.1	
HHC				SKS	SKSdf	07 34 33.4	-2.9
HHC				SKKS	SKKSac	07 35 59.6	-5.1
HHC				SS	SS	07 45 51.1	-2.6
HHC				PP	PP		
	comp=Z,67nm,5.3s						
HHC				LR	LR		
	comp=N,131nm,5.1s						
HHC				LR	LR		
	comp=E,207nm,5.5s						
HHC				LR	LR		
	comp=Z,105nm,5.3s						
BJI	Beijing	124.50	2	PKP	PKPdf	07 27 30.0	-5.8
CD2	Chengdu	131.48	17	ePKP	PKPdf	07 27 48.0	-1.1
SSE	Sheshan	133.42	357	ePKP	PKPdf	07 27 54.1	+1.4
ASAR	Alice Springs	163.66	239	PKP	PKPdf	07 28 39.4	0.0
	comp=Z,0.7nm,0.8s,baz=144,slow=1.4,SNR=6.5						
ASAR				PKPab	PKPab	07 29 31.3	-0.5
	comp=Z,1.3nm,0.7s,baz=114,slow=4.0,SNR=11						
WRA	Warramunga Arr	164.54	252	PKP	PKPdf	07 28 40.1	-0.1
	comp=Z,0.8nm,0.8s,baz=70,slow=0.5,SNR=6.3						
WRA				PKPab	PKPab	07 29 35.9	+0.2
	comp=Z,0.8nm,0.6s,baz=101,slow=4.3,SNR=11						

*IDC **15** 07:28:09.9±1.2, 1277N×4827E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=42.5km s-min=25.9km az=7.0*
*ISCJB **15** 07:28:10.2±0.9, 1305N±009×4825E±005, h10km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=7.0km az=153.3*
*CSEM **15** 07:28:12.5, 1340N×4804E, h10km, ML3.3, After DHMR*
*DHMR **15** 07:28:12.5±1.3, 1340N×4804E, h10km, ML3.3*
ISC 15 07:28:12.1±0.9**, 1313N**±009×**4824E**±005**, h10**km**, n10, σ1ˢ13**/14**, mb3.7**/5**, 2C-2D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.55	30	⇓iP	Pn	07 28 38.9	-0.8
MUKL				i S	Sn	07 28 59.0	-0.8
BDHA	Al Bayda'	2.73	288	⇑iP	Pn	07 28 56.3	+0.2
BDHA				i S	Sn	07 29 29.2	0.0
BDHA				AML	AML	07 29 31.4	
	comp=N,206nm,0.3s						
BDHA	Al Bayda'	2.73	288	⇑iP	Pn	07 28 56.3	+0.3
BDHA				i S	Sn	07 29 29.2	0.0
	comp=N,103nm,0.3s						
LBOS		3.00	285	⇓iP	Pn	07 28 59.3	-0.4
LBOS				i S	Sn	07 29 35.9	+0.1
ATD	Arta Tunnel	5.51	254	Pn	Pn	07 29 32.6	-1.6
	comp=N,2.0nm,0.3s,baz=80,slow=18,SNR=6.3						
TORD	Torodi Ar. Bea	45.28	276	P	P	07 36 30.2	+0.3
	comp=N,0.6nm,0.6s,mb3.6,baz=85,slow=7.1,SNR=4.3						
GERES	GERESS Array B	45.61	328	P	P	07 36 34.3	+1.8
	comp=N,0.3nm,0.2s,mb3.8,baz=170,slow=12,SNR=3.3						
SONM	Songino Array	59.13	42	P	P	07 38 14.5	+1.7
	comp=N,0.2nm,0.3s,mb3.6,baz=213,slow=6.9,SNR=3.5						
WRA	Warramunga Arr	90.81	110	P	P	07 41 13.5	-2.1
	comp=N,0.8nm,0.7s,mb4.2,baz=298,slow=3.6,SNR=9.5						
ASAR	Alice Springs	91.29	114	P	P	07 41 19.1	+1.3
	comp=N,0.1nm,0.3s,mb3.6,baz=302,slow=5.1,SNR=4.5						

*NAO **15** 07:55:07.3±3.0, 7993N×2090E, h15km±12km, ML2.3*
BER 15 07:55:07.5±3.5**, 7993N**×**2154E, h15**km±23km**, MD2.5, ML2.4, ML2.3**(NAO)**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	2.02	212	Pn	Pn	07 55 38.9	-2.1
	baz=40,slow=16						
SPA0				Pg	Pg	07 55 43.2	-3.1
	baz=24,slow=16						
SPA0				Sn	Sn	07 56 03.4	-2.6
	baz=38,slow=18						
SPA0				Lg		07 56 09.2	
	baz=30,slow=37						
KBS	Kingsbay	2.04	245	Pn	Pn	07 55 38.4	-2.8
KBS				Pg	Pg	07 55 43.0	-3.6
KBS				Lg		07 56 08.2	
KBS	Kingsbay	2.04	245	eP	Pn	07 55 38.3	-3.0
KBS				ePg	Pg	07 55 42.9	-3.7
KBS				eSg	Sg	07 56 08.0	-5.0
KBS				AML	AML	07 56 12.3	
	comp=Z,30nm,0.2s						
HOPEN	Hopen	3.52	167	eP	Pn	07 56 00.2	-1.3
HOPEN				eS	Sn	07 56 40.5	-2.3
HOPEN				AML	AML	07 57 04.4	
	comp=N,42nm,0.1s						
ARA0	ARCESS Array S	10.50	172	Pn	Pn	07 57 35.8	-1.7
	baz=7.0,slow=9.3						
ARA0				Sn	Sn	07 59 25.1	-10
	baz=358,slow=22						

IDC 15 08:00:12.4±4.0**, 5255N**×**3460E, h0**km**, mb1 3.7**/2**, mb1mx3.3**/19**, mbtmp3.7**/2**, ML3.0**/3**, Error ellipse: s-maj=57.5km s-min=14.2km az=119.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.83	243	Pn	Pn	08 01 11.5	-1.0
	1.7nm,0.3s,baz=56,slow=11,SNR=8.0						
AKASG				Pg	Pg	08 01 18.9	-6.9
	2.4nm,0.3s,baz=59,slow=16,SNR=6.1						
AKASG				Lg		08 02 15.0	
	3.4nm,0.3s,baz=60,slow=28,SNR=4.9						
FINES	FINESS Array B	10.04	336	Pn	Pn	08 02 32.4	-5.5
	0.1nm,0.3s,baz=153,slow=13,SNR=4.0						
NOA	NORSAR Array B	15.29	313	Pn	Pn	08 03 49.4	-0.1
	0.2nm,0.3s,baz=126,slow=12,SNR=2.3						
ARCES	ARCESS Array B	17.56	349	Pn	Pn	08 04 12.8	-5.7
	0.2nm,0.3s,baz=160,slow=12,SNR=7.6						

*ISCJB **15** 08:34:31.1±0.5, 2150S±005×6651W±006, h225km±6km, mb4.0/11, Error ellipse: s-maj=9.7km s-min=7.4km az=34.7*
*IDC **15** 08:34:31.4±0.7, 2149S×6651W, h212km±7km, mb3.9/9, mb1 3.8/17, mb1mx3.7/24, mbtmp4.3/17, Error ellipse: s-maj=12.2km s-min=9.6km az=112.0*
*NEIC **15** 08:34:32.0±0.6, 2149S×6655W, h220km±8km, mb4.5/3, Error ellipse: s-maj=10.8km s-min=8.1km az=79.0*
ISC 15 08:34:32.0±0.5**, 2148S**±005×**6650W**±006**, h215**km±6km**, n31, σ1ˢ06**/35**, mb4.0**/11**, 1C-1D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.50	243	P	Pn	08 35 17.4	+0.6
	12nm,0.3s,baz=53,slow=8.3,SNR=214						
LVC				S	S	08 35 51.2	-0.8
	43nm,0.3s,baz=239,slow=20,SNR=60						
LVC	Limon Verde	2.50	243	⇓iP	Pn	08 35 17.3	+0.5
LVC				eSn	S	08 35 51.2	-0.8
LPAZ	La Paz	5.39	343	P	Pn	08 35 53.3	+1.6
	6.2nm,0.3s,baz=158,slow=8.7,SNR=229						
LPAZ				S	S	08 36 55.2	+0.4
	1.3nm,0.3s,baz=276,slow=20,SNR=7.7						
LPAZ	La Paz	5.39	343	⇑iP	Pn	08 35 53.3	+1.7
	76nm,0.9s						
LPAZ				eSn	S	08 36 54.6	-0.2
ARE	Arequipa	6.87	316	eP	Pn	08 36 08.0	-2.6
ARE				eS	S	08 37 22.0	-7.1
SIV	San Ignacio	7.50	44	P	Pn	08 36 19.7	+0.9
	24nm,0.3s,baz=261,slow=10,SNR=609						
SIV				S	S	08 37 42.2	-1.8
	0.3nm,0.3s,baz=285,slow=22,SNR=3.3						
CPUP	Villa Florida	9.68	122	P	Pn	08 36 47.3	+0.4
	0.4nm,0.3s,baz=322,slow=4.2,SNR=4.0						
CFAA	Coronel Fontan	10.20	188	P	Pn	08 36 51.7	-1.8
	0.3nm,0.3s,baz=10,slow=12,SNR=80						
CFAA				S	S	08 38 39.3	-8.5
	0.4nm,0.3s,baz=190,slow=16,SNR=15						
CFAA	Coronel Fontan	10.20	188	P	Pn	08 36 51.7	-1.9
CFAA				S	S	08 38 39.3	-8.5
MDZ	Mendoza	11.55	190	eP	Pn	08 37 11.7	+1.0
SAML	Samuel	12.86	15	ePn	Pn	08 37 27.5	+0.2
NNA	Nana	13.67	312	P	Pn	08 37 38.8	+1.5
	2.1nm,0.3s,baz=174,slow=3.7,SNR=4.1						
BDFB	Brasilia	18.46	75	P	P	08 38 33.1	+1.3
	1.7nm,0.3s,baz=269,slow=8.2,SNR=11						
PLCA	Paso Flores	19.50	189	P	P	08 38 43.5	+0.5
	0.2nm,0.3s,baz=6.4,slow=12,SNR=7.5						
ROSC	El Rosal	27.27	343	P	P	08 39 57.1	+0.7
	1.3nm,0.4s,mb3.9,baz=284,slow=19,SNR=3.4						
SJG	San Juan	39.35	1	P	P	08 41 40.9	+0.4
	6.8nm,0.4s,mb4.5,baz=293,slow=17,SNR=4.2						
WVT	Waverly	60.75	340	eP	P	08 44 19.3	-1.7
	7.1nm,0.8s,mb4.3						
DBIC	Dimbokro	66.59	72	P	P	08 44 58.6	-0.5
	8.6nm,0.9s,mb4.4,baz=203,slow=6.5,SNR=6.4						
SRU	San Rafael	73.00	326	eP	P	08 45 38.8	+0.6
	4.7nm,0.9s,mb4.1						
PDAR	Pinedale Array	75.23	329	P	P	08 45 51.4	+0.3
	0.5nm,0.5s,mb3.4,baz=127,slow=8.2,SNR=7.3						
TOA0	Torodi Ar. Sit	75.25	69	eP	P	08 45 51.0	-0.1
TORD	Torodi Ar. Bea	75.25	69	P	P	08 45 51.1	0.0
	6.1nm,0.4s,mb4.6,baz=256,slow=5.8,SNR=112						
TORD				pP	pP	08 46 46.4	+4.3
	2.1nm,0.7s,baz=250,slow=5.5,SNR=5.8						
ULM	Lac du Bonnet	76.00	341	P	P	08 45 54.2	-1.2
	1.8nm,0.6s,mb3.9,baz=118,slow=7.1,SNR=4.9						
ULM	Lac du Bonnet	76.00	341	P	P	08 45 54.2	-1.2
SCHQ	Schefferville	76.00	360	P	P	08 45 54.1	-1.3
	1.7nm,0.7s,mb3.8,baz=214,slow=15,SNR=3.3						
NVAR	Mina Array Bea	76.88	321	P	P	08 46 01.2	+0.8
	1.1nm,0.9s,mb3.5,baz=136,slow=8.3,SNR=5.5						
YKA	Yellowknife Ar	91.93	340	P	P	08 47 15.5	-0.5
	1.8nm,0.7s,mb4.1,baz=132,slow=4.8,SNR=6.0						
ASAR	Alice Springs	130.93	205	PKP	PKPdf	08 53 18.4	+0.6
	0.7nm,0.8s,baz=131,slow=1.6,SNR=8.1						
WRA	Warramunga Arr	134.06	208	PKP	PKPdf	08 53 24.5	+0.8
	0.4nm,0.3s,baz=153,slow=2.0,SNR=23						
MKAR	Makanchi Array	144.28	38	PKP	PKPdf	08 53 41.3	-0.9
	6.9nm,0.8s,baz=312,slow=3.7						
SONM	Songino Array	153.09	11	PKP	PKPdf	08 53 55.0	-1.5
	0.8nm,0.7s,baz=198,slow=0.7,SNR=6.3						
SONM				PKPbc	PKPbc	08 54 04.3	+0.3
	1.5nm,0.8s,baz=284,slow=1.8,SNR=9.0						

*PRU **15** 08:46:46.2, 5028N×1903E, h0km*
*NEIC **15** 08:46:46.4±1.1, 5022N×1907E, h5km, MG2.5(WAR), Error ellipse: s-maj=17.2km s-min=6.6km az=179.0*
WAR 15 08:46:47.0, 5020N×1914E, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.43	87	ePg	Pg	08 46 54.8	-0.4
OJC				i Sg	Sg	08 47 01.0	+0.3
OJC	Ojcow	0.43	87	ePg	Pg	08 46 54.8	-0.4
OJC				eSg	Sg	08 47 01.0	+0.3
OKC	Ostrava-Krasne	0.73	241	ePG	Pg	08 47 00.2	-0.8
NIE	Niedzica	1.09	135	ePg	Pg	08 47 08.3	+0.4
NIE				eSg	Sg	08 47 24.4	+2.3
MORC	Moravsky Berou	1.11	248	ePg	Pg	08 47 07.2	-1.1
MORC				eSg	Sg	08 47 21.1	-1.6
STHS	Stebnicka Huta	1.57	119	ePN	Pn	08 47 16.9	+0.7
STHS				eSN	Sn	08 47 39.0	+1.8
VYHS	Vyhne	1.72	187	ePN	Pn	08 47 16.2	-1.9
VYHS				eSN	Sn	08 47 38.9	-1.9
DPC	Dobruska-Polom	1.81	276	ePG	Pg	08 47 17.6	-4.1
DPC				eSG	Sg	08 47 41.1	-4.1
	14nm,0.5s						
KSP	Ksiaz	1.93	291	ePg	Pg	08 47 22.9	-1.0
KSP				eSg	Sg	08 47 47.0	-1.9
KECS	Kecovo	1.93	152	eSN	Sn	08 47 46.1	+0.1
CRVS	Cervenica-Dubn	1.99	130	eSN	Sn	08 47 49.9	+2.3
UPC	Upice	2.02	280	eSG	Sg	08 47 48.5	-3.6
KHC	Kasperske Hory	3.77	256	eSG	Sg	08 48 43.6	-4.4
CLL	Collm	4.05	288	eSg	Sg	08 48 58.0	+0.9

*ISCJB **15** 09:46:06.8±1.1, 163S±02×1767W±02, h386km±15km, mb3.8/8, Error ellipse: s-maj=39.1km s-min=14.4km az=108.1*
*IDC **15** 09:46:07.8±1.4, 1628S×17659W, h386km±18km, mb3.5/7, mb1 3.7/8, mb1mx3.5/15, mbtmp4.2/8, Error ellipse: s-maj=31.5km s-min=14.0km az=140.0*
*NEIC **15** 09:46:07.2±1.0, 1625S×17664W, h380km±12km, mb4.3/1, Error ellipse: s-maj=26.0km s-min=10.1km az=143.0*
ISC 15 09:46:07.9±1.1**, 163S**±02×**1766W**±02**, h382**km±15km**, n15, σ0ˢ55**/15**, mb3.8**/8**, 2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.25	64	P	Pn	09 47 30.8	-0.8
	12nm,0.3s,baz=50,slow=4.5,SNR=15						
AFI				S	S	09 48 40.3	+0.6
	2.5nm,0.3s,baz=161,slow=12,SNR=3.3						
URZ	Urewera	22.56	193	P	P	09 50 36.3	-0.4
	5.4nm,0.3s,mb4.5,baz=259,slow=2.6,SNR=13						
STKA	Stephens Creek	40.90	240	P	P	09 53 14.9	+0.5
	1.4nm,0.6s,mb3.5,baz=82,slow=8.7,SNR=9.2						
WB2	Warramunga Arr	46.60	258	eP	P	09 53 58.9	-0.4
WRA	Warramunga Arr	46.62	258	P	P	09 53 59.3	-0.1
	1.3nm,0.3s,mb3.8,baz=96,slow=8.0,SNR=117						
AS31	Alice Springs	46.88	253	⇓iP	P	09 54 01.7	+0.4
ASAR	Alice Springs	46.88	253	P	P	09 54 01.8	+0.4
	10nm,0.6s,mb4.3,baz=87,slow=7.9,SNR=188						
ASPA	Alice Springs	46.88	253	⇓iP	P	09 54 01.7	+0.3
FORT	Forrest	52.24	244	eP	P	09 54 41.2	-0.1
	10.0nm,0.7s,mb4.2						
NVAR	Mina Array Bea	77.09	43	P	P	09 57 20.5	+0.5
	0.7nm,0.7s,mb3.4,baz=182,slow=5.6,SNR=5.1						
NVAR	Mina Array Bea	77.09	43	P	P	09 57 20.5	+0.5
MCMT	McKenzie Canyo	83.92	40	eP	P	09 57 56.6	+0.8
PDAR	Pinedale Array	85.02	43	P	P	09 58 00.6	-0.7
	0.3nm,0.6s,mb3.2,baz=220,slow=5.8,SNR=3.4						
SONM	Songino Array	93.46	319	P	P	09 58 39.9	-1.0
	0.3nm,0.3s,mb3.7,baz=43,slow=2.8,SNR=3.7						
ARCES	ARCESS Array B	125.03	351	PKP	PKPdf	10 04 21.3	-1.9
	2.3nm,0.8s,baz=48,slow=1.8,SNR=8.6						

MAN 15 09:51:18.1, 1100N×12465E, h1km, mb2.6, ML4.1, Leyte

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCLP	Ormoc	0.06	321	eP	Pg	09 51 18.8	-0.5
OCLP				eS	Sg	09 51 20.2	+0.1
PLP	Palo	0.36	64	eP	Pg	09 51 24.8	-0.2
MSLP	Maasin	0.89	166	eP	Pg	09 51 35.7	+0.5
GUIM	Jordan	2.06	260	eP	Pn	09 51 54.8	+0.9
GUIM				eS	Sn	09 52 21.4	+1.3

IDC 15 09:57:00.8±2.6**, 578S**×**15048E, h0**km**, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/14**, mbtmp3.8**/5**, ML2.8**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.5**/20**, Error ellipse: s-maj=67.5km s-min=39.7km az=112.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.88	222	Pn	Pn	09 58 16.4	+1.0
	2.7nm,0.3s,baz=55,slow=9.5,SNR=7.9						
PMG				Sn	Sn	09 59 08.6	-3.9
	4.0nm,0.3s,baz=102,slow=18,SNR=6.3						

PMG LR LR 10 00 18.2
comp=Z,102nm,20.7s,baz=218,slow=40
WB2 Warramunga Arr 21.07 227 *e*P P 10 01 46.9 +0.4
WRA Warramunga Arr 21.08 227 P P 10 01 47.0 +0.4
2.0nm,0.6s,baz=51,slow=10,SNR=29
ASAR Alice Springs 23.89 220 P P 10 02 16.3 +0.2
0.6nm,0.4s,baz=53,slow=9.2,SNR=20
FITZ Fitzroy Crossi 27.16 241 P P 10 02 46.2 +0.4
1.7nm,0.7s,baz=121,slow=14,SNR=7.7
STKA Stephens Creek 27.26 197 P P 10 02 46.3 -0.4
0.9nm,0.5s,baz=38,slow=14,SNR=5.3
TORD Torodi Ar. Bea 148.37 286 PKPbc PKPbc 10 16 49.9 +0.8
1.7nm,0.7s,baz=82,slow=2.4,SNR=9.9

---

*IDC **15** 10:08:21.8±2.5, 583S×15038E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/14, mbtmp3.9/5, ML2.9/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/23, Error ellipse: s-maj=66.4km s-min=35.6km az=118.0*

NEIC 15 10:08:25.9±1.5**, 586S×15055E, h35km, mb4.4**/1**, Error ellipse: s-maj=41.4km s-min=22.2km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.87**	**223**	Pn	Pn	10 09 37.2	+0.6
	3.9nm,0.3s,baz=28,slow=13,SNR=13						
PMG				Sn	Sn	10 10 30.4	-1.3
	10nm,0.3s,baz=105,slow=18,SNR=5.9						
WRAB	**Tennant Creek**	**21.06**	**227**	*e*P	P	10 13 07.5	+0.5
	13nm,0.8s						
WB2	**Warramunga Arr**	**21.07**	**227**	*e*P	P	10 13 07.3	+0.3
WRA	**Warramunga Arr**	**21.08**	**227**	P	P	10 13 07.3	+0.2
	2.2nm,0.6s,baz=52,slow=11,SNR=30						
ASAR	**Alice Springs**	**23.88**	**220**	P	P	10 13 36.5	+0.4
	0.6nm,0.4s,baz=52,slow=9.1,SNR=28						
FITZ	**Fitzroy Crossi**	**27.19**	**241**	P	P	10 14 05.8	-0.3
	1.2nm,0.4s,baz=208,slow=19,SNR=13						
STKA	**Stephens Creek**	**27.20**	**197**	P	P	10 14 06.3	0.0
	1.2nm,0.7s,baz=26,slow=13,SNR=3.9						
RAO	**Raoul Island**	**37.79**	**132**	LR	LR	10 27 57.3	
	comp=Z,485nm,20.0s,baz=94,slow=31						
TORD	**Torodi Ar. Bea**	**148.47**	**286**	PKPbc	PKPbc	10 28 10.8	+1.9
	1.6nm,0.7s,baz=64,slow=2.7,SNR=8.7						

---

*BJI **15** 10:13:09.0, 655S×15125E, h47km, mB5.6, mb5.1, Ms5.7, Msz5.5*

*IDC **15** 10:13:14.9±1.5, 601S×15035E, h27km±8km, mb4.9/17, mb1 5.0/19, mb1mx5.0/20, mbtmp5.1/19, ML4.7/2, MS5.4/21, Ms1 5.4/21, ms1mx5.3/22, Error ellipse: s-maj=13.4km s-min=9.7km az=119.0*

*MOS **15** 10:13:14.3±1.0, 590S×15033E, h30km, mb5.3/42, Error ellipse: s-maj=9.3km s-min=6.7km az=81.6*

*NEIC **15** 10:13:14.8±0.1, 602S×15047E, mb5.2/32, MS5.9/11, MW5.7, Error ellipse: s-maj=4.9km s-min=3.5km az=117.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}4.09; $M_{\theta\theta}$-3.73; $M_{\phi\phi}$-0.36; $M_{r\theta}$2.78; $M_{\theta\phi}$-0.62; $M_{\phi r}$-0.17; Best double couple: $M_0$4.80000×10^{17} NP1: ϕ_s87.00000°, δ63.00000°, λ96.00000°. NP2:ϕ_s254.00000°, δ28.00000°, λ78.00000°. Principal axes: T 5.0000, Plg72.0000°, Azm12.0000°; N -0.3200, Plg6.0000°, Azm264.0000°; P -4.6800, Plg17.0000°, Azm173.0000°;*

*GCMT **15** 10:13:14.8±0.1, 643S×15052E, h34km, MW5.8/102, Moment Tensor Solution. s100,c212; s102,c303; Duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}5.57±.06; $M_{\theta\theta}$-6.11±.04; $M_{\phi\phi}$0.54±.05; $M_{r\theta}$2.91±.06; $M_{\theta\phi}$-1.01±.04; $M_{\phi r}$0.89±.07; Best double couple: $M_0$6.65400×10^{17} NP1:ϕ_s266.00000°, δ32.00000°, λ98.00000°. NP2:ϕ_s77.00000°, δ59.00000°, λ85.00000°. Principal axes: T 6.3250, Plg76.0000°, Azm333.0000°; N 0.6570, Plg4.0000°, Azm80.0000°; P -6.9830, Plg14.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*ISCJB **15** 10:13:16.5±0.2, 603S±003×15039E±003, h54km, mb5.1/93, MS5.5/61 Error ellipse: s-maj=4.7km s-min=3.6km az=42.5*

ISC 15 10:13:18.6±0.2**, 605S**±003×**15041E**±003**, h56km, h56km**±1.8km**: pP-P, n439, σ1s13**/247**, mb5.1**/93**, MS5.5**/61**, 32C-18D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.63**	**224**	Pn	**Pn**	**10 14 26.9**	**+0.9**
	107nm,0.3s,baz=60,slow=8.8,SNR=204						
PMG				Sn	**Sn**	**10 15 20.7**	**+2.2**
	222nm,0.3s,baz=303,slow=18,SNR=8.9						
PMG				LR	LR	10 16 10.3	
	comp=Z,41μm,21.6s,baz=24,slow=38						
PMG	**Port Moresby**	**4.63**	**224**	P	**Pn**	**10 14 26.9**	**+0.9**
PMG						10 15 20.7	
PMG				pmax	pmax		
	comp=Z,107nm,0.3s						
PMG				smax			
	comp=N,222nm,0.3s						
PMG				MLR	MLR		
	comp=Z,41μm,21.6s						
PMG	**Port Moresby**	**4.63**	**224**	*e*Pn	**Pn**	**10 14 25.3**	**-0.7**
PMG				*e*Sn	**Sn**	**10 15 18.8**	**+0.3**
HNR	**Honiara**	**10.03**	**110**	Pn	**Pn**	**10 15 39.7**	**-0.3**
	comp=Z,6.1nm,0.3s,baz=235,slow=0.9,SNR=5.6						
HNR				LR	LR	10 18 59.4	
	comp=Z,16μm,20.9s,baz=354,slow=34						
HNR	**Honiara**	**10.03**	**110**	P	**Pn**	**10 15 39.7**	**-0.2**
HNR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,16μm,20.9s						
HNR	**Honiara**	**10.03**	**110**	*e*Pn	**Pn**	**10 15 40.8**	**+0.8**
	comp=Z,374nm,1.1s						
CTA	**Charters Tower**	**14.53**	**196**	⇑*i*P	**Pn**	**10 16 40.3**	**-0.6**
	comp=Z,73nm,0.9s						
CTA				*i* S	**Sn**	**10 19 16.5**	**-4.1**
CTA	**Charters Tower**	**14.53**	**196**	Pn	**Pn**	**10 16 40.5**	**-0.5**
	comp=Z,2.7nm,0.3s,baz=22,slow=14,SNR=18						
CTA				LR	LR	10 22 12.6	
	comp=Z,14μm,18.3s,baz=14,slow=37						
CTA	**Charters Tower**	**14.53**	**196**	P	**Pn**	**10 16 40.5**	**-0.4**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
CTA				MLR	MLR		
	comp=Z,14μm,18.3s						
CTAO	**Charters Tower**	**14.53**	**196**	*e*P	**Pn**	**10 16 40.5**	**-0.4**
KAKA	**Kakadu**	**18.91**	**248**	⇑*i*P	**Pn**	**10 17 34.6**	**-1.1**
	comp=Z,145nm,0.6s						
KAKA				*e*S	**S**	**10 21 01.8**	**-4.7**
GUMO	**Guam**	**20.27**	**344**	P	**P**	**10 17 51.7**	**+2.4**
	comp=Z,586nm,1.1s,baz=174,slow=5.2,SNR=47						
GUMO				LR	LR	10 24 08.7	
	comp=Z,17μm,21.5s,MS5.4,baz=335,slow=32						
GUMO	**Guam**	**20.27**	**344**	P	**P**	**10 17 51.7**	**+2.3**
GUMO				pmax	pmax		
	comp=Z,59nm,1.1s						
GUMO				MLR	MLR		
	comp=Z,17μm,21.5s,MS5.4						
WRAB	**Tennant Creek**	**20.83**	**227**	⇓*e*P	**P**	**10 17 54.8**	**-0.7**
WRAB	**Tennant Creek**	**20.83**	**227**	*e*P	**P**	**10 17 55.5**	**0.0**
WB2	**Warramunga Arr**	**20.84**	**227**	*e*P	**P**	**10 17 55.3**	**-0.2**
WB2				*i* S	**S**	**10 21 40.9**	**-3.9**
WB2				*e*SCP	ScP	10 25 37.5	+3.4
WB2				*e*SCS	ScS	10 29 19.7	+2.2
WRA	**Warramunga Arr**	**20.85**	**227**	P	**P**	**10 17 55.9**	**+0.3**
	comp=Z,43nm,0.6s,baz=52,slow=11,SNR=132						
WRA				S	**S**	**10 21 42.6**	**-2.4**
	comp=Z,28nm,1.3s,baz=56,slow=16,SNR=13						
WRA				ScP	ScP	10 25 37.6	+3.5
	comp=Z,15nm,0.9s,baz=46,slow=2.5,SNR=8.2						
WRA				LR	LR	10 26 39.6	
	comp=Z,10μm,18.7s,MS5.2,baz=55,slow=39						
WRA	**Warramunga Arr**	**20.85**	**227**	P	**P**	**10 17 55.9**	**+0.3**
WRA				S	**S**	**10 21 42.6**	**-2.4**
WRA				pmax	pmax		
	comp=Z,43nm,0.6s						
WRA				smax			
	comp=N,29nm,1.3s						
WRA				MLR	MLR		
	comp=Z,10μm,18.7s						
WRA	**Warramunga Arr**	**20.85**	**227**	P	**P**	**10 17 55.9**	**+0.3**
WRA				S	**S**	**10 21 42.6**	**-2.4**
WRA				ScP	ScP	10 25 37.6	+3.5
WRA				LR	LR	10 26 39.6	
DZM	**Mont Dzumac**	**22.23**	**137**	*e*P	**P**	**10 18 08.6**	**-1.8**
DZM	**Mont Dzumac**	**22.23**	**137**	P	**P**	**10 18 09.3**	**-1.1**
	comp=Z,38nm,0.5s,mb5.1,baz=46,slow=23,SNR=50						
DZM				LR	LR	10 25 30.8	
	comp=Z,18μm,21.3s,MS5.5,baz=313,slow=33						
AS31	**Alice Springs**	**23.64**	**220**	⇑*i*P	**P**	**10 18 25.1**	**+0.4**
AS31				*e*S	**S**	**10 22 38.2**	**+3.1**
AS31				*e*ScS	ScS	10 29 31.0	+3.1
ASAR	**Alice Springs**	**23.64**	**220**	P	**P**	**10 18 25.1**	**+0.4**
	comp=Z,32nm,0.4s,mb5.1,baz=52,slow=9.0,SNR=656						
ASAR				PcP	PcP	10 22 09.7	+1.8
	comp=Z,13nm,1.0s,baz=54,slow=2.3,SNR=4.3						
ASAR				S	**S**	**10 22 41.6**	**+6.5**
	comp=Z,9.8nm,0.9s,baz=33,slow=20,SNR=6.3						
ASAR				ScP	ScP	10 25 45.6	+4.3
	comp=Z,14nm,0.8s,baz=44,slow=2.9,SNR=16						
ASAR				LR	LR	10 27 47.2	
	comp=Z,9μm,20.4s,MS5.2,baz=60,slow=37						
ASAR				P3KP		10 52 33.2	
	comp=Z,0.7nm,1.1s,baz=90,slow=1.3,SNR=4.3						
ASAR	**Alice Springs**	**23.64**	**220**	P	**P**	**10 18 25.1**	**+0.4**
ASAR				PcP	PcP	10 22 09.7	+1.8
ASAR				S	**S**	**10 22 41.6**	**+6.5**
ASAR				ScP	ScP	10 25 45.6	+4.3
ASAR				LR	LR	10 27 47.2	
ASPA	**Alice Springs**	**23.64**	**221**	⇑*i*P	**P**	**10 18 25.1**	**+0.4**
ASPA				*e*S	**S**	**10 22 38.2**	**+3.0**
ASPA				*e*SCS	ScS	10 29 31.0	+3.1
ARMA	**Armidale**	**24.27**	**177**	*e*P	**P**	**10 18 30.0**	**-0.4**
ARMA				*i* S	**S**	**10 22 47.0**	**+1.7**
ARMA				*e*SCP	ScP	10 25 49.6	+6.6
FITZ	**Fitzroy Crossi**	**26.97**	**241**	⇑*i*P	**P**	**10 18 55.0**	**+0.1**
	comp=Z,171nm,0.7s,mb5.7						
FITZ				*i* S	**S**	**10 23 27.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**26.97**	**241**	P	**P**	**10 18 55.1**	**+0.2**
	comp=Z,61nm,0.5s,mb5.4,baz=65,slow=10,SNR=194						
FITZ				LR	LR	10 30 39.1	
	comp=Z,7μm,20.4s,MS5.2,baz=250,slow=39						
STKA	**Stephens Creek**	**26.99**	**197**	⇓*i*P	**P**	**10 18 54.1**	**-0.9**
	comp=Z,43nm,0.8s,mb5.0						
STKA				*i* S	**S**	**10 23 27.3**	**-1.1**
STKA				*i* SCP	ScP	10 25 56.2	+5.4
STKA	**Stephens Creek**	**26.99**	**197**	P	**P**	**10 18 54.2**	**-0.8**
	comp=Z,32nm,0.8s,mb4.9,baz=3.3,slow=8.8,SNR=72						
STKA				ScP	ScP	10 25 56.3	+5.5
	comp=Z,30nm,1.1s,baz=30,slow=3.6,SNR=9.6						
STKA				LR	LR	10 30 25.3	
	comp=Z,11μm,18.3s,MS5.5,baz=289,slow=38						
RIV	**Riverview**	**27.65**	**179**	*e*P	**P**	**10 19 00.9**	**-0.1**
CNB	**Canberra Magne**	**29.14**	**182**	⇓*i*P	**P**	**10 19 13.2**	**-1.0**
	comp=Z,35nm,1.0s,mb5.0						
TOO	**Toolangi**	**31.70**	**187**	*e*P	**P**	**10 19 36.4**	**-0.4**
	comp=Z,10nm,1.0s,mb4.6						
TOO				*i*		10 19 44.5	
TOO				*e*S	**S**	**10 24 42.4**	**+0.1**
FORT	**Forrest**	**32.33**	**218**	*e*P	**P**	**10 19 41.7**	**-0.7**
	comp=Z,110nm,0.8s,mb5.7						
MBWA	**Marble Bar**	**33.29**	**240**	⇑P	**P**	**10 19 50.6**	**0.0**
	SNR=15						
MBWA	**Marble Bar**	**33.29**	**240**	*e*P	**P**	**10 19 50.6**	**-0.1**
TAU	**Tasmania Unive**	**36.81**	**184**	P	**P**	**10 20 23.0**	**+2.0**
TAU				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
TAU	**Tasmania Unive**	**36.81**	**184**	*e*P	**P**	**10 20 17.2**	**-3.8**
	comp=Z,199nm,1.4s,mb5.8						
AFI	**Afiamalu**	**38.01**	**105**	P	**P**	**10 20 30.8**	**-0.3**
	comp=Z,47nm,0.9s,mb5.2,baz=103,slow=18,SNR=3.5						
AFI	**Afiamalu**	**38.01**	**105**	P	**P**	**10 20 31.5**	**+0.3**
AFI				*e*		10 20 39.5	
AFI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
KLBR	**Kellerberrin**	**39.72**	**226**	⇑*i*P	**P**	**10 20 44.5**	**-1.0**
	comp=Z,58nm,0.8s,mb5.4						
KLBR				*i*		10 20 52.7	
URZ	**Urewera**	**40.19**	**147**	P	**P**	**10 20 48.4**	**-0.9**
	comp=Z,17nm,1.1s,mb4.7,baz=106,slow=7.4,SNR=4.2						
URZ				LR	LR	10 34 48.7	
	comp=Z,11μm,21.7s,MS5.7,baz=295,slow=32						
KSM	**Kuching**	**40.73**	**279**	*e*P	**P**	**10 20 55.6**	**+1.8**
NWAO	**Narrogin (SRO)**	**40.82**	**225**	P	**P**	**10 20 54.5**	**-0.1**
	comp=Z,18nm,0.9s,mb4.7,baz=49,slow=5.4,SNR=8.8						
NWAO				LR	LR	10 38 34.8	
	comp=Z,10μm,18.8s,MS5.7,baz=56,slow=37						
NWAO	**Narrogin (SRO)**	**40.82**	**225**	*e*P	**P**	**10 20 54.1**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,84nm,1.1s						
NWAO	**Narrogin (SRO)**	**40.82**	**225**	*e*P	**P**	**10 20 54.1**	**-0.5**
	comp=Z,84nm,1.1s,mb5.3						
MUN	**Mundaring**	**41.04**	**227**	*e*P	**P**	**10 20 56.2**	**-0.2**
MUN				*i*		10 21 04.3	
MUN				*i* S	**S**	**10 27 05.7**	**+0.8**
YHNB	**Yeheng**	**41.61**	**318**	*e*P	**P**	**10 21 03.3**	**+2.3**
RPZ	**Rata Peaks**	**41.68**	**157**	P	**P**	**10 21 01.3**	**-0.3**
	comp=Z,16nm,0.7s,mb4.7,baz=231,slow=23,SNR=7.4						
RPZ				LR	LR	10 35 46.7	
	comp=Z,8μm,21.3s,MS5.5,baz=313,slow=32						
QZH	**Quanzhou**	**43.67**	**316**	⇑*i*P	**P**	**10 21 20.1**	**+2.3**
QZH				*e*S	**S**	**10 27 49.0**	**+5.4**
QZH				LR	LR		
	comp=N,6μm,18.3s,MS5.9						
QZH				LR	LR		
	comp=E,13μm,20.9s,MS5.9						
QZH				LR	LR		
	comp=Z,14μm,26.8s						
MJAR	**Matsushiro Arr**	**43.88**	**346**	P	**P**	**10 21 18.5**	**-0.9**
	comp=Z,16nm,0.9s,mb4.8,baz=168,slow=8.1,SNR=27						
MJAR				ScP	ScP	10 26 54.9	+3.2
	comp=Z,12nm,1.0s,baz=174,slow=5.3,SNR=14						
MJAR				LR	LR	10 39 01.6	
	comp=Z,5μm,18.9s,MS5.5,baz=170,slow=35						
MJAR	**Matsushiro Arr**	**43.88**	**346**	P	**P**	**10 21 18.5**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MJAR				pmax	pmax		
	comp=N,12nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,5μm,18.9s						
MAJO	**Matsushiro**	**43.88**	**346**	*e*P	**P**	**10 21 18.7**	**-0.7**
MAT	**Matsushiro**	**43.88**	**346**	P	**P**	**10 21 17.9**	**-1.5**
MAT				S	**S**	**10 27 57.0**	**+10**
SSE	**Sheshan**	**46.31**	**325**	*e*P	**P**	**10 21 38.3**	**-0.4**
SSE				AP	pP	10 21 51.9	-1.5
SSE				XP	sP	10 21 57.6	-2.2
SSE				PCP	PcP	10 23 14.3	+1.1
SSE				PP	PP	10 23 26.5	-1.6
SSE				S	**S**	**10 28 20.8**	**-0.9**
SSE				XS	sS	10 28 44.0	-2.4
SSE				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,236nm,6.1s						
SSE				LR	LR		
	comp=N,3μm,21.6s,MS5.4						
SSE				LR	LR		
	comp=E,4μm,21.5s,MS5.4						
SSE				LR	LR		
	comp=Z,6μm,20.1s,MS5.5						
QIZ	**Qiongzhong**	**47.09**	**303**	P	**P**	**10 21 45.3**	**+0.5**
QIZ				AP	pP	10 22 00.0	+0.5
QIZ				XP	sP	10 22 05.8	-0.2
QIZ				PP	PP	10 23 35.6	-0.4
QIZ				S	**S**	**10 28 32.1**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
QIZ				LR	LR		
	comp=E,2μm,24.8s						
QIZ				LR	LR		
	comp=Z,3μm,25.5s,MS5.2						
QIZ	**Qiongzhong**	**47.09**	**303**	*e*P	**P**	**10 21 46.9**	**+2.0**
KS15	**Wonju Array Si**	**48.10**	**336**	*e*P	**P**	**10 21 53.7**	**+1.1**
NJ2	**Nanjing**	**48.36**	**324**	*e*P	**P**	**10 21 56.0**	**+1.3**
NJ2				AP	pP	10 22 11.6	+2.2
NJ2				PP	PP	10 23 48.8	+1.2
NJ2				S	**S**	**10 28 57.0**	**+6.1**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,2μm,10.8s						
NJ2				LR	LR		
	comp=N,9μm,18.8s,MS6.0						
NJ2				LR	LR		
	comp=E,10μm,17.7s,MS6.0						
NJ2				LR	LR		
	comp=Z,14μm,20.2s,MS5.9						
INCN	**Inchon**	**48.65**	**335**	*e*P	**P**	**10 21 58.5**	**+1.6**
WHN	**Wuhan**	**50.15**	**319**	⇑P	**P**	**10 22 11.0**	**+2.7**
WHN				S	**S**	**10 29 31.0**	**+15**
WHN				LR	LR		
	comp=Z,17μm,20.8s,MS6.0						
VLA	**Vladivostok**	**51.74**	**343**	*d i*P	**P**	**10 22 20.9**	**+0.7**
VLA				*i* S	**S**	**10 29 54.2**	**+16**
VLA				pmax	pmax		
	comp=Z,135nm,2.6s,mb5.4						
DL2	**Dalian**	**52.07**	**332**	⇑P	**P**	**10 22 23.3**	**+0.6**
DL2				AP	pP	10 22 38.3	+0.7
DL2				*e*S	**S**	**10 29 44.0**	**+1.6**
DL2				SS	SS	10 33 27.6	+7.5
DL2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
DL2				AMB	AMB		
	comp=Z,460nm,8.9s						
DL2				LR	LR		
	comp=N,1μm,20.2s,MS5.0						
DL2				LR	LR		
	comp=E,800nm,20.4s,MS5.0						
DL2				LR	LR		
	comp=Z,2μm,21.4s,MS5.1						
TIA	**Tai'an**	**52.35**	**326**	P	**P**	**10 22 24.5**	**-0.3**
TIA				LR	LR		
	comp=N,2μm,22.6s,MS5.2						
TIA				LR	LR		
	comp=E,2μm,19.6s,MS5.2						
YSS	**Yuzh-Sakhalins**	**53.20**	**353**	*c e*P	**P**	**10 22 29.9**	**-1.2**
YSS				*e**PP	pP	10 22 45.2	-0.8
YSS				*e*		10 24 36.0	
YSS				*e*S	**S**	**10 29 54.0**	**-3.9**
YSS				*e*PS		10 30 10.0	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YSS				MLR	MLR		
	comp=N,2μm,19.0s,MS5.3						
YSS				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2						
YSS				MLR	MLR		
	comp=E,1μm,17.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**53.20**	**353**	*e*P	**P**	**10 22 29.4**	**-1.7**
	comp=E,22nm,1.0s,mb5.0						
GYA	**Guiyang**	**53.29**	**309**	P	**P**	**10 22 35.3**	**+3.6**
GYA				AP	pP	10 22 51.3	+4.6
GYA				PP	PP	10 24 37.4	+5.1
GYA				S	**S**	**10 30 04.1**	**+5.0**
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,590nm,4.7s						
GYA				LR	LR		
	comp=N,2μm,22.1s,MS5.4						
GYA				LR	LR		
	comp=E,3μm,19.7s,MS5.4						
GYA				LR	LR		
	comp=Z,3μm,20.6s,MS5.4						
SNY	**Shenyang**	**53.58**	**335**	⇑P	**P**	**10 22 33.9**	**+0.1**
SNY				AP	pP	10 22 44.0	-4.8
SNY				XP	sP	10 22 48.3	-6.9
SNY				PP	PP	10 24 34.8	-0.1
SNY				S	**S**	**10 30 13.6**	**+11**
SNY				AMB	AMB		
	comp=Z,39nm,2.5s,mb4.9						
SNY				AMB	AMB		
	comp=Z,955nm,12.0s						
SNY				LR	LR		
	comp=N,993nm,21.0s,MS5.2						
SNY				LR	LR		
	comp=E,2μm,20.4s,MS5.2						
SNY				LR	LR		
	comp=Z,3μm,19.4s,MS5.4						
MDJ	**Mudanjiang**	**53.80**	**342**	P	**P**	**10 22 36.1**	**+0.7**
MDJ				AP	pP	10 22 50.3	-0.1
MDJ				XP	sP	10 22 56.4	-0.4
MDJ				PP	PP	10 24 38.5	+1.7
MDJ				PCS	PcS	10 27 40.5	+0.6
MDJ				S	**S**	**10 30 15.1**	**+9.2**
MDJ				XS	sS	10 30 33.0	+1.9
MDJ				AMB	AMB		
	comp=Z,34nm,1.3s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,865nm,11.3s						
MDJ				LR	LR		
	comp=N,2μm,25.8s,MS5.2						
MDJ				LR	LR		
	comp=E,966nm,27.8s,MS5.2						
MDJ				LR	LR		
	comp=Z,3μm,22.8s,MS5.3						
MDJ	**Mudanjiang**	**53.80**	**342**	*e*P	**P**	**10 22 36.8**	**+1.4**
	comp=Z,22nm,0.8s,mb5.1						
NST	**Nakhon Sawan**	**54.25**	**294**	P	**P**	**10 22 39.0**	**+0.3**
CN2	**Changchun**	**54.50**	**338**	*e*P	**P**	**10 22 42.6**	**+2.1**
CN2				*e*XP	sP	10 23 02.5	+0.5
CN2				*e*S	**S**	**10 30 14.5**	**-0.9**
CN2				*e*SS	SS	10 33 57.3	-1.2
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,900nm,6.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS5.4						
CN2				LR	LR		
	comp=E,2μm,17.0s,MS5.4						
CN2				LR	LR		
	comp=Z,3μm,18.0s,MS5.4						
NANT	**Nan**	**54.85**	**298**	P	**P**	**10 22 49.5**	**+6.5**
BJT	**Baijiatuau**	**55.64**	**328**	*e*P	**P**	**10 22 50.1**	**+1.3**
	comp=Z,13nm,0.6s,mb5.1						
BJI	**Beijing**	**55.65**	**328**	P	**P**	**10 22 48.5**	**-0.3**
BJI				S	**S**	**10 30 36.9**	**+6.1**
BJI				AMB	AMB		
	comp=Z,19nm,1.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,1μm,4.7s						
BJI				LR	LR		
	comp=N,3μm,18.9s,MS5.5						
BJI				LR	LR		
	comp=E,2μm,20.9s,MS5.5						
BJI				LR	LR		
	comp=Z,3μm,26.8s						
KMI	**Kunming**	**55.74**	**306**	P	**P**	**10 22 51.3**	**+1.8**
KMI				AP	pP	10 23 06.3	+1.8
KMI				XP	sP	10 23 12.3	+1.4
KMI				PCP	PcP	10 23 50.3	+2.2
KMI				PP	PP	10 24 57.8	+3.5
KMI				SCP	ScP	10 27 43.0	+0.7
KMI				PCS	PcS	10 27 48.9	+0.5
KMI				S	**S**	**10 30 31.5**	**-0.5**
KMI				XS	sS	10 30 56.9	-0.4
KMI				SCS	ScS	10 32 32.0	-1.7
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,521nm,11.4s						
KMI				LR	LR		
	comp=N,1μm,22.5s,MS5.2						
KMI				LR	LR		
	comp=E,2μm,18.6s,MS5.2						
KMI				LR	LR		
	comp=Z,2μm,28.4s						
HABR	**Khabarovsk**	**55.94**	**348**	⇑*i*P	**P**	**10 22 51.4**	**+0.5**
HABR				*e*S	**S**	**10 30 38.4**	**+3.8**
HABR				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.5						
HABR				MLR	MLR		
	comp=Z,1μm,23.0s,MS4.9						
CHG	**Chiang Mai**	**56.40**	**297**	⇓P	pP	10 23 08.3	-1.0
	comp=Z,14nm,0.8s						
CHTO	**Chiang Mai**	**56.40**	**297**	P	**P**	**10 22 55.3**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**56.40**	**297**	*e*P	**P**	**10 22 55.4**	**+1.2**
	comp=Z,11nm,0.9s,mb4.9						
SKR	**Severo-Kuril's**	**56.72**	**4**	*e*P	**P**	**10 22 50.0**	**-6.4**
SKR				*e*		10 30 53.0	
KLR	**Kul'dur**	**57.41**	**346**	*e*P	**P**	**10 22 58.0**	**-3.3**
KLR				*e*		10 25 06.0	
KLR				*e*S	sS	10 31 18.5	-1.0
KLR				*e*		10 32 41.0	
KLR				*e*		10 34 43.5	
KLR				pmax	pmax		
	comp=Z,1μm,9.5s						
KIP	**Kipapa**	**57.47**	**60**	*e*P	**P**	**10 23 02.6**	**+0.9**
CD2	**Chengdu**	**57.77**	**312**	*e*P	**P**	**10 23 04.8**	**+0.9**
CD2				AP	pP	10 23 21.3	+2.3

CD2 XP sP 10 23 26.9 +1.5
CD2 PP PP 10 25 16.4 +4.1
CD2 S **S** **10 30 56.3 -2.5**
CD2 XS sS 10 31 23.9 -0.4
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,520nm,9.4s
CD2 LR LR
comp=E,2µm,20.4s
CD2 LR LR
comp=Z,2µm,21.0s,MS5.3
HHC Hu-ho-hao-te 58.71 326 *e*P **P** **10 23 10.5 +0.1**
HHC AP pP 10 23 26.1 +0.6
HHC XP sP 10 23 32.9 +1.0
HHC PCP PcP 10 23 59.3 -0.5
HHC PP PP 10 25 22.6 +2.0
HHC SCP ScP 10 27 53.1 -2.3
HHC PCS PcS 10 27 59.8 -1.7
HHC S **S** **10 31 08.8 -2.2**
HHC XS sS 10 31 36.5 0.0
HHC SCS ScS 10 32 50.9 -4.4
HHC AMB AMB
comp=Z,25nm,0.5s,mb5.5
HHC AMB AMB
comp=Z,632nm,9.4s
HHC LR LR
comp=N,3µm,17.8s,MS5.6
HHC LR LR
comp=E,3µm,17.2s,MS5.6
HHC LR LR
comp=Z,5µm,17.7s,MS5.7
PET Petropavlovsk 59.26 6*c i*P **P** **10 23 08.6 -5.6**
PET *e*S **S** **10 31 17.9 -0.2**
PET pmax pmax
comp=Z,400nm,8.2s
PET smax
comp=N,1µm,18.5s
PET smax
comp=N,4µm,28.9s
PET MLR MLR
comp=Z,2µm,17.0s,MS5.2
BTO Baotou 59.41 325 *e*P **P** **10 23 12.5 -2.8**
BTO S **S** **10 31 15.1 -5.0**
PPT Papeete 59.64 107 *e*LQ 10 38 19.0
comp=Z,10µm,33.0s
PPT Papeete 59.64 107 *e*PP PP 10 25 32.1 +3.2
comp=Z,447nm,23.5s
PPT Papeete 59.64 107 *e*S **S** **10 31 28.7 +5.7**
comp=Z,3µm,26.5s
PPT *e*LR LR 10 40 45.0
comp=Z,1µm,24.8s
PPT Papeete 59.64 107 LR LR 10 46 03.2
comp=Z,643nm,18.1s,MS4.8,baz=98,slow=33
LZH Lanzhou 60.49 317 *e*P **P** **10 23 23.3 +0.6**
LZH AP pP 10 23 37.0 -0.9
LZH XP sP 10 23 43.6 -0.7
LZH PCP PcP 10 24 04.0 -2.9
LZH PP PP 10 25 39.1 +2.6
LZH SCP ScP 10 27 57.0 -6.3
LZH S **S** **10 31 33.5 -0.5**
LZH XS sS 10 32 00.0 +0.4
LZH AMB AMB
comp=Z,60nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,180nm,4.9s
LZH LR LR
comp=N,5µm,15.9s
LZH LR LR
comp=Z,8µm,16.5s,MS5.9
DRV Dumont d'Urvil 60.94 185 P **P** **10 23 27.0 +1.2**
DRV S **S** **10 31 51.0 +11**
DRV SS SS 10 35 48.0 +8.3
DRV R 10 42 00.0
PMOR Pomariorio Ree 61.15 104 *e*P **P** **10 23 28.7 +1.6**
comp=Z,146nm,1.3s,mb6.0
HIA Hailar 61.23 338 *e*P **P** **10 23 27.7 0.0**
SHL Shillong 64.91 302 *i*P **P** **10 23 53.0 +0.9**
SHL *i*x x 10 32 44.0
GTA Gaotai 64.98 319 *e*P **P** **10 23 52.5 0.0**
GTA AP pP 10 24 08.1 +0.2
GTA XP sP 10 24 14.8 +0.6
GTA PCP PcP 10 24 25.1 -0.1
GTA PP PP 10 26 18.9 +3.0
GTA SCP 10 28 20.8
GTA PCS 10 28 28.0
GTA S **S** **10 32 30.0 -0.2**
GTA XS sS 10 32 57.4 +1.3
GTA SCS ScS 10 33 37.9 -4.7
GTA SS SS 10 36 45.3 +2.5
GTA AMB AMB
comp=Z,9.0nm,1.8s,mb4.5
GTA AMB AMB
comp=Z,602nm,8.0s
GTA LR LR
comp=N,1µm,20.9s,MS5.4
GTA LR LR
comp=E,2µm,19.0s,MS5.4
GTA LR LR
comp=Z,3µm,19.0s,MS5.5
MA2 Magadan 65.41 0 *e*P **P** **10 23 46.6 -8.7**
MA2 *e* 10 32 49.7
ULN Ulaanbaatar 65.82 330⇑P **P** **10 23 58.7 +0.7**
SNR=9.5
ULN Ulaanbaatar 65.82 330⇑*e*P **P** **10 23 58.7 +0.7**
ULN Ulaanbaatar 65.82 330 *e*P **P** **10 23 58.2 +0.3**
CIT Chita 65.83 336 *e*P **P** **10 23 57.8 -0.2**
CIT pmax pmax
comp=Z,85nm,2.1s,mb5.4
CLNS Chul'man 66.06 345 *e*P **P** **10 23 58.3 -1.2**
CLNS *e**PP pP 10 24 03.7 -11
CLNS *e* 10 24 27.5
CLNS *e*S S 10 32 43.3 0.0
CLNS *e* 10 33 45.1
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=Z,47nm,0.9s,mb5.5
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=N,398nm,10.9s
CLNS smax
comp=Z,618nm,11.8s
CLNS smax
comp=E,207nm,11.6s
CLNS MLR MLR
comp=N,600nm,17.0s,MS5.2
CLNS MLR MLR
comp=Z,1µm,17.0s,MS5.2
CLNS MLR MLR
comp=E,1µm,18.0s,MS5.2
SONM Songino Array 66.14 329 P **P** **10 24 00.3 +0.3**
comp=E,13nm,0.7s,mb5.0,baz=139,slow=6.4,SNR=31
SONM PKiKP PKiKP 10 30 31.0 -0.6
comp=E,1.4nm,0.9s,baz=90,slow=1.5,SNR=5.0
SONM PKP2bc 10 52 38.1
comp=E,2.4nm,1.0s,baz=308,slow=2.3,SNR=9.6
SONM LR LR 10 52 58.5
comp=E,3µm,20.0s,MS5.5,baz=143,slow=36
CASY Casey 66.14 196 *e*P **P** **10 23 59.0 -1.0**
CASY *i* 10 24 07.7
LSA Lhasa 67.00 306 P **P** **10 24 05.1 -0.4**
LSA PCP PcP 10 24 34.8 +1.3
LSA SCS ScS 10 33 59.9 +1.7
LSA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
LSA LR LR
comp=N,870nm,26.4s,MS5.1
LSA LR LR
comp=E,1µm,25.5s,MS5.1
LSA LR LR
comp=Z,2µm,22.5s,MS5.3
LSA Lhasa 67.00 306 *e*P **P** **10 24 07.7 +2.2**
comp=Z,13nm,0.8s,mb5.0
NIKO Nikolski 68.14 25 *e*P **P** **10 24 14.1 +1.4**
SEY Seymchan 68.80 1⇓*e*P **P** **10 24 15.2 -1.6**
TAOE Nuku Hiva Isla 68.83 97 *e*S S 10 33 20.7 +4.0
comp=Z,912nm,28.2s
TAOE *e*LR LR 10 45 08.2
comp=Z,5µm,22.5s
ZAK Zakamensk 69.34 330 *e*P **P** **10 24 19.4 -0.8**
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
BOK Bokaro 69.52 298 *e*P **P** **10 24 22.0 +0.7**
BOK AMb AMB 10 24 24.4
comp=Z,23nm,0.9s,mb5.1
YAK Yakutsk 69.74 350 *e*P **P** **10 24 21.5 -1.1**
YAK *e**PP pP 10 24 47.6 +9.4
YAK *e* 10 26 57.5
YAK *e*PPP 10 28 42.3
YAK *e*S S 10 33 28.4 +1.0
YAK *e**SS sS 10 34 05.9 +12
YAK *e* 10 34 15.6
YAK *e*SS SS 10 38 00.5 +4.0
YAK *e*SSS 10 41 00.9
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,29nm,1.0s,mb5.2
YAK pmax pmax
comp=N,16nm,1.6s
YAK smax
comp=E,345nm,23.7s
YAK smax
comp=Z,341nm,14.1s
YAK smax
comp=N,1µm,23.1s
TLY Talaya 69.98 331 *e*P **P** **10 24 23.8 -0.3**
TLY *e*PPP 10 28 37.2
TLY *e*S S 10 33 39.9 +10
TLY pmax pmax
comp=Z,12nm,1.5s,mb4.6
TLY Talaya 69.98 331 *e*P **P** **10 24 23.5 -0.6**
comp=Z,5.5nm,0.8s,mb4.5
IRK Irkutsk 70.05 332 *e*P **P** **10 24 20.8 -3.7**
IRK pmax pmax
comp=Z,43nm,2.3s,mb5.0
BOD Bodaibo 70.12 340 *e*P **P** **10 24 23.5 -1.5**
BOD pmax pmax
comp=Z,15nm,1.4s,mb4.7
VIS Vishakhapatnam 70.27 291 *e*P **P** **10 24 26.0 +0.1**
VIS AMb AMB 10 24 29.2
comp=Z,23nm,0.7s,mb5.3
GUN Gumba 70.74 302 *e*P **P** **10 24 29.6 +0.8**
comp=Z,45nm,0.8s,mb5.5
PKI Pulchoki 71.04 302 *e*P **P** **10 24 31.0 +0.5**
comp=Z,13nm,0.6s,mb5.1
KKN Kakani 71.21 302 *e*P **P** **10 24 31.8 +0.2**
comp=Z,34nm,0.9s,mb5.3
DMN Daman 71.30 302 *e*P **P** **10 24 33.0 +0.8**
comp=Z,59nm,0.9s,mb5.5
VNDA Vanda 71.69 177 P **P** **10 24 34.1 -0.3**
comp=Z,111nm,0.9s,mb4.8,baz=333,slow=6.4,SNR=38
VNDA LR LR 10 54 42.3
comp=Z,2µm,18.4s,MS5.5,baz=300,slow=35
VNDA Vanda 71.69 177 *e*P **P** **10 24 34.2 -0.3**
GKN Gorkha 71.82 302 *e*P **P** **10 24 35.5 +0.3**
comp=Z,50nm,1.0s,mb5.4
MIR Mirnyy 71.92 201*d i*P **P** **10 24 38.0 +2.2**
MIR pmax pmax
comp=Z,65nm,1.2s,mb5.4
MDRS Chennai 72.22 286 *e*x x 10 24 50.0
MDRS *e*x x 10 26 33.0
SBA Scott Base 72.28 176 *e*P **P** **10 24 39.2 +1.2**
SBA pmax pmax
comp=Z,49nm,1.5s,mb5.2
SBA Scott Base 72.28 176 *e*P **P** **10 24 39.2 +1.2**
comp=Z,49nm,1.5s,mb5.2
KOLN Koldanda 72.63 301 *e*P **P** **10 24 40.3 +0.2**
comp=Z,32nm,0.7s,mb5.3
RKT Rikitea 73.52 112 *e*LQ 10 44 14.3
comp=Z,3µm,39.5s
RKT Rikitea 73.52 112 *e*PP PP 10 27 32.0 +2.3
comp=Z,233nm,31.0s
RKT Rikitea 73.52 112 *e*S S 10 34 16.5 +5.6
comp=Z,1µm,29.2s
RKT *e*SS SS 10 38 51.8 -2.6
comp=Z,687nm,32.5s
RKT *e*LR LR 10 47 33.6
comp=Z,2µm,33.2s,baz=280
HYB Hyderabad 74.66 290 *i*P **P** **10 24 52.0 0.0**
HYB Hyderabad 74.66 290 *e*P **P** **10 24 52.0 0.0**
BILL Bilibino 74.76 6⇓*e*P **P** **10 24 51.6 -1.0**
BILL *e* pP 10 25 03.7 -4.5
BILL *e*S S 10 34 23.2 -1.6
BILL pmax pmax
comp=Z,30nm,1.0s,mb5.2
BILL MLR MLR
comp=Z,2µm,21.0s,MS5.3
NGP Nagpur 74.97 294 *e*P **P** **10 24 52.3 -1.5**
NGP AMb AMB 10 24 56.5
comp=Z,27nm,0.7s,mb5.3
WMQ Urumqi 75.06 318 P **P** **10 24 55.0 +0.7**
WMQ PCP PcP 10 25 08.0 +0.3
WMQ AP pP 10 25 10.0 0.0
WMQ XP sP 10 25 17.0 +0.8
WMQ PP PP 10 27 45.0 +2.2
WMQ S S 10 34 27.0 -1.1
WMQ XS sS 10 34 53.0 -1.5
WMQ AMB AMB
comp=Z,21nm,1.3s,mb4.9
WMQ AMB AMB
comp=Z,440nm,7.4s
WMQ LR LR
comp=N,2µm,19.3s,MS5.6
WMQ LR LR
comp=E,2µm,18.7s,MS5.6
WMQ LR LR
comp=Z,3µm,20.6s,MS5.5
AKL Akola 76.74 293 *e*P **P** **10 25 04.0 +0.1**
AKL AMb AMB 10 25 07.6
comp=Z,78nm,1.2s,mb5.5
BHPL Bhopal 76.90 295 *e*P **P** **10 25 04.6 -0.2**
BHPL AMb AMB 10 25 07.4
comp=Z,29nm,0.2s,mb5.9
NDI New Delhi 78.30 301 *e*P **P** **10 25 12.2 -0.4**
NDI AMb AMB 10 25 15.9
comp=Z,27nm,1.4s,mb5.0
KAD Karad 78.74 289 *e*P **P** **10 25 14.4 -0.6**
KAD *i*P 10 25 15.0
KAD AMb AMB 10 25 15.8
comp=Z,47nm,0.9s,mb5.4
TIXI Tiksi 78.83 353⇑*e*P **P** **10 25 11.5 -4.0**
TIXI Tiksi 78.83 353 *e*P PcP 10 25 22.8 -1.2
SMLA Simla 78.92 303 *e*P **P** **10 25 16.2 +0.2**
SMLA AMb AMB 10 25 18.6
comp=Z,24nm,1.2s,mb5.0
POO Poona 79.26 290⇓*i x* x 10 25 09.0
comp=Z,50nm,1.0s
MK31 Makanchi Array 79.71 320 P **P** **10 25 18.9 -1.4**
MK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MKAR Makanchi Array 79.71 320 P **P** **10 25 19.2 -1.1**
comp=Z,8.3nm,0.9s,mb4.7,baz=99,slow=5.5,SNR=31
MKAR PKiKP PKiKP 10 30 51.3 +0.1
comp=Z,1.2nm,0.7s,baz=101,slow=1.2,SNR=3.9
MKAR PKPPKP 10 52 15.9
comp=Z,0.2nm,0.4s,baz=339,slow=6.5,SNR=4.1
TTA Tatalina 79.80 22 P **P** **10 25 19.3 -1.5**
AJM Ajmer 80.05 298 *e*P **P** **10 25 21.9 -0.2**
AJM AMb AMB 10 25 24.4
comp=Z,49nm,1.3s,mb5.3
SLKM Skilak Lake 80.81 26 P **P** **10 25 25.6 -0.6**
ZAL Zalesovo 80.88 327 P **P** **10 25 24.8 -1.8**
comp=Z,3.7nm,0.6s,mb4.5,baz=350,slow=5.5,SNR=8.1
ZAL LR LR 11 01 59.3
comp=Z,3µm,19.0s,MS5.6,baz=352,slow=36
ZAL Zalesovo 80.88 327 *i*P **P** **10 25 24.7 -1.9**
ZAL pmax pmax
comp=Z,4.0nm,0.6s
KSH Kashi 81.94 311 *e*P **P** **10 25 34.1 +1.9**
KSH *e*PP PP 10 28 45.1 +4.8
KSH *e*S S 10 35 40.9 -0.8
KSH *e*SKS 10 35 44.8
KSH *e*XS sS 10 36 11.0 +2.5
KSH *e*SS SS 10 41 06.0 +4.7
KSH AMB AMB
comp=Z,851nm,7.3s
KSH LR LR
comp=N,2µm,14.7s,MS5.8
KSH LR LR
comp=E,3µm,17.5s,MS5.8
KSH LR LR
comp=Z,3µm,21.6s,MS5.6
NVS Novosibirsk 82.08 327 *e*P **P** **10 25 32.1 -0.8**
NVS pmax pmax
comp=Z,37nm,1.7s,mb5.0
NVS pmax pmax
comp=E,38nm,1.5s
MCK McKinley 82.93 23 *e*P **P** **10 25 35.1 -2.2**
MCK pmax pmax
comp=Z,22nm,1.0s,mb5.1
MCK McKinley 82.93 23 *e*P **P** **10 25 35.1 -2.2**
comp=Z,22nm,1.0s,mb5.1
KURK Kurchatov 83.29 323 P **P** **10 25 37.5 -1.7**
comp=Z,88nm,0.6s,mb6.0,SNR=5.2
MAW Mawson 83.51 203⇑*i*P **P** **10 25 39.7 -0.6**
comp=Z,13nm,1.1s,mb5.0
MAW Mawson 83.51 203 P **P** **10 25 39.7 -0.6**
comp=Z,15nm,1.0s,mb5.1,baz=80,slow=5.8,SNR=21
MAW LR LR 10 59 35.2
comp=Z,3µm,21.9s,MS5.6,baz=85,slow=33
MAW Mawson 83.51 203 P **P** **10 25 40.4 +0.1**
MAW pmax pmax
comp=Z,23nm,1.0s
FRU Bishkek 83.76 314 *e*P **P** **10 25 40.5 -1.1**
FRU pmax pmax
comp=Z,54nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,3µm,22.0s,MS5.6
AAK Ala-Archa 83.80 314⇓P **P** **10 25 40.7 -1.1**
SNR=8.0
AAK Ala-Archa 83.80 314*c i*P **P** **10 25 40.3 -1.5**
AAK pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
AAK MLR MLR
comp=Z,5µm,22.0s,MS5.8
AAK Ala-Archa 83.80 314 *e*P **P** **10 25 40.3 -1.5**
COLA College 83.89 22⇓*e*P **P** **10 25 38.8 -3.5**
COLA College 83.89 22 *e*P **P** **10 25 39.1 -3.1**
comp=Z,21nm,1.0s,mb5.2
QSPA South Pole Qui 83.92 180 *e*P **P** **10 25 42.3 -0.1**
comp=Z,107nm,1.1s,mb5.9
MENT Mentasta 84.67 25 *e*P **P** **10 25 44.4 -1.8**
EGAK Eagle 86.44 24 *e*P **P** **10 25 53.2 -1.8**
KK31 Karatay Array 86.76 314 *i*P **P** **10 25 55.6 -1.0**
KK31 pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
KKAR Karatay Array 86.76 314 *i*P **P** **10 25 55.6 -1.0**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
DAWY Dawson 86.90 24 *e*P **P** **10 25 56.0 -1.2**
SKAG Skagway 87.26 29 *e*P **P** **10 25 57.9 -1.1**
comp=Z,18nm,1.2s,mb5.2
SKAG LR LR
comp=Z,2µm,23.0s,MS5.5
WRAK Wrangell Islan 88.00 33 *e*P **P** **10 26 02.7 +0.2**
VOSK Vostochnaya 88.40 323 P **P** **10 26 03.5 -0.9**
VOSK pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
BVAR Borovoye Array 88.81 323 LR LR 11 08 33.8
comp=Z,2µm,18.4s,MS5.6,baz=327,slow=37
ZRNK Zerenda 89.62 323 P **P** **10 26 10.0 -0.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
INK Inuvik 90.47 21 *e*P **P** **10 26 12.2 -1.9**
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 90.47 21 *e*P **P** **10 26 12.2 -1.9**
comp=Z,10nm,0.9s,mb5.2
WDC Whiskeytown Da 91.66 50 *e*P **P** **10 26 20.4 +0.8**
YBH Yreka Blue Hor 91.66 48 *e*P **P** **10 26 20.1 +0.5**
YBH pmax pmax
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 91.66 48 *e*P **P** **10 26 19.8 +0.1**
comp=Z,19nm,1.2s,mb5.3
SYO Syowa Base 91.70 200⇓*e*P **P** **10 26 18.6 -1.3**
SYO Syowa Base 91.70 200⇑*e*P **P** **10 26 26.0 +6.1**
SYO Syowa Base 91.70 200⇓*e*P pP 10 26 40.0 +4.1
GNW Green Mountain 92.24 43 *e*P **P** **10 26 25.2 +2.8**
CMB Columbia Colle 93.06 52 *e*P **P** **10 26 26.6 +0.5**
CMB pmax pmax
comp=Z,13nm,1.1s,mb5.3
CMB Columbia Colle 93.06 52 *e*P **P** **10 26 26.6 +0.5**
comp=Z,13nm,1.1s,mb5.3
MOD Modoc 93.47 48 *e*P **P** **10 26 28.5 +0.5**
comp=Z,12nm,1.3s,mb5.2
WAKR Walker 93.84 52 *e*P **P** **10 26 30.8 +1.1**
PAHR Pah Rah Range 93.98 51 *e*P **P** **10 26 28.2 -2.2**
comp=Z,5.3nm,0.8s,mb5.0
ISA Isabella 94.39 55 *e*P **P** **10 26 32.6 +0.4**
ISA pmax pmax
comp=Z,14nm,1.2s,mb5.3
ISA Isabella 94.39 55 *e*P **P** **10 26 32.6 +0.4**
MTUM Tungsten Hills 94.44 53 *e*P **P** **10 26 33.7 +1.2**
MWC Mount Wilson 94.63 56 *e*P **P** **10 26 34.9 +1.6**
NVAR Mina Array Bea 94.72 52 P **P** **10 26 34.1 +0.4**
comp=Z,8.6nm,0.9s,mb5.2,baz=256,slow=8.0,SNR=37
WVOR Wild Horse Val 94.74 48 P **P** **10 26 34.0 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
WVOR Wild Horse Val 94.74 48 *e*P **P** **10 26 33.4 -0.4**
comp=Z,9.4nm,1.2s,mb5.1
DAC Darwin (Calif) 95.15 54 *e*P **P** **10 26 36.5 +0.8**
DAC pmax pmax
comp=Z,18nm,1.0s,mb5.5
DAC Darwin (Calif) 95.15 54 *e*P **P** **10 26 36.5 +0.8**
comp=Z,18nm,1.0s,mb5.5
BAR Barrett 95.68 58 *e*P **P** **10 26 39.3 +1.2**
BMN Battle Mountai 95.68 50 *e*P **P** **10 26 38.8 +0.6**
BMN pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
BMN Battle Mountai 95.68 50 *e*P **P** **10 26 38.8 +0.6**
comp=Z,8.7nm,1.1s,mb5.1
GSC Goldstone 95.73 55 *e*P **P** **10 26 39.6 +1.3**
BMO Blue Mountains 95.84 46 *e*P **P** **10 26 38.7 -0.2**
PFO Pinyon Flat Ob 95.92 57 *e*P **P** **10 26 40.7 +1.5**
ARU Arti 96.02 326 *i*P **P** **10 26 37.5 -2.2**
ARU pmax pmax
comp=Z,6.0nm,1.3s,mb4.9
NEW Newport 96.11 42 *e*P **P** **10 26 39.9 -0.2**
AKTO Aktyubinsk 96.14 320 LR LR 11 09 54.8
comp=Z,4µm,20.9s,MS5.9,baz=120,slow=35
SHPR Sheep Range 97.12 54 *e*P **P** **10 26 45.9 +1.2**
YKA Yellowknife Ar 97.63 28 P **P** **10 26 45.6 -1.4**
comp=Z,3.1nm,0.8s,mb4.9,baz=273,slow=4.9,SNR=7.6
YKA PKiKP PKiKP 10 31 20.8 -0.3
comp=Z,1.7nm,0.6s,baz=273,slow=1.3,SNR=7.5
YKA LR LR 11 13 06.5
comp=Z,1µm,18.5s,MS5.4,baz=335,slow=37
YKA Yellowknife Ar 97.63 28 *i*P **P** **10 26 47.0 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.8s
HLID Hailey 97.88 47 *e*P **P** **10 26 48.3 +0.2**
WALA Waterton Lakes 98.26 41 *e*P **P** **10 26 49.8 +0.1**
comp=Z,11nm,1.3s,mb5.2
ARUT Antelope Range 98.53 53 P **P** **10 26 53.9 +2.9**
ARUT Antelope Range 98.53 53 *e*P **P** **10 26 52.7 +1.7**
NVL N'lazarevskaya 98.53 193 *e*P **P** **10 26 47.1 -3.9**
NVL *i* 10 30 56.0
NVL *i*S SKSac 10 37 23.7 -0.5
NVL *e* 10 39 50.1
NVL *e*SS SS 10 45 08.3 +7.3
NVL *e*SSS 10 48 47.0
NVL pmax pmax
comp=Z,19nm,1.6s,mb5.4
NVL MLR MLR
comp=Z,2µm,16.3s,MS5.7
CCUT Cedar City 98.59 53 *e*P **P** **10 26 52.2 +0.9**
CHMT Chamberlain Mo 98.71 44 *e*P **P** **10 26 51.0 -0.9**
MCMT McKenzie Canyo 99.01 46 *e*P **P** **10 26 53.4 +0.2**
BOZ Bozeman (W) 99.86 45 *e*P Pdif 10 26 56.7 -0.2
RRI2 Red Ridge 100.14 47 *e*Pdif Pdif 10 26 58.7 +0.5
TMUT Trail Mountain 100.29 51 *e*Pdif Pdif 10 26 59.8 +1.0
AHID Auburn Hatcher 100.31 48 *e*Pdif Pdif 10 26 59.1 +0.2
SNAA Sanae 100.47 188⇑*i*Pdiff Pdif 10 26 58.6 -1.0
SNAA *e* 10 27 14.1
SNAA *e* 10 27 20.0
SNAA *e* 10 31 11.4
SNAA *e* 10 31 24.9
SNAA Sanae 100.47 188⇑*e*P Pdif 10 26 58.8 -0.8
SNAA Sanae 100.47 188 *e*Pdif Pdif 10 26 58.6 -1.0
SRU San Rafael 100.82 51 P Pdif 10 27 01.6 +0.4
SRU pmax pmax
comp=Z,8.0nm,1.2s
SRU San Rafael 100.82 51 *e*P Pdif 10 27 00.8 -0.4
comp=Z,7.8nm,1.3s
BW06 Boulder Array 101.44 48 *e*Pdif Pdif 10 27 03.7 -0.3
PDAR Pinedale Array 101.44 48 P Pdif 10 27 03.6 -0.4
comp=Z,2.5nm,0.9s,baz=275,slow=2.8,SNR=17
PDAR PKiKP PKiKP 10 31 28.7 +0.8
comp=Z,0.9nm,0.8s,baz=173,slow=1.2,SNR=5.9
VNA3 Neumayer Olymp 101.74 186⇑*i*Pdiff Pdif 10 27 04.3 -1.0
VNA3 *e* 10 27 19.6

VNA3 *e* 10 27 26.8
SMCO Snowmass 103.58 51 *e*Pdif Pdif 10 27 14.4 +0.9
KBS Kingsbay 104.28 352 *e*PP PP 10 31 35.7 +0.4
KBS *e* 10 40 39.3
KBS AMS AMS 11 16 34.6
comp=Z,675nm,21.4s,MS5.2
MNTX Cornudas Mount 105.24 59 *e*Pdif Pdif 10 27 23.3 +2.4
MNTX *e*PKiKP PKiKP 10 31 36.3 +1.5
KIV Kislovodsk 106.92 314 P Pdif 10 27 27.4 -0.9
KIV *e* 10 31 52.5
KIV *e* 10 38 02.9
KIV pmax pmax
comp=Z,20nm,0.6s
KIV MLR MLR
comp=Z,2µm,22.0s,MS5.7
ARCES ARCESS Array B 107.34 342 PKiKP PKiKP 10 31 38.1 -0.6
comp=Z,2.8nm,0.8s,baz=99,slow=1.4,SNR=6.6
ARCES PKKPbc PKKPbc 10 42 55.8 +1.6
comp=Z,2.3nm,0.9s,baz=270,slow=1.2,SNR=4.3
OBN Obninsk 108.46 326 *e*P Pdif 10 27 34.4 -0.8
OBN *e* 10 32 03.4
OBN *e* 10 38 06.7
OBN pmax pmax
comp=Z,20nm,0.5s
OBN MLR MLR
comp=Z,3µm,21.0s,MS5.8
TRO Tromso 109.19 344 *e*PP PP 10 32 12.4 +1.1
TRO *e* 10 47 42.7
TRO AMS AMS 11 17 07.1
comp=Z,932nm,22.6s,MS5.3
ULM Lac du Bonnet 109.70 39 PKiKP PKiKP 10 31 42.3 -0.8
comp=Z,5.3nm,0.8s,baz=290,slow=2.8,SNR=8.2
JCT Junction City 110.09 60 *e*PKiKP PKiKP 10 31 44.5 +0.7
WMOK Wichita Mounta 110.51 55 PKiKP PKiKP 10 31 45.4 +0.8
WMOK Wichita Mounta 110.51 55 *e*PKiKP PKiKP 10 31 45.3 +0.7
ECSD EROS,Sioux Fal 110.70 46 *e*P PKiKP 10 31 44.4 -0.6
FINES FINESS Array B 111.18 335 PKiKP PKiKP 10 31 46.0 +0.1
comp=Z,1.9nm,0.8s,baz=72,slow=6.2,SNR=4.7
FINES FINESS Array B 111.18 335 *i* PKIKP PKiKP 10 31 46.0 +0.1
FINES pmax pmax
comp=Z,2.0nm,0.8s
KSU1 Kansas State U 111.59 50 *e*P PKiKP 10 31 47.3 +0.6
EYMN Ely 113.10 40 *e*PKiKP PKiKP 10 31 49.2 -0.3
SCIA State Center 113.55 47 *e*P PKiKP 10 31 51.0 +0.6
AKASG Malin Array Be 114.09 323 PKiKP PKiKP 10 31 50.9 -0.6
comp=Z,4.2nm,0.6s,baz=60,slow=2.4,SNR=13
AKASG Malin Array Be 114.09 323 *i* PKIKP PKiKP 10 31 50.9 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 114.09 323 *e*P PKiKP 10 31 50.6 -0.8
BR131 Keskin Array S 114.33 311 *e*PKiKP PKiKP 10 31 52.2 +0.3
BRTR Keskin Array B 114.33 311 PKiKP PKiKP 10 31 51.7 -0.2
comp=Z,4.2nm,0.8s,baz=114,slow=3.0,SNR=19
BRTR Keskin Array B 114.33 311 *i* PKIKP PKiKP 10 31 51.7 -0.2
BRTR pmax pmax
comp=Z,4.0nm,0.8s
NSS Namsos 114.59 342 *e*PP PP 10 32 48.5 -1.5
NSS AMS AMS 11 23 34.3
comp=Z,2µm,20.8s,MS5.7
MIAR Mount Ida 114.78 55 *e*PKiKP PKiKP 10 31 53.6 +0.8
ANTO Ankara 114.93 311 *e*PKiKP PKiKP 10 31 53.2 +0.1
JFWS Jewell Farm 115.41 45 *e*PKiKP PKiKP 10 31 53.5 -0.4
KIS Kishinev 115.65 320 *e*PKIKP PKPdf 10 31 54.0 -0.4
KIS *e* 10 33 06.0
UALR University of 115.74 54 *e*PKiKP PKiKP 10 31 54.7 +0.1
FVM French Village 116.56 50 *e*PKPdf PKPdf 10 31 55.4 -0.7
BOSA Boshof 116.97 234 PKiKP PKiKP 10 31 58.3 +1.3
comp=Z,3.4nm,0.9s,baz=159,slow=9.3,SNR=5.6
BOSA Boshof 116.97 234 *i* PKIKP PKPdf 10 31 58.3 +1.3
BOSA pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra117.24 339 PKPd PKPdf 10 31 57.3 -0.2
comp=Z,2.0nm,0.8s,baz=44,slow=1.9
NB2 NORSAR Subarra117.24 339 PKPd PKPdf 10 31 57.3 -0.2
baz=44,slow=1.9
NOA NORSAR Array B117.24 339 PKP PKPdf 10 31 56.8 -0.7
comp=Z,3.2nm,0.8s,baz=50,slow=1.9,SNR=8.4
NOA SKP 10 35 29.3
comp=Z,1.4nm,0.8s,baz=50,slow=2.1,SNR=3.5
NOA NORSAR Array B117.24 339 PKIKP PKPdf 10 31 56.8 -0.7
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=N,1.0nm,0.8s
USIN University of 118.67 50 *e*PKPdf PKPdf 10 32 01.1 +0.8
KONO Kongsberg 118.79 339 *e*PP PP 10 33 18.3 -1.0
KONO *e* 10 43 14.7
KONO *e* 10 49 48.4
KOLS Kolonicke sedl 118.92 324 *e*PKP PKPdf 10 32 01.0 +0.3
LSZ Lusaka 118.97 249 P Pdif 10 28 22.8 +0.9
WVT Waverly 119.03 52 *e*PKPdf PKPdf 10 32 00.0 -0.9
PLAL Pickwick Lake 119.12 53 *e*PKPdf PKPdf 10 32 00.1 -1.0
BLO Bloomington 119.19 48 *e*PKPdf PKPdf 10 32 01.7 +0.5
STHS Stebnicka Huta 119.30 325 *e*PKP PKPdf 10 32 01.9 +0.5
CRVS Cervenica-Dubn 119.42 324 *e*PKP PKPdf 10 32 01.7 0.0
WCI Wyandotte Cave 119.64 49 *e*PKPdf PKPdf 10 32 01.0 -1.1
OJC Ojcow 119.74 326 *e*PKPdf PKPdf 10 32 02.2 -0.1
OJC *e*SP SP 10 43 07.9 -0.9
OJC L 11 27 24.0
comp=N,7.0nm,21.3s
OJC Ojcow 119.74 326 *e*PKIKP PKPdf 10 32 02.2 -0.1
OJC *e*SP SP 10 43 07.9 -0.9
NIE Niedzica 119.84 325 *e*PKP PKPdf 10 32 03.5 +1.0
PLCA Paso Flores 120.18 145 PKP PKPdf 10 32 03.8 +0.6
comp=N,2.6nm,0.6s,baz=173,slow=9.8,SNR=6.6
PLCA Paso Flores 120.18 145 PKIKP PKPdf 10 32 03.8 +0.7
PLCA pmax pmax
comp=Z,3.0nm,0.6s
AAM Ann Arbor 120.21 44 *e*PKPdf PKPdf 10 32 03.4 +0.2
LRAL Lakeview Retre 120.45 55 *e*PKPdf PKPdf 10 32 03.7 +0.1
SWET Sewanee 120.76 52 *e*PKPdf PKPdf 10 32 03.8 -0.4
PSZ Piszkesteto 120.80 323 *e*PKPdf PKPdf 10 32 05.1 +0.8
OKC Ostrava-Krasne 120.85 326 *e*PKPdf PKPdf 10 32 04.0 -0.4
OKC AMS AMS 11 23 40.0
comp=Z,2µm,21.2s
VYHS Vyhne 121.14 324 *e*PKIKP PKPdf 10 32 04.9 -0.1
VYHS MLR MLR
comp=Z,2µm,23.1s,MS5.7
MORC Moravsky Berou 121.22 326 *e*PKPdf PKPdf 10 32 05.8 +0.6
KSP Ksiaz 121.32 328 *e*PKIKP PKPdf 10 32 05.5 +0.2
KSP *e* 10 33 41.0
KSP *e*SP SP 10 43 20.0 -2.9
KSP *e*SS SS 10 50 28.0 +22
KSP MLR MLR
comp=Z,6µm,21.1s,MS6.2
ACSO Alum Creek Sta 121.43 46 *e*PKPdf PKPdf 10 32 05.0 -0.5
DPC Dobruska-Polom 121.58 327 *e*PKPdf PKPdf 10 32 06.1 +0.3
DPC AMS AMS 11 25 40.0
comp=Z,3µm,20.2s
UPC Upice 121.65 328 *e*PKP PKPdf 10 32 06.1 +0.1
VAY Valandovo 121.89 316 ⇑*i* PKP PKPdf 10 32 04.4 -2.0
MYNC Murphy 122.22 52 *e*PKPdf PKPdf 10 32 08.3 +1.3
TZTN Tazewell 122.23 50 *e*PKPdf PKPdf 10 32 07.9 +0.8
ZST Bratislava 122.29 325 *e*PKIKP PKPdf 10 32 07.5 +0.3
ZST MLR MLR
comp=Z,2µm,21.7s,MS5.6
BSEG Bad Segeberg 122.38 333 *e*PKPdf PKPdf 10 32 08.0 +0.7
PVCC Panska Ves 122.41 328 *e*PKPdf PKPdf 10 32 07.6 +0.2
PVCC AMS AMS 11 23 40.0
comp=Z,3µm,24.6s
SKO Skopje 122.42 317 *i* PKP PKPdf 10 32 08.0 +0.5
BRG Berggiesshubel 122.53 329 *e*PKPdf PKPdf 10 32 07.8 +0.1
BRG Berggiesshubel 122.53 329 *i* PKP PKPdf 10 32 07.9 +0.3
comp=Z,14nm,1.0s
BRG *e* 10 43 40.0
BRG
comp=Z,2µm,20.2s
BRG
comp=N,890nm,21.0s
BRG
comp=E,1µm,21.0s
BRG Berggiesshubel 122.53 329 *i* PKIKP PKPdf 10 32 07.9 +0.2
BRG *e* 10 43 40.0
BRG pmax pmax
comp=Z,14nm,1.0s
BRG MLR MLR
comp=Z,2µm,20.2s,MS5.7
BRG MLR MLR
comp=N,890nm,21.0s,MS5.7
BRG MLR MLR
comp=E,1µm,21.0s,MS5.7
BRG Berggiesshubel 122.53 329 *i* PKP PKPdf 10 32 07.9 +0.3
BRG *e* 10 43 40.0
BRG LR LR
comp=Z,2µm,20.2s,MS5.7
TREC Trest 122.61 327 *e*PKPdf PKPdf 10 32 08.0 +0.2
TREC AMS AMS 11 25 20.0
comp=Z,3µm,19.9s
CLL Collm 122.75 330 *e*PKPdf PKPdf 10 32 07.8 -0.3
comp=Z,21nm,1.0s
CLL *e*PP PP 10 33 56.6 +10
CLL *e*SKSP 10 43 36.3
CLL *e*PPS 10 45 03.0
CLL *e*SS SS 10 50 27.7 +3.0
CLL *e*SSS 10 55 24.6
CLL *e*L 11 25 55.1
comp=Z,3µm,22.0s
CLL Collm 122.75 330 ⇓*i* PKPdf PKPdf 10 32 08.1 0.0
comp=Z,21nm,1.0s
CLL LmV 10 28 00.0
comp=Z,2µm,18.8s
CLL *e*PP PP 10 33 56.0 +10
CLL *e*(SKSP) 10 43 30.0
CLL *e*PPS 10 45 12.0
CLL *e*SS SS 10 50 36.0 +11
CLL *e*(SSS) 10 55 48.0
CLL *ex* x 10 59 48.0
CLL Collm 122.75 330 ⇓*i* PKIKP PKPdf 10 32 08.1 0.0
CLL *e* 10 33 56.0
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,2µm,18.8s,MS5.9
CLL Collm 122.75 330 ⇓*i* PKP PKPdf 10 32 08.1 0.0
CLL *e*PP PP 10 33 56.0 +10
CLL LR LR
comp=Z,2µm,18.8s,MS5.9
ERPA Erie 122.80 43 *e*PKPdf PKPdf 10 32 08.7 +0.5
FBE Freiberg 122.81 329 *e*PKPdf PKPdf 10 32 08.6 +0.4
SCHQ Schefferville 122.92 25 PKP PKPdf 10 32 08.0 -0.4
comp=Z,7.7nm,0.8s,baz=338,slow=2.3,SNR=10
GVD Gavdhos 122.96 308 *e*PKPdf PKPdf 10 32 08.2 -0.3
CONA Conrad Observa 123.14 325 ⇑*i* PKiKP PKiKP 10 32 09.0 -0.1
comp=Z,8.8nm,0.8s,SNR=7.0
OHR Ohrid 123.20 316 *i* PKP PKPdf 10 32 08.7 -0.2
NRDL Niedersach Rie 123.41 332 *e*PKPdf PKPdf 10 32 09.7 +0.4
TANN Tannenbergstha 123.56 329 *e*PKPdf PKPdf 10 32 09.7 +0.1
WERD Werda 123.62 329 *e*PKPdf PKPdf 10 32 09.9 +0.2
GUNZ Gunzen 123.66 329 *e*PKPdf PKPdf 10 32 10.3 +0.5
NKC Novy Kostel 123.68 329 *e*PKPdf PKPdf 10 32 09.8 -0.1
NKC AMS AMS 11 25 00.0
comp=Z,3µm,21.5s
WERN Wernitzgruen 123.68 329 *e*PKPdf PKPdf 10 32 10.3 +0.4
ARSA Arzberg 123.69 325 ⇑*i* PKP PKPdf 10 32 10.3 +0.4
comp=Z,8.5nm,1.1s
KHC Kasperske Hory 123.73 327 *e*PKPdf PKPdf 10 32 10.2 +0.2
KHC AMS AMS 11 26 40.0
comp=Z,2µm,19.0s
GEC2 GERESS Array S 123.83 327 *e*PKPdf PKPdf 10 32 10.0 -0.1
GERES GERESS Array B 123.83 327 PKP PKPdf 10 32 10.5 +0.4
comp=Z,7.0nm,0.6s,baz=75,slow=1.5,SNR=41
GERES GERESS Array B 123.83 327 PKIKP PKPdf 10 32 10.5 +0.4
GERES pmax pmax
comp=Z,7.0nm,0.6s
MOX Moxa 123.85 330 *e*PKPdf PKPdf 10 32 10.6 +0.4
MOX Moxa 123.85 330 *e*PKP PKPdf 10 32 11.0 +0.8
MOX *e*PP PP 10 33 58.0 +4.2
MOX *e*SKSP 10 43 50.0
MOX LR LR
comp=Z,2µm,22.0s,MS5.7
MCWV Mont Chateau 123.88 46 *e*PKPdf PKPdf 10 32 10.6 +0.4
MANZ Manzenberg 124.00 329 *e*PKPdf PKPdf 10 32 10.8 +0.3
MOA Molln 124.08 326 ⇑*i* P PKPdf 10 32 10.4 -0.2
comp=Z,6.2nm,0.8s
ROTZ Rotzenmuhle 124.08 329 *e*PKPdf PKPdf 10 32 10.6 0.0
GTTG Gyttingen 124.09 331 *e*PKPdf PKPdf 10 32 11.3 +0.7
WET Wettzell 124.10 328 *e*PKPdf PKPdf 10 32 10.9 +0.2
PERS Pernice 124.25 324 *i* PKPdf PKPdf 10 32 10.9 0.0
IBBN Ibbenburen 124.61 333 *e*PKPdf PKPdf 10 32 12.6 +1.0
GRA1 Grafenberg Arr 124.64 329 *e*PKPdf PKPdf 10 32 12.0 +0.3
GRA1 LR LR
comp=Z,3µm,21.7s,MS5.9
GRF Grafenberg Arr 124.64 329 *e*PKPdf PKPdf 10 32 12.0 +0.3
GRF *e*L 11 27 22.3
comp=Z,3µm,21.7s
BOJS Bojanci 124.77 323 *e*PKPdf PKPdf 10 32 12.6 +0.7
MSNY Massena 124.78 38 *e*PKPdf PKPdf 10 32 11.6 -0.4
SSPA Standing Stone 124.85 44 *e*PKPdf PKPdf 10 32 12.0 -0.1
VISS Visnje 124.86 323 *i* PKPdf PKPdf 10 32 12.6 +0.5
LJU Ljubljana 124.92 324 *e*PKPdf PKPdf 10 32 12.7 +0.5
KBA Koelnbreinsper 125.03 325 ⇑*i* P PKPdf 10 32 12.4 0.0
comp=Z,16nm,1.1s
LONY Lake Ozonia 125.14 38 *e*PKPdf PKPdf 10 32 12.7 +0.1
BUG Bochum--Univer 125.42 333 *e*PKPdf PKPdf 10 32 13.4 +0.2
BINY Binghamton 125.43 41 *e*PKPdf PKPdf 10 32 13.5 +0.3
FUR Furstenfeldbru 125.54 327 *e*PKPdf PKPdf 10 32 14.0 +0.6
FRNY Flat Rock 125.63 37 *e*PKPdf PKPdf 10 32 13.2 -0.4
TNS Taunus Mts 125.69 331 *e*PKPdf PKPdf 10 32 13.8 +0.1
NCB Newcomb 125.69 39 *e*PKPdf PKPdf 10 32 14.2 +0.5
WATA Walderalm 125.87 326 ⇑*i* P PKPdf 10 32 13.6 -0.4
comp=Z,16nm,1.1s
WTTA Wattenberg 125.88 326 ⇑*i* P PKPdf 10 32 13.9 -0.2
comp=Z,33nm,0.9s
MOTA Moosalm 126.12 327 ⇑*i* P PKPdf 10 32 14.3 -0.2
comp=Z,18nm,0.9s,SNR=14
SQTA Sankt Quirin 126.14 327 ⇑*i* P PKPdf 10 32 14.7 +0.2
comp=Z,16nm,1.0s,SNR=8.8
MVL Millersville 126.19 44 *e*PKPdf PKPdf 10 32 15.4 +0.7
CBN Corbin 126.23 46 *e*PKPdf PKPdf 10 32 15.0 +0.3
DWPF Disney 126.29 60 *e*PKPdf PKPdf 10 32 16.2 +1.4
ACCN Adirondack Com 126.34 39 *e*PKPdf PKPdf 10 32 15.0 +0.1
MEM Membach 126.58 332 PKP PKPdf 10 32 16.2 +0.8
DAVA Damuels 126.82 327 ⇑*i* P PKPdf 10 32 16.1 +0.2
comp=Z,23nm,1.0s,SNR=10
LBNH Lisbon 126.96 37 *e*PKPdf PKPdf 10 32 16.8 +0.7
BFO Black Forest 126.97 329 *e*PKPdf PKPdf 10 32 14.5 -1.7
HNH Hanover 127.03 38 *e*PKPdf PKPdf 10 32 17.2 +1.0
BCLA Clavier 127.03 333 PKP PKPdf 10 32 17.3 +1.0
BRNJ Basking Ridge 127.09 42 *e*PKPdf PKPdf 10 32 18.0 +1.6
WLF Walferdange 127.16 332 *e*PKPdf PKPdf 10 32 17.6 +1.1
WLF Walferdange 127.16 332 PKP PKPdf 10 32 17.6 +1.1
WLF Walferdange 127.16 332 *e*PKPdf PKPdf 10 32 18.1 +1.6
TSUM Tsumeb 127.20 240 *e*PKPdf PKPdf 10 32 18.6 +2.0
PAL Palisades 127.37 42 *e*PKPdf PKPdf 10 32 17.2 +0.3
SNF Seneffe 127.43 333 PKP PKPdf 10 32 17.7 +0.7
CPNY Central Park 127.44 42 *e*PKPdf PKPdf 10 32 16.9 -0.1
CDF Champ du Feu 127.45 330 *e*PKP1 PKPdf 10 32 16.9 -0.2
comp=Z,46nm,1.4s
GIVF Givet 127.47 333 *e*PKP1 PKPdf 10 32 17.5 +0.4
comp=Z,54nm,1.0s
FFD Franklin Falls 127.54 38 *e*PKPdf PKPdf 10 32 18.2 +1.0
DOU Dourbes 127.58 333 PKP PKPdf 10 32 18.4 +1.1
BAIF Baives 127.78 333 *e*PKP1 PKPdf 10 32 18.0 +0.3
comp=Z,21nm,0.9s
PKME Peaks-Kenny Pk 127.92 35 *e*PKPdf PKPdf 10 32 18.5 +0.5
HINF Hinteralfeld 128.06 329 *e*PKP1 PKPdf 10 32 18.1 -0.1
comp=Z,47nm,1.2s
WVL Waterville 128.12 36 *e*PKPdf PKPdf 10 32 18.4 +0.1
HRV Harvard--Oak R 128.12 39 *e*PKPdf PKPdf 10 32 18.0 -0.3
HAU Haudompre 128.19 330 *e*PKP1 PKPdf 10 32 18.5 0.0
comp=Z,34nm,1.0s
HAU *e*R
comp=Z,3µm,23.0s
HAU Haudompre 128.19 330 *e*PKP PKPdf 10 32 18.5 0.0
HAU LR LR
comp=Z,3µm,23.0s,MS5.9
WES Weston 128.33 39 *e*PKPdf PKPdf 10 32 19.2 +0.5
MEZF Maizieres J'vi 128.49 331 *e*PKP1 PKPdf 10 32 19.7 +0.7
comp=Z,59nm,1.2s
MGV Manicaragua 128.84 67 *e*P PKPdf 10 32 21.2 +1.5
CABF La Chapelle 129.25 329 *e*PKP1 PKPdf 10 32 21.2 +0.7
comp=Z,80nm,1.1s
EMMW East Machias 129.29 34 *e*PKPdf PKPdf 10 32 21.3 +0.7
LPL La Plagne 129.63 327 *e*PKP1 PKPdf 10 32 21.9 +0.7
comp=Z,19nm,1.0s
LPG La Plagne 129.63 327 *e*PKP1 PKPdf 10 32 22.0 +0.8
comp=Z,25nm,1.0s
LOR Lormes 129.92 331 *e*PKP1 PKPdf 10 32 21.3 -0.5
comp=Z,29nm,1.2s
LOR *e*R
comp=Z,2µm,21.2s
LOR Lormes 129.92 331 *e*PKP PKPdf 10 32 21.3 -0.5
LOR LR LR
comp=Z,2µm,21.3s,MS5.9
BNI Bardonecchia 129.95 327 *e*PKPdf PKPdf 10 32 21.3 -0.5
SBF Sospel 130.28 325 *e*PKP1 PKPdf 10 32 22.6 +0.1
comp=Z,55nm,1.0s
SMF Signal de Mont 130.36 330 *e*PKP1 PKPdf 10 32 23.1 +0.5
comp=Z,35nm,1.0s
ORIF Oris-en-Rattie 130.47 327 *e*PKP1 PKPdf 10 32 23.1 +0.3
comp=Z,20nm,0.9s
ORIF *e*R
comp=Z,2µm,20.8s
AVF Avril sur Loir 130.50 331 *e*PKP1 PKPdf 10 32 23.3 +0.4
comp=Z,19nm,1.0s
BGF Bois d'Agland 130.91 331 *e*PKP1 PKPdf 10 32 24.5 +0.8
comp=Z,42nm,1.0s
LMR La Mourre 131.14 325 *e*PKP1 PKPdf 10 32 24.7 +0.6
comp=Z,73nm,1.2s
VIVF Saint-Julien-l 131.16 328 *e*PKP1 PKPdf 10 32 24.5 +0.4
SMRF Simiane la Rot 131.25 326 *e*PKP1 PKPdf 10 32 24.7 +0.4
comp=Z,107nm,1.3s
TCF Toulx Ste Croi 131.41 331 *e*PKP1 PKPdf 10 32 24.8 +0.2
comp=Z,65nm,1.1s
LASF Ste Croix 132.11 328 *e*PKP1 PKPdf 10 32 26.4 +0.5
comp=Z,44nm,1.1s
MFF Saint Martin d 132.29 333 *e*PKP1 PKPdf 10 32 26.3 0.0
comp=Z,50nm,1.2s
LFF La Frestale 133.10 331 *e*PKP1 PKPdf 10 32 28.2 +0.4
comp=Z,70nm,1.2s
MTLF Montolieu 133.49 328 *e*PKP1 PKPdf 10 32 28.8 +0.3
comp=Z,26nm,1.0s
KEST Kesra 133.65 315 PKP PKPdf 10 32 30.8 +1.9
comp=Z,6.3nm,0.9s,baz=312,slow=4.0,SNR=13
KEST SKPbc SKPbc 10 35 54.8 +2.1
comp=Z,8.8nm,1.1s,baz=214,slow=0.7,SNR=8.9
EPF Esparros 134.68 329 *e*PKP1 PKPdf 10 32 32.0 +1.3
comp=Z,25nm,0.9s
ETSF Etsaut 135.23 330 *e*PKP1 PKPdf 10 32 33.0 +1.2
comp=Z,45nm,1.0s
SJPF Ste Jean 135.41 330 *e*PKP1 PKPdf 10 32 32.2 +0.1
comp=Z,43nm,1.2s
ROSC El Rosal 135.46 89 PKP PKPdf 10 32 35.2 +3.0
comp=Z,20nm,0.8s,baz=96,slow=13,SNR=8.3
LPAZ La Paz 135.88 121 PKhKP 10 32 23.8
comp=Z,1.3nm,0.6s,baz=148,slow=4.2,SNR=6.4
LPAZ PKP PKPdf 10 32 33.4 +0.4
comp=Z,6.6nm,0.9s,baz=359,slow=3.3,SNR=14
LPAZ SKPbc SKPbc 10 36 06.1 +6.2
comp=Z,3.7nm,1.1s,baz=129,slow=3.1,SNR=4.3
LPAZ SKPab 10 36 12.6
comp=Z,2.8nm,0.8s,baz=198,slow=5.4,SNR=4.2
LPAZ La Paz 135.88 121 PKP 10 32 23.8
LPAZ PKP PKPdf 10 32 33.4 +0.4
LPAZ SKPbc SKPbc 10 36 06.1 +6.2
LPAZ SKPab 10 36 12.6
CPUP Villa Florida 138.06 141 PKP PKPdf 10 32 37.9 +0.9
comp=Z,3.1nm,0.6s,baz=205,slow=3.1,SNR=13
CPUP SKPbc SKPbc 10 36 15.2 +8.9
comp=Z,1.5nm,0.7s,baz=247,slow=3.8,SNR=4.0
CPUP Villa Florida 138.06 141 *e*PKPdf PKPdf 10 32 37.2 +0.2
SDV Santo Domingo 139.23 83 *e*PKPpre 10 32 31.5
ESDC Sonseca Array 139.34 329 PKP PKPdf 10 32 39.8 +0.4
comp=Z,0.5nm,0.4s,baz=24,slow=4.1,SNR=4.6
ESDC SKPbc SKPbc 10 36 11.4 +1.5
comp=Z,3.3nm,0.9s,baz=27,slow=2.1,SNR=7.1
MPR Mayaguez 141.45 68 *e*PKPdf PKPdf 10 32 44.6 +1.4
SJG San Juan 142.38 68 *e*PKPdf PKPdf 10 32 45.0 +0.2
CBYP Canovanas 142.62 68 *e*PKPdf PKPdf 10 32 50.7 +5.5
CPD Cerro la Pandu 142.62 68 *e*PKPdf PKPdf 10 32 43.4 -1.9
HUMP Col San Antoni 142.65 68 *e*PKPdf PKPdf 10 32 41.3 -4.0
MTP Monte Pirata 142.94 68 *e*PKPdf PKPdf 10 32 44.5 -1.4
SAML Samuel 143.35 114 *e*PKPdf PKPdf 10 32 43.7 -2.8
LZG Guadaloupe-1 146.92 70 *e*P PKPdf 10 32 53.0 +0.3
SEG Port Louis 147.10 69 *e*P PKPdf 10 32 53.5 +0.5
TBG Guadaloupe-3 147.11 70 *e*P PKPdf 10 32 55.2 +2.1
FDF Fort de France 147.82 72 ⇓*e*P PKPbc 10 32 58.5 +1.4
TOA0 Torodi Ar. Sit 148.38 285 *e*PKPdf PKPdf 10 32 54.5 -0.7
TOA0 *e*PKPbc PKPbc 10 32 59.3 +0.7
TORD Torodi Ar. Bea 148.38 285 PKP PKPdf 10 32 55.4 +0.3
comp=Z,88nm,0.8s,baz=44,slow=1.6,SNR=51
TORD PKPbc PKPbc 10 32 59.4 +0.8
comp=Z,89nm,0.8s,baz=50,slow=0.9,SNR=76
CAM4 Nova Friburgo 149.05 156 (P) PKPbc 10 33 01.4 +1.1
CAM4 *i* 10 33 09.2
CAM4 Nova Friburgo 149.05 156 (P) PKPbc 10 33 01.4 +1.1
CAM4 *i* 10 33 09.2
CAM4 *i* 10 33 20.0
CAM3 Guarapari 151.31 158 ⇓*i* P PKPbc 10 33 07.3 +1.5
CAM3 *i* 10 33 15.7
CAM3 *i* 10 33 23.9
BDFB Brasilia 151.77 140 PKP PKPdf 10 33 02.5 +2.1
comp=Z,11nm,1.0s,baz=75,slow=0.9,SNR=8.3
BDFB PKPbc PKPbc 10 33 07.7 +0.9
comp=Z,37nm,0.7s,baz=234,slow=1.9,SNR=30
DBIC Dimbokro 155.41 273 PKP PKPdf 10 33 06.0 +0.3
comp=Z,14nm,1.0s,baz=102,slow=1.3,SNR=10
DBIC PKPab PKPab 10 33 32.5 +1.1
comp=Z,26nm,0.8s,baz=102,slow=4.0,SNR=11
DBIC Dimbokro 155.41 273 *e*PKPdf PKPdf 10 33 06.2 +0.6
DBIC *e*PKPdf PKPdf 10 33 06.5 +0.9
DBIC *e*PKPbc PKPdf 10 33 16.0 +10
DBIC *e*PKPab PKPab 10 33 32.1 +0.8

IDC 15 10:32:33.1±7.4, 611S×14945E, h81km±51km, mb3.3/4, mb1 3.5/5, mb1mx3.3/14, mbtmp3.6/5, ML1.8/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/20, Error ellipse: s-maj=66.8km s-min=56.3km az=85.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**215**	P		Pn	10 33 31.9	+0.1
	0.5nm,0.3s,baz=317,slow=20,SNR=3.0							
PMG				LR		LR	10 35 12.0	
	comp=Z,1µm,18.0s,baz=48,slow=40							
WRA	**Warramunga Arr**	**20.11**	**225**	P		P	10 37 00.6	+0.3
	0.9nm,0.8s,baz=50,slow=10,SNR=5.9							
ASAR	**Alice Springs**	**22.98**	**219**	P		P	10 37 30.1	-0.7
	0.2nm,0.6s,baz=53,slow=9.5,SNR=5.8							
FITZ	**Fitzroy Crossi**	**26.11**	**241**	P		P	10 38 00.3	+1.0
	2.3nm,1.0s,baz=53,slow=15,SNR=3.0							
STKA	**Stephens Creek**	**26.66**	**195**	P		P	10 38 04.7	+0.4
	1.5nm,0.3s,baz=7.1,slow=16,SNR=2.9							
TORD	**Torodi Ar. Bea**	**147.48**	**285**	PKPbc		PKPbc	10 52 08.1	+0.4
	2.0nm,1.3s,baz=89,slow=4.5,SNR=3.6							

*NEIC **15** 10:50:38.0±0.5, 605S×15057E, h35km, mb4.7/4, Error ellipse: s-maj=14.1km s-min=9.7km az=144.0*
*MOS **15** 10:50:38.0±2.5, 600S×15050E, h35km, mb4.6/3, Error ellipse: s-maj=36.7km s-min=15.8km az=52.4*
*ISCJB **15** 10:50:39.1±3.1, 623S±0.1×1505E±0.1, h54km±26km, mb4.1/9, Error ellipse: s-maj=21.3km s-min=18.9km az=103.3*
*IDC **15** 10:50:39.7±4.2, 6.15S×15055E, h48km±37km, mb4.0/8, mb1 4.2/9, mb1mx4.0/15, mbtmp4.2/9, ML2.8/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=28.1km s-min=24.0km az=24.0*
ISC 15 10:50:41.1±2.7, 62S±01×1505E±01, h54km±23km, n25, σ0s85/23, mb4.1/9, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**226**	P		**Pn**	**10 51 48.5**	**+0.3**
	2.8nm,0.3s,baz=22,slow=12,SNR=9.6							
PMG				S		**Sn**	**10 52 41.0**	**+0.6**
	15nm,0.3s,baz=21,slow=7.8,SNR=7.5							
PMG				LR		LR	10 53 45.0	
	comp=Z,715nm,21.1s,baz=156,slow=40							
PMG	**Port Moresby**	**4.61**	**226**	P		**Pn**	**10 51 48.5**	**+0.3**
PMG				S		**Sn**	**10 52 41.0**	**+0.6**
KAKA	**Kakadu**	**18.97**	**249**	*e*P		**Pn**	**10 54 57.0**	**-2.0**
	14nm,0.5s							
WRAB	**Tennant Creek**	**20.81**	**228**	*e*P		**P**	**10 55 17.7**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,30nm,0.6s							
WRAB	**Tennant Creek**	**20.81**	**228**	*e*P		**P**	**10 55 17.7**	**-0.2**
	comp=Z,30nm,0.6s							
WB2	**Warramunga Arr**	**20.82**	**228**	*e*P		**P**	**10 55 18.5**	**+0.5**
WRA	**Warramunga Arr**	**20.83**	**228**	P		**P**	**10 55 18.0**	**-0.1**
	comp=Z,17nm,0.5s,baz=50,slow=10.0,SNR=124							
DZM	**Mont Dzumac**	**22.02**	**137**	P		**P**	**10 55 30.2**	**-0.8**
	comp=Z,6.9nm,0.9s,mb4.1,baz=264,slow=20,SNR=5.3							
AS31	**Alice Springs**	**23.60**	**221**	*e*P		**P**	**10 55 47.6**	**+0.6**
ASAR	**Alice Springs**	**23.60**	**221**	P		**P**	**10 55 47.6**	**+0.7**
	comp=Z,4.5nm,0.7s,mb4.0,baz=56,slow=8.7,SNR=98							
ASPA	**Alice Springs**	**23.60**	**221**	*e*P		**P**	**10 55 47.6**	**+0.6**
STKA	**Stephens Creek**	**26.87**	**197**	*e*P		**P**	**10 56 16.1**	**-0.5**
	comp=Z,4.3nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**26.87**	**197**	P		**P**	**10 56 15.4**	**-1.2**
	comp=Z,1.6nm,0.6s,mb3.7,baz=34,slow=8.7,SNR=6.3							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**27.00**	**242**⇑	*i*P	**P**	**10 56 17.6**	**-0.3**
	comp=Z,16nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**27.00**	**242**	P	**P**	**10 56 17.6**	**-0.2**
	comp=Z,8.4nm,0.5s,mb4.5,baz=60,slow=8.0,SNR=89						
MBWA	**Marble Bar**	**33.31**	**240**	*e*P	**P**	**10 57 12.8**	**-0.8**
SONM	**Songino Array**	**66.34**	**329**	P	**P**	**11 01 23.1**	**-0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=145,slow=5.6,SNR=5.1						
ZAK	**Zakamensk**	**69.54**	**330**	*e*P	**P**	**11 01 44.5**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.7						
VNDA	**Vanda**	**71.52**	**177**	P	**P**	**11 01 56.6**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=322,slow=5.3,SNR=5.4						
BILL	**Bilibino**	**74.91**	**6**	*e*P	**P**	**11 02 19.0**	**+2.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
NVAR	**Mina Array Bea**	**94.73**	**52**	P	**P**	**11 03 56.6**	**+0.1**
	comp=Z,0.6nm,0.6s,mb4.2,baz=248,slow=5.0,SNR=5.1						
GERES	**GERESS Array B**	**124.03**	**327**	PKP	PKPdf	11 09 32.5	-0.8
	comp=Z,0.2nm,0.3s,baz=90,slow=1.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc	PKPbc	11 10 21.7	-0.1
	comp=Z,11nm,0.8s,baz=54,slow=2.5,SNR=67						
TORD	**Torodi Ar. Bea**	**148.54**	**285**	PKPbc	PKPbc	11 10 21.7	-0.1
BDFB	**Brasilia**	**151.56**	**140**	PKPbc	PKPbc	11 10 29.5	+0.4
	comp=Z,3.6nm,0.5s,baz=288,slow=0.8,SNR=5.5						

*IDC **15** 10:54:37.7±2.7, 584S×15052E, h0^{km}, mb4.0/4, mb1 4.2/6, mb1mx3.9/15, mbtmp4.0/6, ML3.4/2, Error ellipse: s-maj=64.7km s-min=39.3km az=108.0*
*NEIC **15** 10:54:41.8±1.6, 599S×15076E, h35^{km}, mb4.3/1, Error ellipse: s-maj=32.3km s-min=21.3km az=104.0*
*ISCJB **15** 10:54:46.0±5.2, 63S±03×1505E±02, h66^{km}±34^{km}, mb3.7/3, Error ellipse: s-maj=51.3km s-min=36.4km az=156.9*
ISC 15 10:54:47.3±5.1**, 63S**±03×**1505E**±02**, h60^{km}**±33^{km}**, n10, σ0^{s}34**/10**, mb3.7**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**227**	Pn	**Pn**	**10 55 54.2**	**+0.1**
	4.1nm,0.3s,baz=16,slow=11,SNR=7.9						
PMG				Sn	**Sn**	**10 56 46.1**	**-0.1**
	10nm,0.3s,baz=103,slow=19,SNR=6.5						
CTA	**Charters Tower**	**14.37**	**196**	Pn	**Pn**	**10 58 07.2**	**-0.2**
	0.3nm,0.3s,baz=349,slow=10,SNR=2.1						
WB2	**Warramunga Arr**	**20.80**	**228**	*e*P	**P**	**10 59 23.6**	**+0.1**
WRA	**Warramunga Arr**	**20.81**	**228**	P	**P**	**10 59 23.7**	**+0.1**
	4.7nm,0.8s,baz=50,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**23.58**	**221**	P	**P**	**10 59 53.0**	**+0.6**
	1.2nm,0.4s,mb3.7,baz=53,slow=9.1,SNR=20						
STKA	**Stephens Creek**	**26.83**	**197**	P	**P**	**11 00 22.2**	**+0.2**
	0.6nm,0.4s,mb3.4,baz=21,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**26.83**	**197**	P	**P**	**11 00 21.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**27.00**	**242**	*e*P	**P**	**11 00 22.8**	**-0.6**
	3.2nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.00**	**242**	P	**P**	**11 00 23.0**	**-0.5**
	1.7nm,0.4s,mb3.9,baz=43,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	11 14 27.4	+0.1
	1.3nm,0.7s,baz=70,slow=2.0,SNR=7.0						

IDC 15 11:02:19.3±8.7**, 584S**×**14990E, h55^{km}**±68^{km}**, mb3.1**/3**, mb1 3.4**/4**, mb1mx3.2**/14**, mbtmp3.4**/4**, ML2.3**/1**, Error ellipse: s-maj=105.7km s-min=55.2km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.47**	**217**	P	Pn	11 03 25.1	+0.6
	1.1nm,0.3s,baz=274,slow=11,SNR=3.6						
PMG				S	Sn	11 04 15.7	+0.6
	2.6nm,0.3s,baz=72,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**20.63**	**226**	P	P	11 06 54.4	+0.3
	0.8nm,0.6s,baz=51,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**23.48**	**219**	P	P	11 07 24.1	0.0
	0.3nm,0.3s,baz=53,slow=9.1,SNR=19						
FITZ	**Fitzroy Crossi**	**26.63**	**241**	P	P	11 07 53.8	+1.1
	0.5nm,0.4s,baz=55,slow=11,SNR=6.6						
TORD	**Torodi Ar. Bea**	**147.84**	**285**	PKPbc	PKPbc	11 21 58.2	+0.1
	0.6nm,0.7s,baz=101,slow=2.9,SNR=6.5						

IDC 15 11:04:07.7±8.5**, 580S**×**15001E, h67^{km}**±64^{km}**, mb3.2**/3**, mb1 3.5**/4**, mb1mx3.2**/14**, mbtmp3.5**/4**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/20**, Error ellipse: s-maj=103.4km s-min=56.2km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**218**	P	Pn	11 05 14.3	0.0
	baz=22,slow=21,SNR=2.4						
PMG				S	Sn	11 06 06.8	+0.8
	2.7nm,0.3s,baz=113,slow=18,SNR=4.4						
PMG				LR	LR	11 06 52.6	
	comp=Z,333nm,19.8s,baz=242,slow=36						
WRA	**Warramunga Arr**	**20.73**	**226**	P	P	11 08 42.8	+0.2
	1.7nm,0.6s,baz=51,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**23.58**	**219**	P	P	11 09 12.1	-0.2
	0.3nm,0.6s,baz=56,slow=8.5,SNR=6.2						
FITZ	**Fitzroy Crossi**	**26.75**	**241**	P	P	11 09 41.9	+1.0
	1.0nm,0.6s,baz=62,slow=12,SNR=5.5						
TORD	**Torodi Ar. Bea**	**147.93**	**285**	PKPbc	PKPbc	11 23 45.7	+0.5
	0.5nm,0.7s,baz=93,slow=2.8,SNR=5.6						

IDC 15 11:04:36.5±3.0**, 573S**×**15022E, h0^{km}, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/13**, mbtmp3.7**/4**, Error ellipse: s-maj=70.8km s-min=46.3km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.93**	**226**	P	P	11 09 21.9	+1.2
	1.7nm,0.6s,baz=51,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**23.77**	**220**	P	P	11 09 51.3	+0.6
	0.7nm,0.6s,baz=57,slow=9.0,SNR=9.8						
FITZ	**Fitzroy Crossi**	**26.97**	**241**	P	P	11 10 19.5	-0.3
	1.0nm,0.8s,baz=168,slow=19,SNR=6.3						
STKA	**Stephens Creek**	**27.24**	**196**	P	P	11 10 21.4	-0.8
	2.7nm,1.0s,baz=23,slow=12,SNR=3.5						
TORD	**Torodi Ar. Bea**	**148.12**	**286**	PKPbc	PKPbc	11 24 25.2	+1.1
	0.3nm,0.6s,baz=95,slow=2.9,SNR=5.4						

IDC 15 11:19:00.6±8.8**, 563S**×**14967E, h55^{km}**±69^{km}**, mb3.1**/3**, mb1 3.5**/4**, mb1mx3.2**/14**, mbtmp3.5**/4**, ML2.8**/1**, Error ellipse: s-maj=109.3km s-min=55.4km az=123.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**213**	P	Pn	11 20 06.4	+0.1
	3.6nm,0.3s,baz=80,slow=6.1,SNR=12						
PMG				S	Sn	11 20 58.3	+1.0
	2.2nm,0.3s,baz=100,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**20.61**	**225**	P	P	11 23 36.0	+0.8
	0.9nm,0.6s,baz=50,slow=10,SNR=14						
ASAR	**Alice Springs**	**23.50**	**219**	P	P	11 24 05.3	-0.1
	0.2nm,0.3s,baz=55,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**26.54**	**240**	P	P	11 24 33.2	+0.1
	1.4nm,1.0s,baz=93,slow=18,SNR=3.0						
TORD	**Torodi Ar. Bea**	**147.56**	**286**	PKPbc	PKPbc	11 38 39.2	+0.6
	0.3nm,0.4s,baz=79,slow=2.1,SNR=6.8						

KRSC 15 11:20:34, 5728N×**16144E, h16^{km}, ML3.5, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRKR	**Sorokina**	**0.65**	**193**	*i* P	Pg	11 20 47.9	+1.2
SRKR				*i* S	Sg	11 20 57.3	+2.1
SMKR	**Semkarok**	**0.70**	**179**	*e*P	Pg	11 20 48.8	+1.1
SMKR				*i* S	Sg	11 20 58.6	+1.6
BDR	**Baidarnaya**	**0.72**	**190**	*e*P	Pg	11 20 49.1	+0.9
BDR				*i* S	Sg	11 20 59.8	+2.0
KLY	**Klyuchi**	**1.06**	**204**	*i* P	Pb	11 20 53.6	-0.4
KLY				*i* S	Sb	11 21 07.3	-0.3
KRSR	**Krestovskiy**	**1.17**	**205**	*e*P	Pn	11 20 55.7	0.0
KRSR				*i* S	Sb	11 21 11.0	+0.3
CIRR	**Tsirk**	**1.23**	**198**	*e*P	Pn	11 20 57.2	+0.7
CIRR				*i* S	Sb	11 21 13.9	+1.5
LGNR	**Loginova**	**1.27**	**199**	*e*P	Pn	11 20 58.0	+0.9
LGNR				*i* S	Sb	11 21 14.7	+1.1
ZLN	**Zelenaya**	**1.31**	**196**	*e*P	Pn	11 20 58.6	+0.9
ZLN				*i* S	Sn	11 21 15.6	+0.7
KBTR	**Krutoberegovo**	**1.32**	**144**	*e*P	Pn	11 20 59.0	+1.3
KBTR				*i* S	Sn	11 21 16.9	+2.0
SRDR	**Sredinnyy**	**1.35**	**225**	*e*P	Pn	11 21 00.2	+2.0
SRDR				*i* S	Sn	11 21 18.8	+3.0
KPT	**Kopyto**	**1.48**	**208**	*e*P	Pn	11 21 01.0	+1.1
KPT				*i* S	Sn	11 21 20.4	+1.5
KOZ	**Kozyrevsk**	**1.50**	**216**	*e*P	Pn	11 21 02.0	+1.8
KOZ				*i* S	Sn	11 21 22.0	+2.6
KMNR	**Kamenistaya**	**1.67**	**204**	*e*P	Pn	11 21 04.0	+1.5
KMNR				*i* S	Sn	11 21 25.3	+1.7
TUMR	**Tumrok**	**2.13**	**200**	*e*P	Pn	11 21 12.0	+3.1
TUMR				*i* S	Sn	11 21 39.3	+4.3
MKZ	**Mys Kozlova**	**2.74**	**176**	*e*P	Pn	11 21 20.0	+2.8
MKZ				*i* S	Sn	11 21 53.2	+3.3
GNL	**Ganaly**	**4.11**	**210**	*e*P	Pn	11 21 39.5	+3.4
SPN	**Mys Shipunski**	**4.27**	**192**	*e*P	Pn	11 21 41.1	+2.8
SPN				*i* S	Sn	11 22 30.1	+2.3
AVH	**Avacha**	**4.31**	**202**	*e*P	Pn	11 21 41.9	+3.0

IDC 15 11:34:28.5±5.7**, 050N**×**10124E, h61^{km}**±101^{km}**, mb3.5**/5**, mb1 3.6**/6**, mb1mx3.4**/21**, mbtmp3.7**/6**, ML3.4**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.3**/23**, Error ellipse: s-maj=287.6km s-min=18.2km az=54.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.25**	**315**	P	Pn	11 35 16.2	-0.8
	3.9nm,0.3s,baz=169,slow=9.5,SNR=25						
PSI				LR	LR	11 36 41.0	
	comp=Z,146nm,19.0s,baz=303,slow=42						
FITZ	**Fitzroy Crossi**	**30.30**	**129**	P	P	11 40 33.8	-0.2
	1.9nm,1.0s,baz=111,slow=18,SNR=2.2						
WRA	**Warramunga Arr**	**38.27**	**124**	P	P	11 41 44.0	+1.1
	0.1nm,0.3s,baz=302,slow=9.4,SNR=5.5						
ASAR	**Alice Springs**	**39.79**	**129**	P	P	11 41 55.7	+0.1
	0.1nm,0.3s,baz=302,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**48.99**	**343**	P	P	11 43 09.4	+0.5
	0.7nm,0.4s,baz=153,slow=7.4,SNR=6.4						
ZAL	**Zalesovo**	**54.96**	**348**	P	P	11 43 52.8	-0.6
	1.6nm,0.4s,baz=335,slow=15,SNR=3.1						

*ISCJB **15** 11:43:17.7±0.2, 4099S±002×17448E±003, h65^{km}±3^{km}, mb4.4/7, Error ellipse: s-maj=4.5km s-min=3.2km az=77.0*
*IDC **15** 11:43:17.8±1.9, 4081S×17438E, h50^{km}±19^{km}, mb4.1/5, mb1 4.2/7, mb1mx4.0/15, mbtmp4.3/7, ML3.7/2, MS3.7/8, Ms1 3.7/8, ms1mx3.4/23, Error ellipse: s-maj=23.2km s-min=15.5km az=139.0*
*NEIC **15** 11:43:19.5, 4095S×17448E, h47^{km}, mb4.7/3, ML5.0(WEL), After WEL.*
NEIC Felt throughout southern North Island and northern South Island. Felt as far north as Auckland.
*WEL **15** 11:43:19.5±0.1, 4097S×17448E, h48^{km}±1^{km}, ML5.1/25, Error ellipse: s-maj=0.6km s-min=0.5km az=90.0, maximum reported intensity MM 5.*
WEL Felt from King Country to Marlborough, and from Nelson to Hawke's Bay.
ISC 15 11:43:18.5±0.2**, 4099S**±002×**17449E**±003**, h59^{km}**±3^{km}**, n118, σ0^{s}89**/127**, mb4.4**/7**, MS3.8**/5**, 22C-21D, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.27**	**216**	⇓P	**Pn**	**11 43 27.9**	**-0.5**
TCW				S	**Sn**	**11 43 34.8**	**-0.7**
TCW	**Tory Channel**	**0.27**	**216**	⇓PN	**Pn**	**11 43 27.9**	**-0.5**
TCW				SN	**Sn**	**11 43 34.3**	**-1.2**
MRW	**Makara Radio**	**0.29**	**146**	⇑P	**Pn**	**11 43 28.3**	**-0.2**
MRW				S	**Sn**	**11 43 35.5**	**-0.1**
MRW	**Makara Radio**	**0.29**	**146**	⇑PN	**Pn**	**11 43 28.3**	**-0.1**
MRW				SN	**Sn**	**11 43 35.5**	**-0.1**
KIW	**Kapiti Island**	**0.34**	**68**	⇓P	**Pn**	**11 43 28.4**	**-0.5**
KIW				S	**Sn**	**11 43 35.2**	**-1.2**
KIW	**Kapiti Island**	**0.34**	**68**	⇓PN	**Pn**	**11 43 28.4**	**-0.5**
KIW				SN	**Sn**	**11 43 35.2**	**-1.2**
SNZO	**South Karori**	**0.36**	**153**	⇓P	**Pn**	**11 43 29.1**	**+0.1**
SNZO	**South Karori**	**0.36**	**153**	⇓PN	**Pn**	**11 43 29.1**	**0.0**
SNZO				SN	**Sn**	**11 43 36.5**	**-0.1**
WEL	**Wellington**	**0.36**	**145**	⇑P	**Pn**	**11 43 29.2**	**+0.1**
WEL	**Wellington**	**0.36**	**145**	⇑PN	**Pn**	**11 43 29.2**	**+0.1**
WEL				SN	**Sn**	**11 43 36.9**	**+0.2**
CAW	**Cannon Point**	**0.45**	**105**	⇑P	**Pn**	**11 43 30.1**	**+0.2**
CAW				S	**Sn**	**11 43 38.6**	**+0.4**
CAW	**Cannon Point**	**0.45**	**105**	⇑PN	**Pn**	**11 43 30.1**	**+0.2**
CAW				SN	**Sn**	**11 43 38.6**	**+0.4**
DUWZ	**D'Urville Isla**	**0.47**	**293**	⇓PN	**Pn**	**11 43 29.3**	**-0.8**
DUWZ				SN	**Sn**	**11 43 37.1**	**-1.5**
BHW	**Baring Head**	**0.51**	**146**	P	**Pn**	**11 43 30.8**	**+0.3**
BHW	**Baring Head**	**0.51**	**146**	⇑PN	**Pn**	**11 43 30.8**	**+0.3**
BHW				SN	**Sn**	**11 43 39.6**	**+0.4**
TUWZ	**Tuamarina**	**0.60**	**223**	⇑PN	**Pn**	**11 43 31.7**	**+0.1**
TUWZ				SN	**Sn**	**11 43 41.3**	**+0.2**
MSWZ	**Moikau Station**	**0.71**	**127**	⇑PN	**Pn**	**11 43 33.2**	**+0.3**
MSWZ				SN	**Sn**	**11 43 43.3**	**-0.1**
MTW	**Mount Morrison**	**0.78**	**103**	⇑P	**Pn**	**11 43 33.8**	**0.0**
MTW	**Mount Morrison**	**0.78**	**103**	⇑PN	**Pn**	**11 43 33.8**	**+0.1**
MTW				SN	**Sn**	**11 43 45.4**	**+0.4**
CMWZ	**Cape Campbell**	**0.78**	**195**	P	**Pn**	**11 43 35.1**	**+1.3**
CMWZ	**Cape Campbell**	**0.78**	**195**	PN	**Pn**	**11 43 35.1**	**+1.3**
CMWZ				SN	**Sn**	**11 43 46.6**	**+1.6**
PAWZ	**Paruwai Farm**	**0.81**	**119**	P	**Pn**	**11 43 34.2**	**+0.1**
PAWZ	**Paruwai Farm**	**0.81**	**119**	⇑PN	**Pn**	**11 43 34.2**	**+0.2**
PAWZ				SN	**Sn**	**11 43 45.7**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.86**	**212**	P	**Pn**	**11 43 35.5**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.86**	**212**	⇑PN	**Pn**	**11 43 35.5**	**+0.8**
BSWZ				SN	**Sn**	**11 43 47.6**	**+1.0**
NNZ	**Nelson**	**0.87**	**255**	⇓P	**Pn**	**11 43 34.7**	**-0.1**
NNZ	**Nelson**	**0.87**	**255**	⇓PN	**Pn**	**11 43 34.7**	**-0.1**
MRZ	**Mangatainoka R**	**0.89**	**69**	⇓P	**Pn**	**11 43 35.2**	**+0.1**
MRZ	**Mangatainoka R**	**0.89**	**69**	⇓PN	**Pn**	**11 43 35.2**	**+0.1**
MRZ				SN	**Sn**	**11 43 47.5**	**+1.0**
TRWZ	**Traveller**	**0.99**	**115**	⇑PN	**Pn**	**11 43 36.4**	**0.0**
TRWZ				SN	**Sn**	**11 43 49.0**	**0.0**
TIWZ	**Tintock**	**1.08**	**79**	⇓PN	**Pn**	**11 43 37.5**	**0.0**
TIWZ				SN	**Sn**	**11 43 51.7**	**+0.5**
WAZ	**Wanganui**	**1.29**	**17**	P	**Pn**	**11 43 41.1**	**+0.7**
WAZ	**Wanganui**	**1.29**	**17**	⇑PN	**Pn**	**11 43 41.0**	**+0.6**
BFZ	**Birch Farm**	**1.37**	**77**	PN	**Pn**	**11 43 41.3**	**-0.1**
BFZ				SN	**Sn**	**11 43 57.1**	**-1.1**
THZ	**Tophouse**	**1.42**	**237**	⇓PN	**Pn**	**11 43 42.6**	**+0.5**
TSZ	**Takapari Road**	**1.46**	**51**	⇓P	**Pn**	**11 43 42.2**	**-0.4**
TSZ	**Takapari Road**	**1.46**	**51**	⇓PN	**Pn**	**11 43 42.2**	**-0.4**
QRZ	**Quartz Range**	**1.50**	**276**	⇓P	**Pn**	**11 43 43.4**	**+0.3**
QRZ	**Quartz Range**	**1.50**	**276**	⇑PN	**Pn**	**11 43 43.4**	**+0.3**
KHZ	**Kahutara**	**1.59**	**206**	⇓P	**Pn**	**11 43 45.1**	**+0.7**
KHZ	**Kahutara**	**1.59**	**206**	⇑PN	**Pn**	**11 43 45.1**	**+0.7**
RAEZ	**Rainy Point**	**1.70**	**357**	⇑P	**Pn**	**11 43 46.8**	**+0.9**
RAEZ	**Rainy Point**	**1.70**	**357**	⇑PN	**Pn**	**11 43 46.8**	**+0.8**
NRZ	**Ngariki Road**	**1.71**	**345**	⇓P	**Pn**	**11 43 46.5**	**+0.5**
NRZ	**Ngariki Road**	**1.71**	**345**	⇓PN	**Pn**	**11 43 46.5**	**+0.6**
NEZ	**North Egmont**	**1.75**	**350**	P	**Pn**	**11 43 47.2**	**+0.7**
NWEZ	**Newall Road**	**1.78**	**344**	P	**Pn**	**11 43 47.6**	**+0.6**
PKE	**Pukeiti**	**1.84**	**348**	P	**Pn**	**11 43 48.4**	**+0.7**
MOVZ	**Moawhango**	**1.85**	**32**	P	**Pn**	**11 43 47.8**	**-0.2**
WNVZ	**Wahianoa**	**1.87**	**27**	P	**Pn**	**11 43 48.9**	**+0.8**
VRZ	**Vera Road**	**1.88**	**6**	⇑P	**Pn**	**11 43 49.0**	**+0.7**
VRZ	**Vera Road**	**1.88**	**6**	⇑PN	**Pn**	**11 43 49.0**	**+0.7**
DRZ	**Dome Shelter**	**1.90**	**26**	P	**Pn**	**11 43 49.6**	**+1.0**
FWVZ	**Far West T-bar**	**1.92**	**26**	P	**Pn**	**11 43 49.5**	**+0.7**
TUVZ	**Tukino**	**1.94**	**28**	P	**Pn**	**11 43 49.7**	**+0.6**
WPVZ	**Whakapapa**	**1.96**	**25**	P	**Pn**	**11 43 50.0**	**+0.6**
NGZ	**Ngauruhoe**	**2.00**	**26**	P	**Pn**	**11 43 50.6**	**+0.6**
TWVZ	**Taurewa**	**2.05**	**21**	P	**Pn**	**11 43 50.7**	**+0.1**
WTVZ	**West Tongariro**	**2.05**	**25**	P	**Pn**	**11 43 51.1**	**+0.4**
DSZ	**Denniston Nort**	**2.16**	**249**	⇓P	**Pn**	**11 43 52.5**	**+0.4**
DSZ	**Denniston Nort**	**2.16**	**249**	⇓PN	**Pn**	**11 43 52.5**	**+0.4**
KATZ	**Kakaramea**	**2.22**	**25**	P	**Pn**	**11 43 53.6**	**+0.7**
RITZ	**Rihia Road**	**2.27**	**28**	P	**Pn**	**11 43 54.0**	**+0.4**
RATZ	**Rangitukua**	**2.34**	**25**	P	**Pn**	**11 43 55.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.38**	**41**	P	**Pn**	**11 43 54.2**	**-1.0**
BKZ	**Black Stump Fm**	**2.38**	**41**	PN	**Pn**	**11 43 54.2**	**-1.0**
HATZ	**Hinemaiaia**	**2.43**	**31**	P	**Pn**	**11 43 55.2**	**-0.6**
LTZ	**Lake Taylor**	**2.44**	**222**	P	**Pn**	**11 43 56.1**	**+0.2**
LTZ	**Lake Taylor**	**2.44**	**222**	PN	**Pn**	**11 43 56.1**	**+0.2**
WATZ	**Wairara**	**2.47**	**23**	P	**Pn**	**11 43 56.5**	**+0.1**
HIZ	**Hauiti**	**2.49**	**7**	PN	**Pn**	**11 43 57.1**	**+0.4**
UTU	**Utuhina**	**3.10**	**26**	P	**Pn**	**11 44 08.7**	**+3.7**
URZ	**Urewera**	**3.40**	**37**	P	**Pn**	**11 44 06.6**	**-2.4**
	9.9nm,0.3s,baz=230,slow=7.0,SNR=163						
URZ				S	**Sn**	**11 44 46.1**	**-2.0**
	52nm,0.3s,baz=226,slow=18,SNR=3.1						
URZ				LR	LR	11 45 04.7	
	comp=Z,361nm,19.3s,baz=333,slow=32						
MWZ	**Matawai**	**3.54**	**42**	P	**Pn**	**11 44 08.3**	**-2.7**
RPZ	**Rata Peaks**	**3.73**	**222**	P	**Pn**	**11 44 12.7**	**-0.9**
	5.1nm,0.3s,baz=256,slow=2.8,SNR=46						
RPZ				S	**Sn**	**11 44 52.5**	**-3.7**
	87nm,0.3s,baz=305,slow=1.1,SNR=22						
RPZ				LR	LR	11 45 52.7	
	comp=Z,712nm,21.7s,baz=335,slow=41						
RPZ	**Rata Peaks**	**3.73**	**222**	*e*P	**Pn**	**11 44 12.7**	**-0.9**
MKAZ	**Moumakai**	**3.91**	**8**	P	**Pn**	**11 44 16.4**	**+0.3**
OTAZ	**Otara**	**4.05**	**5**	P	**Pn**	**11 44 18.7**	**+0.7**
WTAZ	**Waiatarua**	**4.05**	**1**	P	**Pn**	**11 44 18.5**	**+0.5**
PUZ	**Puketiti**	**4.12**	**46**	*e*P	**Pn**	**11 44 15.5**	**-3.4**
KAAZ	**Kauri Point**	**4.17**	**2**	P	**Pn**	**11 44 20.3**	**+0.7**
MTAZ	**Motutapu**	**4.21**	**5**	P	**Pn**	**11 44 20.7**	**+0.5**
KUZ	**Kuaotunu**	**4.35**	**13**	P	**Pn**	**11 44 21.7**	**-0.3**
MXZ	**Matakaoa Point**	**4.53**	**42**	P	**Pn**	**11 44 21.7**	**-2.8**
LBZ	**Lake Benmore**	**4.64**	**222**	*e*P	**Pn**	**11 44 24.4**	**-1.7**
JCZ	**Jackson Bay**	**5.24**	**232**	*e*P	**Pn**	**11 44 32.6**	**-1.6**
EAZ	**Earnscleugh**	**5.69**	**220**	*e*P	**Pn**	**11 44 38.7**	**-1.7**
TUZ	**Tuapeka**	**6.09**	**214**	*e*P	**Pn**	**11 44 42.9**	**-3.0**
RAO	**Raoul Island**	**13.25**	**30**	LR	LR	11 49 51.8	
	comp=Z,113nm,20.3s,baz=63,slow=30						
STKA	**Stephens Creek**	**27.85**	**278**	LR	LR	11 57 37.6	
	comp=Z,231nm,19.3s,MS3.8,baz=218,slow=31						
RAR	**Rarotonga**	**29.39**	**56**	LR	LR	11 58 48.2	
	comp=Z,232nm,19.4s,MS3.8,baz=101,slow=32						
CTA	**Charters Tower**	**31.80**	**302**	LR	LR	12 00 37.6	
	comp=Z,286nm,21.4s,MS3.9,baz=358,slow=33						
VNDA	**Vanda**	**37.02**	**185**	LR	LR	12 02 55.3	
	comp=Z,125nm,21.6s,MS3.7,baz=61,slow=32						
AS31	**Alice Springs**	**38.01**	**284**	*e*P	**P**	**11 50 30.6**	**-0.2**
ASAR	**Alice Springs**	**38.01**	**284**	P	**P**	**11 50 30.5**	**-0.3**
	1.7nm,0.6s,mb4.0,baz=126,slow=7.1,SNR=58						
ASAR				ScP	ScP	11 56 23.5	-4.3
	0.8nm,0.9s,baz=116,slow=5.3,SNR=5.1						
ASAR				LR	LR	12 05 55.7	
	comp=Z,227nm,20.0s,MS4.0,baz=276,slow=36						
ASPA	**Alice Springs**	**38.01**	**284**	*e*P	**P**	**11 50 30.6**	**-0.2**
PMG	**Port Moresby**	**39.68**	**315**	P	**P**	**11 50 42.0**	**-2.8**
	23nm,0.9s,mb4.9,baz=207,slow=4.5,SNR=3.5						
WB2	**Warramunga Arr**	**40.01**	**289**	*e*P	**P**	**11 50 47.1**	**-0.4**
WRAB	**Tennant Creek**	**40.01**	**289**	*e*P	**P**	**11 50 46.9**	**-0.7**
	5.7nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**40.02**	**289**	P	**P**	**11 50 47.6**	**0.0**
	2.3nm,0.6s,mb4.1,baz=126,slow=8.3,SNR=53						
CASY	**Casey**	**42.94**	**212**	*e*P	**P**	**11 51 11.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**47.50**	**284**	*e*P	**P**	**11 51 46.6**	**-1.0**
	4.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**47.50**	**284**	P	**P**	**11 51 47.6**	**0.0**
	2.4nm,0.7s,mb4.4,baz=114,slow=18,SNR=11						
QSPA	**South Pole Qui**	**49.14**	**180**	*e*P	**P**	**11 52 02.9**	**+2.7**
	9.2nm,1.0s,mb4.8						
MAW	**Mawson**	**60.22**	**204**	P	**P**	**11 53 21.1**	**+0.7**
	1.8nm,0.8s,mb4.2,baz=111,slow=7.9,SNR=5.0						
SYO	**Syowa Base**	**65.35**	**196**⇑	*e*P	**P**	**11 53 54.0**	**-0.6**
SNAA	**Sanae**	**67.63**	**181**	*e*	**P**	**11 54 14.3**	**+5.2**
VNA3	**Neumayer Olymp**	**68.03**	**179**	*e*	**P**	**11 54 12.8**	**+1.2**
VNA3				*e*		11 54 14.8	
VNA3				*e*		11 54 20.0	
VNA3				*e*	pP	11 54 28.9	+1.1
VNA3				*e*		11 54 39.8	
DBIC	**Dimbokro**	**145.82**	**181**	PKPbc	PKPbc	12 02 52.6	+1.6
	6.5nm,0.7s,baz=157,slow=3.2,SNR=12						
ARCES	**ARCESS Array B**	**147.12**	**340**	PKPbc	PKPbc	12 02 52.8	-2.1
	6.9nm,0.7s,baz=77,slow=2.0,SNR=19						
BR131	**Keskin Array S**	**150.31**	**281**	*e*PKPdf	PKPdf	12 03 02.1	+4.4
BRTR	**Keskin Array B**	**150.31**	**281**	PKPbc	PKPbc	12 03 02.2	-0.8
	2.8nm,0.8s,baz=152,slow=5.6,SNR=14						
TOA0	**Torodi Ar. Sit**	**151.55**	**195**	*e*PKPdf	PKPdf	12 03 06.6	+6.9
TORD	**Torodi Ar. Bea**	**151.55**	**195**	PKP	PKPdf	12 03 00.1	+0.4
	1.8nm,0.9s,baz=138,slow=0.1,SNR=8.0						
TORD				PKPbc	PKPbc	12 03 06.7	+0.8
	8.3nm,0.9s,baz=175,slow=0.9,SNR=29						
TORD	**Torodi Ar. Bea**	**151.55**	**195**	PKP	PKPdf	12 03 00.1	+0.4
TORD				PKPbc	PKPbc	12 03 06.7	+0.8
FIA0	**FINESS Array S**	**152.00**	**328**	PN	PKPab	12 03 18.2	+1.8
FIA0				LG		12 03 39.0	
FIA0				RG		12 03 46.9	
FINES	**FINESS Array B**	**152.00**	**328**	PKPbc	PKPbc	12 03 04.6	-2.3
	1.5nm,0.6s,baz=50,slow=3.2,SNR=8.2						
FINES	**FINESS Array B**	**152.00**	**328**	PKPbc	PKPbc	12 03 04.6	-2.3

*ISCJB **15** 11:47:54.4±0.9, 4679N±005×15285E±007, h58^{km}±8^{km}, mb4.5/45, Error ellipse: s-maj=9.1km s-min=7.4km az=143.3*
*MOS **15** 11:47:54.9±1.2, 4689N×15282E, h61^{km}, mb4.7/17, Error ellipse: s-maj=9.7km s-min=7.5km az=107.9*
*JMA **15** 11:47:54.0±0.9, 4671N×153.11E, h30^{km}, M4.8*
*SKHL **15** 11:47:55.1±2.8, 4657N×153.11E, h66^{km}±31^{km}, mb4.9/7, Ms3.7/1*
*NEIC **15** 11:47:59.7±1.3, 4693N×15274E, h87^{km}±11^{km}, mb4.5/15, Error ellipse: s-maj=8.3km s-min=6.6km az=158.0*
*IDC **15** 11:47:59.8±3.4, 4690N×15271E, h88^{km}±30^{km}, mb4.0/20, mb1 4.1/22, mb1mx4.1/26, mbtmp4.3/22, Error ellipse: s-maj=15.2km s-min=12.7km az=132.0*
*BJI **15** 11:47:59.0, 4708N×15303E, h118^{km}, mB4.8, mb4.5*
ISC 15 11:47:56.2±0.8**, 4686N**±005×**15285E**±007**, h58^{km}**±7^{km}**, n156, σ1^{s}28**/167**, mb4.5**/45**, 15C-5D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**247**	*e*P	**Pn**	**11 48 51.0**	**-1.7**
KUR				AMB	AMB	11 48 52.5	
	60nm,0.5s						
KUR				AMB	AMB	11 48 52.5	
	170nm,0.5s						
KUR				*e*S	**Sn**	**11 49 35.0**	**-1.5**
KUR				A		11 49 40.5	
	530nm,0.5s						
KUR				A		11 49 40.5	
	210nm,0.5s						
KUR	**Kuril'sk**	**3.83**	**247**⇑	*i*PN	**Pn**	**11 48 51.0**	**-1.7**
KUR				*i* S	**Sn**	**11 49 35.0**	**-1.5**
KUR				pmax	pmax		
	comp=N,60nm,0.5s						
KUR				pmax	pmax		
	comp=Z,170nm,0.5s						
KUR				smax			
	comp=N,530nm,0.5s						
KUR				smax			
	comp=E,210nm,0.5s						
SKR	**Severo-Kuril's**	**4.39**	**28**	*e*P	**Pn**	**11 48 56.5**	**-3.8**
SKR				AMB	AMB	11 48 58.5	
	comp=E,70nm,0.4s						
SKR				AMB	AMB	11 48 58.5	
	comp=E,20nm,0.4s						
SKR				AMB	AMB	11 48 58.5	
	comp=E,90nm,0.4s						
SKR				A		11 49 51.5	
	comp=E,270nm,0.5s						
SKR				A		11 49 51.5	
	comp=E,190nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**243**	*e*P	**Pn**	**11 49 18.5**	**+0.6**
YUK				AMB	AMB	11 49 19.6	
	comp=E,510nm,0.2s						
YUK				*e*S	**Sn**	**11 50 26.7**	**+5.1**
YUK				A		11 50 45.8	
	comp=E,1μm,0.5s						
YUK				A		11 50 45.8	
	comp=E,1μm,0.5s						
YUK				A		11 50 46.4	
	comp=E,2μm,1.0s						
YUK				A		11 50 46.4	
	comp=E,2μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.67**	**243**	*e*PN	**Pn**	**11 49 18.5**	**+0.6**
YUK				*e*S	**Sn**	**11 50 26.7**	**+5.1**
YUK				pmax	pmax		
	comp=Z,510nm,0.2s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,2μm,1.4s						
YUK				smax			
	comp=E,2μm,0.8s						
NEM2	**Nemuro 2**	**6.12**	**238**	P	**Pn**	**11 49 22.7**	**-1.4**
NEM2				*e*S	**Sn**	**11 50 27.6**	**-5.2**
JRA	**Rausu**	**6.18**	**245**	P	**Pn**	**11 49 26.6**	**+1.8**
JNK	**Nakash**	**6.61**	**243**	P	**Pn**	**11 49 31.4**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	⇑*i*P	**Pn**	**11 49 37.9**	**+3.0**
YSS				AMB	AMB	11 49 40.2	
	comp=E,40nm,1.0s						
YSS				AMB	AMB	11 49 40.2	
	comp=E,50nm,1.0s						
YSS				*e*S	**Sn**	**11 50 54.0**	**+1.8**
YSS				A		11 50 56.8	
	comp=E,30nm,0.6s						
YSS				A		11 50 56.8	
	comp=E,50nm,0.6s						
YSS				AMS	AMS	11 52 10.0	
	comp=E,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	⇑*i*PN	**Pn**	**11 49 37.9**	**+3.0**
YSS				*e*S	**Sn**	**11 50 54.0**	**+1.8**
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				smax			
	comp=N,30nm,0.6s						
YSS				smax			
	comp=E,50nm,0.5s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**274**	*e*P	**Pn**	**11 49 37.7**	**+2.8**
	comp=Z,35nm,0.8s						
JTKR	**Abashiri--Toko**	**6.93**	**249**	P	**Pn**	**11 49 37.0**	**+2.0**
JAK	**Akkeshi**	**6.96**	**239**	P	**Pn**	**11 49 34.4**	**-1.1**
PET	**Petropavlovsk**	**7.21**	**29**	*e*P	**Pn**	**11 49 45.7**	**+6.7**
PET				AMB	AMB	11 49 48.1	
	comp=Z,30nm,1.0s						
PET				*e*S	**Sn**	**11 50 55.6**	**-3.9**
PET				A		11 50 56.4	
	comp=Z,100nm,0.7s						
PET				A		11 50 56.4	
	comp=Z,75nm,0.7s						
PET				A		11 50 56.6	
	comp=Z,130nm,0.6s						
PET				A		11 50 56.6	
	comp=Z,86nm,0.6s						
PET	**Petropavlovsk**	**7.21**	**29**	*e*PN	**Pn**	**11 49 45.7**	**+6.7**
PET				*e*S	**Sn**	**11 50 55.6**	**-3.9**
PET				pmax	pmax		
	comp=Z,26nm,1.0s						
PET				smax			
	comp=N,130nm,0.6s						
JMP	**Maruseppu**	**7.26**	**250**	P	**Pn**	**11 49 41.7**	**+2.1**
JAR	**Ashorobuto**	**7.35**	**244**	P	**Pn**	**11 49 41.9**	**+1.1**
JAR				*e*S	**Sn**	**11 51 02.6**	**-0.2**
JOB	**Onbets**	**7.53**	**242**	P	**Pn**	**11 49 43.3**	**0.0**
UGL	**Uglegorsk**	**7.57**	**291**	*e*P	**Pn**	**11 49 47.7**	**+3.8**
UGL				AMB	AMB	11 49 51.0	
	comp=N,42nm,0.7s						
UGL				AMB	AMB	11 49 51.0	
	comp=N,250nm,1.4s						
UGL				AMS	AMS	11 52 52.0	
	comp=N,300nm,16.0s						
UGL				AMS	AMS	11 52 52.0	
	comp=N,200nm,16.0s						
UGL				AMS	AMS	11 52 52.0	
	comp=N,500nm,16.0s						
ASAJ	**Asahikawa**	**7.71**	**253**	P	**Pn**	**11 49 49.0**	**+3.2**
	comp=N,4.6nm,0.3s,baz=84,slow=13,SNR=58						
ASAJ	**Asahikawa**	**7.71**	**253**	P	**Pn**	**11 49 49.0**	**+3.2**
ASAJ	**Asahikawa**	**7.71**	**253**	PN	**Pn**	**11 49 49.1**	**+3.3**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.72**	**251**	P	**Pn**	**11 49 48.4**	**+2.5**
JWK2	**Keihoku**	**7.77**	**263**	P	**Pn**	**11 49 52.1**	**+5.5**
JCH	**Churui**	**7.98**	**241**	P	**Pn**	**11 49 48.8**	**-0.6**
JCH				*e*S	**Sn**	**11 51 14.5**	**-3.7**
JFR	**Furan**	**8.15**	**247**	P	**Pn**	**11 49 52.7**	**+0.8**
JAB	**Ashibetsu**	**8.22**	**250**	P	**Pn**	**11 49 55.4**	**+2.6**
JEM	**Erimo**	**8.46**	**239**	P	**Pn**	**11 49 55.1**	**-0.9**
JEM				*e*S	**Sn**	**11 51 26.3**	**-3.7**
ERM	**Erimo**	**8.46**	**239**	*e*PN	**Pn**	**11 49 55.0**	**-1.0**
ERM				pmax	pmax		
	comp=Z,47nm,0.6s						
ERM	**Erimo**	**8.46**	**239**	*e*P	**Pn**	**11 49 55.0**	**-1.1**
	comp=Z,47nm,0.6s						
JBT2	**Biratori 2**	**8.50**	**245**	P	**Pn**	**11 49 56.8**	**+0.2**
JNBK	**Urakawa-nobuka**	**8.54**	**241**	P	**Pn**	**11 49 55.6**	**-1.5**
JNBK				*e*S	**Sn**	**11 51 27.6**	**-4.4**
JEW	**Eniwo**	**9.04**	**248**	P	**Pn**	**11 50 05.7**	**+1.7**
JNB	**Noboribetsu**	**9.49**	**247**	P	**Pn**	**11 50 09.8**	**-0.4**
JNB				*e*S	**Sn**	**11 51 52.3**	**-3.0**
JKB	**Kayabe**	**9.81**	**244**	P	**Pn**	**11 50 13.7**	**-0.8**
JKB				*e*S	**Sn**	**11 51 56.7**	**-6.4**
JSH	**Shimam**	**10.04**	**250**	P	**Pn**	**11 50 18.4**	**+0.8**
JYM2	**Yakumo 2**	**10.10**	**247**	P	**Pn**	**11 50 17.7**	**-0.8**
JSR	**Shiriuchi**	**10.39**	**244**	P	**Pn**	**11 50 20.5**	**-2.0**
JTM	**Tenmabayashi**	**10.45**	**239**	P	**Pn**	**11 50 20.5**	**-2.8**
JANG	**Nango**	**10.46**	**236**	P	**Pn**	**11 50 19.6**	**-3.8**
JANG				*e*S	**Sn**	**11 52 09.0**	**-10**
JTH	**Tanohata**	**10.57**	**233**	*e*S	**Sn**	**11 52 09.4**	**-12**
JOSM	**Okushiri--Mats**	**10.68**	**248**	P	**Pn**	**11 50 25.7**	**-0.7**
JRG	**Rokugo**	**11.62**	**234**	P	**Pn**	**11 50 35.7**	**-3.6**
HABR	**Khabarovsk**	**12.11**	**284**	*e*PN	**Pn**	**11 50 46.1**	**+0.2**
HABR				*e*S	**Sn**	**11 53 02.5**	**+3.2**
EKMR	**Ekimchan**	**14.21**	**303**	*e*P	**Pn**	**11 51 18.0**	**+3.6**
EKMR				AMB	AMB	11 51 22.0	
	comp=Z,6.0nm,0.5s						
KLR	**Kul'dur**	**14.31**	**287**	*e*P	**Pn**	**11 51 14.1**	**-1.5**
MJAR	**Matsushiro Arr**	**15.01**	**232**	P	**Pn**	**11 51 26.2**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=306,slow=22,SNR=24						
MDJ	**Mudanjiang**	**16.38**	**271**	*e*P	**Pn**	**11 51 46.7**	**+4.5**
BMKR	**Bomnak**	**17.03**	**306**	*e*P	**Pn**	**11 51 50.5**	**+0.2**
BMKR				AMB	AMB	11 51 53.7	
	comp=Z,12nm,0.7s						
KROS	**Kirovskiy**	**18.00**	**304**	*e*P	**Pn**	**11 52 00.5**	**-1.7**
KROS				AMB	AMB	11 52 03.2	
	comp=Z,3.0nm,0.6s						
KROS				AMB	AMB	11 52 03.2	
	comp=Z,6.0nm,0.6s						
KROS				AMB	AMB	11 52 03.2	
	comp=Z,10.0nm,0.6s						
YAK	**Yakutsk**	**20.13**	**327**	*i* P	**P**	**11 52 27.1**	**+1.7**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
BILL	**Bilibino**	**22.32**	**13**	*e*P	**P**	**11 52 48.2**	**-0.7**
BILL				*e*		11 52 59.9	
BILL				*e*SS		11 57 25.6	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
SSE	**Sheshan**	**28.97**	**248**	*e*P	**P**	**11 53 47.8**	**-2.4**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,259nm,5.3s						
NJ2	**Nanjing**	**29.86**	**253**	*e*P	**P**	**11 54 03.1**	**+5.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
ULN	**Ulaanbaatar**	**30.69**	**289**	⇑*e*P	**P**	**11 54 07.5**	**+2.1**
SONM	**Songino Array**	**31.13**	**289**	P	**P**	**11 54 08.8**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=76,slow=7.2,SNR=3.4						
SONM				PcP	PcP	11 57 03.3	+0.1
	comp=Z,0.4nm,0.6s,baz=23,slow=4.8,SNR=3.8						
ZAK	**Zakamensk**	**32.47**	**295**	*e*P	**P**	**11 54 20.1**	**-0.9**
COLA	**College**	**36.16**	**38**	*e*P	**P**	**11 54 53.1**	**+0.2**
COLA				*e*	pP	11 55 06.7	-0.9
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
COLA	**College**	**36.16**	**38**	*e*P	**P**	**11 54 53.0**	**+0.1**
	comp=Z,5.7nm,0.6s,mb4.7						
COLA				*e*	pP	11 55 06.7	-0.9
EGAK	**Eagle**	**39.02**	**38**	*e*P	**P**	**11 55 16.5**	**-0.6**
GYA	**Guiyang**	**41.56**	**257**	P	**P**	**11 55 38.6**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
INK	**Inuvik**	**41.65**	**32**	P	**P**	**11 55 39.4**	**+0.5**
	comp=Z,3.9nm,0.5s,mb4.3,baz=279,slow=4.0,SNR=13						
ZAL	**Zalesovo**	**42.42**	**306**	P	**P**	**11 55 43.5**	**-1.5**
	comp=Z,1.5nm,0.4s,mb4.0,baz=62,slow=6.0,SNR=3.8						
ZAL				PcP	PcP	11 57 37.3	+0.1
	comp=Z,1.3nm,0.4s,baz=106,slow=3.8,SNR=4.7						
DLBC	**Dease Lake**	**45.65**	**46**	P	**P**	**11 56 12.2**	**+1.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=302,slow=4.6,SNR=3.9						
MKAR	**Makanchi Array**	**46.73**	**297**	P	**P**	**11 56 19.0**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=66,slow=8.7,SNR=15						
CHKZ	**Chkalovo**	**50.22**	**310**	*e*P	**P**	**11 56 44.9**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
CHKZ	**Chkalovo**	**50.22**	**310**	*e*P	**P**	**11 56 44.9**	**-1.4**
	comp=Z,2.3nm,0.4s,mb4.6						
BVAR	**Borovoye Array**	**50.65**	**309**	P	**P**	**11 56 48.8**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.2,baz=50,slow=8.2,SNR=8.5						
BVAR				PcP	PcP	11 58 06.0	-0.2
	comp=Z,1.5nm,0.4s,baz=64,slow=3.4,SNR=6.2						
BRVK	**Borovoye**	**50.69**	**309**	*e*P	**P**	**11 56 48.8**	**-1.0**
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**11 56 51.8**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=305,slow=8.6,SNR=4.5						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**11 56 51.8**	**+0.1**
ZRNK	**Zerenda**	**51.42**	**310**	*e*P	**P**	**11 56 54.1**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**51.42**	**310**	*e*P	**P**	**11 56 54.1**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2						
CHTO	**Chiang Mai**	**51.97**	**256**	*e*P	**P**	**11 57 00.9**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**51.97**	**256**	*e*P	**P**	**11 57 00.9**	**+1.5**
	comp=Z,4.7nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**53.62**	**296**	*i* P	**P**	**11 57 11.1**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
AAK				MLR	MLR		
	comp=Z,200nm,19.0s						
JIRN	**Jiri**	**54.76**	**274**	*e*P	**P**	**11 57 21.3**	**+1.5**
	comp=Z,29nm,0.6s,mb5.5						
GUN	**Gumba**	**54.81**	**275**	*e*P	**P**	**11 57 22.5**	**+2.3**
KKN	**Kakani**	**55.30**	**275**	*e*P	**P**	**11 57 25.5**	**+1.8**
	comp=Z,15nm,0.5s,mb5.3						
PKI	**Pulchoki**	**55.35**	**275**	*e*P	**P**	**11 57 25.3**	**+1.2**
DMN	**Daman**	**55.53**	**275**	*e*P	**P**	**11 57 26.8**	**+1.4**
	comp=Z,14nm,0.5s,mb5.2						
GKN	**Gorkha**	**55.60**	**276**	*e*P	**P**	**11 57 27.3**	**+1.4**
	comp=Z,9.6nm,0.4s,mb5.2						
KOLN	**Koldanda**	**56.46**	**276**	*e*P	**P**	**11 57 33.3**	**+1.3**
	comp=Z,12nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**11 57 39.7**	**-1.0**
	comp=Z,4.5nm,0.9s,mb4.5,baz=24,slow=6.7,SNR=8.2						
ARCES	**ARCESS Array B**	**57.69**	**341**	P	**P**	**11 57 39.7**	**-1.0**
SUMG	**Summit**	**60.60**	**4**	*e*P	**P**	**11 58 00.7**	**-0.1**
	comp=Z,23nm,0.8s,mb5.3						
JOF	**Joensuu**	**61.16**	**334**	*e*p	**P**	**11 58 02.5**	**-2.1**
	comp=Z,1.1nm,0.4s,mb4.3						
JOF	**Joensuu**	**61.16**	**334**	*e*P	**P**	**11 58 02.5**	**-2.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
NVAR	**Mina Array Bea**	**62.54**	**62**	P	**P**	**11 58 14.9**	**+1.0**
	comp=Z,0.8nm,0.5s,mb4.1,baz=301,slow=5.9,SNR=6.2						
KAF	**Kangasniemi**	**63.27**	**335**	*e*p	**P**	**11 58 17.5**	**-1.2**
	comp=Z,1.4nm,0.3s,mb4.6,baz=38,slow=6.2						
KAF	**Kangasniemi**	**63.27**	**335**	*e*P	**P**	**11 58 17.5**	**-1.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
RRI2	**Red Ridge**	**63.47**	**54**	*e*P	**P**	**11 58 21.5**	**+1.5**
	comp=Z,6.0nm,0.7s,mb4.8						
TPAW	**Teton Pass**	**63.58**	**54**	*e*P	**P**	**11 58 22.5**	**+1.7**
	comp=Z,6.5nm,1.2s,mb4.5						
FIA1	**FINESS Array S**	**63.86**	**335**	*e*P	**P**	**11 58 21.5**	**-1.2**
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**11 58 21.8**	**-0.8**
	comp=Z,5.8nm,0.4s,mb5.0,baz=40,slow=6.9,SNR=68						
FINES	**FINESS Array B**	**63.86**	**335**	*i* P	**P**	**11 58 21.7**	**-0.9**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.4s						
PDAR	**Pinedale Array**	**64.83**	**54**	P	**P**	**11 58 29.7**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=320,slow=1.9,SNR=23						
OBN	**Obninsk**	**65.12**	**325**	*e*P	**P**	**11 58 27.2**	**-3.6**
OBN				*e*		12 00 53.5	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ULM	**Lac du Bonnet**	**66.56**	**41**	P	**P**	**11 58 39.5**	**-0.5**
	comp=Z,2.5nm,1.1s,mb4.2,baz=353,slow=6.8,SNR=4.9						
SRU	**San Rafael**	**66.71**	**57**	*e*P	**P**	**11 58 40.7**	**-0.3**
NB2	**NORSAR Subarra**	**68.06**	**341**	P	**P**	**11 58 48.3**	**-1.3**
	comp=Z,9.1nm,0.7s,mb4.9,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**11 58 49.1**	**-0.5**
	comp=Z,7.6nm,0.6s,mb4.9,baz=27,slow=6.3,SNR=28						
WRA	**Warramunga Arr**	**68.56**	**199**	P	**P**	**11 58 52.1**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=12,slow=6.5,SNR=12						
FITZ	**Fitzroy Crossi**	**69.16**	**208**	P	**P**	**11 58 56.0**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=19,slow=6.3,SNR=5.7						
ECSD	**EROS,Sioux Fal**	**70.94**	**46**	*e*P	**P**	**11 59 06.0**	**-1.3**
AKASG	**Malin Array Be**	**71.36**	**326**	P	**P**	**11 59 09.0**	**-0.9**
	comp=Z,9.4nm,0.3s,mb5.2,baz=34,slow=6.1,SNR=43						
AKBB	**Malin Array Si**	**71.36**	**326**	*e*P	**P**	**11 59 08.7**	**-1.2**
AS31	**Alice Springs**	**72.25**	**198**	*e*P	**P**	**11 59 16.1**	**+0.8**
ASAR	**Alice Springs**	**72.26**	**198**	P	**P**	**11 59 16.1**	**+0.9**
	comp=Z,2.0nm,0.9s,mb4.1,baz=12,slow=6.1,SNR=32						
SCHQ	**Schefferville**	**73.28**	**23**	P	**P**	**11 59 20.7**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=262,slow=14,SNR=4.2						
SCHQ	**Schefferville**	**73.28**	**23**	P	**P**	**11 59 20.7**	**-0.6**
STHS	**Stebnicka Huta**	**75.33**	**330**	*e*P	**P**	**11 59 32.8**	**-0.4**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
STHS	**Stebnicka Huta**	**75.33**	**330**	*e*P	**P**	**11 59 32.8**	**-0.4**
	comp=Z,5.1nm,0.8s,mb4.5						
KOLS	**Kolonicke sedl**	**75.38**	**329**	*e*P	**P**	**11 59 33.1**	**-0.4**
BURAR	**Bucovina Array**	**75.40**	**326**	⇓*i*P	**P**	**11 59 34.0**	**+0.4**
BURAR	**Bucovina Array**	**75.40**	**326**	⇓P	**P**	**11 59 34.0**	**+0.3**
VRI	**Vrincioaia**	**76.25**	**324**	⇑*i*P	**P**	**11 59 41.0**	**+2.5**
VRI	**Vrincioaia**	**76.25**	**324**	⇑P	**P**	**11 59 41.0**	**+2.5**
MORC	**Moravsky Berou**	**76.26**	**332**	⇑*i*P	**P**	**11 59 38.6**	**+0.1**
MORC	**Moravsky Berou**	**76.26**	**332**	⇑P	**P**	**11 59 38.6**	**+0.1**
CLL	**Collm**	**76.29**	**335**	*i* P	**P**	**11 59 35.4**	**-3.3**
	comp=Z,5.0nm,0.8s,mb4.5						
CLL				⇑*i*P(2)		11 59 37.9	
	comp=Z,12nm,1.1s						
PLOR	**Plostina**	**76.29**	**325**	⇑*i*P	**P**	**11 59 40.6**	**+1.9**
KECS	**Kecovo**	**76.39**	**330**	*e*P	**P**	**11 59 37.8**	**-1.5**
KECS				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
KECS	**Kecovo**	**76.39**	**330**	*e*P	**P**	**11 59 37.8**	**-1.5**
	comp=Z,3.2nm,1.2s,mb4.1						
MLR	**Muntele Rosu**	**76.87**	**325**	⇑*i*P	**P**	**11 59 42.3**	**+0.3**
MLR	**Muntele Rosu**	**76.87**	**325**	⇑P	**P**	**11 59 42.3**	**+0.3**
VYHS	**Vyhne**	**76.94**	**331**	*e*P	**P**	**11 59 41.8**	**-0.6**
MALT	**Malatya**	**76.95**	**313**	⇑*i*P	**P**	**11 59 44.3**	**+1.9**
VOIR		**77.27**	**325**	⇓*i*P	**P**	**11 59 43.8**	**-0.4**
VOIR		**77.27**	**325**	⇓P	**P**	**11 59 43.8**	**-0.4**
KHC	**Kasperske Hory**	**78.06**	**334**	⇓*e*P	**P**	**11 59 49.0**	**+0.4**
BR131	**Keskin Array S**	**78.19**	**317**	*e*P	**P**	**11 59 49.4**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0						
BRTR	**Keskin Array B**	**78.19**	**317**	P	**P**	**11 59 50.0**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=60,slow=4.9,SNR=10						
BRTR	**Keskin Array B**	**78.19**	**317**	*i* P	**P**	**11 59 50.0**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**78.28**	**334**	P	**P**	**11 59 49.0**	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.1,baz=30,slow=5.0,SNR=6.4						
PKSM	**Moragy**	**78.98**	**330**	⇑*i*P	**P**	**11 59 53.2**	**-0.5**
PKSM	**Moragy**	**78.98**	**330**	⇑P	**P**	**11 59 53.1**	**-0.6**
CDF	**Champ du Feu**	**80.49**	**338**	*e*P	**P**	**12 00 01.7**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.3						
CDF	**Champ du Feu**	**80.49**	**338**	*e*P	**P**	**12 00 01.7**	**-0.2**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CDF	**Champ du Feu**	**80.49**	**338**	*e*P	**P**	**12 00 01.7**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.3						
LOR	**Lormes**	**82.41**	**339**	*e*P	**P**	**12 00 11.6**	**-0.4**
CABF	**La Chapelle**	**82.46**	**338**	*e*P	**P**	**12 00 12.0**	**-0.3**
AVF	**Avril sur Loir**	**82.98**	**339**	*e*P	**P**	**12 00 14.7**	**-0.3**
SMF	**Signal de Mont**	**83.00**	**339**	*e*P	**P**	**12 00 14.9**	**-0.2**
LPG	**La Plagne**	**83.31**	**337**	*e*P	**P**	**12 00 17.5**	**+0.8**
	comp=Z,8.8nm,0.7s,mb4.6						
LPG	**La Plagne**	**83.31**	**337**	*e*P	**P**	**12 00 17.5**	**+0.8**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
LPG	**La Plagne**	**83.31**	**337**	*e*P	**P**	**12 00 17.5**	**+0.8**
	comp=Z,4.4nm,0.7s,mb4.6						
ORIF	**Oris-en-Rattie**	**84.08**	**337**	*e*P	**P**	**12 00 21.1**	**+0.5**
	comp=Z,9.1nm,0.6s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.08**	**337**	*e*P	**P**	**12 00 21.1**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.08**	**337**	*e*P	**P**	**12 00 21.1**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.8						
BDFB	**Brasilia**	**144.36**	**36**	PKP	PKPdf	12 07 23.1	-2.6
	comp=Z,3.2nm,0.6s,baz=188,slow=6.3,SNR=4.4						
PLCA	**Paso Flores**	**148.40**	**95**	PKPbc	PKPbc	12 07 36.0	-0.1
	comp=Z,2.0nm,0.9s,baz=269,slow=4.4,SNR=3.3						
CPUP	**Villa Florida**	**148.57**	**60**	PKPbc	PKPbc	12 07 36.0	-0.4
	comp=Z,1.1nm,0.4s,baz=320,slow=2.9,SNR=6.2						
SNAA	**Sanae**	**152.61**	**196**	*e*PKPdf	PKPbc	12 07 43.8	-2.3
SNAA				*e*		12 07 55.0	
VNA3	**Neumayer Olymp**	**154.16**	**193**	*e*PKPdf	PKPbc	12 07 47.5	-2.0
VNA3				*e*		12 08 01.6	
VNA3				*e*		12 08 17.9	
VNA1	**Neumayer--Stat**	**154.45**	**194**	*e*PKPdf	PKPbc	12 07 47.2	-2.9
VNA1				*e*		12 08 01.6	
VNA1				*e*		12 08 13.3	

*IDC **15** 11:55:58.2±2.4, 5.80S×150.40E, h0km, mb4.1/4, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, ML3.2/2, Error ellipse: s-maj=59.2km s-min=34.5km az=113.0*
*ISCJB **15** 11:56:01.4±6.4, 5.9S±0.2×150.4E±0.2, h31km±49km, mb3.9/3, Error ellipse: s-maj=49.4km s-min=22.9km az=86.2*
*NEIC **15** 11:56:03.0±1.6, 5.85S×150.51E, h35km, mb4.2/3, Error ellipse: s-maj=31.8km s-min=20.7km az=103.0*
ISC 15 11:56:03.4±4.6, **5.9S**±0.3×**150.5E**±0.2, **h35**km±31km, **n14, σ0.62**/13, **mb4.0**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.83**	**223**	Pn	**Pn**	**11 57 12.6**	**-0.9**
	5.5nm,0.3s,baz=50,slow=3.7,SNR=20						
PMG				Sn	**Sn**	**11 58 08.1**	**-0.1**
	5.0nm,0.3s,baz=88,slow=17,SNR=5.5						
CTA	**Charters Tower**	**14.74**	**196**	Pn	**Pn**	**11 59 30.1**	**+0.9**
	0.1nm,0.3s,baz=16,slow=7.4,SNR=2.4						
WRAB	**Tennant Creek**	**21.02**	**227**	*e*P	**P**	**12 00 44.1**	**+0.2**
	13nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**21.03**	**227**	*e*P	**P**	**12 00 44.4**	**+0.4**
WRA	**Warramunga Arr**	**21.04**	**227**	P	**P**	**12 00 44.4**	**+0.3**
	6.7nm,0.5s,mb4.2,baz=50,slow=10,SNR=50						
AS31	**Alice Springs**	**23.84**	**220**	*e*P	**P**	**12 01 13.3**	**+0.1**
ASAR	**Alice Springs**	**23.84**	**220**	P	**P**	**12 01 13.6**	**+0.3**
	1.1nm,0.3s,mb3.8,baz=53,slow=9.2,SNR=70						
ASPA	**Alice Springs**	**23.84**	**220**	*e*P	**P**	**12 01 13.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.14**	**241**	*e*P	**P**	**12 01 43.5**	**+0.4**
	2.5nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.14**	**241**	P	**P**	**12 01 42.7**	**-0.4**
	1.8nm,0.5s,mb3.8,baz=13,slow=4.3,SNR=13						
STKA	**Stephens Creek**	**27.20**	**197**	*e*P	**P**	**12 01 42.3**	**-1.3**
	2.7nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**27.20**	**197**	P	**P**	**12 01 42.1**	**-1.5**
	2.8nm,0.7s,mb3.9,baz=13,slow=12,SNR=6.5						
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKPbc	PKPbc	12 15 47.4	+1.4
	0.3nm,0.4s,baz=94,slow=2.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKPbc	PKPbc	12 15 47.4	+1.4

*NEIC **15** 12:09:40.3±2.3, 5.73S×150.49E, h35km, mb4.0/2, Error ellipse: s-maj=94.3km s-min=24.3km az=121.0*
IDC 15 12:09:45.6±8.9, **5.61S**×**149.83E, h52**km±69km, **mb3.3**/3, **mb1 3.6**/4, **mb1mx3.3**/14, **mbtmp3.6**/4, **ML2.3**/1, **Error ellipse: s-maj=104.8km s-min=55.8km az=124.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.61**	**215**	P	Pn	12 10 53.1	+0.4
	1.1nm,0.3s,baz=132,slow=7.2,SNR=3.8						
PMG				S	Sn	12 11 45.8	+0.9
	2.4nm,0.3s,baz=93,slow=20,SNR=5.5						
WRAB	**Tennant Creek**	**20.72**	**225**	P	P	12 14 21.1	-0.4
	6.7nm,0.9s						
WB2	**Warramunga Arr**	**20.73**	**225**	*e*P	P	12 14 21.9	+0.3
WRA	**Warramunga Arr**	**20.74**	**225**	P	P	12 14 21.9	+0.2
	1.3nm,0.7s,baz=50,slow=10,SNR=11						
AS31	**Alice Springs**	**23.61**	**219**	*e*P	P	12 14 51.5	-0.2
ASAR	**Alice Springs**	**23.61**	**219**	P	P	12 14 51.2	-0.5
	0.4nm,0.4s,baz=53,slow=9.1,SNR=19						
ASPA	**Alice Springs**	**23.61**	**219**	*e*P	P	12 14 51.5	-0.3
FITZ	**Fitzroy Crossi**	**26.69**	**240**	*e*P	P	12 15 21.2	+1.5
	1.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**26.69**	**240**	P	P	12 15 20.9	+1.3
	1.1nm,0.5s,baz=96,slow=22,SNR=7.0						
TORD	**Torodi Ar. Bea**	**147.71**	**286**	PKPbc	PKPbc	12 29 24.8	+0.5
	0.6nm,0.6s,baz=72,slow=2.5,SNR=4.0						

*IDC **15** 12:15:13.6±0.9, 5.03N×94.45E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.0/23, mbtmp4.1/11, MS2.9/1, Ms1 2.9/1, ms1mx2.3/27, Error ellipse: s-maj=50.2km s-min=14.7km az=53.0*
*BJI **15** 12:15:16.0, 4.80N×94.30E, h44km, mb4.4*
*NEIC **15** 12:15:19.1±3.3, 4.83N×94.25E, h44km±27km, mb4.4/4, Error ellipse: s-maj=38.8km s-min=9.2km az=57.0*
*ISCJB **15** 12:15:20.3±2.5, 5.0N±0.1×94.5E±0.2, h66km±21km, mb4.3/23, Error ellipse: s-maj=30.4km s-min=8.7km az=109.8*
ISC 15 12:15:21.9±2.3, **5.1N**±0.1×**94.5E**±0.2, **h60**km±19km, **n34, σ0.72**/36, **mb4.4**/23, **1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.93**	**117**	Pn	**Pn**	**12 16 33.0**	**-0.4**
	4.8nm,0.3s,baz=301,slow=13,SNR=24						
PSI				Sn	**Sn**	**12 17 35.2**	**+6.0**
	2.8nm,0.3s,baz=46,slow=13,SNR=4.4						
PSI				LR	LR	12 18 39.3	
	comp=Z,131nm,21.6s,baz=23,slow=41						
PSI	**Prapat**	**4.93**	**117**	Pn	**Pn**	**12 16 33.0**	**-0.4**
PSI				Sn	**Sn**	**12 17 35.2**	**+6.0**
PSI				LR	LR	12 18 39.3	
KULM	**Kulim**	**6.10**	**88**	*e*P	**Pn**	**12 16 49.3**	**-0.1**
CHTO	**Chiang Mai**	**14.31**	**17**	*e*P	**Pn**	**12 18 46.0**	**+4.7**
	15nm,1.0s						
JIRN	**Jiri**	**23.82**	**341**	*e*P	**P**	**12 20 29.9**	**+0.7**
	20nm,0.8s,mb4.6						
DMN	**Daman**	**24.14**	**339**	*e*P	**P**	**12 20 33.2**	**+1.1**
	12nm,0.6s,mb4.5						
GUN	**Gumba**	**24.15**	**341**	*e*P	**P**	**12 20 32.9**	**+0.6**
	19nm,0.6s,mb4.7						
GYA	**Guiyang**	**24.22**	**27**	P	**P**	**12 20 33.8**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
KKN	**Kakani**	**24.24**	**340**	*e*P	**P**	**12 20 34.1**	**+1.0**
GKN	**Gorkha**	**24.66**	**339**	*e*P	**P**	**12 20 37.1**	**+0.2**
	comp=Z,25nm,0.7s,mb4.9						
KOLN	**Koldanda**	**24.85**	**336**	*e*P	**P**	**12 20 38.8**	**+0.2**
	comp=Z,27nm,0.9s,mb4.8						
XAN	**Xi'an**	**31.76**	**23**	P	**P**	**12 21 39.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
GTA	**Gaotai**	**34.51**	**7**	*e*P	**P**	**12 22 03.8**	**-0.4**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.37**	**128**	*e*P	**P**	**12 22 36.9**	**-0.2**
	comp=Z,9.2nm,1.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.37**	**128**	P	**P**	**12 22 36.4**	**-0.7**
	comp=Z,2.0nm,0.7s,mb3.9,baz=194,slow=2.6,SNR=7.9						
FITZ				PcP	PcP	12 24 50.1	+0.5
	comp=Z,1.2nm,0.9s,baz=270,slow=4.0,SNR=4.7						
MKAR	**Makanchi Array**	**42.88**	**348**	P	**P**	**12 23 14.6**	**+0.3**
	comp=Z,5.9nm,0.7s,mb4.4,baz=165,slow=8.2,SNR=33						
SONM	**Songino Array**	**43.80**	**12**	P	**P**	**12 23 21.1**	**-0.6**
	comp=Z,2.6nm,0.8s,mb4.0,baz=190,slow=7.9,SNR=22						
SONM				PcP	PcP	12 25 08.0	+0.7
	comp=Z,1.5nm,0.6s,baz=198,slow=3.5,SNR=7.7						
WRA	**Warramunga Arr**	**46.36**	**124**	P	**P**	**12 23 42.5**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.7,baz=300,slow=9.6,SNR=55						
WRAB	**Tennant Creek**	**46.37**	**124**	*e*P	**P**	**12 23 42.4**	**+0.4**
	comp=Z,12nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**46.37**	**124**	⇑*i*P	**P**	**12 23 42.5**	**+0.4**
ASPA	**Alice Springs**	**47.86**	**128**	*e*P	**P**	**12 23 53.9**	**+0.2**
AS31	**Alice Springs**	**47.86**	**128**	*e*P	**P**	**12 23 53.9**	**+0.2**
ASAR	**Alice Springs**	**47.86**	**128**	P	**P**	**12 23 54.0**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.2,baz=299,slow=7.9,SNR=32						
ASAR				PcP	PcP	12 25 22.6	+1.1
	comp=Z,1.1nm,1.0s,baz=312,slow=4.0,SNR=4.4						
ZAL	**Zalesovo**	**49.35**	**352**	P	**P**	**12 24 04.5**	**-0.7**
	comp=Z,2.2nm,0.3s,mb4.7,baz=289,slow=4.2,SNR=8.8						
BVAR	**Borovoye Array**	**51.74**	**342**	P	**P**	**12 24 23.0**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=134,slow=8.5,SNR=6.6						
ZRNK	**Zerenda**	**52.13**	**341**	*e*P	**P**	**12 24 25.4**	**-0.6**
	comp=Z,4.3nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**52.23**	**342**	*e*P	**P**	**12 24 26.7**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.4						
AKTK	**Aktyubinsk**	**54.58**	**332**	P	**P**	**12 24 43.8**	**-0.2**
AKTO	**Aktyubinsk**	**54.58**	**332**	P	**P**	**12 24 43.8**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.3,baz=56,slow=1.6,SNR=6.9						
STKA	**Stephens Creek**	**57.92**	**133**	*e*P	**P**	**12 25 07.7**	**-0.1**
BRTR	**Keskin Array B**	**64.55**	**312**	P	**P**	**12 25 52.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=116,slow=5.6,SNR=4.6						
AKASG	**Malin Array Be**	**70.58**	**322**	P	**P**	**12 26 29.4**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=92,slow=3.7,SNR=5.5						
FINES	**FINESS Array B**	**75.35**	**332**	P	**P**	**12 27 00.0**	**+1.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=182,slow=30,SNR=4.9						
GERES	**GERESS Array B**	**80.16**	**319**	P	**P**	**12 27 22.5**	**-3.0**

comp=Z,3.0nm,0.7s,mb4.3,baz=104,slow=5.6,SNR=6.8

---

*NEIC **15** 12:53:52.9±1.7, 5.47S×150.15E, h35^{km}, mb4.0/2, Error ellipse: s-maj=45.1km s-min=23.6km az=116.0*
*ISCJB **15** 12:53:58.0±5.2, 5.8S±0.3×149.9E±0.3, h64^{km}±34^{km}, mb3.5/3, Error ellipse: s-maj=64.7km s-min=40.6km az=72.6*
*IDC **15** 12:53:57.4±8.8, 5.71S×149.93E, h53^{km}±64^{km}, mb3.4/4, mb1 3.7/5, mb1mx3.4/14, mbtmp3.7/5, ML2.6/1, MS4.1/1, Ms1 4.0/1, ms1mx3.0/13, Error ellipse: s-maj=61.0km s-min=51.9km az=83.0*
ISC 15 12:53:59.5±5.2**, 5.9S**±0.3×**150.0E**±0.4**, h64**^{km}±33^{km}**, n11,** σ**0^{s}38**/11**, mb3.5**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.49	218	P	Pn	12 55 04.9	0.0
	2.1nm,0.3s,baz=51,slow=1.1,SNR=7.8						
PMG				S	Sn	12 55 56.0	+0.1
	1.2nm,0.3s,baz=105,slow=11,SNR=3.2						
WRAB	Tennant Creek	20.64	226	eP	P	12 58 33.2	-0.5
	4.4nm,0.6s						
WB2	Warramunga Arr	20.65	226	eP	P	12 58 33.9	+0.1
WB2				e		12 58 37.2	
WRA	Warramunga Arr	20.66	226	P	P	12 58 33.8	-0.1
	2.2nm,0.5s,baz=50,slow=10,SNR=23						
AS31	Alice Springs	23.50	219	eP	P	12 59 03.3	-0.3
ASAR	Alice Springs	23.50	219	P	P	12 59 03.2	-0.4
	0.6nm,0.5s,mb3.3,baz=53,slow=9.1,SNR=43						
ASPA	Alice Springs	23.51	219	eP	P	12 59 03.3	-0.3
FITZ	Fitzroy Crossi	26.67	241	eP	P	12 59 33.2	+0.9
	2.8nm,0.9s,mb3.8						
FITZ	Fitzroy Crossi	26.67	241	P	P	12 59 33.0	+0.6
	0.7nm,0.5s,mb3.4,baz=60,slow=9.8,SNR=10.0						
STKA	Stephens Creek	27.05	196	P	P	12 59 36.3	+0.5
	1.1nm,0.8s,mb3.4,baz=15,slow=16,SNR=2.0						
STKA				LR	LR	13 10 11.9	
	comp=Z,389nm,21.1s,baz=305,slow=36						
TORD	Torodi Ar. Bea	147.89	285	PKPbc	PKPbc	13 13 36.0	-1.3
	0.3nm,0.5s,baz=102,slow=2.7,SNR=6.3						

---

*NEIC **15** 13:35:58.7, 42.22N×8.31W, h11^{km}, MN2.5(MDD), After MDD.*
*CSEM **15** 13:35:59.0±0.1, 42.21N×8.40W, h23^{km}±1^{km}, ML3.0/3, Error ellipse: s-maj=2.6km s-min=1.8km az=88.0*
*INMG **15** 13:35:59.0±0.9, 42.24N×8.34W, h19^{km}±3^{km}, ML2.3, Error ellipse: s-maj=2.6km s-min=1.9km az=80.0*
MDD 15 13:35:58.9±0.4**, 42.23N**×**8.31W, h11**^{km}**, mbLg2.4**/12**, 1C, Error ellipse: s-maj=3.9km s-min=3.4km az=24.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EZAM	Zamans	0.30	255	⇑Pg	Pg	13 36 04.7	-0.2
	49nm,0.1s,SNR=18						
EZAM	Zamans	0.30	255	Pg	Pg	13 36 04.6	-0.3
EZAM	Zamans	0.30	255	Pg	Pg	13 36 04.6	-0.3
	SNR=7.9						
PCAB	Cabril	0.56	158	ePg	Pg	13 36 10.0	+0.3
PCAB				eSg	Sg	13 36 17.9	+0.9
PCAB							
	162nm,0.2s						
PCAB	Cabril	0.56	158	ePg	Pg	13 36 10.0	+0.3
PCAB				eSg	Sg	13 36 17.9	+0.9
	162nm,0.2s						
EMAZ	Mazaricos	0.88	326	Pg	Pg	13 36 14.7	-1.0
	6.0nm,0.1s,SNR=7.9						
EMAZ				Lg		13 36 26.0	
	42nm,0.1s,SNR=7.9						
EMAZ	Mazaricos	0.88	326	Pg	Pg	13 36 14.7	-1.0
	6.0nm,0.1s,SNR=7.9						
EMAZ				Lg		13 36 26.0	
	42nm,0.1s,SNR=7.9						
PVRL	Vila Real	1.05	155	eP	Pb	13 36 17.5	-1.5
PVRL				eS	Sg	13 36 32.1	-0.6
PVRL							
	57nm,0.2s						
PVRL	Vila Real	1.05	155	eP	Pb	13 36 17.5	-1.5
PVRL				eS	Sg	13 36 32.1	-0.6
	57nm,0.2s						
PTO	Porto	1.11	192	eP	Pb	13 36 18.7	-1.3
PTO				eS	Sb	13 36 32.9	-1.6
PTO							
	51nm,0.1s						
PTO	Porto	1.11	192	eP	Pb	13 36 18.7	-1.3
PTO				eS	Sb	13 36 32.9	-1.6
	51nm,0.1s						
ECAL	Calabor	1.20	103	Pg	Pg	13 36 19.8	-2.2
	7.3nm,0.2s,SNR=7.9						
ECAL				Lg		13 36 37.2	
	91nm,0.2s,SNR=7.9						
ECAL	Calabor	1.20	103	Pg	Pg	13 36 19.8	-2.2
	7.3nm,0.2s,SNR=7.9						
ECAL				Lg		13 36 37.2	
	91nm,0.2s,SNR=7.9						
PBRG	Braganca	1.24	109	eSg	Sg	13 36 38.9	+0.1
PBRG							
	34nm,0.2s						
PBRG	Braganca	1.24	109	eSg	Sg	13 36 38.9	+0.1
	34nm,0.2s						
EPON	Pontenova	1.39	37	Pg	Pg	13 36 24.4	-1.2
	1.5nm,0.1s,SNR=7.9						
EPON				Lg		13 36 43.0	
	31nm,0.1s,SNR=7.9						
EPON	Pontenova	1.39	37	Pg	Pg	13 36 21.7	-3.9
EPON				Lg		13 36 34.4	
EPON	Pontenova	1.39	37	Pg	Pg	13 36 24.4	-1.2
	1.5nm,0.1s,SNR=7.9						
EPON				Lg		13 36 43.0	
	31nm,0.1s,SNR=7.9						
PVIS	Viseu	1.54	168	eSg	Sg	13 36 47.2	-1.2
MTE	Manteigas	1.91	162	ePg	Pg	13 36 33.2	-2.4
MTE				eSg	Sg	13 36 58.6	-1.8
MTE							
	13nm,0.3s						
PCBR	Castelo Branco	2.46	165	eSn	Sn	13 37 05.4	-3.6
PCBR				eSg	Sg	13 37 15.8	-2.3
EARI	Arriondas	2.52	64	Pn	Pn	13 36 38.6	-1.1
	2.8nm,0.1s,SNR=7.9						
EARI				Sn	Sn	13 37 08.8	-1.6
	1.8nm,0.1s,SNR=7.9						
EARI				Lg		13 37 18.6	
	2.8nm,0.1s,SNR=7.9						
EARI	Arriondas	2.52	64	Pn	Pn	13 36 38.6	-1.1
	2.8nm,0.1s,SNR=7.9						
EARI				Sn	Sn	13 37 08.8	-1.6
	1.8nm,0.1s,SNR=7.9						
EARI				Lg		13 37 18.6	
	2.8nm,0.1s,SNR=7.9						
PTOM	Tomar	2.61	182	eSg	Sg	13 37 22.2	-0.4
EPLA	Plasencia	2.74	141	Pn	Pn	13 36 41.2	-1.5
	1.0nm,0.1s,SNR=7.9						
EPLA				Sn	Sn	13 37 11.6	-4.2
	1.5nm,0.2s,SNR=7.9						
EPLA				Lg		13 37 25.5	
	3.8nm,0.2s,SNR=7.9						
GUD	Guadarrama	3.50	115	Pn	Pn	13 36 51.3	-1.9
	2.9nm,0.2s,SNR=7.9						
GUD				Sn	Sn	13 37 32.5	-2.1
	1.7nm,0.2s,SNR=7.9						
GUD				Lg		13 37 49.4	
	2.4nm,0.2s,SNR=7.9						
ELAN	Lanestosa	3.73	73	Pn	Pn	13 36 55.7	-0.7
	0.5nm,0.3s,SNR=7.9						
ELAN				Pg	Pg	13 37 04.5	-5.8
	0.9nm,0.2s,SNR=7.9						
ELAN				Sn	Sn	13 37 38.6	-1.6
	0.9nm,0.3s,SNR=7.9						
ELAN				Lg		13 37 55.7	
	1.5nm,0.2s,SNR=7.9						
ELAN	Lanestosa	3.73	73	Pn	Pn	13 36 55.7	-0.6
	SNR=7.9						
ELAN	Lanestosa	3.73	73	Pg	Pg	13 37 04.5	-5.8
	SNR=7.9						
ELAN				Sn	Sn	13 37 38.6	-1.6
	SNR=7.9						
ELAN				Lg		13 37 55.7	
	1.5nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.16	126	Pn	Pn	13 37 01.0	-1.3
	0.9nm,0.1s,baz=313,slow=12,SNR=7.9						
ESDC				Lg		13 38 10.8	
	1.4nm,0.3s,baz=310,slow=29,SNR=7.9						
ESDC	Sonseca Array	4.16	126	Pn	Pn	13 37 01.0	-1.3
	0.9nm,0.1s,SNR=7.9						
ESDC				Lg		13 38 10.8	
	1.4nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.63	164	Sn	Sn	13 37 56.1	-6.3
	0.2nm,0.1s,SNR=7.9						
EMIN				Lg		13 38 24.8	
	0.5nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.63	164	Sn	Sn	13 37 56.1	-6.3
	SNR=7.9						
EMIN				Lg		13 38 24.8	
	SNR=7.9						
EADA	Adamuz	4.96	144	Sn	Sn	13 38 04.6	-6.0
	0.6nm,0.1s,SNR=7.9						
EADA				Lg		13 38 35.0	
	0.6nm,0.2s,SNR=7.9						

---

*NEIC **15** 13:45:47.0±2.4, 5.80S×150.60E, h35^{km}, mb4.1/2, Error ellipse: s-maj=44.6km s-min=15.6km az=184.0*
*ISCJB **15** 13:45:48.7±4.7, 6.1S±0.3×150.5E±0.1, h49^{km}±32^{km}, mb3.8/4, MS2.6/1, Error ellipse: s-maj=47.3km s-min=22.5km az=167.7*
*IDC **15** 13:45:48.6±7.6, 5.92S×150.51E, h42^{km}±56^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.6/15, mbtmp4.0/6, ML2.9/1, MS2.9/2, Ms1 2.9/2, ms1mx2.7/21, Error ellipse: s-maj=64.7km s-min=27.6km az=179.0*
ISC 15 13:45:50.7±4.6**, 6.1S**±0.3×**150.6E**±0.1**, h50**^{km}±31^{km}**, n16,** σ**0^{s}62**/15**, mb3.8**/4**, MS2.6**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.72	225	P	Pn	13 46 59.6	+0.2
	3.7nm,0.3s,baz=32,slow=7.6,SNR=15						
PMG				S	Sn	13 47 52.5	-0.2
	2.1nm,0.3s,baz=17,slow=10,SNR=4.8						
CTA	Charters Tower	14.54	196	LR	LR	13 54 38.1	
	comp=Z,54nm,18.6s,baz=212,slow=36						
GUMO	Guam	20.34	344	LR	LR	13 55 42.9	
	comp=Z,25nm,20.1s,MS2.6,baz=262,slow=30						
WRAB	Tennant Creek	20.92	227	eP	P	13 50 28.6	-0.5
	9.8nm,0.9s						
WB2	Warramunga Arr	20.93	227	eP	P	13 50 29.3	+0.2
WRA	Warramunga Arr	20.93	227	P	P	13 50 28.9	-0.3
	4.6nm,0.8s,baz=50,slow=10,SNR=39						
DZM	Mont Dzumac	22.11	138	P	P	13 50 41.7	-0.1
	9.7nm,1.0s,mb4.2,baz=348,slow=20,SNR=6.1						
AS31	Alice Springs	23.71	221	eP	P	13 50 59.3	+1.2
ASAR	Alice Springs	23.72	221	P	P	13 50 58.4	+0.2
	1.1nm,0.6s,mb3.5,baz=57,slow=8.9,SNR=16						
ASPA	Alice Springs	23.72	221	eP	P	13 50 59.3	+1.1
STKA	Stephens Creek	27.00	197	P	P	13 51 27.2	-0.8
	2.6nm,0.8s,mb3.8,baz=41,slow=12,SNR=4.6						
STKA	Stephens Creek	27.00	197	P	P	13 51 27.2	-0.8
FITZ	Fitzroy Crossi	27.09	242	eP	P	13 51 28.6	-0.1
	3.2nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	27.09	242	P	P	13 51 28.0	-0.7
	1.2nm,0.8s,mb3.5,baz=112,slow=16,SNR=6.4						
MBWA	Marble Bar	33.40	240	eP	P	13 52 23.8	-0.6
DSZ	Denniston Nort	40.24	155	eP	P	13 53 18.1	-4.5

IDC 15 13:49:05.2±8.8**, 5.75S**×**149.84E, h52**^{km}±68^{km}**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.4**/14**, mbtmp3.8**/4**, ML2.4**/1**, Error ellipse: s-maj=101.2km s-min=54.7km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.50	216	P	Pn	13 50 11.2	+0.5
	1.5nm,0.3s,baz=278,slow=23,SNR=10						
PMG				S	Sn	13 51 02.5	+0.7
	3.1nm,0.3s,baz=86,slow=21,SNR=4.2						
WB2	Warramunga Arr	20.63	225	eP	P	13 53 40.9	+0.7
WRA	Warramunga Arr	20.64	226	P	P	13 53 40.7	+0.4
	2.0nm,0.5s,baz=50,slow=10,SNR=15						
ASAR	Alice Springs	23.51	219	P	P	13 54 10.2	-0.3
	0.7nm,0.4s,baz=53,slow=9.2,SNR=17						
ASPA	Alice Springs	23.51	219	eP	P	13 54 10.2	-0.2
FITZ	Fitzroy Crossi	26.63	240	eP	P	13 54 40.1	+1.4
	2.4nm,0.6s						
FITZ	Fitzroy Crossi	26.63	240	P	P	13 54 39.7	+1.0
	1.1nm,0.5s,baz=36,slow=11,SNR=9.0						
TORD	Torodi Ar. Bea	147.76	285	PKPbc	PKPbc	14 08 44.4	+0.3
	0.3nm,0.3s,baz=98,slow=2.7,SNR=11						

---

*ISCJB **15** 13:50:32.1±1.0, 31.4S±0.1×179.9W±0.4, h380^{km}±24^{km}, mb3.3/4, Error ellipse: s-maj=60.3km s-min=7.5km az=32.0*
*IDC **15** 13:50:32.7±0.9, 31.31S×179.81W, h366^{km}±12^{km}, mb2.9/3, mb1 3.3/5, mb1mx3.1/13, mbtmp4.0/5, Error ellipse: s-maj=36.2km s-min=15.0km az=122.0*
*NEIC **15** 13:50:33.2±0.9, 31.40S×179.75W, h384^{km}±12^{km}, mb4.1/1, Error ellipse: s-maj=31.0km s-min=11.7km az=105.0*
ISC 15 13:50:33.4±1.2**, 31.6S**±0.1×**179.5W**±0.4**, h405**^{km}±18^{km}**, n42,** σ**1^{s}33**/50**, mb3.4**/4**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.70	31	P	Pn	13 51 32.0	-2.6
	46nm,0.3s,baz=61,slow=21,SNR=3.1						
RAO				S	S	13 52 16.5	-7.7
	38nm,0.3s,baz=104,slow=22,SNR=2.5						
MXZ	Matakaoa Point	6.23	196	eP	Pn	13 52 11.4	+2.8
MXZ	Matakaoa Point	6.23	196	ePN	Pn	13 52 09.7	+1.1
MXZ				SN	S	13 53 24.5	-1.8
PUZ	Puketiti	6.73	195	eP	Pn	13 52 15.9	+1.8
PUZ				S	S	13 53 38.2	+1.8
PUZ	Puketiti	6.73	195	PN	Pn	13 52 14.8	+0.7
PUZ				SN	S	13 53 38.2	+1.8
MWZ	Matawai	7.16	199	eP	Pn	13 52 19.2	+0.3
MWZ	Matawai	7.16	199	PN	Pn	13 52 19.2	+0.3
MWZ				SN	S	13 53 45.3	+0.1
URZ	Urewera	7.21	202	P	Pn	13 52 18.9	-0.6
	8.8nm,0.3s,baz=302,slow=2.6,SNR=70						
URZ				S	S	13 53 47.7	+1.4
	11nm,0.3s,baz=85,slow=23,SNR=16						
URZ	Urewera	7.21	202	eP	Pn	13 52 18.5	-1.0
URZ	Urewera	7.21	202	PN	Pn	13 52 20.5	+1.0
URZ				SN	S	13 53 43.9	-2.4
KNZ	Kokohu	7.77	196	P	Pn	13 52 28.0	+2.3
KNZ	Kokohu	7.77	196	PN	Pn	13 52 28.0	+2.3
BKZ	Black Stump Fm	8.24	202	eP	Pn	13 52 31.1	0.0
BKZ	Black Stump Fm	8.24	202	PN	Pn	13 52 30.9	-0.2
TUVZ	Tukino	8.62	206	P	Pn	13 52 37.0	+1.5
TUVZ	Tukino	8.62	206	PN	Pn	13 52 36.7	+1.2
PXZ	Pawanui	8.93	198	PN	Pn	13 52 39.4	+0.4
PXZ				SN	S	13 54 18.9	-3.1
TSZ	Takapari Road	9.22	202	eP	Pn	13 52 42.1	-0.2
TSZ	Takapari Road	9.22	202	PN	Pn	13 52 42.0	-0.3
WAZ	Wanganui	9.30	207	PN	Pn	13 52 44.6	+1.4
MRZ	Mangatainoka R	9.89	202	P	Pn	13 52 49.7	-0.3
MRZ	Mangatainoka R	9.89	202	PN	Pn	13 52 49.7	-0.3
MRZ				SN	S	13 54 38.2	-3.4
KIW	Kapiti Island	10.29	204	P	Pn	13 52 54.4	-0.3
KIW	Kapiti Island	10.29	204	PN	Pn	13 52 54.4	-0.3
CAW	Cannon Point	10.46	203	P	Pn	13 52 57.0	+0.4
CAW	Cannon Point	10.46	203	PN	Pn	13 52 56.0	-0.6
TCW	Tory Channel	10.83	206	P	Pn	13 53 00.4	-0.5
TCW	Tory Channel	10.83	206	SN	S	13 54 59.5	-1.2
TUWZ	Tuamarina	11.14	206	PN	Pn	13 53 03.7	-0.8
NNZ	Nelson	11.19	209	PN	Pn	13 53 03.7	-1.3
NNZ				SN	S	13 55 05.3	-2.7
THZ	Tophouse	11.84	209	eP	Pn	13 53 11.8	-0.7
THZ	Tophouse	11.84	209	PN	Pn	13 53 11.8	-0.8
THZ				SN	S	13 55 18.7	-2.5
DSZ	Denniston Nort	12.30	212	PN		13 53 17.6	
LTZ	Lake Taylor	12.95	208	eP	P	13 53 25.7	+2.5
LTZ	Lake Taylor	12.95	208	PN	P	13 53 25.7	+2.5
STKA	Stephens Creek	32.96	259	P	P	13 56 34.6	+2.5
	0.8nm,0.4s,mb3.4,baz=308,slow=19,SNR=5.0						
ASAR	Alice Springs	41.77	269	P	P	13 57 45.0	0.0
	0.2nm,0.3s,mb2.9,baz=107,slow=7.4,SNR=12						
WB2	Warramunga Arr	42.86	274	eP	P	13 57 54.0	+0.3
WRAB	Tennant Creek	42.86	274	eP	P	13 57 52.6	-1.1
	18nm,1.5s,mb4.2						
WRA	Warramunga Arr	42.87	274	P	P	13 57 54.0	+0.2
	0.6nm,0.4s,mb3.3,baz=111,slow=8.0,SNR=32						
FINES	FINESS Array B	145.79	338	PKPbc	PKPbc	14 09 27.0	+1.2
	1.3nm,0.5s,baz=55,slow=3.3,SNR=16						
BRTR	Keskin Array B	151.99	296	PKPbc	PKPbc	14 09 43.3	+2.1
	0.2nm,0.3s,baz=117,slow=34,SNR=2.3						

MEX 15 14:15:51.4±0.3**, 16.82N**×**99.71W, h12**^{km}±1^{km}**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.20	284	i P	Pg	14 15 55.5	-0.3
ACX				i S	Sg	14 15 58.5	-0.4
CAIG	El Cayaco	0.58	293	i P	Pg	14 16 01.3	-1.4
CAIG				i S	Sg	14 16 09.2	-1.2
MEIG	Mezcala	1.10	5	i P	Pb	14 16 09.0	-3.4
MEIG				i S	Sb	14 16 22.7	-4.1

NNC 15 14:27:19.8±22.0**, 39.04N**×**73.84E, h0**^{km}**, mb3.1, mpv2.5, 6C, Error ellipse: s-maj=170.6km s-min=88.4km az=164.0, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	4.10	18	⇑Pg	Pb	14 28 30.6	-2.2
	0.1nm,0.5s						
TKM2				⇑Sn	Sn	14 29 14.7	+2.3
	0.5nm,0.6s						
KK31	Karatay Array	4.78	329	⇑Pn	Pn	14 28 38.5	+5.5
	0.2nm,0.2s,baz=130,slow=12,SNR=34						
KK31				⇑Pg	Pb	14 28 43.2	-1.2
	2.0nm,0.4s,baz=177,slow=13,SNR=7.9						
KK31				⇑Sn	Sn	14 29 30.9	+1.7
	1.1nm,0.3s						
KK31				⇑Lg		14 29 48.4	
	6.1nm,0.7s						
AB31	Akbulak array	14.26	320	P	Pn	14 30 36.2	-6.7
	0.3nm,0.4s,baz=155,slow=13,SNR=5.0						
AKTO	Aktyubinsk	15.97	321	P	Pn	14 31 00.3	-5.5

---

*ISCJB **15** 14:50:01.6±1.0, 37.30N±0.06×72.1E±0.1, h176^{km}±20^{km}, Error ellipse: s-maj=20.8km s-min=6.3km az=132.7*
*NNC **15** 14:50:10.9±2.4, 37.82N×71.95E, h193^{km}±10^{km}, mb2.5, mpv3.2, Error ellipse: s-maj=27.9km s-min=6.2km az=5.0*
ISC 15 14:50:02.4±1.0**, 37.29N**±0.06×**72.1E**±0.2**, h170**^{km}±16^{km}**, n13,** σ**1^{s}03**/16**, 2C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.68	148	eP	Pn	14 51 25.9	+0.9
THN				eS	Sn	14 52 29.5	-0.3
KK31	Karatay Array	5.93	349	P	Pn	14 51 30.1	+1.7
	9.9nm,0.6s,baz=152,slow=11,SNR=83						
KK31				S	Sn	14 52 33.7	-2.2
	19nm,0.5s,baz=317,slow=84,SNR=22						
TKM2	Tokmak 2	6.22	24	⇓P	Pn	14 51 35.7	+3.5
	0.2nm,0.5s						
TKM2				⇓S	Sn	14 52 42.2	-0.5
	1.1nm,0.9s						
KOLN	Koldanda	13.55	131	eP	Pn	14 53 07.9	+0.1
GKN	Gorkha	14.02	128	eP	Pn	14 53 14.0	+0.3
	21nm,0.5s						
KKN	Kakani	14.58	127	eP	Pn	14 53 20.6	0.0
AB31	Akbulak array	14.86	327	⇑P	Pn	14 53 23.0	-1.1
	1.0nm,0.5s,baz=137,slow=13,SNR=21						
GUN	Gumba	14.88	125	eP	Pn	14 53 23.6	-0.8
JIRN	Jiri	15.26	125	eP	Pn	14 53 28.1	-0.9
BVA0	Borovoye Array	15.78	356	P	Pn	14 53 36.5	+1.1
	0.2nm,0.7s,baz=162,slow=11,SNR=12						
ZRNK	Zerenda	15.81	353	⇑P	Pn	14 53 36.6	+0.8
	1.3nm,0.5s						
CHKZ	Chkalovo	16.42	357	⇓P	Pn	14 53 43.3	+0.2
	2.6nm,1.3s						
AKTO	Aktyubinsk	16.57	327	⇓P	Pn	14 53 44.4	-0.7

IDC 15 14:59:09.4±8.0**, 5.82N**×**94.97E, h88**^{km}±51^{km}**, mb3.2**/3**, mb1 3.4**/4**, mb1mx3.1**/22**, mbtmp3.5**/4**, ML3.3**/1**, Error ellipse: s-maj=176.3km s-min=22.1km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	4.96	127	P	Pn	15 00 21.8	+0.5
	1.1nm,0.3s,baz=305,slow=10.0,SNR=4.7						
PSI				S	Sn	15 01 20.3	+2.9
	1.1nm,0.3s,baz=161,slow=15,SNR=4.4						
MKAR	Makanchi Array	42.26	347	P	P	15 06 54.0	+0.1
	0.8nm,0.4s,baz=166,slow=7.6,SNR=8.4						
WRA	Warramunga Arr	46.42	125	P	P	15 07 27.6	+0.5
	0.6nm,0.5s,baz=305,slow=9.0,SNR=10						
ASAR	Alice Springs	47.98	129	P	P	15 07 39.4	+0.2
	0.2nm,0.5s,baz=300,slow=7.9,SNR=9.8						

IDC 15 15:03:50.5±51.0**, 22.80S**×**172.66W, h0**^{km}**, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=986.0km s-min=189.9km az=88.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.38	247	P	P	15 11 36.6	-1.7
	0.3nm,0.3s,baz=79,slow=16,SNR=3.1						
ASAR	Alice Springs	48.86	258	P	P	15 12 38.4	+0.5
	0.2nm,0.3s,baz=94,slow=6.9,SNR=10						
WRA	Warramunga Arr	49.22	263	P	P	15 12 42.0	+1.3
	0.4nm,0.3s,baz=99,slow=6.9,SNR=32						

---

*ISCJB **15** 15:11:48.9±3.2, 56.10S±0.09×27.4W±0.2, h79^{km}±29^{km}, mb4.6/19, Error ellipse: s-maj=24.2km s-min=10.4km az=124.2*
*MOS **15** 15:11:49.0±1.1, 56.16S×27.58W, h78^{km}, mb4.9/7, Error ellipse: s-maj=53.9km s-min=13.3km az=101.6*
*IDC **15** 15:11:51.8±4.9, 56.12S×27.48W, h91^{km}±43^{km}, mb4.2/9, mb1 4.3/10, mb1mx4.1/17, mbtmp4.6/10, MS3.7/6, Ms1 3.7/6, ms1mx3.4/22, Error ellipse: s-maj=26.6km s-min=14.1km az=62.0*
*NEIC **15** 15:11:53.4±2.6, 56.14S×27.46W, h108^{km}±22^{km}, mb4.7/16, Error ellipse: s-maj=15.8km s-min=7.3km az=63.0*
*BJI **15** 15:11:53.3, 56.10S×27.50W, h110^{km}, mB5.0*
ISC 15 15:11:52.2±2.7**, 56.14S**±0.08×**27.3W**±0.2**, h97**^{km}±24^{km}**, n85,** σ**0^{s}94**/48**, mb4.6**/19**, 2C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	16.92	160	e	Pn	15 15 42.6	-0.3
VNA3				e		15 15 44.6	
VNA3				e		15 15 45.7	
VNA3				e		15 15 52.2	
VNA3				e		15 15 58.5	
SNAA	Sanae	18.68	156	P	Pn	15 16 02.4	-1.7
	1.6nm,0.3s,baz=311,slow=9.3,SNR=196						
SNAA	Sanae	18.68	156	e	Pn	15 16 02.6	-1.5
SNAA				e		15 16 04.8	
SNAA				e		15 16 11.2	
SNAA				e		15 16 16.2	
SNAA	Sanae	18.68	156	eP	Pn	15 16 02.4	-1.7
SNAA				pmax	pmax		
	comp=Z,49nm,0.6s						
SNAA	Sanae	18.68	156	eP	Pn	15 16 02.4	-1.7
	comp=Z,49nm,0.6s						
PMSA	Palmer Station	19.80	229	P	Pn	15 16 19.6	+2.3
	comp=Z,5.6nm,0.3s,baz=76,slow=6.5,SNR=20						
PMSA	Palmer Station	19.80	229	eP	Pn	15 16 19.2	+1.9
	comp=Z,42nm,0.5s						
MAIT	Maitri	22.19	146	eP	P	15 16 41.1	+0.7
SYO	Syowa Base	31.54	141	⇓eP	P	15 18 04.8	-0.4
PLCA	Paso Flores	31.97	280	LR	LR	15 30 27.0	
	comp=Z,177nm,21.0s,baz=147,slow=35						
QSPA	South Pole Qui	34.11	180	eP	P	15 18 28.0	+0.5
	comp=Z,19nm,1.1s,mb4.8						
CPUP	Villa Florida	36.84	311	P	P	15 18 49.2	-1.7
	comp=Z,0.6nm,0.3s,mb3.9,baz=117,slow=6.0,SNR=7.0						
CPUP				PcP	PcP	15 21 10.9	+0.1
	comp=Z,1.6nm,0.4s,baz=150,slow=2.6,SNR=6.0						
CPUP	Villa Florida	36.84	311	P	P	15 18 48.8	-2.1
CPUP				pmax	pmax		
	comp=Z,11nm,0.8s						
CPUP	Villa Florida	36.84	311	P	P	15 18 48.8	-2.1
	comp=Z,11nm,0.8s,mb4.8						
MAW	Mawson	40.10	143	⇑iP	P	15 19 18.4	+0.1
	comp=Z,3.4nm,0.2s,mb4.8						
MAW	Mawson	40.10	143	P	P	15 19 18.6	+0.4
	comp=Z,5.7nm,0.3s,mb4.9,baz=234,slow=7.3,SNR=27						

MAW	**Mawson**	**40.10**	**143**	*e*P	**P**	**15 19 18.3**	**0.0**
MAW				pmax	pmax		
	comp=Z,41nm,1.4s						
MAW	**Mawson**	**40.10**	**143**	*e*P	**P**	**15 19 18.2**	**0.0**
	comp=Z,41nm,1.4s,mb5.1						
BDFB	**Brasilia**	**43.42**	**330**	P	**P**	**15 19 43.6**	**-1.6**
	comp=Z,1.1nm,0.4s,mb4.0,baz=117,slow=9.0,SNR=1.9						
BDFB				LR	LR	15 35 06.6	
	comp=Z,139nm,21.7s,baz=191,slow=32						
LVC	**Limon Verde**	**45.30**	**300**	*e*P	**P**	**15 20 00.5**	**+0.2**
	comp=Z,7.9nm,0.8s,mb4.5						
SBA	**Scott Base**	**45.98**	**184**	*e*P	**P**	**15 20 05.9**	**+0.3**
SBA				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
SBA	**Scott Base**	**45.98**	**184**	*e*P	**P**	**15 20 05.8**	**+0.2**
	comp=Z,19nm,1.3s,mb4.7						
BOSA	**Boshof**	**46.04**	**76**	LR	LR	15 36 39.6	
	comp=Z,89nm,19.3s,baz=72,slow=32						
VNDA	**Vanda**	**46.48**	**183**	P	**P**	**15 20 09.7**	**+0.2**
	comp=Z,5.1nm,0.6s,mb4.4,baz=188,slow=5.9,SNR=46						
VNDA	**Vanda**	**46.48**	**183**	*e*P	**P**	**15 20 09.5**	**0.0**
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNDA	**Vanda**	**46.48**	**183**	*e*P	**P**	**15 20 09.5**	**0.0**
	comp=Z,7.2nm,0.8s,mb4.5						
MIR	**Mirnyy**	**49.73**	**153**	*d* *i*P	**P**	**15 20 36.0**	**+1.5**
MIR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
LPAZ	**La Paz**	**50.39**	**305**	P	**P**	**15 20 40.8**	**+1.3**
	comp=Z,4.5nm,0.5s,mb4.6,baz=138,slow=6.0,SNR=29						
LPAZ	**La Paz**	**50.39**	**305**	*e*P	**P**	**15 20 40.4**	**+0.9**
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
LPAZ	**La Paz**	**50.39**	**305**	*e*P	**P**	**15 20 40.4**	**+0.9**
	comp=Z,5.3nm,0.7s,mb4.6						
CASY	**Casey**	**53.84**	**160**	*e*P	**P**	**15 21 05.2**	**+0.1**
CASY	**Casey**	**53.84**	**160**	*e*P	**P**	**15 21 05.1**	**0.0**
	comp=Z,4.9nm,0.6s,mb4.7						
SAML	**Samuel**	**54.83**	**315**	*e*P	**P**	**15 21 11.0**	**-1.3**
	comp=Z,2.2nm,0.9s,mb4.2						
SAML				*e*		15 21 26.1	
DBIC	**Dimbokro**	**65.27**	**25**	P	**P**	**15 22 24.4**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.2,baz=121,slow=7.2,SNR=3.5						
DBIC				LR	LR	15 44 48.5	
	comp=Z,53nm,18.6s,baz=167,slow=30						
DBIC	**Dimbokro**	**65.27**	**25**	P	**P**	**15 22 24.7**	**+1.1**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**65.27**	**25**	P	**P**	**15 22 24.7**	**+1.1**
	comp=Z,5.0nm,0.9s,mb4.3						
TOA0	**Torodi Ar. Sit**	**73.16**	**30**	*e*P	**P**	**15 23 13.3**	**+1.0**
TOA0				*e*	pP	15 23 38.3	+1.3
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P	**P**	**15 23 13.1**	**+0.8**
	comp=Z,1.5nm,0.5s,mb4.0,baz=198,slow=6.5,SNR=18						
SDV	**Santo Domingo**	**74.04**	**315**	*e*P	**P**	**15 23 18.8**	**+1.3**
	comp=Z,6.1nm,0.8s,mb4.4						
TOO	**Toolangi**	**86.45**	**174**	*e*P	**P**	**15 24 23.1**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.2						
TOO	**Toolangi**	**86.45**	**174**	*e*P	**P**	**15 24 23.1**	**-0.9**
TOO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MUN	**Mundaring**	**86.88**	**150**	*e*P	**P**	**15 24 26.0**	**-0.1**
KLBR	**Kellerberrin**	**87.67**	**151**	*e*P	**P**	**15 24 29.8**	**-0.1**
	comp=Z,7.7nm,0.8s,mb4.8						
ATD	**Arta Tunnel**	**88.75**	**67**	LR	LR	16 06 03.0	
	comp=Z,34nm,18.6s,baz=118,slow=37						
MDT	**Midelt**	**90.69**	**19**	LR	LR	15 59 47.7	
	comp=Z,32nm,18.5s,slow=32						
FORT	**Forrest**	**90.91**	**159**	*e*P	**P**	**15 24 45.1**	**+0.1**
	comp=Z,11nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**91.82**	**171**	*e*P	**P**	**15 24 49.0**	**-0.3**
	comp=Z,2.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**91.82**	**171**	P	**P**	**15 24 48.5**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.6,baz=197,slow=5.2,SNR=11						
STKA	**Stephens Creek**	**91.82**	**171**	*e*P	**P**	**15 24 48.7**	**-0.6**
ASPA	**Alice Springs**	**98.92**	**163**	*e*P	**P**	**15 25 21.0**	**-0.6**
ASAR	**Alice Springs**	**98.92**	**163**	P	**P**	**15 25 21.1**	**-0.5**
	comp=Z,2.6nm,0.6s,mb4.9,baz=185,slow=4.2,SNR=30						
AS31	**Alice Springs**	**98.92**	**163**	*e*P	**P**	**15 25 21.0**	**-0.6**
WRA	**Warramunga Arr**	**102.63**	**162**	Pdiff	Pdif	15 25 36.3	-1.8
	comp=Z,0.9nm,0.7s,baz=196,slow=4.4,SNR=13						
WRA				PKKPbc	PKKPbc	15 41 36.4	-0.8
	comp=Z,0.2nm,0.3s,baz=358,slow=2.8,SNR=18						
WB2	**Warramunga Arr**	**102.64**	**162**	*e*PKP	Pdif	15 25 39.4	+1.3
PV01	**Paradox Valley**	**116.28**	**300**	*e*PKPdf	PKPdf	15 30 24.3	0.0
RSSD	**Black Hills**	**118.85**	**307**	*e*PKIKP	PKPdf	15 30 27.0	-2.2
ULM	**Lac du Bonnet**	**120.28**	**316**	PKP	PKPdf	15 30 29.6	-2.4
	comp=Z,3.5nm,1.0s,baz=158,slow=5.4,SNR=4.1						
PDAR	**Pinedale Array**	**120.35**	**302**	PKP	PKPdf	15 30 30.3	-1.8
	comp=Z,0.5nm,0.6s,baz=133,slow=6.6,SNR=4.3						
HWUT	**Hardware Ranch**	**120.42**	**300**	*e*PKPdf	PKPdf	15 30 30.6	-1.6
NOA	**NORSAR Array B**	**120.71**	**21**	PKP	PKPdf	15 30 31.3	-1.5
	comp=Z,1.2nm,0.8s,baz=191,slow=1.6,SNR=3.8						
NVAR	**Mina Array Bea**	**121.39**	**293**	PKP	PKPdf	15 30 34.0	-0.1
	comp=Z,1.1nm,0.6s,baz=128,slow=3.1,SNR=8.8						
FINES	**FINESS Array B**	**124.49**	**28**	PKP	PKPdf	15 30 38.2	-1.8
	comp=Z,2.1nm,0.5s,baz=128,slow=1.4,SNR=16						
KAF	**Kangasniemi**	**125.11**	**28**	*e*p	PKPdf	15 30 38.4	-2.8
	comp=Z,2.4nm,0.3s						
ARCES	**ARCESS Array B**	**131.05**	**22**	PKP	PKPdf	15 30 50.5	-2.1
	comp=Z,3.4nm,0.8s,baz=213,slow=3.1,SNR=7.6						
KMI	**Kunming**	**132.54**	**110**	PKP	PKPdf	15 30 54.8	-0.6
BVAR	**Borovoye Array**	**134.87**	**58**	PKP	PKPdf	15 30 59.1	-0.7
	comp=Z,1.7nm,0.6s,baz=202,slow=1.6,SNR=8.3						
CHKZ	**Chkalovo**	**135.38**	**57**	*e*PKIKP	PKPdf	15 30 57.9	-2.8
YKA	**Yellowknife Ar**	**136.21**	**318**	PKP	PKPdf	15 31 00.5	-1.7
	comp=Z,2.7nm,0.6s,baz=126,slow=2.3,SNR=14						
MKAR	**Makanchi Array**	**136.96**	**72**	PKP	PKPdf	15 31 03.5	-0.1
	comp=Z,0.6nm,0.5s,baz=285,slow=2.4,SNR=4.8						
CD2	**Chengdu**	**137.68**	**106**	*e*PKP	PKPdf	15 31 02.0	-3.0
WMQ	**Urumqi**	**137.97**	**79**	*e*PKP	PKPdf	15 31 08.0	+2.5
ZAL	**Zalesovo**	**142.44**	**64**	PKhKP		15 31 08.6	
	comp=Z,1.8nm,0.3s,baz=323,slow=9.5,SNR=4.3						
INK	**Inuvik**	**145.84**	**321**	PKPbc	PKPbc	15 31 18.6	-1.6
	comp=Z,17nm,0.6s,baz=112,slow=3.4,SNR=28						
INK	**Inuvik**	**145.84**	**321**	*e*PKPdf	PKPdf	15 31 18.5	-1.0
DAWY	**Dawson**	**146.82**	**312**	*e*PKPdf	PKPdf	15 31 20.9	-0.2
EGAK	**Eagle**	**147.76**	**313**	*e*PKPbc	PKPbc	15 31 23.2	-2.5
HHC	**Hu-ho-hao-te**	**149.27**	**102**	*e*PKP	PKPdf	15 31 24.0	-1.2
HHC				PKP2	PKPab	15 31 35.8	+1.4
HHC				APKP		15 31 58.0	
HHC				XPKP		15 32 08.0	
HHC				PKS		15 34 57.5	
HHC				PP	PP	15 35 04.4	+2.4
HHC				SKS	SKSdf	15 38 17.0	-7.5
HHC				SKKS	SKKSac	15 41 38.8	-5.4
HHC				SS	SS	15 54 03.8	-3.2
HHC				PP	PP		
	comp=Z,69nm,5.5s						
HHC				LR	LR		
	comp=N,90nm,4.3s						
HHC				LR	LR		
	comp=E,133nm,4.7s						
HHC				LR	LR		
	comp=Z,50nm,5.1s						
MOY	**Mondy**	**149.80**	**76**	*e*PKP2	PKPab	15 31 30.7	-5.8
ZAK	**Zakamensk**	**150.41**	**80**	⇑*i*PKIKP	PKPdf	15 31 31.6	+4.6
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COLA	**College**	**150.56**	**312**	*e*PKIKP	PKPdf	15 31 30.2	+3.0
SONM	**Songino Array**	**150.78**	**87**	PKPbc	PKPbc	15 31 32.3	-1.0
	comp=Z,9.0nm,0.6s,baz=222,slow=3.3,SNR=43						
MCK	**McKinley**	**150.79**	**309**	*e*PKIKP	PKPdf	15 31 31.5	+3.9
KDAK	**Kodiak Island**	**150.81**	**296**	PKPbc	PKPbc	15 31 31.5	-1.8
	comp=Z,17nm,0.6s,baz=124,slow=5.1,SNR=12						
ULN	**Ulaanbaatar**	**151.17**	**87**	*e*PKIKP	PKPdf	15 31 32.8	+4.7
MDJ	**Mudanjiang**	**161.38**	**119**	PKP	PKPdf	15 31 40.8	-0.6
MDJ				XPKP		15 32 25.9	
MDJ				PP	PP	15 36 09.3	-0.1
MDJ				SKS	SKSdf	15 38 34.4	-3.2

IDC 15 15:23:38.1±7.2**,2900S**×**7508E,h0**km**,mb3.7**/4**,mb1 3.8**/4**, mb1mx3.6**/18**,mbtmp3.7**/4**,Error ellipse: s-maj=240.1km s-min=36.6km az=48.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**52.53**	**99**	P	P	15 32 53.4	+0.3
	0.4nm,0.6s,baz=252,slow=6.4,SNR=5.7						
WRA	**Warramunga Arr**	**54.21**	**95**	P	P	15 33 06.0	+0.6
	0.7nm,0.9s,baz=250,slow=7.1,SNR=6.2						
STKA	**Stephens Creek**	**56.60**	**111**	P	P	15 33 22.6	-0.1
	1.3nm,0.7s,baz=256,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**75.72**	**5**	P	P	15 35 25.3	-0.2
	0.2nm,0.3s,baz=192,slow=2.7,SNR=3.0						

*TIR **15** 15:34:05.1,4124N×2026E,h0km*
*NEIC **15** 15:34:06.4,41.16N×2021E,h1km,MD2.9(PDG),After PDG.*
*THE **15** 15:34:06.1,4127N×2026E,h10km*
PDG 15 15:34:06.4±0.3**,4116N**×**2021E,h1**km±1km**,7C-3D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.32**	**306**	*e*Pg	Pg	15 34 11.6	-1.0
TIR				*e*Sg	Sg	15 34 17.4	+0.6
OHR	**Ohrid**	**0.45**	**96**	*e*Pg	Pg	15 34 14.9	0.0
OHR				*e*Sg	Sg	15 34 21.6	+0.9
OHR	**Ohrid**	**0.45**	**96**	*i* Pg	Pg	15 34 15.2	+0.3
OHR				*e*Sg	Sg	15 34 23.3	+2.6
KBN	**Korca**	**0.69**	**141**	*i* Pg	Pg	15 34 19.7	+0.1
KBN				*i* Sg	Sg	15 34 31.7	+3.2
BIA	**Bitola**	**0.85**	**99**	*e*Pg	Pg	15 34 21.8	-0.9
BIA				*e*Sg	Sg	15 34 34.8	+1.0
BIA	**Bitola**	**0.85**	**99**	*e*Pg	Pg	15 34 27.0	+4.3
BIA				*e*Sg	Sg	15 34 35.5	+1.8
FNA	**Florina**	**0.96**	**113**	*e*Pg	Pg	15 34 24.6	-0.2
FNA				*e*Sg	Sg	15 34 38.5	+1.4
ULC	**Ulcinj**	**1.08**	**318**	⇓*i*Pg	Pg	15 34 25.9	-1.2
ULC				*e*Sg	Sg	15 34 43.5	+2.3
SKO	**Skopje**	**1.23**	**48**	*e*Pg	Pg	15 34 28.2	-1.7
SKO	**Skopje**	**1.23**	**48**	*e*Pn	Pn	15 34 31.4	+0.6
PVY	**Plav**	**1.45**	**353**	⇑*i*Pg	Pg	15 34 33.0	-1.2
PVY				*e*Sg	Sg	15 34 56.1	+3.2
TTG	**Podgorica**	**1.46**	**331**	⇑*i*Pg	Pg	15 34 33.0	-1.4
TTG				*e*Sg	Sg	15 34 56.4	+3.2
BUM	**Brajici-Budva**	**1.51**	**320**	⇑*i*Pg	Pg	15 34 34.0	-1.2
BUM				*e*Sg	Sg	15 34 58.1	+3.3
IGT	**Igoumenitsa**	**1.62**	**177**	*e*Pb	Pb	15 34 37.1	-0.1
IGT				*e*Sb	Sb	15 35 00.6	+2.4
IVA	**Berane**	**1.73**	**352**	⇑*i*Pn	Pn	15 34 39.1	+1.5
IVA				*e*Sn	Sn	15 35 04.5	+4.2
HCY	**Herceg Novi**	**1.82**	**316**	⇓*i*Pn	Pn	15 34 39.6	+0.7
HCY				*e*Sn	Sn	15 35 05.9	+3.4
NKY	**Niksic**	**1.89**	**332**	⇑*i*Pn	Pn	15 34 40.7	+0.9
NKY				*e*Sn	Sn	15 35 08.2	+3.9
BRY	**Bratogost**	**2.14**	**325**	⇑*i*Pn	Pn	15 34 44.1	+0.8
BRY				*e*Sn	Sn	15 35 14.2	+3.7
PLE	**Pljevlja**	**2.25**	**345**	⇑*i*Pn	Pn	15 34 46.8	+2.0
PLE				*e*Sn	Sn	15 35 17.6	+4.3
UPM	**Unac-Piva**	**2.26**	**335**	⇓*i*Pn	Pn	15 34 46.5	+1.5
UPM				*e*Sn	Sn	15 35 17.4	+4.0
LKD	**Levkas**	**2.47**	**172**	*e*Pn	Pn	15 34 47.9	+0.1

*ISCJB **15** 16:40:45.5±0.9,213S±0.1×682W±02,h134km±11km, mb3.6/1,Error ellipse: s-maj=28.7km s-min=9.7km az=60.1*
*IDC **15** 16:40:46.9±1.1,2124S×68.16W,h119km±13km,mb3.7/1, mb1 3.5/4,mb1mx3.3/17,mbtmp3.8/4,Error ellipse: s-maj=43.4km s-min=13.7km az=119.0*
*NEIC **15** 16:40:46.1±0.9,2128S×68.17W,h118km±12km,Error ellipse: s-maj=32.2km s-min=11.2km az=108.0*
ISC 15 16:40:46.8±0.9**,213S**±0.1×**682W**±02**,h125**km±11km**,n8,** σ**0**§**90**/12**,mb3.7**/1**,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.49**	**207**	P	**Pn**	**16 41 14.7**	**+0.3**
	6.8nm,0.3s,baz=9.1,slow=9.1,SNR=94						
LVC				S	**Sn**	**16 41 36.3**	**+0.7**
	58nm,0.3s,baz=107,slow=19,SNR=124						
LPAZ	**La Paz**	**4.96**	**1**	P	**Pn**	**16 41 58.8**	**-0.4**
	1.9nm,0.3s,baz=197,slow=5.3,SNR=50						
LPAZ				S	**Sn**	**16 42 49.0**	**-6.6**
	baz=232,slow=18,SNR=2.7						
LPAZ	**La Paz**	**4.96**	**1**	*e*Pn	**Pn**	**16 41 58.3**	**-0.9**
LPAZ				S	**Sn**	**16 42 49.0**	**-6.6**
SIV	**San Ignacio**	**8.54**	**53**	P	**Pn**	**16 42 47.6**	**0.0**
	1.2nm,0.3s,baz=244,slow=14,SNR=16						
SIV				S	**Sn**	**16 44 22.4**	**+0.2**
	0.2nm,0.3s,baz=190,slow=19,SNR=4.6						
CFAA	**Coronel Fontan**	**10.29**	**180**	P	**Pn**	**16 43 08.7**	**-2.3**
	0.1nm,0.3s,baz=359,slow=15,SNR=12						
CFAA				S	**Sn**	**16 44 58.9**	**-5.5**
	0.1nm,0.3s,baz=294,slow=20,SNR=4.7						
PLCA	**Paso Flores**	**19.50**	**185**	P	**P**	**16 45 04.3**	**+0.2**
	0.1nm,0.3s,baz=16,slow=17,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.64**	**70**	P	**P**	**16 52 24.7**	**+1.0**
	1.3nm,0.8s,mb3.7,baz=251,slow=5.5,SNR=8.4						
MKAR	**Makanchi Array**	**145.05**	**36**	PKPbc	PKPbc	17 00 09.7	+0.8
	0.6nm,0.3s,baz=333,slow=3.4,SNR=5.5						

*IDC **15** 17:00:57.8±2.2,2335S×17992E,h515km±21km,mb3.4/4, mb1 3.6/5,mb1mx3.3/13,mbtmp4.3/5,Error ellipse: s-maj=45.6km s-min=20.1km az=161.0*
*ISCJB **15** 17:00:58.1±1.4,235S±0.1×1799E±0.1,h534km±17km, mb4.1/12,Error ellipse: s-maj=19.9km s-min=15.5km az=110.0*
*NEIC **15** 17:00:58.7±1.2,2348S×18000E,h537km±13km,mb4.3/9, Error ellipse: s-maj=19.5km s-min=10.7km az=192.0*
ISC 15 17:01:00.2±1.4**,237S**±0.1×**1800E**±0.1**,h546**km±17km**,n27,** σ**0**§**76**/24**,mb4.1**/12**,2C-1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.83**	**161**	*e*Pn	**P**	**17 02 36.9**	**-0.1**
URZ	**Urewera**	**14.69**	**189**	P	**P**	**17 04 06.9**	**+0.4**
	1.6nm,0.3s,baz=320,slow=4.0,SNR=13						
URZ				S	**S**	**17 06 38.9**	**-1.0**
	0.6nm,0.3s,baz=245,slow=20,SNR=10.0						
CTA	**Charters Tower**	**31.43**	**270**	*e*P	**P**	**17 06 36.4**	**-0.7**
	15nm,0.3s,mb5.0						
CTAO	**Charters Tower**	**31.43**	**270**	*e*P	**P**	**17 06 38.0**	**+1.0**
	28nm,0.5s,mb5.0						
STKA	**Stephens Creek**	**34.74**	**248**	⇓*i*P	**P**	**17 07 06.3**	**+1.3**
	1.3nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.74**	**248**	P	**P**	**17 07 06.4**	**+1.4**
	1.7nm,0.5s,mb3.8,baz=82,slow=9.7,SNR=9.0						
STKA	**Stephens Creek**	**34.74**	**248**	*e*P	**P**	**17 07 05.9**	**+0.9**
AS31	**Alice Springs**	**42.02**	**260**	*e*P	**P**	**17 08 04.4**	**+0.4**
ASAR	**Alice Springs**	**42.02**	**260**	P	**P**	**17 08 04.5**	**+0.5**
	3.1nm,0.5s,mb4.1,baz=96,slow=7.1,SNR=90						
ASAR				ScP	ScP	17 12 49.6	+4.8
	1.4nm,0.9s,baz=104,slow=4.3,SNR=12						
ASAR				S	**S**	**17 13 45.1**	**+1.5**
	0.4nm,0.7s,baz=98,slow=14,SNR=6.9						
ASPA	**Alice Springs**	**42.02**	**260**	*e*P	**P**	**17 08 04.4**	**+0.4**
WB2	**Warramunga Arr**	**42.36**	**266**	⇑*i*P	**P**	**17 08 06.0**	**-0.7**
WRAB	**Tennant Creek**	**42.36**	**266**	*e*P	**P**	**17 08 06.4**	**-0.3**
	8.5nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**17 08 06.6**	**-0.2**
	3.4nm,0.3s,mb4.3,baz=90,slow=5.9,SNR=281						
WRA				ScP	ScP	17 12 50.5	+4.3
	1.1nm,1.1s,baz=93,slow=4.6,SNR=4.5						
WRA				S	**S**	**17 13 46.3**	**-2.4**
	1.3nm,1.1s,baz=95,slow=14,SNR=3.0						
KAKA	**Kakadu**	**46.25**	**275**	*e*P	**P**	**17 08 35.8**	**-0.8**
	8.5nm,0.8s,mb4.3						
FORT	**Forrest**	**46.33**	**249**	*e*P	**P**	**17 08 37.3**	**+0.1**
	11nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**50.79**	**265**	⇑*i*P	**P**	**17 09 10.5**	**+0.1**
	3.7nm,0.6s,mb3.9						
MBWA	**Marble Bar**	**55.35**	**260**	*e*P	**P**	**17 09 42.4**	**-0.4**
	3.3nm,0.7s,mb3.7						
QSPA	**South Pole Qui**	**66.36**	**180**	*e*P	**P**	**17 10 56.8**	**+1.7**
	2.5nm,0.8s,mb3.8						
KSM	**Kuching**	**72.03**	**280**	P	**P**	**17 11 28.9**	**-0.1**
NVAR	**Mina Array Bea**	**84.66**	**44**	P	**P**	**17 12 36.1**	**-0.5**
	0.4nm,0.4s,mb3.3,baz=232,slow=7.9,SNR=3.6						
SNAA	**Sanae**	**84.84**	**179**	*e*P	**P**	**17 12 37.0**	**-0.5**
	0.7nm,0.6s,mb3.4						
ARCES	**ARCESS Array B**	**131.71**	**348**	PKP	PKPdf	17 19 08.5	-2.8
	1.7nm,0.7s,baz=80,slow=1.3,SNR=5.9						
FINES	**FINESS Array B**	**138.27**	**341**	PKP	PKPdf	17 19 21.6	-1.9
	0.4nm,0.3s,baz=98,slow=3.9,SNR=4.0						
NB2	**NORSAR Subarra**	**141.90**	**351**	PKPa		17 19 24.1	
	comp=Z,0.1nm,0.5s,baz=25,slow=3.5						
NOA	**NORSAR Array B**	**141.90**	**351**	PKhKP		17 19 23.4	
	comp=Z,1.1nm,0.7s,baz=17,slow=4.8,SNR=3.9						
AKASG	**Malin Array Be**	**144.80**	**327**	PKP	PKPdf	17 19 33.6	-1.5
	comp=Z,2.1nm,0.4s,baz=46,slow=3.8,SNR=17						
CLL	**Collm**	**150.68**	**343**	*i* PKPab	PKPbc	17 19 49.6	-1.2
	comp=Z,7.0nm,0.9s						

*ISCJB **15** 17:11:09.9±0.6,3452N±005×7365E±004,h10km,Error ellipse: s-maj=7.1km s-min=4.4km az=41.4*
*NDI **15** 17:11:12.2±3.3,3444N×7334E,h15km,ML3.3*
*NNC **15** 17:11:21.0±6.5,3491N×72.19E,h0km,mb3.3,mpv4.1, Error ellipse: s-maj=107.8km s-min=40.9km az=115.0*
ISC 15 17:11:11.8±0.5**,3451N**±004×**7360E**±004**,h10**km**,n24,** σ**1**§**34**/31**,4C-1D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.89**	**198**	⇑P	**Pg**	**17 11 28.2**	**-0.8**
CEP	**Cherat**	**1.56**	**244**	⇑P	**Pg**	**17 11 40.4**	**-1.3**
CEP				S	**Sg**	**17 12 01.0**	**-0.9**
THW	**Thamme Wali**	**2.30**	**223**	P	**Pn**	**17 11 51.5**	**+1.7**
SARP	**Sargodha**	**2.69**	**197**	P	**Pn**	**17 11 56.0**	**+0.8**
THN	**Thein Dam**	**2.72**	**139**	*e*P	**Pn**	**17 11 56.6**	**+1.0**
THN				*e*SB	**Sg**	**17 12 36.8**	**-2.5**
DLH	**Dalhousie**	**2.79**	**134**	*e*x	x	17 11 38.0	
DLH				*e*SB	**Sg**	**17 12 39.0**	**-2.4**
SBDP	**Sheikh Budin**	**3.21**	**227**	⇑P	**Pn**	**17 12 03.5**	**+1.2**
BHK	**Bhakra**	**3.89**	**142**	*e*x	**Pn**	**17 12 17.2**	**+5.6**
DRP	**Derazinda**	**3.96**	**227**	P	**Pn**	**17 12 15.5**	**+2.9**
SDNR	**Sundarnagar**	**4.13**	**136**	*e*P	**Pn**	**17 12 16.6**	**+1.7**
SDNR				*e*S	**Sn**	**17 13 03.5**	**+0.3**
SMLA	**Simla**	**4.52**	**137**	*e*P	**Pn**	**17 12 22.9**	**+2.7**
SMLA				*e*S	**Sn**	**17 13 13.2**	**+0.4**
	355nm,0.3s						
KLP	**Kalpa**	**4.91**	**126**	*e*P	**Pn**	**17 12 26.2**	**+0.6**
KLP				*e*S	**Sn**	**17 13 23.8**	**+1.3**
KLP				AML	AML	17 13 52.8	
	comp=E,105nm,0.3s						
KLP				AML	AML	17 13 53.7	
	comp=N,115nm,0.8s						
JOSI	**Joshimath**	**6.39**	**126**	*e*x	x	17 13 44.4	
JOSI				AML	AML	17 14 10.7	
	comp=N,71nm,1.1s						
JOSI				AML	AML	17 14 12.0	
	comp=Z,45nm,0.7s						
KHET	**Khetri**	**6.69**	**163**	*e*P	**Pn**	**17 12 48.5**	**-1.6**
KHET				*e*S	**Sn**	**17 14 01.6**	**-4.7**
KHET				AML	AML	17 14 55.0	
	comp=N,6.3nm,0.6s						
KHET				AML	AML	17 14 56.2	
	comp=E,7.7nm,0.4s						
SONA	**Sohna**	**6.91**	**154**	*e*P	**Pn**	**17 12 52.0**	**-1.1**
SONA				*e*S	**Sn**	**17 14 06.6**	**-5.3**
SONA				AML	AML	17 15 01.9	
	comp=N,8.0nm,0.3s						
SONA				AML	AML	17 15 08.3	
	comp=E,12nm,0.5s						
KK31	**Karatay Array**	**8.91**	**345**	⇓P	**Pn**	**17 13 22.5**	**+1.9**
	comp=E,4.1nm,0.5s,baz=46,slow=66,SNR=40						
KK31				S	**Sn**	**17 14 58.1**	**-3.0**
	comp=E,1.8nm,0.5s,baz=170,slow=23,SNR=14						
KOLN	**Koldanda**	**10.88**	**125**	*e*P	**Pn**	**17 13 48.5**	**+0.9**
	comp=E,4.5nm,0.3s						
GKN	**Gorkha**	**11.45**	**121**	*e*P	**Pn**	**17 13 55.9**	**+0.5**
	comp=E,6.9nm,0.2s						
DMN	**Daman**	**12.02**	**122**	*e*P	**Pn**	**17 14 02.4**	**-0.8**
	comp=E,3.6nm,0.2s						
KKN	**Kakani**	**12.04**	**121**	*e*P	**Pn**	**17 14 02.7**	**-0.7**
	comp=E,9.9nm,0.5s						
PKI	**Pulchoki**	**12.26**	**121**	*e*P	**Pn**	**17 14 05.8**	**-0.6**
	comp=E,5.4nm,0.3s						
JIRN	**Jiri**	**12.77**	**119**	*e*P	**Pn**	**17 14 12.7**	**-0.6**
AB31	**Akbulak array**	**17.86**	**330**	P	**Pn**	**17 15 19.7**	**-0.7**
	baz=135,slow=17						
AKTO	**Aktyubinsk**	**19.57**	**329**	⇑P	**Pn**	**17 15 40.1**	**-1.0**
	comp=E,0.1nm,1.0s						

IDC 15 17:15:30.1±31.0**,1626S**×**17818W,h0**km**,mb4.1**/4**, mb1 4.2**/4**,mb1mx3.9**/14**,mbtmp4.1**/4**,Error ellipse: s-maj=597.4km s-min=141.0km az=83.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.63**	**239**	P	P	17 23 03.7	+0.2
	1.5nm,0.5s,baz=87,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**45.17**	**258**	P	P	17 23 49.0	+0.5
	0.3nm,0.3s,baz=93,slow=7.6,SNR=19						
ASAR	**Alice Springs**	**45.47**	**253**	P	P	17 23 51.3	+0.4
	5.2nm,0.5s,baz=89,slow=8.2,SNR=137						
FITZ	**Fitzroy Crossi**	**53.53**	**259**	P	P	17 24 52.8	+0.3
	2.0nm,1.0s,baz=90,slow=9.1,SNR=4.0						

*MOS **15** 17:43:07.5±1.1,5735N×12060E,h10km,mb4.3/1,Error ellipse: s-maj=29.1km s-min=17.7km az=46.0*
BYKL 15 17:43:06.1±0.4**,5742N**×**12069E,1D,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNR	**Khani**	**0.63**	**218**	*e*Pg	Pg	17 43 18.0	-0.2
KHNR				*e*Sg	Sg	17 43 25.8	-0.6
CRS	**Chara**	**1.42**	**249**	⇓*i*Pg	Pg	17 43 32.4	-0.9
CRS				*i* Sg	Sg	17 43 50.6	-1.1
CRS				Pmax			
	137nm,1.0s						
CRS				Smax			
	258nm,0.7s						
CRS	**Chara**	**1.42**	**249**	*e*P	Pn	17 43 32.4	-0.7
CRS				*e*		17 43 50.3	
CRS				pmax	pmax		
	comp=Z,134nm,0.5s						
CRS				smax			
	comp=E,317nm,0.6s						
CLNS	**Chul'man**	**2.37**	**103**	*e*Pn	Pn	17 43 48.0	+1.9
CLNS				*e*Pg	Pg	17 43 49.6	-1.8
CLNS				*e*		17 44 18.1	
CLNS				*e*Sg	Sg	17 44 20.5	-1.6
CLNS	**Chul'man**	**2.37**	**103**	*e*P	Pn	17 43 47.9	+1.8
CLNS				*e*S	Sn	17 44 17.8	+1.9
CLNS				pmax	pmax		
	comp=N,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CLNS				smax			
	comp=E,33nm,0.3s						
CLNS				smax			
	comp=Z,14nm,0.3s						
CLNS				smax			
	comp=N,17nm,0.2s						
IENR	**Iengra**	**2.59**	**116**	*e*Pn	Pn	17 43 49.9	+0.7
IENR				*e*Pg	Pg	17 43 53.2	-2.5
IENR				*e*Sg	Sg	17 44 26.9	-2.3
ALDR	**Aldan**	**2.78**	**63**	*e*Pg	Pg	17 43 55.9	-3.5
ALDR				*e*Sg	Sg	17 44 31.3	-4.1
NLYR	**Nelyaty**	**2.89**	**253**	*e*Pn	Pn	17 43 53.9	+0.6
NLYR				*e*Pg	Pg	17 43 57.4	-4.0
NLYR				*e*Sg	Sg	17 44 34.0	-4.8
TUP	**Tupik**	**3.03**	**188**	*e*Pn	Pn	17 43 54.7	-0.6
TUP				*e*Pg	Pg	17 44 00.0	-4.2
TUP				*e*Sn	Sn	17 44 31.7	-0.6
TUP				*e*Sg	Sg	17 44 39.0	-4.5
TUP				Pmax			
	comp=N,54nm,1.0s						
TUP				Smax			
	comp=N,654nm,0.8s						
TUP	**Tupik**	**3.03**	**188**	*e*P	Pn	17 43 54.7	-0.6
TUP				*e*S	Sn	17 44 30.5	-1.8
TUP				pmax	pmax		
	comp=Z,47nm,0.6s						
TUP				smax			
	comp=E,656nm,0.8s						
BOD	**Bodaibo**	**3.62**	**279**	*e*Pn	Pn	17 44 03.2	-0.2
BOD				*e*Pg	Pg	17 44 10.1	-5.4
BOD				*e*		17 44 13.6	
BOD				*e*Sg	Sg	17 44 57.7	-4.7
BOD				max			
	comp=E,12nm,0.6s						
BOD				Smax			
	comp=E,153nm,0.8s						
BOD	**Bodaibo**	**3.62**	**279**	*e*P	Pn	17 44 03.3	-0.1
BOD				*e*S	Sn	17 44 46.2	-0.6
BOD				pmax	pmax		
	comp=Z,13nm,0.5s						
BOD				smax			
	comp=N,158nm,0.9s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SVKR	Severomuysk	4.14	255	ePg	Pg	17 44 21.2	-4.2
SVKR				eSg	Sg	17 45 15.0	-4.0
SVKR				Pmax			
	comp=N,19nm,0.2s						
SVKR				Smax			
	comp=N,181nm,1.2s						
SVKR	Severomuysk	4.14	255	eP	Pn	17 44 19.1	+8.6
SVKR				pmax	pmax		
	comp=Z,28nm,0.8s						
UKT	Uakit	4.37	247	ePn	Pn	17 44 14.4	+0.7
UKT				ePg	Pg	17 44 24.2	-5.7
UKT				eSg	Sg	17 45 20.2	-6.3
UKT				Pmax			
	comp=Z,13nm,0.8s						
UKT				Smax			
	comp=Z,64nm,0.8s						
UKT	Uakit	4.37	247	eP	Pn	17 44 24.2	+10
UKT				pmax	pmax		
	comp=Z,13nm,0.4s						
YOA	Uoyan	5.10	259	ePg	Pg	17 44 37.4	-6.4
YOA				eSg	Sg	17 45 44.3	-5.6
YOA				Pmax			
	comp=Z,24nm,0.5s						
YOA				Smax			
	comp=Z,456nm,1.4s						
CGD	Chagda	5.43	72	ePn	Pn	17 44 29.6	+1.3
CGD				eSg	Sg	17 45 52.5	-8.2
KMO	Kumora	5.46	258	ePn	Pn	17 44 28.7	+0.1
KMO				ePg	Pg	17 44 42.5	-8.2
KMO				eSg	Sg	17 45 53.2	-8.2
KMO				Pmax			
	comp=Z,20nm,3.4s						
KMO				Smax			
	comp=Z,109nm,1.8s						
KMO	Kumora	5.46	258	eP	Pn	17 44 28.8	+0.2
KMO				eS	Sn	17 45 28.8	-3.3
KMO				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KMO				smax			
	comp=E,109nm,1.1s						
YLYR	Ulyunkhan	5.90	248	ePn	Pn	17 44 35.4	+0.6
YLYR				ePg	Pg	17 44 53.2	-6.0
YLYR				eSg	Sg	17 46 09.5	-6.3
YLYR				Pmax			
	comp=E,2.0nm,0.6s						
YLYR				Smax			
	comp=E,56nm,1.0s						
YLYR	Ulyunkhan	5.90	248	eP	Pn	17 44 35.9	+1.1
YLYR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NIZ	Nizh Angarsk	6.38	260	e	Pn	17 45 08.0	+27
NIZ				eSg	Sg	17 46 23.6	-7.3
NIZ				Smax			
	comp=Z,49nm,1.6s						
YAK	Yakutsk	6.48	41	eP	Pn	17 44 45.1	+2.4
YAK				e		17 46 07.9	
YAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.6s						
YAK				smax			
	comp=N,14nm,0.8s						
YAK				smax			
	comp=E,12nm,0.8s						
YAK				smax			
	comp=Z,13nm,1.2s						
YAK				MLR	MLR		
	comp=Z,24nm,8.0s						
CIT	Chita	6.81	220	eSg	Sg	17 46 35.7	-9.0
CIT				Smax			
	comp=Z,146nm,1.9s						
SYVR	Suvo	7.14	243	eSg	Sg	17 46 48.3	-7.1
SYVR				Smax			
	comp=Z,63nm,1.6s						
OGRR	Ongureny	8.33	249	ePg	Pg	17 45 36.0	-10
OGRR				eSg	Sg	17 47 23.7	-10
OGRR				Pmax			
	comp=Z,1.0nm,0.9s						
OGRR				Smax			
	comp=Z,19nm,2.3s						
KPC	Khapcheranga	9.17	216	ePn	Pn	17 45 19.6	0.0
KPC				eSg	Sn	17 47 49.2	+46
KPC				Smax			
	comp=Z,35nm,1.4s						
ARS	Arshan	11.90	250	eSg	Sn	17 49 11.8	+61
ARS				Smax			
	comp=Z,17nm,0.9s						
MOY	Mondy	12.78	252	eSg	Sn	17 49 41.9	+70

MAN 15 18:30:24.3, 864N×12229E, h33km, mb2.4, ML4.0, MS4.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.89	161⇑	eP	Pn	18 30 40.6	+0.2
IPIL				eS	Sn	18 30 57.4	+5.3
IPIL	Ipil	0.89	161	eP	Pn	18 30 40.6	+0.2
IPIL				eS	Sn	18 30 51.6	-0.6
DCPH	Dipolog City	1.05	93⇑	eP	Pn	18 30 42.8	+0.1
DCPH				eS	Sn	18 30 55.7	-0.5
SNPH	Sibulan	1.17	53	eP	Pn	18 30 45.0	+0.7
PAGZ	Pagadian	1.34	126	eP	Pn	18 30 47.3	+0.7
GUIM	Jordan	2.00	9	eP	Pn	18 30 56.8	+1.1
GUIM				eS	Sn	18 31 20.0	+0.4
CUYO	Cuyo Island	2.53	331	eP	Pn	18 31 04.0	+1.0
ENPP	El Nido	3.80	312	eP	Pn	18 31 21.4	+0.8
BUSP	Coron	3.93	329	eP	Pn	18 31 23.4	+1.2

MEX 15 18:50:13.2±1.0, 1661N×9498W, h90km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.49	11	i P	Pn	18 50 26.6	-1.3
CMIG				i S	Sn	18 50 37.2	-1.6
HUIG	Huatulco	1.37	233	i P	Pn	18 50 35.3	-1.9
HUIG				i S	Sn	18 50 54.6	-0.9
OXX	Oaxaca	1.74	286	eP	Pn	18 50 41.5	-0.4
OXX				i S	Sn	18 51 02.0	-1.8
VHO	Vista Hermosa	1.74	286	i P	Pn	18 50 41.5	-0.6
VHO				i S	Sn	18 51 02.4	-1.5
CCIG	Comitan	2.75	96	i P	Pn	18 50 56.5	+1.2
CCIG				i S	Sn	18 51 25.7	-2.0
UTMO	Huajuapan	2.96	295	i P	Pn	18 50 57.4	-0.8
UTMO				i S	Sn	18 51 30.2	-2.6

*ISCJB **15** 19:00:18.8±0.5, 606S±0.1×257W±02, h10km, mb4.3/12, MS4.0/12, Error ellipse: s-maj=17.5km s-min=12.8km az=107.6*
*IDC **15** 19:00:19.0±0.7, 6065S×2567W, h0km, mb4.3/10, mb1 4.4/10, mb1mx4.3/16, mbtmp4.3/10, MS3.9/13, Ms1 3.9/13, ms1mx3.9/24, Error ellipse: s-maj=24.1km s-min=18.0km az=38.0*
*NEIC **15** 19:00:20.4±0.3, 6065S×2568W, h10km, mb4.6/2, Error ellipse: s-maj=12.8km s-min=9.5km az=52.0*
ISC 15 19:00:19.2±0.5, 6096S±009×257W±02, h10km, n30, σ1s21/22, mb4.3/12, MS4.0/12, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.00	151	e	Pn	19 03 09.6	-0.7
VNA1				e		19 03 10.2	
VNA1				e		19 03 10.6	
VNA1				e		19 03 11.5	
VNA1				e		19 03 13.6	
VNA1				e		19 03 17.7	
VNA1				e		19 05 15.8	
VNA1				e		19 05 19.8	
VNA1				e		19 05 27.3	
VNA3	Neumayer Olymp	12.13	155	e	Pn	19 03 11.1	-1.0
VNA3				e		19 03 11.7	
VNA3				e		19 03 12.2	
VNA3				e		19 03 13.0	
VNA3				e		19 03 14.9	
VNA3				e		19 03 19.9	
VNA3				e		19 03 20.8	
VNA3				e		19 05 17.2	
VNA3				e		19 05 20.2	
VNA3				e		19 05 26.0	
SNAA	Sanae	14.00	149	Pn	Pn	19 03 36.4	-1.2
	2.8nm,0.3s,baz=317,slow=12,SNR=309						
SNAA				Sn	Sn	19 06 00.4	-13
	0.3nm,0.3s,baz=356,slow=18,SNR=4.5						
SNAA				LR	LR	19 07 55.3	
	comp=Z,294nm,20.6s,baz=349,slow=32						
SNAA	Sanae	14.00	149	e	Pn	19 03 36.3	-1.3
SNAA				e		19 03 36.7	
SNAA				e		19 03 38.6	
SNAA				e		19 03 39.7	
SNAA				e		19 03 40.7	
SNAA				e		19 03 42.9	
SNAA				e		19 03 50.9	
SNAA				e		19 06 02.4	
SNAA				e		19 06 05.5	
SNAA				e		19 06 15.0	
SYO	Syowa Base	27.40	135⇑	eP	P	19 06 12.2	+7.3
SYO	Syowa Base	27.40	135⇑	eP	P	19 06 15.6	+11
QSPA	South Pole Qui	29.28	180	eP	P	19 06 25.2	+3.6
	23nm,1.2s,mb4.8						
PLCA	Paso Flores	33.89	286	P	P	19 07 03.3	+1.2
	1.0nm,0.5s,mb4.0,baz=161,slow=15,SNR=2.9						
PLCA				LR	LR	19 18 19.6	
	comp=Z,290nm,21.2s,MS4.0,baz=317,slow=32						
MAW	Mawson	35.81	139	P	P	19 07 21.1	+2.4
	5.5nm,1.0s,mb4.5,baz=240,slow=10.0,SNR=5.3						
MAW				LR	LR	19 19 30.8	
	comp=Z,252nm,21.1s,MS4.0,baz=235,slow=32						
CFAA	Coronel Fontan	40.37	297	P	P	19 07 56.2	-1.0
	0.3nm,0.4s,mb3.4,baz=164,slow=5.8,SNR=7.4						
CFAA	Coronel Fontan	40.37	297	P	P	19 07 56.2	-1.0
CPUP	Villa Florida	40.73	314	P	P	19 07 58.9	-1.2
	1.3nm,0.4s,mb4.0,baz=126,slow=5.8,SNR=8.1						
CPUP				LR	LR	19 22 36.9	
	comp=Z,179nm,21.3s,MS3.9,baz=143,slow=33						
CPUP	Villa Florida	40.73	314	P	P	19 07 58.9	-1.2
CPUP				LR	LR	19 22 36.9	
VNDA	Vanda	41.69	182	P	P	19 08 12.1	+4.0
	4.5nm,1.1s,mb4.0,baz=193,slow=6.9,SNR=8.4						
VNDA				LR	LR	19 26 11.0	
	comp=Z,51nm,21.5s,MS3.4,baz=169,slow=37						
BOSA	Boshof	46.67	70	P	P	19 08 48.0	+0.1
	11nm,1.0s,mb4.8,baz=199,slow=6.5,SNR=11						
BOSA				LR	LR	19 23 06.3	
	comp=Z,178nm,20.8s,MS4.0,baz=230,slow=29						
BDFB	Brasilia	48.03	330	LR	LR	19 25 40.6	
	comp=Z,227nm,20.8s,MS4.1,baz=166,slow=32						
LPAZ	La Paz	53.91	307	P	P	19 09 43.8	+1.0
	1.7nm,0.5s,mb4.3,baz=102,slow=7.2,SNR=10						
LPAZ				LR	LR	19 32 13.0	
	comp=Z,100nm,20.9s,MS3.9,baz=115,slow=36						
SAML	Samuel	58.85	315	eP	P	19 10 16.6	-1.4
	2.2nm,0.8s,mb4.2						
DBIC	Dimbokro	69.37	22	P	P	19 11 26.5	-0.7
	4.9nm,0.8s,mb4.5,baz=176,slow=9.5,SNR=6.5						
DBIC				LR	LR	19 34 18.5	
	comp=Z,102nm,21.3s,MS4.0,baz=158,slow=30						
ROSC	El Rosal	75.65	309	LR	LR	19 42 38.1	
	comp=Z,109nm,22.0s,MS4.1,baz=168,slow=34						
KMBO	Kilima Mbogo	76.17	66	LR	LR	19 43 17.0	
	comp=Z,122nm,19.9s,MS4.2,baz=96,slow=34						
TOA0	Torodi Ar. Sit	77.01	27	eP	P	19 12 12.6	+0.3
TORD	Torodi Ar. Bea	77.01	27	P	P	19 12 12.8	+0.5
	5.5nm,0.6s,mb4.7,baz=195,slow=6.4,SNR=32						
TORD				LR	LR	19 40 10.8	
	comp=Z,69nm,18.8s,MS4.0,baz=230,slow=31						
SDV	Santo Domingo	78.04	314	LR	LR	19 46 47.7	
	comp=Z,167nm,21.0s,MS4.3,baz=2.0,slow=36						
ASAR	Alice Springs	94.06	161	P	P	19 13 39.2	+1.4
	0.8nm,1.0s,mb4.1,baz=189,slow=5.2,SNR=4.6						
NB2	NORSAR Subarra	124.93	21	PKPd	PKPdf	19 19 18.5	-1.0
	comp=Z,0.5nm,0.6s,baz=202,slow=1.9						
NOA	NORSAR Array B	124.93	21	PKP	PKPdf	19 19 18.4	-1.2
	comp=Z,1.0nm,0.7s,baz=190,slow=1.6,SNR=3.7						
FINES	FINESS Array B	128.34	29	PKP	PKPdf	19 19 24.9	-1.2
	comp=Z,2.7nm,0.6s,baz=160,slow=2.1,SNR=15						
ARCES	ARCESS Array B	135.20	23	PKP	PKPdf	19 19 37.9	-1.1
	comp=Z,5.4nm,1.1s,baz=162,slow=0.4,SNR=6.9						
SONM	Songino Array	149.92	94	PKPbc	PKPbc	19 20 09.5	-0.3
	comp=Z,6.1nm,0.9s,baz=214,slow=2.4,SNR=27						

IDC 15 19:33:32.7±11.0, 550S×15437E, h162km±68km, mb3.4/3, mb1 3.7/4, mb1mx3.3/14, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/18, Error ellipse: s-maj=108.8km s-min=78.3km az=7.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.14	241	P	Pn	19 35 28.2	+0.4
	6.6nm,0.3s,baz=45,slow=10.0,SNR=23						
PMG				S	Sn	19 36 59.2	+0.6
	1.0nm,0.3s,baz=184,slow=15,SNR=3.5						
GUMO	Guam	21.18	334	LR	LR	19 45 46.7	
	comp=Z,50nm,18.1s,baz=287,slow=35						
WB2	Warramunga Arr	24.19	232	eP	P	19 38 34.7	+0.6
WRA	Warramunga Arr	24.20	232	P	P	19 38 35.0	+0.8
	2.3nm,0.7s,baz=55,slow=9.6,SNR=28						
ASAR	Alice Springs	26.74	225	P	P	19 38 57.4	+0.3
	0.7nm,0.5s,baz=56,slow=9.3,SNR=13						
STKA	Stephens Creek	28.84	203	P	P	19 39 15.2	-0.6
	0.7nm,0.6s,baz=41,slow=11,SNR=3.3						

*ISCJB **15** 19:37:15.0±1.2, 375N±0.1×724E±03, h129km±27km, Error ellipse: s-maj=39.4km s-min=7.2km az=121.4*
*NNC **15** 19:37:23.1±4.3, 3797N×7042E, h0km, mb3.6, mpv4.2, Error ellipse: s-maj=46.1km s-min=35.0km az=161.0*
ISC 15 19:37:16.2±1.1, 375N±01×723E±03, h133km±21km, n9, σ0s81/12, 2C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.74	346	P	Pn	19 38 41.1	+1.8
	8.5nm,0.2s,baz=155,slow=10,SNR=594						
KK31				S	Sn	19 39 43.1	-0.9
	3.1nm,0.3s,baz=162,slow=16,SNR=12						
THN	Thein Dam	5.79	150	eP	Pn	19 38 39.8	-0.1
THN				eS	Sn	19 39 45.0	-0.1
KOLN	Koldanda	13.57	133	eP	Pn	19 40 22.9	-0.4
	6.3nm,0.5s						
GKN	Gorkha	14.03	129	eP	Pn	19 40 29.2	+0.1
	9.6nm,0.3s						
KKN	Kakani	14.58	128	eP	Pn	19 40 35.7	-0.3
DMN	Daman	14.60	129	eP	Pn	19 40 36.5	+0.2
AB31	Akbulak array	14.76	326	⇑P	Pn	19 40 36.9	-1.4
	0.4nm,0.3s,baz=131,slow=17						
AB31				⇑S	Sn	19 43 09.3	-12
	0.3nm,0.3s						
JIRN	Jiri	15.25	126	eP	Pn	19 40 44.7	+0.3
AKTO	Aktyubinsk	16.48	326	⇓P	Pn	19 41 00.5	+1.0
	0.1nm,1.1s						

IDC 15 19:41:49.3±2.7, 1922S×7042W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.6/18, mbtmp3.6/4, ML3.9/2, Error ellipse: s-maj=49.1km s-min=15.1km az=100.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.64	37	Pn	Pn	19 42 47.5	+0.7
	1.2nm,0.3s,baz=216,slow=6.1,SNR=25						
LPAZ				Pg	Pg	19 42 56.8	-2.2
	2.1nm,0.3s,baz=204,slow=14,SNR=21						
LPAZ				Lg		19 43 44.4	
	0.9nm,0.3s,baz=60,slow=14,SNR=1.0						
LVC	Limon Verde	3.66	158	Pn	Pn	19 42 47.5	+0.4
	12nm,0.3s,baz=332,slow=7.9,SNR=22						
LVC				Sn	Sn	19 43 34.3	+3.3
	7.5nm,0.3s,baz=127,slow=21,SNR=8.9						
LVC				Lg		19 43 45.4	
	44nm,0.3s,baz=201,slow=21,SNR=18						
SIV	San Ignacio	9.47	72	Pn	Pn	19 44 01.6	-5.3
	0.6nm,0.3s,baz=234,slow=19,SNR=10						
PLCA	Paso Flores	21.45	180	P	P	19 46 39.1	0.0
	1.2nm,0.7s,baz=8.5,slow=14,SNR=3.8						
TORD	Torodi Ar. Bea	77.95	71	P	P	19 53 49.8	+0.5
	0.3nm,0.7s,baz=244,slow=6.3,SNR=3.5						

IDC 15 19:46:11.7±11.0, 1981S×16765E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, ML3.6/1, Error ellipse: s-maj=198.0km s-min=36.3km az=86.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.52	206	eP	Pn	19 46 54.1	+0.3
DZM				eS	Sn	19 47 24.1	-1.1
DZM	Mont Dzumac	2.52	206	Pn	Pn	19 46 54.1	+0.2
	12nm,0.3s,baz=121,slow=23,SNR=190						
DZM				Sn	Sn	19 47 26.9	+1.7
	99nm,0.3s,baz=184,slow=11,SNR=11						
STKA	Stephens Creek	26.28	238	P	P	19 51 49.2	+0.5
	1.1nm,0.5s,baz=84,slow=7.7,SNR=5.9						
WRA	Warramunga Arr	31.30	264	P	P	19 52 33.1	-0.3
	0.9nm,0.4s,baz=97,slow=8.9,SNR=48						
ASAR	Alice Springs	31.54	257	P	P	19 52 36.0	+0.4
	2.4nm,0.7s,baz=85,slow=8.4,SNR=46						
FITZ	Fitzroy Crossi	39.70	265	P	P	19 53 46.1	+0.5
	5.2nm,0.7s,baz=114,slow=9.4,SNR=20						

*BJI **15** 19:49:26.8, 457S×15340E, h62km, mB5.3, mb5.4, Ms5.0, Msz4.6*
*MOS **15** 19:49:29.4±1.1, 445S×15279E, h56km, mb5.4/24, MS4.1/12, Error ellipse: s-maj=11.0km s-min=7.5km az=100.7*
*ISCJB **15** 19:49:29.1±0.2, 459S±003×15295E±004, h64km, mb5.3/98, Error ellipse: s-maj=5.3km s-min=4.2km az=179.4*
*IDC **15** 19:49:30.3±1.6, 460S×15277E, h58km±13km, mb4.6/19, mb1 4.7/21, mb1mx4.7/22, mbtmp4.9/21, MS4.2/19, Ms1 4.2/19, ms1mx4.1/20, Error ellipse: s-maj=12.5km s-min=9.2km az=111.0*
*NEIC **15** 19:49:31.1±1.0, 457S×15288E, h65km±8km, mb5.3/26, Error ellipse: s-maj=7.0km s-min=5.7km az=103.0*
*GCMT **15** 19:49:31.1±0.2, 480S×15293E, h60km±1km, MW5.1/69, Moment Tensor Solution. s66,c108; s69,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.68±.17; $M_{\theta\theta}$-5.72±.12; $M_{\phi\phi}$0.03±.14; $M_{r\theta}$1.74±.12; $M_{\theta\phi}$-0.86±.12; $M_{\phi r}$0.20±.12; Best double couple: $M_0$6.02300×10^{16} NP1:ϕ_s261.00000°,δ37.00000°,λ89.00000°. NP2: ϕ_s82.00000°,δ53.00000°,λ91.00000°. Principal axes: T 5.9400, Plg82.0000°, Azm355.0000°; N 0.1610, Plg1.0000°, Azm262.0000°; P -6.1050, Plg8.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 15 19:49:31.1±0.2, 461S±003×15297E±004, h66km, h66km±1.7km:pP-P, n375, σ1s08/210, mb5.2/98, 34C-25D, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.48	230	P	Pn	19 51 18.7	+1.2
	7.1nm,0.3s,baz=41,slow=15,SNR=24						
PMG				S	Sn	19 52 41.3	+0.4
	12nm,0.3s,baz=87,slow=19,SNR=5.5						
PMG	Port Moresby	7.48	230	P	Pn	19 51 18.7	+1.2
PMG				S	Sn	19 52 41.3	+0.4
PMG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PMG				smax			
	comp=N,13nm,0.3s						
PMG	Port Moresby	7.48	230	ePn	Pn	19 51 18.6	+1.1
PMG				eSn	Sn	19 52 37.0	-3.9
HNR	Honiara	8.42	125	P	Pn	19 51 31.9	+1.7
	comp=N,11nm,0.3s,baz=261,slow=4.5,SNR=5.0						
HNR				S	Sn	19 53 04.9	+1.1
	baz=273,slow=19,SNR=2.2						
HNR	Honiara	8.42	125	P	Pn	19 51 31.9	+1.6
HNR				S	Sn	19 53 04.9	+1.1
HNR				pmax	pmax		
	comp=Z,11nm,0.3s						
CTA	Charters Tower	16.72	202	eP	Pn	19 53 21.8	+0.8
	comp=Z,9.9nm,2.0s						
CTA	Charters Tower	16.72	202	P	Pn	19 53 21.7	+0.8
	comp=Z,0.4nm,0.3s,baz=23,slow=15,SNR=6.8						
CTAO	Charters Tower	16.72	202	eP	Pn	19 53 21.5	+0.6
	comp=Z,13nm,1.0s						
GUMO	Guam	19.79	336	P	Pn	19 53 58.7	+0.8
	comp=Z,5.1nm,0.3s,baz=170,slow=7.3,SNR=25						
GUMO				LR	LR	20 00 27.5	
	comp=Z,344nm,21.3s,baz=336,slow=33						
DZM	Mont Dzumac	21.72	144	P	P	19 54 16.4	-0.3
	comp=Z,38nm,0.8s,mb4.8,baz=16,slow=9.2,SNR=11						
KAKA	Kakadu	21.82	247	eP	P	19 54 16.8	-1.0
	comp=Z,119nm,0.3s,mb5.7						
WRAB	Tennant Creek	23.69	228	P	P	19 54 36.0	-0.7
	comp=Z,601nm,0.4s,mb6.3						
WRAB	Tennant Creek	23.69	228c	iP	P	19 54 36.5	-0.2
WRAB	Tennant Creek	23.69	228	eP	P	19 54 36.0	-0.7
	comp=Z,75nm,0.4s,mb5.4						
WB2	Warramunga Arr	23.69	228	eP	P	19 54 36.1	-0.6
WB2				eS	S	19 58 45.5	-1.3
WRA	Warramunga Arr	23.70	228	P	P	19 54 36.5	-0.3
	comp=Z,37nm,0.4s,mb5.1,baz=52,slow=9.9,SNR=184						
WRA				PcP	PcP	19 58 20.1	+0.8
	comp=Z,7.5nm,0.9s,baz=45,slow=2.0,SNR=6.5						
WRA				S	S	19 58 45.6	-1.4
	comp=Z,5.0nm,1.1s,baz=58,slow=16,SNR=8.4						
WRA				ScP	ScP	20 01 54.0	+2.2
	comp=Z,2.0nm,0.7s,baz=50,slow=2.9,SNR=5.1						
WRA				LR	LR	20 04 10.8	
	comp=Z,339nm,21.1s,baz=65,slow=37						
ARMA	Armidale	25.70	183	eP	P	19 54 57.4	+2.4
AS31	Alice Springs	26.41	222	eP	P	19 55 00.6	-0.8
ASAR	Alice Springs	26.41	222	P	P	19 55 00.6	-0.8
	comp=Z,3.0nm,0.4s,baz=55,slow=9.2,SNR=69						
ASAR				PcP	PcP	19 58 25.5	+0.2
	comp=Z,3.1nm,0.8s,baz=46,slow=3.1,SNR=4.2						
ASAR				S	S	19 59 28.8	-1.3
	comp=Z,3.3nm,1.2s,baz=48,slow=14,SNR=2.8						
ASAR				ScP	ScP	20 02 01.2	+1.8
	comp=Z,0.6nm,0.8s,baz=51,slow=3.3,SNR=2.6						
ASAR				LR	LR	20 05 12.9	
	comp=Z,416nm,21.3s,baz=29,slow=36						
ASAR	Alice Springs	26.41	222	P	P	19 55 00.6	-0.8
ASAR						19 58 25.5	
ASAR				S	S	19 59 28.8	-1.3
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR				smax			
	comp=N,3.0nm,1.2s						
ASAR				MLR	MLR		
	comp=Z,416nm,21.3s						
ASPA	Alice Springs	26.41	222	eP	P	19 55 00.6	-0.8
STKA	Stephens Creek	29.15	200⇓	iP	P	19 55 26.1	+0.2
	comp=Z,6.4nm,0.8s,mb4.3						
STKA				e		19 58 35.1	
STKA	Stephens Creek	29.15	200	P	P	19 55 25.8	-0.1
	comp=Z,5.7nm,0.7s,mb4.3,baz=11,slow=8.9,SNR=13						
STKA				PcP	PcP	19 58 34.8	+2.8
	comp=Z,7.3nm,0.9s,baz=32,slow=2.2,SNR=4.8						
STKA				ScP	ScP	20 02 10.3	+2.5
	comp=Z,3.7nm,0.9s,baz=31,slow=1.2,SNR=3.5						
STKA				LR	LR	20 06 42.9	
	comp=Z,743nm,21.5s,baz=19,slow=36						
FITZ	Fitzroy Crossi	29.90	241	eP	P	19 55 30.9	-1.6
	comp=Z,64nm,0.8s,mb5.3						
FITZ	Fitzroy Crossi	29.90	241	P	P	19 55 31.3	-1.2
	comp=Z,26nm,0.4s,mb5.2,baz=65,slow=7.6,SNR=139						
FITZ				S	S	20 00 21.3	-3.7
	comp=Z,2.7nm,0.9s,baz=150,slow=20,SNR=2.7						
FITZ				LR	LR	20 08 31.0	
	comp=Z,199nm,19.6s,baz=280,slow=38						
BUKP	Musuan	30.48	294	eP	P	19 55 38.1	+0.5
CBIJ	Chichi jima	33.20	342	P	P	19 55 59.2	-2.2
	comp=Z,74nm,0.6s,mb5.7,baz=317,slow=21,SNR=7.1						
FORT	Forrest	35.04	219	eP	P	19 56 16.2	-1.3
	comp=Z,29nm,0.8s,mb5.2						
AFI	Afiamalu	35.95	107	LR	LR	20 09 17.8	
	comp=Z,294nm,19.1s,baz=109,slow=33						
TSM	Tawau	36.16	284	P	P	19 56 27.5	+0.5
MBWA	Marble Bar	36.22	240	eP	P	19 56 26.8	-0.7
	comp=Z,30nm,0.5s,mb5.5						
RAO	Raoul Island	36.88	135	LR	LR	20 09 14.2	
	comp=Z,328nm,21.4s,baz=140,slow=32						
KKM	Kota Kinabalu	38.20	286	P	P	19 56 44.7	+0.4
KKM	Kota Kinabalu	38.20	286	eP	P	19 56 44.2	-0.1
URZ	Urewera	40.07	150	P	P	19 57 00.9	+1.0
	comp=Z,5.2nm,0.3s,mb4.8,baz=15,slow=3.9,SNR=9.8						
URZ				PcP	PcP	19 59 02.3	-1.2
	comp=Z,15nm,0.8s,baz=222,slow=1.0,SNR=4.6						

URZ LR LR 20 10 25.6
comp=Z,132nm,20.8s,baz=217,slow=31
RPZ Rata Peaks 42.09 160 P **P** **19 57 17.4 +0.8**
comp=Z,44nm,0.8s,mb5.2,baz=62,slow=0.9,SNR=12
RPZ LR LR 20 13 18.9
comp=Z,670nm,19.1s,baz=0.0,slow=34
RPZ Rata Peaks 42.09 160 P **P** **19 57 17.4 +0.8**
RPZ LR LR 20 13 18.9
YHNB Yeheng 42.33 315 *eP* **P** **19 57 19.3 +0.9**
KLBR Kellerberrin 42.56 227 *eP* **P** **19 57 18.8 -1.5**
comp=Z,22nm,1.0s,mb4.8
KSM Kuching 43.05 277 *eP* **P** **19 57 24.6 +0.3**
MJAR Matsushiro Arr 43.20 343 P **P** **19 57 23.7 -1.7**
comp=Z,4.2nm,0.6s,mb4.3,baz=165,slow=7.4,SNR=13
MJAR PcP PcP 19 59 13.7 -0.2
comp=Z,4.1nm,0.7s,baz=161,slow=3.2,SNR=6.9
MJAR LR LR 20 13 29.7
comp=Z,237nm,21.8s,baz=180,slow=33
MJAR Matsushiro Arr 43.20 343 P **P** **19 57 23.7 -1.8**
MJAR 19 59 13.7
MJAR pmax pmax
comp=Z,4.0nm,0.6s
MJAR MLR MLR
comp=Z,237nm,21.8s
MAJO Matsushiro 43.20 343 *eP* **P** **19 57 24.1 -1.4**
comp=Z,12nm,0.8s,mb4.7
MAT Matsushiro 43.20 343 P **P** **19 57 23.7 -1.8**
NWAO Narrogin (SRO) 43.64 225 P **P** **19 57 29.8 +0.7**
comp=Z,4.2nm,0.5s,mb4.4,baz=84,slow=10,SNR=7.7
NWAO LR LR 20 15 31.0
comp=Z,333nm,20.9s,baz=47,slow=36
NWAO Narrogin (SRO) 43.64 225 P **P** **19 57 29.8 +0.8**
NWAO pmax pmax
comp=Z,4.0nm,0.5s
NWAO MLR MLR
comp=Z,333nm,20.9s
NWAO Narrogin (SRO) 43.64 225 P **P** **19 57 31.3 +2.2**
comp=Z,6.7nm,0.9s,mb4.4
MUN Mundaring 43.89 227 *eP* **P** **19 57 31.1 +0.1**
QZH Quanzhou 44.49 313⇑ *iP* **P** **19 57 37.3 +1.5**
QZH AMB AMB
comp=Z,130nm,0.8s,mb5.7
SSE Sheshan 46.70 322 *eP* **P** **19 57 54.1 +0.9**
SSE AP pP 19 58 11.6 +1.7
SSE XP sP 19 58 21.0 +3.6
SSE PP PP 19 59 46.3 +2.4
SSE S **S** **20 04 36.0 -2.0**
SSE XS sS 20 05 06.6 +0.4
SSE SCS ScS 20 07 42.1 +0.4
SSE AMB AMB
comp=Z,56nm,0.9s,mb5.3
SSE AMB AMB
comp=Z,272nm,6.0s
SSE LR LR
comp=N,148nm,26.0s
SSE LR LR
comp=E,184nm,26.0s
SSE LR LR
comp=Z,266nm,30.1s
GZH Guangzhou 47.48 307 P **P** **19 58 00.0 +0.7**
KS15 Wonju Array Si 47.91 333 *eP* **P** **19 58 03.3 +0.6**
QIZ Qiongzhong 48.52 300 P **P** **19 58 08.3 +0.9**
QIZ AP pP 19 58 24.8 +0.7
QIZ S **S** **20 05 06.5 +2.7**
QIZ XS sS 20 05 36.3 +4.1
QIZ SCS ScS 20 07 56.3 +2.5
QIZ SS SS 20 08 32.3 -2.1
QIZ AMB AMB
comp=Z,27nm,1.0s,mb5.1
QIZ LR LR
comp=E,316nm,20.9s
QIZ LR LR
comp=Z,397nm,22.5s
INCN Inchon 48.52 332 *eP* **P** **19 58 08.3 +1.0**
comp=Z,284nm,0.9s,mb6.2
RAR Rarotonga 48.70 114 LR LR 20 14 10.7
comp=Z,353nm,18.5s,baz=300,slow=30
NJ2 Nanjing 48.80 321 *eP* **P** **19 58 12.0 +2.5**
NJ2 AP pP 19 58 27.5 +1.2
NJ2 XP sP 19 58 31.5 -2.3
NJ2 PP PP 20 00 06.1 +2.9
NJ2 S **S** **20 05 10.0 +2.2**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.4
NJ2 AMB AMB
comp=Z,2μm,10.1s
NJ2 LR LR
comp=N,7μm,18.8s
NJ2 LR LR
comp=E,7μm,17.7s
KGM Kluang 50.05 276 P **P** **19 58 20.2 +1.2**
WHN Wuhan 50.84 316 P **P** **19 58 25.5 +0.5**
VLA Vladivostok 51.19 340 *de* **P** **19 58 27.8 +0.2**
VLA pmax pmax
comp=Z,71nm,1.8s,mb5.4
DL2 Dalian 52.10 329 P **P** **19 58 34.8 +0.4**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 52.13 351⇑ *eP* **P** **19 58 34.0 -0.6**
YSS *e* 19 59 46.0
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 52.13 351 *eP* **P** **19 58 34.5 -0.1**
comp=Z,23nm,0.9s,mb5.2
TIA Tai'an 52.66 323 *eP* **P** **19 58 38.1 -0.4**
TIA AMB AMB
comp=Z,57nm,0.9s,mb5.6
IPM Ipoh 52.67 279 P **P** **19 58 39.3 +0.7**
MDJ Mudanjiang 53.30 339 P **P** **19 58 42.9 -0.4**
MDJ AP pP 19 58 58.6 -1.7
MDJ XP sP 19 59 05.8 -1.9
MDJ PCP PcP 19 59 50.0 -0.1
MDJ S **S** **20 06 16.0 +6.1**
MDJ AMB AMB
comp=Z,39nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,87nm,4.6s
MDJ LR LR
comp=N,172nm,30.6s
MDJ LR LR
comp=E,100nm,29.3s
MDJ LR LR
comp=Z,281nm,30.6s
SNY Shenyang 53.41 333 *eP* **P** **19 58 41.1 -3.0**
SNY AMB AMB
comp=Z,21nm,2.5s,mb4.7
KKTK Khon Kaen 53.77 294⇑ P **P** **19 58 47.0 +0.3**
comp=Z,340nm,1.0s,mb6.3
CN2 Changchun 54.19 336 *eP* **P** **19 58 49.8 0.0**
CN2 *e* XP sP 19 59 11.6 -2.7
CN2 PCP PcP 19 59 53.5 0.0
CN2 *e* S **S** **20 06 21.8 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA Guiyang 54.41 307 P **P** **19 58 52.5 +1.1**
GYA AP pP 19 59 08.3 -0.1
GYA XP sP 19 59 15.4 -0.5
GYA PCP PcP 19 59 56.3 +2.0
GYA PP PP 20 00 56.8 +2.8
GYA S **S** **20 06 23.4 -1.5**
GYA SS SS 20 10 05.4 -2.5
GYA AMB AMB
comp=Z,20nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,320nm,4.1s
GYA LR LR
comp=N,670nm,22.0s
GYA LR LR
comp=E,510nm,21.0s
GYA LR LR
comp=Z,570nm,21.6s
PSI Prapat 54.50 277 P **P** **19 58 51.5 -0.6**
comp=Z,4.8nm,0.5s,mb4.8,baz=211,slow=9.4,SNR=5.1
PSI Prapat 54.50 277 P **P** **19 58 51.5 -0.5**
PSI pmax pmax
comp=Z,50nm,0.5s,mb5.8
HABR Khabarovsk 55.14 346⇑ *iP* **P** **19 58 58.4 +1.8**
HABR *e* S **S** **20 06 38.3 +3.7**
HABR pmax pmax
comp=Z,70nm,1.0s,mb5.7
BJI Beijing 55.83 326 P **P** **19 59 06.8 +5.2**
BJI S **S** **20 06 50.9 +7.1**
BJI AMB AMB
comp=Z,11nm,1.2s,mb4.8
BJI LR LR
comp=N,418nm,16.5s
BJI LR LR
comp=E,314nm,25.8s
BJI LR LR
comp=Z,450nm,27.0s
NST Nakhon Sawan 56.04 292 P **P** **19 59 03.8 +0.7**
comp=Z,42nm,0.8s,mb5.5
XAN Xi'an 56.60 316 P **P** **19 59 07.3 +0.2**
XAN AMB AMB
comp=Z,43nm,0.8s,mb5.5
KLR Kul'dur 56.71 344⇓ *iP* **P** **19 59 04.8 -3.0**
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,76nm,0.9s,mb5.7
KMI Kunming 57.02 304 P **P** **19 59 11.8 +1.8**
KMI AP pP 19 59 29.6 +2.4
KMI XP sP 19 59 37.0 +2.4
KMI PP PP 20 01 21.5 +4.3
KMI S **S** **20 07 01.3 +1.7**
KMI XS sS 20 07 31.6 +2.9
KMI SS SS 20 10 52.4 +3.4
KMI AMB AMB
comp=Z,21nm,1.2s,mb5.0
KMI LR LR
comp=Z,452nm,21.9s
PET Petropavlovsk 57.62 4⇓ *iP* **P** **19 59 14.5 +0.3**
PET *e* 20 00 06.9
PET *eS* **S** **20 07 08.8 +1.4**
PET pmax pmax
comp=Z,54nm,0.8s,mb5.6
PET pmax pmax
comp=Z,100nm,5.5s
PET smax
comp=E,200nm,3.7s
PET smax
comp=N,100nm,3.4s
PET smax
comp=N,200nm,17.3s
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 57.62 4⇑ *iP* **P** **19 59 14.4 +0.2**
PPT Papeete 57.62 108 *eS* **S** **20 07 10.8 +3.3**
comp=Z,131nm,29.2s
PPT *e* LR LR 20 16 15.7
comp=Z,118nm,23.2s
PPT Papeete 57.62 108 LR LR 20 19 55.0
comp=Z,287nm,21.4s,baz=326,slow=32
CHG Chiang Mai 58.06 295⇑ P **P** **19 59 18.3 +1.0**
comp=Z,24nm,1.0s,mb5.2
CHTO Chiang Mai 58.06 295⇓ P **P** **19 59 18.9 +1.5**
SNR=7.4
CHTO Chiang Mai 58.06 295 *eP* **P** **19 59 18.3 +0.9**
comp=Z,32nm,1.2s,mb5.2
TBI Tubuai 58.48 114 *e*LR LR 20 16 35.1
comp=Z,565nm,32.2s,baz=284
CD2 Chengdu 58.74 310 P **P** **19 59 22.8 +0.7**
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
HHC Hu-ho-hao-te 58.99 324 *eP* **P** **19 59 24.6 +0.8**
HHC AP pP 19 59 43.3 +2.2
HHC XP sP 19 59 51.8 +3.3
HHC PCP PcP 20 00 11.9 -0.3
HHC PP PP 20 01 37.9 +3.2
HHC SCP ScP 20 04 04.3 -2.7
HHC PCS PcS 20 04 12.3 -1.8
HHC S **S** **20 07 25.0 -0.3**
HHC XS sS 20 07 57.8 +3.3
HHC SCS ScS 20 09 03.8 -4.0
HHC SS SS 20 11 22.1 +2.2
HHC AMB AMB
comp=Z,16nm,0.3s,mb5.5
HHC AMB AMB
comp=Z,71nm,3.9s
HHC LR LR
comp=N,290nm,5.9s
HHC LR LR
comp=E,264nm,5.7s
HHC LR LR
comp=Z,344nm,21.1s
LZH Lanzhou 61.21 316 *eP* **P** **19 59 40.0 +1.0**
LZH AP pP 19 59 56.0 -0.4
LZH XP sP 20 00 03.5 -0.2
LZH AMB AMB
comp=Z,76nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,170nm,4.2s
LZH LR LR
comp=E,380nm,14.4s
LZH LR LR
comp=Z,550nm,18.0s
MA2 Magadan 64.01 359 *eP* **P** **19 59 56.6 -1.0**
MA2 pmax pmax
comp=Z,70nm,0.8s,mb5.5
MA2 pmax pmax
comp=N,20nm,0.7s
MA2 Magadan 64.01 359 *eP* **P** **19 59 57.5 -0.1**
comp=N,57nm,0.8s,mb5.5
CLNS Chul'man 65.37 343 *eP* **P** **20 00 05.9 -0.6**
CLNS pmax pmax
comp=Z,18nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CIT Chita 65.60 334 *eP* **P** **20 00 07.9 -0.1**
CIT pmax pmax
comp=Z,47nm,1.2s,mb5.2
GTA Gaotai 65.63 317 P **P** **20 00 09.6 +1.4**
GTA AP pP 20 00 25.5 -0.2
GTA XP sP 20 00 32.5 -0.5
GTA PCP PcP 20 00 40.8 +1.6
GTA PP PP 20 02 38.3 +5.1
GTA SCP 20 04 38.3
GTA PCS 20 04 44.9
GTA S S 20 08 51.3 +2.5
GTA XS sS 20 09 18.5 0.0
GTA SCS ScS 20 09 55.1 -2.9
GTA SS SS 20 13 09.3 +5.6
GTA AMB AMB
comp=Z,41nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,134nm,6.8s
GTA LR LR
comp=N,142nm,16.0s
GTA LR LR
comp=E,209nm,16.3s
GTA LR LR
comp=Z,176nm,21.7s
ULN Ulaanbaatar 65.92 328⇓ P **P** **20 00 11.3 +1.3**
SNR=7.0
ULN Ulaanbaatar 65.92 328 *c iP* **P** **20 00 11.0 +0.9**
ULN Ulaanbaatar 65.92 328 *eP* **P** **20 00 11.3 +1.2**
comp=Z,17nm,1.0s,mb4.8
SONM Songino Array 66.25 328 P **P** **20 00 12.4 +0.2**
comp=Z,9.1nm,0.6s,mb4.8,baz=148,slow=5.2,SNR=28
SONM LR LR 20 27 18.0
comp=Z,221nm,20.6s,baz=323,slow=34
SONM PKPPKP 20 28 46.2
comp=Z,1.3nm,0.8s,baz=290,slow=3.0,SNR=7.7
SHL Shillong 66.36 300 *eP* **P** **20 00 11.4 -1.4**
TAOE Nuku Hiva Isla 66.48 98 *e*LR LR 20 20 18.1
comp=Z,581nm,29.4s
SEY Seymchan 67.35 360⇓ *eP* **P** **20 00 19.1 -0.1**
CASY Casey 68.25 197 *eP* **P** **20 00 23.8 -1.0**
comp=Z,11nm,1.1s,mb4.6
LSA Lhasa 68.27 304 P **P** **20 00 26.6 +1.7**
YAK Yakutsk 68.82 348 *eP* **P** **20 00 27.9 -0.5**
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,39nm,1.0s,mb5.2
YAK pmax pmax
comp=N,23nm,1.4s
YAK Yakutsk 68.82 348 *eP* **P** **20 00 28.2 -0.2**
comp=N,46nm,1.1s,mb5.2
ZAK Zakamensk 69.42 329⇑ *iP* **P** **20 00 32.3 +0.2**
ZAK *e* pP 20 00 50.8 +1.1
ZAK pmax pmax
comp=Z,16nm,0.9s,mb4.8
BOD Bodaibo 69.67 339 *eP* **P** **20 00 31.6 -2.0**
BOD pmax pmax
comp=Z,15nm,1.0s,mb4.8
TLY Talaya 70.00 330 *eP* **P** **20 00 35.1 -0.5**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
TLY Talaya 70.00 330 *i* Pr **P** **20 00 36.1 +0.5**
BOK Bokaro 71.13 297 *eP* **P** **20 00 42.5 +0.1**
MOY Mondy 71.34 329 *eP* **P** **20 00 43.7 -0.1**
RKT Rikitea 71.71 113 *e*SS SS 20 14 54.5 +17
comp=Z,70nm,36.2s
RKT *e*LQ 20 19 38.6
comp=Z,1μm,34.2s
RKT *e*LR LR 20 22 46.4
comp=Z,476nm,28.8s
JIRN Jiri 71.84 301 *eP* **P** **20 00 47.7 +0.9**
comp=Z,21nm,0.3s,mb5.4
VIS Vishakhapatnam 72.16 290 *eP* **P** **20 00 49.1 +0.4**
VIS AMb AMB 20 00 51.1
comp=Z,62nm,1.1s,mb5.4
GUN Gumba 72.17 301 *eP* **P** **20 00 49.7 +1.0**
comp=Z,69nm,0.7s,mb5.6
PKI Pulchoki 72.48 301 *eP* **P** **20 00 51.4 +0.8**
KKN Kakani 72.65 301 *eP* **P** **20 00 52.4 +0.8**
comp=Z,32nm,0.5s,mb5.4
DMN Daman 72.75 301 *eP* **P** **20 00 52.8 +0.6**
VNDA Vanda 73.02 178 P **P** **20 00 53.8 0.0**
comp=Z,11nm,0.8s,mb4.7,baz=328,slow=6.2,SNR=29
VNDA LR LR 20 32 03.3
comp=Z,107nm,18.7s,baz=359,slow=35
VNDA Vanda 73.02 178 P **P** **20 00 53.8 0.0**
VNDA pmax pmax
comp=Z,11nm,0.8s
VNDA MLR MLR
comp=Z,107nm,18.7s
VNDA Vanda 73.02 178 *eP* **P** **20 00 53.4 -0.4**
comp=Z,12nm,0.8s,mb4.8
BILL Bilibino 73.08 5⇓ *eP* **P** **20 00 54.6 +0.4**
BILL *e*SS SS 20 14 58.8 +0.3
BILL pmax pmax
comp=Z,65nm,1.1s,mb5.4
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 73.08 5 *eP* **P** **20 00 54.6 +0.4**
comp=Z,24nm,0.4s,mb5.4
GKN Gorkha 73.25 301 *eP* **P** **20 00 55.5 +0.3**
comp=Z,74nm,0.8s,mb5.6
SBA Scott Base 73.56 177 *eP* **P** **20 00 58.4 +1.4**
KOLN Koldanda 74.08 300 *eP* **P** **20 00 59.8 -0.3**
comp=Z,47nm,0.7s,mb5.3
MIR Mirnyy 74.17 201 *d iP* **P** **20 01 01.5 +1.0**
MIR pmax pmax
comp=Z,30nm,1.1s,mb4.9
WMQ Urumqi 75.72 317⇑ *iP* **P** **20 01 10.3 +0.8**
WMQ PCP PcP 20 01 23.0 +1.1
WMQ AP pP 20 01 27.0 -0.4
WMQ XP sP 20 01 34.0 -0.6
WMQ PP PP 20 04 03.0 +3.1
WMQ S S 20 10 46.0 +0.1
WMQ XS sS 20 11 10.0 -6.3
WMQ AMB AMB
comp=Z,37nm,1.1s,mb5.0
WMQ AMB AMB
comp=Z,158nm,4.5s
WMQ LR LR
comp=N,354nm,22.0s
WMQ LR LR
comp=E,428nm,24.0s
WMQ LR LR
comp=Z,670nm,25.8s
KDAK Kodiak Island 75.93 27 P **P** **20 01 10.7 0.0**
comp=Z,12nm,0.8s,mb4.7,baz=254,slow=7.4,SNR=3.3
HYB Hyderabad 76.59 289 *i* P **P** **20 01 15.0 +0.6**
HYB Hyderabad 76.59 289 *eP* **P** **20 01 15.0 +0.6**
NGP Nagpur 76.76 293 *eP* **P** **20 01 13.3 -2.0**
TTA Tatalina 77.53 21 *eP* **P** **20 01 19.9 +0.2**
AKL Akola 78.56 292 *eP* **P** **20 01 25.6 +0.3**
AKL AMb AMB 20 01 28.1
comp=Z,108nm,1.7s,mb5.4
BHPL Bhopal 78.61 295 *eP* **P** **20 01 25.7 0.0**
BHPL AMb AMB 20 01 26.9
comp=Z,55nm,1.1s,mb5.3
AGRA Agra 78.87 299 *eP* **P** **20 01 26.4 -0.7**
AGRA AMb AMB 20 01 28.4
comp=Z,74nm,0.2s,mb6.3
PMR Palmer 79.44 24 *eP* **P** **20 01 29.6 -0.6**
comp=Z,26nm,1.0s,mb5.0
KLP Kalpa 79.47 303 *eP* **P** **20 01 30.7 +0.4**
SONA Sohna 79.81 300 *eP* **P** **20 01 31.7 -0.5**
SONA AMb AMB 20 01 33.1
comp=Z,28nm,1.1s,mb5.0
AYAN Aya Nagar 79.82 300 *eP* **P** **20 01 31.5 -0.8**
AYAN AMb AMB 20 01 32.6
comp=Z,34nm,1.4s,mb5.0
IMA2 Indian Mountai 80.22 19 *eP* **P** **20 01 34.1 -0.3**
SMLA Simla 80.30 302 *eP* **P** **20 01 35.8 +1.0**
SMLA AMb AMB 20 01 36.3
comp=Z,46nm,1.0s,mb5.2
MCK McKinley 80.62 23 *eP* **P** **20 01 35.7 -0.8**
comp=Z,31nm,1.0s,mb5.1
KAD Karad 80.70 288 *eP* **P** **20 01 36.1 -1.0**
KAD *eP* 20 01 36.5
KAD AMb AMB 20 01 38.3
comp=Z,55nm,1.2s,mb5.3
KHET Khetri 80.89 299 *eP* **P** **20 01 37.5 -0.5**
KHET AMb AMB 20 01 38.5
comp=Z,60nm,0.3s,mb5.9
ZAL Zalesovo 81.09 326 P **P** **20 01 38.6 -0.5**
comp=Z,6.6nm,0.5s,mb4.7,baz=359,slow=5.1,SNR=32
ZAL LR LR 20 36 07.6
comp=Z,155nm,20.3s,baz=360,slow=34
ZAL Zalesovo 81.09 326 P **P** **20 01 38.6 -0.5**
ZAL pmax pmax
comp=Z,7.0nm,0.5s
ZAL MLR MLR
comp=Z,155nm,20.3s
COLA College 81.61 22⇑ *iP* **P** **20 01 40.2 -1.6**
COLA College 81.61 22 *eP* **P** **20 01 40.3 -1.6**
comp=Z,33nm,0.9s,mb5.2
AJM Ajmer 81.64 297 *eP* **P** **20 01 42.0 +0.1**
AJM AMb AMB 20 01 44.6
comp=Z,69nm,1.5s,mb5.3
NVS Novosibirsk 82.26 327⇑ *iP* **P** **20 01 43.1 -2.2**
NVS *i* 20 02 06.3
NVS pmax pmax
comp=Z,49nm,1.7s,mb5.1
NVS pmax pmax
comp=N,22nm,1.8s
NVS pmax pmax
comp=E,35nm,1.5s
KSH Kashi 82.94 311 *eP* **P** **20 01 51.0 +2.2**
KSH *e*AP pP 20 02 07.3 +0.4
KSH *e*XP sP 20 02 14.3 +0.2
KSH *e*PP PP 20 05 04.3 +4.3
KSH *e*S S 20 12 02.8 +0.4
KSH *e*XS sS 20 12 32.0 -1.2
KSH *e*SS SS 20 17 34.0 +7.2
KSH AMB AMB
comp=Z,274nm,2.4s,mb5.7
KSH LR LR
comp=N,262nm,3.9s
KSH LR LR
comp=E,344nm,5.2s
KSH LR LR
comp=Z,346nm,5.5s
ULHL Ulahol 83.31 313 P **P** **20 01 52.4 +1.7**
SNR=5.7
KURK Kurchatov 83.72 322 P **P** **20 01 52.2 -0.6**
comp=Z,220nm,0.7s,mb6.1,SNR=25
TKM2 Tokmak 2 83.92 314 P **P** **20 01 54.8 +1.0**
SNR=30
SIT Sitka 84.02 31 *eP* **P** **20 01 54.6 +0.3**
EGAK Eagle 84.11 23 *eP* **P** **20 01 54.3 -0.5**
KBK Karagaybulak 84.33 314 P **P** **20 01 57.1 +1.2**
SNR=21
DAWY Dawson 84.54 24 *eP* **P** **20 01 57.0 +0.1**
CHMS Chumysh 84.54 314 P **P** **20 01 57.8 +0.8**
SNR=39
FRU Bishkek 84.61 314 *eP* **P** **20 01 57.2 -0.1**
FRU pmax pmax
comp=Z,95nm,1.8s,mb5.4
AAK Ala-Archa 84.66 313 P **P** **20 01 57.5 0.0**
comp=Z,248nm,0.9s,mb6.1,SNR=22
AAK Ala-Archa 84.66 313⇓ P **P** **20 01 58.1 +0.6**
SNR=22
AAK Ala-Archa 84.66 313⇑ *eP* **P** **20 01 57.7 +0.2**
AAK pmax pmax
comp=Z,38nm,0.9s,mb5.3
AAK Ala-Archa 84.66 313 *eP* **P** **20 01 57.0 -0.5**
comp=Z,33nm,0.8s,mb5.3
USP Ospenovka 84.78 314 P **P** **20 01 59.0 +0.9**
SNR=60

AML	Almayashu	85.14	313	P	P	20 02 02.1	+2.1
	SNR=34						
EKS2	Erkin-Say	85.18	313	P	P	20 02 01.6	+1.4
	SNR=61						
QSPA	South Pole Qui	85.35	180	eP	P	20 02 01.0	0.0
	comp=Z,27nm,0.9s,mb5.2						
MAW	Mawson	85.81	203	P	P	20 02 02.4	-0.9
	comp=Z,9.0nm,1.0s,mb4.7,baz=98,slow=6.1,SNR=9.5						
MAW				LR	LR	20 35 17.9	
	comp=Z,252nm,20.9s,baz=304,slow=32						
MAW	Mawson	85.81	203	P	P	20 02 02.4	-0.9
MAW				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MAW				MLR	MLR		
	comp=Z,252nm,20.9s						
MAW	Mawson	85.81	203	eP	P	20 02 02.4	-0.9
	comp=Z,10nm,0.9s,mb4.8						
DLBC	Dease Lake	87.13	31	P	P	20 02 09.8	+0.1
	comp=Z,12nm,1.0s,mb4.8,baz=251,slow=5.9,SNR=17						
KK31	Karatay Array	87.62	313	i P	P	20 02 11.9	-0.2
KK31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
KK31	Karatay Array	87.62	313	i P	P	20 02 11.0	-1.1
KKAR	Karatay Array	87.62	313	i P	P	20 02 11.9	-0.2
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
VOSK	Vostochnaya	88.79	323	P	P	20 02 16.1	-1.5
VOSK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
CHKZ	Chkalovo	89.16	324	P	P	20 02 17.8	-1.6
CHKZ				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
CHKZ	Chkalovo	89.16	324	eP	P	20 02 17.6	-1.7
	comp=Z,47nm,0.8s,mb5.6						
BVA0	Borovoye Array	89.19	323	i P	P	20 02 18.4	-1.1
BVA0				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
BRVK	Borovoye	89.26	323	P	P	20 02 18.6	-1.2
	comp=Z,387nm,0.9s,SNR=16						
BRVK	Borovoye	89.26	323	⇑P	P	20 02 18.6	-1.2
	SNR=19						
BRVK	Borovoye	89.26	323	eP	P	20 02 17.9	-1.9
	comp=Z,35nm,0.8s,mb5.4						
ZRNK	Zerenda	90.01	323	P	P	20 02 21.8	-1.5
ZRNK				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.5						
ZRNK	Zerenda	90.01	323	eP	P	20 02 21.2	-2.2
	comp=Z,47nm,0.9s,mb5.6						
NVAR	Mina Array Bea	91.83	52	P	P	20 02 32.5	+0.7
	comp=Z,0.8nm,0.4s,mb4.3,baz=269,slow=3.4,SNR=3.7						
SYO	Syowa Base	93.91	199	⇑eP	P	20 02 40.0	-1.4
SVE	Sverdlovsk	95.10	327	eP	P	20 02 46.0	-0.9
SVE				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.3						
YKA	Yellowknife Ar	95.18	28	P	P	20 02 45.7	-1.4
	comp=Z,3.2nm,0.8s,mb4.8,baz=269,slow=4.5,SNR=9.6						
YKA				LR	LR	20 39 49.6	
	comp=Z,166nm,19.7s,baz=285,slow=32						
YKA	Yellowknife Ar	95.18	28	P	P	20 02 45.7	-1.5
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,166nm,19.7s						
YKA	Yellowknife Ar	95.18	28	P	P	20 02 45.7	-1.5
YKA				LR	LR	20 39 49.6	
AB31	Akbulak array	95.44	319	i P	P	20 02 46.4	-2.0
DUG	Dugway	96.17	50	eP	P	20 02 52.1	+0.4
	comp=Z,4.9nm,0.3s,mb5.4						
ARU	Arti	96.25	326	⇓iP	P	20 02 49.9	-2.2
ARU				e	pP	20 03 10.9	+0.4
ARU				e		20 06 44.2	
ARU				eS	SKSac	20 13 18.8	-4.1
ARU				ePS	PS	20 15 29.1	-5.1
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.5						
AKTK	Aktyubinsk	96.68	320	i P	P	20 02 52.1	-2.0
AKTO	Aktyubinsk	96.68	320	P	P	20 02 52.1	-2.0
AKTO				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.7						
PDAR	Pinedale Array	98.59	48	P	P	20 03 00.5	-2.2
	comp=Z,0.7nm,0.9s,mb4.2,baz=251,slow=4.5,SNR=4.7						
PDAR				PP	PP	20 07 07.7	+3.8
	comp=Z,0.3nm,0.7s,baz=282,slow=7.4,SNR=4.9						
PDAR				LR	LR	20 40 10.5	
	comp=Z,108nm,19.9s,baz=266,slow=31						
SNAA	Sanae	102.24	188	ePdiff	Pdif	20 03 23.4	+4.5
SNAA				e		20 03 41.9	
SNAA				e		20 03 49.1	
VNA3	Neumayer Olymp	103.43	186	ePdiff	Pdif	20 03 26.9	+2.7
VNA3				e		20 03 45.9	
VNA3				e		20 03 52.7	
VNA1	Neumayer--Stat	103.85	186	ePdiff	Pdif	20 03 25.6	-0.4
VNA1				e		20 03 44.8	
VNA1				e		20 03 51.0	
ARCES	ARCESS Array B	106.73	343	PKiKP	PKiKP	20 07 49.0	+0.2
	comp=Z,2.8nm,0.7s,baz=106,slow=1.6,SNR=10						
KIV	Kislovodsk	107.75	315	eP	Pdif	20 03 41.1	-2.2
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
JOF	Joensuu	108.08	336	ep	Pdif	20 03 37.0	-7.8
JOF	Joensuu	108.08	336	epkp	PKiKP	20 07 48.5	-2.9
OBN	Obninsk	108.66	327	eP	Pdif	20 03 46.8	-0.6
OBN				e		20 08 19.0	
OBN				eS	SKSac	20 14 17.5	-3.9
OBN				eSS	SS	20 23 29.6	-1.4
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s						
KAF	Kangasniemi	110.50	336	epkp	PKiKP	20 07 52.8	-3.1
FINES	FINESS Array B	110.95	336	Pdiff	Pdif	20 03 55.8	-1.8
	comp=Z,0.5nm,0.4s,baz=60,slow=4.1,SNR=7.8						
FINES				PKiKP	PKiKP	20 07 57.2	+0.5
	comp=Z,1.5nm,0.6s,baz=91,slow=2.5,SNR=12						
FINES				PKKPbc	PKKPbc	20 18 54.2	+0.2
	comp=Z,0.8nm,0.7s,baz=285,slow=3.7,SNR=4.3						
FINES	FINESS Array B	110.95	336	P	Pdif	20 03 55.8	-1.8
FINES				i		20 07 57.2	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	110.95	336	Pdif	Pdif	20 03 55.8	-1.8
FINES				PKPdf	PKiKP	20 07 57.2	+0.5
FINES				PKKPbc	PKKPbc	20 18 54.2	+0.2
AKASG	Malin Array Be	114.44	324	PKiKP	PKiKP	20 08 02.5	-0.8
	comp=Z,2.1nm,0.4s,baz=49,slow=2.6,SNR=15						
AKASG	Malin Array Be	114.44	324	i PKIKP	PKiKP	20 08 02.6	-0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRTR	Keskin Array B	115.30	312	PKP	PKPdf	20 08 05.4	+0.3
	comp=Z,1.2nm,0.7s,baz=111,slow=1.7,SNR=6.9						
BRTR				PP	PP	20 09 08.2	+1.7
	comp=Z,2.4nm,1.1s,baz=98,slow=5.6,SNR=5.0						
BRTR	Keskin Array B	115.30	312	PKIKP	PKPdf	20 08 05.4	+0.3
BRTR						20 09 08.2	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ANTO	Ankara	115.89	312	⇑iP	PKPdf	20 08 07.2	+1.0
ANTO	Ankara	115.89	312	⇑P	PKPdf	20 08 07.2	+1.0
NB2	NORSAR Subarra	116.79	340	PKPd	PKPdf	20 08 07.2	-0.7
	comp=Z,4.7nm,0.7s,baz=44,slow=2.0						
NB2	NORSAR Subarra	116.79	340	PKPd	PKPdf	20 08 07.2	-0.7
	baz=44,slow=2.0						
NOA	NORSAR Array B	116.79	340	PKP	PKPdf	20 08 07.4	-0.5
	comp=Z,3.8nm,0.7s,baz=47,slow=2.0,SNR=18						
NOA				PP	PP	20 09 15.8	-1.2
	comp=Z,0.7nm,0.8s,baz=42,slow=6.4,SNR=3.3						
NOA	NORSAR Array B	116.79	340	PKIKP	PKPdf	20 08 07.4	-0.5
NOA						20 09 15.8	
NOA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CFR	Carcaliu	117.33	319	⇓iP	PKPdf	20 08 09.4	+0.4
CFR	Carcaliu	117.33	319	⇓P	PKPdf	20 08 09.4	+0.4
TIRR	Tirgusor	117.43	318	⇑iP	PKPdf	20 08 10.8	+1.7
TIRR	Tirgusor	117.43	318	⇑P	PKPdf	20 08 10.8	+1.7
SWET	Sewanee	117.86	52	ePKPdf	PKPdf	20 08 10.1	+0.1
PLOR	Plostina	118.02	320	⇑iP	PKPdf	20 08 11.3	+1.0
BURAR	Bucovina Array	118.14	323	⇑iP	PKPdf	20 08 11.9	+1.4
BURAR	Bucovina Array	118.14	323	⇑P	PKPdf	20 08 11.9	+1.4
MLR	Muntele Rosu	118.62	320	⇓iP	PKPdf	20 08 11.8	+0.4
MLR	Muntele Rosu	118.62	320	⇓P	PKPdf	20 08 11.8	+0.3
VOIR		119.21	320	⇑iP	PKPdf	20 08 16.3	+3.7
VOIR		119.21	320	⇑P	PKPdf	20 08 16.3	+3.8
KOLS	Kolonicke sedl	119.25	325	ePKP	PKPdf	20 08 13.3	+0.7
SADO	Sadowa	119.47	40	PKP	PKPdf	20 08 12.2	-0.8
	comp=Z,6.1nm,0.6s,baz=303,slow=1.3,SNR=8.1						
STHS	Stebnicka Huta	119.59	326	ePKP	PKPdf	20 08 14.5	+1.2
CRVS	Cervenica-Dubn	119.73	325	ePKP	PKPdf	20 08 14.3	+0.7
PLCA	Paso Flores	119.83	143	PKP	PKPdf	20 08 14.5	+0.7
	comp=Z,7.2nm,0.9s,baz=209,slow=5.1,SNR=7.6						
PLCA	Paso Flores	119.83	143	PKIKP	PKPdf	20 08 14.5	+0.7
PLCA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BOSA	Boshof	119.88	233	PKP	PKPdf	20 08 15.3	+1.4
	comp=Z,2.7nm,0.7s,baz=89,slow=12,SNR=5.8						
BOSA	Boshof	119.88	233	PKIKP	PKPdf	20 08 15.3	+1.4
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
NIE	Niedzica	120.10	326	ePKP	PKPdf	20 08 15.5	+1.2
KECS	Kecovo	120.50	325	ePKP	PKPdf	20 08 14.9	-0.1
SCHQ	Schefferville	120.54	25	PKP	PKPdf	20 08 14.8	-0.3
	comp=Z,2.5nm,0.6s,baz=293,slow=3.3,SNR=4.9						
GZR	Gura Zlata	120.66	321	⇓iP	PKPdf	20 08 17.9	+2.5
GZR	Gura Zlata	120.66	321	⇓P	PKPdf	20 08 17.9	+2.6
OKC	Ostrava-Krasne	121.05	328	ePKPdf	PKPdf	20 08 16.3	+0.2
PSZ	Piszkesteto	121.13	325	⇓iP	PKPdf	20 08 16.8	+0.5
PSZ	Piszkesteto	121.13	325	⇓P	PKPdf	20 08 16.8	+0.5
BZS	Buzias	121.27	322	⇓iP	PKPdf	20 08 16.6	+0.1
BZS	Buzias	121.27	322	⇓P	PKPdf	20 08 16.6	0.0
MORC	Moravsky Berou	121.41	328	⇑iP	PKPdf	20 08 17.0	+0.2
MORC	Moravsky Berou	121.41	328	ePKPdf	PKPdf	20 08 17.1	+0.4
MORC				ePKPdf	PKPdf	20 08 17.3	+0.5
VYHS	Vyhne	121.42	326	ePKP	PKPdf	20 08 16.3	-0.5
VTS	Vitosha	121.64	318	⇑iP	PKPdf	20 08 17.9	+0.7
DPC	Dobruska-Polom	121.71	329	ePKPdf	PKPdf	20 08 17.0	-0.4
UPC	Upice	121.78	329	ePKPdf	PKPdf	20 08 18.0	+0.5
LSZ	Lusaka	121.87	249	ePKPdf	PKPdf	20 08 18.1	+0.4
SSPA	Standing Stone	122.05	44	ePKPdf	PKPdf	20 08 17.9	-0.1
VRAC	Vranov	122.18	328	⇓iP	PKPdf	20 08 19.0	+0.7
VRAC	Vranov	122.18	328	⇓P	PKPdf	20 08 19.0	+0.8
BSEG	Bad Segeberg	122.20	335	ePKPdf	PKPdf	20 08 19.2	+0.9
LONY	Lake Ozonia	122.43	39	ePKPdf	PKPdf	20 08 17.9	-0.8
LONY				ePKPdf	PKPdf	20 08 19.0	+0.2
PVCC	Panska Ves	122.49	330	ePKPdf	PKPdf	20 08 19.9	+1.0
BRG	Berggiesshubel	122.59	330	ePKPdf	PKPdf	20 08 19.4	+0.3
BRG	Berggiesshubel	122.59	330	i PKP	PKPdf	20 08 19.8	+0.7
	comp=Z,6.9nm,0.6s						
BRG	Berggiesshubel	122.59	330	i PKIKP	PKPdf	20 08 19.8	+0.7
BRG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VAY	Valandovo	122.62	317	i PKP	PKPdf	20 08 17.8	-1.3
STIP	Stip	122.72	318	i PKP	PKPdf	20 08 19.9	+0.6
PKSM	Moragy	122.76	324	⇑iP	PKPdf	20 08 19.4	0.0
PKSM	Moragy	122.76	324	⇑P	PKPdf	20 08 19.4	0.0
CLL	Collm	122.77	331	ePKPdf	PKPdf	20 08 19.5	+0.1
CLL	Collm	122.77	331	i PKPdf	PKPdf	20 08 19.7	+0.3
	comp=Z,16nm,0.7s						
CLL	Collm	122.77	331	i PKIKP	PKPdf	20 08 19.7	+0.3
CLL				pmax	pmax		
	comp=Z,16nm,0.7s						
TREC	Trest	122.78	328	ePKPdf	PKPdf	20 08 20.0	+0.6
PRU	Pruhonice	122.84	329	ePKPdf	PKPdf	20 08 19.8	+0.3
FBE	Freiberg	122.84	331	ePKPdf	PKPdf	20 08 20.0	+0.4
FRNY	Flat Rock	122.94	38	ePKPdf	PKPdf	20 08 20.1	+0.4
SKO	Skopje	123.09	318	i PKP	PKPdf	20 08 21.3	+1.3
NRDL	Niedersach Rie	123.30	334	ePKPdf	PKPdf	20 08 21.0	+0.6
MVL	Millersville	123.38	44	ePKPdf	PKPdf	20 08 20.9	+0.4
MVL				ePKPdf	PKPdf	20 08 21.3	+0.7
CONA	Conrad Observa	123.38	327	⇑iPKiKP	PKiKP	20 08 21.5	+0.7
	comp=Z,6.9nm,0.7s						
TANN	Tannenbergstha	123.61	331	ePKPdf	PKPdf	20 08 21.8	+0.8
WERD	Werda	123.66	331	ePKPdf	PKPdf	20 08 21.6	+0.5
GUNZ	Gunzen	123.70	331	ePKPdf	PKPdf	20 08 21.9	+0.7
NKC	Novy Kostel	123.73	331	ePKPdf	PKPdf	20 08 22.0	+0.7
WERN	Wernitzgruen	123.73	331	ePKPdf	PKPdf	20 08 22.0	+0.8
MOX	Moxa	123.86	331	ePKPdf	PKPdf	20 08 21.7	+0.2
MOX	Moxa	123.86	331	e(P)	PKPdf	20 08 21.4	-0.1
	comp=Z,9.0nm,1.2s						
MOX	Moxa	123.86	331	ePKIKP	PKPdf	20 08 21.4	-0.1
MOX				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KHC	Kasperske Hory	123.87	329	ePKPdf	PKPdf	20 08 22.1	+0.6
OHR	Ohrid	123.91	318	i PKP	PKPdf	20 08 22.1	+0.5
GEC2	GERESS Array S	123.98	329	ePKPdf	PKPdf	20 08 22.2	+0.5
GERES	GERESS Array B	123.98	329	PKP	PKPdf	20 08 22.2	+0.5
	comp=Z,8.4nm,0.7s,baz=60,slow=1.6,SNR=44						
GERES	GERESS Array B	123.98	329	PKIKP	PKPdf	20 08 22.2	+0.5
GERES				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GTTG	Gvttingen	124.02	333	ePKPdf	PKPdf	20 08 23.0	+1.2
MANZ	Manzenberg	124.06	331	ePKPdf	PKPdf	20 08 22.5	+0.6
GVD	Gavdhos	124.06	309	ePKPdf	PKPdf	20 08 22.5	+0.6
GVD				ePKPdf	PKPdf	20 08 22.7	+0.8
ROTZ	Rotzenmuhle	124.15	330	ePKPdf	PKPdf	20 08 22.4	+0.3
WET	Wettzell	124.22	329	ePKPdf	PKPdf	20 08 22.0	-0.2
MOA	Molln	124.29	327	⇓iP	PKPdf	20 08 20.3	-2.1
	comp=Z,8.0nm,1.1s						
GRA1	Grafenberg Arr	124.68	331	ePKPdf	PKPdf	20 08 23.3	+0.2
GRF	Grafenberg Arr	124.68	331	ePKPdf	PKPdf	20 08 23.3	+0.2
BUG	Bochum--Univer	125.28	334	ePKPdf	PKPdf	20 08 24.0	-0.2
TNS	Taunus Mts	125.63	333	ePKPdf	PKPdf	20 08 26.7	+1.8
WATA	Walderalm	126.04	328	⇑iP	PKPdf	20 08 26.1	+0.4
	comp=Z,7.2nm,0.9s						
WATA	Walderalm	126.04	328	⇑iP	PKPdf	20 08 26.1	+0.4
WTTA	Wattenberg	126.05	328	⇑iP	PKPdf	20 08 26.0	+0.3
	comp=Z,24nm,0.9s						
MOTA	Moosalm	126.28	329	⇓iP	PKPdf	20 08 26.2	+0.1
	comp=Z,10nm,0.9s						
STU	Stuttgart	126.29	331	ePKPdf	PKPdf	20 08 27.0	+0.9
STU	Stuttgart	126.29	331	ePKPdf	PKPdf	20 08 27.1	+0.9
SQTA	Sankt Quirin	126.30	328	⇑iP	PKPdf	20 08 26.4	+0.2
	comp=Z,7.5nm,0.9s						
MEM	Membach	126.44	334	PKP	PKPdf	20 08 27.3	+0.9
BCLA	Clavier	126.88	335	PKP	PKPdf	20 08 28.4	+1.2
DAVA	Damuels	126.95	329	⇑iP	PKPdf	20 08 25.6	-1.8
	comp=Z,15nm,0.8s						
BFO	Black Forest	127.01	331	ePKPdf	PKPdf	20 08 27.0	-0.5
WLF	Walferdange	127.07	334	ePKPdf	PKPdf	20 08 28.7	+1.1
WLF	Walferdange	127.07	334	PKP	PKPdf	20 08 28.9	+1.3
WLF	Walferdange	127.07	334	ePKPdf	PKPdf	20 08 28.8	+1.2
SNF	Seneffe	127.24	335	PKP	PKPdf	20 08 29.7	+1.7
GIVF	Givet	127.32	335	ePKP1	PKPdf	20 08 28.3	+0.2
DOU	Dourbes	127.42	335	PKP	PKPdf	20 08 29.6	+1.3
CDF	Champ du Feu	127.45	332	ePKP1	PKPdf	20 08 29.2	+0.8
	comp=Z,13nm,0.8s						
BAIF	Baives	127.61	335	ePKP1	PKPdf	20 08 29.0	+0.3
HINF	Hinteralfeld	128.07	331	ePKP1	PKPdf	20 08 29.5	-0.1
	comp=Z,27nm,0.9s						
HAU	Haudompre	128.18	332	ePKP1	PKPdf	20 08 29.8	0.0
	comp=Z,12nm,0.5s						
MEZF	Maizieres J'vi	128.41	333	ePKP1	PKPdf	20 08 30.8	+0.6
	comp=Z,24nm,0.8s						
CABF	La Chapelle	129.30	331	ePKP1	PKPdf	20 08 33.6	+1.7
	comp=Z,42nm,1.0s						
LPL	La Plagne	129.75	329	ePKP1	PKPdf	20 08 33.6	+0.9
	comp=Z,18nm,0.8s						
LOR	Lormes	129.87	333	ePKP1	PKPdf	20 08 33.2	+0.2
	comp=Z,14nm,0.7s						
BNI	Bardonecchia	130.10	329	ePKPdf	PKPdf	20 08 36.5	+3.1
TSUM	Tsumeb	130.13	240	ePKPdf	PKPdf	20 08 35.6	+2.2
MBDF	Montbardon	130.27	329	ePKP1	PKPdf	20 08 34.6	+0.9
	comp=Z,9.6nm,0.8s						
SMF	Signal de Mont	130.34	332	ePKP1	PKPdf	20 08 34.3	+0.4
AVF	Avril sur Loir	130.45	333	ePKP1	PKPdf	20 08 34.8	+0.7
	comp=Z,6.1nm,0.6s						
LDF	La Druitiere	130.53	337	ePKP1	PKPdf	20 08 34.3	+0.1
FLN	La Foliniere	130.53	337	ePKP1	PKPdf	20 08 34.4	+0.2
	comp=Z,22nm,0.7s						
ORIF	Oris-en-Rattie	130.60	329	ePKP1	PKPdf	20 08 35.0	+0.6
	comp=Z,20nm,0.8s						
BGF	Bois d'Agland	130.86	333	ePKP1	PKPdf	20 08 35.2	+0.4
	comp=Z,19nm,0.7s						
LVC	Limon Verde	130.94	125	eSKPbc		20 11 58.9	
GRR	Gorron	130.98	337	ePKP1	PKPdf	20 08 36.0	+0.9
	comp=Z,17nm,0.7s						
FRF	La Foret Royal	131.13	328	ePKP1	PKPdf	20 08 35.8	+0.4
	comp=Z,15nm,0.7s						
VIVF	Saint-Julien-l	131.25	330	ePKP1	PKPdf	20 08 37.5	+1.9
	comp=Z,8.7nm,0.7s						
TCF	Toulx Ste Croi	131.35	333	ePKP1	PKPdf	20 08 37.6	+1.8
	comp=Z,23nm,0.7s						
LMR	La Mourre	131.36	328	ePKP1	PKPdf	20 08 37.4	+1.6
	comp=Z,49nm,1.1s						
SMRF	Simiane la Rot	131.41	329	ePKP1	PKPdf	20 08 37.2	+1.3
	comp=Z,20nm,1.0s						
SGMF	Saint Gilles	131.74	338	ePKP1	PKPdf	20 08 37.2	+0.7
ROSF	Rostrenen	131.93	339	ePKP1	PKPdf	20 08 37.6	+0.7
MFF	Saint Martin d	132.13	335	ePKP1	PKPdf	20 08 38.9	+1.6
	comp=Z,8.4nm,0.6s						
LASF	Ste Croix	132.21	330	ePKP1	PKPdf	20 08 38.4	+1.0
	comp=Z,26nm,0.8s						
RJF	Les Rejaudoux	132.41	333	ePKP1	PKPdf	20 08 39.7	+1.9
CAF	Calviac	132.45	332	ePKP1	PKPdf	20 08 40.0	+2.1
LFF	La Frestale	133.05	333	ePKP1	PKPdf	20 08 41.1	+2.1
	comp=Z,22nm,0.8s						
MTLF	Montolieu	133.56	331	ePKP1	PKPdf	20 08 41.3	+1.4
LPAZ	La Paz	134.36	118	PKhKP		20 08 34.6	
	comp=Z,0.8nm,0.6s,baz=1.0,slow=5.6,SNR=4.8						
LPAZ				PKP	PKPdf	20 08 44.9	+3.4
	comp=Z,6.5nm,0.9s,baz=318,slow=2.3,SNR=17						
LPAZ	La Paz	134.36	118	PKHKP		20 08 34.6	
LPAZ						20 08 44.9	
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
LPAZ	La Paz	134.36	118	ePKPpre		20 08 34.4	
LPAZ				ePKPdf	PKPdf	20 08 37.0	-4.4
LPAZ				PKP	PKPdf	20 08 44.9	+3.4
LPAZ				ePKPdf	PKPdf	20 08 45.0	+3.5
LPAZ				eSKPbc	SKPbc	20 12 11.4	+6.1
KEST	Kesra	134.38	318	PKP	PKPdf	20 08 43.6	+2.1
	comp=Z,2.8nm,0.8s,baz=302,slow=6.3,SNR=6.7						
EPF	Esparros	134.70	332	ePKP1	PKPdf	20 08 43.4	+1.3
ETSF	Etsaut	135.22	332	ePKP1	PKPdf	20 08 45.6	+2.5
	comp=Z,19nm,0.7s						
SJPF	Ste Jean	135.36	333	ePKP1	PKPdf	20 08 44.3	+1.0
SDV	Santo Domingo	136.51	82	PKP	PKPdf	20 08 47.6	+2.2
	comp=Z,28nm,0.8s,baz=296,slow=0.6,SNR=34						
SDV	Santo Domingo	136.51	82	ePKPdf	PKPdf	20 08 46.9	+1.4
SDV				eSKPbc	SKPbc	20 12 16.5	+4.4
CPUP	Villa Florida	137.49	138	PKP	PKPdf	20 08 49.0	+1.7
	comp=Z,8.7nm,0.8s,baz=270,slow=1.6,SNR=19						
CPUP	Villa Florida	137.49	138	PKIKP	PKPdf	20 08 49.0	+1.7
CPUP				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CPUP	Villa Florida	137.49	138	ePKPdf	PKPdf	20 08 49.1	+1.8
CPUP				ePKPdf	PKPdf	20 08 49.4	+2.1
ESDC	Sonseca Array	139.34	332	PKP	PKPdf	20 08 52.6	+1.9
	comp=Z,0.9nm,0.4s,baz=2.0,slow=2.9,SNR=6.7						
CPD	Cerro la Pandu	139.71	67	ePKPdf	PKPdf	20 08 53.5	+2.2
HUMP	Col San Antoni	139.75	67	ePKPdf	PKPdf	20 08 53.8	+2.4
MTP	Monte Pirata	140.03	67	ePKPdf	PKPdf	20 08 54.4	+2.5
SAML	Samuel	141.52	110	ePKPdf	PKPdf	20 08 53.5	-1.1
SAML				ePKPdf	PKPdf	20 08 54.2	-0.4
CMLA	Cha da Macela	146.97	358	PKPbc	PKPbc	20 09 06.9	+0.8
TOA0	Torodi Ar. Sit	150.41	289	ePKPbc	PKPbc	20 09 15.2	+0.3
TORD	Torodi Ar. Bea	150.41	289	PKPbc	PKPbc	20 09 15.1	+0.1
	comp=Z,64nm,0.8s,baz=87,slow=2.2,SNR=388						
TORD				PKPab	PKPab	20 09 22.5	+0.9
	comp=Z,12nm,0.5s,baz=64,slow=2.8,SNR=9.7						
BDFB	Brasilia	151.08	134	PKP	PKPdf	20 09 13.2	+2.5
	comp=Z,18nm,1.0s,baz=164,slow=1.8,SNR=11						
BDFB				PKPbc	PKPbc	20 09 18.3	+1.8
	comp=Z,58nm,0.8s,baz=269,slow=1.2,SNR=48						
DBIC	Dimbokro	157.84	276	PKP	PKPdf	20 09 20.5	+0.5
	comp=Z,4.1nm,0.9s,baz=142,slow=3.7,SNR=3.4						
DBIC				PKPbc	PKPdf	20 09 32.1	+12
	comp=Z,5.6nm,0.8s,baz=120,slow=1.5,SNR=5.5						
DBIC				PKPab	PKPab	20 09 53.9	+0.8
	comp=Z,21nm,0.9s,baz=68,slow=4.0,SNR=12						
DBIC	Dimbokro	157.84	276	PKIKP	PKPdf	20 09 20.5	+0.4
DBIC						20 09 32.2	
DBIC						20 09 53.9	
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DBIC	Dimbokro	157.84	276	PKP	PKPdf	20 09 20.5	+0.4
DBIC				PKPbc	PKPdf	20 09 32.1	+12
DBIC				PKPab	PKPab	20 09 53.9	+0.8

IDC 15 20:01:16.0±12.0, 1011S×10889E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=200.7km s-min=118.7km az=129.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.07	118	Pn	Pn	20 05 29.0	+0.5
	0.3nm,0.3s,baz=290,slow=9.7,SNR=16						
FITZ				Sn	Sn	20 08 33.5	-17
	0.1nm,0.3s,baz=180,slow=20,SNR=2.2						
WRA	Warramunga Arr	26.42	115	P	P	20 06 53.6	-0.7
	0.7nm,0.6s,baz=285,slow=12,SNR=7.1						
ASAR	Alice Springs	27.41	123	P	P	20 07 05.2	+2.0
	0.9nm,0.7s,baz=302,slow=9.7,SNR=14						
STKA	Stephens Creek	37.20	131	P	P	20 08 28.3	-0.6
	1.4nm,0.6s,baz=284,slow=8.1,SNR=5.9						

NEIC 15 20:12:35.7, 3874S×176.12E, h101km, MG3.8(WEL), After WEL.

WEL 15 20:12:35.9±0.1, 3875S×17614E, h99km±1km, ML3.8/16, 10C-6D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	Hinemaiaia	0.14	194	P	Pn	20 12 49.7	0.0
HATZ				S	Sn	20 13 00.2	+0.1
HATZ	Hinemaiaia	0.14	194	⇑PN	Pn	20 12 49.7	0.0
HATZ				SN	Sn	20 12 59.9	-0.2
WHTZ	Whakaora	0.16	301	P	Pn	20 12 50.1	+0.3
WHTZ	Whakaora	0.16	301	PN	Pn	20 12 50.1	+0.3
RATZ	Rangitukua	0.31	248	P	Pn	20 12 50.2	-0.1
RATZ	Rangitukua	0.31	248	⇑PN	Pn	20 12 50.2	-0.1
RITZ	Rihia Road	0.31	224	P	Pn	20 12 50.6	+0.3
RITZ	Rihia Road	0.31	224	PN	Pn	20 12 50.6	+0.3
WATZ	Wairara	0.32	277	P	Pn	20 12 50.3	-0.1
WATZ	Wairara	0.32	277	⇑PN	Pn	20 12 50.3	0.0
KATZ	Kakaramea	0.41	237	P	Pn	20 12 50.9	0.0
KATZ	Kakaramea	0.41	237	PN	Pn	20 12 50.9	0.0
BKZ	Black Stump Fm	0.50	146	P	Pn	20 12 51.8	+0.3
BKZ	Black Stump Fm	0.50	146	⇑PN	Pn	20 12 51.8	+0.3
BKZ				SN	Sn	20 13 03.3	+0.2
KRVZ	Karewarewa	0.52	228	PN	Pn	20 12 51.7	+0.1
WTVZ	West Tongariro	0.56	229	P	Pn	20 12 51.9	-0.1
WTVZ	West Tongariro	0.56	229	⇑PN	Pn	20 12 51.9	0.0
NGZ	Ngauruhoe	0.59	224	P	Pn	20 12 52.2	0.0
NGZ	Ngauruhoe	0.59	224	PN	Pn	20 12 52.2	0.0
NGZ				SN	Sn	20 13 05.2	+0.7
TWVZ	Taurewa	0.63	239	P	Pn	20 12 52.4	-0.1
TWVZ				S	Sn	20 13 05.1	+0.1
TWVZ	Taurewa	0.63	239	PN	Pn	20 12 52.4	-0.1
TWVZ				SN	Sn	20 13 05.1	0.0
TUVZ	Tukino	0.64	216	P	Pn	20 12 52.9	+0.3
TUVZ	Tukino	0.64	216	⇑PN	Pn	20 12 52.9	+0.3
TUVZ				SN	Sn	20 13 05.3	+0.2
WPVZ	Whakapapa	0.65	225	P	Pn	20 12 52.5	-0.2
WPVZ	Whakapapa	0.65	225	PN	Pn	20 12 52.5	-0.1
FWVZ	Far West T-bar	0.68	222	P	Pn	20 12 52.9	0.0
FWVZ	Far West T-bar	0.68	222	PN	Pn	20 12 52.9	0.0
FWVZ				SN	Sn	20 13 05.9	+0.1
DRZ	Dome Shelter	0.69	220	⇓PN	Pn	20 12 53.4	+0.4
DRZ				SN	Sn	20 13 05.9	0.0
WNVZ	Wahianoa	0.71	216	P	Pn	20 12 53.5	+0.2
WNVZ	Wahianoa	0.71	216	⇑PN	Pn	20 12 53.5	+0.3
TRVZ	Turoa	0.71	220	PN	Pn	20 12 53.6	+0.3
MOVZ	Moawhango	0.72	204	P	Pn	20 12 53.2	-0.1
MOVZ	Moawhango	0.72	204	⇑PN	Pn	20 12 53.2	-0.2
MOVZ				SN	Sn	20 13 06.2	-0.2
EDRZ	Edgecumbe	0.80	37	⇓PN	Pn	20 12 54.0	-0.1
PKVZ	Pokaka	0.82	229	⇑PN	Pn	20 12 54.3	0.0
PKVZ				SN	Sn	20 13 08.0	-0.1
URZ	Urewera	0.91	58	P	Pn	20 12 55.0	-0.2
URZ	Urewera	0.91	58	⇓PN	Pn	20 12 55.0	-0.2
URZ				SN	Sn	20 13 09.2	-0.5
HIZ	Hauiti	1.03	283	P	Pn	20 12 56.3	-0.2
HIZ	Hauiti	1.03	283	⇑PN	Pn	20 12 56.3	-0.2
HIZ				SN	Sn	20 13 11.4	-0.7
VRZ	Vera Road	1.14	250	PN	Pn	20 12 57.6	-0.1
VRZ				SN	Sn	20 13 14.7	+0.5
MWZ	Matawai	1.17	70	P	Pn	20 12 58.1	+0.1
MWZ	Matawai	1.17	70	⇓PN	Pn	20 12 58.1	0.0
KNZ	Kokohu	1.23	103	P	Pn	20 12 59.2	+0.4
KNZ	Kokohu	1.23	103	PN	Pn	20 12 59.2	+0.4
TSZ	Takapari Road	1.31	186	P	Pn	20 12 59.4	-0.4
TSZ	Takapari Road	1.31	186	PN	Pn	20 12 59.3	-0.4
TSZ				SN	Sn	20 13 16.6	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**1.34**	**221**	P	Pn	20 13 00.2	+0.1
WAZ	**Wanganui**	**1.34**	**221**	⇓PN	Pn	20 13 00.2	+0.1
WAZ				SN	Sn	20 13 18.9	+0.4
PXZ	**Pawanui**	**1.40**	**156**	PN	Pn	20 13 00.7	-0.1
PXZ				SN	Sn	20 13 19.0	-0.6
RAEZ	**Rainy Point**	**1.46**	**248**	P	Pn	20 13 01.9	+0.4
NEZ	**North Egmont**	**1.67**	**251**	P	Pn	20 13 04.6	+0.4
PUZ	**Puketiti**	**1.80**	**69**	P	Pn	20 13 05.6	-0.2
PUZ	**Puketiti**	**1.80**	**69**	⇓PN	Pn	20 13 05.6	-0.1
PUZ				SN	Sn	20 13 27.3	-1.2
MRZ	**Mangatainoka R**	**1.96**	**193**	P	Pn	20 13 06.3	-1.5
MRZ	**Mangatainoka R**	**1.96**	**193**	PN	Pn	20 13 06.3	-1.4
MRZ				SN	Sn	20 13 29.3	-2.9
MXZ	**Matakaoa Point**	**2.08**	**56**	P	Pn	20 13 09.6	+0.2
MXZ	**Matakaoa Point**	**2.08**	**56**	PN	Pn	20 13 09.6	+0.2
KIW	**Kapiti Island**	**2.31**	**204**	P	Pn	20 13 10.4	-2.0
KIW	**Kapiti Island**	**2.31**	**204**	PN	Pn	20 13 10.4	-2.0
CAW	**Cannon Point**	**2.49**	**199**	P	Pn	20 13 12.6	-2.2
CAW	**Cannon Point**	**2.49**	**199**	PN	Pn	20 13 12.6	-2.2
DUWZ	**D'Urville Isla**	**2.67**	**219**	PN	Pn	20 13 14.6	-2.5
PAWZ	**Paruwai Farm**	**2.68**	**191**	P	Pn	20 13 14.7	-2.6
MRW	**Makara Radio**	**2.71**	**204**	P	Pn	20 13 15.1	-2.6
MSWZ	**Moikau Station**	**2.75**	**194**	P	Pn	20 13 15.4	-2.8
BHW	**Baring Head**	**2.83**	**200**	P	Pn	20 13 16.3	-2.9
TCW	**Tory Channel**	**2.84**	**210**	P	Pn	20 13 16.7	-2.8
NNZ	**Nelson**	**3.25**	**220**	*e*P	Pn	20 13 21.8	-3.1
QRZ	**Quartz Range**	**3.47**	**232**	*e*P	Pn	20 13 24.9	-2.9
THZ	**Tophouse**	**3.90**	**218**	*e*P	Pn	20 13 30.1	-3.5

GUC 15 20:18:34.9±0.7**,3075S×7165W,h31**km±4km**,MD3.4, ML3.8,4C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.41**	**71**	⇑*i*P	Pb	20 18 44.0	0.0
OVCH				*i* S	Sb	20 18 50.6	+0.4
OVCH				AML	AML	20 18 51.2	
	comp=N,6μm,0.3s						
CMCH	**Combarbala**	**0.70**	**127**	⇑*i*P	Pn	20 18 48.2	-0.5
CMCH				*i* S	Sb	20 18 58.2	+0.1
CMCH				AML	AML	20 18 59.2	
	comp=N,11μm,0.7s						
LSCH	**La Serena**	**0.91**	**23**	⇑*i*P	Pn	20 18 51.2	-0.3
LSCH				*i* S	Sn	20 19 03.4	-0.1
TLL	**Tololo Astrono**	**0.93**	**52**	⇓*i*P	Pn	20 18 52.4	+0.6
TLL				*i* S	Sn	20 19 05.5	+1.3
TLL				AML	AML	20 19 09.5	
	comp=N,7μm,0.8s						
CHNG	**Los Chungos**	**1.14**	**173**	⇑*i*P	Pn	20 18 54.6	-0.1
CHNG				*i* S	Sn	20 19 10.2	+0.9
CHNG				AML	AML	20 19 13.4	
	comp=E,2μm,0.3s						
PTCH	**Petorca**	**1.64**	**158**	⇓*i*P	Pn	20 19 02.7	+1.2
PTCH				*i* S	Sn	20 19 23.9	+2.4
PTCH				AML	AML	20 19 28.3	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**2.53**	**161**	*i* P	Pn	20 19 15.1	+1.2
PEL				AML	AML	20 19 55.2	
	comp=E,969nm,0.8s						
CLCH	**Cerro Calan**	**2.81**	**161**	AML	AML	20 20 09.1	
	comp=N,664nm,0.6s						
FCH	**Farellones**	**2.82**	**156**	*i* P	Pn	20 19 19.9	+2.1
FCH				AML	AML	20 20 03.3	
	comp=E,252nm,0.3s						
RCDM	**Rinconada Maip**	**2.83**	**165**	AML	AML	20 20 04.8	
	comp=E,269nm,0.4s						
LMEL	**Las Melosas**	**3.33**	**159**	*e*P	Pn	20 19 26.7	+1.9
LMEL				AML	AML	20 20 21.3	
	comp=N,238nm,0.4s						

WEL 15 20:19:54.0±0.6**,3635S×17746E,h33**km**,ML3.7**/6**,Error ellipse: s-maj=4.5km s-min=3.7km az=0.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**151**	P*	Pb	20 20 16.4	-3.0
MXZ				S*	Sb	20 20 33.5	-3.3
MXZ				S*	Sb	20 20 33.8	-3.0
KUZ	**Kuaotunu**	**1.46**	**254**	PN	Pn	20 20 17.4	-0.6
KUZ				SN	Sn	20 20 34.4	-1.5
PUZ	**Puketiti**	**1.84**	**160**	PN	Pn	20 20 25.7	+2.5
PUZ				*e*SN	Sn	20 20 49.2	+4.0
URZ	**Urewera**	**1.93**	**188**	P*	Pb	20 20 25.1	-3.4
URZ				*e*S*	Sb	20 20 46.3	-6.0
MWZ	**Matawai**	**1.99**	**179**	*e*P*	Pb	20 20 25.4	-4.1
MWZ				*e*S*	Sb	20 20 48.2	-5.6
HIZ	**Hauiti**	**3.00**	**223**	PN	Pn	20 20 40.6	+1.5

OTT 15 20:40:34.4±0.2**,6515N×8798W,h18**km**,MN2.5**/5**,Wager Bay region, Nu Boothia Ungava Seismic Zone. 174km northwest from Coral Harbour, Nu,Northwest Territories**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**1.65**	**23**	PN	Pn	20 41 02.5	+0.1
QILN				SG	Sg	20 41 25.9	-1.7
QILN				Trac		20 41 27.8	
	comp=Z,8.2nm,0.1s						
SEDN	**First Sedna Si**	**2.37**	**218**	PN	Pn	20 41 12.1	-0.3
SEDN				SN	Sn	20 41 40.4	-0.7
SEDN				SG	Sg	20 41 44.9	-5.8
SEDN				Trac		20 41 52.8	
	comp=Z,3.9nm,0.1s						
JOSN	**Second Sedna S**	**2.53**	**220**	PN	Pn	20 41 13.8	-0.8
JOSN				SN	Sn	20 41 44.8	-0.2
JOSN				SG	Sg	20 41 49.8	-6.1
JOSN				Trac		20 41 52.9	
	comp=Z,4.7nm,0.1s						
SRLN	**Sarcpa Lake, N**	**3.88**	**26**	SN	Sn	20 42 15.8	-2.3
SRLN				SG	Sg	20 42 31.3	-7.6
SRLN				Trac		20 42 34.0	
	comp=Z,1.5nm,0.1s						
GIFN	**Gifford Fjord,**	**5.44**	**24**	PN	Pn	20 41 51.2	-3.2
GIFN				SN	Sn	20 42 53.5	-3.0
GIFN				LG		20 43 19.8	
GIFN				Trac		20 43 22.9	
	comp=Z,8.1nm,0.9s						

*ISCJB **15** 20:54:33.9±0.8,2396N±009×1218E±0.1,h10km,mb3.6/4, Error ellipse: s-maj=21.2km s-min=9.9km az=129.7*
*IDC **15** 20:54:34.6±1.3,2391N×12172E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.6/20,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=49.0km s-min=23.9km az=77.0*
*NEIC **15** 20:54:35.5±0.8,2402N×12165E,h10km,ML4.6(TAP), Error ellipse: s-maj=23.1km s-min=9.4km az=71.0*
NEIC Recorded [5 TAP] in Hua-lien, [3 TAP] in I-lan and [2 TAP] in Nan-t'ou and T'ai-chung Counties.
ISC 15 20:54:35.7±0.9**,2402N**±008×**1216E**±02**,h10**km**,n8,** σ**1**ˢ**07**/8**,mb3.6**/4**,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.16**	**346**	*e*P	**Pg**	**20 54 40.7**	**+1.5**
YHNB	**Yeheng**	**0.69**	**340**	*e*P	**Pg**	**20 54 48.3**	**-0.8**
TATO	**Taipei**	**0.96**	**352**	*e*P	**Pg**	**20 54 52.4**	**-1.8**
JOW	**Kunigami**	**6.62**	**64**	Pn	**Pn**	**20 56 13.3**	**+0.3**
	2.5nm,0.3s,baz=116,slow=27,SNR=5.5						
SONM	**Songino Array**	**26.68**	**337**	P	**P**	**21 00 16.6**	**+1.7**
	0.2nm,0.5s,mb2.9,baz=144,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**45.41**	**163**	P	**P**	**21 02 54.0**	**-0.5**
	0.7nm,0.5s,mb3.7,baz=345,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**48.87**	**165**	P	**P**	**21 03 21.6**	**+0.2**
	0.3nm,0.4s,mb3.7,baz=340,slow=7.0,SNR=8.1						
STKA	**Stephens Creek**	**58.77**	**160**	P	**P**	**21 04 33.3**	**-0.6**
	1.0nm,0.8s,mb3.9,baz=9.5,slow=6.1,SNR=4.3						

IDC 15 21:15:11.6±2.3**,109S×12773E,h0**km**,mb3.5**/2**,mb1 3.6**/3**, mb1mx3.4**/15**,mbtmp3.4**/3**,ML3.3**/1**,MS3.3**/2**,Ms1 3.3**/2**, ms1mx2.6**/16**,Error ellipse: s-maj=191.5km s-min=25.6km az=67.0,Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.82**	**161**	P	Pn	21 19 44.4	-0.8
	0.1nm,0.3s,baz=344,slow=13,SNR=7.1						
WRA				LR	LR	21 26 29.0	
	comp=Z,66nm,20.5s,baz=170,slow=34						
ASAR	**Alice Springs**	**23.22**	**166**	P	P	21 20 20.4	+0.1
	0.9nm,0.7s,baz=345,slow=12,SNR=15						
MJAR	**Matsushiro Arr**	**38.69**	**14**	LR	LR	21 38 37.8	
	comp=Z,59nm,18.5s,baz=145,slow=36						
MKAR	**Makanchi Array**	**62.08**	**326**	P	P	21 25 34.2	+0.1
	0.3nm,0.5s,baz=126,slow=7.3,SNR=6.7						
BRG	**Berggiesshubel**	**105.67**	**323**	*e*(P)	Pdif	21 29 26.8	+3.0
	3.1nm,1.2s						

IDC 15 21:36:52.8±6.1**,755S×12884E,h180**km±63km**,mb3.3**/1**, mb1 3.2**/4**,mb1mx3.1**/14**,mbtmp3.7**/4**,Error ellipse: s-maj=61.0km s-min=28.8km az=60.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.94**	**196**	P	Pn	21 39 26.0	+1.6
	0.4nm,0.3s,baz=33,slow=11,SNR=14						
FITZ				S	Sn	21 41 24.2	-1.8
	0.6nm,0.3s,baz=95,slow=19,SNR=7.3						
WRA	**Warramunga Arr**	**13.42**	**157**	P	Pn	21 39 56.3	+0.1
	0.2nm,0.3s,baz=330,slow=13,SNR=11						
WRA				S	Sn	21 42 23.5	-2.0
	0.4nm,0.3s,baz=336,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**16.74**	**164**	P	Pn	21 40 36.5	-0.4
	0.3nm,0.3s,baz=334,slow=12,SNR=27						
ASAR				S	S	21 43 44.4	+2.6
	0.1nm,0.3s,baz=348,slow=26,SNR=3.9						
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	21 47 32.9	0.0
	0.4nm,0.5s,baz=113,slow=8.3,SNR=10						

IDC 15 21:55:43.7±67.0**,1793S×17644W,h0**km**,mb3.8**/3**, mb1 3.9**/3**,mb1mx3.7**/13**,mbtmp3.8**/3**,Error ellipse: s-maj=1245.0km s-min=176.1km az=80.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.27**	**242**	P	P	22 03 23.1	+0.7
	0.8nm,0.5s,baz=102,slow=9.3,SNR=4.9						
WRA	**Warramunga Arr**	**46.47**	**259**	P	P	22 04 12.8	+0.4
	0.4nm,0.3s,baz=96,slow=8.2,SNR=5.8						
ASAR	**Alice Springs**	**46.59**	**254**	P	P	22 04 13.3	0.0
	0.9nm,0.6s,baz=88,slow=7.6,SNR=15						

*ISCJB **15** 22:14:09.2±0.6,260N±007×9464E±005,h24km,mb4.3/26, MS3.5/3,Error ellipse: s-maj=11.0km s-min=7.4km az=40.3*
*BJI **15** 22:14:09.0,240N×9448E,h35km,mB4.9,mb4.5,Ms4.6, Msz4.2*
*IDC **15** 22:14:10.5±0.6,255N×9457E,h21km±3km,mb4.0/12, mb1 4.1/13,mb1mx3.9/23,mbtmp4.1/13,ML3.2/1,MS3.1/1, Ms1 3.1/1,ms1mx2.8/24,Error ellipse: s-maj=31.6km s-min=11.4km az=44.0*
*NEIC **15** 22:14:10.6±0.4,260N×9459E,mb4.4/7,Error ellipse: s-maj=11.9km s-min=7.3km az=214.0*
ISC 15 22:14:11.6±0.6**,259N**±008×**9462E**±005**,h26**km**, h26**km±1.0km**:pP-P,n46,**σ**0**ˢ**89**/43**,mb4.3**/26**,MS3.5**/3**,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.31**	**87**	Pn	**Pn**	**22 15 15.3**	**-0.1**
	1.4nm,0.3s,baz=293,slow=4.0,SNR=20						
PSI				LR	LR	22 17 14.0	
	comp=Z,207nm,19.8s,baz=94,slow=42						
PSI	**Prapat**	**4.31**	**87**	Pn	**Pn**	**22 15 15.3**	**-0.1**
PSI				LR	LR	22 17 14.0	
KULM	**Kulim**	**6.59**	**66**	*e*Pn	**Pn**	**22 15 46.2**	**-0.5**
KULM				*e*Sn	**Sn**	**22 17 00.5**	**-0.5**
PALK	**Pallekele**	**14.62**	**289**	*e*Pn	**Pn**	**22 17 44.0**	**+7.4**
	70nm,1.6s						
PALK				*e*Sn	**Sn**	**22 20 04.9**	**-13**
KSM	**Kuching**	**15.72**	**94**	*e*Pn	**Pn**	**22 17 55.7**	**+4.5**
CHTO	**Chiang Mai**	**16.67**	**14**	*e*Pn	**Pn**	**22 18 01.2**	**-2.1**
	6.8nm,1.0s						
KKM	**Kota Kinabalu**	**21.80**	**80**	*e*P	**P**	**22 19 02.8**	**+1.1**
KMI	**Kunming**	**23.73**	**19**	P	**P**	**22 19 22.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.1						
KMI				LR	LR		
	comp=Z,67nm,18.7s,MS3.1						
JIRN	**Jiri**	**26.20**	**343**	*e*P	**P**	**22 19 44.8**	**+0.7**
	comp=Z,13nm,0.6s,mb4.6						
GYA	**Guiyang**	**26.40**	**25**	P	**P**	**22 19 46.0**	**+0.1**
GYA				XP	sP	22 19 57.6	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,310nm,16.4s,MS4.1						
GYA				LR	LR		
	comp=E,340nm,15.9s,MS4.1						
GYA				LR	LR		
	comp=Z,300nm,15.4s,MS4.0						
GUN	**Gumba**	**26.52**	**342**	*e*P	**P**	**22 19 47.6**	**+0.6**
KKN	**Kakani**	**26.60**	**341**	*e*P	**P**	**22 19 48.4**	**+0.7**
GKN	**Gorkha**	**27.00**	**340**	*e*P	**P**	**22 19 51.8**	**+0.4**
	comp=Z,22nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.16**	**353**	P	**P**	**22 19 54.4**	**+1.7**
KOLN	**Koldanda**	**27.16**	**338**	*e*P	**P**	**22 19 52.0**	**-0.8**
	comp=Z,12nm,0.9s,mb4.4						
CD2	**Chengdu**	**29.46**	**16**	*e*P	**P**	**22 20 11.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**36.83**	**125**	P	**P**	**22 21 16.5**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.8,baz=232,slow=7.0,SNR=3.5						
FITZ				pP	pP	22 21 23.7	-1.5
	comp=Z,2.5nm,0.7s,baz=306,slow=2.2,SNR=4.6						
GTA	**Gaotai**	**36.95**	**7**	*e*P	**P**	**22 21 18.5**	**0.0**
GTA				AP	pP	22 21 25.8	-0.4
GTA				XP	sP	22 21 29.3	0.0
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
NJ2	**Nanjing**	**37.13**	**35**	*e*P	**P**	**22 21 22.0**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
HHC	**Hu-ho-hao-te**	**41.04**	**20**	*e*P	**P**	**22 21 53.4**	**+0.7**
HHC				AP	pP	22 22 03.3	+2.8
HHC				XP	sP	22 22 07.1	+3.5
HHC				PP	PP	22 23 30.8	+3.2
HHC				PCP	PcP	22 23 56.4	+4.1
HHC				SCP	ScP	22 27 41.5	+1.2
HHC				PCS	PcS	22 27 45.5	+2.2
HHC				S	**S**	**22 27 59.8**	**-3.9**
HHC				SCS	ScS	22 31 53.5	-2.2
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,93nm,4.9s						
HHC				LR	LR		
	comp=N,205nm,4.7s						
HHC				LR	LR		
	comp=E,207nm,4.9s						
HHC				LR	LR		
	comp=Z,128nm,4.1s						
NWAO	**Narrogin (SRO)**	**41.30**	**151**	P	sP	22 22 05.6	-0.1
WMQ	**Urumqi**	**41.51**	**352**	*e*P	**P**	**22 21 56.0**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,82nm,3.9s						
AAK	**Ala-Archa**	**43.73**	**338**	*e*P	**P**	**22 22 13.3**	**-1.4**
	comp=Z,4.3nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**44.96**	**122**	P	**P**	**22 22 24.2**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.0,baz=301,slow=9.1,SNR=7.5						
WRA				pP	pP	22 22 31.3	-0.9
	comp=Z,3.0nm,0.8s,baz=300,slow=8.9,SNR=10						
WRAB	**Tennant Creek**	**44.96**	**122**	*e*P	pP	22 22 31.3	-1.0
	comp=Z,12nm,1.1s						
WRAB				*e*pP	sP	22 22 42.2	+6.8
WB2	**Warramunga Arr**	**44.97**	**122**	*e*P	pP	22 22 31.3	-1.0
MKAR	**Makanchi Array**	**45.31**	**348**	P	**P**	**22 22 27.1**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.4,baz=164,slow=7.8,SNR=7.3						
SONM	**Songino Array**	**46.20**	**11**	P	**P**	**22 22 34.2**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.3,baz=192,slow=8.6,SNR=24						
SONM				PcP	PcP	22 24 10.4	+0.7
	comp=Z,0.6nm,0.6s,baz=180,slow=4.0,SNR=2.8						
ASAR	**Alice Springs**	**46.29**	**127**	P	**P**	**22 22 34.9**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=305,slow=7.0,SNR=6.8						
ASAR				pP	pP	22 22 42.2	-0.6
	comp=Z,1.0nm,0.7s,baz=298,slow=7.5,SNR=6.5						
ASAR				PcP	PcP	22 24 10.3	+0.2
	comp=Z,0.8nm,0.9s,baz=312,slow=2.1,SNR=5.1						
ASAR				pPcP		22 24 17.9	
	comp=Z,1.0nm,0.9s,baz=297,slow=3.4,SNR=4.8						
CN2	**Changchun**	**49.30**	**29**	*e*P	**P**	**22 23 00.0**	**+1.7**
ZAL	**Zalesovo**	**51.81**	**353**	P	**P**	**22 23 17.6**	**+0.3**
	comp=Z,3.5nm,0.6s,mb4.5,baz=294,slow=5.2,SNR=17						
MDJ	**Mudanjiang**	**51.97**	**31**	P	**P**	**22 23 18.8**	**+0.4**
MDJ				XP	sP	22 23 31.6	+2.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,70nm,5.4s						
MDJ				LR	LR		
	comp=N,18nm,23.9s,MS3.5						
MDJ				LR	LR		
	comp=E,41nm,20.3s,MS3.5						
MDJ				LR	LR		
	comp=Z,24nm,22.1s,MS3.2						
BVAR	**Borovoye Array**	**54.12**	**342**	P	**P**	**22 23 33.7**	**-0.5**
	comp=Z,5.0nm,0.6s,mb4.6,baz=146,slow=9.0,SNR=39						
BRVK	**Borovoye**	**54.18**	**342**	*e*P	**P**	**22 23 34.0**	**-0.7**
	comp=Z,5.5nm,1.1s,mb4.4						
ZRNK	**Zerenda**	**54.49**	**341**	*e*P	**P**	**22 23 36.3**	**-0.7**
	comp=Z,6.4nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**54.61**	**343**	*e*P	**P**	**22 23 37.6**	**-0.2**
	comp=Z,16nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**56.20**	**132**	P	**P**	**22 23 49.4**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=326,slow=11,SNR=3.5						
STKA				pP	pP	22 23 56.7	-0.6
	comp=Z,2.6nm,0.7s,baz=314,slow=8.3,SNR=4.8						
STKA	**Stephens Creek**	**56.20**	**132**	P	**P**	**22 23 49.4**	**+0.1**
STKA				pP	pP	22 23 56.7	-0.6
BR131	**Keskin Array S**	**66.27**	**313**	*e*P	**P**	**22 24 56.8**	**-0.7**
	comp=Z,1.1nm,0.6s,mb4.1						
BR131				*e*pP	pP	22 25 04.1	-1.5
BRTR	**Keskin Array B**	**66.27**	**313**	P	**P**	**22 24 57.1**	**-0.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=141,slow=8.0,SNR=8.8						
BRTR				pP	pP	22 25 04.0	-1.6
	comp=Z,1.4nm,0.7s,baz=125,slow=7.7,SNR=8.2						
AKASG	**Malin Array Be**	**72.59**	**323**	P	**P**	**22 25 35.3**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=94,slow=4.4,SNR=4.7						
AKASG				pP	pP	22 25 42.1	-2.6
	comp=Z,0.7nm,0.6s,baz=106,slow=3.7,SNR=2.0						
FINES	**FINESS Array B**	**77.58**	**333**	pP	pP	22 26 11.3	-2.2
	comp=Z,1.4nm,0.7s,baz=133,slow=6.1,SNR=2.9						
GERES	**GERESS Array B**	**82.07**	**319**	P	**P**	**22 26 30.1**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.0,baz=107,slow=4.6,SNR=12						
TORD	**Torodi Ar. Bea**	**92.26**	**283**	P	**P**	**22 27 20.1**	**+0.8**
	comp=Z,0.4nm,0.7s,mb3.9,baz=109,slow=5.5,SNR=6.1						
TORD				pP	pP	22 27 27.4	-0.2
	comp=Z,0.6nm,0.7s,baz=118,slow=5.6,SNR=3.7						
CHMT	**Chamberlain Mo**	**124.94**	**23**	*e*PKPdf	PKPdf	22 33 11.2	+1.9
CPUP	**Villa Florida**	**144.20**	**226**	PKP	PKPdf	22 33 44.3	-0.7
	comp=Z,3.4nm,0.9s,baz=36,slow=3.4,SNR=4.3						

*BEO **15** 22:19:14.9±0.2,4396N×1996E,h8km±1km*
*ISCJB **15** 22:19:16.5±0.3,4407N±001×2001E±003,h9km±2km, Error ellipse: s-maj=3.1km s-min=2.3km az=6.8*
*CSEM **15** 22:19:16.7±0.1,4403N×1999E,h15km,ML3.0,Error ellipse: s-maj=1.9km s-min=1.4km az=106.0*
*PDG **15** 22:19:17.1±0.3,4407N×1991E,h9km*
*NEIC **15** 22:19:17.1,4407N×1991E,h9km,ML3.0(PDG),After PDG.*
*PRU **15** 22:19:18.9,44.15N×2001E,h0km*
ISC 15 22:19:17.7±0.3**,4406N**±001×**2003E**±002**,h9**km±2km**,n82,** σ**1**ˢ**21**/112**,27C-17D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.04**	**327**	*i* Pg	**Pg**	**22 19 18.2**	**-1.2**
DIVS				Sg	**Sg**	**22 19 19.9**	**-0.8**
BEO	**Belgrade**	**0.82**	**22**	*i* Pg	**Pg**	**22 19 33.3**	**-0.2**
BEO				Sg	**Sg**	**22 19 45.9**	**+1.8**
PLE	**Pljevlja**	**0.86**	**212**	⇑*i*Pg	**Pg**	**22 19 32.6**	**-1.7**
PLE				*e*Sg	**Sg**	**22 19 44.9**	**-0.6**
SVIS	**Svilajnac**	**0.89**	**74**	*i* Pg	**Pg**	**22 19 34.5**	**-0.4**
SVIS				Sg	**Sg**	**22 19 47.2**	**+0.7**
FGSL	**Fruska Gora**	**1.11**	**352**	Pg	**Pg**	**22 19 39.0**	**0.0**
FGSL				Sg	**Sg**	**22 19 55.1**	**+1.8**
UPM	**Unac-Piva**	**1.18**	**224**	⇓*i*Pg	**Pb**	**22 19 38.2**	**-2.1**
UPM				*e*Sg	**Sg**	**22 19 55.7**	**0.0**
IVA	**Berane**	**1.19**	**184**	⇓*i*Pg	**Pb**	**22 19 38.7**	**-1.8**
IVA				*e*Sg	**Sg**	**22 19 57.4**	**+1.3**
NKY	**Niksic**	**1.46**	**211**	⇑*i*Pg	**Pn**	**22 19 43.1**	**-1.1**
NKY				*e*Sg	**Sg**	**22 20 05.3**	**+0.8**
PVY	**Plav**	**1.47**	**181**	⇑*i*Pg	**Pn**	**22 19 44.0**	**-0.3**
PVY				*e*Sg	**Sg**	**22 20 06.1**	**+1.2**
BRY	**Bratogost**	**1.58**	**223**	⇑*i*Pg	**Pn**	**22 19 45.2**	**-0.7**
BRY				*e*Sg	**Sg**	**22 20 08.5**	**-0.2**
TTG	**Podgorica**	**1.72**	**199**	⇓*i*Pn	**Pn**	**22 19 48.1**	**+0.2**
TTG				*e*Sn	**Sn**	**22 20 12.3**	**+2.3**
BARS	**Barje**	**1.81**	**133**	*i* Pg	**Pn**	**22 19 47.5**	**-1.5**
BARS				Sg	**Sg**	**22 20 15.3**	**-0.5**
TREB	**Trebinje**	**1.82**	**223**	P	**Pn**	**22 19 47.7**	**-1.4**
TREB				S	**Sn**	**22 20 11.4**	**-0.9**
BZS	**Buzias**	**1.92**	**36**	⇓*i*P	**Pn**	**22 19 49.5**	**-1.1**
BZS	**Buzias**	**1.92**	**36**	P	**Pn**	**22 19 50.5**	**-0.1**
BZS	**Buzias**	**1.92**	**36**	P	**Pn**	**22 19 50.5**	**-0.1**
BUM	**Brajici-Budva**	**1.94**	**205**	⇓*i*Pn	**Pn**	**22 19 51.4**	**+0.5**
BUM				*e*Sn	**Sn**	**22 20 17.6**	**+2.2**
HCY	**Herceg Novi**	**1.96**	**215**	⇑*i*Pn	**Pn**	**22 19 51.8**	**+0.6**
HCY				*e*Sn	**Sn**	**22 20 17.6**	**+1.7**
KKS	**Kukesi**	**2.00**	**172**	*e*Pg	**Pg**	**22 19 55.4**	**-0.7**
KKS				*i* Sg	**Sg**	**22 20 21.9**	**-0.2**
BLY	**Banja Luka**	**2.15**	**290**	P	**Pn**	**22 19 53.4**	**-0.3**
BLY				S	**Sn**	**22 20 21.4**	**+0.9**
ULC	**Ulcinj**	**2.17**	**195**	⇓*i*Pn	**Pn**	**22 19 55.3**	**+1.3**
ULC				*e*Sn	**Sn**	**22 20 23.6**	**+2.5**
RHK3	**Tenkes**	**2.22**	**326**	⇑*i*P	**Pn**	**22 19 54.7**	**0.0**
RHK3				*e*S	**Sn**	**22 20 24.3**	**+2.1**
	1.6nm,0.7s						
SKO	**Skopje**	**2.33**	**153**	*i* Pn	**Pn**	**22 19 59.9**	**+3.7**
PKSM	**Moragy**	**2.36**	**336**	⇓*i*P	**Pn**	**22 19 58.0**	**+1.3**
PKSM	**Moragy**	**2.36**	**336**	P	**Pn**	**22 19 58.1**	**+1.5**
PKSM	**Moragy**	**2.36**	**336**	P	**Pn**	**22 19 58.1**	**+1.4**
GZR	**Gura Zlata**	**2.37**	**55**	⇑*i*P	**Pn**	**22 19 56.2**	**-0.6**
GZR	**Gura Zlata**	**2.37**	**55**	P	**Pn**	**22 19 55.9**	**-0.9**
GZR	**Gura Zlata**	**2.37**	**55**	P	**Pn**	**22 19 55.9**	**-0.9**
VTS	**Vitosha**	**2.75**	**121**	⇓*i*P	**Pn**	**22 20 00.4**	**-1.6**
VTS	**Vitosha**	**2.75**	**121**	P	**Pn**	**22 20 00.0**	**-2.0**
STIP	**Stip**	**2.85**	**145**	*i* Pn	**Pn**	**22 20 00.8**	**-2.6**
STIP				*i* Sn	**Sg**	**22 20 50.3**	**+1.0**
STIP	**Stip**	**2.85**	**145**	*i* Pn	**Pn**	**22 20 00.7**	**-2.6**
SISC	**Sisak**	**2.96**	**300**	Sg	**Sg**	**22 20 53.9**	**+1.1**
SISC	**Sisak**	**2.96**	**300**	Sg	**Sg**	**22 20 53.8**	**+1.0**
KKB	**Krupnik**	**3.14**	**133**	*e*P	**Pn**	**22 20 06.6**	**-0.7**
BIA	**Bitola**	**3.19**	**162**	*i* Pn	**Pb**	**22 20 14.9**	**+0.4**
DRGR		**3.32**	**34**	⇑*i*P	**Pb**	**22 20 16.8**	**0.0**
BUD	**Budapest**	**3.49**	**349**	⇑*e*Pg	**Pn**	**22 20 12.1**	**-0.1**
BUD				*e*		22 21 15.2	
PKSG		**3.52**	**342**	*e*P	**Pn**	**22 20 12.6**	**0.0**
KOGS	**Kog**	**3.58**	**313**	*i* Pn	**Pn**	**22 20 12.8**	**-0.5**
MMB	**Musomiste**	**3.68**	**131**	P	**Pn**	**22 20 14.0**	**-0.7**
PENC	**Penc**	**3.77**	**352**	⇑*e*Pn	**Pn**	**22 20 15.4**	**-0.5**
MTUR	**Matau**	**3.78**	**70**	⇓*i*P	**Pn**	**22 20 20.7**	**+4.6**
MTUR	**Matau**	**3.78**	**70**	⇓P	**Pn**	**22 20 20.7**	**+4.6**
VOIR		**3.83**	**67**	⇓*i*P	**Pn**	**22 20 18.8**	**+1.9**
PSZ	**Piszkesteto**	**3.86**	**359**	⇓*e*Pg	**Pn**	**22 20 17.3**	**+0.1**
PSZ				*e*		22 21 24.6	
PSZ	**Piszkesteto**	**3.86**	**359**	⇑*i*P	**Pn**	**22 20 17.4**	**+0.2**
PSZ	**Piszkesteto**	**3.86**	**359**	P	**Pn**	**22 20 17.2**	**0.0**
PSZ	**Piszkesteto**	**3.86**	**359**	P	**Pn**	**22 20 17.2**	**0.0**
PVL	**Pavlikeni**	**3.94**	**101**	P	**Pn**	**22 20 16.0**	**-2.4**
GROS	**Grobnik**	**3.99**	**308**	*i* Pn	**Pn**	**22 20 18.4**	**-0.6**
SNX	**Sinaia**	**4.12**	**70**	⇑*i*P	**Pn**	**22 20 25.3**	**+4.5**
SNX	**Sinaia**	**4.12**	**70**	⇑P	**Pn**	**22 20 25.3**	**+4.4**
PERS	**Pernice**	**4.31**	**308**	*i* Pn	**Pn**	**22 20 22.9**	**-0.5**
SOP	**Sopron**	**4.36**	**327**	⇓*e*Pg	**Pn**	**22 20 24.8**	**+0.7**
SOP				*e*SB	**Sn**	**22 21 15.4**	**+0.4**
KECS	**Kecovo**	**4.43**	**4**	*e*PN	**Pn**	**22 20 25.9**	**+0.8**
KECS				*e*SN	**Sn**	**22 21 15.6**	**-1.3**
MLR	**Muntele Rosu**	**4.45**	**69**	⇑*i*P	**Pn**	**22 20 27.3**	**+1.9**
ARSA	**Arzberg**	**4.49**	**317**	⇑*i*Pn	**Pn**	**22 20 25.3**	**-0.5**
ARSA				⇑*i*Sn	**Sn**	**22 21 16.7**	**-1.5**
VYHS	**Vyhne**	**4.51**	**350**	*e*PN	**Pn**	**22 20 25.8**	**-0.4**
VYHS				*e*		22 21 18.2	
OBKA	**Obir**	**4.57**	**304**	⇑*i*Pn	**Pn**	**22 20 27.4**	**+0.3**
OBKA				⇓*i*Sn	**Sn**	**22 21 19.1**	**-1.2**
ZST	**Bratislava**	**4.61**	**335**	*e*SN	**Sn**	**22 21 18.0**	**-3.1**
VOY	**Vojsko**	**4.77**	**297**	*e*Pn	**Pn**	**22 20 34.3**	**+4.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VOY				eSn	Sg	22 21 52.0	+1.1
SMOL	Smolenice	4.80	339	ePN	Pn	22 20 30.8	+0.6
SMOL				eSN	Sn	22 21 22.5	-3.5
CONA	Conrad Observa	4.83	325	⇓iPn	Pn	22 20 29.8	-0.8
CONA				⇑iSn	Sn	22 21 24.3	-2.4
CONA	Conrad Observa	4.83	325	Pn	Pn	22 20 29.8	-0.8
CONA				Sn	Sn	22 21 24.3	-2.4
CRVS	Cervenica-Dubn	4.94	11	ePN	Pn	22 20 32.6	+0.5
PLOR	Plostina	5.03	67	⇑iP	Pn	22 20 33.9	+0.6
JMB	Yambol	5.05	106	eP	Pn	22 20 31.0	-2.6
BURAR	Bucovina Array	5.08	44	⇑iP	Pn	22 20 35.3	+1.3
BURAR	Bucovina Array	5.08	44	⇑P	Pn	22 20 35.3	+1.3
VRI	Vrincioaia	5.09	67	⇑iP	Pn	22 20 35.2	+1.1
VRI	Vrincioaia	5.09	67	⇑P	Pn	22 20 35.2	+1.1
NIE	Niedzica	5.36	2	eP	Pn	22 20 39.6	+1.7
STHS	Stebnicka Huta	5.42	8	ePN	Pn	22 20 41.2	+2.5
STHS	Stebnicka Huta	5.42	8	ePn	Pn	22 20 41.3	+2.6
MOA	Molln	5.52	315	⇑iPn	Pn	22 20 39.3	-0.7
MOA				⇑iSn	Sn	22 21 41.7	-1.9
CFR	Carcaliu	5.90	76	⇑iP	Pn	22 20 43.4	-1.8
CFR	Carcaliu	5.90	76	⇑P	Pn	22 20 43.4	-1.8
TIRR	Tirgusor	6.04	83	⇓iP	Pn	22 20 47.5	+0.3
TIRR	Tirgusor	6.04	83	⇓P	Pn	22 20 47.5	+0.3
KHC	Kasperske Hory	6.74	321	ePN	Pn	22 20 58.1	+1.3
KHC				eSN	Sn	22 22 14.1	+0.4

*BJI **15** 22:24:36.3, 4.99S×102.54E, h23km, mB5.1, mb4.8, Ms4.8, Msz4.5*
*MOS **15** 22:24:39.4±1.0, 4.65S×103.16E, h36km, mb4.9/17, Error ellipse: s-maj=16.5km s-min=7.7km az=115.8*
*NEIC **15** 22:24:42.2±0.9, 4.87S×102.93E, h47km±8km, mb4.6/19, Error ellipse: s-maj=8.7km s-min=6.3km az=54.0*
*IDC **15** 22:24:45.0±2.4, 4.75S×103.10E, h72km±20km, mb4.3/19, mb1 4.4/20, mb1mx4.3/23, mbtmp4.6/20, MS3.5/6, Ms1 3.5/6, ms1mx3.2/19, Error ellipse: s-maj=19.3km s-min=9.8km az=47.0*
*ISCJB **15** 22:24:45.1±1.1, 4.81S±0.06×103.05E±0.06, h87km±9km, mb4.7/57, Error ellipse: s-maj=13.0km s-min=6.1km az=100.7*

ISC 15 22:24:47.0±0.9, **4.82S**±0.06×**103.05E**±0.06, **h89**km±8km, **n130, σ1.05**/123, **mb4.7**/57, **14C-9D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLI	Kotabumi	1.80	92	P	Pn	22 25 13.6	-3.0
	924nm,0.6s						
CBJI	Citeko	4.11	113	P	Pn	22 25 49.0	+1.5
	620nm,0.9s						
LEM	Lembang	4.96	114	P	Pn	22 25 59.2	+0.1
	119nm,0.9s						
KGM	Kluang	6.79	2	P	Pn	22 26 23.6	-0.4
PSI	Prapat	8.62	331	P	Pn	22 26 43.7	-5.2
	baz=189,slow=13,SNR=8.1						
PSI				LR	LR	22 30 39.4	
	comp=Z,111nm,20.2s,baz=155,slow=42						
PSI	Prapat	8.62	331	P	Pn	22 26 47.3	-1.6
IPM	Ipoh	9.45	348	P	Pn	22 27 02.2	+1.9
COCO	West Island	9.56	220	ePn	Pn	22 26 54.6	-7.1
	179nm,0.5s						
KSM	Kuching	9.57	49	ePn	Pn	22 27 01.0	-0.9
KULM	Kulim	10.32	347	ePn	Pn	22 27 12.6	+0.5
KKM	Kota Kinabalu	17.00	51	eP	Pn	22 28 39.8	+0.6
TSM	Tawau	17.35	59	P	Pn	22 28 46.4	+2.9
MBWA	Marble Bar	22.94	137	eP	P	22 29 42.8	-0.9
	5.9nm,0.8s,mb4.0						
CM31	Chiang Mai Arr	23.48	350	eP	P	22 29 47.4	-1.2
	6.5nm,0.5s,mb4.2						
CHTO	Chiang Mai	23.82	350	eP	P	22 29 50.5	-1.3
	9.1nm,0.8s,mb4.2						
FITZ	Fitzroy Crossi	25.73	123	eP	P	22 30 08.5	-0.6
	17nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	25.73	123	P	P	22 30 08.8	-0.3
	11nm,0.5s,mb4.6,baz=316,slow=7.5,SNR=54						
FITZ				LR	LR	22 39 11.7	
	comp=Z,46nm,18.7s,baz=163,slow=34						
KMI	Kunming	29.76	359	P	P	22 30 45.6	+0.5
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	Warramunga Arr	33.96	119	P	P	22 31 21.6	-0.3
	comp=Z,7.7nm,0.5s,mb4.8,baz=301,slow=9.1,SNR=37						
WRA				PcP	PcP	22 33 59.0	+0.8
	comp=Z,1.9nm,0.4s,baz=302,slow=2.0,SNR=6.5						
WRAB	Tennant Creek	33.97	119 c	iP	P	22 31 21.5	-0.4
WRAB	Tennant Creek	33.97	119	eP	P	22 31 21.3	-0.6
	comp=Z,12nm,0.4s,mb5.1						
WB2	Warramunga Arr	33.97	119	⇑iP	P	22 31 21.4	-0.6
WB2				e		22 33 59.1	
ASPA	Alice Springs	35.15	125	eP	P	22 31 32.1	0.0
ASPA				e		22 34 02.7	
ASAR	Alice Springs	35.15	125	P	P	22 31 32.2	+0.1
	comp=Z,4.1nm,0.3s,mb4.7,baz=303,slow=8.3,SNR=76						
ASAR				PcP	PcP	22 34 02.7	+1.1
	comp=Z,2.6nm,0.5s,baz=318,slow=2.7,SNR=13						
ASAR				S	S	22 36 58.1	-0.5
	comp=Z,0.4nm,0.5s,baz=295,slow=15,SNR=4.2						
ASAR				ScP	ScP	22 37 43.2	+4.0
	comp=Z,0.9nm,0.9s,baz=280,slow=3.1,SNR=4.2						
ASAR				LR	LR	22 47 41.2	
	comp=Z,65nm,19.4s,baz=179,slow=39						
ASAR	Alice Springs	35.15	125	P	P	22 31 32.3	+0.2
ASAR						22 34 02.7	
ASAR				S	S	22 36 58.1	-0.5
CD2	Chengdu	35.53	1	eP	P	22 31 36.5	+1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
JIRN	Jiri	36.16	334	eP	P	22 31 41.1	+0.4
	comp=Z,35nm,0.7s,mb5.4						
LSA	Lhasa	36.17	342	P	P	22 31 40.8	0.0
LSA	Lhasa	36.17	342	eP	P	22 31 41.0	+0.2
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
LSA	Lhasa	36.17	342	eP	P	22 31 41.0	+0.2
	comp=Z,6.9nm,0.8s,mb4.6						
PKI	Pulchoki	36.42	333	eP	P	22 31 42.7	-0.3
GUN	Gumba	36.51	334	eP	P	22 31 43.7	0.0
	comp=Z,52nm,0.6s,mb5.6						
DMN	Daman	36.59	333	eP	P	22 31 44.0	-0.5
	comp=Z,19nm,0.8s,mb5.1						
KKN	Kakani	36.67	333	eP	P	22 31 44.7	-0.4
	comp=Z,34nm,0.7s,mb5.4						
GKN	Gorkha	37.15	332	eP	P	22 31 49.0	-0.1
KOLN	Koldanda	37.44	331	eP	P	22 31 51.6	0.0
	comp=Z,49nm,0.8s,mb5.5						
JAY	Jayapura	37.64	88	P	P	22 31 58.9	+5.6
	comp=Z,103nm,0.4s						
NJ2	Nanjing	39.63	21	eP	P	22 32 11.1	+1.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
SSE	Sheshan	39.69	25	eP	P	22 32 12.0	+1.6
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,455nm,3.6s						
NDI	New Delhi	41.56	325	eP	P	22 32 24.5	-1.3
GTA	Gaotai	44.11	356	eP	P	22 32 46.4	0.0
GTA				AP	pP	22 32 50.5	-17
GTA				XP	sP	22 32 53.8	-24
GTA				PCP	PcP	22 34 30.8	+0.7
GTA				PP	PP	22 34 32.0	+1.3
GTA				SCP	ScP	22 38 18.8	+4.9
GTA				PCS	PcS	22 38 22.5	-0.8
GTA				S	S	22 39 20.3	+7.8
GTA				XS	sS	22 39 27.1	-22
GTA				SS	SS	22 42 30.8	-2.1
GTA				SCS	ScS	22 42 41.8	+5.7
GTA				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,53nm,4.6s						
GTA				LR	LR		
	comp=N,154nm,8.7s						
GTA				LR	LR		
	comp=E,149nm,8.0s						
GTA				LR	LR		
	comp=Z,162nm,9.5s						
CTA	Charters Tower	44.67	114	eP	P	22 32 51.5	+0.6
	comp=Z,13nm,0.9s,mb4.7						
CTA	Charters Tower	44.67	114	P	P	22 32 51.4	+0.5
	comp=Z,12nm,0.6s,mb4.8,baz=289,slow=10,SNR=10						
CTA	Charters Tower	44.67	114	eP	P	22 32 51.5	+0.6
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
STKA	Stephens Creek	45.02	131	⇑iP	P	22 32 54.1	+0.4
	comp=Z,12nm,0.8s,mb4.7						
STKA	Stephens Creek	45.02	131	P	P	22 32 54.2	+0.5
	comp=Z,11nm,0.6s,mb4.8,baz=304,slow=8.1,SNR=35						
STKA				LR	LR	22 50 56.3	
	comp=Z,106nm,19.6s,baz=26,slow=35						
HHC	Hu-ho-hao-te	46.11	9	eP	P	22 33 05.0	+2.7
HHC				AP	pP	22 33 09.5	-14
HHC				XP	sP	22 33 12.0	-22
HHC				PCP	PcP	22 34 40.6	+3.6
HHC				PP	PP	22 34 53.9	+2.0
HHC				SCP	ScP	22 38 32.1	+10
HHC				PCS	PcS	22 38 34.0	+2.4
HHC				S	S	22 39 50.6	+9.2
HHC				XS	sS	22 39 58.4	-19
HHC				SCS	ScS	22 42 57.4	+8.5
HHC				SS	SS	22 43 08.0	+0.6
HHC				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,151nm,6.2s						
HHC				LR	LR		
	comp=N,141nm,5.1s						
HHC				LR	LR		
	comp=E,256nm,5.5s						
HHC				LR	LR		
	comp=Z,127nm,4.9s						
WMQ	Urumqi	50.35	346	⇓iP	P	22 33 35.4	+0.5
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,203nm,5.0s						
CN2	Changchun	52.44	20	eP	P	22 33 53.4	+2.9
SONM	Songino Array	52.51	3	P	P	22 33 51.5	+0.6
	comp=Z,10nm,0.8s,mb4.9,baz=182,slow=9.0,SNR=62						
SONM				PcP	PcP	22 35 00.5	+0.1
	comp=Z,1.7nm,0.3s,baz=190,slow=4.2,SNR=10						
SONM				LR	LR	22 56 30.8	
	comp=Z,44nm,18.9s,baz=134,slow=36						
SONM	Songino Array	52.51	3	P	P	22 33 51.5	+0.5
SONM						22 35 00.5	
ULN	Ulaanbaatar	52.57	3 c	iP	P	22 33 51.7	+0.2
ULN	Ulaanbaatar	52.57	3	eP	P	22 33 51.6	+0.2
	comp=Z,5.9nm,0.9s,mb4.6						
MJAR	Matsushiro Arr	52.65	36	P	P	22 33 51.0	-1.1
	comp=Z,4.7nm,0.8s,mb4.6,baz=217,slow=6.9,SNR=14						
AAK	Ala-Archa	53.87	334	eP	P	22 33 59.9	-1.0
AAK				e		22 35 05.8	
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
AAK	Ala-Archa	53.87	334	eP	P	22 33 59.9	-1.0
	comp=Z,1.7nm,0.5s,mb4.3						
AAK				ePcP	PcP	22 35 05.8	+0.3
MKAR	Makanchi Array	54.57	343	P	P	22 34 05.4	-0.7
	comp=Z,9.2nm,0.6s,mb5.0,baz=152,slow=7.9,SNR=15						
MDJ	Mudanjiang	54.67	23	P	P	22 34 08.6	+1.8
MDJ				PP	PP	22 36 11.0	+0.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,122nm,6.6s						
ZAK	Zakamensk	54.98	0	eP	P	22 34 06.4	-2.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TLY	Talaya	56.28	0	eP	P	22 34 18.6	+0.3
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TLY	Talaya	56.28	0	eP	P	22 34 19.0	+0.7
	comp=Z,4.5nm,0.8s,mb4.5						
ZAL	Zalesovo	60.51	348	P	P	22 34 46.8	-0.9
	comp=Z,7.3nm,0.4s,mb5.1,baz=320,slow=3.6,SNR=35						
YSS	Yuzh-Sakhalins	62.33	30	⇑eP	P	22 35 00.4	+0.4
YSS				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
BOD	Bodaibo	63.05	7	eP	P	22 35 01.9	-2.9
UMR	Umm Al-Rimmam	63.06	307	eP	P	22 35 05.8	+0.9
UMR				AMb	AMB	22 35 06.8	
	comp=Z,50nm,0.7s,mb5.6						
NAY	Al-Naaiem	63.33	306	eP	P	22 35 07.2	+0.5
NAY				AMb	AMB	22 35 07.6	
	comp=Z,20nm,0.6s,mb5.2						
MIB	Mutribah	63.47	307	eP	P	22 35 08.3	+0.8
MIB				AMb	AMB	22 35 09.7	
	comp=Z,30nm,1.0s,mb5.2						
BVAR	Borovoye Array	63.88	339	P	P	22 35 08.8	-1.4
	comp=Z,10.0nm,0.6s,mb4.8,baz=143,slow=9.2,SNR=82						
BVAR				PcP	PcP	22 35 45.3	0.0
	comp=Z,2.9nm,0.6s,baz=142,slow=6.5,SNR=4.9						
BRVK	Borovoye	63.94	339	eP	P	22 35 09.2	-1.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
BRVK	Borovoye	63.94	339	eP	P	22 35 09.2	-1.4
	comp=Z,3.3nm,0.6s,mb4.3						
CHKZ	Chkalovo	64.32	339	⇑iP	P	22 35 11.8	-1.3
CHKZ				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
CHKZ	Chkalovo	64.32	339	⇑iP	P	22 35 11.8	-1.3
	comp=Z,12nm,0.6s,mb4.9						
ZRNK	Zerenda	64.33	338	eP	P	22 35 11.7	-1.5
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
ZRNK	Zerenda	64.33	338	eP	P	22 35 11.7	-1.5
	comp=Z,6.2nm,0.7s,mb4.5						
GNI	Garni	69.65	316	iP	P	22 35 47.5	+0.6
GNI				pmax	pmax		
	comp=Z,14nm,1.8s						
YAK	Yakutsk	69.73	13	⇓eP	P	22 35 46.5	-0.9
YAK				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.9						
SVE	Sverdlovsk	70.44	337	eP	P	22 35 52.0	+0.3
SVE				e		22 36 00.0	
ARU	Arti	71.00	336	iP	P	22 35 53.5	-1.6
ARU	Arti	71.00	336	eP	P	22 35 53.8	-1.3
	comp=Z,5.3nm,0.8s,mb4.4						
KIV	Kislovodsk	72.65	319	eP	P	22 36 05.5	+0.5
KIV				e		22 38 46.0	
KIV				eSS	SS	22 50 10.6	+6.7
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
SOKR	Solikamsk	73.80	337	eP	P	22 36 11.5	-0.3
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
MATP	Matopo	73.86	250	P	P	22 36 13.5	+1.3
	comp=Z,2.3nm,0.5s,mb4.2,baz=92,slow=5.0,SNR=16						
BOSA	Boshof	77.00	242	P	P	22 36 31.1	+1.0
	comp=Z,3.4nm,1.0s,mb4.0,baz=84,slow=9.2,SNR=3.1						
BOSA				LR	LR	23 04 19.9	
	comp=Z,71nm,19.3s,baz=304,slow=31						
BR131	Keskin Array S	77.45	312	⇑iP	P	22 36 32.1	-0.5
	comp=Z,3.7nm,0.8s,mb4.2						
BRTR	Keskin Array B	77.45	312	P	P	22 36 32.4	-0.3
	comp=Z,4.1nm,0.8s,mb4.2,baz=135,slow=7.3,SNR=27						
VNDA	Vanda	78.83	169	P	P	22 36 39.7	-0.5
	comp=Z,0.3nm,0.5s,baz=292,slow=4.6,SNR=6.0						
VNDA	Vanda	78.83	169	P	P	22 36 39.7	-0.5
OBN	Obninsk	80.78	328 c	iP	P	22 36 50.5	-0.3
OBN				eS	S	22 46 56.7	+5.1
OBN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
OBN	Obninsk	80.78	328	eP	P	22 36 49.9	-0.9
	comp=Z,5.6nm,0.5s,mb4.7						
TIRR	Tirgusor	82.48	316	⇑iP	P	22 36 59.8	+0.1
TIRR	Tirgusor	82.48	316	⇑P	P	22 36 59.8	+0.1
AKASG	Malin Array Be	83.56	322	P	P	22 37 04.6	-0.7
	comp=Z,3.7nm,0.7s,mb4.3,baz=88,slow=4.8,SNR=13						
VRI	Vrincioaia	83.97	317	⇓iP	P	22 37 08.6	+1.2
VRI	Vrincioaia	83.97	317	⇓P	P	22 37 08.7	+1.3
PLOR	Plostina	84.02	317	⇓iP	P	22 37 12.7	+5.1
MLR	Muntele Rosu	84.42	316	⇑iP	P	22 37 10.7	+1.0
MLR	Muntele Rosu	84.42	316	⇑P	P	22 37 10.7	+1.0
BILL	Bilibino	84.74	20	P	P	22 37 10.8	-0.5
BILL				eS	S	22 47 30.6	-1.2
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BURAR	Bucovina Array	85.37	318	⇓iP	P	22 37 16.1	+1.7
BURAR	Bucovina Array	85.37	318	⇓P	P	22 37 16.1	+1.7
VTS	Vitosha	85.78	313	⇓iP	P	22 37 16.0	-0.5
VTS	Vitosha	85.78	313	⇓P	P	22 37 16.0	-0.5
JOF	Joensuu	86.06	334	ep	P	22 37 16.0	-1.8
	comp=Z,5.1nm,0.5s,mb4.7						
GZR	Gura Zlata	86.59	316	⇑iP	P	22 37 22.4	+2.0
KWP	Kalwaria	87.40	320	eP	P	22 37 24.8	+0.4
KOLS	Kolonicke sedl	87.56	319	eP	P	22 37 26.0	+0.9
SUW	Suwalki	87.93	324	eP	P	22 37 26.6	-0.3
FINES	FINESS Array B	88.00	332	P	P	22 37 27.0	-0.2
	comp=Z,3.4nm,0.5s,mb4.7,baz=112,slow=6.1,SNR=39						
KAF	Kangasniemi	88.06	333	ep	P	22 37 27.1	-0.4
	comp=Z,11nm,0.5s,mb5.1,baz=97,slow=4.3						
KAF	Kangasniemi	88.06	333	eP	P	22 37 27.1	-0.4
KAF				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.1						
STHS	Stebnicka Huta	88.30	320	eP	P	22 37 29.8	+1.2
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
STHS	Stebnicka Huta	88.30	320	eP	P	22 37 29.8	+1.2
	comp=Z,4.5nm,0.8s,mb4.5						
KECS	Kecovo	88.65	319	eP	P	22 37 28.6	-1.7
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KECS	Kecovo	88.65	319	eP	P	22 37 28.6	-1.7
	comp=Z,2.4nm,0.9s,mb4.2						
VYHS	Vyhne	89.74	319	eP	P	22 37 36.0	+0.6
ARCES	ARCESS Array B	90.14	340	P	P	22 37 36.7	-0.6
	comp=Z,3.9nm,0.6s,mb4.7,baz=108,slow=4.8,SNR=34						
ARCES	ARCESS Array B	90.14	340	P	P	22 37 36.7	-0.6
GERES	GERESS Array B	93.16	319	P	P	22 37 51.8	+0.5
	comp=Z,0.4nm,0.6s,mb3.9,baz=92,slow=4.0,SNR=5.4						
NOA	NORSAR Array B	95.07	331	P	P	22 37 59.9	-0.1
	comp=Z,0.6nm,0.7s,mb4.1,baz=77,slow=4.2,SNR=3.4						
PDAR	Pinedale Array	132.42	33	PKP	PKPdf	22 43 51.5	+0.6
	comp=Z,0.3nm,0.4s,baz=138,slow=1.7,SNR=5.1						
WMOK	Wichita Mounta	144.01	31	ePKIKP	PKPdf	22 44 09.8	-2.4
BAO	Brasilia Array	144.86	234	PKPdf	PKPdf	22 44 16.0	+2.4
BDFB	Brasilia	144.87	234	PKP	PKPdf	22 44 14.8	+1.2
	comp=Z,5.7nm,0.6s,baz=104,slow=4.0,SNR=7.3						
WCI	Wyandotte Cave	145.67	13	ePKIKP	PKPdf	22 44 15.4	+0.4
JCT	Junction City	146.60	38	ePKP2	PKPab	22 44 19.1	-0.4
MIAR	Mount Ida	146.64	25	ePKP2	PKPbc	22 44 18.8	+0.4
WVT	Waverly	147.27	16	ePKP2	PKPbc	22 44 20.1	0.0
TZTN	Tazewell	147.85	10	ePKPdf	PKPdf	22 44 21.4	+2.8
TZTN				ePKPbc	PKPbc	22 44 24.4	+2.7
PLAL	Pickwick Lake	148.26	18	ePKPdf	PKPdf	22 44 22.1	+2.8
PLAL				ePKPbc	PKPbc	22 44 25.6	+2.7
SWET	Sewanee	148.63	14	ePKPdf	PKPdf	22 44 22.8	+2.8
SWET				ePKPbc	PKPbc	22 44 26.8	+3.0

GUC 15 22:39:33.9±0.7, **30.66S**×**72.06W, h13**km±4km, **MD3.5, ML3.6, 4C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.74	86	⇑iP	Pg	22 39 47.7	-0.5
OVCH				iS	Sg	22 39 57.9	-0.1
OVCH				AML	AML	22 40 01.4	
	comp=E,3µm,0.4s						
LSCH	La Serena	1.03	43	iP	Pb	22 39 51.9	-1.6
LSCH				iS	Sb	22 40 06.0	-0.8
CMCH	Combarbala	1.04	120	⇑iP	Pb	22 39 52.6	-1.2
CMCH				iS	Sb	22 40 06.9	-0.4
CMCH				AML	AML	22 40 13.0	
	comp=E,3µm,0.4s						
TLL	Tololo Astrono	1.19	66	⇑iP	Pn	22 39 55.4	-0.7
TLL				iS	Sb	22 40 11.7	+0.2
TLL				AML	AML	22 40 17.8	
	comp=E,2µm,0.8s						
CHNG	Los Chungos	1.31	159	iP	Pn	22 39 56.8	-1.0
CHNG				iS	Sb	22 40 13.8	-1.2
PTCH	Petorca	1.87	149	iP	Pn	22 40 05.5	0.0
PTCH				iS	Sn	22 40 29.4	+0.5
PTCH				AML	AML	22 40 35.8	
	comp=E,708nm,0.3s						
PEL	Peldehue	2.74	155	eP	Pn	22 40 18.3	+0.8
PEL				iS	Sn	22 40 52.6	+2.2
PEL				AML	AML	22 41 03.7	
	comp=E,312nm,0.7s						
CLCH	Cerro Calan	3.02	155	AML	AML	22 41 13.0	
	comp=E,366nm,0.6s						
FCH	Farellones	3.05	151	iP	Pn	22 40 23.5	+1.7
FCH				iS	Sn	22 41 01.7	+3.5
FCH				AML	AML	22 41 18.2	
	comp=E,82nm,0.8s						
LMEL	Las Melosas	3.55	154	⇑iP	Pn	22 40 30.4	+1.8
LMEL				iS	Sn	22 41 12.2	+1.8
LMEL				AML	AML	22 41 38.3	
	comp=N,68nm,0.4s						

KRSC 15 23:22:34, 54.34N×162.85E, h15km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.69	289	iP	Pg	23 22 47.6	+0.1
MKZ				iS	Sg	23 22 56.7	+0.1
TUMR	Tumrok	1.83	302	eP	Pn	23 23 05.4	+0.5
TUMR				iS	Sn	23 23 28.2	+0.5
KBTR	Krutoberegovo	1.87	359	eP	Pn	23 23 06.3	+0.8
KBTR				iS	Sn	23 23 29.8	+1.0
KII	Karymskiy	2.02	263	eP	Pn	23 23 08.9	+1.4
KII				iS	Sn	23 23 33.6	+1.1
ZLN	Zelenaya	2.05	326	eP	Pn	23 23 09.5	+1.6
ZLN				iS	Sn	23 23 35.0	+1.8
KMNR	Kamenistaya	2.07	314	eP	Pn	23 23 10.2	+2.0
KMNR				iS	Sn	23 23 36.2	+2.6
SPN	Mys Shipunski	2.09	235	eP	Pn	23 23 09.3	+0.8
SPN				iS	Sn	23 23 34.6	+0.4
CIRR	Tsirk	2.15	327	eP	Pn	23 23 10.9	+1.6
CIRR				iS	Sn	23 23 37.4	+1.8
KPT	Kopyto	2.22	318	eP	Pn	23 23 12.9	+2.6
KPT				iS	Sn	23 23 40.8	+3.4
KRSR	Krestovskiy	2.29	326	eP	Pn	23 23 12.7	+1.5
KRSR				iS	Sn	23 23 40.7	+1.5
KLY	Klyuchi	2.34	328	eP	Pn	23 23 13.8	+1.9
KLY				iS	Sn	23 23 42.2	+1.8
SMKR	Semkarok	2.38	341	eP	Pn	23 23 14.5	+2.0
SMKR				iS	Sn	23 23 43.6	+2.2
NLC	Nalytchevo	2.39	242	eP	Pn	23 23 13.7	+1.1
NLC				iS	Sn	23 23 42.0	+0.4
BDR	Baidarnaya	2.42	338	eP	Pn	23 23 15.1	+2.1
BDR				iS	Sn	23 23 45.0	+2.6
KOZ	Kozyrevsk	2.42	316	eP	Pn	23 23 15.8	+2.7
KOZ				iS	Sn	23 23 45.6	+3.2
SRKR	Sorokina	2.51	338	eP	Pn	23 23 16.1	+1.9
SRKR				iS	Sn	23 23 46.3	+1.8
AVH	Avacha	2.67	248	eP	Pn	23 23 18.9	+2.5
AVH				iS	Sn	23 23 51.0	+2.6
SRDR	Sredinnyy	2.67	319	eP	Pn	23 23 18.6	+2.2
SRDR				iS	Sn	23 23 50.9	+2.4
PET	Petropavlovsk	2.82	244	eP	Pn	23 23 20.0	+1.5
PET				iS	Sn	23 23 52.9	+0.6
GNL	Ganaly	2.97	259	eP	Pn	23 23 23.3	+2.8
GNL				iS	Sn	23 23 58.7	+2.9
RUS	Russkaya	3.22	235	eP	Pn	23 23 25.9	+1.8
RUS				iS	Sn	23 24 03.2	+1.0
GRL	Gorelyy	3.37	240	eP	Pn	23 23 29.0	+2.9
GRL				iS	Sn	23 24 08.4	+2.6
MIPR	Malaya Ipel'ka	4.20	243	eP	Pn	23 23 40.9	+3.5
ALID	Alaid	5.64	235	P	Pn	23 24 01.9	+4.6

*ISCJB **15** 23:57:55.7±0.6, 47.12N±0.03×7.02E±0.03, h10km±6km, Error ellipse: s-maj=4.9km s-min=3.9km az=162.8*
*STR **15** 23:57:56.4±0.8, 47.10N×6.98E, h5km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **15** 23:57:56.0±0.2, 47.08N×7.09E, h4km±1km, Md2.1/2, Ml2.3/4, Error ellipse: s-maj=4.7km s-min=1.9km az=110.0*
*BGR **15** 23:57:57.2±0.9, 47.14N×6.99E, h5km, ML1.6/1, Error ellipse: s-maj=11.1km s-min=4.4km az=12.0*

ISC 15 23:57:56.4±0.6, **47.11N**±0.03×**7.01E**±0.03, **h16**km±5km, **n25, σ0.68**/36, **Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LOMF	Lomont	0.28	333	ePg	Pg	23 58 02.1	-0.2
	SNR=4.3						
BOURR	Bourrignon	0.32	27	ePg	Pg	23 58 03.3	+0.1
	SNR=3.3						
BALST	Balsthal	0.52	63	ePg	Pg	23 58 07.4	+0.7
	SNR=1.7						
HINF	Hinteralfeld	0.72	351	ePg	Pg	23 58 10.0	-0.4
HINF	Hinteralfeld	0.72	351	ePn	Pn	23 58 11.6	-0.3
HINF				eSg	Sg	23 58 20.3	+0.3
HINF				eSn	Sn	23 58 23.2	+0.7
	15nm,0.2s						
MOF	Molkenrain	0.75	6	ePg	Pg	23 58 10.9	-0.1
	SNR=2.5						
MOF	Molkenrain	0.75	6	Pg	Pg	23 58 10.9	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOF				Sg	Sg	23 58 22.9	+1.9
CABF	La Chapelle	0.81	232	ePg	Pg	23 58 11.7	-0.3
CABF	La Chapelle	0.81	232	ePn	Pn	23 58 13.1	+0.1
CABF				eSg	Sg	23 58 23.1	+0.4
	4.6nm,0.2s						
SULZ	Sulz-Cheisache	0.86	60	eSg	Sg	23 58 25.8	+1.3
	SNR=4.9						
HAU	Haudompre	1.01	334	ePg	Pg	23 58 15.6	-0.3
HAU	Haudompre	1.01	334	ePn	Pn	23 58 15.9	+0.1
HAU				eSg	Sg	23 58 30.2	+1.1
	9.4nm,0.3s						
FELD	Feldberg im Sc	1.02	41	ePg	Pg	23 58 16.5	+0.3
	SNR=3.3						
ZUR	Zurich	1.10	76	eSg	Sg	23 58 31.8	-0.3
	SNR=3.0						
ECH	Echery	1.11	5	ePg	Pg	23 58 17.1	-0.8
	SNR=2.2						
ECH	Echery	1.11	5	Pg	Pg	23 58 17.1	-0.8
ECH				Sg	Sg	23 58 32.5	0.0
SLE	Schleitheim	1.20	56	ePg	Pg	23 58 18.3	-1.3
	SNR=3.3						
SLE				eSg	Sg	23 58 35.2	-0.1
	SNR=9.2						
CDF	Champ du Feu	1.32	8	ePn	Pn	23 58 20.0	-0.1
CDF	Champ du Feu	1.32	8	ePg	Pg	23 58 21.5	-0.3
CDF				eSg	Sg	23 58 37.7	-1.3
	7.4nm,0.4s						
THEF	They Montfort	1.32	329	ePg	Pg	23 58 21.4	-0.4
	SNR=2.1						
THEF	They Montfort	1.32	329	Pg	Pg	23 58 21.2	-0.6
THEF				Sg	Sg	23 58 38.8	-0.2
WILA	Wila	1.33	76	ePg	Pg	23 58 22.5	+0.5
	SNR=1.4						
WILA				eSg	Sg	23 58 39.9	+0.6
	SNR=3.9						
WLS	Welschbruch	1.33	10	ePg	Pg	23 58 21.9	-0.1
	SNR=2.6						
BFO	Black Forest	1.51	35	ePg	Pg	23 58 24.7	-0.8
	SNR=2.4						
BFO				eSg	Sg	23 58 44.2	-1.0
	SNR=3.4						
SFTF	Sexfontaines	1.73	310	eSg	Sg	23 58 52.4	+0.3
	2.8nm,0.3s						

---

*IDC **16** 00:16:09.4±8.1, 1.27N×123.78E, h0^{km}, mb3.7/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=136.2km s-min=113.2km az=111.0*

NEIC 16 00:16:15.1±2.2**, 1.10N**×**124.02E, h30**^{km}**, mb3.9**/1**, Error ellipse: s-maj=96.0km s-min=31.1km az=80.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.15	175	P	Pn	00 20 35.6	-1.4
	0.1nm,0.3s,baz=15,slow=12,SNR=4.3						
WRAB	Tennant Creek	23.23	155	eP	P	00 21 18.6	-1.2
	3.9nm,0.8s						
WRA	Warramunga Arr	23.23	155	P	P	00 21 19.5	-0.4
	0.9nm,0.5s,baz=334,slow=10,SNR=4.0						
WB2	Warramunga Arr	23.24	155	eP	P	00 21 20.0	+0.1
ASAR	Alice Springs	26.43	159	P	P	00 21 51.3	+2.1
	1.5nm,0.8s,baz=331,slow=7.0,SNR=15						
STKA	Stephens Creek	36.79	155	P	P	00 23 22.1	+2.0
	0.8nm,0.6s,baz=331,slow=10,SNR=2.9						
WVOR	Wild Horse Val	109.09	44	ePKPdf	PKiKP	00 34 42.0	+0.1

---

*IDC **16** 00:25:32.8±3.4, 5.46S×149.79E, h0^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, ML2.8/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/12, Error ellipse: s-maj=112.5km s-min=39.8km az=115.0*

*NEIC **16** 00:25:33.7±1.4, 6.12S×150.91E, h35^{km}, mb3.9/1, Error ellipse: s-maj=34.5km s-min=12.6km az=170.0*

*ISCJB **16** 00:25:35.5±4.9, 6.8S±0.6×151.0E±0.2, h42^{km}±31^{km}, mb3.4/2, Error ellipse: s-maj=102.2km s-min=14.0km az=151.9*

ISC 16 00:25:36.8±4.7**, 6.6S**±0.6×**151.0E**±0.2**, h37**^{km}±31^{km}**, n7,** σ**1^{s}45**/7**, mb3.4**/2**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.68	233	Pn	Pn	00 26 45.9	+1.1
	3.0nm,0.3s,baz=173,slow=20,SNR=8.4						
PMG				Sn	Sn	00 27 37.0	-0.9
	2.3nm,0.3s,baz=106,slow=16,SNR=4.4						
PMG				LR	LR	00 28 58.2	
	comp=Z,75nm,18.6s,baz=336,slow=44						
HNR	Honiara	9.34	108	ePn	Pn	00 27 48.4	-0.4
	45nm,0.4s						
WRAB	Tennant Creek	20.87	229	eP	P	00 30 15.8	+0.3
	3.2nm,0.6s						
WRA	Warramunga Arr	20.88	229	P	P	00 30 16.1	+0.4
	0.4nm,0.3s,baz=50,slow=10,SNR=4.2						
ASAR	Alice Springs	23.59	222	P	P	00 30 45.2	+1.1
	0.3nm,0.3s,mb3.2,baz=54,slow=9.1,SNR=6.0						
FITZ	Fitzroy Crossi	27.20	243	P	P	00 31 14.7	-2.1
	1.7nm,0.9s,mb3.6,baz=51,slow=13,SNR=5.9						
TORD	Torodi Ar. Bea	149.04	285	PKPbc	PKPbc	00 45 19.8	-1.1
	0.4nm,0.3s,baz=93,slow=2.6,SNR=24						

---

*IDC **16** 00:48:32.6±3.3, 6.47N×95.56E, h154^{km}±28^{km}, mb3.3/5, mb1 3.5/6, mb1mx3.2/22, mbtmp3.8/6, Error ellipse: s-maj=69.0km s-min=22.5km az=43.0*

*ISCJB **16** 00:48:34.4±2.3, 6.4N±0.2×95.6E±0.2, h184^{km}±19^{km}, mb3.6/6, Error ellipse: s-maj=48.6km s-min=22.6km az=102.1*

*NEIC **16** 00:48:34.1±1.7, 6.36N×95.47E, h169^{km}±14^{km}, mb4.1/1, Error ellipse: s-maj=33.2km s-min=16.2km az=222.0*

ISC 16 00:48:34.9±2.3**, 6.4N**±0.2×**95.6E**±0.2**, h171**^{km}±19^{km}**, n11,** σ**0^{s}58**/11**, mb3.6**/6**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.92	137	P	Pn	00 49 48.0	+0.4
	4.4nm,0.3s,baz=301,slow=12,SNR=26						
PSI				S	Sn	00 50 43.8	-0.7
	0.5nm,0.3s,baz=119,slow=19,SNR=2.2						
KULM	Kulim	5.19	102	ePn	Pn	00 49 51.6	+0.4
FITZ	Fitzroy Crossi	38.41	130	P	P	00 55 40.3	+0.6
	1.0nm,0.8s,mb3.5,baz=355,slow=11,SNR=3.8						
WRA	Warramunga Arr	46.28	125	P	P	00 56 43.3	+0.1
	1.0nm,0.4s,mb3.8,baz=306,slow=9.4,SNR=6.1						
WRAB	Tennant Creek	46.28	125	eP	P	00 56 43.1	-0.1
	2.3nm,0.4s,mb4.2						
ASAR	Alice Springs	47.91	130	P	P	00 56 55.5	-0.3
	0.7nm,0.5s,mb3.5,baz=300,slow=7.6,SNR=12						
FINES	FINESS Array B	74.65	332	P	P	00 59 54.2	-1.2
	1.1nm,0.9s,mb3.5,baz=86,slow=7.1,SNR=6.2						
FINES	FINESS Array B	74.65	332	P	P	00 59 54.2	-1.2
TORD	Torodi Ar. Bea	92.30	283	P	P	01 01 26.3	+0.7
	0.2nm,0.6s,mb3.4,baz=79,slow=4.5,SNR=4.5						
TORD	Torodi Ar. Bea	92.30	283	P	P	01 01 26.3	+0.7
CFAA	Coronel Fontan	150.71	209	PKPbc	PKPbc	01 08 06.8	+0.1
	0.1nm,0.3s,baz=164,slow=15,SNR=6.9						

---

*IDC **16** 00:49:30.5±3.7, 5.68S×150.23E, h0^{km}, mb3.4/3, mb1 3.7/3, mb1mx3.5/12, mbtmp3.5/3, Error ellipse: s-maj=120.1km s-min=49.1km az=119.0*

NEIC 16 00:49:34.4±2.7**, 5.73S**×**150.45E, h35**^{km}**, mb3.5**/1**, Error ellipse: s-maj=113.0km s-min=30.5km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.08	227	eP	P	00 54 16.3	+0.8
	0.9nm,0.4s						
WRA	Warramunga Arr	21.09	227	P	P	00 54 16.1	+0.4
	0.7nm,0.4s,baz=50,slow=10.0,SNR=6.7						
ASAR	Alice Springs	23.91	220	P	P	00 54 44.9	0.0
	0.2nm,0.3s,baz=51,slow=9.2,SNR=5.5						
FITZ	Fitzroy Crossi	27.17	241	P	P	00 55 14.5	+0.1
	0.6nm,0.6s,baz=79,slow=14,SNR=3.8						
TORD	Torodi Ar. Bea	148.34	286	PKPbc	PKPbc	01 09 18.6	+1.7
	0.5nm,1.0s,baz=101,slow=2.9,SNR=5.5						

---

*ISCJB **16** 00:54:25.7±1.7, 15.8S±1.0×175.0W±0.5, h33^{km}, mb3.9/4, Error ellipse: s-maj=159.3km s-min=10.2km az=124.4*

*NEIC **16** 00:54:29.5±1.2, 15.88S×175.16W, h35^{km}, mb3.8/1, Error ellipse: s-maj=131.0km s-min=13.2km az=154.0*

*IDC **16** 00:54:33.0±4.2, 15.76S×174.90W, h91^{km}±70^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.9/4, ML2.5/1, Error ellipse: s-maj=195.2km s-min=37.8km az=140.0*

ISC 16 00:54:27.9±2.0**, 15.9S**±1.0×**174.9W**±0.6**, h35**^{km}**, n6,** σ**0^{s}60**/6**, mb3.9**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.59	57	P	Pn	00 55 25.8	+4.9
	25nm,0.3s,baz=40,slow=1.8,SNR=13						
AFI				S	Sn	00 56 02.1	0.0
	101nm,0.3s,baz=51,slow=20,SNR=22						
STKA	Stephens Creek	42.56	240	P	P	01 02 20.1	-0.1
	1.8nm,0.7s,mb3.9,baz=89,slow=11,SNR=4.6						
WRAB	Tennant Creek	48.35	257	P	P	01 03 06.6	+0.5
	0.5nm,0.5s,mb3.8						
WRA	Warramunga Arr	48.36	257	P	P	01 03 05.4	-0.7
	0.4nm,0.6s,mb3.6,baz=93,slow=6.8,SNR=2.9						
ASAR	Alice Springs	48.61	252	P	P	01 03 08.3	+0.2
	1.2nm,0.6s,mb4.1,baz=89,slow=7.8,SNR=20						
BRTR	Keskin Array B	145.65	319	PKPbc	PKPbc	01 14 00.4	-2.4
	1.0nm,0.8s,baz=93,slow=2.9,SNR=5.5						

---

*MOS **16** 01:03:37.2±1.6, 56.62N×117.98E, h11^{km}, mb4.6/1, Error ellipse: s-maj=18.5km s-min=13.4km az=57.4*

BYKL 16 01:03:38.6±0.2**, 56.68N**×**118.10E, h11**^{km}±4^{km}**, 3C-6D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	Chara	0.24	23	⇓iPg	Pg	01 03 43.6	0.0
CRS				Pmax		01 03 44.1	
	300nm,0.1s						
CRS				i Sg	Sg	01 03 47.4	+0.5
CRS				Smax		01 03 48.4	
	14µm,1.3s						
CRS	Chara	0.24	23	ePG	Pg	01 03 43.7	+0.1
CRS				e		01 03 47.3	
CRS				pmax	pmax		
	comp=Z,326nm,0.1s						
CRS				smax			
	comp=E,7µm,0.2s						
KHNR	Khani	1.06	76	ePg	Pg	01 03 58.5	-0.5
KHNR				eSg	Sg	01 04 13.2	+0.4
NLYR	Nelyaty	1.34	263	⇓iPg	Pg	01 04 01.9	-2.4
NLYR				ePb	Pb	01 04 03.8	+0.1
NLYR				max		01 04 04.2	
	comp=E,34nm,0.3s						
NLYR				i Sg	Sg	01 04 19.3	-2.4
NLYR				eSb	Sb	01 04 22.3	+1.4
NLYR				max		01 04 24.0	
	comp=E,398nm,0.7s						
NLYR	Nelyaty	1.34	263	⇓iPG	Pg	01 04 01.9	-2.4
NLYR				e		01 04 18.6	
NLYR				pmax	pmax		
	comp=Z,51nm,0.2s						
NLYR				smax			
	comp=E,398nm,0.7s						
TUP	Tupik	2.49	154	⇑iPn	Pn	01 04 19.3	+0.2
TUP				ePg	Pg	01 04 22.5	-3.9
TUP				Pmax		01 04 23.7	
	comp=E,264nm,1.0s						
TUP				i Sg	Sg	01 04 56.1	-2.6
TUP				e		01 05 06.2	
TUP				max		01 05 08.5	
	comp=E,584nm,1.1s						
TUP	Tupik	2.49	154	ePN	Pn	01 04 19.3	+0.2
TUP				e		01 04 23.1	
TUP				eS	Sn	01 04 50.3	+0.8
TUP				e		01 04 55.8	
TUP				pmax	pmax		
	comp=Z,187nm,0.5s						
TUP				smax			
	comp=E,478nm,0.9s						
BOD	Bodaibo	2.50	299	ePn	Pn	01 04 20.6	+1.4
BOD				ePg	Pg	01 04 23.0	-3.6
BOD				Pmax		01 04 26.2	
	comp=E,161nm,0.8s						
BOD				e		01 04 51.7	
BOD				eSg	Sg	01 04 55.4	-3.6
BOD				Smax		01 04 56.1	
	comp=E,2µm,0.9s						
BOD	Bodaibo	2.50	299	⇑ePN	Pn	01 04 20.3	+1.1
BOD				i		01 04 22.7	
BOD				eS	Sn	01 04 49.4	-0.3
BOD				e		01 04 54.8	
BOD				smax			
	comp=N,2µm,0.8s						
SVKR	Severomuysk	2.59	259	ePg	Pg	01 04 24.6	-3.6
SVKR				Pmax		01 04 26.5	
	comp=N,426nm,0.6s						
SVKR				eSg	Sg	01 04 58.6	-3.1
SVKR				Smax		01 05 06.1	
	comp=N,2µm,0.6s						
UKT	Uakit	2.78	246	⇓iPn	Pn	01 04 23.4	+0.4
UKT				ePg	Pg	01 04 27.6	-4.2
UKT				Pmax		01 04 29.1	
	comp=N,158nm,0.4s						
UKT				i Sg	Sg	01 05 04.0	-3.8
UKT				Smax		01 05 07.4	
	comp=N,464nm,0.8s						
UKT	Uakit	2.78	246	ePN	Pn	01 04 27.2	+4.2
UKT				e		01 05 03.5	
UKT				pmax	pmax		
	comp=Z,154nm,0.5s						
UKT				smax			
	comp=N,463nm,0.7s						
YOA	Uoyan	3.58	264	e	Pn	01 04 39.7	+5.6
YOA				ePg	Pg	01 04 43.2	-4.1
YOA				Pmax		01 05 03.2	
	comp=N,222nm,0.2s						
YOA				eSg	Sg	01 05 29.9	-3.8
YOA				Smax		01 05 43.6	
	comp=N,3µm,2.3s						
YOA	Uoyan	3.58	264	⇑iPN	Pn	01 04 42.0	+7.9
YOA				e		01 05 30.7	
YOA				pmax	pmax		
	comp=Z,229nm,0.3s						
YOA				smax			
	comp=N,3µm,1.2s						
CLNS	Chul'man	3.74	85	ePn	Pn	01 04 38.9	+2.6
CLNS				ePg	Pg	01 04 44.9	-5.4
CLNS				e		01 05 22.1	
CLNS				eSg	Sg	01 05 34.0	-4.8
CLNS	Chul'man	3.74	85	ePN	Pn	01 04 38.9	+2.6
CLNS				e		01 04 47.9	
CLNS				eS	Sn	01 05 21.9	+1.6
CLNS				e		01 05 33.1	
CLNS				pmax	pmax		
	comp=E,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.3s						
CLNS				smax			
	comp=N,51nm,0.3s						
CLNS				smax			
	comp=E,36nm,0.3s						
CLNS				smax			
	comp=Z,21nm,0.3s						
CLNS				MLR	MLR		
	comp=Z,90nm,11.0s						
IENR	Iengra	3.78	94	e	Pn	01 04 38.0	+1.2
IENR				e		01 04 49.2	
IENR				e		01 05 23.5	
IENR				eSg	Sg	01 05 34.1	-5.9
KMO	Kumora	3.93	261	⇓iPn	Pn	01 04 39.5	+0.7
KMO				ePg	Pg	01 04 48.2	-5.6
KMO				e		01 04 52.0	
KMO				max		01 04 52.6	
	comp=Z,139nm,1.6s						
KMO				i Sg	Sg	01 05 40.1	-4.6
KMO				Smax		01 05 43.1	
	comp=Z,602nm,0.9s						
KMO	Kumora	3.93	261	ePN	Pn	01 04 36.7	-2.1
KMO				e		01 04 47.0	
KMO				eS	Sn	01 05 23.8	-1.1
KMO				e		01 05 39.1	
KMO				smax			
	comp=N,606nm,1.0s						
TNDR	Tynda	4.03	110	e	Pn	01 05 27.7	+47
TNDR				eSg	Sg	01 05 41.7	-6.3
YLYR	Ulyunkhan	4.32	248	⇓iPn	Pn	01 04 44.7	+0.6
YLYR				ePg	Pg	01 04 54.8	-6.4
YLYR				Pmax		01 04 57.3	
	comp=N,44nm,0.6s						
YLYR				i Sg	Sg	01 05 51.9	-5.2
YLYR				Smax		01 05 59.3	
	comp=N,238nm,0.6s						
YLYR	Ulyunkhan	4.32	248	ePN	Pn	01 04 45.0	+0.9
YLYR				e		01 04 55.8	
YLYR				eS	Sn	01 05 33.8	-0.6
YLYR				e		01 05 49.6	
YLYR				pmax	pmax		
	comp=Z,44nm,0.6s						
YLYR				smax			
	comp=N,237nm,0.9s						
ALDR	Aldan	4.38	61	eSn	Sn	01 05 36.0	0.0
ALDR				e		01 05 51.2	
ALDR				eSg	Sg	01 05 54.4	-4.8
NIZ	Nizh Angarsk	4.86	263	ePg	Pg	01 05 05.4	-6.3
NIZ				Pmax		01 05 10.4	
	comp=N,68nm,1.1s						
NIZ				eSg	Sg	01 06 09.1	-5.6
NIZ				Smax		01 06 13.1	
	comp=N,193nm,1.3s						
CIT	Chita	5.37	212	eSg	Sg	01 06 25.8	-5.3
CIT				Smax		01 06 35.1	
	comp=N,341nm,1.0s						
SYVR	Suvo	5.54	240	ePn	Pn	01 05 01.3	+0.3
SYVR				ePg	Pg	01 05 17.8	-6.9
SYVR				Pmax		01 05 19.5	
	comp=N,36nm,1.7s						
SYVR				eSg	Sg	01 06 30.2	-6.3
SYVR				Smax		01 06 39.2	
	comp=N,153nm,1.9s						
SYVR	Suvo	5.54	240	ePN	Pn	01 05 17.3	+16
SYVR				e		01 06 29.0	
SYVR				pmax	pmax		
	comp=Z,22nm,0.8s						
SYVR				smax			
	comp=N,96nm,0.7s						
OGRR	Ongureny	6.74	248	ePn	Pn	01 05 18.2	+0.7
OGRR				ePg	Pg	01 05 39.4	-8.3
OGRR				Pmax		01 05 43.4	
	comp=N,14nm,1.0s						
OGRR				eSg	Sg	01 07 07.2	-7.8
OGRR				Smax		01 07 17.9	
	comp=N,61nm,1.0s						
OGRR	Ongureny	6.74	248	ePN	Pn	01 05 18.0	+0.5
OGRR				e		01 05 39.8	
OGRR				e		01 07 08.5	
OGRR				smax			
	comp=N,61nm,1.0s						
CGD	Chagda	7.02	68	ePn	Pn	01 05 23.1	+1.8
CGD				e		01 06 42.9	
CGD				eSg	Sg	01 07 14.8	-9.1
HIA	Hailar	7.49	172	eSg	Sg	01 07 30.8	-8.2
KPC	Khapcheranga	7.79	209	ePn	Pn	01 05 31.0	-0.8
KPC				eSg	Sn	01 07 41.3	+41
KPC				e		01 07 56.1	
KPC				max		01 07 58.5	
	comp=N,138nm,1.3s						
KPC	Khapcheranga	7.79	209	ePN	Pn	01 05 30.2	-1.6
TRG	Tyrgan	7.85	245	e	Pn	01 06 23.4	+51
TRG				eSg	Sn	01 07 42.8	+41
TRG				Smax		01 07 52.4	
	comp=N,34nm,1.7s						
LSTR	Listvyanka	9.13	244	eSg	Sn	01 08 21.4	+48
LSTR				Smax		01 08 53.9	
	comp=N,37nm,0.8s						
TLY	Talaya	9.84	245	eSg	Sn	01 08 42.3	+52
TLY				Smax		01 09 03.2	
	comp=N,15nm,0.9s						
ARS	Arshan	10.32	249	eSg	Sn	01 08 57.3	+55
ARS				Smax		01 08 58.1	
	comp=N,158nm,2.5s						
MOY	Mondy	11.20	251	eSg	Sn	01 09 23.9	+60
MOY				Smax		01 09 57.2	
	comp=N,51nm,1.5s						
ORL	Orlik	11.38	256	e		01 08 51.6	
ORL				eSg	Sn	01 09 30.8	+63

---

*ISCJB **16** 01:37:29.2±2.3, 15.1S±0.8×177.9W±0.5, h392^{km}±39^{km}, mb3.7/7, Error ellipse: s-maj=143.4km s-min=17.3km az=122.9*

*NEIC **16** 01:37:29.4±2.0, 14.94S×178.00W, h371^{km}±27^{km}, mb3.9/1, Error ellipse: s-maj=103.5km s-min=14.8km az=154.0*

*IDC **16** 01:37:31.4±2.3, 15.38S×177.67W, h406^{km}±32^{km}, mb3.5/7, mb1 3.8/8, mb1mx3.6/15, mbtmp4.3/8, Error ellipse: s-maj=95.8km s-min=14.3km az=152.0*

ISC 16 01:37:30.8±2.2**, 15.2S**±0.8×**177.8W**±0.5**, h396**^{km}±38^{km}**, n36,** σ**0^{s}93**/11**, mb3.7**/7**, 4C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.96	78	P	Pn	01 39 02.6	-0.1
	2.6nm,0.3s,baz=270,slow=18,SNR=11						
CTA	Charters Tower	34.56	257	P	P	01 43 46.7	+2.7
	6.5nm,0.8s,mb4.0,baz=127,slow=14,SNR=5.7						
CTAO	Charters Tower	34.56	257	eP	P	01 43 45.9	+1.9
	4.4nm,0.6s,mb4.0						
STKA	Stephens Creek	40.49	239	P	P	01 44 33.5	+0.5
	1.8nm,0.5s,mb3.7,baz=60,slow=6.4,SNR=6.5						
STKA	Stephens Creek	40.49	239	eP	P	01 44 32.4	-0.6
STKA				ePcP	PcP	01 46 25.2	-1.4
WRA	Warramunga Arr	45.77	257	P	P	01 45 13.5	-1.1
	0.6nm,0.3s,mb3.4,baz=85,slow=7.7,SNR=5.2						
ASAR	Alice Springs	46.15	252	P	P	01 45 17.2	-0.3
	1.6nm,0.3s,mb3.8,baz=85,slow=8.3,SNR=5.3						
NVAR	Mina Array Bea	77.08	44	P	P	01 48 42.4	+0.8
	1.2nm,0.5s,mb3.8,baz=220,slow=7.9,SNR=5.4						
PDAR	Pinedale Array	85.00	43	P	P	01 49 22.9	+0.2
	0.5nm,0.6s,mb3.4,baz=220,slow=2.5,SNR=6.9						
YKA	Yellowknife Ar	91.65	24	P	P	01 49 53.2	-0.9
	0.8nm,0.6s,mb3.8,baz=235,slow=4.6,SNR=4.6						
YKA	Yellowknife Ar	91.65	24	P	P	01 49 53.2	-0.9
SCHQ	Schefferville	114.36	36	PKiKP	PKiKP	01 55 25.2	+1.1
	2.5nm,0.8s,baz=270,slow=8.7,SNR=3.5						
ARCES	ARCESS Array B	123.78	350	PKP	PKPdf	01 55 40.4	-1.8
	0.9nm,0.5s,baz=7.0,slow=1.7,SNR=11						
FINES	FINESS Array B	130.77	345	PKP	PKPdf	01 55 54.5	-1.0
	1.0nm,0.9s,baz=72,slow=6.2,SNR=4.9						
PLOR	Plostina	143.21	331	⇑iP	PKPdf	01 56 16.6	-1.8
BRTR	Keskin Array B	143.26	318	PKP	PKPdf	01 56 17.4	-1.2
	4.5nm,0.8s,baz=103,slow=2.7,SNR=26						
MLR	Muntele Rosu	143.81	331	⇑iP	PKPdf	01 56 19.0	-0.5
VOIR		144.26	332	⇑iP	PKPdf	01 56 21.0	+0.8
GERES	GERESS Array B	145.16	347	PKPbc	PKPbc	01 56 22.2	-0.2
	1.1nm,0.6s,baz=33,slow=3.3,SNR=13						
BAIF	Baives	145.21	358	ePKP1	PKPbc	01 56 23.2	+0.7
	16nm,1.0s						
BZS	Buzias	145.58	336	⇑iP	PKPdf	01 56 23.8	+1.3
FLN	La Foliniere	146.47	3	ePKP1	PKPbc	01 56 25.4	-0.8
	22nm,0.7s						
CDF	Champ du Feu	146.64	354	ePKP1	PKPbc	01 56 25.8	-0.8
	4.9nm,0.7s						
LDF	La Druitiere	146.66	3	ePKP1	PKPbc	01 56 25.8	-0.9
SGMF	Saint Gilles	146.82	6	ePKP1	PKPbc	01 56 26.4	-0.7
GRR	Gorron	146.83	4	ePKP1	PKPbc	01 56 26.6	-0.5
	4.8nm,0.4s						
LOR	Lormes	148.01	358	ePKP1	PKPbc	01 56 30.1	-0.2
	2.7nm,0.4s						
AVF	Avril sur Loir	148.51	359	ePKP1	PKPbc	01 56 31.0	-0.5
CABF	La Chapelle	148.53	355	ePKP1	PKPbc	01 56 32.0	+0.4
BGF	Bois d'Agland	148.75	359	ePKP1	PKPbc	01 56 31.2	-0.9
LPL	La Plagne	149.56	354	ePKP1	PKPbc	01 56 34.9	+0.8
	7.8nm,0.8s						
LPG	La Plagne	149.57	354	ePKP1	PKPbc	01 56 35.1	+1.0
ORIF	Oris-en-Rattie	150.23	355	ePKP1	PKPbc	01 56 35.8	+0.1
MBDF	Montbardon	150.33	353	ePKP1	PKPbc	01 56 36.1	+0.2
	12nm,0.7s						
VIVF	Saint-Julien-l	150.38	356	ePKP1	PKPbc	01 56 36.1	+0.1
	9.7nm,0.8s						
CAF	Calviac	150.39	0	ePKP1	PKPbc	01 56 35.9	-0.1

---

*ISCJB **16** 01:40:02.2±2.6, 9.2S±0.1×117.7E±0.2, h33^{km}±24^{km}, mb4.2/9, Error ellipse: s-maj=31.5km s-min=11.2km az=103.3*

*NEIC **16** 01:40:05.4±0.7, 8.82S×117.93E, h35^{km}, mb4.3/3, Error ellipse: s-maj=24.1km s-min=12.5km az=52.0*

*IDC **16** 01:40:06.1±4.4, 9.40S×117.46E, h57^{km}±46^{km}, mb3.9/7, mb1 4.0/9, mb1mx3.8/19, mbtmp4.1/9, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.6/31, Error ellipse: s-maj=59.0km*

s-min=17.8km az=44.0

ISC 16 01:40:05.1±2.2, 93S±01×1176E±02, h44km±22km, n19, σ1.11/24, mb4.2/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.76**	**139**	*e*P	**Pn**	**01 42 48.4**	**-1.7**
	4.0nm,0.3s						
FITZ				*e*S	Sx	01 44 47.6	
FITZ	**Fitzroy Crossi**	**11.76**	**139**	P	**Pn**	**01 42 49.1**	**-1.0**
	1.1nm,0.3s,baz=333,slow=15,SNR=29						
FITZ				S	**Sn**	**01 44 51.1**	**-8.7**
	1.1nm,0.3s,baz=175,slow=21,SNR=14						
FITZ				LR	LR	01 47 19.8	
	comp=Z,42nm,21.1s,baz=26,slow=37						
MBWA	**Marble Bar**	**11.97**	**170**	*e*Pn	**Pn**	**01 42 47.9**	**-5.2**
WRA	**Warramunga Arr**	**19.37**	**125**	P	**Pn**	**01 44 27.8**	**-0.6**
	0.3nm,0.3s,baz=297,slow=13,SNR=6.1						
WRA				S	**S**	**01 47 50.3**	**-13**
	0.2nm,0.3s,baz=295,slow=23,SNR=5.2						
WRA				LR	LR	01 53 02.4	
	comp=Z,25nm,20.2s,baz=150,slow=40						
WRA	**Warramunga Arr**	**19.37**	**125**	P	**Pn**	**01 44 27.8**	**-0.6**
WRA				S	**S**	**01 47 50.3**	**-13**
WRA				LR	LR	01 53 02.5	
WRAB	**Tennant Creek**	**19.37**	**125**	*e*P	**Pn**	**01 44 29.3**	**+0.9**
	5.8nm,0.9s						
WRAB				*e*S	**S**	**01 47 52.1**	**-12**
WB2	**Warramunga Arr**	**19.38**	**125**	*e*P	**Pn**	**01 44 28.3**	**-0.2**
WB2				*e*S	Sx	01 47 49.0	
ASAR	**Alice Springs**	**21.18**	**134**	P	**P**	**01 44 47.8**	**+1.1**
	3.0nm,0.6s,mb3.8,baz=318,slow=11,SNR=47						
ASAR				S	**S**	**01 48 34.8**	**-4.8**
	1.2nm,0.6s,baz=305,slow=22,SNR=4.2						
PSI	**Prapat**	**22.11**	**302**	P	**P**	**01 44 56.8**	**+0.1**
	3.7nm,0.3s,mb4.2,baz=196,slow=12,SNR=7.4						
KLBR	**Kellerberrin**	**22.18**	**180**	*e*P	**P**	**01 45 02.0**	**+4.7**
	51nm,1.7s,mb4.7						
KLBR				*e*S	Sx	01 48 41.1	
MUN	**Mundaring**	**22.59**	**183**	*e*P	**P**	**01 45 10.5**	**+8.7**
MUN				*e*S	Sx	01 48 56.9	
NWAO	**Narrogin (SRO)**	**23.51**	**181**	*e*P	**P**	**01 45 18.5**	**+7.4**
	5.4nm,0.5s,mb4.2						
NWAO				*e*S	**S**	**01 49 20.1**	**-1.5**
CTA	**Charters Tower**	**29.71**	**114**	P	**P**	**01 46 06.8**	**-0.1**
	5.5nm,0.8s,mb4.3,baz=285,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**31.65**	**139**	P	**P**	**01 46 24.5**	**+0.5**
	0.7nm,0.3s,mb4.0,baz=320,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**31.65**	**139**	P	**P**	**01 46 24.5**	**+0.5**
SONM	**Songino Array**	**57.74**	**351**	P	**P**	**01 49 52.2**	**+0.7**
	1.4nm,0.6s,mb4.2,baz=171,slow=8.7,SNR=11						
ZAL	**Zalesovo**	**68.82**	**340**	P	**P**	**01 51 03.9**	**-0.9**
	1.3nm,0.5s,mb4.1,baz=332,slow=2.5,SNR=4.2						
BVAR	**Borovoye Array**	**73.89**	**333**	P	**P**	**01 51 35.0**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=150,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**117.10**	**280**	PKP	PKPdf	01 58 44.5	-0.7
	0.4nm,0.9s,baz=72,slow=1.9,SNR=4.5						

---

*ISK **16** 01:55:52.8, 3853N×2634E, h82km, MD3.2*
*NEIC **16** 01:55:57.9, 3893N×2685E, h23km, MD3.2(ISK), MD3.3(ATH), After ATH.*
*ATH **16** 01:55:57.2, 3896N×2695E, h13km±3km, MD3.3/4*
*CSEM **16** 01:55:57.2±0.1, 3891N×2675E, h5km, MD3.3, Error ellipse: s-maj=2.6km s-min=1.6km az=85.0*
*ISCJB **16** 01:55:59.5±0.5, 3891N±003×2673E±004, h17km±6km, Error ellipse: s-maj=5.8km s-min=3.6km az=115.4*

ISC 16 01:55:58.8±0.5, 3890N±002×2674E±004, h7km±4km, n29, σ1.23/41, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.41**	**355**	*i* P	**Pg**	**01 56 05.7**	**-1.2**
AYVA				*i* S	**Sg**	**01 56 14.6**	**+2.4**
PRK	**Paraskevi**	**0.50**	**314**	*e*PB	**Pg**	**01 56 09.6**	**+1.1**
PRK				*e*SB	**Sg**	**01 56 17.0**	**+1.9**
BLCB	**Balcova**	**0.56**	**155**	PG	**Pg**	**01 56 07.9**	**-1.8**
BLCB				SG	**Sg**	**01 56 19.2**	**+2.1**
KDAG	**Bornova**	**0.65**	**140**	*i* P	**Pg**	**01 56 09.7**	**-1.6**
KDAG	**Bornova**	**0.65**	**140**	*i* P	**Pg**	**01 56 09.6**	**-1.7**
AKS	**Akhisar**	**0.84**	**91**	PN	**Pg**	**01 56 15.1**	**+0.1**
AKHS	**Akhisar**	**0.84**	**91**	*i* P	**Pg**	**01 56 14.1**	**-1.0**
AKHS				*i* S	**Sg**	**01 56 28.0**	**+2.1**
EZN	**Ezine**	**0.98**	**341**	PN	**Pg**	**01 56 16.5**	**-1.2**
BOZC	**Bozcaada**	**1.08**	**331**	*i* P	**Pg**	**01 56 17.6**	**-2.0**
BOZC				*i* S	**Sg**	**01 56 33.1**	**-0.5**
CANB	**Canakkale**	**1.15**	**13**	PN	**Pn**	**01 56 20.1**	**-1.2**
SMG	**Samos**	**1.19**	**176**	*e*PG	**Pg**	**01 56 20.6**	**-1.1**
SMG				*e*SB	**Sb**	**01 56 38.2**	**+0.9**
BTOK	**Tokmak**	**1.32**	**49**	*i* P	**Pn**	**01 56 24.1**	**+0.4**
BTOK				*i* S	**Sb**	**01 56 40.4**	**-0.7**
GADA	**Gvkgeada**	**1.45**	**334**	PN	**Pn**	**01 56 22.0**	**-3.4**
AYDN	**Tasoluk**	**1.53**	**144**	*i* P	**Pn**	**01 56 26.7**	**+0.2**
AYDN				*i* S	**Sn**	**01 56 46.2**	**-0.4**
AYDN	**Tasoluk**	**1.53**	**144**	*i* P	**Pn**	**01 56 26.7**	**+0.2**
AYDN				*i* S	**Sn**	**01 56 46.2**	**-0.4**
LIA	**Limnos Island**	**1.56**	**310**	*e*PG	**Pg**	**01 56 28.4**	**-0.4**
LIA				*e*SB	**Sb**	**01 56 50.3**	**+2.2**
DST	**Dursunbey**	**1.63**	**64**	PN	**Pn**	**01 56 26.1**	**-1.8**
MRMT	**Marmara Adasi**	**1.83**	**21**	*e*PN	**Pn**	**01 56 30.3**	**-0.3**
KCT	**Karacabey**	**1.85**	**42**	*e*PN	**Pn**	**01 56 31.2**	**+0.2**
BDRM	**Kayabasi**	**1.91**	**163**	*i* P	**Pn**	**01 56 32.4**	**+0.6**
MFT	**Murefte**	**1.93**	**12**	*e*PN	**Pn**	**01 56 31.6**	**-0.5**
GDZ	**Gediz**	**2.15**	**84**	*i* P	**Pb**	**01 56 37.6**	**-0.5**
GDZ				*i* S	**Sb**	**01 57 05.8**	**+0.9**
ULDT	**Uludag**	**2.23**	**55**	*i* P	**Pn**	**01 56 37.6**	**+1.4**
RDO	**Rodhopi**	**2.43**	**338**	*e*PB	**Pn**	**01 56 38.0**	**-0.9**
RDO				*e*SN	**Sn**	**01 57 10.0**	**+1.2**
RDO	**Rodhopi**	**2.43**	**338**	*e*Pn	**Pn**	**01 56 37.5**	**-1.4**
YLV	**Yalova**	**2.63**	**50**	*e*PN	**Pn**	**01 56 41.4**	**-0.3**
ADVT	**Abdulvahap**	**2.78**	**56**	*e*PN	**Pn**	**01 56 43.7**	**0.0**
TKTP	**Tekketepe**	**2.94**	**106**	*i* P	**Pg**	**01 56 57.5**	**+2.3**
ESKT	**Eskisehir**	**3.26**	**78**	*i* P	**Pg**	**01 57 01.5**	**+0.3**

IDC 16 02:11:59.0±4.2, 2213S×14823E, h0km, mb1 3.4/4, mb1mx3.3/11, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=42.3km s-min=23.2km az=77.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.75**	**317**	Pn	Pn	02 12 45.8	+1.6
	1.5nm,0.3s,baz=133,slow=16,SNR=28						
CTA				Pg	Pg	02 12 49.9	-1.7
	2.3nm,0.3s,baz=140,slow=18,SNR=18						
CTA				Lg		02 13 25.4	
	8.7nm,0.3s,baz=50,slow=23,SNR=19						
STKA	**Stephens Creek**	**11.37**	**210**	Pn	Pn	02 14 41.2	-1.4
	0.1nm,0.3s,baz=8.2,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**13.15**	**277**	Pn	Pn	02 15 05.7	-1.3
	0.1nm,0.3s,baz=98,slow=13,SNR=4.8						
WRA				Lg		02 18 55.5	
	0.1nm,0.3s,baz=103,slow=25,SNR=5.6						
ASAR	**Alice Springs**	**13.30**	**261**	Pn	Pn	02 15 09.0	0.0
	0.0nm,0.3s,baz=88,slow=12,SNR=2.6						
ASAR				Sn	Sn	02 17 33.0	-4.5
	0.1nm,0.3s,baz=87,slow=25,SNR=6.5						
ASAR				Lg		02 19 03.6	
	0.1nm,0.3s,baz=78,slow=28,SNR=5.4						

---

*BJI **16** 02:22:45.8, 4124N×136.14E, h367km, mB5.6, mb5.4*
*JMA **16** 02:22:49.8±0.2, 4128N×136.08E, h408km±3km, M5.8 Broadband fault plane solution: P waves. NP1: ϕ_s80.00000°, δ43.00000°, λ154.00000°. NP2: ϕ_s190.00000°, δ73.00000°, λ50.00000°. Principal axes: T Plg47.0000°, Azm58.0000°; N Plg38.0000°, Azm204.0000°; P Plg18.0000°, Azm308.0000°;*
JMA Felt II J1.
*ISCJB **16** 02:22:49.9±0.1, 4136N±001×13571E±002, h371km, mb5.3/309 Error ellipse: s-maj=1.8km s-min=1.6km az=88.9*
*MOS **16** 02:22:49.2±1.0, 4138N×13568E, h364km, mb5.3/136, MS4.7/22, Error ellipse: s-maj=7.2km s-min=4.0km az=113.8*
*BGS **16** 02:22:50.8±1.8, 4068N×13384E, h367km, mb4.8*
*NEIC **16** 02:22:50.6±0.4, 4136N×13570E, h367km±3km, mb5.4/201, MW5.9, MW5.9(NIED), Error ellipse: s-maj=3.5km s-min=2.6km az=176.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^{17}Nm; M_{rr}2.60; $M_{\theta\theta}$1.28; $M_{\phi\phi}$-3.89; $M_{r\theta}$0.23; $M_{\theta\phi}$-5.89; $M_{\phi r}$-6.79; Best double couple: $M_0$9.50000×10^{17} NP1: ϕ_s177.00000°, δ80.00000°, λ51.00000°. NP2: ϕ_s75.00000°, δ40.00000°, λ165.00000°. Principal axes: T 8.7000, Plg41.0000°, Azm50.0000°; N 1.6000, Plg39.0000°, Azm185.0000°; P -10.3000, Plg25.0000°, Azm296.0000°;*
NEIC Recorded [2 JMA] in the Ombetsu area, Hokkaido and [1 JMA] in eastern and south-central Hokkaido. Also recorded [1 JMA] in Akita, Aomori, Iwate, Miyagi, Nagano and Niigata Prefectures, Honshu.
*GCMT **16** 02:22:50.6±0.1, 4133N×13571E, h382km, MW5.9/96, Moment Tensor Solution. s96,c212; s65,c80; Duration: 2.1 Moment tensor: Scale 10^{17}Nm; M_{rr}2.24±.05; $M_{\theta\theta}$-1.14±.08; $M_{\phi\phi}$-1.10±.08; $M_{r\theta}$-0.55±.07; $M_{\theta\phi}$-4.71±.07; $M_{\phi r}$-5.91±.06; Best double couple: $M_0$7.80400×10^{17} NP1: ϕ_s85.00000°, δ36.00000°, λ162.00000°. NP2: ϕ_s189.00000°, δ80.00000°, λ55.00000°. Principal axes: T 7.4960, Plg44.0000°, Azm65.0000°; N 0.6150, Plg34.0000°, Azm196.0000°; P -8.1110, Plg26.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*IDC **16** 02:22:50.5±0.5, 4140N×13569E, h368km±5km, mb4.7/34, mb1 4.7/37, mb1mx4.7/38, mbtmp5.4/37 Error ellipse: s-maj=7.3km s-min=5.6km az=79.0*
*SZGRF **16** 02:22:59.0, 4282N×13555E, h383km, mb5.5, Sea of Japan*
*NIED **16** 02:23:00, 4130N×13620E, h420km, Mw5.9 Best double couple: $M_0$7.76000×10^{17} NP1: ϕ_s187.00000°, δ89.00000°, λ58.00000°. NP2: ϕ_s97.00000°, δ32.00000°, λ179.00000°.*

ISC 16 02:22:51.0±0.1, 4135N±001×13575E±002, h373km, h373km±1.8km:pP-P, n1123, σ0.98/1172, mb5.3/309, 131C-112D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**2.88**	**74**	⇓P	**Pn**	**02 23 51.2**	**+0.2**
JOSM				S	**S**	**02 24 40.4**	**+0.9**
JIW	**Iwasaki**	**3.31**	**102**	⇓P	**Pn**	**02 23 54.4**	**-0.4**
VLA	**Vladivostok**	**3.36**	**303**	*d i*P	**Pn**	**02 23 56.4**	**+1.2**
VLA				*i* S	**S**	**02 24 46.8**	**-0.4**
VLA				pmax	pmax		
	comp=Z,12μm,0.9s						
VLA				MLR	MLR		
	comp=Z,4μm,11.3s						
JSR	**Shiriuchi**	**3.51**	**86**	⇓P	**Pn**	**02 23 56.4**	**-0.2**
JSI2	**Shiura 2**	**3.53**	**93**	⇓P	**Pn**	**02 23 56.3**	**-0.5**
JYM2	**Yakumo 2**	**3.54**	**76**	⇓P	**Pn**	**02 23 57.0**	**+0.1**
JHG	**Hegura jima**	**3.61**	**165**	⇓P	**Pn**	**02 23 58.1**	**+0.5**
JSD	**Sado**	**3.84**	**149**	⇓P	**Pn**	**02 23 59.1**	**-0.6**
JYW	**Yuwa**	**3.85**	**117**	P	**Pn**	**02 23 59.9**	**0.0**
JAH	**Hinai**	**3.89**	**106**	⇓P	**Pn**	**02 23 59.3**	**-0.9**
JAW	**Awa shima**	**3.95**	**136**	⇓P	**Pn**	**02 23 59.9**	**-0.9**
JOT	**Ohata**	**3.99**	**88**	⇓P	**Pn**	**02 24 00.1**	**-1.1**
JKB	**Kayabe**	**4.00**	**81**	P	**Pn**	**02 24 02.3**	**+1.0**
JKB				*e*S	**S**	**02 24 56.3**	**-1.8**
JTM	**Tenmabayashi**	**4.06**	**96**	⇓P	**Pn**	**02 24 00.8**	**-1.1**
JSZ	**Suzu**	**4.09**	**162**	⇓P	**Pn**	**02 24 02.5**	**+0.3**
JYK	**Kaneyama**	**4.29**	**123**	⇓P	**Pn**	**02 24 03.2**	**-1.0**
JKZ	**Kuzumaki**	**4.46**	**106**	⇓P	**Pn**	**02 24 04.4**	**-1.5**
JNS	**Sasagawa**	**4.48**	**141**	P	**Pn**	**02 24 05.0**	**-1.1**
JANG	**Nango**	**4.48**	**101**	⇓P	**Pn**	**02 24 04.3**	**-1.8**
JJH	**Hakui**	**4.49**	**169**	⇓P	**Pn**	**02 24 06.9**	**+0.6**
JYS	**Shirataka**	**4.56**	**132**	⇓P	**Pn**	**02 24 06.0**	**-1.0**
JOM	**Ohasama**	**4.63**	**112**	⇓P	**Pn**	**02 24 05.8**	**-1.9**
JJN	**Nakama**	**4.64**	**155**	⇓P	**Pn**	**02 24 07.3**	**-0.5**
JOU	**Okura**	**4.82**	**127**	⇓P	**Pn**	**02 24 08.3**	**-1.3**
JHK	**Hiroka**	**4.82**	**147**	⇓P	**Pn**	**02 24 08.7**	**-1.0**
JMK	**Ichinoseki**	**4.83**	**118**	⇓P	**Pn**	**02 24 07.8**	**-2.0**
JMK				*e*S	**S**	**02 25 10.9**	**-2.7**
JTT	**Ttatey**	**4.90**	**165**	P	**Pn**	**02 24 11.8**	**+1.3**
JHR	**Hokuryu**	**5.02**	**60**	P	**Pn**	**02 24 11.7**	**-0.1**
JHR				*e*S	**S**	**02 25 16.7**	**-0.6**
OFUJ	**Ofunato**	**5.07**	**115**	⇓P	**Pn**	**02 24 09.7**	**-2.6**
JKG	**Kaga**	**5.09**	**175**	P	**Pn**	**02 24 14.2**	**+1.7**
MAJO	**Matsushiro**	**5.17**	**157**	⇓*i*P	**Pn**	**02 24 13.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,436nm,0.6s						
MAJO	**Matsushiro**	**5.17**	**157**	⇓*i*Pn	**Pn**	**02 24 13.1**	**-0.3**
	comp=Z,436nm,0.6s						
MAT	**Matsushiro**	**5.17**	**157**	P	**Pn**	**02 24 12.8**	**-0.6**
MAT				S	**S**	**02 25 19.6**	**-0.7**
MAT	**Matsushiro**	**5.17**	**157**	P	**Pn**	**02 24 12.5**	**-0.9**
MJAR	**Matsushiro Arr**	**5.17**	**157**	P	**Pn**	**02 24 12.9**	**-0.5**
	comp=Z,24nm,0.3s,baz=340,slow=12,SNR=241						
MJAR				S	**S**	**02 25 21.8**	**+1.5**
	baz=320,slow=18,SNR=1.9						
MJAR	**Matsushiro Arr**	**5.17**	**157**	P	**Pn**	**02 24 12.9**	**-0.5**
MJAR				S	**S**	**02 25 21.8**	**+1.5**
MJAR				pmax	pmax		
	comp=Z,24nm,0.3s						
JIO	**Ouri**	**5.19**	**122**	⇓P	**Pn**	**02 24 11.0**	**-2.6**
JFT	**Otama**	**5.22**	**136**	⇓P	**Pn**	**02 24 12.3**	**-1.7**
JMM	**Marumori**	**5.22**	**130**	⇓P	**Pn**	**02 24 11.8**	**-2.2**
JGN	**Niukaw**	**5.27**	**166**	P	**Pn**	**02 24 14.2**	**-0.2**
JNG	**Nsakai**	**5.27**	**159**	⇓P	**Pn**	**02 24 13.8**	**-0.7**
JGK	**Kuni**	**5.29**	**154**	P	**Pn**	**02 24 15.7**	**+1.0**
JKT	**Katashina**	**5.33**	**148**	P	**Pn**	**02 24 14.7**	**-0.4**
JSB	**Shiboa**	**5.45**	**142**	P	**Pn**	**02 24 15.3**	**-1.1**
SAI	**Saigo**	**5.48**	**201**	P	**Pn**	**02 24 17.9**	**+1.2**
SAI				S	**S**	**02 25 28.4**	**+2.0**
MDJ	**Mudanjiang**	**5.57**	**308**	P	**Pn**	**02 24 16.9**	**-0.9**
MDJ				S	**S**	**02 25 27.0**	**-1.2**
MDJ				PCP	PcP	02 30 36.5	-1.4
MDJ				PCS	PcS	02 34 10.5	+0.1
MDJ				SCS	ScS	02 37 04.6	-1.4
MDJ				AMB	AMB		
	comp=Z,766nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,4μm,7.8s						
MDJ	**Mudanjiang**	**5.57**	**308**	⇓*i*Pn	**Pn**	**02 24 18.7**	**+0.9**
	comp=Z,692nm,0.8s						
MDJ				*e*S	**S**	**02 25 26.4**	**-1.8**
ERM	**Erimo**	**5.59**	**81**	Pn	**Pn**	**02 24 16.7**	**-1.2**
	comp=Z,15μm,0.5s						
ERM	**Erimo**	**5.59**	**81**	⇑*i*P	**Pn**	**02 24 17.0**	**-0.9**
ERM				*e*S	**S**	**02 25 23.2**	**-5.4**
ERM				pmax	pmax		
	comp=Z,1μm,0.5s						
ERM	**Erimo**	**5.59**	**81**	⇑*i*Pn	**Pn**	**02 24 17.0**	**-0.9**
	comp=Z,1μm,0.5s						
ERM				*e*S	**S**	**02 25 23.2**	**-5.4**
JFK	**Kawauchi**	**5.62**	**133**	P	**Pn**	**02 24 15.4**	**-2.9**
JGM	**Miyama**	**5.70**	**172**	P	**Pn**	**02 24 19.5**	**+0.4**
JAG	**Ashikaga**	**5.71**	**148**	P	**Pn**	**02 24 17.9**	**-1.3**
JKY	**Yasaka**	**5.74**	**185**	P	**Pn**	**02 24 19.9**	**+0.3**
ASAJ	**Asahikawa**	**5.75**	**59**	P	**Pn**	**02 24 19.1**	**-0.6**
	comp=Z,219nm,0.3s,baz=244,slow=7.6,SNR=366						
ASAJ				S	**S**	**02 25 27.7**	**-4.1**
	comp=Z,85nm,0.3s,baz=142,slow=33,SNR=16						
ASAJ	**Asahikawa**	**5.75**	**59**	P	**Pn**	**02 24 19.2**	**-0.5**
ASAJ				S	**S**	**02 25 27.7**	**-4.1**
ASAJ				pmax	pmax		
	comp=Z,219nm,0.3s						
ASAJ				smax			
	comp=N,85nm,0.3s						
ONAJ	**Iwakimizuishiy**	**5.78**	**136**	⇓P	**Pn**	**02 24 16.9**	**-3.1**
JNT	**Takato**	**5.78**	**160**	P	**Pn**	**02 24 19.6**	**-0.5**
JCH	**Churui**	**5.81**	**75**	⇓P	**Pn**	**02 24 18.3**	**-2.1**
JCH				S	**S**	**02 25 27.5**	**-5.6**
JFM	**Mihama**	**5.82**	**178**	P	**Pn**	**02 24 21.2**	**+0.7**
JKSM	**Kasumi**	**5.82**	**189**	P	**Pn**	**02 24 20.7**	**+0.2**
JRY	**Ryogami san**	**5.87**	**154**	⇓P	**Pn**	**02 24 20.1**	**-1.0**
JRY				S	**S**	**02 25 33.4**	**-0.9**
JGF	**Kuroka**	**5.88**	**167**	P	**Pn**	**02 24 20.8**	**-0.4**
JWK2	**Keihoku**	**5.98**	**46**	⇑P	**Pn**	**02 24 22.6**	**+0.3**
JWK2				S	**S**	**02 25 35.5**	**-1.1**
JHO	**Hitachi**	**6.04**	**140**	P	**Pn**	**02 24 19.3**	**-3.7**
JWT	**Wachi**	**6.07**	**183**	⇑P	**Pn**	**02 24 23.7**	**+0.4**
JKR	**Kurayoshi**	**6.15**	**195**	P	**Pn**	**02 24 24.8**	**+0.6**
JAO	**Obara**	**6.19**	**168**	⇓P	**Pn**	**02 24 24.5**	**-0.1**
JNY	**Yasuok**	**6.21**	**164**	⇓P	**Pn**	**02 24 24.5**	**-0.4**
JEG	**Eigenji**	**6.23**	**175**	P	**Pn**	**02 24 25.9**	**+0.8**
JTKR	**Abashiri--Toko**	**6.56**	**64**	P	**Pn**	**02 24 28.2**	**-0.6**
JTKR				S	**S**	**02 25 43.8**	**-4.7**
JOD2	**Odawara 2**	**6.62**	**156**	P	**Pn**	**02 24 28.8**	**-0.7**
JOD2				S	**S**	**02 25 44.8**	**-5.0**
TSUJ	**Tsu 2**	**6.65**	**175**	P	**Pn**	**02 24 30.4**	**+0.5**
HMMJ	**Hamamatsu 2**	**6.67**	**166**	⇓P	**Pn**	**02 24 29.3**	**-0.8**
JHS	**Saijyo**	**6.67**	**199**	P	**Pn**	**02 24 31.0**	**+0.9**
JHS				*e*S	**S**	**02 25 51.5**	**+0.7**
JGT	**Gotsu**	**6.86**	**204**	⇑P	**Pn**	**02 24 33.1**	**+0.8**
JIE	**Ise**	**6.99**	**173**	P	**Pn**	**02 24 34.7**	**+1.0**
JIE				S	**S**	**02 25 55.8**	**-1.7**
JJS	**Sakaide**	**7.11**	**192**	P	**Pn**	**02 24 36.2**	**+1.1**
HABR	**Khabarovsk**	**7.14**	**356**	⇑*i*P	**Pn**	**02 24 38.4**	**+3.0**
HABR				*e*S	**S**	**02 26 02.2**	**+1.6**
HABR				pmax	pmax		
	comp=Z,2μm,1.6s						
JHT	**Toyohira**	**7.18**	**203**	P	**Pn**	**02 24 36.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**7.53**	**40**	α *i*P	**Pn**	**02 24 39.0**	**-0.9**
YSS				*i* S	**S**	**02 26 04.5**	**-4.4**
YSS				pmax	pmax		
	comp=N,590nm,1.0s						
YSS				pmax	pmax		
	comp=E,620nm,1.0s						
YSS				pmax	pmax		
	comp=Z,810nm,1.0s						
YSS				smax			
	comp=E,17μm,8.0s						
YSS				smax			
	comp=E,2μm,1.5s						
YSS				MLR	MLR		
	comp=Z,4μm,8.0s						
YSS	**Yuzh-Sakhalins**	**7.53**	**40**	*e*Pn	**Pn**	**02 24 39.0**	**-1.0**
	comp=Z,600nm,0.9s						
YSS				*e*S	**S**	**02 26 06.8**	**-2.0**
BSO3	**Boso 3**	**7.54**	**149**	P	**Pn**	**02 24 36.4**	**-3.6**
NEM2	**Nemuro 2**	**7.67**	**71**	P	**Pn**	**02 24 39.0**	**-2.6**
NEM2				*e*S	**S**	**02 26 02.8**	**-9.1**
TK01	**Tokai 1**	**7.71**	**169**	P	**Pn**	**02 24 42.2**	**+0.1**
JWZ	**Kozaga**	**7.81**	**180**	P	**Pn**	**02 24 42.7**	**-0.5**
JWZ				S	**S**	**02 26 10.1**	**-4.7**
BSO1	**Boso 1**	**7.86**	**147**	P	**Pn**	**02 24 40.3**	**-3.4**
JET	**Tanbara**	**7.86**	**197**	P	**Pn**	**02 24 45.3**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**7.92**	**67**	*e*P	**Pn**	**02 24 43.4**	**-1.0**
YUK				*i* S	**S**	**02 26 11.0**	**-6.1**
YUK				pmax	pmax		
	comp=Z,12μm,1.8s						
YUK				pmax	pmax		
	comp=E,5μm,2.0s						
YUK				smax			
	comp=E,102μm,3.0s						
YUK				smax			
	comp=N,105μm,3.6s						
YUK				MLR	MLR		
	comp=Z,8μm,11.0s						
CN2	**Changchun**	**7.99**	**291**	⇓P	**Pn**	**02 24 45.8**	**+0.6**
CN2				*e*XP		02 25 54.3	
CN2				*e*S	**S**	**02 26 14.4**	**-4.2**
CN2				AMB	AMB		
	comp=Z,580nm,0.9s						
CN2				LR	LR		
	comp=N,16μm,10.0s						
CN2				LR	LR		
	comp=E,22μm,10.0s						
CN2				LR	LR		
	comp=Z,20μm,14.0s						
INCN	**Inchon**	**8.04**	**244**	*e*Pn	**Pn**	**02 24 46.8**	**+0.9**
	comp=Z,615nm,0.7s						
INCN				*e*S	**S**	**02 26 21.5**	**+1.7**
JNA	**Nagahama**	**8.20**	**200**	P	**Pn**	**02 24 48.7**	**+0.9**
JKU	**Kubokawa**	**8.31**	**196**	P	**Pn**	**02 24 49.8**	**+0.8**
KLR	**Kul'dur**	**8.37**	**342**	⇑*i*P	**Pn**	**02 24 46.0**	**-3.7**
KLR				*e*S	**S**	**02 26 21.0**	**-5.8**
KLR				pmax	pmax		
	comp=N,6μm,9.0s						
KLR				pmax	pmax		
	comp=E,2μm,9.0s						
KLR				pmax	pmax		
	comp=Z,6μm,9.0s						
KLR				smax			
	comp=N,16μm,11.0s						
KLR				smax			
	comp=E,22μm,11.0s						
JTU	**Tsushima**	**8.46**	**218**	P	**Pn**	**02 24 51.6**	**+0.8**
UWA2	**Uwa jima 2**	**8.50**	**198**	P	**Pn**	**02 24 51.8**	**+0.6**
JTO	**Tosashimizu**	**8.80**	**196**	P	**Pn**	**02 24 55.6**	**+0.9**
JTO				S	**S**	**02 26 32.0**	**-4.1**
JHJ	**Hachijo jima 2**	**8.82**	**157**	P	**Pn**	**02 24 53.0**	**-2.1**
	comp=E,655nm,0.3s,baz=27,slow=4.4,SNR=64						
JHJ				S	**S**	**02 26 30.1**	**-6.5**
	comp=E,313nm,0.3s,baz=66,slow=23,SNR=6.0						
JHJ2	**Mitsune**	**8.84**	**157**	P	**Pn**	**02 24 53.4**	**-1.8**
JHJ2				*e*S	**S**	**02 26 31.1**	**-5.9**
UGL	**Uglegorsk**	**8.92**	**28**	⇑*i*P	**Pn**	**02 24 56.0**	**-0.1**
UGL				*i* S	**S**	**02 26 34.0**	**-4.6**
UGL				pmax	pmax		
	comp=Z,4μm,0.4s						
UGL				pmax	pmax		
	comp=N,2μm,6.0s						
UGL				pmax	pmax		
	comp=E,2μm,6.0s						
UGL				smax			
	comp=E,2μm,2.4s						
UGL				smax			
	comp=N,13μm,8.0s						
UGL				smax			
	comp=E,11μm,12.0s						
UGL				smax			
	comp=Z,10μm,12.0s						
SNY	**Shenyang**	**9.13**	**277**	⇓P	**Pn**	**02 25 00.3**	**+1.6**
SNY				XP		02 26 12.4	
SNY				S	**S**	**02 26 47.0**	**+3.6**
SNY				AMB	AMB		
	comp=Z,267nm,1.7s						
SNY				AMB	AMB		
	comp=Z,6μm,4.6s						
SNY				LR	LR		
	comp=E,10μm,10.5s						
SNY				LR	LR		
	comp=Z,8μm,17.4s						
KUR	**Kuril'sk**	**9.65**	**62**	⇓*i*P	**Pn**	**02 25 00.5**	**-4.2**
KUR				*e*S	**S**	**02 26 46.0**	**-8.5**
KUR				pmax	pmax		
	comp=N,4μm,4.0s						
KUR				pmax	pmax		
	comp=E,6μm,4.0s						
KUR				pmax	pmax		
	comp=Z,10μm,4.0s						
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,190nm,0.5s						
KUR				pmax	pmax		
	comp=Z,780nm,0.5s						
KUR				smax			
	comp=N,38μm,5.0s						
KUR				smax			
	comp=E,31μm,5.0s						
KUR				smax			
	comp=N,860nm,0.8s						
KUR				smax			
	comp=E,540nm,0.8s						
KUR				MLR	MLR		
	comp=N,5μm,11.0s						
KUR				MLR	MLR		
	comp=E,5μm,11.0s						
KUR				MLR	MLR		
	comp=Z,5μm,11.0s						
DL2	**Dalian**	**11.09**	**262**	*i* PR	**Pn**	**02 25 22.8**	**+1.2**
DL2				S	**S**	**02 27 26.4**	**+0.6**
DL2				SCS	ScS	02 37 12.6	-1.7
DL2				AMB	AMB		
	comp=Z,820nm,0.8s						
DL2				AMB	AMB		
	comp=Z,2μm,4.4s						
OKH	**Okha**	**13.13**	**19**	*i* P	**P**	**02 25 42.2**	**-1.8**
OKH				*i* S	**S**	**02 28 04.6**	**-2.6**
OKH				pmax	pmax		
	comp=Z,10μm,4.0s						
OKH				smax			
	comp=N,31μm,6.0s						
HIA	**Hailar**	**13.75**	**311**	⇓*i*P	**P**	**02 25 50.5**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
HIA	**Hailar**	**13.75**	**311**	⇓*i*P	**P**	**02 25 50.5**	**-0.3**
	comp=Z,5.8nm,1.5s						
BJI	**Beijing**	**14.91**	**271**	P	**P**	**02 26 03.4**	**-0.1**
BJI				S	**S**	**02 28 41.6**	**-1.4**
BJI				PCS	PcS	02 34 18.6	-3.8
BJI				SCS	ScS	02 37 19.3	-3.8
BJI				AMB	AMB		
	comp=Z,541nm,1.9s						
BJT	**Baijiatuau**	**14.92**	**271**	P	**P**	**02 26 03.7**	**+0.2**
BJT				S	**S**	**02 28 42.8**	**-0.4**

BJT ScS ScS 02 37 21.2 -1.9
BJT Baijiatuau 14.92 271 ⇓ *i*P **P 02 26 03.6 0.0**
BJT pmax pmax
comp=Z,1μm,1.4s
BJT Baijiatuau 14.92 271 ⇓ *i*P **P 02 26 03.6 0.0**
comp=Z,1μm,1.4s
CBIJ Chichi jima 15.18 158 P **P 02 26 05.4 -1.0**
comp=Z,71nm,0.3s,baz=81,slow=20,SNR=19
CBIJ S **S 02 28 43.4 -5.0**
comp=Z,110nm,0.3s,baz=301,slow=23,SNR=18
SSE Sheshan 15.56 234 P **P 02 26 10.1 -0.5**
SSE S **S 02 28 55.4 -0.6**
SSE AMB AMB
comp=Z,69nm,1.0s
SSE AMB AMB
comp=Z,1μm,5.8s
SSE LR LR
comp=N,596nm,20.3s
SSE LR LR
comp=E,794nm,20.3s
SSE LR LR
comp=Z,1μm,15.5s
NJ2 Nanjing 16.40 241 *e*P **P 02 26 20.0 +0.4**
NJ2 XP sP 02 27 47.4 -12
NJ2 S **S 02 29 12.0 -0.5**
NJ2 SCP ScP 02 33 51.3 +3.5
NJ2 AMB AMB
comp=Z,1μm,0.9s
NJ2 AMB AMB
comp=Z,3μm,5.0s
NJ2 LR LR
comp=N,8μm,16.6s
NJ2 LR LR
comp=E,5μm,18.1s
NJ2 LR LR
comp=Z,8μm,15.4s
SKR Severo-Kuril's 16.90 50 *e*P **P 02 26 19.0 -6.0**
SKR *e*S **S 02 29 14.0 -8.3**
SKR pmax pmax
comp=Z,6μm,3.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,3μm,4.0s
SKR pmax pmax
comp=E,360nm,1.0s
SKR pmax pmax
comp=Z,900nm,1.0s
SKR pmax pmax
comp=N,260nm,0.9s
SKR smax
comp=N,5μm,8.0s
SKR smax
comp=E,5μm,8.0s
SKR MLR MLR
comp=N,5μm,12.0s
SKR MLR MLR
comp=E,3μm,12.0s
SKR MLR MLR
comp=Z,5μm,12.0s
CLNS Chul'man 17.02 339 *e*P **P 02 26 24.8 -1.4**
CLNS *e*S **S 02 29 20.3 -4.2**
CLNS pmax pmax
comp=Z,478nm,0.9s
CLNS pmax pmax
comp=N,356nm,1.1s
CLNS pmax pmax
comp=E,162nm,1.1s
CLNS smax
comp=E,5μm,11.3s
CLNS smax
comp=Z,329nm,13.2s
CLNS smax
comp=N,799nm,11.9s
CLNS MLR MLR
comp=E,2μm,12.0s
CLNS MLR MLR
comp=Z,2μm,12.0s
CLNS MLR MLR
comp=N,700nm,13.0s
HHC Hu-ho-hao-te 18.23 276 ⇓ *i*P **P 02 26 38.0 -1.1**
HHC S **S 02 29 43.1 -4.9**
HHC PCP PcP 02 30 55.1 +2.8
HHC AMB AMB
comp=Z,110nm,1.2s
HHC LR LR
comp=N,6μm,6.9s
HHC LR LR
comp=E,3μm,7.8s
HHC LR LR
comp=Z,3μm,7.4s
CIT Chita 18.52 313 *e*P **P 02 26 41.1 -1.1**
CIT *e*S **S 02 29 48.3 -5.3**
CIT pmax pmax
comp=Z,3μm,1.6s
PET Petropavlovsk 19.36 45 *α i*P **P 02 26 49.0 -2.0**
PET *i* S **S 02 30 05.7 -2.5**
PET pmax pmax
comp=N,1μm,5.3s
PET pmax pmax
comp=Z,4μm,5.4s
PET pmax pmax
comp=E,2μm,4.5s
PET pmax pmax
comp=Z,185nm,1.1s
PET pmax pmax
comp=N,85nm,1.0s
PET pmax pmax
comp=E,74nm,1.1s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 19.36 45 ⇑ *i*P **P 02 26 48.9 -2.1**
comp=Z,161nm,1.0s
BTO Baotou 19.42 276 *e*P **P 02 26 49.8 -1.8**
BTO S **S 02 30 03.3 -5.9**
BTO LR LR
comp=N,3μm,6.1s
BTO LR LR
comp=E,1μm,8.0s
WHN Wuhan 20.36 245 P **P 02 26 59.0 -1.4**
WHN S **S 02 30 17.0 -7.4**
WHN LR LR
comp=Z,7μm,9.8s
MA2 Magadan 20.51 22 *i* P **P 02 27 00.4 -1.4**
MA2 *e**SP sP 02 28 41.4 -3.6
MA2 *e*S **S 02 30 24.4 -2.4**
MA2 *e* 02 37 39.2
MA2 pmax pmax
comp=N,100nm,0.8s
MA2 pmax pmax
comp=Z,300nm,0.8s
MA2 Magadan 20.51 22 *e*P **P 02 27 00.5 -1.3**
comp=Z,160nm,0.6s
MA2 *e*S **S 02 30 27.8 +1.0**
YAK Yakutsk 21.03 352 *e*P **P 02 27 05.9 -0.7**
YAK *e*S **S 02 30 32.0 -3.3**
YAK *e*SS 02 37 38.0
YAK pmax pmax
comp=Z,421nm,1.4s,mb5.5
YAK pmax pmax
comp=N,371nm,1.5s
YAK smax
comp=N,186nm,1.1s
YAK smax
comp=Z,95nm,1.1s
YAK smax
comp=E,440nm,1.6s
YAK Yakutsk 21.03 352 *e*P **P 02 27 05.0 -1.6**
comp=E,502nm,0.6s,mb5.9
YAK *e*S **S 02 30 39.2 +3.9**
ULN Ulaanbaatar 21.36 297 ⇓ *i*P **P 02 27 09.2 -0.4**
ULN pmax pmax
comp=Z,2μm,1.3s,mb6.1
ULN Ulaanbaatar 21.36 297 ⇓ *i*P **P 02 27 09.2 -0.4**
comp=Z,2μm,1.3s,mb6.1
BOD Bodaibo 21.53 327 *e*P **P 02 27 10.4 -0.7**
BOD *e* 02 30 43.0
BOD pmax pmax
comp=Z,434nm,1.4s,mb5.5
QZH Quanzhou 21.71 226 ⇑ *i*P **P 02 27 13.9 +1.1**
QZH XP sP 02 28 58.6 +0.4
QZH S **S 02 30 46.4 +0.1**
QZH AMB AMB
comp=Z,80nm,0.8s,mb5.0
QZH AMB AMB
comp=Z,4μm,6.1s
QZH LR LR
comp=N,3μm,10.2s
QZH D
comp=Z,4μm,14.6s
SONM Songino Array 21.80 297 P **P 02 27 13.0 -0.6**
comp=Z,402nm,0.9s,mb5.6,baz=94,slow=9.9,SNR=452
SONM ScP ScP 02 33 59.4 -0.7
comp=Z,4.8nm,1.0s,baz=121,slow=2.5,SNR=4.1
XAN Xi'an 22.39 260 P **P 02 27 18.3 -0.7**
XAN S **S 02 30 51.6 -5.6**
XAN SS 02 32 32.1
XAN AMB AMB
comp=Z,433nm,1.5s,mb5.5
XAN AMB AMB
comp=Z,1μm,10.4s
XAN LR LR
comp=N,893nm,10.2s
XAN LR LR
comp=E,2μm,13.2s
XAN LR LR
comp=Z,3μm,15.0s
SEY Seymchan 23.76 19 ⇓ *e*P **P 02 27 30.9 -0.4**
SEY Seymchan 23.76 19 ⇓ *e*P **P 02 27 30.0 -1.3**
IRK Irkutsk 23.96 308 *e*P **P 02 27 32.1 -1.0**
IRK pmax pmax
comp=Z,557nm,1.7s,mb5.5
ZAK Zakamensk 24.18 303 *e*P **P 02 27 34.0 -1.1**
ZAK pmax pmax
comp=Z,230nm,0.9s,mb5.4
TLY Talaya 24.20 306 P **P 02 27 35.1 -0.2**
comp=Z,2μm,0.9s,mb6.3,SNR=63
TLY Talaya 24.20 306 *d i*P **P 02 27 33.6 -1.7**
TLY *e*S **S 02 31 33.1 +7.3**
TLY pmax pmax
comp=Z,383nm,1.1s,mb5.5
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 24.20 306 ⇓ *i*P **P 02 27 34.8 -0.6**
comp=Z,385nm,1.1s,mb5.5
LZH Lanzhou 25.36 269 ⇓P **P 02 27 45.6 0.0**
LZH XP sP 02 29 36.0 -0.9
LZH S **S 02 31 41.4 -2.6**
LZH SCS ScS 02 37 59.3 +0.1
LZH AMB AMB
comp=Z,800nm,1.1s,mb5.9
LZH AMB AMB
comp=Z,2μm,4.3s
LZH LR LR
comp=N,4μm,11.3s
LZH LR LR
comp=Z,4μm,12.9s
MOY Mondy 25.82 305 *e*P **P 02 27 49.2 -0.5**
MOY pmax pmax
comp=Z,407nm,2.3s,mb5.2
GTA Gaotai 27.32 278 ⇓P **P 02 28 02.5 -0.6**
GTA AP 02 29 10.3
GTA XP sP 02 29 51.1 -3.7
GTA PCP PcP 02 31 10.3 -1.1
GTA S **S 02 32 12.3 -2.6**
GTA SCP ScP 02 34 13.8 -1.9
GTA XS sS 02 34 21.3 +0.7
GTA PCS PcS 02 34 50.5 -3.0
GTA AMB AMB
comp=Z,169nm,1.4s,mb5.1
GTA AMB AMB
comp=Z,1μm,8.0s
GTA LR LR
comp=N,4μm,19.9s
GTA LR LR
comp=E,3μm,17.6s
GTA LR LR
comp=Z,3μm,15.3s
CD2 Chengdu 27.72 258 P **P 02 28 04.9 -1.7**
CD2 AP 02 29 09.0
CD2 PCP PcP 02 31 13.9 +1.6
CD2 S **S 02 32 18.9 -2.2**
CD2 PCS PcS 02 34 54.8 +0.1
CD2 SCS ScS 02 38 10.6 +1.0
CD2 AMB AMB
comp=Z,20nm,0.5s,mb4.6
CD2 AMB AMB
comp=Z,360nm,4.7s
CD2 LR LR
comp=E,3μm,9.2s
CD2 LR LR
comp=Z,3μm,13.2s
GYA Guiyang 28.18 247 ⇑ *i*P **P 02 28 08.8 -1.8**
GYA AP 02 29 18.6
GYA XP sP 02 30 01.8 -0.8
GYA S **S 02 32 22.8 -5.5**
GYA SCP ScP 02 34 19.3 +1.0
GYA XS sS 02 34 31.8 -2.6
GYA AMB AMB
comp=Z,40nm,0.7s,mb4.8
GYA AMB AMB
comp=Z,570nm,4.7s
GYA LR LR
comp=N,550nm,15.5s
GYA LR LR
comp=E,2μm,15.2s
GYA LR LR
comp=Z,1μm,15.5s
TIXI Tiksi 30.57 356 *e*P **P 02 28 30.5 -1.0**
TIXI *e*S **S 02 33 03.8 -1.7**
AMKA Amchitka 31.26 56 *e*P **P 02 28 37.2 -0.3**
QIZ Qiongzhong 31.35 233 P **P 02 28 39.4 +1.0**
QIZ AP pP 02 29 48.5 +0.9
QIZ PP PP 02 29 59.0 +0.3
QIZ XP sP 02 30 26.8 -4.1
QIZ S **S 02 33 20.5 +2.8**
QIZ XS sS 02 35 24.6 0.0
QIZ AMB AMB
comp=Z,465nm,8.0s
BILL Bilibino 31.37 22 *c i*P **P 02 28 38.6 0.0**
BILL *e**PP pP 02 29 43.0 -4.8
BILL *e* 02 29 55.1
BILL *e* 02 31 22.3
BILL *e*S **S 02 33 18.5 +0.5**
BILL *e*SS SS 02 35 48.6 -3.1
BILL pmax pmax
comp=Z,149nm,1.0s,mb5.2
BILL Bilibino 31.37 22 ⇑ *i*P **P 02 28 38.4 -0.1**
comp=Z,55nm,0.4s,mb5.1
KMI Kunming 31.77 250 P **P 02 28 41.0 -1.0**
KMI AP pP 02 29 50.8 -0.5
KMI PP PP 02 30 03.0 -0.2
KMI PPP 02 30 27.9
KMI XP sP 02 30 32.9 -1.6
KMI PCP PcP 02 31 26.5 +3.6
KMI S **S 02 33 19.1 -4.9**
KMI SCP ScP 02 34 30.9 +0.8
KMI AMB AMB
comp=Z,89nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,715nm,6.3s
KMI LR LR
comp=N,1μm,14.6s
KMI LR LR
comp=E,1μm,11.2s
KMI LR LR
comp=Z,2μm,11.2s
WMQ Urumqi 35.08 290 ⇓ *i*P **P 02 29 09.6 -0.6**
WMQ AP pP 02 30 18.0 -2.6
WMQ PP PP 02 30 41.5 +2.1
WMQ PCP PcP 02 31 34.8 +2.4
WMQ S **S 02 34 14.0 -0.6**
WMQ AMB AMB
comp=Z,157nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,919nm,4.5s
WMQ LR LR
comp=N,2μm,10.0s
WMQ LR LR
comp=E,2μm,10.5s
WMQ LR LR
comp=Z,2μm,19.8s
ZAL Zalesovo 35.78 308 P **P 02 29 15.5 -0.7**
comp=Z,64nm,0.7s,mb5.0,baz=24,slow=8.9,SNR=152
ZAL PcP PcP 02 31 33.0 -1.5
comp=Z,5.5nm,0.6s,baz=109,slow=15,SNR=1.7
ZAL Zalesovo 35.78 308 P **P 02 29 15.5 -0.7**
ZAL 02 31 33.0
ZAL pmax pmax
comp=Z,64nm,0.7s
NVS Novosibirsk 36.69 310 *e*P **P 02 29 21.1 -2.6**
NVS *e*PPP 02 30 56.9
NVS pmax pmax
comp=E,256nm,1.6s
NVS pmax pmax
comp=Z,304nm,1.6s,mb5.3
NVS pmax pmax
comp=N,78nm,2.0s
NANT Nan 37.37 244 ⇑ P **P 02 29 28.5 -1.0**
comp=N,2μm,0.4s
LSA Lhasa 37.73 267 P **P 02 29 30.0 -2.5**
LSA S **S 02 34 54.0 -0.6**
LSA AMB AMB
comp=Z,100nm,1.5s,mb4.8
LSA LR LR
comp=N,1μm,15.4s
LSA LR LR
comp=E,1μm,15.4s
LSA LR LR
comp=Z,1μm,20.6s
LSA Lhasa 37.73 267 ⇓ *i*P **P 02 29 33.3 +0.8**
LSA pmax pmax
comp=Z,45nm,0.6s,mb4.9
LSA Lhasa 37.73 267 ⇓ *i*P **P 02 29 33.3 +0.9**
comp=Z,45nm,0.6s,mb4.9
KKTK Khon Kaen 37.75 238 ⇑ P **P 02 29 33.0 +0.5**
comp=Z,1μm,0.5s
MKAR Makanchi Array 38.17 297 P **P 02 29 34.9 -1.2**
MKAR ScP ScP 02 34 54.0 +0.7
comp=Z,8.0nm,0.9s,baz=76,slow=5.1,SNR=3.6
MKAR S **S 02 35 01.7 +0.6**
comp=Z,25nm,1.0s,baz=75,slow=18,SNR=5.3
MKAR Makanchi Array 38.17 297 P **P 02 29 34.9 -1.1**
MKAR S **S 02 35 01.7 +0.6**
MKAR smax
comp=N,25nm,1.0s
MKAR Makanchi Array 38.17 297 P **P 02 29 34.9 -1.2**
MKAR ScP ScP 02 34 54.0 +0.7
MKAR S **S 02 35 01.7 +0.6**
IMP Imphal 38.34 258 *e*P **P 02 29 35.0 -2.4**
CHG Chiang Mai 38.56 246 ⇑ P **P 02 29 38.9 -0.3**
comp=N,60nm,0.8s,mb4.9
CHTO Chiang Mai 38.56 246 ⇓ *i*P **P 02 29 39.2 0.0**
CHTO *e**PP pP 02 30 48.9 -2.0
CHTO pmax pmax
comp=Z,85nm,0.9s,mb5.0
CHTO Chiang Mai 38.56 246 ⇓ *i*P **P 02 29 39.2 -0.1**
comp=Z,85nm,0.9s,mb5.0
CHTO *e*pP pP 02 30 48.9 -2.0
CM31 Chiang Mai Arr 38.80 245 *e*P **P 02 29 41.6 +0.4**
comp=Z,37nm,0.8s,mb4.7
KKM Kota Kinabalu 39.24 212 P **P 02 29 46.6 +1.8**
KKM Kota Kinabalu 39.24 212 *e*P **P 02 29 45.9 +1.1**
SHL Shillong 39.40 260 *e*P **P 02 29 45.0 -1.1**
SHL AMb AMB 02 29 47.0
comp=Z,2μm,1.6s,mb6.1
SHL *ex* x 02 35 16.0
TNA Tin City 39.45 33 *e*P **P 02 29 44.8 -1.7**
comp=Z,120nm,1.3s,mb5.0
KURK Kurchatov 39.84 304 P **P 02 29 48.0 -1.7**
comp=Z,2μm,0.7s
NST Nakhon Sawan 39.98 241 P **P 02 29 52.9 +2.0**
TSM Tawau 40.23 208 P **P 02 29 53.8 +0.9**
JIRN Jiri 42.52 267 *e*P **P 02 30 11.4 +0.2**
comp=Z,209nm,0.8s,mb5.3
GUN Gumba 42.62 268 *e*P **P 02 30 11.7 -0.3**
comp=Z,759nm,0.9s,mb5.8
AAA Alma-Ata 42.75 293 *i* P **P 02 30 13.9 +0.8**
AAA *i* S **S 02 36 07.7 -0.5**
AAA pmax pmax
comp=Z,2μm,3.0s
AAA smax
comp=E,835nm,4.7s
AAA MLR MLR
comp=Z,1μm,17.2s
SDPT Sand Point 43.09 49 *e*P **P 02 30 14.1 -1.7**
comp=Z,58nm,0.3s,mb5.2
SDPT LR LR
comp=Z,500nm,18.0s
KKN Kakani 43.13 268 *e*P **P 02 30 15.3 -0.8**
comp=Z,335nm,0.8s,mb5.5
PKI Pulchoki 43.15 268 *e*P **P 02 30 15.5 -0.8**
comp=Z,142nm,0.7s,mb5.2
DMN Daman 43.36 268 *e*P **P 02 30 17.4 -0.5**
comp=Z,264nm,0.9s,mb5.4
GKN Gorkha 43.50 269 *e*P **P 02 30 18.2 -0.9**
comp=Z,131nm,0.5s,mb5.3
ULHL Ulahol 43.57 292 P **P 02 30 19.5 -0.1**
SNR=6.8
TKM2 Tokmak 2 43.80 293 P **P 02 30 21.3 0.0**
SNR=214
CAL Calcutta 43.80 260 *e*P **P 02 30 22.8 +1.5**
CAL *ex* x 02 36 19.1
CHGN Chignik 44.09 47 *e*P **P 02 30 24.2 +0.5**
CHKZ Chkalovo 44.16 309 P **P 02 30 23.0 -1.2**
CHKZ pmax pmax
comp=Z,510nm,2.9s,mb5.2
CHKZ Chkalovo 44.16 309 *e*P **P 02 30 23.0 -1.2**
comp=Z,513nm,3.0s
KBK Karagaybulak 44.33 293 P **P 02 30 25.1 -0.4**
SNR=89
CHMS Chumysh 44.35 293 P **P 02 30 26.1 +0.3**
SNR=33
KOLN Koldanda 44.41 269 *e*P **P 02 30 25.6 -0.5**
comp=Z,429nm,1.1s,mb5.5
BVA0 Borovoye Array 44.43 308 *i* P **P 02 30 25.2 -1.1**
BVAR Borovoye Array 44.43 308 P **P 02 30 25.1 -1.2**
comp=Z,29nm,0.5s,mb4.7,baz=78,slow=7.5,SNR=116
BVAR PcP PcP 02 32 01.6 -1.0
comp=Z,10nm,0.8s,baz=46,slow=4.2,SNR=2.6
BVAR Borovoye Array 44.43 308 P **P 02 30 25.1 -1.2**
BVAR 02 32 01.6
BVAR pmax pmax
comp=Z,29nm,0.5s
USP Ospenovka 44.44 294 P **P 02 30 26.8 +0.4**
SNR=68
BRVK Borovoye 44.48 308 P **P 02 30 25.3 -1.4**
comp=Z,636nm,0.6s,mb5.9,SNR=27
BRVK Borovoye 44.48 308 ⇓ *i*P **P 02 30 25.8 -0.9**
BRVK pmax pmax
comp=Z,75nm,1.0s,mb4.8
BRVK Borovoye 44.48 308 ⇓ *i*P **P 02 30 25.8 -0.9**
comp=Z,75nm,1.0s,mb4.8
FRU Bishkek 44.50 293 ⇓ *i*P **P 02 30 27.0 +0.1**
FRU *i* 02 32 20.0
FRU pmax pmax
comp=Z,440nm,2.0s,mb5.2
FRU pmax pmax
comp=Z,2μm,12.0s
TTA Tatalina 44.52 37 *e*P **P 02 30 26.6 -0.5**
AAK Ala-Archa 44.66 293 P **P 02 30 26.1 -2.0**
comp=Z,547nm,1.0s,mb5.6,SNR=28
AAK Ala-Archa 44.66 293 ⇓ *i*P **P 02 30 26.5 -1.6**
AAK *e* 02 32 22.4
AAK pmax pmax
comp=Z,92nm,1.0s,mb4.9
AAK Ala-Archa 44.66 293 ⇓ *i*P **P 02 30 26.5 -1.6**
comp=Z,92nm,1.0s,mb4.9
AAK *e* 02 32 22.4
KSH Kashi 44.74 288 ⇑ *i*P **P 02 30 29.3 +0.5**
KSH AP pP 02 31 40.1 -2.7
KSH PCP PcP 02 32 06.0 +2.4
KSH XP sP 02 32 19.1 -5.7
KSH PP PP 02 32 21.3 +1.0
KSH AMB AMB
comp=Z,111nm,0.8s,mb5.0
KSH LR LR
comp=N,1μm,6.8s
KSH LR LR
comp=E,2μm,6.2s
KSH LR LR
comp=Z,1μm,9.4s
SVW2 Sparrevohn 44.90 40 *e*P **P 02 30 30.0 0.0**
EKS2 Erkin-Say 45.14 293 P **P 02 30 31.1 -0.7**
SNR=83
ZRNK Zerenda 45.26 308 *e*P **P 02 30 31.9 -0.9**
comp=Z,23μm,1.1s
IMA2 Indian Mountai 45.32 33 *e*P **P 02 30 33.0 -0.3**
AML Almayashu 45.39 293 P **P 02 30 34.0 +0.2**
SNR=52
KSM Kuching 45.86 217 *e*P **P 02 30 37.3 -0.1**
KSM *e*pP pP 02 31 50.0 -1.8
JOSI Joshimath 46.03 275 *ex* x 02 30 16.9
LGTI Lohaghat 46.06 273 *i* x x 02 31 01.0
SNG Songkhla 46.16 232 P **P 02 30 41.0 +1.2**

comp=Z,146nm,1.0s,mb5.1
KLP Kalpa 46.53 277 *e*P **P** 02 30 43.2 **+0.6**
KLP AMb AMB 02 30 46.4
comp=Z,441nm,1.3s,mb5.5
KDAK Kodiak Island 46.95 44 P **P** 02 30 45.0 **-0.8**
comp=Z,861nm,1.2s,mb5.9,SNR=21
KDAK Kodiak Island 46.95 44 P **P** 02 30 44.4 **-1.4**
comp=Z,114nm,0.8s,mb5.1,baz=310,slow=5.2,SNR=36
KDAK Kodiak Island 46.95 44 *e*P **P** 02 30 44.9 **-0.9**
comp=Z,238nm,1.1s,mb5.3
KK31 Karatay Array 47.23 295 *i* P **P** 02 30 46.8 **-1.1**
KKAR Karatay Array 47.23 295 P **P** 02 30 46.7 **-1.2**
KKAR pmax pmax
comp=Z,255nm,1.1s,mb5.4
SDNR Sundarnagar 47.50 278 *ex* x 02 32 57.0
SMLA Simla 47.54 277 *e*P **P** 02 30 49.6 **-0.7**
SMLA AMb AMB 02 30 52.5
comp=Z,409nm,1.2s,mb5.5
SLKM Skilak Lake 47.59 40 P **P** 02 30 41.1 **-10**
MCK McKinley 47.60 36 *e*P **P** 02 30 50.7 **0.0**
MCK pmax pmax
comp=Z,127nm,1.0s,mb5.1
MCK McKinley 47.60 36 *e*P **P** 02 30 50.7 **0.0**
comp=Z,127nm,1.0s,mb5.1
KULM Kulim 47.65 231 *e*P **P** 02 30 51.7 **+0.6**
DLH Dalhousie 47.75 280 *ex* x 02 32 39.0
COLA College 47.88 34*c* *i*P **P** 02 30 52.5 **-0.3**
COLA College 47.88 34 *e*P **P** 02 30 52.8 **0.0**
comp=Z,126nm,0.8s,mb5.2
PMR Palmer 47.90 39 *e*P **P** 02 30 52.5 **-0.5**
PMR pmax pmax
comp=Z,175nm,1.0s,mb5.2
PMR MLR MLR
comp=Z,500nm,17.0s
PMR Palmer 47.90 39 *e*P **P** 02 30 52.5 **-0.5**
comp=Z,175nm,1.0s,mb5.2
PMR LR LR
comp=Z,500nm,17.0s
BHK Bhakra 47.96 278 *ex* x 02 30 57.0
THN Thein Dam 47.99 280 *e*P **P** 02 30 50.8 **-2.9**
THN *ex* x 02 33 44.7
IPM Ipoh 48.09 230 P **P** 02 30 56.3 **+1.8**
KKR Kurukshetra 48.38 276 *e*P **P** 02 30 56.6 **-0.1**
KKR AMb AMB 02 31 01.1
comp=Z,192nm,1.1s,mb5.2
NDI New Delhi 48.73 274 *e*P **P** 02 30 58.5 **-0.8**
NDI *e*P 02 30 59.5
NDI *ex* x 02 35 05.5
KGM Kluang 48.85 225 P **P** 02 31 01.8 **+1.6**
AYAN Aya Nagar 48.91 274 *e*P **P** 02 31 00.0 **-0.6**
AYAN *ex* x 02 35 12.2
SVE Sverdlovsk 48.99 315 *e*P **P** 02 31 00.5 **-0.8**
SVE *e* pP 02 32 16.8 0.0
SVE *e* 02 32 57.4
SVE *e* 02 33 00.0
SVE *e*S **S** 02 37 39.0 **+2.5**
SVE smax
comp=N,2μm,6.0s
SVE smax
comp=E,3μm,6.0s
SVE MLR MLR
comp=N,400nm,11.0s
SVE MLR MLR
comp=E,500nm,11.0s
SVE MLR MLR
comp=Z,900nm,11.0s
SONA Sohna 49.06 274 *e*P **P** 02 31 01.1 **-0.6**
SONA AMb AMB 02 31 03.3
comp=Z,123nm,0.9s,mb5.1
NIL Nilore 49.23 282 P **P** 02 31 04.3 **+1.2**
comp=Z,245nm,1.0s,mb5.4,SNR=9.0
KUDL Kundal 49.56 274 *e*P **P** 02 31 04.5 **-1.0**
JBP Jabalpur 49.67 267⇓ *e*P **P** 02 31 06.0 **-0.3**
JBP ⇓*ex* x 02 31 10.3
comp=Z,171nm,1.2s
JBP *i* x x 02 37 26.7
EYAK Cordova Ski Ar 49.73 39⇑ *i*P **P** 02 31 08.2 **+1.4**
MENT Mentasta 50.06 36 *e*P **P** 02 31 09.4 **+0.2**
KHET Khetri 50.11 275 *e*P **P** 02 31 08.2 **-1.4**
KHET *ex* x 02 35 03.9
ARU Arti 50.21 315 P **P** 02 31 09.1 **-1.2**
comp=Z,5μm,0.9s
ARU Arti 50.21 315⇓ *i*P **P** 02 31 09.7 **-0.6**
ARU *e* pP 02 32 25.2 -1.1
ARU *e* 02 33 06.0
ARU *e*PPP 02 34 18.3
ARU *e*S **S** 02 37 54.2 **+1.0**
ARU *e*SS SS 02 41 36.4 +4.4
ARU pmax pmax
comp=Z,832nm,1.0s,mb5.9
ARU Arti 50.21 315 *e*P **P** 02 31 09.5 **-0.8**
comp=Z,894nm,1.0s,mb6.0
ARU *e*S **S** 02 37 54.3 **+1.1**
SOKR Solikamsk 50.21 319*d* *i*P **P** 02 31 10.5 **+0.1**
SOKR 02 33 14.2
SOKR *i* PPP 02 34 30.1
SOKR S **S** 02 37 52.9 **-0.4**
SOKR SS ScS 02 40 15.8 -5.3
SOKR pmax pmax
comp=Z,180nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,890nm,20.0s
VIS Vishakhapatnam 50.45 258 *e*P **P** 02 31 11.6 **-0.6**
PSI Prapat 50.66 231 P **P** 02 31 14.7 **+1.0**
comp=Z,43nm,0.9s,mb4.7,baz=21,slow=5.9,SNR=26
PSI ScP ScP 02 35 44.1 -0.5
comp=Z,32nm,0.9s,baz=330,slow=2.2,SNR=15
EGAK Eagle 50.69 33 *e*P **P** 02 31 13.2 **-0.7**
EGAK *e*S **S** 02 38 05.2 **+5.4**
NGP Nagpur 51.54 265 *e*P **P** 02 31 18.5 **-1.6**
NGP *ex* x 02 31 19.6
comp=Z,193nm,1.4s
NGP *ex* x 02 37 55.9
BHPL Bhopal 51.55 268 *e*P **P** 02 31 19.9 **-0.3**
BHPL AMb AMB 02 31 22.9
comp=Z,165nm,1.6s,mb5.1
BHPL *ex* x 02 34 26.9
PMG Port Moresby 51.59 166⇑ *e*P **P** 02 31 26.9 **+6.4**
DAWY Dawson 51.63 34⇑ *i*P **P** 02 31 21.0 **+0.2**
AB31 Akbulak array 51.82 306 *i* P **P** 02 31 21.2 **-1.0**
AJM Ajmer 51.84 274 *i* P **P** 02 31 22.0 **-0.3**
AJM *e*P 02 31 22.5
AJM AMb AMB 02 31 24.8
comp=Z,219nm,1.3s,mb5.3
AJM *i* x x 02 32 44.0
AKTK Aktyubinsk 52.53 308 P **P** 02 31 26.2 **-1.1**
AKTO Aktyubinsk 52.53 308 P **P** 02 31 26.2 **-1.1**
comp=Z,140nm,0.8s,mb5.3,baz=64,slow=7.3,SNR=142
AKTO Aktyubinsk 52.53 308 P **P** 02 31 26.2 **-1.2**
AKTO pmax pmax
comp=Z,140nm,0.9s,mb5.3
INK Inuvik 52.60 28 P **P** 02 31 27.3 **-0.5**
comp=Z,72nm,0.9s,mb5.0,baz=287,slow=6.0,SNR=83
INK PcP PcP 02 32 32.0 -0.3
comp=Z,12nm,0.5s,baz=308,slow=4.4,SNR=2.8
INK ScP ScP 02 35 51.8 -1.2
comp=Z,6.9nm,1.0s,baz=300,slow=8.6,SNR=3.7
INK Inuvik 52.60 28 *e*P **P** 02 31 27.2 **-0.6**
comp=Z,197nm,1.3s,mb5.3
AKL Akola 53.34 266 *e*P **P** 02 31 32.7 **-0.4**
AKL *i* P 02 31 33.7
AKL AMb AMB 02 31 35.9
comp=Z,445nm,1.6s,mb5.5
AKL *i* x x 02 33 24.9
KAKA Kakadu 53.88 184 *e*P **P** 02 31 37.1 **+0.1**
comp=Z,25nm,0.7s,mb4.7
HYB Hyderabad 54.18 262 *i* P **P** 02 31 40.0 **+0.8**
comp=Z,152nm,1.2s,mb5.2
HYB *e*PcP PcP 02 32 34.0 -4.3
HYB *e*pP pP 02 32 56.0 -0.6
HYB *e*S **S** 02 38 46.0 **-0.7**
HYB *e*ScS ScS 02 40 46.0 -3.0
HYB Hyderabad 54.18 262 *e*P **P** 02 31 40.0 **+0.8**
HYB *e*S **S** 02 38 46.0 **-0.7**
HYB pmax pmax
comp=Z,152nm,1.2s,mb5.2
HYB Hyderabad 54.18 262 *e*P **P** 02 31 40.0 **+0.8**
comp=Z,152nm,1.2s,mb5.2
HYB *e*S **S** 02 38 46.0 **-0.7**
JASL Jaisalmer 54.40 276 *e*P **P** 02 31 40.4 **-0.3**
JASL AMb AMB 02 31 44.1
comp=Z,505nm,1.3s,mb5.7
SKAG Skagway 55.03 39 *e*P **P** 02 31 46.1 **+0.8**
comp=Z,212nm,1.5s,mb5.2
SKAG LR LR
comp=Z,500nm,18.0s
LATR Latur 55.06 264 *e*P **P** 02 31 43.8 **-1.6**
SPB4 Spitsbergen Ar 55.40 347 *e*P **P** 02 31 48.5 **+0.6**
KBS Kingsbay 55.61 349 *e*P **P** 02 31 49.8 **+0.4**
KBS *e*S **S** 02 39 05.1 **-0.5**
KBS *e*SS SS 02 42 57.0 -0.2
KBS Kingsbay 55.61 349⇑ *e*P **P** 02 31 51.4 **+2.0**
KBS Kingsbay 55.61 349 *e*P **P** 02 31 49.6 **+0.2**
comp=Z,44nm,0.8s,mb4.8
MDRS Chennai 55.71 256⇓ *e*P **P** 02 31 50.0 **0.0**
SIT Sitka 56.02 41 *e*P **P** 02 31 53.9 **+1.7**
SIT pmax pmax
comp=Z,285nm,1.2s,mb5.5
SIT Sitka 56.02 41 *e*P **P** 02 31 53.9 **+1.7**
comp=Z,285nm,1.2s,mb5.5
ALE Alert 56.05 3 P **P** 02 31 52.5 **+0.1**
comp=Z,866nm,1.0s,mb6.0,SNR=16
LVZ Lovozero 56.33 333 *e*P **P** 02 31 54.2 **-0.2**
LVZ S **S** 02 39 10.3 **-4.7**
LVZ pmax pmax
comp=E,19nm,1.0s
LVZ pmax pmax
comp=Z,76nm,1.0s,mb5.0
LVZ pmax pmax
comp=N,18nm,0.9s
LVZ Lovozero 56.33 333⇑ *e*P **P** 02 31 55.0 **+0.6**
TMCR Tamitsa 56.81 329 *i* P **P** 02 31 58.9 **+1.1**
TMCR pmax pmax
comp=Z,180nm,1.1s,mb5.3
POO Poona 57.02 266⇓ *i*x x 02 31 55.0
comp=Z,360nm,0.0s
KAD Karad 57.52 265 *e*P **P** 02 32 02.4 **-0.2**
KAD *i* P 02 32 02.5
PECR Pechory 57.70 319⇑ *i*P **P** 02 32 03.4 **-0.5**
PECR *e* 02 34 15.0
PECR *i* S **S** 02 39 32.0 **-0.7**
PECR *i* 02 41 10.4
PECR pmax pmax
comp=Z,1μm,7.0s
PECR smax
comp=N,2μm,5.0s
WRAK Wrangell Islan 57.77 41⇑ *i*P **P** 02 32 05.5 **+1.2**
KEV Kevo 57.80 337 *e*p **P** 02 32 03.1 **-1.5**
comp=N,19nm,0.4s,mb4.8
KEV Kevo 57.80 337 P **P** 02 32 03.9 **-0.7**
KEV pmax pmax
comp=Z,42nm,0.7s,mb4.9
CRAG Craig 57.82 42 *e*P **P** 02 32 06.0 **+1.3**
comp=Z,182nm,1.3s,mb5.2
DLBC Dease Lake 57.95 38 P **P** 02 32 06.7 **+1.1**
comp=Z,48nm,0.9s,mb4.8,baz=306,slow=5.6,SNR=60
ABKT Ailbek 57.97 294 P **P** 02 32 05.1 **-0.6**
comp=Z,2μm,1.1s,mb6.3,SNR=63
ABKT Ailbek 57.97 294 P **P** 02 32 05.5 **-0.2**
ARCES ARCESS Array B 58.37 337 P **P** 02 32 07.5 **-1.0**
comp=Z,11nm,0.4s,mb4.5,baz=56,slow=6.6,SNR=110
ARCES PP PP 02 34 22.7 +0.1
comp=Z,14nm,0.8s,baz=50,slow=8.1,SNR=4.2
ARCES S **S** 02 39 41.9 **+0.6**
comp=Z,3.0nm,0.9s,baz=37,slow=15,SNR=4.3
ARCES ARCESS Array B 58.37 337 P **P** 02 32 07.5 **-0.9**
ARCES S **S** 02 39 41.9 **+0.7**
ARCES smax
comp=N,3.0nm,0.9s
ARCES ARCESS Array B 58.37 337 P **P** 02 32 07.5 **-1.0**
ARCES PP PP 02 34 22.7 +0.1
ARCES S **S** 02 39 41.9 **+0.6**
ARE0 ARCESS Array S 58.37 337 *e*P **P** 02 32 07.9 **-0.5**
KIP Kipapa 58.56 88 P **P** 02 32 11.4 **+1.7**
KIP pmax pmax
comp=Z,91nm,0.8s,mb5.3
KIP Kipapa 58.56 88 *e*P **P** 02 32 11.1 **+1.4**
comp=Z,91nm,0.8s,mb5.2
PALK Pallekele 59.29 251 *e*P **P** 02 32 14.8 **+0.1**
comp=Z,75nm,1.4s,mb4.9
KTK1 Kautokeino 59.33 337 *e*P **P** 02 32 14.9 **0.0**
KTK1 AMb AMB 02 32 25.3
comp=Z,167nm,1.3s,mb5.3
KTK1 *e*PP PP 02 34 32.7 +1.6
KTK1 Kautokeino 59.33 337 *e*P **P** 02 32 14.3 **-0.7**
RES Resolute Bay 59.49 14 *e*P **P** 02 32 15.9 **-0.2**
RES pmax pmax
comp=Z,75nm,0.7s,mb5.2
RES Resolute Bay 59.49 14 *e*P **P** 02 32 15.8 **-0.2**
comp=Z,75nm,0.7s,mb5.2
FITZ Fitzroy Crossi 59.89 191⇓ *i*P **P** 02 32 18.5 **-0.3**
comp=Z,46nm,0.9s,mb4.9
FITZ *e*S **S** 02 40 00.8 **+0.2**
FITZ *e*SCS ScS 02 41 30.0 -0.9
FITZ *e*sS sS 02 42 18.4 -3.3
FITZ *e*SS SS 02 44 02.0 -2.2
FITZ Fitzroy Crossi 59.89 191 P **P** 02 32 19.5 **+0.8**
comp=Z,33nm,1.0s,mb4.7,baz=9.8,slow=7.0,SNR=43
FITZ pP pP 02 33 38.3 +0.3
comp=Z,1.6nm,0.6s,baz=80,slow=12,SNR=0.9
JOF Joensuu 60.05 329 *e*p **P** 02 32 18.4 **-1.4**
comp=Z,35nm,0.3s,mb5.3
JOF Joensuu 60.05 329 *e*P **P** 02 32 18.4 **-1.4**
JOF pmax pmax
comp=Z,35nm,0.3s,mb5.3
TRO Tromso 60.16 339 *e*P **P** 02 32 18.6 **-2.0**
TRO *e*P 02 32 18.6
TRO *e*S **S** 02 40 03.7 **-0.3**
TRO *e*SS SS 02 44 04.9 -3.5
WRAB Tennant Creek 60.98 182 P **P** 02 32 25.9 **-0.2**
comp=Z,210nm,0.8s,mb5.6,SNR=19
WRAB Tennant Creek 60.98 182*c* *i*P **P** 02 32 26.0 **-0.1**
WRAB Tennant Creek 60.98 182 *e*P **P** 02 32 25.3 **-0.8**
comp=Z,25nm,0.8s,mb4.7
WB2 Warramunga Arr 60.99 182⇓ *i*P **P** 02 32 24.8 **-1.4**
WB2 *e*PCP PcP 02 33 05.6 +0.3
WB2 *e*S **S** 02 40 11.9 **-2.6**
WB2 *e*SCS ScS 02 41 38.8 -0.4
WB2 *e*sS sS 02 42 33.1 -3.0
WRA Warramunga Arr 60.99 182 P **P** 02 32 26.1 **0.0**
comp=Z,21nm,0.6s,mb4.8,baz=359,slow=7.3,SNR=264
WRA PcP PcP 02 33 05.7 +0.4
comp=Z,5.6nm,0.5s,baz=2.0,slow=5.2,SNR=5.9
WRA pP pP 02 33 45.6 -0.1
comp=Z,6.3nm,0.9s,baz=360,slow=7.1,SNR=2.4
WRA S **S** 02 40 12.8 **-1.7**
comp=Z,5.3nm,1.1s,baz=6.7,slow=13,SNR=13
WRA Warramunga Arr 60.99 182 P **P** 02 32 26.1 **-0.1**
WRA S **S** 02 40 12.8 **-1.7**
WRA smax
comp=N,5.0nm,1.1s
DAG Danmarks Havn 61.05 353⇑ *i*P **P** 02 32 26.3 **-0.2**
comp=N,4.5nm,0.8s
MOS Moscow 61.14 320κ *i*P **P** 02 32 27.6 **+0.5**
MOS *e* 02 33 10.9
MOS *e**PP pP 02 33 46.5 -0.2
MOS *e* 02 34 45.7
MOS *e*PPP 02 36 17.6
MOS *e*S **S** 02 40 15.5 **-0.9**
MOS *e* 02 41 36.5
MOS *e*SS SS 02 44 22.5 -1.3
MOS pmax pmax
comp=Z,600nm,2.0s,mb5.7
MOS pmax pmax
comp=Z,250nm,1.5s,mb5.4
MOS smax
comp=E,2μm,4.6s
MOS smax
comp=N,2μm,4.3s
TRD Trivandrum 61.15 255 *ex* x 02 32 22.3
CTA Charters Tower 61.90 169⇑ *i*P **P** 02 32 32.2 **+0.1**
comp=N,11nm,0.8s,mb4.4
CTA *e*S **S** 02 40 25.8 **0.0**
CTA *e*SS sS 02 42 47.0 -0.8
CTA Charters Tower 61.90 169 P **P** 02 32 32.4 **+0.3**
comp=N,15nm,0.8s,mb4.6,baz=348,slow=8.4,SNR=8.4
CTA Charters Tower 61.90 169⇑ *i*P **P** 02 32 32.2 **+0.1**
CTA *e*S **S** 02 40 25.8 **0.0**
CTA pmax pmax
comp=Z,110nm,0.8s
CTAO Charters Tower 61.90 169 *e*P **P** 02 32 32.2 **+0.1**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb4.8
CTAO Charters Tower 61.90 169 *e*P **P** 02 32 32.2 **+0.1**
comp=Z,33nm,1.1s,mb4.8
OBN Obninsk 61.99 320 P **P** 02 32 31.5 **-1.2**
comp=Z,581nm,1.2s,mb6.0,SNR=7.7
OBN Obninsk 61.99 320*d* *i*P **P** 02 32 32.2 **-0.5**
OBN *e* 02 33 08.6
OBN *e* 02 34 53.5
OBN *e*S **S** 02 40 26.9 **0.0**
OBN *e*SS SS 02 44 32.8 -4.1
OBN pmax pmax
comp=Z,161nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,500nm,17.0s
OBN Obninsk 61.99 320 *e*P **P** 02 32 31.1 **-1.6**
comp=Z,81nm,0.8s,mb5.3
PUL Pulkovo 62.21 327 P **P** 02 32 34.4 **+0.2**
PUL *e*S **S** 02 40 28.8 **-0.8**
PUL pmax pmax
comp=Z,129nm,0.8s,mb5.5
PUL pmax pmax
comp=N,111nm,0.6s
PUL pmax pmax
comp=E,232nm,0.9s
PUL Pulkovo 62.21 327⇓ *e*P **P** 02 32 35.7 **+1.5**
YKA Yellowknife Ar 62.26 30 P **P** 02 32 33.5 **-1.0**
comp=E,9.6nm,0.4s,mb4.7,baz=308,slow=6.2,SNR=41
YKA PcP PcP 02 33 11.3 +0.8
comp=E,7.8nm,0.8s,baz=308,slow=4.1,SNR=5.5
YKA Yellowknife Ar 62.26 30 P **P** 02 32 33.5 **-1.0**
YKA PcP PcP 02 33 11.3 +0.8
MAK Makhachkala 62.36 304*c* *i*P **P** 02 32 34.5 **-0.7**
MAK *i* S **S** 02 40 29.7 **-1.8**
MAK *i* 02 41 42.5
MAK pmax pmax
comp=Z,192nm,1.4s,mb5.4
MAK MLR MLR
comp=Z,821nm,14.0s
KAF Kangasniemi 62.42 330 *e*p **P** 02 32 34.0 **-1.5**
comp=Z,26nm,0.4s,mb5.1,baz=51,slow=6.2
KAF Kangasniemi 62.42 330 *e*P **P** 02 32 34.0 **-1.5**
KAF pmax pmax
comp=Z,26nm,0.4s,mb5.1
LOF Lofoten 62.62 339 *e*P **P** 02 32 37.0 **+0.1**
LOF AMb AMB 02 32 41.9
comp=Z,85nm,2.1s,mb4.9
LOF Lofoten 62.62 339 *e*P **P** 02 32 37.0 **+0.1**
comp=Z,85nm,2.1s,mb4.9
VRSR Storozhevoye 62.77 315 *e*P **P** 02 32 36.8 **-1.0**
VRSR *i* S **S** 02 40 34.9 **-1.6**
VRSR *e* 02 41 49.1
VRSR pmax pmax
comp=N,120nm,0.9s
VRSR pmax pmax
comp=E,140nm,0.9s
VRSR pmax pmax
comp=Z,130nm,0.9s,mb5.5
VRSR smax
comp=N,870nm,3.3s
VRSR smax
comp=Z,430nm,3.9s
VRSR smax
comp=E,1μm,4.0s
FIA1 FINESS Array S 62.91 329 *e*P **P** 02 32 37.1 **-1.6**
FIA1 *e*pP pP 02 34 00.5 +1.6
FIA1 *e*S **S** 02 40 37.6 **-0.7**
FINES FINESS Array B 62.91 329 P **P** 02 32 37.5 **-1.2**
comp=E,69nm,0.8s,mb5.3,baz=64,slow=8.7,SNR=101
FINES PP PP 02 35 02.5 +0.1
comp=E,5.1nm,0.4s,baz=62,slow=11,SNR=3.9
FINES S **S** 02 40 37.9 **-0.3**
comp=E,7.2nm,1.1s,baz=80,slow=14,SNR=6.0
FINES FINESS Array B 62.91 329 P **P** 02 32 37.5 **-1.3**
FINES 02 35 02.5
FINES S **S** 02 40 37.9 **-0.4**
FINES pmax pmax
comp=E,69nm,0.8s
FINES smax
comp=N,7.0nm,1.1s
FINES FINESS Array B 62.91 329 P **P** 02 32 37.5 **-1.2**
FINES PP PP 02 35 02.5 +0.1
FINES S **S** 02 40 37.9 **-0.3**
MOR8 Moi Rana 63.74 337 *e*P **P** 02 32 41.8 **-2.4**
MOR8 AMb AMB 02 32 50.8
comp=Z,214nm,0.9s,mb5.8
MBWA Marble Bar 63.94 197 *e*P **P** 02 32 45.6 **+0.1**
comp=Z,40nm,1.1s,mb5.0
GOF Gofitskoye 63.96 308⇓ *i*P **P** 02 32 45.0 **-0.6**
GOF *i* S **S** 02 40 50.0 **-1.1**
GOF pmax pmax
comp=Z,46nm,1.3s,mb5.0
GOF smax
comp=N,430nm,1.7s
STOK Stokkvaagen 64.03 338 *e*P **P** 02 32 46.2 **+0.1**
STOK AMb AMB 02 32 55.2
comp=Z,96nm,1.3s,mb5.3
VSU Vasula 64.47 327*d* *i*P **P** 02 32 49.3 **+0.5**
VSU Vasula 64.47 327 *i* Pr **P** 02 32 49.4 **+0.6**
DGRG David-gareji 64.51 304 P **P** 02 32 49.0 **-0.1**
DGRG S **S** 02 40 57.3 **-0.5**
DUS Dusheti 64.58 305 P **P** 02 32 52.3 **+2.7**
ZEI Tsey 64.70 306 *e*P **P** 02 32 48.9 **-1.4**
ZEI *e**PP pP 02 34 07.8 -3.1
ZEI pmax pmax
comp=Z,99nm,1.2s,mb5.3
AS31 Alice Springs 64.71 182 *e*P **P** 02 32 50.5 **+0.1**
ASAR Alice Springs 64.71 182 P **P** 02 32 50.8 **+0.4**
comp=Z,19nm,0.8s,mb4.8,baz=1.9,slow=5.1,SNR=146
ASAR PcP PcP 02 33 19.9 -0.6
comp=Z,6.3nm,0.8s,baz=0.1,slow=5.6,SNR=6.1
ASAR pP pP 02 34 11.2 +0.2
comp=Z,1.9nm,0.8s,baz=359,slow=5.8,SNR=1.0
ASAR S **S** 02 41 01.4 **+1.2**
comp=Z,2.8nm,1.2s,baz=22,slow=14,SNR=5.3
ASAR Alice Springs 64.71 182 P **P** 02 32 50.8 **+0.4**
ASAR 02 33 20.0
ASAR *PP pP 02 34 11.2 +0.2
ASAR S **S** 02 41 01.5 **+1.3**
ASAR pmax pmax
comp=Z,19nm,0.8s
ASAR smax
comp=N,3.0nm,1.2s
MTA Mtatsminda 64.74 304 P **P** 02 32 49.4 **-1.2**
MTA S **S** 02 41 01.6 **+1.0**
TBLG Delisi 64.75 304 P **P** 02 32 52.1 **+1.4**
TBLG S **S** 02 41 01.7 **+0.9**
KIV Kislovodsk 64.78 307 P **P** 02 32 51.5 **+0.7**
SNR=42
KIV Kislovodsk 64.78 307*d* *i*P **P** 02 32 51.3 **+0.5**
KIV *e* 02 33 19.2
KIV *e**PP pP 02 34 10.0 -1.5
KIV *e**SP sP 02 34 46.9 -4.7
KIV *e* 02 35 20.0
KIV *e*S **S** 02 41 02.2 **+1.2**
KIV *e*SS SS 02 45 15.0 -5.2
KIV pmax pmax
comp=Z,872nm,1.7s,mb6.1
KIV MLR MLR
comp=Z,600nm,23.0s
KIV Kislovodsk 64.78 307 *e*P **P** 02 32 51.4 **+0.6**
comp=Z,524nm,1.1s,mb6.1
GOR Gori 65.00 305 P **P** 02 32 53.7 **+1.5**
JMIC Jan Mayen 65.07 348 P **P** 02 32 50.3 **-2.4**
comp=Z,48nm,0.4s,mb5.5,baz=184,slow=5.0,SNR=3.3
ONI Oni 65.08 306 P **P** 02 32 52.9 **+0.1**
ONI S S 02 41 02.7 -2.0
GNI Garni 65.64 303 P **P** 02 32 57.4 **+1.1**
GNI Garni 65.64 303 P **P** 02 32 55.5 **-0.8**
comp=Z,61nm,1.0s,mb5.3,baz=349,slow=2.1,SNR=39
GNI Garni 65.64 303⇓ *i*P **P** 02 32 57.3 **+1.0**
GNI pmax pmax
comp=Z,140nm,1.1s
GNI Garni 65.64 303⇓ *i*P **P** 02 32 57.2 **+1.0**
comp=Z,140nm,1.1s,mb5.6
NSS Namsos 65.64 337 *e*P **P** 02 32 54.9 **-1.4**
NSS *e*P 02 32 54.9
SUMG Summit 66.30 358 *e*P **P** 02 33 01.1 **+0.6**
comp=Z,162nm,0.6s,mb5.9
PGC Sidney 66.48 45 *e*P **P** 02 33 01.0 **-0.6**
comp=Z,130nm,0.9s,mb5.7
STW Striped Peak 66.66 46 P **P** 02 33 03.0 **+0.3**
CLDR Calditan 66.73 302 P **P** 02 33 04.2 **+1.1**
BCA Borcka 66.84 305 P **P** 02 33 03.8 **-0.1**
ANN Anapa 67.38 310*d* *i*P **P** 02 33 06.9 **-0.3**
ANN *i* S S 02 41 30.4 -1.7
ANN *i* *SS SKSac 02 42 22.1 -5.5
ANN pmax pmax
comp=Z,162nm,1.7s,mb5.5
VANB Van 67.38 302 *e*P **P** 02 33 07.3 **+0.1**
JCW Jim Creek 67.56 45 P **P** 02 33 08.2 **-0.1**
RPW Rockport 67.63 45 P **P** 02 33 08.4 **-0.3**

HKR **Hakkari** 67.75 301 *e*P P 02 33 09.6 +0.1
ERZM **Erzurum** 67.90 304 *i* P P 02 33 10.9 +0.6
EZM **Erzurum** 67.90 304 *e*P P 02 33 12.3 +1.9
CUKT **Cukurca** 68.03 301 *e*P P 02 33 10.6 -0.6
AKASG **Malin Array Be** 68.17 319 P P 02 33 10.7 -1.4
comp=Z,29nm,0.7s,mb5.1,baz=47,slow=6.6,SNR=107
AKASG PP PP 02 35 43.2 -5.0
comp=Z,9.0nm,0.7s,baz=42,slow=9.2,SNR=4.9
AKASG S S 02 41 41.0 -0.5
comp=Z,3.2nm,0.8s,baz=56,slow=12,SNR=9.2
AKASG **Malin Array Be** 68.17 319 P P 02 33 10.7 -1.4
AKASG 02 35 43.2
AKASG S S 02 41 41.0 -0.5
AKASG pmax pmax
comp=Z,29nm,0.7s
AKASG smax
comp=N,3.0nm,0.8s
AKASG **Malin Array Be** 68.17 319 P P 02 33 10.7 -1.4
AKASG PP PP 02 35 43.2 -5.0
AKASG S S 02 41 41.0 -0.5
AKBB **Malin Array Si** 68.17 319 *e*P P 02 33 10.5 -1.6
AKBB *e*S S 02 41 41.2 -0.3
KTUT **Trabzon** 68.25 306 *e*P P 02 33 12.1 -0.4
MACK **Trabzon** 68.27 306 *i* P P 02 33 09.1 -3.6
MOL **Molde** 68.42 337 *e*P P 02 33 12.6 -1.1
MOL *e*P 02 33 12.6
MOL *e*S S 02 41 44.4 0.0
NB2 **NORSAR Subarra** 68.45 334 P P 02 33 12.6 -1.2
comp=Z,50nm,0.9s,mb5.2,baz=40,slow=6.2
NOA **NORSAR Array B** 68.45 334 P P 02 33 12.6 -1.2
comp=Z,39nm,0.9s,mb5.1,baz=41,slow=6.1,SNR=54
NOA PP PP 02 35 51.0 +0.4
comp=Z,32nm,0.9s,baz=44,slow=9.0,SNR=8.5
NOA **NORSAR Array B** 68.45 334 P P 02 33 12.6 -1.2
NOA 02 35 51.0
NOA pmax pmax
comp=Z,39nm,0.9s
BNGL **BINGOL** 68.59 303 *i* P P 02 33 15.0 +0.4
EDM **Edmonton** 68.63 37 *e*P P 02 33 14.8 -0.1
EDM *e*pP pP 02 34 42.2 +5.5
EDM *e*PP PP 02 35 49.7 -2.3
NAO01 **NORSAR Array S** 68.71 334⇑ *i*P P 02 33 15.8 +0.4
comp=Z,33nm,0.8s,mb5.1
NAO01 *e*PP PP 02 35 52.3 -0.4
TWW **Teanaway** 68.78 45 P P 02 33 17.7 +1.9
BTMT **Batman** 68.83 303 *e*P P 02 33 16.7 +0.6
SUW **Suwalki** 68.85 324 *e*P P 02 33 15.6 -0.6
comp=Z,0.4nm,2.1s
SUW *e* 02 33 22.4
SUW *e*PP PP 02 35 53.4 -0.6
SUW *e*S S 02 41 47.8 -1.6
SUW *e*SKS 02 42 36.6
SUW **Suwalki** 68.85 324 *e*P P 02 33 15.6 -0.6
SUW *e* 02 35 53.4
SUW *e*S S 02 41 47.8 -1.6
SUW *e* 02 42 36.6
SUW pmax pmax
comp=Z,40nm,2.1s,mb4.8
TBM **Table Mountain** 68.90 45 P P 02 33 16.6 0.0
MSL **Mosul** 68.92 300 *i* x x 02 33 24.0
MSL *e*x x 02 33 46.0
MSL *e*x x 02 34 49.0
MSL *e*x x 02 41 54.0
EZC **Erzincan** 68.95 305 *e*P P 02 33 19.1 +2.3
COR **Corvallis** 69.01 49 *e*P P 02 33 18.9 +1.7
COR pmax pmax
comp=Z,189nm,1.0s,mb5.8
COR **Corvallis** 69.01 49 *e*P P 02 33 18.9 +1.7
comp=Z,189nm,1.0s,mb5.8
BINT **Bingol** 69.05 304 *e*P P 02 33 17.8 +0.4
KELT **Kelkit** 69.06 305 *i* P P 02 33 15.7 -1.8
EBG **Ellensburg** 69.08 45 P P 02 33 18.0 +0.4
VLMM **Larch Mountain** 69.13 47 P P 02 33 19.8 +1.9
SIM **Simferopol'** 69.17 312 *e*P P 02 33 18.7 +0.5
SIM *e**PP pP 02 34 39.1 -1.0
SIM *e*S S 02 41 53.0 -0.1
SIM pmax pmax
comp=Z,102nm,0.9s,mb5.5
GRSN **GIRESUNGRSN** 69.19 307 *i* P P 02 33 11.9 -6.4
DZM **Mont Dzumac** 69.23 150 *e*P P 02 33 20.6 +2.0
DZM **Mont Dzumac** 69.23 150 P P 02 33 20.2 +1.7
comp=Z,32nm,1.0s,mb5.0,baz=336,slow=6.4,SNR=8.3
EPH **Ephrata** 69.32 45 P P 02 33 18.8 -0.3
OSL **Oslo** 69.44 334 *e*P P 02 33 20.4 +0.5
OSL AMb AMB 02 33 27.8
comp=Z,152nm,1.0s,mb5.7
KEBM **Edson Butte** 69.46 51 *e*P P 02 33 21.9 +2.0
PTK **Pertek** 69.73 304 *e*P P 02 33 21.8 +0.3
UMR **Umm Al-Rimmam** 69.79 292 *e*P P 02 33 20.9 -1.1
UMR AMb AMB 02 33 27.2
comp=Z,205nm,1.3s,mb5.7
MARD **Mardin** 69.80 302 *i* P P 02 33 21.7 -0.3
BHD **Baghdad** 69.86 297 *i* x x 02 33 18.0
BHD *e*x x 02 41 54.0
BHD *e*x x 02 42 42.0
MIB **Mutribah** 69.90 292 *e*P P 02 33 21.4 -1.2
MIB AMb AMB 02 33 25.5
comp=Z,413nm,1.0s,mb6.1
WRD **Warden** 69.91 45 P P 02 33 23.4 +0.7
KBO **Bosley Butte** 69.93 51 *e*P P 02 33 24.7 +2.0
RSW **Rattlesnake Hi** 69.93 45 P P 02 33 23.1 +0.3
HAWA **Hanford** 69.96 45⇑ *i*P P 02 33 23.4 +0.5
comp=Z,4.5nm,0.9s,mb4.2
NEW **Newport** 70.03 43 *e*P P 02 33 23.1 -0.3
NEW pmax pmax
comp=Z,91nm,1.2s
NEW **Newport** 70.03 43 *e*P P 02 33 23.1 -0.3
comp=Z,92nm,1.2s,mb5.4
KONO **Kongsberg** 70.03 334 *e*P P 02 33 21.2 -2.2
KONO *e*P 02 33 21.2
KONO *e*S S 02 42 02.6 -0.5
KONO **Kongsberg** 70.03 334 *e*P P 02 33 23.9 +0.5
KONO *e* 02 36 02.7
KONO pmax pmax
comp=Z,59nm,0.8s,mb5.4
KONO **Kongsberg** 70.03 334 *e*P P 02 33 23.9 +0.4
comp=Z,59nm,0.8s,mb5.4
KONO *e*PP PP 02 36 02.7 -1.3
QRN **Al-Qurain** 70.13 291 *e*P P 02 33 23.4 -0.6
QRN AMb AMB 02 33 26.1
comp=Z,369nm,1.0s,mb6.1
ELZG **Elazig** 70.22 304 *i* P P 02 33 24.6 +0.1
RDF **Al-Radifah** 70.28 291 *e*P P 02 33 24.3 -0.6
RDF AMb AMB 02 33 27.1
comp=Z,420nm,1.0s,mb6.1
NAY **Al-Naaiem** 70.30 292 *e*P P 02 33 23.7 -1.3
NAY AMb AMB 02 33 26.8
comp=Z,154nm,1.0s,mb5.7
RST **Umm Al-Ruwaisa** 70.32 292 *e*P P 02 33 23.5 -1.6
RST AMb AMB 02 33 26.7
comp=Z,296nm,1.0s,mb6.0
KVT **Kavak** 70.43 308 *e*P P 02 33 25.5 -0.3
SUE **Sulen** 70.44 337 *e*P P 02 33 26.2 +0.4
SUE AMb AMB 02 33 35.8
comp=Z,105nm,1.7s,mb5.3
KRMB **Red Mountain** 70.54 52 *e*P P 02 33 28.2 +1.8
DIKM **Dikmen** 70.55 309 *e*P P 02 33 26.1 -0.4
SVSK **Karacayir** 70.58 306 *e*P P 02 33 26.6 -0.1
MYA **Malataya** 70.67 304 *e*P P 02 33 29.1 +1.8
MALT **Malatya** 70.68 304⇑ *i*P P 02 33 28.1 +0.8
MALT **Malatya** 70.68 304 P P 02 33 28.5 +1.2
MALT **Malatya** 70.68 304⇓ *i*P P 02 33 28.0 +0.8
comp=Z,86nm,1.2s,mb5.4
KIS **Kishinev** 70.75 316*d* *i*P P 02 33 26.0 -1.7
KIS *e* 02 33 46.0
KIS *e**PP pP 02 34 50.0 0.0
KIS *e* 02 36 06.0
KIS *e*PPP 02 37 54.0
KIS *i* S S 02 42 10.0 -1.3
KIS *i* 02 42 50.0
KIS pmax pmax
comp=Z,500nm,6.0s
KIS MLR MLR
comp=Z,1µm,15.0s
KIS MLR MLR
comp=N,1µm,14.0s
KIS MLR MLR
comp=E,700nm,17.0s
ASK **Askoy** 70.77 337 *e*P P 02 33 28.3 +0.5
ASK AMb AMB 02 33 36.7
comp=Z,265nm,1.3s,mb5.8
RUND **Rundenannen** 70.77 336 *e*P P 02 33 29.1 +1.3
RUND AMb AMB 02 33 36.7

comp=Z,292nm,1.3s,mb5.9
ODD1 **Odda** 70.78 336 *e*P P 02 33 27.8 0.0
ODD1 AMb AMB 02 33 35.6
comp=Z,145nm,1.2s,mb5.6
BER **Bergen** 70.80 336 *e*P P 02 33 28.5 +0.5
BER AMb AMB 02 33 37.3
comp=Z,141nm,1.1s,mb5.6
BER *e* 02 42 07.7
BER *e*S S 02 42 12.3 +0.4
BER **Bergen** 70.80 336 *e*P P 02 33 28.5 +0.5
BER *e* 02 42 07.7
BOYT **Boyabat** 70.90 309 *i* P P 02 33 28.4 -0.2
EGD **Espegrend** 70.93 336 *e*P P 02 33 29.4 +0.6
EGD AMb AMB 02 33 37.8
comp=Z,181nm,1.3s,mb5.6
URFA **Urfa** 70.97 303 *e*P P 02 33 27.4 -1.6
WAR **Warsaw** 71.01 324 *e*P P 02 33 31.3 +2.1
WAR *e*PP PP 02 36 12.6 +0.2
WAR *e*S S 02 42 16.5 +2.2
WAR *e*SKS 02 42 55.0
KHMM **Horse Mountain** 71.05 52⇑ *i*P P 02 33 30.9 +1.4
YBH **Yreka Blue Hor** 71.11 51⇑ *i*P P 02 33 30.5 +0.7
YBH *e* 02 36 19.4
YBH pmax pmax
comp=Z,148nm,1.6s
YBH **Yreka Blue Hor** 71.11 51⇑ *i*P P 02 33 30.5 +0.7
comp=Z,148nm,1.6s,mb5.5
YBH *e*PP PP 02 36 19.4 +6.1
WALA **Waterton Lakes** 71.12 41⇑ *i*P P 02 33 30.3 +0.4
comp=Z,86nm,1.1s,mb5.4
BLS5 **Blasjo** 71.22 335 *e*P P 02 33 32.6 +2.1
BLS5 AMb AMB 02 33 41.6
comp=Z,139nm,1.4s,mb5.5
IAS **Iasi** 71.27 317⇑ *i*P P 02 33 30.6 -0.2
ATAB **Bozova** 71.28 304 *i* P P 02 33 30.9 +0.1
LVV **L'vov** 71.28 321 *i* P P 02 33 31.3 +0.5
LVV *e* 02 36 15.5
LVV *i* S S 02 42 12.5 -4.8
LVV *e*SS SS 02 47 03.1 +3.0
LVV MLR MLR
comp=Z,500nm,17.0s
LVV MLR MLR
comp=E,400nm,15.0s
LVV MLR MLR
comp=N,300nm,14.0s
CTKT **Corum** 71.46 308 *i* P P 02 33 31.9 -0.1
BSD **Bornholm Skovb** 71.52 329 *i* P P 02 33 31.3 -1.0
comp=N,46nm,0.9s,mb5.2
BSD *i* 02 33 38.8
BSD *i* S S 02 42 18.9 -1.2
BSD *i* 02 42 55.7
BSD *e* 02 52 28.9
BSD
comp=Z,310nm,17.0s
BSD **Bornholm Skovb** 71.52 329 *i* P P 02 33 31.3 -1.0
BSD *i* S S 02 42 18.9 -1.2
BSD *i* 02 42 55.7
BSD pmax pmax
comp=Z,46nm,0.9s,mb5.2
BSD MLR MLR
comp=Z,310nm,17.0s
BSD **Bornholm Skovb** 71.52 329 *i* P P 02 33 31.3 -1.0
comp=Z,46nm,0.9s,mb5.2
BSD *i* 02 33 38.8
BSD *i* S S 02 42 18.9 -1.2
BSD *i* 02 42 55.7
BSD *e* 02 52 28.9
BALT **Daday** 71.72 309 *i* P P 02 33 33.5 +0.1
YOZ **Yozgat** 71.76 307 *e*P P 02 33 35.0 +1.4
GZT **Gaziantep** 71.81 304 *i* P P 02 33 33.8 -0.1
SNART **Snartemo** 71.83 334 *e*P P 02 33 35.5 +1.4
SNART AMb AMB 02 33 42.7
comp=Z,92nm,1.2s,mb5.4
KIPM **Iron Peak** 71.86 53 *e*P P 02 33 35.1 +0.9
SFJD **Kangerlussuaq** 71.87 3 P P 02 33 33.9 -0.4
comp=Z,7.3nm,0.4s,mb4.8,baz=332,slow=5.0,SNR=11
SFJD **Kangerlussuaq** 71.87 3 *i* P P 02 33 33.9 -0.4
comp=Z,38nm,1.3s,mb5.0
SFJD *i* 02 33 41.3
SFJD *i* 02 42 24.6
SFJD
comp=Z,170nm,21.0s
SFJD **Kangerlussuaq** 71.87 3 *i* P P 02 33 33.9 -0.4
SFJD *i* 02 42 24.6
SFJD pmax pmax
comp=Z,38nm,1.3s,mb5.0
SFJD MLR MLR
comp=Z,170nm,21.0s
GKP **Gorka Klasztor** 71.92 326 *e*P P 02 33 35.5 +0.9
GKP *e* 02 33 41.6
GKP *e*S S 02 42 23.6 -1.0
GKP *e*SKS 02 43 00.9
WDC **Whiskeytown Da** 71.93 52⇑ *i*P P 02 33 35.5 +0.8
WDC pmax pmax
comp=Z,89nm,1.3s,mb5.3
WDC **Whiskeytown Da** 71.93 52⇑ *i*P P 02 33 35.5 +0.8
comp=Z,89nm,1.3s,mb5.3
BNN **Bunyan** 71.94 306 *e*P P 02 33 35.2 +0.5
FCC **Fort Churchill** 72.02 25 P P 02 33 36.0 +0.8
FCC pmax pmax
comp=Z,280nm,1.4s,mb5.8
FCC **Fort Churchill** 72.02 25 *e*P P 02 33 34.7 -0.5
comp=Z,282nm,1.5s,mb5.8
KWP **Kalwaria** 72.04 321 *e*P P 02 33 35.0 -0.3
comp=Z,0.4nm,1.3s
KWP *e* 02 33 42.0
KWP *e*PP PP 02 36 22.8 +1.7
KWP *e*S S 02 42 25.4 -0.5
KWP *e*SKS SKSac 02 43 01.9 -0.9
KWP *e*SS SS 02 47 14.7 +3.1
KWP **Kalwaria** 72.04 321 *e*P P 02 33 35.0 -0.3
KWP *e* 02 36 22.8
KWP *e*S S 02 42 25.4 -0.5
KWP *e* 02 43 01.9
KWP *e*SS SS 02 47 14.7 +3.1
KWP pmax pmax
comp=Z,40nm,1.3s,mb5.0
COP **Copenhagen** 72.05 330 *i* P P 02 33 36.8 +1.4
COP *i* 02 33 41.9
COP *e* pP 02 34 57.8 -0.2
COP *i* S S 02 42 25.0 -1.0
COP *i* 02 47 13.3
COP
comp=Z,140nm,18.0s
COP **Copenhagen** 72.05 330 *e*P P 02 33 36.8 +1.4
COP *i* 02 33 41.9
COP *e* pP 02 34 57.8 -0.2
COP *i* S S 02 42 25.0 -1.0
COP *i* 02 47 13.3
COP LR LR
comp=Z,150nm,18.0s
FORT **Forrest** 72.12 187 *e*P P 02 33 35.3 -0.5
comp=Z,81nm,0.7s,mb5.6
KMRS **Kahramanmaras** 72.13 304 *e*P P 02 33 35.8 -0.1
GAZ **Gaziantep** 72.14 304 *e*P P 02 33 36.3 +0.4
BMO **Blue Mountains** 72.15 46 *e*P P 02 33 36.0 +0.1
comp=Z,71nm,1.0s,mb5.3
BURAR **Bucovina Array** 72.18 318⇑ *i*P P 02 33 36.0 -0.2
BURAR **Bucovina Array** 72.18 318⇑ P P 02 33 36.0 -0.2
CFR **Carcaliu** 72.29 315⇑ *i*P P 02 33 36.1 -0.7
CFR **Carcaliu** 72.29 315 P P 02 33 37.4 +0.6
CFR **Carcaliu** 72.29 315⇑ P P 02 33 36.1 -0.7
CDAG **Cicekdag** 72.34 307 *i* P P 02 33 36.4 -0.7
ELDT **Eldivan** 72.35 309 *i* P P 02 33 36.8 -0.3
FFC **Flin Flon** 72.37 31 P P 02 33 36.4 -0.8
comp=Z,1µm,1.0s,SNR=13
FFC **Flin Flon** 72.37 31 *e*P P 02 33 36.3 -0.9
FFC pmax pmax
comp=Z,197nm,1.0s,mb5.8
FFC **Flin Flon** 72.37 31 *e*P P 02 33 36.3 -1.0
comp=Z,197nm,1.0s,mb5.8
MOD **Modoc** 72.39 49 *e*P P 02 33 37.6 +0.2
comp=Z,55nm,1.1s,mb5.2
VRI **Vrincioaia** 72.58 316⇑ *i*P P 02 33 41.3 +2.8
VRI **Vrincioaia** 72.58 316 P P 02 33 40.3 +1.8
AVNT **Avonos** 72.58 306 *i* P P 02 33 37.4 -1.1
MSO **Missoula** 72.60 42⇑ *i*P P 02 33 38.9 +0.3
comp=Z,61nm,1.2s,mb5.2
HOPS **Hopland** 72.62 53 *e*P P 02 33 38.8 +0.1
comp=Z,46nm,1.0s,mb5.2
TIRR **Tirgusor** 72.62 314⇑ *i*P P 02 33 40.0 +1.3
TIRR **Tirgusor** 72.62 314⇓ *i*P P 02 33 37.8 -0.9
PLOR **Plostina** 72.63 316⇑ *i*P P 02 33 40.4 +1.6

MUD **Monsted U'grnd** 72.64 332 *i* P P 02 33 39.4 +0.6
comp=Z,90nm,1.1s,mb5.4
MUD *e* 02 36 28.6
MUD *i* S S 02 42 32.1 -0.6
MUD *i* 02 42 36.6
MUD
comp=Z,450nm,19.0s
MUD **Monsted U'grnd** 72.64 332 *i* P P 02 33 39.4 +0.6
MUD *e* 02 36 28.6
MUD *i* S S 02 42 32.1 -0.6
MUD pmax pmax
comp=Z,90nm,1.1s,mb5.4
MUD MLR MLR
comp=Z,450nm,19.0s
MUD **Monsted U'grnd** 72.64 332 *i* P P 02 33 39.4 +0.6
comp=Z,90nm,1.1s,mb5.4
MUD *e* 02 36 28.6
MUD *i* S S 02 42 32.1 -0.6
MUD *i* 02 42 36.6
BR131 **Keskin Array S** 72.71 308 *e*P P 02 33 38.5 -0.8
comp=Z,9.9nm,0.5s,mb4.8
BRTR **Keskin Array B** 72.71 308 P P 02 33 38.8 -0.5
comp=Z,21nm,0.9s,mb4.8,baz=71,slow=3.6,SNR=68
BRTR PP PP 02 36 31.0 +4.2
comp=Z,6.6nm,0.9s,baz=64,slow=5.6,SNR=4.0
BRTR **Keskin Array B** 72.71 308 P P 02 33 38.8 -0.5
BRTR 02 36 31.0
BRTR pmax pmax
comp=Z,21nm,0.9s
KOLS **Kolonicke sedl** 72.72 321 *e*P P 02 33 38.9 -0.4
KOLS *e*PP PP 02 36 26.3 -0.6
KOLS *e*S S 02 42 33.5 -0.1
KOLS **Kolonicke sedl** 72.72 321⇑ *e*SKSp SKSac 02 43 04.8 -3.1
KOLS **Kolonicke sedl** 72.72 321 *e*P P 02 33 38.9 -0.4
KOLS *e*PP PP 02 36 26.3 -0.6
KOLS *e*S S 02 42 33.5 -0.1
KOLS *e*ScS ScS 02 43 04.8 -5.9
HARR **Harsova** 72.72 315⇑ *i*P P 02 33 39.5 +0.2
HARR **Harsova** 72.72 315 ⇑P P 02 33 39.5 +0.1
KOZT **Kozan** 72.81 305 *e*P P 02 33 37.0 -2.8
LRW **Lerwick** 72.87 339 *e*P P 02 33 40.4 +0.3
LRW AMb AMB 02 33 48.9
comp=Z,87nm,1.5s,mb5.3
LRW **Lerwick** 72.87 339 *e*P P 02 33 40.4 +0.3
LRW AMb AMB 02 33 48.9
comp=Z,87nm,1.5s,mb5.3
STHS **Stebnicka Huta** 72.87 322 *e*P P 02 33 40.4 +0.2
STHS pmax pmax
comp=Z,35nm,0.7s,mb5.2
STHS **Stebnicka Huta** 72.87 322 *e*P P 02 33 40.4 +0.2
comp=Z,35nm,0.7s,mb5.2
STHS *e*S S 02 42 31.8 -3.5
CHMT **Chamberlain Mo** 72.89 42 *e*P P 02 33 39.4 -0.9
ARMA **Armidale** 72.91 166⇑ *i*P P 02 33 41.9 +1.5
UZH **Uzhgorod** 72.92 320⇑ *i*P P 02 33 40.7 +0.2
UZH *e* pP 02 35 08.0 +4.7
UZH *e* 02 35 40.0
UZH *i* S S 02 42 36.5 +0.7
UZH MLR MLR
comp=Z,670nm,13.0s
OJC **Ojcow** 72.98 323 *e*P P 02 33 40.4 -0.4
OJC *e*PP PP 02 36 27.3 -1.8
OJC *e*S S 02 42 35.1 -1.4
OJC L 03 07 48.6
comp=Z,2.9nm,17.2s
OJC **Ojcow** 72.98 323 *e*P P 02 33 40.4 -0.4
OJC *e* 02 36 27.3
OJC *e*S S 02 42 35.1 -1.4
WVOR **Wild Horse Val** 73.00 48 *e*P P 02 33 40.9 0.0
WVOR *e* 02 36 29.8
WVOR pmax pmax
comp=Z,106nm,1.2s,mb5.5
WVOR **Wild Horse Val** 73.00 48 *e*P P 02 33 40.9 0.0
comp=Z,106nm,1.2s,mb5.5
WVOR *e*PP PP 02 36 29.8 +0.6
STKA **Stephens Creek** 73.06 175 *e*P P 02 33 41.3 0.0
comp=Z,21nm,0.9s,mb4.9
STKA *e*S S 02 42 38.9 +1.5
STKA *e*sS sS 02 45 03.9 -0.7
STKA **Stephens Creek** 73.06 175 P P 02 33 42.5 +1.2
comp=Z,23nm,0.7s,mb5.0,baz=347,slow=6.0,SNR=58
SGKT **Sivrigoynuk** 73.10 309 *i* P P 02 33 42.2 +0.7
ANTO **Ankara** 73.12 308⇑ *i*P P 02 33 41.9 +0.3
ANTO **Ankara** 73.12 308 P P 02 33 42.2 +0.6
ANTO **Ankara** 73.12 308 *e*P P 02 33 41.1 -0.5
comp=Z,114nm,1.0s,mb5.6
CRVS **Cervenica-Dubn** 73.13 321 *e*P P 02 33 41.5 -0.2
CRVS *e*PP PP 02 36 25.9 -4.4
CRVS *e*S S 02 42 36.7 -1.5
CRVS *e* 02 43 03.9
CEYT **Ceyhan** 73.15 305 *e*P P 02 33 43.0 +1.1
MLR **Muntele Rosu** 73.24 316⇑ *i*P P 02 33 42.0 -0.3
MLR **Muntele Rosu** 73.24 316 P P 02 33 44.1 +1.8
MLR **Muntele Rosu** 73.24 316 ⇑P P 02 33 42.0 -0.4
PSN **Preselentsi** 73.25 314 P P 02 33 41.5 -0.9
NIE **Niedzica** 73.31 322 *e*Pd P 02 33 42.9 +0.2
NIE *e*PP PP 02 36 34.5 +2.7
NIE **Niedzica** 73.31 322⇓ *i*P P 02 33 42.9 +0.2
NIE *e*PP PP 02 36 34.5 +2.7
OHCM **Honcut** 73.35 52 *e*P P 02 33 42.8 -0.2
KARA **Karaisali** 73.42 305 *e*P P 02 33 41.6 -1.5
HTY **Hatay** 73.47 304 *e*P P 02 33 45.3 +1.7
SNX **Sinaia** 73.55 316⇓ *i*P P 02 33 46.5 +2.4
SNX **Sinaia** 73.55 316 ⇓P P 02 33 46.5 +2.4
HENT **Hendek** 73.61 310 *i* P P 02 33 42.5 -1.9
KRTS **Karatas** 73.66 304 *e*P P 02 33 45.6 +0.9
VOIR 73.74 317⇑ *i*P P 02 33 46.1 +0.9
VOIR 73.74 317 ⇑P P 02 33 46.1 +0.9
HRY **Holter Researc** 73.74 42 *e*P P 02 33 45.5 +0.3
RAC **Raciborz** 73.80 324 *e*P P 02 33 45.7 +0.2
RAC *e*S S 02 42 46.0 +0.4
RAC MLR MLR
comp=Z,800nm,15.5s
EGMT **Eagleton** 73.84 39 *e*P P 02 33 45.5 -0.3
comp=Z,109nm,0.9s,mb5.6
KECS **Kecovo** 73.89 321 *e*P P 02 33 46.8 +0.8
comp=Z,12nm,0.7s,mb4.8
KECS *e*PP PP 02 36 32.2 -4.5
KECS *e*S S 02 42 48.0 +1.5
RUE **Ruedersdorf** 73.92 327 *e*S S 02 42 42.2 -4.8
RUE **Ruedersdorf** 73.92 327 *e*P P 02 33 46.7 +0.5
comp=Z,130nm,1.3s,mb5.5
DRGR 73.99 319⇑ *i*P P 02 33 47.4 +0.8
DRGR 73.99 319 ⇑P P 02 33 47.4 +0.7
OKC **Ostrava-Krasne** 74.00 323 *e*P P 02 33 47.8 +1.1
OKC *e*x x 02 33 52.4
OKC *e*PP PP 02 36 38.9 +1.3
OKC *e*S S 02 42 45.3 -2.5
PRD **Provadia** 74.00 314 P P 02 33 46.8 +0.1
KSP **Ksiaz** 74.08 325 *e*P P 02 33 47.8 +0.6
KSP *e* 02 33 54.8
KSP *e*PP PP 02 36 39.9 +1.5
KSP *e*S S 02 42 47.8 -0.9
KSP *e*SKS 02 43 18.6
KSP *e*SS SS 02 47 41.5 -1.2
KSP **Ksiaz** 74.08 325 *e*P P 02 33 48.2 +1.0
KSP *e**PP pP 02 35 09.5 -0.8
KSP *e* 02 36 32.6
KSP *e*S S 02 42 47.0 -1.7
KSP **Ksiaz** 74.08 325 *e*P P 02 33 48.2 +1.0
KSP *e*pP pP 02 35 09.5 -0.8
KSP *e*PP PP 02 36 32.6 -5.8
KSP *e*S S 02 42 47.0 -1.7
KSP *e*SS SS 02 47 28.0 -15
KSP *e* 02 53 07.0
BSEG **Bad Segeberg** 74.17 330 *e*P P 02 33 47.2 -0.5
comp=Z,99nm,1.2s,mb5.4
BSEG **Bad Segeberg** 74.17 330 *e*P P 02 33 47.2 -0.5
BSEG pmax pmax
comp=Z,99nm,1.2s,mb5.4
DLMT **Dillon** 74.28 43 *e*P P 02 33 48.4 +0.1
comp=Z,269nm,1.0s,mb5.9
MORC **Moravsky Berou** 74.31 324⇑ *i*P P 02 33 48.7 +0.2
MORC **Moravsky Berou** 74.31 324 *e*P P 02 33 48.2 -0.3
comp=Z,60nm,0.9s,mb5.3
MORC *e*pP pP 02 35 13.6 +1.9
PAHR **Pah Rah Range** 74.35 51 *e*P P 02 33 49.2 +0.5
comp=Z,140nm,1.0s,mb5.6
PAHR *e*PP PP 02 36 41.4 +0.8
DPC **Dobruska-Polom** 74.43 325 *e*P P 02 33 50.6 +1.5
DPC *e*x x 02 33 55.3
DPC *e*pP pP 02 35 13.0 +0.6

DPC eS S 02 42 52.1 -0.5
UPC Upice 74.45 325 eP **P 02 33 50.8 +1.5**
UPC ex x 02 33 54.9
UPC epP pP 02 35 13.3 +0.8
KLBR Kellerberrin 74.46 196 eP **P 02 33 48.1 -1.2**
comp=Z,41nm,1.3s,mb5.0
ESKT Eskisehir 74.49 309 *i* P **P 02 33 48.3 -1.2**
MCMT McKenzie Canyo 74.52 43 eP **P 02 33 49.6 0.0**
HLID Hailey 74.56 45 eP **P 02 33 50.3 +0.4**
comp=Z,78nm,1.0s,mb5.4
PSZ Piszkesteto 74.56 321⇓eP **P 02 33 51.4 +1.5**
PSZ Piszkesteto 74.56 321⇑*i*P **P 02 33 50.2 +0.3**
PSZ Piszkesteto 74.56 321 P **P 02 33 51.7 +1.8**
PSZ Piszkesteto 74.56 321 eP **P 02 33 49.6 -0.3**
comp=Z,106nm,1.0s,mb5.5
PSZ ePP PP 02 36 42.3 -0.2
BOZ Bozeman (W) 74.58 42 eP **P 02 33 50.4 +0.4**
BOZ pmax pmax
comp=Z,80nm,0.9s,mb5.5
BOZ Bozeman (W) 74.58 42 eP **P 02 33 50.4 +0.4**
comp=Z,7.5nm,0.9s,mb4.4
VYHS Vyhne 74.65 322 eP **P 02 33 50.3 -0.1**
VYHS e pP 02 35 15.0 +1.3
VYHS ePP PP 02 36 36.3 -6.8
VYHS eS S 02 42 54.0 -1.0
VYHS Vyhne 74.65 322 eP **P 02 33 50.3 -0.1**
VYHS e pP 02 35 15.0 +1.3
VYHS eS S 02 42 54.0 -1.0
VYHS *e* 02 43 22.1
VYHS pmax pmax
comp=Z,21nm,1.0s,mb4.8
VYHS Vyhne 74.65 322 eP **P 02 33 50.3 -0.1**
comp=Z,21nm,1.0s,mb4.8
VYHS *e* pP 02 35 15.0 +1.3
VYHS ePP PP 02 36 36.3 -6.8
VYHS eS S 02 42 54.0 -1.0
VYHS eScS ScS 02 43 22.1 -4.8
SZH Strazhica 74.75 315 P **P 02 33 53.4 +2.5**
ZIMR 74.79 315⇑*i*P **P 02 33 51.7 +0.5**
CMB Columbia Colle 74.85 53 eP **P 02 33 51.4 -0.1**
CMB pmax pmax
comp=Z,92nm,1.0s,mb5.5
CMB Columbia Colle 74.85 53 eP **P 02 33 51.4 -0.1**
comp=Z,92nm,1.0s,mb5.5
ORE Reay 74.92 339 eP **P 02 33 53.0 +1.1**
ORE Reay 74.92 339 eP **P 02 33 53.0 +1.1**
GZR Gura Zlata 74.93 318⇑*i*P **P 02 33 52.0 0.0**
GZR Gura Zlata 74.93 318⇑P **P 02 33 52.0 0.0**
JMB Yambol 74.94 314 eP **P 02 33 52.1 +0.1**
SAO San Andreas Ge 75.03 54⇑*i*P **P 02 33 52.9 +0.3**
SAO pmax pmax
comp=Z,82nm,1.5s,mb5.2
SAO San Andreas Ge 75.03 54⇑*i*P **P 02 33 52.9 +0.3**
comp=Z,82nm,1.5s,mb5.2
PVCC Panska Ves 75.06 326 eP **P 02 33 52.7 0.0**
PVCC eS S 02 42 58.7 -0.7
BRG Berggiesshubel 75.06 326 eP **P 02 33 52.3 -0.4**
comp=Z,36nm,0.8s,mb5.2
BRG eS S 02 42 55.5 -4.0
BRG Berggiesshubel 75.06 326 *i* P **P 02 33 52.3 -0.4**
comp=Z,3.5nm,0.7s,mb4.2
BRG *i* 02 33 54.2
comp=Z,19nm,1.1s
BRG PCP PcP 02 33 59.9 -4.6
comp=Z,22nm,0.8s
BRG *i* 02 34 10.3
comp=Z,10nm,0.7s
BRG pP pP 02 35 12.3 -3.8
comp=Z,24nm,1.6s
BRG *e* 02 36 14.0
comp=Z,14nm,1.6s
BRG PP PP 02 36 36.0 -11
comp=Z,13nm,1.2s
BRG SKS 02 42 59.4
BRG S S 02 43 01.0 +1.5
BRG SP 02 43 28.0
BRG *e* 02 45 27.0
BRG SS SS 02 47 58.0 +0.6
BRG
comp=Z,503nm,12.0s
BRG
comp=N,421nm,21.1s
BRG
comp=E,359nm,21.1s
BRG Berggiesshubel 75.06 326 *i* P **P 02 33 52.3 -0.4**
BRG *i* 02 34 10.3
BRG *PP pP 02 35 12.3 -3.8
BRG S S 02 43 01.0 +1.5
BRG SP 02 43 28.0
BRG SS SS 02 47 58.0 +0.6
BRG pmax pmax
comp=Z,22nm,0.8s,mb4.9
BRG MLR MLR
comp=Z,503nm,12.0s
BRG MLR MLR
comp=N,421nm,21.1s
BRG MLR MLR
comp=E,359nm,21.1s
BRG Berggiesshubel 75.06 326 *i* P **P 02 33 52.3 -0.4**
comp=E,3.5nm,0.7s,mb4.2
BRG *i* 02 33 54.2
BRG PcP PcP 02 33 59.9 -4.6
BRG *i* 02 34 10.3
BRG pP pP 02 35 12.3 -3.8
BRG *e* 02 36 14.0
BRG PP PP 02 36 36.0 -11
BRG SKS 02 42 59.4
BRG S S 02 43 01.0 +1.5
BRG SP 02 43 28.0
BRG *e* 02 45 27.0
BRG SS SS 02 47 58.0 +0.6
BRG LR LR
comp=Z,500nm,12.0s
ULDT Uludag 75.07 311 *i* P **P 02 33 52.2 -0.5**
VRAC Vranov 75.08 324⇑*i*P **P 02 33 54.9 +2.1**
VRAC Vranov 75.08 324⇑P **P 02 33 54.9 +2.1**
BMN Battle Mountai 75.11 49 P **P 02 33 53.7 +0.7**
BMN pmax pmax
comp=Z,110nm,1.1s,mb5.5
BMN Battle Mountai 75.11 49 eP **P 02 33 53.3 +0.3**
comp=Z,106nm,1.2s,mb5.4
CLL Collm 75.12 327 eP **P 02 33 52.1 -1.0**
comp=Z,118nm,1.4s,mb5.4
CLL eS S 02 42 55.4 -4.8
CLL Collm 75.12 327 eP **P 02 33 52.0 -1.1**
comp=Z,44nm,0.9s,mb5.2
CLL *i* P(2) 02 34 00.2
comp=Z,119nm,1.4s
CLL epP pP 02 35 17.0 +0.5
CLL esP sP 02 35 58.0 +2.0
CLL *i* PP PP 02 36 51.3 +4.2
comp=Z,80nm,1.6s
CLL *i* PPP 02 38 31.4
CLL eS S 02 42 58.0 -2.2
CLL eSKSac SKSac 02 43 24.0 -1.9
CLL eScS ScS 02 43 28.0 -2.0
CLL ex x 02 44 37.0
CLL esS sS 02 45 18.0 -10
CLL eSS SS 02 47 48.0 -10
CLL ex x 02 49 36.0
CLL eSSS 02 51 15.0
CLL eSSSS 02 53 55.0
CLL Collm 75.12 327 eP **P 02 33 52.0 -1.1**
CLL *i* 02 34 00.2
CLL *e*PP pP 02 35 17.0 +0.5
CLL eS S 02 42 58.0 -2.2
CLL *e* 02 43 24.0
CLL *e* 02 43 28.0
CLL pmax pmax
comp=Z,119nm,1.4s,mb5.4
CLL Collm 75.12 327 eP **P 02 33 52.0 -1.1**
comp=Z,119nm,1.4s,mb5.4
CLL *i* 02 34 00.2
CLL epP pP 02 35 17.0 +0.5
CLL eS S 02 42 58.0 -2.2
CLL eSKS 02 43 24.0
CLL eScS ScS 02 43 28.0 -2.0
CLL esS sS 02 45 18.0 -10
ERMK Ermenek 75.13 306 *i* P **P 02 33 51.7 -1.4**
MUN Mundaring 75.16 197⇓*i*P **P 02 34 00.4 +7.1**
MUN eS S 02 43 04.9 +4.3
MUN esS sS 02 45 28.0 -0.7
MUN Mundaring 75.16 197⇓*i*P **P 02 34 00.4 +7.1**
MUN eS S 02 43 04.9 +4.3
QLMT Earthquake Lak 75.25 43 eP **P 02 33 54.0 +0.2**
FBE Freiberg 75.27 326 eP **P 02 33 53.7 -0.2**
comp=Z,171nm,1.5s,mb5.6
FBE epP pP 02 35 18.4 +1.0
SMOL Smolenice 75.28 323 eP **P 02 33 54.3 +0.3**
BUD Budapest 75.29 321⇓eP **P 02 33 55.4 +1.4**
BZS Buzias 75.36 319⇑*i*P **P 02 33 54.0 -0.4**
BZS Buzias 75.36 319 P **P 02 33 56.0 +1.6**
NRDL Niedersach Rie 75.37 329 eP **P 02 33 54.5 0.0**
comp=Z,37nm,1.0s,mb5.1
NRDL eS S 02 42 58.2 -4.6
GCMT Greycliff 75.46 41 eP **P 02 33 55.2 +0.3**
GCMT ePPP PP 02 36 50.4 +0.5
PRU Pruhonice 75.47 325 eP **P 02 33 54.5 -0.5**
PRU *ex* x 02 34 00.0
PRU epP pP 02 35 18.0 -0.5
PRU ePPP PP 02 36 50.6 +0.6
PRU eS S 02 43 02.7 -1.2
ASF Jabal al Asfar 75.49 300 P **P 02 33 55.4 +0.2**
comp=Z,19nm,0.9s,mb4.8,baz=279,slow=1.3,SNR=34
ASF PP PP 02 36 50.9 +0.7
comp=Z,24nm,1.2s,baz=296,slow=1.8,SNR=4.7
ASF Jabal al Asfar 75.49 300 P **P 02 33 55.4 +0.2**
ASF 02 36 50.9
ASF pmax pmax
comp=Z,19nm,0.9s
LRV Little Rabbit 75.52 54 eP **P 02 33 56.3 +1.0**
TREC Trest 75.58 324 eP **P 02 33 57.0 +1.4**
TREC *ex* x 02 34 01.3
YMR Madison River 75.60 43 eP **P 02 33 56.1 +0.4**
comp=Z,96nm,1.0s,mb5.5
MCD Coleburn Disti 75.61 339 eP **P 02 33 57.3 +1.4**
MCD Coleburn Disti 75.61 339 eP **P 02 33 57.3 +1.4**
ZST Bratislava 75.66 323 eP **P 02 33 57.8 +1.7**
ZST *e* pP 02 35 21.0 +1.3
ZST *e* 02 36 46.7
ZST eS S 02 43 06.5 +0.5
ZST pmax pmax
comp=Z,630nm,3.6s
ZST Bratislava 75.66 323 eP **P 02 33 57.8 +1.7**
comp=Z,630nm,3.6s
ZST *e* pP 02 35 21.0 +1.3
ZST ePP PP 02 36 46.7 -4.9
ZST eS S 02 43 06.5 +0.5
YNR Norris Junctio 75.71 42 eP **P 02 33 58.0 +1.6**
MME1 Meikle Cairn 75.77 338 eP **P 02 33 57.1 +0.4**
MME1 Meikle Cairn 75.77 338 eP **P 02 33 57.1 +0.4**
TKTP Tekketepe 75.78 308 *i* P **P 02 33 56.7 0.0**
DIM Dimitrovgrad 75.79 314 P **P 02 33 58.3 +1.5**
ISP Isparta 75.79 308⇑*i*P **P 02 33 58.2 +1.4**
ISP Isparta 75.79 308⇓*i*P **P 02 33 56.5 -0.3**
comp=Z,25nm,0.9s,mb4.9
YFT Old Faithful 75.81 43 eP **P 02 33 59.2 +2.2**
NVAR Mina Array Bea 75.82 51 P **P 02 33 57.9 +0.9**
comp=Z,60nm,0.8s,mb5.4,baz=295,slow=4.5,SNR=108
NVAR PP PP 02 36 58.3 +5.3
comp=Z,2.9nm,0.8s,baz=284,slow=10,SNR=4.0
NWAO Narrogin (SRO) 75.86 196 P **P 02 33 57.3 +0.1**
comp=Z,46nm,1.0s,mb5.2,baz=23,slow=6.0,SNR=8.1
NWAO Narrogin (SRO) 75.86 196 P **P 02 33 57.3 +0.1**
NWAO pmax pmax
comp=Z,46nm,1.0s
BTOK Tokmak 75.96 311 *i* P **P 02 33 58.5 +0.7**
LKWY Lake 75.96 42⇑*i*P **P 02 34 00.2 +2.4**
LKWY pmax pmax
comp=Z,160nm,1.1s,mb5.7
LKWY Lake 75.96 42⇑*i*P **P 02 34 00.2 +2.5**
comp=Z,160nm,1.1s,mb5.7
CSS Prodhromos 75.97 304 eP **P 02 33 57.2 -0.6**
CSS Prodhromos 75.97 304⇓*i*P **P 02 33 57.3 -0.5**
comp=Z,38nm,0.8s,mb5.2
ELK Elko 76.02 48⇑*i*P **P 02 33 59.4 +1.3**
ELK pmax pmax
comp=Z,196nm,1.7s
ELK Elko 76.02 48 P **P 02 34 00.5 +2.4**
ELK *e* 02 34 10.3
ELK pmax pmax
comp=Z,200nm,1.7s
ELK Elko 76.02 48⇑*i*P **P 02 33 59.4 +1.3**
comp=Z,196nm,1.7s,mb5.6
TANN Tannenbergstha 76.03 327 eP **P 02 33 57.8 -0.3**
comp=Z,39nm,1.3s,mb5.0
TANN eS S 02 43 05.3 -4.7
WERD Werda 76.06 327 eP **P 02 33 58.5 +0.1**
comp=Z,73nm,1.6s,mb5.2
DGMT Dagmar 76.09 36 eP **P 02 33 57.9 -0.6**
comp=Z,159nm,1.1s,mb5.7
GUNZ Gunzen 76.12 327 eP **P 02 33 58.3 -0.4**
comp=Z,28nm,0.8s,mb5.0
KDZ Kurdzhali 76.13 314 P **P 02 33 59.6 +0.9**
RLMT Red Lodge 76.13 41 eP **P 02 33 59.1 +0.4**
FLWY Flagg Ranch 76.14 43 eP **P 02 34 00.2 +1.4**
comp=Z,321nm,1.4s,mb5.9
IMW Indian Meadow 76.15 43 eP **P 02 33 59.5 +0.7**
comp=Z,172nm,1.1s,mb5.7
WERN Wernitzgruen 76.16 327 eP **P 02 33 58.6 -0.3**
comp=Z,32nm,0.8s,mb5.1
GTTG Gvttingen 76.16 329 epP pP 02 35 27.5 +4.9
GTTG eS S 02 43 06.1 -5.3
NKC Novy Kostel 76.17 326 eP **P 02 33 59.0 +0.1**
NKC *e*PCP PcP 02 34 06.1 -3.1
NKC eS S 02 43 09.6 -1.9
PGB Panagyurishte 76.18 315 eP **P 02 34 00.0 +1.0**
MOX Moxa 76.20 327 eP **P 02 33 58.8 -0.3**
comp=Z,42nm,1.2s,mb5.0
MOX eS S 02 43 08.2 -3.6
MOX Moxa 76.20 327 eP **P 02 34 00.0 +0.9**
MOX *e* 02 34 06.5
comp=Z,57nm,1.6s
MOX *e* 02 36 46.3
MOX
comp=Z,600nm,18.0s
PLD Plovdiv 76.20 314 P **P 02 33 59.2 +0.1**
KAC Achnashellach 76.24 340 eP **P 02 33 59.6 +0.3**
KAC Achnashellach 76.24 340 eP **P 02 33 59.6 +0.3**
SOP Sopron 76.29 323⇓eP **P 02 34 01.4 +1.8**
ALN Alexandroupoli 76.30 313 eP **P 02 34 00.1 +0.4**
RRI2 Red Ridge 76.34 44 eP **P 02 34 01.0 +1.1**
comp=Z,98nm,0.8s,mb5.6
MOOW Moose Ponds 76.35 43 eP **P 02 34 01.8 +1.9**
comp=Z,156nm,1.1s,mb5.7
PKSM Moragy 76.39 321⇑*i*P **P 02 34 01.3 +1.1**
PKSM Moragy 76.39 321⇑P **P 02 34 01.3 +1.1**
WIT Witteveen 76.41 331 eP **P 02 34 02.3 +2.0**
comp=Z,142nm,1.1s,mb5.6
WIT *ex* x 02 34 07.8
comp=Z,365nm,1.5s
IBBN Ibbenburen 76.41 330 eP **P 02 33 59.6 -0.7**
comp=Z,161nm,1.8s,mb5.5
IBBN eS S 02 43 07.9 -6.2
CONA Conrad Observa 76.42 323⇑*i*P **P 02 34 00.8 +0.4**
comp=Z,52nm,1.6s,mb5.0,SNR=15
TPAW Teton Pass 76.43 43 eP **P 02 34 01.2 +0.8**
comp=Z,87nm,1.1s,mb5.4
KPL Plockton 76.47 340 eP **P 02 34 01.3 +0.6**
KPL AMb AMB 02 34 09.4
comp=Z,145nm,1.1s,mb5.6
KPL Plockton 76.47 340 eP **P 02 34 01.3 +0.6**
KPL AMb AMB 02 34 09.4
comp=Z,145nm,1.1s,mb5.6
LAO LASA Array 76.48 39 eP **P 02 34 00.5 -0.1**
comp=Z,258nm,1.5s,mb5.7
LAO epP pP 02 35 23.0 -1.4
RZN Rozhen 76.48 314 P **P 02 34 01.7 +1.0**
MANZ Manzenberg 76.50 326 eP **P 02 34 00.5 -0.3**
comp=Z,23nm,0.8s,mb5.0
MANZ eS S 02 43 11.9 -3.2
PTRM Twissleman Ran 76.51 54 eP **P 02 34 01.4 +0.5**
LOHW Long Hollow 76.52 43 eP **P 02 34 01.5 +0.6**
comp=Z,216nm,1.6s,mb5.6
KHC Kasperske Hory 76.53 325 eP **P 02 34 00.6 -0.3**
KHC *ex* x 02 34 06.2
KHC epP pP 02 35 24.9 +0.2
KHC *e*PP PP 02 37 00.7 +1.9
KHC eS S 02 43 13.3 -2.1
SNOW Snow King Moun 76.55 43 eP **P 02 34 02.3 +1.3**
comp=Z,122nm,1.1s,mb5.5
REDW Red Top Meadow 76.57 43 eP **P 02 34 02.0 +0.8**
comp=Z,95nm,1.1s,mb5.4
ROTZ Rotzenmuhle 76.63 326 eP **P 02 34 01.6 +0.1**
comp=Z,51nm,1.1s,mb5.2
ROTZ epP pP 02 35 27.3 +2.0
ROTZ eS S 02 43 15.5 -0.9
HVU Hansel Valley 76.66 46 eP **P 02 34 01.9 +0.2**
HVU *e* 02 36 57.5
HVU pmax pmax
comp=Z,92nm,1.2s,mb5.4
HVU Hansel Valley 76.66 46 P **P 02 34 03.8 +2.1**
HVU pmax pmax
comp=Z,92nm,1.2s,mb5.4
HVU Hansel Valley 76.66 46 eP **P 02 34 01.9 +0.3**
comp=Z,92nm,1.2s,mb5.4
HVU ePP PP 02 36 57.5 -2.4
VTS Vitosha 76.66 315 eP **P 02 34 01.8 +0.1**
VTS Vitosha 76.66 315⇑*i*P **P 02 34 02.2 +0.5**
VTS Vitosha 76.66 315 *i* P **P 02 34 02.0 +0.3**
AKHS Akhisar 76.68 310 *i* P **P 02 33 59.1 -2.7**
GEC2 GERESS Array S 76.69 325 eP **P 02 34 01.4 -0.4**
comp=Z,25nm,0.7s,mb5.0
GEC2 epP pP 02 35 26.4 +0.8
GEC2 GERESS Array S 76.69 325 eP **P 02 34 01.4 -0.4**
GEC2 *e*PP pP 02 35 26.4 +0.8
GEC2 pmax pmax
comp=Z,25nm,0.7s,mb5.0
GERES GERESS Array B 76.69 325 P **P 02 34 01.1 -0.7**
comp=Z,11nm,0.8s,mb4.7,baz=35,slow=5.7,SNR=60
GERES PP PP 02 36 56.4 -3.8
comp=Z,5.2nm,0.8s,baz=45,slow=6.8,SNR=3.5
GERES GERESS Array B 76.69 325 P **P 02 34 01.1 -0.7**
GERES 02 36 56.4
GERES pmax pmax
comp=Z,11nm,0.8s
TPH Tonopah 76.69 51 eP **P 02 34 02.4 +0.6**
TPH pmax pmax
comp=Z,118nm,1.0s,mb5.6
TPH Tonopah 76.69 51 eP **P 02 34 02.4 +0.6**
comp=Z,118nm,1.0s,mb5.6
UBBA Unterbreizbach 76.72 328 eP **P 02 34 01.4 -0.6**
comp=Z,19nm,0.9s,mb4.8
UBBA eS S 02 43 14.2 -3.2
GOLH Golhisar 76.76 308 *i* P **P 02 34 00.2 -2.0**
WET Wettzell 76.82 325 eP **P 02 34 02.5 0.0**
comp=Z,43nm,1.0s,mb5.1
WET eS S 02 43 15.1 -3.4
WET Wettzell 76.82 325 eP **P 02 34 02.5 0.0**
WET eS S 02 43 15.1 -3.4
WET pmax pmax
comp=Z,43nm,1.0s,mb5.1
AHID Auburn Hatcher 76.86 44 eP **P 02 34 02.9 +0.1**
comp=Z,172nm,1.6s,mb5.5
ESY Stoneypath 76.87 337 eP **P 02 34 03.0 +0.2**
ESY Stoneypath 76.87 337 eP **P 02 34 03.0 +0.2**
KAR1 Arisaig 76.89 340 eP **P 02 34 04.2 +1.3**
KAR1 Arisaig 76.89 340 eP **P 02 34 04.2 +1.3**
BOZC Bozcaada 77.02 312 *i* P **P 02 34 02.0 -1.7**
EDI Edinburgh 77.03 338 eP **P 02 34 04.2 +0.5**
EDI AMb AMB 02 34 13.8
comp=Z,44nm,1.4s,mb5.0
EDI Edinburgh 77.03 338 eP **P 02 34 04.2 +0.5**
EDI AMb AMB 02 34 13.8
comp=Z,44nm,1.4s,mb5.0
WTSB Winterswijk 77.04 330⇓*i*P **P 02 34 04.6 +0.8**
comp=Z,44nm,1.4s,mb5.0
WTSB ⇑*ix* x 02 34 09.6
comp=Z,78nm,1.6s
ARSA Arzberg 77.08 323⇑*i*P **P 02 34 04.1 +0.1**
comp=Z,266nm,3.5s,SNR=18
MMB Musomiste 77.09 314 eP **P 02 34 04.1 +0.1**
MMB Musomiste 77.09 314 P **P 02 34 03.7 -0.3**
GRA1 Grafenberg Arr 77.09 327 eP **P 02 34 04.1 0.0**
comp=Z,77nm,0.7s,mb5.5
GRA1 epP pP 02 35 29.7 +1.7
GRA1 eS S 02 43 18.3 -3.1
GRF Grafenberg Arr 77.09 327 eP **P 02 34 04.1 0.0**
comp=Z,77nm,0.7s,mb5.5
GRF epP pP 02 35 29.7 +1.7
GRF eS S 02 43 18.3 -3.1
GRF Grafenberg Arr 77.09 327 eP **P 02 34 04.1 0.0**
GRF *e*PP pP 02 35 29.7 +1.7
GRF eS S 02 43 18.3 -3.1
GRF pmax pmax
comp=Z,77nm,0.7s,mb5.5
GRF Grafenberg Arr 77.09 327 eP **P 02 34 04.1 0.0**
GRF *e*PP pP 02 35 29.7 +1.7
GRF eS S 02 43 18.3 -3.1
GRF pmax pmax
comp=Z,77nm,0.7s,mb5.5
BGU Big Grassy Mou 77.11 46 eP **P 02 34 04.7 +0.6**
EBL Broad Law 77.12 338 eP **P 02 34 04.9 +0.7**
EBL Broad Law 77.12 338 eP **P 02 34 04.9 +0.7**
EAB Aberfoyle 77.12 338 eP **P 02 34 04.6 +0.4**
EAB Aberfoyle 77.12 338 eP **P 02 34 04.6 +0.4**
XSO Sourhope Farm 77.13 337 eP **P 02 34 04.7 +0.4**
XSO Sourhope Farm 77.13 337 eP **P 02 34 04.7 +0.4**
SPUT South Promonto 77.16 46⇑*i*P **P 02 34 04.8 +0.4**
MOA Moiln 77.19 324⇑*i*P **P 02 34 05.3 +0.6**
comp=Z,468nm,4.0s,SNR=7.3
KKB Krupnik 77.24 315 *i* P **P 02 34 05.4 +0.5**
DIVS Divcibare 77.25 318 eP **P 02 34 05.4 +0.4**
BUG Bochum--Univer 77.28 330 eP **P 02 34 04.8 -0.3**
comp=Z,59nm,0.9s,mb5.3
BUG eS S 02 43 18.4 -5.1
CNB Canberra Magne 77.31 169 eP **P 02 34 06.5 +1.2**
comp=Z,15nm,1.1s,mb4.6
KDAG Bornova 77.31 310 *i* P **P 02 34 06.1 +0.8**
AKAS Kas 77.40 307 *i* P **P 02 34 03.5 -2.3**
HWUT Hardware Ranch 77.43 45⇑*i*P **P 02 34 07.2 +1.3**
comp=Z,97nm,1.0s,mb5.5
TRCR Troy Canyon 77.45 50⇑*i*P **P 02 34 07.0 +1.0**
AYDN Tasoluk 77.46 309 *i* P **P 02 34 05.4 -0.7**
PGBU Glenifferbraes 77.49 338 eP **P 02 34 06.4 +0.2**
PGBU AMb AMB 02 34 15.0
comp=Z,54nm,1.3s,mb5.1
PGBU Glenifferbraes 77.49 338 eP **P 02 34 06.4 +0.2**
PGBU AMb AMB 02 34 15.0
comp=Z,54nm,1.3s,mb5.1
ESK Eskdalemuir 77.56 337 eP **P 02 34 07.3 +0.7**
ESK AMb AMB 02 34 15.2
comp=Z,63nm,1.5s,mb5.1
ESK Eskdalemuir 77.56 337 eP **P 02 34 07.3 +0.7**
ESK AMb AMB 02 34 15.2
comp=Z,63nm,1.5s,mb5.1
ESK Eskdalemuir 77.56 337 eP **P 02 34 07.0 +0.4**
ESK pmax pmax
comp=Z,63nm,1.4s,mb5.2
ESK Eskdalemuir 77.56 337 eP **P 02 34 07.0 +0.4**
comp=Z,63nm,1.4s,mb5.2
ECK Cauldkaine Hil 77.65 337 eP **P 02 34 07.4 +0.3**
ECK Cauldkaine Hil 77.65 337 eP **P 02 34 07.4 +0.3**
BW06 Boulder Array 77.66 43 eP **P 02 34 06.8 -0.3**
comp=Z,115nm,1.0s,mb5.6
PDAR Pinedale Array 77.66 43 P **P 02 34 07.0 -0.2**
comp=Z,85nm,0.9s,mb5.5,baz=332,slow=1.4,SNR=198
PERS Pernice 77.72 323 *i* P **P 02 34 07.4 -0.1**
PERS *i* 02 34 14.9
PERS *i* PP PP 02 37 11.9 +3.1
DUG Dugway 77.74 47 eP **P 02 34 07.9 +0.3**
DUG *e*PP pP 02 35 33.1 +1.4
DUG *e* 02 37 12.1
DUG pmax pmax
comp=Z,62nm,0.9s,mb5.3
DUG Dugway 77.74 47 eP **P 02 34 07.8 +0.2**
comp=Z,62nm,0.9s,mb5.3
DUG epP pP 02 35 33.1 +1.4
DUG ePP PP 02 37 12.1 +3.2
TNS Taunus Mts 77.80 328 eP **P 02 34 07.5 -0.4**
comp=Z,33nm,0.9s,mb5.1
TNS ePcP PcP 02 34 15.5 -0.8
TNS eS S 02 43 25.1 -3.8
TNS Taunus Mts 77.80 328 eP **P 02 34 07.5 -0.4**
TNS *e* 02 34 15.5
TNS eS S 02 43 25.1 -3.8
TNS pmax pmax
comp=Z,33nm,0.9s,mb5.1
NOQ North Oquirrh 77.80 46⇑*i*P **P 02 34 09.4 +1.5**
comp=Z,128nm,1.1s,mb5.6
OUR Ouranopolis 77.83 313 eP **P 02 34 08.9 +0.9**
KNT Kendrikon 77.83 315 eP **P 02 34 07.4 -0.7**
STIP Stip 77.83 315 eP **P 02 34 07.6 -0.5**
STIP Stip 77.83 315 *i* P **P 02 34 07.3 -0.8**
STIP ePcP PcP 02 34 13.6 -2.9
TCUT Toone Canyon 77.86 45 eP **P 02 34 09.1 +0.8**
TCUT epP pP 02 35 38.5 +6.2
VAY Valandovo 77.89 315 eP **P 02 34 08.3 -0.2**
VAY Valandovo 77.89 315⇑*i*P **P 02 34 09.5 +1.1**
VAY ePcP PcP 02 34 14.3 -2.4
CTU Camp Tracy 77.97 46⇑*i*P **P 02 34 09.8 +0.9**

comp=Z,88nm,1.1s,mb5.4
SKO Skopje 78.03 316 *i* P **P 02 34 11.8 +2.6**
SKO *e*PcP PcP 02 34 16.0 -1.3
OBKA Obir 78.08 323 ⇓*i*P **P 02 34 09.9 +0.4**
comp=Z,187nm,2.7s,mb5.3
PLE Plјevlja 78.10 318 ⇓*i*P **P 02 34 10.3 +0.7**
BDRM Kayabasi 78.12 309 *i* P **P 02 34 07.5 -2.1**
TOD Tromm 78.14 328 *e*P **P 02 34 11.0 +1.2**
CKE Keswick 78.16 337 *e*P **P 02 34 10.4 +0.5**
CKE Keswick 78.16 337 *e*P **P 02 34 10.4 +0.5**
IVA Berane 78.18 317 ⇓*i*P **P 02 34 10.6 +0.6**
KBA Koelnbreinsper 78.19 324 ⇑*i*P **P 02 34 10.5 +0.4**
comp=Z,105nm,1.9s,mb5.2,SNR=12
KBA Koelnbreinsper 78.19 324 ⇑*i*P **P 02 34 10.5 +0.5**
KBA pmax pmax
comp=Z,105nm,1.9s,mb5.2
ULM Lac du Bonnet 78.20 31 P **P 02 34 08.9 -1.2**
comp=Z,54nm,0.6s,mb5.4,baz=325,slow=5.5,SNR=70
ULM Lac du Bonnet 78.20 31 *e*P **P 02 34 08.7 -1.3**
comp=Z,163nm,1.1s,mb5.7
PDKS Podkum 78.21 322 *i* P **P 02 34 09.6 -0.5**
GRG Griva 78.24 315 *e*P **P 02 34 10.8 +0.4**
FUR Furstenfeldbru 78.25 326 *e*P **P 02 34 10.6 +0.2**
comp=Z,109nm,0.9s,mb5.6
FUR *e*PcP PcP 02 34 18.2 -0.1
FUR *e*S S 02 43 29.7 -4.0
FUR Furstenfeldbru 78.25 326 *e*P **P 02 34 10.6 +0.2**
FUR *e* 02 34 18.2
FUR *e*S S 02 43 29.7 -4.0
FUR pmax pmax
comp=Z,109nm,0.9s,mb5.6
PAIG Paliouri 78.28 313 *e*P **P 02 34 11.1 +0.6**
NLU North Lily Min 78.31 47 ⇑*i*P **P 02 34 11.8 +1.1**
HGN Heimansgroeve 78.33 330 ⇓*i*P **P 02 34 11.5 +0.6**
comp=Z,24nm,1.3s,mb4.8
HGN ⇑*i*x x 02 34 17.1
comp=Z,51nm,1.5s
HGN *i*S S 02 43 31.9 -2.6
PVY Plav 78.34 317 ⇓*i*P **P 02 34 10.5 -0.4**
XDE Dent Fell 78.34 337 *e*P **P 02 34 11.8 +0.9**
XDE Dent Fell 78.34 337 *e*P **P 02 34 11.8 +0.9**
GAL1 Galloway 78.38 338 P **P 02 34 11.2 +0.1**
GAL1 AMb AMB 02 34 18.2
comp=Z,57nm,1.6s,mb5.1
GAL1 Galloway 78.38 338 *e*P **P 02 34 10.9 -0.2**
GAL1 *e*P 02 34 11.2
GAL1 AMb AMB 02 34 18.2
comp=Z,57nm,1.6s,mb5.1
GAL1 Galloway 78.38 338 *e*P **P 02 34 10.9 -0.2**
GAL1 *e*P 02 34 11.2
GAL1 AMb AMB 02 34 18.2
comp=Z,57nm,1.6s,mb5.1
BEBN Eben Emael 78.40 330 P **P 02 34 11.9 +0.7**
ABH Alteburg 78.42 329 *e*P **P 02 34 12.5 +1.2**
MEM Membach 78.43 330 P **P 02 34 12.3 +1.0**
LJU Ljubljana 78.44 323 *i* P **P 02 34 12.4 +1.0**
LJU *i* 02 34 18.8
LJU *e*PP PP 02 37 17.6 +2.9
LJU *e*S S 02 43 33.4 -2.3
LJU *e* 02 44 15.1
LJU *e* 02 45 17.3
LJU Ljubljana 78.44 323 *i* P **P 02 34 12.4 +1.0**
LJU *i* 02 34 18.8
LJU *e* 02 37 17.6
LJU *e*S S 02 43 33.4 -2.3
LJU *e* 02 44 15.1
UPM Unac-Piva 78.44 318 ⇓*i*P **P 02 34 11.5 +0.1**
BOJS Bojanci 78.51 322 *e*P **P 02 34 12.7 +1.0**
BOJS *e* 02 34 19.2
BOJS *e*PP PP 02 37 17.6 +2.3
BOJS *e*S S 02 43 33.5 -2.9
MPU Maple Canyon 78.51 46 *e*P **P 02 34 12.4 +0.6**
comp=Z,112nm,1.0s,mb5.5
GCL Cushendall 78.59 339 *e*P **P 02 34 12.5 +0.3**
GCL Cushendall 78.59 339 *e*P **P 02 34 12.5 +0.3**
STU Stuttgart 78.64 327 *e*P **P 02 34 12.4 -0.1**
comp=Z,104nm,1.2s,mb5.4
STU *e*PcP PcP 02 34 20.0 0.0
STU Stuttgart 78.64 327 *e*P **P 02 34 13.0 +0.5**
STU pmax pmax
comp=Z,67nm,1.0s,mb5.3
STU Stuttgart 78.64 327 *e*P **P 02 34 13.0 +0.5**
comp=Z,67nm,1.0s,mb5.3
NKY Niksic 78.68 318 ⇓*i*P **P 02 34 12.3 -0.4**
AOS Alonnisos 78.69 313 *e*P **P 02 34 12.3 -0.5**
VOY Vojsko 78.74 323 *e*P **P 02 34 11.6 -1.4**
VOY *e* 02 34 19.5
VOY *e* 02 34 21.3
WATA Walderalm 78.76 325 ⇓*i*P **P 02 34 14.5 +1.3**
comp=Z,28nm,1.2s,mb4.9
WATA Walderalm 78.76 325 ⇓*i*P **P 02 34 14.5 +1.3**
WATA pmax pmax
comp=Z,28nm,1.2s,mb4.9
BIA Bitola 78.77 315 *e*P **P 02 34 12.9 -0.3**
BIA Bitola 78.77 315 ⇑*i*P **P 02 34 13.4 +0.2**
BIA *e*PcP PcP 02 34 19.1 -1.5
WTTA Wattenberg 78.79 325 ⇑*i*P **P 02 34 13.6 +0.2**
comp=Z,284nm,2.9s,mb5.5,SNR=8.9
WTTA Wattenberg 78.79 325 ⇑*i*P **P 02 34 13.6 +0.3**
WTTA pmax pmax
comp=Z,285nm,2.9s,mb5.5
LIT Litokhoron 78.80 314 *e*P **P 02 34 13.7 +0.4**
TTG Podgorica 78.83 318 ⇓*i*P **P 02 34 13.5 0.0**
KBI1 Birley Grange 78.83 335 *e*P **P 02 34 13.1 -0.4**
KBI1 Birley Grange 78.83 335 *e*P **P 02 34 13.1 -0.4**
BRY Bratogost 78.84 318 ⇓*i*P **P 02 34 12.0 -1.6**
BCLA Clavier 78.85 330 P **P 02 34 12.7 -0.9**
BCLA E PcP 02 34 19.9 -0.9
UCC Uccle 78.89 331 E 02 34 20.1
FNA Florina 78.91 315 *e*P **P 02 34 14.4 +0.4**
XOR Xorichti 78.94 313 *e*P **P 02 34 13.2 -0.9**
MOTA Moosalm 78.96 325 ⇑*i*P **P 02 34 14.0 -0.2**
comp=Z,77nm,1.4s,mb5.2,SNR=11
MOTA Moosalm 78.96 325 ⇑*i*P **P 02 34 14.0 -0.2**
MOTA pmax pmax
comp=Z,77nm,1.4s,mb5.2
OHR Ohrid 78.98 316 ⇑*i*P **P 02 34 15.0 +0.7**
OHR *e*PcP PcP 02 34 19.8 -1.6
SQTA Sankt Quirin 79.01 325 *i* P **P 02 34 14.4 -0.1**
comp=Z,100nm,1.6s,mb5.3,SNR=10
SQTA Sankt Quirin 79.01 325 *i* P **P 02 34 14.4 -0.1**
SQTA pmax pmax
comp=Z,100nm,1.6s,mb5.3
LANF Langenberg 79.04 328 *e*P **P 02 34 15.9 +1.3**
TOO Toolangi 79.05 172 ⇑*i*P **P 02 34 16.3 +1.6**
comp=Z,22nm,0.9s,mb4.9
TOO *e*PCP PcP 02 34 27.8 +6.1
TOO *e*sS sS 02 46 19.8 +7.9
TOO Toolangi 79.05 172 ⇑*i*P **P 02 34 16.3 +1.6**
TOO *e* 02 34 27.8
TOO pmax pmax
comp=Z,22nm,0.9s,mb4.9
ARUT Antelope Range 79.07 49 *e*P **P 02 34 16.0 +1.2**
BUM Brajici-Budva 79.10 318 ⇓*i*P **P 02 34 14.7 -0.3**
KWE Weaver Farm 79.13 335 *e*P **P 02 34 16.0 +0.8**
KWE Weaver Farm 79.13 335 *e*P **P 02 34 16.0 +0.8**
WLF Walferdange 79.14 329 *e*P **P 02 34 14.9 -0.3**
comp=Z,30nm,0.9s,mb5.0
WLF *e*PcP PcP 02 34 22.1 0.0
WLF *e*S S 02 43 35.0 -8.0
WLF Walferdange 79.14 329 P **P 02 34 16.2 +1.0**
WLF Walferdange 79.14 329 *e*P **P 02 34 14.2 -1.0**
WLF pmax pmax
comp=Z,21nm,0.8s,mb4.9
WLF Walferdange 79.14 329 *e*P **P 02 34 14.2 -1.0**
comp=Z,21nm,0.8s,mb4.9
SNF Seneffe 79.15 331 P **P 02 34 21.6 +6.4**
ULC Ulcinj 79.17 317 ⇓*i*P **P 02 34 15.6 +0.2**
HCY Herceg Novi 79.20 318 ⇓*i*P **P 02 34 15.5 0.0**
TMUT Trail Mountain 79.25 47 ⇑*i*P **P 02 34 17.0 +1.2**
TMUT *e*PP PP 02 37 24.3 +2.9
MSU Marysvale 79.27 48 *e*P **P 02 34 16.7 +0.8**
MSU *e* 02 37 25.8
CCUT Cedar City 79.28 49 ⇑*i*P **P 02 34 17.3 +1.4**
GMM Mts of Mourne 79.28 338 *e*P **P 02 34 15.7 -0.3**
GMM Mts of Mourne 79.28 338 *e*P **P 02 34 15.7 -0.3**
GIVF Givet 79.28 330 *e*P **P 02 34 14.7 -1.3**
comp=Z,65nm,0.9s,mb5.1
GIVF Givet 79.28 330 *e*P **P 02 34 14.7 -1.3**
GIVF pmax pmax
comp=Z,32nm,0.9s,mb5.0
GIVF Givet 79.28 330 *e*P **P 02 34 14.7 -1.3**
comp=Z,32nm,0.9s,mb5.0
SPAK Spaichingen-Ko 79.34 327 *e*P **P 02 34 17.6 +1.3**
BFO Black Forest 79.35 327 P **P 02 34 17.6 +1.3**
comp=Z,533nm,0.9s,mb6.3,SNR=11
BFO Black Forest 79.35 327 *e*P **P 02 34 16.1 -0.2**
comp=Z,119nm,1.1s,mb5.5
BFO *e*PcP PcP 02 34 23.2 +0.2
BFO *e*pP pP 02 35 42.9 +2.2
BFO *e*S S 02 43 38.9 -6.3
BFO Black Forest 79.35 327 *e*P **P 02 34 16.1 -0.2**
BFO *e* 02 34 23.2
BFO *e**PP pP 02 35 42.9 +2.2
BFO *e*S S 02 43 38.9 -6.3
BFO pmax pmax
comp=Z,119nm,1.1s,mb5.5
DOU Dourbes 79.37 330 P **P 02 34 17.4 +0.9**
DOU E 02 34 22.0
RSSD Black Hills 79.41 39 ⇑*i*P **P 02 34 17.1 +0.5**
RSSD pmax pmax
comp=Z,168nm,1.3s,mb5.6
RSSD Black Hills 79.41 39 ⇑*i*P **P 02 34 17.1 +0.5**
comp=Z,168nm,1.3s,mb5.6
DAVA Damuels 79.53 326 ⇑*i*P **P 02 34 17.2 0.0**
comp=Z,450nm,3.7s,SNR=18
BAIF Baives 79.55 331 *e*P **P 02 34 16.2 -1.2**
comp=Z,36nm,0.8s,mb4.8
BAIF Baives 79.55 331 *e*P **P 02 34 16.2 -1.2**
BAIF pmax pmax
comp=Z,18nm,0.8s,mb4.8
BAIF Baives 79.55 331 *e*P **P 02 34 16.2 -1.2**
comp=Z,18nm,0.8s,mb4.8
RWWY Rawlins 79.64 43 *e*P **P 02 34 17.5 -0.4**
comp=Z,166nm,1.1s,mb5.7
AGG Agios Georgios 79.65 313 *e*P **P 02 34 16.0 -1.9**
SBD1 Bryn Du 79.66 336 *e*P **P 02 34 17.8 -0.1**
SBD1 Bryn Du 79.66 336 *e*P **P 02 34 17.8 -0.1**
WLS Welschbruch 79.67 328 *e*P **P 02 34 18.8 +0.8**
CDF Champ du Feu 79.70 328 *e*P **P 02 34 17.4 -0.8**
comp=Z,76nm,0.8s,mb5.2
CDF Champ du Feu 79.70 328 *e*P **P 02 34 17.4 -0.8**
CDF pmax pmax
comp=Z,38nm,0.8s,mb5.2
CDF Champ du Feu 79.70 328 *e*P **P 02 34 17.4 -0.8**
comp=Z,38nm,0.8s,mb5.2
SRU San Rafael 79.76 46 *e*P **P 02 34 18.6 +0.1**
SRU *e* 02 37 26.7
SRU pmax pmax
comp=Z,67nm,0.8s,mb5.4
SRU San Rafael 79.76 46 *e*P **P 02 34 18.6 +0.2**
comp=Z,67nm,0.8s,mb5.4
SRU *e*PP PP 02 37 26.7 +1.1
LIBD Limburg 79.78 328 *e*P **P 02 34 20.0 +1.4**
FELD Feldberg im Sc 79.84 327 *e*P **P 02 34 20.0 +1.1**
SKP1 Kophill 79.90 334 *e*P **P 02 34 18.3 -1.0**
SKP1 Kophill 79.90 334 *e*P **P 02 34 18.3 -1.0**
ECH Echery 79.91 328 *e*P **P 02 34 20.0 +0.7**
PFO Pinyon Flat Ob 80.18 54 P **P 02 34 20.6 -0.1**
comp=Z,417nm,0.9s,mb6.2,SNR=16
PFO Pinyon Flat Ob 80.18 54 *e*P **P 02 34 20.5 -0.2**
PFO pmax pmax
comp=Z,76nm,1.0s,mb5.4
PFO Pinyon Flat Ob 80.18 54 *e*P **P 02 34 20.5 -0.2**
comp=Z,76nm,1.0s,mb5.4
MOF Molkenrain 80.21 328 *e*P **P 02 34 21.7 +0.8**
DLF Lyons Farm 80.28 338 ⇓*i*P **P 02 34 28.1 +6.9**
DLF Lyons Farm 80.28 338 *e*P **P 02 34 18.3 -2.9**
DLF ⇓*i*P 02 34 28.1
HINF Hinteralfeld 80.35 328 *e*P **P 02 34 20.5 -1.1**
comp=Z,37nm,0.6s,mb5.0
HINF Hinteralfeld 80.35 328 *e*P **P 02 34 20.5 -1.1**
HINF pmax pmax
comp=Z,18nm,0.6s,mb5.0
HINF Hinteralfeld 80.35 328 *e*P **P 02 34 20.5 -1.1**
comp=Z,18nm,0.6s,mb5.0
THEF They Montfort 80.36 329 *e*P **P 02 34 22.7 +1.0**
IGT Igoumenitsa 80.37 315 *e*P **P 02 34 21.5 -0.2**
MCH1 Michaelchurch 80.37 336 *e*P **P 02 34 22.0 +0.3**
MCH1 Michaelchurch 80.37 336 *e*P **P 02 34 22.0 +0.3**
HTR Trewern Hill 80.38 336 *e*P **P 02 34 22.0 +0.2**
HTR Trewern Hill 80.38 336 *e*P **P 02 34 22.0 +0.2**
HAU Haudompre 80.40 328 *e*P **P 02 34 20.8 -1.1**
comp=Z,72nm,0.6s,mb5.3
HAU *e*R
comp=Z,375nm,20.8s
HAU Haudompre 80.40 328 *e*P **P 02 34 20.8 -1.1**
HAU pmax pmax
comp=Z,36nm,0.6s,mb5.3
HAU MLR MLR
comp=Z,380nm,20.8s
HAU Haudompre 80.40 328 *e*P **P 02 34 20.8 -1.1**
comp=Z,36nm,0.6s,mb5.3
HAU LR LR
comp=Z,380nm,20.8s
DCN Croghan 80.44 339 ⇓*i*P **P 02 34 29.0 +6.9**
DCN Croghan 80.44 339 *e*P **P 02 34 19.4 -2.7**
DCN ⇓*i*P 02 34 29.0
MEZF Maizieres J'vi 80.50 329 *e*P **P 02 34 22.0 -0.4**
comp=Z,244nm,1.2s,mb5.5
MEZF *e*pP pP 02 35 48.4 +1.3
MEZF Maizieres J'vi 80.50 329 *e*P **P 02 34 22.0 -0.4**
comp=Z,244nm,1.2s,mb5.8
MEZF *e*pP pP 02 35 48.4 +1.3
HGH Gray Hill 80.62 335 *e*P **P 02 34 23.1 +0.1**
HGH Gray Hill 80.62 335 *e*P **P 02 34 23.1 +0.1**
LOMF Lomont 80.74 328 *e*P **P 02 34 24.6 +1.0**
PHWY Pilot Hill 80.82 42 ⇑*i*P **P 02 34 24.6 +0.6**
SWK Warminster 80.86 335 *e*P **P 02 34 24.6 +0.3**
SWK Warminster 80.86 335 *e*P **P 02 34 24.6 +0.3**
SIVA Sivas 81.08 309 *e*P **P 02 34 24.8 -0.6**
PV10 Paradox Valley 81.09 46 *e*P **P 02 34 26.2 +0.8**
KARN Karanos 81.32 310 *e*P **P 02 34 26.9 +0.2**
HEX Exmoor 81.42 336 *e*P **P 02 34 26.5 -0.7**
HEX Exmoor 81.42 336 *e*P **P 02 34 26.5 -0.7**
PV01 Paradox Valley 81.52 46 *e*P **P 02 34 28.2 +0.5**
SMCO Snowmass 81.61 44 *e*P **P 02 34 28.6 +0.4**
comp=Z,55nm,0.8s,mb5.4
GVD Gavdhos 81.62 309 *e*P **P 02 34 27.1 -1.2**
comp=Z,85nm,0.9s,mb5.6
CABF La Chapelle 81.63 328 *e*P **P 02 34 27.5 -0.8**
comp=Z,27nm,0.6s,mb5.0
CABF La Chapelle 81.63 328 *e*P **P 02 34 27.5 -0.8**
CABF pmax pmax
comp=Z,13nm,0.6s,mb4.9
CABF La Chapelle 81.63 328 *e*P **P 02 34 27.5 -0.8**
comp=Z,13nm,0.6s,mb5.0
HTL Hartland 81.70 336 *e*P **P 02 34 29.0 +0.4**
HTL AMb AMB 02 34 32.6
comp=Z,42nm,1.3s,mb5.1
HTL Hartland 81.70 336 *e*P **P 02 34 29.0 +0.4**
HTL AMb AMB 02 34 32.6
comp=Z,42nm,1.3s,mb5.1
EYMN Ely 81.74 30 *e*P **P 02 34 27.8 -1.0**
comp=Z,6.7nm,1.0s,mb4.4
VLC Villacollemand 81.76 324 *e*P **P 02 34 30.7 +1.7**
comp=Z,104nm,1.3s,mb5.5
AQU L'Aquila 81.77 321 ⇑*i*P **P 02 34 31.1 +2.1**
AQU L'Aquila 81.77 321 *e*P **P 02 34 29.2 +0.2**
AQU pmax pmax
comp=Z,33nm,1.5s,mb4.9
AQU L'Aquila 81.77 321 *e*P **P 02 34 29.1 +0.1**
comp=Z,328nm,1.5s,mb5.9
WUAZ Wupatki 81.84 49 *e*P **P 02 34 30.4 +1.0**
comp=Z,100nm,1.1s,mb5.6
ISCO Idaho Springs 81.86 43 ⇑*i*P **P 02 34 30.4 +0.9**
ISCO pmax pmax
comp=Z,85nm,1.3s,mb5.4
ISCO Idaho Springs 81.86 43 ⇑*i*P **P 02 34 30.4 +1.0**
comp=Z,85nm,1.3s,mb5.4
LOR Lormes 81.98 329 *e*P **P 02 34 29.1 -1.0**
comp=Z,111nm,0.7s,mb5.5
LOR *e*pP pP 02 35 55.7 +0.6
LOR *e*R
comp=Z,463nm,21.8s
LOR Lormes 81.98 329 *e*P **P 02 34 29.1 -1.0**
LOR *e**PP pP 02 35 55.7 +0.6
LOR pmax pmax
comp=Z,56nm,0.7s,mb5.5
LOR MLR MLR
comp=Z,460nm,21.8s
LOR Lormes 81.98 329 *e*P **P 02 34 29.1 -1.0**
comp=Z,56nm,0.7s,mb5.5
LOR *e*pP pP 02 35 55.7 +0.6
LOR LR LR
comp=Z,460nm,21.8s
DYA Yadsworthy 82.02 335 *e*P **P 02 34 30.1 -0.2**
DYA Yadsworthy 82.02 335 *e*P **P 02 34 30.1 -0.2**
LPL La Plagne 82.25 327 *e*P **P 02 34 31.1 -0.4**
comp=Z,92nm,0.6s,mb5.5
LPL La Plagne 82.25 327 *e*P **P 02 34 31.1 -0.4**
LPL pmax pmax
comp=Z,46nm,0.6s,mb5.5
LPL La Plagne 82.25 327 *e*P **P 02 34 31.1 -0.4**
comp=Z,46nm,0.6s,mb5.5
LPG La Plagne 82.26 327 *e*P **P 02 34 31.3 -0.3**
comp=Z,100nm,0.5s,mb5.6
LPG *e*pP pP 02 35 58.1 +1.4
LPG La Plagne 82.26 327 *e*P **P 02 34 31.3 -0.3**
LPG *e**PP pP 02 35 58.1 +1.4
LPG pmax pmax
comp=Z,50nm,0.5s,mb5.6
LPG La Plagne 82.26 327 *e*P **P 02 34 31.3 -0.3**
comp=Z,50nm,0.5s,mb5.6
LPG *e*pP pP 02 35 58.1 +1.4
SCHQ Schefferville 82.26 13 P **P 02 34 32.0 +0.5**
comp=Z,7.9nm,0.6s,mb4.7,baz=347,slow=5.3,SNR=20
SCHQ Schefferville 82.26 13 *e*P **P 02 34 31.6 0.0**
comp=Z,70nm,1.4s,mb5.3
FLN La Foliniere 82.31 332 *e*P **P 02 34 30.5 -1.3**
comp=Z,53nm,0.8s,mb5.1
FLN *e*R
comp=Z,584nm,20.0s
FLN La Foliniere 82.31 332 *e*P **P 02 34 30.5 -1.3**
FLN pmax pmax
comp=Z,26nm,0.8s,mb5.1
FLN MLR MLR
comp=Z,580nm,20.0s
FLN La Foliniere 82.31 332 *e*P **P 02 34 30.5 -1.3**
comp=Z,26nm,0.8s,mb5.1
FLN LR LR
comp=Z,580nm,20.0s
LDF La Druitiere 82.33 332 *e*P **P 02 34 30.6 -1.3**
comp=Z,31nm,0.7s,mb5.0
LDF La Druitiere 82.33 332 *e*P **P 02 34 30.6 -1.3**
LDF pmax pmax
comp=Z,15nm,0.7s,mb4.9
LDF La Druitiere 82.33 332 *e*P **P 02 34 30.6 -1.3**
comp=Z,15nm,0.7s,mb4.9
HYF Humbligny 82.44 330 *e*P **P 02 34 31.9 -0.6**
SMF Signal de Mont 82.50 329 *e*P **P 02 34 32.0 -0.8**
comp=Z,75nm,0.6s,mb5.4
SMF Signal de Mont 82.50 329 *e*P **P 02 34 32.0 -0.8**
SMF pmax pmax
comp=Z,38nm,0.6s,mb5.4
SMF Signal de Mont 82.50 329 *e*P **P 02 34 32.0 -0.8**
comp=Z,38nm,0.6s,mb5.4
AVF Avril sur Loir 82.56 329 *e*P **P 02 34 32.2 -0.9**
comp=Z,133nm,0.7s,mb5.6
AVF *e*pP pP 02 35 59.1 +0.8
AVF Avril sur Loir 82.56 329 *e*P **P 02 34 32.2 -0.9**
AVF *e**PP pP 02 35 59.1 +0.8
AVF pmax pmax
comp=Z,66nm,0.7s,mb5.6
AVF Avril sur Loir 82.56 329 *e*P **P 02 34 32.2 -0.9**
comp=Z,66nm,0.7s,mb5.6
AVF *e*pP pP 02 35 59.1 +0.8
CRQ2 Rosemanowes 2 82.64 336 *e*P **P 02 34 34.1 +0.6**
CRQ2 Rosemanowes 2 82.64 336 *e*P **P 02 34 34.1 +0.6**
BNI Bardonecchia 82.65 326 *e*P **P 02 34 33.9 +0.4**
BNI *e* 02 37 55.8
BNI pmax pmax
comp=Z,18nm,0.6s,mb5.1
BNI Bardonecchia 82.65 326 *e*P **P 02 34 33.9 +0.3**
comp=Z,18nm,0.6s,mb5.1
BNI *e*PP PP 02 37 55.8 +6.6
GRR Gorron 82.76 333 *e*P **P 02 34 33.0 -1.1**
comp=Z,52nm,0.7s,mb5.2
GRR Gorron 82.76 333 *e*P **P 02 34 33.0 -1.1**
GRR pmax pmax
comp=Z,26nm,0.7s,mb5.2
GRR Gorron 82.76 333 *e*P **P 02 34 33.0 -1.1**
comp=Z,26nm,0.7s,mb5.2
MBDF Montbardon 82.88 326 *e*P **P 02 34 33.6 -1.1**
comp=Z,68nm,0.6s,mb5.3
MBDF Montbardon 82.88 326 *e*P **P 02 34 33.6 -1.1**
MBDF pmax pmax
comp=Z,34nm,0.6s,mb5.3
MBDF Montbardon 82.88 326 *e*P **P 02 34 33.6 -1.1**
comp=Z,34nm,0.6s,mb5.3
BGF Bois d'Agland 82.95 329 *e*P **P 02 34 34.1 -1.0**
comp=Z,33nm,0.7s,mb5.0
BGF Bois d'Agland 82.95 329 *e*P **P 02 34 34.1 -1.0**
BGF pmax pmax
comp=Z,17nm,0.6s,mb5.0
BGF Bois d'Agland 82.95 329 *e*P **P 02 34 34.1 -1.0**
comp=Z,17nm,0.6s,mb5.0
ORIF Oris-en-Rattie 83.09 327 *e*P **P 02 34 35.8 0.0**
comp=Z,71nm,0.7s,mb5.3
ORIF *e*R
comp=Z,397nm,17.5s
ORIF Oris-en-Rattie 83.09 327 *e*P **P 02 34 35.8 0.0**
ORIF pmax pmax
comp=Z,35nm,0.7s,mb5.3
ORIF Oris-en-Rattie 83.09 327 *e*P **P 02 34 35.8 0.0**
comp=Z,35nm,0.7s,mb5.3
ECSD EROS,Sioux Fal 83.10 35 *e*P **P 02 34 35.0 -0.8**
PLDF La Plantade 83.14 329 *e*P **P 02 34 37.0 +1.0**
TOUF Mont Tournerai 83.25 325 *e*P **P 02 34 38.0 +1.4**
AGO Saint Agoulin 83.26 329 *e*P **P 02 34 38.0 +1.4**
SBF Sospel 83.29 325 *e*P **P 02 34 35.4 -1.4**
comp=Z,124nm,0.9s,mb5.4
SBF Sospel 83.29 325 *e*P **P 02 34 35.4 -1.4**
SBF pmax pmax
comp=Z,62nm,0.9s,mb5.4
SBF Sospel 83.29 325 *e*P **P 02 34 35.4 -1.4**
comp=Z,62nm,0.9s,mb5.4
TCF Toulx Ste Croi 83.42 330 *e*P **P 02 34 36.8 -0.6**
comp=Z,147nm,1.1s,mb5.4
TCF Toulx Ste Croi 83.42 330 *e*P **P 02 34 36.8 -0.6**
TCF pmax pmax
comp=Z,73nm,1.1s,mb5.4
TCF Toulx Ste Croi 83.42 330 *e*P **P 02 34 36.8 -0.6**
comp=Z,73nm,1.1s,mb5.4
SDCO Great Sand Dun 83.44 44 *e*P **P 02 34 38.1 +0.5**
comp=Z,54nm,1.1s,mb5.3
SDCO *e*PP PP 02 37 59.0 +3.4
SGMF Saint Gilles 83.46 333 *e*P **P 02 34 36.9 -0.7**
comp=Z,77nm,0.7s,mb5.3
SGMF Saint Gilles 83.46 333 *e*P **P 02 34 36.9 -0.7**
SGMF pmax pmax
comp=Z,39nm,0.7s,mb5.3
SGMF Saint Gilles 83.46 333 *e*P **P 02 34 36.9 -0.7**
comp=Z,39nm,0.7s,mb5.3
PYM Petit Puy Mans 83.56 329 *e*P **P 02 34 39.0 +0.9**
ROSF Rostrenen 83.63 334 *e*P **P 02 34 38.0 -0.5**
comp=Z,140nm,0.8s,mb5.6
ROSF Rostrenen 83.63 334 *e*P **P 02 34 38.0 -0.5**
ROSF pmax pmax
comp=Z,70nm,0.8s,mb5.5
ROSF Rostrenen 83.63 334 *e*P **P 02 34 38.0 -0.5**
comp=Z,70nm,0.8s,mb5.5
VIVF Saint-Julien-l 83.64 327 *e*P **P 02 34 37.8 -0.7**
comp=Z,116nm,0.7s,mb5.5
VIVF *e*pP pP 02 36 04.9 +0.9
VIVF Saint-Julien-l 83.64 327 *e*P **P 02 34 37.8 -0.7**
VIVF *e**PP pP 02 36 04.9 +0.9
VIVF pmax pmax
comp=Z,58nm,0.7s,mb5.5
VIVF Saint-Julien-l 83.64 327 *e*P **P 02 34 37.8 -0.7**
comp=Z,58nm,0.7s,mb5.5
VIVF *e*pP pP 02 36 04.9 +0.9
FRF La Foret Royal 83.87 325 *e*P **P 02 34 38.4 -1.3**
comp=Z,45nm,0.8s,mb5.0
FRF La Foret Royal 83.87 325 *e*P **P 02 34 38.4 -1.3**
FRF pmax pmax
comp=Z,22nm,0.8s,mb5.0
FRF La Foret Royal 83.87 325 *e*P **P 02 34 38.4 -1.3**
comp=Z,22nm,0.8s,mb5.0
LBL Lubilhac 83.90 328 *e*P **P 02 34 40.9 +1.1**
QUIF Quistinic 83.96 334 *e*P **P 02 34 39.3 -0.8**
comp=Z,65nm,0.8s,mb5.2
QUIF Quistinic 83.96 334 *e*P **P 02 34 39.3 -0.8**
QUIF pmax pmax
comp=Z,33nm,0.8s,mb5.2
QUIF Quistinic 83.96 334 *e*P **P 02 34 39.3 -0.8**
comp=Z,33nm,0.8s,mb5.2
SMRF Simiane la Rot 83.99 326 *e*P **P 02 34 39.7 -0.6**
comp=Z,31nm,0.7s,mb4.9
SMRF Simiane la Rot 83.99 326 *e*P **P 02 34 39.7 -0.6**
comp=Z,31nm,0.7s,mb5.2
VILF Villemus 84.03 326 *e*P **P 02 34 44.0 +3.5**
MFF Saint Martin d 84.03 331 *e*P **P 02 34 40.0 -0.5**
comp=Z,202nm,1.2s,mb5.5

MFF	**Saint Martin d**	**84.03**	**331**	*e*P	**P**	**02 34 40.0**	**-0.5**
MFF				pmax	pmax		
	comp=Z,101nm,1.2s,mb5.5						
MFF	**Saint Martin d**	**84.03**	**331**	*e*P	**P**	**02 34 40.0**	**-0.5**
	comp=Z,101nm,1.2s,mb5.5						
TAVF	**Tavernes**	**84.08**	**326**	*e*P	**P**	**02 34 44.8**	**+4.1**
LMR	**La Mourre**	**84.11**	**325**	*e*P	**P**	**02 34 39.6**	**-1.3**
	comp=Z,134nm,0.9s,mb5.5						
LMR	**La Mourre**	**84.11**	**325**	*e*P	**P**	**02 34 39.6**	**-1.3**
LMR				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.5						
LMR	**La Mourre**	**84.11**	**325**	*e*P	**P**	**02 34 39.6**	**-1.3**
	comp=Z,67nm,0.9s,mb5.5						
TUC	**Tucson**	**84.48**	**51**	⇑*i*P	**P**	**02 34 43.7**	**+1.0**
TUC				*e*		02 38 03.2	
TUC				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
TUC	**Tucson**	**84.48**	**51**	⇑*i*P	**P**	**02 34 43.7**	**+0.9**
	comp=Z,34nm,1.2s,mb5.0						
TUC				*e*PP	PP	02 38 03.2	-0.8
RJF	**Les Rejaudoux**	**84.51**	**329**	*e*P	**P**	**02 34 42.3**	**-0.6**
	comp=Z,78nm,0.8s,mb5.3						
RJF				*e*R			
	comp=Z,347nm,19.5s						
RJF	**Les Rejaudoux**	**84.51**	**329**	*e*P	**P**	**02 34 42.3**	**-0.6**
RJF				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.3						
RJF				MLR	MLR		
	comp=Z,350nm,19.5s						
RJF	**Les Rejaudoux**	**84.51**	**329**	*e*P	**P**	**02 34 42.3**	**-0.6**
	comp=Z,39nm,0.8s,mb5.3						
RJF				LR	LR		
	comp=Z,350nm,19.5s						
LASF	**Ste Croix**	**84.61**	**327**	*e*P	**P**	**02 34 42.9**	**-0.5**
	comp=Z,126nm,1.1s,mb5.3						
CAF	**Calviac**	**84.62**	**329**	*e*P	**P**	**02 34 43.3**	**-0.1**
	comp=Z,163nm,0.9s,mb5.6						
CAF				*e*pP	pP	02 36 10.7	+1.6
CAF	**Calviac**	**84.62**	**329**	*e*P	**P**	**02 34 43.3**	**-0.1**
CAF				*e**PP	pP	02 36 10.7	+1.6
CAF				pmax	pmax		
	comp=Z,81nm,0.9s,mb5.5						
CAF	**Calviac**	**84.62**	**329**	*e*P	**P**	**02 34 43.3**	**-0.1**
	comp=Z,81nm,0.9s,mb5.6						
CAF				*e*pP	pP	02 36 10.7	+1.6
ATD	**Arta Tunnel**	**84.64**	**281**	P	**P**	**02 34 45.0**	**+1.4**
	comp=Z,55nm,1.1s,mb5.3,baz=314,slow=3.7,SNR=19						
ATD	**Arta Tunnel**	**84.64**	**281**	P	**P**	**02 34 45.0**	**+1.4**
ANMO	**Albuquerque**	**85.01**	**47**	P	**P**	**02 34 47.0**	**+1.6**
ANMO				SKKSac	SKKSac	02 44 38.6	-2.3
ANMO				S	S	02 44 46.6	+4.3
ANMO	**Albuquerque**	**85.01**	**47**	⇑*i*P	**P**	**02 34 46.9**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,55nm,1.2s						
ANMO	**Albuquerque**	**85.01**	**47**	⇑*i*P	**P**	**02 34 46.9**	**+1.5**
	comp=Z,55nm,1.2s,mb5.3						
ANMO				*e*pP	pP	02 36 17.4	+6.4
LFF	**La Frestale**	**85.11**	**330**	*e*P	**P**	**02 34 45.7**	**-0.2**
	comp=Z,121nm,0.6s,mb5.6						
LFF	**La Frestale**	**85.11**	**330**	*e*P	**P**	**02 34 45.7**	**-0.2**
LFF				pmax	pmax		
	comp=Z,61nm,0.6s,mb5.6						
LFF	**La Frestale**	**85.11**	**330**	*e*P	**P**	**02 34 45.7**	**-0.2**
	comp=Z,60nm,0.6s,mb5.6						
MTLF	**Montolieu**	**85.88**	**328**	*e*P	**P**	**02 34 49.3**	**-0.3**
	comp=Z,23nm,0.7s,mb4.8						
MTLF				*e*pP	pP	02 36 16.8	+1.3
MTLF	**Montolieu**	**85.88**	**328**	*e*P	**P**	**02 34 49.3**	**-0.3**
MTLF				*e**PP	pP	02 36 16.8	+1.3
MTLF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
MTLF	**Montolieu**	**85.88**	**328**	*e*P	**P**	**02 34 49.3**	**-0.3**
	comp=Z,12nm,0.7s,mb4.8						
MTLF				*e*pP	pP	02 36 16.8	+1.3
SCIA	**State Center**	**86.04**	**34**	*e*P	**P**	**02 34 50.7**	**+0.3**
JFWS	**Jewell Farm**	**86.43**	**32**	⇑*i*P	**P**	**02 34 51.9**	**-0.3**
JFWS				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.3						
JFWS	**Jewell Farm**	**86.43**	**32**	⇑*i*P	**P**	**02 34 51.9**	**-0.3**
	comp=Z,56nm,1.1s,mb5.3						
KSU1	**Kansas State U**	**86.81**	**38**	*e*P	**P**	**02 34 53.6**	**-0.4**
KSU1				*e*PP	PP	02 38 24.3	+1.6
EPF	**Esparros**	**86.88**	**329**	*e*P	**P**	**02 34 53.3**	**-1.1**
	comp=Z,15nm,0.8s,mb4.6						
EPF	**Esparros**	**86.88**	**329**	*e*P	**P**	**02 34 53.3**	**-1.1**
EPF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
EPF	**Esparros**	**86.88**	**329**	*e*P	**P**	**02 34 53.3**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.6						
ETSF	**Etsaut**	**87.34**	**329**	*e*P	**P**	**02 34 56.6**	**0.0**
	comp=Z,40nm,0.5s,mb5.2						
ETSF	**Etsaut**	**87.34**	**329**	*e*P	**P**	**02 34 56.6**	**0.0**
ETSF				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.2						
ETSF	**Etsaut**	**87.34**	**329**	*e*P	**P**	**02 34 56.6**	**0.0**
	comp=Z,20nm,0.5s,mb5.2						
SJPF	**Ste Jean**	**87.41**	**330**	*e*P	**P**	**02 34 56.9**	**0.0**
	comp=Z,30nm,0.8s,mb4.9						
SJPF	**Ste Jean**	**87.41**	**330**	*e*P	**P**	**02 34 56.9**	**0.0**
SJPF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
SJPF	**Ste Jean**	**87.41**	**330**	*e*P	**P**	**02 34 56.9**	**0.0**
	comp=Z,15nm,0.8s,mb4.9						
MNTX	**Cornudas Mount**	**88.03**	**48**	⇑*i*P	**P**	**02 34 59.8**	**-0.1**
	comp=Z,89nm,1.9s,mb5.3						
MNTX				*e*PP	PP	02 38 35.0	+2.5
KEST	**Kesra**	**88.90**	**319**	P	**P**	**02 35 04.8**	**+0.9**
	comp=Z,4.1nm,0.9s,mb4.2,baz=354,slow=6.8,SNR=3.7						
WMOK	**Wichita Mounta**	**89.22**	**42**	⇑*i*P	**P**	**02 35 05.5**	**+0.1**
WMOK				*e*		02 38 45.6	
WMOK				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.2						
WMOK	**Wichita Mounta**	**89.22**	**42**	⇑*i*P	**P**	**02 35 05.5**	**+0.1**
	comp=Z,43nm,1.1s,mb5.2						
WMOK				*e*PP	PP	02 38 45.6	+3.7
AAM	**Ann Arbor**	**89.44**	**28**	*e*P	**P**	**02 35 07.0**	**+0.6**
AAM				pmax	pmax		
	comp=Z,107nm,1.4s,mb5.5						
AAM	**Ann Arbor**	**89.44**	**28**	*e*P	**P**	**02 35 07.0**	**+0.6**
	comp=Z,108nm,1.4s,mb5.5						
MSNY	**Massena**	**89.77**	**21**	*e*P	**P**	**02 35 08.6**	**+0.7**
SLM	**Saint Louis**	**90.03**	**34**	*e*P	**P**	**02 35 09.0**	**-0.1**
SLM				pmax	pmax		
	comp=Z,58nm,0.7s,mb5.6						
SLM	**Saint Louis**	**90.03**	**34**	*e*P	**P**	**02 35 09.0**	**-0.1**
	comp=Z,58nm,0.7s,mb5.6						
LONY	**Lake Ozonia**	**90.19**	**21**	*e*P	**P**	**02 35 09.9**	**0.0**
FRNY	**Flat Rock**	**90.26**	**20**	*e*P	**P**	**02 35 10.1**	**-0.1**
PPT	**Papeete**	**90.44**	**113**	*e*SKSac	SKSac	02 45 05.5	-0.4
	comp=Z,764nm,25.5s						
PPT				*e*SS	SS	02 51 29.9	-14
	comp=Z,770nm,28.8s						
PPT				*e*LR	LR	03 04 58.4	
	comp=Z,494nm,22.0s						
FVM	**French Village**	**90.49**	**35**	⇑*i*P	**P**	**02 35 11.5**	**+0.2**
FVM				*e*		02 38 53.5	
FVM				pmax	pmax		
	comp=Z,65nm,1.4s,mb5.4						
FVM	**French Village**	**90.49**	**35**	⇑*i*P	**P**	**02 35 11.5**	**+0.2**
	comp=Z,66nm,1.4s,mb5.4						
FVM				*e*PP	PP	02 38 53.5	+1.6
PBRG	**Braganca**	**90.54**	**333**	*e*P	**P**	**02 35 12.3**	**+0.8**
	comp=Z,18nm,1.6s,mb4.7						
PBRG				*i* -		02 35 18.1	
ERPA	**Erie**	**90.85**	**26**	*e*P	**P**	**02 35 13.5**	**+0.5**
	comp=Z,29nm,0.8s,mb5.3						
NCB	**Newcomb**	**90.89**	**21**	*e*P	**P**	**02 35 13.8**	**+0.7**
	comp=Z,36nm,1.3s,mb5.1						
PKME	**Peaks-Kenny Pk**	**90.90**	**17**	*e*P	**P**	**02 35 13.6**	**+0.4**
BLO	**Bloomington**	**91.09**	**32**	⇑*i*P	**P**	**02 35 14.5**	**+0.5**
BLO				pmax	pmax		
	comp=Z,75nm,1.4s,mb5.4						
BLO	**Bloomington**	**91.09**	**32**	⇑*i*P	**P**	**02 35 14.5**	**+0.5**
	comp=Z,75nm,1.4s,mb5.4						
SIUC	**Southern Illin**	**91.23**	**34**	*e*P	**P**	**02 35 14.9**	**+0.2**
	comp=Z,114nm,0.9s,mb5.8						
LBNH	**Lisbon**	**91.24**	**20**	*e*P	**P**	**02 35 15.8**	**+1.1**
LBNH				pmax	pmax		
	comp=Z,88nm,2.0s,mb5.3						
LBNH	**Lisbon**	**91.24**	**20**	*e*P	**P**	**02 35 15.8**	**+1.1**
	comp=Z,88nm,2.0s,mb5.3						
PVRL	**Vila Real**	**91.34**	**333**	*e*P	**P**	**02 35 16.0**	**+0.8**
	comp=Z,18nm,1.6s,mb4.7						
PVRL				*i* -		02 35 22.9	
ESDC	**Sonseca Array**	**91.42**	**330**	P	**P**	**02 35 14.5**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=23,slow=4.5,SNR=6.1						
ESDC				pP	pP	02 36 42.3	0.0
	comp=Z,0.3nm,0.5s,baz=98,slow=30,SNR=1.0						
ESDC				PP	PP	02 38 58.6	-0.5
	comp=Z,4.4nm,0.7s,baz=29,slow=7.1,SNR=5.2						
ACSO	**Alum Creek Sta**	**91.50**	**29**	*e*P	**P**	**02 35 16.3**	**+0.4**
	comp=Z,60nm,1.4s,mb5.3						
ACCN	**Adirondack Com**	**91.58**	**21**	*e*P	**P**	**02 35 16.5**	**+0.2**
PARMO	**Parma**	**91.89**	**35**	*e*P	**P**	**02 35 18.6**	**+0.9**
MIAR	**Mount Ida**	**91.92**	**39**	*e*P	**P**	**02 35 19.0**	**+1.1**
MIAR				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
MIAR	**Mount Ida**	**91.92**	**39**	*e*P	**P**	**02 35 19.0**	**+1.1**
	comp=Z,36nm,1.0s,mb5.2						
WCI	**Wyandotte Cave**	**91.99**	**32**	*e*P	**P**	**02 35 18.1**	**-0.1**
WCI				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.3						
WCI	**Wyandotte Cave**	**91.99**	**32**	*e*P	**P**	**02 35 18.1**	**-0.1**
	comp=Z,61nm,1.4s,mb5.3						
BINY	**Binghamton**	**92.02**	**23**	*e*P	**P**	**02 35 18.7**	**+0.3**
	comp=Z,16nm,1.1s,mb4.8						
JCT	**Junction City**	**92.03**	**45**	⇑*i*P	**P**	**02 35 18.7**	**+0.3**
JCT				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.5						
JCT	**Junction City**	**92.03**	**45**	⇑*i*P	**P**	**02 35 18.7**	**+0.3**
	comp=Z,57nm,1.0s,mb5.5						
HBAR	**Harrisburg**	**92.42**	**36**	*e*P	**P**	**02 35 21.2**	**+1.1**
PCBR	**Castelo Branco**	**92.54**	**333**	*i* -		02 35 27.4	
SSPA	**Standing Stone**	**92.87**	**25**	*e*P	**P**	**02 35 22.5**	**+0.3**
	comp=Z,30nm,1.2s,mb5.2						
PTOM	**Tomar**	**93.06**	**333**	*i* -		02 35 29.6	
WVT	**Waverly**	**93.16**	**34**	*e*P	**P**	**02 35 23.8**	**+0.2**
WVT				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
WVT	**Waverly**	**93.16**	**34**	*e*P	**P**	**02 35 23.8**	**+0.2**
	comp=Z,23nm,1.1s,mb5.1						
OXF	**Oxford**	**93.85**	**36**	*e*P	**P**	**02 35 27.7**	**+1.0**
OXF				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
OXF	**Oxford**	**93.85**	**36**	*e*P	**P**	**02 35 27.7**	**+0.9**
	comp=Z,56nm,1.0s,mb5.5						
PLAL	**Pickwick Lake**	**94.03**	**35**	*e*P	**P**	**02 35 28.0**	**+0.5**
	comp=Z,17nm,1.0s,mb5.0						
PBEJ	**Beja**	**94.30**	**332**	*i* -		02 35 35.5	
TZTN	**Tazewell**	**94.53**	**31**	*e*P	**P**	**02 35 30.4**	**+0.6**
HKT	**Hockley**	**94.54**	**43**	*e*P	**P**	**02 35 30.1**	**+0.2**
SWET	**Sewanee**	**94.74**	**33**	*e*P	**P**	**02 35 31.2**	**+0.5**
ELN	**Prospectdale**	**94.97**	**28**	*e*P	**P**	**02 35 32.0**	**+0.2**
LRAL	**Lakeview Retre**	**96.16**	**35**	*e*P	**P**	**02 35 37.6**	**+0.4**
	comp=Z,8.7nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**97.13**	**275**	P	**P**	**02 35 41.9**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.3,baz=52,slow=23,SNR=4.9						
RKT	**Rikitea**	**104.37**	**108**	*e*PP	PP	02 40 36.5	-0.9
	comp=Z,134nm,27.2s						
RKT				*e*SKSac	SKSac	02 46 17.1	+0.4
	comp=Z,340nm,28.0s						
RKT				*e*SS	SS	02 54 59.0	+0.8
	comp=Z,235nm,34.8s						
TORD	**Torodi Ar. Bea**	**111.17**	**311**	Pdiff	Pdif	02 36 44.0	-0.1
	comp=Z,0.8nm,1.2s,baz=225,slow=3.9,SNR=2.2						
TORD				PP	PP	02 41 26.2	-0.3
	comp=Z,32nm,1.1s,baz=29,slow=5.3,SNR=24						
TORD				PKKPbc	PKKPbc	02 51 36.9	-0.7
	comp=Z,1.6nm,0.7s,baz=216,slow=2.0,SNR=23						
TORD				PKKPab	PKKPab	02 51 50.2	+1.4
	comp=Z,2.9nm,1.2s,baz=252,slow=5.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**111.17**	**311**	Pdif	Pdif	02 36 44.0	-0.1
TORD				PP	PP	02 41 26.2	-0.3
TORD				PKKPbc	PKKPbc	02 51 36.9	-0.7
TORD				PKKPab	PKKPab	02 51 50.2	+1.4
VNDA	**Vanda**	**119.69**	**174**	PKP	PKPdf	02 40 55.6	-1.5
	comp=Z,2.8nm,0.6s,baz=322,slow=4.6,SNR=19						
VNDA	**Vanda**	**119.69**	**174**	*e*PKPdf	PKPdf	02 40 56.0	-1.1
DBIC	**Dimbokro**	**120.13**	**313**	PKP	PKPdf	02 40 57.6	-0.3
	comp=Z,2.8nm,0.6s,baz=129,slow=9.9,SNR=6.1						
DBIC	**Dimbokro**	**120.13**	**313**	PKIKP	PKPdf	02 40 57.7	-0.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DBIC	**Dimbokro**	**120.13**	**313**	*e*PKPdf	PKPdf	02 40 57.7	-0.3
LBTB	**Lobatse**	**120.80**	**263**	*e*PKIKP	PKPdf	02 40 59.6	+0.4
MAW	**Mawson**	**121.53**	**205**	*e*PDIF	PKPdf	02 41 00.1	-0.5
	comp=Z,5.4nm,0.8s						
MAW				*e*sSDIF		02 52 32.9	
MAW	**Mawson**	**121.53**	**205**	PKP	PKPdf	02 40 60.0	-0.6
	comp=Z,5.9nm,0.8s,baz=60,slow=2.7,SNR=10						
MAW				PKKPab	PKKPab	02 51 01.1	-2.1
	comp=Z,3.1nm,0.7s,baz=257,slow=1.9,SNR=4.1						
BOSA	**Boshof**	**123.05**	**259**	PKP	PKPdf	02 41 02.8	-0.8
	comp=Z,2.3nm,0.9s,baz=184,slow=13,SNR=4.7						
BOSA	**Boshof**	**123.05**	**259**	*e*PKPdf	PKPdf	02 41 04.2	+0.6
TSUM	**Tsumeb**	**123.44**	**273**	*e*PKPdf	PKPdf	02 41 05.5	+1.2
SDV	**Santo Domingo**	**124.43**	**32**	SKP		02 44 06.0	
	comp=Z,4.5nm,0.5s,baz=49,slow=0.7,SNR=4.4						
SDV	**Santo Domingo**	**124.43**	**32**	*e*PKPdf	PKPdf	02 41 05.9	-0.3
SDV				*e*SKPdf	SKPdf	02 44 06.2	+0.9
ROSC	**El Rosal**	**126.43**	**38**	PKP	PKPdf	02 41 11.4	+1.4
	comp=Z,7.8nm,0.6s,baz=260,slow=3.5,SNR=7.0						
ROSC	**El Rosal**	**126.43**	**38**	*e*PKPdf	PKPdf	02 41 11.9	+1.9
SUR	**Sutherland**	**128.27**	**258**	*e*PKPdf	PKPdf	02 41 11.8	-1.7
QSPA	**South Pole Qui**	**131.09**	**180**	*e*P	PKPdf	02 41 17.6	-1.3
ATAH	**Atahualpa**	**134.28**	**51**	PKP	PKPdf	02 41 27.9	+3.0
	comp=Z,11nm,0.8s,baz=65,slow=5.1,SNR=6.9						
SNAA	**Sanae**	**143.42**	**201**	⇑*i*PKPdf	PKPdf	02 41 38.3	-3.2
SNAA				*e*		02 41 39.5	
SNAA				*e*		02 41 40.9	
SNAA				*e*		02 41 42.0	
SNAA				*e*		02 41 47.0	
SNAA				*e*		02 43 17.2	
SNAA				*e*		02 43 20.7	
SNAA				*e*		02 43 22.7	
SNAA				*e*		02 43 28.2	
SNAA				*e*		02 43 32.1	
SNAA				*e*		02 43 44.1	
SNAA				*e*		02 44 42.2	
SNAA				*e*		02 44 43.8	
SNAA				*e*		02 44 44.9	
SNAA				*e*		02 44 58.9	
SNAA				*e*		02 45 12.6	
SNAA				*e*		02 45 18.2	
SNAA	**Sanae**	**143.42**	**201**	*e*PKPdf	PKPdf	02 41 38.9	-2.6
SNAA				*e*SKP		02 44 42.1	
SAML	**Samuel**	**143.64**	**33**	*e*PKPdf	PKPdf	02 41 40.1	-1.8
SAML				*e*SKPbc	SKPbc	02 44 45.0	+0.5
RCBR	**Riachuelo**	**143.85**	**346**	*e*PKPdf	PKPdf	02 41 41.9	-0.4
VNA3	**Neumayer Olymp**	**145.42**	**199**	⇑*i*PKPdf	PKPdf	02 41 44.7	-0.3
VNA3				*e*		02 41 45.7	
VNA3				*e*		02 41 47.5	
VNA3				*e*		02 41 48.3	
VNA3				*e*		02 41 53.0	
VNA3				*e*		02 43 14.3	
VNA3				*e*		02 43 17.7	
VNA3				*e*		02 43 24.8	
VNA3				*e*		02 43 50.4	
VNA3				*e*		02 43 54.7	
VNA3				*e*		02 44 47.2	
VNA3				*e*		02 44 48.3	
VNA3				*e*		02 44 49.4	
VNA3				*e*		02 45 08.3	
VNA3				*e*		02 45 19.2	
VNA3				*e*		02 45 24.2	
VNA3				*e*		02 45 27.9	
VNA3				*e*		02 45 39.7	
VNA1	**Neumayer--Stat**	**145.45**	**200**	⇑*i*PKPdf	PKPdf	02 41 45.3	+0.3
VNA1				*e*		02 41 46.4	
VNA1				*e*		02 41 48.2	
VNA1				*e*		02 41 49.0	
VNA1				*e*		02 41 54.0	
VNA1				*e*		02 43 15.3	
VNA1				*e*		02 43 18.6	
VNA1				*e*		02 43 25.8	
VNA1				*e*		02 43 51.3	
VNA1				*e*		02 43 54.5	
VNA1				*e*		02 44 47.7	
VNA1				*e*		02 44 48.9	
VNA1				*e*		02 44 50.3	
VNA1				*e*		02 45 15.3	
VNA1				*e*		02 45 26.2	
ARE	**Arequipa**	**145.86**	**51**	*e*PKP2	PKPab	02 41 48.0	-0.3
LPAZ	**La Paz**	**147.63**	**47**	PKPbc	PKPbc	02 41 50.3	-1.7
	comp=Z,24nm,0.8s,baz=340,slow=3.5,SNR=38						
LPAZ	**La Paz**	**147.63**	**47**	*e*PKIKP	PKPdf	02 41 50.9	+2.2
LPAZ				*e*		02 41 53.8	
LPAZ	**La Paz**	**147.63**	**47**	*e*PKPdf	PKPdf	02 41 50.9	+2.3
LPAZ				*e*PKPbc	PKPbc	02 41 53.8	+1.8
LPAZ				*e*pPKPdf	pPKPdf	02 43 31.7	+11
SIV	**San Ignacio**	**150.85**	**35**	PKP	PKPdf	02 41 55.3	+1.5
	comp=Z,6.0nm,1.0s,baz=239,slow=4.7,SNR=22						
SIV				PKPbc	PKPbc	02 42 00.3	+0.5
	comp=Z,40nm,0.9s,baz=301,slow=2.2,SNR=86						
LVC	**Limon Verde**	**152.11**	**56**	PKPbc	PKPbc	02 42 04.6	+1.9
	comp=Z,16nm,0.7s,baz=290,slow=2.6,SNR=19						
LVC				PKPab	PKPab	02 42 12.4	-1.5
	comp=Z,15nm,0.8s,baz=299,slow=8.6,SNR=7.7						
LVC	**Limon Verde**	**152.11**	**56**	*e*PKPbc	PKPbc	02 42 03.8	+1.1
BDFB	**Brasilia**	**154.17**	**8**	PKP	PKPdf	02 42 00.2	+1.6
	comp=Z,7.6nm,0.9s,baz=294,slow=2.4,SNR=6.9						
BDFB				PKPbc	PKPbc	02 42 07.6	+0.5
	comp=Z,7.5nm,0.7s,baz=59,slow=1.5,SNR=6.8						
BDFB				PKPab	PKPab	02 42 23.5	+0.9
	comp=Z,6.9nm,0.7s,baz=83,slow=4.7,SNR=3.8						
BDFB	**Brasilia**	**154.17**	**8**	PKIKP	PKPdf	02 42 00.2	+1.6
BDFB						02 42 23.5	
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CFAA	**Coronel Fontan**	**158.46**	**71**	PKPab	PKPab	02 42 42.1	+0.9
	comp=Z,2.6nm,0.9s,baz=288,slow=3.3,SNR=14						
PLCA	**Paso Flores**	**160.17**	**97**	PKP	PKPdf	02 42 04.6	-1.5
	comp=Z,3.1nm,1.0s,baz=176,slow=8.6,SNR=2.9						
PLCA				PKPab	PKPab	02 42 49.7	+1.1
	comp=Z,13nm,0.9s,baz=273,slow=4.4,SNR=15						
PLCA	**Paso Flores**	**160.17**	**97**	PKIKP	PKPdf	02 42 04.6	-1.5
PLCA						02 42 49.7	
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PLCA	**Paso Flores**	**160.17**	**97**	PKP	PKPdf	02 42 04.6	-1.5
PLCA				PKPab	PKPab	02 42 49.7	+1.1
CPUP	**Villa Florida**	**161.53**	**40**	PKP	PKPdf	02 42 07.8	+0.2
	comp=Z,2.7nm,0.8s,baz=12,slow=5.2,SNR=6.1						
CPUP				PKPab	PKPab	02 42 54.7	+0.1
	comp=Z,9.0nm,0.9s,baz=312,slow=5.7,SNR=3.3						
CPUP				PP	PP	02 46 38.5	-0.6
	comp=Z,4.2nm,1.1s,baz=339,slow=8.3,SNR=3.8						
CPUP	**Villa Florida**	**161.53**	**40**	PKIKP	PKPdf	02 42 07.8	+0.2
CPUP						02 42 54.7	
CPUP						02 46 38.5	
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CPUP	**Villa Florida**	**161.53**	**40**	*e*PKPdf	PKPdf	02 42 08.3	+0.7
CPUP				*e*PKPab	PKPab	02 42 55.1	+0.5
CPUP				*e*PP	PP	02 46 38.6	-0.5

MAN 16 02:29:02.4, 975N×12223E, h18^{km}, mb2.8, ML4.2, MS4.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.94**	**22**	*e*P	Pb	02 29 19.5	-0.6
GUIM				*e*S	Sb	02 29 31.2	-1.0
SNPH	**Sibulan**	**1.07**	**112**	*e*P	Pb	02 29 21.0	-1.4
DCPH	**Dipolog City**	**1.60**	**136**	*e*P	Pn	02 29 28.7	-1.1
CUYO	**Cuyo Island**	**1.62**	**313**	*e*P	Pn	02 29 30.5	+0.5
CUYO				*e*S	Sn	02 29 50.8	+0.4
IPIL	**Ipil**	**1.98**	**170**	*e*P	Pn	02 29 35.0	+0.1
IPIL				*e*S	Sn	02 29 58.0	-1.3
PAGZ	**Pagadian**	**2.21**	**149**	*e*P	Pn	02 29 39.6	+1.5
PAGZ				*e*S	Sn	02 30 10.2	+5.3
BUSP	**Coron**	**3.00**	**318**	*e*P	Pn	02 29 49.7	+0.8
ENPP	**El Nido**	**3.12**	**298**	*e*P	Pn	02 29 51.3	+0.7

*NNC **16** 02:31:06.9±10.0, 3690N×6964E, h0^{km}, mb4.9, mpv4.8, Error ellipse: s-maj=113.7km s-min=44.8km az=7.0*
*MOS **16** 02:31:08.2±0.9, 3632N×7023E, h199^{km}, mb4.5/18, Error ellipse: s-maj=13.5km s-min=7.1km az=89.5*
*BJI **16** 02:31:08.9, 3661N×7000E, h212^{km}, mB5.3, mb4.8*
*NEIC **16** 02:31:09.1±1.5, 3629N×7021E, h194^{km}±14^{km}, mb4.7/6, Error ellipse: s-maj=10.9km s-min=7.1km az=214.0*
*ISCJB **16** 02:31:10.6±0.5, 3649N±003×7026E±006, h216^{km}±5^{km}, mb4.2/25, Error ellipse: s-maj=7.5km s-min=4.6km az=159.2*
*IDC **16** 02:31:11.3±0.9, 3629N×7031E, h216^{km}±8^{km}, mb4.0/17, mb1 4.1/20, mb1mx3.9/28, mbtmp4.6/20, Error ellipse: s-maj=13.0km s-min=12.2km az=104.0*
ISC 16 02:31:11.4±0.5, **3650N**±003×**7023E**±006, **h208**^{km}±5^{km}, **h216**^{km}±2.2^{km}**: pP-P, n97, σ1^{s}09**/101, **mb4.2**/25, **9C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.00**	**152**	⇓P	**Pn**	**02 32 02.5**	**+1.1**
CHCP	**Chirah Chowk**	**3.77**	**138**	P	**Pn**	**02 32 11.4**	**+0.8**
CHCP				S	**Sn**	**02 32 54.0**	**-3.1**
THW	**Thamme Wali**	**3.90**	**161**	⇑P	**Pn**	**02 32 12.7**	**+0.5**
SBDP	**Sheikh Budin**	**4.21**	**173**	⇑P	**Pn**	**02 32 15.6**	**-0.5**
DRP	**Derazinda**	**4.74**	**180**	⇓P	**Pn**	**02 32 23.2**	**+0.5**
SARP	**Sargodha**	**4.99**	**155**	P	**Pn**	**02 32 25.7**	**-0.1**
KSH	**Kashi**	**5.45**	**55**	⇑*i*P	**Pn**	**02 32 32.9**	**+1.3**
KSH				S	**Sn**	**02 33 33.8**	**-1.3**
KSH				Smax			
	comp=N,394nm,0.3s						
KSH				Smax			
	comp=E,435nm,0.5s						
KK31	**Karatay Array**	**6.60**	**2**	Pn	**Pn**	**02 32 46.6**	**+0.1**
	comp=E,11nm,0.2s,baz=245,slow=12,SNR=162						
KK31				⇑Sn	**Sn**	**02 33 51.9**	**-10**
	comp=E,86nm,0.7s,baz=205,slow=191,SNR=9.2						
AAK	**Ala-Archa**	**6.96**	**27**	*e*Pn	**Pn**	**02 32 50.5**	**-0.6**
AAK				*e*S	**Sn**	**02 34 07.3**	**-3.1**
TKM2	**Tokmak 2**	**7.63**	**31**	⇓Pn	**Pn**	**02 33 00.0**	**+0.2**
	comp=E,13nm,0.7s						
TKM2				⇓Sn	**Sn**	**02 34 23.9**	**-2.4**
	comp=E,15nm,0.9s						
KNDC	**Almaty**	**8.48**	**36**	⇑Pn	**Pn**	**02 33 11.7**	**+0.9**
	comp=E,341nm,0.9s						
MK31	**Makanchi Array**	**13.66**	**37**	P	**Pn**	**02 34 16.3**	**-0.5**
MK31				pmax	pmax		
	comp=Z,11nm,0.6s						
MKAR	**Makanchi Array**	**13.66**	**37**	P	**Pn**	**02 34 16.6**	**-0.2**
	comp=Z,3.8nm,0.3s,baz=205,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**13.66**	**37**	P	**Pn**	**02 34 16.6**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KOLN	**Koldanda**	**14.27**	**124**	*e*P	**Pn**	**02 34 23.5**	**-0.8**
	comp=Z,78nm,0.9s						
AB31	**Akbulak array**	**14.80**	**333**	⇓P	**Pn**	**02 34 30.0**	**-0.8**
	comp=Z,2.9nm,0.3s,baz=146,slow=12						
AB31				⇑S	**S**	**02 37 13.2**	**-1.7**
	comp=Z,8.3nm,0.7s,baz=155,slow=23						
GKN	**Gorkha**	**14.83**	**121**	*e*P	**Pn**	**02 34 31.2**	**+0.1**
	comp=Z,131nm,0.5s						
WMQ	**Urumqi**	**15.21**	**56**	⇓*i*P	**Pn**	**02 34 36.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,35nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,757nm,4.6s						
DMN	**Daman**	**15.40**	**121**	*e*P	**Pn**	**02 34 38.3**	**+0.3**
KKN	**Kakani**	**15.41**	**120**	*e*P	**Pn**	**02 34 37.2**	**-0.9**
	comp=Z,65nm,0.5s						
PKI	**Pulchoki**	**15.63**	**120**	*e*P	**Pn**	**02 34 41.1**	**+0.2**
	comp=Z,188nm,0.7s						
GUN	**Gumba**	**15.76**	**118**	*e*P	**Pn**	**02 34 42.1**	**-0.2**
JIRN	**Jiri**	**16.12**	**119**	*e*P	**P**	**02 34 46.5**	**+0.4**
	comp=Z,256nm,0.7s						
VOSK	**Vostochnaya**	**16.23**	**2**	⇑P	**P**	**02 34 48.0**	**+0.7**
	comp=Z,32nm,1.0s						
ZRNK	**Zerenda**	**16.48**	**357**	⇑P	**P**	**02 34 51.6**	**+1.7**
	comp=Z,20nm,0.5s						
ZRNK	**Zerenda**	**16.48**	**357**	P	**P**	**02 34 51.8**	**+1.8**
ZRNK				pmax	pmax		
	comp=Z,14nm,0.5s						
ZRNK	**Zerenda**	**16.48**	**357**	*e*P	**P**	**02 34 51.1**	**+1.1**
	comp=Z,41nm,0.5s						
AKTK	**Aktyubinsk**	**16.48**	**332**	P	**P**	**02 34 50.8**	**+0.8**
AKTO	**Aktyubinsk**	**16.48**	**332**	P	**P**	**02 34 50.8**	**+0.8**
	comp=Z,5.4nm,0.3s,baz=130,slow=9.8,SNR=28						
AKTO	**Aktyubinsk**	**16.48**	**332**	P	**P**	**02 34 50.8**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BVA0	**Borovoye Array**	**16.53**	**0**	⇓P	**P**	**02 34 51.5**	**+1.0**
	comp=Z,3.9nm,0.6s,baz=154,slow=8.9,SNR=55						
BVA0	**Borovoye Array**	**16.53**	**0**	*i* P	**P**	**02 34 53.1**	**+2.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**16.53**	**0**	P	**P**	**02 34 51.7**	**+1.2**
	comp=Z,7.9nm,0.3s,baz=162,slow=10,SNR=28						
BVAR	**Borovoye Array**	**16.53**	**0**	P	**P**	**02 34 51.7**	**+1.2**
BVAR				pmax	pmax		

	comp=Z,8.0nm,0.3s						
BRVK	Borovoye	16.56	0	eP	P	02 34 51.3	+0.4
BRVK				pmax	pmax		
	comp=Z,20nm,0.5s						
BRVK	Borovoye	16.56	0	eP	P	02 34 51.3	+0.4
	comp=Z,20nm,0.5s						
CHKZ	Chkalovo	17.18	1	⇑P	P	02 34 59.2	+1.5
	comp=Z,18nm,0.6s						
LSA	Lhasa	18.77	105	eP	P	02 35 13.8	-1.2
LSA				pmax	pmax		
	comp=Z,15nm,0.6s						
LSA	Lhasa	18.77	105	eP	P	02 35 13.8	-1.1
	comp=Z,15nm,0.6s						
ZAL	Zalesovo	20.16	26	P	P	02 35 30.4	+0.5
	comp=Z,28nm,0.4s,baz=253,slow=5.6,SNR=24						
ZAL	Zalesovo	20.16	26	P	P	02 35 30.4	+0.5
ZAL				pmax	pmax		
	comp=Z,28nm,0.4s						
GNI	Garni	20.31	288	i P	P	02 35 23.2	-8.2
GNI				pmax	pmax		
	comp=Z,49nm,1.1s						
HYB	Hyderabad	20.38	157	i P	P	02 35 34.0	+1.8
NVS	Novosibirsk	20.41	22	eP	P	02 35 31.4	-1.1
NVS				pmax	pmax		
	comp=N,17nm,0.5s						
NVS				pmax	pmax		
	comp=E,9.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,20nm,0.5s						
ARU	Arti	21.44	342	eP	P	02 35 43.8	+0.4
ARU				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
ARU	Arti	21.44	342	eP	P	02 35 43.8	+0.5
	comp=Z,28nm,0.8s,mb4.8						
GTA	Gaotai	23.46	74	eP	P	02 36 03.9	+1.8
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.3						
SONM	Songino Array	28.85	55	P	P	02 36 51.7	+1.3
	comp=Z,2.2nm,0.6s,mb4.0,baz=270,slow=9.1,SNR=14						
SONM	Songino Array	28.85	55	P	P	02 36 51.7	+1.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ULN	Ulaanbaatar	29.29	56	eP	P	02 36 54.8	+0.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
ULN	Ulaanbaatar	29.29	56	eP	P	02 36 54.8	+0.5
	comp=Z,4.0nm,0.6s,mb4.2						
CSS	Prodhromos	29.88	278	eP	P	02 36 57.0	-2.5
	comp=Z,22nm,0.8s,mb4.8						
KMI	Kunming	30.00	103	P	P	02 37 01.6	+1.1
KMI				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
CHTO	Chiang Mai	30.77	117	eP	P	02 37 07.7	+0.4
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
CHTO	Chiang Mai	30.77	117	eP	P	02 37 07.7	+0.4
	comp=Z,3.0nm,0.6s,mb4.1						
HHC	Hu-ho-hao-te	32.34	69	eP	P	02 37 23.0	+1.9
HHC				PP	PP	02 38 38.5	-0.1
HHC				PCP	PcP	02 40 06.1	+2.4
HHC				S	S	02 42 24.0	+4.6
HHC				PCS	PcS	02 43 49.3	+0.4
HHC				SS	SS	02 44 33.3	-6.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,290nm,4.5s						
HHC				LR	LR		
	comp=N,332nm,5.3s						
HHC				LR	LR		
	comp=E,384nm,5.1s						
HHC				LR	LR		
	comp=Z,268nm,5.7s						
GYA	Guiyang	32.48	97	P	P	02 37 23.1	+0.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JOF	Joensuu	35.57	330	ep	P	02 37 48.5	-0.3
	comp=Z,3.8nm,0.3s,mb4.4						
JOF	Joensuu	35.57	330	eP	P	02 37 48.5	-0.3
JOF				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.4						
LVV	L'vov	35.67	307	eP	P	02 37 46.1	-3.6
FINES	FINESS Array B	37.14	326	P	P	02 38 02.9	+0.8
	comp=Z,3.8nm,0.8s,mb4.0,baz=108,slow=9.3,SNR=8.3						
FINES				pP	pP	02 38 47.5	+2.2
	comp=Z,1.8nm,0.7s,baz=110,slow=13,SNR=1.7						
FINES	FINESS Array B	37.14	326	P	P	02 38 02.9	+0.8
FINES				*PP	pP	02 38 47.5	+2.1
FINES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	FINESS Array B	37.14	326	P	P	02 38 02.9	+0.8
FINES				pP	pP	02 38 47.5	+2.2
KAF	Kangasniemi	37.30	327	ep	P	02 38 03.5	+0.1
ARCES	ARCESS Array B	40.91	338	P	P	02 38 34.4	+1.1
	comp=Z,2.2nm,0.4s,mb3.9,baz=115,slow=7.8,SNR=14						
ARCES	ARCESS Array B	40.91	338	P	P	02 38 34.4	+1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ARCES	ARCESS Array B	40.91	338	P	P	02 38 34.4	+1.1
NB2	NORSAR Subarra	44.01	323	P	P	02 38 58.2	-0.1
	comp=Z,2.6nm,0.6s,mb3.7,baz=95,slow=8.6						
NOA	NORSAR Array B	44.01	323	P	P	02 38 58.2	-0.1
	comp=Z,1.0nm,0.5s,mb3.4,baz=103,slow=7.3,SNR=5.9						
NOA				pP	pP	02 39 43.8	+0.9
	comp=Z,3.3nm,0.9s,baz=98,slow=8.1,SNR=4.2						
NOA	NORSAR Array B	44.01	323	P	P	02 38 58.2	-0.1
NOA				*PP	pP	02 39 43.8	+1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	Kilima Mbogo	48.37	227	P	P	02 39 30.9	-1.3
	comp=Z,4.0nm,0.6s,mb3.9,baz=37,slow=12,SNR=11						
KMBO	Kilima Mbogo	48.37	227	P	P	02 39 31.0	-1.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MJAR	Matsushiro Arr	53.53	68	P	P	02 40 08.5	-2.1
	comp=Z,1.7nm,0.7s,mb3.7,baz=290,slow=9.7,SNR=5.1						
MJAR	Matsushiro Arr	53.53	68	P	P	02 40 08.5	-2.1
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	Inuvik	74.01	9	P	P	02 42 24.2	0.0
	comp=Z,5.8nm,0.5s,mb4.5,baz=0.9,slow=6.7,SNR=19						
INK	Inuvik	74.01	9	P	P	02 42 24.2	0.0
INK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
INK	Inuvik	74.01	9	P	P	02 42 24.2	0.0
DBIC	Dimbokro	74.08	267	P	P	02 42 23.5	-1.1
	comp=Z,18nm,1.1s,mb4.6,baz=11,slow=9.6,SNR=6.0						
DBIC	Dimbokro	74.08	267	P	P	02 42 23.5	-1.1
DBIC				pmax	pmax		
	comp=Z,18nm,1.1s						
FITZ	Fitzroy Crossi	75.39	126	P	P	02 42 30.8	-1.3
	comp=Z,1.5nm,0.9s,mb3.6,baz=345,slow=9.0,SNR=5.3						
BOSA	Boshof	77.34	220	P	P	02 42 43.1	0.0
	comp=Z,9.3nm,1.1s,mb4.3,baz=353,slow=8.0,SNR=5.3						
BOSA	Boshof	77.34	220	P	P	02 42 43.1	0.0
BOSA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
YKA	Yellowknife Ar	81.28	2	P	P	02 43 04.1	-0.2
	comp=Z,4.3nm,0.7s,mb4.2,baz=351,slow=5.4,SNR=14						
YKA				pP	pP	02 43 56.6	+2.1
	comp=Z,4.4nm,0.7s,baz=350,slow=5.4,SNR=12						
YKA	Yellowknife Ar	81.28	2	P	P	02 43 04.1	-0.2
YKA				*PP	pP	02 43 56.6	+2.1
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA	Yellowknife Ar	81.28	2	P	P	02 43 04.1	-0.2
YKA				pP	pP	02 43 56.6	+2.1
SCHQ	Schefferville	81.86	337	P	P	02 43 06.9	-0.4
	comp=Z,1.7nm,0.6s,mb3.9,baz=223,slow=13,SNR=3.9						
WRA	Warramunga Arr	82.52	121	P	P	02 43 09.1	-1.7
	comp=Z,4.0nm,0.7s,mb4.2,baz=323,slow=4.9,SNR=25						
WRA	Warramunga Arr	82.52	121	P	P	02 43 09.1	-1.7
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DLBC	Dease Lake	83.92	11	P	P	02 43 18.4	+0.5
	comp=Z,1.8nm,0.7s,mb3.9,baz=320,slow=11,SNR=4.4						
ASAR	Alice Springs	84.76	124	P	P	02 43 20.6	-1.6
	comp=Z,3.8nm,0.8s,mb4.2,baz=314,slow=4.8,SNR=27						
ASAR	Alice Springs	84.76	124	P	P	02 43 20.6	-1.6
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTA	Charters Tower	91.10	114	P	P	02 43 50.7	-1.6
	comp=Z,2.2nm,0.5s,mb4.3,baz=231,slow=14,SNR=4.1						
CTA	Charters Tower	91.10	114	P	P	02 43 50.7	-1.7
CTA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CTA	Charters Tower	91.10	114	P	P	02 43 50.7	-1.6
PCRV	Puerto La Cruz	117.11	308	PKP	PKPdf	02 49 30.7	-0.8
	comp=Z,21nm,1.1s,baz=303,slow=0.7,SNR=3.2						
CPUP	Villa Florida	134.59	267	PKP	PKPdf	02 50 04.1	-0.8
	comp=Z,0.8nm,0.5s,baz=70,slow=2.8,SNR=4.6						
CPUP	Villa Florida	134.59	267	PKIKP	PKPdf	02 50 04.1	-0.8
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						

CSEM ***16*** *02:51:43.6±0.1, 3850N×2772E, h8^{km}, MD3.3, Error ellipse: s-maj=1.7km s-min=1.3km az=105.0*
ISCJB ***16*** *02:51:44.3±0.5, 3850N±002×2772E±004, h8^{km}±4^{km}, Error ellipse: s-maj=4.9km s-min=3.4km az=46.2*
ATH ***16*** *02:51:44.1, 3849N×2777E, h30^{km}±2^{km}, MD3.3/3*
ISK ***16*** *02:51:44.1, 3851N×2768E, h13^{km}, MD3.3*
ISC 16 02:51:44.8±0.5**, 3850N**±002×**2771E**±004**, h11**^{km}±4^{km}**, n29, σ0^{s}65**/39**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	Bornova	0.36	254	i P	Pg	02 51 51.6	-0.3
KDAG				i S	Sg	02 51 58.1	+1.4
IZM	Izmir	0.36	254	i PG	Pg	02 51 51.7	-0.3
IZM				i SG	Sg	02 51 56.7	-0.2
AKHS	Akhisar	0.39	12	i P	Pg	02 51 51.9	-0.6
AKHS				i S	Sg	02 51 57.1	-0.5
AKS	Akhisar	0.39	12	i PG	Pg	02 51 51.5	-1.0
AKS				SG	Sg	02 51 58.4	+0.8
BLCB	Balcova	0.53	258	i PG	Pg	02 51 54.8	-0.4
BLCB				SG	Sg	02 52 02.9	+0.6
AYDN	Tasoluk	0.85	171	i P	Pg	02 52 00.7	-0.5
AYDN				i S	Sg	02 52 12.9	+0.6
SMG	Samos	1.05	221	ePN	Pn	02 52 04.5	-0.9
SMG				eSN	Sn	02 52 19.4	-0.7
AYVA	Ayvalik	1.13	316	i P	Pb	02 52 06.0	-0.4
AYVA				i S	Sb	02 52 21.4	+0.2
MLSB	Milas	1.20	177	PN	Pn	02 52 07.3	-0.3
DENT	Denizli	1.28	125	PN	Pn	02 52 08.8	+0.1
BTOK	Tokmak	1.28	11	i P	Pn	02 52 08.0	-0.7
BTOK				i S	Sb	02 52 25.7	+0.1
DST	Dursunbey	1.32	33	PN	Pn	02 52 08.2	-1.0
PRK	Paraskevi	1.34	304	ePN	Pn	02 52 09.4	-0.2
PRK				eSN	Sn	02 52 28.0	+0.6
YER	Yerkesik	1.44	161	PN	Pn	02 52 10.7	-0.1
BODT	Bodrum	1.47	192	PN	Pn	02 52 10.6	-0.7
CANB	Canakkale	1.59	342	PN	Pn	02 52 12.5	-0.5
EZN	Ezine	1.71	321	ePN	Pn	02 52 14.4	-0.1
DAT	Datca	1.77	183	ePN	Pn	02 52 15.7	+0.3
KCT	Karacabey	1.83	16	ePN	Pn	02 52 16.3	0.0
ULDT	Uludag	1.98	34	i P	Pn	02 52 21.0	+2.7
MRMT	Marmara Adasi	2.10	358	ePN	Pn	02 52 19.3	-0.7
FETY	Fethiye	2.16	149	ePN	Pn	02 52 21.5	+0.7
GEMT	Gemlik	2.25	30	ePN	Pn	02 52 22.3	+0.3
MFT	Murefte	2.31	352	ePN	Pn	02 52 23.2	+0.4
YLV	Yalova	2.43	31	ePN	Pn	02 52 25.5	+1.0
ELL	Elmali	2.47	134	ePN	Pn	02 52 25.4	+0.3
ADVT	Abdulvahap	2.49	39	ePN	Pn	02 52 25.6	+0.3
HRT	Hereke	2.77	33	ePN	Pn	02 52 29.4	+0.3
RDO	Rodhopi	3.13	328	ePN	Pn	02 52 34.3	+0.2

GII ***16*** *03:28:01.1±0.0, 3367N×3527E, h0^{km}±1^{km}*
ISCJB ***16*** *03:28:03.3±0.9, 3352N±004×3523E±007, h0^{km}, Error ellipse: s-maj=9.6km s-min=4.4km az=60.5*
GRAL ***16*** *03:28:03.3±1.7, 3348N×3517E, h0^{km}±536^{km}, MD2.7*
CSEM ***16*** *03:28:04.1±0.1, 3345N×3532E, h2^{km}, ML2.7, Error ellipse: s-maj=3.6km s-min=1.8km az=110.0, Mining explosion.*
ISC 16 03:28:03.9±0.9**, 3351N**±004×**3525E**±007**, h0**^{km}**, n16, σ0^{s}92**/20**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATL	Matirih	0.07	106	i Pg	Pg	03 28 04.8	-0.5
HNTI	Hanita	0.43	188	Pg	Pg	03 28 13.0	+0.8
KSDI	Kefar Szold	0.47	132	Pg	Pg	03 28 12.4	-0.5
HRI	Mount Hermon	0.47	121	Pg	Pg	03 28 12.1	-0.9
RCY	Rachaya	0.48	93	ePg	Pg	03 28 12.4	-0.7
RCY				eSg	Sg	03 28 20.0	+0.7
MMA1	Mount Meron ar	0.51	165	Pg	Pg	03 28 13.0	-0.6
MMA0	Mount Meron ar	0.51	165	Pg	Pg	03 28 13.2	-0.4
MMA2	Mount Meron ar	0.51	165	Pg	Pg	03 28 13.6	-0.2
MMA2				Sg	Sg	03 28 23.5	+3.1
BHL	Bhannes	0.52	40	ePg	Pg	03 28 13.3	-0.6
BHL				eSg	Sg	03 28 22.1	+1.5
GLH	Golan-Tel Qazi	0.86	157	Pg	Pg	03 28 20.8	+0.3
OFRI	'Ofer	0.91	194	Pg	Pg	03 28 21.6	+0.2
HWQ	Hawqa	0.96	37	ePg	Pg	03 28 22.8	+0.4
MMLI	Mount Malkishu	1.08	172	Pg	Pg	03 28 24.5	-0.1
HMDT	Nahal Hemdat	1.27	169	Pn	Pn	03 28 27.8	-1.2
SLTI	Sal'it	1.28	188	Pn	Pn	03 28 27.8	-1.2
SLTI				Sn	Sn	03 28 48.9	+2.1
DRGI	Dragot	1.91	176	Pn	Pn	03 28 38.1	+0.3

BEO ***16*** *03:31:30.7±0.5, 4404N×2001E, h16^{km}±1^{km}*
ISCJB ***16*** *03:31:31.1±0.5, 4408N±003×2002E±004, h15^{km}±3^{km}, Error ellipse: s-maj=4.8km s-min=3.9km az=95.3*
CSEM ***16*** *03:31:31.3±0.2, 4402N×1997E, h12^{km}, ML2.3/3, Error ellipse: s-maj=5.8km s-min=3.6km az=50.0*
VIE ***16*** *03:31:35.5±0.4, 4433N×1992E, h10^{km}, mb2.5/3, ML2.3/3, Error ellipse: s-maj=3.4km s-min=2.6km az=170.0 72 km SW of Beograd*
ISC 16 03:31:31.8±0.6**, 4403N**±003×**1996E**±004**, h9**^{km}±3^{km}**, n38, σ1^{s}14**/48**, 8C-6D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIVS	Divcibare	0.07	21	i Pg	Pg	03 31 33.4	-0.4
DIVS				Sg	Sg	03 31 36.0	+0.8
SJES	Sjenica	0.77	181	Pg	Pg	03 31 46.7	+0.2
BEO	Belgrade	0.86	24	i Pg	Pg	03 31 48.4	0.0
BEO				Sg	Sg	03 31 58.6	-1.1
SVIS	Svilajnac	0.95	73	i Pg	Pg	03 31 49.4	-0.5
SVIS				Sg	Sg	03 32 01.1	-1.1
SVIS	Svilajnac	0.95	73	Pg	Pg	03 31 49.4	-0.6
SVIS				Sg	Sg	03 32 01.1	-1.2
FGSL	Fruska Gora	1.13	355	Pg	Pg	03 31 53.0	-0.4
FGSL				Sg	Sg	03 32 09.3	+1.2
BARS	Barje	1.82	131	i Pn	Pn	03 32 03.4	+0.1
BARS				Sg	Sg	03 32 29.2	-1.1
BARS	Barje	1.82	131	Pn	Pn	03 32 03.4	+0.1
BARS				Sg	Sg	03 32 29.2	-1.1
BZS	Buzias	1.97	36	⇑iP	Pn	03 32 08.2	+2.8
BZS	Buzias	1.97	36	S	Sg	03 32 35.4	+0.2
PKSM	Moragy	2.37	337	⇑iP	Pn	03 32 11.8	+1.0
PKSM	Moragy	2.37	337	S	Sg	03 32 47.7	-0.2
PKSM	Moragy	2.37	337	⇑ePn	Pn	03 32 10.5	-0.3
PKSM	Moragy	2.37	337	⇑iP	Pn	03 32 11.8	+1.0
GZR	Gura Zlata	2.43	55	⇓iP	Pn	03 32 12.4	+0.8
GZR	Gura Zlata	2.43	55	S	Sg	03 32 47.8	-1.9
VTS	Vitosha	2.78	120	⇓iP	Pn	03 32 15.7	-0.7
VTS	Vitosha	2.78	120	i P	Pn	03 32 15.0	-1.4
KKB	Krupnik	3.15	132	i P	Pn	03 32 22.2	+0.6
DRGR		3.37	34	⇑iP	Pg	03 32 34.0	-2.4
DRGR		3.37	34	S	Sg	03 33 21.7	+1.7
KOGS	Kog	3.56	314	i Pn	Pn	03 32 27.8	+0.6
GOLS	Golise	3.65	304	i Pn	Pn	03 32 29.4	+1.0
MMB	Musomiste	3.70	130	i P	Pn	03 32 28.5	-0.6
LEGS	Legarje	3.81	302	i Pn	Pn	03 32 31.5	+0.9
VOIR		3.89	67	⇑iP	Pn	03 32 35.5	+3.8
VOIR		3.89	67	S	Sn	03 33 20.1	+2.6
GROS	Grobnik	3.97	309	i Pn	Pn	03 32 33.4	+0.5
SZH	Strazhica	4.40	98	i P	Pn	03 32 38.0	-0.8
KECS	Kecovo	4.47	5	eSN	Sn	03 33 30.1	-1.6
ARSA	Arzberg	4.47	318	⇓iPn	Pn	03 32 40.5	+0.7
ARSA				⇓iSn	Sn	03 33 30.4	-1.5
MLR	Muntele Rosu	4.51	69	S	Sg	03 33 58.4	+2.0
VYHS	Vyhne	4.53	351	ePN	Pn	03 32 41.0	+0.5
VYHS				eSN	Sn	03 33 33.9	+0.6
ZST	Bratislava	4.61	336	eSN	Sn	03 33 33.7	-1.7
CONA	Conrad Observa	4.83	325	⇑iPn	Pn	03 32 44.9	+0.3
CONA				⇑iSn	Sn	03 33 38.9	-1.8
CRVS	Cervenica-Dubn	4.98	12	ePN	Pn	03 32 45.5	-1.2
BURAR	Bucovina Array	5.13	44	⇓iP	Pn	03 32 50.1	+1.3
MOA	Molln	5.51	316	⇓iPn	Pn	03 32 54.2	+0.3

IDC 16 03:55:02.9±6.1**, 1823S**×**17588W, h0**^{km}**, mb4.0**/2**, mb1 4.2**/2**, mb1mx3.8**/13**, mbtmp4.0**/2**, Error ellipse: s-maj=313.6km s-min=43.8km az=146.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.94	259	P	P	04 03 35.3	0.0
	0.8nm,0.7s,baz=98,slow=6.9,SNR=12						
ASAR	Alice Springs	47.02	254	P	P	04 03 36.9	+0.9
	2.1nm,0.6s,baz=88,slow=8.7,SNR=27						
BRTR	Keskin Array B	146.69	316	PKPbc	PKPbc	04 14 44.8	-1.8
	0.5nm,0.5s,baz=92,slow=5.9,SNR=3.8						
GERES	GERESS Array B	148.49	348	PKPbc	PKPbc	04 14 52.0	+0.5
	0.6nm,0.4s,baz=29,slow=3.0,SNR=8.0						

MEX 16 04:21:48.7±0.9**, 1808N**×**9696W, h77**^{km}±10^{km}**, MD3.8, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPIG	Tehuac#an	0.51	312	i P	Pn	04 22 01.8	-0.5
TPIG				i S	Sn	04 22 11.5	-0.9
UTMO	Huajuapan	0.84	253	i P	Pn	04 22 04.7	-1.0
UTMO				i S	Sn	04 22 16.7	-1.7
OXX	Oaxaca	1.01	167	eP	Pn	04 22 06.5	-1.2
OXX				i S	Sn	04 22 20.0	-2.0
VHO	Vista Hermosa	1.02	168	i P	Pn	04 22 06.8	-1.0
VHO				i S	Sn	04 22 20.4	-1.7
LVIG	Laguna Verde	1.71	17	i P	Pn	04 22 15.4	-1.3
LVIG				i S	Sn	04 22 35.4	-2.5
CMIG	Matias Romero	2.21	116	i P	Pn	04 22 22.1	-1.1
CMIG				i S	Sn	04 22 48.8	-0.9

MAN 16 04:26:30.5, 968N×**12573E, h14**^{km}**, mb1.6, ML3.5, MS2.4, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.26	293	⇓eP	Pg	04 26 37.6	+1.6
SCPH				eS	Sg	04 26 46.3	+6.6
BUTP	Butuan	0.72	189	eP	Pg	04 26 44.4	-0.1
BUTP				eS	Sg	04 26 57.9	+3.9
BUKP	Musuan	1.91	200	eP	Pn	04 27 03.0	+0.3
BUKP				eS	Sn	04 27 30.4	+4.0
SNPH	Sibulan	2.48	262	⇑iP		04 25 35.0	
	11μm,25.0s						
SNPH				i S		04 25 38.0	

IDC 16 04:26:33.4±5.6**, 1783S**×**17522W, h215**^{km}±30^{km}**, mb3.7**/2**, mb1 3.8**/3**, mb1mx3.4**/14**, mbtmp4.2**/3**, Error ellipse: s-maj=179.3km s-min=21.1km az=145.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.11	41	P	Pn	04 27 51.7	+2.1
	4.7nm,0.3s,baz=313,slow=19,SNR=4.3						
AFI				S	S	04 28 49.3	-0.6
	19nm,0.3s,baz=32,slow=20,SNR=12						
WRA	Warramunga Arr	47.63	259	P	P	04 34 47.7	-0.2
	0.7nm,0.5s,baz=98,slow=6.5,SNR=17						
ASAR	Alice Springs	47.74	254	P	P	04 34 49.2	+0.6
	4.7nm,0.6s,baz=89,slow=8.8,SNR=69						
ARCES	ARCESS Array B	126.74	351	PKP	PKPdf	04 45 09.6	-1.5
	2.0nm,0.9s,baz=27,slow=0.4,SNR=5.4						
BRTR	Keskin Array B	146.84	317	PKPbc	PKPbc	04 45 50.3	+0.2
	0.8nm,0.7s,baz=45,slow=1.0,SNR=4.9						
GERES	GERESS Array B	148.22	349	PKPbc	PKPbc	04 45 54.0	+0.1
	0.3nm,0.4s,baz=35,slow=2.4,SNR=3.9						

IDC ***16*** *04:48:27.4±6.9, 880S×10820W, h0^{km}, mb3.6/5, mb1 3.9/5, mb1mx3.8/13, mbtmp3.6/5, MS3.8/12, Ms1 3.8/12, ms1mx3.7/21, Error ellipse: s-maj=231.7km s-min=24.0km az=50.0*
ISCJB ***16*** *04:48:28.9±1.0, 86S±01×1080W±02, h10^{km}, mb4.0/15, MS3.9/12, Error ellipse: s-maj=31.0km s-min=13.3km az=121.0*
NEIC ***16*** *04:48:30.3±1.0, 860S×10803W, h10^{km}, mb4.2/11, Error ellipse: s-maj=29.2km s-min=12.2km az=60.0*
ISC 16 04:48:30.5±1.0**, 86S**±01×**1081W**±02**, h10**^{km}**, n29, σ0^{s}94**/18**, mb4.0**/15**, MS3.9**/12**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	29.42	89	LR	LR	05 03 27.0	
	comp=Z,136nm,21.8s,MS3.5,baz=183,slow=30						
LPIG	La Paz	32.59	356	LR	LR	05 05 10.5	
	comp=Z,68nm,19.9s,MS3.3,baz=359,slow=31						
LPAZ	La Paz	39.66	105	P	P	04 56 03.7	+1.2
	0.6nm,0.7s,mb3.4,baz=286,slow=5.1,SNR=3.0						
LPAZ				LR	LR	05 08 41.8	
	comp=Z,87nm,21.6s,MS3.6,baz=249,slow=30						
LPAZ	La Paz	39.66	105	eP	P	04 56 05.5	+3.0
	4.6nm,1.0s,mb4.2						
LPAZ				LR	LR	05 08 41.8	
MNTX	Cornudas Mount	40.17	4	P	P	04 56 07.7	+1.0
	3.0nm,1.1s,mb3.9						
PPT	Papeete	41.34	253	LR	LR	05 08 55.5	
	comp=Z,289nm,20.8s,MS4.1,baz=112,slow=30						
CFAA	Coronel Fontan	43.47	127	LR	LR	05 09 29.5	
	comp=Z,30nm,21.4s,MS3.2,baz=320,slow=29						
WMOK	Wichita Mounta	44.00	11	eP	P	04 56 37.6	-0.4
	1.0nm,0.6s,mb3.7						
SAML	Samuel	44.32	94	eP	P	04 56 41.6	+1.0
	6.3nm,1.1s,mb4.3						
MIAR	Mount Ida	45.06	17	eP	P	04 56 46.7	+0.2
	9.0nm,1.1s,mb4.5						
PLCA	Paso Flores	46.14	140	LR	LR	05 12 43.6	
	comp=Z,218nm,18.9s,MS4.1,baz=11,slow=32						
SIV	San Ignacio	46.40	104	P	P	04 56 55.8	-1.2
	0.8nm,0.7s,mb3.8,baz=244,slow=12,SNR=3.4						
PLAL	Pickwick Lake	47.30	22	eP	P	04 57 03.4	-0.7
	4.6nm,0.9s,mb4.4						
NVAR	Mina Array Bea	47.77	349	P	P	04 57 07.6	-0.2
	0.2nm,0.4s,mb3.5,baz=174,slow=9.1,SNR=3.2						
NVAR	Mina Array Bea	47.77	349	P	P	04 57 07.6	-0.2
WVT	Waverly	48.41	22	eP	P	04 57 11.3	-1.4
	1.6nm,0.7s,mb4.2						
HWUT	Hardware Ranch	50.08	357	eP	P	04 57 25.9	+0.4
	1.5nm,0.8s,mb4.1						
CPUP	Villa Florida	51.13	117	P	P	04 57 32.8	-0.6
	1.7nm,0.8s,mb4.1,baz=245,slow=8.2,SNR=3.4						
PDAR	Pinedale Array	51.15	359	P	P	04 57 33.9	+0.3
	0.4nm,0.8s,mb3.4,baz=158,slow=9.7,SNR=2.6						
YBH	Yreka Blue Hor	51.88	346	LR	LR	05 14 34.7	
	comp=Z,157nm,18.8s,MS4.1,baz=174,slow=30						
HLID	Hailey	52.25	354	eP	P	04 57 43.1	+1.4
	1.4nm,0.8s,mb3.9						
RSSD	Black Hills	52.61	4	eP	P	04 57 44.8	+0.3
	2.5nm,0.9s,mb4.1						
BDFB	Brasilia	58.95	103	LR	LR	05 21 46.9	
	comp=Z,121nm,19.1s,MS4.0,baz=162,slow=34						
YKA	Yellowknife Ar	71.08	357	LR	LR	05 31 22.9	
	comp=Z,59nm,19.0s,MS3.9,baz=270,slow=36						
SCHQ	Schefferville	72.00	24	LR	LR	05 29 36.4	
	comp=Z,80nm,20.4s,MS4.0,baz=259,slow=34						
KDAK	Kodiak Island	75.41	337	LR	LR	05 25 13.1	
	comp=Z,178nm,19.7s,MS4.4,baz=107,slow=29						
DAWY	Dawson	76.25	346	eP	P	05 00 17.5	-1.7
INK	Inuvik	78.83	351	LR	LR	05 31 12.8	
	comp=Z,91nm,19.8s,MS4.1,baz=57,slow=32						
QSPA	South Pole Qui	81.46	180	eP	P	05 00 48.0	+0.2
	4.8nm,1.0s,mb4.4						

WEL 16 04:56:32.1±0.6**, 3885S**×**17525E, h229**^{km}±4^{km}**, ML3.7**/9**, Error ellipse: s-maj=9.9km s-min=6.0km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	Moawhango	0.69	145	PN	Pn	04 57 03.7	+0.4
MOVZ				SN	S	04 57 26.5	-1.2
WAZ	Wanganui	0.93	192	PN	Pn	04 57 05.2	+0.7
WAZ				SN	S	04 57 29.7	-0.2
TSZ	Takapari Road	1.33	156	PN	Pn	04 57 08.0	+0.8
TSZ				SN	S	04 57 34.3	-0.2
URZ	Urewera	1.57	69	PN	Pn	04 57 08.8	-0.2
URZ				SN	S	04 57 36.7	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MRZ	Mangatainoka R	1.83	172	PN	Pn	04 57 11.6	+0.3
KIW	Kapiti Island	2.03	187	PN	Pn	04 57 13.1	0.0
DUWZ	D'Urville Isla	2.21	207	PN	Pn	04 57 14.3	-0.5
CAW	Cannon Point	2.27	183	PN	Pn	04 57 15.3	-0.2
CAW				SN	S	04 57 48.0	-1.5
MRW	Makara Radio	2.42	190	PN	Pn	04 57 16.6	-0.5
TCW	Tory Channel	2.48	197	PN	Pn	04 57 17.3	-0.3
MSWZ	Moikau Station	2.57	180	PN	Pn	04 57 18.0	-0.6
TUWZ	Tuamarina	2.77	201	PN	Pn	04 57 20.3	-0.5
NNZ	Nelson	2.77	211	PN	Pn	04 57 19.5	-1.2
QRZ	Quartz Range	2.88	226	PN	Pn	04 57 19.8	-2.2
BSWZ	Blackbirch Sta	3.05	200	PN	Pn	04 57 23.3	-0.6
THZ	Tophouse	3.42	211	PN	Pn	04 57 26.2	-1.9
KHZ	Kahutara	3.80	199	PN	Pn	04 57 31.3	-1.3
LTZ	Lake Taylor	4.54	209	SN	S	04 58 31.4	-5.1
MQZ	McQueen's Vall	5.24	201	SN	S	04 58 45.9	-6.4

IDC 16 05:01:04.9±6.7, 2125S×14877E, h0km, mb1 3.5/3, mb1mx3.4/10, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=56.7km s-min=42.4km az=63.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	12.37	210	Pn	Pn	05 04 02.5	+0.3
	0.2nm,0.3s,baz=23,slow=13,SNR=2.9						
STKA				Lg		05 07 35.9	
	0.2nm,0.3s,baz=320,slow=20,SNR=3.3						
WRA	Warramunga Arr	13.57	273	Pn	Pn	05 04 19.5	+0.8
	0.1nm,0.3s,baz=96,slow=13,SNR=4.7						
WRA				Lg		05 08 17.8	
	0.1nm,0.3s,baz=95,slow=27,SNR=5.3						
ASAR	Alice Springs	13.95	257	Pn	Pn	05 04 23.6	-0.2
	0.1nm,0.3s,baz=86,slow=13,SNR=5.2						
ASAR				Lg		05 08 26.8	
	0.1nm,0.3s,baz=64,slow=31,SNR=4.2						

*ISCJB **16** 05:20:52.5±0.5, 4460N±007×14379E±0.10, h240km±4km, mb3.5/7, Error ellipse: s-maj=12.2km s-min=11.1km az=61.7*
*IDC **16** 05:20:53.9±0.8, 4472N×14367E, h234km±10km, mb3.3/6, mb1 3.4/7, mb1mx3.2/21, mbtmp3.8/7, Error ellipse: s-maj=37.7km s-min=20.9km az=168.0*
*NEIC **16** 05:20:53.4±1.8, 4467N×14372E, h232km±30km, mb3.8/1, Error ellipse: s-maj=38.5km s-min=17.3km az=168.0*
*JMA **16** 05:20:53.5±0.2, 4465N×14370E, h234km±2km, M3.0*
ISC 16 05:20:53.3±0.5, 4461N±008×14381E±010, h235km±4km, n24, σ0.90/33, mb3.5/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTKR	Abashiri--Toko	0.65	174	P	Pn	05 21 25.7	+0.8
JTKR				eS	S	05 21 50.4	+0.7
JMP	Maruseppu	0.69	208	P	Pn	05 21 25.5	+0.4
JMP				eS	S	05 21 50.2	+0.2
JSE	Soyaes	0.94	292	P	Pn	05 21 26.0	-0.3
JSE				eS	S	05 21 50.7	-1.6
ASAJ	Asahikawa	1.00	241	P	Pn	05 21 27.1	+0.5
	14nm,0.3s,baz=62,slow=2.2,SNR=46						
ASAJ				S	S	05 21 53.4	+0.5
	1.0nm,0.3s,baz=162,slow=19,SNR=9.6						
ASAJ	Asahikawa	1.00	241	P	Pn	05 21 27.0	+0.3
ASAJ				eS	S	05 21 53.1	+0.2
JKK2	Kamakawa 2	1.06	226	P	Pn	05 21 27.2	+0.1
JRA	Rausu	1.16	125	P	Pn	05 21 28.7	+1.0
JAR	Ashorobuto	1.31	181	P	Pn	05 21 29.7	+0.9
JAR				eS	S	05 21 57.6	+1.0
JFR	Furan	1.69	212	P	Pn	05 21 32.8	+1.1
JHR	Hokuryu	1.73	241	P	Pn	05 21 32.4	+0.3
JAK	Akkeshi	1.74	158	P	Pn	05 21 32.4	+0.3
JAK				eS	S	05 22 01.9	-0.8
NEM2	Nemuro 2	1.87	131	eS	S	05 22 02.9	-1.9
JCH	Churui	2.02	189	P	Pn	05 21 34.0	-0.7
JCH				eS	S	05 22 05.4	-1.9
ERM	Erimo	2.64	191	ePn	Pn	05 21 41.6	+0.7
JSK	Shakotan	2.71	244	P	Pn	05 21 41.7	0.0
JKB	Kayabe	3.40	218	P	Pn	05 21 48.9	-0.4
JKB				eS	S	05 22 29.7	-3.9
MJAR	Matsushiro Arr	9.12	210	P	Pn	05 23 00.8	+0.1
	0.5nm,0.3s,baz=15,slow=15,SNR=4.4						
ULN	Ulaanbaatar	25.48	290	eP	P	05 26 00.1	+0.2
	1.5nm,0.5s,mb3.9						
SONM	Songino Array	25.92	291	P	P	05 26 04.4	+0.5
	1.7nm,0.6s,mb3.8,baz=82,slow=8.9,SNR=14						
INK	Inuvik	46.87	30	P	P	05 28 59.1	-0.8
	2.4nm,0.8s,mb3.6,baz=270,slow=8.1,SNR=3.6						
YKA	Yellowknife Ar	56.41	33	P	P	05 30 10.6	+0.3
	1.1nm,0.7s,mb3.5,baz=302,slow=6.6,SNR=3.9						
FINES	FINESS Array B	62.99	331	P	P	05 30 53.5	-1.7
	0.4nm,0.4s,mb3.4,baz=55,slow=7.2,SNR=8.0						
NOA	NORSAR Array B	67.91	337	P	P	05 31 25.5	-1.0
	0.2nm,0.5s,mb3.0,baz=44,slow=1.9,SNR=2.3						
PDAR	Pinedale Array	71.16	48	P	P	05 31 48.0	+1.6
	0.4nm,0.6s,mb3.2,baz=343,slow=2.8,SNR=4.5						

BJI 16 05:37:18.0, 3313N×10404E, h23km, ML3.6, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.23	186	eP	Pn	05 37 51.6	-1.9
CD2				PG	Pn	05 37 57.0	+3.5
CD2				SG	Sn	05 38 26.4	+6.2
CD2				Smax			
	comp=N,110nm,0.9s						
CD2				Smax			
	comp=E,70nm,0.6s						
LZH	Lanzhou	2.95	357	P	Pn	05 38 05.5	+2.0
LZH				SG	Sn	05 38 43.3	+5.1
LZH				Smax			
	comp=N,550nm,0.6s						
LZH				Smax			
	comp=E,460nm,0.6s						
LZH				LR	LR		
	comp=N,536nm,5.2s						
LZH				LR	LR		
	comp=Z,856nm,6.4s						
XAN	Xi'an	4.17	76	P	Pn	05 38 20.5	+0.2
XAN				PG	Pn	05 38 32.8	+13
XAN				S	Sn	05 39 14.0	+5.7
XAN				SG	Sn	05 39 28.8	+20
XAN				Smax			
	comp=N,141nm,0.8s						
XAN				Smax			
	comp=E,105nm,0.6s						
NJ2	Nanjing	12.54	91	eP	Pn	05 40 17.4	+2.4

*BJI **16** 05:58:37.3, 146N×12745E, h98km, mB5.3, mb4.9*
*ISCJB **16** 05:58:39.1±1.1, 170N±004×12732E±007, h96km±10km, mb4.7/55, Error ellipse: s-maj=12.0km s-min=5.1km az=141.9*
*NEIC **16** 05:58:41.9±1.5, 165N×12723E, h106km±14km, mb4.7/18, Error ellipse: s-maj=12.6km s-min=5.2km az=65.0*
*IDC **16** 05:58:42.8±1.8, 166N×127.17E, h116km±15km, mb4.3/15, mb1 4.4/16, mb1mx4.3/20, mbtmp4.7/16, Error ellipse: s-maj=25.4km s-min=8.7km az=72.0*
*MOS **16** 05:58:45.6±0.9, 169N×12721E, h159km, mb4.6/20, Error ellipse: s-maj=18.9km s-min=7.8km az=108.5*
ISC 16 05:58:42.4±0.9, 167N±004×12729E±007, h111km±8km, h92km±6.0km:pP-P, n101, σ1.06/107, mb4.7/55, 6C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	4.70	122	P	Pn	05 59 45.4	-5.8
	155nm,1.0s						
BUKP	Musuan	6.56	340	eP	Pn	06 00 18.0	+1.7
BUKP				eS	Sn	06 01 28.9	-0.7
KKM	Kota Kinabalu	11.87	292	ePn	Pn	06 01 27.4	-0.7
WSI	Waingapu	13.24	212	P	Pn	06 01 37.8	-8.3
	2μm,0.5s						
KAKA	Kakadu	15.17	160	eP	Pn	06 02 09.2	-1.6
	22nm,0.7s						
KAKA				e		06 02 14.7	
KSM	Kuching	16.98	270	eP	Pn	06 02 33.6	+0.6
BJII	Banjamegara	19.69	243	P	P	06 03 04.1	+1.3
	47nm,1.7s						
FITZ	Fitzroy Crossi	19.71	185	eP	P	06 03 03.6	+0.5
	17nm,0.4s						
FITZ	Fitzroy Crossi	19.71	185	P	P	06 03 03.0	-0.1
	1.9nm,0.3s,baz=18,slow=11,SNR=89						
WRAB	Tennant Creek	22.56	162	eP	P	06 03 33.1	-0.3
WRAB				pmax	pmax		
	comp=Z,228nm,0.8s,mb5.5						
WRAB	Tennant Creek	22.56	162	eP	P	06 03 33.1	-0.3
	comp=Z,228nm,0.8s,mb5.5						
WRAB				epP		06 03 40.2	
WRA	Warramunga Arr	22.56	162	P	P	06 03 33.2	-0.3
	comp=Z,33nm,0.5s,mb4.9,baz=340,slow=11,SNR=215						
WRA				S	S	06 07 32.0	-0.4
	comp=Z,2.1nm,0.8s,baz=336,slow=18,SNR=4.1						
WRA				ScP	ScP	06 10 49.5	-0.7
	comp=Z,1.1nm,0.6s,baz=340,slow=3.0,SNR=10.0						
WRA	Warramunga Arr	22.56	162	P	P	06 03 33.2	-0.3
WRA				S	S	06 07 32.1	-0.3
WB2	Warramunga Arr	22.57	162	eP	P	06 03 33.2	-0.3
WB2				e		06 03 40.3	
WB2				eS	S	06 07 32.5	0.0
PMG	Port Moresby	22.64	119	eP	P	06 03 26.2	-8.2
MBWA	Marble Bar	23.86	198	eP	P	06 03 44.7	-0.8
	comp=Z,24nm,0.7s,mb4.6						
QIZ	Qiongzhong	24.29	316	P	P	06 03 48.3	-1.1
QIZ				S	S	06 07 58.9	-1.4
QIZ				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.6						
QIZ	Qiongzhong	24.29	316	eP	P	06 03 48.9	-0.4
	comp=Z,57nm,1.4s,mb4.7						
AS31	Alice Springs	25.99	166	eP	P	06 04 04.6	-0.2
ASAR	Alice Springs	25.99	166	P	P	06 04 04.8	0.0
	comp=Z,7.6nm,0.5s,mb4.4,baz=350,slow=7.5,SNR=113						
ASAR				S	S	06 08 29.9	+2.6
	comp=Z,0.4nm,0.6s,baz=338,slow=15,SNR=2.6						
ASAR				ScP	ScP	06 10 58.8	-0.9
	comp=Z,1.3nm,0.6s,baz=344,slow=2.7,SNR=8.1						
ASAR	Alice Springs	25.99	166	P	P	06 04 04.9	+0.1
ASAR				S	S	06 08 29.9	+2.6
PSI	Prapat	28.37	273	P	P	06 04 25.0	-1.1
	comp=Z,7.5nm,0.8s,mb4.3,baz=96,slow=4.5,SNR=10.0						
CTA	Charters Tower	28.52	140	eP	P	06 04 34.0	+6.6
	comp=Z,8.2nm,0.7s,mb4.5						
CTA	Charters Tower	28.52	140	P	P	06 04 29.5	+2.1
	comp=Z,9.8nm,0.7s,mb4.6,baz=345,slow=15,SNR=2.9						
CTA				ScP	ScP	06 11 08.5	+1.2
	comp=Z,1.8nm,0.7s,baz=297,slow=7.4,SNR=5.0						
CTA	Charters Tower	28.52	140	P	P	06 04 29.5	+2.1
CTA				ScP	ScP	06 11 08.5	+1.2
CTAO	Charters Tower	28.52	140	eP	P	06 04 33.3	+5.9
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
CTAO	Charters Tower	28.52	140	eP	P	06 04 33.3	+5.9
	comp=Z,13nm,0.8s,mb4.6						
SSE	Sheshan	29.83	349	P	P	06 04 36.4	-2.6
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,978nm,4.7s						
NJ2	Nanjing	31.25	346	eP	P	06 04 51.3	-0.2
NJ2				AP	pP	06 05 09.1	-6.9
NJ2				PP	PP	06 05 56.8	-7.3
NJ2				S	S	06 09 52.0	+2.1
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,1μm,21.6s						
NJ2				LR	LR		
	comp=E,1μm,22.9s						
NJ2				LR	LR		
	comp=Z,770nm,21.9s						
FORT	Forrest	32.27	179	eP	P	06 05 00.2	-0.3
	comp=Z,40nm,0.7s,mb5.2						
KMI	Kunming	33.24	317	P	P	06 05 11.0	+2.1
KMI				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.0						
KLBR	Kellerberrin	34.30	195	eP	P	06 05 17.7	-0.3
	comp=Z,25nm,0.5s,mb5.3						
MUN	Mundaring	35.08	197	eP	P	06 05 24.7	-0.1
NWAO	Narrogin (SRO)	35.70	195	P	P	06 05 29.9	-0.2
	comp=Z,19nm,0.6s,mb5.2,baz=21,slow=6.9,SNR=26						
STKA	Stephens Creek	36.02	159	eP	P	06 05 33.2	+0.4
	comp=Z,11nm,0.6s,mb5.0						
STKA	Stephens Creek	36.02	159	P	P	06 05 33.3	+0.5
	comp=Z,15nm,0.5s,mb5.1,baz=333,slow=8.8,SNR=34						
STKA	Stephens Creek	36.02	159	eP	P	06 05 32.8	0.0
MJAR	Matsushiro Arr	36.14	15	P	P	06 05 33.3	-0.6
	comp=Z,0.6nm,0.4s,mb3.9,baz=187,slow=9.2,SNR=4.1						
XAN	Xi'an	36.50	334	P	P	06 05 37.0	+0.1
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
ARMA	Armidale	39.45	146	eP	P	06 06 03.7	+2.0
BJT	Baijiatuau	39.49	347	eP	P	06 06 02.3	+0.3
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	Baijiatuau	39.49	347	eP	P	06 06 02.3	+0.3
	comp=Z,13nm,0.6s,mb4.9						
LZH	Lanzhou	40.55	330	eP	P	06 06 11.5	+0.7
LZH				XP	sP	06 06 43.5	-5.2
LZH				AMB	AMB		
	comp=Z,43nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,169nm,4.2s						
HHC	Hu-ho-hao-te	41.52	342	eP	P	06 06 21.4	+2.7
HHC				AP	pP	06 06 44.3	+0.3
HHC				XP	sP	06 06 55.8	-0.8
HHC				PP	PP	06 08 02.8	+6.1
HHC				PCP	PcP	06 08 17.3	+3.1
HHC				SCP	ScP	06 11 56.8	+2.8
HHC				PCS	PcS	06 12 07.5	+1.9
HHC				S	S	06 12 30.8	+4.7
HHC				XS	sS	06 13 10.5	+0.7
HHC				SS	SS	06 15 34.4	-0.5
HHC				SCS	ScS	06 16 12.6	+1.9
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,126nm,8.2s						
HHC				LR	LR		
	comp=N,232nm,5.3s						
HHC				LR	LR		
	comp=E,218nm,5.5s						
HHC				LR	LR		
	comp=Z,88nm,4.9s						
CNB	Canberra Magne	42.19	153	eP	P	06 06 25.2	+1.0
	comp=Z,5.5nm,0.8s,mb4.3						
TOO	Toolangi	42.53	158	eP	P	06 06 29.7	+2.8
	comp=Z,2.8nm,0.7s,mb4.1						
LSA	Lhasa	44.23	313	eP	P	06 06 42.4	+1.9
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
LSA	Lhasa	44.23	313	eP	P	06 06 42.4	+1.9
	comp=Z,12nm,0.6s,mb4.8						
GTA	Gaotai	45.14	330	eP	P	06 06 48.8	+1.0
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
HABR	Khabarovsk	47.10	7	eP	P	06 06 55.9	-7.3
HABR				eS	S	06 13 46.7	-0.3
GUN	Gumba	47.40	307	eP	P	06 07 05.6	+0.1
	comp=Z,45nm,0.8s,mb5.3						
PKI	Pulchoki	47.63	307	eP	P	06 07 06.9	-0.3
KKN	Kakani	47.82	307	eP	P	06 07 08.9	+0.1
HIA	Hailar	47.86	353	eP	P	06 07 08.2	-0.8
DMN	Daman	47.88	307	eP	P	06 07 09.6	+0.4
	comp=Z,30nm,0.8s,mb5.2						
GKN	Gorkha	48.43	307	eP	P	06 07 13.5	+0.1
	comp=Z,26nm,0.9s,mb5.0						
KOLN	Koldanda	49.17	306	eP	P	06 07 19.4	+0.4
	comp=Z,37nm,0.6s,mb5.5						
ULN	Ulaanbaatar	49.24	342⇑	eP	P	06 07 20.3	+0.7
ULN	Ulaanbaatar	49.24	342	eP	P	06 07 20.2	+0.6
	comp=Z,14nm,1.1s,mb4.8						
SONM	Songino Array	49.42	342	P	P	06 07 21.6	+0.6
	comp=Z,4.4nm,0.8s,mb4.5,baz=155,slow=8.9,SNR=26						
TLY	Talaya	53.65	342	eP	P	06 07 55.4	+2.9
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
WMQ	Urumqi	54.73	326⇑	iP	P	06 08 01.8	+1.5
WMQ				AP	pP	06 08 25.0	-1.8
WMQ				XP	sP	06 08 37.0	-2.1
WMQ				PCP	PcP	06 09 02.0	+0.4
WMQ				PP	PP	06 10 07.0	+3.1
WMQ				S	S	06 15 32.5	+0.4
WMQ				XS	sS	06 16 13.0	-4.7
WMQ				SCS	ScS	06 17 38.0	-0.6
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,149nm,4.8s						
WMQ				LR	LR		
	comp=N,876nm,19.2s						
WMQ				LR	LR		
	comp=E,644nm,21.8s						
WMQ				LR	LR		
	comp=Z,1μm,27.6s						
BOD	Bodaibo	56.97	352	eP	P	06 08 16.2	-0.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
THN	Thein Dam	57.26	308	eP	P	06 08 16.6	-1.7
MK31	Makanchi Array	59.56	326	P	P	06 08 34.5	+0.2
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
YAK	Yakutsk	60.24	1⇑	eP	P	06 08 38.8	-0.1
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
MA2	Magadan	60.56	13	eP	P	06 08 42.3	+1.2
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MA2	Magadan	60.56	13	eP	P	06 08 42.3	+1.2
	comp=Z,8.2nm,0.9s,mb4.8						
AAK	Ala-Archa	62.25	318⇑	eP	P	06 08 52.6	+0.1
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
ZAL	Zalesovo	62.67	333	P	P	06 08 54.7	-0.6
	comp=Z,1.8nm,0.4s,mb4.3,baz=13,slow=4.4,SNR=7.7						
SEY	Seymchan	63.91	12⇑	eP	P	06 09 02.8	-0.6
NVS	Novosibirsk	63.95	333	eP	P	06 09 00.8	-2.9
NVS				pmax	pmax		
	comp=N,4.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KK31	Karatay Array	65.11	318	iP	P	06 09 11.3	0.0
KK31				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
KKAR	Karatay Array	65.11	318	P	P	06 09 11.3	0.0
KKAR				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
CASY	Casey	68.85	187	eP	P	06 09 34.5	-0.4
	comp=Z,6.4nm,0.7s,mb4.6						
BVA0	Borovoye Array	69.34	327	iP	P	06 09 37.2	-0.8
BVAR	Borovoye Array	69.34	327	P	P	06 09 37.7	-0.3
	comp=Z,3.6nm,0.8s,mb4.3,baz=126,slow=7.5,SNR=15						
BRVK	Borovoye	69.42	327	eP	P	06 09 37.8	-0.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
BRVK	Borovoye	69.42	327	eP	P	06 09 37.8	-0.6
	comp=Z,6.3nm,1.0s,mb4.4						
ZRNK	Zerenda	70.06	327	P	P	06 09 41.6	-0.8
ZRNK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
BILL	Bilibino	71.39	14	eP	P	06 09 49.3	-1.2
BILL				e		06 10 06.5	
BILL				eS	S	06 19 00.4	+0.7
BILL				eSS	SS	06 23 33.5	-2.7
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
AB31	Akbulak array	74.09	321	iP	P	06 10 05.9	-0.5
AKTK	Aktyubinsk	75.61	322	P	P	06 10 14.7	-0.4
AKTO	Aktyubinsk	75.61	322	P	P	06 10 14.7	-0.4
	comp=Z,4.1nm,0.7s,mb4.3,baz=105,slow=9.9,SNR=12						
ARU	Arti	76.97	328⇓	iP	P	06 10 21.0	-1.8
ARU				e		06 13 14.3	
ARU				ePPP		06 15 00.7	
ARU				eS	S	06 20 07.7	+5.7
ARU				eSS	SS	06 25 02.8	+1.8
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
VNDA	Vanda	81.33	173	P	P	06 10 46.0	-0.5
	comp=Z,4.0nm,0.8s,mb4.3,baz=318,slow=5.3,SNR=18						
VNDA	Vanda	81.33	173	eP	P	06 10 45.7	-0.8
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	81.33	173	eP	P	06 10 45.7	-0.9
	comp=Z,3.7nm,0.8s,mb4.3						
MAW	Mawson	82.03	200	P	P	06 10 50.3	+0.1
	comp=Z,1.7nm,0.6s,mb4.1,baz=62,slow=6.0,SNR=9.1						
KIV	Kislovodsk	84.96	314	eP	P	06 11 05.7	+0.5
KIV				e		06 14 25.9	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ANN	Anapa	88.73	315	eP	P	06 11 25.9	+2.4
ANN				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
OBN	Obninsk	89.06	325	eP	P	06 11 27.3	+2.3
OBN				eS	SKKSac	06 21 52.2	-4.5
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SYO	Syowa Base	90.72	201⇑	eP	P	06 11 32.4	-0.4
QSPA	South Pole Qui	91.59	180	eP	P	06 11 36.6	-0.2
	comp=Z,2.0nm,0.8s,mb4.4						
ARCES	ARCESS Array B	92.56	340	P	P	06 11 39.4	-1.9
	comp=Z,1.8nm,0.7s,mb4.5,baz=97,slow=8.7,SNR=6.3						
FINES	FINESS Array B	93.90	332	P	P	06 11 45.5	-2.0
	comp=Z,2.1nm,1.1s,mb4.4,baz=356,slow=5.7,SNR=3.6						
PLCA	Paso Flores	137.89	160	PKP	PKPdf	06 17 55.6	+1.7
	comp=Z,1.4nm,0.7s,baz=202,slow=2.8,SNR=5.6						
PLCA	Paso Flores	137.89	160	ePKPdf	PKPdf	06 17 56.9	+3.1
LVC	Limon Verde	153.90	144	ePKPdf	PKPdf	06 18 21.4	+0.8
CPUP	Villa Florida	155.08	170	PKPbc	PKPdf	06 18 32.5	+10
	comp=Z,1.0nm,0.7s,baz=162,slow=3.2,SNR=3.4						
CPUP				PKPab	PKPab	06 18 47.5	+0.2
	comp=Z,1.5nm,0.7s,baz=167,slow=6.6,SNR=4.9						
BDFB	Brasilia	165.37	198	PKPab	PKPab	06 19 33.2	+1.1
	comp=Z,1.7nm,0.5s,baz=143,slow=5.1,SNR=3.2						

*SZGRF **16** 06:17:39.3, 400N×9521E, h33km, mb5.8, MS4.4, Off west coast of northern Sumatera, Indonesia*
*MOS **16** 06:17:42.7±0.9, 502N×9475E, h33km, mb5.9/117, MS4.5/34, Error ellipse: s-maj=10.2km s-min=6.0km az=104.3*
*CRAAG **16** 06:17:43.5, 523N×9481E, Mb5.6*
*ISCJB **16** 06:17:44.9±0.1, 510N±003×9473E±002, h47km, mb5.6/206, MS4.7/133, Error ellipse: s-maj=3.9km s-min=2.8km az=49.9*
*IDC **16** 06:17:46.6±0.4, 510N×9484E, h48km±3km, mb5.0/24, mb1 5.1/25, mb1mx5.0/26, mbtmp5.3/25, MS4.4/22, Ms1 4.4/22, ms1mx4.3/25, Error ellipse: s-maj=11.5km s-min=7.5km az=40.0*
*GCMT **16** 06:17:46.9±0.2, 484N×9459E, h49km±1km, MW5.2/86, Moment Tensor Solution. s68,c103; s86,c146; Duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.64±.02; $M_{\theta\theta}$-0.30±.01; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$0.42±.01; $M_{\theta\phi}$0.47±.01; $M_{\phi r}$-0.23±.02; Best double couple: $M_0$0.86000×10^{17} NP1:ϕ_s330.00000°,δ30.00000°, λ112.00000°. NP2:ϕ_s125.00000°,δ62.00000°,λ78.00000°. Principal axes: T 0.8000, Plg70.0000°, Azm8.0000°; N 0.1220, Plg11.0000°, Azm130.0000°; P -0.9210, Plg16.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **16** 06:17:46.9±0.1, 512N×9478E, mb5.6/114, MS4.9/97 Error ellipse: s-maj=3.9km s-min=2.4km az=35.0*
NEIC Felt [III] at Banda Aceh. Felt at Meulaboh.
*BJI **16** 06:17:47.4, 523N×9472E, h49km, mB5.3, mb5.5, Ms5.0, Msz4.8*
ISC 16 06:17:47.1±0.1, 512N±003×9475E±002, h49km, h49km±.8km:pP-P, n887, σ0.90/766, mb5.6/206, MS4.7/133, 195C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	4.76	119	P	Pn	06 18 57.0	+0.7
	15nm,0.3s,baz=302,slow=9.3,SNR=81						
PSI				S	Sn	06 19 51.2	+1.0
	23nm,0.3s,baz=2.4,slow=4.4,SNR=6.5						
PSI				LR	LR	06 21 06.6	
	comp=Z,6μm,20.8s,baz=281,slow=42						
PSI	Prapat	4.76	119	P	Pn	06 18 57.1	+0.8
PSI				S	Sn	06 19 51.3	+1.1
PSI				pmax	pmax		
	comp=Z,15nm,0.3s						
PSI				smax			
	comp=N,23nm,0.3s						
KULM	Kulim	5.88	88	ePn	Pn	06 19 11.9	+0.3

KULM eSn **Sn** **06 20 13.7 -4.0**
SNG Songkhla 6.18 70 P **Pn** **06 19 17.0 +1.2**
comp=N,1μm,1.0s
IPM Ipoh 6.29 96 P **Pn** **06 19 17.7 +0.4**
NNT Nongplab 8.90 33 P **Pn** **06 19 56.5 +3.4**
KGM Kluang 9.10 110 P **Pn** **06 19 55.6 -0.1**
NST Nakhon Sawan 11.74 26 ⇓P **Pn** **06 20 35.8 +3.9**
comp=N,110nm,0.6s
PALK Pallekele 14.12 279 Pn **Pn** **06 21 04.8 +0.4**
comp=N,319nm,0.9s,SNR=6.7
PALK Pallekele 14.12 279 ePn **Pn** **06 21 04.6 +0.2**
CHG Chiang Mai 14.21 16 ⇑P **Pn** **06 21 07.7 +2.2**
comp=N,18nm,0.8s
CHTO Chiang Mai 14.21 16 ⇑P **Pn** **06 21 13.0 +7.5**
SNR=50
CHTO Chiang Mai 14.21 16 eP **Pn** **06 21 07.4 +1.9**
CHTO pmax pmax
comp=Z,200nm,0.9s
CHTO Chiang Mai 14.21 16 ePn **Pn** **06 21 07.3 +1.8**
comp=Z,198nm,0.8s
NANT Nan 14.78 23 ⇑P **Pn** **06 21 17.0 +3.9**
comp=Z,1μm,0.4s
KSM Kuching 15.95 103 ePn **Pn** **06 21 28.0 -0.2**
VIS Vishakhapatnam 16.78 319 eP **Pn** **06 21 37.6 -0.9**
VIS AMb AMB 06 21 57.4
comp=Z,338nm,2.2s
VIS ex x 06 24 32.7
COCO West Island 17.32 173 ePn **Pn** **06 21 46.0 +0.6**
TRD Trivandrum 17.98 282⇑ex x 06 22 02.1
TRD ex x 06 25 18.1
IMP Imphal 19.56 358 eP **Pn** **06 22 10.0 -2.4**
IMP eS **S** **06 25 53.0 +4.0**
HYB Hyderabad 20.01 309 *i* P **P** **06 22 17.5 +1.8**
comp=Z,90nm,1.0s
HYB esP sP 06 22 31.0 -2.2
HYB e 06 25 52.0
HYB eS **S** **06 26 01.0 +3.1**
HYB Hyderabad 20.01 309 eP **P** **06 22 17.5 +1.8**
HYB e 06 22 31.0
HYB eS **S** **06 25 52.0 -5.9**
HYB pmax pmax
comp=Z,90nm,1.0s
HYB Hyderabad 20.01 309 eP **P** **06 22 17.5 +1.8**
comp=Z,90nm,1.0s
HYB e 06 22 31.0
HYB eS **S** **06 25 52.0 -5.9**
QIZ Qiongzhong 20.19 46 P **P** **06 22 19.5 +1.9**
QIZ AP 06 22 31.5
QIZ S **S** **06 26 01.0 -0.6**
QIZ XS sS 06 26 16.5 -3.4
QIZ SS 06 26 30.9
QIZ AMB AMB
comp=Z,57nm,1.2s
QIZ AMB AMB
comp=Z,1μm,10.7s
QIZ LR LR
comp=N,2μm,18.8s,MS4.6
QIZ LR LR
comp=E,1μm,17.1s,MS4.6
QIZ LR LR
comp=Z,3μm,19.0s,MS4.6
QIZ Qiongzhong 20.19 46 ePn **P** **06 22 19.4 +1.8**
comp=Z,72nm,0.9s
QIZ LR LR
comp=Z,3μm,20.0s,MS4.6
BOK Bokaro 20.43 336 eP **P** **06 22 21.0 +0.7**
BOK AMb AMB 06 22 25.1
comp=Z,552nm,1.0s
BOK *i* x x 06 26 01.7
SHL Shillong 20.51 353 ex x 06 22 17.6
SHL AMb AMB 06 22 18.0
comp=Z,1μm,0.7s
SHL eS **S** **06 26 11.6 +3.7**
KMI Kunming 21.31 20 P **P** **06 22 32.3 +2.6**
KMI AP 06 22 44.6
KMI XP sP 06 22 50.5 +3.2
KMI PP 06 22 58.1
KMI PPP 06 23 07.9
KMI S **S** **06 26 22.8 -0.8**
KMI XS sS 06 26 42.9 +0.7
KMI SS 06 27 00.1
KMI AMB AMB
comp=Z,100nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,801nm,5.0s
KMI LR LR
comp=N,1μm,20.0s
KMI LR LR
comp=E,1μm,14.6s
KMI LR LR
comp=Z,2μm,25.5s
KKM Kota Kinabalu 21.39 87 P **P** **06 22 31.7 +1.2**
KKM Kota Kinabalu 21.39 87 eP **P** **06 22 30.3 -0.2**
NGP Nagpur 22.04 318 eP **P** **06 22 36.7 -0.7**
NGP eS **S** **06 26 36.9 -0.9**
LATR Latur 22.14 308 eP **P** **06 22 37.8 -0.7**
LATR ex x 06 26 37.4
JBP Jabalpur 22.91 323 eP **P** **06 22 46.9 +0.2**
JBP ex x 06 23 09.6
comp=Z,213nm,1.6s
JBP *i* x x 06 27 01.0
TSM Tawau 23.06 91 P **P** **06 22 48.1 -0.2**
AKL Akola 23.16 314 eP **P** **06 22 50.0 +0.7**
AKL AMb AMB 06 22 54.7
comp=Z,174nm,1.1s,mb5.4
AKL *i* x x 06 23 33.3
KAD Karad 23.49 303 eP **P** **06 22 53.0 +0.5**
JIRN Jiri 23.85 341 eP **P** **06 22 55.4 -0.3**
comp=Z,415nm,0.7s,mb6.0
PKI Pulchoki 24.03 339 eP **P** **06 22 56.3 -1.1**
comp=Z,158nm,0.6s,mb5.6
GYA Guiyang 24.08 27 P **P** **06 22 58.4 +0.5**
GYA AP 06 23 13.1
GYA XP sP 06 23 16.8 +0.5
GYA AMB AMB
comp=Z,110nm,0.6s,mb5.5
GYA LR LR
comp=N,3μm,19.8s,MS4.8
GYA LR LR
comp=E,2μm,17.7s,MS4.8
GYA LR LR
comp=Z,3μm,19.2s,MS4.8
DMN Daman 24.17 339 eP **P** **06 22 58.6 -0.1**
comp=Z,344nm,0.8s,mb5.8
GUN Gumba 24.18 341 eP **P** **06 22 57.9 -0.9**
comp=Z,427nm,0.8s,mb6.0
KKN Kakani 24.27 339 eP **P** **06 22 59.3 -0.3**
comp=Z,722nm,1.2s,mb6.0
POO Poona 24.37 305⇓*ix* pP 06 23 13.0 -0.1
comp=Z,214nm,1.2s
POO *i* x x 06 23 46.0
BHPL Bhopal 24.57 319 eP **P** **06 23 03.0 +0.6**
BHPL AMb AMB 06 23 06.1
comp=Z,119nm,1.3s,mb5.3
LSA Lhasa 24.68 352 P **P** **06 23 05.0 +1.7**
LSA AP 06 23 15.0
LSA XP sP 06 23 19.3 -2.5
LSA S **S** **06 27 22.3 +0.7**
LSA XS sS 06 27 45.5 +2.7
LSA AMB AMB
comp=Z,300nm,0.7s,mb5.9
LSA LR LR
comp=N,670nm,25.4s,MS4.2
LSA LR LR
comp=E,680nm,28.2s,MS4.2
LSA LR LR
comp=Z,1μm,25.5s,MS4.3
LSA Lhasa 24.68 352 eP **P** **06 23 04.0 +0.7**
LSA pmax pmax
comp=Z,169nm,0.6s,mb5.8
LSA MLR MLR
comp=Z,1μm,21.0s,MS4.3
LSA Lhasa 24.68 352 eP **P** **06 23 04.0 +0.7**
comp=Z,169nm,0.6s,mb5.8
LSA LR LR
comp=Z,1μm,21.0s,MS4.3
GKN Gorkha 24.70 338 eP **P** **06 23 03.5 0.0**
comp=Z,646nm,0.8s,mb6.2
KOLN Koldanda 24.89 336 eP **P** **06 23 06.2 +0.9**
comp=Z,808nm,0.7s,mb6.3
GZH Guangzhou 25.32 43 P **P** **06 23 15.0 +5.8**
GZH LR LR
comp=N,2μm,12.6s,MS4.9
GZH LR LR
comp=E,1μm,16.6s,MS4.9
GZH LR LR
comp=Z,3μm,18.8s,MS4.8
BOM Bombay 25.40 304 ex **P** **06 23 18.3 +8.4**
BOM ex x 06 23 26.3
comp=Z,203nm,1.4s
BOM ex x 06 27 28.9
DGAR Diego Garcia 25.49 241 PFAKE 06 23 20.0 +9.3
DGAR LR LR
comp=Z,466nm,21.0s,MS4.0
CD2 Chengdu 27.02 17⇑*i*P **P** **06 23 24.1 -0.4**
CD2 AP pP 06 23 33.5 -3.6
CD2 PP 06 24 10.3
CD2 PCP PcP 06 26 45.5 +0.6
CD2 S **S** **06 27 56.5 -2.1**
CD2 SS 06 29 09.8
CD2 AMB AMB
comp=Z,80nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,180nm,5.2s
CD2 LR LR
comp=E,1μm,12.6s
CD2 LR LR
comp=Z,630nm,14.4s,MS4.3
TGY Tagaytay City 27.29 69 P **P** **06 23 27.8 +0.9**
comp=Z,242nm,0.4s,baz=228,slow=5.3,SNR=11
TGY Tagaytay City 27.29 69 P **P** **06 23 27.8 +0.9**
TGY pmax pmax
comp=Z,242nm,0.4s
LGTI Lohaghat 27.81 332 *i* x sP 06 23 52.5 +2.4
RCP Roxas 28.41 75⇑e**P** **P** **06 23 37.9 +1.0**
comp=Z,697μm,1.0s
AJM Ajmer 28.63 320 eP **P** **06 23 40.7 +1.8**
NDI New Delhi 28.73 327 eP **P** **06 23 38.7 -1.0**
NDI ex x 06 29 22.0
DDI Dehra Dun 29.59 330 ex pP 06 24 03.5 +3.4
SMLA Simla 30.69 330 eP **P** **06 23 57.3 +0.1**
SMLA AMb AMB 06 24 00.1
comp=Z,211nm,1.5s,mb5.7
DAV Davao City (W) 30.72 85 PFAKE 06 24 10.0 +13
DAV LR LR
comp=Z,818nm,20.0s,MS4.4
BHK Bhakra 31.31 329 ex x 06 24 09.6
WHN Wuhan 31.31 34 ⇓P **P** **06 24 03.8 +1.2**
WHN LR LR
comp=Z,8μm,18.6s,MS5.4
XAN Xi'an 31.64 23 P **P** **06 24 04.9 -0.6**
XAN AP pP 06 24 16.6 -1.6
XAN S **S** **06 29 10.4 -0.8**
XAN AMB AMB
comp=Z,317nm,0.9s,mb6.2
XAN LR LR
comp=N,923nm,16.3s,MS4.7
XAN LR LR
comp=E,1μm,15.7s,MS4.7
XAN LR LR
comp=Z,2μm,16.3s,MS5.0
LZH Lanzhou 31.93 14⇑P **P** **06 24 07.3 -0.7**
LZH AP pP 06 24 20.6 -0.2
LZH XP sP 06 24 27.4 +0.8
LZH PP PP 06 25 17.0 -3.8
LZH PCP PcP 06 26 58.0 +0.6
LZH S **S** **06 29 15.0 -0.7**
LZH XS sS 06 29 35.0 -2.2
LZH SCP ScP 06 30 36.0 -0.7
LZH PCS PcS 06 30 40.0 -2.1
LZH eSS SS 06 31 10.0 -24
LZH SCS ScS 06 34 32.0 -3.2
LZH AMB AMB
comp=Z,110nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,480nm,5.3s
LZH LR LR
comp=N,3μm,14.9s
LZH LR LR
comp=Z,5μm,15.3s,MS5.3
THN Thein Dam 32.47 329 eP **P** **06 24 10.3 -2.5**
GTA Gaotai 34.44 7⇑*i*P **P** **06 24 30.1 +0.2**
GTA AP pP 06 24 42.9 +0.2
GTA XP sP 06 24 47.8 -0.7
GTA PP PP 06 25 46.8 -1.8
GTA PPP 06 26 05.5
GTA PCP PcP 06 27 05.3 +0.9
GTA S **S** **06 29 53.8 -0.8**
GTA XS sS 06 30 14.3 -1.9
GTA SCP ScP 06 30 46.3 +0.8
GTA PCS PcS 06 30 50.9 +0.1
GTA SS SS 06 32 06.9 -18
GTA SCS ScS 06 34 47.0 -1.2
GTA AMB AMB
comp=Z,157nm,0.9s,mb5.9
GTA AMB AMB
comp=Z,575nm,5.7s
GTA LR LR
comp=N,692nm,19.9s,MS4.5
GTA LR LR
comp=E,556nm,20.2s,MS4.5
GTA LR LR
comp=Z,788nm,25.6s
NJ2 Nanjing 35.02 37 eP **P** **06 24 35.9 +1.0**
NJ2 AP pP 06 24 48.1 +0.3
NJ2 XP sP 06 24 53.5 -0.1
NJ2 S **S** **06 30 05.0 +1.4**
NJ2 XS sS 06 30 26.0 +0.7
NJ2 AMB AMB
comp=Z,390nm,0.9s,mb6.3
NJ2 AMB AMB
comp=Z,2μm,5.2s
NJ2 LR LR
comp=N,3μm,24.5s,MS5.2
NJ2 LR LR
comp=E,5μm,25.0s,MS5.2
NJ2 LR LR
comp=Z,6μm,25.8s,MS5.2
MBWA Marble Bar 35.82 138 eP **P** **06 24 40.6 -1.1**
MBWA LR LR
comp=Z,716nm,22.0s,MS4.4
SSE Sheshan 35.84 41 P **P** **06 24 43.3 +1.4**
SSE AP pP 06 24 56.4 +1.6
SSE XP sP 06 25 02.8 +2.2
SSE PP PP 06 26 05.8 +1.8
SSE S **S** **06 30 18.3 +2.2**
SSE XS sS 06 30 41.1 +3.3
SSE AMB AMB
comp=Z,42nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,956nm,5.0s
SSE LR LR
comp=N,472nm,22.0s,MS4.3
SSE LR LR
comp=E,419nm,22.0s,MS4.3
SSE LR LR
comp=Z,754nm,19.8s,MS4.5
TIA Tai'an 37.15 31⇑P **P** **06 24 53.6 +0.5**
TIA AMB AMB
comp=Z,119nm,0.9s,mb5.7
BTO Baotou 37.90 19 eP **P** **06 24 58.3 -1.1**
KSH Kashi 38.21 336 eP **P** **06 25 02.9 +0.8**
KSH eAP pP 06 25 14.1 -0.9
KSH eXP sP 06 25 19.3 -1.5
KSH ePP PP 06 26 35.0 +4.9
KSH ePPP 06 26 57.0
KSH ePCP PcP 06 27 13.0 -2.7
KSH eS **S** **06 30 51.4 -0.8**
KSH eSCP ScP 06 30 57.0 -2.4
KSH ePCS PcS 06 31 02.1 -2.7
KSH eXS sS 06 31 15.1 +1.1
KSH eSS SS 06 33 37.1 -4.6
KSH eSCS ScS 06 35 06.0 -3.1
KSH AMB AMB
comp=Z,234nm,1.2s,mb5.8
KSH LR LR
comp=N,314nm,5.6s
KSH LR LR
comp=E,576nm,5.2s
KSH LR LR
comp=Z,377nm,6.3s
FITZ Fitzroy Crossi 38.23 128 eP **P** **06 25 00.4 -1.8**
comp=Z,37nm,0.7s,mb5.2
FITZ Fitzroy Crossi 38.23 128 ScP ScP 06 30 58.6 -0.8
comp=Z,6.9nm,0.9s,baz=271,slow=3.3,SNR=5.4
FITZ LR LR 06 41 29.8
comp=Z,328nm,18.6s,MS4.2,baz=302,slow=37
JOW Kunigami 38.58 52 P **P** **06 25 05.8 +0.7**
comp=Z,81nm,0.7s,mb5.6,baz=231,slow=14,SNR=8.9
HHC Hu-ho-hao-te 38.64 21 eP **P** **06 25 06.3 +0.6**
HHC AP pP 06 25 16.3 -2.3
HHC PP PP 06 26 39.4 +4.6
HHC PCP PcP 06 27 18.6 +1.6
HHC S **S** **06 31 00.6 +1.9**
HHC SCP ScP 06 31 02.4 +1.4
HHC PCS PcS 06 31 06.3 -0.1
HHC XS sS 06 31 16.8 -3.6
HHC SS SS 06 33 42.6 -7.6
HHC SCS ScS 06 35 11.4 -0.2
HHC AMB AMB
comp=Z,111nm,0.9s,mb5.6
HHC AMB AMB
comp=Z,259nm,4.8s
HHC LR LR
comp=N,1μm,19.6s,MS4.9
HHC LR LR
comp=E,1μm,16.7s,MS4.9
HHC LR LR
comp=Z,2μm,21.0s,MS4.8
WBK Wadi Bani Khal 38.68 300 ⇓P **P** **06 25 09.4 +3.4**
SNR=7.2
WMQ Urumqi 39.04 352⇑*i*P **P** **06 25 09.5 +0.5**
WMQ AP pP 06 25 19.0 -3.0
WMQ PP PP 06 26 43.5 +4.4
WMQ PCP PcP 06 27 20.0 +1.7
WMQ S **S** **06 31 07.0 +2.3**
WMQ XS sS 06 31 22.0 -4.5
WMQ SS SS 06 33 50.0 -8.2
WMQ AMB AMB
comp=Z,95nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,208nm,4.6s
WMQ LR LR
comp=N,880nm,19.5s
WMQ LR LR
comp=E,828nm,13.0s
WMQ LR LR
comp=Z,1μm,24.8s
BIDO Bidbid 39.73 301 ⇓P **P** **06 25 18.3 +3.5**
SNR=13
BJT Baijiatuao 39.74 26 P **P** **06 25 16.4 +1.6**
BJT Baijiatuao 39.74 26 eP **P** **06 25 16.5 +1.6**
BJT e*PP pP 06 25 29.1 +1.2
BJT pmax pmax
comp=Z,167nm,0.7s
BJT MLR MLR
comp=Z,1μm,21.0s
BJT Baijiatuao 39.74 26 eP **P** **06 25 16.5 +1.6**
comp=Z,168nm,0.7s,mb5.9
BJT epP pP 06 25 29.1 +1.2
BJT LR LR
comp=Z,1μm,21.0s,MS4.8
BJI Beijing 39.76 26 P **P** **06 25 16.4 +1.3**
BJI AMB AMB
comp=Z,296nm,0.9s,mb6.0
BJI LR LR
comp=N,1μm,18.4s,MS4.8
BJI LR LR
comp=E,840nm,17.5s,MS4.8
BJI LR LR
comp=Z,1μm,26.9s
BSY Bisya 40.26 299⇑P **P** **06 25 22.3 +3.2**
SNR=10
ULHL Ulahol 40.47 339 P **P** **06 25 22.1 +1.3**
SNR=7.5
TKM2 Tokmak 2 41.29 339 P **P** **06 25 28.9 +1.2**
SNR=55
TKM2 Tokmak 2 41.29 339 *i* P **P** **06 25 28.8 +1.2**
KBK Karagaybulak 41.30 338 P **P** **06 25 29.6 +1.8**
SNR=85
AML Almayashu 41.34 336 P **P** **06 25 29.9 +1.8**
SNR=53
KAKA Kakadu 41.44 116 eP **P** **06 25 26.7 -2.1**
comp=Z,26nm,0.8s,mb4.9
AAK Ala-Archa 41.45 337 P **P** **06 25 29.8 +0.8**
comp=Z,570nm,0.8s,mb6.2,SNR=47
AAK Ala-Archa 41.45 337 eP **P** **06 25 29.0 0.0**
AAK e*PP pP 06 25 43.3 +1.2
AAK e 06 27 05.6
AAK eS **S** **06 31 40.7 0.0**
AAK pmax pmax
comp=Z,69nm,0.8s,mb5.3
AAK Ala-Arcba 41.45 337 eP **P** **06 25 29.0 0.0**
comp=Z,69nm,0.8s,mb5.3
AAK epP pP 06 25 43.3 +1.2
AAK ePP PP 06 27 05.6 +0.2
AAK eScP ScP 06 31 11.6 -0.4
AAK eS **S** **06 31 40.7 0.0**
AAK LR LR
comp=Z,122nm,19.0s,MS3.8
DL2 Dalian 41.52 32 P **P** **06 25 30.6 +1.0**
DL2 S **S** **06 31 44.6 +2.8**
DL2 AMB AMB
comp=Z,130nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,380nm,3.5s
DL2 LR LR
comp=N,600nm,15.4s,MS4.7
DL2 LR LR
comp=E,470nm,15.4s,MS4.7
DL2 LR LR
comp=Z,580nm,16.6s,MS4.5
FRU Bishkek 41.58 338 *i* P **P** **06 25 31.0 +1.0**
FRU *i* pP 06 25 45.0 +1.9
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.4
CHMS Chumysh 41.67 338 P **P** **06 25 31.5 +0.8**
SNR=20
EKS2 Erkin-Say 41.76 337 P **P** **06 25 33.1 +1.6**
SNR=75
USP Ospenovka 41.99 338 P **P** **06 25 34.4 +1.0**
SNR=124
MUN Mundaring 42.18 152 eP **P** **06 25 34.4 -0.5**
KLBR Kellerberrin 42.60 150 eP **P** **06 25 38.2 -0.1**
comp=Z,8.6nm,0.6s,mb4.7
MK31 Makanchi Array 42.88 347 P **P** **06 25 40.7 +0.1**
MK31 pmax pmax
comp=Z,174nm,0.8s,mb5.8
MKAR Makanchi Array 42.88 347 P **P** **06 25 40.9 +0.2**
comp=Z,178nm,0.7s,mb5.9,baz=166,slow=7.4,SNR=941
MKAR Makanchi Array 42.88 347 P **P** **06 25 40.9 +0.2**
MKAR pmax pmax
comp=Z,178nm,0.7s
INCN Inchon 43.40 38 eP **P** **06 25 44.7 -0.1**
comp=Z,96nm,0.8s,mb5.6
INCN LR LR
comp=Z,2μm,19.0s,MS4.9
NWAO Narrogin (SRO) 43.45 152 P **P** **06 25 46.0 +0.8**
comp=Z,15nm,1.1s,mb4.6,baz=314,slow=14,SNR=3.2
NWAO LR LR 06 44 33.8
comp=Z,332nm,18.7s,MS4.3,baz=128,slow=37
NWAO Narrogin (SRO) 43.45 152 P **P** **06 25 46.0 +0.8**
NWAO pmax pmax
comp=Z,15nm,1.1s
NWAO MLR MLR
comp=Z,332nm,18.7s
KK31 Karatay Array 43.48 334 *i* P **P** **06 25 45.6 +0.2**
KKAR Karatay Array 43.48 334 *i* P **P** **06 25 45.5 +0.1**
KKAR pmax pmax
comp=Z,31nm,0.7s,mb5.2
SONM Songino Array 43.71 11 P **P** **06 25 47.0 -0.3**
comp=Z,65nm,0.7s,mb5.4,baz=189,slow=8.6,SNR=353
SONM pP pP 06 25 59.9 -0.6
comp=Z,37nm,0.9s,baz=193,slow=7.9,SNR=9.1
SONM PcP PcP 06 27 33.8 +0.2
comp=Z,32nm,0.8s,baz=192,slow=3.9,SNR=14
SONM pPcP 06 27 48.1
comp=Z,18nm,0.7s,baz=191,slow=4.2,SNR=5.4
SONM ScP ScP 06 31 20.8 -0.3
comp=Z,6.4nm,1.0s,baz=193,slow=4.4,SNR=8.6
SONM LR LR 06 46 26.6
comp=Z,780nm,18.1s,MS4.7,baz=200,slow=39
SONM Songino Array 43.71 11 P **P** **06 25 47.0 -0.3**
SONM *PP pP 06 25 59.9 -0.6
SONM 06 27 33.8
SONM pmax pmax
comp=Z,65nm,0.7s
SONM MLR MLR
comp=Z,780nm,18.1s
ULN Ulaanbaatar 43.87 12 eP **P** **06 25 48.2 -0.4**
ULN e*PP pP 06 26 01.2 -0.6
ULN e 06 27 33.8
ULN pmax pmax
comp=Z,38nm,0.6s,mb5.3
ULN MLR MLR

comp=Z,761nm,20.0s,MS4.6
ULN Ulaanbaatar 43.87 12 *e*P **P** **06 25 48.2 -0.4**
comp=Z,38nm,0.6s,mb5.3
ULN *ep*P pP 06 26 01.2 -0.5
ULN *e*PcP PcP 06 27 33.8 -0.3
ULN LR LR
comp=Z,761nm,20.0s,MS4.6
KS15 Wonju Array Si 44.15 39 *e*P **P** **06 25 50.8 0.0**
SNY Shenyang 44.67 31 ⇑P **P** **06 25 55.0 0.0**
SNY AP pP 06 26 04.8 -3.4
SNY PP PP 06 27 40.3 +0.3
SNY S **S** **06 32 31.8 +3.9**
SNY SS SS 06 35 40.3 -9.1
SNY AMB AMB
comp=Z,75nm,1.3s,mb5.4
SNY AMB AMB
comp=Z,202nm,6.3s
SNY LR LR
comp=N,1μm,18.0s,MS5.0
SNY LR LR
comp=E,877nm,17.4s,MS5.0
SNY LR LR
comp=Z,1μm,17.4s,MS4.9
WRA Warramunga Arr 46.21 124 P **P** **06 26 06.5 -0.7**
comp=Z,151nm,0.8s,mb6.0,baz=303,slow=9.2,SNR=621
WRA ScP ScP 06 31 31.4 0.0
comp=Z,2.7nm,0.7s,baz=314,slow=3.4,SNR=6.9
WRA S **S** **06 32 45.6 -4.5**
comp=Z,3.8nm,1.1s,baz=294,slow=16,SNR=5.6
WRA LR LR 06 46 10.3
comp=Z,419nm,21.1s,MS4.4,baz=305,slow=37
WRA Warramunga Arr 46.21 124 P **P** **06 26 06.5 -0.7**
WRA S **S** **06 32 45.6 -4.5**
WRA pmax pmax
comp=Z,151nm,0.8s
WRA smax
comp=N,4.0nm,1.1s
WRA MLR MLR
comp=Z,419nm,21.1s
WRAB Tennant Creek 46.22 124 P **P** **06 26 06.0 -1.2**
comp=Z,1μm,0.8s,SNR=70
WRAB Tennant Creek 46.22 124*c* *i*P **P** **06 26 06.3 -0.9**
WRAB Tennant Creek 46.22 124 *e*P **P** **06 26 07.0 -0.3**
comp=Z,225nm,0.7s,mb6.2
WRAB LR LR
comp=Z,228nm,22.0s,MS4.1
WB2 Warramunga Arr 46.22 124 *e*P **P** **06 26 06.5 -0.7**
WB2 *e*S **S** **06 32 48.1 -2.1**
ABKT Ailbek 46.65 320 P **P** **06 26 11.4 +0.8**
comp=Z,1μm,0.6s,SNR=17
ABKT Ailbek 46.65 320 P **P** **06 26 11.9 +1.2**
MOY Mondy 46.68 5 *e*P **P** **06 26 10.4 -0.4**
MOY pmax pmax
comp=Z,40nm,2.3s,mb4.9
TLY Talaya 46.99 8 P **P** **06 26 13.0 -0.3**
comp=Z,399nm,0.8s,mb6.4,SNR=27
TLY Talaya 46.99 8 *e*P **P** **06 26 13.7 +0.4**
TLY *e*S **S** **06 33 20.1 +19**
TLY pmax pmax
comp=Z,54nm,0.8s,mb5.5
TLY MLR MLR
comp=Z,572nm,17.0s,MS4.6
TLY Talaya 46.99 8 *e*P **P** **06 26 13.7 +0.4**
comp=Z,44nm,0.7s,mb5.5
TLY *ep*P pP 06 26 26.6 0.0
TLY *e*PcP PcP 06 27 45.4 +0.5
TLY *e*PP PP 06 28 00.3 -3.9
TLY LR LR
comp=Z,181nm,19.0s,MS4.0
CN2 Changchun 47.05 30 *e*P **P** **06 26 13.5 -0.3**
CN2 *e*XP sP 06 26 31.3 -1.4
CN2 *e*S **S** **06 33 02.3 +0.2**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
CN2 LR LR
comp=N,900nm,16.0s,MS5.0
CN2 LR LR
comp=E,1μm,16.0s,MS5.0
CN2 LR LR
comp=Z,800nm,17.0s,MS4.8
KURK Kurchatov 47.41 346 P **P** **06 26 17.7 +1.2**
comp=Z,1μm,0.7s
IRK Irkutsk 47.62 8 *e*P **P** **06 26 17.3 -0.9**
IRK *e*S **S** **06 33 03.2 -7.0**
IRK pmax pmax
comp=Z,92nm,1.0s,mb5.8
AS31 Alice Springs 47.72 129 *e*P **P** **06 26 18.1 -0.8**
AS31 *e*PcP PcP 06 27 47.8 +0.2
AS31 *e*ScP ScP 06 31 36.5 -1.2
ASAR Alice Springs 47.72 129 P **P** **06 26 18.1 -0.8**
comp=Z,45nm,0.9s,mb5.5,baz=299,slow=7.8,SNR=363
ASAR PcP PcP 06 27 47.4 -0.2
comp=Z,15nm,0.9s,baz=302,slow=4.3,SNR=6.0
ASAR ScP ScP 06 31 36.4 -1.4
comp=Z,3.9nm,0.9s,baz=300,slow=4.2,SNR=8.8
ASAR S **S** **06 33 09.2 -2.4**
comp=Z,3.4nm,0.9s,baz=295,slow=13,SNR=12
ASAR PKiKP PKiKP 06 34 38.2 -1.1
comp=Z,0.4nm,0.8s,baz=333,slow=0.4,SNR=4.6
ASAR LR LR 06 46 53.1
comp=Z,300nm,20.3s,MS4.2,baz=308,slow=37
ASAR Alice Springs 47.72 129 P **P** **06 26 18.2 -0.7**
ASAR 06 27 47.4
ASAR S **S** **06 33 09.3 -2.3**
ASAR pmax pmax
comp=Z,45nm,0.9s
ASAR smax
comp=N,3.0nm,0.9s
ASAR MLR MLR
comp=Z,300nm,20.3s
ASAR Alice Springs 47.72 129 P **P** **06 26 18.1 -0.8**
ASAR PcP PcP 06 27 47.4 -0.2
ASAR ScP ScP 06 31 36.4 -1.4
ASAR S **S** **06 33 09.2 -2.4**
FORT Forrest 47.84 140 *e*P **P** **06 26 19.5 -0.4**
comp=Z,41nm,0.7s,mb5.6
HIA Hailar 48.82 22 *e*P **P** **06 26 27.4 0.0**
HIA *e**PP pP 06 26 40.5 -0.3
HIA pmax pmax
comp=Z,52nm,0.6s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 48.82 22 *e*P **P** **06 26 27.4 0.0**
comp=Z,52nm,0.6s,mb5.7
HIA *ep*P pP 06 26 40.5 -0.3
HIA LR LR
comp=Z,3μm,19.0s,MS5.4
CIT Chita 49.28 15 *e*P **P** **06 26 30.6 -0.3**
CIT *e* pP 06 26 43.1 -1.2
CIT *e* 06 27 53.3
CIT pmax pmax
comp=Z,110nm,1.4s,mb5.7
ZAL Zalesovo 49.34 352 P **P** **06 26 31.6 +0.3**
comp=Z,83nm,0.6s,mb6.0,baz=302,slow=5.8,SNR=217
ZAL pP pP 06 26 45.3 +0.6
comp=Z,41nm,0.8s,baz=256,slow=6.3,SNR=9.5
ZAL LR LR 06 51 30.3
comp=Z,181nm,20.5s,MS4.1,baz=289,slow=41
ZAL Zalesovo 49.34 352 P **P** **06 26 31.6 +0.2**
ZAL *PP pP 06 26 45.3 +0.6
ZAL pmax pmax
comp=Z,83nm,0.6s
ZAL MLR MLR
comp=Z,181nm,20.5s
MDJ Mudanjiang 49.77 32 P **P** **06 26 35.4 +0.8**
MDJ AP pP 06 26 46.8 -1.2
MDJ XP sP 06 26 51.9 -1.8
MDJ PCP PcP 06 27 55.6 +0.6
MDJ PP PP 06 28 26.4 -3.1
MDJ XS sS 06 34 00.9 -1.8
MDJ SS SS 06 37 13.0 -0.2
MDJ AMB AMB
comp=Z,76nm,1.4s,mb5.5
MDJ AMB AMB
comp=Z,187nm,5.8s
MDJ LR LR
comp=N,392nm,23.5s,MS4.5
MDJ LR LR
comp=E,439nm,22.3s,MS4.5
MDJ LR LR
comp=Z,699nm,25.3s,MS4.6
MDJ Mudanjiang 49.77 32 *e*P **P** **06 26 35.5 +0.8**
comp=Z,110nm,1.1s,mb5.8
MDJ *ep*P pP 06 26 48.8 +0.8
MDJ LR LR
comp=Z,726nm,20.0s,MS4.7

VLA Vladivostok 50.08 35*d* *i*P **P** **06 26 37.2 +0.2**
VLA *e* pP 06 26 49.3 -1.1
VLA pmax pmax
comp=Z,99nm,1.2s,mb5.7
CBIJ Chichi jima 50.15 59 P **P** **06 26 36.7 -0.8**
comp=Z,102nm,0.6s,mb6.0,baz=234,slow=6.0,SNR=7.7
NVS Novosibirsk 50.44 351 *e*P **P** **06 26 38.0 -1.7**
NVS *e* pP 06 26 51.1 -2.0
NVS *e*S **S** **06 33 48.4 -1.3**
NVS pmax pmax
comp=N,77nm,0.9s
NVS pmax pmax
comp=E,52nm,0.9s
NVS pmax pmax
comp=Z,103nm,0.9s,mb5.9
NVS smax
comp=N,49nm,1.8s
NVS smax
comp=E,16nm,1.8s
KBD Kabd 50.47 304 *e*P **P** **06 26 40.8 +0.8**
KBD AMb AMB 06 26 43.2
comp=Z,301nm,1.2s,mb6.2
RDF Al-Radifah 50.51 304 *e*P **P** **06 26 41.0 +0.8**
RDF AMb AMB 06 26 43.2
comp=Z,161nm,1.0s,mb5.9
UMR Umm Al-Rimmam 50.57 304 *e*P **P** **06 26 41.5 +0.7**
UMR AMb AMB 06 26 43.5
comp=Z,83nm,0.9s,mb5.7
MAJO Matsushiro 50.59 46 *e*P **P** **06 26 40.9 0.0**
MAJO *e* 06 27 58.0
MAJO pmax pmax
comp=Z,33nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,989nm,20.0s,MS4.8
MAJO Matsushiro 50.59 46 *e*P **P** **06 26 40.9 0.0**
comp=Z,33nm,0.8s,mb5.3
MAJO *e*PcP PcP 06 27 58.0 0.0
MAJO LR LR
comp=Z,989nm,20.0s,MS4.8
MAT Matsushiro 50.59 46 P **P** **06 26 40.2 -0.7**
MAT S **S** **06 33 47.0 -4.9**
MJAR Matsushiro Arr 50.59 46 P **P** **06 26 40.6 -0.3**
comp=Z,21nm,0.7s,mb5.2,baz=248,slow=8.3,SNR=50
MJAR PcP PcP 06 27 57.7 -0.3
comp=Z,10nm,0.9s,baz=253,slow=2.9,SNR=6.1
MJAR pPcP 06 28 12.8
comp=Z,16nm,1.0s,baz=252,slow=3.9,SNR=6.4
MJAR ScP ScP 06 31 50.2 +0.3
comp=Z,0.8nm,0.4s,baz=243,slow=5.5,SNR=5.2
MJAR LR LR 06 49 49.7
comp=Z,731nm,20.2s,MS4.7,baz=260,slow=38
MJAR Matsushiro Arr 50.59 46 P **P** **06 26 40.6 -0.3**
MJAR 06 27 57.7
MJAR pmax pmax
comp=Z,21nm,0.7s
MJAR MLR MLR
comp=Z,731nm,20.2s
NAY Al-Naaiem 50.87 304 *e*P **P** **06 26 43.8 +0.8**
NAY AMb AMB 06 26 44.6
comp=Z,60nm,0.9s,mb5.5
RST Umm Al-Ruwaisa 51.15 304 *e*P **P** **06 26 45.6 +0.6**
RST AMb AMB 06 26 47.7
comp=Z,152nm,1.3s,mb5.8
VOSK Vostochnaya 51.33 342 P **P** **06 26 46.1 -0.3**
VOSK pmax pmax
comp=Z,160nm,0.9s,mb6.0
BVA0 Borovoye Array 51.77 342 *i* P **P** **06 26 49.6 -0.1**
BRVK Borovoye 51.83 341 P **P** **06 26 50.9 +0.7**
comp=Z,918nm,0.8s,SNR=38
BRVK Borovoye 51.83 341 *e*P **P** **06 26 50.1 -0.1**
comp=Z,79nm,0.8s,mb5.7
BRVK *ep*P pP 06 27 04.0 +0.3
BRVK *e*PcP PcP 06 28 01.0 -1.6
BRVK LR LR
comp=Z,57nm,19.0s
ZRNK Zerenda 52.16 341 P **P** **06 26 52.6 0.0**
ZRNK pmax pmax
comp=Z,65nm,0.9s,mb5.6
CHKZ Chkalovo 52.26 342 *i* P **P** **06 26 53.8 +0.5**
AB31 Akbulak array 52.92 332⇑*e*P **P** **06 26 58.6 +0.3**
KLR Kul'dur 53.95 29⇓*i*P **P** **06 27 03.2 -2.6**
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s,mb5.6
PMG Port Moresby 54.19 105⇑*e*P **P** **06 27 08.0 +0.5**
PMG Port Moresby 54.19 105 *e*P **P** **06 27 07.3 -0.2**
comp=Z,48nm,0.8s,mb5.5
PMG LR LR
comp=Z,358nm,19.0s,MS4.5
BHD Baghdad 54.50 308 *ex* x 06 27 06.0
BOD Bodaibo 54.68 12 *e*P **P** **06 27 09.7 -1.4**
BOD *e* pP 06 27 23.0 -1.6
HABR Khabarovsk 55.13 32⇑*i*P **P** **06 27 16.3 +1.9**
HABR *e*S **S** **06 34 59.8 +6.1**
HABR pmax pmax
comp=Z,96nm,1.2s,mb5.7
HABR MLR MLR
comp=Z,2μm,17.0s,MS5.1
CTA Charters Tower 56.47 118 *e*P **P** **06 27 23.2 -0.7**
comp=Z,32nm,1.0s,mb5.3
CTA Charters Tower 56.47 118 P **P** **06 27 23.4 -0.6**
comp=Z,42nm,1.0s,mb5.5,baz=290,slow=8.7,SNR=20
CTA Charters Tower 56.47 118 P **P** **06 27 23.4 -0.5**
CTA pmax pmax
comp=Z,43nm,1.0s
CTAO Charters Tower 56.47 118 *e*P **P** **06 27 23.2 -0.7**
CTAO pmax pmax
comp=Z,51nm,1.0s,mb5.5
CTAO Charters Tower 56.47 118 *e*P **P** **06 27 23.1 -0.9**
comp=Z,51nm,1.0s,mb5.5
CTAO LR LR
comp=Z,732nm,22.0s,MS4.7
ERM Erimo 56.51 42 *e*P **P** **06 27 25.0 +0.8**
ERM pmax pmax
comp=Z,52nm,1.1s,mb5.5
ERM MLR MLR
comp=Z,182nm,19.0s,MS4.2
ERM Erimo 56.51 42 *e*P **P** **06 27 25.0 +0.8**
comp=Z,52nm,1.1s,mb5.5
ERM LR LR
comp=Z,182nm,19.0s,MS4.2
MSL Mosul 56.53 311 *i* x x 06 27 29.5
GNI Garni 56.79 315 *e*P **P** **06 27 27.2 +0.9**
comp=Z,55nm,0.9s,mb5.6
GNI LR LR
comp=Z,241nm,22.0s,MS4.2
CLNS Chul'man 56.80 19 *e*P **P** **06 27 25.2 -1.1**
CLNS *e* 06 28 20.8
CLNS *e*S **S** **06 35 13.8 -2.1**
CLNS pmax pmax
comp=Z,31nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS smax
comp=N,6.0nm,1.0s
CLNS smax
comp=E,14nm,0.9s
CLNS smax
comp=Z,8.0nm,0.9s
CLNS MLR MLR
comp=Z,2μm,22.0s,MS5.1
CLNS MLR MLR
comp=N,800nm,24.0s
CLNS MLR MLR
comp=E,800nm,16.0s
DGRG David-gareji 56.90 317 P **P** **06 27 28.0 +0.9**
MTA Mtatsminda 57.40 317 P **P** **06 27 30.6 +0.1**
TBLG Delisi 57.45 317 P **P** **06 27 31.3 +0.4**
KZR Kazreti 57.53 317 P **P** **06 27 31.5 +0.1**
DUS Dusheti 57.63 318 P **P** **06 27 31.5 -0.7**
KMBO Kilima Mbogo 57.76 265 P **P** **06 27 34.9 +1.8**
comp=E,6.4nm,0.9s,mb4.7,baz=57,slow=6.9,SNR=12
KMBO *ep*P pP 06 27 47.9 +1.2
comp=E,17nm,0.9s,baz=60,slow=9.9,SNR=11
KMBO LR LR 06 48 16.9
comp=E,589nm,20.8s,MS4.7,baz=89,slow=32
KMBO Kilima Mbogo 57.76 265 P **P** **06 27 34.9 +1.8**
KMBO *PP pP 06 27 47.9 +1.2
STKA Stephens Creek 57.80 133 *e*P **P** **06 27 32.5 -0.8**
comp=E,21nm,1.0s,mb5.1
STKA Stephens Creek 57.80 133 P **P** **06 27 32.5 -0.8**
comp=E,35nm,1.1s,mb5.3,baz=311,slow=6.9,SNR=42
STKA LR LR 06 55 51.7

comp=E,315nm,19.7s,MS4.4,baz=137,slow=40
SVE Sverdlovsk 58.16 339⇑*e*P **P** **06 27 33.9 -2.0**
SVE *e* pP 06 27 50.0 +0.5
SVE *e* 06 28 34.0
SVE *e*S **S** **06 35 36.0 +2.2**
SVE pmax pmax
comp=Z,200nm,1.0s,mb6.1
SVE MLR MLR
comp=N,300nm,13.0s,MS4.6
SVE MLR MLR
comp=E,100nm,13.0s,MS4.6
SVE MLR MLR
comp=Z,300nm,13.0s,MS4.6
ZEI Tsey 58.46 318 *e*P **P** **06 27 38.0 0.0**
ZEI *e**PP pP 06 27 46.5 -5.1
ZEI *e* 06 29 47.4
ZEI pmax pmax
comp=Z,34nm,0.6s,mb5.5
YSS Yuzh-Sakhalins 58.59 37⇑*i*P **P** **06 27 39.0 +0.1**
YSS *e* pP 06 27 52.0 -0.5
YSS pmax pmax
comp=Z,110nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 58.59 37 *e*P **P** **06 27 39.3 +0.4**
comp=Z,66nm,0.8s,mb5.7
YSS *ep*P pP 06 27 52.5 0.0
YSS LR LR
comp=Z,608nm,20.0s,MS4.7
ARU Arti 58.64 337 P **P** **06 27 38.2 -1.0**
comp=Z,379nm,1.0s,mb6.4,SNR=18
ARU Arti 58.64 337⇑*i*P **P** **06 27 38.5 -0.7**
ARU *e* pP 06 27 50.6 -2.3
ARU *e* 06 28 26.6
ARU *e* 06 29 47.9
ARU *e*S **S** **06 35 42.5 +2.5**
ARU *e*SS SS 06 39 38.1 +4.8
ARU pmax pmax
comp=Z,76nm,1.0s,mb5.7
ARU Arti 58.64 337 *e*P **P** **06 27 38.6 -0.6**
comp=Z,112nm,1.1s,mb5.8
ARU *ep*P pP 06 27 52.8 -0.1
ARU LR LR
comp=Z,100nm,20.0s,MS3.9
ONI Oni 58.68 318 P **P** **06 27 39.1 -0.4**
BCA Borcka 59.48 316 *e*PG **P** **06 27 44.1 -0.9**
KIV Kislovodsk 59.76 319 P **P** **06 27 47.5 +0.6**
comp=Z,517nm,0.9s,mb6.6,SNR=9.2
KIV Kislovodsk 59.76 319*c* *i*P **P** **06 27 46.6 -0.3**
KIV *e* pP 06 28 01.1 +0.5
KIV *e* 06 28 33.1
KIV *e*S **S** **06 35 56.6 +2.2**
KIV pmax pmax
comp=Z,105nm,1.0s,mb5.8
KIV Kislovodsk 59.76 319 *e*P **P** **06 27 46.6 -0.3**
comp=Z,101nm,1.0s,mb5.8
GOF Gofitskoye 60.00 320⇑*i*P **P** **06 27 49.0 +0.4**
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.6
URFA Urfa 60.14 311 *e*PG **P** **06 27 50.4 +0.9**
EZC Erzincan 60.15 313 *e*PG **P** **06 27 51.6 +2.0**
MALT Malatya 60.70 311⇓*i*P **P** **06 27 54.5 +1.1**
MALT Malatya 60.70 311⇓P **P** **06 27 54.5 +1.1**
GZT Gaziantep 61.07 310 *i* P **P** **06 27 56.8 +0.9**
GAZ Gaziantep 61.28 310 *e*PG **P** **06 27 55.9 -1.4**
SOKR Solikamsk 61.56 339*c* *i*P **P** **06 27 59.1 -0.1**
SOKR pmax pmax
comp=Z,80nm,0.9s,mb5.8
GRSN GIRESUNGRSN 61.66 314 *i* P **P** **06 27 58.9 -1.0**
HTY Hatay 61.83 308 *e*PG **P** **06 28 02.3 +1.3**
SVSK Karacayir 62.26 313 *e*PG **P** **06 28 03.6 -0.3**
CEYT Ceyhan 62.37 309 *e*PG **P** **06 28 04.8 +0.2**
YAK Yakutsk 62.41 18 *e*P **P** **06 28 03.7 -1.2**
YAK pmax pmax
comp=Z,124nm,0.7s,mb6.2
YAK MLR MLR
comp=Z,929nm,22.0s,MS4.9
YAK Yakutsk 62.41 18 *e*P **P** **06 28 03.7 -1.2**
comp=Z,124nm,0.7s,mb6.2
YAK LR LR
comp=Z,929nm,22.0s,MS4.9
KOZT Kozan 62.43 310 *e*PG **P** **06 28 03.8 -1.2**
KRTS Karatas 62.54 309 *e*PG **P** **06 28 05.8 0.0**
TOKT Tokat 62.71 313 *e*PG **P** **06 28 07.1 +0.2**
BNN Bunyan 62.80 311 *e*PG **P** **06 28 06.6 -0.9**
KARA Karaisali 62.97 309 *e*PG **P** **06 28 07.1 -1.5**
MERS Mersin 63.28 309 *e*PG **P** **06 28 09.9 -0.8**
TOO Toolangi 63.45 137 *e*P **P** **06 28 12.4 +0.6**
comp=Z,26nm,1.1s,mb5.3
TOO Toolangi 63.45 137 *e*P **P** **06 28 12.4 +0.6**
TOO pmax pmax
comp=Z,27nm,1.1s,mb5.3
AVNT Avonos 63.52 311 *i* P **P** **06 28 12.2 -0.1**
ANN Anapa 63.56 318 *e*P **P** **06 28 10.0 -2.5**
ANN *e*S S **06 36 42.9 +0.4**
ANN pmax pmax
comp=Z,108nm,1.7s,mb5.6
CSS Prodhromos 63.77 306 P **P** **06 28 14.6 +0.7**
comp=Z,2.1nm,1.1s
CSS Prodhromos 63.77 306 *e*P **P** **06 28 14.1 +0.1**
IKL Isikli 63.78 308 *e*PG **P** **06 28 13.0 -1.0**
MAMC Mammari 63.90 307 P **P** **06 28 14.2 -0.6**
DIKM Dikmen 64.04 314 *e*PG **P** **06 28 14.4 -1.3**
DIKM Dikmen 64.04 314 *e*PG **P** **06 28 14.4 -1.3**
CORM Corum 64.07 312 *e*PG **P** **06 28 14.3 -1.6**
CORM Corum 64.07 312 *e*PG **P** **06 28 14.3 -1.6**
CTKT Corum 64.08 313 *i* P **P** **06 28 15.5 -0.4**
SZAC Souni-Zanaja 64.08 306 P **P** **06 28 17.1 +1.1**
CDAG Cicekdag 64.11 312 *i* P **P** **06 28 15.9 -0.3**
BOYT Boyabat 64.23 314 *i* P **P** **06 28 16.8 -0.1**
BYBT Boyabat 64.34 314 *e*PG **P** **06 28 16.6 -1.1**
ALFC Alevga 64.39 307⇑P **P** **06 28 18.3 +0.3**
comp=Z,2.0nm,0.7s
ALFC Alevga 64.39 307⇑*e*P **P** **06 28 18.3 +0.3**
ERMK Ermenek 64.48 308 *i* P **P** **06 28 18.1 -0.5**
KAMT Kaman 64.53 311 *e*PG **P** **06 28 17.0 -1.9**
BR131 Keskin Array S 64.68 312 *e*P **P** **06 28 19.6 -0.3**
comp=Z,27nm,0.7s,mb5.4
BR131 *ep*P pP 06 28 35.0 +1.3
BRTR Keskin Array B 64.68 312 P **P** **06 28 19.6 -0.4**
comp=Z,34nm,0.7s,mb5.5,baz=127,slow=6.9,SNR=169
BRTR pP 06 28 33.4 -0.3
comp=Z,13nm,0.6s,baz=131,slow=7.4,SNR=6.1
BRTR LR LR 07 02 24.6
comp=Z,99nm,18.3s,MS4.0,baz=350,slow=41
TOS Tosya 64.75 313 *e*PG **P** **06 28 19.6 -0.7**
VORD Divnogorie 64.79 325 *e*P **P** **06 28 18.7 -1.9**
VORD pmax pmax
comp=N,60nm,0.9s
VORD pmax pmax
comp=Z,100nm,0.9s,mb5.8
VORD pmax pmax
comp=E,110nm,1.0s
ARMA Armidale 64.82 127 *e*P **P** **06 28 21.4 +0.6**
HDMB Hadim 64.88 308 *e*PG **P** **06 28 20.2 -1.0**
HDMB Hadim 64.88 308 *e*PG **P** **06 28 20.2 -1.0**
CANT Cankiri 64.93 313 *e*PG **P** **06 28 21.5 -0.1**
VRSR Storozhevoye 64.96 325 *e*P **P** **06 28 20.0 -1.7**
VRSR pmax pmax
comp=Z,80nm,1.0s,mb5.7
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,110nm,0.9s
BZK Bozkurt 65.03 314 *e*PG **P** **06 28 20.4 -1.7**
BZK Bozkurt 65.03 314 *e*PG **P** **06 28 20.4 -1.7**
BZK Bozkurt 65.03 314 *e*PG **P** **06 28 20.4 -1.7**
ELDT Eldivan 65.04 312 *i* P **P** **06 28 22.1 -0.1**
CNB Canberra Magne 65.12 133 *e*P **P** **06 28 22.4 -0.4**
comp=E,45nm,1.1s,mb5.4
KONT Konya--Tatoy 65.21 309 *e*PG **P** **06 28 23.0 -0.3**
KONT Konya--Tatoy 65.21 309 *e*PG **P** **06 28 23.0 -0.3**
ANTO Ankara 65.35 312 *e*PG **P** **06 28 22.6 -1.6**
ANTO Ankara 65.35 312 *e*PG **P** **06 28 22.6 -1.6**
ANTO Ankara 65.35 312 *e*PG **P** **06 28 22.6 -1.6**
ANTO Ankara 65.35 312⇓*i*P **P** **06 28 24.8 +0.6**
ANTO Ankara 65.35 312 *e*P **P** **06 28 24.2 0.0**
ANTO *e**PP pP 06 28 38.2 +0.1
ANTO pmax pmax
comp=Z,102nm,1.3s,mb5.7
ANTO MLR MLR
comp=Z,159nm,22.0s,MS4.2
ANTO Ankara 65.35 312 *e*P **P** **06 28 24.1 -0.1**
comp=Z,102nm,1.3s,mb5.7
ANTO *ep*P pP 06 28 38.2 +0.2
ANTO LR LR

comp=Z,159nm,22.0s,MS4.2
SAFT Safranbolu 65.78 313 *e*PG **P** **06 28 25.9 -1.1**
KIZT Kizilcal 65.79 310 *e*PG **P** **06 28 25.0 -2.1**
SIM Simferopol' 65.83 317 *e*P **P** **06 28 27.8 +0.4**
SIM *e*S S 06 37 11.0 +0.5
SIM pmax pmax
comp=Z,62nm,1.1s,mb5.5
ISP Isparta 66.61 309 *e*PG **P** **06 28 32.3 -0.1**
ISP Isparta 66.61 309 *e*PG **P** **06 28 32.3 -0.1**
ISP Isparta 66.61 309 *e*PG **P** **06 28 32.3 -0.1**
ISP Isparta 66.61 309 *e*P **P** **06 28 32.0 -0.3**
ISP Isparta 66.61 309⇑ *i*P **P** **06 28 31.6 -0.7**
MDU Mudurnu 66.67 312 *e*PG **P** **06 28 31.3 -1.4**
KDZE Karadeniz Ereo 66.71 313 *e*PG **P** **06 28 31.0 -2.0**
KDZE Karadeniz Ereo 66.71 313 *e*PG **P** **06 28 31.0 -2.0**
KDZE Karadeniz Ereo 66.71 313 *e*PG **P** **06 28 31.0 -2.0**
ESKT Eskisehir 66.72 311 *e*PG **P** **06 28 32.1 -0.9**
TKTP Tekketepe 66.80 309 *i* P **P** **06 28 33.5 0.0**
GOLH Golhisar 67.23 308 *i* P **P** **06 28 35.2 -1.1**
FETY Fethiye 67.49 308 *e*PG **P** **06 28 36.7 -1.2**
FETY Fethiye 67.49 308 *e*PG **P** **06 28 36.7 -1.2**
FETY Fethiye 67.49 308 *e*PG **P** **06 28 36.7 -1.2**
MOS Moscow 67.73 329 *e*P **P** **06 28 37.8 -1.6**
MOS *e* pP 06 28 50.9 -2.4
MOS *e* 06 29 02.0
MOS *e*S S 06 37 41.0 +7.6
MOS pmax pmax
comp=Z,200nm,1.4s,mb6.0
MOS pmax pmax
comp=Z,193nm,1.5s,mb5.9
MOS Moscow 67.73 329 *e*P **P** **06 28 37.9 -1.5**
ADVT Abdulvahap 67.76 312 *e*PG **P** **06 28 37.5 -2.0**
ADVT Abdulvahap 67.76 312 *e*PG **P** **06 28 37.5 -2.0**
ADVT Abdulvahap 67.76 312 *e*PG **P** **06 28 37.5 -2.0**
OBN Obninsk 68.02 328*c* *i*P **P** **06 28 40.0 -1.2**
OBN *e* 06 29 00.6
OBN *e*S S 06 37 37.1 +0.3
OBN pmax pmax
comp=Z,190nm,1.7s,mb5.8
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 68.02 328 *e*P **P** **06 28 40.8 -0.4**
comp=Z,237nm,1.6s,mb6.0
YLV Yalova 68.06 312 *e*PG **P** **06 28 39.7 -1.8**
YLV Yalova 68.06 312 *e*PG **P** **06 28 39.7 -1.8**
ULDT Uludag 68.14 311 *i* P **P** **06 28 42.1 +0.1**
GEMT Gemlik 68.17 312 *e*PG **P** **06 28 41.5 -0.7**
GEMT Gemlik 68.17 312 *e*PG **P** **06 28 41.5 -0.7**
GEMT Gemlik 68.17 312 *e*PG **P** **06 28 41.5 -0.7**
ARG Arkhangelos 68.17 307 *e*P **P** **06 28 46.5 +4.3**
YER Yerkesik 68.21 308 *e*PG **P** **06 28 42.2 -0.2**
ISK Istanbul-Kandi 68.40 312 *e*PG **P** **06 28 42.5 -1.2**
ISK Istanbul-Kandi 68.40 312 *e*PG **P** **06 28 42.5 -1.2**
ISK Istanbul-Kandi 68.40 312 *e*PG **P** **06 28 42.5 -1.2**
DST Dursunbey 68.42 311 *e*PG **P** **06 28 43.0 -0.7**
KLYT Kilyos 68.45 312 *e*PG **P** **06 28 42.2 -1.7**
KLYT Kilyos 68.45 312 *e*PG **P** **06 28 42.2 -1.7**
KLYT Kilyos 68.45 312 *e*PG **P** **06 28 42.2 -1.7**
KARP Karpathos 68.83 306 *e*P **P** **06 28 47.5 +1.2**
AKS Akhisar 68.90 310 *e*PG **P** **06 28 46.4 -0.3**
MA2 Magadan 68.92 27*c* *i*P **P** **06 28 46.2 -0.7**
MA2 *e*S S 06 37 46.6 -1.0
MA2 *e* 06 38 41.5
MA2 pmax pmax
comp=Z,80nm,0.8s,mb5.7
MA2 MLR MLR
comp=Z,500nm,21.5s,MS4.7
MA2 Magadan 68.92 27 *e*P **P** **06 28 46.3 -0.6**
comp=Z,34nm,0.7s,mb5.4
MA2 *ep*P pP 06 28 59.5 -1.3
MA2 *e*PcP PcP 06 29 11.1 +0.1
MA2 LR LR
comp=Z,257nm,20.0s,MS4.5
LSZ Lusaka 68.95 252 *e*P **P** **06 28 48.3 +1.3**
comp=Z,23nm,0.9s,mb5.1
LSZ LR LR
comp=Z,755nm,20.0s,MS4.9
BODT Bodrum 68.96 308 *e*PG **P** **06 28 46.4 -0.8**
BODT Bodrum 68.96 308 *e*PG **P** **06 28 46.4 -0.8**
BODT Bodrum 68.96 308 *e*PG **P** **06 28 46.4 -0.8**
IZM Izmir 69.23 309 *e*PG **P** **06 28 48.9 +0.1**
SMG Samos 69.44 308 *e*P **P** **06 28 50.0 -0.1**
PSN Preselentsi 69.61 315 *i* P **P** **06 28 53.8 +2.7**
TIRR Tirgusor 69.62 316⇑ *i*P **P** **06 28 51.0 -0.2**
TIRR Tirgusor 69.62 316 P **P** **06 28 51.3 +0.1**
TIXI Tiksi 69.80 11 *e*P **P** **06 28 48.4 -3.9**
XRY Khrisi 69.92 305 *e*P **P** **06 28 53.5 +0.4**
CFR Carcaliu 69.98 316⇓ *i*P **P** **06 28 53.5 +0.1**
CFR Carcaliu 69.98 316 P **P** **06 28 53.4 0.0**
HARR Harsova 70.01 316⇓ *i*P **P** **06 28 53.9 +0.3**
HARR Harsova 70.01 316 P **P** **06 28 53.9 +0.3**
PRD Provadia 70.06 314 *i* P **P** **06 28 53.4 -0.5**
PRK Paraskevi 70.14 310 *e*P **P** **06 29 00.0 +5.6**
CHOS Chios island 70.17 309 *e*P **P** **06 28 54.5 -0.1**
SANT Santorini 70.32 307 *e*P **P** **06 28 54.5 -1.0**
PET Petropavlovsk 70.41 35*a* *i*P **P** **06 28 54.7 -1.3**
PET *e*S S 06 38 03.5 -1.5
PET pmax pmax
comp=Z,77nm,0.7s,mb5.7
PET pmax pmax
comp=N,32nm,0.8s
PET pmax pmax
comp=E,23nm,0.9s
PET MLR MLR
comp=Z,400nm,16.0s,MS4.8
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 70.41 35 *e*P **P** **06 28 54.7 -1.3**
comp=Z,39nm,0.7s,mb5.4
PET *ep*P pP 06 29 08.1 -1.9
PET LR LR
comp=Z,410nm,19.0s,MS4.7
JMB Yambol 70.50 313 *e*P **P** **06 28 56.8 +0.2**
GADA Gvkgeada 70.59 311 *e*PG **P** **06 28 55.9 -1.3**
ALN Alexandroupoli 70.60 312 *e*P **P** **06 28 57.1 -0.1**
AKASG Malin Array Be 70.68 322 P **P** **06 28 56.4 -1.2**
comp=Z,24nm,0.6s,mb5.3,baz=92,slow=4.7,SNR=99
AKASG pP pP 06 29 10.7 -1.0
comp=Z,10nm,0.6s,baz=88,slow=4.9,SNR=6.0
AKASG LR LR 07 05 28.3
comp=Z,67nm,20.8s,MS3.9,baz=40,slow=40
AKASG Malin Array Be 70.68 322 P **P** **06 28 56.4 -1.2**
AKASG pP pP 06 29 10.7 -1.0
AKASG LR LR 07 05 28.3
AKBB Malin Array Si 70.68 322 P **P** **06 28 56.5 -1.2**
AKBB Malin Array Si 70.68 322 *e*P **P** **06 28 56.4 -1.3**
AKBB *ep*P pP 06 29 10.4 -1.3
VRI Vrincioaia 71.10 317⇑ *i*P **P** **06 29 01.2 +1.0**
VRI Vrincioaia 71.10 317 P **P** **06 29 00.9 +0.7**
PLOR Plostina 71.15 317⇓ *i*P **P** **06 29 01.5 +1.0**
SEY Seymchan 71.17 24⇓ *e*P **P** **06 28 59.7 -0.9**
KDZ Kurdzhali 71.20 312 *i* P **P** **06 29 00.9 +0.1**
VAM Vamos 71.21 306 *e*P **P** **06 29 02.5 +1.6**
GVD Gavdhos 71.23 305 *e*P **P** **06 29 00.8 -0.2**
GVD Gavdhos 71.23 305 *e*P **P** **06 29 01.5 +0.5**
GVD Gavdhos 71.23 305 *e*P **P** **06 29 00.3 -0.7**
comp=Z,96nm,1.0s,mb5.7
BUC1 Bucharest 71.27 315⇑ *i*P **P** **06 29 02.3 +1.1**
BUC1 Bucharest 71.27 315 P **P** **06 29 02.3 +1.1**
KARN Karanos 71.44 306 *e*P **P** **06 29 02.5 +0.2**
PVL Pavlikeni 71.54 314 *i* P **P** **06 29 02.8 -0.1**
MLR Muntele Rosu 71.55 316⇑ *i*P **P** **06 29 03.8 +0.8**
MLR Muntele Rosu 71.55 316 P **P** **06 29 03.5 +0.6**
ZIMR 71.60 314⇑ *i*P **P** **06 29 03.8 +0.5**
ZIMR 71.60 314 P **P** **06 29 03.8 +0.6**
RZN Rozhen 71.72 312 *i* P **P** **06 29 03.3 -0.7**
PLD Plovdiv 71.81 313 *e*P **P** **06 29 04.3 -0.2**
PTL Penteli 71.82 308 *e*P **P** **06 29 05.5 +0.9**
KVR Kavouri 71.86 308 *e*P **P** **06 29 05.0 +0.2**
ATH Athens Observa 71.92 308 *e*P **P** **06 29 04.5 -0.7**
NAIG Nisos Aigina 72.08 308 *e*P **P** **06 29 06.0 -0.1**
MTUR Matau 72.11 316⇑ *i*P **P** **06 29 06.8 +0.5**
MTUR Matau 72.11 316 ⇑P **P** **06 29 06.8 +0.5**
CASY Casey 72.14 173 *e*P **P** **06 29 06.7 +0.2**
VOIR 72.16 316⇑ *i*P **P** **06 29 06.4 -0.2**
VOIR 72.16 316 ⇑P **P** **06 29 06.4 -0.2**
PAIG Paliouri 72.23 310 *e*P **P** **06 29 06.5 -0.5**
PGB Panagyurishte 72.27 313 *i* P **P** **06 29 06.6 -0.7**
MGER Geranía Oros 72.28 308 *e*P **P** **06 29 07.0 -0.4**
MMB Musomiste 72.44 312 *e*P **P** **06 29 07.5 -0.8**
PLG Polygyros 72.47 311 *e*P **P** **06 29 08.5 0.0**
BURAR Bucovina Array 72.48 318⇑ *i*P **P** **06 29 09.3 +0.8**

MNK Minsk 72.55 326 *e*P **P** **06 29 03.0 -5.9**
MNK pmax pmax
comp=Z,220nm,1.0s,mb6.0
SOH Sokhos 72.60 311 *e*P **P** **06 29 08.8 -0.5**
HORT Hortiatis 72.76 311 *e*P **P** **06 29 09.0 -1.2**
PUL Pulkovo 72.90 331 *e*P **P** **06 29 09.0 -2.0**
KKB Krupnik 72.96 312 *i* P **P** **06 29 09.9 -1.5**
VTS Vitosha 72.98 313 *e*P **P** **06 29 10.9 -0.5**
VTS Vitosha 72.98 313⇑ *i*P **P** **06 29 11.5 0.0**
VTS Vitosha 72.98 313 *i* P **P** **06 29 10.3 -1.2**
KNT Kendrikon 72.99 311 *e*P **P** **06 29 10.8 -0.8**
AGG Agios Georgios 73.14 309 *e*P **P** **06 29 10.8 -1.6**
LIT Litokhoron 73.16 310 *e*P **P** **06 29 11.3 -1.3**
ITM Ithomi 73.24 307 *e*P **P** **06 29 12.5 -0.5**
VAY Valandovo 73.26 312 *e*P **P** **06 29 11.6 -1.5**
VAY Valandovo 73.26 312⇑ *i*P **P** **06 29 11.8 -1.4**
LBTB Lobatse 73.48 242 *e*P **P** **06 29 15.9 +1.5**
comp=Z,43nm,0.9s,mb5.4
LBTB LR LR
comp=Z,1μm,21.0s,MS5.1
EVR Evrytania 73.53 309 *e*P **P** **06 29 13.5 -1.2**
JOF Joensuu 73.57 335 *ep* **P** **06 29 13.4 -1.6**
comp=Z,58nm,1.0s,mb5.5
JOF Joensuu 73.57 335 *e*P **P** **06 29 13.4 -1.6**
JOF pmax pmax
comp=Z,58nm,1.0s,mb5.5
LVV L'vov 73.70 320 *i* P **P** **06 29 15.3 -0.4**
GZR Gura Zlata 73.73 316⇑ *i*P **P** **06 29 16.2 +0.3**
GZR Gura Zlata 73.73 316 P **P** **06 29 16.2 +0.3**
DRGR 74.00 317⇑ *i*P **P** **06 29 18.2 +0.7**
DRGR 74.00 317 P **P** **06 29 18.1 +0.6**
SKO Skopje 74.19 312 *i* P **P** **06 29 18.0 -0.6**
LVZ Lovozero 74.33 340⇑ *e*P **P** **06 29 19.3 -0.1**
JAN Janina 74.35 310 *e*P **P** **06 29 19.5 0.0**
KWP Kalwaria 74.51 320 *e*P **P** **06 29 20.8 +0.4**
OHR Ohrid 74.56 311⇑ *i*P **P** **06 29 18.7 -2.0**
BZS Buzias 74.57 316⇑ *i*P **P** **06 29 20.9 +0.1**
BZS Buzias 74.57 316 P **P** **06 29 21.0 +0.2**
UZH Uzhgorod 74.60 319 *e*P **P** **06 29 18.5 -2.5**
UZH *i* 06 29 40.7
APA Apatity 74.62 340⇑ *i*P **P** **06 29 20.8 -0.3**
APA *i* pP 06 29 34.0 -1.1
APA pmax pmax
comp=Z,65nm,1.0s,mb5.5
BOSA Boshof 74.66 239 P **P** **06 29 22.4 +1.1**
comp=Z,14nm,0.7s,mb5.0,baz=86,slow=5.4,SNR=24
BOSA pP pP 06 29 35.3 -0.1
comp=Z,21nm,0.9s,baz=74,slow=7.7,SNR=8.1
BOSA LR LR 06 56 24.1
comp=Z,457nm,21.8s,MS4.7,baz=68,slow=31
BOSA Boshof 74.66 239 *e*P **P** **06 29 22.5 +1.2**
comp=Z,65nm,1.1s,mb5.5
BOSA LR LR
comp=Z,671nm,19.0s,MS5.0
KOLS Kolonicke sedl 74.66 319 *e*P **P** **06 29 22.0 +0.7**
IGT Igoumenitsa 74.74 309 *e*P **P** **06 29 21.0 -0.8**
SUW Suwalki 75.08 325 *e*P **P** **06 29 22.9 -0.8**
DZM Mont Dzumac 75.11 114 *e*P **P** **06 29 24.8 +0.9**
CRVS Cervenica-Dubn 75.19 319 *e*P **P** **06 29 24.8 +0.5**
PVY Plav 75.34 313⇑ *i*P **P** **06 29 24.9 -0.3**
FIA1 FINESS Array S 75.41 332 *e*P **P** **06 29 24.9 -0.8**
FINES FINESS Array B 75.41 332 P **P** **06 29 24.8 -0.9**
comp=Z,13nm,0.7s,mb5.0,baz=99,slow=6.4,SNR=88
FINES pP pP 06 29 39.2 -0.5
comp=Z,17nm,0.6s,baz=101,slow=8.0,SNR=12
FINES LR LR 07 06 53.4
comp=Z,197nm,18.8s,MS4.4,baz=146,slow=39
FINES FINESS Array B 75.41 332 P **P** **06 29 24.8 -0.8**
FINES *PP pP 06 29 39.3 -0.4
FINES pmax pmax
comp=Z,13nm,0.7s
FINES MLR MLR
comp=Z,197nm,18.8s
FINES FINESS Array B 75.41 332 P **P** **06 29 24.8 -0.9**
FINES pP pP 06 29 39.2 -0.5
FINES LR LR 07 06 53.4
STHS Stebnicka Huta 75.41 320 *i* P **P** **06 29 26.1 +0.5**
STHS *e* pP 06 29 40.3 +0.6
STHS pmax pmax
comp=Z,70nm,0.8s,mb5.6
STHS Stebnicka Huta 75.41 320 *i* P **P** **06 29 26.1 +0.5**
comp=Z,70nm,0.8s,mb5.6
STHS *e* pP 06 29 40.3 +0.6
IVA Berane 75.43 313⇑ *i*P **P** **06 29 24.9 -0.9**
KAF Kangasniemi 75.50 333 *ep* **P** **06 29 24.7 -1.4**
comp=Z,33nm,0.7s,mb5.4,baz=105,slow=5.3
KAF Kangasniemi 75.50 333 *e*P **P** **06 29 24.7 -1.4**
KAF pmax pmax
comp=Z,33nm,0.7s,mb5.4
KECS Kecovo 75.76 319 *i* P **P** **06 29 27.9 +0.3**
KECS pmax pmax
comp=Z,41nm,0.7s,mb5.5
KECS Kecovo 75.76 319 *i* P **P** **06 29 27.9 +0.3**
comp=Z,41nm,0.7s,mb5.5
ULC Ulcinj 75.81 312⇑ *i*P **P** **06 29 26.8 -1.1**
PLE Pljevlja 75.85 313⇑ *i*P **P** **06 29 28.1 0.0**
TTG Podgorica 75.85 312⇑ *i*P **P** **06 29 27.3 -0.8**
MAW Mawson 75.98 192 *e*P **P** **06 29 29.5 +0.6**
comp=Z,4.1nm,0.9s
MAW Mawson 75.98 192 P **P** **06 29 29.6 +0.6**
comp=Z,5.4nm,0.9s,baz=302,slow=8.6,SNR=6.5
MAW LR LR 06 57 16.0
comp=Z,218nm,19.8s,MS4.5,baz=186,slow=31
MAW Mawson 75.98 192 *e*P **P** **06 29 29.5 +0.6**
MAW pmax pmax
comp=Z,4.0nm,0.9s
NIE Niedzica 76.01 320 *i* Pc **P** **06 29 29.9 +0.8**
PSZ Piszkesteto 76.07 318⇑ *e*P **P** **06 29 29.7 +0.3**
PSZ Piszkesteto 76.07 318⇑ *i*P **P** **06 29 29.8 +0.4**
PSZ Piszkesteto 76.07 318 P **P** **06 29 29.8 +0.4**
NKY Niksic 76.08 313⇑ *i*P **P** **06 29 29.0 -0.5**
BUM Brajici-Budva 76.10 312⇑ *i*P **P** **06 29 28.8 -0.8**
UPM Unac-Piva 76.19 313⇑ *i*P **P** **06 29 29.2 -0.8**
HCY Herceg Novi 76.41 312⇑ *i*P **P** **06 29 30.0 -1.3**
BRY Bratogost 76.42 313⇑ *i*P **P** **06 29 30.7 -0.7**
OJC Ojcow 76.46 320 *i* Pc **P** **06 29 31.9 +0.3**
BUD Budapest 76.60 317⇑ *e*P **P** **06 29 32.7 +0.3**
PKSM Moragy 76.71 316⇓ *i*P **P** **06 29 33.1 +0.1**
PKSM Moragy 76.71 316 P **P** **06 29 33.0 0.0**
VYHS Vyhne 76.85 319 *i* P **P** **06 29 34.0 +0.2**
VYHS pmax pmax
comp=Z,58nm,1.4s,mb5.3
VYHS Vyhne 76.85 319 *i* P **P** **06 29 34.0 +0.2**
comp=Z,58nm,1.4s,mb5.3
OKC Ostrava-Krasne 77.46 320⇑ *i*P **P** **06 29 37.9 +0.6**
RAC Raciborz 77.46 320 *e*P **P** **06 29 38.3 +1.0**
KEV Kevo 77.61 341 *ep* **P** **06 29 36.6 -1.5**
comp=Z,34nm,0.9s,mb5.3
KEV Kevo 77.61 341 *e*P **P** **06 29 36.6 -1.5**
KEV pmax pmax
comp=Z,34nm,0.9s,mb5.3
MORC Moravsky Berou 77.84 320⇑ *i*P **P** **06 29 40.1 +0.7**
MORC Moravsky Berou 77.84 320 P **P** **06 29 40.0 +0.6**
ZST Bratislava 77.96 318 *i* P **P** **06 29 40.6 +0.6**
ZST *e* pP 06 29 53.9 -0.3
ZST pmax pmax
comp=Z,170nm,1.0s,mb5.9
ZST Bratislava 77.96 318 *i* P **P** **06 29 40.6 +0.6**
comp=Z,170nm,1.0s,mb5.9
ZST *e* pP 06 29 53.9 -0.3
ARCES ARCESS Array B 78.04 340 P **P** **06 29 40.0 -0.4**
comp=Z,26nm,0.7s,mb5.3,baz=90,slow=5.7,SNR=95
ARCES pP pP 06 29 54.1 -0.5
comp=Z,48nm,0.9s,baz=77,slow=5.2,SNR=12
ARCES PP PP 06 32 37.7 +0.6
comp=Z,16nm,0.9s,baz=107,slow=8.1,SNR=6.1
ARCES LR LR 07 07 19.7
comp=Z,294nm,20.6s,MS4.6,baz=111,slow=38
ARCES ARCESS Array B 78.04 340 P **P** **06 29 40.0 -0.5**
ARCES *PP pP 06 29 54.1 -0.5
ARCES 06 32 37.7
ARCES pmax pmax
comp=Z,26nm,0.7s
ARCES MLR MLR
comp=Z,295nm,20.6s
ARE0 ARCESS Array S 78.04 340 *e*P **P** **06 29 40.2 -0.3**
ARE0 *ep*P pP 06 29 54.3 -0.3
ARE0 *es*P sP 06 29 58.9 -1.2
ARE0 *e*PP PP 06 32 37.5 +0.4
SOP Sopron 78.28 318⇑ *e*P **P** **06 29 42.0 +0.2**
BILL Bilibino 78.41 21*d* *i*P **P** **06 29 41.7 -0.8**
BILL *e* pP 06 29 51.1 -5.6
BILL *e* 06 32 39.3

BILL *e*S S 06 39 37.2 +2.6
BILL pmax pmax
comp=Z,69nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.3
BILL Bilibino 78.41 21 *i* Pr **P** **06 29 41.7 -0.8**
BILL LR LR
comp=Z,1μm,21.0s,MS5.2
VRAC Vranov 78.41 319⇑ *i*P **P** **06 29 42.9 +0.4**
VRAC Vranov 78.41 319 P **P** **06 29 42.9 +0.4**
GKP Gorka Klasztor 78.44 323 *e*P **P** **06 29 42.5 -0.2**
DRV Dumont d'Urvil 78.58 163 S S 06 39 35.0 -1.5
KTK1 Kautokeino 78.66 340 *e*P **P** **06 29 44.0 +0.1**
KTK1 AMb AMB 06 29 46.2
comp=Z,107nm,1.1s,mb5.7
KTK1 *ep*P pP 06 29 58.5 +0.4
KTK1 Kautokeino 78.66 340 *e*P **P** **06 29 44.0 +0.1**
comp=Z,107nm,1.1s,mb5.7
DPC Dobruska-Polom 78.69 320⇑ *i*P **P** **06 29 44.9 +0.9**
KSP Ksiaz 78.75 321 *e*P **P** **06 29 45.2 +0.8**
KSP Ksiaz 78.75 321⇑ *e*P **P** **06 29 45.0 +0.6**
CONA Conrad Observa 78.77 318⇑ *i*P **P** **06 29 44.7 +0.3**
comp=Z,37nm,1.0s,mb5.3,SNR=22
UPC Upice 78.90 320⇑ *i*P **P** **06 29 45.8 +0.6**
ARSA Arzberg 78.94 317 *i* P **P** **06 29 46.0 +0.5**
comp=Z,221nm,1.5s,mb5.9,SNR=41
LEGS Legarje 78.99 316⇑ *i*P **P** **06 29 45.9 +0.2**
BOJS Bojanci 79.00 315 *i* P **P** **06 29 46.0 +0.2**
BOJS *e* pP 06 30 00.4 +0.4
TREC Trest 79.13 319⇑ *i*P **P** **06 29 46.8 +0.3**
PERS Pernice 79.17 316 *i* P **P** **06 29 47.3 +0.6**
PERS *i* pP 06 30 01.6 +0.7
SUR Sutherland 79.28 236 *e*P **P** **06 29 50.0 +2.6**
comp=Z,59nm,1.1s,mb5.4
SMY Shemya 79.49 37 *e*P **P** **06 29 47.8 -0.6**
LJU Ljubljana 79.54 316 *i* P **P** **06 29 49.3 +0.6**
LJU *e* pP 06 30 03.7 +0.8
OBKA Obir 79.56 316 *i* P **P** **06 29 49.4 +0.7**
comp=Z,209nm,1.5s,mb5.8,SNR=18
TSUM Tsumeb 79.62 250 *e*P **P** **06 29 51.7 +2.6**
TSUM LR LR
comp=Z,223nm,19.0s,MS4.5
PRU Pruhonice 79.80 320⇑ *i*P **P** **06 29 50.5 +0.4**
PVCC Panska Ves 79.82 320⇑ *i*P **P** **06 29 50.9 +0.7**
MOA Molln 79.83 318 *i* P **P** **06 29 50.3 0.0**
comp=Z,94nm,1.4s,mb5.5,SNR=27
VOY Vojsko 79.98 316 *e*P **P** **06 29 51.3 +0.2**
VOY *e* pP 06 30 05.7 +0.4
BSD Bornholm Skovb 80.00 325 *i* P **P** **06 29 50.6 -0.6**
comp=Z,57nm,0.9s,mb5.5
BSD *i* pP 06 30 04.8 -0.6
BSD Bornholm Skovb 80.00 325 *i* P **P** **06 29 50.6 -0.6**
BSD *i* pP 06 30 04.8 -0.6
BSD pmax pmax
comp=Z,57nm,0.9s,mb5.5
AQU L'Aquila 80.17 312⇑ *i*P **P** **06 29 53.3 +1.2**
AQU L'Aquila 80.17 312 P **P** **06 29 52.6 +0.5**
BRG Berggiesshubel 80.24 321 *e*P **P** **06 29 52.7 +0.2**
comp=Z,88nm,1.3s,mb5.5
BRG Berggiesshubel 80.24 321⇑ *i*P **P** **06 29 53.0 +0.5**
comp=Z,32nm,0.9s,mb5.2
BRG *e* pP 06 30 06.8 +0.1
comp=Z,40nm,1.8s
BRG Berggiesshubel 80.24 321⇑ *i*P **P** **06 29 53.0 +0.5**
BRG *e* pP 06 30 06.8 +0.1
BRG pmax pmax
comp=Z,32nm,0.9s,mb5.2
BRG Berggiesshubel 80.24 321⇑ *i*P **P** **06 29 53.0 +0.5**
comp=Z,32nm,0.9s,mb5.2
BRG *e* pP 06 30 06.8 +0.1
GEC2 GERESS Array S 80.27 319 *e*P **P** **06 29 53.0 +0.4**
comp=Z,161nm,0.9s,mb6.0
GEC2 GERESS Array S 80.27 319 *e*P **P** **06 29 53.0 +0.4**
GEC2 pmax pmax
comp=Z,161nm,0.9s,mb6.0
GERES GERESS Array B 80.27 319 P **P** **06 29 53.1 +0.5**
comp=Z,94nm,0.8s,mb5.8,baz=91,slow=5.5,SNR=469
GERES pP pP 06 30 06.7 -0.1
comp=Z,34nm,0.9s,baz=75,slow=5.8,SNR=5.5
GERES LR LR 07 07 49.0
comp=Z,104nm,20.5s,MS4.2,baz=280,slow=37
GERES GERESS Array B 80.27 319 P **P** **06 29 53.1 +0.5**
GERES *PP pP 06 30 06.7 -0.1
GERES pmax pmax
comp=Z,94nm,0.8s
GERES MLR MLR
comp=Z,104nm,20.5s
TRO Tromso 80.30 340 *e*P **P** **06 29 51.0 -1.8**
TRO AMb AMB 06 29 51.6
comp=Z,62nm,1.1s,mb5.4
TRO *ep*P pP 06 30 05.4 -1.6
TRO Tromso 80.30 340 *e*P **P** **06 29 51.0 -1.8**
TRO pmax pmax
comp=Z,62nm,1.1s,mb5.5
TRO Tromso 80.30 340 *e*P **P** **06 29 51.0 -1.8**
comp=Z,62nm,1.1s,mb5.5
KHC Kasperske Hory 80.37 319⇑ *i*P **P** **06 29 53.3 +0.1**
KBA Koelnbreinsper 80.41 317 *i* P **P** **06 29 53.3 -0.1**
comp=Z,62nm,1.3s,mb5.4,SNR=32
KBA Koelnbreinsper 80.41 317 *i* P **P** **06 29 53.3 -0.1**
KBA pmax pmax
comp=Z,62nm,1.3s,mb5.4
RUE Ruedersdorf 80.45 322 *e*P **P** **06 29 53.8 +0.2**
comp=Z,172nm,1.0s,mb5.9
FBE Freiberg 80.62 321 *e*P **P** **06 29 54.7 +0.2**
comp=Z,122nm,1.1s,mb5.7
WET Wettzell 80.83 319 *e*P **P** **06 29 55.8 +0.2**
comp=Z,88nm,1.1s,mb5.6
WET Wettzell 80.83 319 *e*P **P** **06 29 55.8 +0.2**
WET pmax pmax
comp=Z,88nm,1.1s,mb5.6
CLL Collm 80.86 321 *e*P **P** **06 29 55.5 -0.3**
comp=Z,53nm,1.0s,mb5.4
CLL Collm 80.86 321⇑ *i*P **P** **06 29 55.6 -0.2**
comp=Z,53nm,1.0s,mb5.4
CLL *ep*P pP 06 30 12.0 +2.0
CLL Collm 80.86 321⇑ *i*P **P** **06 29 55.6 -0.2**
CLL pmax pmax
comp=Z,53nm,1.0s,mb5.4
NKC Novy Kostel 81.16 320⇑ *i*P **P** **06 29 57.9 +0.5**
TANN Tannenbergstha 81.16 320 *e*P **P** **06 29 57.5 +0.1**
comp=Z,43nm,1.2s,mb5.2
WERN Wernitzgruen 81.20 320 *e*P **P** **06 29 57.8 +0.2**
comp=Z,41nm,1.1s,mb5.3
GUNZ Gunzen 81.24 320 *e*P **P** **06 29 58.2 +0.4**
comp=Z,67nm,1.2s,mb5.5
WERD Werda 81.26 320 *e*P **P** **06 29 57.9 0.0**
comp=Z,62nm,1.2s,mb5.4
ROTZ Rotzenmuhle 81.29 319 *e*P **P** **06 29 58.7 +0.6**
comp=Z,78nm,1.1s,mb5.5
MANZ Manzenberg 81.36 320 *e*P **P** **06 29 59.2 +0.7**
comp=Z,117nm,1.1s,mb5.7
MOR8 Moi Rana 81.42 336⇑ *i*P **P** **06 29 57.3 -1.5**
MOR8 AMb AMB 06 29 59.5
comp=Z,43nm,1.6s,mb5.1
MOR8 *ep*P pP 06 30 12.3 -0.7
MOR8 Moi Rana 81.42 336⇑ *i*P **P** **06 29 57.3 -1.5**
comp=Z,43nm,1.6s,mb5.1
COP Copenhagen 81.46 325 *i* P **P** **06 29 59.0 0.0**
comp=Z,35nm,0.8s,mb5.3
COP Copenhagen 81.46 325 *e*P **P** **06 29 59.0 0.0**
COP pmax pmax
comp=Z,35nm,0.8s,mb5.3
COP Copenhagen 81.46 325 *e*P **P** **06 29 59.0 0.0**
comp=Z,35nm,0.8s,mb5.3
WTTA Wattenberg 81.58 317 *i* P **P** **06 29 59.5 -0.1**
comp=Z,147nm,1.1s,mb5.8,SNR=34
WTTA Wattenberg 81.58 317 *i* P **P** **06 29 59.6 -0.1**
WTTA pmax pmax
comp=Z,147nm,1.1s,mb5.8
WATA Walderalm 81.63 317⇑ *i*P **P** **06 29 59.4 -0.5**
comp=Z,70nm,1.1s,mb5.5,SNR=11
WATA Walderalm 81.63 317⇑ *i*P **P** **06 29 59.4 -0.5**
WATA pmax pmax
comp=Z,71nm,1.1s,mb5.5
MOX Moxa 81.71 320 *e*P **P** **06 30 00.3 0.0**
comp=Z,68nm,1.4s,mb5.4
MOX Moxa 81.71 320 *e*P **P** **06 30 00.2 -0.1**
comp=Z,64nm,1.3s,mb5.4
MOX Moxa 81.71 320 *e*P **P** **06 30 00.2 -0.1**
MOX pmax pmax
comp=Z,64nm,1.3s,mb5.4
FUR Furstenfeldbru 81.85 318 *e*P **P** **06 30 01.0 -0.1**
comp=Z,72nm,0.9s,mb5.6
FUR Furstenfeldbru 81.85 318 *e*P **P** **06 30 01.0 -0.1**

FUR pmax pmax
comp=Z,72nm,0.9s,mb5.6
SQTA Sankt Quirin 81.88 317⇑ *iP* **P 06 30 01.1 -0.1**
comp=Z,55nm,0.9s,mb5.5,SNR=37
SQTA Sankt Quirin 81.88 317⇑ *iP* **P 06 30 01.1 -0.1**
SQTA pmax pmax
comp=Z,55nm,0.9s,mb5.5
GRA1 Grafenberg Arr 81.93 319 *eP* **P 06 30 01.9 +0.4**
comp=Z,122nm,1.1s,mb5.7
GRA1 LR LR
comp=Z,200nm,20.0s,MS4.5
GRF Grafenberg Arr 81.93 319 *eP* **P 06 30 01.9 +0.4**
comp=Z,122nm,1.1s,mb5.7
GRF *eL* 07 13 08.0
comp=Z,161nm,20.0s
GRF Grafenberg Arr 81.93 319 *eP* **P 06 30 01.9 +0.4**
GRF pmax pmax
comp=Z,122nm,1.1s,mb5.7
GRF MLR MLR
comp=Z,200nm,20.0s,MS4.5
MOTA Moosalm 81.95 317⇑ *iP* **P 06 30 01.1 -0.5**
comp=Z,90nm,1.0s,mb5.6,SNR=30
MOTA Moosalm 81.95 317 *iP* **P 06 30 01.1 -0.5**
MOTA pmax pmax
comp=Z,91nm,1.0s,mb5.7
LOF Lofoten 81.99 338 *eP* **P 06 30 02.4 +0.6**
STOK Stokkvaagen 82.01 336 *eP* **P 06 30 02.5 +0.6**
STOK *epP* pP 06 30 15.9 -0.2
NSS Namsos 82.29 334 *eP* **P 06 30 01.4 -2.0**
NSS *epP* pP 06 30 16.2 -1.4
NB2 NORSAR Subarra 82.41 331 P **P 06 30 02.6 -1.4**
comp=Z,22nm,0.9s,mb5.1,baz=97,slow=5.3
NOA NORSAR Array B 82.41 331 P **P 06 30 02.9 -1.1**
comp=Z,13nm,0.8s,mb4.9,baz=94,slow=5.4,SNR=36
NOA *pP* pP 06 30 16.7 -1.6
comp=Z,11nm,0.8s,baz=95,slow=5.2,SNR=7.7
NOA PP PP 06 33 05.9 -7.4
comp=Z,2.0nm,0.8s,baz=116,slow=8.1,SNR=3.4
NOA LR LR 07 12 26.5
comp=Z,148nm,19.0s,MS4.4,baz=105,slow=40
NOA NORSAR Array B 82.41 331 P **P 06 30 02.9 -1.1**
NOA *PP pP 06 30 16.7 -1.5
NOA pmax pmax
comp=Z,13nm,0.8s
NOA NORSAR Array B 82.41 331 P **P 06 30 02.9 -1.1**
NOA pP pP 06 30 16.7 -1.6
NOA PP PP 06 33 05.9 -7.4
NOA LR LR 07 12 26.5
NAO01 NORSAR Array S 82.56 331 *eP* **P 06 30 03.4 -1.4**
comp=Z,12nm,0.8s,mb5.0
BSEG Bad Segeberg 82.61 324 *eP* **P 06 30 05.3 +0.3**
comp=Z,119nm,1.1s,mb5.8
BSEG Bad Segeberg 82.61 324 *eP* **P 06 30 05.3 +0.3**
BSEG pmax pmax
comp=Z,119nm,1.1s,mb5.8
AMKA Amchitka 82.62 39 *eP* **P 06 30 04.2 -0.9**
SPB4 Spitsbergen Ar 82.64 348 *eP* **P 06 30 04.6 -0.5**
SPB4 *ePcP* PcP 06 30 10.2 +0.2
SPB4 *epP* pP 06 30 19.1 -0.3
NRDL Niedersach Rie 82.70 322 *eP* **P 06 30 05.8 +0.3**
comp=Z,110nm,1.3s,mb5.7
UBBA Unterbreizbach 82.74 320 *eP* **P 06 30 05.5 -0.2**
comp=Z,17nm,1.1s,mb5.0
GTTG Gvttingen 82.77 321 *eP* **P 06 30 05.8 -0.1**
comp=Z,83nm,1.2s,mb5.6
DAVA Damuels 82.78 317⇑ *iP* **P 06 30 06.2 +0.2**
comp=Z,106nm,1.1s,mb5.8,SNR=27
SYO Syowa Base 82.97 197⇑ *eP* **P 06 30 07.0 +0.1**
SYO Syowa Base 82.97 197⇑ *ePcP* PcP 06 30 11.0 -0.5
KONO Kongsberg 83.15 329⇑ *eP* **P 06 30 08.0 +0.2**
KONO Kongsberg 83.15 329 *eP* **P 06 30 07.7 -0.1**
comp=Z,48nm,1.1s,mb5.4
KONO *epP* pP 06 30 21.2 -0.9
KONO LR LR
comp=Z,299nm,19.0s,MS4.7
STU Stuttgart 83.24 318 *eP* **P 06 30 08.3 0.0**
comp=Z,39nm,0.8s,mb5.5
KEST Kesra 83.31 305 P **P 06 30 10.1 +1.5**
comp=Z,17nm,0.9s,mb5.1,baz=303,slow=0.6,SNR=32
KEST *pP* pP 06 30 24.7 +1.8
comp=Z,47nm,1.1s,baz=300,slow=4.7,SNR=14
KEST LR LR 07 06 28.1
comp=Z,87nm,21.4s,MS4.1,baz=168,slow=35
MUD Monsted U'grnd 83.31 326⇑ *iP* **P 06 30 09.0 +0.3**
comp=Z,23nm,0.7s,mb5.3
MUD Monsted U'grnd 83.31 326⇑ *iP* **P 06 30 09.0 +0.3**
MUD pmax pmax
comp=Z,23nm,0.7s,mb5.3
TOD Tromm 83.50 319 *eP* **P 06 30 09.7 +0.1**
SPAK Spaichingen-Ko 83.52 318 *eP* **P 06 30 09.7 0.0**
KBS Kingsbay 83.62 349⇑ *eP* **P 06 30 10.1 -0.1**
KBS Kingsbay 83.62 349 *eP* **P 06 30 09.2 -1.1**
comp=Z,66nm,1.1s,mb5.7
KBS *epP* pP 06 30 23.7 -0.8
KBS *ePP* PP 06 33 18.3 -4.9
KBS LR LR
comp=Z,351nm,21.0s,MS4.7
TNS Taunus Mts 83.72 320 *eP* **P 06 30 10.9 +0.1**
comp=Z,75nm,1.1s,mb5.7
TNS Taunus Mts 83.72 320 *eP* **P 06 30 10.9 +0.1**
TNS pmax pmax
comp=Z,75nm,1.1s,mb5.7
BFO Black Forest 83.82 318 P **P 06 30 10.9 -0.4**
comp=Z,343nm,0.7s,mb6.6,SNR=15
BFO Black Forest 83.82 318 *eP* **P 06 30 10.8 -0.5**
comp=Z,52nm,0.9s,mb5.7
BFO Black Forest 83.82 318 *eP* **P 06 30 10.8 -0.5**
BFO pmax pmax
comp=Z,52nm,0.9s,mb5.7
FELD Feldberg im Sc 84.05 317⇑ *eP* **P 06 30 12.3 -0.1**
IBBN Ibbenburen 84.14 322 *eP* **P 06 30 12.9 0.0**
comp=Z,82nm,0.8s,mb5.9
LANF Langenberg 84.16 319 *eP* **P 06 30 13.1 +0.1**
MOL Molde 84.19 332 *eP* **P 06 30 13.3 +0.1**
MOL *epP* pP 06 30 28.2 +0.8
ABH Alteburg 84.31 320 *eP* **P 06 30 14.0 +0.2**
LIBD Limburg 84.31 318 *eP* **P 06 30 13.8 0.0**
BUG Bochum-Univer 84.45 321 *eP* **P 06 30 14.5 0.0**
comp=Z,112nm,1.2s,mb5.9
SAOF Saorge 84.45 314 *eP* **P 06 30 14.9 +0.4**
WLS Welschbruch 84.47 318 *eP* **P 06 30 14.2 -0.4**
CDF Champ du Feu 84.52 318⇑ *iP* **P 06 30 14.5 -0.3**
comp=Z,56nm,0.9s,mb5.4
CDF Champ du Feu 84.52 318⇑ *iP* **P 06 30 14.5 -0.3**
CDF pmax pmax
comp=Z,28nm,0.9s,mb5.4
CDF Champ du Feu 84.52 318⇑ *iP* **P 06 30 14.5 -0.3**
comp=Z,28nm,0.9s,mb5.4
SBF Sospel 84.55 313⇑ *iP* **P 06 30 15.1 +0.2**
comp=Z,274nm,1.1s,mb6.0
SBF Sospel 84.55 313⇑ *iP* **P 06 30 15.1 +0.2**
SBF pmax pmax
comp=Z,137nm,1.1s,mb6.0
SBF Sospel 84.55 313⇑ *iP* **P 06 30 15.1 +0.2**
comp=Z,137nm,1.1s,mb6.0
AUTN L'Aution 84.55 314 *eP* **P 06 30 15.1 +0.1**
ECH Echery 84.61 318 *eP* **P 06 30 14.9 -0.4**
LUCF Luceram 84.61 313 *eP* **P 06 30 15.5 +0.2**
MOF Molkenrain 84.63 317 *eP* **P 06 30 14.9 -0.5**
TOUF Mont Tournerai 84.67 314 *eP* **P 06 30 16.2 +0.6**
WTSB Winterswijk 84.73 322⇑ *iP* **P 06 30 16.2 +0.3**
comp=Z,86nm,0.9s,mb5.9
MVIF Mont Vial 84.75 314 *eP* **P 06 30 16.2 +0.2**
WIT Witteveen 84.79 322⇑ *iP* **P 06 30 17.3 +1.1**
comp=Z,278nm,0.7s,mb6.5
HINF Hinteralfeld 84.82 317⇑ *iP* **P 06 30 15.6 -0.7**
comp=Z,35nm,1.0s,mb5.1
HINF Hinteralfeld 84.82 317⇑ *iP* **P 06 30 15.6 -0.7**
HINF pmax pmax
comp=Z,18nm,1.0s,mb5.2
HINF Hinteralfeld 84.82 317⇑ *iP* **P 06 30 15.6 -0.7**
comp=Z,18nm,1.0s,mb5.1
CMAH Djebel Manchou 84.83 306 P **P 06 30 18.0 +1.6**
LOMF Lomont 84.86 317 *eP* **P 06 30 16.2 -0.3**
LPG La Plagne 84.98 315⇑ *iP* **P 06 30 17.6 +0.5**
comp=Z,141nm,0.9s,mb5.8
LPG La Plagne 84.98 315⇑ *iP* **P 06 30 17.6 +0.5**
LPG pmax pmax
comp=Z,71nm,0.9s,mb5.8
LPG La Plagne 84.98 315⇑ *iP* **P 06 30 17.6 +0.5**
comp=Z,71nm,0.9s,mb5.8
LPL La Plagne 84.99 315⇑ *iP* **P 06 30 17.6 +0.4**
comp=Z,178nm,0.9s,mb5.9
LPL La Plagne 84.99 315⇑ *iP* **P 06 30 17.6 +0.4**
LPL pmax pmax
comp=Z,89nm,0.9s,mb5.9
LPL La Plagne 84.99 315⇑ *iP* **P 06 30 17.6 +0.4**
comp=Z,89nm,0.9s,mb5.9
MBDF Montbardon 84.99 314⇑ *iP* **P 06 30 16.8 -0.4**
comp=Z,59nm,1.1s,mb5.3
MBDF Montbardon 84.99 314⇑ *iP* **P 06 30 16.8 -0.4**
MBDF pmax pmax
comp=Z,30nm,1.1s,mb5.3
MBDF Montbardon 84.99 314⇑ *iP* **P 06 30 16.8 -0.4**
comp=Z,30nm,1.1s,mb5.3
FRF La Foret Royal 85.13 313⇑ *iP* **P 06 30 18.1 +0.2**
comp=Z,356nm,1.3s,mb6.0
FRF La Foret Royal 85.13 313⇑ *iP* **P 06 30 18.1 +0.2**
FRF pmax pmax
comp=Z,178nm,1.3s,mb6.0
FRF La Foret Royal 85.13 313⇑ *iP* **P 06 30 18.1 +0.2**
comp=Z,178nm,1.3s,mb6.0
HAU Haudompre 85.16 318⇑ *iP* **P 06 30 17.7 -0.3**
comp=Z,186nm,0.9s,mb5.9
HAU *eR*
comp=Z,151nm,21.5s
HAU Haudompre 85.16 318⇑ *iP* **P 06 30 17.7 -0.3**
HAU pmax pmax
comp=Z,93nm,0.9s,mb5.9
HAU MLR MLR
comp=Z,150nm,21.5s,MS4.3
HAU Haudompre 85.16 318⇑ *iP* **P 06 30 17.7 -0.3**
comp=Z,93nm,0.9s,mb5.9
HAU LR LR
comp=Z,150nm,21.5s,MS4.3
WLF Walferdange 85.22 319 *eP* **P 06 30 18.7 +0.4**
comp=Z,88nm,1.3s,mb5.7
WLF Walferdange 85.22 319 *P* **P 06 30 19.1 +0.8**
LMR La Mourre 85.24 313⇑ *iP* **P 06 30 18.6 +0.2**
comp=Z,90nm,1.1s,mb5.5
LMR La Mourre 85.24 313⇑ *iP* **P 06 30 18.6 +0.2**
LMR pmax pmax
comp=Z,45nm,1.1s,mb5.5
LMR La Mourre 85.24 313⇑ *iP* **P 06 30 18.6 +0.2**
comp=Z,45nm,1.1s,mb5.5
MEM Membach 85.28 320 *P* **P 06 30 18.7 +0.1**
FUNA Funafuti 85.28 99 PFAKE 06 30 30.0 +11
FUNA LR LR
comp=Z,10µm,19.0s
HGN Heimansgroeve 85.32 320⇑ *iP* **P 06 30 18.7 -0.1**
comp=Z,35nm,1.6s,mb5.2
THEF They Montfort 85.39 318 *eP* **P 06 30 19.0 -0.2**
CABF La Chapelle 85.39 316⇑ *iP* **P 06 30 19.5 +0.3**
comp=Z,156nm,1.1s,mb5.8
CABF La Chapelle 85.39 316⇑ *iP* **P 06 30 19.5 +0.3**
CABF pmax pmax
comp=Z,78nm,1.1s,mb5.8
CABF La Chapelle 85.39 316⇑ *iP* **P 06 30 19.5 +0.3**
comp=Z,78nm,1.1s,mb5.8
CKFL Kef-Lekhel 85.41 306 *P* **P 06 30 21.5 +2.2**
BEBN Eben Emael 85.48 320 *P* **P 06 30 19.5 -0.1**
TAVF Tavernes 85.55 313 *eP* **P 06 30 20.7 +0.7**
CASM Ain Smara 85.60 306 *P* **P 06 30 22.0 +1.8**
ORIF Oris-en-Rattie 85.62 315⇑ *iP* **P 06 30 20.2 -0.1**
comp=Z,56nm,1.0s,mb5.5
ORIF *eR*
comp=Z,211nm,21.0s
ORIF Oris-en-Rattie 85.62 315⇑ *iP* **P 06 30 20.2 -0.1**
ORIF pmax pmax
comp=Z,28nm,1.0s,mb5.5
ORIF Oris-en-Rattie 85.62 315⇑ *iP* **P 06 30 20.2 -0.1**
comp=Z,28nm,1.0s,mb5.5
STOF St-Etienne Org 85.64 314 *eP* **P 06 30 21.4 +1.0**
CTEI Djebel Teioual 85.68 306 *P* **P 06 30 23.0 +2.4**
BCLA Clavier 85.73 320 *P* **P 06 30 20.9 0.0**
VILF Villemus 85.79 314 *eP* **P 06 30 22.0 +0.8**
PUYF Puyloubier 85.82 313 *eP* **P 06 30 23.3 +2.0**
SMRF Simiane la Rot 85.88 314⇑ *iP* **P 06 30 22.4 +0.8**
comp=Z,136nm,1.3s,mb5.7
SMRF Simiane la Rot 85.88 314⇑ *iP* **P 06 30 22.4 +0.8**
comp=Z,136nm,1.3s,mb6.0
MEZF Maizieres J'vi 86.00 318⇑ *iP* **P 06 30 22.1 -0.1**
comp=Z,88nm,1.0s,mb5.6
MEZF Maizieres J'vi 86.00 318⇑ *iP* **P 06 30 22.1 -0.1**
comp=Z,88nm,1.0s,mb6.0
GELF Grande-Etoile 86.02 313 *eP* **P 06 30 22.5 +0.2**
GIVF Givet 86.06 320 *eP* **P 06 30 22.4 -0.1**
comp=Z,76nm,1.1s,mb5.5
GIVF Givet 86.06 320 *eP* **P 06 30 22.4 -0.1**
GIVF pmax pmax
comp=Z,38nm,1.1s,mb5.5
GIVF Givet 86.06 320 *eP* **P 06 30 22.4 -0.1**
comp=Z,38nm,1.1s,mb5.5
DFRA Djebel Bou Aff 86.08 306 *P* **P 06 30 24.0 +1.4**
CMER Merouana 86.11 305 *P* **P 06 30 28.0 +5.2**
PRAF Pradon 86.19 313 *eP* **P 06 30 24.0 +0.9**
DOU Dourbes 86.21 320 *P* **P 06 30 23.3 +0.1**
SNF Seneffe 86.38 320 *P* **P 06 30 24.0 -0.1**
BAIF Baives 86.46 320⇑ *iP* **P 06 30 24.7 +0.2**
comp=Z,129nm,1.0s,mb5.8
BAIF Baives 86.46 320⇑ *iP* **P 06 30 24.7 +0.2**
BAIF pmax pmax
comp=Z,65nm,1.0s,mb5.8
BAIF Baives 86.46 320⇑ *iP* **P 06 30 24.7 +0.2**
comp=Z,64nm,1.0s,mb5.8
VIVF Saint-Julien-l 86.48 315⇑ *iP* **P 06 30 24.7 +0.1**
comp=Z,140nm,1.2s,mb5.8
VIVF Saint-Julien-l 86.48 315⇑ *iP* **P 06 30 24.7 +0.1**
VIVF pmax pmax
comp=Z,70nm,1.2s,mb5.8
VIVF Saint-Julien-l 86.48 315⇑ *iP* **P 06 30 24.7 +0.1**
comp=Z,70nm,1.2s,mb5.8
SET Setif 86.48 306 *P* **P 06 30 25.0 +0.4**
LOR Lormes 86.88 317⇑ *iP* **P 06 30 26.4 -0.1**
comp=Z,177nm,1.1s,mb5.9
LOR *eR*
comp=Z,111nm,22.8s
LOR Lormes 86.88 317⇑ *iP* **P 06 30 26.4 -0.1**
LOR pmax pmax
comp=Z,88nm,1.1s,mb5.9
LOR MLR MLR
comp=Z,110nm,22.8s,MS4.2
LOR Lormes 86.88 317⇑ *iP* **P 06 30 26.4 -0.1**
comp=Z,88nm,1.1s,mb5.9
LOR LR LR
comp=Z,110nm,22.8s,MS4.2
SMF Signal de Mont 86.94 316⇑ *iP* **P 06 30 26.6 -0.2**
comp=Z,154nm,1.0s,mb5.9
SMF Signal de Mont 86.94 316⇑ *iP* **P 06 30 26.6 -0.2**
SMF pmax pmax
comp=Z,77nm,1.0s,mb5.9
SMF Signal de Mont 86.94 316⇑ *iP* **P 06 30 26.6 -0.2**
comp=Z,77nm,1.0s,mb5.9
LASF Ste Croix 87.11 314⇑ *iP* **P 06 30 28.1 +0.4**
comp=Z,64nm,1.1s,mb5.5
SSF Saint Saulge 87.13 317⇑ *iP* **P 06 30 27.7 -0.1**
comp=Z,99nm,1.2s,mb5.6
SSF Saint Saulge 87.13 317⇑ *iP* **P 06 30 27.7 -0.1**
SSF pmax pmax
comp=Z,49nm,1.2s,mb5.6
SSF Saint Saulge 87.13 317⇑ *iP* **P 06 30 27.7 -0.1**
comp=Z,49nm,1.2s,mb5.6
AVF Avril sur Loir 87.26 317⇑ *iP* **P 06 30 28.2 -0.2**
comp=Z,114nm,1.1s,mb5.7
AVF Avril sur Loir 87.26 317⇑ *iP* **P 06 30 28.2 -0.2**
AVF pmax pmax
comp=Z,57nm,1.1s,mb5.7
AVF Avril sur Loir 87.26 317⇑ *iP* **P 06 30 28.2 -0.2**
comp=Z,57nm,1.1s,mb5.7
BGF Bois d'Agland 87.63 316⇑ *iP* **P 06 30 30.4 +0.3**
comp=Z,189nm,1.3s,mb5.9
BGF Bois d'Agland 87.63 316⇑ *iP* **P 06 30 30.4 +0.3**
BGF pmax pmax
comp=Z,95nm,1.3s,mb5.9
BGF Bois d'Agland 87.63 316⇑ *iP* **P 06 30 30.4 +0.3**
comp=Z,95nm,1.3s,mb5.9
HYF Humbligny 87.71 317 *eP* **P 06 30 31.0 +0.5**
MENF Mencas 87.73 320 *eP* **P 06 30 30.7 +0.1**
TCF Toulx Ste Croi 88.09 316 *eP* **P 06 30 32.5 +0.2**
comp=Z,112nm,1.4s,mb5.6
TCF Toulx Ste Croi 88.09 316 *eP* **P 06 30 32.5 +0.2**
TCF pmax pmax
comp=Z,56nm,1.4s,mb5.6
TCF Toulx Ste Croi 88.09 316 *eP* **P 06 30 32.5 +0.2**
comp=Z,56nm,1.4s,mb5.6
CAF Calviac 88.32 315⇑ *iP* **P 06 30 34.0 +0.6**
comp=Z,66nm,1.2s,mb5.5
CAF Calviac 88.32 315⇑ *iP* **P 06 30 34.0 +0.6**
CAF pmax pmax
comp=Z,33nm,1.2s,mb5.4
CAF Calviac 88.32 315⇑ *iP* **P 06 30 34.0 +0.6**
comp=Z,33nm,1.2s,mb5.4
MTLF Montolieu 88.36 313⇑ *iP* **P 06 30 34.1 +0.5**
comp=Z,57nm,1.1s,mb5.4
MTLF Montolieu 88.36 313⇑ *iP* **P 06 30 34.1 +0.5**
MTLF pmax pmax
comp=Z,28nm,1.1s,mb5.4
MTLF Montolieu 88.36 313⇑ *iP* **P 06 30 34.1 +0.5**
comp=Z,28nm,1.1s,mb5.4
TNA Tin City 88.41 24 PFAKE 06 30 40.0 +6.2
TNA LR LR
comp=Z,266nm,19.0s,MS4.7
RJF Les Rejaudoux 88.67 315⇑ *iP* **P 06 30 35.7 +0.6**
comp=Z,170nm,1.4s,mb5.9
RJF *eR*
comp=Z,168nm,17.2s
RJF Les Rejaudoux 88.67 315⇑ *iP* **P 06 30 35.7 +0.6**
RJF pmax pmax
comp=Z,85nm,1.4s,mb5.9
RJF MLR MLR
comp=Z,170nm,17.3s,MS4.5
RJF Les Rejaudoux 88.67 315⇑ *iP* **P 06 30 35.7 +0.6**
comp=Z,85nm,1.4s,mb5.9
RJF LR LR
comp=Z,170nm,17.3s,MS4.5
LFF La Frestale 89.25 315⇑ *iP* **P 06 30 38.6 +0.8**
comp=Z,158nm,1.3s,mb5.9
LFF La Frestale 89.25 315⇑ *iP* **P 06 30 38.6 +0.8**
LFF pmax pmax
comp=Z,79nm,1.3s,mb5.9
LFF La Frestale 89.25 315⇑ *iP* **P 06 30 38.6 +0.8**
comp=Z,79nm,1.3s,mb5.9
LDF La Druitiere 89.41 319⇑ *iP* **P 06 30 38.7 +0.1**
comp=Z,160nm,1.0s,mb6.0
LDF La Druitiere 89.41 319⇑ *iP* **P 06 30 38.7 +0.1**
LDF pmax pmax
comp=Z,80nm,1.0s,mb6.0
LDF La Druitiere 89.41 319⇑ *iP* **P 06 30 38.7 +0.1**
comp=Z,80nm,1.0s,mb6.0
FLN La Foliniere 89.63 319⇑ *iP* **P 06 30 39.8 +0.2**
comp=Z,147nm,1.0s,mb6.0
FLN *eR*
comp=Z,178nm,21.5s
FLN La Foliniere 89.63 319⇑ *iP* **P 06 30 39.8 +0.2**
FLN pmax pmax
comp=Z,74nm,1.0s,mb6.0
FLN MLR MLR
comp=Z,180nm,21.5s,MS4.5
FLN La Foliniere 89.63 319⇑ *iP* **P 06 30 39.8 +0.2**
comp=Z,74nm,1.0s,mb6.0
FLN LR LR
comp=Z,180nm,21.5s,MS4.5
MFF Saint Martin d 89.67 317⇑ *iP* **P 06 30 40.1 +0.3**
comp=Z,107nm,1.2s,mb5.8
MFF Saint Martin d 89.67 317⇑ *iP* **P 06 30 40.1 +0.3**
MFF pmax pmax
comp=Z,54nm,1.2s,mb5.8
MFF Saint Martin d 89.67 317⇑ *iP* **P 06 30 40.1 +0.3**
comp=Z,54nm,1.2s,mb5.8
EPF Esparros 89.76 313 *eP* **P 06 30 41.9 +1.7**
GRR Gorron 89.93 318⇑ *iP* **P 06 30 41.3 +0.3**
comp=Z,115nm,1.1s,mb5.8
GRR Gorron 89.93 318⇑ *iP* **P 06 30 41.3 +0.3**
GRR pmax pmax
comp=Z,57nm,1.1s,mb5.8
GRR Gorron 89.93 318⇑ *iP* **P 06 30 41.3 +0.3**
comp=Z,57nm,1.1s,mb5.8
VNDA Vanda 90.13 168 *P* **P 06 30 41.3 -0.6**
comp=Z,4.0nm,0.9s,mb4.7,baz=295,slow=4.3,SNR=8.1
VNDA PKKP PKKPbc 06 48 10.5 -1.2
comp=Z,0.5nm,0.6s,baz=12,slow=1.6,SNR=4.0
VNDA LR LR 07 07 25.0
comp=Z,323nm,18.5s,MS4.8,baz=301,slow=33
VNDA Vanda 90.13 168 *eP* **P 06 30 41.5 -0.4**
VNDA Vanda 90.13 168 *eP* **P 06 30 41.3 -0.6**
comp=Z,7.4nm,1.1s,mb4.9
VNDA *epP* pP 06 30 52.2 -4.1
VNDA LR LR
comp=Z,308nm,20.0s,MS4.7
DAG Danmarks Havn 90.27 348⇓ *iP* **P 06 30 40.7 -1.9**
comp=Z,12nm,0.7s,mb5.3
DAG Danmarks Havn 90.27 348⇓ *iP* **P 06 30 40.7 -1.9**
DAG pmax pmax
comp=Z,12nm,0.7s,mb5.3
ESK Eskdalemuir 90.34 326 *eP* **P 06 30 43.2 +0.3**
ESK *e*PP pP 06 30 54.7 -2.6
ESK Eskdalemuir 90.34 326 *eP* **P 06 30 43.2 +0.3**
comp=Z,40nm,0.9s,mb5.7
ETSF Etsaut 90.43 313⇑ *iP* **P 06 30 44.3 +1.0**
comp=Z,58nm,1.1s,mb5.5
ETSF Etsaut 90.43 313⇑ *iP* **P 06 30 44.3 +1.0**
ETSF pmax pmax
comp=Z,29nm,1.1s,mb5.5
ETSF Etsaut 90.43 313⇑ *iP* **P 06 30 44.3 +1.0**
comp=Z,29nm,1.1s,mb5.5
SGMF Saint Gilles 91.07 318⇑ *iP* **P 06 30 46.5 +0.2**
comp=Z,130nm,1.2s,mb5.8
SGMF Saint Gilles 91.07 318⇑ *iP* **P 06 30 46.5 +0.2**
SGMF pmax pmax
comp=Z,65nm,1.2s,mb5.8
SGMF Saint Gilles 91.07 318⇑ *iP* **P 06 30 46.5 +0.2**
comp=Z,65nm,1.2s,mb5.8
SBA Scott Base 91.23 168 *eP* **P 06 30 47.4 +0.4**
SBA *e*PP pP 06 31 01.4 -0.1
SBA pmax pmax
comp=Z,13nm,1.0s,mb5.2
SBA MLR MLR
comp=Z,505nm,19.0s,MS5.0
SBA Scott Base 91.23 168 *eP* **P 06 30 47.4 +0.4**
comp=Z,13nm,1.0s,mb5.2
SBA *epP* pP 06 31 01.4 0.0
SBA LR LR
comp=Z,505nm,19.0s,MS5.0
QUIF Quistinic 91.52 318⇑ *iP* **P 06 30 48.4 0.0**
comp=Z,88nm,1.1s,mb5.7
QUIF Quistinic 91.52 318⇑ *iP* **P 06 30 48.4 0.0**
QUIF pmax pmax
comp=Z,44nm,1.1s,mb5.7
QUIF Quistinic 91.52 318⇑ *iP* **P 06 30 48.4 0.0**
comp=Z,44nm,1.1s,mb5.7
ROSF Rostrenen 91.53 319⇑ *iP* **P 06 30 48.7 +0.3**
comp=Z,115nm,1.1s,mb5.8
ROSF Rostrenen 91.53 319⇑ *iP* **P 06 30 48.7 +0.3**
ROSF pmax pmax
comp=Z,58nm,1.1s,mb5.8
ROSF Rostrenen 91.53 319⇑ *iP* **P 06 30 48.7 +0.3**
comp=Z,58nm,1.1s,mb5.8
TOA0 Torodi Ar. Sit 91.81 283 *eP* **P 06 30 50.8 +1.1**
TORD Torodi Ar. Bea 91.81 283 *P* **P 06 30 50.6 +0.9**
comp=Z,10nm,1.1s,mb5.1,baz=85,slow=4.7,SNR=32
TORD PP PP 06 34 32.1 +3.1
comp=Z,1.8nm,1.0s,baz=69,slow=4.9,SNR=3.6
TORD PKKP PKKPbc 06 48 08.7 +1.2
comp=Z,0.4nm,0.5s,baz=298,slow=2.7,SNR=9.5
TORD LR LR 07 11 20.7
comp=Z,213nm,19.2s,MS4.6,baz=125,slow=35
ALE Alert 91.87 357 P **P 06 30 49.0 -1.0**
comp=Z,180nm,0.6s,mb5.6,SNR=11
MAIT Maitri 92.50 199 *eP* **P 06 30 54.8 +1.9**
ESDC Sonseca Array 93.44 310 P **P 06 30 57.9 +0.7**
comp=Z,2.2nm,0.5s,mb4.8,baz=68,slow=3.7,SNR=12
ESDC PKKP PKKPbc 06 48 04.5 +1.2
comp=Z,0.2nm,0.3s,baz=270,slow=3.1,SNR=4.6
ESLA Sonseca Array 93.44 310 *eP* **P 06 30 57.8 +0.5**
comp=Z,0.8nm,0.6s
ESLA *epP* pP 06 31 12.1 +0.4
IMA2 Indian Mountai 93.92 22 *eP* **P 06 30 59.3 -0.1**
TTA Tatalina 94.09 26 *eP* **P 06 31 00.4 +0.2**
SVW2 Sparrevohn 94.90 27 *eP* **P 06 31 04.2 +0.3**
QSPA South Pole Qui 95.04 180 *eP* **P 06 31 05.0 +0.4**
comp=Z,5.6nm,1.1s,mb4.9
COLA College 96.63 22 *eP* **P 06 31 13.1 +1.3**
COLA LR LR
comp=Z,351nm,22.0s,MS4.8
MCK McKinley 96.72 24 *eP* **P 06 31 11.4 -0.8**
MCK *pP* 06 31 22.2 -4.5
MCK McKinley 96.72 24 *eP* **P 06 31 11.5 -0.7**
MCK pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
MCK MLR MLR
comp=Z,243nm,22.0s,MS4.6
MCK McKinley 96.72 24 *eP* **P 06 31 11.4 -0.8**
comp=Z,4.6nm,0.8s,mb5.0
MCK LR LR
comp=Z,243nm,22.0s,MS4.6
SNAA Sanae 97.22 198 PKKP PKKPbc 06 47 51.9 -1.3
comp=Z,0.9nm,0.8s,baz=279,slow=3.0,SNR=12
KDAK Kodiak Island 97.51 30 *eP* **P 06 31 15.0 -0.8**

PMR	**Palmer**	**97.57**	**26**	PFAKE		06 31 30.0	+14
PMR				LR	LR		
	comp=Z,483nm,20.0s,MS5.0						
DBIC	**Dimbokro**	**98.91**	**278**	LR	LR	07 12 09.4	
	comp=Z,216nm,21.4s,MS4.6,baz=66,slow=33						
DBIC	**Dimbokro**	**98.91**	**278**	PFAKE		06 31 30.0	+8.0
DBIC				LR	LR		
	comp=Z,343nm,22.0s,MS4.8						
MENT	**Mentasta**	**99.17**	**23**	*e*P	**P**	**06 31 23.4**	**+0.2**
INK	**Inuvik**	**99.45**	**16**	*e*P	**P**	**06 31 23.8**	**-0.7**
INK				pmax	pmax		
	comp=Z,116nm,1.0s						
INK	**Inuvik**	**99.45**	**16**	*e*P	**P**	**06 31 23.8**	**-0.7**
	comp=Z,116nm,1.0s,mb6.4						
MID	**Middleton Isla**	**99.78**	**27**	*e*P	Pdif	06 31 25.4	-0.6
DAWY	**Dawson**	**100.19**	**21**	*e*Pdif	Pdif	06 31 26.9	-0.8
PPT	**Papeete**	**116.00**	**107**	*e*LR	LR	07 11 30.8	
	comp=Z,170nm,24.2s						
EDM	**Edmonton**	**117.22**	**19**	*e*PKIKP	PKPdf	06 36 26.3	-0.5
GNW	**Green Mountain**	**117.99**	**28**	*e*PKPdf	PKPdf	06 36 28.8	+0.5
SCHQ	**Schefferville**	**118.32**	**348**	PKP	PKPdf	06 36 28.4	-0.5
	comp=Z,3.7nm,0.5s,baz=46,slow=2.4,SNR=18						
NEW	**Newport**	**119.95**	**24**	*e*PKIKP	PKPdf	06 36 31.6	-0.5
NEW				*e*		06 36 46.7	
NEW				MLR	MLR		
	comp=Z,555nm,19.0s						
HAWA	**Hanford**	**120.37**	**27**	*e*PKPdf	PKPdf	06 36 33.2	+0.3
YBH	**Yreka Blue Hor**	**122.21**	**33**	PFAKE		06 36 50.0	+14
YBH				LR	LR		
	comp=Z,171nm,19.0s,MS4.7						
KHMM	**Horse Mountain**	**122.24**	**34**	*e*PKPdf	PKPdf	06 36 38.0	+1.5
MSO	**Missoula**	**122.38**	**23**	*e*PKPdf	PKPdf	06 36 36.1	-0.7
MSO				LR	LR		
	comp=Z,296nm,22.0s,MS4.9						
BMO	**Blue Mountains**	**122.56**	**27**	PFAKE		06 36 50.0	+13
BMO				LR	LR		
	comp=Z,254nm,20.0s,MS4.9						
CHMT	**Chamberlain Mo**	**122.57**	**22**	*e*PKPdf	PKPdf	06 36 36.8	-0.3
EGMT	**Eagleton**	**122.87**	**19**	*e*PKPdf	PKPdf	06 36 37.6	-0.1
EGMT				LR	LR		
	comp=Z,420nm,19.0s,MS5.1						
WDC	**Whiskeytown Da**	**123.10**	**33**	PFAKE		06 36 50.0	+12
WDC				LR	LR		
	comp=Z,244nm,19.0s,MS4.9						
MOD	**Modoc**	**123.35**	**31**	*e*PKPdf	PKPdf	06 36 38.8	+0.2
MOD				*e*pPKPdf	pPKPdf	06 36 53.0	-0.5
MOD				LR	LR		
	comp=Z,145nm,19.0s,MS4.7						
WVOR	**Wild Horse Val**	**123.79**	**29**	*e*PKIKP	PKPdf	06 36 39.7	+0.2
WVOR				*e*		06 36 55.4	
WVOR				*e*		06 38 20.7	
WVOR				MLR	MLR		
	comp=Z,266nm,20.0s,MS4.9						
LRM	**Limekiln Ridge**	**123.79**	**23**	*e*PKPdf	PKPdf	06 36 39.5	0.0
ULM	**Lac du Bonnet**	**124.09**	**8**	PKP	PKPdf	06 36 39.2	-0.8
	comp=Z,10nm,0.6s,baz=336,slow=3.1,SNR=16						
ULM				SKP		06 40 11.7	
	comp=Z,1.6nm,0.6s,baz=352,slow=4.8,SNR=4.2						
ULM	**Lac du Bonnet**	**124.09**	**8**	*e*PKPdf	PKPdf	06 36 39.1	-0.9
ULM				LR	LR		
	comp=Z,508nm,20.0s,MS5.2						
DGMT	**Dagmar**	**124.11**	**15**	*e*PKPdf	PKPdf	06 36 40.5	+0.4
DGMT				LR	LR		
	comp=Z,447nm,21.0s,MS5.1						
DLMT	**Dillon**	**124.11**	**23**	*e*PKPdf	PKPdf	06 36 40.3	+0.2
BOZ	**Bozeman (W)**	**124.25**	**22**	PKIKP	PKPdf	06 36 40.9	+0.6
BOZ	**Bozeman (W)**	**124.25**	**22**	*e*PKPdf	PKPdf	06 36 40.3	0.0
BOZ				LR	LR		
	comp=Z,383nm,21.0s,MS5.0						
MCMT	**McKenzie Canyo**	**124.46**	**24**	*e*PKPdf	PKPdf	06 36 41.5	+0.7
MCMT				*e*PP	PP	06 38 27.6	+0.4
OHCM	**Honcut**	**124.55**	**34**	*e*PKPdf	PKPdf	06 36 40.9	0.0
GCMT	**Greycliff**	**124.84**	**21**	*e*PKPdf	PKPdf	06 36 42.0	+0.6
HLID	**Hailey**	**124.85**	**26**	*e*PKPdf	PKPdf	06 36 42.0	+0.5
HLID				LR	LR		
	comp=Z,518nm,22.0s,MS5.2						
QLMT	**Earthquake Lak**	**125.01**	**23**	*e*PKPdf	PKPdf	06 36 42.5	+0.7
LAO	**LASA Array**	**125.17**	**18**	*e*PKPdf	PKPdf	06 36 43.3	+1.2
LAO				*e*pPKPdf	pPKPdf	06 36 57.3	+0.3
LAO				LR	LR		
	comp=Z,570nm,19.0s,MS5.3						
YMR	**Madison River**	**125.33**	**22**	*e*PKPdf	PKPdf	06 36 43.7	+1.3
RLMT	**Red Lodge**	**125.56**	**21**	*e*PKPdf	PKPdf	06 36 43.7	+0.9
YFT	**Old Faithful**	**125.56**	**22**	*e*PKPdf	PKPdf	06 36 45.4	+2.5
LKWY	**Lake**	**125.62**	**22**	PFAKE		06 37 00.0	+17
LKWY				LR	LR		
	comp=Z,595nm,21.0s,MS5.2						
IMW	**Indian Meadow**	**125.99**	**23**	*e*PKPdf	PKPdf	06 36 44.1	+0.4
BMN	**Battle Mountai**	**125.99**	**30**	PFAKE		06 37 00.0	+16
BMN				LR	LR		
	comp=Z,205nm,20.0s,MS4.8						
CMB	**Columbia Colle**	**126.07**	**34**	PKIKP	PKPdf	06 36 44.0	+0.2
CMB	**Columbia Colle**	**126.07**	**34**	*e*PKPdf	PKPdf	06 36 43.6	-0.2
CMB				LR	LR		
	comp=Z,243nm,22.0s,MS4.8						
DCID1	**Drake Creek**	**126.15**	**23**	*e*PKPdf	PKPdf	06 36 44.1	+0.2
WAKR	**Walker**	**126.26**	**33**	*e*PKPdf	PKPdf	06 36 45.6	+1.4
RRI2	**Red Ridge**	**126.30**	**23**	*e*PKPdf	PKPdf	06 36 45.0	+0.7
TPAW	**Teton Pass**	**126.33**	**23**	*e*PKPdf	PKPdf	06 36 45.0	+0.7
LOHW	**Long Hollow**	**126.36**	**23**	*e*PKPdf	PKPdf	06 36 44.5	+0.2
SNOW	**Snow King Moun**	**126.43**	**23**	*e*PKPdf	PKPdf	06 36 45.6	+1.1
REDW	**Red Top Meadow**	**126.47**	**23**	*e*PKPdf	PKPdf	06 36 45.0	+0.4
ELK	**Elko**	**126.71**	**28**	PFAKE		06 37 00.0	+15
ELK				LR	LR		
	comp=Z,322nm,22.0s,MS5.0						
EYMN	**Ely**	**126.87**	**5**	PFAKE		06 37 00.0	+15
EYMN				LR	LR		
	comp=Z,23nm,19.0s,MS3.9						
AHID	**Auburn Hatcher**	**126.88**	**24**	PFAKE		06 37 00.0	+15
AHID				LR	LR		
	comp=Z,364nm,22.0s,MS5.0						
NVAR	**Mina Array Bea**	**126.93**	**32**	PKP	PKPdf	06 36 46.6	+1.1
	comp=Z,7.4nm,0.8s,baz=261,slow=5.8,SNR=39						
NVAR				SKP		06 40 18.7	
	comp=Z,1.8nm,0.8s,baz=295,slow=0.2,SNR=5.1						
NVAR	**Mina Array Bea**	**126.93**	**32**	PKP	PKPdf	06 36 46.6	+1.1
NVAR				SKP		06 40 18.7	
HVU	**Hansel Valley**	**127.00**	**26**	*e*PKIKP	PKPdf	06 36 46.7	+1.1
BW06	**Boulder Array**	**127.48**	**22**	*e*PKPdf	PKPdf	06 36 46.2	-0.4
BW06				LR	LR		
	comp=Z,461nm,20.0s,MS5.2						
PDAR	**Pinedale Array**	**127.48**	**22**	PKP	PKPdf	06 36 46.4	-0.1
	comp=Z,8.6nm,0.9s,baz=17,slow=1.5,SNR=57						
MTUM	**Tungsten Hills**	**127.57**	**34**	*e*PKPdf	PKPdf	06 36 48.2	+1.5
HWUT	**Hardware Ranch**	**127.66**	**25**	*e*PKPdf	PKPdf	06 36 47.2	+0.4
HWUT				LR	LR		
	comp=Z,339nm,20.0s,MS5.0						
TPH	**Tonopah**	**127.76**	**32**	PFAKE		06 37 00.0	+13
TPH				LR	LR		
	comp=Z,211nm,20.0s,MS4.8						
EMMW	**East Machias**	**127.88**	**344**	*e*PKPdf	PKPdf	06 36 47.2	-0.1
TCUT	**Toone Canyon**	**128.13**	**25**	*e*PKPdf	PKPdf	06 36 49.1	+1.3
RSSD	**Black Hills**	**128.14**	**17**	*e*PKIKP	PKPdf	06 36 47.0	-0.8
DUG	**Dugway**	**128.27**	**27**	*e*PKIKP	PKPdf	06 36 49.1	+1.1
DUG				MLR	MLR		
	comp=Z,273nm,22.0s,MS4.9						
CTU	**Camp Tracy**	**128.33**	**26**	*e*PKPdf	PKPdf	06 36 49.3	+1.1
TRCR	**Troy Canyon**	**128.40**	**30**	*e*PKPdf	PKPdf	06 36 49.3	+1.1
TRCR				*e*SKPdf	SKPdf	06 40 20.7	+1.2
NLU	**North Lily Min**	**128.79**	**26**	*e*PKPdf	PKPdf	06 36 49.9	+0.9
ISA	**Isabella**	**128.83**	**35**	PFAKE		06 37 00.0	+11
ISA				LR	LR		
	comp=Z,43nm,19.0s,MS4.2						
RKT	**Rikitea**	**128.87**	**116**	*e*LR	LR	07 17 25.7	
	comp=Z,192nm,24.5s						
DAC	**Darwin (Calif)**	**128.89**	**34**	*e*PKIKP	PKPdf	06 36 50.6	+1.4
DAC				MLR	MLR		
	comp=Z,393nm,22.0s,MS5.0						
MPU	**Maple Canyon**	**128.94**	**26**	PFAKE		06 37 00.0	+11
MPU				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
RWWY	**Rawlins**	**129.28**	**21**	*e*PKPdf	PKPdf	06 36 50.8	+0.8
LBNH	**Lisbon**	**129.42**	**348**	P	Pdif	06 33 33.9	-3.8
LBNH	**Lisbon**	**129.42**	**348**	PFAKE		06 37 00.0	+10
LBNH				LR	LR		
	comp=Z,413nm,22.0s,MS5.1						
LONY	**Lake Ozonia**	**129.56**	**350**	*e*PKPdf	PKPdf	06 36 50.8	+0.3
TMUT	**Trail Mountain**	**129.72**	**26**	*e*PKPdf	PKPdf	06 36 51.8	+1.0
ARUT	**Antelope Range**	**129.90**	**29**	PKIKP	PKPdf	06 36 53.7	+2.6
ARUT	**Antelope Range**	**129.90**	**29**	*e*PKPdf	PKPdf	06 36 52.6	+1.5
ARUT				*e*pPKPdf	pPKPdf	06 37 07.3	+1.3
MVU	**Marysvale**	**129.91**	**28**	PFAKE		06 37 00.0	+8.9
MVU				LR	LR		
	comp=Z,284nm,22.0s,MS4.9						
MSU	**Marysvale**	**129.92**	**28**	*e*PKIKP	PKPdf	06 36 52.8	+1.6
SADO	**Sadowa**	**130.03**	**354**	PKP	PKPdf	06 36 51.8	+0.4
	comp=Z,6.3nm,0.5s,baz=331,slow=3.5,SNR=14						
SADO				SKPbc		06 40 09.9	
	comp=Z,16nm,1.0s,baz=18,slow=4.9,SNR=9.2						
GSC	**Goldstone**	**130.03**	**34**	*e*PKIKP	PKPdf	06 36 53.3	+1.9
NCB	**Newcomb**	**130.13**	**350**	*e*PKPdf	PKPdf	06 36 51.8	+0.2
NCB				LR	LR		
	comp=Z,175nm,20.0s,MS4.8						
SRU	**San Rafael**	**130.17**	**26**	*e*PKIKP	PKPdf	06 36 52.3	+0.7
PHWY	**Pilot Hill**	**130.24**	**20**	*e*PKPdf	PKPdf	06 36 52.7	+0.9
ECSD	**EROS,Sioux Fal**	**130.30**	**11**	*e*PKPdf	PKPdf	06 36 51.5	-0.4
RCBR	**Riachuelo**	**130.88**	**267**	PFAKE		06 37 10.0	+17
RCBR				LR	LR		
	comp=Z,270nm,20.0s,MS4.9						
HRV	**Harvard--Oak R**	**130.99**	**347**	PFAKE		06 37 10.0	+17
HRV				LR	LR		
	comp=Z,240nm,20.0s,MS4.9						
WES	**Weston**	**131.05**	**346**	PFAKE		06 37 10.0	+17
WES				LR	LR		
	comp=Z,954nm,20.0s,MS5.5						
ISCO	**Idaho Springs**	**131.52**	**21**	*e*PKPdf	PKPdf	06 36 54.0	-0.2
ISCO				LR	LR		
	comp=Z,427nm,21.0s,MS5.1						
SMCO	**Snowmass**	**131.56**	**23**	*e*PKPdf	PKPdf	06 36 56.2	+2.0
JFWS	**Jewell Farm**	**131.97**	**5**	PFAKE		06 37 10.0	+15
JFWS				LR	LR		
	comp=Z,298nm,19.0s,MS5.0						
BINY	**Binghamton**	**132.15**	**351**	*e*PKPdf	PKPdf	06 36 55.8	+0.4
BINY				*e*SKPbc	SKPbc	06 40 17.8	+0.1
BINY				LR	LR		
	comp=Z,313nm,19.0s,MS5.0						
WUAZ	**Wupatki**	**132.71**	**29**	PFAKE		06 37 10.0	+14
WUAZ				LR	LR		
	comp=Z,400nm,19.0s,MS5.2						
ERPA	**Erie**	**132.74**	**355**	*e*PKPdf	PKPdf	06 36 56.6	+0.1
ERPA				LR	LR		
	comp=Z,381nm,22.0s,MS5.1						
AAM	**Ann Arbor**	**132.78**	**358**	PFAKE		06 37 10.0	+13
AAM				LR	LR		
	comp=Z,303nm,19.0s,MS5.0						
GLA	**Glamis**	**132.80**	**34**	*e*PKIKP	PKPdf	06 36 58.2	+1.6
SDCO	**Great Sand Dun**	**133.37**	**22**	*e*PKPdf	PKPdf	06 36 58.5	+0.8
SDCO				LR	LR		
	comp=Z,466nm,19.0s,MS5.2						
SSPA	**Standing Stone**	**133.97**	**352**	*e*PKPdf	PKPdf	06 36 58.5	-0.3
SSPA				LR	LR		
	comp=Z,53nm,22.0s,MS4.2						
MVL	**Millersville**	**134.36**	**350**	*e*PKPdf	PKPdf	06 37 00.1	+0.6
KSU1	**Kansas State U**	**134.76**	**12**	*e*PKPdf	PKPdf	06 37 00.2	-0.1
ACSO	**Alum Creek Sta**	**134.82**	**358**	*e*PKPdf	PKPdf	06 36 60.0	-0.4
ACSO				*e*PP	PP	06 39 31.1	-3.5
ACSO				*e*SKPbc	SKPbc	06 40 25.8	-0.8
ACSO				LR	LR		
	comp=Z,198nm,21.0s,MS4.8						
MCWV	**Mont Chateau**	**135.16**	**354**	PFAKE		06 37 10.0	+9.0
MCWV				LR	LR		
	comp=Z,426nm,20.0s,MS5.2						
ANMO	**Albuquerque**	**135.42**	**25**	*e*PKIKP	PKPdf	06 37 02.8	+1.3
ANMO				MLR	MLR		
	comp=Z,347nm,21.0s						
TUC	**Tucson**	**135.55**	**31**	PKIKP	PKPdf	06 37 03.5	+1.7
TUC				*e*		06 37 20.1	
TUC	**Tucson**	**135.55**	**31**	*e*PKPdf	PKPdf	06 37 01.7	-0.1
CBN	**Corbin**	**136.28**	**351**	PFAKE		06 37 20.0	+17
CBN				LR	LR		
	comp=Z,408nm,22.0s,MS5.1						
FVM	**French Village**	**136.84**	**6**	*e*PKIKP	PKPdf	06 37 03.8	-0.4
WCI	**Wyandotte Cave**	**136.86**	**1**	PKHKP		06 36 57.4	
WCI	**Wyandotte Cave**	**136.86**	**1**	PFAKE		06 37 20.0	+16
WCI				LR	LR		
	comp=Z,71nm,21.0s,MS4.4						
SIUC	**Southern Illin**	**137.22**	**5**	*e*PKPdf	PKPdf	06 37 05.4	+0.5
ELN	**Prospectdale**	**137.66**	**355**	*e*PKPdf	PKPdf	06 37 06.8	+1.1
WMOK	**Wichita Mounta**	**138.35**	**17**	*e*PKHKP		06 36 55.5	
WMOK				MLR	MLR		
	comp=Z,430nm,21.0s,MS5.2						
TZTN	**Tazewell**	**138.52**	**358**	*e*PKPdf		06 36 56.7	
TZTN				*e*PP	PP	06 39 54.1	-3.7
MNTX	**Cornudas Mount**	**138.66**	**26**	PFAKE		06 37 20.0	+12
MNTX				LR	LR		
	comp=Z,280nm,20.0s,MS5.0						
WVT	**Waverly**	**138.89**	**3**	*e*PKPdf	PKPdf	06 36 58.5	-9.4
WVT				*e*SKPdf	SKPdf	06 40 38.1	-0.6
WVT				LR	LR		
	comp=Z,318nm,20.0s,MS5.1						
TKL	**Tuckaleechee C**	**139.41**	**358**	PKhKP		06 37 00.8	
	comp=Z,1.8nm,0.5s,baz=40,slow=3.9,SNR=3.9						
TKL				PKP	PKPdf	06 37 09.3	+0.5
	comp=Z,6.5nm,0.6s,baz=108,slow=3.0,SNR=9.8						
TKL				PP	PP	06 39 56.7	-6.6
	comp=Z,3.3nm,0.7s,baz=343,slow=11,SNR=3.0						
TKL				SKPbc	SKPbc	06 40 38.8	-1.4
	comp=Z,5.8nm,0.8s,baz=25,slow=0.5,SNR=5.3						
TKL	**Tuckaleechee C**	**139.41**	**358**	PKP	PKPdf	06 37 09.3	+0.5
TKL				PP	PP	06 39 56.7	-6.6
TKL				SKPbc	SKPbc	06 40 38.8	-1.4
PLAL	**Pickwick Lake**	**140.02**	**4**	*e*PKPdf	PKPdf	06 37 01.1	-8.9
OXF	**Oxford**	**140.38**	**5**	PFAKE		06 37 20.0	+9.3
OXF				LR	LR		
	comp=Z,259nm,19.0s,MS5.0						
JCT	**Junction City**	**141.96**	**21**	*e*PKHKP		06 37 08.5	
JCT				MLR	MLR		
	comp=Z,364nm,20.0s,MS5.1						
BDFB	**Brasilia**	**141.98**	**251**	PKP	PKPdf	06 37 16.4	+2.9
	comp=Z,7.0nm,0.9s,baz=34,slow=2.8,SNR=3.4						
BDFB	**Brasilia**	**141.98**	**251**	PKIKP	PKPdf	06 37 16.5	+3.0
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LRAL	**Lakeview Retre**	**142.02**	**2**	*e*PKPdf	PKPdf	06 37 07.2	-6.4
LRAL				*e*PP	PP	06 40 14.9	-4.3
LRAL				LR	LR		
	comp=Z,382nm,20.0s,MS5.2						
NATX	**Nacogdoches**	**142.24**	**13**	*e*PKPdf	PKPdf	06 37 10.1	-3.9
NATX				LR	LR		
	comp=Z,490nm,22.0s,MS5.2						
HKT	**Hockley**	**143.68**	**16**	*e*PKIKP	PKPdf	06 37 16.0	-0.5
HKT				MLR	MLR		
	comp=Z,60nm,21.0s,MS4.3						
KVTX	**Kingsville**	**145.30**	**20**	*e*PKPbc	PKPbc	06 37 22.1	+2.9
DWPF	**Disney**	**146.75**	**354**	*e*PKPbc	PKPbc	06 37 24.5	+0.9
DWPF				LR	LR		
	comp=Z,88nm,20.0s,MS4.5						
CFAA	**Coronel Fontan**	**149.20**	**209**	PKPbc	PKPbc	06 37 30.2	+0.1
	comp=Z,3.8nm,0.9s,baz=211,slow=2.0,SNR=6.9						
MTP	**Monte Pirata**	**149.83**	**320**	*e*PKPdf	PKPdf	06 37 27.8	+1.0
MTP				*e*PKPbc	PKPbc	06 37 32.5	+0.9
MTP				*e*sPKPdf		06 37 48.3	
CBYP	**Canovanas**	**149.89**	**321**	*e*PKPdf	PKPdf	06 37 30.8	+3.8
HUMP	**Col San Antoni**	**149.99**	**321**	*e*PKPdf	PKPdf	06 37 28.3	+1.2
CPD	**Cerro la Pandu**	**150.10**	**321**	*e*PKPdf	PKPdf	06 37 28.1	+0.8
CPD				*e*PKPbc	PKPbc	06 37 33.3	+1.0
CPD				*e*PKPab	PKPab	06 37 40.2	+1.8
CPD				*e*sPKPdf		06 37 50.1	
SJG	**San Juan**	**150.20**	**321**	PKPbc	PKPbc	06 37 32.8	+0.3
	comp=Z,53nm,0.9s,baz=44,slow=3.3,SNR=14						
SJG	**San Juan**	**150.20**	**321**	PKIKP	PKPdf	06 37 32.8	+5.4
SJG				pmax	pmax		
	comp=Z,53nm,0.9s						
SJG	**San Juan**	**150.20**	**321**	*e*PKPbc	PKPbc	06 37 33.2	+0.6
SJG				LR	LR		
	comp=Z,231nm,22.0s,MS4.9						
MGV	**Manicaragua**	**152.45**	**349**	*e*P	PKPdf	06 37 32.4	+1.6
SIV	**San Ignacio**	**153.93**	**244**	PKP	PKPdf	06 37 34.2	+1.2
	comp=Z,3.0nm,0.9s,baz=110,slow=7.1,SNR=8.8						
SIV				PKPbc	PKPbc	06 37 40.7	-0.3
	comp=Z,1.8nm,0.6s,baz=179,slow=3.2,SNR=5.8						
SIV				PKPab	PKPab	06 37 54.7	+0.3
	comp=Z,3.0nm,0.6s,baz=107,slow=8.1,SNR=7.7						
PCRV	**Puerto La Cruz**	**154.45**	**307**	PKPbc	PKPbc	06 37 41.6	-0.5
	comp=Z,11nm,0.5s,baz=326,slow=8.0,SNR=6.4						
CMIG	**Matias Romero**	**155.96**	**23**	PKP	PKPdf	06 37 36.6	+0.8
	comp=Z,3.8nm,0.9s,baz=30,slow=4.5,SNR=5.4						
CMIG				PKPab	PKPab	06 38 02.9	-0.1
	comp=Z,7.5nm,0.9s,baz=346,slow=2.1,SNR=6.1						
CMIG	**Matias Romero**	**155.96**	**23**	PKP	PKPdf	06 37 36.6	+0.8
CMIG				PKPab	PKPab	06 38 02.9	-0.1
LVC	**Limon Verde**	**156.51**	**221**	PKPab	PKPab	06 38 07.7	+2.3
	comp=Z,2.9nm,0.6s,baz=193,slow=4.7,SNR=4.2						
SAML	**Samuel**	**157.77**	**259**	*e*PKPdf	PKPdf	06 37 39.0	+0.9
SDV	**Santo Domingo**	**159.85**	**314**	PKP	PKPdf	06 37 41.7	+1.1
	comp=Z,7.0nm,0.9s,baz=306,slow=2.8,SNR=6.9						
SDV				PKPab	PKPab	06 38 20.8	+1.0
	comp=Z,9.8nm,0.9s,baz=44,slow=5.0,SNR=3.0						
LPAZ	**La Paz**	**159.87**	**235**	PKP	PKPdf	06 37 42.6	+2.1
	comp=Z,5.3nm,1.0s,baz=48,slow=2.4,SNR=17						
LPAZ				pPKP	pPKPdf	06 37 57.6	+2.0
	comp=Z,3.9nm,0.8s,baz=28,slow=7.4,SNR=3.9						
LPAZ				PKPab	PKPab	06 38 22.2	+2.2
	comp=Z,4.5nm,1.1s,baz=186,slow=5.8,SNR=3.9						
LPAZ	**La Paz**	**159.87**	**235**	*e*PKPdf	PKPdf	06 37 42.5	+1.9
LPAZ				*e*PKPab	PKPab	06 38 21.6	+1.6
LPAZ				LR	LR		
	comp=Z,338nm,22.0s,MS5.1						
ROSC	**El Rosal**	**165.26**	**312**	PKP	PKPdf	06 37 47.3	+1.4
	comp=Z,14nm,1.0s,baz=233,slow=2.4,SNR=10						
ROSC				PKPab	PKPab	06 38 46.1	+2.5
	comp=Z,7.5nm,0.7s,baz=225,slow=4.3,SNR=4.0						
ROSC	**El Rosal**	**165.26**	**312**	*e*PKPdf	PKPdf	06 37 47.6	+1.7
ROSC				*e*PKPab	PKPab	06 38 46.1	+2.6

---

*ISCJB **16** 07:33:12.8±4.6, 1.1N±0.1×96.8E±0.1, h13km±30km, mb3.9/6, Error ellipse: s-maj=20.9km s-min=15.4km az=68.3*

*IDC **16** 07:33:12.7±1.6, 1.05N×96.80E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML2.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/30, Error ellipse: s-maj=37.8km s-min=22.9km az=59.0*

*NEIC **16** 07:33:17.4±0.9, 1.10N×96.86E, h30km, mb4.4/1, Error ellipse: s-maj=18.1km s-min=12.1km az=72.0*

ISC 16 07:33:14.6±5.6**, 1.1N**±0.1×**96.8E**±0.1**, h10km**±36km**, n9, σ0.27**/10**, mb3.9**/6**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.70**	**51**	Pn	**Pn**	**07 33 58.0**	**0.0**
	1.5nm,0.3s,baz=211,slow=4.1,SNR=24						
PSI				Sn	**Sn**	**07 34 30.8**	**0.0**
	6.4nm,0.3s,baz=277,slow=13,SNR=9.3						
PSI				LR	LR	07 35 08.1	
	comp=Z,323nm,18.7s,baz=210,slow=43						
KULM	**Kulim**	**5.65**	**43**	*e*Pn	**Pn**	**07 34 38.7**	**+0.1**
WRA	**Warramunga Arr**	**42.31**	**122**	P	**P**	**07 41 07.9**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=300,slow=8.9,SNR=5.0						
WRAB	**Tennant Creek**	**42.32**	**122**	*e*P	**P**	**07 41 08.9**	**+0.4**
	10nm,1.3s,mb4.3						
ASAR	**Alice Springs**	**43.65**	**127**	P	**P**	**07 41 19.6**	**+0.3**
	0.4nm,0.7s,mb3.3,baz=308,slow=8.5,SNR=6.5						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**07 41 47.9**	**+0.1**
	2.8nm,0.7s,mb4.3,baz=152,slow=6.5,SNR=7.3						
SONM	**Songino Array**	**47.28**	**9**	P	**P**	**07 41 47.9**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=183,slow=12,SNR=3.1						
SONM	**Songino Array**	**47.28**	**9**	P	**P**	**07 41 47.9**	**-0.2**
ZAL	**Zalesovo**	**53.58**	**351**	P	**P**	**07 42 35.8**	**0.0**
	1.8nm,0.6s,mb4.2,baz=274,slow=10,SNR=5.8						

IDC 16 08:04:32.5±1.0**, 15.33S**×**173.44W, h0km, mb4.1**/6**, mb1 4.4**/7**, mb1mx4.2**/16**, mbtmp4.2**/7**, ML3.1**/1**, MS3.7**/5**, Ms1 3.7**/5**, ms1mx3.3**/20**, Error ellipse: s-maj=52.3km s-min=17.7km az=141.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**49**	Pn	Pn	08 05 09.5	+0.1
	345nm,0.3s,baz=214,slow=7.3,SNR=838						
AFI				Sn	Sn	08 05 31.1	-5.6
	119nm,0.3s,baz=85,slow=14,SNR=5.6						
AFI				LR	LR	08 05 40.4	
	comp=Z,608nm,21.3s,baz=103,slow=32						
DZM	**Mont Dzumac**	**20.19**	**248**	P	P	08 09 17.6	+8.9
	9.9nm,0.8s,baz=65,slow=19,SNR=4.7						
URZ	**Urewera**	**24.32**	**198**	P	P	08 09 51.9	+0.2
	8.7nm,0.4s,baz=37,slow=9.0,SNR=14						
RPZ	**Rata Peaks**	**31.23**	**202**	LR	LR	08 20 36.9	
	comp=Z,192nm,21.1s,baz=21,slow=31						
STKA	**Stephens Creek**	**44.04**	**240**	P	P	08 12 41.9	-0.1
	2.6nm,0.6s,baz=82,slow=11,SNR=9.4						
STKA				LR	LR	08 29 41.2	
	comp=Z,92nm,20.0s,baz=203,slow=34						
WRA	**Warramunga Arr**	**49.83**	**257**	P	P	08 13 27.6	+0.4
	0.2nm,0.4s,baz=83,slow=7.8,SNR=17						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	08 13 29.9	+0.6
	4.6nm,0.6s,baz=86,slow=7.9,SNR=119						
ASAR				LR	LR	08 33 17.2	
	comp=Z,82nm,20.7s,baz=175,slow=34						
NVAR	**Mina Array Bea**	**74.30**	**42**	P	P	08 16 12.4	+0.7
	1.4nm,0.8s,baz=216,slow=7.6,SNR=8.4						
PDAR	**Pinedale Array**	**82.24**	**42**	P	P	08 16 55.9	+0.2
	0.5nm,0.8s,baz=67,slow=5.0,SNR=4.2						
PDAR				LR	LR	08 47 32.3	
	comp=Z,60nm,18.7s,baz=76,slow=31						

---

*NIED **16** 08:50:00, 29.40N×130.80E, h29km, Mw4.0 Best double couple: M0 1.21000×10[15] NP1:φs 12.00000°, δ75.00000°, λ76.00000°. NP2:φs 236.00000°, δ20.00000°, λ132.00000°.*

*NEIC **16** 08:50:10.6, 29.41N×130.82E, h29km, MG3.5(JMA), After JMA.*

*JMA **16** 08:50:10.6±0.2, 29.41N×130.82E, h29km, M3.5*

*ISCJB **16** 08:50:11.8±0.9, 29.45N±0.04×130.81E±0.08, h33km, mb4.0/2, Error ellipse: s-maj=11.2km s-min=4.4km az=45.5*

*IDC **16** 08:50:14.9±1.5, 29.89N×129.55E, h0km, mb3.8/3, mb1 3.7/5, mb1mx3.5/24, mbtmp3.7/5, ML3.5/2, Error ellipse: s-maj=40.0km s-min=22.6km az=87.0*

ISC 16 08:50:11.9±2.0**, 29.47N**±0.05×**130.8E**±0.1**, h26km**±12km**, n14, σ1.03**/18**, mb4.0**/2**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.87**	**296**	P	**Pb**	**08 50 27.4**	**-1.0**
JNN				*e*S	**Sb**	**08 50 40.2**	**+0.6**
JKC	**Kuchinoerabu**	**1.11**	**333**	P	**Pn**	**08 50 31.3**	**-0.5**
JKC				*e*S	**Sn**	**08 50 46.6**	**+0.3**
JTN	**Tanegashima 3**	**1.20**	**8**	P	**Pn**	**08 50 32.8**	**-0.1**
JTN				*e*S	**Sn**	**08 50 48.5**	**+0.2**
JAM	**Amami Oshima**	**1.47**	**225**	*e*S	**Sn**	**08 50 54.0**	**-1.1**
JTSR	**Tashiro 2**	**1.70**	**4**	P	**Pn**	**08 50 40.0**	**+0.2**
JTSR				*e*S	**Sn**	**08 51 02.5**	**+1.8**
JSU	**Suzuyama**	**2.05**	**352**	P	**Pn**	**08 50 44.2**	**-0.5**
JNAR	**Kushima--Naru**	**2.10**	**12**	P	**Pn**	**08 50 45.9**	**+0.6**
JTK	**Tokunoshima**	**2.32**	**224**	P	**Pn**	**08 50 48.1**	**-0.3**
JTK				*e*S	**Sn**	**08 51 16.7**	**+0.7**
JOW	**Kunigami**	**3.43**	**221**	Pn	**Pn**	**08 51 05.2**	**+1.6**
	7.9nm,0.3s,baz=117,slow=27,SNR=5.3						
JOW				Sn	**Sn**	**08 51 46.4**	**+3.0**
	14nm,0.3s,baz=140,slow=28,SNR=5.2						
MJAR	**Matsushiro Arr**	**9.41**	**40**	Pn		08 52 36.3	
	0.5nm,0.3s,baz=248,slow=14,SNR=4.5						
MKAR	**Makanchi Array**	**41.17**	**309**	P	**P**	**08 57 52.5**	**-1.6**
	0.8nm,0.6s,mb3.6,baz=104,slow=9.6,SNR=4.1						
BVAR	**Borovoye Array**	**49.44**	**316**	P	**P**	**08 58 57.9**	**-1.7**
	2.1nm,0.5s,mb4.4,baz=99,slow=8.3,SNR=9.8						
ASAR	**Alice Springs**	**52.91**	**176**	P	sP	08 59 37.5	+0.7
	0.2nm,0.6s,baz=8.7,slow=14,SNR=4.6						
CLL	**Collm**	**82.77**	**326**	*e*P	**P**	**09 02 33.0**	**-0.5**

---

*BJI **16** 08:54:07.6, 35.20N×44.80E, h15km, mB5.2, mb4.8, Ms4.6, Msz4.4*

*CSEM **16** 08:54:10.8±0.1, 35.05N×45.51E, h13km, mb4.6/30, ML4.6/1, Error ellipse: s-maj=3.1km s-min=1.8km az=29.0*

*ISCJB **16** 08:54:12.6±0.2, 35.14N±0.03×45.49E±0.03, h15km, mb4.5/72, MS3.4/8, Error ellipse: s-maj=4.4km s-min=2.8km az=49.7*

*MOS **16** 08:54:12.9±1.2, 34.84N×45.56E, h33km, mb4.6/30, Error ellipse: s-maj=9.0km s-min=4.0km az=124.3*

*NAO **16** 08:54:13.8, 34.64N×44.87E, h33km, mb4.0*

*NEIC **16** 08:54:14.8±0.4, 35.23N×45.56E, mb4.5/40, ML3.8(THR), Error ellipse: s-maj=7.9km s-min=5.0km az=6.0*

*THR **16** 08:54:15.1±1.3, 35.26N×45.66E, h15km, ML3.8*

*IDC **16** 08:54:17.2±3.7, 35.27N×45.59E, h33km±26km, mb4.1/15, mb1 4.1/20, mb1mx4.0/27, mbtmp4.2/20, ML4.0/3, MS3.3/7, Ms1 3.3/7, ms1mx2.9/37, Error ellipse: s-maj=25.3km s-min=14.0km az=126.0*

*SZGRF **16** 08:54:26.4, 36.11N×44.77E, h33km, mb4.7, Iran-Iraq border region*

ISC 16 08:54:14.6±0.2**, 35.19N**±0.03×**45.52E**±0.03**, h16km, h16km**±.9km**:pP-P, n273, σ1.19**/288**, mb4.5**/72**, MS3.4**/8**, 24C-19D, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNGE	**Sanandaj**	**1.50**	**93**	*e*PG	**Pn**	**08 54 39.7**	**-1.1**

SNGE eSg Sn 08 54 60.0 0.0
SNGE AML AML 08 55 07.5
comp=N,2µm,0.5s
SNGE AML AML 08 55 13.4
comp=E,906nm,0.5s
SNGE Sanandaj 1.50 93 Pg Pn 08 54 40.0 -0.8
SNGE Sg Sn 08 55 00.0 0.0
SNGE Sanandaj 1.50 93 ePg Pn 08 54 39.7 -1.1
SNR=90
SNGE eSg Sn 08 55 00.0 0.0
comp=E,906nm,0.5s,SNR=90
BHD Baghdad 2.13 207 *i* x x 08 54 49.0
BHD ex x 08 54 51.5
BHD ex x 08 54 55.0
BHD *i* x x 08 55 16.5
BHD *i* x x 08 55 19.0
BHD *i* x x 08 55 21.5
MSL Mosul 2.27 300 ex x 08 55 00.0
MSL *i* x x 08 55 32.5
MSL ex x 08 55 36.5
CUKT Cukurca 2.58 324 P Pn 08 54 55.7 0.0
CUKT Cukurca 2.58 324 P Pn 08 54 55.7 0.0
CUKT Cukurca 2.58 324 eP Pn 08 55 00.0 +4.3
HKR Hakkari 2.79 329 P Pn 08 55 00.8 +2.2
HKR Hakkari 2.79 329 eP Pn 08 55 03.3 +4.7
ASAO Ashtian 3.75 98 ePn Pn 08 55 13.7 +1.8
ASAO eSG Sb 08 56 08.9 +3.2
ASAO AML AML 08 56 27.3
comp=N,228nm,0.7s
ASAO AML AML 08 56 35.1
comp=E,163nm,0.7s
ASAO Ashtian 3.75 98 Pn Pn 08 55 13.0 +1.1
ASAO Sg Sb 08 56 08.0 +2.2
ASAO Ashtian 3.75 98 ePn Pn 08 55 13.7 +1.8
SNR=52
ASAO eSg Sb 08 56 08.9 +3.1
comp=E,163nm,0.7s,SNR=90
VANB Van 3.81 334 P Pn 08 55 14.5 +1.9
VANB Van 3.81 334 P Pn 08 55 14.5 +1.9
VANB Van 3.81 334 P Pn 08 55 14.5 +1.9
GRMI Germi 4.08 27 ePN Pn 08 55 17.8 +1.3
GRMI Germi 4.08 27 Pn Pn 08 55 17.0 +0.6
SHGR Shooshtar-Gavs 4.11 137 ePN Pn 08 55 19.4 +2.7
SHGR Shooshtar-Gavs 4.11 137 Pn Pn 08 55 19.0 +2.3
CLDR Caldiran 4.15 342 P Pn 08 55 22.0 +4.7
CLDR Caldiran 4.15 342 eP Pn 08 55 22.0 +4.7
CLDR Caldiran 4.15 342 eP Pn 08 55 24.5 +7.1
BTMT Batman 4.42 314 P Pn 08 55 18.8 -2.2
BTMT Batman 4.42 314 eP Pn 08 55 18.8 -2.2
THKV Tehran--Karaj 4.43 79 ePN Pn 08 55 22.4 +1.4
THKV Tehran--Karaj 4.43 79 Pn Pn 08 55 22.0 +0.9
GNI Garni 4.99 353 Pn Pn 08 55 31.9 +3.0
comp=E,1.8nm,0.3s,baz=189,slow=11,SNR=4.5
GNI Pg Pg 08 55 46.6 -3.6
comp=E,3.0nm,0.3s,baz=177,slow=4.7,SNR=39
GNI Lg 08 57 03.2
comp=E,2.8nm,0.3s,baz=309,slow=15,SNR=5.2
GNI LR LR 08 57 13.3
comp=E,124nm,20.2s,baz=353,slow=36
GNI Garni 4.99 353 ePn Pn 08 55 29.0 +0.1
GNI ePg Pg 08 55 46.6 -3.6
GNI eSn Sn 08 56 25.6 -0.7
GNI Sg Sg 08 56 54.8 -0.2
GNI Garni 4.99 353 ePn Pn 08 55 29.0 +0.1
GNI Garni 4.99 353 ePg Pg 08 55 46.6 -3.6
BINT Bingol 5.46 314 eP Pn 08 55 32.9 -2.4
BINT Bingol 5.46 314 eP Pn 08 55 29.4 -5.9
RST Umm Al-Ruwaisa 5.80 167 eP Pn 08 55 40.9 +0.9
RST AML AML 08 56 45.2
comp=Z,73nm,0.4s
URFA Urfa 5.86 295 eP Pn 08 55 39.7 -1.1
UMR Umm Al-Rimmam 5.92 161 eP Pn 08 55 41.9 +0.4
UMR AML AML 08 56 50.8
comp=Z,218nm,0.3s
NAY Al-Naaiem 6.09 166 eP Pn 08 55 44.9 +0.9
NAY AML AML 08 56 55.5
comp=Z,35nm,0.5s
PTK Pertek 6.14 309 eP Pn 08 55 41.9 -2.7
PTK Pertek 6.14 309 eP Pn 08 55 41.9 -2.7
PTK Pertek 6.14 309 eP Pn 08 55 46.5 +1.9
KBD Kabd 6.27 162 eP Pn 08 55 47.0 +0.6
KBD AML AML 08 56 55.7
comp=Z,158nm,0.3s
EZC Erzincan 6.43 317 eP Pn 08 55 50.7 +2.1
RDF Al-Radifah 6.47 164 eP Pn 08 55 50.1 +0.8
RDF AML AML 08 57 04.0
comp=Z,192nm,0.6s
MALT Malatya 6.50 301 eP Pn 08 55 51.1 +1.6
MALT pmax pmax
comp=Z,45nm,0.8s
MALT Malatya 6.50 301 ePn Pn 08 55 51.1 +1.6
comp=Z,45nm,0.8s
MALT ePg Pg 08 56 19.0 0.0
MALT eSg Sg 08 57 49.5 +6.5
MYA Malataya 6.50 301 eP Pn 08 55 48.0 -1.6
MYA Malataya 6.50 301 eP Pn 08 55 49.0 -0.6
GAZ Gaziantep 7.01 289 eP Pn 08 55 57.1 +0.5
KMRS Kahramanmaras 7.33 291 eP Pn 08 56 00.5 -0.5
ONI Oni 7.56 348 P Pn 08 56 07.1 +3.0
ZEI Tsey 7.68 351 eP Pn 08 56 12.6 +6.8
HTY Hatay 7.70 280 eP Pn 08 56 09.4 +3.4
ASF Jabal al Asfar 7.79 250 Pn Pn 08 56 11.4 +4.1
comp=Z,1.8nm,0.3s,baz=184,slow=14,SNR=6.3
ASF Lg 08 58 26.9
comp=Z,1.1nm,0.3s,baz=97,slow=15,SNR=5.1
ASF LR LR 08 59 21.5
comp=Z,103nm,21.4s,baz=290,slow=39
CEYT Ceyhan 8.12 286 eP Pn 08 56 13.6 +1.7
KOZT Kozan 8.15 289 eP Pn 08 56 12.9 +0.6
SVSK Karacayir 8.25 307 eP Pn 08 56 12.4 -1.2
SVSK Karacayir 8.25 307 eP Pn 08 56 12.7 -1.0
KARA Karaisali 8.71 287 eP Pn 08 56 21.3 +1.4
KIV Kislovodsk 9.03 347 *d* iP Pn 08 56 29.8 +5.5
KIV pmax pmax
comp=Z,23nm,1.7s
KIV Kislovodsk 9.03 347 ePn Pn 08 56 24.4 +0.1
KIV Kislovodsk 9.03 347 ePn Pn 08 56 24.4 +0.1
BR131 Keskin Array S 10.48 299 ePn Pn 08 56 45.8 +1.6
comp=Z,4.6nm,0.9s
BR131 epPn 08 56 49.5
BR131 Keskin Array S 10.48 299 ePn Pn 08 56 45.8 +1.7
BRTR Keskin Array B 10.48 299 Pn Pn 08 56 47.1 +3.0
comp=Z,0.0nm,0.3s,baz=120,slow=12,SNR=22
ANTO Ankara 11.13 299 ⇓P Pn 08 56 59.6 +6.5
SNR=5.2
HATD Hatta, Dubai 13.81 136 ⇓P Pn 08 57 28.6 -1.1
SNR=6.2
ASHO Ashiyiah 13.88 136 ⇑P Pn 08 57 28.8 -1.8
SNR=7.6
TIRR Tirgusor 16.05 310 ⇓ *i* P Pn 08 58 03.6 +3.9
TIRR Tirgusor 16.05 310 ⇓P Pn 08 58 03.6 +4.0
SMDO Samad 16.28 135 ⇓P Pn 08 57 59.8 -2.8
SNR=8.2
SANT Santorini 16.33 280 ePn Pn 08 58 05.0 +1.8
comp=Z,41nm,0.8s
SANT *e* 08 58 12.2
SANT Santorini 16.33 280 ePn Pn 08 58 05.0 +1.8
VORD Divnogorie 16.41 346 eP Pn 08 58 05.6 +1.4
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,100nm,1.0s
VORD pmax pmax
comp=E,20nm,0.9s
VRSR Storozhevoye 16.66 346 eP Pn 08 58 09.2 +1.8
VRSR pmax pmax
comp=Z,30nm,1.2s
VRSR pmax pmax
comp=N,60nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.9s
GVD Gavdhos 17.57 275 ePn Pn 08 58 18.4 -0.4
comp=E,6.0nm,0.8s
GVD epPn 08 58 23.9
GVD Gavdhos 17.57 275 ePn Pn 08 58 18.4 -0.3
AKTK Aktyubinsk 17.74 27 P Pn 08 58 21.8 +0.9
AKTO Aktyubinsk 17.74 27 P Pn 08 58 21.8 +0.9
comp=E,0.3nm,0.3s,baz=222,slow=10.0,SNR=12
MLR Muntele Rosu 18.09 311 P Pn 08 58 28.5 +3.3
comp=E,0.2nm,0.3s,baz=44,slow=11,SNR=3.7
MLR Muntele Rosu 18.09 311 ⇓ *i* P Pn 08 58 28.5 +3.3
MLR Muntele Rosu 18.09 311 ⇓P Pn 08 58 32.0 +6.8
MLR Muntele Rosu 18.09 311 ⇓P Pn 08 58 32.0 +6.8

VOIR 18.62 310 ⇓ *i* P Pn 08 58 33.8 +2.1
ABTO Aybut 19.06 157 ⇑P Pn 08 58 34.3 -2.8
SNR=7.0
RBK Rabkut 19.23 154 ⇓P Pn 08 58 36.1 -3.0
SNR=7.2
SHAO Shalim 19.31 150 ⇓P Pn 08 58 38.8 -1.2
SNR=6.2
AKASG Malin Array Be 19.50 328 P Pn 08 58 40.5 -1.8
comp=E,1.2nm,0.3s,baz=134,slow=12,SNR=16
AKASG Malin Array Be 19.50 328 P Pn 08 58 40.5 -1.8
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 19.50 328 eP Pn 08 58 40.8 -1.5
BURAR Bucovina Array 19.58 316 ⇑ *i* P Pn 08 58 43.0 -0.3
BURAR Bucovina Array 19.58 316 ⇑P Pn 08 58 43.0 -0.2
GZR Gura Zlata 20.06 307 ⇑ *i* P P 08 58 47.8 +0.6
GZR Gura Zlata 20.06 307 ⇑P P 08 58 47.8 +0.7
DRGR 20.68 311 ⇓ *i* P P 08 58 55.2 +1.3
DRGR 20.68 311 ⇓P P 08 58 55.2 +1.3
OBN Obninsk 20.87 345 *c* iP P 08 58 54.6 -1.3
OBN *e* *PP 08 59 11.2
OBN eS S 09 02 49.4 +1.3
OBN pmax pmax
comp=Z,124nm,1.7s
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.3
OBN Obninsk 20.87 345 eP P 08 58 55.2 -0.8
comp=Z,39nm,0.8s
OBN ePn P 08 58 58.2 +2.3
OBN S S 09 02 46.2 -1.9
OBN Obninsk 20.87 345 eP P 08 58 55.2 -0.7
comp=Z,38nm,0.8s
BZS Buzias 20.90 307 ⇑ *i* P P 08 58 59.2 +2.9
BZS Buzias 20.90 307 ⇑P P 08 58 59.2 +3.0
MOS Moscow 21.26 348 eP P 08 58 57.4 -2.7
MOS *e* 08 59 11.6
MOS *e* 08 59 28.3
MOS pmax pmax
comp=Z,100nm,1.5s,mb4.9
MOS pmax pmax
comp=Z,83nm,1.1s,mb5.0
LVV L'vov 21.45 320 eP P 08 59 05.5 +3.3
KOLS Kolonicke sedl 21.95 316 eP P 08 59 08.4 +0.9
KWP Kalwaria 22.07 318 eP P 08 59 11.5 +2.7
KWP pmax pmax
comp=Z,21nm,0.5s,mb4.8
KWP Kalwaria 22.07 318 eP P 08 59 11.4 +2.7
comp=Z,21nm,0.5s,mb4.8
KWP Kalwaria 22.07 318 eP P 08 59 11.4 +2.6
comp=Z,21nm,0.5s,mb4.8
CRVS Cervenica-Dubn 22.40 315 eP P 08 59 14.4 +2.1
STHS Stebnicka Huta 22.77 316 eP P 08 59 18.4 +2.1
STHS *e* 08 59 39.1
STHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
STHS Stebnicka Huta 22.77 316 eP P 08 59 18.4 +2.1
comp=Z,8.2nm,1.0s,mb4.1
STHS *e* 08 59 39.1
KECS Kecovo 22.78 313 eP P 08 59 17.9 +1.6
KECS pmax pmax
comp=Z,9.0nm,1.3s,mb4.0
KECS Kecovo 22.78 313 eP P 08 59 17.9 +1.6
comp=Z,9.4nm,1.3s,mb4.1
PSZ Piszkesteto 22.89 312 ⇑ *i* P P 08 59 18.3 +0.8
PSZ Piszkesteto 22.89 312 eP P 08 59 18.1 +0.6
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
PSZ Piszkesteto 22.89 312 eP P 08 59 18.1 +0.5
comp=Z,8.9nm,0.9s,mb4.2
PSZ Piszkesteto 22.89 312 eP P 08 59 18.1 +0.6
comp=Z,8.9nm,0.9s,mb4.2
MNK Minsk 22.91 333 eP P 08 59 12.0 -5.7
MNK pmax pmax
comp=Z,14nm,1.0s,mb4.3
ARU Arti 23.03 19 ⇓ *i* P P 08 59 18.0 -1.0
ARU *e* 08 59 47.5
ARU *e* PPP 08 59 56.9
ARU eS S 09 03 28.9 -0.2
ARU eSS 09 04 15.3
ARU pmax pmax
comp=Z,9.0nm,1.3s,mb4.0
ARU Arti 23.03 19 eP P 08 59 18.1 -0.9
comp=Z,4.8nm,0.6s,mb4.1
ARU *e* 08 59 22.7
ARU Arti 23.03 19 eP P 08 59 18.1 -0.9
PKSM Moragy 23.06 307 ⇓ *i* P P 08 59 20.9 +1.6
PKSM Moragy 23.06 307 ⇓P P 08 59 20.9 +1.6
AAK Ala-Archa 23.66 63 eP P 08 59 24.6 -0.8
AAK *e* 08 59 29.5
AAK pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 23.66 63 eP P 08 59 24.6 -0.8
comp=Z,1.2nm,0.6s,mb3.5
AAK *e* 08 59 29.5
AAK Ala-Archa 23.66 63 eP P 08 59 24.6 -0.8
ATD Arta Tunnel 23.68 187 LR LR 09 08 57.6
comp=Z,66nm,19.2s,MS3.1,baz=247,slow=37
VYHS Vyhne 23.77 312 eP P 08 59 26.6 +0.1
OJC Ojcow 23.98 317 eP P 08 59 28.8 +0.4
ZRNK Zerenda 24.32 36 eP P 08 59 30.7 -0.7
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
ZRNK Zerenda 24.32 36 eP P 08 59 30.7 -0.7
comp=Z,4.0nm,0.8s,mb3.9
SUW Suwalki 24.46 327 eP P 08 59 33.1 +0.3
SUW pmax pmax
comp=Z,84nm,0.9s,mb5.2
SUW Suwalki 24.46 327 eP P 08 59 33.1 +0.3
comp=Z,84nm,0.9s,mb5.2
SUW Suwalki 24.46 327 eP P 08 59 33.1 +0.3
comp=Z,84nm,0.9s,mb5.2
ZST Bratislava 24.73 310 eP P 08 59 35.4 +0.2
ZST pmax pmax
comp=Z,12nm,0.9s,mb4.4
ZST Bratislava 24.73 310 eP P 08 59 35.4 +0.2
comp=Z,12nm,0.9s,mb4.4
OKC Ostrava-Krasne 24.75 315 eP P 08 59 35.1 -0.3
BRVK Borovoye 25.00 37 eP P 08 59 37.3 -0.3
BRVK *e* 08 59 42.1
BRVK pmax pmax
comp=Z,12nm,1.3s,mb4.3
BRVK Borovoye 25.00 37 eP P 08 59 37.3 -0.3
comp=Z,12nm,1.3s,mb4.3
BRVK *e* 08 59 42.1
BRVK Borovoye 25.00 37 eP P 08 59 37.3 -0.3
BVAR Borovoye Array 25.03 37 P P 08 59 38.3 +0.3
comp=Z,3.6nm,0.8s,mb3.9,baz=225,slow=8.2,SNR=9.6
BVAR LR LR 09 11 32.3
comp=Z,79nm,20.8s,MS3.2,baz=243,slow=42
MORC Moravsky Berou 25.08 314 ⇑ *i* P P 08 59 38.7 +0.3
MORC Moravsky Berou 25.08 314 eP P 08 59 38.6 +0.3
comp=Z,9.5nm,0.9s,mb4.3
MORC Moravsky Berou 25.08 314 eP P 08 59 38.7 +0.3
comp=Z,9.5nm,0.9s,mb4.3
VAE Valguarnera 25.11 284 P P 08 59 41.1 +2.4
comp=Z,10nm,0.4s,mb4.7,baz=163,slow=11,SNR=4.1
CONA Conrad Observa 25.42 309 ⇑ *i* P P 08 59 41.4 0.0
comp=Z,17nm,1.1s,mb4.5
ARSA Arzberg 25.42 307 ⇓ *i* P P 08 59 41.3 -0.2
comp=Z,9.6nm,0.9s,mb4.3
ARSA Arzberg 25.42 307 ⇓ *i* P P 08 59 41.2 -0.3
comp=Z,9.6nm,0.9s,mb4.3
VRAC Vranov 25.46 313 P P 08 59 42.2 +0.4
comp=Z,2.1nm,0.4s,mb4.0,baz=100,slow=12,SNR=6.0
VRAC Vranov 25.46 313 ⇑ *i* P P 08 59 42.8 +1.0
VRAC Vranov 25.46 313 ⇑P P 08 59 42.8 +1.0
SOKR Solikamsk 25.49 13 eP P 08 59 42.7 +0.6
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
CHKZ Chkalovo 25.52 36 eP P 08 59 41.5 -0.9
CHKZ pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
CHKZ Chkalovo 25.52 36 eP P 08 59 41.5 -0.9
comp=Z,9.7nm,1.2s,mb4.2
CHKZ *e* pP 08 59 45.6 -1.6
CHKZ Chkalovo 25.52 36 eP P 08 59 41.5 -0.9
DPC Dobruska-Polom 26.04 315 eP P 08 59 47.0 0.0
UPC Upice 26.28 315 eP P 08 59 49.1 -0.2
MOA Molln 26.41 308 ⇑ *i* P P 08 59 50.9 +0.4
comp=Z,12nm,0.8s,mb4.5
KBA Koelnbreinsper 26.80 306 ⇑ *i* P P 08 59 54.4 +0.5
comp=Z,18nm,1.0s,mb4.6
KBA Koelnbreinsper 26.80 306 ⇑ *i* P P 08 59 54.4 +0.4
KBA pmax pmax
comp=Z,18nm,1.0s,mb4.6

PRU Pruhonice 26.95 313 eP P 08 59 56.7 +1.4
GERES GERESS Array B 27.07 310 P P 08 59 55.8 -0.6
comp=Z,0.8nm,0.6s,mb3.5,baz=116,slow=9.2,SNR=5.6
KHC Kasperske Hory 27.24 311 eP P 08 59 57.7 -0.2
SQTA Sankt Quirin 28.25 306 ⇑ *i* P P 09 00 06.7 -0.3
comp=Z,4.4nm,0.8s,mb4.1
SQTA Sankt Quirin 28.25 306 ⇑ *i* P P 09 00 06.7 -0.2
SQTA pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
CLL Collm 28.35 315 eP P 09 00 07.0 -0.8
comp=Z,9.0nm,1.3s,mb4.2
MOTA Moosalm 28.35 306 ⇑ *i* P P 09 00 06.7 -1.1
comp=Z,6.3nm,1.0s,mb4.2
MOTA Moosalm 28.35 306 ⇑ *i* P P 09 00 06.7 -1.1
MOTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
GRA1 Grafenberg Arr 28.88 311 eP P 09 00 12.5 0.0
comp=Z,10.0nm,0.8s,mb4.6
GRF Grafenberg Arr 28.88 311 eP P 09 00 12.5 0.0
comp=Z,10.0nm,0.8s,mb4.6
GRF Grafenberg Arr 28.88 311 eP P 09 00 12.5 0.0
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GRF Grafenberg Arr 28.88 311 eP P 09 00 12.5 0.0
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
FINES FINESS Array B 29.05 341 P P 09 00 12.7 -1.4
comp=Z,4.3nm,1.0s,mb4.2,baz=129,slow=13,SNR=6.6
FINES FINESS Array B 29.05 341 P P 09 00 12.7 -1.3
FINES pmax pmax
comp=Z,4.0nm,1.0s
JOF Joensuu 29.14 347 ep P 09 00 09.1 -5.7
comp=Z,6.9nm,0.8s,mb4.4
JOF Joensuu 29.14 347 eP P 09 00 09.1 -5.7
JOF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KEST Kesra 29.37 282 P P 09 00 18.9 +2.0
comp=Z,2.1nm,0.9s,mb3.9,baz=246,slow=10.0,SNR=3.2
RGN Rugen 29.54 321 eP P 09 00 18.9 +0.5
comp=Z,154nm,0.9s
RGN Rugen 29.54 321 eP P 09 00 18.9 +0.5
comp=Z,154nm,0.9s
SBF Sospel 30.41 298 eP P 09 00 25.5 -0.6
comp=Z,64nm,0.8s,mb5.1
SBF Sospel 30.41 298 eP P 09 00 25.5 -0.6
SBF pmax pmax
comp=Z,32nm,0.8s,mb5.1
SBF Sospel 30.41 298 eP P 09 00 25.5 -0.6
comp=Z,32nm,0.8s,mb5.1
MBDF Montbardon 30.95 300 eP P 09 00 29.7 -1.1
comp=Z,19nm,0.8s,mb4.7
MBDF Montbardon 30.95 300 eP P 09 00 29.7 -1.1
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
MBDF Montbardon 30.95 300 eP P 09 00 29.7 -1.1
comp=Z,9.6nm,0.8s,mb4.7
LPG La Plagne 31.03 301 eP P 09 00 30.7 -0.8
comp=Z,12nm,0.9s,mb4.5
LPG La Plagne 31.03 301 eP P 09 00 30.7 -0.8
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
LPG La Plagne 31.03 301 eP P 09 00 30.7 -0.8
comp=Z,6.2nm,0.9s,mb4.4
BNI Bardonecchia 31.04 300 eP P 09 00 31.6 0.0
BNI pmax pmax
comp=Z,31nm,1.1s,mb5.0
BNI Bardonecchia 31.04 300 eP P 09 00 31.6 0.0
comp=Z,31nm,1.1s,mb5.0
BNI epP pP 09 00 35.5 -1.0
BNI Bardonecchia 31.04 300 eP P 09 00 31.6 0.0
comp=Z,31nm,1.1s,mb5.0
BNI epP pP 09 00 35.5 -1.0
LPL La Plagne 31.04 301 eP P 09 00 30.7 -1.0
CDF Champ du Feu 31.09 307 eP P 09 00 31.4 -0.7
HINF Hinteralfeld 31.26 306 eP P 09 00 32.7 -0.9
ORIF Oris-en-Rattie 31.59 300 eP P 09 00 34.8 -1.7
comp=Z,19nm,0.9s,mb4.6
ORIF Oris-en-Rattie 31.59 300 eP P 09 00 34.8 -1.7
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
ORIF Oris-en-Rattie 31.59 300 eP P 09 00 34.8 -1.7
comp=Z,9.6nm,0.9s,mb4.6
CABF La Chapelle 31.61 303 eP P 09 00 36.4 -0.3
comp=Z,16nm,0.8s,mb4.6
CABF La Chapelle 31.61 303 eP P 09 00 36.4 -0.3
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CABF La Chapelle 31.61 303 eP P 09 00 36.4 -0.3
comp=Z,7.8nm,0.8s,mb4.6
HAU Haudompre 31.63 306 eP P 09 00 36.2 -0.6
comp=Z,7.0nm,0.3s,mb4.3
WLF Walferdange 32.06 309 eP P 09 00 40.1 -0.5
WLF pmax pmax
comp=Z,11nm,1.0s,mb4.6
WLF Walferdange 32.06 309 eP P 09 00 40.1 -0.5
comp=Z,11nm,1.0s,mb4.6
HFS Hagfors 32.34 330 P P 09 00 42.0 -1.0
comp=Z,5.3nm,0.6s,mb4.5,baz=121,slow=6.9,SNR=18
HFS Hagfors 32.34 330 P P 09 00 42.0 -1.0
HFS pmax pmax
comp=Z,5.0nm,0.6s
VIVF Saint-Julien-l 32.45 300 eP P 09 00 42.9 -1.1
comp=Z,13nm,0.9s,mb4.4
VIVF Saint-Julien-l 32.45 300 eP P 09 00 42.9 -1.1
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
VIVF Saint-Julien-l 32.45 300 eP P 09 00 42.9 -1.1
comp=Z,6.4nm,0.9s,mb4.5
MEZF Maizieres J'vi 32.56 307 eP P 09 00 44.6 -0.4
LASF Ste Croix 33.00 298 eP P 09 00 47.5 -1.4
comp=Z,21nm,1.0s,mb4.7
ZAL Zalesovo 33.12 43 LR LR 09 17 01.9
comp=Z,86nm,18.2s,MS3.5,baz=6.5,slow=41
SMF Signal de Mont 33.15 303 eP P 09 00 48.9 -1.3
LOR Lormes 33.20 304 eP P 09 00 50.0 -0.6
WMQ Urumqi 33.36 62 P P 09 00 52.8 +0.8
WMQ AP pP 09 00 58.0 +1.1
WMQ XP sP 09 01 01.5 +2.6
WMQ PP PP 09 02 04.0 -3.5
WMQ eS S 09 06 12.0 -0.2
WMQ AMB AMB
comp=Z,11nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,222nm,5.4s
WMQ LR LR
comp=Z,134nm,21.4s,MS3.6
BAIF Baives 33.37 309 eP P 09 00 51.6 -0.5
SSF Saint Saulge 33.42 304 eP P 09 00 51.7 -0.8
comp=Z,5.4nm,0.7s,mb4.3
SSF Saint Saulge 33.42 304 eP P 09 00 51.7 -0.8
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SSF Saint Saulge 33.42 304 eP P 09 00 51.7 -0.8
comp=Z,2.7nm,0.7s,mb4.3
AVF Avril sur Loir 33.50 303 eP P 09 00 52.3 -0.9
comp=Z,36nm,1.3s,mb4.8
AVF Avril sur Loir 33.50 303 eP P 09 00 52.3 -0.9
AVF pmax pmax
comp=Z,18nm,1.3s,mb4.8
AVF Avril sur Loir 33.50 303 eP P 09 00 52.3 -0.9
comp=Z,18nm,1.3s,mb4.8
BGF Bois d'Agland 33.83 303 eP P 09 00 55.1 -1.0
NB2 NORSAR Subarra 33.86 331 P P 09 00 54.7 -1.7
comp=Z,2.7nm,1.0s,mb4.1,baz=125,slow=9.3
NOA NORSAR Array B 33.86 331 P P 09 00 56.1 -0.2
comp=Z,0.9nm,0.9s,mb3.7,baz=122,slow=8.1,SNR=3.1
NAO01 NORSAR Array S 33.88 330 eP P 09 00 55.5 -1.1
comp=Z,3.0nm,0.8s,mb4.3
NAO01 NORSAR Array S 33.88 330 eP P 09 00 55.5 -1.1
comp=Z,3.0nm,0.8s,mb4.3
TCF Toulx Ste Croi 34.25 302 eP P 09 00 58.8 -0.9
RJF Les Rejaudoux 34.70 301 eP P 09 01 02.7 -0.9
MFF Saint Martin d 35.89 303 eP P 09 01 12.3 -1.6
ARCES ARCESS Array B 36.13 348 P P 09 01 14.7 -1.3
comp=Z,3.2nm,0.8s,mb4.3,baz=148,slow=7.1,SNR=6.6
ARCES LR LR 09 17 56.0
comp=Z,31nm,20.7s,MS3.1,baz=227,slow=39
ARCES ARCESS Array B 36.13 348 P P 09 01 14.7 -1.3
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,31nm,20.7s
FLN La Foliniere 36.24 306 eP P 09 01 15.7 -1.2
GRR Gorron 36.46 306 eP P 09 01 17.0 -1.8
KMBO Kilima Mbogo 36.94 194 LR LR 09 16 22.7
comp=Z,117nm,18.1s,MS3.7,baz=91,slow=36

CART	**Cartagena**	**37.24**	**288**	eP	**P**	**09 01 26.9**	**+1.6**
	comp=Z,46nm,1.2s,mb5.2						
CART				e	pP	09 01 31.5	+1.2
CART	**Cartagena**	**37.24**	**288**	eP	**P**	**09 01 27.0**	**+1.6**
SGMF	**Saint Gilles**	**37.59**	**305**	eP	**P**	**09 01 27.0**	**-1.3**
QUIF	**Quistinic**	**37.98**	**305**	eP	**P**	**09 01 30.3**	**-1.4**
ESK	**Eskdalemuir**	**38.78**	**317**	eP	**P**	**09 01 38.0**	**-0.4**
ESK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
ESK	**Eskdalemuir**	**38.78**	**317**	eP	**P**	**09 01 38.0**	**-0.4**
	comp=Z,2.1nm,0.4s,mb4.2						
ESDC	**Sonseca Array**	**39.16**	**292**	P	**P**	**09 01 41.5**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=63,slow=8.5,SNR=13						
ESLA	**Sonseca Array**	**39.16**	**292**	eP	**P**	**09 01 41.5**	**-0.1**
	comp=Z,2.3nm,0.9s,mb3.9						
MTE	**Manteigas**	**41.74**	**294**	eP	**P**	**09 02 03.2**	**+0.3**
	comp=Z,45nm,1.6s,mb4.8						
PCBR	**Castelo Branco**	**41.79**	**293**	eP	**P**	**09 02 03.4**	**+0.1**
	comp=Z,30nm,1.2s,mb4.8						
PCAB	**Cabril**	**41.88**	**296**	eP	**P**	**09 02 03.9**	**-0.1**
PVIS	**Viseu**	**41.94**	**294**	eP	**P**	**09 02 04.6**	**0.0**
PESTR	**Estremoz**	**42.07**	**291**	eP	**P**	**09 02 05.4**	**-0.2**
	comp=Z,26nm,1.5s,mb4.6						
PTOM	**Tomar**	**42.54**	**293**	eP	**P**	**09 02 09.8**	**+0.3**
	comp=Z,39nm,1.2s,mb5.0						
GTA	**Gaotai**	**42.85**	**68**	eP	**P**	**09 02 13.1**	**+1.1**
GTA				AP	pP	09 02 16.3	-0.6
GTA				XP	sP	09 02 19.6	+0.7
GTA				S	**S**	**09 08 35.8**	**0.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**43.91**	**51**	eP	**P**	**09 02 19.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**45.15**	**252**	P	**P**	**09 02 30.7**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.9,baz=51,slow=6.5,SNR=8.9						
TORD	**Torodi Ar. Bea**	**45.15**	**252**	P	**P**	**09 02 30.7**	**+0.3**
ULN	**Ulaanbaatar**	**46.60**	**55**⇑	eP	**P**	**09 02 42.6**	**+0.7**
LZH	**Lanzhou**	**46.78**	**71**	eP	**P**	**09 02 44.5**	**+1.2**
LZH				AP	pP	09 02 49.1	+0.9
LZH				XP	sP	09 02 51.5	+1.3
LZH				PP	PP	09 04 33.9	+0.7
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
CD2	**Chengdu**	**48.41**	**78**	eP	**P**	**09 02 52.9**	**-3.0**
BOD	**Bodaibo**	**49.81**	**41**	eP	**P**	**09 03 06.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
KMI	**Kunming**	**49.89**	**85**	P	**P**	**09 03 07.8**	**+0.5**
KMI				AP	pP	09 03 13.4	+1.1
KMI				XP	sP	09 03 15.5	+1.3
KMI				PP	PP	09 05 00.1	-2.0
KMI				S	**S**	**09 10 12.6**	**-4.1**
KMI				SS	SS	09 13 46.3	-3.1
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,416nm,4.8s						
KMI				LR	LR		
	comp=Z,30nm,14.0s,MS3.5						
CM31	**Chiang Mai Arr**	**49.92**	**95**	eP	**P**	**09 03 07.8**	**+0.3**
	comp=Z,15nm,0.7s,mb5.1						
HHC	**Hu-ho-hao-te**	**51.24**	**63**	eP	**P**	**09 03 17.4**	**0.0**
HHC				AP	pP	09 03 21.9	-0.6
HHC				XP	sP	09 03 24.4	0.0
HHC				PCP	PcP	09 04 33.6	+1.1
HHC				PP	PP	09 05 14.8	+0.5
HHC				SCP	ScP	09 08 27.9	-0.5
HHC				PCS	PcS	09 08 29.8	-0.4
HHC				S	**S**	**09 10 32.8**	**-2.6**
HHC				SCS	ScS	09 13 04.6	-2.8
HHC				AMB	AMB		
	comp=Z,15nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,182nm,5.6s						
HHC				LR	LR		
	comp=N,179nm,4.9s						
HHC				LR	LR		
	comp=E,122nm,4.7s						
HHC				LR	LR		
	comp=Z,125nm,5.9s						
DBIC	**Dimbokro**	**54.20**	**251**	P	**P**	**09 03 39.6**	**+0.3**
	comp=Z,4.1nm,0.6s,mb4.5,baz=14,slow=9.7,SNR=8.0						
DBIC	**Dimbokro**	**54.20**	**251**	eP	**P**	**09 03 39.9**	**+0.6**
DBIC				pmax	pmax		
	comp=Z,22nm,1.4s						
DBIC	**Dimbokro**	**54.20**	**251**	eP	**P**	**09 03 39.9**	**+0.6**
	comp=Z,22nm,1.4s,mb4.9						
BJI	**Beijing**	**54.84**	**62**	P	**P**	**09 03 45.3**	**+1.3**
SUMG	**Summit**	**55.05**	**339**	eP	**P**	**09 03 45.4**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.7						
YAK	**Yakutsk**	**56.96**	**34**⇑	eP	**P**	**09 04 00.9**	**+1.7**
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
MATP	**Matopo**	**57.62**	**199**	P	**P**	**09 04 05.0**	**+1.1**
	comp=Z,4.1nm,0.9s,mb4.5,baz=1.0,slow=6.6,SNR=7.8						
NJ2	**Nanjing**	**59.84**	**70**	eP	**P**	**09 04 20.5**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
CN2	**Changchun**	**60.04**	**55**	eP	**P**	**09 04 22.0**	**+1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
SSE	**Sheshan**	**62.04**	**70**	P	**P**	**09 04 33.1**	**-1.2**
SSE				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,4.6s						
MDJ	**Mudanjiang**	**62.48**	**53**	P	**P**	**09 04 36.8**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,240nm,5.5s						
SEY	**Seymchan**	**66.33**	**29**⇑	eP	**P**	**09 05 01.8**	**-0.6**
SCHQ	**Schefferville**	**73.29**	**326**	P	**P**	**09 05 44.0**	**-1.2**
	comp=Z,2.9nm,0.8s,mb4.3,baz=26,slow=6.5,SNR=5.2						
SCHQ	**Schefferville**	**73.29**	**326**	eP	**P**	**09 05 44.3**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.0						
YKA	**Yellowknife Ar**	**81.35**	**351**	P	**P**	**09 06 28.7**	**-1.7**
	comp=Z,3.2nm,0.9s,mb4.2,baz=24,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**81.35**	**351**	P	**P**	**09 06 28.7**	**-1.7**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.9s						

---

*IDC **16** 09:14:05.6±1.3, 54.18S×63.40W, h0km, mb4.4/7, mb1 4.4/7, mb1mx4.3/13, mbtmp4.4/7, MS3.7/6, Ms1 3.7/6, ms1mx3.6/21, Error ellipse: s-maj=51.7km s-min=17.5km az=76.0*

*ISCJB **16** 09:14:11.1±2.4, 54.24S±0.08×63.7W±0.2, h57km±21km, mb4.3/11, MS3.7/5, Error ellipse: s-maj=19.0km s-min=12.5km az=129.6*

*NEIC **16** 09:14:12.8±1.2, 54.18S×63.59W, h58km±10km, mb4.4/5, Error ellipse: s-maj=13.5km s-min=6.8km az=68.0*

ISC 16 09:14:12.5±2.1**, 54.23S**±0.08×**63.7W**±0.2**, h57**km±19km**, n24,** σ**0s77**/19**, mb4.3**/11**, MS3.7**/5**, 1C-1D, Falkland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**4.28**	**56**	ePn	**Pn**	**09 15 14.1**	**-1.0**
EFI				eSn	**Sn**	**09 16 04.8**	**+1.0**
PLCA	**Paso Flores**	**14.26**	**339**	Pn	**Pn**	**09 17 33.7**	**+2.5**
	0.1nm,0.3s,baz=188,slow=9.8,SNR=9.9						
PLCA				LR	LR	09 22 44.2	
	comp=Z,116nm,18.6s,baz=341,slow=36						
PLCA	**Paso Flores**	**14.26**	**339**	ePn	**Pn**	**09 17 31.1**	**-0.2**
PLCA				LR	LR	09 22 44.2	
TRQA	**Tornquist**	**16.23**	**5**	ePn	**Pn**	**09 17 55.8**	**-0.8**
	20nm,0.7s						
CFAA	**Coronel Fontan**	**22.85**	**350**	P	**P**	**09 19 10.4**	**-0.3**
	0.2nm,0.5s,baz=172,slow=14,SNR=2.7						
CFAA				LR	LR	09 28 57.9	
	comp=Z,41nm,18.0s,MS2.9,baz=178,slow=39						
CPUP	**Villa Florida**	**28.27**	**12**	P	**P**	**09 19 59.7**	**-0.6**
	2.4nm,0.7s,mb4.0,baz=172,slow=6.8,SNR=6.0						
CPUP				LR	LR	09 32 21.5	
	comp=Z,263nm,20.6s,MS3.8,baz=176,slow=39						
SNAA	**Sanae**	**30.88**	**147**	P	**P**	**09 20 23.1**	**-0.2**
	1.4nm,0.8s,mb3.9,baz=287,slow=9.5,SNR=18						
QSPA	**South Pole Qui**	**36.01**	**180**	eP	**P**	**09 21 09.0**	**+1.0**
	0.6nm,0.2s,mb4.2						
LPAZ	**La Paz**	**38.02**	**353**	P	**P**	**09 21 25.0**	**0.0**
	1.5nm,0.7s,mb3.8,baz=158,slow=7.3,SNR=5.9						
LPAZ				LR	LR	09 39 18.5	
	comp=Z,308nm,20.6s,MS4.1,baz=176,slow=40						
BDFB	**Brasilia**	**40.42**	**24**	P	**P**	**09 21 45.1**	**+0.2**
	16nm,0.8s,mb4.8,baz=203,slow=5.3,SNR=15						
BDFB				LR	LR	09 39 13.1	
	comp=Z,165nm,20.5s,MS3.9,baz=214,slow=37						
SYO	**Syowa Base**	**45.06**	**150**⇑	eP	**P**	**09 22 21.4**	**-1.2**
SYO	**Syowa Base**	**45.06**	**150**⇓	eP	**P**	**09 22 25.6**	**+3.0**
SAML	**Samuel**	**45.16**	**1**	eP	**P**	**09 22 23.5**	**+0.1**
	4.9nm,0.9s,mb4.3						
SAML				epP	pP	09 22 31.4	-6.9
VNDA	**Vanda**	**45.51**	**193**	LR	LR	09 39 19.0	
	comp=Z,81nm,21.0s,MS3.6,baz=275,slow=33						
MAW	**Mawson**	**52.15**	**157**	P	**P**	**09 23 16.3**	**-0.7**
	1.6nm,0.8s,mb4.0,baz=215,slow=10,SNR=4.1						
BOSA	**Boshof**	**66.75**	**107**	P	**P**	**09 24 57.5**	**-0.1**
	7.4nm,0.8s,mb4.8,baz=211,slow=6.2,SNR=14						
LSZ	**Lusaka**	**78.88**	**101**	eP	**P**	**09 26 09.6**	**+0.1**
	4.1nm,0.6s,mb4.5						
LSZ				e		09 26 15.0	
TORD	**Torodi Ar. Bea**	**86.86**	**63**	P	**P**	**09 26 50.7**	**-0.1**
	3.1nm,0.7s,mb4.6,baz=208,slow=5.7,SNR=37						
JCT	**Junction City**	**89.94**	**329**	P	**P**	**09 27 06.0**	**+0.6**
	8.0nm,1.0s,mb5.0						
ASAR	**Alice Springs**	**100.94**	**196**	P	Pdif	09 27 58.5	+3.0
	0.4nm,0.7s,baz=169,slow=4.9,SNR=6.2						
BRTR	**Keskin Array B**	**124.99**	**69**	PKP	PKPdf	09 33 05.3	-0.8
	1.0nm,0.7s,baz=227,slow=2.9,SNR=4.4						
AAK	**Ala-Archa**	**150.39**	**96**	ePKPbc	PKPbc	09 33 56.2	-1.1
ZRNK	**Zerenda**	**152.32**	**73**	ePKPbc	PKPbc	09 34 00.7	-1.1
CHKZ	**Chkalovo**	**153.49**	**72**	ePKPbc	PKPbc	09 34 03.6	-0.8
CHKZ				ePKPab	PKPab	09 34 15.5	-1.4

---

*NEIC **16** 09:18:05.5, 45.16S×167.35E, h95km, ML4.0(WEL), After WEL.*

WEL 16 09:18:05.6±0.2**, 45.15S**×**167.36E, h93**km±1km**, ML4.0**/11**, Error ellipse: s-maj=1.9km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**204**	P	Pn	09 18 19.4	-0.2
DCZ	**Deep Cove**	**0.36**	**204**	PN	Pn	09 18 19.4	-0.2
DCZ				SN	Sn	09 18 29.4	-0.7
MLZ	**Mavora Lakes**	**0.61**	**109**	P	Pn	09 18 21.2	-0.3
MLZ	**Mavora Lakes**	**0.61**	**109**	PN	Pn	09 18 21.2	-0.3
MLZ				SN	Sn	09 18 32.6	-0.8
MSZ	**Milford Sound**	**0.62**	**41**	P	Pn	09 18 21.7	+0.1
MSZ				S	Sn	09 18 33.9	+0.3
MSZ	**Milford Sound**	**0.62**	**41**	PN	Pn	09 18 21.7	+0.1
MSZ				SN	Sn	09 18 33.3	-0.3
WHZ	**Wether Hill Ro**	**0.85**	**151**	P	Pn	09 18 23.8	0.0
WHZ				S	Sn	09 18 37.0	-0.5
WHZ	**Wether Hill Ro**	**0.85**	**151**	PN	Pn	09 18 23.8	0.0
WHZ				SN	Sn	09 18 37.0	-0.5
WKZ	**Wanaka**	**1.22**	**75**	P	Pn	09 18 28.0	0.0
WKZ	**Wanaka**	**1.22**	**75**	PN	Pn	09 18 28.0	0.0
EAZ	**Earnscleugh**	**1.38**	**94**	P	Pn	09 18 29.8	-0.2
EAZ	**Earnscleugh**	**1.38**	**94**	PN	Pn	09 18 29.8	-0.2
JCZ	**Jackson Bay**	**1.47**	**43**	P	Pn	09 18 30.7	-0.3
JCZ	**Jackson Bay**	**1.47**	**43**	PN	Pn	09 18 30.7	-0.3
APZ	**The Paps**	**1.74**	**166**	PN	Pn	09 18 34.5	0.0
TUZ	**Tuapeka**	**1.79**	**118**	P	Pn	09 18 34.8	-0.3
TUZ	**Tuapeka**	**1.79**	**118**	PN	Pn	09 18 34.8	-0.3
SYZ	**Scrubby Hill**	**1.86**	**139**	PN	Pn	09 18 35.8	-0.3
LBZ	**Lake Benmore**	**2.15**	**70**	eP	Pn	09 18 38.2	-1.6
LBZ	**Lake Benmore**	**2.15**	**70**	PN	Pn	09 18 38.2	-1.6
FOZ	**Fox Glacier**	**2.30**	**47**	eP	Pn	09 18 41.3	-0.5
FOZ	**Fox Glacier**	**2.30**	**47**	PN	Pn	09 18 41.3	-0.6
ODZ	**Otahua Downs**	**2.33**	**89**	P	Pn	09 18 40.9	-1.3
ODZ	**Otahua Downs**	**2.33**	**89**	PN	Pn	09 18 40.9	-1.2
HHSZ	**Highcliff Hill**	**2.39**	**109**	PN	Pn	09 18 42.4	-0.6
RPZ	**Rata Peaks**	**3.01**	**63**	PN	Pn	09 18 48.9	-2.4
RPZ				SN	Sn	09 19 23.1	-3.4
WVZ	**Waitaha Valley**	**3.19**	**51**	PN	Pn	09 18 51.3	-2.5
MQZ	**McQueen's Vall**	**4.06**	**71**	PN	Pn	09 19 02.5	-2.9
LTZ	**Lake Taylor**	**4.26**	**58**	PN	Pn	09 19 04.9	-3.2
THZ	**Tophouse**	**5.27**	**52**	PN	Pn	09 19 18.1	-3.7

---

*ISCJB **16** 09:36:15.7±0.4, 39.74N±0.02×23.78E±0.04, h12km±4km, Error ellipse: s-maj=4.6km s-min=3.4km az=2.8*

*CSEM **16** 09:36:16.6±0.1, 39.74N×23.78E, h17km±1km, ML2.9, Error ellipse: s-maj=2.6km s-min=2.1km az=75.0*

*THE **16** 09:36:16.7, 39.73N×23.79E, h13km, ML2.9*

*NEIC **16** 09:36:17.0, 39.79N×23.39E, h51km, MD3.1(ATH), After ATH.*

*ATH **16** 09:36:17.0, 39.79N×23.39E, h51km±7km, MD3.1/5*

ISC 16 09:36:16.2±0.4**, 39.75N**±0.02×**23.78E**±0.04**, h19**km±4km**, n21,** σ**0s92**/36**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.20**	**337**	ePg	**Pg**	**09 36 21.3**	**+0.2**
PAIG				eSg	**Sg**	**09 36 24.8**	**+0.4**
AOS	**Alonnisos**	**0.58**	**172**	ePg	**Pg**	**09 36 27.2**	**-0.5**
AOS				eSg	**Sg**	**09 36 36.0**	**+0.5**
XOR	**Xorichti**	**0.59**	**230**	ePg	**Pg**	**09 36 28.2**	**+0.2**
XOR				eSg	**Sg**	**09 36 36.5**	**+0.6**
OUR	**Ouranopolis**	**0.61**	**15**	ePg	**Pg**	**09 36 28.9**	**+0.6**
NEO	**Neokhori**	**0.61**	**224**	eP	**Pb**	**09 36 28.2**	**-0.1**
NEO				eS	**Sb**	**09 36 38.0**	**+1.4**
PLG	**Polygyros**	**0.68**	**338**	eP	**Pb**	**09 36 29.1**	**-0.3**
PLG				eS	**Sb**	**09 36 38.8**	**+0.4**
HORT	**Hortiatis**	**1.00**	**329**	ePg	**Pg**	**09 36 35.1**	**-0.4**
HORT				eSg	**Sg**	**09 36 50.2**	**+1.6**
LOS	**Limnos**	**1.02**	**79**	ePg	**Pg**	**09 36 35.7**	**-0.3**
LOS				eSg	**Sg**	**09 36 49.6**	**+0.2**
LIT	**Litokhoron**	**1.05**	**290**	ePg	**Pg**	**09 36 36.1**	**-0.4**
LIT				eSg	**Sg**	**09 36 51.4**	**+1.0**
THE	**Thessaloniki**	**1.08**	**325**	ePg	**Pg**	**09 36 37.0**	**-0.1**
THE				eSg	**Sg**	**09 36 52.3**	**+0.9**
THE	**Thessaloniki**	**1.08**	**325**	ePg	**Pg**	**09 36 37.0**	**-0.1**
THE				eSg	**Sg**	**09 36 52.3**	**+1.0**
SOH	**Sokhos**	**1.12**	**343**	ePg	**Pg**	**09 36 37.8**	**-0.1**
SOH				eSg	**Sg**	**09 36 53.5**	**+0.9**
LKR	**Lokris**	**1.25**	**209**	eP	**Pn**	**09 36 38.3**	**-0.4**
AGG	**Agios Georgios**	**1.33**	**238**	ePg	**Pg**	**09 36 40.5**	**-1.4**
AGG				eSg	**Sg**	**09 36 58.3**	**-1.1**
KNT	**Kendrikon**	**1.56**	**335**	ePg	**Pg**	**09 36 44.2**	**-2.1**
KNT				eSg	**Sg**	**09 37 05.1**	**-1.6**
KNT	**Kendrikon**	**1.56**	**335**	ePg	**Pg**	**09 36 44.2**	**-2.1**
KNT				eSg	**Sg**	**09 37 05.1**	**-1.6**
GRG	**Griva**	**1.60**	**319**	ePb	**Pb**	**09 36 44.1**	**-1.0**
NVR	**Nevrokopi**	**1.60**	**2**	eP	**Pn**	**09 36 44.4**	**+0.9**
MMB	**Musomiste**	**1.84**	**359**	ePb	**Pb**	**09 36 47.5**	**-1.7**
MMB				eSb	**Sb**	**09 37 11.5**	**-0.4**
RDO	**Rodhopi**	**1.94**	**43**	eP	**Pn**	**09 36 51.4**	**+3.3**
CHOS	**Chios island**	**2.23**	**127**	ePn	**Pn**	**09 36 52.8**	**+0.6**

---

*IDC **16** 09:45:21.4±0.3, 3.01S×129.59E, h0km, mb5.8/17, mb1 5.8/19, mb1mx5.8/19, mbtmp5.8/19, ML5.2/2, MS6.0/21, Ms1 6.0/21, ms1mx5.8/31, Error ellipse: s-maj=13.2km s-min=7.4km az=81.0*

*BJI **16** 09:45:23.9, 3.10S×129.40E, h17km, mB6.1, mb5.6, Ms6.1, Msz5.8*

*GCMT **16** 09:45:23.9±0.1, 2.87S×129.48E, h16km, MW6.3/109, Moment Tensor Solution. s109,c263; s109,c378; Duration: 3s6 Moment tensor: Scale 10[18]Nm; Mrr1.25±.01; Mθθ-1.19±.01; Mφφ-0.05±.01; Mrθ-1.97±.06; Mθφ0.83±.01; Mφr3.04±.09; Best double couple: M0 3.91200×10[18] NP1:φs92.00000°, δ15.00000°, λ38.00000°. NP2:φs325.00000°, δ81.00000°, λ102.00000°. Principal axes: T 3.9290, Plg53.0000°, Azm249.0000°; N -0.0310, Plg12.0000°, Azm143.0000°; P -3.8960, Plg34.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **16** 09:45:23.9±0.1, 3.08S×129.44E, h17km, mb5.9/55, ME6.5, MS6.2/147, MW6.3 Error ellipse: s-maj=6.8km s-min=4.5km az=72.0, Moment Tensor Solution. s30 Moment tensor: Scale 10[18]Nm; Mrr0.70; Mθθ0.18; Mφφ-0.88; Mrθ-2.15; Mθφ0.24; Mφr2.23; Best double couple: M0 3.20000×10[18] NP1:φs317.00000°, δ84.00000°, λ81.00000°. NP2:φs194.00000°, δ11.00000°, λ146.00000°. Principal axes: T 3.2400, Plg50.0000°, Azm217.0000°; N -0.0700, Plg9.0000°, Azm318.0000°; P -3.1800, Plg38.0000°, Azm56.0000°; Broadband fault plane solution: P waves. NP1:φs140.00000°, δ10.00000°, λ90.00000°. NP2:φs320.00000°, δ80.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm230.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm50.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [VII] at Wahai, [IV] at Amahai and [III] in Maluku Tengah. Also felt [III] on Ambon.

*ISCJB **16** 09:45:23.2±0.1, 3.07S±0.02×129.50E±0.03, h24km, mb5.9/145, MS6.1/195 Error ellipse: s-maj=4.1km s-min=2.5km az=138.4*

*MOS **16** 09:45:24.3±1.3, 3.05S×129.43E, h33km, mb6.0/64, MS5.9/40, Error ellipse: s-maj=13.3km s-min=8.0km az=107.4*

*SZGRF **16** 09:45:57.5, 6.50N×132.50E, h33km, mb6.1, Western Caroline Islands, Micronesia*

ISC 16 09:45:25.5±0.1**, 3.06S**±0.02×**129.54E**±0.02**, h25**km**, h25**km±2.3km**:pP-P, n741,** σ**1s28**/452**, mb5.9**/145**, MS6.1**/195**, 47C-30D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.48**	**245**	P	**Pn**	**09 45 51.7**	**+1.2**
	222μm,1.0s						
SWI	**Sorong**	**2.78**	**38**	P	**Pn**	**09 46 04.8**	**-3.5**
	27μm,0.7s						
BAKI	**Biak**	**6.82**	**74**	P	**Pn**	**09 47 01.9**	**-2.0**
	4μm,1.4s						
PCI	**Palu**	**9.93**	**282**	P	**Pn**	**09 47 45.8**	**-0.7**
	2μm,1.0s						
KAKA	**Kakadu**	**10.01**	**164**	eP	**Pn**	**09 47 46.0**	**-1.7**
	544nm,0.5s						
KAKA				eS	**Sn**	**09 49 41.1**	**+2.0**
MATI	**Mati**	**10.46**	**342**	eP	**Pn**	**09 47 56.0**	**+2.2**
DAV	**Davao City (W)**	**10.81**	**339**	ePn	**Pn**	**09 48 00.2**	**+1.6**
JAY	**Jayapura**	**11.16**	**88**	P	**Pn**	**09 48 01.7**	**-1.8**
	413nm,1.0s						
CTBH	**Cotabato--PC H**	**11.50**	**333**⇑	eP	**Pn**	**09 48 07.9**	**0.0**
BUKP	**Musuan**	**11.75**	**338**	eP	**Pn**	**09 48 11.4**	**0.0**
MMPI	**Merauke**	**12.05**	**117**	P	**Pn**	**09 48 22.5**	**+7.0**
	2μm,1.2s						
PAGZ	**Pagadian**	**12.45**	**330**	eP	**Pn**	**09 48 22.3**	**+1.2**
IPIL	**Ipil**	**12.82**	**327**	eP	**Pn**	**09 48 25.6**	**-0.5**
DCPH	**Dipolog City**	**13.11**	**332**	eP	**Pn**	**09 48 33.9**	**+3.9**
SCPH	**Surigao**	**13.38**	**342**⇑	eP	**Pn**	**09 48 36.8**	**+3.1**
TARAI	**Tarakan**	**13.54**	**298**	P	**Pn**	**09 48 34.0**	**-1.9**
	2μm,0.7s						
TSM	**Tawau**	**13.76**	**302**	P	**Pn**	**09 48 37.2**	**-1.7**
TSM	**Tawau**	**13.76**	**302**	P	**Pn**	**09 48 37.8**	**-1.0**
SNPH	**Sibulan**	**13.83**	**333**⇑	eP	**Pn**	**09 48 45.5**	**+5.7**
TBP	**Tagbilaran**	**13.87**	**336**	eP	**Pn**	**09 48 40.5**	**0.0**
MSLP	**Maasin**	**13.91**	**340**	eP	**Pn**	**09 48 46.9**	**+6.0**
OCLP	**Ormoc**	**14.85**	**341**	eP	**Pn**	**09 48 55.7**	**+2.0**
FITZ	**Fitzroy Crossi**	**15.43**	**194**	eP	**Pn**	**09 48 59.4**	**-2.0**
	883nm,0.6s						
FITZ				eS	**Sn**	**09 51 52.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**15.43**	**194**	Pn	**Pn**	**09 49 00.3**	**-1.2**
	6.6nm,0.3s,baz=26,slow=13,SNR=171						
FITZ				LR	LR	09 55 09.0	
	comp=Z,66μm,20.5s,baz=18,slow=38						
NBBI	**Negara**	**15.75**	**250**	P	**Pn**	**09 49 07.9**	**+2.3**
	3μm,0.8s						
KMMI	**Kalianget**	**16.01**	**255**	P	**Pn**	**09 49 11.9**	**+3.0**
	3μm,1.9s						
RCP	**Roxas**	**16.02**	**335**⇓	eP	**Pn**	**09 49 08.8**	**-0.2**
KKM	**Kota Kinabalu**	**16.09**	**304**	P	**Pn**	**09 49 09.0**	**-0.9**
KKM	**Kota Kinabalu**	**16.09**	**304**	P	**Pn**	**09 49 09.4**	**-0.6**
KKM	**Kota Kinabalu**	**16.09**	**304**	ePn	**Pn**	**09 49 08.8**	**-1.1**
KKM				eSn	**Sn**	**09 52 09.5**	**+2.0**
CUYO	**Cuyo Island**	**16.21**	**329**	eP	**Pn**	**09 49 15.6**	**+4.1**
BATP	**Bataraza**	**16.60**	**315**	eP	**Pn**	**09 49 16.5**	**0.0**
OTRP	**Odiongan**	**17.04**	**334**	eP	**Pn**	**09 49 26.9**	**+4.9**
ENPP	**El Nido**	**17.38**	**325**	eP	**Pn**	**09 49 27.1**	**+0.9**
PVCP	**Virac**	**17.39**	**342**⇑	eP	**Pn**	**09 49 27.4**	**+1.1**
PVCP	**Virac**	**17.39**	**342**	eP	**Pn**	**09 49 27.4**	**+1.1**
WRAB	**Tennant Creek**	**17.42**	**165**	Pn	**Pn**	**09 49 23.4**	**-3.3**
	7μm,0.7s,SNR=26						
WRAB	**Tennant Creek**	**17.42**	**165**	eP	**Pn**	**09 49 23.9**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,2μm,1.0s						
WRAB	**Tennant Creek**	**17.42**	**165**	ePn	**Pn**	**09 49 22.2**	**-4.4**
	comp=Z,1μm,0.9s						
WRAB				eSn	**Sn**	**09 52 39.5**	**-0.2**
WRA	**Warramunga Arr**	**17.42**	**165**	P	**Pn**	**09 49 24.7**	**-2.0**
	comp=Z,8.9nm,0.3s,baz=339,slow=13,SNR=113						
WRA				S	**Sn**	**09 52 44.2**	**+4.3**
	comp=Z,8.7nm,0.3s,baz=347,slow=20,SNR=8.2						
WRA	**Warramunga Arr**	**17.42**	**165**	P	**Pn**	**09 49 24.7**	**-2.0**
WRA				S	**Sn**	**09 52 44.2**	**+4.3**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.3s						
WRA				smax			
	comp=N,9.0nm,0.3s						
WB2	**Warramunga Arr**	**17.43**	**165**	eP	**Pn**	**09 49 22.4**	**-4.4**
WB2				eS	**Sn**	**09 52 21.2**	**-19**
WB2	**Warramunga Arr**	**17.43**	**165**	ePn	**Pn**	**09 49 22.1**	**-4.6**
WB2				eS	**Sn**	**09 52 21.2**	**-19**
WB2				eSn	**Sn**	**09 52 26.8**	**-13**
BUSP	**Coron**	**17.61**	**328**	eP	**Pn**	**09 49 29.9**	**+0.9**
AUQP	**San Andres**	**17.64**	**337**	eP	**Pn**	**09 49 33.7**	**+4.3**
KRKI	**Karangkates**	**17.74**	**253**	P	**Pn**	**09 49 31.7**	**+1.0**
	comp=N,4μm,0.7s						
BOAC	**Boac**	**18.10**	**335**	eP	**Pn**	**09 49 36.3**	**+1.2**
GQP	**Guinayangan**	**18.26**	**338**⇑	eP	**Pn**	**09 49 40.7**	**+3.6**
PGP	**Puerto Galera**	**18.53**	**333**	eP	**Pn**	**09 49 40.7**	**+0.4**
PMG	**Port Moresby**	**18.61**	**111**	P	**Pn**	**09 49 43.8**	**+2.6**
	comp=N,4.0nm,0.3s,baz=292,slow=7.5,SNR=29						
PMG				S	**Sn**	**09 53 10.3**	**+1.7**
	comp=N,1.2nm,0.3s,baz=7.9,slow=20,SNR=2.1						
PMG	**Port Moresby**	**18.61**	**111**	P	**Pn**	**09 49 43.8**	**+2.5**
PMG				S	**Sn**	**09 53 10.3**	**+1.7**
PMG				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PMG				smax			
	comp=N,1.0nm,0.3s						
PMG	**Port Moresby**	**18.61**	**111**	ePn	**Pn**	**09 49 41.3**	**0.0**
	comp=N,701nm,0.9s						
LQP	**Lukban**	**18.81**	**335**	eP	**Pn**	**09 49 47.6**	**+3.8**
LUBP	**Lubang**	**19.06**	**331**	eP	**Pn**	**09 49 44.8**	**-2.0**
TGY	**Tagaytay City**	**19.06**	**334**⇑	eP	**Pn**	**09 49 56.4**	**+10**
TGY	**Tagaytay City**	**19.06**	**334**	P	**Pn**	**09 49 49.7**	**+2.9**
	comp=N,55nm,0.3s,baz=326,slow=1.4,SNR=6.8						
TGY				LR	LR	09 59 15.1	
	comp=N,148nm,18.1s,baz=337,slow=44						
TGY	**Tagaytay City**	**19.06**	**334**	P	**Pn**	**09 49 49.7**	**+2.9**
TGY				pmax	pmax		
	comp=Z,55nm,0.3s						
TGY				MLR	MLR		
	comp=Z,148nm,18.1s						
KSM	**Kuching**	**19.74**	**283**	eP	**Pn**	**09 49 54.6**	**-0.3**
BJII	**Banjamegara**	**20.20**	**257**	P	**P**	**09 49 57.6**	**-0.7**
	comp=Z,3μm,2.3s						
BALP	**Baler**	**20.27**	**337**	eP	**P**	**09 49 58.0**	**-1.1**
PCPH	**Palayan**	**20.30**	**336**⇓	eP	**P**	**09 49 60.0**	**+0.6**
MBWA	**Marble Bar**	**20.37**	**207**	eP	**P**	**09 49 58.1**	**-2.0**
	comp=Z,1μm,0.9s						
MBWA				LR	LR		
	comp=Z,88μm,19.0s,MS6.1						
AS31	**Alice Springs**	**20.92**	**169**	eP	**P**	**09 50 06.3**	**+0.2**
ASAR	**Alice Springs**	**20.92**	**169**	P	**P**	**09 50 07.0**	**+0.9**
	comp=Z,3μm,0.7s,baz=346,slow=10,SNR=2995						
ASAR				S	**S**	**09 53 59.2**	**+1.2**
	comp=Z,518nm,1.1s,baz=352,slow=20,SNR=11						
ASAR				LR	LR	09 58 57.8	
	comp=Z,61μm,18.6s,MS6.0,baz=349,slow=39						
ASAR				ScS	ScS	10 01 33.8	+1.9
	comp=Z,12nm,1.1s,baz=347,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**20.92**	**169**	P	**P**	**09 50 07.0**	**+0.9**
ASAR				S	**S**	**09 53 59.2**	**+1.2**
ASAR						10 01 33.8	
ASAR				smax			
	comp=N,518nm,1.1s						
ASAR				MLR	MLR		
	comp=Z,61μm,18.6s						
ASAR				pmax	pmax		
	comp=N,12nm,1.1s						
SCZP	**Santa Cruz**	**21.00**	**333**	eP	**P**	**09 50 07.6**	**+0.7**
PALP	**Palanan**	**21.19**	**341**⇓	eP	**P**	**09 50 15.3**	**+6.3**
PALP	**Palanan**	**21.19**	**341**	eP	**P**	**09 50 14.7**	**+5.6**
BCPH	**Baguio City Da**	**21.25**	**336**⇓	eP	**P**	**09 50 12.8**	**+3.1**
CAUP	**Cauayan**	**21.29**	**339**	eP	**P**	**09 50 11.8**	**+1.7**
BOLP	**Bolinao**	**21.53**	**334**	eP	**P**	**09 50 13.7**	**+1.0**

CVP Callao Caves 21.99 340⇑ *e*P P **09 50 18.5 +0.9**
LEM Lembang 22.16 259 P P **09 50 17.9 -1.5**
comp=N,899nm,1.2s,mb6.1
GUMO Guam 22.47 42 P P **09 50 22.5 -0.2**
comp=N,899nm,1.3s,mb6.0,baz=174,slow=5.0,SNR=9.8
GUMO S S **09 54 27.5 -0.8**
comp=N,9.9nm,0.4s,baz=226,slow=22,SNR=2.2
GUMO LR LR 09 58 28.7
comp=N,20μm,21.1s,MS5.5,baz=66,slow=35
GUMO Guam 22.47 42 P P **09 50 22.5 -0.2**
GUMO S S **09 54 27.5 -0.8**
GUMO pmax pmax
comp=Z,899nm,1.3s,mb6.0
GUMO smax
comp=N,10.0nm,0.4s
GUMO MLR MLR
comp=Z,20μm,21.1s,MS5.5
CBJI Citeko 22.85 261 P P **09 50 24.3 -2.5**
comp=Z,1μm,0.7s,mb6.4
CTA Charters Tower 23.50 137 *e*P P **09 50 33.5 -0.1**
comp=Z,326nm,0.8s,mb5.8
CTA *e*S S **09 54 44.9 -0.6**
CTA Charters Tower 23.50 137 P P **09 50 34.2 +0.6**
comp=Z,313nm,1.0s,mb5.7,baz=321,slow=12,SNR=62
CTA S S **09 54 47.8 +2.3**
comp=Z,89nm,1.1s,baz=235,slow=6.6,SNR=2.4
CTA Charters Tower 23.50 137 *e*P P **09 50 33.5 -0.1**
CTA *e*S S **09 54 44.9 -0.6**
CTA pmax pmax
comp=Z,326nm,0.8s
CTAO Charters Tower 23.50 137 *e*P P **09 50 33.7 +0.2**
comp=Z,555nm,1.0s,mb5.9
CTAO LR LR
comp=Z,55μm,21.0s,MS6.0
SBJI Serang 23.53 262 P P **09 50 31.7 -2.1**
comp=Z,796nm,1.8s,mb5.8
KLI Kotabumi 24.69 265 P P **09 50 45.8 +1.4**
comp=Z,942nm,2.1s,mb6.0
KGM Kluang 26.69 281 P P **09 51 04.3 +1.8**
FORT Forrest 27.61 183⇓ *i*P P **09 51 09.0 -1.8**
comp=Z,608nm,0.8s,mb6.3
YHNB Yeheng 28.68 344 *e*P P **09 51 20.2 -0.1**
TATO Taipei 28.94 345 PFAKE 09 51 30.0 +7.4
TATO LR LR
comp=Z,23μm,20.0s,MS5.8
PPI Padang Panjang 29.24 275 P P **09 51 25.1 -0.2**
comp=Z,2μm,1.1s,mb6.7
QIZ Qiongzhong 29.28 319 P P **09 51 25.3 -0.3**
QIZ XP sP 09 51 34.3 -1.9
QIZ S S **09 56 14.6 -2.5**
QIZ SS SS 09 57 48.8 -33
QIZ AMB AMB
comp=Z,60nm,1.0s,mb5.3
QIZ AMB AMB
comp=Z,2μm,11.3s
QIZ LR LR
comp=N,17μm,23.6s
QIZ LR LR
comp=E,21μm,17.9s
QIZ LR LR
comp=Z,20μm,19.9s,MS5.7
QIZ Qiongzhong 29.28 319 *e*P P **09 51 26.2 +0.6**
comp=Z,138nm,1.1s,mb5.6
QIZ *e*S S **09 56 14.8 -2.3**
QIZ LR LR
comp=Z,21μm,19.0s,MS5.8
HKC Hong Kong 29.34 330⇓ *i*P P **09 51 30.0 +3.8**
HKC *i* S S **09 56 20.0 +1.9**
IPM Ipoh 29.46 285 P P **09 51 29.6 +2.4**
JOW Kunigami 29.74 358 LR LR 10 02 28.7
comp=Z,47μm,19.9s,MS6.1,baz=113,slow=35
QZH Quanzhou 29.79 340 *i* PR P **09 51 34.6 +4.4**
QZH AMB AMB
comp=Z,580nm,1.4s,mb6.1
QZH LR LR
comp=N,20μm,15.8s,MS5.9
QZH LR LR
comp=E,13μm,15.2s,MS5.9
QZH LR LR
comp=Z,45μm,21.9s
KULM Kulim 30.03 286 *e*P P **09 51 32.6 +0.3**
GZH Guangzhou 30.41 330 P P **09 51 40.3 +4.6**
GZH S S **09 56 41.0 +6.1**
GZH LR LR
comp=N,16μm,19.7s,MS5.7
GZH LR LR
comp=E,10μm,21.0s,MS5.7
GZH LR LR
comp=Z,22μm,22.2s,MS5.8
KLBR Kellerberrin 30.48 200 *e*P P **09 51 34.8 -1.4**
comp=Z,71nm,0.8s,mb5.5
KLBR *e*PCP PcP 09 54 37.5 +2.4
comp=Z,262nm,1.5s
SNG Songkhla 30.60 290 P P **09 51 38.0 +0.6**
comp=Z,380nm,0.9s,mb6.2
STKA Stephens Creek 30.83 160 *e*P P **09 51 39.2 -0.2**
comp=Z,157nm,1.0s,mb5.8
STKA *e*S S **09 56 43.0 +1.5**
STKA Stephens Creek 30.83 160 P P **09 51 39.3 -0.1**
comp=Z,176nm,1.0s,mb5.9,baz=335,slow=8.7,SNR=94
STKA S S **09 56 37.8 -3.6**
comp=Z,56nm,1.2s,baz=86,slow=16,SNR=2.1
STKA LR LR 10 05 07.1
comp=Z,45μm,20.3s,MS6.1,baz=331,slow=38
HNR Honiara 30.87 103 P P **09 51 40.0 +0.3**
comp=Z,268nm,0.8s,mb6.1,baz=261,slow=1.1,SNR=13
HNR Honiara 30.87 103 *e*P P **09 51 41.0 +1.3**
HNR pmax pmax
comp=Z,616nm,0.9s,mb6.4
HNR MLR MLR
comp=Z,24μm,19.0s,MS5.9
HNR Honiara 30.87 103 *e*P P **09 51 41.0 +1.4**
comp=Z,616nm,0.9s,mb6.4
HNR LR LR
comp=Z,24μm,19.0s,MS5.9
PSI Prapat 31.15 280 P P **09 51 42.3 +0.1**
comp=Z,128nm,0.9s,mb5.8,baz=111,slow=3.9,SNR=59
PSI ScP ScP 09 58 20.5 +2.4
comp=Z,44nm,1.2s,baz=202,slow=3.8,SNR=5.5
PSI Prapat 31.15 280 P P **09 51 42.3 +0.1**
PSI 09 58 20.5
PSI pmax pmax
comp=Z,128nm,0.9s,mb5.8
PSI pmax pmax
comp=N,45nm,1.2s
MUN Mundaring 31.38 202 *e*P P **09 51 42.9 -1.3**
MUN *e*S S **09 56 49.0 -1.1**
TSI Tuntungan 31.64 282 P P **09 51 47.9 +1.4**
comp=N,583nm,1.9s,mb6.1
NWAO Narrogin (SRO) 31.87 200 P P **09 51 47.5 -1.0**
comp=N,43nm,0.5s,mb5.5,baz=34,slow=10,SNR=26
NWAO PcP PcP 09 54 39.6 +0.8
comp=N,79nm,0.6s,baz=1.8,slow=4.1,SNR=3.8
NWAO LR LR 10 05 40.7
comp=N,64μm,20.1s,MS6.3,baz=22,slow=38
NWAO Narrogin (SRO) 31.87 200 P P **09 51 47.5 -1.0**
NWAO 09 54 39.6
NWAO pmax pmax
comp=Z,43nm,0.5s
NWAO MLR MLR
comp=Z,64μm,20.1s
NWAO Narrogin (SRO) 31.87 200 *e*P P **09 51 48.0 -0.6**
comp=Z,49nm,0.7s,mb5.4
NWAO LR LR
comp=Z,51μm,21.0s,MS6.2
CBIJ Chichi jima 32.37 21 LR LR 10 04 27.8
comp=Z,30μm,18.8s,MS6.0,baz=211,slow=36
NNT Nongplab 33.44 298 P P **09 52 04.0 +1.7**
ARMA Armidale 34.31 145 *e*P P **09 52 10.6 +0.8**
ARMA *e*S S **09 57 38.9 +3.3**
NST Nakhon Sawan 34.54 303⇓ P P **09 52 12.4 +0.6**
comp=Z,175nm,1.0s,mb5.9
SSE Sheshan 34.88 347 P P **09 52 16.9 +2.1**
SSE AP pP 09 52 20.0 -2.3
SSE PP PP 09 53 36.3 +2.3
SSE S S **09 57 49.6 +5.2**
SSE XS sS 09 57 54.9 -2.0
SSE AMB AMB
comp=Z,62nm,0.8s,mb5.6
SSE LR LR
comp=N,12μm,27.5s,MS5.6
SSE LR LR
comp=E,9μm,27.5s,MS5.6
SSE LR LR
comp=Z,13μm,16.8s
BSI Banda Aceh 35.24 284 P P **09 52 14.3 -3.6**
comp=Z,217nm,2.5s,mb5.6
NANT Nan 35.74 309⇓ P P **09 52 23.5 +1.4**
comp=Z,2μm,0.4s
NJ2 Nanjing 36.36 345 *e*P P **09 52 28.6 +1.1**
NJ2 AP pP 09 52 34.8 -0.2
NJ2 XP sP 09 52 36.5 -1.6
NJ2 PP PP 09 53 52.3 +1.9
NJ2 S S **09 58 05.0 -2.1**
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,5μm,5.2s
NJ2 LR LR
comp=N,26μm,18.0s,MS6.3
NJ2 LR LR
comp=E,49μm,23.0s,MS6.3
NJ2 LR LR
comp=Z,23μm,25.6s,MS5.8
WHN Wuhan 36.42 338⇓ P P **09 52 30.5 +2.5**
WHN S S **09 58 08.1 0.0**
WHN LR LR
comp=Z,18μm,17.1s,MS5.9
RIV Riverview 36.66 149 *e*P P **09 52 31.7 +1.7**
GYA Guiyang 36.74 324 P P **09 52 30.6 -0.1**
GYA S S **09 58 05.3 -7.7**
GYA AMB AMB
comp=Z,2μm,9.3s
GYA LR LR
comp=N,15μm,20.0s,MS5.9
GYA LR LR
comp=E,7μm,15.1s,MS5.9
GYA LR LR
comp=Z,11μm,18.6s,MS5.7
CNB Canberra Magne 36.99 153 *e*P P **09 52 34.2 +1.4**
comp=Z,258nm,1.4s,mb5.9
CHG Chiang Mai 37.13 307⇑ P P **09 52 34.2 +0.2**
comp=Z,150nm,1.0s,mb5.8
CHTO Chiang Mai 37.13 307⇑ P P **09 52 35.0 +0.9**
SNR=106
CHTO Chiang Mai 37.13 307 *e*P P **09 52 34.6 +0.6**
CHTO pmax pmax
comp=Z,318nm,0.8s,mb6.2
CHTO MLR MLR
comp=Z,18μm,21.0s,MS5.8
CHTO Chiang Mai 37.13 307 *e*P P **09 52 34.6 +0.6**
comp=Z,318nm,0.8s,mb6.2
CHTO LR LR
comp=Z,18μm,21.0s,MS5.8
JHJ Hachijo jima 2 37.26 14 LR LR 10 05 54.2
comp=Z,34μm,19.8s,MS6.2,baz=180,slow=33
TOO Toolangi 37.34 159⇑ *i*P P **09 52 37.2 +1.4**
comp=Z,133nm,1.0s,mb5.7
TOO *e*S S **09 58 22.8 +0.8**
TOO Toolangi 37.34 159⇑ *i*P P **09 52 37.2 +1.4**
TOO *e*S S **09 58 22.8 +0.8**
TOO pmax pmax
comp=Z,133nm,1.0s,mb5.7
KMI Kunming 38.22 319 P P **09 52 45.0 +1.8**
KMI XP sP 09 52 50.9 -3.0
KMI PP PP 09 54 15.1 +4.3
KMI S S **09 58 37.5 +2.1**
KMI XS sS 09 58 44.3 -3.6
KMI SS SS 10 01 14.1 -9.0
KMI SSS 10 01 46.5
KMI SCS ScS 10 02 54.4 +1.3
KMI AMB AMB
comp=Z,317nm,1.0s,mb6.0
KMI AMB AMB
comp=Z,3μm,6.4s
KMI LR LR
comp=N,10μm,17.2s,MS5.8
KMI LR LR
comp=E,10μm,18.2s,MS5.8
KMI LR LR
comp=Z,12μm,22.3s,MS5.7
MAJO Matsushiro 40.22 11 *e*P P **09 52 57.4 -2.5**
MAJO pmax pmax
comp=Z,150nm,0.9s,mb5.7
MAT Matsushiro 40.22 11 P P **09 52 57.5 -2.4**
MAT S S **09 59 03.0 -2.4**
MJAR Matsushiro Arr 40.22 11 P P **09 52 57.4 -2.5**
comp=Z,91nm,1.0s,mb5.5,baz=186,slow=9.0,SNR=54
MJAR S S **09 59 05.8 +0.4**
comp=Z,3.1nm,1.0s,baz=177,slow=4.2,SNR=3.4
MJAR LR LR 10 08 12.1
comp=Z,23μm,19.6s,MS6.0,baz=190,slow=34
MJAR Matsushiro Arr 40.22 11 P P **09 52 57.4 -2.5**
MJAR S S **09 59 05.8 +0.4**
MJAR pmax pmax
comp=Z,91nm,1.0s
MJAR smax
comp=N,3.0nm,1.0s
INCN Inchon 40.42 356 PFAKE 09 53 10.0 +8.4
INCN LR LR
comp=Z,36μm,20.0s,MS6.2
DZM Mont Dzumac 40.49 121 *e*P P **09 53 02.0 -0.2**
XAN Xi'an 41.70 334 P P **09 53 12.9 +0.8**
XAN AMB AMB
comp=Z,40nm,1.0s,mb5.0
XAN AMB AMB
comp=Z,2μm,8.1s
XAN LR LR
comp=N,5μm,16.3s,MS5.7
XAN LR LR
comp=E,7μm,18.3s,MS5.7
XAN LR LR
comp=Z,12μm,17.8s,MS5.8
CD2 Chengdu 41.77 326 P P **09 53 13.3 +0.6**
CD2 AP pP 09 53 17.9 -2.5
CD2 XP sP 09 53 20.9 -2.5
CD2 PP PP 09 54 51.8 +2.3
CD2 PCP PcP 09 55 09.9 +1.2
CD2 PCS PcS 09 59 00.1 -0.1
CD2 S S **09 59 29.0 +0.4**
CD2 SS SS 10 02 28.0 -6.8
CD2 SCS ScS 10 03 13.8 -0.3
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,790nm,4.1s
CD2 LR LR
comp=E,8μm,20.4s
CD2 LR LR
comp=Z,7μm,15.6s,MS5.7
DL2 Dalian 42.39 351 P P **09 53 19.3 +1.6**
DL2 PP PP 09 55 05.5 +9.4
DL2 PCP PcP 09 55 12.4 +1.7
DL2 SCP ScP 09 59 02.3 +2.6
DL2 S S **09 59 41.8 +4.2**
DL2 SS SS 10 02 43.4 -3.5
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,2μm,6.7s
DL2 LR LR
comp=N,6μm,17.7s,MS5.7
DL2 LR LR
comp=E,5μm,19.2s,MS5.7
DL2 LR LR
comp=Z,8μm,18.9s,MS5.6
TAU Tasmania Unive 42.73 161 P P **09 53 22.5 +2.0**
comp=Z,897nm,1.0s,mb6.5,SNR=5.6
TAU Tasmania Unive 42.73 161 *e*P P **09 53 20.5 0.0**
comp=Z,121nm,0.9s,mb5.6
TAU LR LR
comp=Z,8μm,20.0s,MS5.6
IMP Imphal 44.28 311 *e*P P **09 53 33.0 0.0**
IMP *ex* x 09 59 11.0
BJT Baijiatuau 44.59 345 *e*P P **09 53 35.9 +0.4**
BJT *e* 09 55 20.7
BJT pmax pmax
comp=Z,312nm,1.3s
BJT MLR MLR
comp=Z,14μm,20.0s
BJT Baijiatuau 44.59 345 *e*P P **09 53 35.9 +0.4**
comp=Z,312nm,1.3s,mb6.0
BJT *e* 09 55 20.7
BJT LR LR
comp=Z,14μm,20.0s,MS5.9
BJI Beijing 44.61 345 P P **09 53 35.6 0.0**
BJI S S **10 00 05.0 -5.1**
BJI SS SS 10 03 23.8 -6.5
BJI AMB AMB
comp=Z,65nm,1.4s,mb5.3
BJI AMB AMB
comp=Z,851nm,4.7s
BJI LR LR
comp=N,11μm,19.6s,MS5.9
BJI LR LR
comp=E,7μm,17.6s,MS5.9
BJI LR LR
comp=Z,9μm,18.8s,MS5.7
SNY Shenyang 45.00 354⇓ P P **09 53 38.5 -0.3**
SNY AP pP 09 53 49.0 +2.5
SNY XP sP 09 53 51.6 +2.1
SNY PP PP 09 55 23.8 -0.3
SNY S S **10 00 12.9 -2.9**
SNY XS sS 10 00 27.9 -0.5
SNY AMB AMB
comp=Z,55nm,1.4s,mb5.2
SNY AMB AMB
comp=Z,3μm,10.0s
SNY LR LR
comp=N,20μm,19.2s,MS6.1
SNY LR LR
comp=E,8μm,16.2s,MS6.1
SNY LR LR
comp=Z,15μm,21.0s,MS5.9
LZH Lanzhou 45.75 331⇑ P P **09 53 44.8 +0.1**
LZH AP pP 09 53 57.9 +5.5
LZH PP PP 09 55 35.0 +3.0
LZH SCP ScP 09 59 18.0 +4.6
LZH PCS PcS 09 59 21.0 +4.6
LZH S S **10 00 24.0 -2.6**
LZH SCS ScS 10 03 41.5 +2.4
LZH SS SS 10 03 45.5 -5.6
LZH AMB AMB
comp=Z,580nm,1.1s,mb6.4
LZH AMB AMB
comp=Z,2μm,4.0s
LZH LR LR
comp=E,25μm,15.8s
LZH LR LR
comp=Z,27μm,16.3s,MS6.3
VLA Vladivostok 46.01 2*c* *i*P P **09 53 46.2 -0.6**
VLA *i* S S **10 00 29.4 -1.0**
VLA pmax pmax
comp=Z,160nm,1.8s,mb5.7
VLA MLR MLR
comp=Z,25μm,20.0s,MS6.2
SHL Shillong 46.27 310 *i* P P **09 53 48.5 -0.3**
SHL *i* x x 10 00 30.0
ERM Erimo 46.53 14 P P **09 53 52.2 +1.3**
comp=Z,460nm,0.8s,mb6.5,SNR=6.7
ERM Erimo 46.53 14 *e*P P **09 53 52.0 +1.1**
ERM pmax pmax
comp=Z,87nm,0.9s,mb5.7
ERM MLR MLR
comp=Z,5μm,20.0s,MS5.4
ERM Erimo 46.53 14 *e*P P **09 53 52.0 +1.2**
comp=Z,87nm,0.9s,mb5.7
ERM LR LR
comp=Z,5μm,20.0s,MS5.4
HHC Hu-ho-hao-te 46.68 341 *e*P P **09 53 53.6 +1.6**
HHC AP pP 09 53 58.1 -1.6
HHC XP sP 09 54 00.6 -2.2
HHC PCP PcP 09 55 26.6 +1.2
HHC PP PP 09 55 43.6 +1.7
HHC SCP ScP 09 59 18.8 +1.5
HHC PCS PcS 09 59 19.9 -0.3
HHC S S **10 00 42.9 +2.9**
HHC XS sS 10 00 50.6 -2.1
HHC SCS ScS 10 03 45.4 +0.2
HHC AMB AMB
comp=Z,86nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,2μm,5.3s
HHC LR LR
comp=N,8μm,20.8s,MS5.9
HHC LR LR
comp=E,13μm,22.3s,MS5.9
HHC LR LR
comp=Z,13μm,23.0s,MS5.8
CN2 Changchun 46.79 356 *e*P P **09 53 54.0 +1.1**
CN2 *e*AP pP 09 54 01.0 +0.4
CN2 *e*S S **10 00 44.3 +2.8**
CN2 *e*SS SS 10 04 04.0 -4.0
CN2 AMB AMB
comp=Z,50nm,0.7s,mb5.5
CN2 AMB AMB
comp=Z,700nm,4.0s
CN2 LR LR
comp=N,21μm,21.0s,MS6.1
CN2 LR LR
comp=E,12μm,21.0s,MS6.1
CN2 LR LR
comp=Z,23μm,21.0s,MS6.1
BTO Baotou 46.98 340 *e*P P **09 53 53.8 -0.5**
MDJ Mudanjiang 47.46 0 P P **09 53 58.4 +0.3**
MDJ PCP PcP 09 55 30.8 +2.6
MDJ PP PP 09 55 48.3 -1.2
MDJ SCP ScP 09 59 23.4 +2.8
MDJ S S **10 00 50.3 -0.8**
MDJ SS SS 10 04 18.3 -0.6
MDJ AMB AMB
comp=Z,23nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,526nm,5.3s
MDJ LR LR
comp=N,12μm,21.4s,MS5.9
MDJ LR LR
comp=E,9μm,24.0s,MS5.9
MDJ LR LR
comp=Z,17μm,21.7s,MS6.0
MDJ Mudanjiang 47.46 0 *e*P P **09 53 57.6 -0.5**
comp=Z,120nm,0.9s,mb5.8
MDJ LR LR
comp=Z,18μm,21.0s,MS6.0
CAL Calcutta 47.59 304 *e*P P **09 53 58.8 -0.4**
CAL ⇑ *i*P **09 53 59.9**
CAL *e*S S **10 00 55.0 +2.0**
CAL AMP 10 25 30.3
comp=Z,11μm,15.4s
ASAJ Asahikawa 48.40 13 LR LR 10 13 44.3
comp=Z,20μm,21.0s,MS6.1,baz=206,slow=35
LSA Lhasa 49.09 314 P P **09 54 10.0 -0.7**
LSA AP pP 09 54 18.0 -0.4
LSA XP sP 09 54 23.0 +1.5
LSA PP PP 09 56 04.5 +0.2
LSA S S **10 01 13.0 -1.1**
LSA XS sS 10 01 33.0 +6.1
LSA AMB AMB
comp=Z,110nm,1.0s,mb5.8
LSA AMB AMB
comp=Z,2μm,10.2s
LSA LR LR
comp=N,5μm,27.9s,MS5.6
LSA LR LR
comp=E,8μm,27.9s,MS5.6
LSA LR LR
comp=Z,5μm,27.9s,MS5.4
LSA Lhasa 49.09 314 *e*P P **09 54 11.8 +1.1**
LSA pmax pmax
comp=Z,218nm,0.8s,mb6.2
LSA MLR MLR
comp=Z,8μm,20.0s,MS5.7
LSA Lhasa 49.09 314 *e*P P **09 54 11.8 +1.2**
comp=Z,218nm,0.8s,mb6.2
LSA LR LR
comp=Z,8μm,20.0s,MS5.7
YUK Yuzh-Kuril'sk 49.12 16 *e*P P **09 54 09.0 -1.9**
YUK *e* 09 55 59.5
YUK *e*S S **10 01 07.0 -7.5**
YUK pmax pmax
comp=Z,5μm,7.0s
YUK pmax pmax
comp=N,4μm,2.8s
YUK smax
comp=E,6μm,7.0s
YUK smax
comp=N,10μm,10.0s
YUK MLR MLR
comp=Z,6μm,16.0s,MS5.7
YUK MLR MLR
comp=N,10μm,19.0s,MS5.9
YUK MLR MLR
comp=E,6μm,18.0s,MS5.9
FUNA Funafuti 49.67 99 PFAKE 09 54 30.0 +15
FUNA LR LR
comp=Z,19μm,19.0s,MS6.1

GTK	Gangtok	49.68	310	ex	x	09 54 30.0	
PALK	Pallekele	49.80	282	P	P	09 54 17.3	+1.2
	comp=Z,522nm,1.6s,mb6.3,SNR=8.3						
PALK	Pallekele	49.80	282	eP	P	09 54 17.0	+0.9
	comp=Z,286nm,1.4s,mb6.1						
PALK				LR	LR		
	comp=Z,4µm,20.0s,MS5.4						
VIS	Vishakhapatnam	50.01	296	eP	P	09 54 17.4	-0.3
VIS				AMb	AMB	09 54 42.4	
	comp=Z,366nm,1.5s,mb6.2						
BOK	Bokaro	50.17	305	eP	P	09 54 18.5	-0.3
BOK				AMb	AMB	09 54 34.6	
	comp=Z,220nm,1.6s,mb5.9						
GTA	Gaotai	50.33	330⇑	iP	P	09 54 20.1	0.0
GTA				PCP	PcP	09 55 42.4	+3.8
GTA				PP	PP	09 56 15.4	-0.3
GTA				SCP	ScP	09 59 36.3	+3.5
GTA				S	S	10 01 28.3	-3.2
GTA				SCS	ScS	10 04 09.4	-0.2
GTA				SS	SS	10 04 57.3	-7.9
GTA				AMB	AMB		
	comp=Z,227nm,1.0s,mb6.2						
GTA				AMB	AMB		
	comp=Z,3µm,8.8s						
GTA				LR	LR		
	comp=N,9µm,23.2s,MS5.9						
GTA				LR	LR		
	comp=E,10µm,19.8s,MS5.9						
GTA				LR	LR		
	comp=Z,14µm,21.0s,MS6.0						
YSS	Yuzh-Sakhalins	51.14	12	eP	P	09 54 25.0	-1.2
YSS				e	pP	09 54 33.5	-0.5
YSS				e		09 55 44.5	
YSS				e		09 56 28.0	
YSS				iS	S	10 01 40.0	-2.7
YSS				ePS		10 01 59.0	
YSS				e		10 04 14.0	
YSS				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
YSS				MLR	MLR		
	comp=Z,10µm,20.0s,MS5.8						
YSS				MLR	MLR		
	comp=N,6µm,16.0s,MS6.0						
YSS				MLR	MLR		
	comp=E,11µm,19.0s,MS6.0						
YSS	Yuzh-Sakhalins	51.14	12	eP	P	09 54 25.3	-0.9
	comp=E,71nm,0.7s,mb5.7						
YSS				LR	LR		
	comp=Z,18µm,20.0s,MS6.1						
MDRS	Chennai	51.48	289	eP	P	09 54 27.2	-1.5
MDRS			⇑	iP		09 54 28.9	
MDRS				AMb	AMB	09 54 48.7	
	comp=Z,309nm,1.6s,mb6.0						
MDRS				ex	x	09 56 32.9	
MDRS				eS	S	10 01 46.9	-0.5
HABR	Khabarovsk	51.54	5⇓	iP	P	09 54 30.9	+1.7
HABR				eS	S	10 01 49.9	+1.7
HABR				pmax	pmax		
	comp=Z,124nm,0.9s,mb5.8						
HABR				MLR	MLR		
	comp=Z,10µm,16.0s,MS6.0						
JIRN	Jiri	51.71	309	eP	P	09 54 30.7	+0.2
	comp=Z,892nm,1.2s,mb6.6						
GUN	Gumba	52.07	309	eP	P	09 54 32.8	-0.4
	comp=Z,403nm,0.7s,mb6.5						
KLR	Kul'dur	52.11	2	eP	P	09 54 29.7	-3.8
KLR				eS	S	10 01 49.0	-7.0
KLR				pmax	pmax		
	comp=E,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,150nm,1.4s,mb5.7						
KLR				MLR	MLR		
	comp=E,10µm,16.0s						
KLR				MLR	MLR		
	comp=Z,13µm,16.0s,MS6.1						
PKI	Pulchoki	52.27	309	eP	P	09 54 34.5	-0.2
	comp=Z,127nm,0.7s,mb5.9						
KKN	Kakani	52.48	309	eP	P	09 54 36.1	-0.1
	comp=Z,394nm,0.9s,mb6.4						
DMN	Daman	52.53	308	eP	P	09 54 36.6	0.0
	comp=Z,281nm,0.8s,mb6.2						
HIA	Hailar	52.80	352	eP	P	09 54 40.5	+1.9
HIA				e		09 55 50.5	
HIA				pmax	pmax		
	comp=Z,66nm,1.0s						
HIA				MLR	MLR		
	comp=Z,24µm,20.0s						
HIA	Hailar	52.80	352	eP	P	09 54 40.5	+1.9
	comp=Z,66nm,1.0s,mb5.5						
HIA				ePcP	PcP	09 55 50.5	+2.7
HIA				LR	LR		
	comp=Z,24µm,20.0s,MS6.2						
GKN	Gorkha	53.08	309	eP	P	09 54 40.5	-0.1
	comp=Z,391nm,0.8s,mb6.4						
TRD	Trivandrum	53.67	283	eP	P	09 54 44.1	-0.9
TRD				AMb	AMB	09 54 53.1	
	comp=Z,442nm,1.5s,mb6.2						
KOLN	Koldanda	53.79	308	eP	P	09 54 45.3	-0.5
	comp=Z,776nm,0.7s,mb6.7						
QRZ	Quartz Range	53.93	140	ePN	P	09 54 48.9	+2.1
KUZ	Kuaotunu	54.06	134	ePN	P	09 54 49.8	+1.9
HYB	Hyderabad	54.24	294⇑	iP	P	09 54 48.5	-0.6
	comp=Z,424nm,1.2s,mb6.2						
HYB				ePP	PP	09 56 50.0	-1.0
HYB				ePPP		09 58 06.0	
HYB				eS	S	10 02 24.0	-1.0
HYB				eScS	ScS	10 04 39.0	+2.2
HYB				eSS	SS	10 06 08.0	+1.0
HYB				LR	LR	10 21 12.0	
	comp=Z,18nm,20.0s						
HYB	Hyderabad	54.24	294⇑	eP	P	09 54 48.0	-1.1
HYB				eS	S	10 02 24.0	-1.0
HYB				pmax	pmax		
	comp=Z,424nm,1.2s,mb6.2						
HYB	Hyderabad	54.24	294⇑	eP	P	09 54 48.0	-1.1
	comp=Z,424nm,1.2s,mb6.2						
HYB				eS	S	10 02 24.0	-1.0
HYB				eLR	LR	10 21 12.0	
ULN	Ulaanbaatar	54.40	342	eP	P	09 54 49.9	-0.4
ULN				pmax	pmax		
	comp=Z,182nm,1.0s,mb6.0						
ULN				MLR	MLR		
	comp=Z,12µm,20.0s,MS6.0						
ULN	Ulaanbaatar	54.40	342	eP	P	09 54 49.9	-0.4
	comp=Z,182nm,1.0s,mb6.0						
ULN				eScP	ScP	09 59 55.0	+4.6
ULN				LR	LR		
	comp=Z,12µm,20.0s,MS6.0						
VRZ	Vera Road	54.52	137	ePN	P	09 54 55.6	+4.4
LBZ	Lake Benmore	54.54	145	PN	P	09 54 51.5	+0.2
SONM	Songino Array	54.58	341	P	P	09 54 51.4	-0.2
	comp=Z,101nm,1.1s,mb5.8,baz=154,slow=7.0,SNR=96						
SONM				S	S	10 02 28.5	-1.1
	comp=Z,1.3nm,0.7s,baz=159,slow=9.6,SNR=2.3						
SONM				LR	LR	10 19 30.4	
	comp=Z,9µm,19.7s,MS5.8,baz=160,slow=38						
SONM				PKPPKP		10 25 07.3	
	comp=Z,1.2nm,0.9s,baz=241,slow=1.5,SNR=4.9						
SONM				PKP2bc		10 25 19.6	
	comp=Z,7.6nm,1.2s,baz=318,slow=1.9,SNR=8.2						
SONM	Songino Array	54.58	341	P	P	09 54 51.4	-0.2
SONM				S	S	10 02 28.5	-1.1
SONM				LR	LR	10 19 30.4	
SONM				P'P'		10 25 07.3	
SONM			⇑	e		10 25 19.6	
THZ	Tophouse	54.67	141	ePN	P	09 54 53.2	+0.9
	comp=Z,58nm,0.5s,mb5.8						
LTZ	Lake Taylor	54.84	142	ePN	P	09 54 55.8	+2.3
JBP	Jabalpur	54.87	301⇑	eP	P	09 54 53.7	0.0
JBP				ex	x	09 55 09.4	
	comp=Z,283nm,1.9s						
JBP				eS	S	10 02 34.8	+1.3
NGP	Nagpur	54.97	298	eP	P	09 54 52.6	-1.8
NGP				ex	x	09 54 58.9	
	comp=Z,252nm,1.2s						
NGP				ex	x	10 02 30.8	
NGP				AMP		10 21 02.3	
	comp=Z,17µm,22.6s						
SNZO	South Karori	55.58	140	PFAKE		09 55 10.0	+11
SNZO				LR	LR		
	comp=Z,40µm,19.0s,MS6.5						
BKZ	Black Stump Fm	55.72	137	PN	P	09 55 00.2	+0.4
MWZ	Matawai	56.06	135	PN	P	09 55 03.3	+1.1
RAO	Raoul Island	56.19	123	PFAKE		09 55 20.0	+17
RAO				LR	LR		
	comp=Z,9µm,21.0s,MS5.8						
LATR	Latur	56.34	294	eP	P	09 55 02.3	-2.0
CIT	Chita	56.53	348	eP	P	09 55 06.1	+0.5
CIT				e		09 56 06.8	
CIT				eS	S	10 02 55.9	+0.4
CIT				e		10 04 49.0	
CIT				pmax	pmax		
	comp=Z,767nm,1.2s,mb6.6						
MNGI	Mangalore	56.59	288	eP	P	09 55 05.5	-0.6
MNGI				AMb	AMB	09 55 25.7	
	comp=Z,275nm,1.1s,mb6.2						
MNGI				iS	S	10 02 57.1	+0.6
AKL	Akola	56.62	297	eP	P	09 55 05.5	-0.7
AKL				iP		09 55 06.9	
AKL				AMb	AMB	09 55 13.6	
	comp=Z,310nm,1.9s,mb6.0						
AKL				ix	x	10 02 52.6	
DGAR	Diego Garcia	56.98	263	P	P	09 55 11.8	+3.0
	comp=Z,3µm,0.9s,SNR=5.5						
DGAR	Diego Garcia	56.98	263	eP	P	09 55 10.2	+1.4
	comp=Z,462nm,0.9s,mb6.5						
DGAR				LR	LR		
	comp=Z,7µm,22.0s,MS5.7						
BHPL	Bhopal	57.09	300	eP	P	09 55 09.5	-0.1
BHPL				AMb	AMB	09 55 24.2	
	comp=Z,321nm,1.4s,mb6.2						
LGTI	Lohaghat	57.17	308	ix	x	09 55 31.5	
MNCY	Minicoy	57.46	282	ix	x	09 55 21.0	
MNCY				ix	x	09 57 51.0	
ZAK	Zakamensk	57.82	340	eP	P	09 55 14.6	-0.1
ZAK				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.4						
SKR	Severo-Kuril's	58.18	20	eP	P	09 55 12.0	-5.3
SKR				e		09 56 05.0	
SKR				e		09 57 33.0	
SKR				eS	S	10 03 12.0	-5.3
SKR				ePS		10 03 28.0	
SKR				pmax	pmax		
	comp=Z,270nm,1.0s,mb6.2						
SKR				pmax	pmax		
	comp=N,2µm,2.0s						
SKR				pmax	pmax		
	comp=N,3µm,8.0s						
SKR				pmax	pmax		
	comp=Z,5µm,8.0s						
SKR				pmax	pmax		
	comp=E,3µm,4.0s						
SKR				smax			
	comp=N,7µm,10.0s						
SKR				smax			
	comp=E,5µm,10.0s						
SKR				MLR	MLR		
	comp=N,3µm,16.0s,MS5.8						
SKR				MLR	MLR		
	comp=E,6µm,16.0s,MS5.8						
SKR				MLR	MLR		
	comp=Z,6µm,16.0s,MS5.8						
KAD	Karad	58.22	292	eP	P	09 55 16.3	-1.3
KAD				AMb	AMB	09 55 24.3	
	comp=Z,167nm,1.1s,mb6.0						
TLY	Talaya	58.81	341	P	P	09 55 23.1	+1.4
	comp=Z,633nm,1.4s,mb6.5,SNR=28						
TLY	Talaya	58.81	341	P	P	09 55 24.0	+2.4
	SNR=72						
TLY	Talaya	58.81	341c	iP	P	09 55 21.2	-0.5
TLY				e		09 57 37.8	
TLY				eS	S	10 03 22.5	-3.0
TLY				ePS		10 03 40.6	
TLY				e		10 05 12.0	
TLY				pmax	pmax		
	comp=Z,207nm,1.4s,mb6.0						
TLY	Talaya	58.81	341	eP	P	09 55 21.5	-0.1
	comp=Z,180nm,1.3s,mb5.9						
TLY				LR	LR		
	comp=Z,2µm,22.0s,MS5.2						
POO	Poona	58.85	294⇑	ix	P	09 55 17.0	-4.9
	comp=Z,227nm,1.2s,mb6.1						
POO				ex	x	09 55 46.7	
POO				ePCP	PcP	09 56 11.5	+0.3
POO				ex	x	09 57 25.5	
POO				ex	x	09 58 46.0	
POO				ix	x	10 03 12.0	
AFI	Afiamalu	58.89	104	LR	LR	10 18 46.3	
	comp=Z,9µm,21.4s,MS5.9,baz=280,slow=34						
AFI	Afiamalu	58.89	104	eP	P	09 55 24.0	+1.8
AFI				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.9						
AFI				MLR	MLR		
	comp=Z,9µm,21.0s,MS5.9						
AFI	Afiamalu	58.89	104	eP	P	09 55 24.0	+1.8
	comp=Z,107nm,0.8s,mb5.9						
AFI				LR	LR		
	comp=Z,9µm,21.0s,MS5.9						
IRK	Irkutsk	59.10	342	eP	P	09 55 24.8	+1.1
IRK				eS	S	10 03 30.9	+1.6
IRK				e		10 05 12.1	
IRK				pmax	pmax		
	comp=Z,457nm,2.8s,mb6.0						
NDI	New Delhi	59.27	306	eP	P	09 55 23.0	-1.9
NDI				eP		09 55 24.3	
NDI				AMb	AMB	09 55 36.8	
	comp=Z,243nm,1.2s,mb6.1						
NDI				ex	x	10 03 26.0	
MOY	Mondy	59.68	340	eP	P	09 55 28.3	+0.6
MOY				pmax	pmax		
	comp=Z,740nm,2.9s,mb6.2						
MIDW	Midway	59.71	55	PFAKE		09 55 40.0	+12
MIDW				LR	LR		
	comp=Z,11µm,20.0s,MS6.0						
CLNS	Chul'man	59.82	357	eP	P	09 55 28.1	-0.5
CLNS				e*PP	pP	09 55 35.6	-0.9
CLNS				e		09 56 17.1	
CLNS				eS	S	10 03 26.7	-12
CLNS				ePS		10 03 56.8	
CLNS				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.8						
CLNS				pmax	pmax		
	comp=N,46nm,0.8s						
CLNS				pmax	pmax		
	comp=E,35nm,0.8s						
CLNS				smax			
	comp=E,3µm,13.3s						
CLNS				smax			
	comp=Z,1µm,10.4s						
CLNS				smax			
	comp=N,1µm,11.6s						
CLNS				MLR	MLR		
	comp=N,2µm,16.0s,MS5.7						
CLNS				MLR	MLR		
	comp=Z,5µm,16.0s,MS5.8						
CLNS				MLR	MLR		
	comp=E,3µm,15.0s,MS5.7						
WMQ	Urumqi	59.87	326⇑	iP	P	09 55 28.9	-0.1
WMQ				PCP	PcP	09 56 15.0	-0.3
WMQ				PP	PP	09 57 46.0	+4.8
WMQ				SCP	ScP	10 00 14.0	-0.6
WMQ				S	S	10 03 37.5	-1.7
WMQ				PS		10 03 56.0	
WMQ				SCS	ScS	10 05 15.0	-2.8
WMQ				SS	SS	10 07 37.0	+1.4
WMQ				AMB	AMB		
	comp=Z,338nm,1.1s,mb6.3						
WMQ				AMB	AMB		
	comp=Z,3µm,4.7s						
WMQ				LR	LR		
	comp=N,13µm,23.8s,MS6.1						
WMQ				LR	LR		
	comp=E,7µm,20.6s,MS6.1						
WMQ				LR	LR		
	comp=Z,9µm,19.0s,MS5.9						
BOM	Bombay	59.89	294	ex	P	09 55 31.7	+2.5
	comp=Z,201nm,1.8s,mb5.8						
BOM				ex	x	09 57 28.3	
SMLA	Simla	60.29	309	eP	P	09 55 31.5	-0.4
SMLA				AMb	AMB	09 55 43.9	
	comp=Z,921nm,1.9s,mb6.5						
AJM	Ajmer	60.58	303	eP	P	09 55 32.7	-1.1
AJM				AMb	AMB	09 55 40.9	
	comp=Z,129nm,1.1s,mb6.0						
SDNR	Sundarnagar	60.60	309	eP	P	09 55 33.6	-0.4
SDNR				eS	S	10 03 48.4	-0.2
BHK	Bhakra	61.00	309	ex	P	09 55 40.6	+3.9
PET	Petropavlovsk	61.00	20κ	iP	P	09 55 36.7	0.0
PET				iS	S	10 03 53.5	-0.2
PET				pmax	pmax		
	comp=E,67nm,1.1s						
PET				pmax	pmax		
	comp=Z,474nm,1.1s,mb6.5						
PET				pmax	pmax		
	comp=N,146nm,1.0s						
PET				smax			
	comp=E,4µm,5.4s						
PET				smax			
	comp=N,5µm,7.3s						
PET	Petropavlovsk	61.00	20	eP	P	09 55 36.6	-0.1
	comp=N,326nm,1.0s,mb6.4						
PET				LR	LR		
	comp=Z,12µm,21.0s,MS6.0						
DLH	Dalhousie	61.80	310	eP	P	09 55 42.0	-0.1
DLH				ex	x	09 56 03.0	
THN	Thein Dam	61.95	309	ex	P	09 55 39.5	-3.6
BOD	Bodaibo	61.96	351⇑	iP	P	09 55 42.7	-0.5
BOD				pmax	pmax		
	comp=Z,194nm,1.2s,mb6.1						
DRV	Dumont d'Urvil	63.91	175	P	P	09 55 56.0	-0.1
DRV				S	S	10 04 29.0	-1.3
DRV				L		10 12 00.0	
DRV				R		10 16 00.0	
CASY	Casey	64.50	188	eP	P	09 55 58.8	-1.3
CASY				eS	S	10 04 38.9	+1.3
MA2	Magadan	64.65	12	eP	P	09 56 01.3	+0.3
MA2				eS	S	10 04 37.4	-2.0
MA2				e		10 05 14.3	
MA2				e		10 05 51.6	
MA2				pmax	pmax		
	comp=Z,200nm,1.3s,mb6.0						
MA2				MLR	MLR		
	comp=Z,4µm,18.9s,MS5.7						
MA2	Magadan	64.65	12	eP	P	09 56 00.9	-0.1
	comp=Z,132nm,0.9s,mb6.0						
MA2				LR	LR		
	comp=Z,8µm,21.0s,MS5.9						
MK31	Makanchi Array	64.71	326	P	P	09 56 00.2	-1.2
MK31				pmax	pmax		
	comp=Z,106nm,0.8s,mb5.9						
MKAR	Makanchi Array	64.71	326	P	P	09 56 01.5	+0.1
	comp=Z,133nm,0.9s,mb6.0						
MKAR	Makanchi Array	64.71	326	P	P	09 56 01.5	+0.1
MKAR				pmax	pmax		
	comp=Z,133nm,0.9s						
KSH	Kashi	64.84	317⇑	iP	P	09 56 03.3	+1.1
KSH				eAP	pP	09 56 07.4	-2.8
KSH				eXP	sP	09 56 10.3	-2.9
KSH				ePCP	PcP	09 56 36.0	+0.5
KSH				ePP	PP	09 58 27.1	+2.2
KSH				ePPP		10 00 01.0	
KSH				eSCP		10 00 37.0	
KSH				ePCS		10 00 39.3	
KSH				eS	S	10 04 41.1	-0.6
KSH				eSCS	ScS	10 05 53.1	-2.2
KSH				eSS	SS	10 08 54.3	+1.0
KSH				AMB	AMB		
	comp=Z,3µm,3.7s						
KSH				LR	LR		
	comp=N,7µm,14.8s,MS6.2						
KSH				LR	LR		
	comp=E,9µm,14.3s,MS6.2						
KSH				LR	LR		
	comp=Z,11µm,17.5s,MS6.1						
YAK	Yakutsk	64.91	0	eP	P	09 56 01.6	-1.1
YAK				e*PP	pP	09 56 10.4	-0.3
YAK				e		09 56 37.3	
YAK				eS	S	10 04 37.4	-5.2
YAK				e*SS	sS	10 04 56.9	+1.2
YAK				e		10 05 54.6	
YAK				pmax	pmax		
	comp=Z,475nm,1.1s,mb6.4						
YAK				pmax	pmax		
	comp=N,92nm,1.0s						
YAK				smax			
	comp=N,18nm,1.2s						
YAK				smax			
	comp=Z,4.0nm,0.8s						
YAK	Yakutsk	64.91	0	eP	P	09 56 01.8	-0.9
YAK				LR	LR		
	comp=Z,10µm,20.0s,MS6.0						
AAA	Alma-Ata	65.99	321	iP	P	09 56 07.0	-2.7
AAA				eS	S	10 04 54.1	-1.7
AAA				pmax	pmax		
	comp=Z,4µm,4.9s						
AAA				smax			
	comp=N,7µm,11.2s						
AAA				MLR	MLR		
	comp=Z,6µm,18.4s,MS5.8						
TKM2	Tokmak 2	66.68	320	P	P	09 56 14.7	+0.5
	SNR=49						
TKM2	Tokmak 2	66.68	320	iP	P	09 56 12.8	-1.3
KBK	Karagaybulak	66.98	319	P	P	09 56 18.3	+2.3
	SNR=18						
SMY	Shemya	67.00	28	eP	P	09 56 17.0	+0.8
SMY				pmax	pmax		
	comp=Z,405nm,1.0s,mb6.4						
SMY				MLR	MLR		
	comp=Z,14µm,22.0s,MS6.2						
SMY	Shemya	67.00	28	eP	P	09 56 17.0	+0.8
	comp=Z,405nm,1.0s,mb6.4						
SMY				LR	LR		
	comp=Z,14µm,22.0s,MS6.2						
UCH	Uchtor	67.07	319	P	P	09 56 14.0	-2.6
	SNR=5.6						
AAK	Ala-Archa	67.27	319	P	P	09 56 19.4	+1.6
	SNR=25						
AAK	Ala-Archa	67.27	319	P	P	09 56 18.2	+0.4
	comp=Z,461nm,1.2s,mb6.4,SNR=24						
AAK	Ala-Archa	67.27	319	eP	P	09 56 18.3	+0.5
AAK				pmax	pmax		
	comp=Z,217nm,1.4s,mb6.0						
AAK				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
AAK	Ala-Archa	67.27	319	eP	P	09 56 18.3	+0.5
	comp=Z,216nm,1.4s,mb6.0						
AAK				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
CHMS	Chumysh	67.27	319	P	P	09 56 17.4	-0.4
	SNR=11						
FRU	Bishkek	67.28	319	iP	P	09 56 19.0	+1.1
FRU				i		09 56 30.0	
FRU				iS	S	10 05 13.0	+1.6
FRU				e		10 06 14.0	
FRU				pmax	pmax		
	comp=Z,160nm,2.2s,mb5.7						
FRU				smax			
	comp=N,8µm,8.0s						
FRU				MLR	MLR		
	comp=Z,8µm,20.0s,MS5.9						
USP	Ospenovka	67.56	320	P	P	09 56 19.4	-0.3
	SNR=65						
AML	Almayashu	67.57	318	P	P	09 56 20.8	+1.1
	SNR=13						
EKS2	Erkin-Say	67.75	319	P	P	09 56 21.7	+0.8
	SNR=34						
ZAL	Zalesovo	67.87	333	P	P	09 56 21.3	-0.4
	comp=Z,165nm,1.0s,mb6.0,baz=358,slow=6.2,SNR=76						
ZAL				PKP2bc		10 24 44.6	
	comp=Z,8.0nm,1.1s,baz=191,slow=1.4,SNR=8.1						
ZAL				LR	LR	10 29 01.3	
	comp=Z,7µm,21.7s,MS5.8,baz=336,slow=39						
ZAL	Zalesovo	67.87	333	P	P	09 56 21.3	-0.4
ZAL			⇑	e		10 24 44.6	
ZAL				LR	LR	10 29 01.3	
SEY	Seymchan	68.05	11⇑	eP	P	09 56 22.1	-0.6
MIR	Mirnyy	68.30	195	eP	P	09 56 24.0	-0.4
MIR				eS	S	10 05 26.0	+2.3
MIR				ePS		10 05 52.0	
MIR				pmax	pmax		
	comp=Z,160nm,1.0s,mb6.0						
MIR				pmax	pmax		
	comp=Z,4µm,12.0s						
MIR				MLR	MLR		
	comp=N,9µm,20.0s,MS6.1						
MIR				MLR	MLR		
	comp=E,6µm,20.0s,MS6.1						
MIR				MLR	MLR		
	comp=Z,24µm,20.0s,MS6.4						
AMKA	Amchitka	68.72	31	eP	P	09 56 25.4	-1.5
KURK	Kurchatov	68.94	328	P	P	09 56 27.8	-0.5
	comp=Z,3µm,0.9s						
NVS	Novosibirsk	69.16	333	eP	P	09 56 27.2	-2.5
NVS				eS	S	10 05 21.5	-12
NVS				pmax	pmax		

comp=N,381nm,1.4s
NVS pmax pmax
comp=E,306nm,1.4s
NVS pmax pmax
comp=Z,477nm,1.4s,mb6.2
NVS smax
comp=N,505nm,2.5s
NVS smax
comp=E,327nm,2.5s
KK31 Karatay Array 70.10 318 *i* P **P 09 56 34.4 -1.1**
KKAR Karatay Array 70.10 318 *i* P **P 09 56 34.3 -1.2**
KKAR pmax pmax
comp=Z,410nm,1.7s,mb6.1
VOSK Vostochnaya 74.05 327 P **P 09 56 57.7 -1.5**
VOSK pmax pmax
comp=Z,144nm,1.1s,mb5.8
BVA0 Borovoye Array 74.51 327 *i* P **P 09 57 01.1 -0.7**
BVA0 pmax pmax
comp=Z,75nm,1.4s,mb5.4
BVAR Borovoye Array 74.51 327 PKPPKP 10 24 31.3
comp=Z,0.5nm,0.3s,baz=264,slow=1.5,SNR=4.8
BVAR LR LR 10 32 02.3
comp=Z,4μm,20.2s,MS5.7,baz=139,slow=38
TIXI Tiksi 74.57 360 *e*P **P 09 57 00.4 -1.8**
TIXI *e*S S 10 06 32.2 -3.9
BRVK Borovoye 74.58 327 P **P 09 57 01.6 -0.6**
comp=Z,1μm,0.9s,mb6.8,SNR=24
BRVK Borovoye 74.58 327 *e*P **P 09 57 01.6 -0.7**
comp=Z,183nm,1.1s,mb5.9
BRVK LR LR
comp=Z,819nm,22.0s,MS5.0
CHKZ Chkalovo 74.69 328 *e*P **P 09 57 01.8 -1.1**
CHKZ pmax pmax
comp=Z,116nm,0.8s,mb5.9
CHKZ Chkalovo 74.69 328 *e*P **P 09 57 01.8 -1.0**
comp=Z,116nm,0.8s,mb5.9
HON Honolulu 74.84 67 *e*P **P 09 57 06.5 +2.7**
KIP Kipapa 74.85 67 *e*P **P 09 57 05.7 +1.9**
comp=Z,269nm,1.4s,mb6.0
KIP LR LR
comp=Z,11μm,20.0s,MS6.2
HOQ Hoqain 75.02 295 P **P 09 57 05.7 +0.9**
SNR=19
ZRNK Zerenda 75.22 327 *e*P **P 09 57 04.9 -1.1**
ZRNK pmax pmax
comp=Z,209nm,0.9s,mb6.1
ZRNK Zerenda 75.22 327 *e*P **P 09 57 04.9 -1.0**
comp=Z,209nm,0.9s,mb6.1
BILL Bilibino 75.41 13 *e*P **P 09 57 07.0 0.0**
BILL *e* 09 57 18.9
BILL *e* 09 59 55.1
BILL *e*S S 10 06 48.4 +3.0
BILL *e*SS SS 10 11 37.1 +1.2
BILL pmax pmax
comp=Z,32nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,13μm,21.0s,MS6.2
BILL Bilibino 75.41 13 *e*P **P 09 57 07.1 +0.1**
BILL LR LR
comp=Z,12μm,20.0s,MS6.2
ARQ Araqi 75.69 295 P **P 09 57 09.6 +0.9**
SNR=20
NIKO Nikolski 75.82 33 *e*P **P 09 57 09.7 +0.3**
HATD Hatta, Dubai 76.29 296 P **P 09 57 13.8 +1.8**
SNR=11
ASHO Ashiyiah 76.33 296 P **P 09 57 14.1 +1.8**
SNR=15
VNDA Vanda 76.39 173 P **P 09 57 11.4 -1.2**
comp=Z,47nm,0.8s,mb5.5,baz=322,slow=6.4,SNR=64
VNDA S S 10 06 56.7 +0.5
comp=Z,1.1nm,1.0s,baz=90,slow=20,SNR=7.0
VNDA LR LR 10 29 58.6
comp=Z,15μm,20.3s,MS6.3,baz=339,slow=35
VNDA Vanda 76.39 173 P **P 09 57 11.4 -1.2**
VNDA S S 10 06 56.7 +0.5
VNDA pmax pmax
comp=Z,47nm,0.8s
VNDA smax
comp=N,1.0nm,1.0s
VNDA Vanda 76.39 173 *e*P **P 09 57 11.6 -1.0**
comp=N,38nm,0.7s,mb5.4
VNDA LR LR
comp=Z,15μm,20.0s,MS6.3
POHA Pohakuloa 76.89 69 PFAKE 09 57 30.0 +15
POHA LR LR
comp=Z,7μm,20.0s,MS6.0
RBK Rabkut 76.97 289 P **P 09 57 17.2 +1.3**
SNR=9.1
SBA Scott Base 77.28 172 *e*P **P 09 57 17.4 -0.2**
comp=Z,75nm,1.0s,mb5.6
SBA LR LR
comp=Z,11μm,19.0s,MS6.2
ABKT Ailbek 77.34 310 P **P 09 57 19.9 +1.9**
SNR=17
ABKT Ailbek 77.34 310 P **P 09 57 19.6 +1.7**
VAN Vannovskaya 77.35 310 *e*P **P 09 57 17.8 -0.2**
UNV Unalaska Valle 77.46 33 PFAKE 09 57 30.0 +11
UNV LR LR
comp=Z,35μm,21.0s,MS6.7
ABTO Aybut 77.81 288 P **P 09 57 21.7 +1.1**
SNR=9.1
AKUT Akutan 77.97 33 *e*P **P 09 57 23.3 +1.8**
MAW Mawson 78.43 201 ⇓ *i*P **P 09 57 23.0 -1.0**
comp=Z,110nm,0.9s,mb5.8
MAW *e*S S 10 07 07.1 -11
MAW Mawson 78.43 201 P **P 09 57 24.0 0.0**
comp=Z,170nm,1.0s,mb5.9,baz=64,slow=6.7,SNR=107
MAW PKKPbc PKKPbc 10 16 21.1 +0.5
comp=Z,2.7nm,0.6s,baz=218,slow=5.5,SNR=8.1
MAW LR LR 10 30 08.3
comp=Z,14μm,21.1s,MS6.3,baz=78,slow=34
PPT Papeete 80.40 107 *e*LQ 10 19 16.4
comp=Z,8μm,24.8s
PPT Papeete 80.40 107 *e*PP PP 10 00 36.8 -1.0
comp=Z,752nm,26.5s
PPT Papeete 80.40 107 *e*S S 10 07 38.4 -0.8
comp=Z,17μm,25.8s
PPT *e*SS SS 10 12 48.3 -2.7
comp=Z,8μm,32.5s
PPT *e*LR LR 10 22 44.9
comp=Z,17μm,30.0s
PPT Papeete 80.40 107 P **P 09 57 39.7 +4.9**
comp=Z,34nm,0.7s,mb5.4,baz=209,slow=16,SNR=2.9
PPT LR LR 10 28 31.0
comp=Z,4μm,21.8s,MS5.7,baz=270,slow=32
AKTK Aktyubinsk 80.70 322 *i* P **P 09 57 35.5 -0.9**
AKTO Aktyubinsk 80.70 322 S S 10 07 41.5 -0.9
comp=Z,1.1nm,0.5s,baz=317,slow=23,SNR=15
AKTO PKKPbc PKKPbc 10 16 22.3 +6.7
comp=Z,1.6nm,0.8s,baz=310,slow=1.1,SNR=3.6
AKTO Aktyubinsk 80.70 322 *i* P **P 09 57 35.5 -0.9**
SVE Sverdlovsk 81.18 329 ⇑ *e*P **P 09 57 36.0 -2.9**
SVE *e*PPP 10 02 32.0
SVE *i* S S 10 07 46.0 -1.4
SVE *e*SS SS 10 13 00.0 -2.7
SVE pmax pmax
comp=N,500nm,8.0s
SVE pmax pmax
comp=E,1μm,8.0s
SVE pmax pmax
comp=Z,3μm,8.0s
SVE smax
comp=N,6μm,7.0s
SVE smax
comp=E,6μm,7.0s
SVE MLR MLR
comp=N,1μm,15.0s,MS5.3
SVE MLR MLR
comp=E,400nm,15.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,15.0s,MS5.5
MUKL Al Mukalla 81.58 285 ⇑ *e*P **P 09 57 42.4 +1.4**
TNA Tin City 81.75 22 *e*P **P 09 57 42.1 +0.2**
comp=Z,13nm,0.7s,mb5.0
TNA LR LR
comp=Z,4μm,21.0s,MS5.7
ARU Arti 82.14 328 P **P 09 57 42.8 -1.2**
comp=Z,1μm,0.9s,mb6.8,SNR=27
ARU Arti 82.14 328 *e*P **P 09 57 42.9 -1.1**
ARU *e* 10 00 51.0
ARU *e*S S 10 07 56.0 -1.3
ARU *e*SS SS 10 13 10.7 -6.3
ARU Arti 82.14 328 PFAKE 09 57 50.0 +6.0
ARU LR LR
comp=Z,1μm,21.0s,MS5.3
SOKR Solikamsk 83.96 331*c* *i*P **P 09 57 52.7 -0.7**
SOKR PPP 10 01 06.9
SOKR S S 10 02 54.3
SOKR SS SS 10 08 10.7 -5.1
SOKR pmax pmax 10 13 39.1 -4.9
comp=Z,320nm,1.1s,mb6.4
QRN Al-Qurain 84.12 299 *e*P **P 09 57 53.5 -0.7**
QRN AMb AMB 09 57 57.2
comp=Z,308nm,0.7s,mb6.5
UMR Umm Al-Rimmam 84.39 300 *e*P **P 09 57 55.5 -0.1**
UMR AMb AMB 09 57 58.6
comp=Z,224nm,0.6s,mb6.4
RDF Al-Radifah 84.46 299 *e*P **P 09 57 55.8 -0.2**
RDF AMb AMB 09 57 59.0
comp=Z,208nm,0.7s,mb6.4
MIB Mutribah 84.75 300 *e*P **P 09 57 57.1 -0.3**
MIB AMb AMB 09 58 00.4
comp=Z,269nm,0.7s,mb6.5
NAY Al-Naaiem 84.77 300 *e*P **P 09 57 57.1 -0.4**
NAY AMb AMB 09 58 00.4
comp=Z,199nm,0.6s,mb6.4
LBOS 85.19 284 ⇑ *e*P **P 09 58 01.6 +2.0**
SVW2 Sparrevohn 85.40 28 *e*P **P 09 58 01.1 +0.4**
TTA Tatalina 85.68 26 *e*P **P 09 58 02.2 +0.1**
KDAK Kodiak Island 86.12 32 P **P 09 58 06.8 +2.5**
comp=Z,678nm,1.1s,mb6.8,SNR=5.3
KDAK Kodiak Island 86.12 32 *e*P **P 09 58 04.3 0.0**
comp=Z,102nm,0.8s,mb6.1
KDAK LR LR
comp=Z,2μm,22.0s,MS5.6
MAK Makhachkala 86.24 313 *e*P **P 09 58 02.2 -2.6**
MAK *i* 09 58 18.9
MAK *e* 10 01 19.1
MAK *e*S S 10 08 25.9 -12
MAK *e*SS SS 10 14 20.4 +2.9
MAK pmax pmax
comp=Z,437nm,1.0s,mb6.6
MAK smax
comp=E,9μm,13.9s
MAK smax
comp=N,16μm,8.7s
QSPA South Pole Qui 86.89 180 *e*P **P 09 58 07.1 -0.9**
comp=N,166nm,1.0s,mb6.2
QSPA LR LR
comp=Z,2.0nm,22.0s
SYO Syowa Base 87.15 201 ⇓ *e*P **P 09 58 07.8 -1.5**
SYO Syowa Base 87.15 201 ⇓ *i*PcP PcP 09 58 10.5 -0.9
SYO Syowa Base 87.15 201 ⇓ *i*pP pP 09 58 14.6 -2.9
BHD Baghdad 87.61 303 *i* x x 09 58 08.0
BHD *i* x x 09 58 34.0
BHD Baghdad 87.61 303 *i* x x 10 08 48.0
BHD *i* x x 10 09 06.0
BHD *e*x x 10 09 54.0
DGRG David-gareji 87.63 312 P **P 09 58 12.9 +1.3**
SLKM Skilak Lake 87.84 29 *e*P **P 09 58 12.1 -0.5**
GNI Garni 87.97 310*c* *i*P **P 09 58 13.5 +0.3**
GNI pmax pmax
comp=Z,211nm,2.5s
GNI MLR MLR
comp=Z,4μm,23.0s
GNI Garni 87.97 310 PFAKE 09 58 20.0 +6.8
GNI LR LR
comp=Z,4μm,21.0s,MS5.8
MTA Mtatsminda 88.09 312 P **P 09 58 13.9 +0.1**
TBLG Delisi 88.13 312 P **P 09 58 15.8 +1.8**
DUS Dusheti 88.19 312 P **P 09 58 19.2 +4.9**
KZR Kazreti 88.34 311 P **P 09 58 18.0 +3.0**
PMR Palmer 88.54 28 *e*P **P 09 58 15.2 -0.7**
PMR Palmer 88.54 28 PFAKE 09 58 30.0 +14
PMR LR LR
comp=Z,9μm,21.0s,MS6.2
ZEI Tsey 88.85 313 *e*P **P 09 58 16.5 -0.9**
ZEI *e**PP pP 09 58 26.2 +0.6
ZEI *e* 10 01 48.7
ZEI pmax pmax
comp=Z,56nm,0.9s,mb5.9
MSL Mosul 88.93 306 *ex* x 09 58 26.0
MSL Mosul 88.93 306 *ex* x 10 08 54.0
MSL *ex* x 10 09 07.0
MCK McKinley 88.97 26 *e*P **P 09 58 18.3 +0.4**
MCK pmax pmax
comp=Z,59nm,1.0s,mb5.9
MCK McKinley 88.97 26 PFAKE 09 58 30.0 +12
MCK LR LR
comp=Z,4μm,20.0s,MS5.8
ONI Oni 89.17 313 P **P 09 58 18.2 -0.6**
COLA College 89.60 25 *e*P **P 09 58 21.1 +0.2**
COLA pmax pmax
comp=Z,24nm,0.9s,mb5.5
COLA MLR MLR
comp=Z,6μm,22.0s,MS6.0
COLA College 89.60 25 *e*P **P 09 58 21.1 +0.2**
comp=Z,24nm,0.9s,mb5.5
COLA LR LR
comp=Z,6μm,22.0s,MS6.0
KIV Kislovodsk 89.83 314 P **P 09 58 23.8 +1.8**
comp=Z,382nm,0.7s,mb6.8,SNR=6.8
KIV Kislovodsk 89.83 314 ⇓ P **P 09 58 22.9 +1.0**
SNR=9.0
KIV Kislovodsk 89.83 314*c* *i*P **P 09 58 21.3 -0.7**
KIV *e*S SKSac 10 08 53.2 +2.2
KIV pmax pmax
comp=Z,41nm,1.2s,mb5.6
KIV Kislovodsk 89.83 314 PFAKE 09 58 30.0 +8.0
KIV LR LR
comp=Z,963nm,20.0s,MS5.2
TAOE Nuku Hiva Isla 89.84 99 *e*S S 10 09 10.8 -1.9
comp=Z,26μm,28.6s
TAOE *e*SS SS 10 15 10.5 +0.4
comp=Z,11μm,29.3s
TAOE *e*LR LR 10 27 06.7
comp=Z,26μm,25.2s
PECR Pechory 90.00 326 *e*P **P 09 58 22.0 -0.8**
PECR *i* 10 08 51.0
PECR *e*S S 10 09 06.0 -8.1
PECR *e* 10 10 13.3
PECR pmax pmax
comp=Z,290nm,2.0s,mb6.3
PECR pmax pmax
comp=Z,2μm,9.0s
PECR smax
comp=N,10μm,6.0s
PECR smax
comp=E,2μm,6.0s
KMBO Kilima Mbogo 92.22 269 P **P 09 58 34.9 +1.8**
comp=E,26nm,0.9s,mb5.6,baz=51,slow=6.7,SNR=33
KMBO PP PP 10 02 12.3 -1.1
comp=E,5.1nm,1.0s,baz=86,slow=7.5,SNR=3.9
KMBO LR LR 10 36 23.9
comp=E,21μm,21.4s,MS6.5,baz=94,slow=33
KMBO Kilima Mbogo 92.22 269 P **P 09 58 34.9 +1.8**
KMBO PP PP 10 02 12.3 -1.1
KMBO LR LR 10 36 23.9
EGAK Eagle 92.45 25 *e*P **P 09 58 33.3 -0.8**
EGAK *e*PP PP 10 02 15.1 -0.1
VORD Divnogorie 92.51 321 *e*P **P 09 58 34.3 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,20nm,1.6s
VRSR Storozhevoye 92.58 321*c* *i*P **P 09 58 32.3 -2.4**
VRSR *e* 10 09 03.3
VRSR *e*S S 10 09 33.0 -4.6
VRSR pmax pmax
comp=Z,200nm,3.6s
VRSR pmax pmax
comp=N,70nm,3.7s
VRSR smax
comp=N,3μm,6.9s
VRSR smax
comp=Z,290nm,3.3s
VRSR smax
comp=E,1μm,3.2s
VOR Voronezh 92.59 321 P **P 09 58 40.0 +5.2**
VOR pmax pmax
comp=Z,150nm,2.2s,mb6.0
MALT Malatya 92.75 308 ⇓ *i*P **P 09 58 38.3 +2.8**
MALT Malatya 92.75 308 *e*P **P 09 58 35.9 +0.4**
MALT *e* 10 02 18.8
MALT pmax pmax
comp=Z,67nm,1.4s,mb5.9
MALT Malatya 92.75 308 *e*P **P 09 58 35.9 +0.3**
comp=Z,67nm,1.4s,mb5.9
MALT *e*PP PP 10 02 18.8 +1.2
TMCR Tamitsa 93.39 334 *e*P **P 09 58 34.7 -3.8**
TMCR pmax pmax
comp=Z,120nm,1.2s,mb6.2
MOS Moscow 93.59 326 *e*P **P 09 58 38.1 -1.3**
MOS *e* 10 02 24.7
MOS *e*PPP 10 04 32.8
MOS *e*S SKSac 10 09 10.1 -2.1
MOS *e* 10 09 39.2
MOS *e* 10 10 57.0
MOS pmax pmax
comp=Z,300nm,2.3s,mb6.3
ANN Anapa 93.63 315 *e*P **P 09 58 37.6 -2.0**
ANN *i* *PP pP 09 58 47.5 -0.3
ANN *e* 10 02 22.2
ANN *e*S SKSac 10 09 09.2 -3.3
ANN *i* 10 09 43.6
ANN *e*PS PS 10 11 09.3 +6.0
ANN *e*SS SS 10 16 02.8 -1.8
ANN pmax pmax
comp=Z,113nm,1.3s,mb6.1
ASF Jabal al Asfar 93.85 302 LR LR 10 46 58.4
comp=Z,3μm,20.1s,MS5.8,baz=96,slow=39
RKT Rikitea 93.85 113 *e*S S 10 09 44.7 -4.1
comp=Z,7μm,30.8s
RKT *e*SS SS 10 16 07.5 -0.3
comp=Z,3μm,29.0s
RKT *e*LR LR 10 28 53.3
comp=Z,7μm,31.8s
OBN Obninsk 94.19 325*d* *i*P **P 09 58 41.2 -1.0**
OBN S SKSac 10 09 17.1 +1.6
OBN *e*SS SS 10 16 14.5 +1.9
OBN pmax pmax
comp=Z,75nm,1.2s,mb6.0
OBN MLR MLR
comp=Z,7μm,23.0s,MS6.1
OBN Obninsk 94.19 325 PFAKE 09 58 50.0 +7.8
OBN LR LR
comp=Z,2μm,20.0s,MS5.6
LVZ Lovozero 94.66 338 *e*P **P 09 58 43.9 -0.4**
LVZ S SKSac 10 09 14.4 -3.7
LVZ pmax pmax
comp=Z,73nm,1.1s,mb6.0
LVZ pmax pmax
comp=N,7.0nm,0.8s
LVZ pmax pmax
comp=E,7.0nm,0.9s
LVZ smax
comp=Z,602nm,3.8s
LVZ smax
comp=N,301nm,2.8s
LVZ smax
comp=E,1μm,5.3s
LVZ Lovozero 94.66 338 ⇑ *e*P **P 09 58 43.5 -0.8**
BHL Bhannes 94.92 304 *e*P **P 09 58 45.5 0.0**
APA Apatity 95.16 337 ⇓ *i*P **P 09 58 41.8 -4.8**
APA *i* 10 02 39.0
APA *i* 10 09 20.0
APA *i*S S 10 09 56.0 -4.2
APA *i*PS PS 10 11 21.0 +0.9
APA *i*SS SS 10 16 22.0 -4.4
APA pmax pmax
comp=Z,45nm,1.1s,mb5.8
SKAG Skagway 95.23 31 *e*P **P 09 58 44.8 -2.1**
comp=Z,20nm,1.0s,mb5.5
SKAG LR LR
comp=Z,6μm,23.0s,MS6.0
SIT Sitka 95.35 33 PFAKE 09 59 00.0 +13
SIT LR LR
comp=Z,8μm,20.0s,MS6.2
INK Inuvik 95.40 22 PKKPbc PKKPbc 10 15 40.3 +0.6
comp=Z,15nm,0.7s,baz=73,slow=4.6,SNR=20
INK Inuvik 95.40 22 *e*P **P 09 58 46.2 -1.5**
INK pmax pmax
comp=Z,70nm,1.1s
NVL N'lazarevskaya 95.96 197*c* *i*P **P 09 58 49.6 -0.7**
NVL *e* 10 02 47.1
NVL *i*S SKSac 10 09 23.9 -1.1
NVL *i* 10 10 04.0
NVL *i*SP SP 10 11 38.6 +13
NVL *e*SS SS 10 16 43.2 +5.4
NVL *e*SSS 10 20 29.9
NVL pmax pmax
comp=Z,36nm,1.0s,mb5.8
MAIT Maitri 95.99 197 *e*P **P 09 58 51.9 +1.5**
SIM Simferopol' **95.99 315** *e*P **P 09 58 52.0 +1.6**
SIM *e* 10 09 27.0
SIM *e*S S 10 10 08.5 +1.1
SIM pmax pmax
comp=Z,31nm,0.9s,mb5.7
JOF Joensuu 96.46 333 *e*p **P 09 58 50.6 -1.9**
comp=Z,30nm,0.9s,mb5.7
JOF Joensuu 96.46 333 *e*P **P 09 58 50.6 -1.9**
JOF pmax pmax
comp=Z,30nm,0.9s,mb5.7
BR131 Keskin Array S 96.48 309 *e*P **P 09 58 52.2 -0.4**
comp=Z,8.5nm,0.8s,mb5.2
BR131 LR LR
comp=Z,2μm,19.0s,MS5.7
BRTR Keskin Array B 96.48 309 P **P 09 58 52.8 +0.1**
comp=Z,6.6nm,0.8s,mb5.1,baz=124,slow=4.8,SNR=23
BRTR PKKPbc PKKPbc 10 15 40.0 +3.2
comp=Z,0.6nm,0.5s,baz=213,slow=8.8,SNR=4.1
BRTR LR LR 10 49 54.0
comp=Z,3μm,20.3s,MS5.7,baz=344,slow=40
BRTR Keskin Array B 96.48 309 P **P 09 58 52.8 +0.1**
BRTR PKKPbc PKKPbc 10 15 40.0 +3.2
BRTR LR LR 10 49 54.0
CSS Prodhromos 96.83 305 *e*P **P 09 58 54.8 +0.6**
comp=Z,30nm,0.9s,mb5.7
WRAK Wrangell Islan 97.03 34 *e*P **P 09 58 55.7 +0.6**
ANTO Ankara 97.13 310 PFAKE 09 59 10.0 +14
ANTO LR LR
comp=Z,4μm,22.0s,MS5.8
KEV Kevo 97.19 340 *e*P **P 09 58 52.2 -3.6**
comp=Z,10.0nm,0.9s,mb5.2
KEV LR LR
comp=Z,7μm,21.0s,MS6.1
PUL Pulkovo 97.28 330 P **P 09 58 53.4 -2.8**
PUL S S 10 10 07.2 -11
SPB4 Spitsbergen Ar 97.64 349 *e*P **P 09 58 56.9 -0.9**
ARCES ARCESS Array B 97.75 340 P **P 09 58 56.5 -1.8**
comp=Z,44nm,1.0s,mb6.0,baz=86,slow=3.8,SNR=32
ARCES PKKPbc PKKPbc 10 15 31.9 -1.4
comp=Z,3.8nm,1.0s,baz=264,slow=3.5,SNR=8.7
ARCES LR LR 10 50 24.6
comp=Z,6μm,20.1s,MS6.1,baz=87,slow=40
ARE0 ARCESS Array S 97.75 340 *e*P **P 09 58 58.6 +0.2**
DLBC Dease Lake 98.06 31 P **P 09 59 59.0 -0.7**
comp=Z,2.8nm,0.7s,mb4.9,baz=268,slow=6.4,SNR=8.8
DLBC PKKPbc PKKPbc 10 15 36.6 +4.1
comp=Z,1.4nm,0.7s,baz=1.8,slow=6.0,SNR=3.3
KBS Kingsbay 98.13 350 *e*P **P 09 58 59.4 -0.7**
KBS *e*PP PP 10 02 55.8 -3.6
KBS *e*PP PP 10 02 57.0 -2.4
KBS *e*SKSa 10 09 32.0
KBS AMS AMS 10 45 19.2
comp=Z,5μm,22.7s,MS5.9
KBS Kingsbay 98.13 350 *e*P **P 09 59 02.7 +2.6**
BJO Bjornoya 98.30 345 *e*SKSa 10 09 33.3
BJO AMS AMS 10 49 15.4
comp=Z,9μm,18.5s,MS6.3
KAF Kangasniemi 98.87 332 *e*p **P 09 59 00.2 -3.2**
comp=Z,11nm,0.8s,mb5.4
KAF Kangasniemi 98.87 332 *e*P **P 09 59 00.2 -3.2**
KAF pmax pmax
comp=Z,11nm,0.8s,mb5.4
AKASG Malin Array Be 98.89 321 P **P 09 59 03.0 -0.5**
comp=Z,3.3nm,0.8s,mb4.9,baz=73,slow=4.2,SNR=10
AKASG PP PP 10 03 08.3 +3.1
comp=Z,12nm,1.1s,baz=74,slow=6.6,SNR=5.4
AKASG Malin Array Be 98.89 321 P **P 09 59 03.0 -0.5**
AKASG 10 03 08.3
AKASG pmax pmax
comp=Z,30nm,0.8s
AKASG pmax pmax
comp=Z,12nm,1.1s
AKASG Malin Array Be 98.89 321 P **P 09 59 03.0 -0.5**
AKASG PP PP 10 03 08.3 +3.1
AKBB Malin Array Si 98.89 321 *e*P **P 09 59 03.0 -0.5**
FIA1 FINESS Array S 99.10 332 *e*P **P 09 59 03.4 -1.0**
FINES FINESS Array B 99.10 332 P **P 09 59 03.6 -0.8**
comp=Z,12nm,0.9s,mb5.4,baz=73,slow=6.6,SNR=15
FINES PKKPbc PKKPbc 10 15 31.3 +1.8
comp=Z,1.2nm,0.6s,baz=224,slow=3.8,SNR=3.8

MATP	Matopo	99.26	249	PKKPbc	PKKPbc	10 15 31.3	+2.2
	comp=Z,3.7nm,0.7s,baz=298,slow=6.1,SNR=9.1						
MNK	Minsk	99.28	325	eP	P	09 59 02.0	-3.2
MNK				pmax	pmax		
	comp=Z,110nm,1.0s,mb6.3						
SNAA	Sanae	99.36	194	⇓iPdiff	P	09 59 04.6	-1.0
SNAA				e		09 59 08.1	
SNAA				e		09 59 09.8	
SNAA				e		09 59 22.1	
SNAA				e		09 59 29.7	
SNAA	Sanae	99.36	194c	iP	P	09 59 05.3	-0.3
SNAA	Sanae	99.36	194	eP	P	09 59 05.0	-0.6
	comp=Z,63nm,1.5s,mb5.9						
KIS	Kishinev	99.54	317	eP	P	09 59 03.0	-3.4
TRO	Tromso	99.95	341	AMS	AMS	10 52 40.5	
	comp=Z,5μm,20.8s,MS6.0						
TRO	Tromso	99.95	341	eP	Pdif	09 59 07.8	-0.4
TRO				MLR	MLR		
	comp=Z,5μm,20.8s,MS6.0						
TIRR	Tirgusor	100.08	314	⇑iP	Pdif	09 59 09.3	+0.6
TIRR	Tirgusor	100.08	314	ePdif	Pdif	09 59 08.8	+0.1
LSZ	Lusaka	100.13	254	⇑P	Pdif	09 59 10.4	+1.5
	SNR=16						
LSZ	Lusaka	100.13	254	ePdif	Pdif	09 59 09.7	+0.7
LSZ				LR	LR		
	comp=Z,9μm,22.0s,MS6.2						
PRD	Provadia	100.94	313	eP	Pdif	09 59 10.0	-2.6
BOSA	Boshof	101.03	240	P	Pdif	09 59 14.1	+1.1
	comp=Z,30nm,0.9s,baz=106,slow=5.6,SNR=31						
BOSA				PP	PP	10 03 22.1	+0.7
	comp=Z,19nm,1.2s,baz=99,slow=7.0,SNR=4.6						
BOSA	Boshof	101.03	240	eP	Pdif	09 59 14.3	+1.3
BOSA	Boshof	101.03	240	PFAKE		09 59 20.0	+7.0
BOSA				LR	LR		
	comp=Z,11μm,19.0s,MS6.4						
VRI	Vrincioaia	101.11	316	⇓iP	Pdif	09 59 15.1	+1.8
VRI	Vrincioaia	101.11	316	⇓P	Pdif	09 59 15.1	+1.8
PLOR	Plostina	101.16	316	⇓iP	Pdif	09 59 14.4	+0.8
VNA3	Neumayer Olymp	101.21	192	⇓iPdiff	Pdif	09 59 15.5	+1.7
VNA3				e		09 59 17.5	
VNA3				e		09 59 18.7	
LBTB	Lobatse	101.30	244	P	Pdif	09 59 17.3	+3.1
LBTB				pmax	pmax		
	comp=Z,21nm,1.1s						
LBTB	Lobatse	101.30	244	PFAKE		09 59 30.0	+16
LBTB				LR	LR		
	comp=Z,11μm,22.0s,MS6.3						
VNA1	Neumayer--Stat	101.34	193	⇓iPdiff	Pdif	09 59 16.1	+1.7
VNA1				e		09 59 17.9	
VNA1				e		09 59 19.3	
VNA1				e		09 59 27.3	
VNA1				e		09 59 31.3	
VNA1				e		09 59 38.0	
VNA1				e		09 59 42.3	
MLR	Muntele Rosu	101.70	316	⇑iP	Pdif	09 59 16.3	+0.3
MLR	Muntele Rosu	101.70	316	⇑P	Pdif	09 59 16.3	+0.4
BURAR	Bucovina Array	101.90	318	⇓iP	Pdif	09 59 18.5	+1.7
BURAR	Bucovina Array	101.90	318	⇓P	Pdif	09 59 18.5	+1.6
SUW	Suwalki	102.05	325	eP	Pdif	09 59 18.1	+0.6
SUW	Suwalki	102.05	325	eP	Pdif	09 59 18.3	+0.8
LVV	L'vov	102.32	320	eP	Pdif	09 59 18.7	0.0
LVV				e		10 03 36.7	
LVV				e		10 09 56.3	
LVV				eS	Sdif	10 10 59.7	-1.1
LVV				ePS	PS	10 12 41.1	+3.7
RZN	Rozhen	103.09	312	eP	Pdif	09 59 18.0	-4.1
KOLS	Kolonicke sedl	103.61	320	PDIF	Pdif	09 59 25.8	+1.4
KOLS				e		10 02 45.8	
KOLS				e		10 03 31.5	
KOLS	Kolonicke sedl	103.61	320	⇑eSKSp	SKSac	10 10 05.0	+2.3
KOLS				e		10 11 02.0	
KOLS	Kolonicke sedl	103.61	320	eP	Pdif	09 59 25.8	+1.4
KOLS				e		10 02 45.8	
KOLS				ePP	PP	10 03 31.5	-9.3
KOLS				e		10 10 05.0	
KOLS				eS	Sdif	10 11 02.0	-10
UZH	Uzhgorod	103.65	319	eP	Pdif	09 59 23.3	-1.3
UZH				e		10 03 45.0	
UZH				iS	Sdif	10 11 07.0	-4.9
UZH				i		10 12 48.0	
UZH				i		10 18 20.0	
SUR	Sutherland	104.07	236	PFAKE		09 59 40.0	+14
SUR				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
VTS	Vitosha	104.07	313	⇑iP	Pdif	09 59 30.1	+3.6
VTS	Vitosha	104.07	313	eP	Pdif	09 59 24.0	-2.5
CRVS	Cervenica-Dubn	104.14	320	PDIF	Pdif	09 59 28.0	+1.2
CRVS				e		10 10 07.3	
CRVS	Cervenica-Dubn	104.14	320	eP	Pdif	09 59 28.0	+1.2
CRVS				e		10 10 07.3	
STHS	Stebnicka Huta	104.17	320	PDIF	Pdif	09 59 28.6	+1.6
STHS				ePP	PP	10 03 43.9	-1.1
STHS	Stebnicka Huta	104.17	320	eP	Pdif	09 59 28.7	+1.7
STHS				pmax	pmax		
	comp=Z,7.0nm,1.2s						
STHS	Stebnicka Huta	104.17	320	eP	Pdif	09 59 28.7	+1.7
	comp=Z,7.3nm,1.2s						
STHS				ePP	PP	10 03 43.9	-1.1
KKB	Krupnik	104.27	312	eP	Pdif	09 59 26.0	-1.4
DAG	Danmarks Havn	104.30	353	iP	Pdif	09 59 26.0	-1.5
	comp=Z,6.7nm,0.8s						
DAG							
	comp=Z,4μm,19.0s						
DAG	Danmarks Havn	104.30	353	eP	Pdif	09 59 26.0	-1.5
DAG				pmax	pmax		
	comp=Z,70nm,0.8s						
DAG				MLR	MLR		
	comp=Z,4μm,19.0s,MS6.0						
DAG				MLR	MLR		
	comp=N,2μm,18.0s,MS5.9						
DAG				MLR	MLR		
	comp=E,2μm,21.0s,MS5.9						
DAG	Danmarks Havn	104.30	353	eP	Pdif	09 59 26.0	-1.5
	comp=E,6.7nm,0.8s						
DAG				LR	LR		
	comp=Z,4μm,19.0s,MS6.0						
COR	Corvallis	104.33	45	PFAKE		09 59 40.0	+12
COR				LR	LR		
	comp=Z,11μm,21.0s,MS6.4						
NSS	Namsos	104.34	337	ePP	PP	10 03 42.3	-3.9
NSS	Namsos	104.34	337	eP	Pdif	09 59 25.3	-2.4
YKA	Yellowknife Ar	104.43	26	Pdiff	Pdif	09 59 28.9	+0.8
	comp=Z,2.9nm,0.7s,baz=292,slow=4.6,SNR=4.7						
YKA				PKiKP	PKiKP	10 03 45.4	+1.2
	comp=Z,3.7nm,0.6s,baz=304,slow=1.7,SNR=8.6						
YKA				PKKPbc	PKKPbc	10 15 15.1	+1.1
	comp=Z,6.3nm,0.7s,baz=109,slow=2.7,SNR=12						
YKA	Yellowknife Ar	104.43	26	P	Pdif	09 59 28.9	+0.8
YKA						10 03 45.4	
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
VAY	Valandovo	104.74	312	iP	Pdif	09 59 28.5	-1.0
KECS	Kecovo	104.86	319	PDIF	Pdif	09 59 31.5	+1.5
KECS				e		10 03 12.8	
KECS	Kecovo	104.86	319	eP	Pdif	09 59 31.5	+1.5
KECS				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KECS	Kecovo	104.86	319	eP	Pdif	09 59 31.5	+1.5
	comp=Z,6.0nm,1.0s						
KECS				e		10 03 12.8	
OJC	Ojcow	104.91	321	ePdiff	Pdif	09 59 30.9	+0.7
OJC				ePP	PP	10 03 50.4	0.0
OJC				eSKSac	SKSac	10 10 11.3	+2.6
OJC				L		10 57 18.4	
	comp=Z,29nm,19.8s						
OJC	Ojcow	104.91	321	eP	Pdif	09 59 30.9	+0.7
OJC				e		10 03 50.4	
OJC				e		10 10 11.3	
YBH	Yreka Blue Hor	105.25	48	Pdiff	Pdif	09 59 31.8	0.0
	comp=Z,1.0nm,0.8s,baz=172,slow=5.5,SNR=2.1						
YBH	Yreka Blue Hor	105.25	48	Pdif	Pdif	09 59 31.8	0.0
YBH				LR	LR		
	comp=Z,9μm,21.0s,MS6.3						
HOPS	Hopland	105.41	50	PFAKE		10 04 00.0	+14
HOPS				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
WDC	Whiskeytown Da	105.57	49	PFAKE		10 04 00.0	+14
WDC				LR	LR		
	comp=Z,8μm,20.0s,MS6.2						
VYHS	Vyhne	105.93	320	PDIF	Pdif	09 59 35.9	+1.1
VYHS				ePP	PP	10 03 55.2	-2.8
VYHS				SDIF	Sdif	10 11 29.1	-1.8
VYHS	Vyhne	105.93	320	eP	Pdif	09 59 35.9	+1.1
VYHS				e		10 03 55.2	
VYHS				eS	Sdif	10 11 29.1	-1.8
VYHS	Vyhne	105.93	320	eP	Pdif	09 59 35.9	+1.1
VYHS				ePP	PP	10 03 55.2	-2.8
VYHS				eS	Sdif	10 11 29.1	-1.8
VYHS				LR	LR		
	comp=Z,4μm,21.2s,MS5.9						
OKC	Ostrava-Krasne	106.03	321	eSDIF	Sdif	10 11 30.4	-1.4
OKC				AMS	AMS	10 57 30.0	
	comp=Z,4μm,18.8s						
NB2	NORSAR Subarra	106.08	334	Pdif	Pdif	09 59 33.5	-1.9
	comp=Z,12nm,0.9s,baz=66,slow=4.4						
NOA	NORSAR Array B	106.08	334	Pdiff	Pdif	09 59 33.6	-1.8
	comp=Z,19nm,1.1s,baz=68,slow=4.5,SNR=14						
NOA				PP	PP	10 04 02.3	+3.2
	comp=Z,2.9nm,0.8s,baz=74,slow=7.8,SNR=4.1						
NOA				PKKPbc	PKKPbc	10 15 10.2	+1.1
	comp=Z,3.3nm,0.8s,baz=234,slow=3.9,SNR=12						
NAO01	NORSAR Array S	106.30	333	PFAKE		10 04 00.0	+12
NAO01				LR	LR		
	comp=Z,8μm,21.0s,MS6.2						
BSD	Bornholm Skovb	106.41	327	iP	Pdif	09 59 31.6	-5.3
BSD				i		10 04 01.5	
BSD				iS	Sdif	10 11 33.1	-1.8
BSD				e		10 13 18.8	
BSD				i		10 19 03.5	
BSD							
	comp=Z,4μm,20.0s						
BSD	Bornholm Skovb	106.41	327	eP	Pdif	09 59 31.6	-5.3
BSD				i		10 04 01.5	
BSD				e		10 13 18.8	
BSD				i		10 19 03.5	
BSD				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.9						
BSD	Bornholm Skovb	106.41	327	eP	Pdif	09 59 31.6	-5.3
BSD				i		10 04 01.5	
BSD				iS	Sdif	10 11 33.1	-1.8
BSD				e		10 13 18.8	
BSD				i		10 19 03.5	
HAWA	Hanford	106.57	42	PFAKE		10 04 00.0	+12
HAWA				LR	LR		
	comp=Z,471nm,20.0s,MS5.0						
PKSM	Moragy	106.59	317	⇑iP	Pdif	09 59 38.7	+1.0
PKSM	Moragy	106.59	317	⇑P	Pdif	09 59 38.7	+1.0
KSP	Ksiaz	106.91	322	eP	Pdif	09 59 40.5	+1.4
KSP				e		10 04 01.7	
KSP				eSP	SP	10 13 19.0	-3.1
KSP	Ksiaz	106.91	322	ePdif	Pdif	09 59 40.5	+1.4
KSP				ePP	PP	10 04 01.7	-3.5
KSP				eSdif	Sdif	10 11 37.0	-2.1
KSP				eSP	SP	10 13 19.0	-3.1
KSP				LR	LR		
	comp=Z,11μm,23.0s,MS6.3						
MOD	Modoc	106.99	47	PFAKE		10 04 00.0	+11
MOD				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
SAO	San Andreas Ge	107.03	53	PFAKE		10 04 00.0	+11
SAO				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
DPC	Dobruska-Polom	107.03	322	ePP	PP	10 04 09.0	+2.9
DPC				eSDIF	Sdif	10 11 40.3	+0.2
DPC				AMS	AMS	11 01 40.0	
	comp=Z,7μm,18.3s						
JMIC	Jan Mayen	107.07	347	ePP	PP	10 04 05.1	-1.3
ZST	Bratislava	107.12	320	ePP	PP	10 04 07.9	+1.1
ZST	Bratislava	107.12	320	⇑eSKSp	SKSac	10 10 20.9	+2.4
UPC	Upice	107.18	322	ex	x	10 02 53.2	
UPC				ePP	PP	10 04 09.4	+2.2
KONO	Kongsberg	107.38	333	ePP	PP	10 04 06.5	-2.2
KONO				eSKSa	SKSac	10 10 22.4	+2.7
KONO				e		10 11 35.5	
KONO	Kongsberg	107.38	333	PFAKE		10 04 00.0	+10
KONO				LR	LR		
	comp=Z,9μm,20.0s,MS6.3						
COP	Copenhagen	107.54	328	iP	PP	10 04 11.9	+2.1
COP				i		10 13 26.1	
COP				i		10 19 21.9	
COP							
	comp=Z,2μm,21.0s						
CMB	Columbia Colle	107.65	51	PFAKE		10 04 00.0	+10
CMB				LR	LR		
	comp=Z,9μm,19.0s,MS6.4						
NEW	Newport	107.68	40	Pdiff	Pdif	09 59 44.1	+1.5
	comp=Z,1.7nm,0.7s,baz=284,slow=5.7,SNR=3.1						
NEW				PKiKP	PKiKP	10 03 51.5	+1.2
	comp=Z,2.5nm,0.6s,baz=49,slow=3.4,SNR=3.3						
NEW	Newport	107.68	40	Pdif	Pdif	09 59 44.1	+1.5
NEW				ePKPdf	PKiKP	10 03 51.2	+0.9
NEW				LR	LR		
	comp=Z,12μm,21.0s,MS6.4						
PVCC	Panska Ves	108.05	323	AMS	AMS	10 58 40.0	
	comp=Z,5μm,19.5s						
WVOR	Wild Horse Val	108.09	46	eP	Pdif	09 59 45.2	+0.8
WVOR				pmax	pmax		
	comp=Z,40nm,0.9s						
WVOR				MLR	MLR		
	comp=Z,7μm,19.0s,MS6.2						
WVOR	Wild Horse Val	108.09	46	ePdif	Pdif	09 59 45.2	+0.8
	comp=Z,3.8nm,0.9s						
WVOR				LR	LR		
	comp=Z,7μm,19.0s,MS6.2						
PRU	Pruhonice	108.23	322	eSDIF	Sdif	10 11 50.7	+0.6
PRU				AMS	AMS	11 00 30.0	
	comp=Z,5μm,18.8s						
BRG	Berggiesshubel	108.32	323	ePdiff	Pdif	09 59 50.0	+4.6
BRG				ePP	PP	10 04 01.3	-14
BRG	Berggiesshubel	108.32	323	eP	Pdif	09 59 48.3	+2.9
	comp=Z,5.8nm,1.3s						
BRG				e		10 00 04.2	
	comp=Z,4.0nm,1.0s						
BRG				e		10 03 44.5	
	comp=Z,6.2nm,1.1s						
BRG				e		10 04 21.4	
	comp=Z,13nm,1.1s						
BRG				e		10 11 53.0	
BRG				SKS		10 20 28.0	
BRG				e		10 23 43.0	
BRG							
	comp=Z,5μm,18.4s						
BRG							
	comp=N,3μm,17.6s						
BRG							
	comp=E,3μm,17.6s						
BRG	Berggiesshubel	108.32	323	eP	Pdif	09 59 48.3	+2.9
BRG				e		10 04 21.4	
BRG				pmax	pmax		
	comp=Z,60nm,1.3s						
BRG				MLR	MLR		
	comp=Z,5μm,18.4s,MS6.1						
BRG				MLR	MLR		
	comp=N,3μm,17.6s,MS6.0						
BRG				MLR	MLR		
	comp=E,3μm,17.6s,MS6.0						
BRG	Berggiesshubel	108.32	323	eP	Pdif	09 59 48.3	+2.9
	comp=E,5.8nm,1.3s						
BRG				e		10 00 04.2	
BRG				e		10 03 44.5	
BRG				e		10 04 21.4	
BRG				e		10 11 53.0	
BRG				SKS		10 20 28.0	
BRG				e		10 23 43.0	
BRG				LR	LR		
	comp=Z,5μm,18.4s,MS6.1						
EDM	Edmonton	108.42	34	ePKPdf	PKiKP	10 03 52.2	+0.6
BMO	Blue Mountains	108.45	44	PFAKE		10 04 00.0	+8.2
BMO				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
CLL	Collm	108.74	324	ePdiff	Pdif	09 59 49.9	+2.6
CLL				ePP	PP	10 04 17.4	-1.2
CLL				ePPP		10 06 39.0	
CLL				eSKSac	SKSac	10 10 25.8	+0.3
CLL				eSdiff	Sdif	10 11 53.5	-0.9
CLL				eSP	SP	10 13 42.9	+2.0
CLL				ePPS		10 14 55.0	
CLL				e(SS)		10 19 35.0	
CLL				eSSS		10 23 46.2	
CLL				eL		11 03 34.4	
	comp=Z,9μm,20.0s						
CLL	Collm	108.74	324	epPdif	Pdif	09 59 50.0	+2.7
CLL				ex	x	10 00 19.0	
CLL				ex	x	10 03 11.0	
CLL				e(sPKiKP)		10 04 02.0	
CLL				ePP	PP	10 04 27.0	+8.4
CLL				ix	x	10 05 14.8	
CLL				ex	x	10 05 43.0	
CLL				ePPP		10 06 43.0	
CLL				ePPPP		10 08 34.0	
CLL				eSKSac	SKSac	10 10 22.0	-3.5
CLL				ex	x	10 10 41.0	
CLL				eSdif	Sdif	10 11 51.0	-3.4
CLL				ePS	PS	10 13 43.0	-1.1
CLL				ex	x	10 14 19.0	
CLL				ePPS		10 14 54.0	
CLL				ex	x	10 18 00.0	
CLL				eSS	SS	10 19 24.0	-10
CLL				eSSS		10 23 36.0	
CLL				e(SSSS)		10 26 36.0	
CLL				ex	x	10 29 57.0	
CLL	Collm	108.74	324	ePdif	Pdif	09 59 50.0	+2.7
CLL				e		10 00 19.0	
CLL				e		10 03 11.0	
PERS	Pernice	108.84	318	ePP	PP	10 04 23.9	+4.6
PERS				eSdiff	Sdif	10 11 55.9	+0.7
PERS				e		10 13 44.3	
MUD	Monsted U'grnd	108.92	330	iP	Pdif	10 00 01.2	+13
MUD				i	PP	10 04 13.3	-6.6
MUD				iS	SKSac	10 10 34.0	+7.8
MUD				i		10 12 00.8	
MUD				e		10 13 48.4	
MUD							
	comp=Z,7μm,19.0s						
BER	Bergen	108.95	334	ePP	PP	10 04 18.2	-2.0
BER				eSKSa	SKSac	10 10 31.4	+5.0
BER				eSS	SS	10 19 37.5	+0.1
BER	Bergen	108.95	334	eP	Pdif	09 59 51.5	+3.2
BER				e		10 04 03.1	
BOJS	Bojanci	109.06	317	ePP	PP	10 04 24.7	+3.8
BOJS				eSdiff	Sdif	10 11 56.5	-0.5
BOJS				e		10 14 17.2	
KHC	Kasperske Hory	109.09	321	eSDIF	Sdif	10 11 58.6	+1.3
KHC				AMS	AMS	11 02 50.0	
	comp=Z,5μm,18.0s						
GEC2	GERESS Array S	109.10	321	ePdiff	Pdif	09 59 52.8	+3.9
GEC2				ePP	PP	10 04 09.9	-11
GERES	GERESS Array B	109.10	321	Pdiff	Pdif	09 59 50.8	+1.9
	comp=Z,1.5nm,1.0s,baz=90,slow=4.0,SNR=5.1						
GERES				PKiKP	PKiKP	10 03 53.7	+0.7
	comp=Z,1.5nm,0.6s,baz=48,slow=1.5,SNR=7.4						
GERES				PKKPbc	PKKPbc	10 15 03.7	+4.2
	comp=Z,0.5nm,0.5s,baz=197,slow=4.1,SNR=4.1						
SNCC	San Nicolas Is	109.14	56	PFAKE		10 04 10.0	+17
SNCC				LR	LR		
	comp=Z,11μm,19.0s,MS6.4						
NVAR	Mina Array Bea	109.18	50	Pdiff	Pdif	09 59 52.2	+3.0
	comp=Z,1.1nm,0.6s,baz=257,slow=4.5,SNR=4.3						
NVAR				PKiKP	PKiKP	10 03 54.4	+1.3
	comp=Z,0.8nm,0.6s,baz=262,slow=2.7,SNR=5.7						
NVAR				PP	PP	10 04 29.4	+7.6
	comp=Z,3.3nm,1.0s,baz=251,slow=6.4,SNR=6.0						
NVAR				PKKPbc	PKKPbc	10 15 02.6	+3.3
	comp=Z,3.7nm,0.8s,baz=114,slow=5.1,SNR=14						
NVAR	Mina Array Bea	109.18	50	Pdif	Pdif	09 59 52.2	+3.0
NVAR				PKPdf	PKiKP	10 03 54.4	+1.3
NVAR				PP	PP	10 04 29.4	+7.6
NVAR				PKKPbc	PKKPbc	10 15 02.6	+3.3
BSMT	Bassoo Peak	109.30	40	ePKiKP	PKiKP	10 03 54.2	+0.8
BSEG	Bad Segeberg	109.33	327	ePdiff	Pdif	09 59 54.0	+4.1
BSEG				ePP	PP	10 04 08.1	-15
TANN	Tannenbergstha	109.36	323	ePdiff	Pdif	09 59 54.5	+4.5
TANN				ePP	PP	10 04 10.6	-13
WET	Wettzell	109.53	321	ePdiff	Pdif	09 59 55.4	+4.7
WET				ePP	PP	10 04 13.6	-11
BMN	Battle Mountai	109.57	48	PFAKE		10 04 10.0	+16
BMN				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
ISA	Isabella	109.58	53	PFAKE		10 04 10.0	+16
ISA				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
TSUM	Tsumeb	109.60	249	PFAKE		10 04 10.0	+16
TSUM				LR	LR		
	comp=Z,10μm,19.0s,MS6.4						
MANZ	Manzenberg	109.72	323	ePdiff	Pdif	09 59 56.3	+4.7
MANZ				ePP	PP	10 04 14.0	-12
ROTZ	Rotzenmuhle	109.73	322	ePdiff	Pdif	09 59 56.8	+5.1
ROTZ				ePP	PP	10 04 15.0	-11
MOX	Moxa	109.79	323	ePdiff	Pdif	09 59 56.2	+4.3
MOX				ePP	PP	10 04 12.8	-13
MOX	Moxa	109.79	323	e(P)	Pdif	09 59 55.7	+3.8
MOX				e		10 04 33.4	
MOX							
	comp=Z,3μm,19.0s						
MOX	Moxa	109.79	323	ePdif	Pdif	09 59 55.7	+3.8
MOX				ePP	PP	10 04 33.4	+7.2
MOX				eS	Sdif	10 12 07.0	+3.9
MOX				eSSS		10 24 06.0	
MOX				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
NRDL	Niedersach Rie	110.00	325	ePdiff	Pdif	09 59 56.6	+3.8
TPH	Tonopah	110.09	51	PFAKE		10 04 10.0	+15
TPH				LR	LR		
	comp=Z,8μm,20.0s,MS6.3						
MSO	Missoula	110.16	41	ePKPdf	PKiKP	10 03 55.2	+0.3
MSO				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
DAC	Darwin (Calif)	110.17	52	PFAKE		10 04 10.0	+15
DAC				LR	LR		
	comp=Z,12μm,21.0s,MS6.5						
GRA1	Grafenberg Arr	110.36	322	ePdif	Pdif	09 59 59.3	+4.8
GRA1				ePP	PP	10 04 18.5	-12
GRA1				eSdif	Sdif	10 12 09.0	+1.1
GRA1				LR	LR		
	comp=Z,6μm,19.7s,MS6.2						
GRF	Grafenberg Arr	110.36	322	ePdiff	Pdif	09 59 59.3	+4.8
GRF				ePP	PP	10 04 18.5	-12
GRF				eSdiff	Sdif	10 12 09.0	+1.1
GRF				eL		11 03 03.4	
	comp=Z,6μm,19.7s						
CHMT	Chamberlain Mo	110.58	41	ePKPdf	PKiKP	10 03 56.0	+0.2
UBBA	Unterbreizbach	110.69	324	ePdiff	Pdif	09 59 59.9	+4.0
UBBA				ePP	PP	10 04 18.8	-14
HLID	Hailey	110.80	44	ePKPdf	PKiKP	10 03 57.8	+1.6
HLID				LR	LR		
	comp=Z,8μm,22.0s,MS6.3						
FUR	Furstenfeldbru	110.85	321	ePdiff	Pdif	10 00 01.0	+4.4
FUR				ePP	PP	10 04 22.7	-11
ELK	Elko	110.96	47	PFAKE		10 04 10.0	+14
ELK				LR	LR		
	comp=Z,7μm,20.0s,MS6.2						
IBBN	Ibbenburen	111.39	326	ePdiff	Pdif	10 00 03.3	+4.2
LRM	Limekiln Ridge	111.46	42	ePKiKP	PKiKP	10 03 59.6	+2.2
DLMT	Dillon	111.51	42	ePKPdf	PKiKP	10 04 00.5	+3.0
PMSA	Palmer Station	111.60	174	PFAKE		10 04 10.0	+12
PMSA				LR	LR		
	comp=Z,8μm,19.0s,MS6.3						
PFO	Pinyon Flat Ob	111.61	55	PFAKE		10 04 10.0	+12
PFO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
TNS	Taunus Mts	111.83	324	ePdiff	Pdif	10 00 05.5	+4.5
TNS				ePP	PP	10 04 27.6	-13
STU	Stuttgart	111.93	322	ePdiff	Pdif	10 00 05.4	+4.0
STU				ePP	PP	10 04 30.0	-12
BUG	Bochum--Univer	112.03	325	ePdiff	Pdif	10 00 06.4	+4.5
BUG				ePP	PP	10 04 27.5	-15
BOZ	Bozeman (W)	112.06	42	PKIKP	PKiKP	10 04 02.0	+3.4
BOZ	Bozeman (W)	112.06	42	PFAKE		10 04 10.0	+11
BOZ				LR	LR		
	comp=Z,7μm,21.0s,MS6.2						
EGMT	Eagleton	112.43	39	ePKPdf	PKiKP	10 04 00.2	+0.9
EGMT				LR	LR		
	comp=Z,6μm,20.0s,MS6.2						
BFO	Black Forest	112.63	322	ePdiff	Pdif	10 00 09.1	+4.5
BFO				ePP	PP	10 04 35.6	-11
YMR	Madison River	112.83	42	PFAKE		10 04 10.0	+10
YMR				LR	LR		
	comp=Z,5μm,19.0s,MS6.1						
DUG	Dugway	112.89	47	ePKIKP	PKiKP	10 04 01.6	+1.5
DUG				MLR	MLR		
	comp=Z,6μm,19.0s,MS6.2						
YFT	Old Faithful	112.99	43	ePKiKP	PKiKP	10 04 06.1	+5.8
RRI2	Red Ridge	113.02	44	ePKPdf	PKiKP	10 04 01.9	+1.5
ARUT	Antelope Range	113.06	50	ePKIKP	PKiKP	10 04 01.6	+1.1
ARUT				e		10 04 49.9	
IMW	Indian Meadow	113.10	43	ePKPdf	PKiKP	10 04 01.1	+0.6
CCUT	Cedar City	113.18	50	ePKPdf	PKiKP	10 04 04.7	+4.0
TPAW	Teton Pass	113.22	44	ePKPdf	PKiKP	10 04 01.4	+0.6
LKWY	Lake	113.24	42	PFAKE		10 04 10.0	+9.2

LKWY LR LR
comp=Z,10µm,20.0s,MS6.4
CDF Champ du Feu 113.25 322 *e*PKP1 PKiKP 10 03 58.7 -2.1
GCMT Greycliff 113.30 41 *e*PKPdf PKiKP 10 04 01.5 +0.6
AHID Auburn Hatcher 113.35 44 PFAKE 10 04 10.0 +9.0
AHID LR LR
comp=Z,9µm,22.0s,MS6.3
SNOW Snow King Moun 113.37 44 *e*PKPdf PKiKP 10 04 01.7 +0.7
HWUT Hardware Ranch 113.39 46 PFAKE 10 04 10.0 +8.9
HWUT LR LR
comp=Z,13µm,20.0s,MS6.5
WLF Walferdange 113.41 324 *e*Pdiff Pdif 10 00 13.2 +5.2
WLF *e*PP PP 10 04 39.6 -13
LOHW Long Hollow 113.42 43 *e*PKPdf PKiKP 10 04 02.5 +1.3
NLU North Lily Mtn 113.50 48 *e*PKPdf PKiKP 10 04 02.9 +1.6
HINF Hinteralfeld 113.74 322 *e*PKP1 PKiKP 10 03 58.2 -3.6
comp=Z,12nm,0.7s
RLMT Red Lodge 113.80 41 *e*PKPdf PKiKP 10 04 03.3 +1.4
MVU Marysvale 113.81 49 PFAKE 10 04 10.0 +8.1
MVU LR LR
comp=Z,6µm,19.0s,MS6.2
MPU Maple Canyon 113.81 47 PFAKE 10 04 10.0 +8.1
MPU LR LR
comp=Z,7µm,20.0s,MS6.3
MSU Marysvale 113.83 49 *e*PKiKP PKiKP 10 04 04.0 +2.1
GIVF Givet 114.00 325 *e*PKP1 PKiKP 10 03 58.6 -3.7
TMUT Trail Mountain 114.33 48 *e*PKPdf PKiKP 10 04 04.1 +1.2
BAIF Baives 114.38 325 *e*PKP1 PKiKP 10 03 59.2 -3.8
comp=Z,24nm,1.1s
BW06 Boulder Array 114.43 44 PFAKE 10 04 20.0 +17
BW06 LR LR
comp=Z,6µm,20.0s,MS6.2
PDAR Pinedale Array 114.43 44 PKP PKiKP 10 04 03.8 +0.7
comp=Z,2.0nm,0.6s,baz=89,slow=2.2,SNR=14
PDAR PKKPbc PKKPbc 10 14 42.4 +0.4
comp=Z,6.8nm,0.7s,baz=114,slow=5.5,SNR=25
CABF La Chapelle 114.70 321 *e*PKP1 PKiKP 10 04 01.1 -2.5
comp=Z,31nm,0.8s
LPG La Plagne 114.71 319 *e*PKP1 PKiKP 10 04 00.6 -3.0
comp=Z,24nm,0.7s
LPL La Plagne 114.72 319 *e*PKP1 PKiKP 10 04 01.1 -2.5
comp=Z,20nm,0.7s
SBF Sospel 114.86 318 *e*PKP1 PKiKP 10 04 00.5 -3.4
comp=Z,48nm,0.8s
SRU San Rafael 114.90 48 *e*PKIKP PKiKP 10 04 04.9 +0.9
BNI Bardonecchia 114.93 319 *e*PKIKP PKiKP 10 04 05.7 +1.7
BORG Borgarnes 114.96 347 PFAKE 10 04 20.0 +16
BORG LR LR
comp=Z,1µm,20.0s,MS5.5
MBDF Montbardon 114.99 319 *e*PKP1 PKiKP 10 04 01.9 -2.3
comp=Z,24nm,0.7s
LAO LASA Array 115.16 39 *e*PKPdf PKiKP 10 04 04.8 +0.4
LAO LR LR
comp=Z,9µm,20.0s,MS6.4
WUAZ Wupatki 115.26 52 *e*PKPdf PKiKP 10 04 04.6 0.0
WUAZ LR LR
comp=Z,9µm,20.0s,MS6.4
ORIF Oris-en-Rattie 115.50 319 *e*PKP1 PKPdf 10 04 02.1 -3.0
comp=Z,16nm,0.7s
FRF La Foret Royal 115.51 317 *e*PKP1 PKPdf 10 04 02.2 -2.9
comp=Z,96nm,1.3s
ESK Eskdalemuir 115.53 332 PFAKE 10 04 20.0 +15
ESK LR LR
comp=Z,2µm,21.0s,MS5.6
DGMT Dagmar 115.64 37 *e*PKPdf PKPdf 10 04 04.8 -0.6
DGMT LR LR
comp=Z,6µm,22.0s,MS6.2
LMR La Mourre 115.68 317 *e*PKP1 PKPdf 10 04 02.7 -2.8
comp=Z,105nm,1.4s
LOR Lormes 115.81 322 *e*PKP1 PKPdf 10 04 03.0 -2.7
RPN Rapa Nui 115.85 122 PFAKE 10 04 20.0 +14
RPN LR LR
comp=Z,1µm,21.0s,MS5.4
KEST Kesra 116.07 308 PKP PKPdf 10 04 07.7 +1.4
comp=Z,1.5nm,0.6s,baz=100,slow=5.9,SNR=5.1
KEST PP PP 10 05 14.5 +3.6
comp=Z,6.2nm,1.0s,baz=347,slow=8.7,SNR=5.9
SMRF Simiane la Rot 116.07 318 *e*PKP1 PKPdf 10 04 03.9 -2.3
comp=Z,41nm,1.0s
SMF Signal de Mont 116.09 321 *e*PKP1 PKPdf 10 04 03.2 -3.1
SSF Saint Saulge 116.12 322 *e*PKP1 PKPdf 10 04 03.8 -2.5
comp=Z,48nm,1.2s
SFJD Kangerlussuaq 116.18 0 PKP PKPdf 10 04 06.9 +0.5
comp=Z,3.8nm,0.5s,baz=39,slow=9.6,SNR=3.7
SFJD PP PP 10 05 11.9 +0.2
comp=Z,13nm,0.9s,baz=312,slow=3.4,SNR=3.8
SFJD Kangerlussuaq 116.18 0 *i* P PP 10 05 26.6 +15
SFJD *i* 10 10 54.0
SFJD *e* 10 12 13.0
SFJD *i* 10 14 50.9
SFJD
comp=Z,4µm,21.0s
SFJD Kangerlussuaq 116.18 0 PKIKP PKPdf 10 04 06.9 +0.5
SFJD 10 05 12.0
SFJD pmax pmax
comp=Z,4.0nm,0.5s
PV10 Paradox Valley 116.23 48 *e*PKPdf PKPdf 10 04 05.2 -1.4
VIVF Saint-Julien-l 116.31 319 *e*PKP1 PKPdf 10 04 04.6 -2.1
comp=Z,25nm,1.0s
AVF Avril sur Loir 116.33 322 *e*PKP1 PKPdf 10 04 03.5 -3.2
comp=Z,27nm,1.0s
RWWY Rawlins 116.44 44 *e*PKPdf PKPdf 10 04 08.3 +1.4
TUC Tucson 116.54 55 *e*PKIKP PKPdf 10 04 08.7 +1.6
TUC MLR MLR
comp=Z,6µm,20.0s,MS6.2
BGF Bois d'Agland 116.75 322 *e*PKP1 PKPdf 10 04 04.9 -2.6
comp=Z,30nm,0.7s
LASF Ste Croix 117.17 319 *e*PKP1 PKPdf 10 04 04.6 -3.7
comp=Z,60nm,1.4s
TCF Toulx Ste Croi 117.27 322 *e*PKP1 PKPdf 10 04 07.2 -1.3
comp=Z,37nm,1.0s
RSSD Black Hills 117.63 41 *e*PKPdf PKPdf 10 04 09.2 0.0
RSSD LR LR
comp=Z,5µm,19.0s,MS6.2
PHWY Pilot Hill 117.80 44 *e*PKPdf PKPdf 10 04 10.6 +1.0
CAF Calviac 117.96 320 *e*PKP1 PKPdf 10 04 07.4 -2.5
comp=Z,45nm,1.2s
ISCO Idaho Springs 118.25 46 *e*PKIKP PKPdf 10 04 11.4 +1.0
ISCO MLR MLR
comp=Z,11µm,20.0s,MS6.5
MTLF Montolieu 118.55 319 *e*PKP1 PKPdf 10 04 07.8 -3.2
MFF Saint Martin d 118.56 323 *e*PKP1 PKPdf 10 04 09.2 -1.8
comp=Z,16nm,0.5s
SDCO Great Sand Dun 119.07 48 *e*PKPdf PKPdf 10 04 13.1 +1.1
SDCO LR LR
comp=Z,10µm,21.0s,MS6.4
ANMO Albuquerque 119.27 51 ⇑ *i*PKIKP PKPdf 10 04 12.8 +0.4
ANMO Albuquerque 119.27 51 *e*PKPdf PKPdf 10 04 14.0 +1.6
ANMO LR LR
comp=Z,8µm,20.0s,MS6.4
ULM Lac du Bonnet 119.38 32 PKP PKPdf 10 04 13.8 +1.2
comp=Z,6.3nm,0.6s,baz=236,slow=1.2,SNR=13
ULM PKKPbc PKKPbc 10 14 25.5 +1.1
comp=Z,12nm,0.9s,baz=118,slow=2.9,SNR=12
ULM Lac du Bonnet 119.38 32 *e*PKPdf PKPdf 10 04 13.0 +0.4
ULM LR LR
comp=Z,6µm,20.0s,MS6.2
EPF Esparros 119.92 319 *e*PKP1 PKPdf 10 04 11.1 -2.5
ETSF Etsaut 120.57 319 *e*PKP1 PKPdf 10 04 12.2 -2.7
comp=Z,43nm,0.9s
MNTX Cornudas Mount 121.12 55 *e*PKPdf PKPdf 10 04 17.0 +1.0
MNTX *e*PP PP 10 05 50.0 +4.1
MNTX LR LR
comp=Z,7µm,20.0s,MS6.3
ECSD EROS,Sioux Fal 122.54 38 *e*PKPdf PKPdf 10 04 18.4 -0.2
EYMN Ely 123.07 32 *e*PKPdf PKPdf 10 04 20.2 +0.5
EYMN LR LR
comp=Z,514nm,20.0s,MS5.2
ESDC Sonseca Array 124.35 317 PKP PKPdf 10 04 22.9 +0.8
comp=Z,0.9nm,0.4s,baz=124,slow=1.1,SNR=10.0
ESDC PP PP 10 06 13.0 +5.3
comp=Z,7.1nm,0.9s,baz=60,slow=6.8,SNR=6.0
ESLA Sonseca Array 124.35 317 PFAKE 10 04 30.0 +7.9
ESLA LR LR
comp=Z,20µm,20.0s,MS6.8
KSU1 Kansas State U 124.86 43 *e*PKPdf PKPdf 10 04 23.0 -0.1
EFI East Falkland 125.09 174 PFAKE 10 04 30.0 +6.4
EFI LR LR
comp=Z,3µm,22.0s,MS5.8
WMOK Wichita Mounta 125.23 49 *e*PKIKP PKPdf 10 04 24.5 +0.7
WMOK *e* 10 06 16.6
WMOK MLR MLR
comp=Z,5µm,20.0s,MS6.2
WMOK Wichita Mounta 125.23 49 PKIKP PKPdf 10 04 24.7 +0.9
SCIA State Center 125.63 39 *e*PKPdf PKPdf 10 04 24.9 +0.3

JCT Junction City 126.05 54 *e*PKIKP PKPdf 10 04 26.3 +0.9
JCT MLR MLR
comp=Z,8µm,20.0s,MS6.4
MTE Manteigas 126.35 320 *e*PKPdf PKPdf 10 04 27.3 +1.3
SCHQ Schefferville 126.69 12 PKP PKPdf 10 04 26.5 -0.1
comp=Z,7.5nm,0.8s,baz=47,slow=0.5,SNR=12
SCHQ Schefferville 126.69 12 *e*PKPdf PKPdf 10 04 26.6 0.0
SCHQ LR LR
comp=Z,9µm,20.0s,MS6.5
JFWS Jewell Farm 126.85 36 *e*PKIKP PKPdf 10 04 27.8 +0.9
JFWS MLR MLR
comp=Z,9µm,22.0s,MS6.4
TOA0 Torodi Ar. Sit 127.50 284 *e*PKPdf PKPdf 10 04 29.4 +1.2
TOA0 *e* 10 06 33.7
TORD Torodi Ar. Bea 127.50 284 PKhKP 10 04 23.3
comp=Z,2.0nm,0.9s,baz=95,slow=2.2,SNR=5.8
TORD PKP PKPdf 10 04 29.8 +1.6
comp=Z,16nm,0.7s,baz=50,slow=1.9,SNR=28
TORD SKPbc 10 07 47.5
comp=Z,12nm,1.0s,baz=85,slow=2.9,SNR=3.9
TORD PKKPbc 10 13 54.8
comp=Z,1.2nm,0.6s,baz=255,slow=2.1,SNR=6.6
TORD Torodi Ar. Bea 127.50 284 PKP PKPdf 10 04 29.8 +1.6
TORD SKPbc 10 07 47.5
TORD PKKPbc 10 13 54.8
MDT Midelt 127.90 310 PKP PKPdf 10 04 31.2 +2.3
comp=Z,5.5nm,0.6s,baz=4.8,slow=0.9,SNR=11
GLMI Grayling 128.70 31 *e*PKPdf PKPdf 10 04 33.3 +2.8
MIAR Mount Ida 129.17 47 *e*PKIKP PKPdf 10 04 32.5 +1.1
MIAR *e* 10 06 38.8
MIAR MLR MLR
comp=Z,12µm,19.0s,MS6.6
MIAR Mount Ida 129.17 47 *e*PKPdf PKPdf 10 04 32.5 +1.1
MIAR *e*PP PP 10 06 38.8 -0.9
MIAR *e*SKPdf SKPdf 10 08 03.9 -1.1
MIAR LR LR
comp=Z,12µm,19.0s,MS6.6
HKT Hockley 129.43 53 *e*PKIKP PKPdf 10 04 33.7 +1.9
HKT *e* 10 06 38.9
HKT MLR MLR
comp=Z,7µm,20.0s,MS6.3
HKT Hockley 129.43 53 *e*PKPdf PKPdf 10 04 33.7 +1.9
HKT *e*PP PP 10 06 38.9 -2.5
HKT *e*SKPdf SKPdf 10 07 56.4 -9.1
HKT LR LR
comp=Z,7µm,20.0s,MS6.3
FVM French Village 129.59 41 *e*PKPdf PKPdf 10 04 32.8 +0.6
FVM *e*PP PP 10 06 40.9 -1.5
NATX Nacogdoches 129.61 50 *e*PKPdf PKPdf 10 04 34.6 +2.5
NATX LR LR
comp=Z,7µm,20.0s,MS6.3
UALR University of 129.95 46 *e*PKPdf PKPdf 10 04 33.5 +0.7
UALR *e*PP PP 10 06 44.6 -0.1
SIUC Southern Illin 130.53 41 *e*PKPdf PKPdf 10 04 34.6 +0.7
PARMO Parma 130.76 42 *e*PKPdf PKPdf 10 04 35.9 +1.5
PARMO *e*SKPbc SKPbc 10 07 59.8 +3.2
AAM Ann Arbor 130.95 33 PFAKE 10 04 50.0 +15
AAM LR LR
comp=Z,8µm,22.0s,MS6.4
BLO Bloomington 131.36 38 *e*PKIKP PKPdf 10 04 36.0 +0.5
BLO *e* 10 06 54.1
USIN University of 131.38 40 *e*PKPdf PKPdf 10 04 38.3 +2.7
SADO Sadowa 131.39 27 PKhKP 10 04 29.6
comp=Z,2.8nm,0.6s,baz=277,slow=7.0,SNR=3.6
SADO PKP PKPdf 10 04 36.2 +0.6
comp=Z,9.4nm,0.6s,baz=326,slow=3.3,SNR=13
SADO SKPbc SKPbc 10 08 01.9 +2.9
comp=Z,10nm,1.1s,baz=278,slow=14,SNR=6.1
SADO Sadowa 131.39 27 PKP PKPdf 10 04 36.2 +0.6
SADO SKPbc SKPbc 10 08 01.9 +2.9
WCI Wyandotte Cave 132.09 38 PKIKP PKPdf 10 04 35.4 -1.5
WCI Wyandotte Cave 132.09 38 *e*PKPdf PKPdf 10 04 35.6 -1.3
WCI *e*PP PP 10 06 57.9 -0.7
WCI LR LR
comp=Z,8µm,20.0s,MS6.4
OXF Oxford 132.16 44 *e*PKIKP PKPdf 10 04 31.6 -5.4
OXF *e* 10 06 59.3
OXF MLR MLR
comp=Z,7µm,20.0s,MS6.4
WVT Waverly 132.34 42 *e*PKIKP PKPdf 10 04 36.9 -0.5
WVT MLR MLR
comp=Z,10µm,21.0s,MS6.5
PLCA Paso Flores 132.71 159 PKhKP 10 04 27.4
comp=Z,2.4nm,0.8s,baz=188,slow=4.7,SNR=4.2
PLCA PKP PKPdf 10 04 39.2 +1.1
comp=Z,10nm,0.9s,baz=188,slow=3.7,SNR=4.2
PLCA SKPbc SKPbc 10 08 07.4 +3.8
comp=Z,37nm,1.1s,baz=201,slow=5.1,SNR=11
PLCA Paso Flores 132.71 159 PKIKP PKPdf 10 04 38.9 +0.9
PLCA Paso Flores 132.71 159 *e*PKPdf PKPdf 10 04 38.5 +0.5
PLCA *e*SKPab 10 08 08.0
PLCA LR LR
comp=Z,5µm,20.0s,MS6.2
ACSO Alum Creek Sta 132.74 34 *e*PKPdf PKPdf 10 04 38.4 +0.3
ACSO *e*SKPab 10 08 07.9
ACSO LR LR
comp=Z,3µm,22.0s,MS6.0
PLAL Pickwick Lake 132.83 43 PFAKE 10 04 50.0 +12
PLAL LR LR
comp=Z,8µm,20.0s,MS6.4
ERPA Erie 132.99 30 PFAKE 10 04 50.0 +11
ERPA LR LR
comp=Z,7µm,21.0s,MS6.3
MSNY Massena 133.04 24 *e*PKPdf PKPdf 10 04 39.2 +0.5
MSNY *e*SKPbc SKPbc 10 08 06.4 +1.6
MSNY *e*SKPdf SKPdf 10 08 13.9 +1.7
LONY Lake Ozonia 133.47 24 *e*PKPdf PKPdf 10 04 39.8 +0.3
LONY *e*SKPbc SKPbc 10 08 08.8 +2.6
FRNY Flat Rock 133.68 23 *e*PKPdf PKPdf 10 04 40.5 +0.6
FRNY *e*SKPbc SKPbc 10 08 10.1 +3.2
SWET Sewanee 134.13 41 *e*PKPdf PKPdf 10 04 41.3 +0.6
NCB Newcomb 134.15 24 *e*PKPdf PKPdf 10 04 41.9 +1.1
NCB LR LR
comp=Z,7µm,21.0s,MS6.3
CMIG Matias Romero 134.23 69 PKP PKPdf 10 04 42.5 +1.6
comp=Z,5.6nm,0.6s,baz=296,slow=1.3,SNR=4.0
CMIG SKPbc SKPbc 10 08 12.0 +3.2
comp=Z,9.7nm,1.2s,baz=292,slow=4.6,SNR=5.6
DBIC Dimbokro 134.43 276 PKhKP 10 04 32.6
comp=Z,10nm,0.7s,baz=94,slow=2.3,SNR=14
DBIC PKP PKPdf 10 04 43.0 +1.7
comp=Z,16nm,0.7s,baz=91,slow=2.6,SNR=13
DBIC PP PP 10 07 19.0 +5.5
comp=Z,8.4nm,1.0s,baz=98,slow=6.1,SNR=4.1
DBIC SKPbc SKPbc 10 08 13.2 +3.8
comp=Z,41nm,1.1s,baz=2.6,slow=11,SNR=7.0
DBIC Dimbokro 134.43 276 *e*PKPpre 10 04 34.5
DBIC *e*PKPdf PKPdf 10 04 41.9 +0.6
DBIC PKP PKPdf 10 04 43.0 +1.7
DBIC *e*PP PP 10 07 13.9 +0.4
DBIC PP PP 10 07 19.0 +5.5
DBIC SKPbc SKPbc 10 08 13.2 +3.8
DBIC LR LR
comp=Z,5µm,21.0s,MS6.2
LRAL Lakeview Retre 134.65 45 *e*PKPpre 10 04 30.6
LRAL *e*PKPdf PKPdf 10 04 43.1 +1.4
LRAL *e*PP PP 10 07 12.7 -2.2
LRAL *e*SKPbc SKPbc 10 08 12.6 +2.5
LRAL LR LR
comp=Z,8µm,21.0s,MS6.4
LBNH Lisbon 134.81 22 *e*PKPdf PKPdf 10 04 43.7 +1.7
LBNH *e*SKPbc SKPbc 10 08 14.5 +3.9
LBNH LR LR
comp=Z,11µm,22.0s,MS6.5
PKME Peaks-Kenny Pk 134.83 19 *e*PKPdf PKPdf 10 04 42.6 +0.6
PKME *e*SKPbc SKPbc 10 08 13.2 +2.5
BINY Binghamton 134.83 27 *e*PKPpre 10 04 38.4
BINY *e*PKPdf PKPdf 10 04 43.0 +0.9
BINY LR LR
comp=Z,11µm,21.0s,MS6.5
TZTN Tazewell 134.84 38 *e*PKPdf PKPdf 10 04 44.3 +2.3
MCWV Mont Chateau 134.86 32 *e*PKPdf PKPdf 10 04 43.2 +1.1
MCWV *e*SKPbc SKPbc 10 08 11.2 +0.5
MCWV LR LR
comp=Z,10µm,22.0s,MS6.5
ACCN Adirondack Com 134.86 24 *e*PKPdf PKPdf 10 04 44.1 +2.1
ACCN *e*SKPbc SKPbc 10 08 12.8 +2.1
HNH Hanover 135.14 22 *e*PKPdf PKPdf 10 04 42.8 +0.2
HNH *e*SKPbc SKPbc 10 08 14.5 +2.9
SSPA Standing Stone 135.15 30 *e*PKPpre 10 04 37.6
SSPA *e*PKPdf PKPdf 10 04 43.7 +1.0
SSPA *e*PP PP 10 07 20.2 +2.2
SSPA LR LR
comp=Z,9µm,20.0s,MS6.5

TKL Tuckaleechee C 135.26 39 PKhKP 10 04 36.5
comp=Z,1.8nm,0.6s,baz=60,slow=3.3,SNR=5.5
TKL PKP PKPdf 10 04 44.8 +1.9
comp=Z,24nm,0.6s,baz=158,slow=4.2,SNR=33
TKL SKPbc SKPbc 10 08 16.0 +3.9
comp=Z,24nm,1.2s,baz=271,slow=3.8,SNR=5.6
TKL Tuckaleechee C 135.26 39 PKP PKPdf 10 04 44.8 +1.9
TKL SKPbc SKPbc 10 08 16.0 +3.9
FWV Forest Hill 135.79 35 *e*PKPdf PKPdf 10 04 44.5 +0.6
FWV *e*SKPbc SKPbc 10 08 16.7 +3.1
ELN Prospectdale 136.07 35 *e*PKPdf PKPdf 10 04 44.3 0.0
ELN *e*SKPbc SKPbc 10 08 16.8 +2.3
BLA Blacksburg 136.27 35 PKIKP PKPdf 10 04 45.6 +0.9
BLA Blacksburg 136.27 35 *e*PKPdf PKPdf 10 04 43.6 -1.1
BLA LR LR
comp=Z,543nm,22.0s,MS5.2
QUA2 Belchertown 136.32 24 *e*PKPdf PKPdf 10 04 44.5 -0.3
MVL Millersville 136.39 29 *e*PKPdf PKPdf 10 04 44.6 -0.3
HRV Harvard--Oak R 136.44 23 PFAKE 10 05 00.0 +15
HRV LR LR
comp=Z,5µm,21.0s,MS6.2
WES Weston 136.63 23 *e*PKIKP PKPdf 10 04 45.7 +0.3
WES *e* 10 07 32.6
WES MLR MLR
comp=Z,3µm,21.0s,MS6.0
WES Weston 136.63 23 *e*PKPdf PKPdf 10 04 45.7 +0.3
WES *e*PP PP 10 07 32.6 +5.2
WES *e*SKPbc SKPbc 10 08 18.4 +2.2
WES LR LR
comp=Z,3µm,21.0s,MS6.0
CBN Corbin 137.24 32 *e*PKPdf PKPdf 10 04 47.5 +0.9
CBN *e*SKPbc SKPbc 10 08 17.6 -0.4
CBN LR LR
comp=Z,12µm,22.0s,MS6.6
TRQA Tornquist 137.72 166 *e*PKPpre 10 04 38.3
TRQA *e*PKPdf PKPdf 10 04 46.9 -0.5
TRQA *e*SKPdf SKPdf 10 08 23.5 +2.8
TRQA LR LR
comp=Z,6µm,20.0s,MS6.3
CMLA Cha da Macela 138.59 330 PFAKE 10 05 00.0 +11
CMLA LR LR
comp=Z,2µm,21.0s,MS5.8
FCH Farellones 139.25 154 *e*P PKPdf 10 04 44.3 -5.9
PAYG Puerto Ayora 140.02 95 PFAKE 10 05 00.0 +8.4
PAYG LR LR
comp=Z,6µm,19.0s,MS6.4
MDZ Mendoza 140.24 155 *e*PKIKP PKPdf 10 04 48.7 -3.3
DWPF Disney 141.37 47 PFAKE 10 05 10.0 +16
DWPF LR LR
comp=Z,6µm,22.0s,MS6.3
LPA La Plata 141.59 170 *de*P Pdif 10 02 15.0 +1.7
LPA
comp=Z,8µm,18.0s
CFAA Coronel Fontan 141.60 155 SKPbc SKPbc 10 08 34.8 +4.8
comp=Z,2.5nm,1.1s,baz=248,slow=3.4,SNR=5.3
BBSR BB Station 147.92 23 *e*PKPdf PKPdf 10 05 05.8 +0.5
BBSR LR LR
comp=Z,5µm,20.0s,MS6.3
LVC Limon Verde 148.76 146 PFAKE 10 05 20.0 +13
LVC LR LR
comp=Z,5µm,21.0s,MS6.3
LMGC Las Mercedes 149.08 55 *e*P PKPdf 10 05 11.8 +4.5
NNA Nana 149.81 120 PKPbc PKPbc 10 05 14.5 +1.3
comp=Z,115nm,1.0s,baz=259,slow=4.3,SNR=19
NNA Nana 149.81 120 *e*PKPdf PKPdf 10 05 09.8 +1.4
NNA *e*PKPbc PKPbc 10 05 15.3 +2.1
NNA *e* 10 05 34.5
NNA LR LR
comp=Z,2µm,20.0s,MS6.0
CPUP Villa Florida 150.04 168 PKPbc PKPbc 10 05 14.9 +1.2
comp=Z,80nm,0.8s,baz=197,slow=2.3,SNR=35
CPUP Villa Florida 150.04 168 *e*PKPdf PKPdf 10 05 10.1 +1.3
CPUP *e*PKPbc PKPbc 10 05 15.1 +1.3
CPUP *e*PKPab PKPab 10 05 20.1 +0.5
CPUP LR LR
comp=Z,2µm,19.0s,MS5.8
ATAH Atahualpa 150.38 110 PKPbc PKPbc 10 05 17.5 +2.9
comp=Z,124nm,0.7s,baz=160,slow=3.0,SNR=18
CAM4 Nova Friburgo 153.59 197 *e*P PKPdf 10 05 22.9 +8.8
CAM4 *i* 10 05 24.7
CAM4 *i* 10 05 26.4
CAM4 *i* 10 05 28.5
CAM4 *i* 10 05 33.6
CAM4 *i* 10 05 35.4
LPAZ La Paz 154.03 138 PKP PKPdf 10 05 17.7 +3.0
comp=Z,11nm,1.0s,baz=127,slow=1.2,SNR=13
LPAZ PKPbc PKPbc 10 05 27.0 +4.2
comp=Z,16nm,0.7s,baz=208,slow=5.3,SNR=19
LPAZ La Paz 154.03 138 PKIKP PKPdf 10 05 17.7 +2.9
LPAZ 10 05 27.0
LPAZ pmax pmax
comp=Z,16nm,0.7s
LPAZ La Paz 154.03 138 *e*PKPdf PKPdf 10 05 17.8 +3.1
LPAZ LR LR
comp=Z,4µm,20.0s,MS6.2
CAM3 Guarapari 154.43 202 *e*P PKPdf 10 05 19.8 +4.5
CAM3 *i* 10 05 27.9
CAM3 *i* 10 05 31.0
CAM3 *i* 10 05 35.0
CAM3 *i* 10 05 39.7
CAM3 *i* 10 05 42.9
CAM3 *i* 10 05 58.5
ROSC El Rosal 156.12 85 PKP PKPdf 10 05 20.4 +2.8
comp=Z,16nm,0.8s,baz=71,slow=22,SNR=8.0
ROSC PKPab PKPab 10 05 47.3 +2.1
comp=Z,21nm,0.8s,baz=95,slow=16,SNR=5.9
ROSC El Rosal 156.12 85 *e*PKPdf PKPdf 10 05 20.7 +3.0
SIV San Ignacio 158.36 151 PKP PKPdf 10 05 22.1 +1.6
comp=Z,7.5nm,0.9s,baz=253,slow=1.3,SNR=27
SIV PKPab PKPab 10 05 55.7 +0.8
comp=Z,66nm,1.0s,baz=234,slow=4.8,SNR=20
SJG San Juan 158.55 45 PKP PKPdf 10 05 21.5 +0.8
comp=Z,7.5nm,0.3s,baz=332,slow=22,SNR=3.0
SJG PKPab PKPab 10 05 56.6 +0.9
comp=Z,30nm,0.7s,baz=330,slow=4.1,SNR=7.3
SJG San Juan 158.55 45 PKPbc PKPdf 10 05 21.5 +0.8
SJG PKPab PKPab 10 05 56.6 +0.9
SJG LR LR
comp=Z,5µm,21.0s,MS6.3
CPD Cerro la Pandu 158.76 44 *e*PKIKP PKPdf 10 05 23.3 +2.4
SDV Santo Domingo 159.13 73 PKP PKPdf 10 05 22.7 +1.3
comp=Z,61nm,1.0s,baz=62,slow=1.1,SNR=32
SDV PKPab PKPab 10 06 00.9 +2.7
comp=Z,71nm,0.7s,baz=294,slow=6.8,SNR=16
SDV Santo Domingo 159.13 73 *e*PKPdf PKPdf 10 05 22.3 +1.0
SDV *e*PKPab PKPab 10 06 01.5 +3.3
SDV LR LR
comp=Z,3µm,21.0s,MS6.1
BDFB Brasilia 161.26 187 PKP PKPdf 10 05 25.5 +1.8
comp=Z,16nm,1.0s,baz=97,slow=1.2,SNR=8.2
BDFB PKPab PKPab 10 06 09.1 +1.6
comp=Z,19nm,0.9s,baz=143,slow=5.0,SNR=5.4
BDFB PP PP 10 09 52.7 +2.1
comp=Z,15nm,1.0s,baz=109,slow=7.9,SNR=4.1
BDFB Brasilia 161.26 187 PKP PKPdf 10 05 25.5 +1.8
BDFB PKPab PKPab 10 06 09.1 +1.6
BDFB PP PP 10 09 52.7 +2.1
BDFB LR LR
comp=Z,12µm,21.0s
BAO Brasilia Array 161.27 187 PKPdf PKPdf 10 05 27.0 +3.3
RCBR Riachuelo 162.99 239 PFAKE 10 05 40.0 +15
RCBR LR LR
comp=Z,6µm,21.0s

IDC ***16*** *09:52:29.7±0.7,293S×129.55E,h0km,mb4.5/6,mb1 4.7/7, mb1mx4.5/16,mbtmp4.5/7,ML4.6/1, Error ellipse: s-maj=46.7km s-min=18.8km az=80.0*
NEIC ***16*** *09:52:31.0±0.7,283S×129.90E,h10km,mb5.1/1, Error ellipse: s-maj=22.2km s-min=10.3km az=69.0*
ISCJB ***16*** *09:52:35.9±2.9,293S±0.0×129.8E±0.1,h72km±29km, mb4.9/12, Error ellipse: s-maj=25.1km s-min=12.1km az=123.0*

ISC 16 09:52:36.9±2.5, 291S±0.0×1298E±0.1, h62km±26km, n24, σ0.8/84/18, mb4.9/12, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.64**	**195**	Pn	**Pn**	**09 56 15.4**	**+2.0**
	1.7nm,0.3s,baz=16,slow=18,SNR=2.1						
KKM	**Kota Kinabalu**	**16.24**	**303**	*e*Pn	**Pn**	**09 56 21.3**	**+0.3**
WRAB	**Tennant Creek**	**17.49**	**166**	Pn	**Pn**	**09 56 35.6**	**-0.8**
	152nm,1.0s						

WRA	Warramunga Arr	17.49	166	P	Pn	09 56 36.3	-0.2
	2.3nm,0.3s,baz=351,slow=11,SNR=6.7						
KSM	Kuching	19.99	282	eP	Pn	09 57 03.1	-3.3
ASAR	Alice Springs	21.01	170	P	P	09 57 14.7	-0.6
	39nm,0.7s,mb4.9,baz=347,slow=11,SNR=8.1						
MJAR	Matsushiro Arr	40.02	11	P	P	10 00 05.9	+0.2
	5.5nm,0.7s,mb4.4,baz=183,slow=8.5,SNR=11						
MAT	Matsushiro	40.02	11	P	P	10 00 05.7	0.0
GUN	Gumba	52.20	309	eP	P	10 01 40.8	-0.5
	36nm,0.6s,mb5.5						
PKI	Pulchoki	52.41	308	eP	P	10 01 41.9	-1.0
	15nm,0.7s,mb5.1						
KKN	Kakani	52.61	309	eP	P	10 01 44.3	-0.1
	17nm,0.6s,mb5.2						
DMN	Daman	52.66	308	eP	P	10 01 44.7	-0.1
	28nm,0.7s,mb5.3						
GKN	Gorkha	53.21	308	eP	P	10 01 48.8	0.0
	58nm,0.9s,mb5.5						
KOLN	Koldanda	53.92	308	eP	P	10 01 53.8	-0.2
	58nm,0.8s,mb5.6						
SONM	Songino Array	54.54	341	P	P	10 01 59.7	+1.2
	3.5nm,0.6s,mb4.5,baz=156,slow=7.0,SNR=5.5						
ZAL	Zalesovo	67.87	333	P	P	10 03 28.9	+0.2
	3.6nm,0.4s,mb4.7,baz=1.9,slow=9.4,SNR=3.7						
VNDA	Vanda	76.50	173	P	P	10 04 19.8	-0.3
	1.2nm,0.6s,mb4.0,baz=316,slow=6.5,SNR=4.2						
OPO	Ambohidratompo	82.10	252	P	P	10 04 51.8	+1.2
	2.0nm,0.6s,mb4.2,baz=34,slow=5.8,SNR=6.5						
TORD	Torodi Ar. Bea	127.74	284	PKP	PKPdf	10 11 37.8	+2.6
	2.0nm,0.8s,baz=95,slow=1.5,SNR=3.5						
CFAA	Coronel Fontan	141.62	155	PKhKP		10 11 59.2	
	0.4nm,0.7s,baz=180,slow=2.0,SNR=5.5						
CFAA				PKP	PKPdf	10 12 04.4	+3.4
	0.2nm,0.4s,baz=169,slow=3.8,SNR=5.3						
CFAA	Coronel Fontan	141.62	155	PKP	PKPdf	10 11 59.2	-1.8
LVC	Limon Verde	148.72	145	PKPbc	PKPbc	10 12 21.4	+4.3
	4.4nm,0.8s,baz=184,slow=4.4,SNR=6.2						
CPUP	Villa Florida	150.12	167	PKPbc	PKPbc	10 12 23.4	+2.9
	6.5nm,0.7s,baz=164,slow=1.6,SNR=8.0						
ATAH	Atahualpa	150.16	109	PKPbc	PKPbc	10 12 25.6	+5.0
	8.3nm,0.8s,baz=265,slow=4.8,SNR=4.6						

*IDC **16** 10:19:18.0±0.9,2.99S×129.48E,h0km,mb4.2/6,mb1 4.4/8, mb1mx4.1/18,mbtmp4.2/8,ML4.2/2,Error ellipse: s-maj=74.4km s-min=18.1km az=67.0*
*NEIC **16** 10:19:19.6±0.8,3.11S×129.24E,h10km,mb4.0/1,Error ellipse: s-maj=39.7km s-min=11.3km az=68.0*
*ISCJB **16** 10:19:22.0±3.9,3.1S±0.1×129.4E±0.2,h42km±35km, mb4.3/8,Error ellipse: s-maj=39.3km s-min=20.5km az=131.1*
ISC 16 10:19:25.3±2.9,**3.1S**±0.1×**129.4E**±0.2,**h56**km±27km,**n15**, σ**0^{s}90**/14,**mb4.3**/8,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	9.98	163	eP	Pn	10 21 46.1	+0.2
	7.1nm,0.4s						
FITZ	Fitzroy Crossi	15.33	194	eP	Pn	10 22 59.3	+1.2
	6.7nm,0.4s						
FITZ	Fitzroy Crossi	15.33	194	Pn	Pn	10 22 59.2	+1.1
	0.8nm,0.3s,baz=18,slow=12,SNR=11						
WRA	Warramunga Arr	17.38	164	P	Pn	10 23 21.9	-2.1
	0.9nm,0.3s,baz=352,slow=12,SNR=16						
WB2	Warramunga Arr	17.39	164	eP	Pn	10 23 23.5	-0.5
ASAR	Alice Springs	20.87	168	P	P	10 24 03.6	+1.0
	7.5nm,0.4s,baz=348,slow=11,SNR=37						
ASAR				PcP	PcP	10 28 10.9	+1.8
	0.7nm,0.6s,baz=20,slow=1.8,SNR=5.5						
CTA	Charters Tower	23.53	137	P	P	10 24 31.4	+0.9
	14nm,1.2s,mb4.3,baz=317,slow=20,SNR=3.1						
FORT	Forrest	27.53	183	eP	P	10 25 04.9	-1.7
	23nm,1.8s,mb4.5						
KLBR	Kellerberrin	30.37	200	eP	P	10 25 31.9	+0.1
	84nm,1.9s,mb5.2						
STKA	Stephens Creek	30.80	159	eP	P	10 25 35.9	+0.2
	3.7nm,1.6s,mb4.0						
MKAR	Makanchi Array	64.70	326	P	P	10 29 57.8	+0.3
	1.3nm,0.6s,mb4.2,baz=118,slow=8.6,SNR=8.1						
ZAL	Zalesovo	67.89	333	P	P	10 30 17.4	-0.4
	1.2nm,0.3s,mb4.4,baz=354,slow=14,SNR=3.5						
BVAR	Borovoye Array	74.51	327	P	P	10 30 57.7	-0.2
	0.5nm,0.3s,mb4.0,baz=172,slow=39,SNR=3.9						
VNDA	Vanda	76.33	173	P	P	10 31 08.9	+0.6
	0.4nm,0.4s,mb3.7,baz=320,slow=5.6,SNR=5.8						
CPUP	Villa Florida	149.99	168	PKPbc	PKPbc	10 39 10.7	+1.2
	0.8nm,0.4s,baz=166,slow=4.9,SNR=5.2						

IDC 16 10:24:53.8±14.0,**19.78S**×**177.85W**,**h538**km±157km, **mb3.3**/5,**mb1 3.5**/6,**mb1mx3.2**/16,**mbtmp4.3**/6,**Error ellipse: s-maj=104.8km s-min=36.1km az=32.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	18.93	192	P	P	10 28 40.0	-0.6
	0.8nm,0.3s,baz=17,slow=19,SNR=5.6						
CTA	Charters Tower	33.70	263	P	P	10 30 50.9	+0.6
	5.3nm,0.7s,baz=98,slow=8.9,SNR=5.1						
STKA	Stephens Creek	38.23	243	P	P	10 31 28.6	+0.9
	1.9nm,0.7s,baz=107,slow=6.6,SNR=5.2						
ASAR	Alice Springs	44.82	256	P	P	10 32 20.2	+0.4
	5.8nm,0.8s,baz=88,slow=8.6,SNR=38						
WRA	Warramunga Arr	44.84	261	P	P	10 32 19.9	-0.1
	1.1nm,0.3s,baz=97,slow=7.0,SNR=32						
FITZ	Fitzroy Crossi	53.26	262	P	P	10 33 21.7	-0.5
	1.4nm,0.6s,baz=113,slow=7.7,SNR=5.6						
BRTR	Keskin Array B	146.45	313	PKPbc	PKPbc	10 43 33.6	-1.1
	0.8nm,0.7s,baz=137,slow=4.5,SNR=4.2						
ASF	Jabal al Asfar	146.56	299	PKPbc	PKPbc	10 43 35.7	+0.8
	1.2nm,0.4s,baz=86,slow=4.1,SNR=3.0						
GERES	GERESS Array B	149.55	345	PKPbc	PKPbc	10 43 42.6	+0.1
	0.2nm,0.4s,baz=54,slow=1.7,SNR=5.7						

*IDC **16** 10:31:27.6±4.9,8.15S×107.16E,h0km,mb4.3/6,mb1 4.3/6, mb1mx4.0/19,mbtmp4.3/6,MS4.8/1,Ms1 4.8/1, ms1mx4.0/41,Error ellipse: s-maj=165.8km s-min=37.3km az=112.0*
*ISCJB **16** 10:31:29.0±1.8,8.5S±0.2×107.6E±0.2,h33km,mb4.5/11, MS4.7/1,Error ellipse: s-maj=38.6km s-min=22.0km az=89.4*
*NEIC **16** 10:31:29.6±2.2,8.10S×107.08E,h10km,mb4.7/1,Error ellipse: s-maj=63.0km s-min=21.5km az=134.0*
ISC 16 10:31:31.4±1.8,**8.5S**±0.2×**107.6E**±0.2,**h35**km,**n17**,σ**1^{s}08**/16, **mb4.5**/11,**MS4.7**/1,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	16.78	31	ePn	Pn	10 35 24.6	+1.0
WRA	Warramunga Arr	28.24	117	LR	LR	10 47 47.1	
	comp=Z,2µm,19.2s,MS4.7,baz=10.0,slow=34						
JIRN	Jiri	41.49	331	eP	P	10 39 15.7	+0.8
	18nm,0.7s,mb4.8						
PKI	Pulchoki	41.80	330	eP	P	10 39 18.0	+0.5
GUN	Gumba	41.85	331	eP	P	10 39 18.6	+0.7
DMN	Daman	41.98	329	eP	P	10 39 19.4	+0.4
	28nm,0.8s,mb4.9						
KKN	Kakani	42.04	330	eP	P	10 39 19.8	+0.3
GKN	Gorkha	42.54	329	eP	P	10 39 23.7	+0.2
	15nm,0.6s,mb4.9						
KOLN	Koldanda	42.88	328	eP	P	10 39 26.7	+0.4
	33nm,0.7s,mb5.2						
SONM	Songino Array	56.08	359	P	P	10 41 06.2	-0.7
	2.2nm,0.6s,mb4.4,baz=176,slow=7.8,SNR=12						
MKAR	Makanchi Array	59.48	340	P	P	10 41 29.4	-1.3
	7.7nm,0.6s,mb4.9,baz=141,slow=7.1,SNR=42						
BVAR	Borovoye Array	68.96	337	P	P	10 42 30.2	-2.7
	2.5nm,0.6s,mb4.3,baz=147,slow=8.4,SNR=11						
CHKZ	Chkalovo	69.38	338	eP	P	10 42 33.7	-1.8
	3.8nm,0.6s,mb4.5						
AKTK	Aktyubinsk	72.70	329	P	P	10 42 56.2	+0.6
AKTO	Aktyubinsk	72.70	329	P	P	10 42 56.2	+0.6
	1.2nm,0.6s,mb4.0,baz=149,slow=5.9,SNR=6.0						
BOSA	Boshof	79.32	242	P	P	10 43 34.7	+1.3
	1.4nm,0.6s,mb4.1,baz=172,slow=7.1,SNR=4.7						
BRTR	Keskin Array B	83.27	312	P	P	10 43 52.5	-1.8
	0.9nm,0.8s,mb3.9,baz=126,slow=7.3,SNR=4.3						

*IDC **16** 10:32:15.5±0.8,2.88S×129.98E,h0km,mb4.2/8, mb1 4.4/10,mb1mx4.2/18,mbtmp4.2/10,ML4.2/2,Error ellipse: s-maj=60.6km s-min=15.7km az=75.0*
*NEIC **16** 10:32:16.9±0.6,2.92S×130.01E,h10km,mb4.3/6,Error ellipse: s-maj=21.1km s-min=8.5km az=65.0*
*ISCJB **16** 10:32:18.4±0.5,2.97S±0.06×130.09E±0.09,h33km, mb4.2/10,Error ellipse: s-maj=14.0km s-min=7.8km az=140.1*
ISC 16 10:32:20.8±0.5,**2.95S**±0.06×**130.00E**±0.09,**h35**km,**n27**, σ**1^{s}32**/27,**mb4.2**/10,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	1.94	248	P	Pn	10 32 52.3	+1.0
	2µm,1.2s						
SWI	Sorong	2.43	31	P	Pn	10 32 59.4	+1.5
	790nm,0.7s						
KAKA	Kakadu	9.99	166	eP	Pn	10 34 42.1	+0.3
	13nm,0.6s						
FITZ	Fitzroy Crossi	15.65	196	eP	Pn	10 35 56.9	-1.7
	17nm,1.4s						
FITZ	Fitzroy Crossi	15.65	196	Pn	Pn	10 35 57.1	-1.5
	0.5nm,0.3s,baz=33,slow=17,SNR=9.7						
WRAB	Tennant Creek	17.41	166	ePn	Pn	10 36 20.7	-0.1
	18nm,0.6s						
WRAB				e		10 36 31.2	
WRA	Warramunga Arr	17.41	166	Pn	Pn	10 36 18.9	-2.0
	1.0nm,0.3s,baz=348,slow=12,SNR=22						
WRA				Sn	Sn	10 39 37.3	+3.7
	0.2nm,0.3s,baz=343,slow=22,SNR=5.4						
WB2	Warramunga Arr	17.41	166	eP	Pn	10 36 18.6	-2.3
KSM	Kuching	20.17	282	eP	P	10 36 50.4	-1.7
BJII	Banjamegara	20.67	257	P	P	10 37 00.8	+3.3
	54nm,1.2s						
AS31	Alice Springs	20.94	170	eP	P	10 37 00.8	+0.4
ASAR	Alice Springs	20.94	170	P	P	10 37 01.1	+0.7
	19nm,0.7s,baz=348,slow=10,SNR=47						
CTA	Charters Tower	23.28	138	eP	P	10 37 25.4	+0.1
	5.0nm,0.6s,mb4.1						
CTA	Charters Tower	23.28	138	P	P	10 37 29.0	+3.7
	3.1nm,0.6s,mb4.0,baz=308,slow=11,SNR=3.7						
STKA	Stephens Creek	30.77	160	eP	P	10 38 33.8	+0.9
	3.6nm,0.8s,mb4.2						
STKA	Stephens Creek	30.77	160	P	P	10 38 33.6	+0.8
	2.5nm,0.8s,mb4.1,baz=348,slow=7.1,SNR=5.6						
PSI	Prapat	31.58	280	P	P	10 38 42.6	+2.6
	6.6nm,0.9s,mb4.5,baz=86,slow=7.6,SNR=4.9						
CHTO	Chiang Mai	37.44	307	eP	P	10 39 30.1	-0.5
	7.1nm,0.8s,mb4.5						
MJAR	Matsushiro Arr	40.03	10	P	P	10 39 51.2	-1.1
	2.1nm,0.9s,mb3.9,baz=191,slow=9.6,SNR=5.8						
MJAR	Matsushiro Arr	40.03	10	P	P	10 39 51.2	-1.1
MKAR	Makanchi Array	64.88	326	P	P	10 42 56.1	-0.2
	1.4nm,0.6s,mb4.2,baz=131,slow=5.5,SNR=3.7						
ZAL	Zalesovo	67.98	333	P	P	10 43 14.9	-1.3
	3.3nm,0.3s,mb4.9,baz=199,slow=2.9,SNR=3.5						
BVAR	Borovoye Array	74.67	327	P	P	10 43 57.5	+0.9
	1.2nm,0.8s,mb3.9,baz=131,slow=4.5,SNR=4.1						
VNDA	Vanda	76.44	173	P	P	10 44 07.1	+0.3
	0.5nm,0.7s,mb3.5,baz=293,slow=7.7,SNR=2.5						
VNDA	Vanda	76.44	173	eP	P	10 44 06.6	-0.2
	14nm,1.6s,mb4.6						
VNDA				e	pP	10 44 17.1	-0.6
AKTO	Aktyubinsk	80.89	322	P	P	10 44 30.9	-0.3
	0.9nm,0.6s,mb3.9,baz=90,slow=7.1,SNR=2.9						
CPUP	Villa Florida	150.04	167	PKPbc	PKPbc	10 52 09.5	+1.9
	2.7nm,0.7s,baz=169,slow=0.6,SNR=6.7						

*THR **16** 10:42:52.2±0.4,37.75N×57.88E,h14km±6km,ML4.6*
*ISCJB **16** 10:42:53.6±0.2,37.63N±0.02×57.72E±0.02,h10km, mb4.4/34,Error ellipse: s-maj=3.3km s-min=2.5km az=2.3*
*IDC **16** 10:42:54.3±1.1,37.54N×57.56E,h0km,mb4.1/14, mb1 4.2/17,mb1mx4.1/28,mbtmp4.1/17,ML4.4/3,Error ellipse: s-maj=21.4km s-min=14.4km az=175.0*
*BJI **16** 10:42:54.8,38.00N×57.09E,h28km,mb4.5,Ms4.5*
*NEIC **16** 10:42:55.4,37.60N×57.75E,h3km,mb4.2/10,MN4.7(TEH), After TEH.*
*PDA **16** 10:42:55.4,37.60N×57.75E,h3km,mb4.2*
*TEH **16** 10:42:55.4,37.60N×57.75E,h3km,Mn4.7*
*CSEM **16** 10:42:55.1±0.1,37.55N×57.74E,h18km,mb4.3/11,Error ellipse: s-maj=1.6km s-min=1.5km az=174.0*
*MOS **16** 10:42:58.6±1.6,37.93N×57.79E,h33km,mb4.3/19,Error ellipse: s-maj=7.4km s-min=6.0km az=84.6*
*NNC **16** 10:42:59.9±2.3,38.12N×58.19E,h0km,mb4.5,Error ellipse: s-maj=22.0km s-min=9.9km az=7.0*
*SZGRF **16** 10:43:08.3,39.45N×57.93E,h33km,mb3.9,Turkmenistan*
ISC 16 10:42:55.3±0.2,**37.62N**±0.02×**57.75E**±0.02,**h10**km,**n193**, σ**1^{s}25**/211,**mb4.4**/34,**8C-8D**,**Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISHV	Shirvan	0.10	204	ePg	Pg	10 42 57.1	-0.8
ISHV	Shirvan	0.10	204	Pg	Pg	10 42 57.0	-0.9
ISFR	Esferayen	0.61	161	ePg	Pg	10 43 04.3	-2.9
ISFR	Esferayen	0.61	161	Pg	Pg	10 43 04.2	-3.0
IEMG	Emamqoli	0.75	106	ePg	Pg	10 43 09.5	-0.3
IEMG	Emamqoli	0.75	106	Pg	Pg	10 43 09.4	-0.4
IQHU	Quchan	0.84	131	ePg	Pg	10 43 09.6	-2.0
IKRD	Kardeh	1.05	144	ePn	Sg	10 43 24.3	-4.9
IKRD	Kardeh	1.05	144	Pn	Sg	10 43 24.2	-5.0
IAKL	Akhlamad	1.30	143	ePn	Pn	10 43 17.3	-2.2
IAKL	Akhlamad	1.30	143	Pn	Pn	10 43 17.2	-2.3
MRVT	Maraveh tapeh	1.31	272	ePG	Pg	10 43 18.2	-2.4
MRVT				eSG	Sg	10 43 37.5	-0.2
IPAY	Payeh	1.54	139	ePn	Pn	10 43 21.0	-1.8
MHI	Mashhad	1.91	133	ePn	Pn	10 43 28.4	+0.6
IMYA	Miamay	2.28	123	ePn	Pn	10 43 34.3	+1.3
IMYA				ePn	Pn	10 43 34.5	+1.5
IMYA				eSn	Sn	10 44 01.7	+0.6
IMYA	Miamay	2.28	123	Pn	Pn	10 43 34.3	+1.3
IMYA				Sn	Sn	10 44 01.6	+0.5
IGLO	Galoogah	3.65	250	ePn	Pn	10 43 47.8	-4.0
IGLO	Galoogah	3.65	250	Pn	Pn	10 43 47.7	-4.1
IFIR	Firoozkooh	4.47	245	ePn	Pn	10 44 03.9	+0.7
IFIR	Firoozkooh	4.47	245	Pn	Pn	10 44 03.8	+0.6
IPRN	Paran-Amol	4.62	254	ePn	Pn	10 44 04.4	-0.8
IPRN				ePn	Pn	10 44 05.6	+0.4
IPRN				eSn	Sn	10 44 57.3	-1.5
IPRN	Paran-Amol	4.62	254	Pn	Pn	10 44 04.3	-0.9
IPRN				Sn	Sn	10 44 57.3	-1.5
IMON		4.69	160	ePn	Pn	10 44 06.2	+0.1
IDMV	Damavand	5.03	248	ePn	Pn	10 44 11.7	+0.9
IDMV	Damavand	5.03	248	Pn	Pn	10 44 11.6	+0.8
DAMV	Damavand	5.05	249	ePn	Pn	10 44 11.9	+0.8
DAMV				AML	AML	10 44 38.1	
	comp=Z,318nm,1.6s						
IDAH		5.17	160	ePn	Pn	10 44 12.6	-0.2
IKOO		5.29	168	ePn	Pn	10 44 13.9	-0.5
IVRN	Varamin	5.52	243	ePn	Pn	10 44 17.2	-0.3
IVRN				ePn	Pn	10 44 17.4	-0.1
IVRN				eSn	Sn	10 45 18.4	-2.7
IVRN	Varamin	5.52	243	ePn	Pn	10 44 17.4	-0.1
IVRN				eSn	Sn	10 45 18.4	-2.7
ISFB	Sefidab	5.53	236	ePn	Pn	10 44 17.5	-0.2
CHTH	Charan	5.58	254	ePn	Pn	10 44 19.2	+0.8
CHTH				AML	AML	10 44 55.2	
	comp=Z,212nm,1.4s						
THKV	Tehran--Karaj	5.77	255	ePn	Pn	10 44 21.8	+0.8
ICHK	Chekchek	6.03	208	ePn	Pn	10 44 24.1	-0.4
ICHK	Chekchek	6.03	208	Pn	Pn	10 44 24.0	-0.5
IGZV	Gazvin	6.15	261	ePn	Pn	10 44 26.2	0.0
IGZV	Gazvin	6.15	261	Pn	Pn	10 44 26.1	-0.1
IBAF	Bafgh	6.28	197	ePn	Pn	10 44 28.0	0.0
IBAF	Bafgh	6.28	197	Pn	Pn	10 44 27.9	-0.1
IZEF	Zefreh	6.47	225	ePn	Pn	10 44 30.3	-0.3
IKLH	Kalahroud	6.61	231	ePn	Pn	10 44 32.4	-0.2
IKLH	Kalahroud	6.61	231	Pn	Pn	10 44 32.3	-0.3
IMEH	Mehriz	6.73	203	ePn	Pn	10 44 33.9	-0.3
IMEH	Mehriz	6.73	203	Pn	Pn	10 44 33.8	-0.4
ASAO	Ashtian	6.96	246	ePN	Pn	10 44 38.1	+0.7
IGAR	Garneh	7.04	222	ePn	Pn	10 44 38.5	+0.1
IPIR	Pirpir	7.47	231	ePn	Pn	10 44 45.5	+1.2
IPIR	Pirpir	7.47	231	Pn	Pn	10 44 45.4	+1.1
KRBR	Kerman	7.67	186	ePN	Pn	10 44 47.7	+0.7
IHSH	Hashtroud	8.31	278	ePn	Pn	10 44 55.8	0.0
IHRS	Heris	8.48	278	ePn	Pn	10 44 57.8	-0.4
IHRS	Heris	8.48	278	Pn	Pn	10 44 57.7	-0.5
IBST	Bostanabad	8.61	274	ePn	Pn	10 44 58.4	-1.5
DGRG	David-gareji	10.29	296	P	Pn	10 45 22.1	-0.9
GNI	Garni	10.45	288	Pn	Pn	10 45 24.0	-1.2
	comp=Z,0.6nm,0.3s,baz=229,slow=11,SNR=4.1						
GNI				Sn	Sn	10 47 24.4	+2.2
	comp=Z,0.7nm,0.3s,baz=273,slow=18,SNR=1.8						
GNI	Garni	10.45	288	P	Pn	10 45 24.0	-1.1
GNI						10 47 24.4	
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				smax			
	comp=N,1.0nm,0.3s						
GNI	Garni	10.45	288	S	Sn	10 47 24.4	+2.2
	comp=N,1.0nm,0.3s						
MTA	Mtatsminda	10.78	296	P	Pn	10 45 30.1	+0.4
TBLG	Delisi	10.83	296	P	Pn	10 45 30.7	+0.3
DUS	Dusheti	10.97	298	P	Pn	10 45 34.7	+2.4
KK31	Karatay Array	11.17	57	Pn	Pn	10 45 33.3	-1.7
	comp=N,5.7nm,0.5s,baz=241,slow=18,SNR=64						
KK31				⇓Sn	Sn	10 47 38.9	-1.1
	comp=N,15nm,0.5s						
KK31	Karatay Array	11.17	57	i P	Pn	10 45 33.3	-1.7
KK31				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR	Karatay Array	11.17	57	P	Pn	10 45 33.3	-1.7
KKAR				S	Sn	10 47 38.8	-1.1
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR				smax			
	comp=Z,8.0nm,0.5s						
GOR	Gori	11.36	297	P	Pn	10 45 29.0	-8.5
MIB	Mutribah	11.65	231	eP	Pn	10 45 39.4	-2.2
AB31	Akbulak array	11.74	7	Pn	Pn	10 45 41.3	-1.5
	comp=Z,11nm,0.6s,baz=191,slow=12,SNR=84						
AB31				⇓Sn	Sn	10 47 49.8	-4.0
	comp=Z,20nm,0.6s,baz=197,slow=26,SNR=6.2						
ANR	Andizhan	11.77	70	eP	Pn	10 45 47.5	+4.3
ZEI	Tsey	11.77	300	eP	Pn	10 45 40.9	-2.3
NAY	Al-Naaiem	12.10	229	eP	Pn	10 45 44.7	-3.1
CEP	Cherat	12.12	104	P	Pn	10 45 48.6	+0.6
RDF	Al-Radifah	12.16	227	eP	Pn	10 45 46.0	-2.5
AKTK	Aktyubinsk	12.81	1	Pn	Pn	10 45 57.0	-0.5
AKTK				Sn	Sn	10 48 13.6	-6.5
AKTO	Aktyubinsk	12.81	1	⇑Pn	Pn	10 45 56.6	-0.8
	comp=Z,0.4nm,0.7s						
AKTO				⇓Sn	Sn	10 48 13.5	-6.6
	comp=Z,0.6nm,0.7s						
AKTO	Aktyubinsk	12.81	1	Pn	Pn	10 45 57.0	-0.5
	comp=Z,2.3nm,0.3s,baz=176,slow=14,SNR=26						
AKTO				Sn	Sn	10 48 13.6	-6.5
	comp=Z,1.7nm,0.3s,baz=270,slow=20,SNR=4.2						
AKTO	Aktyubinsk	12.81	1	P	Pn	10 45 57.0	-0.5
AKTO						10 48 13.6	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				smax			
	comp=N,2.0nm,0.3s						
KIV	Kislovodsk	13.04	304	eP	Pn	10 45 58.9	-1.7
KIV				eS	Sn	10 48 23.1	-2.6
KIV				pmax	pmax		
	comp=Z,20nm,0.7s						
KIV	Kislovodsk	13.04	304	ePn	Pn	10 45 59.2	-1.4
	comp=Z,22nm,0.6s						
KIV				eSn	Sn	10 48 23.0	-2.6
KIV	Kislovodsk	13.04	304	ePn	Pn	10 45 59.2	-1.4
	comp=Z,22nm,0.6s						
CHCP	Chirah Chowk	13.23	103	P	Pn	10 46 02.7	-0.4
AAK	Ala-Archa	13.75	63	eP	Pn	10 46 08.9	-1.4
AAK				e		10 48 44.1	
AAK				pmax	pmax		
	comp=Z,318nm,1.3s						
AAK	Ala-Archa	13.75	63	ePn	Pn	10 46 08.9	-1.4
	comp=Z,318nm,1.3s						
AAK				epPn		10 46 15.1	
AAK				eSn	Sn	10 48 44.1	+1.0
AAK	Ala-Archa	13.75	63	ePn	Pn	10 46 08.9	-1.4
AAK				eS	Sn	10 48 44.1	+1.0
FRU	Bishkek	13.89	63	eP	Pn	10 46 13.0	+0.7
TKM2	Tokmak 2	14.61	63	P	Pn	10 46 21.4	-0.6
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TKM2	Tokmak 2	14.61	63	P	Pn	10 46 21.4	-0.6
	comp=Z,10.0nm,1.1s						
ZRNK	Zerenda	17.22	24	⇑P	Pn	10 46 54.0	-1.9
	comp=Z,13nm,0.6s						
ZRNK	Zerenda	17.22	24	P	Pn	10 46 54.0	-1.9
ZRNK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VOSK	Vostochnaya	17.70	27	⇑P	Pn	10 47 00.1	-1.8
	comp=Z,21nm,0.8s						
VOSK	Vostochnaya	17.70	27	P	Pn	10 47 00.0	-1.9
VOSK				pmax	pmax		
	comp=Z,17nm,0.8s						
BRVK	Borovoye	17.73	25	eP	Pn	10 47 00.7	-1.5
BRVK				e		10 50 16.4	
BRVK				pmax	pmax		
	comp=Z,24nm,0.8s						
BRVK	Borovoye	17.73	25	ePn	Pn	10 47 00.7	-1.6
	comp=Z,24nm,0.8s						
BRVK				epPn		10 47 06.1	
BRVK				eSn	Sn	10 50 16.4	-3.4
BRVK	Borovoye	17.73	25	ePn	Pn	10 47 00.7	-1.5
BVA0	Borovoye Array	17.74	26	P	Pn	10 47 00.7	-1.7
	comp=Z,5.5nm,0.6s,baz=200,slow=13,SNR=199						
BVA0	Borovoye Array	17.74	26	i P	Pn	10 47 00.6	-1.8
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	Borovoye Array	17.74	26	P	Pn	10 47 03.8	+1.4
	comp=Z,10nm,0.3s,baz=212,slow=12,SNR=48						
BVAR	Borovoye Array	17.74	26	P	Pn	10 47 03.8	+1.4
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASF	Jabal al Asfar	17.93	259	P	Pn	10 47 07.7	+2.9
	comp=Z,0.2nm,0.3s,baz=260,slow=6.1,SNR=3.0						
ASF	Jabal al Asfar	17.93	259	P	Pn	10 47 07.7	+2.9
CHKZ	Chkalovo	18.36	25	⇑P	Pn	10 47 08.7	-1.2
	comp=Z,42nm,0.8s						
CHKZ	Chkalovo	18.36	25	P	Pn	10 47 08.3	-1.6
CHKZ				pmax	pmax		
	comp=Z,31nm,0.8s						
ARU	Arti	18.82	1	eP	Pn	10 47 10.7	-4.9
ARU				eS	Sn	10 50 38.9	-7.4
ARU	Arti	18.82	1	eP	Pn	10 47 15.4	-0.2
	comp=Z,17nm,0.7s						
BR131	Keskin Array S	18.93	284	eP	Pn	10 47 16.3	-0.6
	comp=Z,8.7nm,1.0s						
BR131	Keskin Array S	18.93	284	eP	Pn	10 47 16.3	-0.6
	comp=Z,8.7nm,1.0s						
BRTR	Keskin Array B	18.93	284	P	Pn	10 47 16.5	-0.4
	comp=Z,0.2nm,0.3s,baz=90,slow=12,SNR=14						
SVE	Sverdlovsk	19.31	5	eP	Pn	10 47 30.0	+8.5
MKAR	Makanchi Array	20.29	55	P	P	10 47 33.0	+1.8
	comp=Z,8.5nm,0.6s,baz=243,slow=10,SNR=8.8						
MKAR	Makanchi Array	20.29	55	P	P	10 47 33.0	+1.8
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MOS	Moscow	22.63	330	eP	P	10 48 00.4	+4.1
MOS				e		10 48 17.5	
OBN	Obninsk	22.64	327	eP	P	10 47 54.8	-1.6
OBN				e		10 48 16.0	
OBN				e		10 51 48.6	
OBN				eSS		10 52 30.8	
OBN				pmax	pmax		
	comp=Z,40nm,1.7s,mb4.6						
OBN	Obninsk	22.64	327	eP	P	10 47 54.8	-1.6
	comp=Z,40nm,1.7s,mb4.6						
OBN	Obninsk	22.64	327	ePcP	PcP	10 51 48.6	-0.5
TIRR	Tirgusor	23.07	296	⇑iP	P	10 48 02.3	+1.3
WMQ	Urumqi	23.45	65	eP	P	10 48 10.0	+5.1
WMQ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
KOLN	Koldanda	23.81	107	eP	P	10 48 07.8	-0.6
	comp=Z,84nm,1.5s,mb5.0						
AKASG	Malin Array Be	24.11	312	P	P	10 48 11.2	+0.1
	comp=Z,3.1nm,0.7s,mb3.9,baz=114,slow=7.7,SNR=26						
AKASG	Malin Array Be	24.11	312	P	P	10 48 11.2	+0.1
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKBB	Malin Array Si	24.11	312	eP	P	10 48 10.7	-0.4
AKBB				epP		10 48 16.3	
NVS	Novosibirsk	24.43	37	eP	P	10 48 21.1	+7.1
NVS				pmax	pmax		
	comp=N,5.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
VRI	Vrincioaia	24.45	300	⇓iP	P	10 48 16.9	+2.7
GKN	Gorkha	24.48	105	eP	P	10 48 15.0	+0.5
	comp=Z,58nm,0.9s,mb5.0						

PLOR	Plostina	24.50	299	⇑iP	P	10 48 16.3	+1.6
ZAL	Zalesovo	24.72	40	P	P	10 48 18.1	+1.4
	comp=Z,3.2nm,0.6s,mb4.1,baz=173,slow=8.6,SNR=8.8						
ZAL	Zalesovo	24.72	40	P	P	10 48 18.1	+1.4
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	Zalesovo	24.72	40	P	P	10 48 18.0	+1.3
MLR	Muntele Rosu	24.94	298	P	P	10 48 19.7	+1.0
	comp=Z,18nm,0.8s,mb4.7,baz=349,slow=3.2,SNR=10.0						
MLR	Muntele Rosu	24.94	298	⇓iP	P	10 48 21.3	+2.6
MLR	Muntele Rosu	24.94	298	P	P	10 48 19.7	+1.0
MLR				pmax	pmax		
	comp=Z,18nm,0.8s						
DMN	Daman	25.04	105	eP	P	10 48 20.8	+1.2
	comp=Z,48nm,0.9s,mb5.0						
KKN	Kakani	25.08	105	eP	P	10 48 20.9	+0.9
	comp=Z,22nm,0.6s,mb4.9						
PKI	Pulchoki	25.29	105	eP	P	10 48 23.3	+1.4
	comp=Z,38nm,0.8s,mb5.0						
GUN	Gumba	25.48	104	eP	P	10 48 25.5	+1.9
	comp=Z,52nm,0.8s,mb5.1						
MTUR	Matau	25.53	298	⇓iP	P	10 48 32.6	+8.6
VOIR		25.56	298	⇓iP	P	10 48 30.4	+6.1
BURAR	Bucovina Array	25.77	303	⇓iP	P	10 48 27.2	+1.0
JIRN	Jiri	25.84	104	eP	P	10 48 28.8	+1.9
	comp=Z,61nm,0.9s,mb5.1						
GZR	Gura Zlata	27.15	298	⇑iP	pP	10 48 51.6	+10
DRGR		27.33	301	⇑iP	P	10 48 47.0	+6.7
KOLS	Kolonicke sedl	27.94	305	eP	P	10 48 46.2	+0.4
KECS	Kecovo	29.04	304	e	pP	10 49 06.0	+7.4
KECS	Kecovo	29.04	304	eP	pP	10 49 06.1	+7.5
OJC	Ojcow	29.76	307	eP	P	10 49 03.3	+1.4
VYHS	Vyhne	30.13	304	eP	P	10 49 05.8	+0.6
FINES	FINESS Array B	30.93	331	P	P	10 49 12.9	+0.6
	comp=Z,1.4nm,0.7s,mb3.9,baz=142,slow=9.6,SNR=4.1						
FINES	FINESS Array B	30.93	331	P	P	10 49 12.9	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GTA	Gaotai	32.75	74	eP	P	10 49 35.3	+7.0
GTA				AP	pP	10 49 41.8	+10
GTA				XP	sP	10 49 45.3	+13
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
BRG	Berggiesshubel	33.55	307	e(P)	P	10 49 42.0	+6.7
	comp=Z,4.0nm,1.1s,mb4.2						
BRG	Berggiesshubel	33.55	307	eP	P	10 49 42.0	+6.7
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
GERES	GERESS Array B	33.55	304	P	P	10 49 35.5	+0.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=107,slow=4.6,SNR=3.8						
CLL	Collm	34.19	308	esP	sP	10 49 44.0	-1.1
ZAK	Zakamensk	34.61	54	eP	P	10 49 50.0	+5.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s,mb3.5						
GRA1	Grafenberg Arr	35.21	305	eP	P	10 49 51.0	+1.4
	comp=Z,1.0nm,0.7s,mb3.9						
GRF	Grafenberg Arr	35.21	305	eP	P	10 49 51.0	+1.4
	comp=Z,1.0nm,0.7s,mb3.9						
GRF	Grafenberg Arr	35.21	305	eP	P	10 49 51.0	+1.4
GRF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
GRF	Grafenberg Arr	35.21	305	eP	P	10 49 51.0	+1.4
GRF				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
HFS	Hagfors	35.72	323	P	P	10 49 54.3	+0.3
	comp=Z,4.5nm,0.9s,mb4.4,baz=108,slow=9.5,SNR=6.9						
HFS	Hagfors	35.72	323	P	P	10 49 54.3	+0.3
HFS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	ARCESS Array B	36.37	342	P	P	10 50 00.4	+0.8
	comp=Z,1.3nm,0.6s,mb4.0,baz=141,slow=9.2,SNR=6.2						
ARCES	ARCESS Array B	36.37	342	P	P	10 50 00.4	+0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	Songino Array	36.62	58	P	P	10 50 04.7	+3.0
	comp=Z,0.6nm,0.4s,mb3.7,baz=270,slow=9.6,SNR=4.2						
SONM	Songino Array	36.62	58	P	P	10 50 04.7	+3.0
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ULN	Ulaanbaatar	37.06	58	eP	P	10 50 06.5	+1.0
ULN				e*PP	pP	10 50 11.5	+2.9
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ULN	Ulaanbaatar	37.06	58	eP	P	10 50 06.5	+1.1
	comp=Z,1.2nm,0.6s,mb3.9						
ULN				epP	pP	10 50 11.5	+2.9
ULN	Ulaanbaatar	37.06	58	eP	P	10 50 06.5	+1.0
	comp=Z,1.2nm,0.6s,mb3.9						
ULN				epP	pP	10 50 11.5	+2.9
NB2	NORSAR Subarra	37.17	324	P	P	10 50 06.1	-0.3
	comp=Z,2.0nm,0.7s,mb4.1,baz=108,slow=8.6						
NOA	NORSAR Array B	37.17	324	P	P	10 50 06.2	-0.2
	comp=Z,0.8nm,0.6s,mb3.7,baz=116,slow=8.0,SNR=4.1						
NOA	NORSAR Array B	37.17	324	P	P	10 50 06.2	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CDF	Champ du Feu	37.81	303	eP	P	10 50 12.9	+1.1
HAU	Haudompre	38.45	302	eP	P	10 50 17.5	+0.2
MBDF	Montbardon	38.49	297	eP	P	10 50 17.7	+0.1
	comp=Z,27nm,1.1s,mb4.6						
MBDF	Montbardon	38.49	297	eP	P	10 50 17.7	+0.1
MBDF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
MBDF	Montbardon	38.49	297	eP	P	10 50 17.7	+0.1
	comp=Z,27nm,1.1s,mb4.9						
CABF	La Chapelle	38.75	300	eP	P	10 50 23.0	+3.3
	comp=Z,11nm,0.8s,mb4.3						
CABF	La Chapelle	38.75	300	eP	P	10 50 23.0	+3.3
CABF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
CABF	La Chapelle	38.75	300	eP	P	10 50 23.0	+3.3
	comp=Z,5.3nm,0.8s,mb4.3						
SMF	Signal de Mont	40.28	301	eP	P	10 50 32.8	+0.3
AVF	Avril sur Loir	40.60	301	eP	P	10 50 36.0	+0.9
	comp=Z,15nm,0.9s,mb4.3						
AVF	Avril sur Loir	40.60	301	eP	P	10 50 36.0	+0.9
AVF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
AVF	Avril sur Loir	40.60	301	eP	P	10 50 36.0	+0.9
	comp=Z,15nm,0.9s,mb4.6						
TCF	Toulx Ste Croi	41.45	300	eP	P	10 50 43.0	+0.9
	comp=Z,8.0nm,0.8s,mb4.1						
TCF	Toulx Ste Croi	41.45	300	eP	P	10 50 43.0	+0.9
TCF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
TCF	Toulx Ste Croi	41.45	300	eP	P	10 50 43.0	+0.9
	comp=Z,8.0nm,0.8s,mb4.4						
BOD	Bodaibo	41.45	42	eP	P	10 50 43.6	+1.4
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
BOD	Bodaibo	41.45	42	eP	P	10 50 43.6	+1.4
	comp=Z,6.0nm,0.8s,mb4.3						
MTLF	Montolieu	41.96	296	eP	P	10 50 46.9	+0.6
EKA	Eskdalemuir Ar	43.99	314	P	P	10 51 02.9	+0.1
	comp=Z,3.7nm,0.7s,mb4.2,baz=106,slow=7.9,SNR=10						
EKA	Eskdalemuir Ar	43.99	314	P	P	10 51 02.9	+0.1
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ESDC	Sonseca Array	47.39	293	P	P	10 51 31.0	+1.4
	comp=Z,1.9nm,0.8s,mb4.1,baz=82,slow=6.3,SNR=5.2						
YAK	Yakutsk	49.30	36	eP	P	10 51 44.1	-0.3
NJ2	Nanjing	49.70	77	eP	P	10 51 47.4	0.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
PSI	Prapat	51.21	122	P	P	10 52 00.7	+1.8
	comp=Z,10nm,0.8s,mb4.8,baz=284,slow=4.8,SNR=5.8						
PSI	Prapat	51.21	122	P	P	10 52 00.7	+1.8
PSI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TORD	Torodi Ar. Bea	55.30	259	P	P	10 52 27.1	-1.8
	comp=Z,0.3nm,0.4s,mb3.6,baz=177,slow=34,SNR=3.9						

ISC 16 10:47:38.8±0.6**, 4639N**±004×**1268E**±004**, h10^{km}, n12, σ0^{s}75**/21**, 1C-4D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CSMI	Casera Mimoias	0.12	351	⇓iPg	Pg	10 47 41.7	-0.1
CSMI				i Sg	Sg	10 47 44.0	+0.1
MLNI	Malnisio	0.24	192	⇓ePg	Pg	10 47 43.5	-0.3
MLNI				eSg	Sg	10 47 47.6	+0.5
CSO	Casso	0.27	245	ePg	Pg	10 47 44.2	-0.2
CSO				eSg	Sg	10 47 48.4	+0.3
BOO	Bordano	0.30	103	⇑iPg	Pg	10 47 44.3	-0.5
BOO				i Sg	Sg	10 47 48.3	-0.5
PLRO	Paularo	0.36	63	⇓ePg	Pg	10 47 45.6	-0.3
PLRO				eSg	Sg	10 47 51.0	+0.2
BAD	Bernadia	0.42	111	⇓iPg	Pg	10 47 46.5	-0.5
BAD				i Sg	Sg	10 47 53.1	+0.4
CADS	Cadrg	0.75	102	i Pg	Pg	10 47 52.6	-0.7
CADS				i Sg	Sg	10 48 03.9	+0.7
VOJS	Vojsko	0.91	113	i Pg	Pg	10 47 57.9	+1.5
GORS	Gorjuse	0.91	94	i Pg	Pg	10 47 55.9	-0.6
GORS				i Sg	Sg	10 48 10.5	+2.1
JAVS	Javornik	1.08	117	ePg	Pg	10 48 00.3	+0.7
VISS	Visnje	1.61	110	i Pg	Pg	10 48 08.9	-0.9
VISS				i Sg	Sg	10 48 30.2	-0.5
BOJS	Bojanci	2.00	115	i Sg	Sg	10 48 42.0	-1.1

*ISCJB **16** 10:49:06.8±0.9, 29S±0.1×1299E±02, h10^{km}, mb3.9/7, Error ellipse: s-maj=30.4km s-min=7.6km az=130.8*
*IDC **16** 10:49:07.7±1.2, 293S×12969E, h0^{km}, mb4.1/7, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=70.0km s-min=12.2km az=71.0*
*NEIC **16** 10:49:08.8±0.9, 295S×12980E, h10^{km}, mb4.0/3, Error ellipse: s-maj=28.1km s-min=8.2km az=63.0*
ISC 16 10:49:08.3±3.5**, 295S**±010×**1298E**±02**, h5^{km}**±21^{km}**, n18, σ1^{s}04**/21**, mb3.9**/7**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.04	165	eP	Pn	10 51 32.6	-0.5
	5.7nm,0.5s						
FITZ	Fitzroy Crossi	15.60	195	eP	Pn	10 52 47.9	-0.9
	7.8nm,0.9s						
FITZ	Fitzroy Crossi	15.60	195	Pn	Pn	10 52 50.0	+1.2
	0.3nm,0.3s,baz=27,slow=14,SNR=9.8						
WRAB	Tennant Creek	17.45	166	ePn	Pn	10 53 12.5	+0.2
	11nm,0.8s						
WRAB				epPn		10 53 22.6	
WRAB				eSn	Sn	10 56 25.1	-1.8
WRA	Warramunga Arr	17.46	166	P	Pn	10 53 12.4	-0.1
	0.5nm,0.3s,baz=343,slow=13,SNR=25						
WRA				S	Sn	10 56 32.0	+5.0
	0.1nm,0.3s,baz=341,slow=22,SNR=5.1						
WB2	Warramunga Arr	17.46	166	eP	Pn	10 53 12.1	-0.4
KSM	Kuching	19.98	282	eP	Pn	10 53 42.0	-1.1
AS31	Alice Springs	20.97	169	eP	P	10 53 53.0	+0.8
AS31				eS	S	10 57 42.5	-3.7
ASAR	Alice Springs	20.97	169	P	P	10 53 53.8	+1.6
	10.0nm,0.4s,baz=348,slow=11,SNR=84						
ASAR				S	S	10 57 47.5	+1.3
	1.4nm,0.9s,baz=354,slow=23,SNR=6.0						
STKA	Stephens Creek	30.84	160	eP	P	10 55 23.9	-1.3
	1.1nm,0.4s,mb4.0						
STKA	Stephens Creek	30.84	160	P	P	10 55 26.7	+1.5
	0.6nm,0.5s,mb3.7,baz=345,slow=12,SNR=3.1						
CHTO	Chiang Mai	37.28	307	eP	P	10 56 21.9	+0.8
	1.9nm,0.6s,mb4.1						
MKAR	Makanchi Array	64.77	326	P	P	10 59 47.6	-0.1
	0.6nm,0.3s,mb4.0,baz=114,slow=8.4,SNR=5.3						
BVAR	Borovoye Array	74.56	327	P	P	11 00 46.5	-1.6
	0.3nm,0.3s,mb3.8,baz=98,slow=9.1,SNR=6.1						
VNDA	Vanda	76.46	173	P	P	11 00 59.0	0.0
	0.6nm,0.8s,mb3.6,baz=322,slow=6.9,SNR=3.1						
AKTO	Aktyubinsk	80.78	322	P	P	11 01 22.5	-0.3
	1.1nm,0.6s,mb4.0,baz=130,slow=7.8,SNR=3.6						
OPO	Ambohidratompo	82.08	252	P	P	11 01 31.3	+1.6
	1.4nm,0.7s,mb4.0,baz=31,slow=1.5,SNR=5.1						
CPUP	Villa Florida	150.08	167	PKPbc	PKPbc	11 09 02.7	+2.7
	0.9nm,0.5s,baz=145,slow=0.8,SNR=5.4						

*ISCJB **16** 11:01:02.7±0.8, 296S±008×1298E±0.1, h10^{km}, mb4.1/6, MS5.1/2, Error ellipse: s-maj=22.3km s-min=7.9km az=132.8*
*IDC **16** 11:01:03.3±1.0, 289S×12976E, h0^{km}, mb4.2/6, mb1 4.4/8, mb1mx4.2/16, mbtmp4.3/8, ML4.1/2, MS5.0/2, Ms1 5.0/2, ms1mx3.8/35, Error ellipse: s-maj=43.9km s-min=19.6km az=75.0*
*NEIC **16** 11:01:04.7±0.7, 295S×12977E, h10^{km}, mb4.2/3, Error ellipse: s-maj=20.2km s-min=8.4km az=65.0*
ISC 16 11:01:07.9±3.8**, 302S**±008×**1297E**±01**, h32^{km}**±28^{km}**, n18, σ1^{s}06**/18**, mb4.1**/6**, MS5.1**/2**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.51	195	eP	Pn	11 04 43.2	-1.0
	10nm,0.8s						
FITZ	Fitzroy Crossi	15.51	195	Pn	Pn	11 04 44.5	+0.3
	0.3nm,0.3s,baz=39,slow=12,SNR=11						
WRAB	Tennant Creek	17.41	165	ePn	Pn	11 05 07.8	-0.4
	9.6nm,0.6s						
WRAB				e		11 05 19.7	
WRAB				eS	Sn	11 08 28.5	+7.5
WRA	Warramunga Arr	17.41	165	P	Pn	11 05 08.0	-0.3
	1.0nm,0.3s,baz=354,slow=12,SNR=22						
WRA				S	Sn	11 08 19.3	-1.9
	0.1nm,0.3s,baz=237,slow=6.7,SNR=2.8						
WB2	Warramunga Arr	17.42	165	eP	Pn	11 05 08.0	-0.4
KSM	Kuching	19.91	283	eP	Pn	11 05 37.6	-1.0
AS31	Alice Springs	20.92	169	eP	P	11 05 49.6	+1.9
AS31				eS	S	11 09 39.1	0.0
ASAR	Alice Springs	20.92	169	P	P	11 05 50.1	+2.4
	21nm,0.6s,baz=347,slow=10,SNR=85						
STKA	Stephens Creek	30.80	160	P	P	11 07 21.6	+1.0
	1.1nm,0.7s,mb3.8,baz=312,slow=6.0,SNR=3.0						
PSI	Prapat	31.32	280	P	P	11 07 25.9	+0.7
	4.2nm,0.7s,mb4.4,baz=342,slow=5.2,SNR=3.7						
PSI	Prapat	31.32	280	P	P	11 07 25.9	+0.7
CHTO	Chiang Mai	37.26	307	eP	P	11 08 17.0	+0.4
	4.8nm,0.6s,mb4.5						
MJAR	Matsushiro Arr	40.15	11	P	P	11 08 39.6	-1.2
	1.2nm,0.9s,mb3.6,baz=184,slow=10,SNR=4.3						
RPZ	Rata Peaks	54.57	144	LR	LR	11 34 27.4	
	comp=Z,942nm,19.6s,MS4.9,baz=252,slow=37						
ZAL	Zalesovo	67.92	333	P	P	11 12 03.1	-0.3
	1.5nm,0.3s,mb4.5,baz=0.5,slow=5.3,SNR=4.8						
VNDA	Vanda	76.41	173	P	P	11 12 54.2	+0.1
	0.7nm,0.6s,mb3.8,baz=315,slow=3.5,SNR=5.5						
FINES	FINESS Array B	99.15	332	LR	LR	12 01 50.0	
	comp=Z,1μm,21.4s,MS5.4,baz=66,slow=37						
CPUP	Villa Florida	150.04	167	PKPbc	PKPbc	11 20 57.9	+2.8
	1.3nm,0.6s,baz=114,slow=2.0,SNR=5.8						

*NEIC **16** 11:19:22.1±5.4, 198N×128.15E, h64^{km}±56^{km}, mb4.4/3, Error ellipse: s-maj=21.2km s-min=11.2km az=66.0*
*ISCJB **16** 11:19:23.8±4.7, 198N±0.10×128.1E±02, h101^{km}±45^{km}, mb4.2/12, Error ellipse: s-maj=30.1km s-min=13.2km az=139.6*
*IDC **16** 11:19:28.6±4.9, 196N×12834E, h131^{km}±46^{km}, mb3.7/9, mb1 3.8/9, mb1mx3.7/16, mbtmp4.1/9, Error ellipse: s-maj=40.1km s-min=13.5km az=82.0*
ISC 16 11:19:25.5±4.0**, 195N**±010×**1281E**±02**, h100^{km}**±39^{km}**, n18, σ0^{s}89**/17**, mb4.2**/12**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSM	Kuching	17.77	269	eP	Pn	11 23 25.7	-0.7
FITZ	Fitzroy Crossi	20.07	187	P	P	11 23 51.3	+0.5
	2.2nm,0.7s,baz=51,slow=7.0,SNR=8.0						
WRAB	Tennant Creek	22.60	165	eP	P	11 24 17.6	-0.2
	7.6nm,0.4s,mb4.4						
WRA	Warramunga Arr	22.60	165	P	P	11 24 18.0	+0.1
	5.5nm,0.5s,mb4.1,baz=341,slow=11,SNR=36						
WB2	Warramunga Arr	22.61	165	eP	P	11 24 18.0	+0.1
MBWA	Marble Bar	24.38	199	eP	P	11 24 33.6	-0.6
	4.0nm,0.8s,mb3.8						
AS31	Alice Springs	26.08	168	eP	P	11 24 50.1	+0.5
ASAR	Alice Springs	26.08	168	P	P	11 24 50.0	+0.3
	2.4nm,0.5s,mb3.9,baz=356,slow=8.1,SNR=18						
ASAR				PcP	PcP	11 28 14.5	-0.3
	1.3nm,0.5s,baz=355,slow=2.5,SNR=10						
MJAR	Matsushiro Arr	35.67	14	P	P	11 26 12.4	-1.5
	2.1nm,0.7s,mb4.2,baz=186,slow=9.4,SNR=8.4						
STKA	Stephens Creek	36.00	160	eP	P	11 26 17.0	+0.2
	10nm,0.4s,mb5.1						
STKA	Stephens Creek	36.00	160	P	P	11 26 17.2	+0.4
	15nm,0.4s,mb5.3,baz=338,slow=8.1,SNR=68						
STKA				PcP	PcP	11 28 40.3	-0.9
	0.8nm,0.6s,baz=294,slow=6.0,SNR=3.1						
NWAO	Narrogin (SRO)	36.17	196	P	P	11 26 18.4	+0.2
	3.2nm,0.6s,mb4.4,baz=4.1,slow=14,SNR=4.3						
SONM	Songino Array	49.41	341	P	P	11 28 06.7	+1.6
	1.0nm,0.6s,mb3.9,baz=155,slow=7.4,SNR=3.6						
MKAR	Makanchi Array	59.78	325	P	P	11 29 21.4	+1.4
	0.6nm,0.4s,mb4.0,baz=115,slow=8.2,SNR=4.6						
ARU	Arti	77.15	328	eP	P	11 31 04.1	-4.0
	3.1nm,0.4s,mb4.4						
ARU				ePcP	PcP	11 31 18.3	-0.3
ARU				e		11 34 05.6	
VNDA	Vanda	81.50	173	P	P	11 31 30.3	-1.5
	0.8nm,0.4s,mb3.9,baz=329,slow=6.3,SNR=8.6						
MAW	Mawson	82.57	201	P	P	11 31 37.1	-0.3
	1.3nm,0.5s,mb4.0,baz=56,slow=5.9,SNR=4.2						
TORD	Torodi Ar. Bea	124.75	287	PKP	PKPdf	11 38 12.9	-0.5
	0.2nm,0.3s,baz=84,slow=1.7,SNR=5.3						

*IDC **16** 11:31:41.8±1.9, 2492S×17999W, h482^{km}±19^{km}, mb3.8/12, mb1 3.9/14, mb1mx3.8/18, mbtmp4.7/14, Error ellipse: s-maj=16.8km s-min=14.3km az=126.0*
*ISCJB **16** 11:31:42.4±0.7, 2488S±006×17994E±008, h504^{km}±10^{km}, mb4.4/19, Error ellipse: s-maj=12.2km s-min=8.2km az=69.8*
*NEIC **16** 11:31:43.6±0.8, 2491S×18000E, h508^{km}±10^{km}, mb4.7/9, Error ellipse: s-maj=14.4km s-min=9.9km az=150.0*
ISC 16 11:31:43.1±0.7**, 2495S**±006×**17991W**±008**, h504^{km}**±9^{km}**, n52, σ1^{s}11**/43**, mb4.4**/19**, 8D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.63	158	P	P	11 33 09.8	+2.8
	91nm,0.3s,baz=262,slow=24,SNR=5.2						
RAO				S	S	11 34 16.0	+0.5
	58nm,0.3s,baz=70,slow=22,SNR=3.8						
DZM	Mont Dzumac	12.85	280	P	P	11 34 31.8	+1.3
	0.6nm,0.3s,baz=94,slow=17,SNR=6.1						
AFI	Afiamalu	13.39	36	P	P	11 34 35.5	-0.7
	1.0nm,0.3s,baz=3.5,slow=19,SNR=2.4						
AFI				S	S	11 36 56.4	-2.6
	1.7nm,0.3s,baz=261,slow=23,SNR=3.9						
URZ	Urewera	13.51	190	P	P	11 34 35.8	-1.6
	0.6nm,0.3s,baz=0.0,slow=4.0,SNR=3.7						
URZ				S	S	11 36 59.4	-1.8
	1.5nm,0.3s,baz=28,slow=18,SNR=9.1						
RPZ	Rata Peaks	20.12	199	P	P	11 35 41.1	-1.4
	9.5nm,0.7s,baz=52,slow=2.5,SNR=5.2						
HNR	Honiara	24.62	305	P	P	11 36 19.4	-3.4
	59nm,0.7s,mb5.1,baz=263,slow=9.1,SNR=3.1						
ARMA	Armidale	25.75	251	eP	P	11 36 34.5	+1.7
CNB	Canberra Magne	28.41	241	eP	P	11 36 57.1	+0.9
	3.7nm,0.5s,mb4.1						
CTA	Charters Tower	31.58	272	⇓iP	P	11 37 24.3	+0.7
	20nm,0.4s,mb4.9						
CTA	Charters Tower	31.58	272	P	P	11 37 23.9	+0.2
	30nm,0.5s,mb5.0,baz=96,slow=11,SNR=54						
TOO	Toolangi	31.96	238	eP	P	11 37 27.5	+0.6
	7.1nm,0.6s,mb4.3						
STKA	Stephens Creek	34.42	250	⇓iP	P	11 37 48.0	+0.3
	6.9nm,0.4s,mb4.4						
STKA	Stephens Creek	34.42	250	P	P	11 37 48.1	+0.4
	7.7nm,0.4s,mb4.5,baz=97,slow=11,SNR=36						
STKA	Stephens Creek	34.42	250	⇓iP	P	11 37 47.9	+0.2
PMG	Port Moresby	34.93	290	P	P	11 37 47.0	-4.9
	18nm,0.9s,mb4.5,baz=168,slow=16,SNR=3.3						
AS31	Alice Springs	41.96	262	⇓iP	P	11 38 49.2	0.0
ASAR	Alice Springs	41.96	262	P	P	11 38 49.1	0.0
	9.1nm,0.6s,mb4.4,baz=95,slow=7.1,SNR=83						
WB2	Warramunga Arr	42.42	267	⇓iP	P	11 38 52.1	-0.7
WRAB	Tennant Creek	42.42	267	⇓iP	P	11 38 52.4	-0.4
	40nm,0.8s,mb4.9						
WRA	Warramunga Arr	42.43	267	P	P	11 38 52.3	-0.5
	20nm,0.6s,mb4.7,baz=98,slow=7.0,SNR=128						
FORT	Forrest	46.03	251	⇓iP	P	11 39 19.7	-1.1
	28nm,0.6s,mb4.9						
KAKA	Kakadu	46.50	276	eP	P	11 39 23.6	-0.7
	15nm,0.7s,mb4.5						
POHA	Pohakuloa	50.38	30	eP	P	11 39 53.9	+0.7
	656nm,1.1s						
FITZ	Fitzroy Crossi	50.84	266	eP	P	11 39 56.7	+0.1
	29nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	50.84	266	P	P	11 39 57.1	+0.5
	16nm,0.7s,mb4.5,baz=117,slow=9.1,SNR=48						
KLBR	Kellerberrin	54.67	248	eP	P	11 40 23.4	-0.6
	18nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	54.88	246	P	P	11 40 24.9	-0.5
	18nm,1.0s,mb4.3,baz=169,slow=3.3,SNR=3.6						
MUN	Mundaring	55.90	247	⇓iP	P	11 40 32.1	-0.5
CASY	Casey	59.21	206	eP	P	11 40 54.9	-0.2
MJAR	Matsushiro Arr	72.81	326	P	P	11 42 20.4	+0.5
	2.6nm,0.8s,mb3.8,baz=163,slow=5.9,SNR=9.5						
MJAR	Matsushiro Arr	72.81	326	P	P	11 42 20.4	+0.5
MAW	Mawson	76.80	200	eP	P	11 42 43.4	+1.0
	6.1nm,1.5s,mb3.9						
MAW	Mawson	76.80	200	P	P	11 42 43.3	+1.0
	1.3nm,0.5s,mb3.7,baz=164,slow=6.2,SNR=7.4						
ASAJ	Asahikawa	76.84	333	P	P	11 42 42.9	+0.3
	4.5nm,0.9s,mb4.0,baz=288,slow=20,SNR=4.1						
PTRM	Twissleman Ran	82.56	45	eP	P	11 43 12.3	-0.4
PTRM				ePcP	PcP	11 43 15.2	-1.1
SNAA	Sanae	83.62	179	e	P	11 43 18.0	0.0
SNAA				e		11 43 20.0	
VNA3	Neumayer Olymp	83.82	177	e	P	11 43 19.7	+0.7
VNA3				e		11 43 20.6	
VNA3				e		11 43 21.7	
NVAR	Mina Array Bea	85.45	44	P	P	11 43 29.8	+2.8
	0.8nm,0.7s,mb3.5,baz=211,slow=7.6,SNR=7.1						
NVAR	Mina Array Bea	85.45	44	P	P	11 43 29.8	+2.8
PLCA	Paso Flores	87.47	134	P	P	11 43 39.9	+3.3
	1.0nm,0.9s,mb3.5,baz=270,slow=10,SNR=2.9						
BVAR	Borovoye Array	121.28	318	PKP	PKPdf	11 49 38.5	+0.1
	0.9nm,0.4s,baz=136,slow=3.7,SNR=6.1						
ARCES	ARCESS Array B	132.93	348	PKP	PKPdf	11 50 01.1	+0.4
	1.2nm,0.8s,baz=29,slow=2.8,SNR=4.5						
ARCES				SKPbc	SKPbc	11 52 41.5	+0.6
	3.5nm,0.9s,baz=77,slow=6.4,SNR=5.8						
FINES	FINESS Array B	139.47	341	SKP		11 53 01.3	
	2.9nm,0.8s,baz=112,slow=2.1,SNR=9.1						
NB2	NORSAR Subarra	143.13	351	PKPa	PKPdf	11 50 17.4	-1.8
	comp=Z,0.1nm,0.6s,baz=29,slow=4.0						
NOA	NORSAR Array B	143.13	351	PKP	PKPdf	11 50 17.4	-1.8
	comp=Z,1.3nm,0.8s,baz=16,slow=5.0,SNR=4.2						
HFS	Hagfors	143.59	349	PKP	PKPdf	11 50 18.6	-1.5
	comp=Z,4.8nm,0.5s,baz=59,slow=3.8,SNR=28						
AKASG	Malin Array Be	145.90	326	PKPbc	PKPbc	11 50 24.1	-1.7
	comp=Z,2.4nm,0.5s,baz=45,slow=4.6,SNR=14						
BR131	Keskin Array S	148.27	306	ePKPbc	PKPbc	11 50 31.4	-0.6
BR131				ePKPab	PKPab	11 50 36.8	-0.2
BRTR	Keskin Array B	148.27	306	PKPbc	PKPbc	11 50 33.1	+1.1
	comp=Z,1.2nm,0.6s,baz=143,slow=5.2,SNR=7.2						
EKA	Eskdalemuir Ar	149.56	4	PKPbc	PKPbc	11 50 35.5	+0.4
	comp=Z,0.9nm,0.8s,baz=360,slow=3.9,SNR=5.7						
CLL	Collm	151.88	343	ePKPbc	PKPbc	11 50 42.0	+1.5
TORD	Torodi Ar. Bea	168.16	188	PKPab	PKPab	11 52 04.5	+1.4
	comp=Z,0.5nm,0.6s,baz=187,slow=5.0,SNR=3.8						

*IDC **16** 11:58:57.3±0.9, 289S×12960E, h0^{km}, mb4.2/7, mb1 4.4/9, mb1mx4.2/17, mbtmp4.2/9, ML4.0/2, Error ellipse: s-maj=54.2km s-min=17.3km az=74.0*
*NEIC **16** 11:58:58.7±0.4, 291S×12962E, h10^{km}, mb4.4/1, Error ellipse: s-maj=14.4km s-min=6.1km az=70.0*
*ISCJB **16** 11:59:00.0±0.7, 297S±008×1295E±0.1, h33^{km}, mb4.1/7, Error ellipse: s-maj=22.6km s-min=9.6km az=137.9*
ISC 16 11:59:02.2±0.7**, 296S**±008×**1295E**±01**, h35^{km}, n17, σ0^{s}48**/16**, mb4.1**/7**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.11	164	eP	Pn	12 01 23.9	-0.9
	11nm,0.5s						
FITZ	Fitzroy Crossi	15.52	194	Pn	Pn	12 02 38.4	+0.1
	0.2nm,0.3s,baz=15,slow=14,SNR=6.8						
WRAB	Tennant Creek	17.52	165	ePn	Pn	12 03 03.0	-0.6
	40nm,1.1s						
WRA	Warramunga Arr	17.52	165	P	Pn	12 03 03.7	0.0
	1.0nm,0.3s,baz=344,slow=12,SNR=16						
WB2	Warramunga Arr	17.52	165	ePn	Pn	12 03 03.8	+0.1
WB2				e		12 05 24.6	
KSM	Kuching	19.70	283	eP	Pn	12 03 29.6	-0.5
AS31	Alice Springs	21.01	169	eP	P	12 03 42.9	+0.2
ASAR	Alice Springs	21.02	169	P	P	12 03 43.7	+1.0
	26nm,0.7s,mb4.7,baz=346,slow=10,SNR=20						
CTA	Charters Tower	23.59	137	P	P	12 04 09.8	0.0
	10nm,1.0s,mb4.2,baz=317,slow=11,SNR=4.9						
CTA	Charters Tower	23.59	137	P	P	12 04 09.8	0.0
STKA	Stephens Creek	30.93	160	P	P	12 05 15.5	-0.1
	2.1nm,0.6s,mb4.1,baz=334,slow=12,SNR=4.4						
STKA	Stephens Creek	30.93	160	P	P	12 05 15.5	-0.1
MJAR	Matsushiro Arr	40.13	11	P	P	12 06 34.2	-0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.6nm,0.8s,mb3.8,baz=194,slow=12,SNR=4.8						
MKAR	Makanchi Array	64.61	326	P	P	12 09 36.5	+0.3
	1.1nm,0.8s,mb4.0,baz=98,slow=7.5,SNR=3.7						
ZAL	Zalesovo	67.78	333	P	P	12 09 56.6	+0.2
	1.3nm,0.4s,mb4.3,baz=354,slow=4.5,SNR=5.3						
VNDA	Vanda	76.49	173	P	P	12 10 49.1	+0.6
	0.8nm,0.7s,mb3.8,baz=106,slow=7.4,SNR=3.6						
CPUP	Villa Florida	150.14	168	PKPbc	PKPbc	12 18 51.5	+2.2
	4.2nm,1.0s,baz=145,slow=4.4,SNR=5.1						

*ISCJB **16** 12:00:43.6±0.3, 29.12N±0.04×102.39E±0.04, h10km, mb4.2/22, Error ellipse: s-maj=5.3km s-min=4.4km az=123.2*
*BJI **16** 12:00:44.9, 29.09N×102.43E, h12km, mB5.3, mb4.4, ML4.3, Ms4.4, Msz4.1*
*IDC **16** 12:00:45.6±0.9, 29.15N×102.36E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/22, mbtmp4.0/9, ML3.7/1, Error ellipse: s-maj=41.8km s-min=17.5km az=60.0*
*NEIC **16** 12:00:46.7±0.6, 29.22N×102.36E, h10km, mb4.3/12, Error ellipse: s-maj=15.4km s-min=10.8km az=79.0*
*MOS **16** 12:00:47.3±1.7, 29.16N×102.39E, h33km, mb4.3/13, Error ellipse: s-maj=17.1km s-min=8.8km az=97.5*
ISC 16 12:00:45.5±0.3**, 29.13N**±0.03×**102.37E**±0.03**, h10km, n72, σ1.44**/80**, mb4.2**/22**, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	2.15	34	P	Pn	12 01 23.3	+2.0
CD2				PG	Pg	12 01 26.8	+0.2
CD2				SG	Sg	12 01 54.4	-0.1
CD2				Smax			
	comp=N,3μm,0.6s						
CD2				Smax			
	comp=E,3μm,0.8s						
KMI	Kunming	4.00	175	P	Pn	12 01 46.9	0.0
GYA	Guiyang	4.64	124	P	Pn	12 01 54.4	-1.3
GYA				S	Sn	12 02 57.8	+8.1
GYA				SG	Sg	12 03 12.9	-1.7
GYA				Smax			
	comp=N,410nm,1.0s						
GYA				Smax			
	comp=E,550nm,0.9s						
GYA				LR	LR		
	comp=N,3μm,8.1s						
GYA				LR	LR		
	comp=E,2μm,6.9s						
GYA				LR	LR		
	comp=Z,1μm,7.5s						
LZH	Lanzhou	7.05	10	eP	Pn	12 02 33.3	+4.6
LZH				eS	Sn	12 03 54.5	+5.6
LZH				Smax			
	comp=N,90nm,1.0s						
LZH				Smax			
	comp=E,130nm,0.8s						
LZH				LR	LR		
	comp=E,6μm,9.4s						
LZH				LR	LR		
	comp=Z,6μm,10.7s						
XAN	Xi'an	7.43	47	P	Pn	12 02 33.0	-0.9
XAN				S	Sn	12 03 56.8	-1.5
XAN				SG	Sg	12 04 33.5	-10
XAN				Smax			
	comp=N,344nm,1.0s						
XAN				Smax			
	comp=E,283nm,1.0s						
SHL	Shillong	9.97	252	eP	Pn	12 03 06.0	-2.8
SHL				eS	Sn	12 05 58.0	+57
GTA	Gaotai	10.47	349	eP	Pn	12 03 23.9	+8.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				LR	LR		
	comp=N,524nm,11.1s						
GTA				LR	LR		
	comp=E,1μm,12.6s						
GTA				LR	LR		
	comp=Z,388nm,12.6s						
WHN	Wuhan	10.50	79	P	Pn	12 03 13.3	-2.8
CHTO	Chiang Mai	10.73	198	eP	Pn	12 03 21.3	+2.1
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CHTO	Chiang Mai	10.73	198	ePn	Pn	12 03 21.3	+2.1
	comp=Z,4.6nm,0.9s						
GZH	Guangzhou	11.55	119	P	Pn	12 03 31.3	+0.9
GZH				S	Sn	12 05 39.3	-0.2
HHC	Hu-ho-hao-te	13.90	30	eP	Pn	12 04 03.3	+0.8
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,380nm,5.7s						
JIRN	Jiri	14.31	268	eP	Pn	12 04 08.0	-0.2
NJ2	Nanjing	14.50	74	eP	Pn	12 04 11.4	+0.7
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
GUN	Gumba	14.55	269	eP	Pn	12 04 11.6	+0.3
PKI	Pulchoki	15.01	268	eP	Pn	12 04 16.8	-0.9
	comp=Z,15nm,0.5s						
KKN	Kakani	15.09	269	eP	Pn	12 04 18.1	-0.6
	comp=Z,29nm,0.8s						
DMN	Daman	15.27	268	eP	Pn	12 04 19.9	-1.2
GKN	Gorkha	15.62	270	eP	Pn	12 04 26.0	+0.3
BJT	Baijiatuau	15.70	43	eP	Pn	12 04 26.0	-0.7
BJT				pmax	pmax		
	comp=Z,16nm,1.0s						
BJT	Baijiatuau	15.70	43	ePn	Pn	12 04 26.0	-0.7
	comp=Z,16nm,1.0s						
KOLN	Koldanda	16.56	270	eP	Pn	12 04 35.9	-1.9
	comp=Z,19nm,1.0s						
DL2	Dalian	18.68	53	P	Pn	12 05 04.4	+0.4
DL2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
WMQ	Urumqi	18.77	325	eP	Pn	12 05 03.4	-1.8
WMQ				AMB	AMB		
	comp=Z,11nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,157nm,4.3s						
SONM	Songino Array	18.93	8	P	Pn	12 05 08.3	+1.1
	comp=Z,0.2nm,0.3s,baz=193,slow=13,SNR=16						
ULN	Ulaanbaatar	19.06	10	eP	Pn	12 05 08.6	0.0
ULN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ULN	Ulaanbaatar	19.06	10	eP	Pn	12 05 08.6	0.0
	comp=Z,8.4nm,1.1s						
ZAK	Zakamensk	21.24	2	eP	P	12 05 31.0	-0.6
TLY	Talaya	22.55	2	P	P	12 05 49.9	+4.3
TLY				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
TLY	Talaya	22.55	2	P	P	12 05 49.9	+4.3
	comp=Z,4.9nm,1.1s,mb3.9						
CN2	Changchun	23.54	45	eP	P	12 05 59.9	+3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
MKAR	Makanchi Array	23.58	324	P	P	12 05 56.1	-0.4
	comp=Z,1.8nm,0.8s,mb3.5,baz=126,slow=10,SNR=9.9						
HIA	Hailar	24.09	29	eP	P	12 06 01.1	0.0
HIA				pmax	pmax		
	comp=Z,15nm,0.9s						
HIA	Hailar	24.09	29	eP	P	12 06 01.1	-0.1
	comp=Z,15nm,0.9s,mb4.4						
AAK	Ala-Archa	26.16	309	eP	P	12 06 18.7	-1.2
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
AAK	Ala-Archa	26.16	309	eP	P	12 06 18.7	-1.2
	comp=Z,4.6nm,0.8s,mb4.1						
ZAL	Zalesovo	27.90	338	P	P	12 06 36.5	+0.9
	comp=Z,1.0nm,0.4s,mb3.8,baz=210,slow=13,SNR=3.3						
ZAL	Zalesovo	27.90	338	P	P	12 06 36.5	+0.9
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	27.90	338	P	P	12 06 36.5	+0.9
BVAR	Borovoye Array	33.46	325	P	P	12 07 26.3	+1.7
	comp=Z,0.8nm,0.5s,mb3.9,baz=136,slow=9.6,SNR=5.3						
BVAR	Borovoye Array	33.46	325	P	P	12 07 26.3	+1.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	Chkalovo	33.71	326	P	P	12 07 25.5	-1.3
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	Chkalovo	33.71	326	P	P	12 07 25.5	-1.3
	comp=Z,2.3nm,0.7s,mb4.2						
ZRNK	Zerenda	34.13	324	eP	P	12 07 28.3	-2.2
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ZRNK	Zerenda	34.13	324	eP	P	12 07 28.3	-2.2
	comp=Z,4.8nm,1.1s,mb4.3						
AKTK	Aktyubinsk	39.43	315	P	P	12 08 17.9	+2.3
AKTO	Aktyubinsk	39.43	315	P	P	12 08 17.9	+2.3
	comp=Z,2.5nm,0.8s,mb4.0,baz=94,slow=15,SNR=5.7						
AKTO	Aktyubinsk	39.43	315	P	P	12 08 17.9	+2.3
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ARU	Arti	41.11	324	eP	P	12 08 30.9	+1.4
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ARU	Arti	41.11	324	eP	P	12 08 30.9	+1.4
	comp=Z,4.1nm,0.9s,mb4.1						
WRAB	Tennant Creek	57.72	144	eP	P	12 10 39.7	+3.3
WRAB				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
WRAB	Tennant Creek	57.72	144	eP	P	12 10 39.7	+3.3
	comp=Z,14nm,0.6s,mb5.2						
WRA	Warramunga Arr	57.72	144	P	P	12 10 34.4	-2.0
	comp=Z,2.2nm,0.7s,mb4.3,baz=334,slow=7.7,SNR=5.9						
WRA	Warramunga Arr	57.72	144	P	P	12 10 34.4	-2.0
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	58.37	327	P	P	12 10 42.8	+1.9
	comp=Z,0.2nm,0.3s,mb3.7,baz=293,slow=39,SNR=3.5						
ARE0	ARCESS Array S	58.45	336	P	P	12 10 42.9	+1.4
ASAR	Alice Springs	60.63	147	P	P	12 10 58.9	+2.3
	comp=Z,2.0nm,0.7s,mb4.4,baz=328,slow=6.8,SNR=8.6						
ASAR	Alice Springs	60.63	147	P	P	12 10 58.9	+2.3
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CTAO	Charters Tower	64.70	134	P	P	12 11 24.7	+1.0
CTAO				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
CTAO	Charters Tower	64.70	134	P	P	12 11 24.7	+0.9
	comp=Z,12nm,1.1s,mb4.8						
KMBO	Kilima Mbogo	68.98	256	P	P	12 11 53.4	+2.5
	comp=Z,1.8nm,0.8s,mb4.1,baz=54,slow=14,SNR=5.5						
KMBO	Kilima Mbogo	68.98	256	P	P	12 11 53.4	+2.4
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	Kilima Mbogo	68.98	256	P	P	12 11 53.4	+2.4
STKA	Stephens Creek	71.21	145	P	P	12 12 06.2	+1.6
	comp=Z,1.0nm,0.4s,mb4.1,baz=320,slow=16,SNR=2.7						
STKA	Stephens Creek	71.21	145	P	P	12 12 06.2	+1.6
COLA	College	71.85	25	eP	P	12 12 06.9	-1.6
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
COLA	College	71.85	25	eP	P	12 12 06.8	-1.7
	comp=Z,3.9nm,0.9s,mb4.3						
LPG	La Plagne	73.50	313	eP	P	12 12 16.4	-1.9
	comp=Z,7.0nm,0.6s,mb4.5						
LPL	La Plagne	73.50	313	eP	P	12 12 16.5	-1.8
	comp=Z,7.6nm,0.7s,mb4.5						
MBDF	Montbardon	73.81	312	eP	P	12 12 18.3	-1.8
INK	Inuvik	74.51	19	eP	P	12 12 26.3	+2.1
INK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
INK	Inuvik	74.51	19	eP	P	12 12 26.3	+2.1
	comp=Z,6.6nm,0.8s,mb4.6						

*IDC **16** 12:01:20.6±0.9, 2.95S×129.42E, h0km, mb4.3/7, mb1 4.5/9, mb1mx4.3/18, mbtmp4.3/9, ML4.1/2, Error ellipse: s-maj=70.8km s-min=17.2km az=67.0*
*NEIC **16** 12:01:21.9±0.4, 3.07S×129.31E, h10km, mb4.3/9, Error ellipse: s-maj=15.9km s-min=6.7km az=73.0*
*BJI **16** 12:01:21.9, 3.10S×129.30E, h10km, mB5.2, mb4.7, Ms4.8, Msz4.6*
*ISCJB **16** 12:01:23.5±0.5, 3.12S±0.07×129.3E±0.1, h33km, mb4.3/11, Error ellipse: s-maj=20.7km s-min=8.0km az=147.5*
ISC 16 12:01:25.9±0.5**, 3.11S**±0.07×**129.3E**±0.1**, h35km, n24, σ0.92**/23**, mb4.3**/11**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.33	193	eP	Pn	12 04 59.3	-0.2
	6.9nm,0.6s						
FITZ	Fitzroy Crossi	15.33	193	Pn	Pn	12 05 00.9	+1.3
	0.3nm,0.3s,baz=39,slow=15,SNR=3.7						
WRAB	Tennant Creek	17.44	164	eP	Pn	12 05 23.7	-2.5
	25nm,0.9s						
WRA	Warramunga Arr	17.44	164	P	Pn	12 05 26.2	-0.1
	0.9nm,0.3s,baz=344,slow=12,SNR=9.2						
MBWA	Marble Bar	20.22	207	P	P	12 05 57.5	-0.3
	15nm,1.0s						
AS31	Alice Springs	20.92	168	eP	P	12 06 05.7	+0.4
ASAR	Alice Springs	20.92	168	P	P	12 06 06.1	+0.8
	37nm,0.8s,baz=346,slow=11,SNR=31						
CTA	Charters Tower	23.63	137	eP	P	12 06 34.1	+0.3
	11nm,1.0s,mb4.2						
CTA	Charters Tower	23.63	137	P	P	12 06 33.7	-0.1
	11nm,0.8s,mb4.3,baz=319,slow=12,SNR=6.1						
CTAO	Charters Tower	23.63	137	eP	P	12 06 34.2	+0.3
	20nm,1.0s,mb4.5						
STKA	Stephens Creek	30.87	159	P	P	12 07 40.2	+1.4
	1.1nm,0.3s,mb4.1,baz=335,slow=8.2,SNR=3.5						
STKA	Stephens Creek	30.87	159	eP	P	12 07 39.2	+0.4
HNR	Honiara	31.09	103	eP	P	12 07 40.4	-0.3
	114nm,1.0s						
BJT	Baijiatuau	44.58	346	P	P	12 09 35.3	+0.9
	34nm,1.3s,mb5.0						
HHC	Hu-ho-hao-te	46.65	341	eP	P	12 09 52.8	+2.0
HHC				AP	pP	12 09 57.3	-3.9
HHC				XP	sP	12 09 59.6	-5.8
HHC				PCP	PcP	12 11 26.1	+1.9
HHC				PP	PP	12 11 42.3	+1.6
HHC				SCP	ScP	12 15 17.9	+2.8
HHC				PCS	PcS	12 15 19.8	+0.8
HHC				S	S	12 16 41.8	+4.1
HHC				XS	sS	12 16 49.3	-5.5
HHC				SCS	ScS	12 19 44.4	+1.5
HHC				SS	SS	12 20 00.9	-3.2
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,259nm,6.3s						
HHC				LR	LR		
	comp=N,262nm,6.1s						
HHC				LR	LR		
	comp=E,254nm,6.1s						
HHC				LR	LR		
	comp=Z,180nm,5.0s						
ULN	Ulaanbaatar	54.37	342	eP	P	12 10 48.6	-0.5
	comp=Z,2.7nm,0.7s,mb4.3						
SONM	Songino Array	54.55	341	P	P	12 10 50.3	-0.1
	comp=Z,0.9nm,0.6s,mb4.0,baz=154,slow=9.6,SNR=3.5						
ZAL	Zalesovo	67.81	333	P	P	12 12 19.0	-1.2
	comp=Z,1.0nm,0.4s,mb4.2,baz=351,slow=5.3,SNR=4.3						
BVAR	Borovoye Array	74.42	328	P	P	12 13 00.3	0.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=120,slow=8.9,SNR=6.2						
BRVK	Borovoye	74.49	328	eP	P	12 13 00.5	-0.2
	comp=Z,2.1nm,0.7s,mb4.2						
ZRNK	Zerenda	75.14	327	eP	P	12 13 03.3	-1.1
	comp=Z,2.1nm,0.8s,mb4.1						
AKTO	Aktyubinsk	80.59	322	P	P	12 13 34.8	0.0
	comp=Z,1.8nm,0.6s,mb4.2,baz=103,slow=4.5,SNR=4.7						
TORD	Torodi Ar. Bea	127.28	284	PKP	PKPdf	12 20 28.1	+1.5
	comp=Z,1.0nm,1.1s,baz=100,slow=1.3,SNR=3.5						
CPUP	Villa Florida	150.04	168	PKPbc	PKPbc	12 21 14.4	+1.7
	comp=Z,3.0nm,0.7s,baz=205,slow=3.2,SNR=7.1						

*IDC **16** 12:20:57.8±0.8, 2.94S×129.64E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/34, Error ellipse: s-maj=36.4km s-min=11.1km az=73.0*
*NEIC **16** 12:20:59.2±0.4, 2.97S×129.59E, h10km, mb4.5/10, Error ellipse: s-maj=13.7km s-min=6.3km az=71.0*
*ISCJB **16** 12:21:00.4±0.5, 3.01S±0.06×129.6E±0.1, h33km, mb4.4/14, Error ellipse: s-maj=17.0km s-min=7.4km az=143.9*
ISC 16 12:21:02.7±0.5**, 3.00S**±0.06×**129.6E**±0.1**, h35km, n28, σ1.04**/29**, mb4.4**/14**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.51	194	eP	Pn	12 24 42.6	+3.9
	8.8nm,0.6s						
FITZ	Fitzroy Crossi	15.51	194	Pn	Pn	12 24 39.2	+0.6
	0.5nm,0.3s,baz=7.6,slow=14,SNR=11						
FITZ				LR	LR	12 31 06.5	
	comp=Z,184nm,19.2s,baz=191,slow=39						
WRAB	Tennant Creek	17.45	165	ePn	Pn	12 25 01.2	-2.0
	12nm,0.6s						
WRA	Warramunga Arr	17.45	165	P	Pn	12 25 02.5	-0.8
	0.6nm,0.3s,baz=347,slow=12,SNR=18						
WRA				S	S	12 28 22.6	-1.1
	0.1nm,0.3s,baz=337,slow=24,SNR=4.2						
WB2	Warramunga Arr	17.45	165	eP	Pn	12 25 03.1	-0.2
WB2	Warramunga Arr	17.45	165	ePn	Pn	12 25 02.3	-1.0
KSM	Kuching	19.83	283	P	Pn	12 25 29.0	-3.0
MBWA	Marble Bar	20.46	207	eP	P	12 25 38.0	+0.8
	11nm,1.0s						
AS31	Alice Springs	20.95	169	eP	P	12 25 43.1	+0.6
ASAR	Alice Springs	20.95	169	P	P	12 25 44.1	+1.6
	18nm,0.7s,baz=348,slow=11,SNR=29						
ASAR				S	S	12 29 37.6	+3.6
	1.8nm,0.9s,baz=350,slow=18,SNR=5.2						
CTA	Charters Tower	23.48	138	P	P	12 26 11.2	+2.0
	3.6nm,0.8s,mb3.9,baz=332,slow=15,SNR=3.6						
CTAO	Charters Tower	23.48	138	P	P	12 26 11.6	+2.3
	33nm,1.4s,mb4.6						
STKA	Stephens Creek	30.85	160	P	P	12 27 15.6	+0.1
	1.3nm,0.8s,mb3.8,baz=293,slow=4.5,SNR=3.8						
STKA	Stephens Creek	30.85	160	eP	P	12 27 15.4	0.0
PSI	Prapat	31.24	280	P	P	12 27 19.6	+0.8
	2.8nm,0.4s,mb4.4,baz=82,slow=11,SNR=3.7						
CHTO	Chiang Mai	37.18	307	eP	P	12 28 09.1	-1.2
	8.2nm,0.4s,mb4.9						
MJAR	Matsushiro Arr	40.14	11	P	P	12 28 33.9	-1.3
	2.6nm,0.9s,mb4.0,baz=188,slow=9.3,SNR=8.0						
MAJO	Matsushiro	40.15	11	eP	P	12 28 35.4	+0.2
	4.4nm,0.8s,mb4.2						
LSA	Lhasa	49.12	314	P	P	12 29 47.4	+0.6
	6.3nm,0.8s,mb4.7						
ULN	Ulaanbaatar	54.38	341	eP	P	12 30 26.8	+0.8
	2.6nm,0.8s,mb4.2						
CASY	Casey	64.57	188	eP	P	12 31 36.1	-0.2
	9.9nm,1.3s,mb4.7						
MKAR	Makanchi Array	64.72	326	P	P	12 31 37.8	+0.6
	2.8nm,0.8s,mb4.4,baz=119,slow=7.6,SNR=22						
YAK	Yakutsk	64.85	0	eP	P	12 31 37.6	-0.6
	16nm,0.6s,mb5.2						
YAK				e		12 31 44.3	
ZAL	Zalesovo	67.87	333	P	P	12 31 57.9	+0.4
	2.2nm,0.8s,mb4.3,baz=4.9,slow=5.4,SNR=11						
ZRNK	Zerenda	75.23	327	eP	P	12 32 41.4	-0.4
	2.4nm,0.8s,mb4.2						
VNDA	Vanda	76.43	173	P	P	12 32 48.7	0.0
	1.0nm,0.8s,mb3.8,baz=291,slow=7.7,SNR=3.7						
VNDA	Vanda	76.43	173	P	P	12 32 48.7	0.0
CPUP	Villa Florida	150.07	167	PKPbc	PKPbc	12 40 52.1	+2.6
	2.6nm,0.7s,baz=157,slow=3.3,SNR=3.0						

JMA 16 12:29:23.4±0.1**, 44.15N×140.13E, h20km**±2km**, M4.0, 10C-1D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSK	Shakotan	0.84	162	⇓P	Pb	12 29 38.9	-0.3
JSK				eS	Sb	12 29 50.0	0.0
JYG	Yagishiri	0.97	73	⇑P	Pb	12 29 41.1	-0.4
JHR	Hokuryu	1.22	109	⇑P	Pn	12 29 45.5	+0.2
JSS	Shosan	1.26	78	⇑P	Pn	12 29 46.1	+0.2
JSS				eS	Sn	12 30 03.3	+1.0
JRR	Rishiri	1.30	40	⇑P	Pn	12 29 46.7	+0.3
JSH	Shimam	1.51	182	⇑P	Pn	12 29 48.8	-0.5
JSH				eS	Sn	12 30 08.1	-0.2
JEW	Eniwo	1.62	143	P	Pn	12 29 51.7	+0.8
JEW				eS	Sn	12 30 12.5	+1.3
JAB	Ashibetsu	1.65	112	⇑P	Pn	12 29 51.6	+0.4
JWK2	Keihoku	1.72	47	⇑P	Pn	12 29 53.3	+1.2
ASAJ	Asahikawa	1.78	90	⇑P	Pn	12 29 53.1	+0.1
JNB	Noboribetsu	1.81	158	P	Pn	12 29 54.2	+0.8
JKK2	Kamakawa 2	1.91	97	⇑P	Pn	12 29 55.2	+0.4
JSE	Soyaes	1.93	64	⇑P	Pn	12 29 55.6	+0.5
JSE				eS	Sn	12 30 19.5	+0.7
JYM2	Yakumo 2	2.04	175	P	Pn	12 29 57.5	+0.9
JYM2				eS	Sn	12 30 22.6	+1.2
JFR	Furan	2.04	118	P	Pn	12 29 56.8	+0.2
JOSM	Okushiri--Mats	2.12	193	P	Pn	12 29 57.5	-0.2
JOSM				eS	Sn	12 30 22.0	-1.4

*ISK **16** 12:32:14.8, 35.94N×27.60E, h24km, MD3.2*
*NEIC **16** 12:32:15.5, 35.99N×27.60E, h39km, MD3.3(ATH), After ATH.*
*ATH **16** 12:32:15.5, 35.99N×27.60E, h39km±2km, MD3.3/5*
*CSEM **16** 12:32:15.7±0.1, 36.00N×27.66E, h40km, MD3.2, Error ellipse: s-maj=4.0km s-min=2.4km az=129.0*
*ISCJB **16** 12:32:16.4±0.7, 35.96N±0.04×27.62E±0.05, h45km±12km, Error ellipse: s-maj=8.9km s-min=5.0km az=85.9*
ISC 16 12:32:16.9±0.7**, 35.95N**±0.04×**27.63E**±0.06**, h40km**±21km**, n15, σ0.73**/24**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.48	57	ePB	Pn	12 32 26.7	-0.7
ARG				eSB	Sn	12 32 34.9	+0.2
KARP	Karpathos	0.56	223	ePN	Pn	12 32 27.6	-0.8
KARP				eSN	Sn	12 32 36.6	+0.1
DAT	Datca	0.78	357	i PG	Pn	12 32 31.0	-0.4
DAT				SG	Sn	12 32 42.1	+0.3
BDRM	Kayabasi	1.12	352	i P	Pn	12 32 35.5	-0.6
BDRM				i S	Sn	12 32 50.8	+0.5
BODT	Bodrum	1.14	347	PN	Pn	12 32 35.7	-0.6
BODT				SN	Sn	12 32 51.2	+0.5
DALT	Dalyan (Mudla)	1.15	45	ePN	Pn	12 32 35.9	-0.6
DALT				eSN	Sn	12 32 52.2	+1.2
YER	Yerkesik	1.29	24	ePN	Pn	12 32 37.9	-0.5
MLSB	Milas	1.34	5	ePN	Pn	12 32 38.4	-0.8
FETY	Fethiye	1.36	59	ePN	Pn	12 32 39.4	0.0
AYDN	Tasoluk	1.72	7	i P	Pn	12 32 44.0	-0.3
AYDN				i S	Sn	12 33 04.9	-0.1
NPS	Neapolis	1.78	248	ePN	Pn	12 32 45.1	-0.1
NPS				eSN	Sn	12 33 07.2	+0.6
SMG	Samos	1.86	340	ePN	Pn	12 32 45.9	-0.4
XRY	Khrisi	1.91	236	ePB	Pn	12 32 48.5	+1.6
ELL	Elmali	2.00	66	ePN	Pn	12 32 48.1	-0.1
GOLH	Golhisar	2.02	50	i P	Pn	12 32 47.8	-0.6
GOLH				i S	Sn	12 33 15.1	+2.7

*IDC **16** 12:34:24.7±10.0, 2.72S×129.58E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=153.3km s-min=98.6km az=146.0*
*NEIC **16** 12:34:28.1±3.2, 2.88S×129.88E, h10km, mb4.1/3, Error ellipse: s-maj=45.6km s-min=28.8km az=192.0*
*ISCJB **16** 12:34:29.5±3.7, 2.9S±0.4×129.8E±0.2, h33km, mb4.0/2, Error ellipse: s-maj=51.8km s-min=32.9km az=31.1*
ISC 16 12:34:32.5±3.8**, 3.0S**±0.4×**129.9E**±0.2**, h35km, n11, σ0.86**/11**, mb4.0**/2**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.59	195	Pn	Pn	12 38 08.8	-0.7
	0.3nm,0.3s,baz=355,slow=10,SNR=9.6						
WRAB	Tennant Creek	17.41	166	ePn	Pn	12 38 31.1	-1.5
	9.1nm,0.9s						
WRA	Warramunga Arr	17.42	166	P	Pn	12 38 32.6	-0.1
	0.3nm,0.3s,baz=347,slow=12,SNR=16						
WB2	Warramunga Arr	17.42	166	eP	Pn	12 38 33.2	+0.5
WB2	Warramunga Arr	17.42	166	ePn	Pn	12 38 32.9	+0.1
MBWA	Marble Bar	20.58	208	P	P	12 39 08.8	+0.5
	7.9nm,1.0s						
AS31	Alice Springs	20.93	170	eP	P	12 39 13.4	+1.2
ASAR	Alice Springs	20.93	170	P	P	12 39 13.4	+1.3
	6.8nm,0.7s,baz=347,slow=10,SNR=21						
STKA	Stephens Creek	30.80	160	P	P	12 40 44.5	-0.3
	0.5nm,0.5s,mb3.6,baz=350,slow=12,SNR=3.3						
STKA	Stephens Creek	30.80	160	P	P	12 40 44.2	-0.6
CASY	Casey	64.63	189	eP	P	12 45 05.9	-0.6
	4.1nm,1.2s,mb4.3						

*IDC **16** 12:34:48.5±0.7, 51.55N×178.71W, h0km, mb4.5/22, mb1 4.7/23, mb1mx4.6/29, mbtmp4.5/23, ML5.0/1, MS4.0/4, Ms1 4.0/4, ms1mx3.4/39, Error ellipse: s-maj=23.4km s-min=11.8km az=175.0*
*MOS **16** 12:34:51.9±0.9, 51.44N×178.52W, h33km, mb5.1/60, Error ellipse: s-maj=9.1km s-min=5.5km az=92.7*
*NEIC **16** 12:34:54.9±0.6, 51.41N×178.56W, h49km±5km, mb4.8/78, ML4.8(AEIC), Error ellipse: s-maj=8.0km s-min=3.1km az=186.0*
*ISCJB **16** 12:34:54.2±0.3, 51.33N±0.06×178.53W±0.03, h58km,*

mb4.8/120, MS4.2/7, Error ellipse: s-maj=8.1km s-min=3.0km az=176.1

*BJI **16** 12:34:55.3, 52.06N×179.07W, h49km, mB5.3, mb5.0, Ms4.8, Msz4.4*

*SZGRF **16** 12:34:55.7, 51.62N×178.11W, h33km, mb4.7, Andreanof Islands, Aleutian Islands, United States*

ISC 16 12:34:56.2±0.3**, 51.46N**±0.06×**178.54W**±0.04**, h60km, h60km**±1.9km**: pP-P, n327,** σ0.94/325**, mb4.8**/120**, MS4.2**/7**, 28C-15D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**1.36**	**267**	P	**Pn**	**12 35 14.7**	**-4.1**
AMKA				S	**Sn**	**12 35 32.6**	**-3.3**
ATKA	**Atka Island**	**2.79**	**73**	P	**Pn**	**12 35 37.6**	**-0.8**
SMY	**Shemya**	**4.71**	**289**	P	**Pn**	**12 36 05.2**	**+0.5**
SMY				S	**Sn**	**12 37 02.7**	**+4.6**
SPIA	**Saint Paul Isl**	**7.50**	**37**	P	**Pn**	**12 36 46.1**	**+3.3**
AKUT	**Akutan**	**8.19**	**66**	*e*Pn	**Pn**	**12 36 53.1**	**+0.8**
SVW2	**Sparrevohn**	**15.90**	**44**	*e*P	**Pn**	**12 38 38.5**	**+2.5**
KDAK	**Kodiak Island**	**16.24**	**57**	Pn	**Pn**	**12 38 37.1**	**-3.2**
	5.4nm,0.3s,baz=256,slow=7.6,SNR=25						
KDAK				Sn	**Sn**	**12 41 37.5**	**-2.1**
	0.4nm,0.3s,baz=287,slow=18,SNR=7.2						
KDAK	**Kodiak Island**	**16.24**	**57**	*e*Pn	**Pn**	**12 38 37.6**	**-2.7**
	66nm,1.1s						
TTA	**Tatalina**	**16.65**	**38**	*e*P	**Pn**	**12 38 48.5**	**+3.1**
SLKM	**Skilak Lake**	**18.11**	**49**	*e*P	**Pn**	**12 39 03.1**	**-0.3**
BILL	**Bilibino**	**18.21**	**342**	*e*P	**Pn**	**12 39 06.7**	**+2.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,600nm,20.0s						
IMA2	**Indian Mountai**	**19.29**	**31**	*e*P	**Pn**	**12 39 17.4**	**-0.2**
SEY	**Seymchan**	**19.30**	**318**⇑	*e*P	**Pn**	**12 39 17.9**	**+0.3**
MCK	**McKinley**	**19.83**	**40**	*e*P	**Pn**	**12 39 22.0**	**-2.0**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MCK	**McKinley**	**19.83**	**40**	*e*P	**Pn**	**12 39 22.0**	**-2.0**
	comp=Z,7.2nm,0.7s						
COLA	**College**	**20.75**	**38**	*c e*P	**P**	**12 39 32.7**	**+0.9**
COLA	**College**	**20.75**	**38**	*e*P	**P**	**12 39 32.1**	**+0.3**
	comp=Z,22nm,0.8s						
MENT	**Mentasta**	**21.77**	**45**	*e*P	**P**	**12 39 42.9**	**+0.1**
EGAK	**Eagle**	**23.38**	**41**	*e*P	**P**	**12 39 58.2**	**-1.3**
DAWY	**Dawson**	**23.93**	**43**	*e*P	**P**	**12 40 03.6**	**-1.0**
YSS	**Yuzh-Sakhalins**	**25.48**	**275**	*e*P	**P**	**12 40 18.9**	**+0.3**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
YSS				MLR	MLR		
	comp=Z,1µm,18.0s,MS4.4						
YSS				MLR	MLR		
	comp=N,500nm,14.0s						
YSS	**Yuzh-Sakhalins**	**25.48**	**275**	*e*P	**P**	**12 40 18.7**	**0.0**
	comp=N,20nm,0.8s,mb4.7						
ASAJ	**Asahikawa**	**26.87**	**270**	P	**P**	**12 40 30.2**	**-1.0**
	comp=N,11nm,0.9s,mb4.4,baz=43,slow=5.4,SNR=5.9						
ASAJ	**Asahikawa**	**26.87**	**270**	P	**P**	**12 40 30.2**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.9s						
INK	**Inuvik**	**27.30**	**35**	P	**P**	**12 40 34.9**	**-0.2**
	comp=Z,2.8nm,0.4s,mb4.2,baz=246,slow=10.0,SNR=13						
INK	**Inuvik**	**27.30**	**35**	P	**P**	**12 40 34.9**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**27.30**	**35**	*e*P	**P**	**12 40 34.8**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.2						
DLBC	**Dease Lake**	**28.18**	**57**	P	**P**	**12 40 42.7**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=281,slow=16,SNR=3.0						
DLBC	**Dease Lake**	**28.18**	**57**	P	**P**	**12 40 42.7**	**-0.2**
YAK	**Yakutsk**	**29.49**	**311**	*e*P	**P**	**12 40 54.3**	**-0.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
HABR	**Khabarovsk**	**29.62**	**283**	*e*P	**P**	**12 40 55.5**	**-0.2**
HABR				*e*S	**S**	**12 45 48.3**	**+1.6**
HABR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
KLR	**Kul'dur**	**31.32**	**286**	*e*P	**P**	**12 41 07.0**	**-3.7**
KLR				pmax	pmax		
	comp=E,20nm,0.8s						
KLR				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
MJAR	**Matsushiro Arr**	**33.96**	**261**	P	**P**	**12 41 33.2**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.1,baz=52,slow=7.9,SNR=11						
MAT	**Matsushiro**	**33.96**	**261**	P	**P**	**12 41 33.2**	**-0.6**
VLA	**Vladivostok**	**34.06**	**276**	*e*P	**P**	**12 41 33.8**	**-0.9**
VLA				*e*	pP	12 41 50.7	+1.1
VLA				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
OBC	**Olympics--Boni**	**34.67**	**74**	P	**P**	**12 41 41.8**	**+1.9**
MDJ	**Mudanjiang**	**34.72**	**279**	P	**P**	**12 41 37.9**	**-2.5**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,318nm,7.0s						
YKA	**Yellowknife Ar**	**35.06**	**47**	P	**P**	**12 41 42.8**	**-0.4**
	comp=Z,5.5nm,0.7s,mb4.6,baz=282,slow=8.0,SNR=7.9						
YKA				LR	LR	12 57 56.3	
	comp=Z,224nm,18.8s,MS3.9,baz=180,slow=40						
CMW	**Cultus Mountai**	**35.67**	**72**	P	**P**	**12 41 49.9**	**+1.4**
HTW	**Haystack Looko**	**36.16**	**73**	P	**P**	**12 41 53.7**	**+1.0**
SSOR	**Sweet Springs**	**37.18**	**78**	P	**P**	**12 42 02.8**	**+1.4**
EBG	**Ellensburg**	**37.31**	**74**	P	**P**	**12 42 03.4**	**+1.0**
VFP	**Flag Point**	**37.55**	**76**	P	**P**	**12 42 05.7**	**+1.1**
CN2	**Changchun**	**37.70**	**281**	*e*P	**P**	**12 42 04.5**	**-1.2**
MDW	**Midway**	**37.94**	**74**	P	**P**	**12 42 08.6**	**+0.8**
GBB	**Gable Butte**	**38.02**	**73**	P	**P**	**12 42 09.0**	**+0.6**
BOD	**Bodaibo**	**38.06**	**307**	*e*P	**P**	**12 42 07.1**	**-1.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
SNIWA	**Snively Ranch**	**38.07**	**74**	P	**P**	**12 42 09.7**	**+0.8**
KRMB	**Red Mountain**	**38.08**	**83**	*e*P	**P**	**12 42 12.6**	**+3.6**
RSW	**Rattlesnake Hi**	**38.15**	**74**	P	**P**	**12 42 10.5**	**+0.9**
HAWA	**Hanford**	**38.18**	**74**	*e*P	**P**	**12 42 09.8**	**-0.1**
	comp=Z,1.9nm,0.7s,mb3.9						
HIA	**Hailar**	**38.41**	**292**	*e*P	**P**	**12 42 10.3**	**-1.4**
EDM	**Edmonton**	**38.63**	**61**	*e*P	**P**	**12 42 12.6**	**-1.0**
EDM				*e*		12 43 22.5	
NEW	**Newport**	**38.70**	**70**	P	**P**	**12 42 14.2**	**0.0**
	comp=Z,18nm,0.8s,mb4.9,baz=300,slow=7.1,SNR=31						
NEW	**Newport**	**38.70**	**70**	P	**P**	**12 42 14.2**	**0.0**
NEW				pmax	pmax		
	comp=Z,18nm,0.8s						
NEW	**Newport**	**38.70**	**70**	*e*P	**P**	**12 42 13.7**	**-0.5**
	comp=Z,18nm,0.8s,mb4.8						
YBH	**Yreka Blue Hor**	**38.71**	**82**	P	**P**	**12 42 15.8**	**+1.6**
	comp=Z,6.6nm,0.8s,mb4.4,baz=269,slow=4.6,SNR=14						
YBH	**Yreka Blue Hor**	**38.71**	**82**	P	**P**	**12 42 15.8**	**+1.6**
YBH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
YBH	**Yreka Blue Hor**	**38.71**	**82**	*e*P	**P**	**12 42 16.6**	**+2.3**
	comp=Z,6.8nm,0.9s,mb4.4						
YBH				*e*		12 43 31.4	
SNY	**Shenyang**	**39.92**	**279**	⇓P	**P**	**12 42 24.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
MOD	**Modoc**	**40.10**	**80**	P	**P**	**12 42 24.6**	**-1.2**
	comp=Z,3.7nm,0.9s,mb4.1						
WALA	**Waterton Lakes**	**40.19**	**67**	*e*P	**P**	**12 42 26.1**	**-0.5**
	comp=Z,12nm,0.9s,mb4.6						
WALA				*e*		12 43 35.6	
WVOR	**Wild Horse Val**	**40.82**	**78**	*e*P	**P**	**12 42 31.9**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
WVOR	**Wild Horse Val**	**40.82**	**78**	*e*P	**P**	**12 42 31.9**	**0.0**
	comp=Z,6.4nm,0.8s,mb4.3						
MSO	**Missoula**	**41.28**	**70**	*e*P	**P**	**12 42 34.9**	**-0.7**
	comp=Z,5.7nm,0.8s,mb4.2						
MSO				*e*		12 43 42.0	
CHMT	**Chamberlain Mo**	**41.65**	**70**	*e*P	**P**	**12 42 37.6**	**-1.0**
HRY	**Holter Researc**	**42.58**	**69**	*e*P	**P**	**12 42 46.0**	**-0.2**
HLID	**Hailey**	**42.76**	**74**	*e*P	**P**	**12 42 47.6**	**0.0**
	comp=Z,10nm,0.9s,mb4.6						
MCMT	**McKenzie Canyo**	**43.00**	**72**	*e*P	**P**	**12 42 49.3**	**-0.2**
BOZ	**Bozeman (W)**	**43.27**	**70**	*e*P	**P**	**12 42 51.7**	**0.0**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
BOZ	**Bozeman (W)**	**43.27**	**70**	*e*P	**P**	**12 42 51.7**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.4						
BOZ				*e*		12 44 03.0	
NVAR	**Mina Array Bea**	**43.38**	**83**	P	**P**	**12 42 54.1**	**+1.5**
	comp=Z,2.5nm,0.8s,mb4.0,baz=298,slow=6.9,SNR=14						
QLMT	**Earthquake Lak**	**43.84**	**71**	*e*P	**P**	**12 42 56.6**	**+0.3**
MTUM	**Tungsten Hills**	**43.88**	**84**	*e*P	**P**	**12 42 56.5**	**-0.2**
IMW	**Indian Meadow**	**44.65**	**72**	*e*P	**P**	**12 43 02.5**	**-0.3**
	comp=Z,5.7nm,0.9s,mb4.4						
RRI2	**Red Ridge**	**44.74**	**73**	*e*P	**P**	**12 43 04.2**	**+0.7**
	comp=Z,12nm,0.7s,mb4.8						
HVU	**Hansel Valley**	**44.77**	**76**	*e*P	**P**	**12 43 04.1**	**+0.3**
HVU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
HVU	**Hansel Valley**	**44.77**	**76**	*e*P	**P**	**12 43 04.1**	**+0.3**
	comp=Z,7.1nm,0.6s,mb4.7						
TPAW	**Teton Pass**	**44.88**	**72**	*e*P	**P**	**12 43 04.7**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.5						
RLMT	**Red Lodge**	**44.95**	**70**	*e*P	**P**	**12 43 05.3**	**+0.1**
LOHW	**Long Hollow**	**45.01**	**72**	*e*P	**P**	**12 43 06.1**	**+0.4**
	comp=Z,3.2nm,0.6s,mb4.3						
BJI	**Beijing**	**45.52**	**282**	P	**P**	**12 43 09.4**	**-0.3**
HWUT	**Hardware Ranch**	**45.60**	**75**	*e*P	**P**	**12 43 10.1**	**-0.3**
	comp=Z,3.8nm,0.7s,mb4.4						
DUG	**Dugway**	**45.69**	**77**	*e*P	**P**	**12 43 11.2**	**+0.2**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
DUG	**Dugway**	**45.69**	**77**	*e*P	**P**	**12 43 11.2**	**+0.1**
	comp=Z,6.3nm,0.8s,mb4.6						
LAO	**LASA Array**	**45.84**	**66**	*e*P	**P**	**12 43 11.8**	**-0.4**
	comp=Z,11nm,0.5s,mb5.0						
TCUT	**Toone Canyon**	**45.99**	**75**	*e*P	**P**	**12 43 11.2**	**-2.2**
PDAR	**Pinedale Array**	**46.13**	**72**	P	**P**	**12 43 15.1**	**+0.6**
	comp=Z,20nm,0.7s,mb5.2,baz=303,slow=3.9,SNR=165						
TLY	**Talaya**	**46.16**	**302**	*e*P	**P**	**12 43 16.6**	**+1.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NLU	**North Lily Min**	**46.29**	**77**	P	**P**	**12 43 15.2**	**-0.6**
ULN	**Ulaanbaatar**	**46.37**	**296**⇑	*e*P	**P**	**12 43 16.3**	**-0.1**
ULN	**Ulaanbaatar**	**46.37**	**296**	*e*P	**P**	**12 43 16.4**	**0.0**
	comp=Z,11nm,0.8s,mb4.8						
SONM	**Songino Array**	**46.76**	**297**	P	**P**	**12 43 19.8**	**+0.4**
	comp=Z,6.4nm,0.7s,mb4.6,baz=56,slow=8.3,SNR=23						
ZAK	**Zakamensk**	**47.05**	**301**	*e*P	**P**	**12 43 21.9**	**+0.2**
MSU	**Marysvale**	**47.11**	**79**	*e*P	**P**	**12 43 23.5**	**+1.3**
SRU	**San Rafael**	**47.75**	**77**	*e*P	**P**	**12 43 27.1**	**0.0**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
SRU	**San Rafael**	**47.75**	**77**	*e*P	**P**	**12 43 27.1**	**0.0**
	comp=Z,5.6nm,0.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**47.83**	**286**	*e*P	**P**	**12 43 27.5**	**-0.2**
HHC				AP	pP	12 43 40.9	-2.3
HHC				XP	sP	12 43 47.3	-2.7
HHC				PCP	PcP	12 44 56.6	+0.9
HHC				PP	PP	12 45 18.8	-1.1
HHC				SCP	ScP	12 48 44.8	-0.1
HHC				PCS	PcS	12 48 50.8	-0.5
HHC				S	**S**	**12 50 19.0**	**-1.2**
HHC				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,251nm,4.8s						
HHC				LR	LR		
	comp=N,180nm,6.7s						
HHC				LR	LR		
	comp=E,240nm,4.9s						
HHC				LR	LR		
	comp=Z,317nm,6.1s						
SSE	**Sheshan**	**48.16**	**269**	P	**P**	**12 43 28.4**	**-1.9**
SSE				AMB	AMB		
	comp=Z,57nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,1µm,5.4s						
RWWY	**Rawlins**	**48.17**	**72**	*e*P	**P**	**12 43 29.4**	**-0.9**
	comp=Z,15nm,0.8s,mb5.1						
RSSD	**Black Hills**	**48.58**	**68**	*e*P	**P**	**12 43 32.7**	**-0.8**
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
RSSD	**Black Hills**	**48.58**	**68**	*e*P	**P**	**12 43 32.6**	**-0.9**
	comp=Z,6.7nm,0.6s,mb4.8						
NJ2	**Nanjing**	**48.97**	**272**	*e*P	**P**	**12 43 39.5**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
PV10	**Paradox Valley**	**49.12**	**77**	*e*P	**P**	**12 43 38.0**	**+0.4**
PHWY	**Pilot Hill**	**49.45**	**72**	*e*P	**P**	**12 43 39.4**	**-0.8**
ULM	**Lac du Bonnet**	**49.50**	**57**	P	**P**	**12 43 39.1**	**-1.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=329,slow=6.9,SNR=4.7						
KBS	**Kingsbay**	**49.73**	**357**⇑	*e*P	**P**	**12 43 43.5**	**+1.2**
ISCO	**Idaho Springs**	**50.29**	**73**	*e*P	**P**	**12 43 46.6**	**0.0**
ISCO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ISCO	**Idaho Springs**	**50.29**	**73**	*e*P	**P**	**12 43 46.6**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.6						
SPB4	**Spitsbergen Ar**	**50.31**	**356**	*e*P	**P**	**12 43 46.0**	**-0.7**
ANMO	**Albuquerque**	**52.91**	**78**⇑	*e*P	**P**	**12 44 08.2**	**+2.1**
ECSD	**EROS,Sioux Fal**	**53.05**	**64**	*e*P	**P**	**12 44 05.6**	**-1.5**
XAN	**Xi'an**	**53.81**	**281**	P	**P**	**12 44 12.3**	**-0.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**54.11**	**314**	P	**P**	**12 44 14.2**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.2,baz=4.3,slow=5.8,SNR=1.8						
ZAL				PcP	PcP	12 45 19.4	+0.3
	comp=Z,4.7nm,0.7s,baz=90,slow=4.2,SNR=21						
LZH	**Lanzhou**	**55.52**	**286**	*e*P	**P**	**12 44 26.1**	**+1.0**
LZH				AP	pP	12 44 42.1	+1.2
LZH				PP	PP	12 46 32.3	+2.8
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,131nm,4.6s						
GTA	**Gaotai**	**55.69**	**292**	⇑P	**P**	**12 44 26.8**	**+0.5**
GTA				AP	pP	12 44 42.6	+0.5
GTA				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.5						
MNTX	**Cornudas Mount**	**55.77**	**81**	*e*P	**P**	**12 44 28.7**	**+1.8**
	comp=Z,6.6nm,0.8s,mb4.7						
SCIA	**State Center**	**56.14**	**64**	*e*P	**P**	**12 44 28.6**	**-0.9**
WMOK	**Wichita Mounta**	**57.71**	**73**	*e*P	**P**	**12 44 40.3**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
WMOK	**Wichita Mounta**	**57.71**	**73**	*e*P	**P**	**12 44 40.3**	**-0.3**
	comp=Z,9.8nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**58.04**	**350**	P	**P**	**12 44 42.0**	**-0.9**
	comp=Z,3.8nm,0.7s,mb4.6,baz=28,slow=8.7,SNR=25						
ARCES				PcP	PcP	12 45 33.8	-0.5
	comp=Z,3.6nm,0.8s,baz=329,slow=4.2,SNR=5.6						
CD2	**Chengdu**	**59.12**	**282**	*e*P	**P**	**12 44 48.4**	**-2.0**
CD2				AP	pP	12 45 02.9	-3.5
CD2				XP	sP	12 45 08.9	-4.2
CD2				PP	PP	12 47 01.0	-0.5
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,50nm,6.2s						
CD2				LR	LR		
	comp=E,120nm,18.0s						
CD2				LR	LR		
	comp=Z,90nm,16.2s,MS4.0						
WMQ	**Urumqi**	**59.44**	**303**	*e*P	**P**	**12 44 53.3**	**+0.7**
WMQ				AP	pP	12 45 08.6	0.0
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,115nm,5.0s						
WMQ				LR	LR		
	comp=Z,330nm,22.6s,MS4.4						
JCT	**Junction City**	**60.05**	**78**	*e*P	**P**	**12 44 58.3**	**+1.4**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
JCT	**Junction City**	**60.05**	**78**	*e*P	**P**	**12 44 58.3**	**+1.4**
	comp=Z,8.9nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**60.11**	**309**	P	**P**	**12 44 54.8**	**-2.5**
	comp=Z,2.9nm,0.6s,mb4.5,baz=59,slow=7.2,SNR=25						
MKAR				PcP	PcP	12 45 42.1	-0.4
	comp=Z,1.5nm,0.6s,baz=45,slow=5.7,SNR=4.3						
FVM	**French Village**	**60.37**	**65**	*e*P	**P**	**12 44 57.6**	**-1.4**
FVM				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
FVM	**French Village**	**60.37**	**65**	*e*P	**P**	**12 44 57.6**	**-1.4**
	comp=Z,7.7nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**60.93**	**320**	P	**P**	**12 45 02.2**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.6,baz=53,slow=6.5,SNR=13						
BVAR				PcP	PcP	12 45 45.5	-0.3
	comp=Z,3.8nm,0.6s,baz=55,slow=3.9,SNR=9.4						
MIAR	**Mount Ida**	**60.94**	**70**	*e*P	**P**	**12 45 02.4**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
MIAR	**Mount Ida**	**60.94**	**70**	*e*P	**P**	**12 45 02.4**	**-0.5**
	comp=Z,14nm,0.8s,mb5.1						
ZRNK	**Zerenda**	**61.54**	**321**	*e*P	**P**	**12 45 06.2**	**-0.8**
ZRNK				*e*		12 45 47.3	
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**61.54**	**321**	*e*P	**P**	**12 45 06.2**	**-0.8**
	comp=Z,3.0nm,0.5s,mb4.7						
ZRNK				*e*PcP	PcP	12 45 47.3	-1.0
BLO	**Bloomington**	**61.73**	**62**	*e*P	**P**	**12 45 07.2**	**-1.0**
BLO				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.5						
BLO	**Bloomington**	**61.73**	**62**	*e*P	**P**	**12 45 07.2**	**-1.0**
	comp=Z,35nm,0.8s,mb5.5						
USIN	**University of**	**61.94**	**64**	*e*P	**P**	**12 45 09.0**	**-0.7**
	comp=Z,63nm,0.7s,mb5.9						
WCI	**Wyandotte Cave**	**62.52**	**63**	*e*P	**P**	**12 45 13.0**	**-0.5**
WCI				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.5						
WCI	**Wyandotte Cave**	**62.52**	**63**	*e*P	**P**	**12 45 13.0**	**-0.5**
	comp=Z,35nm,0.8s,mb5.5						
ARU	**Arti**	**62.62**	**328**⇑	*e*P	**P**	**12 45 14.4**	**+0.2**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
WVT	**Waverly**	**63.15**	**65**	*e*P	**P**	**12 45 17.0**	**-0.7**
WVT				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
WVT	**Waverly**	**63.15**	**65**	*e*P	**P**	**12 45 17.0**	**-0.7**
	comp=Z,12nm,0.8s,mb5.1						
JOF	**Joensuu**	**63.56**	**345**	*e*p	**P**	**12 45 19.2**	**-1.2**
	comp=Z,7.2nm,0.5s,mb5.0						
PLAL	**Pickwick Lake**	**63.83**	**66**	*e*P	**P**	**12 45 21.0**	**-1.2**
	comp=Z,16nm,0.7s,mb5.2						
KMI	**Kunming**	**63.88**	**278**	P	**P**	**12 45 22.3**	**-0.2**
KMI				AP	pP	12 45 37.1	-1.5
KMI				XP	sP	12 45 43.4	-1.9
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,182nm,4.8s						
SWET	**Sewanee**	**64.88**	**65**	*e*P	**P**	**12 45 28.4**	**-0.6**
KAF	**Kangasniemi**	**65.07**	**347**	*e*p	**P**	**12 45 28.6**	**-1.7**
	comp=Z,9.5nm,0.7s,mb4.9,baz=14,slow=5.8						
KAF	**Kangasniemi**	**65.07**	**347**	*e*P	**P**	**12 45 28.6**	**-1.7**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
TZTN	**Tazewell**	**65.25**	**62**	*e*P	**P**	**12 45 31.1**	**-0.4**
SSPA	**Standing Stone**	**65.28**	**55**	*e*P	**P**	**12 45 31.1**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**65.74**	**347**	P	**P**	**12 45 33.5**	**-1.2**
	comp=Z,4.3nm,0.7s,mb4.6,baz=38,slow=9.6,SNR=15						
FINES	**FINESS Array B**	**65.74**	**347**	P	**P**	**12 45 33.5**	**-1.2**
LRAL	**Lakeview Retre**	**65.85**	**67**	*e*P	**P**	**12 45 34.4**	**-1.0**
	comp=Z,11nm,0.6s,mb5.1						
AAK	**Ala-Archa**	**66.94**	**310**⇑	*e*P	**P**	**12 45 42.3**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**66.94**	**310**	*e*P	**P**	**12 45 42.0**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.7						
LSA	**Lhasa**	**67.57**	**290**	*e*P	**P**	**12 45 48.7**	**+2.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
LSA	**Lhasa**	**67.57**	**290**	*e*P	**P**	**12 45 48.7**	**+2.4**
	comp=Z,18nm,0.6s,mb5.3						
NB2	**NORSAR Subarra**	**67.58**	**355**	P	**P**	**12 45 45.5**	**-0.9**
	comp=Z,5.3nm,0.9s,mb4.6,baz=6.6,slow=6.5						
NOA	**NORSAR Array B**	**67.58**	**355**	P	**P**	**12 45 45.8**	**-0.5**
	comp=Z,4.8nm,0.9s,mb4.5,baz=5.6,slow=6.3,SNR=14						
NOA				PcP	PcP	12 46 12.5	-0.6
	comp=Z,2.2nm,0.7s,baz=360,slow=3.1,SNR=6.1						
NOA				LR	LR	13 13 23.6	
	comp=Z,55nm,19.1s,MS3.8,baz=345,slow=34						
NOA	**NORSAR Array B**	**67.58**	**355**	P	**P**	**12 45 45.8**	**-0.6**
NOA						12 46 12.5	
NOA	**NORSAR Array B**	**67.58**	**355**	P	**P**	**12 45 45.8**	**-0.5**
NOA				PcP	PcP	12 46 12.5	-0.6
NOA				LR	LR	13 13 23.6	
JSC	**Jenkinsville**	**68.17**	**62**	*e*P	**P**	**12 45 49.9**	**-0.2**
OBN	**Obninsk**	**69.85**	**339**⇑	*e*P	**P**	**12 45 59.8**	**-0.7**
OBN				*e*	pP	12 46 15.6	-1.2
OBN				*e*SS	SS	12 59 34.7	-0.5
OBN				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
GUN	**Gumba**	**71.98**	**292**	*e*P	**P**	**12 46 14.6**	**+1.2**
	comp=Z,257nm,0.5s						
JIRN	**Jiri**	**71.99**	**292**	*e*P	**P**	**12 46 14.8**	**+1.4**
	comp=Z,207nm,0.7s						
KKN	**Kakani**	**72.42**	**292**	*e*P	**P**	**12 46 17.0**	**+1.0**
	comp=Z,110nm,0.7s,mb5.9						
PKI	**Pulchoki**	**72.51**	**292**	*e*P	**P**	**12 46 17.4**	**+0.9**
	comp=Z,86nm,0.7s,mb5.8						
GKN	**Gorkha**	**72.63**	**293**	*e*P	**P**	**12 46 18.0**	**+0.8**
	comp=Z,126nm,0.8s,mb5.9						
DMN	**Daman**	**72.65**	**292**	*e*P	**P**	**12 46 18.5**	**+1.1**
	comp=Z,92nm,0.8s,mb5.7						
VRSR	**Storozhevoye**	**72.83**	**336**	*e*P	**P**	**12 46 18.8**	**+0.4**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,9.0nm,0.8s						
KOLN	**Koldanda**	**73.40**	**294**	*e*P	**P**	**12 46 22.6**	**+0.8**
	comp=E,70nm,0.9s,mb5.6						
RAR	**Rarotonga**	**74.21**	**162**	LR	LR	13 12 24.6	
	comp=E,310nm,19.3s,MS4.6,baz=289,slow=30						
AKASG	**Malin Array Be**	**75.52**	**342**	P	**P**	**12 46 33.4**	**-0.7**
	comp=E,2.5nm,0.4s,mb4.5,baz=20,slow=5.9,SNR=27						
AKBB	**Malin Array Si**	**75.52**	**342**	*e*P	**P**	**12 46 33.2**	**-0.9**
CLL	**Collm**	**77.14**	**353**	*i* P	**P**	**12 46 42.7**	**-0.6**
	comp=Z,5.0nm,0.9s,mb4.4						
CLL	**Collm**	**77.14**	**353**	*i* P	**P**	**12 46 42.7**	**-0.6**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
STHS	**Stebnicka Huta**	**78.09**	**347**	*e*P	**P**	**12 46 49.7**	**+1.1**
STHS				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
STHS	**Stebnicka Huta**	**78.09**	**347**	*e*P	**P**	**12 46 49.7**	**+1.1**
	comp=Z,5.1nm,1.2s,mb4.3						
MEM	**Membach**	**78.24**	**357**	P	**P**	**12 46 49.9**	**+0.5**
KOLS	**Kolonicke sedl**	**78.42**	**346**	*e*P	**P**	**12 46 50.1**	**-0.3**
KOLS				*e*		12 47 00.8	
BCLA	**Clavier**	**78.45**	**357**	P	**P**	**12 46 50.9**	**+0.4**
KIV	**Kislovodsk**	**78.48**	**331**	*c i*P	**P**	**12 46 50.8**	**+0.1**
KIV				*e**PP	pP	12 47 08.4	+1.1
KIV				*e*		12 49 48.8	
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**78.48**	**331**	*e*P	**P**	**12 46 50.5**	**-0.2**
	comp=Z,12nm,0.7s,mb4.9						
CRVS	**Cervenica-Dubn**	**78.57**	**347**	*e*P	**P**	**12 46 51.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**78.57**	**347**	*e*P	**P**	**12 46 51.1**	**-0.1**
GIVF	**Givet**	**78.78**	**358**	*e*P	**P**	**12 46 52.1**	**-0.3**
VRAC	**Vranov**	**78.78**	**350**	⇓*i*P	**P**	**12 46 53.0**	**+0.6**
VRAC	**Vranov**	**78.78**	**350**	⇓P	**P**	**12 46 53.0**	**+0.6**
DOU	**Dourbes**	**78.79**	**358**	P	**P**	**12 46 53.1**	**+0.7**
BAIF	**Baives**	**78.83**	**358**	*e*P	**P**	**12 46 52.8**	**+0.1**
	comp=Z,17nm,0.9s,mb4.7						
BAIF	**Baives**	**78.83**	**358**	*e*P	**P**	**12 46 52.8**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
BAIF	**Baives**	**78.83**	**358**	*e*P	**P**	**12 46 52.8**	**+0.1**
	comp=Z,8.7nm,0.9s,mb4.7						
GRA1	**Grafenberg Arr**	**78.88**	**354**	*e*P	**P**	**12 46 53.3**	**+0.3**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.88**	**354**	*e*P	**P**	**12 46 53.3**	**+0.3**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.88**	**354**	*e*P	**P**	**12 46 53.3**	**+0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.88**	**354**	*e*P	**P**	**12 46 53.3**	**+0.3**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ANN	**Anapa**	**79.20**	**335**	*e*P	**P**	**12 46 57.3**	**+2.6**
ANN				pmax	pmax		
	comp=Z,88nm,1.8s,mb5.4						
BURAR	**Bucovina Array**	**79.22**	**344**⇑	*i*P	**P**	**12 46 55.1**	**+0.3**
BURAR	**Bucovina Array**	**79.22**	**344**	⇑P	**P**	**12 46 55.1**	**+0.3**
KHC	**Kasperske Hory**	**79.26**	**352**	*e*P	**P**	**12 46 55.0**	**0.0**
KHC	**Kasperske Hory**	**79.26**	**352**⇑	*e*P	**P**	**12 46 55.2**	**+0.2**
VYHS	**Vyhne**	**79.32**	**348**	*e*P	**P**	**12 46 55.8**	**+0.5**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
VYHS	**Vyhne**	**79.32**	**348**	*e*P	**P**	**12 46 55.8**	**+0.5**
	comp=Z,2.9nm,1.1s,mb4.1						
GERES	**GERESS Array B**	**79.53**	**352**	P	**P**	**12 46 55.5**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=38,slow=6.6,SNR=8.4						
FLN	**La Foliniere**	**80.14**	**1**	*e*P	**P**	**12 46 59.3**	**-0.5**
	comp=Z,33nm,0.9s,mb5.0						
FLN	**La Foliniere**	**80.14**	**1**	*e*P	**P**	**12 46 59.3**	**-0.5**
FLN				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						

FLN	La Foliniere	80.14	1	eP	P	12 46 59.3	-0.5
	comp=Z,17nm,0.9s,mb5.0						
LDF	La Druitiere	80.32	1	eP	P	12 47 00.0	-0.7
	comp=Z,52nm,1.0s,mb5.1						
LDF	La Druitiere	80.32	1	eP	P	12 47 00.0	-0.7
LDF				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
LDF	La Druitiere	80.32	1	eP	P	12 47 00.0	-0.7
	comp=Z,26nm,1.0s,mb5.1						
MEZF	Maizieres J'vi	80.37	358	eP	P	12 47 01.0	0.0
CDF	Champ du Feu	80.38	356	eP	P	12 47 00.8	-0.3
DRGR		80.44	345	⇑iP	P	12 47 02.1	+0.7
DRGR		80.44	345	⇑P	P	12 47 02.1	+0.7
GRR	Gorron	80.51	2	eP	P	12 47 01.4	-0.4
	comp=Z,34nm,0.9s,mb5.0						
GRR	Gorron	80.51	2	eP	P	12 47 01.4	-0.4
GRR				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
GRR	Gorron	80.51	2	eP	P	12 47 01.4	-0.4
	comp=Z,17nm,0.9s,mb5.0						
SGMF	Saint Gilles	80.61	3	eP	P	12 47 02.0	-0.3
VRI	Vrincioaia	80.64	342	⇓iP	P	12 47 03.3	+0.9
VRI	Vrincioaia	80.64	342	⇓P	P	12 47 03.3	+0.8
PLOR	Plostina	80.66	342	⇑iP	P	12 47 03.4	+0.8
HAU	Haudompre	80.83	357	eP	P	12 47 03.1	-0.4
	comp=Z,12nm,0.8s,mb4.6						
HAU	Haudompre	80.83	357	eP	P	12 47 03.1	-0.4
HAU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
HAU	Haudompre	80.83	357	eP	P	12 47 03.1	-0.4
	comp=Z,6.3nm,0.8s,mb4.6						
HINF	Hinteralfeld	81.00	356	eP	P	12 47 03.7	-0.7
MLR	Muntele Rosu	81.14	343	⇑iP	P	12 47 06.6	+1.5
MLR	Muntele Rosu	81.14	343	⇑P	P	12 47 06.6	+1.4
MOTA	Moosalm	81.23	353	⇑iP	P	12 47 04.8	-0.8
	comp=Z,9.4nm,1.3s,mb4.6						
MOTA	Moosalm	81.23	353	⇑iP	P	12 47 04.8	-0.8
MOTA				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
GNI	Garni	81.26	328	⇑eP	P	12 47 07.2	+1.4
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KBA	Koelnbreinsper	81.31	352	⇑iP	P	12 47 06.8	+0.7
	comp=Z,27nm,1.1s,mb5.1						
KBA	Koelnbreinsper	81.31	352	⇑iP	P	12 47 06.8	+0.8
KBA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.1						
VOIR		81.36	343	⇓iP	P	12 47 07.5	+1.2
VOIR		81.36	343	⇓P	P	12 47 07.5	+1.2
LOR	Lormes	81.63	358	eP	P	12 47 07.4	-0.3
	comp=Z,15nm,0.9s,mb4.6						
LOR	Lormes	81.63	358	eP	P	12 47 07.4	-0.3
LOR				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
LOR	Lormes	81.63	358	eP	P	12 47 07.4	-0.3
	comp=Z,7.4nm,0.9s,mb4.6						
TIRR	Tirgusor	81.66	341	⇓iP	P	12 47 08.4	+0.6
TIRR	Tirgusor	81.66	341	⇓P	P	12 47 08.4	+0.6
BZS	Buzias	81.75	346	⇑iP	P	12 47 08.3	-0.1
BZS	Buzias	81.75	346	⇑P	P	12 47 08.2	-0.1
GZR	Gura Zlata	81.79	345	⇑iP	P	12 47 09.6	+1.1
GZR	Gura Zlata	81.79	345	⇑P	P	12 47 09.6	+1.0
SSF	Saint Saulge	81.84	359	eP	P	12 47 08.7	-0.1
	comp=Z,14nm,0.8s,mb4.6						
SSF	Saint Saulge	81.84	359	eP	P	12 47 08.7	-0.1
SSF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SSF	Saint Saulge	81.84	359	eP	P	12 47 08.7	-0.1
	comp=Z,6.9nm,0.8s,mb4.6						
AVF	Avril sur Loir	82.12	359	eP	P	12 47 10.0	-0.3
	comp=Z,41nm,1.2s,mb4.9						
AVF	Avril sur Loir	82.12	359	eP	P	12 47 10.0	-0.3
AVF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
AVF	Avril sur Loir	82.12	359	eP	P	12 47 10.0	-0.3
	comp=Z,20nm,1.2s,mb4.9						
WRAB	Tennant Creek	82.17	224	eP	P	12 47 09.8	-0.8
CABF	La Chapelle	82.23	357	eP	P	12 47 10.9	0.0
	comp=Z,31nm,1.1s,mb4.8						
CABF	La Chapelle	82.23	357	eP	P	12 47 10.9	0.0
CABF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
CABF	La Chapelle	82.23	357	eP	P	12 47 10.9	0.0
	comp=Z,16nm,1.1s,mb4.8						
SMF	Signal de Mont	82.25	358	eP	P	12 47 10.8	-0.2
	comp=Z,33nm,0.9s,mb4.9						
SMF	Signal de Mont	82.25	358	eP	P	12 47 10.8	-0.2
SMF				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
SMF	Signal de Mont	82.25	358	eP	P	12 47 10.8	-0.2
	comp=Z,16nm,0.9s,mb5.0						
MFF	Saint Martin d	82.31	1	eP	P	12 47 11.2	-0.1
	comp=Z,36nm,0.9s,mb5.0						
MFF	Saint Martin d	82.31	1	eP	P	12 47 11.2	-0.1
MFF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
MFF	Saint Martin d	82.31	1	eP	P	12 47 11.2	-0.1
	comp=Z,18nm,0.9s,mb5.0						
BGF	Bois d'Agland	82.36	359	eP	P	12 47 11.2	-0.3
TCF	Toulx Ste Croi	82.63	359	eP	P	12 47 12.6	-0.4
	comp=Z,31nm,1.2s,mb4.9						
TCF	Toulx Ste Croi	82.63	359	eP	P	12 47 12.6	-0.4
TCF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
TCF	Toulx Ste Croi	82.63	359	eP	P	12 47 12.6	-0.4
	comp=Z,16nm,1.2s,mb4.9						
LPL	La Plagne	83.30	356	eP	P	12 47 17.3	+0.9
LPG	La Plagne	83.32	356	eP	P	12 47 17.5	+1.0
	comp=Z,4.9nm,0.7s,mb4.4						
LPG	La Plagne	83.32	356	eP	P	12 47 17.5	+1.0
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LPG	La Plagne	83.32	356	eP	P	12 47 17.5	+1.0
	comp=Z,2.5nm,0.6s,mb4.4						
RJF	Les Rejaudoux	83.62	360	eP	P	12 47 17.9	-0.1
	comp=Z,30nm,1.1s,mb5.0						
RJF	Les Rejaudoux	83.62	360	eP	P	12 47 17.9	-0.1
RJF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.0						
RJF	Les Rejaudoux	83.62	360	eP	P	12 47 17.9	-0.1
	comp=Z,15nm,1.1s,mb5.0						
ORIF	Oris-en-Rattie	83.93	357	eP	P	12 47 20.4	+0.8
	comp=Z,10nm,0.7s,mb4.8						
ORIF	Oris-en-Rattie	83.93	357	eP	P	12 47 20.4	+0.8
ORIF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
ORIF	Oris-en-Rattie	83.93	357	eP	P	12 47 20.4	+0.8
	comp=Z,5.2nm,0.7s,mb4.8						
LFF	La Frestale	83.98	1	eP	P	12 47 20.0	+0.1
	comp=Z,40nm,0.9s,mb5.2						
LFF	La Frestale	83.98	1	eP	P	12 47 20.0	+0.1
LFF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
LFF	La Frestale	83.98	1	eP	P	12 47 20.0	+0.1
	comp=Z,20nm,0.9s,mb5.2						
CAF	Calviac	83.99	360	eP	P	12 47 20.1	+0.1
	comp=Z,27nm,0.9s,mb5.1						
CAF	Calviac	83.99	360	eP	P	12 47 20.1	+0.1
CAF				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.1						
CAF	Calviac	83.99	360	eP	P	12 47 20.1	+0.1
	comp=Z,14nm,0.9s,mb5.1						
VIVF	Saint-Julien-l	84.03	358	eP	P	12 47 20.5	+0.4
MBDF	Montbardon	84.08	356	eP	P	12 47 21.0	+0.6
	comp=Z,25nm,0.9s,mb5.0						
MBDF	Montbardon	84.08	356	eP	P	12 47 21.0	+0.6
MBDF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
MBDF	Montbardon	84.08	356	eP	P	12 47 21.0	+0.6
	comp=Z,12nm,0.9s,mb5.0						
HYB	Hyderabad	84.34	291	iP	P	12 47 22.5	+0.8
HYB	Hyderabad	84.34	291	eP	P	12 47 22.5	+0.8
VTS	Vitosha	84.44	344	⇓iP	P	12 47 22.6	+0.4
VTS	Vitosha	84.44	344	⇓P	P	12 47 22.6	+0.3
LASF	Ste Croix	84.82	358	eP	P	12 47 24.4	+0.2
	comp=Z,11nm,0.8s,mb4.7						
SMRF	Simiane la Rot	84.88	357	eP	P	12 47 25.2	+0.8
	comp=Z,20nm,0.8s,mb5.0						
SMRF	Simiane la Rot	84.88	357	eP	P	12 47 25.2	+0.8
	comp=Z,20nm,0.8s,mb5.3						
SBF	Sospel	84.92	356	eP	P	12 47 24.4	-0.2
	comp=Z,53nm,0.8s,mb5.4						
SBF	Sospel	84.92	356	eP	P	12 47 24.4	-0.2
SBF				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.4						
SBF	Sospel	84.92	356	eP	P	12 47 24.4	-0.2
	comp=Z,27nm,0.8s,mb5.4						
MALT	Malatya	84.93	332	⇑iP	P	12 47 26.1	+1.4
MALT	Malatya	84.93	332	eP	P	12 47 25.2	+0.5
	comp=Z,8.8nm,0.9s,mb4.9						
BR131	Keskin Array S	84.94	336	eP	P	12 47 24.5	-0.3
	comp=Z,7.9nm,0.7s,mb5.0						
BRTR	Keskin Array B	84.94	336	P	P	12 47 25.1	+0.4
	comp=Z,9.7nm,0.7s,mb5.0,baz=50,slow=3.0,SNR=55						
BRTR				LR	LR	13 25 24.6	
	comp=Z,70nm,21.2s,MS4.0,baz=171,slow=36						
ANTO	Ankara	85.02	336	⇓iP	P	12 47 25.9	+0.8
ANTO	Ankara	85.02	336	⇓P	P	12 47 25.9	+0.8
FRF	La Foret Royal	85.25	356	eP	P	12 47 26.1	-0.2
	comp=Z,19nm,0.7s,mb5.0						
FRF	La Foret Royal	85.25	356	eP	P	12 47 26.1	-0.2
FRF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
FRF	La Foret Royal	85.25	356	eP	P	12 47 26.1	-0.2
	comp=Z,9.6nm,0.7s,mb5.0						
LMR	La Mourre	85.49	356	eP	P	12 47 27.4	-0.1
	comp=Z,20nm,0.8s,mb5.0						
LMR	La Mourre	85.49	356	eP	P	12 47 27.4	-0.1
LMR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
LMR	La Mourre	85.49	356	eP	P	12 47 27.4	-0.1
	comp=Z,10.0nm,0.8s,mb5.0						
MTLF	Montolieu	85.58	359	eP	P	12 47 28.0	+0.1
	comp=Z,23nm,1.1s,mb5.0						
MTLF	Montolieu	85.58	359	eP	P	12 47 28.0	+0.1
MTLF				pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0						
MTLF	Montolieu	85.58	359	eP	P	12 47 28.0	+0.1
	comp=Z,12nm,1.1s,mb5.0						
SJPF	Ste Jean	85.78	2	eP	P	12 47 28.6	-0.3
	comp=Z,62nm,1.1s,mb5.4						
SJPF	Ste Jean	85.78	2	eP	P	12 47 28.6	-0.3
SJPF				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.5						
SJPF	Ste Jean	85.78	2	eP	P	12 47 28.6	-0.3
	comp=Z,31nm,1.1s,mb5.5						
EPF	Esparros	85.89	1	eP	P	12 47 29.5	+0.1
	comp=Z,21nm,0.9s,mb5.1						
EPF	Esparros	85.89	1	eP	P	12 47 29.5	+0.1
EPF				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.1						
EPF	Esparros	85.89	1	eP	P	12 47 29.5	+0.1
	comp=Z,11nm,0.9s,mb5.1						
AQU	L'Aquila	85.99	351	⇓iP	P	12 47 30.7	+0.7
AQU	L'Aquila	85.99	351	⇓P	P	12 47 30.7	+0.8
ETSF	Etsaut	86.01	1	eP	P	12 47 30.5	+0.5
	comp=Z,26nm,0.9s,mb5.2						
ETSF	Etsaut	86.01	1	eP	P	12 47 30.5	+0.5
ETSF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
ETSF	Etsaut	86.01	1	eP	P	12 47 30.5	+0.5
	comp=Z,13nm,0.9s,mb5.2						
ESDC	Sonseca Array	89.12	4	P	P	12 47 44.3	-0.7
	comp=Z,3.3nm,0.7s,mb4.8,baz=348,slow=4.6,SNR=14						
STKA	Stephens Creek	90.08	213	P	P	12 47 49.2	-0.3
	comp=Z,1.7nm,0.5s,mb4.6,baz=111,slow=5.9,SNR=2.9						
STKA	Stephens Creek	90.08	213	P	P	12 47 49.2	-0.3
DBIC	Dimbokro	121.85	7	PKP	PKPdf	12 53 43.1	-0.4
	comp=Z,3.5nm,1.0s,baz=315,slow=22,SNR=4.2						
DBIC	Dimbokro	121.85	7	PKIKP	PKPdf	12 53 43.1	-0.4
DBIC				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TSUM	Tsumeb	145.39	332	ePKPdf	PKPdf	12 54 27.1	-0.1
MAW	Mawson	146.65	218	PKPbc	PKPbc	12 54 28.8	-2.2
	comp=Z,1.8nm,0.6s,baz=359,slow=6.0,SNR=4.4						
LBTB	Lobatse	147.79	316	ePKP2	PKPab	12 54 34.3	-2.4
BOSA	Boshof	151.04	313	PKPbc	PKPbc	12 54 42.1	-0.2
	comp=Z,5.5nm,0.6s,baz=16,slow=2.4,SNR=9.4						

MOS ***16*** *12:38:10.9±1.0, 25.18S×17970E, h484km, mb5.0/11, Error ellipse: s-maj=12.0km s-min=11.6km az=138.8*
NEIC ***16*** *12:38:11.6±0.2, 2525S×17972E, mb4.7/28, Error ellipse: s-maj=8.9km s-min=6.6km az=143.0*
BJI ***16*** *12:38:11.6, 2530S×17970E, h484km, mB5.3, mb4.6*
ISCJB ***16*** *12:38:12.2±0.9, 2533S±005×17962E±006, h498km±11km, mb4.6/50, Error ellipse: s-maj=8.3km s-min=7.4km az=81.4*
IDC ***16*** *12:38:13.8±0.8, 2527S×17964E, h506km±7km, mb4.1/21, mb1 4.2/22, mb1mx4.2/24, mbtmp5.0/22, Error ellipse: s-maj=10.7km s-min=8.8km az=25.0*
ISC 16 12:38:12.9±0.9**, 2541S**±005×**17973E**±006**, h498**km±10km**,**
h484km±2.6km**:pP-P, n134,** σ**1.05**/124**, mb4.6**/50**, 6C-16D,**
South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	4.36	152	P	P	12 39 37.2	+3.2
	541nm,0.3s,baz=33,slow=2.5,SNR=19						
RAO				S	S	12 40 46.8	+6.5
	324nm,0.3s,baz=234,slow=24,SNR=7.6						
RAO	Raoul Island	4.36	152	eP	P	12 39 34.7	+0.6
RAO				eS	S	12 40 35.2	-5.1
DZM	Mont Dzumac	12.61	283	eP	P	12 41 00.3	+2.5
DZM	Mont Dzumac	12.61	283	P	P	12 41 01.1	+3.2
	5.7nm,0.3s,baz=90,slow=15,SNR=48						
URZ	Urewera	13.00	189	P	P	12 41 00.3	-1.6
	2.1nm,0.3s,baz=88,slow=1.8,SNR=11						
URZ				S	S	12 43 24.7	+3.3
	7.5nm,0.3s,baz=92,slow=20,SNR=15						
URZ	Urewera	13.00	189	SN	S	12 43 21.8	+0.4
AFI	Afiamalu	13.95	37	P	P	12 41 07.6	-4.5
	1.7nm,0.3s,baz=23,slow=20,SNR=5.0						
AFI				S	S	12 43 31.8	-8.0
	4.5nm,0.3s,baz=54,slow=19,SNR=4.5						
AFI	Afiamalu	13.95	37	P	P	12 41 07.5	-4.5
AFI				eS	S	12 43 28.9	-11
AFI				pmax	pmax		
	comp=Z,42nm,0.9s						
AFI	Afiamalu	13.95	37	P	P	12 41 07.5	-4.6
	comp=Z,42nm,0.9s						
AFI				eS	S	12 43 28.9	-11
BKZ	Black Stump Fm	13.98	190	ePN	P	12 41 10.3	-2.1
SNZO	South Karori	16.40	194	eP	P	12 41 36.8	-0.8
	comp=Z,70nm,0.6s						
SNZO				eS	S	12 44 24.5	-1.9
TCW	Tory Channel	16.40	195	ePN	P	12 41 37.0	-0.6
QRZ	Quartz Range	16.50	200	PN	P	12 41 38.8	+0.1
QRZ				SN	S	12 44 31.4	+3.0
NNZ	Nelson	16.62	197	ePN	P	12 41 38.3	-1.6
THZ	Tophouse	17.26	197	ePN	P	12 41 45.2	-1.2
KHZ	Kahutara	17.71	195	PN	P	12 41 49.5	-1.1
LTZ	Lake Taylor	18.38	198	PN	P	12 41 55.9	-0.8
RPZ	Rata Peaks	19.59	199	P	P	12 42 07.8	+0.1
	comp=Z,3.2nm,0.3s,baz=345,slow=2.9,SNR=13						
HNR	Honiara	24.61	307	P	P	12 42 51.6	-1.4
	comp=Z,120nm,0.6s,mb5.5,baz=107,slow=1.4,SNR=9.0						
HNR	Honiara	24.61	307	eP	P	12 42 51.7	-1.3
HNR				pmax	pmax		
	comp=Z,76nm,0.7s,mb5.2						
HNR	Honiara	24.61	307	eP	P	12 42 51.7	-1.3
	comp=Z,76nm,0.7s,mb5.2						
ARMA	Armidale	25.29	252	eP	P	12 43 01.7	+2.7
CNB	Canberra Magne	27.90	242	⇓iP	P	12 43 24.0	+2.0
	comp=Z,4.2nm,0.4s,mb4.2						
CTA	Charters Tower	31.27	273	⇓iP	P	12 43 52.6	+1.4
	comp=Z,45nm,0.4s,mb5.2						
CTA	Charters Tower	31.27	273	P	P	12 43 52.6	+1.4
	comp=Z,62nm,0.4s,mb5.4,baz=96,slow=11,SNR=91						
CTA				ScP	ScP	12 49 25.8	-0.2
	comp=Z,8.2nm,1.0s,baz=296,slow=1.9,SNR=3.7						
CTA	Charters Tower	31.27	273	⇓iP	P	12 43 52.6	+1.4
CTA				pmax	pmax		
	comp=Z,45nm,0.4s						
CTAO	Charters Tower	31.27	273	⇓iP	P	12 43 52.5	+1.3
CTAO				pmax	pmax		
	comp=Z,64nm,0.5s,mb5.3						
CTAO	Charters Tower	31.27	273	⇓iP	P	12 43 52.5	+1.3
	comp=Z,64nm,0.5s,mb5.3						
CTAO				e		12 44 12.1	
TOO	Toolangi	31.44	239	⇓iP	P	12 43 54.3	+1.6
	comp=Z,6.9nm,0.7s,mb4.2						
TOO	Toolangi	31.44	239	⇓iP	P	12 43 54.3	+1.6
TOO				pmax	pmax		
	comp=Z,70nm,0.7s,mb5.2						
STKA	Stephens Creek	33.95	250	eP	P	12 44 15.2	+1.2
	comp=Z,7.3nm,0.6s,mb4.3						
STKA	Stephens Creek	33.95	250	P	P	12 44 15.3	+1.3
	comp=Z,7.8nm,0.5s,mb4.4,baz=90,slow=9.6,SNR=30						
STKA				ScP	ScP	12 49 35.7	+0.3
	comp=Z,3.1nm,0.6s,baz=104,slow=7.7,SNR=5.8						
PMG	Port Moresby	34.78	291	P	P	12 44 21.2	+0.3
	comp=Z,49nm,0.8s,mb5.0,baz=108,slow=7.2,SNR=9.4						
PMG	Port Moresby	34.78	291	⇑iP	P	12 44 20.6	-0.4
AS31	Alice Springs	41.57	262	eP	P	12 45 16.8	+0.5
ASAR	Alice Springs	41.57	262	P	P	12 45 16.6	+0.3
	comp=Z,20nm,0.5s,mb4.8,baz=91,slow=6.4,SNR=74						
ASAR				ScP	ScP	12 50 05.2	+0.8
	comp=Z,3.0nm,1.1s,baz=130,slow=4.1,SNR=4.5						
ASAR				S	S	12 50 55.0	-0.8
	comp=Z,3.0nm,0.7s,baz=100,slow=14,SNR=13						
WB2	Warramunga Arr	42.07	268	⇓iP	P	12 45 20.4	+0.1
WB2				eS	S	12 51 00.9	-2.1
WB2				eSCS	ScS	12 54 27.4	+1.2
WRAB	Tennant Creek	42.07	268	d iP	P	12 45 20.3	0.0
WRAB	Tennant Creek	42.07	268	⇓iP	P	12 45 20.1	-0.2
	comp=Z,68nm,0.8s,mb5.1						
WRAB				eScP	ScP	12 50 07.3	+0.8
WRA	Warramunga Arr	42.08	268	P	P	12 45 20.4	0.0
	comp=Z,44nm,0.6s,mb5.1,baz=103,slow=8.0,SNR=61						
WRA				ScP	ScP	12 50 07.8	+1.3
	comp=Z,7.5nm,1.1s,baz=102,slow=4.0,SNR=9.8						
WRA				S	S	12 51 01.9	-1.3
	comp=Z,6.3nm,1.0s,baz=102,slow=15,SNR=12						
FORT	Forrest	45.57	251	⇓iP	P	12 45 47.1	-0.4
	comp=Z,26nm,0.5s,mb4.9						
KAKA	Kakadu	46.22	277	⇓iP	P	12 45 52.1	-0.4
	comp=Z,30nm,0.4s,mb5.1						
FITZ	Fitzroy Crossi	50.48	267	⇓iP	P	12 46 24.8	+0.5
	comp=Z,47nm,0.5s,mb5.1						
FITZ	Fitzroy Crossi	50.48	267	P	P	12 46 24.9	+0.6
	comp=Z,26nm,0.5s,mb4.8,baz=103,slow=6.7,SNR=77						
GUMO	Guam	51.54	315	P	P	12 46 30.8	-1.2
	comp=Z,25nm,0.5s,mb4.8,baz=184,slow=9.6,SNR=4.6						
GUMO				ScP	ScP	12 50 45.9	-0.4
	comp=Z,12nm,0.5s,baz=176,slow=5.1,SNR=2.5						
GUMO	Guam	51.54	315	P	P	12 46 30.8	-1.2
GUMO				ScP	ScP	12 50 45.9	-0.4
VNDA	Vanda	52.86	185	P	P	12 46 42.6	+1.1
	comp=Z,3.7nm,0.5s,mb3.9,baz=358,slow=8.1,SNR=28						
VNDA				ScP	ScP	12 50 51.5	-0.5
	comp=Z,1.6nm,0.7s,baz=2.1,slow=4.2,SNR=6.1						
VNDA	Vanda	52.86	185	eP	P	12 46 42.7	+1.2
VNDA				e		12 47 42.5	
VNDA				pmax	pmax		
	comp=Z,30nm,0.6s						
VNDA	Vanda	52.86	185	eP	P	12 46 42.7	+1.2
	comp=Z,3.5nm,0.6s,mb3.9						
VNDA				ePcP	PcP	12 47 42.5	-0.2
SBA	Scott Base	52.86	183	eP	P	12 46 43.9	+2.4
SBA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.4						
SBA	Scott Base	52.86	183	eP	P	12 46 43.9	+2.4
	comp=Z,18nm,0.9s,mb4.4						
KLBR	Kellerberrin	54.19	248	⇓iP	P	12 46 50.8	-0.1
	comp=Z,25nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	54.40	247	P	P	12 46 52.1	-0.3
	comp=Z,9.8nm,0.9s,mb4.1,baz=81,slow=5.5,SNR=8.8						
NWAO	Narrogin (SRO)	54.40	247	eP	P	12 46 51.4	-1.1
	comp=Z,33nm,1.3s,mb4.5						
MBWA	Marble Bar	54.88	261	eP	P	12 46 55.3	-0.5
	comp=Z,48nm,1.4s,mb4.6						
MBWA				epP	pP	12 48 33.1	-0.5
MUN	Mundaring	55.42	248	eP	P	12 46 59.6	+0.1
CASY	Casey	58.65	206	eP	P	12 47 21.5	-0.3
	comp=Z,59nm,0.6s,mb5.1						
QSPA	South Pole Qui	64.68	180	⇑iP	P	12 48 02.4	+1.2
	comp=Z,28nm,0.9s,mb4.9						
KSM	Kuching	72.13	280	⇓iP	P	12 48 46.5	+0.1
KSM				epP	pP	12 50 29.5	-2.0
MJAR	Matsushiro Arr	73.00	326	P	P	12 48 50.5	-0.9
	comp=Z,8.8nm,0.8s,mb4.3,baz=159,slow=5.7,SNR=26						
MAT	Matsushiro	73.00	326	P	P	12 48 50.5	-1.0
MAW	Mawson	76.25	201	⇑iP	P	12 49 10.2	+0.4
	comp=Z,8.1nm,0.5s,mb4.5						
MAW	Mawson	76.25	201	P	P	12 49 10.3	+0.5
	comp=Z,9.9nm,0.6s,mb4.6,baz=128,slow=6.2,SNR=38						
MAW	Mawson	76.25	201	⇑iP	P	12 49 10.2	+0.4
MAW				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ASAJ	Asahikawa	77.10	334	P	P	12 49 15.0	+0.6
	comp=Z,6.4nm,0.7s,mb4.2,baz=196,slow=12,SNR=8.3						
PMSA	Palmer Station	77.62	157	P	P	12 49 17.7	+0.4
	comp=Z,22nm,0.9s,mb4.6,baz=153,slow=2.3,SNR=3.7						
SSE	Sheshan	79.31	312	P	P	12 49 26.3	0.0
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,1μm,4.9s						
YSS	Yuzh-Sakhalins	79.39	335	eP	P	12 49 26.2	-0.5
YSS				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
VLA	Vladivostok	81.15	327	eP	P	12 49 22.4	-14
VLA				e	pP	12 51 09.2	-15
VLA				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.4						
NJ2	Nanjing	81.47	311	eP	P	12 49 39.0	+1.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.0						
SYO	Syowa Base	81.49	194	⇓iP	P	12 49 36.6	-1.1
SYO	Syowa Base	81.49	194	⇑ePcP	PcP	12 49 40.4	-1.7
PSI	Prapat	82.90	276	P	P	12 49 44.1	-0.7
	comp=Z,3.2nm,0.4s,mb4.2,baz=115,slow=1.0,SNR=5.3						
SNAA	Sanae	83.17	179	P	P	12 49 45.6	-0.6
	comp=Z,1.7nm,0.6s,mb3.8,baz=205,slow=13,SNR=10						
SNAA	Sanae	83.17	179	eP	P	12 49 45.3	-0.9
SNAA				e		12 49 46.1	
SNAA				e		12 49 48.4	
SNAA	Sanae	83.17	179	eP	P	12 49 45.2	-0.9
	comp=Z,9.4nm,0.9s,mb4.3						
MDJ	Mudanjiang	83.38	327	P	P	12 49 48.5	+1.3
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,126nm,5.4s						
VNA3	Neumayer Olymp	83.39	177	eP	P	12 49 46.8	-0.5
VNA3				e		12 49 47.2	
VNA3				e		12 49 48.6	
HABR	Khabarovsk	83.72	332	eP	P	12 49 48.5	-0.4
HABR				eS	S	12 59 18.9	-11
VNA1	Neumayer--Stat	84.04	177	eP	P	12 49 50.7	+0.2
VNA1				e		12 49 53.1	
KHMM	Horse Mountain	84.27	39	eP	P	12 49 52.3	+0.7
CMB	Columbia Colle	84.47	43	eP	P	12 49 52.3	-0.3
CMB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
CMB	Columbia Colle	84.47	43	eP	P	12 49 52.3	-0.3
	comp=Z,9.4nm,0.9s,mb4.3						
OHCM	Honcut	84.60	42	eP	P	12 49 53.2	-0.1
WDC	Whiskeytown Da	84.77	40	eP	P	12 49 54.2	+0.1
WDC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.5						
WDC	Whiskeytown Da	84.77	40	eP	P	12 49 54.2	+0.1
	comp=Z,13nm,1.1s,mb4.5						
CN2	Changchun	84.95	324	eP	P	12 49 57.0	+2.0
MTUM	Tungsten Hills	85.20	45	P	P	12 49 56.4	+0.2
YBH	Yreka Blue Hor	85.41	39	P	P	12 49 57.5	+0.3
	comp=Z,4.1nm,0.7s,mb4.2,baz=150,slow=3.0,SNR=13						
KLR	Kul'dur	85.72	331	eP	P	12 49 55.2	-3.5
NVAR	Mina Array Bea	86.01	44	P	P	12 50 00.4	+0.3
	comp=Z,5.5nm,0.7s,mb4.3,baz=210,slow=6.8,SNR=39						
PAHR	Pah Rah Range	86.11	42	eP	P	12 50 00.7	+0.1
	comp=Z,7.7nm,0.9s,mb4.3						
MOD	Modoc	86.91	40	eP	P	12 50 04.7	+0.4
	comp=Z,4.7nm,0.8s,mb4.3						
PLCA	Paso Flores	87.39	134	P	P	12 50 08.0	+1.3
	comp=Z,4.3nm,0.6s,mb4.3,baz=214,slow=5.3,SNR=9.2						
PLCA	Paso Flores	87.39	134	P	P	12 50 08.0	+1.3
TUC	Tucson	87.63	53	eP	P	12 50 09.0	+1.3
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
TUC	Tucson	87.63	53	eP	P	12 50 09.0	+1.3
	comp=Z,9.1nm,0.9s,mb4.5						
BMN	Battle Mountai	87.87	43	eP	P	12 50 08.4	-0.5
BMN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
BMN	Battle Mountai	87.87	43	eP	P	12 50 08.4	-0.5
	comp=Z,8.6nm,1.0s,mb4.4						
WVOR	Wild Horse Val	88.21	41	eP	P	12 50 10.6	+0.1
WVOR				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
WVOR	Wild Horse Val	88.21	41	eP	P	12 50 10.6	+0.1
	comp=Z,16nm,1.0s,mb4.7						
CCUT	Cedar City	88.69	47	eP	P	12 50 13.3	+0.6
ARUT	Antelope Range	88.77	47	eP	P	12 50 13.5	+0.4
KMI	Kunming	89.75	298	P	P	12 50 18.4	+0.8

KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
HAWA	Hanford	90.12	37	eP	P	12 50 19.1	-0.2
	comp=Z,0.3nm,0.9s,mb3.1						
SEY	Seymchan	90.69	348	⇑iP	P	12 50 20.9	-1.1
HHC	Hu-ho-hao-te	91.31	315	eP	P	12 50 25.0	+0.2
HHC				AP	pP	12 52 15.1	-0.7
HHC				XP	sP	12 53 03.8	-2.5
HHC				PP	PP	12 54 13.6	+2.9
HHC				SKS		13 00 10.0	
HHC				S	S	13 00 41.0	+0.3
HHC				PS	PS	13 03 01.3	+1.0
HHC				XS	sS	13 03 55.4	-4.0
HHC				SS	SS	13 07 03.5	+3.1
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,554nm,5.8s						
CD2	Chengdu	91.70	303	eP	P	12 50 25.0	-1.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ANMO	Albuquerque	92.08	52	eP	P	12 50 27.8	-0.6
NEW	Newport	92.56	37	P	P	12 50 28.6	-2.0
	comp=Z,1.1nm,0.5s,mb4.1,baz=255,slow=7.1,SNR=4.2						
BILL	Bilibino	93.70	355	eP	P	12 50 35.1	-0.7
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.0						
PDAR	Pinedale Array	93.94	44	P	P	12 50 36.5	-0.3
	comp=Z,1.4nm,0.9s,mb4.0,baz=219,slow=1.9,SNR=7.5						
LZH	Lanzhou	94.11	308	eP	P	12 50 38.8	+1.2
LZH				AP	pP	12 52 27.1	-1.7
LZH				XP	sP	12 53 14.8	-4.4
LZH				PP	PP	12 54 36.1	+3.8
LZH				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
YAK	Yakutsk	95.89	339	eP	P	12 50 44.9	-0.8
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
BVAR	Borovoye Array	121.40	318	PKP	PKPdf	12 56 07.8	-1.3
	comp=Z,1.0nm,0.4s,baz=139,slow=2.0,SNR=6.1						
BVAR				SKP		12 58 56.5	
	comp=Z,1.6nm,0.6s,baz=100,slow=5.1,SNR=6.1						
ARU	Arti	127.94	323	ePKIKP	PKPdf	12 56 19.4	-2.3
ARCES	ARCESS Array B	133.31	348	PKP	PKPdf	12 56 29.4	-2.4
	comp=Z,1.5nm,0.5s,baz=66,slow=2.8,SNR=16						
ARCES				SKPab		12 59 11.8	
	comp=Z,6.0nm,0.7s,baz=25,slow=3.3,SNR=16						
KMBO	Kilima Mbogo	135.13	240	SKPbc	SKPbc	12 59 20.6	+1.6
	comp=Z,2.9nm,1.0s,baz=53,slow=23,SNR=5.1						
FINES	FINESS Array B	139.79	341	PKhKP		12 56 36.1	
	comp=Z,1.1nm,0.6s,baz=49,slow=4.4,SNR=9.5						
FINES				PKP	PKPdf	12 56 43.0	-0.7
	comp=Z,0.8nm,0.4s,baz=90,slow=1.5,SNR=6.0						
FINES				SKPbc	SKPbc	12 59 31.0	-1.3
	comp=Z,15nm,0.9s,baz=50,slow=3.3,SNR=25						
FINES	FINESS Array B	139.79	341	PKHKP		12 56 36.1	
FINES						12 56 43.0	
FINES	FINESS Array B	139.79	341	PKP	PKPdf	12 56 36.1	-7.7
FINES				PKP	PKPdf	12 56 43.0	-0.7
FINES				SKPbc	SKPbc	12 59 31.0	-1.3
NB2	NORSAR Subarra	143.53	351	PKPa	PKP	12 56 46.8	
	comp=Z,8.9nm,1.0s,baz=16,slow=3.3						
NOA	NORSAR Array B	143.53	351	PKP	PKPdf	12 56 47.4	-3.0
	comp=Z,1.9nm,0.5s,baz=21,slow=3.8,SNR=11						
NAO01	NORSAR Array S	143.76	351	ePKPdf	PKPdf	12 56 47.9	-3.0
AKASG	Malin Array Be	146.09	326	PKPbc	PKPbc	12 56 55.4	-1.4
	comp=Z,4.0nm,0.5s,baz=42,slow=4.4,SNR=21						
AKASG				SKPbc	SKPbc	12 59 46.6	-1.0
	comp=Z,1.9nm,0.5s,baz=45,slow=2.7,SNR=4.8						
AKBB	Malin Array Si	146.09	326	ePKIKP	PKPdf	12 56 54.7	-0.1
BR131	Keskin Array S	148.26	305	ePKPdf	PKPdf	12 56 58.6	+0.2
BR131				ePKPbc	PKPbc	12 57 02.2	-0.3
BR131				ePKPab	PKPab	12 57 07.5	+0.1
BRTR	Keskin Array B	148.26	305	PKPbc	PKPbc	12 57 02.1	-0.3
	comp=Z,1.0nm,0.5s,baz=116,slow=3.1,SNR=6.1						
KSP	Ksiaz	151.59	338	ePKIKP	PKPdf	12 57 10.1	+6.5
CLL	Collm	152.22	342	i PKPbc	PKPbc	12 57 10.8	-0.9
	comp=Z,8.0nm,0.9s						
CLL				i PKPab	PKPab	12 57 25.0	+1.1
	comp=Z,6.0nm,1.0s						
CLL				epPKPab	pPKPab	12 59 15.0	-1.5
BRG	Berggiesshubel	152.33	340	i PKP	PKPdf	12 57 11.1	+6.4
	comp=Z,2.4nm,0.5s						
BRG				e		12 57 23.8	
	comp=Z,7.9nm,1.6s						
BRG				pPKP	pPKPdf	12 59 14.6	+11
	comp=Z,2.1nm,0.9s						
BRG	Berggiesshubel	152.33	340	i PKIKP	PKPdf	12 57 11.1	+6.4
BRG				e		12 57 23.8	
DBIC	Dimbokro	160.85	166	PKPab	PKPab	12 58 01.9	+0.6
	comp=Z,3.4nm,0.7s,baz=179,slow=7.1,SNR=6.2						
TORD	Torodi Ar. Bea	167.66	189	PKP	PKPdf	12 57 21.6	+0.1
	comp=Z,1.0nm,0.6s,baz=41,slow=1.1,SNR=5.3						
TORD				PKPab	PKPab	12 58 31.6	+0.4
	comp=Z,3.9nm,0.6s,baz=173,slow=3.7,SNR=17						

---

*IDC **16** 12:39:28.0±2.0, 278S×12997E, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/16, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=132.0km s-min=23.1km az=75.0*

*NEIC **16** 12:39:29.7±0.7, 290S×12989E, h10km, mb4.2/3, Error ellipse: s-maj=28.1km s-min=9.4km az=70.0*

*ISCJB **16** 12:39:31.1±0.8, 30S±0.1×1298E±02, h33km, mb4.0/5, Error ellipse: s-maj=31.4km s-min=10.5km az=140.6*

ISC 16 12:39:33.4±0.8**, 295S**±010×**1299E**±02**, h35**km**, n11, σ0.95**/11**, mb4.0**/5**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.62	195	Pn	Pn	12 43 10.2	-0.6
	0.4nm,0.3s,baz=20,slow=13,SNR=7.6						
WRAB	Tennant Creek	17.44	166	ePn	Pn	12 43 32.3	-1.5
WRA	Warramunga Arr	17.45	166	P	Pn	12 43 33.3	-0.6
	0.9nm,0.3s,baz=351,slow=12,SNR=19						
KSM	Kuching	20.04	282	eP	P	12 44 03.5	+0.3
AS31	Alice Springs	20.96	170	eP	P	12 44 14.6	+1.3
ASAR	Alice Springs	20.96	170	P	P	12 44 15.5	+2.2
	7.4nm,0.4s,baz=343,slow=9.4,SNR=26						
ULN	Ulaanbaatar	54.40	341	eP	P	12 48 57.4	+0.6
	1.3nm,0.6s,mb4.0						
MKAR	Makanchi Array	64.80	326	P	P	12 50 08.3	-0.1
	0.7nm,0.6s,mb3.9,baz=116,slow=8.2,SNR=6.2						
ZAL	Zalesovo	67.92	333	P	P	12 50 27.6	-0.9
	0.8nm,0.5s,mb4.0,baz=346,slow=12,SNR=4.3						
ZRNK	Zerenda	75.31	327	P	P	12 51 12.8	-0.1
	1.0nm,0.7s,mb3.9						
VNDA	Vanda	76.46	173	eP	P	12 51 19.3	-0.2
	4.6nm,1.5s,mb4.2						

---

*NEIC **16** 12:52:39.5, 3723N×2053E, h5km, ML3.7(ATH), After ATH.*

ATH 16 12:52:37.6, 3720N×2042E, h5km**, MD3.8**/11**, ML3.8, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.98	8	ePN	Pn	12 52 56.9	-1.2
VLS				eSB	Sb	12 53 11.1	+0.7
VLS	Valsamata	0.98	8	ePb	Pb	12 52 56.4	-0.7
VLS				eSb	Sb	12 53 11.7	+1.3
RLS	Riolos of Patr	1.19	44	ePB	Pb	12 53 00.4	-0.3
RLS				eSB	Sb	12 53 16.2	-0.2
RLS	Riolos of Patr	1.19	44	ePg	Pg	12 52 59.8	-0.7
RLS				eSb	Sb	12 53 16.9	+0.5
ITM	Ithomi	1.20	91	ePG	Pg	12 53 00.2	-0.5
ITM				eSB	Sb	12 53 17.7	+1.0
ITM	Ithomi	1.20	91	ePb	Pb	12 52 59.6	-1.3
ITM				eSb	Sb	12 53 18.3	+1.6
EVR	Evrytania	2.03	32	ePN	Pn	12 53 13.7	+1.2
EVR	Evrytania	2.03	32	ePb	Pb	12 53 13.6	-1.4
VLI	Veliai	2.07	103	ePB	Pb	12 53 14.0	-1.7
VLI	Veliai	2.07	103	ePb	Pb	12 53 14.9	-0.8
KYTH	Kithira	2.29	113	ePN	Pn	12 53 17.8	+1.7
MGER	Gerania Oros	2.39	70	ePG	Pg	12 53 21.5	-1.9
JAN	Janina	2.48	8	ePN	Pn	12 53 21.5	+2.9
JAN	Janina	2.48	8	ePg	Pg	12 53 24.5	-0.6
LKR	Lokris	2.50	54	ePB	Pb	12 53 19.3	-3.7
LKR	Lokris	2.50	54	ePb	Pb	12 53 19.8	-3.2
NAIG	Nisos Aigina	2.50	76	ePG	Pg	12 53 25.0	-0.6
ATH	Athens Observa	2.73	73	ePN	Pn	12 53 26.0	+3.9
ATH	Athens Observa	2.73	73	ePg	Pg	12 53 27.5	-2.4
KVR	Kavouri	2.74	76	ePG	Pg	12 53 29.0	-1.0
PTL	Penteli	2.86	72	ePN	Pn	12 53 28.0	+4.1

---

*ISCJB **16** 12:56:37.1±0.3, 3199S±002×7099W±005, h94km±3km, mb4.2/8, Error ellipse: s-maj=7.1km s-min=2.9km az=173.3*

*NEIC **16** 12:56:37.9±0.3, 3199S×7097W, h84km±4km, mb4.3/6, Error ellipse: s-maj=9.4km s-min=4.0km az=91.0*

NEIC Felt [III] at Illapel, La Ligua, Petorca and Salamanca; [II] at Coquimbo, Curacavi, La Serena, Los Andes, San Antonio, San Felipe, Santiago, Valparaiso and Vina del Mar.

*GUC **16** 12:56:37.9±0.8, 3197S×7088W, h81km±3km, ML4.8*

*BJI **16** 12:56:37.9, 3200S×7100W, h84km, mB4.8, Ms5.3, Msz4.8*

*IDC **16** 12:56:38.4±3.0, 3198S×7090W, h80km±23km, mb3.9/5, mb1 4.1/9, mb1mx3.8/18, mbtmp4.3/9, Error ellipse: s-maj=28.4km s-min=19.6km az=126.0*

ISC 16 12:56:38.1±0.3**, 3199S**±002×**7097W**±005**, h87**km±3km**, n74, σ0.88**/98**, mb4.2**/8**, 16C-19D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	Petorca	0.28	173	⇓iP	Pn	12 56 50.5	-0.5
PTCH				iS	Sn	12 56 59.7	-0.9
PTCH				AML	AML	12 57 00.1	
	comp=N,151µm,0.3s						
PTCH	Petorca	0.28	173	⇓iP	Pn	12 56 50.5	-0.5
PTCH				iS	Sn	12 56 59.7	-0.9
CHNG	Los Chungos	0.46	283	⇓iP	Pn	12 56 52.3	+0.2
CHNG				iS	Sn	12 57 03.0	+0.4
JACH	Jahuel	0.76	155	⇑iP	Pn	12 56 54.7	-0.2
CMCH	Combarbala	0.81	358	⇑iP	Pn	12 56 54.8	-0.6
CMCH				iS	Sn	12 57 08.2	-0.2
CMCH				AML	AML	12 57 10.9	
	comp=E,55µm,0.7s						
CMCH	Combarbala	0.81	358	⇑iP	Pn	12 56 54.8	-0.6
CMCH				iS	Sn	12 57 08.2	-0.2
ROCH	El Roble	0.98	182	⇑iP	Pn	12 56 57.1	-0.2
PEL	Peldehue	1.18	168	⇑iP	Pn	12 56 59.8	+0.1
PEL				iS	Sn	12 57 16.1	+0.2
PEL				AML	AML	12 57 18.0	
	comp=E,31µm,0.8s						
PEL	Peldehue	1.18	168	⇑iP	Pn	12 56 59.8	+0.1
PEL				iS	Sn	12 57 16.1	+0.2
IHA	Instituto Hidr	1.18	208	⇓iP	Pn	12 56 59.5	-0.2
IHA				iS	Sn	12 57 15.1	-0.8
OVCH	Ovalle	1.39	352	⇓iP	Pn	12 57 02.6	+0.4
OVCH				iS	Sn	12 57 20.6	+0.2
OVCH				AML	AML	12 57 24.4	
	comp=E,27µm,0.6s						
OVCH	Ovalle	1.39	352	⇓iP	Pn	12 57 02.6	+0.4
OVCH				iS	Sn	12 57 20.6	+0.2
DSCH	Colegio Aleman	1.45	167	⇓iP	Pn	12 57 02.6	-0.4
DSCH				iS	Sn	12 57 21.7	-0.1
CLCH	Cerro Calan	1.45	166	⇓iP	Pn	12 57 03.4	+0.3
CLCH				iS	Sn	12 57 22.7	+0.7
CLCH				AML	AML	12 57 24.9	
	comp=N,24µm,0.4s						
FCH	Farellones	1.46	157	⇓iP	Pn	12 57 03.8	+0.7
FCH				iS	Sn	12 57 23.4	+1.4
FCH				AML	AML	12 57 25.2	
	comp=E,9µm,0.3s						
STL	Santa Lucia	1.47	169	⇓eP	Pn	12 57 02.8	-0.5
STL				iS	Sn	12 57 22.2	-0.2
SAN	Santiago	1.49	170	⇑iP	Pn	12 57 03.7	+0.2
SAN				iS	Sn	12 57 23.3	+0.6
RCDM	Rinconada Maip	1.50	175	eP	Pn	12 57 03.7	0.0
RCDM				iS	Sn	12 57 23.4	+0.2
RCDM				AML	AML	12 57 26.4	
	comp=E,15µm,0.1s						
RCDM	Rinconada Maip	1.50	175	eP	Pn	12 57 03.7	0.0
RCDM				iS	Sn	12 57 23.4	+0.2
LACH	Colegio Las Am	1.51	166	⇑iP	Pn	12 57 03.3	-0.5
LACH				iS	Sn	12 57 23.3	+0.1
LCCH	Las Cruces	1.57	199	⇑iP	Pn	12 57 04.5	0.0
TACH	Talagante	1.66	179	⇑iP	Pn	12 57 05.8	+0.1
PCH	Pirque	1.68	167	⇑iP	Pn	12 57 06.1	+0.2
SJCH	San Jose de Ma	1.73	163	eP	Pn	12 57 06.6	0.0
SJCH				iS	Sn	12 57 28.9	+0.6
TLL	Tololo Astrono	1.82	5	⇓iP	Pn	12 57 08.1	+0.3
TLL				iS	Sn	12 57 30.9	+0.5
TLL				AML	AML	12 57 33.0	
	comp=N,19µm,0.5s						
TLL	Tololo Astrono	1.82	5	⇓iP	Pn	12 57 08.1	+0.3
TLL				iS	Sn	12 57 30.9	+0.5
CHCH	Chadas Angostu	1.96	172	⇑iP	Pn	12 57 09.9	+0.3
LMEL	Las Melosas	1.96	161	⇓iP	Pn	12 57 10.7	+1.0
LMEL				iS	Sn	12 57 35.5	+1.7
LMEL				AML	AML	12 57 37.5	
	comp=N,7µm,0.2s						
LMEL	Las Melosas	1.96	161	⇓iP	Pn	12 57 10.7	+1.0
LMEL				iS	Sn	12 57 35.5	+1.7
LNV	Longovilo	2.00	191	⇓iP	Pn	12 57 09.7	-0.5
MDZ	Mendoza	2.00	117	⇑iP	Pn	12 57 11.0	+0.8
MDZ				S	Sn	12 57 39.0	+4.3
LSCH	La Serena	2.08	353	eP	Pn	12 57 11.2	-0.1
LSCH				iS	Sn	12 57 36.0	-0.6
CACH	El Canelo	2.15	172	⇓iP	Pn	12 57 12.9	+0.8
CFAA	Coronel Fontan	2.36	81	P	Pn	12 57 14.6	-0.3
	comp=N,8.4nm,0.3s,baz=249,slow=11,SNR=407						
CFAA				S	Sn	12 57 42.9	-0.3
	comp=N,35nm,0.3s,baz=355,slow=20,SNR=46						
CFAA	Coronel Fontan	2.36	81	P	Pn	12 57 14.6	-0.3
CFAA				S	Sn	12 57 42.9	-0.3
CICH	Cipreses	2.37	169	⇑iP	Pn	12 57 16.0	+0.9
SFDO	San Fernando	2.62	181	⇑iP	Pn	12 57 18.7	+0.3
LCO	Las Campanas	2.97	5	⇓iP	Pn	12 57 23.0	-0.2
LCO				iS	Sn	12 57 59.2	+1.3
NICH	Los Niches	3.02	184	⇓iP	Pn	12 57 23.8	0.0
VACH	Vallenar	3.40	3	eP	Pn	12 57 31.9	+2.9
VACH				iS	Sn	12 58 10.7	+2.4
TALC	Talca	3.45	189	eP	Pn	12 57 27.5	-2.1
LNCH	Linares	3.89	188	eP	Pn	12 57 34.5	-1.0
COCH	Cobquecura	4.40	200	⇓iP	Pn	12 57 40.9	-1.6
CCHI	Chillan	4.70	191	eP	Pn	12 57 45.4	-1.1
CDCH	Caldera	4.90	1	eP	Pn	12 57 46.7	-2.6
PLCA	Paso Flores	8.74	178	P	Pn	12 58 40.5	-1.1
	comp=N,0.4nm,0.3s,baz=337,slow=11,SNR=11						
PLCA	Paso Flores	8.74	178	ePn	Pn	12 58 40.2	-1.4
	comp=N,14nm,1.0s						
LVC	Limon Verde	9.51	12	P	Pn	12 58 47.4	-4.8
	comp=N,1.2nm,0.3s,baz=188,slow=8.9,SNR=6.8						
LVC	Limon Verde	9.51	12	ePn	Pn	12 58 47.5	-4.6
	comp=N,18nm,0.6s						
TRQA	Tornquist	9.54	132	ePn	Pn	12 58 51.2	-1.3
	comp=N,18nm,0.3s						
CPUP	Villa Florida	13.18	68	P	Pn	12 59 38.5	-3.3
	comp=N,0.7nm,0.3s,baz=228,slow=12,SNR=5.3						
CPUP				S	Sn	13 02 04.3	-2.3
	comp=N,1.4nm,0.3s,baz=194,slow=17,SNR=2.1						
CPUP	Villa Florida	13.18	68	ePn	Pn	12 59 35.9	-5.8
	comp=N,28nm,0.6s						
LPAZ	La Paz	15.84	10	P	Pn	13 00 16.1	+0.1
	comp=N,0.5nm,0.3s,baz=184,slow=8.3,SNR=32						
LPAZ	La Paz	15.84	10	ePn	Pn	13 00 16.2	+0.3
	comp=N,12nm,0.8s						
SIV	San Ignacio	18.29	32	P	Pn	13 00 44.6	-1.4
	comp=N,1.3nm,0.3s,baz=224,slow=8.6,SNR=66						
EFI	East Falkland	21.84	158	P	P	13 01 23.8	+0.4
SAML	Samuel	24.04	19	eP	P	13 01 44.3	-0.7
	comp=N,6.0nm,0.6s,mb4.1						
BDFB	Brasilia	26.48	57	P	P	13 02 06.5	-0.6
	comp=N,23nm,1.2s,mb4.5,baz=212,slow=5.3,SNR=6.9						
SJG	San Juan	50.02	6	P	P	13 05 23.2	-0.5
	comp=N,10nm,0.7s,mb4.9						
VNA3	Neumayer Olymp	50.89	159	eP	P	13 05 31.2	+0.9
VNA3				e		13 05 44.2	
VNA3				e	pP	13 05 52.2	+0.8
SNAA	Sanae	53.12	158	P	P	13 05 47.4	+0.7
	comp=N,0.6nm,0.9s,mb3.6,baz=318,slow=7.1,SNR=5.4						
SNAA	Sanae	53.12	158	eP	P	13 05 46.7	-0.1
SNAA				e		13 06 01.7	
SNAA				e	pP	13 06 09.1	+1.0
SNAA	Sanae	53.12	158	eP	P	13 05 46.6	-0.2
	comp=N,1.9nm,0.9s,mb4.1						
SYO	Syowa Base	67.41	159	⇑epP	pP	13 07 39.8	-6.6
WVT	Waverly	69.58	345	eP	P	13 07 38.3	+0.5
	comp=N,2.8nm,0.8s,mb4.1						
DBIC	Dimbokro	73.68	71	P	P	13 08 03.0	+0.6
	comp=N,3.0nm,0.6s,mb4.2,baz=229,slow=10.0,SNR=7.1						
DBIC	Dimbokro	73.68	71	P	P	13 08 02.4	-0.1
	comp=N,16nm,1.2s,mb4.6						
TORD	Torodi Ar. Bea	82.67	70	P	P	13 08 52.9	+0.8
	comp=N,3.0nm,0.7s,mb4.2,baz=282,slow=6.4,SNR=16						
NVAR	Mina Array Bea	82.76	324	P	P	13 08 54.7	+2.2
	comp=N,0.4nm,0.5s,mb3.5,baz=180,slow=6.4,SNR=4.1						
ZAL	Zalesovo	152.04	31	PKPbc	PKPbc	13 16 24.6	+1.4
	comp=N,2.2nm,0.5s,baz=170,slow=3.7,SNR=7.7						
MKAR	Makanchi Array	154.75	46	PKPab	PKPab	13 16 44.9	+0.4
	comp=N,1.0nm,0.5s,baz=305,slow=4.3,SNR=7.0						
WMQ	Urumqi	159.50	49	ePKP	PKPdf	13 16 29.0	+2.5
CN2	Changchun	162.51	317	ePKP	PKPdf	13 16 25.8	-3.9
HHC	Hu-ho-hao-te	170.92	348	ePKP	PKPdf	13 16 35.0	-1.1
HHC				PP	PP		
	comp=Z,221nm,5.0s						

---

*NEIC **16** 13:03:10.8, 4563N×2658E, h133km, MD3.1(BUC), After BUC.*

*CSEM **16** 13:03:10.0±0.7, 4561N×2652E, h139km±7km, MD3.6/3, Error ellipse: s-maj=7.0km s-min=3.7km az=32.0, After BUC*

BUC 16 13:03:10.0±0.7**, 4561N×2652E, h139**km±7km**, MD3.5**/3**, 5C-7D, Error ellipse: s-maj=7.0km s-min=3.7km az=32.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.26	20	⇑iP	Pn	13 03 29.2	+0.2
PLOR				iS	Sn	13 03 43.9	+0.4
VRI	Vrincioaia	0.30	29	⇑iP	Pn	13 03 29.4	+0.3
VRI				iS	Sn	13 03 43.4	-0.3
VRI	Vrincioaia	0.30	29	P	Pn	13 03 29.4	+0.2
MLR	Muntele Rosu	0.42	254	⇑iP	Pn	13 03 30.2	+0.6
MLR				iS	Sn	13 03 45.8	+1.3
MLR	Muntele Rosu	0.42	254	P	Pn	13 03 30.2	+0.6
VOIR		1.05	261	⇑iP	Pn	13 03 34.2	+0.1
VOIR				iS	Sn	13 03 53.5	+1.1
VOIR		1.05	261	⇓P	Pn	13 03 34.5	+0.5
VOIR				S	Sn	13 03 53.5	+1.0
MTUR	Matau	1.09	250	⇓iP	Pn	13 03 35.3	+0.8
MTUR	Matau	1.09	250	⇓P	Pn	13 03 35.3	+0.8
CFR	Carcaliu	1.22	110	⇓iP	Pn	13 03 36.0	+0.3
CFR				iS	Sn	13 03 55.3	0.0
CFR	Carcaliu	1.22	110	P	Pn	13 03 36.0	+0.3
CFR				S	Sn	13 03 55.0	-0.4
HARR	Harsova	1.35	132	⇓iP	Pn	13 03 37.7	+0.6
HARR				iS	Sn	13 03 57.3	-0.5
HARR	Harsova	1.35	132	P	Pn	13 03 37.6	+0.4
HARR				S	Sn	13 03 58.3	+0.5
TIRR	Tirgusor	1.77	130	⇓iP	Pn	13 03 42.2	+0.5
TIRR				iS	Sn	13 04 05.0	-0.9
TIRR	Tirgusor	1.77	130	P	Pn	13 03 42.1	+0.4
TIRR				S	Sn	13 04 05.3	-0.6
BURAR	Bucovina Array	2.20	336	⇓iP	Pn	13 03 47.8	+0.9
BURAR				iS	Sn	13 04 16.1	+0.9
BURAR	Bucovina Array	2.20	336	⇑P	Pn	13 03 48.0	+1.1
BURAR				S	Sn	13 04 16.1	+1.0

---

*ISCJB **16** 13:03:36.7±0.4, 43.18N±0.05×144.46E±0.05, h130km±2km, mb3.8/8, Error ellipse: s-maj=8.1km s-min=5.4km az=121.1*

*MOS **16** 13:03:36.6±0.3, 43.18N×144.53E, h139km, mb4.0/7, Error ellipse: s-maj=26.6km s-min=18.9km az=101.3*

*JMA **16** 13:03:38.1±0.1, 43.18N×144.47E, h123km±1km, M3.6*

JMA Felt I J1.

*IDC **16** 13:03:38.7±2.4, 4322N×14438E, h129km±14km, mb3.6/6, mb1 3.7/7, mb1mx3.4/21, mbtmp3.9/7, Error ellipse: s-maj=30.9km s-min=25.9km az=76.0*

ISC 16 13:03:37.6±0.4**, 4318N**±004×**14447E**±005**, h126**km±3km**, n36, σ0.57**/52**, mb3.9**/8**, 1C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.24	137	P	Pn	13 03 55.3	+0.3
JAK				eS	Sn	13 04 08.1	0.0
JNK	Nakash	0.45	24	P	Pn	13 03 55.9	0.0
JNK				eS	Sn	13 04 09.3	-0.4
JAR	Ashorobuto	0.53	284	P	Pn	13 03 56.8	+0.5
JAR				eS	Sn	13 04 10.6	+0.1
JOB	Onbets	0.54	240	P	Pn	13 03 57.1	+0.7
JOB				eS	Sn	13 04 11.0	+0.4
JTKR	Abashiri--Toko	0.90	333	P	Pn	13 03 59.7	+0.6
JTKR				S	Sn	13 04 15.4	0.0
JRA	Rausu	0.90	32	P	Pn	13 03 59.5	+0.3
JRA				eS	Sn	13 04 15.7	+0.2
NEM2	Nemuro 2	0.95	78	P	Pn	13 03 59.6	0.0
NEM2				eS	Sn	13 04 14.6	-1.7
JCH	Churui	0.99	236	P	Pn	13 04 00.4	+0.4
JCH				eS	Sn	13 04 16.4	-0.6
JMP	Maruseppu	1.16	316	P	Pn	13 04 02.0	+0.3
JMP				eS	Sn	13 04 19.3	-0.7
YUK	Yuzh-Kuril'sk	1.33	49	⇑iPN	Pn	13 04 03.8	+0.3
YUK				iS	Sn	13 04 23.3	+0.2
YUK				pmax	pmax		
	comp=Z,1µm,0.3s						
YUK				pmax	pmax		
	comp=E,360nm,0.2s						
YUK				smax			
	comp=N,2µm,0.4s						
YUK				smax			
	comp=E,2µm,0.5s						
YUK				smax			
	comp=N,5µm,0.8s						
YUK				smax			
	comp=E,5µm,0.8s						
JFR	Furan	1.37	270	P	Pn	13 04 04.3	+0.3
JFR				eS	Sn	13 04 23.6	-0.4
JKK2	Kamakawa 2	1.44	300	P	Pn	13 04 05.2	+0.5
JKK2				eS	Sn	13 04 25.3	+0.1
JEM	Erimo	1.51	220	P	Pn	13 04 05.6	+0.1
JNBK	Urakawa-nobuka	1.55	235	P	Pn	13 04 05.9	-0.1
JNBK				eS	Sn	13 04 26.4	-1.2
JBT2	Biratori 2	1.60	256	P	Pn	13 04 06.7	+0.2
JBT2				eS	Sn	13 04 28.3	-0.2
ASAJ	Asahikawa	1.66	305	P	Pn	13 04 08.1	+0.9
	comp=E,19nm,0.3s,baz=156,slow=9.1,SNR=275						
ASAJ				S	Sn	13 04 29.5	-0.2
	comp=E,14nm,0.3s,baz=98,slow=33,SNR=19						
ASAJ	Asahikawa	1.66	305	PN	Pn	13 04 08.1	+0.9
ASAJ				S	Sn	13 04 29.5	-0.2
ASAJ				pmax	pmax		
	comp=Z,19nm,0.3s						
ASAJ				smax			
	comp=N,14nm,0.3s						
MJAR	Matsushiro Arr	8.19	218	P	Pn	13 05 34.0	+0.4
	comp=N,0.6nm,0.3s,baz=29,slow=13,SNR=18						
MJAR	Matsushiro Arr	8.19	218	PN	Pn	13 05 34.0	+0.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MAT	Matsushiro	8.19	218	P	Pn	13 05 33.9	+0.3
SONM	Songino Array	26.90	293	P	P	13 09 07.0	+0.2
	comp=Z,0.9nm,0.6s,mb3.5,baz=76,slow=7.6,SNR=3.1						
SONM	Songino Array	26.90	293	P	P	13 09 07.0	+0.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	43.12	297	P	P	13 11 25.8	+0.4
	comp=Z,1.0nm,0.7s,mb3.6,baz=75,slow=11,SNR=4.8						
MKAR	Makanchi Array	43.12	297	P	P	13 11 25.8	+0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
JOF	Joensuu	61.67	331	ep	P	13 13 41.2	-1.0
	comp=Z,1.8nm,0.4s,mb4.5						
JOF	Joensuu	61.67	331	eP	P	13 13 41.2	-1.0
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KAF	Kangasniemi	63.94	333	ep	P	13 13 56.6	-0.6
	comp=Z,1.8nm,0.4s,mb4.2,baz=45,slow=6.4						
KAF	Kangasniemi	63.94	333	eP	P	13 13 56.6	-0.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
FINES	FINESS Array B	64.49	332	P	P	13 13 60.0	-0.8
	comp=Z,2.6nm,0.5s,mb4.3,baz=49,slow=7.7,SNR=27						
FINES	FINESS Array B	64.49	332	P	P	13 14 00.0	-0.8
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB2	NORSAR Subarra	69.42	338	P	P	13 14 29.9	-2.1
	comp=Z,1.1nm,0.8s,mb3.7,baz=35,slow=6.2						
NOA	NORSAR Array B	69.42	338	P	P	13 14 32.6	+0.6
	comp=Z,1.6nm,0.8s,mb3.9,baz=35,slow=6.1,SNR=5.9						
NOA	NORSAR Array B	69.42	338	P	P	13 14 32.6	+0.6
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	70.87	322	P	P	13 14 40.4	-0.5
	comp=Z,0.5nm,0.4s,mb3.7,baz=39,slow=5.3,SNR=4.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	70.87	322	P	P	13 14 40.4	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PDAR	Pinedale Array	71.76	48	P	P	13 14 47.1	+0.9
	comp=Z,0.4nm,0.6s,mb3.5,baz=270,slow=1.5,SNR=3.9						

*ISCJB **16** 13:15:35.0±1.3, 35S±02×1292E±02, h10^{km}, mb3.9/3, Error ellipse: s-maj=34.3km s-min=12.4km az=107.1*
*NEIC **16** 13:15:37.4±1.5, 347S×12929E, h10^{km}, mb4.2/4, Error ellipse: s-maj=39.9km s-min=13.7km az=54.0*
*IDC **16** 13:15:40.9±14.0, 379S×12979E, h0^{km}, mb4.1/2, mb1 4.3/4, mb1mx4.0/15, mbtmp4.2/4, ML3.9/2, Error ellipse: s-maj=213.0km s-min=93.7km az=150.0*
ISC 16 13:15:41.4±3.2**, 35S**±02**×1292E**±02**, h43**^{km}±28^{km}**, n14, σ1^{s}50**/14**, mb3.9**/3**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.66	161	eP	Pn	13 17 58.8	+1.0
	4.9nm,0.4s						
FITZ	Fitzroy Crossi	14.89	193	eP	Pn	13 19 12.8	+3.9
	7.9nm,0.7s						
FITZ	Fitzroy Crossi	14.89	193	Pn	Pn	13 19 12.0	+3.1
	0.2nm,0.3s,baz=48,slow=14,SNR=7.1						
WRAB	Tennant Creek	17.05	163	ePn	Pn	13 19 34.7	-1.9
	38nm,1.4s						
WRA	Warramunga Arr	17.06	163	Pn	Pn	13 19 35.5	-1.2
	0.7nm,0.3s,baz=348,slow=13,SNR=19						
WB2	Warramunga Arr	17.06	163	eP	Pn	13 19 35.4	-1.3
WB2	Warramunga Arr	17.06	163	ePn	Pn	13 19 35.2	-1.6
KSM	Kuching	19.52	284	P	Pn	13 20 05.4	-1.2
MBWA	Marble Bar	19.78	207	eP	Pn	13 20 09.8	+0.1
	16nm,1.3s						
AS31	Alice Springs	20.52	168	eP	P	13 20 17.1	+1.2
ASAR	Alice Springs	20.52	168	P	P	13 20 17.2	+1.3
	11nm,0.6s,baz=346,slow=9.9,SNR=60						
STKA	Stephens Creek	30.51	159	P	P	13 21 51.9	+1.5
	0.5nm,0.4s,mb3.7,baz=340,slow=11,SNR=3.8						
ZRNK	Zerenda	75.44	327	eP	P	13 27 21.7	+1.0
	1.6nm,0.6s,mb4.1						
VNDA	Vanda	75.96	173	P	P	13 27 21.7	-2.0
	2.1nm,1.2s,mb3.9						

KRSC 16 13:18:22, 5130N×15416E, h516^{km}, ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ALID	Alaid	0.98	116	P	P	13 19 25.6	+0.8
MIPR	Malaya Ipel'ka	1.89	58	eP	P	13 19 29.9	+1.9
RUS	Russkaya	2.93	65	eP	P	13 19 36.8	+3.1
RUS				i S	S	13 20 31.2	-1.0
PET	Petropavlovsk	3.26	56	eP	P	13 19 38.3	+2.3
GNL	Ganaly	3.33	42	eP	P	13 19 37.8	+1.4
AVH	Avacha	3.43	53	P	P	13 19 39.4	+2.2
NLC	Nalytchevo	3.70	58	eP	P	13 19 40.9	+1.8
SPN	Mys Shipunski	4.03	61	eP	P	13 19 44.2	+2.5
SPN				i S	S	13 20 43.9	-2.8
TUMR	Tumrok	5.37	40	eP	P	13 19 54.7	+1.6
MKZ	Mys Kozlova	5.62	52	eP	P	13 19 57.6	+2.2
MKZ				i S	S	13 21 05.5	-6.3
KMNR	Kamenistaya	5.75	37	eP	P	13 19 59.3	+2.7
ZLN	Zelenaya	6.16	37	eP	P	13 20 04.1	+3.7
CIRR	Tsirk	6.21	36	eP	P	13 20 04.0	+3.1
KBTR	Krutoberegovo	7.11	43	eP	P	13 20 11.6	+1.9

MAN 16 13:21:09.8, 853N×12492E, h33^{km}, mb2.1, ML3.8, MS3.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.82	58	eP	Pn	13 21 25.6	+0.5
BUTP				eS	Sn	13 21 36.7	+0.6
SCPH	Surigao	1.37	24	⇓eP	Pn	13 21 32.9	+0.3
MATI	Mati	2.05	140	eP	Pn	13 21 42.2	+0.1
MATI				eS	Sn	13 22 07.6	+1.1

*ISCJB **16** 13:31:38.0±3.2, 292S±009×1298E±02, h8^{km}±20^{km}, mb4.1/7, Error ellipse: s-maj=31.9km s-min=9.3km az=137.8*
*IDC **16** 13:31:38.9±1.4, 291S×12958E, h0^{km}, mb4.1/4, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML3.9/2, MS3.7/1, Ms1 3.6/1, ms1mx2.6/32, Error ellipse: s-maj=115.3km s-min=20.6km az=72.0*
*NEIC **16** 13:31:40.1±0.7, 292S×12976E, h10^{km}, mb4.1/5, Error ellipse: s-maj=25.9km s-min=8.0km az=68.0*
ISC 16 13:31:43.4±3.6**, 301S**±009**×1295E**±02**, h27**^{km}±26^{km}**, n17, σ0^{s}83**/19**, mb4.1**/6**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.07	163	eP	Pn	13 34 06.3	+0.1
	4.8nm,0.4s						
KAKA				eS	Sn	13 35 58.6	+0.4
FITZ	Fitzroy Crossi	15.47	194	eP	Pn	13 35 20.6	+1.0
	5.0nm,0.8s						
FITZ	Fitzroy Crossi	15.47	194	Pn	Pn	13 35 18.6	-0.9
	0.1nm,0.3s,baz=15,slow=8.3,SNR=6.2						
WRAB	Tennant Creek	17.48	165	ePn	Pn	13 35 44.2	-0.9
	9.7nm,0.8s						
WRA	Warramunga Arr	17.48	165	Pn	Pn	13 35 43.9	-1.3
	0.7nm,0.3s,baz=350,slow=12,SNR=20						
WB2	Warramunga Arr	17.49	165	eP	Pn	13 35 44.1	-1.1
KSM	Kuching	19.69	283	eP	Pn	13 36 12.7	+0.8
MBWA	Marble Bar	20.39	207	P	P	13 36 22.7	+4.7
AS31	Alice Springs	20.97	169	ePn	P	13 36 24.8	+0.5
ASAR	Alice Springs	20.98	169	P	P	13 36 25.3	+1.0
	8.2nm,0.5s,baz=349,slow=10.0,SNR=66						
ASAR				S	S	13 40 15.8	-0.7
	1.1nm,0.8s,baz=349,slow=19,SNR=4.8						
CTAO	Charters Tower	23.57	137	eP	P	13 36 53.4	+1.6
	14nm,1.1s,mb4.3						
STKA	Stephens Creek	30.89	160	P	P	13 37 58.2	+0.7
	0.8nm,0.4s,mb3.9,baz=328,slow=7.0,SNR=3.9						
STKA	Stephens Creek	30.89	160	eP	P	13 37 57.8	+0.3
STKA				LR	LR	13 50 14.9	
ULN	Ulaanbaatar	54.34	342	eP	P	13 41 07.7	+0.3
	3.6nm,0.9s,mb4.3						
ZAL	Zalesovo	67.81	333	P	P	13 42 38.5	-0.4
	1.7nm,0.8s,mb4.1,baz=359,slow=4.7,SNR=9.3						
BVAR	Borovoye Array	74.44	327	P	P	13 43 18.7	-0.3
	1.1nm,0.7s,mb3.9,baz=129,slow=8.2,SNR=6.5						
ZRNK	Zerenda	75.16	327	eP	P	13 43 22.3	-0.9
	0.9nm,0.6s,mb3.9						

*NEIC **16** 13:40:04.9, 18.16N×6799W, h106^{km}, MD3.5(RSPR), After RSPR.*
RSPR 16 13:40:04.9, 1816N×6799W, h106^{km}±1^{km}**, MD3.5**/13**, MD3.5**/13**, 7C-7D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPR	Mayaguez	0.81	87	⇑eP	Pn	13 40 23.4	-0.4
MPR				eS	Sn	13 40 38.0	+0.1
CRPR	Cabo Rojo, PR	0.85	101	⇑eP	Pn	13 40 23.5	-0.7
CRPR				eS	Sn	13 40 38.5	-0.2
LSP	Las Mesas	0.85	89	⇓eP	Pn	13 40 24.3	0.0
LSP				eS	Sn	13 40 39.0	+0.2
MGP	Maguayo	0.87	100	⇓eP	Pn	13 40 23.6	-0.7
MGP				eS	Sn	13 40 39.3	+0.3
LRS	Lares	1.09	83	⇓iP	Pn	13 40 26.2	-0.5
LRS				eS	Sn	13 40 43.1	-0.1
AOPR	Arecibo Observ	1.18	81	⇑eP	Pn	13 40 27.6	-0.2
AOPR				eS	Sn	13 40 44.6	-0.4
OBIP	Obispado Ponce	1.32	95	⇓eP	Pn	13 40 29.0	-0.3
OBIP				eS	Sn	13 40 47.8	0.0
CELP	Cerrillos	1.34	94	⇑eP	Pn	13 40 29.1	-0.5
CELP				eS	Sn	13 40 47.8	-0.5
ICM	Isla Caja Muer	1.42	101	⇓eP	Pn	13 40 30.0	-0.5
ICM				eS	Sn	13 40 49.3	-0.6
SJG	San Juan	1.75	91	⇓eP	Pn	13 40 34.5	0.0
SJG				eS	Sn	13 40 57.1	+0.1
CPD	Cerro la Pandu	1.97	93	⇑eP	Pn	13 40 37.5	+0.2
CPD				eS	Sn	13 41 02.1	-0.1
CBYP	Canovanas	2.03	87	⇑eP	Pn	13 40 37.4	-0.6
CBYP				eS	Sn	13 41 02.9	-0.4
HUMP	Col San Antoni	2.03	90	⇓eP	Pn	13 40 38.0	-0.1
HUMP				eS	Sn	13 41 03.9	+0.5
MTP	Monte Pirata	2.31	91	⇑eP	Pn	13 40 41.8	+0.1
MTP				eS	Sn	13 41 10.4	+0.4

GUC 16 13:47:41.0±0.6**, 3458S×7006W, h19**^{km}±2^{km}**, MD3.6, ML2.9, 6C-3D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	Cipreses	0.39	311	⇑iP	Pg	13 47 48.7	-0.5
CICH				i S	Sg	13 47 55.2	+0.4
CACH	El Canelo	0.64	316	⇓iP	Pb	13 47 52.8	-0.7
CACH				i S	Sb	13 48 01.8	-0.3
LMEL	Las Melosas	0.74	351	eP	Pb	13 47 55.0	-0.3
SFDO	San Fernando	0.78	267	⇑iP	Pb	13 47 55.7	-0.3
SFDO				i S	Sb	13 48 06.9	+0.7
CHCH	Chadas Angostu	0.81	323	⇑iP	Pb	13 47 56.2	-0.2
CHCH				i S	Sb	13 48 08.0	+1.1
NICH	Los Niches	1.05	246	⇑iP	Pb	13 48 00.2	-0.3
NICH				i S	Sb	13 48 14.8	+1.0
TACH	Talagante	1.17	322	⇑iP	Pn	13 48 02.3	0.0
TACH				i S	Sb	13 48 18.7	+1.3
CLCH	Cerro Calan	1.24	341	eP	Pn	13 48 04.1	+0.8
CLCH				i S	Sb	13 48 21.0	+1.5
CLCH				AML	AML	13 48 28.7	
	comp=E,356nm,0.7s						
FCH	Farellones	1.26	351	eP	Pn	13 48 04.3	+0.8
FCH				i S	Sn	13 48 22.6	+2.7
LNV	Longovilo	1.28	299	⇑iP	Pn	13 48 03.9	+0.1
LNV				i S	Sn	13 48 21.3	+0.9
PEL	Peldehue	1.52	340	⇓eP	Pn	13 48 08.1	+1.0
PEL				eS	Sn	13 48 28.9	+2.5
PEL				AML	AML	13 48 33.8	
	comp=N,302nm,0.5s						
LCCH	Las Cruces	1.67	311	⇓eP	Pn	13 48 10.9	+1.8
LCCH				i S	Sn	13 48 32.7	+2.8

*GII **16** 13:51:31.4±0.6, 3386N×3588E, h0^{km}±30^{km}, ML2.4/8*
*ISCJB **16** 13:51:33.8±0.6, 3380N±003×3579E±008, h14^{km}, Error ellipse: s-maj=9.4km s-min=4.0km az=8.6*
*GRAL **16** 13:51:34.1±2.0, 3376N×3571E, h14^{km}±14^{km}, MD3.1*
ISC 16 13:51:34.4±0.6**, 3379N**±003**×3573E**±009**, h14**^{km}**, n17, σ1^{s}18**/23**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.13	331	i Pg	Pg	13 51 36.8	-1.0
BHL				i Sg	Sg	13 51 40.3	0.0
RCY	Rachaya	0.32	166	i Pg	Pg	13 51 39.3	-1.6
RCY				i Sg	Sg	13 51 44.6	-0.7
MATL	Matirih	0.45	228	i Pg	Pg	13 51 41.0	-2.3
HWQ	Hawqa	0.52	21	i Pg	Pg	13 51 43.5	-1.1
HWQ				i Sg	Sg	13 51 52.7	+1.3
HRI	Mount Hermon	0.53	179	Pg	Pg	13 51 44.4	-0.3
KSDI	Kefar Szold	0.60	185	Pg	Pg	13 51 45.6	-0.5
KSHT	Keshet	0.81	175	Pg	Pg	13 51 49.4	-0.8
MMC7	Mount Meron ar	0.82	200	Pg	Pg	13 51 49.5	-0.7
MMA0B	Mount Meron ar	0.82	199	Pg	Pg	13 51 49.7	-0.6
MMA0B				Sg	Sg	13 52 04.2	+3.1
MMC6	Mount Meron ar	0.83	200	Pg	Pg	13 51 49.7	-0.7
HNTI	Hanita	0.85	213	Pg	Pg	13 51 51.0	+0.2
HNTI				Sg	Sg	13 52 06.0	+4.2
OFRI	'Ofer	1.32	208	Pn	Pn	13 51 58.5	0.0
HMDT	Nahal Hemdat	1.55	186	Pn	Pn	13 52 01.9	+0.4
SLTI	Sal'it	1.65	201	Pn	Pn	13 52 04.2	+1.3
SLTI				Sn	Sn	13 52 28.1	+4.2
DRGI	Dragot	2.21	187	Pn	Pn	13 52 11.7	+1.1
MKRJ	Makawir	2.24	182	Pn	Pn	13 52 12.7	+1.8
PRNI	Paran	3.49	190	Pn	Pn	13 52 29.9	+1.7

*IDC **16** 13:54:04.8±0.7, 22.14S×17597W, h0^{km}, mb4.2/9, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, ML3.5/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/26, Error ellipse: s-maj=31.9km s-min=17.2km az=149.0*
*ISCJB **16** 13:54:07.9±0.4, 2235S±009×17596W±008, h33^{km}, mb4.3/18, MS4.0/1, Error ellipse: s-maj=14.0km s-min=9.5km az=114.7*
*NEIC **16** 13:54:07.5±4.9, 2231S×17595W, h18^{km}±30^{km}, mb4.7/10, Error ellipse: s-maj=13.1km s-min=7.9km az=154.0*
*SZGRF **16** 13:54:08.4, 23.15S×17622W, h33^{km}, South of Fiji Islands*
ISC 16 13:54:09.8±0.4**, 2232S**±009**×17589W**±008**, h35**^{km}**, n93, σ1^{s}18**/35**, mb4.3**/18**, MS4.0**/1**, 10C-12D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.23	26	Pn	Pn	13 56 15.9	-4.5
	7.5nm,0.3s,baz=115,slow=9.9,SNR=8.0						
AFI				Sn	Sn	13 57 51.7	-11
	5.6nm,0.3s,baz=32,slow=22,SNR=3.3						
AFI				LR	LR	13 59 17.4	
	comp=Z,221nm,18.4s,baz=198,slow=34						
AFI	Afiamalu	9.23	26	Pn	Pn	13 56 15.9	-4.5
AFI				eSn	Sn	13 57 48.5	-14
AFI				LR	LR	13 59 17.4	
RAR	Rarotonga	15.02	89	Pn	Pn	13 57 39.4	+0.1
	0.7nm,0.3s,baz=166,slow=4.2,SNR=3.1						
RAR				LR	LR	14 01 37.0	
	comp=Z,195nm,20.9s,baz=276,slow=30						
URZ	Urewera	16.99	199	P	Pn	13 58 03.0	-1.6
	2.1nm,0.3s,baz=4.5,slow=11,SNR=11						
PPT	Papeete	25.17	84	eLR	LR	14 05 04.9	
	133nm,24.0s						
CTA	Charters Tower	35.30	266	eP	P	14 01 02.4	+1.0
	4.8nm,0.5s,mb4.7						
CTA	Charters Tower	35.30	266	P	P	14 01 02.2	+0.9
	5.8nm,0.6s,mb4.7,baz=92,slow=14,SNR=15						
CTAO	Charters Tower	35.30	266	eP	P	14 01 02.2	+0.8
STKA	Stephens Creek	38.82	247	P	P	14 01 32.6	+1.4
	1.3nm,0.3s,mb4.1,baz=352,slow=7.1,SNR=2.8						
AS31	Alice Springs	46.04	258	eP	P	14 02 29.4	-0.5
ASAR	Alice Springs	46.04	258	P	P	14 02 30.1	+0.2
	2.9nm,0.8s,mb4.3,baz=97,slow=6.9,SNR=40						
ASAR				PcP	PcP	14 04 07.2	+1.2
	1.1nm,0.7s,baz=112,slow=3.9,SNR=5.7						
WB2	Warramunga Arr	46.31	263	eP	P	14 02 31.5	-0.5
WB2	Warramunga Arr	46.31	263	eP	P	14 02 31.1	-1.0
WRAB	Tennant Creek	46.31	263	eP	P	14 02 25.4	-6.6
WRA	Warramunga Arr	46.32	263	P	P	14 02 31.7	-0.4
	0.6nm,0.4s,mb3.9,baz=90,slow=6.0,SNR=17						
FITZ	Fitzroy Crossi	54.75	263	P	P	14 03 36.1	+0.4
	1.6nm,0.8s,mb4.1,baz=83,slow=8.1,SNR=5.6						
VNDA	Vanda	56.30	186	eP	P	14 03 46.3	-0.6
	2.5nm,1.1s,mb4.2						
MBWA	Marble Bar	59.39	258	eP	P	14 04 09.0	+0.4
	8.2nm,1.0s,mb4.7						
CASY	Casey	63.18	206	eP	P	14 04 34.6	+0.4
	7.9nm,1.0s,mb4.8						
QSPA	South Pole Qui	67.76	180	eP	P	14 05 06.1	+2.3
	4.0nm,1.0s,mb4.4						
MJAR	Matsushiro Arr	72.83	323	P	P	14 05 33.7	-1.2
	1.0nm,0.6s,mb3.9,baz=151,slow=5.8,SNR=6.5						
MJAR	Matsushiro Arr	72.83	323	P	P	14 05 33.7	-1.2
NIKO	Nikolski	75.22	4	P	P	14 05 48.1	-0.7
KSM	Kuching	75.60	278	eP	P	14 05 51.4	+0.4
LPIG	La Paz	78.67	58	LR	LR	14 32 00.3	
	comp=Z,70nm,20.9s,MS4.0,baz=179,slow=29						
CMB	Columbia Colle	79.49	41	eP	P	14 06 14.0	+1.4
	2.7nm,0.9s,mb4.2						
MAW	Mawson	80.52	199	P	P	14 06 18.2	0.0
	3.6nm,0.8s,mb4.4,baz=105,slow=8.7,SNR=7.2						
NVAR	Mina Array Bea	81.02	42	P	P	14 06 22.7	+1.8
	1.0nm,0.7s,mb3.9,baz=226,slow=12,SNR=6.5						
SNAA	Sanae	86.14	178	eP	P	14 06 45.1	-2.1
	4.0nm,1.1s,mb4.6						
ANMO	Albuquerque	87.02	50	eP	P	14 06 53.4	+1.9
	4.1nm,1.1s,mb4.6						
MCK	McKinley	88.33	12	eP	P	14 06 57.4	-0.3
	5.2nm,0.9s,mb4.8						
PDAR	Pinedale Array	88.95	42	P	P	14 07 00.4	-0.3
	0.4nm,0.7s,mb3.9,baz=197,slow=2.8,SNR=4.8						
SDCO	Great Sand Dun	89.07	48	eP	P	14 06 58.2	-3.1
COLA	College	89.57	12	eP	P	14 07 03.0	-0.6
	9.0nm,1.2s,mb5.0						
DAWY	Dawson	90.67	15	eP	P	14 07 09.2	+0.5
BVAR	Borovoye Array	121.73	319	PKP	PKPdf	14 12 59.6	-0.3
	2.1nm,0.6s,baz=81,slow=2.1,SNR=12						
ZRNK	Zerenda	122.57	319	ePKPdf	PKPdf	14 13 00.8	-0.7
ARCES	ARCESS Array B	131.04	350	PKP	PKPdf	14 13 17.0	-0.7
	1.7nm,0.6s,baz=350,slow=1.4,SNR=11						
JOF	Joensuu	135.45	343	ep	PKPdf	14 13 25.1	-0.9
	2.8nm,0.5s						
FINES	FINESS Array B	138.05	344	PKhKP		14 13 20.8	
	2.1nm,1.0s,baz=64,slow=4.4,SNR=3.4						
FINES				PKP	PKPdf	14 13 31.9	+1.1
	1.5nm,0.7s,baz=94,slow=5.7,SNR=7.8						
FINES	FINESS Array B	138.05	344	PKP		14 13 20.8	
FINES				PKP	PKPdf	14 13 31.9	+1.1
AKASG	Malin Array Be	145.54	332	PKPbc	PKPbc	14 13 43.2	-1.2
	3.5nm,0.4s,baz=42,slow=4.2,SNR=28						
AKASG	Malin Array Be	145.54	332	PKPbc	PKPbc	14 13 43.2	-1.2
MALT	Malatya	146.59	306	⇑iP	PKPbc	14 13 49.4	+1.9
MALT	Malatya	146.59	306	⇓P	PKPbc	14 13 49.8	+2.3
BSEG	Bad Segeberg	148.08	353	ePKPbc	PKPbc	14 13 52.1	+0.5
BR131	Keskin Array S	149.51	311	ePKPbc	PKPbc	14 13 56.0	+0.7
BRTR	Keskin Array B	149.51	311	PKPbc	PKPbc	14 13 56.0	+0.7
	3.1nm,0.6s,baz=141,slow=5.0,SNR=18						
NRDL	Niedersach Rie	149.52	353	ePKPbc	PKPbc	14 13 55.7	+0.4
BURAR	Bucovina Array	149.60	331	⇓iP	PKPbc	14 13 56.8	+1.3
BURAR	Bucovina Array	149.60	331	⇓P	PKPbc	14 13 56.8	+1.3
STHS	Stebnicka Huta	149.75	338	ePKP	PKPbc	14 13 56.7	+0.9
KOLS	Kolonicke sedl	149.77	336	ePKP	PKPbc	14 13 59.0	+3.1
CFR	Carcaliu	149.89	325	⇓iP	PKPbc	14 13 57.5	+1.3
ANTO	Ankara	150.03	312	⇓iP	PKPbc	14 13 58.1	+1.6
VRI	Vrincioaia	150.15	327	⇑iP	PKPbc	14 13 57.9	+1.1
VRI	Vrincioaia	150.15	327	⇑P	PKPbc	14 13 57.9	+1.1
PLOR	Plostina	150.20	327	⇓iP	PKPbc	14 13 57.6	+0.7
CLL	Collm	150.25	349	ePKPbc	PKPbc	14 13 57.7	+0.7
CLL	Collm	150.25	349	⇑iPKPbc	PKPbc	14 13 57.5	+0.5
	comp=Z,20nm,1.1s						
CLL				epPKPbc	pPKPbc	14 14 05.0	-3.5
CLL	Collm	150.25	349	ePKP	PKPdf	14 13 55.0	+3.1
CLL				⇑iPKP	PKPbc	14 13 57.5	+0.5
UPC	Upice	150.35	345	ePKPbc	PKPbc	14 13 58.2	+0.9
OKC	Ostrava-Krasne	150.39	341	ePKPbc	PKPbc	14 13 57.9	+0.5
OKC				ePKPab	PKPab	14 14 04.7	+0.9
DPC	Dobruska-Polom	150.42	344	ePKPbc	PKPbc	14 13 58.4	+0.9
DPC				ePKPab	PKPab	14 14 04.5	+0.5
BRG	Berggiesshubel	150.48	347	ePKPbc	PKPbc	14 13 58.2	+0.6
BRG	Berggiesshubel	150.48	347	⇑iP	PKPbc	14 13 58.3	+0.7
	comp=Z,4.8nm,0.8s						
BRG				i		14 14 06.6	
	comp=Z,5.7nm,1.2s						
MORC	Moravsky Berou	150.62	342	⇑iP	PKPbc	14 13 58.8	+0.9
MORC	Moravsky Berou	150.62	342	⇑P	PKPbc	14 13 58.8	+0.9
PVCC	Panska Ves	150.67	346	ePKPbc	PKPbc	14 13 59.1	+1.0
KECS	Kecovo	150.80	337	ePKP	PKPbc	14 13 59.1	+0.7
KECS				e		14 14 06.7	
MLR	Muntele Rosu	150.81	328	⇑iP	PKPbc	14 13 59.6	+1.2
MLR	Muntele Rosu	150.81	328	⇑P	PKPbc	14 13 59.6	+1.2
MOX	Moxa	151.12	350	ePKPbc	PKPbc	14 13 59.8	+0.7
PRU	Pruhonice	151.19	346	ePKPbc	PKPbc	14 13 59.9	+0.6
PRU				ePKPab	PKPab	14 14 06.8	-0.4
TANN	Tannenbergstha	151.20	349	ePKPbc	PKPbc	14 13 59.8	+0.5
DRGR		151.32	333	⇓iP	PKPbc	14 14 00.8	+1.2
DRGR		151.32	333	⇓P	PKPbc	14 14 00.8	+1.3
VYHS	Vyhne	151.36	339	ePKP	PKPbc	14 14 00.3	+0.6
VYHS				e		14 14 07.2	
TREC	Trest	151.61	344	ePKPbc	PKPbc	14 14 01.0	+0.8
MANZ	Manzenberg	151.67	349	ePKPbc	PKPbc	14 14 01.2	+0.8
TNS	Taunus Mts	151.94	354	ePKPbc	PKPbc	14 14 01.8	+0.8
KHC	Kasperske Hory	152.21	347	ePKPbc	PKPbc	14 14 02.3	+0.7
KHC				ePKPab	PKPab	14 14 09.4	-2.0
GIVF	Givet	152.26	359	ePKIKP	PKPbc	14 14 01.8	+0.1
	comp=Z,16nm,0.7s						
BAIF	Baives	152.31	360	ePKIKP	PKPbc	14 14 02.1	+0.3
	comp=Z,4.7nm,0.6s						
GEC2	GERESS Array S	152.45	346	ePKPbc	PKPbc	14 14 02.6	+0.5
GERES	GERESS Array B	152.45	346	PKPbc	PKPbc	14 14 02.3	+0.2
	comp=Z,2.1nm,0.7s,baz=42,slow=2.2,SNR=12						
GERES				PKPab	PKPab	14 14 11.0	-1.4
	comp=Z,1.0nm,0.6s,baz=46,slow=5.8,SNR=4.6						
BZS	Buzias	152.71	333	⇓iP	PKPbc	14 14 03.5	+0.8
BZS	Buzias	152.71	333	⇓P	PKPbc	14 14 03.5	+0.8
FLN	La Foliniere	153.36	7	ePKIKP	PKPbc	14 14 04.4	+0.2
PKSM	Moragy	153.40	337	⇓iP	PKPbc	14 14 04.7	+0.5
PKSM	Moragy	153.40	337	⇓P	PKPbc	14 14 04.8	+0.6
ESDC	Sonseca Array	161.38	20	PKPab	PKPab	14 14 51.9	+1.1
	comp=Z,0.1nm,0.3s,baz=332,slow=4.0,SNR=6.2						
TORD	Torodi Ar. Bea	170.60	165	PKPab	PKPab	14 15 33.4	+1.9
	comp=Z,0.6nm,1.0s,baz=188,slow=7.0,SNR=2.7						

*SZGRF **16** 14:07:43.0, 1692S×17742W, h33^{km}, Fiji Islands region*
*BJI **16** 14:08:31.0, 1740S×17870W, h496^{km}, mB5.0, mb4.8*
*ISCJB **16** 14:08:31.7±0.8, 1738S±005×17872W±005, h479^{km}±8^{km}, mb4.5/76, Error ellipse: s-maj=9.1km s-min=5.6km az=109.2*
*IDC **16** 14:08:32.7±1.1, 1745S×17868W, h484^{km}±11^{km}, mb4.1/16, mb1 4.1/18, mb1mx4.1/20, mbtmp4.8/18, Error ellipse: s-maj=11.7km s-min=8.2km az=125.0*
*MOS **16** 14:08:32.4±1.1, 1722S×17877W, h481^{km}, mb4.7/24, Error ellipse: s-maj=10.5km s-min=9.8km az=98.4*
*NEIC **16** 14:08:34.1±0.2, 1737S×17873W, mb4.5/51, Error ellipse: s-maj=7.8km s-min=4.5km az=141.0*
ISC 16 14:08:33.2±0.8**, 1738S**±005**×17866W**±005**, h485**^{km}±8^{km}**, h505**^{km}±2.9^{km}**:pP-P, n359, σ0^{s}95**/168**, mb4.5**/76**, 23C-49D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.47	63	P	P	14 10 23.8	+0.2
	13nm,0.3s,baz=187,slow=1.4,SNR=14						
AFI				S	S	14 11 50.1	-4.1
	3.6nm,0.3s,baz=143,slow=20,SNR=2.6						
AFI	Afiamalu	7.47	63	eP	P	14 10 23.6	-0.1
AFI				e		14 11 52.6	
AFI				pmax	pmax		
	comp=Z,48nm,0.6s						
AFI	Afiamalu	7.47	63	ePn	P	14 10 23.6	-0.1
	comp=Z,48nm,0.6s						
AFI				eSn	S	14 11 52.6	-1.6
FUNA	Funafuti	9.05	346	⇑iPn	P	14 10 41.5	+1.3
DZM	Mont Dzumac	14.78	249	P	P	14 11 41.7	+0.4
	comp=Z,0.6nm,0.3s,baz=97,slow=13,SNR=6.5						
RAR	Rarotonga	18.22	105	P	P	14 12 11.1	-5.2
	comp=Z,10nm,0.3s,baz=213,slow=17,SNR=8.9						
URZ	Urewera	21.13	189	P	P	14 12 41.3	-1.5
	comp=Z,17nm,0.6s,mb4.7,baz=343,slow=3.2,SNR=13						
URZ				S	S	14 16 00.9	-4.4
	comp=Z,13nm,1.1s,baz=39,slow=13,SNR=2.5						
HNR	Honiara	22.25	288	P	P	14 12 52.8	-0.1
	comp=Z,52nm,0.7s,mb5.2,baz=262,slow=4.2,SNR=4.2						
SNZO	South Karori	24.52	192	eP	P	14 13 13.0	-0.2
	comp=Z,24nm,0.7s,mb4.7						
RPZ	Rata Peaks	27.66	196	P	P	14 13 40.0	-1.0
	comp=Z,7.2nm,0.5s,mb4.4,baz=180,slow=5.3,SNR=6.5						
ARMA	Armidale	30.00	239	eP	P	14 14 02.1	+0.7
CTA	Charters Tower	33.30	260	⇓iP	P	14 14 29.6	-0.1
	comp=Z,7.8nm,0.6s,mb4.3						
CTA				i PCP	PcP	14 16 58.5	+0.7
CTA	Charters Tower	33.30	260	⇓iP	P	14 14 29.6	-0.1
CTA				i		14 16 58.5	
CTA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CTAO	Charters Tower	33.30	260	eP	P	14 14 29.5	-0.2
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
CTAO	Charters Tower	33.30	260	eP	P	14 14 29.5	-0.2
	comp=Z,10.0nm,0.6s,mb4.4						
CNB	Canberra Magne	33.56	232	⇓iP	P	14 14 32.8	+0.9
	comp=Z,7.2nm,0.5s,mb4.4						
PMG	Port Moresby	34.14	279	eP	P	14 14 36.8	0.0
PMG				pmax	pmax		
	comp=Z,25nm,0.8s						
PMG	Port Moresby	34.14	279	eP	P	14 14 36.8	+0.1
	comp=Z,25nm,0.8s,mb4.7						
TOO	Toolangi	37.32	230	eP	P	14 15 04.2	+1.0
	comp=Z,9.8nm,1.0s,mb4.2						
TOO	Toolangi	37.32	230	eP	P	14 15 04.2	+1.0
TOO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
STKA	Stephens Creek	38.68	241	⇓iP	P	14 15 15.0	+0.7
	comp=Z,9.1nm,0.5s,mb4.5						
STKA				ePCP	PcP	14 17 14.6	+0.5
STKA	Stephens Creek	38.68	241	P	P	14 15 15.1	+0.8
	comp=Z,10nm,0.5s,mb4.5,baz=90,slow=9.4,SNR=55						
STKA				PcP	PcP	14 17 14.5	+0.4
	comp=Z,2.8nm,0.5s,baz=89,slow=3.0,SNR=4.7						
WB2	Warramunga Arr	44.49	259	eP	P	14 15 59.2	-1.2
WB2				ePCP	PcP	14 17 33.9	+0.4
WRAB	Tennant Creek	44.49	259	eP	P	14 15 59.5	-0.9
WRAB				e*PP	pP	14 17 33.3	+2.3

WRAB pmax pmax
comp=Z,21nm,1.1s,mb4.5
WRAB Tennant Creek 44.49 259 *e*P **P 14 15 59.5 -0.9**
comp=Z,21nm,1.1s,mb4.5
WRAB *e*pP pP 14 17 33.3 +2.3
WRA Warramunga Arr 44.50 259 P **P 14 15 59.3 -1.2**
comp=Z,5.2nm,0.8s,mb4.0,baz=94,slow=7.3,SNR=48
WRA PcP PcP 14 17 34.0 +0.4
comp=Z,8.4nm,0.8s,baz=89,slow=3.7,SNR=17
WRA ScP ScP 14 20 39.7 +0.6
comp=Z,2.9nm,1.0s,baz=86,slow=4.1,SNR=7.6
WRA Warramunga Arr 44.50 259 P **P 14 15 59.3 -1.2**
WRA pP 14 17 34.0 +2.9
AS31 Alice Springs 44.71 254 *e*P **P 14 16 01.7 -0.4**
AS31 *e*pP pP 14 17 34.1 +1.3
ASAR Alice Springs 44.71 254 P **P 14 16 02.0 -0.1**
comp=Z,43nm,0.7s,mb5.0,baz=88,slow=8.2,SNR=629
ASAR PcP PcP 14 17 34.5 +0.2
comp=Z,9.3nm,0.6s,baz=102,slow=3.8,SNR=18
ASAR ScP ScP 14 20 40.6 +0.7
comp=Z,2.1nm,0.8s,baz=99,slow=4.3,SNR=7.3
ASAR S **S 14 21 58.9 -3.8**
comp=Z,2.2nm,1.0s,baz=84,slow=16,SNR=10
ASAR Alice Springs 44.71 254 P **P 14 16 02.1 0.0**
ASAR pP 14 17 34.6 +1.8
ASAR S **S 14 21 58.9 -3.8**
KAKA Kakadu 47.36 269 ⇓*i*P **P 14 16 22.1 -0.3**
comp=Z,40nm,0.4s,mb5.2
GUMO Guam 47.37 308 P **P 14 16 22.8 +0.4**
comp=Z,138nm,0.6s,mb5.5,baz=163,slow=7.9,SNR=23
GUMO Guam 47.37 308 P **P 14 16 22.8 +0.4**
FORT Forrest 50.02 244 *e*P **P 14 16 41.5 -0.7**
comp=Z,17nm,0.6s,mb4.6
FORT *e*PCP PcP 14 17 53.3 -0.2
FITZ Fitzroy Crossi 52.88 260 ⇓*i*P **P 14 17 03.2 +0.2**
comp=Z,11nm,0.5s,mb4.4
MBWA Marble Bar 57.98 256 *e*P **P 14 17 38.0 -0.5**
comp=Z,17nm,1.1s,mb4.3
KLBR Kellerberrin 58.85 243 *e*P **P 14 17 43.9 -0.6**
comp=Z,14nm,0.7s,mb4.4
SBA Scott Base 60.93 184 *e*P **P 14 17 59.9 +1.6**
SBA pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
SBA Scott Base 60.93 184 *e*P **P 14 17 59.9 +1.6**
comp=Z,4.2nm,0.7s,mb4.0
VNDA Vanda 60.95 185 P **P 14 17 57.9 -0.5**
comp=Z,2.1nm,0.8s,mb3.6,baz=341,slow=8.0,SNR=12
VNDA Vanda 60.95 185 *e*P **P 14 17 58.7 +0.3**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 60.95 185 *e*P **P 14 17 58.7 +0.3**
comp=Z,2.0nm,0.8s,mb3.6
TSM Tawau 66.22 283 P **P 14 18 33.7 +1.5**
CASY Casey 66.51 205 *e*P **P 14 18 33.6 -0.5**
MJAR Matsushiro Arr 67.35 323 P **P 14 18 38.7 -0.5**
comp=Z,20nm,0.6s,mb4.9,baz=155,slow=6.1,SNR=104
MAJO Matsushiro 67.35 323 *e*P **P 14 18 38.7 -0.5**
MAJO pmax pmax
comp=Z,16nm,0.6s,mb4.8
MAJO Matsushiro 67.35 323 *e*P **P 14 18 38.7 -0.6**
comp=Z,16nm,0.6s,mb4.8
MAT Matsushiro 67.35 323 P **P 14 18 38.9 -0.3**
KKM Kota Kinabalu 68.39 284 P **P 14 18 46.7 +1.1**
KKM Kota Kinabalu 68.39 284 *e*P **P 14 18 46.4 +0.8**
KSM Kuching 72.38 277 *e*P **P 14 19 10.3 +0.9**
QSPA South Pole Qui 72.67 180 *e*P **P 14 19 11.4 +0.4**
comp=Z,14nm,0.9s,mb4.5
PET Petropavlovsk 72.81 346 *e*P **P 14 19 10.8 -1.0**
PET pmax pmax
comp=Z,20nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 72.84 333 *e*P **P 14 19 12.2 +0.2**
YSS pmax pmax
comp=Z,25nm,1.3s,mb4.6
YSS Yuzh-Sakhalins 72.84 333 *e*P **P 14 19 12.4 +0.4**
comp=Z,26nm,1.1s,mb4.7
VLA Vladivostok 75.39 325 *e*P **P 14 19 26.0 -0.4**
VLA pmax pmax
comp=Z,21nm,0.9s,mb4.7
NJ2 Nanjing 77.42 309 *e*P **P 14 19 38.1 +0.4**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.0
HABR Khabarovsk 77.44 330 *e*P **P 14 19 38.6 +0.9**
HABR *e*S S 14 28 44.9 -3.5
HABR pmax pmax
comp=Z,34nm,1.0s,mb4.8
CMB Columbia Colle 77.62 43 *e*P **P 14 19 38.8 +0.1**
CMB pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
CMB Columbia Colle 77.62 43 *e*P **P 14 19 38.8 +0.1**
comp=Z,8.6nm,1.0s,mb4.1
MDJ Mudanjiang 77.62 325 P **P 14 19 39.8 +1.1**
MDJ AMB AMB
comp=Z,22nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,162nm,5.9s
MDJ Mudanjiang 77.62 325 *e*P **P 14 19 38.8 +0.1**
comp=Z,20nm,0.9s,mb4.5
ISA Isabella 77.62 46 *e*P **P 14 19 39.3 +0.6**
KDAK Kodiak Island 77.95 14 P **P 14 19 39.5 -1.0**
comp=Z,13nm,0.6s,mb4.5,baz=339,slow=5.2,SNR=9.7
KDAK Kodiak Island 77.95 14 P **P 14 19 39.5 -1.0**
YBH Yreka Blue Hor 78.27 39 P **P 14 19 42.3 +0.1**
comp=Z,6.9nm,0.8s,mb4.2,baz=349,slow=0.6,SNR=14
YBH Yreka Blue Hor 78.27 39 *e*P **P 14 19 43.0 +0.8**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 78.27 39 *e*P **P 14 19 43.0 +0.8**
comp=Z,5.7nm,0.9s,mb4.0
MTUM Tungsten Hills 78.46 45 *e*P **P 14 19 44.6 +1.3**
KGM Kluang 79.19 276 P **P 14 19 48.1 +1.0**
NVAR Mina Array Bea 79.21 44 P **P 14 19 48.2 +0.9**
comp=Z,6.7nm,0.7s,mb4.3,baz=215,slow=7.3,SNR=51
NVAR Mina Array Bea 79.21 44 P **P 14 19 48.2 +0.9**
CN2 Changchun 79.46 322 *e*P **P 14 19 52.0 +3.4**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.8
KLR Kul'dur 79.54 329 *e*P **P 14 19 46.0 -3.0**
MOD Modoc 79.84 40 *e*P **P 14 19 51.0 +0.4**
comp=Z,6.8nm,0.6s,mb4.3
MA2 Magadan 80.63 345 *e*P **P 14 19 53.1 -1.6**
MA2 *e* 14 30 35.0
MA2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
MA2 Magadan 80.63 345 *e*P **P 14 19 52.7 -2.0**
BMN Battle Mountai 80.98 43 *e*P **P 14 19 56.9 +0.4**
BMN pmax pmax
comp=Z,12nm,1.1s,mb4.3
BMN Battle Mountai 80.98 43 *e*P **P 14 19 56.9 +0.3**
comp=Z,12nm,1.1s,mb4.3
OOW Octopus West 81.05 34 P **P 14 19 58.0 +1.1**
WVOR Wild Horse Val 81.16 40 *e*P **P 14 19 57.9 +0.4**
WVOR pmax pmax
comp=Z,16nm,1.0s,mb4.5
WVOR Wild Horse Val 81.16 40 *e*P **P 14 19 57.9 +0.4**
comp=Z,16nm,1.0s,mb4.5
OSD Olympics--Snow 81.36 34 P **P 14 19 59.2 +0.7**
HDW Hoodsport 81.61 34 P **P 14 20 00.4 +0.6**
IPM Ipoh 82.12 277 P **P 14 20 04.1 +1.7**
CCUT Cedar City 82.12 47 *e*P **P 14 20 03.4 +1.0**
PMR Palmer 82.15 14 *e*P **P 14 20 00.9 -1.6**
PMR pmax pmax
comp=Z,10.0nm,0.4s,mb4.7
PMR Palmer 82.15 14 *e*P **P 14 20 00.9 -1.6**
comp=Z,10nm,0.4s,mb4.7
RMW Rattlesnake Mo 82.17 35 P **P 14 20 02.8 +0.2**
WUAZ Wupatki 82.58 49 *e*P **P 14 20 06.0 +1.3**
comp=Z,12nm,0.9s,mb4.4
KULM Kulim 82.73 278 *e*P **P 14 20 06.2 +0.8**
SNIWA Snively Ranch 82.79 37 P **P 14 20 06.5 +0.7**
HAWA Hanford 82.83 37 *e*P **P 14 20 06.0 0.0**
comp=Z,13nm,1.1s,mb3.4
SEY Seymchan 83.21 347 *d*i*P* **P 14 20 06.6 -1.3**
BJT Baijiatuau 83.24 315 *e*P **P 14 20 08.6 +0.5**
BJT pmax pmax
comp=Z,18nm,0.7s
BJT Baijiatuau 83.24 315 *e*P **P 14 20 08.6 +0.5**
comp=Z,18nm,0.7s,mb4.7
BJI Beijing 83.25 315 P **P 14 20 08.1 0.0**
WTV Waterville 83.33 36 P **P 14 20 08.6 +0.1**
MCK McKinley 84.08 13 *e*P **P 14 20 10.5 -1.7**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
MCK McKinley 84.08 13 *e*P **P 14 20 10.5 -1.8**
comp=Z,8.5nm,0.8s,mb4.3
MAW Mawson 84.27 200 *e*P **P 14 20 13.2 0.0**
comp=Z,2.5nm,0.6s,mb3.9
MAW Mawson 84.27 200 P **P 14 20 12.9 -0.3**
comp=Z,2.6nm,0.5s,mb4.0,baz=113,slow=5.5,SNR=9.0
MAW Mawson 84.27 200 *e*P **P 14 20 13.2 0.0**
MAW pmax pmax
comp=Z,3.0nm,0.6s
HLID Hailey 84.39 41 *e*P **P 14 20 14.4 +0.7**
comp=Z,6.6nm,0.8s,mb4.2
GYA Guiyang 84.57 300 P **P 14 20 15.3 +0.6**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
NEW Newport 85.23 36 *e*P **P 14 20 17.3 -0.6**
NEW pmax pmax
comp=Z,7.0nm,0.6s
NEW Newport 85.23 36 *e*P **P 14 20 17.3 -0.5**
comp=Z,7.1nm,0.6s,mb4.5
IMA2 Indian Mountai 85.30 10 *e*P **P 14 20 16.5 -1.7**
COLA College 85.31 13 ⇓*i*P **P 14 20 16.3 -2.0**
COLA College 85.31 13 *e*P **P 14 20 15.9 -2.4**
comp=Z,23nm,0.9s,mb4.8
MNTX Cornudas Mount 85.47 55 *e*P **P 14 20 19.8 +0.8**
comp=Z,5.1nm,1.0s,mb4.1
XAN Xi'an 85.75 307 P **P 14 20 21.5 +1.1**
XAN AMB AMB
comp=Z,36nm,1.1s,mb4.9
PV01 Paradox Valley 85.76 48 *e*P **P 14 20 20.6 +0.1**
HIA Hailar 85.81 325 *e*P **P 14 20 20.4 -0.3**
HIA pmax pmax
comp=Z,19nm,1.6s
HIA Hailar 85.81 325 *e*P **P 14 20 20.4 -0.3**
comp=Z,19nm,1.6s,mb4.5
BILL Bilibino 85.89 354 *e*P **P 14 20 19.8 -1.2**
BILL *e* 14 23 49.5
BILL *e*SS SS 14 36 00.6 -3.9
BILL pmax pmax
comp=Z,31nm,0.8s,mb5.0
BILL Bilibino 85.89 354 *e*P **P 14 20 20.0 -1.0**
comp=Z,13nm,0.4s,mb4.9
ANMO Albuquerque 85.96 52 *e*P **P 14 20 22.1 +0.7**
ANMO Albuquerque 85.96 52 *e*P **P 14 20 21.7 +0.3**
comp=Z,2.4nm,0.8s,mb3.9
MCMT McKenzie Canyo 85.99 41 *e*P **P 14 20 22.1 +0.5**
RRI2 Red Ridge 86.25 42 *e*P **P 14 20 23.5 +0.7**
comp=Z,24nm,0.8s,mb4.9
BSMT Bassoo Peak 86.34 37 P **P 14 20 23.2 0.0**
TPAW Teton Pass 86.56 42 *e*P **P 14 20 25.2 +1.0**
comp=Z,5.1nm,0.6s,mb4.4
REDW Red Top Meadow 86.56 43 *e*P **P 14 20 24.8 +0.5**
comp=Z,15nm,1.0s,mb4.7
SNOW Snow King Moun 86.67 43 *e*P **P 14 20 24.9 +0.2**
comp=Z,18nm,0.9s,mb4.8
HHC Hu-ho-hao-te 86.74 315 *e*P **P 14 20 25.8 +0.7**
HHC AP pP 14 22 18.9 +6.1
HHC PP PP 14 23 59.5 +3.5
HHC SKS 14 30 02.8
HHC S S 14 30 19.5 -2.0
HHC XS sS 14 33 38.9 +5.5
HHC SS SS 14 36 20.0 +3.2
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,246nm,5.8s
IMW Indian Meadow 86.75 42 *e*P **P 14 20 26.1 +0.9**
comp=Z,17nm,0.8s,mb4.8
EGAK Eagle 86.77 15 *e*P **P 14 20 23.5 -1.7**
CHMT Chamberlain Mo 86.77 39 P **P 14 20 25.1 -0.1**
LOHW Long Hollow 86.84 42 *e*P **P 14 20 25.9 +0.3**
comp=Z,5.2nm,0.6s,mb4.4
QLMT Earthquake Lak 86.88 41 *e*P **P 14 20 25.8 +0.1**
PDAR Pinedale Array 87.13 44 P **P 14 20 27.0 +0.1**
comp=Z,5.1nm,0.6s,mb4.5,baz=217,slow=2.6,SNR=47
BOZ Bozeman (W) 87.14 40 *e*P **P 14 20 26.6 -0.4**
BOZ pmax pmax
comp=Z,10.0nm,1.5s,mb4.3
BOZ Bozeman (W) 87.14 40 *e*P **P 14 20 26.6 -0.4**
comp=Z,10nm,1.5s,mb4.3
KMI Kunming 87.38 297 P **P 14 20 29.6 +1.5**
KMI AMB AMB
comp=Z,19nm,0.8s,mb4.9
WALA Waterton Lakes 87.46 37 *e*P **P 14 20 27.5 -1.0**
CLNS Chul'man 87.59 333 *e*P **P 14 20 27.5 -1.6**
CLNS pmax pmax
comp=Z,22nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.9s
SDCO Great Sand Dun 87.80 49 *e*P **P 14 20 33.4 +3.3**
CD2 Chengdu 88.59 303 *e*P **P 14 20 27.5 -6.2**
CHTO Chiang Mai 88.60 290 *e*P **P 14 20 34.3 +0.5**
CHTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CHTO Chiang Mai 88.60 290 *e*P **P 14 20 34.3 +0.5**
comp=Z,10nm,0.7s,mb4.8
YAK Yakutsk 89.00 338 *d*i*P* **P 14 20 33.6 -2.1**
YAK pmax pmax
comp=Z,11nm,0.7s,mb4.8
YAK Yakutsk 89.00 338 *e*P **P 14 20 32.9 -2.8**
comp=Z,12nm,0.8s,mb4.8
SYO Syowa Base 89.61 193 ⇓*e*P **P 14 20 36.8 -1.7**
EDM Edmonton 89.85 33 *e*P **P 14 20 38.9 -0.7**
LZH Lanzhou 90.39 308 *e*P **P 14 20 43.0 +0.9**
LZH AP pP 14 22 36.8 +6.2
LZH PP PP 14 24 28.8 +4.1
LZH AMB AMB
comp=Z,28nm,1.0s,mb5.0
SNAA Sanae 91.13 179 *e*P **P 14 20 44.3 -1.2**
SNAA *e* 14 20 44.9
SNAA Sanae 91.13 179 *d*i*P* **P 14 20 44.5 -1.0**
SNAA Sanae 91.13 179 *e*P **P 14 20 44.2 -1.3**
comp=Z,4.3nm,0.7s,mb4.5
VNA3 Neumayer Olymp 91.28 176 *e*P **P 14 20 45.9 -0.3**
VNA3 *e* 14 20 46.7
RSSD Black Hills 91.35 44 *e*P **P 14 20 46.7 +0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
RSSD Black Hills 91.35 44 *e*P **P 14 20 46.7 +0.1**
comp=Z,3.1nm,0.8s,mb4.3
INK Inuvik 91.44 15 *e*P **P 14 20 44.5 -2.5**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 91.44 15 *e*P **P 14 20 44.5 -2.5**
comp=Z,14nm,1.1s,mb4.8
PLCA Paso Flores 91.86 134 P **P 14 20 49.1 +0.2**
comp=Z,3.2nm,1.3s,mb4.1,baz=252,slow=16,SNR=3.5
ULN Ulaanbaatar 92.60 320 *e*P **P 14 20 51.9 -0.4**
ULN pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ULN Ulaanbaatar 92.60 320 *e*P **P 14 20 51.9 -0.5**
comp=Z,5.4nm,0.6s,mb4.8
DGMT Dagmar 92.94 40 *e*P **P 14 20 54.2 +0.4**
comp=Z,20nm,1.2s,mb5.0
SONM Songino Array 93.00 319 P **P 14 20 53.9 -0.3**
comp=Z,1.6nm,0.4s,mb4.4,baz=139,slow=5.8,SNR=7.0
YKA Yellowknife Ar 93.95 25 P **P 14 20 57.3 -1.1**
comp=Z,5.9nm,0.7s,mb4.7,baz=239,slow=4.5,SNR=13
GTA Gaotai 94.52 310 *e*P **P 14 21 01.5 +0.4**
GTA AP pP 14 22 55.8 +5.9
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
TIXI Tiksi 95.59 345 *e*P **P 14 21 04.2 -1.7**
ZAK Zakamensk 95.83 321 *e*P **P 14 21 01.8 -5.2**
ZAL Zalesovo 107.69 322 PKiKP PKiKP 14 26 02.1 -2.5
comp=Z,1.3nm,0.3s,baz=346,slow=3.6,SNR=3.3
MKAR Makanchi Array 108.60 314 PKiKP PKiKP 14 26 05.2 -1.1
baz=77,slow=2.7
AAK Ala-Archa 113.87 309 *i* PKIKP PKiKP 14 26 14.4 -1.9
CHKZ Chkalovo 116.09 322 *e*PKIKP PKPdf 14 26 17.5 -3.1
BVAR Borovoye Array 116.29 321 PKiKP PKiKP 14 26 19.5 -1.5
comp=Z,2.7nm,0.4s,baz=132,slow=1.8,SNR=23
ZRNK Zerenda 117.13 321 *e*PKIKP PKPdf 14 26 20.8 -1.8
ARU Arti 122.28 326 *i* PKIKP PKPdf 14 26 31.0 -1.5
ARU *e* 14 28 18.0
ARU Arti 122.28 326 *e*PKPdf PKPdf 14 26 31.2 -1.3
AKTK Aktyubinsk 124.32 320 PKP PKPdf 14 26 35.1 -1.3
AKTO Aktyubinsk 124.32 320 PKP PKPdf 14 26 35.1 -1.3
comp=Z,3.4nm,0.8s,baz=90,slow=4.7,SNR=14
ARCES ARCESS Array B 125.76 350 PKP PKPdf 14 26 38.0 -1.1
comp=Z,8.6nm,0.7s,baz=356,slow=1.6,SNR=17
JOF Joensuu 129.99 343 *ep* PKPdf 14 26 45.2 -2.0
comp=Z,7.1nm,0.5s
KAF Kangasniemi 132.00 345 *ep* PKPdf 14 26 49.2 -1.8
comp=Z,5.8nm,0.6s
FINES FINESS Array B 132.62 344 PKhKP 14 26 39.2
comp=Z,1.5nm,0.9s,baz=11,slow=1.9,SNR=4.7
FINES PKP PKPdf 14 26 49.9 -2.3
comp=Z,2.4nm,0.5s,baz=101,slow=3.7,SNR=5.9
FINES SKPbc SKPbc 14 29 33.2 -0.4
comp=Z,2.0nm,0.8s,baz=330,slow=6.6,SNR=5.2
FINES FINESS Array B 132.62 344 PKP 14 26 39.2
FINES PKP PKPdf 14 26 49.9 -2.3
FINES SKPbc SKPbc 14 29 33.2 -0.4
OBN Obninsk 133.72 333 *i* PKIKP PKPdf 14 26 52.7 -1.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 135.83 353 PKPd PKPdf 14 26 57.2 -0.9
comp=Z,1.9nm,0.7s,baz=14,slow=1.8
NOA NORSAR Array B 135.83 353 PKP PKPdf 14 26 57.0 -1.2
comp=Z,2.6nm,0.7s,baz=15,slow=4.0,SNR=8.4
NOA NORSAR Array B 135.83 353 PKP PKPdf 14 26 57.0 -1.2
KIV Kislovodsk 136.31 316 *e*PKIKP PKPdf 14 26 56.2 -2.9
KIV pmax pmax
comp=Z,6.0nm,1.5s
HFS Hagfors 136.38 351 PKhKP 14 26 45.7
comp=Z,0.7nm,0.3s,baz=57,slow=5.5,SNR=7.4
HFS PKP PKPdf 14 26 57.7 -1.5
comp=Z,2.8nm,0.6s,baz=85,slow=3.1,SNR=4.0
AKASG Malin Array Be 139.99 332 PKhKP 14 26 57.1
comp=Z,1.6nm,0.4s,baz=39,slow=4.0,SNR=12
AKASG PKP PKPdf 14 27 06.8 +1.0
comp=Z,4.0nm,0.5s,baz=42,slow=2.6,SNR=8.6
KMBO Kilima Mbogo 140.13 246 PKhKP 14 27 00.8
comp=Z,0.6nm,0.4s,baz=226,slow=22,SNR=4.6
KMBO PKP PKPdf 14 27 08.0 +2.0
comp=Z,2.6nm,0.9s,baz=55,slow=4.3,SNR=4.9
KMBO Kilima Mbogo 140.13 246 PKP PKPdf 14 27 00.8 -5.2
KMBO PKP PKPdf 14 27 08.0 +2.0
EKA Eskdalemuir Ar 141.96 4 PKhKP 14 27 03.4
comp=Z,4.7nm,0.7s,baz=340,slow=2.5,SNR=22
EKA PKP PKPdf 14 27 09.1 -0.3
comp=Z,1.3nm,0.5s,baz=357,slow=3.0,SNR=5.1
GZT Gaziantep 142.49 309 *i* P PKPdf 14 27 08.0 -2.2
BOYT Boyabat 142.57 317 *i* P PKPdf 14 27 08.2 -2.2
LVV L'vov 142.83 336 *e*PKHKP PKPdf 14 27 06.9 -4.0
BSEG Bad Segeberg 142.86 351 *e*PKPbc PKPdf 14 27 07.5 -3.4
CTUC Corum 143.04 316 *i* P PKPdf 14 27 09.7 -1.5
DCN Croghan 143.49 9 ⇑*i*P PKPdf 14 27 08.8 -3.2
KWP Kalwaria 143.50 337 *e*PKPd PKPdf 14 27 10.2 -1.8
BALT Daday 143.50 318 *i* P PKPdf 14 27 11.1 -0.9
DLF Lyons Farm 143.64 8 ⇑*i*P PKPdf 14 27 08.7 -3.6
COBT Iskenderun 143.78 309 *i* P PKPdf 14 27 11.8 -0.7
CDAG Cicekdag 143.80 315 *i* P PKPdf 14 27 11.5 -1.0
AVNT Avonos 143.85 313 *i* P PKPdf 14 27 11.9 -0.8
ELDT Eldivan 144.01 316 *i* P PKPdf 14 27 12.8 -0.1
OJC Ojcow 144.04 340 *i* PKPd PKPdf 14 27 11.7 -1.3
BURAR Bucovina Array 144.04 332 ⇑*i*P PKPdf 14 27 12.4 -0.6
BURAR Bucovina Array 144.04 332 ⇑P PKPdf 14 27 12.6 -0.3
STHS Stebnicka Huta 144.22 338 *e*PKP PKPdf 14 27 12.9 -0.4
KOLS Kolonicke sedl 144.23 336 *e*PKP PKPdf 14 27 12.5 -0.8
BR131 Keskin Array S 144.25 315 *e*PKPdf PKPdf 14 27 12.6 -0.7
BRTR Keskin Array B 144.25 315 PKP PKPdf 14 27 12.8 -0.5
comp=Z,10nm,0.6s,baz=136,slow=4.0,SNR=61
NRDL Niedersach Rie 144.29 351 *e*PKPbc PKPdf 14 27 12.1 -1.3
CFR Carcaliu 144.37 327 ⇑*i*P PKPdf 14 27 13.3 -0.2
CFR Carcaliu 144.37 327 P PKPdf 14 27 13.7 +0.2
WIT Witteveen 144.40 354 *e*P PKPdf 14 27 13.6 0.0
comp=Z,390nm,0.7s
UZH Uzhgorod 144.47 336 ⇓*i*PKIKP PKPdf 14 27 13.7 0.0
KSP Ksiaz 144.54 344 *e*PKPd PKPdf 14 27 13.9 +0.1
KSP Ksiaz 144.54 344 ⇓*e*PKP PKPdf 14 27 13.7 -0.1
NIE Niedzica 144.55 339 *i* PKPd PKPdf 14 27 14.1 +0.3
CRVS Cervenica-Dubn 144.56 337 *e*PKP PKPdf 14 27 13.5 -0.4
VRI Vrincioaia 144.61 329 ⇑*i*P PKPdf 14 27 14.3 +0.4
VRI Vrincioaia 144.61 329 P PKPdf 14 27 14.6 +0.6
PLOR Plostina 144.66 329 ⇑*i*P PKPdf 14 27 14.2 +0.2
TIRR Tirgusor 144.70 326 ⇑*i*P PKPdf 14 27 14.6 +0.5
TIRR Tirgusor 144.70 326 *e*PKPdf PKPdf 14 27 14.1 0.0
ANTO Ankara 144.74 316 ⇑*i*P PKPdf 14 27 15.2 +1.0
ANTO Ankara 144.74 316 *e*PKPdf PKPdf 14 27 14.9 +0.7
IBBN Ibbenburen 144.79 353 *e*PKPbc PKPdf 14 27 14.1 -0.1
HARR Harsova 144.81 326 ⇑*i*P PKPdf 14 27 15.1 +0.8
HARR Harsova 144.81 326 ⇓PKIKP PKPdf 14 27 15.4 +1.1
HARR Harsova 144.81 326 P PKPdf 14 27 15.1 +0.8
SGKT Sivrigoynuk 144.86 317 *i* P PKPdf 14 27 14.8 +0.5
CLL Collm 144.90 347 *e*PKPbc PKPdf 14 27 14.2 -0.2
CLL Collm 144.90 347 ⇓*i*PKPdf PKPdf 14 27 14.3 -0.1
comp=Z,106nm,1.0s
CLL Collm 144.90 347 ⇓*i*PKP PKPdf 14 27 14.3 -0.1
CLL *ep*PKP pPKPdf 14 29 20.0 +10
CLL *e*SKP 14 29 47.0
OKC Ostrava-Krasne 144.90 341 *e*PKP PKPdf 14 27 14.5 +0.1
UPC Upice 144.92 344 *e*PKP PKPdf 14 27 14.8 +0.3
DPC Dobruska-Polom 144.98 343 *e*PKP PKPdf 14 27 15.2 +0.6
BRG Berggiesshubel 145.10 346 *e*PKPbc PKPdf 14 27 15.0 -0.5
BRG Berggiesshubel 145.10 346 ⇓*i*PKP PKPdf 14 27 15.2 +0.4
comp=Z,20nm,0.8s
BRG *e* 14 27 22.5
comp=Z,5.4nm,0.7s
BRG *e* 14 27 33.6
comp=Z,3.6nm,0.7s
MORC Moravsky Berou 145.14 342 ⇑*i*P PKPdf 14 27 15.8 +0.9
MORC Moravsky Berou 145.14 342 *e*PKPdf PKPdf 14 27 15.2 +0.3
WTSB Winterswijk 145.22 354 ⇓*e*P PKPdf 14 27 15.2 +0.2
comp=Z,81nm,0.9s
MLR Muntele Rosu 145.26 329 ⇓*i*P PKPdf 14 27 15.8 +0.7
MLR Muntele Rosu 145.26 329 P PKPdf 14 27 16.4 +1.4
KECS Kecovo 145.27 337 *e*PKP PKPdf 14 27 15.5 +0.4
KECS Kecovo 145.27 337 *e*PKP PKPdf 14 27 15.6 +0.5
PVCC Panska Ves 145.27 345 *e*PKP PKPdf 14 27 16.0 +0.9
BUG Bochum--Univer 145.69 353 *e*PKPbc PKPbc 14 27 16.1 -1.1
VOIR 145.74 330 ⇑*i*P PKPdf 14 27 17.5 +1.6
DRGR 145.77 334 ⇑*i*P PKPdf 14 27 17.7 +1.8
DRGR 145.77 334 P PKPdf 14 27 17.4 +1.4
PRU Pruhonice 145.78 345 *e*PKP PKPdf 14 27 17.3 +1.4
MOX Moxa 145.81 348 *e*PKPbc PKPbc 14 27 16.8 -0.8
MOX Moxa 145.81 348 *e*P PKPdf 14 27 17.0 +1.0
VRAC Vranov 145.84 342 ⇑*i*P PKPdf 14 27 18.0 +2.0
VRAC Vranov 145.84 342 P PKPdf 14 27 17.6 +1.6
VYHS Vyhne 145.85 339 *e*PKP PKPdf 14 27 17.4 +1.4
TANN Tannenbergstha 145.86 347 *e*PKPbc PKPbc 14 27 17.1 -0.6
UBBA Unterbreizbach 145.93 350 *e*PKPbc PKPbc 14 27 17.1 -0.8
PSZ Piszkesteto 145.96 338 ⇑*i*P PKPbc PKPbc 14 27 18.3 +0.3
PSZ Piszkesteto 145.96 338 *e*PKPdf PKPdf 14 27 17.4 +1.1
NKC Novy Kostel 146.03 347 *e*PKP PKPdf 14 27 18.0 +1.6
TREC Trest 146.17 343 *e*PKP PKPdf 14 27 18.2 +1.6
ERMK Ermenek 146.18 311 *i* P PKPbc 14 27 18.7 +0.1
ESKT Eskisehir 146.20 317 *i* P PKPdf 14 27 18.2 +1.5
MANZ Manzenberg 146.34 347 *e*PKPbc PKPbc 14 27 18.7 -0.3
BEBN Eben Emael 146.49 355 PKPbc PKPbc 14 27 19.4 -0.1
HGN Heimansgroeve 146.50 355 ⇓*e*P PKPdf 14 27 19.0 +1.8
comp=Z,13nm,1.1s
ROTZ Rotzenmuhle 146.53 347 *e*PKPbc PKPbc 14 27 19.5 -0.1
MEM Membach 146.64 355 PKPbc PKPbc 14 27 19.3 -0.6
ZST Bratislava 146.67 341 *e*PKP PKPbc 14 27 19.7 -0.3
TNS Taunus Mts 146.75 352 *e*PKPbc PKPbc 14 27 19.9 -0.3
TNS Taunus Mts 146.75 352 *e*PKPbc PKPbc 14 27 19.8 -0.4
GRA1 Grafenberg Arr 146.80 348 *e*PKPbc PKPbc 14 27 20.3 0.0
GRF Grafenberg Arr 146.80 348 *e*PKPbc PKPbc 14 27 20.3 0.0
KHC Kasperske Hory 146.81 345 *e*PKP PKPbc 14 27 20.2 -0.1
GZR Gura Zlata 146.83 332 ⇑*i*P PKPbc 14 27 20.3 -0.1
GZR Gura Zlata 146.83 332 ⇑P PKPbc 14 27 20.3 -0.1
SNF Seneffe 146.87 357 PKPbc PKPbc 14 27 19.9 -0.6
BCLA Clavier 146.89 355 PKPbc PKPbc 14 27 20.0 -0.5
ULDT Uludag 146.96 319 *i* P PKPbc 14 27 20.8 +0.1
WET Wettzell 146.97 346 *e*PKPbc PKPbc 14 27 20.3 -0.5
GEC2 GERESS Array S 147.05 345 *e*PKPbc PKPbc 14 27 20.7 -0.3
GEC2 GERESS Array S 147.05 345 *e*PKPbc PKPbc 14 27 20.6 -0.4
GERES GERESS Array B 147.05 345 PKPbc PKPbc 14 27 20.7 -0.2
comp=Z,17nm,0.7s,baz=29,slow=3.0,SNR=72
BZS Buzias 147.16 333 ⇓*i*P PKPbc 14 27 21.0 -0.3
BZS Buzias 147.16 333 ⇑PKP2 PKPbc 14 27 21.2 -0.1
BZS Buzias 147.16 333 P PKPbc 14 27 20.9 -0.4
GIVF Givet 147.24 356 ⇓*i*PKP1 PKPbc 14 27 21.1 -0.4
comp=Z,64nm,0.7s
DOU Dourbes 147.26 356 PKPbc PKPbc 14 27 21.1 -0.4
CONA Conrad Observa 147.29 342 *i* PKiKP PKiKP 14 27 21.8 -1.6
comp=Z,28nm,0.6s,SNR=47
BAIF Baives 147.32 357 ⇓*i*PKP1 PKPbc 14 27 21.4 -0.3
comp=Z,46nm,0.6s
GDZ Gediz 147.33 317 *i* P PKPbc 14 27 21.2 -0.5
WLF Walferdange 147.56 354 *e*PKPbc PKPbc 14 27 22.5 +0.2
WLF Walferdange 147.56 354 PKPbc PKPbc 14 27 22.5 +0.1
WLF Walferdange 147.56 354 *e*PKPbc PKPbc 14 27 22.5 +0.1
MOA Molln 147.82 344 *i* P PKPbc 14 27 22.6 -0.4
comp=Z,8.7nm,0.6s,SNR=11
PKSM Moragy 147.86 337 ⇑*i*P PKPbc 14 27 22.9 -0.2
PKSM Moragy 147.86 337 P PKPbc 14 27 22.7 -0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ARSA	**Arzberg**	**148.00**	**342**	*i* P	PKPbc	14 27 22.9	-0.6
	comp=Z,6.8nm,0.6s,SNR=9.3						
STU	**Stuttgart**	**148.05**	**350**	*e*PKPbc	PKPbc	14 27 23.5	-0.1
STU	**Stuttgart**	**148.05**	**350**	*e*PKPbc	PKPbc	14 27 23.1	-0.5
LANF	**Langenberg**	**148.05**	**352**	PKP	PKPbc	14 27 23.4	-0.2
FUR	**Furstenfeldbru**	**148.24**	**347**	*e*PKPbc	PKPbc	14 27 23.8	-0.3
BFO	**Black Forest**	**148.61**	**351**	*e*PKPbc	PKPbc	14 27 24.6	-0.4
WLS	**Welschbruch**	**148.66**	**352**	PKP	PKPbc	14 27 24.5	-0.6
FLN	**La Foliniere**	**148.67**	**2**	⇓*i*PKP1	PKPbc	14 27 24.5	-0.6
	comp=Z,79nm,0.5s						
CDF	**Champ du Feu**	**148.68**	**352**	⇓*i*PKP1	PKPbc	14 27 24.9	-0.2
	comp=Z,66nm,0.8s						
VTS	**Vitosha**	**148.72**	**328**	⇑*i*P	PKPdf	14 27 17.5	-3.3
VTS	**Vitosha**	**148.72**	**328**	⇑P	PKPdf	14 27 17.6	-3.2
AKAS	**Kas**	**148.73**	**312**	*i* P	PKPbc	14 27 24.7	-0.6
KBA	**Koelnbreinsper**	**148.77**	**344**	*i* P	PKPbc	14 27 24.6	-0.8
	comp=Z,28nm,0.5s,SNR=33						
MEZF	**Maizieres J'vi**	**148.81**	**355**	⇓*i*PKP1	PKPbc	14 27 25.4	-0.1
	comp=Z,55nm,0.8s						
LDF	**La Druitiere**	**148.85**	**2**	⇓*i*PKP1	PKPbc	14 27 24.9	-0.7
	comp=Z,52nm,0.5s						
ECH	**Echery**	**148.88**	**352**	PKP	PKPbc	14 27 25.4	-0.2
ROSF	**Rostrenen**	**148.90**	**6**	*e*PKP1	PKPbc	14 27 24.8	-0.9
	comp=Z,40nm,0.7s						
WATA	**Walderalm**	**148.96**	**346**	⇓*i*P	PKPbc	14 27 25.4	-0.4
	comp=Z,29nm,1.2s,SNR=12						
WATA	**Walderalm**	**148.96**	**346**	⇓*i*P	PKPbc	14 27 25.4	-0.4
THEF	**They Montfort**	**149.00**	**354**	PKP	PKPbc	14 27 25.4	-0.5
WTTA	**Wattenberg**	**149.02**	**346**	*i* P	PKPbc	14 27 25.9	-0.1
	comp=Z,64nm,0.6s,SNR=38						
GRR	**Gorron**	**149.02**	**3**	⇓*i*PKP1	PKPbc	14 27 25.5	-0.5
	comp=Z,91nm,0.6s						
SGMF	**Saint Gilles**	**149.05**	**5**	*e*PKP1	PKPbc	14 27 25.3	-0.7
	comp=Z,80nm,0.7s						
MOTA	**Moosalm**	**149.06**	**347**	*i* P	PKPbc	14 27 25.6	-0.4
	comp=Z,16nm,0.9s,SNR=19						
FELD	**Feldberg im Sc**	**149.10**	**351**	*e*P	PKPbc	14 27 25.9	-0.3
SQTA	**Sankt Quirin**	**149.15**	**347**	*i* P	PKPbc	14 27 26.1	-0.2
	comp=Z,16nm,0.8s,SNR=22						
AYDN	**Tasoluk**	**149.17**	**316**	*i* P	PKPdf	14 27 26.7	+5.2
HAU	**Haudompre**	**149.19**	**353**	⇓*i*PKP1	PKPbc	14 27 26.0	-0.4
	comp=Z,35nm,0.7s						
MOF	**Molkenrain**	**149.24**	**352**	PKP	PKPbc	14 27 25.8	-0.7
HINF	**Hinteralfeld**	**149.31**	**353**	⇓*i*PKP1	PKPbc	14 27 26.1	-0.6
	comp=Z,28nm,0.8s						
QUIF	**Quistinic**	**149.32**	**6**	*e*PKP1	PKPbc	14 27 25.7	-1.0
	comp=Z,18nm,0.7s						
DAVA	**Damuels**	**149.36**	**349**	⇑*i*P	PKPbc	14 27 26.5	-0.2
	comp=Z,39nm,0.9s,SNR=14						
LJU	**Ljubljana**	**149.39**	**342**	*e*PKPbc	PKPbc	14 27 26.5	-0.4
VOY	**Vojsko**	**149.58**	**343**	*e*PKPdf	PKPdf	14 27 20.4	-1.8
VOY				*e*PKPbc	PKPbc	14 27 26.5	-0.8
VOY				*e*		14 27 33.1	
CEY	**Cerknica**	**149.69**	**342**	*i* PKPbc	PKPbc	14 27 27.1	-0.5
LOMF	**Lomont**	**149.78**	**353**	PKP	PKPbc	14 27 27.5	-0.3
LOR	**Lormes**	**150.12**	**357**	⇓*i*PKP1	PKPbc	14 27 28.4	-0.2
	comp=Z,61nm,0.6s						
HYF	**Humbligny**	**150.18**	**358**	*e*PKP1	PKPbc	14 27 28.9	+0.2
SSF	**Saint Saulge**	**150.35**	**357**	⇓*i*PKP1	PKPbc	14 27 29.0	-0.1
	comp=Z,61nm,0.6s						
CABF	**La Chapelle**	**150.59**	**353**	⇓*i*PKP1	PKPbc	14 27 30.0	+0.3
	comp=Z,86nm,0.8s						
AVF	**Avril sur Loir**	**150.63**	**357**	⇓*i*PKP1	PKPbc	14 27 29.2	-0.6
	comp=Z,20nm,0.5s						
SMF	**Signal de Mont**	**150.75**	**356**	⇓*i*PKP1	PKPbc	14 27 29.4	-0.7
	comp=Z,6.9nm,0.4s						
MFF	**Saint Martin d**	**150.84**	**2**	⇓*i*PKP1	PKPbc	14 27 29.8	-0.5
	comp=Z,61nm,0.9s						
BGF	**Bois d'Agland**	**150.88**	**358**	⇓*i*PKP1	PKPbc	14 27 30.1	-0.3
	comp=Z,67nm,0.7s						
TCF	**Toulx Ste Croi**	**151.17**	**359**	⇓*i*PKP1	PKPbc	14 27 30.5	-0.5
	comp=Z,28nm,0.7s						
LPL	**La Plagne**	**151.59**	**352**	*e*PKP1	PKPbc	14 27 32.6	+0.6
	comp=Z,30nm,0.7s						
LPG	**La Plagne**	**151.61**	**352**	⇓*i*PKP1	PKPbc	14 27 32.7	+0.7
	comp=Z,30nm,0.7s						
BNI	**Bardonecchia**	**152.05**	**352**	*e*PKIKP	PKPbc	14 27 33.3	+0.3
RJF	**Les Rejaudoux**	**152.16**	**360**	⇓*i*PKP1	PKPbc	14 27 32.7	-0.5
	comp=Z,22nm,0.7s						
ORIF	**Oris-en-Rattie**	**152.28**	**353**	⇓*i*PKP1	PKPbc	14 27 33.5	0.0
	comp=Z,18nm,0.6s						
MBDF	**Montbardon**	**152.36**	**352**	⇓*i*PKP1	PKPbc	14 27 33.7	0.0
	comp=Z,38nm,0.6s						
VIVF	**Saint-Julien-l**	**152.47**	**355**	⇓*i*PKP1	PKPbc	14 27 33.9	0.0
	comp=Z,17nm,0.7s						
LFF	**La Frestale**	**152.52**	**1**	⇓*i*PKP1	PKPbc	14 27 33.6	-0.4
	comp=Z,23nm,0.8s						
CAF	**Calviac**	**152.53**	**359**	⇓*i*PKP1	PKPbc	14 27 33.9	-0.2
	comp=Z,31nm,0.9s						
SBF	**Sospel**	**153.10**	**350**	⇓*i*PKP1	PKPbc	14 27 34.5	-0.8
	comp=Z,23nm,0.7s						
SMRF	**Simiane la Rot**	**153.25**	**353**	*e*PKP1	PKPbc	14 27 36.2	+0.6
LASF	**Ste Croix**	**153.31**	**356**	*e*PKP1	PKPbc	14 27 35.8	+0.1
	comp=Z,23nm,1.0s						
FRF	**La Foret Royal**	**153.52**	**351**	⇓*i*PKP1	PKPbc	14 27 36.5	+0.3
	comp=Z,36nm,1.1s						
LMR	**La Mourre**	**153.76**	**351**	*e*PKP1	PKPbc	14 27 38.2	+1.5
ESDC	**Sonseca Array**	**157.31**	**11**	PKPab	PKPab	14 28 06.6	-0.8
	comp=Z,1.7nm,0.6s,baz=343,slow=3.3,SNR=7.8						
KEST	**Kesra**	**160.39**	**340**	PKPab	PKPab	14 28 20.2	-0.6
	comp=Z,2.1nm,0.6s,baz=268,slow=2.9,SNR=8.2						
TORD	**Torodi Ar. Bea**	**175.78**	**185**	PKP	PKPdf	14 27 46.5	-0.5
	comp=Z,1.9nm,0.8s,baz=310,slow=1.6,SNR=10						
TORD				PKPab	PKPab	14 29 29.6	+0.7
	comp=Z,0.9nm,0.7s,baz=196,slow=5.2,SNR=4.7						

---

*THR **16** 14:13:23.2±0.3, 3127N×5705E, h14km±5km, ML3.4*
*ISCJB **16** 14:13:24.4±0.6, 31.15N±006×5699E±007, h10km, Error ellipse: s-maj=9.3km s-min=8.0km az=108.6*
*CSEM **16** 14:13:25.1±0.1, 31.18N×5701E, h20km, ML3.4, Error ellipse: s-maj=3.9km s-min=3.1km az=128.0*
*TEH **16** 14:13:26.9, 3141N×5695E, h10km, Mn3.7*
ISC 16 14:13:25.4±0.6**, 3117N**±006×**5698E**±007**, h10**km**, n11, σ0^{s}98**/11**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.20**	**189**	*e*PG	**Pg**	**14 13 47.5**	**-0.9**
KRBR				AML	AML	14 14 12.2	
	comp=N,690nm,0.4s						
KRBR				AML	AML	14 14 15.4	
	comp=E,587nm,0.5s						
IBAF	**Bafgh**	**1.28**	**290**	*e*Pg	**Pg**	**14 13 48.5**	**-1.4**
IMEH	**Mehriz**	**2.04**	**277**	*e*Pn	**Pn**	**14 14 00.7**	**+0.9**
IKOO		**2.13**	**53**	*e*Pn	**Pn**	**14 14 01.9**	**+0.8**
ITEG		**2.29**	**41**	*e*Pn	**Pn**	**14 14 03.2**	**0.0**
ICHK	**Chekchek**	**2.44**	**297**	*e*Pn	**Pn**	**14 14 06.5**	**+1.2**
IDAH		**2.91**	**57**	*e*Pn	**Pn**	**14 14 11.5**	**-0.3**
ZHSF	**Zahedan**	**3.63**	**114**	*e*PN	**Pn**	**14 14 20.9**	**-0.7**
BNDS	**Bandar-Abbas**	**3.82**	**191**	*e*PN	**Pn**	**14 14 25.3**	**+1.0**
BNDS				AML	AML	14 14 44.1	
	comp=E,56nm,0.6s						
BNDS				AML	AML	14 14 45.2	
	comp=N,54nm,0.3s						
IPAY	**Payeh**	**5.53**	**17**	*e*Pn	**Pn**	**14 14 48.6**	**+0.8**
MRVT	**Maraveh tapeh**	**6.52**	**354**	*e*Pn	**Pn**	**14 14 59.7**	**-1.7**

MAN 16 14:14:03.8, 976N×12228E, h7km, mb1.9, ML3.7, MS4.8, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.91**	**19**	*e*P	Pg	14 14 21.4	+0.1
GUIM				*e*S	Sg	14 14 33.8	+0.6
SNPH	**Sibulan**	**1.03**	**114**	*e*P	Pg	14 14 23.0	-0.5
CUYO	**Cuyo Island**	**1.65**	**311**	*e*P	Pn	14 14 33.4	+0.3
CUYO				*e*S	Sn	14 14 54.2	-0.4
IPIL	**Ipil**	**1.98**	**172**	*e*P	Pn	14 14 38.2	+0.5
IPIL				*e*S	Sn	14 14 59.9	-2.8
ENPP	**El Nido**	**3.16**	**297**	*e*P	Pn	14 14 54.1	+0.2

---

*ISCJB **16** 14:26:02.8±0.6, 3849N±002×2051E±005, h10km, Error ellipse: s-maj=6.1km s-min=3.0km az=155.6*
*THE **16** 14:26:02.2, 3846N×2050E, h10km, ML3.5*
*NEIC **16** 14:26:03.4, 3847N×2060E, h12km, ML3.5(THE), ML3.9(ATH), After ATH.*
*ATH **16** 14:26:03.4, 3848N×2061E, h11km±2km, MD3.7/16, ML3.9*
*CSEM **16** 14:26:03.5±0.2, 3845N×2055E, h5km, ML3.5, Error ellipse: s-maj=4.4km s-min=2.6km az=74.0*
ISC 16 14:26:03.1±0.7**, 3850N**±002×**2056E**±005**, h1**km±5km**, n36, σ1^{s}09**/47**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.22**	**19**	*e*Pg	**Pg**	**14 26 07.4**	**0.0**
LKD				*e*Sg	**Sg**	**14 26 11.5**	**+1.3**
VLS	**Valsamata**	**0.32**	**176**	⇑*i*PG	**Pg**	**14 26 09.3**	**0.0**
VLS				*e*SB	**Sg**	**14 26 14.8**	**+1.4**
RLS	**Riolos of Patr**	**0.84**	**121**	*e*PG	**Pg**	**14 26 18.2**	**-1.0**
RLS				*e*SB	**Sg**	**14 26 30.4**	**+0.3**
IGT	**Igoumenitsa**	**1.05**	**350**	*e*Pg	**Pg**	**14 26 22.1**	**-1.1**
IGT				*e*Sg	**Sg**	**14 26 38.5**	**+1.7**
EVR	**Evrytania**	**1.06**	**66**	*e*PG	**Pg**	**14 26 22.3**	**-1.2**
EVR	**Evrytania**	**1.06**	**66**	*e*Pb	**Pg**	**14 26 21.9**	**-1.6**
EVR				*e*Sb	**Sb**	**14 26 38.1**	**-0.6**
JAN	**Janina**	**1.18**	**11**	*e*PN	**Pn**	**14 26 25.3**	**-1.4**
JAN				*e*SB	**Sb**	**14 26 42.7**	**+0.7**
KEK	**Kerkira**	**1.35**	**334**	*e*PG	**Pg**	**14 26 28.9**	**-0.1**
KEK				*e*SB	**Sb**	**14 26 49.0**	**+2.1**
MEV	**Metsovon**	**1.39**	**22**	*e*Pg	**Pn**	**14 26 28.5**	**-1.0**
MEV				*e*Sg	**Sg**	**14 26 49.4**	**+1.7**
AGG	**Agios Georgios**	**1.48**	**69**	*e*Pg	**Pn**	**14 26 29.6**	**-1.3**
AGG				*e*Sg	**Sg**	**14 26 51.8**	**+1.1**
ITM	**Ithomi**	**1.70**	**140**	*e*PB	**Pb**	**14 26 35.4**	**+0.2**
ITM				*e*SB	**Sb**	**14 26 58.0**	**+0.9**
LKR	**Lokris**	**1.92**	**85**	*e*PN	**Pn**	**14 26 37.6**	**+0.7**
KZN	**Kozani**	**2.04**	**27**	*e*PN	**Pb**	**14 26 40.2**	**-0.7**
KZN				*e*SN	**Sb**	**14 27 06.4**	**-0.3**
MGER	**Gerania Oros**	**2.19**	**103**	*e*PN	**Pn**	**14 26 40.5**	**-0.1**
LIT	**Litokhoron**	**2.19**	**42**	*e*Pn	**Pn**	**14 26 40.5**	**-0.2**
XOR	**Xorichti**	**2.23**	**66**	*e*Pn	**Pn**	**14 26 41.2**	**0.0**
NEO	**Neokhori**	**2.23**	**68**	*e*PN	**Pn**	**14 26 42.7**	**+1.5**
NAIG	**Nisos Aigina**	**2.42**	**107**	*e*PN	**Pn**	**14 26 45.0**	**+1.2**
ATH	**Athens Observa**	**2.54**	**101**	*e*PB	**Pn**	**14 26 45.5**	**+0.1**
BIA	**Bitola**	**2.59**	**13**	*i* Pn	**Pb**	**14 26 50.7**	**+0.4**
BIA	**Bitola**	**2.59**	**13**	*i* Pn	**Pb**	**14 26 50.6**	**+0.3**
VLI	**Veliai**	**2.59**	**133**	*e*PN	**Pn**	**14 26 47.6**	**+1.5**
OHR	**Ohrid**	**2.62**	**4**	*i* Pn	**Pg**	**14 26 52.0**	**-1.3**
KVR	**Kavouri**	**2.62**	**104**	*e*PB	**Pn**	**14 26 46.0**	**-0.5**
PTL	**Penteli**	**2.64**	**99**	*e*PB	**Pn**	**14 26 46.5**	**-0.3**
AOS	**Alonnisos**	**2.68**	**74**	*e*Pn	**Pn**	**14 26 46.8**	**-0.6**
GRG	**Griva**	**2.84**	**29**	*e*Pn	**Pn**	**14 26 48.9**	**-0.6**
TIR	**Tirane**	**2.90**	**350**	*e*Pn	**Pn**	**14 26 49.6**	**-0.7**
PLG	**Polygyros**	**2.92**	**49**	*e*PN	**Pn**	**14 26 51.0**	**+0.4**
KYTH	**Kithira**	**2.96**	**138**	*e*PB	**Pb**	**14 26 54.0**	**-2.7**
VAY	**Valandovo**	**3.21**	**28**	*i* Pn	**Pn**	**14 26 57.5**	**+2.8**
VAY	**Valandovo**	**3.21**	**28**	*i* Pn	**Pn**	**14 26 57.5**	**+2.8**
STIP	**Stip**	**3.43**	**21**	*i* Pn	**Pb**	**14 27 02.2**	**-2.4**
STIP	**Stip**	**3.43**	**21**	*i* Pn	**Pb**	**14 27 02.1**	**-2.5**
SKO	**Skopje**	**3.54**	**11**	*i* Pn	**Pg**	**14 27 09.2**	**-1.7**
APE	**Apeiranthos**	**4.19**	**108**	*e*Pn	**Pn**	**14 27 07.9**	**-0.2**

IDC 16 14:37:10.7±27.0**, 2091S×17137W, h0**km**, mb4.2**/4**, mb1 4.3**/4**, mb1mx3.9**/15**, mbtmp4.2**/4**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.6**/28**, Error ellipse: s-maj=503.0km s-min=161.1km az=74.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.97**	**357**	LR	LR	14 41 01.7	
	comp=Z,168nm,19.9s,baz=320,slow=33						
CTA	**Charters Tower**	**39.62**	**263**	*e*P	P	14 44 43.6	-0.3
	4.2nm,0.4s						
CTA	**Charters Tower**	**39.62**	**263**	P	P	14 44 43.9	0.0
	5.5nm,0.5s,baz=91,slow=11,SNR=18						
STKA	**Stephens Creek**	**43.23**	**245**	*e*P	P	14 45 13.2	-0.4
	1.2nm,0.6s						
STKA	**Stephens Creek**	**43.23**	**245**	P	P	14 45 12.9	-0.7
	1.6nm,0.6s,baz=104,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**50.45**	**256**	P	P	14 46 10.8	+0.7
	1.1nm,0.6s,baz=94,slow=7.1,SNR=17						
WB2	**Warramunga Arr**	**50.67**	**261**	*e*P	P	14 46 12.7	+1.0
WRA	**Warramunga Arr**	**50.68**	**261**	P	P	14 46 12.9	+1.1
	0.7nm,0.3s,baz=90,slow=5.9,SNR=67						

---

*NEIC **16** 14:52:00.4, 1889N×10569W, h39km, MD4.6(MEX), After MEX.*
MEX 16 14:52:08.3±0.4**, 1902N×10475W, h5**km**, MD4.7, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.56**	**330**	*i* P	Pg	14 52 18.6	-0.4
CJM				*i* S	Sg	14 52 26.7	+0.5
ZIIG	**Zihuatanejo**	**3.42**	**114**	*i* P	Pn	14 52 59.7	-2.5
ZIIG				*i* S	Sn	14 53 39.5	-3.7
ZIIG	**Zihuatanejo**	**3.42**	**114**	*i* P	Pn	14 53 01.1	-1.1
ZIIG				*e*S	Sn	14 53 48.4	+5.2
MOIG	**Morelia**	**3.42**	**78**	*i* P	Pn	14 52 57.0	-5.3
MOIG				*i* S	Sn	14 53 40.2	-3.1
MRX	**Morelia**	**3.43**	**78**	*e*P	Pn	14 52 48.5	-14
ZAIG	**Zacatecas**	**4.25**	**28**	*i* P	Pn	14 53 11.8	-2.0
ZAIG				*i* S	Sn	14 54 02.6	-1.2
ZAIG	**Zacatecas**	**4.25**	**28**	*i* P	Pn	14 53 10.9	-2.8
ZAIG				*e*S	Sn	14 54 03.0	-0.8
CAIG	**El Cayaco**	**4.69**	**114**	*i* P	Pn	14 53 18.6	-1.1
CAIG				*i* S	Sn	14 54 11.9	-2.6
CAIG	**El Cayaco**	**4.69**	**114**	*i* P	Pn	14 53 18.6	-1.1
CAIG				*e*S	Sn	14 54 21.4	+6.9
MEIG	**Mezcala**	**4.99**	**102**	*e*P	Pn	14 53 22.4	-1.4
MEIG				*i* S	Sn	14 54 17.5	-4.3
PLIG	**Platanillo**	**5.01**	**96**	*i* P	Pn	14 53 23.6	-0.5
PLIG				*i* S	Sn	14 54 20.2	-2.1
PLIG	**Platanillo**	**5.01**	**96**	*i* P	Pn	14 53 23.6	-0.5
PLIG				*e*S	Sn	14 54 25.9	+3.5
ACX	**Acapulco**	**5.07**	**114**	*i* P	Pn	14 53 24.5	-0.4
SZVM	**Salazar**	**5.08**	**86**	*i* P	Pn	14 53 23.8	-1.4
SZVM				*i* S	Sn	14 54 19.8	-4.3
IIZ	**Mezontepec**	**5.21**	**87**	*i* P	Pn	14 53 25.0	-1.9
IIZ				*i* S	Sn	14 54 25.4	-2.0
UNM	**Universidad Na**	**5.27**	**86**	*e*P	Pn	14 53 24.0	-3.7
YAIG	**Yautepec**	**5.38**	**91**	*i* P	Pn	14 53 25.6	-3.6
YAIG				*i* S	Sn	14 54 28.6	-2.9
YAIG	**Yautepec**	**5.38**	**91**	*i* P	Pn	14 53 37.1	+8.0
YAIG				*e*S	Sn	14 54 44.0	+12
PPM	**Popocatepetl**	**5.79**	**88**	*i* P	Pn	14 53 34.3	-0.6
PPM				*i* S	Sn	14 54 38.5	-3.2
PPM	**Popocatepetl**	**5.79**	**88**	*i* P	Pn	14 53 34.3	-0.6
PPM				*e*S	Sn	14 54 48.5	+6.9
UTMO	**Huajuapan**	**6.70**	**99**	*i* P	Pn	14 53 45.6	-1.7
UTMO				*i* S	Sn	14 55 00.8	-3.2
PNIG	**Pinotepa**	**6.83**	**111**	*i* S	Sn	14 55 07.4	+0.2
TPIG	**Tehuac#an**	**7.03**	**94**	*i* P	Pn	14 53 50.6	-1.2
TPIG				*i* S	Sn	14 55 09.0	-3.0
LNIG	**Linares**	**7.63**	**39**	*i* P	Pn	14 53 57.2	-3.0
LNIG				*i* S	Sn	14 55 23.6	-3.5
VHO	**Vista Hermosa**	**7.87**	**103**	*i* P	Pn	14 54 03.7	+0.4
VHO				*i* S	Sn	14 55 30.3	-2.4
OXX	**Oaxaca**	**7.87**	**103**	*e*P	Pn	14 54 02.0	-1.4
CMIG	**Matias Romero**	**9.58**	**100**	*i* P	Pn	14 54 24.5	-2.2
CMIG				*i* S	Sn	14 56 13.5	-1.3
CMIG	**Matias Romero**	**9.58**	**100**	*i* P	Pn	14 54 23.9	-2.8
CMIG				*e*S	Sn	14 55 44.2	-31

---

*IDC **16** 15:03:08.1±1.3, 1124N×12583E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, Error ellipse: s-maj=169.4km s-min=19.3km az=74.0*
*ISCJB **16** 15:03:09.4±1.5, 1144N±004×12625E±006, h25km±10km, mb4.1/10, Error ellipse: s-maj=10.4km s-min=6.4km az=175.5*
*MAN **16** 15:03:11.2, 1137N×126.10E, h15km, mb3.9, ML4.9*
ISC 16 15:03:09.2±1.3**, 1140N**±003×**12622E**±005**, h9**km±7km**, n32, σ1^{s}12**/39**, mb4.1**/10**, 2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.79**	**285**	*e*P	**Pg**	**15 03 23.9**	**-0.5**
BESP				*e*S	**Sg**	**15 03 34.3**	**-0.5**
PLP	**Palo**	**1.24**	**259**	*e*P	**Sb**	**15 03 44.6**	**-4.1**
PLP				*e*S	**Sg**	**15 03 55.9**	**+6.9**
OCLP	**Ormoc**	**1.61**	**258**	*e*P	**Pn**	**15 03 36.5**	**-1.4**
OCLP				*e*S	**Sn**	**15 03 58.3**	**-0.5**
SCPH	**Surigao**	**1.76**	**204**	⇑*e*P	**Pn**	**15 03 39.2**	**-0.6**
SCPH				*e*S	**Sn**	**15 04 00.9**	**-1.4**
MSLP	**Maasin**	**1.83**	**227**	*e*P	**Pn**	**15 03 40.4**	**-0.5**
MSLP				*e*S	**Sn**	**15 04 04.5**	**+0.3**
BUTP	**Butuan**	**2.48**	**194**	*e*P	**Pn**	**15 03 51.5**	**+1.8**
BUTP				*e*S	**Sg**	**15 04 27.5**	**-1.5**
TBP	**Tagbilaran**	**2.87**	**234**	*e*P	**Pn**	**15 03 55.9**	**+0.8**
PVCP	**Virac**	**2.97**	**318**	⇑*e*P	**Pn**	**15 03 56.4**	**-0.1**
PVCP	**Virac**	**2.97**	**318**	*e*P	**Pn**	**15 03 56.5**	**0.0**
CGP	**Cagayan de Oro**	**3.29**	**207**	⇓*e*P	**Pn**	**15 04 01.9**	**+1.1**
CGP				*i* S	**Sn**	**15 04 40.6**	**+0.6**
RCP	**Roxas**	**3.41**	**273**	⇓*e*P	**Pn**	**15 04 04.1**	**+1.6**
GUIM	**Jordan**	**3.64**	**258**	*e*P	**Pn**	**15 04 06.1**	**+0.3**
BUKP	**Musuan**	**3.68**	**198**	*e*P	**Pn**	**15 04 08.0**	**+1.8**
AUQP	**San Andres**	**3.96**	**299**	*e*P	**Pn**	**15 04 12.3**	**+2.2**
OTRP	**Odiongan**	**4.22**	**284**	*e*P	**Pn**	**15 04 14.9**	**+1.2**
PAGZ	**Pagadian**	**4.50**	**219**	*e*P	**Pn**	**15 04 18.4**	**+0.9**
CUYO	**Cuyo Island**	**5.13**	**264**	*e*P	**Pn**	**15 04 27.2**	**+1.0**
LUBP	**Lubang**	**6.28**	**292**	*e*P	**Pn**	**15 04 43.4**	**+1.5**
FITZ	**Fitzroy Crossi**	**29.32**	**181**	P	**P**	**15 09 11.5**	**-0.6**
	1.5nm,0.5s,mb4.0,baz=8.7,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**32.15**	**166**	P	**P**	**15 09 36.4**	**-0.6**
	0.3nm,0.7s,mb3.2,baz=333,slow=10,SNR=3.3						
ASAR	**Alice Springs**	**35.65**	**168**	P	**P**	**15 10 07.3**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=346,slow=7.3,SNR=4.7						
SONM	**Songino Array**	**39.95**	**339**	P	**P**	**15 10 45.1**	**+1.2**
	1.7nm,0.8s,mb3.8,baz=166,slow=7.0,SNR=3.2						
JIRN	**Jiri**	**40.83**	**299**	*e*P	**P**	**15 10 50.5**	**-0.6**
	11nm,0.6s,mb4.7						
GUN	**Gumba**	**41.16**	**300**	*e*P	**P**	**15 10 51.9**	**-1.9**
	31nm,0.8s						
PKI	**Pulchoki**	**41.48**	**299**	*e*P	**P**	**15 10 55.6**	**-0.8**
KKN	**Kakani**	**41.64**	**299**	*e*P	**P**	**15 10 55.8**	**-2.0**
	9.9nm,0.8s,mb4.5						
DMN	**Daman**	**41.75**	**299**	*e*P	**P**	**15 10 58.1**	**-0.5**
GKN	**Gorkha**	**42.25**	**299**	*e*P	**P**	**15 10 59.9**	**-2.8**
KOLN	**Koldanda**	**43.08**	**299**	*e*P	**P**	**15 11 08.6**	**-0.9**
	15nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**45.48**	**162**	P	**P**	**15 11 29.3**	**+0.6**
	1.2nm,0.7s,mb3.8,baz=351,slow=9.8,SNR=4.7						
ARCES	**ARCESS Array B**	**83.13**	**340**	P	**P**	**15 15 35.9**	**+0.5**
	6.0nm,1.1s,mb4.5,baz=65,slow=5.8,SNR=4.1						
FINES	**FINESS Array B**	**84.88**	**332**	P	**P**	**15 15 43.8**	**-0.6**
	1.2nm,0.7s,mb4.1,baz=72,slow=6.2,SNR=9.7						

---

*IDC **16** 15:10:07.1±0.7, 297S×12958E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.3/20, mbtmp4.3/14, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/27, Error ellipse: s-maj=32.7km s-min=11.9km az=75.0*
*NEIC **16** 15:10:08.8±0.3, 297S×12956E, h10km, mb4.6/15, Error ellipse: s-maj=11.9km s-min=5.3km az=74.0*
*BJI **16** 15:10:08.7, 300S×12960E, h10km, mB5.2, mb4.7, Ms4.8*
*MOS **16** 15:10:10.3±1.3, 295S×12943E, h33km, mb4.8/11, Error ellipse: s-maj=21.0km s-min=8.4km az=112.0*
*ISCJB **16** 15:10:11.4±1.0, 300S±004×12966E±007, h49km±10km, mb4.6/32, MS3.7/3, Error ellipse: s-maj=11.3km s-min=6.8km az=145.6*
ISC 16 15:10:13.2±0.9**, 299S**±004×**12970E**±007**, h45**km±9km**, n73, σ0^{s}91**/73**, mb4.6**/32**, MS3.7**/3**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.65**	**245**	P	**Pn**	**15 10 38.9**	**-0.8**
	3µm,0.9s						
SWI	**Sorong**	**2.63**	**36**	P	**Pn**	**15 10 52.2**	**-0.9**
	1µm,0.7s						
KAKA	**Kakadu**	**10.03**	**164**	*e*P	**Pn**	**15 12 35.9**	**+1.3**
	18nm,0.6s						
PCI	**Palu**	**10.07**	**282**	P	**Pn**	**15 12 36.1**	**+0.9**
	65nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.54**	**195**	*e*P	**Pn**	**15 13 48.4**	**-0.6**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.54**	**195**	Pn	**Pn**	**15 13 48.0**	**-1.0**
	0.2nm,0.3s,baz=27,slow=15,SNR=11						
FITZ				LR	LR	15 20 23.1	
	comp=Z,191nm,18.4s,baz=31,slow=40						
KKM	**Kota Kinabalu**	**16.18**	**304**	*e*Pn	**Pn**	**15 13 57.7**	**+0.4**
WRAB	**Tennant Creek**	**17.44**	**165**	*e*P	**Pn**	**15 14 12.8**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,25nm,0.7s						
WRAB	**Tennant Creek**	**17.44**	**165**	*e*P	**Pn**	**15 14 12.8**	**-0.3**
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**17.45**	**165**	P	**Pn**	**15 14 12.0**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=338,slow=13,SNR=15						
WRA				S	**S**	**15 17 29.3**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=340,slow=26,SNR=3.1						
WB2	**Warramunga Arr**	**17.45**	**165**	*e*P	**Pn**	**15 14 13.1**	**0.0**
KSM	**Kuching**	**19.89**	**283**	*e*P	**Pn**	**15 14 38.6**	**-3.9**
BJII	**Banjamegara**	**20.37**	**257**	P	**P**	**15 14 52.2**	**+6.4**
	comp=Z,34nm,1.3s						
MBWA	**Marble Bar**	**20.50**	**207**	*e*P	**P**	**15 14 45.7**	**-1.6**
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**20.95**	**169**	*e*P	**P**	**15 14 53.5**	**+1.3**
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	**15 14 53.2**	**+1.1**
	comp=Z,19nm,0.6s,baz=347,slow=10.0,SNR=95						
ASAR				S	**S**	**15 18 43.6**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=348,slow=21,SNR=6.7						
CTA	**Charters Tower**	**23.45**	**138**	*e*P	**P**	**15 15 22.2**	**+3.7**
	comp=Z,13nm,0.8s,mb4.4						
CTA	**Charters Tower**	**23.45**	**138**	P	**P**	**15 15 18.2**	**-0.2**
	comp=Z,6.1nm,1.0s,mb4.0,baz=301,slow=9.8,SNR=3.0						
CTA	**Charters Tower**	**23.45**	**138**	*e*P	**P**	**15 15 22.2**	**+3.7**
CTA				pmax	pmax		
	comp=Z,13nm,0.8s						
CTAO	**Charters Tower**	**23.45**	**138**	*e*P	**P**	**15 15 21.9**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
CTAO	**Charters Tower**	**23.45**	**138**	*e*P	**P**	**15 15 21.9**	**+3.5**
	comp=Z,21nm,0.9s,mb4.6						
JOW	**Kunigami**	**29.68**	**357**	P	**P**	**15 16 16.1**	**+1.5**
	comp=Z,67nm,0.9s,mb5.4,baz=182,slow=27,SNR=3.7						
KULM	**Kulim**	**30.16**	**286**	*e*P	**P**	**15 16 19.8**	**+1.0**
STKA	**Stephens Creek**	**30.84**	**160**	*e*P	**P**	**15 16 26.3**	**+1.5**
	comp=Z,4.2nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**30.84**	**160**	P	**P**	**15 16 25.7**	**+0.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=338,slow=6.8,SNR=9.4						
STKA				LR	LR	15 30 00.3	
	comp=Z,187nm,20.4s,MS3.7,baz=212,slow=39						
STKA	**Stephens Creek**	**30.84**	**160**	*e*P	**P**	**15 16 25.9**	**+1.1**
PSI	**Prapat**	**31.30**	**280**	P	**P**	**15 16 27.8**	**-1.0**
	comp=Z,3.0nm,0.6s,mb4.3,baz=57,slow=11,SNR=4.5						
NWAO	**Narrogin (SRO)**	**31.99**	**200**	P	**P**	**15 16 33.9**	**-1.1**
	comp=Z,8.5nm,1.0s,mb4.5,baz=300,slow=6.7,SNR=2.6						
NWAO				LR	LR	15 30 52.6	
	comp=Z,171nm,18.1s,MS3.8,baz=313,slow=39						
NJ2	**Nanjing**	**36.34**	**344**	*e*P	**P**	**15 17 13.5**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
CHTO	**Chiang Mai**	**37.22**	**307**	*e*P	**P**	**15 17 20.8**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.0						
CHTO	**Chiang Mai**	**37.22**	**307**	*e*P	**P**	**15 17 20.8**	**+0.6**
	comp=Z,33nm,1.4s,mb5.0						
MJAR	**Matsushiro Arr**	**40.12**	**11**	P	**P**	**15 17 43.5**	**-0.9**
	comp=Z,1.6nm,0.8s,mb3.8,baz=195,slow=9.4,SNR=6.2						
MJAR				LR	LR	15 30 43.3	
	comp=Z,98nm,21.3s,MS3.6,baz=210,slow=31						
LZH	**Lanzhou**	**45.77**	**330**	*e*P	**P**	**15 18 30.3**	**+0.2**
LZH				AP	pP	15 18 37.4	-5.2
LZH				XP	sP	15 18 40.1	-7.9
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LSA	**Lhasa**	**49.16**	**314**	*e*P	**P**	**15 18 57.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
LSA	**Lhasa**	**49.16**	**314**	*e*P	**P**	**15 18 57.5**	**+1.0**
	comp=Z,5.9nm,0.7s,mb4.7						
GTA	**Gaotai**	**50.36**	**330**	*e*P	**P**	**15 19 06.0**	**+0.4**
GTA				AP	pP	15 19 13.8	-4.4
GTA				XP	sP	15 19 17.1	-6.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
JIRN	**Jiri**	**51.79**	**309**	*e*P	**P**	**15 19 16.9**	**+0.6**
GUN	**Gumba**	**52.16**	**309**	*e*P	**P**	**15 19 19.7**	**+0.7**
	comp=Z,21nm,0.7s,mb5.2						
PKI	**Pulchoki**	**52.36**	**308**	*e*P	**P**	**15 19 20.8**	**+0.3**
KKN	**Kakani**	**52.56**	**309**	*e*P	**P**	**15 19 22.2**	**+0.1**
	comp=Z,9.5nm,0.7s,mb4.8						
DMN	**Daman**	**52.62**	**308**	*e*P	**P**	**15 19 22.9**	**+0.5**
	comp=Z,30nm,1.2s,mb5.1						
GKN	**Gorkha**	**53.17**	**309**	*e*P	**P**	**15 19 26.7**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9						
KOLN	**Koldanda**	**53.87**	**308**	*e*P	**P**	**15 19 32.2**	**+0.5**
	comp=Z,35nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**54.39**	**341**	*e*P	**P**	**15 19 35.3**	**-0.1**
ULN	**Ulaanbaatar**	**54.39**	**341**	*e*P	**P**	**15 19 35.2**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.4						
SONM	**Songino Array**	**54.58**	**341**	P	**P**	**15 19 37.1**	**+0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=154,slow=9.3,SNR=4.5						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAK	Zakamensk	57.81	340	eP	P	15 19 58.0	-1.9
TLY	Talaya	58.80	341	eP	P	15 20 07.0	+0.2
TLY				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb4.2						
MA2	Magadan	64.55	12	P	P	15 20 45.5	0.0
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MA2	Magadan	64.55	12	P	P	15 20 45.5	0.0
	comp=Z,9.3nm,0.9s,mb4.8						
CASY	Casey	64.59	188	eP	P	15 20 45.4	-0.4
	comp=Z,9.5nm,1.3s,mb4.7						
YAK	Yakutsk	64.84	360	eP	P	15 20 47.5	+0.1
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2						
YAK	Yakutsk	64.84	360	eP	P	15 20 47.1	-0.3
	comp=Z,21nm,0.8s,mb5.2						
AAK	Ala-Archa	67.32	319	eP	P	15 21 02.4	-0.9
AAK				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
ZAL	Zalesovo	67.89	333	P	P	15 21 06.5	-0.3
	comp=Z,2.8nm,0.8s,mb4.3,baz=4.8,slow=4.7,SNR=16						
SEY	Seymchan	67.95	11	eP	P	15 21 07.7	+0.4
NVS	Novosibirsk	69.17	333	eP	P	15 21 12.3	-2.6
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
BVAR	Borovoye Array	74.54	327	P	P	15 21 47.3	+0.2
	comp=Z,1.5nm,0.7s,mb4.0,baz=127,slow=9.5,SNR=9.9						
BRVK	Borovoye	74.61	327	eP	P	15 21 46.7	-0.8
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	Borovoye	74.61	327	eP	P	15 21 46.7	-0.8
	comp=Z,3.3nm,0.8s,mb4.3						
ZRNK	Zerenda	75.26	327	eP	P	15 21 50.9	-0.3
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
ZRNK	Zerenda	75.26	327	eP	P	15 21 50.9	-0.3
	comp=Z,5.2nm,0.7s,mb4.6						
VNDA	Vanda	76.44	173	P	P	15 21 58.4	+0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=314,slow=6.7,SNR=4.1						
VNDA	Vanda	76.44	173	P	P	15 21 58.4	+0.5
MAW	Mawson	78.55	201	P	P	15 22 10.7	+0.9
	comp=Z,0.9nm,0.5s,mb4.0,baz=335,slow=9.5,SNR=2.9						
MAW	Mawson	78.55	201	P	P	15 22 10.7	+0.9
MAW				pmax	pmax		
	comp=Z,3.0nm,1.2s						
AKTK	Aktyubinsk	80.74	322	P	P	15 22 21.6	-0.1
AKTO	Aktyubinsk	80.74	322	P	P	15 22 21.6	-0.1
	comp=Z,1.8nm,0.5s,mb4.3,baz=87,slow=6.9,SNR=6.2						
SVE	Sverdlovsk	81.21	329	eP	P	15 22 22.0	-2.1
ARU	Arti	82.17	328	eP	P	15 22 29.2	0.0
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ARU	Arti	82.17	328	eP	P	15 22 29.2	0.0
	comp=Z,2.3nm,0.5s,mb4.4						
CPUP	Villa Florida	150.07	167	PKP	PKPdf	15 29 54.6	+0.9
	comp=Z,0.5nm,0.4s,baz=140,slow=20,SNR=2.4						
CPUP				PKPbc	PKPbc	15 30 01.2	+2.4
	comp=Z,4.6nm,0.7s,baz=284,slow=4.2,SNR=6.6						
CPUP	Villa Florida	150.07	167	PKP	PKPdf	15 29 54.6	+0.9
CPUP				PKPbc	PKPbc	15 30 01.2	+2.4

IDC 16 15:39:12.5±6.1**, 2209N×14386E, h171**^{km}±36^{km}**, mb3.4**/3**, mb1 3.4**/5**, mb1mx3.2**/20**, mbtmp3.9**/5**, Error ellipse: s-maj=196.6km s-min=20.4km az=87.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.21	343	P	Pn	15 40 30.8	+1.8
	12nm,0.3s,baz=291,slow=21,SNR=5.8						
CBIJ				S	Sn	15 41 28.0	-0.9
	6.0nm,0.3s,baz=292,slow=23,SNR=4.4						
MJAR	Matsushiro Arr	15.21	342	P	Pn	15 42 39.4	+0.9
	0.3nm,0.3s,baz=161,slow=11,SNR=5.2						
WRA	Warramunga Arr	42.80	193	P	P	15 46 53.2	0.0
	0.2nm,0.3s,baz=17,slow=9.0,SNR=12						
ARCES	ARCESS Array B	78.75	342	P	P	15 50 57.0	+1.0
	3.6nm,0.9s,baz=51,slow=13,SNR=3.6						
FINES	FINESS Array B	83.10	335	P	P	15 51 17.8	-1.2
	0.5nm,0.5s,baz=61,slow=4.8,SNR=7.4						

*ISCJB **16** 15:51:43.7±0.9, 29S±0.1×1298E±02, h10^{km}, mb3.9/5, Error ellipse: s-maj=31.3km s-min=9.9km az=136.2*

*IDC **16** 15:51:44.0±2.0, 285S×12998E, h0^{km}, mb3.9/4, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=137.3km s-min=22.3km az=75.0*

*NEIC **16** 15:51:45.7±0.8, 291S×12982E, h10^{km}, mb4.0/3, Error ellipse: s-maj=29.3km s-min=9.1km az=68.0*

ISC 16 15:51:45.8±4.6**, 29S**±01×**1297E**±02**, h9**^{km}±28^{km}**, n13, σ0**^{s}**90**/15**, mb3.9**/5**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.59	195	eP	Pn	15 55 26.4	+0.7
	4.4nm,0.9s						
FITZ	Fitzroy Crossi	15.59	195	Pn	Pn	15 55 26.2	+0.5
	0.2nm,0.3s,baz=22,slow=16,SNR=9.3						
WRAB	Tennant Creek	17.49	165	ePn	Pn	15 55 47.8	-1.9
	21nm,1.3s						
WRA	Warramunga Arr	17.50	165	P	Pn	15 55 49.4	-0.4
	0.4nm,0.3s,baz=352,slow=12,SNR=21						
WB2	Warramunga Arr	17.50	165	eP	Pn	15 55 51.5	+1.6
WB2	Warramunga Arr	17.50	165	ePn	Pn	15 55 48.6	-1.3
WB2				eP		15 55 51.5	
WB2				eSn	Sn	15 58 51.4	-13
KSM	Kuching	19.89	282	eP	Pn	15 56 18.4	-0.5
AS31	Alice Springs	21.00	169	eP	P	15 56 30.6	+1.2
ASAR	Alice Springs	21.00	169	P	P	15 56 30.1	+0.8
	3.5nm,0.6s,mb3.9,baz=349,slow=11,SNR=34						
ASAR				S	S	16 00 22.9	-0.5
	0.7nm,0.9s,baz=353,slow=23,SNR=4.8						
MKAR	Makanchi Array	64.71	326	P	P	16 02 24.4	+0.3
	0.5nm,0.4s,mb3.9,baz=123,slow=7.1,SNR=6.8						
ZAL	Zalesovo	67.85	333	P	P	16 02 44.3	+0.1
	1.0nm,0.4s,mb4.2,baz=226,slow=11,SNR=4.0						
BVAR	Borovoye Array	74.50	327	P	P	16 03 25.0	+0.5
	0.4nm,0.5s,mb3.6,baz=84,slow=5.9,SNR=3.8						
ZRNK	Zerenda	75.22	327	eP	P	16 03 28.0	-0.7
	1.5nm,0.9s,mb3.9						

*IDC **16** 15:57:07.8±0.5, 292S×12961E, h0^{km}, mb4.9/16, mb1 4.9/17, mb1mx4.9/20, mbtmp4.9/17, ML4.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.7/24, Error ellipse: s-maj=22.9km s-min=12.6km az=72.0*

*ISCJB **16** 15:57:07.7±0.2, 303S±003×12966E±004, h10^{km}, mb5.0/75, MS4.2/16, Error ellipse: s-maj=6.1km s-min=3.5km az=153.3*

*BJI **16** 15:57:09.5, 300S×12960E, h10^{km}, mB5.4, mb4.8, Ms5.0, Msz4.6*

*GCMT **16** 15:57:09.6±0.4, 298S×12960E, h18^{km}±1^{km}, MW4.9/63, Moment Tensor Solution. s20,c21; s63,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.69±.17; $M_{\theta\theta}$-0.59±.09; $M_{\phi\phi}$-2.10±.12; $M_{r\theta}$0.30±.23; $M_{\theta\phi}$0.75±.07; $M_{\phi r}$-0.10±.21; Best double couple: $M_0$2.56800×10^{16} NP1:ϕ_s342.00000°,δ43.00000°,λ97.00000°. NP2: ϕ_s153.00000°,δ47.00000°,λ84.00000°. Principal axes: T 2.7170, Plg85.0000°, Azm5.0000°; N -0.3010, Plg4.0000°, Azm157.0000°; P -2.4190, Plg2.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **16** 15:57:09.6±0.2, 301S×12959E, h10^{km}, mb4.9/35 Error ellipse: s-maj=7.9km s-min=4.5km az=66.0*

*MOS **16** 15:57:11.4±1.0, 294S×12957E, h33^{km}, mb5.1/38, Error ellipse: s-maj=12.8km s-min=6.4km az=111.8*

ISC 16 15:57:09.3±1.3**, 302S**±003×**12973E**±004**, h9**^{km}±7^{km}**, h19**^{km}±2.5^{km}**:pP-P, n175, σ1**^{s}**13**/172**, mb5.0**/75**, MS4.2**/16**, 28C-6D, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.67	247	P	Pn	15 57 39.1	+0.4
	0.0nm,0.0s						
SWI	Sorong	2.63	35	P	Pn	15 57 52.0	+0.1
	0.0nm,0.0s						
BAKI	Biak	6.62	74	P	Pn	15 58 45.6	-1.2
	0.0nm,0.0s						
KAKA	Kakadu	9.99	165	eP	Pn	15 59 34.4	+1.4
	48nm,0.4s						
PCI	Palu	10.11	282	P	Pn	15 59 35.5	+0.9
	0.0nm,0.0s						
JAY	Jayapura	10.97	88	P	Pn	15 59 55.5	+9.1
	0.0nm,0.0s						
TARAI	Tarakan	13.70	297	P	Pn	16 00 25.1	+1.5
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	15.51	195	eP	Pn	16 00 46.9	-1.3
	89nm,0.9s						
FITZ	Fitzroy Crossi	15.51	195	Pn	Pn	16 00 47.4	-0.8
	1.3nm,0.3s,baz=24,slow=13,SNR=37						
FITZ				Sn	Sn	16 03 41.8	+1.7
	0.2nm,0.3s,baz=264,slow=22,SNR=2.8						
FITZ				LR	LR	16 07 22.3	
	comp=Z,438nm,18.8s,baz=21,slow=40						
KKM	Kota Kinabalu	16.23	304	ePn	Pn	16 00 56.1	-1.3
WRAB	Tennant Creek	17.40	165	Pn	Pn	16 01 10.7	-1.5
	450nm,1.0s,SNR=12						
WRAB	Tennant Creek	17.40	165	eP	Pn	16 01 13.1	+0.9
WRAB	Tennant Creek	17.40	165	ePn	Pn	16 01 08.6	-3.7
	139nm,1.1s						
WRAB				eSn	Sn	16 04 15.0	-11
WRA	Warramunga Arr	17.41	165	P	Pn	16 01 11.1	-1.2
	1.2nm,0.3s,baz=348,slow=11,SNR=60						
WRA				S	Sn	16 04 24.6	-1.5
	0.9nm,0.3s,baz=355,slow=22,SNR=4.0						
WB2	Warramunga Arr	17.41	165	eP	Pn	16 01 08.9	-3.4
WB2				eS	Sn	16 04 20.0	-6.2
PMG	Port Moresby	18.44	111	eP	Pn	16 01 29.1	+4.1
PMG				pmax	pmax		
	comp=Z,60nm,1.0s						
PMG	Port Moresby	18.44	111	ePn	Pn	16 01 29.1	+4.0
	comp=Z,60nm,1.0s						
KSM	Kuching	19.93	283	⇑eP	Pn	16 01 41.8	-1.1
BJII	Banjamegara	20.39	257	P	P	16 01 44.4	-1.9
	comp=Z,96nm,1.2s						
MBWA	Marble Bar	20.49	208	⇓P	P	16 01 46.1	-1.2
	SNR=14						
MBWA	Marble Bar	20.49	208	⇓iPn	P	16 01 45.8	-1.5
	comp=Z,83nm,0.9s						
AS31	Alice Springs	20.91	169	⇑eP	P	16 01 52.8	+0.8
AS31				eS	S	16 05 41.2	-3.9
ASAR	Alice Springs	20.91	169	P	P	16 01 53.6	+1.6
	comp=Z,200nm,0.8s,baz=347,slow=11,SNR=543						
ASAR				S	S	16 05 41.1	-4.1
	comp=Z,13nm,0.9s,baz=350,slow=21,SNR=7.0						
ASAR				PcP	PcP	16 06 01.6	+1.7
	comp=Z,3.1nm,0.5s,baz=8.2,slow=1.7,SNR=5.2						
ASAR				LR	LR	16 10 49.5	
	comp=Z,657nm,19.3s,MS4.0,baz=352,slow=39						
ASAR	Alice Springs	20.91	169	P	P	16 01 53.6	+1.6
ASAR				S	S	16 05 41.1	-4.1
ASAR						16 06 01.6	
LEM	Lembang	22.35	259	P	P	16 02 06.3	-1.1
	comp=Z,68nm,1.0s,mb5.0						
CBJI	Citeko	23.05	261	P	P	16 02 18.0	+3.2
	comp=Z,103nm,1.0s,mb5.2						
CTA	Charters Tower	23.40	138	eP	P	16 02 20.6	+2.1
	comp=Z,40nm,0.9s,mb4.8						
CTA	Charters Tower	23.40	138	P	P	16 02 20.4	+1.9
	comp=Z,60nm,1.0s,mb5.0,baz=326,slow=12,SNR=25						
CTA	Charters Tower	23.40	138	eP	P	16 02 20.6	+2.1
CTA				pmax	pmax		
	comp=Z,40nm,0.9s						
CTAO	Charters Tower	23.40	138	eP	P	16 02 19.8	+1.3
CTAO				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.1						
CTAO	Charters Tower	23.40	138	eP	P	16 02 19.8	+1.3
	comp=Z,75nm,1.0s,mb5.1						
KGM	Kluang	26.88	280	P	P	16 02 52.6	+2.3
FORT	Forrest	27.65	183	eP	P	16 02 56.3	-1.0
	comp=Z,20nm,0.5s,mb5.0						
PPI	Padang Panjang	29.43	274	P	P	16 03 13.7	+0.6
	comp=Z,116nm,1.0s,mb5.6						
IPM	Ipoh	29.64	284	P	P	16 03 15.2	+0.3
KULM	Kulim	30.20	286	eP	P	16 03 20.5	+0.6
KLBR	Kellerberrin	30.58	200	eP	P	16 03 23.4	+0.2
	comp=Z,18nm,1.0s,mb4.8						
STKA	Stephens Creek	30.80	160	⇑iP	P	16 03 26.1	+0.9
	comp=Z,13nm,0.9s,mb4.8						
STKA	Stephens Creek	30.80	160	P	P	16 03 26.2	+1.1
	comp=Z,16nm,0.9s,mb4.8,baz=341,slow=8.6,SNR=28						
PSI	Prapat	31.33	280	P	P	16 03 29.1	-0.9
	comp=Z,15nm,1.1s,mb4.7,baz=198,slow=3.8,SNR=9.3						
NWAO	Narrogin (SRO)	31.97	200	P	P	16 03 34.9	-0.6
	comp=Z,5.5nm,0.5s,mb4.7,baz=360,slow=9.1,SNR=14						
NWAO				PcP	PcP	16 06 27.4	+1.8
	comp=Z,9.3nm,0.9s,baz=47,slow=4.4,SNR=2.8						
NWAO				LR	LR	16 16 51.4	
	comp=Z,403nm,20.3s,MS4.1,baz=120,slow=37						
NWAO	Narrogin (SRO)	31.97	200	P	P	16 03 34.9	-0.6
NWAO						16 06 27.4	
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
NWAO				MLR	MLR		
	comp=Z,403nm,20.3s						
NWAO	Narrogin (SRO)	31.97	200	P	P	16 03 34.7	-0.9
	comp=Z,25nm,1.2s,mb4.9						
CBIJ	Chichi jima	32.26	21	LR	LR	16 14 37.6	
	comp=Z,226nm,20.6s,MS3.9,baz=122,slow=33						
KKTK	Khon Kaen	32.82	307	P	P	16 03 43.5	+0.5
ARMA	Armidale	34.23	145	eP	P	16 03 57.8	+2.6
SSE	Sheshan	34.89	347	P	P	16 04 01.8	+0.8
SSE				AP	pP	16 04 10.5	+6.7
SSE				XP	sP	16 04 14.4	+9.4
SSE				PCP	PcP	16 06 33.8	+0.1
SSE				S	S	16 09 32.0	-0.2
SSE				XS	sS	16 09 47.0	+10
SSE				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,953nm,4.9s						
SSE				LR	LR		
	comp=Z,82nm,13.3s,MS3.6						
NANT	Nan	35.87	308	⇓P	P	16 04 11.0	+1.6
	comp=Z,350nm,0.4s						
NJ2	Nanjing	36.38	344	eP	P	16 04 15.9	+2.1
NJ2				AP	pP	16 04 20.4	+3.8
NJ2				XP	sP	16 04 23.1	+5.3
NJ2				PP	PP	16 05 39.5	+3.0
NJ2				S	S	16 09 56.0	+0.9
NJ2				XS	sS	16 10 04.0	+4.2
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,7.4s						
NJ2				LR	LR		
	comp=N,2μm,26.4s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,24.9s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,26.5s,MS4.9						
GYA	Guiyang	36.83	324	P	P	16 04 18.6	+1.0
GYA				AP	pP	16 04 22.8	+2.3
GYA				XP	sP	16 04 25.4	+3.8
GYA				PP	PP	16 05 44.0	+2.6
GYA				S	S	16 10 01.8	-0.1
GYA				SCP	ScP	16 10 26.1	-0.3
GYA				SS	SS	16 12 29.5	-13
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,4.6s						
GYA				LR	LR		
	comp=N,430nm,17.2s,MS4.4						
GYA				LR	LR		
	comp=E,410nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=Z,480nm,17.0s,MS4.3						
CM31	Chiang Mai Arr	37.08	306	eP	P	16 04 21.0	+1.3
	comp=Z,77nm,1.3s,mb5.4						
CHG	Chiang Mai	37.27	307	⇑P	P	16 04 22.0	+0.7
	comp=Z,41nm,1.0s,mb5.2						
CHTO	Chiang Mai	37.27	307	⇑P	P	16 04 22.0	+0.7
	SNR=12						
CHTO	Chiang Mai	37.27	307	⇑eP	P	16 04 21.8	+0.5
CHTO				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.2						
CHTO	Chiang Mai	37.27	307	⇑eP	P	16 04 21.8	+0.5
	comp=Z,37nm,1.0s,mb5.2						
TOO	Toolangi	37.30	159	eP	P	16 04 24.0	+2.4
	comp=Z,9.2nm,0.9s,mb4.6						
TOO	Toolangi	37.30	159	eP	P	16 04 24.0	+2.4
TOO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KMI	Kunming	38.32	318	P	P	16 04 31.8	+1.5
KMI				AP	pP	16 04 39.1	+6.0
KMI				XP	sP	16 04 42.8	+8.5
KMI				PP	PP	16 06 04.4	+6.6
KMI				PPP		16 06 26.6	
KMI				S	S	16 10 26.8	+2.2
KMI				SS	SS	16 13 04.6	-8.5
KMI				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,417nm,5.3s						
MJAR	Matsushiro Arr	40.15	11	P	P	16 04 44.1	-1.4
	comp=Z,5.8nm,0.7s,mb4.4,baz=186,slow=8.6,SNR=27						
MJAR				LR	LR	16 20 16.9	
	comp=Z,249nm,18.6s,MS4.1,baz=205,slow=35						
MAJO	Matsushiro	40.15	11	eP	P	16 04 45.2	-0.3
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
MAJO	Matsushiro	40.15	11	eP	P	16 04 45.2	-0.3
	comp=Z,12nm,0.7s,mb4.7						
MAT	Matsushiro	40.15	11	P	P	16 04 45.3	-0.2
DZM	Mont Dzumac	40.34	121	P	P	16 04 48.1	+1.0
	comp=Z,16nm,1.0s,mb4.7,baz=84,slow=8.4,SNR=4.2						
LZH	Lanzhou	45.81	330	eP	P	16 05 32.0	+0.6
LZH				AP	pP	16 05 37.0	+2.7
LZH				XP	sP	16 05 42.5	+7.1
LZH				PP	PP	16 07 20.1	+1.4
LZH				eS	S	16 12 15.3	+0.1
LZH				XS	sS	16 12 23.0	+3.0
LZH				eSS	SS	16 15 30.8	-8.9
LZH				AMB	AMB		
	comp=Z,55nm,1.4s,mb5.3						
LZH				AMB	AMB		
	comp=Z,251nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,15.7s,MS5.1						
HHC	Hu-ho-hao-te	46.71	341	eP	P	16 05 41.5	+3.0
HHC				AP	pP	16 05 45.9	+4.5
HHC				XP	sP	16 05 48.5	+6.0
HHC				PCP	PcP	16 07 14.8	+2.9
HHC				PP	PP	16 07 31.8	+3.7
HHC				SCP	ScP	16 11 06.3	+0.6
HHC				PCS	PcS	16 11 08.6	+1.8
HHC				S	S	16 12 30.6	+2.5
HHC				XS	sS	16 12 38.8	+5.9
HHC				SCS	ScS	16 15 32.5	-1.0
HHC				SS	SS	16 15 49.8	-4.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,296nm,6.2s						
HHC				LR	LR		
	comp=N,171nm,4.7s						
HHC				LR	LR		
	comp=E,308nm,5.9s						
HHC				LR	LR		
	comp=Z,156nm,6.5s						
CN2	Changchun	46.77	356	eP	P	16 05 42.5	+3.6
MDJ	Mudanjiang	47.43	360	P	P	16 05 46.8	+2.8
MDJ				AP	pP	16 05 49.8	+2.9
MDJ				XP	sP	16 05 51.1	+3.0
MDJ				PCP	PcP	16 07 14.3	-0.2
MDJ				PP	PP	16 07 38.6	+3.4
MDJ				SCP	ScP	16 11 11.3	+2.6
MDJ				S	S	16 12 43.4	+5.1
MDJ				SCS	ScS	16 15 40.1	+1.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,240nm,5.4s						
MDJ				LR	LR		
	comp=Z,67nm,20.1s,MS3.6						
LSA	Lhasa	49.20	314	P	P	16 05 58.0	+0.3
LSA	Lhasa	49.20	314	⇑eP	P	16 05 58.5	+0.8
LSA				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.3						
LSA	Lhasa	49.20	314	⇑eP	P	16 05 58.5	+0.7
	comp=Z,40nm,1.4s,mb5.3						
GTA	Gaotai	50.40	330	eP	P	16 06 06.5	-0.3
GTA				AP	pP	16 06 10.3	+0.5
GTA				XP	sP	16 06 13.3	+2.4
GTA				PCP	PcP	16 07 26.8	+1.6
GTA				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.9						
YSS	Yuzh-Sakhalins	51.07	11	⇑eP	P	16 06 12.2	+0.3
YSS				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
YSS	Yuzh-Sakhalins	51.07	11	eP	P	16 06 11.0	-0.9
	comp=Z,11nm,0.8s,mb4.8						
HABR	Khabarovsk	51.49	5	eP	P	16 06 15.8	+0.7
HABR				eS	S	16 13 35.5	+0.2
HABR				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.9						
JIRN	Jiri	51.84	309	eP	P	16 06 17.5	-0.2
KLR	Kul'dur	52.07	2	eP	P	16 06 16.0	-3.4
GUN	Gumba	52.20	309	eP	P	16 06 20.2	-0.2
	comp=Z,42nm,0.8s,mb5.4						
PKI	Pulchoki	52.40	308	eP	P	16 06 21.5	-0.4
	comp=Z,13nm,0.7s,mb5.0						
KKN	Kakani	52.61	309	eP	P	16 06 22.8	-0.6
	comp=Z,27nm,0.9s,mb5.2						
DMN	Daman	52.66	308	eP	P	16 06 23.5	-0.3
	comp=Z,21nm,0.7s,mb5.2						
GKN	Gorkha	53.21	309	eP	P	16 06 27.0	-0.8
	comp=Z,32nm,0.7s,mb5.3						
KOLN	Koldanda	53.92	308	eP	P	16 06 32.8	-0.2
	comp=Z,40nm,0.8s,mb5.4						
HYB	Hyderabad	54.40	294	i P	P	16 06 36.0	-0.6
HYB	Hyderabad	54.40	294	eP	P	16 06 36.0	-0.6
ULN	Ulaanbaatar	54.43	341	⇑P	P	16 06 36.4	-0.4
	SNR=6.8						
ULN	Ulaanbaatar	54.43	341	⇑eP	P	16 06 36.4	-0.3
ULN				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
ULN	Ulaanbaatar	54.43	341	⇑eP	P	16 06 36.4	-0.4
	comp=Z,15nm,1.3s,mb4.8						
SONM	Songino Array	54.61	341	P	P	16 06 37.2	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=161,slow=6.2,SNR=11						
SONM				PcP	PcP	16 07 37.9	-3.2
	comp=Z,1.5nm,0.8s,baz=132,slow=4.3,SNR=2.3						
CIT	Chita	56.53	348	eP	P	16 06 51.8	-0.1
CIT				pmax	pmax		
	comp=Z,65nm,1.6s,mb5.4						
ZAK	Zakamensk	57.85	340	eP	P	16 06 59.8	-1.4
ZAK				e		16 07 53.6	
TLY	Talaya	58.84	341	eP	P	16 07 07.9	-0.2
TLY				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.7						
TLY	Talaya	58.84	341	⇑eP	P	16 07 08.3	+0.2
	comp=Z,13nm,1.3s,mb4.8						
IRK	Irkutsk	59.13	342	eP	P	16 07 09.6	-0.5
IRK				pmax	pmax		
	comp=Z,40nm,2.3s,mb5.0						
MOY	Mondy	59.71	340	eP	P	16 07 15.2	+1.1
MOY				pmax	pmax		
	comp=Z,37nm,2.4s,mb5.0						
WMQ	Urumqi	59.95	326	eP	P	16 07 17.0	+1.2
WMQ				XP	sP	16 07 24.0	+4.1
WMQ				PCP	PcP	16 08 03.0	+1.0
WMQ				PP	PP	16 09 34.0	+6.0
WMQ				S	S	16 15 26.0	-2.1
WMQ				SCS	ScS	16 17 03.0	-3.5
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,247nm,4.9s						
WMQ				LR	LR		
	comp=N,182nm,25.4s,MS4.3						
WMQ				LR	LR		
	comp=E,148nm,20.6s,MS4.3						
WMQ				LR	LR		
	comp=Z,150nm,20.6s,MS4.1						
PET	Petropavlovsk	60.90	20	eP	P	16 07 21.7	-0.6
PET				eS	S	16 15 39.6	-0.7
PET				pmax	pmax		
	comp=Z,200nm,3.7s						
PET				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.4						
PET				pmax	pmax		
	comp=Z,100nm,6.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PET				smax			
	comp=E,100nm,6.3s						
PET				smax			
	comp=N,100nm,2.5s						
PET				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.0						
PET	**Petropavlovsk**	**60.90**	**20**	eP	**P**	**16 07 23.5**	**+1.2**
BOD	**Bodaibo**	**61.95**	**351**	eP	**P**	**16 07 28.7**	**-0.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.7						
CASY	**Casey**	**64.57**	**188**	eP	**P**	**16 07 45.9**	**-0.8**
MA2	**Magadan**	**64.58**	**12**	eP	**P**	**16 07 48.0**	**+1.2**
MA2				PPP		16 11 46.1	
MA2				S	**S**	**16 16 28.1**	**+1.7**
MA2				e		16 16 58.0	
MA2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
MA2	**Magadan**	**64.58**	**12**	eP	**P**	**16 07 47.4**	**+0.5**
	comp=Z,27nm,1.1s,mb5.2						
YAK	**Yakutsk**	**64.87**	**360**	c iP	**P**	**16 07 48.4**	**-0.3**
YAK				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.5						
YAK	**Yakutsk**	**64.87**	**360**	⇑iP	**P**	**16 07 48.0**	**-0.7**
	comp=Z,41nm,0.8s,mb5.5						
AAK	**Ala-Archa**	**67.37**	**319**	eP	**P**	**16 08 04.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
AAK	**Ala-Archa**	**67.37**	**319**	P	**P**	**16 08 04.2**	**-0.6**
	comp=Z,6.6nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**67.93**	**333**	P	**P**	**16 08 07.6**	**-0.7**
	comp=Z,12nm,1.0s,mb4.9,baz=358,slow=6.2,SNR=43						
ZAL	**Zalesovo**	**67.93**	**333**	P	**P**	**16 08 07.6**	**-0.7**
SEY	**Seymchan**	**67.97**	**11**	⇑eP	**P**	**16 08 09.4**	**+0.8**
MIR	**Mirnyy**	**68.39**	**195**	d iP	**P**	**16 08 12.0**	**+0.8**
MIR				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
NVS	**Novosibirsk**	**69.21**	**333**	eP	**P**	**16 08 13.7**	**-2.6**
NVS				pmax	pmax		
	comp=N,24nm,1.4s						
NVS				pmax	pmax		
	comp=E,28nm,1.4s						
NVS				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.1						
VOSK	**Vostochnaya**	**74.13**	**327**	P	**P**	**16 08 44.7**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
BVA0	**Borovoye Array**	**74.58**	**327**	P	**P**	**16 08 48.0**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
BVAR	**Borovoye Array**	**74.58**	**327**	P	**P**	**16 08 47.5**	**-1.0**
	comp=Z,11nm,0.9s,mb4.8,baz=137,slow=7.1,SNR=21						
BRVK	**Borovoye**	**74.66**	**327**	⇑P	**P**	**16 08 48.4**	**-0.6**
	SNR=5.6						
BRVK	**Borovoye**	**74.66**	**327**	P	**P**	**16 08 48.2**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
BRVK	**Borovoye**	**74.66**	**327**	P	**P**	**16 08 48.2**	**-0.8**
	comp=Z,6.4nm,1.4s,mb4.4						
CHKZ	**Chkalovo**	**74.76**	**328**	⇑eP	**P**	**16 08 48.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**74.76**	**328**	⇑eP	**P**	**16 08 48.6**	**-1.0**
	comp=Z,7.9nm,0.9s,mb4.6						
ZRNK	**Zerenda**	**75.30**	**327**	⇑eP	**P**	**16 08 51.7**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**75.30**	**327**	⇑eP	**P**	**16 08 51.7**	**-1.0**
	comp=Z,8.2nm,0.8s,mb4.7						
BILL	**Bilibino**	**75.33**	**13**	eP	**P**	**16 08 53.2**	**+0.3**
BILL				e		16 09 05.2	
BILL				e		16 11 42.5	
BILL				eS	S	16 18 30.7	-1.8
BILL				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
VNDA	**Vanda**	**76.40**	**173**	P	**P**	**16 08 58.7**	**-0.3**
	comp=Z,7.1nm,1.0s,mb4.6,baz=303,slow=6.4,SNR=21						
VNDA				LR	LR	16 43 58.4	
	comp=Z,128nm,18.7s,MS4.3,baz=346,slow=37						
VNDA	**Vanda**	**76.40**	**173**	eP	**P**	**16 08 58.8**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	**Vanda**	**76.40**	**173**	eP	**P**	**16 08 58.8**	**-0.2**
	comp=Z,9.6nm,1.0s,mb4.7						
SBA	**Scott Base**	**77.29**	**172**	eP	**P**	**16 09 04.2**	**+0.2**
SBA				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
SBA	**Scott Base**	**77.29**	**172**	eP	**P**	**16 09 04.2**	**+0.2**
	comp=Z,14nm,1.1s,mb4.8						
MAW	**Mawson**	**78.54**	**201**	eP	**P**	**16 09 10.6**	**-0.3**
	comp=Z,13nm,1.2s,mb4.7						
MAW	**Mawson**	**78.54**	**201**	P	**P**	**16 09 10.7**	**-0.2**
	comp=Z,12nm,0.9s,mb4.9,baz=60,slow=8.2,SNR=15						
MAW				LR	LR	16 42 31.2	
	comp=Z,148nm,20.7s,MS4.3,baz=247,slow=35						
MAW	**Mawson**	**78.54**	**201**	eP	**P**	**16 09 10.6**	**-0.3**
MAW				pmax	pmax		
	comp=Z,13nm,1.2s						
AB31	**Akbulak array**	**79.25**	**321**	i P	**P**	**16 09 13.8**	**-1.1**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AKTO	**Aktyubinsk**	**80.79**	**322**	P	**P**	**16 09 22.7**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
SVE	**Sverdlovsk**	**81.25**	**329**	eP	**P**	**16 09 22.8**	**-2.8**
SVE				e		16 09 40.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
OPO	**Ambohidratompo**	**81.98**	**252**	P	**P**	**16 09 30.2**	**+0.7**
	comp=Z,12nm,1.0s,mb4.8,baz=88,slow=6.5,SNR=11						
ARU	**Arti**	**82.21**	**328**	⇑iP	**P**	**16 09 29.7**	**-1.0**
ARU				e		16 12 38.9	
ARU				ePPP		16 14 32.4	
ARU				eS	S	16 19 44.7	-1.4
ARU				eSS	SS	16 25 05.9	+0.1
ARU				eSSS		16 28 29.5	
ARU				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
ARU	**Arti**	**82.21**	**328**	⇑eP	**P**	**16 09 29.5**	**-1.2**
	comp=Z,27nm,1.1s,mb5.1						
SOKR	**Solikamsk**	**84.03**	**331**	eP	**P**	**16 09 40.3**	**+0.2**
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
QSPA	**South Pole Qui**	**86.93**	**180**	eP	**P**	**16 09 54.3**	**-0.3**
	comp=Z,18nm,1.0s,mb5.2						
SYO	**Syowa Base**	**87.25**	**201**	⇓eP	**P**	**16 09 55.0**	**-1.1**
SYO	**Syowa Base**	**87.25**	**201**	⇑esP	sP	16 10 01.3	+1.0
GNI	**Garni**	**88.10**	**310**	⇑eP	**P**	**16 10 01.3**	**+1.1**
GNI				pmax	pmax		
	comp=Z,30nm,1.8s						
GNI	**Garni**	**88.10**	**310**	P	**P**	**16 10 00.7**	**+0.5**
	comp=Z,17nm,1.1s,mb5.2						
MCK	**McKinley**	**88.85**	**26**	eP	**P**	**16 10 03.6**	**-0.1**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
MCK	**McKinley**	**88.85**	**26**	eP	**P**	**16 10 03.6**	**-0.2**
	comp=Z,7.1nm,1.1s,mb4.9						
ZEI	**Tsey**	**88.97**	**313**	eP	**P**	**16 10 04.2**	**-0.1**
ZEI				e*PP	pP	16 10 13.3	+5.9
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2						
MSL	**Mosul**	**89.06**	**306**	ex	x	16 10 12.0	
KIV	**Kislovodsk**	**89.95**	**314**	eP	**P**	**16 10 08.5**	**-0.4**
KIV				e		16 10 16.6	
KIV				e		16 13 41.9	
KIV				eS	SKSac	16 20 36.4	-3.5
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.8						
KMBO	**Kilima Mbogo**	**92.42**	**269**	P	**P**	**16 10 21.4**	**+1.0**
	comp=Z,6.4nm,0.9s,mb4.9,baz=65,slow=5.1,SNR=12						
KMBO				LR	LR	16 48 17.4	
	comp=Z,140nm,20.6s,MS4.4,baz=93,slow=33						
MALT	**Malatya**	**92.88**	**308**	P	**P**	**16 10 24.1**	**+1.6**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.9						
MALT	**Malatya**	**92.88**	**308**	P	**P**	**16 10 24.1**	**+1.6**
	comp=Z,5.6nm,1.1s,mb4.9						
DAWY	**Dawson**	**93.08**	**26**	⇓eP	**P**	**16 10 24.2**	**+0.8**
OBN	**Obninsk**	**94.28**	**325**	eP	**P**	**16 10 27.8**	**-1.1**
OBN				e		16 10 36.6	
OBN				eSS	SS	16 27 58.9	-2.7
OBN				pmax	pmax		
	comp=Z,30nm,2.5s,mb5.3						
LVZ	**Lovozero**	**94.70**	**338**	⇑eP	**P**	**16 10 29.1**	**-1.8**
LVZ				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.4						
MAIT	**Maitri**	**96.08**	**197**	eP	**P**	**16 10 38.3**	**+1.2**
BRTR	**Keskin Array B**	**96.61**	**309**	LR	LR	16 57 56.7	
	comp=Z,25nm,18.5s,MS3.7,baz=208,slow=38						
ARCES	**ARCESS Array B**	**97.78**	**340**	P	**P**	**16 10 43.4**	**-1.5**
	comp=Z,4.9nm,1.0s,mb5.0,baz=46,slow=3.5,SNR=5.9						
FINES	**FINESS Array B**	**99.16**	**332**	P	**P**	**16 10 50.6**	**-0.4**
	comp=Z,1.5nm,0.9s,mb4.5,baz=322,slow=12,SNR=2.8						
SNAA	**Sanae**	**99.44**	**194**	⇑eP	**P**	**16 10 52.4**	**+0.1**
SNAA	**Sanae**	**99.44**	**194**	ePdif	**P**	**16 10 51.8**	**-0.5**
	comp=Z,3.4nm,1.2s,mb4.8						
LSZ	**Lusaka**	**100.32**	**254**	eP	Pdif	16 10 56.9	+0.7
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
LSZ	**Lusaka**	**100.32**	**254**	ePdif	Pdif	16 10 56.9	+0.7
	comp=Z,4.6nm,1.1s						
BOSA	**Boshof**	**101.22**	**240**	P	Pdif	16 11 00.8	+0.6
	comp=Z,4.8nm,0.9s,baz=90,slow=5.3,SNR=4.8						
BOSA	**Boshof**	**101.22**	**240**	P	Pdif	16 11 00.8	+0.6
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BOSA	**Boshof**	**101.22**	**240**	ePdif	Pdif	16 11 00.6	+0.4
	comp=Z,15nm,1.3s						
SANT	**Santorini**	**103.28**	**307**	ePdif	Pdif	16 11 13.1	+3.7
	comp=Z,44nm,1.0s						
MNTX	**Cornudas Mount**	**120.95**	**55**	ePKPdf	PKPdf	16 16 04.2	+2.1
JCT	**Junction City**	**125.87**	**54**	ePKIKP	PKPdf	16 16 13.3	+1.8
TORD	**Torodi Ar. Bea**	**127.68**	**284**	PKP	PKPdf	16 16 16.4	+1.4
	comp=Z,4.6nm,1.1s,baz=60,slow=0.7,SNR=12						
MIAR	**Mount Ida**	**129.01**	**47**	ePKIKP	PKPdf	16 16 20.4	+2.9
PLCA	**Paso Flores**	**132.67**	**159**	PKP	PKPdf	16 16 26.9	+2.5
	comp=Z,4.2nm,0.9s,baz=177,slow=4.0,SNR=7.1						
LRAL	**Lakeview Retre**	**134.49**	**45**	ePKPdf	PKPdf	16 16 29.8	+2.0
CPUP	**Villa Florida**	**150.03**	**167**	PKP	PKPdf	16 16 56.7	+1.5
	comp=Z,11nm,1.1s,baz=287,slow=3.2,SNR=5.6						
CPUP				PKPbc	PKPbc	16 17 01.7	+1.6
	comp=Z,30nm,0.9s,baz=187,slow=2.3,SNR=16						
CPUP	**Villa Florida**	**150.03**	**167**	ePKPdf	PKPdf	16 16 57.1	+1.8
CPUP				ePKPbc	PKPbc	16 17 01.9	+1.7
LPAZ	**La Paz**	**153.93**	**138**	PKP	PKPdf	16 17 01.9	+0.8
	comp=Z,1.9nm,1.0s,baz=309,slow=3.1,SNR=5.2						
LPAZ				PKPbc	PKPbc	16 17 12.5	+3.5
	comp=Z,3.3nm,1.0s,baz=360,slow=3.7,SNR=6.3						
LPAZ	**La Paz**	**153.93**	**138**	PKP	PKPdf	16 17 01.9	+0.8
LPAZ				ePKPdf	PKPdf	16 17 05.2	+4.1
LPAZ				PKPbc	PKPbc	16 17 12.5	+3.5
SDV	**Santo Domingo**	**158.93**	**73**	ePKPdf	PKPdf	16 17 09.7	+2.1

*IDC **16** 16:08:05.6±1.1, 288S×12999E, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML4.4/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=57.3km s-min=19.3km az=77.0*

*NEIC **16** 16:08:06.6±0.5, 293S×12970E, h10km, mb4.2/5, Error ellipse: s-maj=18.4km s-min=8.1km az=67.0*

*ISCJB **16** 16:08:08.4±0.6, 304S±008×1297E±0.1, h33km, mb4.1/7, MS3.9/1, Error ellipse: s-maj=22.5km s-min=8.0km az=139.5*

ISC 16 16:08:10.4±0.6**, 302S**±007×**1296E**±01**, h35**km**, n21,** σ**1.10**/20**, mb4.1**/7**, MS3.9**/1**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.04**	**164**	eP	**Pn**	**16 10 32.7**	**+0.7**
	9.2nm,0.6s						
KAKA				eS	**Sn**	**16 12 22.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**15.48**	**194**	eP	**Pn**	**16 11 47.0**	**+1.0**
	7.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.48**	**194**	Pn	**Pn**	**16 11 47.4**	**+1.4**
	0.7nm,0.3s,baz=20,slow=8.2,SNR=12						
FITZ				LR	LR	16 18 41.1	
	comp=Z,154nm,20.1s,baz=21,slow=40						
WRAB	**Tennant Creek**	**17.44**	**165**	ePn	**Pn**	**16 12 10.4**	**-0.4**
	7.7nm,0.4s						
WRA	**Warramunga Arr**	**17.45**	**165**	P	**Pn**	**16 12 10.6**	**-0.4**
	1.6nm,0.3s,baz=353,slow=12,SNR=17						
WB2	**Warramunga Arr**	**17.45**	**165**	eP	**Pn**	**16 12 10.2**	**-0.8**
KSM	**Kuching**	**19.78**	**283**	ePn	**Pn**	**16 12 38.2**	**-1.0**
MBWA	**Marble Bar**	**20.43**	**207**	ePn	**P**	**16 12 42.0**	**-2.5**
AS31	**Alice Springs**	**20.95**	**169**	eP	**P**	**16 12 51.7**	**+1.6**
ASAR	**Alice Springs**	**20.95**	**169**	P	**P**	**16 12 51.9**	**+1.7**
	14nm,0.6s,baz=348,slow=11,SNR=23						
CTA	**Charters Tower**	**23.50**	**137**	P	**P**	**16 13 16.1**	**-1.0**
	3.7nm,1.0s,mb3.8,baz=20,slow=17,SNR=1.9						
CTAO	**Charters Tower**	**23.50**	**137**	eP	**P**	**16 13 16.2**	**-1.0**
	18nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**30.85**	**160**	P	**P**	**16 14 23.3**	**+0.2**
	0.7nm,0.5s,mb3.8,baz=335,slow=12,SNR=2.1						
MJAR	**Matsushiro Arr**	**40.17**	**11**	P	**P**	**16 15 42.0**	**-1.2**
	1.7nm,0.9s,mb3.8,baz=178,slow=8.3,SNR=5.6						
RAO	**Raoul Island**	**56.17**	**123**	LR	LR	16 39 35.7	
	comp=Z,94nm,20.6s,MS3.9,baz=22,slow=34						
MA2	**Magadan**	**64.60**	**12**	P	**P**	**16 18 37.9**	**-6.3**
	41nm,1.6s,mb5.2						
BVAR	**Borovoye Array**	**74.50**	**327**	P	**P**	**16 19 46.7**	**+1.4**
	1.6nm,0.9s,mb4.0,baz=117,slow=5.6,SNR=6.2						
BRVK	**Borovoye**	**74.57**	**327**	P	**P**	**16 19 47.0**	**+1.3**
	2.4nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**75.22**	**327**	eP	**P**	**16 19 49.4**	**-0.1**
	2.4nm,1.0s,mb4.1						
VNDA	**Vanda**	**76.42**	**173**	P	**P**	**16 19 55.4**	**-0.9**
CPUP	**Villa Florida**	**150.07**	**167**	PKPbc	PKPbc	16 27 57.9	+0.6
	0.7nm,0.5s,baz=166,slow=8.3,SNR=2.6						

MEX 16 16:31:10.1±0.4**, 1681N**×**9568W, h90**km±6km**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.81**	**70**	i P	Pn	16 31 26.6	-1.1
CMIG				i S	Sn	16 31 39.2	-1.7
VHO	**Vista Hermosa**	**1.04**	**285**	i P	Pn	16 31 19.2	-11
VHO				i S	Sn	16 31 33.3	-12
HUIG	**Huatulco**	**1.12**	**201**	i P	Pn	16 31 29.9	-1.2
HUIG				i S	Sn	16 31 45.2	-1.6
TPIG	**Tehuac#an**	**2.26**	**315**	i P	Pn	16 31 44.2	-1.5
TPIG				i S	Sn	16 32 12.2	-0.8
UTMO	**Huajuapan**	**2.26**	**297**	i P	Pn	16 31 44.8	-0.9
UTMO				i S	Sn	16 32 12.1	-1.0
CCIG	**Comitan**	**3.44**	**98**	i P	Pn	16 32 00.6	-0.9
CCIG				i S	Sn	16 32 40.3	-1.0

IDC 16 16:40:49.5±7.5**, 1993S**×**17851W, h0**km**, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=325.3km s-min=115.3km az=155.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.19**	**256**	P	P	16 48 59.8	-0.3
	0.6nm,0.8s,baz=97,slow=7.9,SNR=4.4						
WRA	**Warramunga Arr**	**44.21**	**262**	P	P	16 49 01.4	+1.1
	0.2nm,0.3s,baz=96,slow=8.4,SNR=11						
FITZ	**Fitzroy Crossi**	**52.63**	**262**	P	P	16 50 05.3	0.0
	1.7nm,0.9s,baz=75,slow=7.2,SNR=3.9						
AKASG	**Malin Array Be**	**142.28**	**331**	PKP	PKPdf	17 00 23.4	-0.5
	0.4nm,0.3s,baz=43,slow=3.6,SNR=6.2						

ISC 16 16:48:37.8±1.2**, 3610N**±005×**689E**±02**, h35**km**, n15,** σ**0.93**/17**, 3C-1D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.34**	**132**	P	**Pn**	**16 49 27.3**	**-0.3**
THW	**Thamme Wali**	**4.04**	**144**	P	**Pn**	**16 49 35.7**	**-1.4**
CHCP	**Chirah Chowk**	**4.32**	**123**	P	**Pn**	**16 49 48.2**	**+7.1**
DRP	**Derazinda**	**4.47**	**166**	P	**Pn**	**16 49 45.3**	**+2.2**
AML	**Almayashu**	**7.08**	**30**	P	**Pn**	**16 50 19.7**	**+0.8**
	SNR=9.0						
KK31	**Karatay Array**	**7.11**	**10**	⇑Pn	**Pn**	**16 50 20.1**	**+0.9**
	0.3nm,0.2s,baz=36,slow=21,SNR=17						
KK31				⇑Sn	**Sn**	**16 51 37.7**	**-1.1**
	1.8nm,0.5s,baz=195,slow=41,SNR=4.8						
EKS2	**Erkin-Say**	**7.56**	**28**	P	**Pn**	**16 50 26.2**	**+0.7**
	SNR=6.8						
AAK	**Ala-Archa**	**7.83**	**32**	P	**Pn**	**16 50 29.7**	**+0.5**
	SNR=6.3						
CHMS	**Chumysh**	**8.24**	**31**	P	**Pn**	**16 50 35.0**	**+0.2**
	SNR=7.4						
USP	**Ospenovka**	**8.36**	**29**	P	**Pn**	**16 50 36.1**	**-0.3**
	SNR=5.3						
ULHL	**Ulahol**	**8.37**	**41**	P	**Pn**	**16 50 37.0**	**+0.4**
	SNR=18						
AB31	**Akbulak array**	**14.70**	**336**	⇓Pn	**Pn**	**16 52 01.9**	**-1.2**
	0.3nm,0.3s,baz=154,slow=14,SNR=11						
AB31				⇑Sn	**Sn**	**16 54 36.8**	**-7.9**
	1.3nm,0.8s,baz=166,slow=21,SNR=4.0						
KOLN	**Koldanda**	**14.97**	**120**	eP	**Pn**	**16 52 05.7**	**-1.0**
GKN	**Gorkha**	**15.57**	**117**	eP	**Pn**	**16 52 15.0**	**+0.4**
DMN	**Daman**	**16.14**	**117**	eP	**Pn**	**16 52 21.3**	**-0.6**

*IDC **16** 17:03:44.6±1.9, 301S×12953E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.8/16, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=104.0km s-min=26.5km az=71.0*

*NEIC **16** 17:03:45.6±0.8, 295S×12988E, h10km, mb4.0/3, Error ellipse: s-maj=43.1km s-min=10.6km az=73.0*

*ISCJB **16** 17:03:47.5±0.9, 31S±01×1297E±03, h33km, mb3.9/4, Error ellipse: s-maj=48.3km s-min=11.9km az=145.5*

ISC 16 17:03:49.6±0.9**, 31S**±01×**1297E**±03**, h35**km**, n13,** σ**0.99**/13**, mb3.9**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.47**	**195**	eP	**Pn**	**17 07 26.1**	**+1.0**
	3.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.47**	**195**	Pn	**Pn**	**17 07 24.2**	**-0.9**
	0.1nm,0.3s,baz=21,slow=13,SNR=3.3						
WRAB	**Tennant Creek**	**17.39**	**165**	ePn	**Pn**	**17 07 48.4**	**-1.1**
WRA	**Warramunga Arr**	**17.40**	**165**	P	**Pn**	**17 07 48.4**	**-1.2**
	0.4nm,0.3s,baz=348,slow=13,SNR=14						
WB2	**Warramunga Arr**	**17.40**	**165**	eP	**Pn**	**17 07 49.6**	**0.0**
WB2				e		17 08 39.6	
WB2	**Warramunga Arr**	**17.40**	**165**	ePn	**Pn**	**17 07 48.6**	**-1.0**
WB2				e		17 08 39.6	
AS31	**Alice Springs**	**20.90**	**169**	eP	**P**	**17 08 29.7**	**+0.8**
ASAR	**Alice Springs**	**20.90**	**169**	P	**P**	**17 08 30.2**	**+1.3**
	5.1nm,0.5s,baz=348,slow=11,SNR=27						
STKA	**Stephens Creek**	**30.79**	**160**	P	**P**	**17 10 03.2**	**+1.3**
	0.4nm,0.4s,mb3.6,baz=331,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**30.79**	**160**	P	**P**	**17 10 02.6**	**+0.7**
BVAR	**Borovoye Array**	**74.57**	**327**	P	**P**	**17 15 24.6**	**-0.3**
	1.1nm,0.9s,mb3.8,baz=130,slow=6.5,SNR=4.1						
ZRNK	**Zerenda**	**75.29**	**327**	P	**P**	**17 15 28.0**	**-1.1**
	0.7nm,0.4s,mb3.9						
ARU	**Arti**	**82.20**	**328**	P	**P**	**17 16 08.0**	**+1.0**
	2.5nm,0.6s,mb4.3						

*IDC **16** 17:04:32.6±0.8, 281S×12968E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=54.9km s-min=17.3km az=75.0*

*ISCJB **16** 17:04:33.1±3.6, 289S±007×1298E±0.1, h17km±26km, mb4.2/12, Error ellipse: s-maj=22.5km s-min=9.4km az=145.9*

*NEIC **16** 17:04:34.1±0.4, 287S×12974E, h10km, mb4.3/9, Error ellipse: s-maj=15.0km s-min=6.9km az=72.0*

ISC 16 17:04:38.0±2.3**, 293S**±008×**1297E**±01**, h38**km±23km**, n27,** σ**1.03**/28**, mb4.2**/12**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.60**	**195**	Pn	**Pn**	**17 08 15.9**	**+0.9**
	0.3nm,0.3s,baz=25,slow=11,SNR=6.9						
FITZ	**Fitzroy Crossi**	**15.60**	**195**	e	**Pn**	**17 08 15.3**	**+0.3**
WRAB	**Tennant Creek**	**17.50**	**165**	ePn	**Pn**	**17 08 37.5**	**-1.5**
	16nm,1.0s						
WRA	**Warramunga Arr**	**17.50**	**165**	P	**Pn**	**17 08 39.7**	**+0.6**
	0.6nm,0.3s,baz=344,slow=12,SNR=14						
WB2	**Warramunga Arr**	**17.51**	**165**	ePn	**Pn**	**17 08 37.3**	**-1.8**
KSM	**Kuching**	**19.88**	**282**	eP	**Pn**	**17 09 06.6**	**-1.2**
MBWA	**Marble Bar**	**20.56**	**207**	eP	**P**	**17 09 14.7**	**+1.4**
	19nm,1.1s						
AS31	**Alice Springs**	**21.01**	**169**	eP	**P**	**17 09 18.9**	**+0.7**
ASAR	**Alice Springs**	**21.01**	**169**	P	**P**	**17 09 19.1**	**+0.9**
	16nm,0.7s,mb4.5,baz=349,slow=10,SNR=14						
ASAR				S	**S**	**17 13 07.8**	**-2.2**
	1.0nm,0.8s,baz=356,slow=25,SNR=3.3						
ASAR				PcP	PcP	17 13 25.9	+1.7
	0.7nm,0.8s,baz=7.1,slow=1.9,SNR=5.0						
ASAR	**Alice Springs**	**21.01**	**169**	P	**P**	**17 09 19.1**	**+0.9**
ASAR				S	**S**	**17 13 07.8**	**-2.2**
ASAR				PcP	PcP	17 13 25.9	+1.7
CTA	**Charters Tower**	**23.48**	**138**	P	**P**	**17 09 46.5**	**+2.1**
	8.0nm,1.0s,mb4.1,baz=329,slow=12,SNR=3.7						
CTAO	**Charters Tower**	**23.48**	**138**	P	**P**	**17 09 46.5**	**+2.1**
	14nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**17 10 51.4**	**+0.6**
	0.6nm,0.3s,mb3.9,baz=340,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**17 10 50.1**	**-0.7**
CHTO	**Chiang Mai**	**37.19**	**307**	eP	**P**	**17 11 45.8**	**+0.4**
	5.5nm,0.8s,mb4.4						
MAJO	**Matsushiro**	**40.06**	**11**	P	**P**	**17 12 09.7**	**+0.2**
MJAR	**Matsushiro Arr**	**40.06**	**11**	P	**P**	**17 12 08.1**	**-1.4**
	2.0nm,0.9s,mb3.8,baz=184,slow=8.7,SNR=6.7						
LSA	**Lhasa**	**49.12**	**314**	eP	**P**	**17 13 22.8**	**+1.0**
	3.1nm,0.8s,mb4.4						
CASY	**Casey**	**64.66**	**188**	eP	**P**	**17 15 11.0**	**-0.8**
	2.1nm,0.8s,mb4.2						
YAK	**Yakutsk**	**64.78**	**360**	eP	**P**	**17 15 13.1**	**+0.5**
	9.1nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**67.84**	**333**	P	**P**	**17 15 31.7**	**-0.5**
	0.9nm,0.5s,mb4.1,baz=334,slow=5.5,SNR=6.2						
ZAL	**Zalesovo**	**67.84**	**333**	P	**P**	**17 15 31.7**	**-0.5**
BVAR	**Borovoye Array**	**74.49**	**327**	P	**P**	**17 16 12.9**	**+0.5**
	0.8nm,0.5s,mb3.9,baz=112,slow=9.5,SNR=4.2						
ZRNK	**Zerenda**	**75.21**	**327**	eP	**P**	**17 16 16.1**	**-0.6**
	2.0nm,0.9s,mb4.0						
VNDA	**Vanda**	**76.50**	**173**	P	**P**	**17 16 24.0**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=297,slow=4.4,SNR=3.7						
VNDA	**Vanda**	**76.50**	**173**	eP	**P**	**17 16 23.5**	**-0.4**
	1.0nm,0.7s,mb3.9						
CPUP	**Villa Florida**	**150.13**	**167**	PKPbc	PKPbc	17 24 26.1	+1.5
	1.0nm,0.5s,baz=315,slow=5.7,SNR=3.7						

*BJI **16** 17:12:26.7, 2143N×10971E, h15km, mB4.7, mb4.5, ML4.9, Ms4.2, Msz4.0*

*ISCJB **16** 17:12:29.6±0.6, 2137N±006×10935E±004, h10km, mb4.6/10, Error ellipse: s-maj=9.0km s-min=4.3km az=151.1*

*PLV **16** 17:12:31.1±1.1, 2128N×10939E, h9km±4km, MD4.7*

ISC 16 17:12:29.6±0.5**, 2133N**±003×**10948E**±003**, h10**km**, n28,** σ**1.03**/52**, mb4.6**/10**, Southeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**2.31**	**172**	P	**Pn**	**17 13 06.5**	**-1.2**
QIZ				PG	**Pg**	**17 13 12.9**	**-1.1**
QIZ				SG	**Sg**	**17 13 43.3**	**-0.6**
QIZ				Smax			
	comp=E,2μm,0.8s						
YTV	**Yen Tu**	**2.59**	**267**	ePn	**Pn**	**17 13 12.0**	**+0.5**
YTV				ePg	**Pg**	**17 13 19.4**	**+0.2**
YTV				eSg	**Sg**	**17 13 51.6**	**-1.1**
PLV	**Phu-Lien**	**2.72**	**259**	ePn	**Pn**	**17 13 13.7**	**+0.4**
PLV				ePg	**Pg**	**17 13 21.4**	**-0.3**
PLV				eSg	**Sg**	**17 13 55.9**	**-1.0**
MTZV	**Met**	**2.94**	**275**	ePn	**Pn**	**17 13 16.3**	**-0.1**
MTZV				ePg	**Pg**	**17 13 26.4**	**+0.6**
MTZV				eSg	**Sg**	**17 14 03.7**	**-0.2**
DSV	**Doi Son**	**3.36**	**258**	ePn	**Pn**	**17 13 22.2**	**0.0**
DSV				ePg	**Pg**	**17 13 33.5**	**-0.5**
DSV				eSg	**Sg**	**17 14 15.8**	**-1.8**
HNV	**Hanoi**	**3.45**	**266**	ePn	**Pn**	**17 13 25.1**	**+1.6**
HNV				ePg	**Pg**	**17 13 37.5**	**+1.7**
HNV				eSg	**Sg**	**17 14 23.4**	**+2.9**
BVV	**Ba Vi**	**3.85**	**267**	ePn	**Pn**	**17 13 29.0**	**+0.2**
BVV				ePg	**Pg**	**17 13 43.4**	**+0.1**
BVV				eSg	**Sg**	**17 14 32.7**	**-0.5**
HBVN	**Hoa-Binh**	**3.89**	**263**	ePN	**Pn**	**17 13 30.5**	**+1.1**
HBVN				ePG	**Pg**	**17 13 43.8**	**-0.4**
HBVN				ePG	**Pg**	**17 13 44.4**	**+0.2**
HBVN				eSG	**Sg**	**17 14 34.2**	**-0.4**
SLVN	**Son La**	**5.20**	**271**	ePN	**Pn**	**17 13 49.0**	**+1.5**
SLVN				ePG	**Pg**	**17 14 09.3**	**+0.1**
SLVN				eSG	**Sg**	**17 15 15.8**	**-0.8**
GYA	**Guiyang**	**5.72**	**334**	P	**Pn**	**17 13 53.3**	**-1.3**
GYA				SG	**Sg**	**17 15 28.1**	**-5.2**
GYA				Smax			
	comp=N,2μm,1.0s						
GYA				Smax			
	comp=E,2μm,1.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GYA				LR	LR		
	comp=N,2µm,5.1s						
GYA				LR	LR		
	comp=E,1µm,4.5s						
GYA				LR	LR		
	comp=Z,660nm,5.1s						
LCVN	Lai Chau	5.93	278	ePN	Pn	17 13 58.3	+0.9
LCVN				eSG	Sg	17 15 39.2	-0.8
DBV	Dienbien	6.02	272	ePN	Pn	17 13 59.5	+0.8
DBV				ePG	Pg	17 14 24.5	-0.4
DBV				eSG	Sg	17 15 42.5	-0.4
KMI	Kunming	7.26	303	P	Pn	17 14 15.9	+0.1
CD2	Chengdu	10.84	333	eP	Pn	17 15 04.1	-0.7
CD2				XP		17 15 16.0	
CD2				S	Sn	17 17 04.9	-1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,660nm,6.6s						
CD2				LR	LR		
	comp=Z,400nm,9.6s						
XAN	Xi'an	12.67	358	P	Pn	17 15 27.5	-2.4
XAN				LR	LR		
	comp=N,269nm,5.9s						
XAN				LR	LR		
	comp=E,255nm,6.1s						
XAN				LR	LR		
	comp=Z,676nm,5.6s						
NJ2	Nanjing	13.56	36	eP	Pn	17 15 39.1	-2.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
GTA	Gaotai	19.84	337	eP	Pn	17 17 01.3	-0.8
GTA				AP	pP	17 17 04.8	+1.5
GTA				XP	sP	17 17 07.8	+3.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
JIRN	Jiri	22.10	291	eP	P	17 17 28.2	+3.3
	comp=Z,27nm,0.8s,mb4.7						
GUN	Gumba	22.42	292	eP	P	17 17 30.8	+2.4
	comp=Z,57nm,1.1s,mb4.9						
PKI	Pulchoki	22.76	291	eP	P	17 17 33.4	+1.4
	comp=Z,30nm,1.1s,mb4.6						
KKN	Kakani	22.91	291	eP	P	17 17 35.2	+1.6
	comp=Z,16nm,0.9s,mb4.5						
DMN	Daman	23.03	291	eP	P	17 17 35.8	+0.9
	comp=Z,24nm,1.0s,mb4.6						
GKN	Gorkha	23.51	291	eP	P	17 17 40.0	+0.1
	comp=Z,36nm,1.2s,mb4.7						
KOLN	Koldanda	24.38	290	eP	P	17 17 47.8	0.0
	comp=Z,17nm,0.9s,mb4.5						
LPG	La Plagne	83.54	316	eP	P	17 24 58.5	+0.7
LPL	La Plagne	83.55	316	eP	P	17 24 58.3	+0.5
	comp=Z,4.3nm,0.6s,mb4.4						
SMF	Signal de Mont	84.90	318	eP	P	17 25 04.5	-0.2
	comp=Z,7.9nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	86.07	318	eP	P	17 25 10.6	0.0
	comp=Z,5.9nm,0.8s,mb4.6						

*IDC **16** 17:16:18.5±0.9, 2.92S×129.76E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, ML3.8/2, Error ellipse: s-maj=65.5km s-min=13.1km az=77.0*
*NEIC **16** 17:16:20.3±0.5, 2.93S×129.73E, h10km, mb4.3/7, Error ellipse: s-maj=17.2km s-min=6.5km az=72.0*
*ISCJB **16** 17:16:21.6±0.6, 2.99S±0.07×129.7E±0.1, h33km, mb4.2/10, Error ellipse: s-maj=20.7km s-min=7.5km az=143.8*
ISC 16 17:16:24.0±0.6**, 2.97S**±0.07×**129.7E**±0.1**, h35km, n21, σ1.11**/21**, mb4.2**/10**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.06	164	eP	Pn	17 18 46.8	+0.8
	5.4nm,0.4s						
FITZ	Fitzroy Crossi	15.55	194	Pn	Pn	17 20 01.0	+0.5
	0.3nm,0.3s,baz=26,slow=13,SNR=11						
WRAB	Tennant Creek	17.47	165	ePn	Pn	17 20 23.5	-1.3
	6.2nm,0.6s						
WRA	Warramunga Arr	17.48	165	P	Pn	17 20 23.3	-1.6
	0.3nm,0.3s,baz=347,slow=12,SNR=26						
WB2	Warramunga Arr	17.48	165	eP	Pn	17 20 23.6	-1.3
KSM	Kuching	19.85	283	eP	Pn	17 20 52.0	-1.6
MBWA	Marble Bar	20.51	207	eP	P	17 20 58.7	-0.2
	12nm,1.1s						
AS31	Alice Springs	20.98	169	eP	P	17 21 04.8	+0.6
ASAR	Alice Springs	20.98	169	P	P	17 21 05.2	+1.1
	12nm,0.7s,baz=347,slow=10,SNR=109						
ASAR				S	S	17 24 59.3	+3.4
	1.4nm,0.9s,baz=349,slow=19,SNR=5.8						
STKA	Stephens Creek	30.87	160	P	P	17 22 37.5	+0.6
	1.1nm,0.7s,mb3.8,baz=311,slow=9.3,SNR=3.1						
CHTO	Chiang Mai	37.18	307	eP	P	17 23 32.1	+0.5
	3.8nm,1.0s,mb4.2						
MJAR	Matsushiro Arr	40.10	11	P	P	17 23 55.2	-0.9
	1.3nm,0.9s,mb3.7,baz=179,slow=8.3,SNR=4.6						
LSA	Lhasa	49.12	314	eP	P	17 25 09.2	+1.2
	3.7nm,0.7s,mb4.5						
YAK	Yakutsk	64.82	0	eP	P	17 26 59.5	+0.3
	7.5nm,0.6s,mb4.9						
ZAL	Zalesovo	67.85	333	P	P	17 27 18.3	-0.3
	1.1nm,0.7s,mb4.0,baz=339,slow=4.6,SNR=6.5						
BVAR	Borovoye Array	74.50	327	P	P	17 27 58.8	0.0
	1.1nm,0.9s,mb3.8,baz=165,slow=7.0,SNR=3.9						
ZRNK	Zerenda	75.22	327	eP	P	17 27 60.0	-3.0
	3.9nm,1.1s,mb4.2						
AKTK	Aktyubinsk	80.70	322	P	P	17 28 33.7	+0.2
AKTO	Aktyubinsk	80.70	322	P	P	17 28 33.7	+0.2
	1.2nm,0.7s,mb3.9,baz=130,slow=7.9,SNR=4.0						
MALT	Malatya	92.79	308	P	P	17 29 35.3	+2.5
	1.1nm,0.5s,mb4.5						
CPUP	Villa Florida	150.10	167	PKPbc	PKPbc	17 36 11.4	+0.5
	0.6nm,0.5s,baz=327,slow=3.2,SNR=4.1						

GUC 16 17:18:18.4±0.7**, 30.62S**×**70.95W, h71km**±3km**, MD3.7, ML3.8, 2C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.22	274⇓	iP	Pn	17 18 29.8	+0.6
OVCH				i S	Sn	17 18 37.8	+0.7
OVCH				AML	AML	17 18 38.4	
	comp=N,6µm,0.3s						
TLL	Tololo Astrono	0.47	16	eP	Pn	17 18 32.2	+1.2
TLL				i S	Sn	17 18 42.0	+1.7
TLL				AML	AML	17 18 44.2	
	comp=N,3µm,0.2s						
CMCH	Combarbala	0.55	185⇑	iP	Pn	17 18 32.1	+0.3
CMCH				i S	Sn	17 18 42.4	+0.8
CMCH				AML	AML	17 18 43.0	
	comp=N,9µm,0.1s						
LSCH	La Serena	0.76	340	eP	Pn	17 18 34.1	+0.1
LSCH				eS	Sn	17 18 45.8	+0.3
CHNG	Los Chungos	1.34	200	eP	Pn	17 18 41.7	+0.4
CHNG				eS	Sn	17 18 59.2	+0.7
CHNG				AML	AML	17 19 03.1	
	comp=E,1µm,0.5s						
PTCH	Petorca	1.64	179⇑	iP	Pn	17 18 45.6	+0.4
PTCH				i S	Sn	17 19 06.0	+0.6
PTCH				AML	AML	17 19 10.4	
	comp=E,3µm,0.4s						
VACH	Vallenar	2.05	5	eP	Pn	17 18 53.6	+2.9
VACH				eS	Sn	17 19 18.4	+3.1
VACH				AML	AML	17 19 23.9	
	comp=N,2µm,0.1s						
JACH	Jahuel	2.08	172	eP	Pn	17 18 52.0	+1.0
JACH				i S	Sn	17 19 17.2	+1.2
PEL	Peldehue	2.52	175	eP	Pn	17 18 58.2	+1.1
PEL				eS	Sn	17 19 27.6	+0.8
PEL				AML	AML	17 19 38.8	
	comp=E,571nm,0.4s						
FCH	Farellones	2.75	168	eP	Pn	17 19 01.6	+1.3
FCH				eS	Sn	17 19 34.2	+1.7
FCH				AML	AML	17 19 44.6	
	comp=E,250nm,0.3s						
CLCH	Cerro Calan	2.79	173	eP	Pn	17 19 01.6	+0.9
CLCH				eS	Sn	17 19 34.4	+1.1
CLCH				AML	AML	17 19 47.4	
	comp=E,373nm,0.8s						
RCDM	Rinconada Maip	2.86	178	eP	Pn	17 19 02.2	+0.6
RCDM				eS	Sn	17 19 35.5	+0.5
RCDM				AML	AML	17 19 47.8	
	comp=E,375nm,0.3s						
LCCH	Las Cruces	2.89	190	eP	Pn	17 19 01.8	-0.3
LCCH				i S	Sn	17 19 35.5	-0.3
TACH	Talagante	3.02	180	eP	Pn	17 19 04.5	+0.6
TACH				i S	Sn	17 19 39.6	+0.7
LMEL	Las Melosas	3.28	169	AML	AML	17 20 01.0	
	comp=N,189nm,0.2s						
CHCH	Chadas Angostu	3.31	176	eP	Pn	17 19 08.2	+0.4
CHCH				eS	Sn	17 19 46.5	+0.5
SFDO	San Fernando	3.98	181	eP	Pn	17 19 17.4	+0.4
SFDO				eS	Sn	17 20 02.9	+0.6

*IDC **16** 17:20:58.1±1.4, 3.01S×129.45E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.9/17, mbtmp3.9/5, ML3.5/2, Error ellipse: s-maj=101.7km s-min=23.1km az=72.0*
*NEIC **16** 17:20:58.2±1.0, 2.91S×129.71E, h10km, mb3.9/2, Error ellipse: s-maj=61.1km s-min=13.2km az=75.0*
*ISCJB **16** 17:21:00.2±1.1, 3.0S±0.1×129.7E±0.4, h33km, mb3.8/4, Error ellipse: s-maj=53.8km s-min=12.4km az=147.4*
ISC 16 17:21:02.5±1.1**, 3.0S**±0.1×**129.6E**±0.4**, h35km, n10, σ1.00**/9**, mb3.8**/4**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.48	194	Pn	Pn	17 24 37.8	-0.3
	0.1nm,0.3s,baz=48,slow=14,SNR=4.4						
WRAB	Tennant Creek	17.42	165	ePn	Pn	17 25 01.5	-1.2
WRA	Warramunga Arr	17.43	165	P	Pn	17 25 01.8	-1.0
	0.2nm,0.3s,baz=348,slow=12,SNR=4.7						
AS31	Alice Springs	20.93	169	eP	P	17 25 43.5	+1.5
ASAR	Alice Springs	20.93	169	P	P	17 25 43.4	+1.3
	9.6nm,0.6s,baz=347,slow=9.9,SNR=31						
ASAR				PcP	PcP	17 29 51.1	+2.2
	0.3nm,0.6s,baz=359,slow=1.7,SNR=4.6						
ULN	Ulaanbaatar	54.40	341	P	P	17 30 21.9	-4.0
	0.7nm,0.6s,mb3.8						
MKAR	Makanchi Array	64.73	326	P	P	17 31 37.4	+0.3
	0.6nm,0.7s,mb3.8,baz=108,slow=6.9,SNR=5.4						
BVAR	Borovoye Array	74.53	327	P	P	17 32 38.0	+0.4
	0.6nm,0.8s,mb3.6,baz=134,slow=6.2,SNR=3.7						
ZRNK	Zerenda	75.25	327	P	P	17 32 41.0	-0.7
	1.4nm,0.8s,mb3.9						
CPUP	Villa Florida	150.05	167	PKPbc	PKPbc	17 40 51.7	+2.4
	0.6nm,0.5s,baz=124,slow=3.6,SNR=3.2						

*ISCJB **16** 17:56:18.8±1.0, 4.1S±0.1×105.4W±0.2, h10km, mb4.0/10, MS3.8/12, Error ellipse: s-maj=29.8km s-min=18.4km az=126.0*
*IDC **16** 17:56:18.8±3.1, 4.15S×105.59W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.9/12, mbtmp3.7/5, MS3.8/12, Ms1 3.8/12, ms1mx3.6/21, Error ellipse: s-maj=88.7km s-min=29.1km az=51.0*
*NEIC **16** 17:56:19.7±1.4, 4.18S×105.27W, h10km, mb4.3/5, Error ellipse: s-maj=36.7km s-min=21.2km az=57.0*
ISC 16 17:56:19.6±1.1**, 4.2S**±0.2×**105.3W**±0.2**, h10km, n22, σ0.85**/13**, mb4.0**/10**, MS3.8**/12**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	23.55	26	P	P	18 01 31.7	+1.4
	2.3nm,0.9s,mb3.6,baz=201,slow=8.6,SNR=4.4						
CMIG				LR	LR	18 08 38.1	
	comp=Z,141nm,18.8s,MS3.5,baz=5.3,slow=31						
ATAH	Atahualpa	26.93	97	LR	LR	18 10 31.5	
	comp=Z,61nm,20.4s,MS3.1,baz=320,slow=31						
LPIG	La Paz	28.57	350	LR	LR	18 10 34.5	
	comp=Z,258nm,18.8s,MS3.9,baz=170,slow=30						
ROSC	El Rosal	32.24	74	LR	LR	18 13 33.0	
	comp=Z,104nm,20.3s,MS3.5,baz=134,slow=32						
SDV	Santo Domingo	36.95	69	eP	P	18 03 28.8	-0.1
	9.2nm,0.8s,mb4.7						
SDV				e	pP	18 03 33.6	+1.6
LPAZ	La Paz	38.43	111	P	P	18 03 45.4	+4.0
	0.7nm,0.6s,mb3.5,baz=326,slow=7.3,SNR=3.7						
LPAZ				LR	LR	18 16 38.3	
	comp=Z,72nm,19.0s,MS3.5,baz=180,slow=32						
WMOK	Wichita Mounta	39.24	9	P	P	18 03 42.2	-5.9
	1.3nm,0.8s,mb3.7						
MIAR	Mount Ida	40.12	15	eP	P	18 03 54.7	-0.8
	6.1nm,1.0s,mb4.3						
SAML	Samuel	42.10	99	eP	P	18 04 08.6	-3.2
	3.0nm,0.7s,mb4.0						
SAML				e		18 04 14.2	
ARUT	Antelope Range	42.47	350	P	P	18 04 14.4	-0.4
NVAR	Mina Array Bea	44.11	345	P	P	18 04 27.9	-0.2
	0.2nm,0.5s,mb3.1,baz=170,slow=11,SNR=3.8						
PPT	Papeete	45.30	249	LR	LR	18 17 37.5	
	comp=Z,182nm,22.0s,MS4.0,baz=68,slow=28						
PDAR	Pinedale Array	46.93	356	P	P	18 04 49.9	-0.5
	0.5nm,0.6s,mb3.6,baz=177,slow=6.8,SNR=3.8						
PLCA	Paso Flores	47.92	144	LR	LR	18 21 35.6	
	comp=Z,196nm,18.8s,MS4.1,baz=357,slow=32						
YBH	Yreka Blue Hor	48.41	343	LR	LR	18 20 48.2	
	comp=Z,113nm,21.8s,MS3.8,baz=181,slow=30						
CPUP	Villa Florida	50.86	121	LR	LR	18 23 00.6	
	comp=Z,111nm,19.9s,MS3.9,baz=60,slow=31						
YKA	Yellowknife Ar	66.91	355	P	P	18 07 12.7	+0.7
	2.2nm,0.9s,mb4.2,baz=174,slow=6.5,SNR=4.2						
YKA				LR	LR	18 34 34.6	
	comp=Z,39nm,19.2s,MS3.6,baz=205,slow=34						
YKA	Yellowknife Ar	66.91	355	P	P	18 07 12.7	+0.7
YKA				LR	LR	18 34 34.6	
SCHQ	Schefferville	66.92	23	LR	LR	18 36 32.6	
	comp=Z,73nm,19.4s,MS3.9,baz=115,slow=36						
PMSA	Palmer Station	67.21	162	LR	LR	18 28 18.0	
	comp=Z,263nm,21.8s,MS4.4,baz=350,slow=28						
EGAK	Eagle	73.72	345	eP	P	18 07 53.9	+0.1
QSPA	South Pole Qui	85.83	180	eP	P	18 08 59.6	+0.2
	5.5nm,1.0s,mb4.7						

GUC 16 17:56:39.2±0.6**, 29.12S**×**71.64W, h42km**±3km**, MD3.7, ML3.6, 1C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.82	83⇓	iP	Pn	17 56 55.2	+0.9
LCO				eS	Sn	17 57 07.9	+2.6
LSCH	La Serena	0.86	157⇓	iP	Pn	17 56 55.4	+0.6
LSCH				i S	Sn	17 57 07.3	+1.2
VACH	Vallenar	0.94	55⇓	iP	Pn	17 56 58.9	+3.0
VACH				eS	Sn	17 57 12.4	+4.2
VACH				AML	AML	17 57 16.8	
	comp=E,2µm,0.2s						
TLL	Tololo Astrono	1.27	146⇑	eP	Pn	17 57 02.5	+2.1
TLL				i S	Sn	17 57 19.5	+3.2
TLL				AML	AML	17 57 24.3	
	comp=N,2µm,0.6s						
CMCH	Combarbala	2.12	165⇓	eP	Pn	17 57 13.1	+1.0
CMCH				i S	Sn	17 57 38.9	+1.7
CMCH				AML	AML	17 57 50.7	
	comp=E,833nm,0.6s						

*ISCJB **16** 18:01:16.7±3.5, 3.08S±0.07×129.5E±0.1, h8km±22km, mb4.2/13, Error ellipse: s-maj=23.4km s-min=8.7km az=134.9*
*IDC **16** 18:01:17.6±1.1, 3.05S×129.46E, h0km, mb4.1/5, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, ML4.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.1/22, Error ellipse: s-maj=112.2km s-min=18.7km az=72.0*
*NEIC **16** 18:01:18.7±0.5, 3.06S×129.60E, h10km, mb4.2/11, Error ellipse: s-maj=18.0km s-min=7.2km az=69.0*
ISC 16 18:01:23.7±1.9**, 3.15S**±0.08×**129.5E**±0.1**, h48km**±18km**, n28, σ1.13**/28**, mb4.2**/13**, 1C, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.94	163	eP	Pn	18 03 44.9	+1.0
	12nm,0.6s						
FITZ	Fitzroy Crossi	15.33	194	eP	Pn	18 04 58.5	+1.7
	5.2nm,0.6s						
FITZ	Fitzroy Crossi	15.33	194	Pn	Pn	18 04 57.0	+0.2
	0.5nm,0.3s,baz=38,slow=12,SNR=24						
FITZ				LR	LR	18 11 46.9	
	comp=Z,68nm,18.5s,baz=198,slow=41						
WRAB	Tennant Creek	17.35	164	ePn	Pn	18 05 20.8	-1.5
	14nm,0.7s						
WRA	Warramunga Arr	17.35	165	P	Pn	18 05 21.0	-1.4
	1.2nm,0.3s,baz=345,slow=13,SNR=54						
WB2	Warramunga Arr	17.36	164⇑	iP	Pn	18 05 21.0	-1.4
KSM	Kuching	19.71	283	eP	Pn	18 05 49.8	-1.0
MBWA	Marble Bar	20.26	207	eP	P	18 05 54.8	-0.3
	13nm,0.9s						
AS31	Alice Springs	20.84	169	eP	P	18 06 02.8	+1.5
ASAR	Alice Springs	20.84	169	P	P	18 06 02.8	+1.4
	23nm,0.7s,baz=350,slow=11,SNR=284						
ASAR				S	S	18 09 51.2	+0.1
	0.3nm,0.5s,baz=349,slow=23,SNR=3.8						
ASAR				PcP	PcP	18 10 09.9	+1.5
	0.7nm,0.5s,baz=3.9,slow=1.6,SNR=7.1						
CTAO	Charters Tower	23.48	137	P	P	18 06 29.1	0.0
	6.6nm,0.9s,mb4.1						
KULM	Kulim	29.99	286	eP	P	18 07 29.5	+1.8
STKA	Stephens Creek	30.77	160	eP	P	18 07 36.0	+1.5
	2.0nm,1.1s,mb3.9						
STKA	Stephens Creek	30.77	160	P	P	18 07 35.9	+1.3
	1.0nm,0.4s,mb4.0,baz=320,slow=8.4,SNR=5.6						
STKA	Stephens Creek	30.77	160	eP	P	18 07 35.7	+1.2
NWAO	Narrogin (SRO)	31.77	200	P	P	18 07 42.8	-0.6
	15nm,1.1s,mb4.7						
ENH	Enshi	38.33	332	P	P	18 08 40.1	+0.3
	0.9nm,0.7s,mb3.6						
ULN	Ulaanbaatar	54.47	342	eP	P	18 10 46.3	0.0
	3.3nm,1.0s,mb4.2						
SONM	Songino Array	54.65	341	P	P	18 10 47.3	-0.3
	1.0nm,0.6s,mb4.0,baz=141,slow=7.0,SNR=5.1						
AFI	Afiamalu	58.93	104	eP	P	18 11 08.4	-10
	43nm,0.9s,mb5.5						
CASY	Casey	64.41	188	P	P	18 11 52.0	-2.8
	3.0nm,0.9s,mb4.3						
ZAL	Zalesovo	67.93	333	P	P	18 12 18.7	+1.3
	0.7nm,0.3s,mb4.1,baz=28,slow=8.0,SNR=3.9						
ZAL	Zalesovo	67.93	333	P	P	18 12 18.7	+1.3
BVAR	Borovoye Array	74.55	327	P	P	18 12 56.8	-0.6
	1.4nm,0.7s,mb4.0,baz=120,slow=8.7,SNR=7.8						
BRVK	Borovoye	74.62	327	P	P	18 12 58.4	+0.5
	2.1nm,0.9s,mb4.1						
ZRNK	Zerenda	75.27	327	eP	P	18 12 59.8	-1.8
	1.6nm,0.7s,mb4.1						
MAW	Mawson	78.33	201	P	P	18 13 19.1	+0.3
	6.6nm,1.1s,mb4.5						
CPUP	Villa Florida	149.96	168	PKPbc	PKPbc	18 21 10.8	+2.1
	1.2nm,0.5s,baz=139,slow=5.9,SNR=4.9						

*ISCJB **16** 18:07:54.3±0.8, 28.13S±0.06×178.6W±0.2, h276km±9km, mb3.6/9, Error ellipse: s-maj=25.9km s-min=8.0km az=21.4*
*NEIC **16** 18:07:56.6±1.8, 28.14S×178.75W, h272km±13km, mb3.8/6, Error ellipse: s-maj=43.8km s-min=21.7km az=48.0*
*IDC **16** 18:07:57.2±1.4, 28.18S×179.08W, h255km±13km, mb3.4/5, mb1 3.6/6, mb1mx3.4/12, mbtmp4.0/6, Error ellipse: s-maj=41.0km s-min=21.1km az=55.0*
ISC 16 18:07:57.0±0.8**, 28.35S**±0.06×**178.8W**±0.2**, h271km**±8km**, n29, σ1.18**/37**, mb3.6**/9**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.18	140	P	Pn	18 08 36.1	+0.8
	369nm,0.3s,baz=295,slow=22,SNR=29						
RAO				S	S	18 09 06.2	+0.7
	198nm,0.3s,baz=73,slow=19,SNR=4.7						
RAO	Raoul Island	1.18	140	P	Pn	18 08 36.1	+0.8
RAO				eS	S	18 09 04.8	-0.6
PUZ	Puketiti	10.01	194	ePN	Pn	18 10 14.5	-0.8
PUZ				SN	S	18 12 09.3	+1.3
MWZ	Matawai	10.42	196	ePN	Pn	18 10 19.4	-1.2
URZ	Urewera	10.46	198	P	Pn	18 10 22.1	+1.1
	0.9nm,0.3s,baz=49,slow=5.4,SNR=19						
URZ				S	S	18 12 21.0	+2.6
	3.4nm,0.3s,baz=119,slow=19,SNR=20						
URZ	Urewera	10.46	198	ePN	Pn	18 10 19.3	-1.7
URZ				SN	S	18 12 21.7	+3.2
KNZ	Kokohu	11.04	195	SN	S	18 12 31.0	-0.8
BKZ	Black Stump Fm	11.48	199	ePN	Pn	18 10 35.6	+2.0
MRZ	Mangatainoka R	13.13	199	SN	S	18 13 18.9	-0.5
CAW	Cannon Point	13.69	200	ePN	Pn	18 10 58.4	-2.2
MRW	Makara Radio	13.91	201	SN	S	18 13 36.0	-1.1
TCW	Tory Channel	14.03	202	SN	S	18 13 37.9	-1.8
TUWZ	Tuamarina	14.34	203	ePN	Pn	18 11 08.0	-0.5
QRZ	Quartz Range	14.34	208	ePN	Pn	18 11 10.0	+1.5
NNZ	Nelson	14.35	205	ePN	Pn	18 11 07.6	-1.0
NNZ				SN	S	18 13 48.1	+1.2
THZ	Tophouse	15.00	205	ePN	Pn	18 11 15.5	-0.8
THZ				SN	S	18 14 01.3	+0.9
KHZ	Kahutara	15.36	202	ePN	Pn	18 11 19.8	-0.7
KHZ				SN	S	18 14 08.0	+0.4
MQZ	McQueen's Vall	16.80	202	SN	S	18 14 36.8	+0.3
STKA	Stephens Creek	34.32	254	P	P	18 14 21.0	+2.8
	0.6nm,0.4s,mb3.5,baz=104,slow=12,SNR=3.6						
ASAR	Alice Springs	42.57	265	P	P	18 15 26.8	+0.3
	0.3nm,0.4s,mb2.9,baz=105,slow=6.9,SNR=20						
WB2	Warramunga Arr	43.36	270	eP	P	18 15 32.5	-0.3
WRAB	Tennant Creek	43.36	270	eP	P	18 15 32.2	-0.5
	3.2nm,0.3s,mb4.0						
WRA	Warramunga Arr	43.37	270	P	P	18 15 32.6	-0.2
	1.5nm,0.3s,mb3.7,baz=110,slow=7.2,SNR=66						
VNDA	Vanda	50.06	185	P	P	18 16 27.3	+2.8
	3.0nm,1.1s,mb3.5,baz=12,slow=6.5,SNR=7.6						
FITZ	Fitzroy Crossi	51.70	269	eP	P	18 16 36.6	0.0
	3.6nm,1.4s,mb3.5						
FITZ	Fitzroy Crossi	51.70	269	P	P	18 16 36.4	-0.2
	0.4nm,0.3s,mb3.2,baz=83,slow=6.3,SNR=7.3						
CASY	Casey	56.63	207	eP	P	18 17 11.8	-0.3
	1.6nm,0.4s,mb3.8						
MAW	Mawson	73.98	201	P	P	18 19 03.8	+0.9
	2.2nm,0.8s,mb3.9,baz=159,slow=4.8,SNR=4.2						
SNAA	Sanae	80.22	179	P	P	18 19 36.1	-1.3
	2.3nm,1.1s,mb3.8						

*IDC **16** 18:44:04.0±1.0, 17.34S×173.53W, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/19, mbtmp4.2/11, ML1.9/1, MS3.9/12, Ms1 3.9/12, ms1mx3.5/37, Error ellipse: s-maj=42.5km s-min=18.0km az=139.0*
*NEIC **16** 18:44:04.8±0.6, 17.61S×173.41W, h10km, mb4.7/6, Error ellipse: s-maj=21.5km s-min=14.3km az=143.0*
*ISCJB **16** 18:44:07.0±0.7, 17.6S±0.1×173.5W±0.1, h33km, mb4.4/16, MS3.9/11, Error ellipse: s-maj=19.5km s-min=14.0km az=87.1*
ISC 16 18:44:09.4±0.7**, 17.6S**±0.1×**173.4W**±0.1**, h35km, n50, σ1.21**/33**, mb4.4**/16**, MS3.9**/11**, 2D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.03	23	Pn	Pn	18 45 02.2	-6.4
	5.4nm,0.3s,baz=163,slow=3.3,SNR=11						
AFI				Sn	Sn	18 45 43.7	-11
	37nm,0.3s,baz=194,slow=22,SNR=6.5						
AFI				T		18 49 13.2	
	64nm,0.3s,baz=68,slow=22,SNR=9.4						
AFI	Afiamalu	4.03	23	ePn	Pn	18 45 01.2	-7.4
AFI				eSn	Sn	18 45 42.6	-12
DZM	Mont Dzumac	19.44	254	LR	LR	18 54 49.1	
	comp=Z,256nm,18.7s,baz=235,slow=33						
URZ	Urewera	22.16	200	P	P	18 48 58.6	-3.5
	14nm,0.6s,mb4.6,baz=25,slow=5.8,SNR=9.8						
PPT	Papeete	22.73	93	eLQ		18 53 01.5	
	397nm,27.2s						
PPT				eLR	LR	18 54 06.4	
	326nm,26.5s,baz=256						
PPT	Papeete	22.73	93	LR	LR	18 55 05.1	
	comp=Z,274nm,21.7s,MS3.6,baz=289,slow=29						
HNR	Honiara	27.12	284	LR	LR	18 58 49.3	
	comp=Z,287nm,20.1s,MS3.8,baz=179,slow=33						
RPZ	Rata Peaks	29.12	204	P	P	18 50 09.4	+2.6
	8.1nm,0.5s,mb4.7,baz=353,slow=8.1,SNR=2.7						
RKT	Rikitea	36.38	105	eLR	LR	19 00 23.7	
	207nm,31.0s						
CTA	Charters Tower	38.18	260	P	P	18 51 24.4	-1.1
	4.0nm,0.7s,mb4.2,baz=65,slow=14,SNR=3.5						
CTA				LR	LR	19 05 14.8	
	comp=Z,181nm,20.4s,MS3.9,baz=89,slow=33						
CTAO	Charters Tower	38.18	260	P	P	18 51 25.4	-0.1
PMG	Port Moresby	39.13	277	LR	LR	19 04 56.0	
	comp=Z,91nm,20.4s,MS3.6,baz=52,slow=32						
STKA	Stephens Creek	42.94	242	P	P	18 52 04.6	-0.2
	1.4nm,0.7s,mb3.8,baz=105,slow=6.7,SNR=3.2						
STKA	Stephens Creek	42.94	242	eP	P	18 52 02.4	-2.4
WB2	Warramunga Arr	49.34	259	eP	P	18 52 55.1	0.0
WB2	Warramunga Arr	49.34	259	eP	P	18 52 54.1	-1.1
WRAB	Tennant Creek	49.34	259	eP	P	18 52 54.8	-0.3
	15nm,1.1s,mb4.9						
WRA	Warramunga Arr	49.35	259	P	P	18 52 54.5	-0.8
	1.1nm,0.5s,mb4.2,baz=99,slow=6.1,SNR=33						
AS31	Alice Springs	49.43	254	eP	P	18 52 55.2	-0.6
ASAR	Alice Springs	49.43	254	P	P	18 52 55.2	-0.7
	4.6nm,0.6s,mb4.7,baz=89,slow=8.5,SNR=74						

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
ASAR				PcP	PcP	18 54 18.3	+0.6
	1.6nm,0.8s,baz=106,slow=3.8,SNR=4.7						
ASAR				S	S	19 00 01.0	+0.4
	0.3nm,0.7s,baz=95,slow=16,SNR=3.3						
ASAR				LR	LR	19 10 33.8	
	comp=Z,62nm,18.7s,MS3.6,baz=185,slow=32						
ASAR	Alice Springs	49.43	254	P	P	18 52 55.2	-0.7
ASAR				PcP	PcP	18 54 18.3	+0.6
ASAR				S	S	19 00 01.0	+0.4
ASAR				LR	LR	19 10 33.8	
GUMO	Guam	51.55	304	LR	LR	19 12 07.7	
	comp=Z,70nm,19.7s,MS3.7,baz=92,slow=33						
FITZ	Fitzroy Crossi	57.76	259	eP	P	18 53 58.4	+1.6
	1.5nm,0.4s,mb4.4						
FITZ	Fitzroy Crossi	57.76	259	P	P	18 53 58.2	+1.4
	1.5nm,0.8s,mb4.1,baz=138,slow=15,SNR=5.6						
SBA	Scott Base	61.03	185	P	P	18 54 19.7	+0.2
VNDA	Vanda	61.16	186	eP	P	18 54 18.8	-1.6
	2.6nm,1.1s,mb4.3						
MBWA	Marble Bar	62.74	255	eP	P	18 54 31.1	+0.2
	7.4nm,1.1s,mb4.7						
MJAR	Matsushiro Arr	70.63	320	P	P	18 55 20.6	-0.6
	2.1nm,0.9s,mb4.1,baz=158,slow=5.4,SNR=8.5						
MJAR				LR	LR	19 21 12.3	
	comp=Z,90nm,20.2s,MS4.0,baz=110,slow=32						
MAJO	Matsushiro	70.64	320	P	P	18 55 19.4	-1.9
	7.7nm,1.1s,mb4.5						
YSS	Yuzh-Sakhalins	75.41	331	P	P	18 55 51.5	+2.0
	13nm,1.1s,mb4.8						
NVAR	Mina Array Bea	76.00	42	P	P	18 55 52.9	0.0
	0.6nm,0.6s,mb3.7,baz=230,slow=8.2,SNR=5.0						
NVAR	Mina Array Bea	76.00	42	P	P	18 55 52.9	0.0
KSM	Kuching	77.38	276	eP	P	18 56 02.8	+2.1
MDJ	Mudanjiang	80.78	323	P	P	18 56 19.9	+0.7
NEW	Newport	82.56	34	LR	LR	19 30 51.1	
	comp=Z,79nm,18.1s,MS4.1,baz=137,slow=34						
PDAR	Pinedale Array	83.94	42	P	P	18 56 35.1	-0.6
	0.9nm,0.6s,mb4.0,baz=235,slow=3.0,SNR=8.5						
PLCA	Paso Flores	88.03	132	LR	LR	19 28 48.7	
	comp=Z,137nm,22.0s,MS4.3,baz=354,slow=30						
PSI	Prapat	88.61	273	P	P	18 57 00.1	+1.3
	2.0nm,0.4s,mb4.8,baz=115,slow=3.1,SNR=5.5						
ULM	Lac du Bonnet	95.67	39	LR	LR	19 37 52.0	
	comp=Z,65nm,19.8s,MS4.1,baz=37,slow=34						
LPAZ	La Paz	99.06	110	LR	LR	19 34 31.5	
	comp=Z,42nm,20.9s,MS3.9,baz=239,slow=30						
KMBO	Kilima Mbogo	144.50	241	PKP	PKPdf	19 03 43.3	+1.3
	3.5nm,1.0s,baz=39,slow=22,SNR=5.4						
MALT	Malatya	145.40	313	ePKPdf	PKPdf	19 03 45.7	+2.2
CLL	Collm	146.02	353⇓	iPKPbc	PKPbc	19 03 46.4	+0.9
	comp=Z,11nm,1.1s						
CLL	Collm	146.02	353⇓	iP	PKPdf	19 03 42.0	-2.6
CLL				i		19 03 46.4	
BRG	Berggiesshubel	146.33	352	e(P)	PKPdf	19 03 47.1	+2.0
	comp=Z,4.8nm,1.4s						
BRTR	Keskin Array B	147.85	319	PKPbc	PKPbc	19 03 49.0	-1.6
	comp=Z,1.6nm,0.9s,baz=130,slow=3.4,SNR=5.9						
GERES	GERESS Array B	148.34	351	PKPbc	PKPbc	19 03 51.6	-0.4
	comp=Z,0.7nm,0.6s,baz=316,slow=3.7,SNR=6.9						
FLN	La Foliniere	148.43	9	ePKP1	PKPbc	19 03 52.7	+0.5
	comp=Z,8.9nm,0.7s						
GRR	Gorron	148.74	10	ePKP1	PKPbc	19 03 53.6	+0.6
CDF	Champ du Feu	149.30	359	ePKP1	PKPbc	19 03 55.1	+0.7
	comp=Z,6.8nm,0.8s						

*ISCJB **16** 18:59:09.7±0.7, 2389S±005×6671W±009, h206^{km}±7^{km}, mb3.7/10, Error ellipse: s-maj=13.4km s-min=7.9km az=158.8*

*IDC **16** 18:59:10.8±0.8, 2384S×6673W, h203^{km}±9^{km}, mb3.5/6, mb1 3.7/13, mb1mx3.6/22, mbtmp4.1/13, Error ellipse: s-maj=13.9km s-min=12.1km az=71.0*

*NEIC **16** 18:59:10.7±0.6, 2387S×6668W, h202^{km}±6^{km}, mb4.1/10, Error ellipse: s-maj=10.6km s-min=7.2km az=83.0*

ISC 16 18:59:10.6±0.7**, 2388S**±005×**6671W**±009**, h199**^{km}±7^{km}**, n33,** σ**0**^{s}**91**/32**, mb3.7**/10**, 1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LVC	Limon Verde	2.39	301	P	Pn	18 59 54.9	+1.8
	57nm,0.3s,baz=126,slow=6.7,SNR=619						
LVC				S	Sn	19 00 27.2	+1.0
	58nm,0.3s,baz=248,slow=21,SNR=51						
LVC	Limon Verde	2.39	301	ePn	Pn	18 59 54.8	+1.7
LVC				eSn	Sn	19 00 18.2	-8.0
LPAZ	La Paz	7.67	350	P	Pn	19 01 00.6	+1.1
	2.5nm,0.3s,baz=165,slow=7.2,SNR=27						
LPAZ				S	Sn	19 02 24.4	-1.7
	0.4nm,0.3s,baz=50,slow=23,SNR=5.2						
LPAZ	La Paz	7.67	350	ePn	Pn	19 01 00.2	+0.7
	10nm,0.6s						
LPAZ				eSn	Sn	19 02 24.6	-1.4
CFAA	Coronel Fontan	7.82	190	P	Pn	19 01 00.4	-1.0
	0.8nm,0.3s,baz=12,slow=12,SNR=41						
CFAA				S	Sn	19 02 24.2	-5.4
	1.4nm,0.3s,baz=234,slow=13,SNR=17						
CPUP	Villa Florida	8.84	108	P	Pn	19 01 15.4	+0.7
	0.2nm,0.3s,baz=275,slow=8.5,SNR=6.4						
CPUP	Villa Florida	8.84	108	ePn	Pn	19 01 14.8	0.0
SIV	San Ignacio	9.47	35	P	Pn	19 01 22.2	-0.7
	3.4nm,0.3s,baz=219,slow=13,SNR=119						
TRQA	Tornquist	14.70	165	ePn	Pn	19 02 28.6	-0.5
	6.3nm,1.0s						
SAML	Samuel	15.22	13	ePn	Pn	19 02 34.9	-0.6
	8.4nm,0.7s						
PLCA	Paso Flores	17.11	190	P	Pn	19 02 57.0	-1.2
	0.2nm,0.3s,baz=355,slow=12,SNR=5.1						
PLCA	Paso Flores	17.11	190	P	Pn	19 02 57.4	-0.8
	3.7nm,0.9s						
BDFB	Brasilia	19.39	68	P	P	19 03 22.5	+1.0
	2.5nm,0.3s,baz=249,slow=10,SNR=23						
BDFB	Brasilia	19.39	68	eP	P	19 03 22.5	+1.0
	24nm,0.6s						
SNAA	Sanae	59.38	161	P	P	19 08 52.0	0.0
	0.6nm,0.6s,mb3.4,baz=294,slow=8.8,SNR=7.7						
SNAA	Sanae	59.38	161	eP	P	19 08 52.5	+0.6
	2.0nm,0.7s,mb3.9						
WVT	Waverly	62.93	341	eP	P	19 09 14.1	-1.7
	6.2nm,0.6s,mb4.4						
ANMO	Albuquerque	69.60	326	eP	P	19 09 58.7	+0.6
	1.6nm,0.7s,mb3.8						
SYO	Syowa Base	73.57	159⇓	eP	P	19 10 22.1	+0.3
RSSD	Black Hills	75.82	333	P	P	19 10 35.5	+0.7
	3.0nm,0.9s,mb3.9						
TORD	Torodi Ar. Bea	76.28	69	P	P	19 10 37.0	-0.3
	1.2nm,0.6s,mb3.7,baz=256,slow=5.3,SNR=29						
TORD	Torodi Ar. Bea	76.28	69	P	P	19 10 37.0	-0.3
PDAR	Pinedale Array	77.18	329	P	P	19 10 42.2	-0.1
	0.4nm,0.5s,mb3.3,baz=111,slow=8.1,SNR=3.8						
HWUT	Hardware Ranch	77.27	327	P	P	19 10 43.3	+0.5
	1.4nm,0.6s,mb3.8						
ULM	Lac du Bonnet	78.20	341	P	P	19 10 47.1	-0.8
	2.1nm,0.5s,mb4.0,baz=173,slow=5.8,SNR=6.0						
BOSA	Boshof	80.55	117	P	P	19 11 01.5	+0.8
	1.7nm,0.8s,mb3.7,baz=236,slow=9.9,SNR=6.6						
ESDC	Sonseca Array	86.12	43	P	P	19 11 30.0	+0.9
	0.2nm,0.5s,mb3.1,baz=237,slow=4.6,SNR=5.0						
ASAR	Alice Springs	128.68	204	PKP	PKPdf	19 17 54.6	+0.6
	0.8nm,0.7s,baz=154,slow=2.5,SNR=6.1						
WRA	Warramunga Arr	131.86	207	PKP	PKPdf	19 18 00.7	+0.7
	0.5nm,0.5s,baz=159,slow=1.6,SNR=10						
ZAL	Zalesovo	143.16	28	PKP	PKPdf	19 18 17.8	-3.0
	1.1nm,0.5s,baz=180,slow=4.9,SNR=6.3						
ZAL	Zalesovo	143.16	28	PKP	PKPdf	19 18 17.8	-3.0
MKAR	Makanchi Array	146.26	40	PKPbc	PKPbc	19 18 26.7	-0.9
	2.7nm,0.5s,baz=317,slow=2.4,SNR=23						
SONM	Songino Array	155.47	11	PKPab	PKPab	19 19 07.1	+0.2
	0.8nm,0.7s,baz=321,slow=4.2,SNR=5.4						

*ISCJB **16** 19:21:36.0±0.7, 297S±007×1297E±02, h10^{km}, mb4.0/6, Error ellipse: s-maj=22.8km s-min=7.5km az=141.3*

*IDC **16** 19:21:37.2±1.2, 315S×12920E, h0^{km}, mb3.9/4, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, ML4.1/1, MS4.4/1, Ms1 4.4/1, ms1mx2.7/30, Error ellipse: s-maj=101.9km s-min=21.2km az=72.0*

*NEIC **16** 19:21:38.2±0.5, 307S×12960E, h10^{km}, mb4.2/5, Error ellipse: s-maj=19.5km s-min=7.4km az=68.0*

ISC 16 19:21:39.9±3.9**, 302S**±008×**1296E**±02**, h22**^{km}±28^{km}**, n17,** σ**1**^{s}**00**/18**, mb4.0**/6**, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
FITZ	Fitzroy Crossi	15.49	194	eP	Pn	19 25 18.8	+1.9
	3.9nm,0.6s						
FITZ	Fitzroy Crossi	15.49	194	Pn	Pn	19 25 15.6	-1.3
	0.1nm,0.3s,baz=355,slow=18,SNR=4.2						
WRAB	Tennant Creek	17.42	165	ePn	Pn	19 25 40.7	-0.8
	5.8nm,0.4s						
WRA	Warramunga Arr	17.43	165	P	Pn	19 25 40.2	-1.4
	0.6nm,0.3s,baz=345,slow=13,SNR=23						
WRA				S	Sn	19 28 55.4	+0.5
	0.1nm,0.3s,baz=338,slow=24,SNR=3.7						
WB2	Warramunga Arr	17.43	165	eP	Pn	19 25 40.5	-1.1
KSM	Kuching	19.84	283	eP	Pn	19 26 10.2	-0.5
MBWA	Marble Bar	20.45	207	eP	P	19 26 18.3	+2.5
	7.2nm,0.8s						
AS31	Alice Springs	20.93	169	eP	P	19 26 21.3	+0.3
ASAR	Alice Springs	20.93	169	P	P	19 26 21.4	+0.4
	11nm,0.8s,baz=349,slow=12,SNR=91						
ASAR				S	S	19 30 11.7	-1.6
	0.9nm,0.8s,baz=349,slow=25,SNR=5.3						
ASAR				PcP	PcP	19 30 29.5	+1.2
	0.6nm,0.5s,baz=344,slow=1.3,SNR=7.8						
CTAO	Charters Tower	23.46	138	P	P	19 26 49.5	+1.6
	14nm,1.2s,mb4.3						
STKA	Stephens Creek	30.83	160	P	P	19 27 47.8	-6.3
MKAR	Makanchi Array	64.74	326	P	P	19 32 16.3	-0.1
	0.7nm,0.8s,mb3.8,baz=115,slow=7.7,SNR=5.9						
YAK	Yakutsk	64.87	0	P	P	19 32 17.3	0.0
	5.8nm,0.9s,mb4.6						
ZAL	Zalesovo	67.89	333	P	P	19 32 36.6	0.0
	0.6nm,0.4s,mb4.0,baz=335,slow=6.2,SNR=5.3						
BVAR	Borovoye Array	74.54	327	P	P	19 33 17.1	+0.3
	0.3nm,0.5s,mb3.5,baz=116,slow=3.4,SNR=4.4						
ZRNK	Zerenda	75.25	327	P	P	19 33 20.6	-0.4
	1.4nm,0.9s,mb3.9						
CPUP	Villa Florida	150.05	167	PKPbc	PKPbc	19 41 30.7	+2.0
	0.9nm,0.5s,baz=181,slow=1.9,SNR=5.2						

GUC 16 19:24:43.8±0.4**, 3090S**×**7163W, h38**^{km}±2^{km}**, MD3.5, ML2.7, 1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
OVCH	Ovalle	0.46	52⇓	iP	Pn	19 24 53.8	-0.2
OVCH				iS	Sn	19 25 01.7	+0.6
OVCH				AML	AML	19 25 02.0	
	comp=N,507nm,0.2s						
CMCH	Combarbala	0.60	118⇑	iP	Pn	19 24 55.9	0.0
CMCH				iS	Sn	19 25 05.5	+1.0
CMCH				AML	AML	19 25 06.3	
	comp=N,904nm,0.7s						
CHNG	Los Chungos	0.99	174⇓	iP	Pn	19 25 01.7	+0.5
CHNG				iS	Sn	19 25 15.2	+1.3
TLL	Tololo Astrono	1.01	45⇓	iP	Pn	19 25 02.7	+1.2
TLL				iS	Sn	19 25 17.1	+2.6
TLL				AML	AML	19 25 21.5	
	comp=N,240nm,0.6s						
PTCH	Petorca	1.49	157	iP	Pn	19 25 09.2	+1.2
PTCH				iS	Sn	19 25 28.3	+2.1
PTCH				AML	AML	19 25 31.9	
	comp=E,332nm,0.4s						

*IDC **16** 19:36:46.9±2.0, 2092S×17384W, h0^{km}, mb3.9/7, mb1 4.1/7, mb1mx4.0/16, mbtmp3.9/7, Error ellipse: s-maj=83.5km s-min=25.0km az=148.0*

*NEIC **16** 19:36:49.0±1.9, 2044S×17402W, h10^{km}, mb4.6/1, Error ellipse: s-maj=62.4km s-min=15.8km az=134.0*

*ISCJB **16** 19:36:52.7±1.7, 197S±02×1745W±03, h33^{km}, mb4.0/8, Error ellipse: s-maj=54.0km s-min=9.1km az=78.7*

ISC 16 19:36:54.9±1.7**, 198S**±02×**1744W**±03**, h35**^{km}**, n11,** σ**1**^{s}**02**/12**, mb4.0**/8**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
AFI	Afiamalu	6.42	24	Pn	Pn	19 38 27.9	+1.0
	4.0nm,0.3s,baz=96,slow=14,SNR=7.2						
AFI				Sn	Sn	19 39 38.1	-0.8
	3.2nm,0.3s,baz=112,slow=19,SNR=2.6						
CTA	Charters Tower	36.89	263	P	P	19 44 00.8	+0.8
	3.6nm,0.7s,mb4.3,baz=96,slow=9.2,SNR=3.5						
CTA	Charters Tower	36.89	263	P	P	19 44 00.8	+0.8
STKA	Stephens Creek	41.08	244	P	P	19 44 32.8	-2.4
	1.7nm,0.8s,mb3.7,baz=75,slow=9.1,SNR=5.0						
ASAR	Alice Springs	47.92	256	P	P	19 45 29.6	-0.2
	1.4nm,0.7s,mb4.1,baz=94,slow=8.1,SNR=11						
WRA	Warramunga Arr	48.01	261	P	P	19 45 30.8	+0.4
	0.7nm,0.6s,mb3.9,baz=96,slow=5.7,SNR=9.9						
FITZ	Fitzroy Crossi	56.43	261	P	P	19 46 34.2	+1.2
	1.0nm,0.6s,mb4.0,baz=98,slow=7.1,SNR=7.3						
MBWA	Marble Bar	61.26	256	eP	P	19 47 05.6	-0.9
	2.8nm,0.6s,mb4.6						
MJAR	Matsushiro Arr	71.72	321	P	P	19 48 18.2	+4.8
	0.8nm,0.6s,mb3.8,baz=148,slow=5.1,SNR=5.0						
MJAR	Matsushiro Arr	71.72	321	P	P	19 48 18.2	+4.8
NVAR	Mina Array Bea	78.28	42	P	P	19 48 51.5	+0.3
	0.3nm,0.6s,mb3.4,baz=218,slow=9.8,SNR=3.8						

*ISCJB **16** 19:43:02.1±0.2, 4937N±001×683E±002, h0^{km}, Error ellipse: s-maj=2.3km s-min=1.9km az=174.8*

*NEIC **16** 19:43:03.4, 4939N×683E, h10^{km}, ML2.7(STR), ML3.0(LDG), After STR.*

*STR **16** 19:43:03.5±0.4, 4939N×682E, h1^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*BNS **16** 19:43:03.5±1.9, 5044N×875E, h1^{km}, ML1.8*

*LDG **16** 19:43:04.5±0.1, 4939N×688E, h1^{km}, Md3.0/2, Ml3.0/17, Error ellipse: s-maj=1.7km s-min=1.5km az=87.0, Suspected Mining induced.*

*CSEM **16** 19:43:04.4±0.1, 4939N×690E, h1^{km}, ML2.9/15, Error ellipse: s-maj=1.3km s-min=1.0km az=66.0*

*BGR **16** 19:43:05.1±0.5, 4937N×685E, h1^{km}, ML2.1, Error ellipse: s-maj=7.8km s-min=4.4km az=33.0*

ISC 16 19:43:03.2±0.2**, 4938N**±001×**683E**±002**, h0**^{km}**, n69,** σ**0**^{s}**98**/127**, Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
WLF	Walferdange	0.53	303	ePg	Pg	19 43 15.0	+1.7
WLF				eSg	Sg	19 43 22.1	+2.0
WLF	Walferdange	0.53	303	P	Pg	19 43 14.9	+1.6
WLF	Walferdange	0.53	303	ePg	Pg	19 43 14.8	+1.5
WLF				eSg	Sg	19 43 20.5	+0.4
WLF	Walferdange	0.53	303	ePg	Pg	19 43 14.8	+1.5
WLF				Sg	Sg	19 43 22.1	+2.0
ABH	Alteburg	0.69	42	Pg	Pg	19 43 16.1	-0.3
BGG	Burgeitz	0.89	21	ePg	Pg	19 43 21.2	+0.9
CDF	Champ du Feu	1.01	163	ePn	Pn	19 43 23.9	-0.7
CDF				eSg	Sg	19 43 36.8	+1.2
	44nm,0.3s,SNR=1.0						
CDF	Champ du Feu	1.01	163	ePg	Pg	19 43 22.8	+0.3
CDF				ePn	Pn	19 43 23.9	-0.7
CDF				eSg	Sg	19 43 36.8	+1.2
CDF	Champ du Feu	1.01	163	ePn	Pn	19 43 23.9	-0.7
CDF				eSg	Sg	19 43 36.8	+1.2
	22nm,0.3s,SNR=1.0						
WLS	Welschbruch	1.02	160	Pg	Pg	19 43 23.4	+0.6
WLS				Sg	Sg	19 43 38.2	+2.1
RFYF	Reffroy	1.17	231	ePn	Pn	19 43 26.9	+0.2
	baz=45						
RFYF				eSg	Sg	19 43 43.2	+2.5
	71nm,0.4s						
RFYF	Reffroy	1.17	231	ePn	Pn	19 43 26.9	+0.2
RFYF				eSg	Sg	19 43 43.2	+2.5
	35nm,0.4s						
ECH	Echery	1.18	169	Pg	Pg	19 43 26.5	+0.6
ECH				Sg	Sg	19 43 42.7	+1.5
STB	Steinbach	1.22	0	ePg	Pg	19 43 27.4	+0.8
STB				eSg	Sg	19 43 42.6	+0.2
	16nm,0.6s						
THEF	They Montfort	1.28	206	Pg	Pg	19 43 28.0	+0.3
TOD	Tromm	1.31	79	Pg	Pg	19 43 28.2	0.0
KLL	Kalltalsperre	1.31	345	ePg	Pg	19 43 28.4	0.0
LIBD	Limburg	1.33	157	Pg	Pg	19 43 29.8	+1.1
LIBD				Sg	Sg	19 43 47.5	+1.6
MEM	Membach	1.34	337	P	Pg	19 43 29.5	+0.5
TNS	Taunus Mts	1.35	50	ePg	Pg	19 43 29.8	+0.8
TNS				eSg	Sg	19 43 47.4	+1.0
HAU	Haudompre	1.41	193	ePn	Pn	19 43 29.7	-0.4
	SNR=1.0						
HAU				eSn	Sn	19 43 48.3	-1.1
	56nm,0.4s,SNR=1.0						
HAU	Haudompre	1.41	193	ePn	Pn	19 43 29.7	-0.4
	SNR=1.0						
HAU				eSn	Sn	19 43 48.3	-1.1
	28nm,0.4s,SNR=1.0						
BCLA	Clavier	1.44	317	P	Pn	19 43 30.9	+0.4
BCLA	Clavier	1.44	317	P	Pn	19 43 30.8	+0.3
BFO	Black Forest	1.44	136	ePg	Pg	19 43 31.5	+0.7
BFO				eSg	Sg	19 43 49.7	+0.2
MEZF	Maizieres J'vi	1.46	234	ePn	Pn	19 43 31.8	+1.0
	baz=61,SNR=1.0						
MEZF				eSn	Sn	19 43 51.9	+1.2
	32nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	1.46	234	ePn	Pn	19 43 31.8	+1.0
	SNR=1.0						
MEZF				eSn	Sn	19 43 51.9	+1.2
	16nm,0.4s,SNR=1.0						
GIVF	Givet	1.49	300	ePn	Pn	19 43 30.8	-0.4
	SNR=1.0						
GIVF				eSg	Sg	19 43 52.1	+1.0
	83nm,0.7s						
GIVF	Givet	1.49	300	ePn	Pn	19 43 30.8	-0.4
	SNR=1.0						
GIVF				eSg	Sg	19 43 52.1	+1.0
	42nm,0.7s						
HGN	Heimansgroeve	1.50	338	ePg	Pg	19 43 31.5	-0.5
HGN				eSg	Sg	19 43 51.7	+0.2
HGN				eRg		19 44 11.7	
HGN	Heimansgroeve	1.50	338	ePg	Pg	19 43 31.5	-0.5
HGN				eSg	Sg	19 43 51.7	+0.2
MOF	Molkenrain	1.54	172	Pg	Pg	19 43 33.0	+0.3
MOF				Sg	Sg	19 43 53.5	+0.8
HINF	Hinteralfeld	1.56	179	ePn	Pn	19 43 32.1	-0.1
	SNR=1.0						
HINF				eSn	Sn	19 43 51.6	-1.5
	SNR=1.0						
HINF				eSg	Sg	19 43 53.9	+0.5
	116nm,0.4s						
HINF	Hinteralfeld	1.56	179	ePn	Pn	19 43 32.1	-0.1
	SNR=1.0						
HINF				eSn	Sn	19 43 51.6	-1.5
	SNR=1.0						
HINF				eSg	Sg	19 43 53.9	+0.5
	58nm,0.4s						
DOU	Dourbes	1.62	297	P	Pn	19 43 33.2	+0.2
SFTF	Sexfontaines	1.67	226	ePn	Pn	19 43 33.8	+0.2
	baz=50						
SFTF				eSg	Sg	19 43 58.0	+1.2
	27nm,0.4s						
SFTF	Sexfontaines	1.67	226	ePn	Pn	19 43 33.8	+0.2
SFTF				eSg	Sg	19 43 58.0	+1.2
	14nm,0.4s						
FELD	Feldberg im Sc	1.69	152	Pg	Pg	19 43 34.9	-0.7
BAIF	Baives	1.83	293	ePn	Pn	19 43 35.8	-0.1
	SNR=1.0						
BAIF				eSn	Sn	19 43 58.6	-1.3
	SNR=1.0						
BAIF				eSg	Sg	19 44 03.3	+1.2
	13nm,0.3s						
BAIF	Baives	1.83	293	ePn	Pn	19 43 35.8	-0.1
	SNR=1.0						
BAIF				eSn	Sn	19 43 58.6	-1.3
	SNR=1.0						
BAIF				eSg	Sg	19 44 03.3	+1.2
	6.7nm,0.3s						
SNF	Seneffe	2.00	305	P	Pn	19 43 35.6	-2.6
LOMF	Lomont	2.03	180	Pg	Pg	19 43 41.6	-0.5
CABF	La Chapelle	2.81	191	ePn	Pn	19 43 49.4	0.0
	SNR=1.0						
CABF				eSg	Sg	19 44 33.3	-0.3
	16nm,0.6s,SNR=1.0						
CABF	La Chapelle	2.81	191	ePn	Pn	19 43 49.4	0.0
	SNR=1.0						
CABF				eSg	Sg	19 44 33.3	-0.3
	8.1nm,0.6s,SNR=1.0						
GRF	Grafenberg Arr	2.88	82	ePg	Pg	19 43 58.4	+0.1
	SNR=2.7						
GRF				eSg	Sg	19 44 35.6	0.0
LOR	Lormes	2.90	224	ePn	Pn	19 43 49.6	-0.9
	baz=48,SNR=1.0						
LOR				eSn	Sn	19 44 24.3	-1.8
	SNR=1.0						
LOR				eSg	Sg	19 44 36.8	+0.5
	8.7nm,0.3s						
LOR	Lormes	2.90	224	ePn	Pn	19 43 49.6	-0.9
	SNR=1.0						
LOR				eSn	Sn	19 44 24.3	-1.8
	SNR=1.0						
LOR				eSg	Sg	19 44 36.8	+0.5
	4.3nm,0.3s						
SSF	Saint Saulge	3.21	225	ePg	Pg	19 44 04.9	+0.2
	SNR=1.0						
SSF				eSn	Sn	19 44 31.7	-2.1
	SNR=1.0						
SSF				eSg	Sg	19 44 46.3	-0.1
	6.0nm,0.4s,SNR=1.0						
SSF	Saint Saulge	3.21	225	ePn	Pn	19 43 53.7	-1.2
SSF				ePg	Pg	19 44 04.9	+0.2
SSF				eSn	Sn	19 44 31.7	-2.1
SSF				eSg	Sg	19 44 46.3	-0.1
SSF	Saint Saulge	3.21	225	ePg	Pg	19 44 04.9	+0.2
	SNR=1.0						
SSF				eSn	Sn	19 44 31.7	-2.1
	SNR=1.0						
SSF				eSg	Sg	19 44 46.3	-0.1
	3.0nm,0.4s,SNR=1.0						
MOX	Moxa	3.34	66	ePg	Pg	19 44 05.1	-2.0
	SNR=1.7						
MOX				eSg	Sg	19 44 51.0	+0.6
SMF	Signal de Mont	3.39	217	ePn	Pn	19 43 56.4	-0.9
	SNR=1.0						
SMF				eSg	Sg	19 44 51.4	-0.8
	7.7nm,0.4s						
SMF	Signal de Mont	3.39	217	ePn	Pn	19 43 56.4	-0.9
	SNR=1.0						
SMF				eSg	Sg	19 44 51.4	-0.8
	3.8nm,0.4s						
AVF	Avril sur Loir	3.48	223	ePn	Pn	19 43 57.4	-1.2
	SNR=1.0						
AVF				eSn	Sn	19 44 39.1	-1.5
	3.8nm,0.4s,SNR=1.0						
AVF	Avril sur Loir	3.48	223	ePn	Pn	19 43 57.4	-1.2
	SNR=1.0						
AVF				eSn	Sn	19 44 39.1	-1.5
	1.9nm,0.4s,SNR=1.0						
GUNZ	Gunzen	3.69	72	ePg	Pg	19 44 13.1	-0.8
	SNR=1.5						
GUNZ				eSg	Sg	19 45 00.6	-1.2
WERD	Werda	3.70	71	ePg	Pg	19 44 12.8	-1.2
	SNR=2.0						
TANN	Tannenbergstha	3.79	72	eSg	Sg	19 45 03.4	-1.4
LPG	La Plagne	3.88	181	eSg	Sg	19 45 07.2	-0.7
	2.4nm,0.2s,SNR=1.0						
LPG	La Plagne	3.88	181	eSg	Sg	19 45 07.2	-0.7
	1.2nm,0.2s,SNR=1.0						
BGF	Bois d'Agland	3.89	225	ePn	Pn	19 44 03.6	-0.6
BGF				eSn	Sn	19 44 48.1	-2.4
	SNR=1.0						
BGF				eSg	Sg	19 45 07.5	-0.6
	28nm,0.5s,SNR=1.0						
BGF	Bois d'Agland	3.89	225	ePn	Pn	19 44 03.6	-0.6
BGF				eSn	Sn	19 44 48.1	-2.4
	SNR=1.0						
BGF				eSg	Sg	19 45 07.5	-0.6
	14nm,0.5s,SNR=1.0						
WET	Wettzell	3.97	91	ePn	Pn	19 44 05.9	+0.7
	SNR=2.2						
TCF	Toulx Ste Croi	4.39	227	eSg	Sg	19 45 24.3	+0.2
	6.9nm,0.7s,SNR=1.0						
TCF	Toulx Ste Croi	4.39	227	eSg	Sg	19 45 24.3	+0.2
	3.5nm,0.7s,SNR=1.0						
GEC2	GERESS Array S	4.54	94	ePn	Pn	19 44 13.5	+0.4
	SNR=6.6						
GEC2	GERESS Array S	4.54	94	ePn	Pn	19 44 13.3	+0.1
GEC2	GERESS Array S	4.54	94	ePn	Pn	19 44 13.3	+0.1
FLN	La Foliniere	4.85	265	ePn	Pn	19 44 17.5	+0.1
	baz=80,SNR=1.0						

*INMG **16** 19:55:15.5±0.8, 3659N×783W, h8^{km}±8^{km}, ML1.2, Error ellipse: s-maj=10.4km s-min=4.7km az=127.0*

MDD 16 19:55:12.2±1.9**, 3643N**×**760W, h0**^{km}**, mbLg1.6**/3**, 1D, Error ellipse: s-maj=17.3km s-min=11.9km az=14.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
EGRO	El Granado	1.10	5	⇓P	Pg	19 55 33.5	+0.2
	0.6nm,0.1s,SNR=18						
EGRO				S	Sg	19 55 46.6	-1.0
	4.0nm,0.1s,SNR=9.4						

PTEO	Sao Teotonio	1.43	321	eP	Pn	19 55 37.1	-2.3
PTEO				eS	Sg	19 55 52.8	-5.3
PTEO							
	2.3nm,0.1s						
ESPR	Espera	1.47	72	S	Sg	19 55 57.9	-1.4
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	1.52	29	P	Pn	19 55 39.5	-1.1
	0.1nm,0.1s,SNR=7.9						
EMIN				S	Sg	19 55 56.8	-4.3
	0.9nm,0.1s,SNR=8.4						
PBEJ	Beja	1.61	352	eP	Pn	19 55 40.2	-1.6
PBEJ				eS	Sn	19 55 58.6	-4.6
EBAD	Badajoz	2.37	11	P	Pn	19 55 51.1	-1.1
	0.2nm,0.0s,SNR=7.9						
EBAD				S	Sn	19 56 16.6	-5.3
	0.3nm,0.1s,SNR=7.9						
PESTR	Estremoz	2.43	0	ePn	Pn	19 55 51.4	-1.7
PESTR				eSn	Sn	19 56 18.9	-4.6
PESTR							
	0.2nm,0.1s						
PMAFR	Mafra	2.85	333	eSn	Sn	19 56 28.4	-5.5
EADA	Adamuz	2.97	53	P	Pn	19 55 59.0	-1.5
	0.0nm,0.1s,SNR=4.0						
EADA				S	Sn	19 56 32.5	-4.3
	0.4nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	3.40	2	ePn	Pn	19 56 05.0	-1.5
PCBR				eSn	Sn	19 56 42.5	-5.1

*CSEM **16** 19:55:15.1,1338N×4796E,h10^{km},ML3.7,After DHMR*
DHMR 16 19:55:15.1±1.3**,1338N×4796E,h10^{km},ML3.7,2C-3D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.51	43⇑	eP	Pn	19 55 42.0	-0.2
MUKL				i S	Sn	19 56 03.8	+1.9
BDHA	Al Bayda'	2.40	285⇓	iP	Pn	19 55 58.0	+3.5
BDHA				i S	Sn	19 56 30.0	+6.0
BDHA				AML	AML	19 56 34.1	
	comp=N,556nm,0.3s						
BDHA	Al Bayda'	2.40	285⇓	iP	Pn	19 55 58.0	+3.5
BDHA				i S	Sn	19 56 30.0	+6.0
	comp=N,278nm,0.3s						
LBOS		2.68	281⇑	iP	Pn	19 56 01.0	+2.7
LBOS				i S	Sn	19 56 36.8	+5.9
UDYN	Al 'Udayn	3.93	279⇓	eP	Pn	19 56 17.8	+2.4
UDYN				i S	Sn	19 57 06.2	+4.6

IDC 16 20:00:42.9±71.0**,1493S×16369E,h0^{km},mb3.9**/3**, mb1 4.1**/3**,mb1mx3.8**/12**,mbtmp3.9**/3**,Error ellipse: s-maj=1187.0km s-min=101.7km az=63.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.29	226	P	P	20 06 20.2	+0.2
	2.2nm,0.5s,baz=47,slow=9.7,SNR=11						
WRA	Warramunga Arr	28.42	256	P	P	20 06 39.6	+0.5
	0.3nm,0.5s,baz=86,slow=9.1,SNR=5.4						
ASAR	Alice Springs	29.38	248	P	P	20 06 48.0	+0.4
	1.1nm,0.5s,baz=75,slow=9.2,SNR=25						

*IDC **16** 20:29:19.9±6.3,3230S×17990W,h0^{km},mb3.5/2, mb1 3.8/2,mb1mx3.6/11,mbtmp3.5/2,Error ellipse: s-maj=261.0km s-min=62.5km az=160.0*
*ISCJB **16** 20:29:43.6±2.2,34.1S±03×1794W±05,h289^{km}±29^{km}, mb2.9/2,Error ellipse: s-maj=77.7km s-min=21.3km az=59.4*
ISC 16 20:29:46.6±2.1**,342S**±03×**1796W**±05**,h294^{km}**±28^{km}**,n10, σ0^{s}86**/12**,mb2.9**/2**,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	4.21	204	ePN	Pn	20 30 53.9	-0.8
PUZ				SN	S	20 31 51.4	+2.0
URZ	Urewera	4.82	212	ePN	Pn	20 31 01.0	-0.7
URZ				SN	S	20 32 01.7	-0.4
KNZ	Kokohu	5.26	204	SN	S	20 32 11.9	+0.5
TIWZ	Tintock	7.46	207	SN	S	20 33 00.1	+0.3
TCW	Tory Channel	8.49	213	ePN	Pn	20 31 45.3	-0.7
TCW				SN	S	20 33 22.0	-1.1
NNZ	Nelson	8.92	216	SN	S	20 33 32.8	0.0
KHZ	Kahutara	9.79	211	PN	Pn	20 32 02.3	+0.3
ASAR	Alice Springs	41.71	272	P	P	20 37 08.5	+1.3
	0.5nm,0.6s,mb2.9,baz=109,slow=6.6,SNR=5.4						
WRA	Warramunga Arr	43.05	277	P	P	20 37 17.6	-0.3
	0.3nm,0.4s,mb2.9,baz=116,slow=7.6,SNR=7.9						
FINES	FINESS Array B	148.19	337	PKPbc	PKPbc	20 49 01.0	+3.1
	1.4nm,0.9s,baz=8.5,slow=2.8,SNR=3.7						

*MOS **16** 20:46:50.5±0.9,3761N×2071E,h10^{km},mb4.2/10,Error ellipse: s-maj=11.1km s-min=4.9km az=76.1*
*ISCJB **16** 20:46:50.7±0.3,3761N±002×2073E±003,h10^{km}, mb4.0/14,Error ellipse: s-maj=3.9km s-min=3.1km az=88.9*
*NEIC **16** 20:46:52.3,3768N×2090E,h11^{km},ML3.8(THE), ML3.9(ATH),After ATH.*
*HLW **16** 20:46:52.7,3820N×2252E,h33^{km},Mb3.8*
*ATH **16** 20:46:52.4,3769N×2091E,h11^{km}±1^{km},MD3.9/19,ML3.9*
*THE **16** 20:46:52.6,3765N×2088E,h1^{km},ML3.8*
*SOF **16** 20:46:53.9,3788N×2095E,h2^{km},MD3.1*
*CSEM **16** 20:46:54.3±0.1,3769N×2091E,h10^{km},ML3.8,Error ellipse: s-maj=3.6km s-min=1.9km az=52.0*
*IDC **16** 20:46:55.4±3.7,3777N×2101E,h36^{km}±31^{km},mb3.8/9, mb1 3.7/14,mb1mx3.6/28,mbtmp3.7/14,ML3.3/4,Error ellipse: s-maj=22.7km s-min=16.0km az=132.0*
*NAO **16** 20:47:07.5,3908N×2135E,h33^{km},mb2.9*
ISC 16 20:46:53.0±0.7**,3763N**±002×**2081E**±003**,h15^{km}**±5^{km}**, n121,σ1^{s}38**/144**,mb4.0**/14**,12C-6D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.58	343	ePG	Pg	20 47 03.0	-1.4
VLS				eSB	Sg	20 47 11.5	-0.6
RLS	Riolos of Patr	0.68	50⇑	iPB	Pb	20 47 03.6	-2.9
RLS				eSB	Sg	20 47 12.3	-3.0
RLS	Riolos of Patr	0.68	50	i Pbu	Pb	20 47 03.6	-2.9
RLS				eSb	Sg	20 47 12.3	-3.0
ITM	Ithomi	1.00	116	ePN	Pb	20 47 11.0	-1.0
ITM				eSB	Sb	20 47 23.7	-1.2
LKD	Levkas	1.09	354	ePg	Pg	20 47 12.2	-1.9
LKD				eSg	Sg	20 47 28.1	-0.1
LKD	Levkas	1.09	354	ePg	Pg	20 47 12.1	-1.9
LKD				eSg	Sg	20 47 28.1	-0.1
EVR	Evrytania	1.51	31	ePG	Pn	20 47 18.6	-0.9
EVR				eSB	Sn	20 47 38.2	-0.7
AGG	Agios Georgios	1.84	40	ePb	Pn	20 47 23.7	-0.3
VLI	Veliai	1.93	117	ePN	Pn	20 47 27.0	+1.8
IGT	Igoumenitsa	1.94	349	ePb	Pn	20 47 25.8	+0.4
MGER	Gerania Oros	1.98	79	ePN	Pn	20 47 26.8	+0.9
JAN	Janina	2.03	1	ePN	Pn	20 47 28.0	+1.4
NAIG	Nisos Aigina	2.13	86	ePN	Pn	20 47 29.5	+1.5
KEK	Kerkira	2.23	340	ePN	Pn	20 47 31.1	+1.8
KYTH	Kithira	2.23	126	ePN	Pn	20 47 31.0	+1.6
ATH	Athens Observa	2.33	81	ePB	Pn	20 47 31.0	+0.2
SRN	Sarande	2.34	345	i p	Pn	20 47 33.8	+3.0
KVR	Kavouri	2.36	84	ePN	Pn	20 47 32.0	+0.9
PTL	Penteli	2.46	79	ePN	Pn	20 47 33.0	+0.5
LSK	Leskovik	2.52	356	i p	Pn	20 47 35.3	+1.9
LSK	Leskovik	2.52	356	eP	Pn	20 47 35.3	+1.9
NEO	Neokhori	2.53	48	ePN	Pn	20 47 34.5	+1.0
XOR	Xorichti	2.55	46	ePn	Pn	20 47 34.0	+0.2
KZN	Kozani	2.78	15	ePN	Pn	20 47 39.5	+2.6
LIT	Litokhoron	2.80	28	ePn	Pn	20 47 37.6	+0.4
LIT	Litokhoron	2.80	28	P	Pn	20 47 37.6	+0.4
LIT				S	Sn	20 48 12.8	+2.1
AOS	Alonnisos	2.87	57	ePn	Pn	20 47 38.3	+0.2
AOS				eSn	Sn	20 48 13.6	+1.3
FNA	Florina	3.19	8	ePn	Pn	20 47 43.5	+1.0
KARN	Karanos	3.35	131	ePn	Pn	20 47 45.1	+0.4
BIA	Bitola	3.41	7	i Pn	Pn	20 47 46.4	+0.8
BIA	Bitola	3.41	7	i Pn	Pn	20 47 46.3	+0.7
PLG	Polygyros	3.43	36	ePN	Pn	20 47 46.0	+0.1
THE	Thessaloniki	3.44	29	ePn	Pn	20 47 46.5	+0.5
HORT	Hortiatis	3.46	30	ePn	Pn	20 47 46.7	+0.4
VAM	Vamos	3.52	128	ePN	Pn	20 47 48.0	+0.9
GRG	Griva	3.55	20	ePn	Pn	20 47 47.7	+0.2
OUR	Ouranopolis	3.67	41	ePn	Pn	20 47 49.2	+0.1
SOH	Sokhos	3.75	31	ePn	Pn	20 47 51.3	+1.0
SOH				eSn	Sn	20 48 36.0	+1.7
APE	Apeiranthos	3.81	97	ePN	Pn	20 47 53.0	+2.0
KNT	Kendrikon	3.88	24	ePn	Pn	20 47 53.0	+0.9
VAY	Valandovo	3.94	20	ePn	Pn	20 47 53.7	+0.9
VAY	Valandovo	3.94	20	i Pn	Pn	20 47 53.7	+0.9
STIP	Stip	4.20	14	ePn	Pn	20 47 57.3	+0.8
STIP	Stip	4.20	14	i Pn	Pn	20 47 57.4	+0.9
CHOS	Chios island	4.21	78	ePn	Pn	20 47 57.0	+0.4
SKO	Skopje	4.37	6	ePn	Pn	20 47 59.4	+0.6
SKO	Skopje	4.37	6	ePn	Pn	20 47 59.3	+0.5
SG1	Sgolgore (BA)	4.54	316	ePn	Pn	20 48 02.5	+1.5
MMB	Musomiste	4.56	29	ePn	Pn	20 48 01.6	+0.3
MMB	Musomiste	4.56	29	i P	Pn	20 48 01.2	-0.1
MMB				i S	Sn	20 48 52.1	-1.9
MMB	Musomiste	4.56	29	ePn	Pn	20 48 01.6	+0.3
KKB	Krupnik	4.58	22	i P	Pn	20 48 02.0	+0.3
KKB				i S	Sn	20 48 53.0	-1.7
XRY	Khrisi	4.81	123	ePN	Pn	20 48 07.0	+2.2
CDT	Castel del Mon	4.92	316	ePn	Pn	20 48 07.2	+0.8
RZN	Rozhen	5.06	35	i P	Pn	20 48 09.0	+0.8
RDO	Rodhopi	5.08	45	ePN	Pn	20 48 08.5	0.0
VAE	Valguarnera	5.08	270	Pn	Pn	20 48 12.3	+3.7
	0.8nm,0.3s,baz=90,slow=20,SNR=4.0						
VAE				Sn	Sn	20 49 07.2	+0.2
	3.1nm,0.3s,baz=8.2,slow=7.0,SNR=4.2						
ALN	Alexandroupoli	5.22	50	ePn	Pn	20 48 11.0	+0.6
VTS	Vitosha	5.29	20	ePn	Pn	20 48 12.4	+1.0
VTS	Vitosha	5.29	20⇑	iP	Pn	20 48 12.8	+1.4
DIVS	Divcibare	6.50	355	i Pn	Pn	20 48 27.4	-0.6
AQU	L'Aquila	7.39	312⇑	iP	Pn	20 48 44.5	+4.3
BZS	Buzias	8.01	4⇑	iP	Pn	20 48 46.7	-2.0
VOIR		8.43	21⇑	iP	Pn	20 48 56.1	+1.6
PKSM	Moragy	8.73	350⇑	iP	Pn	20 48 53.5	-5.1
MLR	Muntele Rosu	8.75	24⇑	iP	Pn	20 49 02.8	+3.9
BOJS	Bojanci	8.90	334	i Pn	Pn	20 49 00.5	-0.5
BOJS				eSn	Sn	20 50 36.5	-4.4
CRES	Cresnjev	9.11	336	i Pn	Pn	20 49 03.1	-0.8
CRES				i Sn	Sn	20 50 39.4	-6.8
SWA2		9.22	154	⇓P	Pn	20 49 04.0	-1.4
SWA2				S	Sn	20 50 41.5	-7.2
LEGS	Legarje	9.27	336	i Sn	Sn	20 50 44.9	-5.1
SWA1		9.29	152	⇓P	Pn	20 49 05.4	-0.9
SWA1				S	Sn	20 50 42.4	-8.1
PLOR	Plostina	9.30	26⇓	iP	Pn	20 49 10.2	+3.7
VISS	Visnje	9.30	333	ePn	Pn	20 49 07.0	+0.4
VISS				i Sn	Sn	20 50 44.9	-6.0
VRI	Vrincioaia	9.34	26⇑	iP	Pn	20 49 11.0	+3.9
KEST	Kesra	9.40	262	Pn	Pn	20 49 09.8	+2.0
	0.1nm,0.3s,baz=335,slow=16,SNR=4.5						
CEY	Cerknica	9.40	332	i Sn	Sn	20 50 48.3	-5.0
JAVS	Javornik	9.67	331	ePn	Pn	20 49 11.7	+0.2
JAVS				i Sn	Sn	20 50 54.4	-5.5
PERS	Pernice	9.94	337	i Pn	Pn	20 49 13.9	-1.3
PERS				i Sn	Sn	20 50 58.2	-8.3
OBKA	Obir	10.02	334⇓	iPn	Pn	20 49 15.6	-0.7
OBKA				⇑iSn	Sn	20 51 00.9	-7.5
OBKA	Obir	10.02	334⇓	iPn	Pn	20 49 15.6	-0.7
OBKA				i Sn	Sn	20 51 00.9	-7.5
BRTR	Keskin Array B	10.25	74	Pn	Pn	20 49 22.2	+2.7
	0.1nm,0.3s,baz=289,slow=9.8,SNR=3.2						
BURAR	Bucovina Array	10.50	17⇑	iP	Pn	20 49 24.5	+1.6
MOA	Molln	11.29	337⇑	iPn	Pn	20 49 33.1	-0.5
MOA				⇑iSn	Sn	20 51 33.1	-6.4
HFRF	Wahat Farafira	12.21	147	⇓P	Pn	20 49 43.4	-3.0
GERES	GERESS Array B	12.34	338	Pn	Pn	20 49 49.5	+1.3
	0.2nm,0.3s,baz=158,slow=14,SNR=5.1						
GERES				Sn	Sn	20 51 58.9	-6.5
	0.4nm,0.3s,baz=152,slow=23,SNR=6.8						
KHC	Kasperske Hory	12.64	338	eP	Pn	20 49 56.7	+4.6
AKASG	Malin Array Be	14.39	22	Pn	Pn	20 50 14.1	-1.9
	0.1nm,0.3s,baz=214,slow=11,SNR=2.4						
KIV	Kislovodsk	17.71	62	eP	Pn	20 50 51.1	-7.9
KIV				eSS		20 54 13.9	
KIV				pmax	pmax		
	comp=Z,11nm,1.2s						
ESDC	Sonseca Array	19.44	284	P	Pn	20 51 20.8	+0.7
	baz=94,slow=8.7,SNR=3.6						
OBN	Obninsk	20.51	26	eP	P	20 51 26.2	-4.3
OBN				e		20 51 34.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VSU	Vasula	21.21	9	eP	P	20 51 36.7	-1.3
HFS	Hagfors	22.98	351	P	P	20 51 54.9	-2.1
	comp=Z,3.2nm,0.3s,mb4.2,baz=165,slow=10.0,SNR=41						
HFS	Hagfors	22.98	351	P	P	20 51 54.9	-2.0
HFS				pmax	pmax		
	comp=Z,3.0nm,0.3s						
EKA	Eskdalemuir Ar	24.01	325	P	P	20 52 07.0	-0.1
	comp=Z,5.6nm,0.7s,mb4.1,baz=129,slow=8.9,SNR=22						
EKA	Eskdalemuir Ar	24.01	325	P	P	20 52 07.0	-0.1
EKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
FINES	FINESS Array B	24.07	6	P	P	20 52 05.5	-2.2
	comp=Z,1.4nm,0.4s,mb3.7,baz=174,slow=11,SNR=13						
FINES	FINESS Array B	24.07	6	P	P	20 52 05.5	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	24.07	6	eP	P	20 52 08.4	+0.8
NB2	NORSAR Subarra	24.20	349	P	P	20 52 07.2	-1.6
	comp=Z,0.3nm,0.6s,mb2.9,baz=158,slow=11						
NOA	NORSAR Array B	24.20	349	P	P	20 52 06.9	-1.9
	comp=Z,2.7nm,0.8s,mb3.8,baz=169,slow=6.9,SNR=14						
NOA	NORSAR Array B	24.20	349	P	P	20 52 06.9	-1.9
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	Kangasniemi	24.75	6	ep	P	20 52 11.9	-1.9
	comp=Z,7.9nm,0.8s,mb4.3						
KAF	Kangasniemi	24.75	6	eP	P	20 52 11.9	-1.9
KAF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
JOF	Joensuu	26.13	11	ep	P	20 52 21.2	-5.1
	comp=Z,1.3nm,0.3s,mb3.9						
JOF	Joensuu	26.13	11	eP	P	20 52 21.2	-5.1
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
AKTO	Aktyubinsk	29.34	52	P	P	20 52 52.6	-2.5
	comp=Z,1.2nm,0.4s,mb4.0,baz=238,slow=4.0,SNR=8.0						
AKTO	Aktyubinsk	29.34	52	P	P	20 52 52.6	-2.5
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
TORD	Torodi Ar. Bea	29.75	220	P	P	20 52 59.8	+1.1
	comp=Z,0.7nm,0.7s,mb3.5,baz=36,slow=8.6,SNR=10.0						
ARCES	ARCESS Array B	32.07	3	P	P	20 53 17.2	-2.0
	comp=Z,0.4nm,0.4s,mb3.6,baz=191,slow=9.6,SNR=8.3						
ARCES				PcP	PcP	20 56 07.3	-1.2
	comp=Z,1.6nm,0.8s,baz=202,slow=1.9,SNR=5.0						
ARCES	ARCESS Array B	32.07	3	P	P	20 53 17.2	-2.0
ARCES						20 56 07.3	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	45.40	58	P	P	20 55 08.4	-2.4
	comp=Z,1.0nm,0.4s,mb4.0,baz=271,slow=7.4,SNR=13						
MKAR	Makanchi Array	45.40	58	P	P	20 55 08.5	-2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	Zalesovo	45.88	48	P	P	20 55 11.7	-3.1
	comp=Z,2.0nm,0.5s,mb4.3,baz=191,slow=7.4,SNR=9.5						
ZAL	Zalesovo	45.88	48	P	P	20 55 11.7	-3.0
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KOLN	Koldanda	52.89	81	eP	P	20 56 06.0	-2.2
	comp=Z,5.2nm,0.7s,mb4.6						
GKN	Gorkha	53.59	80	eP	P	20 56 10.9	-2.5
	comp=Z,9.4nm,0.6s						
DMN	Daman	54.14	81	eP	P	20 56 15.4	-2.0
	comp=Z,5.5nm,0.5s,mb4.7						
KKN	Kakani	54.19	80	eP	P	20 56 15.4	-2.4
	comp=Z,7.4nm,0.6s						
PKI	Pulchoki	54.40	81	eP	P	20 56 17.5	-1.8
	comp=Z,2.3nm,0.3s,mb4.6						
GUN	Gumba	54.60	80	eP	P	20 56 19.5	-1.3
	comp=Z,13nm,0.7s						
ASAR	Alice Springs	121.89	97	PKP	PKPdf	21 05 45.3	-1.2
	comp=Z,0.2nm,0.5s,baz=310,slow=1.3,SNR=5.0						

*ISCJB **16** 21:06:58.3±1.0,289S±0.10×1296E±02,h10^{km},mb4.0/4, Error ellipse: s-maj=24.5km s-min=9.4km az=124.0*
*NEIC **16** 21:07:00.8±0.8,295S×12964E,h10^{km},mb4.1/2,Error ellipse: s-maj=20.2km s-min=10.6km az=57.0*
*IDC **16** 21:07:04.9±4.7,301S×12954E,h37^{km}±40^{km},mb3.9/4, mb1 4.1/6,mb1mx3.7/16,mbtmp4.1/6,ML4.1/2,MS2.8/1, Ms1 2.8/1,ms1mx2.0/27,Error ellipse: s-maj=67.8km s-min=16.7km az=74.0*
ISC 16 21:07:02.9±3.9**,295S**±010×**1296E**±02**,h26^{km}**±30^{km}**,n14, σ0^{s}90**/16**,mb4.0**/4**,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.54	194	Pn	Pn	21 10 41.7	+1.5
	0.3nm,0.3s,baz=23,slow=11,SNR=10						
FITZ				LR	LR	21 17 21.7	
	comp=Z,36nm,19.1s,baz=287,slow=40						
WRAB	Tennant Creek	17.51	165	ePn	Pn	21 11 04.4	-0.8
	9.8nm,0.6s						
WRAB				eSn	Sn	21 14 18.1	-1.3
WRA	Warramunga Arr	17.52	165	P	Pn	21 11 04.2	-1.1
	0.9nm,0.3s,baz=350,slow=12,SNR=23						
WB2	Warramunga Arr	17.52	165	ePn	Pn	21 11 04.2	-1.1
WB2				eSn	Sn	21 14 21.1	+1.5
KSM	Kuching	19.75	283	eP	Pn	21 11 31.9	-0.3
MBWA	Marble Bar	20.48	207	eP	P	21 11 38.4	-0.2
	13nm,1.2s						
AS31	Alice Springs	21.02	169	eP	P	21 11 45.1	+0.7
ASAR	Alice Springs	21.02	169	P	P	21 11 45.0	+0.5
	13nm,0.6s,mb4.4,baz=347,slow=9.4,SNR=105						
ASAR				S	S	21 15 36.4	-0.8
	1.1nm,0.7s,baz=351,slow=19,SNR=4.0						
CTA	Charters Tower	23.57	138	P	P	21 12 12.3	+0.9
	6.7nm,1.0s,mb4.0,baz=350,slow=8.9,SNR=3.7						
CTA	Charters Tower	23.57	138	P	P	21 12 12.3	+0.9
STKA	Stephens Creek	30.92	160	P	P	21 13 18.1	+0.7
	0.7nm,0.6s,mb3.6,baz=9.5,slow=12,SNR=4.1						
STKA	Stephens Creek	30.92	160	eP	P	21 13 17.4	0.0
ZAL	Zalesovo	67.79	333	P	P	21 17 58.3	-0.1
	0.8nm,0.7s,mb3.9,baz=353,slow=8.2,SNR=6.8						
CPUP	Villa Florida	150.14	168	PKPbc	PKPbc	21 26 53.7	+2.4
	0.4nm,0.4s,baz=116,slow=2.7,SNR=4.5						

GUC 16 21:22:49.5±0.8**,3326S×7253W,h32^{km}**±3^{km}**,MD3.5, ML2.7,3C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.83	106⇓	iP	Pn	21 23 05.1	+0.1
LCCH				i S	Sn	21 23 16.3	+0.1
LNV	Longovilo	1.17	127⇑	iP	Pn	21 23 10.0	+0.4
LNV				i S	Sn	21 23 25.7	+1.3
ROCH	El Roble	1.30	78	i P	Pn	21 23 12.2	+0.7
ROCH				i S	Sn	21 23 30.1	+2.3
TACH	Talagante	1.39	107	eP	Pn	21 23 13.3	+0.7
TACH				i S	Sn	21 23 31.4	+1.5
RCDM	Rinconada Maip	1.46	100	eP	Pn	21 23 14.5	+0.8
RCDM				i S	Sn	21 23 33.2	+1.5
RCDM				AML	AML	21 23 35.7	
	comp=E,180nm,0.3s						
PEL	Peldehue	1.55	86⇓	iP	Pn	21 23 16.5	+1.6
PEL				AML	AML	21 23 39.9	
	comp=E,175nm,0.3s						
CLCH	Cerro Calan	1.67	95	eP	Pn	21 23 18.2	+1.6
CLCH				eS	Sn	21 23 40.4	+3.4
CLCH				AML	AML	21 23 41.9	
	comp=E,140nm,0.5s						
CHCH	Chadas Angostu	1.71	114⇑	iP	Pn	21 23 18.1	+1.1
CHCH				i S	Sn	21 23 41.1	+3.4
CACH	El Canelo	1.82	119⇑	iP	Pn	21 23 20.8	+2.2
CACH				i S	Sn	21 23 44.4	+3.8
SFDO	San Fernando	1.85	138	eP	Pn	21 23 20.1	+1.0
FCH	Farellones	1.88	93	eP	Pn	21 23 21.5	+2.1
FCH				i S	Sn	21 23 46.0	+4.1
FCH				AML	AML	21 23 47.2	
	comp=E,79nm,0.7s						
LMEL	Las Melosas	2.03	108	eP	Pn	21 23 23.4	+1.9
LMEL				i S	Sn	21 23 48.9	+3.2
LMEL				AML	AML	21 23 52.6	
	comp=N,106nm,0.2s						
CICH	Cipreses	2.05	122⇓	iP	Pn	21 23 23.8	+2.1

*ISCJB **16** 21:36:18.4±0.3,4937N±001×684E±003,h0^{km},Error ellipse: s-maj=2.8km s-min=2.0km az=169.9*
*STR **16** 21:36:19.6±0.7,4939N×692E,h1^{km}±1^{km},Ml2.5,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 21:36:20.7±0.1,4939N×690E,h1^{km},Md2.8/2,Ml2.8/14, Error ellipse: s-maj=1.3km s-min=1.1km az=80.0, Suspected Mining induced.*
*NEIC **16** 21:36:20.7,4939N×690E,h1^{km},ML2.5(STR), ML2.8(LDG),After LDG.*
*CSEM **16** 21:36:20.7±0.1,4938N×692E,h1^{km},ML2.7/14,Error ellipse: s-maj=1.0km s-min=0.9km az=83.0*
*BGR **16** 21:36:20.9±0.4,4939N×686E,h1^{km},ML1.9,Error ellipse: s-maj=7.8km s-min=4.4km az=32.0*
*BNS **16** 21:36:21.6±0.4,4944N×690E,h1^{km},ML1.7*
ISC 16 21:36:19.5±0.3**,4938N**±001×**686E**±003**,h0^{km},n53, σ0^{s}88**/103**,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.55	302	ePg	Pg	21 36 31.3	+1.3
WLF				eSg	Sg	21 36 37.2	+0.2
WLF	Walferdange	0.55	302	ePg	Pg	21 36 31.1	+1.2
BGG	Burgeitz	0.89	20	ePg	Pg	21 36 37.2	+0.8
CDF	Champ du Feu	1.00	164	ePn	Pn	21 36 39.9	-0.9
CDF				eSg	Sg	21 36 53.0	+1.3
	22nm,0.2s						
CDF	Champ du Feu	1.00	164	ePg	Pg	21 36 38.6	-0.1
CDF				ePn	Pn	21 36 39.9	-0.9
CDF				eSg	Sg	21 36 53.0	+1.3
CDF	Champ du Feu	1.00	164	ePn	Pn	21 36 39.9	-0.9
CDF				eSg	Sg	21 36 53.0	+1.3
	11nm,0.2s						
WLS	Welschbruch	1.02	161	Pg	Pg	21 36 39.1	+0.1
ECH	Echery	1.18	170	Pg	Pg	21 36 42.8	+0.8
ECH				Sg	Sg	21 36 57.8	+0.5
RFYF	Reffroy	1.18	231	ePn	Pn	21 36 43.2	0.0
	baz=49						
RFYF				eSg	Sg	21 36 59.0	+1.5
	34nm,0.3s						
RFYF	Reffroy	1.18	231	ePn	Pn	21 36 43.2	0.0
RFYF				eSg	Sg	21 36 59.0	+1.5
	17nm,0.3s						
STB	Steinbach	1.22	359	ePg	Pg	21 36 42.9	0.0
STB				eSg	Sg	21 36 59.1	+0.4
	12nm,0.6s						
TOD	Tromm	1.29	79	Pg	Pg	21 36 42.5	-1.6
THEF	They Montfort	1.29	207	Pg	Pg	21 36 43.6	-0.6
KLL	Kalltalsperre	1.32	345	ePg	Pg	21 36 44.7	-0.1
TNS	Taunus Mts	1.33	50	ePg	Pg	21 36 45.2	+0.2
TNS				eSg	Sg	21 37 02.7	+0.4
DREG	Dreilaegerbach	1.35	343	ePg	Pg	21 36 45.4	0.0
DREG				eSg	Sg	21 37 02.3	-0.6
MEM	Membach	1.35	336	P	Pg	21 36 46.0	+0.6
HAU	Haudompre	1.41	194	ePn	Pn	21 36 46.2	-0.2
	SNR=1.0						
HAU				eSg	Sg	21 37 06.0	+1.1
	20nm,0.2s						
HAU	Haudompre	1.41	194	ePn	Pn	21 36 46.2	-0.2
	SNR=1.0						
HAU				eSg	Sg	21 37 06.0	+1.1
	9.9nm,0.2s						
BFO	Black Forest	1.43	137	ePg	Pg	21 36 47.2	+0.4
BFO				eSg	Sg	21 37 05.9	+0.6
BCLA	Clavier	1.45	317	P	Pn	21 36 42.7	-4.3
BCLA	Clavier	1.45	317	P	Pn	21 36 42.6	-4.4
MEZF	Maizieres J'vi	1.48	234	ePn	Pn	21 36 47.2	-0.2
	baz=51						
MEZF	Maizieres J'vi	1.48	234	ePg	Pg	21 36 48.7	+0.8
	baz=57,SNR=1.0						
MEZF				eSg	Sg	21 37 08.5	+1.4
	12nm,0.3s,SNR=1.0						
MEZF	Maizieres J'vi	1.48	234	ePn	Pn	21 36 47.2	-0.2
MEZF				ePg	Pg	21 36 48.7	+0.8
MEZF				eSg	Sg	21 37 08.5	+1.4
MEZF	Maizieres J'vi	1.48	234	ePg	Pg	21 36 48.7	+0.8
	SNR=1.0						
MEZF				eSg	Sg	21 37 08.5	+1.4
	5.8nm,0.3s,SNR=1.0						
GIVF	Givet	1.51	300	ePn	Pn	21 36 47.9	+0.1
	SNR=1.0						
GIVF				eSg	Sg	21 37 09.5	+1.5
	22nm,0.6s,SNR=1.0						
GIVF	Givet	1.51	300	ePn	Pn	21 36 47.9	+0.1

	SNR=1.0						
GIVF				eSg	Sg	21 37 09.5	+1.5
	11nm,0.6s,SNR=1.0						
HGN	**Heimansgroeve**	**1.51**	**337**	ePg	Pg	21 36 47.8	-0.7
	6.8nm,0.6s						
HGN				eSg	Sg	21 37 08.0	-0.1
MOF	**Molkenrain**	**1.54**	**173**	Pg	Pg	21 36 49.5	+0.6
MOF				Sg	Sg	21 37 09.6	+0.8
HINF	**Hinteralfeld**	**1.56**	**180**	ePg	Pg	21 36 49.7	+0.3
	SNR=1.0						
HINF				eSg	Sg	21 37 10.0	+0.4
	58nm,0.3s						
HINF	**Hinteralfeld**	**1.56**	**180**	ePn	Pn	21 36 48.2	-0.3
HINF				ePg	Pg	21 36 49.7	+0.3
HINF				eSg	Sg	21 37 10.0	+0.4
HINF	**Hinteralfeld**	**1.56**	**180**	ePg	Pg	21 36 49.7	+0.3
	SNR=1.0						
HINF				eSg	Sg	21 37 10.0	+0.4
	29nm,0.3s						
FELD	**Feldberg im Sc**	**1.68**	**153**	Pg	Pg	21 36 51.4	-0.3
SFTF	**Sexfontaines**	**1.68**	**227**	ePn	Pn	21 36 49.9	-0.2
	baz=43						
SFTF				eSg	Sg	21 37 14.6	+1.1
	13nm,0.4s						
SFTF	**Sexfontaines**	**1.68**	**227**	ePn	Pn	21 36 49.9	-0.2
SFTF				eSg	Sg	21 37 14.6	+1.1
	6.3nm,0.4s						
BAIF	**Baives**	**1.85**	**293**	ePg	Pg	21 36 55.8	+0.8
BAIF				eSg	Sg	21 37 19.0	-0.1
	11nm,0.6s,SNR=1.0						
BAIF	**Baives**	**1.85**	**293**	ePn	Pn	21 36 52.4	-0.1
BAIF				ePg	Pg	21 36 55.8	+0.8
BAIF				eSg	Sg	21 37 19.0	-0.1
BAIF	**Baives**	**1.85**	**293**	ePg	Pg	21 36 55.8	+0.8
BAIF				eSg	Sg	21 37 19.0	-0.1
	5.7nm,0.6s,SNR=1.0						
CABF	**La Chapelle**	**2.82**	**191**	ePn	Pn	21 37 05.4	-0.3
CABF				eSg	Sg	21 37 49.8	-0.2
	4.1nm,0.4s						
CABF	**La Chapelle**	**2.82**	**191**	ePn	Pn	21 37 05.4	-0.3
CABF				eSg	Sg	21 37 49.8	-0.2
	2.0nm,0.4s						
LOR	**Lormes**	**2.91**	**225**	ePn	Pn	21 37 05.8	-1.2
	baz=48,SNR=1.0						
LOR				eSn	Sn	21 37 39.7	-3.0
	SNR=1.0						
LOR				eSg	Sg	21 37 52.8	-0.2
	5.4nm,0.4s,SNR=1.0						
LOR	**Lormes**	**2.91**	**225**	ePn	Pn	21 37 05.8	-1.2
	SNR=1.0						
LOR				eSn	Sn	21 37 39.7	-3.0
	SNR=1.0						
LOR				eSg	Sg	21 37 52.8	-0.2
	2.7nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.23**	**225**	ePn	Pn	21 37 10.5	-0.9
	SNR=1.0						
SSF				eSn	Sn	21 37 48.2	-2.3
	SNR=1.0						
SSF				eSg	Sg	21 38 03.0	-0.1
	6.3nm,0.4s						
SSF	**Saint Saulge**	**3.23**	**225**	ePn	Pn	21 37 10.5	-0.9
	SNR=1.0						
SSF				eSn	Sn	21 37 48.2	-2.3
	SNR=1.0						
SSF				eSg	Sg	21 38 03.0	-0.1
	3.2nm,0.4s						
MOX	**Moxa**	**3.32**	**66**	ePg	Pg	21 37 21.0	-2.1
	SNR=2.0						
SMF	**Signal de Mont**	**3.40**	**218**	ePn	Pn	21 37 13.5	-0.3
	SNR=1.0						
SMF				eSn	Sn	21 37 52.2	-2.7
	SNR=1.0						
SMF				eSg	Sg	21 38 08.3	-0.5
	4.6nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**3.40**	**218**	ePn	Pn	21 37 13.5	-0.3
	SNR=1.0						
SMF				eSn	Sn	21 37 52.2	-2.7
	SNR=1.0						
SMF				eSg	Sg	21 38 08.3	-0.5
	2.3nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.90**	**225**	ePn	Pn	21 37 20.3	-0.4
BGF				eSn	Sn	21 38 04.0	-3.2
	SNR=1.0						
BGF				eSg	Sg	21 38 23.9	-1.0
	17nm,0.4s						
BGF	**Bois d'Agland**	**3.90**	**225**	ePn	Pn	21 37 20.3	-0.4
BGF				eSn	Sn	21 38 04.0	-3.2
	SNR=1.0						
BGF				eSg	Sg	21 38 23.9	-1.0
	8.4nm,0.4s						
WET	**Wettzell**	**3.95**	**91**	ePn	Pn	21 37 21.8	+0.5
	SNR=2.4						
GEC2	**GERESS Array S**	**4.52**	**94**	ePn	Pn	21 37 29.8	+0.6
	SNR=8.2						
FLN	**La Foliniere**	**4.87**	**266**	ePn	Pn	21 37 33.5	-0.4
	baz=81						

MAN 16 21:43:12.7, 1647N×12054E, h14km, mb3.1, ML4.4, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.10**	**153⇑**	iP	Pg	21 43 16.5	+0.7
BCPH				i S	Sg	21 43 19.1	+1.2
BOLP	**Bolinao**	**0.60**	**262**	eP	Pg	21 43 24.8	+0.2
BOLP				eS	Sg	21 43 34.6	+2.1
SCZP	**Santa Cruz**	**0.91**	**221**	eP	Pb	21 43 29.6	-0.7
PCPH	**Palayan**	**1.05**	**149⇑**	eP	Pb	21 43 32.2	-0.4
PCPH				eS	Sb	21 43 46.7	+0.5
ABRA	**Dolores**	**1.19**	**8**	eP	Pn	21 43 33.5	-1.4
ABRA				eS	Sb	21 43 52.1	+1.9
BALP	**Baler**	**1.23**	**126**	eP	Pn	21 43 35.4	-0.1
BALP				eS	Sb	21 43 52.7	+1.1
CAUP	**Cauayan**	**1.32**	**69**	eP	Pn	21 43 38.5	+1.8

*ISCJB **16** 21:45:33.5±0.6, 39.13N±002×2654E±004, h6km±4km, Error ellipse: s-maj=5.5km s-min=3.2km az=118.2*
*ISK **16** 21:45:33.7, 3909N×2640E, h35km, MD3.1*
*NEIC **16** 21:45:33.7, 39.13N×2655E, h22km, MD3.1(ISK), MD3.4(ATH), After ATH.*
*ATH **16** 21:45:33.7, 39.13N×2655E, h22km±1km, MD3.4/6*
*CSEM **16** 21:45:33.9±0.1, 39.16N×2663E, h10km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.5km az=56.0*
ISC 16 21:45:34.5±0.4, **3914N**±002×**2657E**±004, **h13**km±3km, **n23**, σ**0.92**/35, **1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.19**	**28**	i P	**Pg**	**21 45 38.1**	**-0.7**
AYVA				i S	**Sg**	**21 45 41.4**	**-0.3**
PRK	**Paraskevi**	**0.26**	**295⇓**	iPB	**Pg**	**21 45 39.6**	**-0.3**
PRK				eSB	**Sg**	**21 45 44.2**	**+0.6**
EZN	**Ezine**	**0.71**	**344**	PG	**Pg**	**21 45 47.9**	**-0.5**
EZN				SG	**Sg**	**21 45 58.7**	**+1.0**
BOZC	**Bozcaada**	**0.81**	**330**	i P	**Pg**	**21 45 49.3**	**-0.9**
BOZC				i S	**Sg**	**21 46 02.3**	**+1.5**
BLCB	**Balcova**	**0.84**	**154**	PG	**Pg**	**21 45 49.5**	**-1.2**
BLCB				SG	**Sg**	**21 46 01.4**	**-0.3**
KDAG	**Bornova**	**0.91**	**143**	i P	**Pg**	**21 45 52.5**	**+0.3**
KDAG				i S	**Sg**	**21 46 06.5**	**+2.4**
IZM	**Izmir**	**0.92**	**144**	PG	**Pg**	**21 45 51.6**	**-0.6**
IZM				SG	**Sg**	**21 46 05.1**	**+0.9**
CANB	**Canakkale**	**0.95**	**23**	PG	**Pg**	**21 45 51.9**	**-1.1**
AKHS	**Akhisar**	**1.00**	**105**	i P	**Pb**	**21 45 53.0**	**-0.8**
AKHS				i S	**Sg**	**21 46 08.0**	**+1.1**
AKS	**Akhisar**	**1.00**	**105**	PN	**Pn**	**21 45 53.1**	**-1.2**
GADA	**Gvkgeada**	**1.17**	**334**	ePN	**Pn**	**21 45 54.8**	**-1.9**
BTOK	**Tokmak**	**1.29**	**61**	i P	**Pn**	**21 45 57.9**	**-0.3**
BTOK				i S	**Sb**	**21 46 16.7**	**+1.6**
LIA	**Limnos Island**	**1.31**	**306**	ePN	**Pn**	**21 45 58.8**	**+0.2**
LIA				eSN	**Sn**	**21 46 16.3**	**+0.2**
SMG	**Samos**	**1.44**	**172**	ePN	**Pn**	**21 46 00.0**	**-0.4**
SMG				eSN	**Sn**	**21 46 20.3**	**+1.1**
DST	**Dursunbey**	**1.66**	**73**	ePN	**Pn**	**21 46 03.3**	**-0.1**
MRMT	**Marmara Adasi**	**1.66**	**28**	ePN	**Pn**	**21 46 03.3**	**-0.1**
MFT	**Murefte**	**1.73**	**18**	ePN	**Pn**	**21 46 03.7**	**-0.7**
KCT	**Karacabey**	**1.78**	**50**	ePN	**Pn**	**21 46 04.5**	**-0.5**
BODT	**Bodrum**	**2.15**	**164**	ePN	**Pn**	**21 46 08.6**	**-1.6**
RDO	**Rodhopi**	**2.16**	**339**	ePN	**Pn**	**21 46 10.6**	**+0.4**
RDO				eSN	**Sn**	**21 46 37.7**	**+0.9**
APE	**Apeiranthos**	**2.22**	**202**	ePN	**Pn**	**21 46 11.6**	**+0.5**
YLV	**Yalova**	**2.58**	**56**	ePN	**Pn**	**21 46 16.9**	**+0.8**
NVR	**Nevrokopi**	**3.03**	**318**	ePN	**Pn**	**21 46 23.0**	**+0.8**

*MOS **16** 22:44:30.1±1.1, 5500N×11166E, h13km, mb4.4/1, Error ellipse: s-maj=16.5km s-min=10.1km az=74.6*
BYKL 16 22:44:31.2±0.2, **5504N×11163E, h15**km±4km, **4C-2D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.32**	**239⇓**	iPg	Pg	22 44 37.8	0.0
YLYR				i Sg	Sg	22 44 42.7	+0.5
YLYR				Pmax			
	145nm,0.1s						
YLYR				Smax			
	2µm,0.2s						
YLYR	**Ulyunkhan**	**0.32**	**239**	ePG	Pg	22 44 37.8	0.0
YLYR				e		22 44 42.6	
YLYR				pmax	pmax		
	comp=Z,138nm,0.1s						
YLYR				smax			
	comp=N,2µm,0.1s						
KMO	**Kumora**	**0.88**	**344⇑**	iPg	Pg	22 44 47.2	-1.1
KMO				i Sg	Sg	22 44 59.2	-0.7
KMO				Pmax			
	comp=N,152nm,0.5s						
KMO				Smax			
	comp=N,597nm,1.4s						
KMO	**Kumora**	**0.88**	**344**	ePG	Pg	22 44 47.2	-1.1
KMO				e		22 44 58.8	
KMO				pmax	pmax		
	comp=Z,152nm,0.4s						
KMO				smax			
	comp=E,378nm,0.6s						
YOA	**Uoyan**	**1.10**	**3**	ePg	Pg	22 44 51.5	-0.9
YOA				ePb	Pb	22 44 53.6	+1.7
YOA				eSg	Sg	22 45 06.8	+0.1
YOA				max			
	comp=E,370nm,0.2s						
YOA				Smax			
	comp=E,3µm,0.4s						
YOA	**Uoyan**	**1.10**	**3⇓**	iPG	Pg	22 44 51.1	-1.3
YOA				e		22 45 06.8	
YOA				pmax	pmax		
	comp=Z,373nm,0.2s						
YOA				smax			
	comp=N,3µm,0.4s						
UKT	**Uakit**	**1.23**	**68⇑**	iPg	Pg	22 44 53.0	-1.9
UKT				ePb	Pb	22 44 54.9	+0.8
UKT				i Sg	Sg	22 45 09.4	-1.5
UKT				eSb	Sb	22 45 12.7	+2.9
UKT				max			
	comp=N,137nm,0.6s						
UKT				max			
	comp=N,772nm,0.5s						
UKT	**Uakit**	**1.23**	**68⇑**	iPG	Pg	22 44 52.9	-2.0
UKT				e		22 45 09.3	
UKT				pmax	pmax		
	comp=Z,107nm,0.2s						
UKT				smax			
	comp=N,773nm,0.3s						
NIZ	**Nizh Angarsk**	**1.40**	**303**	eSg	Sg	22 45 16.1	-0.3
NIZ				Smax			
	comp=N,310nm,0.4s						
NIZ	**Nizh Angarsk**	**1.40**	**303**	ePG	Pg	22 44 56.9	-1.3
NIZ				e		22 45 16.0	
NIZ				pmax	pmax		
	comp=Z,236nm,0.3s						
NIZ				smax			
	comp=E,319nm,0.3s						
SVKR	**Severomuysk**	**1.54**	**45**	ePg	Pg	22 44 59.8	-1.0
SVKR				eSg	Sg	22 45 21.1	+0.3
SVKR				Pmax			
	comp=E,140nm,0.4s						
SVKR				Smax			
	comp=E,1µm,0.5s						
SVKR	**Severomuysk**	**1.54**	**45**	ePN	Pn	22 44 59.3	+1.2
SVKR				e		22 45 00.4	
SVKR				e		22 45 20.5	
SVKR				pmax	pmax		
	comp=Z,156nm,0.5s						
SVKR				smax			
	comp=N,1µm,0.6s						
SYVR	**Suvo**	**1.68**	**215**	ePg	Pg	22 45 01.6	-1.9
SYVR				e		22 45 05.7	
SYVR				eSg	Sg	22 45 25.3	-0.1
SYVR				max			
	comp=N,109nm,0.7s						
SYVR				Smax			
	comp=N,256nm,0.3s						
SYVR	**Suvo**	**1.68**	**215**	ePN	Pn	22 45 01.6	+1.5
SYVR				e		22 45 24.7	
SYVR				pmax	pmax		
	comp=Z,99nm,0.6s						
SYVR				smax			
	comp=N,264nm,0.3s						
MXMB	**Maximikha**	**2.46**	**225**	ePn	Pn	22 45 11.7	+1.0
MXMB				ePg	Pg	22 45 15.6	-2.8
MXMB				e		22 45 19.9	
MXMB				eSg	Sg	22 45 48.9	-1.4
MXMB				max			
	comp=N,50nm,0.8s						
MXMB				Smax			
	comp=N,440nm,0.6s						
NLYR	**Nelyaty**	**2.72**	**56**	ePn	Pn	22 45 15.9	+1.5
NLYR				ePg	Pg	22 45 19.9	-3.5
NLYR				eSg	Sg	22 45 55.5	-3.2
OGRR	**Ongureny**	**2.75**	**241⇑**	iPn	Pn	22 45 15.9	+1.2
OGRR				ePg	Pg	22 45 19.8	-4.0
OGRR				eSn	Sn	22 45 48.9	+1.3
OGRR				i Sg	Sg	22 45 55.6	-3.8
OGRR				Pmax			
	comp=N,18nm,0.2s						
OGRR				Smax			
	comp=N,91nm,0.6s						
OGRR	**Ongureny**	**2.75**	**241**	ePN	Pn	22 45 16.2	+1.5
OGRR				e		22 45 19.9	
OGRR				eS	Sn	22 45 48.9	+1.3
OGRR				e		22 45 56.4	
OGRR				pmax	pmax		
	comp=Z,18nm,0.3s						
OGRR				smax			
	comp=N,106nm,1.0s						
BOD	**Bodaibo**	**3.08**	**24**	ePg	Pg	22 45 25.1	-5.2
BOD				e		22 45 28.6	
BOD				eSn	Sn	22 45 56.6	+0.7
BOD				eSg	Sg	22 46 04.5	-5.7
BOD				max			
	comp=N,11nm,0.5s						
BOD				Smax			
	comp=N,79nm,1.0s						
KELR	**Kotokel**	**3.10**	**224**	ePn	Pn	22 45 21.4	+1.8
KELR				ePg	Pg	22 45 26.5	-4.2
KELR				eSn	Sn	22 45 57.4	+1.0
KELR				eSg	Sg	22 46 08.8	-2.1
KELR				Pmax			
	comp=N,27nm,0.5s						
KELR				Smax			
	comp=N,250nm,0.4s						
CIT	**Chita**	**3.23**	**158**	ePg	Pg	22 45 28.9	-4.3
CIT				eSg	Sg	22 46 11.3	-3.8
CIT				Pmax			
	comp=N,21nm,0.8s						
CIT				Smax			
	comp=N,133nm,1.6s						
CIT	**Chita**	**3.23**	**158**	ePN	Pn	22 45 20.5	-0.9
CIT				e		22 45 28.9	
CIT				e		22 46 11.0	
CIT				pmax	pmax		
	comp=Z,29nm,1.0s						
CIT				smax			
	comp=E,164nm,0.6s						
TRTB	**Turuntaevo**	**3.69**	**222**	ePg	Pg	22 45 37.1	-4.7
TRTB				e		22 45 44.1	
TRTB				eSn	Sn	22 46 12.3	+1.5
TRTB				eSg	Sg	22 46 26.3	-3.3
TRTB				max			
	comp=E,22nm,1.1s						
TRTB				Smax			
	comp=E,62nm,1.5s						
TRG	**Tyrgan**	**3.87**	**236**	ePn	Pn	22 45 30.3	+0.2
TRG				ePg	Pg	22 45 40.1	-5.2
TRG				eSn	Sn	22 46 16.8	+1.5
TRG				eSg	Sg	22 46 30.9	-4.6
TRG				Pmax			
	comp=E,7.0nm,0.5s						
TRG				Smax			
	comp=E,47nm,0.4s						
CRS	**Chara**	**4.17**	**61**	ePn	Pn	22 45 35.4	+1.1
CRS				ePg	Pg	22 45 45.5	-5.6
CRS				eSg	Sg	22 46 40.3	-4.8
CRS				Pmax			
	comp=E,24nm,0.8s						
CRS				Smax			
	comp=E,100nm,2.2s						
CRS	**Chara**	**4.17**	**61**	ePN	Pn	22 45 47.4	+13
CRS				e		22 46 40.6	
CRS				pmax	pmax		
	comp=Z,24nm,0.9s						
CRS				smax			
	comp=E,159nm,1.2s						
TUP	**Tupik**	**4.86**	**94**	ePn	Pn	22 45 44.2	+0.4
TUP				e		22 45 52.9	
TUP				ePg	Pg	22 45 57.3	-7.0
TUP				eSg	Sg	22 47 00.8	-6.5
TUP				Pmax			
	comp=E,10.0nm,0.5s						
TUP				Smax			
	comp=E,113nm,0.6s						
TUP	**Tupik**	**4.86**	**94**	ePN	Pn	22 45 44.1	+0.3
TUP				e		22 45 58.2	
TUP				e		22 47 00.8	
TUP				pmax	pmax		
	comp=Z,11nm,0.6s						
TUP				smax			
	comp=N,114nm,1.0s						
LSTR	**Listvyanka**	**5.16**	**235**	eSn	Sn	22 46 47.7	+0.7
LSTR				eSg	Sg	22 47 09.8	-6.9
LSTR				Smax			
	comp=N,27nm,0.8s						
IRK	**Irkutsk**	**5.20**	**240**	eSg	Sg	22 47 12.4	-5.6
IRK				Smax			
	comp=N,96nm,0.1s						
KPC	**Khapcheranga**	**5.37**	**175**	ePg	Pg	22 46 06.8	-7.1
KPC				e		22 46 16.2	
KPC				eSg	Sg	22 47 17.7	-5.7
KPC				max			
	comp=N,3.0nm,0.6s						
KPC				Smax			
	comp=N,58nm,1.5s						
TLY	**Talaya**	**5.85**	**238**	eSg	Sg	22 47 30.1	-8.7
ARS	**Arshan**	**6.32**	**244**	ePg	Pg	22 46 23.6	-8.6
ARS				eSg	Sg	22 47 45.8	-8.3
ARS				Pmax			
	comp=N,9.0nm,0.7s						
ARS				Smax			
	comp=N,70nm,0.7s						
ZAK	**Zakamensk**	**6.89**	**231**	ePg	Pn	22 46 34.6	+23
ZAK				eSg	Sn	22 48 04.2	+34
ZAK				Pmax			
	comp=N,2.0nm,0.5s						
ZAK				Smax			
	comp=N,20nm,1.9s						
MOY	**Mondy**	**7.21**	**246**	eSg	Sn	22 48 13.0	+35
MOY				Smax			
	comp=N,43nm,1.6s						
ORL	**Orlik**	**7.44**	**255**	ePn	Pn	22 46 20.5	+1.4
ORL				eSn	Sn	22 47 41.7	-1.5
ORL				eSg	Sn	22 48 21.2	+38
ORL				Smax			
	comp=N,46nm,1.3s						
ORL	**Orlik**	**7.44**	**255**	ePN	Pn	22 46 21.0	+1.9
ORL				e		22 46 45.3	
ORL				e		22 48 20.7	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ORL				smax			
	comp=N,33nm,1.5s						

*STR **16** 22:50:01.3±0.4, 44.14N×608E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **16** 22:50:03.5±0.4, 44.10N±002×639E±004, h10km±4km, Error ellipse: s-maj=5.1km s-min=3.3km az=142.2*
*LDG **16** 22:50:04.4±0.0, 4408N×642E, h4km, Md2.1/1, Ml1.8/5, Error ellipse: s-maj=0.8km s-min=0.5km az=81.0*
ISC 16 22:50:04.3±0.4, **4409N**±002×**640E**±004, **h15**km±4km, **n19**, σ**0.65**/35, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRF	**La Foret Royal**	**0.56**	**161**	ePg	**Pg**	**22 50 14.6**	**-0.6**
FRF	**La Foret Royal**	**0.56**	**161**	ePn	**Pg**	**22 50 17.4**	**+2.2**
FRF				eSg	**Sg**	**22 50 22.0**	**-0.7**
	15nm,0.3s						
MVIF	**Mont Vial**	**0.58**	**109**	Pg	**Pg**	**22 50 17.2**	**+1.6**
MVIF				Sg	**Sg**	**22 50 28.0**	**+4.7**
SMRF	**Simiane la Rot**	**0.61**	**260**	ePg	**Pg**	**22 50 16.2**	**0.0**
SMRF				eSn	**Sg**	**22 50 27.9**	**+3.7**
	11nm,0.2s						
TOUF	**Mont Tournerai**	**0.62**	**97**	Pg	**Pg**	**22 50 15.3**	**-1.1**
MBDF	**Montbardon**	**0.69**	**22**	ePg	**Pg**	**22 50 17.7**	**-0.1**
MBDF				eSg	**Sg**	**22 50 26.9**	**-0.1**
	2.0nm,0.3s						
LUCF	**Luceram**	**0.71**	**106**	Pg	**Pg**	**22 50 18.9**	**+0.8**
LUCF				Sg	**Sg**	**22 50 32.5**	**+5.0**
AUTN	**L'Aution**	**0.75**	**97**	Pg	**Pg**	**22 50 19.9**	**+1.1**
AUTN				Sg	**Sg**	**22 50 34.0**	**+5.3**
LMR	**La Mourre**	**0.76**	**174**	ePg	**Pg**	**22 50 18.8**	**-0.2**
LMR	**La Mourre**	**0.76**	**174**	ePn	**Pn**	**22 50 20.3**	**-0.1**
LMR				eSg	**Sg**	**22 50 28.4**	**-0.6**
LMR				eSn	**Sn**	**22 50 31.5**	**-0.1**
	7.0nm,0.2s						
SBF	**Sospel**	**0.78**	**106**	ePg	**Pg**	**22 50 19.0**	**-0.5**
SBF				eSg	**Sg**	**22 50 28.8**	**-0.9**
SBF				eSn	**Sn**	**22 50 32.0**	**-0.1**
	6.8nm,0.2s						
SAOF	**Saorge**	**0.84**	**97**	Pg	**Pg**	**22 50 21.6**	**+1.0**
SAOF				Sg	**Sg**	**22 50 36.3**	**+4.7**
ORIF	**Oris-en-Rattie**	**0.91**	**336**	ePg	**Pg**	**22 50 21.9**	**0.0**
ORIF				eSg	**Sg**	**22 50 33.8**	**0.0**
	4.9nm,0.3s						
LPG	**La Plagne**	**1.43**	**10**	ePn	**Pn**	**22 50 29.7**	**0.0**
LPG	**La Plagne**	**1.43**	**10**	ePg	**Pg**	**22 50 31.6**	**-0.2**
LPG				eSg	**Sg**	**22 50 50.3**	**-0.2**
	1.0nm,0.3s						
LPL	**La Plagne**	**1.45**	**9**	ePn	**Pn**	**22 50 30.0**	**+0.1**
LPL	**La Plagne**	**1.45**	**9**	ePg	**Pg**	**22 50 31.7**	**-0.4**
LPL				eSg	**Sg**	**22 50 50.6**	**-0.4**
	0.7nm,0.3s						
VIVF	**Saint-Julien-l**	**1.46**	**302**	ePn	**Pn**	**22 50 30.1**	**+0.1**
VIVF				eSn	**Sn**	**22 50 48.9**	**+0.1**
	1.5nm,0.2s						
LASF	**Ste Croix**	**1.83**	**271**	ePn	**Pn**	**22 50 35.3**	**+0.1**
LASF				eSn	**Sn**	**22 50 58.0**	**-0.1**
	2.0nm,0.3s						

IDC 16 22:51:47.0±14.0, **345S×12938E, h0**km, **mb3.6**/2, **mb1 3.8**/4, **mb1mx3.6**/15, **mbtmp3.6**/4, **ML3.5**/1, **Error ellipse: s-maj=216.2km s-min=101.5km az=148.0, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.02**	**194**	Pn	Pn	22 55 22.7	+2.2
	0.2nm,0.3s,baz=29,slow=10.0,SNR=6.3						
WRA	**Warramunga Arr**	**17.09**	**164**	P	Pn	22 55 46.9	-0.5
	0.1nm,0.3s,baz=344,slow=13,SNR=3.6						
ASAR	**Alice Springs**	**20.57**	**168**	P	P	22 56 27.4	+0.1
	1.0nm,0.8s,baz=347,slow=10,SNR=5.3						
STKA	**Stephens Creek**	**30.52**	**159**	P	P	22 58 02.0	+0.1
	0.8nm,0.4s,baz=331,slow=9.9,SNR=3.1						

*IDC **16** 23:02:02.3±0.7, 287S×12965E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, ML4.1/1, MS3.6/3, Ms1 3.5/3, ms1mx3.0/30, Error ellipse: s-maj=34.3km s-min=15.5km az=71.0*
*NEIC **16** 23:02:03.5±0.5, 296S×12970E, h10km, mb4.5/8, Error ellipse: s-maj=16.4km s-min=6.9km az=69.0*
*ISCJB **16** 23:02:04.2±0.4, 284S±005×130.14E±009, h33km, mb4.4/17, MS3.5/2, Error ellipse: s-maj=13.1km s-min=5.2km az=141.8*
ISC 16 23:02:05.9±3.1, **296S**±006×**1299E**±01, **h27**km±22km, **n38**, σ**1.22**/37, **mb4.3**/16, **MS3.5**/2, **1C, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	2.48	33	P	Pn	23 02 38.6	-5.9
	0.0nm,0.0s						
KAKA	Kakadu	10.01	166	eP	Pn	23 04 28.8	+0.9
	17nm,0.6s						
PCI	Palu	10.27	281	P	Pn	23 04 37.0	+5.5
	0.0nm,0.0s						
FITZ	Fitzroy Crossi	15.62	195	eP	Pn	23 05 44.0	-0.1
	18nm,0.6s						
FITZ	Fitzroy Crossi	15.62	195	Pn	Pn	23 05 43.5	-0.7
	0.6nm,0.3s,baz=39,slow=12,SNR=18						
FITZ				LR	LR	23 12 08.8	
	comp=Z,161nm,18.8s,baz=24,slow=39						
WRAB	Tennant Creek	17.42	166	ePn	Pn	23 06 06.3	-0.7
	51nm,1.1s						
WRAB				eSn	Sn	23 09 19.6	-0.4
WRAB				ePcP	PcP	23 10 46.2	-1.2
WRA	Warramunga Arr	17.43	166	P	Pn	23 06 06.0	-1.0
	1.8nm,0.3s,baz=347,slow=13,SNR=27						
WRA				S	Sn	23 09 20.9	+0.7
	0.4nm,0.3s,baz=352,slow=18,SNR=4.5						
WB2	Warramunga Arr	17.43	166	eP	Pn	23 06 06.2	-0.9
KSM	Kuching	20.08	282	eP	P	23 06 36.6	-0.6
BJII	Banjamegara	20.58	257	P	P	23 06 44.9	+2.3
	48nm,1.4s						
MBWA	Marble Bar	20.63	208	eP	P	23 06 40.7	-2.4
	24nm,0.9s						
AS31	Alice Springs	20.94	170	⇑eP	P	23 06 47.5	+0.9
ASAR	Alice Springs	20.95	170	P	P	23 06 47.7	+1.1
	37nm,0.7s,baz=349,slow=10,SNR=85						
ASAR				S	S	23 10 37.5	-1.1
	4.3nm,0.9s,baz=350,slow=23,SNR=8.0						
ASAR				PcP	PcP	23 10 55.7	+2.1
	1.8nm,0.7s,baz=333,slow=1.9,SNR=4.9						
CTA	Charters Tower	23.33	138	P	P	23 07 15.7	+3.7
	11nm,0.9s,mb4.3,baz=320,slow=12,SNR=5.6						
FORT	Forrest	27.73	183	eP	P	23 07 51.6	-0.4
	12nm,0.9s,mb4.5						
STKA	Stephens Creek	30.80	160	eP	P	23 08 20.3	+1.0
	4.4nm,0.9s,mb4.3						
STKA	Stephens Creek	30.80	160	P	P	23 08 20.8	+1.6
	1.6nm,0.4s,mb4.2,baz=336,slow=10.0,SNR=5.9						
STKA				LR	LR	23 21 44.5	
	comp=Z,109nm,19.9s,MS3.5,baz=203,slow=38						
PSI	Prapat	31.50	280	P	P	23 08 23.7	-1.7
	6.2nm,0.9s,mb4.4,baz=171,slow=2.6,SNR=6.0						
NWAO	Narrogin (SRO)	32.09	200	LR	LR	23 22 30.8	
	comp=Z,108nm,18.9s,MS3.6,baz=56,slow=38						
CHTO	Chiang Mai	37.37	307	eP	P	23 09 15.6	-0.7
	13nm,1.0s,mb4.7						
MJAR	Matsushiro Arr	40.05	10	P	P	23 09 37.3	-1.4
	1.7nm,0.8s,mb3.8,baz=190,slow=9.4,SNR=7.0						
JIRN	Jiri	51.94	309	eP	P	23 11 15.6	+3.3
GUN	Gumba	52.30	309	eP	P	23 11 17.4	+2.4
PKI	Pulchoki	52.50	308	eP	P	23 11 19.6	+3.0
KKN	Kakani	52.71	309	eP	P	23 11 19.6	+1.5
	15nm,0.9s,mb4.9						
DMN	Daman	52.76	308	eP	P	23 11 20.9	+2.5
GKN	Gorkha	53.31	308	eP	P	23 11 21.8	-0.7
	21nm,1.1s,mb5.0						
KOLN	Koldanda	54.02	308	eP	P	23 11 27.2	-0.5
	15nm,0.8s,mb5.0						
SONM	Songino Array	54.61	341	P	P	23 11 32.0	0.0
	0.6nm,0.8s,mb3.7,baz=157,slow=4.7,SNR=3.6						
ZAL	Zalesovo	67.95	333	P	P	23 13 01.6	-0.7
	1.9nm,1.0s,mb4.1,baz=15,slow=3.9,SNR=6.8						
BVAR	Borovoye Array	74.62	327	P	P	23 13 42.5	-0.2
	2.6nm,0.8s,mb4.2,baz=116,slow=6.8,SNR=11						
CHKZ	Chkalovo	74.80	328	eP	P	23 13 43.2	-0.5
	2.5nm,0.9s,mb4.1						
ZRNK	Zerenda	75.34	327	eP	P	23 13 45.7	-1.1
	4.5nm,1.1s,mb4.3						
VNDA	Vanda	76.44	173	P	P	23 13 53.5	+0.4
	1.4nm,0.7s,mb4.0,baz=311,slow=5.3,SNR=5.8						
MAW	Mawson	78.66	201	P	P	23 14 05.5	+0.1
	2.1nm,0.7s,mb4.2,baz=80,slow=6.1,SNR=4.1						
TORD	Torodi Ar. Bea	127.83	284	PKP	PKPdf	23 21 11.0	+2.0
	0.6nm,0.9s,baz=99,slow=3.2,SNR=3.5						
CPUP	Villa Florida	150.05	167	PKPbc	PKPbc	23 21 55.8	+1.8
	4.0nm,0.7s,baz=202,slow=5.5,SNR=2.8						
LPAZ	La Paz	153.85	138	PKPbc	PKPbc	23 22 07.2	+4.6
	0.6nm,0.7s,baz=45,slow=1.4,SNR=3.6						

*BJI **16** 23:24:32.8, 398S×12999E, h10km, mB5.3, mb5.0, Ms5.0, Msz4.5*

*IDC **16** 23:24:41.4±0.5, 289S×12968E, h0km, mb4.8/16, mb1 4.8/17, mb1mx4.8/19, mbtmp4.8/17, ML4.6/1, MS4.2/13, Ms1 4.2/13, ms1mx4.0/27, Error ellipse: s-maj=23.0km s-min=12.6km az=77.0*

*NEIC **16** 23:24:43.3±0.2, 301S×12950E, h10km, mb5.1/22, Error ellipse: s-maj=8.3km s-min=4.3km az=72.0*

NEIC Felt [II] at Wahai.

*GCMT **16** 23:24:43.3±0.2, 284S×12946E, h19km, MW5.1/73, Moment Tensor Solution. s46,c63; s73,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.91±.18; $M_{\theta\theta}$-3.11±.10; $M_{\phi\phi}$-0.80±.14; $M_{r\theta}$-0.45±.23; $M_{\theta\phi}$2.82±.09; $M_{\phi r}$1.80±.34; Best double couple: $M_0$4.88600×10^{16} NP1:ϕ_s104.00000°,δ40.00000°,λ59.00000°. NP2: ϕ_s322.00000°,δ57.00000°,λ113.00000°. Principal axes: T 4.5540, Plg69.0000°, Azm282.0000°; N 0.6590, Plg19.0000°, Azm129.0000°; P -5.2180, Plg9.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **16** 23:24:44.3±0.2, 302S±003×12957E±004, h31km, mb5.1/81, MS4.3/27 Error ellipse: s-maj=5.9km s-min=3.6km az=143.0*

*MOS **16** 23:24:44.2±1.0, 293S×12964E, h33km, mb5.1/30, MS4.2/8, Error ellipse: s-maj=13.7km s-min=6.6km az=108.1*

ISC 16 23:24:46.4±0.2, **300S**±003×**12965E**±004, **h32**km, **h32**km±1.2km**:pP-P, n206,** σ1s**10**/200, **mb5.1**/81, **MS4.3**/27, **22C-5D, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.60	245	P	Pn	23 25 13.4	+0.9
	13μm,0.7s						
SWI	Sorong	2.66	37	P	Pn	23 25 26.0	-1.0
	3μm,0.7s						
PCI	Palu	10.02	282	P	Pn	23 27 08.2	+0.1
	245nm,1.1s						
KAKA	Kakadu	10.04	164	eP	Pn	23 27 08.9	+0.6
	73nm,0.6s						
JAY	Jayapura	11.05	88	P	Pn	23 27 26.4	+4.2
	66nm,1.0s						
TSM	Tawau	13.82	302	P	Pn	23 27 56.2	-3.7
FITZ	Fitzroy Crossi	15.52	194	eP	Pn	23 28 21.5	-1.2
	48nm,0.6s						
FITZ	Fitzroy Crossi	15.52	194	Pn	Pn	23 28 20.6	-2.1
	0.6nm,0.3s,baz=23,slow=11,SNR=22						
FITZ				LR	LR	23 34 57.1	
	comp=Z,870nm,18.5s,baz=26,slow=39						
KMMI	Kalianget	16.13	255	P	Pn	23 28 35.0	+4.4
	259nm,1.6s						
KKM	Kota Kinabalu	16.14	304	P	Pn	23 28 30.1	-0.7
KKM	Kota Kinabalu	16.14	304	⇓iPn	Pn	23 28 28.2	-2.6
WRAB	Tennant Creek	17.45	165	Pn	Pn	23 28 47.5	+0.3
	613nm,1.6s,SNR=18						
WRAB	Tennant Creek	17.45	165	eP	Pn	23 28 47.0	-0.2
WRAB	Tennant Creek	17.45	165	ePn	Pn	23 28 46.8	-0.4
	176nm,1.0s						
WRA	Warramunga Arr	17.45	165	P	Pn	23 28 45.9	-1.4
	1.9nm,0.3s,baz=351,slow=12,SNR=29						
WRA				S	Sn	23 31 56.5	-4.1
	0.3nm,0.3s,baz=337,slow=17,SNR=3.1						
WRA	Warramunga Arr	17.45	165	P	Pn	23 28 45.9	-1.4
WRA				S	Sn	23 31 56.5	-4.1
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WB2	Warramunga Arr	17.46	165	eP	Pn	23 28 46.2	-1.1
KRKI	Karangkates	17.86	253	P	Pn	23 28 53.1	+0.8
	comp=Z,430nm,0.7s						
PMG	Port Moresby	18.53	111	⇑eP	Pn	23 29 01.4	+0.9
PMG	Port Moresby	18.53	111	eP	Pn	23 29 05.7	+5.2
	comp=Z,50nm,0.9s						
KSM	Kuching	19.84	283	⇑iP	Pn	23 29 15.1	-1.0
BJII	Banjamegara	20.31	257	P	P	23 29 20.6	+1.0
	comp=Z,246nm,1.4s						
MBWA	Marble Bar	20.47	207	⇓P	P	23 29 24.1	+2.8
	SNR=11						
MBWA	Marble Bar	20.47	207	eP	P	23 29 19.7	-1.6
	comp=Z,116nm,1.1s						
AS31	Alice Springs	20.95	169	⇑iP	P	23 29 27.2	+0.6
ASAR	Alice Springs	20.96	169	P	P	23 29 27.3	+0.7
	comp=Z,102nm,0.6s,baz=348,slow=9.7,SNR=405						
ASAR				S	S	23 33 16.9	-1.5
	comp=Z,9.0nm,0.9s,baz=348,slow=21,SNR=4.3						
ASAR				PcP	PcP	23 33 34.8	+1.5
	comp=Z,5.6nm,0.6s,baz=18,slow=1.5,SNR=5.2						
ASAR	Alice Springs	20.96	169	P	P	23 29 27.3	+0.7
ASAR				S	S	23 33 16.9	-1.4
ASAR						23 33 34.8	
ASAR				pmax	pmax		
	comp=Z,102nm,0.6s						
ASAR				smax			
	comp=N,9.0nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
LEM	Lembang	22.27	259	P	P	23 29 41.0	+0.3
	comp=Z,120nm,1.1s,mb5.2						
GUMO	Guam	22.35	42	P	P	23 29 38.3	-3.2
	comp=Z,13nm,0.2s,mb4.9,baz=170,slow=19,SNR=1.9						
GUMO	Guam	22.35	42	P	P	23 29 38.3	-3.2
GUMO				pmax	pmax		
	comp=Z,13nm,0.3s,mb4.8						
GUMO	Guam	22.35	42	P	P	23 29 38.3	-3.2
CTA	Charters Tower	23.48	138	eP	P	23 29 54.6	+1.3
	comp=Z,60nm,0.9s,mb5.0						
CTA	Charters Tower	23.48	138	P	P	23 29 53.5	+0.1
	comp=Z,27nm,0.9s,mb4.7,baz=321,slow=12,SNR=11						
CTA	Charters Tower	23.48	138	P	P	23 29 53.5	+0.2
CTA				pmax	pmax		
	comp=Z,27nm,0.9s						
CTAO	Charters Tower	23.48	138	P	P	23 29 53.3	0.0
CTAO	Charters Tower	23.48	138	eP	P	23 29 54.4	+1.1
	comp=Z,86nm,0.9s,mb5.2						
KGM	Kluang	26.79	280	P	P	23 30 25.0	+1.6
FORT	Forrest	27.67	183	eP	P	23 30 30.8	-0.5
	comp=Z,25nm,0.5s,mb5.1						
QIZ	Qiongzhong	29.30	319	P	P	23 30 46.0	+0.2
QIZ				eS	S	23 35 35.6	-1.3
QIZ				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.4						
QIZ				LR	LR		
	comp=Z,678nm,20.4s,MS4.3						
PPI	Padang Panjang	29.34	274	P	P	23 30 46.2	0.0
	comp=Z,136nm,1.1s,mb5.6						
IPM	Ipoh	29.55	284	P	P	23 30 49.8	+1.8
JOW	Kunigami	29.68	358	LR	LR	23 41 16.6	
	comp=Z,578nm,18.3s,MS4.2,baz=285,slow=34						
KULM	Kulim	30.11	286	eP	P	23 30 52.9	-0.1
KLBR	Kellerberrin	30.57	200	eP	P	23 30 55.8	-1.2
	comp=Z,38nm,1.4s,mb5.0						
STKA	Stephens Creek	30.85	160	eP	P	23 31 00.1	+0.6
	comp=Z,15nm,0.8s,mb4.9						
STKA	Stephens Creek	30.85	160	P	P	23 31 00.3	+0.8
	comp=Z,9.9nm,0.7s,mb4.7,baz=337,slow=8.7,SNR=18						
STKA				LR	LR	23 45 04.0	
	comp=Z,745nm,19.3s,MS4.4,baz=98,slow=40						
PSI	Prapat	31.25	280	P	P	23 31 02.5	-0.5
	comp=Z,25nm,0.8s,mb5.1,baz=109,slow=6.2,SNR=34						
PSI	Prapat	31.25	280	P	P	23 31 02.5	-0.5
PSI				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.1						
MUN	Mundaring	31.48	202	eP	P	23 31 03.2	-1.8
NWAO	Narrogin (SRO)	31.97	200	P	P	23 31 08.2	-1.1
	comp=Z,6.1nm,0.4s,mb4.8,baz=40,slow=3.8,SNR=10.0						
NWAO	Narrogin (SRO)	31.97	200	P	P	23 31 08.3	-1.0
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KKTK	Khon Kaen	32.74	307	⇑P	P	23 31 16.5	+0.4
	comp=Z,741nm,0.8s						
ARMA	Armidale	34.30	145	eP	P	23 31 32.1	+2.4
NST	Nakhon Sawan	34.59	303	P	P	23 31 33.0	+0.8
SSE	Sheshan	34.85	347	P	P	23 31 36.1	+1.7
SSE				AP	pP	23 31 45.0	+1.2
SSE				XP	sP	23 31 48.9	+1.2
SSE				S	S	23 37 06.9	+3.6
SSE				XS	sS	23 37 22.3	+3.6
SSE				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,2μm,5.6s						
SSE				LR	LR		
	comp=N,182nm,22.0s,MS3.9						
SSE				LR	LR		
	comp=E,156nm,22.0s,MS3.9						
SSE				LR	LR		
	comp=Z,193nm,21.6s,MS3.8						
NJ2	Nanjing	36.33	344	eP	P	23 31 49.3	+2.1
NJ2				AP	pP	23 31 59.1	+2.5
NJ2				PP	PP	23 33 13.3	+3.2
NJ2				S	S	23 37 27.0	+0.9
NJ2				XS	sS	23 37 45.0	+3.5
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,3μm,5.1s						
NJ2				LR	LR		
	comp=N,3μm,16.0s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,16.5s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,19.4s,MS4.6						
WHN	Wuhan	36.41	337	P	P	23 31 48.5	+0.6
GYA	Guiyang	36.76	324	P	P	23 31 50.8	0.0
GYA				AP	pP	23 32 01.4	+1.2
GYA				XP	sP	23 32 04.6	+0.5
GYA				PP	PP	23 33 15.8	+1.0
GYA				S	S	23 37 30.8	-1.8
GYA				SCP	ScP	23 37 56.8	-0.2
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,170nm,7.1s						
GYA				LR	LR		
	comp=N,480nm,17.9s,MS4.5						
GYA				LR	LR		
	comp=E,510nm,18.0s,MS4.5						
GYA				LR	LR		
	comp=Z,500nm,17.8s,MS4.3						
CNB	Canberra Magne	36.99	153	eP	P	23 31 55.2	+2.4
	comp=Z,27nm,1.5s,mb4.9						
CM31	Chiang Mai Arr	36.99	306	eP	P	23 31 53.6	+0.7
	comp=Z,23nm,0.9s,mb5.0						
CHTO	Chiang Mai	37.18	307	⇑P	P	23 31 55.1	+0.6
	SNR=24						
CHTO	Chiang Mai	37.18	307	⇑iP	P	23 31 54.9	+0.5
	comp=Z,74nm,0.9s,mb5.5						
TOO	Toolangi	37.35	159	eP	P	23 31 58.3	+2.4
	comp=Z,15nm,1.1s,mb4.7						
KMI	Kunming	38.25	318	P	P	23 32 05.1	+1.7
KMI				AP	pP	23 32 14.3	+1.5
KMI				XP	sP	23 32 17.5	+0.8
KMI				PP	PP	23 33 36.8	+5.6
KMI				S	S	23 37 57.9	+2.7
KMI				XS	sS	23 38 12.3	+1.6
KMI				AMB	AMB		
	comp=Z,40nm,1.4s,mb5.0						
KMI				LR	LR		
	comp=N,500nm,23.9s,MS4.3						
KMI				LR	LR		
	comp=E,312nm,23.9s,MS4.3						
KMI				LR	LR		
	comp=Z,335nm,22.7s,MS4.1						
MJAR	Matsushiro Arr	40.14	11	P	P	23 32 16.4	-2.8
	comp=Z,4.4nm,0.8s,mb4.2,baz=184,slow=8.7,SNR=18						
MJAR				LR	LR	23 47 21.0	
	comp=Z,257nm,19.5s,MS4.1,baz=215,slow=34						
MJAR	Matsushiro Arr	40.14	11	P	P	23 32 16.4	-2.8
MJAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,257nm,19.5s						
MAJO	Matsushiro	40.14	11	eP	P	23 32 17.7	-1.5
MAT	Matsushiro	40.14	11	P	P	23 32 17.4	-1.8
MAT				S	S	23 38 28.0	+4.4
IMP	Imphal	44.33	311	eP	P	23 32 53.0	-0.3
BJI	Beijing	44.58	345	P	P	23 32 55.1	-0.2
BJI				S	S	23 39 32.1	+3.1
BJI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
BJI				AMB	AMB		
	comp=Z,455nm,6.5s						
BJI				LR	LR		
	comp=N,84nm,25.3s,MS4.1						
BJI				LR	LR		
	comp=E,319nm,27.8s,MS4.1						
BJI				LR	LR		
	comp=Z,162nm,27.8s,MS3.8						
LZH	Lanzhou	45.75	331	P	P	23 33 04.5	-0.1
LZH				AP	pP	23 33 12.8	-1.4
LZH				XP	sP	23 33 18.6	+0.6
LZH				PP	PP	23 34 53.0	+0.9
LZH				eS	S	23 39 45.3	-0.6
LZH				XS	sS	23 40 03.0	+1.3
LZH				AMB	AMB		
	comp=Z,80nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,14.2s						
LZH				LR	LR		
	comp=Z,3μm,16.9s,MS5.3						
HHC	Hu-ho-hao-te	46.66	341	eP	P	23 33 14.3	+2.5
HHC				PP	PP	23 35 04.0	+2.3
HHC				SCP	ScP	23 38 37.3	+0.9
HHC				S	S	23 40 01.3	+2.3
HHC				XS	sS	23 40 17.8	+3.0
HHC				SCS	ScS	23 43 03.6	-0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,196nm,6.7s						
HHC				LR	LR		
	comp=N,278nm,7.1s						
HHC				LR	LR		
	comp=E,302nm,5.7s						
HHC				LR	LR		
	comp=Z,380nm,8.0s						
CN2	Changchun	46.74	356	eP	P	23 33 15.8	+3.4
CN2				eS	S	23 40 04.3	+4.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MDJ	Mudanjiang	47.40	360	P	P	23 33 19.1	+1.5
MDJ				AP	pP	23 33 28.1	+0.9
MDJ				PP	PP	23 35 10.4	+1.5
MDJ				S	S	23 40 13.4	+3.8
MDJ				SCS	ScS	23 43 07.6	-1.4
MDJ				SS	SS	23 43 43.0	+5.6
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,196nm,6.0s						
MDJ				LR	LR		
	comp=N,146nm,22.2s,MS4.1						
MDJ				LR	LR		
	comp=E,170nm,25.0s,MS4.1						
MDJ				LR	LR		
	comp=Z,285nm,34.0s						
LSA	Lhasa	49.12	314	P	P	23 33 32.0	+1.1
LSA	Lhasa	49.12	314	eP	P	23 33 31.6	+0.8
	comp=Z,22nm,0.6s,mb5.4						
GTA	Gaotai	50.34	330	⇑P	P	23 33 39.8	-0.3
GTA				AP	pP	23 33 47.8	-1.9
GTA				XP	sP	23 33 50.8	-2.7
GTA				PCP	PcP	23 34 59.8	+1.4
GTA				PP	PP	23 35 36.8	+1.1
GTA				SCP	ScP	23 38 52.3	+0.3
GTA				S	S	23 40 49.8	-1.0
GTA				XS	sS	23 41 06.5	-0.2
GTA				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.2						
GTA				AMB	AMB		
	comp=Z,103nm,5.7s						
GTA				LR	LR		
	comp=N,228nm,19.1s,MS4.5						
GTA				LR	LR		
	comp=E,304nm,16.8s,MS4.5						
GTA				LR	LR		
	comp=Z,336nm,21.8s,MS4.3						
YSS	Yuzh-Sakhalins	51.06	12	eP	P	23 33 45.4	-0.2
YSS				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6						
HABR	Khabarovsk	51.48	5	eP	P	23 33 48.1	-0.6
HABR				eS	S	23 41 07.7	+1.1
HABR				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
JIRN	Jiri	51.76	309	eP	P	23 33 50.8	0.0
	comp=Z,44nm,0.8s,mb5.5						
KLR	Kul'dur	52.05	2	eP	P	23 33 49.2	-3.7
KLR				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
GUN	Gumba	52.12	309	eP	P	23 33 53.3	-0.2
	comp=Z,90nm,0.8s,mb5.8						
PKI	Pulchoki	52.32	309	eP	P	23 33 54.5	-0.5
	comp=Z,93nm,1.3s,mb5.5						
KKN	Kakani	52.53	309	eP	P	23 33 55.0	-1.5
	comp=Z,70nm,1.0s,mb5.5						
DMN	Daman	52.58	308	eP	P	23 33 56.7	-0.2
	comp=Z,91nm,1.0s,mb5.7						
HIA	Hailar	52.76	352	eP	P	23 33 58.0	-0.2
GKN	Gorkha	53.13	309	eP	P	23 34 00.5	-0.4
	comp=Z,124nm,1.1s,mb5.8						
KOLN	Koldanda	53.84	308	eP	P	23 34 06.1	0.0
	comp=Z,154nm,1.1s,mb5.8						
HYB	Hyderabad	54.31	294	i P	P	23 34 09.0	-0.6
HYB	Hyderabad	54.31	294	eP	P	23 34 09.0	-0.6
ULN	Ulaanbaatar	54.38	341	eP	P	23 34 10.1	0.0
	comp=Z,17nm,0.9s,mb5.0						
SONM	Songino Array	54.56	341	P	P	23 34 10.9	-0.5
	comp=Z,5.4nm,0.8s,mb4.6,baz=152,slow=7.9,SNR=26						
SONM				PcP	PcP	23 35 14.7	+0.4
	comp=Z,3.0nm,0.7s,baz=160,slow=5.0,SNR=2.8						
SONM				LR	LR	23 58 17.5	
	comp=Z,191nm,20.7s,MS4.2,baz=160,slow=37						
SONM	Songino Array	54.56	341	P	P	23 34 10.9	-0.5
SONM						23 35 14.7	
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,191nm,20.7s						
CIT	Chita	56.49	348	eP	P	23 34 25.4	+0.1
ZAK	Zakamensk	57.80	340	eP	P	23 34 32.9	-1.6
ZAK				e		23 35 27.3	
TLY	Talaya	58.79	341	eP	P	23 34 41.1	-0.3
TLY				e		23 36 56.7	
TLY				eS	S	23 42 47.1	+2.6
TLY				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
TLY				MLR	MLR		
	comp=Z,116nm,17.0s,MS4.1						
TLY	Talaya	58.79	341	c iP	P	23 34 41.2	-0.2
TLY				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
IRK	Irkutsk	59.08	342	eP	P	23 34 42.3	-1.1
IRK				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.2						
MOY	Mondy	59.66	340	eP	P	23 34 47.7	+0.2
MOY				pmax	pmax		
	comp=Z,63nm,2.4s,mb5.2						
WMQ	Urumqi	59.88	326	⇑iP	P	23 34 48.8	-0.2
WMQ				AP	pP	23 34 59.0	+0.2
WMQ				XP	sP	23 35 03.0	+0.4
WMQ				PCP	PcP	23 35 32.0	-3.2
WMQ				PP	PP	23 37 02.0	+0.7
WMQ				S	S	23 42 56.0	-2.7
WMQ				XS	sS	23 43 20.0	+5.2
WMQ				SCS	ScS	23 44 33.0	-4.0
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,238nm,5.2s						
WMQ				LR	LR		
	comp=N,278nm,20.6s,MS4.4						
WMQ				LR	LR		
	comp=E,157nm,22.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,234nm,20.3s,MS4.3						
PET	Petropavlovsk	60.91	20	⇓iP	P	23 34 56.9	+0.9
PET				eS	S	23 43 12.4	+0.6
PET				ePS		23 43 30.9	
PET				eSS	SS	23 47 15.8	+4.5
PET				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.7						
PET				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
PET	Petropavlovsk	60.91	20	eP	P	23 34 56.3	+0.3
BOD	Bodaibo	61.92	351	eP	P	23 35 02.4	-0.4
BOD				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.9						
MA2	Magadan	64.57	12	eP	P	23 35 20.6	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MA2				eS	S	23 44 02.3	+4.6
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
MA2	Magadan	64.57	12	eP	P	23 35 21.1	+0.7
	comp=Z,14nm,0.8s,mb5.1						
CASY	Casey	64.58	188	eP	P	23 35 19.6	-0.9
	comp=Z,10nm,0.9s,mb4.8						
YAK	Yakutsk	64.85	0⇑	eP	P	23 35 21.5	-0.7
YAK				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.5						
YAK				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
YAK	Yakutsk	64.85	0	eP	P	23 35 22.3	+0.1
KSH	Kashi	64.87	316	eP	P	23 35 23.0	+0.7
KSH				eAP	pP	23 35 33.3	+1.1
KSH				ePCP	PcP	23 35 56.1	+0.6
KSH				ePCS		23 39 58.3	
KSH				eS	S	23 43 57.8	-3.6
KSH				eXS	sS	23 44 16.4	-1.3
KSH				eSCS	ScS	23 45 11.1	-3.6
KSH				AMB	AMB		
	comp=Z,275nm,2.0s,mb5.9						
KSH				LR	LR		
	comp=N,361nm,5.3s						
KSH				LR	LR		
	comp=E,438nm,5.5s						
KSH				LR	LR		
	comp=Z,408nm,8.0s						
ULHL	Ulahol	65.97	319	P	P	23 35 29.8	+0.4
	SNR=5.1						
TKM2	Tokmak 2	66.71	320	P	P	23 35 34.7	+0.5
	SNR=11						
TKM2	Tokmak 2	66.71	320	P	P	23 35 33.5	-0.7
TKM2				pmax	pmax		
	comp=Z,71nm,1.9s,mb5.4						
SMY	Shemya	66.90	28	eP	P	23 35 42.4	+7.0
KBK	Karagaybulak	67.00	319	P	P	23 35 36.8	+0.7
	SNR=5.9						
AAK	Ala-Archa	67.29	319	P	P	23 35 38.6	+0.7
	SNR=6.5						
AAK	Ala-Archa	67.29	319	P	P	23 35 37.9	0.0
	comp=Z,60nm,1.0s,mb5.6,SNR=5.5						
AAK	Ala-Archa	67.29	319	⇑P	P	23 35 36.8	-1.1
	SNR=12						
AAK	Ala-Archa	67.29	319⇑	eP	P	23 35 36.9	-1.0
AAK				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
AAK	Ala-Archa	67.29	319	eP	P	23 35 37.1	-0.8
USP	Ospenovka	67.58	320	P	P	23 35 39.7	0.0
	SNR=7.7						
AML	Almayashu	67.59	318	P	P	23 35 40.4	+0.6
	SNR=19						
EKS2	Erkin-Say	67.78	319	P	P	23 35 41.2	+0.3
	SNR=15						
ZAL	Zalesovo	67.87	333	P	P	23 35 40.6	-0.9
	comp=Z,12nm,0.8s,mb5.0,baz=354,slow=6.2,SNR=72						
ZAL				LR	LR	00 07 57.9	
	comp=Z,144nm,21.2s,MS4.2,baz=338,slow=38						
ZAL	Zalesovo	67.87	333	P	P	23 35 40.6	-0.9
ZAL				pmax	pmax		
	comp=Z,12nm,0.8s						
ZAL				MLR	MLR		
	comp=Z,144nm,21.2s						
SEY	Seymchan	67.97	11⇑	eP	P	23 35 42.3	+0.2
MIR	Mirnyy	68.39	195d	iP	P	23 35 46.0	+1.2
MIR				pmax	pmax		
	comp=Z,200nm,1.9s,mb5.8						
KURK	Kurchatov	68.95	328	P	P	23 35 47.5	-0.8
	comp=Z,366nm,0.9s,SNR=49						
NVS	Novosibirsk	69.15	333⇑	iP	P	23 35 47.3	-2.2
NVS				pmax	pmax		
	comp=N,54nm,1.4s						
NVS				pmax	pmax		
	comp=E,56nm,1.4s						
NVS				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.5						
KK31	Karatay Array	70.13	318	iP	P	23 35 54.4	-1.2
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
KKAR	Karatay Array	70.13	318	iP	P	23 35 54.4	-1.2
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
VOSK	Vostochnaya	74.06	327	P	P	23 36 18.2	-0.9
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
BIDO	Bidbid	74.34	295	⇓P	P	23 36 21.3	+0.5
	SNR=6.9						
BVA0	Borovoye Array	74.52	327	iP	P	23 36 21.3	-0.5
BVA0				pmax	pmax		
	comp=Z,20nm,2.1s,mb4.7						
BVAR	Borovoye Array	74.52	327	P	P	23 36 21.3	-0.4
	comp=Z,7.0nm,0.7s,mb4.7,baz=131,slow=8.1,SNR=36						
BVAR				LR	LR	00 08 06.4	
	comp=Z,48nm,19.8s,MS3.8,baz=141,slow=35						
BRVK	Borovoye	74.59	327	P	P	23 36 21.7	-0.5
	comp=Z,122nm,0.7s,mb5.9,SNR=7.5						
BRVK	Borovoye	74.59	327	P	P	23 36 21.9	-0.3
CHKZ	Chkalovo	74.69	328	P	P	23 36 21.5	-1.3
CHKZ				pmax	pmax		
	comp=Z,73nm,1.9s,mb5.3						
CHKZ	Chkalovo	74.69	328	eP	P	23 36 21.9	-0.9
HOQ	Hoqain	75.09	295	⇑P	P	23 36 25.9	+0.9
	SNR=6.0						
ZRNK	Zerenda	75.23	327⇑	iP	P	23 36 25.1	-0.8
	comp=Z,27nm,1.0s,mb5.1						
VNDA	Vanda	76.44	173	P	P	23 36 32.6	-0.2
	comp=Z,1.3nm,0.4s,mb4.2,baz=320,slow=6.5,SNR=12						
VNDA				LR	LR	00 11 44.0	
	comp=Z,350nm,19.1s,MS4.7,baz=341,slow=37						
VNDA	Vanda	76.44	173	P	P	23 36 32.6	-0.2
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA				MLR	MLR		
	comp=Z,350nm,19.1s						
VNDA	Vanda	76.44	173	eP	P	23 36 32.6	-0.2
MAW	Mawson	78.53	201	P	P	23 36 44.0	-0.5
	comp=Z,3.9nm,0.6s,mb4.5,baz=93,slow=7.0,SNR=6.6						
MAW				LR	LR	00 09 54.6	
	comp=Z,156nm,18.2s,MS4.4,baz=332,slow=34						
AB31	Akbulak array	79.18	321	iP	P	23 36 46.9	-1.1
AB31				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
SVE	Sverdlovsk	81.18	329⇑	eP	P	23 36 58.3	-0.5
SVE				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.2						
ARU	Arti	82.15	328	P	P	23 37 03.1	-0.8
	comp=Z,110nm,0.7s,mb5.9,SNR=13						
ARU	Arti	82.15	328⇑	iP	P	23 37 03.0	-0.9
ARU				e		23 40 11.5	
ARU				eS	S	23 47 16.8	+0.2
ARU				eSS	SS	23 52 41.4	+4.9
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
ARU	Arti	82.15	328	eP	P	23 37 03.1	-0.8
	comp=Z,12nm,0.7s,mb4.9						
SOKR	Solikamsk	83.97	331c	iP	P	23 37 12.5	-0.8
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
RDF	Al-Radifah	84.53	299	eP	P	23 37 16.2	+0.1
RDF				AMb	AMB	23 37 20.0	
	comp=Z,53nm,1.2s,mb5.6						
MIB	Mutribah	84.81	300	eP	P	23 37 17.6	0.0
MIB				AMb	AMB	23 37 19.4	
	comp=Z,45nm,1.0s,mb5.6						
NAY	Al-Naaiem	84.83	300	eP	P	23 37 17.6	-0.1
NAY				AMb	AMB	23 37 18.4	
	comp=Z,33nm,0.9s,mb5.4						
RST	Umm Al-Ruwaisa	85.07	300	eP	P	23 37 18.7	-0.2
RST				AMb	AMB	23 37 21.0	
	comp=Z,94nm,0.7s,mb6.0						
SVW2	Sparrevohn	85.30	28	eP	P	23 37 20.7	+0.7
TTA	Tatalina	85.58	26	eP	P	23 37 22.1	+0.7
QSPA	South Pole Qui	86.95	180	eP	P	23 37 28.1	-0.1
	comp=Z,8.4nm,0.9s,mb5.0						
SYO	Syowa Base	87.24	201⇑	eP	P	23 37 29.0	-0.6
SYO	Syowa Base	87.24	201⇑	ePcP	PcP	23 37 30.7	-1.0
ATD	Arta Tunnel	87.46	282	LR	LR	00 14 39.5	
	comp=Z,94nm,18.6s,MS4.2,baz=108,slow=34						
DGRG	David-gareji	87.67	312	P	P	23 37 34.7	+3.1
SLKM	Skilak Lake	87.73	29	eP	P	23 37 32.4	+0.4
GNI	Garni	88.02	310	eP	P	23 37 34.4	+1.1
GNI				pmax	pmax		
	comp=Z,25nm,1.7s						
GNI	Garni	88.02	310	eP	P	23 37 35.2	+1.9
	comp=Z,31nm,1.1s,mb5.5						
MTA	Mtatsminda	88.13	312	P	P	23 37 34.7	+0.9
TBLG	Delisi	88.17	312	P	P	23 37 35.6	+1.5
DUS	Dusheti	88.23	312	P	sP	23 37 45.5	-2.7
KZR	Kazreti	88.38	311	P	P	23 37 35.8	+0.7
MCK	McKinley	88.87	26	eP	P	23 37 37.1	-0.2
	comp=Z,9.2nm,1.0s,mb5.1						
ZEI	Tsey	88.89	313	eP	P	23 37 36.7	-0.7
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.3						
MSL	Mosul	88.98	306	ex	x	23 37 45.0	
KIV	Kislovodsk	89.87	314	eP	P	23 37 41.5	-0.5
KIV				e		23 37 56.4	
KIV				e		23 41 15.4	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2						
KMBO	Kilima Mbogo	92.33	269	P	P	23 37 55.7	+2.3
	comp=Z,3.5nm,0.8s,mb4.7,baz=60,slow=6.7,SNR=11						
KMBO				LR	LR	00 15 38.7	
	comp=Z,242nm,19.5s,MS4.7,baz=94,slow=33						
KMBO	Kilima Mbogo	92.33	269	P	P	23 37 55.7	+2.2
KMBO				LR	LR	00 15 38.7	
EGAK	Eagle	92.34	25	eP	P	23 37 53.9	+0.3
DAWY	Dawson	93.10	26	eP	P	23 37 57.9	+0.9
ANN	Anapa	93.67	315	eP	P	23 38 03.7	+4.1
ANN				pmax	pmax		
	comp=Z,116nm,6.3s						
ASF	Jabal al Asfar	93.91	302	LR	LR	00 21 57.2	
	comp=Z,53nm,20.1s,MS4.0,baz=324,slow=37						
OBN	Obninsk	94.20	325⇑	eP	P	23 38 00.2	-1.9
OBN				e	pP	23 38 07.9	-4.4
OBN				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.3						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
BRTR	Keskin Array B	96.53	309	P	P	23 38 14.8	+2.1
	comp=Z,0.8nm,0.7s,mb4.3,baz=116,slow=3.4,SNR=4.0						
BRTR	Keskin Array B	96.53	309	P	P	23 38 14.8	+2.1
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	97.73	340	P	P	23 38 18.6	+0.5
	comp=Z,2.8nm,0.7s,mb4.9,baz=76,slow=4.7,SNR=7.0						
ARCES				LR	LR	00 28 44.7	
	comp=Z,102nm,18.1s,MS4.3,baz=183,slow=39						
FINES	FINESS Array B	99.10	332	P	P	23 38 22.1	-2.1
	comp=Z,0.7nm,0.7s,mb4.3,baz=79,slow=9.9,SNR=3.3						
FINES	FINESS Array B	99.10	332	P	P	23 38 22.2	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSZ	Lusaka	100.25	254	ePdif	Pdif	23 38 32.2	+2.9
BOSA	Boshof	101.16	240	P	Pdif	23 38 34.1	+0.7
	comp=Z,3.5nm,0.8s,baz=90,slow=4.0,SNR=5.4						
BOSA	Boshof	101.16	240	P	Pdif	23 38 34.1	+0.7
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NB2	NORSAR Subarra	106.07	334	Pdif	Pdif	23 38 53.3	-2.0
	comp=Z,1.5nm,0.9s,baz=66,slow=4.4						
NOA	NORSAR Array B	106.07	334	Pdiff	Pdif	23 38 54.2	-1.1
	comp=Z,1.2nm,0.9s,baz=67,slow=4.5,SNR=4.3						
NOA	NORSAR Array B	106.07	334	P	Pdif	23 38 54.2	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CLL	Collm	108.76	324	ePP	PP	23 43 32.0	-6.7
TMUT	Trail Mountain	114.22	48	ePKPdf	PKiKP	23 43 23.9	+1.4
MNTX	Cornudas Mount	121.00	55	ePKPdf	PKPdf	23 43 37.9	+2.3
JCT	Junction City	125.92	54	ePKPdf	PKPdf	23 43 47.1	+2.1
SCHQ	Schefferville	126.61	12	PKP	PKPdf	23 43 46.5	+0.2
	comp=Z,3.9nm,1.1s,baz=286,slow=7.4,SNR=2.6						
TORD	Torodi Ar. Bea	127.59	284	PKP	PKPdf	23 43 49.6	+1.4
	comp=Z,2.0nm,0.8s,baz=63,slow=1.4,SNR=9.7						
MIAR	Mount Ida	129.05	47	ePKPdf	PKPdf	23 43 53.3	+2.3
PLCA	Paso Flores	132.72	159	PKP	PKPdf	23 44 00.8	+2.9
	comp=Z,2.9nm,0.7s,baz=160,slow=2.1,SNR=8.5						
PLCA	Paso Flores	132.72	159	PKIKP	PKPdf	23 44 00.9	+3.0
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LRAL	Lakeview Retre	134.53	45	ePKPdf	PKPdf	23 44 03.8	+2.5
CPUP	Villa Florida	150.07	167	PKP	PKPdf	23 44 30.3	+1.6
	comp=Z,6.8nm,0.6s,baz=10,slow=0.1,SNR=3.9						
CPUP				PKPbc	PKPbc	23 44 35.9	+2.2
	comp=Z,10nm,0.6s,baz=171,slow=1.8,SNR=26						
CPUP	Villa Florida	150.07	167	PKIKP	PKPdf	23 44 30.3	+1.6
CPUP						23 44 35.9	
CPUP				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CPUP	Villa Florida	150.07	167	PKP	PKPdf	23 44 30.3	+1.6
CPUP				ePKPdf	PKPdf	23 44 34.2	+5.5
CPUP				PKPbc	PKPbc	23 44 35.9	+2.2
LPAZ	La Paz	154.00	138	PKP	PKPdf	23 44 38.0	+3.4
	comp=Z,1.5nm,1.0s,baz=352,slow=1.8,SNR=4.8						
LPAZ				PKPbc	PKPbc	23 44 46.5	+3.9
	comp=Z,2.3nm,0.8s,baz=216,slow=5.3,SNR=8.1						
LPAZ	La Paz	154.00	138	PKIKP	PKPdf	23 44 38.0	+3.4
LPAZ						23 44 46.5	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SDV	Santo Domingo	159.01	73	ePKPdf	PKPdf	23 44 43.5	+2.4

HEL 16 23:27:11.5, 6791N×2041E, h0km, ML1.7, Explosion, Sweden

---

WEL 16 23:41:22.3±0.6, 3798S×17630E, h172km±4km, ML3.6/12, Error ellipse: s-maj=6.4km s-min=6.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.70	114	PN	Pn	23 41 47.1	-0.1
URZ				SN	Sn	23 42 06.4	+0.1
MWZ	Matawai	1.03	111	PN	Pn	23 41 50.0	+0.5
BKZ	Black Stump Fm	1.20	173	PN	Pn	23 41 50.9	+0.1
BKZ				SN	Sn	23 42 13.0	+0.3
FWVZ	Far West T-bar	1.40	204	PN	Pn	23 41 52.9	+0.3
MOVZ	Moawhango	1.49	197	PN	Pn	23 41 53.0	-0.5
KNZ	Kokohu	1.50	134	PN	Pn	23 41 53.9	+0.3
PUZ	Puketiti	1.55	94	PN	Pn	23 41 53.6	-0.5
PUZ				SN	Sn	23 42 17.4	-1.1
MRZ	Mangatainoka R	2.74	192	PN	Pn	23 42 05.3	-2.1
MRZ				SN	Sn	23 42 39.3	-3.1
KIW	Kapiti Island	3.08	200	PN	Pn	23 42 08.6	-2.8
MTW	Mount Morrison	3.24	191	PN	Pn	23 42 10.5	-3.0
CAW	Cannon Point	3.27	197	PN	Pn	23 42 11.1	-2.8
MSWZ	Moikau Station	3.53	193	PN	Pn	23 42 13.7	-3.4
TCW	Tory Channel	3.59	205	PN	Pn	23 42 14.5	-3.4
MQZ	McQueen's Vall	6.36	205	SN	Sn	23 43 56.4	-9.5

LDG 16 23:50:49.9±0.1, 4300N×007W, h2km, Md1.5/2, Error ellipse: s-maj=1.8km s-min=1.0km az=164.0
CSEM 16 23:50:49.9±0.0, 4300N×006W, h8km, ML2.3, Error ellipse: s-maj=0.5km s-min=0.3km az=164.0
STR 16 23:50:50.1±0.1, 4300N×007W, h2km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 16 23:50:50.4±0.3, 4299N×007W, h0km, mbLg1.0/4, 1C, Error ellipse: s-maj=2.6km s-min=2.2km az=173.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LABF	Labassere	0.12	62	Pg	Pg	23 50 52.5	-0.1
LABF				Sg	Sg	23 50 54.4	+0.3
LABF	Labassere	0.12	62	P	Pg	23 50 52.5	-0.1
LABF				S	Sg	23 50 54.4	+0.2
VIEF	Viey	0.13	149	Pg	Pg	23 50 52.9	0.0
VIEF				Sg	Sg	23 50 54.9	+0.4
VIEF	Viey	0.13	149	P	Pg	23 50 53.0	+0.1
VIEF				S	Sg	23 50 55.0	+0.5
EPF	Esparros	0.30	83	ePg	Pg	23 50 55.7	-0.5
EPF				eSg	Sg	23 50 59.9	-0.2
	2.8nm,0.2s						
EPF	Esparros	0.30	83	ePg	Pg	23 50 55.7	-0.5
EPF				eSg	Sg	23 50 59.9	-0.2
	1.4nm,0.2s						
EBIE	Bielsa	0.34	153	⇑Pg	Pg	23 50 56.7	-0.3
	3.5nm,0.1s,SNR=18						
EBIE				Lg		23 51 01.4	
	2.2nm,0.0s,SNR=12						
ETSF	Etsaut	0.37	256	ePg	Pg	23 50 57.2	-0.4
ETSF				eSg	Sg	23 51 02.3	-0.2
	16nm,0.4s						
ETSF	Etsaut	0.37	256	ePg	Pg	23 50 57.2	-0.4
ETSF				eSg	Sg	23 51 02.3	-0.2
	8.2nm,0.4s						
CSOR	Sort	1.08	125	P	Pg	23 51 10.3	-0.8
CSOR				S	Sg	23 51 25.2	+0.1
ELIZ	Elizondo	1.08	280	Pg	Pg	23 51 10.8	-0.4
	0.1nm,0.1s,SNR=7.9						
ELIZ				Lg		23 51 25.2	
	0.1nm,0.1s,SNR=7.9						
CAVN	Les Avellanes	1.26	151	P	Pg	23 51 14.0	-0.7
CAVN				S	Sg	23 51 31.7	+0.6
	1.4nm,0.2s						
CORG	Organya	1.27	126	P	Pg	23 51 14.0	-0.9
CORG				S	Sg	23 51 31.5	+0.1
EPOB	Poblet	1.85	152	Pg	Pg	23 51 23.8	-2.0
	0.1nm,0.1s,SNR=7.9						
EPOB				Lg		23 51 48.4	
	0.5nm,0.1s,SNR=7.9						

BJI 16 23:51:44.1, 4372N×8404E, h9km, ML2.6, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.65	87	eP	Pn	23 52 28.6	+1.6
WMQ				S	Sn	23 53 02.3	+3.1
WMQ				Smax			
	comp=N,25nm,0.3s						
WMQ				Smax			
	comp=E,26nm,0.4s						
MK02	Makanchi Array	3.29	339	⇓Pn	Pn	23 52 37.5	+1.8
MK02				⇑Pg	Pg	23 52 44.6	-2.5
	comp=E,1.3nm,0.7s,baz=139,slow=16						
MK02				⇓Lg		23 53 26.5	
	comp=E,5.9nm,0.7s,baz=143,slow=28						

IDC 16 23:53:02.3±5.4, 1952S×17448W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.6/3, MS3.9/2, Ms1 4.0/2, ms1mx3.2/19, Error ellipse: s-maj=381.0km s-min=30.0km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	18.01	259	LR	LR	00 02 16.5	
	comp=Z,158nm,18.6s,baz=44,slow=31						
ASAR	Alice Springs	47.96	255	P	P	00 01 42.5	-0.2
	0.5nm,0.8s,baz=93,slow=9.0,SNR=6.8						
WRA	Warramunga Arr	48.02	260	P	P	00 01 44.2	+1.1
	0.2nm,0.4s,baz=96,slow=8.0,SNR=2.8						
NVAR	Mina Array Bea	78.07	42	P	P	00 05 03.5	+0.6
	0.9nm,0.8s,baz=209,slow=7.0,SNR=7.4						
PLCA	Paso Flores	87.52	132	LR	LR	00 36 45.6	
	comp=Z,150nm,19.5s,baz=281,slow=30						
AKASG	Malin Array Be	143.66	334	PKP	PKPdf	00 12 37.6	-1.5
	0.7nm,0.5s,baz=43,slow=4.1,SNR=5.2						

MOS 17 00:03:55.0±2.1, 5503N×11163E, h12km, mb4.3/1, Error ellipse: s-maj=19.3km s-min=12.9km az=69.4
BYKL 17 00:03:55.5±0.2, 5506N×11161E, h16km±5km, 6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.32	235⇓	iPg	Pg	00 04 02.0	-0.2
YLYR				eSg	Sg	00 04 07.0	+0.3
YLYR				Pmax			
	167nm,0.2s						
YLYR				Smax			
	5μm,0.2s						
YLYR	Ulyunkhan	0.32	235	ePG	Pg	00 04 02.0	-0.2
YLYR				e		00 04 06.9	
YLYR				pmax	pmax		
	comp=Z,126nm,0.2s						
YLYR				smax			
	comp=E,4μm,0.2s						
KMO	Kumora	0.86	344⇑	iPg	Pg	00 04 11.3	-0.9
KMO				eSg	Sg	00 04 23.0	-0.6
KMO				Pmax			
	comp=E,47nm,0.5s						
KMO				Smax			
	comp=E,373nm,1.3s						
KMO	Kumora	0.86	344	ePG	Pg	00 04 11.3	-0.9
KMO				e		00 04 23.1	
KMO				pmax	pmax		
	comp=Z,39nm,0.5s						
KMO				smax			
	comp=N,364nm,0.9s						
YOA	Uoyan	1.08	3	ePg	Pg	00 04 16.8	+0.5
YOA				eSg	Sg	00 04 31.1	+0.7
YOA				Pmax			
	comp=N,134nm,0.2s						
YOA				Smax			
	comp=N,881nm,0.8s						
YOA	Uoyan	1.08	3⇑	iPG	Pg	00 04 14.7	-1.6
YOA				i		00 04 30.8	
YOA				pmax	pmax		
	comp=Z,87nm,0.2s						
YOA				smax			
	comp=N,915nm,0.5s						
UKT	Uakit	1.23	69⇑	iPg	Pg	00 04 17.1	-2.2
UKT				ePb	Pb	00 04 19.1	+0.7
UKT				eSg	Sg	00 04 33.5	-1.8
UKT				max			
	comp=N,48nm,0.5s						
UKT				Smax			
	comp=N,317nm,0.7s						
UKT	Uakit	1.23	69	ePG	Pg	00 04 17.3	-2.0
UKT				e		00 04 33.5	
UKT				pmax	pmax		
	comp=Z,56nm,0.1s						
UKT				smax			
	comp=N,309nm,0.4s						
NIZ	Nizh Angarsk	1.38	302	ePG	Pg	00 04 20.7	-1.4
NIZ				e		00 04 39.9	
NIZ				pmax	pmax		
	comp=Z,62nm,0.5s						
NIZ				smax			
	comp=N,306nm,0.5s						
SVKR	Severomuysk	1.53	45	ePg	Pg	00 04 24.0	-1.0
SVKR				eSg	Sg	00 04 45.0	+0.1
SVKR				Pmax			
	comp=N,34nm,0.1s						
SVKR				Smax			
	comp=N,598nm,0.7s						
SVKR	Severomuysk	1.53	45	ePN	Pn	00 04 23.7	+1.5
SVKR				e		00 04 24.4	
SVKR				e		00 04 44.6	
SVKR				pmax	pmax		
	comp=Z,76nm,1.1s						
SVKR				smax			
	comp=N,581nm,0.8s						
SYVR	Suvo	1.69	215	ePn	Pn	00 04 25.0	+0.6
SYVR			⇑	iPg	Pg	00 04 25.8	-2.2
SYVR				e		00 04 30.6	
SYVR				eSg	Sg	00 04 49.2	-0.8
SYVR				max			
	comp=N,43nm,0.7s						
SYVR				Smax			
	comp=N,206nm,0.7s						
MXMB	Maximikha	2.47	224	ePg	Pg	00 04 40.1	-2.7
MXMB				eSg	Sg	00 05 12.9	-1.9
MXMB				Pmax			
	comp=N,11nm,0.1s						
MXMB				Smax			
	comp=N,418nm,0.6s						
NLYR	Nelyaty	2.72	57	ePn	Pn	00 04 39.1	+0.6
NLYR				ePg	Pg	00 04 44.1	-3.6
NLYR				eSg	Sg	00 05 19.5	-3.4
OGRR	Ongureny	2.75	241⇑	iPn	Pn	00 04 39.9	+1.0
OGRR				ePg	Pg	00 04 43.7	-4.4
OGRR				eSn	Sn	00 05 13.0	+1.3
OGRR				eSg	Sg	00 05 20.2	-3.5
OGRR				Pmax			
	comp=N,9.0nm,0.2s						
OGRR				Smax			
	comp=N,75nm,0.3s						
BOD	Bodaibo	3.07	25	ePg	Pg	00 04 51.0	-3.3
BOD				eSn	Sn	00 05 20.3	+0.6
BOD				eSg	Sg	00 05 28.6	-5.5
BOD				Pmax			
	comp=N,7.0nm,0.4s						
BOD				Smax			
	comp=N,34nm,0.7s						

KELR	Kotokel	3.11	224	ePg	Pg	00 04 51.0	-4.1
KELR				eSg	Sg	00 05 33.3	-2.1
KELR				Pmax			
	comp=N,24nm,0.3s						
KELR				Smax			
	comp=N,181nm,0.4s						
CIT	Chita	3.26	158	ePg	Pg	00 04 55.1	-2.8
CIT				eSg	Sg	00 05 36.0	-4.1
CIT				Pmax			
	comp=N,10.0nm,0.5s						
CIT				Smax			
	comp=N,96nm,0.5s						
TRTB	Turuntaevo	3.69	221	ePg	Pg	00 05 00.4	-5.9
TRTB				eSg	Sg	00 05 50.3	-3.8
TRTB				Pmax			
	comp=N,4.0nm,0.5s						
TRTB				Smax			
	comp=N,60nm,1.3s						
TRG	Tyrgan	3.87	236	ePn	Pn	00 04 55.5	+1.2
TRG				ePg	Pg	00 05 03.7	-6.0
TRG				eSn	Sn	00 05 40.4	+0.9
TRG				eSg	Sg	00 05 53.8	-6.0
TRG				Pmax			
	comp=N,2.0nm,0.2s						
TRG				Smax			
	comp=N,46nm,0.4s						
CRS	Chara	4.17	61	ePg	Pg	00 05 10.5	-4.9
CRS				eSg	Sg	00 06 04.6	-4.8
CRS				Pmax			
	comp=N,13nm,0.9s						
CRS				Smax			
	comp=N,147nm,1.2s						
CRS	Chara	4.17	61	ePN	Pn	00 05 10.2	+12
CRS				e		00 06 04.9	
CRS				pmax	pmax		
	comp=Z,22nm,1.6s						
CRS				smax			
	comp=E,147nm,1.8s						
TUP	Tupik	4.88	94	⇓iPn	Pn	00 05 08.2	0.0
TUP				ePg	Pg	00 05 22.0	-6.9
TUP				eSg	Sg	00 06 25.2	-6.9
TUP				Pmax			
	comp=E,2.0nm,0.2s						
TUP				Smax			
	comp=E,99nm,1.1s						
TUP	Tupik	4.88	94	ePN	Pn	00 05 08.2	0.0
TUP				e		00 05 22.0	
TUP				e		00 06 24.4	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TUP				smax			
	comp=N,100nm,0.9s						
LSTR	Listvyanka	5.16	234	eSg	Sg	00 06 35.6	-5.5
LSTR				Smax			
	comp=N,29nm,1.4s						
KPC	Khapcheranga	5.39	175	ePn	Pn	00 05 16.4	+1.2
KPC				⇑iPg	Pg	00 05 33.7	-4.9
KPC				eSg	Sg	00 06 42.8	-5.6
KPC				Pmax			
	comp=N,6.0nm,0.4s						
KPC				Smax			
	comp=N,37nm,0.7s						
TLY	Talaya	5.85	238	ePg	Pg	00 05 41.8	-5.6
TLY				eSg	Sg	00 06 54.8	-8.3
TLY				Pmax			
	comp=N,2.0nm,0.5s						
TLY				Smax			
	comp=N,6.0nm,0.3s						
ARS	Arshan	6.32	244	eSg	Sg	00 07 10.7	-7.6
ARS				Smax			
	comp=N,71nm,0.8s						
MOY	Mondy	7.20	246	eSg	Sn	00 07 36.4	+35
MOY				Smax			
	comp=N,26nm,1.8s						
ORL	Orlik	7.43	255	i Pn	Pn	00 05 44.9	+1.7
ORL				e		00 07 07.2	
ORL				eSg	Sn	00 07 46.5	+39
ORL				max			
	comp=N,2.0nm,0.5s						
ORL				Smax			
	comp=N,25nm,1.4s						

---

*ISCJB **17** 00:12:26.9±3.4, 45S±05×1024E±08, h33km, mb3.9/7, Error ellipse: s-maj=139.0km s-min=17.7km az=114.0*
*IDC **17** 00:12:27.4±3.7, 393S×10324E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=156.7km s-min=20.3km az=58.0*
*NEIC **17** 00:12:28.8±2.8, 446S×10248E, h30km, mb4.1/2, Error ellipse: s-maj=117.0km s-min=14.8km az=57.0*
ISC 17 00:12:29.5±3.5, **45S**±05×**1024E**±08, **h35**km, **n9**, σ**0^{s}64**/9, **mb3.9**/7, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	26.45	123	eP	P	00 18 03.1	0.0
	3.1nm,0.8s,mb3.9						
FITZ	Fitzroy Crossi	26.45	123	P	P	00 18 03.1	+0.1
	0.9nm,0.5s,mb3.5,baz=294,slow=10,SNR=6.4						
WRA	Warramunga Arr	34.69	119	P	P	00 19 15.0	-0.8
	0.5nm,0.3s,mb3.9,baz=305,slow=9.0,SNR=3.2						
WRAB	Tennant Creek	34.69	119	eP	P	00 19 15.4	-0.4
	0.9nm,0.3s,mb4.2						
ASAR	Alice Springs	35.87	125	P	P	00 19 26.4	+0.4
	0.4nm,0.5s,mb3.6,baz=296,slow=7.4,SNR=8.1						
STKA	Stephens Creek	45.72	131	P	P	00 20 47.8	+0.7
	0.4nm,0.3s,mb3.8,baz=331,slow=16,SNR=2.8						
SONM	Songino Array	52.21	3	P	P	00 21 37.7	+0.9
	1.8nm,0.8s,mb4.1,baz=181,slow=8.9,SNR=9.2						
ZAL	Zalesovo	60.04	348	P	P	00 22 31.9	-0.8
	1.3nm,0.5s,mb4.2,baz=14,slow=1.8,SNR=7.3						
ZAL	Zalesovo	60.04	348	P	P	00 22 31.9	-0.9

---

*MOS **17** 00:29:10.2±1.9, 5494N×11165E, h16km, mb4.4/1, Error ellipse: s-maj=20.0km s-min=13.5km az=84.4*
BYKL 17 00:29:11.3±0.2, **5504N**×**11164E**, **h13**km±5km, **4C-4D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.32	239	⇓iPg	Pg	00 29 17.4	-0.5
YLYR				eSg	Sg	00 29 22.3	+0.1
YLYR				Pmax			
	55nm,0.1s						
YLYR				Smax			
	6μm,0.1s						
YLYR	Ulyunkhan	0.32	239	ePG	Pg	00 29 17.4	-0.5
YLYR				e		00 29 21.9	
YLYR				pmax	pmax		
	comp=Z,104nm,0.1s						
YLYR				smax			
	comp=E,4μm,0.1s						
KMO	Kumora	0.89	344	ePg	Pg	00 29 27.8	-0.6
KMO				eSg	Sg	00 29 38.8	-1.2
KMO				Pmax			
	comp=E,78nm,0.4s						
KMO				Smax			
	comp=E,503nm,1.3s						
KMO	Kumora	0.89	344	ePG	Pg	00 29 27.1	-1.3
KMO				e		00 29 38.8	
KMO				pmax	pmax		
	comp=Z,78nm,0.3s						
KMO				smax			
	comp=N,492nm,0.9s						
YOA	Uoyan	1.10	2	ePg	Pg	00 29 32.1	-0.3
YOA				eSg	Sg	00 29 46.9	+0.2
YOA				Pmax			
	comp=N,148nm,0.3s						
YOA				Smax			
	comp=N,1μm,0.7s						
YOA	Uoyan	1.10	2	⇑iPG	Pg	00 29 32.0	-0.4
YOA				i		00 29 47.0	
YOA				pmax	pmax		
	comp=Z,161nm,0.3s						
YOA				smax			
	comp=N,1μm,0.4s						
UKT	Uakit	1.22	68	⇑iPg	Pg	00 29 32.8	-2.0
UKT				ePb	Pb	00 29 34.7	+0.4
UKT				eSg	Sg	00 29 49.2	-1.6
UKT				e		00 29 53.5	
UKT				max			
	comp=N,99nm,0.5s						
UKT				max			
	comp=N,462nm,0.7s						
UKT	Uakit	1.22	68	ePG	Pg	00 29 32.8	-2.0
UKT				e		00 29 49.2	
UKT				pmax	pmax		
	comp=Z,89nm,0.2s						
UKT				smax			
	comp=N,462nm,0.3s						
NIZ	Nizh Angarsk	1.41	302	⇑iPg	Pg	00 29 36.4	-1.9
NIZ				eSg	Sg	00 29 55.7	-0.9
NIZ				Pmax			
	comp=N,126nm,0.5s						
NIZ				Smax			
	comp=N,412nm,0.5s						
NIZ	Nizh Angarsk	1.41	302	ePN	Pn	00 29 36.4	-0.2
NIZ				e		00 29 55.6	
NIZ				pmax	pmax		
	comp=Z,126nm,0.3s						
NIZ				smax			
	comp=N,415nm,0.5s						
SVKR	Severomuysk	1.53	44	ePg	Pg	00 29 39.9	-0.9
SVKR				eSg	Sg	00 30 00.6	-0.1
SVKR				Pmax			
	comp=N,132nm,0.4s						
SVKR				Smax			
	comp=N,968nm,0.5s						
SVKR	Severomuysk	1.53	44	ePN	Pn	00 29 39.7	+1.3
SVKR				e		00 30 00.4	
SVKR				pmax	pmax		
	comp=Z,133nm,0.7s						
SVKR				smax			
	comp=N,962nm,0.5s						
SYVR	Suvo	1.69	215	⇑iPg	Pg	00 29 41.3	-2.4
SYVR				e		00 29 46.7	
SYVR				eSg	Sg	00 30 05.0	-0.5
SYVR				max			
	comp=N,65nm,0.7s						
SYVR				Smax			
	comp=N,189nm,0.7s						
MXMB	Maximikha	2.46	225	ePg	Pg	00 29 56.5	-2.0
MXMB				eSg	Sg	00 30 28.5	-2.0
MXMB				Pmax			
	comp=N,24nm,0.1s						
MXMB				Smax			
	comp=N,471nm,0.7s						
NLYR	Nelyaty	2.72	56	ePn	Pn	00 29 55.9	+1.3
NLYR				ePg	Pg	00 29 59.6	-3.8
NLYR				eSg	Sg	00 30 35.3	-3.3
OGRR	Ongureny	2.75	241	⇓iPn	Pn	00 29 55.7	+0.6
OGRR				⇓iPg	Pg	00 29 59.4	-4.6
OGRR				eSn	Sn	00 30 28.8	+0.6
OGRR				eSg	Sg	00 30 35.7	-4.0
OGRR				Pmax			
	comp=N,14nm,0.3s						
OGRR				Smax			
	comp=N,81nm,0.6s						
BOD	Bodaibo	3.08	24	ePg	Pg	00 30 06.4	-3.9
BOD				eSn	Sn	00 30 36.4	+0.1
BOD				eSg	Sg	00 30 44.6	-5.6
BOD				Pmax			
	comp=N,7.0nm,0.4s						
BOD				Smax			
	comp=N,51nm,0.7s						
KELR	Kotokel	3.11	224	ePg	Pg	00 30 07.2	-3.6
KELR				eSg	Sg	00 30 48.2	-2.9
KELR				Pmax			
	comp=N,32nm,0.5s						
KELR				Smax			
	comp=N,152nm,0.5s						
CIT	Chita	3.23	159	ePn	Pn	00 30 01.4	-0.3
CIT				ePg	Pg	00 30 09.6	-3.6
CIT				e		00 30 15.5	
CIT				eSg	Sg	00 30 51.2	-3.9
CIT				max			
	comp=N,16nm,0.5s						
CIT				Smax			
	comp=N,137nm,0.8s						
CIT	Chita	3.23	159	ePN	Pn	00 30 06.6	+4.9
CIT				e		00 30 49.0	
CIT				pmax	pmax		
	comp=Z,17nm,0.5s						
CIT				smax			
	comp=E,137nm,0.6s						
ZRHB	Zarechye	3.65	229	ePg	Pg	00 30 16.5	-4.6
ZRHB				eSg	Sg	00 31 03.3	-5.1
ZRHB				Pmax			
	comp=E,5.0nm,0.2s						
ZRHB				Smax			
	comp=E,169nm,1.1s						
TRTB	Turuntaevo	3.69	222	ePn	Pn	00 30 09.9	+1.9
TRTB				eSg	Sg	00 31 06.7	-3.1
TRTB				max			
	comp=E,7.0nm,0.8s						
TRTB				Smax			
	comp=E,60nm,1.4s						
TRG	Tyrgan	3.88	236	ePn	Pn	00 30 11.3	+0.8
TRG				e		00 30 26.4	
TRG				e		00 30 57.3	
TRG				eSg	Sg	00 31 11.5	-4.2
TRG				max			
	comp=E,5.0nm,0.3s						
TRG				Smax			
	comp=E,38nm,0.4s						
CRS	Chara	4.17	61	ePn	Pn	00 30 16.3	+1.8
CRS				ePg	Pg	00 30 26.6	-4.5
CRS				eSg	Sg	00 31 20.1	-4.9
CRS				Pmax			
	comp=E,14nm,1.1s						
CRS				Smax			
	comp=E,146nm,1.7s						
TUP	Tupik	4.86	94	⇓iPn	Pn	00 30 23.8	-0.3
TUP				ePg	Pg	00 30 37.8	-6.5
TUP				e		00 31 20.9	
TUP				eSg	Sg	00 31 40.8	-6.5
TUP				Pmax			
	comp=E,4.0nm,0.3s						
TUP				Smax			
	comp=E,97nm,0.8s						
TUP	Tupik	4.86	94	ePN	Pn	00 30 37.4	+13
TUP				e		00 31 40.2	
TUP				pmax	pmax		
	comp=Z,9.0nm,0.5s						
TUP				smax			
	comp=E,97nm,1.0s						
LSTR	Listvyanka	5.16	235	ePg	Pg	00 30 42.9	-7.2
LSTR				eSg	Sg	00 31 49.2	-7.8
LSTR				Pmax			
	comp=E,2.0nm,0.3s						
LSTR				Smax			
	comp=E,23nm,1.2s						
KPC	Khapcheranga	5.36	175	eSg	Sg	00 31 57.2	-6.3
KPC				Smax			
	comp=E,36nm,1.0s						
TLY	Talaya	5.85	238	e	Pn	00 30 57.4	+20
TLY				eSg	Sg	00 32 09.6	-9.5
TLY				eSn	Sn	00 32 53.3	+69
ARS	Arshan	6.33	244	ePg	Pg	00 31 06.1	-6.3
ARS				eSg	Sg	00 32 27.3	-7.0
ARS				Pmax			
	comp=E,6.0nm,0.5s						
ARS				Smax			
	comp=E,66nm,0.8s						
ZAK	Zakamensk	6.89	231	eSg	Sg	00 32 46.3	-6.2
ZAK				Smax			
	comp=E,7.0nm,0.6s						
MOY	Mondy	7.21	246	eSg	Sg	00 32 53.6	-9.1
MOY				Smax			
	comp=E,37nm,1.9s						
ORL	Orlik	7.44	255	i Pn	Pn	00 31 00.7	+1.1
ORL				e		00 32 23.3	
ORL				eSg	Sn	00 33 00.7	+37
ORL				max			
	comp=E,5.0nm,1.4s						
ORL				Smax			
	comp=E,30nm,1.0s						

---

*ISCJB **17** 00:36:03.8±4.1, 208S±08×1776W±05, h490km±49km, mb3.6/6, Error ellipse: s-maj=142.3km s-min=32.9km az=125.4*
*NEIC **17** 00:36:03.2±2.6, 21.10S×17748W, h464km±21km, mb3.9/2, Error ellipse: s-maj=88.7km s-min=15.7km az=148.0*
*IDC **17** 00:36:04.5±4.1, 2083S×17758W, h475km±42km, mb3.2/5, mb1 3.3/7, mb1mx3.2/16, mbtmp4.2/7, Error ellipse: s-maj=112.1km s-min=26.7km az=151.0*
ISC 17 00:36:04.0±4.0, **210S**±08×**1775W**±05, **h467**km±41km, **n12**, σ**0^{s}70**/11, **mb3.6**/6, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.94	39	P	P	00 38 09.6	0.0
	2.7nm,0.3s,baz=304,slow=14,SNR=3.8						
DZM	Mont Dzumac	14.95	263	P	P	00 39 14.1	0.0
	0.3nm,0.3s,baz=81,slow=18,SNR=4.5						
CTA	Charters Tower	33.87	265	P	P	00 42 07.3	+0.9
	1.6nm,0.4s,mb3.9,baz=93,slow=17,SNR=3.4						
CTAO	Charters Tower	33.87	265	eP	P	00 42 07.1	+0.7
	1.5nm,0.3s,mb3.9						
STKA	Stephens Creek	37.97	245	P	P	00 42 40.9	+0.4
	0.8nm,0.4s,mb3.5,baz=100,slow=11,SNR=4.2						
STKA	Stephens Creek	37.97	245	eP	P	00 42 40.7	+0.2
AS31	Alice Springs	44.83	257	eP	P	00 43 34.8	-0.3
ASAR	Alice Springs	44.83	257	P	P	00 43 34.7	-0.4
	1.7nm,0.5s,mb3.7,baz=94,slow=8.2,SNR=42						
WRAB	Tennant Creek	44.95	262	eP	P	00 43 35.1	-0.9
	2.4nm,0.6s,mb3.8						
WRA	Warramunga Arr	44.96	262	P	P	00 43 35.4	-0.8
	1.0nm,0.3s,mb3.8,baz=97,slow=6.9,SNR=11						
FITZ	Fitzroy Crossi	53.39	263	P	P	00 44 40.2	+1.4
	1.3nm,0.9s,mb3.3,baz=104,slow=8.3,SNR=3.4						
AKASG	Malin Array Be	143.66	331	PKP	PKPdf	00 54 43.4	-1.5
	1.0nm,0.5s,baz=40,slow=3.9,SNR=5.2						

MOS 17 00:51:45.8±0.7, **4211N**×**4623E**, **h14**km, **mb3.6**/1, **2C**, **Error ellipse: s-maj=86.4km s-min=13.1km az=41.2**, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	Sundja	1.42	313	⇑iPG	Pg	00 52 12.8	-0.3
LACR	Lac	1.60	297	⇑iPG	Pg	00 52 15.0	-1.5
LACR				i S	Sn	00 52 36.3	+2.2
ARNR	Ardon	1.80	308	ePN	Pn	00 52 17.5	+1.1
ZEI	Tsey	1.85	292	ePN	Pn	00 52 18.2	+1.1
KORR	Kora	1.87	302	ePN	Pn	00 52 18.4	+1.0
KMSR	Komsomolskaya	1.90	312	ePN	Pn	00 52 18.9	+1.1
DIGR	Digorskoe uzhe	2.11	293	ePN	Pn	00 52 21.5	+0.8

IDC 17 00:58:03.7±8.8, **2118S**×**6859W**, **h126**km±61km, **mb3.3**/2, **mb1 3.2**/3, **mb1mx3.1**/16, **mbtmp3.6**/3, **Error ellipse: s-maj=91.2km s-min=53.0km az=56.0**, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.88	5	P	Pn	00 59 15.8	+0.7
	0.8nm,0.3s,baz=198,slow=5.8,SNR=23						
LPAZ				S	Sn	01 00 12.4	+1.7
	0.1nm,0.3s,baz=75,slow=14,SNR=2.3						
BDFB	Brasilia	20.28	78	P	P	01 02 29.7	+0.4
	2.1nm,0.5s,baz=264,slow=9.2,SNR=5.0						
TORD	Torodi Ar. Bea	76.97	70	P	P	01 09 43.0	+0.7
	0.4nm,0.6s,baz=243,slow=6.4,SNR=9.8						

---

*NEIC **17** 01:07:20.5±0.6, 292S×12978E, h10km, mb3.9/1, Error ellipse: s-maj=35.7km s-min=9.0km az=80.0*
*ISCJB **17** 01:07:21.8±0.7, 295S±009×1297E±03, h33km, mb3.8/4, Error ellipse: s-maj=41.4km s-min=10.0km az=159.9*
*IDC **17** 01:07:24.1±5.2, 303S×12974E, h35km±40km, mb3.6/5, mb1 3.9/7, mb1mx3.8/16, mbtmp3.9/7, ML3.6/2, Error ellipse: s-maj=66.5km s-min=12.7km az=78.0*
ISC 17 01:07:25.1±2.4, **301S**±009×**1298E**±03, **h46**km±24km, **n12**, σ**0^{s}94**/13, **mb3.8**/4, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.53	195	eP	Pn	01 11 00.6	-0.3
	3.7nm,0.5s						
FITZ	Fitzroy Crossi	15.53	195	Pn	Pn	01 10 59.6	-1.3
	0.1nm,0.3s,baz=19,slow=13,SNR=4.5						
WRA	Warramunga Arr	17.41	165	P	Pn	01 11 23.2	-1.4
	0.3nm,0.3s,baz=342,slow=13,SNR=8.8						
WRA				S	S	01 14 43.0	-1.0
	0.0nm,0.3s,baz=342,slow=21,SNR=4.9						
WB2	Warramunga Arr	17.41	165	eP	Pn	01 11 25.1	+0.5
AS31	Alice Springs	20.92	169	eP	P	01 12 05.5	+1.8
ASAR	Alice Springs	20.92	169	P	P	01 12 05.0	+1.3
	5.5nm,0.6s,baz=347,slow=10,SNR=63						
ASAR				S	S	01 15 54.7	+0.4
	2.2nm,1.1s,baz=348,slow=19,SNR=8.6						
ASAR				PcP	PcP	01 16 12.7	+2.6
	0.4nm,0.5s,baz=20,slow=1.0,SNR=6.4						
MJAR	Matsushiro Arr	40.13	11	P	P	01 14 55.7	-0.6
	1.2nm,0.8s,mb3.7,baz=183,slow=11,SNR=5.0						
SONM	Songino Array	54.61	341	P	P	01 16 49.1	+0.2
	0.3nm,0.6s,mb3.5,baz=148,slow=11,SNR=2.8						
MKAR	Makanchi Array	64.79	326	P	P	01 17 59.2	+0.3
	0.9nm,0.6s,mb4.0,baz=120,slow=8.9,SNR=8.6						
MKAR	Makanchi Array	64.79	326	P	P	01 17 59.2	+0.3
ZAL	Zalesovo	67.93	333	P	P	01 18 18.6	-0.4
	1.1nm,0.5s,mb4.2,baz=329,slow=4.8,SNR=6.6						
CPUP	Villa Florida	150.04	167	PKPbc	PKPbc	01 27 12.8	+2.2
	0.8nm,0.5s,baz=150,slow=5.9,SNR=6.1						

---

*ISCJB **17** 01:16:32.1±0.2, 1764N±003×9475W±002, h148km±3km, mb4.0/16, Error ellipse: s-maj=5.7km s-min=3.5km az=32.5*
*IDC **17** 01:16:32.7±0.6, 1773N×9442W, h131km±9km, mb3.7/12, mb1 3.9/12, mb1mx3.7/23, mbtmp4.1/12, Error ellipse: s-maj=27.6km s-min=12.8km az=70.0*
*MEX **17** 01:16:33.8±1.2, 1760N×9473W, h156km±7km, MD4.6*
*NEIC **17** 01:16:34.0, 1761N×9477W, h154km, mb4.1/16, MD4.5(MEX), After MEX.*
*CASC **17** 01:17:15.8±0.9, 1608N×91.13W, h0km±999km, MD4.5*
ISC 17 01:16:33.3±0.2, **1764N**±003×**9475W**±002, **h143**km±3km, **n72**, σ**1^{s}21**/90, **mb4.0**/16, **1D**, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	Tuzandepetl	0.50	38	i P	Pn	01 16 54.1	+0.4
TUIG				i S	Sn	01 17 10.8	+1.5
TUIG	Tuzandepetl	0.50	38	i P	Pn	01 16 54.1	+0.4
TUIG				eS	Sn	01 17 10.8	+1.5
CMIG	Matias Romero	0.56	193	P	Pn	01 16 54.8	+0.8
	488nm,0.3s,baz=16,slow=2.2,SNR=7514						
CMIG				S	Sn	01 17 10.3	+0.5
	654nm,0.3s,baz=73,slow=19,SNR=314						
CMIG	Matias Romero	0.56	193	i P	Pn	01 16 54.9	+0.8
CMIG				i S	Sn	01 17 10.3	+0.5
CMIG	Matias Romero	0.56	193	i P	Pn	01 16 54.9	+0.8
CMIG				eS	Sn	01 17 10.3	+0.5
OXX	Oaxaca	1.96	254	i P	Pn	01 17 08.0	+0.5
VHO	Vista Hermosa	1.98	254	i P	Pn	01 17 08.5	+0.9
VHO				i S	Sn	01 17 36.2	+2.3
SCX	San Cristobal	2.21	114	i P	Pn	01 17 11.0	+0.6
SCX				i S	Sn	01 17 39.5	+0.5
HUIG	Huatulco	2.27	215	i P	Pn	01 17 09.6	-1.5
HUIG				i S	Sn	01 17 40.0	-0.3
TPIG	Tehuac#an	2.60	288	i P	Pn	01 17 17.0	+1.7
TPIG				eS	Sn	01 17 47.4	-0.3
LVIG	Laguna Verde	2.61	323	i P	Pn	01 17 15.2	-0.1
LVIG				eS	Sn	01 17 46.3	-1.5
CCIG	Comitan	2.84	118	i P	Pn	01 17 18.6	+0.4
CCIG				i S	Sn	01 17 51.6	-1.4
UTMO	Huajuapan	2.92	274	eP	Pn	01 17 20.1	+0.9
UTMO				i S	Sn	01 17 54.8	0.0
PNIG	Pinotepa	3.46	250	i P	Pn	01 17 24.2	-2.0
PNIG				eS	Sn	01 18 05.8	-1.5
SCIG	Sabancuy, Camp	3.64	68	i P	Pn	01 17 27.9	-0.6
SCIG				eS	Sn	01 18 09.3	-2.1
PPM	Popocatepetl	3.95	292	i P	Pn	01 17 35.3	+2.7
PPM				eS	Sn	01 18 17.9	-0.7
UNM	Universidad Na	4.53	293	eP	Pn	01 17 39.0	-1.2
IIZ	Mezontepec	4.54	291	eP	Pn	01 17 40.4	+0.1
IIZ				i S	Sn	01 18 30.5	-2.0
TP2	Tecpan 2	4.57	128	eP	Pn	01 17 40.5	-0.2
PLIG	Platanillo	4.58	280	i P	Pn	01 17 42.1	+1.1
PLIG				eS	Sn	01 18 32.2	-1.5
MEIG	Mezcala	4.65	274	i P	Pn	01 17 42.4	+0.6
MEIG				i S	Sn	01 18 34.9	-0.3
ACX	Acapulco	5.00	262	i P	Pn	01 17 44.0	-2.4
CAIG	El Cayaco	5.30	264	i P	Pn	01 17 49.8	-0.8
CAIG				eS	Sn	01 18 48.0	-2.8

CAIG	**El Cayaco**	**5.30**	**264**	*i* P	**Pn**	**01 17 49.8**	**-0.8**
CAIG				*e*S	**Sn**	**01 18 47.1**	**-3.7**
ZIIG	**Zihuatanejo**	**6.40**	**271**	*e*P	**Pn**	**01 18 05.2**	**0.0**
ZIIG	**Zihuatanejo**	**6.40**	**271**	*e*S	**Pn**	**01 18 05.2**	**0.0**
JCR	**Jicaral**	**12.14**	**128**	*e*P	**Pn**	**01 19 21.8**	**+0.3**
CGA2	**Cerro Gallo 2**	**12.53**	**126**	*e*P	**Pn**	**01 19 26.8**	**+0.3**
PRS1	**Puriscal**	**12.67**	**126**	*e*P	**Pn**	**01 19 29.4**	**+1.1**
LCR2	**La Lucha 2**	**13.06**	**126**	*e*P	**Pn**	**01 19 33.4**	**0.0**
BUS	**Buena Vista**	**13.36**	**126**	⇓*e*P	**Pn**	**01 19 37.5**	**+0.3**
JCT	**Junction City**	**13.59**	**341**	*e*Pn	**Pn**	**01 19 41.5**	**+1.4**
	7.8nm,0.9s						
MGV	**Manicaragua**	**14.59**	**70**	*e*P	**Pn**	**01 19 53.1**	**+0.4**
LRAL	**Lakeview Retre**	**16.85**	**23**	*e*Pn	**Pn**	**01 20 22.0**	**+1.4**
	5.5nm,0.7s						
MIAR	**Mount Ida**	**16.87**	**3**	*e*P	**Pn**	**01 20 21.1**	**+0.2**
	12nm,1.0s						
MNTX	**Cornudas Mount**	**16.99**	**327**	*e*Pn	**Pn**	**01 20 22.7**	**+0.3**
UALR	**University of**	**17.20**	**7**	*e*P	**Pn**	**01 20 24.3**	**-0.5**
	12nm,0.6s						
WMOK	**Wichita Mounta**	**17.41**	**349**	*e*Pn	**Pn**	**01 20 27.6**	**+0.3**
	2.5nm,0.6s						
PLAL	**Pickwick Lake**	**18.27**	**18**	*e*P	**P**	**01 20 34.7**	**-1.2**
	3.0nm,0.6s						
SWET	**Sewanee**	**19.19**	**22**	*e*P	**P**	**01 20 44.9**	**-1.0**
WVT	**Waverly**	**19.42**	**17**	*e*P	**P**	**01 20 46.8**	**-1.5**
	5.5nm,0.8s						
ANMO	**Albuquerque**	**20.16**	**331**	*e*P	**P**	**01 20 58.8**	**+2.5**
	3.4nm,0.7s						
TKL	**Tuckaleechee C**	**20.43**	**26**	P	**P**	**01 20 58.5**	**-0.7**
	7.9nm,0.6s,baz=177,slow=12,SNR=11						
TUC	**Tucson**	**20.57**	**318**	*e*P	**P**	**01 21 02.5**	**+1.8**
	12nm,1.4s						
TZTN	**Tazewell**	**21.28**	**26**	*e*P	**P**	**01 21 07.3**	**-0.9**
WCI	**Wyandotte Cave**	**21.81**	**18**	*e*P	**P**	**01 21 13.3**	**-0.7**
SDCO	**Great Sand Dun**	**22.15**	**337**	*e*P	**P**	**01 21 19.8**	**+2.4**
ELN	**Prospectdale**	**23.08**	**30**	*e*P	**P**	**01 21 20.9**	**-5.4**
WUAZ	**Wupatki**	**23.14**	**324**	*e*P	**P**	**01 21 29.5**	**+2.7**
	17nm,1.0s,mb4.4						
FWV	**Forest Hill**	**23.34**	**29**	*e*P	**P**	**01 21 25.6**	**-3.1**
PV01	**Paradox Valley**	**23.74**	**332**	*e*P	**P**	**01 21 33.6**	**+1.3**
JFWS	**Jewell Farm**	**25.49**	**8**	*e*P	**P**	**01 21 48.0**	**-0.1**
TMUT	**Trail Mountain**	**25.90**	**330**	*e*P	**P**	**01 21 56.8**	**+4.9**
PDAR	**Pinedale Array**	**28.04**	**336**	P	**P**	**01 22 12.3**	**+1.3**
	0.2nm,0.6s,mb3.0,baz=144,slow=11,SNR=2.5						
AHID	**Auburn Hatcher**	**28.65**	**334**	P	**P**	**01 22 18.2**	**+1.8**
	4.3nm,0.3s,mb4.7						
NVAR	**Mina Array Bea**	**29.20**	**320**	P	**P**	**01 22 24.5**	**+3.2**
	2.8nm,0.7s,mb4.1,baz=128,slow=9.6,SNR=22						
SADO	**Sadowa**	**30.05**	**22**	P	**P**	**01 22 26.6**	**-2.2**
	1.9nm,0.3s,mb4.3,baz=228,slow=7.5,SNR=5.6						
HLID	**Hailey**	**30.73**	**331**	*e*P	**P**	**01 22 36.6**	**+1.8**
	1.4nm,0.9s,mb3.7						
ULM	**Lac du Bonnet**	**32.55**	**359**	P	**P**	**01 22 49.3**	**-1.4**
	1.9nm,0.3s,mb4.2,baz=188,slow=12,SNR=12						
SAML	**Samuel**	**40.87**	**128**	*e*P	**P**	**01 23 55.6**	**-5.5**
	1.4nm,0.4s,mb3.9						
LPAZ	**La Paz**	**42.71**	**141**	P	**P**	**01 24 17.1**	**+1.0**
	1.9nm,0.8s,mb3.8,baz=330,slow=11,SNR=7.0						
LPAZ	**La Paz**	**42.71**	**141**	*e*P	**P**	**01 24 16.8**	**+0.7**
	1.4nm,0.6s,mb3.8						
SIV	**San Ignacio**	**47.09**	**133**	P	**P**	**01 24 50.3**	**-0.4**
	2.1nm,0.9s,mb3.8,baz=323,slow=10,SNR=9.2						
CPUP	**Villa Florida**	**56.85**	**139**	P	**P**	**01 26 03.0**	**+0.1**
	0.4nm,0.4s,mb3.6,baz=302,slow=9.5,SNR=3.0						
CPUP	**Villa Florida**	**56.85**	**139**	*e*P	**P**	**01 26 01.5**	**-1.4**
	2.9nm,0.3s,mb4.6						
PLCA	**Paso Flores**	**62.27**	**159**	P	**P**	**01 26 40.6**	**+0.6**
	1.4nm,0.7s,mb3.9,baz=347,slow=14,SNR=4.2						
RCBR	**Riachuelo**	**62.59**	**106**	P	**P**	**01 26 41.1**	**-1.1**
	27nm,1.2s,mb5.0						
ESDC	**Sonseca Array**	**79.55**	**52**	P	**P**	**01 28 23.9**	**-0.3**
	0.8nm,0.9s,mb3.3,baz=302,slow=6.5,SNR=4.5						
NOA	**NORSAR Array B**	**82.22**	**28**	P	**P**	**01 28 38.0**	**-0.4**
	0.7nm,0.7s,mb3.4,baz=294,slow=5.3,SNR=3.6						
ARCES	**ARCESS Array B**	**83.52**	**18**	P	**P**	**01 28 43.9**	**-1.2**
	1.9nm,0.8s,mb3.9,baz=293,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**133.60**	**259**	PKP	PKPdf	01 35 33.1	+0.3
	0.6nm,0.8s,baz=83,slow=1.9,SNR=5.9						
ASAR	**Alice Springs**	**134.25**	**254**	PKP	PKPdf	01 35 35.0	+1.1
	0.6nm,0.8s,baz=72,slow=2.6,SNR=7.1						

JMA 17 01:36:23.3±0.5**, 3232N**×**13853E, h366**km±5km**, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.34**	**54**	P	Pn	01 37 12.5	+0.3
JHJ2				S	S	01 37 50.8	-0.7
JIE	**Ise**	**2.57**	**324**	P	Pn	01 37 19.8	-0.4
JOD2	**Odawara 2**	**2.97**	**9**	P	Pn	01 37 24.2	+0.6
JOD2				S	S	01 38 12.5	+0.3
BSO1	**Boso 1**	**3.10**	**41**	P	Pn	01 37 24.6	-0.1
BSO1				S	S	01 38 12.8	-1.4
JYN	**Shimob**	**3.17**	**0**	P	Pn	01 37 26.8	+1.5
JRY	**Ryogami san**	**3.70**	**5**	P	Pn	01 37 31.4	+1.1
JRY				S	S	01 38 24.3	0.0
JWT	**Wachi**	**3.94**	**319**	P	Pn	01 37 32.4	-0.2
JAG	**Ashikaga**	**4.17**	**10**	P	Pn	01 37 34.8	-0.1
JAG				*e*S	S	01 38 30.0	-2.7
MAT	**Matsushiro**	**4.22**	**356**	P	Pn	01 37 36.3	+0.9
MAT				S	S	01 38 35.5	+1.7
JMK	**Ichinoseki**	**6.97**	**18**	P	Pn	01 38 06.7	+1.0
JMK				S	S	01 39 26.3	-2.7

*ISCJB **17** 01:49:32.9±0.3, 4285N±002×4627E±002, h8km, Error ellipse: s-maj=3.5km s-min=2.3km az=159.4*
*CSEM **17** 01:49:32.6, 4289N×4638E, h8km, mb4.3, After OBN*
*MOS **17** 01:49:32.6±1.3, 4289N×4638E, h8km, mb4.3/1, Error ellipse: s-maj=9.8km s-min=6.7km az=3.0*
*TIF **17** 01:49:35.0, 4283N×4624E, h9km±4km*
ISC 17 01:49:33.7±0.4**, 4286N**±003×**4629E**±002**, h4**km±5km**, n37, σ1ˢ10**/58**, 1C-1D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.20**	**195**	*i* PG	**Pg**	**01 49 36.7**	**-0.9**
BTLR				pmax	pmax		
	comp=Z,802nm,0.4s						
BTLR	**Botlikh**	**0.20**	**195**	*i* Pg	**Pg**	**01 49 36.7**	**-0.9**
	comp=Z,802nm,0.4s						
DLMR	**Dylym**	**0.32**	**49**	⇓*i*PG	**Pg**	**01 49 38.7**	**-1.2**
DLMR				*i* S	**Sg**	**01 49 45.2**	**+1.0**
DLMR				pmax	pmax		
	comp=Z,3μm,0.5s						
DLMR	**Dylym**	**0.32**	**49**	*i* Pg	**Pg**	**01 49 38.7**	**-1.2**
	comp=Z,3μm,0.5s						
DLMR				*i* Sg	**Sg**	**01 49 45.2**	**+1.0**
DBC	**Dubki**	**0.42**	**68**	*e*PG	**Pg**	**01 49 40.8**	**-1.1**
DBC				*i* S	**Sg**	**01 49 48.2**	**+0.8**
DBC				pmax	pmax		
	comp=Z,247nm,0.1s						
DBC	**Dubki**	**0.42**	**68**	*e*Pg	**Pg**	**01 49 40.8**	**-1.1**
	comp=Z,247nm,0.1s						
DBC				*i* Sg	**Sg**	**01 49 48.2**	**+0.8**
KRNR	**Karanay**	**0.45**	**94**	*i* PG	**Pg**	**01 49 39.0**	**-3.4**
KRNR				*i* S	**Sg**	**01 49 46.5**	**-1.8**
KRNR				pmax	pmax		
	comp=Z,279nm,0.1s						
KRNR	**Karanay**	**0.45**	**94**	*i* Pg	**Pg**	**01 49 39.0**	**-3.4**
	comp=Z,279nm,0.1s						
KRNR				*i* Sg	**Sg**	**01 49 46.5**	**-1.8**
BUJR	**Buynaksk**	**0.60**	**93**	*i* Pg	**Pg**	**01 49 45.0**	**-0.2**
BUJR				*i* Sg	**Sg**	**01 49 55.5**	**+2.5**
MAK	**Makhachkala**	**0.90**	**83**	⇑*i*PG	**Pg**	**01 49 54.3**	**+3.4**
MAK				pmax	pmax		
	comp=Z,159nm,0.2s						
MAK	**Makhachkala**	**0.90**	**83**	*i* Pg	**Pg**	**01 49 54.3**	**+3.4**
	comp=Z,159nm,0.2s						
SNJR	**Sundja**	**1.11**	**281**	*i* Pg	**Pg**	**01 49 54.5**	**-0.4**
SNJR				*i* Sg	**Sg**	**01 50 10.3**	**+1.0**
VLKR	**Vladikavkaz**	**1.20**	**279**	*i* Pg	**Pg**	**01 49 56.0**	**-0.7**
VLKR				*e*Sg	**Sg**	**01 50 13.0**	**+0.7**
DUS	**Dusheti**	**1.41**	**237**	P	**Pg**	**01 50 02.3**	**+1.6**
DUS				S	**Sg**	**01 50 20.8**	**+1.9**
TRKR	**Terskaya**	**1.43**	**308**	*i* Pg	**Pg**	**01 50 00.9**	**-0.2**
TRKR				*i* Sg	**Sg**	**01 50 21.3**	**+1.6**
LACR	**Lac**	**1.47**	**269**	*i* Pg	**Pn**	**01 50 00.3**	**-0.7**
LACR				*i* Sg	**Sb**	**01 50 20.3**	**-0.3**
ARNR	**Ardon**	**1.51**	**283**	*i* Pg	**Pn**	**01 50 01.4**	**-0.2**
ARNR				*i* Sg	**Sg**	**01 50 22.3**	**0.0**
KMSR	**Komsomolskaya**	**1.55**	**290**	*i* Pg	**Pg**	**01 50 02.2**	**-1.2**
KMSR				*i* Sg	**Sg**	**01 50 23.9**	**+0.3**
DGRG	**David-gareji**	**1.56**	**206**	P	**Pg**	**01 50 04.9**	**+1.2**
DGRG				S	**Sg**	**01 50 25.0**	**+1.0**
MTA	**Mtatsminda**	**1.61**	**224**	P	**Pg**	**01 50 04.6**	**0.0**
MTA				S	**Sg**	**01 50 25.6**	**+0.1**
TBLG	**Delisi**	**1.61**	**226**	P	**Pg**	**01 50 04.6**	**0.0**
TBLG				S	**Sg**	**01 50 26.2**	**+0.6**
KORR	**Kora**	**1.65**	**279**	*i* Pn	**Pn**	**01 50 03.6**	**+0.2**
KORR				*i* Sg	**Sg**	**01 50 26.2**	**-0.5**
PRTR	**Priterechnaya**	**1.72**	**302**	*i* Pn	**Pn**	**01 50 05.4**	**+1.0**
PRTR				*i* Sg	**Sg**	**01 50 29.3**	**+0.4**
ZEI	**Tsey**	**1.77**	**268**	*e*PN	**Pn**	**01 50 04.5**	**-0.5**
ZEI				pmax	pmax		
	comp=Z,64nm,0.2s						
ZEI	**Tsey**	**1.77**	**268**	*e*Pn	**Pn**	**01 50 04.5**	**-0.5**
	comp=Z,64nm,0.2s						
DIGR	**Digorskoe uzhe**	**2.00**	**272**	*i* Pn	**Pn**	**01 50 08.6**	**+0.4**
KZR	**Kazreti**	**2.03**	**224**	P	**Pg**	**01 50 10.8**	**-1.9**
KZR				S	**Sg**	**01 50 38.6**	**-0.4**
ONI	**Oni**	**2.11**	**263**	P	**Pg**	**01 50 11.9**	**-2.3**
ONI				S	**Sg**	**01 50 40.7**	**-0.9**
PYA	**Pyatigorsk**	**2.63**	**298**	*e*PN	**Pn**	**01 50 15.2**	**-1.7**
KIV	**Kislovodsk**	**2.85**	**294**	*e*PN	**Pn**	**01 50 18.5**	**-1.4**
GNI	**Garni**	**2.95**	**204**	*e*Pn	**Pn**	**01 50 25.9**	**+4.6**
GOF	**Gofitskoye**	**3.22**	**314**	*e*Pn	**Pg**	**01 50 35.9**	**+0.5**
ANN	**Anapa**	**6.70**	**290**	*e*P	**Pn**	**01 51 06.5**	**-6.3**
ANN				pmax	pmax		
	comp=Z,31nm,1.0s						
ANN	**Anapa**	**6.70**	**290**	*e*P	**Pn**	**01 51 06.5**	**-6.3**
	comp=Z,31nm,1.0s						
BRVK	**Borovoye**	**18.94**	**49**	*i* P	**Pn**	**01 53 57.3**	**+1.0**
AAK	**Ala-Archa**	**20.68**	**81**	*e*P	**P**	**01 54 16.2**	**+1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,2.4s						
AAK	**Ala-Archa**	**20.68**	**81**	*e*P	**P**	**01 54 16.2**	**+1.6**
	comp=Z,6.0nm,2.4s						

*ISCJB **17** 01:59:04.9±0.9, 3837N±004×2190E±004, h3km±7km, Error ellipse: s-maj=6.5km s-min=5.4km az=99.0*
*NEIC **17** 01:59:05.8, 3844N×2190E, h26km, MD3.2(ATH), After ATH.*
*ATH **17** 01:59:05.8, 3844N×2190E, h26km±2km, MD3.2/7*
*THE **17** 01:59:06.6, 3841N×2197E, h10km, ML3.0*
*CSEM **17** 01:59:06.2±0.1, 3834N×2194E, h2km, MD3.2, Error ellipse: s-maj=2.7km s-min=2.4km az=34.0*
ISC 17 01:59:06.5±0.6**, 3841N**±003×**2193E**±004**, h8**km±5km**, n17, σ0ˢ80**/24**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.50**	**226**	*e*PN	**Pg**	**01 59 16.7**	**+0.4**
RLS				*e*SN	**Sg**	**01 59 24.2**	**+1.3**
EVR	**Evrytania**	**0.52**	**350**	*e*PB	**Pg**	**01 59 16.2**	**-0.4**
EVR				*e*SB	**Sg**	**01 59 23.0**	**-0.3**
AGG	**Agios Georgios**	**0.69**	**27**	*e*Pg	**Pg**	**01 59 18.9**	**-0.9**
AGG				*e*Sg	**Sg**	**01 59 29.3**	**+0.4**
LKR	**Lokris**	**0.88**	**74**	*e*PN	**Pg**	**01 59 22.6**	**-0.8**
LKR				*e*SN	**Sg**	**01 59 35.9**	**+1.1**
LKD	**Levkas**	**1.04**	**287**	*e*Pg	**Pg**	**01 59 26.1**	**-0.5**
VLS	**Valsamata**	**1.08**	**258**	*e*PN	**Pn**	**01 59 26.2**	**-1.6**
VLS				*e*SN	**Sn**	**01 59 42.5**	**-0.4**
MGER	**Gerania Oros**	**1.13**	**111**	*e*PN	**Pn**	**01 59 28.5**	**-0.1**
ITM	**Ithomi**	**1.23**	**180**	*e*PN	**Pn**	**01 59 29.3**	**-0.6**
NEO	**Neokhori**	**1.35**	**48**	*e*PN	**Pn**	**01 59 31.1**	**-0.6**
IGT	**Igoumenitsa**	**1.68**	**313**	*e*Pb	**Pb**	**01 59 36.9**	**-0.7**
IGT				*e*Sb	**Sb**	**02 00 00.5**	**+1.7**
LIT	**Litokhoron**	**1.75**	**14**	*e*Pb	**Pb**	**01 59 37.8**	**-1.0**
LIT				*e*Sb	**Sb**	**02 00 01.0**	**+0.1**
LSK	**Leskovik**	**2.02**	**330**	*i* Pn	**Pg**	**01 59 45.0**	**-0.3**
FNA	**Florina**	**2.41**	**350**	*e*Pn	**Pn**	**01 59 47.3**	**+1.1**
GRG	**Griva**	**2.57**	**8**	*e*Pn	**Pn**	**01 59 49.2**	**+0.8**
SOH	**Sokhos**	**2.65**	**24**	*e*Pn	**Pn**	**01 59 49.7**	**+0.2**
KNT	**Kendrikon**	**2.85**	**15**	*e*Pn	**Pn**	**01 59 52.9**	**+0.7**
CHOS	**Chios island**	**3.24**	**89**	*e*Pn	**Pn**	**01 59 58.0**	**+0.4**

JMA 17 02:11:15.5±0.2**, 4389N**×**14800E, h10**km**, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.72**	**253**	P	Pn	02 11 46.0	+0.5
NEM2				*e*S	Sn	02 12 08.0	+0.5
JRA	**Rausu**	**2.08**	**272**	P	Pn	02 11 51.0	+0.6
JRA				*e*S	Sn	02 12 16.7	+0.3
JNK	**Nakash**	**2.40**	**264**	P	Pn	02 11 55.7	+0.9
JNK				*e*S	Sn	02 12 24.9	+0.7
JAK	**Akkeshi**	**2.57**	**251**	P	Pn	02 11 58.1	+1.0
JAK				*e*S	Sn	02 12 28.9	+0.5
JAR	**Ashorobuto**	**3.13**	**261**	P	Pn	02 12 06.7	+1.8
JAR				*e*S	Sn	02 12 44.0	+1.7
JCH	**Churui**	**3.62**	**251**	*e*S	Sn	02 12 54.6	+0.2

*ISCJB **17** 02:21:56.3±1.1, 140N±0.1×5143E±006, h10km, mb3.8/3, MS3.1/3, Error ellipse: s-maj=17.7km s-min=5.4km az=133.2*
*IDC **17** 02:21:56.5±1.9, 1376N×5151E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, MS3.2/3, Ms1 3.2/3, ms1mx3.0/25, Error ellipse: s-maj=62.0km s-min=27.4km az=140.0*
*CSEM **17** 02:21:58.2±1.2, 1409N×5140E, h20km, ML4.6, Error ellipse: s-maj=49.1km s-min=7.2km az=155.0*
*DHMR **17** 02:22:02.3±3.3, 1443N×51.15E, h10km, ML4.6*
ISC 17 02:21:58.8±1.0**, 140N**±01×**5141E**±006**, h10**km**, n14, σ0ˢ74**/18**, mb3.8**/3**, MS3.1**/3**, 5C-3D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.34**	**281**	⇑*i*P	**Pn**	**02 22 37.5**	**+0.2**
MUKL				*i* S	**Sn**	**02 23 05.6**	**-0.6**
MUKL				AML	AML	02 23 08.2	
	comp=N,7μm,0.5s						
RBK	**Rabkut**	**4.38**	**38**	⇓P	**Pn**	**02 23 04.9**	**-0.5**
	SNR=27						
RBK				⇓S	**Sn**	**02 23 55.7**	**-0.7**
RBK	**Rabkut**	**4.38**	**38**	P	**Pn**	**02 23 04.9**	**-0.5**
	SNR=27						
RBK				S	**Sn**	**02 23 55.7**	**-0.7**
WHFO	**Wadi Hawf**	**4.49**	**30**	⇑P	**Pn**	**02 23 06.3**	**-0.5**
	SNR=20						
BDHA	**Al Bayda'**	**5.67**	**270**	⇑*e*P	**Pn**	**02 23 24.1**	**+1.0**
BDHA				*e*		02 23 24.1	
	baz=108,slow=18						
BDHA				*i* S	**Sn**	**02 24 27.6**	**-0.6**
BDHA	**Al Bayda'**	**5.67**	**270**	⇑*e*P	**Pn**	**02 23 24.0**	**+0.9**
BDHA				*i* S	**Sn**	**02 24 27.6**	**-0.6**
LBOS		**5.98**	**269**	⇓*e*P	**Pn**	**02 23 28.1**	**+0.7**
LBOS				*i* S	**Sn**	**02 24 35.6**	**-0.3**
BANOM	**Banah**	**12.69**	**20**	⇑P	**Pn**	**02 24 59.7**	**+0.4**
	SNR=7.0						
KMBO	**Kilima Mbogo**	**20.58**	**224**	P	**P**	**02 26 36.2**	**-1.5**
	comp=N,1.5nm,0.8s,baz=55,slow=17,SNR=5.9						
KMBO				LR	LR	02 34 06.9	
	comp=N,42nm,18.8s,MS2.8,baz=271,slow=36						
BRTR	**Keskin Array B**	**29.99**	**332**	LR	LR	02 40 19.5	
	comp=N,48nm,20.9s,MS3.1,baz=126,slow=36						
GERES	**GERESS Array B**	**46.52**	**326**	LR	LR	02 50 41.7	
	comp=N,38nm,18.9s,MS3.4,baz=106,slow=37						
TORD	**Torodi Ar. Bea**	**48.26**	**275**	P	**P**	**02 30 40.6**	**+0.7**
	comp=N,0.7nm,0.7s,mb3.8,baz=88,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**50.75**	**345**	P	**P**	**02 31 00.0**	**+1.2**
	comp=N,2.3nm,1.0s,mb4.0,baz=156,slow=12,SNR=3.9						
SONM	**Songino Array**	**56.41**	**41**	P	**P**	**02 31 40.9**	**+0.5**
	comp=N,0.3nm,0.7s,mb3.4,baz=260,slow=8.2,SNR=2.7						

*IDC **17** 02:25:29.3±1.8, 4355N×127.18W, h0km, mb3.6/2, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, ML3.7/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/29, Error ellipse: s-maj=27.9km s-min=13.5km az=53.0*
*NEIC **17** 02:25:29.3±0.9, 4335N×12733W, h10km, mb3.8/10, Error ellipse: s-maj=11.9km s-min=5.7km az=211.0*
*ISCJB **17** 02:25:30.0±0.8, 4359N±005×12726W±009, h10km, mb3.9/4, MS3.6/7, Error ellipse: s-maj=10.1km s-min=5.6km az=112.6*
ISC 17 02:25:31.7±0.8**, 4361N**±005×**12730W**±009**, h10**km**, n68, σ1ˢ09**/63**, mb3.9**/4**, MS3.6**/7**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.29**	**108**	*e*Pn	**Pn**	**02 26 05.2**	**-4.2**
RNO	**Roman Nose**	**2.60**	**82**	P	**Pn**	**02 26 11.7**	**-2.0**
MPOR	**Mary's Peak**	**2.85**	**70**	P	**Pn**	**02 26 15.5**	**-1.7**
COR	**Corvallis**	**3.04**	**70**	*e*Pn	**Pn**	**02 26 18.8**	**-1.1**
HSO	**Harness Mounta**	**3.06**	**90**	P	**Pn**	**02 26 17.9**	**-2.2**
EUO	**Eugene**	**3.09**	**81**	P	**Pn**	**02 26 18.6**	**-1.9**
KMOR	**Kings Mountain**	**3.39**	**52**	P	**Pn**	**02 26 23.7**	**-0.9**
BBOR	**Butler Butte**	**3.45**	**100**	P	**Pn**	**02 26 23.8**	**-1.7**
BROR	**Big Rock Looko**	**3.56**	**78**	P	**Pn**	**02 26 26.1**	**-0.9**
HBO	**Huckleberry Mo**	**3.62**	**85**	P	**Pn**	**02 26 27.0**	**-0.8**
IRO	**Indian Ridge**	**3.67**	**82**	P	**Pn**	**02 26 27.4**	**-1.1**
SSOR	**Sweet Springs**	**3.70**	**69**	P	**Pn**	**02 26 29.0**	**+0.2**
FRIS	**Frissel Point**	**3.81**	**79**	P	**Pn**	**02 26 30.1**	**-0.3**
YBH	**Yreka Blue Hor**	**3.87**	**117**	Pn	**Pn**	**02 26 28.6**	**-2.6**
	2.3nm,0.3s,baz=308,slow=11,SNR=34						
YBH				Sn	**Sn**	**02 27 15.6**	**-1.1**
	0.5nm,0.3s,baz=211,slow=13,SNR=5.4						
YBH				LR	LR	02 27 59.2	
	comp=Z,693nm,18.4s,baz=298,slow=40						
YBH	**Yreka Blue Hor**	**3.87**	**117**	*e*Pn	**Pn**	**02 26 29.6**	**-1.6**
GT2	**Goat Mountain**	**3.92**	**65**	P	**Pn**	**02 26 32.4**	**+0.4**
BMW	**Boistfort Moun**	**4.07**	**44**	P	**Pn**	**02 26 33.5**	**-0.4**
BKCOR	**Black Crater**	**4.11**	**78**	P	**Pn**	**02 26 33.9**	**-0.5**
LVP	**Lakeview Peak**	**4.26**	**53**	P	**Pn**	**02 26 36.7**	**+0.1**
MTMW	**Mount Mitchell**	**4.35**	**54**	P	**Pn**	**02 26 38.2**	**+0.4**
VFP	**Flag Point**	**4.51**	**66**	P	**Pn**	**02 26 40.7**	**+0.6**
PGC	**Sidney**	**5.71**	**27**	*e*Pn	**Pn**	**02 26 56.4**	**-0.1**
	51nm,0.2s						
OHCM	**Honcut**	**6.11**	**132**	*e*Pn	**Pn**	**02 27 02.3**	**+0.3**
HAWA	**Hanford**	**6.17**	**60**	*e*Pn	**Pn**	**02 27 02.6**	**-0.2**
	2.7nm,0.8s						
WVOR	**Wild Horse Val**	**6.46**	**97**	*e*Pn	**Pn**	**02 27 04.1**	**-2.6**
	10nm,1.2s						
BMO	**Blue Mountains**	**7.29**	**77**	*e*Pn	**Pn**	**02 27 16.9**	**-1.2**
	11nm,0.6s						
CMB	**Columbia Colle**	**7.64**	**134**	*e*Pn	**Pn**	**02 27 23.7**	**+0.7**
	131nm,2.0s						
NEW	**Newport**	**8.48**	**53**	Pn	**Pn**	**02 27 34.5**	**-0.1**
	0.7nm,0.3s,baz=247,slow=14,SNR=17						
NEW				LR	LR	02 30 54.4	
	comp=Z,737nm,19.7s,baz=108,slow=38						
NEW	**Newport**	**8.48**	**53**	*e*Pn	**Pn**	**02 27 34.6**	**0.0**
	6.1nm,0.8s						
NVAR	**Mina Array Bea**	**8.54**	**124**	Pn	**Pn**	**02 27 36.4**	**+1.0**
	0.1nm,0.3s,baz=285,slow=15,SNR=3.0						
BBB	**Bella Bella**	**8.60**	**357**	Pn	**Pn**	**02 27 37.4**	**+1.2**
	0.8nm,0.3s,baz=193,slow=9.7,SNR=15						
BBB				Sn	**Sn**	**02 29 12.2**	**-1.1**
	0.2nm,0.3s,baz=225,slow=10.0,SNR=3.0						
BBB				LR	LR	02 30 21.9	
	comp=Z,374nm,19.4s,baz=66,slow=34						
HLID	**Hailey**	**9.36**	**86**	*e*Pn	**Pn**	**02 27 49.1**	**+2.6**
	4.9nm,1.1s						
MSO	**Missoula**	**9.96**	**66**	*e*Pn	**Pn**	**02 27 54.9**	**0.0**
	6.0nm,0.9s						
DLMT	**Dillon**	**10.65**	**75**	*e*Pn	**Pn**	**02 28 04.8**	**+0.4**
	16nm,1.2s						
WALA	**Waterton Lakes**	**10.74**	**55**	*e*Pn	**Pn**	**02 28 06.3**	**+0.9**
	20nm,1.0s						
DUG	**Dugway**	**11.32**	**103**	*e*Pn	**Pn**	**02 28 13.5**	**0.0**
	4.1nm,1.3s						
BOZ	**Bozeman (W)**	**11.36**	**74**	*e*Pn	**Pn**	**02 28 14.1**	**+0.2**
	6.4nm,1.1s						
QLMT	**Earthquake Lak**	**11.46**	**78**	*e*Pn	**Pn**	**02 28 16.9**	**+1.6**
RRI2	**Red Ridge**	**11.62**	**86**	*e*Pn	**Pn**	**02 28 19.4**	**+1.9**
	6.1nm,1.0s						
TPAW	**Teton Pass**	**11.87**	**85**	*e*Pn	**Pn**	**02 28 23.2**	**+2.2**
	15nm,1.1s						
REDW	**Red Top Meadow**	**11.96**	**85**	*e*Pn	**Pn**	**02 28 23.7**	**+1.6**
	14nm,1.2s						
SNOW	**Snow King Moun**	**12.01**	**85**	*e*Pn	**Pn**	**02 28 24.8**	**+1.9**
LOHW	**Long Hollow**	**12.11**	**84**	*e*Pn	**Pn**	**02 28 25.1**	**+0.9**
	3.7nm,1.1s						
GCMT	**Greycliff**	**12.74**	**74**	*e*Pn	**Pn**	**02 28 39.1**	**+6.3**
BW06	**Boulder Array**	**12.98**	**88**	*e*Pn	**Pn**	**02 28 37.4**	**+1.3**
	3.9nm,1.1s						
PDAR	**Pinedale Array**	**12.98**	**88**	Pn	**Pn**	**02 28 37.3**	**+1.2**
	0.0nm,0.3s,baz=277,slow=9.8,SNR=13						
EDM	**Edmonton**	**13.33**	**39**	*e*Pn	**Pn**	**02 28 41.6**	**+0.6**
DLBC	**Dease Lake**	**14.95**	**354**	LR	LR	02 33 54.6	
	comp=Z,216nm,22.0s,baz=313,slow=34						
SMCO	**Snowmass**	**15.88**	**99**	*e*P	**Pn**	**02 29 15.1**	**0.0**
	5.2nm,1.3s						
ISCO	**Idaho Springs**	**16.63**	**96**	*e*P	**Pn**	**02 29 24.2**	**-0.6**
	8.2nm,1.2s						
RSSD	**Black Hills**	**16.78**	**80**	*e*P	**Pn**	**02 29 28.4**	**+1.7**
	13nm,1.4s						
SDCO	**Great Sand Dun**	**17.52**	**102**	*e*Pn	**Pn**	**02 29 36.1**	**+0.1**
	7.4nm,1.2s						
ANMO	**Albuquerque**	**18.27**	**111**	*e*P	**Pn**	**02 29 45.7**	**+0.5**
	1.1nm,0.7s						
FFC	**Flin Flon**	**19.83**	**47**	*e*P	**Pn**	**02 30 04.0**	**0.0**
	16nm,1.0s						
YKA	**Yellowknife Ar**	**20.33**	**17**	P	**P**	**02 30 08.8**	**+0.9**
	1.5nm,0.9s,baz=210,slow=11,SNR=3.7						
YKA				LR	LR	02 36 38.5	
	comp=Z,86nm,20.8s,MS3.1,baz=135,slow=33						
MNTX	**Cornudas Mount**	**20.96**	**117**	*e*P	**P**	**02 30 15.2**	**+0.4**
	1.8nm,1.0s						
DAWY	**Dawson**	**21.63**	**346**	*e*P	**P**	**02 30 22.3**	**+0.3**
ECSD	**EROS,Sioux Fal**	**22.14**	**79**	*e*P	**P**	**02 30 27.6**	**+0.2**
ULM	**Lac du Bonnet**	**22.35**	**62**	LR	LR	02 39 18.3	
	comp=Z,178nm,21.2s,MS3.5,baz=1.6,slow=37						
ULM	**Lac du Bonnet**	**22.35**	**62**	*e*P	**P**	**02 30 29.8**	**+0.1**
	8.6nm,1.1s,mb4.1						
MCK	**McKinley**	**23.66**	**336**	*e*P	**P**	**02 30 42.9**	**-0.5**
	3.6nm,1.1s,mb3.7						
WMOK	**Wichita Mounta**	**23.73**	**102**	*e*P	**P**	**02 30 43.6**	**-0.3**
	15nm,1.4s,mb4.2						
LPIG	**La Paz**	**23.95**	**139**	LR	LR	02 39 09.9	
	comp=Z,112nm,19.1s,MS3.4,baz=3.9,slow=34						
INK	**Inuvik**	**24.98**	**355**	LR	LR	02 40 17.6	
	comp=Z,219nm,19.1s,MS3.7,baz=294,slow=36						
SCHQ	**Schefferville**	**39.85**	**52**	LR	LR	02 49 21.8	
	comp=Z,130nm,18.5s,MS3.8,baz=18,slow=36						
NOA	**NORSAR Array B**	**70.40**	**20**	LR	LR	03 05 11.1	
	comp=Z,46nm,19.6s,MS3.7,baz=330,slow=34						
SONM	**Songino Array**	**77.41**	**326**	P	**P**	**02 37 25.6**	**-1.3**
	0.4nm,0.7s,mb3.5,baz=48,slow=2.1,SNR=4.8						
ZAL	**Zalesovo**	**79.02**	**341**	LR	LR	03 13 26.6	
	comp=Z,86nm,21.0s,MS4.1,baz=265,slow=36						

*NEIC **17** 02:44:59.0, 36.17S×177.86E, h223km, MG4.0(WEL), After WEL.*
WEL 17 02:45:00.3±0.4**, 3621S**×**17790E, h212**km±6km**, ML3.9**/7**, Error ellipse: s-maj=8.2km s-min=6.9km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.39**	**167**	PN	Pn	02 45 34.3	+0.2
MXZ				SN	S	02 45 59.8	-0.7
PUZ	**Puketiti**	**1.88**	**171**	P	Pn	02 45 38.5	0.0
PUZ	**Puketiti**	**1.88**	**171**	PN	Pn	02 45 38.5	0.0
PUZ				SN	S	02 46 07.2	-1.1
URZ	**Urewera**	**2.14**	**197**	PN	Pn	02 45 41.2	+0.1
URZ				SN	S	02 46 12.5	-0.4
MWZ	**Matawai**	**2.14**	**188**	P	Pn	02 45 41.5	+0.4
MWZ				S	S	02 46 13.7	+0.7
MWZ	**Matawai**	**2.14**	**188**	PN	Pn	02 45 41.5	+0.4
MWZ				SN	S	02 46 13.7	+0.7
KNZ	**Kokohu**	**2.81**	**184**	P	Pn	02 45 48.1	-0.3
KNZ	**Kokohu**	**2.81**	**184**	PN	Pn	02 45 48.1	-0.3
BKZ	**Black Stump Fm**	**3.16**	**200**	*e*P	Pn	02 45 51.9	-0.5
BKZ	**Black Stump Fm**	**3.16**	**200**	PN	Pn	02 45 51.9	-0.5
MOVZ	**Moawhango**	**3.62**	**207**	PN	Pn	02 45 57.2	-0.7
MRZ	**Mangatainoka R**	**4.80**	**202**	*e*PN	Pn	02 46 10.2	-2.3
MRZ				SN	S	02 47 04.9	-4.6
KIW	**Kapiti Island**	**5.20**	**206**	PN	Pn	02 46 14.9	-2.7
CAW	**Cannon Point**	**5.37**	**204**	PN	Pn	02 46 16.7	-2.9
TUWZ	**Tuamarina**	**6.06**	**209**	PN	Pn	02 46 25.0	-3.5

*LDG **17** 03:06:18.8±0.4, 1343S×16784E, h10km, Mb4.3/1, Error ellipse: s-maj=86.2km s-min=11.1km az=93.0*
*ISCJB **17** 03:06:37.3±3.9, 147S±02×1673E±02, h192km±29km, mb3.7/8, Error ellipse: s-maj=39.4km s-min=24.1km az=108.7*
*IDC **17** 03:06:37.2±4.6, 1463S×16725E, h174km±37km, mb3.6/7, mb1 3.6/8, mb1mx3.5/15, mbtmp4.1/8, Error ellipse:*

s-maj=35.0km s-min=24.4km az=49.0
NEIC 17 03:06:37.4±3.5,1463S×16744E,h184^{km}±27^{km},mb4.0/5, Error ellipse: s-maj=33.1km s-min=20.3km az=211.0
ISC 17 03:06:37.9±3.9**,147S**±02×**1674E**±02**,h188**^{km}±29^{km}**,n39,** σ**0^{s}70**/16**,mb3.8**/8**,7C,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.42**	**187**	P	**Pn**	**03 08 23.3**	**-0.2**
	0.6nm,0.3s,baz=48,slow=18,SNR=14						
DZM				S	**Sn**	**03 09 47.3**	**0.0**
	0.1nm,0.3s,baz=131,slow=19,SNR=2.4						
CTA	**Charters Tower**	**20.90**	**252**	⇑*i*P	**P**	**03 11 07.7**	**+2.1**
	4.4nm,0.9s						
CTA	**Charters Tower**	**20.90**	**252**	P	**P**	**03 11 04.8**	**-0.8**
	5.7nm,0.8s,baz=71,slow=14,SNR=4.6						
CTAO	**Charters Tower**	**20.90**	**252**	*e*P	**P**	**03 11 06.2**	**+0.6**
	7.3nm,0.9s						
STKA	**Stephens Creek**	**29.15**	**230**	*e*P	**P**	**03 12 21.9**	**+0.6**
	2.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**29.15**	**230**	P	**P**	**03 12 21.8**	**+0.5**
	2.3nm,0.6s,mb4.1,baz=53,slow=7.2,SNR=8.5						
STKA	**Stephens Creek**	**29.15**	**230**	*e*P	**P**	**03 12 22.3**	**+0.9**
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**03 12 53.0**	**-0.6**
	0.8nm,0.6s,mb3.6,baz=72,slow=9.0,SNR=7.9						
MBWA	**Marble Bar**	**45.70**	**255**	*e*P	**P**	**03 14 39.9**	**-0.1**
	2.9nm,0.6s,mb4.1						
VNDA	**Vanda**	**62.93**	**181**	P	**P**	**03 16 44.3**	**+0.1**
	1.3nm,0.8s,mb3.8,baz=15,slow=4.8,SNR=7.8						
VNDA	**Vanda**	**62.93**	**181**	*e*P	**P**	**03 16 44.5**	**+0.3**
	1.3nm,0.7s,mb3.9						
PSI	**Prapat**	**70.00**	**279**	P	**P**	**03 17 27.9**	**-1.2**
	0.8nm,0.5s,mb3.8,baz=95,slow=11,SNR=3.8						
MAW	**Mawson**	**82.00**	**202**	P	**P**	**03 18 37.5**	**+0.6**
	1.4nm,0.6s,mb3.8,baz=84,slow=10,SNR=3.3						
SONM	**Songino Array**	**82.53**	**324**	P	**P**	**03 18 40.4**	**+0.8**
	0.4nm,0.5s,mb3.4,baz=128,slow=5.1,SNR=4.1						
SNAA	**Sanae**	**93.62**	**183**	*e*P	**P**	**03 19 32.0**	**-0.7**
	1.0nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**120.23**	**345**	PKP	PKPdf	03 25 06.4	-0.1
	2.6nm,0.9s,baz=37,slow=2.7,SNR=7.0						
GIVF	**Givet**	**141.92**	**342**	*e*PKP1	PKPdf	03 25 49.0	+1.8
CDF	**Champ du Feu**	**142.57**	**338**	*e*PKP1	PKPdf	03 25 46.6	-1.8
	3.1nm,0.7s						
CABF	**La Chapelle**	**144.52**	**338**	*e*PKP1	PKPdf	03 25 52.7	+0.9
	17nm,1.0s						
FLN	**La Foliniere**	**144.57**	**346**	*e*PKP1	PKPdf	03 25 51.8	-0.1
	9.3nm,0.7s						
LDF	**La Druitiere**	**144.64**	**346**	*e*PKP1	PKPdf	03 25 51.9	-0.1
	11nm,0.8s						
LOR	**Lormes**	**144.73**	**341**	⇑*i*PKP1	PKPdf	03 25 52.8	+0.6
	10nm,0.9s						
GRR	**Gorron**	**145.01**	**346**	*e*PKP1	PKPbc	03 25 53.5	+1.1
	29nm,0.8s						
SSF	**Saint Saulge**	**145.02**	**341**	⇑*i*PKP1	PKPbc	03 25 54.0	+1.5
	24nm,0.8s						
HYF	**Humbligny**	**145.11**	**342**	*e*PKP1	PKPbc	03 25 54.5	+1.8
LPL	**La Plagne**	**145.19**	**336**	⇑*i*PKP1	PKPbc	03 25 55.0	+2.0
	8.4nm,0.6s						
LPG	**La Plagne**	**145.20**	**336**	*e*PKP1	PKPbc	03 25 55.1	+2.1
	11nm,0.7s						
SMF	**Signal de Mont**	**145.28**	**340**	*e*PKP1	PKPbc	03 25 54.6	+1.3
	31nm,1.1s						
AVF	**Avril sur Loir**	**145.31**	**341**	*e*PKP1	PKPbc	03 25 54.7	+1.3
	7.7nm,0.8s						
SGMF	**Saint Gilles**	**145.50**	**348**	*e*PKP1	PKPbc	03 25 55.0	+1.0
	13nm,0.7s						
ROSF	**Rostrenen**	**145.56**	**349**	*e*PKP1	PKPbc	03 25 55.4	+1.3
	16nm,0.9s						
BGF	**Bois d'Agland**	**145.68**	**341**	⇑*i*PKP1	PKPbc	03 25 55.9	+1.4
	19nm,1.0s						
ORIF	**Oris-en-Rattie**	**146.03**	**336**	⇑*i*PKP1	PKPbc	03 25 57.2	+1.7
	21nm,0.9s						
TCF	**Toulx Ste Croi**	**146.12**	**341**	⇑*i*PKP1	PKPbc	03 25 57.2	+1.4
	12nm,0.8s						
MFF	**Saint Martin d**	**146.50**	**344**	*e*PKP1	PKPbc	03 25 58.1	+1.2
	50nm,1.2s						
RJF	**Les Rejaudoux**	**147.22**	**341**	*e*PKP1	PKPbc	03 26 00.4	+1.5
LFF	**La Frestale**	**147.78**	**342**	*e*PKP1	PKPbc	03 26 01.9	+1.5
	21nm,0.8s						
KEST	**Kesra**	**151.25**	**321**	PKPbc	PKPbc	03 26 10.2	+1.3
	2.3nm,1.0s,baz=233,slow=2.7,SNR=6.7						
TORD	**Torodi Ar. Bea**	**166.06**	**266**	PKPab	PKPab	03 27 23.1	+1.4
	1.1nm,0.9s,baz=112,slow=5.1,SNR=9.3						

ISCJB 17 03:32:56.8±0.6,266N±0.1×446W±0.1,h10^{km},mb4.1/14, MS3.8/22,Error ellipse: s-maj=18.6km s-min=12.0km az=95.4
IDC 17 03:32:57.2±0.9,2655N×4457W,h0^{km},mb3.9/9,mb1 4.1/9, mb1mx3.9/23,mbtmp3.9/9,MS3.7/22,Ms1 3.7/22, ms1mx3.6/31,Error ellipse: s-maj=31.2km s-min=20.6km az=129.0
NEIC 17 03:32:58.6±0.6,2654N×4461W,h10^{km},mb4.3/6,Error ellipse: s-maj=19.6km s-min=12.0km az=140.0
ISC 17 03:32:58.9±0.5**,266N**±01×**446W**±01**,h10**^{km}**,n36,**σ**1^{s}00**/20**, mb4.1**/14**,MS3.8**/22**,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**21.13**	**251**	*e*P	**P**	**03 37 41.5**	**-2.3**
SJG	**San Juan**	**21.63**	**251**	LR	LR	03 44 29.6	
	comp=Z,172nm,18.6s,MS3.5,baz=90,slow=32						
PCRV	**Puerto La Cruz**	**25.00**	**233**	LR	LR	03 46 06.4	
	comp=Z,99nm,20.4s,MS3.3,baz=60,slow=32						
SCHQ	**Schefferville**	**32.58**	**336**	LR	LR	03 50 28.9	
	comp=Z,113nm,19.0s,MS3.6,baz=161,slow=32						
ROSC	**El Rosal**	**35.69**	**238**	LR	LR	03 54 18.4	
	comp=Z,62nm,18.1s,MS3.4,baz=32,slow=36						
ESDC	**Sonseca Array**	**36.14**	**58**	LR	LR	03 50 47.7	
	comp=Z,97nm,19.8s,MS3.6,baz=325,slow=30						
SAML	**Samuel**	**39.67**	**210**	*e*P	**P**	**03 40 31.6**	**+0.5**
	3.0nm,1.1s,mb3.9						
BDFB	**Brasilia**	**42.11**	**185**	LR	LR	03 56 52.3	
	comp=Z,59nm,18.2s,MS3.5,baz=47,slow=34						
DBIC	**Dimbokro**	**42.66**	**110**	LR	LR	03 55 55.6	
	comp=Z,137nm,18.4s,MS3.9,baz=306,slow=32						
TORD	**Torodi Ar. Bea**	**45.30**	**98**	P	**P**	**03 41 16.3**	**-0.5**
	0.6nm,0.9s,mb3.4,baz=286,slow=8.5,SNR=3.0						
TORD				LR	LR	03 59 24.5	
	comp=Z,180nm,18.6s,MS4.0,baz=295,slow=35						
TORD	**Torodi Ar. Bea**	**45.30**	**98**	P	**P**	**03 41 16.3**	**-0.5**
TORD				LR	LR	03 59 24.5	
ULM	**Lac du Bonnet**	**45.50**	**315**	LR	LR	03 58 35.6	
	comp=Z,55nm,18.2s,MS3.5,baz=127,slow=34						
WMOK	**Wichita Mounta**	**46.84**	**294**	*e*P	**P**	**03 41 30.6**	**+1.6**
	1.3nm,0.6s,mb4.0						
LPAZ	**La Paz**	**48.37**	**211**	P	**P**	**03 41 40.5**	**-0.3**
	2.6nm,1.0s,mb4.2,baz=354,slow=7.0,SNR=6.5						
LPAZ				LR	LR	03 58 57.6	
	comp=Z,75nm,21.3s,MS3.6,baz=275,slow=32						
LPAZ	**La Paz**	**48.37**	**211**	*e*P	**P**	**03 41 40.0**	**-0.8**
	2.3nm,0.9s,mb4.2						
GERES	**GERESS Array B**	**49.82**	**47**	LR	LR	03 58 04.2	
	comp=Z,80nm,21.4s,MS3.7,baz=104,slow=30						
NAO01	**NORSAR Array S**	**50.45**	**32**	*e*P	**P**	**03 41 57.6**	**+0.9**
	4.6nm,0.9s,mb4.5						
NB2	**NORSAR Subarra**	**50.66**	**31**	P	**P**	**03 41 58.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=253,slow=7.9						
NOA	**NORSAR Array B**	**50.66**	**31**	P	**P**	**03 41 59.2**	**+0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=253,slow=7.7,SNR=4.2						
NOA				LR	LR	03 59 43.2	
	comp=Z,69nm,19.1s,MS3.7,baz=0.0,slow=32						
NOA	**NORSAR Array B**	**50.66**	**31**	P	**P**	**03 41 59.2**	**+0.8**
NOA				LR	LR	03 59 43.2	
CPUP	**Villa Florida**	**54.03**	**194**	LR	LR	04 03 40.3	
	comp=Z,50nm,19.8s,MS3.6,baz=75,slow=34						
BW06	**Boulder Array**	**54.53**	**305**	*e*P	**P**	**03 42 26.9**	**-0.1**
	comp=Z,2.7nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**54.53**	**305**	P	**P**	**03 42 27.1**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=104,slow=6.5,SNR=6.7						
PDAR				LR	LR	04 03 42.7	
	comp=Z,69nm,18.6s,MS3.8,baz=280,slow=34						
YKA	**Yellowknife Ar**	**57.56**	**329**	LR	LR	04 06 25.4	
	comp=Z,141nm,19.6s,MS4.1,baz=90,slow=35						
FINES	**FINESS Array B**	**57.80**	**32**	P	**P**	**03 42 50.1**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=241,slow=3.9,SNR=6.0						
FINES				LR	LR	04 02 01.8	
	comp=Z,101nm,20.7s,MS3.9,baz=348,slow=30						
KAF	**Kangasniemi**	**57.95**	**32**	*e*p	**P**	**03 42 45.7**	**-5.7**
ARCES	**ARCESS Array B**	**58.40**	**23**	P	**P**	**03 42 54.5**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=258,slow=6.1,SNR=14						
KEV	**Kevo**	**58.95**	**23**	*e*p	**P**	**03 42 56.8**	**-1.6**
	comp=Z,2.8nm,0.5s,mb4.5						
AKASG	**Malin Array Be**	**59.85**	**45**	P	**P**	**03 43 03.6**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=274,slow=6.1,SNR=4.4						
BRTR	**Keskin Array B**	**64.89**	**56**	P	**P**	**03 43 39.0**	**+0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=268,slow=5.2,SNR=4.4						
BRTR				LR	LR	04 07 59.0	
	comp=Z,36nm,18.9s,MS3.6,baz=41,slow=32						
PLCA	**Paso Flores**	**71.19**	**201**	P	**P**	**03 44 19.4**	**+1.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=342,slow=6.4,SNR=3.4						
KDAK	**Kodiak Island**	**76.83**	**328**	LR	LR	04 14 50.7	
	comp=Z,88nm,21.4s,MS4.0,baz=299,slow=33						
AKTO	**Aktyubinsk**	**77.45**	**40**	LR	LR	04 16 40.9	
	comp=Z,58nm,18.1s,MS4.0,baz=222,slow=34						
ATD	**Arta Tunnel**	**82.67**	**81**	LR	LR	04 19 37.2	
	comp=Z,39nm,18.4s,MS3.8,baz=316,slow=34						
KMBO	**Kilima Mbogo**	**83.20**	**95**	LR	LR	04 21 27.5	
	comp=Z,115nm,18.5s,MS4.3,baz=179,slow=35						
BOSA	**Boshof**	**86.61**	**124**	LR	LR	04 16 58.5	
	comp=Z,94nm,21.4s,MS4.2,baz=121,slow=30						

ISCJB 17 03:50:28.3±0.7,4664N±002×756E±008,h14^{km}±7^{km}, Error ellipse: s-maj=8.8km s-min=3.7km az=6.2
ZUR 17 03:50:28.4,4661N×748E,h-5^{km}±4^{km},ML1.5/6
LDG 17 03:50:30.1±0.2,4664N×755E,h2^{km},Ml1.8/6,Error ellipse: s-maj=4.4km s-min=1.5km az=93.0
STR 17 03:50:30.0±1.5,4660N×757E,h5^{km}±1^{km},Ml1.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 17 03:50:29.0±0.8**,4663N**±002×**759E**±008**,h17**^{km}±8^{km}**,n15,** σ**0^{s}85**/23**,1C-3D,Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIMIS	**Wimmis**	**0.04**	**31**	⇓*i*Pg	**Pg**	**03 50 31.7**	**-0.3**
	214nm,0.8s						
LKBD	**Leukerbad**	**0.24**	**174**	⇓*i*Pg	**Pg**	**03 50 34.4**	**-0.1**
	13nm,0.4s						
SENIN	**Lac Senin**	**0.34**	**217**	⇓*i*P	**Pg**	**03 50 34.7**	**-1.3**
	36nm,0.6s						
AIGLE	**Aigle**	**0.53**	**237**	*e*P	**Pg**	**03 50 38.4**	**-1.1**
	67nm,1.8s						
BALST	**Balsthal**	**0.71**	**6**	*e*Pn	**Pn**	**03 50 44.1**	**-0.1**
	76nm,0.3s						
BRANT	**Les Verrieres**	**0.83**	**292**	⇑*i*P	**Pb**	**03 50 44.4**	**-0.5**
	42nm,1.2s						
LOMF	**Lomont**	**0.89**	**324**	Pg	**Pg**	**03 50 47.7**	**+1.4**
LOMF				Sg	**Sg**	**03 51 00.3**	**+2.2**
CABF	**La Chapelle**	**1.04**	**270**	*e*Pg	**Pg**	**03 50 49.0**	**-0.1**
CABF				*e*Sg	**Sg**	**03 51 02.1**	**-0.6**
	1.0nm,0.2s						
MOF	**Molkenrain**	**1.26**	**346**	Pg	**Pg**	**03 50 53.1**	**-0.2**
MOF				Sg	**Sg**	**03 51 11.3**	**+1.5**
LPL	**La Plagne**	**1.26**	**209**	*e*Pg	**Pg**	**03 50 53.4**	**0.0**
LPL				*e*Sg	**Sg**	**03 51 10.8**	**+0.9**
	1.5nm,0.3s						
LPG	**La Plagne**	**1.27**	**208**	*e*Pg	**Pg**	**03 50 54.4**	**+0.8**
LPG				*e*Sg	**Sg**	**03 51 11.0**	**+0.8**
	1.4nm,0.3s						
HINF	**Hinteralfeld**	**1.29**	**337**	*e*Pg	**Pg**	**03 50 54.1**	**+0.2**
HINF				*e*Sg	**Sg**	**03 51 10.5**	**-0.2**
	2.1nm,0.2s						
HAU	**Haudompre**	**1.62**	**329**	*e*Pg	**Pg**	**03 50 59.1**	**-1.0**
HAU				*e*Sg	**Sg**	**03 51 19.8**	**-1.3**
	4.8nm,0.3s						
CDF	**Champ du Feu**	**1.80**	**353**	*e*Pg	**Pg**	**03 51 03.4**	**-0.1**
CDF				*e*Sg	**Sg**	**03 51 26.4**	**-0.4**
	1.6nm,0.4s						
MBDF	**Montbardon**	**1.99**	**197**	*e*Pg	**Pg**	**03 51 07.0**	**-0.1**

ISCJB 17 04:01:20.2±3.6,587S±008×1545E±0.1,h354^{km}±39^{km}, mb4.0/17,Error ellipse: s-maj=20.6km s-min=12.2km az=165.0
IDC 17 04:01:21.1±3.2,589S×15456E,h350^{km}±33^{km},mb3.7/11, mb1 3.7/13,mb1mx3.7/18,mbtmp4.4/13,Error ellipse: s-maj=19.2km s-min=11.3km az=74.0
NEIC 17 04:01:23.1±2.3,587S×15454E,h376^{km}±24^{km},mb4.0/9, Error ellipse: s-maj=16.0km s-min=9.3km az=78.0
ISC 17 04:01:22.1±3.0**,587S**±008×**1546E**±01**,h362**^{km}±33^{km}**,n32,** σ**0^{s}79**/29**,mb4.0**/17**,2C,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.28**	**209**	*e*P	**P**	**04 04 51.7**	**+1.8**
	11nm,0.9s						
CTA	**Charters Tower**	**16.28**	**209**	P	**P**	**04 04 51.4**	**+1.5**
	1.2nm,0.3s,baz=32,slow=12,SNR=12						
CTAO	**Charters Tower**	**16.28**	**209**	*e*P	**P**	**04 04 51.6**	**+1.7**
	15nm,0.8s						
DZM	**Mont Dzumac**	**19.78**	**146**	P	**P**	**04 05 26.2**	**-0.8**
	0.6nm,0.3s,baz=152,slow=23,SNR=7.1						
GUMO	**Guam**	**21.60**	**334**	P	**P**	**04 05 43.8**	**+0.2**
	12nm,0.3s,mb4.6,baz=49,slow=20,SNR=2.9						
GUMO	**Guam**	**21.60**	**334**	P	**P**	**04 05 43.8**	**+0.2**
WRAB	**Tennant Creek**	**24.12**	**233**	*e*P	**P**	**04 06 06.6**	**+0.1**
	6.1nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**24.12**	**233**	*e*P	**P**	**04 06 06.5**	**0.0**
WRA	**Warramunga Arr**	**24.14**	**233**	P	**P**	**04 06 06.7**	**+0.1**
	1.4nm,0.3s,mb3.6,baz=59,slow=9.4,SNR=13						
ARMA	**Armidale**	**24.57**	**186**	*e*P	**P**	**04 06 11.8**	**+1.3**
AS31	**Alice Springs**	**26.62**	**226**	*e*P	**P**	**04 06 28.2**	**-0.5**
ASAR	**Alice Springs**	**26.62**	**226**	P	**P**	**04 06 28.4**	**-0.3**
	1.6nm,0.3s,mb3.7,baz=57,slow=9.3,SNR=51						
STKA	**Stephens Creek**	**28.58**	**204**	⇑*i*P	**P**	**04 06 45.9**	**-0.1**
	3.3nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**28.58**	**204**	P	**P**	**04 06 46.0**	**-0.1**
	3.6nm,0.5s,mb3.9,baz=10,slow=8.5,SNR=20						
STKA	**Stephens Creek**	**28.58**	**204**	*e*P	**P**	**04 06 45.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.74**	**244**	⇑*i*P	**P**	**04 07 04.1**	**-0.9**
	3.3nm,0.3s,mb4.0						
FITZ	**Fitzroy Crossi**	**30.74**	**244**	P	**P**	**04 07 04.3**	**-0.7**
	2.0nm,0.3s,mb3.8,baz=56,slow=7.6,SNR=22						
MBWA	**Marble Bar**	**37.01**	**242**	*e*P	**P**	**04 07 57.1**	**-1.2**
	1.6nm,0.6s,mb3.4						
RPZ	**Rata Peaks**	**40.39**	**161**	P	**P**	**04 08 25.9**	**-0.2**
	11nm,0.7s,mb4.2,baz=40,slow=13,SNR=3.6						
MJAR	**Matsushiro Arr**	**44.89**	**341**	P	**P**	**04 09 01.2**	**-0.7**
	1.2nm,0.5s,mb3.3,baz=170,slow=8.3,SNR=7.1						
MAJO	**Matsushiro**	**44.89**	**341**	*e*P	**P**	**04 09 00.8**	**-1.1**
	4.4nm,0.7s,mb3.7						
RAR	**Rarotonga**	**46.73**	**114**	P	**P**	**04 09 11.2**	**-5.0**
	27nm,0.7s,mb4.6,baz=51,slow=6.5,SNR=4.7						
ULN	**Ulaanbaatar**	**67.83**	**328**	*e*P	**P**	**04 11 43.2**	**+1.1**
	1.5nm,0.8s,mb3.8						
SONM	**Songino Array**	**68.17**	**327**	P	**P**	**04 11 45.4**	**+1.2**
	3.3nm,0.5s,mb4.3,baz=144,slow=5.8,SNR=34						
VNDA	**Vanda**	**71.71**	**178**	P	**P**	**04 12 06.0**	**+0.4**
	1.4nm,0.6s,mb3.9,baz=327,slow=7.7,SNR=14						
VNDA	**Vanda**	**71.71**	**178**	*e*P	**P**	**04 12 05.5**	**0.0**
	1.6nm,0.7s,mb3.9						
MKAR	**Makanchi Array**	**82.29**	**319**	P	**P**	**04 13 04.6**	**+0.8**
	1.1nm,0.7s,mb3.8,baz=76,slow=6.1,SNR=3.9						
QSPA	**South Pole Qui**	**84.10**	**180**	*e*P	**P**	**04 13 13.2**	**+0.2**
	3.8nm,0.6s,mb4.4						
MAW	**Mawson**	**85.27**	**203**	P	**P**	**04 13 18.0**	**-0.8**
	1.2nm,0.4s,mb4.0,baz=229,slow=9.3,SNR=3.5						
BDFB	**Brasilia**	**149.06**	**134**	PKPbc	PKPbc	04 20 28.7	+0.9
	2.5nm,0.5s,baz=319,slow=3.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**152.31**	**287**	PKPbc	PKPbc	04 20 36.0	+0.6
	0.4nm,0.3s,baz=64,slow=1.8,SNR=27						
TORD	**Torodi Ar. Bea**	**152.31**	**287**	PKPbc	PKPbc	04 20 36.0	+0.6

IDC 17 04:16:32.1±1.0,2451S×17871W,h0^{km},mb4.2/9, mb1 4.5/10,mb1mx4.3/16,mbtmp4.3/10,ML5.2/1,Error ellipse: s-maj=32.9km s-min=22.5km az=169.0
ISCJB 17 04:17:24.5±0.9,24.1S±02×1799W±0.1,h500^{km},mb3.9/12, Error ellipse: s-maj=32.9km s-min=16.6km az=154.3
NEIC 17 04:17:25.1±0.7,24.13S×17980W,h500^{km},mb4.3/5,Error ellipse: s-maj=27.9km s-min=14.1km az=167.0
ISC 17 04:17:25.3±0.9**,242S**±02×**1798W**±01**,h500**^{km}**,n19,** σ**0^{s}62**/17**,mb3.9**/12**,2D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.70**	**271**	⇓*i*P	**P**	**04 23 08.5**	**+1.4**
	10.0nm,0.6s,mb4.4						
CTA	**Charters Tower**	**31.70**	**271**	P	**P**	**04 23 07.8**	**+0.7**
	9.9nm,0.5s,mb4.5,baz=100,slow=10,SNR=20						
PMG	**Port Moresby**	**34.80**	**289**	P	**P**	**04 23 32.8**	**-0.6**
	7.0nm,0.5s,mb4.3,baz=135,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**34.81**	**249**	P	**P**	**04 23 32.2**	**-1.3**
	1.2nm,0.9s,mb3.3,baz=297,slow=11,SNR=1.8						
STKA	**Stephens Creek**	**34.81**	**249**	P	**P**	**04 23 32.2**	**-1.3**
ASAR	**Alice Springs**	**42.20**	**261**	P	**P**	**04 24 34.5**	**+0.9**
	2.4nm,0.6s,mb3.8,baz=97,slow=7.2,SNR=25						
WB2	**Warramunga Arr**	**42.59**	**266**	⇓*i*P	**P**	**04 24 36.5**	**-0.2**
WRAB	**Tennant Creek**	**42.60**	**266**	*e*P	**P**	**04 24 36.5**	**-0.2**
	8.2nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**04 24 36.9**	**+0.2**
	4.8nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=37						
KAKA	**Kakadu**	**46.55**	**275**	*e*P	**P**	**04 25 06.8**	**-0.5**
	10.0nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	*e*P	**P**	**04 25 41.0**	**+0.5**
	4.8nm,0.7s,mb3.9						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	**04 25 41.2**	**+0.7**
	2.5nm,0.6s,mb3.8,baz=132,slow=8.1,SNR=8.1						
MBWA	**Marble Bar**	**55.53**	**260**	*e*P	**P**	**04 26 12.7**	**+0.1**
	2.7nm,0.7s,mb3.7						
KKM	**Kota Kinabalu**	**69.20**	**287**	*e*P	**P**	**04 27 41.1**	**-0.2**
SNAA	**Sanae**	**84.36**	**179**	P	**P**	**04 29 04.3**	**+0.1**
	0.4nm,1.0s,mb2.9,baz=303,slow=11,SNR=6.2						
NVAR	**Mina Array Bea**	**84.82**	**44**	P	**P**	**04 29 07.2**	**+0.6**
	0.6nm,0.7s,mb3.4,baz=227,slow=10.0,SNR=4.9						
PDAR	**Pinedale Array**	**92.76**	**44**	P	**P**	**04 29 43.1**	**-0.5**
	0.4nm,0.8s,mb3.5,baz=169,slow=1.5,SNR=4.2						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	PKPbc	04 36 15.0	+8.2
	0.7nm,0.5s,baz=95,slow=10,SNR=5.6						
TORD	**Torodi Ar. Bea**	**168.91**	**187**	PKPab	PKPab	04 37 50.2	+1.2
	0.5nm,0.9s,baz=183,slow=4.4,SNR=4.7						

WEL 17 04:19:27.7±0.2**,3995S**×**17664E,h19**^{km}±2^{km}**,ML3.7**/20**, 1C-6D,Error ellipse: s-maj=2.4km s-min=1.3km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.19**	**115**	P*	Pg	04 19 32.7	+0.2
PXZ				*e*S*	Sg	04 19 37.0	+1.3
TSZ	**Takapari Road**	**0.54**	**258**	⇓P*	Pb	04 19 37.1	-1.3
BFZ	**Birch Farm**	**0.79**	**203**	P*	Pb	04 19 42.7	-0.1
BFZ				S*	Sb	04 19 54.8	+1.8
BKZ	**Black Stump Fm**	**0.79**	**352**	⇓P*	Pb	04 19 42.7	-0.1
BKZ				S*	Sb	04 19 54.1	+0.9
MOVZ	**Moawhango**	**0.88**	**308**	⇓P*	Pb	04 19 43.4	-0.9
TIWZ	**Tintock**	**1.01**	**215**	*e*P*	Pb	04 19 45.6	-0.9
WNVZ	**Wahianoa**	**1.02**	**307**	P*	Pb	04 19 46.3	-0.4
TUVZ	**Tukino**	**1.03**	**312**	⇓P*	Pb	04 19 46.5	-0.3
MRZ	**Mangatainoka R**	**1.08**	**229**	⇑PN	Pn	04 19 46.6	-1.2
FWVZ	**Far West T-bar**	**1.09**	**309**	PN	Pn	04 19 47.4	-0.6
NGZ	**Ngauruhoe**	**1.12**	**314**	⇓PN	Pn	04 19 48.1	-0.3
WPVZ	**Whakapapa**	**1.13**	**311**	PN	Pn	04 19 48.2	-0.3
WTVZ	**West Tongariro**	**1.17**	**315**	⇓PN	Pn	04 19 48.9	-0.1
PKVZ	**Pokaka**	**1.20**	**303**	PN	Pn	04 19 49.3	-0.2
KNZ	**Kokohu**	**1.23**	**41**	PN	Pn	04 19 48.9	-0.9
TWVZ	**Taurewa**	**1.28**	**313**	PN	Pn	04 19 50.7	+0.1
URZ	**Urewera**	**1.73**	**12**	Pn	Pn	04 19 55.8	-1.0
	10nm,0.3s,baz=231,slow=6.9,SNR=56						
URZ	**Urewera**	**1.73**	**12**	PN	Pn	04 19 55.7	-1.0
MWZ	**Matawai**	**1.76**	**23**	PN	Pn	04 19 55.9	-1.2
HIZ	**Hauiti**	**2.00**	**315**	PN	Pn	04 20 00.4	-0.1
MQZ	**McQueen's Vall**	**4.79**	**217**	SN	Sn	04 21 26.0	-7.8

NIED 17 04:45:00,3830N×14480E,h8^{km},Mw4.6 Best double couple: M$_0$9.82000×10^{15} NP1:ϕ_s214.00000°,δ63.00000°, λ-92.00000°. NP2:ϕ_s39.00000°,δ27.00000°,λ-85.00000°.
IDC 17 04:45:17.5±0.5,3821N×14499E,h0^{km},mb4.4/16, mb1 4.5/20,mb1mx4.4/27,mbtmp4.4/20,ML4.2/4,MS3.8/19, Ms1 3.9/19,ms1mx3.6/40,Error ellipse: s-maj=21.0km s-min=12.5km az=103.0
ISCJB 17 04:45:20.5±0.2,3826N±003×14489E±003,h25^{km}, mb4.7/105,MS4.1/31,Error ellipse: s-maj=4.6km s-min=2.8km az=157.4
BJI 17 04:45:20.5,3847N×14480E,h15^{km},mB5.2,mb4.7,Ms4.7, Msz4.3
MOS 17 04:45:21.5±0.9,3821N×14494E,h33^{km},mb4.9/41, MS4.2/5,Error ellipse: s-maj=10.3km s-min=6.3km az=104.2
JMA 17 04:45:21.5±0.2,3828N×14484E,h50^{km},M5.0
SZGRF 17 04:45:22.9,3820N×14488E,h33^{km},mb5.0,Off east coast of Honshu, Japan
NEIC 17 04:45:22.3±0.2,3823N×14493E,mb4.7/67,MW4.6(NIED), Error ellipse: s-maj=5.3km s-min=4.1km az=159.0
ISC 17 04:45:22.7±0.2**,3835N**±003×**14487E**±003**,h27**^{km}**, h27**^{km}±1.5^{km}**:pP-P,n274,**σ**0^{s}99**/284**,mb4.7**/105**,MS4.1**/31**, 5C-7D,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.61**	**287**	⇓P	**Pn**	**04 46 02.4**	**-0.6**
OFUJ				*e*S	**Sn**	**04 46 33.2**	**-0.5**
MIYJ	**Miyakonagasawa**	**2.67**	**298**	P	**Pn**	**04 46 03.2**	**-0.7**
MIYJ				*e*S	**Sn**	**04 46 34.4**	**-1.0**
JIO	**Ouri**	**2.77**	**273**	P	**Pn**	**04 46 04.7**	**-0.5**
JIO				*e*S	**Sn**	**04 46 36.2**	**-1.5**
JMK	**Ichinoseki**	**2.92**	**283**	P	**Pn**	**04 46 07.0**	**-0.3**
JMK				*e*S	**Sn**	**04 46 41.0**	**-0.5**
JHO	**Hitachi**	**3.84**	**244**	P	**Pn**	**04 46 18.1**	**-1.8**
ERM	**Erimo**	**3.88**	**341**	*e*P	**Pn**	**04 46 20.1**	**-0.5**
ERM				*e*S	**Sn**	**04 47 04.6**	**-0.7**
JSB	**Shiboa**	**4.16**	**252**	P	**Pn**	**04 46 24.6**	**+0.2**
JOT	**Ohata**	**4.22**	**317**	P	**Pn**	**04 46 25.6**	**+0.4**
JOT				*e*S	**Sn**	**04 47 11.8**	**-1.7**
JCH	**Churui**	**4.41**	**345**	P	**Pn**	**04 46 25.9**	**-1.9**
JCH				*e*S	**Sn**	**04 47 14.6**	**-3.6**
JKB	**Kayabe**	**4.59**	**321**	P	**Pn**	**04 46 30.7**	**+0.4**
JKB				*e*S	**Sn**	**04 47 21.1**	**-1.7**
JAG	**Ashikaga**	**4.72**	**248**	P	**Pn**	**04 46 31.2**	**-0.9**
JHK	**Hiroka**	**4.76**	**258**	P	**Pn**	**04 46 32.7**	**0.0**
NEM2	**Nemuro 2**	**5.05**	**7**	P	**Pn**	**04 46 32.8**	**-3.8**
NEM2				*e*S	**Sn**	**04 47 27.5**	**-6.5**
JRY	**Ryogami san**	**5.30**	**246**	P	**Pn**	**04 46 38.9**	**-1.2**
JRY				*e*S	**Sn**	**04 47 36.4**	**-3.9**
JJN	**Nakama**	**5.46**	**259**	P	**Pn**	**04 46 43.8**	**+1.6**
JOSM	**Okushiri--Mats**	**5.56**	**314**	P	**Pn**	**04 46 44.3**	**+0.7**
JOD2	**Odawara 2**	**5.57**	**238**	P	**Pn**	**04 46 42.1**	**-1.6**
JOD2				*e*S	**Sn**	**04 47 42.5**	**-4.3**
MJAR	**Matsushiro Arr**	**5.60**	**253**	Pn	**Pn**	**04 46 44.5**	**+0.4**
	7.7nm,0.3s,baz=79,slow=15,SNR=138						
MAJO	**Matsushiro**	**5.60**	**253**	*e*P	**Pn**	**04 46 44.8**	**+0.6**
MAT	**Matsushiro**	**5.60**	**253**	P	**Pn**	**04 46 44.6**	**+0.4**
MAT				S	**Sn**	**04 47 47.8**	**+0.2**
MAT	**Matsushiro**	**5.60**	**253**	P	**Pn**	**04 46 44.4**	**+0.2**
MAT				S	**Sn**	**04 47 49.7**	**+2.1**
JTKR	**Abashiri--Toko**	**5.66**	**353**	P	**Pn**	**04 46 43.2**	**-1.8**
JTKR				*e*S	**Sn**	**04 47 44.8**	**-4.2**
JNG	**Nsakai**	**5.73**	**252**	P	**Pn**	**04 46 46.4**	**+0.5**
JHR	**Hokuryu**	**5.88**	**337**	⇓P	**Pn**	**04 46 48.9**	**+0.8**
JHR				*e*S	**Sn**	**04 47 53.6**	**-1.0**
JNT	**Takato**	**5.92**	**247**	⇑P	**Pn**	**04 46 49.5**	**+0.9**
ASAJ	**Asahikawa**	**6.01**	**344**	Pn	**Pn**	**04 46 49.5**	**-0.2**
	6.8nm,0.3s,baz=204,slow=9.2,SNR=53						
ASAJ				Sn	**Sn**	**04 47 54.5**	**-3.1**
	8.4nm,0.3s,baz=286,slow=34,SNR=4.6						
ASAJ				LR	LR	04 49 42.9	
	comp=Z,542nm,19.5s,baz=194,slow=43						
JNY	**Yasuok**	**6.36**	**244**	P	**Pn**	**04 46 55.2**	**+0.6**
JGF	**Kuroka**	**6.61**	**248**	P	**Pn**	**04 46 58.8**	**+0.8**
JHJ2	**Mitsune**	**6.65**	**220**	P	**Pn**	**04 46 54.7**	**-3.9**
JHJ	**Hachijo jima 2**	**6.66**	**220**	Pn	**Pn**	**04 46 55.0**	**-3.7**
	19nm,0.3s,baz=50,slow=10,SNR=22						
JHJ				Sn	**Sn**	**04 48 05.6**	**-8.1**
	83nm,0.3s,baz=260,slow=23,SNR=8.0						
YSS	**Yuzh-Sakhalins**	**8.73**	**350**	*e*P	**Pn**	**04 47 26.8**	**-0.4**
CBIJ	**Chichi jima**	**11.45**	**192**	Pn	**Pn**	**04 47 58.7**	**-5.7**
	5.5nm,0.3s,baz=330,slow=20,SNR=5.6						
CBIJ				Sn	**Sn**	**04 49 55.2**	**-16**
	20nm,0.3s,baz=298,slow=23,SNR=5.8						
CBIJ				LR	LR	04 51 24.4	
	comp=Z,236nm,20.4s,baz=159,slow=32						
MDJ	**Mudanjiang**	**13.04**	**304**	P	**Pn**	**04 48 27.1**	**+1.0**
MDJ				PP		04 48 36.4	
MDJ				S	**Sn**	**04 50 55.4**	**+5.1**
MDJ				AMB	AMB		
	comp=Z,33nm,1.7s						
MDJ				AMB	AMB		
	comp=Z,192nm,4.5s						
MDJ				LR	LR		
	comp=N,351nm,13.4s						
MDJ				LR	LR		
	comp=E,541nm,12.5s						
MDJ				LR	LR		
	comp=Z,982nm,13.4s						
MDJ	**Mudanjiang**	**13.04**	**304**	*e*Pn	**Pn**	**04 48 27.3**	**+1.2**
	comp=Z,78nm,1.4s						

CN2 Changchun 15.61 297 eP Pn 04 49 03.6 +2.8
CN2 AMB AMB
comp=Z,10.0nm,0.6s
SNY Shenyang 16.65 289 ⇓P Pn 04 49 14.8 +0.7
SNY AMB AMB
comp=Z,12nm,0.5s
PET Petropavlovsk 17.50 29 eP Pn 04 49 18.2 -6.5
DL2 Dalian 18.16 279 P Pn 04 49 32.8 -0.1
DL2 AMB AMB
comp=Z,20nm,0.9s
MA2 Magadan 21.57 8 eP P 04 50 10.4 +0.3
MA2 eS S 04 54 06.9 -0.8
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.5
MA2 Magadan 21.57 8 eP P 04 50 10.9 +0.8
comp=Z,13nm,1.0s,mb4.3
NJ2 Nanjing 22.13 261 eP P 04 50 15.4 -0.7
NJ2 AP 04 50 19.3
NJ2 XP sP 04 50 22.3 -4.6
NJ2 PP 04 50 42.3
NJ2 S S 04 54 16.0 -2.5
NJ2 XS sS 04 54 23.0 -7.4
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,2μm,6.6s
NJ2 LR LR
comp=N,2μm,21.8s,MS4.6
NJ2 LR LR
comp=E,2μm,25.5s,MS4.6
NJ2 LR LR
comp=Z,2μm,25.4s,MS4.4
TIA Tai'an 22.15 273 eP P 04 50 15.9 -0.4
BJI Beijing 22.26 283 eP P 04 50 17.1 -0.4
BJI S S 04 54 23.1 +1.9
BJI AMB AMB
comp=Z,19nm,1.3s,mb4.4
BJI LR LR
comp=N,461nm,7.4s
BJI LR LR
comp=E,509nm,6.6s
BJI LR LR
comp=Z,246nm,19.0s,MS3.6
BJT Baijiatuau 22.27 283 eP P 04 50 17.9 +0.3
BJT pmax pmax
comp=Z,43nm,1.4s
BJT Baijiatuau 22.27 283 eP P 04 50 17.9 +0.3
comp=Z,43nm,1.4s,mb4.7
NRGR Nerungri 22.66 330 eP P 04 50 21.8 +0.1
CLNS Chul'man 22.73 331 eP P 04 50 24.6 +2.2
CLNS pmax pmax
comp=Z,38nm,1.1s,mb4.7
CLNS pmax pmax
comp=N,29nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.0s
GUMO Guam 24.66 180 LR LR 05 00 03.1
comp=E,38nm,19.5s,MS2.9,baz=34,slow=36
SEY Seymchan 25.03 8 eP P 04 50 40.5 -3.9
YAK Yakutsk 25.49 343 eP P 04 50 49.0 +0.4
YAK e*PP pP 04 51 05.9 +9.4
YAK pmax pmax
comp=N,35nm,1.3s
YAK pmax pmax
comp=Z,37nm,1.3s,mb4.8
YAK pmax pmax
comp=E,17nm,1.4s
YAK Yakutsk 25.49 343 eP P 04 50 49.1 +0.5
comp=E,17nm,0.4s,mb4.9
HHC Hu-ho-hao-te 25.70 286 eP P 04 50 51.6 +1.1
HHC AP pP 04 50 55.8 -2.6
HHC XP sP 04 50 58.5 -3.2
HHC PP 04 51 32.0
HHC PCP PcP 04 54 21.8 +1.5
HHC S S 04 55 18.0 +0.5
HHC XS sS 04 55 25.0 -5.6
HHC SS 04 56 22.8
HHC SCP ScP 04 57 59.4 +1.5
HHC PCS PcS 04 58 01.3 +0.3
HHC AMB AMB
comp=Z,15nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,246nm,4.8s
HHC LR LR
comp=N,331nm,5.9s
HHC LR LR
comp=E,689nm,6.7s
HHC LR LR
comp=Z,501nm,13.2s,MS4.2
XAN Xi'an 29.21 273 P P 04 51 26.1 +4.1
XAN AMB AMB
comp=Z,4.0nm,0.7s,mb4.3
SONM Songino Array 29.38 301 LR LR 05 03 43.6
comp=Z,259nm,18.0s,MS3.9,baz=51,slow=37
TLY Talaya 31.60 308 eP P 04 51 45.1 +2.0
TLY eS S 04 56 43.5 -6.8
TLY pmax pmax
comp=Z,64nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,248nm,15.0s,MS4.0
BILL Bilibino 32.02 15 eP P 04 51 41.3 -5.4
BILL pmax pmax
comp=Z,15nm,1.3s,mb4.7
LZH Lanzhou 32.56 279 eP P 04 51 53.5 +2.0
LZH AP pP 04 51 57.0 -2.5
LZH XP sP 04 52 01.0 -1.8
LZH PP PP 04 53 02.3 -3.0
LZH eS S 04 57 07.8 +2.5
LZH XS sS 04 57 15.1 -3.3
LZH eSS SS 04 59 04.5 -21
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,86nm,4.2s
LZH LR LR
comp=E,770nm,13.2s
LZH LR LR
comp=Z,960nm,15.0s,MS4.6
GYA Guiyang 34.14 261⇑iP P 04 52 05.9 +0.6
GYA AP pP 04 52 10.4 -2.9
GYA XP sP 04 52 13.8 -2.8
GYA PP PP 04 53 19.8 -3.0
GYA S S 04 57 31.0 +1.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,70nm,3.9s
GYA LR LR
comp=N,340nm,16.4s,MS4.3
GYA LR LR
comp=E,320nm,16.8s,MS4.3
GYA LR LR
comp=Z,380nm,16.2s,MS4.2
CD2 Chengdu 34.41 270 eP P 04 52 06.3 -1.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA Gaotai 34.81 286 eP P 04 52 13.8 +2.7
GTA AP pP 04 52 17.4 -1.7
GTA XP sP 04 52 20.6 -1.8
GTA PP PP 04 53 33.8 +3.6
GTA S S 04 57 47.5 +7.4
GTA XS sS 04 57 55.9 +2.5
GTA AMB AMB
comp=Z,14nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,233nm,5.0s
GTA LR LR
comp=N,163nm,13.4s,MS4.4
GTA LR LR
comp=E,430nm,14.1s,MS4.4
GTA LR LR
comp=Z,496nm,17.6s,MS4.3
KMI Kunming 37.86 262 P P 04 52 38.4 +1.2
KMI AP pP 04 52 46.6 +1.4
KMI XP sP 04 52 49.8 +1.3
KMI PP PP 04 54 03.8 0.0
KMI S S 04 58 31.1 +4.3
KMI XS sS 04 58 44.0 +4.0
KMI AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
KMI AMB AMB
comp=Z,196nm,4.9s
KMI LR LR
comp=N,302nm,19.2s,MS4.3
KMI LR LR
comp=E,243nm,15.5s,MS4.3
KMI LR LR
comp=Z,248nm,13.5s,MS4.2
WMQ Urumqi 42.70 296 eP P 04 53 19.0 +1.8
WMQ AP pP 04 53 23.0 -2.4
WMQ XP sP 04 53 26.0 -2.7
WMQ PP PP 04 55 01.0 +4.5
WMQ eS S 04 59 43.0 +4.0
WMQ XS sS 04 59 50.0 -2.5
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,192nm,6.8s
WMQ LR LR
comp=N,278nm,18.8s,MS4.2
WMQ LR LR
comp=E,157nm,20.7s,MS4.2
WMQ LR LR
comp=Z,242nm,24.0s,MS4.0
ZAL Zalesovo 43.09 311 LR LR 05 13 06.1
comp=Z,169nm,18.6s,MS4.0,baz=75,slow=39
CHTO Chiang Mai 44.27 257 eP P 04 53 31.4 +1.6
CHTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
CHTO Chiang Mai 44.27 257 eP P 04 53 31.4 +1.6
comp=Z,2.1nm,0.4s,mb4.2
KSM Kuching 48.47 229 eP P 04 54 02.6 -0.2
HNR Honiara 49.58 160 LR LR 05 12 37.0
comp=Z,74nm,19.2s,MS3.7,baz=358,slow=33
GUN Gumba 49.74 276 eP P 04 54 14.8 +2.2
comp=Z,68nm,1.2s,mb5.6
KKN Kakani 50.27 277 eP P 04 54 18.6 +2.0
PKI Pulchoki 50.27 276 eP P 04 54 18.0 +1.4
GKN Gorkha 50.67 277 eP P 04 54 21.1 +1.5
comp=Z,77nm,1.2s,mb5.5
BVAR Borovoye Array 51.72 312 LR LR 05 15 27.4
comp=Z,84nm,19.9s,MS3.8,baz=319,slow=35
INK Inuvik 51.95 28 P P 04 54 28.9 -0.4
comp=Z,4.1nm,0.9s,mb4.3,baz=262,slow=10,SNR=6.4
INK Inuvik 51.95 28 P P 04 54 28.9 -0.3
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 51.95 28 eP P 04 54 28.6 -0.6
comp=Z,6.6nm,1.0s,mb4.5
KAKA Kakadu 52.11 195 eP P 04 54 29.3 -1.1
comp=Z,17nm,0.8s,mb5.0
KAKA i pP pP 04 54 37.8 -0.9
AAK Ala-Archa 52.27 298 eP P 04 54 31.6 0.0
AAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
SVE Sverdlovsk 55.97 319 eP P 04 55 05.0 +6.4
SVE e 04 55 21.0
SVE MLR MLR
comp=N,200nm,14.0s,MS4.5
SVE MLR MLR
comp=E,200nm,14.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,14.0s,MS4.5
ARU Arti 57.18 319⇓iP P 04 55 06.0 -1.2
ARU e 04 55 58.3
ARU e 04 57 10.6
ARU eS S 05 03 01.9 +0.9
ARU eSS SS 05 06 49.9 -0.2
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU MLR MLR
comp=N,100nm,17.0s,MS4.1
ARU MLR MLR
comp=E,100nm,19.0s,MS4.1
ARU Arti 57.18 319 eP P 04 55 07.4 +0.2
WRAB Tennant Creek 58.81 192 eP P 04 55 16.7 -1.9
WRAB pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 58.81 192 eP P 04 55 16.7 -1.9
comp=Z,16nm,0.9s,mb5.0
WB2 Warramunga Arr 58.82 192⇓iP P 04 55 16.5 -2.2
WB2 i pP pP 04 55 25.5 -1.6
WRA Warramunga Arr 58.82 192 P P 04 55 16.7 -2.0
comp=Z,6.4nm,0.8s,mb4.7,baz=12,slow=7.2,SNR=32
WRA LR LR 05 20 45.9
comp=Z,49nm,19.2s,MS3.6,baz=145,slow=36
FITZ Fitzroy Crossi 58.99 201⇑iP P 04 55 18.7 -1.1
comp=Z,6.5nm,0.9s,mb4.7
FITZ i pP pP 04 55 28.2 0.0
FITZ Fitzroy Crossi 58.99 201 P P 04 55 18.7 -1.1
comp=Z,2.6nm,0.7s,mb4.4,baz=19,slow=11,SNR=7.8
AKTK Aktyubinsk 59.82 312 P P 04 55 25.4 -0.2
AKTO Aktyubinsk 59.82 312 P P 04 55 25.4 -0.2
comp=Z,4.8nm,0.9s,mb4.5,baz=73,slow=10,SNR=7.9
YKA Yellowknife Ar 61.27 31 P P 04 55 34.4 -1.1
comp=Z,3.7nm,0.9s,mb4.5,baz=290,slow=6.7,SNR=5.0
YKA Yellowknife Ar 61.27 31 P P 04 55 34.4 -1.1
AS31 Alice Springs 62.54 191 eP P 04 55 42.3 -1.7
ASAR Alice Springs 62.54 191 P P 04 55 42.6 -1.4
comp=Z,3.1nm,0.8s,mb4.5,baz=14,slow=6.8,SNR=33
APA Apatity 62.60 336⇑eP P 04 55 47.0 +2.6
APA i pP 04 55 54.5 +1.7
APA pmax pmax
comp=Z,14nm,1.2s,mb5.0
DZM Mont Dzumac 63.43 158 LR LR 05 17 45.2
comp=Z,105nm,19.4s,MS4.0,baz=26,slow=31
MBWA Marble Bar 63.73 206 eP P 04 55 50.6 -1.3
comp=Z,7.7nm,0.9s,mb4.7
MBWA e pP 04 55 59.7 -0.7
AFI Afiamalu 65.95 133 LR LR 05 21 06.2
comp=Z,137nm,21.7s,MS4.1,baz=330,slow=33
JOF Joensuu 66.07 333 ep P 04 56 06.3 -0.8
comp=Z,3.2nm,0.7s,mb4.5
HOOD Mount Hood Mea 66.16 50 eP P 04 56 08.8 +1.1
EDM Edmonton 66.60 40 eP P 04 56 09.4 -1.1
HAWA Hanford 66.86 49 eP P 04 56 12.1 -0.1
NEW Newport 67.26 46 eP P 04 56 14.4 -0.3
NEW e*PP pP 04 56 22.3 -0.9
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 67.26 46 eP P 04 56 14.4 -0.3
comp=Z,9.4nm,1.1s,mb4.7
NEW epP pP 04 56 22.2 -1.0
YBH Yreka Blue Hor 67.36 54 eP P 04 56 15.5 +0.1
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 67.36 54 eP P 04 56 15.5 +0.1
comp=Z,4.2nm,1.0s,mb4.4
WDC Whiskeytown Da 68.08 55 eP P 04 56 20.5 +0.6
WDC pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
WDC Whiskeytown Da 68.08 55 eP P 04 56 20.5 +0.6
comp=Z,5.9nm,1.0s,mb4.6
KAF Kangasniemi 68.37 334 ep P 04 56 20.1 -1.6
comp=Z,2.1nm,0.5s,mb4.4,baz=44,slow=6.0
KAF Kangasniemi 68.37 334 eP P 04 56 20.1 -1.6
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
WALA Waterton Lakes 68.61 44 eP P 04 56 23.1 -0.1
comp=Z,8.0nm,1.0s,mb4.6
WALA epP pP 04 56 31.1 -0.6
OBN Obninsk 68.66 324 eP P 04 56 22.4 -1.1
OBN pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
MOD Modoc 68.79 53 eP P 04 56 23.9 -0.4
comp=Z,4.9nm,1.1s,mb4.3
MOD e pP 04 56 32.7 -0.2
FINES FINESS Array B 68.90 333 P P 04 56 24.8 -0.3
comp=Z,4.2nm,0.8s,mb4.4,baz=63,slow=8.8,SNR=14
FINES LR LR 05 28 18.6
comp=Z,122nm,21.1s,MS4.1,baz=0.5,slow=37
FINES FINESS Array B 68.90 333 P P 04 56 24.8 -0.3
FINES LR LR 05 28 18.6
BMO Blue Mountains 69.01 49 eP P 04 56 24.9 -0.8
comp=Z,5.1nm,1.1s,mb4.4
SUMG Summit 69.34 1 eP P 04 56 29.1 +1.3
comp=Z,7.7nm,1.0s,mb4.6
WVOR Wild Horse Val 69.54 52 eP P 04 56 28.7 -0.3
WVOR pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
WVOR Wild Horse Val 69.54 52 eP P 04 56 28.7 -0.3
comp=Z,6.2nm,1.1s,mb4.5
MSO Missoula 69.85 46 eP P 04 56 30.4 -0.4
comp=Z,3.9nm,1.0s,mb4.3
STKA Stephens Creek 69.94 183 eP P 04 56 29.6 -1.8
comp=Z,2.8nm,0.8s,mb4.2
STKA Stephens Creek 69.94 183 P P 04 56 29.7 -1.7
comp=Z,5.9nm,1.0s,mb4.5,baz=338,slow=5.8,SNR=7.2
STKA LR LR 05 31 05.5
comp=Z,78nm,18.0s,MS4.0,baz=205,slow=39
PAHR Pah Rah Range 70.58 54 eP P 04 56 34.8 -0.6
comp=Z,5.8nm,1.2s,mb4.4
CMB Columbia Colle 70.87 56 eP P 04 56 37.1 0.0
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CMB Columbia Colle 70.87 56 eP P 04 56 37.1 0.0
comp=Z,4.9nm,0.9s,mb4.4
HRY Holter Researc 71.10 45 eP P 04 56 38.5 -0.1
LRM Limekiln Ridge 71.28 46 eP P 04 56 39.4 -0.2
HLID Hailey 71.45 49 eP P 04 56 40.4 -0.2
comp=Z,4.7nm,1.0s,mb4.4
DLMT Dillon 71.46 47 eP P 04 56 40.9 +0.2
comp=Z,4.6nm,0.8s,mb4.5
BMN Battle Mountai 71.54 53 eP P 04 56 41.7 +0.5
BMN pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BMN Battle Mountai 71.54 53 eP P 04 56 41.7 +0.5
comp=Z,10nm,1.1s,mb4.7
BOZ Bozeman (W) 71.84 46 eP P 04 56 42.9 -0.1
BOZ e pP 04 56 51.7 +0.1
BOZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BOZ Bozeman (W) 71.84 46 eP P 04 56 42.9 -0.1
comp=Z,4.3nm,0.7s,mb4.5
BOZ e pP 04 56 51.7 +0.1
NVAR Mina Array Bea 72.00 55 P P 04 56 44.3 +0.4
comp=Z,2.2nm,0.8s,mb4.2,baz=282,slow=8.4,SNR=11
KIV Kislovodsk 72.09 312c iP P 04 56 45.3 +0.8
KIV pmax pmax
comp=Z,34nm,1.0s,mb5.2
KIV Kislovodsk 72.09 312 eP P 04 56 47.0 +2.5
comp=Z,40nm,1.0s,mb5.3
QLMT Earthquake Lak 72.44 46 eP P 04 56 46.2 -0.4
GNI Garni 73.09 308 eP P 04 56 51.1 +0.7
GNI pmax pmax
comp=Z,10.0nm,1.3s
IMW Indian Meadow 73.29 47 eP P 04 56 52.4 +0.8
comp=Z,15nm,1.0s,mb4.9
DCID1 Drake Creek 73.33 47 eP P 04 56 51.9 0.0
RRI2 Red Ridge 73.40 48 eP P 04 56 52.2 0.0
comp=Z,13nm,1.1s,mb4.8
HVU Hansel Valley 73.48 50 eP P 04 56 53.7 +1.0
TPAW Teton Pass 73.53 47 eP P 04 56 53.7 +0.7
comp=Z,7.9nm,0.9s,mb4.6
LOHW Long Hollow 73.65 47 eP P 04 56 54.0 +0.3
comp=Z,7.2nm,1.1s,mb4.5
SNOW Snow King Moun 73.66 47 eP P 04 56 54.8 +1.0
comp=Z,10nm,0.9s,mb4.8
SNOW e pP 04 57 03.6 +1.3
REDW Red Top Meadow 73.66 47 eP P 04 56 54.1 +0.3
comp=Z,15nm,1.2s,mb4.8
NB2 NORSAR Subarra 74.00 339 P P 04 56 55.2 -0.6
comp=Z,0.9nm,0.7s,mb3.8,baz=38,slow=5.9
NOA NORSAR Array B 74.00 339 P P 04 56 54.8 -1.0
comp=Z,2.6nm,0.9s,mb4.2,baz=38,slow=5.7,SNR=6.0
NOA LR LR 05 35 43.8
comp=Z,46nm,18.5s,MS3.8,baz=0.0,slow=41
HWUT Hardware Ranch 74.31 49 eP P 04 56 58.1 +0.6
comp=Z,13nm,1.2s,mb4.7
DUG Dugway 74.41 51 eP P 04 56 58.3 +0.1
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
DUG Dugway 74.41 51 eP P 04 56 58.3 +0.1
comp=Z,9.9nm,1.1s,mb4.7
TCUT Toone Canyon 74.70 50 eP P 04 57 01.0 +1.1
CTU Camp Tracy 74.75 50 eP P 04 57 01.1 +0.9
BW06 Boulder Array 74.77 47 eP P 04 56 59.8 -0.5
comp=Z,5.5nm,0.9s,mb4.5
PDAR Pinedale Array 74.77 47 P P 04 56 59.8 -0.5
comp=Z,4.0nm,0.9s,mb4.4,baz=306,slow=1.7,SNR=28
AKASG Malin Array Be 74.90 324 P P 04 57 01.2 +0.2
comp=Z,0.6nm,0.3s,mb4.0,baz=42,slow=5.9,SNR=16
NLU North Lily Min 75.01 51 eP P 04 57 02.1 +0.5
SHPR Sheep Range 75.15 55 eP P 04 57 02.9 +0.5
MPU Maple Canyon 75.24 51 eP P 04 57 03.9 +0.9
NWAO Narrogin (SRO) 75.43 204 P P 04 57 02.1 -2.0
comp=Z,9.3nm,1.1s,mb4.7,baz=17,slow=11,SNR=3.0
MSU Marysvale 75.82 52 eP P 04 57 06.8 +0.5
SRU San Rafael 76.47 51 eP P 04 57 09.9 -0.1
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.8
SRU San Rafael 76.47 51 eP P 04 57 09.9 -0.1
comp=Z,12nm,0.9s,mb4.8
ULM Lac du Bonnet 76.87 35 P P 04 57 10.6 -1.7
comp=Z,4.6nm,1.0s,mb4.4,baz=285,slow=8.3,SNR=4.7
ULM Lac du Bonnet 76.87 35 eP P 04 57 11.0 -1.3
comp=Z,12nm,1.1s,mb4.8
RSSD Black Hills 77.00 44 eP P 04 57 12.5 -0.5
PV10 Paradox Valley 77.83 51 eP P 04 57 18.2 +0.6
PV10 e pP 04 57 27.3 +1.0
MALT Malatya 78.08 310 eP P 04 57 21.3 +2.3
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MALT Malatya 78.08 310 eP P 04 57 21.2 +2.2
comp=Z,4.9nm,1.1s,mb4.3
WUAZ Wupatki 78.18 54 eP P 04 57 20.1 +0.5
comp=Z,7.9nm,1.0s,mb4.6
WUAZ e pP 04 57 29.0 +0.8
PV01 Paradox Valley 78.27 51 eP P 04 57 20.0 0.0
PV01 e pP 04 57 29.1 +0.4
SMCO Snowmass 78.56 49 eP P 04 57 21.8 +0.1
comp=Z,5.7nm,0.9s,mb4.5
KWP Kalwaria 78.62 326 eP P 04 57 22.5 +0.5
KWP pmax pmax
comp=Z,16nm,1.0s,mb4.9
KWP Kalwaria 78.62 326 eP P 04 57 22.5 +0.5
comp=Z,16nm,1.0s,mb4.9
RAR Rarotonga 78.77 128 LR LR 05 26 01.6
comp=Z,167nm,20.7s,MS4.4,baz=284,slow=31
ISCO Idaho Springs 78.95 48 eP P 04 57 24.5 +0.7
ISCO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ISCO Idaho Springs 78.95 48 eP P 04 57 24.5 +0.7
comp=Z,5.5nm,1.0s,mb4.4
KOLS Kolonicke sedl 79.33 326 eP P 04 57 26.8 +0.9
STHS Stebnicka Huta 79.42 326 eP P 04 57 27.4 +1.0
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
STHS Stebnicka Huta 79.42 326 eP P 04 57 27.4 +1.0
comp=Z,4.6nm,1.1s,mb4.3
OJC Ojcow 79.43 328 eP P 04 57 27.1 +0.6
CRVS Cervenica-Dubn 79.71 326 eP P 04 57 27.1 -0.9
NIE Niedzica 79.82 327 eP P 04 57 29.4 +0.8
BRTR Keskin Array B 79.99 313 P P 04 57 29.9 +0.4
comp=Z,1.4nm,1.0s,mb3.9,baz=56,slow=4.6,SNR=5.6
BRTR LR LR 05 38 02.0
comp=Z,45nm,18.7s,MS3.8,baz=215,slow=40
BSEG Bad Segeberg 80.08 335 eP P 04 57 30.5 +0.5
comp=Z,19nm,1.0s,mb5.0
SDCO Great Sand Dun 80.37 49 eP P 04 57 31.5 0.0
comp=Z,4.6nm,1.1s,mb4.3
OKC Ostrava-Krasne 80.41 328 eP P 04 57 32.5 +0.7
KECS Kecovo 80.45 326 e P 04 57 29.9 -2.1
MORC Moravsky Berou 80.71 329 eP P 04 57 33.9 +0.5
MORC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MORC Moravsky Berou 80.71 329 eP P 04 57 33.9 +0.6
comp=Z,7.1nm,1.0s,mb4.5
DPC Dobruska-Polom 80.76 329 eP P 04 57 33.9 +0.3
UPC Upice 80.76 330 eP P 04 57 33.2 -0.4
PSZ Piszkesteto 81.14 326 eP P 04 57 36.5 +0.9
PSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
PSZ Piszkesteto 81.14 326 eP P 04 57 36.5 +0.9
comp=Z,4.3nm,1.0s,mb4.3
VYHS Vyhne 81.16 327 eP P 04 57 35.5 -0.2
ECSD EROS,Sioux Fal 81.17 40 eP P 04 57 34.5 -1.2
BRG Berggiesshubel 81.27 331 eP P 04 57 36.7 +0.4
comp=Z,8.0nm,1.3s,mb4.5
BRG Berggiesshubel 81.27 331 eP P 04 57 36.9 +0.5
comp=Z,4.8nm,1.3s,mb4.3
BRG Berggiesshubel 81.27 331 eP P 04 57 36.9 +0.6
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
CLL Collm 81.28 332 eP P 04 57 36.0 -0.4
comp=Z,11nm,1.0s,mb4.7
CLL Collm 81.28 332⇓iP P 04 57 35.7 -0.7
comp=Z,17nm,1.3s,mb4.8
CLL i pP pP 04 57 45.3 +0.3
CLL Collm 81.28 332⇓iP P 04 57 35.7 -0.7
CLL i *PP pP 04 57 45.3 +0.3
CLL pmax pmax
comp=Z,17nm,1.3s,mb4.8
PVCC Panska Ves 81.31 330 eP P 04 57 33.6 -2.9
NRDL Niedersach Rie 81.34 334 eP P 04 57 37.2 +0.5

comp=Z,20nm,1.8s,mb4.8
ANMO Albuquerque 81.63 52 *e*P P 04 57 38.8 +0.6
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 81.63 52 *e*P P 04 57 38.8 +0.6
comp=Z,7.1nm,1.2s,mb4.5
PRU Pruhonice 81.75 330 *e*P P 04 57 39.2 +0.3
IBBN Ibbenburen 82.30 335 *e*P P 04 57 41.7 0.0
comp=Z,11nm,0.4s,mb5.1
MOX Moxa 82.33 332 *e*P P 04 57 42.2 +0.3
comp=Z,20nm,1.5s,mb4.8
MANZ Manzenberg 82.68 331 *e*P P 04 57 44.3 +0.5
comp=Z,5.0nm,1.1s,mb4.5
KHC Kasperske Hory 82.81 330 *e*P P 04 57 44.9 +0.5
PPT Papeete 82.82 119 *e*LR LR 05 23 04.9
comp=Z,165nm,23.5s
PPT Papeete 82.82 119 LR LR 05 32 50.0
comp=Z,238nm,18.0s,MS4.6,baz=322,slow=34
ROTZ Rotzenmuhle 82.82 331 *e*P P 04 57 45.2 +0.7
comp=Z,11nm,1.3s,mb4.7
GERES GERESS Array B 82.99 330 P P 04 57 45.3 0.0
comp=Z,0.9nm,0.7s,mb3.9,baz=46,slow=3.9,SNR=7.6
GERES LR LR 05 35 35.6
comp=Z,93nm,19.2s,MS4.2,baz=276,slow=36
ASF Jabal al Asfar 83.01 306 LR LR 05 34 01.2
comp=Z,27nm,22.0s,MS3.6,baz=233,slow=35
WET Wettzell 83.07 331 *e*P P 04 57 45.4 -0.4
comp=Z,9.0nm,1.2s,mb4.7
WET Wettzell 83.07 331 *e*P P 04 57 45.4 -0.4
WET pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
BUG Bochum--Univer 83.19 335 *e*P P 04 57 46.7 +0.3
GRA1 Grafenberg Arr 83.25 332 *e*P P 04 57 47.5 +0.8
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 83.25 332 *e*P P 04 57 47.5 +0.8
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 83.25 332 *e*P P 04 57 47.5 +0.8
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GRF Grafenberg Arr 83.25 332 *e*P P 04 57 47.5 +0.8
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TNS Taunus Mts 83.81 334 *e*P P 04 57 50.0 +0.4
comp=Z,15nm,1.6s,mb4.9
TNS Taunus Mts 83.81 334 *e*P P 04 57 50.0 +0.4
TNS pmax pmax
comp=Z,15nm,1.6s,mb4.9
SCIA State Center 84.21 40 *e*P P 04 57 52.6 +1.0
MNTX Cornudas Mount 84.45 54 *e*P P 04 57 52.2 -0.6
comp=Z,8.7nm,1.3s,mb4.7
MNTX *e* pP 04 58 01.4 -0.1
FUR Furstenfeldbru 84.49 331 *e*P P 04 57 53.7 +0.7
STU Stuttgart 84.76 332 *e*P P 04 57 54.8 +0.4
comp=Z,15nm,1.3s,mb5.0
GIVF Givet 85.14 335 *e*P P 04 57 55.4 -0.9
BFO Black Forest 85.45 333 *e*P P 04 57 57.5 -0.3
comp=Z,19nm,1.2s,mb5.1
BFO Black Forest 85.45 333 *e*P P 04 57 57.5 -0.3
BFO pmax pmax
comp=Z,19nm,1.2s,mb5.1
CDF Champ du Feu 85.75 333 *e*P P 04 57 58.8 -0.6
comp=Z,36nm,1.2s,mb5.2
CDF Champ du Feu 85.75 333 *e*P P 04 57 58.8 -0.6
CDF pmax pmax
comp=Z,18nm,1.2s,mb5.2
CDF Champ du Feu 85.75 333 *e*P P 04 57 58.8 -0.6
comp=Z,18nm,1.2s,mb5.2
WMOK Wichita Mounta 86.38 48 *e*P P 04 58 02.1 -0.4
WMOK pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
WMOK Wichita Mounta 86.38 48 *e*P P 04 58 02.1 -0.4
comp=Z,5.8nm,1.2s,mb4.7
HINF Hinteralfeld 86.41 333 *e*P P 04 58 01.7 -0.9
HAU Haudompre 86.43 334 *e*P P 04 58 01.8 -0.9
comp=Z,13nm,1.0s,mb4.8
HAU *e*R
comp=Z,154nm,19.5s
HAU Haudompre 86.43 334 *e*P P 04 58 01.8 -0.9
HAU pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
HAU MLR MLR
comp=Z,150nm,19.5s,MS4.4
HAU Haudompre 86.43 334 *e*P P 04 58 01.8 -0.9
comp=Z,6.6nm,1.0s,mb4.8
HAU LR LR
comp=Z,150nm,19.5s,MS4.4
MEZF Maizieres J'vi 86.45 335 *e*P P 04 58 02.5 -0.3
comp=Z,55nm,1.4s,mb5.3
MEZF Maizieres J'vi 86.45 335 *e*P P 04 58 02.5 -0.3
comp=Z,55nm,1.4s,mb5.6
LOR Lormes 87.92 335 *e*P P 04 58 09.3 -0.6
comp=Z,56nm,1.3s,mb5.3
LOR *e*R
comp=Z,149nm,21.2s
LOR Lormes 87.92 335 *e*P P 04 58 09.3 -0.6
LOR pmax pmax
comp=Z,28nm,1.3s,mb5.3
LOR MLR MLR
comp=Z,150nm,21.3s,MS4.4
LOR Lormes 87.92 335 *e*P P 04 58 09.3 -0.6
comp=Z,28nm,1.3s,mb5.3
LOR LR LR
comp=Z,150nm,21.3s,MS4.4
FLN La Foliniere 87.97 338 *e*P P 04 58 10.2 0.0
FLN *e*R
comp=Z,113nm,17.8s
FLN La Foliniere 87.97 338 *e*P P 04 58 10.2 0.0
FLN LR LR
comp=Z,110nm,17.8s,MS4.3
SSF Saint Saulge 88.22 335 *e*P P 04 58 10.8 -0.5
comp=Z,23nm,1.1s,mb5.0
SSF Saint Saulge 88.22 335 *e*P P 04 58 10.8 -0.5
SSF pmax pmax
comp=Z,11nm,1.1s,mb5.0
SSF Saint Saulge 88.22 335 *e*P P 04 58 10.8 -0.5
comp=Z,11nm,1.1s,mb5.0
HYF Humbligny 88.32 335 *e*P P 04 58 11.8 0.0
LPG La Plagne 88.42 332 *e*P P 04 58 12.0 -0.3
comp=Z,4.0nm,0.7s,mb4.4
LPG La Plagne 88.42 332 *e*P P 04 58 12.0 -0.3
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
LPG La Plagne 88.42 332 *e*P P 04 58 12.0 -0.3
comp=Z,2.0nm,0.7s,mb4.5
SMF Signal de Mont 88.47 334 *e*P P 04 58 12.0 -0.5
comp=Z,36nm,1.2s,mb5.2
SMF Signal de Mont 88.47 334 *e*P P 04 58 12.0 -0.5
SMF pmax pmax
comp=Z,18nm,1.2s,mb5.2
SMF Signal de Mont 88.47 334 *e*P P 04 58 12.0 -0.5
comp=Z,18nm,1.2s,mb5.2
AVF Avril sur Loir 88.50 335 *e*P P 04 58 12.3 -0.4
comp=Z,42nm,1.2s,mb5.3
AVF Avril sur Loir 88.50 335 *e*P P 04 58 12.3 -0.4
AVF pmax pmax
comp=Z,21nm,1.2s,mb5.3
AVF Avril sur Loir 88.50 335 *e*P P 04 58 12.3 -0.4
comp=Z,21nm,1.2s,mb5.3
VIVF Saint-Julien-l 89.73 333 *e*P P 04 58 18.0 -0.4
comp=Z,12nm,1.0s,mb4.9
VIVF Saint-Julien-l 89.73 333 *e*P P 04 58 18.0 -0.4
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
VIVF Saint-Julien-l 89.73 333 *e*P P 04 58 18.0 -0.4
comp=Z,5.8nm,1.0s,mb4.9
CAF Calviac 90.57 335 *e*P P 04 58 22.4 0.0
comp=Z,30nm,1.2s,mb5.2
CAF Calviac 90.57 335 *e*P P 04 58 22.4 0.0
CAF pmax pmax
comp=Z,15nm,1.2s,mb5.2
CAF Calviac 90.57 335 *e*P P 04 58 22.4 0.0
comp=Z,15nm,1.2s,mb5.2
RKT Rikitea 96.75 114 *e*LR LR 05 29 32.8
comp=Z,101nm,33.2s
ESDC Sonseca Array 97.25 336 LR LR 05 43 48.7
comp=Z,82nm,20.6s,MS4.2,baz=335,slow=36
SAML Samuel 141.35 48 *e*PKPpre 05 04 49.0
SNAA Sanae 142.79 196 *e*PKIKP PKPdf 05 04 46.8 -6.7
LPAZ La Paz 143.66 62 *e*PKIKP PKPdf 05 04 53.4 -1.6
VNA3 Neumayer Olymp 144.52 194 *e* Pdif 05 02 19.2 -4.1
VNA3 *e* 05 02 22.3
VNA3 *e* 05 02 32.8
PLCA Paso Flores 152.69 106 PKPbc PKPbc 05 05 15.6 -1.2
comp=Z,3.4nm,1.2s,baz=221,slow=15,SNR=3.5
PLCA Paso Flores 152.69 106 *e*PKIKP PKPdf 05 05 09.5 -0.2
PLCA *e* 05 05 15.9
PLCA *e* 05 05 25.8
PLCA Paso Flores 152.69 106 *e*PKPdf PKPdf 05 05 09.5 -0.2
PLCA PKPbc PKPbc 05 05 15.6 -1.2
PLCA *e*PKPbc PKPbc 05 05 15.9 -0.9
PLCA *e*PKPab PKPab 05 05 25.8 -1.8

*ISCJB **17** 04:47:01.2±2.3,373N×02×702E±0.1,h33km, Error ellipse: s-maj=23.3km s-min=15.9km az=31.8*
*NNC **17** 04:47:07.8±5.2,3802N×6970E,h0km,mb3.8,mpv3.7, Error ellipse: s-maj=51.2km s-min=38.5km az=114.0*
ISC 17 04:47:02.6±2.3,373N×02×702E±01,h35km,n11,σ0s87/13, 4C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.57**	**28**	P	**Pn**	**04 48 23.4**	**+0.4**
	SNR=77						
KK31	**Karatay Array**	**5.85**	**2**	⇑Pn	**Pn**	**04 48 28.1**	**+1.4**
	4.5nm,0.4s,baz=182,slow=13,SNR=6.6						
KK31				⇑Sn	**Sn**	**04 49 32.2**	**-0.3**
	3.9nm,0.3s,baz=189,slow=25,SNR=9.6						
EKS2	**Erkin-Say**	**6.07**	**26**	P	**Pn**	**04 48 30.5**	**+0.7**
	SNR=21						
KZA	**Kyzart**	**6.21**	**38**	P	**Pn**	**04 48 31.4**	**-0.3**
	SNR=6.2						
AAK	**Ala-Archa**	**6.31**	**30**	P	**Pn**	**04 48 33.5**	**+0.4**
	SNR=29						
CHMS	**Chumysh**	**6.72**	**30**	P	**Pn**	**04 48 38.8**	**0.0**
	SNR=29						
ULHL	**Ulahol**	**6.83**	**41**	P	**Pn**	**04 48 39.3**	**-1.0**
	SNR=7.2						
USP	**Ospenovka**	**6.85**	**27**	P	**Pn**	**04 48 40.2**	**-0.4**
	SNR=19						
TKM2	**Tokmak 2**	**7.02**	**35**	P	**Pn**	**04 48 42.7**	**-0.2**
	SNR=18						
AB31	**Akbulak array**	**14.10**	**331**	⇑Pn	**Pn**	**04 50 17.6**	**-2.2**
	0.2nm,0.2s,baz=166,slow=12,SNR=22						
AB31				⇓Sn	**Sn**	**04 52 45.4**	**-10**
	0.5nm,0.3s,baz=153,slow=23,SNR=5.5						
AKTO	**Aktyubinsk**	**15.80**	**330**	⇑Pn	**Pn**	**04 50 43.4**	**+1.1**

*MOS **17** 04:48:38.5±1.4,5497N×11167E,h13km,mb4.9/1, Error ellipse: s-maj=13.0km s-min=7.3km az=64.7*
MOS Felt (II-III) at Ulyunkhan.
BYKL 17 04:48:40.3±0.2,5503N×11165E,h14km±3km,14C-10D, FELT I=III MSK at Ulyunkhan,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.32**	**241**	⇑*i*Pg	Pg	04 48 46.5	-0.4
YLYR				Pmax		04 48 47.7	
	749nm,0.1s						
YLYR				*e*Sg	Sg	04 48 51.6	+0.2
YLYR				Smax		04 48 51.6	
	13μm,0.2s						
YLYR				*e*		04 48 52.5	
YLYR				*e*		04 48 54.5	
YLYR	**Ulyunkhan**	**0.32**	**241**	⇑*i*PG	Pg	04 48 46.5	-0.4
YLYR				*e*		04 48 51.4	
YLYR				pmax	pmax		
	comp=Z,756nm,1.1s						
YLYR				smax			
	comp=N,3μm,0.2s						
KMO	**Kumora**	**0.90**	**344**	⇑*i*Pg	Pg	04 48 56.1	-1.5
KMO				*e*Pb	Pb	04 48 59.4	+1.8
KMO				max		04 48 59.6	
	comp=N,2μm,0.4s						
KMO				*e*Sg	Sg	04 49 07.7	-1.7
KMO				Smax		04 49 14.5	
	comp=N,12μm,1.3s						
KMO	**Kumora**	**0.90**	**344**	*e*PG	Pg	04 48 56.1	-1.5
KMO				*e*		04 49 07.2	
KMO				pmax	pmax		
	comp=Z,2μm,0.4s						
KMO				smax			
	comp=N,2μm,1.1s						
YOA	**Uoyan**	**1.11**	**2**	⇑*i*Pg	Pg	04 49 00.5	-1.1
YOA				*e*Pb	Pb	04 49 01.7	+0.5
YOA				*e*Sg	Sg	04 49 15.7	-0.4
YOA				*e*		04 49 20.4	
YOA	**Uoyan**	**1.11**	**2**	⇓*i*PG	Pg	04 49 00.4	-1.2
YOA				*e*		04 49 15.7	
YOA				pmax	pmax		
	comp=Z,2μm,0.2s						
YOA				smax			
	comp=N,7μm,0.4s						
UKT	**Uakit**	**1.22**	**67**	⇑*i*Pg	Pg	04 49 01.8	-2.0
UKT				*i*Pb	Pb	04 49 04.1	+0.9
UKT				max		04 49 04.2	
	comp=N,2μm,0.6s						
UKT				*e*Sg	Sg	04 49 18.2	-1.5
UKT				*e*Sb	Sb	04 49 21.6	+2.8
UKT				max		04 49 22.7	
	comp=N,9μm,0.3s						
UKT	**Uakit**	**1.22**	**67**	*e*PG	Pg	04 49 01.7	-2.1
UKT				*e*		04 49 18.1	
UKT				pmax	pmax		
	comp=Z,1μm,0.2s						
UKT				smax			
	comp=N,9μm,0.2s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	⇑*i*Pg	Pg	04 49 05.4	-2.1
	comp=N,255nm,0.8s						
NIZ				⇓*i*Pg	Pg	04 49 05.4	-2.1
	comp=N,255nm,0.8s						
NIZ				⇑*i*Pg	Pg	04 49 05.4	-2.1
	comp=N,1μm,0.8s						
NIZ				Pmax		04 49 06.3	
	comp=N,1μm,0.9s						
NIZ				*e*Sg	Sg	04 49 25.1	-0.8
NIZ				Smax		04 49 28.3	
	comp=N,3μm,0.8s						
NIZ	**Nizh Angarsk**	**1.42**	**303**	*e*PG	Pg	04 49 05.5	-2.0
NIZ				*e*		04 49 24.7	
NIZ				pmax	pmax		
	comp=Z,1μm,0.4s						
NIZ				smax			
	comp=E,4μm,1.4s						
SVKR	**Severomuysk**	**1.54**	**44**	⇓*i*Pg	Pg	04 49 08.7	-1.1
SVKR				*e*Sg	Sg	04 49 29.5	-0.3
SVKR	**Severomuysk**	**1.54**	**44**	*e*PN	Pn	04 49 08.5	+1.2
SVKR				*e*		04 49 09.1	
SVKR				*e*		04 49 29.3	
SVKR				pmax	pmax		
	comp=Z,3μm,0.7s						
SVKR				smax			
	comp=N,5μm,0.6s						
SYVR	**Suvo**	**1.68**	**216**	⇓*i*Pg	Pg	04 49 10.7	-1.9
SYVR				*e*		04 49 14.9	
SYVR				max		04 49 16.9	
	comp=N,685nm,1.0s						
SYVR				*e*Sg	Sg	04 49 34.0	-0.4
SYVR				Smax		04 49 35.8	
	comp=N,2μm,1.7s						
SYVR	**Suvo**	**1.68**	**216**	*e*PN	Pn	04 49 10.2	+0.9
SYVR				*e*		04 49 33.6	
SYVR				pmax	pmax		
	comp=Z,526nm,0.7s						
SYVR				smax			
	comp=E,977nm,0.6s						
MXMB	**Maximikha**	**2.46**	**225**	⇑*i*Pn	Pn	04 49 20.6	+0.6
MXMB				*e*Pg	Pg	04 49 24.2	-3.3
MXMB				⇑*i*		04 49 29.7	
MXMB				max		04 49 30.2	
	comp=E,305nm,1.2s						
MXMB				*e*Sg	Sg	04 49 57.9	-1.5
MXMB				Smax		04 49 59.1	
	comp=E,2μm,0.7s						
NLYR	**Nelyaty**	**2.72**	**56**	⇓*i*Pn	Pn	04 49 24.0	+0.5
NLYR				*e*Pg	Pg	04 49 28.7	-3.7
NLYR				*e*Sn	Sn	04 49 56.7	+0.5
NLYR				*e*Sg	Sg	04 50 04.0	-3.7
NLYR	**Nelyaty**	**2.72**	**56**	*e*PN	Pn	04 49 23.7	+0.2
NLYR				*e*		04 49 28.2	
NLYR				*e*S	Sn	04 49 56.9	+0.7
NLYR				*e*		04 50 03.1	
NLYR				pmax	pmax		
	comp=Z,50nm,0.6s						
NLYR				smax			
	comp=N,413nm,0.9s						
OGRR	**Ongureny**	**2.75**	**241**	⇑*i*Pn	Pn	04 49 24.8	+0.8
OGRR				⇑*i*Pg	Pg	04 49 28.7	-4.3
OGRR				*e*		04 49 33.0	
OGRR				max		04 49 36.2	
	comp=N,208nm,1.8s						
OGRR				*e*Sn	Sn	04 49 57.0	0.0
OGRR				*e*Sg	Sg	04 50 05.1	-3.6
OGRR				Smax		04 50 12.4	
	comp=N,790nm,1.4s						
OGRR	**Ongureny**	**2.75**	**241**	*e*PN	Pn	04 49 28.7	+4.7
BOD	**Bodaibo**	**3.09**	**24**	⇓*i*Pn	Pn	04 49 28.5	-0.1
BOD				*e*Pg	Pg	04 49 35.5	-3.9
BOD				Pmax		04 49 37.6	
	comp=N,161nm,0.6s						
BOD				*e*Sn	Sn	04 50 05.6	+0.3
BOD				*e*Sg	Sg	04 50 14.7	-4.8
BOD				Smax		04 50 19.3	
	comp=N,2μm,0.9s						
BOD	**Bodaibo**	**3.09**	**24**	*e*PN	Pn	04 49 34.0	+5.4
KELR	**Kotokel**	**3.10**	**224**	*e*Pn	Pn	04 49 30.7	+1.9
KELR				*e*Pg	Pg	04 49 36.2	-3.6
KELR				Pmax		04 49 47.4	
	comp=N,153nm,0.3s						
KELR				*e*Sg	Sg	04 50 17.1	-2.9
KELR				Smax		04 50 21.0	
	comp=N,1μm,0.5s						
CIT	**Chita**	**3.22**	**159**	*i* Pn	Pn	04 49 30.6	+0.2
CIT				*e*Pg	Pg	04 49 38.4	-3.6
CIT				Pmax		04 49 40.3	
	comp=N,226nm,1.8s						
CIT				*e*Sg	Sg	04 50 19.8	-4.0
CIT				Smax		04 50 25.2	
	comp=N,1μm,1.8s						
CIT	**Chita**	**3.22**	**159**	*e*PN	Pn	04 49 37.1	+6.7
CIT				*e*		04 50 19.8	
CIT				pmax	pmax		
	comp=Z,224nm,1.6s						
CIT				smax			
	comp=E,1μm,1.8s						
ZRHB	**Zarechye**	**3.64**	**229**	*e*Pn	Pn	04 49 36.7	+0.5
ZRHB				*e*Pg	Pg	04 49 45.2	-4.9
ZRHB				Pmax		04 50 00.5	
	comp=E,123nm,0.7s						
ZRHB				*e*Sg	Sg	04 50 34.0	-3.3
ZRHB				Smax		04 50 53.8	
	comp=E,2μm,1.9s						
TRTB	**Turuntaevo**	**3.69**	**222**	⇑*i*Pn	Pn	04 49 38.2	+1.4
TRTB				⇑*i*Pg	Pg	04 49 45.7	-5.2
TRTB				*e*		04 49 52.3	
TRTB				max		04 49 53.8	
	comp=E,131nm,0.9s						
TRTB				*e*Sg	Sg	04 50 35.6	-3.1
TRTB				Smax		04 50 41.5	
	comp=E,723nm,1.7s						
TRG	**Tyrgan**	**3.87**	**236**	*e*Pn	Pn	04 49 40.5	+1.1
TRG				*e*Pg	Pg	04 49 48.3	-6.2
TRG				Pmax		04 49 56.0	
	comp=E,55nm,1.3s						
TRG				*e*Sn	Sn	04 50 24.9	+0.2
TRG				*e*Sg	Sg	04 50 38.8	-5.9
TRG				Smax		04 50 43.9	
	comp=E,454nm,1.8s						
TRG	**Tyrgan**	**3.87**	**236**	*e*PN	Pn	04 49 40.4	+1.0
TRG				*e*		04 49 49.2	
TRG				*e*		04 50 38.1	
TRG				pmax	pmax		
	comp=Z,46nm,0.6s						
TRG				smax			
	comp=N,267nm,0.4s						
CRS	**Chara**	**4.17**	**61**	⇓*i*Pn	Pn	04 49 43.9	+0.5
CRS				*e*		04 49 50.3	
CRS				⇓*i*Pg	Pg	04 49 56.0	-4.1
CRS				*e*		04 50 01.7	
CRS				max		04 50 02.6	
	comp=N,410nm,1.0s						
CRS				*e*		04 50 29.5	
CRS				*e*Sg	Sg	04 50 49.1	-4.9
CRS				Smax		04 50 52.8	
	comp=N,4μm,1.6s						
CRS	**Chara**	**4.17**	**61**	*e*PN	Pn	04 49 44.3	+0.9
CRS				*e*S	Sn	04 50 49.3	+17
CRS				smax			
	comp=E,4μm,1.3s						
KAB	**Kabansk**	**4.22**	**227**	*e*Sn	Pg	04 50 01.4	+0.3
KAB				*e*Sg	Sg	04 50 50.1	-5.6
KAB				Smax		04 51 14.1	
	comp=E,2μm,1.5s						
STDB	**Stepnoy Dvoret**	**4.26**	**230**	*e*Sg	Sg	04 50 52.4	-4.6
STDB				Smax		04 52 02.2	
	comp=E,2μm,1.5s						
BTMB	**Babushkin**	**4.82**	**229**	*e*Sg	Sg	04 51 10.2	-4.9
BTMB				Smax		04 51 22.7	
	comp=E,213nm,0.8s						
TUP	**Tupik**	**4.85**	**94**	⇓*i*Pn	Pn	04 49 52.8	-0.1
TUP				⇑*i*		04 50 02.2	
TUP				*e*Pg	Pg	04 50 06.6	-6.6
TUP				Pmax		04 50 10.8	
	comp=E,124nm,1.3s						
TUP				*e*Sn	Sn	04 50 47.1	-1.7
TUP				*e*Sg	Sg	04 51 10.1	-6.0
TUP				Smax		04 51 12.2	
	comp=E,2μm,1.3s						
TUP	**Tupik**	**4.85**	**94**	*e*PN	Pn	04 50 06.8	+14
TUP				*e*		04 51 09.8	
TUP				pmax	pmax		
	comp=Z,121nm,0.6s						
TUP				smax			
	comp=N,2μm,1.2s						
KHNR	**Khani**	**5.05**	**65**	*e*Sg	Sg	04 51 16.7	-5.6
LSTR	**Listvyanka**	**5.16**	**235**	*e*Pn	Pn	04 49 56.8	-0.3
LSTR				*e*Pg	Pg	04 50 12.4	-6.7
LSTR				Pmax		04 50 16.0	
	comp=N,35nm,1.2s						
LSTR				*e*Sn	Sn	04 50 54.4	-2.0
LSTR				*e*Sg	Sg	04 51 18.2	-7.7
LSTR				Smax		04 51 33.5	
	comp=N,277nm,1.8s						
IRK	**Irkutsk**	**5.20**	**241**	*e*Sg	Sg	04 51 20.1	-7.2
IRK				Smax		04 51 26.7	
	comp=N,825nm,1.2s						
IRK	**Irkutsk**	**5.20**	**241**	*e*PN	Pn	04 50 14.6	+17
IRK				*e*		04 51 20.2	
IRK				pmax	pmax		
	comp=Z,52nm,0.2s						
IRK				smax			
	comp=N,819nm,1.0s						
KPC	**Khapcheranga**	**5.35**	**175**	*e*Pn	Pn	04 49 59.4	-0.4
KPC				*e*Pg	Pg	04 50 16.5	-6.3
KPC				Pmax		04 50 27.1	
	comp=N,12nm,1.1s						
KPC				*e*Sn	Sn	04 51 01.0	-0.2
KPC				*e*Sg	Sg	04 51 25.8	-6.3
KPC				Smax		04 51 51.8	
	comp=N,494nm,1.7s						
KPC	**Khapcheranga**	**5.35**	**175**	*e*PN	Pn	04 50 00.3	+0.5
KPC				*e*		04 50 16.7	
KPC				*e*		04 51 26.0	
KPC				pmax	pmax		
	comp=Z,34nm,1.5s						
KPC				smax			
	comp=N,488nm,1.7s						
TLY	**Talaya**	**5.85**	**238**	*e*Pn	Pn	04 50 07.4	+0.8
TLY				*e*Pg	Pg	04 50 24.5	-7.8
TLY				*e*Sg	Sg	04 51 40.6	-7.5
TLY	**Talaya**	**5.85**	**238**	*e*PN	Pn	04 50 08.5	+1.9
TLY				*e*		04 50 24.7	
TLY				*e*		04 51 41.1	
TLY				pmax	pmax		
	comp=Z,12nm,0.8s						
TLY				smax			
	comp=E,107nm,1.0s						
ARS	**Arshan**	**6.33**	**244**	*e*Pg	Pg	04 50 35.8	-5.6
ARS				Pmax		04 50 44.0	
	comp=E,51nm,0.7s						
ARS				*e*Sg	Sg	04 51 56.3	-7.1
ARS				Smax		04 52 11.6	
	comp=E,685nm,1.0s						
ZAK	**Zakamensk**	**6.89**	**231**	*e*Pg	Pg	04 50 46.3	-5.9
ZAK				Pmax		04 51 01.6	
	comp=E,10.0nm,0.8s						
ZAK				*e*Sg	Sg	04 52 15.0	-6.5
ZAK				Smax		04 52 29.6	
	comp=E,294nm,1.8s						
ZAK	**Zakamensk**	**6.89**	**231**	*e*PN	Pn	04 50 29.9	+9.0
ZAK				*e*S	Sn	04 52 14.9	+36
ZAK				pmax	pmax		
	comp=Z,12nm,0.8s						

ZAK smax
comp=N,294nm,1.7s
MOY Mondy 7.21 247 *e*Pn Pn 04 50 26.9 +1.6
MOY *e*Pg Pn 04 50 49.0 +24
MOY Pmax 04 50 53.0
comp=N,36nm,1.2s
MOY *e* 04 51 50.1
MOY *e*Sg Sn 04 52 24.0 +37
MOY Smax 04 52 35.3
comp=N,552nm,1.8s
MOY Mondy 7.21 247 *e*PN Pn 04 50 26.8 +1.5
MOY *e* 04 50 48.5
ORL Orlik 7.45 255⇓*i*Pn Pn 04 50 29.8 +1.3
ORL max 04 50 34.7
comp=N,63nm,1.4s
ORL *e* 04 51 51.4
ORL *e*Sg Sn 04 52 30.4 +38
ORL Smax 04 52 40.5
comp=N,616nm,1.5s
ORL Orlik 7.45 255 *e*PN Pn 04 50 29.6 +1.1
ORL *e* 04 50 54.3
ORL *e* 04 52 31.1
ORL pmax pmax
comp=Z,28nm,1.0s
ORL smax
comp=N,288nm,1.6s
IENR Iengra 7.58 75 *e*Sg Sn 04 52 35.0 +39
HIA Hailar 7.62 136 *e*Sg Sn 04 52 35.0 +38
CLNS Chul'man 7.66 71 *e*Sg Sn 04 52 37.4 +40
ULN Ulaanbaatar 7.73 204 *e*Sg Sn 04 52 42.2 +43
ULN Ulaanbaatar 7.73 204 *e*PN Pn 04 50 30.6 -1.7
ALDR Aldan 8.35 59 *e*Sg Sn 04 53 00.3 +45
CGD Chagda 11.01 63 *e*Sg Sn 04 54 20.6 +60
YAK Yakutsk 11.72 46 *e*P Pn 04 51 28.1 +1.1
HABR Khabarovsk 15.86 105 *e*P Pn 04 52 20.5 -2.6
HABR *e*S Sn 04 55 16.2 -2.5
HABR pmax pmax
comp=Z,31nm,1.8s
HABR MLR MLR
comp=Z,700nm,12.0s
BRVK Borovoye 24.12 283 *e*P P 04 53 54.4 -1.2
AAK Ala-Archa 27.08 258 *e*P P 04 54 20.6 -1.8
AAK pmax pmax
comp=Z,3.0nm,1.3s
AAK MLR MLR
comp=Z,200nm,17.0s

IDC 17 05:02:38.7±7.7**, 473S×15145E, h66**^{km}±58^{km}**, mb3.0**/2**, mb1 3.4**/3**, mb1mx3.2**/14**, mbtmp3.5**/3**, ML2.5**/1**, Error ellipse: s-maj=126.1km s-min=48.0km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.30**	**222**	P	Pn	05 04 09.1	+0.2
	0.7nm,0.3s,baz=297,slow=13,SNR=2.7						
PMG				S	Sn	05 05 21.8	+2.3
	1.9nm,0.3s,baz=269,slow=23,SNR=4.3						
WRA	**Warramunga Arr**	**22.50**	**226**	P	P	05 07 32.1	-0.5
	0.6nm,0.5s,baz=51,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**25.31**	**220**	P	P	05 07 58.5	-0.5
	0.3nm,0.5s,baz=58,slow=9.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**149.00**	**288**	PKPbc	PKPbc	05 22 20.6	+1.4
	0.3nm,0.3s,baz=104,slow=2.7,SNR=17						

---

*ISCJB **17** 05:15:23.0±0.4, 1766S±007×4173E±007, h10^{km}, mb4.3/38, MS3.8/7, Error ellipse: s-maj=10.3km s-min=8.8km az=124.3*
*IDC **17** 05:15:23.1±0.6, 1763S×4178E, h0^{km}, mb4.1/18, mb1 4.2/22, mb1mx4.1/31, mbtmp4.1/22, ML4.1/4, MS3.7/11, Ms1 3.7/11, ms1mx3.4/34, Error ellipse: s-maj=19.4km s-min=15.4km az=124.0*
*BJI **17** 05:15:23.4, 1769S×4140E, h16^{km}, mB5.5, mb4.8, Ms4.9, Msz4.2*
*NEIC **17** 05:15:24.7±0.3, 1769S×4175E, h10^{km}, mb4.5/24, Error ellipse: s-maj=7.6km s-min=6.9km az=145.0*
*LDG **17** 05:15:25.2±0.3, 17.15S×4197E, h10^{km}, Mb4.5/10, Ms3.3/1, Error ellipse: s-maj=21.8km s-min=4.0km az=25.0*
ISC 17 05:15:24.9±0.4**, 1768S**±007×**4174E**±007**, h10**^{km}**, n106, σ0^{s}92**/78**, mb4.3**/38**, MS3.8**/7**, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.25**	**101**	Pn	**Pn**	**05 16 41.8**	**-1.7**
	53nm,0.3s,baz=269,slow=14,SNR=168						
OPO				Sn	**Sn**	**05 17 38.7**	**-5.3**
	83nm,0.3s,baz=200,slow=14,SNR=10						
MATP	**Matopo**	**12.81**	**256**	Pn	**Pn**	**05 18 20.8**	**-6.3**
	0.3nm,0.3s,baz=77,slow=13,SNR=2.6						
MATP				LR	LR	05 23 41.0	
	comp=Z,294nm,19.3s,baz=84,slow=39						
LSZ	**Lusaka**	**13.22**	**278**	Pn	**Pn**	**05 18 29.3**	**-3.3**
	1.0nm,0.3s,baz=100,slow=11,SNR=11						
LSZ				Sn	**Sn**	**05 20 53.4**	**-6.3**
	0.9nm,0.3s,baz=65,slow=9.1,SNR=3.8						
LSZ				LR	LR	05 23 42.9	
	comp=Z,292nm,18.3s,baz=169,slow=38						
LSZ	**Lusaka**	**13.22**	**278**	*e*Pn	**Pn**	**05 18 30.8**	**-1.8**
	5.9nm,0.5s						
LBTB	**Lobatse**	**16.71**	**241**	Pn	**Pn**	**05 19 17.6**	**-1.4**
	0.4nm,0.3s,baz=61,slow=15,SNR=6.2						
LBTB				Sn	**Sn**	**05 22 10.0**	**-15**
	0.5nm,0.3s,baz=315,slow=22,SNR=3.5						
LBTB				LR	LR	05 25 05.1	
	comp=Z,187nm,21.8s,baz=216,slow=35						
LBTB	**Lobatse**	**16.71**	**241**	*e*Pn	**Pn**	**05 19 17.3**	**-1.7**
KMBO	**Kilima Mbogo**	**17.03**	**345**	Pn	**Pn**	**05 19 21.5**	**-1.6**
	0.2nm,0.3s,baz=84,slow=16,SNR=3.9						
KMBO				LR	LR	05 26 19.8	
	comp=Z,72nm,18.9s,baz=94,slow=39						
BOSA	**Boshof**	**18.64**	**231**	P	**Pn**	**05 19 42.3**	**-0.7**
	0.3nm,0.3s,baz=74,slow=11,SNR=8.9						
BOSA				LR	LR	05 26 50.7	
	comp=Z,156nm,19.4s,baz=72,slow=37						
BOSA	**Boshof**	**18.64**	**231**	*e*P	**Pn**	**05 19 42.7**	**-0.2**
	14nm,1.2s						
TSUM	**Tsumeb**	**22.96**	**262**	P	**P**	**05 20 30.1**	**+0.7**
	1.9nm,0.6s,mb3.7,baz=80,slow=12,SNR=2.5						
TSUM				LR	LR	05 29 32.9	
	comp=Z,151nm,19.7s,MS3.4,baz=140,slow=37						
TSUM	**Tsumeb**	**22.96**	**262**	*e*P	**P**	**05 20 35.5**	**+6.1**
	18nm,1.1s,mb4.4						
SUR	**Sutherland**	**23.89**	**228**	P	**P**	**05 20 39.1**	**+0.5**
	24nm,0.8s,mb4.7,baz=72,slow=8.2,SNR=13						
SUR				LR	LR	05 31 08.4	
	comp=Z,105nm,18.1s,MS3.4,baz=31,slow=40						
SUR	**Sutherland**	**23.89**	**228**	*e*P	**P**	**05 20 40.1**	**+1.4**
	38nm,0.9s,mb4.8						
ASF	**Jabal al Asfar**	**49.78**	**355**	P	**P**	**05 24 16.6**	**-1.1**
	1.0nm,0.4s,mb4.2,baz=348,slow=9.3,SNR=2.0						
TOA0	**Torodi Ar. Sit**	**50.01**	**305**	*e*P	**P**	**05 24 20.6**	**+1.3**
TORD	**Torodi Ar. Bea**	**50.01**	**305**	P	**P**	**05 24 19.8**	**+0.5**
	2.6nm,1.2s,mb4.2,baz=127,slow=7.5,SNR=16						
TORD				PcP	PcP	05 25 39.3	+0.1
	0.6nm,0.6s,baz=107,slow=4.6,SNR=5.5						
TORD				LR	LR	05 46 00.7	
	comp=Z,163nm,18.6s,MS4.1,baz=160,slow=37						
DBIC	**Dimbokro**	**51.99**	**294**	P	**P**	**05 24 34.6**	**+0.3**
	3.4nm,0.5s,mb4.5,baz=74,slow=23,SNR=13						
DBIC				LR	LR	05 46 24.4	
	comp=Z,129nm,18.3s,MS4.0,baz=139,slow=36						
DBIC	**Dimbokro**	**51.99**	**294**	*e*P	**P**	**05 24 34.1**	**-0.2**
	3.6nm,0.5s,mb4.6						
MALT	**Malatya**	**55.78**	**357**	*e*P	**P**	**05 25 04.0**	**+2.0**
	13nm,1.4s,mb4.8						
BR131	**Keskin Array S**	**57.60**	**353**	*e*P	**P**	**05 25 15.2**	**+0.2**
	1.4nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**57.60**	**353**	P	**P**	**05 25 15.4**	**+0.4**
	1.5nm,0.6s,mb4.2,baz=165,slow=8.6,SNR=10						
SNAA	**Sanae**	**59.92**	**195**	P	**P**	**05 25 31.6**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=48,slow=16,SNR=3.3						
SNAA	**Sanae**	**59.92**	**195**	*e*P	**P**	**05 25 31.9**	**+0.8**
	2.1nm,1.0s,mb4.1						
AQU	**L'Aquila**	**65.21**	**337**	*e*P	**P**	**05 26 05.9**	**-0.4**
	18nm,1.0s,mb5.1						
CHTO	**Chiang Mai**	**66.90**	**60**	*e*P	**P**	**05 26 17.5**	**+0.3**
	3.6nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**67.17**	**26**	*e*P	**P**	**05 26 18.9**	**-0.1**
	1.6nm,0.6s,mb4.2						
LMR	**La Mourre**	**68.79**	**333**	*e*P	**P**	**05 26 29.4**	**+0.2**
SBF	**Sospel**	**68.83**	**334**	*e*P	**P**	**05 26 30.0**	**+0.6**
FRF	**La Foret Royal**	**68.91**	**333**	*e*P	**P**	**05 26 30.3**	**+0.4**
AKASG	**Malin Array Be**	**68.97**	**352**	P	**P**	**05 26 27.9**	**-2.4**
	0.4nm,0.5s,mb3.6,baz=172,slow=5.1,SNR=5.6						
AKTK	**Aktyubinsk**	**69.32**	**11**	P	**P**	**05 26 31.2**	**-1.3**
AKTO	**Aktyubinsk**	**69.32**	**11**	P	**P**	**05 26 31.2**	**-1.3**
	2.1nm,0.7s,mb4.2,baz=186,slow=3.9,SNR=5.6						
SMRF	**Simiane la Rot**	**69.71**	**333**	*e*P	**P**	**05 26 35.4**	**+0.5**
MBDF	**Montbardon**	**69.81**	**334**	*e*P	**P**	**05 26 36.7**	**+1.2**
	9.0nm,0.7s,mb4.5						
MBDF	**Montbardon**	**69.81**	**334**	*e*P	**P**	**05 26 36.7**	**+1.2**
	4.5nm,0.7s,mb4.5						
BNI	**Bardonecchia**	**70.11**	**334**	*e*P	**P**	**05 26 38.0**	**+0.7**
	21nm,1.4s,mb4.9						
LPG	**La Plagne**	**70.44**	**335**	*e*P	**P**	**05 26 39.5**	**+0.1**
	6.5nm,0.6s,mb4.4						
LPG	**La Plagne**	**70.44**	**335**	*e*P	**P**	**05 26 39.5**	**+0.1**
	3.3nm,0.6s,mb4.4						
LPL	**La Plagne**	**70.47**	**335**	*e*P	**P**	**05 26 39.6**	**+0.1**
	3.0nm,0.6s,mb4.1						
LPL	**La Plagne**	**70.47**	**335**	*e*P	**P**	**05 26 39.6**	**+0.1**
	1.5nm,0.6s,mb4.1						
MORC	**Moravsky Berou**	**70.49**	**344**	*e*P	**P**	**05 26 39.3**	**-0.4**
	1.6nm,0.7s,mb4.1						
MTLF	**Montolieu**	**70.73**	**331**	*e*P	**P**	**05 26 41.5**	**+0.4**
GERES	**GERESS Array B**	**70.78**	**341**	P	**P**	**05 26 41.1**	**-0.3**
	1.6nm,0.6s,mb4.2,baz=137,slow=4.4,SNR=16						
ESDC	**Sonseca Array**	**71.22**	**324**	P	**P**	**05 26 45.3**	**+1.2**
	1.3nm,0.7s,mb4.0,baz=126,slow=6.1,SNR=5.0						
CABF	**La Chapelle**	**71.62**	**335**	*e*P	**P**	**05 26 46.9**	**+0.4**
	13nm,0.7s,mb4.7						
CABF	**La Chapelle**	**71.62**	**335**	*e*P	**P**	**05 26 46.9**	**+0.4**
	6.3nm,0.7s,mb4.7						
HINF	**Hinteralfeld**	**72.30**	**336**	*e*P	**P**	**05 26 50.2**	**-0.4**
SMF	**Signal de Mont**	**72.57**	**334**	*e*P	**P**	**05 26 52.4**	**+0.2**
CDF	**Champ du Feu**	**72.63**	**337**	*e*P	**P**	**05 26 52.1**	**-0.4**
HAU	**Haudompre**	**72.65**	**336**	*e*P	**P**	**05 26 52.5**	**-0.2**
AVF	**Avril sur Loir**	**72.89**	**333**	*e*P	**P**	**05 26 54.3**	**+0.2**
	21nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**72.89**	**333**	*e*P	**P**	**05 26 54.3**	**+0.2**
	10nm,1.2s,mb4.6						
BGF	**Bois d'Agland**	**72.93**	**333**	*e*P	**P**	**05 26 54.9**	**+0.6**
TCF	**Toulx Ste Croi**	**73.00**	**333**	*e*P	**P**	**05 26 55.7**	**+1.0**
	6.0nm,0.8s,mb4.3						
TCF	**Toulx Ste Croi**	**73.00**	**333**	*e*P	**P**	**05 26 55.7**	**+1.0**
	3.0nm,0.8s,mb4.3						
KMI	**Kunming**	**73.05**	**56**	P	**P**	**05 26 58.1**	**+3.0**
KMI				AP	pP	05 27 01.5	+3.2
KMI				XP	sP	05 27 03.3	+3.8
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=Z,41nm,29.0s,MS3.5						
LOR	**Lormes**	**73.06**	**334**	*e*P	**P**	**05 26 55.2**	**+0.1**
	comp=Z,4.4nm,0.7s,mb4.2						
LOR	**Lormes**	**73.06**	**334**	*e*P	**P**	**05 26 55.2**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.3						
MEZF	**Maizieres J'vi**	**73.56**	**336**	*e*P	**P**	**05 26 57.1**	**-1.0**
	comp=Z,4.7nm,0.4s,mb4.5						
MEZF	**Maizieres J'vi**	**73.56**	**336**	*e*P	**P**	**05 26 57.1**	**-1.0**
	comp=Z,4.7nm,0.4s,mb4.8						
ZRNK	**Zerenda**	**74.19**	**17**	*e*P	**P**	**05 27 01.0**	**-0.8**
	comp=Z,2.8nm,1.0s,mb4.2						
WMQ	**Urumqi**	**74.25**	**33**	*e*P	**P**	**05 27 04.0**	**+1.9**
BRVK	**Borovoye**	**74.64**	**17**	*e*P	**P**	**05 27 04.0**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**74.64**	**17**	P	**P**	**05 27 04.3**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=213,slow=5.1,SNR=10						
CHKZ	**Chkalovo**	**75.28**	**17**	*e*P	**P**	**05 27 08.1**	**0.0**
	comp=Z,6.1nm,1.4s,mb4.3						
LDF	**La Druitiere**	**75.78**	**333**	*e*P	**P**	**05 27 10.9**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.1						
LDF	**La Druitiere**	**75.78**	**333**	*e*P	**P**	**05 27 10.9**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1						
GTA	**Gaotai**	**78.48**	**42**	*e*P	**P**	**05 27 27.3**	**+1.2**
GTA				AP	pP	05 27 30.8	+1.4
GTA				XP	sP	05 27 33.9	+3.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**79.84**	**352**	P	**P**	**05 27 31.9**	**-1.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=123,slow=9.4,SNR=5.2						
ZAL	**Zalesovo**	**80.30**	**24**	P	**P**	**05 27 36.0**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=252,slow=3.1,SNR=5.5						
NOA	**NORSAR Array B**	**82.18**	**346**	P	**P**	**05 27 46.1**	**+0.1**
	comp=Z,1.5nm,1.0s,mb3.9,baz=142,slow=5.2,SNR=3.3						
ASAR	**Alice Springs**	**84.98**	**113**	P	**P**	**05 28 00.6**	**+0.2**
	comp=Z,1.8nm,0.8s,mb4.3,baz=257,slow=4.7,SNR=20						
ASAR				LR	LR	05 59 56.6	
	comp=Z,91nm,19.5s,MS4.2,baz=169,slow=32						
AS31	**Alice Springs**	**84.98**	**113**	*e*P	**P**	**05 27 59.9**	**-0.5**
BDFB	**Brasilia**	**85.14**	**255**	LR	LR	06 05 26.3	
	comp=Z,60nm,18.1s,MS4.0,baz=6.7,slow=35						
SONM	**Songino Array**	**87.03**	**38**	P	**P**	**05 28 10.8**	**+0.3**
	comp=Z,0.3nm,0.2s,mb4.1,baz=258,slow=7.1,SNR=3.9						
ARCES	**ARCESS Array B**	**87.75**	**354**	P	**P**	**05 28 13.5**	**-0.5**
	comp=Z,1.9nm,0.9s,mb4.3,baz=188,slow=2.5,SNR=3.8						
BOZ	**Bozeman (W)**	**144.39**	**327**	*e*PKPdf	PKPdf	05 35 00.6	-0.7
YFT	**Old Faithful**	**144.76**	**325**	*e*PKPdf	PKPdf	05 35 03.5	+1.5
NEW	**Newport**	**144.96**	**335**	PKP	PKPdf	05 35 02.0	-0.3
	comp=Z,1.3nm,0.6s,baz=98,slow=4.0,SNR=3.5						
NEW	**Newport**	**144.96**	**335**	*e*PKPdf	PKPdf	05 35 01.9	-0.3
SDCO	**Great Sand Dun**	**145.04**	**312**	*e*PKPbc	PKPbc	05 35 03.0	+1.2
DLMT	**Dillon**	**145.08**	**328**	*e*PKPbc	PKPbc	05 35 03.6	+1.6
BW06	**Boulder Array**	**145.09**	**322**	*e*PKPdf	PKPdf	05 35 01.8	-0.7
PDAR	**Pinedale Array**	**145.09**	**322**	PKPbc	PKPbc	05 35 02.1	+0.2
	comp=Z,2.1nm,0.9s,baz=67,slow=3.9,SNR=14						
LOHW	**Long Hollow**	**145.17**	**324**	*e*PKPbc	PKPbc	05 35 02.7	+0.5
IMW	**Indian Meadow**	**145.17**	**324**	*e*PKPbc	PKPbc	05 35 01.9	-0.4
SNOW	**Snow King Moun**	**145.35**	**324**	*e*PKPbc	PKPbc	05 35 03.4	+0.6
SMCO	**Snowmass**	**145.41**	**315**	*e*PKPbc	PKPbc	05 35 03.8	+0.8
MCMT	**McKenzie Canyo**	**145.57**	**327**	*e*PKPbc	PKPbc	05 35 05.4	+1.9
RRI2	**Red Ridge**	**145.74**	**324**	*e*PKPbc	PKPbc	05 35 04.7	+0.6
AHID	**Auburn Hatcher**	**145.98**	**323**	*e*PKPbc	PKPbc	05 35 05.7	+0.9
ANMO	**Albuquerque**	**146.90**	**308**	*e*PKPbc	PKPbc	05 35 08.2	+0.7
HWUT	**Hardware Ranch**	**146.98**	**322**	*e*PKPbc	PKPbc	05 35 07.8	+0.1
PV01	**Paradox Valley**	**147.01**	**314**	*e*PKPbc	PKPbc	05 35 08.7	+0.9
MNTX	**Cornudas Mount**	**147.18**	**301**	*e*PKPbc	PKPbc	05 35 08.3	+0.1
TCUT	**Toone Canyon**	**147.18**	**321**	*e*PKPbc	PKPbc	05 35 09.0	+0.7
HLID	**Hailey**	**147.26**	**327**	*e*PKPbc	PKPbc	05 35 09.0	+0.5
CTU	**Camp Tracy**	**147.65**	**321**	*e*PKPbc	PKPbc	05 35 10.4	+0.8
BMO	**Blue Mountains**	**147.72**	**332**	*e*PKPbc	PKPbc	05 35 09.7	-0.1
SRU	**San Rafael**	**147.79**	**317**	*e*PKPbc	PKPbc	05 35 10.8	+0.8
DUG	**Dugway**	**148.59**	**321**	*e*PKPbc	PKPbc	05 35 10.5	-1.6
MSU	**Marysvale**	**149.20**	**318**	*e*PKPbc	PKPbc	05 35 15.2	+1.6
WVOR	**Wild Horse Val**	**150.20**	**330**	*e*PKPbc	PKPbc	05 35 17.3	+1.3
WUAZ	**Wupatki**	**150.26**	**312**	*e*PKPbc	PKPbc	05 35 17.8	+1.6
WUAZ				*e*PKPab	PKPab	05 35 23.1	+0.7
TUC	**Tucson**	**151.26**	**306**	*e*PKPbc	PKPbc	05 35 20.1	+1.5
NVAR	**Mina Array Bea**	**152.96**	**324**	PKPbc	PKPbc	05 35 24.0	+1.6
	comp=Z,0.9nm,0.8s,baz=95,slow=4.7,SNR=7.3						

---

*IDC **17** 05:40:02.6±0.6, 1001S×10868E, h0^{km}, mb4.3/11, mb1 4.4/12, mb1mx4.3/18, mbtmp4.3/12, ML4.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/24, Error ellipse: s-maj=24.5km s-min=15.7km az=54.0*
*BJI **17** 05:40:03.1, 1060S×10889E, h39^{km}, mB5.3, mb4.8, Ms4.8, Msz4.5*
*NEIC **17** 05:40:04.3±0.3, 1004S×10876E, h10^{km}, mb4.6/12, Error ellipse: s-maj=10.4km s-min=6.3km az=53.0*
*MOS **17** 05:40:06.2±0.9, 996S×10884E, h33^{km}, mb4.8/12, Error ellipse: s-maj=19.3km s-min=9.9km az=110.9*
*ISCJB **17** 05:40:07.6±1.1, 997S±005×10885E±007, h46^{km}±9^{km}, mb4.6/38, MS4.0/3, Error ellipse: s-maj=12.8km s-min=7.4km az=119.3*
ISC 17 05:40:09.8±1.1**, 999S**±006×**10885E**±007**, h48**^{km}±9^{km}**, n84, σ0^{s}97**/80**, mb4.6**/38**, MS4.0**/3**, 6C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.77**	**18**	P	**Pn**	**05 40 51.7**	**0.0**
	0.0nm,0.0s						
LEM	**Lembang**	**3.37**	**339**	P	**Pn**	**05 40 58.5**	**-1.4**
	0.0nm,0.0s						
JCJI	**Jatiwangi**	**3.53**	**351**	P	**Pn**	**05 40 58.4**	**-3.6**
	0.0nm,0.0s						
KRKI	**Karangkates**	**4.00**	**63**	P	**Pn**	**05 41 09.9**	**+1.5**
	0.0nm,0.0s						
CBJI	**Citeko**	**4.07**	**331**	P	**Pn**	**05 41 03.2**	**-6.2**
	0.0nm,0.0s						
MBWA	**Marble Bar**	**15.26**	**138**	*e*Pn	**Pn**	**05 43 33.7**	**-8.2**
	14nm,0.5s						
MBWA				*e*Sn	**Sn**	**05 46 10.4**	**-19**
IPM	**Ipoh**	**16.35**	**331**	P	**Pn**	**05 43 58.9**	**+2.9**
TSM	**Tawau**	**16.80**	**33**	P	**Pn**	**05 43 55.3**	**-6.2**
KULM	**Kulim**	**17.24**	**331**	*e*P	**Pn**	**05 44 01.9**	**-5.1**
KKM	**Kota Kinabalu**	**17.54**	**25**	P	**Pn**	**05 44 10.4**	**-0.2**
KKM	**Kota Kinabalu**	**17.54**	**25**	*e*P	**Pn**	**05 44 09.6**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.16**	**118**	*e*P	**Pn**	**05 44 17.2**	**-1.1**
	7.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.16**	**118**	P	**Pn**	**05 44 18.5**	**+0.2**
	0.8nm,0.3s,baz=289,slow=8.4,SNR=35						
MUN	**Mundaring**	**22.91**	**164**	*e*P	**P**	**05 45 18.2**	**+8.7**
MUN				*e*S	**S**	**05 49 15.8**	**0.0**
KLBR	**Kellerberrin**	**23.02**	**160**	*e*P	**P**	**05 45 16.5**	**+5.9**
	17nm,1.1s,mb4.4						
KLBR				*e*S	**S**	**05 49 14.4**	**-3.2**
NWAO	**Narrogin (SRO)**	**24.10**	**163**	LR	LR	05 53 44.1	
	comp=Z,115nm,21.4s,MS3.3,baz=325,slow=34						
WRA	**Warramunga Arr**	**26.50**	**115**	P	**P**	**05 45 42.8**	**+0.3**
	2.6nm,0.7s,mb3.9,baz=284,slow=11,SNR=14						
WRAB	**Tennant Creek**	**26.50**	**115**	*e*P	**P**	**05 45 42.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**26.50**	**115**	*e*P	**P**	**05 45 42.3**	**-0.3**
	comp=Z,6.2nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**26.51**	**115**⇑	*i*P	**P**	**05 45 42.7**	**+0.1**
WB2				*e*S	sS	05 50 41.3	+6.8
ASAR	**Alice Springs**	**27.50**	**123**	P	**P**	**05 45 53.1**	**+1.6**
	comp=Z,1.3nm,0.7s,mb3.7,baz=296,slow=9.5,SNR=16						
ASAR				PcP	PcP	05 49 09.9	+1.1
	comp=Z,0.8nm,0.6s,baz=303,slow=2.0,SNR=6.4						
CHTO	**Chiang Mai**	**30.25**	**341**	*e*P	**P**	**05 46 16.4**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
CHTO	**Chiang Mai**	**30.25**	**341**	*e*P	**P**	**05 46 16.4**	**+0.5**
	comp=Z,4.6nm,1.1s,mb4.1						
KMI	**Kunming**	**35.41**	**350**	P	**P**	**05 47 03.9**	**+2.9**
KMI				AP	pP	05 47 10.8	-2.9
KMI				XP	sP	05 47 14.8	-4.6
KMI				PP	PP	05 48 25.5	+3.5
KMI				S	**S**	**05 52 41.4**	**+9.1**
KMI				SS	SS	05 54 57.9	-10
KMI				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.6						
KMI				AMB	AMB		
	comp=Z,415nm,5.1s						
KMI				LR	LR		
	comp=Z,69nm,18.9s,MS3.4						
STKA	**Stephens Creek**	**37.30**	**131**	*e*P	**P**	**05 47 18.1**	**+1.0**
	comp=Z,5.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**37.30**	**131**	P	**P**	**05 47 17.4**	**+0.3**
	comp=Z,6.7nm,0.7s,mb4.6,baz=306,slow=10,SNR=10						
STKA	**Stephens Creek**	**37.30**	**131**	*e*P	**P**	**05 47 17.4**	**+0.3**
SSE	**Sheshan**	**42.53**	**16**	P	**P**	**05 47 59.3**	**-1.2**
SSE				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.1						
SSE				AMB	AMB		
	comp=Z,2µm,7.4s						
NJ2	**Nanjing**	**42.88**	**13**	*e*P	**P**	**05 48 00.8**	**-2.6**
NJ2				PP	PP	05 49 42.8	-0.7
NJ2				S	**S**	**05 54 25.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1µm,7.0s						
NJ2				LR	LR		
	comp=N,2µm,25.2s,MS5.2						
NJ2				LR	LR		
	comp=E,3µm,25.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,5µm,25.2s,MS5.3						
LSA	**Lhasa**	**42.99**	**337**	*e*P	**P**	**05 48 05.7**	**+1.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
LSA	**Lhasa**	**42.99**	**337**	*e*P	**P**	**05 48 05.7**	**+1.5**
	comp=Z,12nm,0.6s,mb4.8						
JIRN	**Jiri**	**43.39**	**330**	*e*P	**P**	**05 48 08.6**	**+1.1**
PKI	**Pulchoki**	**43.71**	**329**	*e*P	**P**	**05 48 10.3**	**+0.3**
GUN	**Gumba**	**43.75**	**330**	*e*P	**P**	**05 48 11.3**	**+0.9**
	comp=Z,52nm,0.6s,mb5.4						
XAN	**Xi'an**	**43.79**	**0**	P	**P**	**05 48 10.0**	**-0.6**
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
DMN	**Daman**	**43.89**	**329**	*e*P	**P**	**05 48 12.0**	**+0.5**
	comp=Z,32nm,0.7s,mb5.2						
KKN	**Kakani**	**43.95**	**329**	*e*P	**P**	**05 48 12.3**	**+0.3**
	comp=Z,38nm,0.9s,mb5.1						
GKN	**Gorkha**	**44.45**	**329**	*e*P	**P**	**05 48 16.3**	**+0.3**
	comp=Z,20nm,0.7s,mb5.0						
KOLN	**Koldanda**	**44.80**	**328**	*e*P	**P**	**05 48 19.2**	**+0.4**
	comp=Z,31nm,0.8s,mb5.2						
GTA	**Gaotai**	**49.86**	**351**	*e*P	**P**	**05 48 59.6**	**+1.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
SNY	**Shenyang**	**53.31**	**14**	⇓P	**P**	**05 49 29.5**	**+5.7**
SNY				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
MJAR	**Matsushiro Arr**	**53.90**	**29**	P	**P**	**05 49 26.7**	**-1.5**
	comp=Z,1.6nm,0.7s,mb4.1,baz=213,slow=7.7,SNR=7.4						
WMQ	**Urumqi**	**56.91**	**342**	*e*P	**P**	**05 49 51.0**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
SONM	**Songino Array**	**57.61**	**358**	P	**P**	**05 49 55.5**	**+0.8**
	comp=Z,5.3nm,0.6s,mb4.7,baz=177,slow=8.0,SNR=50						
ULN	**Ulaanbaatar**	**57.62**	**359**⇑	*e*P	**P**	**05 49 55.8**	**+1.0**
ULN	**Ulaanbaatar**	**57.62**	**359**	*e*P	**P**	**05 49 55.5**	**+0.7**
	comp=Z,5.9nm,0.6s,mb4.8						
ZAK	**Zakamensk**	**60.31**	**356**	*e*P	**P**	**05 50 13.5**	**0.0**
AAK	**Ala-Archa**	**61.07**	**332***d*	*i*P	**P**	**05 50 17.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.4						
KLR	**Kul'dur**	**62.31**	**17**	*e*P	**P**	**05 50 23.6**	**-3.4**
HABR	**Khabarovsk**	**62.65**	**19**	*e*P	**P**	**05 50 28.7**	**-0.5**
HABR				*e*S	**S**	**05 58 51.6**	**-2.3**
MAW	**Mawson**	**65.07**	**198**	P	**P**	**05 50 43.7**	**-1.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=71,slow=10.0,SNR=4.2						
ZAL	**Zalesovo**	**66.87**	**345**	P	**P**	**05 50 56.2**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.6,baz=351,slow=2.0,SNR=5.8						
VOSK	**Vostochnaya**	**70.36**	**337**	P	**P**	**05 51 17.3**	**-1.2**
VOSK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BVA0	**Borovoye Array**	**70.82**	**337**	*i* P	**P**	**05 51 21.1**	**-0.2**
BRVK	**Borovoye**	**70.89**	**337**	*e*P	**P**	**05 51 21.7**	**0.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BRVK	**Borovoye**	**70.89**	**337**	*e*P	**P**	**05 51 21.7**	**0.0**
	comp=Z,4.8nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**71.23**	**337**	*e*P	**P**	**05 51 23.8**	**0.0**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**71.23**	**337**	*e*P	**P**	**05 51 23.8**	**+0.1**
	comp=Z,11nm,0.7s,mb4.9						
ZRNK	**Zerenda**	**71.32**	**336**	*e*P	**P**	**05 51 24.1**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
ZRNK	**Zerenda**	**71.32**	**336**	*e*P	**P**	**05 51 24.1**	**-0.2**
	comp=Z,12nm,0.7s,mb4.9						
VNDA	**Vanda**	**72.71**	**170**	P	**P**	**05 51 32.3**	**-0.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=327,slow=6.5,SNR=4.0						
AB31	**Akbulak array**	**72.90**	**329**	*i* P	**P**	**05 51 33.7**	**-0.1**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
SYO	**Syowa Base**	**73.35**	**201**⇑	*e*P	**P**	**05 51 36.4**	**0.0**
YAK	**Yakutsk**	**73.62**	**10**⇑	*e*P	**P**	**05 51 37.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
AKTK	**Aktyubinsk**	**74.61**	**329**	P	**P**	**05 51 43.5**	**-0.3**
AKTO	**Aktyubinsk**	**74.61**	**329**	P	**P**	**05 51 43.5**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=107,slow=14,SNR=6.9						
MATP	**Matopo**	**77.61**	**251**	P	**P**	**05 51 59.9**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=79,slow=5.8,SNR=6.5						
ARU	**Arti**	**78.09**	**334**⇓	*i*P	**P**	**05 52 03.3**	**-0.2**
ARU				*e*		05 55 01.2	
ARU				*e*PPP		05 56 52.7	
ARU				*e*S	S	06 01 52.0	-2.0
ARU				*e*SS	SS	06 06 52.9	-3.3
ARU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ARU	**Arti**	**78.09**	**334**	*e*P	**P**	**05 52 03.0**	**-0.5**
	comp=Z,8.8nm,0.9s,mb4.7						
LSZ	**Lusaka**	**78.50**	**256**	*e*P	**P**	**05 52 05.7**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSZ	**Lusaka**	**78.50**	**256**	*e*P	**P**	**05 52 05.7**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.2						
SEY	**Seymchan**	**80.01**	**19**	*e*P	**P**	**05 52 14.7**	**+0.7**
BRTR	**Keskin Array B**	**85.17**	**312**	P	**P**	**05 52 41.2**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.5,baz=145,slow=7.1,SNR=9.6						
SNAA	**Sanae**	**87.23**	**197**⇑	*e*P	**P**	**05 52 51.5**	**+0.5**
OBN	**Obninsk**	**88.22**	**327**⇑	*e*P	**P**	**05 52 55.2**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.2						
WMOK	Wichita Mounta	144.73	41	ePKIKP	PKPdf	05 59 41.9	+0.8
MSNY	Massena	144.97	5	ePKPbc	PKPdf	05 59 41.9	+0.4
JCT	Junction City	146.43	48	ePKP2	PKPab	05 59 47.0	+0.6
MIAR	Mount Ida	148.09	37	ePKP2	PKPbc	05 59 51.7	+1.7
WCI	Wyandotte Cave	148.77	23	ePKP2	PKPbc	05 59 52.9	+1.1
WVT	Waverly	149.89	28	ePKP2	PKPbc	05 59 55.8	+1.2
PLAL	Pickwick Lake	150.71	29	ePKPbc	PKPbc	05 59 55.8	-0.8
SIV	San Ignacio	152.32	201	PKPbc	PKPbc	06 00 01.1	+0.9
	comp=Z,1.0nm,0.7s,baz=120,slow=6.4,SNR=6.9						
LPAZ	La Paz	153.72	187	PKPbc	PKPbc	06 00 05.5	+2.3
	comp=Z,0.5nm,0.7s,baz=133,slow=3.7,SNR=3.8						

JMA 17 05:49:35.9±0.4, 3266N×14203E, h0km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.92	284	P	Pn	05 50 10.5	+0.7
JHJ2				eS	Sn	05 50 35.9	+1.3
BSO1	Boso 1	2.17	336	P	Pn	05 50 14.8	+1.5
JOD2	Odawara 2	3.57	318	P	Pn	05 50 34.0	+1.5
JHU	Hanno	3.91	325	eS	Sn	05 51 26.0	+2.1
JHO	Hitachi	4.12	343	P	Pn	05 50 41.7	+1.6
JAG	Ashikaga	4.32	331	P	Pn	05 50 44.6	+1.8
JAG				eS	Sn	05 51 35.5	+1.7
JMM	Marumori	5.29	349	P	Pn	05 50 57.6	+1.4
JMM				eS	Sn	05 51 58.6	+0.7

MEX 17 05:53:36.6±0.4, 1604N×9697W, h16km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.87	108	i P	Pb	05 53 50.1	-3.2
HUIG				i S	Sb	05 54 00.8	-3.9
VHO	Vista Hermosa	1.05	12	i P	Pb	05 53 52.9	-3.6
VHO				i S	Sb	05 54 05.7	-4.2
OXX	Oaxaca	1.06	13	i P	Pb	05 53 53.0	-3.6
OXX				eS	Sb	05 54 06.0	-4.3
UTMO	Huajuapan	1.95	336	eP	Pn	05 54 06.7	-2.3
UTMO				i S	Sn	05 54 28.0	-5.2
CMIG	Matias Romero	2.26	62	eP	Pn	05 54 10.6	-2.6
CMIG				i S	Sn	05 54 36.0	-4.7
TPIG	Tehuac#an	2.40	351	i P	Pn	05 54 12.9	-2.2
TPIG				i S	Sn	05 54 38.9	-5.3

ISCJB 17 06:01:00.4±0.6, 2425S±0.03×67.10W±0.05, h155km±5km, mb4.3/50, Error ellipse: s-maj=7.0km s-min=5.2km az=167.5
IDC 17 06:01:01.8±1.4, 2425S×6708W, h155km±13km, mb3.9/10, mb1 4.0/16, mb1mx3.9/21, mbtmp4.4/16, Error ellipse: s-maj=14.8km s-min=10.8km az=79.0
NEIC 17 06:01:01.8±0.5, 2421S×6704W, h155km±5km, mb4.4/45, Error ellipse: s-maj=6.6km s-min=5.1km az=62.0
BJI 17 06:01:01.7, 2420S×6700W, h154km, mB5.0
GUC 17 06:01:02.3±0.7, 2436S×6737W, h170km
ISC 17 06:01:01.7±0.5, 2429S±003×6711W±005, h154km±5km, n108, σ1§01/103, mb4.3/50, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANCH	Antofagasta	3.08	281	⇑i P	Pn	06 01 53.3	+3.1
ANCH				i S	Sn	06 02 29.8	+2.0
CPCH	Copiapo	4.23	223	⇑i P	Pn	06 02 05.4	+0.4
CPCH				i S	Sn	06 02 53.9	-0.4
CDCH	Caldera	4.36	230	⇑i P	Pn	06 02 06.7	0.0
CDCH				i S	Sn	06 02 55.5	-1.8
LCO	Las Campanas	5.70	214	eP	Pn	06 02 24.4	+0.1
LCO				i S	Sn	06 03 28.1	-1.0
CFAA	Coronel Fontan	7.36	188	P	Pn	06 02 48.0	+1.5
	0.2nm,0.3s,baz=4.5,slow=11,SNR=29						
CFAA				S	Sn	06 04 07.6	-1.2
	0.5nm,0.3s,baz=246,slow=18,SNR=12						
CFAA	Coronel Fontan	7.36	188	P	Pn	06 02 48.0	+1.5
CFAA				S	Sn	06 04 07.6	-1.2
LPAZ	La Paz	8.02	353	P	Pn	06 02 57.0	+1.7
	6.2nm,0.3s,baz=155,slow=6.5,SNR=242						
LPAZ				S	Sn	06 04 23.9	-0.8
	1.0nm,0.3s,baz=179,slow=17,SNR=3.5						
LPAZ	La Paz	8.02	353	ePn	Pn	06 02 56.9	+1.6
LPAZ				eSn	Sn	06 04 20.9	-3.8
ARE	Arequipa	8.81	331	eP	Pn	06 03 06.0	+0.2
ARE				eS	Sn	06 04 38.0	-5.6
CPUP	Villa Florida	9.08	105	P	Pn	06 03 09.9	+0.5
	1.0nm,0.3s,baz=274,slow=10,SNR=16						
CPUP	Villa Florida	9.08	105	ePn	Pn	06 03 09.2	-0.1
SIV	San Ignacio	10.01	36	P	Pn	06 03 20.9	-0.8
	2.1nm,0.3s,baz=227,slow=14,SNR=48						
TRQA	Tornquist	14.40	164	ePn	Pn	06 04 18.9	+0.5
NNA	Nana	15.33	321	P	Pn	06 04 30.4	+0.4
	1.0nm,0.3s,baz=180,slow=17,SNR=3.8						
PLCA	Paso Flores	16.65	189	P	Pn	06 04 47.0	+0.9
	0.2nm,0.3s,baz=8.5,slow=10,SNR=7.6						
PLCA	Paso Flores	16.65	189	eP	Pn	06 04 47.4	+1.3
	5.4nm,0.5s						
PLCA				eS	S	06 07 48.8	-2.4
BDFB	Brasilia	19.88	68	P	P	06 05 21.1	+0.1
	9.0nm,0.3s,baz=248,slow=10,SNR=133						
BDFB	Brasilia	19.88	68	eP	P	06 05 20.6	-0.4
	134nm,0.8s						
BAO	Brasilia Array	19.90	68	P	P	06 05 22.0	+0.7
ATAH	Atahualpa	20.32	326	P	P	06 05 25.2	-0.4
	3.8nm,0.7s,baz=125,slow=12,SNR=2.7						
CAM4	Nova Friburgo	22.61	90	⇓i P	P	06 05 48.9	-0.6
CAM4				i		06 05 49.6	
CAM4				i		06 05 51.3	
CAM4				i		06 05 56.5	
CAM3	Guarapari	24.80	87	⇓i P	P	06 06 08.7	-0.7
CAM3				i		06 06 11.9	
CAM3				i		06 06 14.4	
CAM3				i		06 06 27.0	
SDV	Santo Domingo	33.15	354	eP	P	06 07 22.1	-1.3
	4.3nm,0.7s,mb4.3						
RCBR	Riachuelo	35.14	64	eP	P	06 07 40.2	-0.3
	8.2nm,0.6s,mb4.5						
SJG	San Juan	42.15	1	eP	P	06 08 35.8	-3.1
	9.1nm,0.7s,mb4.5						
VNA3	Neumayer Olymp	56.91	161	eP	P	06 10 35.3	+4.7
SNAA	Sanae	59.11	161	eP	P	06 10 49.4	+3.5
SNAA	Sanae	59.11	161	eP	P	06 10 46.0	+0.1
	1.3nm,0.6s,mb3.9						
SWET	Sewanee	61.81	343	eP	P	06 11 03.2	-1.1
OXF	Oxford	62.19	339	eP	P	06 11 05.2	-1.6
	20nm,1.0s,mb4.9						
PLAL	Pickwick Lake	62.21	341	eP	P	06 11 04.4	-2.5
	7.0nm,0.8s,mb4.5						
JCT	Junction City	62.84	328	eP	P	06 11 11.0	-0.1
	12nm,0.7s,mb4.8						
WVT	Waverly	63.20	341	eP	P	06 11 11.3	-2.2
	10nm,0.7s,mb4.8						
MIAR	Mount Ida	63.68	336	eP	P	06 11 15.6	-1.0
	7.9nm,0.9s,mb4.5						
WCI	Wyandotte Cave	64.74	343	eP	P	06 11 21.1	-2.4
	9.9nm,0.6s,mb4.8						
WCI				epP	pP	06 11 54.6	-5.4
FVM	French Village	65.70	340	eP	P	06 11 28.7	-1.0
	15nm,1.0s,mb4.8						
ACSO	Alum Creek Sta	65.87	347	eP	P	06 11 29.6	-1.2
	5.7nm,0.5s,mb4.7						
QSPA	South Pole Qui	65.92	180	eP	P	06 11 31.6	+0.5
	4.3nm,0.7s,mb4.4						
WMOK	Wichita Mounta	65.95	332	eP	P	06 11 29.8	-1.5
	1.5nm,0.6s,mb4.0						
MNTX	Cornudas Mount	66.63	325	eP	P	06 11 34.7	-0.9
	4.8nm,0.8s,mb4.4						
DBIC	Dimbokro	67.98	71	P	P	06 11 44.1	-0.1
	1.4nm,0.3s,mb4.1,baz=300,slow=10.0,SNR=9.4						
ANMO	Albuquerque	69.74	326	eP	P	06 11 55.8	+0.8
	6.5nm,0.8s,mb4.4						
JFWS	Jewell Farm	70.19	342	eP	P	06 11 56.5	-1.2
	14nm,0.6s,mb4.9						
SDCO	Great Sand Dun	71.48	329	eP	P	06 12 06.2	+0.7
	4.7nm,0.7s,mb4.3						
WUAZ	Wupatki	72.75	323	eP	P	06 12 13.8	+0.7
	9.5nm,0.9s,mb4.5						
ECSD	EROS,Sioux Fal	72.91	338	eP	P	06 12 12.9	-1.1
PV01	Paradox Valley	73.28	327	eP	P	06 12 16.6	+0.4
SMCO	Snowmass	73.32	329	eP	P	06 12 17.8	+1.4
	8.7nm,0.8s,mb4.5						
VNDA	Vanda	74.40	190	P	P	06 12 23.2	+0.5
	1.5nm,0.9s,mb3.7,baz=121,slow=3.6,SNR=7.1						
VNDA	Vanda	74.40	190	eP	P	06 12 23.9	+1.2
	1.7nm,0.9s,mb3.8						
SRU	San Rafael	75.01	326	eP	P	06 12 26.6	+0.5
	8.5nm,0.6s,mb4.5						
CCUT	Cedar City	75.33	324	eP	P	06 12 29.2	+1.1
MSU	Marysvale	75.41	325	eP	P	06 12 29.2	+0.8
ARUT	Antelope Range	75.55	324	eP	P	06 12 30.5	+1.2
SHPR	Sheep Range	75.57	322	eP	P	06 12 30.6	+1.2
SUR	Sutherland	75.75	119	eP	P	06 12 31.6	+1.2
	134nm,1.8s,mb5.3						
RSSD	Black Hills	76.02	334	eP	P	06 12 32.1	+0.1
	2.7nm,0.6s,mb4.0						
TOA0	Torodi Ar. Sit	76.76	69	eP	P	06 12 35.8	-0.3
TORD	Torodi Ar. Bea	76.76	69	P	P	06 12 35.9	-0.3
	3.2nm,0.5s,mb4.2,baz=264,slow=6.1,SNR=54						
ISA	Isabella	76.91	319	eP	P	06 12 36.0	-1.0
PDAR	Pinedale Array	77.35	329	P	P	06 12 39.4	0.0
	1.2nm,0.5s,mb3.8,baz=130,slow=7.8,SNR=18						
HWUT	Hardware Ranch	77.42	327	eP	P	06 12 40.1	+0.3
	4.7nm,0.6s,mb4.3						
BGU	Big Grassy Mou	77.64	326	eP	P	06 12 40.9	-0.2
TSUM	Tsumeb	77.67	106	eP	P	06 12 41.3	+0.1
	4.0nm,0.7s,mb4.2						
REDW	Red Top Meadow	78.41	329	eP	P	06 12 46.0	+0.7
	6.0nm,0.9s,mb4.2						
SNOW	Snow King Moun	78.44	329	eP	P	06 12 46.4	+0.9
	5.9nm,0.8s,mb4.3						
ULM	Lac du Bonnet	78.47	342	P	P	06 12 44.4	-1.2
	5.6nm,0.6s,mb4.3,baz=147,slow=6.1,SNR=13						
LOHW	Long Hollow	78.48	329	eP	P	06 12 46.3	+0.6
TPAW	Teton Pass	78.55	329	eP	P	06 12 47.0	+0.9
	3.6nm,0.7s,mb4.1						
RRI2	Red Ridge	78.62	329	eP	P	06 12 47.4	+1.0
	3.6nm,0.5s,mb4.3						
MOOW	Moose Ponds	78.66	329	eP	PcP	06 12 55.2	+0.2
NVAR	Mina Array Bea	78.70	321	P	P	06 12 47.5	+0.6
	1.3nm,0.6s,mb3.7,baz=135,slow=6.7,SNR=8.8						
SCHQ	Schefferville	78.80	0	P	P	06 12 46.1	-1.2
	1.4nm,0.6s,mb3.8,baz=222,slow=12,SNR=6.0						
SCHQ	Schefferville	78.80	0	eP	P	06 12 46.5	-0.9
	7.9nm,1.1s,mb4.3						
IMW	Indian Meadow	78.86	329	eP	P	06 12 48.7	+1.0
	7.0nm,0.9s,mb4.3						
RLMT	Red Lodge	79.05	331	eP	P	06 12 48.6	-0.2
DGMT	Dagmar	79.68	336	eP	P	06 12 52.5	+0.3
	12nm,0.5s,mb4.8						
PAHR	Pah Rah Range	80.19	322	eP	P	06 12 55.5	+0.6
	9.9nm,0.9s,mb4.4						
HLID	Hailey	80.28	327	eP	P	06 12 56.0	+0.6
	4.3nm,0.3s,mb4.6						
MCMT	McKenzie Canyo	80.46	329	eP	P	06 12 57.1	+0.8
MCMT				epP	pP	06 13 31.6	-2.8
BOSA	Boshof	80.69	117	P	P	06 12 58.0	+0.4
	3.2nm,0.4s,mb4.3,baz=277,slow=6.4,SNR=21						
LRM	Limekiln Ridge	81.02	330	eP	P	06 13 00.2	+0.8
MAW	Mawson	81.19	163	eP	P	06 13 00.1	-0.2
MAW				ePcP	PcP	06 13 07.7	+1.7
HRY	Holter Researc	81.41	331	eP	P	06 13 02.1	+0.7
WVOR	Wild Horse Val	81.65	324	eP	P	06 12 58.0	-4.7
	1.8nm,0.5s,mb4.0						
LBTB	Lobatse	82.36	114	eP	P	06 13 06.8	+0.5
	3.4nm,0.4s,mb4.3						
BMO	Blue Mountains	82.65	327	eP	P	06 13 07.7	-0.2
	1.4nm,0.7s,mb3.8						
WALA	Waterton Lakes	84.10	331	eP	P	06 13 15.0	-0.3
	3.4nm,0.7s,mb4.2						
NEW	Newport	84.98	329	eP	P	06 13 19.9	+0.2
	0.7nm,0.5s,mb3.6						
FCC	Fort Churchill	85.72	346	eP	P	06 13 22.4	-0.9
	9.5nm,0.5s,mb4.8						
ESDC	Sonseca Array	86.67	44	P	P	06 13 29.2	+1.2
	0.8nm,0.7s,mb3.6,baz=243,slow=4.3,SNR=5.5						
EDM	Edmonton	86.98	334	eP	P	06 13 28.1	-1.5
LSZ	Lusaka	88.52	106	eP	P	06 13 38.0	+1.2
	3.7nm,0.9s,mb4.3						
CASY	Casey	89.70	179	eP	P	06 13 43.1	+0.8
	1.5nm,0.6s,mb4.1						
ASAR	Alice Springs	128.16	205	PKP	PKPdf	06 19 49.8	+0.2
	1.9nm,0.7s,baz=135,slow=1.7,SNR=28						
WRA	Warramunga Arr	131.33	207	PKP	PKPdf	06 19 55.9	+0.3
	1.4nm,0.5s,baz=165,slow=1.5,SNR=15						
FITZ	Fitzroy Crossi	136.07	198	PKP	PKPdf	06 20 05.8	+1.2
	0.7nm,0.6s,baz=227,slow=19,SNR=4.7						
ZAL	Zalesovo	143.69	28	PKP	PKPdf	06 20 15.3	-3.0
	2.0nm,0.5s,baz=177,slow=8.0,SNR=7.0						
ZAL	Zalesovo	143.69	28	PKP	PKPdf	06 20 15.3	-3.0
ASAJ	Asahikawa	148.72	317	PKPbc	PKPbc	06 20 30.5	-0.3
	6.0nm,0.6s,baz=240,slow=14,SNR=3.4						
WMQ	Urumqi	151.63	40	ePKP	PKPdf	06 20 29.0	-2.4
MJAR	Matsushiro Arr	155.07	305	PKPab	PKPab	06 21 00.5	-1.1
	2.9nm,0.9s,baz=68,slow=2.6,SNR=7.6						
SONM	Songino Array	155.94	11	PKPbc	PKPdf	06 20 46.8	+9.4
	0.4nm,0.6s,baz=264,slow=2.3,SNR=3.6						
SONM				PKPab	PKPab	06 21 04.9	-0.4
	0.8nm,0.6s,baz=317,slow=4.8,SNR=6.2						
CN2	Changchun	157.98	335	ePKP	PKPdf	06 20 37.8	-2.3
HHC	Hu-ho-hao-te	163.45	4	ePKP	PKPdf	06 20 43.8	-2.2
HHC				PP	PP		
	comp=Z,210nm,6.1s						
LZH	Lanzhou	165.89	32	ePKP	PKPdf	06 20 53.1	+5.0
CD2	Chengdu	169.56	49	ePKP	PKPdf	06 20 46.5	-4.2
KMI	Kunming	170.73	83	PKP	PKPdf	06 20 50.3	-1.0
KMI				APKP		06 21 31.4	
KMI				LR	LR		
	comp=Z,48nm,24.2s						

ISCJB 17 06:03:27.0±1.6, 382N±0.1×737E±0.2, h135km±28km, Error ellipse: s-maj=26.3km s-min=8.0km az=109.6
NNC 17 06:03:37.2±7.0, 3887N×7355E, h208km±80km, mb1.9, mpv3.0, Error ellipse: s-maj=81.3km s-min=36.1km az=7.0
ISC 17 06:03:27.4±1.5, 382N±01×736E±02, h123km±26km, n11, σ1§04/14, 5C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TKM2	Tokmak 2	5.00	17	⇑P	Pn	06 04 42.9	+2.5
	0.4nm,0.5s						
TKM2				⇓S	Sn	06 05 36.6	-0.6
	2.5nm,0.9s						
KK31	Karatay Array	5.49	335	⇑P	Pn	06 04 49.3	+2.4
	2.5nm,0.2s,baz=329,slow=12,SNR=178						
KK31				⇑S	Sn	06 05 47.2	-1.7
	28nm,0.6s,baz=338,slow=36,SNR=38						
KOLN	Koldanda	13.30	138	eP	Pn	06 06 30.7	-0.6
	4.1nm,0.3s						
GKN	Gorkha	13.69	134	eP	Pn	06 06 35.5	-0.8
	11nm,0.3s						
DMN	Daman	14.26	134	eP	Pn	06 06 42.5	-1.0
PKI	Pulchoki	14.46	133	eP	Pn	06 06 46.7	+0.6
	2.6nm,0.3s						
GUN	Gumba	14.48	131	eP	Pn	06 06 46.5	+0.2
AB31	Akbulak array	14.84	323	P	Pn	06 06 50.6	-0.3
	0.9nm,0.6s,baz=128,slow=14,SNR=13						
AB31				⇑S	Sn	06 09 24.4	-11
	0.7nm,0.6s,baz=150,slow=23,SNR=3.0						
JIRN	Jiri	14.85	131	eP	Pn	06 06 51.5	+0.5
	4.1nm,0.2s						
AKTO	Aktyubinsk	16.56	323	⇑P	Pn	06 07 12.7	+0.5
	0.1nm,0.9s						
JOF	Joensuu	35.53	328	ep	P	06 10 12.5	+0.1

ISCJB 17 06:11:02.5±1.6, 3449N±0.08×727E±0.2, h71km±32km, Error ellipse: s-maj=24.6km s-min=7.7km az=126.6
NNC 17 06:11:05.9±9.9, 3548N×7362E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=218.7km s-min=75.8km az=78.0
ISC 17 06:11:03.1±1.4, 3458N±007×727E±02, h39km±39km, n12, σ0§97/18, 4C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	3.33	129	eP	Pn	06 11 53.0	+0.4
THN				ex	x	06 12 40.1	
DLH	Dalhousie	3.42	125	eP	Pn	06 11 56.0	+2.1
DLH				ex	x	06 12 40.0	
SDNR	Sundarnagar	4.74	129	eP	Pn	06 12 11.0	-1.0
SDNR				eS	Sn	06 13 05.0	-0.7
SMLA	Simla	5.12	131	eP	Pn	06 12 18.1	+0.9
SMLA				eP		06 12 18.1	
SMLA				⇑eS	Sn	06 13 15.3	+0.4
SMLA				eS	Sn	06 13 17.3	+2.4
SMLA				AML	AML	06 13 36.8	
	comp=E,75nm,0.5s						
SMLA				AML	AML	06 13 38.0	
	comp=N,64nm,0.4s						
KLP	Kalpa	5.58	121	eP	Pn	06 12 23.2	-0.4
KLP				eS	Sn	06 13 26.6	+0.2
KLP				AML	AML	06 13 31.1	
	comp=E,61nm,0.4s						
KLP				AML	AML	06 13 51.6	
	comp=N,52nm,0.8s						
KHET	Khetri	7.02	157	eS	Sn	06 14 01.9	+0.2
KHET				AML	AML	06 14 45.0	
	comp=N,9.9nm,0.1s						
KHET				AML	AML	06 14 45.1	
	comp=E,6.2nm,0.1s						
NDI	New Delhi	7.04	145	eS	Sn	06 14 01.7	-0.6
NDI				AML	AML	06 14 07.1	
	comp=N,13nm,0.4s						
NDI				AML	AML	06 14 12.7	
	comp=E,20nm,0.6s						
KUDL	Kundal	7.20	152	eP	Pn	06 12 45.8	+0.1
KUDL				eS	Sn	06 14 05.7	-0.4
KUDL				AML	AML	06 14 05.9	
	comp=E,9.7nm,0.2s						
KUDL				AML	AML	06 14 07.7	
	comp=N,6.0nm,0.3s						
SONA	Sohna	7.35	148	eS	Sn	06 14 08.4	-1.5
SONA				AML	AML	06 14 11.6	
	comp=N,12nm,0.3s						
SONA				AML	AML	06 14 12.0	
	comp=E,39nm,0.4s						
KK31	Karatay Array	8.68	349	Pn	Pn	06 13 06.6	+0.5
	comp=E,1.9nm,0.4s,baz=167,slow=12,SNR=30						
KK31				⇑Sn	Sn	06 14 40.6	-2.0
	comp=E,2.0nm,0.5s,baz=157,slow=21,SNR=10.0						
AB31	Akbulak array	17.42	331	⇑Pn	Pn	06 15 03.8	+0.8
	comp=E,0.4nm,0.6s,baz=144,slow=13,SNR=5.0						
AKTO	Aktyubinsk	19.12	330	⇑Pn	Pn	06 15 24.0	+0.2

CASC 17 06:21:45.4±2.8, 992N×8385W, h3km±8km, MD3.8, 5C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ICR	Volcan Irazu	0.06	14	⇑i P	Pg	06 21 46.6	-0.1
ICR				eS	Sg	06 21 51.2	+3.5
SJS	Escuela Geolog	0.21	276	⇑i P	Pg	06 21 50.7	+1.4
SJS				eS	Sg	06 21 53.2	+1.1
LCR2	La Lucha 2	0.23	221	⇑i P	Pg	06 21 51.4	+1.4
LAJ	Bijagual	0.28	259	eP	Pg	06 22 01.0	+10
BUS	Buena Vista	0.37	167	⇓i P	Pg	06 21 53.7	+1.1
BUS				eS	Sg	06 21 59.7	+2.3
PRS1	Puriscal	0.46	278	⇑i P	Pg	06 21 56.0	+1.7
CGA2	Cerro Gallo 2	0.62	279	⇓eP	Pg	06 21 57.9	+0.7
JCR	Jicaral	1.25	267	eP	Pg	06 22 08.1	-1.3
CNI	Changuinola	1.40	111	⇓i P	Pn	06 22 11.0	-0.8
CNI				eS	Sg	06 22 30.9	+0.5
CTCR	Cotoan	1.48	133	eP	Pn	06 22 12.2	-0.6
CTCR				eS	Sb	06 22 32.9	+0.2
BRU2	Volcan	1.60	134	⇑i P	Pn	06 22 15.0	+0.6
BRU2				eS	Sn	06 22 36.7	+1.1

ISCJB 17 06:37:14.2±0.9, 3176S±0.08×1797W±0.2, h396km±13km, mb3.6/6, Error ellipse: s-maj=26.6km s-min=10.3km az=31.9
IDC 17 06:37:14.4±1.7, 3166S×17972W, h369km±19km, mb3.4/4, mb1 3.7/8, mb1mx3.5/16, mbtmp4.5/8, Error ellipse: s-maj=26.2km s-min=15.2km az=132.0
NEIC 17 06:37:14.8±1.1, 3159S×17976W, h374km±11km, mb4.0/4, Error ellipse: s-maj=16.4km s-min=13.9km az=88.0
ISC 17 06:37:15.7±0.9, 3182S±007×1797W±02, h392km±11km, n62, σ1§09/66, mb3.6/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.96	195	eP	Pn	06 38 51.2	+3.7
MXZ	Matakaoa Point	5.96	195	ePN	Pn	06 38 48.4	+0.9
MXZ				SN	S	06 40 03.6	+1.3
KUZ	Kuaotunu	6.21	216	eP	Pn	06 38 54.3	+4.1
KUZ	Kuaotunu	6.21	216	PN	Pn	06 38 53.8	+3.6
PUZ	Puketiti	6.46	194	eP	Pn	06 38 53.9	+0.9
PUZ	Puketiti	6.46	194	ePN	Pn	06 38 52.8	-0.3
PUZ				SN	S	06 40 11.1	-1.3
MWZ	Matawai	6.89	199	eP	Pn	06 38 58.3	+0.5
MWZ	Matawai	6.89	199	PN	Pn	06 38 57.7	-0.1
URZ	Urewera	6.94	201	P	Pn	06 38 58.4	0.0
	12nm,0.3s,baz=268,slow=3.6,SNR=42						
URZ				S	S	06 40 22.2	0.0
	36nm,0.3s,baz=93,slow=22,SNR=19						
URZ	Urewera	6.94	201	P	Pn	06 38 58.4	0.0
URZ	Urewera	6.94	201	PN	Pn	06 38 57.9	-0.5
URZ				SN	S	06 40 21.3	-0.9
KNZ	Kokohu	7.50	196	eP	Pn	06 39 04.6	-0.1
KNZ				S	S	06 40 34.7	+0.8
KNZ	Kokohu	7.50	196	ePN	Pn	06 39 04.2	-0.5
KNZ				SN	S	06 40 34.7	+0.8
BKZ	Black Stump Fm	7.96	202	eP	Pn	06 39 10.1	+0.1
BKZ	Black Stump Fm	7.96	202	ePN	Pn	06 39 09.2	-0.8
BKZ				SN	S	06 40 42.2	-1.4
NGZ	Ngauruhoe	8.28	206	ePN	Pn	06 39 15.7	+2.0
FWVZ	Far West T-bar	8.37	206	ePN	Pn	06 39 14.9	+0.2
FWVZ				SN	S	06 40 56.1	+4.0
PXZ	Pawanui	8.66	198	ePN	Pn	06 39 18.5	+0.5
TSZ	Takapari Road	8.94	202	ePN	Pn	06 39 21.5	+0.2
BFZ	Birch Farm	9.43	199	P	Pn	06 39 29.7	+2.7
BFZ	Birch Farm	9.43	199	ePN	Pn	06 39 29.1	+2.1
MRZ	Mangatainoka R	9.61	202	eP	Pn	06 39 29.0	-0.1
MRZ	Mangatainoka R	9.61	202	ePN	Pn	06 39 27.9	-1.2
KIW	Kapiti Island	10.02	204	ePN	Pn	06 39 33.9	+0.2
CAW	Cannon Point	10.18	203	P	Pn	06 39 35.7	0.0
CAW	Cannon Point	10.18	203	ePN	Pn	06 39 35.0	-0.7
TRWZ	Traveller	10.25	200	ePN	Pn	06 39 37.5	+0.9
DUWZ	D'Urville Isla	10.34	208	ePN	Pn	06 39 36.7	-0.8
MSWZ	Moikau Station	10.40	202	ePN	Pn	06 39 38.1	-0.1
MRW	Makara Radio	10.41	204	ePN	Pn	06 39 38.3	-0.1
SNZO	South Karori	10.48	204	ePn	Pn	06 39 40.2	+0.9
BHW	Baring Head	10.52	203	ePN	Pn	06 39 39.5	-0.1
TCW	Tory Channel	10.55	206	ePN	Pn	06 39 39.5	-0.5
TUWZ	Tuamarina	10.87	206	ePN	Pn	06 39 42.4	-1.2
NNZ	Nelson	10.90	209	ePN	Pn	06 39 42.2	-2.0
QRZ	Quartz Range	10.96	213	ePN	Pn	06 39 44.7	0.0
BSWZ	Blackbirch Sta	11.14	206	ePN	Pn	06 39 46.7	-0.1
THZ	Tophouse	11.56	209	ePN	Pn	06 39 49.9	-1.8
KHZ	Kahutara	11.87	205	ePN	Pn	06 39 53.5	-1.9
LTZ	Lake Taylor	12.67	208	PN	Pn	06 40 05.2	+0.6
MQZ	McQueen's Vall	13.31	205	ePN	P	06 40 11.8	+1.9
MQZ				SN	S	06 42 32.3	-2.0
RPZ	Rata Peaks	13.94	209	P	P	06 40 19.2	+2.4
	2.1nm,0.3s,baz=168,slow=18,SNR=7.5						
RPZ				S	S	06 42 46.7	-0.1
	1.5nm,0.3s,baz=22,slow=12,SNR=3.5						
DZM	Mont Dzumac	15.70	305	P	P	06 40 34.9	-1.0
	0.6nm,0.3s,baz=136,slow=19,SNR=7.2						
AFI	Afiamalu	19.25	24	P	P	06 41 12.1	-1.4
	2.3nm,0.3s,baz=12,slow=20,SNR=3.9						
AFI	Afiamalu	19.25	24	eP	P	06 41 12.1	-1.5
	40nm,0.9s						
CTA	Charters Tower	32.63	283	P	P	06 43 12.7	0.0
	1.8nm,0.6s,mb3.6,baz=106,slow=8.4,SNR=5.0						
CTAO	Charters Tower	32.63	283	eP	P	06 43 13.4	+0.8
	7.6nm,0.9s,mb4.0						
STKA	Stephens Creek	32.76	259	eP	P	06 43 15.7	+1.9
	2.0nm,0.5s,mb3.7						
STKA	Stephens Creek	32.76	259	P	P	06 43 15.7	+1.9
	2.2nm,0.5s,mb3.8,baz=86,slow=10,SNR=11						
STKA	Stephens Creek	32.76	259	eP	P	06 43 15.6	+1.9
ASAR	Alice Springs	41.61	269	P	P	06 44 27.5	+0.4
	0.7nm,0.4s,mb3.3,baz=106,slow=7.3,SNR=6.6						
WB2	Warramunga Arr	42.72	275	eP	P	06 44 35.7	-0.2
WB2	Warramunga Arr	42.72	275	eP	P	06 44 35.8	-0.1
WRAB	Tennant Creek	42.72	275	eP	P	06 44 36.1	+0.2
	6.9nm,1.0s,mb3.9						
WRA	Warramunga Arr	42.73	275	P	P	06 44 35.9	-0.1
	1.1nm,0.3s,mb3.6,baz=111,slow=8.0,SNR=32						
QSPA	South Pole Qui	58.30	180	eP	P	06 46 35.1	+4.2
	0.5nm,0.3s,mb3.3						
ARU	Arti	133.24	320	ePKPdf	PKPdf	06 55 44.6	-0.9
KAF	Kangasniemi	145.37	339	epkp	PKPdf	06 56 07.6	+0.2
FINES	FINESS Array B	145.94	338	PKPbc	PKPbc	06 56 10.3	+0.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.0nm,0.5s,baz=51,slow=3.8,SNR=28						
NOA	NORSAR Array B	149.90	349	PKPbc	PKPbc	06 56 18.6	-1.6
	0.9nm,0.7s,baz=16,slow=4.3,SNR=3.7						
AKASG	Malin Array Be	151.49	320	PKPbc	PKPbc	06 56 24.8	+0.9
	0.5nm,0.4s,baz=51,slow=3.0,SNR=5.5						
BRTR	Keskin Array B	151.94	296	PKPbc	PKPbc	06 56 24.8	-0.1
	1.0nm,0.7s,baz=107,slow=1.3,SNR=3.9						

*BJI **17** 06:50:49.9, 391S×15446E, h369km, mB4.4, mb4.3*

*ISCJB **17** 06:50:54.0±1.7, 354S±009×15352E±009, h356km±17km, mb4.1/20, Error ellipse: s-maj=15.7km s-min=11.9km az=95.5*

*IDC **17** 06:50:53.7±2.0, 348S×15357E, h337km±17km, mb3.8/11, mb1 4.0/13, mb1mx3.9/18, mbtmp4.6/13, Error ellipse: s-maj=17.0km s-min=14.6km az=163.0*

*NEIC **17** 06:50:56.5±1.4, 352S×15358E, h370km±13km, mb4.3/12, Error ellipse: s-maj=14.3km s-min=10.3km az=162.0*

ISC 17 06:50:57.4±1.4**, 357S**±009×**15362E**±008**, h379**km±14km**, n46, σ0.98**/37**, mb4.1**/20**, 3D, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.57	133	P	Pn	06 52 56.7	-1.8
	36nm,0.3s,baz=263,slow=4.5,SNR=5.6						
PMG	Port Moresby	8.64	228	P	Pn	06 53 01.4	+2.0
	1.6nm,0.3s,baz=121,slow=22,SNR=4.4						
CTA	Charters Tower	17.92	203	⇓iP	P	06 54 43.2	+1.3
	17nm,0.4s						
CTA	Charters Tower	17.92	203	P	P	06 54 43.3	+1.3
	5.8nm,0.3s,baz=28,slow=12,SNR=52						
CTAO	Charters Tower	17.92	203	eP	P	06 54 43.0	+1.1
	48nm,0.9s						
DZM	Mont Dzumac	22.20	147	eP	P	06 55 24.1	+0.8
DZM	Mont Dzumac	22.20	147	P	P	06 55 23.9	+0.6
	6.5nm,0.4s,mb4.2,baz=276,slow=6.0,SNR=23						
KAKA	Kakadu	22.82	245	eP	P	06 55 28.1	-0.8
	4.8nm,0.2s,mb4.4						
WRAB	Tennant Creek	24.85	228	eP	P	06 55 46.8	-0.3
	12nm,0.6s,mb4.3						
WB2	Warramunga Arr	24.86	228	eP	P	06 55 47.1	-0.1
WB2				e		06 59 13.0	
WB2				eS	S	06 59 41.7	+0.1
WRA	Warramunga Arr	24.86	228	P	P	06 55 47.2	0.0
	6.5nm,0.3s,mb4.3,baz=53,slow=9.4,SNR=106						
WRA				PcP	PcP	06 59 13.0	+1.7
	1.9nm,0.4s,baz=52,slow=2.4,SNR=9.3						
WRA				ScP	ScP	07 02 20.0	+6.4
	1.2nm,0.7s,baz=51,slow=3.4,SNR=9.0						
AS31	Alice Springs	27.60	222	eP	P	06 56 11.3	-0.2
ASAR	Alice Springs	27.60	222	P	P	06 56 11.4	0.0
	6.5nm,0.3s,mb4.3,baz=54,slow=9.1,SNR=154						
ASAR				PcP	PcP	06 59 19.4	+1.6
	0.8nm,0.5s,baz=42,slow=2.6,SNR=4.8						
STKA	Stephens Creek	30.34	201	eP	P	06 56 35.3	-0.2
	2.8nm,0.9s,mb3.5						
STKA	Stephens Creek	30.34	201	P	P	06 56 35.5	-0.1
	1.3nm,0.3s,mb3.6,baz=41,slow=14,SNR=9.5						
STKA	Stephens Creek	30.34	201	eP	P	06 56 35.5	-0.1
FITZ	Fitzroy Crossi	30.97	240	eP	P	06 56 39.7	-1.3
	9.0nm,1.0s,mb4.0						
FITZ	Fitzroy Crossi	30.97	240	P	P	06 56 40.0	-1.0
	1.9nm,0.3s,mb3.9,baz=68,slow=10,SNR=41						
FITZ				PcP	PcP	06 59 28.3	+1.8
	1.0nm,0.4s,baz=269,slow=12,SNR=4.0						
FITZ				ScP	ScP	07 02 38.6	+6.0
	baz=180,slow=7.1						
CNB	Canberra Magne	31.83	187	eP	P	06 56 49.3	+0.8
	22nm,1.4s,mb4.2						
MBWA	Marble Bar	37.29	239	eP	P	06 57 33.4	-1.3
	12nm,1.3s,mb4.0						
MBWA				ePcP	PcP	06 59 45.8	+1.0
KLBR	Kellerberrin	43.74	226	eP	P	06 58 25.7	-1.1
	4.0nm,0.3s,mb4.0						
RAR	Rarotonga	48.55	115	P	P	06 59 03.2	-0.6
	16nm,0.5s,mb4.5,baz=86,slow=9.5,SNR=3.2						
RAR	Rarotonga	48.55	115	P	P	06 59 03.2	-0.6
KMI	Kunming	56.99	303	P	P	07 00 06.3	+1.4
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.2						
SONM	Songino Array	65.73	327	P	P	07 01 03.1	+0.4
	comp=Z,0.8nm,0.5s,mb3.8,baz=144,slow=4.8,SNR=7.2						
VNDA	Vanda	74.02	178	P	P	07 01 53.7	+1.1
	comp=Z,4.5nm,0.8s,mb4.3,baz=326,slow=5.9,SNR=25						
VNDA	Vanda	74.02	178	eP	P	07 01 53.5	+0.9
	comp=Z,7.0nm,1.3s,mb4.2						
WMQ	Urumqi	75.40	317	eP	P	07 02 01.0	+0.5
COLA	College	80.42	22	eP	P	07 02 26.9	-0.9
	comp=Z,2.9nm,0.8s,mb4.1						
AAK	Ala-Archa	84.42	313	eP	P	07 02 48.3	0.0
QSPA	South Pole Qui	86.38	180	⇓iP	P	07 02 58.7	+0.9
	comp=Z,11nm,0.8s,mb4.7						
MAW	Mawson	87.01	203	P	P	07 03 00.3	-0.5
	comp=Z,2.5nm,0.5s,mb4.3,baz=174,slow=4.2,SNR=5.0						
CHKZ	Chkalovo	88.71	324	eP	P	07 03 07.0	-1.8
	comp=Z,0.9nm,0.5s,mb3.9						
NVAR	Mina Array Bea	90.69	52	P	P	07 03 20.1	+2.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=254,slow=4.3,SNR=6.1						
SYO	Syowa Base	95.09	199	⇓eP	P	07 03 37.8	-0.4
PDAR	Pinedale Array	97.42	48	P	P	07 03 49.0	+0.3
	comp=Z,0.4nm,0.8s,mb3.6,baz=270,slow=1.5,SNR=3.8						
PLCA	Paso Flores	120.25	142	PKP	PKPdf	07 09 05.2	+1.3
	comp=Z,1.0nm,0.7s,baz=5.8,slow=8.2,SNR=4.7						
PLCA	Paso Flores	120.25	142	PKP	PKPdf	07 09 05.2	+1.3
BOSA	Boshof	121.01	234	PKP	PKPdf	07 09 06.2	+0.8
	comp=Z,1.2nm,0.7s,baz=72,slow=13,SNR=3.4						
GERES	GERESS Array B	123.43	329	PKP	PKPdf	07 09 10.3	+0.2
	comp=Z,0.4nm,0.4s,baz=57,slow=4.9,SNR=4.7						
ROSC	El Rosal	132.17	87	PKP	PKPdf	07 09 29.7	+3.0
	comp=Z,1.8nm,0.5s,baz=107,slow=22,SNR=5.8						
LPAZ	La Paz	134.26	117	PKP	PKPdf	07 09 33.5	+2.9
	comp=Z,0.7nm,0.8s,baz=248,slow=7.6,SNR=3.5						
LPAZ	La Paz	134.26	117	PKP	PKPdf	07 09 33.5	+2.9
SDV	Santo Domingo	135.72	81	ePKPdf	PKPdf	07 09 35.6	+2.3
TORD	Torodi Ar. Bea	150.67	291	PKP	PKPdf	07 10 02.5	+3.3
	comp=Z,3.3nm,0.6s,baz=28,slow=1.2,SNR=27						
TORD				PKPbc	PKPbc	07 10 06.4	+1.2
	comp=Z,2.6nm,0.5s,baz=69,slow=1.7,SNR=66						
BDFB	Brasilia	151.32	132	PKPbc	PKPbc	07 10 08.6	+1.9
	comp=Z,3.1nm,0.5s,baz=289,slow=1.8,SNR=10						

*IDC **17** 07:18:21.9±0.6, 5137N×179.10W, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/26, mbtmp4.3/20, ML4.5/1, MS3.8/13, Ms1 3.8/13, ms1mx3.5/43, Error ellipse: s-maj=21.2km s-min=13.9km az=165.0*

*ISCJB **17** 07:18:26.5±0.8, 5126N±007×17898W±004, h45km±6km, mb4.6/75, MS3.8/14, Error ellipse: s-maj=12.2km s-min=4.6km az=171.6*

*MOS **17** 07:18:26.5±0.9, 5127N×17896W, h47km, mb4.9/30, Error ellipse: s-maj=11.9km s-min=8.0km az=90.2*

*BJI **17** 07:18:27.6, 5130N×17900W, h52km, mB5.2, mb4.9, Ms4.4, Msz4.2*

*NEIC **17** 07:18:28.7±0.7, 5128N×17901W, h52km±5km, mb4.6/46, ML4.5(AEIC), Error ellipse: s-maj=8.6km s-min=4.1km az=178.0*

ISC 17 07:18:28.4±0.8**, 5134N**±007×**17901W**±005**, h48**km±6km**, n181, σ0.88**/173**, mb4.6**/75**, MS3.8**/14**, 7C-8D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	1.06	273	P	Pn	07 18 44.7	-2.2
AMKA				S	Sn	07 18 59.4	-1.2
ATKA	Atka Island	3.11	72	P	Pn	07 19 14.4	-0.5
SMY	Shemya	4.48	291	P	Pn	07 19 35.1	+1.4
NIKO	Nikolski	6.46	71	P	Pn	07 20 01.9	+1.1
SPIA	Saint Paul Isl	7.78	38	P	Pn	07 20 22.0	+3.1
SVW2	Sparrevohn	16.19	44	eP	Pn	07 22 15.5	+3.0
KDAK	Kodiak Island	16.56	57	Pn	Pn	07 22 15.2	-1.9
	1.7nm,0.3s,baz=289,slow=7.9,SNR=5.3						
BILL	Bilibino	18.23	342	⇓iP	Pn	07 22 42.5	+4.7
BILL				pmax	pmax		
	comp=Z,16nm,1.1s						
BILL				MLR	MLR		
	comp=Z,300nm,16.0s						
SEY	Seymchan	19.19	318	⇑eP	Pn	07 22 50.9	+1.6
IMA2	Indian Mountai	19.55	31	eP	Pn	07 22 53.0	-0.6
MCK	McKinley	20.12	40	eP	P	07 22 58.5	+0.3
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MCK	McKinley	20.12	40	eP	P	07 22 58.5	+0.4
	comp=Z,8.5nm,1.2s						
COLA	College	21.03	38	⇑iP	P	07 23 09.1	+1.1
COLA	College	21.03	38	eP	P	07 23 08.9	+0.9
	comp=Z,12nm,0.8s,mb4.3						
EGAK	Eagle	23.67	41	eP	P	07 23 35.1	-0.3
EGAK				e		07 23 45.3	
DAWY	Dawson	24.23	43	eP	P	07 23 39.5	-1.1
YSS	Yuzh-Sakhalins	25.20	275	⇓eP	P	07 23 50.5	+1.1
YSS				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.7						
YSS	Yuzh-Sakhalins	25.20	275	eP	P	07 23 50.0	+0.7
	comp=Z,40nm,1.1s,mb4.9						
ASAJ	Asahikawa	26.58	269	P	P	07 24 01.4	-0.5
	comp=Z,16nm,1.1s,mb4.5,baz=122,slow=4.3,SNR=8.0						
ASAJ				LR	LR	07 32 38.3	
	comp=Z,96nm,19.9s,MS3.4,baz=14,slow=32						
ASAJ	Asahikawa	26.58	269	P	P	07 24 01.4	-0.5
ASAJ				pmax	pmax		
	comp=Z,16nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,96nm,19.9s						
INK	Inuvik	27.57	35	LR	LR	07 35 49.1	
	comp=Z,116nm,18.5s,MS3.5,baz=294,slow=38						
DLBC	Dease Lake	28.49	56	LR	LR	07 34 16.8	
	comp=Z,162nm,20.8s,MS3.6,baz=262,slow=34						
HABR	Khabarovsk	29.36	283	eP	P	07 24 25.8	-0.9
HABR				eS	S	07 29 12.5	-4.4
KLR	Kul'dur	31.07	286	eP	P	07 24 37.6	-4.2
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.0						
MJAR	Matsushiro Arr	33.65	261	P	P	07 25 04.9	+0.5
	comp=Z,1.1nm,0.7s,mb3.9,baz=51,slow=7.2,SNR=4.9						
MAJO	Matsushiro	33.65	261	eP	P	07 25 04.4	0.0
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
MAJO	Matsushiro	33.65	261	eP	P	07 25 04.4	0.0
	comp=Z,9.3nm,1.2s,mb4.6						
MDJ	Mudanjiang	34.45	279	P	P	07 25 11.1	-0.3
MDJ				PP	PP	07 26 28.3	-1.7
MDJ				S	S	07 30 38.1	+1.8
MDJ				PCS	PcS	07 31 32.3	0.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,230nm,6.8s						
MDJ				LR	LR		
	comp=N,51nm,34.7s						
MDJ				LR	LR		
	comp=E,69nm,29.6s						
MDJ				LR	LR		
	comp=Z,84nm,30.6s,MS3.3						
YKA	Yellowknife Ar	35.36	46	LR	LR	07 41 23.9	
	comp=Z,118nm,19.0s,MS3.7,baz=270,slow=39						
HAWA	Hanford	38.50	73	eP	P	07 25 46.4	+0.5
	comp=Z,0.7nm,0.8s,mb3.4						
EDM	Edmonton	38.95	61	eP	P	07 25 48.5	-1.1
YBH	Yreka Blue Hor	39.02	82	P	P	07 25 51.2	+1.1
	comp=Z,1.4nm,0.6s,mb3.9,baz=296,slow=8.1,SNR=5.4						
NEW	Newport	39.02	69	P	P	07 25 50.4	+0.2
	comp=Z,7.1nm,0.7s,mb4.5,baz=297,slow=7.4,SNR=19						
NEW				LR	LR	07 38 33.3	
	comp=Z,105nm,19.8s,MS3.7,baz=228,slow=31						
NEW	Newport	39.02	69	eP	P	07 25 50.0	-0.2
	comp=Z,10nm,1.0s,mb4.5						
SNY	Shenyang	39.66	279	⇓P	P	07 25 56.4	+0.9
SNY				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
WALA	Waterton Lakes	40.51	67	eP	P	07 26 02.5	-0.1
	comp=Z,19nm,1.6s,mb4.5						
WVOR	Wild Horse Val	41.14	78	eP	P	07 26 07.5	-0.3
WVOR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
WVOR	Wild Horse Val	41.14	78	eP	P	07 26 07.5	-0.2
	comp=Z,3.7nm,0.8s,mb4.1						
MSO	Missoula	41.60	70	eP	P	07 26 11.4	-0.2
	comp=Z,10nm,1.3s,mb4.3						
HLID	Hailey	43.08	74	eP	P	07 26 23.7	+0.1
	comp=Z,4.6nm,1.0s,mb4.2						
MCMT	McKenzie Canyo	43.31	72	eP	P	07 26 24.5	-1.0
BOZ	Bozeman (W)	43.59	70	eP	P	07 26 27.5	-0.2
BOZ				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.6						
BOZ	Bozeman (W)	43.59	70	eP	P	07 26 27.5	-0.2
	comp=Z,15nm,1.2s,mb4.6						
NVAR	Mina Array Bea	43.69	83	P	P	07 26 30.0	+1.5
	comp=Z,0.5nm,0.6s,mb3.5,baz=297,slow=7.0,SNR=6.7						
QLMT	Earthquake Lak	44.16	71	eP	P	07 26 32.6	+0.4
IMW	Indian Meadow	44.97	72	eP	P	07 26 38.7	-0.1
	comp=Z,3.3nm,0.8s,mb4.2						
RRI2	Red Ridge	45.06	72	eP	P	07 26 40.0	+0.6
	comp=Z,5.2nm,0.8s,mb4.4						
RLMT	Red Lodge	45.27	69	eP	P	07 26 41.4	+0.3
BGU	Big Grassy Mou	45.44	76	eP	P	07 26 42.6	+0.2
HWUT	Hardware Ranch	45.92	75	eP	P	07 26 47.1	+0.8
	comp=Z,4.8nm,1.1s,mb4.3						
DUG	Dugway	46.01	77	eP	P	07 26 47.3	+0.4
DUG				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
DUG	Dugway	46.01	77	eP	P	07 26 47.3	+0.4
	comp=Z,11nm,1.0s,mb4.7						
ULN	Ulaanbaatar	46.16	296	eP	P	07 26 48.7	+0.5
ULN				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ULN	Ulaanbaatar	46.16	296	eP	P	07 26 48.7	+0.5
	comp=Z,8.2nm,1.1s,mb4.6						
BW06	Boulder Array	46.45	72	eP	P	07 26 50.4	+0.1
	comp=Z,4.3nm,0.6s,mb4.6						
PDAR	Pinedale Array	46.45	72	P	P	07 26 50.6	+0.3
	comp=Z,6.5nm,0.7s,mb4.7,baz=309,slow=3.9,SNR=78						
SONM	Songino Array	46.55	297	P	P	07 26 51.9	+0.7
	comp=Z,3.6nm,0.9s,mb4.3,baz=64,slow=6.7,SNR=23						
SONM				LR	LR	07 46 49.2	
	comp=Z,186nm,20.3s,MS4.0,baz=71,slow=37						
ZAK	Zakamensk	46.87	301	⇑iP	P	07 26 54.1	+0.4
ZAK				e		07 28 20.8	
TMUT	Trail Mountain	47.53	77	eP	P	07 26 59.7	+0.9
TMUT				epP	pP	07 27 14.2	+2.2
SSE	Sheshan	47.87	269	P	P	07 26 59.3	-2.1
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,6.9s						
SRU	San Rafael	48.07	77	eP	P	07 27 03.1	+0.1
SRU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
SRU	San Rafael	48.07	77	eP	P	07 27 03.1	+0.2
	comp=Z,6.3nm,0.6s,mb4.8						
RSSD	Black Hills	48.90	67	eP	P	07 27 08.8	-0.6
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RSSD	Black Hills	48.90	67	eP	P	07 27 08.8	-0.6
	comp=Z,4.3nm,0.8s,mb4.5						
PV10	Paradox Valley	49.43	76	eP	P	07 27 13.7	+0.2
ULM	Lac du Bonnet	49.82	57	LR	LR	07 48 06.1	
	comp=Z,58nm,19.1s,MS3.6,baz=236,slow=36						
PV01	Paradox Valley	49.87	76	eP	P	07 27 16.4	-0.4
SMCO	Snowmass	50.18	74	eP	P	07 27 19.5	+0.3
	comp=Z,2.3nm,0.7s,mb4.3						
SDCO	Great Sand Dun	51.98	75	eP	P	07 27 33.6	+1.0
	comp=Z,5.1nm,0.9s,mb4.5						
ANMO	Albuquerque	53.23	78	⇑eP	P	07 27 45.0	+3.1
ZAL	Zalesovo	53.98	313	LR	LR	07 53 11.5	
	comp=Z,107nm,18.6s,MS3.9,baz=345,slow=39						
LZH	Lanzhou	55.27	286	eP	P	07 27 57.1	+0.4
LZH				PP	PP	07 30 02.5	+1.9
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.0						
GTA	Gaotai	55.46	292	⇑P	P	07 27 58.9	+0.8
GTA				AMB	AMB		
	comp=Z,13nm,0.6s,mb5.1						
WMOK	Wichita Mounta	58.03	73	eP	P	07 28 16.1	-0.2
WMOK				e*PP	pP	07 28 26.3	-3.5
WMOK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WMOK	Wichita Mounta	58.03	73	eP	P	07 28 16.1	-0.3
	comp=Z,2.8nm,0.6s,mb4.5						
WMOK				epP	pP	07 28 26.3	-3.5
ARCES	ARCESS Array B	58.11	350	P	P	07 28 15.6	-1.3
	comp=Z,2.7nm,0.7s,mb4.4,baz=28,slow=11,SNR=4.3						
ARCES	ARCESS Array B	58.11	350	P	P	07 28 15.6	-1.3
SCHQ	Schefferville	60.12	38	P	P	07 28 28.8	-2.0
	comp=Z,4.0nm,0.9s,mb4.4,baz=260,slow=9.8,SNR=3.7						
JCT	Junction City	60.37	77	eP	P	07 28 32.0	-0.5
JCT				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
JCT	Junction City	60.37	77	eP	P	07 28 32.0	-0.5
	comp=Z,32nm,0.6s,mb5.5						
MIAR	Mount Ida	61.26	70	eP	P	07 28 37.9	-0.7
MIAR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
MIAR	Mount Ida	61.26	70	eP	P	07 28 37.9	-0.7
	comp=Z,9.7nm,1.1s,mb4.8						
ZRNK	Zerenda	61.45	320	eP	P	07 28 38.5	-1.4
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ZRNK	Zerenda	61.45	320	eP	P	07 28 38.5	-1.4
	comp=Z,3.0nm,0.6s,mb4.6						
SADO	Sadowa	61.96	53	LR	LR	07 54 34.2	
	comp=Z,75nm,18.5s,MS3.9,baz=356,slow=35						
USIN	University of	62.26	63	eP	P	07 28 44.6	-0.6
	comp=Z,12nm,0.4s,mb5.4						
WCI	Wyandotte Cave	62.84	62	eP	P	07 28 48.3	-0.8
WCI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
WCI	Wyandotte Cave	62.84	62	eP	P	07 28 48.2	-0.9
	comp=Z,9.4nm,0.9s,mb4.9						
KMI	Kunming	63.60	278	P	P	07 28 55.0	+0.8
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
JOF	Joensuu	63.61	345	ep	P	07 28 52.5	-1.7
	comp=Z,6.0nm,0.6s,mb4.8						
PLAL	Pickwick Lake	64.14	66	eP	P	07 28 57.0	-0.7
	comp=Z,8.2nm,0.8s,mb4.8						
KAF	Kangasniemi	65.12	347	ep	P	07 29 02.2	-1.9
	baz=14,slow=5.9						
AFI	Afiamalu	65.27	172	LR	LR	07 51 08.8	
	comp=Z,102nm,20.0s,MS4.0,baz=100,slow=30						
FINES	FINESS Array B	65.80	347	P	P	07 29 07.7	-0.8
	comp=Z,3.3nm,0.6s,mb4.5,baz=20,slow=8.8,SNR=18						
TKL	Tuckaleechee C	66.09	63	LR	LR	07 59 53.0	
	comp=Z,56nm,18.5s,MS3.8,baz=302,slow=38						
LRAL	Lakeview Retre	66.17	67	eP	P	07 29 09.9	-0.9
	comp=Z,7.5nm,1.1s,mb4.6						
AAK	Ala-Archa	66.79	310	d iP	P	07 29 15.5	+0.6
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
AAK	Ala-Archa	66.79	310	eP	P	07 29 15.4	+0.6
	comp=Z,2.1nm,0.6s,mb4.3						
NB2	NORSAR Subarra	67.68	355	P	P	07 29 20.0	-0.5
	comp=Z,1.0nm,0.6s,mb4.0,baz=6.5,slow=6.5						
NOA	NORSAR Array B	67.68	355	P	P	07 29 20.2	-0.3
	comp=Z,1.8nm,0.7s,mb4.2,baz=7.1,slow=6.5,SNR=8.3						
NOA	NORSAR Array B	67.68	355	P	P	07 29 20.2	-0.3
GUN	Gumba	71.75	292	eP	P	07 29 47.0	+1.5
	comp=Z,56nm,0.7s,mb5.6						
KKN	Kakani	72.19	292	eP	P	07 29 49.5	+1.3
	comp=Z,15nm,0.4s,mb5.2						
PKI	Pulchoki	72.28	292	eP	P	07 29 49.7	+1.0
	comp=Z,22nm,0.6s,mb5.2						
KOLN	Koldanda	73.18	293	eP	P	07 29 54.8	+0.8
	comp=Z,27nm,1.0s,mb5.1						
RAR	Rarotonga	74.18	161	LR	LR	07 54 41.0	
	comp=Z,167nm,20.4s,MS4.3,baz=105,slow=29						
AKASG	Malin Array Be	75.55	342	P	P	07 30 06.7	-1.1
	comp=Z,4.1nm,0.7s,mb4.5,baz=19,slow=5.8,SNR=22						
AKASG				LR	LR	08 09 01.6	
	comp=Z,81nm,18.6s,MS4.0,baz=245,slow=40						
AKASG	Malin Array Be	75.55	342	eP	P	07 30 07.6	-0.2
AKASG	Malin Array Be	75.55	342	P	P	07 30 06.7	-1.1
STHS	Stebnicka Huta	78.15	347	eP	P	07 30 23.1	+0.7
STHS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
STHS	Stebnicka Huta	78.15	347	eP	P	07 30 23.1	+0.7
	comp=Z,3.3nm,1.0s,mb4.2						
CRVS	Cervenica-Dubn	78.62	346	eP	P	07 30 26.0	+1.0
CRVS	Cervenica-Dubn	78.62	346	eP	P	07 30 26.1	+1.1
BAIF	Baives	78.95	358	eP	P	07 30 26.8	0.0
	comp=Z,8.6nm,1.0s,mb4.3						
BAIF	Baives	78.95	358	eP	P	07 30 26.8	0.0
BAIF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BAIF	Baives	78.95	358	eP	P	07 30 26.8	0.0
	comp=Z,4.3nm,1.0s,mb4.3						
KECS	Kecovo	79.17	347	eP	P	07 30 27.9	-0.2
KECS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KECS	Kecovo	79.17	347	eP	P	07 30 27.9	-0.2
	comp=Z,2.0nm,0.8s,mb4.1						
BURAR	Bucovina Array	79.26	344	⇓iP	P	07 30 28.7	+0.2
KHC	Kasperske Hory	79.34	352	⇑eP	P	07 30 29.8	+0.8
VYHS	Vyhne	79.38	348	eP	P	07 30 29.6	+0.4
VYHS	Vyhne	79.38	348	eP	P	07 30 29.7	+0.5
GERES	GERESS Array B	79.61	352	P	P	07 30 30.4	0.0
	comp=Z,1.0nm,0.6s,mb3.9,baz=27,slow=6.3,SNR=9.8						
FLN	La Foliniere	80.28	1	eP	P	07 30 33.5	-0.5
	comp=Z,11nm,0.8s,mb4.5						
FLN	La Foliniere	80.28	1	eP	P	07 30 33.5	-0.5
FLN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
FLN	La Foliniere	80.28	1	eP	P	07 30 33.5	-0.5
	comp=Z,5.6nm,0.8s,mb4.5						
LDF	La Druitiere	80.45	1	eP	P	07 30 34.3	-0.7
	comp=Z,27nm,1.1s,mb4.8						
LDF	La Druitiere	80.45	1	eP	P	07 30 34.3	-0.7
LDF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
LDF	La Druitiere	80.45	1	eP	P	07 30 34.3	-0.7
	comp=Z,14nm,1.1s,mb4.8						
DRGR		80.48	345	⇑iP	P	07 30 36.1	+0.9
MEZF	Maizieres J'vi	80.48	357	eP	P	07 30 35.1	-0.1
ROSF	Rostrenen	80.64	3	eP	P	07 30 35.7	-0.3
GRR	Gorron	80.64	1	eP	P	07 30 35.6	-0.4
	comp=Z,11nm,0.7s,mb4.6						
GRR	Gorron	80.64	1	eP	P	07 30 35.6	-0.4
GRR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
GRR	Gorron	80.64	1	eP	P	07 30 35.6	-0.4
	comp=Z,5.4nm,0.7s,mb4.6						
SGMF	Saint Gilles	80.75	2	eP	P	07 30 36.3	-0.3
	comp=Z,15nm,0.8s,mb4.7						
SGMF	Saint Gilles	80.75	2	eP	P	07 30 36.3	-0.3
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SGMF	Saint Gilles	80.75	2	eP	P	07 30 36.3	-0.3
	comp=Z,7.4nm,0.8s,mb4.7						
MLR	Muntele Rosu	81.17	343	P	P	07 30 40.2	+1.4
	comp=Z,2.9nm,0.6s,mb4.4,baz=91,slow=16,SNR=5.2						
MLR	Muntele Rosu	81.17	343	⇓iP	P	07 30 39.9	+1.0
VOIR		81.39	343	⇓iP	P	07 30 40.8	+0.8
LOR	Lormes	81.75	358	eP	P	07 30 41.5	-0.4
	comp=Z,4.8nm,0.8s,mb4.2						
LOR	Lormes	81.75	358	eP	P	07 30 41.5	-0.4
LOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
LOR	Lormes	81.75	358	eP	P	07 30 41.5	-0.4
	comp=Z,2.4nm,0.8s,mb4.2						
BZS	Buzias	81.80	346	⇓iP	P	07 30 42.1	-0.1
WRA	Warramunga Arr	81.89	224	P	P	07 30 41.0	-1.6
	comp=Z,1.3nm,0.7s,mb3.9,baz=36,slow=6.5,SNR=8.5						
SSF	Saint Saulge	81.96	358	eP	P	07 30 42.8	-0.2
AVF	Avril sur Loir	82.23	358	eP	P	07 30 44.1	-0.3
	comp=Z,21nm,1.2s,mb4.6						
AVF	Avril sur Loir	82.23	358	eP	P	07 30 44.1	-0.3
AVF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
AVF	Avril sur Loir	82.23	358	eP	P	07 30 44.1	-0.3
	comp=Z,10nm,1.2s,mb4.6						
CABF	La Chapelle	82.34	356	eP	P	07 30 45.0	0.0
	comp=Z,21nm,1.2s,mb4.6						
CABF	La Chapelle	82.34	356	eP	P	07 30 45.0	0.0
CABF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CABF	La Chapelle	82.34	356	eP	P	07 30 45.0	0.0
	comp=Z,10nm,1.2s,mb4.6						
SMF	Signal de Mont	82.37	358	eP	P	07 30 44.7	-0.4
	comp=Z,17nm,1.0s,mb4.6						
SMF	Signal de Mont	82.37	358	eP	P	07 30 44.7	-0.4
SMF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
SMF	Signal de Mont	82.37	358	eP	P	07 30 44.7	-0.4
	comp=Z,8.4nm,1.0s,mb4.6						
MFF	Saint Martin d	82.44	1	eP	P	07 30 45.1	-0.4
	comp=Z,90nm,1.7s,mb5.1						
MFF	Saint Martin d	82.44	1	eP	P	07 30 45.1	-0.4
MFF				pmax	pmax		
	comp=Z,45nm,1.7s,mb5.1						
MFF	Saint Martin d	82.44	1	eP	P	07 30 45.1	-0.4
	comp=Z,45nm,1.7s,mb5.1						
TCF	Toulx Ste Croi	82.75	359	eP	P	07 30 46.6	-0.5
	comp=Z,18nm,1.1s,mb4.7						
TCF	Toulx Ste Croi	82.75	359	eP	P	07 30 46.6	-0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TCF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**82.75**	**359**	*e*P	**P**	**07 30 46.6**	**-0.5**
	comp=Z,9.0nm,1.1s,mb4.7						
LFF	**La Frestale**	**84.11**	**0**	*e*P	**P**	**07 30 54.0**	**-0.1**
CAF	**Calviac**	**84.12**	**359**	*e*P	**P**	**07 30 54.2**	**+0.1**
VIVF	**Saint-Julien-l**	**84.14**	**357**	*e*P	**P**	**07 30 54.3**	**0.0**
FITZ	**Fitzroy Crossi**	**84.33**	**232**	*e*P	**P**	**07 30 55.2**	**-0.1**
	comp=Z,7.1nm,1.0s,mb4.8						
BR131	**Keskin Array S**	**84.93**	**335**	*e*P	**P**	**07 30 58.5**	**+0.3**
	comp=Z,8.7nm,1.1s,mb4.8						
BRTR	**Keskin Array B**	**84.93**	**335**	P	**P**	**07 30 58.3**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.6,baz=47,slow=2.6,SNR=15						
ASAR	**Alice Springs**	**85.37**	**222**	P	**P**	**07 31 00.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.1,baz=26,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**85.37**	**222**	*e*P	**P**	**07 31 00.2**	**-0.2**
MTLF	**Montolieu**	**85.70**	**359**	*e*P	**P**	**07 31 02.1**	**0.0**
	comp=Z,37nm,1.4s,mb5.1						
MTLF	**Montolieu**	**85.70**	**359**	*e*P	**P**	**07 31 02.1**	**0.0**
MTLF				pmax	pmax		
	comp=Z,18nm,1.4s,mb5.1						
MTLF	**Montolieu**	**85.70**	**359**	*e*P	**P**	**07 31 02.1**	**0.0**
	comp=Z,18nm,1.4s,mb5.1						
ETSF	**Etsaut**	**86.14**	**1**	*e*P	**P**	**07 31 04.6**	**+0.3**
	comp=Z,10nm,0.7s,mb4.8						
ETSF	**Etsaut**	**86.14**	**1**	*e*P	**P**	**07 31 04.6**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
ETSF	**Etsaut**	**86.14**	**1**	*e*P	**P**	**07 31 04.6**	**+0.3**
	comp=Z,5.1nm,0.7s,mb4.9						
ESDC	**Sonseca Array**	**89.27**	**4**	P	**P**	**07 31 18.0**	**-1.2**
	comp=Z,0.8nm,0.6s,mb4.3,baz=352,slow=4.9,SNR=8.0						
STKA	**Stephens Creek**	**89.82**	**213**	*e*P	**P**	**07 31 22.0**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**89.82**	**213**	P	**P**	**07 31 22.4**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.7,baz=349,slow=8.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**115.79**	**359**	PKiKP	PKiKP	07 37 04.5	-1.0
	comp=Z,0.3nm,0.5s,baz=340,slow=2.6,SNR=5.1						
DBIC	**Dimbokro**	**122.01**	**7**	PKP	PKPdf	07 37 20.3	+2.9
	comp=Z,5.8nm,1.0s,baz=120,slow=16,SNR=2.6						

MOS ***17*** *07:30:09.8±0.8, 17.56S×41.86E, h10km, mb5.6/96, MS4.7/31, Error ellipse: s-maj=10.9km s-min=3.5km az=104.9*

IDC ***17*** *07:30:09.3±0.4, 17.72S×41.83E, h0km, mb4.8/32, mb1 4.9/36, mb1mx4.9/36, mbtmp4.9/36, ML4.5/4, MS4.5/25, Ms1 4.5/25, ms1mx4.4/33, Error ellipse: s-maj=14.7km s-min=12.0km az=87.0*

BJI ***17*** *07:30:09.2, 17.45S×41.81E, h5km, mB5.6, mb5.3, Ms5.1, Msz4.8*

ISCJB ***17*** *07:30:10.7±0.2, 17.65S±0.03×41.84E±0.03, h18km, mb5.3/223, MS4.8/125, Error ellipse: s-maj=5.2km s-min=4.2km az=93.9*

NEIC ***17*** *07:30:11.1±0.1, 17.69S×41.83E, h10km, mb5.5/138, MS5.0/95, Error ellipse: s-maj=5.6km s-min=3.9km az=62.0*

CRAAG ***17*** *07:30:11.1, 17.60S×41.86E, Mb5.5*

GCMT ***17*** *07:30:11.1±0.2, 17.56S×41.76E, h12km, MW5.1/81, Moment Tensor Solution. s43,c59; s81,c128; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-5.46±.11; $M_{\theta\theta}$0.43±.11; $M_{\phi\phi}$5.03±.10; $M_{r\theta}$0.58±.37; $M_{\theta\phi}$0.55±.10; $M_{\phi r}$1.55±.32; Best double couple: M_o5.53000×10^16 NP1:ϕ_s3.00000°,δ37.00000°,λ-96.00000°. NP2: ϕ_s191.00000°,δ54.00000°,λ-86.00000°. Principal axes: T 5.3350, Plg8.0000°, Azm277.0000°; N 0.3940, Plg4.0000°, Azm8.0000°; P -5.7250, Plg81.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

LDG ***17*** *07:30:13.0±0.2, 16.84S×42.16E, h10km, Mb5.6/43, Ms4.3/8 Error ellipse: s-maj=13.8km s-min=5.4km az=29.0*

SZGRF ***17*** *07:30:23.2, 15.37S×42.32E, h15km, mb5.5, Mozambique Channel*

ISC 17 07:30:12.9±0.2, **17.69S**±0.03×**41.82E**±0.03, **h19**km, **h19**km±.9km**:pP-P, n762, σ0s84**/614, **mb5.3**/223, **MS4.8**/125, **14C-146D, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.18**	**101**	Pn	**Pn**	**07 31 27.8**	**-1.5**
	204nm,0.3s,baz=271,slow=13,SNR=744						
OPO				Sn	**Sn**	**07 32 24.3**	**-4.3**
	143nm,0.3s,baz=246,slow=7.5,SNR=5.2						
MATP	**Matopo**	**12.88**	**256**	Pn	**Pn**	**07 33 08.4**	**-6.5**
	0.8nm,0.3s,baz=77,slow=16,SNR=13						
MATP				Sn	**Sn**	**07 35 32.7**	**-5.0**
	5.2nm,0.3s,baz=344,slow=22,SNR=4.3						
MATP				LR	LR	07 38 35.5	
	comp=Z,3μm,18.2s,baz=84,slow=39						
MATP	**Matopo**	**12.88**	**256**	Pn	**Pn**	**07 33 08.4**	**-6.5**
MATP				Sn	**Sn**	**07 35 32.7**	**-5.0**
MATP				LR	LR	07 38 35.5	
LSZ	**Lusaka**	**13.29**	**278**	Pn	**Pn**	**07 33 17.0**	**-3.5**
	3.7nm,0.3s,baz=112,slow=13,SNR=17						
LSZ				LR	LR	07 38 20.6	
	comp=Z,3μm,20.0s,baz=187,slow=37						
LSZ	**Lusaka**	**13.29**	**278**	P	**Pn**	**07 33 17.0**	**-3.4**
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
LSZ				MLR	MLR		
	comp=Z,3μm,20.0s						
LSZ	**Lusaka**	**13.29**	**278**	*e*Pn	**Pn**	**07 33 16.5**	**-3.9**
LSZ				*e*Sn	**Sn**	**07 35 32.8**	**-15**
LBTB	**Lobatse**	**16.77**	**241**	Pn	**Pn**	**07 34 03.7**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=65,slow=13,SNR=15						
LBTB				LR	LR	07 40 15.5	
	comp=Z,1μm,21.9s,baz=76,slow=36						
LBTB	**Lobatse**	**16.77**	**241**	P	**Pn**	**07 34 03.7**	**-2.9**
LBTB				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LBTB				MLR	MLR		
	comp=Z,1μm,21.9s						
LBTB	**Lobatse**	**16.77**	**241**	*e*Pn	**Pn**	**07 34 02.5**	**-4.0**
KMBO	**Kilima Mbogo**	**17.05**	**344**	P	**Pn**	**07 34 09.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=156,slow=14,SNR=22						
KMBO				LR	LR	07 41 05.4	
	comp=Z,875nm,18.4s,baz=329,slow=38						
BOSA	**Boshof**	**18.69**	**231**	P	**Pn**	**07 34 28.4**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=53,slow=12,SNR=31						
BOSA				LR	LR	07 41 17.0	
	comp=Z,1μm,19.7s,baz=68,slow=36						
BOSA	**Boshof**	**18.69**	**231**	P	**Pn**	**07 34 28.4**	**-1.9**
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BOSA				MLR	MLR		
	comp=Z,1μm,19.7s						
BOSA	**Boshof**	**18.69**	**231**	*e*Pn	**Pn**	**07 34 27.6**	**-2.8**
	comp=Z,34nm,0.7s						
TSUM	**Tsumeb**	**23.04**	**262**	P	**P**	**07 35 16.0**	**-0.8**
	comp=Z,43nm,1.0s,mb4.8,baz=80,slow=8.0,SNR=15						
TSUM				LR	LR	07 44 18.3	
	comp=Z,1μm,20.2s,MS4.4,baz=140,slow=37						
TSUM	**Tsumeb**	**23.04**	**262**	*e*P	**P**	**07 35 16.2**	**-0.6**
	comp=Z,59nm,0.8s,mb5.1						
TSUM				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
SUR	**Sutherland**	**23.94**	**228**	P	**P**	**07 35 25.6**	**-0.1**
	comp=Z,2μm,0.8s,SNR=32						
SUR	**Sutherland**	**23.94**	**228**	P	**P**	**07 35 25.4**	**-0.3**
	comp=Z,200nm,0.8s,mb5.6,baz=70,slow=8.5,SNR=76						
SUR				LR	LR	07 44 36.7	
	comp=Z,916nm,18.3s,MS4.3,baz=213,slow=36						
SUR	**Sutherland**	**23.94**	**228**	⇑P	**P**	**07 35 25.7**	**0.0**
	SNR=7.3						
SUR	**Sutherland**	**23.94**	**228**	*e*P	**P**	**07 35 24.6**	**-1.1**
	comp=Z,170nm,0.8s,mb5.5						
SUR				LR	LR		
	comp=Z,300nm,20.0s,MS3.8						
FURI	**Furi**	**26.59**	**353**	*e*P	**P**	**07 35 50.3**	**+0.5**
ATD	**Arta Tunnel**	**29.05**	**2**	P	**P**	**07 36 11.4**	**-0.3**
	comp=Z,20nm,1.2s,mb4.7,baz=230,slow=23,SNR=6.1						
ATD				LR	LR	07 50 20.7	
	comp=Z,248nm,18.8s,MS3.9,baz=152,slow=42						
DGAR	**Diego Garcia**	**31.55**	**75**	PFAKE		07 36 50.0	+16
DGAR				LR	LR		
	comp=Z,323nm,21.0s,MS4.0						
JMDO	**Jabal Madar**	**42.88**	**22**	⇓P	**P**	**07 38 09.8**	**-0.1**
	SNR=6.8						
BSY	**Bisya**	**42.91**	**21**	⇓P	**P**	**07 38 10.8**	**+0.7**
	SNR=19						
SMDO	**Samad**	**43.49**	**22**	⇑P	**P**	**07 38 15.9**	**+1.0**
	SNR=9.6						
ASHO	**Ashiyiah**	**44.34**	**19**	⇓P	**P**	**07 38 22.9**	**+1.2**
NAY	**Al-Naaiem**	**46.95**	**6**	*e*P	**P**	**07 38 42.9**	**+0.6**
POO	**Poona**	**47.82**	**43**	⇑*i*P	**P**	**07 38 47.0**	**-2.1**
	comp=Z,333nm,2.0s,mb6.0						
ASF	**Jabal al Asfar**	**49.80**	**355**	P	**P**	**07 39 05.8**	**+1.5**
	comp=Z,24nm,1.1s,mb5.1,baz=59,slow=2.2,SNR=35						
TOA0	**Torodi Ar. Sit**	**50.07**	**305**	*e*P	**P**	**07 39 05.9**	**-0.5**
TOA0				*e*pP	pP	07 39 12.1	-0.3
TORD	**Torodi Ar. Bea**	**50.07**	**305**	P	**P**	**07 39 05.9**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0,baz=122,slow=6.5,SNR=49						
TORD				PcP	PcP	07 40 26.0	+0.1
	comp=Z,5.7nm,0.9s,baz=113,slow=4.6,SNR=2.9						
TORD				PP	PP	07 41 06.6	+5.2
	comp=Z,5.1nm,0.8s,baz=129,slow=9.6,SNR=3.6						
TORD				LR	LR	08 00 56.0	
	comp=Z,2μm,18.3s,MS5.2,baz=135,slow=37						
HYB	**Hyderabad**	**50.24**	**48**	*i* P	**P**	**07 39 08.0**	**+0.4**
HYB	**Hyderabad**	**50.24**	**48**	*e*P	**P**	**07 39 08.0**	**+0.4**
BHD	**Baghdad**	**50.73**	**3**	*e*x	x	07 39 07.5	
SYO	**Syowa Base**	**51.33**	**181**	⇑*i*P	**P**	**07 39 15.2**	**-0.6**
AKL	**Akola**	**51.45**	**44**	*e*x	x	07 40 08.2	
AKL				AMb	AMB	07 40 08.7	
	comp=Z,51nm,0.5s,mb5.7						
MAW	**Mawson**	**51.70**	**170**	*e*P	**P**	**07 39 18.8**	**+0.2**
	comp=Z,18nm,1.3s,mb4.8						
MAW	**Mawson**	**51.70**	**170**	P	**P**	**07 39 18.6**	**0.0**
	comp=Z,20nm,1.1s,mb5.0,baz=327,slow=8.4,SNR=12						
MAW	**Mawson**	**51.70**	**170**	*e*P	**P**	**07 39 18.8**	**+0.2**
MAW				pmax	pmax		
	comp=Z,69nm,1.4s						
MAW	**Mawson**	**51.70**	**170**	*e*P	**P**	**07 39 18.8**	**+0.2**
	comp=Z,69nm,1.4s,mb5.4						
DBIC	**Dimbokro**	**52.05**	**294**	P	**P**	**07 39 21.8**	**+0.5**
	comp=Z,12nm,0.5s,mb5.0,baz=104,slow=8.8,SNR=40						
DBIC				LR	LR	08 01 11.1	
	comp=Z,1μm,18.9s,MS5.0,baz=105,slow=36						
DBIC	**Dimbokro**	**52.05**	**294**	P	**P**	**07 39 21.8**	**+0.6**
DBIC				pmax	pmax		
	comp=Z,12nm,0.5s						
DBIC				MLR	MLR		
	comp=Z,1μm,19.0s						
DBIC	**Dimbokro**	**52.05**	**294**	*e*P	**P**	**07 39 21.1**	**-0.1**
	comp=Z,44nm,1.0s,mb5.3						
DBIC				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
CSS	**Prodhromos**	**52.97**	**351**	*e*P	**P**	**07 39 26.6**	**-1.4**
	comp=Z,43nm,1.1s,mb5.3						
NGP	**Nagpur**	**53.12**	**45**	*e*P	**P**	**07 39 27.1**	**-2.0**
NGP				AMb	AMB	07 39 27.9	
	comp=Z,55nm,2.5s,mb5.0						
BHPL	**Bhopal**	**53.53**	**42**	*e*P	**P**	**07 39 33.0**	**+0.9**
BHPL				AMb	AMB	07 39 35.4	
	comp=Z,86nm,1.2s,mb5.5						
MSL	**Mosul**	**53.69**	**1**	*e*x	x	07 39 42.5	
VIS	**Vishakhapatnam**	**53.91**	**51**	*e*P	**P**	**07 39 33.5**	**-1.4**
VIS				AMb	AMB	07 39 36.4	
	comp=Z,64nm,1.2s,mb5.4						
AJM	**Ajmer**	**54.26**	**37**	*e*P	**P**	**07 39 37.1**	**-0.3**
AJM				AMb	AMB	07 39 41.5	
	comp=Z,99nm,1.5s,mb5.5						
ZKR	**Zakros**	**54.56**	**344**	*e*P	**P**	**07 39 46.5**	**+6.8**
ERMK	**Ermenek**	**54.68**	**351**	*i* P	**P**	**07 39 42.0**	**+1.5**
SIVA	**Sivas**	**54.84**	**343**	*e*P	**P**	**07 39 42.6**	**+0.8**
GZT	**Gaziantep**	**54.89**	**356**	*i* P	**P**	**07 39 43.4**	**+1.4**
MALT	**Malatya**	**55.79**	**357**	⇓*i*P	**P**	**07 39 50.1**	**+1.5**
MALT	**Malatya**	**55.79**	**357**	*e*P	**P**	**07 39 50.0**	**+1.4**
	comp=Z,59nm,1.1s,mb5.5						
SANT	**Santorini**	**55.94**	**344**	*e*P	**P**	**07 39 50.3**	**+0.6**
	comp=Z,84nm,1.1s,mb5.7						
ELZG	**Elazig**	**55.95**	**357**	*i* P	**P**	**07 39 51.2**	**+1.5**
NVL	**N'lazarevskaya**	**56.05**	**192**	⇑*i*P	**P**	**07 39 50.5**	**+0.1**
NVL				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
MAIT	**Maitri**	**56.07**	**192**	*e*P	**P**	**07 39 51.4**	**+0.8**
BDRM	**Kayabasi**	**56.12**	**346**	*i* P	**P**	**07 39 51.1**	**+0.2**
ISP	**Isparta**	**56.24**	**349**	*e*P	**P**	**07 39 51.3**	**-0.5**
ISP	**Isparta**	**56.24**	**349**	*e*P	**P**	**07 39 51.8**	**0.0**
ISP				pmax	pmax		
	comp=Z,62nm,1.0s,mb5.6						
ISP	**Isparta**	**56.24**	**349**	*e*P	**P**	**07 39 51.8**	**-0.1**
	comp=Z,62nm,1.0s,mb5.6						
TKTP	**Tekketepe**	**56.47**	**349**	*i* P	**P**	**07 39 54.0**	**+0.6**
AVNT	**Avonos**	**56.54**	**353**	*i* P	**P**	**07 39 54.5**	**+0.5**
AYDN	**Tasoluk**	**56.59**	**347**	*i* P	**P**	**07 39 55.3**	**+1.0**
ABKT	**Ailbek**	**57.40**	**15**	P	**P**	**07 40 00.8**	**+0.8**
	comp=Z,131nm,1.3s,mb5.8,SNR=6.1						
ABKT	**Ailbek**	**57.40**	**15**	P	**P**	**07 40 00.1**	**+0.1**
KELT	**Kelkit**	**57.58**	**358**	*i* P	**P**	**07 40 02.3**	**+1.0**
GNI	**Garni**	**57.60**	**3**	P	**P**	**07 40 01.7**	**+0.3**
	comp=Z,23nm,1.1s,mb5.1,baz=340,slow=22,SNR=9.6						
GNI	**Garni**	**57.60**	**3**	*e*P	**P**	**07 40 02.3**	**+0.9**
GNI				pmax	pmax		
	comp=Z,81nm,1.4s						
GNI				MLR	MLR		
	comp=Z,287nm,21.0s						
GNI	**Garni**	**57.60**	**3**	*e*P	**P**	**07 40 02.3**	**+0.9**
	comp=Z,81nm,1.4s,mb5.6						
GNI				LR	LR		
	comp=Z,287nm,21.0s,MS4.4						
BRTR	**Keskin Array B**	**57.62**	**353**	P	**P**	**07 40 01.6**	**+0.1**
	comp=Z,11nm,1.0s,mb4.8,baz=170,slow=8.1,SNR=33						
BR131	**Keskin Array S**	**57.62**	**353**	*e*P	**P**	**07 40 01.5**	**0.0**
	comp=Z,9.4nm,0.6s,mb5.0						
BR131				*e*PcP	PcP	07 40 55.7	+1.1
ANTO	**Ankara**	**57.87**	**352**	P	**P**	**07 40 04.5**	**+1.2**
ANTO				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
ANTO	**Ankara**	**57.87**	**352**	*e*P	**P**	**07 40 02.5**	**-0.8**
	comp=Z,30nm,1.0s,mb5.3						
ANTO				LR	LR		
	comp=Z,197nm,19.0s,MS4.2						
CTKT	**Corum**	**58.37**	**354**	*i* P	**P**	**07 40 07.6**	**+0.8**
ELDT	**Eldivan**	**58.40**	**352**	*i* P	**P**	**07 40 06.7**	**-0.3**
SGKT	**Sivrigoynuk**	**58.66**	**351**	*i* P	**P**	**07 40 07.2**	**-1.7**
ULDT	**Uludag**	**58.73**	**349**	*i* P	**P**	**07 40 10.0**	**+0.7**
DGRG	**David-gareji**	**58.92**	**3**	P	**P**	**07 40 11.5**	**+0.8**
MIR	**Mirnyy**	**58.95**	**159**	*d i*P	**P**	**07 40 12.5**	**+1.6**
MIR				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
MTA	**Mtatsminda**	**59.14**	**3**	P	**P**	**07 40 12.5**	**+0.3**
TBLG	**Delisi**	**59.17**	**3**	P	**P**	**07 40 13.4**	**+1.0**
SMLA	**Simla**	**59.24**	**35**	*e*P	**P**	**07 40 12.6**	**-0.2**
SMLA				AMb	AMB	07 40 16.6	
	comp=Z,182nm,1.8s,mb5.8						
AGG	**Agios Georgios**	**59.29**	**342**	*e*P	**P**	**07 40 13.0**	**-0.1**
BALT	**Daday**	**59.43**	**353**	*i* P	**P**	**07 40 14.1**	**-0.1**
BOK	**Bokaro**	**59.58**	**48**	*e*P	**P**	**07 40 15.7**	**+0.5**
BOK				AMb	AMB	07 40 18.3	
	comp=Z,88nm,1.3s,mb5.6						
SNAA	**Sanae**	**59.94**	**195**	*e*PKPdf	**P**	**07 40 17.2**	**-0.5**
SNAA				*e*	pP	07 40 21.0	-2.9
SNAA				*e*	pP	07 40 23.9	0.0
SNAA				*e*	pP	07 40 24.9	+1.0
SNAA				*e*		07 40 31.8	
SNAA				*e*		07 40 38.4	
SNAA				*e*		07 40 42.6	
SNAA				*e*		07 40 56.5	
SNAA	**Sanae**	**59.94**	**195**	*d i*P	**P**	**07 40 17.0**	**-0.7**
SNAA				*PP	pP	07 40 20.5	-3.4
SNAA	**Sanae**	**59.94**	**195**	*e*P	**P**	**07 40 16.7**	**-0.9**
	comp=Z,5.8nm,0.8s,mb4.7						
ALN	**Alexandroupoli**	**60.09**	**346**	*e*P	**P**	**07 40 19.6**	**+0.9**
ZEI	**Tsey**	**60.18**	**2**	*e*P	**P**	**07 40 19.0**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,52nm,1.1s,mb5.5						
IGT	**Igoumenitsa**	**60.35**	**341**	*e*P	**P**	**07 40 21.2**	**+0.6**
SOI	**Samo**	**60.51**	**337**	P	**P**	**07 40 23.2**	**+1.6**
HORT	**Hortiatis**	**60.54**	**344**	*e*P	**P**	**07 40 20.8**	**-1.0**
MTTG	**Motta San Giov**	**60.59**	**336**	P	**P**	**07 40 24.0**	**+1.9**
THE	**Thessaloniki**	**60.61**	**344**	*e*P	**P**	**07 40 22.3**	**+0.1**
VAE	**Valguarnera**	**60.63**	**335**	P	**P**	**07 40 23.5**	**+1.1**
	comp=Z,10nm,0.3s,mb5.4,baz=130,slow=7.9,SNR=2.0						
KOLN	**Koldanda**	**60.66**	**43**	*e*P	**P**	**07 40 22.5**	**-0.1**
	comp=Z,250nm,1.5s,mb6.1						
SOH	**Sokhos**	**60.68**	**344**	*e*P	**P**	**07 40 22.8**	**+0.1**
VNA1	**Neumayer--Stat**	**60.75**	**197**	*e*PKPdf	**P**	**07 40 24.2**	**+1.0**
VNA1				*e*		07 40 26.1	
VNA1				*e*		07 40 27.5	
VNA1				*e*	pP	07 40 28.8	-0.7
VNA1				*e*	pP	07 40 30.2	+0.7
VNA1				*e*		07 40 36.5	
VNA1				*e*		07 40 41.3	
VNA1				*e*		07 41 05.3	
KDZ	**Kurdzhali**	**60.95**	**346**	P	**P**	**07 40 23.7**	**-0.9**
GRG	**Griva**	**61.06**	**343**	*e*P	**P**	**07 40 25.7**	**+0.3**
KNT	**Kendrikon**	**61.12**	**344**	*e*P	**P**	**07 40 25.8**	**+0.1**
RZN	**Rozhen**	**61.16**	**345**	*i* P	**P**	**07 40 25.5**	**-0.5**
FNA	**Florina**	**61.19**	**342**	*e*P	**P**	**07 40 26.8**	**+0.5**
TIP	**Timpagrande**	**61.23**	**338**	*e*P	**P**	**07 40 28.6**	**+2.1**
MMB	**Musomiste**	**61.31**	**345**	*e*P	**P**	**07 40 22.8**	**-4.2**
KIV	**Kislovodsk**	**61.34**	**1**	*d i*P	**P**	**07 40 27.3**	**+0.1**
KIV				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.4						
KIV				MLR	MLR		
	comp=Z,114nm,16.0s,MS4.1						
KIV	**Kislovodsk**	**61.34**	**1**	*e*P	**P**	**07 40 27.7**	**+0.5**
	comp=Z,31nm,0.9s,mb5.4						
KIV				*e*PcP	PcP	07 41 09.3	-0.1
VAY	**Valandovo**	**61.36**	**344**	*e*P	**P**	**07 40 27.1**	**-0.2**
VAY	**Valandovo**	**61.36**	**344**	*i* P	**P**	**07 40 27.4**	**0.0**
KEST	**Kesra**	**61.39**	**330**	P	**P**	**07 40 28.8**	**+1.3**
	comp=Z,7.0nm,0.9s,mb4.8,baz=249,slow=1.4,SNR=8.3						
KEST				LR	LR	08 08 53.3	
	comp=Z,128nm,18.6s,MS4.1,baz=166,slow=38						
BIA	**Bitola**	**61.42**	**342**	*i* P	**P**	**07 40 28.3**	**+0.5**
VNA3	**Neumayer Olymp**	**61.46**	**197**	*e*PKPdf	**P**	**07 40 28.0**	**-0.1**
VNA3				*e*		07 40 30.3	
VNA3				*e*		07 40 31.6	
VNA3				*e*	pP	07 40 33.0	-1.3
VNA3				*e*	pP	07 40 34.3	0.0
VNA3				*e*		07 40 40.6	
VNA3				*e*		07 40 50.0	
VNA3				*e*		07 41 09.7	
VNA3				*e*		07 45 09.6	
VNA3				*e*		07 45 11.1	
VNA3				*e*		07 45 19.9	
JMB	**Yambol**	**61.48**	**347**	*e*P	**P**	**07 40 28.3**	**+0.1**
GKN	**Gorkha**	**61.49**	**43**	*e*P	**P**	**07 40 27.7**	**-0.6**
	comp=Z,209nm,1.2s,mb6.1						
DMN	**Daman**	**61.53**	**44**	*e*P	**P**	**07 40 28.6**	**0.0**
	comp=Z,204nm,1.4s,mb6.1						
PLD	**Plovdiv**	**61.55**	**346**	*e*P	**P**	**07 40 29.3**	**+0.6**
PKI	**Pulchoki**	**61.71**	**44**	*e*P	**P**	**07 40 29.2**	**-0.5**
	comp=Z,202nm,1.3s,mb6.1						
KKN	**Kakani**	**61.77**	**44**	*e*P	**P**	**07 40 30.0**	**-0.1**
STIP	**Stip**	**61.81**	**343**	*i* P	**P**	**07 40 30.9**	**+0.5**
ERC	**Erice**	**61.86**	**334**	P	**P**	**07 40 32.1**	**+1.4**
ORI	**Oriolo Calabro**	**62.12**	**338**	P	**P**	**07 40 34.2**	**+1.7**
GUN	**Gumba**	**62.25**	**44**	*e*P	**P**	**07 40 33.3**	**0.0**
	comp=Z,379nm,1.4s,mb6.3						
SKO	**Skopje**	**62.27**	**343**	*e*P	**P**	**07 40 34.5**	**+0.9**
SKO	**Skopje**	**62.27**	**343**	*i* P	**P**	**07 40 34.1**	**+0.6**
ANN	**Anapa**	**62.31**	**356**	*e*P	**P**	**07 40 33.1**	**-0.7**
ANN				*e**PP	pP	07 40 37.0	-3.0
ANN				*e*S	**S**	**07 49 05.2**	**+6.2**
ANN				pmax	pmax		
	comp=Z,101nm,1.9s,mb5.6						
KULM	**Kulim**	**62.38**	**74**	*e*P	**P**	**07 40 33.8**	**-0.4**
VTS	**Vitosha**	**62.38**	**345**	*e*P	**P**	**07 40 33.5**	**-0.7**
VTS	**Vitosha**	**62.38**	**345**	P	**P**	**07 40 32.0**	**-2.2**
PVL	**Pavlikeni**	**62.46**	**346**	P	**P**	**07 40 34.2**	**-0.6**
SIM	**Simferopol'**	**62.72**	**354**	*de*P	**P**	**07 40 37.0**	**+0.5**
SIM				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.4						
CMAH	**Djebel Manchou**	**63.03**	**329**	P	**P**	**07 40 43.5**	**+4.9**
CKFL	**Kef-Lekhel**	**63.20**	**329**	P	**P**	**07 40 41.0**	**+1.3**
CASM	**Ain Smara**	**63.20**	**328**	P	**P**	**07 40 45.0**	**+5.3**
BUC1	**Bucharest**	**63.39**	**347**	P	**P**	**07 40 42.1**	**+1.1**
SET	**Setif**	**63.70**	**328**	P	**P**	**07 40 47.0**	**+4.0**
DFRA	**Djebel Bou Aff**	**63.73**	**328**	P	**P**	**07 40 50.0**	**+6.8**
CFR	**Carcaliu**	**63.79**	**349**	⇑*i*P	**P**	**07 40 43.2**	**-0.4**
CFR	**Carcaliu**	**63.79**	**349**	P	**P**	**07 40 43.9**	**+0.3**
ATAF	**Djebel Tarf**	**64.04**	**327**	P	**P**	**07 40 47.7**	**+2.5**
MIDA	**Miranda**	**64.30**	**337**	P	**P**	**07 40 47.8**	**+0.8**
AKET	**Djebel Ketaf**	**64.38**	**326**	P	**P**	**07 40 49.8**	**+2.4**
VSL	**Villasalto**	**64.45**	**333**	*e*P	**P**	**07 40 49.6**	**+1.7**
	comp=Z,100nm,0.9s,mb5.8						
VSL				*e*	pP	07 40 55.5	+1.3
VSL				*e*PP	PP	07 43 10.2	+0.6
MLR	**Muntele Rosu**	**64.50**	**348**	P	**P**	**07 40 48.8**	**+0.6**
	comp=Z,32nm,1.2s,mb5.2,baz=251,slow=1.8,SNR=16						
MLR	**Muntele Rosu**	**64.50**	**348**	⇓*i*P	**P**	**07 40 48.2**	**-0.1**
MLR	**Muntele Rosu**	**64.50**	**348**	P	**P**	**07 40 48.8**	**+0.5**
VOIR		**64.64**	**347**	⇑*i*P	**P**	**07 40 48.7**	**-0.5**
DIVS	**Divcibare**	**64.64**	**343**	*e*P	**P**	**07 40 50.2**	**+1.1**
ADJB	**Djebel Djouab**	**64.69**	**326**	P	**P**	**07 40 51.8**	**+2.3**
PLOR	**Plostina**	**64.71**	**348**	⇓*i*P	**P**	**07 40 49.7**	**+0.1**
VRI	**Vrincioaia**	**64.71**	**348**	⇓*i*P	**P**	**07 40 49.5**	**-0.1**
VRI	**Vrincioaia**	**64.71**	**348**	P	**P**	**07 40 49.9**	**+0.3**
VVLD	**Villa Vallelon**	**64.74**	**337**	P	**P**	**07 40 50.6**	**+0.8**
INTR	**Introdacqua**	**64.75**	**337**	P	**P**	**07 40 49.1**	**-0.8**
SHL	**Shillong**	**64.97**	**50**	*e*P	**P**	**07 40 49.2**	**-2.1**
EMHD	**Djebel Mahouad**	**64.98**	**326**	P	**P**	**07 40 52.0**	**+0.6**
CERT	**Cerreto**	**65.05**	**337**	P	**P**	**07 40 52.5**	**+0.7**
GZR	**Gura Zlata**	**65.12**	**345**	P	**P**	**07 40 52.7**	**+0.4**
AQU	**L'Aquila**	**65.24**	**337**	⇓*i*P	**P**	**07 40 50.0**	**-3.0**
AQU	**L'Aquila**	**65.24**	**337**	P	**P**	**07 40 54.0**	**+1.0**
AQU	**L'Aquila**	**65.24**	**337**	*e*P	**P**	**07 40 52.1**	**-1.0**
	comp=Z,66nm,0.9s,mb5.7						
ETRT	**Tiaret**	**65.29**	**324**	P	**P**	**07 40 56.0**	**+2.6**
ABA	**Alger-Bouzarea**	**65.39**	**326**	P	**P**	**07 40 53.2**	**-0.9**
CASY	**Casey**	**65.41**	**156**	*e*P	**P**	**07 40 53.7**	**-0.5**
CASY				LR	LR		
	comp=Z,230nm,21.0s,MS4.3						
MNS	**Montasola**	**65.53**	**337**	P	**P**	**07 40 55.7**	**+0.7**
BZS	**Buzias**	**65.61**	**345**	⇓*i*P	**P**	**07 40 55.3**	**-0.2**
BZS	**Buzias**	**65.61**	**345**	P	**P**	**07 40 56.0**	**+0.5**
ECHA	**Ech Chlef**	**65.81**	**325**	P	**P**	**07 40 55.5**	**-1.2**
EANR	**'Ain N'Sour**	**65.81**	**325**	P	**P**	**07 40 58.0**	**+1.3**
EBNR	**Beni Rached**	**65.82**	**325**	P	**P**	**07 40 55.0**	**-1.8**
KK31	**Karatay Array**	**65.99**	**23**	*i* P	**P**	**07 40 57.7**	**-0.2**
KKAR	**Karatay Array**	**65.99**	**23**	*i* P	**P**	**07 40 57.7**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.3						
NST	**Nakhon Sawan**	**66.34**	**64**	P	**P**	**07 41 01.3**	**+1.1**
DRGR		**66.45**	**346**	⇓*i*P	**P**	**07 41 01.4**	**+0.6**
DRGR		**66.45**	**346**	P	**P**	**07 41 01.5**	**+0.7**
CM31	**Chiang Mai Arr**	**66.66**	**60**	*e*P	**P**	**07 41 02.6**	**+0.4**
	comp=Z,4.1nm,0.4s,mb4.8						
BURAR	**Bucovina Array**	**66.68**	**348**	⇓*i*P	**P**	**07 41 03.0**	**+0.6**
BURAR	**Bucovina Array**	**66.68**	**348**	⇓P	**P**	**07 41 03.0**	**+0.6**
CHG	**Chiang Mai**	**66.84**	**60**	⇓P	**P**	**07 41 03.6**	**+0.3**
	comp=Z,44nm,1.0s,mb5.4						
CHTO	**Chiang Mai**	**66.84**	**60**	P	**P**	**07 41 03.7**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,68nm,1.3s,mb5.5						
CHTO	**Chiang Mai**	**66.84**	**60**	*e*P	**P**	**07 41 03.6**	**+0.2**
	comp=Z,68nm,1.3s,mb5.5						
CHTO				LR	LR		
	comp=Z,383nm,22.0s,MS4.6						
EKS2	**Erkin-Say**	**66.87**	**25**	P	**P**	**07 41 03.8**	**+0.2**
	SNR=18						
LSA	**Lhasa**	**66.94**	**46**	P	**P**	**07 41 06.0**	**+2.0**
LSA	**Lhasa**	**66.94**	**46**	*e*P	**P**	**07 41 05.6**	**+1.6**
LSA				pmax	pmax		
	comp=Z,97nm,1.4s,mb5.6						
LSA				MLR	MLR		
	comp=Z,199nm,20.0s,MS4.3						
LSA	**Lhasa**	**66.94**	**46**	*e*P	**P**	**07 41 05.6**	**+1.6**
	comp=Z,97nm,1.4s,mb5.6						
LSA				LR	LR		
	comp=Z,199nm,20.0s,MS4.3						
PKSM	**Moragy**	**66.96**	**343**	⇓*i*P	**P**	**07 41 04.0**	**-0.1**
PKSM	**Moragy**	**66.96**	**343**	P	**P**	**07 41 04.2**	**+0.1**
CSNT	**Castellina Chi**	**66.99**	**336**	P	**P**	**07 41 04.0**	**-0.3**
KZA	**Kyzart**	**67.00**	**26**	P	**P**	**07 41 05.5**	**+1.1**
	SNR=7.7						
MDT	**Midelt**	**67.02**	**318**	P	**P**	**07 41 04.8**	**+0.3**
	comp=Z,15nm,1.1s,mb4.9,baz=129,slow=6.6,SNR=10						
AAK	**Ala-Archa**	**67.14**	**26**	P	**P**	**07 41 06.1**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**67.14**	**26**	*e*P	**P**	**07 41 04.8**	**-0.5**
AAK				*e*		07 43 34.6	
AAK				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.4						
AAK	**Ala-Archa**	**67.14**	**26**	*e*P	**P**	**07 41 04.8**	**-0.4**
	comp=Z,50nm,1.2s,mb5.4						
AAK				*e*PP	PP	07 43 34.6	+1.3
KBK	**Karagaybulak**	**67.35**	**26**	P	**P**	**07 41 07.5**	**+0.9**
	SNR=18						
FRU	**Bishkek**	**67.36**	**26**	⇓*i*P	**P**	**07 41 07.5**	**+0.8**
FRU				*i*	pP	07 41 14.0	+1.0
FRU				*e*		07 41 31.0	
FRU				pmax	pmax		
	comp=Z,126nm,2.0s,mb5.6						
CHMS	**Chumysh**	**67.55**	**26**	P	**P**	**07 41 07.6**	**-0.3**
	SNR=9.0						

ULHL Ulahol 67.56 27 P **P** 07 41 08.1 +0.2
SNR=17
CRES Cresnjev 67.58 340 *e*P **P** 07 41 08.2 +0.2
CRES *e* pP 07 41 14.4 +0.1
USP Ospenovka 67.67 25 P **P** 07 41 08.5 -0.1
SNR=22
TKM2 Tokmak 2 67.84 26 P **P** 07 41 10.0 +0.3
SNR=44
MUN Mundaring 67.84 118 *e*P **P** 07 41 09.5 -0.2
KOGS Kog 67.88 341 *e*P **P** 07 41 10.0 0.0
KOGS *e* pP 07 41 16.1 -0.1
EIBI Ibiza 67.94 327 P **P** 07 41 16.2 +5.9
comp=Z,114nm,1.1s,mb5.8
BUD Budapest 68.02 344⇓ *e*P **P** 07 41 10.6 -0.2
EALB Alboran 68.16 322 P **P** 07 41 12.1 +0.4
comp=Z,67nm,1.3s,mb5.5
PSZ Piszkesteto 68.19 344⇓ *e*P **P** 07 41 11.3 -0.6
PSZ Piszkesteto 68.19 344⇓ *i*P **P** 07 41 11.3 -0.6
PSZ Piszkesteto 68.19 344 P **P** 07 41 11.5 -0.4
PSZ Piszkesteto 68.19 344 *e*P **P** 07 41 11.2 -0.7
comp=Z,40nm,0.9s,mb5.5
VOY Vojsko 68.27 339 *e*(P) **P** 07 41 12.3 -0.1
VOY *e* pP 07 41 18.3 -0.4
UZH Uzhgorod 68.27 346 *e*P **P** 07 41 12.0 -0.4
UZH *i* pP 07 41 18.0 -0.8
VORD Divnogorie 68.39 358 *e*P **P** 07 41 11.3 -1.8
VORD pmax pmax
comp=Z,40nm,1.0s,mb5.4
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
ENIJ Nijar 68.40 323 P **P** 07 41 14.0 +0.8
ENIJ pmax pmax
comp=Z,28nm,0.9s,mb5.3
ENIJ Nijar 68.40 323 P **P** 07 41 14.0 +0.8
comp=Z,28nm,0.9s,mb5.3
PERS Pernice 68.40 341 *i* P **P** 07 41 13.1 -0.1
EMUR La Murta 68.47 324 P **P** 07 41 14.4 +0.8
comp=Z,28nm,0.9s,mb5.3
OBKA Obir 68.47 340⇓ *i*P **P** 07 41 13.7 +0.1
comp=Z,169nm,1.6s,mb5.8,SNR=7.8
CADS Cadrg 68.49 339 *i* P **P** 07 41 13.3 -0.4
AB31 Akbulak array 68.56 130 *e*P **P** 07 41 13.1 -1.1
KECS Kecovo 68.56 345 *e*P **P** 07 41 13.9 -0.3
KECS *e* pP 07 41 20.3 -0.3
KECS pmax pmax
comp=Z,31nm,1.0s,mb5.2
KECS Kecovo 68.56 345 *e*P **P** 07 41 13.9 -0.3
comp=Z,31nm,1.0s,mb5.2
KECS *e* pP 07 41 20.3 -0.3
NWAO Narrogin (SRO) 68.58 119 LR LR 08 05 38.0
comp=Z,421nm,19.8s,MS4.7,baz=107,slow=31
NWAO Narrogin (SRO) 68.58 119 *e*P **P** 07 41 14.5 +0.2
NWAO *e* 07 41 38.8
NWAO pmax pmax
comp=Z,60nm,1.3s
NWAO MLR MLR
comp=Z,454nm,19.0s
NWAO Narrogin (SRO) 68.58 119 *e*P **P** 07 41 14.5 +0.1
comp=Z,60nm,1.3s,mb5.4
NWAO *e*PcP PcP 07 41 38.8 -0.5
NWAO LR LR
comp=Z,454nm,19.0s,MS4.7
VRSR Storozhevoye 68.64 358 *e*P **P** 07 41 13.4 -1.3
VRSR *e**PP pP 07 41 19.0 -2.0
VRSR *e**SP sP 07 41 21.3 -2.1
VRSR *e* 07 41 37.7
VRSR pmax pmax
comp=Z,40nm,1.1s,mb5.3
VRSR pmax pmax
comp=E,7.0nm,0.8s
GMNA Gemona 68.70 339 P **P** 07 41 15.3 +0.2
CRVS Cervenica-Dubn 68.72 346 *e*P **P** 07 41 15.1 -0.1
CRVS *e*S S 07 50 26.0 +8.6
EBER Berja 68.74 323 P **P** 07 41 15.9 +0.6
comp=E,24nm,1.0s,mb5.1
PTCC Patocco-Chiusa 68.78 339 P **P** 07 41 15.4 -0.2
REVF Revere 68.79 334 *e*P **P** 07 41 16.7 +1.1
BOB Bobbio (Coli) 68.80 336 P **P** 07 41 16.0 +0.3
ARSA Arzberg 68.82 341 *i* P **P** 07 41 15.6 -0.2
comp=E,76nm,1.3s,mb5.5,SNR=12
LMR La Mourre 68.83 333⇓ *i*P **P** 07 41 16.0 +0.1
comp=E,101nm,1.3s,mb5.3
LMR La Mourre 68.83 333⇓ *i*P **P** 07 41 16.0 +0.1
LMR pmax pmax
comp=Z,51nm,1.3s,mb5.3
LMR La Mourre 68.83 333⇓ *i*P **P** 07 41 16.0 +0.1
comp=Z,50nm,1.3s,mb5.3
FIN Finale Ligure 68.83 335 P **P** 07 41 16.3 +0.4
SBF Sospel 68.86 334⇓ *i*P **P** 07 41 16.4 +0.3
comp=Z,146nm,1.1s,mb5.5
SBF Sospel 68.86 334⇓ *i*P **P** 07 41 16.4 +0.3
SBF pmax pmax
comp=Z,73nm,1.1s,mb5.5
SBF Sospel 68.86 334⇓ *i*P **P** 07 41 16.4 +0.3
comp=Z,73nm,1.1s,mb5.5
SOP Sopron 68.90 342⇓ *e*P **P** 07 41 16.0 -0.3
SAOF Saorge 68.91 334 *e*P **P** 07 41 17.4 +1.0
LUCF Luceram 68.92 334 *e*P **P** 07 41 17.2 +0.7
KKTK Khon Kaen 68.94 64 ⇓P **P** 07 41 17.3 +0.7
FRF La Foret Royal 68.95 333⇓ *i*P **P** 07 41 16.8 +0.2
comp=Z,79nm,1.3s,mb5.2
FRF La Foret Royal 68.95 333⇓ *i*P **P** 07 41 16.8 +0.2
FRF pmax pmax
comp=Z,40nm,1.3s,mb5.2
FRF La Foret Royal 68.95 333⇓ *i*P **P** 07 41 16.8 +0.2
comp=Z,40nm,1.3s,mb5.2
AUTN L'Aution 68.97 334 *e*P **P** 07 41 10.9 -5.9
AKASG Malin Array Be 68.98 351 P **P** 07 41 15.2 -1.7
comp=Z,15nm,1.1s,mb4.8,baz=175,slow=5.7,SNR=6.2
AKBB Malin Array Si 68.98 351 *e*P **P** 07 41 15.2 -1.6
AKBB *e* 07 41 41.0
VYHS Vyhne 69.00 344 *e*P **P** 07 41 16.3 -0.6
VYHS *e*sP sP 07 41 22.7 -2.9
VYHS Vyhne 69.00 344 *e*P **P** 07 41 16.3 -0.6
VYHS *e* pP 07 41 22.7 -0.6
VYHS pmax pmax
comp=Z,35nm,1.3s,mb5.1
VYHS Vyhne 69.00 344 *e*P **P** 07 41 16.3 -0.6
comp=Z,35nm,1.3s,mb5.1
VYHS *e* pP 07 41 22.7 -0.6
LVV L'vov 69.02 348 *e*P **P** 07 41 11.5 -5.6
LVV *e*S S 07 50 14.9 -6.1
LVV MLR MLR
comp=Z,300nm,18.0s,MS4.6
CTI Castel Tesino 69.06 338 P **P** 07 41 17.8 +0.5
TOUF Mont Tournerai 69.06 334 *e*P **P** 07 41 18.3 +1.0
KWP Kalwaria 69.12 347 *e*P **P** 07 41 17.2 -0.5
VOR Voronezh 69.15 358 P **P** 07 41 17.5 -0.4
VOR pmax pmax
comp=N,60nm,1.8s
VOR pmax pmax
comp=E,100nm,1.8s
VOR pmax pmax
comp=Z,170nm,1.8s,mb5.7
KLBR Kellerberrin 69.20 118 *e*P **P** 07 41 18.2 0.0
comp=Z,49nm,1.2s,mb5.3
ZST Bratislava 69.20 343 *e*P **P** 07 41 17.7 -0.5
ZST *e* pP 07 41 23.8 -0.8
ZST *e* 07 43 47.7
ZST pmax pmax
comp=Z,32nm,1.1s,mb5.2
ZST Bratislava 69.20 343 *e*P **P** 07 41 17.7 -0.5
comp=Z,32nm,1.1s,mb5.2
ZST *e* pP 07 41 23.8 -0.8
ZST *e*PP PP 07 43 47.7 -3.4
ZST *e*S S 07 50 39.6 +16
EHUE Huescar 69.20 324 P **P** 07 41 17.3 -0.9
EHUE pmax pmax
comp=Z,63nm,1.7s,mb5.3
EHUE Huescar 69.20 324 P **P** 07 41 17.3 -0.9
comp=Z,63nm,1.7s,mb5.3
STHS Stebnicka Huta 69.25 346 *e*P **P** 07 41 18.4 -0.1
STHS *e*sP sP 07 41 24.7 -2.5
STHS Stebnicka Huta 69.25 346 *e*P **P** 07 41 18.4 -0.1
STHS *e* pP 07 41 24.7 -0.2
STHS pmax pmax
comp=Z,20nm,0.9s,mb5.0
STHS Stebnicka Huta 69.25 346 *e*P **P** 07 41 18.4 -0.1
comp=Z,20nm,0.9s,mb5.0
STHS *e* pP 07 41 24.7 -0.2
AKTK Aktyubinsk 69.31 11 *i* P **P** 07 41 17.8 -1.1
AKTO Aktyubinsk 69.31 11 *i* P **P** 07 41 17.8 -1.1

CONA Conrad Observa 69.33 342 *i* P **P** 07 41 18.6 -0.3
comp=Z,62nm,1.1s,mb5.4,SNR=14
ERON Agron 69.35 322 P **P** 07 41 20.0 +0.9
comp=Z,25nm,0.9s,mb5.2
KBA Koelnbreinsper 69.37 340⇓ *i*P **P** 07 41 18.7 -0.5
comp=Z,63nm,1.7s,mb5.3,SNR=8.6
KBA Koelnbreinsper 69.37 340⇓ *i*P **P** 07 41 18.8 -0.4
KBA pmax pmax
comp=Z,63nm,1.7s,mb5.3
ECOG Cogollos-Vega 69.39 323 P **P** 07 41 19.8 +0.4
ECOG pmax pmax
comp=Z,18nm,0.9s,mb5.0
ECOG Cogollos-Vega 69.39 323 P **P** 07 41 19.8 +0.4
comp=Z,18nm,0.9s,mb5.0
SMOL Smolenice 69.40 343 *e*P **P** 07 41 18.9 -0.5
SMOL *e* 07 41 19.1
SMOL *e* pP 07 41 24.8 -1.0
SMOL Smolenice 69.40 343 *e*P **P** 07 41 19.1 -0.3
SMOL *e* pP 07 41 24.8 -1.0
EQES Quesada 69.47 323 P **P** 07 41 18.9 -0.9
comp=Z,37nm,1.1s,mb5.2
NIE Niedzica 69.48 345 *e*Pd **P** 07 41 19.8 -0.1
NIE Niedzica 69.48 345⇓ *i*P **P** 07 41 19.8 -0.1
APPI Appiano 69.58 338 P **P** 07 41 20.6 +0.1
EMIJ Mijas 69.61 321 P **P** 07 41 19.9 -0.9
comp=Z,23nm,1.2s,mb5.0
SURF Saint Ours 69.62 334 *e*P **P** 07 41 22.2 +1.4
ELOJ Sierra Loja 69.64 322 P **P** 07 41 20.9 0.0
comp=Z,5.5nm,0.8s,mb4.5
EVIA Vianos 69.73 324 P **P** 07 41 23.1 +1.6
EVIA pmax pmax
comp=Z,12nm,0.8s,mb4.9
EVIA Vianos 69.73 324 P **P** 07 41 23.1 +1.6
comp=Z,12nm,0.8s,mb4.9
SMRF Simiane la Rot 69.75 333⇓ *i*P **P** 07 41 21.8 +0.2
comp=Z,93nm,1.2s,mb5.3
SMRF Simiane la Rot 69.75 333⇓ *i*P **P** 07 41 21.8 +0.2
comp=Z,93nm,1.2s,mb5.6
MOA Molln 69.75 341 *i* P **P** 07 41 21.3 -0.3
comp=Z,131nm,1.5s,mb5.6,SNR=13
EPOB Peblet 69.81 328 P **P** 07 41 22.7 +0.7
comp=Z,23nm,1.0s,mb5.1
MBDF Montbardon 69.84 334⇓ *i*P **P** 07 41 23.1 +1.0
comp=Z,195nm,1.1s,mb5.7
MBDF Montbardon 69.84 334⇓ *i*P **P** 07 41 23.1 +1.0
MBDF pmax pmax
comp=Z,97nm,1.1s,mb5.7
MBDF Montbardon 69.84 334⇓ *i*P **P** 07 41 23.1 +1.0
comp=Z,97nm,1.1s,mb5.7
EMOS Mosqueruela 69.87 327 P **P** 07 41 24.2 +1.8
comp=Z,72nm,1.0s,mb5.6
BRMO Bornio 69.89 337 P **P** 07 41 23.4 +1.0
ERTA Horta de San J 69.89 328 P **P** 07 41 15.8 -6.7
comp=Z,163nm,2.2s,mb5.6
EJIF Jimena Fronter 69.95 321 P **P** 07 41 22.5 -0.3
EJIF pmax pmax
comp=Z,25nm,1.4s,mb5.0
EJIF Jimena Fronter 69.95 321 P **P** 07 41 22.5 -0.3
comp=Z,25nm,1.4s,mb5.0
ELUQ Luque 69.99 322 P **P** 07 41 22.9 -0.1
ELUQ pmax pmax
comp=Z,47nm,1.0s,mb5.4
ELUQ Luque 69.99 322 P **P** 07 41 22.9 -0.1
comp=Z,47nm,1.0s,mb5.4
WTTA Wattenberg 70.11 339⇓ *i*P **P** 07 41 23.5 -0.3
comp=Z,140nm,2.0s,mb5.5,SNR=7.4
WTTA Wattenberg 70.11 339⇓ *i*P **P** 07 41 23.5 -0.3
WTTA pmax pmax
comp=Z,140nm,2.0s,mb5.5
BNI Bardonecchia 70.14 334 *e*P **P** 07 41 24.7 +0.7
WATA Walderalm 70.19 339⇑ *i*P **P** 07 41 23.8 -0.5
comp=Z,30nm,1.1s,mb5.1
WATA Walderalm 70.19 339⇑ *i*P **P** 07 41 23.8 -0.5
WATA pmax pmax
comp=Z,31nm,1.1s,mb5.2
WATA Walderalm 70.19 339⇑ *i*P **P** 07 41 23.8 -0.5
comp=Z,30nm,1.1s,mb5.1
SQTA Sankt Quirin 70.22 338⇓ *i*P **P** 07 41 24.3 -0.2
comp=Z,39nm,1.4s,mb5.1,SNR=7.5
SQTA Sankt Quirin 70.22 338⇓ *i*P **P** 07 41 24.3 -0.2
SQTA pmax pmax
comp=Z,39nm,1.4s,mb5.1
TUE Stuetta 70.26 337 P **P** 07 41 24.9 +0.2
OJC Ojcow 70.34 345 *i* Pd **P** 07 41 24.2 -1.0
VRAC Vranov 70.35 343 P **P** 07 41 24.3 -1.0
comp=Z,11nm,0.8s,mb4.8,baz=144,slow=3.3,SNR=20
VRAC Vranov 70.35 343 P **P** 07 41 24.4 -0.9
MOTA Moosalm 70.36 338⇓ *i*P **P** 07 41 24.8 -0.6
comp=Z,27nm,1.1s,mb5.1,SNR=7.5
MOTA Moosalm 70.36 338⇓ *i*P **P** 07 41 24.8 -0.6
MOTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
ORIF Oris-en-Rattie 70.37 334 *e*P **P** 07 41 26.1 +0.7
comp=Z,46nm,1.0s,mb5.0
ORIF *e*R
comp=Z,216nm,18.0s
ORIF Oris-en-Rattie 70.37 334 *e*P **P** 07 41 26.1 +0.7
ORIF pmax pmax
comp=Z,23nm,1.0s,mb5.1
ORIF Oris-en-Rattie 70.37 334 *e*P **P** 07 41 26.1 +0.7
comp=Z,23nm,1.0s,mb5.1
OKC Ostrava-Krasne 70.41 344 *e*P **P** 07 41 24.4 -1.2
OKC *e*pP pP 07 41 31.2 -0.8
ESPR Espera 70.46 321 P **P** 07 41 25.1 -0.8
comp=Z,24nm,1.1s,mb5.0
LPG La Plagne 70.48 335⇓ *i*P **P** 07 41 26.0 0.0
comp=Z,91nm,1.0s,mb5.4
LPG La Plagne 70.48 335⇓ *i*P **P** 07 41 26.0 0.0
LPG pmax pmax
comp=Z,46nm,1.0s,mb5.4
LPG La Plagne 70.48 335⇓ *i*P **P** 07 41 26.0 0.0
comp=Z,46nm,1.0s,mb5.4
LPL La Plagne 70.50 335⇓ *i*P **P** 07 41 26.0 -0.2
comp=Z,100nm,1.0s,mb5.4
LPL La Plagne 70.50 335⇓ *i*P **P** 07 41 26.0 -0.2
LPL pmax pmax
comp=Z,50nm,1.0s,mb5.4
LPL La Plagne 70.50 335⇓ *i*P **P** 07 41 26.0 -0.2
comp=Z,50nm,1.0s,mb5.4
GDM Grand'Maison 70.50 334 *e*P **P** 07 41 27.1 +0.9
MORC Moravsky Berou 70.52 344 *e*P **P** 07 41 25.6 -0.7
MORC pmax pmax
comp=Z,81nm,1.2s,mb5.5
MORC Moravsky Berou 70.52 344 *e*P **P** 07 41 25.6 -0.7
comp=Z,81nm,1.2s,mb5.5
EADA Adamuz 70.58 323 P **P** 07 41 26.9 +0.2
comp=Z,8.0nm,1.0s,mb4.6
LASF Ste Croix 70.58 332 *e*P **P** 07 41 27.2 +0.5
comp=Z,70nm,1.2s,mb5.2
TREC Trest 70.66 342 *e*P **P** 07 41 25.7 -1.5
TREC *e*pP pP 07 41 31.1 -2.4
DAVA Damuels 70.75 338 *i* P **P** 07 41 27.5 -0.3
comp=Z,122nm,1.7s,mb5.5,SNR=12
MTLF Montolieu 70.77 330⇓ *i*P **P** 07 41 28.1 +0.3
comp=Z,30nm,1.2s,mb5.3
MTLF Montolieu 70.77 330⇓ *i*P **P** 07 41 28.1 +0.3
MTLF pmax pmax
comp=Z,45nm,1.2s,mb5.3
MTLF Montolieu 70.77 330⇓ *i*P **P** 07 41 28.1 +0.3
comp=Z,45nm,1.2s,mb5.3
GEC2 GERESS Array S 70.80 341 *e*P **P** 07 41 27.0 -1.0
comp=Z,35nm,0.9s,mb5.3
GEC2 GERESS Array S 70.80 341 *e*P **P** 07 41 27.0 -1.0
GEC2 pmax pmax
comp=Z,35nm,0.9s,mb5.3
GERES GERESS Array B 70.80 341 P **P** 07 41 27.1 -0.9
comp=Z,5.7nm,0.6s,mb4.7,baz=145,slow=4.9,SNR=52
GERES LR LR 08 19 18.8
comp=Z,194nm,18.0s,MS4.4,baz=277,slow=42
SALF Salau 70.81 329 *e*P **P** 07 41 28.6 +0.5
VIVF Saint-Julien-l 70.84 333⇓ *i*P **P** 07 41 29.1 +0.9
comp=Z,156nm,1.2s,mb5.5
VIVF Saint-Julien-l 70.84 333⇓ *i*P **P** 07 41 29.1 +0.9
VIVF pmax pmax
comp=Z,78nm,1.2s,mb5.5
VIVF Saint-Julien-l 70.84 333⇓ *i*P **P** 07 41 29.1 +0.9
comp=Z,78nm,1.2s,mb5.5
ESAC San Caprasio 70.86 328 P **P** 07 41 28.4 0.0
comp=Z,48nm,1.2s,mb5.3
FUR Furstenfeldbru 71.01 339 *e*P **P** 07 41 28.9 -0.4
comp=Z,106nm,1.2s,mb5.7
FUR Furstenfeldbru 71.01 339 *e*P **P** 07 41 28.9 -0.4
FUR pmax pmax
comp=Z,106nm,1.2s,mb5.7
KHC Kasperske Hory 71.09 341 *e*P **P** 07 41 28.4 -1.4
KHC *e*pP pP 07 41 34.2 -2.0

ESDC Sonseca Array 71.27 324 P **P** 07 41 31.2 +0.4
comp=Z,7.3nm,0.9s,mb4.6,baz=136,slow=5.9,SNR=41
ESDC Sonseca Array 71.27 324 P **P** 07 41 31.1 +0.2
comp=Z,39nm,1.0s,mb5.3
ESLA Sonseca Array 71.27 324 *e*P **P** 07 41 31.8 +1.0
ESLA LR LR
comp=Z,4μm,20.0s,MS5.7
EBIE Bielsa 71.27 329 P **P** 07 41 31.6 +0.7
comp=Z,54nm,1.3s,mb5.3
WET Wettzell 71.33 340 *e*P **P** 07 41 29.9 -1.3
comp=Z,10.0nm,1.1s,mb4.7
WET Wettzell 71.33 340 *e*P **P** 07 41 29.9 -1.3
WET pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
DPC Dobruska-Polom 71.37 343 *e*P **P** 07 41 30.5 -1.0
DPC *e*pP pP 07 41 36.3 -1.5
EPF Esparros 71.43 329⇓ *i*P **P** 07 41 32.4 +0.6
comp=Z,93nm,1.1s,mb5.3
EPF Esparros 71.43 329⇓ *i*P **P** 07 41 32.4 +0.6
EPF pmax pmax
comp=Z,47nm,1.1s,mb5.3
EPF Esparros 71.43 329⇓ *i*P **P** 07 41 32.4 +0.6
comp=Z,47nm,1.1s,mb5.3
EMIN Mina Concepcio 71.54 321 P **P** 07 41 31.6 -0.9
comp=Z,40nm,1.0s,mb5.3
PRU Pruhonice 71.56 342 *e*P **P** 07 41 30.7 -1.9
LABF Labassere 71.57 329 *e*P **P** 07 41 33.5 +0.8
UPC Upice 71.60 343 *e*P **P** 07 41 31.7 -1.1
CABF La Chapelle 71.65 335⇓ *i*P **P** 07 41 33.4 +0.2
comp=Z,243nm,1.1s,mb5.8
CABF La Chapelle 71.65 335⇓ *i*P **P** 07 41 33.4 +0.2
CABF pmax pmax
comp=Z,121nm,1.1s,mb5.7
CABF La Chapelle 71.65 335⇓ *i*P **P** 07 41 33.4 +0.2
comp=Z,121nm,1.1s,mb5.7
LBL Lubilhac 71.76 332 *e*P **P** 07 41 33.8 0.0
EOSO Osorio 71.76 308 P **P** 07 41 31.2 -2.6
comp=Z,136nm,1.4s,mb5.7
ETSF Etsaut 71.78 329⇓ *i*P **P** 07 41 34.5 +0.6
comp=Z,131nm,1.2s,mb5.4
ETSF Etsaut 71.78 329⇓ *i*P **P** 07 41 34.5 +0.6
ETSF pmax pmax
comp=Z,66nm,1.2s,mb5.4
ETSF Etsaut 71.78 329⇓ *i*P **P** 07 41 34.5 +0.6
comp=Z,66nm,1.2s,mb5.4
KSP Ksiaz 71.82 343 *e*P **P** 07 41 33.7 -0.5
KSP Ksiaz 71.82 343 *e*P **P** 07 41 33.6 -0.6
KSP *e*pP pP 07 41 39.7 -0.9
SPAK Spaichingen-Ko 71.84 337 *e*P **P** 07 41 34.8 +0.5
EGRO El Granado 71.88 321 P **P** 07 41 34.5 0.0
comp=Z,38nm,1.2s,mb5.2
FELD Feldberg im Sc 71.94 337⇓ *e*P **P** 07 41 34.9 0.0
LOMF Lomont 71.96 336 *e*P **P** 07 41 35.2 +0.2
PVCC Panska Ves 72.03 342 *e*P **P** 07 41 34.5 -0.9
PVCC *e*pP pP 07 41 40.1 -1.7
GUD Guadarrama 72.04 325 P **P** 07 41 34.8 -0.7
GUD pmax pmax
comp=Z,50nm,0.9s,mb5.4
GUD Guadarrama 72.04 325 P **P** 07 41 34.8 -0.7
comp=Z,4.6nm,0.9s,mb4.4
CAF Calviac 72.05 331⇓ *i*P **P** 07 41 36.3 +0.7
comp=Z,122nm,1.2s,mb5.4
CAF Calviac 72.05 331⇓ *i*P **P** 07 41 36.3 +0.7
CAF pmax pmax
comp=Z,61nm,1.2s,mb5.4
CAF Calviac 72.05 331⇓ *i*P **P** 07 41 36.3 +0.7
comp=Z,61nm,1.2s,mb5.4
ROTZ Rotzenmuhle 72.08 340 *e*P **P** 07 41 35.0 -0.8
comp=Z,44nm,1.2s,mb5.3
PLDF La Plantade 72.17 333 *e*P **P** 07 41 36.8 +0.5
BFO Black Forest 72.20 337 P **P** 07 41 36.5 +0.1
comp=Z,154nm,1.1s,mb5.8,SNR=9.4
BFO Black Forest 72.20 337 *e*P **P** 07 41 36.2 -0.2
comp=Z,36nm,1.1s,mb5.2
BFO Black Forest 72.20 337 *e*P **P** 07 41 36.2 -0.2
BFO pmax pmax
comp=Z,36nm,1.1s,mb5.2
MOF Molkenrain 72.25 336 *e*P **P** 07 41 36.3 -0.5
STU Stuttgart 72.25 338 *e*P **P** 07 41 36.6 -0.2
comp=Z,71nm,1.2s,mb5.5
STU Stuttgart 72.25 338 *e*P **P** 07 41 36.9 +0.1
STU pmax pmax
comp=Z,65nm,1.2s,mb5.4
STU Stuttgart 72.25 338 *e*P **P** 07 41 36.9 +0.1
comp=Z,65nm,1.2s,mb5.4
SJPF Ste Jean 72.27 328 *e*P **P** 07 41 37.5 +0.7
comp=Z,55nm,1.1s,mb5.1
SJPF Ste Jean 72.27 328 *e*P **P** 07 41 37.5 +0.7
SJPF pmax pmax
comp=Z,27nm,1.1s,mb5.1
SJPF Ste Jean 72.27 328 *e*P **P** 07 41 37.5 +0.7
comp=Z,27nm,1.1s,mb5.1
PYM Petit Puy Mans 72.27 333 *e*P **P** 07 41 37.6 +0.8
MANZ Manzenberg 72.31 340 *e*P **P** 07 41 36.3 -0.8
comp=Z,38nm,1.1s,mb5.2
HINF Hinteralfeld 72.33 336⇓ *i*P **P** 07 41 36.8 -0.4
comp=Z,126nm,1.3s,mb5.4
HINF Hinteralfeld 72.33 336⇓ *i*P **P** 07 41 36.8 -0.4
HINF pmax pmax
comp=Z,63nm,1.3s,mb5.4
HINF Hinteralfeld 72.33 336⇓ *i*P **P** 07 41 36.8 -0.4
comp=Z,63nm,1.3s,mb5.4
GRA1 Grafenberg Arr 72.34 340 *e*P **P** 07 41 37.0 -0.3
comp=Z,139nm,1.3s,mb5.7
GRA1 *e*pP pP 07 41 40.4 -3.3
GRA1 *e*sP sP 07 41 42.8 -3.2
GRF Grafenberg Arr 72.34 340 *e*P **P** 07 41 37.0 -0.3
comp=Z,139nm,1.3s,mb5.7
GRF *e*pP pP 07 41 40.4 -3.3
GRF *e*sP sP 07 41 42.8 -3.2
GRF Grafenberg Arr 72.34 340 *e*P **P** 07 41 37.0 -0.3
GRF *e**PP pP 07 41 40.4 -3.3
GRF *e**SP sP 07 41 42.8 -3.2
GRF pmax pmax
comp=Z,139nm,1.3s,mb5.7
GRF Grafenberg Arr 72.34 340 *e*P **P** 07 41 37.0 -0.3
GRF *e**PP pP 07 41 40.4 -3.3
GRF *e**SP sP 07 41 42.8 -3.2
GRF pmax pmax
comp=Z,139nm,1.3s,mb5.7
EBAD Badajoz 72.39 322 P **P** 07 41 37.6 0.0
comp=Z,19nm,1.2s,mb4.9
NKC Novy Kostel 72.42 341 *e*P **P** 07 41 36.5 -1.2
PBEJ Beja 72.43 321 *e*P **P** 07 41 37.6 -0.2
comp=Z,23nm,1.7s,mb4.8
QSPA South Pole Qui 72.44 180 *e*P **P** 07 41 38.1 +0.2
comp=Z,121nm,2.0s,mb5.5
AGO Saint Agoulin 72.45 333 *e*P **P** 07 41 38.9 +1.0
ELIZ Elizondo 72.45 328 P **P** 07 41 37.1 -0.9
ELIZ pmax pmax
comp=Z,37nm,1.4s,mb5.1
ELIZ Elizondo 72.45 328 P **P** 07 41 37.1 -0.9
comp=Z,37nm,1.4s,mb5.1
EALK Alkurruntz 72.48 328 P **P** 07 41 37.1 -1.1
comp=Z,106nm,2.1s,mb5.4
BRG Berggiesshubel 72.52 342 *e*P **P** 07 41 37.4 -1.0
comp=Z,44nm,1.2s,mb5.3
BRG Berggiesshubel 72.52 342⇓ *i*P **P** 07 41 37.5 -0.9
comp=Z,16nm,1.3s,mb4.8
BRG *i* pP 07 41 43.3 -1.4
comp=Z,27nm,1.2s
BRG Berggiesshubel 72.52 342⇓ *i*P **P** 07 41 37.5 -0.9
BRG *i* pP 07 41 43.3 -1.4
BRG pmax pmax
comp=Z,16nm,1.3s,mb4.8
BRG pmax pmax
comp=Z,27nm,1.2s,mb5.0
ECH Echery 72.54 337 *e*P **P** 07 41 38.2 -0.3
TANN Tannenbergstha 72.57 341 *e*P **P** 07 41 38.2 -0.5
comp=Z,74nm,1.2s,mb5.5
RJF Les Rejaudoux 72.59 331⇓ *i*P **P** 07 41 39.3 +0.5
comp=Z,80nm,1.1s,mb5.2
RJF *e*R
comp=Z,316nm,18.5s
RJF Les Rejaudoux 72.59 331⇓ *i*P **P** 07 41 39.3 +0.5
RJF pmax pmax
comp=Z,40nm,1.1s,mb5.3
RJF MLR MLR
comp=Z,320nm,18.5s,MS4.6
RJF Les Rejaudoux 72.59 331⇓ *i*P **P** 07 41 39.3 +0.5
comp=Z,40nm,1.1s,mb5.3
RJF LR LR
comp=Z,320nm,18.5s,MS4.6
SMF Signal de Mont 72.61 334⇓ *i*P **P** 07 41 38.8 -0.1
comp=Z,168nm,1.1s,mb5.6
SMF Signal de Mont 72.61 334⇓ *i*P **P** 07 41 38.8 -0.1

SMF pmax pmax
comp=Z,84nm,1.1s,mb5.6
SMF Signal de Mont 72.61 334⇓*i*P **P 07 41 38.8 -0.1**
comp=Z,84nm,1.1s,mb5.6
STR Strasbourg 72.62 337 *e*P **P 07 41 39.3 +0.4**
WLS Welschbruch 72.63 337 *e*P **P 07 41 38.7 -0.3**
CCAN Las Canadas 72.63 308 P **P 07 41 38.9 -0.1**
comp=Z,50nm,1.3s,mb5.3
OBN Obninsk 72.64 357*c i*P **P 07 41 38.7 -0.4**
OBN *i* pP 07 41 45.6 +0.1
OBN pmax pmax
comp=Z,95nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
OBN Obninsk 72.64 357 *e*P **P 07 41 38.5 -0.6**
CDF Champ du Feu 72.66 337⇓*i*P **P 07 41 38.6 -0.6**
comp=Z,105nm,1.1s,mb5.4
CDF Champ du Feu 72.66 337⇓*i*P **P 07 41 38.6 -0.6**
CDF pmax pmax
comp=Z,53nm,1.1s,mb5.4
CDF Champ du Feu 72.66 337⇓*i*P **P 07 41 38.6 -0.6**
comp=Z,53nm,1.1s,mb5.4
LFF La Frestale 72.67 331⇓*i*P **P 07 41 39.8 +0.5**
comp=Z,128nm,1.1s,mb5.5
LFF La Frestale 72.67 331⇓*i*P **P 07 41 39.8 +0.5**
LFF pmax pmax
comp=Z,64nm,1.1s,mb5.5
LFF La Frestale 72.67 331⇓*i*P **P 07 41 39.8 +0.5**
comp=Z,64nm,1.1s,mb5.5
HAU Haudompre 72.68 336⇓*i*P **P 07 41 39.0 -0.3**
comp=Z,187nm,1.1s,mb5.6
HAU *e*R
comp=Z,164nm,17.5s
HAU Haudompre 72.68 336⇓*i*P **P 07 41 39.0 -0.3**
HAU pmax pmax
comp=Z,94nm,1.1s,mb5.6
HAU MLR MLR
comp=Z,160nm,17.5s,MS4.3
HAU Haudompre 72.68 336⇓*i*P **P 07 41 39.0 -0.3**
comp=Z,94nm,1.1s,mb5.6
HAU LR LR
comp=Z,160nm,17.5s,MS4.3
EPLA Plasencia 72.72 323 P **P 07 41 39.7 +0.1**
EPLA pmax pmax
comp=Z,54nm,1.7s,mb5.2
EPLA Plasencia 72.72 323 P **P 07 41 39.7 +0.1**
comp=Z,54nm,1.7s,mb5.2
PESTR Estremoz 72.81 322 *e*P **P 07 41 40.0 -0.1**
comp=Z,29nm,1.6s,mb5.0
PESTR Estremoz 72.81 322 *e*LQ 08 09 00.8
PESTR *e*LR LR 08 10 54.0
MBWA Marble Bar 72.86 107 *e*P **P 07 41 40.6 +0.2**
comp=Z,58nm,1.4s,mb5.3
MBWA LR LR
comp=Z,365nm,19.0s,MS4.7
MNK Minsk 72.88 352 *e*P **P 07 41 35.0 -5.5**
AVF Avril sur Loir 72.93 333⇓*i*P **P 07 41 40.8 0.0**
comp=Z,177nm,1.1s,mb5.6
AVF Avril sur Loir 72.93 333⇓*i*P **P 07 41 40.8 0.0**
AVF pmax pmax
comp=Z,88nm,1.1s,mb5.6
AVF Avril sur Loir 72.93 333⇓*i*P **P 07 41 40.8 0.0**
comp=Z,88nm,1.1s,mb5.6
LANF Langenberg 72.93 337 *e*P **P 07 41 40.8 0.0**
BGF Bois d'Agland 72.97 333⇓*i*P **P 07 41 41.2 +0.2**
comp=Z,109nm,1.1s,mb5.4
BGF Bois d'Agland 72.97 333⇓*i*P **P 07 41 41.2 +0.2**
BGF pmax pmax
comp=Z,55nm,1.1s,mb5.4
BGF Bois d'Agland 72.97 333⇓*i*P **P 07 41 41.2 +0.2**
comp=Z,55nm,1.1s,mb5.4
KMI Kunming 72.99 56 P **P 07 41 41.4 +0.2**
KMI AP pP 07 41 51.0 +3.5
KMI XP sP 07 41 54.9 +5.0
KMI PP PP 07 44 29.3 +5.6
KMI S S 07 51 11.4 +4.3
KMI XS sS 07 51 16.6 -1.0
KMI AMB AMB
comp=Z,23nm,1.5s,mb4.9
KMI AMB AMB
comp=Z,287nm,5.3s
KMI LR LR
comp=N,235nm,28.9s,MS4.5
KMI LR LR
comp=E,318nm,30.6s,MS4.5
KMI LR LR
comp=Z,357nm,35.1s,MS4.4
THEF They Montfort 73.00 336 *e*P **P 07 41 41.0 -0.2**
TCF Toulx Ste Croi 73.03 332⇓*i*P **P 07 41 42.2 +0.8**
comp=Z,210nm,1.1s,mb5.7
TCF Toulx Ste Croi 73.03 332⇓*i*P **P 07 41 42.2 +0.8**
TCF pmax pmax
comp=Z,105nm,1.1s,mb5.7
TCF Toulx Ste Croi 73.03 332⇓*i*P **P 07 41 42.2 +0.8**
comp=Z,105nm,1.1s,mb5.7
MOX Moxa 73.04 340 *e*P **P 07 41 40.8 -0.6**
comp=Z,47nm,1.2s,mb5.3
MOX Moxa 73.04 340 *e*P **P 07 41 41.1 -0.3**
SSF Saint Saulge 73.08 334⇓*i*P **P 07 41 41.4 -0.3**
comp=Z,74nm,1.1s,mb5.2
SSF Saint Saulge 73.08 334⇓*i*P **P 07 41 41.4 -0.3**
SSF pmax pmax
comp=Z,37nm,1.1s,mb5.2
SSF Saint Saulge 73.08 334⇓*i*P **P 07 41 41.4 -0.3**
comp=Z,37nm,1.1s,mb5.2
LOR Lormes 73.09 334⇓*i*P **P 07 41 41.8 0.0**
comp=Z,218nm,1.1s,mb5.7
LOR *e*R
comp=Z,259nm,18.5s
LOR Lormes 73.09 334⇓*i*P **P 07 41 41.8 0.0**
LOR pmax pmax
comp=Z,109nm,1.1s,mb5.7
LOR MLR MLR
comp=Z,260nm,18.5s,MS4.5
LOR Lormes 73.09 334⇓*i*P **P 07 41 41.8 0.0**
comp=Z,109nm,1.1s,mb5.7
LOR LR LR
comp=Z,260nm,18.5s,MS4.5
TOD Tromm 73.09 338 *e*P **P 07 41 41.9 +0.1**
KTD Kalmit 73.11 338 *e*P **P 07 41 42.1 +0.2**
SUW Suwalki 73.18 349 *e*P **P 07 41 41.6 -0.7**
SUW Suwalki 73.18 349 *e*P **P 07 41 41.8 -0.5**
CLL Collm 73.19 342 *e*P **P 07 41 41.5 -0.8**
comp=Z,58nm,1.2s,mb5.4
CLL Collm 73.19 342 *e*P **P 07 41 40.0 -2.3**
CLL ⇓*i*Pmax 07 41 41.6
comp=Z,42nm,1.4s
CLL *i* pP pP 07 41 45.3 -3.4
CLL *i* sP sP 07 41 47.6 -3.4
comp=Z,58nm,1.2s
CLL *e*PP PP 07 44 18.0 -7.3
CLL Collm 73.19 342⇓*i*P **P 07 41 41.6 -0.7**
CLL *i* 07 41 45.3
CLL *i* pP 07 41 47.6 -1.1
CLL pmax pmax
comp=Z,42nm,1.4s,mb5.2
CLL MLR MLR
comp=Z,300nm,14.9s,MS4.7
CLL Collm 73.19 342⇓*i*P **P 07 41 41.6 -0.7**
comp=Z,42nm,1.4s,mb5.2
CLL *i* 07 41 45.3
CLL *i* pP 07 41 47.6 -1.1
CLL LR LR
comp=Z,300nm,14.9s,MS4.7
MOS Moscow 73.22 358 *e*P **P 07 41 40.9 -1.6**
MOS *e* pP 07 41 48.5 -0.4
MOS *e*S S 07 51 07.9 -1.8
MOS pmax pmax
comp=Z,116nm,1.2s,mb5.7
MOS Moscow 73.22 358 *e*P **P 07 41 40.6 -1.9**
PCBR Castelo Branco 73.38 322 *e*P **P 07 41 43.2 -0.2**
comp=Z,17nm,1.4s,mb4.8
ELAN Lanestosa 73.47 327 P **P 07 41 43.4 -0.6**
comp=Z,33nm,1.0s,mb5.2
MEZF Maizieres J'vi 73.59 335⇓*i*P **P 07 41 44.9 +0.2**
comp=Z,140nm,1.1s,mb5.5
MEZF Maizieres J'vi 73.59 335⇓*i*P **P 07 41 44.9 +0.2**
comp=Z,140nm,1.1s,mb5.8
HYF Humbligny 73.61 333 *e*P **P 07 41 45.0 +0.2**
UBBA Unterbreizbach 73.71 340 *e*P **P 07 41 45.2 -0.2**
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 73.74 338 *e*P **P 07 41 45.3 -0.3**
comp=Z,46nm,1.2s,mb5.3
TNS Taunus Mts 73.74 338 *e*P **P 07 41 45.3 -0.3**
TNS pmax pmax
comp=Z,46nm,1.2s,mb5.3

ABH Alteburg 73.78 338 *e*P **P 07 41 45.6 -0.2**
GKP Gorka Klasztor 73.78 345 *e*P **P 07 41 45.7 -0.1**
MTE Manteigas 73.78 323 *e*LQ 08 08 49.4
MTE *e*LR LR 08 10 55.9
comp=Z,470nm,17.3s
RUP Ruppelstein 73.80 337 *e*P **P 07 41 46.2 +0.3**
MK31 Makanchi Array 73.81 28 P **P 07 41 45.3 -0.7**
MK31 pmax pmax
comp=Z,13nm,0.7s,mb5.0
MKAR Makanchi Array 73.81 28 P **P 07 41 45.6 -0.4**
comp=Z,9.0nm,0.7s,mb4.8,baz=217,slow=6.7,SNR=37
PMAFR Mafra 73.88 321 *e*P **P 07 41 46.5 +0.1**
RUE Ruedersdorf 73.99 343 *e*P **P 07 41 46.6 -0.5**
comp=Z,134nm,1.1s,mb5.8
WLF Walferdange 74.11 337 *e*P **P 07 41 47.5 -0.2**
comp=Z,67nm,1.1s,mb5.5
WLF Walferdange 74.11 337 P **P 07 41 47.9 +0.1**
WLF Walferdange 74.11 337 *e*P **P 07 41 47.8 +0.1**
WLF pmax pmax
comp=Z,59nm,1.1s,mb5.4
WLF Walferdange 74.11 337 *e*P **P 07 41 47.8 +0.1**
comp=Z,59nm,1.1s,mb5.4
ZRNK Zerenda 74.17 17 *e*P **P 07 41 47.3 -0.8**
ZRNK pmax pmax
comp=Z,46nm,1.5s,mb5.2
ZRNK Zerenda 74.17 17 *e*P **P 07 41 47.3 -0.8**
comp=Z,46nm,1.5s,mb5.2
PVIS Viseu 74.19 323 *e*P **P 07 41 48.4 +0.2**
comp=Z,32nm,1.4s,mb5.1
WMQ Urumqi 74.21 33 *i*P **P 07 41 48.8 +0.5**
WMQ XP sP 07 41 56.0 -1.1
WMQ PCP PcP 07 42 04.0 +0.8
WMQ PP PP 07 44 36.0 +1.9
WMQ S S 07 51 21.0 +0.1
WMQ AMB AMB
comp=Z,33nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,287nm,3.7s
WMQ LR LR
comp=N,362nm,22.0s
WMQ LR LR
comp=E,684nm,29.4s
WMQ LR LR
comp=Z,338nm,24.4s,MS4.5
PBRG Braganca 74.26 324 *e*P **P 07 41 47.9 -0.7**
MFF Saint Martin d 74.33 331⇓*i*P **P 07 41 49.3 +0.3**
comp=Z,58nm,1.1s,mb5.1
MFF Saint Martin d 74.33 331⇓*i*P **P 07 41 49.3 +0.3**
MFF pmax pmax
comp=Z,29nm,1.1s,mb5.1
MFF Saint Martin d 74.33 331⇓*i*P **P 07 41 49.3 +0.3**
comp=Z,29nm,1.1s,mb5.1
ECAL Calabor 74.35 324 P **P 07 41 49.4 +0.2**
comp=Z,18nm,0.9s,mb5.0
EARI Arriondas 74.45 326 P **P 07 41 48.4 -1.4**
comp=Z,57nm,1.4s,mb5.3
VOSK Vostochnaya 74.53 18 P **P 07 41 49.1 -1.1**
VOSK pmax pmax
comp=Z,48nm,1.5s,mb5.2
BRVK Borovoye 74.62 17 P **P 07 41 50.3 -0.4**
comp=Z,105nm,0.8s,mb5.8,SNR=11
BRVK Borovoye 74.62 17 *e*P **P 07 41 52.8 +2.0**
BVA0 Borovoye Array 74.63 17 *i*P **P 07 41 50.1 -0.6**
BVAR Borovoye Array 74.63 17 LR LR 08 16 50.1
comp=Z,160nm,18.4s,MS4.3,baz=139,slow=38
MEM Membach 74.94 337 P **P 07 41 53.4 +0.9**
GIVF Givet 74.97 336 *e*P **P 07 41 52.7 0.0**
comp=Z,85nm,1.2s,mb5.2
GIVF Givet 74.97 336 *e*P **P 07 41 52.7 0.0**
GIVF pmax pmax
comp=Z,43nm,1.2s,mb5.2
GIVF Givet 74.97 336 *e*P **P 07 41 52.7 0.0**
comp=Z,43nm,1.2s,mb5.2
BCLA Clavier 75.04 337 P **P 07 41 53.0 -0.1**
DOU Dourbes 75.05 336 P **P 07 41 53.0 -0.2**
HGN Heimansgroeve 75.09 337 *e*P **P 07 41 53.4 0.0**
comp=Z,33nm,1.3s,mb5.1
NRDL Niedersach Rie 75.11 341 *e*P **P 07 41 53.7 +0.2**
comp=Z,43nm,1.3s,mb5.2
ARU Arti 75.16 10 P **P 07 41 52.2 -1.6**
comp=Z,220nm,1.2s,mb6.0,SNR=7.6
ARU Arti 75.16 10⇓*i*P **P 07 41 52.6 -1.2**
ARU *e* 07 44 41.2
ARU *e*PPP 07 46 23.2
ARU *e*S S 07 51 33.2 +1.7
ARU *e*SS SS 07 56 18.4 -2.4
ARU pmax pmax
comp=Z,36nm,1.3s,mb5.1
ARU Arti 75.16 10 *e*P **P 07 41 52.4 -1.4**
comp=Z,57nm,1.1s,mb5.4
BUG Bochum--Univer 75.17 338 *e*P **P 07 41 53.9 0.0**
comp=Z,82nm,1.2s,mb5.5
BAIF Baives 75.17 336⇓*i*P **P 07 41 54.0 +0.1**
comp=Z,137nm,1.3s,mb5.4
BAIF Baives 75.17 336⇓*i*P **P 07 41 54.0 +0.1**
BAIF pmax pmax
comp=Z,68nm,1.3s,mb5.4
BAIF Baives 75.17 336⇓*i*P **P 07 41 54.0 +0.1**
comp=Z,68nm,1.3s,mb5.4
CHKZ Chkalovo 75.27 17 *e*P **P 07 41 54.0 -0.4**
CHKZ pmax pmax
comp=Z,25nm,1.1s,mb5.1
CHKZ Chkalovo 75.27 17 *e*P **P 07 41 54.0 -0.5**
comp=Z,25nm,1.1s,mb5.0
KURK Kurchatov 75.39 23 P **P 07 41 54.9 -0.3**
comp=Z,228nm,1.2s,mb6.0,SNR=11
SNF Seneffe 75.50 336 P **P 07 41 56.0 +0.2**
EPON Pontenova 75.50 325 P **P 07 41 54.4 -1.4**
comp=Z,62nm,1.5s,mb5.3
UCC Uccle 75.70 337 P **P 07 41 57.4 +0.4**
IBBN Ibbenburen 75.72 339 *e*P **P 07 41 57.1 0.0**
comp=Z,56nm,1.1s,mb5.4
WTSB Winterswijk 75.77 339 *e*P **P 07 41 57.0 -0.3**
comp=Z,32nm,1.5s,mb5.0
LDF La Druitiere 75.82 333⇓*i*P **P 07 41 57.4 -0.2**
comp=Z,119nm,1.1s,mb5.4
LDF La Druitiere 75.82 333⇓*i*P **P 07 41 57.4 -0.2**
LDF pmax pmax
comp=Z,60nm,1.1s,mb5.4
LDF La Druitiere 75.82 333⇓*i*P **P 07 41 57.4 -0.2**
comp=Z,60nm,1.1s,mb5.4
SVE Sverdlovsk 75.89 11 *e*P **P 07 41 57.8 -0.2**
SVE *e* 07 42 00.9
SVE *e* 07 44 46.4
SVE pmax pmax
comp=Z,56nm,2.0s,mb5.2
GRR Gorron 75.99 332⇓*i*P **P 07 41 58.4 -0.2**
comp=Z,67nm,1.1s,mb5.2
GRR Gorron 75.99 332⇓*i*P **P 07 41 58.4 -0.2**
GRR pmax pmax
comp=Z,33nm,1.1s,mb5.2
GRR Gorron 75.99 332⇓*i*P **P 07 41 58.4 -0.2**
comp=Z,33nm,1.1s,mb5.2
BSD Bornholm Skovb 76.03 344 *i*P **P 07 41 57.7 -1.1**
comp=Z,65nm,1.0s,mb5.5
BSD Bornholm Skovb 76.03 344 *i*P **P 07 41 57.7 -1.1**
BSD pmax pmax
comp=Z,65nm,1.0s,mb5.5
FLN La Foliniere 76.10 333⇓*i*P **P 07 41 58.9 -0.3**
comp=Z,92nm,1.1s,mb5.3
FLN *e*R
comp=Z,331nm,17.5s
FLN La Foliniere 76.10 333⇓*i*P **P 07 41 58.9 -0.3**
FLN pmax pmax
comp=Z,46nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,330nm,17.5s,MS4.7
FLN La Foliniere 76.10 333⇓*i*P **P 07 41 58.9 -0.3**
comp=Z,46nm,1.1s,mb5.3
FLN LR LR
comp=Z,330nm,17.5s,MS4.7
QIZ Qiongzhong 76.14 65 PFAKE 07 42 10.0 +11
QIZ LR LR
comp=Z,404nm,20.0s,MS4.7
BSEG Bad Segeberg 76.28 341 *e*P **P 07 41 59.8 -0.4**
comp=Z,94nm,1.4s,mb5.5
RCBR Riachuelo 76.57 268 PFAKE 07 42 10.0 +8.1
RCBR LR LR
comp=Z,331nm,21.0s,MS4.6
CD2 Chengdu 76.64 51 *e*P **P 07 42 02.6 +0.3**
CD2 AP pP 07 42 07.3 -1.4
CD2 XP sP 07 42 09.9 -1.1
CD2 PCP PcP 07 42 14.5 +0.8
CD2 S S 07 51 48.0 +0.2
CD2 XS sS 07 51 57.1 -1.2
CD2 SCS ScS 07 52 15.6 -1.8

CD2 SS SS 07 56 49.0 +5.8
CD2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CD2 AMB AMB
comp=Z,50nm,4.8s
CD2 LR LR
comp=E,200nm,14.4s
CD2 LR LR
comp=Z,120nm,13.2s,MS4.4
SGMF Saint Gilles 76.65 331⇓*i*P **P 07 42 01.9 -0.5**
comp=Z,79nm,1.3s,mb5.2
SGMF Saint Gilles 76.65 331⇓*i*P **P 07 42 01.9 -0.5**
SGMF pmax pmax
comp=Z,40nm,1.3s,mb5.2
SGMF Saint Gilles 76.65 331⇓*i*P **P 07 42 01.9 -0.5**
comp=Z,40nm,1.3s,mb5.2
QUIF Quistinic 76.69 331⇓*i*P **P 07 42 02.5 -0.1**
comp=Z,124nm,1.1s,mb5.5
QUIF Quistinic 76.69 331⇓*i*P **P 07 42 02.5 -0.1**
QUIF pmax pmax
comp=Z,62nm,1.1s,mb5.5
QUIF Quistinic 76.69 331⇓*i*P **P 07 42 02.5 -0.1**
comp=Z,62nm,1.1s,mb5.5
GYA Guiyang 76.74 56⇑*i*P **P 07 42 03.3 +0.5**
GYA AP pP 07 42 08.3 -0.9
GYA XP sP 07 42 10.3 -1.3
GYA PP PP 07 44 57.6 +2.2
GYA PPP 07 46 47.4
GYA S S 07 51 48.9 +0.1
GYA SKS 07 52 09.8
GYA SS SS 07 56 47.8 +3.1
GYA AMB AMB
comp=Z,40nm,1.4s,mb5.2
GYA AMB AMB
comp=Z,150nm,4.8s
GYA LR LR
comp=N,540nm,18.9s,MS5.0
GYA LR LR
comp=E,570nm,18.4s,MS5.0
GYA LR LR
comp=Z,530nm,19.0s,MS4.9
VSU Vasula 76.88 352 *i*P **P 07 42 02.8 -0.8**
VSU Vasula 76.88 352 *i*Pr **P 07 42 02.8 -0.8**
ROSF Rostrenen 77.04 331⇓*i*P **P 07 42 04.1 -0.5**
comp=Z,79nm,1.1s,mb5.3
ROSF Rostrenen 77.04 331⇓*i*P **P 07 42 04.1 -0.5**
ROSF pmax pmax
comp=Z,40nm,1.1s,mb5.3
ROSF Rostrenen 77.04 331⇓*i*P **P 07 42 04.1 -0.5**
comp=Z,40nm,1.1s,mb5.3
SOKR Solikamsk 77.94 8*d i*P **P 07 42 08.9 -0.7**
SOKR pmax pmax
comp=Z,70nm,1.1s,mb5.5
GTA Gaotai 78.44 42⇓*i*P **P 07 42 12.9 +0.6**
GTA AP pP 07 42 16.8 -1.9
GTA XP sP 07 42 19.8 -1.3
GTA PP PP 07 45 13.4 +3.7
GTA PPP 07 47 01.1
GTA S S 07 52 07.5 +0.3
GTA XS sS 07 52 13.6 -4.2
GTA SKS 07 52 21.6
GTA PS 07 52 50.3
GTA SS SS 07 57 10.9 +0.6
GTA AMB AMB
comp=Z,36nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,291nm,4.2s
GTA LR LR
comp=N,211nm,18.0s,MS4.7
GTA LR LR
comp=E,290nm,19.9s,MS4.7
GTA LR LR
comp=Z,304nm,18.3s,MS4.7
MUD Monsted U'grnd 78.78 342 *i*P **P 07 42 13.9 -0.3**
comp=Z,57nm,1.3s,mb5.3
MUD Monsted U'grnd 78.78 342 *i*P **P 07 42 13.9 -0.3**
MUD pmax pmax
comp=Z,57nm,1.3s,mb5.3
VNDA Vanda 79.00 169 P **P 07 42 14.1 -1.3**
comp=Z,5.3nm,1.2s,mb4.3,baz=264,slow=6.8,SNR=7.9
VNDA Vanda 79.00 169 *e*P **P 07 42 15.5 +0.1**
VNDA LR LR
comp=Z,171nm,19.0s,MS4.4
FITZ Fitzroy Crossi 79.00 106 *e*P **P 07 42 15.2 -0.2**
comp=Z,21nm,1.1s,mb5.0
FITZ Fitzroy Crossi 79.00 106 LR LR 08 15 27.8
comp=Z,186nm,18.5s,MS4.5,baz=267,slow=34
LZH Lanzhou 79.33 47 ⇓P **P 07 42 17.5 +0.3**
LZH AP pP 07 42 24.5 +0.8
LZH XP sP 07 42 27.5 +1.5
LZH PP PP 07 45 19.8 +2.7
LZH *e*S S 07 52 17.8 +1.0
LZH XS sS 07 52 25.6 -1.8
LZH *e*SS SS 07 57 28.6 +4.9
LZH AMB AMB
comp=Z,84nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,250nm,4.2s
LZH LR LR
comp=E,360nm,13.6s
LZH LR LR
comp=Z,800nm,15.0s,MS5.2
SBA Scott Base 79.66 170 *e*P **P 07 42 20.0 +1.0**
SBA pmax pmax
comp=Z,57nm,1.8s,mb5.2
SBA MLR MLR
comp=Z,303nm,19.0s,MS4.7
SBA Scott Base 79.66 170 *e*P **P 07 42 20.0 +1.0**
comp=Z,58nm,1.8s,mb5.2
SBA LR LR
comp=Z,303nm,19.0s,MS4.7
FIA1 FINESS Array S 79.86 352 *e*P **P 07 42 19.1 -1.0**
FINES FINESS Array B 79.86 352 P **P 07 42 18.6 -1.5**
comp=Z,11nm,1.2s,mb4.7,baz=145,slow=7.0,SNR=14
ZAL Zalesovo 80.28 24 P **P 07 42 21.4 -1.0**
comp=Z,13nm,1.0s,mb4.8,baz=247,slow=5.7,SNR=52
ZAL LR LR 08 17 11.0
comp=Z,81nm,18.1s,MS4.1,baz=256,slow=35
NVS Novosibirsk 80.37 23 *i*P **P 07 42 21.3 -1.6**
NVS pmax pmax
comp=N,86nm,1.5s
NVS pmax pmax
comp=Z,137nm,1.5s,mb5.7
NVS pmax pmax
comp=E,26nm,1.1s
KAF Kangasniemi 80.48 353 *e*p **P 07 42 21.6 -1.8**
comp=E,3.3nm,0.5s,mb4.8,baz=162,slow=5.2
KAF Kangasniemi 80.48 353 *e*P **P 07 42 21.6 -1.8**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
JOF Joensuu 80.76 355 *e*p **P 07 42 22.9 -2.0**
comp=Z,16nm,0.9s,mb5.0
HFS Hagfors 80.83 346 P **P 07 42 24.4 -0.9**
comp=Z,9.6nm,0.8s,mb4.8,baz=121,slow=7.6,SNR=23
KONO Kongsberg 81.40 344*d i*P **P 07 42 27.4 -1.0**
KONO Kongsberg 81.40 344 *e*P **P 07 42 28.0 -0.4**
comp=Z,46nm,1.2s,mb5.3
KONO LR LR
comp=Z,200nm,20.0s,MS4.5
TMCR Tamitsa 81.64 358 *e*P **P 07 42 27.7 -1.9**
TMCR pmax pmax
comp=Z,62nm,1.4s,mb5.3
XAN Xi'an 81.97 51 P **P 07 42 31.3 0.0**
XAN AP pP 07 42 39.3 +1.5
XAN AMB AMB
comp=Z,42nm,1.4s,mb5.2
DLF Lyons Farm 82.02 333 *e*P **P 07 42 28.1 -3.5**
EKA Eskdalemuir Ar 82.09 336 P **P 07 42 32.0 0.0**
comp=Z,3.3nm,0.9s,baz=120,slow=5.9,SNR=5.1
NAO01 NORSAR Array S 82.11 345 *e*P **P 07 42 31.5 -0.7**
comp=Z,39nm,1.1s,mb5.2
NB2 NORSAR Subarra 82.21 346 P **P 07 42 31.4 -1.2**
comp=Z,47nm,1.2s,mb5.3,baz=150,slow=5.3
NOA NORSAR Array B 82.21 346 P **P 07 42 32.1 -0.5**
comp=Z,14nm,1.1s,mb4.8,baz=142,slow=5.2,SNR=11
DCN Croghan 82.38 333 *e*P **P 07 42 30.0 -3.5**
CMLA Cha da Macela 83.86 313 *e*LQ 08 14 28.2
CMLA *e*LR LR 08 16 25.2
WHN Wuhan 84.59 56 P **P 07 42 45.6 +0.7**
ASAR Alice Springs 84.91 113 P **P 07 42 46.6 +0.2**
comp=Z,13nm,0.9s,mb5.0,baz=260,slow=4.6,SNR=87
ASAR LR LR 08 15 18.1
comp=Z,528nm,21.8s,MS4.9,baz=326,slow=32
AS31 Alice Springs 84.91 113 *e*P **P 07 42 46.9 +0.4**
BDFB Brasilia 85.20 255 P **P 07 42 48.9 +0.9**
comp=Z,9.9nm,0.9s,mb4.9,baz=90,slow=4.0,SNR=7.2

BDFB LR LR 08 18 57.7
comp=Z,444nm,18.6s,MS4.9,baz=293,slow=34
APA Apatity 85.23 357 ⇓*i*P **P 07 42 47.3 -0.8**
APA *i* 07 42 56.2
APA pmax pmax
comp=Z,43nm,1.3s,mb5.4
LVZ Lovozero 85.50 357 *e*P **P 07 42 49.2 -0.2**
BTO Baotou 85.77 45 *e*P **P 07 42 51.3 +0.5**
DAV Davao City (W) 86.22 81 PFAKE 07 43 00.0 +7.0
DAV LR LR
comp=Z,742nm,20.0s,MS5.1
WRA Warramunga Arr 86.39 110 P **P 07 42 54.2 +0.3**
comp=Z,5.8nm,1.0s,mb4.8,baz=256,slow=4.1,SNR=16
WRA LR LR 08 18 33.5
comp=Z,268nm,19.0s,MS4.7,baz=285,slow=34
WB2 Warramunga Arr 86.41 110 *e*P **P 07 42 53.9 0.0**
WRAB Tennant Creek 86.41 110 *e*P **P 07 42 54.0 +0.1**
WRAB pmax pmax
comp=Z,21nm,1.1s,mb5.3
WRAB MLR MLR
comp=Z,143nm,22.0s,MS4.3
WRAB Tennant Creek 86.41 110 *e*P **P 07 42 54.0 +0.1**
comp=Z,21nm,1.1s,mb5.3
WRAB LR LR
comp=Z,143nm,22.0s,MS4.3
ZAK Zakamensk 86.58 34 ⇓*i*P **P 07 42 55.2 +0.4**
KAKA Kakadu 86.80 102 *e*P **P 07 42 55.8 0.0**
comp=Z,8.5nm,0.8s,mb5.0
HHC Hu-ho-hao-te 86.93 45 *e*P **P 07 42 58.3 +1.8**
HHC AP pP 07 43 03.3 +0.4
HHC XP sP 07 43 05.4 +0.1
HHC PP PP 07 46 24.8 +5.4
HHC SKS 07 53 22.8
HHC S S 07 53 35.9 +2.0
HHC XS sS 07 53 43.8 -0.8
HHC AMB AMB
comp=Z,29nm,0.4s,mb5.9
HHC AMB AMB
comp=Z,270nm,3.8s
HHC LR LR
comp=N,246nm,6.3s
HHC LR LR
comp=E,273nm,5.7s
HHC LR LR
comp=Z,276nm,5.9s
SONM Songino Array 86.98 38 P **P 07 42 56.6 -0.1**
comp=Z,4.6nm,1.0s,mb4.7,baz=232,slow=4.8,SNR=20
ULN Ulaanbaatar 87.38 38 ⇓*e*P **P 07 42 58.4 -0.3**
ULN Ulaanbaatar 87.38 38 *e*P **P 07 42 58.1 -0.6**
comp=Z,11nm,1.1s,mb5.0
ULN LR LR
comp=Z,160nm,22.0s,MS4.4
TLY Talaya 87.48 33 *e*P **P 07 42 59.5 +0.4**
TLY *e*PPP 07 48 28.6
TLY pmax pmax
comp=Z,10.0nm,1.7s,mb4.8
TLY Talaya 87.48 33 *e*P **P 07 42 58.4 -0.7**
ARCES ARCESS Array B 87.75 354 P **P 07 42 59.4 -1.1**
comp=Z,3.5nm,0.7s,mb4.7,baz=150,slow=2.7,SNR=10
ARCES LR LR 08 28 58.9
comp=Z,99nm,19.4s,MS4.2,baz=7.0,slow=40
KEV Kevo 87.83 355 *e*p **P 07 42 57.9 -2.9**
NJ2 Nanjing 88.73 56 *e*P **P 07 43 05.8 +0.7**
NJ2 AP pP 07 43 10.4 -1.2
NJ2 XP sP 07 43 12.8 -1.1
NJ2 PP PP 07 46 37.0 +3.1
NJ2 SKS 07 53 34.0
NJ2 S S 07 53 51.0 -0.1
NJ2 XS sS 07 54 00.0 -1.8
NJ2 AMB AMB
comp=Z,240nm,1.0s
NJ2 AMB AMB
comp=Z,1μm,8.2s
NJ2 LR LR
comp=N,3μm,24.3s,MS5.7
NJ2 LR LR
comp=E,3μm,24.9s,MS5.7
NJ2 LR LR
comp=Z,3μm,25.6s,MS5.6
STKA Stephens Creek 88.80 123 P **P 07 43 05.8 +0.3**
comp=Z,8.1nm,1.2s,mb4.9,baz=281,slow=8.7,SNR=6.5
STKA LR LR 08 17 03.8
comp=Z,350nm,21.0s,MS4.8,baz=204,slow=32
TRQA Tornquist 89.66 230 *e*P **P 07 43 10.7 +1.2**
comp=Z,37nm,1.1s,mb5.6
TOO Toolangi 89.76 129 *e*P **P 07 43 11.6 +1.7**
comp=Z,6.4nm,1.3s,mb4.8
TOO Toolangi 89.76 129 *e*P **P 07 43 11.6 +1.7**
TOO pmax pmax
comp=Z,6.0nm,1.3s,mb4.8
CPUP Villa Florida 90.16 242 P **P 07 43 12.6 +0.8**
comp=Z,2.3nm,0.8s,mb4.5,baz=92,slow=4.5,SNR=5.3
CPUP LR LR 08 22 11.6
comp=Z,262nm,18.0s,MS4.7,baz=98,slow=35
CPUP Villa Florida 90.16 242 *e*P **P 07 43 13.7 +1.9**
CPUP pmax pmax
comp=Z,34nm,1.1s
CPUP Villa Florida 90.16 242 *e*P **P 07 43 13.7 +1.9**
comp=Z,34nm,1.1s,mb5.6
SSE Sheshan 90.25 57 P **P 07 43 13.6 +1.4**
SSE AP pP 07 43 16.9 -1.8
SSE XP sP 07 43 18.3 -2.7
SSE S S 07 54 06.5 +1.3
SSE XS sS 07 54 13.5 -2.5
SSE AMB AMB
comp=Z,32nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,719nm,6.2s
SSE LR LR
comp=N,88nm,15.6s,MS4.4
SSE LR LR
comp=E,80nm,15.7s,MS4.4
SSE LR LR
comp=Z,141nm,15.9s,MS4.5
PLCA Paso Flores 94.56 225 P **P 07 43 31.6 -0.5**
comp=Z,3.9nm,1.2s,mb4.7,baz=101,slow=5.2,SNR=2.7
PLCA LR LR 08 21 24.6
comp=Z,197nm,20.1s,MS4.6,baz=116,slow=32
JOW Kunigami 94.76 63 LR LR 08 28 08.0
comp=Z,364nm,18.6s,MS4.9,baz=292,slow=37
HIA Hailar 95.59 40 PFAKE 07 43 50.0 +13
HIA LR LR
comp=Z,303nm,20.0s,MS4.8
SNY Shenyang 95.65 48 ⇓P **P 07 43 37.3 +0.2**
SNY AMB AMB
comp=Z,12nm,0.5s,mb5.6
CTA Charters Tower 96.91 114 LR LR 08 23 13.6
comp=Z,571nm,18.8s,MS5.1,baz=248,slow=33
CTAO Charters Tower 96.91 114 PFAKE 07 43 50.0 +7.2
CTAO LR LR
comp=Z,574nm,19.0s,MS5.1
CN2 Changchun 97.57 47 *e*P **P 07 43 47.0 +1.2**
CN2 *e*XP sP 07 43 54.0 -0.6
CN2 *e*S S 07 55 08.9 -0.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.5
KBS Kingsbay 97.84 354 P **P 07 43 40.4 -6.6**
MDJ Mudanjiang 100.66 47 P Pdif 07 44 00.0 +0.4
MDJ S Sdif 07 55 38.0 +2.2
MDJ PS PS 07 57 10.5 +2.7
MDJ AMB AMB
comp=Z,10.0nm,2.1s
MDJ AMB AMB
comp=Z,177nm,7.8s
MDJ LR LR
comp=N,41nm,29.1s,MS3.9
MDJ LR LR
comp=E,35nm,26.9s,MS3.9
MDJ LR LR
comp=Z,52nm,26.9s,MS3.9
PMG Port Moresby 101.53 104 PFAKE 07 44 20.0 +17
PMG LR LR
comp=Z,364nm,20.0s,MS4.9
LPAZ La Paz 103.19 248 PFAKE 07 44 20.0 +9.1
LPAZ LR LR
comp=Z,536nm,20.0s,MS5.1
YAK Yakutsk 104.45 29 PFAKE 07 44 30.0 +14
YAK LR LR
comp=Z,115nm,20.0s,MS4.4
YSS Yuzh-Sakhalins 110.11 46 *i* PKIKP PKiKP 07 48 41.5 -1.7
YSS MLR MLR
comp=Z,131nm,19.0s,MS4.5
SJG San Juan 111.90 283 PFAKE 07 49 00.0 +13
SJG LR LR
comp=Z,204nm,20.0s,MS4.7
SDV Santo Domingo 113.96 272 PFAKE 07 49 00.0 +10
SDV LR LR
comp=Z,189nm,19.0s,MS4.7
MA2 Magadan 114.67 32 PFAKE 07 49 00.0 +8.2
MA2 LR LR
comp=Z,111nm,19.0s,MS4.5
SCHQ Schefferville 115.00 323 PFAKE 07 49 00.0 +7.5
SCHQ LR LR
comp=Z,324nm,21.0s,MS4.9
WES Weston 118.71 309 PFAKE 07 49 10.0 +10
WES LR LR
comp=Z,429nm,20.0s,MS5.1
BILL Bilibino 118.86 21 PFAKE 07 49 10.0 +10
BILL LR LR
comp=Z,126nm,20.0s,MS4.5
HRV Harvard--Oak R 118.88 309 PFAKE 07 49 10.0 +10
HRV LR LR
comp=Z,495nm,20.0s,MS5.1
LBNH Lisbon 119.06 311 PFAKE 07 49 10.0 +10
LBNH LR LR
comp=Z,496nm,20.0s,MS5.1
NCB Newcomb 120.73 311 PFAKE 07 49 20.0 +17
NCB LR LR
comp=Z,426nm,22.0s,MS5.0
BINY Binghamton 122.17 309 PFAKE 07 49 20.0 +14
BINY LR LR
comp=Z,617nm,21.0s,MS5.2
CBN Corbin 123.52 304 PFAKE 07 49 20.0 +11
CBN LR LR
comp=Z,455nm,19.0s,MS5.2
SSPA Standing Stone 123.74 307 PFAKE 07 49 20.0 +11
SSPA LR LR
comp=Z,428nm,20.0s,MS5.1
ERPA Erie 125.14 309 PFAKE 07 49 20.0 +8.1
ERPA LR LR
comp=Z,415nm,20.0s,MS5.1
MCWV Mont Chateau 125.33 306 PFAKE 07 49 20.0 +7.7
MCWV LR LR
comp=Z,408nm,20.0s,MS5.1
DWPF Disney 127.10 292 PFAKE 07 49 30.0 +14
DWPF LR LR
comp=Z,211nm,19.0s,MS4.8
ACSO Alum Creek Sta 127.64 307 PFAKE 07 49 30.0 +13
ACSO LR LR
comp=Z,213nm,20.0s,MS4.8
AAM Ann Arbor 127.80 310 PFAKE 07 49 30.0 +13
AAM LR LR
comp=Z,390nm,20.0s,MS5.1
TNA Tin City 128.24 15 PFAKE 07 49 30.0 +12
TNA LR LR
comp=Z,87nm,20.0s,MS4.4
INK Inuvik 129.31 358 PKP PKPdf 07 49 18.4 -1.6
comp=Z,9.0nm,1.0s,baz=25,slow=1.8,SNR=5.7
WCI Wyandotte Cave 130.50 305 PFAKE 07 49 30.0 +7.8
WCI LR LR
comp=Z,277nm,20.0s,MS5.0
IMA2 Indian Mountai 130.57 8 *e*PKPdf PKPdf 07 49 22.5 +0.2
EYMN Ely 131.54 319 PFAKE 07 49 40.0 +16
EYMN LR LR
comp=Z,52nm,20.0s,MS4.2
LRAL Lakeview Retre 131.74 299 *e*PKPdf PKPdf 07 49 24.2 -0.3
LRAL LR LR
comp=Z,417nm,19.0s,MS5.2
WVT Waverly 132.04 303 *e*PKIKP PKPdf 07 49 23.8 -1.3
WVT MLR MLR
comp=Z,307nm,20.0s,MS5.0
JFWS Jewell Farm 132.38 312 PFAKE 07 49 40.0 +14
JFWS LR LR
comp=Z,436nm,21.0s,MS5.1
COLA College 132.40 6 PFAKE 07 49 40.0 +14
COLA LR LR
comp=Z,89nm,20.0s,MS4.5
PLAL Pickwick Lake 132.41 301 *e*PKPdf PKPdf 07 49 24.7 -1.1
PLAL LR LR
comp=Z,399nm,20.0s,MS5.1
EGAK Eagle 132.90 2 *e*PKPdf PKPdf 07 49 24.2 -2.5
ULM Lac du Bonnet 133.16 324 PKP PKPdf 07 49 25.7 -1.5
comp=Z,5.8nm,1.1s,baz=88,slow=4.3,SNR=3.4
ULM Lac du Bonnet 133.16 324 PKP PKPdf 07 49 25.7 -1.5
ULM LR LR
comp=Z,659nm,20.0s,MS5.3
MCK McKinley 133.41 7 PFAKE 07 49 40.0 +12
MCK LR LR
comp=Z,70nm,19.0s,MS4.4
OXF Oxford 133.56 301 PFAKE 07 49 40.0 +12
OXF LR LR
comp=Z,378nm,22.0s,MS5.1
FFC Flin Flon 133.80 332 PFAKE 07 49 40.0 +12
FFC LR LR
comp=Z,98nm,21.0s,MS4.5
ECSD EROS,Sioux Fal 136.47 316 *e*PKPdf PKPdf 07 49 32.2 -1.1
MIAR Mount Ida 136.94 302 *e*PKIKP PKPdf 07 49 34.1 -0.2
MIAR MLR MLR
comp=Z,351nm,21.0s,MS5.1
DGMT Dagmar 138.71 326 *e*PKPdf PKPdf 07 49 39.2 +1.7
DGMT LR LR
comp=Z,431nm,19.0s,MS5.2
HKT Hockley 139.59 296 PFAKE 07 49 50.0 +11
HKT LR LR
comp=Z,251nm,20.0s,MS5.0
EDM Edmonton 139.59 337 *e*PKIKP PKPdf 07 49 38.6 -0.5
LAO LASA Array 140.88 325 PFAKE 07 49 50.0 +8.5
LAO LR LR
comp=Z,692nm,22.0s,MS5.4
RSSD Black Hills 141.05 320 *e*PKIKP PKPdf 07 49 42.0 +0.2
WMOK Wichita Mounta 141.07 304 *e*PKIKP PKPdf 07 49 37.1 -4.7
WMOK MLR MLR
comp=Z,401nm,22.0s,MS5.1
EGMT Eagleton 141.87 329 PFAKE 07 50 00.0 +17
EGMT LR LR
comp=Z,396nm,19.0s,MS5.2
JCT Junction City 142.90 297 *e*PKIKP PKPdf 07 49 41.1 -4.0
JCT MLR MLR
comp=Z,278nm,22.0s,MS5.0
WALA Waterton Lakes 143.04 333 *e*PKPdf PKPdf 07 49 41.4 -4.0
RLMT Red Lodge 143.52 325 *e*PKPdf PKPdf 07 49 43.4 -2.8
HRY Holter Researc 143.79 329 *e*PKPdf PKPdf 07 49 44.4 -2.2
ISCO Idaho Springs 144.24 315 *e*PKIKP PKPdf 07 49 46.1 -1.3
ISCO MLR MLR
comp=Z,594nm,22.0s,MS5.3
RWWY Rawlins 144.32 319 *e*PKPdf PKPdf 07 49 45.4 -2.1
CHMT Chamberlain Mo 144.34 330 *e*PKPdf PKPdf 07 49 45.6 -2.0
BSMT Bassoo Peak 144.34 333 P PKPdf 07 49 45.9 -1.7
BOZ Bozeman (W) 144.43 327 *e*PKIKP PKPdf 07 49 46.8 -0.9
BOZ MLR MLR
comp=Z,241nm,20.0s,MS5.0
LKWY Lake 144.49 325 PFAKE 07 50 00.0 +12
LKWY LR LR
comp=Z,588nm,20.0s,MS5.3
YNR Norris Junctio 144.55 325 *e*PKPdf PKPdf 07 49 49.3 +1.3
MSO Missoula 144.72 331 *e*PKPdf PKPdf 07 49 46.9 -1.4
MSO LR LR
comp=Z,341nm,21.0s,MS5.1
YFT Old Faithful 144.80 325 *e*PKPdf PKPdf 07 49 50.0 +1.6
QLMT Earthquake Lak 144.87 326 *e*PKPdf PKPdf 07 49 49.0 +0.4
FLWY Flagg Ranch 144.97 325 *e*PKPdf PKPdf 07 49 49.0 +0.3
NEW Newport 144.99 335 PKPbc PKPdf 07 49 47.7 -1.0
comp=Z,30nm,1.1s,baz=68,slow=0.9,SNR=32
NEW Newport 144.99 335 PKIKP PKPdf 07 49 47.7 -1.0
NEW pmax pmax
comp=Z,300nm,1.1s
NEW Newport 144.99 335 *e*PKPdf PKPdf 07 49 47.5 -1.3
NEW LR LR
comp=Z,421nm,21.0s,MS5.2
SDCO Great Sand Dun 145.10 312 *e*PKPbc PKPbc 07 49 49.2 +0.8
SDCO LR LR
comp=Z,400nm,19.0s,MS5.2
DLMT Dillon 145.12 328 *e*PKPbc PKPbc 07 49 49.4 +0.9
BW06 Boulder Array 145.13 322 *e*PKPdf PKPdf 07 49 47.8 -1.2
BW06 LR LR
comp=Z,255nm,19.0s,MS5.0
PDAR Pinedale Array 145.13 322 PKPbc PKPbc 07 49 47.7 -0.8
comp=Z,16nm,1.0s,baz=90,slow=4.4,SNR=103
MOOW Moose Ponds 145.21 324 *e*PKPbc PKPbc 07 49 49.7 +0.9
LOHW Long Hollow 145.21 324 *e*PKPdf PKPdf 07 49 48.8 -0.3
IMW Indian Meadow 145.22 325 *e*PKPdf PKPdf 07 49 49.6 +0.5
SNOW Snow King Moun 145.39 324 *e*PKPbc PKPbc 07 49 49.7 +0.4
SMCO Snowmass 145.46 315 *e*PKPdf PKPdf 07 49 50.4 +0.8
TPAW Teton Pass 145.49 324 *e*PKPdf PKPdf 07 49 50.2 +0.7
REDW Red Top Meadow 145.51 324 *e*PKPdf PKPdf 07 49 49.7 +0.1
MCMT McKenzie Canyo 145.62 327 *e*PKPdf PKPdf 07 49 51.1 +1.4
RRI2 Red Ridge 145.78 324 *e*PKPdf PKPdf 07 49 51.2 +1.2
AHID Auburn Hatcher 146.03 323 PFAKE 07 50 00.0 +10
AHID LR LR
comp=Z,325nm,22.0s,MS5.1
VDB Vedder Mountai 146.12 341 P PKPdf 07 49 50.7 0.0
OD2 Odessa Site #2 146.33 336 P PKPdf 07 49 52.0 +1.0
RPW Rockport 146.44 340 P PKPdf 07 49 51.9 +0.7
WTV Waterville 146.54 337 P PKPbc 07 49 52.9 +0.1
JCW Jim Creek 146.80 340 P PKPbc 07 49 53.5 -0.1
PGC Sidney 146.87 342 *e*PKPbc PKPbc 07 49 53.9 +0.2
ANMO Albuquerque 146.96 308 *e*PKP2 PKPab 07 49 54.6 -0.9
ANMO MLR MLR
comp=Z,280nm,19.0s
WRD Warden 146.98 336 P PKPbc 07 49 54.3 +0.2
HWUT Hardware Ranch 147.02 322 *e*PKPdf PKPdf 07 49 52.9 +0.7
HWUT *e*PKPbc PKPbc 07 49 54.5 +0.3
HWUT LR LR
comp=Z,382nm,21.0s,MS5.2
PV01 Paradox Valley 147.06 314 *e*PKPbc PKPbc 07 49 55.0 +0.7
WAH2 Wahluke Slope 147.18 336 P PKPbc 07 49 55.6 +0.9
TBM Table Mountain 147.22 338 P PKPbc 07 49 54.9 +0.1
TCUT Toone Canyon 147.23 321 *e*PKPbc PKPbc 07 49 54.9 +0.1
MNTX Cornudas Mount 147.24 301 *e*PKPdf PKPdf 07 49 53.0 +0.4
MNTX *e*PKPbc PKPbc 07 49 55.0 +0.2
MNTX LR LR
comp=Z,268nm,20.0s,MS5.0
PV10 Paradox Valley 147.26 315 *e*PKPbc PKPbc 07 49 55.9 +1.0
HLID Hailey 147.31 327 *e*PKPdf PKPdf 07 49 53.8 +1.1
HLID LR LR
comp=Z,374nm,20.0s,MS5.2
MDW Midway 147.38 336 PKP2 PKPab 07 49 56.0 -1.1
STW Striped Peak 147.38 342 P PKPbc 07 49 56.0 +0.7
H2OWA Water 147.43 336 P PKPbc 07 49 56.2 +0.9
HAWA Hanford 147.47 336 *e*PKPdf PKPdf 07 49 53.9 +0.9
HAWA *e*PKPbc PKPbc 07 49 56.0 +0.5
HAWA LR LR
comp=Z,27nm,20.0s,MS4.0
YPT Yellepit 147.52 335 P PKPbc 07 49 56.2 +0.6
HVU Hansel Valley 147.62 323 *e*PKP2 PKPbc 07 49 54.0 -1.9
CTU Camp Tracy 147.69 321 *e*PKPdf PKPdf 07 49 54.3 +1.0
CTU *e*PKPbc PKPbc 07 49 56.3 +0.2
BMO Blue Mountains 147.76 332 *e*PKIKP PKPdf 07 49 53.4 0.0
BMO *e* 07 49 56.0
BMO MLR MLR
comp=Z,390nm,20.0s,MS5.2
SRU San Rafael 147.85 317 *e*PKIKP PKPdf 07 49 54.4 +0.9
SRU *e* 07 49 56.7
SRU *e* 07 49 59.5
NOQ North Oquirrh 147.94 321 *e*PKPdf PKPdf 07 49 54.8 +1.1
MPU Maple Canyon 148.03 320 *e*PKPdf PKPdf 07 49 54.9 +1.1
MPU LR LR
comp=Z,525nm,21.0s,MS5.3
TMUT Trail Mountain 148.18 318 *e*PKPdf PKPdf 07 49 55.4 +1.3
BGU Big Grassy Mou 148.31 322 *e*PKPdf PKPdf 07 49 55.5 +1.2
NLU North Lily Min 148.34 320 *e*PKPdf PKPdf 07 49 55.6 +1.3
DUG Dugway 148.64 321 *e*PKIKP PKPdf 07 49 55.9 +1.1
DUG MLR MLR
comp=Z,263nm,20.0s,MS5.0
MSU Marysvale 149.25 318 *e*PKIKP PKPbc 07 49 58.2 -1.9
MSU *e* 07 50 01.6
MSU *e* 07 50 05.4
MVU Marysvale 149.28 318 PFAKE 07 50 10.0 +14
MVU LR LR
comp=Z,425nm,20.0s,MS5.2
ELK Elko 149.69 324 *e*PKPbc PKPbc 07 50 01.7 +0.5
ELK *e*PKPab PKPab 07 50 07.5 +1.1
ELK LR LR
comp=Z,316nm,22.0s,MS5.1
WVOR Wild Horse Val 150.24 330 *e*PKIKP PKPdf 07 49 58.4 +1.0
WVOR *e* 07 50 03.3
WVOR MLR MLR
comp=Z,467nm,20.0s,MS5.3
WUAZ Wupatki 150.31 312 *e*PKPdf PKPdf 07 49 59.0 +1.5
WUAZ *e*PKPbc PKPbc 07 50 03.8 +1.1
WUAZ *e*PKPab PKPab 07 50 09.4 +0.4
WUAZ LR LR
comp=Z,388nm,19.0s,MS5.2
COR Corvallis 150.41 338 *e*PKIKP PKPbc 07 50 03.5 +0.6
COR MLR MLR
comp=Z,362nm,19.0s,MS5.2
ARUT Antelope Range 150.48 318 *e*PKIKP PKPdf 07 49 59.7 +1.9
CCUT Cedar City 150.57 317 *e*PKPdf PKPdf 07 50 00.4 +2.4
BMN Battle Mountai 151.00 326 *e*PKIKP PKPdf 07 50 00.1 +1.5
BMN *e* 07 50 05.0
BMN MLR MLR
comp=Z,214nm,22.0s,MS4.9
TUC Tucson 151.32 306 *e*PKIKP PKPdf 07 50 00.7 +1.6
TUC *e* 07 50 06.2
TUC MLR MLR
comp=Z,306nm,19.0s,MS5.1
MOD Modoc 151.43 331 *e*PKPdf PKPdf 07 50 00.5 +1.2
MOD *e*PKPbc PKPbc 07 50 05.8 +0.5
MOD LR LR
comp=Z,179nm,21.0s,MS4.8
TRCR Troy Canyon 151.47 321 *e*PKPbc PKPbc 07 50 05.8 +0.3
YBH Yreka Blue Hor 152.61 334 PKPbc PKPbc 07 50 07.4 -0.7
comp=Z,4.0nm,1.0s,baz=73,slow=3.3,SNR=7.4
YBH Yreka Blue Hor 152.61 334 *e*PKPdf PKPdf 07 50 03.7 +2.7
YBH PKPbc PKPbc 07 50 07.3 -0.7
YBH LR LR
comp=Z,229nm,19.0s,MS5.0
TPH Tonopah 152.62 322 *e*PKIKP PKPbc 07 50 09.1 +1.1
PAHR Pah Rah Range 152.66 327 *e*PKPdf PKPdf 07 50 03.1 +2.0
PAHR *e*PKPbc PKPbc 07 50 08.6 +0.5
NVAR Mina Array Bea 153.00 324 PKP PKPdf 07 50 03.8 +2.2
comp=Z,3.1nm,1.0s,baz=88,slow=4.4,SNR=19
NVAR PKPbc PKPbc 07 50 09.7 +0.8
comp=Z,11nm,1.0s,baz=76,slow=3.8,SNR=28
WDC Whiskeytown Da 153.49 333 *e*PKIKP PKPdf 07 50 03.2 +0.9
WDC *e* 07 50 08.7
WDC MLR MLR
comp=Z,309nm,20.0s,MS5.1
MTUM Tungsten Hills 153.90 323 *e*PKPdf PKPdf 07 50 03.9 +1.0
MTUM *e*PKPbc PKPbc 07 50 12.4 +1.6
DAC Darwin (Calif) 154.03 320 PFAKE 07 50 10.0 +7.0
DAC LR LR
comp=Z,328nm,20.0s,MS5.2
CMB Columbia Colle 154.43 326 *e*PKPbc PKPbc 07 50 10.8 -1.1
CMB *e*PKPab PKPab 07 50 26.7 +0.4
CMB LR LR
comp=Z,378nm,20.0s,MS5.2
PFO Pinyon Flat Ob 154.88 313 PFAKE 07 50 20.0 +16
PFO LR LR
comp=Z,57nm,22.0s,MS4.3
ISA Isabella 154.97 320 PFAKE 07 50 20.0 +16
ISA LR LR
comp=Z,75nm,21.0s,MS4.5
HOPS Hopland 155.02 331 PFAKE 07 50 20.0 +16
HOPS LR LR
comp=Z,301nm,19.0s,MS5.1
SAO San Andreas Ge 155.93 325 PFAKE 07 50 20.0 +14
SAO LR LR
comp=Z,290nm,20.0s,MS5.1
LRV Little Rabbit 155.94 324 *e*PKPab PKPab 07 50 34.5 +1.7

NEIC **17** *07:39:58.4±1.8,2399S×17999W,h540km±17km,mb4.5/10, Error ellipse: s-maj=17.7km s-min=12.3km az=54.0*
ISCJB **17** *07:40:00.1±1.8,2403S±0.10×1799E±02,h569km±19km, mb4.3/15, Error ellipse: s-maj=22.7km s-min=12.9km az=131.4*
IDC **17** *07:40:00.1±1.6,2396S×17977E,h542km±15km,mb3.9/7, mb1 4.0/8,mb1mx3.8/13,mbtmp4.8/8, Error ellipse: s-maj=18.4km s-min=15.7km az=174.0*
BJI **17** *07:40:03.3,2400S×18000W,h600km,mB4.8,mb4.6*
ISC 17 07:39:59.7±1.7,2418S±0.10×1799E±02,h549km±17km, n47,σ0.93/32,mb4.3/15,1C-6D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**12.60**	**277**	P	P	**P**	**07 42 44.8**	**+0.5**
	0.9nm,0.3s,baz=117,slow=18,SNR=4.1							
URZ	**Urewera**	**14.24**	**189**	P	P	**P**	**07 43 00.3**	**-1.0**
	1.0nm,0.3s,baz=44,slow=6.8,SNR=6.7							
URZ				S	S	**S**	**07 45 29.7**	**-1.1**
	0.9nm,0.3s,baz=22,slow=23,SNR=9.1							
ARMA	**Armidale**	**25.87**	**250**	*e*P	P	**P**	**07 44 50.1**	**+2.0**
CTA	**Charters Tower**	**31.42**	**271**	⇓*i*P	P	**P**	**07 45 36.9**	**+0.6**
	24nm,0.4s,mb5.1							
CTA	**Charters Tower**	**31.42**	**271**	P	P	**P**	**07 45 37.0**	**+0.6**
	32nm,0.4s,mb5.2,baz=95,slow=11,SNR=64							
CTAO	**Charters Tower**	**31.42**	**271**	*e*P	P	**P**	**07 45 36.8**	**+0.5**
	22nm,0.4s,mb5.0							
TOO	**Toolangi**	**32.25**	**237**	*e*P	P	**P**	**07 45 44.5**	**+1.1**
	5.6nm,0.5s,mb4.3							
PMG	**Port Moresby**	**34.53**	**290**	P	P	**P**	**07 46 01.8**	**-0.7**
	29nm,0.8s,mb4.8,baz=139,slow=2.3,SNR=5.3							

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**34.53**	**290**	*e*P	**P**	**07 46 02.2**	**-0.3**
	29nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**34.57**	**248**	*e*P	**P**	**07 46 03.7**	**+0.8**
	3.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**34.57**	**248**	P	**P**	**07 46 03.7**	**+0.8**
	3.6nm,0.5s,mb4.2,baz=94,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**34.57**	**248**	*e*P	**P**	**07 46 03.4**	**+0.5**
AS31	**Alice Springs**	**41.94**	**261**	*e*P	**P**	**07 47 02.6**	**0.0**
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**07 47 02.9**	**+0.2**
	8.0nm,0.5s,mb4.5,baz=98,slow=7.2,SNR=120						
ASAR				PcP	PcP	07 48 45.8	+0.7
	1.3nm,0.8s,baz=96,slow=4.7,SNR=5.0						
ASAR				S	**S**	**07 52 41.3**	**-0.3**
	0.6nm,0.7s,baz=93,slow=14,SNR=4.9						
WB2	**Warramunga Arr**	**42.32**	**266**	⇓*i*P	**P**	**07 47 05.3**	**-0.4**
WRAB	**Tennant Creek**	**42.33**	**266**	*e*P	**P**	**07 47 05.1**	**-0.6**
WRA	**Warramunga Arr**	**42.33**	**266**	P	**P**	**07 47 05.4**	**-0.4**
	22nm,0.5s,mb5.0,baz=102,slow=8.3,SNR=236						
WRA				S	**S**	**07 52 45.8**	**-1.5**
	0.7nm,0.6s,baz=111,slow=15,SNR=5.4						
KAKA	**Kakadu**	**46.28**	**275**	⇓*i*P	**P**	**07 47 35.4**	**-0.8**
	11nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**50.75**	**266**	⇓*i*P	**P**	**07 48 09.6**	**+0.3**
	16nm,0.6s,mb4.5						
VNDA	**Vanda**	**54.10**	**185**	P	**P**	**07 48 35.0**	**+1.8**
	0.5nm,0.7s,mb3.0,baz=343,slow=6.9,SNR=3.4						
KLBR	**Kellerberrin**	**54.83**	**247**	*e*P	**P**	**07 48 38.1**	**-0.3**
	7.5nm,0.6s,mb4.1						
MBWA	**Marble Bar**	**55.27**	**260**	*e*P	**P**	**07 48 41.1**	**-0.3**
	7.8nm,0.8s,mb4.0						
MBWA				*e*pP	pP	07 50 20.0	-7.0
MUN	**Mundaring**	**56.07**	**247**	*e*P	**P**	**07 48 46.8**	**-0.2**
MJAR	**Matsushiro Arr**	**72.09**	**326**	P	**P**	**07 50 27.8**	**-0.9**
	4.4nm,0.8s,mb3.9,baz=163,slow=5.3,SNR=15						
MAJO	**Matsushiro**	**72.10**	**326**	*e*P	**P**	**07 50 27.3**	**-1.4**
	5.7nm,0.8s,mb4.0						
MAW	**Mawson**	**77.47**	**200**	P	**P**	**07 50 59.5**	**+0.7**
	3.7nm,0.6s,mb4.0,baz=149,slow=7.2,SNR=4.7						
MAW	**Mawson**	**77.47**	**200**	*e*P	**P**	**07 50 59.8**	**+1.0**
	3.8nm,0.5s,mb4.1						
SYO	**Syowa Base**	**82.73**	**193**	⇑*e*P	**P**	**07 51 25.6**	**-0.6**
KMI	**Kunming**	**89.34**	**298**	P	**P**	**07 52 00.0**	**+2.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**132.15**	**348**	PKP	PKPdf	07 58 09.5	-1.8
	comp=Z,3.1nm,0.8s,baz=74,slow=2.0,SNR=9.3						
JOF	**Joensuu**	**135.97**	**340**	*e*pkp	PKPdf	07 58 17.0	-1.5
KAF	**Kangasniemi**	**138.09**	**342**	*e*pkp	PKPdf	07 58 19.9	-2.5
FINES	**FINESS Array B**	**138.69**	**341**	PKhKP		07 58 12.6	
	comp=Z,0.9nm,0.7s,baz=64,slow=4.9,SNR=5.5						
FINES				PKP	PKPdf	07 58 22.9	-0.5
	comp=Z,0.7nm,0.5s,baz=6.0,slow=2.6,SNR=7.1						
FINES				SKPbc	SKPbc	08 01 07.8	+1.1
	comp=Z,1.7nm,0.7s,baz=37,slow=2.8,SNR=8.2						
FINES	**FINESS Array B**	**138.69**	**341**	PKP		07 58 12.6	
FINES				PKP	PKPdf	07 58 22.9	-0.5
FINES				SKPbc	SKPbc	08 01 07.8	+1.1
NB2	**NORSAR Subarra**	**142.35**	**351**	PKPa		07 58 25.3	
	comp=Z,1.0nm,0.7s,baz=10,slow=3.0						
NOA	**NORSAR Array B**	**142.35**	**351**	PKhKP		07 58 24.8	
	comp=Z,1.6nm,0.7s,baz=16,slow=4.7,SNR=6.5						
MALT	**Malatya**	**144.47**	**303**	*e*PKPdf	PKPdf	07 58 34.6	+0.9
AKASG	**Malin Array Be**	**145.18**	**327**	PKP	PKPdf	07 58 34.5	-0.4
	comp=Z,2.5nm,0.3s,baz=43,slow=4.1,SNR=32						
AKASG				SKPbc	SKPbc	08 01 24.6	+1.8
	comp=Z,1.9nm,0.6s,baz=43,slow=2.7,SNR=9.2						
AKBB	**Malin Array Si**	**145.18**	**327**	*e*PKPdf	PKPdf	07 58 34.4	-0.6
BR131	**Keskin Array S**	**147.70**	**307**	*e*PKPbc	PKPbc	07 58 42.4	-0.5
BR131				*e*PKPab	PKPab	07 58 47.5	+0.3
BRTR	**Keskin Array B**	**147.70**	**307**	PKPbc	PKPbc	07 58 42.6	-0.2
	comp=Z,2.1nm,0.6s,baz=143,slow=5.2,SNR=12						
STHS	**Stebnicka Huta**	**149.78**	**332**	*e*PKP	PKPbc	07 58 48.4	+0.5
MLR	**Muntele Rosu**	**150.10**	**322**	PKPbc	PKPbc	07 58 48.0	-0.6
	comp=Z,1.3nm,0.3s,baz=114,slow=22,SNR=3.8						
CLL	**Collm**	**151.10**	**343**	⇓*i*PKPbc	PKPbc	07 58 50.5	-0.5
	comp=Z,13nm,0.7s						
CLL				*i* PKPab	PKPab	07 59 00.3	-1.0
BRG	**Berggiesshubel**	**151.23**	**341**	⇓*i*P	PKPbc	07 58 50.9	-0.4
	comp=Z,5.4nm,0.6s						
VYHS	**Vyhne**	**151.51**	**333**	*e*PKP	PKPbc	07 58 51.7	-0.2
GERES	**GERESS Array B**	**153.10**	**340**	PKPbc	PKPbc	07 58 54.6	-0.7
	comp=Z,0.7nm,0.6s,baz=46,slow=3.9,SNR=4.3						
GERES				PKPab	PKPab	07 59 09.1	-0.6
	comp=Z,0.2nm,0.3s,baz=345,slow=4.6,SNR=3.7						

---

*MOS **17** 08:00:57.2±1.7, 5501N×11164E, h25km, mb4.3/1, Error ellipse: s-maj=34.7km s-min=23.2km az=57.7*

BYKL 17 08:00:58.1±0.2**, 5505N**×**11165E, h12**km±3km**, 6C-1D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.33**	**238**	⇓*i*Pg	Pg	08 01 04.3	-0.5
YLYR				*e*Sg	Sg	08 01 09.4	+0.1
YLYR				Pmax			
	151nm,0.2s						
YLYR				Smax			
	3μm,0.2s						
YLYR	**Ulyunkhan**	**0.33**	**238**	*e*PG	Pg	08 01 04.4	-0.4
YLYR				*e*		08 01 09.3	
YLYR				pmax	pmax		
	comp=Z,157nm,0.1s						
YLYR				smax			
	comp=N,3μm,0.1s						
KMO	**Kumora**	**0.88**	**343**	⇑*i*Pg	Pg	08 01 13.6	-1.4
KMO				*e*Sg	Sg	08 01 25.5	-1.0
KMO				Pmax			
	comp=N,114nm,0.5s						
KMO				Smax			
	comp=N,452nm,1.2s						
KMO	**Kumora**	**0.88**	**343**	*e*PG	Pg	08 01 13.6	-1.4
KMO				*e*		08 01 25.5	
KMO				pmax	pmax		
	comp=Z,144nm,0.3s						
KMO				smax			
	comp=N,455nm,1.0s						
YOA	**Uoyan**	**1.09**	**2**	*e*Sg	Sg	08 01 32.8	-0.4
YOA				Smax			
	comp=N,2μm,0.4s						
UKT	**Uakit**	**1.21**	**68**	⇑*i*Pg	Pg	08 01 19.4	-2.0
UKT				*e*Pb	Pb	08 01 21.5	+0.5
UKT				*e*Sg	Sg	08 01 35.7	-1.5
UKT				*e*		08 01 40.0	
UKT				max			
	comp=N,117nm,0.5s						
UKT				max			
	comp=N,653nm,0.4s						
UKT	**Uakit**	**1.21**	**68**	*e*PN	Pn	08 01 19.4	-1.5
UKT				*e*		08 01 35.7	
UKT				pmax	pmax		
	comp=Z,115nm,0.2s						
UKT				smax			
	comp=N,653nm,0.3s						
NIZ	**Nizh Angarsk**	**1.41**	**302**	⇑*i*Pg	Pg	08 01 23.5	-1.6
NIZ				*e*Sg	Sg	08 01 42.6	-0.7
NIZ				Pmax			
	comp=N,194nm,0.2s						
NIZ				Smax			
	comp=N,399nm,0.3s						
NIZ	**Nizh Angarsk**	**1.41**	**302**	*e*PN	Pn	08 01 23.5	0.0
NIZ				*e*		08 01 42.7	
NIZ				pmax	pmax		
	comp=Z,194nm,0.2s						
NIZ				smax			
	comp=E,400nm,0.3s						
SVKR	**Severomuysk**	**1.52**	**45**	*e*Pg	Pg	08 01 26.6	-0.7
SVKR				*e*		08 01 30.5	
SVKR				*e*Sg	Sg	08 01 47.1	0.0
SVKR				Pmax			
	comp=E,189nm,0.4s						
SVKR				Smax			
	comp=E,874nm,0.6s						
SVKR	**Severomuysk**	**1.52**	**45**	*e*PN	Pn	08 01 26.7	+1.6
SVKR				*e*		08 01 46.7	
SVKR				pmax	pmax		
	comp=Z,183nm,0.4s						
SVKR				smax			
	comp=N,934nm,0.6s						
SYVR	**Suvo**	**1.70**	**215**	*e*Pg	Pg	08 01 28.4	-2.3
SYVR				*e*		08 01 33.5	
SYVR				*e*Sg	Sg	08 01 52.3	-0.4
SYVR				max			
	comp=N,83nm,0.8s						
SYVR				Smax			
	comp=N,147nm,0.2s						
MXMB	**Maximikha**	**2.48**	**225**	*e*Pg	Pg	08 01 42.1	-3.4
MXMB				*e*Sg	Sg	08 02 15.7	-1.9
MXMB				Pmax			
	comp=N,32nm,0.1s						
MXMB				Smax			
	comp=N,250nm,0.5s						
NLYR	**Nelyaty**	**2.71**	**56**	*e*Pn	Pn	08 01 42.4	+1.0
NLYR				*e*Pg	Pg	08 01 46.1	-3.9
NLYR				*e*		08 01 51.0	
NLYR				*e*Sg	Sg	08 02 21.7	-3.4
OGRR	**Ongureny**	**2.76**	**241**	*e*Pn	Pn	08 01 42.9	+0.8
OGRR				*e*Pg	Pg	08 01 46.5	-4.5
OGRR				*e*Sn	Sn	08 02 15.7	+0.3
OGRR				*e*Sg	Sg	08 02 23.1	-3.7
OGRR				Pmax			
	comp=N,21nm,0.3s						
OGRR				Smax			
	comp=N,84nm,0.4s						
BOD	**Bodaibo**	**3.07**	**24**	*e*Pg	Pg	08 01 53.5	-3.4
BOD				*e*Sn	Sn	08 02 23.0	0.0
BOD				*e*Sg	Sg	08 02 32.6	-4.1
BOD				Pmax			
	comp=N,8.0nm,0.4s						
BOD				Smax			
	comp=N,71nm,1.0s						
KELR	**Kotokel**	**3.12**	**224**	*e*Pg	Pg	08 01 54.5	-3.4
KELR				*e*Sg	Sg	08 02 36.0	-2.3
KELR				Pmax			
	comp=N,45nm,0.2s						
KELR				Smax			
	comp=N,250nm,0.3s						
CIT	**Chita**	**3.24**	**159**	*e*Pg	Pg	08 01 56.4	-3.8
CIT				*e*Sg	Sg	08 02 37.5	-4.7
CIT				Pmax			
	comp=N,16nm,0.6s						
CIT				Smax			
	comp=N,100nm,0.4s						
ZRHB	**Zarechye**	**3.66**	**229**	*e*Sg	Sg	08 02 52.4	-3.1
ZRHB				Smax			
	comp=N,106nm,1.0s						
TRTB	**Turuntaevo**	**3.70**	**222**	⇑*i*Pn	Pn	08 01 55.7	+0.6
TRTB				*e*Pg	Pg	08 02 04.5	-4.5
TRTB				*e*Sn	Sn	08 02 37.6	-1.0
TRTB				*e*Sg	Sg	08 02 53.1	-3.9
TRTB				Pmax			
	comp=N,18nm,1.1s						
TRTB				Smax			
	comp=N,40nm,0.5s						
TRG	**Tyrgan**	**3.88**	**236**	*e*Sg	Sg	08 02 57.8	-5.1
TRG				Smax			
	comp=N,50nm,0.4s						
CRS	**Chara**	**4.16**	**61**	⇑*i*Pn	Pn	08 02 02.0	+0.7
CRS				*e*Pg	Pg	08 02 13.1	-4.6
CRS				*e*		08 02 18.0	
CRS				*e*Sg	Sg	08 03 06.8	-4.7
CRS				max			
	comp=N,20nm,1.1s						
CRS				Smax			
	comp=N,117nm,1.3s						
CRS	**Chara**	**4.16**	**61**	*e*PN	Pn	08 02 13.2	+12
CRS				*e*		08 03 06.8	
CRS				pmax	pmax		
	comp=Z,53nm,1.0s						
CRS				smax			
	comp=E,116nm,1.3s						
TUP	**Tupik**	**4.85**	**94**	⇑*i*Pn	Pn	08 02 10.8	-0.1
TUP				*e*Pg	Pg	08 02 23.7	-7.4
TUP				*e*Sg	Sg	08 03 27.4	-6.5
TUP				Pmax			
	comp=E,4.0nm,0.4s						
TUP				Smax			
	comp=E,109nm,0.8s						
TUP	**Tupik**	**4.85**	**94**	*e*PN	Pn	08 02 24.2	+13
TUP				*e*		08 03 27.3	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TUP				smax			
	comp=E,109nm,0.8s						
LSTR	**Listvyanka**	**5.17**	**235**	*e*Pg	Pg	08 02 31.9	-5.2
LSTR				*e*Sg	Sg	08 03 37.0	-7.1
LSTR				Pmax			
	comp=E,2.0nm,0.3s						
LSTR				Smax			
	comp=E,25nm,0.8s						
KPC	**Khapcheranga**	**5.37**	**175**	*e*Pn	Pn	08 02 18.8	+0.7
KPC				*e*Pg	Pg	08 02 34.7	-6.3
KPC				*e*		08 03 20.9	
KPC				*e*Sg	Sg	08 03 44.6	-6.0
KPC				Pmax			
	comp=E,2.0nm,0.3s						
KPC				Smax			
	comp=E,41nm,0.9s						
TLY	**Talaya**	**5.86**	**238**	*e*Pg	Pg	08 02 44.6	-5.7
TLY				*e*Sn	Sn	08 03 29.1	-2.8
TLY				*e*Sg	Sg	08 03 59.1	-7.1
TLY				Pmax			
	comp=E,3.0nm,0.4s						
TLY				Smax			
	comp=E,9.0nm,0.4s						
ARS	**Arshan**	**6.34**	**244**	*e*Sg	Sg	08 04 12.1	-9.4
ARS				Smax			
	comp=E,69nm,0.8s						
ARS	**Arshan**	**6.34**	**244**	*e*PG	Pg	08 02 52.6	-6.8
ARS				*e*		08 04 11.9	
ARS				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ARS				smax			
	comp=E,48nm,0.4s						
MOY	**Mondy**	**7.22**	**246**	*e*Pn	Pn	08 02 44.6	+1.2
MOY				*e*		08 04 05.4	
MOY				*e*Sg	Sg	08 04 42.2	-7.6
MOY				max			
	comp=E,4.0nm,0.5s						
MOY				Smax			
	comp=E,33nm,1.9s						
ORL	**Orlik**	**7.45**	**255**	*i* Pn	Pn	08 02 47.8	+1.2
ORL				*e*		08 04 10.6	
ORL				*e*Sg	Sn	08 04 47.8	+37
ORL				max			
	comp=E,2.0nm,0.6s						
ORL				Smax			
	comp=E,41nm,1.5s						

---

*ISCJB **17** 08:01:42.6±1.4, 3736N±008×2587E±006, h2km±9km, Error ellipse: s-maj=14.2km s-min=7.6km az=21.1*
*CSEM **17** 08:01:43.4±0.5, 3739N×2595E, h10km, MD3.3, Error ellipse: s-maj=11.2km s-min=4.3km az=7.0*
*NEIC **17** 08:01:53.9, 3694N×2539E, h10km, MD3.3(ATH), After ATH.*
*ATH **17** 08:01:53.9, 3694N×2539E, h10km, MD3.3/8*
*HLW **17** 08:01:55.7, 3623N×2561E, h12km, Mb3.8*

ISC 17 08:01:45.8±1.4**, 3728N**±008×**2577E**±006**, h2**km±9km**, n18,** σ**1**^{s}**01**/22**, 5C-3D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**2.02**	**184**	*e*PG	**Pg**	**08 02 25.8**	**+1.4**
NPS				*e*SB	**Sb**	**08 02 48.2**	**-0.4**
NPS	**Neapolis**	**2.02**	**184**	*e*Pg	**Pg**	**08 02 25.1**	**+0.7**
NPS				*e*Sb	**Sb**	**08 02 48.2**	**-0.4**
KARP	**Karpathos**	**2.06**	**147**	*e*PN	**Pg**	**08 02 29.8**	**+4.5**
VAM	**Vamos**	**2.26**	**215**	*e*PN	**Pn**	**08 02 27.1**	**+3.0**
VAM				*e*SN	**Sn**	**08 02 51.5**	**-1.0**
VLI	**Veliai**	**2.34**	**257**	*e*PG	**Pg**	**08 02 30.2**	**-0.4**
VLI				*e*SN	**Sn**	**08 02 55.0**	**+0.5**
XRY	**Khrisi**	**2.40**	**182**	*e*PB	**Pb**	**08 02 30.0**	**+0.3**
KYTH	**Kithira**	**2.41**	**246**	*e*PG	**Pg**	**08 02 31.0**	**-1.0**
GVD	**Gavdhos**	**2.79**	**210**	*e*PB	**Pn**	**08 02 33.5**	**+2.1**
ITM	**Ithomi**	**3.07**	**269**	*e*PN	**Pb**	**08 02 40.8**	**-0.3**
SWA1		**7.99**	**180**	P	**Pn**	**08 03 37.5**	**-5.4**
SWA1				S	Sn	08 04 51.9	-22
SWA2		**8.02**	**182**	⇓P	**Pn**	**08 03 37.7**	**-5.5**
SWA2				S	Sn	08 04 52.0	-22
HHAG	**Hagoal**	**9.01**	**142**	⇑P	**Pn**	**08 03 56.5**	**-0.4**
HSAF	**As Saff**	**9.04**	**146**	⇑P	**Pn**	**08 03 55.9**	**-1.3**
AMAG	**Maghara**	**9.05**	**135**	⇓P	**Pn**	**08 03 58.3**	**+0.9**
GLL	**Jalalah**	**9.14**	**145**	⇑P	**Pn**	**08 03 57.5**	**-1.1**
SUZ		**9.47**	**140**	⇓P	**Pn**	**08 04 03.0**	**-0.2**
HFRF	**Wahat Farafira**	**10.32**	**167**	⇑P	**Pn**	**08 04 10.4**	**-4.5**
HKAT	**Jabal Katrina**	**11.13**	**139**	⇑P	**Pn**	**08 04 26.2**	**+0.4**

---

*NEIC **17** 08:16:33.7, 39.11N×2177E, h25km, MD3.2(ATH), After ATH.*
*ISCJB **17** 08:16:34.0±0.6, 39.15N±003×2184E±004, h12km±6km, Error ellipse: s-maj=5.2km s-min=5.1km az=129.3*
*ATH **17** 08:16:34.0, 39.12N×2176E, h23km±4km, MD3.2/4*
*CSEM **17** 08:16:34.9±0.1, 39.13N×2184E, h15km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.6km az=133.0*
*THE **17** 08:16:35.7, 39.16N×2189E, h11km, ML3.0*

ISC 17 08:16:34.6±0.5**, 3914N**±003×**2185E**±004**, h16**km±5km**, n20,** σ**1**^{s}**08**/27**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.23**	**188**	*e*PB	**Pg**	**08 16 39.8**	**0.0**
EVR				*e*SB	**Sg**	**08 16 43.4**	**+0.1**
EVR	**Evrytania**	**0.23**	**188**	*e*Pb	**Pg**	**08 16 39.7**	**-0.1**
EVR				*e*Sb	**Sg**	**08 16 43.4**	**+0.1**
AGG	**Agios Georgios**	**0.39**	**107**	*e*Pg	**Pg**	**08 16 42.7**	**0.0**
AGG				*e*Sg	**Sg**	**08 16 48.9**	**+0.8**
JAN	**Janina**	**0.93**	**304**	*e*PB	**Pb**	**08 16 50.5**	**-1.8**
LKR	**Lokris**	**1.02**	**118**	*e*PN	**Pn**	**08 16 54.2**	**-0.1**
LKR	**Lokris**	**1.02**	**118**	*e*Pn	**Pn**	**08 16 53.8**	**-0.5**
XOR	**Xorichti**	**1.07**	**77**	*e*Pg	**Pg**	**08 16 55.1**	**-0.2**
XOR				*e*Sg	**Sg**	**08 17 10.2**	**+0.9**
LIT	**Litokhoron**	**1.08**	**27**	*e*Pg	**Pg**	**08 16 55.0**	**-0.5**
LIT				*e*Sg	**Sg**	**08 17 10.3**	**+0.7**
RLS	**Riolos of Patr**	**1.12**	**196**	*e*PN	**Pn**	**08 16 55.8**	**+0.2**
KZN	**Kozani**	**1.17**	**357**	*e*PN	**Pn**	**08 16 56.4**	**+0.2**
KZN				*e*SN	**Sn**	**08 17 14.4**	**+2.6**
IGT	**Igoumenitsa**	**1.24**	**289**	*e*Pg	**Pg**	**08 16 58.3**	**-0.2**
IGT				*e*Sg	**Sg**	**08 17 15.9**	**+1.2**
VLS	**Valsamata**	**1.38**	**226**	*e*PN	**Pn**	**08 16 59.6**	**+0.5**
VLS	**Valsamata**	**1.38**	**226**	*e*Pn	**Pn**	**08 16 59.4**	**+0.3**
AOS	**Alonnisos**	**1.58**	**88**	*e*Pg	**Pg**	**08 17 02.1**	**-2.9**
FNA	**Florina**	**1.68**	**348**	*e*Pb	**Pb**	**08 17 04.4**	**-0.7**
HORT	**Hortiatis**	**1.75**	**33**	*e*Pb	**Pb**	**08 17 04.1**	**-2.1**
GRG	**Griva**	**1.86**	**13**	*e*Pb	**Pb**	**08 17 06.1**	**-2.1**
OUR	**Ouranopolis**	**2.03**	**53**	*e*Pn	**Pn**	**08 17 08.4**	**+0.2**
KNT	**Kendrikon**	**2.17**	**21**	*e*Pn	**Pn**	**08 17 11.2**	**+1.1**
MMB	**Musomiste**	**2.84**	**30**	*e*Pn	**Pn**	**08 17 20.0**	**+0.8**

---

*GRAL **17** 08:22:49.0±1.1, 3183N×3540E, h0km±13km, MD4.2*
*NEIC **17** 08:22:50.0, 3202N×3547E, h1km, ML4.0(GII), After GII.*
NEIC Felt at Jerusalem and Ramat Gan, Israel.
*ISCJB **17** 08:22:50.3±0.4, 3202N±002×3549E±005, h3km±3km, Error ellipse: s-maj=6.7km s-min=2.5km az=24.1*
*GII **17** 08:22:50.1±0.2, 3202N×3547E, h1km±1km, mb4.1/2, ML4.0/5, Mw3.6/7*
GII Felt III.
*CSEM **17** 08:22:50.1±0.1, 3204N×3551E, h2km, Mw3.1, Error ellipse: s-maj=2.0km s-min=0.9km az=93.0*
*NSSC **17** 08:22:55.3, 3220N×3568E, h7km±4km*

ISC 17 08:22:50.7±0.4**, 3202N**±002×**3551E**±004**, h2**km±3km**, n59,** σ**0**^{s}**92**/88**, 7D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.24**	**4**	Pg	**Pg**	**08 22 55.5**	**+0.2**
HMDT	**Nahal Hemdat**	**0.24**	**4**	Pg	**Pg**	**08 22 55.2**	**0.0**
MMLI	**Mount Malkishu**	**0.43**	**350**	Pg	**Pg**	**08 22 58.9**	**0.0**
MMLI				Sg	**Sg**	**08 23 06.1**	**+1.7**
MMLI	**Mount Malkishu**	**0.43**	**350**	⇑Pg	**Pg**	**08 22 58.9**	**0.0**
DRGI	**Dragot**	**0.43**	**193**	Pg	**Pg**	**08 22 59.5**	**+0.4**
DRGI				Sg	**Sg**	**08 23 06.3**	**+1.6**
DRGI	**Dragot**	**0.43**	**193**	Pg	**Pg**	**08 22 59.3**	**+0.3**
DRGI	**Dragot**	**0.43**	**193**	Pg	**Pg**	**08 22 59.4**	**+0.4**
DRGI				Sg	**Sg**	**08 23 06.3**	**+1.6**
SLTI	**Sal'it**	**0.46**	**299**	Pg	**Pg**	**08 22 59.0**	**-0.4**
DSI	**Dead Sea**	**0.46**	**194**	Pg	**Pg**	**08 22 59.2**	**-0.2**
MKRJ	**Makawir**	**0.48**	**166**	Pg	**Pg**	**08 23 00.8**	**+0.9**
GLH	**Golan-Tel Qazi**	**0.71**	**10**	Pg	**Pg**	**08 23 04.6**	**+0.4**
MZDA	**Masada**	**0.72**	**190**	Pg	**Pg**	**08 23 04.6**	**+0.2**
MZDA				Sg	**Sg**	**08 23 14.6**	**+0.9**
MZDA	**Masada**	**0.72**	**190**	Pg	**Pg**	**08 23 04.5**	**+0.1**
MZDA				Sg	**Sg**	**08 23 14.6**	**+0.9**
YTIR	**Yattir**	**0.73**	**207**	Pg	**Pg**	**08 23 04.7**	**-0.1**
OFRI	**'Ofer**	**0.75**	**324**	Pg	**Pg**	**08 23 04.6**	**-0.4**
KSHT	**Keshet**	**1.00**	**15**	Pg	**Pg**	**08 23 09.8**	**0.0**
MMA0	**Mount Meron ar**	**1.00**	**355**	Pg	**Pg**	**08 23 09.4**	**-0.5**
HNTI	**Hanita**	**1.10**	**345**	Pg	**Pg**	**08 23 11.2**	**-0.6**
HNTI				Sg	**Sg**	**08 23 27.1**	**+1.1**
HNTI	**Hanita**	**1.10**	**345**	Pg	**Pg**	**08 23 11.4**	**-0.4**
HNTI				Sg	**Sg**	**08 23 27.1**	**+1.1**
KSDI	**Kefar Szold**	**1.18**	**6**	Pg	**Pg**	**08 23 12.9**	**-0.4**
KSDI				Sg	**Sg**	**08 23 30.1**	**+1.5**
KSDI	**Kefar Szold**	**1.18**	**6**	Pg	**Pg**	**08 23 13.1**	**-0.2**
KSDI				Sg	**Sg**	**08 23 30.1**	**+1.5**
RTMI	**Retamim**	**1.19**	**216**	Pg	**Pg**	**08 23 12.7**	**-0.7**
RTMI	**Retamim**	**1.19**	**216**	Pg	**Pg**	**08 23 12.9**	**-0.5**
SALA	**Sala**	**1.25**	**56**	⇑P	**Pg**	**08 23 14.5**	**-0.2**
SALA				⇑S	**Sg**	**08 23 30.0**	**-0.8**
SALA	**Sala**	**1.25**	**56**	⇑*i*P	**Pg**	**08 23 14.5**	**-0.1**
SALA				⇑*i*S	**Sg**	**08 23 30.0**	**-0.8**
HRI	**Mount Hermon**	**1.26**	**9**	Pg	**Pg**	**08 23 13.8**	**-1.0**
HRI	**Mount Hermon**	**1.26**	**9**	Pg	**Pg**	**08 23 13.8**	**-1.1**
SVTA	**Shivta**	**1.32**	**215**	Pg	**Pg**	**08 23 15.0**	**-1.1**
BRBR	**Barbar**	**1.44**	**15**	⇓P	**Pn**	**08 23 18.0**	**+0.2**
BRBR				⇑S	**Sg**	**08 23 35.5**	**-1.5**
BRBR	**Barbar**	**1.44**	**15**	⇓*i*P	**Pn**	**08 23 18.0**	**+0.2**
BRBR				⇑*i*S	**Sg**	**08 23 35.5**	**-1.5**
KZIT	**Kziot**	**1.46**	**221**	Pn	**Pn**	**08 23 17.2**	**-0.8**
KZIT				Sn	**Sn**	**08 23 37.7**	**+0.1**
KZIT	**Kziot**	**1.46**	**221**	⇑Pn	**Pn**	**08 23 17.2**	**-0.8**
KZIT				Sn	**Sn**	**08 23 37.7**	**0.0**
MATL	**Matirih**	**1.48**	**354**	*e*P	**Pn**	**08 23 17.5**	**-0.8**
ZFRI	**Zfri**	**1.48**	**191**	Pn	**Pn**	**08 23 17.6**	**-0.8**
ZFRI	**Zfri**	**1.48**	**191**	Pn	**Pn**	**08 23 18.0**	**-0.4**
TOTH	**TOTAH**	**1.55**	**30**	⇑P	**Pn**	**08 23 19.4**	**+0.1**
TOTH				⇓S	**Sn**	**08 23 38.3**	**-1.7**
TOTH	**TOTAH**	**1.55**	**30**	⇑*i*P	**Pn**	**08 23 19.4**	**+0.1**
TOTH				⇓*i*S	**Sn**	**08 23 38.3**	**-1.6**
RMNI	**Mount Ramon**	**1.55**	**204**	Pn	**Pn**	**08 23 18.8**	**-0.6**
QASN	**Qassioun**	**1.65**	**23**	⇓*i*P	**Pn**	**08 23 20.7**	**+0.1**
QASN				⇑*i*S	**Sn**	**08 23 41.3**	**-1.0**
PRNI	**Paran**	**1.71**	**195**	Pn	**Pn**	**08 23 21.2**	**-0.4**
PRNI	**Paran**	**1.71**	**195**	Pn	**Pn**	**08 23 21.4**	**-0.2**
ZALF	**Zalf**	**1.79**	**59**	⇑P	**Pn**	**08 23 23.3**	**+0.8**
ZALF				⇓S	**Sn**	**08 23 45.6**	**-0.3**
ZALF	**Zalf**	**1.79**	**59**	⇑*i*P	**Pn**	**08 23 23.3**	**+0.7**
ZALF				⇓*i*S	**Sn**	**08 23 45.6**	**-0.3**
BHL	**Bhannes**	**1.89**	**4**	*e*P	**Pn**	**08 23 23.8**	**-0.1**
BHL				*e*S	**Sn**	**08 23 50.3**	**+2.0**
HRFI	**Mount Harif**	**2.02**	**192**	Pn	**Pn**	**08 23 25.4**	**-0.3**
KMTI	**Karmit**	**2.02**	**200**	Pn	**Pn**	**08 23 25.4**	**-0.3**
KMTI	**Karmit**	**2.02**	**200**	Pn	**Pn**	**08 23 25.4**	**-0.4**
MARH	**Ras Al Marh**	**2.16**	**22**	⇑P	**Pn**	**08 23 29.0**	**+1.2**
MARH				⇑S	**Sn**	**08 23 54.8**	**-0.3**
MARH	**Ras Al Marh**	**2.16**	**22**	⇑*i*P	**Pn**	**08 23 29.0**	**+1.3**
MARH				⇑*i*S	**Sn**	**08 23 54.8**	**-0.3**
MBH	**Mount Berech**	**2.27**	**193**	Pn	**Pn**	**08 23 28.9**	**-0.3**
MBH	**Mount Berech**	**2.27**	**193**	Pn	**Pn**	**08 23 29.0**	**-0.3**
HWQ	**Hawqa**	**2.29**	**9**	*e*P	**Pn**	**08 23 29.5**	**+0.1**
HWQ				*e*S	**Sn**	**08 23 59.8**	**+1.7**
BIDA	**Albida**	**3.06**	**13**	⇑P	**Pn**	**08 23 41.7**	**+1.6**
BIDA				⇑S	**Sn**	**08 24 17.9**	**+0.5**
BIDA	**Albida**	**3.06**	**13**	⇑*i*P	**Pn**	**08 23 41.7**	**+1.6**
BIDA				⇑*i*S	**Sn**	**08 24 17.9**	**+0.5**
CSS	**Prodhromos**	**3.46**	**329**	*e*Pn	**Pn**	**08 23 45.1**	**-0.4**
CSS				*e*Sn	**Sn**	**08 24 24.1**	**-2.8**
CSS	**Prodhromos**	**3.46**	**329**	*e*Pn	**Pn**	**08 23 45.1**	**-0.4**
WRDH	**Warideh**	**3.56**	**12**	⇑P	**Pn**	**08 23 51.3**	**+4.3**
WRDH				⇑S	**Sn**	**08 24 30.2**	**+0.5**
MALT	**Malatya**	**6.72**	**20**	*e*Pn	**Pn**	**08 24 31.8**	**+1.4**
	3.3nm,0.6s						
MALT				*e*Sg	**Sg**	**08 26 24.5**	**-2.1**
MALT	**Malatya**	**6.72**	**20**	*e*Pn	**Pn**	**08 24 31.8**	**+1.4**

---

*GRAL **17** 08:29:42.6±1.2, 33.11N×3590E, h0km±249km, MD2.8*
*CSEM **17** 08:29:42.5±0.3, 3324N×3586E, h1km, ML1.7, Error ellipse: s-maj=6.5km s-min=2.6km az=96.0, Mining explosion.*
*GII **17** 08:29:42.5±1.2, 3323N×3585E, h0km, ML1.7/2*
*ISCJB **17** 08:29:43.8±1.3, 33.19N±004×358E±0.1, h0km, Error ellipse: s-maj=16.5km s-min=6.0km az=18.5*

ISC 17 08:29:44.1±1.3, 33.19N±0.04×35.8E±0.1, h0km, n7, σ0.65/9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HRI	Mount Hermon	0.11	318	Pg	Pg	08 29 45.1	-1.1
KSDI	Kefar Szold	0.13	273	Pg	Pg	08 29 46.5	-0.2
KSHT	Keshet	0.20	182	Pg	Pg	08 29 48.2	+0.1
RCY	Rachaya	0.30	360	ePg	Pg	08 29 49.1	-0.7
RCY				eSg	Sg	08 29 54.0	+0.3
MMA0	Mount Meron ar	0.39	244	Pg	Pg	08 29 52.4	+0.8
MMA0	Mount Meron ar	0.39	244	Pg	Pg	08 29 52.3	+0.7
BHL	Bhannes	0.73	349	ePg	Pg	08 29 58.1	0.0
BHL				eSg	Sg	08 30 08.6	+1.0

IDC 17 08:42:02.5±1.0, 7.22S×130.12E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/12, mbtmp4.0/4, ML4.0/1, Error ellipse: s-maj=55.8km s-min=21.8km az=65.0
ISCJB 17 08:42:04.5±0.9, 7.45S±0.07×130.0E±0.1, h33km, mb3.8/2, Error ellipse: s-maj=18.0km s-min=9.4km az=151.9
NEIC 17 08:42:06.5±0.8, 7.65S×129.66E, h30km, mb4.0/2, Error ellipse: s-maj=36.3km s-min=11.3km az=65.0

ISC 17 08:42:14.3±1.7, 7.94S±0.10×130.6E±0.1, h35km, n16, σ1.10/21, mb3.8/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	5.08	159	eP	Pn	08 43 30.7	+2.8
	20nm,0.5s						
KAKA				eS	Sn	08 44 36.0	+11
FITZ	Fitzroy Crossi	11.19	205	eP	Pn	08 44 51.5	-0.1
	3.8nm,0.3s						
FITZ				eS	Sn	08 46 57.8	+2.4
FITZ	Fitzroy Crossi	11.19	205	Pn	Pn	08 44 51.2	-0.4
	0.7nm,0.3s,baz=30,slow=12,SNR=12						
FITZ				Sn	Sn	08 46 55.4	0.0
	0.4nm,0.3s,baz=45,slow=16,SNR=5.4						
WRA	Warramunga Arr	12.48	163	Pn	Pn	08 45 08.4	-0.9
	0.7nm,0.3s,baz=337,slow=12,SNR=17						
WRA				Sn	Sn	08 47 27.4	+0.5
	1.1nm,0.3s,baz=340,slow=22,SNR=8.8						
WB2	Warramunga Arr	12.48	163	eP	Pn	08 45 08.1	-1.2
AS31	Alice Springs	15.96	169	eP	Pn	08 45 55.7	-0.3
AS31				eSn	Sn	08 48 50.8	-1.0
ASAR	Alice Springs	15.96	169	Pn	Pn	08 45 54.7	-1.4
	0.5nm,0.3s,baz=348,slow=9.3,SNR=20						
ASAR				Sn	Sn	08 48 52.3	+0.5
	0.2nm,0.3s,baz=335,slow=16,SNR=5.1						
ASAR	Alice Springs	15.96	169	Pn	Pn	08 45 54.7	-1.4
ASAR				Sn	Sn	08 48 52.3	+0.5
CTA	Charters Tower	19.40	130	P	Pn	08 46 39.8	+1.3
	2.0nm,0.6s,baz=331,slow=13,SNR=3.2						
CTAO	Charters Tower	19.40	130	eP	Pn	08 46 39.6	+1.1
	7.4nm,1.1s						
STKA	Stephens Creek	25.93	158	eP	P	08 47 43.7	+0.5
	1.6nm,0.4s,mb3.9						
STKA	Stephens Creek	25.93	158	P	P	08 47 43.5	+0.3
	2.2nm,0.4s,mb4.0,baz=335,slow=9.6,SNR=8.8						
SONM	Songino Array	59.51	341	P	P	08 52 02.1	-12
	0.3nm,0.4s,mb3.6,baz=150,slow=6.2,SNR=3.7						
MKAR	Makanchi Array	69.32	327	P	P	08 53 06.6	-11
	baz=121,slow=6.9						
TORD	Torodi Ar. Bea	129.55	280	PKP	PKPdf	09 01 12.8	-6.6
	0.2nm,0.5s,baz=67,slow=2.0,SNR=5.4						
LPAZ	La Paz	149.63	142	PKPbc	PKPbc	09 01 57.7	-2.3
	0.5nm,0.7s,baz=75,slow=9.8,SNR=3.7						

IDC 17 08:43:20.5±7.0, 21.45S×178.03W, h606km±87km, mb3.0/4, mb1 3.4/4, mb1mx3.0/12, mbtmp4.0/4, Error ellipse: s-maj=344.1km s-min=31.3km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.28	258	P	P	08 50 38.8	+0.9
	1.9nm,0.7s,baz=93,slow=7.8,SNR=7.3						
WRA	Warramunga Arr	44.45	263	P	P	08 50 38.7	-0.5
	0.6nm,0.3s,baz=96,slow=6.9,SNR=5.3						
NVAR	Mina Array Bea	81.73	43	P	P	08 54 37.4	+0.4
	0.9nm,0.8s,baz=230,slow=7.0,SNR=6.1						
PDAR	Pinedale Array	89.67	43	P	P	08 55 15.4	+0.3
	0.6nm,0.6s,baz=202,slow=3.2,SNR=7.5						
FINES	FINESS Array B	136.68	343	PKP	PKPdf	09 01 35.5	+0.6
	1.5nm,1.1s,baz=83,slow=3.4,SNR=3.6						
AKASG	Malin Array Be	143.83	330	PKP	PKPdf	09 01 45.3	-2.5
	2.0nm,0.4s,baz=42,slow=4.2,SNR=15						
BRTR	Keskin Array B	147.45	311	PKPbc	PKPbc	09 01 57.9	+0.5
	0.7nm,0.5s,baz=132,slow=6.8,SNR=3.8						
GERES	GERESS Array B	151.11	344	PKPbc	PKPbc	09 02 06.3	+0.1
	0.7nm,0.7s,baz=232,slow=1.5,SNR=5.7						

IDC 17 08:44:32.5±2.4, 20.47S×67.82W, h183km±28km, mb3.0/2, mb1 3.0/5, mb1mx2.9/18, mbtmp3.5/5, Error ellipse: s-maj=43.4km s-min=26.4km az=122.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	4.17	356	P	Pn	08 45 36.6	+0.9
	0.1nm,0.3s,baz=39,slow=2.4,SNR=4.1						
SIV	San Ignacio	7.81	56	P	Pn	08 46 22.9	-0.2
	0.7nm,0.3s,baz=247,slow=14,SNR=18						
BDFB	Brasilia	19.43	79	P	P	08 48 45.6	+0.7
	0.5nm,0.3s,baz=249,slow=10,SNR=6.9						
PLCA	Paso Flores	20.34	186	P	P	08 48 54.6	+0.1
	1.6nm,0.9s,baz=286,slow=8.1,SNR=3.0						
TORD	Torodi Ar. Bea	76.05	70	P	P	08 56 00.2	+0.6
	0.3nm,0.5s,baz=252,slow=5.7,SNR=7.6						

NEIC 17 08:54:43.9, 50.94N×179.30W, h8km, mb3.5/1, ML3.2(AEIC), After AEIC.
IDC 17 08:54:44.2±3.7, 51.80N×179.15W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.8/4, Error ellipse: s-maj=117.8km s-min=33.1km az=7.0
ISCJB 17 08:54:47.0±1.8, 51.3N±0.4×179.3W±0.1, h48km±14km, mb3.8/5, Error ellipse: s-maj=70.5km s-min=12.6km az=173.7

ISC 17 08:54:48.1±1.5, 51.5N±0.4×179.4W±0.1, h39km±19km, n9, σ0.73/10, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AMKA	Amchitka	0.84	265	P	Pn	08 55 02.2	-1.3
AMKA				S	Sn	08 55 15.2	+0.6
ATKA	Atka Island	3.29	75	P	Pn	08 55 37.7	+0.6
SMY	Shemya	4.23	290	ePn	Pn	08 55 54.6	+4.6
COLA	College	21.07	38	eP	P	08 59 28.7	-0.1
	1.6nm,0.7s,mb3.5						
SONM	Songino Array	46.30	296	P	P	09 03 11.0	+1.2
	0.2nm,0.3s,mb3.5,baz=40,slow=7.5,SNR=2.4						
PDAR	Pinedale Array	46.62	72	P	P	09 03 12.2	-0.2
	0.6nm,0.9s,mb3.5,baz=311,slow=3.5,SNR=5.6						
FINES	FINESS Array B	65.63	347	P	P	09 05 27.5	-0.6
	2.0nm,1.0s,mb4.1,baz=0.0,slow=7.1,SNR=4.5						
FINES	FINESS Array B	65.63	347	P	P	09 05 27.5	-0.6
AKASG	Malin Array Be	75.36	342	P	P	09 06 27.3	-0.2
	1.1nm,0.3s,mb4.2,baz=20,slow=6.5,SNR=4.4						

IDC 17 09:04:46.8±6.6, 18.89S×177.82W, h572km±69km, mb2.8/6, mb1 3.1/6, mb1mx2.9/14, mbtmp3.8/6, Error ellipse: s-maj=110.9km s-min=28.0km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.85	262	P	P	09 10 43.0	+0.5
	4.6nm,0.9s,baz=84,slow=10,SNR=3.5						
STKA	Stephens Creek	38.66	242	P	P	09 11 22.4	+0.3
	2.9nm,1.0s,baz=98,slow=10.0,SNR=3.1						
WRA	Warramunga Arr	45.02	260	P	P	09 12 11.9	-0.1
	0.2nm,0.3s,baz=97,slow=7.6,SNR=13						
WRA				PcP	PcP	09 13 40.8	+0.2
	0.2nm,0.4s,baz=95,slow=3.7,SNR=4.2						
ASAR	Alice Springs	45.08	255	P	P	09 12 12.7	+0.2
	0.5nm,0.6s,baz=91,slow=8.4,SNR=13						
ASAR				PcP	PcP	09 13 40.9	+0.1
	0.6nm,0.8s,baz=100,slow=5.3,SNR=6.2						
NVAR	Mina Array Bea	79.74	43	P	P	09 15 56.5	+0.6
	0.2nm,0.6s,baz=225,slow=8.7,SNR=4.1						
PDAR	Pinedale Array	87.68	43	P	P	09 16 34.8	-0.3
	0.4nm,0.7s,baz=193,slow=3.7,SNR=3.8						
GERES	GERESS Array B	148.70	345	PKPbc	PKPbc	09 23 30.1	0.0
	0.7nm,0.7s,baz=46,slow=4.4,SNR=4.8						

CRAAG 17 09:34:07.3, 31.33S×67.19W, Mb5.6
GUC 17 09:34:10.9±0.8, 31.65S×67.02W, h140km, ML6.2, MW6.2(NEIC)
ISCJB 17 09:34:12.7±0.1, 31.71S±0.02×67.13W±0.02, h140km, mb5.5/183, Error ellipse: s-maj=2.9km s-min=2.5km az=110.9
MOS 17 09:34:12.9±1.0, 31.54S×67.37W, h133km, mb5.8/54, MS5.2/10, Error ellipse: s-maj=11.4km s-min=6.8km az=91.2
NEIC 17 09:34:13.6±0.1, 31.73S×67.15W, h137km, mb5.7/166, ME5.6, MW6.2, Error ellipse: s-maj=3.8km s-min=3.5km az=125.0, Moment Tensor Solution. s65 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.72; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$1.59; $M_{r\theta}$-1.25; $M_{\theta\phi}$-0.70; $M_{\phi r}$-1.55; Best double couple: $M_0$2.50000×10^{18} NP1:ϕ_s26.00000°,δ80.00000°,λ-55.00000°. NP2: ϕ_s130.00000°,δ37.00000°,λ-163.00000°. Principal axes: T 2.3700, Plg26.0000°, Azm89.0000°; N 0.2700, Plg35.0000°, Azm199.0000°; P -2.6500, Plg44.0000°, Azm330.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s132.00000°,δ31.00000°,λ-161.00000°. NP2: ϕ_s25.00000°,δ80.00000°,λ-60.00000°. Principal axes: T Plg29.0000°, Azm91.0000°; N Plg0.0000°, Azm0.0000°; P Plg47.0000°, Azm326.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [V] at Cordoba, La Rioja, San Juan and San Luis. Felt [III] at Combarbala, Illapel, Ovalle, Petorca and Santiago; [II] at Coquimbo, La Ligua, La Serena, Los Andes, San Felipe, Valparaiso and Vina del Mar, Chile. Also felt at Mendoza and Villa Carlos Paz.
IDC 17 09:34:13.0±0.2, 31.73S×67.10W, h136km±1km, mb5.3/23, mb1 5.4/26, mb1mx5.4/26, mbtmp5.7/26, MS5.1/9, Ms1 5.1/9, ms1mx4.8/23 Error ellipse: s-maj=6.4km s-min=5.8km az=44.0
GCMT 17 09:34:14.1±0.1, 31.90S×67.15W, h146km, MW6.2/109, Moment Tensor Solution. s109,c260; s104,c361; Duration: 2.9 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.76±.01; $M_{\theta\theta}$-0.14±.02; $M_{\phi\phi}$0.90±.02; $M_{r\theta}$-1.01±.01; $M_{\theta\phi}$-0.20±.01; $M_{\phi r}$-1.77±.01; Best double couple: $M_0$2.20600×10^{18} NP1:ϕ_s147.00000°,δ17.00000°, λ-147.00000°. NP2:ϕ_s25.00000°,δ81.00000°, λ-76.00000°. Principal axes: T 2.0950, Plg34.0000°, Azm103.0000°; N 0.2200, Plg14.0000°, Azm203.0000°; P -2.3160, Plg52.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
BJI 17 09:34:16.0, 31.70S×67.20W, h141km, mB5.7

ISC 17 09:34:14.2±0.1, 31.75S±0.02×67.15W±0.02, h142km, h142km±.7km:pP-P, n823, σ1.10/549, mb5.5/182, 42C-33D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	0.94	279	P	Pn	09 34 35.9	-1.8
	4μm,0.3s,baz=95,slow=7.9						
CFAA				S	Sn	09 34 53.6	-1.9
	7μm,0.3s,baz=18,slow=21,SNR=77						
CFAA				ScS	ScS	09 49 14.6	-2.0
	0.0nm,0.3s,baz=233,slow=23,SNR=3.2						
MDZ	Mendoza	1.83	232	eP	Pn	09 34 45.7	-1.1
MDZ				e		09 34 51.7	
MDZ				eS	Sn	09 35 13.1	+1.3
JACH	Jahuel	3.06	252	eP	Pn	09 35 01.7	-0.4
FCH	Farellones	3.08	239⇑	iP	Pn	09 35 02.1	-0.2
FCH				i S	Sn	09 35 41.6	+2.1
FCH				AML	AML	09 35 44.7	
	comp=N,46μm,0.5s						
PTCH	Petorca	3.25	260	eP	Pn	09 35 03.6	-0.9
PTCH				i S	Sn	09 35 43.6	+0.2
CLCH	Cerro Calan	3.30	239⇑	iP	Pn	09 35 04.1	-1.0
CLCH				i S	Sn	09 35 45.4	+1.0
PEL	Peldehue	3.30	244⇓	iP	Pn	09 35 03.9	-1.2
PEL				i S	Sn	09 35 45.0	+0.6
LMEL	Las Melosas	3.31	230⇑	iP	Pn	09 35 04.8	-0.5
LMEL				AML	AML	09 36 15.6	
	comp=N,20μm,0.6s						
FSR	Penalolen	3.33	238	eP	Pn	09 35 05.0	-0.5
FSR				i S	Sn	09 35 46.0	+0.8
CMCH	Combarbala	3.34	279⇓	iP	Pn	09 35 04.5	-1.1
CMCH				i S	Sn	09 35 45.4	-0.1
PCH	Pirque	3.40	236⇑	iP	Pn	09 35 05.5	-0.8
SAN	Santiago	3.42	239	eP	Pn	09 35 05.8	-0.8
TLL	Tololo Astrono	3.52	296⇑	iP	Pn	09 35 08.1	+0.1
TLL				i S	Sn	09 35 49.6	+0.1
RCDM	Rinconada Maip	3.54	240	eP	Pn	09 35 07.3	-0.9
OVCH	Ovalle	3.66	287	eP	Pn	09 35 08.2	-1.5
OVCH				i S	Sn	09 35 51.5	-1.3
TACH	Talagante	3.72	238⇓	iP	Pn	09 35 09.3	-1.1
CACH	El Canelo	3.74	230	eP	Pn	09 35 10.2	-0.6
CICH	Cipreses	3.76	226⇑	iP	Pn	09 35 11.1	+0.1
LSCH	La Serena	3.98	296	eP	Pn	09 35 12.2	-1.7
LSCH				i S	Sn	09 35 58.3	-1.9
LCO	Las Campanas	4.11	311⇑	iP	Pn	09 35 15.1	-0.6
LCO				i S	Sn	09 36 02.6	-0.8
VACH	Vallenar	4.45	314	eP	Pn	09 35 22.4	+2.2
VACH				i S	Sn	09 36 13.2	+1.7
CPCH	Copiapo	5.19	327⇓	iP	Pn	09 35 27.4	-2.6
CDCH	Caldera	5.66	325	eP	Pn	09 35 33.9	-2.4
TRQA	Tornquist	7.58	147	ePn	Pn	09 35 59.2	-2.8
LPA	La Plata	8.33	115	ceP	Pn	09 36 09.0	-3.0
LPA				esP		09 36 42.0	
LPA				eS	Sn	09 37 39.0	-5.5
PLCA	Paso Flores	9.37	196	P	Pn	09 36 23.9	-2.0
	comp=N,11nm,0.3s,baz=5.6,slow=13,SNR=83						
PLCA				S	Sn	09 38 09.8	+0.1
	comp=N,8.9nm,0.3s,baz=73,slow=11,SNR=1.3						
PLCA				ScS	ScS	09 49 22.2	-2.1
	baz=103,slow=17,SNR=1.6						
PLCA	Paso Flores	9.37	196	P	Pn	09 36 24.0	-1.9
PLCA				S	Sn	09 38 09.8	+0.1
PLCA				pmax	pmax		
	comp=Z,11nm,0.3s						
PLCA				smax			
	comp=N,9.0nm,0.3s						
PLCA	Paso Flores	9.37	196	ePn	Pn	09 36 23.6	-2.4
CPUP	Villa Florida	10.15	60	P	Pn	09 36 31.0	-5.2
	comp=N,53nm,0.3s,baz=221,slow=12,SNR=247						
CPUP				S	Sn	09 38 23.3	-5.1
	baz=22,slow=15,SNR=1.5						
CPUP				ScS	ScS	09 49 24.0	-1.7
	comp=N,1.0nm,0.3s,baz=328,slow=11,SNR=2.9						
CPUP	Villa Florida	10.15	60	ePn	Pn	09 36 30.7	-5.5
LPAZ	La Paz	15.42	356	P	Pn	09 37 43.6	-0.5
	comp=N,11nm,0.3s,baz=164,slow=10,SNR=203						
LPAZ				S	S	09 40 35.8	-5.0
	comp=N,0.8nm,0.3s,baz=235,slow=18,SNR=1.8						
LPAZ				ScS	ScS	09 49 38.1	+0.7
	comp=N,0.1nm,0.3s,baz=50,slow=23,SNR=1.7						
LPAZ	La Paz	15.42	356	P	Pn	09 37 43.6	-0.5
LPAZ				S	S	09 40 35.8	-5.0
LPAZ				pmax	pmax		
	comp=Z,11nm,0.3s						
LPAZ				smax			
	comp=N,1.0nm,0.3s						
LPAZ	La Paz	15.42	356	ePn	Pn	09 37 41.8	-2.3
ARE	Arequipa	15.73	344	eP	Pn	09 37 46.0	-1.9
SIV	San Ignacio	16.64	21	P	Pn	09 37 57.1	-2.0
	comp=N,60nm,0.3s,baz=216,slow=11,SNR=577						
SIV				sP	sP	09 38 34.8	-6.7
	comp=N,2.7nm,0.3s,baz=207,slow=13,SNR=1.7						
SIV				S	S	09 41 00.2	-4.1
	comp=N,2.3nm,0.3s,baz=105,slow=21,SNR=2.2						
EFI	East Falkland	21.00	164	P	P	09 38 43.0	-3.3
	comp=N,12μm,0.8s						
EFI	East Falkland	21.00	164	eP	P	09 38 43.2	-3.1
EFI				pmax	pmax		
	comp=Z,1μm,0.6s						
EFI	East Falkland	21.00	164	eP	P	09 38 43.2	-3.1
	comp=Z,1μm,0.6s						
NNA	Nana	21.61	333	P	P	09 38 51.8	-1.0
	comp=Z,5μm,1.1s,SNR=58						
NNA	Nana	21.61	333	P	P	09 38 52.3	-0.5
	comp=Z,682nm,1.0s,mb6.0,baz=176,slow=12,SNR=70						
NNA				sP	sP	09 39 35.2	-0.9
	comp=Z,302nm,0.8s,baz=176,slow=4.9,SNR=3.3						
NNA				S	S	09 42 43.6	+0.1
	comp=Z,18nm,0.9s,baz=157,slow=11,SNR=1.6						
NNA				ScS	ScS	09 49 55.9	-1.1
	comp=Z,2.0nm,0.3s,baz=125,slow=6.4,SNR=2.4						
NNA	Nana	21.61	333	eP	P	09 38 51.8	-1.0
	comp=Z,841nm,0.9s,mb6.2						
SAML	Samuel	22.99	10	eP	P	09 39 05.5	-0.9
	comp=Z,289nm,0.6s,mb5.9						
BDFB	Brasilia	23.69	52	P	P	09 39 10.9	-2.0
	comp=Z,793nm,1.1s,mb6.2,baz=224,slow=9.1,SNR=273						
BDFB				S	S	09 43 11.6	-5.7
	comp=Z,25nm,0.7s,baz=203,slow=16,SNR=1.6						
BDFB				sS	sS	09 43 58.8	-9.4
	comp=Z,25nm,0.7s,baz=314,slow=23,SNR=1.7						
BDFB	Brasilia	23.69	52	P	P	09 39 10.9	-1.9
BDFB				S	S	09 43 11.6	-5.7
BDFB				*SS	sS	09 43 58.8	-9.4
BDFB				pmax	pmax		
	comp=Z,793nm,1.1s						
BDFB				smax			
	comp=N,25nm,0.7s						
BDFB	Brasilia	23.69	52	eP	P	09 39 10.8	-2.0
	comp=N,2μm,1.2s,mb6.6						
BAO	Brasilia Array	23.71	52	P	P	09 39 12.0	-1.0
CAM4	Nova Friburgo	23.76	73⇑	iP	P	09 39 12.2	-1.4
CAM4				i		09 39 12.1	
CAM4				i		09 39 12.2	
CAM4				i		09 39 13.9	
CAM4				i		09 39 16.2	
CAM4				i		09 39 26.8	
CAM4				i		09 45 17.0	
CAM4	Nova Friburgo	23.76	73⇑	iP	P	09 39 12.2	-1.4
CAM4				i		09 39 12.1	
CAM4				i		09 39 12.2	
CAM4				i		09 39 13.9	
CAM4				i		09 39 16.2	
CAM4				i		09 39 26.8	
CAM4				i		09 45 17.0	
CAM3	Guarapari	26.21	72	eP	P	09 39 29.1	-6.6
CAM3				i		09 39 34.3	
CAM3				i		09 39 38.1	
CAM3				i		09 39 43.1	
CAM3				i		09 39 50.0	
CAM3				i		09 39 50.0	
CAM3				i	pP	09 39 54.7	-11
CAM3	Guarapari	26.21	72	eP	P	09 39 29.1	-6.6
CAM3				i		09 39 34.3	
CAM3				i		09 39 38.1	
CAM3				i		09 39 43.1	
CAM3				i		09 39 50.0	
CAM3				i	pP	09 39 54.7	-11
ATAH	Atahualpa	26.77	335	P	P	09 39 41.1	+0.4
	comp=N,230nm,1.1s,mb5.7,baz=161,slow=7.7,SNR=117						
ATAH				sP	sP	09 40 24.4	-2.7
	comp=N,171nm,1.1s,baz=240,slow=16,SNR=1.7						
ATAH				S	S	09 44 01.9	-4.2
	comp=N,10nm,0.9s,baz=100,slow=22,SNR=1.6						
ATAH				ScS	ScS	09 50 20.0	+2.2
	comp=N,3.2nm,0.7s,baz=133,slow=20,SNR=3.4						
PMSA	Palmer Station	33.10	178	P	P	09 40 36.1	-0.4
	comp=N,94nm,0.8s,mb5.6,baz=0.5,slow=7.9,SNR=23						
PMSA				S	S	09 45 46.5	+1.5
	comp=N,16nm,1.0s,baz=286,slow=19,SNR=3.2						
PMSA				LR	LR	09 55 32.6	
	comp=N,2μm,18.2s,baz=350,slow=39						
PMSA	Palmer Station	33.10	178	eP	P	09 40 36.1	-0.4
	comp=N,417nm,1.4s,mb6.0						
RPN	Rapa Nui	36.86	266	P	P	09 41 08.7	-0.1
	comp=N,48nm,0.8s,mb5.2,baz=79,slow=12,SNR=2.1						
RPN				S	S	09 46 44.5	+1.8
	comp=N,14nm,0.5s,baz=278,slow=5.5,SNR=2.0						
RPN				SS	SS	09 49 28.2	-1.8
	comp=N,19nm,0.6s,baz=71,slow=7.8,SNR=2.1						
ROSC	El Rosal	37.04	348	P	P	09 41 10.9	+0.6
	comp=N,57nm,0.5s,mb5.5,baz=201,slow=1.7,SNR=64						
ROSC				S	S	09 46 47.0	+1.6
	comp=N,5.1nm,0.5s,baz=102,slow=19,SNR=1.9						
ROSC				SS	SS	09 49 30.6	-2.9
	comp=N,2.0nm,0.3s,baz=272,slow=24,SNR=2.3						
ROSC	El Rosal	37.04	348	eP	P	09 41 11.2	+0.9
PAYG	Puerto Ayora	37.87	320	eP	P	09 41 17.6	+0.4
PAYG				epP	pP	09 41 48.8	+0.6
RCBR	Riachuelo	38.97	55	eP	P	09 41 25.2	-1.2
	comp=N,510nm,1.3s,mb6.0						
SDV	Santo Domingo	40.55	355	eP	P	09 41 37.5	-1.9
	comp=N,441nm,1.3s,mb5.9						
SDV				epP	pP	09 42 10.7	-0.1
SDV				ePP	PP	09 43 16.0	+0.3
AZU	Azuero	41.27	340⇓	eP	P	09 41 46.8	+1.4
PCRV	Puerto La Cruz	41.76	4	P	P	09 41 48.4	-0.9
	comp=N,282nm,0.7s,mb6.0,baz=194,slow=2.7,SNR=85						
PCRV				sP	sP	09 42 35.1	-1.8
	comp=N,66nm,1.0s,baz=170,slow=1.3,SNR=0.9						
PCRV				S	S	09 47 51.6	-4.3
	comp=N,13nm,1.0s,baz=195,slow=14,SNR=2.6						
PCRV				SS	SS	09 51 08.6	+1.3
	comp=N,3.0nm,0.6s,baz=360,slow=17,SNR=1.8						
ACH	Altos	42.01	341⇓	eP	P	09 41 52.1	+0.7
TPP	Pointe-a-Pierr	42.18	8	eP	P	09 41 53.6	+0.8
UPA	Univ. de Panam	42.20	342⇓	iP	P	09 41 54.7	+1.7
TBH	Brigand Hill	42.40	9	eP	P	09 41 55.4	+0.9
TRN	Trinidad (W)	42.52	8	eP	P	09 41 57.0	+1.5
TRN	Trinidad (W)	42.52	8	e	sP	09 42 43.2	+0.1
DVD	David	42.56	337⇑	eP	P	09 41 57.0	+1.2
BRU	Baru	42.94	337⇑	eP	P	09 42 01.7	+2.8
CTCR	Cotoan	43.09	337⇓	eP	P	09 42 01.2	+1.1
BOT	Bacolet	43.12	9	eP	P	09 42 00.8	+0.5
TPR	Prospect	43.13	9	eP	P	09 42 00.9	+0.5
CNI	Changuinola	43.50	338⇓	eP	P	09 42 03.8	+0.4
GRW	Mount Saint Ca	43.98	8	eP	P	09 42 07.6	+0.4
GRHS	Sauteurs	44.04	8	eP	P	09 42 07.7	0.0
BUS	Buena Vista	44.04	336	eP	P	09 42 08.9	+1.2
GRIC	Isle de Caille	44.11	8	eP	P	09 42 08.0	-0.3
GRSS	Sisters	44.12	8	eP	P	09 42 08.7	+0.3
LCR2	La Lucha 2	44.30	336⇓	eP	P	09 42 10.8	+1.0
GRCU	Cariacou	44.31	8	eP	P	09 42 09.8	-0.1
OCM	Ochomogo	44.43	336⇓	eP	P	09 42 12.0	+1.2
LAJ	Bijagual	44.46	336⇑	eP	P	09 42 12.2	+1.1
IRZ2	Volcan Irazu 2	44.48	336	eP	P	09 42 13.2	+2.0
VTU	Volcan Turrial	44.48	336⇓	eP	P	09 42 14.2	+3.0
SJS	Escuela Geolog	44.50	336	eP	P	09 42 14.7	+3.3
PRS1	Puriscal	44.63	336	eP	P	09 42 13.7	+1.3
CAO	Cobano	44.66	334⇑	eP	P	09 42 13.4	+0.8
CGA2	Cerro Gallo 2	44.72	335	eP	P	09 42 14.9	+1.8
EPA	Esparza	44.74	335⇑	eP	P	09 42 14.6	+1.3
POA2	Poas 2	44.79	336	eP	P	09 42 15.2	+1.5
JCR	Jicaral	44.80	334	eP	P	09 42 14.7	+1.0
VACR	Volcan Arenal	45.22	335⇑	eP	P	09 42 18.8	+1.8
VCR	Vista de Mar	45.25	334⇓	eP	P	09 42 18.1	+0.8
RIN3	Volcan Rincon	45.77	335⇓	eP	P	09 42 22.2	+0.8
MADN	Villa Maderas	46.39	335	eP	P	09 42 27.4	+1.2
SSNN	San Juan del S	46.40	334	eP	P	09 42 27.5	+1.2
CONN	Concepcion	46.57	335	eP	P	09 42 28.1	+0.5
MGAN	Managua	47.33	334	eP	P	09 42 34.1	+0.5
TISN	Laguna Tiscapa	47.34	334	eP	P	09 42 33.9	+0.3
XAVN	Gruta Xavier	47.37	334	eP	P	09 42 34.4	+0.5
DWS	Wesley	47.38	8	eP	P	09 42 31.0	-3.0
DWS	Wesley	47.38	8	e	sP	09 43 18.3	-3.7
COPN	Copaltepe	47.49	334	eP	P	09 42 35.7	+0.9
TBG	Guadaloupe-3	47.62	7	eP	P	09 42 33.7	-2.1
MOMJ	Momotombo	47.68	334	eP	P	09 42 36.2	-0.1
MIRN	Miramar	47.78	334	eP	P	09 42 37.1	+0.1
LEON	Leon	47.82	334	eP	P	09 42 37.6	+0.2
CNGN	Cerro Negro	47.83	334	eP	P	09 42 37.9	+0.6
LZG	Guadaloupe-1	47.90	7	eP	P	09 42 35.4	-2.5
CRIN	San Cristobal	48.14	334	eP	P	09 42 39.2	-0.6
DEG	La Desirade	48.15	8	eP	P	09 42 37.0	-2.8
SEG	Port Louis	48.18	7	eP	P	09 42 37.1	-3.0
BPA	Boggy Peak	48.78	7	eP	P	09 42 42.1	-2.6
SKI	Saint Kitts	48.99	6	eP	P	09 42 44.8	-1.5
SABT	Saba	49.23	5	eP	P	09 42 47.9	-0.3
SABT	Saba	49.23	5	e	pP	09 43 23.4	+2.9
SABT	Saba	49.23	5	e	sP	09 43 38.0	+1.7
CPB	Codrington	49.37	7	eP	P	09 42 46.8	-2.4
CPD	Cerro la Pandu	49.52	2	eP	P	09 42 48.2	-2.1
	comp=N,70nm,0.6s,mb5.5						
CPD				ePP	PP	09 44 45.5	-0.3
MTP	Monte Pirata	49.59	2	eP	P	09 42 48.2	-2.6
MTP				epP	pP	09 43 20.6	-2.7
SJG	San Juan	49.59	1	eP	P	09 42 48.5	-2.3

SJG e*PP pP 09 43 23.4 +0.1
SJG pmax pmax
comp=Z,592nm,1.0s
SJG San Juan 49.59 1 *e*P **P 09 42 48.5 -2.3**
comp=Z,592nm,1.0s,mb6.2
SJG *e*pP pP 09 43 23.4 +0.1
HUMP Col San Antoni 49.62 2 *e*P **P 09 42 49.3 -1.8**
MPR Mayaguez 49.68 0 *e*P **P 09 42 49.4 -2.1**
CBYP Canovanas 49.75 2 *e*P **P 09 42 49.6 -2.5**
VNA3 Neumayer Olymp 49.93 159⇑ *i*P **P 09 42 52.7 -0.7**
VNA3 *e* 09 42 53.8
VNA3 *e* 09 42 56.2
VNA3 *e* 09 42 58.2
VNA3 *e* 09 43 01.8
VNA3 *e* 09 43 19.6
VNA3 *e* pP 09 43 25.2 -0.7
VNA3 *e* pP 09 43 27.3 +1.4
VNA3 *e* 09 43 37.5
VNA3 *e* 09 43 40.9
VNA3 *e* 09 43 48.1
VNA3 *e* 09 44 05.3
VNA3 *e* 09 44 12.0
VNA3 *e* 09 44 15.5
VNA3 *e* 09 44 22.9
VNA3 *e* 09 44 32.2
VNA3 *e* 09 44 41.7
VNA3 *e* 09 44 48.3
VNA3 *e* 09 44 52.1
VNA3 *e* 09 44 56.5
VNA3 *e* 09 45 10.8
VNA3 *e* 09 45 27.4
VNA3 *e* 09 46 22.8
VNA3 *e* 09 46 30.4
VNA3 *e* 09 46 42.1
VNA3 *e* 09 46 55.6
VNA3 *e* 09 47 17.0
VNA3 *e* 09 47 53.8
VNA3 *e* 09 48 07.8
VNA3 *e* 09 48 20.2
VNA3 *e* 09 48 33.2
VNA3 *e*S **S 09 49 54.9 +2.1**
VNA3 *e* 09 49 57.8
VNA3 *e* 09 50 05.3
VNA3 *e* 09 50 36.6
VNA3 *e* 09 53 50.2
VNA3 *e* 09 53 51.9
VNA1 Neumayer--Stat 50.17 158⇑ *i*P **P 09 42 55.2 0.0**
VNA1 *e* 09 42 55.9
VNA1 *e* 09 42 58.4
VNA1 *e* 09 43 00.1
VNA1 *e* 09 43 04.7
VNA1 *e* 09 43 21.6
VNA1 *e* pP 09 43 24.7 -3.1
VNA1 *e* 09 43 39.8
VNA1 *e* 09 43 43.2
VNA1 *e* 09 43 50.8
VNA1 *e* 09 44 09.3
VNA1 *e* 09 44 12.0
VNA1 *e* 09 44 15.3
VNA1 *e* 09 44 24.2
VNA1 *e* 09 44 37.3
VNA1 *e* 09 44 42.1
VNA1 *e* 09 44 50.7
VNA1 *e* 09 44 55.4
VNA1 *e* 09 44 57.5
VNA1 *e* 09 45 09.9
VNA1 *e* 09 45 28.1
VNA1 *e* 09 46 25.2
VNA1 *e* 09 46 47.2
VNA1 *e* 09 46 59.0
VNA1 *e* 09 47 16.5
VNA1 *e* 09 47 57.8
VNA1 *e* 09 48 07.2
VNA1 *e*S **S 09 49 57.2 +1.1**
VNA1 *e* 09 50 40.0
HOJ Hope 50.32 348⇓ *i*P **P 09 42 57.6 +1.3**
CMJ Castle Mountai 50.39 349⇓ *e*P **P 09 42 57.7 +0.9**
GWJ Greenwich 50.39 348⇓ *i*P **P 09 42 58.2 +1.3**
STH Stony Hill 50.40 348⇓ *i*P **P 09 42 58.3 +1.3**
MCJ Malvern 50.42 347⇓ *i*P **P 09 42 58.5 +1.4**
CVJ Coleyville 50.68 347⇓ *i*P **P 09 43 00.4 +1.4**
BBJ Bamboo Saint A 50.78 348⇓ *i*P **P 09 43 01.0 +1.2**
TP2 Tecpan 2 51.63 330 *e*P **P 09 43 07.2 +1.0**
MASC Masc 52.08 352 *e*P **P 09 43 08.8 -0.6**
baz=172
MASC *e*S **S 09 50 19.7 -2.6**
comp=E,3μm,4.6s
MASC *e*
comp=N,8μm,1.4s
RCC Rio Carpintero 52.10 350 *e*P **P 09 43 06.4 -3.2**
RCC *e*S **S 09 50 14.2 -8.4**
comp=N,3.0nm,7.8s
RCC *e*
comp=E,6.6nm,15.7s
SNAA Sanae 52.15 159 P **P 09 43 09.0 -0.9**
comp=E,99nm,0.9s,mb5.5,baz=291,slow=6.3,SNR=298
SNAA pP pP 09 43 39.9 -2.8
comp=E,64nm,1.1s,baz=272,slow=6.9,SNR=2.9
SNAA S **S 09 50 20.8 -2.4**
comp=E,2.5nm,0.7s,baz=84,slow=21,SNR=8.7
SNAA ScS ScS 09 52 40.8 -4.7
comp=E,1.5nm,1.1s,baz=306,slow=23,SNR=1.7
SNAA Sanae 52.15 159⇑ *i*P **P 09 43 09.0 -1.0**
SNAA *e* 09 43 09.9
SNAA *e* 09 43 13.2
SNAA *e* 09 43 15.0
SNAA *e* 09 43 16.2
SNAA *e* 09 43 20.1
SNAA *e* pP 09 43 37.1 -5.6
SNAA *e* pP 09 43 41.9 -0.8
SNAA *e* pP 09 43 44.9 +2.2
SNAA *e* 09 44 04.6
SNAA *e* 09 44 16.6
SNAA *e* 09 44 25.7
SNAA *e* 09 44 31.5
SNAA *e* 09 44 36.3
SNAA *e* 09 44 47.1
SNAA *e* 09 44 55.1
SNAA *e* 09 45 09.8
SNAA *e* 09 45 21.1
SNAA *e* 09 46 15.3
SNAA *e* 09 46 38.4
SNAA *e* 09 46 50.5
SNAA *e* 09 48 07.2
SNAA *e* 09 48 16.9
SNAA *e* 09 48 48.6
SNAA *e*S **S 09 50 24.2 +0.9**
SNAA *e* 09 50 26.4
SNAA *e* 09 50 31.1
SNAA *e* 09 50 36.3
SNAA Sanae 52.15 159*c* *i*P **P 09 43 09.1 -0.9**
SNAA Sanae 52.15 159 *e*P **P 09 43 09.0 -1.0**
comp=E,179nm,0.7s,mb5.8
LMGC Las Mercedes 52.38 348 *e*P **P 09 43 12.2 +0.5**
LMGC *e*
comp=E,134nm,8.9s
MOAC Moa 52.65 351 *e*P **P 09 43 15.0 +1.3**
MGV Manicaragua 54.95 345 *e*P **P 09 43 30.3 -0.1**
MGV *e*S **S 09 50 57.5 -3.6**
comp=N,5.2nm,11.9s
MGV *e*
comp=E,4.2nm,5.3s
CMIG Matias Romero 55.38 327 *i*P **P 09 43 33.9 +0.4**
TUIG Tuzandepetl 55.99 328 *i*P **P 09 43 38.4 +0.5**
TUIG *e*S PcP 09 44 25.5 -9.0
OXX Oaxaca 56.24 325 *i*P **P 09 43 41.0 +1.4**
PNIG Pinotepa 56.35 324 *i*P **P 09 43 41.8 +1.4**
MAIT Maitri 56.73 157 *e*P **P 09 43 43.2 +0.1**
MAIT *e*pP 09 43 47.2
MAIT *e*S **S 09 51 24.7 0.0**
NVL N'lazarevskaya 56.77 157*c* *i*P **P 09 43 41.0 -2.3**
NVL *i* *PP pP 09 44 13.7 -2.9
NVL *i* *SP sP 09 44 30.1 -2.0
NVL *i* 09 44 37.9
NVL *i* 09 45 50.0
NVL *i* S **S 09 51 23.8 -1.3**
NVL *i* 09 53 16.6
NVL *i* SS SS 09 55 18.0 +2.9
NVL pmax pmax
comp=Z,425nm,1.4s,mb6.1
ACX Acapulco 57.66 322 *i*P **P 09 43 51.0 +1.4**

CAIG El Cayaco 58.00 322 *i*P **P 09 43 52.0 +0.1**
CAIG *e*S PcP 09 44 44.7 +2.3
LVIG Laguna Verde 58.37 327 *i*P **P 09 43 54.4 -0.1**
QSPA South Pole Qui 58.48 180 *e*P **P 09 43 55.0 -0.3**
comp=Z,237nm,0.8s,mb6.1
PLIG Platanillo 58.73 324 *i*P **P 09 43 57.3 +0.3**
PLIG *e*S PcP 09 44 48.7 +3.4
PPM Popocatepetl 58.86 325 *i*P **P 09 43 59.1 +1.2**
YAIG Yautepec 58.91 324 *i*P **P 09 44 00.0 +1.8**
YAIG *e*S PcP 09 44 53.6 +7.7
ZIIG Zihuatanejo 59.09 321 *i*P **P 09 43 58.8 -0.7**
UNM Universidad Na 59.36 324 *i*P **P 09 44 01.6 +0.3**
MOIG Morelia 60.67 323⇑ *i*P **P 09 44 10.5 +0.2**
MOIG *e*S PcP 09 44 45.4 -7.7
MRX Morelia 60.69 323 *i*P **P 09 44 13.0 +2.6**
DWPF Disney 61.07 346 *e*P **P 09 44 12.0 -1.0**
comp=Z,381nm,1.0s,mb6.2
CJM Chamela 62.59 319 *i*P **P 09 44 24.2 +1.1**
BBSR BB Station 63.82 2 *e*P **P 09 44 30.7 -0.5**
comp=Z,238nm,1.3s,mb5.9
ZAIG Zacatecas 63.94 323 *i*P **P 09 44 32.8 +0.7**
KVTX Kingsville 65.85 330 *e*P **P 09 44 45.7 +1.4**
comp=Z,882nm,1.0s,mb6.5
SBA Scott Base 66.08 191 *e*P **P 09 44 46.7 +0.9**
SBA pmax pmax
comp=Z,24nm,0.9s,mb5.0
SBA Scott Base 66.08 191 *e*P **P 09 44 46.7 +0.9**
comp=Z,24nm,0.9s,mb5.0
SYO Syowa Base 66.42 158⇓ *i*P **P 09 44 46.2 -1.8**
SYO Syowa Base 66.42 158⇓ *i*pP pP 09 45 20.1 -2.1
JSC Jenkinsville 67.01 347 *e*P **P 09 44 50.8 -1.0**
JSC *e*PP pP 09 45 24.0 -2.1
VNDA Vanda 67.07 190 P **P 09 44 52.5 +0.3**
comp=Z,32nm,0.9s,mb5.2,baz=136,slow=5.7,SNR=74
VNDA pP pP 09 45 24.2 -2.2
comp=Z,5.7nm,0.6s,baz=212,slow=2.0,SNR=4.6
VNDA S S 09 53 35.3 +0.6
VNDA ScS ScS 09 54 36.1 -0.2
comp=Z,0.6nm,0.6s,baz=346,slow=2.3,SNR=2.5
LRAL Lakeview Retre 67.11 342 *e*P **P 09 44 50.9 -1.5**
comp=Z,439nm,1.4s,mb6.1
LRAL *e*pP sP 09 45 40.6 -1.4
HKT Hockley 67.14 333 *e*P **P 09 44 52.3 -0.3**
HKT *e**PP sP 09 45 42.3 +0.1
HKT pmax pmax
comp=Z,365nm,1.3s,mb6.0
HKT Hockley 67.14 333 *e*P **P 09 44 52.3 -0.3**
comp=Z,365nm,1.3s,mb6.0
HKT *e*pP sP 09 45 42.3 +0.1
SWET Sewanee 68.92 344 *e*P **P 09 45 02.5 -1.2**
SWET *e*pP pP 09 45 36.4 -1.8
OXF Oxford 69.16 340 *e*P **P 09 45 03.7 -1.5**
OXF Oxford 69.16 340 *e*pP sP 09 45 52.6 -2.3
LPIG La Paz 69.19 318 *i*P **P 09 45 06.8 +1.4**
JCT Junction City 69.21 330 *e*P **P 09 45 05.2 -0.3**
JCT pmax pmax
comp=Z,415nm,0.9s,mb6.2
JCT Junction City 69.21 330 *e*P **P 09 45 05.2 -0.3**
comp=Z,415nm,0.9s,mb6.2
PLAL Pickwick Lake 69.24 342 *e*P **P 09 45 03.8 -1.9**
comp=Z,190nm,1.0s,mb5.8
PLAL *e*pP sP 09 45 53.9 -1.5
TZTN Tazewell 69.66 346 *e*P **P 09 45 06.5 -1.7**
comp=Z,208nm,1.2s,mb5.7
BLA Blacksburg 69.72 349 *e*P **P 09 45 07.8 -0.8**
BLA pmax pmax
comp=Z,54nm,1.6s,mb5.0
BLA Blacksburg 69.72 349 *e*P **P 09 45 07.8 -0.9**
comp=Z,743nm,1.6s,mb6.2
ELN Prospectdale 69.79 348 *e*P **P 09 45 08.2 -0.8**
ELN *e*pP sP 09 45 58.2 -0.7
MET Memphis--Engin 69.89 340 *e*P **P 09 45 09.0 -0.7**
FWV Forest Hill 70.15 348 *e*P **P 09 45 10.4 -0.8**
FWV *e*pP pP 09 45 48.5 +2.7
CBN Corbin 70.25 351 *e*P **P 09 45 11.7 -0.1**
comp=Z,446nm,1.4s,mb6.0
WVT Waverly 70.26 342 *e*P **P 09 45 10.3 -1.6**
WVT pmax pmax
comp=Z,344nm,2.5s,mb5.6
WVT Waverly 70.26 342 *e*P **P 09 45 10.3 -1.6**
comp=Z,344nm,2.5s,mb5.6
UALR University of 70.29 338 *e*P **P 09 45 11.0 -1.1**
comp=Z,105nm,0.9s,mb5.6
MIAR Mount Ida 70.48 337 *e*P **P 09 45 12.2 -1.1**
MIAR pmax pmax
comp=Z,345nm,1.4s,mb5.9
MIAR Mount Ida 70.48 337 *e*P **P 09 45 12.2 -1.0**
comp=Z,345nm,1.4s,mb5.9
HBAR Harrisburg 70.50 340 *e*P **P 09 45 13.5 +0.1**
DBIC Dimbokro 70.55 69 P **P 09 45 12.8 -0.8**
comp=Z,146nm,0.7s,mb5.8,baz=214,slow=7.0,SNR=90
DBIC pP pP 09 45 45.6 -2.7
comp=Z,72nm,0.8s,baz=212,slow=7.1,SNR=4.0
DBIC S S 09 54 11.8 -3.8
comp=Z,3.2nm,0.8s,baz=316,slow=22,SNR=3.4
DBIC ScS ScS 09 55 00.6 -3.0
comp=Z,2.3nm,0.8s,baz=202,slow=23,SNR=1.7
DBIC LR LR 10 12 16.3
comp=Z,2μm,20.4s,baz=220,slow=32
DBIC Dimbokro 70.55 69 P **P 09 45 12.9 -0.7**
DBIC *PP pP 09 45 45.6 -2.6
DBIC S S 09 54 11.8 -3.8
DBIC 09 55 00.6
DBIC pmax pmax
comp=Z,146nm,0.7s
DBIC smax
comp=N,3.0nm,0.8s
DBIC pmax pmax
comp=N,2.0nm,0.9s
DBIC Dimbokro 70.55 69 *e*P **P 09 45 13.0 -0.6**
comp=N,160nm,0.8s,mb5.8
DBIC *e*pP pP 09 45 46.4 -1.9
UTMT University of 70.73 342 *e*P **P 09 45 14.1 -0.7**
comp=N,1μm,0.9s
UTMT *e*pP sP 09 45 59.7 -5.0
GLAT Glass 70.78 341 *e*P **P 09 45 14.3 -0.8**
GLAT *e*pP sP 09 46 01.1 -3.9
TAOE Nuku Hiva Isla 70.96 271 *e*S S 09 54 22.4 +2.0
comp=N,6μm,26.9s
TAOE *e*LR LR 10 07 08.3
comp=N,10μm,30.1s
PARMO Parma 71.28 341 *e*P **P 09 45 17.4 -0.7**
PARMO *e*pP pP 09 45 51.9 -0.8
WCI Wyandotte Cave 71.87 344 *e*P **P 09 45 19.5 -2.1**
WCI pmax pmax
comp=Z,616nm,1.4s,mb6.1
WCI Wyandotte Cave 71.87 344 *e*P **P 09 45 19.5 -2.1**
comp=Z,616nm,1.4s,mb6.1
MVL Millersville 71.90 353 *e*P **P 09 45 21.7 -0.1**
comp=Z,113nm,0.9s,mb5.6
MVL *e*pP pP 09 45 58.1 +1.6
USIN University of 71.95 343 *e*P **P 09 45 20.0 -2.1**
comp=Z,568nm,1.4s,mb6.1
MCWV Mont Chateau 72.02 350 *e*P **P 09 45 21.6 -0.9**
comp=Z,447nm,1.6s,mb6.0
SIUC Southern Illin 72.12 342 *e*P **P 09 45 21.3 -1.8**
comp=Z,113nm,0.6s,mb5.8
SUR Sutherland 72.25 117 P **P 09 45 24.6 +0.7**
comp=Z,597nm,0.7s,mb6.4,SNR=72
SUR Sutherland 72.25 117 P **P 09 45 24.4 +0.5**
comp=Z,52nm,0.6s,mb5.5,baz=241,slow=7.2,SNR=66
SUR pP pP 09 45 56.5 -2.2
comp=Z,186nm,0.8s,baz=248,slow=5.8,SNR=13
SUR S S 09 54 36.8 +1.6
comp=Z,12nm,1.1s,baz=189,slow=9.2,SNR=2.1
SUR Sutherland 72.25 117⇑ P **P 09 45 25.0 +1.1**
SNR=5.2
SUR Sutherland 72.25 117 *e*P **P 09 45 24.4 +0.5**
BRNJ Basking Ridge 72.40 354 *e*P **P 09 45 25.0 +0.2**
comp=Z,124nm,0.9s,mb5.6
CPNY Central Park 72.45 355 *e*P **P 09 45 25.5 +0.4**
comp=Z,170nm,1.4s,mb5.6
CPNY *e*pP pP 09 45 59.9 0.0
WMOK Wichita Mounta 72.53 333 *e*P **P 09 45 24.1 -1.4**
WMOK pmax pmax
comp=Z,358nm,1.6s,mb5.8
WMOK Wichita Mounta 72.53 333 *e*P **P 09 45 24.1 -1.4**
comp=Z,358nm,1.6s,mb5.8
PAL Palisades 72.66 355 *e*P **P 09 45 26.5 +0.2**
PAL pmax pmax
comp=Z,26nm,0.6s,mb5.1
PAL Palisades 72.66 355 *e*P **P 09 45 26.5 +0.2**
comp=Z,31nm,0.6s,mb5.2
FVM French Village 72.70 341 *e*P **P 09 45 25.2 -1.3**
FVM *e**PP pP 09 45 59.4 -1.9

FVM pmax pmax
comp=Z,193nm,0.7s,mb5.9
FVM French Village 72.70 341 *e*P **P 09 45 25.2 -1.3**
comp=Z,211nm,0.7s,mb6.0
FVM *e*pP pP 09 45 59.4 -1.9
SSPA Standing Stone 72.71 351 *e*P **P 09 45 25.6 -1.0**
comp=Z,85nm,1.1s,mb5.4
SSPA *e*pP pP 09 46 00.5 -0.8
MNTX Cornudas Mount 72.75 326 *e*P **P 09 45 25.5 -1.3**
comp=Z,108nm,0.8s,mb5.6
MNTX *e*pP pP 09 46 01.0 -0.7
BLO Bloomington 72.83 344 *e*P **P 09 45 25.5 -1.8**
BLO *e**PP pP 09 46 01.1 -1.0
BLO pmax pmax
comp=Z,110nm,0.6s,mb5.8
BLO Bloomington 72.83 344 *e*P **P 09 45 25.5 -1.8**
comp=Z,111nm,0.6s,mb5.8
BLO *e*pP pP 09 46 01.1 -1.0
ACSO Alum Creek Sta 73.11 347 *e*P **P 09 45 27.5 -1.4**
comp=Z,163nm,0.8s,mb5.8
SLM Saint Louis 73.25 341 *e*P **P 09 45 28.4 -1.4**
SLM pmax pmax
comp=Z,384nm,1.4s,mb5.9
SLM Saint Louis 73.25 341 *e*P **P 09 45 28.4 -1.4**
comp=Z,382nm,1.4s,mb5.9
QUA2 Belchertown 73.82 356 *e*P **P 09 45 32.5 -0.6**
comp=Z,373nm,1.3s,mb6.0
QUA2 *e*pP pP 09 46 08.3 +0.3
WES Weston 73.87 357 *e*P **P 09 45 33.2 -0.2**
WES *e**PP pP 09 46 07.9 -0.4
WES pmax pmax
comp=Z,82nm,0.9s,mb5.5
WES Weston 73.87 357 *e*P **P 09 45 33.1 -0.3**
comp=Z,91nm,0.9s,mb5.5
WES *e*pP pP 09 46 07.9 -0.4
HRV Harvard--Oak R 74.01 357 *e*P **P 09 45 33.5 -0.7**
HRV *e**PP pP 09 46 09.8 +0.7
HRV pmax pmax
comp=Z,97nm,0.9s,mb5.5
HRV Harvard--Oak R 74.01 357 *e*P **P 09 45 33.5 -0.7**
comp=Z,98nm,0.9s,mb5.5
HRV *e*pP pP 09 46 09.8 +0.7
ALLY Alegheny Colle 74.02 350 *e*P **P 09 45 33.3 -1.0**
comp=Z,243nm,1.3s,mb5.8
BINY Binghamton 74.04 353 *e*P **P 09 45 33.7 -0.7**
comp=Z,289nm,1.3s,mb5.8
BINY *e*pP pP 09 46 09.9 +0.6
MAW Mawson 74.11 162 *e*P **P 09 45 33.8 -1.0**
comp=Z,80nm,0.6s,mb5.6
MAW *e*sP pP 09 46 07.6 -2.1
MAW Mawson 74.11 162 P **P 09 45 34.0 -0.8**
comp=Z,102nm,0.6s,mb5.7,baz=204,slow=5.9,SNR=85
MAW pP pP 09 46 07.9 -1.8
comp=Z,167nm,0.9s,baz=243,slow=8.8,SNR=6.3
MAW S S 09 54 53.8 -2.4
comp=Z,1.4nm,0.6s,baz=325,slow=21,SNR=1.7
MAW SS SS 09 59 33.5 -11
comp=Z,0.6nm,0.3s,baz=263,slow=21,SNR=1.5
MAW LR LR 10 16 51.6
comp=Z,1μm,20.8s,baz=227,slow=34
MAW Mawson 74.11 162 *e*P **P 09 45 33.7 -1.1**
comp=Z,111nm,0.7s,mb5.7
MAW *e*pP pP 09 46 07.4 -2.3
VAH Vaihoa 74.17 262 *e*P **P 09 45 36.9 +1.8**
comp=Z,76nm,0.9s,mb5.4
VAH *e*pP pP 09 46 11.8 +1.7
comp=Z,204nm,1.1s
TVO Taravao 74.31 259 *e*P **P 09 45 38.0 +2.1**
comp=Z,177nm,0.9s,mb5.8
TVO *e*pP pP 09 46 14.1 +3.2
comp=Z,299nm,1.0s
TVO Taravao 74.31 259 *e*P **P 09 45 38.0 +2.1**
TVO *e**PP pP 09 46 14.1 +3.2
TVO pmax pmax
comp=Z,177nm,0.9s,mb5.8
ERPA Erie 74.45 350 *e*P **P 09 45 35.5 -1.3**
comp=Z,301nm,1.2s,mb5.9
PAE Paea 74.64 259 *e*P **P 09 45 39.7 +1.8**
comp=Z,194nm,0.8s,mb5.8
PAE Paea 74.64 259 *e*P **P 09 45 39.7 +1.8**
PAE pmax pmax
comp=Z,194nm,0.8s,mb5.8
PPT Papeete 74.68 259 *e*P **P 09 45 39.8 +1.7**
comp=Z,112nm,1.0s,mb5.4
PPT *e*pP pP 09 46 15.3 +2.2
comp=Z,241nm,1.0s
PPT Papeete 74.68 259 *e*S S 09 55 01.2 -1.3
comp=Z,4μm,26.5s
PPT *e*SS SS 09 59 58.5 +5.7
comp=Z,1μm,24.8s
PPT *e*LR LR 10 08 56.7
comp=Z,4μm,31.0s
PPT Papeete 74.68 259 P **P 09 45 38.9 +0.8**
comp=Z,96nm,0.8s,mb5.5,baz=86,slow=4.8,SNR=7.1
PPT pP pP 09 46 12.8 -0.2
comp=Z,253nm,0.9s,baz=78,slow=7.2,SNR=7.6
PPT LR LR 10 11 39.1
comp=Z,717nm,19.6s,baz=117,slow=30
PPT Papeete 74.68 259 P **P 09 45 38.9 +0.8**
PPT *PP pP 09 46 12.8 -0.2
FFD Franklin Falls 74.97 357 *e*P **P 09 45 39.9 +0.1**
comp=Z,616nm,1.3s,mb6.1
FFD *e*pP pP 09 46 16.1 +1.4
ACCN Adirondack Com 75.01 355 *e*P **P 09 45 39.8 -0.1**
comp=Z,128nm,1.1s,mb5.5
ACCN *e*pP pP 09 46 15.9 +0.9
AAM Ann Arbor 75.24 347 *e*P **P 09 45 39.8 -1.5**
AAM *e**PP pP 09 46 14.6 -1.7
AAM pmax pmax
comp=Z,316nm,1.6s,mb5.7
AAM Ann Arbor 75.24 347 *e*P **P 09 45 39.8 -1.5**
comp=Z,316nm,1.6s,mb5.7
AAM *e*pP pP 09 46 14.6 -1.6
HNH Hanover 75.24 356 *e*P **P 09 45 41.3 0.0**
comp=Z,241nm,0.9s,mb5.8
HNH *e*pP pP 09 46 16.0 -0.3
KSU1 Kansas State U 75.63 337 *e*P **P 09 45 43.3 -0.2**
comp=Z,290nm,1.1s,mb5.8
NCB Newcomb 75.64 355 *e*P **P 09 45 42.8 -0.8**
comp=Z,94nm,0.9s,mb5.4
LBNH Lisbon 75.75 356 *e*P **P 09 45 44.1 -0.1**
LBNH *e**PP pP 09 46 20.5 +1.2
LBNH pmax pmax
comp=Z,136nm,0.9s,mb5.6
LBNH Lisbon 75.75 356 *e*P **P 09 45 44.1 -0.1**
comp=Z,136nm,0.9s,mb5.6
LBNH *e*pP pP 09 46 20.5 +1.2
TSUM Tsumeb 75.81 104 P **P 09 45 44.3 -0.2**
TSUM pP pP 09 46 17.4 -2.2
TSUM S S 09 55 15.6 +0.6
TSUM PnS 09 56 11.6
TSUM Tsumeb 75.81 104 *e*P **P 09 45 43.5 -1.1**
comp=Z,63nm,0.8s,mb5.3
TSUM *e*pP pP 09 46 18.8 -0.8
TUC Tucson 75.91 323 *e*P **P 09 45 45.8 +0.7**
TUC *e**PP pP 09 46 22.4 +2.3
TUC pmax pmax
comp=Z,334nm,1.9s,mb5.6
TUC Tucson 75.91 323 *e*P **P 09 45 45.8 +0.7**
comp=Z,334nm,1.9s,mb5.6
TUC *e*pP pP 09 46 22.4 +2.3
ANMO Albuquerque 75.95 328 *e*P **P 09 45 45.7 +0.4**
ANMO *e**PP pP 09 46 21.7 +1.3
ANMO pmax pmax
comp=Z,484nm,1.6s
ANMO Albuquerque 75.95 328 *e*P **P 09 45 45.7 +0.4**
comp=Z,484nm,1.6s,mb5.9
ANMO *e*pP pP 09 46 21.7 +1.3
WVL Waterville 75.99 358 *e*P **P 09 45 45.4 -0.1**
EMMW East Machias 76.10 360 *e*P **P 09 45 46.1 -0.1**
comp=Z,347nm,1.1s,mb5.9
EGOM La Gomera 76.21 44 P **P 09 45 48.6 +1.8**
comp=Z,56nm,0.7s,mb5.3
LONY Lake Ozonia 76.31 355 *e*P **P 09 45 46.7 -0.7**
comp=Z,129nm,0.9s,mb5.6
LONY *e*pP pP 09 46 23.4 +0.9
FRNY Flat Rock 76.45 355 *e*P **P 09 45 47.5 -0.6**
comp=Z,168nm,0.9s,mb5.7
FRNY *e*pP pP 09 46 22.2 -1.0
CCAN Las Canadas 76.62 44 P **P 09 45 50.4 +1.3**
comp=Z,65nm,0.9s,mb5.3
PKME Peaks-Kenny Pk 76.68 358 *e*P **P 09 45 49.0 -0.4**
comp=Z,390nm,1.2s,mb5.9
PKME *e*pP pP 09 46 24.7 +0.2
MSNY Massena 76.71 354 *e*P **P 09 45 49.0 -0.7**
MSNY *e*pP pP 09 46 26.3 +1.6

EBAJ Bajamar 77.01 44 P **P** **09 45 52.0 +0.7**
comp=Z,16nm,0.3s,mb5.1
SCIA State Center 77.13 340 *eP* **P** **09 45 51.1 -0.8**
comp=Z,302nm,1.1s,mb5.8
SCIA *epP* pP 09 46 25.7 -1.4
EOSO Osorio 77.14 45 P **P** **09 45 53.0 +1.0**
comp=Z,94nm,0.9s,mb5.4
JFWS Jewell Farm 77.27 343 *eP* **P** **09 45 51.3 -1.5**
JFWS pmax pmax
comp=Z,101nm,0.8s,mb5.5
JFWS Jewell Farm 77.27 343 *eP* **P** **09 45 51.3 -1.5**
comp=Z,96nm,0.8s,mb5.5
BOSA Boshof 77.40 116 P **P** **09 45 52.8 -0.7**
comp=Z,81nm,0.7s,mb5.5,baz=240,slow=4.6,SNR=119
BOSA pP pP 09 46 26.4 -2.2
comp=Z,237nm,0.8s,baz=240,slow=5.2,SNR=17
BOSA S S 09 55 31.1 -1.2
comp=Z,3.9nm,1.0s,baz=40,slow=15,SNR=2.0
BOSA LR LR 10 16 46.7
comp=Z,1µm,20.2s,baz=241,slow=33
BOSA Boshof 77.40 116 *eP* **P** **09 45 52.8 -0.7**
BOSA *e*PP pP 09 46 27.0 -1.7
BOSA pmax pmax
comp=Z,219nm,0.8s,mb5.8
BOSA Boshof 77.40 116 *eP* **P** **09 45 52.8 -0.7**
comp=Z,219nm,0.8s,mb5.8
BOSA *ep*P pP 09 46 26.9 -1.7
SDCO Great Sand Dun 77.86 330 *eP* **P** **09 45 56.4 +0.3**
comp=Z,74nm,0.7s,mb5.4
SDCO *ep*P pP 09 46 31.0 -0.2
CFTV Fuerteventura 78.28 46 P **P** **09 45 57.6 -0.7**
comp=Z,48nm,0.8s,mb5.2
GLA Glamis 78.61 321 *eP* **P** **09 46 00.5 +0.3**
comp=Z,63nm,0.8s,mb5.3
GLA *ep*P pP 09 46 36.0 +0.6
WUAZ Wupatki 78.75 325 *eP* **P** **09 46 01.4 +0.4**
comp=Z,220nm,1.1s,mb5.7
WUAZ *ep*P pP 09 46 37.5 +1.3
EFAM Famara 79.13 46 P **P** **09 46 05.0 +2.0**
comp=Z,121nm,1.0s,mb5.5
CMLA Cha da Macela 79.32 32 *eP* **P** **09 46 01.7 -2.3**
CMLA *eS* S 09 55 51.5 -1.2
BAR Barrett 79.34 319 *eP* **P** **09 46 04.5 +0.3**
LBTB Lobatse 79.44 113 *eP* **P** **09 46 04.0 -0.7**
LBTB Lobatse 79.44 113 *eP* **P** **09 46 03.8 -0.9**
comp=Z,94nm,0.4s,mb5.8
LBTB *ep*P pP 09 46 37.9 -2.1
PV01 Paradox Valley 79.53 328 *eP* **P** **09 46 05.6 +0.4**
TOA0 Torodi Ar. Sit 79.56 67 *eP* **P** **09 46 05.0 -0.3**
TOA0 *ep*P pP 09 46 38.0 -2.7
TORD Torodi Ar. Bea 79.56 67 P **P** **09 46 04.7 -0.6**
comp=Z,190nm,0.8s,mb5.8,baz=246,slow=4.9,SNR=235
TORD pP pP 09 46 38.2 -2.5
comp=Z,108nm,0.8s,baz=259,slow=5.0,SNR=5.5
TORD S S 09 55 53.7 -1.6
comp=Z,14nm,1.1s,baz=234,slow=9.0,SNR=16
TORD PKKPbc PKKPbc 10 04 52.5 +0.3
comp=Z,1.0nm,0.7s,baz=44,slow=2.0,SNR=8.2
TORD pPKKPbc 10 05 27.9
comp=Z,1.9nm,0.9s,baz=50,slow=1.7,SNR=4.9
TORD LR LR 10 17 33.0
comp=Z,2µm,21.8s,baz=245,slow=33
TORD Torodi Ar. Bea 79.56 67 P **P** **09 46 04.7 -0.6**
TORD pP pP 09 46 38.2 -2.5
TORD S S 09 55 53.7 -1.6
TORD PKKPbc PKKPbc 10 04 52.5 +0.3
TORD LR LR 10 17 33.0
ISCO Idaho Springs 79.63 331 P **P** **09 46 06.1 +0.4**
ISCO *e* 09 46 12.9
ISCO pmax pmax
comp=Z,270nm,1.2s,mb5.8
ISCO Idaho Springs 79.63 331 *eP* **P** **09 46 05.9 +0.2**
comp=Z,247nm,1.3s,mb5.7
ISCO *ep*P pP 09 46 42.1 +1.0
SMCO Snowmass 79.69 330 *eP* **P** **09 46 06.8 +0.8**
comp=Z,442nm,1.1s,mb6.0
SMCO *ep*P pP 09 46 43.0 +1.6
DRV Dumont d'Urvil 79.72 191 P **P** **09 46 10.0 +3.8**
DRV Dumont d'Urvil 79.72 191 PP PP 09 49 11.0 +1.9
DRV S S 09 56 03.0 +6.0
DRV SS SS 10 01 16.0 +7.3
DRV L 10 07 00.0
DRV R 10 13 00.0
ECSD EROS,Sioux Fal 79.81 339 *eP* **P** **09 46 05.2 -1.4**
comp=Z,339nm,1.2s,mb5.8
ECSD *ep*P pP 09 46 41.0 -1.1
PFO Pinyon Flat Ob 79.92 320 P **P** **09 46 07.8 +0.5**
comp=Z,515nm,1.1s,mb6.1,SNR=1.1
PFO Pinyon Flat Ob 79.92 320 *eP* **P** **09 46 07.7 +0.4**
PFO *e*PP pP 09 46 43.6 +1.0
PFO pmax pmax
comp=Z,125nm,1.1s,mb5.5
PFO Pinyon Flat Ob 79.92 320 *eP* **P** **09 46 07.7 +0.5**
comp=Z,122nm,1.1s,mb5.5
PFO *ep*P pP 09 46 43.6 +1.0
PV10 Paradox Valley 79.94 328 *eP* **P** **09 46 07.2 -0.1**
PV10 *ep*P pP 09 46 43.8 +1.0
PHWY Pilot Hill 80.83 332 *eP* **P** **09 46 12.1 0.0**
PHWY *ep*P pP 09 46 48.1 +0.5
MIR Mirnyy 80.84 172 *d*/P **P** **09 46 12.5 +0.3**
MIR *e* 09 49 18.0
MIR *e*PPP 09 51 18.0
MIR *eS* S 09 56 06.0 -2.6
MIR *ePS* 09 57 06.0
MIR *eSS* SS 10 01 30.0 +4.7
MIR pmax pmax
comp=Z,600nm,1.2s,mb6.1
MIR pmax pmax
comp=Z,2µm,6.0s
MIR MLR MLR
comp=N,500nm,20.0s
MIR MLR MLR
comp=E,500nm,20.0s
MIR MLR MLR
comp=Z,1µm,20.0s
SRU San Rafael 81.22 327 *eP* **P** **09 46 13.9 -0.3**
SRU *e*PP pP 09 46 50.6 +1.0
SRU pmax pmax
comp=Z,84nm,0.6s,mb5.5
SRU San Rafael 81.22 327 *eP* **P** **09 46 13.9 -0.2**
comp=Z,84nm,0.6s,mb5.5
SRU *ep*P pP 09 46 50.6 +1.0
RAR Rarotonga 81.26 251 P **P** **09 46 13.9 -0.5**
comp=Z,28nm,0.8s,mb4.9,baz=75,slow=8.4,SNR=2.8
RAR S S 09 56 15.4 +2.4
comp=Z,13nm,0.8s,baz=189,slow=14,SNR=1.7
RAR LR LR 10 12 52.8
comp=Z,1µm,19.6s,baz=107,slow=28
RAR Rarotonga 81.26 251 P **P** **09 46 13.9 -0.5**
RAR S S 09 56 15.4 +2.4
RAR Rarotonga 81.26 251 P **P** **09 46 13.9 -0.5**
RAR S S 09 56 15.4 +2.4
RAR LR LR 10 12 52.8
MWC Mount Wilson 81.26 319 *eP* **P** **09 46 14.9 +0.5**
CCUT Cedar City 81.33 325 *eP* **P** **09 46 15.9 +1.1**
CCUT *ep*P pP 09 46 51.2 +1.0
SNCC San Nicolas Is 81.37 318 *eP* **P** **09 46 16.3 +1.3**
comp=Z,260nm,1.1s,mb5.8
SNCC *ep*P pP 09 46 50.1 -0.4
GSC Goldstone 81.39 321 *eP* **P** **09 46 15.3 +0.2**
comp=Z,110nm,1.2s,mb5.4
GSC *ep*P pP 09 46 51.4 +0.9
SHPR Sheep Range 81.43 323 *eP* **P** **09 46 15.6 +0.3**
MSU Marysvale 81.51 326 *eP* **P** **09 46 16.1 +0.4**
MSU *e*PP pP 09 46 53.1 +1.9
ARUT Antelope Range 81.56 325 *eP* **P** **09 46 16.8 +0.8**
ARUT *e*PP pP 09 46 53.3 +1.8
TMUT Trail Mountain 81.68 327 *eP* **P** **09 46 16.8 +0.2**
TMUT *ep*P pP 09 46 53.2 +1.1
RWWY Rawlins 81.87 331 *eP* **P** **09 46 17.7 +0.1**
comp=Z,550nm,1.1s,mb6.1
RWWY *ep*P pP 09 46 53.5 +0.4
CASY Casey 82.27 179 *eP* **P** **09 46 18.9 -0.8**
CASY *esP* pP 09 46 53.2 -2.0
EYMN Ely 82.29 344 *eP* **P** **09 46 18.5 -1.3**
comp=Z,106nm,0.8s,mb5.5
MPU Maple Canyon 82.45 327 *eP* **P** **09 46 20.8 +0.1**
comp=Z,131nm,1.1s,mb5.5
MPU *ep*P pP 09 46 56.1 -0.1
DAC Darwin (Calif) 82.54 321 *eP* **P** **09 46 21.3 +0.2**
DAC *e*PP pP 09 46 56.5 -0.2
DAC pmax pmax
comp=Z,102nm,0.9s,mb5.5
DAC Darwin (Calif) 82.54 321 *eP* **P** **09 46 21.3 +0.2**
comp=Z,102nm,0.9s,mb5.5
DAC *ep*P pP 09 46 56.5 -0.1
ISA Isabella 82.56 320 *eP* **P** **09 46 21.7 +0.5**
comp=Z,378nm,1.8s,mb5.8
ISA *ep*P pP 09 46 57.0 +0.3
NLU North Lily Min 82.61 327 *eP* **P** **09 46 21.9 +0.4**
NLU *ep*P pP 09 46 57.6 +0.6
RSSD Black Hills 82.68 334 *eP* **P** **09 46 21.3 -0.5**
RSSD pmax pmax
comp=Z,121nm,1.0s,mb5.6
RSSD Black Hills 82.68 334 *eP* **P** **09 46 21.2 -0.6**
comp=Z,109nm,1.0s,mb5.5
CTU Camp Tracy 83.05 327 *eP* **P** **09 46 23.3 -0.4**
comp=Z,28nm,0.8s,mb5.0
CTU *ep*P pP 09 47 00.6 +1.3
TRCR Troy Canyon 83.06 324 *eP* **P** **09 46 24.4 +0.6**
TRCR *ep*P pP 09 47 00.5 +1.1
DUG Dugway 83.14 327 *eP* **P** **09 46 24.0 -0.2**
DUG *e*PP pP 09 47 00.7 +0.9
DUG pmax pmax
comp=Z,281nm,1.6s,mb5.7
DUG Dugway 83.14 327 *eP* **P** **09 46 24.0 -0.2**
comp=Z,281nm,1.6s,mb5.7
DUG *ep*P pP 09 47 00.7 +0.8
NOQ North Oquirrh 83.18 327 *eP* **P** **09 46 25.5 +1.1**
comp=Z,50nm,0.9s,mb5.2
TCUT Toone Canyon 83.23 328 *eP* **P** **09 46 24.9 +0.2**
TCUT *ep*P pP 09 47 01.8 +1.5
PTRM Twissleman Ran 83.51 319 *eP* **P** **09 46 27.3 +1.2**
HWUT Hardware Ranch 83.69 328 *eP* **P** **09 46 26.5 -0.5**
comp=Z,67nm,0.6s,mb5.5
HWUT *ep*P pP 09 47 03.1 +0.4
TPH Tonopah 83.69 322 *eP* **P** **09 46 27.6 +0.6**
TPH *e*PP pP 09 47 03.1 +0.4
BW06 Boulder Array 83.75 330 *eP* **P** **09 46 26.5 -0.8**
comp=Z,49nm,0.8s,mb5.3
BW06 *ep*P pP 09 47 03.2 +0.3
PDAR Pinedale Array 83.75 330 P **P** **09 46 26.4 -0.9**
comp=Z,34nm,0.8s,mb5.1,baz=132,slow=6.1,SNR=103
PDAR pP pP 09 47 02.4 -0.6
comp=Z,31nm,0.8s,baz=120,slow=5.1,SNR=7.1
PDAR sP sP 09 47 15.5 -2.5
comp=Z,32nm,0.8s,baz=147,slow=5.1,SNR=4.8
PDAR S S 09 56 35.2 -3.2
comp=Z,0.4nm,0.7s,baz=35,slow=24,SNR=4.1
PDAR sS sS 09 57 34.9 -5.1
comp=Z,0.4nm,1.0s,baz=131,slow=27,SNR=2.0
PDAR PKKPbc PKKPbc 10 04 43.0 +0.2
comp=Z,0.6nm,0.5s,baz=109,slow=1.7,SNR=5.8
PDAR pPKKPbc 10 05 20.1
comp=Z,0.6nm,0.6s,baz=94,slow=1.0,SNR=4.0
PDAR PKPPKP 10 12 45.1
comp=Z,0.4nm,0.8s,baz=100,slow=6.3,SNR=3.6
PDAR Pinedale Array 83.75 330 P **P** **09 46 26.4 -0.9**
PDAR pP pP 09 47 02.4 -0.6
PDAR sP sP 09 47 15.5 -2.5
PDAR S S 09 56 35.2 -3.2
PDAR sS sS 09 57 34.9 -5.1
PDAR PKKPbc PKKPbc 10 04 43.0 +0.2
PDAR P'P' 10 12 45.1
BGU Big Grassy Mou 83.82 327 *eP* **P** **09 46 27.2 -0.5**
SPUT South Promonto 83.86 327 *eP* **P** **09 46 27.3 -0.6**
MTUM Tungsten Hills 83.86 321 *eP* **P** **09 46 28.0 +0.2**
MTUM *ep*P pP 09 47 04.3 +0.8
HVU Hansel Valley 84.38 328 *eP* **P** **09 46 34.5 +4.0**
HVU *e*PP pP 09 47 06.6 +0.4
AHID Auburn Hatcher 84.41 329 *eP* **P** **09 46 31.4 +0.8**
comp=Z,372nm,1.5s,mb5.9
LRV Little Rabbit 84.52 319 *eP* **P** **09 46 32.5 +1.3**
LRV *ep*P pP 09 47 07.8 +0.9
NVAR Mina Array Bea 84.52 322 P **P** **09 46 31.1 -0.1**
comp=Z,31nm,0.9s,mb5.0,baz=136,slow=6.2,SNR=98
NVAR pP pP 09 47 07.0 +0.1
comp=Z,43nm,0.8s,baz=142,slow=6.2,SNR=12
NVAR PP PP 09 49 50.7 +2.2
comp=Z,16nm,1.2s,baz=166,slow=6.0,SNR=5.5
NVAR S S 09 56 41.5 -4.5
comp=Z,0.8nm,1.0s,baz=104,slow=9.8,SNR=4.0
NVAR PKKPbc PKKPbc 10 04 42.2 +1.2
comp=Z,1.3nm,0.7s,baz=323,slow=0.5,SNR=8.7
NVAR pPKKPbc 10 05 18.3
comp=Z,1.1nm,0.8s,baz=354,slow=1.3,SNR=4.7
NVAR Mina Array Bea 84.52 322 P **P** **09 46 31.1 -0.1**
NVAR pP pP 09 47 07.0 +0.1
NVAR PP PP 09 49 50.7 +2.2
NVAR S S 09 56 41.5 -4.5
NVAR PKKPbc PKKPbc 10 04 42.2 +1.2
ELK Elko 84.73 325 P **P** **09 46 32.1 -0.2**
ELK pmax pmax
comp=Z,120nm,1.0s
ELK Elko 84.73 325 *eP* **P** **09 46 32.0 -0.3**
comp=Z,125nm,0.9s,mb5.6
ELK *ep*P pP 09 47 08.2 +0.2
REDW Red Top Meadow 84.79 330 *eP* **P** **09 46 32.0 -0.5**
SNOW Snow King Moun 84.83 330 *eP* **P** **09 46 32.3 -0.4**
comp=Z,288nm,1.6s,mb5.8
LOHW Long Hollow 84.88 330 *eP* **P** **09 46 32.5 -0.5**
TPAW Teton Pass 84.93 330 *eP* **P** **09 46 38.5 +5.2**
RRI2 Red Ridge 84.98 329 *eP* **P** **09 46 33.1 -0.4**
comp=Z,168nm,1.1s,mb5.7
RRI2 *eS* S 09 56 43.9 -6.6
SAO San Andreas Ge 85.00 319 *eP* **P** **09 46 35.1 +1.5**
SAO *e*PP pP 09 47 10.0 +0.6
SAO pmax pmax
comp=Z,31nm,0.8s,mb5.1
SAO San Andreas Ge 85.00 319 *eP* **P** **09 46 35.1 +1.5**
comp=Z,32nm,0.8s,mb5.1
SAO *ep*P pP 09 47 10.0 +0.6
MOOW Moose Ponds 85.05 330 *eP* **P** **09 46 35.5 +1.6**
comp=Z,586nm,2.3s,mb5.9
DCID1 Drake Creek 85.12 330 *eP* **P** **09 46 34.0 -0.2**
WAKR Walker 85.17 321 *eP* **P** **09 46 35.0 +0.5**
IMW Indian Meadow 85.25 330 *eP* **P** **09 46 34.5 -0.3**
comp=Z,285nm,1.3s,mb5.8
FLWY Flagg Ranch 85.30 330 *eP* **P** **09 46 35.1 0.0**
comp=Z,344nm,1.2s,mb6.0
FLWY *ep*P pP 09 47 09.8 -1.0
CMB Columbia Colle 85.34 321 *eP* **P** **09 46 34.7 -0.6**
CMB *e*PP pP 09 47 10.7 -0.4
CMB pmax pmax
comp=Z,61nm,1.1s,mb5.2
CMB Columbia Colle 85.34 321 *eP* **P** **09 46 34.7 -0.6**
comp=Z,60nm,1.1s,mb5.2
CMB *ep*P pP 09 47 10.7 -0.3
BMN Battle Mountai 85.47 324 *eP* **P** **09 46 36.1 +0.2**
ULM Lac du Bonnet 85.52 342 P **P** **09 46 34.5 -1.7**
comp=Z,80nm,0.8s,mb5.5,baz=155,slow=4.4,SNR=57
ULM pP pP 09 47 09.7 -2.3
comp=Z,86nm,0.8s,baz=157,slow=4.5,SNR=9.4
ULM sP sP 09 47 24.2 -2.8
comp=Z,82nm,0.9s,baz=143,slow=3.4,SNR=6.4
ULM S SKSac 09 56 43.6 -4.5
comp=Z,8.4nm,1.2s,baz=338,slow=12,SNR=3.3
ULM PKKPbc PKKPbc 10 04 37.9 -0.8
comp=Z,3.9nm,0.7s,baz=111,slow=3.3,SNR=7.4
ULM pPKKPbc 10 05 14.2
comp=Z,3.5nm,0.6s,baz=336,slow=4.7,SNR=6.8
ULM Lac du Bonnet 85.52 342 *eP* **P** **09 46 34.4 -1.8**
comp=Z,169nm,1.1s,mb5.7
ULM *ep*P pP 09 47 09.5 -2.5
RLMT Red Lodge 85.55 332 *eP* **P** **09 46 35.9 -0.5**
comp=Z,210nm,1.2s,mb5.7
RLMT *ep*P pP 09 47 12.1 0.0
LKWY Lake 85.57 331 *eP* **P** **09 46 37.9 +1.5**
VFT Old Faithful 85.66 330 *eP* **P** **09 46 38.2 +1.3**
LAO LASA Array 85.67 334 *eP* **P** **09 46 36.1 -0.8**
LAO *ep*P pP 09 47 11.7 -1.0
YNR Norris Junctio 85.81 331 *eP* **P** **09 46 39.1 +1.5**
YMR Madison River 85.89 330 *eP* **P** **09 46 38.3 +0.3**
comp=Z,410nm,1.1s,mb6.1
PAHR Pah Rah Range 86.03 322 *eP* **P** **09 46 39.1 +0.4**
comp=Z,254nm,1.2s,mb5.8
SAC San Andreas 86.13 319 *eP* **P** **09 46 40.6 +1.4**
QLMT Earthquake Lak 86.22 330 *eP* **P** **09 46 39.9 +0.3**
SCHQ Schefferville 86.23 0 P **P** **09 46 37.7 -2.0**
comp=Z,67nm,1.1s,mb5.3,baz=166,slow=4.4,SNR=35
SCHQ pP pP 09 47 12.7 -2.8
comp=Z,46nm,1.0s,baz=166,slow=4.5,SNR=6.0
SCHQ sP sP 09 47 27.3 -3.2
comp=Z,44nm,1.0s,baz=154,slow=3.2,SNR=4.1
SCHQ PP PP 09 50 02.2 -0.1
comp=Z,21nm,1.1s,baz=138,slow=4.2,SNR=2.9
SCHQ S SKSac 09 56 49.5 -3.1
comp=Z,3.5nm,1.1s,baz=245,slow=15,SNR=2.4
SCHQ Schefferville 86.23 0 *eP* **P** **09 46 37.9 -1.8**
comp=Z,348nm,1.5s,mb5.9
SCHQ *ep*P pP 09 47 14.6 -1.0
GCMT Greycliff 86.26 332 *eP* **P** **09 46 39.7 -0.2**
DGMT Dagmar 86.47 336 *eP* **P** **09 46 39.8 -1.0**
comp=Z,365nm,1.0s,mb6.1
DGMT *ep*P pP 09 47 15.4 -1.3
LSZ Lusaka 86.52 106 S SKSac 09 56 51.3 -3.0
comp=Z,0.7nm,0.4s,baz=70,slow=9.1,SNR=2.5
LSZ PKKPbc PKKPbc 10 04 34.2 -2.1
comp=Z,1.2nm,0.5s,baz=34,slow=17,SNR=4.1
LSZ Lusaka 86.52 106 ⇑P **P** **09 46 42.2 +1.1**
SNR=23
LSZ Lusaka 86.52 106 *eP* **P** **09 46 42.1 +1.0**
LSZ *e*PP pP 09 47 16.5 -0.5
LSZ pmax pmax
comp=Z,53nm,0.8s,mb5.4
LSZ Lusaka 86.52 106 *eP* **P** **09 46 42.1 +1.0**
comp=Z,53nm,0.8s,mb5.4
LSZ *ep*P pP 09 47 16.5 -0.5
HLID Hailey 86.53 328 *eP* **P** **09 46 41.0 -0.1**
MCCM Marconi Confer 86.78 319 *eP* **P** **09 46 42.1 -0.2**
comp=Z,200nm,1.2s,mb5.8
MCMT McKenzie Canyo 86.82 329 P **P** **09 46 42.9 +0.3**
OHCM Honcut 86.87 321 *eP* **P** **09 46 42.5 -0.3**
OHCM *ep*P pP 09 47 18.9 +0.2
BOZ Bozeman (W) 86.95 331 *eP* **P** **09 46 42.4 -0.8**
DLMT Dillon 87.14 330 *eP* **P** **09 46 44.0 0.0**
comp=Z,244nm,1.0s,mb6.0
LRM Limekiln Ridge 87.44 330 *eP* **P** **09 46 45.5 -0.1**
HOPS Hopland 87.49 320 *eP* **P** **09 46 47.5 +1.7**
comp=Z,79nm,1.3s,mb5.4
WVOR Wild Horse Val 87.67 325 P **P** **09 46 46.2 -0.4**
HRY Holter Researc 87.89 331 *eP* **P** **09 46 47.9 +0.3**
PTEO Sao Teotonio 87.89 43 *eP* **P** **09 46 48.7 +1.0**
comp=Z,67nm,0.9s,mb5.5
PTEO *ep*P pP 09 47 22.9 -0.8
MOD Modoc 88.11 323 P **P** **09 46 48.6 -0.1**
EGMT Eagleton 88.12 333 *eP* **P** **09 46 48.1 -0.7**
URZ Urewera 88.19 225 P **P** **09 46 49.9 +0.8**
comp=Z,15nm,0.7s,mb4.9,baz=49,slow=2.5,SNR=10
KIPM Iron Peak 88.29 320 *eP* **P** **09 46 51.0 +1.4**
KIPM *ep*P pP 09 47 27.2 +1.7
WDC Whiskeytown Da 88.33 321 *eP* **P** **09 46 48.3 -1.4**
WDC *e*PP pP 09 47 24.5 -1.3
WDC pmax pmax
comp=Z,40nm,0.8s,mb5.3
WDC Whiskeytown Da 88.33 321 *eP* **P** **09 46 48.2 -1.5**
comp=Z,41nm,0.8s,mb5.3
WDC *ep*P pP 09 47 24.5 -1.2
PMAFR Mafra 88.54 41 *eS*KSac SKSac 09 57 08.5 +1.9
PMAFR *eS* S 09 57 24.0 -0.8
PLOU Loures 88.57 41 *eP* **P** **09 46 52.2 +1.3**
comp=Z,47nm,1.2s,mb5.3
PLOU *ep*P pP 09 47 27.6 +0.7
EGRO El Granado 88.60 43 P **P** **09 46 51.2 +0.2**
comp=Z,16nm,0.9s,mb5.0
CHMT Chamberlain Mo 88.64 330 *eP* **P** **09 46 52.0 +0.8**
PBEJ Beja 88.72 43 *eP* **P** **09 46 52.0 +0.4**
comp=Z,22nm,1.1s,mb5.0
PBEJ *ep*P pP 09 47 26.7 -0.9
BMO Blue Mountains 88.85 327 *eP* **P** **09 46 51.2 -0.9**
comp=Z,58nm,1.2s,mb5.4
MSO Missoula 88.87 330 *eP* **P** **09 46 52.1 -0.2**
comp=Z,123nm,1.6s,mb5.6
EJIF Jimena Fronter 89.08 45 P **P** **09 46 53.9 +0.6**
EJIF pmax pmax
comp=Z,11nm,0.8s,mb4.8
EJIF Jimena Fronter 89.08 45 P **P** **09 46 53.9 +0.7**
comp=Z,11nm,0.8s,mb4.8
ESPR Espera 89.12 45 P **P** **09 46 54.1 +0.6**
comp=Z,22nm,1.0s,mb5.0
KHMM Horse Mountain 89.18 321 *eP* **P** **09 46 54.9 +1.2**
KHMM *ep*P pP 09 47 30.5 +0.7
EMIN Mina Concepcio 89.24 44 P **P** **09 46 55.4 +1.4**
comp=Z,20nm,0.8s,mb5.1
YBH Yreka Blue Hor 89.24 322 *eP* **P** **09 46 52.9 -1.1**
YBH *e*PP pP 09 47 28.7 -1.4
PESTR Estremoz 89.44 42 *eP* **P** **09 46 53.4 -1.6**
comp=Z,33nm,1.1s,mb5.2
PESTR Estremoz 89.44 42 *eP* **P** **09 46 55.8 +0.8**
comp=Z,33nm,1.1s,mb5.2
PESTR *ep*P pP 09 47 30.0 -1.0
PESTR *ep*P pP 09 47 30.2 -0.8
PESTR *eS*KSac SKSac 09 57 12.8 +0.9
PESTR *eS* S 09 57 32.9 -0.4
PTOM Tomar 89.49 41 *eP* **P** **09 46 56.1 +0.9**
comp=Z,35nm,0.9s,mb5.3
PTOM *ep*P pP 09 47 30.5 -0.8
EMIJ Mijas 89.58 46 P **P** **09 46 56.8 +1.2**
comp=Z,24nm,0.9s,mb5.1
EBAD Badajoz 89.70 43 P **P** **09 46 55.9 -0.2**
comp=Z,17nm,0.8s,mb5.0
KTRM Thompson Ridge 89.71 322 P **P** **09 46 56.4 +0.2**
KRMB Red Mountain 89.73 321 *eP* **P** **09 46 57.5 +1.2**
BSMT Bassoo Peak 90.03 330 *eP* **P** **09 46 57.1 -0.6**
PCBR Castelo Branco 90.17 42 *eP* **P** **09 46 58.2 -0.1**
comp=Z,23nm,1.1s,mb5.0
PCBR *ep*P pP 09 47 32.9 -1.5
ELOJ Sierra Loja 90.33 45 P **P** **09 47 00.0 +0.9**
ELOJ pmax pmax
comp=Z,15nm,1.0s,mb4.9
ELOJ Sierra Loja 90.33 45 P **P** **09 46 60.0 +0.9**
comp=Z,15nm,1.0s,mb4.9
KBO Bosley Butte 90.38 321 *eP* **P** **09 47 01.8 +2.4**
ERON Agron 90.46 46 P **P** **09 47 00.9 +1.2**
comp=Z,4.0nm,0.6s,mb4.5
MTE Manteigas 90.51 41 *eP* **P** **09 47 00.1 +0.2**
comp=Z,32nm,1.1s,mb5.3
MTE *ep*P pP 09 47 34.5 -1.5
MTE *eS*KSac SKSac 09 57 19.9 +1.9
MTE *eS* S 09 57 42.4 -0.7
MTE Manteigas 90.51 41 *eP* **P** **09 47 00.2 +0.3**
comp=Z,32nm,1.0s,mb5.3
ELUQ Luque 90.53 45 P **P** **09 47 00.1 +0.1**
ELUQ pmax pmax
comp=Z,361nm,3.7s
ELUQ Luque 90.53 45 P **P** **09 47 00.1 +0.1**
comp=Z,361nm,3.7s
HBO Huckleberry Mo 90.54 324 P **P** **09 46 59.6 -0.4**
WALA Waterton Lakes 90.61 331 *eP* **P** **09 46 59.7 -0.7**
IRO Indian Ridge 90.62 324 P **P** **09 46 59.9 -0.5**
EADA Adamuz 90.74 44 P **P** **09 47 02.1 +1.1**
comp=Z,14nm,1.0s,mb4.9
ECOG Cogollos-Vega 90.77 46 P **P** **09 47 01.1 -0.1**
ECOG pmax pmax
comp=Z,13nm,0.9s,mb5.0
ECOG Cogollos-Vega 90.77 46 P **P** **09 47 01.1 0.0**
comp=Z,12nm,0.9s,mb4.9
KEBM Edson Butte 90.90 322 *eP* **P** **09 47 03.9 +2.2**
BROR Big Rock Looko 90.91 324 P **P** **09 47 01.1 -0.7**
EBER Berja 90.94 46 P **P** **09 47 02.1 +0.2**
comp=Z,13nm,0.9s,mb5.0
PVRL Vila Real 91.01 40 *eP* **P** **09 47 03.0 +0.8**
comp=Z,33nm,1.2s,mb5.2
PVRL *ep*P pP 09 47 37.5 -0.8
HAWA Hanford 91.04 327 *eP* **P** **09 47 01.7 -0.7**
comp=Z,149nm,1.3s,mb5.9
HAWA *ep*P pP 09 47 39.6 +1.1
EPLA Plasencia 91.11 42 P **P** **09 47 03.0 +0.3**
EPLA pmax pmax
comp=Z,19nm,0.9s,mb5.1
EPLA Plasencia 91.11 42 P **P** **09 47 03.0 +0.3**
comp=Z,19nm,0.9s,mb5.1
PCAB Cabril 91.13 40 *ep*P pP 09 47 37.8 -1.1
VFP Flag Point 91.18 325 P **P** **09 47 02.9 -0.1**
FFC Flin Flon 91.20 341 P **P** **09 47 02.5 -0.6**
comp=Z,427nm,1.2s,mb6.3,SNR=12
FFC Flin Flon 91.20 341 *eP* **P** **09 47 02.8 -0.3**
FFC *e*PP pP 09 47 38.1 -1.1
FFC pmax pmax
comp=Z,126nm,1.3s,mb5.8
FFC Flin Flon 91.20 341 *eP* **P** **09 47 02.8 -0.4**
comp=Z,126nm,1.3s,mb5.8
FFC *ep*P pP 09 47 38.1 -1.1
EBAN Banos Encina 91.21 45 P **P** **09 47 03.3 +0.1**
EBAN pmax pmax
comp=Z,41nm,1.0s,mb5.4
EBAN Banos Encina 91.21 45 P **P** **09 47 03.3 +0.1**
comp=Z,41nm,1.0s,mb5.4
HOOD Mount Hood Mea 91.27 325 *eP* **P** **09 47 03.7 +0.2**
NEW Newport 91.35 329 *eP* **P** **09 47 02.0 -1.8**
NEW pmax pmax
comp=Z,18nm,0.9s
NEW Newport 91.35 329 *eP* **P** **09 47 02.0 -1.8**
comp=Z,17nm,0.9s,mb5.1

OD2 Odessa Site #2 91.40 328 P **P** **09 47 03.2 -0.8**
ENIJ Nijar 91.41 47 P **P** **09 47 03.3 -0.8**
ENIJ pmax pmax
comp=Z,37nm,1.1s,mb5.3
ENIJ Nijar 91.41 47 P **P** **09 47 03.3 -0.8**
comp=Z,37nm,1.1s,mb5.3
EQES Quesada 91.41 45 P **P** **09 47 05.0 +0.9**
comp=Z,12nm,1.0s,mb4.9
COR Corvallis 91.57 324 *e*P **P** **09 47 04.9 +0.1**
COR *e**PP pP 09 47 42.2 +1.3
COR pmax pmax
comp=Z,202nm,1.2s,mb6.0
COR Corvallis 91.57 324 *e*P **P** **09 47 04.9 +0.1**
comp=Z,202nm,1.2s,mb6.0
COR *e*pP pP 09 47 42.2 +1.3
ODJA Bouhanifia 91.68 49 P **P** **09 47 08.0 +2.7**
EBG Ellensburg 91.90 327 P **P** **09 47 06.2 -0.2**
PBRG Braganca 91.90 41 *e*P **P** **09 47 06.9 +0.5**
comp=Z,26nm,1.3s,mb5.1
PBRG *e*pP pP 09 47 41.5 -1.0
ECAL Calabor 92.00 40 P **P** **09 47 06.8 0.0**
comp=Z,11nm,1.0s,mb4.8
ESDC Sonseca Array 92.08 44 P **P** **09 47 06.9 -0.3**
comp=Z,11nm,0.9s,mb4.9,baz=243,slow=4.1,SNR=36
ESDC pP pP 09 47 41.7 -1.6
comp=Z,11nm,0.9s,baz=244,slow=4.2,SNR=6.5
ESDC S SKSac 09 57 27.1 +0.1
comp=Z,0.1nm,0.4s,baz=105,slow=17,SNR=3.1
ESDC SP SP 09 59 04.8 -3.3
comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=4.4
ESDC Sonseca Array 92.08 44 P **P** **09 47 07.8 +0.6**
comp=Z,22nm,3.5s
ESLA Sonseca Array 92.08 44 *e*P **P** **09 47 08.2 +1.0**
comp=Z,4.6nm,1.1s
ESLA *e*pP pP 09 47 41.0 -2.4
TBM Table Mountain 92.11 327 P **P** **09 47 07.0 -0.3**
WTV Waterville 92.19 327 P **P** **09 47 06.8 -0.9**
EVIA Vianos 92.29 45 P **P** **09 47 08.5 +0.3**
EVIA pmax pmax
comp=Z,14nm,1.0s,mb5.0
EVIA Vianos 92.29 45 P **P** **09 47 08.5 +0.4**
comp=Z,14nm,1.0s,mb5.0
OJGS Djebel Guires 92.36 49 P **P** **09 47 07.0 -1.5**
EMUR La Murta 92.56 46 P **P** **09 47 08.6 -0.8**
comp=Z,6.8nm,2.4s
GUD Guadarrama 92.60 43 P **P** **09 47 10.4 +0.8**
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
GUD Guadarrama 92.60 43 P **P** **09 47 10.4 +0.7**
comp=Z,4.1nm,0.8s,mb4.6
OKGL Djebel Kef Gue 92.62 49 P **P** **09 47 11.0 +1.3**
ETRT Tiaret 92.65 50 P **P** **09 47 13.0 +3.2**
EANR 'Ain N'Sour 92.86 49 P **P** **09 47 14.0 +3.2**
ETOB Tobarra 92.87 46 P **P** **09 47 11.3 +0.5**
comp=Z,16nm,1.0s,mb5.1
FCC Fort Churchill 92.93 346 *e*P **P** **09 47 10.4 -0.7**
FCC *e**PP pP 09 47 45.1 -2.2
FCC pmax pmax
comp=Z,52nm,0.8s,mb5.7
FCC Fort Churchill 92.93 346 *e*P **P** **09 47 10.4 -0.8**
comp=Z,52nm,0.8s,mb5.7
FCC *e*pP pP 09 47 45.1 -2.2
ECHA Ech Chlef 93.15 49 P **P** **09 47 15.0 +2.8**
EBNR Beni Rached 93.34 49 P **P** **09 47 17.0 +4.0**
GNW Green Mountain 93.44 326 *e*P **P** **09 47 12.2 -1.3**
EDM Edmonton 93.66 334 *e*P **P** **09 47 12.0 -2.5**
EDM *e**PP pP 09 47 48.2 -2.4
EMHD Djebel Mahouad 94.21 50 P **P** **09 47 07.0 -10**
ADJB Djebel Djouab 94.50 50 P **P** **09 47 19.9 +1.6**
PGC Sidney 94.50 326 *e*P **P** **09 47 18.8 +0.4**
comp=Z,97nm,1.1s,mb5.9
PGC *e*pP pP 09 47 55.1 +0.6
EMOS Mosqueruela 94.59 45 P **P** **09 47 20.0 +1.2**
comp=Z,36nm,2.7s,mb5.1
ABA Alger-Bouzarea 94.62 49 P **P** **09 47 16.6 -2.3**
ELAN Lanestosa 94.68 41 P **P** **09 47 19.4 +0.3**
comp=Z,18nm,0.9s,mb5.3
AKET Djebel Ketaf 94.72 50 P **P** **09 47 22.4 +3.0**
AFI Afiamalu 94.81 251 LR LR 10 22 24.1
comp=Z,1µm,18.7s,baz=104,slow=30
ATAF Djebel Tarf 94.88 51 P **P** **09 47 20.7 +0.6**
ESAC San Caprasio 95.44 44 P **P** **09 47 24.1 +1.5**
comp=Z,40nm,0.9s,mb5.7
ERTA Horta de San J 95.44 45 P **P** **09 47 23.3 +0.7**
comp=Z,31nm,0.9s,mb5.5
SJPF Ste Jean 95.86 42 *e*P **P** **09 47 25.7 +1.2**
comp=Z,70nm,1.3s,mb5.5
SJPF *e*pP pP 09 47 58.4 -2.3
SJPF Ste Jean 95.86 42 *e*P **P** **09 47 25.7 +1.2**
SJPF *e**PP pP 09 47 58.4 -2.3
SJPF pmax pmax
comp=Z,35nm,1.3s,mb5.5
SJPF Ste Jean 95.86 42 *e*P **P** **09 47 25.7 +1.2**
comp=Z,35nm,1.3s,mb5.5
SJPF *e*pP pP 09 47 58.4 -2.3
EPOB Poblet 96.13 45 P **P** **09 47 26.1 +0.4**
comp=Z,16nm,0.9s,mb5.3
EBIE Bielsa 96.39 43 P **P** **09 47 27.3 +0.4**
comp=Z,4.6nm,2.5s
EPF Esparros 96.71 43 *e*P **P** **09 47 29.4 +1.0**
comp=Z,21nm,1.1s,mb5.1
EPF Esparros 96.71 43 *e*P **P** **09 47 29.4 +1.0**
EPF pmax pmax
comp=Z,11nm,1.1s,mb5.1
EPF Esparros 96.71 43 *e*P **P** **09 47 29.4 +1.0**
comp=Z,10nm,1.1s,mb5.1
SALF Salau 97.04 44 *e*P **P** **09 47 32.0 +2.1**
MLS Moulis 97.11 43 *e*P **P** **09 47 31.8 +1.6**
QUIF Quistinic 97.82 38 *e*P **P** **09 47 34.2 +0.8**
QUIF *e*pP pP 09 48 07.9 -1.7
EJON La Jonquera 97.87 45 P **P** **09 47 34.1 +0.5**
comp=Z,38nm,3.2s
MTLF Montolieu 98.00 44 *e*P **P** **09 47 34.6 +0.4**
comp=Z,48nm,1.3s,mb5.5
MTLF *e*pP pP 09 48 07.4 -3.0
MTLF Montolieu 98.00 44 *e*P **P** **09 47 34.6 +0.4**
MTLF *e**PP pP 09 48 07.4 -3.0
MTLF pmax pmax
comp=Z,24nm,1.3s,mb5.5
MTLF Montolieu 98.00 44 *e*P **P** **09 47 34.6 +0.4**
comp=Z,24nm,1.3s,mb5.5
MTLF *e*pP pP 09 48 07.4 -3.0
ROSF Rostrenen 98.03 37 *e*P **P** **09 47 34.2 -0.1**
comp=Z,82nm,1.4s,mb5.7
ROSF Rostrenen 98.03 37 *e*P **P** **09 47 34.2 -0.1**
ROSF pmax pmax
comp=Z,41nm,1.4s,mb5.7
ROSF Rostrenen 98.03 37 *e*P **P** **09 47 34.2 -0.1**
comp=Z,41nm,1.4s,mb5.7
LFF La Frestale 98.10 42 *e*P **P** **09 47 35.3 +0.7**
comp=Z,53nm,1.1s,mb5.6
LFF La Frestale 98.10 42 *e*P **P** **09 47 35.3 +0.7**
LFF pmax pmax
comp=Z,27nm,1.1s,mb5.6
LFF La Frestale 98.10 42 *e*P **P** **09 47 35.3 +0.7**
comp=Z,27nm,1.1s,mb5.6
KEST Kesra 98.20 53 P **P** **09 47 35.2 +0.1**
comp=Z,4.1nm,0.9s,mb4.9,baz=284,slow=2.2,SNR=10
KEST S SKSac 09 57 59.5 +0.1
comp=Z,1.3nm,0.8s,baz=178,slow=20,SNR=2.1
KEST SP SP 10 00 14.3 -0.8
comp=Z,0.5nm,0.5s,baz=335,slow=20,SNR=1.9
KEST LR LR 10 35 03.6
comp=Z,1µm,18.2s,baz=350,slow=37
SGMF Saint Gilles 98.35 38 *e*P **P** **09 47 37.0 +1.2**
comp=Z,44nm,1.3s,mb5.4
SGMF Saint Gilles 98.35 38 *e*P **P** **09 47 37.0 +1.2**
SGMF pmax pmax
comp=Z,22nm,1.3s,mb5.4
SGMF Saint Gilles 98.35 38 *e*P **P** **09 47 37.0 +1.2**
comp=Z,22nm,1.3s,mb5.4
MFF Saint Martin d 98.61 40 *e*P **P** **09 47 37.4 +0.4**
comp=Z,24nm,1.0s,mb5.3
MFF *e*pP pP 09 48 11.9 -1.3
MFF Saint Martin d 98.61 40 *e*P **P** **09 47 37.4 +0.4**
MFF *e**PP pP 09 48 11.9 -1.3
MFF pmax pmax
comp=Z,12nm,1.0s,mb5.3
MFF Saint Martin d 98.61 40 *e*P **P** **09 47 37.4 +0.4**
comp=Z,12nm,1.0s,mb5.3
MFF *e*pP pP 09 48 11.9 -1.3
RJF Les Rejaudoux 98.76 42 *e*P **P** **09 47 38.9 +1.3**
comp=Z,39nm,1.3s,mb5.4
RJF *e*R
comp=Z,2µm,21.2s
RJF Les Rejaudoux 98.76 42 *e*P **P** **09 47 38.9 +1.3**
RJF pmax pmax
comp=Z,20nm,1.3s,mb5.4
RJF MLR MLR
comp=Z,2µm,21.3s
RJF Les Rejaudoux 98.76 42 *e*P **P** **09 47 38.9 +1.3**
comp=Z,20nm,1.3s,mb5.4
RJF LR LR
comp=Z,2µm,21.3s
SFJD Kangerlussuaq 99.24 7 *i* P Pdif 09 47 39.2 -0.5
SFJD *i* 09 51 44.0
SFJD *i* S SKSac 09 58 03.7 -0.9
SFJD *i* 09 58 55.1
SFJD *i* 10 05 39.0
SFJD
comp=Z,510nm,20.0s
SFJD Kangerlussuaq 99.24 7 *i* P Pdif 09 47 39.2 -0.5
SFJD *i* 09 51 44.0
SFJD *i* S SKSac 09 58 03.7 -0.9
SFJD *i* 09 58 55.1
SFJD MLR MLR
comp=Z,520nm,20.0s
GRR Gorron 99.32 38 *e*P Pdif 09 47 40.8 +0.7
OPO Ambohidratompo 99.63 119 S SKSac 09 58 08.6 +2.0
comp=Z,0.6nm,0.6s,baz=342,slow=19,SNR=1.9
LBL Lubilhac 99.70 42 *e*P Pdif 09 47 44.0 +2.2
TCF Toulx Ste Croi 99.73 41 *e*P Pdif 09 47 42.3 +0.4
comp=Z,10nm,0.9s
TCF *e*pP pP 09 48 16.8 -1.4
TCF Toulx Ste Croi 99.73 41 *e*P Pdif 09 47 42.3 +0.4
TCF *e**PP pP 09 48 16.8 -1.4
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
TCF Toulx Ste Croi 99.73 41 *e*P Pdif 09 47 42.3 +0.4
comp=Z,5.3nm,0.9s
TCF *e*pP pP 09 48 16.8 -1.4
FLN La Foliniere 99.75 38 *e*P Pdif 09 47 42.0 0.0
FLN *e*R
comp=Z,935nm,22.2s
FLN La Foliniere 99.75 38 *e*P Pdif 09 47 42.0 0.0
FLN LR LR
comp=Z,940nm,22.3s
LDF La Druitiere 99.84 38 *e*P Pdif 09 47 43.3 +0.9
comp=Z,21nm,1.1s
LDF La Druitiere 99.84 38 *e*P Pdif 09 47 43.3 +0.9
LDF pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
LDF La Druitiere 99.84 38 *e*P Pdif 09 47 43.3 +0.9
comp=Z,10nm,1.1s
PYM Petit Puy Mans 99.87 42 *e*P Pdif 09 47 43.9 +1.4
AGO Saint Agoulin 100.11 42 *e*P Pdif 09 47 44.7 +1.1
BGF Bois d'Agland 100.25 41 *e*P Pdif 09 47 44.8 +0.6
comp=Z,43nm,1.3s
BGF Bois d'Agland 100.25 41 *e*P Pdif 09 47 44.8 +0.6
BGF pmax pmax
comp=Z,22nm,1.3s
BGF Bois d'Agland 100.25 41 *e*P Pdif 09 47 44.8 +0.6
comp=Z,22nm,1.3s
VIVF Saint-Julien-l 100.31 43 *e*P Pdif 09 47 45.6 +1.1
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 100.31 43 *e*P Pdif 09 47 45.6 +1.1
VIVF pmax pmax
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 100.31 43 *e*P Pdif 09 47 45.6 +1.1
comp=Z,12nm,1.1s
PLDF La Plantade 100.34 42 *e*P Pdif 09 47 46.0 +1.4
SMRF Simiane la Rot 100.35 44 *e*P Pdif 09 47 46.3 +1.6
comp=Z,56nm,1.2s
SMRF Simiane la Rot 100.35 44 *e*P Pdif 09 47 46.3 +1.6
comp=Z,56nm,1.2s
AVF Avril sur Loir 100.67 41 *e*P Pdif 09 47 46.5 +0.4
comp=Z,37nm,1.5s
AVF *e*pP 09 48 21.1
AVF Avril sur Loir 100.67 41 *e*P Pdif 09 47 46.5 +0.4
AVF pmax pmax
comp=Z,19nm,1.5s
AVF Avril sur Loir 100.67 41 *e*P Pdif 09 47 46.5 +0.4
comp=Z,19nm,1.5s
AVF *e*pP 09 48 21.1
FRF La Foret Royal 100.76 45 *e*P Pdif 09 47 47.5 +1.0
SMF Signal de Mont 100.86 42 *e*P Pdif 09 47 47.6 +0.7
comp=Z,50nm,1.3s
SMF Signal de Mont 100.86 42 *e*P Pdif 09 47 47.6 +0.7
SMF pmax pmax
comp=Z,25nm,1.3s
SMF Signal de Mont 100.86 42 *e*P Pdif 09 47 47.6 +0.7
comp=Z,25nm,1.3s
SSF Saint Saulge 100.91 41 *e*P Pdif 09 47 47.2 0.0
comp=Z,19nm,1.1s
SSF Saint Saulge 100.91 41 *e*P Pdif 09 47 47.2 0.0
SSF pmax pmax
comp=Z,10.0nm,1.1s
SSF Saint Saulge 100.91 41 *e*P Pdif 09 47 47.2 0.0
comp=Z,9.6nm,1.1s
ORIF Oris-en-Rattie 101.06 44 *e*P Pdif 09 47 49.2 +1.4
comp=Z,27nm,1.2s
ORIF *e*R
comp=Z,1µm,21.0s
ORIF Oris-en-Rattie 101.06 44 *e*P Pdif 09 47 49.2 +1.4
ORIF pmax pmax
comp=Z,14nm,1.2s
ORIF Oris-en-Rattie 101.06 44 *e*P Pdif 09 47 49.2 +1.4
comp=Z,14nm,1.2s
LOR Lormes 101.22 41 *e*P Pdif 09 47 48.8 +0.2
comp=Z,22nm,1.2s
LOR *e*pP 09 48 23.4
LOR *e*R
comp=Z,1µm,22.2s
LOR Lormes 101.22 41 *e*P Pdif 09 47 48.8 +0.2
LOR pmax pmax
comp=Z,11nm,1.2s
LOR MLR MLR
comp=Z,1µm,22.3s
LOR Lormes 101.22 41 *e*P Pdif 09 47 48.8 +0.2
comp=Z,11nm,1.2s
LOR *e*pP 09 48 23.4
LOR LR LR
comp=Z,1µm,22.3s
YKA Yellowknife Ar 101.33 340 P Pdif 09 47 47.2 -1.8
comp=Z,10.0nm,0.6s,baz=143,slow=4.4,SNR=27
YKA pP 09 48 23.0
comp=Z,4.8nm,0.7s,baz=145,slow=4.4,SNR=3.5
YKA PP PP 09 51 58.6 -1.3
comp=Z,7.4nm,0.9s,baz=137,slow=7.4,SNR=3.9
YKA S SKSac 09 58 11.2 -3.6
comp=Z,0.5nm,0.5s,baz=331,slow=33,SNR=3.0
YKA PKKPbc PKKPbc 10 03 57.8 +0.4
comp=Z,2.1nm,0.8s,baz=316,slow=4.9,SNR=3.7
YKA Yellowknife Ar 101.33 340 P Pdif 09 47 47.2 -1.8
YKA 09 51 58.7
YKA S SKSac 09 58 11.2 -3.6
YKA Yellowknife Ar 101.33 340 P Pdif 09 47 47.2 -1.8
YKA pP 09 48 23.0
YKA PP PP 09 51 58.6 -1.3
YKA S SKSac 09 58 11.2 -3.6
YKA PKKPbc PKKPbc 10 03 57.9 +0.4
KMBO Kilima Mbogo 101.63 99 S SKSac 09 58 17.2 +1.0
comp=Z,0.3nm,0.4s,baz=54,slow=24,SNR=2.2
CABF La Chapelle 102.12 42 *e*P Pdif 09 47 53.5 +1.0
comp=Z,26nm,1.3s
CABF La Chapelle 102.12 42 *e*P Pdif 09 47 53.5 +1.0
CABF pmax pmax
comp=Z,13nm,1.3s
CABF La Chapelle 102.12 42 *e*P Pdif 09 47 53.5 +1.0
comp=Z,13nm,1.3s
BAIF Baives 102.99 39 *e*P Pdif 09 47 57.5 +1.1
BAIF *e*pP 09 48 31.3
HAU Haudompre 103.03 41 *e*P Pdif 09 47 56.9 +0.3
HAU *e*R
comp=Z,884nm,19.0s
HAU Haudompre 103.03 41 *e*P Pdif 09 47 56.9 +0.3
HAU LR LR
comp=Z,880nm,19.0s
HINF Hinteralfeld 103.22 42 *e*P Pdif 09 47 58.7 +1.3
GIVF Givet 103.35 39 *e*P Pdif 09 47 58.3 +0.3
CDF Champ du Feu 103.77 41 *e*P Pdif 09 48 01.5 +1.6
WLF Walferdange 103.83 40 *e*Sdiff Sdif 09 59 36.9 -0.4
WLF *e*SP SP 10 01 14.3 -0.6
DLBC Dease Lake 103.95 331 SP SP 10 01 08.5 -7.8
comp=Z,1.8nm,1.0s,baz=306,slow=15,SNR=1.9
DLBC PKKPbc PKKPbc 10 03 50.3 +0.6
comp=Z,3.2nm,1.0s,baz=273,slow=2.2,SNR=3.3
BFO Black Forest 104.33 42 *e*Sdiff Sdif 09 59 44.3 +2.8
BFO *e*SP SP 10 01 17.6 -2.6
BFO *e*SS SS 10 06 57.5 -3.7
STU Stuttgart 105.05 42 *e*Sdiff Sdif 09 59 52.9 +5.4
STU *e*SP SP 10 01 27.3 -0.4
STU *e*SS SS 10 07 02.8 -8.3
BUG Bochum--Univer 105.38 39 *e*Sdiff Sdif 09 59 49.3 -0.9
BUG *e*SP SP 10 01 31.2 +0.1
BUG *e*SS SS 10 07 07.5 -8.1
TNS Taunus Mts 105.38 40 *e*Sdiff Sdif 09 59 51.2 +1.0
TNS *e*SP SP 10 01 31.8 +0.7
TNS *e*SS SS 10 07 11.2 -4.4
FUR Furstenfeldbru 105.94 43 *e*Sdiff Sdif 09 59 57.2 +2.3
FUR *e*SP SP 10 01 37.2 +0.3
IBBN Ibbenburen 106.09 38 *e*Sdiff Sdif 09 59 54.1 -2.1
IBBN *e*SP SP 10 01 41.2 +2.8
IBBN *e*SS SS 10 07 20.6 -4.6
UBBA Unterbreizbach 106.54 40 *e*Sdiff Sdif 10 00 00.7 +0.8
UBBA *e*SP SP 10 01 41.9 -1.2
UBBA *e*SS SS 10 07 24.2 -7.1
GRA1 Grafenberg Arr 106.66 42 *e*Pdif Pdif 09 48 23.4 +11
GRA1 *e*PP PP 09 52 49.1 +10
GRA1 *e*Sdif Sdif 10 00 03.9 +3.0
GRA1 *e*SP SP 10 01 44.0 -0.3
GRA1 *e*SS SS 10 07 27.3 -5.7
GRF Grafenberg Arr 106.66 42 *e*Pdif Pdif 09 48 23.4 +11
GRF *e*PP PP 09 52 49.1 +10
GRF *e*Sdiff Sdif 10 00 03.9 +3.0
GRF *e*SP SP 10 01 44.0 -0.3
GRF *e*SS SS 10 07 27.3 -5.7
GRF Grafenberg Arr 106.66 42 *e*P Pdif 09 48 23.4 +11
GRF *e* 09 52 49.1
GRF *e*SP SP 10 01 44.0 -0.3
GRF *e*SS SS 10 07 27.3 -5.7
GRF Grafenberg Arr 106.66 42 *e*P Pdif 09 48 23.4 +11
GRF *e* 09 52 49.1
GRF *e*SP SP 10 01 44.0 -0.3
GRF *e*SS SS 10 07 27.3 -5.7
ROTZ Rotzenmuhle 107.25 42 *e*Sdiff Sdif 10 00 10.1 +4.2
ROTZ *e*SP SP 10 01 49.6 -0.8
MANZ Manzenberg 107.30 42 *e*Sdiff Sdif 10 00 08.9 +2.6
MANZ *e*SP SP 10 01 51.1 +0.2
MANZ *e*SS SS 10 07 33.3 -8.4
WET Wettzell 107.34 43 *e*Sdiff Sdif 10 00 08.8 +2.2
WET *e*SP SP 10 01 50.4 -0.9
WET *e*SS SS 10 07 32.8 -9.4
MOX Moxa 107.34 41 *e*Sdiff Sdif 10 00 10.2 +3.6
MOX *e*SP SP 10 01 51.0 -0.4
MOX *e*SS SS 10 07 31.2 -11
NRDL Niedersach Rie 107.43 39 *e*Sdiff Sdif 10 00 07.1 -0.2
NRDL *e*SP SP 10 01 53.5 +1.3
NRDL *e*SS SS 10 07 36.3 -7.0
NKC Novy Kostel 107.61 42 *e*PP PP 09 52 43.2 -3.3
NKC *e*SDIF Sdif 10 00 06.7 -2.2
NKC *ex* x 10 07 34.2
GEC2 GERESS Array S 107.68 43 *e*Sdiff Sdif 10 00 12.6 +3.2
GEC2 *e*SP SP 10 01 55.5 +0.8
GEC2 *e*SS SS 10 07 35.2 -12
GERES GERESS Array B 107.68 43 PKiKP PKiKP 09 52 22.9 -1.5
comp=Z,1.5nm,0.7s,baz=205,slow=2.8,SNR=7.4
GERES SP SP 10 01 52.4 -2.4
comp=Z,0.2nm,0.4s,baz=17,slow=41,SNR=2.1
GERES PKKPbc PKKPbc 10 03 39.6 +1.2
comp=Z,1.0nm,0.7s,baz=343,slow=1.8,SNR=4.3
GERES PKKP PKKPbc 10 03 53.6 +15
comp=Z,1.8nm,0.7s,baz=57,slow=4.9,SNR=6.6
GERES pPKKPbc 10 04 15.1
comp=Z,2.1nm,0.8s,baz=35,slow=3.3,SNR=4.9
GERES GERESS Array B 107.68 43 PKPdf PKiKP 09 52 22.9 -1.5
GERES SP SP 10 01 52.4 -2.4
GERES PKKPbc PKKPbc 10 03 39.6 +1.2
GERES PKKP PKKPbc 10 03 53.6 +15
TANN Tannenbergstha 107.71 41 *e*Sdiff Sdif 10 00 13.1 +3.4
TANN *e*SP SP 10 01 55.0 -0.1
TANN *e*SS SS 10 07 38.2 -9.0
KHC Kasperske Hory 107.74 43 *e*PP PP 09 52 45.3 -2.1
KHC *e*SKS SKSac 09 58 41.8 -2.1
KHC *e*SDIF Sdif 10 00 09.2 -0.7
KHC *ex* x 10 07 33.7
BSEG Bad Segeberg 108.24 37 *e*Sdiff Sdif 10 00 11.5 -2.6
BSEG *e*SP SP 10 02 02.8 +2.3
CLL Collm 108.43 41 *e*Sdiff Sdif 10 00 17.7 +2.0
CLL *e*SP SP 10 02 04.1 +1.7
CLL *e*SS SS 10 07 48.9 -8.0
CLL Collm 108.43 41 *ex* x 09 52 34.0
CLL *e*PP PP 09 52 57.0 +4.5
CLL *e*SKSac SKSac 09 58 48.0 +1.1
CLL *e*SKKSac SKKSac 09 59 41.0 -0.9
CLL *e*Sdif Sdif 10 00 17.0 +1.3
CLL *e*sSdiff 10 01 16.0
CLL *e*SP SP 10 01 57.0 -5.4
CLL *e*PPS 10 03 19.0
CLL *e*sPPS 10 04 05.0
CLL *e*SS SS 10 07 48.0 -8.9
CLL *e*sSS 10 08 42.0
CLL *e*SSS 10 11 52.0
CLL Collm 108.43 41 *e*PKP PKiKP 09 52 34.0 +8.2
CLL *e*SKS SKSac 09 58 48.0 +1.1
CLL *e*SKKS SKKSac 09 59 41.0 -0.9
CLL *e*Sdif Sdif 10 00 17.0 +1.3
PRU Pruhonice 108.69 42 *e*PP PP 09 52 45.5 -8.9
PRU *e*SKS SKSac 09 58 48.1 +0.1
PRU *e*SDIF Sdif 10 00 16.2 -1.7
PRU *ex* x 10 07 45.9
BRG Berggiesshubel 108.76 41 *e*Sdiff Sdif 10 00 22.7 +4.3
BRG *e*SP SP 10 02 06.9 +1.2
BRG *e*SS SS 10 07 53.4 -7.9
BRG *e* 09 53 04.5
comp=Z,7.6nm,1.3s
BRG *i* Sdif 10 00 23.0 +4.6
BRG *i* SP 10 02 04.0 -1.7
BRG PKKP PKKPbc 10 03 38.3 +3.3
comp=Z,4.0nm,1.1s
BRG *e* 10 12 19.0
BRG
comp=Z,467nm,20.0s
BRG
comp=N,195nm,20.5s
BRG
comp=E,309nm,20.5s
BRG Berggiesshubel 108.76 41 PP PP 09 52 50.3 -4.5
comp=E,12nm,1.6s
TREC Trest 108.93 43 *e*PP PP 09 52 50.1 -6.0
BER Bergen 109.09 30 *e* Sdif 10 00 19.1 -2.1
BER *e*SS SS 10 08 04.7 -1.2
ZST Bratislava 109.39 45 *e*PP PP 09 52 52.7 -6.8
PKSM Moragy 109.47 47 ⇑*i*P PKiKP 09 52 29.2 +1.5
UPC Upice 109.77 42 *e*PP PP 09 52 55.2 -7.0
DPC Dobruska-Polom 109.88 43 *e*PP PP 09 52 58.8 -4.2
DPC *e*SKS SKSac 09 58 49.3 -3.7
DPC *e*SDIF Sdif 10 00 28.2 +0.4
MORC Moravsky Berou 110.34 44 ⇑*i*P PKiKP 09 52 28.2 -1.2
JMIC Jan Mayen 110.45 17 *e* 09 52 51.5
JMIC *e* 09 59 47.5
JMIC *e*SS SS 10 08 25.3 +1.3
VYHS Vyhne 110.57 45 *e*PKP PKiKP 09 52 29.8 0.0
VYHS *e* 09 53 03.6
VYHS *e*S Sdif 10 00 33.0 -0.5
VYHS *e*SS SS 10 08 16.7 -8.8
VYHS Vyhne 110.57 45 *e*PKIKP PKiKP 09 52 29.8 0.0
VYHS *e* 09 53 03.6
KONO Kongsberg 110.61 32 *e*PP PP 09 53 06.1 -2.1
KONO *e* 10 00 28.3
KONO *e*SS SS 10 08 23.0 -3.0
OKC Ostrava-Krasne 110.72 44 *e*PP PP 09 53 04.3 -4.7
OKC *e*SKS SKSac 09 58 58.3 +1.8
OKC *e*SDIF Sdif 10 00 36.7 +1.9
INK Inuvik 111.05 339 SP SP 10 02 26.3 -1.4
comp=E,2.0nm,0.7s,baz=318,slow=7.4,SNR=2.3
INK PKKPbc PKKPbc 10 03 27.0 -0.6
comp=E,3.3nm,0.8s,baz=267,slow=5.1,SNR=3.1
BZS Buzias 111.11 49 ⇓*i*P PKiKP 09 52 30.9 +0.1
STKA Stephens Creek 111.12 206 PKiKP PKiKP 09 52 30.1 -0.7
comp=E,2.0nm,0.8s,baz=127,slow=17,SNR=3.0
STKA SP SP 10 02 29.3 +1.1
comp=E,2.8nm,1.1s,baz=315,slow=20,SNR=1.3
STKA PKKPbc PKKPbc 10 03 25.8 -1.6
comp=E,1.4nm,0.9s,baz=286,slow=14,SNR=3.2
STKA PKKPab PKKPab 10 03 38.6 +0.8
comp=E,3.4nm,1.0s,baz=346,slow=7.3,SNR=4.6
NB2 NORSAR Subarra111.95 31 Pdif PP 09 53 08.3 -10
comp=Z,5.9nm,1.4s,baz=245,slow=4.4
NOA NORSAR Array B 111.95 31 PKiKP PKiKP 09 52 31.5 -0.9
comp=Z,1.4nm,0.9s,baz=244,slow=2.0,SNR=3.6

NOA PP PP 09 53 13.1 -4.8
comp=Z,2.2nm,0.9s,baz=244,slow=5.1,SNR=5.6
NOA PKKPab PKKPab 10 03 32.8 -1.3
comp=Z,3.1nm,0.7s,baz=65,slow=4.5,SNR=16
NOA pPKKPab 10 04 07.0
comp=Z,3.2nm,0.8s,baz=66,slow=4.6,SNR=5.0
NOA NORSAR Array B 111.95 31 PKIKP PKiKP 09 52 31.5 -0.9
NOA 09 53 13.1
NOA NORSAR Array B 111.95 31 PKPdf PKiKP 09 52 31.5 -0.9
NOA PP PP 09 53 13.1 -4.8
NOA PKKPab PKKPab 10 03 32.8 -1.3
DAG Danmarks Havn 112.31 11⇑*iP* PP 09 53 14.8 -5.6
comp=Z,23nm,1.3s
CRVS Cervenica-Dubn 112.32 45 *e*PP PP 09 53 17.1 -3.4
CRVS SDIF Sdif 10 00 51.4 +3.2
CRVS *e*SS SS 10 08 40.0 -8.9
UZH Uzhgorod 112.73 46 *e*PKIKP PKiKP 09 52 51.0 +17
UZH *i* 10 02 48.0
ATD Arta Tunnel 112.92 90 SP SP 10 02 48.7 +3.9
comp=Z,2.4nm,0.3s,baz=39,slow=23,SNR=2.9
MLR Muntele Rosu 113.86 50⇓*iP* PKiKP 09 52 35.1 -1.0
KDAK Kodiak Island 113.95 324 SP SP 10 02 55.4 +1.2
comp=Z,6.7nm,0.8s,baz=74,slow=11,SNR=1.7
BURAR Bucovina Array 114.17 48⇑*iP* PKiKP 09 52 38.5 +1.9
LVV L'vov 114.22 45 *e*PKIKP PKiKP 09 52 49.7 +13
COLA College 114.51 332 *i* PKIKP PKiKP 09 52 35.0 -2.3
VRI Vrincioaia 114.51 50⇓*iP* PKiKP 09 52 37.5 +0.2
SUW Suwalki 115.19 41 PKIKP PKPdf 09 52 39.3 +0.7
NWAO Narrogin (SRO) 115.54 184 PKP PKPdf 09 52 38.3 -1.0
comp=Z,4.1nm,0.7s,baz=335,slow=4.6,SNR=3.9
KIS Kishinev 116.26 49 *e*PKIKP PKPdf 09 52 46.0 +5.3
KIS *e* 09 53 46.0
KIS *e*PS PS 10 03 12.0 -20
KIS MLR MLR
comp=Z,600nm,20.0s
KIS MLR MLR
comp=Z,500nm,20.0s
KLBR Kellerberrin 116.83 185 *e*PKP PKPdf 09 52 40.8 -1.0
comp=Z,38nm,1.6s
KLBR *es*PKP 09 53 18.6
ASF Jabal al Asfar 116.92 67 PKP PKPdf 09 52 41.9 -0.1
comp=Z,1.0nm,0.3s,baz=257,slow=2.7,SNR=3.7
ASF pPKP pPKPdf 09 53 19.3 -0.4
comp=Z,4.9nm,0.9s,baz=199,slow=2.7,SNR=3.1
ASF SP SP 10 03 18.2 -3.2
comp=Z,2.1nm,0.4s,baz=157,slow=6.7,SNR=3.2
BR131 Keskin Array S 117.15 58 *e*PKPdf PKPdf 09 52 42.4 0.0
BR131 *ep*PKPdf pPKPdf 09 53 19.4 -0.8
BRTR Keskin Array B 117.15 58 PKP PKPdf 09 52 41.6 -0.7
comp=Z,3.3nm,0.9s,baz=180,slow=4.7,SNR=10
BRTR pPKP pPKPdf 09 53 18.9 -1.3
comp=Z,6.7nm,0.9s,baz=197,slow=3.9,SNR=6.9
BRTR sPKP 09 53 33.4
comp=Z,6.6nm,0.9s,baz=215,slow=5.4,SNR=5.8
AKASG Malin Array Be 117.66 46 PKP PKPdf 09 52 40.9 -2.4
comp=Z,1.8nm,0.4s,baz=263,slow=2.8,SNR=23
AKASG pPKP pPKPdf 09 53 18.7 -2.4
comp=Z,9.2nm,0.7s,baz=264,slow=2.6,SNR=7.7
AKASG PKKPbc PKKPbc 10 03 04.4 -0.7
comp=Z,1.8nm,0.6s,baz=61,slow=4.3,SNR=6.6
AKASG Malin Array Be 117.66 46 PKIKP PKPdf 09 52 40.9 -2.5
AKASG 09 53 18.7
AKASG Malin Array Be 117.66 46 PKP PKPdf 09 52 40.9 -2.5
AKASG pPKP pPKPdf 09 53 18.7 -2.4
AKASG PKKPbc PKKPbc 10 03 04.4 -0.7
AKBB Malin Array Si 117.66 46 *e*PKIKP PKPdf 09 52 41.3 -2.1
AKBB *e* 09 53 19.3
MNK Minsk 117.94 41 *e*PKIKP PKPdf 09 52 41.0 -2.9
TRO Tromso 118.04 23 *e*PP PP 09 53 55.0 -5.6
TRO *e* 09 59 29.4
TRO *e* 10 01 35.0
TRO *e*SS SS 10 10 04.8 +1.0
VSU Vasula 118.41 37⇑*i*PKIKP PKPdf 09 52 44.8 0.0
FINES FINESS Array B 118.83 33 PKP PKPdf 09 52 44.0 -1.6
comp=Z,3.4nm,0.7s,baz=188,slow=0.8,SNR=28
FINES pPKP pPKPdf 09 53 20.0 -3.4
comp=Z,4.8nm,0.8s,baz=119,slow=2.4,SNR=4.5
FINES PKKPbc PKKPbc 10 02 59.7 -1.2
comp=Z,1.5nm,0.5s,baz=112,slow=4.5,SNR=16
FINES pPKKPbc 10 03 36.3
comp=Z,2.7nm,0.9s,baz=92,slow=14,SNR=3.5
FINES FINESS Array B 118.83 33 PKIKP PKPdf 09 52 44.0 -1.6
FINES 09 53 20.0
FINES FINESS Array B 118.83 33 PKP PKPdf 09 52 44.0 -1.6
FINES pPKP pPKPdf 09 53 20.0 -3.4
FINES PKKPbc PKKPbc 10 02 59.7 -1.2
KBS Kingsbay 118.86 13 *e* PP 09 53 53.1 -13
KBS *e* 10 02 49.3
KBS *e*SS SS 10 10 12.8 -1.5
KAF Kangasniemi 119.10 32 *e*pkp PKPdf 09 52 44.2 -1.9
CTA Charters Tower 119.32 216 *e*PKP PKPdf 09 52 46.7 +0.1
comp=Z,3.7nm,0.6s
CTA *es*PKP 09 53 22.9
CTA Charters Tower 119.32 216 SP SP 10 03 41.2 -1.7
comp=Z,12nm,1.2s,baz=177,slow=3.3,SNR=3.0
MALT Malatya 120.22 61 *e*PKIKP PKPdf 09 52 48.4 +0.1
ARCES ARCESS Array B 120.27 24 PKP PKPdf 09 52 47.0 -1.4
comp=Z,3.1nm,0.7s,baz=258,slow=4.1,SNR=11
ARCES PKKPbc PKKPbc 10 02 55.6 0.0
comp=Z,6.4nm,0.8s,baz=81,slow=4.4,SNR=16
PUL Pulkovo 120.51 36⇑*i*PKIKP PKPdf 09 52 50.1 +1.3
ASAR Alice Springs 121.33 203 Pdiff Pdif 09 49 23.8 +5.9
comp=Z,0.3nm,0.7s,baz=166,slow=4.2,SNR=3.3
ASAR PKP PKPdf 09 52 49.8 -0.7
comp=Z,8.7nm,0.5s,baz=138,slow=1.7,SNR=86
ASAR pPKP pPKPdf 09 53 26.8 -1.4
comp=Z,14nm,0.8s,baz=152,slow=2.2,SNR=8.5
ASAR SKP 09 56 11.8
comp=Z,4.8nm,0.7s,baz=142,slow=1.9,SNR=4.7
ASAR PKKPbc PKKPbc 10 02 50.9 -0.9
comp=Z,3.8nm,0.8s,baz=340,slow=3.4,SNR=12
ASAR PKKP PKKPdf 10 03 26.4 +0.6
comp=Z,1.2nm,0.7s,baz=344,slow=3.4,SNR=2.7
ASAR SP SP 10 04 00.9 0.0
comp=Z,1.4nm,1.1s,baz=355,slow=3.8,SNR=2.4
ASAR Alice Springs 121.33 203 PKIKP PKPdf 09 52 49.8 -0.6
ASAR 09 53 26.8
ASAR SP SP 10 04 00.9 0.0
ASAR pmax pmax
comp=Z,9.0nm,0.5s
AS31 Alice Springs 121.33 203 *e*PKPdf PKPdf 09 52 49.2 -1.2
ANN Anapa 121.36 54 *i* PKIKP PKPdf 09 52 48.8 -1.7
ANN *e* 09 59 36.6
ANN pmax pmax
comp=Z,65nm,1.7s
JOF Joensuu 121.53 32 *ep*kp PKPdf 09 52 49.3 -1.5
APA Apatity 122.92 27⇓*i*PKIKP PKPdf 09 52 53.5 0.0
APA *i* 09 53 29.8
APA *i* 09 53 44.0
APA *i* PS PS 10 04 18.0 -13
APA pmax pmax
comp=Z,23nm,1.0s
OBN Obninsk 123.00 42*c i*PKIKP PKPdf 09 52 53.6 0.0
OBN *i* 09 53 29.5
OBN *i* 09 54 34.9
OBN *e*PPS 10 05 49.7
OBN *i* SS SS 10 11 02.0 -5.2
OBN pmax pmax
comp=Z,59nm,1.1s
OBN MLR MLR
comp=Z,600nm,22.0s
OBN Obninsk 123.00 42 *e*PKPdf PKPdf 09 52 53.5 -0.1
MSL Mosul 123.14 65 *ex* x 09 53 01.5
MSL *ex* x 09 59 52.0
BHD Baghdad 123.22 69 *ex* x 09 52 52.0
BHD *ex* x 09 59 41.0
LVZ Lovozero 123.41 26 *i* PKIKP PKPdf 09 52 49.8 -4.6
LVZ Lovozero 123.41 26⇑*e*PKP PKPdf 09 52 53.0 -1.4
MOS Moscow 123.69 41 *e*PKIKP PKPdf 09 52 55.0 0.0
MOS *i* 09 53 31.3
MOS *e* 09 54 37.7
MOS *e*SS SS 10 11 12.0 -3.9
MOS pmax pmax
comp=Z,77nm,1.2s
VRSR Storozhevoye 123.91 47 *i* PKIKP PKPdf 09 52 55.9 +0.5
VRSR pmax pmax
comp=Z,30nm,1.1s
VRSR pmax pmax
comp=N,5.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VORD Divnogorie 123.93 47 *i* PKIKP PKPdf 09 52 54.9 -0.5
VORD pmax pmax
comp=E,20nm,1.3s
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.9s
WB2 Warramunga Arr 124.62 205 *e*PKP PKPdf 09 52 56.2 -0.5
WB2 *es*PKP 09 53 33.3
WB2 *e* 09 55 22.2
WB2 *e*SKP 09 56 16.3
WB2 *e*SKS SKSdf 09 59 45.3 -10
WB2 *e*SDIFF Sdif 10 02 28.7 -2.0
WRA Warramunga Arr 124.62 205 Pdiff Pdif 09 49 38.1 +5.5
comp=N,0.3nm,0.9s,baz=136,slow=5.6,SNR=2.6
WRA PKP PKPdf 09 52 56.2 -0.6
comp=N,27nm,0.4s,baz=166,slow=1.6,SNR=206
WRA pPKP pPKPdf 09 53 32.8 -1.7
comp=N,32nm,0.8s,baz=162,slow=1.6,SNR=6.8
WRA SKP 09 56 18.7
comp=N,7.0nm,0.8s,baz=171,slow=2.0,SNR=4.7
WRA PKKPbc 10 02 38.2
comp=N,2.7nm,1.0s,baz=341,slow=4.5,SNR=9.7
WRA SKKPbc 10 06 12.3
comp=N,2.2nm,0.9s,baz=350,slow=5.8,SNR=6.3
WRA Warramunga Arr 124.62 205 P Pdif 09 49 38.1 +5.5
WRA 09 52 56.2
WRA 09 53 32.8
WRA *e* 10 06 12.3
WRAB Tennant Creek 124.63 205 *e*PKIKP PKPdf 09 52 56.5 -0.3
WRAB *e* 09 53 33.0
KIV Kislovodsk 124.82 56 *e*PKIKP PKPdf 09 52 58.2 +1.1
KIV *e* 09 53 33.9
KIV Kislovodsk 124.82 56 *e*PKPdf PKPdf 09 52 58.2 +1.1
KIV *ep*PKPdf pPKPdf 09 53 33.9 -1.0
ZEI Tsey 125.42 57 *e*PKIKP PKPdf 09 52 58.6 +0.3
GNI Garni 125.43 61 PKP PKPdf 09 52 57.7 -0.6
comp=N,7.2nm,0.7s
MBWA Marble Bar 126.98 188 *e*PKPdf PKPdf 09 53 01.2 -0.1
MAK Makhachkala 128.06 58 *e*P Pdif 09 49 45.1 -2.8
MAK *i* 09 53 01.8
MAK *i* 09 55 05.5
MAK *e*PPP 09 57 54.0
MAK *e*PS PS 10 05 15.7 -0.6
MAK *e*SSS 10 16 58.6
MAK pmax pmax
comp=Z,228nm,1.5s
FITZ Fitzroy Crossi 128.94 196 *e*PKP PKPdf 09 53 05.1 +0.1
comp=Z,25nm,0.6s
FITZ *es*PKP 09 53 43.2
FITZ *e*SKP 09 56 13.5
FITZ *e*SKKS SKKSac 10 01 54.1 -2.8
FITZ *e*SKKP 10 06 00.2
KAKA Kakadu 131.97 206 *e*SKP 09 56 23.1
KAKA *e* 09 57 25.3
BILL Bilibino 132.55 336⇑*i*PKIKP PKPdf 09 53 12.5 +0.7
SOKR Solikamsk 133.86 36 *e*PKIKP PKPdf 09 53 15.3 +1.0
SOKR pmax pmax
comp=Z,20nm,1.2s
ARU Arti 135.37 40 *i* PKIKP PKPdf 09 53 18.3 +1.2
ARU *e* 09 53 54.3
ARU *e* 09 55 53.0
ARU MLR MLR
comp=N,200nm,20.0s
ARU MLR MLR
comp=E,400nm,20.0s
ARU MLR MLR
comp=Z,400nm,20.0s
ARU Arti 135.37 40 *e*PKPdf PKPdf 09 53 18.2 +1.1
ARU *ep*PKPdf pPKPdf 09 53 55.5 +0.6
AKTK Aktyubinsk 135.75 49 *i* PKP PKPdf 09 53 16.9 -0.9
AKTO Aktyubinsk 135.75 49 PP PP 09 55 56.4 -1.0
comp=Z,11nm,1.0s,baz=273,slow=11,SNR=4.5
AKTO SKP 09 56 36.9
comp=Z,11nm,1.0s,baz=283,slow=2.8,SNR=4.7
AKTO Aktyubinsk 135.75 49 *i* PKIKP PKPdf 09 53 16.9 -0.9
SVE Sverdlovsk 136.42 39 *i* PKIKP PKPdf 09 53 17.5 -1.6
SVE *e* 10 06 04.0
SVE *i* 10 13 49.0
SVE *e*SS SS 10 14 28.0 +36
SVE pmax pmax
comp=Z,56nm,2.5s
SVE MLR MLR
comp=N,100nm,17.0s
SVE MLR MLR
comp=E,200nm,17.0s
SVE MLR MLR
comp=Z,600nm,17.0s
AB31 Akbulak array 137.07 50 *i* PKIKP PKPdf 09 53 20.1 -0.2
TIXI Tiksi 139.12 352⇑*i*PKIKP PKPdf 09 53 25.7 +1.7
SEY Seymchan 140.02 333⇑*i*PKIKP PKPdf 09 53 23.8 -1.9
SEY Seymchan 140.02 333 *i* P PKPdf 09 53 23.9 -1.8
PET Petropavlovsk 140.91 317 *e*PKHKP 09 53 17.3
PET *i* 09 53 26.3
PET *e* 09 54 04.6
PET *i* 09 56 30.3
PET *e*SS SS 10 15 31.8 +47
ZRNK Zerenda 142.06 43 *e*PKIKP PKPdf 09 53 27.0 -2.3
ZRNK *e* 09 54 07.3
ZRNK Zerenda 142.06 43 *e*PKPdf PKPdf 09 53 27.0 -2.4
ZRNK *ep*PKPdf pPKPdf 09 54 07.3 +0.2
ZRNK *e*SKPdc SKPdc 09 56 55.4 +1.7
KAD Karad 142.21 103 *e*P PKPdf 09 53 27.6 -2.0
KAD *ex* x 09 55 12.4
MA2 Magadan 142.45 329*d i*PKHKP 09 53 24.6
MA2 *i* 09 56 39.2
MA2 *e*PPS 10 08 56.0
MA2 *e*SS SS 10 14 57.3 -5.4
MA2 pmax pmax
comp=Z,70nm,1.0s
MA2 Magadan 142.45 329 *i* PKPr PKPdf 09 53 31.3 +1.3
POO Poona 142.52 101⇓*iP* PKPdf 09 53 29.0 -1.1
comp=Z,50nm,1.0s
CHKZ Chkalovo 142.77 41 *e*PKIKP PKPdf 09 53 26.8 -3.8
CHKZ *e* 09 54 04.4
CHKZ Chkalovo 142.77 41 *e*PKPdf PKPdf 09 53 26.8 -3.8
CHKZ *ep*PKPdf pPKPdf 09 54 04.4 -4.0
CHKZ *e*SKPdf SKPdf 09 56 56.1 +4.3
BRVK Borovoye 142.77 42 *e*P PKPdf 09 53 27.0 -3.6
BRVK *e*PKPdf PKPdf 09 53 32.0 +1.4
BVA0 Borovoye Array 142.84 42 *i* PKIKP PKPdf 09 53 30.7 0.0
BVA0 pmax pmax
comp=Z,8.0nm,1.5s
BVAR Borovoye Array 142.84 42 PKP PKPdf 09 53 26.8 -3.9
comp=Z,3.3nm,0.4s,baz=278,slow=1.6,SNR=13
BVAR pPKP pPKPdf 09 54 05.5 -3.0
comp=Z,10nm,0.8s,baz=222,slow=2.0,SNR=3.9
BVAR PP PP 09 56 40.3 -0.7
comp=Z,2.7nm,0.9s,baz=276,slow=33,SNR=2.0
SKR Severo-Kuril's 143.01 314 *e*PKHKP 09 53 22.0
SKR *e*S PP 09 56 42.0 0.0
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s
VOSK Vostochnaya 143.28 43 PKIKP PKPdf 09 53 28.3 -3.2
VOSK pmax pmax
comp=Z,31nm,1.2s
JASL Jaisalmer 143.28 87 *e*P PKPdf 09 53 29.2 -2.3
LATR Latur 144.72 103 *e*P PKPdf 09 53 31.6 -2.4
MDRS Chennai 144.78 114 *ex* x 09 53 32.9
KK31 Karatay Array 144.86 59 *i* PKIKP PKPdf 09 53 32.7 -1.5
KKAR Karatay Array 144.86 59 PKIKP PKPdf 09 53 32.6 -1.6
KKAR pmax pmax
comp=Z,25nm,0.9s
GUMO Guam 145.55 246 PKPbc PKPbc 09 53 35.7 -0.2
comp=Z,246nm,0.6s,baz=176,slow=9.2,SNR=37
GUMO pPKPbc pPKPbc 09 54 13.0 0.0
comp=Z,330nm,1.0s,baz=180,slow=9.8,SNR=4.9
GUMO Guam 145.55 246 PKPbc PKPbc 09 53 35.7 -0.2
GUMO pPKPbc pPKPbc 09 54 13.0 0.0
HYB Hyderabad 145.86 107⇑*iP* PKPdf 09 53 37.0 +1.0
comp=Z,590nm,1.0s
HYB *ep*PKP pPKPdf 09 54 12.0 -1.8
HYB *es*PKP 09 54 27.0
HYB *e*PP PP 09 57 00.0 +1.0
HYB *ep*PP 09 57 34.0
HYB *e*SKKS SKKSac 10 03 34.0 -3.4
HYB *e*PPS 10 09 42.0
HYB *e*SS SS 10 15 44.0 +2.3
HYB Hyderabad 145.86 107⇑*eP* PKPdf 09 53 37.0 +1.0
HYB *e* 09 54 14.0
AKL Akola 146.16 100 *e*P PKPdf 09 53 36.5 +0.1
AKL *i* x x 09 54 13.4
AJM Ajmer 146.32 89 *e*P PKPdf 09 53 37.3 +0.5
AJM *i* x x 09 54 13.0
AML Almayashu 147.28 60 P PKPbc 09 53 41.4 +0.5
SNR=16
EKS2 Erkin-Say 147.29 59 P PKPbc 09 53 41.7 +0.8
SNR=87
BHPL Bhopal 147.56 96 *e*P PKPdf 09 53 40.0 +1.2
USP Ospenovka 147.74 58 P PKPbc 09 53 42.0 -0.2
SNR=69
KHET Khetri 147.78 87 *e*P PKPdf 09 53 38.5 -0.7
YAK Yakutsk 147.81 345*c i*PKIKP PKPdf 09 53 38.4 -0.8
YAK *i* 09 53 42.5
YAK Yakutsk 147.81 345 *e*PKPbc PKPbc 09 53 40.9 -1.4
AAK Ala-Archa 147.82 59 P PKPbc 09 53 41.8 -0.5
SNR=96
AAK Ala-Archa 147.82 59⇓*P* PKPdf 09 53 41.0 +1.7
SNR=81
AAK Ala-Archa 147.82 59 *e*PKPdf PKPdf 09 53 39.3 +0.1
AAK *e*PKPbc PKPbc 09 53 42.0 -0.3
FRU Bishkek 147.88 59⇑*iPKP2* PKPbc 09 53 42.5 0.0
FRU *e* 09 57 10.0
FRU pmax pmax
comp=Z,420nm,1.8s
CHMS Chumysh 147.96 59 P PKPbc 09 53 44.5 +1.8
SNR=47
NGP Nagpur 148.06 101 *e*P PKPdf 09 53 39.9 +0.2
KBK Karagaybulak 148.15 59 P PKPbc 09 53 46.0 +2.8
SNR=34
KUDL Kundal 148.38 87 *e*P PKPdf 09 53 40.9 +0.7
KZA Kyzart 148.44 60 P PKPbc 09 53 46.5 +2.6
SNR=7.0
TKM2 Tokmak 2 148.59 59 P PKPdf 09 53 41.1 +0.6
SNR=38
TKM2 Tokmak 2 148.59 59 PKIKP PKPdf 09 53 42.2 +1.7
TKM2 pmax pmax
comp=Z,94nm,1.0s
THN Thein Dam 148.63 79 *e*P PKPdf 09 53 41.0 +0.4
NVS Novosibirsk 148.82 34 *i* PKIKP PKPdf 09 53 40.8 -0.1
NVS pmax pmax
comp=N,51nm,1.1s
NVS pmax pmax
comp=Z,210nm,1.1s
NVS pmax pmax
comp=E,73nm,1.3s
DLH Dalhousie 148.86 79 *ex* PKPab 09 53 51.0 +1.7
DLH *ex* x 09 54 21.0
SONA Sohna 148.91 87 *e*P PKPdf 09 53 41.3 +0.3
AYAN Aya Nagar 149.01 87 *e*P PKPdf 09 53 41.7 +0.6
BHK Bhakra 149.05 81 *ex* PKPab 09 53 50.0 -0.1
BHK *ex* x 09 54 24.2
KGM Kluang 149.08 161 P PKPbc 09 53 45.8 +0.2
NDI New Delhi 149.14 86 *e*P PKPdf 09 53 43.2 +1.8
NDI *ex* x 09 54 20.0
ULHL Ulahol 149.15 60 P PKPdf 09 53 44.1 +2.7
SNR=52
KSH Kashi 149.21 65 PKP PKPdf 09 53 44.6 +3.1
KSH *e*PKS 09 57 18.3
KSH LR LR
comp=N,272nm,6.0s
KSH LR LR
comp=E,340nm,4.9s
KSH LR LR
comp=Z,286nm,5.4s
SDNR Sundarnagar 149.53 81 *ex* PKPbc 09 53 44.8 -1.9
SDNR *ex* x 09 54 24.0
SMLA Simla 149.63 82 *e*P PKPdf 09 53 42.1 -0.1
SMLA *ex* x 09 54 29.8
JBP Jabalpur 149.70 98⇓*ix* PKPbc 09 53 47.3 +0.2
JBP *ex* x 09 53 50.5
comp=Z,317nm,1.9s
KSM Kuching 149.79 175 *e*PKPbc PKPbc 09 53 47.8 +0.5
VIS Vishakhapatnam 149.88 111 *ex* x 09 53 47.2
VIS AMS AMS 10 17 16.2
comp=E,703nm,15.4s
ZAL Zalesovo 150.10 34 PKP PKPdf 09 53 43.0 +0.1
comp=E,24nm,0.3s,baz=207,slow=1.7,SNR=18
ZAL PKPbc PKPbc 09 53 47.6 -0.5
comp=E,83nm,0.8s,baz=195,slow=2.8,SNR=136
ZAL pPKPbc pPKPbc 09 54 24.5 -1.1
comp=E,153nm,1.0s,baz=202,slow=2.4,SNR=11
DDI Dehra Dun 150.22 84 *ex* PKPbc 09 53 49.0 +0.6
DDI *ex* x 09 54 25.4
KLP Kalpa 150.61 81 *e*P PKPdf 09 53 45.2 +1.5
IPM Ipoh 150.68 155 P PKPbc 09 53 50.2 +0.8
KULM Kulim 151.30 154 *e*PKPdf PKPdf 09 53 45.8 +1.1
KULM *e*PKPbc PKPbc 09 53 50.9 0.0
YUK Yuzh-Kuril'sk 151.40 305 *e*PKIKP PKPbc 09 53 50.0 -1.1
YUK pmax pmax
comp=Z,2μm,2.5s
LGTI Lohaghat 151.90 86 *i* x x 09 54 13.0
LGTI *ex* x 09 54 50.0
MKAR Makanchi Array 152.19 48 PKP PKPdf 09 53 46.6 +0.5
comp=Z,5.5nm,0.9s,baz=254,slow=15,SNR=2.9
MKAR PKPbc PKPbc 09 53 52.2 -0.7
comp=Z,74nm,0.9s,baz=329,slow=2.1,SNR=9.7
MKAR pPKPbc pPKPbc 09 54 29.7 -0.8
comp=Z,144nm,0.9s,baz=310,slow=2.8,SNR=9.4
MKAR PP PP 09 57 35.0 -0.7
comp=Z,10.0nm,1.0s,baz=258,slow=5.6,SNR=2.1
YSS Yuzh-Sakhalins 152.55 312 *i* PKIKP PKPdf 09 53 44.0 -2.6
YSS *e* 09 54 18.0
YSS *e* 09 57 37.0
YSS pmax pmax
comp=Z,700nm,7.0s
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=E,80nm,1.0s
YSS pmax pmax
comp=Z,150nm,1.0s
YSS Yuzh-Sakhalins 152.55 312 *e*PKPdf PKPdf 09 53 46.4 -0.2
YSS *e*PKPbc PKPbc 09 53 52.8 -0.9
YSS *e*PKPab PKPab 09 54 06.1 +1.4
SNG Songkhla 153.01 152 P PKPbc 09 53 55.0 +0.3
comp=Z,172nm,0.8s
CLNS Chul'man 153.56 345 *e*PKIKP PKPdf 09 53 48.3 +0.2
CLNS pmax pmax
comp=N,29nm,0.9s
CLNS pmax pmax
comp=Z,43nm,0.9s
CLNS pmax pmax
comp=E,18nm,1.1s
ASAJ Asahikawa 153.64 306 PKP PKPdf 09 53 46.9 -1.4
comp=E,10nm,0.9s,baz=218,slow=9.3,SNR=9.0
ASAJ PKPbc PKPbc 09 53 55.8 -0.3
comp=E,14nm,0.3s,baz=278,slow=4.1,SNR=53
ASAJ PKPab PKPab 09 54 09.0 -0.3
comp=E,28nm,0.9s,baz=314,slow=27,SNR=5.6
ASAJ PP PP 09 57 44.6 +0.7
comp=E,25nm,1.2s,baz=355,slow=4.7,SNR=4.7
ASAJ Asahikawa 153.64 306 PKIKP PKPdf 09 53 46.9 -1.3
ASAJ 09 54 09.0
ASAJ 09 57 44.6
ASAJ pmax pmax
comp=Z,10.0nm,0.9s
ERM Erimo 153.81 302 *e*PKPbc PKPbc 09 53 57.2 +0.7
ERM *e*PKPab PKPab 09 54 12.9 +2.9
BOD Bodaibo 153.92 359 *e*PKIKP PKPdf 09 53 46.2 -2.4
BOD pmax pmax
comp=Z,56nm,1.2s
KOLN Koldanda 154.33 91 *e*P PKPdf 09 53 51.2 +2.0
BOK Bokaro 154.90 102 *e*P PKPdf 09 53 50.0 0.0
GKN Gorkha 155.28 91 *e*P PKPdf 09 53 50.9 +0.4
comp=Z,62nm,1.1s
DMN Daman 155.57 93 *e*P PKPdf 09 53 52.9 +2.0
KKN Kakani 155.77 92 *e*P PKPdf 09 53 52.8 +1.7
PKI Pulchoki 155.82 93 *e*P PKPdf 09 53 51.7 +0.5
comp=Z,96nm,1.5s
GUN Gumba 156.31 92 *e*P PKPdf 09 53 53.7 +1.8
comp=Z,116nm,1.3s
HABR Khabarovsk 156.32 321⇓*i*PKIKP PKPdf 09 53 50.2 -1.7
HABR *e* 10 00 47.1
CAL Calcutta 156.37 107 *e*P PKPdf 09 53 50.9 -1.0
CAL AMP 09 53 54.0
comp=Z,919nm,0.3s
CAL *ex* x 09 57 56.2
WMQ Urumqi 156.85 52 PKP PKPdf 09 53 52.9 +0.3
WMQ PKP2 PKPab 09 54 25.0 +2.0
WMQ PKS 09 57 25.0
WMQ PP PP 09 58 04.5 +2.8
WMQ SKS SKSdf 10 00 47.0 +1.6
WMQ PPP 10 01 43.0
WMQ SKKS SKKSac 10 04 41.0 +3.6
WMQ SS SS 10 17 46.0 +3.2

WMQ				PP	PP		
	comp=Z,328nm,7.4s						
WMQ				LR	LR		
	comp=N,830nm,17.0s						
WMQ				LR	LR		
	comp=E,842nm,21.0s						
WMQ				LR	LR		
	comp=Z,1µm,28.8s						
KLR	**Kul'dur**	**157.49**	**326**	*e*	PKPab	09 54 22.2	-3.6
KLR				*e*		10 17 39.5	
KLR				*e*		10 18 41.5	
MOY	**Mondy**	**158.28**	**20**	*e*PKIKP	PKPdf	09 53 55.2	+0.9
MOY				pmax	pmax		
	comp=Z,89nm,2.7s						
MJAR	**Matsushiro Arr**	**158.50**	**290**	PKP	PKPdf	09 53 54.9	+0.3
	comp=Z,4.6nm,1.1s,baz=224,slow=0.8,SNR=9.1						
MJAR				PKPab	PKPab	09 54 30.2	+0.1
	comp=Z,35nm,0.8s,baz=101,slow=2.4,SNR=31						
MJAR				pPKPab	pPKPab	09 55 05.5	-1.1
	comp=Z,22nm,0.7s,baz=90,slow=3.6,SNR=5.3						
MJAR				PP	PP	09 58 11.4	+0.6
	comp=Z,3.1nm,1.1s,baz=105,slow=3.3,SNR=3.1						
MJAR	**Matsushiro Arr**	**158.50**	**290**	PKIKP	PKPdf	09 53 54.9	+0.3
MJAR						09 54 30.3	
MJAR						09 58 11.4	
MAJO	**Matsushiro**	**158.50**	**290**	*e*PKP2	PKPab	09 54 30.4	+0.2
MAT	**Matsushiro**	**158.50**	**290**	PKP	PKPdf	09 53 53.8	-0.8
IRK	**Irkutsk**	**158.58**	**15**	*e*PKIKP	PKPdf	09 53 55.6	+0.9
IRK				*e*		09 54 30.1	
IRK				pmax	pmax		
	comp=Z,71nm,3.8s						
TLY	**Talaya**	**158.97**	**16**	*e*PKIKP	PKPdf	09 53 54.3	-0.8
TLY				*e*		09 54 31.9	
TLY				*e*		09 58 13.8	
TLY				pmax	pmax		
	comp=Z,21nm,1.3s						
TLY	**Talaya**	**158.97**	**16**	*e*PKPdf	PKPdf	09 53 55.6	+0.4
TLY				*e*PKPab	PKPab	09 54 33.1	+0.9
CIT	**Chita**	**159.74**	**359**	*e*PKP2	PKPab	09 54 34.4	-1.2
ZAK	**Zakamensk**	**160.07**	**18**	*e*PKIKP	PKPdf	09 53 57.8	+1.4
ZAK				*e*		09 54 35.9	
ZAK				pmax	pmax		
	comp=Z,60nm,1.2s						
NST	**Nakhon Sawan**	**160.23**	**141**	P	PKPab	09 54 34.5	-3.2
	comp=Z,79nm,1.0s						
SHL	**Shillong**	**160.60**	**103**	*e*x	x	09 54 35.0	
SHL				*e*x	x	09 58 24.0	
VLA	**Vladivostok**	**161.14**	**312**	*ce*PKIKP	PKPdf	09 53 56.0	-1.6
VLA				*e*		09 54 34.0	
VLA				*e*		09 54 40.0	
VLA				*e*		09 58 23.0	
VLA				*e*		10 00 47.3	
VLA				pmax	pmax		
	comp=Z,49nm,2.3s						
LSA	**Lhasa**	**161.23**	**91**	*e*PKIKP	PKPdf	09 54 00.6	+2.9
MDJ	**Mudanjiang**	**161.66**	**319**	PKP	PKPdf	09 53 58.3	+0.2
MDJ				PP	PP	09 58 27.8	0.0
MDJ				SS	SS	10 18 36.3	+2.7
MDJ				LR	LR		
	comp=N,1µm,30.3s						
MDJ				LR	LR		
	comp=E,1µm,31.8s						
MDJ				LR	LR		
	comp=Z,1µm,28.2s						
CHG	**Chiang Mai**	**162.02**	**132**	⇑P	PKPdf	09 54 00.7	+2.2
	comp=Z,17nm,1.1s						
CHTO	**Chiang Mai**	**162.02**	**132**	⇓P	PKPdf	09 54 01.0	+2.5
	SNR=5.0						
CHTO	**Chiang Mai**	**162.02**	**132**	*e*PKPdf	PKPdf	09 53 59.8	+1.3
CHTO				*e*PKPab	PKPab	09 54 45.6	+0.1
SONM	**Songino Array**	**163.20**	**15**	PKP	PKPdf	09 53 59.3	-0.4
	comp=Z,3.4nm,1.1s,baz=248,slow=1.3,SNR=20						
SONM				pPKP	pPKPdf	09 54 35.8	-1.8
	comp=Z,3.9nm,0.8s,baz=270,slow=1.1,SNR=3.7						
SONM				PKPab	PKPab	09 54 50.9	+0.2
	comp=Z,16nm,1.0s,baz=336,slow=4.9,SNR=14						
SONM				pPKPab	pPKPab	09 55 26.7	-0.3
	comp=Z,8.2nm,0.8s,baz=332,slow=3.9,SNR=3.4						
SONM				PP	PP	09 58 36.0	+0.1
	comp=Z,2.3nm,1.1s,baz=49,slow=18,SNR=3.7						
SONM	**Songino Array**	**163.20**	**15**	PKIKP	PKPdf	09 53 59.3	-0.3
SONM						09 54 35.8	
SONM						09 54 50.9	
SONM						09 58 36.0	
ULN	**Ulaanbaatar**	**163.31**	**14**	*i* PKIKP	PKPdf	09 54 00.3	+0.5
CN2	**Changchun**	**164.41**	**324**	*e*PKP	PKPdf	09 54 01.8	+1.0
CN2				PKP2	PKPab	09 54 58.9	+2.9
CN2				PP	PP	09 58 46.0	+3.7
CN2				SS	SS	10 19 07.0	+5.1
GTA	**Gaotai**	**166.93**	**51**	PKP	PKPdf	09 54 04.8	+2.0
GTA				PKP2	PKPab	09 55 07.1	-0.1
GTA				PKS		09 57 35.8	
GTA				PP	PP	09 58 54.8	-0.5
GTA				SKS	SKSdf	10 00 55.9	+2.4
GTA				SKKS	SKKSac	10 05 28.9	-0.2
GTA				SS	SS	10 19 24.3	-3.3
GTA				PP	PP		
	comp=Z,788nm,6.1s						
GTA				LR	LR		
	comp=N,378nm,21.8s						
GTA				LR	LR		
	comp=E,368nm,22.5s						
GTA				LR	LR		
	comp=Z,723nm,35.9s						
QIZ	**Qiongzhong**	**167.04**	**167**	PKP	PKPdf	09 54 03.5	+0.6
QIZ				PP	PP	09 58 59.0	+3.1
QIZ				SS	SS	10 19 30.8	+2.1
QIZ				LR	LR		
	comp=E,444nm,44.2s						
QIZ				LR	LR		
	comp=Z,2µm,47.1s						
QIZ	**Qiongzhong**	**167.04**	**167**	*e*PKPdf	PKPdf	09 54 04.4	+1.5
QIZ				*e*pPKPdf	pPKPdf	09 54 42.7	+1.8
KMI	**Kunming**	**168.92**	**124**	PKP	PKPdf	09 54 06.5	+2.3
KMI				PKP2	PKPab	09 55 16.1	+0.1
KMI				PP	PP	09 59 05.8	+0.3
KMI				SKKS	SKKSac	10 05 40.4	+1.4
KMI				PP	PP		
	comp=Z,424nm,8.7s						
KMI				LR	LR		
	comp=N,519nm,29.1s						
KMI				LR	LR		
	comp=E,474nm,20.1s						
KMI				LR	LR		
	comp=Z,832nm,32.8s						
DL2	**Dalian**	**169.89**	**317**	PKP	PKPdf	09 54 02.8	-2.0
DL2				PKP2	PKPab	09 55 21.5	+1.2
DL2				PP	PP	09 59 11.9	+1.6
DL2				PP	PP		
	comp=Z,1µm,5.9s						
HHC	**Hu-ho-hao-te**	**170.86**	**6**	*e*PKP	PKPdf	09 54 05.1	-0.2
HHC				PKP2	PKPab	09 55 25.6	+1.0
HHC				PKS		09 57 36.4	
HHC				PP	PP	09 59 14.9	-0.3
HHC				SKS	SKSdf	10 00 57.3	+1.8
HHC				SS	SS	10 20 08.3	+1.6
HHC				LR	LR		
	comp=N,323nm,6.3s						
HHC				LR	LR		
	comp=E,231nm,5.5s						
HHC				LR	LR		
	comp=Z,513nm,18.6s						
BJI	**Beijing**	**171.30**	**343**	PKP	PKPdf	09 54 06.4	+0.9
BJI				PKP2	PKPab	09 55 25.9	-0.6
BJI				SKKS	SKKSac	10 05 48.3	-2.3
BJI				PP	PP		
	comp=Z,1µm,7.0s						
LZH	**Lanzhou**	**171.36**	**58**	*e*PKP	PKPdf	09 54 08.0	+2.4
LZH				PP	PP	09 59 20.0	+2.4
LZH				SKKS	SKKSac	10 05 51.0	+0.2
LZH				*e*SS	SS	10 20 15.0	+3.4
LZH				PP	PP		
	comp=Z,760nm,5.5s						
LZH				LR	LR		
	comp=E,2µm,18.0s						
LZH				LR	LR		
	comp=Z,3µm,20.0s						
QZH	**Quanzhou**	**171.54**	**218**	PKP	PKPdf	09 54 05.3	-0.3
QZH				PP	PP	09 59 20.5	+1.9
QZH				SS	SS	10 20 16.4	+3.0
CD2	**Chengdu**	**172.17**	**94**	*e*PKP	PKPdf	09 54 04.0	-1.9
CD2				PKP2	PKPab	09 55 30.0	-0.4
CD2				PP	PP	09 59 21.5	-0.2
CD2				SKS	SKSdf	10 00 55.8	-0.2
CD2				SKKS	SKKSac	10 05 57.5	+2.7
CD2				SS	SS	10 20 20.5	+1.0
CD2				PP	PP		
	comp=Z,90nm,9.5s						
CD2				LR	LR		
	comp=E,1µm,25.8s						
CD2				LR	LR		
	comp=Z,600nm,21.8s						
GYA	**Guiyang**	**172.44**	**133**	PKP	PKPdf	09 54 07.6	+1.5
GYA				PKP2	PKPab	09 55 31.0	-0.6
GYA				PKS		09 57 38.8	
GYA				PP	PP		
	comp=Z,1µm,12.0s						
GYA				LR	LR		
	comp=N,42µm,21.0s						
GYA				LR	LR		
	comp=E,82µm,20.0s						
GYA				LR	LR		
	comp=Z,42µm,21.0s						
SSE	**Sheshan**	**172.85**	**267**	PKP	PKPdf	09 54 06.4	+0.2
SSE				PP	PP	09 59 28.0	+3.0
SSE				SS	SS	10 20 31.3	+5.2
SSE				PP	PP		
	comp=Z,435nm,11.6s						
SSE				LR	LR		
	comp=N,248nm,22.8s						
SSE				LR	LR		
	comp=E,873nm,22.7s						
SSE				LR	LR		
	comp=Z,1µm,25.6s						
TIA	**Tai'an**	**174.31**	**323**	*e*PKP	PKPdf	09 54 08.4	+1.6
NJ2	**Nanjing**	**174.89**	**275**	*e*PKP	PKPdf	09 54 08.3	+1.4
NJ2				PKP2	PKPab	09 55 45.5	+3.1
NJ2				PP	PP	09 59 39.0	+4.1
NJ2				SKS	SKSdf	10 01 00.0	+3.2
NJ2				SKKS	SKKSac	10 06 14.0	+6.3
NJ2				SS	SS	10 20 50.0	+4.2
NJ2				PP	PP		
	comp=Z,2µm,8.4s						
NJ2				LR	LR		
	comp=N,5µm,24.8s						
NJ2				LR	LR		
	comp=E,6µm,24.2s						
NJ2				LR	LR		
	comp=Z,3µm,25.0s						
XAN	**Xi'an**	**175.98**	**54**	PKP	PKPdf	09 54 08.3	+1.1
XAN				PP	PP		
	comp=Z,393nm,11.7s						
XAN				LR	LR		
	comp=N,221nm,22.6s						
XAN				LR	LR		
	comp=E,352nm,23.5s						
XAN				LR	LR		
	comp=Z,469nm,28.9s						

IDC 17 10:09:12.5±21.0**,393N**×**12726E,h0**km**,mb3.7**/4**, mb1 3.9**/4**,mb1mx3.6**/18**,mbtmp3.8**/4**,MS3.9**/1**,Ms1 3.9**/1**, ms1mx2.9**/35**,Error ellipse: s-maj=357.0km s-min=101.2km az=148.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.85**	**60**	LR	LR	10 19 23.9	
	comp=Z,398nm,21.4s,baz=17,slow=31						
FITZ	**Fitzroy Crossi**	**21.95**	**184**	*e*P	P	10 14 08.2	+0.6
	3.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.95**	**184**	P	P	10 14 07.8	+0.2
	1.2nm,0.4s,baz=349,slow=12,SNR=13						
WRA	**Warramunga Arr**	**24.72**	**164**	P	P	10 14 35.5	+0.2
	1.4nm,0.4s,baz=344,slow=9.6,SNR=25						
WB2	**Warramunga Arr**	**24.72**	**164**	*e*P	P	10 14 35.4	0.0
ASAR	**Alice Springs**	**28.18**	**167**	P	P	10 15 06.7	+0.1
	0.4nm,0.5s,baz=343,slow=7.1,SNR=9.5						
STKA	**Stephens Creek**	**38.13**	**160**	P	P	10 16 34.0	+0.8
	0.6nm,0.3s,baz=0.0,slow=9.1,SNR=3.1						

---

*ISCJB **17** 10:15:59.5±0.7,3373N±003×3693E±005,h10km±6km, Error ellipse: s-maj=6.8km s-min=4.4km az=44.2*
*NSSC **17** 10:15:59.7,3371N×3697E,h11km±2km*
*CSEM **17** 10:15:59.4±0.1,3377N×3688E,h2km,Mc1.8,Error ellipse: s-maj=3.2km s-min=1.7km az=91.0*
*GRAL **17** 10:16:00.0±1.2,3384N×3655E,h116km±27km,MD3.3*
ISC 17 10:15:59.8±0.7**,3372N**±003×**3694E**±005**,h13**km±6km**,n16, σ0**^{s}**98**/28**,10D,Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARH	**Ras Al Marh**	**0.49**	**308**	⇑P	**Pg**	**10 16 09.0**	**-0.4**
MARH				⇑S	**Sg**	**10 16 17.1**	**+1.2**
MARH	**Ras Al Marh**	**0.49**	**308**	⇑*i*P	**Pg**	**10 16 09.0**	**-0.4**
ROOS	**tl_alroos**	**0.53**	**33**	⇓P	**Pg**	**10 16 10.6**	**+0.4**
ROOS				⇓S	**Sg**	**10 16 17.6**	**+0.4**
ROOS	**tl_alroos**	**0.53**	**33**	⇓*i*P	**Pg**	**10 16 10.6**	**+0.4**
TOTH	**TOTAH**	**0.56**	**230**	⇓P	**Pg**	**10 16 11.1**	**+0.4**
TOTH				⇓S	**Sg**	**10 16 19.1**	**+0.9**
TOTH	**TOTAH**	**0.56**	**230**	⇓*i*P	**Pg**	**10 16 11.1**	**+0.3**
QASN	**Qassioun**	**0.59**	**251**	⇑P	**Pg**	**10 16 11.2**	**-0.1**
QASN				⇑S	**Sg**	**10 16 20.9**	**+1.8**
QASN	**Qassioun**	**0.59**	**251**	⇑*i*P	**Pg**	**10 16 11.2**	**-0.1**
RCY	**Rachaya**	**0.97**	**256**	*e*Pg	**Pg**	**10 16 17.6**	**-0.9**
RCY				*e*Sg	**Sg**	**10 16 32.6**	**+1.5**
HWQ	**Hawqa**	**1.00**	**304**	*e*Pg	**Pg**	**10 16 18.2**	**-0.8**
HWQ				*e*Sg	**Sg**	**10 16 31.1**	**-1.0**
SALA	**Sala**	**1.02**	**190**	⇑P	**Pb**	**10 16 18.4**	**-1.0**
SALA				⇑S	**Sg**	**10 16 32.6**	**-0.3**
BHL	**Bhannes**	**1.09**	**280**	*e*Pg	**Pg**	**10 16 19.3**	**-1.5**
BHL				*e*Sg	**Sg**	**10 16 32.1**	**-2.9**
BIDA	**Albida**	**1.39**	**338**	⇑P	**Pn**	**10 16 24.8**	**-0.1**
BIDA				⇑S	**Sn**	**10 16 43.6**	**+0.5**
BIDA	**Albida**	**1.39**	**338**	⇑*i*P	**Pn**	**10 16 24.8**	**-0.1**
BIDA				⇑*i*S	**Sn**	**10 16 43.6**	**+0.5**
WRDH	**Warideh**	**1.83**	**346**	⇓P	**Pn**	**10 16 31.6**	**+0.6**
WRDH				⇓S	**Sn**	**10 16 54.4**	**+0.2**
WRDH	**Warideh**	**1.83**	**346**	⇓*i*P	**Pn**	**10 16 31.6**	**+0.6**
WRDH				⇓*i*S	**Sn**	**10 16 54.4**	**+0.3**

---

*ISCJB **17** 10:18:24.3±1.3,339N±03×379W±02,h10km,mb3.7/9, Error ellipse: s-maj=36.9km s-min=20.6km az=10.3*
*IDC **17** 10:18:24.4±1.5,3386N×3792W,h0km,mb3.7/9,mb1 3.9/9, mb1mx3.7/27,mbtmp3.7/9,Error ellipse: s-maj=43.1km s-min=23.7km az=5.0*
*NEIC **17** 10:18:25.8±0.9,3383N×3791W,h10km,Error ellipse: s-maj=27.6km s-min=15.5km az=186.0*
ISC 17 10:18:26.3±1.3**,339N**±03×**379W**±02**,h10**km**,n12,**σ**0**^{s}**43**/11**, mb3.7**/9**,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NOA	**NORSAR Array B**	**41.39**	**34**	P	**P**	**10 26 12.8**	**+0.2**
	1.4nm,0.7s,mb3.7,baz=254,slow=8.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**41.42**	**110**	P	**P**	**10 26 12.9**	**0.0**
	0.4nm,0.8s,mb3.1,baz=323,slow=6.4,SNR=2.2						
FINES	**FINESS Array B**	**48.50**	**35**	P	**P**	**10 27 09.0**	**-0.3**
	1.3nm,0.7s,mb4.1,baz=270,slow=5.7,SNR=5.8						
AKASG	**Malin Array Be**	**50.62**	**49**	P	**P**	**10 27 24.9**	**-0.5**
	1.1nm,0.7s,mb3.9,baz=275,slow=7.1,SNR=7.7						
AKASG	**Malin Array Be**	**50.62**	**49**	P	**P**	**10 27 24.9**	**-0.6**
PDAR	**Pinedale Array**	**55.37**	**302**	P	**P**	**10 28 00.0**	**-0.4**
	0.3nm,0.8s,mb3.4,baz=83,slow=7.6,SNR=4.0						
NVAR	**Mina Array Bea**	**63.09**	**300**	P	**P**	**10 28 54.4**	**+0.4**
	0.3nm,0.6s,mb3.6,baz=60,slow=4.3,SNR=4.0						
AKTK	**Aktyubinsk**	**68.14**	**43**	P	**P**	**10 29 27.0**	**+0.5**
AKTO	**Aktyubinsk**	**68.14**	**43**	P	**P**	**10 29 27.0**	**+0.5**
	2.1nm,0.7s,mb4.3,baz=286,slow=4.4,SNR=7.8						
BVAR	**Borovoye Array**	**73.43**	**37**	P	**P**	**10 29 59.1**	**+0.4**
	1.1nm,0.7s,mb3.9,baz=297,slow=4.5,SNR=6.2						
MKAR	**Makanchi Array**	**83.31**	**37**	P	**P**	**10 30 52.7**	**-0.6**
	0.2nm,0.2s,mb3.7,baz=270,slow=7.2,SNR=3.6						
ASAR	**Alice Springs**	**167.50**	**37**	PKPab	PKPab	10 39 37.7	-0.6
	0.6nm,1.0s,baz=345,slow=4.3,SNR=4.4						

---

*ISCJB **17** 10:25:54.9±1.1,472N±02×1489E±03,h490km±20km, mb3.4/3,Error ellipse: s-maj=47.3km s-min=17.5km az=102.8*
*IDC **17** 10:25:56.0±26.0,48.12N×14859E,h423km±329km, mb3.2/3,mb1 3.2/4,mb1mx2.8/20,mbtmp3.9/4,MS4.1/1, Ms1 4.1/1,ms1mx3.3/12,Error ellipse: s-maj=359.1km s-min=178.8km az=97.0*
ISC 17 10:25:56.7±1.1**,472N**±03×**1486E**±03**,h496**km±21km**,n21, σ1**^{s}**34**/28**,mb3.4**/3**,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.33**	**209**	P	**P**	**10 27 16.2**	**-1.3**
NEM2				*e*S	**S**	**10 28 20.3**	**-3.1**
JTKR	**Abashiri--Toko**	**4.60**	**227**	P	**P**	**10 27 20.4**	**+0.5**
JTKR				*e*S	**S**	**10 28 28.0**	**+0.2**
JAK	**Akkeshi**	**5.02**	**215**	P	**P**	**10 27 23.4**	**-0.2**
JAK				*e*S	**S**	**10 28 32.9**	**-1.7**
JAR	**Ashorobuto**	**5.17**	**223**	P	**P**	**10 27 26.0**	**+1.0**
ASAJ	**Asahikawa**	**5.21**	**236**	P	**P**	**10 27 26.6**	**+1.3**
JOB	**Onbets**	**5.46**	**220**	P	**P**	**10 27 28.5**	**+0.9**
JOB				*e*S	**S**	**10 28 40.8**	**-1.1**
JCH	**Churui**	**5.90**	**221**	P	**P**	**10 27 32.4**	**+0.6**
JCH				*e*S	**S**	**10 28 46.5**	**-3.0**
JBT2	**Biratori 2**	**6.24**	**227**	*e*S	**S**	**10 28 54.7**	**-1.0**
JNBK	**Urakawa-nobuka**	**6.44**	**222**	P	**P**	**10 27 37.7**	**+0.6**
JNBK				*e*S	**S**	**10 28 54.5**	**-4.7**
JEM	**Erimo**	**6.47**	**219**	*e*S	**S**	**10 28 56.4**	**-3.4**
JKB	**Kayabe**	**7.57**	**228**	P	**P**	**10 27 50.7**	**+2.2**
JKB				*e*S	**S**	**10 29 19.6**	**-0.6**
JSH	**Shimam**	**7.58**	**236**	P	**P**	**10 27 50.4**	**+1.8**
JSH				*e*S	**S**	**10 29 20.0**	**-0.4**
JYM2	**Yakumo 2**	**7.75**	**232**	P	**P**	**10 27 53.5**	**+3.1**
JSR	**Shiriuchi**	**8.14**	**229**	P	**P**	**10 27 57.2**	**+2.8**
JTM	**Tenmabayashi**	**8.39**	**223**	*e*S	**S**	**10 29 36.9**	**+1.1**
MJAR	**Matsushiro Arr**	**13.14**	**220**	P	**P**	**10 28 55.6**	**+8.3**
	0.2nm,0.3s,baz=18,slow=12,SNR=4.7						
GUMO	**Guam**	**33.65**	**187**	LR	LR	10 44 02.0	
	comp=Z,348nm,21.0s,baz=74,slow=31						
ARCES	**ARCESS Array B**	**56.38**	**339**	P	**P**	**10 34 48.8**	**-1.3**
	2.3nm,0.8s,mb3.6,baz=30,slow=7.3,SNR=3.8						
JOF	**Joensuu**	**59.52**	**332**	*e*p	**P**	**10 35 10.1**	**-1.4**
FINES	**FINESS Array B**	**62.27**	**333**	P	**P**	**10 35 29.4**	**-0.2**
	1.2nm,0.6s,mb3.5,baz=44,slow=9.3,SNR=10						
NOA	**NORSAR Array B**	**66.75**	**339**	P	**P**	**10 35 57.6**	**-0.5**
	0.5nm,0.7s,mb3.3,baz=21,slow=5.1,SNR=2.4						

---

*IDC **17** 10:26:10.4±1.6,302S×12941E,h0km,mb3.9/4,mb1 4.1/6, mb1mx3.9/16,mbtmp3.9/6,ML3.6/2,MS3.8/1,Ms1 3.8/1, ms1mx2.9/25,Error ellipse: s-maj=108.5km s-min=21.9km az=75.0*
*NEIC **17** 10:26:11.3±0.8,292S×12989E,h10km,mb3.7/1,Error ellipse: s-maj=46.0km s-min=10.3km az=76.0*
*ISCJB **17** 10:26:14.3±3.3,30S±0.1×1299E±04,h51km±30km, mb4.0/3,Error ellipse: s-maj=64.6km s-min=14.8km az=148.9*
ISC 17 10:26:20.4±3.4**,32S**±01×**1298E**±04**,h93**km±33km**,n10, σ1**^{s}**14**/12**,mb3.8**/3**,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.37**	**195**	*e*P	**Pn**	**10 29 51.9**	**-0.1**
	5.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.37**	**195**	Pn	**Pn**	**10 29 51.8**	**-0.3**
	0.1nm,0.3s,baz=28,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**17.25**	**165**	P	**Pn**	**10 30 14.2**	**-1.0**
	0.3nm,0.3s,baz=344,slow=13,SNR=23						
WRA				S	**S**	**10 33 16.7**	**-11**
	0.0nm,0.3s,baz=326,slow=25,SNR=2.8						
WRA				LR	LR	10 37 08.1	
	comp=Z,312nm,20.9s,baz=140,slow=38						
WB2	**Warramunga Arr**	**17.25**	**165**	*e*P	**Pn**	**10 30 14.5**	**-0.8**
AS31	**Alice Springs**	**20.75**	**169**	*e*P	**P**	**10 30 56.1**	**+2.5**
ASAR	**Alice Springs**	**20.75**	**169**	P	**P**	**10 30 55.8**	**+2.2**
	2.9nm,0.4s,baz=349,slow=11,SNR=71						
ASAR				S	**S**	**10 34 39.0**	**-1.0**
	0.3nm,1.0s,baz=350,slow=22,SNR=2.3						
SONM	**Songino Array**	**54.77**	**341**	P	**P**	**10 35 40.4**	**0.0**
	0.2nm,0.4s,mb3.5,baz=134,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**64.94**	**326**	P	**P**	**10 36 50.3**	**+0.3**
	0.4nm,0.3s,mb3.7,baz=114,slow=7.5,SNR=5.5						
ZAL	**Zalesovo**	**68.08**	**333**	P	**P**	**10 37 09.3**	**-0.8**
	2.1nm,0.3s,mb4.4,baz=134,slow=6.9,SNR=5.3						
ZAL	**Zalesovo**	**68.08**	**333**	P	**P**	**10 37 09.3**	**-0.8**

---

*ISCJB **17** 10:36:55.9±0.6,3179S±005×6701W±007,h135km±8km, mb3.5/4,Error ellipse: s-maj=9.6km s-min=7.6km az=58.5*
*IDC **17** 10:36:55.6±1.2,3186S×6686W,h122km±13km,mb3.4/4, mb1 3.5/8,mb1mx3.4/19,mbtmp3.8/8,Error ellipse: s-maj=23.8km s-min=20.3km az=112.0*
*NEIC **17** 10:36:56.5±0.6,3183S×6694W,h132km±7km,mb4.3/1, Error ellipse: s-maj=9.8km s-min=8.0km az=111.0*
*GUC **17** 10:36:56.6±0.7,3172S×67.14W,h150km,ML4.3*
ISC 17 10:36:56.9±0.6**,3178S**±005×**6700W**±007**,h129**km±8km**, n34,**σ**0**^{s}**83**/48**,mb3.5**/4**,5C-5D,La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.07**	**279**	P	**Pn**	**10 37 20.9**	**+0.5**
	5.7nm,0.3s,baz=94,slow=7.6,SNR=1403						
CFAA				S	**Sn**	**10 37 38.0**	**-0.2**
	116nm,0.3s,baz=62,slow=9.3,SNR=297						
CFAA	**Coronel Fontan**	**1.07**	**279**	P	**Pn**	**10 37 20.9**	**+0.5**
CFAA				S	**Sn**	**10 37 38.0**	**-0.2**
MDZ	**Mendoza**	**1.92**	**234**	*e*P	**Pn**	**10 37 30.0**	**+0.2**
MDZ				*i*		10 37 46.7	
MDZ				*i* S	**Sn**	**10 37 54.1**	**-0.9**
JACH	**Jahuel**	**3.18**	**253**	*e*P	**Pn**	**10 37 46.5**	**+0.7**
FCH	**Farellones**	**3.18**	**240**	⇑*i*P	**Pn**	**10 37 46.4**	**+0.6**
FCH				*i* S	**Sn**	**10 38 25.0**	**+1.4**
FCH				AML	AML	10 38 27.2	
	comp=N,192nm,0.6s						
PTCH	**Petorca**	**3.38**	**261**	⇑*i*P	**Pn**	**10 37 48.2**	**-0.2**
PTCH				*i* S	**Sn**	**10 38 26.8**	**-1.3**
PTCH				AML	AML	10 38 29.3	
	comp=N,763nm,0.4s						
PTCH	**Petorca**	**3.38**	**261**	⇑*i*P	**Pn**	**10 37 48.2**	**-0.2**
PTCH				*i* S	**Sn**	**10 38 26.8**	**-1.3**
CLCH	**Cerro Calan**	**3.40**	**241**	⇓*i*P	**Pn**	**10 37 48.8**	**+0.2**
CLCH				*i* S	**Sn**	**10 38 28.6**	**0.0**
CLCH				AML	AML	10 38 38.5	
	comp=E,451nm,0.4s						
LMEL	**Las Melosas**	**3.40**	**232**	⇑*i*P	**Pn**	**10 37 49.3**	**+0.7**
LMEL				*i* S	**Sn**	**10 38 29.6**	**+0.9**
LMEL				AML	AML	10 38 31.2	
	comp=N,113nm,0.7s						
LMEL	**Las Melosas**	**3.40**	**232**	⇑*i*P	**Pn**	**10 37 49.3**	**+0.7**
LMEL				*i* S	**Sn**	**10 38 29.6**	**+0.9**
PEL	**Peldehue**	**3.40**	**245**	⇓*i*P	**Pn**	**10 37 48.5**	**-0.2**
PEL				*i* S	**Sn**	**10 38 28.4**	**-0.4**
PEL				AML	AML	10 38 31.4	
	comp=N,585nm,0.7s						
PEL	**Peldehue**	**3.40**	**245**	⇓*i*P	**Pn**	**10 37 48.5**	**-0.2**
PEL				*i* S	**Sn**	**10 38 28.4**	**-0.4**
CMCH	**Combarbala**	**3.48**	**279**	⇓*i*P	**Pn**	**10 37 49.5**	**-0.2**
CMCH				*i* S	**Sn**	**10 38 29.1**	**-1.4**
RCDM	**Rinconada Maip**	**3.64**	**241**	*e*P	**Pn**	**10 37 51.8**	**0.0**
RCDM				*i* S	**Sn**	**10 38 34.2**	**-0.1**
RCDM				AML	AML	10 38 36.6	
	comp=N,492nm,0.2s						
RCDM	**Rinconada Maip**	**3.64**	**241**	*e*P	**Pn**	**10 37 51.8**	**0.0**
RCDM				*i* S	**Sn**	**10 38 34.2**	**-0.1**
TLL	**Tololo Astrono**	**3.64**	**295**	*e*P	**Pn**	**10 37 52.7**	**+0.9**
TLL				*i* S	**Sn**	**10 38 34.4**	**0.0**
TLL				AML	AML	10 38 37.8	
	comp=N,352nm,0.6s						
TLL	**Tololo Astrono**	**3.64**	**295**	*e*P	**Pn**	**10 37 52.7**	**+0.9**
TLL				*i* S	**Sn**	**10 38 34.4**	**0.0**
CHCH	**Chadas Angostu**	**3.75**	**234**	*e*P	**Pn**	**10 37 53.6**	**+0.3**
TACH	**Talagante**	**3.81**	**240**	*e*P	**Pn**	**10 37 53.6**	**-0.4**
TACH				*i* S	**Sn**	**10 38 37.7**	**-0.7**
CACH	**El Canelo**	**3.82**	**231**	⇓*i*P	**Pn**	**10 37 54.8**	**+0.6**
TRQA	**Tornquist**	**7.50**	**148**	*e*Pn	**Pn**	**10 38 44.0**	**+0.5**
	comp=N,6.1nm,0.6s						
PLCA	**Paso Flores**	**9.38**	**197**	P	**Pn**	**10 39 05.5**	**-3.5**
	comp=N,0.1nm,0.3s,baz=63,slow=13,SNR=2.2						
CPUP	**Villa Florida**	**10.05**	**60**	P	**Pn**	**10 39 16.2**	**-1.6**
	comp=N,1.0nm,0.3s,baz=226,slow=13,SNR=7.7						
CPUP	**Villa Florida**	**10.05**	**60**	P	**Pn**	**10 39 16.2**	**-1.6**
LPAZ	**La Paz**	**15.46**	**356**	P	**Pn**	**10 40 29.4**	**+1.6**
	comp=N,0.4nm,0.3s,baz=170,slow=9.3,SNR=13						
SIV	**San Ignacio**	**16.62**	**20**	P	**Pn**	**10 40 42.4**	**+0.3**
	comp=N,0.4nm,0.3s,baz=198,slow=12,SNR=11						
SNAA	**Sanae**	**52.08**	**159**	P	**P**	**10 45 53.1**	**-0.3**
	comp=N,0.2nm,0.4s,mb3.1,baz=320,slow=15,SNR=5.0						
DBIC	**Dimbokro**	**70.44**	**69**	P	**P**	**10 47 55.0**	**-2.0**
	comp=N,4.4nm,0.9s,mb4.2,baz=227,slow=7.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**79.45**	**67**	P	**P**	**10 48 49.2**	**+0.3**

	comp=N,0.6nm,0.7s,mb3.3,baz=258,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**79.45**	**67**	P	**P**	**10 48 49.2**	**+0.3**
PDAR	**Pinedale Array**	**83.83**	**330**	P	**P**	**10 49 12.6**	**+0.7**
	comp=N,0.3nm,0.6s,mb3.2,baz=128,slow=5.8,SNR=3.1						
WRA	**Warramunga Arr**	**124.66**	**205**	PKP	PKPdf	10 55 40.1	-0.9
	comp=N,0.2nm,0.7s,baz=164,slow=1.9,SNR=5.4						
ZAL	**Zalesovo**	**150.05**	**34**	PKPbc	PKPbc	10 56 31.4	-0.7
	comp=N,0.7nm,0.3s,baz=244,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**152.11**	**49**	PKPbc	PKPbc	10 56 36.0	-1.0
	comp=N,0.3nm,0.3s,baz=275,slow=1.4,SNR=3.6						

*IDC **17** 10:51:47.0±0.8, 827S×15629E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.2/15, mbtmp4.1/9, ML3.8/1, Error ellipse: s-maj=28.3km s-min=22.3km az=147.0*
*NEIC **17** 10:51:51.8±0.6, 824S×15629E, h30km, Error ellipse: s-maj=18.1km s-min=14.0km az=199.0*
*ISCJB **17** 10:51:56.0±4.3, 84S±02×1562E±01, h77km±40km, mb3.9/8, Error ellipse: s-maj=34.5km s-min=17.3km az=125.5*
ISC 17 10:51:57.8±3.8**, 84S**±02×**1562E**±01**, h79**km±36km**, n14, σ0ˢ77**/14**, mb3.9**/8**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.85**	**106**	Pn	**Pn**	**10 52 46.6**	**-8.1**
	7.8nm,0.3s,baz=262,slow=4.6,SNR=3.0						
HNR				Sn	**Sn**	**10 53 38.8**	**+0.1**
	5.6nm,0.3s,baz=272,slow=9.2,SNR=2.2						
CTA	**Charters Tower**	**15.10**	**219**	Pn	**Pn**	**10 55 31.5**	**+5.0**
	0.2nm,0.3s,baz=28,slow=11,SNR=3.7						
CTA	**Charters Tower**	**15.10**	**219**	Pn	**Pn**	**10 55 31.5**	**+5.0**
DZM	**Mont Dzumac**	**16.81**	**145**	Pn	**Pn**	**10 55 47.8**	**-0.3**
	0.1nm,0.3s,baz=195,slow=23,SNR=3.1						
WRA	**Warramunga Arr**	**24.07**	**239**	P	**P**	**10 57 06.2**	**+0.6**
	8.2nm,0.8s,mb4.1,baz=64,slow=9.7,SNR=18						
AS31	**Alice Springs**	**26.20**	**232**	*e*P	**P**	**10 57 32.5**	**+7.5**
ASAR	**Alice Springs**	**26.20**	**232**	P	**P**	**10 57 25.0**	**0.0**
	1.3nm,0.9s,mb3.4,baz=59,slow=9.6,SNR=8.6						
VNDA	**Vanda**	**69.17**	**179**	P	**P**	**11 02 55.4**	**-0.4**
	1.8nm,1.0s,mb3.8,baz=338,slow=6.0,SNR=5.8						
SONM	**Songino Array**	**71.14**	**327**	P	**P**	**11 03 07.0**	**-0.8**
	1.5nm,0.8s,mb3.9,baz=134,slow=6.4,SNR=7.3						
MKAR	**Makanchi Array**	**85.22**	**319**	P	**P**	**11 04 25.6**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=96,slow=3.6,SNR=2.3						
YBH	**Yreka Blue Hor**	**88.94**	**48**	P	**P**	**11 04 42.1**	**-1.4**
	1.3nm,0.9s,mb4.0,baz=211,slow=5.9,SNR=2.7						
NVAR	**Mina Array Bea**	**91.65**	**52**	P	**P**	**11 04 56.8**	**+0.7**
	0.7nm,0.9s,mb3.9,baz=250,slow=5.4,SNR=6.2						
PDAR	**Pinedale Array**	**98.74**	**48**	P	**P**	**11 05 29.9**	**+1.5**
	0.5nm,0.9s,mb4.0,baz=232,slow=4.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**154.51**	**283**	PKPab	PKPab	11 12 05.1	+1.1
	1.1nm,1.0s,baz=61,slow=3.2,SNR=4.5						

CASC 17 10:53:57.6±3.0**, 1141N**×**8728W, h20**km±11km**, MD3.9, ML3.1, 7C-6D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.02**	**41**	⇓*e*P	Pb	10 54 17.5	+1.0
COPN				*e*S	Sb	10 54 30.8	+1.4
LEON	**Leon**	**1.07**	**21**	⇑*e*P	Pb	10 54 18.4	+1.1
LEON				*e*S	Sb	10 54 31.9	+1.0
MIRN	**Miramar**	**1.16**	**28**	⇓*e*P	Pn	10 54 18.4	-0.3
MIRN				*e*S	Sb	10 54 34.7	+1.1
XAVN	**Gruta Xavier**	**1.18**	**52**	⇓*e*P	Pn	10 54 18.1	-0.9
XAVN				*e*S	Sb	10 54 35.9	+1.7
TICN	**Ticuantepe**	**1.20**	**59**	⇑*e*P	Pn	10 54 18.6	-0.6
CNGN	**Cerro Negro**	**1.22**	**28**	⇑*e*P	Pn	10 54 18.4	-1.1
MOMJ	**Momotombo**	**1.23**	**36**	⇑*e*P	Pn	10 54 17.9	-1.6
TISN	**Laguna Tiscapa**	**1.23**	**53**	⇓*e*P	Pn	10 54 18.2	-1.3
MGAN	**Managua**	**1.25**	**54**	⇑*e*P	Pn	10 54 18.3	-1.6
MGAN				*e*S	Sb	10 54 34.4	-1.6
MGAN				*i*		10 54 35.2	
	comp=E,328nm,0.5s						
TELN	**Telica**	**1.26**	**20**	*e*P	Pn	10 54 19.3	-0.8
TELN				*e*S	Sn	10 54 37.4	+0.9
CRIN	**San Cristobal**	**1.30**	**10**	⇑*e*P	Pn	10 54 20.6	0.0
SSNN	**San Juan del S**	**1.40**	**95**	⇓*e*P	Pn	10 54 23.7	+1.7
SSNN				*e*S	Sn	10 54 42.1	+2.1
CONN	**Concepcion**	**1.62**	**84**	*e*P	Pn	10 54 23.3	-1.8
CNCH	**Conchagua**	**1.93**	**344**	*e*P	x	10 54 48.9	
CNCH				*e*S	x	10 55 14.2	
BLLM	**Bellamira**	**2.23**	**335**	*e*P	x	10 54 53.4	
BLLM				*e*S	x	10 55 22.8	
JCR	**Jicaral**	**2.63**	**126**	*e*P	Pn	10 54 41.8	+2.9
LCBS	**La Ceiba**	**2.78**	**323**	⇑*e*P	x	10 55 02.0	
LCBS				*e*S	x	10 55 37.7	
LFRS	**El Faro**	**2.81**	**322**	⇓*e*P	x	10 55 02.9	
LFRS				*e*S	x	10 55 36.2	
CGA2	**Cerro Gallo 2**	**3.09**	**116**	*e*P	Pn	10 54 46.3	+1.1
PRS1	**Puriscal**	**3.24**	**116**	*e*P	Pn	10 54 48.0	+0.7
SBLS	**San Blas**	**3.33**	**317**	*e*P	x	10 55 10.9	
SBLS				*e*S	x	10 55 53.5	
LCR2	**La Lucha 2**	**3.62**	**117**	*e*P	Pn	10 54 52.7	+0.2
BUS	**Buena Vista**	**3.92**	**118**	*e*P	Pn	10 54 56.8	+0.2

*ISCJB **17** 11:11:23.9±0.6, 4535N±003×849E±005, h24km±6km, Error ellipse: s-maj=6.0km s-min=4.3km az=79.2*
*LDG **17** 11:11:24.4±0.3, 4532N×872E, h20km, Ml2.2/11, Error ellipse: s-maj=7.1km s-min=3.5km az=100.0*
*ZUR **17** 11:11:26.7, 4562N×842E, h22km, ML2.0/5*
*ROM **17** 11:11:26.8±0.2, 4557N×847E, h10km, Md2.3/5, Ml1.8/2, Error ellipse: s-maj=3.8km s-min=2.2km az=164.0*
ISC 17 11:11:23.6±0.6**, 4534N**±003×**851E**±004**, h16**km±4km**, n30, σ1ˢ13**/46**, 1C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORO	**Oropa**	**0.47**	**308**	Pg	**Pg**	**11 11 34.1**	**+1.2**
ORO				Sg	**Sg**	**11 11 40.2**	**+1.1**
	124nm,0.2s						
MONC	**Moncucco Torin**	**0.49**	**237**	Pg	**Sg**	**11 11 39.6**	**-0.3**
	38nm,0.4s						
MUGIO	**Muggio**	**0.69**	**33**	Pg	**Pg**	**11 11 37.5**	**+0.5**
MUGIO				Sg	**Sg**	**11 11 46.3**	**+0.1**
MUGIO	**Muggio**	**0.69**	**33**	⇑*i*Pg	**Pg**	**11 11 37.5**	**+0.5**
	241nm,0.1s						
MMK	**Mattmark**	**0.80**	**332**	Pg	**Pg**	**11 11 38.2**	**-1.0**
MMK				Sg	**Sg**	**11 11 47.3**	**-2.5**
MMK	**Mattmark**	**0.80**	**332**	⇓*i*Pg	**Pg**	**11 11 38.1**	**-1.1**
	219nm,0.2s						
MMK				*e*Sg	**Sg**	**11 11 47.1**	**-2.7**
	219nm,0.2s						
MDI	**Monti di Nese**	**0.95**	**62**	Pg	**Pg**	**11 11 42.7**	**+0.7**
MDI				Sg	**Sg**	**11 11 56.2**	**+1.7**
DIX	**Grande Dixence**	**1.06**	**314**	*i* Pg	**Pg**	**11 11 39.5**	**-4.6**
	85nm,0.2s						
FUSIO	**Fusio**	**1.12**	**6**	*i* Pg	**Pg**	**11 11 43.6**	**-1.5**
	71nm,0.1s						
LPG	**La Plagne**	**1.25**	**278**	*e*Pn	**Pn**	**11 11 46.7**	**+0.4**
LPG				*e*Sn	**Sn**	**11 12 04.0**	**+1.2**
	8.3nm,0.2s						
LPL	**La Plagne**	**1.26**	**278**	*e*Pn	**Pn**	**11 11 47.4**	**+0.8**
LPL				*e*Sn	**Sn**	**11 12 04.0**	**+0.8**
	12nm,0.2s						
TUE	**Stuetta**	**1.27**	**27**	Pg	**Pg**	**11 11 47.3**	**-0.8**
TUE				Sg	**Sg**	**11 12 02.5**	**-2.2**
	17nm,0.4s						
SENIN	**Lac Senin**	**1.32**	**321**	*e*Pg	**Pg**	**11 11 43.2**	**-5.8**
	22nm,0.9s						
MBDF	**Montbardon**	**1.38**	**244**	*e*Pg	**Pg**	**11 11 49.2**	**-0.9**
MBDF				*e*Sn	**Sn**	**11 12 06.5**	**+0.5**
	5.0nm,0.3s						
SBF	**Sospel**	**1.67**	**208**	*e*Pn	**Pn**	**11 11 52.2**	**+0.1**
SBF				*e*Sn	**Sn**	**11 12 12.0**	**-1.2**
	5.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.91**	**258**	*e*P	**Pn**	**11 11 58.4**	**+3.0**
ORIF				*e*Sn	**Sn**	**11 12 19.6**	**+0.5**
	2.3nm,0.3s						
CABF	**La Chapelle**	**2.11**	**308**	*e*Pn	**Pn**	**11 11 59.4**	**+1.2**
CABF				*e*Sn	**Sn**	**11 12 23.7**	**-0.4**
	0.8nm,0.2s						
FRF	**La Foret Royal**	**2.23**	**217**	*e*Pn	**Pn**	**11 11 59.3**	**-0.5**
FRF				*e*Sn	**Sn**	**11 12 25.9**	**-1.1**
	2.3nm,0.3s						
LMR	**La Mourre**	**2.47**	**216**	*e*Sn	**Sn**	**11 12 31.5**	**-1.5**
	0.2nm,0.1s						
SMRF	**Simiane la Rot**	**2.50**	**238**	*e*Pn	**Pn**	**11 12 02.9**	**-0.7**
SMRF				*e*Sn	**Sn**	**11 12 32.8**	**-1.0**
	0.7nm,0.2s						
HINF	**Hinteralfeld**	**2.72**	**336**	*e*Pn	**Pn**	**11 12 06.4**	**-0.3**
VIVF	**Saint-Julien-l**	**2.76**	**261**	*e*Pn	**Pn**	**11 12 09.1**	**+2.0**
HAU	**Haudompre**	**3.05**	**332**	*e*Pn	**Pn**	**11 12 10.6**	**-0.5**
CDF	**Champ du Feu**	**3.18**	**345**	*e*Pn	**Pn**	**11 12 11.9**	**-1.1**
SMF	**Signal de Mont**	**3.50**	**293**	*e*Pn	**Pn**	**11 12 18.4**	**+1.0**
LOR	**Lormes**	**3.75**	**303**	*e*Pn	**Pn**	**11 12 21.7**	**+0.9**
LOR				*e*Sn	**Sn**	**11 13 02.7**	**-2.0**
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**3.87**	**294**	*e*Pn	**Pn**	**11 12 23.2**	**+0.8**
SSF	**Saint Saulge**	**3.87**	**298**	*e*Pn	**Pn**	**11 12 23.3**	**+0.8**
BGF	**Bois d'Agland**	**4.13**	**289**	*e*Pn	**Pn**	**11 12 27.0**	**+1.0**
TCF	**Toulx Ste Croi**	**4.50**	**284**	*e*Pn	**Pn**	**11 12 32.4**	**+1.3**
TCF				*e*Sn	**Sn**	**11 13 21.7**	**-1.5**
	0.3nm,0.2s						

IDC 17 11:19:42.6±6.0**, 1275N**×**14519E, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.7**/18**, mbtmp3.9**/3**, Error ellipse: s-maj=249.8km s-min=18.4km az=84.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.89**	**340**	Pn	Pn	11 20 01.4	-1.0
	31nm,0.3s,baz=134,slow=7.0,SNR=26						
GUMO				Sn	Sn	11 20 20.5	+4.5
	46nm,0.3s,baz=51,slow=23,SNR=14						
WRA	**Warramunga Arr**	**34.20**	**198**	P	P	11 26 30.0	+0.3
	0.9nm,0.7s,baz=20,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**37.84**	**197**	P	P	11 27 00.7	-0.3
	0.3nm,0.5s,baz=23,slow=10,SNR=9.4						
ZAL	**Zalesovo**	**62.49**	**325**	P	P	11 30 09.6	+1.8
	2.1nm,0.4s,baz=17,slow=15,SNR=3.2						

*ISCJB **17** 11:24:14.6±0.5, 2902N±004×1397E±02, h418km±7km, mb3.5/10, Error ellipse: s-maj=25.2km s-min=5.2km az=157.9*
*IDC **17** 11:24:14.7±0.9, 2900N×13953E, h397km±12km, mb3.2/9, mb1 3.3/12, mb1mx3.2/22, mbtmp3.9/12, Error ellipse: s-maj=28.5km s-min=11.3km az=80.0*
*NEIC **17** 11:24:14.8±1.2, 2903N×13953E, h400km±14km, mb3.9/2, Error ellipse: s-maj=25.7km s-min=9.6km az=82.0*
*JMA **17** 11:24:14.7±0.2, 2913N×14030E, h445km±3km, M3.7*
ISC 17 11:24:15.7±0.5**, 2911N**±004×**1399E**±02**, h416**km±8km**, n32, σ1ˢ20**/45**, mb3.5**/10**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.86**	**134**	P	**P**	**11 25 19.4**	**+0.3**
	34nm,0.3s,baz=314,slow=7.7,SNR=5.8						
CBIJ				S	**S**	**11 26 08.7**	**-1.7**
	106nm,0.3s,baz=291,slow=23,SNR=12						
CBIJ	**Chichi jima**	**2.86**	**134**	P	**P**	**11 25 19.1**	**+0.1**
CBIJ				S	**S**	**11 26 09.9**	**-0.4**
JHHJ	**Haha-jima-NKT**	**3.20**	**140**	P	**P**	**11 25 21.6**	**-0.1**
JHHJ				S	**S**	**11 26 14.3**	**-1.0**
JHJ2	**Mitsune**	**3.99**	**359**	P	**P**	**11 25 30.7**	**+2.0**
JHJ2				*e*S	**S**	**11 26 29.1**	**+1.2**
BSO3	**Boso 3**	**5.70**	**5**	P	**P**	**11 25 46.0**	**+0.3**
BSO3				*e*S	**S**	**11 26 58.8**	**-0.3**
BSO4	**Boso 4**	**5.88**	**4**	P	**P**	**11 25 47.3**	**-0.3**
BSO4				*e*S	**S**	**11 27 01.2**	**-1.3**
JOD2	**Odawara 2**	**6.17**	**354**	P	**P**	**11 25 51.7**	**+1.0**
JOD2				*e*S	**S**	**11 27 09.8**	**+1.5**
JNY	**Yasuok**	**6.46**	**345**	P	**P**	**11 25 55.6**	**+1.8**
JHU	**Hanno**	**6.74**	**356**	P	**P**	**11 25 57.0**	**+0.1**
JHU				*e*S	**S**	**11 27 17.4**	**-2.2**
JRY	**Ryogami san**	**6.94**	**353**	P	**P**	**11 25 59.9**	**+0.9**
JRY				*e*S	**S**	**11 27 22.5**	**-1.0**
JYT	**Yasato**	**7.10**	**2**	P	**P**	**11 26 00.9**	**0.0**
JYT				*e*S	**S**	**11 27 24.3**	**-2.6**
JAG	**Ashikaga**	**7.30**	**357**	P	**P**	**11 26 03.0**	**-0.1**
JAG				*e*S	**S**	**11 27 29.7**	**-1.2**
JHO	**Hitachi**	**7.50**	**4**	P	**P**	**11 26 06.3**	**+1.0**
JHO				*e*S	**S**	**11 27 33.5**	**-1.5**
MJAR	**Matsushiro Arr**	**7.54**	**350**	P	**P**	**11 26 04.7**	**-1.1**
	1.0nm,0.3s,baz=170,slow=11,SNR=9.0						
MAT	**Matsushiro**	**7.55**	**350**	S	**S**	**11 27 35.9**	**+0.1**
JFK	**Kawauchi**	**8.28**	**6**	P	**P**	**11 26 15.4**	**+1.6**
JFK				*e*S	**S**	**11 27 49.7**	**-1.1**
JMK	**Ichinoseki**	**9.88**	**6**	P	**P**	**11 26 34.4**	**+2.8**
ASAJ	**Asahikawa**	**15.14**	**8**	P	**P**	**11 27 31.9**	**+2.8**
	0.6nm,0.3s,baz=216,slow=17,SNR=5.9						
SONM	**Songino Array**	**31.86**	**315**	P	**P**	**11 30 04.2**	**-0.1**
	0.8nm,0.5s,mb3.3,baz=115,slow=9.3,SNR=5.2						
MKAR	**Makanchi Array**	**47.63**	**308**	P	**P**	**11 32 11.2**	**-1.0**
	0.5nm,0.3s,mb3.3,baz=93,slow=8.5,SNR=3.9						
FITZ	**Fitzroy Crossi**	**48.91**	**198**	*e*P	**P**	**11 32 22.1**	**+0.3**
	3.7nm,1.2s,mb3.6						
FITZ	**Fitzroy Crossi**	**48.91**	**198**	P	**P**	**11 32 21.7**	**-0.1**
	0.9nm,0.6s,mb3.3,baz=6.4,slow=7.6,SNR=6.1						
WB2	**Warramunga Arr**	**49.05**	**187**	*e*P	**P**	**11 32 22.5**	**-0.4**
WRA	**Warramunga Arr**	**49.05**	**187**	P	**P**	**11 32 22.6**	**-0.3**
	1.8nm,0.3s,mb3.9,baz=2.3,slow=7.9,SNR=109						
AS31	**Alice Springs**	**52.78**	**187**	*e*P	**P**	**11 32 50.0**	**-0.2**
ASAR	**Alice Springs**	**52.78**	**187**	P	**P**	**11 32 49.6**	**-0.6**
	0.7nm,0.4s,mb3.2,baz=2.0,slow=6.6,SNR=43						
ARU	**Arti**	**61.59**	**321**	*e*P	**P**	**11 33 46.4**	**-4.6**
	3.5nm,0.5s,mb4.2						
ARCES	**ARCESS Array B**	**70.97**	**340**	P	**P**	**11 34 49.5**	**-0.2**
	2.2nm,0.9s,mb3.7,baz=45,slow=9.0,SNR=2.8						
JOF	**Joensuu**	**72.38**	**333**	*e*p	**P**	**11 34 56.9**	**-1.1**
FINES	**FINESS Array B**	**75.24**	**333**	P	**P**	**11 35 14.2**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=66,slow=6.5,SNR=10						
AKASG	**Malin Array Be**	**79.79**	**323**	P	**P**	**11 35 38.8**	**-0.4**
	0.6nm,0.6s,mb3.4,baz=47,slow=4.6,SNR=4.1						
NVAR	**Mina Array Bea**	**80.86**	**51**	P	**P**	**11 35 48.2**	**+3.4**
	0.4nm,0.5s,mb3.4,baz=295,slow=6.6,SNR=6.1						

*ISCJB **17** 11:28:52.0±0.6, 39.16N±004×2182E±005, h3km±10km, Error ellipse: s-maj=7.7km s-min=5.1km az=67.0*
*THE **17** 11:28:52.7, 39.15N×2182E, h5km*
*NEIC **17** 11:28:52.3, 39.15N×2188E, h10km, MD3.1(ATH), After ATH.*
*ATH **17** 11:28:52.4, 39.14N×2188E, h11km±3km, MD3.1/5*
*CSEM **17** 11:28:53.0±0.1, 39.11N×2188E, h2km, MD3.1, Error ellipse: s-maj=1.6km s-min=1.2km az=105.0*
ISC 17 11:28:52.7±0.5**, 3913N**±004×**2184E**±005**, h14**km±8km**, n13, σ0ˢ87**/18**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.21**	**185**	*e*PG	**Pg**	**11 28 56.9**	**-0.5**
EVR				*e*SG	**Sg**	**11 29 00.9**	**+0.2**
AGG	**Agios Georgios**	**0.40**	**106**	*e*Pg	**Pg**	**11 29 00.0**	**-0.7**
JAN	**Janina**	**0.93**	**305**	*e*PB	**Pb**	**11 29 10.2**	**-0.3**
LKR	**Lokris**	**1.03**	**117**	*e*PB	**Pb**	**11 29 11.5**	**-0.7**
XOR	**Xorichti**	**1.08**	**77**	*e*Pg	**Pg**	**11 29 13.5**	**0.0**
XOR				*e*Sg	**Sg**	**11 29 28.9**	**+1.4**
LIT	**Litokhoron**	**1.09**	**27**	*e*Pg	**Pg**	**11 29 13.3**	**-0.4**
LIT				*e*Sg	**Sg**	**11 29 28.1**	**+0.1**
RLS	**Riolos of Patr**	**1.11**	**195**	*e*PG	**Pg**	**11 29 13.3**	**-0.8**
KZN	**Kozani**	**1.18**	**358**	*e*PN	**Pn**	**11 29 13.7**	**-1.0**
KZN				*e*SB	**Sb**	**11 29 31.0**	**+1.1**
KZN	**Kozani**	**1.18**	**358**	*e*Pb	**Pn**	**11 29 13.2**	**-1.5**
KZN				*e*Sb	**Sb**	**11 29 31.0**	**+1.1**
VLS	**Valsamata**	**1.36**	**226**	*e*PB	**Pb**	**11 29 19.4**	**+1.4**
VLS	**Valsamata**	**1.36**	**226**	*e*Pb	**Pg**	**11 29 20.5**	**+1.6**
KEK	**Kerkira**	**1.68**	**291**	*e*PN	**Pg**	**11 29 24.2**	**-0.8**
FNA	**Florina**	**1.69**	**348**	*e*Pb	**Pn**	**11 29 21.6**	**-0.2**

*HLW **17** 11:36:26.6, 3031N×3589E, h20km, Mb3.4*
*ISCJB **17** 11:36:29.7±1.9, 2995N±008×356E±01, h7km±9km, Error ellipse: s-maj=20.4km s-min=10.6km az=128.9*
*GII **17** 11:36:33.4±0.8, 2992N×3532E, h0km±2km, ML2.0/2*
ISC 17 11:36:31.2±1.9**, 2992N**±006×**356E**±01**, h11**km±8km**, n12, σ0ˢ85**/15**, 4C-1D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**0.47**	**284**	Pg	**Pg**	**11 36 40.2**	**-0.1**
AQBJ	**Aqaba**	**0.48**	**246**	Pg	**Pg**	**11 36 40.3**	**-0.3**
MBH	**Mount Berech**	**0.57**	**257**	Pg	**Pg**	**11 36 42.0**	**-0.3**
EIL	**Elat**	**0.58**	**245**	Pg	**Pg**	**11 36 42.2**	**-0.4**
PRNI	**Paran**	**0.64**	**312**	Pg	**Pg**	**11 36 44.6**	**+1.0**
PRNI				Sg	**Sg**	**11 36 52.5**	**+0.4**
HBST	**Basata**	**1.00**	**226**	⇓P	**Pg**	**11 36 50.8**	**+0.2**
HNKL	**Nakhl**	**1.37**	**271**	⇑P	**Pn**	**11 36 53.8**	**-2.3**
HNKL				S	**Sb**	**11 37 14.0**	**-0.2**
KZIT	**Kziot**	**1.40**	**315**	Pg	**Pg**	**11 36 58.1**	**0.0**
HDHB	**Dhahab**	**1.45**	**215**	⇑P	**Pn**	**11 36 57.1**	**-0.1**
HDHB	**Dhahab**	**1.45**	**215**	P	**Pn**	**11 36 57.1**	**-0.2**
	228nm,0.2s						
HKAT	**Jabal Katrina**	**1.95**	**225**	⇑P	**Pn**	**11 37 04.6**	**+0.4**
HKAT				S	**Sn**	**11 37 31.8**	**+3.1**
TR2		**2.22**	**227**	⇑P	**Pn**	**11 37 07.9**	**0.0**

*BJI **17** 11:47:50.9, 404N×9338E, h35km, mb4.5*
*IDC **17** 11:47:57.2±0.8, 5.14N×9359E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/24, mbtmp4.2/13, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=41.8km s-min=14.0km az=53.0*
*ISCJB **17** 11:48:01.4±3.9, 50N±01×935E±02, h46km±32km, mb4.3/19, Error ellipse: s-maj=38.2km s-min=12.7km az=124.9*
*NEIC **17** 11:48:01.5±0.7, 486N×9331E, h35km, mb4.7/3, Error ellipse: s-maj=23.8km s-min=10.3km az=53.0*
ISC 17 11:48:02.7±3.4**, 50N**±01×**935E**±02**, h40**km±29km**, n25, σ1ˢ05**/26**, mb4.3**/19**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.89**	**112**	Pn	**Pn**	**11 49 26.9**	**-0.5**
	3.3nm,0.3s,baz=313,slow=8.1,SNR=16						
PSI				Sn	**Sn**	**11 50 29.1**	**-4.6**
	2.0nm,0.3s,baz=133,slow=22,SNR=2.9						
PSI				LR	LR	11 51 47.8	
	comp=Z,179nm,18.1s,baz=38,slow=39						
PSI	**Prapat**	**5.89**	**112**	Pn	**Pn**	**11 49 26.9**	**-0.5**
PSI				Sn	**Sn**	**11 50 29.1**	**-4.6**
PSI				LR	LR	11 51 47.8	
CHTO	**Chiang Mai**	**14.71**	**21**	*e*P	**Pn**	**11 51 32.5**	**+4.5**
	8.9nm,1.0s						
KMI	**Kunming**	**21.88**	**23**	P	**P**	**11 52 53.8**	**+1.8**
KMI				AP		11 53 04.3	
KMI				XP	sP	11 53 08.5	+1.3
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
LSA	**Lhasa**	**24.63**	**355**	*e*P	**P**	**11 53 21.2**	**+1.9**
	comp=Z,11nm,0.6s,mb4.5						
GYA	**Guiyang**	**24.77**	**29**	*e*P	**P**	**11 53 20.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
XAN	**Xi'an**	**32.24**	**25**	P	**P**	**11 54 25.4**	**-1.7**
XAN				AP	pP	11 54 36.3	-2.0
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**39.20**	**127**	P	**P**	**11 55 25.5**	**-1.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=135,slow=22,SNR=5.3						
MKAR	**Makanchi Array**	**42.71**	**349**	P	**P**	**11 55 55.7**	**+0.1**
	comp=Z,2.8nm,0.6s,mb4.2,baz=166,slow=8.4,SNR=19						
MKAR	**Makanchi Array**	**42.71**	**349**	P	**P**	**11 55 55.7**	**+0.1**
SONM	**Songino Array**	**44.07**	**13**	P	**P**	**11 56 05.6**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=191,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**47.24**	**123**	P	**P**	**11 56 32.1**	**+0.4**
	comp=Z,11nm,0.6s,mb4.9,baz=301,slow=9.1,SNR=42						
WRAB	**Tennant Creek**	**47.24**	**123**	*e*P	**P**	**11 56 32.5**	**+0.8**
	comp=Z,20nm,0.8s,mb5.1						
ASAR	**Alice Springs**	**48.68**	**128**	P	**P**	**11 56 43.2**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.3,baz=304,slow=7.2,SNR=13						
ZAL	**Zalesovo**	**49.26**	**353**	P	**P**	**11 56 47.4**	**+0.1**
	comp=Z,3.0nm,0.4s,mb4.7,baz=310,slow=7.1,SNR=15						
BVAR	**Borovoye Array**	**51.46**	**342**	P	**P**	**11 57 03.7**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=144,slow=8.3,SNR=8.8						
STKA	**Stephens Creek**	**58.69**	**132**	P	**P**	**11 57 56.9**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=320,slow=14,SNR=4.9						
JOF	**Joensuu**	**73.11**	**335**	*e*p	**P**	**11 59 26.8**	**-2.0**
	comp=Z,4.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**74.90**	**333**	P	**P**	**11 59 39.0**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=90,slow=7.2,SNR=8.6						
KAF	**Kangasniemi**	**75.00**	**333**	*e*p	**P**	**11 59 39.1**	**-0.7**
	comp=Z,2.8nm,0.5s,mb4.5,baz=106,slow=5.5						
ARCES	**ARCESS Array B**	**77.69**	**341**	P	**P**	**11 59 54.9**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=7.6						
ARCES	**ARCESS Array B**	**77.69**	**341**	P	**P**	**11 59 54.9**	**-0.2**
GERES	**GERESS Array B**	**79.48**	**319**	P	**P**	**12 00 06.9**	**+2.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=96,slow=4.0,SNR=6.3						
NOA	**NORSAR Array B**	**81.86**	**331**	P	**P**	**12 00 17.0**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=94,slow=5.4,SNR=2.8						
CPUP	**Villa Florida**	**144.95**	**230**	PKPbc	PKPdf	12 07 36.8	+1.4
	comp=Z,1.3nm,0.6s,baz=54,slow=4.1,SNR=5.8						

*LDG **17** 11:49:14.5±0.3, 1377S×16670E, h10km, Mb5.1/3, Error ellipse: s-maj=40.1km s-min=8.9km az=85.0*
*ISCJB **17** 11:49:16.2±0.6, 14.14S±005×1667E±01, h33km, mb4.7/21, MS3.8/10, Error ellipse: s-maj=15.0km s-min=7.1km az=158.1*
*BJI **17** 11:49:17.4, 14.10S×16680E, h50km, mB5.4, mb4.7*
*IDC **17** 11:49:19.7±2.6, 14.13S×16677E, h53km±21km, mb4.2/12, mb1 4.3/14, mb1mx4.2/19, mbtmp4.5/14, ML4.3/2, MS3.9/11, Ms1 3.9/11, ms1mx3.6/23, Error ellipse: s-maj=23.5km s-min=14.8km az=88.0*
*NEIC **17** 11:49:19.5±1.6, 1408S×16677E, h50km±13km, mb4.7/7, Error ellipse: s-maj=14.1km s-min=9.7km az=79.0*
ISC 17 11:49:18.5±1.7**, 1411S**±006×**1668E**±01**, h36**km±13km**, h39**km±4.4km**:pP-P, n89, σ0ˢ95**/37**, mb4.7**/21**, MS3.8**/10**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.93**	**182**	*e*P	**Pn**	**11 51 12.0**	**+0.8**
DZM				*e*S	**Sn**	**11 52 38.5**	**-1.1**
DZM	**Mont Dzumac**	**7.93**	**182**	P	**Pn**	**11 51 12.4**	**+1.2**
	1.7nm,0.3s,baz=86,slow=17,SNR=23						
DZM				S	**Sn**	**11 52 38.9**	**-0.7**
	0.8nm,0.3s,baz=154,slow=22,SNR=2.4						
HNR	**Honiara**	**8.12**	**304**	P	**Pn**	**11 51 14.7**	**+0.8**
	8.7nm,0.3s,baz=345,slow=0.8,SNR=5.1						
HNR				S	**Sn**	**11 52 42.2**	**-2.3**
	4.5nm,0.3s,baz=104,slow=4.5,SNR=2.0						
HNR				LR	LR	11 54 03.6	
	comp=Z,603nm,20.8s,baz=178,slow=35						
CTA	**Charters Tower**	**20.47**	**250**	P	**P**	**11 53 54.7**	**+1.7**
	9.2nm,0.8s,baz=70,slow=14,SNR=5.9						
CTA				LR	LR	12 00 10.7	
	comp=Z,278nm,21.9s,MS3.6,baz=270,slow=32						
RAO	**Raoul Island**	**20.70**	**139**	LR	LR	12 00 02.3	
	comp=Z,160nm,21.2s,MS3.4,baz=120,slow=31						
AFI	**Afiamalu**	**20.83**	**92**	LR	LR	12 00 06.8	
	comp=Z,313nm,19.7s,MS3.7,baz=274,slow=31						
STKA	**Stephens Creek**	**29.03**	**228**	*e*P	**P**	**11 55 16.6**	**+1.6**
	5.7nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**29.03**	**228**	P	**P**	**11 55 16.2**	**+1.2**
	4.9nm,0.4s,mb4.6,baz=46,slow=7.5,SNR=20						
STKA				LR	LR	12 06 46.9	
	comp=Z,468nm,18.7s,MS4.1,baz=30,slow=36						
RPZ	**Rata Peaks**	**29.74**	**174**	LR	LR	12 04 11.2	
	comp=Z,266nm,20.1s,MS3.9,baz=14,slow=30						
WB2	**Warramunga Arr**	**31.49**	**255**	*e*P	**P**	**11 55 36.9**	**+0.1**
WRA	**Warramunga Arr**	**31.50**	**255**	P	**P**	**11 55 36.5**	**-0.4**
	1.4nm,0.7s,mb3.9,baz=86,slow=9.3,SNR=18						
WRA				LR	LR	12 07 13.7	
	comp=Z,170nm,21.7s,MS3.7,baz=105,slow=34						
AS31	**Alice Springs**	**32.44**	**248**	*e*P	**P**	**11 55 44.7**	**-0.4**
ASAR	**Alice Springs**	**32.44**	**248**	P	**P**	**11 55 44.6**	**-0.4**
	3.4nm,0.6s,mb4.3,baz=74,slow=9.4,SNR=50						
ASAR				PcP	PcP	11 58 28.9	-2.8
	0.9nm,0.6s,baz=73,slow=1.8,SNR=4.5						
ASAR				ScP	ScP	12 02 10.2	-2.4
	0.5nm,0.8s,baz=81,slow=2.3,SNR=3.0						
ASAR				LR	LR	12 07 59.1	
	comp=Z,217nm,19.3s,MS3.9,baz=268,slow=34						
GUMO	**Guam**	**35.03**	**321**	LR	LR	12 09 34.3	
	comp=Z,83nm,19.7s,MS3.5,baz=243,slow=35						
FITZ	**Fitzroy Crossi**	**39.65**	**259**	*e*P	**P**	**11 56 47.3**	**+0.6**
	6.6nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**39.65**	**259**	P	**P**	**11 56 47.1**	**+0.3**
	2.1nm,0.7s,mb4.0,baz=128,slow=7.2,SNR=6.6						
FITZ				LR	LR	12 13 05.7	
	comp=Z,255nm,19.2s,MS4.1,baz=266,slow=36						
NWAO	**Narrogin (SRO)**	**48.65**	**238**	P	**P**	**11 57 58.1**	**-0.7**
	9.8nm,1.0s,mb4.8,baz=32,slow=12,SNR=6.5						
MJAR	**Matsushiro Arr**	**57.12**	**333**	P	**P**	**11 59 00.1**	**-1.2**
	8.0nm,0.8s,mb4.8,baz=165,slow=7.9,SNR=20						
MAJO	**Matsushiro**	**57.13**	**333**	*e*P	**P**	**11 59 00.8**	**-0.6**
	7.6nm,0.8s,mb4.8						
MAT	**Matsushiro**	**57.13**	**333**	P	**P**	**11 59 00.6**	**-0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**61.99**	**340**	P	**P**	**11 59 35.4**	**+0.5**
	baz=214,slow=3.6						
VNDA	**Vanda**	**63.47**	**181**	P	**P**	**11 59 44.1**	**-0.7**
	2.2nm,0.6s,mb4.4,baz=5.9,slow=6.2,SNR=21						
SBA	**Scott Base**	**63.76**	**180**	*e*P	**P**	**11 59 47.0**	**+0.4**
	4.6nm,0.8s,mb4.6						
CN2	**Changchun**	**68.86**	**329**	*e*P	**P**	**12 00 19.5**	**+0.2**
PSI	**Prapat**	**69.28**	**279**	P	**P**	**12 00 21.1**	**-0.8**
	1.3nm,0.4s,mb4.2,baz=140,slow=7.9,SNR=2.8						
KMI	**Kunming**	**73.56**	**302**	P	**P**	**12 00 49.5**	**+1.8**
KMI				AP	pP	12 01 02.5	+3.6
KMI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
QSPA	**South Pole Qui**	**75.92**	**180**	*e*P	**P**	**12 01 00.7**	**-0.7**
	comp=Z,10.0nm,0.9s,mb4.8						
LZH	**Lanzhou**	**77.53**	**312**	*e*P	**P**	**12 01 12.0**	**+1.5**
LZH				AP	pP	12 01 24.0	+2.2
LZH				XP	sP	12 01 31.0	+5.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**81.34**	**324**	*e*P	**P**	**12 01 31.6**	**+0.4**
	comp=Z,12nm,1.0s,mb4.8						
SONM	**Songino Array**	**81.70**	**324**	P	**P**	**12 01 33.2**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=141,slow=6.5,SNR=18						
GTA	**Gaotai**	**81.88**	**314**	*e*P	**P**	**12 01 35.4**	**+1.3**
GTA				AP	pP	12 01 44.5	-0.9
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
MAW	**Mawson**	**82.27**	**202**	LR	LR	12 33 40.2	
	comp=Z,91nm,19.4s,MS4.2,baz=146,slow=32						
PKI	**Pulchoki**	**88.97**	**299**	*e*P	**P**	**12 02 09.9**	**+0.6**
	comp=Z,19nm,0.7s,mb5.5						
KKN	**Kakani**	**89.14**	**299**	*e*P	**P**	**12 02 10.6**	**+0.5**
DMN	**Daman**	**89.23**	**299**	*e*P	**P**	**12 02 11.3**	**+0.7**
	comp=Z,28nm,0.7s,mb5.7						
GKN	**Gorkha**	**89.74**	**299**	*e*P	**P**	**12 02 12.5**	**-0.5**
SNAA	**Sanae**	**94.14**	**183**	*e*P	**P**	**12 02 31.5**	**-1.8**
	comp=Z,5.1nm,0.9s,mb5.0						
MKAR	**Makanchi Array**	**96.41**	**317**	P	**P**	**12 02 43.5**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.9,baz=79,slow=6.5,SNR=23						
ZAL	**Zalesovo**	**96.61**	**324**	P	**P**	**12 02 43.2**	**-1.4**
	comp=Z,1.7nm,0.7s,mb4.6,baz=12,slow=6.4,SNR=8.9						
ARCES	**ARCESS Array B**	**119.53**	**345**	PKP	PKPdf	12 08 02.5	-1.8
	comp=Z,4.4nm,0.6s,baz=75,slow=0.9,SNR=20						
JOF	**Joensuu**	**122.12**	**338**	*e*pkp	PKPdf	12 08 06.6	-2.6
BOSA	**Boshof**	**123.52**	**221**	PKP	PKPdf	12 08 12.0	+0.1
	comp=Z,2.2nm,0.8s,baz=302,slow=15,SNR=4.2						
KAF	**Kangasniemi**	**124.44**	**339**	*e*pkp	PKPdf	12 08 10.5	-3.2
FINES	**FINESS Array B**	**124.96**	**338**	PKP	PKPdf	12 08 13.0	-1.7
	comp=Z,1.0nm,0.4s,baz=19,slow=2.1,SNR=16						
NB2	**NORSAR Subarra**	**129.90**	**345**	PKPd	PKPdf	12 08 22.1	-2.0
	comp=Z,0.7nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.90**	**345**	PKP	PKPdf	12 08 23.2	-0.9
	comp=Z,1.1nm,0.6s,baz=38,slow=2.2,SNR=8.1						
AKASG	**Malin Array Be**	**129.94**	**326**	PKP	PKPdf	12 08 22.7	-1.5
	comp=Z,0.8nm,0.5s,baz=46,slow=2.6,SNR=6.2						
BRTR	**Keskin Array B**	**131.73**	**311**	PKP	PKPdf	12 08 27.6	0.0
	comp=Z,0.7nm,0.6s,baz=116,slow=2.9,SNR=3.6						
CLL	**Collm**	**137.29**	**336**	*e*PKPdf	PKPdf	12 08 39.0	+1.0
GERES	**GERESS Array B**	**138.87**	**333**	PKP	PKPdf	12 08 41.1	+0.2
	comp=Z,1.0nm,0.6s,baz=50,slow=1.5,SNR=6.3						
CABF	**La Chapelle**	**143.76**	**337**	*e*PKP1	PKPdf	12 08 48.7	-1.0
	comp=Z,6.2nm,0.6s						
FLN	**La Foliniere**	**143.87**	**346**	*e*PKP1	PKPdf	12 08 49.1	-0.7
LDF	**La Druitiere**	**143.94**	**345**	*e*PKP1	PKPdf	12 08 49.3	-0.7
LOR	**Lormes**	**143.99**	**340**	*e*PKP1	PKPdf	12 08 49.0	-1.0
SSF	**Saint Saulge**	**144.28**	**340**	*e*PKP1	PKPdf	12 08 48.5	-2.1
	comp=Z,11nm,0.9s						
LPL	**La Plagne**	**144.42**	**336**	*e*PKP1	PKPdf	12 08 49.3	-1.5
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	**144.43**	**336**	*e*PKP1	PKPdf	12 08 49.4	-1.4
	comp=Z,10nm,0.6s						
SMF	**Signal de Mont**	**144.54**	**340**	*e*PKP1	PKPdf	12 08 49.1	-1.9
AVF	**Avril sur Loir**	**144.57**	**340**	*e*PKP1	PKPdf	12 08 49.1	-2.0
SGMF	**Saint Gilles**	**144.82**	**348**	*e*PKP1	PKPdf	12 08 49.7	-1.8
	comp=Z,33nm,0.6s						
BNI	**Bardonecchia**	**144.83**	**335**	*e*P	PKPdf	12 08 50.6	-0.9
BGF	**Bois d'Agland**	**144.94**	**341**	*e*PKP1	PKPdf	12 08 50.4	-1.3
	comp=Z,17nm,0.6s						
MBDF	**Montbardon**	**145.05**	**335**	*e*PKP1	PKPbc	12 08 51.9	+0.6
	comp=Z,9.8nm,0.6s						
PLDF	**La Plantade**	**145.20**	**339**	PKP	PKPdf	12 08 51.6	-0.5
PLDF	**La Plantade**	**145.20**	**339**	*e*P	PKPbc	12 08 51.6	-0.2
ORIF	**Oris-en-Rattie**	**145.26**	**336**	*e*PKP1	PKPbc	12 08 52.0	0.0
	comp=Z,34nm,0.9s						
QUIF	**Quistinic**	**145.26**	**348**	*e*PKP1	PKPbc	12 08 51.0	-1.0
	comp=Z,15nm,0.5s						
AGO	**Saint Agoulin**	**145.29**	**340**	PKP	PKPdf	12 08 52.5	+0.2
AGO	**Saint Agoulin**	**145.29**	**340**	*e*P	PKPbc	12 08 52.5	+0.4
TCF	**Toulx Ste Croi**	**145.38**	**341**	*e*PKP1	PKPbc	12 08 51.9	-0.5
	comp=Z,11nm,0.7s						
SBF	**Sospel**	**145.47**	**333**	*e*PKP1	PKPbc	12 08 52.1	-0.6
	comp=Z,80nm,1.1s						
PYM	**Petit Puy Mans**	**145.60**	**340**	PKP	PKPdf	12 08 55.8	+3.0
PYM	**Petit Puy Mans**	**145.60**	**340**	*e*P	PKPdf	12 08 55.8	+3.0
MFF	**Saint Martin d**	**145.79**	**344**	*e*PKP1	PKPbc	12 08 53.2	-0.5
	comp=Z,15nm,0.6s						
LBL	**Lubilhac**	**145.97**	**339**	PKP	PKPdf	12 08 54.4	+0.9
LBL	**Lubilhac**	**145.97**	**339**	*e*P	PKPdf	12 08 54.4	+0.9
FRF	**La Foret Royal**	**146.05**	**334**	*e*PKP1	PKPbc	12 08 53.8	-0.7
	comp=Z,20nm,0.6s						
SMRF	**Simiane la Rot**	**146.16**	**335**	*e*PKP1	PKPbc	12 08 54.7	-0.1
	comp=Z,22nm,0.7s						
LMR	**La Mourre**	**146.29**	**334**	*e*PKP1	PKPbc	12 08 54.6	-0.6
	comp=Z,18nm,0.6s						
RJF	**Les Rejaudoux**	**146.48**	**341**	*e*PKP1	PKPbc	12 08 55.6	-0.2
CAF	**Calviac**	**146.64**	**340**	*e*PKP1	PKPbc	12 08 56.2	0.0
LASF	**Ste Croix**	**146.75**	**337**	*e*PKP1	PKPbc	12 08 56.4	-0.1
LFF	**La Frestale**	**147.05**	**342**	*e*PKP1	PKPbc	12 08 57.0	-0.4
	comp=Z,14nm,0.5s						
MTLF	**Montolieu**	**147.98**	**338**	*e*PKP1	PKPbc	12 08 59.8	-0.1
	comp=Z,16nm,0.6s						
ETSF	**Etsaut**	**149.30**	**342**	*e*PKP1	PKPbc	12 09 03.6	+0.3
	comp=Z,15nm,0.7s						
KEST	**Kesra**	**150.42**	**321**	PKPbc	PKPbc	12 09 06.4	+0.4
	comp=Z,5.4nm,0.6s,baz=68,slow=0.4,SNR=17						
ESDC	**Sonseca Array**	**153.25**	**344**	PKPbc	PKPbc	12 09 11.9	-0.6
	comp=Z,1.0nm,0.6s,baz=9.5,slow=2.5,SNR=9.7						
TORD	**Torodi Ar. Bea**	**165.45**	**268**	PKP	PKPdf	12 09 18.2	-0.9
	comp=Z,2.0nm,1.0s,baz=131,slow=1.2,SNR=6.2						
TORD				PKPbc	PKPab	12 10 17.6	+0.3
	comp=Z,2.0nm,1.0s,baz=85,slow=3.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**165.45**	**268**	PKP	PKPdf	12 09 18.2	-0.9
TORD				PKPbc	PKPab	12 10 17.6	+0.3

IDC 17 12:05:11.2±7.5**, 4.48N×94.48E, h0^{km}, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.3**/21**, mbtmp3.4**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.4**/18**, Error ellipse: s-maj=370.1km s-min=28.7km az=57.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.45**	**348**	P	P	12 13 15.8	-0.1
	0.7nm,0.4s,baz=162,slow=7.5,SNR=7.9						
WRA	**Warramunga Arr**	**46.08**	**123**	P	P	12 13 37.2	+0.3
	0.5nm,0.7s,baz=301,slow=9.4,SNR=5.1						
ASAR	**Alice Springs**	**47.53**	**128**	P	P	12 13 48.8	+0.6
	0.2nm,0.6s,baz=296,slow=8.3,SNR=4.3						
ATD	**Arta Tunnel**	**51.55**	**281**	LR	LR	12 34 13.4	
	comp=Z,29nm,19.0s,baz=327,slow=34						

---

*MOS **17** 12:16:28.7±3.1, 54.00N×121.80E, h15^{km}, mb4.4/1, Error ellipse: s-maj=52.3km s-min=35.7km az=104.0*

BYKL 17 12:16:28.1±0.4**, 53.98N×121.88E, h22^{km}**±16^{km}**, 2C-1D, Priamurye-Northeastern China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.22**	**292**	⇑*i*Pg	Pn	12 16 50.0	+0.2
	45nm,0.2s						
TUP				⇓*i*Pg	Pn	12 16 50.0	+0.2
	279nm,0.2s						
TUP				⇑*i*Pg	Pn	12 16 50.0	+0.2
	320nm,0.2s						
TUP				*e*Pb	Pb	12 16 50.8	+0.4
TUP				*e*Sg	Sn	12 17 05.5	0.0
TUP				*e*Sb	Sb	12 17 07.2	+1.5
TUP				max			
	284nm,0.3s						
TUP				max			
	1μm,0.3s						
TUP	**Tupik**	**1.22**	**292**	*e*P	Pn	12 16 49.8	0.0
TUP				*e*		12 17 05.5	
TUP				pmax	pmax		
	comp=Z,283nm,0.3s						
TUP				smax			
	comp=N,1μm,0.3s						
TNDR	**Tynda**	**2.03**	**54**	*e*Pn	Pn	12 17 02.0	+1.1
TNDR				*e*Pg	Pn	12 17 05.3	+4.4
TNDR				*e*Sn	Sn	12 17 27.6	+2.1
TNDR				*e*Sg	Sn	12 17 33.0	+7.5
IENR	**Iengra**	**2.83**	**36**	*e*Pg	Pn	12 17 19.7	+7.7
IENR				*e*Sg	Sn	12 17 56.9	+11
KROS	**Kirovskiy**	**3.02**	**79**	*e*Pn	Pn	12 17 13.6	-1.0
KROS				*e*Pg	Pn	12 17 20.9	+6.3
KROS				*e*Sn	Sn	12 17 48.4	-1.8
NRGR	**Nerungri**	**3.14**	**30**	*e*P	Pn	12 17 25.1	+8.9
NRGR				S	Sn	12 18 05.0	+12
NRGR				smax			
	comp=N,49nm,0.2s						
KHNR	**Khani**	**3.14**	**341**	*e*Pn	Pn	12 17 18.1	+1.9
KHNR				*e*Pg	Pn	12 17 23.6	+7.4
KHNR				*e*Sg	Sn	12 18 04.1	+11
CLNS	**Chul'man**	**3.34**	**30**	*e*Pn	Pn	12 17 20.1	+1.1
CLNS				*e*Pg	Pn	12 17 29.0	+10
CLNS				*e*Sg	Sn	12 18 11.6	+14
CLNS	**Chul'man**	**3.34**	**30**	*e*P	Pn	12 17 29.4	+10
CLNS				pmax	pmax		
	comp=E,9.0nm,0.1s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.1s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.2s						
CLNS				MLR	MLR		
	comp=Z,100nm,13.0s						
CRS	**Chara**	**3.58**	**326**	*e*Pn	Pn	12 17 23.8	+1.6
CRS				*e*Pg	Pn	12 17 31.2	+9.0
CRS				*e*PgPg		12 17 33.7	
CRS				*e*Sg	Sn	12 18 16.9	+13
CRS				Pmax			
	comp=Z,63nm,1.1s						
CRS				Smax			
	comp=Z,118nm,1.4s						
CRS	**Chara**	**3.58**	**326**	*e*P	Pn	12 17 23.9	+1.7
CRS				pmax	pmax		
	comp=Z,59nm,0.8s						
NLYR	**Nelyaty**	**4.34**	**308**	*e*Pn	Pn	12 17 32.4	-0.3
NLYR				*i* Pg	Pn	12 17 46.0	+13
NLYR				*e*Sg	Sn	12 18 43.2	+21
HIA	**Hailar**	**4.90**	**197**	*e*Pg	Pn	12 17 56.2	+16
HIA				*e*Sg	Sn	12 18 59.9	+23
UKT	**Uakit**	**5.02**	**291**	*e*Pn	Pn	12 17 43.0	+1.0
UKT				*e*Pg	Pn	12 17 57.7	+16
UKT				*e*Sg	Sn	12 19 02.2	+23
UKT				Pmax			
	comp=Z,22nm,0.8s						
UKT				Smax			
	comp=Z,96nm,1.1s						
UKT	**Uakit**	**5.02**	**291**	*e*P	Pn	12 17 42.8	+0.8
UKT				*e*S	Sn	12 18 40.1	+0.8
UKT				pmax	pmax		
	comp=Z,22nm,0.6s						
UKT				smax			
	comp=N,97nm,0.6s						
ALDR	**Aldan**	**5.04**	**22**	*e*Pg	Pn	12 17 59.3	+17
ALDR				*e*Sg	Sn	12 19 04.0	+24
SVKR	**Severomuysk**	**5.24**	**297**	*e*Sg	Sn	12 19 11.8	+27
SVKR				Smax			
	comp=N,276nm,0.8s						
CIT	**Chita**	**5.40**	**252**	*e*Pg	Pn	12 18 06.2	+19
CIT				*e*Sg	Sn	12 19 14.4	+26
CIT				Pmax			
	comp=N,7.0nm,0.4s						
CIT				Smax			
	comp=N,161nm,1.4s						
BOD	**Bodaibo**	**5.87**	**314**	*e*Pg	Pn	12 18 13.4	+20
BOD				*e*Sg	Sn	12 19 29.3	+29
BOD				Pmax			
	comp=N,10.0nm,0.8s						
BOD				Smax			
	comp=N,41nm,1.4s						
YOA	**Uoyan**	**6.22**	**294**	*e*Sg	Sn	12 19 41.3	+32
YOA				Smax			
	comp=N,428nm,2.0s						
YLYR	**Ulyunkhan**	**6.32**	**282**	*e*Pn	Pn	12 18 00.9	+1.0
YLYR				*e*Pg	Pn	12 18 21.8	+22
YLYR				*e*Sg	Sn	12 19 44.0	+33
YLYR				Pmax			
	comp=N,2.0nm,0.4s						
YLYR				Smax			
	comp=N,151nm,0.7s						
YLYR	**Ulyunkhan**	**6.32**	**282**	*e*P	Pn	12 18 20.8	+21
YLYR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KMO	**Kumora**	**6.45**	**292**	*e*Pn	Pn	12 18 03.2	+1.6
KMO				*e*Pg	Pn	12 18 24.6	+23
KMO				*e*Sg	Sn	12 19 46.6	+32
KMO				Pmax			
	comp=Z,4.0nm,0.5s						
KMO				Smax			
	comp=Z,134nm,1.1s						
CGD	**Chagda**	**6.81**	**42**	*e*Pg	Pn	12 18 30.2	+24
CGD				*e*Sg	Sn	12 19 57.3	+34
SYVR	**Suvo**	**7.04**	**272**	*e*Sg	Sn	12 20 04.7	+35
SYVR				Smax			
	comp=Z,98nm,1.9s						
KPC	**Khapcheranga**	**7.28**	**238**	*e*Pn	Pn	12 18 13.2	+0.1
KPC				*e*Pg	Pn	12 18 37.6	+25
KPC				*e*Sn	Sn	12 19 34.5	-0.5
KPC				*e*Sg	Sn	12 20 12.1	+37
KPC				Pmax			
	comp=Z,1.0nm,0.2s						
KPC				Smax			
	comp=Z,24nm,1.5s						
OGRR	**Ongureny**	**8.46**	**273**	*e*Sg	Sn	12 20 50.1	+46
OGRR				Smax			
	comp=Z,31nm,1.6s						
TRG	**Tyrgan**	**9.37**	**269**	*e*Sg	Sn	12 21 18.3	+52
TRG				Smax			
	comp=Z,21nm,1.6s						
ARS	**Arshan**	**11.91**	**268**	*e*Sg	Sn	12 22 37.0	+68
ARS				Smax			
	comp=Z,37nm,1.2s						
ZAK	**Zakamensk**	**11.97**	**260**	*e*Sg	Sn	12 22 38.6	+69
ZAK				Smax			
	comp=Z,48nm,1.7s						
MOY	**Mondy**	**12.84**	**268**	*e*Sg		12 23 06.0	
MOY				Smax			
	comp=Z,20nm,2.1s						
ORL	**Orlik**	**13.28**	**273**	*e*Sg		12 23 20.1	
ORL				Smax			
	comp=Z,16nm,1.9s						

---

*ISCJB **17** 12:32:25.0±0.5, 39.13N±0.03×21.82E±0.05, h13^{km}±6^{km}, Error ellipse: s-maj=6.4km s-min=5.5km az=62.8*
*THE **17** 12:32:25.2, 39.14N×21.79E, h5^{km}, ML2.8*
*NEIC **17** 12:32:25.1, 39.12N×21.93E, h11^{km}, MD3.1(ATH), After ATH.*
*ATH **17** 12:32:25.1, 39.13N×21.94E, h11^{km}±4^{km}, MD3.1/6*
*CSEM **17** 12:32:25.5±0.2, 39.11N×21.83E, h12^{km}, MD3.1, Error ellipse: s-maj=3.8km s-min=3.5km az=90.0*

ISC 17 12:32:25.5±0.5**, 39.11N**±0.03×**21.82E**±0.05**, h17^{km}**±5^{km}**, n14, σ0^{s}78**/21**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.19**	**184**	⇑*i*PG	**Pg**	**12 32 30.1**	**-0.1**
EVR				*e*SG	**Sg**	**12 32 33.9**	**+0.5**
AGG	**Agios Georgios**	**0.40**	**102**	*e*Pg	**Pg**	**12 32 33.1**	**-0.6**
AGG				*e*Sg	**Sg**	**12 32 40.0**	**+0.7**
JAN	**Janina**	**0.93**	**306**	*e*PG	**Pg**	**12 32 43.3**	**-0.3**
LKR	**Lokris**	**1.02**	**116**	*e*PB	**Pb**	**12 32 43.2**	**-1.6**
RLS	**Riolos of Patr**	**1.08**	**195**	*e*PN	**Pn**	**12 32 46.4**	**+0.5**
XOR	**Xorichti**	**1.09**	**76**	*e*Pg	**Pg**	**12 32 46.1**	**-0.6**
XOR				*e*Sg	**Sg**	**12 33 02.0**	**+1.1**
XOR	**Xorichti**	**1.09**	**76**	*e*Pg	**Pg**	**12 32 46.1**	**-0.6**
XOR				*e*Sg	**Sg**	**12 33 02.0**	**+1.0**
LIT	**Litokhoron**	**1.12**	**27**	*e*Pg	**Pg**	**12 32 45.9**	**-1.2**
LIT				*e*Sg	**Sg**	**12 33 01.9**	**+0.1**
KZN	**Kozani**	**1.20**	**358**	*e*PN	**Pn**	**12 32 46.8**	**-0.6**
KZN				*e*SB	**Sb**	**12 33 04.9**	**+2.0**
VLS	**Valsamata**	**1.34**	**227**	*e*Pn	**Pn**	**12 32 49.9**	**+0.5**
KEK	**Kerkira**	**1.68**	**292**	*e*PG	**Pg**	**12 32 57.8**	**0.0**
FNA	**Florina**	**1.71**	**349**	*e*Pb	**Pn**	**12 32 54.7**	**+0.2**
FNA				*e*Sb	**Sb**	**12 33 17.2**	**-0.4**
HORT	**Hortiatis**	**1.78**	**33**	*e*Pb	**Pn**	**12 32 56.0**	**+0.6**
GRG	**Griva**	**1.90**	**13**	*e*Pb	**Pn**	**12 32 56.5**	**-0.6**

---

*ISCJB **17** 12:52:32.2±1.8, 22.1S±0.4×170.1E±0.1, h33^{km}, mb3.8/4, MS3.4/1, Error ellipse: s-maj=56.6km s-min=12.0km az=18.8*
*IDC **17** 12:52:32.6±4.4, 20.64S×169.48E, h0^{km}, mb3.6/3, mb1 3.8/4, mb1mx3.7/12, mbtmp3.6/4, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/25, Error ellipse: s-maj=122.5km s-min=29.2km az=136.0*
*NEIC **17** 12:52:35.8±3.2, 22.00S×169.98E, h45^{km}±23^{km}, mb4.2/1, Error ellipse: s-maj=30.9km s-min=24.4km az=214.0*

ISC 17 12:52:34.8±2.1**, 22.1S**±0.4×**170.0E**±0.2**, h35^{km}, n11, σ0^{s}40**/10**, mb3.8**/4**, MS3.4**/1**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**270**	*e*P	**Pn**	**12 53 24.5**	**+0.2**
DZM				*e*S	**Sn**	**12 54 02.1**	**-0.4**
DZM	**Mont Dzumac**	**3.32**	**270**	Pn	**Pn**	**12 53 24.8**	**+0.5**
	4.0nm,0.3s,baz=74,slow=21,SNR=227						
DZM				Sn	**Sn**	**12 54 02.6**	**+0.1**
	14nm,0.3s,baz=151,slow=21,SNR=14						
ASAR	**Alice Springs**	**33.27**	**260**	P	**P**	**12 59 09.6**	**+0.8**
	0.2nm,0.7s,mb3.2,baz=73,slow=8.3,SNR=7.7						
ASAR				LR	LR	13 12 00.3	
	comp=Z,84nm,20.4s,MS3.4,baz=176,slow=35						
WB2	**Warramunga Arr**	**33.33**	**267**	*e*P	**P**	**12 59 09.1**	**-0.2**
WRAB	**Tennant Creek**	**33.33**	**267**	*e*P	**P**	**12 59 09.1**	**-0.3**
WRA	**Warramunga Arr**	**33.34**	**267**	P	**P**	**12 59 09.0**	**-0.4**
	0.5nm,0.4s,mb3.8,baz=100,slow=8.3,SNR=16						
SBA	**Scott Base**	**55.84**	**181**	*e*P	**P**	**13 02 08.6**	**-0.1**
	1.7nm,0.8s,mb4.1						
MJAR	**Matsushiro Arr**	**65.60**	**332**	P	**P**	**13 03 08.0**	**-7.2**
	0.6nm,0.4s,mb4.0,baz=285,slow=7.8,SNR=4.6						
BRG	**Berggiesshubel**	**145.73**	**333**	*i* P	PKPdf	13 12 09.3	-0.2
	2.8nm,0.8s						
CLL	**Collm**	**145.79**	**334**	*i* PKPbc	PKPbc	13 12 09.3	-0.9
	comp=Z,8.0nm,1.1s						
GERES	**GERESS Array B**	**147.33**	**331**	PKPbc	PKPbc	13 12 13.6	-1.0
	comp=Z,0.5nm,0.5s,baz=41,slow=4.3,SNR=5.2						

---

*ISCJB **17** 12:57:18.5±1.2, 24.28S±0.06×64.7W±0.1, h51^{km}±16^{km}, mb4.4/2, Error ellipse: s-maj=18.5km s-min=8.9km az=150.5*
*IDC **17** 12:57:21.6±2.1, 24.27S×64.65W, h47^{km}±22^{km}, mb4.1/1, mb1 4.3/4, mb1mx3.8/17, mbtmp4.2/4, ML4.1/4, MS3.2/3, Ms1 3.2/3, ms1mx2.8/26, Error ellipse: s-maj=37.1km s-min=27.9km az=84.0*
*NEIC **17** 12:57:21.5±1.0, 24.28S×64.68W, h59^{km}±12^{km}, mb4.2/2, Error ellipse: s-maj=17.3km s-min=11.5km az=85.0*

ISC 17 12:57:21.2±0.9**, 24.32S**±0.06×**64.7W**±0.1**, h55^{km}**±13^{km}**, n15, σ1^{s}26**/15**, mb4.4**/2**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**6.95**	**108**	P	**Pn**	**12 59 00.3**	**-0.1**
	8.1nm,0.3s,baz=263,slow=11,SNR=44						
CPUP				Lg		13 01 06.2	
	31nm,0.3s,baz=356,slow=19,SNR=3.5						
CPUP	**Villa Florida**	**6.95**	**108**	*e*Pn	**Pn**	**12 59 00.3**	**-0.2**
CPUP				Lg		13 01 06.2	
CFAA	**Coronel Fontan**	**7.91**	**203**	P	**Pn**	**12 59 15.0**	**+1.5**
	0.1nm,0.3s,baz=19,slow=14,SNR=4.9						
CFAA				Lg		13 01 21.3	
	0.3nm,0.3s,baz=312,slow=23,SNR=8.0						
LPAZ	**La Paz**	**8.62**	**337**	P	**Pn**	**12 59 23.7**	**+0.5**
	0.6nm,0.3s,baz=174,slow=8.8,SNR=20						
LPAZ				S	**Sn**	**13 00 58.8**	**-0.2**
	0.3nm,0.3s,baz=351,slow=16,SNR=2.3						
LPAZ				LR	LR	13 03 12.7	
	comp=Z,79nm,20.9s,baz=285,slow=41						
LPAZ	**La Paz**	**8.62**	**337**	*e*Pn	**Pn**	**12 59 24.0**	**+0.8**
LPAZ				S	**Sn**	**13 00 58.8**	**-0.2**
LPAZ				LR	LR	13 03 12.7	
SIV	**San Ignacio**	**8.95**	**23**	P	**Pn**	**12 59 27.7**	**-0.1**
	1.8nm,0.3s,baz=221,slow=12,SNR=61						
SIV				S	**Sn**	**13 01 18.1**	**+11**
	3.5nm,0.3s,baz=91,slow=23,SNR=3.0						
SIV				Lg		13 02 01.7	
	4.9nm,0.3s,baz=285,slow=23,SNR=4.0						
TRQA	**Tornquist**	**13.89**	**171**	P	**Pn**	**13 00 33.8**	**-1.4**
SAML	**Samuel**	**15.35**	**6**	*e*P	**Pn**	**13 00 50.8**	**-3.5**
	3.5nm,0.6s						
SAML				S	S	13 03 35.2	-22
PLCA	**Paso Flores**	**17.09**	**195**	LR	LR	13 08 48.5	
	comp=Z,144nm,18.4s,baz=183,slow=40						
BDFB	**Brasilia**	**17.88**	**64**	LR	LR	13 07 48.0	
	comp=Z,81nm,18.0s,baz=247,slow=35						
SDV	**Santo Domingo**	**33.51**	**349**	*e*P	**P**	**13 03 54.0**	**-1.4**
SNAA	**Sanae**	**58.35**	**161**	*e*P	**P**	**13 07 09.2**	**-1.4**
	8.2nm,1.7s,mb4.5						
TOA0	**Torodi Ar. Sit**	**74.72**	**68**	*e*P	**P**	**13 08 56.8**	**+1.7**
TORD	**Torodi Ar. Bea**	**74.72**	**68**	P	**P**	**13 08 56.7**	**+1.6**
	2.1nm,0.6s,mb4.2,baz=257,slow=5.7,SNR=20						
MKAR	**Makanchi Array**	**145.40**	**41**	PKPbc	PKPbc	13 16 53.1	+0.3
	1.9nm,1.0s,baz=277,slow=5.7,SNR=4.3						

---

*CSEM **17** 12:58:30.1±0.1, 37.59N×38.72E, h5^{km}, MD3.4, Error ellipse: s-maj=2.0km s-min=1.8km az=10.0*
*ISK **17** 12:58:30.8, 37.54N×38.74E, h14^{km}, MD3.4*
*ISCJB **17** 12:58:31.0±0.6, 37.57N±0.03×38.75E±0.02, h6^{km}±4^{km}, Error ellipse: s-maj=4.5km s-min=3.3km az=179.8*
*NSSC **17** 12:58:33.6, 37.44N×38.80E, h10^{km}±1^{km}*

ISC 17 12:58:31.3±0.5**, 37.57N**±0.03×**38.77E**±0.03**, h5^{km}**±4^{km}**, n37, σ0^{s}90**/58**, 6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.14**	**162**	*i* PG	**Pg**	**12 58 34.0**	**0.0**
URFA				*i* SG	**Sg**	**12 58 37.3**	**+1.5**
ATAB	**Bozova**	**0.39**	**255**	*i* P	**Pg**	**12 58 38.3**	**-0.5**
ATAB				*i* S	**Sg**	**12 58 43.2**	**-0.7**
MYA	**Malataya**	**0.80**	**340**	*i* PG	**Pg**	**12 58 47.1**	**+0.4**
ELZG	**Elazig**	**0.94**	**10**	*i* P	**Pg**	**12 58 50.3**	**+0.9**
ELZG				*i* S	**Sg**	**12 59 04.5**	**+3.0**
GZT	**Gaziantep**	**0.98**	**258**	*i* P	**Pg**	**12 58 49.3**	**-0.9**
GZT				*i* S	**Sg**	**12 59 03.6**	**+0.7**
DRBT	**Darb Altahta**	**1.10**	**130**	⇑P	**Pg**	**12 58 51.7**	**-0.6**
DRBT				⇑S	**Sg**	**12 59 05.4**	**-1.3**
DRBT	**Darb Altahta**	**1.10**	**130**	⇑*i*P	**Pg**	**12 58 51.7**	**-0.7**
DRBT				⇑*i*S	**Sg**	**12 59 05.4**	**-1.2**
DIY	**Diyarbakir**	**1.20**	**74**	PN	**Pn**	**12 58 53.8**	**-1.0**
GAZ	**Gaziantep**	**1.30**	**253**	PN	**Pn**	**12 58 54.9**	**-1.3**
PTK	**Pertek**	**1.41**	**20**	PN	**Pn**	**12 58 57.8**	**+0.2**
KMRS	**Kahramanmaras**	**1.49**	**268**	PN	**Pn**	**12 58 56.8**	**-1.9**
KBSD	**Kabsdagh**	**1.52**	**111**	⇓P	**Pn**	**12 58 59.6**	**+0.4**
KBSD				⇑S	**Sn**	**12 59 20.1**	**+0.6**
KBSD	**Kabsdagh**	**1.52**	**111**	⇓*i*P	**Pn**	**12 58 59.6**	**+0.4**
KBSD				⇑*i*S	**Sn**	**12 59 20.1**	**+0.6**
SFNV	**Sufian**	**1.57**	**137**	⇑P	**Pn**	**12 58 59.7**	**-0.2**
SFNV				⇑S	**Sn**	**12 59 20.4**	**-0.3**
SFNV	**Sufian**	**1.57**	**137**	⇑*i*P	**Pn**	**12 58 59.7**	**-0.2**
SFNV				⇑*i*S	**Sn**	**12 59 20.4**	**-0.3**
MARD	**Mardin**	**1.62**	**98**	*i* P	**Pn**	**12 59 01.1**	**+0.6**
MARD				*i* S	**Sn**	**12 59 22.5**	**+0.7**
MNKR	**ALMNKUR**	**1.67**	**166**	⇑P	**Pn**	**12 59 01.0**	**-0.3**
MNKR				⇑S	**Sn**	**12 59 22.6**	**-0.5**
MNKR	**ALMNKUR**	**1.67**	**166**	⇑*i*P	**Pn**	**12 59 01.0**	**-0.3**
MNKR				⇑*i*S	**Sn**	**12 59 22.6**	**-0.6**
BINT	**Bingol**	**1.88**	**46**	PN	**Pn**	**12 59 04.5**	**+0.4**
DRWC	**Darouich**	**1.93**	**241**	⇓P	**Pn**	**12 59 06.3**	**+1.5**
DRWC				⇓S	**Sn**	**12 59 30.1**	**+0.6**
DRWC	**Darouich**	**1.93**	**241**	⇓*i*P	**Pn**	**12 59 06.3**	**+1.5**
DRWC				⇓*i*S	**Sn**	**12 59 30.1**	**+0.7**
BTMT	**Batman**	**2.24**	**73**	PN	**Pn**	**12 59 06.2**	**-2.9**
COBT	**Iskenderun**	**2.27**	**243**	*i* P	**Pn**	**12 59 13.3**	**+3.8**
COBT				*i* S	**Sn**	**12 59 42.2**	**+4.4**
KOZT	**Kozan**	**2.34**	**269**	*e*PN	**Pn**	**12 59 09.4**	**-1.0**
BTCH	**Batrach**	**2.40**	**231**	⇑P	**Pn**	**12 59 12.4**	**+1.1**
BTCH				⇑S	**Sn**	**12 59 41.6**	**+0.4**
BTCH	**Batrach**	**2.40**	**231**	⇑*i*P	**Pn**	**12 59 12.4**	**+1.1**
BTCH				⇑*i*S	**Sn**	**12 59 41.6**	**+0.5**
HTY	**Hatay**	**2.56**	**236**	*e*PN	**Pn**	**12 59 13.1**	**-0.3**
BNN	**Bunyan**	**2.63**	**300**	*e*PN	**Pn**	**12 59 13.9**	**-0.6**
SVSK	**Karacayir**	**2.72**	**330**	*e*PN	**Pn**	**12 59 15.0**	**-0.7**
WRDH	**Warideh**	**2.80**	**223**	⇑P	**Pn**	**12 59 17.8**	**+1.0**
WRDH				⇑S	**Sn**	**12 59 51.5**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRDH	**Warideh**	**2.80**	**223**	⇑*i*P	**Pn**	**12 59 17.8**	**+1.0**
WRDH				⇑*i*S	**Sn**	**12 59 51.5**	**+0.6**
KRTS	**Karatas**	**2.89**	**251**	*e*PN	**Pn**	**12 59 17.6**	**-0.4**
KARA	**Karaisali**	**2.97**	**265**	*e*PN	**Pn**	**12 59 19.1**	**0.0**
BIDA	**Albida**	**3.23**	**219**	⇑P	**Pn**	**12 59 22.9**	**+0.2**
BIDA				⇑S	**Sn**	**13 00 02.0**	**+0.5**
BIDA	**Albida**	**3.23**	**219**	⇑*i*P	**Pn**	**12 59 22.9**	**+0.3**
VANT	**Van**	**3.75**	**75**	*e*PN	**Pn**	**12 59 29.3**	**-0.6**
CUKT	**Cukurca**	**3.87**	**93**	*e*PN	**Pn**	**12 59 31.9**	**+0.5**

MAN 17 13:09:24.5, 1971N×12104E, h14km, mb3.4, ML4.7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.74**	**147**	*e*P	Pn	13 09 53.5	-0.7
SGCP				*e*S	Sn	13 10 10.4	-5.8
ABRA	**Dolores**	**2.07**	**189**	*e*P	Pn	13 09 58.0	-0.8
ABRA				*e*S	Sn	13 10 15.7	-8.7
CVP	**Callao Caves**	**2.12**	**160**	*e*P	Pn	13 09 58.0	-1.5
CVP				*e*S	Sn	13 10 18.0	-7.7
CAUP	**Cauayan**	**2.84**	**165**	*e*P	Pn	13 10 11.3	+1.9
PALP	**Palanan**	**2.94**	**153**	*e*P	Pn	13 10 11.1	+0.4
PALP				*e*S	Sn	13 10 44.9	-0.9
PALP	**Palanan**	**2.94**	**153**	*e*P	Pn	13 10 12.0	+1.2
BCPH	**Baguio City Da**	**3.34**	**188**	⇓*e*P	Pn	13 10 18.2	+2.1
BCPH				*i* S	Sn	13 10 56.5	+0.9
BOLP	**Bolinao**	**3.48**	**198**	*e*P	Pn	13 10 12.3	-5.9
BALP	**Baler**	**3.98**	**173**	*e*P	Pn	13 10 25.9	+0.9
SCZP	**Santa Cruz**	**4.05**	**196**	*e*P	Pn	13 10 22.4	-3.7

PGC 17 13:16:05.5, 5113N×13093W, h10km, MLSn3.7/1, Mw4.3, 225km southwest of Bella Bella, Bc West of Vancouver Island, British Columbia, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.54**	**341**	Pn	Pn	13 16 31.7	-1.3
BNB				Sn	Sn	13 16 49.8	-3.2
	comp=Z,3µm,0.3s						
BNB				Trac		13 16 51.3	
	comp=Z,3µm,0.3s						
HOLB	**Holberg**	**1.84**	**104**	Pn	Pn	13 16 34.3	-2.9
HOLB				Sn	Sn	13 16 58.0	-2.5
	comp=Z,252nm,0.5s						
HOLB				Trac		13 17 07.3	
	comp=Z,252nm,0.5s						
BBB	**Bella Bella**	**2.05**	**58**	Pn	Pn	13 16 39.0	-1.1
BBB				Sn	Sn	13 17 01.3	-4.4
BBB				Trac		13 17 12.5	
	comp=Z,349nm,0.6s						
MOBC	**Moresby Island**	**2.16**	**344**	Pn	Pn	13 16 39.0	-2.6
MOBC				Sn	Sn	13 17 04.0	-4.3
MOBC				Trac		13 17 20.5	
	comp=Z,102nm,0.7s						
BPBC	**Brooks Peninsu**	**2.23**	**115**	Trac		13 17 29.2	
	comp=Z,65nm,0.1s						
PHC	**Port Hardy**	**2.25**	**99**	Pn	Pn	13 16 39.5	-3.4
PHC				Sn	Sn	13 17 03.3	-7.4
PHC				Trac		13 17 20.4	
	comp=Z,73nm,0.3s						
BNAB	**Bonilla**	**2.38**	**4**	Trac		13 17 32.5	
	comp=Z,71nm,0.5s						
MAYB	**Maynard**	**2.50**	**105**	Pn	Pn	13 16 43.0	-3.1
MAYB				Sn	Sn	13 17 14.1	-2.6
	comp=Z,117nm,0.7s						
MAYB				Trac		13 17 28.7	
	comp=Z,117nm,0.7s						
EDB	**Eliza Dome**	**2.74**	**116**	Pn	Pn	13 16 49.5	-0.1
EDB				Sn	Sn	13 17 19.1	-3.5
EDB				Trac		13 17 35.3	
	comp=Z,50nm,0.8s						
WOSB	**Woss**	**2.94**	**108**	Pn	Pn	13 16 50.9	-1.4
WOSB				Sn	Sn	13 17 26.0	-1.7
	comp=Z,64nm,0.6s						
WOSB				Trac		13 17 40.3	
	comp=Z,64nm,0.6s						
NDB	**Naden**	**3.09**	**337**	Pn	Pn	13 16 54.5	+0.2
NDB				Trac		13 17 53.2	
	comp=Z,52nm,0.8s						
NCRB	**Newcastle Ridg**	**3.18**	**101**	Trac		13 17 58.1	
	comp=Z,48nm,0.6s						
RUBB	**Prince Rupert**	**3.23**	**7**	Pn	Pn	13 16 55.8	-0.5
RUBB				Sg	Sg	13 17 45.7	-3.6
RUBB				Trac		13 17 59.3	
	comp=Z,232nm,0.8s						
GDR	**Gold River**	**3.41**	**111**	Pn	Pn	13 16 55.9	-2.9
GDR				Trac		13 18 07.8	
	comp=Z,55nm,0.8s						
CBB	**Campbell River**	**3.71**	**105**	Trac		13 18 18.4	
	comp=Z,52nm,0.8s						
OZB	**Mount Ozzard**	**4.12**	**120**	Trac		13 18 32.9	
	comp=Z,40nm,0.9s						
TXB	**Texada**	**4.39**	**106**	Trac		13 18 31.5	
	comp=Z,39nm,0.7s						
SHB	**Sechelt**	**4.77**	**106**	Trac		13 18 55.7	
	comp=Z,51nm,0.9s						
NLLB	**Nanaimo Lost L**	**4.85**	**110**	Pn	Pn	13 17 22.2	+3.6
NLLB				Sn	Sn	13 18 10.1	-4.7
NLLB				Trac		13 18 48.4	
	comp=Z,14nm,0.6s						
WPB	**Watts Point**	**5.16**	**104**	Trac		13 19 01.0	
	comp=Z,27nm,1.1s						
BIB	**Bowen Island**	**5.19**	**106**	Trac		13 19 04.4	
	comp=Z,19nm,0.9s						
WSLR	**Whistler**	**5.20**	**98**	Trac		13 18 57.5	
	comp=Z,12nm,0.8s						
FSB	**Fort Saint Jam**	**5.22**	**47**	Pn	Pn	13 17 22.4	-1.3
FSB				Trac		13 19 00.4	
	comp=Z,19nm,0.6s						
LZB	**Mount Lazard**	**5.24**	**116**	Trac		13 19 06.3	
	comp=Z,6.0nm,0.7s						
PGC	**Sidney**	**5.43**	**114**	Trac		13 19 25.4	
	comp=Z,9.0nm,0.8s						
LLLB	**Lillooet**	**5.75**	**92**	Trac		13 19 26.2	
	comp=Z,8.0nm,0.6s						
BMBC	**Bull Mountain**	**7.19**	**43**	Pn	Pn	13 17 50.1	-0.5
BMBC				Trac		13 20 01.8	
	comp=Z,19nm,0.7s						
DLBC	**Dease Lake**	**7.34**	**4**	Pn	Pn	13 17 55.4	+2.6
DLBC				Trac		13 20 06.4	
	comp=Z,6.0nm,0.8s						

*IDC **17** 13:24:52.8±0.5, 1770S×4180E, h0km, mb4.5/22, mb1 4.6/25, mb1mx4.5/28, mbtmp4.5/25, ML4.4/3, MS4.4/21, Ms1 4.4/21, ms1mx4.2/30, Error ellipse: s-maj=15.7km s-min=13.6km az=86.0*

*MOS **17** 13:24:52.8±0.8, 1766S×4176E, h10km, mb5.1/58, Error ellipse: s-maj=12.6km s-min=4.7km az=103.4*

*ISCJB **17** 13:24:53.9±0.2, 1766S±004×4178E±005, h17km, mb4.9/113, MS4.5/29, Error ellipse: s-maj=6.7km s-min=6.0km az=92.5*

*LDG **17** 13:24:54.4±0.5, 1725S×4200E, h10km, Mb5.1/35, Ms4.2/7, Error ellipse: s-maj=29.7km s-min=5.5km az=16.0*

*GCMT **17** 13:24:54.5±0.3, 1754S×4171E, h20km±1km, MW5.1/66, Moment Tensor Solution. s16,c18; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.04±.45; $M_{\theta\theta}$0.80±.27; $M_{\phi\phi}$5.25±.30; $M_{r\theta}$0.17±.69; $M_{\theta\phi}$-0.81±.21; $M_{\phi r}$1.41±.54; Best double couple: $M_0$5.88800×10^{16} NP1:ϕ_s347.00000°, δ38.00000°, λ-95.00000°. NP2: ϕ_s174.00000°, δ52.00000°, λ-86.00000°. Principal axes: T 5.5520, Plg7.0000°, Azm261.0000°; N 0.6780, Plg3.0000°, Azm351.0000°; P -6.2230, Plg83.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **17** 13:24:54.5±0.2, 1771S×4181E, h10km, mb5.0/74 Error ellipse: s-maj=5.8km s-min=4.6km az=54.0*

*BJI **17** 13:24:56.7, 1696S×4221E, h10km, mB5.3, mb5.0, Ms5.2, Msz4.8*

*SZGRF **17** 13:25:06.1, 1485S×4372E, h21km, mb5.0, Mozambique Channel*

ISC 17 13:24:55.9±0.2, **1771S**±004×**4177E**±005, **h18**km, **h18**km±.7km**:pP-P, n360,** σ0.81/302, **mb4.9**/113, **MS4.5**/29, **15C-14D, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.22**	**100**	Pn	**Pn**	**13 26 11.3**	**-1.8**
	96nm,0.3s,baz=272,slow=14,SNR=685						
OPO				Sn	**Sn**	**13 27 07.3**	**-5.5**
	172nm,0.3s,baz=261,slow=11,SNR=6.2						
MATP	**Matopo**	**12.83**	**256**	Pn	**Pn**	**13 27 52.0**	**-5.3**
	0.8nm,0.3s,baz=87,slow=13,SNR=7.8						
MATP				Sn	**Sn**	**13 30 08.3**	**-11**
	4.3nm,0.3s,baz=360,slow=24,SNR=4.6						
MATP				LR	LR	13 33 19.7	
	comp=Z,3µm,18.6s,baz=84,slow=39						
LSZ	**Lusaka**	**13.25**	**279**	*e*P	**Pn**	**13 27 56.7**	**-6.4**
LSZ				pmax	pmax		
	comp=Z,56nm,0.9s						
LSZ	**Lusaka**	**13.25**	**279**	*e*Pn	**Pn**	**13 27 56.7**	**-6.4**
	comp=Z,56nm,0.9s						
LBTB	**Lobatse**	**16.71**	**241**	Pn	**Pn**	**13 28 45.5**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=69,slow=12,SNR=6.4						
LBTB				Sn	**Sn**	**13 31 46.8**	**-7.5**
	comp=Z,1.4nm,0.3s,baz=95,slow=14,SNR=4.2						
LBTB				LR	LR	13 35 10.7	
	comp=Z,861nm,21.1s,baz=76,slow=37						
LBTB	**Lobatse**	**16.71**	**241**	*e*P	**Pn**	**13 28 45.3**	**-3.8**
LBTB				pmax	pmax		
	comp=Z,64nm,1.1s						
LBTB	**Lobatse**	**16.71**	**241**	*e*P	**Pn**	**13 28 45.3**	**-3.8**
	comp=Z,64nm,1.1s						
KMBO	**Kilima Mbogo**	**17.07**	**344**	P	**Pn**	**13 28 54.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=162,slow=13,SNR=9.8						
KMBO				S	**Sn**	**13 32 05.7**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=230,slow=21,SNR=2.4						
KMBO				LR	LR	13 35 50.2	
	comp=Z,377nm,19.0s,baz=109,slow=38						
KMBO	**Kilima Mbogo**	**17.07**	**344**	P	**Pn**	**13 28 54.3**	**+0.7**
KMBO				S	**Sn**	**13 32 05.7**	**+2.8**
BOSA	**Boshof**	**18.64**	**231**	P	**Pn**	**13 29 11.9**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=65,slow=12,SNR=23						
BOSA				S	**Sn**	**13 32 26.6**	**-14**
	baz=274,slow=22,SNR=1.7						
BOSA				LR	LR	13 36 30.7	
	comp=Z,1µm,18.3s,baz=67,slow=37						
BOSA	**Boshof**	**18.64**	**231**	*e*P	**Pn**	**13 29 11.3**	**-1.6**
BOSA				pmax	pmax		
	comp=Z,28nm,0.8s						
BOSA	**Boshof**	**18.64**	**231**	*e*P	**Pn**	**13 29 11.3**	**-1.6**
	comp=Z,28nm,0.8s						
TSUM	**Tsumeb**	**22.98**	**263**	P	**P**	**13 29 59.0**	**-0.5**
	comp=Z,6.8nm,0.7s,mb4.2,baz=88,slow=7.9,SNR=21						
TSUM	**Tsumeb**	**22.98**	**263**	*e*P	**P**	**13 29 58.8**	**-0.7**
	comp=Z,30nm,0.9s,mb4.7						
SUR	**Sutherland**	**23.89**	**228**	P	**P**	**13 30 08.1**	**-0.4**
	comp=Z,45nm,0.7s,mb5.0,baz=65,slow=8.7,SNR=27						
SUR				LR	LR	13 39 22.1	
	comp=Z,656nm,18.6s,MS4.1,baz=70,slow=36						
SUR	**Sutherland**	**23.89**	**228**	*e*P	**P**	**13 30 08.8**	**+0.3**
	comp=Z,107nm,0.8s,mb5.3						
ATD	**Arta Tunnel**	**29.07**	**2**	LR	LR	13 44 33.2	
	comp=Z,159nm,18.3s,MS3.7,baz=279,slow=41						
TOA0	**Torodi Ar. Sit**	**50.05**	**305**	*e*P	**P**	**13 33 49.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**50.05**	**305**	P	**P**	**13 33 48.9**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.3,baz=124,slow=7.2,SNR=25						
TORD				PcP	PcP	13 35 09.8	+0.7
	comp=Z,1.7nm,1.0s,baz=115,slow=5.4,SNR=4.2						
TORD				LR	LR	13 55 39.4	
	comp=Z,1µm,18.2s,MS5.0,baz=130,slow=37						
TORD	**Torodi Ar. Bea**	**50.05**	**305**	P	**P**	**13 33 48.9**	**-0.5**
TORD				PcP	PcP	13 35 09.8	+0.7
TORD				LR	LR	13 55 39.4	
BHD	**Baghdad**	**50.76**	**3**	*e*x	x	13 33 49.0	
SYO	**Syowa Base**	**51.30**	**181**	⇑*e*P	**P**	**13 33 59.0**	**+0.2**
MAW	**Mawson**	**51.68**	**170**	P	**P**	**13 34 02.1**	**+0.4**
	comp=Z,4.2nm,0.6s,mb4.5,baz=329,slow=6.7,SNR=6.6						
MAW				LR	LR	13 52 44.1	
	comp=Z,190nm,18.6s,MS4.2,baz=146,slow=32						
MAW	**Mawson**	**51.68**	**170**	*e*P	**P**	**13 34 01.6**	**-0.1**
MAW				pmax	pmax		
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**51.68**	**170**	*e*P	**P**	**13 34 01.6**	**-0.1**
	comp=Z,16nm,1.1s,mb4.9						
DBIC	**Dimbokro**	**52.02**	**294**	P	**P**	**13 34 04.4**	**+0.1**
	comp=Z,9.7nm,0.4s,mb5.0,baz=107,slow=8.2,SNR=54						
DBIC				LR	LR	13 55 54.9	
	comp=Z,1µm,19.1s,MS4.9,baz=106,slow=36						
DBIC	**Dimbokro**	**52.02**	**294**	*e*P	**P**	**13 34 04.5**	**+0.2**
DBIC				pmax	pmax		
	comp=Z,11nm,0.5s						
DBIC	**Dimbokro**	**52.02**	**294**	*e*P	**P**	**13 34 04.5**	**+0.2**
	comp=Z,11nm,0.5s,mb5.0						
MSL	**Mosul**	**53.72**	**1**	*e*x	x	13 34 25.5	
MALT	**Malatya**	**55.81**	**357**	⇓*i*P	**P**	**13 34 33.5**	**+1.5**
MALT	**Malatya**	**55.81**	**357**	*e*P	**P**	**13 34 33.2**	**+1.2**
	comp=Z,28nm,1.4s,mb5.1						
GNI	**Garni**	**57.63**	**3**	*e*P	**P**	**13 34 43.9**	**-1.0**
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
BRTR	**Keskin Array B**	**57.64**	**353**	P	**P**	**13 34 45.1**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.5,baz=177,slow=8.7,SNR=16						
BR131	**Keskin Array S**	**57.64**	**353**	*e*P	**P**	**13 34 45.2**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.4						
MIR	**Mirnyy**	**58.94**	**159**	*c i*P	**P**	**13 34 57.0**	**+2.9**
MIR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SNAA	**Sanae**	**59.90**	**195**	*e*P	**P**	**13 35 00.9**	**+0.3**
SNAA				*e*		13 35 03.8	
SNAA				*e*	pP	13 35 05.4	-1.1
SNAA	**Sanae**	**59.90**	**195**	⇑*e*P	**P**	**13 35 00.5**	**-0.1**
ZEI	**Tsey**	**60.21**	**2**	*e*P	**P**	**13 35 02.2**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
MAK	**Makhachkala**	**60.60**	**5**	*i* P	**P**	**13 35 03.9**	**-1.6**
MAK				*e*S	**S**	**13 43 19.0**	**-1.7**
MAK				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
MAK				MLR	MLR		
	comp=Z,234nm,20.0s,MS4.3						
KOLN	**Koldanda**	**60.71**	**43**	*e*P	**P**	**13 35 05.8**	**-0.4**
VNA1	**Neumayer--Stat**	**60.71**	**197**	*e*P	**P**	**13 35 08.8**	**+2.6**
VNA1				*e*		13 35 11.3	
VNA1				*e*	pP	13 35 12.6	+0.6
KIV	**Kislovodsk**	**61.37**	**1**	*e*P	**P**	**13 35 10.7**	**0.0**
KIV				*e*		13 35 50.8	
KIV				*e*S	**S**	**13 43 30.1**	**-0.4**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1						
KIV				MLR	MLR		
	comp=Z,93nm,17.0s,MS4.0						
VAY	**Valandovo**	**61.37**	**344**	*i* P	**P**	**13 35 10.6**	**-0.1**
VAY	**Valandovo**	**61.37**	**344**	⇓*i*P	**P**	**13 35 10.6**	**-0.1**
KEST	**Kesra**	**61.39**	**330**	P	**P**	**13 35 12.0**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.2,baz=168,slow=12,SNR=4.2						
VNA3	**Neumayer Olymp**	**61.42**	**197**	*e*P	**P**	**13 35 11.7**	**+0.7**
VNA3				*e*		13 35 14.7	
VNA3				*e*	pP	13 35 16.1	-0.8
GKN	**Gorkha**	**61.54**	**43**	*e*P	**P**	**13 35 11.5**	**-0.4**
DMN	**Daman**	**61.59**	**44**	*e*P	**P**	**13 35 11.9**	**-0.3**
PKI	**Pulchoki**	**61.76**	**44**	*e*P	**P**	**13 35 12.8**	**-0.5**
	comp=Z,95nm,1.3s,mb5.8						
KKN	**Kakani**	**61.82**	**44**	*e*P	**P**	**13 35 14.0**	**+0.3**
SKO	**Skopje**	**62.29**	**343**	*e*P	**P**	**13 35 19.2**	**+2.3**
GUN	**Gumba**	**62.30**	**44**	*e*P	**P**	**13 35 17.0**	**+0.1**
	comp=Z,126nm,1.1s,mb6.0						
MLR	**Muntele Rosu**	**64.52**	**348**	⇑*i*P	**P**	**13 35 32.4**	**+0.7**
MLR	**Muntele Rosu**	**64.52**	**348**	⇑P	**P**	**13 35 32.4**	**+0.8**
VOIR		**64.66**	**347**	⇓*i*P	**P**	**13 35 32.4**	**-0.1**
VOIR		**64.66**	**347**	⇓P	**P**	**13 35 32.4**	**-0.1**
PLOR	**Plostina**	**64.73**	**348**	⇑*i*P	**P**	**13 35 34.2**	**+1.2**
VRI	**Vrincioaia**	**64.73**	**348**	⇑*i*P	**P**	**13 35 33.5**	**+0.5**
VRI	**Vrincioaia**	**64.73**	**348**	⇑P	**P**	**13 35 33.5**	**+0.5**
BZS	**Buzias**	**65.63**	**345**	⇑*i*P	**P**	**13 35 39.2**	**+0.4**
BZS	**Buzias**	**65.63**	**345**	⇑P	**P**	**13 35 39.1**	**+0.3**
DRGR		**66.46**	**346**	⇑*i*P	**P**	**13 35 45.4**	**+1.2**
DRGR		**66.46**	**346**	⇑P	**P**	**13 35 45.4**	**+1.2**
CM31	**Chiang Mai Arr**	**66.72**	**60**	*e*P	**P**	**13 35 46.3**	**+0.5**
	comp=Z,15nm,1.1s,mb4.9						
CHG	**Chiang Mai**	**66.89**	**60**	⇓P	**P**	**13 35 47.1**	**+0.2**
	comp=Z,20nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	**66.89**	**60**	*e*P	**P**	**13 35 46.1**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
CHTO	**Chiang Mai**	**66.89**	**60**	*e*P	**P**	**13 35 46.1**	**-0.9**
	comp=Z,25nm,1.1s,mb5.2						
EKS2	**Erkin-Say**	**66.92**	**25**	P	**P**	**13 35 47.6**	**+0.5**
	SNR=9.8						
PKSM	**Moragy**	**66.97**	**343**	⇓*i*P	**P**	**13 35 47.5**	**0.0**
PKSM	**Moragy**	**66.97**	**343**	⇓P	**P**	**13 35 47.5**	**+0.1**
LSA	**Lhasa**	**66.99**	**46**	P	**P**	**13 35 48.0**	**+0.4**
LSA	**Lhasa**	**66.99**	**46**	*e*P	**P**	**13 35 48.5**	**+0.9**
LSA				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
LSA	**Lhasa**	**66.99**	**46**	*e*P	**P**	**13 35 48.5**	**+0.9**
	comp=Z,34nm,1.3s,mb5.2						
AAK	**Ala-Archa**	**67.19**	**26**	P	**P**	**13 35 49.6**	**+0.8**
	SNR=6.7						
AAK	**Ala-Archa**	**67.19**	**26**	*d i*P	**P**	**13 35 48.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
AAK	**Ala-Archa**	**67.19**	**26**	*e*P	**P**	**13 35 48.0**	**-0.9**
	comp=Z,12nm,1.1s,mb4.8						
KBK	**Karagaybulak**	**67.39**	**26**	P	**P**	**13 35 51.1**	**+1.0**
	SNR=11						
FRU	**Bishkek**	**67.40**	**26**	*e*P	**P**	**13 35 52.0**	**+1.8**
FRU				*e*	pP	13 35 58.0	+1.9
GCIS	**Gornji Cirnik**	**67.57**	**341**	*e*P	**P**	**13 35 51.8**	**+0.5**
CRES	**Cresnjev**	**67.59**	**340**	*e*P	**P**	**13 35 51.9**	**+0.6**
CHMS	**Chumysh**	**67.60**	**26**	P	**P**	**13 35 51.4**	**0.0**
	SNR=5.2						
ULHL	**Ulahol**	**67.61**	**27**	P	**P**	**13 35 52.5**	**+1.0**
	SNR=7.2						
TKM2	**Tokmak 2**	**67.88**	**26**	P	**P**	**13 35 53.7**	**+0.4**
	SNR=9.6						
KOGS	**Kog**	**67.89**	**341**	*i* P	**P**	**13 35 53.7**	**+0.5**
PSZ	**Piszkesteto**	**68.20**	**344**	⇓*i*P	**P**	**13 35 55.1**	**-0.1**
PSZ	**Piszkesteto**	**68.20**	**344**	*e*P	**P**	**13 35 54.5**	**-0.7**
	comp=Z,12nm,1.1s,mb4.8						
UZH	**Uzhgorod**	**68.29**	**346**	*e*P	**P**	**13 35 50.0**	**-5.8**
UZH				*i*	pP	13 35 55.7	-6.0
UZH				*i*		13 36 27.7	
KECS	**Kecovo**	**68.58**	**345**	*e*P	**P**	**13 35 57.5**	**-0.1**
KECS				*e*	pP	13 36 03.5	0.0
KECS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KECS	**Kecovo**	**68.58**	**345**	*e*P	**P**	**13 35 57.5**	**-0.1**
	comp=Z,5.6nm,0.9s,mb4.5						
KECS				*e*	pP	13 36 03.5	0.0
EBER	**Berja**	**68.73**	**323**	P	**P**	**13 35 59.4**	**+0.8**
	comp=Z,109nm,1.9s,mb5.5						
CRVS	**Cervenica-Dubn**	**68.74**	**346**	*e*P	**P**	**13 35 58.6**	**0.0**
CRVS				*e*sP	sP	13 36 03.6	-3.0
AKASG	**Malin Array Be**	**69.00**	**351**	P	**P**	**13 35 58.9**	**-1.3**
	comp=Z,1.9nm,0.6s,mb4.2,baz=174,slow=5.4,SNR=17						
AKASG				LR	LR	14 09 23.9	
	comp=Z,45nm,19.0s,MS3.7,baz=135,slow=39						
AKASG	**Malin Array Be**	**69.00**	**351**	P	**P**	**13 35 58.9**	**-1.3**
AKASG				LR	LR	14 09 23.9	
AKBB	**Malin Array Si**	**69.00**	**351**	*e*P	**P**	**13 35 59.1**	**-1.1**
VYHS	**Vyhne**	**69.01**	**344**	*e*P	**P**	**13 35 59.9**	**-0.4**
VYHS				*e*	pP	13 36 05.2	-1.0
VYHS				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
VYHS	**Vyhne**	**69.01**	**344**	*e*P	**P**	**13 35 59.9**	**-0.4**
	comp=Z,9.4nm,1.4s,mb4.5						
VYHS				*e*	pP	13 36 05.2	-1.0
EGUA	**Guajares**	**69.08**	**322**	P	**P**	**13 36 01.2**	**+0.5**
	comp=Z,5.0nm,2.0s,mb4.1						
VOR	**Voronezh**	**69.18**	**358**	*e*P	**P**	**13 36 02.0**	**+0.7**
VOR				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						
ZST	**Bratislava**	**69.22**	**343**	*e*P	**P**	**13 36 01.0**	**-0.5**
ZST				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ZST	**Bratislava**	**69.22**	**343**	*e*P	**P**	**13 36 01.0**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.7						
STHS	**Stebnicka Huta**	**69.27**	**346**	*e*P	**P**	**13 36 02.0**	**+0.1**
STHS				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
STHS	**Stebnicka Huta**	**69.27**	**346**	*e*P	**P**	**13 36 02.0**	**+0.1**
	comp=Z,6.3nm,1.2s,mb4.4						
AKTK	**Aktyubinsk**	**69.34**	**11**	P	**P**	**13 36 01.3**	**-1.0**
AKTO	**Aktyubinsk**	**69.34**	**11**	P	**P**	**13 36 01.3**	**-1.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=201,slow=6.1,SNR=11						
ERON	**Agron**	**69.34**	**322**	P	**P**	**13 36 03.5**	**+1.1**
	comp=Z,3.4nm,0.6s,mb4.5						
ECOG	**Cogollos-Vega**	**69.38**	**323**	P	**P**	**13 36 04.2**	**+1.6**
ECOG				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
ECOG	**Cogollos-Vega**	**69.38**	**323**	P	**P**	**13 36 04.2**	**+1.6**
	comp=Z,20nm,1.4s,mb4.8						
EQES	**Quesada**	**69.46**	**323**	P	**P**	**13 36 03.7**	**+0.7**
	comp=Z,113nm,2.3s,mb5.4						
NIE	**Niedzica**	**69.49**	**345**	*e*P	**P**	**13 36 03.9**	**+0.7**
ELOJ	**Sierra Loja**	**69.63**	**322**	P	**P**	**13 36 04.1**	**0.0**
ELOJ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ELOJ	**Sierra Loja**	**69.63**	**322**	P	**P**	**13 36 04.1**	**0.0**
	comp=Z,5.1nm,1.0s,mb4.4						
SMRF	**Simiane la Rot**	**69.75**	**333**	*e*P	**P**	**13 36 04.7**	**-0.1**
MBDF	**Montbardon**	**69.85**	**334**	*e*P	**P**	**13 36 06.6**	**+1.2**
	comp=Z,54nm,1.3s,mb5.0						
MBDF	**Montbardon**	**69.85**	**334**	*e*P	**P**	**13 36 06.6**	**+1.2**
MBDF				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
MBDF	**Montbardon**	**69.85**	**334**	*e*P	**P**	**13 36 06.6**	**+1.2**
	comp=Z,27nm,1.3s,mb5.0						
ELUQ	**Luque**	**69.98**	**322**	P	**P**	**13 36 06.1**	**-0.2**
ELUQ				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
ELUQ	**Luque**	**69.98**	**322**	P	**P**	**13 36 06.1**	**-0.2**
	comp=Z,4.3nm,1.4s,mb4.2						
BNI	**Bardonecchia**	**70.15**	**334**	*e*P	**P**	**13 36 09.1**	**+1.8**
BNI				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.1						
BNI	**Bardonecchia**	**70.15**	**334**	*e*P	**P**	**13 36 09.1**	**+1.8**
	comp=Z,33nm,1.3s,mb5.1						
OJC	**Ojcow**	**70.36**	**345**	*e*P	**P**	**13 36 08.1**	**-0.5**
OKC	**Ostrava-Krasne**	**70.42**	**344**	*e*P	**P**	**13 36 08.4**	**-0.6**
OKC				*e*pP	pP	13 36 13.5	-1.4
ESPR	**Espera**	**70.45**	**321**	P	**P**	**13 36 08.9**	**-0.2**
	comp=Z,201nm,2.8s,mb5.6						
LPG	**La Plagne**	**70.48**	**335**	*e*P	**P**	**13 36 09.0**	**-0.3**
	comp=Z,43nm,1.3s,mb4.9						
LPG	**La Plagne**	**70.48**	**335**	*e*P	**P**	**13 36 09.0**	**-0.3**
LPG				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
LPG	**La Plagne**	**70.48**	**335**	*e*P	**P**	**13 36 09.0**	**-0.3**
	comp=Z,21nm,1.3s,mb4.9						
LPL	**La Plagne**	**70.50**	**335**	*e*P	**P**	**13 36 09.2**	**-0.3**
	comp=Z,38nm,1.3s,mb4.9						
LPL	**La Plagne**	**70.50**	**335**	*e*P	**P**	**13 36 09.2**	**-0.3**
LPL				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
LPL	**La Plagne**	**70.50**	**335**	*e*P	**P**	**13 36 09.2**	**-0.3**
	comp=Z,19nm,1.3s,mb4.9						
MORC	**Moravsky Berou**	**70.53**	**344**	⇑*i*P	**P**	**13 36 09.2**	**-0.4**
MORC	**Moravsky Berou**	**70.53**	**344**	*e*P	**P**	**13 36 09.3**	**-0.4**
	comp=Z,18nm,1.2s,mb4.9						
EADA	**Adamuz**	**70.58**	**323**	P	**P**	**13 36 08.2**	**-1.6**
	comp=Z,67nm,1.9s,mb5.2						
LASF	**Ste Croix**	**70.58**	**332**	*e*P	**P**	**13 36 10.5**	**+0.5**
	comp=Z,114nm,1.7s,mb5.2						
MTLF	**Montolieu**	**70.77**	**331**	*e*P	**P**	**13 36 11.2**	**+0.1**
	comp=Z,50nm,1.5s,mb4.9						
MTLF	**Montolieu**	**70.77**	**331**	*e*P	**P**	**13 36 11.2**	**+0.1**
MTLF				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
MTLF	**Montolieu**	**70.77**	**331**	*e*P	**P**	**13 36 11.2**	**+0.1**
	comp=Z,25nm,1.5s,mb4.9						
GEC2	**GERESS Array S**	**70.81**	**341**	*e*P	**P**	**13 36 10.4**	**-1.0**
	comp=Z,9.0nm,1.0s,mb4.7						
GEC2	**GERESS Array S**	**70.81**	**341**	*e*P	**P**	**13 36 10.4**	**-1.0**
GEC2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**70.81**	**341**	P	**P**	**13 36 10.5**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=152,slow=5.9,SNR=23						
VIVF	**Saint-Julien-l**	**70.84**	**333**	*e*P	**P**	**13 36 12.1**	**+0.6**
	comp=Z,27nm,1.2s,mb4.8						
VIVF	**Saint-Julien-l**	**70.84**	**333**	*e*P	**P**	**13 36 12.1**	**+0.6**
VIVF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
VIVF	**Saint-Julien-l**	**70.84**	**333**	*e*P	**P**	**13 36 12.1**	**+0.6**
	comp=Z,13nm,1.2s,mb4.8						
FUR	**Furstenfeldbru**	**71.02**	**339**	*e*P	**P**	**13 36 12.9**	**+0.3**
	comp=Z,13nm,0.5s,mb5.1						
FUR	**Furstenfeldbru**	**71.02**	**339**	*e*P	**P**	**13 36 12.9**	**+0.3**
FUR				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
KHC	**Kasperske Hory**	**71.11**	**341**	*e*P	**P**	**13 36 12.0**	**-1.1**
KHC				*e*pP	pP	13 36 16.7	-2.3
ESDC	**Sonseca Array**	**71.26**	**324**	P	**P**	**13 36 14.9**	**+0.8**
	comp=Z,3.0nm,0.9s,mb4.2,baz=140,slow=6.1,SNR=14						
ESDC	**Sonseca Array**	**71.26**	**324**	P	**P**	**13 36 14.1**	**0.0**
	comp=Z,9.2nm,1.0s,mb4.7						
WET	**Wettzell**	**71.34**	**340**	*e*P	**P**	**13 36 12.8**	**-1.7**

comp=Z,15nm,1.9s,mb4.6
WET Wettzell 71.34 340 *e*P **P** **13 36 12.8 -1.7**
WET pmax pmax
comp=Z,15nm,1.9s,mb4.6
DPC Dobruska-Polom 71.38 343 *e*P **P** **13 36 14.3 -0.5**
DPC *e*pP pP 13 36 20.0 -0.7
EPF Esparros 71.43 329 *e*P **P** **13 36 15.6 +0.5**
comp=Z,31nm,1.1s,mb4.8
EPF Esparros 71.43 329 *e*P **P** **13 36 15.6 +0.5**
EPF pmax pmax
comp=Z,15nm,1.1s,mb4.8
EPF Esparros 71.43 329 *e*P **P** **13 36 15.6 +0.5**
comp=Z,15nm,1.1s,mb4.8
EMIN Mina Concepcio 71.54 321 P **P** **13 36 15.3 -0.4**
comp=Z,84nm,2.1s,mb5.3
PRU Pruhonice 71.57 342 *e*P **P** **13 36 15.1 -0.8**
PRU *e*pP pP 13 36 20.5 -1.3
UPC Upice 71.61 343 *e*P **P** **13 36 15.9 -0.3**
UPC *e*pP pP 13 36 21.3 -0.8
CABF La Chapelle 71.66 335 *e*P **P** **13 36 16.5 +0.1**
comp=Z,79nm,1.3s,mb5.2
CABF La Chapelle 71.66 335 *e*P **P** **13 36 16.5 +0.1**
CABF pmax pmax
comp=Z,40nm,1.3s,mb5.2
CABF La Chapelle 71.66 335 *e*P **P** **13 36 16.5 +0.1**
comp=Z,40nm,1.3s,mb5.2
ETSF Etsaut 71.78 329 *e*P **P** **13 36 17.7 +0.5**
EGRO El Granado 71.87 321 P **P** **13 36 18.1 +0.4**
CAF Calviac 72.05 332 *e*P **P** **13 36 19.4 +0.6**
comp=Z,45nm,1.5s,mb4.9
CAF Calviac 72.05 332 *e*P **P** **13 36 19.4 +0.6**
CAF pmax pmax
comp=Z,22nm,1.5s,mb4.9
CAF Calviac 72.05 332 *e*P **P** **13 36 19.4 +0.6**
comp=Z,22nm,1.5s,mb4.9
ROTZ Rotzenmuhle 72.10 340 *e*P **P** **13 36 18.4 -0.7**
comp=Z,7.0nm,1.2s,mb4.5
BFO Black Forest 72.20 337 *e*P **P** **13 36 18.9 -0.8**
STU Stuttgart 72.26 338 *e*P **P** **13 36 20.6 +0.5**
SJPF Ste Jean 72.26 328 *e*P **P** **13 36 20.6 +0.5**
comp=Z,58nm,1.4s,mb5.0
SJPF Ste Jean 72.26 328 *e*P **P** **13 36 20.6 +0.5**
SJPF pmax pmax
comp=Z,29nm,1.4s,mb5.0
SJPF Ste Jean 72.26 328 *e*P **P** **13 36 20.6 +0.5**
comp=Z,29nm,1.4s,mb5.0
MANZ Manzenberg 72.32 340 *e*P **P** **13 36 19.4 -1.0**
comp=Z,12nm,1.4s,mb4.6
HINF Hinteralfeld 72.34 336 *e*P **P** **13 36 20.0 -0.5**
comp=Z,42nm,1.4s,mb4.9
HINF Hinteralfeld 72.34 336 *e*P **P** **13 36 20.0 -0.5**
HINF pmax pmax
comp=Z,21nm,1.4s,mb4.9
HINF Hinteralfeld 72.34 336 *e*P **P** **13 36 20.0 -0.5**
comp=Z,21nm,1.4s,mb4.9
GRA1 Grafenberg Arr 72.35 340 *e*P **P** **13 36 20.3 -0.3**
comp=Z,14nm,0.9s,mb4.9
GRA1 *e*pP pP 13 36 26.0 -0.5
GRF Grafenberg Arr 72.35 340 *e*P **P** **13 36 20.3 -0.3**
comp=Z,14nm,0.9s,mb4.9
GRF *e*pP pP 13 36 26.0 -0.5
GRF Grafenberg Arr 72.35 340 *e*P **P** **13 36 20.3 -0.3**
GRF *e**PP pP 13 36 26.0 -0.5
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
GRF Grafenberg Arr 72.35 340 *e*P **P** **13 36 20.3 -0.3**
GRF *e**PP pP 13 36 26.0 -0.5
GRF pmax pmax
comp=Z,14nm,0.9s,mb4.9
BRG Berggiesshubel 72.53 342 *e*P **P** **13 36 21.3 -0.4**
comp=Z,7.0nm,1.0s,mb4.5
BRG Berggiesshubel 72.53 342 *e*P **P** **13 36 21.5 -0.2**
comp=Z,4.0nm,1.0s,mb4.3
BRG *e* pP 13 36 26.5 -1.1
comp=Z,7.7nm,1.4s
BRG Berggiesshubel 72.53 342 *e*P **P** **13 36 21.5 -0.2**
BRG *e* pP 13 36 26.5 -1.1
BRG pmax pmax
comp=Z,40nm,1.0s,mb5.3
TANN Tannenbergstha 72.58 341 *e*P **P** **13 36 21.5 -0.5**
comp=Z,15nm,1.2s,mb4.8
RJF Les Rejaudoux 72.59 331 *e*P **P** **13 36 22.5 +0.5**
comp=Z,49nm,1.4s,mb4.9
RJF *e*R
comp=Z,156nm,19.5s
RJF Les Rejaudoux 72.59 331 *e*P **P** **13 36 22.5 +0.5**
RJF pmax pmax
comp=Z,24nm,1.4s,mb4.9
RJF MLR MLR
comp=Z,160nm,19.5s,MS4.3
RJF Les Rejaudoux 72.59 331 *e*P **P** **13 36 22.5 +0.5**
comp=Z,24nm,1.4s,mb4.9
RJF LR LR
comp=Z,160nm,19.5s,MS4.3
SMF Signal de Mont 72.61 334 *e*P **P** **13 36 21.9 -0.3**
comp=Z,40nm,1.2s,mb4.9
SMF Signal de Mont 72.61 334 *e*P **P** **13 36 21.9 -0.3**
SMF pmax pmax
comp=Z,20nm,1.2s,mb4.9
SMF Signal de Mont 72.61 334 *e*P **P** **13 36 21.9 -0.3**
comp=Z,20nm,1.2s,mb4.9
CDF Champ du Feu 72.67 337 *e*P **P** **13 36 21.7 -0.8**
comp=Z,45nm,1.5s,mb4.9
CDF Champ du Feu 72.67 337 *e*P **P** **13 36 21.7 -0.8**
CDF pmax pmax
comp=Z,23nm,1.5s,mb4.9
CDF Champ du Feu 72.67 337 *e*P **P** **13 36 21.7 -0.8**
comp=Z,22nm,1.5s,mb4.9
OBN Obninsk 72.67 357⇓ *e*P **P** **13 36 21.3 -1.2**
OBN *i* pP 13 36 28.5 +0.1
OBN pmax pmax
comp=Z,33nm,1.6s,mb5.0
LFF La Frestale 72.67 331 *e*P **P** **13 36 22.9 +0.4**
comp=Z,64nm,1.4s,mb5.1
LFF La Frestale 72.67 331 *e*P **P** **13 36 22.9 +0.4**
LFF pmax pmax
comp=Z,32nm,1.4s,mb5.1
LFF La Frestale 72.67 331 *e*P **P** **13 36 22.9 +0.4**
comp=Z,32nm,1.4s,mb5.1
HAU Haudompre 72.69 336 *e*P **P** **13 36 22.2 -0.4**
comp=Z,54nm,1.3s,mb5.0
HAU *e*R
comp=Z,205nm,17.5s
HAU Haudompre 72.69 336 *e*P **P** **13 36 22.2 -0.4**
HAU pmax pmax
comp=Z,27nm,1.3s,mb5.0
HAU MLR MLR
comp=Z,200nm,17.5s,MS4.5
HAU Haudompre 72.69 336 *e*P **P** **13 36 22.2 -0.4**
comp=Z,27nm,1.3s,mb5.0
HAU LR LR
comp=Z,200nm,17.5s,MS4.5
AVF Avril sur Loir 72.93 333 *e*P **P** **13 36 23.9 -0.2**
comp=Z,27nm,1.1s,mb4.8
AVF Avril sur Loir 72.93 333 *e*P **P** **13 36 23.9 -0.2**
AVF pmax pmax
comp=Z,14nm,1.1s,mb4.8
AVF Avril sur Loir 72.93 333 *e*P **P** **13 36 23.9 -0.2**
comp=Z,14nm,1.1s,mb4.8
BGF Bois d'Agland 72.97 333 *e*P **P** **13 36 24.2 -0.1**
comp=Z,38nm,1.2s,mb4.9
BGF Bois d'Agland 72.97 333 *e*P **P** **13 36 24.2 -0.1**
BGF pmax pmax
comp=Z,19nm,1.2s,mb4.9
BGF Bois d'Agland 72.97 333 *e*P **P** **13 36 24.2 -0.1**
comp=Z,19nm,1.2s,mb4.9
TCF Toulx Ste Croi 73.04 333 *e*P **P** **13 36 25.2 +0.5**
comp=Z,32nm,1.0s,mb4.9
TCF Toulx Ste Croi 73.04 333 *e*P **P** **13 36 25.2 +0.5**
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.9
TCF Toulx Ste Croi 73.04 333 *e*P **P** **13 36 25.2 +0.5**
comp=Z,16nm,1.0s,mb4.9
KMI Kunming 73.05 56 P **P** **13 36 24.9 +0.2**
KMI AP pP 13 36 32.8 +2.1
KMI XP sP 13 36 36.0 +3.2
KMI S S 13 45 55.5 +4.4
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,146nm,4.1s
KMI LR LR
comp=N,188nm,18.5s,MS4.8
KMI LR LR
comp=E,363nm,17.4s,MS4.8
KMI LR LR
comp=Z,202nm,16.9s,MS4.5
MOX Moxa 73.05 340 *e*P **P** **13 36 24.3 -0.5**
comp=Z,11nm,1.3s,mb4.6
MOX Moxa 73.05 340 *e*P **P** **13 36 24.5 -0.3**
comp=Z,26nm,1.8s,mb4.9
MOX *e* pP 13 36 29.8 -0.9
MOX Moxa 73.05 340 *e*P **P** **13 36 24.5 -0.3**
MOX *e**PP pP 13 36 29.8 -0.9
MOX pmax pmax
comp=Z,26nm,1.8s,mb4.9
SSF Saint Saulge 73.08 334 *e*P **P** **13 36 24.6 -0.4**
comp=Z,18nm,1.3s,mb4.5
SSF Saint Saulge 73.08 334 *e*P **P** **13 36 24.6 -0.4**
SSF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
SSF Saint Saulge 73.08 334 *e*P **P** **13 36 24.6 -0.4**
comp=Z,9.0nm,1.3s,mb4.5
LOR Lormes 73.10 334 *e*P **P** **13 36 24.9 -0.1**
comp=Z,46nm,1.3s,mb5.0
LOR *e*R
comp=Z,175nm,20.0s
LOR Lormes 73.10 334 *e*P **P** **13 36 24.9 -0.1**
LOR pmax pmax
comp=Z,23nm,1.3s,mb5.0
LOR MLR MLR
comp=Z,170nm,20.0s,MS4.3
LOR Lormes 73.10 334 *e*P **P** **13 36 24.9 -0.1**
comp=Z,23nm,1.3s,mb5.0
LOR LR LR
comp=Z,170nm,20.0s,MS4.3
SUW Suwalki 73.19 349 *e*P **P** **13 36 24.8 -0.8**
CLL Collm 73.20 342 *e*P **P** **13 36 25.1 -0.5**
comp=Z,11nm,1.0s,mb4.7
CLL Collm 73.20 342⇓ *i*P **P** **13 36 25.0 -0.6**
comp=Z,11nm,1.0s,mb4.7
CLL *e*(sP) sP 13 36 31.0 -2.7
CLL Collm 73.20 342⇓ *i*P **P** **13 36 25.0 -0.6**
CLL *e* pP 13 36 31.0 -0.6
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOS Moscow 73.24 358 *e*P **P** **13 36 25.0 -0.9**
MEZF Maizieres J'vi 73.60 336 *e*P **P** **13 36 28.0 0.0**
comp=Z,48nm,1.3s,mb5.0
MEZF Maizieres J'vi 73.60 336 *e*P **P** **13 36 28.0 0.0**
comp=Z,48nm,1.3s,mb5.3
UBBA Unterbreizbach 73.72 340 *e*P **P** **13 36 29.6 +0.9**
TNS Taunus Mts 73.75 338 *e*P **P** **13 36 29.3 +0.4**
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 73.75 338 *e*P **P** **13 36 29.3 +0.4**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MKAR Makanchi Array 73.85 28 P **P** **13 36 29.3 -0.2**
comp=Z,4.8nm,0.5s,mb4.7,baz=220,slow=6.4,SNR=3.3
WLF Walferdange 74.12 337 *e*P **P** **13 36 31.9 +0.9**
comp=Z,27nm,1.5s,mb5.0
WLF Walferdange 74.12 337 P **P** **13 36 36.9 +5.8**
ZRNK Zerenda 74.21 17 *e*P **P** **13 36 30.7 -0.9**
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 74.21 17 *e*P **P** **13 36 30.7 -0.9**
comp=Z,7.3nm,1.0s,mb4.6
WMQ Urumqi 74.26 33 P **P** **13 36 32.4 +0.5**
WMQ XP sP 13 36 39.0 -1.0
WMQ PCP PcP 13 36 48.0 +1.3
WMQ PP PP 13 39 19.0 +1.3
WMQ S S 13 46 04.0 -0.8
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,276nm,5.2s
WMQ LR LR
comp=N,292nm,24.0s
WMQ LR LR
comp=E,264nm,18.8s
WMQ LR LR
comp=Z,328nm,22.8s,MS4.6
MFF Saint Martin d 74.33 331 *e*P **P** **13 36 32.3 0.0**
comp=Z,23nm,1.2s,mb4.7
MFF Saint Martin d 74.33 331 *e*P **P** **13 36 32.3 0.0**
MFF pmax pmax
comp=Z,11nm,1.2s,mb4.7
MFF Saint Martin d 74.33 331 *e*P **P** **13 36 32.3 0.0**
comp=Z,11nm,1.2s,mb4.7
BVAR Borovoye Array 74.67 17 P **P** **13 36 33.7 -0.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=208,slow=6.0,SNR=26
GIVF Givet 74.98 336 *e*P **P** **13 36 35.8 -0.2**
BUG Bochum--Univer 75.18 338 *e*P **P** **13 36 37.8 +0.6**
comp=Z,18nm,1.1s,mb4.9
BAIF Baives 75.18 336 *e*P **P** **13 36 37.1 -0.1**
comp=Z,77nm,1.8s,mb5.0
BAIF Baives 75.18 336 *e*P **P** **13 36 37.1 -0.1**
BAIF pmax pmax
comp=Z,39nm,1.8s,mb5.0
BAIF Baives 75.18 336 *e*P **P** **13 36 37.1 -0.1**
comp=Z,38nm,1.8s,mb5.0
ARU Arti 75.20 10⇓ *i*P **P** **13 36 36.3 -1.0**
ARU *e* 13 36 48.6
ARU *e* 13 39 24.7
ARU *e*PPP 13 41 13.8
ARU *e*S S 13 46 16.5 +1.2
ARU *e*SS SS 13 51 05.6 +0.9
ARU pmax pmax
comp=Z,12nm,1.1s,mb4.7
ARU Arti 75.20 10 *i* P PP 13 39 24.7 -1.0
ARU Arti 75.20 10 *e*P **P** **13 36 35.8 -1.5**
comp=Z,18nm,1.2s,mb4.9
CHKZ Chkalovo 75.31 17 *e*P **P** **13 36 37.0 -0.9**
CHKZ pmax pmax
comp=Z,11nm,1.3s,mb4.6
CHKZ Chkalovo 75.31 17 *e*P **P** **13 36 37.0 -0.9**
comp=Z,11nm,1.3s,mb4.6
KURK Kurchatov 75.44 23 P **P** **13 36 38.2 -0.5**
comp=Z,90nm,1.3s,mb5.5,SNR=11
LDF La Druitiere 75.82 333 *e*P **P** **13 36 40.5 -0.4**
comp=Z,30nm,1.1s,mb4.8
LDF La Druitiere 75.82 333 *e*P **P** **13 36 40.5 -0.4**
LDF pmax pmax
comp=Z,15nm,1.1s,mb4.8
LDF La Druitiere 75.82 333 *e*P **P** **13 36 40.5 -0.4**
comp=Z,15nm,1.1s,mb4.8
SVE Sverdlovsk 75.92 11 *e*P **P** **13 36 36.8 -4.6**
GRR Gorron 75.99 332 *e*P **P** **13 36 41.5 -0.3**
FLN La Foliniere 76.11 333 *e*P **P** **13 36 42.0 -0.5**
comp=Z,49nm,1.4s,mb4.9
FLN *e*R
comp=Z,282nm,17.0s
FLN La Foliniere 76.11 333 *e*P **P** **13 36 42.0 -0.5**
FLN pmax pmax
comp=Z,24nm,1.4s,mb4.9
FLN MLR MLR
comp=Z,280nm,17.0s,MS4.6
FLN La Foliniere 76.11 333 *e*P **P** **13 36 42.0 -0.5**
comp=Z,24nm,1.4s,mb4.9
FLN LR LR
comp=Z,280nm,17.0s,MS4.6
BSEG Bad Segeberg 76.29 341 *e*P **P** **13 36 42.9 -0.7**
SGMF Saint Gilles 76.66 331 *e*P **P** **13 36 45.0 -0.6**
comp=Z,94nm,1.6s,mb5.2
SGMF Saint Gilles 76.66 331 *e*P **P** **13 36 45.0 -0.6**
SGMF pmax pmax
comp=Z,47nm,1.6s,mb5.2
SGMF Saint Gilles 76.66 331 *e*P **P** **13 36 45.0 -0.6**
comp=Z,47nm,1.6s,mb5.2
CD2 Chengdu 76.69 51 *e*P **P** **13 36 45.6 -0.2**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
QUIF Quistinic 76.69 331 *e*P **P** **13 36 45.8 0.0**
comp=Z,59nm,1.3s,mb5.0
QUIF Quistinic 76.69 331 *e*P **P** **13 36 45.8 0.0**
QUIF pmax pmax
comp=Z,30nm,1.3s,mb5.1
QUIF Quistinic 76.69 331 *e*P **P** **13 36 45.8 0.0**
comp=Z,30nm,1.3s,mb5.1
GYA Guiyang 76.79 56⇑ *i*P **P** **13 36 46.5 +0.1**
GYA AP pP 13 36 50.8 -1.5
GYA XP sP 13 36 53.4 -1.1
GYA PP PP 13 39 40.8 +1.7
GYA PPP 13 41 28.6
GYA S S 13 46 32.1 -0.7
GYA SKS 13 46 52.9
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,4.2s
GYA LR LR
comp=N,420nm,18.9s,MS5.0
GYA LR LR
comp=E,480nm,18.4s,MS5.0
GYA LR LR
comp=Z,460nm,18.5s,MS4.8
VSU Vasula 76.90 352 *e*P **P** **13 36 45.7 -1.3**
ROSF Rostrenen 77.05 331 *e*P **P** **13 36 47.2 -0.6**
comp=Z,65nm,1.6s,mb5.0
ROSF Rostrenen 77.05 331 *e*P **P** **13 36 47.2 -0.6**
ROSF pmax pmax
comp=Z,32nm,1.6s,mb5.0
ROSF Rostrenen 77.05 331 *e*P **P** **13 36 47.2 -0.6**
comp=Z,32nm,1.6s,mb5.0
SOKR Solikamsk 77.97 8 *e*P **P** **13 36 53.0 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GTA Gaotai 78.49 42⇓ P **P** **13 36 56.5 +0.7**
GTA AP pP 13 36 59.6 -2.2
GTA XP sP 13 37 02.3 -1.7
GTA PP PP 13 39 54.9 +1.6
GTA PPP 13 41 44.1
GTA S S 13 46 50.6 -0.6
GTA XS sS 13 46 55.5 -5.5
GTA SKS 13 47 03.9
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,118nm,4.2s
GTA LR LR
comp=N,183nm,14.5s,MS4.8
GTA LR LR
comp=E,289nm,19.1s,MS4.8
GTA LR LR
comp=Z,345nm,18.0s,MS4.7
VNDA Vanda 78.98 169 P **P** **13 36 58.1 -0.5**
comp=Z,1.3nm,1.0s,mb3.8,baz=255,slow=11,SNR=4.3
FITZ Fitzroy Crossi 79.04 106 *e*P **P** **13 36 59.0 +0.1**
comp=Z,14nm,1.0s,mb4.9
FITZ Fitzroy Crossi 79.04 106 LR LR 14 06 48.0
comp=Z,146nm,19.5s,MS4.3,baz=278,slow=32
LZH Lanzhou 79.38 47 *e*P **P** **13 37 01.5 +0.7**
LZH AP pP 13 37 08.5 +1.8
LZH XP sP 13 37 12.0 +3.1
LZH PP PP 13 40 04.0 +3.2
LZH *e*S S 13 47 01.0 +0.3
LZH XS sS 13 47 12.0 +1.4
LZH AMB AMB
comp=Z,50nm,1.1s,mb5.4
LZH AMB AMB
comp=Z,170nm,4.2s
LZH LR LR
comp=E,1μm,15.6s
LZH LR LR
comp=Z,1μm,16.0s,MS5.4
FINES FINESS Array B 79.88 352 P **P** **13 37 04.6 +1.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=151,slow=6.0,SNR=7.3
ZAL Zalesovo 80.32 24 P **P** **13 37 05.2 -0.7**
comp=Z,5.8nm,0.9s,mb4.5,baz=243,slow=4.8,SNR=26
ZAL LR LR 14 08 33.5
comp=Z,80nm,21.8s,MS4.0,baz=239,slow=33
NVS Novosibirsk 80.42 23 *i* P **P** **13 37 05.1 -1.3**
NVS pmax pmax
comp=N,26nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,44nm,1.4s,mb5.2
KONO Kongsberg 81.42 344 *e*P **P** **13 37 11.8 +0.1**
XAN Xi'an 82.02 51 P **P** **13 37 14.9 0.0**
XAN AP pP 13 37 20.4 -0.5
XAN AMB AMB
comp=Z,17nm,1.2s,mb4.8
NAO01 NORSAR Array S 82.13 345 *e*P **P** **13 37 15.1 -0.4**
comp=Z,5.2nm,0.9s,mb4.5
NB2 NORSAR Subarra 82.22 346 P **P** **13 37 15.1 -0.8**
comp=Z,20nm,1.4s,mb4.8,baz=151,slow=5.3
NOA NORSAR Array B 82.22 346 P **P** **13 37 15.0 -1.0**
comp=Z,6.1nm,1.0s,mb4.5,baz=143,slow=5.3,SNR=6.9
ASAR Alice Springs 84.94 113 P **P** **13 37 30.2 +0.3**
comp=Z,7.3nm,0.9s,mb4.8,baz=260,slow=4.5,SNR=51
ASAR LR LR 14 09 50.8
comp=Z,437nm,21.2s,MS4.8,baz=352,slow=32
AS31 Alice Springs 84.95 113 *e*P **P** **13 37 30.1 +0.2**
BDFB Brasilia 85.15 255 P **P** **13 37 32.5 +1.5**
comp=Z,3.6nm,0.8s,mb4.6,baz=168,slow=10,SNR=5.3
BDFB LR LR 14 13 14.2
comp=Z,324nm,18.7s,MS4.7,baz=106,slow=34
BTO Baotou 85.82 45 *e*P **P** **13 37 34.6 +0.3**
WRA Warramunga Arr 86.43 110 P **P** **13 37 37.8 +0.5**
comp=Z,3.7nm,0.9s,mb4.6,baz=258,slow=3.8,SNR=17
WRA LR LR 14 13 34.7
comp=Z,255nm,18.9s,MS4.6,baz=250,slow=34
WB2 Warramunga Ar 86.44 110 *e*P **P** **13 37 38.0 +0.7**
WRAB Tennant Creek 86.44 110 *e*P **P** **13 37 37.7 +0.4**
WRAB pmax pmax
comp=Z,11nm,1.0s,mb5.0
WRAB Tennant Creek 86.44 110 *e*P **P** **13 37 37.7 +0.3**
comp=Z,11nm,1.0s,mb5.0
ZAK Zakamensk 86.63 34 *e*P **P** **13 37 39.0 +0.7**
HHC Hu-ho-hao-te 86.98 45 *e*P **P** **13 37 41.1 +1.1**
HHC AP pP 13 37 45.8 -0.2
HHC XP sP 13 37 48.3 +0.1
HHC SKS 13 48 05.1
HHC S S 13 48 18.1 +0.3
HHC XS sS 13 48 26.0 -1.7
HHC AMB AMB
comp=Z,21nm,0.3s,mb5.8
HHC AMB AMB
comp=Z,218nm,4.4s
HHC LR LR
comp=N,108nm,4.5s
HHC LR LR
comp=E,87nm,5.5s
HHC LR LR
comp=Z,105nm,5.9s
SONM Songino Array 87.03 38 P **P** **13 37 39.7 -0.5**
comp=Z,2.2nm,0.9s,mb4.4,baz=241,slow=5.0,SNR=11
ULN Ulaanbaatar 87.43 38 *e*P **P** **13 37 41.6 -0.6**
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
ULN Ulaanbaatar 87.43 38 *e*P **P** **13 37 41.6 -0.6**
comp=Z,3.4nm,1.0s,mb4.5
ARCES ARCESS Array B 87.78 354 P **P** **13 37 42.3 -1.6**
comp=Z,2.1nm,0.7s,mb4.5,baz=132,slow=3.8,SNR=4.1
ARCES LR LR 14 19 37.3
comp=Z,108nm,20.0s,MS4.3,baz=255,slow=37
NJ2 Nanjing 88.78 56 *e*P **P** **13 37 50.8 +2.2**
NJ2 AP pP 13 37 55.4 +0.8
NJ2 XP sP 13 37 57.6 +0.8
NJ2 PP PP 13 41 22.1 +4.5
NJ2 SKS 13 48 18.0
NJ2 S S 13 48 35.0 0.0
NJ2 XS sS 13 48 43.0 -2.0
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.9
NJ2 AMB AMB
comp=Z,1μm,7.0s
NJ2 LR LR
comp=N,2μm,24.8s,MS5.6
NJ2 LR LR
comp=E,2μm,25.2s,MS5.6
NJ2 LR LR
comp=Z,2μm,26.2s,MS5.4
STKA Stephens Creek 88.83 123 LR LR 14 11 57.7
comp=Z,285nm,20.4s,MS4.7,baz=205,slow=32
CPUP Villa Florida 90.11 242 LR LR 14 17 13.9
comp=Z,231nm,20.1s,MS4.6,baz=85,slow=35
SSE Sheshan 90.30 57 P **P** **13 37 55.5 -0.2**
SSE AMB AMB
comp=Z,28nm,1.1s,mb5.5
SSE AMB AMB
comp=Z,751nm,4.5s
PLCA Paso Flores 94.50 225 LR LR 14 17 11.1
comp=Z,234nm,20.0s,MS4.7,baz=175,slow=33
JOW Kunigami 94.81 64 LR LR 14 20 33.5
comp=Z,236nm,18.1s,MS4.7,baz=299,slow=35
CTA Charters Tower 96.94 114 LR LR 14 17 47.3
comp=Z,395nm,19.2s,MS4.9,baz=243,slow=33
CN2 Changchun 97.62 47 *e*P **P** **13 38 31.0 +1.7**
MDJ Mudanjiang 100.71 47 P Pdif 13 38 43.8 +0.7
MDJ AMB AMB
comp=Z,6.0nm,2.3s
MDJ AMB AMB
comp=Z,138nm,5.2s
ISCO Idaho Springs 144.22 315 *e*PKP PKPdf 13 44 29.8 -0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMT	Chamberlain Mo	144.34	330	ePKP	PKPdf	13 44 29.3	-1.6
BOZ	Bozeman (W)	144.43	327	ePKIKP	PKPdf	13 44 30.4	-0.6
MSO	Missoula	144.72	331	ePKP	PKPdf	13 44 30.4	-1.1
YMR	Madison River	144.73	326	ePKP	PKPdf	13 44 32.2	+0.7
YFT	Old Faithful	144.80	325	ePKP	PKPdf	13 44 33.6	+1.9
QLMT	Earthquake Lak	144.87	326	ePKP	PKPdf	13 44 32.4	+0.6
FLWY	Flagg Ranch	144.96	325	ePKP	PKPdf	13 44 32.2	+0.3
NEW	Newport	145.00	335	PKP	PKPdf	13 44 31.3	-0.7
	comp=Z,8.9nm,1.1s,baz=51,slow=1.2,SNR=11						
NEW	Newport	145.00	335	ePKP	PKPdf	13 44 31.5	-0.5
SDCO	Great Sand Dun	145.08	312	ePKP	PKPdf	13 44 32.6	+0.5
DLMT	Dillon	145.12	328	ePKP	PKPdf	13 44 33.0	+0.7
PDAR	Pinedale Array	145.13	322	PKP	PKPdf	13 44 31.8	-0.5
	comp=Z,6.9nm,1.0s,baz=72,slow=4.8,SNR=34						
LOHW	Long Hollow	145.21	324	ePKP	PKPdf	13 44 32.1	-0.3
IMW	Indian Meadow	145.21	324	ePKP	PKPdf	13 44 32.8	+0.4
SNOW	Snow King Moun	145.39	324	ePKP	PKPdf	13 44 33.5	+0.9
SMCO	Snowmass	145.45	315	ePKP	PKPdf	13 44 34.0	+1.2
TPAW	Teton Pass	145.48	324	ePKP	PKPdf	13 44 33.6	+0.7
REDW	Red Top Meadow	145.51	324	ePKP	PKPdf	13 44 32.2	-0.7
MCMT	McKenzie Canyo	145.62	327	ePKP	PKPdf	13 44 35.0	+1.9
RRI2	Red Ridge	145.78	324	ePKP	PKPdf	13 44 34.6	+1.2
AHID	Auburn Hatcher	146.02	323	ePKP	PKPdf	13 44 35.2	+1.4
JCW	Jim Creek	146.81	340	P	PKPdf	13 44 37.0	+1.9
ANMO	Albuquerque	146.94	308	d iPKP2	PKPab	13 44 38.1	-0.6
ANMO	Albuquerque	146.94	308	ePKPbc	PKPbc	13 44 38.3	+1.0
HWUT	Hardware Ranch	147.02	322	ePKP	PKPdf	13 44 37.4	+2.0
PV01	Paradox Valley	147.05	314	ePKPbc	PKPbc	13 44 38.6	+1.1
MNTX	Cornudas Mount	147.21	301	ePKPbc	PKPbc	13 44 38.2	+0.2
TCUT	Toone Canyon	147.22	321	ePKPbc	PKPbc	13 44 38.8	+0.8
TBM	Table Mountain	147.23	338	P	PKPbc	13 44 38.4	+0.3
PV10	Paradox Valley	147.24	315	ePKPbc	PKPbc	13 44 39.5	+1.4
HLID	Hailey	147.30	327	ePKPdf	PKPdf	13 44 37.7	+1.8
HAWA	Hanford	147.48	336	ePKPbc	PKPbc	13 44 39.7	+0.9
RSW	Rattlesnake Hi	147.50	336	P	PKPbc	13 44 40.2	+1.4
HVU	Hansel Valley	147.61	323	ePKP2	PKPbc	13 44 40.1	+1.0
CTU	Camp Tracy	147.69	321	ePKPdf	PKPdf	13 44 37.8	+1.3
CTU				ePKPbc	PKPbc	13 44 39.9	+0.6
BMO	Blue Mountains	147.76	332	ePKIKP	PKPbc	13 44 39.4	-0.1
SRU	San Rafael	147.84	317	ePKIKP	PKPdf	13 44 37.6	+0.8
SRU				e		13 44 40.2	
TMUT	Trail Mountain	148.17	318	ePKPbc	PKPbc	13 44 41.6	+1.0
NLU	North Lily Min	148.33	320	ePKPdf	PKPdf	13 44 38.4	+0.8
DUG	Dugway	148.63	321	ePKIKP	PKPdf	13 44 39.5	+1.4
VFP	Flag Point	149.12	337	P	PKPbc	13 44 44.3	+1.3
MSU	Marysvale	149.24	318	ePKIKP	PKPdf	13 44 41.5	+2.4
WVOR	Wild Horse Val	150.24	330	ePKIKP	PKPbc	13 44 45.6	-0.2
WUAZ	Wupatki	150.30	312	PKPdf	PKPdf	13 44 41.8	+1.0
WUAZ				ePKPbc	PKPbc	13 44 47.3	+1.4
ARUT	Antelope Range	150.47	318	ePKIKP	PKPdf	13 44 43.2	+2.2
BMN	Battle Mountai	150.99	326	ePKIKP	PKPbc	13 44 48.2	+0.6
TUC	Tucson	151.30	306	ePKIKP	PKPdf	13 44 44.3	+2.0
TUC				e		13 44 49.0	
TUC	Tucson	151.30	306	ePKPdf	PKPdf	13 44 44.3	+2.0
TUC				ePKPbc	PKPbc	13 44 49.0	+0.6
TUC				ePKPab	PKPab	13 44 58.0	+1.7
MOD	Modoc	151.43	331	ePKPbc	PKPbc	13 44 49.8	+1.1
BBOR	Butler Butte	151.64	335	P	PKPbc	13 44 49.1	+0.1
TPH	Tonopah	152.62	322	ePKIKP	PKPbc	13 44 52.5	+1.2
YBH	Yreka Blue Hor	152.62	334	PKPbc	PKPbc	13 44 51.2	-0.1
	comp=Z,2.1nm,1.0s,baz=346,slow=1.6,SNR=5.1						
NVAR	Mina Array Bea	153.00	324	PKP	PKPdf	13 44 46.2	+1.4
	comp=Z,1.4nm,0.9s,baz=93,slow=3.2,SNR=9.0						
NVAR				PKPbc	PKPbc	13 44 53.4	+1.3
	comp=Z,4.9nm,1.0s,baz=243,slow=1.6,SNR=18						
NVAR	Mina Array Bea	153.00	324	PKP	PKPdf	13 44 46.2	+1.4
NVAR				PKPbc	PKPbc	13 44 53.4	+1.3

---

*KRSC **17** 13:30:07,5138N×15994E,h32km,ML4.2*
*MOS **17** 13:30:07.5±1.9,5137N×15995E,h32km,mb4.3/5,Error ellipse: s-maj=15.4km s-min=7.6km az=93.1*
*ISCJB **17** 13:30:08.8±1.1,5138N±007×15993E±009,h54km±8km, mb4.1/10,Error ellipse: s-maj=12.0km s-min=7.5km az=114.8*
*IDC **17** 13:30:13.6±1.0,5254N×15826E,h0km,mb3.9/8, mb1 4.0/8,mb1mx3.8/21,mbtmp3.9/8,Error ellipse: s-maj=34.4km s-min=23.2km az=84.0*
*BJI **17** 13:30:23.7,5260N×15820E,h78km,mB4.7,mb4.3*
*NEIC **17** 13:30:23.8±1.1,5257N×15822E,h78km±9km,mb4.4/2, Error ellipse: s-maj=19.8km s-min=15.6km az=74.0*
ISC 17 13:30:10.4±1.1,**5139N**±007×**15985E**±009,**h52**km±8km, **n44**,σ**1s13**/51,**mb4.1**/10,**3C,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.33	322	eP	Pn	13 30 31.4	-1.2
RUS				i S	Sn	13 30 48.1	-1.2
GRL	Gorelyy	1.60	317	eP	Pn	13 30 36.0	-0.3
GRL				i S	Sn	13 30 57.5	+1.7
SPN	Mys Shipunski	1.72	4	eP	Pn	13 30 36.7	-1.2
SPN				i S	Sn	13 30 58.8	+0.2
PET	Petropavlovsk	1.80	336	⇑iPN	Pn	13 30 37.8	-1.1
PET				eS	Sn	13 31 00.4	-0.2
PET				pmax	pmax		
	comp=Z,226nm,0.6s						
PET				smax			
	comp=E,800nm,1.6s						
PET				smax			
	comp=N,1μm,0.5s						
PET				smax			
	comp=E,477nm,0.6s						
PET	Petropavlovsk	1.80	336	eP	Pn	13 30 37.6	-1.4
PET	Petropavlovsk	1.80	336	eP	Pn	13 30 38.0	-0.9
PET				i S	Sn	13 31 00.3	-0.3
NLC	Nalytchevo	1.81	350	eP	Pn	13 30 37.6	-1.6
NLC				i S	Sn	13 30 59.1	-1.9
AVH	Avacha	2.00	341	eP	Pn	13 30 42.5	+0.8
MIPR	Malaya Ipel'ka	2.11	296	eP	Pn	13 30 43.2	-0.1
MIPR				i S	Sn	13 31 09.4	+1.1
GNL	Ganaly	2.59	334	eP	Pn	13 30 49.9	+0.1
GNL				i S	Sn	13 31 21.2	+1.2
ALID	Alaid	2.76	261	eP	Pn	13 30 51.6	-0.5
MKZ	Mys Kozlova	3.37	19	eP	Pn	13 30 59.5	-1.0
MKZ				i S	Sn	13 31 36.2	-3.1
TUMR	Tumrok	3.91	3	eP	Pn	13 31 08.9	+1.0
KMNR	Kamenistaya	4.38	3	eP	Pn	13 31 15.9	+1.5
KPT	Kopyto	4.59	3	eP	Pn	13 31 18.2	+0.9
ZLN	Zelenaya	4.67	7	eP	Pn	13 31 20.4	+2.0
SRDR	Sredinnyy	4.94	359	eP	Pn	13 31 23.0	+1.0
KLY	Klyuchi	4.96	5	P	Pn	13 31 22.7	+0.4
KBTR	Krutoberegovo	5.14	19	eP	Pn	13 31 24.3	-0.5
KBTR				i S	Sn	13 32 22.1	-0.7
SMKR	Semkarok	5.29	10	eP	Pn	13 31 28.0	+1.1
SRKR	Sorokina	5.33	8	eP	Pn	13 31 28.7	+1.3
KLR	Kul'dur	18.03	274	eP	Pn	13 34 13.9	-3.3
YAK	Yakutsk	19.49	315	⇑iP	Pn	13 34 30.8	-3.9
YAK				pmax	pmax		
	comp=Z,20nm,0.7s						
MJAR	Matsushiro Arr	21.40	234	P	P	13 34 54.0	+0.3
	comp=Z,1.8nm,0.9s,mb3.4,baz=35,slow=10,SNR=5.3						
MJAR	Matsushiro Arr	21.40	234	P	P	13 34 54.0	+0.3
SNY	Shenyang	26.44	263	⇑P	P	13 35 49.9	+7.5
SNY				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.7						
MKAR	Makanchi Array	48.77	297	P	P	13 38 49.5	-0.6
	comp=Z,0.4nm,0.4s,mb3.8,baz=43,slow=8.7,SNR=2.9						
CHKZ	Chkalovo	50.85	310	eP	P	13 39 04.4	-1.5
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	Chkalovo	50.85	310	eP	P	13 39 04.4	-1.5
	comp=Z,2.6nm,0.6s,mb4.3						
BVAR	Borovoye Array	51.34	309	P	P	13 39 07.9	-1.7
	comp=Z,2.1nm,0.7s,mb4.2,baz=55,slow=7.7,SNR=6.8						
PDAR	Pinedale Array	58.50	60	P	pP	13 40 13.5	-2.0
	comp=Z,0.2nm,0.5s,baz=295,slow=6.9,SNR=3.8						
JOF	Joensuu	59.05	335	ep	P	13 40 05.2	+0.1
	comp=Z,0.9nm,0.3s,mb4.3						
KAF	Kangasniemi	61.00	337	ep	P	13 40 18.3	-0.1
	comp=Z,1.6nm,0.5s,mb4.4,baz=31,slow=6.5						
KAF	Kangasniemi	61.00	337	eP	P	13 40 18.3	-0.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
FINES	FINESS Array B	61.63	337	P	P	13 40 23.4	+0.7
	comp=Z,0.7nm,0.5s,mb4.0,baz=42,slow=8.5,SNR=8.2						
FINES	FINESS Array B	61.63	337	i P	P	13 40 23.4	+0.7
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	NORSAR Subarra	65.14	344	P	P	13 40 46.5	+0.6
	comp=Z,0.9nm,0.7s,mb3.9,baz=23,slow=6.9						
NOA	NORSAR Array B	65.14	344	P	P	13 40 46.5	+0.6
	comp=Z,0.6nm,0.6s,mb3.8,baz=20,slow=6.6,SNR=3.9						
AKASG	Malin Array Be	70.00	329	P	P	13 41 16.3	-0.3
	comp=Z,1.3nm,0.5s,mb4.1,baz=30,slow=6.2,SNR=9.3						
AKASG	Malin Array Be	70.00	329	eP	P	13 41 17.2	+0.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	70.00	329	P	P	13 41 16.3	-0.3
WRA	Warramunga Arr	74.47	205	P	pP	13 41 56.8	-1.1
	comp=Z,2.5nm,1.0s,baz=20,slow=6.5,SNR=8.8						
BRTR	Keskin Array B	77.84	320	eP	P	13 42 04.2	+1.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	78.14	204	P	pP	13 42 18.7	0.0
	comp=Z,0.6nm,0.6s,baz=16,slow=5.1,SNR=9.5						

---

*ISCJB **17** 13:46:57.8±0.5,4936N±002×687E±004,h0km,Error ellipse: s-maj=3.8km s-min=3.1km az=105.8*
*BGR **17** 13:46:59.6±0.5,4937N×686E,h1km,ML1.6,Error ellipse: s-maj=8.9km s-min=5.6km az=33.0*
*LDG **17** 13:46:59.7±0.1,4938N×694E,h1km,Md2.4/1,Ml2.4/10, Error ellipse: s-maj=2.9km s-min=2.0km az=62.0, Suspected Mining induced.*
ISC 17 13:46:58.7±0.5,**4937N**±002×**689E**±004,**h0**km,**n18**, σ**0s67**/30,**Germany**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WLF	Walferdange	0.56	302	ePg	Pg	13 47 10.3	+0.8
WLF				eSg	Sg	13 47 16.1	-0.6
CDF	Champ du Feu	0.99	165	ePg	Pg	13 47 18.1	+0.4
CDF	Champ du Feu	0.99	165	ePn	Pn	13 47 18.9	-1.0
CDF				eSg	Sg	13 47 31.5	+0.9
	6.6nm,0.2s						
RFYF	Reffroy	1.19	232	ePn	Pn	13 47 21.8	-0.8
RFYF				eSg	Sg	13 47 38.1	+1.1
	8.9nm,0.2s						
TNS	Taunus Mts	1.32	49	ePg	Pg	13 47 23.6	-0.5
TNS				eSg	Sg	13 47 42.1	+0.9
BFO	Black Forest	1.41	137	ePg	Pg	13 47 26.1	+0.4
BFO				eSg	Sg	13 47 43.8	-0.3
HAU	Haudompre	1.41	195	ePn	Pn	13 47 25.6	0.0
HAU				eSg	Sg	13 47 45.2	+1.1
	5.8nm,0.2s						
MEZF	Maizieres J'vi	1.49	235	ePn	Pn	13 47 26.7	0.0
MEZF	Maizieres J'vi	1.49	235	ePg	Pg	13 47 28.0	+0.7
MEZF				eSn	Sn	13 47 46.6	-0.3
	4.4nm,0.3s						
GIVF	Givet	1.53	299	ePn	Pn	13 47 27.4	+0.2
GIVF				eSg	Sg	13 47 49.0	+1.3
	4.0nm,0.2s						
HINF	Hinteralfeld	1.56	181	ePn	Pn	13 47 27.5	-0.1
HINF				eSg	Sg	13 47 48.5	-0.2
	14nm,0.2s						
SFTF	Sexfontaines	1.69	227	ePn	Pn	13 47 28.9	-0.6
SFTF				eSg	Sg	13 47 52.3	-0.7
	2.2nm,0.2s						
BAIF	Baives	1.87	293	ePn	Pn	13 47 31.5	-0.4
BAIF	Baives	1.87	293	ePg	Pg	13 47 35.0	+0.5
BAIF				eSg	Sg	13 47 58.3	-0.5
	1.5nm,0.3s						
LOR	Lormes	2.92	225	ePn	Pn	13 47 45.0	-1.3
	baz=52						
LOR				eSg	Sg	13 48 32.8	+0.4
	1.2nm,0.3s						
SMF	Signal de Mont	3.41	218	ePn	Pn	13 47 52.5	-0.6
BGF	Bois d'Agland	3.91	225	ePn	Pn	13 47 59.5	-0.5
FLN	La Foliniere	4.88	266	ePn	Pn	13 48 13.2	-0.1
	baz=86						

---

*MOS **17** 14:08:46.3±1.3,004S×9843E,h33km,mb4.8/14,Error ellipse: s-maj=15.7km s-min=8.1km az=99.1*
*BJI **17** 14:08:46.7,022S×9809E,h58km,mB5.0,mb4.7,Ms4.7, Msz4.3*
*ISCJB **17** 14:08:47.5±1.1,002S±005×9839E±006,h40km±8km, mb4.7/46,MS3.8/8,Error ellipse: s-maj=10.2km s-min=7.4km az=107.4*
*NEIC **17** 14:08:47.9±0.4,006S×9842E,h30km,mb4.5/16,Error ellipse: s-maj=11.6km s-min=7.6km az=54.0*
*IDC **17** 14:08:51.0±3.4,010N×9849E,h52km±29km,mb4.0/13, mb1 4.1/14,mb1mx3.9/22,mbtmp4.3/14,ML4.0/1,MS3.8/7, Ms1 3.7/7,ms1mx3.4/23,Error ellipse: s-maj=27.3km s-min=12.3km az=54.0*
ISC 17 14:08:50.6±1.0,**002N**±005×**9844E**±006,**h48**km±8km, **h64**km±2.5km**:pP-P,n100,**σ**1s06**/99,**mb4.7**/46,**MS3.8**/8, **11C-5D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.81	10	P	Pn	14 09 31.1	-1.8
	26nm,0.3s,baz=218,slow=5.5,SNR=156						
PSI				S	Sn	14 10 02.4	-3.2
	52nm,0.3s,baz=171,slow=11,SNR=7.9						
PSI				LR	LR	14 10 47.0	
	comp=Z,714nm,19.9s,baz=186,slow=44						
PSI	Prapat	2.81	10	P	Pn	14 09 31.2	-1.8
PSI				S	Sn	14 10 02.4	-3.2
IPM	Ipoh	5.13	30	P	Pn	14 10 05.9	+1.0
KGM	Kluang	5.27	68	P	Pn	14 10 08.0	+1.3
KULM	Kulim	5.69	23	eP	Pn	14 10 12.8	+0.4
CM31	Chiang Mai Arr	18.33	2	eP	Pn	14 13 00.1	-1.2
	2.2nm,0.4s						
CHTO	Chiang Mai	18.69	2	eP	Pn	14 13 04.5	-1.0
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	Chiang Mai	18.69	2	eP	Pn	14 13 04.5	-1.0
	comp=Z,3.1nm,0.6s						
KKM	Kota Kinabalu	18.73	71	P	Pn	14 13 07.7	+1.6
KKM	Kota Kinabalu	18.73	71	eP	Pn	14 13 06.1	0.0
PALK	Pallekele	19.10	293	eP	Pn	14 13 11.2	+0.7
	comp=Z,10nm,0.8s						
TSM	Tawau	19.88	77	P	Pn	14 13 19.2	-0.5
MDRS	Chennai	22.21	306	ex	x	14 12 56.9	
MDRS				ex	x	14 19 44.9	
KMI	Kunming	25.30	9	P	P	14 14 16.0	+3.4
KMI				AP	pP	14 14 31.5	+6.5
KMI				XP	sP	14 14 38.3	+7.5
KMI				S	S	14 18 35.9	+0.7
KMI				XS	sS	14 18 59.8	+3.6
KMI				SS		14 19 42.9	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
KMI				AMB	AMB		
	comp=Z,102nm,4.1s						
KMI				LR	LR		
	comp=N,230nm,17.8s						
KMI				LR	LR		
	comp=E,248nm,25.6s						
KMI				LR	LR		
	comp=Z,240nm,16.7s,MS3.8						
SHL	Shillong	26.18	346	i P	P	14 14 21.0	+0.5
SHL				eS	S	14 18 47.0	-2.0
JIRN	Jiri	29.89	338	eP	P	14 14 54.4	+0.7
	comp=Z,33nm,0.7s,mb5.2						
PKI	Pulchoki	30.12	336	eP	P	14 14 55.6	0.0
GUN	Gumba	30.24	338	eP	P	14 14 57.3	+0.6
	comp=Z,36nm,0.6s,mb5.2						
LSA	Lhasa	30.32	347	P	P	14 14 56.0	-1.5
LSA	Lhasa	30.32	347	eP	P	14 14 58.8	+1.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
LSA	Lhasa	30.32	347	eP	P	14 14 58.8	+1.3
	comp=Z,8.8nm,0.7s,mb4.6						
KKN	Kakani	30.36	336	eP	P	14 14 57.8	0.0
GKN	Gorkha	30.81	336	eP	P	14 15 01.9	+0.1
	comp=Z,21nm,0.9s,mb5.0						
KOLN	Koldanda	31.05	334	eP	P	14 15 04.5	+0.6
	comp=Z,41nm,0.8s,mb5.3						
CD2	Chengdu	31.14	9	eP	P	14 15 04.3	-0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	32.24	125	eP	P	14 15 13.4	-0.9
	comp=Z,2.7nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	32.24	125	P	P	14 15 14.7	+0.4
	comp=Z,1.9nm,0.8s,mb4.0,baz=166,slow=5.3,SNR=5.3						
XAN	Xi'an	35.24	15	P	P	14 15 39.8	-0.6
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
LZH	Lanzhou	36.24	7	eP	P	14 15 50.1	+1.2
LZH				AP	pP	14 16 05.3	+3.6
LZH				XP	sP	14 16 12.5	+5.2
LZH				PP	PP	14 17 15.1	+3.1
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NWAO	Narrogin (SRO)	37.25	153	LR	LR	14 30 57.1	
	comp=Z,96nm,19.0s,MS3.6,baz=302,slow=36						
NJ2	Nanjing	37.25	29	eP	P	14 15 59.6	+2.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
GTA	Gaotai	39.23	2	eP	P	14 16 15.8	+1.6
GTA				AP	pP	14 16 24.8	-2.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
WRA	Warramunga Arr	40.36	122	P	P	14 16 22.7	-0.9
	comp=Z,1.7nm,0.7s,mb3.9,baz=302,slow=9.0,SNR=20						
WRA				PcP	PcP	14 18 27.3	+1.2
	comp=Z,0.6nm,0.7s,baz=308,slow=2.3,SNR=4.2						
WRAB	Tennant Creek	40.37	122	eP	P	14 16 22.4	-1.3
WB2	Warramunga Arr	40.38	122	eP	P	14 16 23.2	-0.5
AS31	Alice Springs	41.70	127	eP	P	14 16 34.5	-0.1
ASAR	Alice Springs	41.70	127	P	P	14 16 34.6	0.0
	comp=Z,2.0nm,0.8s,mb3.8,baz=299,slow=8.0,SNR=24						
ASAR				PcP	PcP	14 18 31.7	+1.2
	comp=Z,0.8nm,0.7s,baz=304,slow=3.1,SNR=5.0						
ASAR				LR	LR	14 37 06.1	
	comp=Z,150nm,18.7s,MS3.9,baz=353,slow=41						
ASAR	Alice Springs	41.70	127	P	P	14 16 34.7	+0.1
ASAR						14 18 31.7	
HHC	Hu-ho-hao-te	42.36	15	eP	P	14 16 41.8	+1.8
HHC				AP	pP	14 16 57.3	+4.4
HHC				XP	sP	14 17 04.3	+5.8
HHC				PP	PP	14 18 24.0	+5.3
HHC				PCP	PcP	14 18 33.5	+0.8
HHC				SCP	ScP	14 22 18.4	-0.9
HHC				PCS	PcS	14 22 25.1	+0.5
HHC				S	S	14 22 59.3	+1.6
HHC				XS	sS	14 23 25.3	+5.9
HHC				SS	SS	14 26 03.9	-3.9
HHC				SCS	ScS	14 26 35.3	-2.2
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,66nm,5.5s						
HHC				LR	LR		
	comp=N,170nm,5.9s						
HHC				LR	LR		
	comp=E,152nm,5.9s						
HHC				LR	LR		
	comp=Z,121nm,6.7s						
BJT	Baijiatuau	42.97	20	eP	P	14 16 46.0	+1.0
BJT				pmax	pmax		
	comp=Z,43nm,1.0s						
BJT	Baijiatuau	42.97	20	eP	P	14 16 46.0	+1.1
	comp=Z,43nm,1.0s,mb5.1						
BJI	Beijing	43.00	20	eP	P	14 16 46.0	+0.9
BJI				AMB	AMB		
	comp=Z,41nm,0.9s,mb5.2						
WMQ	Urumqi	44.66	349	P	P	14 16 59.3	+0.8
WMQ				AP	pP	14 17 16.0	+4.5
WMQ				XP	sP	14 17 22.0	+4.9
WMQ				PCP	PcP	14 18 43.0	+2.6
WMQ				eS	S	14 23 30.5	-0.8
WMQ				XS	sS	14 23 57.0	+3.9
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,78nm,4.6s						
WMQ				LR	LR		
	comp=N,114nm,26.2s,MS3.8						
WMQ				LR	LR		
	comp=E,107nm,24.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,92nm,22.3s,MS3.6						
SNY	Shenyang	47.41	26	⇓P	P	14 17 19.6	-0.5
SNY				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
AAK	Ala-Archa	47.57	336	⇑eP	P	14 17 21.7	+0.3
AAK				pmax	pmax		
	comp=Z,11nm,2.4s,mb4.5						
AAK	Ala-Archa	47.57	336	eP	P	14 17 21.0	-0.4
	comp=Z,3.7nm,0.9s,mb4.4						
SONM	Songino Array	48.13	7	P	P	14 17 26.1	+0.4
	comp=Z,15nm,0.6s,mb5.2,baz=188,slow=7.3,SNR=74						
ULN	Ulaanbaatar	48.24	8	eP	P	14 17 27.3	+0.7
ULN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
ULN	Ulaanbaatar	48.24	8	eP	P	14 17 27.3	+0.7
	comp=Z,9.4nm,0.6s,mb5.0						
MKAR	Makanchi Array	48.69	345	P	P	14 17 29.6	-0.4
	comp=Z,8.2nm,0.6s,mb4.9,baz=146,slow=6.9,SNR=28						
ZAK	Zakamensk	50.35	4	⇓iP	P	14 17 45.0	+2.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
STKA	Stephens Creek	51.65	132	eP	P	14 17 53.1	+0.7
	comp=Z,3.7nm,0.8s,mb4.4						
STKA	Stephens Creek	51.65	132	P	P	14 17 53.3	+0.9
	comp=Z,3.9nm,0.7s,mb4.4,baz=308,slow=9.1,SNR=8.8						
STKA				LR	LR	14 42 58.6	
	comp=Z,110nm,20.2s,MS3.9,baz=26,slow=40						
TLY	Talaya	51.66	4	eP	P	14 17 55.4	+2.9
TLY				e		14 27 41.1	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TLY	Talaya	51.66	4	eP	P	14 17 55.0	+2.4
	comp=Z,6.9nm,0.8s,mb4.6						
MJAR	Matsushiro Arr	51.75	41	P	P	14 17 51.6	-1.6
	comp=Z,1.0nm,0.6s,mb3.9,baz=232,slow=7.5,SNR=4.6						
MDJ	Mudanjiang	52.31	28	P	P	14 17 58.8	+1.5
MDJ				AMB	AMB		
	comp=Z,133nm,5.3s						
ZAL	Zalesovo	54.91	350	P	P	14 18 16.0	-0.4
	comp=Z,2.5nm,0.5s,mb4.5,baz=313,slow=6.3,SNR=9.7						
ZAL				LR	LR	14 45 54.4	
	comp=Z,65nm,19.5s,MS3.7,baz=94,slow=40						
RDF	Al-Radifah	56.42	305	eP	P	14 18 26.4	-0.8
RDF				AMb	AMB	14 18 29.3	
	comp=Z,52nm,1.1s,mb5.5						
UMR	Umm Al-Rimmam	56.51	306	eP	P	14 18 27.7	-0.1
UMR				AMb	AMB	14 18 28.8	
	comp=Z,24nm,0.7s,mb5.3						
KLR	Kul'dur	56.77	25	eP	P	14 18 25.4	-4.3
MIB	Mutribah	56.91	306	eP	P	14 18 30.5	-0.1
MIB				AMb	AMB	14 18 31.7	
	comp=Z,68nm,0.9s,mb5.7						
BRVK	Borovoye	57.83	340	eP	P	14 18 35.6	-1.6
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	Borovoye	57.83	340	eP	P	14 18 35.6	-1.5
	comp=Z,1.8nm,0.6s,mb4.3						
ZRNK	Zerenda	58.18	340	eP	P	14 18 38.4	-1.2
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZRNK	Zerenda	58.18	340	eP	P	14 18 38.4	-1.3
	comp=Z,3.1nm,0.9s,mb4.3						
CHKZ	Chkalovo	58.24	341	eP	P	14 18 38.9	-1.1
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	Chkalovo	58.24	341	eP	P	14 18 38.9	-1.2
	comp=Z,9.5nm,1.0s,mb4.8						
YSS	Yuzh-Sakhalins	60.64	33	eP	P	14 18 55.2	-1.4
YSS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
YSS	Yuzh-Sakhalins	60.64	33	eP	P	14 18 55.2	-1.4
	comp=Z,5.8nm,0.8s,mb4.8						
KMBO	Kilima Mbogo	61.19	269	P	P	14 19 02.0	+1.7
	comp=Z,0.9nm,0.5s,mb4.2,baz=62,slow=11,SNR=6.7						
KMBO				LR	LR	14 41 32.7	
	comp=Z,104nm,18.8s,MS4.0,baz=92,slow=32						
GNI	Garni	63.00	316	⇑eP	P	14 19 12.8	+0.4
GNI				pmax	pmax		
	comp=Z,11nm,1.6s						
SVE	Sverdlovsk	64.24	338	eP	P	14 19 36.0	+15
ARU	Arti	64.75	337	⇓iP	P	14 19 22.2	-1.7
ARU				e		14 21 42.9	
ARU				ePPP		14 23 21.4	
ARU				eS	S	14 28 01.4	+0.5
ARU				eSS	SS	14 32 14.3	+1.7
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KIV	Kislovodsk	66.00	319	eP	P	14 19 32.0	-0.1
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
YAK	Yakutsk	66.21	16	⇑eP	P	14 19 31.1	-2.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						

MALT	Malatya	66.83	312⇑	iP	P	14 19 38.2	+0.8
MALT	Malatya	66.83	312	eP	P	14 19 37.7	+0.3
MALT				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
MALT	Malatya	66.83	312	eP	P	14 19 37.7	+0.3
	comp=Z,17nm,1.1s,mb5.0						
BR131	Keskin Array S	70.82	312	eP	P	14 20 01.0	-1.1
	comp=Z,3.0nm,0.8s,mb4.3						
BRTR	Keskin Array B	70.82	312	P	P	14 20 01.0	-1.1
	comp=Z,3.4nm,0.7s,mb4.4,baz=130,slow=6.7,SNR=17						
PET	Petropavlovsk	72.53	33	iP	P	14 20 11.3	-1.1
PET				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
OBN	Obninsk	74.27	328⇑	eP	P	14 20 21.8	-0.8
OBN				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.8						
SEY	Seymchan	74.37	23⇑	iP	P	14 20 22.4	-0.8
BOSA	Boshof	75.27	240	LR	LR	14 51 03.4	
	comp=Z,64nm,19.5s,MS3.9,baz=133,slow=34						
VRI	Vrincioaia	77.32	317⇓	iP	P	14 20 40.8	+0.7
MLR	Muntele Rosu	77.77	317⇑	iP	P	14 20 42.7	+0.1
BURAR	Bucovina Array	78.72	319⇓	iP	P	14 20 48.7	+0.9
SYO	Syowa Base	79.27	198⇑	eX		14 21 09.0	
DRGR		80.23	317⇑	iP	P	14 20 56.4	+0.3
BZS	Buzias	80.78	316⇑	iP	P	14 20 58.8	-0.2
FINES	FINESS Array B	81.61	332	P	P	14 21 02.7	-0.7
	comp=Z,1.6nm,0.8s,mb4.0,baz=96,slow=14,SNR=5.7						
FINES	FINESS Array B	81.61	332	P	P	14 21 02.7	-0.7
ARCES	ARCESS Array B	84.06	340	P	P	14 21 14.9	-1.2
	comp=Z,2.3nm,0.7s,mb4.4,baz=327,slow=8.7,SNR=3.7						
MORC	Moravsky Berou	84.10	320⇑	iP	P	14 21 16.7	+0.4
GERES	GERESS Array B	86.51	319	P	P	14 21 28.5	+0.2
	comp=Z,1.2nm,0.9s,mb4.1,baz=84,slow=5.5,SNR=11						
MIAR	Mount Ida	143.83	17	ePKIKP	PKPdf	14 28 17.1	-3.3
CPUP	Villa Florida	144.93	220	PKPbc	PKPdf	14 28 22.8	+0.4
	comp=Z,2.0nm,0.7s,baz=85,slow=4.4,SNR=4.7						
CPUP	Villa Florida	144.93	220	PKPbc	PKPdf	14 28 22.8	+0.4
JCT	Junction City	145.06	28	ePKIKP	PKPdf	14 28 23.1	+0.5

NEIC 17 14:38:41.3, 1667N×9969W, h3km, MD3.7(MEX), After MEX.

MEX 17 14:38:41.3±0.4, 1667N×9969W, h3km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.29	313	iP	Pg	14 38 46.5	-0.4
ACX				iS	Sg	14 38 51.0	+0.3
CAIG	El Cayaco	0.67	305	iP	Pg	14 38 53.5	-0.6
CAIG				iS	Sg	14 39 03.0	+0.2
MEIG	Mezcala	1.25	3	iP	Pg	14 39 02.1	-3.2
MEIG				iS	Sg	14 39 17.9	-3.7
PLIG	Platanillo	1.73	6	iP	Pn	14 39 09.8	-2.4
PLIG				iS	Sn	14 39 30.6	-4.0
UTMO	Huajuapan	2.15	57	iP	Pn	14 39 14.8	-3.2
UTMO				iS	Sn	14 39 40.2	-4.8
IIZ	Mezontepec	2.54	10	iP	Pn	14 39 20.1	-3.4
IIZ				iS	Sn	14 39 50.4	-4.4
OXX	Oaxaca	2.87	81	eP	Pn	14 39 35.0	+7.0

JMA 17 14:47:59.5±0.4, 4461N×15008E, h30km, M3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	3.37	250	P	Pn	14 48 48.9	-1.1
NEM2				eS	Sn	14 49 25.8	-3.2
JRA	Rausu	3.62	261	P	Pn	14 48 55.2	+1.7
JRA				eS	Sn	14 49 37.4	+2.1
JNK	Nakash	4.00	257	P	Pn	14 48 59.0	+0.3
JAK	Akkeshi	4.22	249	P	Pn	14 49 00.8	-0.9
JAK				eS	Sn	14 49 46.3	-3.6
JTKR	Abashiri--Toko	4.48	264	P	Pn	14 49 07.3	+2.0
JAR	Ashorobuto	4.74	256	P	Pn	14 49 09.7	+0.8
JAR				eS	Sn	14 50 02.3	-0.6
JOB	Onbets	4.83	252	P	Pn	14 49 10.4	+0.2
JMP	Maruseppu	4.86	265	P	Pn	14 49 12.9	+2.3
JCH	Churui	5.27	250	P	Pn	14 49 15.5	-0.7
JCH				eS	Sn	14 50 12.5	-3.4
JKK2	Kamakawa 2	5.32	265	P	Pn	14 49 19.6	+2.7
ASAJ	Asahikawa	5.39	267	P	Pn	14 49 21.0	+3.2
JFR	Furan	5.60	258	P	Pn	14 49 22.8	+2.1
JEM	Erimo	5.68	245	P	Pn	14 49 22.4	+0.6
JNBK	Urakawa-nobuka	5.82	249	P	Pn	14 49 23.0	-0.7
JBT2	Biratori 2	5.89	255	P	Pn	14 49 25.4	+0.8
JNB	Noboribetsu	6.91	255	P	Pn	14 49 39.1	+0.4
JNB				eS	Sn	14 50 54.7	-1.6
JKB	Kayabe	7.14	251	P	Pn	14 49 41.6	-0.3
JKB				eS	Sn	14 50 56.8	-5.2
JANG	Nango	7.61	239	eS	Sn	14 51 04.9	-8.7
JTH	Tanohata	7.67	235	eS	Sn	14 51 04.8	-10
OFUJ	Ofunato	8.36	232	eS	Sn	14 51 22.4	-10
JIO	Ouri	8.98	230	P	Pn	14 50 04.3	-2.8
JIO				eS	Sn	14 51 35.3	-12

IDC 17 15:01:05.6±1.9, 937S×15095E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.9/12, mbtmp3.9/6, ML2.9/2, MS3.4/7, Ms1 3.4/7, ms1mx3.2/23, Error ellipse: s-maj=40.7km s-min=28.7km az=114.0

ISCJB 17 15:01:08.5±1.5, 94S±02×1510E±0.1, h33km, mb3.8/4, MS3.4/5, Error ellipse: s-maj=23.4km s-min=14.9km az=27.1

NEIC 17 15:01:18.5±4.8, 926S×15038E, h84km±32km, mb3.8/2, Error ellipse: s-maj=52.9km s-min=18.8km az=96.0

ISC 17 15:01:10.9±1.5, 94S±02×1510E±01, h35km, n15, σ1.15/13, mb3.8/4, MS3.4/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.79	270	Pn	Pn	15 02 06.0	-0.7
	2.1nm,0.3s,baz=80,slow=15,SNR=8.6						
PMG				Sn	Sn	15 02 51.0	+1.0
	0.8nm,0.3s,baz=221,slow=19,SNR=1.5						
PMG	Port Moresby	3.79	270	ePn	Pn	15 02 06.2	-0.6
PMG				Sn	Sn	15 02 51.0	+1.0
CTA	Charters Tower	11.55	203	LR	LR	15 07 55.7	
	comp=Z,224nm,19.9s,baz=46,slow=35						
WB2	Warramunga Arr	19.18	235	eP	Pn	15 05 32.3	-0.3
WRA	Warramunga Arr	19.19	235	P	Pn	15 05 30.5	-2.2
	0.1nm,0.3s,baz=60,slow=10,SNR=8.1						
WRA				LR	LR	15 10 59.4	
	comp=Z,53nm,21.1s,baz=5.0,slow=31						
AS31	Alice Springs	21.62	227	eP	P	15 05 59.1	+1.2
ASAR	Alice Springs	21.63	227	P	P	15 05 58.3	+0.4
	3.7nm,1.0s,mb3.8,baz=56,slow=8.5,SNR=14						
ASAR				LR	LR	15 14 08.0	
	comp=Z,113nm,20.3s,MS3.3,baz=170,slow=36						
GUMO	Guam	23.65	345	LR	LR	15 13 48.0	
	comp=Z,84nm,20.8s,MS3.2,baz=95,slow=32						
STKA	Stephens Creek	23.99	200	eP	P	15 06 24.9	+2.8
	3.0nm,1.2s,mb3.6						
STKA	Stephens Creek	23.99	200	P	P	15 06 22.9	+0.7
	3.2nm,1.0s,mb3.7,baz=32,slow=10,SNR=4.6						
STKA				LR	LR	15 16 08.4	
	comp=Z,152nm,19.7s,MS3.5,baz=25,slow=38						
FITZ	Fitzroy Crossi	26.07	248	eP	P	15 06 39.6	-1.5
	5.4nm,1.0s,mb4.0						
FITZ	Fitzroy Crossi	26.07	248	P	P	15 06 39.7	-1.4
	3.3nm,1.0s,mb3.8,baz=88,slow=9.4,SNR=6.1						
FITZ				LR	LR	15 16 33.5	
	comp=Z,64nm,19.8s,MS3.2,baz=334,slow=36						
NWAO	Narrogin (SRO)	38.94	228	LR	LR	15 25 22.1	
	comp=Z,109nm,18.6s,MS3.7,baz=330,slow=37						
SONM	Songino Array	69.32	330	P	P	15 12 15.1	+0.4
	1.0nm,0.9s,mb3.8,baz=145,slow=4.9,SNR=5.4						
TORD	Torodi Ar. Bea	149.68	280	PKPbc	PKPbc	15 20 57.5	+0.6
	0.6nm,0.6s,baz=66,slow=2.9,SNR=5.0						

ISCJB 17 15:19:29.6±3.4, 296S±008×1298E±0.1, h13km±22km, mb3.9/5, Error ellipse: s-maj=25.0km s-min=9.6km az=136.4

IDC 17 15:19:29.9±0.9, 301S×12977E, h0km, mb4.0/6, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/32, Error ellipse: s-maj=39.2km s-min=14.8km az=74.0

NEIC 17 15:19:31.7±0.7, 291S×12976E, h10km, mb4.1/4, Error ellipse: s-maj=19.5km s-min=9.8km az=72.0

ISC 17 15:19:34.6±4.9, 299S±009×1298E±01, h34km±37km, n19, σ1.13/18, mb3.9/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.01	165	eP	Pn	15 21 57.2	+1.3
	8.5nm,0.8s						
FITZ	Fitzroy Crossi	15.56	195	eP	Pn	15 23 10.5	-0.8
	7.6nm,0.7s						
FITZ	Fitzroy Crossi	15.56	195	Pn	Pn	15 23 10.7	-0.5
	0.2nm,0.3s,baz=25,slow=9.9,SNR=12						
FITZ				LR	LR	15 28 25.8	
	comp=Z,68nm,18.4s,baz=169,slow=34						
WRAB	Tennant Creek	17.42	166	eP	Pn	15 23 34.4	-0.4
	20nm,1.2s						
WRA	Warramunga Arr	17.42	166	P	Pn	15 23 33.8	-1.1
	0.5nm,0.3s,baz=347,slow=12,SNR=28						
WRA				S	Sn	15 26 46.6	-1.2
	0.1nm,0.3s,baz=333,slow=22,SNR=3.4						
WB2	Warramunga Arr	17.43	166	eP	Pn	15 23 33.2	-1.7
KSM	Kuching	19.98	283	eP	Pn	15 24 04.6	-1.2
MBWA	Marble Bar	20.54	208	eP	P	15 24 11.8	+1.8
	12nm,1.2s						
AS31	Alice Springs	20.93	169	eP	P	15 24 16.2	+1.9
ASAR	Alice Springs	20.93	169	P	P	15 24 16.2	+1.9
	17nm,0.7s,baz=349,slow=10,SNR=80						
ASAR				PcP	PcP	15 28 23.8	+2.7
	0.4nm,0.6s,baz=354,slow=2.8,SNR=5.3						
STKA	Stephens Creek	30.80	160	eP	P	15 25 47.0	-0.1
	1.6nm,0.3s,mb4.3						
STKA	Stephens Creek	30.80	160	P	P	15 25 46.9	-0.2
	2.0nm,0.9s,mb4.0,baz=337,slow=7.7,SNR=2.9						
PSI	Prapat	31.39	280	P	P	15 25 52.3	+0.1
	2.3nm,0.6s,mb4.2,baz=112,slow=10,SNR=3.1						
MJAR	Matsushiro Arr	40.11	11	P	P	15 27 06.5	-0.3
	1.6nm,1.0s,mb3.7,baz=228,slow=4.7,SNR=3.3						
ZAL	Zalesovo	67.93	333	P	P	15 30 30.3	+0.4
	0.7nm,0.4s,mb4.1,baz=187,slow=8.1,SNR=3.0						
ZAL	Zalesovo	67.93	333	P	P	15 30 30.3	+0.4
BVAR	Borovoye Array	74.59	327	P	P	15 31 09.7	-0.3
	0.5nm,0.7s,mb3.6,baz=110,slow=7.8,SNR=3.7						
CPUP	Villa Florida	150.05	167	PKPbc	PKPbc	15 39 25.2	+3.7
	0.6nm,0.4s,baz=216,slow=4.3,SNR=5.8						
CPUP	Villa Florida	150.05	167	PKPbc	PKPbc	15 39 25.2	+3.6

ATH 17 15:21:55.2, 3908N×2177E, h26km, MD3.0/3

ISCJB 17 15:21:56.5±0.8, 3906N±006×2186E±006, h20km±9km, Error ellipse: s-maj=9.7km s-min=7.1km az=25.5

CSEM 17 15:21:56.4, 39.14N×2182E, h1km, ML2.6, After THE

THE 17 15:21:56.4, 39.14N×2182E, h1km, ML2.6

ISC 17 15:21:56.0±0.7, 3910N±005×2183E±005, h16km±7km, n10, σ0.81/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.18	186	ePB	Pg	15 22 00.8	+0.4
AGG	Agios Georgios	0.40	101	ePg	Pg	15 22 03.9	-0.2
AGG				eSg	Sg	15 22 10.4	+0.9
LKR	Lokris	1.01	116	ePN	Pn	15 22 15.4	-0.2
XOR	Xorichti	1.09	75	ePg	Pg	15 22 16.7	-0.4
LIT	Litokhoron	1.12	27	ePg	Pg	15 22 16.7	-1.0
LIT				eSg	Sg	15 22 32.9	+0.4
LIT	Litokhoron	1.12	27	ePg	Pg	15 22 16.7	-1.1
LIT				eSg	Sg	15 22 32.8	+0.3
KZN	Kozani	1.21	358	ePN	Pn	15 22 17.9	-0.4
KZN				eSN	Sn	15 22 36.2	+1.8
IGT	Igoumenitsa	1.24	291	ePg	Pg	15 22 19.6	-0.4
IGT				eSg	Sg	15 22 36.9	+0.7
IGT	Igoumenitsa	1.24	291	ePg	Pg	15 22 19.6	-0.4
IGT				eSg	Sg	15 22 36.8	+0.6
FNA	Florina	1.72	348	ePb	Pb	15 22 26.0	-1.3

MOS 17 15:23:39.2±1.4, 5501N×11169E, h12km, mb4.2/1, Error ellipse: s-maj=39.5km s-min=22.4km az=66.0

BYKL 17 15:23:38.9±0.2, 5503N×11165E, h11km±4km, 8C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	Ulyunkhan	0.32	241⇑	iPg	Pg	15 23 45.1	-0.2
YLYR				eSg	Sg	15 23 50.0	+0.3
YLYR				Pmax			
	47nm,0.1s						
YLYR				Smax			
	2μm,0.2s						
YLYR	Ulyunkhan	0.32	241⇑	iPG	Pg	15 23 45.2	-0.1
YLYR				e		15 23 50.0	
YLYR				pmax	pmax		
	comp=Z,50nm,0.1s						
YLYR				smax			
	comp=N,2μm,0.2s						
KMO	Kumora	0.90	344⇑	iPg	Pg	15 23 54.9	-1.3
KMO				eSg	Sg	15 24 07.0	-0.9
KMO				Pmax			
	comp=N,38nm,0.5s						
KMO				Smax			
	comp=N,172nm,1.0s						
YOA	Uoyan	1.11	2	eSg	Sg	15 24 15.1	+0.5
YOA				Smax			
	comp=N,893nm,0.5s						
YOA	Uoyan	1.11	2	ePG	Pg	15 23 58.9	-1.3
YOA				e		15 24 14.5	
YOA				pmax	pmax		
	comp=Z,99nm,0.3s						
YOA				smax			
	comp=N,804nm,0.5s						
UKT	Uakit	1.22	67⇑	iPg	Pg	15 24 00.6	-1.8
UKT				ePb	Pb	15 24 02.6	+0.6
UKT				eSg	Sg	15 24 17.0	-1.3
UKT				e		15 24 21.1	
UKT				max			
	comp=N,44nm,0.3s						
UKT				max			
	comp=N,594nm,0.3s						
UKT	Uakit	1.22	67	ePG	Pg	15 24 00.6	-1.8
UKT				e		15 24 17.1	
UKT				pmax	pmax		
	comp=Z,45nm,0.2s						
UKT				smax			
	comp=N,585nm,0.2s						
NIZ	Nizh Angarsk	1.42	303⇑	iPg	Pg	15 24 04.2	-1.9
NIZ				eSg	Sg	15 24 24.0	-0.5
NIZ				Pmax			
	comp=N,85nm,0.5s						
NIZ				Smax			
	comp=N,148nm,0.4s						
NIZ	Nizh Angarsk	1.42	303	ePG	Pg	15 24 04.6	-1.5
NIZ				e		15 24 23.6	
NIZ				pmax	pmax		
	comp=Z,85nm,0.3s						
NIZ				smax			
	comp=N,147nm,0.4s						
SVKR	Severomuysk	1.54	44⇑	iPg	Pg	15 24 07.3	-1.1
SVKR				eSg	Sg	15 24 28.5	+0.1
SVKR	Severomuysk	1.54	44	ePN	Pn	15 24 07.2	+1.0
SVKR				e		15 24 07.8	
SVKR				e		15 24 28.3	
SVKR				pmax	pmax		
	comp=Z,134nm,0.4s						
SVKR				smax			
	comp=N,1μm,0.7s						
SYVR	Suvo	1.68	216	ePg	Pg	15 24 09.1	-2.0
SYVR				e		15 24 12.2	
SYVR				eSg	Sg	15 24 31.9	-1.1
SYVR				max			
	comp=N,30nm,0.7s						
SYVR				Smax			
	comp=N,77nm,1.2s						
MXMB	Maximikha	2.46	225⇓	iPn	Pn	15 24 19.8	+0.9
MXMB			⇓	iPg	Pg	15 24 22.8	-3.3
MXMB				eSn	Sn	15 24 50.8	+1.8
MXMB				eSg	Sg	15 24 56.0	-2.0
MXMB				Pmax			
	comp=N,8.0nm,0.5s						
MXMB				Smax			
	comp=N,128nm,0.8s						
NLYR	Nelyaty	2.72	56⇑	iPn	Pn	15 24 22.9	+0.4
NLYR				ePg	Pg	15 24 27.4	-3.6
NLYR				eSg	Sg	15 25 03.0	-3.2
OGRR	Ongureny	2.75	241⇑	iPn	Pn	15 24 23.4	+0.5
OGRR				ePg	Pg	15 24 27.2	-4.4
OGRR				eSn	Sn	15 24 55.9	-0.2
OGRR				eSg	Sg	15 25 03.5	-3.8
OGRR				Pmax			
	comp=N,6.0nm,0.4s						
OGRR				Smax			
	comp=N,28nm,0.4s						
BOD	Bodaibo	3.09	24	ePg	Pg	15 24 32.5	-5.5
BOD				eSn	Sn	15 25 04.7	+0.3
BOD				eSg	Sg	15 25 12.5	-5.5
BOD				Pmax			
	comp=N,11nm,0.7s						
BOD				Smax			
	comp=N,36nm,0.4s						
KELR	Kotokel	3.10	224	ePn	Pn	15 24 28.5	+0.7
KELR				ePg	Pg	15 24 34.7	-3.7
KELR				eSn	Sn	15 25 04.8	-0.1
KELR				eSg	Sg	15 25 15.5	-3.1
KELR				Pmax			
	comp=N,10.0nm,0.4s						
KELR				Smax			
	comp=N,58nm,0.6s						
CIT	Chita	3.22	159	ePn	Pn	15 24 30.6	+1.2
CIT				ePg	Pg	15 24 36.0	-4.6
CIT				eSg	Sg	15 25 18.0	-4.4
CIT				Pmax			
	comp=N,10.0nm,0.4s						
CIT				Smax			
	comp=N,47nm,1.0s						
ZRHB	Zarechye	3.64	229	eSg	Sg	15 25 32.4	-3.5
ZRHB				Smax			
	comp=N,72nm,1.0s						
TRTB	Turuntaevo	3.69	222	ePg	Pg	15 24 44.9	-4.6
TRTB				eSg	Sg	15 25 34.0	-3.3
TRTB				Pmax			
	comp=N,4.0nm,0.5s						
TRTB				Smax			
	comp=N,25nm,1.2s						
TRG	Tyrgan	3.87	236	ePn	Pn	15 24 39.0	+0.6
TRG				ePg	Pg	15 24 49.1	-4.0
TRG				eSg	Sg	15 25 39.1	-4.2
TRG				Pmax			
	comp=N,1.0nm,0.3s						
TRG				Smax			
	comp=N,14nm,0.4s						
CRS	Chara	4.17	61	ePn	Pn	15 24 43.1	+0.7
CRS				ePg	Pg	15 24 53.8	-4.9
CRS				eSn	Sn	15 25 31.5	+0.5
CRS				eSg	Sg	15 25 48.0	-4.6
CRS				Smax			
	comp=N,87nm,1.3s						
CRS	Chara	4.17	61	ePN	Pn	15 24 53.7	+11
CRS				e		15 25 48.1	
CRS				pmax	pmax		
	comp=Z,28nm,1.0s						
CRS				smax			
	comp=E,85nm,1.4s						
TUP	Tupik	4.85	94	ePn	Pn	15 24 51.8	0.0
TUP				ePg	Pg	15 25 05.7	-6.1
TUP				eSg	Sg	15 26 09.3	-5.4
TUP				Pmax			
	comp=E,2.0nm,0.2s						
TUP				Smax			
	comp=E,42nm,1.0s						
KPC	Khapcheranga	5.35	175	ePn	Pn	15 25 00.4	+1.7
KPC				ePg	Pg	15 25 15.7	-5.7
KPC				eSg	Sg	15 26 23.9	-6.9
KPC				Smax			
	comp=E,19nm,1.4s						
ARS	Arshan	6.33	244	eSg	Sg	15 26 53.1	-8.9
ARS				Smax			
	comp=E,31nm,0.8s						
MOY	Mondy	7.21	247	eSg	Sg	15 27 22.8	-7.6
MOY				Smax			
	comp=E,12nm,1.5s						
ORL	Orlik	7.45	255	ePn	Pn	15 25 28.1	+0.7
ORL				eSg	Sg	15 27 27.3	-11
ORL				max			
	comp=E,1.0nm,0.6s						
ORL				Smax			
	comp=E,17nm,1.5s						

ISCJB 17 15:45:20.6±0.2, 49.15N±004×15504E±005, h67km, mb4.5/70, Error ellipse: s-maj=6.4km s-min=3.4km az=108.3

NEIC 17 15:45:22.0±0.2, 4922N×15481E, mb4.6/44, Error ellipse: s-maj=6.8km s-min=4.6km az=153.0

BJI 17 15:45:21.1, 49.12N×15480E, h62km, mB5.0, mb4.7, Ms4.5, Msz4.1

IDC 17 15:45:22.2±0.6, 4933N×15477E, h66km±4km, mb4.0/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.3/18, MS3.5/8, Ms1 3.6/8, ms1mx3.2/36, Error ellipse: s-maj=16.4km s-min=12.9km az=127.0

MOS 17 15:45:24.8±1.2, 4938N×15492E, h98km, mb4.6/29, Error ellipse: s-maj=11.1km s-min=6.9km az=96.6

ISC 17 15:45:22.6±0.2, 4922N±004×15493E±005, h69km, h69km±1.7km:pP-P, n187, σ1.09/192, mb4.5/70, 7C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.65	27	ePN	Pn	15 45 45.0	-4.5
SKR				pmax	pmax		
	comp=N,410nm,0.4s						
SKR				pmax	pmax		
	comp=Z,650nm,0.4s						
SKR				pmax	pmax		
	comp=E,260nm,0.5s						
PET	Petropavlovsk	4.47	30⇓	iPN	Pn	15 46 28.2	+0.4
PET				iS	Sn	15 47 17.1	-1.4
PET				pmax	pmax		
	comp=Z,200nm,4.7s						
PET				pmax	pmax		
	comp=Z,63nm,0.5s						
PET				smax			
	comp=N,700nm,2.2s						
PET				smax			
	comp=N,458nm,0.6s						
PET				smax			
	comp=E,286nm,0.6s						
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	Petropavlovsk	4.47	30	ePn	Pn	15 46 28.1	+0.3
PET				eSn	Sn	15 47 18.0	-0.6
KUR	Kuril'sk	6.25	233	ePN	Pn	15 46 52.0	-0.1
KUR				eS	Sn	15 48 08.0	+5.9
KUR				pmax	pmax		
	comp=N,50nm,0.7s						
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,160nm,0.7s						
KUR				smax			
	comp=E,200nm,0.7s						
YSS	Yuzh-Sakhalins	8.46	259⇓	ePN	Pn	15 47 26.0	+3.6
YSS				S	Sn	15 49 02.3	+6.0
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=E,70nm,1.0s						
YSS				smax			
	comp=N,30nm,1.0s						
YSS				smax			
	comp=E,30nm,1.0s						
YSS	Yuzh-Sakhalins	8.46	259	ePn	Pn	15 47 25.4	+3.1
	comp=E,59nm,0.9s						
JMP	Maruseppu	9.51	241	P	Pn	15 47 39.2	+2.5
JWK2	Keihoku	9.68	251	P	Pn	15 47 45.1	+6.1
ASAJ	Asahikawa	9.89	244	P	Pn	15 47 45.9	+4.0
	comp=E,7.0nm,0.3s,baz=81,slow=16,SNR=160						
ASAJ				S	Sn	15 49 37.6	+6.3
	comp=E,0.2nm,0.3s,baz=88,slow=20,SNR=1.4						
ASAJ	Asahikawa	9.89	244	P	Pn	15 47 45.8	+3.9
ASAJ				S	Sn	15 49 42.8	+12
ASAJ	Asahikawa	9.89	244	PN	Pn	15 47 45.9	+4.0
ASAJ				S	Sn	15 49 37.6	+6.3
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MA2	Magadan	10.65	348c	iPN	Pn	15 47 53.2	+0.9
MA2				eS	Sn	15 49 55.7	+5.9
MA2				pmax	pmax		
	comp=Z,40nm,0.8s						
MA2				pmax	pmax		

comp=N,30nm,0.9s
JEM Erimo 10.94 233 P Pn 15 47 55.1 -1.1
JEM S Sn 15 49 53.3 -3.6
ERM Erimo 10.94 233 *c i* PN Pn 15 47 55.2 -1.0
ERM Erimo 10.94 233 *e* Pn Pn 15 47 55.4 -0.8
comp=N,50nm,0.5s
JEW Eniwo 11.33 241 P Pn 15 48 02.5 +1.0
JSH Shimam 12.26 243 P Pn 15 48 14.9 +0.7
JOT Ohata 12.51 236 P Pn 15 48 13.6 -4.0
JOT S Sn 15 50 25.1 -10
JTM Tenmabayashi 12.92 234 P Pn 15 48 18.8 -4.4
HABR Khabarovsk 13.11 274 *e* PN Pn 15 48 28.8 +3.0
HABR *e* S Sn 15 50 55.1 +5.3
JOM Ohasama 13.77 230 P Pn 15 48 28.8 -5.7
JOM S Sn 15 50 54.2 -12
SEY Seymchan 13.81 355 *d i* P Pn 15 48 36.9 +1.8
KLR Kul'dur 15.13 279 *e* P Pn 15 48 53.5 +1.2
JYA Atsumi 15.24 231 P Pn 15 48 52.1 -1.5
JSD Sado 16.41 233 P Pn 15 49 06.9 -1.5
MJAR Matsushiro Arr 17.58 230 P Pn 15 49 22.0 -0.8
comp=N,1.6nm,0.3s,baz=16,slow=13,SNR=25
MJAR LR LR 15 56 15.3
comp=N,133nm,20.5s,baz=20,slow=37
MJAR Matsushiro Arr 17.58 230 P Pn 15 49 22.0 -0.8
MJAR LR LR 15 56 15.3
MAJO Matsushiro 17.58 230 *e* P Pn 15 49 19.6 -3.2
MAJO pmax pmax
comp=Z,29nm,0.8s
MAJO Matsushiro 17.58 230 *e* P Pn 15 49 19.6 -3.3
comp=Z,29nm,0.8s
MAT Matsushiro 17.58 230 P Pn 15 49 21.6 -1.2
MAT Matsushiro 17.58 230 P Pn 15 49 21.8 -1.0
JRY Ryogami san 17.65 228 P Pn 15 49 22.8 -0.9
MDJ Mudanjiang 17.87 265 P Pn 15 49 26.8 +0.3
MDJ AP pP 15 49 41.0 +0.6
MDJ XP sP 15 49 50.0 +0.9
MDJ S S 15 52 45.0 -2.9
MDJ AMB AMB
comp=Z,7.0nm,1.1s
MDJ LR LR
comp=N,192nm,5.5s
MDJ LR LR
comp=E,203nm,5.1s
MDJ LR LR
comp=Z,181nm,5.3s
MDJ Mudanjiang 17.87 265 P Pn 15 49 28.1 +1.7
comp=Z,4.5nm,0.6s
JGF Kuroka 18.74 230 P Pn 15 49 36.6 -0.3
YAK Yakutsk 19.01 322 *e* P Pn 15 49 39.4 -0.7
YAK *e* 15 53 07.5
YAK pmax pmax
comp=Z,17nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK Yakutsk 19.01 322 *e* P Pn 15 49 39.0 -1.0
comp=N,30nm,0.6s
CLNS Chul'man 19.48 304 *e* P Pn 15 49 47.8 +2.1
CLNS pmax pmax
comp=Z,34nm,0.9s
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,21nm,1.0s
BILL Bilibino 19.71 13⇑ *i* P Pn 15 49 45.2 -3.2
BILL pmax pmax
comp=Z,15nm,1.3s
CN2 Changchun 20.92 266 *e* P P 15 50 01.1 +1.6
SNY Shenyang 23.05 263 ⇑P P 15 50 22.8 +0.7
SNY AMB AMB
comp=Z,22nm,0.5s,mb4.7
BJI Beijing 28.79 266 *e* P P 15 51 15.3 +1.4
BJI LR LR
comp=Z,204nm,32.0s
SVW2 Sparrevohn 29.90 48 P P 15 51 26.3 +2.5
ULN Ulaanbaatar 31.31 286 *e* P P 15 51 36.2 0.0
HHC Hu-ho-hao-te 31.40 271 *e* P P 15 51 38.0 +1.1
HHC AP pP 15 51 55.6 +2.1
HHC XP sP 15 52 04.8 +3.3
HHC PP PP 15 52 43.6 -5.3
HHC PCP PcP 15 54 30.6 +1.6
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,122nm,5.1s
HHC LR LR
comp=N,129nm,4.9s
HHC LR LR
comp=E,198nm,5.3s
HHC LR LR
comp=Z,127nm,5.7s
SONM Songino Array 31.73 286 P P 15 51 40.1 +0.2
comp=Z,0.2nm,0.4s,baz=69,slow=7.8,SNR=4.5
SONM LR LR 16 05 52.3
comp=Z,90nm,18.6s,baz=214,slow=39
NJ2 Nanjing 31.92 251 *e* P P 15 51 46.3 +4.8
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
TLY Talaya 32.20 294 *e* P P 15 51 45.1 +1.1
TLY pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
TLY Talaya 32.20 294 *e* P P 15 51 45.1 +1.1
comp=Z,1.9nm,0.6s,mb4.0
COLA College 33.45 41 *e* P P 15 51 53.8 -1.1
COLA pmax pmax
comp=Z,21nm,0.9s,mb5.0
COLA College 33.45 41 *e* P P 15 51 53.8 -1.1
comp=Z,21nm,0.9s,mb5.0
EGAK Eagle 36.32 41 *e* P P 15 52 18.4 -1.1
INK Inuvik 38.91 34 P P 15 52 41.0 -0.5
comp=Z,8.7nm,0.5s,mb4.8,baz=305,slow=6.1,SNR=18
INK Inuvik 38.91 34 *e* P P 15 52 41.1 -0.4
INK pmax pmax
comp=Z,8.0nm,0.5s
INK Inuvik 38.91 34 *e* P P 15 52 41.1 -0.4
comp=Z,8.3nm,0.5s,mb4.8
LZH Lanzhou 39.07 270 *e* P P 15 52 43.5 +0.7
LZH AP pP 15 53 01.8 +2.1
LZH XP sP 15 53 10.8 +3.2
LZH PP PP 15 54 18.1 +4.7
LZH AMB AMB
comp=Z,19nm,1.1s,mb4.8
GTA Gaotai 39.83 277 *e* P P 15 52 50.3 +1.2
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.2
ZAL Zalesovo 42.21 304 LR LR 16 11 32.2
comp=Z,50nm,18.2s,baz=341,slow=37
CD2 Chengdu 42.33 264 *e* P P 15 53 08.0 -1.6
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
GYA Guiyang 43.46 257 P P 15 53 19.3 +0.5
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
WMQ Urumqi 45.20 290 *e* P P 15 53 34.0 +1.3
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.4
WMQ AMB AMB
comp=Z,82nm,3.8s
WMQ LR LR
comp=Z,97nm,24.5s
KMI Kunming 46.91 259 P P 15 53 47.6 +1.5
KMI AP pP 15 54 03.9 +0.5
KMI AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
YKA Yellowknife Ar 48.22 39 P P 15 53 55.8 -0.5
comp=Z,3.6nm,0.7s,mb4.3,baz=295,slow=7.5,SNR=6.1
YKA pP pP 15 54 11.5 -2.2
comp=Z,4.7nm,0.9s,baz=300,slow=8.1,SNR=5.8
YKA Yellowknife Ar 48.22 39 P P 15 53 55.8 -0.5
YKA pP pP 15 54 11.5 -2.2
CHKZ Chkalovo 49.79 309 *e* P P 15 54 06.3 -2.0
CHKZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
CHKZ Chkalovo 49.79 309 *e* P P 15 54 06.3 -1.9
comp=Z,1.9nm,0.5s,mb4.3
BVAR Borovoye Array 50.25 309 P P 15 54 11.0 -0.7
comp=Z,1.3nm,0.5s,mb4.1,baz=65,slow=7.8,SNR=14
BVAR PcP PcP 15 55 29.3 -0.5
comp=Z,1.0nm,0.3s,baz=72,slow=4.8,SNR=9.2
BRVK Borovoye 50.29 309 *e* P P 15 54 11.0 -1.0
BRVK pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BRVK Borovoye 50.29 309 *e* P P 15 54 11.0 -1.0
comp=Z,8.3nm,1.5s,mb4.4
ZRNK Zerenda 51.00 309 *e* P P 15 54 15.5 -1.9
ZRNK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZRNK Zerenda 51.00 309 *e* P P 15 54 15.5 -1.9
comp=Z,1.9nm,0.6s,mb4.3
LSA Lhasa 51.37 272 *e* P P 15 54 21.8 +1.6
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
LSA Lhasa 51.37 272 *e* P P 15 54 21.8 +1.6
comp=Z,4.6nm,0.6s,mb4.7
AAK Ala-Archa 53.84 296⇑ *i* P P 15 54 37.1 -1.3
AAK pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
ARU Arti 54.02 317⇓ *i* P P 15 54 38.7 -1.0
ARU *e* pP 15 54 58.0 +0.6
ARU *e* 15 55 38.2
ARU *e* 15 56 42.2
ARU *e* PPP 15 57 51.1
ARU *e* S S 16 02 10.6 0.0
ARU *e* SS SS 16 05 53.8 +1.1
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
ARU Arti 54.02 317 *e* P P 15 54 39.1 -0.7
comp=Z,3.9nm,0.8s,mb4.5
YBH Yreka Blue Hor 55.53 64 LR LR 16 16 31.6
comp=Z,30nm,18.9s,baz=355,slow=34
YBH Yreka Blue Hor 55.53 64 *e* P P 15 54 51.7 +1.1
YBH pmax pmax
comp=Z,6.0nm,1.0s
YBH Yreka Blue Hor 55.53 64 *e* P P 15 54 51.7 +1.1
comp=Z,5.8nm,1.0s,mb4.6
ARCES ARCESS Array B 55.92 341 P P 15 54 50.4 -3.0
comp=Z,2.6nm,0.9s,mb4.3,baz=50,slow=8.2,SNR=4.2
ARCES LR LR 16 19 34.4
comp=Z,67nm,21.0s,baz=29,slow=37
JIRN Jiri 55.97 274 *e* P P 15 54 54.9 +1.1
comp=Z,17nm,0.7s,mb5.2
GUN Gumba 56.01 275 *e* P P 15 54 54.4 +0.4
comp=Z,18nm,0.7s,mb5.2
KKN Kakani 56.48 275 *e* P P 15 54 57.9 +0.5
comp=Z,8.6nm,0.4s,mb5.1
PKI Pulchoki 56.54 275 *e* P P 15 54 58.4 +0.6
DMN Daman 56.72 275 *e* P P 15 55 00.5 +1.4
comp=Z,20nm,0.7s,mb5.2
GKN Gorkha 56.76 276 *e* P P 15 55 00.0 +0.6
comp=Z,15nm,0.5s,mb5.3
MOD Modoc 56.84 63 *e* P P 15 55 00.1 +0.2
comp=Z,3.4nm,1.0s,mb4.3
MSO Missoula 57.31 55 *e* P P 15 55 02.9 -0.4
comp=Z,2.7nm,1.0s,mb4.2
WVOR Wild Horse Val 57.47 61 *e* P P 15 55 04.7 +0.3
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
WVOR Wild Horse Val 57.47 61 *e* P P 15 55 04.7 +0.3
comp=Z,5.1nm,0.8s,mb4.6
KOLN Koldanda 57.59 276 *e* P P 15 55 06.3 +1.1
HLID Hailey 59.13 58 *e* P P 15 55 16.6 +0.6
comp=Z,2.4nm,0.8s,mb4.3
BOZ Bozeman (W) 59.30 55 *e* P P 15 55 17.8 +0.6
BOZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BOZ Bozeman (W) 59.30 55 *e* P P 15 55 17.8 +0.6
comp=Z,2.9nm,0.6s,mb4.5
BMN Battle Mountai 59.57 62 *e* P P 15 55 19.7 +0.7
BMN pmax pmax
comp=Z,13nm,1.2s,mb4.8
BMN Battle Mountai 59.57 62 *e* P P 15 55 19.7 +0.7
comp=Z,13nm,1.2s,mb4.8
JOF Joensuu 59.66 334 *ep* P P 15 55 16.9 -2.7
comp=Z,0.8nm,0.4s,mb4.1
QLMT Earthquake Lak 59.94 55 *e* P P 15 55 22.7 +1.1
NVAR Mina Array Bea 60.24 65 P P 15 55 24.2 +0.6
comp=Z,4.0nm,0.7s,mb4.5,baz=302,slow=6.6,SNR=26
NVAR pP pP 15 55 41.7 +0.2
comp=Z,1.0nm,0.6s,baz=301,slow=5.6,SNR=5.0
RRI2 Red Ridge 60.98 56 *e* P P 15 55 29.8 +1.2
comp=Z,10nm,0.7s,mb5.0
TPAW Teton Pass 61.09 56 *e* P P 15 55 30.0 +0.7
comp=Z,17nm,1.2s,mb4.9
REDW Red Top Meadow 61.22 56 *e* P P 15 55 30.9 +0.6
comp=Z,12nm,1.3s,mb4.8
DUG Dugway 62.25 60 *e* P P 15 55 37.7 +0.5
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DUG Dugway 62.25 60 *e* P P 15 55 37.7 +0.5
comp=Z,6.3nm,1.0s,mb4.6
FINES FINESS Array B 62.32 335 P P 15 55 35.8 -1.9
comp=Z,1.0nm,0.5s,mb4.1,baz=32,slow=8.0,SNR=16
BW06 Boulder Array 62.33 56 *e* P P 15 55 38.0 +0.3
comp=Z,7.5nm,0.9s,mb4.7
PDAR Pinedale Array 62.33 56 P P 15 55 38.1 +0.4
comp=Z,5.2nm,0.8s,mb4.6,baz=324,slow=2.5,SNR=44
PDAR pP pP 15 55 55.1 -0.6
comp=Z,1.7nm,0.8s,baz=328,slow=3.2,SNR=4.2
NLU North Lily Min 62.83 60 *e* P P 15 55 41.6 +0.6
MPU Maple Canyon 63.04 59 *e* P P 15 55 43.0 +0.6
comp=Z,9.5nm,1.0s,mb4.7
ARUT Antelope Range 63.52 62 *e* P P 15 55 45.8 +0.2
SRU San Rafael 64.28 59 *e* P P 15 55 50.8 +0.2
SRU pmax pmax
comp=Z,12nm,0.8s,mb4.8
SRU San Rafael 64.28 59 *e* P P 15 55 50.8 +0.2
comp=Z,12nm,0.8s,mb4.8
KAKA Kakadu 64.78 204 *e* P P 15 55 53.3 -0.6
comp=Z,12nm,0.5s,mb5.0
PV10 Paradox Valley 65.63 59 *e* P P 15 56 00.0 +0.7
PV01 Paradox Valley 66.06 59 *e* P P 15 56 02.5 +0.3
SMCO Snowmass 66.22 57 *e* P P 15 56 03.6 +0.5
comp=Z,5.4nm,0.6s,mb4.5
NB2 NORSAR Subarra 66.27 342 P P 15 56 01.4 -2.1
comp=Z,1.0nm,0.8s,mb3.7,baz=25,slow=6.5
NOA NORSAR Array B 66.27 342 P P 15 56 01.6 -1.9
comp=Z,1.0nm,0.6s,mb3.8,baz=25,slow=6.4,SNR=6.0
NOA LR LR 16 30 42.1
comp=Z,32nm,18.3s,baz=55,slow=41
ISCO Idaho Springs 66.52 56 *e* P P 15 56 05.9 +0.8
ISCO pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
ISCO Idaho Springs 66.52 56 *e* P P 15 56 05.9 +0.8
comp=Z,10nm,1.2s,mb4.5
HFS Hagfors 66.56 340 LR LR 16 26 40.6
comp=Z,64nm,19.8s,baz=203,slow=37
ANMO Albuquerque 69.52 60 *e* P P 15 56 22.2 -1.6
AKASG Malin Array Be 70.16 327 P P 15 56 25.6 -2.1
comp=Z,0.4nm,0.3s,mb3.7,baz=35,slow=6.6,SNR=4.2
SCHQ Schefferville 70.56 24 P P 15 56 29.4 -0.8
comp=Z,4.5nm,0.4s,mb4.7,baz=336,slow=5.5,SNR=29
SCHQ Schefferville 70.56 24 P P 15 56 29.4 -0.8
WB2 Warramunga Arr 71.25 200 *i* P P 15 56 33.5 -0.9
WRA Warramunga Arr 71.25 200 P P 15 56 33.8 -0.6
comp=Z,4.8nm,0.6s,mb4.5,baz=16,slow=6.3,SNR=5.1
GNI Garni 71.85 311 LR LR 16 30 01.8
comp=Z,44nm,20.2s,baz=236,slow=37
FITZ Fitzroy Crossi 71.90 209 *e* P P 15 56 37.5 -0.8
comp=Z,12nm,1.0s,mb4.7
FITZ Fitzroy Crossi 71.90 209 P P 15 56 38.5 +0.2
comp=Z,6.1nm,0.8s,mb4.5,baz=7.6,slow=7.5,SNR=3.4
ASAR Alice Springs 74.94 200 P P 15 56 56.6 +0.5
comp=Z,3.9nm,0.5s,mb4.4,baz=9.2,slow=5.2,SNR=10.0
ASAR pP pP 15 57 14.3 -0.4
comp=Z,1.8nm,0.6s,baz=16,slow=5.5,SNR=2.3
KHC Kasperske Hory 76.53 335 *e* P P 15 57 04.9 -0.3
GERES GERESS Array B 76.75 335 P P 15 57 05.8 -0.7
comp=Z,0.4nm,0.5s,mb3.4,baz=34,slow=5.7,SNR=9.6
GERES pP pP 15 57 24.0 -1.1
comp=Z,0.5nm,0.6s,baz=344,slow=4.3,SNR=3.2
BAIF Baives 77.95 341 *e* P P 15 57 11.9 -1.3
comp=Z,2.6nm,0.6s,mb3.8
BAIF Baives 77.95 341 *e* P P 15 57 11.9 -1.3
comp=Z,1.3nm,0.6s,mb3.8
CDF Champ du Feu 78.81 339 *e* P P 15 57 17.4 -0.5
comp=Z,4.5nm,0.7s,mb4.1
CDF Champ du Feu 78.81 339 *e* P P 15 57 17.4 -0.5
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
CDF Champ du Feu 78.81 339 *e* P P 15 57 17.4 -0.5
comp=Z,2.3nm,0.7s,mb4.1
FLN La Foliniere 80.12 344 *e* P P 15 57 24.3 -0.7
LDF La Druitiere 80.21 343 *e* P P 15 57 24.7 -0.8
comp=Z,6.4nm,0.6s,mb4.3
LDF La Druitiere 80.21 343 *e* P P 15 57 24.7 -0.8
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
LDF La Druitiere 80.21 343 *e* P P 15 57 24.7 -0.8
comp=Z,3.2nm,0.6s,mb4.3
GRR Gorron 80.55 344 *e* P P 15 57 26.9 -0.4
comp=Z,13nm,0.8s,mb4.5
GRR Gorron 80.55 344 *e* P P 15 57 26.9 -0.4
GRR pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
GRR Gorron 80.55 344 *e* P P 15 57 26.9 -0.4
comp=Z,6.7nm,0.8s,mb4.5
LOR Lormes 80.67 340 *e* P P 15 57 27.4 -0.6
comp=Z,4.8nm,0.7s,mb4.1
LOR Lormes 80.67 340 *e* P P 15 57 27.4 -0.6
LOR pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
LOR Lormes 80.67 340 *e* P P 15 57 27.4 -0.6
comp=Z,2.4nm,0.7s,mb4.1
SSF Saint Saulge 80.94 341 *e* P P 15 57 28.9 -0.6
comp=Z,4.3nm,0.6s,mb4.1
SSF Saint Saulge 80.94 341 *e* P P 15 57 28.9 -0.6
SSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
SSF Saint Saulge 80.94 341 *e* P P 15 57 28.9 -0.6
comp=Z,2.2nm,0.6s,mb4.2
SGMF Saint Gilles 80.97 345 *e* P P 15 57 29.3 -0.3
comp=Z,14nm,0.6s,mb4.6
SGMF Saint Gilles 80.97 345 *e* P P 15 57 29.3 -0.3
SGMF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SGMF Saint Gilles 80.97 345 *e* P P 15 57 29.3 -0.3
comp=Z,6.8nm,0.6s,mb4.7
ROSF Rostrenen 81.01 345 *e* P P 15 57 29.6 -0.2
comp=Z,26nm,0.8s,mb4.8
ROSF Rostrenen 81.01 345 *e* P P 15 57 29.6 -0.2
ROSF pmax pmax
comp=Z,13nm,0.8s,mb4.8
ROSF Rostrenen 81.01 345 *e* P P 15 57 29.6 -0.2
comp=Z,13nm,0.8s,mb4.8
AVF Avril sur Loir 81.23 341 *e* P P 15 57 30.6 -0.4
comp=Z,5.3nm,0.7s,mb4.2
AVF Avril sur Loir 81.23 341 *e* P P 15 57 30.6 -0.4
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
AVF Avril sur Loir 81.23 341 *e* P P 15 57 30.6 -0.4
comp=Z,2.7nm,0.7s,mb4.2
SMF Signal de Mont 81.26 340 *e* P P 15 57 30.7 -0.5
QUIF Quistinic 81.40 345 *e* P P 15 57 31.5 -0.4
STKA Stephens Creek 81.61 191 *e* P P 15 57 32.8 -0.2
comp=Z,3.3nm,0.9s,mb4.2
STKA Stephens Creek 81.61 191 P P 15 57 32.9 -0.1
comp=Z,4.7nm,0.8s,mb4.3,baz=268,slow=18,SNR=3.3
LPL La Plagne 81.65 338 *e* P P 15 57 33.8 +0.6
comp=Z,7.9nm,0.5s,mb4.5
LPL La Plagne 81.65 338 *e* P P 15 57 33.8 +0.6
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LPL La Plagne 81.65 338 *e* P P 15 57 33.8 +0.6
comp=Z,4.0nm,0.5s,mb4.5
LPG La Plagne 81.67 338 *e* P P 15 57 34.0 +0.7
comp=Z,8.2nm,0.5s,mb4.5
LPG La Plagne 81.67 338 *e* P P 15 57 34.0 +0.7
LPG pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LPG La Plagne 81.67 338 *e* P P 15 57 34.0 +0.7
comp=Z,4.1nm,0.5s,mb4.5
MFF Saint Martin d 82.13 343 *e* P P 15 57 35.6 -0.1
comp=Z,13nm,0.9s,mb4.5
MFF Saint Martin d 82.13 343 *e* P P 15 57 35.6 -0.1
MFF pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MFF Saint Martin d 82.13 343 *e* P P 15 57 35.6 -0.1
comp=Z,6.6nm,0.9s,mb4.5
ORIF Oris-en-Rattie 82.42 338 *e* P P 15 57 37.6 +0.4
comp=Z,6.7nm,0.6s,mb4.3
ORIF Oris-en-Rattie 82.42 338 *e* P P 15 57 37.6 +0.4
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ORIF Oris-en-Rattie 82.42 338 *e* P P 15 57 37.6 +0.4
comp=Z,3.3nm,0.6s,mb4.3
RJF Les Rejaudoux 83.04 341 *e* P P 15 57 40.5 +0.1
CAF Calviac 83.28 341 *e* P P 15 57 42.0 +0.3
comp=Z,4.1nm,0.5s,mb4.2
CAF Calviac 83.28 341 *e* P P 15 57 42.0 +0.3
CAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
CAF Calviac 83.28 341 *e* P P 15 57 42.0 +0.3
comp=Z,2.0nm,0.5s,mb4.2
LFF La Frestale 83.55 342 *e* P P 15 57 43.2 +0.1
ESDC Sonseca Array 89.54 344 P P 15 58 10.6 -1.7
comp=Z,0.4nm,0.4s,mb3.9,baz=358,slow=4.5,SNR=4.9
ESDC pP pP 15 58 28.7 -2.6
comp=Z,0.7nm,0.6s,baz=5.7,slow=4.6,SNR=2.8
SYO Syowa Base 143.65 213⇑ *e* P PKPdf 16 04 44.8 -4.7
CPUP Villa Florida 146.17 59 PKPbc PKPbc 16 04 53.9 -1.0
comp=Z,2.2nm,0.6s,baz=303,slow=3.7,SNR=10
CPUP pPKPbc pPKPbc 16 05 13.2 -1.3
comp=Z,1.3nm,0.7s,baz=323,slow=2.0,SNR=2.2
CPUP Villa Florida 146.17 59 PKPbc PKPbc 16 04 53.9 -1.0
CPUP pPKPbc pPKPbc 16 05 13.2 -1.3
PLCA Paso Flores 147.16 93 PKPbc PKPbc 16 04 56.7 -1.1
comp=Z,2.5nm,0.7s,baz=332,slow=2.5,SNR=6.7
PLCA pPKPbc pPKPbc 16 05 15.4 -2.0
comp=Z,2.6nm,0.8s,baz=353,slow=4.0,SNR=3.5
PLCA Paso Flores 147.16 93 PKPbc PKPbc 16 04 56.7 -1.1
PLCA pPKPbc pPKPbc 16 05 15.4 -2.0

BJI **17** *15:47:11.1, 357S×12978E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.3*
IDC **17** *15:47:15.8±0.5, 301S×12955E, h0km, mb4.8/17, mb1 4.8/18, mb1mx4.7/21, mbtmp4.8/18, ML4.2/1, MS4.2/14, Ms1 4.2/14, ms1mx4.0/23, Error ellipse: s-maj=21.5km s-min=12.1km az=77.0*
ISCJB **17** *15:47:16.3±1.2, 307S±003×12959E±004, h15km±8km, mb4.8/61, MS4.2/20, Error ellipse: s-maj=7.3km s-min=4.3km az=151.2*
NEIC **17** *15:47:17.5±0.2, 302S×12954E, h10km, mb4.8/19, Error ellipse: s-maj=9.2km s-min=4.8km az=70.0*
MOS **17** *15:47:19.0±1.0, 302S×12947E, h33km, mb4.8/19, Error ellipse: s-maj=14.4km s-min=7.0km az=111.0*
ISC 17 15:47:21.8±0.7**, 308S**±003×**12966E**±004**, h41**km±6km**, h31**km±2.4km**:pP-P, n150,** σ1**s13**/153**, mb4.8**/61**, MS4.2**/20**, 12C-6D, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon** 5μm,0.7s	**1.58**	**248**	P		**Pn**	**15 47 47.7**	**+0.4**
SWI	**Sorong** 2μm,0.7s	**2.72**	**36**	P		**Pn**	**15 48 00.2**	**-2.7**
BAKI	**Biak** 271nm,1.0s	**6.71**	**74**	P		**Pn**	**15 48 57.6**	**-0.1**
KAKA	**Kakadu** 32nm,0.4s	**9.96**	**164**	*e* P		**Pn**	**15 49 41.8**	**-0.4**
KAKA				*e* S		**Sn**	**15 51 33.0**	**+0.4**
PCI	**Palu** 106nm,1.1s	**10.05**	**282**	P		**Pn**	**15 49 43.8**	**+0.3**
JAY	**Jayapura** 45nm,0.6s	**11.04**	**87**	P		**Pn**	**15 49 58.9**	**+1.8**
FITZ	**Fitzroy Crossi** 53nm,0.6s	**15.44**	**195**	*e* P		**Pn**	**15 50 55.2**	**-1.4**
FITZ				*e* S		**S**	**15 53 47.2**	**-14**
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=31,slow=10,SNR=37	**15.44**	**195**	Pn		**Pn**	**15 50 55.3**	**-1.2**
FITZ	0.2nm,0.3s,baz=88,slow=19,SNR=4.0			Sn		**Sn**	**15 53 48.9**	**+2.4**
FITZ	comp=Z,559nm,18.6s,baz=243,slow=39			LR		LR	15 57 22.1	
KMMI	**Kalianget** 148nm,1.0s	**16.12**	**255**	P		**Pn**	**15 51 09.0**	**+3.7**
KKM	**Kota Kinabalu**	**16.20**	**304**	P		**Pn**	**15 51 08.2**	**+1.9**
WRAB	**Tennant Creek**	**17.36**	**165**	*e* P		**Pn**	**15 51 19.4**	**-1.5**
WRAB				*e* S		**S**	**15 54 34.0**	**-6.3**
WRAB	comp=Z,173nm,1.4s			pmax	pmax			
WRAB	**Tennant Creek** comp=Z,173nm,1.4s	**17.36**	**165**	*e* P		**Pn**	**15 51 19.4**	**-1.6**
WRAB				*e* S		**S**	**15 54 34.0**	**-6.3**
WRA	**Warramunga Arr** comp=Z,1.5nm,0.3s,baz=348,slow=12,SNR=52	**17.37**	**165**	P		**Pn**	**15 51 18.3**	**-2.7**
WRA				S		**S**	**15 54 38.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=344,slow=20,SNR=7.3							
WB2	**Warramunga Arr**	**17.37**	**165**	*e* P		**Pn**	**15 51 18.4**	**-2.6**
WB2				*e* S		**S**	**15 54 30.5**	**-10**
KRKI	**Karangkates** comp=Z,234nm,0.8s	**17.85**	**253**	P		**Pn**	**15 51 30.4**	**+3.5**
KSM	**Kuching**	**19.87**	**283**	*e* P		**Pn**	**15 51 49.8**	**-1.4**
BJI	**Banjamegara** comp=Z,97nm,1.3s	**20.31**	**257**	P		**P**	**15 51 56.7**	**+2.6**
MBWA	**Marble Bar** SNR=5.7	**20.40**	**207**	⇑P		**P**	**15 51 54.1**	**-1.0**
MBWA	**Marble Bar**	**20.40**	**207**	*e* P		**P**	**15 51 53.7**	**-1.4**

comp=Z,34nm,0.8s
AS31 Alice Springs 20.87 169 *e*P **P** **15 52 00.8 +0.6**
ASAR Alice Springs 20.87 169 P **P** **15 52 00.9 +0.7**
comp=Z,105nm,0.7s,baz=350,slow=10,SNR=619
ASAR S **S** **15 55 50.7 0.0**
comp=Z,7.8nm,0.8s,baz=348,slow=21,SNR=7.9
ASAR PcP PcP 15 56 08.4 +1.1
comp=Z,2.5nm,0.5s,baz=5.1,slow=1.3,SNR=6.5
LEM Lembang 22.27 260 P **P** **15 52 14.3 -0.9**
comp=Z,66nm,1.1s,mb5.0
GUMO Guam 22.41 42 P **P** **15 52 17.1 +0.4**
comp=Z,8.4nm,0.4s,mb4.5,baz=180,slow=20,SNR=2.8
CBJI Citeko 22.97 261 P **P** **15 52 25.4 +2.8**
comp=Z,100nm,0.9s,mb5.2
CTA Charters Tower 23.41 137 *e*P **P** **15 52 27.5 +0.4**
comp=Z,21nm,1.0s,mb4.5
CTA *e*S **S** **15 56 42.0 +5.0**
CTA Charters Tower 23.41 137 P **P** **15 52 29.3 +2.2**
comp=Z,27nm,0.9s,mb4.7,baz=317,slow=12,SNR=11
CTA Charters Tower 23.41 137 *e*P **P** **15 52 27.5 +0.4**
CTA *e*S **S** **15 56 42.0 +5.0**
CTA pmax pmax
comp=Z,21nm,1.0s
CTAO Charters Tower 23.41 137 *e*P **P** **15 52 28.9 +1.8**
CTAO pmax pmax
comp=Z,31nm,0.9s,mb4.7
CTAO Charters Tower 23.41 137 *e*P **P** **15 52 28.9 +1.8**
comp=Z,31nm,0.9s,mb4.7
PPI Padang Panjang 29.36 275 P **P** **15 53 21.3 +0.5**
comp=Z,98nm,1.0s,mb5.5
QIZ Qiongzhong 29.38 319 P **P** **15 53 21.3 +0.4**
QIZ S **S** **15 58 10.8 -0.9**
QIZ AMB AMB
comp=Z,8.0nm,1.1s,mb4.4
QIZ LR LR
comp=Z,341nm,16.5s,MS4.0
KULM Kulim 30.15 286 *e*P **P** **15 53 27.7 0.0**
KLBR Kellerberrin 30.50 200 *e*P **P** **15 53 30.1 -0.7**
comp=Z,9.4nm,0.8s,mb4.6
STKA Stephens Creek 30.77 160 *e*P **P** **15 53 35.1 +1.9**
comp=Z,8.6nm,0.9s,mb4.6
STKA Stephens Creek 30.77 160 P **P** **15 53 32.4 -0.8**
comp=Z,10.0nm,0.8s,mb4.7,baz=329,slow=8.1,SNR=18
STKA LR LR 16 07 27.2
comp=Z,445nm,19.6s,MS4.1,baz=103,slow=39
STKA Stephens Creek 30.77 160 *e*P **P** **15 53 34.3 +1.1**
PSI Prapat 31.27 280 P **P** **15 53 36.5 -1.2**
comp=Z,13nm,0.8s,mb4.8,baz=130,slow=3.1,SNR=14
PSI Prapat 31.27 280 P **P** **15 53 36.5 -1.2**
NWAO Narrogin (SRO) 31.89 200 P **P** **15 53 42.5 -0.6**
comp=Z,7.0nm,0.7s,mb4.6,baz=38,slow=8.9,SNR=5.9
NWAO LR LR 16 07 41.3
comp=Z,573nm,19.4s,MS4.3,baz=256,slow=38
CBIJ Chichi jima 32.34 21 LR LR 16 05 10.9
comp=Z,442nm,19.1s,MS4.2,baz=209,slow=33
ARMA Armidale 34.22 145 *e*P **P** **15 54 06.4 +3.0**
NST Nakhon Sawan 34.65 303 P **P** **15 54 07.5 +0.4**
NANT Nan 35.85 308 ⇑P **P** **15 54 15.0 -2.4**
comp=Z,359nm,1.0s
NJ2 Nanjing 36.42 344 *e*P **P** **15 54 23.0 +0.7**
NJ2 AP pP 15 54 32.8 -0.9
NJ2 XP sP 15 54 36.8 -1.8
NJ2 S **S** **16 00 02.0 +1.0**
NJ2 XS sS 16 00 19.0 -0.9
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
NJ2 LR LR
comp=N,1μm,26.0s,MS4.6
NJ2 LR LR
comp=E,670nm,26.5s,MS4.6
NJ2 LR LR
comp=Z,1μm,19.4s
GYA Guiyang 36.83 324 P **P** **15 54 27.6 +1.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CM31 Chiang Mai Arr 37.05 306 *e*P **P** **15 54 28.5 +0.8**
CHG Chiang Mai 37.24 307 ⇑P **P** **15 54 29.8 +0.5**
comp=Z,42nm,0.9s,mb5.3
CHTO Chiang Mai 37.24 307 ⇑P **P** **15 54 30.0 +0.7**
SNR=9.1
CHTO Chiang Mai 37.24 307 *e*P **P** **15 54 29.5 +0.2**
CHTO pmax pmax
comp=Z,38nm,0.9s,mb5.2
CHTO Chiang Mai 37.24 307 *e*P **P** **15 54 29.5 +0.2**
comp=Z,38nm,0.9s,mb5.2
JHJ Hachijo jima 2 37.26 14 LR LR 16 07 47.1
comp=Z,477nm,20.0s,MS4.3,baz=33,slow=33
TOO Toolangi 37.27 159 *e*P **P** **15 54 31.8 +2.2**
comp=Z,4.1nm,0.7s,mb4.4
TOO Toolangi 37.27 159 *e*P **P** **15 54 31.8 +2.2**
TOO pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
KMI Kunming 38.32 319 P **P** **15 54 39.8 +1.4**
KMI AP pP 15 54 49.3 -0.5
KMI PP PP 15 56 11.6 +5.1
KMI PPP 15 56 35.5
KMI S **S** **16 00 31.3 +1.4**
KMI XS sS 16 00 48.5 -0.4
KMI SSS 16 03 47.1
KMI AMB AMB
comp=Z,12nm,1.2s,mb4.5
KMI AMB AMB
comp=Z,107nm,6.0s
KMI LR LR
comp=N,290nm,22.4s,MS4.2
KMI LR LR
comp=E,213nm,19.1s,MS4.2
KMI LR LR
comp=Z,240nm,25.7s
MJAR Matsushiro Arr 40.22 11 P **P** **15 54 52.7 -1.5**
comp=Z,4.8nm,0.8s,mb4.3,baz=188,slow=8.5,SNR=12
MJAR LR LR 16 07 53.1
comp=Z,166nm,21.5s,MS3.9,baz=225,slow=31
SNY Shenyang 45.04 354 ⇓P **P** **15 55 34.9 +1.6**
SNY AMB AMB
comp=Z,12nm,0.5s,mb5.0
LZH Lanzhou 45.83 331 *e*P **P** **15 55 39.0 -0.6**
LZH AP pP 15 55 46.0 -5.2
LZH XP sP 15 55 52.0 -4.1
LZH PP PP 15 57 27.1 -0.3
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
HHC Hu-ho-hao-te 46.74 341 *e*P **P** **15 55 49.0 +2.2**
HHC PCP PcP 15 57 22.1 +2.4
HHC PP PP 15 57 39.0 +1.9
HHC SCP ScP 16 01 11.8 +1.8
HHC PCS PcS 16 01 15.6 +1.0
HHC S **S** **16 02 36.5 +2.7**
HHC XS sS 16 02 53.3 +0.2
HHC SCS ScS 16 05 38.5 +0.5
HHC SS SS 16 05 56.3 -4.1
HHC AMB AMB
comp=Z,11nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,237nm,4.6s
HHC LR LR
comp=N,121nm,5.5s
HHC LR LR
comp=E,262nm,4.9s
HHC LR LR
comp=Z,227nm,7.2s
MDJ Mudanjiang 47.48 360 P **P** **15 55 54.8 +2.2**
MDJ AP pP 15 56 03.8 -0.5
MDJ PP PP 15 57 46.6 +2.5
MDJ PCS PcS 16 01 19.0 +1.3
MDJ S **S** **16 02 48.8 +4.5**
MDJ XS sS 16 03 04.6 +0.9
MDJ SCS ScS 16 05 46.3 +3.4
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,160nm,6.0s
MDJ LR LR
comp=N,159nm,31.4s,MS3.8
MDJ LR LR
comp=E,41nm,31.4s,MS3.8
MDJ LR LR
comp=Z,180nm,34.2s,MS3.8
LSA Lhasa 49.19 314 P **P** **15 56 07.0 +1.3**
LSA Lhasa 49.19 314 *e*P **P** **15 56 06.0 +0.3**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LSA Lhasa 49.19 314 *e*P **P** **15 56 06.0 +0.3**
comp=Z,9.2nm,0.7s,mb4.9
GTA Gaotai 50.41 330 ⇑P **P** **15 56 14.6 -0.4**
GTA SCS ScS 16 06 01.9 -0.7
GTA AMB AMB
comp=Z,14nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,59nm,4.2s
GTA LR LR
comp=N,142nm,14.1s,MS4.2
GTA LR LR
comp=E,119nm,13.8s,MS4.2
GTA LR LR
comp=Z,206nm,18.7s,MS4.2
HABR Khabarovsk 51.56 5 *e*P **P** **15 56 24.9 +1.3**
HABR *e*S **S** **16 03 42.9 +1.6**
JIRN Jiri 51.82 309 *e*P **P** **15 56 25.4 -0.2**
comp=Z,17nm,0.7s,mb5.0
KLR Kul'dur 52.13 2 *e*P **P** **15 56 24.5 -3.4**
GUN Gumba 52.18 309 *e*P **P** **15 56 28.3 +0.1**
comp=Z,18nm,0.5s,mb5.2
PKI Pulchoki 52.38 309 *e*P **P** **15 56 29.2 -0.6**
KKN Kakani 52.59 309 *e*P **P** **15 56 30.8 -0.5**
DMN Daman 52.64 308 *e*P **P** **15 56 31.4 -0.2**
comp=Z,20nm,0.8s,mb5.1
GKN Gorkha 53.19 309 *e*P **P** **15 56 35.2 -0.5**
comp=Z,36nm,1.0s,mb5.3
KOLN Koldanda 53.90 308 *e*P **P** **15 56 40.8 -0.1**
comp=Z,42nm,0.7s,mb5.5
HYB Hyderabad 54.36 294 *i*P **P** **15 56 43.5 -0.8**
HYB Hyderabad 54.36 294 *e*P **P** **15 56 43.5 -0.8**
ULN Ulaanbaatar 54.46 341 *c i*P **P** **15 56 44.7 -0.3**
ULN Ulaanbaatar 54.46 341 *e*P **P** **15 56 44.3 -0.7**
comp=Z,7.6nm,0.8s,mb4.7
SONM Songino Array 54.65 341 P **P** **15 56 45.7 -0.6**
comp=Z,3.0nm,0.8s,mb4.4,baz=148,slow=7.6,SNR=15
SONM PcP PcP 15 57 49.6 +0.7
comp=Z,2.1nm,0.7s,baz=159,slow=3.8,SNR=4.4
SONM LR LR 16 20 53.2
comp=Z,146nm,20.5s,MS4.0,baz=83,slow=37
SONM Songino Array 54.65 341 P **P** **15 56 45.7 -0.6**
SONM 15 57 49.6
CIT Chita 56.57 348 *e*P **P** **15 57 00.1 -0.1**
ZAK Zakamensk 57.88 340 *e*P **P** **15 57 08.8 -0.6**
ZAK *e* **15 58 01.1**
TLY Talaya 58.87 341 *e*P **P** **15 57 13.8 -2.5**
TLY pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TLY MLR MLR
comp=Z,93nm,18.0s,MS4.0
MOY Mondy 59.74 340 *e*P **P** **15 57 22.6 +0.3**
MOY pmax pmax
comp=Z,39nm,2.6s,mb5.0
WMQ Urumqi 59.96 326 *e*P **P** **15 57 23.8 0.0**
WMQ AP pP 15 57 34.0 -1.8
WMQ XP sP 15 57 37.8 -2.8
WMQ *e*S **S** **16 05 32.0 -1.2**
WMQ XS sS 16 05 48.0 -5.1
WMQ AMB AMB
comp=Z,17nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,172nm,4.5s
WMQ LR LR
comp=N,456nm,28.4s
WMQ LR LR
comp=E,221nm,21.6s
WMQ LR LR
comp=Z,270nm,25.4s,MS4.3
PET Petropavlovsk 60.98 20 *e*P **P** **15 57 32.0 +1.2**
PET pmax pmax
comp=Z,28nm,1.1s,mb5.3
PET Petropavlovsk 60.98 20 *e*P **P** **15 57 31.9 +1.2**
comp=Z,28nm,1.1s,mb5.3
CASY Casey 64.50 188 *e*P **P** **15 57 54.0 -0.2**
MA2 Magadan 64.65 12 *e*P **P** **15 57 56.0 +0.8**
MA2 *e*S **S** **16 06 31.6 -0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MKAR Makanchi Array 64.79 326 P **P** **15 57 55.9 -0.2**
comp=Z,1.1nm,0.3s,mb4.3,baz=105,slow=7.2,SNR=11
MKAR Makanchi Array 64.79 326 P **P** **15 57 55.9 -0.2**
YAK Yakutsk 64.93 0 *c i*P **P** **15 57 56.4 -0.6**
YAK pmax pmax
comp=Z,45nm,0.7s,mb5.6
YAK Yakutsk 64.93 0 *e*P **P** **15 57 56.5 -0.5**
comp=Z,48nm,0.7s,mb5.6
TKM2 Tokmak 2 66.78 320 P **P** **15 58 08.9 0.0**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AAK Ala-Archa 67.36 319 ⇑*e*P **P** **15 58 11.4 -1.2**
AAK pmax pmax
comp=Z,8.0nm,2.5s,mb4.3
ZAL Zalesovo 67.95 333 P **P** **15 58 15.5 -0.8**
comp=Z,8.2nm,1.0s,mb4.7,baz=2.4,slow=5.7,SNR=28
ZAL LR LR 16 30 22.3
comp=Z,94nm,19.2s,MS4.0,baz=164,slow=38
SEY Seymchan 68.04 11 *c i*P **P** **15 58 17.3 +0.4**
NVS Novosibirsk 69.23 333 *i*P **P** **15 58 21.3 -3.0**
VOSK Vostochnaya 74.14 327 P **P** **15 58 52.8 -1.0**
VOSK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SMDO Samad 74.37 295 ⇑P **P** **15 58 55.8 +0.6**
SNR=5.3
BIDO Bidbid 74.39 295 ⇓P **P** **15 58 55.6 +0.3**
SNR=5.2
BVA0 Borovoye Array 74.59 327 *i*P **P** **15 58 56.0 -0.5**
BVAR Borovoye Array 74.59 327 P **P** **15 58 55.7 -0.7**
comp=Z,10nm,0.8s,mb4.8,baz=124,slow=7.4,SNR=45
BRVK Borovoye 74.67 327 ⇓P **P** **15 58 56.7 -0.2**
SNR=6.6
BRVK Borovoye 74.67 327 *e*P **P** **15 58 56.1 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BRVK Borovoye 74.67 327 *e*P **P** **15 58 56.0 -0.8**
comp=Z,8.0nm,0.8s,mb4.7
CHKZ Chkalovo 74.77 328 P **P** **15 58 56.7 -0.8**
CHKZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CHKZ Chkalovo 74.77 328 *e*P **P** **15 58 56.4 -1.1**
comp=Z,8.7nm,0.8s,mb4.7
BSY Bisya 75.09 294 ⇑P **P** **15 58 59.7 +0.3**
SNR=7.3
HOQ Hoqain 75.14 295 ⇓P **P** **15 59 00.5 +0.9**
ZRNK Zerenda 75.31 327 P **P** **15 58 59.9 -0.7**
ZRNK pmax pmax
comp=Z,12nm,1.1s,mb4.7
ZRNK Zerenda 75.31 327 *e*P **P** **15 58 59.3 -1.3**
comp=Z,9.9nm,0.8s,mb4.8
VNDA Vanda 76.35 173 P **P** **15 59 06.7 +0.2**
comp=Z,2.1nm,0.6s,mb4.3,baz=320,slow=6.3,SNR=24
VNDA LR LR 16 31 48.8
comp=Z,205nm,19.5s,MS4.5,baz=340,slow=35
SBA Scott Base 77.24 172 *e*P **P** **15 59 12.7 +1.2**
SBA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SBA Scott Base 77.24 172 *e*P **P** **15 59 12.7 +1.1**
comp=Z,3.6nm,1.0s,mb4.3
WHFO Wadi Hawf 77.56 289 ⇓P **P** **15 59 13.3 0.0**
MAW Mawson 78.46 201 *e*P **P** **15 59 18.7 +0.4**
comp=Z,3.1nm,0.6s,mb4.4
MAW Mawson 78.46 201 P **P** **15 59 18.7 +0.4**
comp=Z,4.7nm,0.9s,mb4.4,baz=90,slow=8.6,SNR=6.2
MAW LR LR 16 31 02.2
comp=Z,182nm,19.2s,MS4.4,baz=229,slow=34
MAW Mawson 78.46 201 *e*P **P** **15 59 18.7 +0.4**
MAW pmax pmax
comp=Z,3.0nm,0.6s
AB31 Akbulak array 79.25 321 *i*P **P** **15 59 21.9 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PPT Papeete 80.28 107 *e*LR LR 16 24 37.4
comp=Z,84nm,22.2s
AKTK Aktyubinsk 80.79 322 P **P** **15 59 30.9 -0.1**
AKTO Aktyubinsk 80.79 322 P **P** **15 59 30.9 -0.1**
comp=Z,7.9nm,0.8s,mb4.7,baz=0.0,slow=0.0
SVE Sverdlovsk 81.26 329 *e*P **P** **15 59 39.0 +5.5**
OPO Ambohidratompo 81.89 252 P **P** **15 59 38.6 +1.7**
comp=Z,10nm,0.7s,mb4.9
ARU Arti 82.22 328 ⇑*i*P **P** **15 59 37.4 -1.2**
ARU *e* 16 02 47.3
ARU *e*PPP 16 04 32.7
ARU *e*S S 16 09 49.4 -1.4
ARU *e*SS SS 16 15 13.0 +1.8
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 82.22 328 *e*P **P** **15 59 37.3 -1.3**
comp=Z,10nm,0.9s,mb4.8
QRN Al-Qurain 84.24 299 *e*P **P** **15 59 49.2 +0.3**
QRN AMb AMB 15 59 52.2
comp=Z,21nm,0.9s,mb5.3
RDF Al-Radifah 84.58 299 *e*P **P** **15 59 51.1 +0.4**
RDF AMb AMB 15 59 54.7
comp=Z,16nm,0.9s,mb5.2
MIB Mutribah 84.86 300 *e*P **P** **15 59 51.5 -0.6**
MIB AMb AMB 15 59 53.8
comp=Z,23nm,0.8s,mb5.4
NAY Al-Naaiem 84.88 300 *e*P **P** **15 59 52.1 -0.1**
NAY AMb AMB 15 59 53.7
comp=Z,17nm,0.6s,mb5.3
RST Umm Al-Ruwaisa 85.12 300 *e*P **P** **15 59 53.2 -0.2**
RST AMb AMB 15 59 54.8
comp=Z,44nm,0.7s,mb5.7
SVW2 Sparrevohn 85.36 28 *e*P **P** **15 59 56.0 +1.4**
QSPA South Pole Qui 86.87 180 *e*P **P** **16 00 01.6 -0.4**
comp=Z,4.5nm,0.8s,mb4.8
SYO Syowa Base 87.17 201 ⇓*e*pP pP 16 00 14.0 -2.0
SLKM Skilak Lake 87.80 29 *e*P **P** **16 00 06.8 +0.3**
ZEI Tsey 88.96 313 *e*P **P** **16 00 10.4 -1.6**
ZEI *e* 16 03 39.6
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
KMBO Kilima Mbogo 92.34 269 P **P** **16 00 28.6 +0.8**
comp=Z,1.9nm,0.6s,mb4.6,baz=19,slow=4.0,SNR=8.3
KMBO LR LR 16 38 26.7
comp=Z,185nm,19.7s,MS4.5,baz=91,slow=33
DAWY Dawson 93.17 26 *e*P **P** **16 00 31.5 0.0**
BRTR Keskin Array B 96.59 309 LR LR 16 51 26.7
comp=Z,33nm,19.5s,MS3.8,baz=266,slow=40
ARCES ARCESS Array B 97.81 340 P **P** **16 00 52.7 0.0**
comp=Z,2.7nm,0.7s,mb4.9,baz=99,slow=5.6,SNR=3.6
ARCES LR LR 16 51 20.6
comp=Z,107nm,18.6s,MS4.4,baz=21,slow=39
FINES FINESS Array B 99.18 332 P **P** **16 00 57.3 -1.6**
comp=Z,2.9nm,1.0s,mb4.8,baz=46,slow=5.7,SNR=4.0
FINES LR LR 16 50 31.9
comp=Z,76nm,18.9s,MS4.2,baz=189,slow=38
SNAA Sanae 99.37 194 *e*PKPdf PKiKP 16 05 31.1 +2.0
SNAA *e* 16 05 32.6
BOSA Boshof 101.13 240 P Pdif 16 01 08.8 +1.3
comp=Z,3.8nm,0.9s,baz=131,slow=12,SNR=4.2
BOSA Boshof 101.13 240 P Pdif 16 01 08.8 +1.3
VNA3 Neumayer Olymp 101.22 192 *e*PKPdf PKiKP 16 05 38.0 +5.5
VNA3 *e* 16 05 39.5
TORD Torodi Ar. Bea 127.62 284 PKP PKPdf 16 06 23.0 +0.6
comp=Z,1.6nm,0.8s,baz=51,slow=2.3,SNR=8.9
PLCA Paso Flores 132.64 159 PKP PKPdf 16 06 34.9 +3.0
comp=Z,1.2nm,0.5s,baz=156,slow=5.9,SNR=3.2
PLCA Paso Flores 132.64 159 PKP PKPdf 16 06 34.9 +3.0
CPUP Villa Florida 149.99 167 PKPbc PKPbc 16 07 09.4 +1.8
comp=Z,6.9nm,0.7s,baz=274,slow=6.6,SNR=3.3
CPUP Villa Florida 149.99 167 *e*PKPbc PKPbc 16 07 09.7 +2.1
LPAZ La Paz 153.93 138 PKPbc PKPbc 16 07 19.8 +3.2
comp=Z,0.7nm,0.7s,baz=7.8,slow=7.7,SNR=3.9
LPAZ PKPab PKPab 16 07 30.8 +0.9
comp=Z,1.2nm,0.8s,baz=62,slow=6.0,SNR=5.7

IDC 17 15:52:41.4±9.5, 1751S×17965W, h323km±184km, mb3.3/5, mb1 3.5/6, mb1mx3.3/16, mbtmp4.1/6, Error ellipse: s-maj=124.8km s-min=30.3km az=69.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.38**	**66**	P	Pn	15 54 39.9	+0.1
	1.3nm,0.3s,baz=252,slow=20,SNR=2.9						
AFI				S	S	15 56 07.8	-8.3
	0.8nm,0.3s,baz=217,slow=20,SNR=2.3						
URZ	**Urewera**	**20.87**	**187**	P	P	15 56 59.4	+0.2
	5.2nm,0.5s,baz=24,slow=20,SNR=3.3						
STKA	**Stephens Creek**	**37.79**	**240**	P	P	15 59 27.0	-0.4
	2.6nm,0.9s,baz=90,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**43.54**	**259**	P	P	16 00 15.1	+1.1
	0.9nm,0.4s,baz=96,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**43.76**	**254**	P	P	16 00 16.1	+0.3
	1.9nm,0.6s,baz=90,slow=8.4,SNR=15						
FITZ	**Fitzroy Crossi**	**51.92**	**260**	P	P	16 01 17.4	-0.5
	0.3nm,0.3s,baz=84,slow=9.1,SNR=6.2						

MDD ***17*** *15:54:58.5±1.8, 3782N×896W, h0km, mbLg1.7/3, Error ellipse: s-maj=13.9km s-min=6.7km az=101.0, PRXIMO*
INMG 17 15:54:58.4±0.7, 3783N×896W, h0km±5km, ML1.4, Error ellipse: s-maj=6.2km s-min=3.1km az=108.0, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**0.34**	**146**	*e*Pg	Pg	15 55 04.4	-0.5
PTEO				*e*Sg	Sg	15 55 09.3	0.0
PTEO							
	17nm,0.1s						
PBEJ	**Beja**	**0.89**	**77**	*e*P	Pg	15 55 14.7	-0.8
PBEJ				*e*S	Sg	15 55 26.8	-0.2
PBEJ							
	5.1nm,0.1s						
PMAFR	**Mafra**	**1.16**	**348**	*e*Sg	Sg	15 55 35.3	-0.2
EGRO	**El Granado**	**1.21**	**103**	Pg	Pg	15 55 20.0	-1.5
	0.5nm,0.1s,SNR=5.5						
EGRO				Lg		15 55 36.0	
	5.0nm,0.1s,SNR=13						
PESTR	**Estremoz**	**1.50**	**46**	*e*P	Pn	15 55 24.9	-1.6
PESTR				*e*S	Sg	15 55 44.5	-2.1
PESTR							
	1.2nm,0.1s						
EBAD	**Badajoz**	**1.79**	**58**	Pn	Pn	15 55 28.9	-1.6
	0.1nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	15 55 52.1	-1.9
	2.7nm,0.6s,SNR=5.1						
EMIN	**Mina Concepcio**	**1.81**	**91**	Pn	Pn	15 55 30.3	-0.6
	0.0nm,0.1s,SNR=7.1						
EMIN				Sn	Sn	15 55 54.5	-0.1
	0.6nm,0.1s,SNR=9.3						

PRE 17 16:10:35.1±1.4, 2141S×3346E, h5km, ML4.5, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.32**	**253**	*e*P	Pn	16 11 28.4	+0.7
MSNA				*e*S	Sn	16 12 08.7	+1.2
MSNA				AML	AML	16 12 38.6	
	comp=Z,238nm,0.5s						
POGA	**Pongola**	**6.17**	**195**	*e*P	Pn	16 12 07.3	+0.5
POGA				*e*S	Sn	16 13 13.7	-4.0
POGA				AML	AML	16 14 25.4	
	comp=Z,38nm,0.5s						
SLR	**Silverton**	**6.41**	**227**	*e*S	Sn	16 13 20.6	-3.0
SLR				AML	AML	16 14 21.4	
	comp=Z,108nm,0.7s						
LBTB	**Lobatse**	**8.07**	**242**	*e*P	Pn	16 12 33.7	+0.8
LBTB				*e*S	Sn	16 14 00.2	-4.3
LBTB				AML	AML	16 15 11.2	
	comp=Z,38nm,0.8s						
SEK	**Senekal**	**8.68**	**216**	*e*P	Pn	16 12 43.0	+1.7
SEK				*e*S	Sn	16 14 16.1	-3.5
SEK				AML	AML	16 15 39.9	
	comp=Z,44nm,0.8s						
BOSA	**Boshof**	**10.33**	**224**	*e*P	Pn	16 13 05.5	+1.6
BOSA				*e*S	Sn	16 14 55.8	-4.2
BOSA				AML	AML	16 16 21.9	
	comp=Z,21nm,0.7s						
UPI	**Upington**	**13.05**	**236**	*e*P	Pn	16 13 42.8	+1.7
UPI				*e*S	Sn	16 16 00.0	-6.7
UPI				AML	AML	16 17 47.8	
	comp=Z,8.4nm,0.7s						

ISCJB ***17*** *16:16:23.2±0.4, 677N×7296W±003, h167km±3km, mb4.4/49, Error ellipse: s-maj=6.3km s-min=5.2km az=138.0*
IDC ***17*** *16:16:23.4±0.6, 679N×7290W, h154km±6km, mb3.9/14, mb1 4.1/18, mb1mx3.9/26, mbtmp4.4/18, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=11.3km s-min=9.8km az=115.0*
NEIC ***17*** *16:16:23.7±0.2, 677N×7293W, mb4.6/38, Error ellipse: s-maj=5.0km s-min=4.0km az=50.0*
BJI ***17*** *16:16:23.7, 680N×7290W, h157km, mB5.1*
FUNV ***17*** *16:16:26.4, 707N×7318W, h163km, MW4.7*
ISC 17 16:16:24.5±0.4, 678N±004×7294W±003, h161km±3km, n118, s0s96/121, mb4.4/49, 6C-6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CAPV	Capacho	1.25	30	⇓iP	Pn	16 16 53.1	+0.7
CAPV				eS	Sn	16 17 13.4	-0.5
ROSC	El Rosal	2.36	216	P	Pn	16 17 04.8	+0.4
	184nm,0.3s,baz=294,slow=5.9,SNR=298						
ROSC				S	Sn	16 17 36.0	+0.7
	376nm,0.3s,baz=49,slow=19,SNR=22						
ROSC	El Rosal	2.36	216	⇑iPn	Pn	16 17 04.8	+0.3
ROSC				eSn	Sn	16 17 30.9	-4.3
SOCV	Socops	2.55	54	⇓iP	Pn	16 17 08.0	+1.3
SOCV				eS	Sn	16 17 39.9	+0.5
VIGV	El Vigia	2.58	37	⇓iP	Pn	16 17 07.6	+0.6
VIGV				eS	Sn	16 17 37.8	-2.1
SDV	Santo Domingo	3.10	47	P	Pn	16 17 14.6	+1.1
	282nm,0.3s,baz=240,slow=8.5,SNR=832						
SDV				S	Sn	16 17 51.2	-0.3
	127nm,0.3s,baz=71,slow=23,SNR=11						
SDV	Santo Domingo	3.10	47	⇓iPn	Pn	16 17 14.5	+1.0
SDV				eSn	Sn	16 17 49.7	-1.9
VIRV	Villa del Rosa	3.74	8	iP	Pn	16 17 19.6	-2.0
VIRV				eS	Sn	16 17 58.4	-7.7
QARV	Quebrada Arrib	4.16	35	⇓iP	Pn	16 17 27.6	+0.5
QARV				eS	Sn	16 18 10.8	-5.0
SANV	Sanarito	4.32	51	eP	Pn	16 17 29.4	+0.2
CURV	Curarigua	4.36	42	⇓iP	Pn	16 17 29.7	0.0
DABV	Dabajuro	4.70	29	eP	Pn	16 17 33.0	-1.2
DABV				eS	Sn	16 18 21.8	-6.7
SIQV	Siquisique	4.94	39	eP	Pn	16 17 37.0	-0.3
SIQV				eS	Sn	16 18 29.3	-4.7
ACH	Altos	7.17	286	eP	Pn	16 18 02.9	-4.0
AZU	Azuero	7.34	278	⇑iP	Pn	16 18 05.7	-3.4
AZU				eS	Sn	16 19 28.8	-2.6
PCRV	Puerto La Cruz	8.88	67	P	Pn	16 18 28.8	-0.7
	4.8nm,0.3s,baz=252,slow=5.9,SNR=17						
PCRV				S	Sn	16 20 08.9	+0.7
	3.1nm,0.3s,baz=248,slow=16,SNR=1.8						
CTCR	Cotoan	9.95	283	eP	Pn	16 18 42.1	-1.5
PCJ	Portland Cotta	11.65	340	⇑iP	Pn	16 19 07.3	+1.5
PCJ				eS	Sn	16 21 06.7	-8.1
CMJ	Castle Mountai	11.77	344	⇑eP	Pn	16 19 08.7	+1.3
STH	Stony Hill	11.85	342	⇑eP	Pn	16 19 10.4	+2.0
STH				eS	Sn	16 21 08.7	-11
BBJ	Bamboo Saint A	12.28	340	⇑eP	Pn	16 19 15.7	+1.7
BBJ				eS	Sn	16 21 19.9	-10
SJG	San Juan	13.06	30	P	Pn	16 19 23.7	-0.4
	4.6nm,0.3s,baz=205,slow=19,SNR=11						
SJG	San Juan	13.06	30	ePn	Pn	16 19 23.4	-0.6
MTP	Monte Pirata	13.36	32	ePn	Pn	16 19 27.0	-0.8
RCC	Rio Carpintero	13.41	349	ePG	Pn	16 19 31.2	+2.8
	baz=148						
RCC				eSG	Sn	16 21 48.7	-8.3
	comp=N,23nm,1.5s						
RCC				e			
	comp=E,26nm,3.0s						
LMGC	Las Mercedes	13.78	344	eP	Pn	16 19 35.1	+2.0
LMGC				eS	Sn	16 21 46.5	-20
	comp=N,12nm,0.6s						
LMGC				e			
	comp=E,10nm,0.5s						
ATAH	Atahualpa	14.73	202	P	Pn	16 19 46.9	+1.9
	comp=E,0.4nm,0.3s,baz=99,slow=13,SNR=2.3						
SAML	Samuel	18.40	148	eP	P	16 20 27.9	+0.6
	comp=E,2.7nm,0.8s						
SAML				epP		16 20 55.4	
PAYG	Puerto Ayora	18.83	247	eP	P	16 20 31.7	-0.1
LPAZ	La Paz	23.41	168	P	P	16 21 18.9	0.0
	comp=E,1.3nm,0.6s,mb3.5,baz=354,slow=8.0,SNR=8.4						
LPAZ				pP		16 21 49.1	
	comp=E,5.7nm,0.8s,baz=4.8,slow=9.2,SNR=11						
LPAZ	La Paz	23.41	168	eP	P	16 21 19.8	+0.9
LPAZ				epP		16 21 51.9	
SIV	San Ignacio	25.49	153	P	P	16 21 37.7	-0.1
	comp=E,1.4nm,0.7s,mb3.6,baz=334,slow=10,SNR=7.8						
SIV				pP	pP	16 22 08.9	-2.1
	comp=E,3.8nm,0.7s,baz=335,slow=8.9,SNR=12						
PLAL	Pickwick Lake	31.34	336	eP	P	16 22 30.4	+0.7
	comp=E,27nm,0.9s,mb5.0						
WVT	Waverly	32.24	337	eP	P	16 22 37.9	+0.3
	comp=E,17nm,0.6s,mb5.0						
BDFB	Brasilia	33.25	132	P	P	16 22 47.2	+0.9
	comp=E,2.4nm,0.5s,mb4.2,baz=262,slow=9.3,SNR=5.3						
MIAR	Mount Ida	33.55	328	eP	P	16 22 47.8	-1.1
	comp=E,4.8nm,0.7s,mb4.3						
WCI	Wyandotte Cave	33.57	341	eP	P	16 22 49.7	+0.7
	comp=E,16nm,0.6s,mb4.9						
BLO	Bloomington	34.50	341	eP	P	16 22 57.9	+0.8
	comp=E,36nm,0.6s,mb5.3						
ACSO	Alum Creek Sta	34.50	346	eP	P	16 22 58.0	+0.8
	comp=E,6.4nm,0.8s,mb4.3						
FVM	French Village	34.88	335	eP	P	16 23 00.5	+0.2
	comp=E,25nm,0.6s,mb5.0						
PKME	Peaks-Kenny Pk	38.47	4	eP	P	16 23 31.6	+0.9
KSU1	Kansas State U	38.61	330	eP	P	16 23 30.6	-1.3
JFWS	Jewell Farm	39.09	340	eP	P	16 23 35.2	-0.7
	comp=E,45nm,0.6s,mb5.3						
MNTX	Cornudas Mount	39.13	314	eP	P	16 23 36.0	-0.2
	comp=E,12nm,0.7s,mb4.6						
SCIA	State Center	39.34	336	eP	P	16 23 37.4	-0.5
ANMO	Albuquerque	41.67	317	eP	P	16 23 56.8	-0.3
	comp=E,3.0nm,0.8s,mb4.0						
ECSD	EROS,Sioux Fal	42.26	334	eP	P	16 24 00.5	-1.4
SDCO	Great Sand Dun	42.69	321	eP	P	16 24 06.3	+1.0
	comp=E,12nm,0.9s,mb4.5						
TUC	Tucson	43.41	311	eP	P	16 24 11.4	+0.3
	comp=E,4.6nm,0.9s,mb4.1						
ISCO	Idaho Springs	44.05	323	eP	P	16 24 17.0	+0.8
	comp=E,11nm,0.9s,mb4.5						
SMCO	Snowmass	44.48	322	eP	P	16 24 20.4	+0.8
	comp=E,2.5nm,0.5s,mb4.1						
PV01	Paradox Valley	44.88	319	eP	P	16 24 23.6	+0.8
PV10	Paradox Valley	45.32	319	P	P	16 24 26.6	+0.3
WUAZ	Wupatki	45.38	315	eP	P	16 24 27.4	+0.7
	comp=E,23nm,0.9s,mb4.8						
SRU	San Rafael	46.69	319	eP	P	16 24 37.3	+0.3
	comp=E,13nm,1.0s,mb4.5						
ULM	Lac du Bonnet	47.38	340	P	P	16 24 41.4	-0.9
	comp=E,18nm,0.5s,mb5.0,baz=148,slow=6.5,SNR=64						
ULM	Lac du Bonnet	47.38	340	eP	P	16 24 41.1	-1.3
	comp=E,22nm,0.6s,mb5.0						
MSU	Marysvale	47.46	318	eP	P	16 24 43.7	+0.8
SCHQ	Schefferville	48.17	5	P	P	16 24 48.4	0.0
	comp=E,13nm,0.7s,mb4.7,baz=188,slow=5.7,SNR=19						
PDAR	Pinedale Array	48.22	324	P	P	16 24 48.6	-0.1
	comp=E,4.0nm,0.6s,mb4.2,baz=124,slow=8.3,SNR=34						
PDAR				PcP	PcP	16 26 13.6	+0.3
	comp=E,0.9nm,0.6s,baz=134,slow=5.2,SNR=3.3						
PDAR				LR	LR	16 47 21.4	
	comp=E,62nm,18.8s,baz=132,slow=38						
CTU	Camp Tracy	48.35	320	eP	P	16 24 49.7	0.0
	comp=E,4.9nm,0.8s,mb4.2						
TCUT	Toone Canyon	48.37	321	eP	P	16 24 50.5	+0.6
HWUT	Hardware Ranch	48.74	321	eP	P	16 24 52.6	-0.1
	comp=E,7.4nm,0.7s,mb4.4						
DUG	Dugway	48.76	319	eP	P	16 24 53.3	+0.4
	comp=E,3.5nm,0.6s,mb4.2						
REDW	Red Top Meadow	49.33	324	eP	P	16 24 57.4	+0.1
	comp=E,26nm,0.9s,mb4.9						
SNOW	Snow King Moun	49.34	324	eP	P	16 24 57.9	+0.6
	comp=E,8.0nm,0.5s,mb4.6						
LOHW	Long Hollow	49.34	324	eP	P	16 24 57.9	+0.6
	comp=E,9.2nm,0.6s,mb4.6						
TPAW	Teton Pass	49.47	324	eP	P	16 24 58.2	0.0
	comp=E,14nm,0.8s,mb4.6						
RRI2	Red Ridge	49.60	324	eP	P	16 24 59.4	+0.2
	comp=E,19nm,0.6s,mb4.9						
IMW	Indian Meadow	49.70	324	eP	P	16 24 59.8	-0.2
	comp=E,7.7nm,0.5s,mb4.6						
QLMT	Earthquake Lak	50.54	325	eP	P	16 25 07.6	+1.2
BOZ	Bozeman (W)	51.15	326	eP	P	16 25 10.5	-0.4
	comp=E,13nm,1.2s,mb4.4						
MCMT	McKenzie Canyo	51.36	324	eP	P	16 25 13.3	+0.9
DLMT	Dillon	51.52	325	eP	P	16 25 13.9	+0.2
	comp=E,8.9nm,1.2s,mb4.3						
HLID	Hailey	51.58	322	eP	P	16 25 13.9	-0.2
	comp=E,11nm,1.0s,mb4.4						
NVAR	Mina Array Bea	51.64	315	P	P	16 25 15.1	+0.6
	comp=E,2.2nm,0.6s,mb4.0,baz=116,slow=7.8,SNR=23						
NVAR				PcP	PcP	16 26 26.6	+0.6
	comp=E,1.0nm,0.5s,baz=139,slow=4.3,SNR=7.9						
BMN	Battle Mountai	51.80	317	eP	P	16 25 15.4	-0.3
	comp=E,7.5nm,1.0s,mb4.3						
HRY	Holter Researc	51.90	327	eP	P	16 25 16.5	0.0
MSO	Missoula	53.14	326	eP	P	16 25 25.5	-0.1
	comp=E,1.5nm,0.7s,mb3.8						
WVOR	Wild Horse Val	53.68	319	eP	P	16 25 29.4	-0.1
	comp=E,11nm,0.9s,mb4.6						
BMO	Blue Mountains	54.03	322	eP	P	16 25 30.8	-1.3
	comp=E,1.7nm,0.6s,mb4.0						
OHCM	Honcut	54.27	314	eP	P	16 25 34.0	+0.2
FCC	Fort Churchill	54.35	347	eP	P	16 25 33.2	-1.2
	comp=E,10nm,0.8s,mb4.6						
EDM	Edmonton	56.74	332	eP	P	16 25 50.5	-1.0
YKA	Yellowknife Ar	63.36	340	P	P	16 26 35.8	-0.8
	comp=E,13nm,0.5s,mb5.0,baz=132,slow=6.6,SNR=53						
DBIC	Dimbokro	67.56	86	P	P	16 27 03.8	+0.3
	comp=E,5.9nm,0.7s,mb4.5,baz=239,slow=4.7,SNR=11						
DBIC	Dimbokro	67.56	86	eP	P	16 27 03.5	+0.1
	comp=E,6.5nm,0.7s,mb4.5						
SUMG	Summit	69.00	11	eP	P	16 27 12.6	+0.2
	comp=E,22nm,0.7s,mb5.0						
INK	Inuvik	73.13	340	eP	P	16 27 36.7	-0.6
	comp=E,7.1nm,0.6s,mb4.6						
TOA0	Torodi Ar. Sit	73.57	78	eP	P	16 27 39.1	-0.7
TORD	Torodi Ar. Bea	73.57	78	P	P	16 27 39.5	-0.4
	comp=E,0.6nm,0.4s,mb3.7,baz=282,slow=6.3,SNR=16						
SLKM	Skilak Lake	77.87	330	eP	P	16 28 04.3	+0.1
SVW2	Sparrevohn	80.54	331	eP	P	16 28 17.5	-1.3
NB2	NORSAR Subarra	81.28	29	P	P	16 28 22.8	+0.2
	comp=Z,1.0nm,0.6s,mb3.6,baz=267,slow=5.6						
NOA	NORSAR Array B	81.28	29	P	P	16 28 22.5	-0.1
	comp=Z,1.2nm,0.6s,mb3.7,baz=267,slow=5.4,SNR=5.5						
NOA	NORSAR Array B	81.28	29	P	P	16 28 22.5	-0.1
HFS	Hagfors	82.49	30	P	P	16 28 28.1	-0.9
	comp=Z,0.9nm,0.6s,mb3.6,baz=225,slow=3.9,SNR=3.3						
GERES	GERESS Array B	82.73	42	P	P	16 28 29.9	-0.3
	comp=Z,0.6nm,0.6s,mb3.5,baz=250,slow=2.7,SNR=8.1						
ARCES	ARCESS Array B	86.65	20	P	P	16 28 49.3	-0.5
	comp=Z,1.6nm,0.7s,mb4.0,baz=284,slow=2.0,SNR=6.3						
ARCES	ARCESS Array B	86.65	20	P	P	16 28 49.3	-0.5
VNA3	Neumayer Olymp	88.08	163	eP	P	16 28 54.4	-2.3
VNA3				e		16 28 55.6	
VNA3				e	pP	16 29 34.4	-2.7
VNA1	Neumayer--Stat	88.22	162	eP	P	16 28 55.1	-2.2
VNA1				e		16 28 57.0	
SNAA	Sanae	90.25	163	eP	P	16 29 03.5	-3.3
SNAA				e		16 29 05.4	
ZAL	Zalesovo	116.67	15	PKP	PKPdf	16 34 49.3	-0.1
	comp=Z,1.7nm,0.7s,baz=238,slow=2.2,SNR=11						
MKAR	Makanchi Array	122.30	20	PKP	PKPdf	16 34 59.4	-0.8
	comp=Z,1.1nm,0.4s,baz=292,slow=1.6,SNR=7.7						
SONM	Songino Array	125.62	1	PKP	PKPdf	16 35 07.2	+0.6
	comp=Z,0.9nm,0.6s,baz=316,slow=1.0,SNR=5.9						
WMQ	Urumqi	126.67	17	ePKP	PKPdf	16 35 07.0	-1.6
CN2	Changchun	126.98	343	ePKP	PKPdf	16 35 09.6	+0.4
HHC	Hu-ho-hao-te	132.43	355	ePKP	PKPdf	16 35 19.0	-0.6
HHC				PP	PP		
	comp=Z,113nm,4.5s						
GTA	Gaotai	133.56	8	ePKP	PKPdf	16 35 23.3	+1.6
STKA	Stephens Creek	139.26	228	PKP	PKPdf	16 35 32.2	-0.1
	comp=Z,2.3nm,0.9s,baz=162,slow=5.4,SNR=3.5						
STKA	Stephens Creek	139.26	228	PKP	PKPdf	16 35 32.2	-0.1
CD2	Chengdu	142.39	5	ePKP	PKPdf	16 35 35.1	-2.8
KMI	Kunming	148.01	7	PKP	PKPdf	16 35 48.9	+1.4
AS31	Alice Springs	149.23	234	ePKPdf	PKPdf	16 35 49.9	+0.4
AS31				ePKPbc	PKPbc	16 35 53.7	-0.2
ASAR	Alice Springs	149.23	234	PKPbc	PKPbc	16 35 54.0	+0.1
	comp=Z,4.3nm,0.5s,baz=116,slow=1.9,SNR=85						
ASAR				pPKPbc	pPKPbc	16 36 33.9	-2.2
	comp=Z,1.6nm,0.9s,baz=120,slow=3.5,SNR=2.9						
WB2	Warramunga Arr	150.46	241	ePKPbc	PKPbc	16 35 57.0	+0.1
WRA	Warramunga Arr	150.47	241	PKPbc	PKPbc	16 35 57.1	+0.2
	comp=Z,5.6nm,0.5s,baz=108,slow=2.4,SNR=86						
WRA				pPKPbc	pPKPbc	16 36 38.3	-0.9
	comp=Z,2.6nm,0.6s,baz=110,slow=2.4,SNR=4.0						

IDC 17 16:32:55.8±32.0**,1638S**×**17667W,h0^{km},mb4.1**/4**, mb1 4.2**/4**,mb1mx3.9**/14**,mbtmp4.1**/4**,Error ellipse: s-maj=615.4km s-min=147.2km az=84.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
STKA	Stephens Creek	40.82	240	P	P	16 40 40.0	+1.0
	1.2nm,0.5s,baz=97,slow=12,SNR=5.6						
WRA	Warramunga Arr	46.56	258	P	P	16 41 25.2	0.0
	0.5nm,0.3s,baz=96,slow=7.4,SNR=29						
ASAR	Alice Springs	46.81	253	P	P	16 41 27.5	+0.3
	6.6nm,0.5s,baz=89,slow=7.7,SNR=260						
FITZ	Fitzroy Crossi	54.93	259	P	P	16 42 28.8	+0.4
	1.1nm,0.8s,baz=76,slow=8.3,SNR=6.7						

*MOS **17** 16:40:25.1±0.1,41.15N×44.14E,h33^{km},mb3.6/1,Error ellipse: s-maj=71.6km s-min=14.6km az=87.4*

TIF 17 16:40:23.9,4135N×4386E,h17^{km}±1^{km},1C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KZR	Kazreti	0.42	86	P	Pg	16 40 33.0	+0.5
KZR				S	Sg	16 40 39.4	+1.1
TBLG	Delisi	0.76	60	PG	Pg	16 40 39.5	+0.6
TBLG				S	Sb	16 40 57.2	+8.3
TBLG	Delisi	0.76	60	P	Pb	16 40 39.5	+0.8
TBLG				S	Sb	16 40 57.2	+8.3
MTA	Mtatsminda	0.78	64	P	Pb	16 40 39.6	+0.5
MTA				S	Sb	16 40 50.7	+1.3
DUS	Dusheti	0.97	40	S	Sb	16 40 58.4	+3.5
DGRG	David-gareji	1.15	85	P	Pn	16 40 46.7	+1.5
DGRG				S	Sb	16 41 01.6	+1.7
ONI	Oni	1.26	346	P	Pn	16 40 47.6	+0.8
ONI				S	Sb	16 41 04.7	+1.4
ZEI	Tsey	1.42	1	ePN	Pn	16 40 51.9	+3.0
ZEI				eS	Sn	16 41 20.6	+13
LACR	Lac	1.51	12	⇑iPN	Pn	16 40 52.5	+2.3
LACR				eS	Sn	16 41 21.6	+12
DIGR	Digorskoe uzhe	1.56	353	ePN	Pn	16 40 54.3	+3.4
DIGR				eS	Sn	16 41 24.7	+14
KORR	Kora	1.74	5	ePN	Pn	16 40 56.1	+2.7
KORR				eS	Sn	16 41 27.8	+13
SNJR	Sundja	1.86	22	ePN	Pn	16 40 56.9	+1.9
SNJR				eS	Sn	16 41 29.3	+11

*ISCJB **17** 17:18:35.8±1.0,1423N±006×12470E±007,h10^{km}, mb3.3/2,Error ellipse: s-maj=9.8km s-min=8.7km az=151.9*

*MAN **17** 17:18:36.4,1426N×12461E,h0^{km},mb2.9,ML4.3,MS3.5*

*IDC **17** 17:18:42.3±1.6,1324N×12396E,h0^{km},mb3.5/3, mb1 3.7/4,mb1mx3.5/19,mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=62.0km s-min=23.2km az=60.0*

ISC 17 17:18:37.7±1.0**,1420N**±006×**12465E**±007**,h10^{km},n17, σ0^{s}92**/19**,mb3.3**/2**,1D,Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PVCP	Virac	0.76	219	⇓iP	Pg	17 18 52.0	-0.5
PVCP				eS	Sg	17 19 01.6	-0.9
PVCP	Virac	0.76	219	eP	Pg	17 18 51.9	-0.5
PVCP				eS	Sg	17 19 00.5	-2.0
AUQP	San Andres	2.10	246	eP	Pb	17 19 16.3	+0.4
GQP	Guinayangan	2.15	263	eP	Pn	17 19 14.6	+0.9
GQP				eS	Sn	17 19 40.5	+0.1
POLP	Polilio Island	2.67	282	eP	Pn	17 19 21.5	+0.6
BOAC	Boac	2.82	255	eP	Pn	17 19 22.9	+0.1
OTRP	Odiongan	3.14	235	eP	Pn	17 19 29.0	+1.8
BALP	Baler	3.34	298	eP	Pn	17 19 27.8	-2.2
PALP	Palanan	3.56	323	eP	Px	17 20 03.3	
TGY	Tagaytay City	3.60	269	Pn	Pn	17 19 32.0	-1.5
	16nm,0.3s,baz=180,slow=8.1,SNR=3.1						
TGY				Sn	Sn	17 20 16.9	+0.8
	13nm,0.3s,baz=320,slow=17,SNR=3.0						
CAUP	Cauayan	3.85	316	eP	Pn	17 19 36.5	-0.6
LUBP	Lubang	4.29	264	eP	Pn	17 19 43.5	+0.4
CUYO	Cuyo Island	4.86	227	eP	Pn	17 19 51.5	+0.6
ABRA	Dolores	5.11	313	eP	Pn	17 19 54.3	0.0
WRA	Warramunga Arr	35.24	164	P	P	17 25 32.4	+0.1
	0.2nm,0.6s,mb3.2,baz=343,slow=8.7,SNR=5.1						
SONM	Songino Array	36.81	339	P	Px	17 25 57.7	
	1.1nm,0.8s,baz=142,slow=7.3,SNR=4.2						
ASAR	Alice Springs	38.70	166	P	P	17 26 01.8	0.0
	0.4nm,0.5s,mb3.4,baz=340,slow=6.6,SNR=23						

*NEIC **17** 17:28:18.5,2760S×6958W,h114^{km},MG3.9(GUC),After GUC.*

GUC 17 17:28:18.5±0.6**,2760S**×**6958W,h114^{km}**±10^{km}**,ML3.9, 5C-2D,Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CPCH	Copiapo	0.72	289	⇑iP	Pn	17 28 37.8	+0.4
CPCH				iS	Sn	17 28 52.0	+0.3
CPCH				AML	AML	17 28 54.2	
	comp=E,6µm,0.1s						
CPCH	Copiapo	0.72	289	⇑iP	Pn	17 28 37.8	+0.4
CPCH				iS	Sn	17 28 52.0	+0.3
CDCH	Caldera	1.22	295	⇑iP	Pn	17 28 42.8	+0.4
CDCH				iS	Sn	17 29 00.6	+0.1
VACH	Vallenar	1.43	226	⇑iP	Pn	17 28 48.6	+4.0
VACH				iS	Sn	17 29 09.1	+4.5
VACH				AML	AML	17 29 10.7	
	comp=E,3µm,0.1s						
VACH	Vallenar	1.43	226	⇑iP	Pn	17 28 48.6	+4.0
VACH				iS	Sn	17 29 09.1	+4.5
LCO	Las Campanas	1.72	215	⇓iP	Pn	17 28 49.1	+0.9
LCO				iS	Sn	17 29 12.6	+1.7
LCO				AML	AML	17 29 13.4	
	comp=E,1µm,0.5s						
LCO	Las Campanas	1.72	215	⇓iP	Pn	17 28 49.1	+0.9
LCO				iS	Sn	17 29 12.6	+1.7
TLL	Tololo Astrono	2.78	202	eP	Pn	17 29 02.7	+1.1
TLL				iS	Sn	17 29 36.4	+1.5
TLL				AML	AML	17 29 38.4	
	comp=N,272nm,0.7s						
TLL	Tololo Astrono	2.78	202	eP	Pn	17 29 02.7	+1.1
TLL				iS	Sn	17 29 36.4	+1.5

*ISCJB **17** 17:46:49.8±0.7,3600N±003×140.12E±007,h76^{km}±5^{km}, mb3.5/2,Error ellipse: s-maj=10.0km s-min=5.6km az=167.7*

*IDC **17** 17:46:50.2±1.3,3506N×13769E,h0^{km},mb3.5/2, mb1 3.6/3,mb1mx3.4/22,mbtmp3.6/3,ML3.4/1,Error ellipse: s-maj=28.1km s-min=13.6km az=96.0*

*JMA **17** 17:46:51.1±0.1,3605N×140.10E,h63^{km}±2^{km},M3.1*

ISC 17 17:46:50.7±0.7**,3601N**±003×**14011E**±007**,h70^{km}**±6^{km}**, n16,σ0^{s}79**/26**,mb3.5**/2**,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JYT	Yasato	0.23	16	P	Pn	17 47 00.9	-0.6
JYT				S	Sn	17 47 08.1	-1.2
TOK	Tokyo	0.43	222	P	Pn	17 47 04.3	+1.4
TOK				S	Sn	17 47 14.0	+2.2
JAG	Ashikaga	0.68	308	P	Pn	17 47 05.2	-0.2
JAG				S	Sn	17 47 15.7	-0.5
JRY	Ryogami san	0.98	271	P	Pn	17 47 09.0	0.0
JRY				S	Sn	17 47 22.2	-0.4
JKT	Katashina	1.03	318	P	Pn	17 47 09.4	-0.2
JKT				S	Sn	17 47 23.6	0.0
JOD2	Odawara 2	1.12	229	P	Pn	17 47 10.4	-0.3
JOD2				S	Sn	17 47 24.3	-1.3
BSO3	Boso 3	1.25	165	P	Pn	17 47 13.0	+0.7
JYN	Shimob	1.37	249	P	Pn	17 47 14.5	+0.5
JIM2	Oshima 3	1.40	204	P	Pn	17 47 13.8	-0.6
JIM2				S	Sn	17 47 30.7	-1.4
JFY	Yanaizu	1.44	347	P	Pn	17 47 15.0	+0.2
JFY				S	Sn	17 47 33.4	+0.5
JHK	Hiroka	1.52	325	P	Pn	17 47 16.1	+0.2
MJAR	Matsushiro Arr	1.63	290	Pg	Pn	17 47 16.5	-0.9
	19nm,0.3s,baz=14,slow=28,SNR=313						
MJAR				Lg		17 47 39.8	
	8.7nm,0.3s,baz=110,slow=12,SNR=10.0						
MAT	Matsushiro	1.63	290	P	Pn	17 47 17.9	+0.5
MAT				S	Sn	17 47 38.6	+1.0
JHJ	Hachijo jima 2	2.89	186	Pn	Pn	17 47 35.4	+0.9
	17nm,0.3s,baz=297,slow=14,SNR=9.5						
JHJ				Sn	Sn	17 48 08.4	+0.3
	16nm,0.3s,baz=356,slow=18,SNR=4.6						
MKAR	Makanchi Array	43.79	303	P	P	17 54 49.3	-0.1
	0.3nm,0.2s,mb3.6,baz=82,slow=11,SNR=2.6						
WRA	Warramunga Arr	55.91	187	P	P	17 56 20.7	-0.6
	0.4nm,0.8s,mb3.5,baz=1.4,slow=7.4,SNR=7.2						

*ISCJB **17** 18:18:40.0±0.7,56N±02×327W±0.1,h10^{km},mb3.9/8, MS3.7/11,Error ellipse: s-maj=28.0km s-min=15.0km az=129.6*

*IDC **17** 18:18:40.4±0.9,562N×3273W,h0^{km},mb3.8/7,mb1 4.0/7, mb1mx3.7/23,mbtmp3.8/7,MS3.7/11,Ms1 3.7/11, ms1mx3.5/23,Error ellipse: s-maj=33.3km s-min=24.5km az=149.0*

*NEIC **17** 18:18:41.7±0.5,558N×3275W,h10^{km},mb4.3/1,Error ellipse: s-maj=20.8km s-min=11.2km az=154.0*

ISC 17 18:18:42.3±0.7**,57N**±02×**328W**±01**,h10^{km},n18,σ0^{s}65**/10**, mb3.9**/8**,MS3.7**/11**,Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BDFB	Brasilia	25.99	215	LR	LR	18 33 15.5	
	comp=Z,192nm,20.6s,MS3.6,baz=96,slow=34						
DBIC	Dimbokro	27.76	86	LR	LR	18 33 07.7	
	comp=Z,147nm,20.0s,MS3.6,baz=258,slow=31						
SAML	Samuel	33.62	245	eP	P	18 25 21.8	-1.0
	5.1nm,1.2s,mb4.3						
TOA0	Torodi Ar. Sit	34.77	75	eP	P	18 25 33.1	+0.3
TORD	Torodi Ar. Bea	34.77	75	P	P	18 25 32.8	0.0
	1.0nm,0.8s,mb3.8,baz=273,slow=8.0,SNR=5.9						
TORD				PcP	PcP	18 28 06.5	+0.2
	1.5nm,1.0s,baz=289,slow=1.4,SNR=4.0						
TORD				LR	LR	18 37 57.0	
	comp=Z,130nm,18.8s,MS3.7,baz=225,slow=33						
CPUP	Villa Florida	39.73	216	LR	LR	18 42 18.7	
	comp=Z,113nm,20.6s,MS3.7,baz=49,slow=36						
LPAZ	La Paz	41.23	238	P	P	18 26 27.9	+0.5
	1.1nm,0.7s,mb3.6,baz=73,slow=14,SNR=5.8						
LPAZ				LR	LR	18 43 00.3	
	comp=Z,94nm,19.1s,MS3.7,baz=303,slow=35						
ROSC	El Rosal	41.40	271	LR	LR	18 41 30.1	
	comp=Z,99nm,19.4s,MS3.7,baz=35,slow=33						
KEST	Kesra	48.88	46	LR	LR	18 48 06.0	
	comp=Z,41nm,19.4s,MS3.4,baz=342,slow=36						
PLCA	Paso Flores	57.72	213	LR	LR	18 52 47.3	
	comp=Z,119nm,19.9s,MS4.0,baz=4.5,slow=36						
GERES	GERESS Array B	58.24	34	P	P	18 28 37.3	+0.4
	1.1nm,1.0s,mb3.8,baz=255,slow=5.1,SNR=4.5						
GERES				LR	LR	18 50 10.1	
	comp=Z,66nm,18.8s,MS3.8,baz=274,slow=32						
NOA	NORSAR Array B	64.28	22	P	P	18 29 17.3	-0.4
	1.0nm,0.8s,mb3.9,baz=230,slow=6.7,SNR=3.0						
BOSA	Boshof	65.36	125	P	P	18 29 25.0	+0.2
	3.8nm,0.9s,mb4.4,baz=257,slow=8.5,SNR=4.6						
BOSA				LR	LR	18 50 56.5	
	comp=Z,88nm,18.2s,MS4.0,baz=224,slow=30						
BOSA	Boshof	65.36	125	P	P	18 29 25.0	+0.2
BOSA				LR	LR	18 50 56.5	
AKASG	Malin Array Be	68.11	37	P	P	18 29 41.5	-1.0
	0.7nm,0.7s,mb3.8,baz=252,slow=7.3,SNR=4.3						
PDAR	Pinedale Array	76.50	312	P	P	18 30 33.5	+1.0
	0.5nm,1.0s,mb3.4,baz=76,slow=11,SNR=4.6						
YKA	Yellowknife Ar	81.25	332	LR	LR	19 01 19.4	
	comp=Z,26nm,20.3s,MS3.6,baz=270,slow=32						
ASAR	Alice Springs	157.96	146	PKP	PKPdf	18 38 39.4	+0.1
	1.4nm,1.0s,baz=165,slow=1.1,SNR=8.3						

MAN 17 18:33:59.7,824N×12674E,h14^{km},mb2.6,ML4.1,MS1.6, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BUTP	Butuan	1.32	303	eP	Pn	18 34 22.8	-1.0
MATI	Mati	1.37	200	eP	Pn	18 34 23.4	-1.0
MATI				eS	Sn	18 34 39.5	-2.9
BUKP	Musuan	1.70	258	eP	Pn	18 34 28.6	-0.3
BUKP				eS	Sn	18 34 48.9	-1.5
SCPH	Surigao	1.97	321	eP	Pn	18 34 32.6	0.0
SCPH				eS	Sn	18 34 57.9	+0.9

IGQ 17 18:40:42.3,090S×8086W,h20^{km}±11^{km},Mb4.0,Ms3.8, 1C-1D,Error ellipse: s-maj=12.5km s-min=7.7km az=14.5,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
JUA2	San Juan 2	2.35	73	P	Pn	18 41 21.0	+1.2
CAMI	Rancho Maria	2.37	85	P	Pn	18 41 22.2	+2.2

TERV	**Terraza Guagua**	**2.37**	**72**	P	Pn	18 41 22.0	+2.0
TERV				S	Sn	18 41 53.1	+4.6
PINO	**Pino**	**2.37**	**72**	⇓P	Pn	18 41 20.7	+0.7
GGP	**Refugio Guagua**	**2.38**	**72**	P	Pn	18 41 22.5	+2.4
GGP				S	Sn	18 41 52.5	+3.8
VC1	**Cotopaxi 1**	**2.47**	**84**	P	Pn	18 41 25.0	+3.6
VC1				S	Sn	18 41 52.4	+1.4
RETU	**Refugio**	**2.48**	**103**	P	Pn	18 41 43.6	+22
RETU				S	Sn	18 42 20.5	+29
ARRY	**Arrayan**	**2.48**	**104**	P	Pn	18 41 24.0	+2.5
ARRY				S	Sn	18 41 52.3	+1.1
PISA	**Pisayambo**	**2.48**	**94**	P	Pn	18 41 25.1	+3.5
RUN5	**Runtun**	**2.49**	**102**	P	Pn	18 41 25.8	+4.1
PATA	**Patacocha**	**2.50**	**104**	P	Pn	18 41 24.6	+2.8
ULBA	**Ulba**	**2.51**	**103**	P	Pn	18 41 25.2	+3.2
ULBA				S	Sn	18 41 54.0	+2.0
ANTI	**Antisana**	**2.74**	**81**	P	Pn	18 41 29.2	+4.1
ANTI				S	Sn	18 42 02.6	+5.1
COTA	**Cotacachi**	**2.81**	**64**	P	Pn	18 41 29.3	+3.3
CAYR	**Refugio Cayamb**	**3.00**	**72**	⇑P	Pn	18 41 33.3	+4.7
CAYR				S	Sn	18 42 08.8	+5.0
CAYA	**Cayambe**	**3.03**	**71**	P	Pn	18 41 33.5	+4.4

CASC 17 18:44:39.3±1.8**, 1393N×9119W, h152**^{km}±24^{km}**, MD3.7, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.58**	**312**	*e*P	Pn	18 45 01.3	+0.1
FUG	**Fuego 3**	**0.61**	**33**	*e*P	Pn	18 45 02.4	+1.0
TP2	**Tecpan 2**	**0.86**	**11**	*e*P	Pn	18 45 04.4	+1.3
TP2				*e*S	Sn	18 45 22.9	+1.6
RBDL	**Robledal**	**1.47**	**83**	*e*P	x	18 45 32.8	
RBDL				*e*S	x	18 45 56.8	
SBLS	**San Blas**	**1.52**	**93**	*e*P	x	18 45 31.6	
SBLS				*e*S	x	18 45 55.9	
SNJE	**San Jose**	**1.54**	**92**	*e*P	x	18 45 32.8	
SNJE				*e*S	x	18 45 56.3	
LFRS	**El Faro**	**2.09**	**98**	*e*P	x	18 45 39.5	
LFRS				*e*S	x	18 46 09.2	
LCBS	**La Ceiba**	**2.17**	**97**	*e*P	x	18 45 40.2	
LCBS				*e*S	x	18 46 09.3	

MAN 17 18:54:22, 999N×12638E, h6^{km}**, mb3.0, ML4.4, MS2.0, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.90**	**257**	*e*P	Pg	18 54 39.0	-0.2
BUTP	**Butuan**	**1.26**	**216**	*e*P	Pn	18 54 44.8	-1.3
BUTP				*e*S	Sg	18 55 01.1	-1.4
MSLP	**Maasin**	**1.50**	**276**	*e*P	Pn	18 54 49.1	-0.3
MSLP				*e*S	Sn	18 55 09.4	0.0
OCLP	**Ormoc**	**2.04**	**301**	*e*P	Pn	18 54 57.6	+0.8
CGP	**Cagayan de Oro**	**2.25**	**228**	⇑*i*P	Pn	18 54 58.6	-1.2
CGP				*i* S	Sn	18 55 28.4	+0.4
BUKP	**Musuan**	**2.47**	**212**	*e*P	Pn	18 55 03.9	+1.2
GUIM	**Jordan**	**3.78**	**280**	*e*P	Pn	18 55 21.4	+0.6
PVCP	**Virac**	**4.20**	**329**	*e*P	Pn	18 55 27.6	+1.1

IDC 17 19:26:29.1±2.2**, 2376S×6715W, h218**^{km}±22^{km}**, mb3.3**/1**, mb1 3.2**/6**, mb1mx3.1**/19**, mbtmp3.7**/6**, Error ellipse: s-maj=28.3km s-min=19.8km az=88.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.49**	**353**	P	Pn	19 28 17.9	+2.2
	0.6nm,0.3s,baz=162,slow=6.4,SNR=18						
LPAZ				S	S	19 29 40.9	+0.1
	0.1nm,0.3s,baz=228,slow=16,SNR=2.0						
CPUP	**Villa Florida**	**9.26**	**108**	P	Pn	19 28 39.7	+1.1
	0.7nm,0.3s,baz=268,slow=10,SNR=8.0						
SIV	**San Ignacio**	**9.61**	**38**	P	Pn	19 28 42.1	-0.8
	0.4nm,0.3s,baz=222,slow=14,SNR=12						
PLCA	**Paso Flores**	**17.17**	**189**	P	P	19 30 14.0	-0.6
	0.1nm,0.3s,baz=24,slow=12,SNR=3.8						
BDFB	**Brasilia**	**19.72**	**69**	P	P	19 30 42.1	0.0
	0.5nm,0.3s,baz=232,slow=10,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.61**	**69**	P	P	19 37 56.3	+0.8
	0.5nm,0.5s,baz=258,slow=5.6,SNR=16						

IDC 17 19:43:06.3±1.6**, 1587S×17630W, h0**^{km}**, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.9**/14**, mbtmp4.1**/4**, ML1.9**/1**, Error ellipse: s-maj=165.6km s-min=24.6km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.78**	**67**	Pn	Pn	19 44 19.4	-0.2
	3.0nm,0.3s,baz=102,slow=22,SNR=4.4						
AFI				Sn	Sn	19 45 18.1	+2.4
	4.1nm,0.3s,baz=19,slow=18,SNR=3.2						
STKA	**Stephens Creek**	**41.39**	**240**	P	P	19 50 54.2	0.0
	1.5nm,0.5s,baz=100,slow=9.0,SNR=8.2						
WRA	**Warramunga Arr**	**47.02**	**257**	P	P	19 51 39.9	+0.5
	0.5nm,0.6s,baz=92,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**47.31**	**252**	P	P	19 51 42.0	+0.4
	4.4nm,0.5s,baz=88,slow=8.2,SNR=88						

IDC 17 19:46:45.2±5.9**, 862S×10972E, h267**^{km}±88^{km}**, mb3.1**/3**, mb1 3.2**/4**, mb1mx3.0**/16**, mbtmp3.7**/4**, Error ellipse: s-maj=115.5km s-min=43.2km az=27.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.12**	**123**	P	P	19 50 38.1	+0.2
	0.0nm,0.3s,baz=302,slow=11,SNR=4.0						
FITZ				S	S	19 53 52.4	+1.1
	0.1nm,0.3s,baz=311,slow=20,SNR=2.6						
WRA	**Warramunga Arr**	**26.34**	**118**	P	P	19 51 56.9	+0.1
	1.2nm,0.5s,baz=291,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.56**	**126**	P	P	19 52 08.9	+1.2
	0.2nm,0.4s,baz=297,slow=9.3,SNR=4.7						
STKA	**Stephens Creek**	**37.57**	**133**	P	P	19 53 34.0	-0.1
	2.9nm,0.7s,baz=305,slow=7.7,SNR=6.7						

*ISCJB **17** 20:16:34.0±2.5, 59S±0.1×1486E±02, h47^{km}±19^{km}, mb4.2/4, MS3.0/1, Error ellipse: s-maj=30.5km s-min=17.1km az=12.9*
*NEIC **17** 20:16:34.3±1.1, 586S×14864E, h35^{km}, mb4.3/3, Error ellipse: s-maj=22.7km s-min=10.9km az=83.0*
*IDC **17** 20:16:39.6±3.0, 605S×14854E, h78^{km}±21^{km}, mb4.0/3, mb1 4.3/6, mb1mx3.9/15, mbtmp4.4/6, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=51.6km s-min=21.3km az=112.0*
ISC 17 20:16:37.4±2.0**, 598S**±010**×1486E**±02**, h58**^{km}±15^{km}**, n19,** σ**1**^{s}**06**/22**, mb4.2**/4**, MS3.0**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68**	**202**	P	**Pn**	**20 17 32.2**	**+0.4**
	41nm,0.3s,baz=9.5,slow=7.2,SNR=104						
PMG				S	**Sn**	**20 18 15.4**	**+1.5**
	32nm,0.3s,baz=351,slow=19,SNR=11						
CTA	**Charters Tower**	**14.21**	**189**	P	**Pn**	**20 19 55.1**	**-0.3**
	0.3nm,0.3s,baz=65,slow=13,SNR=3.8						
CTAO	**Charters Tower**	**14.21**	**189**	*e*Pn	**Pn**	**20 19 55.5**	**+0.1**
	7.0nm,0.9s						
WRAB	**Tennant Creek**	**19.59**	**224**	*e*P	**Pn**	**20 21 01.0**	**-1.5**
	28nm,0.6s						
WB2	**Warramunga Arr**	**19.59**	**224**	*e*P	**Pn**	**20 21 00.0**	**-2.5**
WRA	**Warramunga Arr**	**19.60**	**224**	P	**Pn**	**20 21 01.2**	**-1.4**
	3.2nm,0.3s,baz=51,slow=11,SNR=216						
AS31	**Alice Springs**	**22.55**	**217**	*e*P	**P**	**20 21 32.6**	**+0.1**
AS31				*e*S	**S**	**20 25 38.5**	**+2.5**
ASAR	**Alice Springs**	**22.55**	**217**	P	**P**	**20 21 32.2**	**-0.3**
	5.0nm,0.4s,mb4.3,baz=55,slow=8.8,SNR=186						
ASAR				S	**S**	**20 25 34.6**	**-1.3**
	1.6nm,1.1s,baz=45,slow=21,SNR=5.4						
ASAR	**Alice Springs**	**22.55**	**217**	P	**P**	**20 21 32.2**	**-0.3**
ASAR				S	**S**	**20 25 34.6**	**-1.3**
FITZ	**Fitzroy Crossi**	**25.43**	**240**	*e*P	**P**	**20 21 59.6**	**0.0**
	17nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**25.43**	**240**	P	**P**	**20 21 59.7**	**+0.1**
	6.8nm,0.5s,mb4.4,baz=58,slow=10,SNR=58						
FITZ				LR	LR	20 33 03.8	
	comp=Z,45nm,20.1s,MS3.0,baz=178,slow=39						
STKA	**Stephens Creek**	**26.58**	**193**	*e*P	**P**	**20 22 10.8**	**+0.8**
	1.1nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**26.58**	**193**	P	**P**	**20 22 11.0**	**+1.1**
	1.8nm,0.5s,mb3.9,baz=353,slow=12,SNR=8.9						
MBWA	**Marble Bar**	**31.76**	**239**	*e*P	**P**	**20 22 55.8**	**-0.1**
	2.4nm,0.5s,mb4.3						
KKM	**Kota Kinabalu**	**34.45**	**290**	P	**P**	**20 23 20.3**	**+0.9**
KULM	**Kulim**	**49.15**	**282**	*e*P	**P**	**20 25 20.5**	**+1.2**
VNDA	**Vanda**	**71.84**	**177**	*e*P	**P**	**20 27 53.4**	**-0.6**
BRVK	**Borovoye**	**87.75**	**324**	P	**P**	**20 29 20.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.61**	**285**	PKPbc	PKPbc	20 36 12.2	-0.2
	0.4nm,0.4s,baz=92,slow=2.5,SNR=15						

*IDC **17** 20:20:24.7±1.6, 1554S×175.16W, h0^{km}, mb3.9/3, mb1 4.1/4, mb1mx3.8/14, mbtmp3.9/4, ML1.9/1, Error ellipse: s-maj=167.8km s-min=29.3km az=156.0*
*ISCJB **17** 20:20:26.6±1.0, 155S±05×175.1W±02, h33^{km}, mb4.0/4, Error ellipse: s-maj=80.7km s-min=8.5km az=133.8*
*NEIC **17** 20:20:28.2±0.8, 1549S×17503W, h35^{km}, mb4.1/1, Error ellipse: s-maj=63.1km s-min=11.4km az=158.0*
ISC 17 20:20:28.9±1.0**, 156S**±05**×1751W**±02**, h35**^{km}**, n7,** σ**0**^{s}**65**/8**, mb4.0**/4**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.58**	**63**	Pn	**Pn**	**20 21 20.6**	**-1.3**
	6.1nm,0.3s,baz=36,slow=19,SNR=7.4						
AFI				Sn	**Sn**	**20 22 03.7**	**+0.8**
	5.8nm,0.3s,baz=68,slow=20,SNR=6.7						
PMG	**Port Moresby**	**37.37**	**275**	*e*P	**P**	**20 27 37.7**	**-0.5**
STKA	**Stephens Creek**	**42.57**	**240**	P	**P**	**20 28 21.1**	**-0.2**
	1.1nm,0.5s,mb3.9,baz=96,slow=12,SNR=7.1						
WB2	**Warramunga Arr**	**48.24**	**257**	*e*P	**P**	**20 29 06.6**	**+0.3**
WRAB	**Tennant Creek**	**48.25**	**257**	*e*P	**P**	**20 29 07.1**	**+0.9**
	1.3nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**48.26**	**257**	P	**P**	**20 29 06.2**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=93,slow=7.5,SNR=13						
WRA				PcP	PcP	20 30 36.8	+3.8
	0.1nm,0.4s,baz=91,slow=3.4,SNR=5.1						
ASAR	**Alice Springs**	**48.54**	**252**	P	**P**	**20 29 08.7**	**+0.1**
	3.1nm,0.6s,mb4.5,baz=88,slow=8.2,SNR=56						
ASAR				PcP	PcP	20 30 36.8	+2.8
	0.3nm,0.4s,baz=99,slow=4.4,SNR=4.5						

CASC 17 20:37:11.7±2.3**, 1317N×9144W, h28**^{km}±16^{km}**, MD3.9, 3C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.16**	**351**	*e*P	Pn	20 37 32.8	+0.7
TER	**Terranova**	**1.35**	**33**	*e*P	Pn	20 37 35.2	+0.5
FUG	**Fuego 3**	**1.40**	**25**	⇓*e*P	Pn	20 37 35.8	+0.4
TP2	**Tecpan 2**	**1.66**	**14**	⇑*e*P	Pn	20 37 39.0	0.0
TP2				*e*S	Sn	20 38 00.2	+0.9
SNET	**Serv Nac Est T**	**2.21**	**76**	⇓*e*P	x	20 38 02.6	
SNET				*e*S	x	20 38 31.5	
LFRS	**El Faro**	**2.36**	**79**	⇓*e*P	x	20 38 14.2	
LFRS				*e*S	x	20 38 44.0	
MTO2	**Montecristo 2**	**2.36**	**59**	⇑*e*P	x	20 38 13.2	
MTO2				*e*S	x	20 38 43.0	
LBRS	**Las Brisas**	**2.40**	**76**	⇓*e*P	x	20 38 13.4	
LBRS				*e*S	x	20 38 42.2	
VSM	**San Miguel**	**3.10**	**85**	⇑*e*P	x	20 38 24.7	
VSM				*e*S	x	20 39 01.3	

MAN 17 20:53:40.4, 927N×12542E, h0^{km}**, mb2.3, ML3.9, MS0.3, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.36**	**146**	*e*P	Pg	20 53 47.6	+0.2
BUKP	**Musuan**	**1.43**	**194**	*e*P	Pn	20 54 07.0	-0.6

*IDC **17** 21:12:05.1±6.2, 28.17N×9025E, h0^{km}, mb3.4/2, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=424.8km s-min=33.2km az=63.0*
*ISCJB **17** 21:12:11.3±1.0, 2657N±009×8845E±009, h67^{km}±7^{km}, mb3.2/2, Error ellipse: s-maj=15.5km s-min=13.7km az=158.1*
*NDI **17** 21:12:13.8±4.3, 2638N×8862E, h27^{km}±30^{km}, MD3.5*
ISC 17 21:12:13.9±0.9**, 2648N**±009**×8845E**±009**, h60**^{km}±9^{km}**, n6,** σ**0**^{s}**92**/9**, mb3.4**/2**, India-Bangladesh border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.22**	**352**	*i* P	**Pn**	**21 12 19.5**	**-4.0**
SLGI				*i* S	**Sn**	**21 12 29.6**	**-0.7**
GTK	**Gangtok**	**0.86**	**10**	*e*P	**Pn**	**21 12 32.0**	**+1.8**
BOK	**Bokaro**	**3.54**	**222**	*i* P	**Pn**	**21 13 06.6**	**+0.1**
BOK				*i* S	**Sn**	**21 13 47.6**	**+0.5**
LGTI	**Lohaghat**	**7.83**	**294**	*i* P	**Pn**	**21 14 12.0**	**+6.8**
LGTI				*e*S	**Sn**	**21 15 32.0**	**-0.4**
WRA	**Warramunga Arr**	**64.12**	**131**	P	**P**	**21 22 42.0**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=325,slow=6.6,SNR=6.3						
ASAR	**Alice Springs**	**66.46**	**135**	P	**P**	**21 22 56.0**	**-1.0**
	0.2nm,0.6s,mb3.3,baz=318,slow=6.5,SNR=4.1						

*INMG **17** 21:14:44.5±0.8, 3632N×795W, h28^{km}±14^{km}, ML1.5, Error ellipse: s-maj=9.4km s-min=3.7km az=31.0*
*CSEM **17** 21:14:44.3±0.6, 3642N×780W, h35^{km}, ML1.5, Error ellipse: s-maj=13.0km s-min=5.5km az=28.0*
MDD 17 21:14:42.4±1.6**, 3644N×787W, h0**^{km}**, mbLg1.8**/5**, Error ellipse: s-maj=14.5km s-min=7.4km az=28.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**1.14**	**16**	P	Pg	21 15 04.7	+0.5
	0.8nm,0.1s,SNR=5.7						
EGRO				S	Sg	21 15 19.9	+0.9
	8.5nm,0.1s,SNR=13						
EGRO	**El Granado**	**1.14**	**16**	P	Pg	21 15 04.7	+0.5
	0.8nm,0.1s,SNR=5.7						
EGRO				S	Sg	21 15 19.9	+1.0
	8.5nm,0.1s,SNR=13						
PTEO	**Sao Teotonio**	**1.30**	**328**	*e*P	Pg	21 15 06.0	-1.4
PTEO				*e*S	Sg	21 15 22.7	-1.5
PTEO							
	2.1nm,0.2s						
PTEO	**Sao Teotonio**	**1.30**	**328**	*e*P	Pg	21 15 06.0	-1.4
PTEO				*e*S	Sg	21 15 22.7	-1.5
	2.1nm,0.2s						
PBEJ	**Beja**	**1.59**	**360**	*e*P	Pn	21 15 10.6	-1.1
PBEJ				*e*S	Sn	21 15 30.4	-2.5
PBEJ							
	2.3nm,0.1s						
PBEJ	**Beja**	**1.59**	**360**	*e*P	Pn	21 15 10.6	-1.1
PBEJ				*e*S	Sn	21 15 30.4	-2.5
	2.3nm,0.1s						
EMIN	**Mina Concepcio**	**1.63**	**35**	P	Pn	21 15 10.9	-1.4
	0.2nm,0.1s,SNR=10						
EMIN				S	Sn	21 15 31.1	-3.1
	0.6nm,0.1s						
EMIN	**Mina Concepcio**	**1.63**	**35**	P	Pn	21 15 10.9	-1.5
	0.2nm,0.1s,SNR=10						
EMIN				S	Sn	21 15 31.1	-3.0
	0.6nm,0.1s						
ESPR	**Espera**	**1.67**	**74**	P	Pn	21 15 11.9	-1.0
	0.7nm,0.1s,SNR=4.5						
ESPR				S	Sn	21 15 31.8	-3.2
	5.9nm,0.2s,SNR=4.8						
ESPR	**Espera**	**1.67**	**74**	P	Pn	21 15 11.9	-1.0
	0.7nm,0.1s,SNR=4.5						
ESPR				S	Sn	21 15 31.8	-3.3
	5.9nm,0.2s,SNR=4.8						
PESTR	**Estremoz**	**2.44**	**5**	*e*Pn	Pn	21 15 22.6	-0.8
PESTR				*e*Sn	Sn	21 15 51.0	-2.9
PESTR							
	0.4nm,0.1s						
PESTR	**Estremoz**	**2.44**	**5**	*e*Pn	Pn	21 15 22.6	-0.8
PESTR				*e*Sn	Sn	21 15 51.0	-2.9
	0.4nm,0.1s						
EMIJ	**Mijas**	**2.50**	**86**	S	Sn	21 15 51.9	-3.4
	0.4nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.14**	**56**	P	Pn	21 15 32.2	-0.9
	0.2nm,0.1s,SNR=6.0						
EADA				S	Sn	21 16 07.8	-3.5
	1.4nm,0.1s						
EADA	**Adamuz**	**3.14**	**56**	P	Pn	21 15 32.2	-0.9
	0.2nm,0.1s,SNR=6.0						
EADA				S	Sn	21 16 07.8	-3.5
	1.4nm,0.1s						
PTOM	**Tomar**	**3.20**	**352**	*e*Pn	Pn	21 15 32.8	-1.2
PTOM				*e*Sn	Sn	21 16 08.6	-4.3
PTOM							
	1.7nm,0.1s						
PCBR	**Castelo Branco**	**3.41**	**5**	*e*Pn	Pn	21 15 35.8	-1.0
PCBR				*e*Sn	Sn	21 16 14.4	-3.6
PCBR							
	1.2nm,0.1s						
EQUE	**Quentar**	**3.63**	**77**	S	Sn	21 16 21.1	-2.3
	0.1nm,0.1s,SNR=4.0						
EBAN	**Banos Encina**	**3.68**	**61**	S	Sn	21 16 17.7	-6.9
	1.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.07**	**69**	P	Pn	21 15 44.6	-1.2
	0.2nm,0.1s,SNR=7.9						
EQES				S	Sn	21 16 30.8	-3.4
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.07**	**69**	P	Pn	21 15 44.6	-1.2
	SNR=7.9						
EQES				S	Sn	21 16 30.8	-3.3
	SNR=7.9						
ESDC	**Sonseca Array**	**4.46**	**42**	P	Pn	21 15 53.3	+2.0
	0.3nm,0.1s,baz=213,slow=13,SNR=7.9						
ESDC				S	Sn	21 16 39.6	-4.3
	0.5nm,0.1s,baz=227,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.46**	**42**	P	Pn	21 15 53.3	+2.0
	0.3nm,0.1s,slow=13,SNR=7.9						

CASC 17 21:49:26.9±6.3**, 1529N×9010W, h20**^{km}±90^{km}**, MD3.8, 2C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.02**	**241**	⇑*e*P	Pb	21 49 45.0	-1.0
TP2				*e*S	Sb	21 49 58.5	-0.4
SBLS	**San Blas**	**1.51**	**162**	⇑*e*P	x	21 50 21.7	
SBLS				*e*S	x	21 50 44.9	
BOQS	**Boqueron**	**1.73**	**153**	⇓*e*P	x	21 50 26.6	
BOQS				*e*S	x	21 50 52.1	
LFRS	**El Faro**	**1.93**	**149**	⇓*e*P	x	21 50 29.9	
LFRS				*e*S	x	21 50 56.3	
LCBS	**La Ceiba**	**1.95**	**146**	*e*P	x	21 50 31.0	
LCBS				*e*S	x	21 50 58.3	

KRSC 17 22:17:56, 5460N×16199E, h57^{km}**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.16**	**254**	*e*P	Pn	22 18 05.4	+0.5
MKZ				*i* S	Sn	22 18 11.4	+0.2
TUMR	**Tumrok**	**1.27**	**304**	*e*P	Pn	22 18 18.2	+0.8
TUMR				*i* S	Sn	22 18 34.5	+1.1
KMNR	**Kamenistaya**	**1.53**	**320**	*e*P	Pn	22 18 22.4	+1.3
KMNR				*i* S	Sn	22 18 41.2	+1.3
ZLN	**Zelenaya**	**1.57**	**335**	*e*P	Pn	22 18 23.3	+1.7
ZLN				*i* S	Sn	22 18 42.5	+1.6
KII	**Karymskiy**	**1.59**	**250**	*e*P	Pn	22 18 23.3	+1.5
KBTR	**Krutoberegovo**	**1.68**	**16**	*e*P	Pn	22 18 24.9	+1.9
KBTR				*i* S	Sn	22 18 45.8	+2.3
KPT	**Kopyto**	**1.70**	**324**	*e*P	Pn	22 18 24.9	+1.6
KPT				*i* S	Sn	22 18 45.7	+1.7
KRSR	**Krestovskiy**	**1.81**	**334**	*e*P	Pn	22 18 25.9	+1.1
KRSR				*i* S	Sn	22 18 48.3	+1.6
KLY	**Klyuchi**	**1.88**	**337**	*e*P	Pn	22 18 26.7	+1.0
KLY				*i* S	Sn	22 18 48.9	+0.6
KOZ	**Kozyrevsk**	**1.90**	**321**	*e*P	Pn	22 18 27.9	+1.9
KOZ				*i* S	Sn	22 18 50.9	+2.1
SPN	**Mys Shipunski**	**1.90**	**219**	*e*P	Pn	22 18 27.1	+1.0
SPN				*i* S	Sn	22 18 49.1	+0.2
SMKR	**Semkarok**	**2.01**	**352**	*e*P	Pn	22 18 29.5	+2.0
SMKR				*i* S	Sn	22 18 53.6	+2.1
BDR	**Baidarnaya**	**2.02**	**348**	*e*P	Pn	22 18 29.9	+2.2
BDR				*i* S	Sn	22 18 53.9	+2.1
SRKR	**Sorokina**	**2.11**	**348**	*e*P	Pn	22 18 30.8	+1.9
SRKR				*i* S	Sn	22 18 55.9	+1.9
NLC	**Nalytchevo**	**2.12**	**229**	*e*P	Pn	22 18 30.9	+1.9
NLC				*i* S	Sn	22 18 56.0	+1.8
SRDR	**Sredinnyy**	**2.15**	**324**	*e*P	Pn	22 18 30.3	+0.8
SRDR				*i* S	Sn	22 18 54.4	-0.6
AVH	**Avacha**	**2.34**	**236**	*e*P	Pn	22 18 34.5	+2.4
AVH				*i* S	Sn	22 19 02.1	+2.5
PET	**Petropavlovsk**	**2.53**	**233**	*e*P	Pn	22 18 36.8	+2.2
PET				*i* S	Sn	22 19 06.9	+2.6
GNL	**Ganaly**	**2.55**	**251**	*e*P	Pn	22 18 37.1	+2.2
RUS	**Russkaya**	**3.00**	**225**	*e*P	Pn	22 18 42.9	+1.8
RUS				*i* S	Sn	22 19 17.2	+1.3
GRL	**Gorelyy**	**3.11**	**230**	*e*P	Pn	22 18 45.0	+2.5
GRL				*i* S	Sn	22 19 21.0	+2.6
MIPR	**Malaya Ipel'ka**	**3.90**	**235**	*e*P	Pn	22 18 56.4	+3.0
ALID	**Alaid**	**5.41**	**229**	*e*P	Pn	22 19 16.5	+2.4

*IDC **17** 22:18:03.0±25.0, 2236S×17254W, h0^{km}, mb4.5/4, mb1 4.6/4, mb1mx4.1/15, mbtmp4.5/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/28, Error ellipse: s-maj=471.3km s-min=141.9km az=77.0*
*NEIC **17** 22:18:09.1±1.3, 2227S×17269W, h35^{km}, mb4.5/4, Error ellipse: s-maj=45.8km s-min=24.0km az=190.0*
*ISCJB **17** 22:18:13.5±4.2, 233S±08×1734W±05, h33^{km}, mb4.6/7, Error ellipse: s-maj=125.0km s-min=34.0km az=56.1*
ISC 17 22:18:15.6±4.2**, 235S**±08**×1733W**±05**, h35**^{km}**, n14,** σ**1**^{s}**04**/13**, mb4.6**/7**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.65**	**267**	*e*P	**P**	**22 25 25.9**	**-1.4**
	7.7nm,0.3s,mb4.9						
CTA	**Charters Tower**	**37.65**	**267**	P	**P**	**22 25 27.1**	**-0.2**
	10nm,0.4s,mb4.9,baz=93,slow=11,SNR=18						
CTAO	**Charters Tower**	**37.65**	**267**	*e*P	**P**	**22 25 26.8**	**-0.4**
	9.9nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**40.58**	**248**	*e*P	**P**	**22 25 52.4**	**+0.7**
	1.6nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**40.58**	**248**	P	**P**	**22 25 52.1**	**+0.3**
	1.5nm,0.5s,mb3.9,baz=98,slow=9.8,SNR=9.2						
ASAR	**Alice Springs**	**48.17**	**259**	P	**P**	**22 26 52.4**	**0.0**
	1.4nm,0.5s,mb4.3,baz=92,slow=7.1,SNR=22						
WB2	**Warramunga Arr**	**48.57**	**264**	*e*P	**P**	**22 26 52.8**	**-2.7**
WB2	**Warramunga Arr**	**48.57**	**264**	*e*P	**P**	**22 26 55.1**	**-0.4**
WRAB	**Tennant Creek**	**48.58**	**264**	*e*P	**P**	**22 26 55.1**	**-0.4**
	7.3nm,0.4s,mb5.1						
WRA	**Warramunga Arr**	**48.59**	**264**	P	**P**	**22 26 54.7**	**-0.8**
	4.6nm,0.4s,mb4.9,baz=99,slow=8.3,SNR=55						
KAKA	**Kakadu**	**52.45**	**272**	*e*P	**P**	**22 27 25.7**	**+1.0**
	3.3nm,0.6s,mb4.4						
MBWA	**Marble Bar**	**61.50**	**258**	*e*P	**P**	**22 28 31.2**	**+2.4**
	1.8nm,0.4s,mb4.5						
SNAA	**Sanae**	**84.82**	**177**	P	**P**	**22 30 46.1**	**-0.3**
BRVK	**Borovoye**	**124.29**	**319**	PKPdf	PKPdf	22 37 02.3	-8.3

*IDC **17** 22:28:59.7±4.4, 557N×9607E, h45^{km}±42^{km}, mb3.8/6, mb1 4.0/7, mb1mx3.7/20, mbtmp4.1/7, ML4.2/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/37, Error ellipse: s-maj=147.2km s-min=20.7km az=39.0*
*ISCJB **17** 22:29:00.2±2.2, 56N±0.1×96.1E±02, h68^{km}±19^{km}, mb4.0/9, Error ellipse: s-maj=28.4km s-min=12.1km az=122.2*
*NEIC **17** 22:29:00.4±1.7, 555N×9601E, h55^{km}±14^{km}, mb4.1/4, Error ellipse: s-maj=21.3km s-min=8.6km az=59.0*
ISC 17 22:29:01.9±2.0**, 56N**±01**×961E**±02**, h64**^{km}±17^{km}**, n19,** σ**0**^{s}**77**/19**, mb4.1**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.97**	**135**	P	**Pn**	**22 29 59.2**	**-1.1**
	17nm,0.3s,baz=324,slow=15,SNR=59						
PSI				LR	LR	22 31 45.7	
	comp=Z,596nm,18.4s,baz=283,slow=41						
PSI	**Prapat**	**3.97**	**135**	P	**Pn**	**22 29 59.2**	**-1.1**
PSI				LR	LR	22 31 45.7	
KULM	**Kulim**	**4.52**	**94**	*e*Pn	**Pn**	**22 30 08.8**	**+1.0**
KULM				*e*Sn	**Sn**	**22 30 53.4**	**-5.8**
CM31	**Chiang Mai Arr**	**13.03**	**12**	Pn	**Pn**	**22 32 04.9**	**+0.8**
QIZ	**Qiongzhong**	**18.87**	**44**	P	**Pn**	**22 33 17.2**	**-0.9**
WRA	**Warramunga Arr**	**45.37**	**125**	P	**P**	**22 37 13.8**	**-0.1**
	3.1nm,0.6s,mb4.3,baz=302,slow=9.3,SNR=30						
WRAB	**Tennant Creek**	**45.38**	**125**	*e*P	**P**	**22 37 14.4**	**+0.4**
	5.4nm,0.5s,mb4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB				e	pP	22 37 31.6	+1.5
WB2	Warramunga Arr	45.38	125	eP	P	22 37 14.1	+0.1
ASPA	Alice Springs	46.98	130	eP	P	22 37 26.6	+0.1
ASAR	Alice Springs	46.98	130	P	P	22 37 26.6	+0.1
	3.9nm,0.6s,mb4.5,baz=301,slow=7.9,SNR=50						
ASAR				LR	LR	22 58 20.3	
	comp=Z,87nm,19.3s,baz=178,slow=38						
AS31	Alice Springs	46.98	130	eP	P	22 37 26.6	+0.1
BRVK	Borovoye	51.79	340	eP	P	22 38 00.9	-2.2
	0.7nm,0.5s,mb3.9						
CHKZ	Chkalovo	52.20	341	eP	P	22 38 06.0	-0.3
	0.6nm,0.6s,mb3.7						
CTA	Charters Tower	55.51	119	LR	LR	23 04 54.3	
	comp=Z,55nm,20.2s,baz=49,slow=39						
STKA	Stephens Creek	57.15	134	eP	P	22 38 42.0	0.0
	1.3nm,0.6s,mb4.1						
STKA	Stephens Creek	57.15	134	P	P	22 38 41.8	-0.2
	1.4nm,0.6s,mb4.1,baz=333,slow=8.4,SNR=6.0						
STKA				LR	LR	23 02 03.9	
	comp=Z,71nm,21.6s,baz=19,slow=35						
BRTR	Keskin Array B	65.37	311	P	P	22 39 37.4	-0.1
	1.5nm,0.6s,mb4.2,baz=128,slow=7.3,SNR=9.7						
GERES	GERESS Array B	80.79	318	P	P	22 41 09.6	+1.0
	0.3nm,0.5s,mb3.5,baz=108,slow=4.3,SNR=4.1						
TORD	Torodi Ar. Bea	93.02	283	P	P	22 42 09.2	+0.8
	0.3nm,0.6s,mb3.9,baz=62,slow=4.7,SNR=5.3						

*IDC **17** 23:18:47.0±2.2, 1453S×16650E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/18, Error ellipse: s-maj=50.4km s-min=41.3km az=116.0*

*NEIC **17** 23:18:52.8±1.9, 1464S×16639E, h35km, mb4.1/1, Error ellipse: s-maj=34.4km s-min=22.7km az=58.0*

*ISCJB **17** 23:18:55.4±4.3, 150S±02×1659E±04, h33km, mb3.7/4, Error ellipse: s-maj=70.6km s-min=12.2km az=122.0*

ISC 17 23:19:02.2±4.9, 152S±03×1655E±05, h35km, n9, σ0s78/8, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.93	173	Pn	Pn	23 20 37.2	-3.9
	1.7nm,0.3s,baz=211,slow=14,SNR=15						
DZM				Sn	Sn	23 21 58.9	+0.2
	baz=254,slow=19,SNR=2.5						
CTA	Charters Tower	18.96	252	LR	LR	23 29 35.9	
	comp=Z,64nm,20.4s,baz=228,slow=32						
CTAO	Charters Tower	18.96	252	P	Pn	23 23 20.4	-0.7
STKA	Stephens Creek	27.40	228	P	P	23 24 45.0	+0.8
	0.5nm,0.4s,mb3.4,baz=54,slow=11,SNR=2.8						
WRAB	Tennant Creek	30.03	256	eP	P	23 25 07.5	-0.1
	3.3nm,1.0s,mb4.0						
WRA	Warramunga Arr	30.04	256	P	P	23 25 08.0	+0.2
	0.6nm,0.6s,mb3.5,baz=86,slow=9.2,SNR=2.9						
ASAR	Alice Springs	30.90	249	P	P	23 25 15.4	+0.1
	0.7nm,0.6s,mb3.7,baz=70,slow=9.7,SNR=11						
TAU	Tasmania Unive	31.74	206	P	P	23 25 23.0	+0.3
ARCES	ARCESS Array B	120.23	345	PKP	PKPdf	23 37 38.6	-11
	4.9nm,0.9s,baz=69,slow=1.4,SNR=11						

*JMA **17** 23:21:46.4±0.5, 4729N×14237E, h5km, M3.2*

SKHL 17 23:21:47.7±0.3, 4710N×14232E, h5km, mb4.2/2, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	0.33	116	i Pg	Pg	23 21 53.8	-0.3
YSS				AMB	AMB	23 21 54.7	
	130nm,0.4s						
YSS				i Sg	Sg	23 21 58.3	-0.2
YSS				A		23 21 59.0	
	4µm,1.0s						
YSS				A		23 21 59.0	
	3µm,1.0s						
YSS				A		23 21 59.5	
	4µm,0.5s						
YSS				A		23 21 59.5	
	2µm,0.5s						
YSS				AMS	AMS	23 22 09.0	
	2µm,4.0s						
YSS				AMS	AMS	23 22 09.0	
	1µm,4.0s						
JWK2	Keihoku	1.81	189	P	Pn	23 22 21.6	+2.1
JWK2				eS	Sn	23 22 47.0	+4.2
UGL	Uglegorsk	1.99	355	ePg	Pg	23 22 27.3	+1.5
UGL				AMB	AMB	23 22 32.0	
	49nm,0.4s						
UGL				i Sg	Sg	23 22 54.0	+2.5
UGL				erx	rx	23 23 50.0	
JSE	Soyaes	2.15	175	P	Pn	23 22 25.4	+1.2
JSE				eS	Sn	23 22 54.0	+2.8

*NEIC **17** 23:36:17.0, 33.15S×7027W, h18km, ML3.0(GUC), After GUC.*

GUC 17 23:36:17.0±0.8, 3315S×7027W, h18km±3km, MD3.6, ML3.0, 8C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.18	185	⇑iP	Pg	23 36 21.1	-0.5
FCH				i S	Sg	23 36 24.0	-0.7
FCH				AML	AML	23 36 24.2	
	comp=E,5µm,0.3s						
CLCH	Cerro Calan	0.33	222	⇑iP	Pg	23 36 24.2	+0.1
CLCH				i S	Sg	23 36 29.1	+0.3
CLCH				AML	AML	23 36 31.7	
	comp=E,3µm,0.5s						
CLCH				AML	AML	23 36 32.0	
	comp=E,4µm,0.5s						
PEL	Peldehue	0.35	271	⇑iP	Pg	23 36 24.0	-0.3
PEL				i S	Sg	23 36 29.2	0.0
PEL				AML	AML	23 36 35.9	
	comp=N,1µm,0.5s						
PEL	Peldehue	0.35	271	⇑iP	Pg	23 36 24.0	-0.3
PEL				i S	Sg	23 36 29.2	0.0
DSCH	Colegio Aleman	0.35	225	eP	Pg	23 36 23.8	-0.6
DSCH				i S	Sg	23 36 29.5	+0.2
JACH	Jahuel	0.54	330	⇓iP	Pg	23 36 27.3	-0.4
JACH				i S	Sg	23 36 35.3	+0.3
RCDM	Rinconada Maip	0.56	233	eP	Pg	23 36 28.2	0.0
RCDM				i S	Sg	23 36 36.5	+0.8
ROCH	El Roble	0.65	286	⇓iP	Pg	23 36 29.5	-0.2
LMEL	Las Melosas	0.70	175	⇑iP	Pb	23 36 30.4	-0.3
LMEL				i S	Sb	23 36 40.2	+0.2
LMEL				AML	AML	23 36 43.8	
	comp=N,369nm,0.3s						
LMEL	Las Melosas	0.70	175	⇑iP	Pb	23 36 30.4	-0.3
LMEL				i S	Sb	23 36 40.2	+0.2
TACH	Talagante	0.75	228	eP	Pb	23 36 31.0	-0.5
TACH				i S	Sb	23 36 41.0	-0.4
CHCH	Chadas Angostu	0.84	202	⇓iP	Pb	23 36 33.0	-0.1
CHCH				i S	Sb	23 36 44.9	+0.7
CACH	El Canelo	1.00	196	⇑iP	Pb	23 36 36.3	+0.4
CACH				i S	Sb	23 36 50.5	+1.8
PTCH	Petorca	1.04	328	⇓iP	Pb	23 36 36.3	-0.3
PTCH				i S	Sb	23 36 50.8	+0.9
PTCH				AML	AML	23 36 56.8	
	comp=N,392nm,0.4s						
PTCH	Petorca	1.04	328	⇓iP	Pb	23 36 36.3	-0.3
PTCH				i S	Sb	23 36 50.8	+0.9
LCCH	Las Cruces	1.13	253	⇓iP	Pn	23 36 37.8	-0.2
CICH	Cipreses	1.17	186	eP	Pn	23 36 38.8	+0.3
CICH				i S	Sb	23 36 55.3	+1.6
MDZ	Mendoza	1.22	78	eP	Pn	23 36 39.9	+0.7
MDZ				eS	Sb	23 37 02.8	+7.7
LNV	Longovilo	1.25	229	⇓iP	Pn	23 36 39.7	+0.1
LNV				i S	Sb	23 36 56.6	+0.9
SFDO	San Fernando	1.59	203	⇓iP	Pn	23 36 45.7	+1.5
SFDO				i S	Sn	23 37 07.1	+2.8
CHNG	Los Chungos	1.63	320	⇓iP	Pn	23 36 46.3	+1.4
CHNG				i S	Sn	23 37 08.2	+2.7
CHNG				AML	AML	23 37 11.4	
	comp=E,327nm,0.6s						
CMCH	Combarbala	2.06	342	⇑iP	Pn	23 36 52.9	+2.1
CMCH				i S	Sn	23 37 20.9	+4.8
TLL	Tololo Astrono	3.01	351	i P	Pn	23 37 08.9	+5.2
TLL				i S	Sn	23 37 50.2	+11
TLL				AML	AML	23 38 00.9	
	comp=N,285nm,0.6s						
TLL	Tololo Astrono	3.01	351	P	Pn	23 37 08.9	+5.2
TLL				i S	Sn	23 37 50.2	+11

CASC 18 00:47:09.0±2.2, 1157N×8366W, h17km±12km, MD3.9, 3C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORC	Fortuna	1.48	222	eS	Sn	00 47 53.2	-0.5
POA2	Poas 2	1.50	203	⇑iP	Pn	00 47 35.2	0.0
POA2				eS	Sn	00 47 55.4	+1.0
VTU	Volcan Turrial	1.54	184	⇑eP	Pn	00 47 36.3	+0.6
VTU				eS	Sn	00 47 56.4	+1.0
ICR	Volcan Irazu	1.59	186	eP	Pn	00 47 36.6	+0.3
ICR				eS	Sn	00 47 57.6	+1.1
IRZ2	Volcan Irazu 2	1.61	189	⇑eP	Pn	00 47 36.3	-0.3
IRZ2				eS	Sn	00 47 58.4	+1.4
PRS1	Puriscal	1.70	202	eP	Pn	00 47 38.8	+0.9
PRS1				eS	Sn	00 48 04.1	+4.8
CGA2	Cerro Gallo 2	1.74	207	eP	Pn	00 47 38.7	+0.3
CGA2				eS	Sn	00 48 02.7	+2.5
LAJ	Bijagual	1.76	195	⇓eP	Pn	00 47 42.8	+4.1
LAJ				eS	Sn	00 48 11.4	+11
LIM1	Limonal	1.79	241	i P	Pn	00 47 38.9	-0.3
EPA	Esparza	1.82	211	eP	Pn	00 47 39.4	-0.2
EPA				eS	Sn	00 48 04.3	+2.0
LCR2	La Lucha 2	1.85	191	eP	Pn	00 47 40.3	+0.3
LCR2				eS	Sn	00 48 04.4	+1.5
BUS	Buena Vista	2.00	183	eP	Pn	00 47 42.9	+0.8
BUS				eS	Sn	00 48 09.1	+2.3
JCR	Jicaral	2.23	220	eP	Pn	00 47 45.5	+0.3
JCR				eS	Sn	00 48 13.2	+0.9
VCR	Vista de Mar	2.41	234	eP	Pn	00 47 48.5	+0.7
VCR				eS	Sn	00 48 19.9	+3.0

KRSC 18 00:50:25, 5549N×16068E, h194km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	Kamenistaya	0.37	317	eP	Pn	00 50 52.1	+1.2
TUMR	Tumrok	0.37	236	eP	Pn	00 50 52.8	+1.9
ZLN	Zelenaya	0.53	8	eP	Pn	00 50 53.2	+1.7
KPT	Kopyto	0.54	332	eP	Pn	00 50 52.1	+0.6
KOZ	Kozyrevsk	0.73	322	eP	Pn	00 50 52.6	+0.2
KRSR	Krestovskiy	0.73	355	eP	Pn	00 50 53.1	+0.7
KRSR				i S	Sn	00 51 13.2	-0.5
KLY	Klyuchi	0.82	359	eP	Pn	00 50 53.9	+0.9
KLY				i S	Sn	00 51 15.5	+0.9
SRDR	Sredinnyy	0.99	327	eP	Pn	00 50 54.2	+0.2
SRDR				i S	Sn	00 51 15.2	-1.3
MKZ	Mys Kozlova	1.11	147	eP	Pn	00 50 56.5	+1.6
MKZ				i S	Sn	00 51 18.7	+0.6
BDR	Baidarnaya	1.12	15	eP	Pn	00 50 56.3	+1.3
BDR				i S	Sn	00 51 19.4	+1.2
SMKR	Semkarok	1.18	22	eP	Pn	00 50 56.4	+1.0
SMKR				i S	Sn	00 51 20.0	+1.0
SRKR	Sorokina	1.20	13	eP	Pn	00 50 56.5	+0.9
SRKR				i S	Sn	00 51 19.7	+0.4
KBTR	Krutoberegovo	1.41	58	eP	Pn	00 50 58.7	+1.4
KBTR				i S	Sn	00 51 22.7	+0.4
GNL	Ganaly	2.40	223	eP	Pn	00 51 09.4	+2.0
GNL				i S	Sn	00 51 41.8	+1.4
SPN	Mys Shipunski	2.43	189	eP	Pn	00 51 08.7	+1.0
SPN				i S	Sn	00 51 40.0	-0.9
NLC	Nalytchevo	2.45	199	eP	Pn	00 51 09.7	+1.8
NLC				i S	Sn	00 51 41.7	+0.3
AVH	Avacha	2.50	208	eP	Pn	00 51 11.7	+3.2
AVH				i S	Sn	00 51 45.5	+3.1
RUS	Russkaya	3.32	204	eP	Pn	00 51 19.2	+1.1
RUS				i S	Sn	00 51 59.0	-0.7

MEX 18 00:51:03.3±0.8, 1699N×9451W, h131km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.37	286	i P	Pn	00 51 20.8	-1.0
CMIG				i S	Sn	00 51 33.6	-2.2
HUIG	Huatulco	1.96	232	i P	Pn	00 51 34.8	-2.0
HUIG				i S	Sn	00 52 01.1	-1.3
OXX	Oaxaca	2.12	273	i P	Pn	00 51 37.5	-1.2
OXX				i S	Sn	00 52 04.5	-1.4
VHO	Vista Hermosa	2.13	273	i P	Pn	00 51 38.0	-0.8
VHO				i S	Sn	00 52 04.3	-1.8
TPIG	Tehuac#an	3.06	298	i P	Pn	00 51 48.9	-1.8
TPIG				i S	Sn	00 52 23.6	-3.8

CASC 18 01:40:42.8±3.8, 1413N×9191W, h24km±19km, MD3.9, 1C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	Tecpan 2	1.08	53	⇓eP	Pn	01 41 03.2	+0.8
TP2				eS	Sb	01 41 18.1	+1.6
RBDL	Robledal	2.16	90	eP	x	01 41 43.9	
RBDL				eS	x	01 42 11.5	
SBLS	San Blas	2.24	97	⇑eP	x	01 41 45.5	
SBLS				eS	x	01 42 15.6	
SNJE	San Jose	2.25	96	eP	x	01 41 45.6	
SNJE				eS	x	01 42 15.8	
LFRS	El Faro	2.81	100	eP	x	01 41 53.9	
LFRS				eS	x	01 42 25.1	
LCBS	La Ceiba	2.88	99	⇓eP	x	01 41 55.0	
LCBS				eS	x	01 42 30.1	

*BJI **18** 01:41:11.4, 644S×14692E, h100km, mB5.4, mb5.5*

*MOS **18** 01:41:17.6±0.9, 608S×14593E, h104km, mb5.0/24, MS4.4/4, Error ellipse: s-maj=13.0km s-min=7.0km az=100.7*

*ISCJB **18** 01:41:19.7±0.2, 624S±003×14601E±003, h128km, mb5.1/92, Error ellipse: s-maj=4.7km s-min=3.9km az=165.2*

*IDC **18** 01:41:20.6±0.5, 614S×14607E, h124km±3km, mb4.6/12, mb1 4.9/17, mb1mx4.9/18, mbtmp5.2/17, MS4.3/11, Ms1 4.3/11, ms1mx4.0/20, Error ellipse: s-maj=14.6km s-min=8.9km az=91.0*

*NEIC **18** 01:41:21.2±0.1, 623S×14602E, mb5.1/39, Error ellipse: s-maj=4.1km s-min=3.1km az=104.0*

*GCMT **18** 01:41:21.2±0.1, 621S×14601E, h135km±1km, MW5.3/93, Moment Tensor Solution. s66,c104; s93,c186; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.71±.02; Mθθ0.99±.02; Mφφ-0.27±.02; Mrθ-0.52±.02; Mθφ-0.52±.02; Mφr-0.24±.02; Best double couple: M0 1.16400×10^17 NP1:φs321.00000°, δ43.00000°, λ-39.00000°. NP2:φs81.00000°, δ65.00000°, λ-126.00000°. Principal axes: T 1.2650, Plg12.0000°, Azm197.0000°; N -0.2030, Plg32.0000°, Azm99.0000°; P -1.0620, Plg55.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 01:41:21.5±0.2, 625S±003×14607E±003, h130km, h130km±1.5km:pP-P, n406, σ1s09/241, mb5.1/91, 17C-31D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.31	161	P	Pn	01 42 11.0	-1.2
	315nm,0.3s,baz=308,slow=12,SNR=933						
PMG				S	Sn	01 42 48.6	-2.7
	880nm,0.3s,baz=156,slow=20,SNR=22						
PMG	Port Moresby	3.31	161	P	Pn	01 42 11.0	-1.2
PMG				S	Sn	01 42 48.6	-2.8
PMG				pmax	pmax		
	comp=Z,315nm,0.3s						
PMG				smax			
	comp=N,880nm,0.3s						
PMG	Port Moresby	3.31	161	ePn	Pn	01 42 11.1	-1.1
CTA	Charters Tower	13.76	179	eP	Pn	01 44 31.1	+0.1
	comp=N,167nm,0.5s						
CTA	Charters Tower	13.76	179	P	Pn	01 44 31.7	+0.7
	comp=N,0.5nm,0.3s,baz=356,slow=14,SNR=16						
CTA	Charters Tower	13.76	179	P	Pn	01 44 31.7	+0.7
CTA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTAO	Charters Tower	13.76	179	ePn	Pn	01 44 31.3	+0.3
	comp=Z,179nm,0.5s						
HNR	Honiara	14.10	104	P	Pn	01 44 36.4	+0.9
	comp=Z,19nm,0.3s,baz=263,slow=1.3,SNR=9.0						
HNR	Honiara	14.10	104	P	Pn	01 44 36.4	+0.9
HNR				pmax	pmax		
	comp=Z,19nm,0.3s						
KAKA	Kakadu	14.90	243	⇓iP	Pn	01 44 44.5	-1.0
	comp=Z,318nm,0.6s						
WRAB	Tennant Creek	17.74	219	P	Pn	01 45 19.0	-1.3
	comp=Z,496nm,1.1s,SNR=32						
WRAB	Tennant Creek	17.74	219c	iP	Pn	01 45 19.0	-1.3
WRAB	Tennant Creek	17.74	219	ePn	Pn	01 45 19.1	-1.2
	comp=Z,146nm,0.8s						
WB2	Warramunga Arr	17.75	219	eP	Pn	01 45 18.7	-1.6
WB2				esP	sP	01 45 58.1	-0.7
WB2				eS	S	01 48 47.1	+10
WRA	Warramunga Arr	17.75	219	P	Pn	01 45 19.2	-1.3
	comp=Z,5.5nm,0.3s,baz=42,slow=12,SNR=90						
WRA				pP	pP	01 45 46.0	+3.5
	comp=Z,4.1nm,0.3s,baz=42,slow=12,SNR=3.7						
WRA				S	S	01 48 45.8	+8.9
	comp=Z,0.9nm,0.3s,baz=32,slow=24,SNR=2.9						
WRA				LR	LR	01 53 05.2	
	comp=Z,2µm,18.1s,baz=45,slow=40						
GUMO	Guam	19.75	357	P	P	01 45 40.5	-0.6
	comp=Z,14nm,0.3s,baz=176,slow=7.7,SNR=18						
GUMO	Guam	19.75	357	P	P	01 45 40.5	-0.6
GUMO				pmax	pmax		
	comp=Z,14nm,0.3s						
GUMO	Guam	19.75	357	P	P	01 45 40.5	-0.6
AS31	Alice Springs	20.90	213	eP	P	01 45 53.5	0.0
AS31				e		01 46 18.5	
AS31				eS	S	01 49 44.0	+4.9
ASAR	Alice Springs	20.90	213	P	P	01 45 53.1	-0.3
	comp=Z,50nm,0.7s,baz=49,slow=7.7,SNR=162						
ASAR				pP		01 46 18.2	
	comp=Z,69nm,0.8s,baz=49,slow=8.8,SNR=9.2						
ASAR				S	S	01 49 43.4	+4.2
	comp=Z,28nm,0.9s,baz=28,slow=22,SNR=6.2						
ASAR				LR	LR	01 54 56.7	
	comp=Z,3µm,18.9s,baz=27,slow=39						
ASAR	Alice Springs	20.90	213	P	P	01 45 53.2	-0.3
ASAR				*PP		01 46 18.3	
ASAR				S	S	01 49 43.4	+4.2
ASAR				pmax	pmax		
	comp=Z,50nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,69nm,0.9s						
ASAR				smax			
	comp=N,28nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,3µm,18.9s						
ASPA	Alice Springs	20.90	213	eP	P	01 45 53.1	-0.4
ASPA				epP		01 46 18.1	
ASPA				eS	S	01 49 42.1	+2.9
FITZ	Fitzroy Crossi	23.16	238	eP	P	01 46 14.6	-1.8
	comp=Z,91nm,0.7s,mb5.3						
FITZ				eS	S	01 50 14.9	-3.0
FITZ	Fitzroy Crossi	23.16	238	P	P	01 46 15.6	-0.8
	comp=Z,59nm,0.8s,mb5.1,baz=67,slow=10,SNR=105						
FITZ				LR	LR	01 56 35.8	
	comp=Z,343nm,18.9s,baz=59,slow=39						
ARMA	Armidale	24.60	168	⇓iP	P	01 46 30.4	+0.9
ARMA				epP		01 46 58.3	
DZM	Mont Dzumac	25.19	131	P	P	01 46 35.4	+0.6
	comp=Z,10.0nm,0.7s,mb4.5,baz=318,slow=18,SNR=8.7						
DZM				LR	LR	01 55 11.1	
	comp=Z,389nm,20.1s,baz=1.6,slow=33						
BUKP	Musuan	25.22	304	eP	P	01 46 32.5	-2.7
STKA	Stephens Creek	25.84	189	eP	P	01 46 40.6	-0.1
	comp=Z,54nm,0.6s,mb5.4						
STKA				epP	pP	01 47 09.4	+1.0
STKA	Stephens Creek	25.84	189	P	P	01 46 40.6	-0.1
	comp=Z,67nm,0.7s,mb5.4,baz=354,slow=8.4,SNR=124						
STKA				pP	pP	01 47 09.6	+1.2
	comp=Z,64nm,0.9s,baz=342,slow=11,SNR=5.9						
STKA				LR	LR	01 56 53.2	
	comp=Z,645nm,21.6s,baz=297,slow=36						
CNB	Canberra Magne	29.08	174	eP	P	01 47 10.2	+0.5
	comp=Z,12nm,0.8s,mb4.7						
CNB				epP	pP	01 47 37.2	-0.5
PVCP	Virac	29.37	312	eP	P	01 47 10.8	-1.4
MBWA	Marble Bar	29.50	237	eP	P	01 47 13.3	0.0
FORT	Forrest	29.69	213	eP	P	01 47 15.8	+0.8
	comp=Z,29nm,0.5s,mb5.3						
FORT				epP	pP	01 47 43.2	+0.2
TSM	Tawau	30.04	290	P	P	01 47 18.7	+0.5
CUYO	Cuyo Island	30.18	304	eP	P	01 47 19.0	-0.4
BOAC	Boac	31.02	309	eP	P	01 47 22.6	-4.2
TOO	Toolangi	31.18	181	eP	P	01 47 29.2	+1.0
	comp=Z,28nm,1.0s,mb4.9						
TOO				epP	pP	01 47 57.7	+1.4
TGY	Tagaytay City	32.11	309	P	P	01 47 36.8	+0.5
	comp=Z,122nm,0.3s,baz=221,slow=8.0,SNR=12						
TGY	Tagaytay City	32.11	309	P	P	01 47 36.8	+0.5
TGY				pmax	pmax		
	comp=Z,12nm,0.3s						
KKM	Kota Kinabalu	32.21	292	eP	P	01 47 37.0	-0.2
KKM				epP	pP	01 48 06.6	+1.2
LUBP	Lubang	32.43	308	eP	P	01 47 36.3	-2.8
TAU	Tasmania Unive	36.52	178	eP	P	01 48 13.8	-0.5
	comp=Z,17nm,0.7s,mb4.8						
KLBR	Kellerberrin	36.56	223	eP	P	01 48 14.2	-0.5
	comp=Z,75nm,1.5s,mb5.1						
KLBR				epP	pP	01 48 43.1	-0.2
NWAO	Narrogin (SRO)	37.73	222	eP	P	01 48 25.4	+0.9
	comp=Z,6.8nm,0.4s,mb4.6						
MUN	Mundaring	37.85	224	eP	P	01 48 24.0	-1.5
MUN				epP	pP	01 48 53.1	-1.2
NACB	Ninganchiao	38.53	323	eP	P	01 48 31.2	0.0
YHNB	Yeheng	39.03	323	eP	P	01 48 35.3	-0.1
TATO	Taipei	39.19	323	eP	P	01 48 37.0	+0.2
QZH	Quanzhou	40.95	320	⇓iP	P	01 48 51.3	+0.1
QZH				S	S	01 54 58.3	+4.9
QZH				AMB	AMB		
	comp=Z,230nm,0.8s,mb5.9						
URZ	Urewera	42.50	143	P	P	01 49 05.3	+1.5
	comp=Z,11nm,0.6s,mb4.7,baz=2.2,slow=4.7,SNR=7.7						
URZ				LR	LR	02 04 56.8	
	comp=Z,358nm,19.7s,baz=72,slow=33						
MJAR	Matsushiro Arr	43.20	351	P	P	01 49 07.7	-1.8
	comp=Z,28nm,0.8s,mb5.0,baz=182,slow=9.1,SNR=68						
MJAR				pP	pP	01 49 36.2	-2.7
	comp=Z,23nm,1.2s,baz=173,slow=7.5,SNR=2.5						
MJAR	Matsushiro Arr	43.20	351	P	P	01 49 07.7	-1.8
MJAR				*PP	pP	01 49 36.2	-2.7
MJAR				pmax	pmax		
	comp=Z,28nm,0.8s						
MJAR	Matsushiro Arr	43.20	351	P	P	01 49 07.7	-1.8
MJAR				pP	pP	01 49 36.2	-2.7
MAJO	Matsushiro	43.20	351	eP	P	01 49 07.2	-2.3
GZH	Guangzhou	43.29	313	P	P	01 49 12.4	+2.2
GZH				S	S	01 55 34.0	+6.3
RPZ	Rata Peaks	43.29	153	LR	LR	02 05 49.7	
	comp=Z,304nm,20.2s,baz=311,slow=34						
KGM	Kluang	43.47	280	P	P	01 49 12.6	+0.9
QIZ	Qiongzhong	43.65	306	P	P	01 49 14.0	+0.9
QIZ				PP	PP	01 50 57.0	-0.2
QIZ				S	S	01 55 33.6	+0.6
QIZ				AMB	AMB		
	comp=Z,117nm,0.9s,mb5.5						
QIZ	Qiongzhong	43.65	306	eP	P	01 49 14.2	+1.0
	comp=Z,90nm,0.7s,mb5.5						
SSE	Sheshan	44.11	329	P	P	01 49 16.9	+0.1
SSE				AP	pP	01 49 44.3	-1.9
SSE				PP	PP	01 51 02.3	+0.2
SSE				S	S	01 55 42.0	+2.4
SSE				XS	sS	01 56 29.8	-0.9
SSE				AMB	AMB		
	comp=Z,64nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,266nm,4.4s						
SSE				LR	LR		
	comp=N,205nm,28.9s						
SSE				LR	LR		
	comp=E,131nm,28.9s						
SSE				LR	LR		
	comp=Z,128nm,29.0s						
NJ2	Nanjing	46.09	327	eP	P	01 49 33.0	+0.6
NJ2				AP	pP	01 50 01.6	-0.5
NJ2				PP	PP	01 51 23.0	+0.1
NJ2				S	S	01 56 07.0	-1.1
NJ2				XS	sS	01 56 58.0	-1.5
NJ2				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,620nm,4.6s						

NJ2 LR LR
comp=N,600nm,19.7s
NJ2 LR LR
comp=E,280nm,24.8s
NJ2 LR LR
comp=Z,260nm,20.1s
IPM Ipoh 46.22 282 P **P** **01 49 34.4 +1.0**
KS15 Wonju Array Si 46.67 340 *eP* **P** **01 49 36.6 -0.3**
KULM Kulim 46.77 283 *eP* **P** **01 49 38.2 +0.5**
KULM *e* 01 49 58.3
KULM *e* 01 50 20.8
KULM *e*PcP PcP 01 51 07.6 -1.3
WHN Wuhan 47.56 322 ⇓P **P** **01 49 44.9 +1.1**
ERM Erimo 48.11 357 *eP* **P** **01 49 47.6 -0.5**
GYA Guiyang 50.16 312 ⇓*i*P **P** **01 50 05.3 +1.6**
GYA AP pP 01 50 34.4 +0.6
GYA PCP PcP 01 51 22.8 +1.7
GYA PP PP 01 52 03.3 +3.2
GYA SCP ScP 01 55 05.8 +1.0
GYA S **S** **01 57 06.3 +0.8**
GYA XS sS 01 57 57.3 -0.2
GYA AMB AMB
comp=Z,90nm,0.6s,mb5.6
GYA AMB AMB
comp=Z,140nm,4.8s
GYA LR LR
comp=N,380nm,18.0s
GYA LR LR
comp=E,450nm,17.8s
GYA LR LR
comp=Z,490nm,18.4s
NST Nakhon Sawan 50.44 296 ⇑P **P** **01 50 07.6 +1.8**
comp=Z,83nm,0.8s,mb5.4
NANT Nan 51.18 300 ⇓P **P** **01 50 10.0 -1.3**
comp=Z,562nm,1.0s,mb6.2
KMI Kunming 52.42 308 P **P** **01 50 22.9 +2.4**
KMI PCP PcP 01 51 31.5 +1.9
KMI PP PP 01 52 24.8 +4.3
KMI S **S** **01 57 41.3 +4.7**
KMI AMB AMB
comp=Z,104nm,1.0s,mb5.4
KMI AMB AMB
comp=Z,353nm,4.6s
KMI LR LR
comp=N,158nm,22.3s
KMI LR LR
comp=E,199nm,27.6s
KMI LR LR
comp=Z,180nm,31.2s
CM31 Chiang Mai Arr 52.56 299 *eP* **P** **01 50 23.7 +2.2**
comp=Z,44nm,0.6s,mb5.4
CHG Chiang Mai 52.70 299 ⇓P **P** **01 50 24.1 +1.5**
comp=Z,58nm,0.7s,mb5.4
CHTO Chiang Mai 52.70 299 ⇑P **P** **01 50 24.5 +2.0**
SNR=10
CHTO Chiang Mai 52.70 299 *eP* **P** **01 50 23.9 +1.3**
comp=Z,31nm,0.8s,mb5.1
CHTO *e*pP pP 01 50 55.4 +2.5
CHTO *e*sP sP 01 51 05.9 -1.4
CHTO *e*PcP PcP 01 51 32.6 +1.9
MDJ Mudanjiang 52.76 345 P **P** **01 50 21.8 -1.2**
MDJ AMB AMB
comp=Z,20nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,183nm,4.3s
MDJ LR LR
comp=N,124nm,22.8s
MDJ LR LR
comp=E,286nm,22.8s
MDJ LR LR
comp=Z,172nm,28.8s
YSS Yuzh-Sakhalins 53.05 357*d iP* **P** **01 50 24.1 -1.1**
YSS pmax pmax
comp=Z,18nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 53.05 357 *eP* **P** **01 50 24.3 -0.9**
comp=Z,13nm,0.4s,mb5.0
CN2 Changchun 53.20 341 *eP* **P** **01 50 28.9 +2.7**
CN2 *e*S **S** **01 57 49.5 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
XAN Xi'an 53.29 321 P **P** **01 50 26.8 -0.1**
XAN AMB AMB
comp=Z,48nm,1.1s,mb5.1
BJT Baijiatuan 53.66 332 *eP* **P** **01 50 29.2 -0.4**
comp=Z,15nm,0.7s,mb4.8
BJI Beijing 53.68 332 *eP* **P** **01 50 28.8 -0.9**
BJI S **S** **01 57 46.8 -6.7**
BJI AMB AMB
comp=Z,24nm,0.8s,mb5.0
BJI LR LR
comp=Z,274nm,28.0s
CD2 Chengdu 54.79 315 ⇓*i*P **P** **01 50 38.6 +0.8**
CD2 AP pP 01 51 08.3 -0.1
CD2 PCP PcP 01 51 38.5 -0.1
CD2 PP PP 01 52 44.8 +3.0
CD2 S **S** **01 58 09.0 +0.5**
CD2 XS sS 01 59 00.8 -0.5
CD2 SCS ScS 02 00 11.5 -2.6
CD2 AMB AMB
comp=Z,170nm,0.7s,mb5.9
CD2 AMB AMB
comp=Z,210nm,4.8s
HABR Khabarovsk 55.34 351 *eP* **P** **01 50 40.5 -1.3**
HABR *e*S **S** **01 58 15.3 -0.6**
HABR pmax pmax
comp=Z,32nm,0.7s,mb5.2
HHC Hu-ho-hao-te 56.57 329 *eP* **P** **01 50 50.8 +0.3**
HHC AP pP 01 51 20.5 -0.7
HHC PCP PcP 01 51 45.3 -0.2
HHC PP PP 01 53 00.0 +2.4
HHC SCP ScP 01 55 31.4 -1.3
HHC PCS PcS 01 55 44.8 -1.5
HHC S **S** **01 58 31.8 -0.2**
HHC XS sS 01 59 23.6 -1.5
HHC SCS ScS 02 00 23.9 -3.0
HHC SS SS 02 02 22.3 +1.0
HHC AMB AMB
comp=Z,18nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,195nm,4.3s
HHC LR LR
comp=N,235nm,5.3s
HHC LR LR
comp=E,209nm,5.9s
HHC LR LR
comp=Z,150nm,6.1s
KLR Kul'dur 56.65 349 ⇑*i*P **P** **01 50 48.6 -2.5**
KLR *e* pP 01 51 14.8 -7.0
KLR pmax pmax
comp=E,28nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s,mb5.2
SKR Severo-Kuril's 57.37 8 *eP* **P** **01 50 52.0 -4.1**
SKR *e* pP 01 51 20.5 -6.4
SKR pmax pmax
comp=Z,100nm,0.8s,mb5.7
LZH Lanzhou 57.80 320 *eP* **P** **01 51 00.1 +0.9**
LZH PCP PcP 01 51 51.0 +0.7
LZH PP PP 01 53 10.0 +1.4
LZH SCP ScP 01 55 39.0 +0.9
LZH *e*S **S** **01 58 48.0 -0.2**
LZH SCS ScS 02 00 33.3 -2.6
LZH AMB AMB
comp=Z,100nm,1.6s,mb5.4
LZH AMB AMB
comp=Z,310nm,4.0s
IMP Imphal 59.37 303 *eP* **P** **01 51 10.0 0.0**
IMP *ex* x 01 51 57.0
HIA Hailar 59.87 340*d iP* **P** **01 51 12.5 -1.0**
HIA Hailar 59.87 340 *eP* **P** **01 51 12.8 -0.7**
comp=Z,12nm,0.8s,mb4.8
PET Petropavlovsk 60.01 9 *eP* **P** **01 51 13.2 -1.2**
PET *e* 01 51 56.1
PET *e*S **S** **01 59 16.5 -0.2**
PET pmax pmax
comp=Z,19nm,0.8s,mb5.0
PET pmax pmax
comp=Z,23nm,1.1s,mb4.9
PET smax
comp=N,300nm,18.4s
PET Petropavlovsk 60.01 9 *eP* **P** **01 51 13.5 -0.9**
GTA Gaotai 62.35 321 ⇓*i*P **P** **01 51 31.0 +0.9**
GTA AP pP 01 52 01.3 -0.1
GTA PCP PcP 01 52 09.8 +1.2
GTA PP PP 01 53 51.8 +3.0
GTA S **S** **01 59 44.4 -1.9**
GTA XS sS 02 00 37.6 -2.7
GTA AMB AMB
comp=Z,22nm,0.6s,mb5.2
GTA AMB AMB
comp=Z,288nm,4.6s
GTA LR LR
comp=N,131nm,14.5s
GTA LR LR
comp=E,91nm,16.4s
GTA LR LR
comp=Z,234nm,14.1s
LSA Lhasa 63.66 307 *eP* **P** **01 51 41.1 +2.4**
comp=Z,157nm,0.7s,mb6.0
PPT Papeete 63.71 106 *e*LR LR 02 10 53.5
comp=Z,94nm,25.5s
ULN Ulaanbaatar 63.89 332 ⇓P **P** **01 51 40.5 +0.2**
SNR=5.9
ULN Ulaanbaatar 63.89 332*de*P **P** **01 51 40.4 +0.1**
ULN Ulaanbaatar 63.89 332 *eP* **P** **01 51 40.5 +0.2**
comp=Z,16nm,0.9s,mb4.8
SONM Songino Array 64.18 331 P **P** **01 51 42.0 -0.2**
comp=Z,6.1nm,0.9s,mb4.5,baz=149,slow=10,SNR=15
SONM LR LR 02 18 54.3
comp=Z,138nm,18.7s,baz=137,slow=35
CIT Chita 64.34 338 *eP* **P** **01 51 43.1 -0.2**
CIT *e* pP 01 52 13.6 -1.2
CIT pmax pmax
comp=Z,67nm,1.9s,mb5.2
CASY Casey 64.77 195 *eP* **P** **01 51 46.4 +0.3**
comp=Z,13nm,0.8s,mb4.8
CLNS Chul'man 65.22 347 *eP* **P** **01 51 48.4 -0.6**
CLNS *e* pP 01 52 18.2 -2.3
CLNS *e**SS S 02 00 24.8 +2.9
CLNS pmax pmax
comp=N,31nm,0.8s
CLNS pmax pmax
comp=Z,51nm,0.8s,mb5.4
CLNS pmax pmax
comp=E,10.0nm,0.7s
MA2 Magadan 65.72 3 *eP* **P** **01 51 51.3 -0.9**
MA2 *e* pP 01 52 25.9 +2.1
MA2 *e* 02 00 35.3
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.3
MA2 Magadan 65.72 3 *eP* **P** **01 51 51.2 -0.9**
comp=Z,26nm,0.8s,mb5.1
BOK Bokaro 65.84 299 *eP* **P** **01 51 53.0 0.0**
BOK AMb AMB 01 51 58.6
comp=Z,45nm,1.7s,mb5.0
VIS Vishakhapatnam 66.35 292 *eP* **P** **01 51 55.7 -0.5**
VIS AMb AMB 01 52 10.1
comp=Z,74nm,1.7s,mb5.2
PALK Pallekele 66.58 281 *eP* **P** **01 51 58.9 +1.2**
comp=Z,15nm,0.7s,mb4.9
JIRN Jiri 66.89 303 ⇓*i*P **P** **01 52 01.2 +1.6**
comp=Z,137nm,0.7s,mb5.9
GUN Gumba 67.24 304 ⇓*i*P **P** **01 52 03.5 +1.7**
comp=Z,309nm,0.7s,mb6.3
ZAK Zakamensk 67.42 332 *eP* **P** **01 52 01.7 -1.3**
ZAK *e* pP 01 52 34.6 -0.1
ZAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
PKI Pulchoki 67.51 303 ⇓*i*P **P** **01 52 04.8 +1.3**
comp=Z,116nm,0.8s,mb5.7
KKN Kakani 67.69 303 ⇓*i*P **P** **01 52 06.0 +1.3**
comp=Z,250nm,0.8s,mb6.0
DMN Daman 67.77 303 ⇓*i*P **P** **01 52 06.7 +1.5**
comp=Z,356nm,0.8s,mb6.1
MDRS Chennai 68.14 287 *ex* PcP 01 52 28.1 -4.4
TLY Talaya 68.15 333 *eP* **P** **01 52 06.7 -0.8**
TLY *e* pP 01 52 33.7 -5.6
TLY *e*S S 02 00 50.1 -7.0
TLY *e* 02 01 47.1
TLY *e*SS SS 02 05 22.1 0.0
TLY pmax pmax
comp=Z,14nm,1.7s,mb4.4
TLY Talaya 68.15 333 *eP* **P** **01 52 06.0 -1.5**
comp=Z,3.9nm,0.6s,mb4.3
GKN Gorkha 68.30 303 ⇓*i*P **P** **01 52 09.7 +1.2**
comp=Z,274nm,0.7s,mb6.1
BOD Bodaibo 68.93 342 *eP* **P** **01 52 09.2 -3.2**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.6
KOLN Koldanda 69.08 303 ⇓*i*P **P** **01 52 14.6 +1.3**
comp=Z,297nm,0.8s,mb6.1
SEY Seymchan 69.16 3*d iP* **P** **01 52 12.8 -1.0**
YAK Yakutsk 69.25 352*d iP* **P** **01 52 13.2 -1.2**
YAK pmax pmax
comp=Z,33nm,0.7s,mb5.2
YAK Yakutsk 69.25 352 *eP* **P** **01 52 13.2 -1.2**
comp=Z,33nm,0.4s,mb5.4
MOY Mondy 69.36 332 *eP* **P** **01 52 15.2 +0.2**
HYB Hyderabad 70.69 291 *i* P **P** **01 52 23.5 +0.4**
HYB *e*PcP PcP 01 52 40.0 -3.3
HYB *e*pP pP 01 52 56.5 +1.4
HYB *e*sP sP 01 53 07.0 -2.2
HYB Hyderabad 70.69 291 *eP* **P** **01 52 23.5 +0.4**
NGP Nagpur 71.13 295 *eP* **P** **01 52 23.7 -2.1**
NGP AMb AMB 01 52 26.2
comp=Z,29nm,0.6s,mb5.2
VNDA Vanda 71.72 176 P **P** **01 52 29.5 +0.2**
comp=Z,9.6nm,0.9s,mb4.5,baz=322,slow=6.6,SNR=39
VNDA pP pP 01 53 00.1 -1.3
comp=Z,7.2nm,0.8s,baz=301,slow=5.5,SNR=4.8
VNDA LR LR 02 23 33.7
comp=Z,147nm,21.3s,baz=354,slow=35
VNDA Vanda 71.72 176 *eP* **P** **01 52 29.6 +0.2**
SBA Scott Base 72.38 175 P **P** **01 52 30.7 -2.6**
WMQ Urumqi 72.38 320 ⇓*i*P **P** **01 52 33.8 +0.5**
WMQ PCP PcP 01 52 51.0 +0.5
WMQ PP PP 01 55 17.3 +1.5
WMQ S S 02 01 45.0 -1.3
WMQ AMB AMB
comp=Z,22nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,202nm,4.1s
WMQ LR LR
comp=N,205nm,23.3s
WMQ LR LR
comp=E,154nm,25.6s
WMQ LR LR
comp=Z,220nm,23.0s
AKL Akola 72.86 294 *eP* **P** **01 52 36.8 +0.6**
AKL AMb AMB 01 52 38.6
comp=Z,101nm,2.2s,mb5.2
BHPL Bhopal 73.11 296 *eP* **P** **01 52 37.0 -0.6**
BHPL AMb AMB 01 52 40.2
comp=Z,32nm,0.7s,mb5.2
NDI New Delhi 74.73 302 *eP* **P** **01 52 46.0 -1.0**
NDI *e*P 01 52 46.3
KAD Karad 74.74 290 *eP* **P** **01 52 47.3 +0.2**
KAD AMb AMB 01 52 48.5
comp=Z,77nm,0.8s,mb5.4
SMLA Simla 75.45 304 *eP* **P** **01 52 52.1 +0.9**
BILL Bilibino 75.48 8⇑*eP* **P** **01 52 50.7 -0.6**
BILL 01 53 02.0
BILL *PP pP 01 53 22.0 -1.7
BILL *e*S S 02 02 19.9 -1.1
BILL pmax pmax
comp=Z,15nm,1.0s,mb4.6
SDPT Sand Point 75.56 28 *eP* **P** **01 52 52.5 +0.7**
AJM Ajmer 76.36 299 *i* P **P** **01 52 56.0 -0.3**
AJM *e*P 01 52 57.2
AJM AMb AMB 01 52 58.8
comp=Z,85nm,1.0s,mb5.3
AJM *i* x x 01 53 28.0
DLH Dalhousie 76.83 305 *eP* **P** **01 52 58.0 -1.0**
THN Thein Dam 77.00 305 *eP* **P** **01 52 58.1 -1.8**
TIXI Tiksi 78.57 355 *eP* **P** **01 53 06.4 -2.2**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ZAL Zalesovo 78.74 328 P **P** **01 53 08.1 -1.4**
comp=Z,8.3nm,0.7s,mb4.5,baz=352,slow=6.1,SNR=38
ZAL LR LR 02 30 45.3
comp=Z,89nm,18.3s,baz=253,slow=38
ZAL Zalesovo 78.74 328 P **P** **01 53 08.1 -1.4**
ZAL pmax pmax
comp=Z,8.0nm,0.7s
ZAL MLR MLR
comp=Z,89nm,18.3s
KSH Kashi 78.86 312 *i* PR **P** **01 53 11.5 +1.3**
KSH *e*PCP PcP 01 53 19.5 +1.1
KSH *e*PP PP 01 56 13.5 +3.1
KSH *e*S S 02 02 54.9 -2.7
KSH *e*SKS 02 03 09.3
KSH *e*SCS ScS 02 03 18.6 -1.6
KSH *e*XS sS 02 03 53.1 -0.7
KSH *e*PS 02 03 59.1
KSH LR LR
comp=N,383nm,5.7s
KSH LR LR
comp=E,368nm,5.1s
KSH LR LR
comp=Z,369nm,4.7s
NIL Nilore 79.32 306 P **P** **01 53 14.9 +2.2**
comp=Z,339nm,0.6s,mb6.2,SNR=11
ULHL Ulahol 79.51 315 P **P** **01 53 15.2 +1.5**
SNR=10
NVS Novosibirsk 79.96 328 *eP* **P** **01 53 12.9 -3.3**
NVS *i* pP 01 53 48.9 0.0
NVS pmax pmax
comp=Z,24nm,1.3s,mb4.7
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,13nm,1.1s
CHMS Chumysh 80.79 315 P **P** **01 53 20.9 +0.3**
SNR=7.5
FRU Bishkek 80.83 315 *eP* **P** **01 53 22.0 +1.2**
FRU *e* 01 53 46.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.0
SVW2 Sparrevohn 80.86 25 *eP* **P** **01 53 20.9 -0.1**
SVW2 *e*PcP PcP 01 53 27.3 +0.2
SVW2 *e*pP pP 01 53 54.0 +0.3
SVW2 *e*PP PP 01 56 25.6 -1.4
AAK Ala-Archa 80.86 315 P **P** **01 53 21.9 +0.9**
SNR=9.2
AAK Ala-Archa 80.86 315 P **P** **01 53 20.2 -0.8**
comp=Z,77nm,0.6s,mb5.5,SNR=8.3
AAK Ala-Archa 80.86 315 ⇑P **P** **01 53 20.7 -0.3**
SNR=9.5
AAK Ala-Archa 80.86 315*d iP* **P** **01 53 20.7 -0.3**
AAK pmax pmax
comp=Z,31nm,1.7s,mb4.7
AAK Ala-Archa 80.86 315 *eP* **P** **01 53 19.7 -1.2**
KURK Kurchatov 80.86 324 P **P** **01 53 20.5 -0.5**
comp=Z,178nm,0.8s,mb5.8,SNR=19
USP Ospenovka 81.05 315 P **P** **01 53 22.1 +0.1**
SNR=16
AML Almayashu 81.28 314 P **P** **01 53 24.8 +1.6**
SNR=19
EKS2 Erkin-Say 81.38 315 P **P** **01 53 24.3 +0.6**
SNR=19
MAW Mawson 81.66 203 *eP* **P** **01 53 25.2 0.0**
comp=Z,3.8nm,0.6s,mb4.2
MAW Mawson 81.66 203 P **P** **01 53 25.4 +0.2**
comp=Z,5.5nm,0.8s,mb4.2,baz=91,slow=6.8,SNR=10
MAW pP pP 01 53 57.9 -0.1
comp=Z,6.0nm,0.7s,baz=108,slow=6.3,SNR=4.1
MAW LR LR 02 29 13.5
comp=Z,234nm,19.8s,baz=75,slow=35
MAW Mawson 81.66 203 *eP* **P** **01 53 25.6 +0.4**
comp=Z,3.6nm,0.5s,mb4.3
MAW *e*PcP PcP 01 53 30.3 -0.3
MAW *e*pP pP 01 53 55.8 -2.2
MAW *e*sP sP 01 54 10.1 -1.7
SLKM Skilak Lake 82.88 27 *eP* **P** **01 53 30.5 -1.1**
KK31 Karatay Array 83.81 314 *i* P **P** **01 53 36.3 0.0**
KK31 pmax pmax
comp=Z,17nm,0.7s,mb4.9
KKAR Karatay Array 83.81 314 *i* P **P** **01 53 36.3 0.0**
KKAR pmax pmax
comp=Z,12nm,0.7s,mb4.7
PMR Palmer 83.83 26 *eP* **P** **01 53 34.9 -1.5**
comp=Z,25nm,0.9s,mb5.0
IMA2 Indian Mountai 84.11 21 *eP* **P** **01 53 38.5 +0.7**
MCK McKinley 84.83 24 *eP* **P** **01 53 39.6 -1.9**
comp=Z,34nm,0.9s,mb5.1
COLA College 85.74 23 *i* P **P** **01 53 45.2 -0.7**
COLA College 85.74 23 *eP* **P** **01 53 44.0 -2.0**
comp=Z,29nm,0.7s,mb5.1
COLA *e*pP pP 01 54 17.5 -1.5
COLA *e*sP sP 01 54 31.4 -1.4
VOSK Vostochnaya 86.00 324 P **P** **01 53 45.6 -1.7**
VOSK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
BVA0 Borovoye Array 86.43 324 *i* P **P** **01 53 48.0 -1.3**
CHKZ Chkalovo 86.47 325 P **P** **01 53 47.4 -2.1**
CHKZ pmax pmax
comp=Z,12nm,0.9s,mb4.6
CHKZ Chkalovo 86.47 325 *eP* **P** **01 53 47.5 -2.0**
comp=Z,18nm,0.8s,mb4.8
CHKZ *e*pP pP 01 54 21.1 -1.6
CHKZ *e*sP sP 01 54 35.8 -0.6
BRVK Borovoye 86.50 324 P **P** **01 53 48.8 -0.9**
comp=Z,112nm,1.0s,mb5.5,SNR=5.6
BRVK Borovoye 86.50 324 *eP* **P** **01 53 50.1 +0.4**
ZRNK Zerenda 87.22 324 *eP* **P** **01 53 51.2 -1.9**
comp=Z,5.5nm,0.6s,mb4.6
ZRNK *e*pP pP 01 54 27.7 +1.3
EGAK Eagle 88.37 24 *eP* **P** **01 53 57.6 -1.0**
EGAK *e*pP pP 01 54 30.4 -1.5
EGAK *e*sP sP 01 54 45.8 +0.2
DAWY Dawson 88.89 25 *eP* **P** **01 54 00.6 -0.5**
SYO Syowa Base 90.04 200⇓*eP* **P** **01 54 06.0 -0.5**
SYO Syowa Base 90.04 200⇓*e*pP pP 01 54 36.2 -3.6
ABKT Ailbek 92.19 308 P **P** **01 54 16.4 0.0**
comp=Z,181nm,0.8s,mb6.2,SNR=13
ABKT Ailbek 92.19 308 P **P** **01 54 16.4 0.0**
INK Inuvik 92.22 22 *eP* **P** **01 54 15.0 -1.5**
ARU Arti 93.78 326 *eP* **P** **01 54 20.6 -3.1**
ARU *e* pP 01 54 52.5 -4.6
ARU *e* PP 01 58 06.9 -3.8
ARU *e*S SKSac 02 04 42.3 -3.9
ARU *e*SS SS 02 11 43.9 +0.5
ARU Arti 93.78 326 *eP* **P** **01 54 21.0 -2.7**
comp=Z,5.7nm,0.8s,mb4.8
ARU pP pP 01 54 55.3 -1.9
ARU *e*sP sP 01 55 10.9 +0.1
KHMM Horse Mountain 94.19 49 *eP* **P** **01 54 27.0 +1.4**
OTR Olympics--Tyee 94.32 42 P **P** **01 54 27.2 +1.0**
YBH Yreka Blue Hor 95.02 49 *eP* **P** **01 54 30.1 +0.7**
comp=Z,9.6nm,1.0s,mb5.0
WDC Whiskeytown Da 95.07 50 *eP* **P** **01 54 30.2 +0.5**
comp=Z,8.5nm,0.8s,mb5.0
GNW Green Mountain 95.31 43 *eP* **P** **01 54 31.1 +0.3**
MCW Mount Constitu 95.37 42 P **P** **01 54 31.6 +0.6**
LHEM Herd Peak 95.38 49 P **P** **01 54 31.7 +0.6**
OHCM Honcut 95.81 51 *eP* **P** **01 54 33.3 +0.3**
LASM Arnica Sink 95.86 49 P **P** **01 54 33.8 +0.6**
LTIM Timbered Crate 95.90 49 P **P** **01 54 33.8 +0.4**
LBCM Butte Creek Ri 95.99 50 P **P** **01 54 33.8 0.0**
RMW Rattlesnake Mo 95.99 43 P **P** **01 54 34.1 +0.2**
RPW Rockport 96.23 42 P **P** **01 54 34.8 -0.1**
TWW Teanaway 96.62 43 P **P** **01 54 37.5 +0.8**
NAC Naches 96.63 44 P **P** **01 54 37.2 +0.5**
TBM Table Mountain 96.80 43 P **P** **01 54 37.8 +0.3**
EBG Ellensburg 96.81 44 P **P** **01 54 38.1 +0.5**
MOD Modoc 96.83 49 *eP* **P** **01 54 38.0 +0.4**
SLFW Sugar Loaf 96.87 43 P **P** **01 54 38.1 +0.3**
MXC Moxie City 96.99 44 P **P** **01 54 38.7 +0.3**
WTV Waterville 97.25 43 P **P** **01 54 39.5 -0.1**
MDW Midway 97.36 44 P **P** **01 54 40.3 +0.3**
PAHR Pah Rah Range 97.44 51 *eP* **P** **01 54 40.9 +0.5**
comp=Z,3.9nm,0.9s,mb4.7
PAHR *e*pP pP 01 55 18.3 +4.4
PAHR *e*sP sP 01 55 28.5 +0.9
RSW Rattlesnake Hi 97.47 44 P **P** **01 54 41.1 +0.6**
EPH Ephrata 97.49 43 P **P** **01 54 40.7 +0.1**
HAWA Hanford 97.52 44 *eP* **P** **01 54 41.1 +0.4**
REDWA Red Mountain 97.58 44 P **P** **01 54 41.5 +0.5**
MTUM Tungsten Hills 98.01 53 *eP* **P** **01 54 44.4 +1.4**
WVOR Wild Horse Val 98.08 48 *eP* **P** **01 54 43.4 +0.1**
comp=Z,5.2nm,0.8s,mb5.0
WVOR *e*pP pP 01 55 15.8 -0.9
WVOR *e*sP sP 01 55 29.9 -0.5
OD2 Odessa Site #2 98.09 43 P **P** **01 54 43.4 +0.1**
NVAR Mina Array Bea 98.25 52 P **P** **01 54 44.8 +0.8**
comp=Z,4.5nm,0.8s,mb5.0,baz=259,slow=3.1,SNR=26
DPW Davenport 98.44 43 P **P** **01 54 44.9 +0.1**
DAC Darwin (Calif) 98.76 54 *eP* **P** **01 54 47.0 +0.7**
comp=Z,5.8nm,1.0s,mb5.0
BMO Blue Mountains 99.06 46 *eP* **P** **01 54 47.5 -0.2**
comp=Z,7.0nm,0.9s,mb5.1
NEW Newport 99.16 42 *eP* **P** **01 54 48.2 +0.1**
SNAA Sanae 99.60 190 *e*Pdiff Pdif 01 54 52.0 +2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SNAA				e		01 54 57.6	
SNAA				e		01 55 43.8	
SNAA				e		01 58 54.2	
SNAA	**Sanae**	**99.60**	**190**	ePdif	Pdif	01 54 49.6	-0.5
SNAA				ePP	PP	01 58 53.4	-2.1
YKA	**Yellowknife Ar**	**99.82**	**28**	P	Pdif	01 54 49.7	-1.3
	comp=Z,3.1nm,0.7s,baz=271,slow=5.6,SNR=9.3						
YKA	**Yellowknife Ar**	**99.82**	**28**	P	Pdif	01 54 49.7	-1.3
YKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
YKA	**Yellowknife Ar**	**99.82**	**28**	P	Pdif	01 54 49.7	-1.3
RDF	**Al-Radifah**	**100.44**	**298**	eP	Pdif	01 54 53.8	0.0
RDF				AMb	AMB	01 54 56.5	
	comp=Z,37nm,1.4s						
MIB	**Mutribah**	**100.64**	**299**	eP	Pdif	01 54 54.8	+0.1
MIB				AMb	AMB	01 54 57.1	
	comp=Z,26nm,1.0s						
NAY	**Al-Naaiem**	**100.72**	**298**	eP	Pdif	01 54 54.9	-0.1
NAY				AMb	AMB	01 54 55.6	
	comp=Z,16nm,0.7s						
BSMT	**Bassoo Peak**	**100.74**	**43**	ePdif	Pdif	01 54 56.3	+1.2
RST	**Umm Al-Ruwaisa**	**100.94**	**299**	eP	Pdif	01 54 55.8	-0.2
RST				AMb	AMB	01 54 58.3	
	comp=Z,17nm,1.0s						
VNA3	**Neumayer Olymp**	**101.00**	**188**	ePdiff	Pdif	01 54 58.5	+2.2
VNA3				e		01 55 04.5	
VNA3				e		01 55 49.2	
VNA3				e		01 59 04.6	
VNA3				e		01 59 11.3	
VNA3				e		01 59 52.0	
VNA3				e		02 02 39.7	
HLID	**Hailey**	**101.17**	**47**	ePdif	Pdif	01 54 57.7	+0.7
WALA	**Waterton Lakes**	**101.26**	**41**	ePdif	Pdif	01 54 59.0	+1.6
WALA				PP	PP	01 59 09.7	+1.8
DUG	**Dugway**	**102.49**	**50**	ePdif	Pdif	01 55 03.6	+0.7
BOZ	**Bozeman (W)**	**103.04**	**45**	ePdif	Pdif	01 55 06.0	+0.7
WUAZ	**Wupatki**	**103.82**	**55**	ePdif	Pdif	01 55 09.4	+0.6
	comp=Z,3.0nm,0.9s						
BW06	**Boulder Array**	**104.77**	**48**	ePdif	Pdif	01 55 13.1	+0.1
PDAR	**Pinedale Array**	**104.77**	**48**	Pdiff	Pdif	01 55 13.0	0.0
	comp=Z,1.1nm,0.5s,baz=216,slow=2.3,SNR=12						
ARCES	**ARCESS Array B**	**106.20**	**342**	PKiKP	PKiKP	01 59 29.1	-1.3
	comp=Z,2.6nm,0.8s,baz=96,slow=1.9,SNR=11						
ARCES				PKKPbc	PKKPbc	02 10 50.9	-0.8
	comp=Z,2.3nm,0.7s,baz=256,slow=2.5,SNR=9.4						
SMCO	**Snowmass**	**107.06**	**51**	ePdif	Pdif	01 55 24.9	+1.7
SDCO	**Great Sand Dun**	**108.36**	**52**	PKiKP	PKiKP	01 59 34.2	-0.2
FINES	**FINESS Array B**	**109.49**	**334**	Pdiff	Pdif	01 55 33.9	-0.2
	comp=Z,1.0nm,0.8s,baz=5.7,slow=1.9,SNR=4.1						
FINES				PKiKP	PKiKP	01 59 36.0	-0.5
	comp=Z,1.5nm,0.7s,baz=112,slow=4.9,SNR=7.7						
BRTR	**Keskin Array B**	**111.19**	**310**	PKiKP	PKiKP	01 59 40.1	+0.3
	comp=Z,0.5nm,0.5s,baz=210,slow=2.2,SNR=5.1						
BRTR				PP	PP	02 00 21.2	+0.3
	comp=Z,1.3nm,0.9s,baz=117,slow=7.4,SNR=5.2						
BRTR	**Keskin Array B**	**111.19**	**310**	i PKIKP	PKiKP	01 59 40.1	+0.4
BRTR						02 00 21.3	
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EIL	**Elat**	**111.41**	**299**	ePKiKP	PKiKP	01 59 40.6	+0.4
AKASG	**Malin Array Be**	**111.65**	**322**	PKiKP	PKiKP	01 59 40.0	-0.7
	comp=Z,1.9nm,0.7s,baz=66,slow=2.0,SNR=12						
AKASG				PP	PP	02 00 23.7	-0.5
	comp=Z,1.3nm,0.8s,baz=61,slow=4.9,SNR=8.4						
AKASG	**Malin Array Be**	**111.65**	**322**	i PKIKP	PKiKP	01 59 40.0	-0.6
AKASG						02 00 23.7	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**111.65**	**322**	PKPdf	PKiKP	01 59 40.0	-0.7
AKASG				PP	PP	02 00 23.7	-0.5
BOSA	**Boshof**	**113.34**	**235**	ePKiKP	PKiKP	01 59 44.7	+0.9
ECSD	**EROS,Sioux Fal**	**113.90**	**45**	ePKiKP	PKiKP	01 59 44.1	-0.9
JCT	**Junction City**	**113.91**	**60**	ePKiKP	PKiKP	01 59 45.4	+0.4
SUW	**Suwalki**	**113.95**	**327**	ePKiKP	PKiKP	01 59 43.6	-1.4
WMOK	**Wichita Mounta**	**114.16**	**55**	ePKiKP	PKiKP	01 59 45.2	-0.2
HARR	**Harsova**	**114.22**	**316**	⇓iP	PKiKP	01 59 45.5	0.0
LBTB	**Lobatse**	**114.33**	**239**	PKiKP	PKiKP	01 59 46.3	+0.6
LSZ	**Lusaka**	**114.86**	**250**	ePKiKP	PKiKP	01 59 49.1	+2.3
BURAR	**Bucovina Array**	**115.13**	**320**	⇑iP	PKiKP	01 59 48.6	+1.3
MLR	**Muntele Rosu**	**115.33**	**318**	PKP	PKPdf	01 59 47.6	-0.1
	comp=Z,5.3nm,0.8s,baz=234,slow=2.6,SNR=8.9						
MLR	**Muntele Rosu**	**115.33**	**318**	⇑iP	PKPdf	01 59 47.8	+0.1
MLR	**Muntele Rosu**	**115.33**	**318**	PKIKP	PKPdf	01 59 47.6	-0.1
MLR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**115.41**	**336**	PKP	PKPdf	01 59 46.0	-1.8
	comp=Z,1.1nm,0.7s,baz=131,slow=4.1,SNR=5.1						
HFS	**Hagfors**	**115.41**	**336**	PKIKP	PKPdf	01 59 46.0	-1.8
HFS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NB2	**NORSAR Subarra**	**115.83**	**337**	PKPd	PKPdf	01 59 47.2	-1.4
	comp=Z,0.5nm,0.6s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**115.83**	**337**	PKP	PKPdf	01 59 46.6	-2.0
	comp=Z,0.5nm,0.5s,baz=49,slow=2.0,SNR=4.5						
NOA	**NORSAR Array B**	**115.83**	**337**	PKIKP	PKPdf	01 59 46.6	-2.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KWP	**Kalwaria**	**115.96**	**323**	ePKPdf	PKPdf	01 59 48.6	-0.2
STHS	**Stebnicka Huta**	**116.92**	**323**	ePKP	PKPdf	01 59 51.5	+0.8
CRVS	**Cervenica-Dubn**	**116.99**	**322**	ePKP	PKPdf	01 59 50.6	-0.3
OJC	**Ojcow**	**117.44**	**324**	ePKPdf	PKPdf	01 59 51.3	-0.4
GZR	**Gura Zlata**	**117.47**	**318**	⇓iP	PKPdf	01 59 52.2	+0.4
NIE	**Niedzica**	**117.47**	**323**	ePKP	PKPdf	01 59 52.8	+1.0
KECS	**Kecovo**	**117.75**	**322**	ePKP	PKPdf	01 59 50.2	-2.1
VTS	**Vitosha**	**118.12**	**315**	⇑iP	PKPdf	01 59 53.5	+0.5
BZS	**Buzias**	**118.15**	**319**	⇓iP	PKPdf	01 59 53.1	0.0
SANT	**Santorini**	**118.19**	**308**	ePKPdf	PKPdf	01 59 52.8	-0.3
OKC	**Ostrava-Krasne**	**118.56**	**324**	ePKPdf	PKPdf	01 59 53.6	-0.3
VYHS	**Vyhne**	**118.75**	**323**	ePKP	PKPdf	01 59 53.6	-0.6
MORC	**Moravsky Berou**	**118.94**	**325**	⇑iP	PKPdf	01 59 54.5	-0.1
MORC	**Moravsky Berou**	**118.94**	**325**	ePKPdf	PKPdf	01 59 54.4	-0.2
DPC	**Dobruska-Polom**	**119.36**	**326**	ePKPdf	PKPdf	01 59 55.3	-0.1
UPC	**Upice**	**119.46**	**326**	ePKPdf	PKPdf	01 59 55.5	-0.1
VRAC	**Vranov**	**119.70**	**324**	PKP	PKPdf	01 59 56.3	+0.2
	comp=Z,2.5nm,0.7s,baz=75,slow=1.8,SNR=4.0						
VRAC	**Vranov**	**119.70**	**324**	PKIKP	PKPdf	01 59 56.3	+0.2
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PKSM	**Moragy**	**119.83**	**321**	⇑iP	PKPdf	01 59 56.3	0.0
ZST	**Bratislava**	**119.92**	**323**	eSS	SS	02 17 42.6	+5.2
PVCC	**Panska Ves**	**120.25**	**326**	ePKPdf	PKPdf	01 59 57.1	0.0
TREC	**Trest**	**120.34**	**325**	ePKPdf	PKPdf	01 59 57.0	-0.3
BRG	**Berggiesshubel**	**120.41**	**327**	ePKPdf	PKPdf	01 59 57.1	-0.3
BRG	**Berggiesshubel**	**120.41**	**327**	i PKP	PKPdf	01 59 57.2	-0.2
	comp=Z,5.5nm,0.9s						
BRG	**Berggiesshubel**	**120.41**	**327**	i PKIKP	PKPdf	01 59 57.2	-0.2
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PRU	**Pruhonice**	**120.54**	**326**	ePKPdf	PKPdf	01 59 57.3	-0.4
BSEG	**Bad Segeberg**	**120.55**	**331**	ePKPdf	PKPdf	01 59 57.8	+0.1
CLL	**Collm**	**120.69**	**328**	ePKPdf	PKPdf	01 59 57.8	-0.2
CLL	**Collm**	**120.69**	**328**	⇑iPKPdf	PKPdf	01 59 57.8	-0.2
	comp=Z,10.0nm,0.9s						
CLL	**Collm**	**120.69**	**328**	⇑iPKIKP	PKPdf	01 59 57.8	-0.2
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CONA	**Conrad Observa**	**120.78**	**323**	i PKiKP	PKiKP	01 59 57.9	-0.4
	comp=Z,5.7nm,0.8s,SNR=9.2						
TANN	**Tannenbergstha**	**121.46**	**327**	ePKPdf	PKPdf	01 59 59.2	-0.2
NRDL	**Niedersach Rie**	**121.51**	**330**	ePKPdf	PKPdf	01 59 58.4	-1.1
KHC	**Kasperske Hory**	**121.51**	**325**	ePKPdf	PKPdf	01 59 58.9	-0.6
KHC				epPKP	pPKPdf	02 00 34.0	-0.4
NKC	**Novy Kostel**	**121.56**	**327**	ePKPdf	PKPdf	01 59 59.5	-0.1
GEC2	**GERESS Array S**	**121.59**	**325**	ePKPdf	PKPdf	01 59 59.4	-0.3
GERES	**GERESS Array B**	**121.59**	**325**	PKP	PKPdf	01 59 59.4	-0.3
	comp=Z,5.0nm,0.8s,baz=70,slow=1.6,SNR=49						
GERES				pPKP	pPKPdf	02 00 32.9	-1.6
	comp=Z,1.2nm,0.8s,baz=45,slow=0.9,SNR=2.0						
GROS	**Grobnik**	**121.68**	**322**	ePKPdf	PKPdf	01 59 59.5	-0.3
MOA	**Molln**	**121.76**	**324**	⇑iP	PKPdf	01 59 59.6	-0.5
	comp=Z,4.8nm,0.9s						
MOX	**Moxa**	**121.78**	**328**	ePKPdf	PKPdf	01 59 59.3	-0.8
MOX	**Moxa**	**121.78**	**328**	ePKP	PKPdf	01 59 59.8	-0.3
	comp=Z,11nm,1.3s						
MOX	**Moxa**	**121.78**	**328**	ePKIKP	PKPdf	01 59 59.8	-0.3
MOX				pmax	pmax		
	comp=Z,11nm,1.3s						
GOLS	**Golise**	**121.81**	**321**	ePKPdf	PKPdf	01 59 59.5	-0.6
MANZ	**Manzenberg**	**121.88**	**327**	ePKPdf	PKPdf	02 00 00.2	0.0
WET	**Wettzell**	**121.90**	**326**	ePKPdf	PKPdf	02 00 00.1	-0.2
LEGS	**Legarje**	**122.03**	**321**	ePKPdf	PKPdf	02 00 00.6	0.0
BOJS	**Bojanci**	**122.27**	**321**	ePKPdf	PKPdf	02 00 01.3	+0.3
VISS	**Visnje**	**122.39**	**321**	i PKPdf	PKPdf	02 00 01.3	+0.1
PLCA	**Paso Flores**	**122.41**	**148**	PKP	PKPdf	02 00 01.1	-0.2
	comp=Z,4.4nm,0.6s,baz=250,slow=2.3,SNR=19						
PLCA				pPKP	pPKPdf	02 00 35.1	-1.0
	comp=Z,5.0nm,0.8s,baz=112,slow=2.2,SNR=5.2						
GRA1	**Grafenberg Arr**	**122.52**	**327**	ePKPdf	PKPdf	02 00 01.1	-0.4
GRF	**Grafenberg Arr**	**122.52**	**327**	ePKPdf	PKPdf	02 00 01.1	-0.4
CEY	**Cerknica**	**122.68**	**322**	ePKPdf	PKPdf	02 00 01.7	-0.1
FUR	**Furstenfeldbru**	**123.32**	**325**	ePKPdf	PKPdf	02 00 02.9	-0.1
WATA	**Walderalm**	**123.59**	**324**	⇑iP	PKPdf	02 00 03.3	-0.2
	comp=Z,5.6nm,0.9s,SNR=5.5						
WTTA	**Wattenberg**	**123.59**	**324**	⇓iP	PKPdf	02 00 03.3	-0.2
	comp=Z,18nm,0.7s,SNR=15						
TNS	**Taunus Mts**	**123.69**	**329**	ePKPdf	PKPdf	02 00 02.5	-1.2
MOTA	**Moosalm**	**123.86**	**325**	⇑iP	PKPdf	02 00 03.2	-0.8
	comp=Z,10.0nm,0.9s,SNR=20						
SQTA	**Sankt Quirin**	**123.86**	**324**	⇑iP	PKPdf	02 00 03.9	-0.2
	comp=Z,11nm,1.0s						
LRAL	**Lakeview Retre**	**124.08**	**54**	ePKPdf	PKPdf	02 00 04.1	-0.4
STU	**Stuttgart**	**124.14**	**327**	ePKPdf	PKPdf	02 00 04.6	0.0
DAVA	**Damuels**	**124.59**	**325**	⇓iP	PKPdf	02 00 05.1	-0.3
	comp=Z,20nm,0.9s						
MEM	**Membach**	**124.69**	**330**	PKP	PKPdf	02 00 05.5	-0.2
BFO	**Black Forest**	**124.86**	**327**	ePKPdf	PKPdf	02 00 04.9	-1.1
BCLA	**Clavier**	**125.15**	**330**	PKP	PKPdf	02 00 06.4	-0.1
WLF	**Walferdange**	**125.20**	**329**	ePKPdf	PKPdf	02 00 06.1	-0.5
WLF	**Walferdange**	**125.20**	**329**	PKP	PKPdf	02 00 06.2	-0.4
EKA	**Eskdalemuir Ar**	**125.23**	**339**	PKP	PKPdf	02 00 05.6	-1.1
	comp=Z,2.2nm,0.5s,baz=26,slow=2.6,SNR=19						
EKA	**Eskdalemuir Ar**	**125.23**	**339**	PKIKP	PKPdf	02 00 05.6	-1.1
EKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CDF	**Champ du Feu**	**125.38**	**327**	ePKIKP	PKPdf	02 00 05.9	-1.1
	comp=Z,14nm,1.1s						
GIVF	**Givet**	**125.59**	**330**	ePKIKP	PKPdf	02 00 06.8	-0.6
	comp=Z,25nm,1.0s						
DOU	**Dourbes**	**125.71**	**330**	PKP	PKPdf	02 00 07.8	+0.2
TKL	**Tuckaleechee C**	**125.79**	**50**	PKP	PKPdf	02 00 07.5	-0.3
	comp=Z,7.3nm,0.9s,baz=199,slow=1.5						
TKL	**Tuckaleechee C**	**125.79**	**50**	PKIKP	PKPdf	02 00 07.5	-0.2
TKL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TKL	**Tuckaleechee C**	**125.79**	**50**	PKP	PKPdf	02 00 07.5	-0.3
BAIF	**Baives**	**125.92**	**331**	ePKIKP	PKPdf	02 00 07.5	-0.5
	comp=Z,11nm,0.9s						
HINF	**Hinteralfeld**	**125.96**	**327**	ePKIKP	PKPdf	02 00 07.2	-0.9
	comp=Z,22nm,0.9s						
HAU	**Haudompre**	**126.12**	**327**	ePKIKP	PKPdf	02 00 07.6	-0.8
	comp=Z,21nm,0.8s						
HAU				eR			
	comp=Z,76nm,23.0s						
HAU	**Haudompre**	**126.12**	**327**	ePKPdf	PKPdf	02 00 07.6	-0.8
HAU				LR	LR		
	comp=Z,80nm,23.0s						
MEZF	**Maizieres J'vi**	**126.50**	**329**	ePKIKP	PKPdf	02 00 08.7	-0.4
	comp=Z,20nm,1.1s						
CABF	**La Chapelle**	**127.10**	**326**	ePKIKP	PKPdf	02 00 10.1	-0.2
	comp=Z,38nm,1.0s						
LPG	**La Plagne**	**127.39**	**325**	ePKIKP	PKPdf	02 00 10.8	0.0
	comp=Z,16nm,0.9s						
LPL	**La Plagne**	**127.39**	**325**	ePKIKP	PKPdf	02 00 11.5	+0.7
	comp=Z,16nm,0.9s						
BNI	**Bardonecchia**	**127.68**	**324**	ePKPdf	PKPdf	02 00 11.6	+0.3
MBDF	**Montbardon**	**127.82**	**324**	ePKIKP	PKPdf	02 00 12.0	+0.4
	comp=Z,28nm,1.3s						
LOR	**Lormes**	**127.90**	**328**	ePKIKP	PKPdf	02 00 11.1	-0.7
	comp=Z,26nm,1.4s						
LOR				eR			
	comp=Z,90nm,21.0s						
LOR	**Lormes**	**127.90**	**328**	ePKPdf	PKPdf	02 00 11.1	-0.7
LOR				LR	LR		
	comp=Z,90nm,21.0s						
SBF	**Sospel**	**127.91**	**323**	ePKIKP	PKPdf	02 00 11.8	0.0
SSF	**Saint Saulge**	**128.22**	**328**	ePKIKP	PKPdf	02 00 11.9	-0.5
	comp=Z,17nm,1.0s						
ORIF	**Oris-en-Rattie**	**128.22**	**325**	ePKIKP	PKPdf	02 00 12.9	+0.5
	comp=Z,14nm,0.8s						
ORIF				eR			
	comp=Z,74nm,22.8s						
SMF	**Signal de Mont**	**128.30**	**327**	ePKIKP	PKPdf	02 00 11.9	-0.6
	comp=Z,30nm,1.2s						
AVF	**Avril sur Loir**	**128.47**	**328**	ePKIKP	PKPdf	02 00 12.0	-0.9
	comp=Z,13nm,1.2s						
HYF	**Humbligny**	**128.53**	**329**	ePKIKP	PKPdf	02 00 13.1	+0.1
FRF	**La Foret Royal**	**128.55**	**323**	ePKIKP	PKPdf	02 00 13.4	+0.4
	comp=Z,14nm,0.8s						
LMR	**La Mourre**	**128.76**	**323**	ePKIKP	PKPdf	02 00 13.0	-0.4
BGF	**Bois d'Agland**	**128.89**	**328**	ePKIKP	PKPdf	02 00 13.4	-0.3
VIVF	**Saint-Julien-l**	**128.95**	**325**	ePKIKP	PKPdf	02 00 13.4	-0.4
	comp=Z,21nm,1.1s						
SMRF	**Simiane la Rot**	**128.95**	**324**	ePKIKP	PKPdf	02 00 13.6	-0.2
	comp=Z,24nm,0.9s						
LDF	**La Druitiere**	**129.00**	**332**	ePKIKP	PKPdf	02 00 14.1	+0.2
FLN	**La Foliniere**	**129.05**	**332**	ePKIKP	PKPdf	02 00 13.3	-0.7
FLN				eR			
	comp=Z,99nm,20.8s						
FLN	**La Foliniere**	**129.05**	**332**	ePKPdf	PKPdf	02 00 13.3	-0.7
FLN				LR	LR		
	comp=Z,100nm,20.8s						
SDMD	**Soldier's Deli**	**129.23**	**43**	ePKPdf	PKPdf	02 00 14.3	0.0
TCF	**Toulx Ste Croi**	**129.40**	**328**	ePKPdf	PKPdf	02 00 14.3	-0.3
	comp=Z,24nm,1.2s						
GRR	**Gorron**	**129.49**	**332**	ePKIKP	PKPdf	02 00 15.0	+0.2
LASF	**Ste Croix**	**129.89**	**325**	ePKIKP	PKPdf	02 00 16.3	+0.7
	comp=Z,22nm,1.0s						
CAF	**Calviac**	**130.36**	**327**	ePKIKP	PKPdf	02 00 16.3	-0.1
SGMF	**Saint Gilles**	**130.37**	**333**	ePKIKP	PKPdf	02 00 15.8	-0.7
MFF	**Saint Martin d**	**130.40**	**330**	ePKIKP	PKPdf	02 00 16.2	-0.3
	comp=Z,8.0nm,0.8s						
RJF	**Les Rejaudoux**	**130.41**	**327**	ePKIKP	PKPdf	02 00 16.6	+0.1
RJF				eR			
	comp=Z,86nm,22.8s						
RJF	**Les Rejaudoux**	**130.41**	**327**	ePKPdf	PKPdf	02 00 16.6	+0.1
RJF				LR	LR		
	comp=Z,90nm,22.8s						
ROSF	**Rostrenen**	**130.63**	**333**	ePKIKP	PKPdf	02 00 17.0	0.0
KEST	**Kesra**	**130.68**	**313**	PKP	PKPdf	02 00 18.2	+1.2
	comp=Z,5.1nm,0.8s,baz=276,slow=3.8,SNR=16						
LFF	**La Frestale**	**131.06**	**328**	ePKIKP	PKPdf	02 00 18.0	+0.2
MTLF	**Montolieu**	**131.28**	**325**	ePKIKP	PKPdf	02 00 18.4	+0.2
	comp=Z,12nm,1.0s						
EPF	**Esparros**	**132.53**	**326**	ePKIKP	PKPdf	02 00 20.2	-0.4
ETSF	**Etsaut**	**133.12**	**326**	ePKIKP	PKPdf	02 00 21.9	+0.2
	comp=Z,19nm,1.0s						
NNA	**Nana**	**133.63**	**113**	ePKPdf	PKPdf	02 00 23.6	+1.0
NNA				epPKPdf	pPKPdf	02 00 58.2	+0.7
ESDC	**Sonseca Array**	**137.18**	**325**	PKhKP		02 00 18.4	
	comp=Z,0.4nm,0.7s,baz=19,slow=2.6,SNR=4.6						
ESDC				PKP	PKPdf	02 00 29.6	+0.3
	comp=Z,0.7nm,0.7s,baz=6.2,slow=2.2,SNR=5.9						
ESLA	**Sonseca Array**	**137.18**	**325**	ePKPdf	PKPdf	02 00 29.1	-0.1
LPAZ	**La Paz**	**139.42**	**124**	PKhKP		02 00 27.4	
	comp=Z,3.4nm,0.8s,baz=161,slow=2.0,SNR=9.4						
LPAZ				PKP	PKPdf	02 00 36.0	+2.7
	comp=Z,8.0nm,0.9s,baz=39,slow=2.9,SNR=18						
LPAZ	**La Paz**	**139.42**	**124**	PKHKP		02 00 27.4	
LPAZ						02 00 36.0	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**139.42**	**124**	PKP		02 00 27.4	
LPAZ				PKP	PKPdf	02 00 36.0	+2.7
ROSC	**El Rosal**	**139.77**	**90**	PKP	PKPdf	02 00 36.0	+2.0
	comp=Z,13nm,0.6s,baz=94,slow=12,SNR=7.8						
CPUP	**Villa Florida**	**140.45**	**146**	PKhKP		02 00 27.8	
	comp=Z,0.7nm,0.6s,baz=171,slow=2.8,SNR=4.1						
CPUP				PKP	PKPdf	02 00 36.3	+1.1
	comp=Z,4.1nm,0.7s,baz=313,slow=2.3,SNR=10						
CPUP				pPKP	pPKPdf	02 01 09.7	-0.4
	comp=Z,7.6nm,0.8s,baz=202,slow=2.2,SNR=5.7						
CPUP	**Villa Florida**	**140.45**	**146**	PKHKP		02 00 27.8	
CPUP						02 00 36.3	
CPUP						02 01 09.7	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**140.45**	**146**	PKP		02 00 27.8	
CPUP				PKP	PKPdf	02 00 36.3	+1.1
CPUP				pPKP	pPKPdf	02 01 09.7	-0.4
MDT	**Midelt**	**142.03**	**318**	PKhKP		02 00 33.1	
	comp=Z,1.8nm,0.8s,baz=63,slow=4.5,SNR=6.3						
MDT				PKP	PKPdf	02 00 39.8	+1.8
	comp=Z,5.0nm,0.8s,baz=96,slow=2.2,SNR=9.6						
SDV	**Santo Domingo**	**143.53**	**84**	ePKPdf	PKPdf	02 00 39.6	-1.1
TOA0	**Torodi Ar. Sit**	**144.26**	**284**	ePKPdf	PKPdf	02 00 41.9	0.0
TOA0				epPKPdf	pPKPdf	02 01 16.4	-0.5
TORD	**Torodi Ar. Bea**	**144.26**	**284**	PKP	PKPdf	02 00 41.9	-0.1
	comp=Z,104nm,0.9s,baz=70,slow=2.7,SNR=232						
TORD				pPKP	pPKPdf	02 01 16.2	-0.7
	comp=Z,36nm,0.9s,baz=72,slow=2.9,SNR=3.8						
SJG	**San Juan**	**146.44**	**67**	ePKPdf	PKPdf	02 00 46.4	+0.6
SJG				epPKPdf	pPKPdf	02 01 22.3	+1.7
CPD	**Cerro la Pandu**	**146.67**	**67**	ePKPdf	PKPdf	02 00 47.0	+0.8
CPD				epPKPdf	pPKPdf	02 01 24.5	+3.5
MTP	**Monte Pirata**	**146.99**	**66**	ePKPdf	PKPdf	02 00 48.7	+2.1
MTP				epPKPdf	pPKPdf	02 01 24.5	+3.0
MTP				esPKPdf		02 01 34.4	
SAML	**Samuel**	**147.16**	**117**	ePKPdf	PKPdf	02 00 48.6	+1.6
SAML				epPKPdf	pPKPdf	02 01 23.0	+1.2
SAML				esPKPdf		02 01 35.0	
VAO	**Valinhos**	**148.25**	**157**	(P)	PKPbc	02 00 53.5	+1.3
CAM4	**Nova Friburgo**	**150.34**	**164**	(P)	PKPbc	02 01 01.3	+3.9
CAM4				i		02 01 32.1	
DBIC	**Dimbokro**	**151.11**	**272**	PKPbc	PKPbc	02 01 01.0	+1.8
	comp=Z,52nm,0.6s,baz=84,slow=2.5,SNR=148						
DBIC				pPKPbc	pPKPbc	02 01 33.4	-0.5
	comp=Z,35nm,0.9s,baz=94,slow=3.3,SNR=3.0						
DBIC	**Dimbokro**	**151.11**	**272**	PKIKP	PKPbc	02 01 01.0	+1.8
DBIC						02 01 33.4	
DBIC				pmax	pmax		
	comp=Z,52nm,0.6s						
BDFB	**Brasilia**	**154.16**	**147**	PKP	PKPdf	02 00 59.3	+1.6
	comp=Z,7.0nm,0.9s,baz=230,slow=2.1,SNR=7.0						
BDFB				PKPbc	PKPbc	02 01 07.4	+1.4
	comp=Z,29nm,0.8s,baz=202,slow=2.8,SNR=28						
BDFB				pPKPbc	pPKPbc	02 01 39.5	-1.3
	comp=Z,15nm,0.7s,baz=228,slow=2.8,SNR=4.6						
BDFB	**Brasilia**	**154.16**	**147**	PKIKP	PKPdf	02 00 59.3	+1.6
BDFB						02 01 39.5	
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BAO	**Brasilia Array**	**154.18**	**147**	PKPdf	PKPbc	02 01 08.0	+2.0

---

*NEIC **18** 02:03:19.5±0.7, 3479S×17938E, h315km±12km, mb4.4/1, Error ellipse: s-maj=43.6km s-min=9.9km az=123.0*

WEL 18 02:03:32.7±0.3**, 3542S×17882E, h217**km±4km**, ML4.3**/11**, Error ellipse: s-maj=11.2km s-min=7.0km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.18**	**191**	P	Pn	02 04 14.5	+0.3
MXZ				S	S	02 04 46.3	-0.5
MXZ	**Matakaoa Point**	**2.18**	**191**	PN	Pn	02 04 14.5	+0.3
MXZ				SN	S	02 04 46.3	-0.5
PUZ	**Puketiti**	**2.69**	**190**	P	Pn	02 04 20.2	+0.6
PUZ	**Puketiti**	**2.69**	**190**	PN	Pn	02 04 19.8	+0.1
MWZ	**Matawai**	**3.09**	**199**	eP	Pn	02 04 25.1	+0.9
MWZ	**Matawai**	**3.09**	**199**	PN	Pn	02 04 24.6	+0.4
MWZ				SN	S	02 05 05.0	+0.3
URZ	**Urewera**	**3.15**	**205**	P	Pn	02 04 25.2	+0.3
URZ	**Urewera**	**3.15**	**205**	PN	Pn	02 04 24.9	0.0
URZ				SN	S	02 05 06.0	+0.1
KNZ	**Kokohu**	**3.71**	**194**	eP	Pn	02 04 31.8	+0.3
KNZ	**Kokohu**	**3.71**	**194**	PN	Pn	02 04 31.5	0.0
BKZ	**Black Stump Fm**	**4.17**	**206**	P	Pn	02 04 37.3	+0.1
BKZ	**Black Stump Fm**	**4.17**	**206**	PN	Pn	02 04 36.9	-0.3
FWVZ	**Far West T-bar**	**4.63**	**213**	P	Pn	02 04 42.9	+0.1
FWVZ	**Far West T-bar**	**4.63**	**213**	PN	Pn	02 04 42.9	0.0
MOVZ	**Moawhango**	**4.67**	**211**	P	Pn	02 04 42.4	-0.9
MOVZ	**Moawhango**	**4.67**	**211**	PN	Pn	02 04 42.3	-1.0
WNVZ	**Wahianoa**	**4.67**	**212**	P	Pn	02 04 43.4	+0.1
WNVZ	**Wahianoa**	**4.67**	**212**	PN	Pn	02 04 43.2	-0.1
PXZ	**Pawanui**	**4.86**	**198**	ePN	Pn	02 04 44.2	-1.5
BFZ	**Birch Farm**	**5.63**	**200**	eP	Pn	02 04 53.8	-1.6
BFZ	**Birch Farm**	**5.63**	**200**	ePN	Pn	02 04 53.9	-1.5
MRZ	**Mangatainoka R**	**5.82**	**205**	P	Pn	02 04 55.9	-2.0
MRZ	**Mangatainoka R**	**5.82**	**205**	PN	Pn	02 04 55.5	-2.4
MRZ				SN	S	02 06 02.1	-3.5
TIWZ	**Tintock**	**5.83**	**203**	ePN	Pn	02 04 56.3	-1.6
KIW	**Kapiti Island**	**6.24**	**208**	P	Pn	02 05 00.7	-2.6
KIW	**Kapiti Island**	**6.24**	**208**	PN	Pn	02 05 00.5	-2.8
MTW	**Mount Morrison**	**6.29**	**203**	P	Pn	02 05 01.3	-2.6
MTW	**Mount Morrison**	**6.29**	**203**	PN	Pn	02 05 01.2	-2.7
CAW	**Cannon Point**	**6.40**	**206**	P	Pn	02 05 02.7	-2.6
CAW	**Cannon Point**	**6.40**	**206**	PN	Pn	02 05 02.7	-2.6
PAWZ	**Paruwai Farm**	**6.52**	**203**	P	Pn	02 05 04.1	-2.7
PAWZ	**Paruwai Farm**	**6.52**	**203**	PN	Pn	02 05 03.9	-2.9
MSWZ	**Moikau Station**	**6.61**	**204**	P	Pn	02 05 05.3	-2.6
MSWZ	**Moikau Station**	**6.61**	**204**	PN	Pn	02 05 04.9	-3.0
MRW	**Makara Radio**	**6.64**	**208**	P	Pn	02 05 05.7	-2.7
MRW	**Makara Radio**	**6.64**	**208**	PN	Pn	02 05 05.2	-3.2
TCW	**Tory Channel**	**6.80**	**210**	P	Pn	02 05 07.1	-3.3
TCW	**Tory Channel**	**6.80**	**210**	PN	Pn	02 05 06.9	-3.5
NNZ	**Nelson**	**7.20**	**215**	eP	Pn	02 05 12.2	-3.3
NNZ	**Nelson**	**7.20**	**215**	PN	Pn	02 05 12.0	-3.5
QRZ	**Quartz Range**	**7.33**	**221**	ePN	Pn	02 05 14.6	-2.6
THZ	**Tophouse**	**7.84**	**214**	eP	Pn	02 05 20.4	-3.5
THZ	**Tophouse**	**7.84**	**214**	ePN	Pn	02 05 20.1	-3.7
KHZ	**Kahutara**	**8.11**	**209**	eP	Pn	02 05 24.0	-3.3
KHZ	**Kahutara**	**8.11**	**209**	PN	Pn	02 05 23.4	-3.8
LTZ	**Lake Taylor**	**8.94**	**213**	eP	Pn	02 05 34.9	-3.1
LTZ	**Lake Taylor**	**8.94**	**213**	ePN	Pn	02 05 34.9	-3.0
MQZ	**McQueen's Vall**	**9.54**	**208**	eP	Pn	02 05 41.5	-4.3
MQZ	**McQueen's Vall**	**9.54**	**208**	PN	Pn	02 05 41.1	-4.7
MQZ				SN	S	02 07 24.3	-8.6

CASC 18 02:55:54.7±1.9**, 893N×8289W, h7**km±7km**, MD3.7, 3C-2D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.13**	**104**	⇑iP	Pg	02 55 58.8	+1.2
BRU	**Baru**	**0.35**	**110**	⇑iP	Pg	02 56 02.4	+0.9
CNI	**Changuinola**	**0.61**	**37**	⇓iP	Pg	02 56 06.3	-0.1
DVD	**David**	**0.66**	**138**	eP	Pg	02 56 07.3	0.0
BUS	**Buena Vista**	**1.06**	**306**	eP	Pg	02 56 14.3	-0.7
BUS				eS	Sg	02 56 29.3	+0.5
LCR2	**La Lucha 2**	**1.36**	**306**	eP	Pn	02 56 19.3	-0.8
LCR2				eS	Sb	02 56 38.1	-0.1
VTU	**Volcan Turrial**	**1.38**	**322**	eP	Pn	02 56 20.8	+0.4
VTU				eS	Sb	02 56 39.9	+1.1
ICR	**Volcan Irazu**	**1.40**	**319**	⇑eP	Pn	02 56 20.7	+0.1
ICR				eS	Sb	02 56 39.8	+0.6
OCM	**Ochomogo**	**1.43**	**312**	eP	Pn	02 56 20.3	-0.8
OCM				eS	Sb	02 56 40.6	+0.6
IRZ2	**Volcan Irazu 2**	**1.43**	**316**	⇓eP	Pn	02 56 21.2	+0.1
IRZ2				eS	Sb	02 56 41.0	+0.8
PRS1	**Puriscal**	**1.75**	**307**	eP	Pn	02 56 24.9	-0.6
PRS1				eS	Sn	02 56 48.5	+0.4
CGA2	**Cerro Gallo 2**	**1.89**	**305**	eP	Pn	02 56 27.5	+0.1
CGA2				eS	Sn	02 56 51.6	+0.1
EPA	**Esparza**	**1.98**	**302**	eS	Sn	02 56 56.5	+2.7
PTP	**Ponta Puerca**	**19.16**	**59**	eP		02 56 08.1	

---

*NEIC **18** 03:00:36.2, 1892N×6864W, h175km, MD3.8(RSPR), After RSPR.*

RSPR 18 03:00:36.2, 1892N×6864W, h175km±3km**, MD3.8**/11**, MD3.8**/11**, 12C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.65**	**116**	⇑eP	Pn	03 01 09.8	+0.6
LSP				eS	Sn	03 01 35.2	+0.5
CRPR	**Cabo Rojo, PR**	**1.71**	**122**	⇑eP	Pn	03 01 09.6	-0.3
CRPR				eS	Sn	03 01 36.4	+0.6
MGP	**Maguayo**	**1.73**	**121**	⇑eP	Pn	03 01 10.0	0.0
MGP				eS	Sn	03 01 36.8	+0.6
LRS	**Lares**	**1.81**	**110**	⇑eP	Pn	03 01 11.6	+0.7
LRS				eS	Sn	03 01 38.3	+0.6
AOPR	**Arecibo Observ**	**1.88**	**107**	⇑eP	Pn	03 01 12.0	+0.4
AOPR				eS	Sn	03 01 39.6	+0.7
OBIP	**Obispado Ponce**	**2.12**	**114**	⇑eP	Pn	03 01 14.3	0.0
OBIP				eS	Sn	03 01 44.3	+0.7
CELP	**Cerrillos**	**2.13**	**113**	⇑eP	Pn	03 01 14.7	+0.3
CELP				eS	Sn	03 01 44.5	+0.7
ICM	**Isla Caja Muer**	**2.25**	**116**	⇑eP	Pn	03 01 16.3	+0.5
ICM				eS	Sn	03 01 47.1	+0.7
SJG	**San Juan**	**2.49**	**108**	ePn	Pn	03 01 18.5	-0.1
SJG				eSn	Sn	03 01 51.7	+0.3
CBYP	**Canovanas**	**2.72**	**103**	⇑eP	Pn	03 01 21.2	+0.1
CBYP				eS	Sn	03 01 56.8	+0.7
CPD	**Cerro la Pandu**	**2.73**	**108**	⇑eP	Pn	03 01 22.1	+0.7
CPD				eS	Sn	03 01 57.9	+1.5
HUMP	**Col San Antoni**	**2.76**	**106**	⇑eP	Pn	03 01 22.0	+0.3
HUMP				eS	Sn	03 01 58.0	+1.0

MTP Monte Pirata 3.04 105⥣eP Pn 03 01 26.0 +0.9
MTP eS Sn 03 02 04.5 +1.3

IDC **18** 03:45:53.8±0.4, 51.63N×173.79W, h0km, mb5.0/33, mb1 5.1/33, mb1mx5.1/37, mbtmp5.0/33, MS5.3/28, Ms1 5.3/28, ms1mx5.2/32, Error ellipse: s-maj=14.5km s-min=10.4km az=136.0

NEIC **18** 03:45:56.9±0.1, 51.60N×173.96W, h18km, mb5.6/176, ME5.8, MS5.4/147, MW5.6, ML5.2(AEIC), Error ellipse: s-maj=3.9km s-min=2.3km az=186.0, Moment Tensor Solution. s72 Moment tensor: Scale 10^{17}Nm; M_{rr}1.96; $M_{\theta\theta}$-2.15; $M_{\phi\phi}$0.19; $M_{r\theta}$1.96; $M_{\theta\phi}$-0.28; $M_{\phi r}$0.95; Best double couple: $M_0$3.00000×10^{17} NP1:ϕ_s69.00000°, δ69.00000°, λ79.00000°. NP2:ϕ_s278.00000°, δ24.00000°, λ117.00000°. Principal axes: T 2.9700, Plg64.0000°, Azm320.0000°; N 0.0900, Plg11.0000°, Azm73.0000°; P -3.0600, Plg23.0000°, Azm168.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s250.00000°, δ20.00000°, λ90.00000°. NP2:ϕ_s70.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm340.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm160.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

NEIC Felt on Atka.

MOS **18** 03:45:57.2±0.9, 51.69N×173.90W, h33km, mb5.6/121, MS5.3/79 Error ellipse: s-maj=7.6km s-min=6.4km az=71.5

GCMT **18** 03:45:58.9±0.1, 51.49N×173.87W, h20km, MW5.8/98, Moment Tensor Solution. s98,c200; s97,c277; Duration: 1.8s Moment tensor: Scale 10^{17}Nm; M_{rr}3.35±.05; $M_{\theta\theta}$-3.28±.04; $M_{\phi\phi}$-0.07±.03; $M_{r\theta}$3.89±.12; $M_{\theta\phi}$-1.13±.03; $M_{\phi r}$1.52±.08; Best double couple: $M_0$5.44600×10^{17} NP1:ϕ_s256.00000°, δ20.00000°, λ96.00000°. NP2:ϕ_s69.00000°, δ70.00000°, λ88.00000°. Principal axes: T 5.3070, Plg65.0000°, Azm336.0000°; N 0.2770, Plg2.0000°, Azm70.0000°; P -5.5850, Plg25.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISCJB **18** 03:45:59.8±0.1, 51.58N±0.03×173.92W±0.02, h53km, mb5.4/283, MS5.3/197 Error ellipse: s-maj=3.9km s-min=2.0km az=1.9

BJI **18** 03:45:59.2, 51.91N×173.98W, h53km, mB5.8, mb5.4, Ms5.6, Msz5.5

SZGRF **18** 03:46:00.1, 51.43N×175.33W, h56km, mb5.2, MS5.4, Andreanof Islands, Aleutian Islands, United States

ISC 18 03:46:01.6±0.1**, 51.67N**±0.03×**173.94W**±0.02**, h55**km**, h55**km±.8km**:pP-P, n947, σ0.95**/900**, mb5.4**/283**, MS5.3**/197**, 195C-21D, Andreanof Islands**

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

ATKA Atka Island 0.55 343 P Pn 03 46 12.0 -1.8
ATKA S **Sn 03 46 23.2 +0.6**
NIKO Nikolski 3.38 65 P Pn 03 46 51.0 -0.8
NIKO S **Sn 03 47 33.0 +2.3**
OKCE Okmok Cone E 3.94 61 P Pn 03 47 00.6 +1.2
OKCD Okmok Cone D 3.97 61 P Pn 03 46 60.0 +0.1
AMKA Amchitka 4.23 269 P Pn 03 47 02.0 -1.5
AKLV Akutan Long Va 5.43 60 P Pn 03 47 21.0 +1.0
AKUT Akutan 5.52 60 P Pn 03 47 22.2 +1.0
SPIA Saint Paul Isl 5.92 20 P Pn 03 47 28.8 +2.2
SMY Shemya 7.43 283 eP **Pn 03 47 50.1 +2.7**
SMY Shemya 7.43 283 ePn **Pn 03 47 46.6 -0.8**
SDPT Sand Point 8.82 60 P **Pn 03 48 04.4 -2.0**
CHGN Chignik 10.24 57 eP **Pn 03 48 22.9 -2.9**
KDAK Kodiak Island 13.74 55 Pn **Pn 03 49 09.2 -4.3**
1µm,0.4s,SNR=20
KDAK Kodiak Island 13.74 55 Pn **Pn 03 49 09.4 -4.1**
5.2nm,0.3s,baz=256,slow=8.1,SNR=24
KDAK Sn **Sn 03 51 40.2 -4.2**
baz=176,slow=20,SNR=1.9
KDAK Kodiak Island 13.74 55 ePn **Pn 03 49 09.3 -4.2**
SVW2 Sparrevohn 13.82 40 eP **Pn 03 49 14.4 -0.3**
TNA Tin City 14.26 10 ePn **Pn 03 49 22.6 +2.1**
TTA Tatalina 14.80 33 eP **Pn 03 49 27.2 -0.3**
TTA pmax pmax
comp=Z,591nm,1.3s
TTA Tatalina 14.80 33 ePn **Pn 03 49 27.2 -0.3**
comp=Z,591nm,1.3s
SLKM Skilak Lake 15.83 47 ePn **Pn 03 49 39.0 -1.9**
SLKM eSn **Sn 03 52 36.0 +0.6**
PMR Palmer 16.76 44 eP **Pn 03 49 52.0 -0.6**
PMR Palmer 16.76 44 eP **Pn 03 49 51.9 -0.7**
comp=Z,5.2nm,0.3s
PET Petropavlovsk 16.77 285⥣iP **Pn 03 49 50.5 -2.1**
PET i S **S 03 52 53.2 -13**
PET pmax pmax
comp=Z,2µm,8.6s
PET pmax pmax
comp=Z,2µm,11.8s
PET pmax pmax
comp=E,2µm,11.4s
PET pmax pmax
comp=Z,54nm,0.9s
PET MLR MLR
comp=Z,8µm,20.0s
PET MLR MLR
comp=Z,6µm,19.0s
PET Petropavlovsk 16.77 285 ePn **Pn 03 49 50.0 -2.6**
IMA2 Indian Mountai 17.69 28 eP **Pn 03 50 04.1 +0.1**
MCK McKinley 17.85 38 eP **Pn 03 50 04.4 -1.6**
EYAK Cordova Ski Ar 17.92 49 ePn **Pn 03 50 04.0 -2.9**
comp=Z,53nm,0.7s
EYAK eSn **Sn 03 53 24.7 -1.2**
SKR Severo-Kuril's 18.75 279⥣iP **Pn 03 50 11.0 -5.8**
SKR eS **S 03 53 42.0 -4.3**
SKR pmax pmax
comp=E,3µm,10.0s
SKR pmax pmax
comp=Z,3µm,10.0s
SKR pmax pmax
comp=N,1µm,6.0s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,130nm,1.0s
SKR pmax pmax
comp=Z,400nm,1.0s
SKR smax
comp=E,2µm,14.0s
SKR smax
comp=N,3µm,16.0s
SKR MLR MLR
comp=E,10µm,18.0s
SKR MLR MLR
comp=Z,9µm,18.0s
SKR MLR MLR
comp=N,7µm,14.0s
COLA College 18.86 36 eP **Pn 03 50 16.6 -1.5**
COLA College 18.86 36 eP **Pn 03 50 14.5 -3.7**
comp=N,127nm,1.0s
BILL Bilibino 19.02 337ceP **Pn 03 50 20.0 -0.2**
BILL pmax pmax
comp=Z,37nm,1.0s
BILL MLR MLR
comp=Z,6µm,16.0s
BILL Bilibino 19.02 337 eP **Pn 03 50 20.3 +0.1**
comp=Z,195nm,1.0s
SEY Seymchan 21.12 315 i P **P 03 50 42.6 +0.9**
MA2 Magadan 21.22 306c iP **P 03 50 43.1 +0.3**
MA2 e 03 50 55.0
MA2 e 03 51 04.5
MA2 eS **S 03 54 32.2 -3.3**
MA2 e 03 54 53.2
MA2 pmax pmax
comp=E,40nm,0.8s
MA2 pmax pmax
comp=Z,50nm,0.8s,mb4.9
MA2 MLR MLR
comp=Z,11µm,17.8s,MS5.3
MA2 Magadan 21.22 306⥣eP **P 03 50 42.8 0.0**
MA2 LR LR
comp=Z,10µm,20.0s,MS5.2
EGAK Eagle 21.36 40⥣iP **P 03 50 42.5 -1.8**
comp=Z,491nm,0.6s,mb6.0
DAWY Dawson 21.83 42 eP **P 03 50 47.6 -1.7**
SKAG Skagway 22.89 55 eP **P 03 50 58.8 -1.8**
comp=Z,150nm,0.8s,mb5.5
SIT Sitka 22.90 61 eP **P 03 51 01.5 +0.9**
SIT MLR MLR
comp=Z,10µm,21.0s,MS5.2
MIDW Midway 23.57 188 eP **P 03 51 03.5 -3.7**
MIDW LR LR
comp=Z,8µm,20.0s,MS5.2
CRAG Craig 24.28 65 eP **P 03 51 14.1 +0.4**
comp=Z,449nm,1.5s,mb5.7
WRAK Wrangell Islan 24.59 62⥣iP **P 03 51 17.2 +0.7**
comp=Z,308nm,1.4s,mb5.6
INK Inuvik 25.49 34 P **P 03 51 23.0 -1.7**
comp=Z,24nm,0.6s,mb4.9,baz=240,slow=10,SNR=70
INK LR LR 04 02 34.9
comp=Z,13µm,18.7s,MS5.5,baz=240,slow=39
INK Inuvik 25.49 34 eP **P 03 51 23.1 -1.6**
DLBC Dease Lake 25.65 57 P **P 03 51 27.1 +1.0**
comp=Z,68nm,0.8s,mb5.2,baz=276,slow=8.9,SNR=35
DLBC LR LR 04 01 47.8
comp=Z,8µm,19.2s,MS5.2,baz=49,slow=37
YUK Yuzh-Kuril'sk 27.75 270 eP **P 03 51 44.0 -1.0**
YUK e 03 52 30.0
YUK eS **S 03 56 28.0 +4.4**
YUK SS 03 58 00.5
YUK pmax pmax
comp=Z,2µm,4.0s
YUK pmax pmax
comp=N,2µm,3.5s
YUK pmax pmax
comp=E,2µm,3.5s
YUK smax
comp=N,3µm,3.0s
YUK smax
comp=E,2µm,3.5s
BBB Bella Bella 27.90 71 P **P 03 51 47.8 +1.4**
comp=E,36nm,1.0s,mb5.0,baz=317,slow=7.5,SNR=5.1
BBB LR LR 04 00 23.0
comp=E,6µm,21.6s,MS5.1,baz=286,slow=31
YSS Yuzh-Sakhalins 28.31 278α iP **P 03 51 50.0 +0.1**
YSS e*SP sP 03 52 08.0 -2.2
YSS e 03 52 36.0
YSS eS **S 03 56 32.0 -0.4**
YSS eSSS 03 58 18.0
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.3
YSS pmax pmax
comp=Z,1µm,4.0s
YSS MLR MLR
comp=N,4µm,20.0s,MS5.4
YSS MLR MLR
comp=E,8µm,20.0s,MS5.4
YSS MLR MLR
comp=Z,10µm,20.0s,MS5.4
YSS Yuzh-Sakhalins 28.31 278 eP **P 03 51 50.7 +0.8**
YSS LR LR
comp=Z,12µm,21.0s,MS5.5
ASAJ Asahikawa 29.74 273 P **P 03 52 03.9 +1.2**
comp=Z,39nm,0.9s,mb5.1,baz=35,slow=8.1,SNR=26
ASAJ LR LR 04 04 29.6
comp=Z,4µm,19.2s,MS5.1,baz=273,slow=37
ASAJ Asahikawa 29.74 273 P **P 03 52 03.9 +1.2**
ASAJ pmax pmax
comp=Z,39nm,0.9s
ASAJ MLR MLR
comp=Z,4µm,19.2s
ERM Erimo 30.50 269 P **P 03 52 12.5 +3.1**
ERM pmax pmax
comp=Z,40nm,0.6s,mb5.3
ERM Erimo 30.50 269 eP **P 03 52 07.6 -1.7**
comp=Z,42nm,0.6s,mb5.3
ERM LR LR
comp=Z,984nm,20.0s,MS4.5
YAK Yakutsk 31.51 311 eP **P 03 52 19.8 +1.5**
YAK pmax pmax
comp=Z,19nm,0.7s,mb5.0
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.4s
YAK MLR MLR
comp=E,10µm,17.0s,MS5.6
YAK MLR MLR
comp=Z,13µm,17.0s,MS5.7
YAK MLR MLR
comp=N,6µm,19.0s,MS5.6
YAK Yakutsk 31.51 311 PFAKE 03 52 30.0 +12
YAK LR LR
comp=Z,14µm,20.0s,MS5.6
OBC Olympics--Boni 31.84 77 P **P 03 52 23.1 +1.9**
TIXI Tiksi 31.89 330 eP **P 03 52 21.7 0.0**
TIXI eS **S 03 57 26.8 -1.9**
TIXI pmax pmax
comp=Z,16nm,1.0s,mb4.8
TIXI MLR MLR
comp=Z,5µm,16.0s,MS5.3
TIXI Tiksi 31.89 330 PFAKE 03 52 30.0 +8.3
TIXI LR LR
comp=Z,7µm,21.0s,MS5.3
PGC Sidney 31.96 75 eP **P 03 52 23.8 +1.5**
comp=Z,100nm,1.0s,mb5.6
PGC e pP 03 52 36.6 +0.5
STW Striped Peak 32.04 76 P **P 03 52 23.9 +0.9**
HABR Khabarovsk 32.35 285⥣iP **P 03 52 25.0 -0.7**
HABR eS **S 03 57 34.9 -0.9**
HABR pmax pmax
comp=Z,63nm,0.8s,mb5.5
HABR MLR MLR
comp=Z,2µm,20.0s,MS4.8
VDB Vedder Mountai 32.61 74 P **P 03 52 29.0 +1.0**
HDW Hoodsport 32.63 77 P **P 03 52 29.8 +1.6**
KIP Kipapa 32.64 152 PFAKE 03 52 40.0 +12
KIP LR LR
comp=Z,8µm,20.0s,MS5.4
YKW3 Yellowknife Ar 32.80 47 eP **P 03 52 30.8 +1.2**
YKA Yellowknife Ar 32.81 47 P **P 03 52 28.5 -1.2**
comp=Z,3.5nm,0.5s,mb4.6,baz=274,slow=9.2,SNR=19
YKA PcP PcP 03 55 14.2 +0.6
comp=Z,4.7nm,0.6s,baz=284,slow=2.8,SNR=4.0
YKA ScP ScP 03 58 59.4 +6.4
comp=Z,1.3nm,0.6s,baz=278,slow=4.9,SNR=3.9
YKA LR LR 04 07 29.5
comp=Z,14µm,18.4s,MS5.7,baz=275,slow=40
YKA Yellowknife Ar 32.81 47 P **P 03 52 28.5 -1.2**
YKA 03 55 14.2
YKA MLR MLR
comp=Z,14µm,18.4s
YKA Yellowknife Ar 32.81 47 P **P 03 52 28.5 -1.2**
YKA PcP PcP 03 55 14.2 +0.6
YKA ScP ScP 03 58 59.4 +6.4
YKA LR LR 04 07 29.5
GNW Green Mountain 32.81 77 eP **P 03 52 31.2 +1.6**
MBW Mount Baker 32.84 74 P **P 03 52 31.6 +1.7**
CMW Cultus Mountai 32.86 75 P **P 03 52 31.2 +1.1**
JCW Jim Creek 33.07 75 P **P 03 52 33.5 +1.5**
GSM Grass Mountain 33.60 77 P **P 03 52 38.6 +2.0**
FMW Mount Fremont 33.80 77 P **P 03 52 39.4 +1.1**
COR Corvallis 33.94 82 eP **P 03 52 43.2 +3.7**
COR MLR MLR
comp=Z,2µm,19.0s,MS4.9
KLR Kul'dur 34.00 288 eP **P 03 52 35.0 -5.1**
KLR e pP 03 52 52.2 -1.8
KLR e 03 53 52.0
KLR eS **S 03 57 58.5 -2.9**
KLR eSS SS 04 00 05.5 -25
KLR pmax pmax
comp=E,45nm,2.0s
KLR pmax pmax
comp=Z,80nm,2.0s,mb5.3
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,3µm,13.0s,MS5.2
NLW Nelson Butte 34.08 74 P **P 03 52 41.4 +0.6**
KEBM Edson Butte 34.20 85 eP **P 03 52 42.8 +1.1**
ETW Entiat 34.30 75 P **P 03 52 44.0 +1.4**
HOOD Mount Hood Mea 34.59 79 eP **P 03 52 48.2 +3.1**
KBO Bosley Butte 34.62 86 eP **P 03 52 46.7 +1.3**
EPH Ephrata 34.86 75 P **P 03 52 47.4 -0.1**
POHA Pohakuloa 34.97 149 PFAKE 03 53 00.0 +12
POHA LR LR
comp=Z,6µm,20.0s,MS5.3
CLNS Chul'man 35.04 303 eP **P 03 52 47.2 -1.9**
CLNS e*PP pP 03 52 57.7 -5.3
CLNS ePPP 03 54 22.6
CLNS eS **S 03 58 20.5 +3.1**
CLNS eSSS 04 01 06.5
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS smax
comp=E,1µm,18.5s
CLNS smax
comp=Z,312nm,18.9s
CLNS smax
comp=N,75nm,12.2s
CLNS MLR MLR
comp=Z,4µm,18.0s,MS5.2
CLNS MLR MLR
comp=N,1µm,16.0s,MS5.1
CLNS MLR MLR
comp=E,3µm,17.0s,MS5.1
KRMB Red Mountain 35.20 87 eP **P 03 52 51.3 +0.8**
KRMB e pP 03 53 04.2 -0.1
HAWA Hanford 35.35 77 eP **P 03 52 52.0 +0.2**
REDWA Red Mountain 35.45 77 P **P 03 52 54.3 +1.7**
KHMM Horse Mountain 35.68 87 eP **P 03 52 55.6 +1.1**
YBH Yreka Blue Hor 35.83 85 LR LR 04 05 05.2
comp=E,2µm,18.2s,MS5.0,baz=308,slow=32
YBH Yreka Blue Hor 35.83 85 eP **P 03 52 55.5 -0.3**
YBH pmax pmax
comp=Z,250nm,1.4s
YBH MLR MLR
comp=Z,2µm,20.0s
YBH Yreka Blue Hor 35.83 85 eP **P 03 52 55.5 -0.3**
comp=Z,253nm,1.4s,mb6.0
YBH LR LR
comp=Z,2µm,20.0s,MS4.9
NEW Newport 35.91 72 LR LR 04 05 19.8
comp=Z,2µm,21.3s,MS4.9,baz=305,slow=32
NEW Newport 35.91 72 eP **P 03 52 56.5 0.0**
NEW pmax pmax
comp=Z,109nm,0.8s
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 35.91 72 eP **P 03 52 56.5 0.0**
comp=Z,106nm,0.8s,mb5.8
NEW LR LR
comp=Z,2µm,20.0s,MS4.9
EDM Edmonton 35.99 63 eP **P 03 52 57.1 -0.1**
KIPM Iron Peak 36.45 89 eP **P 03 53 02.1 +1.0**
KIPM e pP 03 53 14.5 -0.6
WDC Whiskeytown Da 36.59 87 eP **P 03 53 01.7 -0.6**
WDC MLR MLR
comp=Z,3µm,20.0s,MS5.1
MAJO Matsushiro 36.84 265 eP **P 03 53 05.2 +0.8**
MAJO MLR MLR
comp=Z,5µm,20.0s,MS5.3
MAT Matsushiro 36.84 265 P **P 03 53 04.0 -0.4**
MAT S **S 03 58 45.0 +0.1**
MJAR Matsushiro Arr 36.84 265 P **P 03 53 05.2 +0.8**
comp=Z,11nm,1.0s,mb4.7,baz=52,slow=7.9,SNR=19
MJAR PcP PcP 03 55 25.8 +0.5
comp=Z,7.4nm,1.0s,baz=65,slow=2.5,SNR=4.6
MJAR LR LR 04 07 04.6
comp=Z,4µm,20.1s,MS5.2,baz=70,slow=34
MJAR Matsushiro Arr 36.84 265 P **P 03 53 05.2 +0.8**
MJAR 03 55 25.8
MJAR pmax pmax
comp=Z,11nm,1.0s
MJAR MLR MLR
comp=Z,4µm,20.2s
HOPS Hopland 37.19 89 eP **P 03 53 06.3 -1.1**
comp=Z,406nm,1.4s,mb6.1
HOPS LR LR
comp=Z,7µm,19.0s,MS5.4
MOD Modoc 37.23 84 eP **P 03 53 08.2 +0.5**
comp=Z,461nm,1.4s,mb6.1
MOD LR LR
comp=Z,2µm,19.0s,MS5.0
WALA Waterton Lakes 37.44 70 eP **P 03 53 09.4 -0.1**
comp=Z,148nm,1.0s,mb5.8
BMO Blue Mountains 37.48 78 eP **P 03 53 10.5 +0.6**
comp=Z,148nm,1.4s,mb5.6
BMO LR LR
comp=Z,3µm,20.0s,MS5.0
BSMT Bassoo Peak 37.49 72 P **P 03 53 09.8 -0.1**
MDJ Mudanjiang 37.50 282 P **P 03 53 09.8 -0.2**
MDJ AP pP 03 53 24.6 +0.5
MDJ XP sP 03 53 30.8 +0.3
MDJ PP PP 03 54 37.1 +0.7
MDJ S **S 03 58 54.1 -0.9**
MDJ SCP ScP 03 59 09.3 -0.6
MDJ XS sS 03 59 20.8 +2.1
MDJ AMB AMB
comp=Z,29nm,0.9s,mb5.0
MDJ AMB AMB
comp=Z,527nm,6.3s
MDJ LR LR
comp=N,2µm,21.4s,MS5.4
MDJ LR LR
comp=E,6µm,22.7s,MS5.4
MDJ LR LR
comp=Z,8µm,22.7s,MS5.5
MDJ Mudanjiang 37.50 282 PFAKE 03 53 20.0 +10
MDJ LR LR
comp=Z,9µm,20.0s,MS5.6
WVOR Wild Horse Val 37.96 82 P **P 03 53 14.1 +0.2**
WVOR pmax pmax
comp=Z,380nm,1.5s,mb5.9
WVOR Wild Horse Val 37.96 82 eP **P 03 53 13.8 0.0**
comp=Z,348nm,1.5s,mb5.9
WVOR e pP 03 53 26.4 -1.6
WVOR LR LR
comp=Z,3µm,20.0s,MS5.0
OHCM Honcut 37.98 88 eP **P 03 53 13.5 -0.5**
RES Resolute Bay 38.21 25 P **P 03 53 19.4 +3.4**
RES Resolute Bay 38.21 25 eP **P 03 53 15.8 -0.1**
comp=Z,285nm,0.7s,mb6.1
MSO Missoula 38.49 73 eP **P 03 53 18.5 +0.1**
comp=Z,224nm,1.4s,mb5.7
MSO LR LR
comp=Z,2µm,19.0s,MS4.8
CHMT Chamberlain Mo 38.86 72 eP **P 03 53 20.6 -0.8**
PAHR Pah Rah Range 39.06 86 eP **P 03 53 23.9 +0.8**
CMB Columbia Colle 39.45 89 eP **P 03 53 26.4 +0.1**
CMB pmax pmax
comp=Z,248nm,1.4s,mb5.8
CMB MLR MLR
comp=Z,5µm,21.0s,MS5.3
CMB Columbia Colle 39.45 89 eP **P 03 53 26.4 0.0**
comp=Z,242nm,1.4s,mb5.7
CMB LR LR
comp=Z,5µm,21.0s,MS5.3
SAO San Andreas Ge 39.58 91 eP **P 03 53 31.5 +4.1**
SAO MLR MLR
comp=Z,3µm,19.0s,MS5.2
WAKR Walker 39.75 87 eP **P 03 53 29.1 +0.2**
HRY Holter Researc 39.81 72 eP **P 03 53 28.8 -0.5**
LRM Limekiln Ridge 39.90 73 eP **P 03 53 30.0 -0.1**
HLID Hailey 39.92 77 eP **P 03 53 29.5 -0.8**
comp=Z,232nm,1.3s,mb5.8
HLID e pP 03 53 44.0 -0.5
HLID LR LR
comp=Z,2µm,19.0s,MS5.1
BMN Battle Mountai 39.97 83 eP **P 03 53 30.9 +0.2**
BMN pmax pmax
comp=Z,190nm,1.4s,mb5.6
BMN MLR MLR
comp=Z,3µm,22.0s,MS5.0
BMN Battle Mountai 39.97 83 eP **P 03 53 30.9 +0.1**
comp=Z,190nm,1.4s,mb5.6
BMN LR LR
comp=Z,3µm,22.0s,MS5.0
DLMT Dillon 40.05 74 eP **P 03 53 31.2 -0.2**
LRV Little Rabbit 40.06 91 eP **P 03 53 33.6 +2.2**
LRV e pP 03 53 44.9 -0.7
MCMT McKenzie Canyo 40.18 75 eP **P 03 53 32.8 +0.3**
BOD Bodaibo 40.22 308 eP **P 03 53 26.4 -6.3**
BOD e 03 53 31.7
EGMT Eagleton 40.36 69 eP **P 03 53 33.4 -0.6**
EGMT LR LR
comp=Z,4µm,19.0s,MS5.3
CN2 Changchun 40.46 284 eP **P 03 53 33.1 -1.6**
CN2 eXP sP 03 53 55.6 +0.3
CN2 eS **S 03 59 35.4 -4.0**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s

CN2 LR LR
comp=N,6μm,19.0s,MS5.6
CN2 LR LR
comp=E,6μm,19.0s,MS5.6
CN2 LR LR
comp=Z,9μm,21.0s,MS5.6
BOZ Bozeman (W) 40.48 73 *e*P **P 03 53 34.4 -0.5**
BOZ pmax pmax
comp=Z,352nm,1.3s,mb5.9
BOZ MLR MLR
comp=Z,3μm,19.0s,MS5.2
BOZ Bozeman (W) 40.48 73 *e*P **P 03 53 34.4 -0.5**
comp=Z,352nm,1.3s,mb5.9
BOZ LR LR
comp=Z,3μm,19.0s,MS5.2
NVAR Mina Array Bea 40.50 87 P **P 03 53 35.2 +0.1**
comp=Z,12nm,0.8s,mb4.6,baz=289,slow=9.0,SNR=60
NVAR ScP ScP 03 59 23.9 +2.4
comp=Z,2.2nm,0.9s,baz=302,slow=2.6,SNR=3.9
HIA Hailar 40.97 294 *e*P **P 03 53 37.5 -1.5**
HIA pmax pmax
comp=Z,43nm,0.8s
HIA MLR MLR
comp=Z,4μm,19.0s
HIA Hailar 40.97 294 *e*P **P 03 53 37.5 -1.4**
comp=Z,43nm,0.8s,mb5.1
HIA LR LR
comp=Z,4μm,19.0s,MS5.3
MTUM Tungsten Hills 41.00 88 *e*P **P 03 53 39.0 -0.2**
MTUM *e* pP 03 53 53.7 +0.3
QLMT Earthquake Lak 41.03 74 *e*P **P 03 53 39.6 +0.1**
QLMT *e* pP 03 53 52.9 -0.7
PTRM Twissleman Ran 41.05 91 *e*P **P 03 53 39.5 -0.1**
PTRM *e* pP 03 53 53.2 -0.6
TPH Tonopah 41.39 86 *e*P **P 03 53 41.4 -1.0**
TPH pmax pmax
comp=Z,255nm,1.3s,mb5.7
TPH MLR MLR
comp=Z,3μm,20.0s,MS5.1
TPH Tonopah 41.39 86 *e*P **P 03 53 41.4 -1.0**
comp=Z,255nm,1.3s,mb5.7
TPH LR LR
comp=Z,3μm,20.0s,MS5.1
YMR Madison River 41.40 74 *e*P **P 03 53 43.6 +1.1**
comp=Z,488nm,1.4s,mb5.9
YMR *e* pP 03 53 56.4 -0.2
YMR LR LR
comp=Z,1μm,21.0s,MS4.8
FFC Flin Flon 41.48 56 P **P 03 53 42.3 -0.8**
comp=Z,466nm,0.6s,mb6.3,SNR=16
FFC Flin Flon 41.48 56 P **P 03 53 42.3 -0.8**
FFC MLR MLR
comp=Z,1μm,19.0s,MS4.9
FFC Flin Flon 41.48 56 P **P 03 53 42.3 -0.8**
YNR Norris Junctio 41.55 74 *e*P **P 03 53 46.6 +2.9**
GCMT Greycliff 41.57 72 *e*P **P 03 53 43.7 -0.1**
GCMT *e* pP 03 53 57.5 -0.6
YFT Old Faithful 41.60 74 *e*P **P 03 53 46.2 +2.1**
YFT *e* pP 03 53 56.5 -1.8
ALE Alert 41.79 11 P **P 03 53 45.6 -0.1**
comp=Z,73nm,0.5s,mb5.6,SNR=5.8
LKWY Lake 41.79 74 *e*P **P 03 53 48.5 +2.8**
LKWY pmax pmax
comp=Z,106nm,0.8s,mb5.5
LKWY MLR MLR
comp=Z,3μm,19.0s,MS5.2
LKWY Lake 41.79 74 *e*P **P 03 53 48.5 +2.8**
comp=Z,106nm,0.8s,mb5.5
LKWY LR LR
comp=Z,3μm,19.0s,MS5.1
IMW Indian Meadow 41.84 75 *e*P **P 03 53 46.6 +0.5**
comp=Z,188nm,1.1s,mb5.6
DCID1 Drake Creek 41.86 75⇑ *e*P **P 03 53 46.1 -0.2**
FLWY Flagg Ranch 41.88 75⇑ *e*P **P 03 53 46.3 -0.1**
comp=Z,426nm,1.4s,mb5.9
RRI2 Red Ridge 41.92 76 *e*P **P 03 53 47.4 +0.7**
HVU Hansel Valley 41.92 79 *e*P **P 03 53 46.5 -0.3**
TPAW Teton Pass 42.06 75 *e*P **P 03 53 49.8 +1.9**
comp=Z,463nm,1.7s,mb5.8
ISA Isabella 42.13 90 *e*P **P 03 53 47.6 -0.8**
comp=Z,160nm,1.2s,mb5.5
ISA LR LR
comp=Z,4μm,20.0s,MS5.3
RLMT Red Lodge 42.16 72⇑ *e*P **P 03 53 48.5 -0.2**
comp=Z,166nm,0.8s,mb5.7
RLMT *e* pP 03 54 02.9 -0.1
REDW Red Top Meadow 42.19 76 *e*P **P 03 53 50.0 +1.1**
comp=Z,395nm,1.5s,mb5.8
SNOW Snow King Moun 42.19 75 *e*P **P 03 53 48.4 -0.5**
comp=Z,265nm,1.4s,mb5.7
LOHW Long Hollow 42.20 75 *e*P **P 03 53 50.5 +1.5**
TRCR Troy Canyon 42.24 85 *e*P **P 03 53 48.5 -0.8**
TRCR *e* pP 03 54 02.5 -1.0
BGU Big Grassy Mou 42.27 80 *e*P **P 03 53 48.9 -0.6**
BGU *e* pP 03 54 03.0 -0.8
DAC Darwin (Calif) 42.28 89 *e*P **P 03 53 49.5 -0.2**
DAC MLR MLR
comp=Z,5μm,21.0s,MS5.3
AHID Auburn Hatcher 42.38 76 *e*P **P 03 53 51.1 +0.6**
comp=Z,251nm,1.4s,mb5.7
AHID *e* pP 03 54 04.6 -0.1
AHID LR LR
comp=Z,3μm,21.0s,MS5.1
SPUT South Promonto 42.40 79 *e*P **P 03 53 50.5 -0.1**
SNY Shenyang 42.70 282 ⇑P **P 03 53 53.8 +0.7**
SNY AP pP 03 54 08.8 +1.4
SNY AMB AMB
comp=Z,136nm,2.0s,mb5.3
SNY AMB AMB
comp=Z,2μm,3.7s
SNY LR LR
comp=N,5μm,18.4s
SNY LR LR
comp=Z,6μm,20.1s,MS5.5
HWUT Hardware Ranch 42.76 78 *e*P **P 03 53 53.6 0.0**
comp=Z,160nm,1.4s,mb5.6
HWUT *e* pP 03 54 07.3 -0.5
HWUT LR LR
comp=Z,2μm,19.0s,MS5.0
DUG Dugway 42.83 81 *e*P **P 03 53 53.7 -0.4**
DUG pmax pmax
comp=Z,429nm,1.4s,mb6.0
DUG MLR MLR
comp=Z,2μm,20.0s,MS4.9
DUG Dugway 42.83 81 *e*P **P 03 53 53.7 -0.4**
comp=Z,429nm,1.4s,mb6.0
DUG LR LR
comp=Z,2μm,20.0s,MS4.9
NOQ North Oquirrh 42.98 80 *e*P **P 03 53 56.2 +0.8**
CIT Chita 43.05 300 *e*P **P 03 53 55.9 0.0**
CIT *e* pP 03 54 09.9 -0.2
CIT pmax pmax
comp=Z,68nm,1.7s,mb5.1
SNCC San Nicolas Is 43.06 94 *e*pP **P 03 53 54.8 -1.2**
comp=Z,213nm,1.3s,mb5.7
SNCC *e* pP 03 54 08.9 -1.4
SNCC LR LR
comp=Z,4μm,22.0s,MS5.3
LAO LASA Array 43.10 69 *e*P **P 03 53 57.1 +0.8**
comp=Z,432nm,1.4s,mb6.0
LAO *e* pP 03 54 10.4 -0.2
LAO LR LR
comp=Z,4μm,22.0s,MS5.3
TCUT Toone Canyon 43.15 79 *e*P **P 03 53 57.7 +1.0**
CTU Camp Tracy 43.19 79 *e*P **P 03 53 58.1 +1.1**
BW06 Boulder Array 43.31 75 *e*P **P 03 53 57.4 -0.6**
BW06 LR LR
comp=Z,3μm,20.0s,MS5.1
PDAR Pinedale Array 43.31 75 P **P 03 53 57.4 -0.7**
comp=Z,22nm,0.4s,mb5.2,baz=322,slow=2.3,SNR=95
PDAR LR LR 04 11 48.8
comp=Z,2μm,18.5s,MS5.1,baz=311,slow=36
DGMT Dagmar 43.32 66 *e*P **P 03 53 58.0 -0.1**
comp=Z,338nm,1.4s,mb5.9
DGMT LR LR
comp=Z,5μm,20.0s,MS5.4
MWC Mount Wilson 43.32 91 *e*P **P 03 53 57.8 -0.3**
GSC Goldstone 43.40 89 *e*P **P 03 53 58.3 -0.4**
NLU North Lily Min 43.43 80 *e*P **P 03 53 59.1 +0.1**
INCN Inchon 43.44 275 *e*P **P 03 54 00.9 +1.9**
comp=Z,141nm,0.8s,mb5.8
INCN LR LR
comp=Z,2μm,19.0s,MS5.1
FCC Fort Churchill 43.53 48 *e*P **P 03 53 58.9 -0.9**
SHPR Sheep Range 43.65 87 *e*P **P 03 54 00.5 -0.3**
MPU Maple Canyon 43.66 80 *e*P **P 03 54 00.6 -0.2**
comp=Z,346nm,1.6s,mb5.8
MPU LR LR
comp=Z,3μm,21.0s,MS5.2
ARUT Antelope Range 43.91 84 *e*P **P 03 54 02.5 -0.4**
ARUT *e* pP 03 54 16.4 -0.8
CCUT Cedar City 44.11 84 *e*P **P 03 54 04.1 -0.4**
CCUT *e* pP 03 54 18.1 -0.7
MVU Marysvale 44.23 82 PFAKE 03 54 20.0 +15
MVU LR LR
comp=Z,2μm,20.0s,MS5.1
MSU Marysvale 44.24 82 *e*P **P 03 54 06.1 +0.6**
TMUT Trail Mountain 44.36 81 *e*P **P 03 54 07.2 +0.7**
PFO Pinyon Flat Ob 44.73 91 P **P 03 54 09.7 +0.3**
comp=Z,315nm,1.5s,mb5.9,SNR=6.3
PFO Pinyon Flat Ob 44.73 91 P **P 03 54 09.4 0.0**
PFO Pinyon Flat Ob 44.73 91 *e*P **P 03 54 08.7 -0.7**
comp=Z,117nm,1.4s,mb5.5
PFO LR LR
comp=Z,751nm,20.0s,MS4.6
SRU San Rafael 44.89 80 *e*P **P 03 54 10.5 -0.2**
BAR Barrett 45.21 92 *e*P **P 03 54 12.7 -0.5**
RWWY Rawlins 45.35 75 *e*P **P 03 54 15.0 +0.6**
DL2 Dalian 45.65 280 P **P 03 54 16.8 +0.1**
DL2 S **S 04 00 57.0 +1.5**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
DL2 AMB AMB
comp=Z,490nm,6.3s
DL2 LR LR
comp=N,2μm,19.7s,MS5.1
DL2 LR LR
comp=E,1μm,19.0s,MS5.1
DL2 LR LR
comp=Z,1μm,18.9s,MS4.8
RSSD Black Hills 45.82 71 *e*P **P 03 54 17.1 -0.9**
RSSD pmax pmax
comp=Z,218nm,1.3s,mb5.9
RSSD MLR MLR
comp=Z,3μm,19.0s,MS5.3
RSSD Black Hills 45.82 71 *e*P **P 03 54 17.1 -0.9**
comp=Z,196nm,1.3s,mb5.9
RSSD LR LR
comp=Z,3μm,19.0s,MS5.2
GLA Glamis 46.11 90 *e*P **P 03 54 19.8 -0.5**
PV10 Paradox Valley 46.26 80 *e*P **P 03 54 21.1 -0.3**
PV10 *e* pP 03 54 34.8 -1.1
WUAZ Wupatki 46.64 85 *e*P **P 03 54 24.0 -0.5**
WUAZ LR LR
comp=Z,5μm,20.0s,MS5.4
PHWY Pilot Hill 46.64 75 *e*P **P 03 54 27.0 +2.6**
PV01 Paradox Valley 46.70 80 *e*P **P 03 54 24.0 -0.9**
PV01 *e* pP 03 54 37.5 -1.8
ULM Lac du Bonnet 46.95 59 P **P 03 54 26.4 -0.5**
comp=Z,21nm,0.5s,mb5.3,baz=305,slow=7.4,SNR=40
ULM LR LR 04 15 02.9
comp=Z,4μm,20.9s,MS5.3,baz=311,slow=37
SMCO Snowmass 47.02 78 *e*P **P 03 54 26.9 -0.5**
comp=Z,120nm,1.3s,mb5.7
ISCO Idaho Springs 47.46 76 *e*P **P 03 54 36.3 +5.4**
ISCO pmax pmax
comp=Z,210nm,1.4s,mb5.9
ISCO Idaho Springs 47.46 76⇑ *e*P **P 03 54 30.2 -0.7**
comp=Z,192nm,1.4s,mb5.8
ISCO *e* pP 03 54 43.9 -1.4
ISCO LR LR
comp=Z,4μm,19.0s,MS5.4
IRK Irkutsk 47.80 305 *e*P **P 03 54 32.5 -1.0**
IRK pmax pmax
comp=Z,81nm,1.9s,mb5.4
BJI Beijing 48.26 285 P **P 03 54 37.3 +0.3**
BJI AP pP 03 54 52.6 +1.1
BJI XP sP 03 54 59.1 +1.3
BJI PP PP 03 56 31.4 +1.6
BJI S **S 04 01 31.6 -1.1**
BJI AMB AMB
comp=Z,48nm,0.9s,mb5.5
BJI AMB AMB
comp=Z,1μm,10.3s
BJI LR LR
comp=N,7μm,19.3s,MS5.8
BJI LR LR
comp=E,6μm,18.7s,MS5.8
BJI LR LR
comp=Z,8μm,22.1s,MS5.7
BJI Beijing 48.26 285 P **P 03 54 37.2 +0.2**
comp=Z,48nm,0.9s,mb5.5
BJI pP pP 03 54 52.6 +1.1
BJI sP sP 03 54 59.1 +1.3
BJI PP PP 03 56 31.4 +1.6
BJI S **S 04 01 31.6 -1.1**
BJI sS sS 04 02 01.8 +4.7
BJI SS SS 04 05 27.0 +24
BJI LR LR
comp=Z,8μm,22.1s,MS5.7
BJT Baijiatuau 48.28 285 PFAKE 03 54 50.0 +13
BJT LR LR
comp=Z,10μm,20.0s,MS5.8
TLY Talaya 48.44 304 P **P 03 54 39.2 +0.8**
comp=Z,218nm,0.4s,mb6.5,SNR=6.2
TLY Talaya 48.44 304*c* *i*P **P 03 54 38.1 -0.3**
TLY *e* 03 56 31.9
TLY *e*S **S 04 01 43.2 +8.0**
TLY *e* 04 04 29.3
TLY pmax pmax
comp=Z,35nm,1.2s,mb5.3
TLY MLR MLR
comp=Z,3μm,18.0s,MS5.4
TLY Talaya 48.44 304 P **P 03 54 39.2 +0.8**
SDCO Great Sand Dun 48.82 78 *e*P **P 03 54 41.1 -0.3**
SDCO LR LR
comp=Z,2μm,20.0s,MS5.1
ULN Ulaanbaatar 48.82 299 ⇓P **P 03 54 41.9 +0.5**
SNR=14
ULN Ulaanbaatar 48.82 299⇑ *e*P **P 03 54 41.6 +0.3**
ULN *i* *PP pP 03 54 57.2 +1.4
ULN Ulaanbaatar 48.82 299 *e*P **P 03 54 40.9 -0.4**
comp=Z,27nm,0.9s,mb5.3
ULN LR LR
comp=Z,6μm,20.0s,MS5.6
TUC Tucson 49.13 88 *e*P **P 03 54 42.3 -1.4**
TUC pmax pmax
comp=Z,100nm,1.3s,mb5.7
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.1
TUC Tucson 49.13 88 *e*P **P 03 54 42.3 -1.4**
comp=Z,100nm,1.3s,mb5.7
TUC LR LR
comp=Z,2μm,19.0s,MS5.1
SONM Songino Array 49.20 299 P **P 03 54 44.9 +0.7**
comp=Z,14nm,0.8s,mb5.1,baz=53,slow=7.7,SNR=36
SONM ScP ScP 04 00 03.0 +5.8
comp=Z,2.3nm,0.7s,baz=56,slow=3.6,SNR=3.1
SONM LR LR 04 16 33.4
comp=Z,8μm,19.3s,MS5.7,baz=56,slow=37
SONM Songino Array 49.20 299 P **P 03 54 44.9 +0.7**
SONM pmax pmax
comp=Z,14nm,0.8s
SONM pmax pmax
comp=N,2.0nm,0.7s
SONM MLR MLR
comp=Z,8μm,19.3s
ZAK Zakamensk 49.37 303⇑ *i*P **P 03 54 46.0 +0.5**
ZAK *e* 03 56 05.1
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
KBS Kingsbay 49.61 359 PFAKE 03 55 00.0 +13
KBS LR LR
comp=Z,4μm,20.0s,MS5.4
MOY Mondy 49.80 306 *e*P **P 03 54 48.5 -0.3**
MOY pmax pmax
comp=Z,89nm,4.0s
ANMO Albuquerque 50.05 82⇑ *e*P **P 03 54 50.8 +0.1**
ANMO Albuquerque 50.05 82 *e*P **P 03 54 50.3 -0.4**
comp=Z,166nm,1.4s,mb5.9
ANMO LR LR
comp=Z,1μm,22.0s,MS4.9
TIA Tai'an 50.12 280 ⇑P **P 03 54 51.3 +0.1**
GUMO Guam 50.34 236 P **P 03 54 51.0 -1.8**
comp=Z,137nm,0.8s,mb6.0,baz=199,slow=1.7,SNR=5.8
GUMO LR LR 04 13 30.6
comp=Z,927nm,18.8s,MS4.8,baz=43,slow=33
GUMO Guam 50.34 236 P **P 03 54 51.0 -1.8**
GUMO LR LR 04 13 30.6
ECSD EROS,Sioux Fal 50.35 67⇑ *i*P **P 03 54 51.2 -1.8**
comp=Z,108nm,1.1s,mb5.8
ECSD *e*S **S 04 02 03.2 +1.2**
HHC Hu-ho-hao-te 50.50 289⇑ *i*P **P 03 54 54.6 +0.5**
HHC AP pP 03 55 10.3 +1.6
HHC PCP PcP 03 56 12.5 +1.0
HHC PP PP 03 56 51.9 +1.7
HHC SCP ScP 04 00 01.8 -1.0
HHC PCS PcS 04 00 08.4 -0.4
HHC S **S 04 02 02.1 -2.0**
HHC XS sS 04 02 28.9 +0.3
HHC SCS ScS 04 04 36.8 -3.3
HHC SS SS 04 05 33.3 -5.2
HHC AMB AMB
comp=Z,31nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,935nm,5.5s
HHC LR LR
comp=N,3μm,17.6s,MS5.5
HHC LR LR
comp=E,3μm,19.6s,MS5.5
HHC LR LR
comp=Z,3μm,22.6s,MS5.2
EYMN Ely 50.63 60 *e*P **P 03 54 58.3 +3.2**
EYMN LR LR
comp=Z,5μm,21.0s,MS5.5
DAG Danmarks Havn 50.87 7⇓ *i*P **P 03 54 54.7 -2.2**
comp=Z,6.7nm,0.9s,mb4.6
DAG
comp=Z,5μm,23.0s
DAG Danmarks Havn 50.87 7⇓ *e*P **P 03 54 54.7 -2.2**
DAG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAG MLR MLR
comp=N,3μm,23.0s
DAG MLR MLR
comp=Z,5μm,23.0s,MS5.5
DAG Danmarks Havn 50.87 7⇓ *e*P **P 03 54 54.7 -2.2**
comp=Z,6.7nm,0.9s,mb4.6
DAG LR LR
comp=Z,5μm,23.0s,MS5.5
SSE Sheshan 51.03 273 P **P 03 54 57.3 -0.8**
SSE AP pP 03 55 12.8 +0.1
SSE XP sP 03 55 20.0 +1.0
SSE PCP PcP 03 56 11.9 -1.5
SSE PP PP 03 56 53.8 -1.2
SSE S **S 04 02 10.8 -0.6**
SSE AMB AMB
comp=Z,64nm,0.9s,mb5.5
SSE AMB AMB
comp=Z,748nm,6.1s
SSE LR LR
comp=N,949nm,22.2s,MS4.8
SSE LR LR
comp=E,597nm,22.2s,MS4.8
SSE LR LR
comp=Z,1μm,20.3s,MS4.8
SSE Sheshan 51.03 273 P **P 03 54 57.3 -0.8**
comp=Z,64nm,0.9s,mb5.5
SSE pP pP 03 55 12.8 +0.1
SSE sP sP 03 55 20.0 +1.0
SSE PcP PcP 03 56 11.9 -1.5
SSE PP PP 03 56 53.7 -1.3
SSE S **S 04 02 10.7 -0.7**
SSE sS sS 04 02 38.1 +2.2
SSE LR LR
comp=Z,1μm,20.3s,MS4.8
BTO Baotou 51.56 289 *e*P **P 03 55 01.9 -0.2**
BTO S **S 04 02 18.1 -0.7**
NJ2 Nanjing 51.83 275 *e*P **P 03 55 05.0 +1.0**
NJ2 AP pP 03 55 20.6 +1.9
NJ2 PP PP 03 57 04.1 +1.9
NJ2 S **S 04 02 21.0 -1.3**
NJ2 XS sS 04 02 48.0 +1.1
NJ2 AMB AMB
comp=Z,210nm,0.7s,mb6.2
NJ2 AMB AMB
comp=Z,1μm,9.3s
NJ2 LR LR
comp=N,3μm,20.5s,MS5.6
NJ2 LR LR
comp=E,4μm,21.1s,MS5.6
NJ2 LR LR
comp=Z,4μm,21.3s,MS5.4
SUMG Summit 52.24 15 *e*P **P 03 55 06.7 -0.4**
MNTX Cornudas Mount 52.90 84 *e*P **P 03 55 11.2 -0.8**
comp=Z,186nm,1.4s,mb5.8
MNTX LR LR
comp=Z,2μm,20.0s,MS5.1
KSU1 Kansas State U 53.29 71 *e*P **P 03 55 13.7 -1.2**
comp=Z,429nm,1.5s,mb6.2
KSU1 *e* pP 03 55 27.4 -2.1
SCIA State Center 53.44 67 *e*P **P 03 55 14.8 -1.2**
comp=Z,448nm,1.4s,mb6.2
SCIA *e* pP 03 55 28.8 -1.9
SFJD Kangerlussuaq 54.19 24 P **P 03 55 18.7 -2.8**
comp=Z,7.7nm,0.7s,mb4.7,baz=201,slow=5.4,SNR=3.8
SFJD PcP PcP 03 56 24.6 -0.8
comp=Z,13nm,0.6s,baz=348,slow=1.9,SNR=3.6
SFJD LR LR 04 21 34.7
comp=Z,2μm,18.3s,MS5.3,baz=293,slow=40
SFJD Kangerlussuaq 54.19 24 *i*P **P 03 55 19.8 -1.7**
comp=Z,38nm,1.6s,mb5.1
SFJD *e* 03 55 41.9
SFJD *i*S **S 04 03 00.1 +5.6**
SFJD
comp=Z,3μm,18.0s
SFJD Kangerlussuaq 54.19 24 *e*P **P 03 55 19.8 -1.7**
SFJD *i*S **S 04 03 00.1 +5.6**
SFJD pmax pmax
comp=Z,38nm,1.6s,mb5.1
SFJD MLR MLR
comp=Z,3μm,18.0s,MS5.4
SFJD Kangerlussuaq 54.19 24 *e*P **P 03 55 19.8 -1.7**
comp=Z,38nm,1.6s,mb5.1
SFJD *e* 03 55 41.9
SFJD *i*S **S 04 03 00.1 +5.6**
SFJD LR LR
comp=Z,3μm,18.0s,MS5.4
JFWS Jewell Farm 54.47 64 *e*P **P 03 55 21.8 -1.7**
JFWS MLR MLR
comp=Z,7μm,21.0s,MS5.7
WMOK Wichita Mounta 54.88 77 *e*P **P 03 55 25.5 -1.0**
WMOK pmax pmax
comp=Z,97nm,0.9s,mb5.8
WMOK MLR MLR
comp=Z,3μm,19.0s,MS5.4
WMOK Wichita Mounta 54.88 77 *e*P **P 03 55 25.5 -1.0**
comp=Z,98nm,0.9s,mb5.8
WMOK LR LR
comp=Z,3μm,19.0s,MS5.4
TATO Taipei 55.17 267 PFAKE 03 55 40.0 +11
TATO LR LR
comp=Z,2μm,22.0s,MS5.2
YHNB Yeheng 55.46 267 *e*P **P 03 55 30.8 +0.2**
YHNB *e* pP 03 55 43.3 -2.1
WHN Wuhan 55.65 277 P **P 03 55 31.8 -0.2**
WHN S **S 04 03 20.0 +5.9**
WHN LR LR
comp=Z,3μm,17.2s,MS5.5
NACB Ninganchiao 55.68 266 *e*P **P 03 55 31.2 -1.0**
ZAL Zalesovo 56.01 316 LR LR 04 21 49.0
comp=Z,5μm,18.1s,MS5.6,baz=62,slow=38
NVS Novosibirsk 56.06 317 *e*P **P 03 55 30.4 -4.5**
NVS *i* PcP 03 56 30.8 -1.8
NVS *e*S ScS 04 05 19.3 0.0
NVS pmax pmax
comp=Z,118nm,3.1s
NVS pmax pmax
comp=E,38nm,2.4s
NVS smax
comp=N,35nm,1.7s
XAN Xi'an 56.56 284 P **P 03 55 37.6 -0.9**
XAN AP pP 03 55 52.6 -0.7
XAN S **S 04 03 18.5 -7.7**
XAN AMB AMB
comp=Z,34nm,1.3s,mb5.2
XAN AMB AMB
comp=Z,564nm,9.1s
XAN LR LR
comp=N,1μm,20.6s,MS5.4
XAN LR LR
comp=E,3μm,20.6s,MS5.4
XAN LR LR
comp=Z,4μm,21.0s,MS5.5
QZH Quanzhou 56.99 269⇑ *i*P **P 03 55 40.3 -1.3**
QZH S **S 04 03 32.8 +0.9**

QZH AMB AMB
comp=Z,2µm,4.9s
QZH LR LR
comp=Z,3µm,20.0s,MS5.3
JCT Junction City 57.19 81 *e*P **P 03 55 41.8 -1.1**
JCT MLR MLR
comp=Z,3µm,19.0s,MS5.4
SLM Saint Louis 57.31 68 *e*P **P 03 55 42.7 -1.1**
SLM pmax pmax
comp=Z,114nm,0.8s,mb6.0
SLM Saint Louis 57.31 68 *e*P **P 03 55 42.7 -1.1**
comp=Z,114nm,0.8s,mb6.0
FVM French Village 57.65 68 *e*P **P 03 55 44.3 -1.9**
SCHQ Schefferville 57.84 41 P **P 03 55 46.0 -1.5**
comp=Z,14nm,0.8s,mb5.0,baz=312,slow=7.5,SNR=16
SCHQ LR LR 04 23 09.4
comp=Z,7µm,18.4s,MS5.8,baz=315,slow=39
KEV Kevo 57.92 352 *e*P **P 03 55 46.8 -1.3**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KEV MLR MLR
comp=Z,3µm,22.0s,MS5.4
KEV Kevo 57.92 352 *e*P **P 03 55 46.8 -1.3**
comp=Z,10nm,0.7s,mb5.0
KEV LR LR
comp=Z,3µm,22.0s,MS5.4
MIAR Mount Ida 58.15 73 P **P 03 55 48.5 -1.2**
MIAR pmax pmax
comp=Z,730nm,1.5s,mb6.5
MIAR Mount Ida 58.15 73 *e*P **P 03 55 48.4 -1.2**
comp=Z,726nm,1.5s,mb6.5
MIAR *e* pP 03 56 02.2 -2.4
MIAR *e*S **S 04 03 45.3 -1.7**
MIAR LR LR
comp=Z,2µm,19.0s,MS5.3
LZH Lanzhou 58.19 289 ⇑P **P 03 55 51.0 +1.0**
LZH AP pP 03 56 06.4 +1.6
LZH PCP PcP 03 56 41.0 +0.1
LZH PP PP 03 58 01.6 +2.4
LZH SCP ScP 04 00 36.6 +0.2
LZH PCS PcS 04 00 41.8 -0.6
LZH *e*S **S 04 03 44.0 -3.5**
LZH SS SS 04 07 37.0 -2.7
LZH AMB AMB
comp=Z,129nm,1.6s,mb5.7
LZH AMB AMB
comp=Z,710nm,7.1s
LZH LR LR
comp=E,5µm,16.6s
LZH LR LR
comp=Z,8µm,20.0s,MS5.8
LZH Lanzhou 58.19 289 ⇑P **P 03 55 51.0 +1.0**
comp=Z,129nm,1.6s,mb5.7
LZH pP pP 03 56 06.4 +1.6
LZH sP sP 03 56 14.1 +3.1
LZH PcP PcP 03 56 41.0 +0.1
LZH PP PP 03 58 01.6 +2.4
LZH ScP ScP 04 00 36.6 +0.2
LZH PcS PcS 04 00 41.8 -0.6
LZH *e*S **S 04 03 44.0 -3.5**
LZH sS sS 04 04 14.4 +1.9
LZH ScS ScS 04 05 35.8 +1.0
LZH SS SS 04 07 37.0 -2.7
LZH LR LR
comp=Z,8µm,20.0s,MS5.8
GTA Gaotai 58.24 295 ⇑*i*P **P 03 55 50.1 -0.2**
GTA AP pP 03 56 07.0 +1.8
GTA PCP PcP 03 56 42.5 +1.4
GTA PP PP 03 58 00.4 +0.7
GTA PPP 03 59 23.3
GTA PCS PcS 04 00 44.3 +1.7
GTA S **S 04 03 42.9 -5.3**
GTA PS 04 04 06.9
GTA XS sS 04 04 11.1 -2.1
GTA SCS ScS 04 05 34.3 -0.9
GTA SS SS 04 07 36.4 -4.2
GTA AMB AMB
comp=Z,24nm,1.3s,mb5.1
GTA AMB AMB
comp=Z,577nm,11.1s
GTA LR LR
comp=N,4µm,16.4s,MS5.7
GTA LR LR
comp=E,3µm,16.8s,MS5.7
GTA LR LR
comp=Z,5µm,18.0s,MS5.7
ARCES ARCESS Array B 58.27 352 P **P 03 55 49.6 -0.9**
comp=Z,5.1nm,0.5s,mb4.8,baz=22,slow=7.0,SNR=29
ARCES PcP PcP 03 56 40.6 -0.6
comp=Z,27nm,0.7s,baz=19,slow=4.1,SNR=12
ARCES ScP ScP 04 00 40.4 +3.7
comp=Z,6.3nm,1.0s,baz=28,slow=4.1,SNR=4.3
ARCES LR LR 04 20 50.6
comp=Z,4µm,21.7s,MS5.5,baz=17,slow=36
ARCES ARCESS Array B 58.27 352 P **P 03 55 49.6 -0.9**
ARCES PcP PcP 03 56 40.6 -0.6
ARCES ScP ScP 04 00 40.4 +3.7
ARCES LR LR 04 20 50.6
AAM Ann Arbor 58.51 60 *e*P **P 03 55 51.3 -0.9**
AAM pmax pmax
comp=Z,37nm,0.6s,mb5.6
AAM MLR MLR
comp=Z,4µm,20.0s,MS5.5
AAM Ann Arbor 58.51 60 *e*P **P 03 55 51.2 -0.9**
comp=Z,37nm,0.6s,mb5.6
AAM LR LR
comp=Z,4µm,20.0s,MS5.5
SIUC Southern Illin 58.53 68 *e*P **P 03 55 50.9 -1.4**
comp=Z,80nm,0.8s,mb5.8
TRO Tromso 58.64 355 *e*P **P 03 55 52.2 -1.0**
TRO AMb AMB 03 55 53.8
comp=Z,36nm,1.6s,mb5.1
TRO Tromso 58.64 355 *e*P **P 03 55 52.2 -1.0**
comp=Z,36nm,1.6s,mb5.2
UALR University of 58.72 72 *e*P **P 03 55 51.7 -2.0**
LVZ Lovozero 58.85 348 P **P 03 55 53.8 -0.7**
comp=Z,348nm,0.9s,mb6.4,SNR=19
LVZ Lovozero 58.85 348 *e*P **P 03 55 53.2 -1.3**
LVZ *e* 03 58 04.5
LVZ *e*S **S 04 03 55.3 -0.8**
LVZ pmax pmax
comp=Z,78nm,1.1s,mb5.7
LVZ pmax pmax
comp=N,18nm,0.8s
LVZ pmax pmax
comp=E,7.0nm,0.7s
LVZ smax
comp=E,60nm,2.2s
LVZ smax
comp=Z,203nm,2.2s
LVZ smax
comp=N,119nm,2.5s
LVZ MLR MLR
comp=Z,3µm,19.0s,MS5.5
LVZ MLR MLR
comp=N,3µm,20.0s,MS5.4
LVZ MLR MLR
comp=E,800nm,22.0s,MS5.4
LVZ Lovozero 58.85 348 P **P 03 55 53.6 -0.9**
KTK1 Kautokeino 58.97 353 *e*P **P 03 55 54.8 -0.5**
BLO Bloomington 59.06 65 *e*P **P 03 55 54.8 -1.2**
USIN University of 59.25 67 *e*P **P 03 55 56.0 -1.3**
APA Apatity 59.32 348⇓*e*P **P 03 55 54.0 -3.8**
APA *e* 03 58 17.0
APA *e* 04 04 06.0
APA *e* 04 04 25.0
APA *e* 04 05 45.0
APA pmax pmax
comp=Z,400nm,6.0s
APA MLR MLR
comp=Z,4µm,18.0s,MS5.6
UTMT University of 59.68 69 *e*P **P 03 55 59.3 -1.0**
WCI Wyandotte Cave 59.84 66 P **P 03 56 00.1 -1.3**
WCI pmax pmax
comp=Z,120nm,1.0s,mb5.9
WCI Wyandotte Cave 59.84 66⇑*e*P **P 03 55 59.9 -1.6**
comp=Z,121nm,1.0s,mb5.9
WCI *e* pP 03 56 13.6 -2.7
WCI LR LR
comp=Z,4µm,19.0s,MS5.6
MET Memphis--Engin 59.90 70 *e*P **P 03 56 02.1 +0.2**
MET *e* pP 03 56 14.9 -1.8
HKT Hockley 59.99 79 *e*P **P 03 56 03.5 +1.0**
HKT *e* pP 03 56 15.5 -1.9
HKT pmax pmax
comp=Z,366nm,1.7s,mb6.1
HKT MLR MLR
comp=Z,2µm,22.0s,MS5.3
HKT Hockley 59.99 79 *e*P **P 03 56 03.5 +1.1**
comp=Z,366nm,1.7s,mb6.1
HKT *e* pP 03 56 15.5 -1.9
HKT LR LR
comp=Z,2µm,22.0s,MS5.3
FUNA Funafuti 60.25 188 PFAKE
FUNA LR LR 03 56 10.0 +5.8
comp=Z,3µm,19.0s,MS5.5
ACSO Alum Creek Sta 60.30 62 *e*P **P 03 56 03.5 -1.1**
ACSO LR LR
comp=Z,4µm,20.0s,MS5.5
WVT Waverly 60.43 68⇑*e*P **P 03 56 03.9 -1.5**
WVT *e* pP 03 56 18.5 -1.8
WVT pmax pmax
comp=Z,344nm,1.5s,mb6.2
WVT MLR MLR
comp=Z,1µm,19.0s,MS5.1
WVT Waverly 60.43 68⇑*e*P **P 03 56 03.9 -1.5**
comp=Z,344nm,1.5s,mb6.2
WVT *e* pP 03 56 18.5 -1.8
WVT LR LR
comp=Z,1µm,19.0s,MS5.1
OXF Oxford 60.64 71 *e*P **P 03 56 05.3 -1.5**
OXF MLR MLR
comp=Z,2µm,21.0s,MS5.3
ALLY Alegheny Colle 60.84 59 *e*P **P 03 56 08.0 -0.3**
KURK Kurchatov 60.97 316 P **P 03 56 08.4 -0.7**
comp=Z,273nm,0.4s,SNR=14
PLAL Pickwick Lake 61.09 69 *e*P **P 03 56 07.9 -2.0**
comp=Z,222nm,1.3s,mb6.1
PLAL *e* pP 03 56 22.4 -2.4
PLAL LR LR
comp=Z,2µm,19.0s,MS5.3
MSNY Massena 61.20 53 *e*P **P 03 56 09.7 -1.0**
LONY Lake Ozonia 61.61 53⇑*i*P **P 03 56 12.1 -1.4**
comp=Z,72nm,1.0s,mb5.8
GZH Guangzhou 61.61 272 P **P 03 56 10.5 -3.0**
GZH S **S 04 04 27.8 -3.7**
GZH LR LR
comp=N,1µm,22.1s,MS5.1
GZH LR LR
comp=E,821nm,18.0s,MS5.1
GZH LR LR
comp=Z,2µm,19.0s,MS5.2
WMQ Urumqi 61.69 306 P **P 03 56 14.3 +0.3**
WMQ AP pP 03 56 29.8 +0.9
WMQ PCP PcP 03 56 55.0 +0.1
WMQ PP PP 03 58 32.0 +1.8
WMQ PPP 04 00 02.0
WMQ SCP ScP 04 00 54.5 +2.6
WMQ S **S 04 04 30.5 -2.0**
WMQ XS sS 04 04 57.0 -0.6
WMQ SCS ScS 04 05 56.5 -4.3
WMQ SS SS 04 08 34.4 -0.2
WMQ AMB AMB
comp=Z,40nm,0.8s,mb5.6
WMQ AMB AMB
comp=Z,620nm,5.2s
WMQ LR LR
comp=N,7µm,19.6s,MS5.9
WMQ LR LR
comp=E,5µm,19.7s,MS5.9
WMQ LR LR
comp=Z,7µm,23.8s,MS5.8
SOKR Solikamsk 61.78 333*d*i*P* **P 03 56 15.3 +0.7**
SOKR S **S 04 04 43.4 +10**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
TMCR Tamitsa 61.84 345 *e*P **P 03 56 13.1 -1.9**
TMCR pmax pmax
comp=Z,24nm,0.8s,mb5.4
CD2 Chengdu 61.86 285 *e*P **P 03 56 15.8 +0.7**
CD2 AP pP 03 56 31.8 +1.7
CD2 PCP PcP 03 56 56.3 +0.7
CD2 PP PP 03 58 34.0 +2.3
CD2 SCP ScP 04 00 52.0 -0.7
CD2 PCS PcS 04 00 58.0 -0.7
CD2 S **S 04 04 32.1 -2.6**
CD2 XS sS 04 04 59.8 0.0
CD2 SCS ScS 04 05 58.0 -4.1
CD2 SS SS 04 08 36.3 -1.1
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.8
CD2 AMB AMB
comp=Z,490nm,8.7s
CD2 LR LR
comp=E,2µm,18.0s
CD2 LR LR
comp=Z,2µm,19.2s,MS5.3
FRNY Flat Rock 61.95 52 *e*P **P 03 56 14.0 -1.7**
CHKZ Chkalovo 61.98 323⇑*i*P **P 03 56 14.8 -1.1**
CHKZ *e* pP 03 56 26.8 -4.1
CHKZ *e* 03 56 56.1
CHKZ pmax pmax
comp=Z,12nm,0.8s,mb5.1
CHKZ Chkalovo 61.98 323⇑*i*P **P 03 56 14.8 -1.1**
comp=Z,12nm,0.8s,mb5.1
CHKZ *e* pP 03 56 26.8 -4.1
CHKZ *e*PcP PcP 03 56 56.1 0.0
CHKZ *e*ScP ScP 04 01 03.1 +10
SWET Sewanee 62.16 68 *e*P **P 03 56 15.8 -1.4**
STOK Stokkvaagen 62.20 357 *e*P **P 03 56 17.7 +0.3**
NCB Newcomb 62.26 54⇑*e*P **P 03 56 16.7 -1.1**
comp=Z,122nm,1.3s,mb5.9
NCB *e* pP 03 56 32.2 -0.6
NCB LR LR
comp=Z,3µm,19.0s,MS5.5
MOR8 Moi Rana 62.31 356 *e*P **P 03 56 16.4 -1.7**
MCWV Mont Chateau 62.41 60 *e*P **P 03 56 18.1 -0.7**
comp=Z,79nm,0.9s,mb5.8
MCWV *e* pP 03 56 32.3 -1.5
MCWV LR LR
comp=Z,7µm,19.0s,MS5.8
BVA0 Borovoye Array 62.58 322 *i* P **P 03 56 18.3 -1.6**
BVAR Borovoye Array 62.58 322 P **P 03 56 19.6 -0.3**
comp=Z,11nm,0.6s,mb5.2,baz=56,slow=7.1,SNR=50
BVAR PKP2bc 04 25 32.0
comp=Z,0.9nm,0.4s,baz=188,slow=1.0,SNR=5.8
BVAR LR LR 04 26 54.0
comp=Z,8µm,18.6s,MS5.9,baz=319,slow=39
BVAR Borovoye Array 62.58 322 P **P 03 56 19.6 -0.3**
BVAR ⇑*e* 04 25 32.0
BVAR LR LR 04 26 54.0
VOSK Vostochnaya 62.58 322 P **P 03 56 19.8 -0.1**
VOSK pmax pmax
comp=Z,14nm,0.9s,mb5.1
TZTN Tazewell 62.58 65⇑*e*P **P 03 56 18.9 -1.1**
comp=Z,362nm,1.6s,mb6.2
TZTN *e* pP 03 56 32.2 -2.7
BRVK Borovoye 62.59 322 P **P 03 56 19.4 -0.6**
comp=Z,94nm,0.5s,mb6.2,SNR=7.8
BRVK Borovoye 62.59 322 ⇓P **P 03 56 20.0 0.0**
SNR=8.6
BRVK Borovoye 62.59 322 P **P 03 56 20.7 +0.7**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.2
BRVK Borovoye 62.59 322 P **P 03 56 19.6 -0.3**
BINY Binghamton 62.64 56⇑*i*P **P 03 56 19.9 -0.4**
comp=Z,96nm,0.7s,mb6.0
BINY LR LR
comp=Z,4µm,19.0s,MS5.6
SSPA Standing Stone 62.76 58⇑*i*P **P 03 56 20.5 -0.7**
comp=Z,250nm,1.3s,mb6.2
SSPA LR LR
comp=Z,4µm,21.0s,MS5.5
SVE Sverdlovsk 62.92 330⇑*e*P **P 03 56 19.8 -2.4**
SVE *e*S sS 04 05 14.0 +0.7
SVE pmax pmax
comp=Z,80nm,0.2s
SVE MLR MLR
comp=N,4µm,16.0s,MS5.7
SVE MLR MLR
comp=E,900nm,16.0s,MS5.7
SVE MLR MLR
comp=Z,7µm,16.0s,MS5.9
ACCN Adirondack Com 62.96 54 *e*P **P 03 56 21.9 -0.6**
LRAL Lakeview Retre 63.10 70 PFAKE 03 56 30.0 +6.6
LRAL LR LR
comp=Z,3µm,19.0s,MS5.4
LBNH Lisbon 63.20 52 *e*P **P 03 56 23.6 -0.4**
LBNH pmax pmax
comp=Z,118nm,1.4s,mb5.8
LBNH MLR MLR
comp=Z,4µm,22.0s,MS5.6
LBNH Lisbon 63.20 52 *e*P **P 03 56 23.6 -0.5**
comp=Z,118nm,1.4s,mb5.8
LBNH LR LR
comp=Z,4µm,22.0s,MS5.5
GYA Guiyang 63.29 279⇑*i*P **P 03 56 24.9 +0.2**
GYA AP pP 03 56 41.3 +1.6
GYA XP sP 03 56 48.1 +2.2
GYA PP PP 03 58 48.9 +4.6
GYA S **S 04 04 57.3 +4.7**
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.6
GYA AMB AMB
comp=Z,740nm,5.1s
GYA LR LR
comp=N,1µm,18.3s,MS5.3
GYA LR LR
comp=E,1µm,18.7s,MS5.3
GYA LR LR
comp=Z,2µm,20.6s,MS5.3
FWV Forest Hill 63.37 63 *e*P **P 03 56 24.9 -0.3**
FWV *e* pP 03 56 37.4 -2.8
HNH Hanover 63.41 53 *e*P **P 03 56 27.9 +2.5**
ELN Prospectdale 63.66 63⇑*i*P **P 03 56 26.2 -0.8**
ELN *e* pP 03 56 40.1 -2.0
TGY Tagaytay City 63.67 259 P **P 03 56 29.2 +2.0**
comp=Z,105nm,0.3s,baz=147,slow=6.0,SNR=12
TGY Tagaytay City 63.67 259 P **P 03 56 29.2 +2.1**
TGY pmax pmax
comp=Z,105nm,0.3s
PKME Peaks-Kenny Pk 63.72 50⇑*e*P **P 03 56 26.2 -1.2**
comp=Z,84nm,1.2s,mb5.7
BLA Blacksburg 63.85 63 P **P 03 56 27.9 -0.4**
BLA pmax pmax
comp=Z,28nm,1.4s,mb5.1
BLA Blacksburg 63.85 63 *e*P **P 03 56 27.6 -0.7**
comp=Z,388nm,1.5s,mb6.2
BLA LR LR
comp=Z,5µm,20.0s,MS5.7
ARU Arti 63.90 331 *e*P **P 03 56 28.0 -0.6**
ARU *e* pP 03 56 44.3 +0.6
ARU *e* 03 57 03.2
ARU *e*PPP 04 00 20.2
ARU *e*S **S 04 04 59.2 -0.9**
ARU *e* 04 06 11.0
ARU *e*SS SS 04 09 05.3 -3.8
ARU MLR MLR
comp=Z,6µm,18.0s,MS5.8
ARU MLR MLR
comp=N,3µm,18.5s,MS5.7
ARU MLR MLR
comp=E,2µm,17.0s,MS5.7
ARU Arti 63.90 331 *e*P **P 03 56 28.1 -0.6**
comp=E,34nm,0.9s,mb5.4
ARU LR LR
comp=Z,1µm,19.0s,MS5.2
FFD Franklin Falls 63.90 52 *e*P **P 03 56 27.8 -0.9**
comp=Z,118nm,1.0s,mb5.9
FFD *e* pP 03 56 43.4 -0.3
JOF Joensuu 64.03 347 *e*p **P 03 56 27.9 -1.6**
comp=Z,14nm,0.4s,mb5.4
MVL Millersville 64.04 58 *e*P **P 03 56 29.0 -0.5**
NSS Namsos 64.04 357 *e*P **P 03 56 27.7 -1.9**
QUA2 Belchertown 64.43 54 *e*P **P 03 56 31.2 -0.9**
comp=Z,249nm,1.3s,mb6.1
QUA2 *e* pP 03 56 46.0 -1.2
BRNJ Basking Ridge 64.47 56 *e*P **P 03 56 33.0 +0.6**
PAL Palisades 64.57 56 *e*P **P 03 56 32.9 -0.2**
HRV Harvard--Oak R 64.66 53 *e*P **P 03 56 33.3 -0.3**
HRV *e* pP 03 56 47.9 -0.8
HRV pmax pmax
comp=Z,114nm,1.3s,mb5.7
HRV MLR MLR
comp=Z,3µm,19.0s,MS5.5
HRV Harvard--Oak R 64.66 53 *e*P **P 03 56 33.3 -0.3**
comp=Z,114nm,1.3s,mb5.7
HRV *e* pP 03 56 47.9 -0.8
HRV LR LR
comp=Z,3µm,19.0s,MS5.5
CBN Corbin 64.80 60 PFAKE 03 56 40.0 +5.5
CBN LR LR
comp=Z,4µm,19.0s,MS5.7
WES Weston 64.86 53 *e*P **P 03 56 34.4 -0.6**
WES MLR MLR
comp=Z,2µm,19.0s,MS5.4
HNR Honiara 64.89 209 PFAKE 03 56 40.0 +4.8
HNR LR LR
comp=Z,2µm,22.0s,MS5.3
AFI Afiamalu 65.33 178 PFAKE 03 56 50.0 +12
AFI LR LR
comp=Z,2µm,20.0s,MS5.3
KAF Kangasniemi 65.43 350 *e*p **P 03 56 36.7 -1.9**
comp=Z,20nm,0.7s,mb5.3,baz=10,slow=5.9
KAF Kangasniemi 65.43 350 *e*P **P 03 56 36.7 -1.9**
KAF pmax pmax
comp=Z,21nm,0.7s,mb5.3
JSC Jenkinsville 65.50 65 P **P 03 56 39.3 +0.2**
FINES FINESS Array B 66.11 350 P **P 03 56 42.1 -0.8**
comp=Z,11nm,0.7s,mb5.0,baz=15,slow=7.4,SNR=39
FINES LR LR 04 30 58.5
comp=Z,2µm,18.8s,MS5.4,baz=16,slow=41
FINES FINESS Array B 66.11 350 P **P 03 56 42.1 -0.9**
FINES pmax pmax
comp=Z,11nm,0.7s
FINES MLR MLR
comp=Z,2µm,18.8s
KMI Kunming 66.67 281 P **P 03 56 46.8 +0.2**
KMI AP pP 03 57 05.0 +3.3
KMI PP PP 03 59 14.5 +0.6
KMI S S 04 05 34.8 +0.7
KMI SS SS 04 09 52.3 0.0
KMI AMB AMB
comp=Z,32nm,1.5s,mb5.1
KMI AMB AMB
comp=Z,881nm,5.9s
KMI LR LR
comp=N,2µm,22.9s,MS5.2
KMI LR LR
comp=E,1µm,22.0s,MS5.2
KMI LR LR
comp=Z,1µm,25.6s,MS5.0
KMI Kunming 66.67 281 P **P 03 56 46.8 +0.2**
comp=Z,32nm,1.5s,mb5.1
KMI pP pP 03 57 05.0 +3.3
KMI sP sP 03 57 11.3 +3.4
KMI PP PP 03 59 14.5 +0.6
KMI PPP 04 00 53.0
KMI S S 04 05 34.8 +0.7
KMI PS 04 05 55.3
KMI sS sS 04 06 05.9 +6.4
KMI SS SS 04 09 52.2 -0.1
KMI SSS 04 12 52.7
KMI LR LR
comp=Z,1µm,25.6s,MS5.0
QIZ Qiongzhong 66.80 272 P **P 03 56 48.4 +1.0**
QIZ AP pP 03 57 04.3 +1.7
QIZ PP PP 03 59 19.4 +4.4
QIZ S S 04 05 38.0 +2.3
QIZ SCS ScS 04 06 37.6 -2.4
QIZ SS SS 04 09 57.9 +3.5
QIZ AMB AMB
comp=Z,17nm,1.1s,mb5.0
QIZ AMB AMB
comp=Z,757nm,5.8s
QIZ LR LR
comp=E,2µm,19.2s
QIZ LR LR
comp=Z,1µm,21.8s,MS5.0
QIZ Qiongzhong 66.80 272 PFAKE 03 57 00.0 +13
QIZ LR LR
comp=Z,1µm,20.0s,MS5.1
TAOE Nuku Hiva Isla 66.93 143 *e*S S 04 05 36.3 -0.9
comp=Z,3µm,25.5s
TAOE *e*SS SS 04 09 44.1 -12
comp=Z,2µm,25.8s
TAOE *e*LR LR 04 16 49.7
comp=Z,10µm,22.9s
NB2 NORSAR Subarra 67.56 357 P **P 03 56 51.2 -1.0**
comp=Z,7.7nm,0.7s,mb4.8,baz=1.3,slow=6.2
NB2 NORSAR Subarra 67.56 357 P **P 03 56 51.2 -1.0**
NB2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
NOA NORSAR Array B 67.56 357 P **P 03 56 51.6 -0.6**
comp=Z,7.2nm,0.7s,mb4.8,baz=3.3,slow=6.4,SNR=36

NOA LR LR 04 27 09.0
comp=Z,2μm,19.0s,MS5.3,baz=350,slow=37
NOA NORSAR Array B 67.56 357 P **P** **03 56 51.6 -0.6**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,2μm,19.0s
NAO01 NORSAR Array S 67.77 357 PFAKE 03 57 00.0 +6.5
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.4
HFS Hagfors 68.38 356 P **P** **03 56 56.4 -1.0**
comp=Z,10nm,0.5s,mb5.1,baz=44,slow=4.5,SNR=51
HFS Hagfors 68.38 356 P **P** **03 56 56.4 -1.0**
HFS pmax pmax
comp=Z,10.0nm,0.5s
ODD1 Odda 68.77 360 *eP* **P** **03 56 59.1 -0.7**
AAK Ala-Archa 68.96 313 P **P** **03 57 01.6 +0.6**
comp=Z,176nm,0.8s,mb6.0,SNR=7.6
AAK Ala-Archa 68.96 313 ⇑P **P** **03 57 01.4 +0.4**
SNR=7.7
AAK Ala-Archa 68.96 313*c i*P **P** **03 57 01.4 +0.4**
AAK pmax pmax
comp=Z,71nm,2.2s,mb5.2
AAK Ala-Archa 68.96 313 P **P** **03 57 01.1 +0.1**
KONO Kongsberg 69.00 358⇑*eP* **P** **03 57 01.9 +0.7**
KONO Kongsberg 69.00 358 PFAKE 03 57 10.0 +8.8
KONO LR LR
comp=Z,2μm,20.0s,MS5.3
AKTK Aktyubinsk 69.14 327 P **P** **03 57 01.9 -0.2**
AKTK LR LR 04 31 06.9
AKTO Aktyubinsk 69.14 327 P **P** **03 57 01.9 -0.2**
comp=Z,26nm,0.5s,mb5.4,baz=55,slow=7.5,SNR=77
AKTO LR LR 04 31 06.9
comp=Z,4μm,18.4s,MS5.6,baz=234,slow=39
AKTO Aktyubinsk 69.14 327 P **P** **03 57 01.9 -0.2**
AKTO pmax pmax
comp=Z,26nm,0.5s,mb5.4
AKTO MLR MLR
comp=Z,4μm,18.4s,MS5.6
BLS5 Blasjo 69.26 360 *eP* **P** **03 57 04.2 +1.4**
PMG Port Moresby 69.44 221 PFAKE 03 57 10.0 +6.0
PMG LR LR
comp=Z,2μm,22.0s,MS5.3
KMY Karmoy 69.47 0 *eP* **P** **03 57 04.8 +0.7**
KMY AMb AMB 03 57 08.9
comp=Z,31nm,1.9s,mb4.9
KMY Karmoy 69.47 0 *eP* **P** **03 57 04.8 +0.7**
comp=Z,31nm,1.9s,mb4.9
AB31 Akbulak array 69.48 326 *eP* **P** **03 57 03.4 -0.8**
AB31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
MOS Moscow 69.81 342 *eP* **P** **03 57 04.9 -1.3**
MOS *e* pP 03 57 22.6 +1.2
MOS *e* 03 59 37.1
MOS pmax pmax
comp=Z,62nm,0.6s,mb5.7
MOS MLR MLR
comp=Z,3μm,18.0s,MS5.6
DWPF Disney 69.96 70 *eP* **P** **03 57 07.2 +0.1**
comp=Z,52nm,0.8s,mb5.5
DWPF *e* pP 03 57 20.1 -2.2
DWPF LR LR
comp=Z,3μm,19.0s,MS5.5
PMOR Pomariorio Ree 70.16 153 *eP* **P** **03 57 07.3 -1.1**
comp=Z,99nm,1.0s,mb5.7
LSA Lhasa 70.17 293 P **P** **03 57 11.0 +2.6**
LSA Lhasa 70.17 293 PFAKE 03 57 20.0 +12
LSA LR LR
comp=Z,3μm,20.0s,MS5.6
KK31 Karatay Array 70.37 315 *i* P **P** **03 57 09.5 -0.1**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb5.1
KKAR Karatay Array 70.37 315 P **P** **03 57 09.5 -0.1**
KKAR pmax pmax
comp=Z,13nm,0.7s,mb5.0
VAH Vaihoa 70.46 153 *eP* **P** **03 57 09.1 -1.1**
comp=Z,60nm,0.8s,mb5.6
OBN Obninsk 70.60 342⇓*iP* **P** **03 57 10.5 -0.6**
OBN 03 57 34.0
OBN 03 59 52.0
OBN PPP 04 01 31.0
OBN S S 04 06 13.0 -7.7
OBN SS SS 04 10 49.0 -4.0
OBN pmax pmax
comp=Z,24nm,0.6s,mb5.3
OBN MLR MLR
comp=Z,4μm,22.0s,MS5.6
OBN Obninsk 70.60 342 *eP* **P** **03 57 10.1 -1.0**
comp=Z,24nm,0.5s,mb5.4
OBN LR LR
comp=Z,847nm,21.0s,MS5.0
KSH Kashi 70.71 310⇑*iP* **P** **03 57 13.0 +1.3**
KSH *e*AP pP 03 57 29.3 +2.3
KSH *e*PCP PcP 03 57 33.0 +0.7
KSH *e*PP PP 03 59 52.1 +3.3
KSH *e*S S 04 06 19.0 -2.9
KSH *e*XS sS 04 06 48.4 +0.8
KSH *e*PS 04 06 56.3
KSH *e*SKS 04 07 05.3
KSH *e*SCS ScS 04 07 07.3 -3.3
KSH *e*SS SS 04 10 55.1 +0.5
KSH AMB AMB
comp=Z,1μm,4.2s
KSH LR LR
comp=N,10μm,19.3s,MS6.2
KSH LR LR
comp=E,8μm,17.3s,MS6.2
KSH LR LR
comp=Z,6μm,18.1s,MS5.9
PPT Papeete 72.16 156 *eS* S 04 06 38.0 -0.6
comp=Z,2μm,25.0s
PPT *e*SS SS 04 11 23.1 +6.3
comp=Z,589nm,25.2s
PPT *e*LR LR 04 19 06.2
comp=Z,4μm,21.8s,baz=346
PPT Papeete 72.16 156 LR LR 04 23 40.4
comp=Z,3μm,19.2s,MS5.6,baz=290,slow=31
PPT Papeete 72.16 156 *eP* **P** **03 57 19.2 -1.2**
PPT *e*S S 04 06 38.0 -0.6
PPT *e*SS SS 04 11 23.1 +6.3
PPT pmax pmax
comp=Z,73nm,1.4s
PPT Papeete 72.16 156 *eP* **P** **03 57 19.2 -1.2**
comp=Z,73nm,1.4s,mb5.4
PPT *e*S S 04 06 38.0 -0.6
PPT *e*SS SS 04 11 23.1 +6.3
MUD Monsted U'grnd 72.21 358 *i* P **P** **03 57 20.7 0.0**
comp=Z,17nm,1.1s,mb4.9
MUD *i* 03 58 42.4
MUD *i* S sS 04 07 04.7 -0.3
MUD *i* 04 11 49.8
MUD LR LR
comp=Z,1μm,20.0s
MUD Monsted U'grnd 72.21 358 *eP* **P** **03 57 20.7 0.0**
MUD *i* S sS 04 07 04.7 -0.3
MUD pmax pmax
comp=Z,17nm,1.1s,mb4.9
MUD MLR MLR
comp=Z,1μm,20.0s,MS5.2
MUD Monsted U'grnd 72.21 358 *eP* **P** **03 57 20.7 0.0**
comp=Z,17nm,1.1s,mb4.9
MUD *i* 03 58 42.4
MUD *i* S sS 04 07 04.7 -0.3
MUD *i* 04 11 49.8
IMP Imphal 72.23 287 *eP* **P** **03 57 22.0 +1.1**
MNK Minsk 72.65 347 *eP* **P** **03 57 19.0 -4.4**
SHL Shillong 72.85 289 *ex* **P** **03 57 14.5 -10**
SHL *e*S S 04 06 51.4 +4.8
COP Copenhagen 72.88 356 *i* P **P** **03 57 25.8 +1.1**
COP *i* S S 04 06 50.4 +3.5
COP *i* 04 11 34.4
COP *i* 04 11 56.4
COP LR LR
comp=Z,1μm,19.0s
COP Copenhagen 72.88 356 *i* P **P** **03 57 25.8 +1.1**
COP *i* S S 04 06 50.4 +3.5
COP *i* 04 11 34.4
COP MLR MLR
comp=Z,1μm,19.0s,MS5.1
EKA Eskdalemuir Ar 73.09 5 P **P** **03 57 25.8 -0.2**
comp=Z,1.9nm,0.6s,baz=352,slow=4.6,SNR=14
EKA Eskdalemuir Ar 73.09 5 P **P** **03 57 25.8 -0.2**
EKA pmax pmax
comp=Z,2.0nm,0.6s
ESK Eskdalemuir 73.10 6 PFAKE 03 57 40.0 +14
ESK LR LR
comp=Z,439nm,20.0s,MS4.7
VOR Voronezh 73.24 339 *eP* **P** **03 57 25.5 -1.4**
VOR pmax pmax
comp=Z,120nm,1.8s,mb5.5
BSD Bornholm Skovb 73.33 355 *i* P **P** **03 57 27.2 -0.2**
BSD Bornholm Skovb 73.33 355⇑*iP* **P** **03 57 27.5 +0.1**
comp=Z,16nm,0.8s,mb5.0
BSD *i* S S 04 07 09.9 +18
BSD *i* 04 12 03.0
BSD
comp=Z,1μm,19.0s
BSD Bornholm Skovb 73.33 355⇑*iP* **P** **03 57 27.5 +0.1**
BSD pmax pmax
comp=Z,16nm,0.8s,mb5.0
BSD MLR MLR
comp=Z,1μm,19.0s,MS5.2
BSD Bornholm Skovb 73.33 355 *eP* **P** **03 57 27.2 -0.2**
BSD *i* S S 04 07 09.9 +18
BSD *i* 04 12 03.0
CHG Chiang Mai 73.71 280⇓P **P** **03 57 30.4 +0.7**
comp=Z,41nm,0.9s,mb5.4
CHTO Chiang Mai 73.71 280⇑P **P** **03 57 32.1 +2.5**
SNR=7.8
CHTO Chiang Mai 73.71 280 *eP* **P** **03 57 31.3 +1.6**
CHTO *e* pP 03 57 46.7 +1.7
CHTO pmax pmax
comp=Z,31nm,1.0s,mb5.2
CHTO MLR MLR
comp=Z,2μm,21.0s,MS5.3
CHTO Chiang Mai 73.71 280 *eP* **P** **03 57 31.2 +1.6**
comp=Z,32nm,1.0s,mb5.2
CHTO *e* pP 03 57 46.7 +1.7
CHTO LR LR
comp=Z,2μm,21.0s,MS5.3
SUW Suwalki 73.72 350 *eP* **P** **03 57 29.1 -0.6**
SUW *e*pP pP 03 57 45.2 +0.2
SUW *e*sP sP 03 57 52.7 +1.6
SUW *e*S S 04 06 56.8 +0.4
SUW L 04 30 19.5
comp=Z,2.8nm,23.0s
SUW Suwalki 73.72 350 *eP* **P** **03 57 29.1 -0.6**
SUW *e**PP pP 03 57 45.2 +0.2
SUW *e*S S 04 06 56.8 +0.4
SUW Suwalki 73.72 350 *eP* **P** **03 57 29.1 -0.6**
SUW *e*pP pP 03 57 45.2 +0.2
SUW *e*sP sP 03 57 52.7 +1.6
SUW *e*S S 04 06 56.8 +0.4
VRSR Storozhevoye 73.72 339*c iP* **P** **03 57 29.3 -0.4**
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,70nm,0.8s,mb5.6
VRSR pmax pmax
comp=N,100nm,0.9s
CM31 Chiang Mai Arr 73.98 280 PFAKE 03 57 40.0 +8.8
CM31 LR LR
comp=Z,2μm,20.0s,MS5.3
GUN Gumba 74.52 295 *eP* **P** **03 57 35.6 +1.2**
comp=Z,557nm,0.9s,mb6.5
JIRN Jiri 74.54 295 *eP* **P** **03 57 36.0 +1.5**
comp=Z,269nm,0.7s,mb6.3
BSEG Bad Segeberg 74.70 357 *eP* **P** **03 57 35.7 +0.3**
comp=Z,31nm,1.1s,mb5.2
BSEG *e*pP pP 03 57 51.3 +0.5
DCN Croghan 74.76 8 *eP* **P** **03 57 38.0 +2.3**
DLF Lyons Farm 74.87 8 *eP* **P** **03 57 35.0 -1.4**
KKN Kakani 74.95 296 *eP* **P** **03 57 37.7 +0.9**
comp=Z,50nm,0.5s,mb5.7
GKP Gorka Klasztor 75.01 353 *eP* **P** **03 57 36.9 -0.3**
GKP L 04 36 08.3
comp=Z,3.3nm,20.6s
PKI Pulchoki 75.05 295 *eP* **P** **03 57 38.3 +0.9**
comp=Z,175nm,1.0s,mb5.9
GKN Gorkha 75.15 296 *eP* **P** **03 57 38.7 +0.7**
comp=Z,91nm,0.4s,mb6.0
DMN Daman 75.19 296 *eP* **P** **03 57 39.2 +1.0**
comp=Z,183nm,0.9s,mb6.0
MGV Manicaragua 75.35 73 *eP* **P** **03 57 39.9 +0.8**
NST Nakhon Sawan 75.37 277 P **P** **03 57 40.2 +1.0**
DZM Mont Dzumac 75.42 199 P **P** **03 57 39.2 -0.4**
comp=Z,25nm,1.0s,mb5.1,baz=68,slow=10,SNR=7.2
WAR Warsaw 75.69 351 *eP* **P** **03 57 41.1 0.0**
WAR *e*pP pP 03 57 56.5 0.0
WAR L 04 30 56.9
comp=Z,3.5nm,23.0s
KOLN Koldanda 75.90 297 *eP* **P** **03 57 43.1 +0.8**
comp=Z,196nm,1.0s,mb6.0
BBSR BB Station 75.92 55 *eP* **P** **03 57 43.1 +0.7**
comp=Z,51nm,0.8s,mb5.5
BBSR LR LR
comp=Z,2μm,20.0s,MS5.3
AKASG Malin Array Be 76.13 345 P **P** **03 57 42.3 -1.3**
comp=Z,16nm,0.5s,mb5.2,baz=17,slow=6.0,SNR=46
AKASG LR LR 04 33 52.6
comp=Z,2μm,20.1s,MS5.5,baz=5.0,slow=38
AKASG Malin Array Be 76.13 345 P **P** **03 57 42.3 -1.3**
AKASG pmax pmax
comp=Z,16nm,0.5s
AKASG MLR MLR
comp=Z,2μm,20.1s
AKBB Malin Array Si 76.13 345 P **P** **03 57 42.4 -1.2**
AKBB Malin Array Si 76.13 345 *eP* **P** **03 57 41.3 -2.2**
NRDL Niedersach Rie 76.15 357 *eP* **P** **03 57 43.5 -0.2**
comp=Z,13nm,0.9s,mb4.9
NRDL *e*pP pP 03 57 59.4 +0.3
IBBN Ibbenburen 76.39 359 *eP* **P** **03 57 45.7 +0.7**
comp=Z,23nm,0.8s,mb5.2
LGTI Lohaghat 76.43 300 *ex* x 03 58 07.0
THN Thein Dam 76.44 305 *eP* **P** **03 57 43.1 -2.2**
NIL Nilore 76.69 308 P **P** **03 57 48.9 +2.1**
comp=Z,248nm,1.1s,mb6.0,SNR=5.4
SMLA Simla 76.73 304 *eP* **P** **03 57 47.5 +0.5**
SMLA AMb AMB 03 57 52.3
comp=Z,105nm,1.8s,mb5.5
WTSB Winterswijk 76.73 360⇑*eP* **P** **03 57 46.4 -0.7**
comp=Z,42nm,3.0s
CLL Collm 77.23 356 *eP* **P** **03 57 49.5 -0.3**
comp=Z,25nm,0.9s,mb5.1
CLL *e*pP pP 03 58 05.0 -0.2
CLL Collm 77.23 356⇑*iP* **P** **03 57 49.4 -0.4**
comp=Z,29nm,0.6s,mb5.4
CLL *i* pP pP 03 58 06.3 +1.1
CLL *i* sP sP 03 58 13.6 +2.3
CLL *e*PP PP 04 00 41.0 -3.2
CLL *e*S S 04 07 45.0 +10
CLL *e*PS 04 08 15.0
CLL *e*PPS 04 08 33.0
CLL *e*x x 04 09 26.0
CLL *e*SS SS 04 12 54.0 +20
CLL *e*(SSS) 04 16 42.0
CLL Lm 04 33 00.0
comp=N,2μm,19.8s
CLL Lm 04 33 00.0
comp=E,1μm,19.6s
CLL Lm 04 33 00.0
comp=Z,2μm,19.7s
CLL Collm 77.23 356⇑*iP* **P** **03 57 49.4 -0.4**
CLL *i* *PP pP 03 58 06.3 +1.1
CLL pmax pmax
comp=Z,29nm,0.6s,mb5.4
CLL MLR MLR
comp=Z,2μm,19.7s,MS5.5
CLL Collm 77.23 356⇑*iP* **P** **03 57 49.4 -0.4**
comp=Z,29nm,0.6s,mb5.4
CLL *i* pP pP 03 58 06.3 +1.1
CLL *i* sP sP 03 58 13.6 +2.3
CLL *e*S S 04 07 45.0 +10
CLL LR LR
comp=Z,2μm,19.7s,MS5.5
CAL Calcutta 77.25 290 *eP* **P** **03 57 49.7 -0.2**
CAL *e*S S 04 07 38.8 +3.4
BUG Bochum--Univer 77.26 359 *eP* **P** **03 57 50.1 +0.1**
comp=Z,17nm,1.1s,mb4.9
KSP Ksiaz 77.49 353 *eP* **P** **03 57 51.1 -0.2**
KSP *e*pP pP 03 58 05.5 -1.2
KSP *e*sP sP 03 58 14.9 +2.1
KSP *e*S S 04 07 31.6 -6.5
KSP L 04 37 44.7
comp=Z,4.5nm,19.6s
KSP Ksiaz 77.49 353⇑*eP* **P** **03 57 50.9 -0.4**
KSP *e*pP pP 03 58 05.9 -0.8
KSP *e*SKS 04 07 58.0
KSP *e*SS SS 04 12 33.0 -4.9
KSP LR LR
comp=Z,5μm,24.8s,MS5.7
BRG Berggiesshubel 77.61 355 *eP* **P** **03 57 51.5 -0.4**
comp=Z,35nm,1.0s,mb5.2
BRG *e*pP pP 03 58 08.5 +1.1
BRG Berggiesshubel 77.61 355⇑*iP* **P** **03 57 51.7 -0.2**
comp=Z,21nm,1.1s,mb5.0
BRG *i* pP pP 03 58 08.6 +1.2
comp=Z,18nm,0.8s
BRG sP sP 03 58 15.8 +2.3
comp=Z,25nm,0.9s
BRG SKS 04 07 43.0
BRG SS SS 04 12 59.0 +19
BRG
comp=Z,1μm,19.8s
BRG
comp=N,870nm,26.8s
BRG
comp=E,890nm,26.2s
BRG Berggiesshubel 77.61 355⇑*iP* **P** **03 57 51.7 -0.2**
BRG *i* *PP pP 03 58 08.6 +1.2
BRG 04 07 43.0
BRG pmax pmax
comp=Z,21nm,1.1s,mb5.0
BRG MLR MLR
comp=Z,1μm,19.8s,MS5.2
BRG MLR MLR
comp=N,870nm,26.8s
BRG MLR MLR
comp=E,890nm,26.2s
BRG Berggiesshubel 77.61 355⇑*iP* **P** **03 57 51.7 -0.2**
comp=E,21nm,1.0s,mb5.0
BRG *i* pP pP 03 58 08.6 +1.2
BRG sP sP 03 58 15.8 +2.3
BRG SKS 04 07 43.0
BRG SS SS 04 12 59.0 +19
BRG LR LR
comp=Z,1μm,19.8s,MS5.2
BOK Bokaro 77.69 293 *eP* **P** **03 57 53.6 +1.2**
BOK AMb AMB 03 57 58.8
comp=Z,118nm,1.6s,mb5.6
LVV L'vov 77.73 348 *eP* **P** **03 57 53.1 +0.5**
LVV *e* 04 00 44.7
LVV *e*PPP 04 02 33.1
LVV *e*S S 04 07 32.9 -7.8
LVV *e*PS 04 08 12.5
LVV *e*SSS 04 15 55.7
LVV MLR MLR
comp=N,1μm,18.0s,MS5.3
LVV MLR MLR
comp=E,350nm,18.0s,MS5.3
LVV MLR MLR
comp=Z,1μm,18.0s,MS5.3
OJC Ojcow 77.81 351 *i* Pc **P** **03 57 52.4 -0.7**
OJC *e*pP pP 03 58 08.3 -0.2
OJC *e*S S 04 07 46.0 +4.4
OJC L 04 35 38.2
comp=Z,12nm,19.9s
UBBA Unterbreizbach 77.83 357 *eP* **P** **03 57 52.9 -0.3**
comp=Z,18nm,1.5s,mb4.8
UPC Upice 77.85 354 *eP* **P** **03 57 53.0 -0.2**
PVCC Panska Ves 77.92 354 *eP* **P** **03 57 53.5 -0.1**
PVCC AMS AMS 04 38 30.0
comp=Z,2μm,18.7s
HGN Heimansgroeve 77.94 0⇑*eP* **P** **03 57 53.4 -0.4**
comp=Z,45nm,2.9s,mb4.9
HGN *e*S S 04 07 36.6 -6.3
HGN *e*SS SS 04 12 49.4 +4.7
MOX Moxa 77.95 356 *eP* **P** **03 57 53.7 -0.1**
MOX pmax pmax
comp=Z,21nm,0.8s,mb5.1
MOX MLR MLR
comp=Z,2μm,21.0s,MS5.3
MOX Moxa 77.95 356⇑*eP* **P** **03 57 53.7 -0.1**
comp=Z,21nm,0.8s,mb5.1
MOX *e*S S 04 07 56.0 +13
MOX *e*SS SS 04 13 04.0 +19
MOX LR LR
comp=Z,2μm,21.0s,MS5.3
DPC Dobruska-Polom 77.98 353 *eP* **P** **03 57 54.0 0.0**
DPC *e*pP pP 03 58 11.1 +1.7
DPC *e*S S 04 07 46.8 +3.5
DPC AMS AMS 04 38 00.0
comp=Z,2μm,19.5s
KWP Kalwaria 78.08 349 *eP* **P** **03 57 54.6 +0.1**
KWP *e*PcP PcP 03 58 03.1 -0.9
KWP *e*pP pP 03 58 09.2 -0.8
KWP L 04 37 43.4
comp=Z,3.7nm,18.4s
KWP Kalwaria 78.08 349 *eP* **P** **03 57 54.6 +0.1**
KWP *e*PcP PcP 03 58 03.1 -0.9
KWP *e*pP pP 03 58 09.2 -0.8
MENF Mencas 78.09 3 *eP* **P** **03 57 53.7 -0.9**
MEM Membach 78.09 0 P **P** **03 57 54.9 +0.3**
TANN Tannenbergstha 78.14 356 *eP* **P** **03 57 54.9 0.0**
comp=Z,19nm,1.1s,mb4.9
SNF Seneffe 78.18 1 P **P** **03 57 55.5 +0.4**
BCLA Clavier 78.28 0 P **P** **03 57 55.3 -0.4**
NKC Novy Kostel 78.33 356 *eP* **P** **03 57 56.1 +0.2**
NKC *e*S S 04 07 46.4 -0.6
NKC AMS AMS 04 39 00.0
comp=Z,2μm,17.7s
NKC Novy Kostel 78.33 356 *eP* **P** **03 57 56.1 +0.2**
NKC *e* 04 07 46.4
OKC Ostrava-Krasne 78.34 352 *eP* **P** **03 57 55.7 -0.3**
OKC *e*pP pP 03 58 12.7 +1.2
OKC AMS AMS 04 38 30.0
comp=Z,2μm,18.2s
OKC Ostrava-Krasne 78.34 352 *eP* **P** **03 57 55.7 -0.3**
OKC *e* pP 03 58 12.7 +1.2
MORC Moravsky Berou 78.46 352 P **P** **03 57 56.6 0.0**
PRU Pruhonice 78.46 354 *eP* **P** **03 57 56.4 -0.2**
PRU *e*pP pP 03 58 13.3 +1.2
PRU *e*SKS 04 08 03.6
PRU AMS AMS 04 38 10.0
comp=Z,3μm,20.2s
STHS Stebnicka Huta 78.46 350 *eP* **P** **03 57 56.8 +0.2**
STHS pmax pmax
comp=Z,20nm,0.9s,mb5.0
STHS Stebnicka Huta 78.46 350 *eP* **P** **03 57 56.8 +0.2**
comp=Z,20nm,0.9s,mb5.0
TNS Taunus Mts 78.46 358 *eP* **P** **03 57 56.6 0.0**
comp=Z,24nm,1.0s,mb5.1
TNS *e*pP pP 03 58 12.5 +0.4
TNS Taunus Mts 78.46 358 *eP* **P** **03 57 56.6 0.0**
TNS *e**PP pP 03 58 12.5 +0.4
TNS pmax pmax
comp=Z,24nm,1.0s,mb5.1
GOF Gofitskoye 78.50 334 *eP* **P** **03 58 01.1 +4.2**
GOF pmax pmax
comp=Z,130nm,1.0s,mb5.8
NIE Niedzica 78.56 351 *eP* **P** **03 57 57.8 +0.6**
MANZ Manzenberg 78.59 356 *eP* **P** **03 57 57.3 0.0**
comp=Z,18nm,1.1s,mb4.9
GIVF Givet 78.60 1⇑*iP* **P** **03 57 57.1 -0.3**
comp=Z,73nm,1.2s,mb5.2
GIVF Givet 78.60 1⇑*iP* **P** **03 57 57.1 -0.3**
GIVF pmax pmax
comp=Z,36nm,1.2s,mb5.2
GIVF Givet 78.60 1⇑*iP* **P** **03 57 57.1 -0.3**
comp=Z,36nm,1.2s,mb5.2
DOU Dourbes 78.60 1 P **P** **03 57 57.2 -0.2**
BAIF Baives 78.63 1⇑*iP* **P** **03 57 57.5 -0.1**
comp=Z,60nm,1.0s,mb5.2
BAIF Baives 78.63 1⇑*iP* **P** **03 57 57.5 -0.1**
BAIF pmax pmax
comp=Z,30nm,1.0s,mb5.2
BAIF Baives 78.63 1⇑*iP* **P** **03 57 57.5 -0.1**
comp=Z,30nm,1.0s,mb5.2
NDI New Delhi 78.65 302 *eP* **P** **03 57 58.0 +0.3**
NDI *eP* 03 57 59.0
ROTZ Rotzenmuhle 78.80 356 *eP* **P** **03 57 58.7 +0.2**
comp=Z,22nm,1.0s,mb5.0
ABH Alteburg 78.81 359 *eP* **P** **03 57 58.6 0.0**
GRA1 Grafenberg Arr 78.92 357 *eP* **P** **03 57 59.5 +0.3**
comp=Z,61nm,1.0s,mb5.5
GRA1 *e*pP pP 03 58 14.5 -0.1
GRA1 *e*PP PP 04 00 56.0 -2.4
GRA1 *e*S S 04 07 59.5 +6.1
GRA1 *e*SS SS 04 13 20.0 +21
GRA1 LR LR
comp=Z,2μm,18.4s,MS5.4
GRF Grafenberg Arr 78.92 357 *eP* **P** **03 57 59.5 +0.3**
comp=Z,61nm,1.0s,mb5.5
GRF *e*pP pP 03 58 14.5 -0.1

GRF *e*PP PP 04 00 56.0 -2.4
GRF *e*S S 04 07 59.5 +6.1
GRF *e*SS SS 04 13 20.0 +21
GRF *e*L 04 42 20.1
comp=Z,2µm,18.4s
GRF Grafenberg Arr 78.92 357 *e*P **P** **03 57 59.5 +0.3**
GRF *e**PP pP 03 58 14.5 -0.1
GRF *e* 04 00 56.0
GRF *e*S S 04 07 59.5 +6.1
GRF pmax pmax
comp=Z,61nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,2µm,18.4s,MS5.4
GRF Grafenberg Arr 78.92 357 *e*P **P** **03 57 59.5 +0.3**
GRF *e**PP pP 03 58 14.5 -0.1
GRF *e* 04 00 56.0
GRF *e*S S 04 07 59.5 +6.1
GRF pmax pmax
comp=Z,61nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,2µm,18.4s,MS5.4
CRVS Cervenica-Dubn 78.94 350 *e*P **P** **03 57 59.4 +0.1**
VRAC Vranov 79.00 353 P **P** **03 57 59.6 0.0**
comp=Z,18nm,0.5s,mb5.3,baz=347,slow=5.3,SNR=23
VRAC Vranov 79.00 353⇑ *i*P **P** **03 57 59.6 0.0**
VRAC Vranov 79.00 353 P **P** **03 57 60.0 +0.4**
WLF Walferdange 79.04 360 *e*P **P** **03 58 00.1 +0.3**
comp=Z,21nm,1.0s,mb5.0
WLF Walferdange 79.04 360 P **P** **03 58 00.6 +0.8**
WLF pmax pmax
comp=Z,14nm,0.9s,mb4.9
WLF Walferdange 79.04 360 *e*P **P** **03 57 60.0 +0.2**
comp=Z,14nm,0.9s,mb4.9
TOD Tromm 79.07 358 *e*P **P** **03 58 00.1 +0.1**
KAKA Kakadu 79.09 233 *e*P **P** **03 57 59.2 -0.9**
comp=Z,22nm,0.8s,mb5.1
TREC Trest 79.09 354 *e*P **P** **03 57 59.9 -0.2**
UZH Uzhgorod 79.12 349 *e*P **P** **03 58 01.0 +0.8**
UZH *e* pP 03 58 15.0 -0.7
UZH *e*S S 04 07 57.0 +1.5
UZH *e* 04 08 48.0
MAK Makhachkala 79.13 330 *i* P **P** **03 57 59.5 -0.8**
MAK *e* pP 03 58 13.9 -1.9
MAK *e* 04 00 58.9
MAK *e*PPP 04 02 52.6
MAK *e*S S 04 07 55.3 -0.3
MAK *i* SS SS 04 13 11.8 +9.3
MAK pmax pmax
comp=Z,132nm,1.1s,mb5.8
MAK pmax pmax
comp=Z,232nm,1.4s,mb5.9
MAK smax
comp=N,393nm,1.5s
MAK smax
comp=E,280nm,1.7s
KHC Kasperske Hory 79.37 355 *e*P **P** **03 58 01.7 +0.1**
KHC *e*S S 04 08 04.4 +6.2
KHC AMS AMS 04 39 00.0
comp=E,2µm,19.0s
WET Wettzell 79.39 355 *e*P **P** **03 58 01.8 +0.1**
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 79.39 355 *e*P **P** **03 58 01.8 +0.1**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
KECS Kecovo 79.46 350 *e*P **P** **03 58 01.7 -0.4**
KECS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KECS Kecovo 79.46 350 *e*P **P** **03 58 01.7 -0.4**
comp=Z,6.8nm,0.8s,mb4.6
CTA Charters Tower 79.49 218⇑ *i*P **P** **03 58 01.6 -0.7**
comp=Z,14nm,0.9s,mb4.9
CTA *i* pP 03 58 15.8 -1.9
CTA *i*S S 04 08 01.1 +1.7
CTA Charters Tower 79.49 218 P **P** **03 58 01.9 -0.3**
comp=Z,18nm,0.9s,mb5.0,baz=19,slow=7.0,SNR=11
CTA Charters Tower 79.49 218⇑ *i*P **P** **03 58 01.6 -0.7**
CTA *i* pP 03 58 15.8 -1.9
CTA *i*S S 04 08 01.1 +1.7
CTA pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 79.49 218 *e*P **P** **03 58 01.8 -0.5**
CTAO *e* pP 03 58 14.7 -3.0
CTAO pmax pmax
comp=Z,15nm,0.8s,mb5.0
CTAO MLR MLR
comp=Z,967nm,20.0s,MS5.1
CTAO Charters Tower 79.49 218 *e*P **P** **03 58 01.8 -0.5**
comp=Z,56nm,0.8s,mb5.5
CTAO *e* pP 03 58 14.7 -3.0
CTAO LR LR
comp=Z,967nm,20.0s,MS5.1
RCC Rio Carpintero 79.51 71 *e*P pP 03 58 16.3 -1.6
KIV Kislovodsk 79.62 334 P **P** **03 58 03.4 +0.4**
comp=Z,231nm,0.8s,mb6.2,SNR=5.4
KIV Kislovodsk 79.62 334 P **P** **03 58 03.5 +0.5**
SNR=8.2
KIV Kislovodsk 79.62 334*c i*P **P** **03 58 02.0 -1.0**
KIV *e* 04 01 03.2
KIV *e*S S 04 08 01.8 +1.0
KIV *e*SS SS 04 13 12.3 +2.5
KIV pmax pmax
comp=Z,41nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,2µm,20.0s,MS5.5
KIV Kislovodsk 79.62 334 P **P** **03 58 03.7 +0.8**
VYHS Vyhne 79.62 351 *e*P **P** **03 58 02.9 -0.1**
VYHS *e* pP 03 58 19.7 +1.2
VYHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VYHS Vyhne 79.62 351 *e*P **P** **03 58 02.9 -0.1**
comp=Z,7.0nm,0.9s,mb4.6
VYHS *e* pP 03 58 19.7 +1.2
GEC2 GERESS Array S 79.65 355 *e*P **P** **03 58 02.9 -0.2**
comp=Z,18nm,0.9s,mb5.0
GEC2 GERESS Array S 79.65 355 *e*P **P** **03 58 02.9 -0.2**
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb5.0
GERES GERESS Array B 79.65 355 P **P** **03 58 03.0 -0.1**
comp=Z,8.8nm,0.7s,mb4.8,baz=19,slow=4.9,SNR=95
GERES GERESS Array B 79.65 355 P **P** **03 58 03.0 -0.1**
GERES pmax pmax
comp=Z,9.0nm,0.7s
LANF Langenberg 79.71 359 *e*P **P** **03 58 04.0 +0.5**
BURAR Bucovina Array 79.74 347⇓ *i*P **P** **03 58 03.3 -0.3**
BURAR Bucovina Array 79.74 347 P **P** **03 58 03.9 +0.3**
KIS Kishinev 79.78 344 *e*P **P** **03 58 01.0 -2.9**
KIS *e* pP 03 58 14.0 -5.4
KIS *e*S S 04 08 18.0 +15
KIS *e* 04 08 42.0
KIS *e* 04 09 00.0
KIS pmax pmax
comp=Z,500nm,2.0s,mb6.1
KIS MLR MLR
comp=N,1µm,20.0s,MS5.5
KIS MLR MLR
comp=E,2µm,20.0s,MS5.5
KIS MLR MLR
comp=Z,4µm,20.0s,MS5.7
FLN La Foliniere 79.79 4⇑ *i*P **P** **03 58 03.2 -0.7**
comp=Z,68nm,1.2s,mb5.2
FLN *e*R
comp=Z,2µm,20.2s
FLN La Foliniere 79.79 4⇑ *i*P **P** **03 58 03.2 -0.7**
FLN pmax pmax
comp=Z,34nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,2µm,20.3s,MS5.4
FLN La Foliniere 79.79 4⇑ *i*P **P** **03 58 03.2 -0.7**
comp=Z,34nm,1.2s,mb5.2
FLN LR LR
comp=Z,2µm,20.3s,MS5.4
ABKT Ailbek 79.85 321 P **P** **03 58 05.6 +1.4**
comp=Z,150nm,1.2s,mb5.8,SNR=6.3
ABKT Ailbek 79.85 321 P **P** **03 58 05.4 +1.2**
STU Stuttgart 79.90 358 *e*P **P** **03 58 04.6 +0.1**
comp=Z,29nm,0.7s,mb5.3
STU *e*pP pP 03 58 20.3 +0.3
STU Stuttgart 79.90 358 P **P** **03 58 05.1 +0.6**
STU pmax pmax
comp=Z,24nm,0.7s,mb5.2
STU Stuttgart 79.90 358 *e*P **P** **03 58 04.7 +0.3**
comp=Z,24nm,0.6s,mb5.3
LDF La Druitiere 79.97 4⇑ *i*P **P** **03 58 04.1 -0.8**
comp=Z,31nm,0.7s,mb5.0
LDF La Druitiere 79.97 4⇑ *i*P **P** **03 58 04.1 -0.8**
LDF pmax pmax
comp=Z,16nm,0.7s,mb5.1
LDF La Druitiere 79.97 4⇑ *i*P **P** **03 58 04.1 -0.8**
comp=Z,16nm,0.7s,mb5.0
KSM Kuching 80.03 260 *e*P **P** **03 58 05.6 +0.4**
KSM *e* pP 03 58 18.4 -2.3
ZST Bratislava 80.06 353 *e*P **P** **03 58 06.1 +0.7**
ZST *e* pP 03 58 22.5 +1.6
ZST Bratislava 80.06 353 *e*P **P** **03 58 06.1 +0.7**
ZST *e* pP 03 58 22.6 +1.7
ZST pmax pmax
comp=Z,23nm,0.9s,mb5.1
ZST MLR MLR
comp=Z,2µm,18.1s,MS5.4
ZST Bratislava 80.06 353 *e*P **P** **03 58 06.1 +0.7**
comp=Z,22nm,0.9s,mb5.1
ZST *e* pP 03 58 22.6 +1.7
ZST LR LR
comp=Z,2µm,18.1s,MS5.4
PSZ Piszkesteto 80.08 351⇑ *e*P **P** **03 58 05.9 +0.4**
PSZ Piszkesteto 80.08 351⇓ *i*P **P** **03 58 05.9 +0.4**
GRR Gorron 80.14 5⇑ *i*P **P** **03 58 05.4 -0.4**
comp=Z,28nm,0.8s,mb4.9
GRR Gorron 80.14 5⇑ *i*P **P** **03 58 05.4 -0.4**
GRR pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRR Gorron 80.14 5⇑ *i*P **P** **03 58 05.4 -0.4**
comp=Z,14nm,0.8s,mb5.0
ANN Anapa 80.16 338 *e*P **P** **03 58 04.7 -1.2**
ANN *e**PP pP 03 58 22.9 +1.5
ANN *e*S S 04 08 05.5 -1.0
ANN pmax pmax
comp=Z,87nm,2.5s,mb5.2
SGMF Saint Gilles 80.18 6⇑ *i*P **P** **03 58 05.7 -0.3**
comp=Z,33nm,0.9s,mb5.0
SGMF Saint Gilles 80.18 6⇑ *i*P **P** **03 58 05.7 -0.3**
SGMF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SGMF Saint Gilles 80.18 6⇑ *i*P **P** **03 58 05.7 -0.3**
comp=Z,16nm,0.9s,mb5.0
MEZF Maizieres J'vi 80.20 1⇑ *i*P **P** **03 58 06.2 +0.1**
comp=Z,73nm,1.2s,mb5.2
MEZF Maizieres J'vi 80.20 1⇑ *i*P **P** **03 58 06.2 +0.1**
comp=Z,73nm,1.2s,mb5.5
WLS Welschbruch 80.29 359 *e*P **P** **03 58 06.8 +0.2**
CDF Champ du Feu 80.29 359⇑ *i*P **P** **03 58 06.5 -0.1**
comp=Z,62nm,1.0s,mb5.2
CDF Champ du Feu 80.29 359⇑ *i*P **P** **03 58 06.5 -0.1**
CDF pmax pmax
comp=Z,31nm,1.0s,mb5.2
CDF Champ du Feu 80.29 359⇑ *i*P **P** **03 58 06.5 -0.1**
comp=Z,31nm,1.0s,mb5.2
BFO Black Forest 80.36 358 P **P** **03 58 06.4 -0.6**
comp=Z,107nm,0.7s,mb5.9,SNR=8.3
BFO Black Forest 80.36 358 *e*P **P** **03 58 06.8 -0.2**
comp=Z,25nm,1.1s,mb5.1
BFO Black Forest 80.36 358 *e*P **P** **03 58 06.8 -0.2**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
ZEI Tsey 80.37 333 *e*P **P** **03 58 06.8 -0.2**
ZEI *e**PP pP 03 58 22.5 -0.1
ZEI pmax pmax
comp=Z,35nm,1.0s,mb5.2
CONA Conrad Observa 80.42 353 *i* P **P** **03 58 07.8 +0.5**
comp=Z,20nm,0.9s,mb5.0,SNR=16
FUR Furstenfeldbru 80.44 356 *e*P **P** **03 58 07.4 0.0**
comp=Z,24nm,0.8s,mb5.2
FUR Furstenfeldbru 80.44 356 *e*P **P** **03 58 07.4 0.0**
FUR pmax pmax
comp=Z,24nm,0.8s,mb5.2
QUIF Quistinic 80.47 6 *e*P **P** **03 58 07.0 -0.6**
comp=Z,66nm,1.3s,mb5.1
QUIF Quistinic 80.47 6 *e*P **P** **03 58 07.0 -0.6**
QUIF pmax pmax
comp=Z,33nm,1.3s,mb5.1
QUIF Quistinic 80.47 6 *e*P **P** **03 58 07.0 -0.6**
comp=Z,33nm,1.3s,mb5.1
THEF They Montfort 80.48 0 *e*P **P** **03 58 07.9 +0.3**
ECH Echery 80.49 359 *e*P **P** **03 58 07.6 -0.1**
SPAK Spaichingen-Ko 80.58 358 *e*P **P** **03 58 08.3 +0.2**
BUD Budapest 80.60 351⇑ *e*P **P** **03 58 08.9 +0.6**
MOA Molln 80.61 354⇑ *i*P **P** **03 58 08.2 -0.1**
comp=Z,321nm,3.4s,SNR=8.4
SOP Sopron 80.61 353⇑ *e*P **P** **03 58 08.8 +0.5**
RAO Raoul Island 80.65 184 PFAKE 03 58 20.0 +11
RAO LR LR
comp=Z,4µm,19.0s,MS5.8
HAU Haudompre 80.70 360⇑ *i*P **P** **03 58 08.7 -0.1**
comp=Z,74nm,1.1s,mb5.2
HAU *e*R
comp=Z,2µm,20.2s
HAU Haudompre 80.70 360⇑ *i*P **P** **03 58 08.7 -0.1**
HAU pmax pmax
comp=Z,37nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,2µm,20.3s,MS5.4
HAU Haudompre 80.70 360⇑ *i*P **P** **03 58 08.7 -0.1**
comp=Z,37nm,1.1s,mb5.2
HAU LR LR
comp=Z,2µm,20.3s,MS5.4
SIM Simferopol' 80.75 340 *e*P **P** **03 58 10.3 +1.2**
SIM *e*S S 04 08 25.0 +12
SIM pmax pmax
comp=Z,300nm,13.0s
SIM pmax pmax
comp=Z,28nm,0.8s,mb5.2
FELD Feldberg im Sc 80.82 359⇑ *e*P **P** **03 58 09.4 0.0**
MOF Molkenrain 80.85 359 *e*P **P** **03 58 09.6 0.0**
DRGR 80.88 348⇓ *i*P **P** **03 58 09.3 -0.4**
DRGR 80.88 348 P **P** **03 58 10.0 +0.3**
HINF Hinteralfeld 80.89 359⇑ *i*P **P** **03 58 09.5 -0.3**
comp=Z,50nm,0.8s,mb5.2
HINF Hinteralfeld 80.89 359⇑ *i*P **P** **03 58 09.5 -0.3**
HINF pmax pmax
comp=Z,25nm,0.8s,mb5.2
HINF Hinteralfeld 80.89 359⇑ *i*P **P** **03 58 09.5 -0.3**
comp=Z,25nm,0.8s,mb5.2
TBLG Delisi 81.08 332 P **P** **03 58 12.0 +1.1**
MTA Mtatsminda 81.10 332 P **P** **03 58 11.1 +0.1**
ARSA Arzberg 81.12 353 *i* P **P** **03 58 11.5 +0.4**
comp=Z,192nm,2.9s,mb5.5,SNR=9.3
DGRG David-gareji 81.15 331 P **P** **03 58 11.8 +0.6**
VRI Vrincioaia 81.22 346⇑ *i*P **P** **03 58 11.7 +0.1**
VRI Vrincioaia 81.22 346⇑ P **P** **03 58 11.7 +0.1**
PLOR Plostina 81.25 346⇑ *i*P **P** **03 58 12.5 +0.8**
WATA Walderalm 81.26 356⇑ *i*P **P** **03 58 12.0 +0.3**
comp=Z,22nm,1.2s,mb5.0,SNR=5.6
WATA Walderalm 81.26 356⇑ *i*P **P** **03 58 12.0 +0.2**
WATA pmax pmax
comp=Z,22nm,1.2s,mb5.0
MOTA Moosalm 81.27 357 *i* P **P** **03 58 12.1 +0.3**
comp=Z,42nm,1.2s,mb5.2,SNR=12
MOTA Moosalm 81.27 357 *i* P **P** **03 58 12.1 +0.3**
MOTA pmax pmax
comp=Z,42nm,1.2s,mb5.2
WTTA Wattenberg 81.33 356⇑ *i*P **P** **03 58 12.4 +0.2**
comp=Z,429nm,3.5s,SNR=9.3
LOMF Lomont 81.35 359 *e*P **P** **03 58 12.4 +0.1**
DAVA Damuels 81.37 357⇓ *i*P **P** **03 58 12.6 +0.2**
comp=Z,340nm,4.3s
SQTA Sankt Quirin 81.39 356⇑ *i*P **P** **03 58 12.9 +0.5**
comp=Z,29nm,1.3s,mb5.0,SNR=11
SQTA Sankt Quirin 81.39 356⇑ *i*P **P** **03 58 12.9 +0.4**
SQTA pmax pmax
comp=Z,29nm,1.3s,mb5.0
HYF Humbligny 81.39 2⇑ *i*P **P** **03 58 12.6 +0.1**
LOR Lormes 81.42 2⇑ *i*P **P** **03 58 12.5 -0.1**
comp=Z,47nm,1.0s,mb5.1
LOR *e*R
comp=Z,2µm,18.5s
LOR Lormes 81.42 2⇑ *i*P **P** **03 58 12.5 -0.1**
LOR pmax pmax
comp=Z,24nm,1.0s,mb5.1
LOR MLR MLR
comp=Z,2µm,18.5s,MS5.5
LOR Lormes 81.42 2⇑ *i*P **P** **03 58 12.5 -0.1**
comp=Z,24nm,1.0s,mb5.1
LOR LR LR
comp=Z,2µm,18.5s,MS5.5
KBA Koelnbreinsper 81.43 355 *i* P **P** **03 58 13.5 +0.8**
comp=Z,155nm,1.8s,mb5.6,SNR=21
KBA Koelnbreinsper 81.43 355 *i* P **P** **03 58 13.5 +0.8**
KBA pmax pmax
comp=Z,155nm,1.8s,mb5.6
JBP Jabalpur 81.53 297⇑ *e*P **P** **03 58 13.5 +0.3**
JBP *ex* x 03 58 17.1
comp=Z,135nm,2.5s
JBP *i* x x 03 58 27.5
SSF Saint Saulge 81.62 2⇑ *i*P **P** **03 58 13.6 -0.1**
comp=Z,21nm,0.6s,mb5.0
SSF Saint Saulge 81.62 2⇑ *i*P **P** **03 58 13.6 -0.1**
SSF pmax pmax
comp=Z,11nm,0.6s,mb5.0
SSF Saint Saulge 81.62 2⇑ *i*P **P** **03 58 13.6 -0.1**
comp=Z,11nm,0.6s,mb5.0
CFR Carcaliu 81.67 344⇑ *i*P **P** **03 58 13.9 0.0**
CFR Carcaliu 81.67 344 P **P** **03 58 14.3 +0.3**
MLR Muntele Rosu 81.71 346 P **P** **03 58 15.1 +1.0**
comp=Z,27nm,0.9s,mb5.2,baz=103,slow=0.8,SNR=24
MLR Muntele Rosu 81.71 346⇑ *i*P **P** **03 58 14.2 +0.1**
MLR Muntele Rosu 81.71 346 P **P** **03 58 15.5 +1.4**
PERS Pernice 81.76 354 *i* P **P** **03 58 14.5 0.0**
AJM Ajmer 81.77 303 *e*P **P** **03 58 14.6 +0.1**
AJM AMb AMB 03 58 17.7
comp=Z,119nm,1.1s,mb5.7
KOGS Kog 81.87 353 *e*P **P** **03 58 14.5 -0.5**
AVF Avril sur Loir 81.89 2⇑ *i*P **P** **03 58 14.8 -0.3**
comp=Z,35nm,0.8s,mb5.0
AVF Avril sur Loir 81.89 2⇑ *i*P **P** **03 58 14.8 -0.3**
AVF pmax pmax
comp=Z,18nm,0.8s,mb5.0
AVF Avril sur Loir 81.89 2⇑ *i*P **P** **03 58 14.8 -0.3**
comp=Z,18nm,0.8s,mb5.0
VOIR 81.89 347⇓ *i*P **P** **03 58 15.7 +0.6**
VOIR 81.89 347 ⇓P **P** **03 58 15.7 +0.6**
PKSM Moragy 81.90 351⇓ *i*P **P** **03 58 14.3 -0.8**
PKSM Moragy 81.90 351⇑ *e*P **P** **03 58 14.4 -0.7**
GROS Grobnik 81.91 353 *e*P **P** **03 58 15.0 -0.2**
OBKA Obir 81.93 354⇑ *i*P **P** **03 58 15.3 0.0**
comp=Z,298nm,3.0s,SNR=14
FVI Forni Avoltri 81.94 355 P **P** **03 58 15.9 +0.5**
FVI pmax pmax
comp=Z,14nm,0.8s,mb4.9
FVI Forni Avoltri 81.94 355 P **P** **03 58 15.9 +0.5**
comp=Z,14nm,0.8s,mb5.0
MFF Saint Martin d 81.96 4⇑ *i*P **P** **03 58 15.3 -0.2**
comp=Z,30nm,0.8s,mb5.0
MFF Saint Martin d 81.96 4⇑ *i*P **P** **03 58 15.3 -0.2**
MFF pmax pmax
comp=Z,15nm,0.8s,mb5.0
MFF Saint Martin d 81.96 4⇑ *i*P **P** **03 58 15.3 -0.2**
comp=Z,15nm,0.8s,mb5.0
SMF Signal de Mont 82.04 2⇑ *i*P **P** **03 58 15.7 -0.2**
comp=Z,37nm,0.7s,mb5.1
SMF Signal de Mont 82.04 2⇑ *i*P **P** **03 58 15.7 -0.2**
SMF pmax pmax
comp=Z,19nm,0.7s,mb5.1
SMF Signal de Mont 82.04 2⇑ *i*P **P** **03 58 15.7 -0.2**
comp=Z,18nm,0.7s,mb5.1
CABF La Chapelle 82.10 360⇑ *i*P **P** **03 58 16.6 +0.4**
comp=Z,83nm,0.9s,mb5.4
CABF La Chapelle 82.10 360⇑ *i*P **P** **03 58 16.6 +0.4**
CABF pmax pmax
comp=Z,42nm,0.9s,mb5.4
CABF La Chapelle 82.10 360⇑ *i*P **P** **03 58 16.6 +0.4**
comp=Z,42nm,0.9s,mb5.4
BGF Bois d'Agland 82.11 2⇑ *i*P **P** **03 58 16.1 -0.2**
comp=Z,28nm,0.8s,mb4.9
BGF Bois d'Agland 82.11 2⇑ *i*P **P** **03 58 16.1 -0.2**
BGF pmax pmax
comp=Z,14nm,0.8s,mb4.9
BGF Bois d'Agland 82.11 2⇑ *i*P **P** **03 58 16.1 -0.2**
comp=Z,14nm,0.8s,mb4.9
BRMO Bormio 82.16 357 P **P** **03 58 17.3 +0.8**
BZS Buzias 82.17 349⇓ *i*P **P** **03 58 16.2 -0.3**
BZS Buzias 82.17 349 P **P** **03 58 16.5 0.0**
HARR Harsova 82.17 344 P **P** **03 58 17.7 +1.1**
TUE Stuetta 82.19 358 P **P** **03 58 17.8 +1.1**
GMNA Gemona 82.24 355 P **P** **03 58 16.7 -0.2**
comp=Z,110nm,0.9s,mb5.8
GZR Gura Zlata 82.24 348⇑ *i*P **P** **03 58 16.8 -0.2**
GZR Gura Zlata 82.24 348 P **P** **03 58 17.0 +0.1**
CADS Cadrg 82.26 355 *e*P **P** **03 58 16.3 -0.7**
TIRR Tirgusor 82.32 344⇓ *i*P **P** **03 58 17.4 +0.1**
TIRR Tirgusor 82.32 344 P **P** **03 58 18.1 +0.8**
TCF Toulx Ste Croi 82.36 3⇑ *i*P **P** **03 58 17.4 -0.2**
comp=Z,40nm,1.0s,mb5.0
TCF Toulx Ste Croi 82.36 3⇑ *i*P **P** **03 58 17.4 -0.2**
TCF pmax pmax
comp=Z,20nm,1.0s,mb5.0
TCF Toulx Ste Croi 82.36 3⇑ *i*P **P** **03 58 17.4 -0.2**
comp=Z,20nm,1.0s,mb5.0
GCIS Gornji Cirnik 82.49 353 *e*P **P** **03 58 18.8 +0.5**
GNI Garni 82.54 331 P **P** **03 58 20.4 +1.9**
comp=Z,4.7nm,0.3s,mb5.0,baz=328,slow=18,SNR=5.0
GNI Garni 82.54 331*c i*P **P** **03 58 19.3 +0.8**
GNI pmax pmax
comp=Z,52nm,2.5s
GNI Garni 82.54 331 P **P** **03 58 20.4 +1.9**
GNI LR LR
comp=Z,2µm,19.0s,MS5.6
CTI Castel Tesino 82.54 356 P **P** **03 58 18.4 -0.1**
CTI pmax pmax
comp=Z,12nm,0.7s,mb5.0
CTI Castel Tesino 82.54 356 P **P** **03 58 18.4 -0.1**
comp=Z,12nm,0.7s,mb5.0
AGO Saint Agoulin 82.62 2 *e*P **P** **03 58 19.5 +0.6**
OG05 Jujurieux 82.67 0 *e*P **P** **03 58 19.9 +0.7**
PLDF La Plantade 82.72 2 *e*P **P** **03 58 19.9 +0.5**
BOJS Bojanci 82.88 354 *e*P **P** **03 58 19.8 -0.5**
BHPL Bhopal 82.88 299 *e*P **P** **03 58 20.2 0.0**
BHPL AMb AMB 03 58 23.4
comp=Z,90nm,1.1s,mb5.7
PYM Petit Puy Mans 82.92 2 *e*P **P** **03 58 20.2 -0.3**
RSL Roselend 83.02 360 *e*P **P** **03 58 22.0 +1.0**
ORO Oropa 83.07 359 P **P** **03 58 23.9 +2.7**
ORO pmax pmax
comp=Z,62nm,1.4s,mb5.5
ORO Oropa 83.07 359 P **P** **03 58 23.9 +2.7**
comp=Z,62nm,1.4s,mb5.5
LPL La Plagne 83.19 360⇑ *i*P **P** **03 58 23.0 +1.1**
comp=Z,17nm,0.6s,mb4.9
LPL La Plagne 83.19 360⇑ *i*P **P** **03 58 23.0 +1.1**
LPL pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
LPL La Plagne 83.19 360⇑ *i*P **P** **03 58 23.0 +1.1**
comp=Z,8.6nm,0.6s,mb5.0
LPG La Plagne 83.21 360⇑ *i*P **P** **03 58 23.4 +1.4**
comp=Z,97nm,1.3s,mb5.4
LPG La Plagne 83.21 360⇑ *i*P **P** **03 58 23.4 +1.4**
LPG pmax pmax
comp=Z,49nm,1.3s,mb5.4
LPG La Plagne 83.21 360⇑ *i*P **P** **03 58 23.4 +1.4**
comp=Z,49nm,1.3s,mb5.4
RJF Les Rejaudoux 83.32 3⇑ *i*P **P** **03 58 22.3 -0.3**
comp=Z,137nm,1.6s,mb5.4
RJF *e*R
comp=Z,2µm,19.8s
RJF Les Rejaudoux 83.32 3⇑ *i*P **P** **03 58 22.3 -0.3**
RJF pmax pmax
comp=Z,68nm,1.6s,mb5.4
RJF MLR MLR
comp=Z,2µm,19.8s,MS5.6
RJF Les Rejaudoux 83.32 3⇑ *i*P **P** **03 58 22.3 -0.3**
comp=Z,68nm,1.6s,mb5.4
RJF LR LR
comp=Z,2µm,19.8s,MS5.6
LBL Lubilhac 83.44 2 *e*P **P** **03 58 23.8 +0.6**
GRN Grenoble 83.47 0 *e*P **P** **03 58 24.4 +1.1**
GDM Grand'Maison 83.50 360 *e*P **P** **03 58 24.7 +1.2**
RSP Reno Superiore 83.55 359 P **P** **03 58 24.4 +0.7**
GRSN GIRESUNGRSN 83.61 336 *i* P **P** **03 58 23.3 -0.8**
NGP Nagpur 83.65 296 *e*P **P** **03 58 22.3 -1.9**
NGP AMb AMB 03 58 24.9
comp=Z,78nm,2.0s,mb5.5
NGP *ex* x 04 08 42.2
BNI Bardonecchia 83.65 360 P **P** **03 58 25.9 +1.7**
BNI pmax pmax
comp=Z,43nm,1.0s,mb5.5
BNI Bardonecchia 83.65 360 *e*P **P** **03 58 25.6 +1.4**
comp=Z,43nm,0.9s,mb5.6
LFF La Frestale 83.66 4⇑ *i*P **P** **03 58 24.4 +0.1**
comp=Z,154nm,1.2s,mb5.7
LFF La Frestale 83.66 4⇑ *i*P **P** **03 58 24.4 +0.1**
LFF pmax pmax
comp=Z,77nm,1.2s,mb5.7
LFF La Frestale 83.66 4⇑ *i*P **P** **03 58 24.4 +0.1**
comp=Z,77nm,1.2s,mb5.7
CAF Calviac 83.72 3⇑ *i*P **P** **03 58 24.8 +0.2**
comp=Z,134nm,1.4s,mb5.6
CAF Calviac 83.72 3⇑ *i*P **P** **03 58 24.8 +0.2**

CAF pmax pmax
comp=Z,67nm,1.4s,mb5.6
CAF Calviac 83.72 3⇑*iP* P 03 58 24.8 +0.2
comp=Z,67nm,1.4s,mb5.6
ORIF Oris-en-Rattie 83.79 0⇑*iP* P 03 58 25.7 +0.8
comp=Z,79nm,0.9s,mb5.5
ORIF *e*R
comp=Z,2μm,17.8s
ORIF Oris-en-Rattie 83.79 0⇑*iP* P 03 58 25.7 +0.8
ORIF pmax pmax
comp=Z,39nm,0.9s,mb5.5
ORIF Oris-en-Rattie 83.79 0⇑*iP* P 03 58 25.7 +0.8
comp=Z,40nm,0.9s,mb5.5
VIVF Saint-Julien-I 83.84 1⇑*iP* P 03 58 25.7 +0.5
comp=Z,46nm,1.1s,mb5.2
VIVF Saint-Julien-I 83.84 1⇑*iP* P 03 58 25.7 +0.5
VIVF pmax pmax
comp=Z,23nm,1.0s,mb5.3
VIVF Saint-Julien-I 83.84 1⇑*iP* P 03 58 25.7 +0.5
comp=Z,23nm,1.0s,mb5.3
DIVS Divcibare 83.85 350 *e*P P 03 58 25.4 +0.1
BOB Bobbio (Coli) 83.90 358 P P 03 58 26.2 +0.7
BOB pmax pmax
comp=Z,74nm,0.5s,mb6.1
BOB Bobbio (Coli) 83.90 358 P P 03 58 26.2 +0.7
comp=Z,74nm,0.5s,mb6.1
VIS Vishakhapatnam 83.92 291 *e*P P 03 58 26.9 +1.3
VIS AMb AMB 03 58 31.6
comp=Z,77nm,1.7s,mb5.6
BYBT Boyabat 83.93 339 *e*P P 03 58 32.2 +6.6
BOYT Boyabat 83.95 339 *i*P P 03 58 25.2 -0.5
MBDF Montbardon 83.98 359⇑*iP* P 03 58 26.9 +1.0
comp=Z,37nm,0.7s,mb5.3
MBDF Montbardon 83.98 359⇑*iP* P 03 58 26.9 +1.0
MBDF pmax pmax
comp=Z,19nm,0.7s,mb5.3
MBDF Montbardon 83.98 359⇑*iP* P 03 58 26.9 +1.0
comp=Z,18nm,0.7s,mb5.3
KVT Kavak 84.00 338 *e*P P 03 58 26.1 +0.1
PVL Pavlikeni 84.02 346 *i*P P 03 58 27.0 +0.9
BALT Daday 84.17 340 *i*P P 03 58 27.6 +0.7
SURF Saint Ours 84.22 359 *e*P P 03 58 29.1 +1.9
ZCCA Zocca 84.26 356 P P 03 58 29.0 +1.7
comp=Z,130nm,1.2s,mb5.9
GSCL Gusciola 84.28 357 P P 03 58 28.5 +1.1
comp=Z,78nm,1.6s,mb5.6
WRAB Tennant Creek 84.39 228 P P 03 58 27.1 -0.9
WRAB Tennant Creek 84.39 228 *e*P P 03 58 26.9 -1.0
comp=Z,125nm,1.6s,mb5.8
WRAB *e* pP 03 58 41.1 -2.5
WRAB LR LR
comp=Z,408nm,21.0s,MS4.8
WB2 Warramunga Arr 84.39 228 *e*P P 03 58 26.7 -1.3
WB2 *e* pP 03 58 42.6 -1.0
WB2 Warramunga Arr 84.39 228 *e*S S 04 08 49.4 -0.4
WB2 Warramunga Arr 84.39 228 *e*P P 03 58 26.7 -1.3
WB2 *e* pP 03 58 42.6 -1.0
WB2 *e*S S 04 08 49.4 -0.4
WRA Warramunga Arr 84.40 228 P P 03 58 26.3 -1.8
comp=Z,4.1nm,0.7s,mb4.7,baz=36,slow=5.8,SNR=20
WRA LR LR 04 32 24.4
comp=Z,1μm,20.7s,MS5.3,baz=50,slow=33
VLC Villacollemand 84.47 357 *e*P P 03 58 28.3 -0.1
comp=Z,19nm,0.6s,mb5.2
TOS Tosya 84.51 339 *e*P P 03 58 30.0 +1.4
SEI Scarperia 84.54 356 P P 03 58 30.6 +1.8
comp=Z,68nm,0.5s,mb6.0
SAFT Safranbolu 84.61 340 *e*P P 03 58 30.3 +1.2
LASF Ste Croix 84.61 2⇑*iP* P 03 58 29.7 +0.6
comp=Z,44nm,1.0s,mb5.2
VMG Vicchio 84.63 356 P P 03 58 30.9 +1.7
comp=Z,33nm,0.8s,mb5.5
SFI Santa Sofia 84.67 356 P P 03 58 30.8 +1.4
SFI pmax pmax
comp=Z,81nm,1.1s,mb5.8
SFI Santa Sofia 84.67 356 P P 03 58 30.8 +1.4
comp=Z,80nm,1.1s,mb5.8
BNGL BINGOL 84.69 333 *i*P P 03 58 30.8 +1.2
STOF St-Etienne Org 84.71 0 *e*P P 03 58 32.5 +2.9
SMRF Simiane la Rot 84.73 0⇑*iP* P 03 58 30.8 +1.1
comp=Z,157nm,1.1s,mb5.8
SMRF Simiane la Rot 84.73 0⇑*iP* P 03 58 30.8 +1.1
comp=Z,157nm,1.1s,mb6.0
CTKT Corum 84.73 338 *i*P P 03 58 29.5 -0.3
SBF Sospel 84.84 359⇑*iP* P 03 58 30.3 +0.1
comp=Z,197nm,0.8s,mb6.0
SBF Sospel 84.84 359⇑*iP* P 03 58 30.3 +0.1
SBF pmax pmax
comp=Z,98nm,0.8s,mb6.0
SBF Sospel 84.84 359⇑*iP* P 03 58 30.3 +0.1
comp=Z,98nm,0.8s,mb6.0
PGB Panagyurishte 84.85 347 *i*P P 03 58 29.3 -1.0
VTS Vitosha 84.94 347 *e*P P 03 58 29.7 -1.0
VTS Vitosha 84.94 347⇑*iP* P 03 58 30.2 -0.6
VTS Vitosha 84.94 347 *i*P P 03 58 29.5 -1.3
VTS Vitosha 84.94 347 P P 03 58 30.9 +0.1
TAVF Tavernes 85.09 0 *e*P P 03 58 32.3 +0.8
AKL Akola 85.14 297 *e*P P 03 58 32.1 +0.3
AKL AMb AMB 03 58 34.9
comp=Z,76nm,3.2s
FRF La Foret Royal 85.14 360⇑*iP* P 03 58 31.8 0.0
comp=Z,118nm,1.2s,mb5.6
FRF La Foret Royal 85.14 360⇑*iP* P 03 58 31.8 0.0
FRF pmax pmax
comp=Z,59nm,1.2s,mb5.6
FRF La Foret Royal 85.14 360⇑*iP* P 03 58 31.8 0.0
comp=Z,59nm,1.2s,mb5.6
ELDT Eldivan 85.17 339 *i*P P 03 58 32.6 +0.7
PUYF Puyloubier 85.17 0 *e*P P 03 58 32.3 +0.4
CORM Corum 85.19 338 *e*P P 03 58 33.0 +1.0
PLD Plovdiv 85.21 346 *i*P P 03 58 32.0 -0.1
SNTG Esanatoglia 85.26 355 P P 03 58 33.1 +0.7
comp=Z,194nm,1.8s,mb5.9
MTLF Montolieu 85.31 3⇑*iP* P 03 58 32.8 +0.2
comp=Z,92nm,1.3s,mb5.4
MTLF Montolieu 85.31 3⇑*iP* P 03 58 32.8 +0.2
MTLF pmax pmax
comp=Z,46nm,1.3s,mb5.5
MTLF Montolieu 85.31 3⇑*iP* P 03 58 32.8 +0.2
comp=Z,46nm,1.3s,mb5.5
GELF Grande-Etoile 85.32 0 *e*P P 03 58 33.4 +0.7
LMR La Mourre 85.37 360⇑*iP* P 03 58 33.2 +0.3
comp=Z,188nm,1.4s,mb5.7
LMR La Mourre 85.37 360⇑*iP* P 03 58 33.2 +0.3
LMR pmax pmax
comp=Z,94nm,1.4s,mb5.7
LMR La Mourre 85.37 360⇑*iP* P 03 58 33.2 +0.3
comp=Z,94nm,1.4s,mb5.7
HENT Hendek 85.37 341 *i*P P 03 58 27.3 -5.6
SGKT Sivrigoynuk 85.38 340 *i*P P 03 58 33.6 +0.6
SJPF Ste Jean 85.38 5 *e*P P 03 58 33.6 +0.6
comp=Z,26nm,0.9s,mb5.1
SJPF Ste Jean 85.38 5 *e*P P 03 58 33.6 +0.6
SJPF pmax pmax
comp=Z,13nm,0.9s,mb5.1
SJPF Ste Jean 85.38 5 *e*P P 03 58 33.6 +0.6
comp=Z,13nm,0.9s,mb5.1
BERF Bertagne 85.39 0 *e*P P 03 58 34.0 +1.0
ASS Assisi 85.47 355 P P 03 58 33.9 +0.5
ASS pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
ASS Assisi 85.47 355 P P 03 58 33.9 +0.5
comp=Z,3.7nm,1.0s,mb4.5
LARF Larrau 85.47 5 *e*P P 03 58 34.5 +1.1
KDZ Kurdzhali 85.54 346 *i*P P 03 58 34.0 +0.2
EPF Esparros 85.55 4⇑*iP* P 03 58 33.2 -0.6
comp=Z,31nm,1.0s,mb5.2
EPF Esparros 85.55 4⇑*iP* P 03 58 33.2 -0.6
EPF pmax pmax
comp=Z,15nm,1.0s,mb5.2
EPF Esparros 85.55 4⇑*iP* P 03 58 33.2 -0.6
comp=Z,15nm,1.0s,mb5.2
PTCN Pitcairn Islan 85.55 141 PFAKE 03 58 40.0 +6.2
PTCN LR LR
comp=Z,3μm,20.0s,MS5.8
RZN Rozhen 85.61 346 *i*P P 03 58 34.0 -0.1
ETSF Etsaut 85.63 5⇑*iP* P 03 58 34.8 +0.6
comp=Z,67nm,1.2s,mb5.4
ETSF Etsaut 85.63 5⇑*iP* P 03 58 34.8 +0.6
ETSF pmax pmax
comp=Z,33nm,1.2s,mb5.4
ETSF Etsaut 85.63 5⇑*iP* P 03 58 34.8 +0.6
comp=Z,33nm,1.2s,mb5.4
MDU Mudurnu 85.66 341 *e*P P 03 58 35.4 +1.0
VIEF Viey 85.68 4 *e*P P 03 58 37.1 +2.7
comp=Z,13nm,0.9s,mb5.3
STKA *e* pP 03 59 17.9 -1.8
STKA *e*S S 04 09 25.6 -35
ROSC El Rosal 92.16 79 LR LR 04 44 48.0
comp=Z,436nm,19.6s,MS4.9,baz=355,slow=38
ROSC El Rosal 92.16 79 *e*P P 03 59 09.1 +4.0
ROSC *e* pP 03 59 20.6 -0.3
MBWA Marble Bar 92.72 239 *e*P P 03 59 07.0 -0.7
comp=Z,42nm,1.0s,mb5.8
MBWA *e* pP 03 59 19.7 -3.8
MBWA LR LR
comp=Z,824nm,20.0s,MS5.2
SMDO Samad 92.78 313⇑P P 03 59 07.7 -0.3
SNR=7.6
KEST Kesra 92.92 357 P P 03 59 08.5 -0.1
comp=Z,2.5nm,1.0s,mb4.6,baz=300,slow=3.3,SNR=5.1
KEST LR LR 04 44 55.3
comp=Z,447nm,20.7s,MS4.9,baz=200,slow=38
SNZO South Karori 93.13 189 PFAKE 03 59 20.0 +10
SNZO LR LR
comp=Z,3μm,19.0s,MS5.8
PALK Pallekele 93.74 287 PFAKE 03 59 20.0 +7.6
PALK LR LR
comp=Z,274nm,21.0s,MS4.7
TRD Trivandrum 94.97 290‖*ex* pP 03 59 28.1 -5.7
TAU Tasmania Unive 100.02 208 PFAKE 03 59 50.0 +9.2
TAU LR LR
comp=Z,292nm,19.0s,MS4.8
NWAO Narrogin (SRO) 103.54 234 PFAKE 04 00 10.0 +14
NWAO LR LR
comp=Z,1μm,20.0s,MS5.4
NNA Nana 103.69 92 PFAKE 04 00 10.0 +13
NNA LR LR
comp=Z,246nm,22.0s,MS4.7
LPAZ La Paz 112.39 88 PFAKE 04 04 40.0 +8.6
LPAZ LR LR
comp=Z,1μm,21.0s,MS5.4
TORD Torodi Ar. Bea 115.34 5 PKP PKPdf 04 04 36.5 -0.6
comp=Z,0.6nm,0.5s,baz=345,slow=2.3,SNR=17
TORD PKPbc PKKPbc 04 15 09.0 -2.1
comp=Z,1.6nm,0.8s,baz=190,slow=2.4,SNR=7.8
DBIC Dimbokro 121.14 13 PKP PKPdf 04 04 48.4 +0.2
comp=Z,2.7nm,0.7s,baz=346,slow=3.0,SNR=6.9
DBIC Dimbokro 121.14 13 PKP PKPdf 04 04 48.4 +0.2
DBIC LR LR
comp=Z,1μm,19.0s,MS5.7
RCBR Riachuelo 122.66 52 PFAKE 04 05 00.0 +8.9
RCBR LR LR
comp=Z,2μm,19.0s,MS5.8
DRV Dumont d'Urvil 123.06 200 SP SP 04 16 26.0 +4.3
DRV SS SS 04 23 10.0 -1.9
KMBO Kilima Mbogo 123.22 322 PKP PKPdf 04 04 53.7 +1.5
comp=Z,3.4nm,0.9s,baz=290,slow=3.2,SNR=8.3
KMBO Kilima Mbogo 123.22 322 PKIKP PKPdf 04 04 53.7 +1.5
KMBO pmax pmax
comp=Z,3.0nm,0.9s
BDFB Brasilia 124.17 71 PKP PKPdf 04 04 54.0 0.0
comp=Z,1.8nm,0.5s,baz=27,slow=2.3,SNR=3.0
BDFB Brasilia 124.17 71 PKP PKPdf 04 04 54.0 0.0
BDFB LR LR
comp=Z,2μm,20.0s,MS5.7
CPUP Villa Florida 126.55 87 PKP PKPdf 04 04 57.9 -0.6
comp=Z,1.3nm,0.5s,baz=345,slow=2.5,SNR=8.5
PLCA Paso Flores 128.18 110 PKP PKPdf 04 05 01.3 -0.4
comp=Z,7.8nm,1.0s,baz=286,slow=1.7,SNR=12
PLCA Paso Flores 128.18 110 PKP PKPdf 04 05 01.3 -0.4
PLCA LR LR
comp=Z,1μm,19.0s,MS5.7
VNDA Vanda 129.80 187 PKP PKPdf 04 05 03.2 -1.5
comp=Z,0.8nm,0.9s,baz=343,slow=3.5,SNR=2.3
VNDA Vanda 129.80 187 PKP PKPdf 04 05 03.2 -1.5
VNDA LR LR
comp=Z,749nm,21.0s,MS5.4
SBA Scott Base 129.81 185 PFAKE 04 05 10.0 +5.3
SBA LR LR
comp=Z,933nm,20.0s,MS5.5
CASY Casey 130.74 211 PFAKE 04 05 20.0 +13
CASY LR LR
comp=Z,1μm,20.0s,MS5.5
TRQA Tornquist 131.62 102 PFAKE 04 05 20.0 +12
TRQA LR LR
comp=Z,1μm,21.0s,MS5.6
OPO Ambohidratompo133.84 300 PKP PKPdf 04 05 13.4 +1.0
comp=Z,2.1nm,0.8s,baz=53,slow=5.1,SNR=3.1
LSZ Lusaka 139.61 326 PFAKE 04 05 30.0 +7.0
LSZ LR LR
comp=Z,1μm,20.0s,MS5.7
EFI East Falkland 141.39 116 PFAKE 04 05 40.0 +14
EFI LR LR
comp=Z,209nm,19.0s,MS4.9
QSPA South Pole Qui 141.43 180 *e*P PKPdf 04 05 18.8 -7.5
PMSA Palmer Station 142.91 138 PKP PKPdf 04 05 27.7 -1.3
baz=158,slow=2.0
PMSA Palmer Station 142.91 138 PKP PKPdf 04 05 27.7 -1.3
PMSA LR LR
comp=Z,3μm,19.0s,MS6.1
MATP Matopo 144.22 322 PKP PKPdf 04 05 30.0 -1.3
comp=Z,58nm,0.8s,baz=12,slow=3.4,SNR=91
TSUM Tsumeb 146.35 340 PKPdf PKPdf 04 05 37.0 +2.1
TSUM Tsumeb 146.35 340 *e*PKPbc PKPbc 04 05 36.6 +0.4
TSUM LR LR
comp=Z,1μm,20.0s,MS5.7
MAW Mawson 148.58 218⇑*iP* PKPdf 04 05 40.6 +2.0
comp=Z,46nm,0.9s
MAW *e* 04 05 54.4
MAW Mawson 148.58 218 PKPbc PKPbc 04 05 40.7 -1.6
comp=Z,56nm,0.9s,baz=79,slow=1.5,SNR=59
MAW Mawson 148.58 218⇑*iP* PKPdf 04 05 40.6 +2.0
MAW *e* 04 05 54.4
MAW LR LR
comp=Z,2μm,21.0s,MS5.8
LBTB Lobatse 149.48 323 *e*PKP2 PKPab 04 05 44.7 -4.9
LBTB MLR MLR
comp=Z,1μm,20.0s,MS5.8
BOSA Boshof 152.85 321 PKP PKPdf 04 05 45.1 -0.1
comp=Z,3.0nm,0.8s,baz=26,slow=22,SNR=3.1
BOSA PKPbc PKPbc 04 05 52.1 -0.3
comp=Z,8.4nm,0.6s,baz=33,slow=3.8,SNR=25
BOSA PKPab PKPab 04 06 03.3 -0.3
comp=Z,27nm,0.7s,baz=23,slow=2.3,SNR=13
BOSA Boshof 152.85 321 PKP PKPdf 04 05 45.1 -0.1
BOSA PKPbc PKPbc 04 05 52.1 -0.3
BOSA PKPab PKPab 04 06 03.3 -0.3
BOSA LR LR
comp=Z,2μm,20.0s,MS5.9
SYO Syowa Base 156.48 210⇑*eX* pPKPdf 04 06 03.2 -3.4
SUR Sutherland 157.90 325 PFAKE 04 06 00.0 +7.9
SUR LR LR
comp=Z,601nm,20.0s,MS5.4
VNA3 Neumayer Olymp 159.11 166 *e*PKPdf PKPdf 04 05 50.8 -2.7
VNA3 *e* 04 06 08.2
VNA3 *e* 04 06 22.4
VNA3 *e* 04 06 28.2
VNA3 *e* 04 06 37.1
VNA3 *e* 04 06 42.2
VNA3 *e* 04 06 44.4
VNA3 *e* 04 06 49.2
SNAA Sanae 159.54 172 PKPab PKPab 04 06 29.3 -3.0
comp=Z,7.1nm,1.0s,baz=298,slow=10,SNR=6.4
SNAA Sanae 159.54 172 *e*PKPdf pPKPdf 04 06 08.0 -2.4
SNAA *e* 04 06 20.8
SNAA *e* 04 06 30.3
SNAA *e* 04 06 44.3
SNAA *e* 04 06 46.4
SNAA *e* 04 06 49.2
SNAA Sanae 159.54 172 PKP2 PKPab 04 06 29.3 -3.0
SNAA pmax pmax
comp=Z,7.0nm,1.0s
VNA1 Neumayer--Stat 159.85 166 *e*PKPdf pPKPdf 04 06 08.5 -2.2
VNA1 *e* 04 06 23.9
VNA1 *e* 04 06 47.6
VNA1 *e* 04 06 52.5
NVL N'lazarevskaya 160.66 186 *e*PKP2 PKPab 04 06 31.7 -5.5
NVL pmax pmax
comp=Z,13nm,1.1s

*IDC **18** 03:49:44.9s-0.6,9.88Sx10.809E,h0km,mb4.3/12, mb1 4.3/13,mb1mx4.2/19,mbtmp4.2/13,ML3.9/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/25,Error ellipse: s-maj=24.0km s-min=15.8km az=43.0*
*NEIC **18** 03:49:46.3s-0.3,9.88Sx108.13E,h10km,mb4.4/2,Error ellipse: s-maj=12.9km s-min=7.4km az=221.0*
*ISCJB **18** 03:49:48.0s-0.5,9.9Sx0.1x108.19Ex0.10,h33km,mb4.1/14,*

MS3.7/2, Error ellipse: s-maj=18.6km s-min=10.4km az=70.0

ISC 18 03:49:50.4±0.5**, 99S**±01×**10816E**±010**, h35km, n31, σ0.89**/21**, mb4.1**/14**, MS3.7**/2**, 1C, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	15.63	324	LR	LR	03 59 23.2	
	comp=Z,174nm,20.6s,baz=41,slow=37						
MBWA	Marble Bar	15.77	136	ePn	Pn	03 53 27.1	-2.7
	9.6nm,0.4s						
MBWA				eSn	Sn	03 56 05.0	-18
FITZ	Fitzroy Crossi	18.80	118	P	Pn	03 54 08.0	+0.6
	0.3nm,0.3s,baz=294,slow=9.9,SNR=11						
FITZ				S	S	03 57 21.9	-17
	0.4nm,0.3s,baz=356,slow=19,SNR=5.8						
NWAO	Narrogin (SRO)	24.37	161	LR	LR	04 04 41.0	
	comp=Z,113nm,21.1s,MS3.3,baz=360,slow=37						
WRA	Warramunga Arr	27.15	115	P	P	03 55 30.2	-0.1
	3.7nm,0.9s,mb3.9,baz=285,slow=11,SNR=9.3						
WRAB	Tennant Creek	27.16	115	eP	P	03 55 30.1	-0.2
	12nm,1.2s,mb4.3						
ASAR	Alice Springs	28.11	122	P	P	03 55 39.5	+0.6
	1.3nm,0.7s,mb3.7,baz=304,slow=9.0,SNR=11						
AS31	Alice Springs	28.11	122	eP	P	03 55 40.2	+1.3
STKA	Stephens Creek	37.86	130	P	P	03 57 04.6	+0.8
	11nm,0.7s,mb4.7,baz=300,slow=8.6,SNR=25						
CTA	Charters Tower	38.07	110	LR	LR	04 13 18.1	
	comp=Z,214nm,18.1s,MS4.0,baz=225,slow=37						
SONM	Songino Array	57.53	359	P	P	03 59 36.3	+0.1
	3.6nm,0.6s,mb4.6,baz=176,slow=9.2,SNR=6.3						
MKAR	Makanchi Array	61.01	340	P	P	03 59 59.8	-0.6
	1.7nm,0.5s,mb4.4,baz=154,slow=7.5,SNR=5.9						
MAW	Mawson	64.92	197	P	P	04 00 26.1	-0.2
	1.4nm,0.6s,mb4.2,baz=45,slow=8.6,SNR=4.4						
BVAR	Borovoye Array	70.49	337	P	P	04 01 00.2	-1.2
	3.3nm,0.7s,mb4.4,baz=143,slow=9.3,SNR=4.1						
KMBO	Kilima Mbogo	71.00	272	P	P	04 01 05.9	+1.4
	0.5nm,0.5s,mb3.7,baz=190,slow=6.1,SNR=3.5						
VNDA	Vanda	72.90	169	P	P	04 01 15.7	-0.2
	0.8nm,0.8s,mb3.7,baz=304,slow=4.0,SNR=3.9						
SYO	Syowa Base	73.17	201	⇑eP	P	04 01 16.4	-1.1
MATP	Matopo	76.98	251	P	P	04 01 39.8	+0.4
	3.9nm,0.8s,mb4.4,baz=91,slow=4.5,SNR=9.3						
BOSA	Boshof	79.12	243	P	P	04 01 52.2	+0.8
	1.6nm,0.8s,mb4.0,baz=108,slow=3.2,SNR=3.6						
BOSA	Boshof	79.12	243	P	P	04 01 52.2	+0.8
BRTR	Keskin Array B	84.62	312	P	P	04 02 20.1	-0.2
	1.6nm,0.6s,mb4.3,baz=94,slow=4.8,SNR=4.8						
SNAA	Sanae	87.09	197	P	P	04 02 32.0	-0.4
	0.2nm,0.8s,mb3.4,baz=151,slow=5.5,SNR=11						
WMOK	Wichita Mounta	145.14	41	ePKPdf	PKPdf	04 09 24.6	+0.5
BDFB	Brasilia	145.32	223	PKPbc	PKPbc	04 09 25.5	+1.2
	2.7nm,0.7s,baz=142,slow=2.3,SNR=4.4						
LONY	Lake Ozonia	145.35	3	ePKPbc	PKPbc	04 09 24.7	+0.3
NCB	Newcomb	146.02	3	ePKPbc	PKPbc	04 09 26.7	+0.3
JCT	Junction City	146.90	48	ePKPbc	PKPbc	04 09 29.0	0.0
WVT	Waverly	150.15	27	ePKPbc	PKPbc	04 09 38.2	+0.7
PLAL	Pickwick Lake	150.99	28	ePKPbc	PKPbc	04 09 39.4	0.0
SWET	Sewanee	151.74	25	ePKPbc	PKPbc	04 09 40.4	-0.8
LPAZ	La Paz	153.69	188	PKPbc	PKPbc	04 09 47.8	+2.3
	0.9nm,0.8s,baz=239,slow=3.3,SNR=5.3						
LPAZ				PKPab	PKPab	04 10 00.6	+2.2
	0.5nm,0.6s,baz=73,slow=5.7,SNR=3.8						

---

*BJI **18** 03:51:26.6, 4005N×7469E, h16km, ML3.5, Ms3.8*
*ISCJB **18** 03:51:27.9±0.4, 3953N±003×7502E±008, h10km, Error ellipse: s-maj=9.0km s-min=4.6km az=179.4*

ISC 18 03:51:29.7±0.5**, 3959N**±003×**7506E**±007**, h10km, n24, σ1.39**/28**, 1C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.71	96	PG	Pg	03 51 45.8	+2.3
KSH				SG	Sg	03 51 59.8	+7.0
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,4μm,0.7s						
KZA	Kyzart	2.49	3	P	Pn	03 52 09.9	-0.4
	SNR=47						
AML	Almayashu	2.74	338	P	Pn	03 52 11.9	-1.8
	SNR=37						
ULHL	Ulahol	2.80	18	P	Pn	03 52 17.3	+2.7
	SNR=22						
KBK	Karagaybulak	3.06	359	P	Pn	03 52 18.4	+0.2
	SNR=35						
EKS2	Erkin-Say	3.22	343	P	Pn	03 52 19.2	-1.1
	SNR=32						
TKM2	Tokmak 2	3.35	7	P	Pn	03 52 22.9	+0.8
	SNR=29						
TKM2	Tokmak 2	3.35	7	⇑Pn	Pn	03 52 24.7	+2.6
	comp=E,3.0nm,0.5s						
TKM2				⇓Sn	Sn	03 53 05.1	+3.2
	comp=E,25nm,0.8s						
CHMS	Chumysh	3.41	356	P	Pn	03 52 22.6	-0.3
	SNR=25						
USP	Ospenovka	3.70	354	P	Pn	03 52 26.0	-0.9
	SNR=12						
KK31	Karatay Array	4.90	317	Pn	Pn	03 52 39.2	-4.2
	comp=E,1.6nm,0.3s,baz=134,slow=12,SNR=33						
KK31				⇓Lg		03 53 53.5	
	comp=E,19nm,0.6s						
CHCP	Chirah Chowk	6.09	194	⇓P	Pn	03 53 02.7	+2.9
CEP	Cherat	6.29	205	⇓P	Pn	03 53 03.2	+0.8
CEP				S	Sn	03 54 16.0	+1.7
THW	Thamme Wali	7.29	203	⇓P	Pn	03 53 20.2	+4.0
SBDP	Sheikh Budin	8.05	207	⇓P	Pn	03 53 26.2	-0.4
DRP	Derazinda	8.77	208	P	Pn	03 53 35.9	-0.6
WMQ	Urumqi	10.35	62	eP	Pn	03 53 59.8	+1.6
WMQ				S	Sn	03 55 53.3	-1.0
KOLN	Koldanda	13.76	146	eP	Pn	03 54 42.5	-2.3
	comp=E,4.5nm,0.4s						
GKN	Gorkha	14.02	143	eP	Pn	03 54 47.3	-1.1
	comp=E,12nm,0.4s						
KKN	Kakani	14.51	141	eP	Pn	03 54 53.8	-1.2
	comp=E,13nm,0.6s						
DMN	Daman	14.58	142	eP	Pn	03 54 55.2	-0.8
	comp=E,5.6nm,0.4s						
GUN	Gumba	14.71	139	eP	Pn	03 54 58.2	+0.5
PKI	Pulchoki	14.76	141	eP	Pn	03 54 57.1	-1.3
	comp=E,7.4nm,0.4s						
JIRN	Jiri	15.07	139	eP	Pn	03 55 03.2	+0.5
	comp=E,10nm,0.4s						

---

*CSEM **18** 04:32:27.4±0.3, 3823N×2672E, h10km, MD2.7, Error ellipse: s-maj=5.9km s-min=4.7km az=105.0*
*ISK **18** 04:32:28.4, 3826N×2679E, h17km, MD2.7*
*ISCJB **18** 04:32:29.0±0.9, 3823N±003×2679E±007, h10km, Error ellipse: s-maj=7.5km s-min=4.6km az=10.3*

ISC 18 04:32:28.2±1.7**, 3821N**±005×**267E**±01**, h7km**±11km**, n10, σ0.60**/18**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BLCB	Balcova	0.30	55	PG	Pg	04 32 34.1	-0.1
BLCB				SG	Sg	04 32 37.9	-0.3
IZM	Izmir	0.46	66	PG	Pg	04 32 37.3	+0.2
IZM				SG	Sg	04 32 43.6	+0.4
KDAG	Bornova	0.47	65	i P	Pg	04 32 37.0	-0.2
KDAG				i S	Sg	04 32 43.0	-0.4
KDAG	Bornova	0.47	65	i P	Pg	04 32 37.0	-0.2
AYDN	Tasoluk	1.06	121	i P	Pb	04 32 49.4	+0.5
AYDN				i S	Sb	04 33 02.5	-0.5
AYDN	Tasoluk	1.06	121	i P	Pb	04 32 49.4	+0.5
AYDN				i S	Sb	04 33 02.5	-0.5
AKS	Akhisar	1.08	52	PG	Pg	04 32 48.6	-0.4
AKS				SG	Sg	04 33 03.0	-0.1
AYVA	Ayvalik	1.10	359	i P	Pb	04 32 49.5	0.0
AYVA				i S	Sb	04 33 04.4	+0.4
BODT	Bodrum	1.23	158	ePN	Pn	04 32 51.7	-0.1
BDRM	Kayabasi	1.28	153	i P	Pn	04 32 51.1	-1.3
BDRM				i S	Sb	04 33 10.3	+1.2

---

*CSEM **18** 04:39:15.4±0.1, 3941N×003E, h10km, ML2.6/4, Error ellipse: s-maj=2.4km s-min=1.8km az=126.0*
*LDG **18** 04:39:16.4±0.3, 3948N×004W, h10km, Ml2.7/5, Error ellipse: s-maj=8.1km s-min=6.0km az=85.0*

MDD 18 04:39:15.7±0.4**, 3941N**×**003E, h11km, mbLg2.3**/18**, 3C, Error ellipse: s-maj=4.7km s-min=3.2km az=113.0, PRXIMO, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EBEN	Beniarda	0.73	196	⇑Pg	Pg	04 39 29.4	-0.3
	18nm,0.2s,SNR=18						
EBEN				Lg		04 39 39.3	
	36nm,0.2s,SNR=20						
EBEN	Beniarda	0.73	196	Pg	Pg	04 39 29.4	-0.4
	18nm,0.2s,SNR=18						
EMOS	Mosqueruela	1.03	338	Pg	Pg	04 39 34.8	-0.7
	3.8nm,0.1s,SNR=92						
EMOS				Lg		04 39 47.6	
	11nm,0.1s,SNR=8.0						
EMOS	Mosqueruela	1.03	338	Pg	Pg	04 39 34.8	-0.7
	3.8nm,0.1s,SNR=92						
EIBI	Ibiza	1.09	110	Pg	Pg	04 39 34.9	-1.7
	2.7nm,0.1s,SNR=28						
EIBI				Lg		04 39 48.7	
	33nm,0.2s,SNR=6.1						
EIBI	Ibiza	1.09	110	Pg	Pg	04 39 34.9	-1.6
	2.7nm,0.1s,SNR=28						
ETOB	Tobarra	1.45	239	⇑Pg	Pg	04 39 40.3	-3.2
	1.4nm,0.1s,SNR=18						
ETOB				Lg		04 39 59.1	
	11nm,0.2s,SNR=6.3						
ETOB	Tobarra	1.45	239	Pg	Pg	04 39 40.3	-3.2
	1.4nm,0.1s,SNR=18						
ERTA	Horta de San J	1.56	8	Pg	Pg	04 39 42.5	-3.1
	1.6nm,0.1s,SNR=17						
ERTA				Lg		04 40 04.8	
	35nm,0.2s,SNR=5.0						
ERTA	Horta de San J	1.56	8	Pg	Pg	04 39 42.5	-3.2
	1.6nm,0.1s,SNR=17						
EMUR	La Murta	1.85	213	Pg	Pg	04 39 50.4	-0.8
	7.1nm,0.3s,SNR=8.6						
EMUR				Lg		04 40 11.0	
	5.5nm,0.2s,SNR=5.7						
EMUR	La Murta	1.85	213	Pg	Pg	04 39 50.4	-0.8
	7.1nm,0.3s,SNR=8.6						
EPOB	Poblet	2.10	22	Pn	Pn	04 39 50.7	0.0
	1.0nm,0.1s,SNR=6.8						
EPOB				Pg	Pg	04 39 55.4	-0.5
	1.8nm,0.2s,SNR=15						
EPOB				Lg		04 40 21.5	
	4.1nm,0.2s,SNR=7.6						
EPOB	Poblet	2.10	22	Pn	Pn	04 39 50.7	-0.1
	1.0nm,0.1s,SNR=6.8						
EPOB	Poblet	2.10	22	Pg	Pg	04 39 55.4	-0.5
	1.8nm,0.2s,SNR=15						
EVIA	Vianos	2.12	250	Pn	Pn	04 39 48.8	-2.3
	0.7nm,0.1s,SNR=6.9						
EVIA				Pg	Pg	04 39 54.1	-2.2
	2.7nm,0.2s,SNR=9.2						
EVIA				Lg		04 40 19.5	
	8.0nm,0.3s,SNR=4.8						
ETOR	Torete	2.13	312	Pg	Pg	04 39 54.9	-1.7
	58nm,0.3s,SNR=58						
ETOR				Lg		04 40 22.7	
	18nm,0.2s,SNR=10						
ETOS	Mallorca	2.18	80	Pn	Pn	04 39 50.9	-0.9
	1.4nm,0.1s,SNR=17						
ETOS				Sn	Sn	04 40 16.3	-2.5
	4.3nm,0.3s,SNR=4.5						
ETOS	Mallorca	2.18	80	Pn	Pn	04 39 50.9	-0.9
	1.4nm,0.1s,SNR=17						
ETOS				Sn	Sn	04 40 16.3	-2.5
	4.3nm,0.3s,SNR=4.5						
ESAC	San Caprasio	2.34	351	Pg	Pg	04 39 59.7	-0.9
	1.6nm,0.1s,SNR=10.0						
ESAC				Lg		04 40 29.0	
	27nm,0.2s,SNR=6.5						
ESAC	San Caprasio	2.34	351	Pg	Pg	04 39 59.7	-0.9
	1.6nm,0.1s,SNR=10.0						
EQES	Quesada	2.91	238	Pn	Pn	04 40 01.0	-1.0
	1.1nm,0.1s,SNR=13						
EQES				Sn	Sn	04 40 34.3	-2.6
	2.5nm,0.3s,SNR=4.7						
EQES				Lg		04 40 46.3	
	6.0nm,0.2s,SNR=6.7						
EQES	Quesada	2.91	238	Pn	Pn	04 40 01.0	-1.0
	1.1nm,0.1s,SNR=13						
EQES				Sn	Sn	04 40 34.3	-2.7
	2.5nm,0.3s,SNR=4.7						
ESDC	Sonseca Array	3.10	276	Pn	Pn	04 40 03.0	-1.6
	0.9nm,0.2s,baz=92,slow=14,SNR=23						
ESDC				Lg		04 40 49.6	
	1.6nm,0.3s,baz=94,slow=30,SNR=7.5						
ESDC	Sonseca Array	3.10	276	Pn	Pn	04 40 03.0	-1.6
	0.9nm,0.2s,SNR=23						
EBIE	Bielsa	3.28	1	Pg	Pg	04 40 16.1	-2.3
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		04 40 58.5	
	1.6nm,0.4s,SNR=7.9						
EBIE	Bielsa	3.28	1	Pg	Pg	04 40 16.1	-2.3
	0.1nm,0.1s,SNR=7.9						
EBER	Berja	3.41	224	Pn	Pn	04 40 09.7	+1.0
	1.6nm,0.7s,SNR=4.0						
EBER	Berja	3.41	224	Pn	Pn	04 40 09.7	+1.0
	1.6nm,0.7s,SNR=4.0						
GUD	Guadarrama	3.44	292	Pn	Pn	04 40 07.8	-1.5
	2.4nm,0.3s,SNR=9.6						
GUD				Lg		04 41 01.4	
	0.8nm,0.2s,SNR=5.0						
EQUE	Quentar	3.51	232	Pn	Pn	04 40 09.6	-0.5
	0.2nm,0.2s,SNR=4.6						
EQUE				Pg	Pg	04 40 18.7	-4.2
	1.3nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	04 40 48.9	-2.7
	0.7nm,0.2s,SNR=7.9						
EQUE				Lg		04 41 02.7	
	0.7nm,0.2s,SNR=7.9						
EQUE	Quentar	3.51	232	Pg	Pg	04 40 18.7	-4.2
	1.3nm,0.2s,SNR=7.9						
EQUE				Sn	Sn	04 40 48.9	-2.7
	SNR=7.9						
ETSF	Etsaut	3.52	353	ePn	Pn	04 40 08.4	-1.8
ETSF	Etsaut	3.52	353	ePg	Pg	04 40 19.8	-3.2
ETSF				eSn	Sn	04 40 48.2	-3.6
ETSF				eSg	Sg	04 41 05.2	-3.4
	5.5nm,0.3s						
ETSF	Etsaut	3.52	353	Pn	Pn	04 40 08.4	-1.8
ETSF				Pg	Pg	04 40 19.8	-3.2
ETSF				Sn	Sn	04 40 48.2	-3.6
ETSF				Lg		04 41 05.2	
	2.8nm,0.3s						
ETSF	Etsaut	3.52	353	ePg	Pg	04 40 19.8	-3.2
ETSF				eSn	Sn	04 40 48.2	-3.6
EPF	Esparros	3.63	4	ePn	Pn	04 40 09.8	-2.0
EPF	Esparros	3.63	4	ePg	Pg	04 40 22.0	-3.1
EPF				eSg	Sg	04 41 06.7	-5.4
	8.1nm,0.4s						
EPF	Esparros	3.63	4	Pn	Pn	04 40 09.8	-2.0
EPF				Pg	Pg	04 40 22.0	-3.1
EPF				Lg		04 41 06.7	
	4.1nm,0.4s						
EPF	Esparros	3.63	4	ePg	Pg	04 40 22.0	-3.1
EPF				eSg	Sg	04 41 06.7	-5.4
	4.1nm,0.4s						
EADA	Adamuz	3.81	252	Pn	Pn	04 40 11.8	-2.4
	0.4nm,0.2s,SNR=7.0						
EADA				Pg	Pg	04 40 25.1	-3.6
	1.1nm,0.2s,SNR=6.8						
EADA				Sn	Sn	04 40 54.3	-4.8
	1.6nm,0.1s,SNR=7.9						
EADA				Lg		04 41 12.9	
	1.5nm,0.1s,SNR=6.8						
EADA	Adamuz	3.81	252	Pn	Pn	04 40 11.8	-2.5
	0.4nm,0.2s,SNR=7.0						
EADA	Adamuz	3.81	252	Pg	Pg	04 40 25.1	-3.6
	1.1nm,0.2s,SNR=6.8						
SJPF	Ste Jean	3.82	346	ePn	Pn	04 40 12.7	-1.7
SJPF				eSg	Sg	04 41 14.3	-4.1
	3.4nm,0.3s						
SJPF	Ste Jean	3.82	346	Pn	Pn	04 40 12.7	-1.7
SJPF				Lg		04 41 14.3	
	1.7nm,0.3s						
ELIZ	Elizondo	3.93	343	⇑Pn	Pn	04 40 15.5	-0.5
	1.1nm,0.3s,SNR=18						
EALK	Alkurruntz	3.98	344	Pn	Pn	04 40 16.6	0.0
	7.3nm,0.8s,SNR=7.6						
EALK				Lg		04 41 23.1	
	25nm,0.8s,SNR=7.9						
ELOJ	Sierra Loja	3.99	237	Pn	Pn	04 40 17.1	+0.3
	1.0nm,0.3s,SNR=7.9						
ELOJ				Sn	Sn	04 41 00.9	-2.7
	2.7nm,0.4s,SNR=7.9						
MTLF	Montolieu	4.26	22	eSg	Sg	04 41 28.5	-3.9
	2.6nm,0.3s						
MTLF	Montolieu	4.26	22	eSg	Sg	04 41 28.5	-3.9
	1.3nm,0.3s						
LASF	Ste Croix	5.47	30	ePn	Pn	04 40 35.7	-1.4
CAF	Calviac	5.72	15	ePn	Pn	04 40 38.6	-1.9
CAF				eSg	Sg	04 42 14.0	-5.2
	1.2nm,0.3s						
CAF	Calviac	5.72	15	ePn	Pn	04 40 38.6	-1.9
CAF				eSg	Sg	04 42 14.0	-5.2
	0.6nm,0.3s						

---

*ISCJB **18** 04:45:46.6±0.3, 3966N±002×2091E±003, h2km, Error ellipse: s-maj=3.1km s-min=2.7km az=97.1*
*ATH **18** 04:45:47.0, 3968N×2087E, h2km, MD3.3/4*
*CSEM **18** 04:45:47.2±0.2, 3969N×2088E, h8km, ML3.0, Error ellipse: s-maj=3.9km s-min=3.7km az=118.0*
*THE **18** 04:45:47.1, 3965N×2091E, h10km, ML3.0*

ISC 18 04:45:47.2±0.4**, 3965N**±002×**2089E**±003**, h2km**±5km**, n28, σ1.07**/45**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.03	276	ePG	Pg	04 45 47.5	-0.4
JAN				eSG	Sg	04 45 48.2	-0.2
IGT	Igoumenitsa	0.45	254	ePg	Pg	04 45 55.5	-0.2
IGT				eSg	Sg	04 46 02.6	+1.0
IGT	Igoumenitsa	0.45	254	ePg	Pg	04 45 55.5	-0.2
IGT				eSg	Sg	04 46 02.6	+1.1
LSK	Leskovik	0.54	336	i Pg	Pg	04 45 55.6	-2.0
LSK				i Sg	Sg	04 46 06.4	+1.8
SRN	Sarande	0.72	289	i Pg	Pg	04 46 00.5	-0.5
SRN				i Sg	Sg	04 46 13.9	+3.6
KEK	Kerkira	0.84	274	ePB	Pb	04 46 03.0	-1.5
KEK				eSG	Sg	04 46 14.1	-0.2
KZN	Kozani	0.94	46	ePB	Pb	04 46 04.7	-1.5
KZN				eSG	Sg	04 46 18.1	+0.6
LKD	Levkas	0.96	191	ePg	Pg	04 46 05.5	-0.2
LKD				eSg	Sg	04 46 19.6	+1.4
EVR	Evrytania	1.03	136	ePG	Pg	04 46 07.0	+0.1
FNA	Florina	1.19	18	ePg	Pg	04 46 09.3	-0.7
FNA				eSg	Sg	04 46 26.6	+1.2
AGG	Agios Georgios	1.28	119	ePg	Pg	04 46 10.6	-1.3
AGG				eSg	Sg	04 46 29.5	+1.0
LIT	Litokhoron	1.31	70	ePg	Pg	04 46 11.0	-1.4
LIT				eSg	Sg	04 46 30.1	+0.8
BIA	Bitola	1.41	14	ePg	Pg	04 46 13.2	-1.0
BIA				eSg	Sg	04 46 33.7	+1.4
BIA	Bitola	1.41	14	i Pn	Pn	04 46 12.5	-1.2
BIA	Bitola	1.41	14	i Pn	Pn	04 46 12.4	-1.3
BIA	Bitola	1.41	14	ePg	Pg	04 46 13.1	-1.0
BIA				eSg	Sg	04 46 33.7	+1.4
OHR	Ohrid	1.46	357	ePg	Pg	04 46 14.4	-0.7
OHR				eSg	Sg	04 46 34.9	+0.8
OHR	Ohrid	1.46	357	i Pn	Pn	04 46 14.8	+0.3
OHR				eSn	Sn	04 46 35.4	+1.3
OHR	Ohrid	1.46	357	i Pn	Pn	04 46 14.7	+0.2
OHR				eSg	Sg	04 46 34.9	+0.9
OHR				eSn	Sn	04 46 35.4	+1.3
VLS	Valsamata	1.49	189	ePB	Pb	04 46 15.8	+0.2
RLS	Riolos of Patr	1.66	164	ePB	Pb	04 46 19.3	+0.9
GRG	Griva	1.74	41	ePb	Pb	04 46 18.1	-1.8
GRG	Griva	1.74	41	ePb	Pb	04 46 18.0	-1.8
PLG	Polygyros	2.09	69	ePN	Pn	04 46 24.9	+1.7
VAY	Valandovo	2.10	37	ePn	Pn	04 46 18.3	-5.1
VAY	Valandovo	2.10	37	ePn	Pn	04 46 18.2	-5.1
KNT	Kendrikon	2.15	45	ePn	Pn	04 46 23.5	-0.5
PAIG	Paliouri	2.17	82	ePn	Pn	04 46 24.0	-0.2

---

*NIED **18** 05:32:00, 2460N×122.10E, h35km, Mw4.0 Best double couple: M0 1.18000×10^15 NP1:φs192.00000°, δ58.00000°, λ48.00000°. NP2:φs72.00000°, δ51.00000°, λ137.00000°.*
*IDC **18** 05:32:20.5±1.9, 2442N×12202E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/20, mbtmp3.9/4, Error ellipse: s-maj=141.6km s-min=23.2km az=64.0*
*BJI **18** 05:32:23.5, 2421N×12209E, h45km, ML3.8*
*NEIC **18** 05:32:25.1±1.0, 2449N×12227E, h35km, MG3.6(JMA), Error ellipse: s-maj=18.5km s-min=14.4km az=65.0*
*ISCJB **18** 05:32:26.2±0.5, 2445N±008×12209E±003, h64km±6km, mb3.9/4, Error ellipse: s-maj=13.2km s-min=5.0km az=14.0*
*JMA **18** 05:32:26.5±0.2, 2457N×12209E, h51km±3km, M3.6*

ISC 18 05:32:27.2±0.5**, 2445N**±008×**12209E**±003**, h56km**±6km**, n13, σ0.83**/20**, mb3.9**/4**, 1C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NACB	Ninganchiao	0.53	238	⇑iPn	Pn	05 32 38.2	-0.9
NACB				eSn	Sn	05 32 48.9	+1.1
YHNB	Yeheng	0.68	289	ePn	Pn	05 32 40.6	-0.4
YHNB				eSn	Sn	05 32 51.9	+0.8
TATO	Taipei	0.75	314	ePn	Pn	05 32 41.5	-0.3
TATO				eSn	Sn	05 32 53.7	+1.1
YOJ	Yonaguni jima	0.84	89	P	Pn	05 32 42.3	-0.7
YOJ				eS	Sn	05 32 53.7	-0.9
HATJ	Hateruma jima	1.62	104	P	Pn	05 32 53.5	+0.1
HATJ				eS	Sn	05 33 14.2	+1.1
JTJ	Tarama	2.39	85	P	Pn	05 33 03.9	0.0
JTJ				eS	Sn	05 33 31.2	-0.8
JMJ	Miyako jima 2	2.94	82	eS	Sn	05 33 45.9	+0.4
QZH	Quanzhou	3.21	279	⇓iP	Pn	05 33 14.5	-0.7
QZH				S	Sn	05 33 49.8	-2.4
QZH				Smax			
	comp=N,460nm,1.0s						
QZH				Smax			
	comp=E,210nm,1.0s						
JKE	Kume jima 2	4.64	65	P	Pn	05 33 35.2	+0.4
SONM	Songino Array	26.45	336	P	P	05 37 59.6	+0.8
	comp=E,4.0nm,1.0s,mb3.9,baz=147,slow=8.7,SNR=14						
MKAR	Makanchi Array	38.72	315	P	P	05 39 46.1	+0.3
	comp=E,0.5nm,0.3s,mb3.7,baz=104,slow=10,SNR=6.1						
WRA	Warramunga Arr	45.71	164	P	P	05 40 43.3	+0.6
	comp=E,1.1nm,0.6s,mb4.0,baz=347,slow=8.9,SNR=17						
BVAR	Borovoye Array	47.99	320	P	P	05 41 00.2	-0.2
	comp=E,0.8nm,0.5s,mb4.0,baz=96,slow=6.0,SNR=4.4						

---

*NEIC **18** 05:35:51.9, 1905N×6861W, h174km, MD3.9(RSPR), After RSPR.*

RSPR 18 05:35:51.9, 1905N×**6861W, h174km**±4km**, MD3.9**/13**, MD3.9**/13**, 14C, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LSP	Las Mesas	1.69	121	⇑eP	Pn	05 36 25.6	+0.5
LSP				eS	Sn	05 36 51.3	+0.5
CRPR	Cabo Rojo, PR	1.76	126	⇑eP	Pn	05 36 25.7	-0.2
CRPR				eS	Sn	05 36 52.8	+0.6
MGP	Maguayo	1.78	126	⇑eP	Pn	05 36 25.9	-0.1
MGP				eS	Sn	05 36 52.8	+0.3
LRS	Lares	1.83	114	⇑eP	Pn	05 36 26.9	+0.2
LRS				eS	Sn	05 36 53.9	+0.4
AOPR	Arecibo Observ	1.89	112	⇑eP	Pn	05 36 27.6	+0.3
AOPR				eS	Sn	05 36 55.2	+0.6
OBIP	Obispado Ponce	2.15	118	⇑eP	Pn	05 36 30.4	+0.3
OBIP				eS	Sn	05 37 00.7	+1.0
CELP	Cerrillos	2.16	117	⇑eP	Pn	05 36 30.9	+0.7
CELP				eS	Sn	05 37 00.8	+1.0
ICM	Isla Caja Muer	2.29	120	⇑eP	Pn	05 36 31.6	-0.1
ICM				eS	Sn	05 37 03.8	+1.2
SJG	San Juan	2.51	112	⇑eP	Pn	05 36 34.2	-0.1
SJG				eS	Sn	05 37 07.8	+0.6
CBYP	Canovanas	2.72	106	⇑eP	Pn	05 36 37.6	+0.8
CBYP				eS	Sn	05 37 12.7	+1.1
CPD	Cerro la Pandu	2.75	111	⇑eP	Pn	05 36 37.8	+0.8
CPD				eS	Sn	05 37 12.8	+0.6
HUMP	Col San Antoni	2.77	109	⇑eP	Pn	05 36 37.8	+0.5
HUMP				eS	Sn	05 37 13.4	+0.8
MTP	Monte Pirata	3.05	108	⇑eP	Pn	05 36 41.4	+0.6
MTP				eS	Sn	05 37 20.1	+1.3
TBVI	Tortola	3.83	99	⇑eP	Pn	05 36 51.5	+0.9
TBVI				eS	Sn	05 37 38.2	+1.8

JMA 18 05:41:32.6±0.1**, 3802N**×**14262E, h31km**±2km**, M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIO	Ouri	1.09	294	P	Pn	05 41 51.9	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JIO				eS	Sn	05 42 05.5	-0.3
OFUJ	Ofunato	1.29	325	P	Pn	05 41 55.1	+0.6
JMK	Ichinoseki	1.44	311	eS	Sn	05 42 14.9	+0.5
JMM	Marumori	1.45	264	P	Pn	05 41 57.1	+0.4
JFK	Kawauchi	1.53	245	P	Pn	05 41 58.2	+0.4
JOU	Okura	1.58	283	P	Pn	05 42 00.1	+1.7
JOM	Ohasama	1.78	325	P	Pn	05 42 02.7	+1.4
JOM				eS	Sn	05 42 24.9	+2.0
JFT	Otama	1.88	255	P	Pn	05 42 04.1	+1.6
JFT				eS	Sn	05 42 28.1	+2.9
JYS	Shirataka	2.02	276	P	Pn	05 42 06.2	+1.6
MAT	Matsushiro	3.82	249	P	Pn	05 42 34.1	+4.9
MAT				eS	Sn	05 43 14.7	+1.7

JMA 18 05:48:28.7±0.2, 3802N×14261E, h29km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.08	294	P	Pn	05 48 48.1	+0.2
JIO				eS	Sn	05 49 01.6	-0.3
OFUJ	Ofunato	1.29	325	P	Pn	05 48 51.2	+0.5
JMK	Ichinoseki	1.43	311	P	Pn	05 48 54.0	+1.3
JMM	Marumori	1.45	264	P	Pn	05 48 53.1	+0.2
JMM				eS	Sn	05 49 10.6	-0.3
JFK	Kawauchi	1.52	245	P	Pn	05 48 54.2	+0.2
JFK				eS	Sn	05 49 14.1	+1.3
JOU	Okura	1.57	283	P	Pn	05 48 56.2	+1.6
JOM	Ohasama	1.78	325	eS	Sn	05 49 21.0	+1.9
JFT	Otama	1.87	255	eS	Sn	05 49 23.5	+2.2
JYK	Kaneyama	1.98	298	P	Pn	05 49 02.0	+1.7
JYS	Shirataka	2.02	276	P	Pn	05 49 02.6	+1.9
MAT	Matsushiro	3.81	249	P	Pn	05 49 29.7	+4.3
MAT				eS	Sn	05 50 15.6	+6.4

ISCJB ***18*** *06:08:19.8±0.6, 5637S±009×2558W±02, h10km, mb4.4/9, MS3.7/5, Error ellipse: s-maj=19.7km s-min=12.2km az=153.8*

IDC ***18*** *06:08:20.1±0.8, 5636S×2563W, h0km, mb4.3/7, mb1 4.3/8, mb1mx4.1/18, mbtmp4.2/8, ML3.4/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/24, Error ellipse: s-maj=27.3km s-min=20.5km az=82.0*

NEIC ***18*** *06:08:22.5±9.1, 5637S×2569W, h16km±56km, mb4.6/7, Error ellipse: s-maj=19.4km s-min=13.4km az=60.0*

ISC 18 06:08:21.5±0.6, 5639S±009×257W±02, h10km, n23, σ0^{s}84/17, mb4.4/9, MS3.7/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	18.09	157	P	Pn	06 12 33.2	+0.3
	0.1nm,0.3s,baz=321,slow=12,SNR=23						
SNAA				LR	LR	06 17 43.0	
	comp=Z,63nm,21.4s,baz=13,slow=31						
PMSA	Palmer Station	20.31	230	P	P	06 12 58.2	+0.6
	8.1nm,0.9s,baz=83,slow=13,SNR=5.9						
PMSA	Palmer Station	20.31	230	eP	P	06 12 57.7	+0.1
	19nm,1.2s						
QSPA	South Pole Qui	33.86	180	eP	P	06 15 03.3	-0.8
	5.3nm,0.7s,mb4.6						
CPUP	Villa Florida	37.67	310	P	P	06 15 36.4	-0.4
	3.6nm,0.8s,mb4.2,baz=135,slow=7.5,SNR=15						
CPUP				LR	LR	06 30 34.3	
	comp=Z,82nm,19.6s,MS3.5,baz=298,slow=35						
CPUP	Villa Florida	37.67	310	eP	P	06 15 36.2	-0.7
	14nm,0.7s,mb4.8						
SUR	Sutherland	39.94	73	LR	LR	06 28 33.1	
	comp=Z,148nm,18.2s,MS3.9,baz=51,slow=30						
BOSA	Boshof	45.26	74	LR	LR	06 32 08.6	
	comp=Z,101nm,18.6s,MS3.8,baz=296,slow=32						
VNDA	Vanda	46.27	182	P	P	06 16 46.1	-1.0
	1.7nm,0.7s,mb4.1,baz=186,slow=3.9,SNR=12						
VNDA				LR	LR	06 36 29.5	
	comp=Z,95nm,18.9s,MS3.8,baz=231,slow=36						
VNDA	Vanda	46.27	182	eP	P	06 16 45.9	-1.1
	1.7nm,0.6s,mb4.2						
VNDA				e		06 16 58.5	
LBTB	Lobatse	48.32	71	LR	LR	06 33 07.5	
	comp=Z,73nm,21.6s,MS3.6,baz=288,slow=31						
LPAZ	La Paz	51.26	304	P	P	06 17 26.4	+0.9
	9.2nm,0.6s,mb4.9,baz=145,slow=6.1,SNR=94						
LPAZ	La Paz	51.26	304	eP	P	06 17 26.2	+0.8
	8.3nm,0.5s,mb4.9						
SAML	Samuel	55.64	313	eP	P	06 17 57.2	-0.4
	4.4nm,1.0s,mb4.4						
DBIC	Dimbokro	65.14	23	P	P	06 19 03.6	+1.0
	3.9nm,0.9s,mb4.4,baz=196,slow=7.3,SNR=4.1						
TOA0	Torodi Ar. Sit	72.96	28	eP	P	06 19 50.4	-0.7
TORD	Torodi Ar. Bea	72.96	28	P	P	06 19 50.4	-0.7
	1.4nm,0.6s,mb4.1,baz=198,slow=6.2,SNR=25						
TORD	Torodi Ar. Bea	72.96	28	P	P	06 19 50.4	-0.7
SDV	Santo Domingo	74.84	314	eP	P	06 20 02.3	+0.1
	6.2nm,0.9s,mb4.5						
ASAR	Alice Springs	98.40	161	P	P	06 22 01.6	+1.8
	0.4nm,0.7s,mb4.0,baz=176,slow=4.3,SNR=4.1						
DAWY	Dawson	147.64	311	ePKPdf	PKPdf	06 28 03.0	-0.4
SONM	Songino Array	149.92	86	PKPbc	PKPbc	06 28 09.4	-2.6
	1.1nm,0.8s,baz=104,slow=0.6,SNR=4.9						
MCK	McKinley	151.63	308	ePKPbc	PKPbc	06 28 13.5	-2.5

ISCJB ***18*** *06:13:17.4±0.5, 6667N±004×13552W±0.10, h20km, mb3.8/6, Error ellipse: s-maj=6.6km s-min=5.3km az=130.8*

NEIC ***18*** *06:13:21.0, 6662N×13557W, h20km, ML4.0(PGC), ML4.3(AEIC), After PGC.*

PGC ***18*** *06:13:21.0, 6662N×13557W, h20km, ML4.0/2, 103km southwest of Ft. McPherson, Nt Richardson Mountains, Yukon Territory*

BJI ***18*** *06:13:22.3, 6751N×13645W, h20km, mB4.6, mb4.8, Ms4.5, Msz4.3*

IDC ***18*** *06:13:23.2±2.8, 6675N×13541W, h31km±19km, mb3.7/6, mb1 4.1/8, mb1mx3.7/24, mbtmp4.0/8, ML4.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=23.7km s-min=9.6km az=83.0*

ISC 18 06:13:18.6±0.3, 6661N±003×13554W±009, h10km, n42, σ1^{s}42/69, mb3.8/6, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	1.88	24	Pn	Pn	06 13 51.1	+0.4
	62nm,0.3s,baz=208,slow=15,SNR=726						
INK				Lg		06 14 18.2	
	140nm,0.3s,baz=108,slow=24,SNR=11						
INK	Inuvik	1.88	24	Pn	Pn	06 13 51.0	+0.3
INK				Sn	Sn	06 14 14.2	-0.2
INK				Sg	Sg	06 14 19.3	+0.4
INK				Trac		06 14 23.5	
	comp=Z,545nm,0.2s						
INK	Inuvik	1.88	24	Pn	Pn	06 13 51.0	+0.3
INK				Sn	Sn	06 14 14.2	-0.2
INK				Sg	Sg	06 14 19.3	+0.4
EGAK	Eagle	2.96	234	ePn	Pn	06 14 04.6	-1.1
EGAK				eSn	Sn	06 14 44.1	+2.9
DAWY	Dawson	3.02	214	Pn	Pn	06 14 06.5	0.0
DAWY				Pg	Pg	06 14 12.7	-3.9
DAWY				Sn	Sn	06 14 42.1	-0.6
DAWY				Sg	Sg	06 14 54.6	-1.1
DAWY				Trac		06 15 00.7	
	comp=Z,459nm,0.2s						
DAWY	Dawson	3.02	214	P	Pn	06 14 06.5	0.0
DAWY				S	Sn	06 14 43.7	+1.0
DOT	Dot Lake	4.67	234	P	Pn	06 14 28.1	-0.9
DOT				S	Sn	06 15 25.2	+1.9
MENT	Mentasta	5.08	227	eP	Pn	06 14 34.4	-0.4
COLA	College	5.37	257	ePn	Pn	06 14 39.2	+0.5
	38nm,0.6s						
COLA				eSn	Sn	06 15 44.3	+3.8
COLD	Coldfoot	5.80	283	P	Pn	06 14 42.6	-2.0
HYT	Haines Junctio	5.87	189	Pn	Pn	06 14 46.9	+1.2
HYT				Pg	Pg	06 15 07.8	-3.3
HYT				Sg	Sg	06 16 22.5	-4.6
HYT				Trac		06 16 30.0	
	comp=Z,247nm,0.8s						
HYT	Haines Junctio	5.87	189	Pn	Pn	06 14 46.9	+1.2
HYT				Pg	Pg	06 15 07.8	-3.3
HYT				Sg	Sg	06 16 27.4	+0.3
WHY	Whitehorse	5.98	177	Pn	Pn	06 14 48.3	+1.1
WHY				Sg	Sg	06 16 27.4	-3.2
WHY				Trac		06 16 34.8	
	comp=Z,60nm,0.5s						
WHY	Whitehorse	5.98	177	P	Pn	06 14 48.7	+1.5
MCK	McKinley	6.33	249	P	Pn	06 14 51.6	-0.4
TRF	Thorofare Moun	6.99	250	P	Pn	06 14 59.9	-1.2
SKAG	Skagway	7.18	179	P	Pn	06 15 05.2	+1.6
PLBC	Pleasant Camp	7.19	183	Pn	Pn	06 15 04.5	+0.7
PLBC				Sg	Sg	06 17 05.5	-3.8
IMA2	Indian Mountai	7.32	274	eP	Pn	06 15 04.9	-0.6
PMR	Palmer	7.78	236	ePn	Pn	06 15 12.8	+1.0
	12nm,0.6s						
PMR				eSg	Sn	06 17 22.5	+42
DLBC	Dease Lake	8.59	160	Pn	Pn	06 15 24.2	+1.3
	2.5nm,0.3s,baz=354,slow=10,SNR=35						
DLBC				Sn	Sn	06 16 59.1	-0.6
	1.3nm,0.3s,baz=214,slow=27,SNR=2.9						
DLBC				Lg		06 17 47.8	
	2.3nm,0.3s,baz=127,slow=16,SNR=7.0						
DLBC				LR	LR	06 19 01.6	
	comp=Z,110nm,19.7s,baz=357,slow=39						
DLBC	Dease Lake	8.59	160	Pn	Pn	06 15 24.1	+1.2
DLBC				Sg	Sn	06 17 47.3	+48
DLBC				Trac		06 17 58.9	
	comp=Z,48nm,0.9s						
DLBC	Dease Lake	8.59	160	Pn	Pn	06 15 24.1	+1.2
DLBC				Sg	Sn	06 17 47.3	+48
FNBB	Fort Nelson	9.62	138	Pn	Pn	06 15 38.7	+1.6
FNBB				Sn	Sn	06 17 19.1	-6.2
FNBB				Sg	Sn	06 18 20.4	+55
FNBB				Trac		06 18 46.8	
	comp=Z,14nm,0.8s						
FNBB	Fort Nelson	9.62	138	Pn	Pn	06 15 38.7	+1.6
FNBB				Sn	Sn	06 17 19.1	-6.2
FNBB				Sg	Sn	06 18 20.4	+55
YKW3	Yellowknife Ar	9.84	105	P	Pn	06 15 38.2	-1.9
YKW3				P		06 15 38.7	
YKW3				Sn	Sn	06 17 21.6	-9.1
YKW3				Sn	Sn	06 17 22.3	-8.4
YKW3				Sg	Sn	06 18 20.1	+49
YKW3				Sg	Sn	06 18 23.7	+53
YKW3				Trac		06 18 37.3	
	comp=Z,28nm,0.4s						
YKW3				Trac		06 18 37.4	
	comp=Z,43nm,0.5s						
YKW3	Yellowknife Ar	9.84	105	P	Pn	06 15 38.7	-1.4
YKW3				Sn	Sn	06 17 22.3	-8.4
YKW3				Sg	Sn	06 18 23.7	+53
YKA	Yellowknife Ar	9.88	105	Pn	Pn	06 15 39.0	-1.7
	baz=304,slow=13,SNR=78						
YKA				Sn	Sn	06 17 23.2	-8.5
	baz=299,slow=24,SNR=5.9						
YKA				Lg		06 18 33.1	
	baz=310,slow=26,SNR=4.2						
YKA	Yellowknife Ar	9.88	105	Pn	Pn	06 15 39.0	-1.7
YKA				Sn	Sn	06 17 23.2	-8.5
YKA				Lg		06 18 33.1	
BMBC	Bull Mountain	12.36	143	P	Pn	06 16 17.6	+2.9
BBB	Bella Bella	14.94	162	Pn	Pn	06 16 59.5	+10
	0.3nm,0.3s,baz=27,slow=11,SNR=3.1						
RES	Resolute Bay	15.34	41	P	Pn	06 16 51.5	-3.6
RES				Sn	Sn	06 19 24.7	-20
RES				Trac		06 19 36.9	
	comp=Z,7.0nm,0.6s						
RES	Resolute Bay	15.34	41	P	Pn	06 16 51.5	-3.6
RES				Sn	Sn	06 19 24.7	-20
NEW	Newport	20.73	143	P	P	06 18 02.5	+3.3
	4.3nm,0.9s,baz=336,slow=11,SNR=8.1						
PDAR	Pinedale Array	27.80	136	P	P	06 19 10.2	+2.4
	1.5nm,0.7s,mb3.7,baz=1.1,slow=6.6,SNR=18						
NVAR	Mina Array Bea	29.89	152	P	P	06 19 30.0	+3.6
	1.3nm,0.8s,mb3.7,baz=359,slow=7.3,SNR=12						
NOA	NORSAR Array B	50.33	20	P	P	06 22 15.1	-0.4
	0.5nm,0.6s,mb3.8,baz=348,slow=7.4,SNR=3.6						
FINES	FINESS Array B	51.54	11	P	P	06 22 23.2	-1.4
	0.7nm,0.5s,mb3.8,baz=358,slow=9.5,SNR=5.6						
WMQ	Urumqi	65.04	327	eP	P	06 24 00.0	+1.0
NJ2	Nanjing	66.86	297	eP	P	06 24 12.8	+2.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
ESDC	Sonseca Array	67.76	39	P	P	06 24 17.0	+0.6
	comp=Z,0.2nm,0.3s,mb3.6,baz=337,slow=8.2,SNR=4.0						
KMI	Kunming	78.65	308	P	P	06 25 19.5	-1.3
KMI				AP	pP	06 25 26.8	+2.7
KMI				XP	sP	06 25 28.8	+3.5
KMI				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb4.1						

IDC 18 06:16:36.8±1.0, 3626S×5272E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=53.1km s-min=22.4km az=23.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	18.28	343	P	Pn	06 20 52.1	+0.2
	0.3nm,0.3s,baz=168,slow=14,SNR=2.6						
BOSA	Boshof	24.34	280	P	P	06 21 57.4	+1.2
	7.3nm,1.1s,baz=100,slow=8.0,SNR=4.6						
BOSA				PcP	PcP	06 25 34.7	-1.2
	3.9nm,1.0s,baz=108,slow=3.2,SNR=3.2						
TORD	Torodi Ar. Bea	68.77	306	P	P	06 27 42.3	-0.2
	0.7nm,0.9s,baz=153,slow=7.6,SNR=3.4						
ASAR	Alice Springs	69.60	105	P	P	06 27 48.2	+0.5
	1.4nm,0.7s,baz=231,slow=5.9,SNR=19						
WRA	Warramunga Arr	71.92	102	P	P	06 28 02.3	+0.5
	1.7nm,0.6s,baz=234,slow=5.2,SNR=26						
MKAR	Makanchi Array	86.84	20	P	P	06 29 22.1	-1.0
	1.1nm,1.1s,baz=218,slow=7.7,SNR=3.7						
INK	Inuvik	147.71	4	PKPbc	PKPbc	06 36 22.8	-0.6
	2.6nm,0.7s,baz=359,slow=4.0,SNR=10						
PDAR	Pinedale Array	164.87	301	PKP	PKPdf	06 36 41.9	-0.9
	0.2nm,0.4s,baz=35,slow=3.3,SNR=4.4						

NAO ***18*** *06:32:01.9, 3265N×2621E, h33km, mb4.1*

NEIC ***18*** *06:32:29.6, 3551N×2172E, h5km, mb4.4/3, ML3.9(THE), ML4.3(ATH), After ATH.*

ATH ***18*** *06:32:30.6, 3554N×2175E, h4km±3km, MD4.1/17, ML4.2*

MOS ***18*** *06:32:31.9±1.4, 3568N×2176E, h13km, mb4.4/13, Error ellipse: s-maj=11.7km s-min=4.2km az=83.7*

THE ***18*** *06:32:31.1, 3553N×2178E, h10km, ML4.0*

ISCJB ***18*** *06:32:33.1±0.8, 3566N±003×2180E±004, h26km±7km, mb4.2/20, Error ellipse: s-maj=5.4km s-min=3.8km az=112.8*

HLW ***18*** *06:32:33.0, 3589N×2183E, h33km, Mb3.8*

CSEM ***18*** *06:32:35.1±0.1, 3564N×2192E, h40km, mb4.4/3, Error ellipse: s-maj=2.4km s-min=2.3km az=72.0*

IDC ***18*** *06:32:38.7±2.7, 3578N×2194E, h56km±27km, mb3.8/14, mb1 3.9/19, mb1mx3.8/32, mbtmp4.0/19, ML3.9/5, Error ellipse: s-maj=17.4km s-min=12.3km az=124.0*

ISC 18 06:32:32.9±0.9, 3566N±002×2180E±003, h7km±6km, n140, σ1^{s}40/159, mb4.2/20, 5C-7D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.18	58	ePB	Pb	06 32 54.7	-0.9
VLI	Veliai	1.40	41	ePN	Pn	06 32 59.0	+0.1
VLI				eSB	Sb	06 33 19.6	+2.1
ITM	Ithomi	1.52	4	ePG	Pg	06 33 01.0	-1.1
ITM				eSB	Sb	06 33 24.6	+3.6
GVD	Gavdhos	2.04	113	ePN	Pn	06 33 08.0	+0.4
NAIG	Nisos Aigina	2.50	32	ePN	Pn	06 33 16.0	+2.1
NAIG	Nisos Aigina	2.50	32	ePg	Pg	06 33 18.0	-2.7
MGER	Gerania Oros	2.60	26	ePg	Pg	06 33 21.5	-1.3
KVR	Kavouri	2.68	36	ePB	Pb	06 33 19.5	-1.7
VLS	Valsamata	2.70	339	ePN	Pn	06 33 18.0	+1.3
ATH	Athens Observa	2.78	33	ePB	Pb	06 33 20.5	-2.3
PTL	Penteli	2.91	34	ePN	Pn	06 33 21.0	+1.5
SANT	Santorini	3.05	75	ePn	Pn	06 33 20.9	-0.6
SANT				eSn	Sn	06 33 59.6	+1.4
SANT	Santorini	3.05	75	P	Pn	06 33 22.1	+0.6
SANT	Santorini	3.05	75	P	Pn	06 33 22.1	+0.6
LKD	Levkas	3.18	344	ePn	Pn	06 33 23.6	+0.3
LKD				eSn	Sn	06 34 05.1	+3.6
LKD	Levkas	3.18	344	P	Pn	06 33 23.2	-0.1
LKD				S	Sn	06 33 58.3	-3.2
EVR	Evrytania	3.26	0	ePB	Pb	06 33 27.5	-3.5
APE	Apeiranthos	3.33	64	ePn	Pn	06 33 25.2	0.0
APE				eSn	Sn	06 34 07.2	+2.2
APE	Apeiranthos	3.33	64	ePN	Pn	06 33 27.4	+2.1
APE	Apeiranthos	3.33	64	ePn	Pn	06 33 24.0	-1.3
AGG	Agios Georgios	3.39	7	ePn	Pn	06 33 27.6	+1.5
AGG				eSn	Sn	06 34 09.8	+3.3
AGG	Agios Georgios	3.39	7	P	Pn	06 33 26.5	+0.4
NEO	Neokhori	3.82	17	ePN	Pn	06 33 33.8	+1.8
XOR	Xorichti	3.87	16	ePn	Pn	06 33 34.1	+1.4
AOS	Alonnisos	3.88	25	ePn	Pn	06 33 34.1	+1.2
AOS	Alonnisos	3.88	25	P	Pn	06 33 33.2	+0.3
IGT	Igoumenitsa	4.04	344	ePn	Pn	06 33 35.7	+0.5
IGT	Igoumenitsa	4.04	344	P	Pn	06 33 35.2	+0.1
JAN	Janina	4.07	350	ePN	Pn	06 33 37.0	+1.5
KEK	Kerkira	4.35	339	ePN	Pn	06 33 42.0	+2.6
CHOS	Chios island	4.36	50	ePn	Pn	06 33 39.4	-0.1
CHOS				eSn	Sn	06 34 32.7	+2.1
KARP	Karpathos	4.37	90	ePN	Pn	06 33 40.5	+0.9
LIT	Litokhoron	4.47	7	ePn	Pn	06 33 42.6	+1.6
LIT	Litokhoron	4.47	7	P	Pn	06 33 41.5	+0.5
LIT				S	Sn	06 34 31.5	-1.8
LIT	Litokhoron	4.47	7	ePn	Pn	06 33 42.7	+1.7
LIT				S	Sn	06 34 31.5	-1.8
PAIG	Paliouri	4.52	19	ePn	Pn	06 33 42.2	+0.5
PAIG	Paliouri	4.52	19	P	Pn	06 33 42.1	+0.5
KZN	Kozani	4.64	360	ePN	Pn	06 33 45.0	+1.6
PLG	Polygyros	4.89	15	ePN	Pn	06 33 48.3	+1.6
PLG	Polygyros	4.89	15	ePn	Pn	06 33 47.5	+0.8
OUR	Ouranopolis	4.98	20	P	Pn	06 33 48.8	+0.8
HORT	Hortiatis	5.04	11	ePn	Pn	06 33 49.3	+0.4
FNA	Florina	5.13	356	ePn	Pn	06 33 50.8	+0.7
FNA	Florina	5.13	356	P	Pn	06 33 50.2	+0.1
FNA				S	Sn	06 34 46.7	-2.9
ARG	Arkhangelos	5.16	82	eP	Pn	06 33 55.5	+5.0
SOH	Sokhos	5.30	13	P	Pn	06 33 53.5	+1.1
GRG	Griva	5.31	5	ePn	Pn	06 33 53.4	+0.8
BIA	Bitola	5.37	356	ePn	Pn	06 33 53.9	+0.5
BIA	Bitola	5.37	356	ePn	Pn	06 33 53.5	+0.1
BIA				eSn	Sn	06 34 53.5	-2.0
BIA	Bitola	5.37	356	ePn	Pn	06 33 53.9	+0.5
BIA				eSn	Sn	06 34 53.4	-2.0
MTTG	Motta San Giov	5.43	297	Pn	Pn	06 33 55.1	+0.9
OHR	Ohrid	5.50	352	ePn	Pn	06 33 55.5	+0.3
OHR	Ohrid	5.50	352	i Pn	Pn	06 33 55.5	+0.3
HAVL	Avola	5.55	286	Pn	Pn	06 33 55.9	+0.1
KNT	Kendrikon	5.57	9	ePn	Pn	06 33 57.2	+1.2
KNT	Kendrikon	5.57	9	P	Pn	06 33 56.7	+0.6
VAY	Valandovo	5.69	6	i Pn	Pn	06 33 57.8	+0.1
VAY				eSn	Sn	06 35 01.2	-2.2
VAY	Valandovo	5.69	6	i Pn	Pn	06 33 57.8	0.0
VAY				eSn	Sn	06 35 01.1	-2.2
MMB	Musomiste	6.11	14	ePn	Pn	06 34 04.3	+0.7
MMB	Musomiste	6.11	14	i P	Pn	06 34 03.0	-0.6
MMB	Musomiste	6.11	14	P	Pn	06 34 03.6	0.0
PE1	Pezze di Greco	6.19	327	ePn	Pn	06 34 03.8	-0.8
VAE	Valguarnera	6.22	289	P	Pn	06 34 08.9	+3.9
	2.2nm,0.3s,baz=302,slow=13,SNR=2.2						
KKB	Krupnik	6.28	9	i P	Pn	06 34 06.0	+0.1
SKO	Skopje	6.31	358	ePn	Pn	06 34 06.8	+0.4
SG1	Sgolgore (BA)	6.56	324	ePn	Pn	06 34 09.9	+0.2
KDZ	Kurdzhali	6.62	24	i P	Pn	06 34 12.0	+1.4
SLCN	Sala Consilina	6.78	316	Pn	Pn	06 34 16.1	+3.3
CDT	Castel del Mon	6.94	323	ePn	Pn	06 34 15.1	+0.1
VTS	Vitosha	7.01	9	⇓iP	Pn	06 34 16.9	+1.0
VTS	Vitosha	7.01	9	P	Pn	06 34 16.0	0.0
VTS	Vitosha	7.01	9	P	Pn	06 34 16.0	+0.1
SWA2		7.10	153	⇓P	Pn	06 34 18.1	+0.9
SWA2				S	Sn	06 35 34.9	-3.1
DABA	Dabaa	7.13	129	⇓P	Pn	06 34 17.6	+0.1
SWA1		7.18	152	⇓P	Pn	06 34 18.8	+0.6
SWA1				S	Sn	06 35 36.3	-3.7
AWBH		9.47	139	⇓P	Pn	06 34 50.1	+0.3
GZR	Gura Zlata	9.76	4	⇑iP	Pn	06 34 52.5	-1.1
BRTR	Keskin Array B	10.22	63	P	Pn	06 35 02.2	+2.3
	0.2nm,0.3s,baz=230,slow=13,SNR=5.7						
BRTR	Keskin Array B	10.22	63	P	Pn	06 35 02.2	+2.2
GLL	Jalalah	10.32	123	⇑P	Pn	06 35 01.4	+0.1
MLR	Muntele Rosu	10.32	16	P	Pn	06 35 02.6	+1.3
	0.3nm,0.3s,baz=143,slow=19,SNR=2.6						
AMAG	Maghara	10.79	114	⇑P	Pn	06 35 06.9	-0.8
PKSM	Moragy	10.81	348	⇓iP	Pn	06 35 06.8	-1.2
SUZ		10.95	119	⇑P	Pn	06 35 10.0	+0.2
SUZ		10.95	119	P	Pn	06 35 10.0	+0.1
	600nm,0.5s						
BOJS	Bojanci	11.02	335	ePn	Pn	06 35 09.8	-1.1
BOJS				i Sn	Sn	06 37 05.9	-8.5
HNKL	Nakhl	11.73	116	⇑P	Pn	06 35 21.1	+0.6
PERS	Pernice	12.06	337	i Pn	Pn	06 35 23.2	-2.0
PERS				eSn	Sn	06 37 31.2	-8.8
PSZ	Piszkesteto	12.34	354	⇓iP	Pn	06 35 27.2	-1.7
PSZ	Piszkesteto	12.34	354	eP	Pn	06 35 27.3	-1.6
PSZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PSZ	Piszkesteto	12.34	354	ePn	Pn	06 35 27.3	-1.6
	comp=Z,3.5nm,0.6s						
KECS	Kecovo	12.86	356	ePN	Pn	06 35 34.0	-2.0
MORC	Moravsky Berou	14.45	349	eP	Pn	06 36 04.6	+6.8
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MORC	Moravsky Berou	14.45	349	eP	Pn	06 36 04.6	+6.8
	comp=Z,3.8nm,0.8s						
GERES	GERESS Array B	14.47	338	P	Pn	06 35 57.6	-0.4
	comp=Z,0.3nm,0.3s,baz=143,slow=10.0,SNR=5.5						
AKASG	Malin Array Be	15.97	17	P	Pn	06 36 16.4	-1.6
	comp=Z,1.1nm,0.3s,baz=213,slow=11,SNR=5.5						
AKASG	Malin Array Be	15.97	17	P	Pn	06 36 16.4	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ESDC	Sonseca Array	20.76	289	P	P	06 37 16.6	+2.4
	comp=Z,0.9nm,0.6s,baz=86,slow=11,SNR=4.6						
MDT	Midelt	22.00	270	P	P	06 37 28.6	+1.0
	comp=Z,2.6nm,0.9s,mb3.7,baz=59,slow=12,SNR=5.1						
RST	Umm Al-Ruwaisa	22.07	99	eP	P	06 37 27.3	-1.0
RST				AMb	AMB	06 37 29.9	
	comp=Z,17nm,0.6s,mb4.7						
QUIF	Quistinic	22.18	311	eP	P	06 37 31.0	+1.5
	comp=Z,36nm,1.0s,mb4.5						
QUIF	Quistinic	22.18	311	eP	P	06 37 31.0	+1.5
QUIF				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.5						
QUIF	Quistinic	22.18	311	eP	P	06 37 31.0	+1.5
	comp=Z,18nm,1.0s,mb4.5						
MIB	Mutribah	22.23	98	eP	P	06 37 28.5	-1.6
MIB				AMb	AMB	06 37 31.5	
	comp=Z,25nm,0.5s,mb4.9						
NAY	Al-Naaiem	22.37	99	eP	P	06 37 30.5	-1.0
NAY				AMb	AMB	06 37 32.2	
	comp=Z,7.5nm,0.7s,mb4.2						
UMR	Umm Al-Rimmam	22.63	98	eP	P	06 37 32.1	-2.2
UMR				AMb	AMB	06 37 35.3	
	comp=Z,28nm,0.6s,mb4.9						
HFS	Hagfors	25.05	350	P	P	06 37 55.6	-2.1
	comp=Z,1.5nm,0.5s,mb3.8,baz=158,slow=12,SNR=7.1						
HFS	Hagfors	25.05	350	P	P	06 37 55.6	-2.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	25.95	5	P	P	06 38 03.5	-2.4
	comp=Z,3.1nm,0.8s,mb3.9,baz=164,slow=9.9,SNR=7.6						
FINES	FINESS Array B	25.95	5	P	P	06 38 03.5	-2.4
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	25.95	5	P	P	06 38 03.5	-2.4
EKA	Eskdalemuir Ar	26.09	327	P	P	06 38 08.0	+0.8
	comp=Z,6.0nm,0.7s,mb4.2,baz=129,slow=8.9,SNR=22						
EKA	Eskdalemuir Ar	26.09	327	P	P	06 38 08.0	+0.9
EKA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
EKA	Eskdalemuir Ar	26.09	327	P	P	06 38 07.9	+0.8
ESK	Eskdalemuir	26.10	327	eP	P	06 38 07.2	0.0
ESK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
ESK	Eskdalemuir	26.10	327	eP	P	06 38 07.2	0.0
	comp=Z,4.6nm,0.6s,mb4.2						
ESK	Eskdalemuir	26.10	327	eP	P	06 38 07.2	0.0
	comp=Z,4.6nm,0.6s,mb4.2						
NB2	NORSAR Subarra	26.29	348	P	P	06 38 07.3	-1.6
	comp=Z,2.1nm,0.8s,mb3.7,baz=154,slow=9.3						
NOA	NORSAR Array B	26.29	348	P	P	06 38 08.7	-0.3
	comp=Z,1.7nm,0.8s,mb3.6,baz=154,slow=7.1,SNR=6.7						
NOA	NORSAR Array B	26.29	348	P	P	06 38 08.7	-0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KAF	Kangasniemi	26.63	5	ep	P	06 38 10.1	-1.9
	baz=184,slow=9.3						
JOF	Joensuu	27.92	9	ep	P	06 38 22.9	-0.7
TORD	Torodi Ar. Bea	28.82	224	P	P	06 38 32.9	+1.2
	comp=Z,1.1nm,0.6s,mb3.8,baz=33,slow=9.3,SNR=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKTK	**Aktyubinsk**	**29.97**	**49**	P	**P**	**06 38 39.6**	**-2.2**
AKTO	**Aktyubinsk**	**29.97**	**49**	P	**P**	**06 38 39.6**	**-2.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=288,slow=7.7,SNR=5.4						
AKTO	**Aktyubinsk**	**29.97**	**49**	P	**P**	**06 38 39.6**	**-2.2**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
ARCES	**ARCESS Array B**	**34.00**	**2**	P	**P**	**06 39 15.2**	**-1.9**
	comp=Z,4.0nm,0.5s,mb4.6,baz=188,slow=8.4,SNR=38						
ARCES	**ARCESS Array B**	**34.00**	**2**	P	**P**	**06 39 15.3**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KEV	**Kevo**	**34.28**	**3**	*e*p	**P**	**06 39 17.7**	**-1.9**
	comp=Z,2.1nm,0.4s,mb4.4						
KEV	**Kevo**	**34.28**	**3**	*e*P	**P**	**06 39 17.7**	**-1.9**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
DBIC	**Dimbokro**	**37.82**	**227**	P	**P**	**06 39 51.0**	**+1.0**
	comp=Z,6.1nm,1.1s,mb4.2,baz=58,slow=9.5,SNR=3.8						
DBIC	**Dimbokro**	**37.82**	**227**	P	**P**	**06 39 51.0**	**+1.1**
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
DBIC	**Dimbokro**	**37.82**	**227**	P	**P**	**06 39 51.0**	**+1.0**
MKAR	**Makanchi Array**	**45.79**	**57**	P	**P**	**06 40 53.3**	**-1.8**
	comp=Z,8.0nm,0.8s,mb4.7,baz=287,slow=6.7,SNR=68						
MKAR	**Makanchi Array**	**45.79**	**57**	P	**P**	**06 40 53.3**	**-1.9**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ZAL	**Zalesovo**	**46.64**	**46**	P	**P**	**06 40 59.3**	**-2.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=210,slow=2.9,SNR=6.9						
ZAL	**Zalesovo**	**46.64**	**46**	P	**P**	**06 40 59.3**	**-2.5**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LSZ	**Lusaka**	**51.01**	**172**	P	**P**	**06 41 35.9**	**+0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=12,slow=8.1,SNR=5.8						
LSZ	**Lusaka**	**51.01**	**172**	P	**P**	**06 41 35.9**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
MATP	**Matopo**	**56.13**	**172**	P	**P**	**06 42 13.6**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=11,slow=5.2,SNR=2.9						

*BER **18** 06:42:56.4±3.5, 8030N×2173E, h15km, MD2.8, ML3.5, ML3.7(NAO)*
*CSEM **18** 06:42:56.5±0.7, 8009N×2185E, h10km, ML3.7, Error ellipse: s-maj=16.6km s-min=8.6km az=26.0*
*NAO **18** 06:43:00.6±3.6, 7991N×2093E, h22km±17km, ML3.7*
*IDC **18** 06:43:01.7±2.8, 7973N×2331E, h0km, mb3.5/2, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, ML3.6/4, Error ellipse: s-maj=51.1km s-min=25.5km az=108.0*
*ISCJB **18** 06:43:02.0±1.9, 7947N±007×221E±03, h11km±9km, mb3.5/2, Error ellipse: s-maj=12.8km s-min=9.8km az=52.0*
*NEIC **18** 06:43:02.4±1.8, 7961N×2157E, h10km, ML3.7(NAO), ML3.7(BER), Error ellipse: s-maj=22.8km s-min=14.1km az=190.0*
ISC 18 06:43:00.7±1.8**, 7970N**±007×**215E**±03**, h8**km±8km**, n30, σ1^{s}34**/52**, mb3.5**/2**, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**1.83**	**216**	Pn	**Pn**	**06 43 31.9**	**-0.5**
	baz=24,slow=14						
SPA0				Pg	**Pg**	**06 43 36.5**	**+0.7**
	baz=31,slow=18						
SPA0				S	**Sn**	**06 44 02.5**	**+6.9**
SPA0	**Spitsbergen Ar**	**1.83**	**216**	Pg	**Pg**	**06 43 36.5**	**+0.8**
	SNR=0.7						
SPB4	**Spitsbergen Ar**	**1.83**	**216**	*e*Pn	**Pn**	**06 43 31.9**	**-0.4**
SPB4				*e*Sn	**Sn**	**06 44 02.0**	**+6.4**
SPB4	**Spitsbergen Ar**	**1.83**	**216**	*e*Pn	**Pn**	**06 43 31.9**	**-0.4**
KBS	**Kingsbay**	**1.95**	**251**	Pn	**Pn**	**06 43 31.4**	**-2.6**
KBS				Pg	**Pg**	**06 43 36.1**	**-2.0**
KBS				Lg		06 44 01.3	
KBS	**Kingsbay**	**1.95**	**251**	*e*P	**Pn**	**06 43 31.4**	**-2.6**
KBS				*e*Pg	**Pg**	**06 43 36.0**	**-2.1**
KBS				*e*Sg	**Sg**	**06 44 01.4**	**-2.0**
KBS				AML	AML	06 44 06.2	
	comp=Z,1μm,0.3s						
KBS	**Kingsbay**	**1.95**	**251**	*e*Pn	**Pn**	**06 43 35.8**	**+1.8**
KBS				Pg	**Pg**	**06 43 36.1**	**-2.0**
KBS				*e*Sn	**Sn**	**06 44 00.9**	**+2.2**
KBS				Lg		06 44 01.3	
KBS	**Kingsbay**	**1.95**	**251**	Pg	**Pg**	**06 43 36.1**	**-2.0**
HOPEN	**Hopen**	**3.29**	**166**	*e*P	**Pn**	**06 43 52.1**	**-0.3**
HOPEN				*e*S	**Sn**	**06 44 34.5**	**+2.8**
BJO	**Bjornoya**	**5.25**	**187**	*e*P	**Pn**	**06 44 20.5**	**+1.1**
BJO				*e*Sg	**Sg**	**06 45 50.3**	**+1.0**
BJO				AML	AML	06 46 01.2	
	comp=Z,182nm,0.7s						
BJO1	**Bjornoya**	**5.26**	**187**	*e*P	**Pn**	**06 44 20.5**	**+1.0**
BJO1				*e*Pg	**Pg**	**06 44 41.1**	**-0.3**
BJO1				*e*Sg	**Sg**	**06 45 50.3**	**+0.7**
KEV	**Kevo**	**10.10**	**169**	*e*Pn	**Pn**	**06 45 26.6**	**+0.8**
KEV				*e*Sn	**Sn**	**06 47 15.2**	**-4.1**
KEV	**Kevo**	**10.10**	**169**	*e*Pn	**Pn**	**06 45 26.6**	**+0.7**
KEV				*e*Sn	**Sn**	**06 47 15.2**	**-4.1**
ARA0	**ARCESS Array S**	**10.28**	**172**	Pn	**Pn**	**06 45 27.7**	**-0.6**
	baz=352,slow=11						
ARA0				Sn	**Sn**	**06 47 17.6**	**-6.0**
	baz=1.0,slow=22						
ARA0	**ARCESS Array S**	**10.28**	**172**	Pn	**Pn**	**06 45 27.7**	**-0.6**
	SNR=127						
ARA0				Sn	**Sn**	**06 47 17.6**	**-6.0**
	SNR=8.3						
ARCES	**ARCESS Array B**	**10.28**	**172**	Pn	**Pn**	**06 45 28.4**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=359,slow=12,SNR=45						
ARCES				Sn	**Sn**	**06 47 17.3**	**-6.3**
	comp=Z,1.2nm,0.3s,baz=0.0,slow=20,SNR=3.7						
ARCES	**ARCESS Array B**	**10.28**	**172**	Pn	**Pn**	**06 45 28.4**	**+0.1**
ARCES				Sn	**Sn**	**06 47 17.3**	**-6.3**
ARE0	**ARCESS Array S**	**10.28**	**172**	*e*Pn	**Pn**	**06 45 31.8**	**+3.5**
ARE0				*e*Sn	**Sn**	**06 47 21.1**	**-2.5**
KTK1	**Kautokeino**	**10.76**	**177**	*e*P	**Pn**	**06 45 34.4**	**-0.6**
KTK1				*e*S	**Sn**	**06 47 25.4**	**-10**
KTK1				*e*S	**Sn**	**06 47 28.9**	**-6.6**
KTK1				AML	AML	06 47 37.6	
	comp=Z,4.7nm,0.4s						
KTK1	**Kautokeino**	**10.76**	**177**	*e*P	**Pn**	**06 45 34.4**	**-0.6**
KTK1				*e*S	**Sn**	**06 47 31.3**	**-4.2**
FIA0	**FINESS Array S**	**18.40**	**173**	P	**Pn**	**06 47 14.2**	**-1.8**
FINES	**FINESS Array B**	**18.40**	**173**	P	**Pn**	**06 47 17.2**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=10,slow=12,SNR=3.5						
NB2	**NORSAR Subarra**	**19.01**	**196**	P	**Pn**	**06 47 25.5**	**+2.1**
	comp=Z,0.9nm,0.8s,baz=5.0,slow=11						
NB2	**NORSAR Subarra**	**19.01**	**196**	P	**Pn**	**06 47 21.4**	**-2.0**
NB2				P		06 47 25.5	
NOA	**NORSAR Array B**	**19.01**	**196**	P	**Pn**	**06 47 24.5**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=10,slow=9.7,SNR=5.0						
HFS	**Hagfors**	**19.81**	**192**	P	**Pn**	**06 47 33.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=18,slow=11,SNR=12						
HFS	**Hagfors**	**19.81**	**192**	P	**Pn**	**06 47 32.0**	**-1.0**
	baz=27,slow=9.3						
AKASG	**Malin Array Be**	**29.24**	**170**	P	**P**	**06 49 04.1**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=355,slow=9.3,SNR=6.3						
AKASG	**Malin Array Be**	**29.24**	**170**	P	**P**	**06 49 04.1**	**+1.1**
MKAR	**Makanchi Array**	**39.18**	**108**	P	**P**	**06 50 29.0**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.3,baz=348,slow=8.7,SNR=3.7						

*NEIC **18** 06:52:00.7, 1851N×6838W, h166km, MD4.0(RSPR), After RSPR.*
RSPR 18 06:52:00.7, 1851N×6838W, h166km±2km**, MD4.0**/13**, MD4.0**/13**, 13C-1D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.27**	**105**	⇑*e*P	Pn	06 52 29.2	-0.1
LSP				*e*S	Sn	06 52 52.0	+0.7
CRPR	**Cabo Rojo, PR**	**1.30**	**112**	⇓*e*P	Pn	06 52 28.9	-0.7
CRPR				*e*S	Sn	06 52 51.4	-0.5
MGP	**Maguayo**	**1.32**	**112**	⇑*e*P	Pn	06 52 29.1	-0.7
MGP				*e*S	Sn	06 52 52.0	-0.1
LRS	**Lares**	**1.47**	**98**	⇑*e*P	Pn	06 52 31.3	+0.1
LRS				*e*S	Sn	06 52 55.3	+0.6
AOPR	**Arecibo Observ**	**1.55**	**96**	⇑*e*P	Pn	06 52 32.0	+0.1
AOPR				*e*S	Sn	06 52 56.6	+0.5
OBIP	**Obispado Ponce**	**1.75**	**105**	⇑*e*P	Pn	06 52 34.5	+0.5
OBIP				*e*S	Sn	06 53 00.6	+0.9
CELP	**Cerrillos**	**1.76**	**104**	⇑*e*P	Pn	06 52 35.0	+0.8
CELP				*e*S	Sn	06 53 00.8	+0.7
ICM	**Isla Caja Muer**	**1.87**	**109**	⇑*e*P	Pn	06 52 35.6	+0.3
ICM				*e*S	Sn	06 53 03.0	+1.0
SJG	**San Juan**	**2.15**	**100**	⇑*e*P	Pn	06 52 38.5	-0.1
SJG				*e*S	Sn	06 53 08.9	+1.1
CPD	**Cerro la Pandu**	**2.39**	**101**	⇑*e*P	Pn	06 52 42.0	+0.8
CPD				*e*S	Sn	06 53 12.9	+0.3
CBYP	**Canovanas**	**2.41**	**95**	⇑*e*P	Pn	06 52 41.5	0.0
CBYP				*e*S	Sn	06 53 13.5	+0.5
HUMP	**Col San Antoni**	**2.43**	**98**	⇑*e*P	Pn	06 52 42.3	+0.6
HUMP				*e*S	Sn	06 53 14.2	+0.7
MTP	**Monte Pirata**	**2.71**	**98**	⇑*e*P	Pn	06 52 45.7	+0.5
MTP				*e*S	Sn	06 53 20.5	+0.9
TBVI	**Tortola**	**3.57**	**91**	⇑*e*P	Pn	06 52 56.6	+0.8
TBVI				*e*S	Sn	06 53 39.6	+0.9

*ISCJB **18** 07:19:06.3±0.9, 2421S±005×6702W±0.10, h170km±9km, mb3.8/10, Error ellipse: s-maj=14.3km s-min=7.8km az=163.6*
*IDC **18** 07:19:06.3±1.6, 2424S×6703W, h161km±14km, mb3.6/6, mb1 3.7/11, mb1mx3.6/19, mbtmp4.1/11, MS2.7/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=19.1km s-min=12.6km az=89.0*
*NEIC **18** 07:19:07.2±0.7, 24.18S×6703W, h166km±7km, mb4.0/7, Error ellipse: s-maj=10.2km s-min=6.5km az=84.0*
ISC 18 07:19:07.0±0.8**, 2422S**±005×**6705W**±009**, h161**km±9km**, n30, σ0^{s}89**/29**, mb3.8**/10**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.43**	**188**	P	**Pn**	**07 20 53.2**	**+0.5**
	0.1nm,0.3s,baz=6.3,slow=14,SNR=3.3						
CFAA				S	**Sn**	**07 22 12.2**	**-3.6**
	0.3nm,0.3s,baz=280,slow=16,SNR=5.6						
CFAA	**Coronel Fontan**	**7.43**	**188**	P	**Pn**	**07 20 53.2**	**+0.5**
CFAA				S	**Sn**	**07 22 12.2**	**-3.6**
LPAZ	**La Paz**	**7.96**	**352**	P	**Pn**	**07 21 01.6**	**+1.9**
	1.3nm,0.3s,baz=146,slow=12,SNR=40						
LPAZ				S	**Sn**	**07 22 28.1**	**-0.5**
	0.2nm,0.3s,baz=23,slow=19,SNR=4.4						
LPAZ				LR	LR	07 24 13.6	
	comp=Z,47nm,18.9s,baz=323,slow=38						
LPAZ	**La Paz**	**7.96**	**352**	*e*Pn	**Pn**	**07 21 00.8**	**+1.0**
LPAZ				*e*Sn	**Sn**	**07 22 29.6**	**+1.0**
ARE	**Arequipa**	**8.77**	**331**	P	**Pn**	**07 21 09.0**	**-1.5**
ARE				*e*S	**Sn**	**07 22 43.0**	**-5.1**
CPUP	**Villa Florida**	**9.05**	**105**	P	**Pn**	**07 21 13.5**	**-0.7**
	0.1nm,0.3s,baz=270,slow=12,SNR=3.2						
CPUP	**Villa Florida**	**9.05**	**105**	*e*Pn	**Pn**	**07 21 14.0**	**-0.2**
SIV	**San Ignacio**	**9.93**	**36**	P	**Pn**	**07 21 25.2**	**-0.6**
	1.0nm,0.3s,baz=221,slow=13,SNR=31						
TRQA	**Tornquist**	**14.45**	**164**	*e*Pn	**Pn**	**07 22 25.0**	**+0.9**
	6.5nm,0.8s						
SAML	**Samuel**	**15.63**	**14**	*e*P	**Pn**	**07 22 39.0**	**+0.3**
	0.9nm,0.7s						
PLCA	**Paso Flores**	**16.72**	**189**	P	**Pn**	**07 22 51.8**	**-0.1**
	0.2nm,0.3s,baz=352,slow=12,SNR=5.5						
PLCA	**Paso Flores**	**16.72**	**189**	*e*P	**Pn**	**07 22 52.2**	**+0.3**
	5.0nm,0.7s						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**07 23 24.8**	**-0.2**
	1.7nm,0.3s,baz=252,slow=9.6,SNR=24						
BAO	**Brasilia Array**	**19.84**	**68**	P	**P**	**07 23 26.0**	**+0.7**
SNAA	**Sanae**	**59.16**	**161**	*e*P	**P**	**07 28 50.5**	**-0.3**
	1.6nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**65.98**	**180**	*e*P	**P**	**07 29 36.3**	**+0.3**
	2.7nm,0.7s,mb4.2						
ANMO	**Albuquerque**	**69.71**	**326**	*e*P	**P**	**07 30 00.1**	**+0.8**
	0.9nm,0.5s,mb3.8						
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**07 30 40.0**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=258,slow=5.5,SNR=22						
PDAR	**Pinedale Array**	**77.31**	**329**	P	**P**	**07 30 43.8**	**+0.1**
	0.4nm,0.5s,mb3.3,baz=131,slow=8.7,SNR=5.7						
ULM	**Lac du Bonnet**	**78.42**	**342**	P	**P**	**07 30 48.3**	**-1.5**
	2.4nm,0.6s,mb4.0,baz=118,slow=9.1,SNR=4.0						
NVAR	**Mina Array Bea**	**78.68**	**321**	P	**P**	**07 30 51.5**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=131,slow=6.7,SNR=4.9						
SCHQ	**Schefferville**	**78.73**	**0**	P	**P**	**07 30 49.9**	**-1.6**
	1.9nm,0.7s,mb3.8,baz=133,slow=14,SNR=2.4						
HLID	**Hailey**	**80.25**	**327**	*e*P	**P**	**07 31 00.7**	**+1.1**
	1.9nm,0.7s,mb3.8						
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**07 31 01.9**	**-0.1**
	3.0nm,0.9s,mb3.9,baz=326,slow=3.4,SNR=3.8						
ASAR	**Alice Springs**	**128.23**	**205**	PKP	PKPdf	07 37 54.0	-0.1
	0.9nm,0.5s,baz=136,slow=1.7,SNR=19						
WRA	**Warramunga Arr**	**131.41**	**207**	PKP	PKPdf	07 38 00.1	-0.1
	0.9nm,0.4s,baz=156,slow=1.7,SNR=26						
FITZ	**Fitzroy Crossi**	**136.15**	**198**	PKP	PKPdf	07 38 10.6	+1.6
	1.4nm,0.9s,baz=143,slow=20,SNR=3.7						
ZAL	**Zalesovo**	**143.61**	**28**	PKP	PKPdf	07 38 20.0	-2.5
	2.0nm,0.5s,baz=62,slow=6.3,SNR=4.7						
ZAL	**Zalesovo**	**143.61**	**28**	PKP	PKPdf	07 38 20.0	-2.5
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	PKPbc	07 38 27.9	-2.0
	2.3nm,0.6s,baz=354,slow=2.7,SNR=25						

IGQ 18 07:21:59.0, 156N×8049W, h12km±18km**, Mb4.0, Ms3.8, 4D, Error ellipse: s-maj=21.4km s-min=9.0km az=17.0, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.77**	**156**	P	Pn	07 22 30.7	+1.3
PINO	**Pino**	**2.54**	**132**	⇓P	Pn	07 22 42.6	+2.6
PINO				S	Sn	07 23 12.5	+1.7
TERV	**Terraza Guagua**	**2.55**	**132**	P	Pn	07 22 43.6	+3.4
TERV				S	Sn	07 23 13.7	+2.5
GGP	**Refugio Guagua**	**2.56**	**132**	⇓P	Pn	07 22 42.4	+2.1
GGP				S	Sn	07 23 12.6	+1.3
JUA2	**San Juan 2**	**2.58**	**133**	⇓P	Pn	07 22 42.9	+2.4
JUA2				S	Sn	07 23 12.1	+0.3
CAYA	**Cayambe**	**2.90**	**121**	P	Pn	07 22 48.2	+3.2
CAMI	**Rancho Maria**	**2.98**	**138**	P	Pn	07 22 49.6	+3.6
CAMI				S	Sn	07 23 24.5	+2.8
VC1	**Cotopaxi 1**	**3.02**	**136**	⇓P	Pn	07 22 50.3	+3.7
VC1				S	Sn	07 23 26.9	+4.2
ANTI	**Antisana**	**3.07**	**131**	P	Pn	07 22 51.0	+3.7
ANTI				S	Sn	07 23 26.4	+2.5
TAMB	**Tambo**	**3.08**	**137**	P	Pn	07 22 51.3	+3.9
TAMB				S	Sn	07 23 27.5	+3.2
ARRY	**Arrayan**	**3.66**	**146**	P	Pn	07 22 58.5	+3.0
ARRY				S	Sn	07 23 40.1	+1.6

*ISCJB **18** 07:51:03.8±0.4, 3087N±002×35.15E±005, h0km, Error ellipse: s-maj=5.8km s-min=3.4km az=30.3*
*CSEM **18** 07:51:03.8±0.1, 3087N×35.14E, h2km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.4km az=106.0, Mining explosion.*
*GII **18** 07:51:03.4±0.8, 3089N×35.13E, h0km, ML2.6/5*
*HLW **18** 07:51:09.3, 3070N×3481E, h8km, Mb2.8*
ISC 18 07:51:04.3±0.4**, 3088N**±002×**3514E**±004**, h0**km**, n25, σ0^{s}77**/31**, 4C-2D, Dead Sea region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.32**	**174**	Pg	**Pg**	**07 51 11.2**	**+0.7**
MASH	**Mash'abbe Sade**	**0.33**	**291**	Pg	**Pg**	**07 51 10.8**	**+0.3**
MASH				Sg	**Sg**	**07 51 16.1**	**+1.3**
RTMI	**Retamim**	**0.42**	**295**	Pg	**Pg**	**07 51 12.6**	**+0.2**
RMNI	**Mount Ramon**	**0.43**	**229**	Pg	**Pg**	**07 51 12.9**	**+0.4**
SVTA	**Shivta**	**0.45**	**277**	Pg	**Pg**	**07 51 13.2**	**+0.3**
MZDA	**Masada**	**0.47**	**24**	Pg	**Pg**	**07 51 13.3**	**0.0**
MZDA				Sg	**Sg**	**07 51 20.9**	**+1.5**
YTIR	**Yattir**	**0.48**	**358**	Pg	**Pg**	**07 51 13.5**	**0.0**
PRNI	**Paran**	**0.54**	**193**	Pg	**Pg**	**07 51 15.2**	**+0.7**
PRNI				Sg	**Sg**	**07 51 25.6**	**+4.1**
KZIT	**Kziot**	**0.64**	**273**	Pg	**Pg**	**07 51 16.8**	**+0.3**
DRGI	**Dragot**	**0.75**	**17**	Pg	**Pg**	**07 51 19.4**	**+0.8**
MKRJ	**Makawir**	**0.80**	**32**	Pg	**Pg**	**07 51 19.9**	**+0.3**
HRFI	**Mount Harif**	**0.84**	**186**	Pg	**Pg**	**07 51 20.5**	**+0.1**
KMTI	**Karmit**	**0.85**	**205**	Pg	**Pg**	**07 51 20.7**	**+0.2**
MBH	**Mount Berech**	**1.10**	**190**	Pg	**Pg**	**07 51 25.7**	**+0.4**
AQBJ	**Aqaba**	**1.15**	**184**	Pg	**Pg**	**07 51 26.2**	**0.0**
SLTI	**Sal'it**	**1.36**	**356**	Pn	**Pn**	**07 51 29.4**	**-1.1**
SLTI				Sn	**Sn**	**07 51 49.4**	**+0.2**
HNKL	**Nakhl**	**1.38**	**227**	⇑P	**Pg**	**07 51 29.5**	**-1.1**
HNKL				S	**Sg**	**07 51 43.8**	**-4.7**
HMDT	**Nahal Hemdat**	**1.41**	**13**	Pn	**Pn**	**07 51 29.9**	**-1.3**
MMLI	**Mount Malkishu**	**1.57**	**9**	Pn	**Pn**	**07 51 33.0**	**-0.5**
AMAG	**Maghara**	**1.68**	**263**	⇑P	**Pn**	**07 51 34.0**	**-0.9**
AMAG				S	**Sn**	**07 51 52.5**	**-4.6**
HBST	**Basata**	**1.69**	**192**	⇓P	**Pn**	**07 51 35.5**	**+0.5**
OFRI	**'Ofer**	**1.74**	**356**	Pn	**Pn**	**07 51 34.1**	**-1.6**
SUZ		**2.25**	**243**	⇓P	**Pn**	**07 51 41.4**	**-1.3**
HKAT	**Jabal Katrina**	**2.55**	**203**	⇑P	**Pn**	**07 51 47.0**	**+0.1**
TR2		**2.77**	**207**	⇑P	**Pn**	**07 51 49.5**	**-0.4**

*IDC **18** 07:56:01.4±1.6, 4229N×7828E, h0km, mb3.8/4, mb1 3.9/8, mb1mx3.7/26, mbtmp3.8/8, ML3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=22.3km s-min=15.5km az=147.0*
*MOS **18** 07:56:02.6±1.8, 4250N×7832E, h13km, mb4.3/3, Error ellipse: s-maj=14.3km s-min=9.2km az=120.6*
MOS Felt (II-III) at Almaty.
*ISCJB **18** 07:56:02.5±1.1, 4268N±005×7850E±005, h12km±7km, mb4.0/4, Error ellipse: s-maj=8.2km s-min=5.7km az=140.6*
*KNET **18** 07:56:04.2±0.5, 4239N×7802E, h4km±2km, ml4.0, Error ellipse: s-maj=6.0km s-min=2.2km az=157.0*
*NNC **18** 07:56:05.1±1.1, 4257N×7822E, h6km±5km, mb4.1, mpv4.0, Error ellipse: s-maj=8.7km s-min=5.6km az=15.0*
*NEIC **18** 07:56:07.8±1.3, 4250N×7820E, h46km±10km, mb4.2/1, Error ellipse: s-maj=16.0km s-min=8.1km az=166.0*
NEIC Felt [III] at Almaty, Kazakhstan.
ISC 18 07:56:03.0±1.1**, 4260N**±004×**7841E**±005**, h2**km±6km**, n52, σ1^{s}16**/72**, mb4.0**/4**, 15C-14D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**1.23**	**301**	⇑P	**Pg**	**07 56 26.1**	**-0.5**
	534nm,0.5s						
KNDC				⇑S	**Sg**	**07 56 42.3**	**-0.2**
	22μm,0.4s						
AAA	**Alma-Ata**	**1.27**	**303**	*i* PG	**Pg**	**07 56 26.9**	**-0.5**
AAA				*i* S	**Sg**	**07 56 43.2**	**-0.6**
AAA				pmax	pmax		
	comp=Z,8.0nm,0.2s						
AAA				smax			
	comp=N,11nm,0.5s						
AAA	**Alma-Ata**	**1.27**	**303**	P	**Pg**	**07 56 28.8**	**+1.4**
ULHL	**Ulahol**	**1.64**	**258**	P	**Pn**	**07 56 30.2**	**-2.7**
	comp=N,546nm,0.1s,SNR=4055						
ULHL				⇓S	**Sn**	**07 56 49.7**	**-4.8**
	comp=N,1μm,0.2s						
TKM2	**Tokmak 2**	**2.10**	**280**	⇓P	**Pn**	**07 56 39.0**	**-0.1**
	comp=N,839nm,0.3s,SNR=1240						
TKM2				⇑S	**Sn**	**07 57 05.6**	**-0.2**
	comp=N,2μm,0.3s						
TKM2	**Tokmak 2**	**2.10**	**280**	⇓Pn	**Pn**	**07 56 39.1**	**0.0**
	comp=N,25nm,0.3s						
TKM2				⇑Sn	**Sn**	**07 57 05.3**	**-0.4**
	comp=N,346nm,0.9s						
TKM2	**Tokmak 2**	**2.10**	**280**	PN	**Pn**	**07 56 39.0**	**-0.1**
TKM2				S	**Sn**	**07 57 05.3**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,155nm,0.4s						
TKM2				smax			
	comp=Z,2μm,0.9s						
TKM2	**Tokmak 2**	**2.10**	**280**	Pn	**Pn**	**07 56 39.1**	**0.0**
TKM2				Sn	**Sn**	**07 57 05.3**	**-0.4**
KZA	**Kyzart**	**2.40**	**259**	P	**Pn**	**07 56 43.2**	**0.0**
	comp=Z,356nm,0.3s,SNR=250						
KZA				⇑S	**Sn**	**07 57 12.8**	**-0.4**
	comp=Z,786nm,0.3s						
KBK	**Karagaybulak**	**2.56**	**273**	P	**Pn**	**07 56 45.8**	**+0.4**
	comp=Z,498nm,0.4s,SNR=229						
KBK				⇓S	**Sn**	**07 57 18.2**	**+1.2**
	comp=Z,1μm,0.3s						
CHMS	**Chumysh**	**2.72**	**280**	⇓P	**Pn**	**07 56 47.9**	**+0.2**
	comp=Z,240nm,0.4s,SNR=55						
CHMS				⇑S	**Sn**	**07 57 23.0**	**+1.9**
	comp=Z,307nm,0.3s						
FRU	**Bishkek**	**2.81**	**276**	*e*PN	**Pn**	**07 56 50.0**	**+1.2**
FRU				*i*		07 56 55.0	
FRU				*i* S	**Sn**	**07 57 25.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,90nm,1.0s						
FRU				smax			
	comp=N,1μm,1.4s						
AAK	**Ala-Archa**	**2.89**	**272**	*d i*PN	**Pn**	**07 56 49.0**	**-1.0**
USP	**Ospenovka**	**2.95**	**284**	⇓P	**Pn**	**07 56 51.3**	**+0.5**
	comp=N,330nm,0.3s,SNR=254						
EKS2	**Erkin-Say**	**3.42**	**273**	⇓P	**Pn**	**07 56 57.3**	**0.0**
	comp=N,254nm,0.4s,SNR=36						
MK04	**Makanchi Array**	**5.01**	**32**	⇑Pn	**Pn**	**07 57 24.7**	**+5.5**
	comp=N,6.0nm,0.5s						
MK04				⇑Lg		07 58 46.4	
	comp=N,67nm,1.2s						
MK04	**Makanchi Array**	**5.01**	**32**	Pn	**Pn**	**07 57 24.6**	**+5.5**
MK04				Lg		07 58 46.4	
MKAR	**Makanchi Array**	**5.03**	**32**	Pn	**Pn**	**07 57 24.9**	**+5.6**
	comp=N,1.7nm,0.3s,baz=215,slow=15,SNR=35						
MKAR				Lg		07 58 48.5	
	comp=N,7.0nm,0.3s,baz=218,slow=29,SNR=5.9						
MKAR	**Makanchi Array**	**5.03**	**32**	PN	**Pn**	**07 57 24.9**	**+5.5**
MKAR						07 58 48.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31	**Makanchi Array**	**5.03**	**32**	PN	**Pn**	**07 57 24.3**	**+4.9**
MK31						07 58 42.3	
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MK31				smax			
	comp=Z,23nm,0.6s						
KK31	**Karatay Array**	**5.83**	**278**	⇑Pn	**Pn**	**07 57 30.6**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=94,slow=12,SNR=12						
KK31				⇓Pg	**Pg**	**07 57 48.9**	**-5.8**
	comp=Z,25nm,0.6s,baz=94,slow=16,SNR=60						
KK31				⇑Lg		07 59 06.4	
	comp=Z,98nm,0.7s,baz=91,slow=24						
KKAR	**Karatay Array**	**5.83**	**278**	PN	**Pb**	**07 57 46.2**	**+0.9**
KKAR					**Sb**	**07 59 00.6**	**+5.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
VOSK	**Vostochnaya**	**11.30**	**336**	⇑Pn	**Pn**	**07 58 45.6**	**+0.3**
	comp=Z,1.6nm,0.5s						
VOSK				⇑Sn	**Sn**	**08 00 52.7**	**+0.5**
	comp=Z,4.3nm,0.8s						
VOSK				⇓Lg		08 02 02.8	
	comp=Z,39nm,1.2s						
VOSK	**Vostochnaya**	**11.30**	**336**	Pn	**Pn**	**07 58 45.6**	**+0.2**
VOSK				Sn	**Sn**	**08 00 52.7**	**+0.5**
VOSK				Lg		08 02 02.8	
BVA0	**Borovoye Array**	**11.74**	**336**	⇓Pn	**Pn**	**07 58 52.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=148,slow=14,SNR=14						
BVA0				⇑Sn	**Sn**	**08 01 03.2**	**+0.3**
	comp=Z,0.7nm,0.6s						
BVA0				⇓Lg		08 02 16.5	
	comp=Z,4.0nm,0.7s						
BVA0	**Borovoye Array**	**11.74**	**336**	P	**Pn**	**07 58 52.5**	**+1.1**
BVA0				*i*		08 00 59.4	
BVA0				smax			
	comp=Z,2.0nm,1.1s						
BVAR	**Borovoye Array**	**11.74**	**336**	Pn	**Pn**	**07 58 52.8**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=146,slow=14,SNR=7.4						
BVAR				Sn	**Sn**	**08 01 01.1**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=124,slow=24,SNR=7.5						
BVAR				Lg		08 02 17.5	
	comp=Z,1.4nm,0.3s,baz=147,slow=26,SNR=6.5						
BVAR				LR	LR	08 03 31.6	
	comp=Z,74nm,18.9s,baz=143,slow=38						
BVAR	**Borovoye Array**	**11.74**	**336**	P	**Pn**	**07 58 52.8**	**+1.4**
BVAR						08 01 01.1	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,74nm,18.9s						
BVAR	**Borovoye Array**	**11.74**	**336**	Pn	**Pn**	**07 58 52.8**	**+1.4**
BVAR				Sn	**Sn**	**08 01 01.1**	**-1.8**
ZAL	**Zalesovo**	**12.11**	**18**	Pn	**Pn**	**07 58 58.9**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=127,slow=7.8,SNR=2.8						
ZAL				Lg		08 02 34.6	
	comp=Z,0.6nm,0.3s,baz=29,slow=7.0,SNR=4.3						
ZAL	**Zalesovo**	**12.11**	**18**	Pn	**Pn**	**07 58 58.9**	**+2.4**
CHKZ	**Chkalovo**	**12.24**	**338**	⇑Pn	**Pn**	**07 58 59.4**	**+1.1**
	comp=Z,1.7nm,0.5s						
CHKZ				⇑Sn	**Sn**	**08 01 14.2**	**-1.1**
	comp=Z,2.3nm,0.7s						
CHKZ				⇓Lg		08 02 32.5	
	comp=Z,20nm,0.8s						
CHKZ	**Chkalovo**	**12.24**	**338**	Pn	**Pn**	**07 58 59.4**	**+1.1**
CHKZ				Sn	**Sn**	**08 01 14.2**	**-1.1**
CHKZ				Lg		08 02 32.5	
AB31	**Akbulak array**	**14.46**	**304**	⇓Pn	**Pn**	**07 59 27.5**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=110,slow=13,SNR=13						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AB31	Akbulak array	14.46	304	eP	Pn	07 59 26.1	-2.5
AB31	Akbulak array	14.46	304	Pn	Pn	07 59 27.5	-1.1
AKTK	Aktyubinsk	16.04	306	Pn	Pn	07 59 48.1	-1.5
AKTO	Aktyubinsk	16.04	306	Pn	Pn	07 59 48.1	-1.5
	comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=3.8						
ARU	Arti	18.82	324	eP	Pn	08 00 27.3	+3.1
ARU	Arti	18.82	324	eP	Pn	08 00 20.7	-3.5
SONM	Songino Array	20.34	65	P	P	08 00 42.4	+1.9
	comp=Z,2.1nm,0.6s,baz=277,slow=12,SNR=5.0						
JOF	Joensuu	33.94	323	ep	P	08 02 46.4	-1.1
YAK	Yakutsk	35.66	39	eP	P	08 03 01.3	-1.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
YAK	Yakutsk	35.66	39	eP	P	08 03 01.4	-1.0
SSE	Sheshan	35.76	94	P	P	08 03 02.8	-0.4
	comp=Z,34nm,0.7s						
FINES	FINESS Array B	36.08	320	P	P	08 03 06.0	0.0
	comp=Z,0.5nm,0.3s,mb3.9,baz=112,slow=15,SNR=5.2						
FINES	FINESS Array B	36.08	320	P	P	08 03 06.0	0.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	36.08	320	P	P	08 03 06.0	0.0
NB2	NORSAR Subarra	43.25	319	P	P	08 04 05.0	-0.7
	comp=Z,2.4nm,0.5s,mb4.2,baz=85,slow=8.6						
NOA	NORSAR Array B	43.25	319	P	P	08 04 04.7	-1.0
	comp=Z,0.8nm,0.5s,mb3.7,baz=84,slow=8.0,SNR=5.4						
NOA	NORSAR Array B	43.25	319	P	P	08 04 04.7	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	71.48	271	P	P	08 07 22.8	-2.3
	comp=Z,0.6nm,0.6s,mb3.7,baz=43,slow=5.4,SNR=9.1						

KRSC 18 07:57:35, 5048N×15908E, h53km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	1.99	350	eP	Pn	07 58 08.6	+2.4
RUS				i S	Sn	07 58 33.1	+3.2
GRL	Gorelyy	2.17	344	eP	Pn	07 58 11.7	+3.1
GRL				i S	Sn	07 58 38.7	+4.4
ALID	Alaid	2.28	281	eP	Pn	07 58 10.4	+0.2
ALID				i S	Sn	07 58 36.6	-0.4
MIPR	Malaya Ipel'ka	2.31	322	eP	Pn	07 58 13.2	+2.6
MIPR				i S	Sn	07 58 41.3	+3.4
PET	Petropavlovsk	2.56	354	eP	Pn	07 58 17.0	+3.0
PET				i S	Sn	07 58 47.7	+3.7
SPN	Mys Shipunski	2.69	12	eP	Pn	07 58 18.7	+3.0
SPN				i S	Sn	07 58 49.9	+2.9
NLC	Nalytchevo	2.70	3	eP	Pn	07 58 18.4	+2.5
NLC				i S	Sn	07 58 49.5	+2.1
AVH	Avacha	2.80	356	eP	Pn	07 58 20.1	+2.8
AVH				i S	Sn	07 58 52.3	+2.5
GNL	Ganaly	3.30	348	eP	Pn	07 58 27.7	+3.6
GNL				i S	Sn	07 59 05.1	+3.1
MKZ	Mys Kozlova	4.39	21	eP	Pn	07 58 41.4	+2.3
MKZ				i S	Sn	07 59 29.4	+0.4
ZLN	Zelenaya	5.64	10	eP	Pn	07 59 00.5	+4.2
KBTR	Krutoberegovo	6.16	20	eP	Pn	07 59 05.1	+1.8

*BJI **18** 08:00:54.5, 560S×14990E, h35km, mB5.8, mb5.1*
*NEIC **18** 08:00:55.6±0.7, 561S×14989E, h35km, mb4.6/9, Error ellipse: s-maj=24.3km s-min=12.2km az=117.0*
*ISCJB **18** 08:01:08.8±1.8, 566S±008×1494E±0.1, h164km±16km, mb4.3/15, Error ellipse: s-maj=19.6km s-min=12.9km az=19.7*
*IDC **18** 08:01:10.1±1.6, 569S×14942E, h158km±14km, mb3.9/9, mb1 4.1/10, mb1mx3.9/16, mbtmp4.4/10, Error ellipse: s-maj=19.6km s-min=10.2km az=115.0*
ISC 18 08:01:09.5±1.3, **569S**±007×**1495E**±01, **h155**km±11km, **n28**, $\sigma 0^{s}97$/28, **mb4.3**/15, **2C, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	4.38	212	P	Pn	08 02 14.0	-0.7
	16nm,0.3s,baz=30,slow=9.0,SNR=30						
PMG				S	Sn	08 03 06.4	+0.9
	54nm,0.3s,baz=329,slow=19,SNR=16						
CTA	Charters Tower	14.66	192	P	Pn	08 04 33.6	+4.3
	0.2nm,0.3s,baz=34,slow=11,SNR=3.5						
KAKA	Kakadu	18.25	246	eP	P	08 05 09.7	-1.3
	50nm,0.4s						
WRAB	Tennant Creek	20.45	225	eP	P	08 05 34.3	-0.5
	19nm,0.6s						
WB2	Warramunga Arr	20.46	225	⇑iP	P	08 05 34.6	-0.3
WRA	Warramunga Arr	20.47	225	P	P	08 05 34.7	-0.3
	9.0nm,0.5s,baz=51,slow=11,SNR=134						
WRA				S	S	08 09 15.2	-0.2
	1.8nm,0.7s,baz=46,slow=20,SNR=5.3						
DZM	Mont Dzumac	23.08	136	P	P	08 06 02.4	+1.0
	7.3nm,0.7s,mb4.2,baz=335,slow=14,SNR=6.9						
AS31	Alice Springs	23.36	219	eP	P	08 06 04.4	+0.4
ASAR	Alice Springs	23.36	219	P	P	08 06 04.6	+0.6
	3.8nm,0.3s,mb4.2,baz=51,slow=8.6,SNR=123						
ASAR				S	S	08 10 05.8	+0.7
	0.6nm,0.8s,baz=49,slow=15,SNR=3.2						
FITZ	Fitzroy Crossi	26.39	240	⇑iP	P	08 06 30.6	-0.7
	16nm,0.3s,mb5.1						
FITZ	Fitzroy Crossi	26.39	240	P	P	08 06 30.6	-0.7
	20nm,0.7s,mb4.8,baz=65,slow=9.5,SNR=114						
STKA	Stephens Creek	27.09	195	P	P	08 06 37.6	0.0
	1.2nm,0.4s,mb3.9,baz=38,slow=13,SNR=4.8						
MBWA	Marble Bar	32.71	239	eP	P	08 07 26.3	-0.9
	12nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	43.33	347	P	P	08 08 56.4	+0.3
	3.9nm,0.8s,mb4.1,baz=167,slow=7.0,SNR=10						
MAJO	Matsushiro	43.33	347	eP	P	08 08 56.7	+0.6
	8.9nm,0.8s,mb4.5						
ASAJ	Asahikawa	49.97	353	P	P	08 09 47.8	+0.1
	6.0nm,0.6s,mb4.4,baz=240,slow=12,SNR=5.4						
MDJ	Mudanjiang	53.19	342	P	P	08 10 12.0	+0.4
MDJ				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.9						
KMI	Kunming	54.83	306	P	P	08 10 25.3	+1.9
KMI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
SONM	Songino Array	65.39	330	P	P	08 11 35.1	-0.2
	comp=Z,1.0nm,0.4s,mb4.0,baz=180,slow=5.6,SNR=3.8						
VNDA	Vanda	72.08	177	P	P	08 12 17.1	+0.4
	comp=Z,1.4nm,0.6s,mb3.9,baz=341,slow=4.2,SNR=12						
VNDA	Vanda	72.08	177	eP	P	08 12 16.8	+0.1
	comp=Z,1.0nm,0.5s,mb3.8						
WMQ	Urumqi	74.22	318	eP	P	08 12 31.0	+1.7
MCK	McKinley	82.94	23	eP	P	08 13 14.6	-2.4
	comp=Z,2.0nm,0.5s,mb4.1						
COLA	College	83.90	22	eP	P	08 13 19.3	-2.6
	comp=Z,2.9nm,0.7s,mb4.1						
QSPA	South Pole Qui	84.27	180	eP	P	08 13 23.6	-0.2
	comp=Z,1.9nm,0.7s,mb3.9						
LPAZ	La Paz	136.81	121	PKP	PKPdf	08 20 16.7	+3.2
	comp=Z,0.7nm,0.6s,baz=262,slow=7.1,SNR=4.8						
TORD	Torodi Ar. Bea	147.45	285	PKPbc	PKPbc	08 20 35.4	+0.3
	comp=Z,0.7nm,0.5s,baz=71,slow=2.4,SNR=15						
BDFB	Brasilia	152.59	141	PKPbc	PKPbc	08 20 48.4	+0.9
	comp=Z,2.0nm,0.5s,baz=251,slow=1.6,SNR=4.8						

*CSEM **18** 08:03:04.4, 3791N×2050E, h10km, ML3.5, After THE*
*THE **18** 08:03:04.4, 3791N×2050E, h10km, ML3.5*
*ISCJB **18** 08:03:06.6±0.9, 3802N±005×2085E±005, h1km, Error ellipse: s-maj=8.6km s-min=4.3km az=64.1*
*ATH **18** 08:03:06.6, 3802N×2081E, h12km±1km, MD3.7/9, ML3.7*
ISC 18 08:03:07.6±1.0, **3806N**±006×**2084E**±005, **h1**km±7km, **n22**, $\sigma 0^{s}91$/29, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.23	302	ePG	Pg	08 03 11.3	-0.7
VLS				eSG	Sg	08 03 16.1	+1.1
RLS	Riolos of Patr	0.49	90	ePB	Pg	08 03 16.6	-0.5
RLS				eSB	Sg	08 03 24.1	+0.6
LKD	Levkas	0.67	347	ePg	Pg	08 03 19.2	-1.2
LKD				eSg	Sg	08 03 31.6	+2.6
EVR	Evrytania	1.15	41	ePB	Pb	08 03 30.0	-0.2
EVR				eSB	Sb	08 03 45.0	-0.6
AGG	Agios Georgios	1.52	50	ePb	Pb	08 03 36.6	+0.2
AGG				eSb	Sb	08 04 01.5	+5.3
IGT	Igoumenitsa	1.53	345	ePb	Pb	08 03 34.5	-2.2
IGT				eSb	Sb	08 03 56.5	0.0
JAN	Janina	1.60	0	ePB	Pb	08 03 37.0	-0.9
LKR	Lokris	1.80	70	ePN	Pn	08 03 39.4	-0.3
KEK	Kerkira	1.84	334	ePN	Pn	08 03 40.5	+0.2
NAIG	Nisos Aigina	2.12	97	ePN	Pn	08 03 44.5	+0.4
VLI	Veliai	2.14	128	ePN	Pn	08 03 44.3	-0.1
NEO	Neokhori	2.25	55	ePB	Pb	08 03 45.7	-3.2
ATH	Athens Observa	2.27	91	ePN	Pn	08 03 47.3	+1.1
LIT	Litokhoron	2.41	32	ePn	Pn	08 03 48.3	+0.2
LIT				eSn	Sn	08 04 22.4	+4.1
FNA	Florina	2.75	9	ePn	Pn	08 03 52.0	-0.8
OHR	Ohrid	3.05	359	ePn	Pn	08 03 57.6	+0.7
HORT	Hortiatis	3.08	34	ePn	Pn	08 03 57.5	+0.2
GRG	Griva	3.14	22	ePn	Pn	08 03 58.0	-0.1
OUR	Ouranopolis	3.34	46	ePn	Pn	08 04 02.0	+1.2
SOH	Sokhos	3.38	34	ePn	Pn	08 04 02.1	+0.7
KNT	Kendrikon	3.48	27	ePn	Pn	08 04 02.5	-0.4
VAY	Valandovo	3.52	22	ePn	Pn	08 04 03.3	-0.1

*IDC **18** 08:03:32.4±1.0, 1623S×17244W, h0km, mb4.4/8, mb1 4.6/9, mb1mx4.4/18, mbtmp4.4/9, MS4.1/6, Ms1 4.0/6, ms1mx3.5/26, Error ellipse: s-maj=48.2km s-min=17.4km az=139.0*
*ISCJB **18** 08:03:36.2±0.6, 1605S±02×1727W±0.1, h33km, mb4.4/20, MS4.0/6, Error ellipse: s-maj=29.1km s-min=8.8km az=103.9*
*SZGRF **18** 08:03:36.8, 1659S×17276W, h33km, Samoa Islands region*
*BJI **18** 08:03:36.7, 1570S×17280W, h25km, mB5.1, mb5.0, Ms4.8, Msz4.5*
*NEIC **18** 08:03:40.7±0.6, 1573S×17283W, h45km, mb4.5/11, Error ellipse: s-maj=36.3km s-min=11.1km az=143.0*
ISC 18 08:03:38.7±0.6, **159S**±01×**1727W**±01, **h35**km, **n104**, $\sigma 0^{s}64$/33, **mb4.4**/20, **MS4.0**/6, **2C-3D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.15	25	Pn	Pn	08 04 11.7	-0.4
	28nm,0.3s,baz=232,slow=4.1,SNR=43						
AFI				Sn	Sn	08 04 36.8	-0.8
	114nm,0.3s,baz=57,slow=14,SNR=7.1						
AFI	Afiamalu	2.15	25	ePn	Pn	08 04 11.5	-0.6
AFI				eSn	Sn	08 04 33.8	-3.8
RAR	Rarotonga	13.35	115	Pn	Pn	08 06 33.0	-13
	5.6nm,0.3s,baz=260,slow=9.9,SNR=9.7						
RAR				LR	LR	08 10 12.3	
	comp=Z,490nm,20.0s,baz=285,slow=31						
RAR	Rarotonga	13.35	115	Pn	Pn	08 06 33.0	-13
RAR				LR	LR	08 10 12.3	
PPT	Papeete	22.21	98	LR	LR	08 14 04.4	
	comp=Z,266nm,19.9s,MS3.7,baz=265,slow=29						
HNR	Honiara	27.43	280	LR	LR	08 18 47.2	
	comp=Z,403nm,21.2s,MS4.0,baz=179,slow=33						
STKA	Stephens Creek	44.38	241	P	P	08 11 44.8	-0.9
	5.1nm,1.0s,mb4.2,baz=92,slow=10,SNR=5.6						
STKA	Stephens Creek	44.38	241	eP	P	08 11 45.2	-0.5
WB2	Warramunga Arr	50.38	257	eP	P	08 12 32.4	0.0
WRAB	Tennant Creek	50.38	257	eP	P	08 12 32.1	-0.3
	8.5nm,1.1s,mb4.7						
WRA	Warramunga Arr	50.39	257	P	P	08 12 32.2	-0.3
	1.0nm,0.5s,mb4.2,baz=92,slow=6.9,SNR=14						
WRA				PcP	PcP	08 13 51.5	+0.9
	1.9nm,0.9s,baz=88,slow=4.0,SNR=5.8						
AS31	Alice Springs	50.60	252	eP	P	08 12 33.6	-0.4
ASAR	Alice Springs	50.61	252	P	P	08 12 33.6	-0.4
	6.7nm,0.7s,mb4.7,baz=88,slow=8.5,SNR=51						
ASAR				PcP	PcP	08 13 52.2	+0.9
	2.0nm,0.8s,baz=104,slow=4.6,SNR=6.4						
ASPA	Alice Springs	50.61	252	eP	P	08 12 33.6	-0.5
MBWA	Marble Bar	63.88	254	eP	P	08 14 08.3	+0.5
	8.1nm,1.0s,mb4.7						
MJAR	Matsushiro Arr	69.74	320	P	P	08 14 47.7	+2.6
	3.9nm,0.8s,mb4.4,baz=154,slow=6.0,SNR=6.8						
MJAR				LR	LR	08 38 18.6	
	comp=Z,170nm,21.8s,MS4.2,baz=70,slow=30						
NVAR	Mina Array Bea	74.23	42	P	P	08 15 12.6	+0.5
	1.7nm,0.7s,mb4.1,baz=219,slow=7.3,SNR=15						
KDAK	Kodiak Island	75.26	11	P	P	08 15 18.8	+0.9
	6.2nm,0.7s,mb4.6,baz=203,slow=13,SNR=5.1						
TUC	Tucson	76.17	50	eP	P	08 15 23.2	0.0
	3.5nm,0.8s,mb4.3						
BMO	Blue Mountains	78.60	37	eP	P	08 15 37.1	+0.3
	1.0nm,0.8s,mb3.8						
PMR	Palmer	79.46	11	eP	P	08 15 41.1	-0.3
	5.4nm,0.8s,mb4.5						
PV01	Paradox Valley	80.57	46	eP	P	08 15 47.7	+0.2
ANMO	Albuquerque	80.59	50	eP	P	08 15 47.6	0.0
	2.8nm,1.3s,mb4.0						
MCK	McKinley	81.47	10	eP	P	08 15 52.2	-0.1
	11nm,1.0s,mb4.7						
SMCO	Snowmass	82.16	46	eP	P	08 15 56.0	+0.1
	3.5nm,0.9s,mb4.3						
PDAR	Pinedale Array	82.17	42	P	P	08 15 55.5	-0.4
	1.7nm,0.8s,mb4.0,baz=228,slow=2.5,SNR=16						
BOZ	Bozeman (W)	82.37	38	eP	P	08 15 56.8	-0.2
	9.9nm,1.6s,mb4.5						
SDCO	Great Sand Dun	82.54	47	eP	P	08 15 58.5	+0.6
	0.8nm,0.6s,mb3.9						
COLA	College	82.71	10	eP	P	08 15 58.5	-0.2
	22nm,1.0s,mb5.2						
DAWY	Dawson	83.72	14	eP	P	08 16 04.2	+0.2
EDM	Edmonton	85.54	31	eP	P	08 16 12.8	-0.4
MAW	Mawson	87.55	198	LR	LR	08 49 33.8	
	comp=Z,155nm,21.5s,MS4.4,baz=48,slow=32						
INK	Inuvik	88.58	14	P	P	08 16 26.9	-1.0
	3.7nm,0.9s,mb4.7,baz=225,slow=4.3,SNR=4.7						
PLCA	Paso Flores	88.69	132	LR	LR	08 46 23.5	
	comp=Z,84nm,18.4s,MS4.2,baz=202,slow=29						
KMI	Kunming	91.84	295	P	P	08 16 44.0	+0.9
KMI				AP	pP	08 16 56.9	+2.7
KMI				XP	sP	08 17 01.9	+3.7
KMI				AMB	AMB		
	comp=Z,12nm,1.4s,mb5.0						
KMI				LR	LR		
	comp=Z,43nm,31.3s,MS3.7						
ARCES	ARCESS Array B	125.18	352	PKP	PKPdf	08 22 34.5	-0.9
	comp=Z,5.4nm,1.0s,baz=29,slow=2.8,SNR=5.7						
KWP	Kalwaria	144.08	343	ePKPdf	PKPdf	08 23 09.2	-1.4
OJC	Ojcow	144.29	346	eP	PKPdf	08 23 09.5	-1.4
CLL	Collm	144.37	354	ePKPbc	PKPdf	08 23 09.1	-2.0
CLL	Collm	144.37	354	⇓i(PKP)	PKPdf	08 23 09.3	-1.8
	comp=Z,7.0nm,0.9s						
CLL				i x	x	08 23 19.3	
STHS	Stebnicka Huta	144.68	344	ePKP	PKPdf	08 23 11.4	-0.2
MALT	Malatya	144.68	315	⇓iP	PKPdf	08 23 12.5	+0.9
MALT	Malatya	144.68	315	ePKPdf	PKPdf	08 23 12.7	+1.1
UPC	Upice	144.75	350	ePKP	PKPdf	08 23 11.1	-0.6
KOLS	Kolonicke sedl	144.84	343	ePKP	PKPdf	08 23 12.1	+0.2
DPC	Dobruska-Polom	144.85	350	ePKP	PKPdf	08 23 11.8	-0.1
NIE	Niedzica	144.91	345	eP	PKPdf	08 23 12.5	+0.5
PVCC	Panska Ves	144.95	352	ePKP	PKPdf	08 23 11.8	-0.3
OKC	Ostrava-Krasne	145.01	348	ePKP	PKPdf	08 23 12.1	-0.1
BURAR	Bucovina Array	145.06	339	⇑iP	PKPbc	08 23 13.4	+1.7
UBBA	Unterbreizbach	145.08	357	ePKPbc	PKPbc	08 23 12.0	+0.2
CRVS	Cervenica-Dubn	145.09	344	ePKP	PKPdf	08 23 13.2	+0.9
MOX	Moxa	145.15	355	eP	PKPbc	08 23 12.4	+0.4
	comp=Z,21nm,1.6s						
MORC	Moravsky Berou	145.18	348	⇑iP	PKPbc	08 23 13.5	+1.4
MORC	Moravsky Berou	145.18	348	ePKPdf	PKPdf	08 23 12.9	+0.4
TANN	Tannenbergstha	145.30	354	ePKPbc	PKPbc	08 23 12.5	0.0
PRU	Pruhonice	145.48	352	ePKP	PKPdf	08 23 13.4	+0.4
NKC	Novy Kostel	145.49	354	ePKP	PKPdf	08 23 13.7	+0.7
KECS	Kecovo	145.73	344	e	PKPdf	08 23 12.7	-0.7
TNS	Taunus Mts	145.74	359	ePKPbc	PKPbc	08 23 15.1	+1.2
TNS	Taunus Mts	145.74	359	ePKPbc	PKPbc	08 23 15.2	+1.3
MANZ	Manzenberg	145.76	354	ePKPbc	PKPbc	08 23 14.3	+0.4
BAIF	Baives	145.82	4	ePKP1	PKPbc	08 23 13.7	-0.4
KMBO	Kilima Mbogo	145.93	243	PKPbc	PKPbc	08 23 16.2	+1.8
	comp=Z,2.8nm,0.9s,baz=58,slow=9.1,SNR=8.1						
ROTZ	Rotzenmuhle	145.97	354	ePKPbc	PKPbc	08 23 14.9	+0.3
VYHS	Vyhne	146.13	346	ePKP	PKPdf	08 23 15.4	+1.3
GRA1	Grafenberg Arr	146.13	355	ePKPbc	PKPbc	08 23 14.6	-0.5
GRF	Grafenberg Arr	146.13	355	ePKPbc	PKPbc	08 23 14.6	-0.5
WLF	Walferdange	146.29	1	ePKPbc	PKPbc	08 23 15.0	-0.5
KHC	Kasperske Hory	146.45	353	ePKP	PKPbc	08 23 16.7	+0.7
ROSF	Rostrenen	146.49	13	ePKP1	PKPbc	08 23 15.0	-1.1
	comp=Z,29nm,1.1s						
FLN	La Foliniere	146.59	9	ePKP1	PKPbc	08 23 15.5	-0.9
	comp=Z,16nm,0.5s						
GEC2	GERESS Array S	146.71	352	ePKPbc	PKPbc	08 23 17.2	+0.4
GERES	GERESS Array B	146.71	352	PKPbc	PKPbc	08 23 17.4	+0.7
	comp=Z,2.4nm,0.8s,baz=29,slow=3.0,SNR=16						
SGMF	Saint Gilles	146.71	12	ePKP1	PKPbc	08 23 15.6	-1.2
	comp=Z,36nm,1.0s						
LDF	La Druitiere	146.81	9	ePKP1	PKPbc	08 23 16.0	-1.1
GRR	Gorron	146.90	10	ePKP1	PKPbc	08 23 16.5	-0.8
	comp=Z,79nm,1.2s						
QUIF	Quistinic	146.91	13	ePKP1	PKPbc	08 23 16.1	-1.2
	comp=Z,25nm,0.9s						
BR131	Keskin Array S	146.96	321	ePKPdf	PKPbc	08 23 18.1	+0.7
BRTR	Keskin Array B	146.96	321	PKPbc	PKPbc	08 23 18.8	+1.3
	comp=Z,3.6nm,0.7s,baz=131,slow=2.5,SNR=14						
VOIR		146.97	337	⇓iP	PKPbc	08 23 18.9	+1.4
CDF	Champ du Feu	147.56	0	ePKP1	PKPbc	08 23 18.7	-0.4
	comp=Z,33nm,1.2s						
BFO	Black Forest	147.63	359	ePKPbc	PKPbc	08 23 19.6	+0.3
HAU	Haudompre	147.96	1	ePKP1	PKPbc	08 23 19.7	-0.5
	comp=Z,25nm,0.9s						
LOR	Lormes	148.57	4	ePKP1	PKPbc	08 23 21.4	-0.4
	comp=Z,23nm,1.1s						
MFF	Saint Martin d	148.75	10	ePKP1	PKPbc	08 23 21.4	-0.9
SSF	Saint Saulge	148.75	5	ePKP1	PKPbc	08 23 21.9	-0.4
	comp=Z,18nm,0.9s						
AVF	Avril sur Loir	149.01	5	ePKP1	PKPbc	08 23 22.1	-0.8
	comp=Z,19nm,1.1s						
BGF	Bois d'Agland	149.19	6	ePKP1	PKPbc	08 23 22.9	-0.5
SMF	Signal de Mont	149.19	5	ePKP1	PKPbc	08 23 22.8	-0.6
CABF	La Chapelle	149.35	2	ePKP1	PKPbc	08 23 24.0	+0.2
	comp=Z,47nm,1.2s						
TCF	Toulx Ste Croi	149.39	7	ePKP1	PKPbc	08 23 23.1	-0.8
	comp=Z,16nm,1.0s						
RJF	Les Rejaudoux	150.27	8	ePKP1	PKPbc	08 23 25.1	-0.9
LPL	La Plagne	150.45	1	ePKP1	PKPbc	08 23 27.0	+0.5
LPG	La Plagne	150.47	1	ePKP1	PKPbc	08 23 27.2	+0.7
	comp=Z,18nm,0.9s						
LFF	La Frestale	150.51	9	ePKP1	PKPbc	08 23 25.9	-0.7
ORIF	Oris-en-Rattie	151.03	2	ePKP1	PKPbc	08 23 27.9	+0.1
VIVF	Saint-Julien-l	151.03	4	ePKP1	PKPbc	08 23 27.7	-0.1
	comp=Z,18nm,0.9s						
EIL	Elat	151.14	303	ePKPdf	PKPdf	08 23 23.4	+1.2
MBDF	Montbardon	151.24	1	ePKP1	PKPbc	08 23 27.6	-0.7
SJPF	Ste Jean	151.90	13	ePKP1	PKPbc	08 23 29.2	-0.6
SMRF	Simiane la Rot	151.96	3	ePKP1	PKPbc	08 23 30.2	+0.2
	comp=Z,34nm,1.1s						
SBF	Sospel	152.11	360	ePKP1	PKPbc	08 23 31.0	+0.7
	comp=Z,46nm,1.1s						
TORD	Torodi Ar. Bea	173.93	116	PKP	PKPdf	08 23 42.4	-2.0
	comp=Z,1.0nm,1.0s,baz=250,slow=3.3,SNR=3.9						

JMA 18 08:07:19.7±0.2, **3152N**×**13026E**, **h205**km±2km, **M3.6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSU	Suzuyama	0.17	95	P	Pn	08 07 46.6	+0.1
JSU				S	Sn	08 08 07.5	+0.1
JSJ	Shimokoshiki	0.49	289	P	Pn	08 07 47.3	0.0
JSJ				S	Sn	08 08 08.7	0.0
JTZ	Takazaki	0.80	61	P	Pn	08 07 48.7	0.0
JTZ				S	Sn	08 08 10.5	-0.8
JTN	Tanegashima 3	1.06	144	P	Pn	08 07 50.6	+0.2
JTN				S	Sn	08 08 13.7	-0.5
JIU2	Izumi 2	1.13	25	P	Pn	08 07 51.1	+0.3

*IDC **18** 08:18:38.2±0.6, 297S×12967E, h0km, mb4.4/11, mb1 4.5/12, mb1mx4.5/17, mbtmp4.4/12, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/18, Error ellipse: s-maj=32.0km s-min=11.2km az=73.0*
*ISCJB **18** 08:18:39.6±4.1, 308S±007×1297E±0.1, h22km±30km, mb4.5/21, Error ellipse: s-maj=20.5km s-min=7.9km az=126.6*
*NEIC **18** 08:18:39.7±0.4, 302S×12966E, h10km, mb4.6/9, Error ellipse: s-maj=14.9km s-min=6.7km az=68.0*
*BJI **18** 08:18:39.7, 300S×12970E, h10km, mB5.0, mb4.6, Ms4.8, Msz4.7*
ISC 18 08:18:38.8±3.4, **302S**±006×**1297E**±01, **h2**km±21km, **n44**, $\sigma 1^{s}03$/40, **mb4.5**/21, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.00	164	eP	Pn	08 21 05.2	+1.7
	20nm,0.5s						
KAKA				eS	Sn	08 22 55.5	-0.8
FITZ	Fitzroy Crossi	15.51	195	Pn	Pn	08 22 17.9	-0.6
	0.5nm,0.3s,baz=40,slow=14,SNR=27						
FITZ				LR	LR	08 28 43.8	
	comp=Z,129nm,18.0s,baz=206,slow=39						
WRAB	Tennant Creek	17.41	165	eP	Pn	08 22 43.0	+0.2
	60nm,1.3s						
WRA	Warramunga Arr	17.42	165	P	Pn	08 22 40.1	-2.8
	1.6nm,0.3s,baz=347,slow=13,SNR=27						
WB2	Warramunga Arr	17.42	165	eP	Pn	08 22 42.8	-0.1
KSM	Kuching	19.89	283	eP	Pn	08 23 12.8	-0.2
MBWA	Marble Bar	20.47	208	eP	P	08 23 15.8	-2.0
	33nm,1.0s						
AS31	Alice Springs	20.92	169	eP	P	08 23 23.1	+0.5
ASAR	Alice Springs	20.92	169	P	P	08 23 23.2	+0.6
	55nm,0.8s,baz=346,slow=11,SNR=276						
ASAR				S	S	08 27 18.4	+1.9
	2.7nm,0.9s,baz=354,slow=23,SNR=4.0						
ASPA	Alice Springs	20.92	169	eP	P	08 23 23.1	+0.5
CTA	Charters Tower	23.42	138	P	P	08 23 50.7	+1.4
	15nm,0.9s,mb4.4,baz=330,slow=10,SNR=8.2						
CTAO	Charters Tower	23.42	138	eP	P	08 23 50.0	+0.7
	25nm,1.0s,mb4.6						
STKA	Stephens Creek	30.81	160	eP	P	08 24 56.0	+0.1
	4.1nm,0.9s,mb4.3						
STKA	Stephens Creek	30.81	160	P	P	08 24 56.2	+0.2
	4.9nm,0.8s,mb4.4,baz=349,slow=8.9,SNR=11						
PSI	Prapat	31.30	280	P	P	08 25 00.1	-0.2
	3.0nm,0.4s,mb4.5,baz=109,slow=8.4,SNR=5.4						
CHTO	Chiang Mai	37.24	307	eP	P	08 25 52.5	+0.7
	29nm,1.3s,mb5.0						
KMI	Kunming	38.30	318	P	P	08 26 02.3	+1.6
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
MJAR	Matsushiro Arr	40.15	11	P	P	08 26 14.3	-1.9
	comp=Z,2.7nm,0.8s,mb4.0,baz=183,slow=7.4,SNR=6.7						
LZH	Lanzhou	45.80	330	eP	P	08 27 02.3	+0.4
LZH				AP		08 27 07.8	
LZH				XP	sP	08 27 10.1	+7.5
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
GTA	Gaotai	50.38	330	eP	P	08 27 37.8	+0.4
GTA				AP		08 27 42.0	
GTA				XP	sP	08 27 44.9	+6.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
JIRN	Jiri	51.81	309	eP	P	08 27 48.3	+0.1
GUN	Gumba	52.18	309	eP	P	08 27 51.0	+0.1
	comp=Z,18nm,0.8s,mb5.1						
PKI	Pulchoki	52.38	308	eP	P	08 27 53.4	+1.0
KKN	Kakani	52.58	309	eP	P	08 27 54.7	+0.8
DMN	Daman	52.63	308	eP	P	08 27 54.2	-0.1
	comp=Z,8.4nm,0.6s,mb4.8						
GKN	Gorkha	53.19	309	eP	P	08 27 58.0	-0.3
KOLN	Koldanda	53.89	308	eP	P	08 28 03.6	+0.1
	comp=Z,20nm,0.8s,mb5.1						
SONM	Songino Array	54.60	341	P	P	08 28 08.3	-0.4
	comp=Z,0.7nm,0.4s,mb4.0,baz=160,slow=4.6,SNR=3.6						
SONM				PcP	PcP	08 29 11.7	-0.1
	comp=Z,1.6nm,0.5s,baz=90,slow=3.0,SNR=5.3						
WMQ	Urumqi	59.94	326	eP	P	08 28 49.0	+2.6
MA2	Magadan	64.58	12	eP	P	08 29 18.0	+0.4
	comp=Z,12nm,0.8s,mb5.0						
MKAR	Makanchi Array	64.77	326	P	P	08 29 17.9	-0.9
	comp=Z,1.2nm,0.5s,mb4.2,baz=120,slow=8.5,SNR=10						
ZAL	Zalesovo	67.91	333	P	P	08 29 37.6	-1.4
	comp=Z,2.7nm,0.6s,mb4.4,baz=345,slow=6.0,SNR=13						
BRVK	Borovoye	74.64	327	eP	P	08 30 19.2	-0.4
	comp=Z,4.0nm,0.9s,mb4.3						
CHKZ	Chkalovo	74.74	328	eP	P	08 30 19.2	-1.0
	comp=Z,3.2nm,0.8s,mb4.3						
VNDA	Vanda	76.41	173	P	P	08 30 28.9	-0.9
	comp=Z,2.1nm,0.9s,mb4.1,baz=304,slow=3.7,SNR=8.1						
MAW	Mawson	78.53	201	P	P	08 30 41.0	-0.6
	comp=Z,4.2nm,1.1s,mb4.3,baz=117,slow=2.3,SNR=3.8						
ARU	Arti	82.19	328	eP	P	08 30 59.7	-1.7
	comp=Z,11nm,1.0s,mb4.7						
KMBO	Kilima Mbogo	92.39	269	P	P	08 31 52.8	+1.8
	comp=Z,2.2nm,0.9s,mb4.5,baz=19,slow=5.9,SNR=5.4						
TORD	Torodi Ar. Bea	127.65	284	PKP	PKPdf	08 37 46.2	+0.6
	comp=Z,1.1nm,0.9s,baz=78,slow=2.3,SNR=5.1						
TORD	Torodi Ar. Bea	127.65	284	PKP	PKPdf	08 37 46.2	+0.5
PLCA	Paso Flores	132.68	159	PKP	PKPdf	08 37 57.0	+1.8
	comp=Z,3.1nm,1.0s,baz=170,slow=2.7,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	150.04	167	PKPbc	PKPbc	08 38 32.5	+1.5
	comp=Z,5.1nm,0.7s,baz=166,slow=0.9,SNR=22						
CPUP	Villa Florida	150.04	167	ePKPbc	PKPbc	08 38 32.0	+1.1
LPAZ	La Paz	153.95	138	PKPbc	PKPbc	08 38 42.0	+2.2
	comp=Z,0.3nm,0.4s,baz=234,slow=2.7,SNR=5.1						

*HEL **18** 08:21:56.2, 5936N×2704E, h0^{km}, ML1.6(FIA0), Explosion*

BER 18 08:21:55.5±3.6**, 5931N×2707E, h0^{km}, ML2.0**(NAO)**, Suspected explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FIA0	FINESS Array S	2.20	347	Pn		08 22 32.6	
	baz=162,slow=18						
FIA0				Lg		08 23 03.1	
	baz=166,slow=37						
FIA0				Rg		08 23 16.3	
	baz=161,slow=37						
HFS	Hagfors	6.82	283	Pn		08 23 32.6	
	baz=112,slow=22						
HFS				Lg		08 25 26.8	
	baz=83,slow=28						

IDC 18 08:23:05.6±5.8**, 1769S×12329E, h0^{km}, mb3.4**/1**, mb1 3.9**/5**, mb1mx3.7**/15**, mbtmp3.8**/5**, ML3.4**/3**, Error ellipse: s-maj=81.6km s-min=33.1km az=161.0, Western Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	2.28	101	eP	Pn	08 23 45.7	+1.3
	69nm,0.4s						
FITZ	Fitzroy Crossi	2.28	101	Pn	Pn	08 23 45.8	+1.4
	3.5nm,0.3s,baz=271,slow=11,SNR=50						
FITZ				Sn	Sn	08 24 13.5	+0.3
	11nm,0.3s,baz=283,slow=15,SNR=8.3						
WRA	Warramunga Arr	10.70	104	Pn	Pn	08 25 39.6	-0.6
	0.7nm,0.3s,baz=281,slow=14,SNR=5.6						
WRA				Sn	Sn	08 27 30.7	-10
	1.4nm,0.3s,baz=289,slow=24,SNR=6.4						
WRA				Lg		08 28 43.1	
	baz=283,slow=26,SNR=2.8						
ASAR	Alice Springs	11.58	123	Pn	Pn	08 25 52.3	+0.2
	0.3nm,0.3s,baz=301,slow=12,SNR=5.4						
ASAR				Sn	Sn	08 27 53.7	-8.5
	0.7nm,0.3s,baz=303,slow=23,SNR=5.5						
KLBR	Kellerberrin	14.72	199	eP	Pn	08 26 33.8	-1.3
	125nm,1.8s						
KLBR				eS	Sn	08 29 01.9	-17
MUN	Mundaring	15.61	203	eP	Pn	08 26 46.8	-0.1
MUN				eS	Sn	08 29 24.0	-16
NWAO	Narrogin (SRO)	16.13	199	Pn	Pn	08 26 52.1	-1.6
	0.8nm,0.3s,baz=19,slow=12,SNR=6.1						
NWAO				Sn	Sn	08 29 37.0	-16
	1.2nm,0.3s,baz=297,slow=11,SNR=4.3						
STKA	Stephens Creek	21.77	134	P	P	08 27 59.3	+0.5
	1.2nm,0.6s,baz=322,slow=12,SNR=2.5						

*NEIC **18** 09:34:44.1, 3302S×7227W, h36^{km}, MD3.8(GUC), After GUC.*

GUC 18 09:34:44.9±0.4**, 3299S×7219W, h15^{km}**±3^{km}**, MD3.6, ML3.3, 11C-8D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	0.71	133⇑	iP	Pg	09 34 58.0	-0.8
LCCH				iS	Sg	09 35 07.9	-0.3
ROCH	El Roble	0.99	89⇑	iP	Pb	09 35 02.9	-0.9
ROCH				iS	Sb	09 35 16.4	-0.2
LNV	Longovilo	1.16	146⇓	iP	Pn	09 35 04.9	-1.7
LNV				iS	Sb	09 35 20.4	-1.2
LNV	Longovilo	1.16	146⇑	iP	Pn	09 35 04.8	-1.8
LNV				S	Sb	09 35 19.4	-2.1
TACH	Talagante	1.24	122⇓	iP	Pn	09 35 06.6	-1.1
TACH				iS	Sb	09 35 22.7	-1.2
TACH	Talagante	1.24	122⇓	iP	Pn	09 35 06.6	-1.1
TACH				iS	Sb	09 35 23.0	-0.8
CHNG	Los Chungos	1.25	28⇑	iP	Pn	09 35 06.6	-1.2
CHNG				iS	Sb	09 35 22.7	-1.4
RCDM	Rinconada Maip	1.26	114⇓	eP	Pn	09 35 06.8	-1.2
RCDM				iS	Sb	09 35 23.0	-1.5
RCDM				AML	AML	09 35 30.3	
	comp=N,432nm,0.4s						
RCDM	Rinconada Maip	1.26	114	eP	Pn	09 35 06.8	-1.2
RCDM				iS	Sb	09 35 24.4	0.0
PEL	Peldehue	1.27	97⇓	iP	Pn	09 35 07.9	-0.2
PEL				iS	Sb	09 35 24.6	-0.1
PEL				AML	AML	09 35 30.9	
	comp=E,1μm,0.4s						
PEL	Peldehue	1.27	97⇓	iP	Pn	09 35 07.9	-0.2
PEL				iS	Sb	09 35 25.4	+0.7
PTCH	Petorca	1.29	56	AML	AML	09 35 28.2	
	comp=E,2μm,0.3s						
PTCH	Petorca	1.29	56⇑	iP	Pn	09 35 08.2	-0.1
PTCH				iS	Sb	09 35 26.2	+1.0
STL	Santa Lucia	1.38	109	eP	Pn	09 35 08.7	-0.8
STL				iS	Sn	09 35 26.7	-0.7
JACH	Jahuel	1.38	78⇑	iP	Pn	09 35 08.9	-0.7
JACH				iS	Sn	09 35 27.0	-0.6
JACH	Jahuel	1.38	78⇑	iP	Pn	09 35 08.9	-0.7
JACH				iS	Sn	09 35 27.9	+0.3
DSCH	Colegio Aleman	1.42	107	iP	Pn	09 35 09.3	-0.8
DSCH				iS	Sn	09 35 28.1	-0.5
DSCH	Colegio Aleman	1.42	107	eP	Pn	09 35 09.5	-0.6
CLCH	Cerro Calan	1.45	107	eP	Pn	09 35 09.9	-0.6
CLCH				iS	Sn	09 35 28.9	-0.3
CLCH				AML	AML	09 35 35.1	
	comp=E,684nm,0.7s						
LACH	Colegio Las Am	1.47	109⇑	iP	Pn	09 35 10.1	-0.7
LACH				iS	Sn	09 35 29.3	-0.4
CHCH	Chadas Angostu	1.59	127⇑	iP	Pn	09 35 12.1	-0.4
CHCH				iS	Sn	09 35 32.9	0.0
CHCH	Chadas Angostu	1.59	127	iP	Pn	09 35 12.1	-0.5
CHCH				iS	Sn	09 35 32.4	-0.5
FCH	Farellones	1.63	102	iP	Pn	09 35 13.6	+0.5
FCH				iS	Sn	09 35 35.2	+1.5
FCH				AML	AML	09 35 44.3	
	comp=N,407nm,0.4s						
SJCH	San Jose de Ma	1.67	113	eP	Pn	09 35 13.5	-0.1
SJCH				iS	Sn	09 35 35.1	+0.4
SJCH				AML	AML	09 35 36.3	
	comp=E,325nm,0.5s						
SJCH	San Jose de Ma	1.67	113	eP	Pn	09 35 13.6	0.0
SJCH				iS	Sn	09 35 35.5	+0.8
CACH	El Canelo	1.74	131⇑	iP	Pn	09 35 14.6	0.0
CACH				iS	Sn	09 35 37.2	+0.7
LMEL	Las Melosas	1.87	118⇓	iP	Pn	09 35 16.8	+0.5
LMEL				iS	Sn	09 35 41.0	+1.4
LMEL				AML	AML	09 35 47.1	
	comp=N,471nm,0.2s						
LMEL	Las Melosas	1.87	118⇓	iP	Pn	09 35 16.8	+0.5
LMEL				iS	Sn	09 35 41.0	+1.4
SFDO	San Fernando	1.89	149	iP	Pn	09 35 15.9	-0.8
SFDO				iS	Sn	09 35 39.2	-1.0
CMCH	Combarbala	2.08	29	AML	AML	09 35 56.1	
	comp=N,2μm,0.7s						
CMCH	Combarbala	2.08	29⇑	iP	Pn	09 35 18.3	-0.9
CMCH				S	Sn	09 35 44.0	-0.8

*ISCJB **18** 09:47:33.8±1.5, 2355S±006×17977W±008, h483^{km}±20^{km}, mb4.5/20, Error ellipse: s-maj=12.6km s-min=8.7km az=47.2*

*IDC **18** 09:47:36.6±2.2, 2353S×17967W, h505^{km}±22^{km}, mb4.0/8, mb1 4.1/10, mb1mx4.0/17, mbtmp5.0/10, Error ellipse: s-maj=23.6km s-min=17.5km az=53.0*

*NEIC **18** 09:47:36.3±1.2, 2352S×17980W, h498^{km}±15^{km}, mb4.7/16, Error ellipse: s-maj=12.2km s-min=10.3km az=151.0*

ISC 18 09:47:36.7±1.3**, 2365S**±008×**17977W**±009**, h502^{km}**±17^{km}**, n37, σ1^{s}01**/39**, mb4.5**/20**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.28	39	P	P	09 50 16.5	-1.7
	3.3nm,0.3s,baz=34,slow=11,SNR=9.0						
AFI				S	S	09 52 24.1	-7.2
	2.3nm,0.3s,baz=41,slow=20,SNR=5.0						
DZM	Mont Dzumac	12.81	274	P	P	09 50 27.8	+4.0
	0.3nm,0.3s,baz=88,slow=18,SNR=6.8						
URZ	Urewera	14.81	190	P	P	09 50 44.9	+0.1
	2.7nm,0.3s,baz=35,slow=4.1,SNR=16						
URZ				S	S	09 53 15.5	-4.4
	1.5nm,0.3s,baz=225,slow=23,SNR=16						
SNZO	South Karori	18.21	193	eP	P	09 51 15.9	-2.9
	79nm,1.3s						
SNZO				eS	S	09 54 18.8	-1.1
RPZ	Rata Peaks	21.40	198	P	P	09 51 48.5	+0.7
	9.8nm,0.6s,mb4.5,baz=32,slow=6.3,SNR=6.2						
CNB	Canberra Magne	29.16	239	eP	P	09 52 57.9	+1.3
	14nm,0.9s,mb4.4						
CTA	Charters Tower	31.69	270⇓	iP	P	09 53 19.7	+1.3
	27nm,0.3s,mb5.2						
CTA	Charters Tower	31.69	270	P	P	09 53 19.8	+1.4
	40nm,0.3s,mb5.3,baz=97,slow=11,SNR=96						
CTAO	Charters Tower	31.69	270	eP	P	09 53 19.8	+1.4
	39nm,0.4s,mb5.2						
TOO	Toolangi	32.77	237	eP	P	09 53 28.4	+0.9
	7.9nm,0.5s,mb4.4						
PMG	Port Moresby	34.62	289	P	P	09 53 43.9	+0.7
	53nm,0.8s,mb5.0,baz=179,slow=8.2,SNR=8.1						
PMG	Port Moresby	34.62	289	eP	P	09 53 43.9	+0.8
	40nm,0.7s,mb5.0						
STKA	Stephens Creek	35.02	248⇓	iP	P	09 53 47.1	+0.6
	8.6nm,0.6s,mb4.4						
STKA	Stephens Creek	35.02	248	P	P	09 53 47.3	+0.8
	11nm,0.6s,mb4.5,baz=89,slow=9.0,SNR=51						
AS31	Alice Springs	42.29	260	eP	P	09 54 45.9	+0.4
ASAR	Alice Springs	42.29	260	P	P	09 54 46.0	+0.4
	21nm,0.8s,mb4.6,baz=95,slow=7.9,SNR=170						
ASAR				ScP	ScP	09 59 30.1	-0.1
	1.4nm,0.9s,baz=108,slow=3.8,SNR=6.4						
ASAR				S	S	10 00 27.1	-2.4
	0.3nm,0.8s,baz=93,slow=16,SNR=2.9						
ASPA	Alice Springs	42.29	260	eP	P	09 54 45.9	+0.3
WB2	Warramunga Arr	42.63	266	eP	P	09 54 47.8	-0.4
WRAB	Tennant Creek	42.63	266	eP	P	09 54 48.1	-0.2
	51nm,0.7s,mb5.1						
WRA	Warramunga Arr	42.64	266	P	P	09 54 48.1	-0.2
	18nm,0.3s,mb5.0,baz=96,slow=8.4,SNR=533						
WRA				S	S	10 00 30.0	-4.5
	1.2nm,0.8s,baz=99,slow=14,SNR=6.0						
KAKA	Kakadu	46.50	275	eP	P	09 55 17.8	-0.3
	17nm,0.6s,mb4.7						
FORT	Forrest	46.60	249	eP	P	09 55 17.8	-1.1
	63nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	51.06	265	eP	P	09 55 52.3	+0.3
	28nm,0.8s,mb4.6						
VNDA	Vanda	54.65	185	P	P	09 56 18.2	+0.6
	1.3nm,0.8s,mb3.3,baz=4.4,slow=5.5,SNR=7.2						
VNDA	Vanda	54.65	185	eP	P	09 56 18.4	+0.8
	1.0nm,0.6s,mb3.3						
KLBR	Kellerberrin	55.28	247	eP	P	09 56 21.3	-0.8
	17nm,0.6s,mb4.6						
MBWA	Marble Bar	55.63	260	eP	P	09 56 23.8	-0.7
	21nm,0.8s,mb4.5						
MUN	Mundaring	56.53	246	eP	P	09 56 30.3	-0.5
QSPA	South Pole Qui	66.44	180	eP	P	09 57 35.2	-0.5
	6.8nm,1.0s,mb4.2						
MAT	Matsushiro	71.81	325	P	P	09 58 06.5	-1.5
MAW	Mawson	78.06	200	P	P	09 58 42.7	-0.4
	2.9nm,0.7s,mb3.8,baz=130,slow=5.0,SNR=5.0						
PMSA	Palmer Station	79.06	157	eP	P	09 58 50.5	+2.0
	4.2nm,0.5s,mb4.2						
TUC	Tucson	86.19	52	eP	P	09 59 25.8	+1.4
	4.2nm,1.1s,mb4.0						
MNTX	Cornudas Mount	89.89	55	eP	P	09 59 42.3	+0.6
	12nm,2.0s,mb4.4						
AKASG	Malin Array Be	144.87	328	PKP	PKPdf	10 06 14.7	-1.4
	0.8nm,0.3s,baz=42,slow=4.3,SNR=8.9						
BRTR	Keskin Array B	147.59	308	PKPbc	PKPbc	10 06 23.4	-0.8
	1.2nm,0.6s,baz=129,slow=5.2,SNR=4.1						
CLL	Collm	150.68	344	i PKPbc	PKPbc	10 06 30.7	-0.9
	comp=Z,8.0nm,1.1s						

*IDC **18** 09:51:03.9±3.3, 5146N×17484W, h19^{km}±20^{km}, mb4.8/31, mb1 4.9/31, mb1mx4.9/34, mbtmp4.9/31, MS4.3/2, Ms1 4.3/2, ms1mx3.4/18, Error ellipse: s-maj=14.5km s-min=9.8km az=166.0*

*ISCJB **18** 09:51:06.7±0.2, 5145N±003×17480W±002, h52^{km}, mb5.1/230, MS4.5/25, Error ellipse: s-maj=5.0km s-min=2.2km az=1.4*

*MOS **18** 09:51:06.9±1.1, 5160N×17481W, h53^{km}, mb5.3/115, MS4.4/12, Error ellipse: s-maj=17.4km s-min=5.0km az=92.2*

*SZGRF **18** 09:51:07.4, 5144N×17740W, h44^{km}, mb5.2, Andreanof Islands, Aleutian Islands, United States*

*NEIC **18** 09:51:08.2±0.1, 5148N×17481W, mb5.1/158, ML4.7(AEIC), Error ellipse: s-maj=4.4km s-min=2.2km az=187.0*

*GCMT **18** 09:51:08.2±0.3, 5133N×17474W, h20^{km}±1^{km}, MW5.0/59, Moment Tensor Solution. s36,c46; s59,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.77±.17; $M_{\theta\theta}$-2.23±.12; $M_{\phi\phi}$-0.54±.10; $M_{r\theta}$2.50±.26; $M_{\theta\phi}$-1.03±.07; $M_{\phi r}$1.40±.21; Best double couple: $M_0$3.96700×10^{16} NP1:ϕ_s247.00000°, δ22.00000°, λ95.00000°. NP2: ϕ_s62.00000°, δ68.00000°, λ88.00000°. Principal axes: T 3.9960, Plg67.0000°, Azm328.0000°; N -0.0630, Plg2.0000°, Azm63.0000°; P -3.9380, Plg23.0000°, Azm153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **18** 09:51:08.9, 5191N×17524W, h59^{km}, mB5.3, mb5.4, Ms5.0, Msz4.6*

*BGS **18** 09:51:11.5±1.4, 5175N×17135W, h52^{km}, mb5.1*

ISC 18 09:51:08.5±0.2**, 5154N**±004×**17481W**±003**, h54^{km}**±1.0^{km}**:pP-P, n701, σ0^{s}81**/693**, mb5.1**/230**, MS4.5**/25**, 157C-19D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.77	29	P	Pn	09 51 21.9	-1.4
ATKA				S	Sn	09 51 35.7	+1.5
AMKA	Amchitka	3.69	270	P	Pn	09 52 00.3	-2.7
AMKA				S	Sn	09 52 45.3	+0.1
NIKO	Nikolski	3.93	66	P	Pn	09 52 04.9	-1.5
OKCE	Okmok Cone E	4.48	62	P	Pn	09 52 14.0	+0.1
AKUT	Akutan	6.07	61	ePn	Pn	09 52 40.0	+4.4
SPIA	Saint Paul Isl	6.25	23	P	Pn	09 52 39.5	+1.4
SMY	Shemya	6.93	284	eP	Pn	09 52 49.9	+2.4
SDPT	Sand Point	9.37	60	P	Pn	09 53 20.1	-0.7
KDAK	Kodiak Island	14.26	55	Pn	Pn	09 54 24.9	-2.6
	384nm,0.4s,SNR=12						
KDAK	Kodiak Island	14.26	55	Pn	Pn	09 54 22.8	-4.7
	2.9nm,0.3s,baz=257,slow=7.1,SNR=14						
KDAK				Sn	Sn	09 57 13.4	+9.2
	baz=321,slow=14,SNR=2.9						
KDAK	Kodiak Island	14.26	55	ePn	Pn	09 54 23.5	-4.0
SVW2	Sparrevohn	14.28	40	ePn	Pn	09 54 27.6	-0.1
TNA	Tin City	14.50	11	ePn	Pn	09 54 34.3	+3.6
TTA	Tatalina	15.22	34	eP	Pn	09 54 43.3	+3.3
PET	Petropavlovsk	16.28	286	eP	Pn	09 54 52.1	-1.4
PET				eS	S	09 57 52.5	-11
PET				pmax	pmax		
	comp=Z,200nm,1.8s						
PET				pmax	pmax		
	comp=Z,83nm,1.2s						
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
PET	Petropavlovsk	16.28	286	eP	Pn	09 54 54.2	+0.7
	comp=Z,89nm,0.9s						
SLKM	Skilak Lake	16.33	47	eP	Pn	09 54 53.1	-1.0
PMR	Palmer	17.24	44	eP	Pn	09 55 03.7	-1.8
IMA2	Indian Mountai	18.07	28	eP	Pn	09 55 16.1	+0.4
IMA2				eScP	ScP	10 03 20.7	+2.5
SKR	Severo-Kuril's	18.23	279	eP	Pn	09 55 12.0	-5.6
SKR				e		09 58 43.0	
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
MCK	McKinley	18.30	38	eP	Pn	09 55 17.4	-1.0
MCK				pmax	pmax		
	comp=Z,20nm,0.8s						
MCK	McKinley	18.30	38	eP	Pn	09 55 17.4	-1.1
	comp=Z,20nm,0.8s						
BILL	Bilibino	18.94	338c	iP	Pn	09 55 26.6	+0.4
BILL				pmax	pmax		
	comp=Z,187nm,1.3s						
BILL	Bilibino	18.94	338	eP	Pn	09 55 26.8	+0.6
	comp=Z,267nm,1.2s						
COLA	College	19.29	36c	iP	Pn	09 55 29.5	-0.8
COLA	College	19.29	36	eP	Pn	09 55 27.0	-3.3
	comp=Z,48nm,0.9s						
SEY	Seymchan	20.84	316d	iP	P	09 55 46.2	+0.5
MA2	Magadan	20.86	306	eP	P	09 55 45.7	-0.2
MA2				pmax	pmax		
	comp=Z,44nm,0.9s						
MA2	Magadan	20.86	306	eP	P	09 55 45.7	-0.2
	comp=Z,44nm,0.9s						
EGAK	Eagle	21.81	40	eP	P	09 55 54.8	-1.3
DAWY	Dawson	22.30	42	eP	P	09 55 60.0	-1.3
DAWY				eScP	ScP	10 03 31.1	+2.9
SKAG	Skagway	23.42	55	eP	P	09 56 12.6	-0.2
SIT	Sitka	23.44	61	eP	P	09 56 12.4	-0.6
SIT				pmax	pmax		
	comp=Z,81nm,1.0s,mb5.1						
SIT	Sitka	23.44	61	eP	P	09 56 12.2	-0.8
	comp=Z,72nm,1.0s,mb5.0						
WRAK	Wrangell Islan	25.13	62	eP	P	09 56 30.2	+1.8
WRAK				e	pP	09 56 43.4	+1.4
INK	Inuvik	25.91	34	P	P	09 56 34.5	-1.0
	comp=Z,13nm,0.8s,mb4.5,baz=242,slow=10,SNR=19						
INK				PcP	PcP	10 00 03.0	-0.2
	comp=Z,6.9nm,0.8s,baz=291,slow=1.2,SNR=5.2						
INK				LR	LR	10 08 11.2	
	comp=Z,857nm,18.6s,MS4.3,baz=51,slow=40						
INK	Inuvik	25.91	34	eP	P	09 56 35.4	-0.1
INK				pmax	pmax		
	comp=Z,27nm,1.0s						
INK	Inuvik	25.91	34	eP	P	09 56 35.4	-0.1
	comp=Z,27nm,1.0s,mb4.7						
DLBC	Dease Lake	26.18	57	P	P	09 56 39.0	+1.1
	comp=Z,22nm,0.9s,mb4.7,baz=286,slow=9.1,SNR=27						
YSS	Yuzh-Sakhalins	27.78	277⇑	iP	P	09 56 54.0	+1.7
YSS				e	pP	09 57 07.5	+1.6
YSS				e		09 57 46.2	
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.0						
YSS				MLR	MLR		
	comp=E,500nm,20.0s						
YSS				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.4						
YSS	Yuzh-Sakhalins	27.78	277	eP	P	09 56 53.7	+1.4
	comp=Z,23nm,0.7s,mb4.9						
ASAJ	Asahikawa	29.20	272	P	P	09 57 05.0	+0.1
	comp=Z,33nm,0.9s,mb5.1,baz=61,slow=1.0,SNR=17						
ASAJ	Asahikawa	29.20	272	P	P	09 57 05.0	+0.1
ASAJ				pmax	pmax		
	comp=Z,33nm,0.9s						
YAK	Yakutsk	31.19	311⇑	eP	P	09 57 21.5	-1.0
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.0						
YAK				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.4						
TIXI	Tiksi	31.74	330	eP	P	09 57 29.3	+2.0
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
HABR	Khabarovsk	31.86	285⇓	iP	P	09 57 28.7	+0.3
HABR				eS	S	10 02 36.5	+1.2
HABR				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.4						
YKA	Yellowknife Ar	33.30	47	P	P	09 57 39.6	-1.4
	comp=Z,0.8nm,0.4s,baz=274,slow=9.0,SNR=8.7						
YKA				PcP	PcP	10 00 21.7	-0.3
	comp=Z,3.7nm,0.7s,baz=288,slow=3.3,SNR=7.0						
YKA	Yellowknife Ar	33.30	47	iP	P	09 57 40.2	-0.8
YKA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
GNW	Green Mountain	33.37	76	eP	P	09 57 43.6	+2.0
GNW				epP	pP	09 57 57.6	+2.3
CMW	Cultus Mountai	33.42	74	P	P	09 57 43.7	+1.6
KLR	Kul'dur	33.53	288	eP	P	09 57 38.7	-4.2
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.3						
GSM	Grass Mountain	34.16	76	P	P	09 57 53.4	+4.9
PNT	Penticton	34.53	71	P	P	09 57 52.0	+0.4
TWW	Teanaway	34.75	76	P	P	09 57 54.0	+0.4
VLMM	Larch Mountain	34.80	79	P	P	09 57 54.6	+0.6
SSOR	Sweet Springs	34.88	80	P	P	09 57 55.7	+1.0
TBM	Table Mountain	34.90	75	P	P	09 57 55.2	+0.4
EBG	Ellensburg	35.04	76	P	P	09 57 56.8	+0.8
BROR	Big Rock Looko	35.19	81	P	P	09 57 58.0	+0.7
VFP	Flag Point	35.26	79	P	P	09 57 57.3	-0.7
EPH	Ephrata	35.42	74	P	P	09 57 59.1	-0.2
MDW	Midway	35.67	76	P	P	09 58 01.9	+0.5
SNIWA	Snively Ranch	35.80	76	P	P	09 58 03.0	+0.4
KTRM	Thompson Ridge	35.87	85	P	P	09 58 03.8	+0.7
HAWA	Hanford	35.91	76	eP	P	09 58 03.8	+0.3
	comp=Z,1.9nm,0.8s						
HAWA				epP	pP	09 58 18.3	+1.0
OD2	Odessa Site #2	35.93	74	P	P	09 58 03.7	0.0
REDWA	Red Mountain	36.02	76	P	P	09 58 05.1	+0.7
KHMM	Horse Mountain	36.23	87	eP	P	09 58 08.7	+2.4
MJAR	Matsushiro Arr	36.28	264	P	P	09 58 06.5	-0.1
	comp=Z,16nm,0.9s,mb5.0,baz=48,slow=8.2,SNR=31						
MJAR				PcP	PcP	10 00 31.1	+0.4
	comp=Z,4.0nm,1.1s,baz=40,slow=1.4,SNR=3.1						
MJAR	Matsushiro Arr	36.28	264	P	P	09 58 06.5	-0.2
MJAR						10 00 31.1	
MJAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MAJO	Matsushiro	36.28	264	eP	P	09 58 06.6	-0.1
MAJO				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.3						
MAJO	Matsushiro	36.28	264	eP	P	09 58 06.6	-0.1
	comp=Z,32nm,0.8s,mb5.3						
YBH	Yreka Blue Hor	36.38	85	P	P	09 58 08.7	+1.1
	comp=Z,3.2nm,0.7s,mb4.4,baz=267,slow=6.0,SNR=14						
YBH	Yreka Blue Hor	36.38	85	eP	P	09 58 08.8	+1.3
YBH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
YBH	Yreka Blue Hor	36.38	85	eP	P	09 58 08.8	+1.3
	comp=Z,7.4nm,1.1s,mb4.5						
NEW	Newport	36.48	72	P	P	09 58 08.0	-0.4
	comp=Z,25nm,0.8s,mb5.2,baz=293,slow=6.5,SNR=17						
NEW	Newport	36.48	72	eP	P	09 58 08.3	0.0
NEW				e*PP	pP	09 58 23.0	+0.8
NEW				pmax	pmax		
	comp=Z,28nm,0.8s						
NEW	Newport	36.48	72	eP	P	09 58 08.3	-0.1
	comp=Z,28nm,0.8s,mb5.2						
NEW				epP	pP	09 58 23.0	+0.8
EDM	Edmonton	36.54	63	eP	P	09 58 09.2	+0.3
EDM				e*PP	pP	09 58 22.3	-0.4
MDJ	Mudanjiang	37.00	282	P	P	09 58 11.8	-1.0
MDJ				AP	pP	09 58 24.9	-1.7
MDJ				XP	sP	09 58 30.5	-2.5
MDJ				PP	PP	09 59 37.3	-0.5
MDJ				S	S	10 03 55.0	+0.6
MDJ				XS	sS	10 04 15.4	-2.4
MDJ				PCS	PcS	10 04 21.4	+0.4
MDJ				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.3						
MDJ				LR	LR		
	comp=N,110nm,18.0s,MS4.2						
MDJ				LR	LR		
	comp=E,316nm,18.0s,MS4.2						
MDJ				LR	LR		
	comp=Z,336nm,19.9s,MS4.1						
MDJ	Mudanjiang	37.00	282	eP	P	09 58 11.8	-1.0
	comp=Z,42nm,0.9s,mb5.3						
WDC	Whiskeytown Da	37.14	86	eP	P	09 58 14.8	+0.8
WDC				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
WDC	Whiskeytown Da	37.14	86	eP	P	09 58 14.8	+0.8
	comp=Z,7.5nm,0.9s,mb4.5						
MOD	Modoc	37.78	83	eP	P	09 58 20.1	+0.7
	comp=Z,5.7nm,0.9s,mb4.3						
WALA	Waterton Lakes	38.00	69	eP	P	09 58 21.4	+0.2
	comp=Z,13nm,0.9s,mb4.7						
BMO	Blue Mountains	38.04	77	eP	P	09 58 21.7	+0.2
	comp=Z,21nm,1.4s,mb4.7						
BMO				epP	pP	09 58 35.8	+0.3
BSMT	Bassoo Peak	38.05	71	eP	P	09 58 21.9	+0.2
WVOR	Wild Horse Val	38.52	81	P	P	09 58 25.9	+0.3
WVOR				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
WVOR	Wild Horse Val	38.52	81	eP	P	09 58 25.6	0.0
	comp=Z,19nm,0.8s,mb4.9						
OHCM	Honcut	38.53	87	eP	P	09 58 25.6	-0.1
OHCM				epP	pP	09 58 37.5	-2.1
MSO	Missoula	39.06	72	eP	P	09 58 29.8	-0.4
	comp=Z,6.5nm,0.7s,mb4.5						
CHMT	Chamberlain Mo	39.42	72	eP	P	09 58 32.6	-0.6
PAHR	Pah Rah Range	39.62	85	eP	P	09 58 35.0	+0.2

comp=Z,24nm,1.2s,mb4.8
CN2 Changchun 39.96 283 *e*P **P** **09 58 36.8 -0.8**
CN2 *e*XP sP 09 58 59.3 +1.4
CN2 *e*S **S** **10 04 36.6 -2.4**
CN2 AMB AMB
comp=Z,60nm,1.0s,mb5.3
CN2 LR LR
comp=N,600nm,19.0s,MS4.6
CN2 LR LR
comp=E,500nm,19.0s,MS4.6
CN2 LR LR
comp=Z,800nm,19.0s,MS4.6
CMB Columbia Colle 39.99 88 *e*P **P** **09 58 38.9 +1.0**
CMB Columbia Colle 39.99 88 *e*P **P** **09 58 38.5 +0.5**
CMB *e*pP pP 09 58 51.7 -0.2
CMB *e*ScP ScP 10 04 26.7 +0.1
WAKR Walker 40.30 87 *e*P **P** **09 58 41.3 +0.8**
HRY Holter Researc 40.37 71 *e*P **P** **09 58 41.0 0.0**
LRM Limekiln Ridge 40.46 73 *e*P **P** **09 58 43.6 +1.9**
HLID Hailey 40.48 77 *e*P **P** **09 58 41.9 -0.1**
comp=Z,23nm,1.2s,mb4.8
HLID *e*ScP ScP 10 04 31.9 +3.4
HIA Hailar 40.53 294 *e*P **P** **09 58 40.9 -1.4**
HIA *e* 10 00 43.8
HIA pmax pmax
comp=Z,17nm,0.8s
HIA Hailar 40.53 294 *e*P **P** **09 58 40.9 -1.4**
comp=Z,17nm,0.8s,mb4.7
HIA *e*PcP PcP 10 00 43.8 -0.1
BMN Battle Mountai 40.53 83 *e*P **P** **09 58 41.6 -0.8**
DLMT Dillon 40.61 73 *e*P **P** **09 58 42.9 -0.1**
comp=Z,14nm,1.0s,mb4.6
DLMT *e*pP pP 09 58 55.7 -1.4
MCMT McKenzie Canyo 40.75 74 *e*P **P** **09 58 43.8 -0.3**
MCMT *e*pP pP 09 58 57.5 -0.6
EGMT Eagleton 40.92 68 *e*P **P** **09 58 45.6 0.0**
comp=Z,46nm,1.2s,mb5.0
EGMT *e*pP pP 09 58 58.3 -1.3
BOZ Bozeman (W) 41.04 72 *e*P **P** **09 58 46.5 0.0**
BOZ *e**PP pP 09 59 01.0 +0.4
BOZ pmax pmax
comp=Z,28nm,0.9s,mb4.9
BOZ Bozeman (W) 41.04 72 *e*P **P** **09 58 46.5 -0.1**
comp=Z,28nm,0.9s,mb4.9
BOZ *e*pP pP 09 59 01.0 +0.4
NVAR Mina Array Bea 41.05 86 P **P** **09 58 46.6 0.0**
comp=Z,2.0nm,0.8s,baz=287,slow=10,SNR=15
NVAR PcP PcP 10 00 46.3 +0.7
comp=Z,2.3nm,0.9s,baz=287,slow=6.3,SNR=3.6
NVAR ScP ScP 10 04 33.0 +2.2
comp=Z,1.8nm,1.1s,baz=275,slow=6.3,SNR=5.3
NVAR Mina Array Bea 41.05 86 P **P** **09 58 46.6 0.0**
NVAR PcP PcP 10 00 46.3 +0.7
NVAR ScP ScP 10 04 33.0 +2.2
MTUM Tungsten Hills 41.55 87 *e*P **P** **09 58 52.0 +1.3**
QLMT Earthquake Lak 41.60 73 *e*P **P** **09 58 51.0 -0.1**
QLMT *e*pP pP 09 59 04.9 -0.2
YMR Madison River 41.96 73 *e*P **P** **09 58 53.8 -0.3**
comp=Z,32nm,1.0s,mb4.9
FFC Flin Flon 42.01 56 P **P** **09 58 54.8 +0.3**
comp=Z,157nm,0.5s,mb5.9,SNR=6.9
FFC Flin Flon 42.01 56 *e*P **P** **09 58 53.9 -0.6**
FFC pmax pmax
comp=Z,25nm,0.9s,mb4.8
FFC Flin Flon 42.01 56 *e*P **P** **09 58 53.9 -0.5**
comp=Z,25nm,0.9s,mb4.8
ALE Alert 42.03 10 P **P** **09 58 54.0 -0.6**
comp=Z,72nm,0.8s,mb5.0,SNR=5.1
YNR Norris Junctio 42.11 73 *e*P **P** **09 58 56.3 +1.0**
YNR *e*pP pP 09 59 11.2 +1.8
KS15 Wonju Array Si 42.16 274 *e*P **P** **09 58 58.2 +2.6**
YFT Old Faithful 42.16 74 *e*P **P** **09 59 01.5 +5.8**
YFT *e*pP pP 09 59 11.4 +1.7
SNY Shenyang 42.20 282 ⇑P **P** **09 58 56.4 +0.4**
SNY AMB AMB
comp=Z,164nm,1.1s,mb5.6
LKWY Lake 42.36 73 *e*P **P** **09 58 59.3 +2.0**
LKWY *e**PP pP 09 59 13.2 +1.8
LKWY pmax pmax
comp=Z,24nm,0.8s,mb4.9
LKWY Lake 42.36 73 *e*P **P** **09 58 59.3 +2.0**
comp=Z,24nm,0.8s,mb4.9
LKWY *e*pP pP 09 59 13.2 +1.8
IMW Indian Meadow 42.40 74 *e*P **P** **09 58 58.5 +0.8**
comp=Z,24nm,1.0s,mb4.8
IMW *e*pP pP 09 59 12.3 +0.6
DCID1 Drake Creek 42.42 75 *e*P **P** **09 58 59.2 +1.4**
DCID1 *e*pP pP 09 59 14.0 +2.0
FLWY Flagg Ranch 42.44 74 *e*P **P** **09 58 58.8 +0.8**
comp=Z,34nm,1.1s,mb4.9
FLWY *e*pP pP 09 59 13.2 +1.1
RRI2 Red Ridge 42.48 75 *e*P **P** **09 58 58.2 -0.1**
comp=Z,25nm,0.9s,mb4.8
RRI2 *e*pP pP 09 59 13.2 +0.8
HVU Hansel Valley 42.49 78 *e*P **P** **09 58 59.0 +0.6**
HVU pmax pmax
comp=Z,15nm,0.9s,mb4.6
HVU Hansel Valley 42.49 78 *e*P **P** **09 58 59.0 +0.6**
comp=Z,15nm,0.9s,mb4.6
TPAW Teton Pass 42.62 75 *e*P **P** **09 59 01.0 +1.5**
comp=Z,21nm,1.2s,mb4.8
ISA Isabella 42.67 89 *e*P **P** **09 58 59.8 -0.1**
RLMT Red Lodge 42.73 72 *e*P **P** **09 59 00.7 +0.4**
RLMT *e*pP pP 09 59 12.7 -1.7
REDW Red Top Meadow 42.75 75 *e*P **P** **09 59 01.4 +0.8**
comp=Z,33nm,1.3s,mb4.9
REDW *e*pP pP 09 59 15.9 +1.3
SNOW Snow King Moun 42.76 75 *e*P **P** **09 59 01.8 +1.2**
comp=Z,23nm,1.2s,mb4.8
LOHW Long Hollow 42.76 74 *e*P **P** **09 59 01.0 +0.4**
comp=Z,5.2nm,0.7s,mb4.4
TRCR Troy Canyon 42.79 84 *e*P **P** **09 59 00.4 -0.5**
BGU Big Grassy Mou 42.83 79 *e*P **P** **09 59 00.7 -0.5**
DAC Darwin (Calif) 42.83 88 *e*P **P** **09 59 01.7 +0.5**
INCN Inchon 42.91 275 *e*P **P** **09 59 03.6 +1.8**
comp=Z,84nm,1.0s,mb5.4
AHID Auburn Hatcher 42.94 76 *e*P **P** **09 59 03.1 +1.1**
comp=Z,26nm,1.1s,mb4.9
AHID *e*pP pP 09 59 17.1 +1.0
HWUT Hardware Ranch 43.33 77 *e*P **P** **09 59 04.9 -0.2**
comp=Z,18nm,1.0s,mb4.8
DUG Dugway 43.39 80 *e*P **P** **09 59 05.7 0.0**
DUG *e**PP pP 09 59 20.1 +0.3
DUG pmax pmax
comp=Z,35nm,1.0s,mb5.0
DUG Dugway 43.39 80 *e*P **P** **09 59 05.7 0.0**
comp=Z,35nm,1.0s,mb5.0
DUG *e*pP pP 09 59 20.1 +0.3
NOQ North Oquirrh 43.55 79 *e*P **P** **09 59 06.9 -0.1**
TCUT Toone Canyon 43.71 78 *e*P **P** **09 59 08.4 +0.2**
CTU Camp Tracy 43.75 79 *e*P **P** **09 59 08.7 +0.1**
comp=Z,30nm,1.3s,mb4.9
BW06 Boulder Array 43.87 75 *e*P **P** **09 59 09.4 -0.1**
comp=Z,39nm,1.0s,mb5.1
PDAR Pinedale Array 43.87 75 P **P** **09 59 09.3 -0.2**
comp=Z,16nm,0.9s,mb4.8,baz=307,slow=4.3,SNR=63
DGMT Dagmar 43.87 65 *e*P **P** **09 59 09.7 +0.1**
comp=Z,13nm,0.8s,mb4.7
GSC Goldstone 43.95 88 *e*P **P** **09 59 10.2 +0.1**
NLU North Lily Min 43.99 80 *e*P **P** **09 59 10.7 +0.2**
NLU *e*pP pP 09 59 25.3 +0.6
FCC Fort Churchill 44.03 48 *e*P **P** **09 59 10.6 -0.2**
FCC pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
FCC Fort Churchill 44.03 48 *e*P **P** **09 59 10.6 -0.2**
comp=Z,9.1nm,0.6s,mb4.7
SHPR Sheep Range 44.20 86 *e*P **P** **09 59 12.4 +0.2**
SHPR *e*pP pP 09 59 28.4 +2.1
MPU Maple Canyon 44.22 79 *e*P **P** **09 59 12.8 +0.4**
comp=Z,18nm,1.0s,mb4.8
ARUT Antelope Range 44.47 83 *e*P **P** **09 59 14.1 -0.2**
ARUT *e**PP pP 09 59 29.2 +0.7
CCUT Cedar City 44.67 83 *e*P **P** **09 59 15.7 -0.2**
MSU Marysvale 44.80 81 *e*P **P** **09 59 17.3 +0.3**
TMUT Trail Mountain 44.92 80 *e*P **P** **09 59 18.5 +0.6**
DL2 Dalian 45.13 280 P **P** **09 59 19.5 -0.1**
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.3
SRU San Rafael 45.45 80 *e*P **P** **09 59 22.6 +0.5**
SRU pmax pmax
comp=Z,24nm,0.9s,mb5.0
SRU San Rafael 45.45 80 *e*P **P** **09 59 22.6 +0.4**
comp=Z,24nm,0.9s,mb5.0
BAR Barrett 45.76 91 *e*P **P** **09 59 24.9 +0.3**
BAR *e*pP pP 09 59 36.8 -1.9
RWWY Rawlins 45.92 75 *e*P **P** **09 59 25.9 +0.1**
comp=Z,25nm,1.1s,mb5.1
RSSD Black Hills 46.38 70 *e*P **P** **09 59 29.0 -0.4**
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
RSSD Black Hills 46.38 70 *e*P **P** **09 59 29.0 -0.4**
comp=Z,5.3nm,0.6s,mb4.7
PV10 Paradox Valley 46.82 79 *e*P **P** **09 59 33.0 +0.1**
WUAZ Wupatki 47.19 84 *e*P **P** **09 59 36.0 +0.2**
comp=Z,12nm,0.8s,mb4.9
PV01 Paradox Valley 47.26 79 *e*P **P** **09 59 36.0 -0.3**
IRK Irkutsk 47.43 304 *e*P **P** **09 59 36.0 -1.6**
IRK *e* 10 01 07.1
IRK pmax pmax
comp=Z,36nm,1.0s,mb5.3
ULM Lac du Bonnet 47.49 59 P **P** **09 59 37.3 -0.8**
comp=Z,13nm,0.8s,mb4.9,baz=303,slow=8.5,SNR=16
ULM Lac du Bonnet 47.49 59 *e*P **P** **09 59 36.9 -1.2**
comp=Z,42nm,1.2s,mb5.2
ULM *e*pP pP 09 59 50.3 -2.1
SMCO Snowmass 47.59 77 *e*P **P** **09 59 38.7 -0.1**
comp=Z,12nm,1.0s,mb4.9
BJI Beijing 47.77 285 *e*P **P** **09 59 40.4 +0.2**
BJI XP sP 10 00 03.3 +2.5
BJI S **S** **10 06 20.8 -12**
BJI SS SS 10 09 50.4 -11
BJI AMB AMB
comp=Z,79nm,0.8s,mb5.8
BJI LR LR
comp=N,514nm,18.3s,MS4.6
BJI LR LR
comp=E,323nm,21.0s,MS4.6
BJI LR LR
comp=Z,456nm,22.9s,MS4.4
BJT Baijiatuau 47.79 284 *e*P **P** **09 59 40.5 +0.1**
BJT pmax pmax
comp=Z,54nm,0.8s
BJT Baijiatuau 47.79 284 *e*P **P** **09 59 40.5 +0.1**
comp=Z,54nm,0.8s,mb5.6
ISCO Idaho Springs 48.03 76 *e*P **P** **09 59 43.0 +0.8**
ISCO pmax pmax
comp=Z,15nm,1.2s,mb4.9
ISCO Idaho Springs 48.03 76 *e*P **P** **09 59 43.0 +0.8**
comp=Z,15nm,1.2s,mb4.9
TLY Talaya 48.07 304 *e*P **P** **09 59 42.9 +0.3**
TLY *e*S **S** **10 06 41.7 +4.7**
TLY pmax pmax
comp=Z,12nm,0.7s,mb5.0
TLY pmax pmax
comp=Z,339nm,17.0s
TLY Talaya 48.07 304 *e*P **P** **09 59 36.4 -6.2**
SONM Songino Array 48.79 299 P **P** **09 59 48.2 +0.1**
comp=Z,12nm,0.8s,mb5.0,baz=50,slow=8.7,SNR=33
SONM PcP PcP 10 01 12.3 +0.1
comp=Z,11nm,0.9s,baz=63,slow=2.5,SNR=9.4
SONM ScP ScP 10 05 07.0 +4.4
comp=Z,1.4nm,0.8s,baz=48,slow=2.2,SNR=3.6
ZAK Zakamensk 48.99 303 ⇑*i*P **P** **09 59 49.3 -0.4**
ZAK pmax pmax
comp=Z,17nm,1.2s,mb5.0
SDCO Great Sand Dun 49.38 78 *e*P **P** **09 59 53.0 +0.4**
comp=Z,16nm,1.0s,mb5.0
SDCO *e*pP pP 10 00 06.9 -0.1
MOY Mondy 49.44 305 *e*P **P** **09 59 53.2 +0.2**
TIA Tai'an 49.61 280 *e*P **P** **09 59 53.3 -1.1**
TUC Tucson 49.68 87 *e*P **P** **09 59 54.8 -0.1**
comp=Z,2.5nm,0.7s,mb4.3
KBS Kingsbay 49.74 358 ⇑*e*P **P** **09 59 55.7 +0.3**
KBS Kingsbay 49.74 358 *e*P **P** **09 59 56.1 +0.7**
HHC Hu-ho-hao-te 50.03 288 *e*P **P** **09 59 58.5 +0.9**
HHC AP pP 10 00 13.5 +1.5
HHC XP sP 10 00 20.3 +2.1
HHC PCP PcP 10 01 18.5 +1.7
HHC PP PP 10 01 54.9 +2.0
HHC SCP ScP 10 05 06.9 -1.0
HHC PCS PcS 10 05 13.9 +0.1
HHC S **S** **10 07 02.8 -1.8**
HHC XS sS 10 07 29.3 +0.5
HHC SCS ScS 10 09 41.3 -2.7
HHC SS SS 10 10 32.8 -5.3
HHC AMB AMB
comp=Z,19nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,197nm,4.6s
HHC LR LR
comp=N,279nm,6.7s
HHC LR LR
comp=E,336nm,5.9s
HHC LR LR
comp=Z,242nm,15.7s,MS4.3
SPB4 Spitsbergen Ar 50.37 357 *e*P **P** **09 59 59.8 -0.3**
SSE Sheshan 50.49 272 P **P** **10 00 01.3 +0.2**
SSE XP sP 10 00 20.6 -1.1
SSE PCP PcP 10 01 18.6 +0.1
SSE PP PP 10 01 57.1 0.0
SSE S **S** **10 07 11.3 +0.3**
SSE XS sS 10 07 34.3 -0.9
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,285nm,4.6s
SSE LR LR
comp=N,75nm,18.2s,MS3.9
SSE LR LR
comp=E,59nm,18.2s,MS3.9
ANMO Albuquerque 50.61 81 *e*P **P** **10 00 01.7 -0.2**
ANMO *e**PP pP 10 00 16.8 +0.5
ECSD EROS,Sioux Fal 50.91 66 *e*P **P** **10 00 02.5 -1.7**
DAG Danmarks Havn 51.07 7 ⇑*i*P **P** **10 00 02.4 -3.0**
comp=E,4.5nm,0.8s,mb4.5
DAG Danmarks Havn 51.07 7 ⇑*i*P **P** **10 00 02.4 -3.0**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BTO Baotou 51.10 289 *e*P **P** **10 00 05.5 -0.1**
EYMN Ely 51.17 59 *e*P **P** **10 00 05.5 -0.7**
comp=Z,2.1nm,0.9s,mb4.1
NJ2 Nanjing 51.30 275 *e*P **P** **10 00 09.8 +2.7**
NJ2 AP pP 10 00 25.3 +3.8
NJ2 XP sP 10 00 32.5 +4.8
NJ2 PP PP 10 02 09.0 +4.6
NJ2 S **S** **10 07 24.0 +1.9**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
NJ2 AMB AMB
comp=Z,580nm,4.2s
NJ2 LR LR
comp=N,470nm,18.9s,MS4.7
NJ2 LR LR
comp=E,470nm,16.5s,MS4.7
NJ2 LR LR
comp=Z,530nm,19.4s,MS4.6
FRB Frobisher Bay 51.56 33 P **P** **10 00 08.0 -1.1**
comp=Z,15nm,0.4s,mb5.3,baz=314,slow=7.7,SNR=35
FRB Frobisher Bay 51.56 33 P **P** **10 00 08.0 -1.1**
FRB pmax pmax
comp=Z,15nm,0.4s
SUMG Summit 52.52 15 *e*P **P** **10 00 16.2 0.0**
comp=Z,22nm,1.0s,mb5.0
MNTX Cornudas Mount 53.46 83 *e*P **P** **10 00 22.6 -0.5**
comp=Z,7.5nm,0.9s,mb4.6
KSU1 Kansas State U 53.85 71 *e*P **P** **10 00 24.9 -1.1**
KSU1 *e*pP pP 10 00 36.7 -3.8
SCIA State Center 54.00 66 *e*P **P** **10 00 26.0 -1.0**
JFWS Jewell Farm 55.02 63 *e*P **P** **10 00 33.5 -1.0**
JFWS Jewell Farm 55.02 63 *e*P **P** **10 00 32.3 -2.2**
comp=Z,16nm,0.7s,mb5.2
WHN Wuhan 55.13 277 ⇓P **P** **10 00 35.1 -0.2**
WMOK Wichita Mounta 55.45 76 *e*P **P** **10 00 37.2 -0.4**
WMOK pmax pmax
comp=Z,14nm,1.0s,mb5.0
WMOK Wichita Mounta 55.45 76 *e*P **P** **10 00 37.2 -0.3**
comp=Z,14nm,1.0s,mb5.0
ZAL Zalesovo 55.72 315 P **P** **10 00 39.2 -0.4**
comp=Z,2.2nm,0.3s,mb4.7,baz=44,slow=2.9,SNR=5.5
ZAL PcP PcP 10 01 38.2 -0.1
comp=Z,5.1nm,0.7s,baz=58,slow=4.2,SNR=12
ZAL Zalesovo 55.72 315 P **P** **10 00 39.2 -0.3**
ZAL 10 01 38.2
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL Zalesovo 55.72 315 P **P** **10 00 39.2 -0.4**
ZAL PcP PcP 10 01 38.2 -0.1
NVS Novosibirsk 55.79 317 *e*P **P** **10 00 36.2 -3.8**
NVS *e* 10 01 31.7
NVS pmax pmax
comp=Z,14nm,1.5s,mb4.8
XAN Xi'an 56.07 284 P **P** **10 00 41.6 -0.4**
XAN AMB AMB
comp=Z,49nm,1.2s,mb5.4
QZH Quanzhou 56.45 269 P **P** **10 00 44.8 +0.1**
LZH Lanzhou 57.72 289 *e*P **P** **10 00 54.4 +0.7**
LZH AP pP 10 01 09.0 +0.7
LZH XP sP 10 01 16.9 +2.4
LZH PCP PcP 10 01 45.8 -0.3
LZH SCP ScP 10 05 38.0 -3.4
LZH PCS PcS 10 05 46.8 -0.6
LZH *e*S **S** **10 08 46.8 -1.7**
LZH XS sS 10 09 14.3 +1.2
LZH AMB AMB
comp=Z,55nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,220nm,4.0s
LZH LR LR
comp=E,557nm,16.9s
LZH LR LR
comp=Z,889nm,18.2s,MS4.9
JCT Junction City 57.75 80 *e*P **P** **10 00 52.7 -1.2**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JCT Junction City 57.75 80 *e*P **P** **10 00 52.7 -1.2**
comp=Z,8.8nm,0.8s,mb4.8
GTA Gaotai 57.80 294 P **P** **10 00 54.1 -0.2**
GTA AP pP 10 01 09.8 +0.8
GTA XP sP 10 01 17.8 +2.7
GTA PCP PcP 10 01 46.8 +0.4
GTA PP PP 10 03 05.0 +2.2
GTA PPP 10 04 26.6
GTA SCP ScP 10 05 40.0 -1.8
GTA PCS PcS 10 05 47.4 -0.3
GTA S **S** **10 08 46.9 -2.7**
GTA XS sS 10 09 14.4 +0.2
GTA SCS ScS 10 10 35.1 -4.0
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,67nm,3.8s
GTA LR LR
comp=N,285nm,18.0s,MS4.8
GTA LR LR
comp=E,598nm,16.4s,MS4.8
GTA LR LR
comp=Z,523nm,16.8s,MS4.7
SLM Saint Louis 57.87 67 *e*P **P** **10 00 53.7 -1.0**
SLM pmax pmax
comp=Z,25nm,0.9s,mb5.2
SLM Saint Louis 57.87 67 *e*P **P** **10 00 53.7 -1.1**
comp=Z,25nm,0.9s,mb5.2
KEV Kevo 57.98 351 *e*p **P** **10 00 53.3 -2.2**
comp=Z,24nm,0.7s,mb5.3
KEV Kevo 57.98 351 *e*P **P** **10 00 53.3 -2.2**
KEV pmax pmax
comp=Z,24nm,0.7s,mb5.3
FVM French Village 58.20 68 *e*P **P** **10 00 55.4 -1.7**
FVM pmax pmax
comp=Z,11nm,0.6s,mb5.1
FVM French Village 58.20 68 *e*P **P** **10 00 55.4 -1.6**
comp=Z,11nm,0.6s,mb5.1
SCHQ Schefferville 58.30 40 P **P** **10 00 57.0 -0.8**
comp=Z,8.8nm,0.8s,mb4.8,baz=317,slow=6.6,SNR=7.7
ARCES ARCESS Array B 58.33 352 P **P** **10 00 56.9 -1.1**
comp=Z,25nm,0.7s,mb5.3,baz=22,slow=8.4,SNR=41
ARCES PcP PcP 10 01 48.1 -0.3
comp=Z,23nm,0.8s,baz=15,slow=5.0,SNR=14
ARCES ARCESS Array B 58.33 352 P **P** **10 00 56.9 -1.1**
ARCES 10 01 48.2
ARCES pmax pmax
comp=Z,25nm,0.7s
ARCES pmax pmax
comp=Z,23nm,0.8s
AREQ ARCESS Array S 58.33 352 *e*P **P** **10 00 57.0 -1.0**
MIAR Mount Ida 58.71 73 *e*P **P** **10 00 59.9 -0.7**
MIAR pmax pmax
comp=Z,24nm,0.9s,mb5.2
MIAR Mount Ida 58.71 73 *e*P **P** **10 00 59.9 -0.7**
comp=Z,24nm,0.9s,mb5.2
LVZ Lovozero 58.87 347 P **P** **10 01 00.4 -1.3**
comp=Z,342nm,0.6s,SNR=8.3
LVZ Lovozero 58.87 347 P **P** **10 01 00.7 -1.0**
LVZ Lovozero 58.87 347 P **P** **10 01 00.7 -1.0**
SIUC Southern Illin 59.08 67 *e*P **P** **10 01 02.1 -1.1**
comp=Z,25nm,1.2s,mb5.1
SIUC *e*pP pP 10 01 16.3 -1.6
BLO Bloomington 59.62 64 *e*P **P** **10 01 06.2 -0.7**
BLO pmax pmax
comp=Z,14nm,0.7s,mb5.1
BLO Bloomington 59.62 64 *e*P **P** **10 01 06.2 -0.6**
comp=Z,14nm,0.7s,mb5.1
SADO Sadowa 59.72 55 P **P** **10 01 07.2 -0.4**
comp=Z,37nm,1.0s,mb5.4,baz=334,slow=7.6,SNR=10
USIN University of 59.80 66 *e*P **P** **10 01 07.7 -0.4**
comp=Z,37nm,0.7s,mb5.5
UTMT University of 60.24 68 *e*P **P** **10 01 10.4 -0.7**
comp=Z,48nm,0.8s,mb5.6
UTMT *e*pP pP 10 01 23.7 -2.2
WCI Wyandotte Cave 60.40 65 *e*P **P** **10 01 11.3 -0.9**
WCI pmax pmax
comp=Z,25nm,0.9s,mb5.2
WCI Wyandotte Cave 60.40 65 *e*P **P** **10 01 11.2 -1.0**
comp=Z,25nm,0.9s,mb5.2
KURK Kurchatov 60.69 316 P **P** **10 01 14.0 -0.2**
comp=Z,361nm,0.5s,SNR=13
WVT Waverly 60.98 68 P **P** **10 01 15.6 -0.6**
WVT pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
WVT Waverly 60.98 68 *e*P **P** **10 01 13.9 -2.3**
comp=Z,6.3nm,0.7s,mb4.8
OXF Oxford 61.20 70 *e*P **P** **10 01 17.0 -0.7**
OXF pmax pmax
comp=Z,56nm,1.0s,mb5.7
OXF Oxford 61.20 70 *e*P **P** **10 01 17.0 -0.6**
comp=Z,56nm,1.0s,mb5.7
WMQ Urumqi 61.32 305 ⇓*i*P **P** **10 01 18.9 +0.4**
WMQ AP pP 10 01 34.0 +0.7
WMQ XP sP 10 01 41.0 +1.6
WMQ PCP PcP 10 02 00.5 0.0
WMQ PP PP 10 03 36.0 +2.0
WMQ PPP 10 05 05.0
WMQ SCP ScP 10 05 57.0 -0.4
WMQ S **S** **10 09 33.0 -1.9**
WMQ XS sS 10 09 58.5 -1.3
WMQ SCS ScS 10 11 01.0 -4.2
WMQ AMB AMB
comp=Z,61nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,185nm,4.3s
WMQ LR LR
comp=N,968nm,20.0s,MS5.1
WMQ LR LR
comp=E,759nm,17.2s,MS5.1
WMQ LR LR
comp=Z,566nm,20.2s,MS4.7
CD2 Chengdu 61.37 284 *e*P **P** **10 01 19.1 +0.3**
CD2 AP pP 10 01 35.3 +1.7
CD2 XP sP 10 01 42.3 +2.6
CD2 PCP PcP 10 02 01.0 +0.4
CD2 PP PP 10 03 36.5 +2.1
CD2 PCS PcS 10 06 02.4 -1.1
CD2 S **S** **10 09 32.5 -3.0**
CD2 XS sS 10 09 59.8 -0.6
CD2 SCS ScS 10 11 01.1 -4.4
CD2 SS SS 10 13 34.8 -1.9
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,60nm,5.8s
CD2 LR LR
comp=E,170nm,14.4s
CD2 LR LR
comp=Z,150nm,10.8s,MS4.4
ALLY Alegheny Colle 61.38 58 *e*P **P** **10 01 19.3 +0.4**
PLAL Pickwick Lake 61.65 69 *e*P **P** **10 01 19.5 -1.2**
comp=Z,12nm,0.6s,mb5.2
PLAL *e*pP pP 10 01 32.8 -2.7
SOKR Solikamsk 61.66 333 *e*P **P** **10 01 20.7 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,300nm,15.0s,MS4.6
MSNY Massena 61.72 53 *e*P **P** **10 01 20.6 -0.6**

CHKZ Chkalovo 61.76 322 *e*P **P 10 01 21.2 -0.3**
CHKZ pmax pmax
comp=Z,18nm,0.8s,mb5.2
CHKZ Chkalovo 61.76 322 *e*P **P 10 01 21.2 -0.3**
comp=Z,18nm,0.8s,mb5.2
MKAR Makanchi Array 61.86 311 P **P 10 01 21.5 -0.6**
comp=Z,12nm,0.5s,mb5.3,baz=42,slow=6.1,SNR=153
MKAR Makanchi Array 61.86 311 P **P 10 01 21.5 -0.6**
MKAR pmax pmax
comp=Z,13nm,0.5s
LONY Lake Ozonia 62.13 53 *e*P **P 10 01 23.1 -0.8**
BVAR Borovoye Array 62.35 322 P **P 10 01 24.6 -0.8**
comp=Z,25nm,0.4s,mb5.7,baz=53,slow=6.2,SNR=123
BVAR PcP PcP 10 02 05.1 +0.5
comp=Z,28nm,0.7s,baz=64,slow=3.4,SNR=21
BVAR Borovoye Array 62.35 322 P **P 10 01 24.6 -0.8**
BVAR 10 02 05.1
BVAR pmax pmax
comp=Z,25nm,0.4s
BRVK Borovoye 62.36 322 P **P 10 01 25.2 -0.3**
comp=Z,162nm,0.5s,SNR=6.0
BRVK Borovoye 62.36 322 *e*P **P 10 01 25.6 +0.1**
BRVK *e* 10 02 04.4
BRVK pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
BRVK Borovoye 62.36 322 *e*P **P 10 01 25.6 +0.1**
comp=Z,8.4nm,0.5s,mb5.1
BRVK *e*PcP PcP 10 02 04.4 -0.3
FRNY Flat Rock 62.47 52 *e*P **P 10 01 24.9 -1.2**
SWET Sewanee 62.72 67 *e*P **P 10 01 26.4 -1.5**
GYA Guiyang 62.78 279⇑*i*P **P 10 01 28.3 0.0**
GYA AP pP 10 01 44.5 +1.4
GYA XP sP 10 01 51.4 +2.2
GYA PP PP 10 03 48.3 +1.5
GYA S **S 10 09 48.8 -4.5**
GYA XS sS 10 10 16.4 -1.8
GYA SS SS 10 13 55.3 -3.4
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,150nm,6.6s
GYA LR LR
comp=N,460nm,18.4s,MS4.8
GYA LR LR
comp=E,490nm,18.9s,MS4.8
GYA LR LR
comp=Z,460nm,19.8s,MS4.7
NCB Newcomb 62.78 53 *e*P **P 10 01 28.0 -0.3**
comp=Z,16nm,0.7s,mb5.2
MCWV Mont Chateau 62.96 60 *e*P **P 10 01 29.3 -0.2**
comp=Z,34nm,1.0s,mb5.4
MCWV *e*pP pP 10 01 43.0 -1.2
TZTN Tazewell 63.13 64 *e*P **P 10 01 30.2 -0.4**
TZTN *e*pP pP 10 01 45.3 -0.2
BINY Binghamton 63.16 55 *e*P **P 10 01 31.2 +0.4**
comp=Z,119nm,1.0s,mb6.0
BINY *e*pP pP 10 01 44.3 -1.4
SSPA Standing Stone 63.30 58 *e*P **P 10 01 32.0 +0.3**
comp=Z,17nm,0.6s,mb5.3
SSPA *e*pP pP 10 01 44.5 -2.0
ACCN Adirondack Com 63.48 53 *e*P **P 10 01 32.6 -0.3**
TKL Tuckaleechee C 63.64 65 P **P 10 01 33.3 -0.6**
comp=Z,15nm,1.1s,mb5.0,baz=335,slow=2.4,SNR=9.4
TKL Tuckaleechee C 63.64 65 P **P 10 01 33.3 -0.7**
TKL pmax pmax
comp=Z,15nm,1.1s,mb4.9
LRAL Lakeview Retre 63.66 70 *e*P **P 10 01 32.7 -1.4**
comp=Z,6.1nm,0.7s,mb4.7
LBNH Lisbon 63.72 51 *e*P **P 10 01 34.5 0.0**
ARU Arti 63.75 330⇓*i*P **P 10 01 34.4 -0.3**
ARU *e* 10 02 08.7
ARU *e* 10 03 52.7
ARU *e*PPP 10 05 23.1
ARU *e*S **S 10 10 05.7 +0.3**
ARU *e*SS SS 10 14 10.8 -3.1
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.0
ARU MLR MLR
comp=N,200nm,19.0s,MS4.4
ARU MLR MLR
comp=Z,300nm,19.0s,MS4.5
ARU MLR MLR
comp=E,200nm,23.0s,MS4.4
ARU Arti 63.75 330 *e*P **P 10 01 34.6 -0.1**
comp=E,18nm,0.8s,mb5.1
ARU *e*PcP PcP 10 02 10.3 0.0
FWV Forest Hill 63.92 62 *e*P **P 10 01 35.7 -0.1**
HNH Hanover 63.93 52 *e*P **P 10 01 35.4 -0.5**
comp=E,1.9nm,0.9s,mb4.1
JOF Joensuu 64.05 347 *e*p **P 10 01 34.6 -2.0**
comp=E,18nm,0.6s,mb5.3
ELN Prospectdale 64.20 62 *e*P **P 10 01 37.2 -0.5**
ELN *e*pP pP 10 01 51.0 -1.6
PKME Peaks-Kenny Pk 64.22 49 *e*P **P 10 01 36.9 -0.9**
BLA Blacksburg 64.40 62 P **P 10 01 39.3 +0.3**
BLA Blacksburg 64.40 62 *e*P **P 10 01 39.0 +0.1**
comp=E,1.5nm,0.8s,mb4.1
FFD Franklin Falls 64.42 52 *e*P **P 10 01 39.0 -0.1**
comp=E,33nm,0.8s,mb5.4
FFD *e*pP pP 10 01 53.6 -0.4
WVL Waterville 64.57 50 *e*P **P 10 01 39.7 -0.3**
comp=E,28nm,1.0s,mb5.2
MVL Millersville 64.57 57 *e*P **P 10 01 39.9 -0.1**
QUA2 Belchertown 64.95 53 *e*P **P 10 01 42.1 -0.5**
comp=E,58nm,1.4s,mb5.4
BRNJ Basking Ridge 65.00 56 *e*P **P 10 01 43.7 +0.8**
PAL Palisades 65.10 55 *e*P **P 10 01 44.1 +0.6**
PAL *e**PP pP 10 01 56.8 -1.6
PAL pmax pmax
comp=Z,71nm,1.1s,mb5.6
PAL Palisades 65.10 55 *e*P **P 10 01 44.0 +0.5**
comp=Z,71nm,1.1s,mb5.6
PAL *e*pP pP 10 01 56.8 -1.6
HRV Harvard--Oak R 65.17 52 *e*P **P 10 01 44.2 +0.2**
HRV pmax pmax
comp=Z,44nm,1.1s,mb5.4
HRV Harvard--Oak R 65.17 52 *e*P **P 10 01 44.2 +0.2**
comp=Z,44nm,1.1s,mb5.4
CPNY Central Park 65.23 55 *e*P **P 10 01 44.6 +0.2**
CPNY *e*pP pP 10 01 57.5 -1.8
WES Weston 65.38 52 *e*P **P 10 01 45.4 +0.1**
KAF Kangasniemi 65.47 349 *e*p **P 10 01 43.8 -2.1**
comp=Z,26nm,0.6s,mb5.4,baz=11,slow=6.0
KAF Kangasniemi 65.47 349 *e*P **P 10 01 43.8 -2.1**
KAF pmax pmax
comp=Z,26nm,0.6s,mb5.4
EMMW East Machias 65.50 48 *e*P **P 10 01 45.6 -0.5**
FIA1 FINESS Array S 66.14 349 *e*P **P 10 01 48.7 -1.5**
FINES FINESS Array B 66.14 349 P **P 10 01 49.0 -1.2**
comp=Z,9.3nm,0.6s,mb5.0,baz=28,slow=8.6,SNR=30
FINES FINESS Array B 66.14 349 P **P 10 01 49.0 -1.2**
FINES pmax pmax
comp=Z,9.0nm,0.6s
KMI Kunming 66.16 281 P **P 10 01 50.8 +0.4**
KMI PP PP 10 04 16.8 +0.3
KMI S S 10 10 34.3 -0.7
KMI SS SS 10 14 51.8 +0.3
KMI AMB AMB
comp=Z,34nm,1.1s,mb5.3
KMI AMB AMB
comp=Z,264nm,4.6s
KMI LR LR
comp=N,148nm,18.7s,MS4.4
KMI LR LR
comp=E,161nm,16.2s,MS4.4
KMI LR LR
comp=Z,126nm,25.5s
NB2 NORSAR Subarra 67.67 357 P **P 10 01 59.4 -0.6**
comp=Z,27nm,0.8s,mb5.3,baz=5.6,slow=6.5
NOA NORSAR Array B 67.67 357 P **P 10 01 59.4 -0.6**
comp=Z,20nm,0.8s,mb5.2,baz=3.1,slow=6.4,SNR=70
NOA NORSAR Array B 67.67 357 P **P 10 01 59.4 -0.6**
NOA pmax pmax
comp=Z,21nm,0.8s
NAO01 NORSAR Array S 67.88 357 *e*P **P 10 02 01.2 0.0**
comp=Z,7.4nm,0.7s,mb4.8
TKM2 Tokmak 2 67.91 312 P **P 10 02 02.7 +1.2**
SNR=13
USP Ospenovka 68.15 313 P **P 10 02 04.0 +1.0**
SNR=19
CHMS Chumysh 68.25 312 P **P 10 02 04.4 +0.9**
SNR=5.4
KBK Karagaybulak 68.42 312 P **P 10 02 05.7 +1.1**
SNR=10
FRU Bishkek 68.44 312 *e*P **P 10 02 06.0 +1.3**
FRU *e* pP 10 02 18.0 -1.7
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.4
LRW Lerwick 68.57 3⇑*e*P **P 10 02 04.7 -0.9**
LRW AMb AMB 10 02 06.9
comp=Z,54nm,1.7s,mb5.2
LRW Lerwick 68.57 3⇑*e*P **P 10 02 04.7 -0.9**
LRW AMb AMB 10 02 06.9
comp=Z,54nm,1.7s,mb5.2
AAK Ala-Archa 68.65 312 P **P 10 02 05.8 -0.3**
comp=Z,172nm,0.6s,SNR=14
AAK Ala-Archa 68.65 312 ⇓P **P 10 02 06.3 +0.2**
SNR=12
AAK Ala-Archa 68.65 312*c i*P **P 10 02 06.0 -0.1**
AAK pmax pmax
comp=Z,29nm,1.0s,mb5.2
AAK MLR MLR
comp=Z,300nm,17.0s,MS4.6
AAK Ala-Archa 68.65 312 *e*P **P 10 02 05.5 -0.6**
comp=Z,14nm,0.6s,mb5.1
EKS2 Erkin-Say 68.96 313 P **P 10 02 08.5 +0.6**
SNR=38
AKTK Aktyubinsk 68.96 327 P **P 10 02 08.2 +0.1**
AKTO Aktyubinsk 68.96 327 P **P 10 02 08.2 +0.1**
comp=Z,23nm,0.8s,mb5.2,baz=55,slow=7.8,SNR=73
AKTO Aktyubinsk 68.96 327 P **P 10 02 08.2 +0.2**
AKTO pmax pmax
comp=Z,23nm,0.8s,mb5.2
VSU Vasula 68.96 348*c i*P **P 10 02 07.1 -0.9**
KONO Kongsberg 69.12 358*c i*P **P 10 02 08.7 -0.3**
KONO Kongsberg 69.12 358 *e*P **P 10 02 08.8 -0.1**
comp=Z,29nm,0.9s,mb5.2
LSA Lhasa 69.72 292 P **P 10 02 15.0 +2.3**
LSA Lhasa 69.72 292 *e*P **P 10 02 14.7 +2.0**
LSA pmax pmax
comp=E,66nm,1.0s,mb5.5
LSA Lhasa 69.72 292 *e*P **P 10 02 14.7 +2.0**
comp=Z,66nm,1.0s,mb5.5
ORE Reay 70.03 5 *e*P **P 10 02 14.5 -0.2**
ORE Reay 70.03 5 *e*P **P 10 02 14.5 -0.2**
KSH Kashi 70.37 309 *e*P **P 10 02 18.1 +1.4**
KSH *e*AP pP 10 02 34.3 +2.5
KSH *e*PCP PcP 10 02 39.1 +1.2
KSH *e*XP sP 10 02 41.3 +3.5
KSH *e*PP PP 10 04 56.0 +3.0
KSH *e*PPP 10 06 37.0
KSH *e*S S 10 11 21.9 -3.2
KSH *e*XS sS 10 11 52.1 +1.6
KSH *e*SKS 10 12 09.1
KSH *e*SCS ScS 10 12 12.5 -2.6
KSH AMB AMB
comp=Z,336nm,4.2s
KSH LR LR
comp=N,364nm,6.2s
KSH LR LR
comp=E,413nm,5.1s
KSH LR LR
comp=Z,389nm,7.0s
OBN Obninsk 70.56 342⇓*e*P **P 10 02 17.1 -0.7**
OBN *e* 10 02 39.1
OBN pmax pmax
comp=Z,34nm,1.2s,mb5.2
CMIG Matias Romero 70.57 87 LR LR 10 33 57.3
comp=Z,112nm,19.4s,MS4.1,baz=116,slow=36
MCD Coleburn Disti 71.03 5⇑*e*P **P 10 02 20.3 -0.3**
MCD Coleburn Disti 71.03 5⇑*e*P **P 10 02 20.3 -0.3**
NANT Nan 72.12 278 P **P 10 02 24.0 -3.3**
MUD Monsted U'grnd 72.33 358 *i* P **P 10 02 29.2 +0.7**
comp=Z,29nm,0.9s,mb5.2
MUD Monsted U'grnd 72.33 358 *i* P **P 10 02 29.2 +0.7**
MUD pmax pmax
comp=Z,29nm,0.9s,mb5.2
EAB Aberfoyle 72.36 6⇑*e*P **P 10 02 28.4 -0.3**
EAB Aberfoyle 72.36 6⇑*e*P **P 10 02 28.4 -0.3**
SHL Shillong 72.38 289 *i* P **P 10 02 29.0 +0.2**
SHL *ex* x 10 12 09.5
KKTK Khon Kaen 72.67 275 P **P 10 02 31.0 +0.5**
comp=Z,556nm,0.5s
EDI Edinburgh 72.69 5 *e*P **P 10 02 31.2 +0.6**
EDI AMb AMB 10 02 32.5
comp=Z,72nm,1.3s,mb5.4
EDI Edinburgh 72.69 5 *e*P **P 10 02 31.2 +0.6**
EDI AMb AMB 10 02 32.5
comp=Z,72nm,1.3s,mb5.4
ESY Stoneypath 72.72 5 *e*P **P 10 02 30.5 -0.3**
ESY Stoneypath 72.72 5 *e*P **P 10 02 30.5 -0.3**
PGBU Glenifferbraes 72.72 6 *e*P **P 10 02 30.9 0.0**
PGBU AMb AMB 10 02 32.9
comp=Z,24nm,1.0s,mb5.1
PGBU Glenifferbraes 72.72 6 *e*P **P 10 02 30.9 0.0**
PGBU AMb AMB 10 02 32.9
comp=Z,24nm,1.0s,mb5.1
EAU Auchinoon 72.75 5⇑*e*P **P 10 02 30.9 0.0**
EAU Auchinoon 72.75 5⇑*e*P **P 10 02 30.9 0.0**
COP Copenhagen 72.98 356 *i* P **P 10 02 32.5 +0.1**
comp=Z,17nm,0.4s,mb5.3
COP Copenhagen 72.98 356 *e*P **P 10 02 32.5 +0.1**
COP pmax pmax
comp=Z,17nm,0.4s,mb5.3
COP Copenhagen 72.98 356 *e*P **P 10 02 32.5 +0.1**
comp=Z,17nm,0.4s,mb5.3
XSO Sourhope Farm 73.16 4⇑*e*P **P 10 02 33.4 0.0**
XSO Sourhope Farm 73.16 4⇑*e*P **P 10 02 33.4 0.0**
CHG Chiang Mai 73.20 279 P **P 10 02 35.5 +1.8**
ESK Eskdalemuir 73.29 5 *e*P **P 10 02 34.1 -0.1**
ESK AMb AMB 10 02 35.4
comp=Z,38nm,1.1s,mb5.2
ESK Eskdalemuir 73.29 5 *e*P **P 10 02 34.1 -0.1**
ESK AMb AMB 10 02 35.4
comp=Z,38nm,1.1s,mb5.2
ESK Eskdalemuir 73.29 5 *e*P **P 10 02 33.8 -0.4**
comp=Z,26nm,1.0s,mb5.1
BWH Wardlaw 73.40 5 *e*P **P 10 02 34.4 -0.5**
BWH Wardlaw 73.40 5 *e*P **P 10 02 34.4 -0.5**
BSD Bornholm Skovb 73.41 354⇑*i*P **P 10 02 34.2 -0.7**
comp=Z,14nm,0.6s,mb5.1
BSD Bornholm Skovb 73.41 354⇑*i*P **P 10 02 34.2 -0.7**
BSD pmax pmax
comp=Z,14nm,0.6s,mb5.1
ECK Cauldkaine Hil 73.43 5 *e*P **P 10 02 34.8 -0.2**
ECK Cauldkaine Hil 73.43 5 *e*P **P 10 02 34.8 -0.2**
BHH Howats Hill 73.51 5 *e*P **P 10 02 35.3 -0.2**
BHH Howats Hill 73.51 5 *e*P **P 10 02 35.3 -0.2**
GAL1 Galloway 73.65 6 P **P 10 02 35.8 -0.5**
GAL1 AMb AMB 10 02 37.3
comp=Z,80nm,1.1s,mb5.6
GAL1 Galloway 73.65 6 *e*P **P 10 02 35.6 -0.7**
GAL1 *e*P 10 02 35.8
GAL1 AMb AMB 10 02 37.3
comp=Z,80nm,1.1s,mb5.6
GAL1 Galloway 73.65 6 *e*P **P 10 02 35.6 -0.7**
GAL1 *e*P 10 02 35.8
GAL1 AMb AMB 10 02 37.3
comp=Z,80nm,1.1s,mb5.6
VRSR Storozhevoye 73.65 338 *e*P **P 10 02 36.0 -0.3**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,2.1s
SUW Suwalki 73.75 349 *e*P **P 10 02 35.5 -1.4**
SUW L 10 38 25.8
comp=Z,0.3nm,18.8s
SUW Suwalki 73.75 349 *e*P **P 10 02 35.4 -1.5**
comp=Z,60nm,0.9s,mb5.5
BBO1 Bothel 73.87 5 *e*P **P 10 02 37.6 0.0**
BBO1 Bothel 73.87 5 *e*P **P 10 02 37.6 0.0**
CKE Keswick 74.02 5 *e*P **P 10 02 38.3 -0.2**
CKE Keswick 74.02 5 *e*P **P 10 02 38.3 -0.2**
XDE Dent Fell 74.08 5 *e*P **P 10 02 38.4 -0.5**
XDE Dent Fell 74.08 5 *e*P **P 10 02 38.4 -0.5**
GUN Gumba 74.09 295⇑*i*P **P 10 02 40.2 +1.3**
comp=Z,168nm,0.6s,mb6.2
JIRN Jiri 74.10 294⇑*i*P **P 10 02 40.4 +1.5**
comp=Z,326nm,0.8s
GMM Mts of Mourne 74.19 7 *e*P **P 10 02 39.0 -0.5**
GMM Mts of Mourne 74.19 7 *e*P **P 10 02 39.0 -0.5**
WIM Isle of Man 74.37 6 *e*P **P 10 02 39.8 -0.7**
WIM Isle of Man 74.37 6 *e*P **P 10 02 39.8 -0.7**
KKN Kakani 74.52 295⇑*i*P **P 10 02 42.2 +0.8**
comp=Z,133nm,0.9s,mb5.9
PKI Pulchoki 74.61 295⇑*i*P **P 10 02 42.8 +0.9**
comp=Z,236nm,1.1s,mb6.0
GKN Gorkha 74.72 296⇑*i*P **P 10 02 43.2 +0.7**
comp=Z,295nm,1.1s,mb6.1
DMN Daman 74.75 295⇑*i*P **P 10 02 43.8 +1.1**
comp=Z,173nm,1.0s,mb6.0
BSEG Bad Segeberg 74.81 357 *e*P **P 10 02 43.5 +0.4**
comp=Z,51nm,0.9s,mb5.5
GKP Gorka Klasztor 75.08 353 *e*P **P 10 02 44.2 -0.4**
GKP L 10 34 01.7
comp=Z,0.3nm,22.5s
KBI1 Birley Grange 75.43 4⇑*e*P **P 10 02 46.5 -0.2**
KBI1 Birley Grange 75.43 4⇑*e*P **P 10 02 46.5 -0.2**
KOLN Koldanda 75.48 296⇑*i*P **P 10 02 47.7 +0.8**
comp=Z,162nm,1.0s,mb5.9
KWE Weaver Farm 75.66 4 *e*P **P 10 02 48.0 +0.1**
KWE Weaver Farm 75.66 4 *e*P **P 10 02 48.0 +0.1**
SBD1 Bryn Du 75.69 5⇑*e*P **P 10 02 48.1 0.0**
SBD1 Bryn Du 75.69 5⇑*e*P **P 10 02 48.1 0.0**
LGTI Lohaghat 76.02 300 *i* x sP 10 03 11.0 -0.2
HLM1 Long Mynd 76.10 5⇑*e*P **P 10 02 50.4 -0.1**
HLM1 Long Mynd 76.10 5⇑*e*P **P 10 02 50.4 -0.1**
AKASG Malin Array Be 76.12 345 P **P 10 02 49.4 -1.2**
comp=Z,6.5nm,0.4s,mb4.9,baz=14,slow=5.6,SNR=36
AKASG Malin Array Be 76.12 345 P **P 10 02 49.4 -1.2**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKBB Malin Array Si 76.12 345 P **P 10 02 49.5 -1.1**
AKBB Malin Array Si 76.12 345 *e*P **P 10 02 49.1 -1.5**
NRDL Niedersach Rie 76.26 357 *e*P **P 10 02 51.3 -0.1**
comp=Z,22nm,0.8s,mb5.1
SMLA Simla 76.35 303 *e*P **P 10 02 52.1 +0.2**
IBBN Ibbenburen 76.51 358 *e*P **P 10 02 53.4 +0.6**
comp=Z,88nm,0.8s,mb5.7
HTR Trewern Hill 76.52 5⇑*e*P **P 10 02 52.8 0.0**
HTR Trewern Hill 76.52 5⇑*e*P **P 10 02 52.8 0.0**
MCH1 Michaelchurch 76.61 5⇑*e*P **P 10 02 53.0 -0.3**
MCH1 Michaelchurch 76.61 5⇑*e*P **P 10 02 53.0 -0.3**
WTSB Winterswijk 76.87 359 *e*P **P 10 02 54.9 +0.2**
comp=Z,30nm,0.6s,mb5.4
HGH Gray Hill 76.98 5⇑*e*P **P 10 02 55.4 -0.1**
HGH Gray Hill 76.98 5⇑*e*P **P 10 02 55.4 -0.1**
BOK Bokaro 77.24 292 *e*P **P 10 02 57.6 +0.7**
CLL Collm 77.32 355 *e*P **P 10 02 56.9 -0.4**
comp=Z,26nm,0.7s,mb5.3
CLL Collm 77.32 355⇑*i*P **P 10 02 56.8 -0.5**
comp=Z,26nm,0.7s,mb5.3
CLL *e*pP pP 10 03 13.0 +0.4
CLL *e*S S 10 12 45.0 +1.7
CLL Collm 77.32 355⇑*i*P **P 10 02 56.8 -0.5**
CLL *e**PP pP 10 03 13.0 +0.4
CLL *e*S S 10 12 45.0 +1.7
CLL pmax pmax
comp=Z,26nm,0.7s,mb5.3
CLL MLR MLR
comp=Z,100nm,13.5s,MS4.3
CLL Collm 77.32 355⇑*i*P **P 10 02 56.8 -0.5**
comp=Z,26nm,0.7s,mb5.3
CLL *e*pP pP 10 03 13.0 +0.4
CLL *e*S S 10 12 45.0 +1.7
CLL LR LR
comp=Z,100nm,13.5s,MS4.3
BUG Bochum--Univer 77.39 359 *e*P **P 10 02 58.2 +0.5**
comp=Z,32nm,1.0s,mb5.2
HEX Exmoor 77.49 6 *e*P **P 10 02 58.4 +0.1**
HEX Exmoor 77.49 6 *e*P **P 10 02 58.4 +0.1**
SWK Warminster 77.50 5 *e*P **P 10 02 58.8 +0.4**
SWK Warminster 77.50 5 *e*P **P 10 02 58.8 +0.4**
HTL Hartland 77.52 6 *e*P **P 10 02 58.0 -0.4**
HTL AMb AMB 10 03 00.8
comp=Z,30nm,1.2s,mb5.1
HTL Hartland 77.52 6 *e*P **P 10 02 58.0 -0.4**
HTL AMb AMB 10 03 00.8
comp=Z,30nm,1.2s,mb5.1
BRG Berggiesshubel 77.70 354 *e*P **P 10 02 59.1 -0.3**
comp=Z,26nm,0.9s,mb5.2
BRG Berggiesshubel 77.70 354⇑*i*P **P 10 02 59.2 -0.3**
comp=Z,16nm,0.9s,mb5.0
BRG *i* pP 10 03 10.0 -4.7
comp=Z,4.9nm,0.5s
BRG Berggiesshubel 77.70 354⇑*i*P **P 10 02 59.2 -0.2**
BRG *i* pP 10 03 10.0 -4.7
BRG pmax pmax
comp=Z,16nm,0.9s,mb5.0
OJC Ojcow 77.86 350 *e*P **P 10 02 59.8 -0.6**
UPC Upice 77.92 353 *e*P **P 10 03 00.3 -0.4**
UBBA Unterbreizbach 77.94 357 *e*P **P 10 03 00.9 +0.1**
comp=Z,9.0nm,1.0s,mb4.7
PVCC Panska Ves 78.00 354 *e*P **P 10 03 00.7 -0.4**
BEBN Eben Emael 78.05 360 P **P 10 03 01.9 +0.5**
MOX Moxa 78.05 356 *e*P **P 10 03 01.4 0.0**
comp=Z,24nm,0.9s,mb5.1
MOX Moxa 78.05 356 *e*P **P 10 03 01.5 +0.1**
comp=Z,31nm,1.1s,mb5.2
MOX Moxa 78.05 356 *e*P **P 10 03 01.5 +0.1**
MOX pmax pmax
comp=Z,31nm,1.1s,mb5.2
DPC Dobruska-Polom 78.05 353 *e*P **P 10 03 01.5 +0.1**
HGN Heimansgroeve 78.08 360⇑*e*P **P 10 03 01.6 +0.1**
comp=Z,40nm,0.9s,mb5.4
KWP Kalwaria 78.11 348 *e*P **P 10 03 01.8 +0.1**
KWP L 10 37 50.0
comp=Z,0.2nm,23.9s
DYA Yadsworthy 78.11 6 *e*P **P 10 03 01.6 -0.1**
DYA Yadsworthy 78.11 6 *e*P **P 10 03 01.6 -0.1**
MEM Membach 78.23 359 P **P 10 03 02.7 +0.3**
TANN Tannenbergstha 78.24 355 *e*P **P 10 03 02.2 -0.2**
comp=Z,10.0nm,1.0s,mb4.7
NDI New Delhi 78.26 301 *e*P **P 10 03 01.0 -1.5**
CRQ2 Rosemanowes 2 78.29 7 *e*P **P 10 03 02.0 -0.8**
CRQ2 Rosemanowes 2 78.29 7 *e*P **P 10 03 02.0 -0.8**
SNF Seneffe 78.33 1 P **P 10 03 03.6 +0.7**
OKC Ostrava-Krasne 78.41 351 *e*P **P 10 03 03.5 +0.1**
CGH1 Goonhilly 78.41 7 *e*P **P 10 03 03.6 +0.2**
CGH1 Goonhilly 78.41 7 *e*P **P 10 03 03.6 +0.2**
NKC Novy Kostel 78.42 355 *e*P **P 10 03 03.8 +0.3**
BCLA Clavier 78.42 360 P **P 10 03 03.9 +0.4**
STHS Stebnicka Huta 78.50 349 *e*P **P 10 03 04.0 +0.1**
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
STHS Stebnicka Huta 78.50 349 *e*P **P 10 03 04.0 +0.1**
comp=Z,7.9nm,0.9s,mb4.6
MORC Moravsky Berou 78.52 352⇑*i*P **P 10 03 04.0 0.0**
MORC Moravsky Berou 78.52 352 *e*P **P 10 03 03.8 -0.2**
MORC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MORC Moravsky Berou 78.52 352 *e*P **P 10 03 03.8 -0.2**
comp=Z,5.0nm,0.7s,mb4.5
PRU Pruhonice 78.54 354 *e*P **P 10 03 03.8 -0.3**
PRU AMS AMS 10 39 10.0
comp=Z,200nm,19.3s
KAKA Kakadu 78.57 232 *e*P **P 10 03 02.9 -1.4**
comp=Z,10nm,0.9s,mb4.8
KAKA *e*pP pP 10 03 19.0 -0.5
TNS Taunus Mts 78.58 358 *e*P **P 10 03 04.5 +0.2**
comp=Z,36nm,0.9s,mb5.3
TNS Taunus Mts 78.58 358 *e*P **P 10 03 04.5 +0.2**
TNS pmax pmax
comp=Z,36nm,0.9s,mb5.3
MANZ Manzenberg 78.69 355 *e*P **P 10 03 05.1 +0.2**
comp=Z,10.0nm,0.9s,mb4.8
GIVF Givet 78.74 0⇑*i*P **P 10 03 05.1 -0.1**
comp=Z,67nm,1.0s,mb5.2
GIVF Givet 78.74 0⇑*i*P **P 10 03 05.1 -0.1**
GIVF pmax pmax
comp=Z,33nm,1.0s,mb5.2
GIVF Givet 78.74 0⇑*i*P **P 10 03 05.1 -0.1**
comp=Z,33nm,1.0s,mb5.2
DOU Dourbes 78.75 0 P **P 10 03 05.8 +0.6**
BAIF Baives 78.78 1⇑*i*P **P 10 03 05.6 +0.2**
comp=Z,67nm,0.9s,mb5.3
BAIF Baives 78.78 1⇑*i*P **P 10 03 05.6 +0.2**
BAIF pmax pmax
comp=Z,34nm,0.9s,mb5.3
BAIF Baives 78.78 1⇑*i*P **P 10 03 05.6 +0.2**
comp=Z,34nm,0.9s,mb5.3
KOLS Kolonicke sedl 78.85 349 *e*P **P 10 03 06.0 +0.2**
ROTZ Rotzenmuhle 78.90 355 *e*P **P 10 03 06.3 +0.2**
comp=Z,15nm,1.0s,mb4.9
ABH Alteburg 78.94 358 *e*P **P 10 03 06.6 +0.3**
CRVS Cervenica-Dubn 78.98 349 *e*P **P 10 03 06.4 -0.1**
GRA1 Grafenberg Arr 79.02 356 *e*P **P 10 03 07.2 +0.5**
comp=Z,42nm,0.7s,mb5.5
GRA1 *e*pP pP 10 03 20.0 -2.0
GRF Grafenberg Arr 79.02 356 *e*P **P 10 03 07.2 +0.5**
comp=Z,42nm,0.7s,mb5.5

GRF epP pP 10 03 20.0 -2.0
GRF Grafenberg Arr 79.02 356 *e*P **P** **10 03 07.2 +0.5**
GRF *e**PP pP 10 03 20.0 -2.0
GRF pmax pmax
comp=Z,42nm,0.7s,mb5.5
GRF Grafenberg Arr 79.02 356 *e*P **P** **10 03 07.2 +0.5**
GRF *e**PP pP 10 03 20.0 -2.0
GRF pmax pmax
comp=Z,42nm,0.7s,mb5.5
CTA Charters Tower 79.05 217 P **P** **10 03 05.1 -1.8**
comp=Z,6.1nm,0.9s,mb4.5,baz=36,slow=14,SNR=3.9
VRAC Vranov 79.07 352 ⇓*i*P **P** **10 03 06.9 -0.1**
TREC Trest 79.17 353 *e*P **P** **10 03 07.6 +0.1**
WLF Walferdange 79.18 359 *e*P **P** **10 03 08.3 +0.7**
comp=Z,33nm,0.9s,mb5.3
WLF Walferdange 79.18 359 P **P** **10 03 08.5 +0.9**
WLF Walferdange 79.18 359 *e*P **P** **10 03 08.7 +1.1**
WLF pmax pmax
comp=Z,36nm,0.9s,mb5.3
WLF Walferdange 79.18 359 *e*P **P** **10 03 08.7 +1.1**
comp=Z,36nm,0.9s,mb5.3
TOD Tromm 79.19 358 *e*P **P** **10 03 07.9 +0.2**
KHC Kasperske Hory 79.46 354 *e*P **P** **10 03 09.2 +0.1**
KHC Kasperske Hory 79.46 354 *i*P **P** **10 03 09.5 +0.4**
KSM Kuching 79.47 259 *e*P **P** **10 03 09.2 +0.1**
WET Wettzell 79.49 355 *e*P **P** **10 03 09.3 0.0**
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 79.49 355 *e*P **P** **10 03 09.3 0.0**
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV Kislovodsk 79.50 333 *e*P **P** **10 03 09.2 -0.2**
KIV pmax pmax
comp=Z,17nm,1.2s,mb4.8
KECS Kecovo 79.51 350 *e*P **P** **10 03 09.2 -0.2**
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KECS Kecovo 79.51 350 *e*P **P** **10 03 09.2 -0.2**
comp=Z,5.6nm,1.1s,mb4.4
VYHS Vyhne 79.67 351 *e*P **P** **10 03 09.9 -0.4**
comp=Z,4.7nm,1.1s,mb4.3
GEC2 GERESS Array S 79.73 354 *e*P **P** **10 03 10.5 -0.1**
comp=Z,13nm,0.9s,mb4.9
GEC2 GERESS Array S 79.73 354 *e*P **P** **10 03 10.5 -0.1**
GEC2 pmax pmax
comp=Z,13nm,0.9s,mb4.9
GERES GERESS Array B 79.73 354 P **P** **10 03 10.5 -0.1**
comp=Z,8.3nm,0.8s,mb4.7,baz=20,slow=4.3,SNR=56
GERES GERESS Array B 79.73 354 P **P** **10 03 10.5 -0.1**
GERES pmax pmax
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 79.75 346 ⇓*i*P **P** **10 03 10.8 +0.1**
LANF Langenberg 79.84 358 *e*P **P** **10 03 11.5 +0.3**
FLN La Foliniere 79.97 4⇑*i*P **P** **10 03 11.5 -0.4**
comp=Z,92nm,1.1s,mb5.3
FLN *e*R
comp=Z,151nm,18.5s
FLN La Foliniere 79.97 4⇑*i*P **P** **10 03 11.5 -0.4**
FLN pmax pmax
comp=Z,46nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,150nm,18.5s,MS4.4
FLN La Foliniere 79.97 4⇑*i*P **P** **10 03 11.5 -0.4**
comp=Z,46nm,1.1s,mb5.3
FLN LR LR
comp=Z,150nm,18.5s,MS4.4
STU Stuttgart 80.02 357 *e*P **P** **10 03 12.3 +0.2**
comp=Z,23nm,0.8s,mb5.2
ZST Bratislava 80.13 352 *e*P **P** **10 03 12.9 +0.2**
ZST pmax pmax
comp=Z,14nm,0.9s,mb4.9
ZST MLR MLR
comp=Z,100nm,21.0s,MS4.1
ZST Bratislava 80.13 352 *e*P **P** **10 03 12.9 +0.2**
comp=Z,14nm,0.9s,mb4.9
ZST LR LR
comp=Z,100nm,21.0s,MS4.1
PSZ Piszkesteto 80.13 350 *e*P **P** **10 03 14.0 +1.2**
LDF La Druitiere 80.15 4⇑*i*P **P** **10 03 12.4 -0.5**
comp=Z,78nm,0.9s,mb5.3
LDF La Druitiere 80.15 4⇑*i*P **P** **10 03 12.4 -0.5**
LDF pmax pmax
comp=Z,39nm,0.9s,mb5.3
LDF La Druitiere 80.15 4⇑*i*P **P** **10 03 12.4 -0.5**
comp=Z,39nm,0.9s,mb5.3
ZEI Tsey 80.24 332 *e*P **P** **10 03 12.6 -0.8**
ZEI *e* 10 06 18.9
ZEI pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
GRR Gorron 80.32 4⇑*i*P **P** **10 03 13.7 -0.1**
comp=Z,80nm,0.9s,mb5.3
GRR Gorron 80.32 4⇑*i*P **P** **10 03 13.7 -0.1**
GRR pmax pmax
comp=Z,40nm,0.9s,mb5.3
GRR Gorron 80.32 4⇑*i*P **P** **10 03 13.7 -0.1**
comp=Z,40nm,0.9s,mb5.3
MEZF Maizieres J'vi 80.34 0⇑*i*P **P** **10 03 14.2 +0.3**
comp=Z,85nm,1.0s,mb5.3
MEZF Maizieres J'vi 80.34 0⇑*i*P **P** **10 03 14.2 +0.3**
comp=Z,85nm,1.0s,mb5.6
SGMF Saint Gilles 80.37 5⇑*i*P **P** **10 03 14.0 -0.1**
comp=Z,56nm,1.0s,mb5.1
SGMF Saint Gilles 80.37 5⇑*i*P **P** **10 03 14.0 -0.1**
SGMF pmax pmax
comp=Z,28nm,1.0s,mb5.2
SGMF Saint Gilles 80.37 5⇑*i*P **P** **10 03 14.0 -0.1**
comp=Z,28nm,1.0s,mb5.2
WLS Welschbruch 80.42 359 *e*P **P** **10 03 14.3 0.0**
CDF Champ du Feu 80.42 359⇑*i*P **P** **10 03 14.2 -0.1**
comp=Z,44nm,0.9s,mb5.1
CDF Champ du Feu 80.42 359⇑*i*P **P** **10 03 14.2 -0.1**
CDF pmax pmax
comp=Z,22nm,0.9s,mb5.1
CDF Champ du Feu 80.42 359⇑*i*P **P** **10 03 14.2 -0.1**
comp=Z,22nm,0.9s,mb5.1
BFO Black Forest 80.48 358 *e*P **P** **10 03 14.9 +0.3**
comp=Z,14nm,0.9s,mb4.9
BFO Black Forest 80.48 358 *e*P **P** **10 03 14.9 +0.3**
BFO pmax pmax
comp=Z,14nm,0.9s,mb4.9
CONA Conrad Observa 80.50 353 ⇓*i*P **P** **10 03 15.1 +0.4**
comp=Z,9.3nm,0.8s,mb4.7
ECH Echery 80.61 359 *e*P **P** **10 03 15.9 +0.5**
THEF They Montfort 80.62 359 *e*P **P** **10 03 15.4 0.0**
QUIF Quistinic 80.67 6 *e*P **P** **10 03 15.5 -0.2**
comp=Z,44nm,1.2s,mb5.0
QUIF Quistinic 80.67 6 *e*P **P** **10 03 15.5 -0.2**
QUIF pmax pmax
comp=Z,22nm,1.2s,mb5.0
QUIF Quistinic 80.67 6 *e*P **P** **10 03 15.5 -0.2**
comp=Z,22nm,1.2s,mb5.0
MOA Molln 80.69 354⇑*i*P **P** **10 03 15.6 -0.2**
comp=Z,11nm,1.6s,mb4.5
SPAK Spaichingen-Ko 80.70 358 *e*P **P** **10 03 16.5 +0.7**
HAU Haudompre 80.83 359⇑*i*P **P** **10 03 16.6 +0.1**
comp=Z,65nm,0.9s,mb5.2
HAU *e*R
comp=Z,199nm,18.0s
HAU Haudompre 80.83 359⇑*i*P **P** **10 03 16.6 +0.1**
HAU pmax pmax
comp=Z,33nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,200nm,18.0s,MS4.5
HAU Haudompre 80.83 359⇑*i*P **P** **10 03 16.6 +0.1**
comp=Z,33nm,0.9s,mb5.3
HAU LR LR
comp=Z,200nm,18.0s,MS4.5
DRGR 80.90 348⇑*i*P **P** **10 03 16.8 -0.1**
FELD Feldberg im Sc 80.94 358 *e*P **P** **10 03 16.9 -0.2**
MOF Molkenrain 80.98 359 *e*P **P** **10 03 17.4 +0.1**
HINF Hinteralfeld 81.02 359⇑*i*P **P** **10 03 17.3 -0.2**
comp=Z,31nm,1.0s,mb4.9
HINF Hinteralfeld 81.02 359⇑*i*P **P** **10 03 17.3 -0.2**
HINF pmax pmax
comp=Z,16nm,1.0s,mb4.9
HINF Hinteralfeld 81.02 359⇑*i*P **P** **10 03 17.3 -0.2**
comp=Z,16nm,1.0s,mb4.9
ARSA Arzberg 81.20 353⇑*i*P **P** **10 03 18.9 +0.4**
comp=Z,10nm,0.8s,mb4.8
AJM Ajmer 81.38 302 *e*P **P** **10 03 19.4 -0.1**
WTTA Wattenberg 81.43 356 ⇓*i*P **P** **10 03 20.3 +0.6**
comp=Z,17nm,1.0s,mb4.9
WTTA Wattenberg 81.43 356 ⇓*i*P **P** **10 03 20.3 +0.6**
WTTA pmax pmax
comp=Z,17nm,1.0s,mb4.9
LOMF Lomont 81.48 359 *e*P **P** **10 03 20.4 +0.4**
KBA Koelnbreinsper 81.52 354⇑*i*P **P** **10 03 21.0 +0.9**
comp=Z,28nm,1.1s,mb5.1
KBA Koelnbreinsper 81.52 354⇑*i*P **P** **10 03 21.0 +0.8**
KBA pmax pmax
comp=Z,28nm,1.0s,mb5.2
LOR Lormes 81.57 1⇑*i*P **P** **10 03 20.5 +0.1**
comp=Z,70nm,0.9s,mb5.3
LOR *e*R
comp=Z,206nm,18.0s
LOR Lormes 81.57 1⇑*i*P **P** **10 03 20.5 +0.1**
LOR pmax pmax
comp=Z,35nm,0.9s,mb5.3
LOR MLR MLR
comp=Z,210nm,18.0s,MS4.5
LOR Lormes 81.57 1⇑*i*P **P** **10 03 20.5 +0.1**
comp=Z,35nm,0.9s,mb5.3
LOR LR LR
comp=Z,210nm,18.0s,MS4.5
CFR Carcaliu 81.65 344⇑*i*P **P** **10 03 21.6 +0.7**
MLR Muntele Rosu 81.71 345 ⇓*i*P **P** **10 03 22.0 +0.8**
SSF Saint Saulge 81.77 1⇑*i*P **P** **10 03 21.6 +0.1**
comp=Z,76nm,0.9s,mb5.3
SSF Saint Saulge 81.77 1⇑*i*P **P** **10 03 21.6 +0.1**
SSF pmax pmax
comp=Z,38nm,0.9s,mb5.3
SSF Saint Saulge 81.77 1⇑*i*P **P** **10 03 21.6 +0.1**
comp=Z,38nm,0.9s,mb5.3
PERS Pernice 81.84 353 *e*P **P** **10 03 22.4 +0.5**
VOIR 81.90 346 ⇓*i*P **P** **10 03 22.5 +0.3**
GROS Grobnik 81.98 353 *e*P **P** **10 03 22.7 +0.1**
OBKA Obir 82.00 353 ⇓*i*P **P** **10 03 23.3 +0.5**
comp=Z,18nm,0.9s,mb5.0
AVF Avril sur Loir 82.04 1⇑*i*P **P** **10 03 22.9 0.0**
comp=Z,75nm,1.0s,mb5.3
AVF Avril sur Loir 82.04 1⇑*i*P **P** **10 03 22.9 0.0**
AVF pmax pmax
comp=Z,37nm,1.0s,mb5.3
AVF Avril sur Loir 82.04 1⇑*i*P **P** **10 03 22.9 0.0**
comp=Z,38nm,1.0s,mb5.3
MFF Saint Martin d 82.14 4⇑*i*P **P** **10 03 23.5 +0.1**
comp=Z,88nm,1.0s,mb5.3
MFF Saint Martin d 82.14 4⇑*i*P **P** **10 03 23.5 +0.1**
MFF pmax pmax
comp=Z,44nm,1.0s,mb5.3
MFF Saint Martin d 82.14 4⇑*i*P **P** **10 03 23.5 +0.1**
comp=Z,44nm,1.0s,mb5.3
SMF Signal de Mont 82.19 1⇑*i*P **P** **10 03 23.8 +0.1**
comp=Z,109nm,1.0s,mb5.4
SMF Signal de Mont 82.19 1⇑*i*P **P** **10 03 23.8 +0.1**
SMF pmax pmax
comp=Z,54nm,1.0s,mb5.4
SMF Signal de Mont 82.19 1⇑*i*P **P** **10 03 23.8 +0.1**
comp=Z,54nm,1.0s,mb5.4
BZS Buzias 82.20 348⇑*i*P **P** **10 03 23.5 -0.2**
CABF La Chapelle 82.23 359⇑*i*P **P** **10 03 24.4 +0.5**
comp=Z,69nm,1.0s,mb5.2
CABF La Chapelle 82.23 359⇑*i*P **P** **10 03 24.4 +0.5**
CABF pmax pmax
comp=Z,35nm,1.0s,mb5.2
CABF La Chapelle 82.23 359⇑*i*P **P** **10 03 24.4 +0.5**
comp=Z,35nm,1.0s,mb5.2
GZR Gura Zlata 82.27 348⇑*i*P **P** **10 03 24.1 0.0**
BGF Bois d'Agland 82.27 2⇑*i*P **P** **10 03 24.2 +0.1**
comp=Z,78nm,1.1s,mb5.2
BGF Bois d'Agland 82.27 2⇑*i*P **P** **10 03 24.2 +0.1**
BGF pmax pmax
comp=Z,39nm,1.1s,mb5.2
BGF Bois d'Agland 82.27 2⇑*i*P **P** **10 03 24.2 +0.1**
comp=Z,39nm,1.1s,mb5.2
BHPL Bhopal 82.47 298 *e*P **P** **10 03 24.9 -0.2**
TCF Toulx Ste Croi 82.53 2⇑*i*P **P** **10 03 25.4 0.0**
comp=Z,40nm,0.9s,mb5.2
TCF Toulx Ste Croi 82.53 2⇑*i*P **P** **10 03 25.4 0.0**
TCF pmax pmax
comp=Z,20nm,0.9s,mb5.2
TCF Toulx Ste Croi 82.53 2⇑*i*P **P** **10 03 25.4 0.0**
comp=Z,20nm,0.9s,mb5.2
AGO Saint Agoulin 82.78 1 *e*P **P** **10 03 27.8 +1.0**
OG05 Jujurieux 82.81 360 *e*P **P** **10 03 28.2 +1.3**
PLDF La Plantade 82.87 1 *e*P **P** **10 03 28.0 +0.8**
NGP Nagpur 83.22 295 *ex* x 10 03 26.6
LPL La Plagne 83.32 359 *e*P **P** **10 03 30.7 +1.1**
comp=Z,20nm,1.1s,mb4.8
LPL La Plagne 83.32 359 *e*P **P** **10 03 30.7 +1.1**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
LPL La Plagne 83.32 359 *e*P **P** **10 03 30.7 +1.1**
comp=Z,10nm,1.1s,mb4.8
LPG La Plagne 83.34 359⇑*i*P **P** **10 03 31.0 +1.3**
comp=Z,32nm,1.3s,mb4.9
LPG La Plagne 83.34 359⇑*i*P **P** **10 03 31.0 +1.3**
LPG pmax pmax
comp=Z,16nm,1.3s,mb4.9
LPG La Plagne 83.34 359⇑*i*P **P** **10 03 31.0 +1.3**
comp=Z,16nm,1.3s,mb4.9
RJF Les Rejaudoux 83.49 3 *e*P **P** **10 03 30.4 0.0**
comp=Z,14nm,0.6s,mb4.9
RJF *e*R
comp=Z,227nm,18.5s
RJF Les Rejaudoux 83.49 3 *e*P **P** **10 03 30.4 0.0**
RJF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
RJF MLR MLR
comp=Z,230nm,18.5s,MS4.6
RJF Les Rejaudoux 83.49 3 *e*P **P** **10 03 30.4 0.0**
comp=Z,7.2nm,0.6s,mb4.9
RJF LR LR
comp=Z,230nm,18.5s,MS4.6
ZIMR 83.59 345 ⇓*i*P **P** **10 03 30.4 -0.5**
LBL Lubilhac 83.60 1 *e*P **P** **10 03 32.5 +1.5**
BNI Bardonecchia 83.79 359 *e*P **P** **10 03 33.6 +1.6**
BNI pmax pmax
comp=Z,21nm,1.0s,mb5.2
BNI Bardonecchia 83.79 359 *e*P **P** **10 03 33.4 +1.4**
comp=Z,21nm,1.0s,mb5.2
LFF La Frestale 83.83 3⇑*i*P **P** **10 03 32.5 +0.3**
comp=Z,170nm,1.4s,mb5.7
LFF La Frestale 83.83 3⇑*i*P **P** **10 03 32.5 +0.3**
LFF pmax pmax
comp=Z,85nm,1.4s,mb5.7
LFF La Frestale 83.83 3⇑*i*P **P** **10 03 32.5 +0.3**
comp=Z,85nm,1.4s,mb5.7
CAF Calviac 83.88 2⇑*i*P **P** **10 03 32.8 +0.4**
comp=Z,76nm,1.3s,mb5.4
CAF Calviac 83.88 2⇑*i*P **P** **10 03 32.8 +0.4**
CAF pmax pmax
comp=Z,38nm,1.3s,mb5.4
CAF Calviac 83.88 2⇑*i*P **P** **10 03 32.8 +0.4**
comp=Z,38nm,1.3s,mb5.4
WRAB Tennant Creek 83.89 227 *e*P **P** **10 03 31.2 -1.3**
WRAB pmax pmax
comp=Z,31nm,1.4s,mb5.2
WRAB Tennant Creek 83.89 227 *e*P **P** **10 03 31.2 -1.3**
comp=Z,31nm,1.4s,mb5.2
WB2 Warramunga Arr 83.90 227 *e*P **P** **10 03 30.5 -2.0**
WB2 *ep*P pP 10 03 46.4 -1.5
WRA Warramunga Arr 83.90 227 P **P** **10 03 30.6 -2.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=34,slow=5.8,SNR=18
WRA Warramunga Arr 83.90 227 P **P** **10 03 30.6 -2.0**
WRA pmax pmax
comp=Z,4.0nm,0.9s
VIVF Saint-Julien-l 83.99 0⇑*i*P **P** **10 03 33.6 +0.6**
comp=Z,38nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.99 0⇑*i*P **P** **10 03 33.6 +0.6**
VIVF pmax pmax
comp=Z,19nm,1.1s,mb5.1
VIVF Saint-Julien-l 83.99 0⇑*i*P **P** **10 03 33.6 +0.6**
comp=Z,19nm,1.1s,mb5.1
MBDF Montbardon 84.11 359⇑*i*P **P** **10 03 34.6 +1.0**
comp=Z,11nm,0.7s,mb4.8
MBDF Montbardon 84.11 359⇑*i*P **P** **10 03 34.6 +1.0**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MBDF Montbardon 84.11 359⇑*i*P **P** **10 03 34.6 +1.0**
comp=Z,5.7nm,0.7s,mb4.8
AKL Akola 84.72 297 *e*P **P** **10 03 37.0 +0.3**
AKL AMb AMB 10 03 53.5
comp=Z,41nm,0.9s,mb5.6
LASF Ste Croix 84.76 1⇑*i*P **P** **10 03 37.4 +0.5**
comp=Z,37nm,1.1s,mb5.1
TOUF Mont Tournerai 84.82 359 *e*P **P** **10 03 38.0 +0.8**
AUTN L'Aution 84.83 358 *e*P **P** **10 03 37.8 +0.6**
SMRF Simiane la Rot 84.87 360⇑*i*P **P** **10 03 38.4 +1.0**
comp=Z,142nm,1.4s,mb5.6
SMRF Simiane la Rot 84.87 360⇑*i*P **P** **10 03 38.4 +1.0**
comp=Z,142nm,1.4s,mb5.9
VTS Vitosha 84.95 347⇑*i*P **P** **10 03 37.2 -0.7**
SBF Sospel 84.96 358⇑*i*P **P** **10 03 37.8 -0.1**
comp=Z,77nm,1.1s,mb5.4
SBF Sospel 84.96 358⇑*i*P **P** **10 03 37.8 -0.1**
SBF pmax pmax
comp=Z,38nm,1.1s,mb5.4
SBF Sospel 84.96 358⇑*i*P **P** **10 03 37.8 -0.1**
comp=Z,38nm,1.1s,mb5.4
FRF La Foret Royal 85.28 359 *e*P **P** **10 03 39.5 0.0**
comp=Z,29nm,1.0s,mb5.1
FRF La Foret Royal 85.28 359 *e*P **P** **10 03 39.5 0.0**
FRF pmax pmax
comp=Z,15nm,1.0s,mb5.1
FRF La Foret Royal 85.28 359 *e*P **P** **10 03 39.5 0.0**
comp=Z,15nm,1.0s,mb5.1
MTLF Montolieu 85.47 2⇑*i*P **P** **10 03 40.9 +0.5**
comp=Z,72nm,1.2s,mb5.4
MTLF Montolieu 85.47 2⇑*i*P **P** **10 03 40.9 +0.5**
MTLF pmax pmax
comp=Z,36nm,1.2s,mb5.4
MTLF Montolieu 85.47 2⇑*i*P **P** **10 03 40.9 +0.5**
comp=Z,36nm,1.2s,mb5.4
LMR La Mourre 85.51 359⇑*i*P **P** **10 03 40.8 +0.2**
comp=Z,73nm,1.3s,mb5.5
LMR La Mourre 85.51 359⇑*i*P **P** **10 03 40.8 +0.2**
LMR pmax pmax
comp=Z,37nm,1.3s,mb5.5
LMR La Mourre 85.51 359⇑*i*P **P** **10 03 40.8 +0.2**
comp=Z,36nm,1.3s,mb5.5
SJPF Ste Jean 85.57 5⇑*i*P **P** **10 03 41.5 +0.6**
comp=Z,18nm,0.8s,mb5.0
SJPF Ste Jean 85.57 5⇑*i*P **P** **10 03 41.5 +0.6**
SJPF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
SJPF Ste Jean 85.57 5⇑*i*P **P** **10 03 41.5 +0.6**
comp=Z,9.3nm,0.8s,mb5.1
EPF Esparros 85.72 4⇑*i*P **P** **10 03 41.3 -0.4**
comp=Z,27nm,1.1s,mb5.1
EPF Esparros 85.72 4⇑*i*P **P** **10 03 41.3 -0.4**
EPF pmax pmax
comp=Z,13nm,1.1s,mb5.1
EPF Esparros 85.72 4⇑*i*P **P** **10 03 41.3 -0.4**
comp=Z,13nm,1.1s,mb5.1
BR131 Keskin Array S 85.78 338 *e*P **P** **10 03 42.5 +0.5**
comp=Z,9.1nm,1.0s,mb5.0
BRTR Keskin Array B 85.78 338 P **P** **10 03 42.0 +0.1**
comp=Z,5.5nm,0.9s,mb4.8,baz=56,slow=2.6,SNR=2.8
BRTR Keskin Array B 85.78 338 P **P** **10 03 42.0 0.0**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
SKO Skopje 85.81 348⇑*i*P **P** **10 03 43.3 +1.2**
ETSF Etsaut 85.81 4⇑*i*P **P** **10 03 42.8 +0.7**
MALT Malatya 85.92 334 ⇓*i*P **P** **10 03 43.5 +0.8**
MALT Malatya 85.92 334 *e*P **P** **10 03 43.7 +1.0**
MALT pmax pmax
comp=Z,16nm,1.3s,mb5.1
MALT Malatya 85.92 334 *e*P **P** **10 03 43.7 +1.0**
comp=Z,16nm,1.3s,mb5.1
AQU L'Aquila 86.22 354⇑*i*P **P** **10 03 44.8 +0.7**
AQU L'Aquila 86.22 354⇑P **P** **10 03 44.8 +0.6**
VAY Valandovo 86.29 347 *i*P **P** **10 03 46.0 +1.4**
HYB Hyderabad 86.47 294 *i*P **P** **10 03 43.5 -1.9**
HYB Hyderabad 86.47 294 *e*P **P** **10 03 43.5 -1.9**
FITZ Fitzroy Crossi 86.57 235 *e*P **P** **10 03 45.0 -0.9**
comp=Z,17nm,0.8s,mb5.3
FITZ *ep*P pP 10 04 04.9 +3.6
FITZ Fitzroy Crossi 86.57 235 P **P** **10 03 45.1 -0.7**
comp=Z,12nm,0.8s,mb5.1,baz=35,slow=4.0,SNR=22
OHR Ohrid 86.73 348⇑*i*P **P** **10 03 46.0 -0.7**
CPD Cerro la Pandu 87.26 64 *e*P **P** **10 03 50.4 +1.2**
CPD Cerro la Pandu 87.26 64 *e*P **P** **10 03 49.9 +0.7**
AS31 Alice Springs 87.33 226 *e*P **P** **10 03 48.4 -1.2**
ASAR Alice Springs 87.34 226 P **P** **10 03 48.3 -1.3**
comp=Z,5.6nm,0.9s,mb4.8,baz=32,slow=4.2,SNR=31
ASAR Alice Springs 87.34 226 P **P** **10 03 48.3 -1.3**
ASAR pmax pmax
comp=Z,6.0nm,0.9s
ASPA Alice Springs 87.34 226 *e*P **P** **10 03 48.4 -1.2**
MTE Manteigas 87.77 10 *e*P **P** **10 03 51.8 +0.1**
POO Poona 88.22 298⇑*ix* **P** **10 03 51.0 -2.8**
comp=Z,40nm,1.0s,mb5.6
ESDC Sonseca Array 88.82 7 P **P** **10 03 56.6 -0.1**
comp=Z,4.5nm,0.8s,mb4.8,baz=351,slow=4.4,SNR=19
ESLA Sonseca Array 88.82 7 *e*P **P** **10 03 56.1 -0.5**
KAD Karad 89.03 297 *e*P **P** **10 03 57.4 -0.2**
KAD AMb AMB 10 04 01.0
comp=Z,48nm,1.1s,mb5.7
STKA Stephens Creek 91.46 216 *e*P **P** **10 04 07.9 -1.1**
comp=Z,3.4nm,0.8s,mb4.7
STKA *ep*P pP 10 04 25.0 +0.5
STKA Stephens Creek 91.46 216 P **P** **10 04 08.2 -0.8**
comp=Z,5.9nm,1.0s,mb4.9,baz=310,slow=2.7,SNR=7.4
HOQ Hoqain 92.36 314⇑P **P** **10 04 13.0 -0.1**
SNR=5.3
WBK Wadi Bani Khal 92.44 312⇑P **P** **10 04 14.3 +0.8**
SNR=8.8
SMDO Samad 92.48 313⇑P **P** **10 04 14.2 +0.5**
SNR=7.7
ARQ Araqi 92.93 314⇑P **P** **10 04 15.7 0.0**
SNR=20
JMDO Jabal Madar 93.05 312⇑P **P** **10 04 16.5 +0.2**
SNR=13
BSY Bisya 93.14 313 ⇓P **P** **10 04 16.7 0.0**
SNR=14
TORD Torodi Ar. Bea 115.52 4 PKP PKPdf 10 09 43.9 -0.5
comp=Z,1.8nm,0.8s,baz=343,slow=2.4,SNR=11
TORD PKKPbc PKKPbc 10 20 15.5 -2.0
comp=Z,0.3nm,0.5s,baz=178,slow=3.0,SNR=4.9
DBIC Dimbokro 121.39 12 PKP PKPdf 10 09 55.4 -0.3
comp=Z,1.1nm,0.4s,baz=270,slow=2.0,SNR=5.1
DBIC Dimbokro 121.39 12 PKIKP PKPdf 10 09 55.4 -0.3
DBIC pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 122.99 321 PKP PKPdf 10 09 59.0 +0.2
comp=Z,1.5nm,0.7s,baz=340,slow=5.4,SNR=5.2
KMBO Kilima Mbogo 122.99 321 PKIKP PKPdf 10 09 59.0 +0.2
KMBO pmax pmax
comp=Z,2.0nm,0.7s
CPUP Villa Florida 127.10 87 PKP PKPdf 10 10 05.0 -1.6
comp=Z,0.5nm,0.5s,baz=338,slow=5.4,SNR=2.6
CPUP Villa Florida 127.10 87 PKIKP PKPdf 10 10 05.0 -1.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 128.65 109 PKP PKPdf 10 10 09.0 -0.5
comp=Z,2.7nm,0.8s,baz=264,slow=5.0,SNR=5.0
PLCA Paso Flores 128.65 109 PKIKP PKPdf 10 10 09.0 -0.6
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 128.65 109 PKP PKPdf 10 10 09.0 -0.6
TSUM Tsumeb 146.29 339 *e*PKPab PKPab 10 10 44.0 +0.1
MAW Mawson 148.13 218 PKPbc PKPbc 10 10 46.5 -1.8
comp=Z,21nm,1.0s,baz=91,slow=3.4,SNR=23
MAW Mawson 148.13 218 *e*PKIKP PKPdf 10 10 42.5 -2.4
MAW *e* 10 10 46.1
MAW Mawson 148.13 218 *e*PKPbc PKPbc 10 10 46.1 -2.2
MAW *e*PKPab PKPab 10 10 49.0 -2.2
LBTB Lobatse 149.26 322 *e*PKIKP PKPdf 10 10 45.3 -1.5
LBTB *e* 10 10 51.5
LBTB *e* 10 10 56.9
LBTB Lobatse 149.26 322 *e*PKPbc PKPbc 10 10 51.5 +0.4
LBTB *e*PKPab PKPab 10 10 56.9 +1.1
BOSA Boshof 152.61 319 PKPbc PKPbc 10 10 59.4 +0.4
comp=Z,8.1nm,0.5s,baz=63,slow=2.3,SNR=30
BOSA PKPab PKPab 10 11 10.2 +0.5
comp=Z,40nm,0.9s,baz=38,slow=5.2,SNR=12
BOSA Boshof 152.61 319 *e*PKPbc PKPbc 10 10 59.0 +0.1
SYO Syowa Base 156.09 210 ⇓*e*P pPKPab 10 11 42.8 +2.7
VNA3 Neumayer Olymp 159.11 167 *e*PKPdf PKPdf 10 10 57.4 -3.1
VNA3 *e* 10 11 22.6
VNA3 *e* 10 11 29.3
SNAA Sanae 159.47 173 PKPab PKPab 10 11 36.1 -3.0
comp=Z,1.9nm,1.1s,baz=233,slow=8.3,SNR=6.3
SNAA Sanae 159.47 173 PKP2 PKPab 10 11 36.1 -3.0
SNAA pmax pmax
comp=Z,2.0nm,1.1s
SNAA Sanae 159.47 173 *e*PKPab PKPab 10 11 36.5 -2.6

IDC 18 09:51:55.2±8.6, 5169N×17458W, h0km, mb4.5/7, mb1 4.7/8, mb1mx4.3/24, mbtmp4.6/8, Error ellipse: s-maj=227.4km s-min=25.4km az=173.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**14.06**	**56**	Pn	Pn	09 55 17.1	+1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=225,slow=10.0,SNR=1.5						
KDAK				Sn	Sn	09 58 08.3	+16
	0.2nm,0.3s,baz=252,slow=20,SNR=1.6						
YKA	**Yellowknife Ar**	**33.09**	**47**	P	P	09 58 33.3	+0.5
	2.5nm,0.9s,baz=272,slow=8.4,SNR=2.6						
SCHQ	**Schefferville**	**58.09**	**40**	P	P	10 01 49.1	-1.2
	5.2nm,0.7s,baz=270,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**61.87**	**311**	P	P	10 02 15.4	-0.8
	3.1nm,0.3s,baz=45,slow=6.4,SNR=12						
BVAR	**Borovoye Array**	**62.31**	**322**	P	P	10 02 19.8	+0.5
	5.7nm,0.4s,baz=54,slow=4.9,SNR=6.8						
NOA	**NORSAR Array B**	**67.52**	**357**	P	P	10 02 53.2	+0.1
	8.0nm,0.8s,baz=3.6,slow=6.2,SNR=4.4						
AKASG	**Malin Array Be**	**76.00**	**345**	P	P	10 03 43.0	-1.2
	1.9nm,0.3s,baz=18,slow=6.1,SNR=6.4						
GERES	**GERESS Array B**	**79.59**	**354**	P	P	10 04 04.1	-0.1
	2.0nm,0.7s,baz=30,slow=4.5,SNR=5.0						

NEIC ***18*** *09:56:35.2, 1763N×10175W, h30km, MD3.7(MEX), After MEX.*

MEX 18 09:56:34.7±0.4**, 1765N×10180W, h20**km±14km**, MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.32**	**97**	*i* P	Pb	09 56 40.7	-1.1
ZIIG				*i* S	Sb	09 56 45.0	-1.5
ZIIG	**Zihuatanejo**	**0.32**	**97**	*i* P	Pb	09 56 40.7	-1.1
ZIIG				*i* S	Sb	09 56 45.7	-0.8
ACX	**Acapulco**	**1.96**	**113**	*i* P	Pn	09 57 04.0	-2.8
ACX				*i* S	Sn	09 57 26.0	-4.8
MEIG	**Mezcala**	**2.10**	**82**	*i* P	Pn	09 57 06.1	-2.6
MEIG				*i* S	Sn	09 57 31.1	-3.0
MOIG	**Morelia**	**2.10**	**16**	*i* P	Pn	09 57 05.5	-3.2
MOIG				*i* S	Sn	09 57 30.1	-4.1
MOIG	**Morelia**	**2.10**	**16**	*i* P	Pn	09 57 11.1	+2.4
MOIG				*i* S	Sn	09 57 38.7	+4.5
PLIG	**Platanillo**	**2.31**	**71**	*i* P	Pn	09 57 10.2	-1.3
PLIG				*i* S	Sn	09 57 35.8	-3.5
IIZ	**Mezontepec**	**2.87**	**57**	*i* P	Pn	09 57 18.0	-1.3
IIZ				*i* S	Sn	09 57 50.9	-2.4
PPM	**Popocatepetl**	**3.33**	**64**	*i* P	Pn	09 57 24.0	-1.5
UTMO	**Huajuapan**	**3.81**	**87**	*i* P	Pn	09 57 29.7	-2.5
UTMO				*i* S	Sn	09 58 12.7	-3.8
TPIG	**Tehuac#an**	**4.29**	**79**	*i* S	Sn	09 58 26.2	-2.1

KRSC 18 10:07:05, 5475N×16245E, h31km**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.46**	**245**	*e*P	Pb	10 07 16.4	+1.5
MKZ				*i* S	Sb	10 07 23.9	+2.3
TUMR	**Tumrok**	**1.43**	**293**	*e*P	Pn	10 07 30.6	+1.8
TUMR				*i* S	Sn	10 07 49.3	+2.8
KBTR	**Krutoberegovo**	**1.48**	**8**	*e*P	Pn	10 07 30.2	+0.8
KBTR				*i* S	Sn	10 07 47.9	+0.2
ZLN	**Zelenaya**	**1.58**	**324**	*e*P	Pn	10 07 33.2	+2.4
ZLN				*i* S	Sn	10 07 53.5	+3.3
KMNR	**Kamenistaya**	**1.62**	**309**	*e*P	Pn	10 07 33.8	+2.4
KMNR				*i* S	Sn	10 07 53.6	+2.4
KPT	**Kopyto**	**1.76**	**315**	*e*P	Pn	10 07 35.8	+2.4
KPT				*i* S	Sn	10 07 57.5	+2.8
KRSR	**Krestovskiy**	**1.82**	**325**	*e*P	Pn	10 07 35.9	+1.7
KRSR				*i* S	Sn	10 07 58.6	+2.5
KLY	**Klyuchi**	**1.87**	**328**	*e*P	Pn	10 07 36.2	+1.4
KLY				*i* S	Sn	10 07 58.5	+1.1
KII	**Karymskiy**	**1.90**	**249**	*e*P	Pn	10 07 37.4	+2.2
KII				*i* S	Sn	10 08 00.2	+2.2
SMKR	**Semkarok**	**1.92**	**344**	*e*P	Pn	10 07 37.6	+2.1
SMKR				*i* S	Sn	10 08 01.4	+2.8
BDR	**Baidarnaya**	**1.95**	**339**	*e*P	Pn	10 07 37.5	+1.5
BDR				*i* S	Sn	10 08 01.5	+2.1
KOZ	**Kozyrevsk**	**1.97**	**313**	*e*P	Pn	10 07 38.7	+2.5
KOZ				*i* S	Sn	10 08 02.9	+3.1
SRKR	**Sorokina**	**2.04**	**340**	*e*P	Pn	10 07 39.7	+2.5
SRKR				*i* S	Sn	10 08 05.6	+4.0
SPN	**Mys Shipunski**	**2.19**	**222**	*e*P	Pn	10 07 40.3	+1.0
SPN				*i* S	Sn	10 08 05.4	+0.1
SRDR	**Sredinnyy**	**2.21**	**316**	*e*P	Pn	10 07 41.5	+2.0
SRDR				*i* S	Sn	10 08 08.1	+2.4
NLC	**Nalytchevo**	**2.42**	**230**	*e*P	Pn	10 07 43.8	+1.4
NLC				*i* S	Sn	10 08 12.4	+1.4
AVH	**Avacha**	**2.65**	**237**	*e*P	Pn	10 07 48.9	+3.4
AVH				*i* S	Sn	10 08 19.9	+3.3
PET	**Petropavlovsk**	**2.83**	**234**	*e*P	Pn	10 07 50.6	+2.5
PET				*i* S	Sn	10 08 23.8	+2.6
GNL	**Ganaly**	**2.85**	**250**	*e*P	Pn	10 07 51.4	+3.1
GNL				*i* S	Sn	10 08 25.2	+3.6
RUS	**Russkaya**	**3.30**	**227**	*e*P	Pn	10 07 56.5	+2.0
RUS				*i* S	Sn	10 08 33.5	+0.8
GRL	**Gorelyy**	**3.41**	**232**	*e*P	Pn	10 07 59.4	+3.4
GRL				*i* S	Sn	10 08 39.6	+4.2
ALID	**Alaid**	**5.71**	**230**	*e*P	Pn	10 08 32.1	+4.5

ISCJB ***18*** *10:13:02.4±0.5, 3105S±002×7147W±008, h73km±4km, mb4.0/3, Error ellipse: s-maj=11.0km s-min=3.6km az=5.0*
IDC ***18*** *10:13:02.9±5.2, 3094S×7148W, h66km±39km, mb3.8/3, mb1 3.7/6, mb1mx3.5/18, mbtmp3.9/6, ML3.6/3, Error ellipse: s-maj=39.7km s-min=26.2km az=83.0*
NEIC ***18*** *10:13:03.5, 3106S×7130W, h61km, MD4.0(GUC), After GUC.*
GUC ***18*** *10:13:03.5±0.8, 3106S×7130W, h61km±4km, MD4.0, ML4.1*
ISC 18 10:13:03.4±0.5**, 3105S**±002×**7148W**±008**, h65**km±5km**, n48,** σ**0s67**/68**, mb4.0**/3**, 17C-12D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.43**	**107**⇑	*i*P	**Pn**	**10 13 13.7**	**-1.3**
CMCH				*i* S	**Sn**	**10 13 21.7**	**-1.9**
CMCH				AML	AML	10 13 22.4	
	comp=E,113μm,0.7s						
CMCH	**Combarbala**	**0.43**	**107**⇑	*i*P	**Pn**	**10 13 13.7**	**-1.3**
CMCH				*i* S	**Sn**	**10 13 21.7**	**-1.9**
OVCH	**Ovalle**	**0.50**	**29**⇓	*i*P	**Pn**	**10 13 15.5**	**-0.2**
OVCH				*i* S	**Sn**	**10 13 24.5**	**-0.2**
OVCH				AML	AML	10 13 25.1	
	comp=E,32μm,0.2s						
OVCH	**Ovalle**	**0.50**	**29**⇓	*i*P	**Pn**	**10 13 15.5**	**-0.2**
OVCH				*i* S	**Sn**	**10 13 24.5**	**-0.2**
CHNG	**Los Chungos**	**0.83**	**181**⇑	*i*P	**Pn**	**10 13 19.5**	**0.0**
CHNG				*i* S	**Sn**	**10 13 32.2**	**+0.7**
CHNG				AML	AML	10 13 33.4	
	comp=N,10μm,0.2s						
TLL	**Tololo Astrono**	**1.05**	**34**⇑	*i*P	**Pn**	**10 13 22.3**	**0.0**
TLL				*i* S	**Sn**	**10 13 36.4**	**+0.1**
TLL				AML	AML	10 13 38.3	
	comp=N,28μm,0.5s						
TLL	**Tololo Astrono**	**1.05**	**34**⇑	*i*P	**Pn**	**10 13 22.3**	**0.0**
TLL				*i* S	**Sn**	**10 13 36.4**	**+0.1**
LSCH	**La Serena**	**1.15**	**10**⇑	*i*P	**Pn**	**10 13 23.9**	**+0.3**
LSCH				*i* S	**Sn**	**10 13 39.4**	**+0.8**
LSCH				AML	AML	10 13 43.7	
	comp=N,238nm,0.4s						
LSCH	**La Serena**	**1.15**	**10**⇑	*i*P	**Pn**	**10 13 23.9**	**+0.3**
LSCH				*i* S	**Sn**	**10 13 39.4**	**+0.8**
PTCH	**Petorca**	**1.30**	**159**⇓	*i*P	**Pn**	**10 13 25.2**	**-0.3**
PTCH				*i* S	**Sn**	**10 13 41.5**	**-0.7**
PTCH				AML	AML	10 13 46.8	
	comp=E,14μm,0.2s						
PTCH	**Petorca**	**1.30**	**159**⇓	*i*P	**Pn**	**10 13 25.2**	**-0.3**
PTCH				*i* S	**Sn**	**10 13 41.5**	**-0.7**
JACH	**Jahuel**	**1.80**	**155**⇑	*i*P	**Pn**	**10 13 32.4**	**+0.2**
ROCH	**El Roble**	**1.96**	**168**⇓	*i*P	**Pn**	**10 13 34.5**	**+0.1**
ROCH				*i* S	**Sn**	**10 13 58.2**	**+0.2**
IHA	**Instituto Hidr**	**1.98**	**184**⇑	*i*P	**Pn**	**10 13 34.1**	**-0.5**
LCO	**Las Campanas**	**2.14**	**19**⇑	*i*P	**Pn**	**10 13 37.4**	**+0.7**
LCO				*i* S	**Sn**	**10 14 03.4**	**+1.2**
LCO				AML	AML	10 14 05.1	
	comp=E,3μm,0.4s						
LCO	**Las Campanas**	**2.14**	**19**⇑	*i*P	**Pn**	**10 13 37.4**	**+0.7**
LCO				*i* S	**Sn**	**10 14 03.4**	**+1.2**
PEL	**Peldehue**	**2.20**	**162**⇓	*i*P	**Pn**	**10 13 37.6**	**0.0**
PEL				AML	AML	10 14 13.4	
	comp=N,3μm,0.2s						
LCCH	**Las Cruces**	**2.42**	**182**⇑	*i*P	**Pn**	**10 13 40.6**	**-0.1**
DSCH	**Colegio Aleman**	**2.47**	**162**⇑	*i*P	**Pn**	**10 13 41.2**	**-0.1**
DSCH				*i* S	**Sn**	**10 14 09.6**	**-0.7**
DSCH				AML	AML	10 14 15.9	
	comp=N,394nm,0.6s						
DSCH	**Colegio Aleman**	**2.47**	**162**⇑	*i*P	**Pn**	**10 13 41.2**	**-0.1**
DSCH				*i* S	**Sn**	**10 14 09.6**	**-0.7**
CLCH	**Cerro Calan**	**2.48**	**161**⇑	*i*P	**Pn**	**10 13 41.6**	**+0.3**
CLCH				AML	AML	10 14 18.8	
	comp=E,2μm,0.8s						
CLCH				AML	AML	10 14 27.7	
	comp=N,2μm,0.5s						
STL	**Santa Lucia**	**2.49**	**164**⇑	*i*P	**Pn**	**10 13 41.4**	**-0.2**
STL				AML	AML	10 14 26.2	
	comp=N,322nm,0.1s						
FCH	**Farellones**	**2.49**	**156**⇓	*i*P	**Pn**	**10 13 42.2**	**+0.6**
FCH				*i* S	**Sn**	**10 14 11.2**	**+0.4**
FCH				AML	AML	10 14 18.2	
	comp=E,897nm,0.3s						
RCDM	**Rinconada Maip**	**2.50**	**167**	*e*P	**Pn**	**10 13 41.9**	**+0.2**
RCDM				*i* S	**Sn**	**10 14 10.7**	**-0.4**
RCDM				AML	AML	10 14 15.7	
	comp=E,1μm,0.1s						
RCDM	**Rinconada Maip**	**2.50**	**167**	*e*P	**Pn**	**10 13 41.9**	**+0.2**
RCDM				*i* S	**Sn**	**10 14 10.7**	**-0.4**
VACH	**Vallenar**	**2.54**	**14**	*i* P	**Pn**	**10 13 46.7**	**+4.4**
VACH				*i* S	**Sn**	**10 14 16.7**	**+4.6**
TACH	**Talagante**	**2.64**	**170**⇓	*i*P	**Pn**	**10 13 43.6**	**0.0**
SJCH	**San Jose de Ma**	**2.76**	**160**	*i* P	**Pn**	**10 13 45.9**	**+0.7**
SJCH				*i* S	**Sn**	**10 14 17.7**	**+0.4**
SJCH				AML	AML	10 14 27.0	
	comp=N,530nm,0.2s						
SJCH	**San Jose de Ma**	**2.76**	**160**	*i* P	**Pn**	**10 13 45.9**	**+0.7**
SJCH				*i* S	**Sn**	**10 14 17.7**	**+0.4**
CFAA	**Coronel Fontan**	**2.83**	**102**	P	**Pn**	**10 13 46.6**	**+0.4**
	comp=N,4.2nm,0.3s,baz=291,slow=7.7,SNR=189						
CFAA				S	**Sn**	**10 14 19.8**	**+0.7**
	comp=N,17nm,0.3s,baz=170,slow=18,SNR=6.5						
MDZ	**Mendoza**	**2.89**	**130**	*e*P	**Pn**	**10 13 48.2**	**+1.2**
MDZ				*e*		10 14 07.2	
CHCH	**Chadas Angostu**	**2.96**	**167**⇓	*i*P	**Pn**	**10 13 48.2**	**+0.2**
LMEL	**Las Melosas**	**3.00**	**159**	AML	AML	10 14 31.5	
	comp=N,980nm,0.1s						
CACH	**El Canelo**	**3.15**	**167**⇓	*i*P	**Pn**	**10 13 51.1**	**+0.6**
CICH	**Cipreses**	**3.38**	**165**⇑	*i*P	**Pn**	**10 13 54.4**	**+0.7**
SFDO	**San Fernando**	**3.58**	**174**⇓	*i*P	**Pn**	**10 13 56.1**	**-0.3**
CPCH	**Copiapo**	**3.80**	**15**⇓	*i*P	**Pn**	**10 13 59.5**	**0.0**
TRQA	**Tornquist**	**10.50**	**134**	*e*P	**Pn**	**10 15 30.7**	**-0.3**
	comp=N,6.8nm,0.5s						
CPUP	**Villa Florida**	**13.28**	**73**	P	**Pn**	**10 16 04.5**	**-4.4**
	comp=N,0.5nm,0.3s,baz=224,slow=14,SNR=4.2						
LPAZ	**La Paz**	**15.01**	**13**	P	**Pn**	**10 16 29.1**	**-2.5**
	comp=N,0.1nm,0.3s,baz=207,slow=10.0,SNR=3.1						
SIV	**San Ignacio**	**17.75**	**35**	P	**Pn**	**10 17 05.2**	**-0.8**
	comp=N,0.3nm,0.3s,baz=210,slow=11,SNR=14						
SNAA	**Sanae**	**54.15**	**159**	P	**P**	**10 22 21.4**	**-0.5**
	comp=N,0.7nm,0.8s,mb3.8,baz=290,slow=6.4,SNR=12						
DBIC	**Dimbokro**	**73.80**	**72**	P	**P**	**10 24 30.2**	**-0.6**
	comp=N,3.2nm,1.0s,mb4.0,baz=227,slow=11,SNR=3.8						
DBIC	**Dimbokro**	**73.80**	**72**	P	**P**	**10 24 30.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**10 25 20.2**	**-0.1**
	comp=N,2.0nm,0.7s,mb4.1,baz=250,slow=4.4,SNR=16						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**10 25 20.2**	**-0.1**
WRA	**Warramunga Arr**	**123.56**	**209**	PKP	PKPdf	10 31 53.5	+0.1
	comp=N,0.2nm,0.4s,baz=160,slow=1.5,SNR=9.5						
WRA	**Warramunga Arr**	**123.56**	**209**	PKP	PKPdf	10 31 53.5	+0.1

IDC 18 10:13:25.4±6.4**, 3119S×7134W, h102**km±49km**, mb3.3**/2**, mb1 3.5**/4**, mb1mx3.4**/17**, mbtmp3.8**/4**, Error ellipse: s-maj=58.1km s-min=31.9km az=95.0, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.68**	**100**	P	Pn	10 14 06.7	-0.2
	9.1nm,0.3s,baz=274,slow=14,SNR=39						
CFAA				S	Sn	10 14 39.7	+0.8
	14nm,0.3s,baz=164,slow=6.9,SNR=3.1						
MDZ	**Mendoza**	**2.71**	**129**	*e*S	Sn	10 14 41.7	+2.3
SIV	**San Ignacio**	**17.80**	**34**	P	Pn	10 17 26.6	+0.1
	0.5nm,0.3s,baz=220,slow=13,SNR=17						
SNAA	**Sanae**	**53.97**	**159**	P	P	10 22 38.4	-0.3
	0.4nm,0.6s,baz=265,slow=6.9,SNR=6.8						
TORD	**Torodi Ar. Bea**	**82.69**	**70**	P	P	10 25 38.1	+0.4
	0.6nm,0.8s,baz=250,slow=5.5,SNR=2.3						
AKASG	**Malin Array Be**	**119.84**	**46**	PKP	PKPdf	10 32 02.4	-1.3
	0.9nm,0.5s,baz=262,slow=2.8,SNR=7.0						
WRA	**Warramunga Arr**	**123.50**	**209**	PKP	PKPdf	10 32 11.7	+1.0
	0.2nm,0.7s,baz=161,slow=1.7,SNR=5.7						
WRA	**Warramunga Arr**	**123.50**	**209**	PKP	PKPdf	10 32 11.7	+1.0

NIED ***18*** *10:25:00, 26.10N×127.00E, h74km, Mw4.2 Best double couple: M₀2.53000×10¹⁵ NP1:φs65.00000°, δ80.00000°, λ-73.00000°. NP2:φs185.00000°, δ20.00000°, λ-149.00000°.*
IDC ***18*** *10:25:24.7±1.2, 2587N×12687E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=31.3km s-min=22.7km az=79.0*
ISCJB ***18*** *10:25:29.9±0.7, 26.11N±007×12700E±006, h63km±5km, mb3.4/4, Error ellipse: s-maj=11.7km s-min=8.3km az=134.4*
JMA ***18*** *10:25:30.6±0.1, 26.11N×12698E, h56km±1km, M3.5*
ISC 18 10:25:30.9±0.7**, 2611N**±007×**12700E**±006**, h55**km±6km**, n14,** σ**0s69**/23**, mb3.4**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.29**	**318**	P	**Pn**	**10 25 40.1**	**-0.3**
JKE				S	**Sn**	**10 25 47.0**	**-0.3**
JAGN	**Aguni-jima**	**0.53**	**24**	P	**Pn**	**10 25 42.7**	**-0.1**
JAGN				S	**Sn**	**10 25 51.5**	**+0.1**
NAH1	**Naha**	**0.63**	**81**	P	**Pn**	**10 25 43.9**	**0.0**
NAH1				S	**Sn**	**10 25 53.3**	**-0.1**
JJT2	**Tamagusuku 2**	**0.67**	**87**	P	**Pn**	**10 25 44.8**	**+0.3**
JJT2				S	**Sn**	**10 25 54.9**	**+0.5**
JIH	**Iheya**	**1.27**	**43**	P	**Pn**	**10 25 52.4**	**+0.1**
JIH				S	**Sn**	**10 26 08.4**	**+0.1**
JOW	**Kunigami**	**1.35**	**57**	Pn	**Pn**	**10 25 53.9**	**+0.4**
	69nm,0.3s,baz=230,slow=12,SNR=98						
JOW				Sn	**Sn**	**10 26 10.8**	**+0.5**
	141nm,0.3s,baz=146,slow=27,SNR=19						
JOW	**Kunigami**	**1.35**	**57**	P	**Pn**	**10 25 53.6**	**+0.2**
JTK	**Tokunoshima**	**2.41**	**46**	P	**Pn**	**10 26 08.2**	**+0.3**
JTK				S	**Sn**	**10 26 35.7**	**-0.5**
JAM	**Amami Oshima**	**3.26**	**45**	P	**Pn**	**10 26 20.7**	**+1.2**
JAM				S	**Sn**	**10 26 55.5**	**-1.6**
JMZ	**Minamidaito 2**	**3.81**	**93**	P	**Pn**	**10 26 23.5**	**-3.5**
JMZ				S	**Sn**	**10 27 03.0**	**-7.5**
SONM	**Songino Array**	**27.07**	**329**	P	**P**	**10 31 11.9**	**+3.8**
	0.4nm,0.6s,mb3.1,baz=144,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**40.80**	**312**	P	**P**	**10 33 07.0**	**+0.3**
	0.6nm,0.5s,mb3.5,baz=97,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**46.33**	**170**	P	**P**	**10 33 50.8**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=351,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**49.93**	**172**	P	**P**	**10 34 18.6**	**-0.3**
	0.5nm,1.0s,mb3.5,baz=358,slow=15,SNR=3.2						

NEIC ***18*** *10:33:55.0, 1756N×9743W, h73km, MD4.1(MEX), After MEX.*
MEX 18 10:33:54.8±1.0**, 1759N×9742W, h76**km±8km**, MD4.3, 1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.43**	**303**⇓	*i*P	Pn	10 34 06.6	-0.9
UTMO				*i* S	Sn	10 34 15.1	-1.8
TPIG	**Tehuac#an**	**0.82**	**4**	*i* P	Pn	10 34 10.9	-0.6
TPIG				*i* S	Sn	10 34 22.7	-1.2
VHO	**Vista Hermosa**	**0.84**	**128**	*i* P	Pn	10 34 11.2	-0.4
VHO				*i* S	Sn	10 34 22.9	-1.2
VHO				*i* S	Sn	10 34 23.2	-1.0
OXX	**Oaxaca**	**0.84**	**127**	*i* P	Pn	10 34 10.5	-1.2
OXX				*i* S	Sn	10 34 22.0	-2.2
PNIG	**Pinotepa**	**1.37**	**210**	*i* P	Pn	10 34 16.7	-1.6
PNIG				*i* S	Sn	10 34 33.9	-2.0
PPM	**Popocatepetl**	**1.86**	**322**	*i* P	Pn	10 34 26.7	+2.0
PPM				*i* S	Sn	10 34 48.5	+1.1
YAIG	**Yautepec**	**2.01**	**309**	*i* P	Pn	10 34 26.3	-0.4
YAIG				*i* S	Sn	10 34 50.8	-0.1
MEIG	**Mezcala**	**2.12**	**279**	*i* P	Pn	10 34 28.8	+0.6
MEIG				*i* S	Sn	10 34 52.2	-1.4
PLIG	**Platanillo**	**2.13**	**292**	*i* P	Pn	10 34 29.0	+0.7
PLIG				*i* S	Sn	10 34 53.3	-0.6
HUIG	**Huatulco**	**2.21**	**145**	*i* P	Pn	10 34 30.0	+0.7
HUIG				*i* S	Sn	10 34 53.6	-2.1
LVIG	**Laguna Verde**	**2.32**	**24**	*i* P	Pn	10 34 28.5	-2.3
LVIG				*i* S	Sn	10 34 55.0	-3.5
LVIG	**Laguna Verde**	**2.32**	**24**	*i* P	Pn	10 34 28.6	-2.3
LVIG				*i* S	Sn	10 34 54.6	-3.9
IIZ	**Mezontepec**	**2.34**	**313**	*e*P	Pn	10 34 28.9	-2.3
IIZ				*i* S	Sn	10 34 54.7	-4.3
CMIG	**Matias Romero**	**2.48**	**101**	*i* P	Pn	10 34 30.9	-2.1
CMIG				*i* S	Sn	10 35 01.0	-1.2
ACX	**Acapulco**	**2.49**	**254**	*i* P	Pn	10 34 30.0	-3.2
CAIG	**El Cayaco**	**2.77**	**259**	*i* P	Pn	10 34 34.2	-2.7
CAIG				*i* S	Sn	10 35 09.2	-0.2

BJI ***18*** *10:37:04.1, 1124S×16386E, h35km, mB5.3, mb4.9, Ms5.2, Msz4.9*
ISCJB ***18*** *10:37:07.8±0.2, 1097S±004×163.15E±004, h33km, mb5.1/81, MS4.7/35, Error ellipse: s-maj=5.8km s-min=4.7km az=117.4*
MOS ***18*** *10:37:07.9±0.9, 1081S×163.11E, h33km, mb5.4/28, Error ellipse: s-maj=10.5km s-min=7.7km az=49.0*
NEIC ***18*** *10:37:09.5±0.2, 1090S×163.15E, h35km, mb5.1/40, Error ellipse: s-maj=6.7km s-min=4.3km az=142.0*
GCMT ***18*** *10:37:09.5±0.2, 1102S×16321E, h39km±1km, MW5.3/83, Moment Tensor Solution. s66,c113; s83,c154; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.50±.03; Mθθ-1.18±.02; Mφφ0.67±.02; Mrθ0.55±.03; Mθφ-0.32±.02; Mφr-0.03±.03; Best double couple: M₀1.10100×10¹⁷ NP1:φs216.00000°, δ54.00000°, λ14.00000°. NP2:φs118.00000°, δ79.00000°, λ143.00000°. Principal axes: T 0.8150, Plg34.0000°, Azm70.0000°; N 0.5670, Plg52.0000°, Azm283.0000°; P -1.3860, Plg16.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***18*** *10:37:11.6±1.7, 1099S×16321E, h54km±13km, mb4.7/15, mb1 4.9/18, mb1mx4.9/19, mbtmp5.0/18, MS4.7/23, Ms1 4.7/23, ms1mx4.5/30 Error ellipse: s-maj=12.9km s-min=9.9km az=149.0*
ISC 18 10:37:09.8±0.2**, 1096S**±004×**16322E**±003**, h34**km**, h34**km±1.2km**:pP-P, n219,** σ**0s99**/206**, mb5.1**/81**, MS4.7**/35**, 12C-3D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.56**	**295**	P	**Pn**	**10 38 05.0**	**+2.4**
	482nm,0.3s,baz=172,slow=0.3,SNR=77						
HNR				S	**Sn**	**10 38 46.6**	**+3.2**
	337nm,0.3s,baz=269,slow=5.6,SNR=4.6						
HNR	**Honiara**	**3.56**	**295**	P	**Pn**	**10 38 05.0**	**+2.4**
HNR				S	**Sn**	**10 38 46.6**	**+3.1**
HNR				pmax	pmax		
	comp=Z,482nm,0.3s						
HNR				smax			
	comp=N,337nm,0.3s						
HNR	**Honiara**	**3.56**	**295**	*e*Pn	**Pn**	**10 38 00.4**	**-2.2**
HNR				*e*Sn	**Sn**	**10 38 42.2**	**-1.2**
DZM	**Mont Dzumac**	**11.48**	**165**	*e*P	**Pn**	**10 39 50.6**	**-0.6**
DZM	**Mont Dzumac**	**11.48**	**165**	P	**Pn**	**10 39 51.2**	**0.0**
	comp=N,23nm,0.3s,baz=14,slow=18,SNR=580						
DZM				LR	LR	10 43 33.2	
	comp=N,6μm,21.4s,baz=359,slow=33						
PMG	**Port Moresby**	**15.88**	**274**	P	**Pn**	**10 41 00.5**	**+10**
	comp=N,1.8nm,0.3s,baz=92,slow=11,SNR=16						
PMG				S	**Sn**	**10 43 58.3**	**+13**
	comp=N,0.4nm,0.3s,baz=115,slow=3.7,SNR=2.4						
PMG	**Port Moresby**	**15.88**	**274**	*e*Pn	**Pn**	**10 40 49.3**	**-1.5**
PMG				*e*P		10 40 53.0	
PMG				S	**Sn**	**10 43 58.4**	**+13**
CTA	**Charters Tower**	**18.68**	**239**	*e*P	**Pn**	**10 41 26.9**	**+1.3**
	comp=N,42nm,0.9s						
CTA				*e*pP	pP	10 41 35.6	+1.7
CTA				*e*S	**Sn**	**10 44 58.9**	**+5.4**
CTA	**Charters Tower**	**18.68**	**239**	P	**Pn**	**10 41 27.1**	**+1.5**
	comp=N,1.8nm,0.3s,baz=63,slow=13,SNR=24						
CTA				S	**Sn**	**10 44 55.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=16,slow=11,SNR=1.6						
CTA				LR	LR	10 47 40.8	
	comp=N,2μm,20.7s,baz=59,slow=34						
CTA	**Charters Tower**	**18.68**	**239**	*e*P	**Pn**	**10 41 26.9**	**+1.3**
CTA				*e*S	**Sn**	**10 44 58.9**	**+5.4**
CTA				pmax	pmax		
	comp=Z,42nm,0.9s						
CTAO	**Charters Tower**	**18.68**	**239**	*e*P	**Pn**	**10 41 25.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,184nm,1.3s						
CTAO	**Charters Tower**	**18.68**	**239**	*e*P	**Pn**	**10 41 25.9**	**+0.3**
	comp=Z,184nm,1.3s						
ARMA	**Armidale**	**22.16**	**207**⇓	*i*P	**P**	**10 42 04.0**	**+1.3**
ARMA				*e*S	**S**	**10 46 06.5**	**+1.5**
AFI	**Afiamalu**	**24.59**	**99**	LR	LR	10 50 25.3	
	comp=Z,1μm,19.6s,MS4.3,baz=264,slow=32						
RIV	**Riverview**	**25.31**	**204**	*e*P	**P**	**10 42 35.5**	**+2.3**
RAO	**Raoul Island**	**25.33**	**139**	LR	LR	10 50 34.0	
	comp=Z,2μm,20.4s,MS4.7,baz=193,slow=32						
CNB	**Canberra Magne**	**27.33**	**205**	*e*P	**P**	**10 42 51.8**	**+0.4**
	comp=Z,36nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**28.85**	**221**	*e*P	**P**	**10 43 05.0**	**0.0**
	comp=Z,30nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**28.85**	**221**	P	**P**	**10 43 05.0**	**0.0**
	comp=Z,23nm,0.9s,mb4.9,baz=39,slow=11,SNR=27						
STKA				LR	LR	10 53 58.4	
	comp=Z,5μm,18.2s,MS5.2,baz=35,slow=35						
WRAB	**Tennant Creek**	**29.18**	**249**	P	**P**	**10 43 06.9**	**-1.1**
	comp=Z,156nm,1.2s,mb5.6,SNR=19						
WRAB	**Tennant Creek**	**29.18**	**249**	*e*P	**P**	**10 43 06.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,84nm,1.3s,mb5.3						
WRAB	**Tennant Creek**	**29.18**	**249**	*e*P	**P**	**10 43 06.9**	**-1.1**
	comp=Z,84nm,1.3s,mb5.3						
WB2	**Warramunga Arr**	**29.18**	**249**	*e*P	**P**	**10 43 06.6**	**-1.4**
WRA	**Warramunga Arr**	**29.20**	**249**	P	**P**	**10 43 07.1**	**-1.0**
	comp=Z,15nm,0.7s,mb4.8,baz=79,slow=9.1,SNR=113						
WRA				S	**S**	**10 47 55.7**	**-2.5**
	comp=Z,6.1nm,1.0s,baz=82,slow=14,SNR=6.3						
WRA				LR	LR	10 54 25.2	
	comp=Z,2μm,19.3s,MS4.8,baz=70,slow=35						
WRA	**Warramunga Arr**	**29.20**	**249**	P	**P**	**10 43 07.1**	**-1.0**
WRA				S	**S**	**10 47 55.7**	**-2.5**
URZ	**Urewera**	**29.90**	**158**	LR	LR	10 53 36.4	
	comp=Z,488nm,19.1s,MS4.2,baz=13,slow=33						
KAKA	**Kakadu**	**30.17**	**264**	*e*P	**P**	**10 43 15.0**	**-1.7**
	comp=Z,9.7nm,0.5s,mb4.8						
KAKA				*e*pP	pP	10 43 22.1	-4.3
GUMO	**Guam**	**30.43**	**323**	LR	LR	10 54 20.3	
	comp=Z,706nm,21.3s,MS4.3,baz=315,slow=34						
AS31	**Alice Springs**	**30.63**	**242**	*e*P	**P**	**10 43 19.5**	**-1.3**
ASAR	**Alice Springs**	**30.63**	**242**	P	**P**	**10 43 19.6**	**-1.2**
	comp=Z,40nm,0.8s,mb5.3,baz=64,slow=10,SNR=414						
ASAR				S	**S**	**10 48 22.5**	**+1.7**
	comp=Z,5.1nm,1.1s,baz=70,slow=16,SNR=6.2						
ASAR				ScP	ScP	10 49 56.8	-1.7
	comp=Z,1.8nm,1.1s,baz=72,slow=4.1,SNR=5.1						
ASAR				LR	LR	10 55 36.1	
	comp=Z,2μm,18.9s,MS4.7,baz=73,slow=36						
ASAR	**Alice Springs**	**30.63**	**242**	P	**P**	**10 43 19.6**	**-1.2**
ASAR				S	**S**	**10 48 22.5**	**+1.7**
ASAR						10 49 56.8	
ASPA	**Alice Springs**	**30.64**	**242**	*e*P	**P**	**10 43 19.5**	**-1.3**
TOO	**Toolangi**	**30.92**	**208**⇓	*i*P	**P**	**10 43 24.1**	**+0.8**
	comp=Z,17nm,0.8s,mb4.9						
TOO	**Toolangi**	**30.92**	**208**⇓	*i*P	**P**	**10 43 24.1**	**+0.8**
TOO				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
RPZ	**Rata Peaks**	**33.34**	**170**	P	**P**	**10 43 44.2**	**-0.3**
	comp=Z,20nm,0.8s,mb5.1,baz=4.0,slow=7.9,SNR=6.5						
RPZ				LR	LR	10 54 27.1	
	comp=Z,807nm,18.4s,MS4.5,baz=279,slow=31						
FITZ	**Fitzroy Crossi**	**37.01**	**254**	*e*P	**P**	**10 44 14.4**	**-1.8**
	comp=Z,37nm,0.7s,mb5.3						
FITZ				*e*pP	pP	10 44 22.1	-3.9
FITZ	**Fitzroy Crossi**	**37.01**	**254**	P	**P**	**10 44 14.9**	**-1.3**
	comp=Z,20nm,0.7s,mb5.1,baz=95,slow=10.0						
FITZ				LR	LR	10 59 25.2	
	comp=Z,1μm,18.8s,MS4.7,baz=85,slow=36						
FORT	**Forrest**	**38.08**	**233**	*e*P	**P**	**10 44 24.1**	**-1.1**
	comp=Z,63nm,0.9s,mb5.3						
MBWA	**Marble Bar**	**42.88**	**251**	*e*P	**P**	**10 45 04.6**	**-0.3**
CBIJ	**Chichi jima**	**42.98**	**332**	LR	LR	11 00 34.1	
	comp=Z,868nm,19.9s,MS4.7,baz=133,slow=33						
PAE	**Paea**	**46.13**	**104**	*e*P	**P**	**10 45 30.3**	**-0.5**

comp=Z,93nm,1.1s,mb5.6
PAE Paea 46.13 104 *e*P **P** **10 45 30.3 -0.5**
PAE pmax pmax
comp=Z,93nm,1.1s,mb5.6
PPT Papeete 46.13 104 *e*S **S** **10 52 10.3 -4.1**
comp=Z,412nm,24.5s
PPT *e*LQ 10 56 44.2
comp=Z,1µm,24.2s
PPT *e*LR LR 10 58 38.0
comp=Z,924nm,28.8s
PPT Papeete 46.13 104 LR LR 11 01 41.2
comp=Z,289nm,19.3s,MS4.2,baz=60,slow=32
TVO Taravao 46.44 104 *e*P **P** **10 45 33.3 0.0**
comp=Z,100nm,0.8s,mb5.8
TVO Taravao 46.44 104 *e*P **P** **10 45 33.3 0.0**
TVO pmax pmax
comp=Z,100nm,0.8s,mb5.8
KLBR Kellerberrin 46.67 237 *e*P **P** **10 45 33.7 -1.4**
comp=Z,35nm,1.1s,mb5.2
NWAO Narrogin (SRO) 47.47 235 LR LR 11 05 16.9
comp=Z,2µm,18.3s,MS5.1,baz=86,slow=36
PMOR Pomariorio Ree 47.73 100 *e*P **P** **10 45 43.1 -0.3**
comp=Z,54nm,0.9s,mb5.6
MUN Mundaring 48.04 237 *e*P **P** **10 45 44.9 -0.9**
JHJ Hachijo jima 2 49.20 334 LR LR 11 02 29.3
comp=Z,948nm,20.5s,MS4.8,baz=65,slow=31
KKM Kota Kinabalu 49.74 288 *e*P **P** **10 45 59.5 +0.7**
JOW Kunigami 50.62 319 LR LR 11 06 32.1
comp=Z,582nm,19.6s,MS4.6,baz=93,slow=35
MJAR Matsushiro Arr 52.79 335 P **P** **10 46 21.6 +0.1**
comp=Z,5.1nm,1.0s,mb4.4,baz=162,slow=6.8,SNR=4.6
MJAR LR LR 11 05 41.9
comp=Z,472nm,21.1s,MS4.5,baz=150,slow=32
MJAR Matsushiro Arr 52.79 335 P **P** **10 46 21.6 +0.1**
MJAR LR LR 11 05 41.9
MAT Matsushiro 52.79 335 P **P** **10 46 20.6 -1.0**
MAT S **S** **10 54 00.0 +12**
YHNB Yeheng 54.04 311 *e*P **P** **10 46 31.8 +1.0**
YHNB *e*pP pP 10 46 39.1 -1.9
YHNB *e*sP sP 10 46 45.5 +0.5
SSE Sheshan 58.08 317 P **P** **10 47 02.8 +3.1**
SSE XP sP 10 47 19.1 +5.2
SSE PCP PcP 10 47 54.0 +2.8
SSE PP PP 10 49 11.4 +2.9
SSE S **S** **10 55 00.8 +2.5**
SSE XS sS 10 55 21.1 +5.8
SSE SS SS 10 58 53.5 +3.6
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,195nm,4.0s
SSE LR LR
comp=N,176nm,25.6s,MS4.2
SSE LR LR
comp=E,207nm,26.0s,MS4.2
SSE LR LR
comp=Z,222nm,17.6s
NJ2 Nanjing 60.23 317 *e*P **P** **10 47 17.3 +2.7**
NJ2 AP pP 10 47 27.0 +2.1
NJ2 XP sP 10 47 31.1 +2.2
NJ2 PP PP 10 49 32.0 +4.5
NJ2 S **S** **10 55 27.0 +0.8**
NJ2 XS sS 10 55 45.0 +1.8
NJ2 AMB AMB
comp=Z,130nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,700nm,5.4s
NJ2 LR LR
comp=N,230nm,20.4s,MS4.6
NJ2 LR LR
comp=E,390nm,22.1s,MS4.6
NJ2 LR LR
comp=Z,330nm,20.8s,MS4.5
QIZ Qiongzhong 60.46 299 P **P** **10 47 19.0 +2.9**
QIZ S **S** **10 55 30.4 +1.3**
QIZ XS sS 10 55 48.0 +1.9
QIZ AMB AMB
comp=Z,13nm,1.4s,mb4.8
QIZ LR LR
comp=E,232nm,15.8s
QIZ LR LR
comp=Z,269nm,15.8s,MS4.5
YSS Yuzh-Sakhalins 60.48 344⇑ *e*P **P** **10 47 15.8 -0.5**
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 60.48 344 *e*P **P** **10 47 17.0 +0.8**
SKR Severo-Kuril's 61.69 355 *e*P **P** **10 47 21.0 -3.5**
WHN Wuhan 62.49 313 *e*P **P** **10 47 30.5 +0.6**
WHN S **S** **10 55 49.0 -5.9**
WHN LR LR
comp=Z,2µm,19.8s,MS5.2
MDJ Mudanjiang 63.14 334 P **P** **10 47 35.1 +1.0**
MDJ AP pP 10 47 45.0 +0.5
MDJ XP sP 10 47 47.9 -0.6
MDJ PP PP 10 49 55.4 +2.2
MDJ S **S** **10 56 09.3 +6.3**
MDJ XS sS 10 56 23.6 +3.5
MDJ SS SS 11 00 15.9 +6.7
MDJ AMB AMB
comp=Z,16nm,1.0s,mb5.1
MDJ LR LR
comp=N,115nm,21.6s,MS4.6
MDJ LR LR
comp=E,409nm,19.9s,MS4.6
MDJ LR LR
comp=Z,496nm,22.4s,MS4.6
PET Petropavlovsk 63.84 357 *e*P **P** **10 47 37.3 -1.5**
PET *e*S **S** **10 56 10.6 -1.1**
PET *e*SS SS 11 00 23.8 +3.7
PET *e*SSS 11 03 11.5
PET pmax pmax
comp=Z,31nm,1.2s,mb5.2
PET pmax pmax
comp=Z,100nm,7.0s
PET smax
comp=N,100nm,18.2s
PET Petropavlovsk 63.84 357 *e*P **P** **10 47 39.7 +0.9**
HABR Khabarovsk 64.20 340 *e*P **P** **10 47 39.0 -2.2**
HABR *e*S **S** **10 56 13.9 -2.3**
KULM Kulim 64.33 281 *e*P **P** **10 47 42.2 +0.2**
KULM *e*pP pP 10 47 48.8 -3.6
CN2 Changchun 64.42 331 *e*P **P** **10 47 44.4 +1.8**
CN2 *e*XP sP 10 47 58.6 +1.7
CN2 *e*S **S** **10 56 20.3 +1.5**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,21.0s,MS5.0
CN2 LR LR
comp=E,500nm,21.0s,MS5.0
CN2 LR LR
comp=Z,1µm,19.0s,MS5.1
KLR Kul'dur 66.01 338 *e*P **P** **10 47 50.0 -2.9**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,67nm,1.8s,mb5.4
GYA Guiyang 66.33 305⇑ *i*P **P** **10 47 54.8 -0.1**
GYA AP pP 10 48 05.3 -0.1
GYA XP sP 10 48 08.9 -0.4
GYA PP PP 10 50 21.9 +0.8
GYA S S 10 56 39.4 -2.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=N,490nm,18.7s,MS4.9
GYA LR LR
comp=E,470nm,18.6s,MS4.9
GYA LR LR
comp=Z,430nm,19.7s,MS4.7
VNDA Vanda 66.56 180 P **P** **10 47 56.2 -0.1**
comp=Z,13nm,0.8s,mb5.0,baz=348,slow=6.6,SNR=49
VNDA LR LR 11 11 21.9
comp=Z,407nm,20.6s,MS4.6,baz=10,slow=31
VNDA Vanda 66.56 180 *e*P **P** **10 47 56.6 +0.2**
VNDA pmax pmax
comp=Z,51nm,1.4s
VNDA Vanda 66.56 180 *e*P **P** **10 47 56.6 +0.2**
comp=Z,51nm,1.4s,mb5.4
BJI Beijing 66.87 322 *e*P **P** **10 47 58.8 +0.4**
BJI XP sP 10 48 14.1 +1.3
BJI PP PP 10 50 30.8 +4.9
BJI S S 10 56 44.4 -4.4
BJI AMB AMB
comp=Z,13nm,1.8s,mb4.7
BJI LR LR
comp=N,476nm,17.1s,MS4.9
BJI LR LR
comp=E,498nm,18.3s,MS4.9
BJI LR LR
comp=Z,345nm,23.0s,MS4.5
SBA Scott Base 66.91 179 *e*P **P** **10 47 59.8 +1.1**
SBA pmax pmax
comp=Z,133nm,1.8s,mb5.7
SBA Scott Base 66.91 179 *e*P **P** **10 47 59.8 +1.2**
comp=Z,133nm,1.8s,mb5.7
XAN Xi'an 68.24 313 P **P** **10 48 06.6 -0.5**
XAN AP pP 10 48 14.1 -3.4
XAN AMB AMB
comp=Z,11nm,1.1s,mb4.8
KMI Kunming 68.97 302 P **P** **10 48 12.9 +1.3**
KMI AP pP 10 48 20.3 -1.7
KMI XP sP 10 48 24.0 -2.0
KMI PCP PcP 10 48 38.0 +2.3
KMI PP PP 10 50 47.4 +3.3
KMI S S 10 57 16.3 +2.4
KMI SS SS 11 01 41.5 +1.8
KMI AMB AMB
comp=Z,21nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,197nm,4.3s
KMI LR LR
comp=N,209nm,16.6s,MS4.6
KMI LR LR
comp=E,222nm,15.8s,MS4.6
KMI LR LR
comp=Z,214nm,22.5s
CHTO Chiang Mai 69.93 295 *e*P **P** **10 48 23.9 +6.4**
CHTO pmax pmax
comp=Z,41nm,1.6s,mb5.1
CHTO Chiang Mai 69.93 295 *e*P **P** **10 48 23.9 +6.3**
comp=Z,41nm,1.6s,mb5.1
HHC Hu-ho-hao-te 70.17 321 *e*P **P** **10 48 20.9 +1.9**
HHC AP pP 10 48 31.3 +1.8
HHC XP sP 10 48 35.3 +1.9
HHC PCP PcP 10 48 42.5 +1.7
HHC PP PP 10 50 58.8 +4.3
HHC S S 10 57 29.3 +1.2
HHC XS sS 10 57 46.4 +1.0
HHC PS 10 58 00.9
HHC SKS 10 58 15.4
HHC SCS ScS 10 58 17.4 -1.6
HHC SS SS 11 02 00.9 +2.6
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,260nm,4.6s
HHC LR LR
comp=N,320nm,12.9s
HHC LR LR
comp=E,388nm,9.4s
HHC LR LR
comp=Z,654nm,18.6s
CD2 Chengdu 70.59 308⇑ *i*P **P** **10 48 22.0 +0.5**
CD2 AP pP 10 48 32.3 +0.3
CD2 XP sP 10 48 36.3 +0.3
CD2 PCP PcP 10 48 42.8 +0.3
CD2 PP PP 10 51 01.1 +3.0
CD2 S S 10 57 33.0 +0.1
CD2 XS sS 10 57 50.3 +0.1
CD2 SCS ScS 10 58 18.4 -3.9
CD2 SS SS 11 02 07.8 +3.1
CD2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=E,140nm,18.0s
CD2 LR LR
comp=Z,210nm,18.0s,MS4.4
MA2 Magadan 71.00 353 *e*P **P** **10 48 22.4 -1.7**
MA2 *e* 10 48 36.3
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 Magadan 71.00 353 *e*P **P** **10 48 22.2 -1.9**
comp=Z,12nm,0.9s,mb4.8
BTO Baotou 71.00 320 *e*P **P** **10 48 24.3 +0.2**
HIA Hailar 71.09 332 *c i*P **P** **10 48 24.4 -0.2**
LZH Lanzhou 72.87 313 *e*P **P** **10 48 36.8 +1.5**
LZH AP pP 10 48 47.0 +1.2
LZH XP sP 10 48 52.1 +2.4
LZH PP PP 10 51 21.5 +3.9
LZH *e*S S 10 58 00.0 +0.8
LZH XS sS 10 58 18.0 +1.4
LZH SS SS 11 02 44.0 +4.3
LZH AMB AMB
comp=Z,44nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,190nm,4.6s
LZH LR LR
comp=E,652nm,16.5s
LZH LR LR
comp=Z,938nm,17.7s,MS5.1
SEY Seymchan 74.14 355⇑ *e*P **P** **10 48 42.1 -0.6**
CLNS Chul'man 74.59 339 *e*P **P** **10 48 44.6 -0.8**
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=Z,36nm,0.9s,mb5.3
CLNS pmax pmax
comp=E,7.0nm,1.1s
CIT Chita 75.86 331 *e*P **P** **10 48 52.4 -0.3**
CIT pmax pmax
comp=Z,62nm,1.8s,mb5.2
SONM Songino Array 77.14 325 P **P** **10 49 00.7 +0.8**
comp=Z,6.9nm,0.8s,mb4.6,baz=143,slow=5.4,SNR=24
SONM LR LR 11 21 16.4
comp=Z,473nm,20.9s,MS4.8,baz=304,slow=34
GTA Gaotai 77.22 315⇑ P **P** **10 49 01.3 +0.9**
GTA AP pP 10 49 11.6 +0.7
GTA XP sP 10 49 15.9 +1.0
GTA PP PP 10 51 55.4 +0.9
GTA S S 10 58 45.1 -2.4
GTA SKS 10 59 05.3
GTA AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
GTA AMB AMB
comp=Z,146nm,6.1s
GTA LR LR
comp=N,209nm,19.4s,MS4.7
GTA LR LR
comp=E,256nm,20.5s,MS4.7
GTA LR LR
comp=Z,357nm,24.3s,MS4.6
YAK Yakutsk 77.33 345 *e*P **P** **10 48 59.9 -1.0**
YAK *e* 10 58 51.5
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=N,10.0nm,0.7s
KDAK Kodiak Island 77.42 22 P **P** **10 49 00.7 -0.8**
comp=N,17nm,1.0s,mb4.9,baz=52,slow=6.5,SNR=5.5
SVW2 Sparrevohn 78.82 19 *e*P **P** **10 49 08.8 -0.4**
BILL Bilibino 78.82 1⇑ *e*P **P** **10 49 08.6 -0.6**
BILL *e* pP 10 49 16.3 -3.5
BILL *e* pP 10 49 20.8 +1.0
BILL pmax pmax
comp=Z,41nm,1.0s,mb5.3
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
QSPA South Pole Qui 79.05 180 *e*P **P** **10 49 10.8 +0.3**
comp=Z,34nm,1.1s,mb5.2
ZAK Zakamensk 80.22 326 *e*P **P** **10 49 15.7 -1.1**
ZAK *e* 10 52 22.6
ZAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
TLY Talaya 80.68 327 *e*P **P** **10 49 22.2 +2.9**
TLY *e*S S 10 59 22.7 -1.8
TLY *e*PS 11 00 02.2
TLY *e*SS SS 11 04 37.4 -0.3
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PMR Palmer 81.34 21 *e*P **P** **10 49 22.7 -0.1**
PMR *e**PP pP 10 49 35.1 +1.6
PMR pmax pmax
comp=Z,39nm,1.6s,mb5.1
PMR Palmer 81.34 21 *e*P **P** **10 49 22.7 -0.2**
comp=Z,39nm,1.6s,mb5.1
PMR *e*pP pP 10 49 35.1 +1.6
MCK McKinley 82.87 19 *e*P **P** **10 49 29.8 -1.0**
MCK *e**PP pP 10 49 42.9 +1.4
IMA2 Indian Mountai 83.10 16 *e*P **P** **10 49 31.5 -0.5**
JIRN Jiri 83.78 300 *e*P **P** **10 49 35.9 +0.4**
comp=Z,37nm,1.0s,mb5.5
MAW Mawson 83.87 202 *e*P **P** **10 49 36.1 +0.1**
comp=Z,13nm,0.9s,mb5.1
MAW Mawson 83.87 202 P **P** **10 49 35.8 -0.2**
comp=Z,11nm,1.0s,mb4.9,baz=94,slow=6.9,SNR=11
MAW LR LR 11 22 46.5
comp=Z,361nm,19.5s,MS4.8,baz=74,slow=33
MAW Mawson 83.87 202 *e*P **P** **10 49 36.1 +0.1**
MAW pmax pmax
comp=Z,13nm,0.9s
COLA College 83.99 19 *c i*P **P** **10 49 34.5 -2.1**
COLA College 83.99 19 *e*P **P** **10 49 34.8 -1.8**
comp=Z,24nm,0.9s,mb5.3
GUN Gumba 84.11 300 *e*P **P** **10 49 37.6 +0.4**
comp=Z,44nm,0.8s,mb5.6
PKI Pulchoki 84.42 299 *e*P **P** **10 49 39.3 +0.5**
comp=Z,27nm,0.6s,mb5.5
KKN Kakani 84.59 300 *e*P **P** **10 49 39.3 -0.4**
comp=Z,34nm,0.8s,mb5.5
KHMM Horse Mountain 84.61 47 *e*P **P** **10 49 40.6 +0.8**
DMN Daman 84.69 299 *e*P **P** **10 49 40.4 +0.2**
comp=Z,86nm,0.9s,mb5.9
SAO San Andreas Ge 85.00 51 *e*P **P** **10 49 40.5 -1.2**
SAO pmax pmax
comp=Z,17nm,1.0s,mb5.1
SAO San Andreas Ge 85.00 51 *e*P **P** **10 49 40.5 -1.3**
comp=Z,17nm,1.0s,mb5.1
GKN Gorkha 85.20 300 *e*P **P** **10 49 42.4 -0.3**
comp=Z,59nm,1.0s,mb5.7
WDC Whiskeytown Da 85.36 47 *e*P **P** **10 49 43.8 +0.3**
SKAG Skagway 85.56 27 *e*P **P** **10 49 43.3 -1.3**
YBH Yreka Blue Hor 85.61 46 *e*P **P** **10 49 45.1 +0.3**
YBH pmax pmax
comp=Z,14nm,1.1s
YBH Yreka Blue Hor 85.61 46 *e*P **P** **10 49 45.1 +0.3**
comp=Z,14nm,1.1s,mb5.1
OHCM Honcut 85.75 49 *e*P **P** **10 49 45.5 0.0**
KOLN Koldanda 86.03 299 *e*P **P** **10 49 46.1 -0.7**
comp=Z,25nm,1.0s,mb5.4
EGAK Eagle 86.16 21 *e*P **P** **10 49 46.7 -0.8**
CMB Columbia Colle 86.18 50 *e*P **P** **10 49 47.3 -0.3**
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
CMB Columbia Colle 86.18 50 *e*P **P** **10 49 47.2 -0.4**
comp=Z,10nm,1.0s,mb5.0
DAWY Dawson 86.38 22 *e*P **P** **10 49 48.8 +0.2**
DAWY *e*pP pP 10 50 01.9 +2.6
MWC Mount Wilson 86.94 54 *e*P **P** **10 49 51.8 +0.5**
ISA Isabella 86.99 53 *e*P **P** **10 49 51.3 -0.3**
comp=Z,0.1nm,1.6s
WAKR Walker 87.03 50 *e*P **P** **10 49 52.1 +0.4**
WMQ Urumqi 87.28 315 *e*P **P** **10 49 53.0 0.0**
WMQ AP pP 10 50 03.8 +0.1
WMQ XP sP 10 50 08.0 +0.4
WMQ PP PP 10 53 19.0 +1.8
WMQ SKS 11 00 15.5
WMQ S S 11 00 29.0 -1.7
WMQ XS sS 11 00 47.0 -1.4
WMQ AMB AMB
comp=Z,14nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,109nm,5.4s
WMQ LR LR
comp=N,530nm,17.2s,MS5.3
WMQ LR LR
comp=E,758nm,16.0s,MS5.3
WMQ LR LR
comp=Z,440nm,17.8s,MS4.9
MOD Modoc 87.38 47 *e*P **P** **10 49 52.9 -0.5**
comp=Z,5.9nm,0.8s,mb4.9
MTUM Tungsten Hills 87.38 51 *e*P **P** **10 49 53.7 +0.3**
BAR Barrett 87.66 56 *e*P **P** **10 49 54.8 0.0**
DAC Darwin (Calif) 87.84 53 *e*P **P** **10 49 56.0 +0.3**
DAC *e**PP pP 10 50 07.1 +0.7
DAC pmax pmax
comp=Z,20nm,1.5s,mb5.1
DAC Darwin (Calif) 87.84 53 *e*P **P** **10 49 56.0 +0.3**
comp=Z,20nm,1.5s,mb5.1
DAC *e*pP pP 10 50 07.1 +0.7
NVAR Mina Array Bea 87.87 50 P **P** **10 49 56.3 +0.5**
comp=Z,6.3nm,0.8s,mb4.9,baz=242,slow=10.0,SNR=40
PFO Pinyon Flat Ob 88.07 55 *e*P **P** **10 49 56.4 -0.3**
PFO pmax pmax
comp=Z,12nm,1.1s,mb5.0
PFO Pinyon Flat Ob 88.07 55 *e*P **P** **10 49 56.4 -0.3**
comp=Z,12nm,1.1s,mb5.0
GSC Goldstone 88.21 54 *e*P **P** **10 49 57.9 +0.5**
WVOR Wild Horse Val 88.71 46 *e*P **P** **10 49 59.8 0.0**
WVOR pmax pmax
comp=Z,21nm,1.2s,mb5.3
WVOR Wild Horse Val 88.71 46 *e*P **P** **10 49 59.8 0.0**
comp=Z,21nm,1.2s,mb5.3
BMN Battle Mountai 89.20 49 *e*P **P** **10 50 02.2 +0.1**
BMN pmax pmax
comp=Z,21nm,1.5s,mb5.2
BMN Battle Mountai 89.20 49 *e*P **P** **10 50 02.2 +0.1**
comp=Z,20nm,1.5s,mb5.2
GLA Glamis 89.26 56 *e*P **P** **10 50 03.3 +1.0**
GLA *e**PP pP 10 50 13.9 +0.8
SHPR Sheep Range 89.80 53 *e*P **P** **10 50 05.3 +0.4**
BMO Blue Mountains 90.29 44 *e*P **P** **10 50 07.0 -0.2**
BMO pmax pmax
comp=Z,12nm,1.3s,mb5.1
BMO Blue Mountains 90.29 44 *e*P **P** **10 50 07.0 -0.2**
comp=Z,12nm,1.3s,mb5.1
SYO Syowa Base 91.14 197⇑ *e*P **P** **10 50 10.0 -1.1**
SYO Syowa Base 91.14 197⇑ *e*pP pP 10 50 24.4 +2.5
NEW Newport 91.30 41 *e*P **P** **10 50 11.5 -0.4**
NEW *e**PP pP 10 50 21.8 -0.8
ARUT Antelope Range 91.43 52 *e*P **P** **10 50 13.2 +0.7**
CCUT Cedar City 91.44 52 *e*P **P** **10 50 13.4 +0.9**
CCUT *e*pP pP 10 50 24.0 +0.7
MKAR Makanchi Array 91.77 317 P **P** **10 50 13.4 -0.6**
comp=Z,4.9nm,0.8s,mb4.9,baz=90,slow=6.2,SNR=22
MKAR Makanchi Array 91.77 317 *i* P **P** **10 50 13.3 -0.7**
MKAR pmax pmax
comp=Z,5.0nm,0.8s
HLID Hailey 92.00 46 *e*P **P** **10 50 15.4 +0.3**
comp=Z,9.3nm,1.1s,mb5.0
HLID *e*pP pP 10 50 25.9 +0.1
HLID *e*sP sP 10 50 31.6 +1.9
ZAL Zalesovo 92.05 325 P **P** **10 50 14.1 -1.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=326,slow=4.8
ZAL LR LR 11 30 03.0
comp=Z,540nm,21.9s,MS5.0,baz=20,slow=34
BGU Big Grassy Mou 92.42 49 *e*P **P** **10 50 17.1 +0.1**
BGU *e*pP pP 10 50 28.5 +0.7
DUG Dugway 92.43 50 *e*P **P** **10 50 17.0 -0.1**
DUG pmax pmax
comp=Z,14nm,1.5s,mb5.1
DUG Dugway 92.43 50 *e*P **P** **10 50 17.0 -0.1**
comp=Z,14nm,1.5s,mb5.1
MSU Marysvale 92.56 51 *e*P **P** **10 50 17.5 -0.2**
MSU *e**PP pP 10 50 29.3 +0.9
MSU *e**SP sP 10 50 33.6 +1.3
HVU Hansel Valley 92.79 48 *e*P **P** **10 50 18.9 +0.2**
HVU *e**PP pP 10 50 31.1 +1.6
NLU North Lily Min 92.93 50 *e*P **P** **10 50 20.2 +0.8**
NVS Novosibirsk 93.17 325 *e*P **P** **10 50 18.9 -1.6**
NVS pmax pmax
comp=Z,39nm,2.0s,mb5.5
MCMT McKenzie Canyo 93.37 45 *e*P **P** **10 50 21.9 +0.4**
HWUT Hardware Ranch 93.64 48 *e*P **P** **10 50 22.6 0.0**
comp=Z,2.4nm,0.7s,mb4.7
DLMT Dillon 93.66 45 *e*P **P** **10 50 23.2 +0.5**
comp=Z,12nm,1.0s,mb5.3
LRM Limekiln Ridge 93.85 44 *e*P **P** **10 50 23.4 -0.3**
RRI2 Red Ridge 94.15 47 *e*P **P** **10 50 25.9 +0.9**
comp=Z,3.8nm,0.8s,mb4.9
QLMT Earthquake Lak 94.36 45 *e*P **P** **10 50 26.6 +0.7**
BOZ Bozeman (W) 94.38 45 *e*P **P** **10 50 26.0 -0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
BOZ Bozeman (W) 94.38 45 *e*P **P** **10 50 26.0 -0.1**
comp=Z,2.3nm,0.8s,mb4.7
HRY Holter Researc 94.45 43 *e*P **P** **10 50 26.5 +0.2**

IMW	Indian Meadow	94.53	46	eP	P	10 50 27.0	+0.2
	comp=Z,8.0nm,1.3s,mb5.0						
SNOW	Snow King Moun	94.58	47	eP	P	10 50 28.1	+1.1
	comp=Z,8.1nm,1.1s,mb5.1						
LOHW	Long Hollow	94.72	47	eP	P	10 50 27.5	-0.1
	comp=Z,3.8nm,1.1s,mb4.7						
EDM	Edmonton	94.78	37	eP	P	10 50 27.3	-0.6
PV10	Paradox Valley	94.95	52	eP	P	10 50 29.9	+1.2
PV01	Paradox Valley	95.27	52	eP	P	10 50 31.1	+1.0
PDAR	Pinedale Array	95.32	48	P	P	10 50 30.6	+0.2
	comp=Z,2.6nm,1.0s,mb4.6,baz=214,slow=2.3,SNR=11						
PDAR				LR	LR	11 27 44.8	
	comp=Z,272nm,18.8s,MS4.8,baz=271,slow=32						
PDAR	Pinedale Array	95.32	48	P	P	10 50 30.6	+0.2
PDAR				LR	LR	11 27 44.8	
YKA	Yellowknife Ar	96.04	28	P	P	10 50 31.6	-2.0
	comp=Z,3.1nm,0.9s,mb4.7,baz=257,slow=4.9,SNR=6.0						
YKA				LR	LR	11 30 30.5	
	comp=Z,583nm,18.2s,MS5.1,baz=235,slow=33						
YKA	Yellowknife Ar	96.04	28	P	P	10 50 31.6	-2.0
YKA				LR	LR	11 30 30.5	
MAIT	Maitri	96.18	189	eP	P	10 50 35.1	+0.8
AAK	Ala-Archa	96.39	312	eP	P	10 50 31.4	-3.8
AAK				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.6						
ANMO	Albuquerque	96.44	56⇑	eP	P	10 50 36.2	+0.7
ANMO	Albuquerque	96.44	56	eP	P	10 50 36.1	+0.6
SNAA	Sanae	97.03	184	eP	P	10 50 38.2	+0.1
SNAA				e	pP	10 50 46.2	-2.7
SNAA				e	pP	10 50 48.8	-0.1
SNAA				e		10 50 53.3	
SNAA	Sanae	97.03	184⇑	eP	P	10 50 39.5	+1.4
SNAA	Sanae	97.03	184	eP	P	10 50 37.5	-0.7
	comp=Z,5.3nm,0.9s,mb5.0						
VNA3	Neumayer Olymp	97.85	182	eP	P	10 50 41.2	-0.6
VNA3				e	pP	10 50 49.4	-3.2
VNA3				e		10 50 57.0	
VNA3				e		10 51 09.3	
VNA1	Neumayer--Stat	98.38	183	eP	P	10 50 44.3	+0.1
VNA1				e		10 50 58.3	
VNA1				e		10 51 00.2	
NOA	NORSAR Array B	125.94	344	PKP	PKPdf	10 56 07.0	-1.2
	comp=Z,0.4nm,0.6s,baz=50,slow=2.3,SNR=3.3						
GERES	GERESS Array B	134.49	332	PKP	PKPdf	10 56 24.2	-0.2
	comp=Z,0.5nm,0.7s,baz=180,slow=0.9,SNR=3.5						
ORIF	Oris-en-Rattie	140.96	334	ePKIKP	PKPdf	10 56 34.4	-1.9
	comp=Z,14nm,1.0s						
SBF	Sospel	141.09	332	ePKIKP	PKPdf	10 56 35.2	-1.3
RJF	Les Rejaudoux	142.35	339	ePKIKP	PKPdf	10 56 36.8	-2.0
CAF	Calviac	142.48	338	ePKIKP	PKPdf	10 56 37.2	-1.8
LFF	La Frestale	142.94	339	ePKIKP	PKPdf	10 56 37.6	-2.2
MTLF	Montolieu	143.76	336	ePKIKP	PKPdf	10 56 38.6	-2.7
	comp=Z,67nm,1.2s						
EPF	Esparros	144.74	338	ePKIKP	PKPdf	10 56 41.1	-1.9
ETSF	Etsaut	145.18	339	ePKIKP	PKPdf	10 56 43.8	+0.1
	comp=Z,72nm,0.9s						
KEST	Kesra	145.80	320	PKPbc	PKPbc	10 56 45.7	+0.3
	comp=Z,1.9nm,0.8s,baz=182,slow=19,SNR=2.5						
GUD	Guadarrama	148.40	341	PKP2	PKPbc	10 56 51.6	-1.1
PCAB	Cabril	148.41	347	ePKPdf	PKPdf	10 56 49.4	+0.2
PVRL	Vila Real	148.76	347	ePKPbc	PKPbc	10 56 53.4	-0.2
ESDC	Sonseca Array	149.21	340	PKPbc	PKPbc	10 56 52.6	-2.2
	comp=Z,0.2nm,0.2s,baz=27,slow=3.6,SNR=5.6						
PVIS	Viseu	149.34	347	ePKPbc	PKPbc	10 56 54.8	-0.2
MTE	Manteigas	149.56	346	ePKPbc	PKPbc	10 56 55.6	0.0
MTE	Manteigas	149.56	346	ePKPbc	PKPbc	10 56 56.3	+0.7
EVIA	Vianos	149.62	338	PKP2	PKPbc	10 56 55.2	-0.6
PCBR	Castelo Branco	150.07	346	ePKPdf	PKPdf	10 56 52.5	+0.7
PCBR	Castelo Branco	150.07	346	ePKPbc	PKPbc	10 56 56.4	-0.4
PTOM	Tomar	150.50	347	ePKPbc	PKPbc	10 56 57.7	-0.2
EQES	Quesada	150.57	338	PKP	PKPbc	10 56 58.1	+0.1
PBEJ	Beja	151.88	345	ePKPbc	PKPbc	10 57 00.9	-0.2
TORD	Torodi Ar. Bea	161.80	279	PKP	PKPdf	10 57 06.2	-1.1
	comp=Z,0.9nm,1.1s,baz=20,slow=4.6,SNR=2.8						

MEX 18 10:40:03.7±1.0, 1603N×9697W, h16km±19km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.87	107	i P	Pb	10 40 17.6	-2.7
HUIG				i S	Sb	10 40 27.5	-4.3
VHO	Vista Hermosa	1.06	12	i P	Pb	10 40 20.5	-3.2
VHO				i S	Sb	10 40 33.5	-3.7
OXX	Oaxaca	1.07	13	i P	Pb	10 40 20.5	-3.3
OXX				i S	Sb	10 40 32.5	-5.1
UTMO	Huajuapan	1.96	336	i P	Pn	10 40 33.0	-3.2
UTMO				i S	Sn	10 40 56.3	-4.2
CMIG	Matias Romero	2.26	62	i P	Pn	10 40 37.0	-3.4
CMIG				i S	Sn	10 41 05.8	-2.1
TPIG	Tehuac#an	2.41	351	i P	Pn	10 40 40.6	-1.7
TPIG				i S	Sn	10 41 07.3	-4.1

MOS 18 10:54:06.2±2.2, 4464N×15038E, h37km, mb4.3/6, Error ellipse: s-maj=29.5km s-min=16.1km az=35.7
ISCJB 18 10:54:07.3±0.7, 4425N±008×15007E±007, h33km, mb4.0/10, Error ellipse: s-maj=12.4km s-min=6.0km az=135.8
JMA 18 10:54:08.3±0.4, 4466N×14999E, h30km, M4.1
NEIC 18 10:54:10.2±0.9, 4457N×14987E, h35km, mb4.1/1, Error ellipse: s-maj=24.8km s-min=21.3km az=118.0
IDC 18 10:54:13.4±4.8, 4458N×14984E, h64km±41km, mb3.7/9, mb1 3.7/10, mb1mx3.6/22, mbtmp4.0/10, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=32.9km s-min=27.3km az=115.0
ISC 18 10:54:08.8±0.8, 4413N±008×15010E±008, h35km, n40, σ1°56/48, mb4.0/10, 1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.94	306⇓	iPN	Pn	10 54 33.0	-6.2
KUR				i S	Sn	10 55 00.5	-1.8
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,910nm,0.8s						
KUR				smax			
	comp=E,320nm,0.8s						
NEM2	Nemuro 2	3.25	258	P	Pn	10 54 57.1	-0.1
NEM2				eS	Sn	10 55 33.4	-1.2
JRA	Rausu	3.59	269	P	Pn	10 55 03.2	+1.3
JRA				eS	Sn	10 55 44.4	+1.3
JNK	Nakash	3.93	264	P	Pn	10 55 06.9	+0.4
JNK				eS	Sn	10 55 51.4	0.0
JAK	Akkeshi	4.08	256	P	Pn	10 55 09.3	+0.6
JAK				eS	Sn	10 55 54.5	-0.8
JTKR	Abashiri--Toko	4.46	270	P	Pn	10 55 15.3	+1.4
JAR	Ashorobuto	4.66	262	P	Pn	10 55 18.1	+1.5
JAR				eS	Sn	10 56 10.5	+1.0
JMP	Maruseppu	4.86	271	P	Pn	10 55 21.0	+1.7
JCH	Churui	5.14	255	P	Pn	10 55 24.3	+1.1
JCH				eS	Sn	10 56 19.7	-1.5
JKK2	Kamakawa 2	5.31	270	P	Pn	10 55 27.8	+2.3
ASAJ	Asahikawa	5.40	272	P	Pn	10 55 28.8	+2.0
	comp=E,3.0nm,0.3s,baz=82,slow=20,SNR=27						
ASAJ				LR	LR	10 58 01.7	
	comp=E,349nm,18.0s,baz=252,slow=44						
ASAJ	Asahikawa	5.40	272	PN	Pn	10 55 28.8	+2.0
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,349nm,18.0s						
JFR	Furan	5.53	263	P	Pn	10 55 31.0	+2.4
JNBK	Urakawa-nobuka	5.68	254	P	Pn	10 55 32.0	+1.4
JBT2	Biratori 2	5.79	259	P	Pn	10 55 33.5	+1.4
YSS	Yuzh-Sakhalins	5.88	301	ePN	Pn	10 55 34.0	+0.6
YSS				MLR	MLR		
	comp=Z,500nm,15.0s						
JKB	Kayabe	7.01	255	P	Pn	10 55 49.9	+1.0
JKB				eS	Sn	10 57 04.6	-2.8
JTH	Tanohata	7.42	238	eS	Sn	10 57 13.8	-3.6
JTM	Tenmabayashi	7.46	247	eS	Sn	10 57 15.3	-3.2
OFUJ	Ofunato	8.08	234	eS	Sn	10 57 31.6	-2.0
JIO	Ouri	8.69	232	eS	Sn	10 57 44.2	-4.4
SONM	Songino Array	30.29	293	P	P	11 00 15.2	-1.3
	comp=Z,1.7nm,0.8s,mb3.8,baz=92,slow=8.6,SNR=6.9						
SONM	Songino Array	30.29	293	P	P	11 00 15.2	-1.4
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	45.00	31	P	P	11 02 19.8	-0.9
	comp=Z,1.1nm,0.6s,mb3.8,baz=267,slow=10,SNR=8.9						
INK	Inuvik	45.00	31	P	P	11 02 19.8	-0.9
MKAR	Makanchi Array	46.29	298	P	P	11 02 29.9	-1.0
	comp=Z,4.9nm,0.8s,mb4.5,baz=65,slow=8.7,SNR=25						
MKAR	Makanchi Array	46.29	298	P	P	11 02 29.9	-1.0
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMO	Blue Mountains	62.32	53	eP	P	11 04 36.1	+8.6
BMO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
BMO	Blue Mountains	62.32	53	eP	P	11 04 36.1	+8.6
	comp=Z,0.5nm,0.3s,mb4.1						
FINES	FINESS Array B	65.49	334	P	P	11 04 45.5	-2.8
	comp=Z,2.2nm,0.8s,mb4.2,baz=25,slow=6.3,SNR=5.9						
FINES	FINESS Array B	65.49	334	P	P	11 04 45.6	-2.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	69.08	196	P	P	11 05 14.7	+3.6
	comp=Z,0.4nm,0.7s,mb3.5,baz=3.7,slow=5.3,SNR=4.9						
NB2	NORSAR Subarra	70.00	340	P	P	11 05 14.5	-2.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=31,slow=6.5						
NOA	NORSAR Array B	70.00	340	P	P	11 05 14.3	-2.4
	comp=Z,0.4nm,0.5s,mb3.6,baz=28,slow=6.6,SNR=2.7						
AKASG	Malin Array Be	72.51	325	P	P	11 05 29.5	-2.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=35,slow=6.0,SNR=13						
AKASG	Malin Array Be	72.51	325	P	P	11 05 29.5	-2.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CLL	Collm	77.93	334	i P	P	11 06 02.2	-0.9
CLL				i pP	pP	11 06 14.5	+0.4
BRTR	Keskin Array B	78.80	315	P	P	11 06 08.3	+0.4
	comp=Z,1.2nm,0.7s,mb3.9,baz=48,slow=1.8,SNR=4.9						
BRTR	Keskin Array B	78.80	315	P	P	11 06 08.3	+0.4
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	79.84	332	P	P	11 06 12.4	-1.2
	comp=Z,0.3nm,0.2s,mb3.8,baz=28,slow=6.0,SNR=3.7						

ISCJB 18 11:02:50.8±1.6, 3359N±005×3656E±010, h0km, Error ellipse: s-maj=11.5km s-min=6.6km az=175.5
CSEM 18 11:02:51.0±0.3, 3377N×3634E, h1km, ML2.8, Error ellipse: s-maj=5.7km s-min=2.5km az=76.0, Mining explosion.
GRAL 18 11:02:51.6±2.1, 3357N×3660E, h0km±616km, MD2.8
GII 18 11:02:52.0±0.0, 3371N×3643E, h0km, ML1.8/2
ISC 18 11:02:51.5±1.8, 3359N±005×366E±01, h0km, n10, σ0°78/14, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	Rachaya	0.63	261	ePg	Pg	11 03 03.4	-0.2
RCY				eSg	Sg	11 03 11.2	-0.5
HRI	Mount Hermon	0.76	245	Pg	Pg	11 03 06.3	+0.1
HRI				Sg	Sg	11 03 16.3	+0.2
BHL	Bhannes	0.82	293	ePg	Pg	11 03 06.2	-1.1
BHL				eSg	Sg	11 03 17.8	0.0
KSDI	Kefar Szold	0.85	243	Pg	Pg	11 03 07.3	-0.6
HWQ	Hawqa	0.86	324	ePg	Pg	11 03 06.8	-1.2
HWQ				eSg	Sg	11 03 20.8	+1.7
KSHT	Keshet	0.87	226	Pg	Pg	11 03 09.1	+0.9
MMA2	Mount Meron ar	1.12	240	Pg	Pg	11 03 13.3	+0.2
MMA0	Mount Meron ar	1.13	240	Pg	Pg	11 03 13.3	+0.2
MMA3	Mount Meron ar	1.13	240	Pg	Pg	11 03 14.3	+1.1
MMB2	Mount Meron ar	1.13	240	Pg	Pg	11 03 12.6	-0.7

NEIC 18 11:19:51.0, 3247S×7054W, h12km, ML2.6(GUC), After GUC.
GUC 18 11:19:51.0±1.0, 3247S×7054W, h12km±2km, MD3.6, ML2.6, 7C-13D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.22	191⇓	iP	Pg	11 19 56.2	+0.6
JACH				i S	Sg	11 20 00.1	+1.3
PTCH	Petorca	0.39	302⇓	iP	Pg	11 19 59.3	+0.7
PTCH				i S	Sg	11 20 05.8	+2.0
PTCH				AML	AML	11 20 06.1	
	comp=N,1μm,0.1s						
PTCH	Petorca	0.39	302⇓	iP	Pg	11 19 59.3	+0.7
PTCH				i S	Sg	11 20 05.8	+2.0
ROCH	El Roble	0.64	218⇑	iP	Pg	11 20 03.1	-0.3
ROCH				i S	Sg	11 20 13.4	+1.6
PEL	Peldehue	0.69	190⇓	iP	Pg	11 20 03.9	-0.4
PEL				i S	Sg	11 20 13.6	+0.3
PEL				AML	AML	11 20 15.2	
	comp=E,619nm,0.2s						
PEL	Peldehue	0.69	190⇓	iP	Pg	11 20 03.9	-0.4
PEL				i S	Sg	11 20 13.6	+0.3
FCH	Farellones	0.88	166⇑	iP	Pg	11 20 06.9	-1.2
FCH				i S	Sg	11 20 19.0	-0.6
FCH				AML	AML	11 20 19.4	
	comp=E,310nm,0.2s						
CLCH	Cerro Calan	0.93	180⇓	iP	Pg	11 20 08.1	-0.7
CLCH				i S	Sg	11 20 20.8	-0.1
CLCH				AML	AML	11 20 22.6	
	comp=E,376nm,0.6s						
CHNG	Los Chungos	1.00	305⇑	iP	Pg	11 20 09.8	-0.4
CHNG				i S	Sg	11 20 23.7	+0.5
CHNG				AML	AML	11 20 24.4	
	comp=E,138nm,0.6s						
RCDM	Rinconada Maip	1.04	192⇑	iP	Pb	11 20 10.1	-0.9
RCDM				i S	Sb	11 20 24.5	-0.2
RCDM				AML	AML	11 20 25.7	
	comp=E,445nm,0.2s						
RCDM	Rinconada Maip	1.04	192⇑	iP	Pb	11 20 10.1	-0.9
RCDM				i S	Sb	11 20 24.5	-0.2
SJCH	San Jose de Ma	1.18	172⇑	iP	Pb	11 20 12.1	-1.3
SJCH				i S	Sb	11 20 28.2	-0.4
SJCH				AML	AML	11 20 28.9	
	comp=N,63nm,0.1s						
LCCH	Las Cruces	1.32	220⇑	iP	Pn	11 20 15.1	-0.3
LCCH				i S	Sb	11 20 33.4	+0.6
CMCH	Combarbala	1.35	343⇓	iP	Pn	11 20 14.4	-1.3
CMCH				i S	Sb	11 20 32.9	-0.5
CMCH				AML	AML	11 20 37.9	
	comp=E,376nm,0.6s						
CMCH	Combarbala	1.35	343⇓	iP	Pn	11 20 14.4	-1.3
CMCH				i S	Sb	11 20 32.9	-0.5
LMEL	Las Melosas	1.41	168⇓	iP	Pn	11 20 16.1	-0.3
LMEL				i S	Sn	11 20 35.0	+0.1
LMEL				AML	AML	11 20 37.5	
	comp=N,190nm,0.1s						
LMEL	Las Melosas	1.41	168⇓	iP	Pn	11 20 16.1	-0.3
LMEL				i S	Sn	11 20 35.0	+0.1
CHCH	Chadas Angostu	1.47	184⇓	iP	Pn	11 20 16.9	-0.3
CHCH				i S	Sn	11 20 35.6	-0.8
CACH	El Canelo	1.65	182	eP	Pn	11 20 20.4	+0.7
LNV	Longovilo	1.65	206	eP	Pn	11 20 20.3	+0.5
LNV				i S	Sn	11 20 42.2	+1.1
TLL	Tololo Astrono	2.30	354⇓	iP	Pn	11 20 32.0	+3.2
TLL				i S	Sn	11 21 02.3	+5.2
TLL				AML	AML	11 21 10.3	
	comp=E,101nm,0.4s						
TLL	Tololo Astrono	2.30	354⇓	iP	Pn	11 20 32.0	+3.2
TLL				i S	Sn	11 21 02.3	+5.2

IGQ 18 11:27:44.2, 028N×8009W, h28km±3km, Mb4.0, Ms3.8, 3C-3D, Error ellipse: s-maj=7.6km s-min=5.8km az=4.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	Magdalena	0.47	138	⇓P	Pb	11 27 54.5	+0.4
MAG1				S	Sb	11 28 01.2	+0.4
PINO	Pino	1.54	106	⇑P	Pn	11 28 11.8	+2.0
TERV	Terraza Guagua	1.55	107	P	Pn	11 28 12.0	+2.0
GGP	Refugio Guagua	1.56	107	⇑P	Pn	11 28 12.1	+2.0
JUA2	San Juan 2	1.56	108	⇓P	Pn	11 28 12.5	+2.4
COTA	Cotacachi	1.75	88	P	Pn	11 28 15.8	+3.1
COTA				S	Sn	11 28 44.0	+10
CAMI	Rancho Maria	1.85	121	P	Pn	11 28 16.8	+2.8
NAS1	Nasa	1.85	119	P	Pn	11 28 16.7	+2.6
VC1	Cotopaxi 1	1.92	118	P	Pn	11 28 17.9	+2.9
VC1				S	Sn	11 28 43.3	+5.1
TAMB	Tambo	1.98	119	P	Pn	11 28 18.8	+3.0
ANTI	Antisana	2.06	111	⇑P	Pn	11 28 20.6	+3.7
CAYR	Refugio Cayamb	2.10	97	P	Pn	11 28 22.3	+4.8
CAYA	Cayambe	2.11	96	⇓P	Pn	11 28 22.2	+4.5
CAYA				S	Sn	11 28 53.0	+10
ULBA	Ulba	2.40	136	P	Pn	11 28 24.1	+2.4
ARRY	Arrayan	2.41	137	P	Pn	11 28 23.8	+2.0
CONE	Cono NE Rev Vo	2.47	98	P	Pn	11 28 28.1	+5.5

NEIC 18 11:32:56.4, 1879N×6437W, h52km, MD3.5(RSPR), After RSPR.
RSPR 18 11:32:56.4, 1879N×6437W, h52km±5km, MD3.5/6, MD3.5/6, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	1.32	239⇑	eP	Pn	11 33 17.8	-0.7
MTP				eS	Sn	11 33 34.0	-0.9
CBYP	Canovanas	1.50	250⇑	eP	Pn	11 33 20.0	-1.0
CBYP				eS	Sn	11 33 38.6	-0.8
HUMP	Col San Antoni	1.54	246⇑	eP	Pn	11 33 21.1	-0.5
HUMP				eS	Sn	11 33 39.7	-0.8
CELP	Cerrillos	2.21	252⇑	eP	Pn	11 33 30.0	-0.7
CELP				eS	Sn	11 33 56.3	-0.6
ICM	Isla Caja Muer	2.23	247⇑	eP	Pn	11 33 30.2	-0.6
ICM				eS	Sn	11 33 56.5	-0.7
LRS	Lares	2.40	258	eS	Sn	11 34 00.8	-0.6
CRPR	Cabo Rojo, PR	2.71	254⇑	eP	Pn	11 33 36.9	-0.7
CRPR				eS	Sn	11 34 08.6	-0.6

CASC 18 11:46:49.7±3.0, 1567N×9058W, h15km±20km, MD3.7, 1C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.24	192⇓	eP	Pn	11 47 11.9	-0.5
TER	Terranova	1.36	184⇓	eP	Pn	11 47 13.7	-0.3
TER				eS	Sn	11 47 31.9	+0.1
JAT	Jato	1.68	217	eP	Pn	11 47 19.5	+0.9
MTO2	Montecristo 2	1.72	137⇑	eP	x	11 47 46.9	
MTO2				eS	x	11 48 08.1	
RBDL	Robledal	1.77	151	eP	x	11 47 48.6	
RBDL				eS	x	11 48 12.7	
SNJE	San Jose	2.02	152	eP	x	11 47 53.2	
SNJE				eS	x	11 48 20.2	
SBLS	San Blas	2.04	153	eP	x	11 47 53.6	
SBLS				eS	x	11 48 20.4	
BOQS	Boqueron	2.29	147⇓	eP	x	11 47 58.1	
BOQS				eS	x	11 48 27.7	
LFRS	El Faro	2.51	144	eP	x	11 48 00.9	
LFRS				eS	x	11 48 33.5	

ISCJB 18 12:01:41.4±0.3, 950S±004×10737E±005, h32km, mb4.8/59, MS4.0/20, Error ellipse: s-maj=7.2km s-min=4.8km az=114.2
BJI 18 12:01:41.1, 940S×10740E, h30km, mB5.1, mb4.8, Ms4.5, Msz4.3
MOS 18 12:01:42.1±1.0, 937S×10745E, h33km, mb5.0/22, Error ellipse: s-maj=14.2km s-min=7.8km az=116.2
NEIC 18 12:01:43.2±3.0, 939S×10745E, h30km±20km, mb4.8/17, Error ellipse: s-maj=12.1km s-min=5.8km az=51.0
IDC 18 12:01:44.0±0.4, 943S×10738E, h36km±3km, mb4.2/14, mb1 4.3/16, mb1mx4.3/21, mbtmp4.4/16, ML3.7/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/22, Error ellipse: s-maj=17.0km s-min=10.0km az=51.0
ISC 18 12:01:43.6±0.3, 952S±004×10736E±005, h33km, h33km±1.5km:pP-P, n140, σ1°04/130, mb4.8/59, MS4.0/20, 9C-4D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	2.69	5	P	Pn	12 02 23.5	-1.0
	3μm,0.9s						
CBJI	Citeko	3.12	351	P	Pn	12 02 26.0	-4.4
	2μm,0.9s						
JCJI	Jatiwangi	3.14	17	P	Pn	12 02 28.5	-2.2
	1μm,0.9s						
BJII	Banjamegara	3.18	47	P	Pn	12 02 31.6	+0.3
	190nm,0.9s						
SBJI	Serang	3.59	340	P	Pn	12 02 35.6	-1.3
	922nm,1.5s						
KRKI	Karangkates	5.21	75	P	Pn	12 02 59.2	0.0
	942nm,0.8s						
NBBI	Negara	7.26	82	P	Pn	12 03 32.4	+5.0
	824nm,1.4s						
DNP	Denpasar	7.80	84	P	Pn	12 03 37.2	+2.5
	593nm,0.9s						
PSI	Prapat	14.85	325	Pn	Pn	12 05 09.7	-1.3
	0.1nm,0.3s,baz=158,slow=19,SNR=1.9						
PSI				LR	LR	12 11 52.8	
	comp=Z,117nm,18.3s,baz=151,slow=41						
PCI	Palu	15.08	56	P	Pn	12 05 14.5	+0.4
	84nm,1.5s						
IPM	Ipoh	15.27	335	P	Pn	12 05 17.0	+0.4
KULM	Kulim	16.16	335	eP	Pn	12 05 22.4	-5.7
MBWA	Marble Bar	16.61	136	eP	Pn	12 05 29.7	-4.1
	68nm,1.1s						
TSM	Tawau	17.26	38	P	Pn	12 05 46.0	+4.0
BSI	Banda Aceh	19.16	321	P	Pn	12 06 06.8	+1.7
	199nm,1.1s						
FITZ	Fitzroy Crossi	19.68	118	eP	Pn	12 06 10.7	-0.7
	20nm,1.0s						
FITZ				e		12 06 21.5	
FITZ	Fitzroy Crossi	19.68	118	P	Pn	12 06 11.2	-0.2
	0.4nm,0.3s,baz=295,slow=9.5,SNR=14						
FITZ				pP	pP	12 06 21.4	+2.7
	0.5nm,0.3s,baz=292,slow=11,SNR=19						
FITZ				LR	LR	12 13 39.5	
	comp=Z,143nm,18.5s,baz=308,slow=36						
NNT	Nongplab	23.23	341	P	P	12 06 50.0	+2.1
KAKA	Kakadu	24.81	100	eP	P	12 07 00.8	-1.7
	15nm,0.7s,mb4.6						
KAKA				e		12 07 14.3	
NWAO	Narrogin (SRO)	25.02	160	P	P	12 07 05.7	+1.3
	13nm,0.9s,mb4.5,baz=144,slow=19,SNR=3.2						
NWAO				LR	LR	12 15 51.8	
	comp=Z,152nm,20.6s,MS3.5,baz=89,slow=34						
NWAO	Narrogin (SRO)	25.02	160	P	P	12 07 05.7	+1.3
NWAO				LR	LR	12 15 51.8	
NST	Nakhon Sawan	26.03	344	P	P	12 07 13.4	-0.2
WRA	Warramunga Arr	28.03	115	P	P	12 07 31.7	+0.1
	12nm,1.1s,mb4.4,baz=287,slow=11,SNR=19						
WRA				pP	pP	12 07 42.1	+0.8
	22nm,1.1s,baz=286,slow=11,SNR=20						
WRA				PcP	PcP	12 10 47.1	+1.3
	1.3nm,0.8s,baz=299,slow=2.1,SNR=4.0						
WRA				pPcP		12 10 58.0	
	2.9nm,0.9s,baz=297,slow=2.3,SNR=5.5						
WRA	Warramunga Arr	28.03	115	P	P	12 07 31.7	+0.1
WRA				*PP	pP	12 07 42.1	+0.9
WRA						12 10 47.1	
WRAB	Tennant Creek	28.04	115	eP	P	12 07 31.3	-0.4
WRAB				e	pP	12 07 42.1	+0.8
WRAB				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.6						
WRAB	Tennant Creek	28.04	115	eP	P	12 07 31.3	-0.3
	comp=Z,18nm,1.2s,mb4.6						
WRAB				e	pP	12 07 42.1	+0.8
WB2	Warramunga Arr	28.04	115	eP	P	12 07 31.7	0.0
WB2				e	pP	12 07 42.6	+1.3
QIZ	Qiongzhong	28.47	5	P	P	12 07 36.4	+0.9
QIZ				eS	S	12 12 22.3	+1.5
QIZ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
QIZ				LR	LR		
	comp=N,266nm,14.9s						
QIZ				LR	LR		
	comp=Z,257nm,13.6s,MS4.0						
AS31	Alice Springs	29.00	122	eP	P	12 07 39.9	-0.3
ASAR	Alice Springs	29.00	122	P	P	12 07 40.0	-0.1
	comp=Z,1.8nm,1.0s,mb3.7,baz=288,slow=7.8,SNR=10.0						
ASAR				PcP	PcP	12 10 49.7	+1.5
	comp=Z,2.5nm,1.0s,baz=309,slow=2.4,SNR=7.0						
ASAR				pPcP		12 11 00.6	
	comp=Z,5.4nm,1.0s,baz=295,slow=2.5,SNR=9.1						
ASAR	Alice Springs	29.00	122	P	P	12 07 40.1	-0.1
ASAR						12 10 49.7	
CM31	Chiang Mai Arr	29.01	343	P	P	12 07 38.3	-2.0
CHG	Chiang Mai	29.35	344	P	P	12 07 43.7	+0.4
CHTO	Chiang Mai	29.35	344	eP	P	12 07 42.9	-0.4
	comp=Z,25nm,1.0s,mb4.9						
KMI	Kunming	34.72	353	P	P	12 08 32.8	+2.4
KMI				AP	pP	12 08 38.4	-1.7
KMI				XP	sP	12 08 43.1	-1.1

KMI S **S** **12 14 02.4 +4.1**
KMI AMB AMB
comp=Z,20nm,1.1s,mb5.0
KMI AMB AMB
comp=Z,121nm,4.2s
KMI LR LR
comp=N,500nm,15.7s,MS4.4
KMI LR LR
comp=E,299nm,17.9s,MS4.4
KMI LR LR
comp=Z,461nm,13.4s,MS4.4
GYA Guiyang 35.77 359⇑ *iP* **P** **12 08 39.6 +0.2**
GYA AP pP 12 08 45.5 -3.6
GYA XP sP 12 08 48.4 -4.8
GYA PP PP 12 10 01.4 +0.5
GYA S **S** **12 14 13.9 -0.4**
GYA SCP ScP 12 14 52.1 +1.8
GYA SCS ScS 12 18 55.4 +0.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,380nm,17.2s,MS4.4
GYA LR LR
comp=E,490nm,16.8s,MS4.4
GYA LR LR
comp=Z,460nm,17.0s,MS4.3
STKA Stephens Creek 38.73 130 *eP* **P** **12 09 04.1 -0.4**
comp=Z,9.6nm,1.5s,mb4.3
STKA *e* pP 12 09 15.7 +1.4
STKA Stephens Creek 38.73 130 P **P** **12 09 04.6 +0.1**
comp=Z,9.6nm,1.0s,mb4.5,baz=292,slow=8.2,SNR=10
STKA pP pP 12 09 15.7 +1.4
comp=Z,16nm,0.8s,baz=305,slow=7.2,SNR=13
STKA LR LR 12 23 21.2
comp=Z,127nm,20.6s,MS3.7,baz=202,slow=34
CTA Charters Tower 38.95 110 *eP* **P** **12 09 08.1 +1.7**
comp=Z,9.1nm,1.1s,mb4.4
CTA *e* pP 12 09 18.5 +2.3
CTA Charters Tower 38.95 110 P **P** **12 09 06.6 +0.2**
comp=Z,8.7nm,0.9s,mb4.5,baz=269,slow=10,SNR=4.8
CTA pP pP 12 09 18.1 +1.9
comp=Z,14nm,1.0s,baz=271,slow=13,SNR=4.0
CTA LR LR 12 23 44.9
comp=Z,102nm,20.4s,MS3.6,baz=52,slow=34
CTA Charters Tower 38.95 110 *eP* **P** **12 09 08.1 +1.7**
CTA *e* pP 12 09 18.5 +2.3
CTA pmax pmax
comp=Z,9.0nm,1.1s
CTAO Charters Tower 38.95 110 *eP* **P** **12 09 07.9 +1.5**
HYB Hyderabad 39.07 313 *i P* **P** **12 09 08.0 +0.6**
HYB Hyderabad 39.07 313 *eP* **P** **12 09 08.0 +0.6**
CD2 Chengdu 40.34 355 *eP* **P** **12 09 18.0 0.0**
CD2 AP pP 12 09 24.0 -3.8
CD2 XP sP 12 09 27.0 -4.8
CD2 PP PP 12 10 55.4 +4.3
CD2 S **S** **12 15 26.0 +2.4**
CD2 XS sS 12 15 36.0 -3.8
CD2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.4
CD2 AMB AMB
comp=Z,40nm,5.8s
CD2 LR LR
comp=N,150nm,13.2s
CD2 LR LR
comp=Z,150nm,10.8s,MS4.1
WHN Wuhan 40.39 9 P **P** **12 09 19.4 +1.0**
JOW Kunigami 41.45 29 LR LR 12 27 49.3
comp=Z,64nm,18.3s,MS3.5,baz=319,slow=38
LSA Lhasa 42.00 339 *eP* **P** **12 09 33.0 +1.4**
LSA pmax pmax
comp=Z,30nm,0.9s,mb4.9
LSA Lhasa 42.00 339 *eP* **P** **12 09 33.0 +1.4**
comp=Z,30nm,0.9s,mb4.9
JIRN Jiri 42.26 332 *eP* **P** **12 09 34.6 +0.9**
comp=Z,58nm,0.8s,mb5.2
SSE Sheshan 42.50 18 P **P** **12 09 34.9 -0.8**
SSE PP PP 12 11 16.6 +2.1
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,130nm,4.2s
SSE LR LR
comp=N,53nm,19.3s,MS3.6
SSE LR LR
comp=E,48nm,19.3s,MS3.6
SSE LR LR
comp=Z,62nm,21.9s,MS3.5
PKI Pulchoki 42.56 331 *eP* **P** **12 09 36.5 +0.3**
comp=Z,16nm,0.6s,mb4.9
GUN Gumba 42.62 331 *eP* **P** **12 09 37.3 +0.7**
comp=Z,57nm,0.8s,mb5.4
DMN Daman 42.74 330 *eP* **P** **12 09 38.1 +0.5**
comp=Z,32nm,0.7s,mb5.2
NJ2 Nanjing 42.77 14 *eP* **P** **12 09 37.9 +0.1**
NJ2 AP pP 12 09 43.9 -3.8
NJ2 XP sP 12 09 46.9 -4.8
NJ2 PP PP 12 11 19.8 +2.4
NJ2 S **S** **12 15 59.0 -0.5**
NJ2 XS sS 12 16 09.0 -6.8
NJ2 AMB AMB
comp=Z,110nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,290nm,7.4s
NJ2 LR LR
comp=N,340nm,20.8s,MS4.4
NJ2 LR LR
comp=E,380nm,22.4s,MS4.4
NJ2 LR LR
comp=Z,490nm,16.2s
KKN Kakani 42.81 331 *eP* **P** **12 09 38.4 +0.3**
comp=Z,41nm,1.0s,mb5.1
GKN Gorkha 43.30 330 *eP* **P** **12 09 42.3 +0.2**
comp=Z,62nm,1.0s,mb5.3
XAN Xi'an 43.34 2 P **P** **12 09 41.9 -0.6**
XAN AP pP 12 09 51.3 -1.1
XAN AMB AMB
comp=Z,17nm,1.1s,mb4.7
KOLN Koldanda 43.63 329 *eP* **P** **12 09 45.2 +0.4**
comp=Z,61nm,0.8s,mb5.4
LZH Lanzhou 45.48 356 *eP* **P** **12 10 01.5 +2.0**
LZH AP pP 12 10 10.1 +0.6
LZH XP sP 12 10 15.5 +2.0
LZH PP PP 12 11 49.0 +2.7
LZH *eS* **S** **12 16 42.5 +3.5**
LZH XS sS 12 16 52.0 -3.3
LZH SS SS 12 19 57.0 -6.0
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,130nm,6.0s
LZH LR LR
comp=E,565nm,13.0s
LZH LR LR
comp=Z,820nm,13.5s,MS4.8
NDI New Delhi 47.85 323 *eP* **P** **12 10 16.0 -2.1**
GTA Gaotai 49.18 352 *eP* **P** **12 10 29.8 +1.5**
GTA AP pP 12 10 34.9 -3.5
GTA XP sP 12 10 38.3 -4.0
GTA PP PP 12 12 24.1 +1.9
GTA S **S** **12 17 32.9 +1.3**
GTA XS sS 12 17 43.3 -4.8
GTA SS SS 12 20 59.4 -3.6
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,159nm,6.5s
GTA LR LR
comp=N,139nm,19.5s,MS4.2
GTA LR LR
comp=E,244nm,24.1s,MS4.2
GTA LR LR
comp=Z,162nm,16.0s
BTO Baotou 49.93 3 *eP* **P** **12 10 34.8 +0.7**
BJI Beijing 49.98 9 *eP* **P** **12 10 34.1 -0.3**
BJI AMB AMB
comp=Z,18nm,0.8s,mb5.2
BJI LR LR
comp=Z,162nm,25.3s,MS3.9
HHC Hu-ho-hao-te 50.26 4 *eP* **P** **12 10 39.0 +2.4**
HHC AP pP 12 10 45.1 -1.5
HHC XP sP 12 10 47.9 -2.7
HHC PCP PcP 12 11 57.6 +2.4
HHC PP PP 12 12 35.5 +3.4
HHC SCP ScP 12 15 50.9 +2.4
HHC PCS PcS 12 15 53.3 +1.0
HHC S **S** **12 17 50.1 +3.3**
HHC XS sS 12 18 00.3 -3.0
HHC SCS ScS 12 20 25.9 +0.8
HHC AMB AMB
comp=Z,10.0nm,0.2s,mb5.5
HHC AMB AMB
comp=Z,225nm,5.1s
HHC LR LR
comp=N,222nm,5.7s
HHC LR LR
comp=E,343nm,5.5s
HHC LR LR
comp=Z,105nm,6.1s
MJAR Matsushiro Arr 54.22 31 P **P** **12 11 04.4 -1.6**
comp=Z,6.1nm,1.0s,mb4.5,baz=204,slow=7.3,SNR=7.6
MJAR LR LR 12 34 38.4
comp=Z,74nm,18.8s,MS3.8,baz=200,slow=36
WMQ Urumqi 56.01 343⇓ *iP* **P** **12 11 19.3 +0.4**
WMQ AP pP 12 11 25.5 -3.6
WMQ XP sP 12 11 28.0 -5.0
WMQ PCP PcP 12 12 18.0 +1.0
WMQ PP PP 12 13 25.5 +1.6
WMQ S **S** **12 19 04.0 -1.0**
WMQ XS sS 12 19 14.5 -7.2
WMQ AMB AMB
comp=Z,15nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,82nm,3.6s
WMQ LR LR
comp=N,236nm,19.9s,MS4.5
WMQ LR LR
comp=E,290nm,20.0s,MS4.5
WMQ LR LR
comp=Z,232nm,20.8s,MS4.2
KSH Kashi 56.82 331 *eP* **P** **12 11 22.1 -2.6**
KSH *e*PCP PcP 12 12 18.5 -1.6
KSH *e*PP PP 12 13 29.3 -1.8
KSH *e*SCP ScP 12 16 15.0 -2.1
KSH *e*PCS PcS 12 16 17.1 -3.8
KSH *e*S **S** **12 19 08.3 -7.3**
KSH *e*SCS ScS 12 21 05.0 -6.4
KSH LR LR
comp=N,393nm,4.6s
KSH LR LR
comp=E,372nm,7.8s
KSH LR LR
comp=Z,255nm,5.6s
SONM Songino Array 57.10 359 P **P** **12 11 26.7 +0.1**
comp=Z,2.5nm,0.6s,mb4.4,baz=173,slow=8.3,SNR=18
SONM pP pP 12 11 38.2 +1.4
comp=Z,2.4nm,0.6s,baz=178,slow=8.2,SNR=6.3
SONM LR LR 12 37 25.1
comp=Z,150nm,20.0s,MS4.1,baz=309,slow=38
SONM Songino Array 57.10 359 P **P** **12 11 26.7 0.0**
SONM *PP pP 12 11 38.2 +1.4
ULN Ulaanbaatar 57.13 360 *eP* **P** **12 11 26.9 +0.1**
ULN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ULN Ulaanbaatar 57.13 360 *eP* **P** **12 11 26.9 0.0**
comp=Z,8.8nm,1.0s,mb4.7
MDJ Mudanjiang 57.51 19 P **P** **12 11 29.6 +0.1**
MDJ S **S** **12 19 25.3 +0.5**
MDJ AMB AMB
comp=Z,11nm,1.0s,mb4.8
MDJ LR LR
comp=N,46nm,23.6s,MS3.6
MDJ LR LR
comp=E,32nm,23.6s,MS3.6
MDJ LR LR
comp=Z,48nm,30.9s
ZAK Zakamensk 59.75 357 *eP* **P** **12 11 45.0 -0.1**
AAK Ala-Archa 59.96 332⇑ *eP* **P** **12 11 45.3 -1.3**
AAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
MKAR Makanchi Array 60.36 340 P **P** **12 11 48.9 -0.4**
comp=Z,5.4nm,0.7s,mb4.7,baz=140,slow=7.7,SNR=27
MKAR pP pP 12 11 59.4 -0.2
comp=Z,5.6nm,0.7s,baz=147,slow=7.3,SNR=6.4
MKAR Makanchi Array 60.36 340 P **P** **12 11 48.9 -0.4**
MKAR pP pP 12 11 59.4 -0.2
MOY Mondy 61.18 355 *eP* **P** **12 11 55.7 +0.8**
MOY pmax pmax
comp=Z,34nm,1.7s,mb5.2
KLR Kul'dur 62.30 18 *eP* **P** **12 11 58.0 -4.4**
YSS Yuzh-Sakhalins 64.46 26⇑ *eP* **P** **12 12 16.7 0.0**
YSS pmax pmax
comp=Z,36nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 64.46 26 *eP* **P** **12 12 13.1 -3.6**
comp=Z,34nm,1.3s,mb5.2
MAW Mawson 65.08 197 *eP* **P** **12 12 20.9 +0.2**
comp=Z,7.5nm,0.9s,mb4.7
MAW *e* pP 12 12 31.9 +0.9
MAW Mawson 65.08 197 P **P** **12 12 19.9 -0.8**
comp=Z,9.6nm,0.9s,mb4.8,baz=44,slow=8.7,SNR=12
MAW Mawson 65.08 197 *eP* **P** **12 12 20.9 +0.2**
MAW *e* pP 12 12 31.9 +0.9
MAW pmax pmax
comp=Z,8.0nm,0.9s
ZAL Zalesovo 66.04 346 P **P** **12 12 24.8 -2.1**
comp=Z,1.7nm,0.5s,mb4.3,baz=172,slow=2.9,SNR=6.5
ZAL LR LR 12 47 09.6
comp=Z,54nm,18.7s,MS3.8,baz=98,slow=41
ZAL Zalesovo 66.04 346 *i P* **P** **12 12 26.5 -0.4**
ZAL pmax pmax
comp=Z,2.0nm,0.5s
BOD Bodaibo 67.32 4 *eP* **P** **12 12 31.1 -4.0**
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.7
VOSK Vostochnaya 69.35 337 P **P** **12 12 47.1 -0.7**
VOSK pmax pmax
comp=Z,13nm,1.2s,mb4.7
BVA0 Borovoye Array 69.81 337 *i P* **P** **12 12 49.9 -0.8**
BVA0 pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BVAR Borovoye Array 69.81 337 P **P** **12 12 50.1 -0.5**
comp=Z,4.9nm,0.7s,mb4.5,baz=146,slow=8.2,SNR=28
BRVK Borovoye 69.88 337 *eP* **P** **12 12 50.7 -0.4**
BRVK pmax pmax
comp=Z,16nm,1.4s,mb4.8
BRVK Borovoye 69.88 337 *eP* **P** **12 12 50.7 -0.4**
comp=Z,16nm,1.4s,mb4.8
KMBO Kilima Mbogo 70.20 272 P **P** **12 12 55.1 +2.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=79,slow=11,SNR=5.3
KMBO pP pP 12 13 05.5 +2.1
comp=Z,2.3nm,0.8s,baz=59,slow=10,SNR=4.6
KMBO Kilima Mbogo 70.20 272 *i P* **P** **12 12 55.9 +2.9**
CHKZ Chkalovo 70.23 338 P **P** **12 12 52.8 -0.4**
CHKZ pmax pmax
comp=Z,28nm,1.3s,mb5.0
CHKZ Chkalovo 70.23 338 *eP* **P** **12 12 52.6 -0.6**
comp=Z,23nm,1.0s,mb5.1
AB31 Akbulak array 71.75 329 *i P* **P** **12 13 01.6 -0.8**
AB31 pmax pmax
comp=Z,45nm,1.2s,mb5.3
SYO Syowa Base 73.28 200⇓ *eP* **P** **12 13 11.0 -0.5**
SYO Syowa Base 73.28 200⇓ *epP* pP 12 13 22.6 +0.6
YAK Yakutsk 73.42 11⇑ *eP* **P** **12 13 11.5 -0.9**
YAK pmax pmax
comp=Z,28nm,1.2s,mb5.1
VNDA Vanda 73.44 169 P **P** **12 13 12.2 -0.3**
comp=Z,1.8nm,1.0s,mb4.0,baz=326,slow=5.3,SNR=4.6
VNDA pP pP 12 13 23.4 +0.4
comp=Z,2.8nm,1.0s,baz=290,slow=6.6,SNR=6.5
VNDA LR LR 12 40 22.8
comp=Z,59nm,19.6s,MS3.9,baz=272,slow=32
VNDA Vanda 73.44 169 P **P** **12 13 12.2 -0.3**
VNDA *PP pP 12 13 23.4 +0.4
AKTO Aktyubinsk 73.46 330 P **P** **12 13 10.9 -1.7**
AKTO pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
GNI Garni 75.98 315 *eP* **P** **12 13 26.7 -0.5**
GNI pmax pmax
comp=Z,12nm,1.7s
PET Petropavlovsk 76.01 29 *eP* **P** **12 13 26.7 -0.7**
PET *e* pP 12 13 37.6 -0.3
PET *eS* S 12 23 05.5 -2.8
PET pmax pmax
comp=Z,15nm,1.6s,mb4.7
ARU Arti 77.03 335⇓ *iP* **P** **12 13 32.9 -0.3**
ARU *e* pP 12 13 42.8 -0.9
ARU *e* 12 16 27.8
ARU *e*PPP 12 18 15.3
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARU Arti 77.03 335 *eP* **P** **12 13 32.6 -0.6**
comp=Z,14nm,1.1s,mb4.8
MA2 Magadan 77.10 21 *eP* **P** **12 13 32.8 -0.7**
MA2 *i* pP 12 13 44.1 +0.1
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.0
BOSA Boshof 78.61 243 pP pP 12 13 53.6 +1.1
comp=Z,7.9nm,1.1s,baz=136,slow=6.0,SNR=4.1
BOSA LR LR 12 44 30.3
comp=Z,118nm,18.3s,MS4.3,baz=40,slow=33
KIV Kislovodsk 78.98 318⇑ *eP* **P** **12 13 44.8 +0.8**
KIV pmax pmax
comp=Z,15nm,0.9s,mb4.9
SEY Seymchan 80.05 19⇑ *eP* **P** **12 13 49.8 0.0**
QSPA South Pole Qui 80.49 180 *eP* **P** **12 13 52.2 0.0**
comp=Z,13nm,1.1s,mb4.8
TIXI Tiksi 82.25 7 *eP* **P** **12 14 00.9 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BR131 Keskin Array S 83.76 312 *eP* **P** **12 14 09.2 -0.1**
comp=Z,3.0nm,0.9s,mb4.4
BRTR Keskin Array B 83.76 312 P **P** **12 14 09.4 +0.1**
comp=Z,4.0nm,1.0s,mb4.5,baz=123,slow=6.1,SNR=14
BRTR pP pP 12 14 20.1 +0.2
comp=Z,5.0nm,1.1s,baz=134,slow=3.6,SNR=7.2
OBN Obninsk 87.02 327α *iP* **P** **12 14 25.7 +0.1**
OBN *i* pP 12 14 37.0 +0.8
OBN 12 25 00.0
OBN pmax pmax
comp=Z,52nm,1.7s,mb5.5
SNAA Sanae 87.24 197 *eP* **P** **12 14 27.3 +0.6**
SNAA *e* 12 14 29.1
SNAA *e* pP 12 14 37.8 +0.5
SNAA Sanae 87.24 197 *eP* **P** **12 14 26.9 +0.2**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
SNAA Sanae 87.24 197 *eP* **P** **12 14 26.9 +0.3**
comp=Z,7.6nm,1.0s,mb4.9
BILL Bilibino 87.74 19 *eP* **P** **12 14 28.0 -1.1**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
VNA1 Neumayer--Stat 89.27 197 *eP* **P** **12 14 37.4 +1.1**
VNA1 *e* 12 14 38.7
VNA1 *e* pP 12 14 48.0 +1.1
VNA3 Neumayer Olymp 89.40 197 *eP* **P** **12 14 36.9 0.0**
VNA3 *e* 12 14 38.8
VNA3 *e* pP 12 14 48.6 +1.0
AKASG Malin Array Be 89.87 322 pP pP 12 14 49.0 -0.8
comp=Z,0.9nm,0.5s,baz=87,slow=4.2,SNR=2.6
NVAR Mina Array Bea 130.03 47 PKP PKPdf 12 20 52.6 +2.7
comp=Z,0.5nm,0.8s,baz=122,slow=4.8,SNR=3.8
NVAR pPKP pPKPdf 12 21 03.9 +3.1
comp=Z,0.6nm,0.8s,baz=51,slow=1.4,SNR=4.4
PDAR Pinedale Array 133.78 38 PKP PKPdf 12 20 58.8 +1.8
comp=Z,0.2nm,0.3s,baz=357,slow=22,SNR=4.5
ANMO Albuquerque 140.07 45⇑ *i*PKIKP PKPdf 12 21 10.1 +1.5
LONY Lake Ozonia 144.99 2 *e*PKP PKPdf 12 21 16.6 -0.7
BDFB Brasilia 145.07 225 PKPbc PKPbc 12 21 19.1 +2.2
comp=Z,9.0nm,0.8s,baz=151,slow=3.0,SNR=9.5
BDFB pPKPbc pPKPbc 12 21 29.9 +2.2
comp=Z,18nm,0.9s,baz=119,slow=4.2,SNR=7.1
WMOK Wichita Mounta 145.33 40 *e*PKIKP PKPdf 12 21 18.7 +0.8
NCB Newcomb 145.65 2 *e*PKP PKPdf 12 21 18.6 +0.2
JCT Junction City 147.20 47 PKP2 PKPab 12 21 23.8 -1.2
BINY Binghamton 147.32 5 *e*PKPbc PKPbc 12 21 23.9 +0.3
MIAR Mount Ida 148.56 34 *e*PKP2 PKPab 12 21 28.2 -2.3
SSPA Standing Stone 148.66 8 *e*PKPbc PKPbc 12 21 25.3 -2.0
WVT Waverly 150.12 25 *e*PKP2 PKPbc 12 21 31.4 +0.6
HKT Hockley 150.29 44 *e*PKIKP PKPbc 12 21 33.1 +1.9
PLAL Pickwick Lake 150.99 27 *e*PKPbc PKPbc 12 21 32.9 0.0
TZTN Tazewell 151.33 19 *e*PKPbc PKPbc 12 21 34.1 +0.4
SIV San Ignacio 152.19 204 PKP PKPdf 12 21 30.3 +1.4
comp=Z,3.9nm,0.9s,baz=202,slow=5.4,SNR=3.6
SIV PKPbc PKPbc 12 21 37.5 +1.9
comp=Z,3.9nm,0.9s,baz=163,slow=2.2,SNR=12
SIV pPKPbc pPKPbc 12 21 47.6 +1.0
comp=Z,6.8nm,1.0s,baz=148,slow=2.9,SNR=8.9
LPAZ La Paz 153.97 190 PKPbc PKPbc 12 21 41.7 +2.1
comp=Z,1.1nm,0.7s,baz=214,slow=3.6,SNR=5.0

JMA 18 12:10:11.1±0.5, 4465N×15008E, h30km, M4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.38**	**249**	P	Pn	12 11 00.8	-1.0
NEM2				*e*S	Sn	12 11 37.6	-3.3
JRA	**Rausu**	**3.63**	**260**	P	Pn	12 11 06.9	+1.7
JRA				*e*S	Sn	12 11 49.3	+2.2
JNK	**Nakash**	**4.00**	**256**	P	Pn	12 11 11.0	+0.6
JNK				*e*S	Sn	12 11 55.3	-1.0
JAK	**Akkeshi**	**4.23**	**249**	P	Pn	12 11 12.6	-0.9
JAK				*e*S	Sn	12 11 58.7	-3.2
JTKR	**Abashiri--Toko**	**4.48**	**263**	P	Pn	12 11 19.0	+2.1
JAR	**Ashorobuto**	**4.75**	**256**	P	Pn	12 11 21.6	+1.0
JAR				*e*S	Sn	12 12 14.3	-0.4
JOB	**Onbets**	**4.85**	**251**	P	Pn	12 11 22.2	+0.2
JMP	**Maruseppu**	**4.86**	**265**	P	Pn	12 11 24.5	+2.3
JCH	**Churui**	**5.28**	**250**	P	Pn	12 11 28.4	+0.4
ASAJ	**Asahikawa**	**5.39**	**267**	P	Pn	12 11 32.9	+3.5
JNBK	**Urakawa-nobuka**	**5.83**	**249**	P	Pn	12 11 35.1	-0.4
JBT2	**Biratori 2**	**5.90**	**254**	P	Pn	12 11 37.2	+0.8
JKB	**Kayabe**	**7.16**	**250**	P	Pn	12 11 53.4	-0.3
JKB				*e*S	Sn	12 13 08.2	-5.8

*ISCJB **18** 12:20:52.4±0.6, 24.36S×004×67.14W±007, h168km±9km, mb4.1/8, Error ellipse: s-maj=10.7km s-min=6.2km az=18.4*
*IDC **18** 12:20:53.1±1.5, 24.38S×6709W, h160km±14km, mb4.0/6, mb1 4.1/11, mb1mx3.9/19, mbtmp4.5/11, Error ellipse: s-maj=19.6km s-min=12.8km az=95.0*
*NEIC **18** 12:20:53.7±0.5, 24.35S×6707W, h166km±6km, mb4.4/9, Error ellipse: s-maj=8.3km s-min=6.0km az=105.0*
*BJI **18** 12:20:53.7, 24.30S×67.10W, h165km, mb5.3*
*GUC **18** 12:20:54.7±0.7, 24.38S×6757W, h180km, ML4.9*

ISC 18 12:20:53.4±0.6, 2437S±004×6713W±007, h159km±8km, n40, σ1s09/42, mb4.1/8, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**3.08**	**282⇑**	*i*P	**Pn**	**12 21 44.0**	**+2.0**
ANCH				*i* S	**Sn**	**12 22 19.3**	**-0.5**
ANCH				AML	AML	12 22 20.4	
	comp=N,3μm,0.5s						
ANCH	**Antofagasta**	**3.08**	**282⇑**	*i*P	**Pn**	**12 21 44.0**	**+2.0**
ANCH				*i* S	**Sn**	**12 22 19.3**	**-0.5**
CPCH	**Copiapo**	**4.16**	**224⇓**	*i*P	**Pn**	**12 21 56.9**	**+0.9**
CPCH				*i* S	**Sn**	**12 22 43.6**	**-1.1**
CDCH	**Caldera**	**4.29**	**230⇓**	*i*P	**Pn**	**12 21 57.3**	**-0.4**
CDCH				*i* S	**Sn**	**12 22 45.2**	**-2.5**
VACH	**Vallenar**	**5.31**	**217**	*e*P	**Pn**	**12 22 13.8**	**+2.8**
VACH				*i* S	**Sn**	**12 23 12.8**	**+1.2**
CFAA	**Coronel Fontan**	**7.28**	**187**	P	**Pn**	**12 22 37.6**	**+0.5**
	comp=N,0.6nm,0.3s,baz=6.1,slow=12,SNR=20						
CFAA				S	**Sn**	**12 23 55.5**	**-3.2**
	comp=N,0.6nm,0.3s,baz=281,slow=21,SNR=7.6						
LPAZ	**La Paz**	**8.09**	**353**	P	**Pn**	**12 22 49.9**	**+1.9**
	comp=N,12nm,0.3s,baz=159,slow=7.5,SNR=168						
LPAZ				S	**Sn**	**12 24 18.1**	**-0.1**
	comp=N,0.4nm,0.3s,baz=352,slow=20,SNR=4.0						
LPAZ	**La Paz**	**8.09**	**353**	*e*Pn	**Pn**	**12 22 49.6**	**+1.7**
	comp=N,28nm,0.4s						
LPAZ				*e*Sn	**Sn**	**12 24 15.3**	**-2.8**
ARE	**Arequipa**	**8.86**	**332**	P	**Pn**	**12 22 58.0**	**-0.2**
ARE				*e*S	**Sn**	**12 24 32.0**	**-4.7**
CPUP	**Villa Florida**	**9.08**	**105**	P	**Pn**	**12 23 01.7**	**+0.7**
	comp=N,0.5nm,0.3s,baz=270,slow=12,SNR=15						
CPUP	**Villa Florida**	**9.08**	**105**	*e*P	**Pn**	**12 23 01.0**	**0.0**
	comp=N,15nm,0.6s						
SIV	**San Ignacio**	**10.09**	**35**	P	**Pn**	**12 23 13.9**	**-0.4**
	comp=N,6.2nm,0.3s,baz=239,slow=9.4,SNR=28						
SIV				S	**Sn**	**12 24 53.8**	**-12**
	baz=252,slow=19,SNR=3.4						
TRQA	**Tornquist**	**14.34**	**163**	*e*P	**Pn**	**12 24 07.5**	**-1.6**
	comp=N,18nm,1.1s						
SAML	**Samuel**	**15.79**	**14**	*e*P	**Pn**	**12 24 26.4**	**-0.6**
	comp=N,2.4nm,0.5s						
PLCA	**Paso Flores**	**16.57**	**189**	P	**Pn**	**12 24 36.9**	**+0.3**
	comp=N,0.4nm,0.3s,baz=12,slow=14,SNR=8.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.57**	**189**	*e*P	**Pn**	**12 24 37.2**	**+0.7**
	comp=N,7.0nm,0.7s						
BDFB	**Brasilia**	**19.93**	**68**	P	**P**	**12 25 12.7**	**-0.2**
	comp=N,3.2nm,0.3s,baz=261,slow=7.1,SNR=23						
BDFB	**Brasilia**	**19.93**	**68**	*e*P	**P**	**12 25 12.2**	**-0.6**
BAO	**Brasilia Array**	**19.95**	**68**	P	**P**	**12 25 13.5**	**+0.4**
SNAA	**Sanae**	**59.05**	**161**	*e*P	**P**	**12 30 36.6**	**0.0**
	comp=N,1.0nm,0.5s,mb3.9						
DBIC	**Dimbokro**	**68.03**	**71**	P	**P**	**12 31 34.8**	**-0.7**
	comp=N,3.4nm,0.6s,mb4.3,baz=180,slow=7.7,SNR=11						
DBIC	**Dimbokro**	**68.03**	**71**	*e*P	**P**	**12 31 34.6**	**-0.9**
	comp=N,3.0nm,0.5s,mb4.3						
SYO	**Syowa Base**	**73.25**	**159⇑**	*e*P	**P**	**12 32 11.0**	**+3.9**
TOA0	**Torodi Ar. Sit**	**76.81**	**69**	*e*P	**P**	**12 32 27.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**12 32 27.0**	**-0.4**
	comp=N,4.7nm,0.4s,mb4.5,baz=261,slow=5.5,SNR=58						
TORD	**Torodi Ar. Bea**	**76.81**	**69**	P	**P**	**12 32 27.0**	**-0.5**
PDAR	**Pinedale Array**	**77.40**	**329**	P	**P**	**12 32 31.3**	**+0.5**
	comp=N,0.3nm,0.5s,mb3.2,baz=130,slow=9.0,SNR=3.7						
ULM	**Lac du Bonnet**	**78.53**	**342**	P	**P**	**12 32 36.0**	**-1.0**
	comp=N,3.7nm,0.8s,mb4.0,baz=90,slow=2.9,SNR=3.1						
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**12 32 49.0**	**+0.4**
	comp=N,5.4nm,0.5s,mb4.4,baz=244,slow=1.2,SNR=22						
BOSA	**Boshof**	**80.67**	**117**	*e*P	**P**	**12 32 49.0**	**+0.4**
	comp=N,5.0nm,0.5s,mb4.4						
LBTB	**Lobatse**	**82.35**	**114**	*e*P	**P**	**12 32 57.9**	**+0.5**
	comp=N,5.7nm,0.5s,mb4.5						
ESDC	**Sonseca Array**	**86.74**	**44**	P	**P**	**12 33 20.1**	**+0.7**
	comp=N,0.9nm,0.7s,mb3.7,baz=250,slow=4.3,SNR=4.8						
ASAR	**Alice Springs**	**128.08**	**205**	PKP	PKPdf	12 39 41.0	+0.5
	comp=N,0.4nm,0.7s,baz=152,slow=2.4,SNR=7.0						
WRA	**Warramunga Arr**	**131.25**	**207**	PKP	PKPdf	12 39 47.4	+1.0
	comp=N,0.2nm,0.4s,baz=162,slow=1.5,SNR=14						
ZAL	**Zalesovo**	**143.77**	**28**	PKP	PKPdf	12 40 07.7	-1.7
	comp=N,2.2nm,0.5s,baz=158,slow=4.5,SNR=9.3						
ZAL	**Zalesovo**	**143.77**	**28**	PKP	PKPdf	12 40 07.7	-1.7
MKAR	**Makanchi Array**	**146.88**	**40**	PKPbc	PKPbc	12 40 15.3	-1.6
	comp=N,6.7nm,0.6s,baz=339,slow=3.1,SNR=38						
WMQ	**Urumqi**	**151.70**	**41**	*e*PKP	PKPdf	12 40 21.5	-1.0
HHC	**Hu-ho-hao-te**	**163.53**	**3**	*e*PKP	PKPdf	12 40 36.0	-1.0
HHC				PP	PP		
	comp=Z,359nm,5.7s						
LZH	**Lanzhou**	**165.96**	**32**	*e*PKP	PKPdf	12 40 38.0	-1.1
LZH				XPKP		12 41 37.5	
LZH				LR	LR		
	comp=N,125nm,19.5s						
LZH				LR	LR		
	comp=Z,245nm,20.4s						

MAN 18 12:41:50.2, 1893N×12149E, h1km, mb2.0, ML3.7, MS3.8, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.48**	**210**	*e*P	Pn	12 42 17.2	-0.7
CAUP	**Cauayan**	**2.00**	**171**	*e*P	Pn	12 42 26.5	+1.3
PALP	**Palanan**	**2.06**	**154**	*e*P	Pn	12 42 26.3	+0.3
BOLP	**Bolinao**	**2.95**	**211**	*e*P	Pn	12 42 38.9	+0.7

*ISCJB **18** 12:45:14.3±0.5, 2389N±004×8773E±005, h33km, mb3.6/4, Error ellipse: s-maj=7.5km s-min=4.2km az=126.9*
*IDC **18** 12:45:14.1±2.1, 2443N×8901E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=149.6km s-min=23.0km az=58.0*
*DMN **18** 12:45:14.9±0.7, 24.18N×87.46E, h10km, Ml4.8/7, Error ellipse: s-maj=23.5km s-min=12.6km az=62.0*
*NDI **18** 12:45:16.2±4.1, 2381N×8779E, h36km±27km, ML4.1*
ISC 18 12:45:16.2±0.6**, 2374N**±003×**8750E**±005**, h43**km±12km**, n28,** σ1§**24**/39**, mb3.6**/4**, 1D, Southern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAL	**Calcutta**	**1.42**	**147**	*e*P	**Pn**	**12 45 40.4**	**+0.9**
CAL				*e*S	**Sn**	**12 45 55.0**	**-2.0**
CAL				AML	AML	12 46 01.7	
	comp=E,9μm,0.3s						
CAL				AML	AML	12 46 03.8	
	comp=N,6μm,0.1s						
SHBG	**Sahibganj**	**1.48**	**6**	*e*P	**Pn**	**12 45 39.5**	**-0.8**
BOK	**Bokaro**	**1.48**	**272**	*e*P	**Pn**	**12 45 42.7**	**+2.4**
BOK				*e*S	**Sn**	**12 46 04.1**	**+5.6**
BOK				AML	AML	12 46 06.6	
	comp=N,4μm,0.3s						
BOK				AML	AML	12 46 07.9	
	comp=E,2μm,0.2s						
SLGI	**Shiliguri**	**3.06**	**16**	*e*x	**Pn**	**12 46 07.8**	**+5.8**
AGT	**Agartala**	**3.44**	**87**	*i* x	x	12 46 57.0	
GTK	**Gangtok**	**3.71**	**16**	*e*x	x	12 46 22.0	
GTK				*e*x	x	12 47 12.0	
JIRN	**Jiri**	**4.08**	**343**	*e*Pn	**Pn**	**12 46 16.2**	**+0.2**
JIRN				*e*Sn	**Sn**	**12 47 00.7**	**-1.7**
	comp=E,610nm,0.3s						
PKI	**Pulchoki**	**4.25**	**334**	*e*Pn	**Pn**	**12 46 18.7**	**+0.3**
PKI				*e*Sn	**Sn**	**12 47 06.8**	**0.0**
	comp=E,610nm,0.5s						
SHL	**Shillong**	**4.38**	**65**	*e*P	**Pn**	**12 46 16.0**	**-4.2**
SHL				*e*S	**Sn**	**12 47 00.5**	**-9.5**
GUN	**Gumba**	**4.40**	**341**	*e*Pn	**Pn**	**12 46 20.9**	**+0.5**
GUN				*e*Sn	**Sn**	**12 47 08.9**	**-1.5**
	comp=E,828nm,0.5s						
DMN	**Daman**	**4.41**	**331**	*e*Pn	**Pn**	**12 46 21.2**	**+0.6**
DMN				*e*Sn	**Sn**	**12 47 10.7**	**-0.1**
	comp=E,531nm,0.5s						
KKN	**Kakani**	**4.50**	**334**	*e*Pn	**Pn**	**12 46 22.1**	**+0.3**
KKN				*e*Sn	**Sn**	**12 47 12.8**	**-0.1**
	comp=E,787nm,0.5s						
GKN	**Gorkha**	**4.96**	**329**	*e*Pn	**Pn**	**12 46 28.5**	**+0.3**
GKN				*e*Sn	**Sn**	**12 47 23.7**	**-0.6**
	comp=E,1μm,0.8s						
KOLN	**Koldanda**	**5.33**	**320**	*e*Pn	**Pn**	**12 46 33.9**	**+0.7**
KOLN				*e*Sn	**Sn**	**12 47 33.6**	**+0.2**
	comp=E,295nm,0.4s						
ALBI	**Allahabad**	**5.41**	**288**	*e*x	**Sn**	**12 47 29.5**	**-5.8**
JBP	**Jabalpur**	**6.92**	**267⇓**	*i*P	**Pn**	**12 46 57.7**	**+2.6**
JBP				*e*x	x	12 47 18.0	
	comp=Z,28nm,1.4s						
JBP				*i* x	x	12 48 17.0	
VIS	**Vishakhapatnam**	**7.15**	**214**	*e*S	**Sn**	**12 48 16.4**	**-1.7**
VIS				AML	AML	12 49 07.6	
	comp=N,50nm,0.6s						
VIS				AML	AML	12 49 12.2	
	comp=E,60nm,0.7s						
NGP	**Nagpur**	**8.23**	**253**	*e*P	**Pn**	**12 47 17.2**	**+4.2**
NGP				*e*S	**Sn**	**12 48 43.9**	**-0.7**
NGP				AML	AML	12 49 36.6	
	comp=N,208nm,0.5s						
NGP				AML	AML	12 49 38.3	
	comp=E,151nm,0.5s						
BHPL	**Bhopal**	**9.26**	**269**	*e*P	**Pn**	**12 47 31.3**	**+4.2**
BHPL				*e*S	**Sn**	**12 49 08.9**	**-1.0**
BHPL				AML	AML	12 50 14.9	
	comp=E,80nm,0.6s						
BHPL				AML	AML	12 50 15.9	
	comp=N,141nm,0.5s						
NDI	**New Delhi**	**10.46**	**300**	*e*P	**Pn**	**12 47 46.0**	**+2.5**
NDI				*e*S	**Sn**	**12 49 33.6**	**-5.8**
LATR	**Latur**	**11.50**	**245**	*e*x	x	12 50 21.7	
SMLA	**Simla**	**11.76**	**311**	*e*P	**Pn**	**12 47 56.7**	**-4.5**
SMLA				*e*S	**Sn**	**12 49 57.8**	**-13**
POO	**Poona**	**13.75**	**250**	*e*x	**Sn**	**12 50 58.0**	**-1.7**
KAD	**Karad**	**14.02**	**245**	*e*x	**Sn**	**12 51 00.2**	**-5.9**
MKAR	**Makanchi Array**	**23.38**	**351**	P	**P**	**12 50 20.0**	**-1.1**
	comp=N,0.5nm,0.6s,mb3.2,baz=165,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**62.90**	**328**	P	**P**	**12 55 43.1**	**+5.1**
	comp=N,0.8nm,0.9s,mb3.9,baz=95,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**63.00**	**130**	P	**P**	**12 55 39.3**	**+0.7**
	comp=N,0.4nm,0.7s,mb3.6,baz=318,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**65.19**	**133**	P	**P**	**12 55 53.8**	**+0.8**
	comp=N,0.7nm,0.5s,mb3.9,baz=311,slow=6.5,SNR=25						

*IDC **18** 13:19:17.1±0.6, 14.15N×91.42W, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/24, mbtmp4.3/20, ML4.2/1, MS4.5/24, Ms1 4.5/24, ms1mx4.4/33, Error ellipse: s-maj=27.4km s-min=12.4km az=58.0*
*CASC **18** 13:19:17.1±2.7, 1427N×9226W, h118km±19km, MD4.9, ML4.5, mb4.8(NEIC)*
*MEX **18** 13:19:22.5±0.5, 1381N×9201W, h122km±25km, MD5.0*
*MOS **18** 13:19:22.4±1.1, 1401N×9163W, h49km, mb5.0/21, Error ellipse: s-maj=16.8km s-min=5.7km az=107.0*
*ISCJB **18** 13:19:22.2±0.4, 1395N±004×9193W±003, h47km±4km, mb4.7/61, MS4.6/30, Error ellipse: s-maj=7.0km s-min=3.1km az=75.1*
*GCMT **18** 13:19:24.2±0.2, 1381N×92.17W, h27km, MW5.3/82, Moment Tensor Solution. s80,c133; s82,c141; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; Mrr0.84±.02; Mθθ-0.73±.02; Mφφ-0.10±.02; Mrθ0.54±.03; Mθφ0.35±.01; Mφr-0.48±.04; Best double couple: M0 1.12800×10^{17} NP1:φs283.00000°, δ27.00000°, λ69.00000°. NP2:φs125.00000°, δ65.00000°, λ100.00000°. Principal axes: T 1.1210, Plg68.0000°, Azm55.0000°; N 0.0140, Plg9.0000°, Azm301.0000°; P -1.1350, Plg19.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 13:19:24.2±0.8, 1397N×9163W, h54km±6km, mb4.8/49, MD5.0(MEX) Error ellipse: s-maj=7.7km s-min=4.9km az=221.0*
*BJI **18** 13:19:24.2, 1400N×9160W, h54km, mB5.5, Ms4.9, Msz4.7*
ISC 18 13:19:23.8±0.3**, 1397N**±003×**9195W**±003**, h40**km±3km**, n244,** σ1§**39**/233**, mb4.7**/61**, MS4.6**/30**, 11C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.46**	**41⇑**	*e*P	**Pn**	**13 19 35.1**	**+1.1**
JAT				*e*S	**Sn**	**13 19 49.6**	**+8.4**
FUG	**Fuego 3**	**1.18**	**66⇓**	*i*P	**Pn**	**13 19 43.5**	**-0.3**
TP2	**Tecpan 2**	**1.21**	**48⇓**	*e*P	**Pn**	**13 19 44.0**	**-0.3**
TER	**Terranova**	**1.27**	**75⇑**	*e*P	**Pn**	**13 19 44.1**	**-1.0**
PCG	**Pacaya**	**1.37**	**72⇑**	*e*P	**Pn**	**13 19 46.6**	**+0.3**
GCG	**Guatemala City**	**1.50**	**66⇑**	*e*P	**Pn**	**13 19 48.0**	**-0.2**
SBLS	**San Blas**	**2.26**	**93**	*e*P	x	13 20 28.0	
SBLS				*e*S	x	13 21 00.1	
SNJE	**San Jose**	**2.28**	**92**	*e*P	x	13 20 27.5	
SNJE				*e*S	x	13 20 59.8	
CCIG	**Comitan**	**2.31**	**356**	*i* P	**Pn**	**13 20 00.6**	**+1.3**
CCIG				*i* S	**Sn**	**13 20 30.8**	**+4.3**
MTO2	**Montecristo 2**	**2.55**	**80**	*e*P	x	13 20 31.9	
MTO2				*e*S	x	13 21 05.7	
BOQS	**Boqueron**	**2.60**	**95⇓**	*e*P	x	13 20 32.5	
BOQS				*e*S	x	13 21 09.2	
SCX	**San Cristobal**	**2.83**	**347**	*i* P	**Pn**	**13 20 09.5**	**+3.0**
SCX				*i* S	**Sn**	**13 20 45.5**	**+6.1**
SNVI	**San Vicente**	**3.04**	**96**	*e*P	x	13 20 38.8	
SNVI				*e*S	x	13 21 19.0	
VSM	**San Miguel**	**3.61**	**98⇑**	*e*P	x	13 20 47.6	
VSM				*e*S	x	13 21 34.0	
CNCH	**Conchagua**	**4.06**	**99⇑**	*e*P	x	13 20 53.1	
CNCH				*e*S	x	13 21 48.4	
CMIG	**Matias Romero**	**4.20**	**318**	Pn	**Pn**	**13 20 23.8**	**-1.5**
	12nm,0.3s,baz=137,slow=11,SNR=90						
CMIG				Sn	**Sn**	**13 21 14.4**	**+1.3**
	206nm,0.3s,baz=234,slow=11,SNR=8.9						
CMIG				LR	LR	13 21 57.3	
	comp=Z,3μm,18.9s,baz=133,slow=36						
CMIG	**Matias Romero**	**4.20**	**318**	*i* P	**Pn**	**13 20 24.5**	**-0.8**
CMIG				*i* S	**Sn**	**13 21 13.2**	**+0.1**
CMIG	**Matias Romero**	**4.20**	**318**	*i* P	**Pn**	**13 20 24.5**	**-0.8**
CMIG				*i* S	**Sn**	**13 21 13.2**	**+0.1**
CMIG				Sn	**Sn**	**13 21 14.4**	**+1.3**
CMIG				LR	LR	13 21 57.3	
HUIG	**Huatulco**	**4.40**	**295**	*e*P	**Pn**	**13 20 26.3**	**-1.8**
HUIG				*i* S	**Sn**	**13 21 17.9**	**-0.1**
TUIG	**Tuzandepetl**	**4.69**	**330**	*i* P	**Pn**	**13 20 31.4**	**-0.6**
TUIG				*i* S	**Sn**	**13 21 24.7**	**-0.5**
TUIG	**Tuzandepetl**	**4.69**	**330**	*i* P	**Pn**	**13 20 31.4**	**-0.6**
TUIG				*i* S	**Sn**	**13 21 28.1**	**+2.9**
CRIN	**San Cristobal**	**4.93**	**104**	*e*P	**Pn**	**13 20 35.6**	**+0.3**
SCIG	**Sabancuy, Camp**	**5.03**	**8**	*i* P	**Pn**	**13 20 36.8**	**+0.1**
SCIG				*i* S	**Sn**	**13 21 35.0**	**+1.5**
LEON	**Leon**	**5.16**	**107**	*e*P	**Pn**	**13 20 37.5**	**-0.9**
LEON				*e*S	**Sn**	**13 21 40.9**	**+4.2**
TELN	**Telica**	**5.16**	**105**	*e*P	**Pn**	**13 20 37.8**	**-0.7**
TELN				*e*S	**Sn**	**13 21 40.6**	**+3.8**
CNGN	**Cerro Negro**	**5.32**	**105**	*e*P	**Pn**	**13 20 39.9**	**-0.7**
MIRN	**Miramar**	**5.32**	**106**	*e*P	**Pn**	**13 20 39.0**	**-1.7**
MOMJ	**Momotombo**	**5.49**	**106**	*e*P	**Pn**	**13 20 42.4**	**-0.6**
COPN	**Copaltepe**	**5.51**	**108**	*e*P	**Pn**	**13 20 42.6**	**-0.7**
OXX	**Oaxaca**	**5.55**	**305**	*e*P	**Pn**	**13 20 44.5**	**+0.7**
OXX	**Oaxaca**	**5.55**	**305**	*i* P	**Pn**	**13 20 45.5**	**+1.7**
VHO	**Vista Hermosa**	**5.55**	**304**	*e*P	**Pn**	**13 20 41.5**	**-2.3**
VHO				*i* S	**Sn**	**13 21 44.6**	**-1.8**
XAVN	**Gruta Xavier**	**5.77**	**108**	*e*P	**Pn**	**13 20 45.6**	**-1.2**
TISN	**Laguna Tiscapa**	**5.82**	**107**	*e*P	**Pn**	**13 20 47.2**	**-0.4**
MGAN	**Managua**	**5.84**	**107**	*e*S	**Sn**	**13 22 00.8**	**+7.3**
MGAN				*i*		13 22 12.7	
	comp=E,665nm,0.6s						
TICN	**Ticuantepe**	**5.89**	**108**	*e*P	**Pn**	**13 20 48.9**	**+0.4**
SSNN	**San Juan del S**	**6.52**	**113⇑**	*e*P	**Pn**	**13 20 57.8**	**+0.6**
CONN	**Concepcion**	**6.61**	**110**	*e*P	**Pn**	**13 21 00.5**	**+2.0**
MADN	**Villa Maderas**	**6.76**	**111**	*e*P	**Pn**	**13 21 03.0**	**+2.6**
UTMO	**Huajuapan**	**6.82**	**305**	*e*P	**Pn**	**13 20 57.8**	**-3.4**
TPIG	**Tehuac#an**	**6.83**	**311**	*i* P	**Pn**	**13 21 01.2**	**-0.1**
TPIG				*e*S	**Sn**	**13 22 13.4**	**-4.5**
LVIG	**Laguna Verde**	**7.15**	**324**	*i* P	**Pn**	**13 21 05.2**	**-0.5**
LVIG				*i* S	**Sn**	**13 22 23.9**	**-1.7**
JCR	**Jicaral**	**7.84**	**121**	*e*P	**Pn**	**13 21 17.4**	**+2.1**
JCR	**Jicaral**	**7.84**	**121**	*e*P	**Pn**	**13 21 22.8**	**+7.6**
CAO	**Cobano**	**7.93**	**122**	*e*P	**Pn**	**13 21 16.0**	**-0.5**
ACX	**Acapulco**	**8.21**	**292**	*e*P	**Pn**	**13 21 18.5**	**-1.8**
EPA	**Esparza**	**8.21**	**118⇑**	*e*P	**Pn**	**13 21 21.2**	**+0.9**
CGA2	**Cerro Gallo 2**	**8.31**	**117**	*e*P	**Pn**	**13 21 24.6**	**+2.9**
MEIG	**Mezcala**	**8.36**	**299**	*e*P	**Pn**	**13 21 20.6**	**-1.8**
MEIG				*i* S	**Sn**	**13 22 49.5**	**-6.0**
POA2	**Poas 2**	**8.42**	**116**	*e*P	**Pn**	**13 21 25.4**	**+2.2**
PRS1	**Puriscal**	**8.46**	**117**	*e*P	**Pn**	**13 21 27.4**	**+3.7**
PLIG	**Platanillo**	**8.49**	**302**	*i* P	**Pn**	**13 21 20.3**	**-3.8**
PLIG				*i* S	**Sn**	**13 22 56.8**	**-1.7**
PLIG	**Platanillo**	**8.49**	**302**	*i* P	**Pn**	**13 21 26.2**	**+2.1**
PLIG				*i* S	**Sn**	**13 22 57.3**	**-1.3**
CAIG	**El Cayaco**	**8.58**	**292**	*i* P	**Pn**	**13 21 22.6**	**-2.8**
CAIG				*i* S	**Sn**	**13 22 56.2**	**-4.8**
CAIG	**El Cayaco**	**8.58**	**292**	*i* P	**Pn**	**13 21 25.5**	**+0.1**
CAIG				*i* S	**Sn**	**13 23 04.7**	**+3.8**
LAJ	**Bijagual**	**8.68**	**117**	*e*P	**Pn**	**13 21 25.7**	**-1.0**
IIZ	**Mezontepec**	**8.71**	**308**	*i* P	**Pn**	**13 21 23.9**	**-3.2**
IIZ				*i* S	**Sn**	**13 23 00.1**	**-3.8**
UNM	**Universidad Na**	**8.74**	**309**	*e*P	**Pn**	**13 21 26.0**	**-1.6**
IRZ2	**Volcan Irazu 2**	**8.82**	**116**	*e*P	**Pn**	**13 21 29.5**	**+0.8**
IRZ2				*e*S	**Sn**	**13 23 14.8**	**+8.0**
LCR2	**La Lucha 2**	**8.84**	**117**	*e*P	**Pn**	**13 21 30.9**	**+2.0**
LCR2	**La Lucha 2**	**8.84**	**117**	*e*P	**Pn**	**13 21 30.9**	**+2.0**
SZVM	**Salazar**	**8.89**	**308**	*i* P	**Pn**	**13 21 34.2**	**+4.5**
BUS	**Buena Vista**	**9.14**	**118**	*e*P	**Pn**	**13 21 34.7**	**+1.6**
BUS	**Buena Vista**	**9.14**	**118**	*e*P	**Pn**	**13 21 35.5**	**+2.4**
CTCR	**Cotoan**	**10.32**	**118**	*e*P	**Pn**	**13 21 49.9**	**+0.7**
MOIG	**Morelia**	**10.51**	**304**	*i* P	**Pn**	**13 21 50.9**	**-1.0**
MOIG	**Morelia**	**10.51**	**304**	*i* P	**Pn**	**13 21 55.5**	**+3.7**
MRX	**Morelia**	**10.53**	**304**	*e*P	**Pn**	**13 21 53.5**	**+1.5**
LNIG	**Linares**	**12.98**	**328**	*i* P	**Pn**	**13 22 22.5**	**-3.0**
HKT	**Hockley**	**16.31**	**348**	*e*P	**Pn**	**13 23 11.0**	**+1.2**
HKT				pmax	pmax		
	comp=Z,93nm,1.6s						
HKT	**Hockley**	**16.31**	**348**	*e*P	**Pn**	**13 23 11.0**	**+1.2**
	comp=Z,93nm,1.6s						
JCT	**Junction City**	**17.96**	**338**	*e*P	**Pn**	**13 23 32.3**	**+2.0**
JCT				pmax	pmax		
	comp=Z,24nm,0.8s						
JCT	**Junction City**	**17.96**	**338**	*e*P	**Pn**	**13 23 32.3**	**+2.0**
	comp=Z,24nm,0.8s						
LRAL	**Lakeview Retre**	**19.51**	**13**	*e*P	**Pn**	**13 23 48.1**	**-1.0**
	comp=Z,26nm,0.8s						
ROSC	**El Rosal**	**19.58**	**116**	P	**Pn**	**13 23 49.7**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=105,slow=22,SNR=12						
ROSC	**El Rosal**	**19.58**	**116**	*e*P	**Pn**	**13 23 50.6**	**+0.7**
MIAR	**Mount Ida**	**20.54**	**356**	*e*P	**P**	**13 23 57.9**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,121nm,1.4s						
MIAR	**Mount Ida**	**20.54**	**356**	*e*P	**P**	**13 23 57.9**	**-0.9**
	comp=Z,121nm,1.4s						
OXF	**Oxford**	**20.59**	**6**	*e*P	**P**	**13 24 00.4**	**+1.2**
OXF				pmax	pmax		
	comp=Z,151nm,1.2s						
OXF	**Oxford**	**20.59**	**6**	*e*P	**P**	**13 24 00.4**	**+1.2**
	comp=Z,151nm,1.2s						
UALR	**University of**	**20.72**	**359**	*e*P	**P**	**13 24 00.1**	**-0.6**
	comp=Z,282nm,1.7s						
PLAL	**Pickwick Lake**	**21.22**	**9**	*e*P	**P**	**13 24 05.4**	**-0.6**
	comp=Z,26nm,1.0s,mb4.5						
SDV	**Santo Domingo**	**21.49**	**101**	P	**P**	**13 24 04.6**	**-4.4**
	comp=Z,7.8nm,0.7s,mb4.2,baz=306,slow=4.7,SNR=7.4						
SDV	**Santo Domingo**	**21.49**	**101**	*e*P	**P**	**13 24 04.5**	**-4.5**
	comp=Z,11nm,0.7s,mb4.3						
MNTX	**Cornudas Mount**	**21.52**	**327**	*e*P	**P**	**13 24 09.7**	**+0.4**
	comp=Z,37nm,0.8s,mb4.9						
WMOK	**Wichita Mounta**	**21.58**	**345**	*e*P	**P**	**13 24 07.8**	**-2.2**
WMOK				pmax	pmax		
	comp=Z,29nm,1.1s,mb4.6						
WMOK	**Wichita Mounta**	**21.58**	**345**	*e*P	**P**	**13 24 07.8**	**-2.2**
	comp=Z,29nm,1.1s,mb4.6						
SWET	**Sewanee**	**21.84**	**13**	*e*P	**P**	**13 24 11.7**	**-1.1**
WVT	**Waverly**	**22.38**	**9**	*e*P	**P**	**13 24 15.3**	**-3.1**
WVT				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.6						
WVT	**Waverly**	**22.38**	**9**	*e*P	**P**	**13 24 15.3**	**-3.2**
	comp=Z,17nm,0.7s,mb4.6						
JSC	**Jenkinsville**	**22.42**	**24**	P	**P**	**13 24 18.4**	**-0.5**
PARMO	**Parma**	**22.69**	**5**	*e*P	**P**	**13 24 19.6**	**-2.1**
TKL	**Tuckaleechee C**	**22.82**	**17**	P	**P**	**13 24 21.6**	**-1.5**
	comp=Z,5.6nm,0.5s,mb4.3,baz=192,slow=10,SNR=7.9						
TKL				S	**S**	**13 28 31.8**	**+2.1**
	comp=Z,2.4nm,0.7s,baz=103,slow=19,SNR=2.3						
TKL				LR	LR	13 34 45.8	
	comp=Z,2μm,18.6s,MS4.6,baz=205,slow=41						
TKL	**Tuckaleechee C**	**22.82**	**17**	P	**P**	**13 24 21.6**	**-1.5**
TKL				S	**S**	**13 28 31.8**	**+2.1**
TKL				LR	LR	13 34 45.8	
TZTN	**Tazewell**	**23.71**	**17**	*e*P	**P**	**13 24 30.3**	**-1.6**
USIN	**University of**	**24.20**	**8**	*e*P	**P**	**13 24 35.5**	**-0.9**
	comp=Z,48nm,0.6s,mb5.1						
SLM	**Saint Louis**	**24.62**	**3**	*e*P	**P**	**13 24 38.7**	**-1.6**
ANMO	**Albuquerque**	**24.66**	**330**	P	**P**	**13 24 40.9**	**+0.3**
	comp=Z,16nm,0.7s,mb4.7,baz=152,slow=12,SNR=32						
ANMO				LR	LR	13 35 36.8	
	comp=Z,575nm,18.4s,MS4.1,baz=1.8,slow=40						
ANMO	**Albuquerque**	**24.66**	**330*c***	*i*P	**P**	**13 24 41.7**	**+1.1**
ANMO	**Albuquerque**	**24.66**	**330**	*e*P	**P**	**13 24 40.9**	**+0.2**
	comp=Z,15nm,0.7s,mb4.6						
WCI	**Wyandotte Cave**	**24.68**	**11**	*e*P	**P**	**13 24 38.5**	**-2.3**
WCI				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.0						
WCI	**Wyandotte Cave**	**24.68**	**11**	*e*P	**P**	**13 24 38.5**	**-2.3**
	comp=Z,42nm,0.9s,mb5.0						
ATAH	**Atahualpa**	**24.80**	**146**	P	**P**	**13 24 42.0**	**+0.1**
	comp=Z,2.3nm,0.3s,mb4.1,baz=308,slow=19,SNR=3.0						
ATAH				LR	LR	13 33 12.9	
	comp=Z,1μm,19.8s,MS4.5,baz=199,slow=34						
TUC	**Tucson**	**25.09**	**320**	*e*P	**P**	**13 24 46.1**	**+1.5**
TUC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
TUC	**Tucson**	**25.09**	**320**	*e*P	**P**	**13 24 46.1**	**+1.5**
	comp=Z,14nm,1.0s,mb4.4						
ELN	**Prospectdale**	**25.23**	**21**	*e*P	**P**	**13 24 44.1**	**-1.8**
KSU1	**Kansas State U**	**25.37**	**352**	*e*P	**P**	**13 24 46.2**	**-0.9**
FWV	**Forest Hill**	**25.52**	**21**	*e*P	**P**	**13 24 46.1**	**-2.4**
BLO	**Bloomington**	**25.56**	**10**	*e*P	**P**	**13 24 47.1**	**-1.7**
SDCO	**Great Sand Dun**	**26.57**	**335**	*e*P	**P**	**13 24 59.5**	**+1.4**
	comp=Z,9.9nm,1.1s,mb4.2						
WUAZ	**Wupatki**	**27.68**	**324**	*e*P	**P**	**13 25 08.9**	**+1.0**
	comp=Z,19nm,0.9s,mb4.7						
PV01	**Paradox Valley**	**28.23**	**332**	*e*P	**P**	**13 25 13.9**	**+1.0**
ISCO	**Idaho Springs**	**28.40**	**338**	*e*P	**P**	**13 25 16.1**	**+1.8**
ISCO				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
ISCO	**Idaho Springs**	**28.40**	**338**	*e*P	**P**	**13 25 16.1**	**+1.8**
	comp=Z,8.0nm,1.3s,mb4.2						
PV10	**Paradox Valley**	**28.64**	**331**	*e*P	**P**	**13 25 16.5**	**0.0**
NNA	**Nana**	**29.82**	**149**	LR	LR	13 34 56.0	
	comp=Z,941nm,21.8s,MS4.4,baz=329,slow=32						
SRU	**San Rafael**	**29.93**	**330**	*e*P	**P**	**13 25 29.1**	**+1.2**
SRU				pmax	pmax		
	comp=Z,53nm,1.7s,mb5.0						
SRU	**San Rafael**	**29.93**	**330**	*e*P	**P**	**13 25 29.1**	**+1.1**
	comp=Z,53nm,1.7s,mb5.0						
CCUT	**Cedar City**	**30.25**	**325**	*e*P	**P**	**13 25 32.5**	**+1.8**
MSU	**Marysvale**	**30.30**	**327**	*e*P	**P**	**13 25 32.6**	**+1.4**
TMUT	**Trail Mountain**	**30.41**	**330**	*e*P	**P**	**13 25 33.3**	**+1.1**
ARUT	**Antelope Range**	**30.46**	**325**	*e*P	**P**	**13 25 34.9**	**+2.3**
RWWY	**Rawlins**	**30.64**	**337**	*e*P	**P**	**13 25 36.2**	**+2.0**
	comp=Z,16nm,1.0s,mb4.8						
NLU	**North Lily Min**	**31.34**	**329**	*e*P	**P**	**13 25 42.0**	**+1.6**
CTU	**Camp Tracy**	**31.75**	**331**	*e*P	**P**	**13 25 46.2**	**+2.2**
	comp=Z,19nm,1.1s,mb4.8						
RSSD	**Black Hills**	**31.78**	**343**	*e*P	**P**	**13 25 43.1**	**-1.1**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
RSSD	**Black Hills**	**31.78**	**343**	*e*P	**P**	**13 25 43.1**	**-1.1**
	comp=Z,4.6nm,0.6s,mb4.5						
DUG	**Dugway**	**31.89**	**329**	*e*P	**P**	**13 25 45.7**	**+0.5**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
DUG	**Dugway**	**31.89**	**329**	*e*P	**P**	**13 25 45.7**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.4						
TCUT	**Toone Canyon**	**31.93**	**332**	*e*P	**P**	**13 25 47.1**	**+1.6**
DAC	**Darwin (Calif)**	**31.95**	**319**	*e*P	**P**	**13 25 46.8**	**+1.1**
DAC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.5						
DAC	**Darwin (Calif)**	**31.95**	**319**	*e*P	**P**	**13 25 46.8**	**+1.0**
	comp=Z,9.4nm,1.1s,mb4.5						
HWUT	**Hardware Ranch**	**32.39**	**332**	*e*P	**P**	**13 25 51.0**	**+1.4**
	comp=Z,26nm,1.4s,mb4.9						
PDAR	**Pinedale Array**	**32.47**	**335**	P	**P**	**13 25 50.5**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=133,slow=9.8,SNR=14						
PDAR				PcP	PcP	13 28 36.5	-0.1
	comp=Z,0.9nm,0.6s,baz=136,slow=6.1,SNR=6.3						
PDAR				LR	LR	13 41 13.2	
	comp=Z,777nm,20.0s,MS4.4,baz=153,slow=40						
BGU	**Big Grassy Mou**	**32.55**	**330**	*e*P	**P**	**13 25 52.3**	**+1.3**
SADO	**Sadowa**	**32.58**	**17**	P	**P**	**13 25 48.9**	**-2.3**
	comp=Z,9.2nm,0.9s,mb4.7,baz=217,slow=8.0,SNR=3.7						
SADO	**Sadowa**	**32.58**	**17**	P	**P**	**13 25 48.9**	**-2.3**
HVU	**Hansel Valley**	**33.09**	**331**	*e*P	**P**	**13 25 57.1**	**+1.4**
HVU				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.3						
HVU	**Hansel Valley**	**33.09**	**331**	*e*P	**P**	**13 25 57.1**	**+1.4**
	comp=Z,61nm,1.5s,mb5.3						
AHID	**Auburn Hatcher**	**33.11**	**334**	*e*P	**P**	**13 25 56.5**	**+0.6**
	comp=Z,78nm,2.0s,mb5.3						
REDW	**Red Top Meadow**	**33.49**	**335**	*e*P	**P**	**13 25 59.6**	**+0.3**
	comp=Z,39nm,1.1s,mb5.2						
SNOW	**Snow King Moun**	**33.54**	**335**	*e*P	**P**	**13 26 01.0**	**+1.4**
	comp=Z,35nm,1.0s,mb5.2						
LOHW	**Long Hollow**	**33.60**	**335**	*e*P	**P**	**13 26 00.5**	**+0.3**
	comp=Z,21nm,1.3s,mb4.9						
TPAW	**Teton Pass**	**33.64**	**335**	*e*P	**P**	**13 26 01.5**	**+1.0**
	comp=Z,32nm,1.3s,mb5.1						
RRI2	**Red Ridge**	**33.68**	**334**	*e*P	**P**	**13 26 01.7**	**+0.9**
	comp=Z,47nm,1.4s,mb5.2						
NVAR	**Mina Array Bea**	**33.73**	**321**	P	**P**	**13 26 03.8**	**+2.5**
	comp=Z,13nm,0.7s,mb5.0,baz=123,slow=9.1,SNR=80						
NVAR				PcP	PcP	13 28 41.1	+0.9
	comp=Z,1.4nm,0.7s,baz=108,slow=3.9,SNR=3.6						
LONY	**Lake Ozonia**	**33.95**	**22**	*e*P	**P**	**13 26 00.6**	**-2.6**
IMW	**Indian Meadow**	**33.97**	**335**	*e*P	**P**	**13 26 04.0**	**+0.7**
	comp=Z,6.1nm,0.8s,mb4.6						
RLMT	**Red Lodge**	**34.36**	**338**	*e*P	**P**	**13 26 07.4**	**+0.7**
BMN	**Battle Mountai**	**34.41**	**325**	*e*P	**P**	**13 26 07.3**	**+0.2**
BMN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BMN	**Battle Mountai**	**34.41**	**325**	*e*P	**P**	**13 26 07.3**	**+0.2**
	comp=Z,7.6nm,0.7s,mb4.7						
QLMT	**Earthquake Lak**	**34.94**	**336**	*e*P	**P**	**13 26 13.8**	**+2.0**
GCMT	**Greycliff**	**35.08**	**338**	*e*P	**P**	**13 26 12.6**	**-0.4**
PAHR	**Pah Rah Range**	**35.19**	**322**	*e*P	**P**	**13 26 15.4**	**+1.5**
	comp=Z,9.0nm,0.8s,mb4.8						
HLID	**Hailey**	**35.23**	**331**	*e*P	**P**	**13 26 14.9**	**+0.7**
	comp=Z,13nm,0.9s,mb4.8						
MCMT	**McKenzie Canyo**	**35.52**	**334**	*e*P	**P**	**13 26 19.1**	**+2.3**
BOZ	**Bozeman (W)**	**35.69**	**336**	*e*P	**P**	**13 26 18.3**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
BOZ	**Bozeman (W)**	**35.69**	**336**	*e*P	**P**	**13 26 18.2**	**0.0**
	comp=Z,6.5nm,0.9s,mb4.6						
OHCM	**Honcut**	**36.25**	**320**	*e*P	**P**	**13 26 24.4**	**+1.4**
ULM	**Lac du Bonnet**	**36.33**	**356**	P	**P**	**13 26 19.7**	**-3.9**
	comp=Z,3.7nm,0.9s,mb4.3,baz=166,slow=11,SNR=3.1						
ULM				PcP	PcP	13 28 46.5	-1.2
	comp=Z,4.3nm,0.8s,baz=315,slow=0.8,SNR=3.9						
ULM				LR	LR	13 45 01.0	
	comp=Z,459nm,18.5s,MS4.3,baz=233,slow=43						
ULM	**Lac du Bonnet**	**36.33**	**356**	P	**P**	**13 26 19.7**	**-3.9**
ULM				PcP	PcP	13 28 46.5	-1.3
ULM				LR	LR	13 45 01.0	
WVOR	**Wild Horse Val**	**36.55**	**326**	*e*P	**P**	**13 26 27.1**	**+1.6**
WVOR				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
WVOR	**Wild Horse Val**	**36.55**	**326**	*e*P	**P**	**13 26 27.1**	**+1.5**

comp=Z,15nm,1.0s,mb4.8
HRY Holter Researc 36.66 337 *e*P **P 13 26 26.7 +0.3**
EGMT Eagleton 37.04 340 *e*P **P 13 26 28.3 -1.4**
comp=Z,4.5nm,0.4s,mb4.7
MOD Modoc 37.12 324 *e*P **P 13 26 31.5 +1.1**
comp=Z,9.8nm,1.2s,mb4.5
MSO Missoula 37.59 335 *e*P **P 13 26 34.5 +0.2**
comp=Z,18nm,1.5s,mb4.6
LPAZ La Paz 38.18 141 P **P 13 26 38.1 -1.2**
comp=Z,1.7nm,0.7s,mb3.9,baz=334,slow=9.3,SNR=9.3
LPAZ PcP PcP 13 28 53.5 +0.1
comp=Z,0.8nm,0.7s,baz=9.5,slow=6.1,SNR=2.3
LPAZ LR LR 13 41 58.4
comp=Z,523nm,20.4s,MS4.3,baz=325,slow=36
LPAZ La Paz 38.18 141 P **P 13 26 38.2 -1.1**
LPAZ 13 28 53.5
KHMM Horse Mountain 38.54 320 *e*P **P 13 26 44.0 +1.6**
KRMB Red Mountain 39.02 321 *e*P **P 13 26 48.5 +2.1**
HAWA Hanford 39.77 330 *e*P **P 13 26 54.0 +1.4**
comp=Z,0.4nm,0.8s
NEW Newport 40.05 334 P **P 13 26 54.5 -0.5**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 40.05 334 P **P 13 26 54.5 -0.4**
comp=Z,6.0nm,1.1s,mb4.2
KEBM Edson Butte 40.07 322 *e*P **P 13 26 56.6 +1.4**
EDM Edmonton 42.68 341 P **P 13 27 15.1 -1.5**
PGC Sidney 43.25 330 *e*P **P 13 27 21.6 +0.5**
comp=Z,57nm,1.1s,mb5.2
SCHQ Schefferville 45.24 20 P **P 13 27 32.4 -4.6**
comp=Z,9.6nm,0.9s,mb4.6,baz=167,slow=5.7,SNR=5.7
SCHQ LR LR 13 47 24.7
comp=Z,1μm,20.7s,MS4.9,baz=204,slow=38
SCHQ Schefferville 45.24 20 P **P 13 27 32.4 -4.6**
SCHQ LR LR 13 47 24.7
YKA Yellowknife Ar 51.07 347 P **P 13 28 20.5 -1.6**
comp=Z,6.5nm,0.6s,mb4.8,baz=150,slow=7.4,SNR=19
YKA PcP PcP 13 29 37.2 -0.3
comp=Z,2.9nm,0.7s,baz=145,slow=3.7,SNR=5.7
YKA Yellowknife Ar 51.07 347 P **P 13 28 20.5 -1.6**
YKA PcP PcP 13 29 37.2 -0.3
CPUP Villa Florida 52.32 140 P **P 13 28 28.8 -2.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=307,slow=8.6,SNR=8.2
CPUP LR LR 13 52 20.7
comp=Z,631nm,18.1s,MS4.7,baz=311,slow=38
CPUP Villa Florida 52.32 140 *e*P **P 13 28 28.6 -2.9**
CPUP pmax pmax
comp=Z,10.0nm,0.9s
CPUP Villa Florida 52.32 140 *e*P **P 13 28 28.6 -2.8**
comp=Z,10.0nm,0.9s,mb4.8
BDFB Brasilia 52.46 123 P **P 13 28 30.3 -2.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=318,slow=3.7,SNR=3.4
BDFB LR LR 13 51 38.5
comp=Z,514nm,19.2s,MS4.6,baz=153,slow=37
TAOE Nuku Hiva Isla 52.93 247 *e*S **S 13 36 00.7 -1.6**
comp=Z,1μm,24.5s
TAOE *e*LR LR 13 43 49.4
comp=Z,2μm,25.6s
PLCA Paso Flores 57.92 161 P **P 13 29 10.9 -0.9**
comp=Z,1.9nm,0.9s,mb4.1,baz=0.0,slow=10,SNR=2.9
PLCA LR LR 13 49 14.5
comp=Z,730nm,18.6s,MS4.8,baz=0.4,slow=31
DAWY Dawson 59.73 338 *e*P **P 13 29 23.7 -0.6**
INK Inuvik 60.48 344 *e*P **P 13 29 28.9 -0.7**
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 60.48 344 *e*P **P 13 29 28.9 -0.6**
comp=Z,19nm,1.1s,mb5.0
EYAK Cordova Ski Ar 60.54 333 *e*P **P 13 29 31.0 +1.1**
EGAK Eagle 60.76 338 *e*P **P 13 29 30.2 -1.3**
PMR Palmer 62.47 333 *e*P **P 13 29 42.6 -0.3**
PMR pmax pmax
comp=Z,55nm,1.6s,mb5.4
PMR Palmer 62.47 333 *e*P **P 13 29 42.6 -0.4**
comp=Z,55nm,1.6s,mb5.4
SLKM Skilak Lake 62.55 332 *e*P **P 13 29 43.3 -0.2**
KDAK Kodiak Island 62.77 328 LR LR 13 58 19.5
comp=Z,324nm,18.5s,MS4.5,baz=120,slow=37
MCK McKinley 63.25 335 *e*P **P 13 29 47.5 -0.6**
MCK pmax pmax
comp=Z,16nm,1.3s,mb5.0
MCK McKinley 63.25 335 *e*P **P 13 29 47.5 -0.6**
comp=Z,16nm,1.3s,mb5.0
COLA College 63.31 337 *e*P **P 13 29 47.7 -0.8**
COLA College 63.31 337 *e*P **P 13 29 47.4 -1.1**
comp=Z,17nm,1.1s,mb5.1
PPT Papeete 64.92 243 *e*S **S 13 38 35.8 -1.9**
comp=Z,792nm,32.8s
PPT *e*LQ 13 46 45.3
comp=Z,562nm,29.8s
PPT *e*LR LR 13 49 24.9
comp=Z,701nm,24.2s,baz=53
PPT Papeete 64.92 243 LR LR 13 51 13.9
comp=Z,526nm,18.5s,MS4.8,baz=73,slow=29
SVW2 Sparrevohn 65.22 331 *e*P **P 13 29 59.9 -1.2**
IMA2 Indian Mountai 66.02 337 *e*P **P 13 30 04.7 -1.4**
RAR Rarotonga 75.19 243 LR LR 13 54 36.5
comp=Z,350nm,19.0s,MS4.7,baz=285,slow=28
ESDC Sonseca Array 79.70 52 P **P 13 31 22.8 -4.4**
comp=Z,0.5nm,0.3s,mb3.9,baz=296,slow=38,SNR=6.2
BILL Bilibino 81.51 338 *e*P **P 13 31 37.1 +0.2**
BILL pmax pmax
comp=Z,78nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,200nm,20.0s,MS4.5
BILL Bilibino 81.51 338 *e*P **P 13 31 36.8 -0.1**
comp=Z,74nm,1.3s,mb5.5
AFI Afiamalu 83.73 254 LR LR 13 59 50.7
comp=Z,234nm,20.8s,MS4.5,baz=131,slow=29
NOA NORSAR Array B 84.15 28 P **P 13 31 48.5 -2.1**
comp=Z,2.5nm,0.8s,mb4.4,baz=289,slow=5.2,SNR=9.7
NOA LR LR 14 10 12.1
comp=Z,166nm,18.9s,MS4.4,baz=310,slow=36
DBIC Dimbokro 85.61 84 LR LR 14 08 28.5
comp=Z,258nm,19.6s,MS4.6,baz=270,slow=35
ARCES ARCESS Array B 86.16 18 P **P 13 31 58.2 -2.5**
comp=Z,3.7nm,0.9s,mb4.6,baz=291,slow=3.8,SNR=6.4
ARCES LR LR 14 10 04.6
comp=Z,396nm,20.2s,MS4.8,baz=307,slow=36
SEY Seymchan 88.80 336 *e*P **P 13 32 13.4 0.0**
GERES GERESS Array B 89.60 40 P **P 13 32 14.1 -3.1**
comp=Z,0.2nm,0.2s,mb4.0,baz=291,slow=3.7,SNR=3.9
GERES LR LR 14 09 00.0
comp=Z,200nm,20.1s,MS4.5,baz=291,slow=34
PET Petropavlovsk 90.21 325 *e*P **P 13 32 21.6 +1.6**
PET *e* 13 43 09.0
PET MLR MLR
comp=Z,100nm,19.0s,MS4.3
TOA0 Torodi Ar. Sit 90.34 76 *e*P **P 13 32 18.8 -1.8**
TORD Torodi Ar. Bea 90.34 76 P **P 13 32 17.9 -2.7**
comp=Z,0.4nm,0.6s,mb4.0,baz=285,slow=5.4,SNR=8.7
TORD LR LR 14 10 20.9
comp=Z,306nm,21.6s,MS4.7,baz=230,slow=34
TORD Torodi Ar. Bea 90.34 76 P **P 13 32 17.9 -2.7**
TORD LR LR 14 10 20.9
FINES FINESS Array B 90.51 25 P **P 13 32 18.7 -2.7**
comp=Z,1.7nm,1.0s,mb4.3,baz=162,slow=8.0,SNR=4.1
FINES LR LR 14 16 20.3
comp=Z,211nm,18.9s,MS4.6,baz=340,slow=38
FINES FINESS Array B 90.51 25 *i* P **P 13 32 20.2 -1.2**
MA2 Magadan 91.15 333 *e*P **P 13 32 25.1 +0.7**
MA2 pmax pmax
comp=Z,17nm,1.7s,mb5.1
RAO Raoul Island 93.26 241 LR LR 14 02 44.0
comp=Z,312nm,20.4s,MS4.8,baz=47,slow=28
AKASG Malin Array Be 97.73 33 LR LR 14 22 44.2
comp=Z,127nm,18.7s,MS4.4,baz=275,slow=39
MDJ Mudanjiang 110.56 330 PDIF Pdif 13 33 50.3 -1.3
MDJ SS SS 13 53 57.3 +3.4
MDJ LR LR
comp=N,73nm,28.1s,MS4.3
MDJ LR LR
comp=E,99nm,31.1s,MS4.3
MDJ LR LR
comp=Z,74nm,23.7s
CN2 Changchun 113.14 331 *e*PKP PKiKP 13 37 56.1 -0.7
TLY Talaya 113.24 350 *e*P Pdif 13 34 08.8 +5.3
TLY *e* 13 38 56.5
TLY *e*SS SS 13 54 41.9 +12
TLY pmax pmax
comp=Z,6.0nm,0.8s
SONM Songino Array 116.34 346 PKP PKPdf 13 38 02.7 -0.2
comp=Z,0.8nm,0.7s,baz=5.2,slow=0.5,SNR=5.2
MKAR Makanchi Array 119.30 5 PKP PKPdf 13 38 07.6 -1.0
comp=Z,0.4nm,0.5s,baz=1.9,slow=3.6,SNR=3.6
BOSA Boshof 120.30 115 PKP PKPdf 13 38 10.4 -0.1
comp=Z,2.6nm,0.8s,baz=160,slow=12,SNR=3.5
HHC Hu-ho-hao-te 121.27 339 *e*PKP PKPdf 13 38 10.8 -1.6
HHC PKS 13 41 46.1
HHC SKS SKSdf 13 45 17.8 -3.4
HHC SKKS SKKSac 13 46 33.5 -6.1
HHC PP PP
comp=Z,174nm,6.3s
HHC LR LR
comp=N,55nm,4.5s
HHC LR LR
comp=E,133nm,5.1s
HHC LR LR
comp=Z,183nm,5.5s
WMQ Urumqi 122.50 0 *e*PKP PKPdf 13 38 14.5 -0.3
WMQ PP PP 13 39 55.0 +3.4
WMQ PKS 13 41 50.0
WMQ SKS SKSdf 13 45 15.0 -8.5
WMQ SKKS SKKSac 13 46 38.0 -10
WMQ PP PP
comp=Z,131nm,4.7s
WMQ LR LR
comp=N,315nm,20.1s,MS5.0
WMQ LR LR
comp=E,177nm,22.0s,MS5.0
WMQ LR LR
comp=Z,303nm,22.4s,MS4.9
SSE Sheshan 125.04 325 PKP PKPdf 13 38 18.3 -1.3
SSE PP PP 13 40 10.9 +2.2
SSE SS SS 13 57 02.5 +0.6
SSE PP PP
comp=Z,140nm,4.4s
SSE LR LR
comp=N,34nm,19.0s,MS4.3
SSE LR LR
comp=E,58nm,18.8s,MS4.3
SSE LR LR
comp=Z,112nm,18.5s,MS4.6
NJ2 Nanjing 125.55 328 *e*PKP PKPdf 13 38 20.8 +0.2
LZH Lanzhou 128.03 344 *e*PKP PKPdf 13 38 23.0 -2.3
LZH LR LR
comp=N,135nm,19.5s
LZH LR LR
comp=Z,255nm,20.4s,MS4.9
CD2 Chengdu 132.90 341 *e*PKP PKPdf 13 38 33.3 -1.3
WRA Warramunga Arr 135.43 256 PKP PKPdf 13 38 38.5 -0.8
comp=Z,0.9nm,0.9s,baz=88,slow=1.4,SNR=4.9
ASAR Alice Springs 135.70 250 PKP PKPdf 13 38 39.2 -0.6
comp=Z,0.5nm,0.7s,baz=90,slow=2.5,SNR=4.2
KMI Kunming 138.59 340 PKP PKPdf 13 38 44.0 -1.2
KMI PP PP 13 41 37.1 +1.2
KMI PKS 13 42 16.3
KMI SS SS 13 59 46.0 -1.0
KMI SSS 14 05 00.1
KMI PP PP
comp=Z,102nm,4.0s
KMI LR LR
comp=N,184nm,19.6s,MS4.9
KMI LR LR
comp=E,145nm,19.6s,MS4.9
KMI LR LR
comp=Z,190nm,21.2s,MS4.8
NANT Nan 145.14 339 P PKPdf 13 38 54.0 -2.8
CHG Chiang Mai 145.71 341 ⇑P PKPdf 13 38 58.0 +0.2
comp=Z,24nm,1.2s
CHTO Chiang Mai 145.71 341 *e*PKP2 PKPab 13 38 57.7 -0.9
KKTK Khon Kaen 146.54 334 P PKPdf 13 39 02.0 +2.8
HYB Hyderabad 147.44 17 *i* PKP PKPdf 13 39 03.0 +2.3
HYB Hyderabad 147.44 17 *e*P PKPdf 13 39 03.0 +2.3

CASC 18 13:43:56.0±4.2, 1587N×8978W, h0km±32km, MD4.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.62**	**228**	*e*P		Pn	13 44 23.2 -2.6
TP2				*e*S		Sn	13 44 49.1 +1.8
RBDL	**Robledal**	**1.75**	**177**	*e*P		x	13 45 06.3
RBDL				*e*S		x	13 45 32.5
SBLS	**San Blas**	**2.02**	**176**	*e*P		x	13 45 06.6
SBLS				*e*S		x	13 45 34.5
LFRS	**El Faro**	**2.34**	**163**	*e*P		x	13 45 15.6
LFRS				*e*S		x	13 45 46.3

*MOS **18** 14:02:56.4±2.5, 5125N×10040E, h4km, mb4.3/1, Error ellipse: s-maj=26.2km s-min=19.0km az=58.9*

BYKL 18 14:02:56.3±0.8, 5123N×10039E, h7km±20km, 2C-6D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**0.58**	**41**	*i*P		Pg	14 03 06.7 -0.7
	138nm,0.5s						
MOY				⇓*i*Pg		Pg	14 03 06.7 -0.7
	83nm,0.5s						
MOY				⇓*i*Pg		Pg	14 03 06.7 -0.7
	200nm,0.5s						
MOY				*e*Sg		Sg	14 03 15.1 +0.1
MOY				Pmax			
	248nm,0.6s						
MOY				Smax			
	2μm,0.3s						
ORL	**Orlik**	**1.36**	**345**	⇑*i*Pg		Pg	14 03 20.2 -2.2
ORL				*e*Sg		Sg	14 03 37.8 -2.2
ORL				Pmax			
	62nm,0.3s						
ORL				Smax			
	618nm,0.5s						
ORL	**Orlik**	**1.36**	**345**	*e*PG		Pg	14 03 20.3 -2.1
ORL				*e*			14 03 37.7
ORL				pmax	pmax		
	comp=Z,73nm,0.3s						
ORL				smax			
	comp=N,626nm,0.5s						
ARS	**Arshan**	**1.45**	**61**	*e*Pn		Pn	14 03 22.8 -0.1
ARS				*e*Pg		Pg	14 03 22.8 -1.2
ARS				*e*Pb		Pb	14 03 24.1 +0.6
ARS				*e*Sg		Sg	14 03 41.9 -0.9
ARS				max			
	comp=N,310nm,0.4s						
ARS				Smax			
	comp=N,1μm,0.7s						
ARS	**Arshan**	**1.45**	**61**	*e*PG		Pg	14 03 22.9 -1.1
ARS				*e*			14 03 41.8
ARS				pmax	pmax		
	comp=Z,307nm,0.3s						
ARS				smax			
	comp=E,1μm,0.8s						
ZAK	**Zakamensk**	**2.02**	**114**	*e*Pn		Pn	14 03 30.2 -0.6
ZAK				⇓*i*Pg		Pg	14 03 32.2 -2.8
ZAK				*e*Sg		Sg	14 03 59.0 -2.2
ZAK				Pmax			
	comp=E,86nm,0.6s						
ZAK				Smax			
	comp=E,210nm,0.6s						
TLY	**Talaya**	**2.08**	**76**	*e*Pn		Pn	14 03 32.8 +1.1
TLY				⇓*i*Pg		Pg	14 03 33.9 -2.4
TLY				*e*Sg		Sg	14 04 01.1 -2.2
TLY				Pmax			
	comp=E,22nm,0.3s						
TLY				Smax			
	comp=E,182nm,0.3s						
TLY	**Talaya**	**2.08**	**76**	⇓*i*PN		Pn	14 03 33.5 +1.8
TLY				*e*			14 04 01.2
TLY				pmax	pmax		
	comp=Z,22nm,0.3s						
TLY				smax			
	comp=N,176nm,0.3s						
IRK	**Irkutsk**	**2.62**	**66**	*e*Pg		Pg	14 03 42.5 -4.0
IRK				*e*Sg		Sg	14 04 16.9 -3.5
IRK				Pmax			
	comp=N,66nm,0.2s						
IRK				Smax			
	comp=N,1μm,0.5s						
IRK	**Irkutsk**	**2.62**	**66**	*e*PN		Pn	14 03 43.5 +4.5
IRK				*e*			14 04 16.0
IRK				pmax	pmax		
	comp=Z,66nm,0.1s						
IRK				smax			
	comp=N,1μm,0.6s						
LSTR	**Listvyanka**	**2.85**	**75**	*e*Pg		Pg	14 03 46.6 -4.2
LSTR				*e*Sg		Sg	14 04 23.8 -3.9
LSTR				Pmax			
	comp=N,24nm,0.7s						
LSTR				Smax			
	comp=N,112nm,1.2s						
STDB	**Stepnoy Dvoret**	**3.83**	**73**	*e*Sg		Sg	14 04 56.3 -3.2
STDB				Smax			
	comp=N,798nm,1.2s						
TRG	**Tyrgan**	**3.99**	**65**	*e*Pn		Pn	14 03 57.1 -0.7
TRG				*e*Pg		Pg	14 04 07.5 -5.2
TRG				*e*Sg		Sg	14 04 57.8 -6.6
TRG				Pmax			
	comp=N,11nm,0.4s						
TRG				Smax			
	comp=N,134nm,0.7s						
ZRHB	**Zarechye**	**4.39**	**70**	*e*Sg		Sg	14 05 14.3 -3.1
ZRHB				Smax			
	comp=N,328nm,1.1s						
TRTB	**Turuntaevo**	**4.61**	**75**	⇑*i*Pn		Pn	14 04 07.2 +0.8
TRTB				*e*Pg		Pg	14 04 18.7 -5.9
TRTB				*e*Sg		Sg	14 05 17.6 -6.8
TRTB				Pmax			
	comp=N,4.0nm,0.6s						
TRTB				Smax			
	comp=N,91nm,1.4s						
OGRR	**Ongureny**	**5.03**	**58**	*e*Pn		Pn	14 04 13.1 +1.0
OGRR				*e*Pg		Pg	14 04 26.5 -6.1
OGRR				*e*Sg		Sg	14 05 31.5 -6.2
OGRR				Pmax			
	comp=N,9.0nm,0.4s						
OGRR				Smax			
	comp=N,91nm,1.4s						
NIZ	**Nizh Angarsk**	**7.11**	**47**	*e*Pg		Pg	14 05 03.7 -8.7
NIZ				*e*			14 06 04.1
NIZ				*e*Sg		Sg	14 06 35.5 -8.9
NIZ				Pmax			
	comp=N,5.0nm,0.5s						
NIZ				Smax			
	comp=N,45nm,1.4s						
YLYR	**Ulyunkhan**	**7.45**	**56**	*e*Pg		Pg	14 05 11.2 -7.7
YLYR				*e*Sg		Sg	14 06 46.0 -9.3
YLYR				Pmax			
	comp=N,3.0nm,0.7s						
YLYR				Smax			
	comp=N,20nm,0.7s						
KPC	**Khapcheranga**	**7.80**	**97**	*e*Pg		Pg	14 05 18.0 -7.7
KPC				*e*Sg		Sg	14 06 57.9 -8.9
KPC				Smax			
	comp=N,34nm,1.8s						
KMO	**Kumora**	**7.95**	**50**	*e*Pn		Pn	14 04 53.9 +1.7
KMO				*e*Pg		Pg	14 05 21.4 -7.0
KMO				*e*			14 06 24.5
KMO				*e*Sg		Sg	14 07 03.2 -8.1
KMO				Pmax			
	comp=N,3.0nm,0.3s						
KMO				Smax			
	comp=N,41nm,1.7s						

MAN 18 15:53:56.7, 837N×12587E, h16km, mb3.7, ML4.8, MS2.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.65**	**337**	*e*P		Pg	15 54 09.6 +0.3
BUTP				*e*S		Sg	15 54 20.9 +3.0
BUKP	**Musuan**	**0.94**	**239**	*e*P		Pn	15 54 13.9 -0.6
BUKP				*e*S		Sb	15 54 28.2 +1.5
CGP	**Cagayan de Oro**	**1.17**	**274**	⇑*i*P		Pn	15 54 16.6 -1.7
CGP				*i* S		Sb	15 54 34.6 +1.2
DAV	**Davao City (W)**	**1.32**	**193**	*e*P		Pn	15 54 21.0 +0.5
DMPH	**Davao City--Mi**	**1.33**	**196**	⇓*i*P		Pn	15 54 20.6 +0.1
DMPH				*i* S		Sn	15 54 28.3 -10
SCPH	**Surigao**	**1.45**	**345**	*e*P		Pn	15 54 23.1 +0.9
SCPH				*e*S		Sn	15 54 46.8 +5.8
MATI	**Mati**	**1.46**	**165**	*e*P		Pn	15 54 21.1 -1.3
MSLP	**Maasin**	**2.02**	**330**	*e*P		Pn	15 54 29.2 -0.8
PAGZ	**Pagadian**	**2.52**	**258**	*e*P		Pn	15 54 38.6 +1.7
OCLP	**Ormoc**	**2.94**	**335**	*e*P		Pn	15 54 43.3 +0.6
PVCP	**Virac**	**5.46**	**342**	*e*P		Pn	15 55 22.4 +5.1

*NEIC **18** 16:13:52.6, 1594N×9769W, h16km, MD4.0(MEX), After MEX.*

MEX 18 16:13:52.7±0.7, 1594N×9769W, h16km±13km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.61**	**317**	*i* P		Pg	16 14 02.8 -1.9
PNIG				*i* S		Sg	16 14 10.1 -2.8
OXX	**Oaxaca**	**1.47**	**39**	*i* P		Pn	16 14 14.0 -4.5
OXX				*i* S		Sn	16 14 32.5 -4.8
HUIG	**Huatulco**	**1.54**	**96**	*i* P		Pn	16 14 17.2 -2.2
HUIG				*i* S		Sn	16 14 33.9 -5.1
UTMO	**Huajuapan**	**1.88**	**357**	*e*P		Pn	16 14 21.9 -2.3
UTMO				*i* S		Sn	16 14 44.9 -2.6
ACX	**Acapulco**	**2.32**	**294**	*e*P		Pn	16 14 28.5 -1.7
ACX	**Acapulco**	**2.32**	**294**	*e*P		Pn	16 14 31.5 +1.3
TPIG	**Tehuac#an**	**2.48**	**7**	*i* P		Pn	16 14 30.1 -2.4
TPIG				*i* S		Sn	16 14 59.0 -3.5
MEIG	**Mezcala**	**2.70**	**317**	*e*P		Pn	16 14 33.7 -1.7
MEIG				*i* S		Sn	16 15 03.8 -3.9
CAIG	**El Cayaco**	**2.70**	**294**	*i* P		Pn	16 14 34.0 -1.4
CAIG				*i* S		Sn	16 15 02.2 -5.6
CMIG	**Matias Romero**	**2.93**	**67**	*i* P		Pn	16 14 35.2 -3.3
CMIG				*i* S		Sn	16 15 10.0 -3.4
PLIG	**Platanillo**	**2.99**	**325**	*e*P		Pn	16 14 37.7 -1.6
PLIG				*i* S		Sn	16 15 11.3 -3.5
YAIG	**Yautepec**	**3.19**	**336**	*i* P		Pn	16 14 41.5 -0.6
YAIG				*i* S		Sn	16 15 15.9 -3.9
YAIG	**Yautepec**	**3.19**	**336**	*i* P		Pn	16 14 41.8 -0.3
YAIG				*i* S		Sn	16 15 15.9 -3.9
PPM	**Popocatepetl**	**3.23**	**344**	*e*P		Pn	16 14 40.2 -2.5
PPM				*i* S		Sn	16 15 18.1 -2.8

MAN 18 16:17:09.5, 808N×12631E, h1km, mb2.7, ML4.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.12**	**182**	*e*P		Pg	16 17 31.7 +0.6
BUKP	**Musuan**	**1.25**	**261**	*e*P		Pg	16 17 33.3 -0.1
SCPH	**Surigao**	**1.88**	**335**	*e*P		Pn	16 17 42.5 -0.3
SCPH				*e*S		Sn	16 18 08.5 +1.5

*ISCJB **18** 16:34:22.5±1.8, 135N±0.1×9162W±009, h96km±18km, Error ellipse: s-maj=24.0km s-min=11.3km az=44.5*
*CASC **18** 16:34:22.6±4.2, 1347N×9154W, h92km±50km, MD4.1*
*MEX **18** 16:34:29.0±0.4, 1367N×9168W, h99km±48km, MD4.6*

ISC 18 16:34:23.7±1.8, 135N±01×9157W±008, h92km±19km, n24, σ1↟16/15, 3C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.82**	**356**	⇑*e*P		**Pn**	**16 34 41.5 0.0**
JAT				*e*S		**Sn**	**16 34 55.4 +0.5**
TER	**Terranova**	**1.18**	**47**	*e*P		**Pn**	**16 34 44.5 -1.1**
FUG	**Fuego 3**	**1.19**	**37**	⇓*e*P		**Pn**	**16 34 44.6 -1.0**
PCG	**Pacaya**	**1.30**	**46**	⇓*i*P		**Pn**	**16 34 46.9 -0.1**
TP2	**Tecpan 2**	**1.39**	**23**	⇓*e*P		**Pn**	**16 34 47.8 -0.3**
RTR	**El Retiro**	**1.92**	**78**	*e*P		x	16 35 26.6
RTR				*e*S		x	16 35 50.8
SBLS	**San Blas**	**1.93**	**79**	⇓*e*P		x	16 35 26.1
SBLS				*e*S		x	16 35 51.1
RBDL	**Robledal**	**1.93**	**71**	*e*P		x	16 35 26.4
RBDL				*e*S		x	16 35 50.0
SNJE	**San Jose**	**1.95**	**79**	⇑*e*P		x	16 35 26.4
SNJE				*e*S		x	16 35 52.0
BOQS	**Boqueron**	**2.24**	**84**	*e*P		x	16 35 31.4
BOQS				*e*S		x	16 35 59.5
MTO2	**Montecristo 2**	**2.33**	**67**	*e*P		x	16 35 31.5
MTO2				*e*S		x	16 35 59.6
LFRS	**El Faro**	**2.45**	**87**	*e*P		x	16 35 34.1
LFRS				*e*S		x	16 36 04.2
LBRS	**Las Brisas**	**2.47**	**84**	*e*P		x	16 35 34.4
LBRS				*e*S		x	16 36 06.5
LCBS	**La Ceiba**	**2.53**	**86**	*e*P		x	16 35 35.5
LCBS				*e*S		x	16 36 05.1
SNVI	**San Vicente**	**2.66**	**87**	⇑*e*P		x	16 35 39.7
SNVI				*e*S		x	16 36 09.7
CCIG	**Comitan**	**2.83**	**349**	*i* P		**Pn**	**16 35 08.8 +2.0**
CCIG				*i* S		**Sn**	**16 35 40.4 +0.3**

VSM	San Miguel	3.21	91	eP	x	16 35 45.3	
VSM				eS	x	16 36 27.1	
BLLM	Bellamira	3.25	91	eP	x	16 35 48.4	
BLLM				eS	x	16 36 26.0	
SCX	San Cristobal	3.38	343	eP	Pn	16 35 18.0	+3.6
CMIG	Matias Romero	4.79	319	eP	Pn	16 35 35.5	+1.9
CMIG				i S	Sn	16 36 26.8	-1.0
HUIG	Huatulco	4.94	298	i S	Sn	16 36 31.6	+0.3
OXX	Oaxaca	6.12	306	eP	Pn	16 36 03.0	+12
VHO	Vista Hermosa	6.12	306	i S	Sn	16 36 59.6	-0.5
TPIG	Tehuac#an	7.41	312	i S	Sn	16 37 29.0	-2.7

*ISCJB **18** 16:41:34.3±1.3,30S±0.1×1299E±03,h10km,mb3.4/1, Error ellipse: s-maj=48.0km s-min=10.5km az=135.9*
*NEIC **18** 16:41:36.2±1.1,295S×12990E,h10km,mb3.8/2,Error ellipse: s-maj=40.9km s-min=11.4km az=68.0*
*IDC **18** 16:41:40.4±4.8,313S×12977E,h36km±37km,mb3.6/2, mb1 3.9/4,mb1mx3.6/16,mbtmp3.9/4,ML3.6/2,Error ellipse: s-maj=92.4km s-min=15.4km az=74.0*
ISC 18 16:41:36.8±1.3,**30S**±01×**1298E**±03,**h10km,n12,**σ1s**21**/12, **mb3.4**/1,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.54	195	eP	Pn	16 45 16.8	+1.0
	4.3nm,0.7s						
FITZ	Fitzroy Crossi	15.54	195	Pn	Pn	16 45 15.2	-0.6
	0.1nm,0.3s,baz=16,slow=14,SNR=3.9						
WRAB	Tennant Creek	17.38	166	eP	Pn	16 45 39.1	-0.2
	5.8nm,0.8s						
WRA	Warramunga Arr	17.38	166	P	Pn	16 45 38.8	-0.6
	0.4nm,0.3s,baz=347,slow=12,SNR=27						
WRA				S	Sn	16 48 49.4	-3.5
	0.1nm,0.3s,baz=353,slow=24,SNR=2.5						
WB2	Warramunga Arr	17.39	166	eP	Pn	16 45 38.9	-0.5
AS31	Alice Springs	20.90	169	eP	P	16 46 20.7	+1.5
ASAR	Alice Springs	20.90	169	P	P	16 46 20.3	+1.1
	11nm,0.8s,baz=347,slow=11,SNR=87						
ASAR				S	S	16 50 09.1	-3.0
	0.3nm,0.7s,baz=353,slow=22,SNR=3.0						
ASPA	Alice Springs	20.90	169	eP	P	16 46 20.7	+1.5
CHTO	Chiang Mai	37.34	307	eP	P	16 48 49.2	-0.1
MKAR	Makanchi Array	64.84	326	P	P	16 52 14.7	-1.2
	0.3nm,0.7s,mb3.4,baz=117,slow=8.3,SNR=5.0						
CPUP	Villa Florida	150.01	167	PKPbc	PKPbc	17 01 29.3	+1.8
	0.9nm,0.6s,baz=180,slow=6.1,SNR=5.7						
CPUP	Villa Florida	150.01	167	PKPbc	PKPbc	17 01 29.3	+1.8

MAN 18 16:56:11.3,1342N×12139E,h5km,mb2.2,ML3.8,MS3.0, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.43	281	⇑eP	Pg	16 56 20.1	+0.6
BOAC	Boac	0.45	85	eP	Pg	16 56 20.3	+0.4
BOAC				eS	Sg	16 56 27.8	+2.1
LUBP	Lubang	1.15	286	eP	Pg	16 56 30.8	-2.6
OTRP	Odiongan	1.22	149	eP	Pg	16 56 33.4	-1.2
BUSP	Coron	1.82	220	eP	Pn	16 56 44.5	+1.2
BALP	Baler	2.32	5	eP	Pn	16 56 51.1	+1.1

*BJI **18** 16:57:23.5,3801N×2047E,h22km,mB5.1,mb4.7,Ms5.1, Msz4.7*
*ISCJB **18** 16:57:25.1±0.2,3758N±002×2091E±002,h10km, mb4.5/58,MS3.5/11,Error ellipse: s-maj=2.3km s-min=1.7km az=171.2*
*CSEM **18** 16:57:26.6±0.1,3751N×2080E,h10km,mb4.5/4,Ms3.1*
*CRAAG **18** 16:57:27.8,3755N×2086E,Mb4.2*
*MOS **18** 16:57:27.0±1.2,3766N×2095E,h22km,mb4.6/26,Error ellipse: s-maj=4.2km s-min=2.7km az=112.1*
*NEIC **18** 16:57:27.3,3761N×2091E,h19km,mb4.2/54, MD4.5(PDG),ML4.1(ATH),After ATH.*
*THE **18** 16:57:27.6,3756N×2078E,h14km,ML4.2*
*ATH **18** 16:57:27.4,3762N×2091E,h18km±2km,MD4.2/13,ML4.1*
*PDG **18** 16:57:28.1±0.5,3762N×2085E,h19km±1km*
*IDC **18** 16:57:29.6±3.8,3770N×2100E,h32km±30km,mb4.2/17, mb1 4.2/24,mb1mx4.1/34,mbtmp4.3/24,ML3.8/7,MS3.5/11, Ms1 3.5/11,ms1mx3.2/32,Error ellipse: s-maj=18.2km s-min=11.3km az=139.0*
*NAO **18** 16:57:50.7,3973N×2054E,h33km,mb4.2*
ISC 18 16:57:26.7±0.2,**3756N**±002×**2094E**±002,**h10km**, **(h43km**±2.1km**:pP-P),n418,**σ1s**29**/478,**mb4.5**/58,**MS3.5**/11, **32C-19D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.65	40	⇓iPB	Pg	16 57 39.3	+0.1
RLS				eSN	Sg	16 57 48.2	+0.5
VLS	Valsamata	0.67	336	ePN	Pg	16 57 39.5	-0.2
VLS				eSN	Sg	16 57 48.9	+0.4
ITM	Ithomi	0.87	116	ePN	Pn	16 57 45.3	+0.3
LKD	Levkas	1.17	349	ePg	Pg	16 57 47.9	-1.2
LKD				eSg	Sg	16 58 04.8	+0.5
EVR	Evrytania	1.52	27	ePN	Pn	16 57 56.7	+2.8
AGG	Agios Georgios	1.82	36	ePb	Pb	16 57 59.8	-0.3
AGG				eSb	Sb	16 58 24.4	+1.4
LKR	Lokris	1.95	56	ePN	Pn	16 58 02.2	+2.3
IGT	Igoumenitsa	2.02	347	ePn	Pn	16 58 00.7	-0.1
IGT				eSn	Sn	16 58 26.1	-0.1
ATH	Athens Observa	2.24	79	ePN	Pb	16 58 06.9	-0.3
KEK	Kerkira	2.33	338	ePB	Pn	16 58 05.4	+0.4
NEO	Neokhori	2.50	45	ePN	Pn	16 58 09.3	+1.9
XOR	Xorichti	2.52	44	ePn	Pn	16 58 09.2	+1.4
XOR	Xorichti	2.52	44	ePn	Pn	16 58 09.1	+1.4
LIT	Litokhoron	2.81	25	ePn	Pn	16 58 12.7	+1.0
AOS	Alonnisos	2.81	54	ePn	Pn	16 58 13.3	+1.6
KZN	Kozani	2.82	13	ePN	Pn	16 58 13.6	+1.9
PAIG	Paliouri	3.19	41	ePn	Pn	16 58 17.6	+0.7
PAIG	Paliouri	3.19	41	ePn	Pn	16 58 17.5	+0.6
FNA	Florina	3.23	6	ePn	Pn	16 58 18.8	+1.3
FNA				eSn	Sn	16 58 56.6	+0.6
VAM	Vamos	3.40	128	ePN	Pn	16 58 22.3	+2.6
PLG	Polygyros	3.42	34	ePN	Pn	16 58 21.0	+1.0
THE	Thessaloniki	3.45	27	ePn	Pn	16 58 21.8	+1.4
BIA	Bitola	3.46	5	ePn	Pn	16 58 21.5	+0.9
BIA				eSn	Sn	16 59 02.9	+1.2
BIA	Bitola	3.46	5	i Pn	Pn	16 58 22.1	+1.4
BIA				i Sn	Sn	16 59 03.1	+1.3
BIA	Bitola	3.46	5	i Pn	Pn	16 58 22.0	+1.3
HORT	Hortiatis	3.47	28	ePn	Pn	16 58 22.1	+1.4
LCI	Lecce	3.54	322	Pn	Pn	16 58 21.4	-0.3
LCI				Sn	Sn	16 59 01.3	-2.3
OHR	Ohrid	3.55	358	ePn	Pn	16 58 22.6	+0.8
OHR	Ohrid	3.55	358	i Pn	Pn	16 58 22.6	+0.8
OHR				eSn	Sn	16 59 04.0	+0.3
GRG	Griva	3.57	18	ePn	Pn	16 58 23.0	+0.8
OUR	Ouranopolis	3.65	40	ePn	Pn	16 58 24.4	+1.2
APE	Apeiranthos	3.69	96	ePn	Pn	16 58 25.3	+1.5
APE				eSn	Sn	16 59 11.9	+4.6
APE	Apeiranthos	3.69	96	ePN	Pn	16 58 27.5	+3.7
APE	Apeiranthos	3.69	96	eP	Pn	16 58 26.1	+2.3
SOH	Sokhos	3.76	29	ePn	Pn	16 58 26.4	+1.7
SOH				eSn	Sn	16 59 10.2	+1.3
GRI	Girifalco	3.78	291	Pn	Pn	16 58 25.0	0.0
GRI				Sn	Sn	16 59 10.8	+1.4
SANT	Santorini	3.81	107	ePn	Pn	16 58 26.6	+1.2
SANT	Santorini	3.81	107	ePn	Pn	16 58 27.6	+2.2
KNT	Kendrikon	3.90	22	ePn	Pn	16 58 27.8	+1.1
SOI	Samo	3.90	279	Pn	Pn	16 58 26.7	0.0
SOI				Sn	Sn	16 59 10.4	-2.1
VAY	Valandovo	3.96	18	ePn	Pn	16 58 27.9	+0.4
VAY	Valandovo	3.96	18	i Pn	Pn	16 58 28.1	+0.6
VAY				i Sn	Sn	16 59 11.9	-2.0
VAY	Valandovo	3.96	18	i Pn	Pn	16 58 28.0	+0.5
VAY				i Sn	Sn	16 59 11.9	-2.1
CEL	Celeste	4.05	281	Pn	Pn	16 58 28.8	+0.1
CEL				Sn	Sn	16 59 14.4	-1.8
CHOS	Chios island	4.12	77	ePn	Pn	16 58 32.6	+2.8
MTTG	Motta San Giov	4.18	278	Pn	Pn	16 58 30.4	-0.1
MTTG				Sn	Sn	16 59 17.0	-2.4
SCLL	Scilla	4.19	281	Pn	Pn	16 58 31.2	+0.6
SCLL				Sn	Sn	16 59 19.6	-0.1
PE1	Pezze di Greco	4.24	321	ePn	Pn	16 58 30.7	-0.6
STIP	Stip	4.24	13	i Pn	Pn	16 58 32.9	+1.6
STIP	Stip	4.24	13	i Pn	Pn	16 58 32.8	+1.5
ORI	Oriolo Calabro	4.31	307	Pn	Pn	16 58 34.6	+2.4
ORI				Sn	Sn	16 59 24.0	+1.5
NVR	Nevrokopi	4.41	30	ePN	Pn	16 58 34.9	+1.3
NVR	Nevrokopi	4.41	30	ePn	Pn	16 58 34.8	+1.2
SKO	Skopje	4.42	5	i Pn	Pn	16 58 35.1	+1.3
PRK	Paraskevi	4.51	66	ePN	Pn	16 58 37.9	+2.8
AGST	Augusta-Monte	4.56	268	Pn	Pn	16 58 34.5	-1.2
AGST				Sn	Sn	16 59 24.1	-4.6
MMB	Musomiste	4.56	27	i P	Pn	16 58 36.7	+1.0
ULC	Ulcinj	4.58	344	⇓iPn	Pn	16 58 35.9	-0.2
ULC				eSn	Sn	16 59 29.0	-0.4
BOZC	Bozcaada	4.60	59	i P	Pn	16 58 35.7	-0.6
KKB	Krupnik	4.61	20	i P	Pn	16 58 37.4	+1.1
SG1	Sgolgore (BA)	4.66	316	ePn	Pn	16 58 37.0	0.0
HAVL	Avola	4.68	264	Pn	Pn	16 58 36.7	-0.6
HAVL				Sn	Sn	16 59 28.1	-3.6
CUC	Castrocucco	4.68	303	Pn	Pn	16 58 40.3	+2.9
SMG	Samos	4.68	86	ePN	Pn	16 58 39.5	+2.1
SSY	Sortino	4.69	267	Pn	Pn	16 58 36.3	-1.3
SSY				Sn	Sn	16 59 30.8	-1.2
BAI	Bari	4.74	320	ePn	Pn	16 58 38.5	+0.3
PZI	Palazzolo	4.80	266	Pn	Pn	16 58 38.6	-0.5
PZI				Sn	Sn	16 59 31.1	-3.7
AYVA	Ayvalik	4.84	67	i P	Pn	16 58 39.5	-0.1
SLNA	Salina	4.92	284	Pn	Pn	16 58 44.0	+3.3
HMDC	Modica	4.95	265	Pn	Pn	16 58 40.4	-0.7
HMDC				Sn	Sn	16 59 34.4	-4.0
MNO	Monte Soro	4.96	276	Pn	Pn	16 58 41.9	+0.6
MNO				S	Sn	16 59 37.5	-1.2
HVZN	Vizzini	4.97	267	Pn	Pn	16 58 40.4	-1.0
HVZN				Sn	Sn	16 59 34.9	-4.1
BUM	Brajici-Budva	4.99	342	⇑iPn	Pn	16 58 41.7	+0.1
BUM				eSn	Sn	16 59 38.6	-0.7
SLCN	Sala Consilina	5.01	306	Pn	Pn	16 58 44.8	+2.9
TTG	Podgorica	5.03	346	⇑iPn	Pn	16 58 42.5	+0.4
TTG				eSn	Sn	16 59 39.6	-0.8
TTG	Podgorica	5.03	346	⇑iPn	Pn	16 58 42.5	+0.3
TTG				eS	Sn	16 59 39.6	-0.7
CDT	Castel del Mon	5.04	316	ePn	Pn	16 58 42.4	0.0
RZN	Rozhen	5.05	34	i P	Pn	16 58 44.0	+1.6
RDO	Rodhopi	5.05	43	ePN	Pn	16 58 43.2	+0.7
RDO	Rodhopi	5.05	43	ePn	Pn	16 58 43.1	+0.6
KDAG	Bornova	5.07	79	i P	Pn	16 58 45.2	+2.5
PVY	Plav	5.08	352	⇓iPn	Pn	16 58 44.2	+1.3
PVY				eSn	Sn	16 59 41.2	-0.4
VAE	Valguarnera	5.19	271	Pn	Pn	16 58 46.1	+1.7
	8.3nm,0.3s,baz=95,slow=4.0,SNR=11						
VAE				Sn	Sn	16 59 38.0	-6.3
	1.7nm,0.3s,baz=58,slow=17,SNR=1.8						
VAE				LR	LR	17 00 52.5	
	comp=Z,229nm,18.9s,baz=274,slow=38						
VAE	Valguarnera	5.19	271	Pn	Pn	16 58 46.1	+1.7
VAE				Sn	Sn	16 59 38.0	-6.3
HCY	Herceg Novi	5.23	340	⇓iPn	Pn	16 58 44.8	-0.1
HCY				eSn	Sn	16 59 43.7	-1.5
RAFF	Raffo Rosso	5.25	268	Pn	Pn	16 58 44.8	-0.4
BARS	Barje	5.29	7	i Pn	Pn	16 58 48.5	+2.7
MRLC	Muro Lucano	5.30	309	Pn	Pn	16 58 48.0	+2.1
VTS	Vitosha	5.32	18	⇑iP	Pn	16 58 47.9	+1.8
VTS	Vitosha	5.32	18	i P	Pn	16 58 47.2	+1.1
IVA	Berane	5.36	352	⇑iPn	Pn	16 58 48.2	+1.4
IVA				eSn	Sn	16 59 47.8	-0.8
PLD	Plovdiv	5.38	31	i P	Pn	16 58 48.0	+1.0
NKY	Niksic	5.45	345	⇓iPn	Pn	16 58 48.3	+0.4
NKY				eSn	Sn	16 59 49.5	-1.2
CSLB	Castelbuono	5.47	276	Pn	Pn	16 58 48.9	+0.7
GIB	Gibilmanna	5.49	277	P	Pn	16 58 49.5	+0.9
FG4	Candela	5.51	312	P	Pn	16 58 50.4	+1.6
TREB	Trebinje	5.52	340	P	Pn	16 58 47.4	-1.5
BRY	Bratogost	5.64	342	⇓iPn	Pn	16 58 50.8	+0.2
BRY				eSn	Sn	16 59 54.3	-1.0
FGMS	Monte Sant'Ang	5.65	319	Pn	Pn	16 58 50.5	-0.2
FGMS				Sn	Sn	16 59 50.6	-5.1
CSSN	Cassano Irpino	5.65	307	Pn	Pn	16 58 52.8	+2.1
CSSN				Sn	Sn	16 59 56.4	+0.7
FG5	Orsara di Pugl	5.75	312	P	Pn	16 58 53.4	+1.3
FG5				S	Sn	16 59 58.1	0.0
FAVR	Favara	5.80	269	Pn	Pn	16 58 54.1	+1.4
RGNG	Rignano Grg	5.83	316	Pn	Pn	16 58 52.9	-0.2
RGNG				Sn	Sn	16 59 55.4	-4.6
UPM	Unac-Piva	5.84	345	⇓iPn	Pn	16 58 54.3	+0.9
UPM				eSn	Sn	16 59 59.2	-1.2
PLE	Pljevlja	5.88	349	⇑iPn	Pn	16 58 55.1	+1.3
PLE				eSn	Sn	17 00 00.2	-1.1
FG2	Serracapriola	6.15	315	Pn	Pn	16 58 58.2	+0.6
FG2				Sn	Sn	17 00 06.6	-1.3
CIGN	Sant'Elia a Pi	6.20	313	Pn	Pn	16 58 59.7	+1.5
DIVS	Divcibare	6.57	354	i Pn	Pn	16 59 02.5	-0.8
GDZ	Gediz	6.88	75	i P	Pn	16 59 04.4	-3.3
ULDT	Uludag	6.89	66	i P	Pn	16 59 03.5	-4.4
AKAS	Kas	7.07	98	i P	Pn	16 59 10.2	0.0
TKTP	Tekketepe	7.44	83	i P	Pn	16 59 15.9	+0.6
AQU	L'Aquila	7.51	312	⇑iP	Pn	16 59 18.7	+2.5
TERO	Teramo	7.56	314	Pn	Pn	16 59 18.0	+1.1
GZR	Gura Zlata	7.94	9	⇑iP	Pn	16 59 22.5	+0.3
GZR	Gura Zlata	7.94	9	⇑P	Pn	16 59 22.5	+0.3
BZS	Buzias	8.06	3	⇑iP	Pn	16 59 22.6	-1.2
SNTG	Esanatoglia	8.34	315	Pn	Pn	16 59 28.1	+0.5
NVLJ	Novalja	8.36	329	i Pn	Pn	16 59 27.1	-0.8
ASS	Assisi	8.38	314	P	Pn	16 59 31.1	+2.9
VOIR		8.45	20	⇓iP	Pn	16 59 30.5	+1.4
VOIR		8.45	20	⇓P	Pn	16 59 30.5	+1.3
VOIR		8.45	20	P	Pn	16 59 31.2	+2.1
ARV	Arcevia	8.50	317	Pn	Pn	16 59 30.1	+0.3
ARV				Sn	Sn	17 00 59.1	-6.6
FSSB	Fossombrone	8.71	317	Pn	Pn	16 59 33.1	+0.3
FSSB				Sn	Sn	17 01 06.6	-4.5
MLR	Muntele Rosu	8.76	24	Pn	Pn	16 59 33.3	-0.2
	0.3nm,0.3s,baz=232,slow=4.6,SNR=5.6						
MLR	Muntele Rosu	8.76	24	⇑iP	Pn	16 59 34.2	+0.8
MLR	Muntele Rosu	8.76	24	P	Pn	16 59 36.6	+3.2
PKSM	Moragy	8.81	350	⇑iP	Pn	16 59 34.3	+0.2
PKSM	Moragy	8.81	350	⇑P	Pn	16 59 37.7	+3.6
PKSM	Moragy	8.81	350	⇑P	Pn	16 59 34.3	+0.2
HARR	Harsova	8.86	34	⇑iP	Pn	16 59 36.3	+1.6
HARR	Harsova	8.86	34	⇑P	Pn	16 59 36.3	+1.5
TIRR	Tirgusor	8.90	37	P	Pn	16 59 32.6	-2.8
BOJS	Bojanci	9.01	334	i Pn	Pn	16 59 36.5	-0.2
BOJS				eSn	Sn	17 01 11.9	-6.3
BOJS	Bojanci	9.01	334	i Pn	Pn	16 59 36.5	-0.3
BOJS				eSn	Sn	17 01 11.9	-6.3
RSM	Repubblica di	9.05	317	P	Pn	16 59 39.7	+2.3
CRES	Cresnjev	9.22	335	ePn	Pn	16 59 38.3	-1.4
CRES				eSn	Sn	17 01 11.4	-12
CRES							
	comp=Z,55nm,0.7s						
CRES	Cresnjev	9.22	335	ePn	Pn	16 59 38.3	-1.4
CRES				eSn	Sn	17 01 11.4	-12
GOLS	Golise	9.33	337	ePn	Pn	16 59 40.8	-0.3
GOLS				eSn	Sn	17 01 18.1	-8.0
KNDS	Knezji Dol	9.35	330	ePn	Pn	16 59 40.6	-0.9
KNDS				eSn	Sn	17 01 19.4	-7.3
SFI	Santa Sofia	9.37	315	Pn	Pn	16 59 43.4	+1.7
SFI				Sn	Sn	17 01 24.0	-3.0
VISS	Visnje	9.41	333	ePn	Pn	16 59 42.1	-0.2
VISS				eSn	Sn	17 01 17.3	-11
KEST	Kesra	9.49	262	Pn	Pn	16 59 44.6	+1.2
	comp=Z,0.4nm,0.3s,baz=301,slow=1.8,SNR=11						
KEST				Sn	Sn	17 01 25.7	-4.5
	comp=Z,0.1nm,0.3s,baz=304,slow=15,SNR=2.1						
KEST				LR	LR	17 03 56.4	
	comp=Z,108nm,20.2s,baz=131,slow=40						
ANTO	Ankara	9.55	72	P	Pn	16 59 44.7	+0.5
VOJS	Vojsko	9.96	330	i Pn	Pn	16 59 48.8	-1.1
VOJS				eSn	Sn	17 01 33.2	-8.5
PERS	Pernice	10.04	336	i Pn	Pn	16 59 49.3	-1.7
PERS				i Sn	Sn	17 01 33.8	-10
OBKA	Obir	10.12	334	⇓iPn	Pn	16 59 51.4	-0.6
	SNR=11						
OBKA				⇑iSn	Sn	17 01 38.5	-7.1
BR131	Keskin Array S	10.17	74	ePn	Pn	16 59 57.3	+4.6
	comp=Z,2.7nm,0.6s						
BRTR	Keskin Array B	10.17	74	Pn	Pn	16 59 57.1	+4.5
	comp=Z,0.1nm,0.3s,baz=256,slow=13,SNR=5.4						
ROBS	Robic	10.29	330	i Pn	Pn	16 59 53.3	-1.1
ROBS				i Sn	Sn	17 01 42.6	-7.0
PSZ	Piszkesteto	10.38	356	eP	Pn	16 59 55.1	-0.5
PSZ				pmax	pmax		
	comp=Z,12nm,0.8s						
PSZ	Piszkesteto	10.38	356	ePn	Pn	16 59 55.1	-0.5
	comp=Z,12nm,0.8s						
PSZ	Piszkesteto	10.38	356	eP	Pn	16 59 55.1	-0.5
	comp=Z,12nm,0.8s						
ARSA	Arzberg	10.47	339	⇑iPn	Pn	16 59 55.3	-1.5
ARSA				⇑iSn	Sn	17 01 46.1	-8.2
PTCC	Patocco-Chiusa	10.48	330	Pn	Pn	16 59 55.8	-1.2
PTCC				Sn	Sn	17 01 45.1	-9.3
BURAR	Bucovina Array	10.53	16	⇑iP	Pn	16 59 59.1	+1.5
BURAR	Bucovina Array	10.53	16	⇑P	Pn	16 59 59.1	+1.5
KECS	Kecovo	10.92	358	ePN	Pn	17 00 02.2	-0.8
KECS				eSN	Sn	17 02 00.3	-4.9
CTI	Castel Tesino	10.95	324	Pn	Pn	17 00 02.1	-1.2
CTI				Sn	Sn	17 01 55.6	-10
CONA	Conrad Observa	11.01	342	⇓iPn	Pn	17 00 02.0	-2.2
CONA				⇑iSn	Sn	17 01 58.9	-8.5
VYHS	Vyhne	11.03	353	e	Pn	17 00 11.2	+6.7
VYHS				e		17 01 57.9	
KBA	Koelnbreinsper	11.04	332	⇑iPn	Pn	17 00 02.4	-2.2
KBA				⇓iSn	Sn	17 02 01.4	-6.8
MOA	Molln	11.39	337	⇑iPn	Pn	17 00 08.2	-1.2
	SNR=6.6						
MOA				⇑iSn	Sn	17 02 09.2	-7.4
WTTA	Wattenberg	11.88	328	⇑iPn	Pn	17 00 16.0	-0.1
WTTA				⇓iSn	Sn	17 02 21.7	-6.9
WATA	Walderalm	11.96	328	⇑iPn	Pn	17 00 17.5	+0.4
WATA				⇑iSn	Sn	17 02 26.0	-4.6
SBF	Sospel	12.02	306	eP	Pn	17 00 18.1	+0.1
	comp=Z,49nm,1.0s						
SBF	Sospel	12.02	306	eP	Pn	17 00 18.1	+0.1
SBF				pmax	pmax		
	comp=Z,25nm,1.0s						
SBF	Sospel	12.02	306	eP	Pn	17 00 18.1	+0.1
	comp=Z,24nm,1.0s						
SQTA	Sankt Quirin	12.03	326	⇓iPn	Pn	17 00 18.3	+0.2
SQTA				⇓iSn	Sn	17 02 26.5	-5.8
KWP	Kalwaria	12.13	5	P	Pn	17 00 16.7	-2.9
KWP				pmax	pmax		
	comp=Z,17nm,0.6s						
KWP	Kalwaria	12.13	5	Pn	Pn	17 00 16.7	-2.9
	comp=Z,17nm,0.6s						
MOTA	Moosalm	12.17	327	⇓iPn	Pn	17 00 20.4	+0.3
MOTA				⇓iSn	Sn	17 02 31.6	-4.2
OKC	Ostrava-Krasne	12.44	352	AMS	AMS	17 06 50.0	
	comp=Z,300nm,11.5s						
GEC2	GERESS Array S	12.44	337	ePn	Pn	17 00 22.1	-1.7
GEC2				eSn	Sn	17 02 32.3	-10
GEC2	GERESS Array S	12.44	337	eP	Pn	17 00 22.1	-1.7
GERES	GERESS Array B	12.44	337	Pn	Pn	17 00 23.1	-0.8
	comp=Z,0.5nm,0.3s,baz=163,slow=14,SNR=11						
GERES				Sn	Sn	17 02 31.7	-11
	comp=Z,0.7nm,0.3s,baz=160,slow=27,SNR=4.4						
KHC	Kasperske Hory	12.73	338	eP	Pn	17 00 30.1	+2.3
KHC				ex	x	17 01 48.5	
KHC				ex	x	17 02 44.0	
KHC				AMS	AMS	17 06 10.0	
	comp=Z,400nm,14.3s						
KHC	Kasperske Hory	12.73	338	eP	Pn	17 00 30.1	+2.3
KHC				e		17 01 48.5	
KHC				e		17 02 44.0	
MBDF	Montbardon	12.85	308	eP	Pn	17 00 30.4	+1.1
	comp=Z,31nm,1.0s						
MBDF	Montbardon	12.85	308	eP	Pn	17 00 30.4	+1.1
MBDF				pmax	pmax		
	comp=Z,15nm,1.0s						
MBDF	Montbardon	12.85	308	eP	Pn	17 00 30.4	+1.1
	comp=Z,15nm,1.0s						
DPC	Dobruska-Polom	13.21	347	AMS	AMS	17 06 20.0	
	comp=Z,400nm,13.5s						
PRU	Pruhonice	13.25	342	eP	Pn	17 00 33.9	-0.9
PRU				AMS	AMS	17 06 30.0	
	comp=Z,300nm,9.1s						
LPG	La Plagne	13.25	311	eP	Pn	17 00 35.2	+0.4
	comp=Z,15nm,0.7s						
LPG	La Plagne	13.25	311	eP	Pn	17 00 35.2	+0.4
LPG				pmax	pmax		
	comp=Z,8.0nm,0.7s						
LPG	La Plagne	13.25	311	eP	Pn	17 00 35.2	+0.4
	comp=Z,7.6nm,0.7s						
LPL	La Plagne	13.27	311	eP	Pn	17 00 34.8	-0.3
ORIF	Oris-en-Rattie	13.49	308	eP	Pn	17 00 39.6	+1.4
	comp=Z,17nm,0.8s						
ORIF				eR			
	comp=Z,306nm,17.0s						
ORIF	Oris-en-Rattie	13.49	308	eP	Pn	17 00 39.6	+1.4
ORIF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ORIF	Oris-en-Rattie	13.49	308	eP	Pn	17 00 39.6	+1.4
	comp=Z,8.7nm,0.8s						
PVCC	Panska Ves	13.74	343	AMS	AMS	17 06 40.0	
	comp=Z,400nm,11.9s						
MALT	Malatya	13.83	82	⇑iP	Pn	17 00 46.6	+3.9
MALT	Malatya	13.83	82	ePn	Pn	17 00 43.7	+0.9
	comp=Z,8.3nm,0.9s						
EIL	Elat	14.07	120	P	Pn	17 00 50.4	+4.4
	comp=Z,181nm,0.8s						
VIVF	Saint-Julien-l	14.23	306	eP	Pn	17 00 49.3	+1.0
CABF	La Chapelle	14.24	314	eP	Pn	17 00 48.9	+0.5
	comp=Z,19nm,0.8s						
CABF	La Chapelle	14.24	314	eP	Pn	17 00 48.9	+0.5
CABF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CABF	La Chapelle	14.24	314	eP	Pn	17 00 48.9	+0.5
	comp=Z,9.5nm,0.8s						
ETOS	Mallorca	14.34	284	P	Pn	17 00 51.0	+1.4
	comp=Z,14nm,1.0s						
ANN	Anapa	14.36	55	eP	Pn	17 00 59.2	+9.2
ANN				pmax	pmax		
	comp=Z,67nm,1.7s						
AKASG	Malin Array Be	14.40	22	Pn	Pn	17 00 49.2	-1.4
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=6.8						
AKBB	Malin Array Si	14.40	22	eP	Pn	17 00 47.3	-3.3
HINF	Hinteralfeld	14.55	319	eP	Pn	17 00 54.0	+1.4
	comp=Z,12nm,0.5s						
HINF	Hinteralfeld	14.55	319	eP	Pn	17 00 54.0	+1.4
HINF				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HINF	Hinteralfeld	14.55	319	eP	Pn	17 00 54.0	+1.4
	comp=Z,6.1nm,0.5s						
EJON	La Jonquera	14.66	295	P	Pn	17 00 57.8	+3.7
	comp=Z,5.8nm,1.0s						
MOX	Moxa	14.68	336	eP	Pn	17 00 57.8	+3.5
MOX							
	comp=Z,300nm,18.0s						
CDF	Champ du Feu	14.72	322	eP	Pn	17 00 54.6	-0.4
	comp=Z,22nm,0.8s						
CDF	Champ du Feu	14.72	322	eP	Pn	17 00 54.6	-0.4
CDF				pmax	pmax		
	comp=Z,11nm,0.8s						
CDF	Champ du Feu	14.72	322	eP	Pn	17 00 54.6	-0.4
	comp=Z,11nm,0.8s						
CLL	Collm	14.85	340	ePP		17 01 05.0	
CLL				i (sPPP)		17 01 17.9	
CLL				e(S)	Sn	17 03 48.0	+6.7
CLL	Collm	14.85	340	eP		17 01 05.0	
CLL				MLR	MLR		
	comp=Z,400nm,8.2s						
CLL	Collm	14.85	340	P		17 01 05.0	
CLL				i		17 01 17.9	
HAU	Haudompre	14.93	319	eP	Pn	17 00 58.9	+1.1
	comp=Z,62nm,0.8s						
HAU				eR			
	comp=Z,175nm,21.8s						
HAU	Haudompre	14.93	319	eP	Pn	17 00 58.9	+1.1
HAU				pmax	pmax		
	comp=Z,31nm,0.8s						
HAU	Haudompre	14.93	319	eP	Pn	17 00 58.9	+1.1
	comp=Z,31nm,0.8s						
MTLF	Montolieu	15.37	298	eP	Pn	17 01 04.5	+0.9
	comp=Z,9.0nm,0.8s						
MTLF	Montolieu	15.37	298	eP	Pn	17 01 04.5	+0.9
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MTLF	Montolieu	15.37	298	eP	Pn	17 01 04.5	+0.9
	comp=Z,4.5nm,0.8s						
EIBI	Ibiza	15.46	281	P	Pn	17 01 08.6	+3.8
	comp=Z,14nm,0.9s						
SMF	Signal de Mont	15.58	311	eP	Pn	17 01 06.9	+0.6
	comp=Z,12nm,0.7s						
SMF	Signal de Mont	15.58	311	eP	Pn	17 01 06.9	+0.6
SMF				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SMF	Signal de Mont	15.58	311	eP	Pn	17 01 06.9	+0.6
	comp=Z,5.9nm,0.7s						
EBNR	Beni Rached	15.58	271	P	Pn	17 01 13.0	+6.7
EPOB	Poblet	15.80	290	P	Pn	17 01 13.1	+3.9
	comp=Z,9.9nm,0.8s						
LOR	Lormes	15.88	313	eP	Pn	17 01 11.1	+0.8

	comp=Z,18nm,1.0s						
LOR				*e*R			
	comp=Z,86nm,20.2s						
LOR	**Lormes**	**15.88**	**313**	*e*P	**Pn**	**17 01 11.1**	**+0.8**
LOR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LOR	**Lormes**	**15.88**	**313**	*e*P	**Pn**	**17 01 11.1**	**+0.8**
	comp=Z,8.8nm,1.0s						
MEZF	**Maizieres J'vi**	**15.92**	**318**	*e*P	**Pn**	**17 01 11.7**	**+1.0**
	comp=Z,59nm,1.0s						
MEZF	**Maizieres J'vi**	**15.92**	**318**	*e*P	**Pn**	**17 01 11.7**	**+1.0**
	comp=Z,29nm,1.0s						
AVF	**Avril sur Loir**	**15.94**	**311**	*e*P	**Pn**	**17 01 11.4**	**+0.4**
	comp=Z,15nm,1.0s						
AVF	**Avril sur Loir**	**15.94**	**311**	*e*P	**Pn**	**17 01 11.4**	**+0.4**
AVF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
AVF	**Avril sur Loir**	**15.94**	**311**	*e*P	**Pn**	**17 01 11.4**	**+0.4**
	comp=Z,7.7nm,1.0s						
ETRT	**Tiaret**	**15.95**	**268**	P	**Pn**	**17 01 16.0**	**+4.9**
CAF	**Calviac**	**15.97**	**303**	*e*P	**Pn**	**17 01 11.8**	**+0.4**
SSF	**Saint Saulge**	**15.98**	**312**	*e*P	**Pn**	**17 01 12.2**	**+0.6**
	comp=Z,16nm,0.9s						
SSF	**Saint Saulge**	**15.98**	**312**	*e*P	**Pn**	**17 01 12.2**	**+0.6**
SSF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SSF	**Saint Saulge**	**15.98**	**312**	*e*P	**Pn**	**17 01 12.2**	**+0.6**
	comp=Z,7.9nm,0.9s						
EANR	**'Ain N'Sour**	**15.99**	**270**	P	**Pn**	**17 01 15.0**	**+3.4**
WLF	**Walferdange**	**16.12**	**323**	AP	pP	17 01 19.5	+0.1
ERTA	**Horta de San J**	**16.31**	**288**	P	**Pn**	**17 01 19.5**	**+3.6**
	comp=Z,12nm,1.0s						
TCF	**Toulx Ste Croi**	**16.41**	**308**	*e*P	**Pn**	**17 01 18.2**	**+1.1**
	comp=Z,22nm,1.1s						
TCF	**Toulx Ste Croi**	**16.41**	**308**	*e*P	**Pn**	**17 01 18.2**	**+1.1**
TCF				pmax	pmax		
	comp=Z,11nm,1.1s						
TCF	**Toulx Ste Croi**	**16.41**	**308**	*e*P	**Pn**	**17 01 18.2**	**+1.1**
	comp=Z,11nm,1.1s						
RJF	**Les Rejaudoux**	**16.47**	**304**	*e*P	**Pn**	**17 01 18.2**	**+0.4**
RJF				*e*R			
	comp=Z,246nm,17.5s						
SUW	**Suwalki**	**16.52**	**5**	*e*P	**Pn**	**17 01 16.5**	**-2.0**
SUW				pmax	pmax		
	comp=Z,136nm,0.9s						
SUW	**Suwalki**	**16.52**	**5**	*e*P	**Pn**	**17 01 16.5**	**-2.0**
	comp=Z,136nm,0.9s						
EBIE	**Bielsa**	**16.70**	**294**	P	**Pn**	**17 01 23.0**	**+2.3**
	comp=Z,16nm,0.8s						
MEM	**Membach**	**16.84**	**325**	AP	pP	17 01 28.6	+1.1
ESAC	**San Caprasio**	**17.00**	**291**	P	**Pn**	**17 01 26.1**	**+1.6**
	comp=Z,10nm,0.3s						
GIVF	**Givet**	**17.05**	**322**	*e*P	**Pn**	**17 01 26.0**	**+0.8**
	comp=Z,62nm,1.1s						
GIVF	**Givet**	**17.05**	**322**	*e*P	**Pn**	**17 01 26.0**	**+0.8**
GIVF				pmax	pmax		
	comp=Z,31nm,1.1s						
GIVF	**Givet**	**17.05**	**322**	*e*P	**Pn**	**17 01 26.0**	**+0.8**
	comp=Z,31nm,1.1s						
DOU	**Dourbes**	**17.16**	**322**	AP	pP	17 01 31.0	+0.1
ETSF	**Etsaut**	**17.25**	**295**	*e*P	**Pn**	**17 01 28.9**	**+1.3**
	comp=Z,39nm,1.1s						
ETSF	**Etsaut**	**17.25**	**295**	*e*P	**Pn**	**17 01 28.9**	**+1.3**
ETSF				pmax	pmax		
	comp=Z,19nm,1.1s						
ETSF	**Etsaut**	**17.25**	**295**	*e*P	**Pn**	**17 01 28.9**	**+1.3**
	comp=Z,20nm,1.1s						
BAIF	**Baives**	**17.32**	**321**	*e*P	**Pn**	**17 01 29.9**	**+1.3**
KIV	**Kislovodsk**	**17.64**	**62**	*e*P	**Pn**	**17 01 30.1**	**-2.5**
KIV				*e*S	**Sn**	**17 04 45.2**	**-3.9**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV				MLR	MLR		
	comp=Z,38nm,12.0s						
KIV	**Kislovodsk**	**17.64**	**62**	*e*P	**Pn**	**17 01 30.1**	**-2.5**
	comp=Z,9.0nm,1.2s						
KIV				*e*S	**Sn**	**17 04 45.2**	**-3.9**
	comp=Z,38nm,12.0s						
ETOB	**Tobarra**	**17.73**	**280**	P	**Pn**	**17 01 33.4**	**-0.2**
	comp=Z,4.2nm,0.6s						
MSL	**Mosul**	**17.75**	**87**	*e*x	x	17 01 42.5	
SJPF	**Ste Jean**	**17.77**	**295**	*e*P	**Pn**	**17 01 35.2**	**+1.1**
	comp=Z,30nm,0.9s						
SJPF	**Ste Jean**	**17.77**	**295**	*e*P	**Pn**	**17 01 35.2**	**+1.1**
SJPF				pmax	pmax		
	comp=Z,15nm,0.9s						
SJPF	**Ste Jean**	**17.77**	**295**	*e*P	**Pn**	**17 01 35.2**	**+1.1**
	comp=Z,15nm,0.9s						
EALK	**Alkurruntz**	**17.99**	**295**	P	**Pn**	**17 01 40.3**	**+3.5**
	comp=Z,7.7nm,0.9s						
ELIZ	**Elizondo**	**17.99**	**295**	P	**Pn**	**17 01 38.3**	**+1.4**
ELIZ				pmax	pmax		
	comp=Z,64nm,1.5s						
ELIZ	**Elizondo**	**17.99**	**295**	P	**Pn**	**17 01 38.3**	**+1.5**
	comp=Z,64nm,1.5s						
MFF	**Saint Martin d**	**18.03**	**307**	*e*P	**Pn**	**17 01 37.2**	**-0.1**
	comp=Z,31nm,1.1s						
MFF	**Saint Martin d**	**18.03**	**307**	*e*P	**Pn**	**17 01 37.2**	**-0.1**
MFF				pmax	pmax		
	comp=Z,15nm,1.1s						
MFF	**Saint Martin d**	**18.03**	**307**	*e*P	**Pn**	**17 01 37.2**	**-0.1**
	comp=Z,15nm,1.1s						
ETOR	**Torete**	**18.11**	**287**	P	**Pn**	**17 01 39.8**	**+1.5**
ETOR				pmax	pmax		
	comp=Z,25nm,0.5s						
ETOR	**Torete**	**18.11**	**287**	P	**Pn**	**17 01 39.8**	**+1.5**
	comp=Z,24nm,0.5s						
ZEI	**Tsey**	**18.28**	**66**	*e*P	**Pn**	**17 01 42.0**	**+1.6**
EVIA	**Vianos**	**18.48**	**281**	P	**Pn**	**17 01 45.6**	**+2.8**
EVIA				pmax	pmax		
	comp=Z,15nm,0.8s						
EVIA	**Vianos**	**18.48**	**281**	P	**Pn**	**17 01 45.6**	**+2.8**
	comp=Z,15nm,0.8s						
VORD	**Divnogorie**	**18.70**	**38**	*e*P	**Pn**	**17 01 43.8**	**-1.7**
VORD				pmax	pmax		
	comp=N,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
VORD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
GNI	**Garni**	**18.70**	**75**	P	**Pn**	**17 01 46.3**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=355,slow=8.6,SNR=5.6						
GNI	**Garni**	**18.70**	**75**	P	**Pn**	**17 01 46.3**	**+0.7**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**18.70**	**75**	*e*P	**Pn**	**17 01 45.7**	**+0.1**
	comp=Z,18nm,1.0s						
VRSR	**Storozhevoye**	**18.81**	**38**	*e*P	**Pn**	**17 01 44.9**	**-1.9**
VRSR				pmax	pmax		
	comp=N,20nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LDF	**La Druitiere**	**18.86**	**312**	*e*P	**Pn**	**17 01 46.6**	**-0.9**
	comp=Z,39nm,1.1s						
LDF	**La Druitiere**	**18.86**	**312**	*e*P	**Pn**	**17 01 46.6**	**-0.9**
LDF				pmax	pmax		
	comp=Z,19nm,1.1s						
LDF	**La Druitiere**	**18.86**	**312**	*e*P	**Pn**	**17 01 46.6**	**-0.9**
	comp=Z,19nm,1.1s						
EBER	**Berja**	**18.98**	**275**	P	**Pn**	**17 01 50.1**	**+1.2**
	comp=Z,6.4nm,0.8s						
EQES	**Quesada**	**19.00**	**278**	P	**Pn**	**17 01 49.1**	**0.0**
	comp=Z,10nm,0.7s						
FLN	**La Foliniere**	**19.15**	**313**	*e*P	**Pn**	**17 01 49.0**	**-2.0**
	comp=Z,34nm,1.0s						
FLN				*e*R			
	comp=Z,107nm,20.5s						
FLN	**La Foliniere**	**19.15**	**313**	*e*P	**Pn**	**17 01 49.0**	**-2.0**
FLN				pmax	pmax		
	comp=Z,17nm,1.0s						
FLN	**La Foliniere**	**19.15**	**313**	*e*P	**Pn**	**17 01 49.0**	**-2.0**
	comp=Z,17nm,1.0s						
GRR	**Gorron**	**19.21**	**311**	*e*P	**Pn**	**17 01 51.7**	**+0.1**
DGRG	**David-gareji**	**19.23**	**71**	P	**Pn**	**17 01 54.3**	**+2.4**
EALB	**Alboran**	**19.27**	**272**	P	**Pn**	**17 01 52.1**	**-0.3**
	comp=Z,13nm,0.7s						
ELAN	**Lanestosa**	**19.38**	**295**	P	**Pn**	**17 01 53.0**	**-0.7**
	comp=Z,32nm,0.9s						
EBAN	**Banos Encina**	**19.52**	**279**	P	**Pn**	**17 01 55.0**	**-0.4**
EBAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
EBAN	**Banos Encina**	**19.52**	**279**	P	**Pn**	**17 01 55.0**	**-0.5**
	comp=Z,7.1nm,0.6s						
EGUA	**Guajares**	**19.53**	**275**	P	**Pn**	**17 01 55.2**	**-0.3**
EGUA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EGUA	**Guajares**	**19.53**	**275**	P	**Pn**	**17 01 55.2**	**-0.3**
	comp=Z,1.0nm,0.6s						
ESDC	**Sonseca Array**	**19.56**	**284**	P	**Pn**	**17 01 55.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=79,slow=12,SNR=28						
ESDC	**Sonseca Array**	**19.56**	**284**	P	**Pn**	**17 01 54.8**	**-1.1**
	comp=Z,8.8nm,0.8s						
ESLA	**Sonseca Array**	**19.56**	**284**	P	**Pn**	**17 01 54.2**	**-1.7**
	comp=Z,2.5nm,0.8s						
GUD	**Guadarrama**	**19.70**	**287**	P	**Pn**	**17 01 57.2**	**-0.3**
GUD				pmax	pmax		
	comp=Z,9.0nm,0.6s						
GUD	**Guadarrama**	**19.70**	**287**	P	**Pn**	**17 01 57.2**	**-0.4**
	comp=Z,8.6nm,0.6s						
ELOJ	**Sierra Loja**	**19.94**	**276**	P	**Pn**	**17 02 01.0**	**+0.6**
ELOJ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ELOJ	**Sierra Loja**	**19.94**	**276**	P	**Pn**	**17 02 01.0**	**+0.6**
	comp=Z,1.8nm,0.4s						
ELUQ	**Luque**	**19.97**	**278**	P	**Pn**	**17 01 58.7**	**-2.1**
ELUQ				pmax	pmax		
	comp=Z,24nm,0.8s						
ELUQ	**Luque**	**19.97**	**278**	P	**Pn**	**17 01 58.7**	**-2.1**
	comp=Z,24nm,0.8s						
EADA	**Adamuz**	**20.14**	**280**	P	**P**	**17 02 00.7**	**-0.2**
	comp=Z,8.1nm,0.8s						
SGMF	**Saint Gilles**	**20.18**	**309**	*e*P	**P**	**17 02 02.2**	**+0.9**
QUIF	**Quistinic**	**20.43**	**308**	*e*P	**P**	**17 02 05.0**	**+1.0**
OBN	**Obninsk**	**20.52**	**26**⇓	*e*P	**P**	**17 02 03.3**	**-1.7**
OBN				*e*		17 02 08.8	
OBN				pmax	pmax		
	comp=Z,48nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.3						
OBN	**Obninsk**	**20.52**	**26**	*e*P	**P**	**17 02 03.3**	**-1.7**
	comp=Z,48nm,1.7s						
EMIJ	**Mijas**	**20.53**	**275**	P	**P**	**17 02 04.7**	**-0.4**
	comp=Z,15nm,0.9s						
ROSF	**Rostrenen**	**20.65**	**309**	*e*P	**P**	**17 02 07.7**	**+1.2**
EARI	**Arriondas**	**20.67**	**294**	P	**P**	**17 02 05.7**	**-0.9**
	comp=Z,10nm,0.7s						
EJIF	**Jimena Fronter**	**21.10**	**275**	P	**P**	**17 02 12.1**	**+0.8**
EJIF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
EJIF	**Jimena Fronter**	**21.10**	**275**	P	**P**	**17 02 12.1**	**+0.8**
	comp=Z,11nm,1.0s,mb4.2						
VSU	**Vasula**	**21.25**	**8***c*	*i*P	**P**	**17 02 11.7**	**-1.3**
ESPR	**Espera**	**21.33**	**276**	P	**P**	**17 02 14.0**	**+0.2**
	comp=Z,10nm,1.0s,mb4.1						
MOS	**Moscow**	**21.39**	**26**	*e*P	**P**	**17 02 12.7**	**-1.7**
MOS				*i*		17 02 23.0	
MOS				*e*		17 02 53.9	
MOS				pmax	pmax		
	comp=Z,75nm,1.2s,mb4.9						
MDT	**Midelt**	**21.39**	**265**	P	**P**	**17 02 15.2**	**+0.8**
	comp=Z,11nm,0.8s,mb4.2,baz=86,slow=11,SNR=23						
MDT				LR	LR	17 09 40.4	
	comp=Z,50nm,21.1s,MS2.9,baz=161,slow=34						
PBRG	**Braganca**	**21.68**	**290**	*e*P	**P**	**17 02 17.7**	**+0.2**
ECAL	**Calabor**	**21.68**	**290**	P	**P**	**17 02 16.9**	**-0.7**
	comp=Z,23nm,1.0s,mb4.6						
EMIN	**Mina Concepcio**	**21.83**	**279**	P	**P**	**17 02 20.6**	**+1.4**
	comp=Z,9.8nm,1.0s,mb4.2						
EBAD	**Badajoz**	**21.98**	**282**	P	**P**	**17 02 20.4**	**-0.3**
	comp=Z,9.5nm,0.9s,mb4.2						
ERUA	**La Rua**	**22.00**	**291**	P	**P**	**17 02 21.2**	**+0.2**
ERUA				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.5						
ERUA	**La Rua**	**22.00**	**291**	P	**P**	**17 02 21.2**	**+0.2**
	comp=Z,26nm,1.2s,mb4.5						
EPON	**Pontenova**	**22.08**	**294**	P	**P**	**17 02 22.6**	**+0.8**
PCBR	**Castelo Branco**	**22.26**	**285**	*e*P	**P**	**17 02 23.4**	**-0.3**
	comp=Z,15nm,1.1s,mb4.3						
MTE	**Manteigas**	**22.29**	**286**	*e*P	**P**	**17 02 23.6**	**-0.4**
	comp=Z,19nm,1.2s,mb4.4						
PESTR	**Estremoz**	**22.42**	**282**	*e*P	**P**	**17 02 25.8**	**+0.3**
	comp=Z,23nm,1.2s,mb4.5						
EGRO	**El Granado**	**22.50**	**279**	P	**P**	**17 02 26.5**	**+0.1**
	comp=Z,2.7nm,0.8s,mb3.7						
PVIS	**Viseu**	**22.54**	**287**	*e*P	**P**	**17 02 26.0**	**-0.8**
	comp=Z,26nm,0.9s,mb4.7						
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**17 02 30.2**	**-2.0**
	comp=Z,6.3nm,0.5s,mb4.3,baz=158,slow=9.6,SNR=39						
HFS				LR	LR	17 12 40.6	
	comp=Z,56nm,19.4s,MS3.0,baz=168,slow=40						
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**17 02 30.2**	**-2.0**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,56nm,19.4s						
RST	**Umm Al-Ruwaisa**	**23.11**	**103**	*e*P	**P**	**17 02 31.2**	**-1.6**
RST				AMb	AMB	17 02 33.9	
	comp=Z,38nm,0.7s,mb4.9						
MIB	**Mutribah**	**23.24**	**102**	*e*P	**P**	**17 02 33.5**	**-0.6**
MIB				AMb	AMB	17 02 35.8	
	comp=Z,54nm,0.6s,mb5.1						
NAY	**Al-Naaiem**	**23.41**	**103**	*e*P	**P**	**17 02 34.4**	**-1.6**
NAY				AMb	AMB	17 02 37.3	
	comp=Z,13nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**24.12**	**6**	P	**P**	**17 02 40.9**	**-1.7**
	comp=Z,3.1nm,0.7s,mb3.9,baz=152,slow=10.0,SNR=16						
FINES	**FINESS Array B**	**24.12**	**6**	P	**P**	**17 02 40.9**	**-1.7**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**24.12**	**6**	P	**P**	**17 02 40.9**	**-1.7**
EKA	**Eskdalemuir Ar**	**24.12**	**325**	P	**P**	**17 02 42.3**	**-0.3**
	comp=Z,12nm,0.8s,mb4.4,baz=128,slow=8.6,SNR=28						
EKA	**Eskdalemuir Ar**	**24.12**	**325**	P	**P**	**17 02 42.3**	**-0.3**
EKA				pmax	pmax		
	comp=Z,12nm,0.8s						
ESK	**Eskdalemuir**	**24.13**	**325**	*e*P	**P**	**17 02 41.8**	**-0.9**
ESK				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
ESK	**Eskdalemuir**	**24.13**	**325**	*e*P	**P**	**17 02 41.8**	**-0.9**
	comp=Z,23nm,1.0s,mb4.6						
NAO01	**NORSAR Array S**	**24.16**	**348**	*e*P	**P**	**17 02 39.3**	**-3.6**
	comp=Z,7.4nm,0.7s,mb4.2						
NB2	**NORSAR Subarra**	**24.29**	**348**	P	**P**	**17 02 42.5**	**-1.6**
	comp=Z,14nm,1.1s,mb4.3,baz=161,slow=11						
NOA	**NORSAR Array B**	**24.29**	**348**	P	**P**	**17 02 42.4**	**-1.7**
	comp=Z,4.8nm,0.8s,mb4.0,baz=148,slow=9.8,SNR=20						
NOA				LR	LR	17 13 44.0	
	comp=Z,71nm,18.6s,MS3.2,baz=175,slow=40						
NOA	**NORSAR Array B**	**24.29**	**348**	P	**P**	**17 02 42.4**	**-1.7**
NOA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,71nm,18.6s						
KAF	**Kangasniemi**	**24.80**	**6**	*e*p	**P**	**17 02 47.6**	**-1.2**
	baz=185,slow=9.1						
JOF	**Joensuu**	**26.17**	**11**	*e*p	**P**	**17 02 59.2**	**-2.0**
	comp=Z,1.0nm,0.4s,mb3.7						
AKTK	**Aktyubinsk**	**29.29**	**52**	P	**P**	**17 03 27.6**	**-1.6**
AKTK				LR	LR	17 17 38.1	
AKTO	**Aktyubinsk**	**29.29**	**52**	P	**P**	**17 03 27.6**	**-1.6**
	comp=Z,4.2nm,0.6s,mb4.4,baz=266,slow=9.4,SNR=18						
AKTO				LR	LR	17 17 38.1	
	comp=Z,68nm,18.3s,MS3.3,baz=249,slow=41						
AKTO	**Aktyubinsk**	**29.29**	**52**	P	**P**	**17 03 27.6**	**-1.6**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
AKTO				MLR	MLR		
	comp=Z,68nm,18.3s,MS3.3						
TOA0	**Torodi Ar. Sit**	**29.77**	**220**	*e*P	**P**	**17 03 34.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**29.77**	**220**	P	**P**	**17 03 34.4**	**+1.0**
	comp=Z,4.3nm,0.8s,mb4.2,baz=32,slow=9.0,SNR=31						
TORD				LR	LR	17 16 50.0	
	comp=Z,86nm,18.8s,MS3.4,baz=20,slow=39						
TORD	**Torodi Ar. Bea**	**29.77**	**220**	P	**P**	**17 03 34.4**	**+1.0**
TORD				LR	LR	17 16 50.0	
EFAM	**Famara**	**29.87**	**264**	P	**P**	**17 03 33.8**	**-0.4**
	comp=Z,34nm,1.6s,mb4.8						
ARU	**Arti**	**31.30**	**41**⇓	*i*P	**P**	**17 03 44.3**	**-2.7**
ARU				*e*		17 04 46.3	
ARU				*e*S	**S**	**17 08 47.9**	**-5.9**
ARU				*e*SS	SS	17 10 35.0	-33
ARU				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.5						
ARU	**Arti**	**31.30**	**41**	*e*P	**P**	**17 03 44.4**	**-2.5**
	comp=Z,9.0nm,0.9s,mb4.6						
ARCES	**ARCESS Array B**	**32.13**	**3**	P	**P**	**17 03 52.4**	**-1.9**
	comp=Z,1.7nm,0.6s,mb4.0,baz=191,slow=11,SNR=14						
ARCES	**ARCESS Array B**	**32.13**	**3**	P	**P**	**17 03 52.4**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KEV	**Kevo**	**32.42**	**4**	*e*p	**P**	**17 03 54.6**	**-2.2**
	comp=Z,1.4nm,0.5s,mb4.0						
KEV	**Kevo**	**32.42**	**4**	*e*P	**P**	**17 03 54.6**	**-2.2**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
SVE	**Sverdlovsk**	**32.52**	**41**	*e*P	**P**	**17 03 56.9**	**-0.7**
SVE				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
CCAN	**Las Canadas**	**32.69**	**265**	P	**P**	**17 03 58.8**	**-0.4**
	comp=Z,36nm,1.3s,mb5.2						
BRVK	**Borovoye**	**37.20**	**49**	*e*P	**P**	**17 04 36.6**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRVK	**Borovoye**	**37.20**	**49**	*e*P	**P**	**17 04 36.6**	**-1.5**
	comp=Z,4.7nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**37.26**	**49**	P	**P**	**17 04 37.5**	**-1.0**
	comp=Z,4.5nm,0.7s,mb4.4,baz=258,slow=5.6,SNR=33						
BVAR	**Borovoye Array**	**37.26**	**49**	P	**P**	**17 04 37.5**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
CHKZ	**Chkalovo**	**37.45**	**48**	*e*P	**P**	**17 04 37.9**	**-2.3**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**37.45**	**48**	*e*P	**P**	**17 04 37.9**	**-2.3**
	comp=Z,12nm,0.8s,mb4.8						
DBIC	**Dimbokro**	**38.67**	**224**	P	**P**	**17 04 51.4**	**+0.9**
	comp=Z,12nm,0.9s,mb4.6,baz=3.9,slow=7.6,SNR=7.8						
DBIC	**Dimbokro**	**38.67**	**224**	P	**P**	**17 04 51.4**	**+0.9**
DBIC				pmax	pmax		
	comp=Z,12nm,1.0s						
KMBO	**Kilima Mbogo**	**41.35**	**155**	P	**P**	**17 05 13.8**	**+1.0**
	comp=Z,1.0nm,0.7s,mb3.6,baz=51,slow=23,SNR=3.3						
KMBO	**Kilima Mbogo**	**41.35**	**155**	P	**P**	**17 05 13.8**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVS	**Novosibirsk**	**44.85**	**47**⇑	*i*P	**P**	**17 05 39.0**	**-2.1**
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
MKAR	**Makanchi Array**	**45.34**	**58**	P	**P**	**17 05 43.4**	**-1.6**
	comp=Z,2.3nm,0.5s,mb4.2,baz=272,slow=7.3,SNR=39						
MKAR	**Makanchi Array**	**45.34**	**58**	P	**P**	**17 05 43.4**	**-1.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**45.85**	**48**	P	**P**	**17 05 47.3**	**-1.6**
	comp=Z,5.4nm,0.5s,mb4.7,baz=193,slow=7.1,SNR=21						
ZAL	**Zalesovo**	**45.85**	**48**	P	**P**	**17 05 47.3**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SFJD	**Kangerlussuaq**	**48.93**	**330**	LR	LR	17 25 29.1	
	comp=Z,139nm,20.2s,MS3.9,baz=159,slow=34						
WMQ	**Urumqi**	**49.77**	**61**	*e*P	**P**	**17 06 19.0**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,83nm,3.9s						
WMQ				LR	LR		
	comp=Z,98nm,18.0s,MS3.9						
KOLN	**Koldanda**	**52.79**	**81**	*e*P	**P**	**17 06 40.8**	**-1.2**
	comp=Z,17nm,0.6s,mb5.2						
GKN	**Gorkha**	**53.49**	**80**	*e*P	**P**	**17 06 45.7**	**-1.5**
	comp=Z,24nm,0.6s,mb5.3						
DMN	**Daman**	**54.05**	**81**	*e*P	**P**	**17 06 50.2**	**-1.0**
	comp=Z,21nm,0.6s,mb5.2						
KKN	**Kakani**	**54.10**	**80**	*e*P	**P**	**17 06 50.2**	**-1.4**
	comp=Z,12nm,0.6s,mb5.0						
PKI	**Pulchoki**	**54.30**	**81**	*e*P	**P**	**17 06 51.9**	**-1.2**
GUN	**Gumba**	**54.51**	**80**	*e*P	**P**	**17 06 52.7**	**-1.9**
	comp=Z,14nm,0.6s,mb5.2						
JIRN	**Jiri**	**54.87**	**80**	*e*P	**P**	**17 06 56.2**	**-1.1**
	comp=Z,6.1nm,0.4s,mb5.0						
ZAK	**Zakamensk**	**57.72**	**49**	*e*P	**P**	**17 07 16.5**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
GTA	**Gaotai**	**59.83**	**62**	*e*P	**P**	**17 07 30.8**	**-1.4**
GTA				AP	pP	17 07 42.1	+6.7
GTA				PCP	PcP	17 08 19.8	+1.0
GTA				AMB	AMB		
	comp=Z,2.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**60.59**	**50**	P	**P**	**17 07 36.0**	**-1.4**
	comp=Z,1.6nm,0.9s,mb4.2,baz=305,slow=10,SNR=6.6						
SONM	**Songino Array**	**60.59**	**50**	P	**P**	**17 07 36.0**	**-1.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BOD	**Bodaibo**	**60.66**	**38**	*e*	**P**	**17 07 32.1**	**-5.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
LZH	**Lanzhou**	**64.18**	**63**	*e*P	**P**	**17 07 59.5**	**-2.0**
LZH				AP	pP	17 08 13.0	+8.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
YAK	**Yakutsk**	**65.48**	**29**⇑	*e*P	**P**	**17 08 07.9**	**-2.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YAK	**Yakutsk**	**65.48**	**29**	*e*P	**P**	**17 08 06.8**	**-3.1**
BOSA	**Boshof**	**65.95**	**176**	LR	LR	17 40 38.1	
	comp=Z,49nm,18.2s,MS3.8,baz=213,slow=39						
CD2	**Chengdu**	**66.69**	**68**	*e*P	**P**	**17 08 14.5**	**-3.3**
HHC	**Hu-ho-hao-te**	**67.11**	**55**	*e*P	**P**	**17 08 19.0**	**-1.4**
HHC				AP	pP	17 08 32.0	+8.3
HHC				PCP	PcP	17 08 47.6	-1.0
HHC				PP	PP	17 10 48.3	+0.1
HHC				SCP		17 12 45.8	
HHC				PCS		17 12 50.8	
HHC				S	S	17 17 06.5	-8.0
HHC				XS	sS	17 17 28.4	+8.5
HHC				PS		17 17 35.3	
HHC				SCS	ScS	17 18 08.6	-10
HHC				SS	SS	17 21 26.8	-6.7
HHC				AMB	AMB		
	comp=Z,178nm,8.0s						
HHC				LR	LR		
	comp=N,125nm,5.1s						
HHC				LR	LR		
	comp=E,106nm,4.3s						
HHC				LR	LR		
	comp=Z,134nm,5.1s						
KMI	**Kunming**	**68.96**	**74**	P	**P**	**17 08 31.5**	**-0.5**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
GYA	**Guiyang**	**71.21**	**71**	P	**P**	**17 08 44.4**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2	**Changchun**	**74.06**	**47**	*e*P	**P**	**17 09 01.3**	**-1.5**
MDJ	**Mudanjiang**	**75.91**	**44**	P	**P**	**17 09 10.8**	**-2.7**
MDJ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,298nm,3.8s						
ULM	**Lac du Bonnet**	**76.39**	**324**	LR	LR	17 40 15.1	
	comp=Z,33nm,21.0s,MS3.6,baz=352,slow=34						
NJ2	**Nanjing**	**76.84**	**60**	*e*P	**P**	**17 09 19.5**	**+0.7**
PSI	**Prapat**	**78.77**	**95**	P	**P**	**17 09 27.9**	**-1.6**
	comp=Z,2.6nm,0.5s,mb4.4,baz=347,slow=17,SNR=4.2						
PSI	**Prapat**	**78.77**	**95**	P	**P**	**17 09 27.9**	**-1.6**
PSI				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
SSE	**Sheshan**	**79.01**	**59**	P	**P**	**17 09 27.8**	**-3.0**
SSE				AMB	AMB		
	comp=Z,238nm,4.8s						
ASAJ	**Asahikawa**	**83.07**	**38**	P	**P**	**17 09 50.4**	**-2.1**
	comp=Z,8.1nm,0.9s,mb4.7,baz=54,slow=30,SNR=3.4						
ASAJ	**Asahikawa**	**83.07**	**38**	P	**P**	**17 09 50.4**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BDFB	**Brasilia**	**83.55**	**245**	LR	LR	17 49 17.0	
	comp=Z,96nm,18.2s,MS4.2,baz=241,slow=37						
MJAR	**Matsushiro Arr**	**86.18**	**46**	P	**P**	**17 10 07.4**	**-0.8**
	comp=Z,1.7nm,0.8s,mb4.3,baz=322,slow=2.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**86.18**	**46**	P	**P**	**17 10 07.4**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**120.18**	**93**	PKP	PKPdf	17 16 17.3	-0.6
	comp=Z,0.5nm,0.8s,baz=323,slow=1.7,SNR=6.8						
WRA	**Warramunga Arr**	**120.18**	**93**	PKIKP	PKPdf	17 16 17.3	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**121.77**	**97**	PKP	PKPdf	17 16 20.6	-0.3
	comp=Z,0.4nm,0.7s,baz=305,slow=1.6,SNR=7.6						

IDC 18 17:30:49.6±5.1**,559N×9438E, h0**km**, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.6**/21**, mbtmp3.8**/5**, Error ellipse: s-maj=259.8km s-min=23.4km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.35	348	P	P	17 38 45.0	-0.4
	0.5nm,0.6s,baz=162,slow=9.2,SNR=3.7						
WRA	Warramunga Arr	46.77	124	P	P	17 39 20.9	+0.2
	1.6nm,0.7s,baz=300,slow=9.0,SNR=14						
ASAR	Alice Springs	48.30	129	P	P	17 39 32.1	-0.4
	0.4nm,0.8s,baz=302,slow=7.2,SNR=6.1						
ZAL	Zalesovo	48.83	352	P	P	17 39 36.7	+0.1
	0.7nm,0.4s,baz=329,slow=12,SNR=3.3						
STKA	Stephens Creek	58.38	133	P	P	17 40 48.2	+1.5
	3.3nm,0.9s,baz=328,slow=9.5,SNR=4.1						

ISCJB 18 17:51:08.8±0.8, 3.12S±0.07×129.5E±0.2, h10km, mb4.0/4, Error ellipse: s-maj=25.3km s-min=8.1km az=154.2
IDC 18 17:51:08.8±1.6, 3.02S×129.55E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=106.6km s-min=21.9km az=75.0
NEIC 18 17:51:10.0±0.8, 2.96S×129.81E, h10km, mb3.8/3, Error ellipse: s-maj=38.1km s-min=8.9km az=72.0
ISC 18 17:51:11.0±0.8, 3.10S±0.07×129.5E±0.2, h10km, n13, σ1.30/16, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.37	194	eP	Pn	17 54 49.5	+1.6
	3.6nm,0.7s						
FITZ	Fitzroy Crossi	15.37	194	Pn	Pn	17 54 48.9	+0.9
	0.1nm,0.3s,baz=7.6,slow=15,SNR=6.5						
FITZ				Sn	Sn	17 57 36.4	-1.8
	baz=190,slow=17,SNR=1.8						
WRAB	Tennant Creek	17.39	165	eP	Pn	17 55 13.8	+0.2
	3.5nm,0.5s						
WRA	Warramunga Arr	17.39	165	P	Pn	17 55 12.2	-1.5
	0.4nm,0.3s,baz=347,slow=13,SNR=36						
WRA				S	Sn	17 58 22.7	-4.6
	0.1nm,0.3s,baz=353,slow=24,SNR=4.1						
WB2	Warramunga Arr	17.40	165	eP	Pn	17 55 13.1	-0.6
AS31	Alice Springs	20.88	169	eP	P	17 55 54.8	+1.5
ASAR	Alice Springs	20.88	169	P	P	17 55 54.5	+1.2
	12nm,0.8s,baz=348,slow=11,SNR=93						
ASAR				S	S	17 59 43.6	-2.5
	0.3nm,0.5s,baz=345,slow=15,SNR=4.5						
ASPA	Alice Springs	20.88	169	eP	P	17 55 54.8	+1.6
CHTO	Chiang Mai	37.12	307	eP	P	17 58 22.9	+1.2
	2.8nm,0.9s,mb4.1						
SONM	Songino Array	54.61	341	P	P	18 00 38.2	-1.5
	0.5nm,0.4s,mb3.9,baz=165,slow=12,SNR=3.4						
MKAR	Makanchi Array	64.72	326	P	P	18 01 49.0	-0.3
	0.3nm,0.5s,mb3.6,baz=106,slow=7.7,SNR=6.1						
ZAL	Zalesovo	67.89	333	P	P	18 02 08.8	-0.8
	1.0nm,0.3s,mb4.4,baz=254,slow=5.2,SNR=3.7						
ZAL	Zalesovo	67.89	333	P	P	18 02 08.8	-0.8

IDC 18 18:05:47.5±1.2, 44.44N×106.16W, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.4/23, mbtmp3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/38, Error ellipse: s-maj=57.3km s-min=8.1km az=142.0
NEIC 18 18:05:45.8±0.5, 43.76N×105.25W, h0km, ML3.1, Error ellipse: s-maj=8.0km s-min=6.3km az=152.0, Suspected Mining explosion., Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	Black Hills	0.94	67	eP	Pg	18 06 04.9	+1.0
PHWY	Pilot Hill	2.46	184	eP	Pn	18 06 26.3	-0.9
RWWY	Rawlins	2.53	216	eP	Pn	18 06 28.9	+0.9
RWWY				eS	Sn	18 06 59.8	+0.3
RLMT	Red Lodge	3.19	297	eP	Pn	18 06 37.7	+0.6
BW06	Boulder Array	3.30	254	eP	Pn	18 06 38.6	-0.2
PDAR	Pinedale Array	3.30	254	Pn	Pn	18 06 39.0	+0.2
	1.4nm,0.3s,baz=63,slow=15,SNR=50						
PDAR				Pg	Pg	18 06 45.2	-3.9
	4.0nm,0.3s,baz=61,slow=19,SNR=55						
PDAR				Lg		18 07 20.2	
	1.6nm,0.3s,baz=57,slow=40,SNR=4.3						
GCMT	Greycliff	3.75	304	eP	Pn	18 06 44.9	+0.1
LOHW	Long Hollow	3.89	270	P	Pn	18 06 45.8	-1.0
ISCO	Idaho Springs	3.97	184	eP	Pn	18 06 48.9	+1.0
REDW	Red Top Meadow	4.09	266	eP	Pn	18 06 51.2	+1.6
IMW	Indian Meadow	4.12	274	eP	Pn	18 06 49.7	-0.3
TPAW	Teton Pass	4.15	268	eP	Pn	18 06 51.6	+1.2
SMCO	Snowmass	4.76	196	eP	Pn	18 07 08.6	+10
TCUT	Toone Canyon	5.27	242	eP	Pn	18 07 04.3	-1.5
EGMT	Eagleton	5.30	325	eP	Pn	18 07 05.6	-0.6
HRY	Holter Researc	5.51	305	P	Pn	18 07 09.3	+0.3
ULM	Lac du Bonnet	9.11	41	Pn	Pn	18 07 57.3	-1.2
	0.6nm,0.3s,baz=237,slow=12,SNR=6.6						
ULM				Lg		18 10 28.8	
	0.2nm,0.3s,baz=278,slow=14,SNR=1.8						
NEW	Newport	9.41	303	LR	LR	18 11 28.2	
	comp=Z,49nm,19.5s,baz=0.8,slow=40						
ARCES	ARCESS Array B	61.39	18	P	P	18 16 02.6	-1.0
	0.8nm,0.7s,baz=349,slow=7.4,SNR=3.9						

IDC 18 18:16:34.4±3.6, 51.91N×174.69W, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, ML3.4/1, MS3.6/4, Ms1 3.5/4, ms1mx3.0/35, Error ellipse: s-maj=101.5km s-min=26.9km az=2.0
ISCJB 18 18:16:35.6±3.6, 51.3N±0.2×174.9W±0.2, h41km±26km, mb3.8/6, MS3.6/4, Error ellipse: s-maj=34.3km s-min=23.1km az=48.3
NEIC 18 18:16:37.1, 51.34N×174.81W, h5km, ML3.5(AEIC), After AEIC.
ISC 18 18:16:37.1±3.3, 51.3N±0.2×174.9W±0.3, h37km±26km, n17, σ0.59/14, mb3.8/6, MS3.6/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	Atka Island	0.99	27	P	Pn	18 16 54.1	-0.4
ATKA				S	Sn	18 17 07.7	+0.4
NIKO	Nikolski	4.09	64	P	Pn	18 17 37.0	-0.1
KDAK	Kodiak Island	14.45	55	Pn	Pn	18 19 54.7	-4.2
	0.2nm,0.3s,baz=112,slow=23,SNR=3.3						
KDAK	Kodiak Island	14.45	55	Pn	Pn	18 19 54.7	-4.2
SLKM	Skilak Lake	16.53	47	eP	Pn	18 20 26.6	+0.6
EGAK	Eagle	22.02	39	eP	P	18 21 27.1	-1.1
INK	Inuvik	26.13	34	LR	LR	18 31 52.4	
	comp=Z,55nm,18.3s,MS3.1,baz=318,slow=36						
YKA	Yellowknife Ar	33.50	47	LR	LR	18 36 46.1	
	comp=Z,41nm,19.1s,MS3.2,baz=0.0,slow=37						
PDAR	Pinedale Array	44.00	75	P	P	18 24 41.4	+0.6
	0.3nm,0.6s,mb3.2,baz=222,slow=2.0,SNR=3.3						
MKAR	Makanchi Array	61.95	311	P	P	18 26 53.4	+0.3
	0.6nm,0.4s,mb4.1,baz=46,slow=6.2,SNR=20						
BVAR	Borovoye Array	62.47	322	P	P	18 26 56.9	+0.4
	1.6nm,0.4s,mb4.5,baz=49,slow=6.5,SNR=9.6						
NOA	NORSAR Array B	67.89	357	P	P	18 27 31.3	-0.4
	0.3nm,0.5s,mb3.6,baz=343,slow=4.6,SNR=3.1						
AKTK	Aktyubinsk	69.10	327	P	P	18 27 39.5	+0.3
AKTO	Aktyubinsk	69.10	327	P	P	18 27 39.5	+0.3
	0.4nm,0.4s,mb3.7,baz=45,slow=8.6,SNR=3.0						
PPT	Papeete	72.09	155	LR	LR	18 53 24.6	
	comp=Z,66nm,19.6s,MS3.9,baz=145,slow=30						
AKASG	Malin Array Be	76.31	344	P	P	18 28 21.1	-1.0
	0.5nm,0.4s,mb3.8,baz=16,slow=5.8,SNR=3.0						
STKA	Stephens Creek	91.25	216	LR	LR	19 03 42.2	
	comp=Z,69nm,20.0s,MS4.1,baz=207,slow=31						

IDC 18 18:28:13.9±0.8, 34.06N×70.07E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/32, Error ellipse: s-maj=19.4km s-min=18.3km az=27.0
ISCJB 18 18:28:14.3±2.1, 34.07N±0.05×70.07E±0.06, h15km±14km, mb3.8/13, MS3.3/1, Error ellipse: s-maj=10.9km s-min=5.0km az=99.2
NEIC 18 18:28:15.5±0.6, 34.05N×70.03E, h10km, Error ellipse: s-maj=12.0km s-min=10.0km az=146.0
NNC 18 18:28:17.8±5.3, 34.30N×69.91E, h0km, mb3.5, mpv4.2, Error ellipse: s-maj=94.6km s-min=50.3km az=105.0
ISC 18 18:28:17.0±2.1, 34.06N±0.05×70.04E±0.07, h20km±17km, n43, σ1.23/48, mb3.8/13, MS3.3/1, 3C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	1.57	98	P	Pn	18 28 46.1	+2.4
THW	Thamme Wali	1.90	131	P	Pn	18 28 52.2	+4.0
CHCP	Chirah Chowk	2.71	97	P	Pn	18 29 03.1	+3.7
DLH	Dalhousie	5.19	105	eP	Pn	18 29 35.0	+1.6
DLH				ex	Sn	18 30 37.0	+4.3
SDNR	Sundarnagar	6.37	112	ex	x	18 29 42.5	
SDNR				eS	Sn	18 31 03.5	+1.7
KLP	Kalpa	7.36	108	eP	Pn	18 30 05.0	+1.7
KHET	Khetri	7.75	139	eP	Pn	18 30 08.8	+0.3
KHET				eS	Sn	18 31 34.6	-1.0
KUDL	Kundal	8.08	135	eP	Pn	18 30 13.9	+0.8
KUDL				eS	Sn	18 31 40.6	-3.3
KUDL				AML	AML	18 32 56.5	
	comp=E,8.5nm,0.1s						
KUDL				AML	AML	18 32 56.8	
	comp=N,9.4nm,0.9s						
NDI	New Delhi	8.14	129	eP	Pn	18 30 14.0	0.0
SONA	Sohna	8.36	132	eP	Pn	18 30 18.4	+1.4
SONA				eS	Sn	18 31 47.6	-3.1
SONA				AML	AML	18 32 36.3	
	comp=E,11nm,0.8s						
SONA				AML	AML	18 32 39.1	
	comp=N,8.5nm,0.3s						
KK31	Karatay Array	9.04	2	P	Pn	18 30 26.0	-0.3
	comp=N,5.2nm,0.5s,baz=177,slow=12,SNR=102						
KK31				⇑S	Sn	18 32 07.5	-0.1
	comp=N,8.1nm,0.5s						
AAK	Ala-Archa	9.25	21	eP	Pn	18 30 30.3	+1.1
	comp=N,4.2nm,0.5s						
KOLN	Koldanda	13.22	115	eP	Pn	18 31 23.7	+0.3
GKN	Gorkha	13.89	112	eP	Pn	18 31 32.4	-0.2
	comp=N,11nm,0.3s						
DMN	Daman	14.45	112	eP	Pn	18 31 38.9	-1.3
	comp=N,17nm,0.7s						
KKN	Kakani	14.49	111	eP	Pn	18 31 39.5	-1.3
	comp=N,18nm,0.8s						
PKI	Pulchoki	14.70	112	eP	Pn	18 31 42.1	-1.6
	comp=N,19nm,0.6s						
GUN	Gumba	14.90	110	eP	Pn	18 31 44.6	-1.8
	comp=N,13nm,0.4s						
JIRN	Jiri	15.26	110	eP	Pn	18 31 49.3	-1.9
	comp=N,12nm,0.4s						
MKAR	Makanchi Array	15.75	32	Pn	Pn	18 31 58.0	+0.5
	comp=N,0.1nm,0.3s,baz=220,slow=11,SNR=14						
AB31	Akbulak array	16.93	337	P	Pn	18 32 11.0	-1.6
	comp=N,2.7nm,0.6s,baz=156,slow=12,SNR=25						
AKTK	Aktyubinsk	18.59	335	P	Pn	18 32 32.0	-1.0
AKTK				LR	LR	18 40 45.8	
AKTO	Aktyubinsk	18.59	335	⇓P	Pn	18 32 32.3	-0.8
	comp=N,0.1nm,1.0s						
AKTO	Aktyubinsk	18.59	335	P	Pn	18 32 32.0	-1.0
	comp=N,0.3nm,0.3s,baz=119,slow=15,SNR=12						
AKTO				LR	LR	18 40 45.8	
	comp=N,69nm,19.8s,baz=302,slow=40						
VOSK	Vostochnaya	18.67	2	⇑P	Pn	18 32 35.4	+1.2
	comp=N,3.5nm,0.9s						
BVA0	Borovoye Array	18.96	1	⇓P	Pn	18 32 39.6	+1.9
	comp=N,0.4nm,0.6s,baz=237,slow=40,SNR=16						
BVAR	Borovoye Array	18.96	1	P	Pn	18 32 36.0	-1.7
	comp=N,0.3nm,0.3s,baz=171,slow=10,SNR=9.2						
BVAR				LR	LR	18 40 27.7	
	comp=N,65nm,19.6s,baz=142,slow=39						
CHKZ	Chkalovo	19.62	1	⇑P	Pn	18 32 44.3	-1.2
	comp=N,2.3nm,0.9s						
GNI	Garni	21.04	294	P	P	18 32 60.0	+0.5
	comp=N,1.7nm,0.4s,mb3.7,baz=76,slow=22,SNR=2.5						
ZAL	Zalesovo	22.45	23	P	P	18 33 13.7	-0.9
	comp=N,2.2nm,0.4s,mb3.9,baz=261,slow=8.7,SNR=7.2						
BRTR	Keskin Array B	29.52	292	P	P	18 34 21.6	+1.7
	comp=N,0.7nm,0.6s,mb3.5,baz=98,slow=10,SNR=4.9						
SONM	Songino Array	30.42	52	P	P	18 34 28.1	+0.3
	comp=N,1.1nm,1.2s,mb3.5,baz=259,slow=6.8,SNR=2.6						
AKASG	Malin Array Be	33.92	312	P	P	18 34 59.2	+0.6
	comp=N,1.0nm,0.5s,mb4.0,baz=90,slow=7.5,SNR=13						
FINES	FINESS Array B	39.10	328	P	P	18 35 42.2	-0.6
	comp=N,1.3nm,0.8s,mb3.7,baz=130,slow=8.4,SNR=4.4						
FINES	FINESS Array B	39.10	328	P	P	18 35 42.2	-0.6
ARCES	ARCESS Array B	43.12	339	P	P	18 36 16.6	+0.7
	comp=N,5.0nm,0.8s,mb4.3,baz=113,slow=9.3,SNR=14						
ARCES				LR	LR	18 55 02.4	
	comp=N,40nm,21.3s,MS3.3,baz=263,slow=37						
NB2	NORSAR Subarra	45.88	325	P	P	18 36 38.5	+0.6
	comp=Z,0.7nm,0.8s,mb3.6,baz=82,slow=7.9						
NOA	NORSAR Array B	45.88	325	P	P	18 36 37.4	-0.5
	comp=Z,0.8nm,0.6s,mb3.8,baz=99,slow=7.8,SNR=5.8						
TORD	Torodi Ar. Bea	64.88	269	P	P	18 38 54.0	-0.7
	comp=Z,0.7nm,0.8s,mb3.8,baz=48,slow=5.0,SNR=5.0						
BOSA	Boshof	75.37	220	P	P	18 40 00.1	+1.1
	comp=Z,2.8nm,0.9s,mb4.2,baz=35,slow=12,SNR=3.3						
INK	Inuvik	76.44	9	P	P	18 40 04.0	-1.1
	comp=Z,2.3nm,0.9s,mb4.1,baz=324,slow=8.1,SNR=5.5						
WRA	Warramunga Arr	81.39	121	P	P	18 40 33.0	+0.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=323,slow=4.8,SNR=5.3						
ASAR	Alice Springs	83.52	124	P	P	18 40 43.8	+0.4
	comp=Z,0.5nm,0.6s,mb3.8,baz=311,slow=5.1,SNR=5.4						

IDC 18 18:28:29.5±0.7, 5.21N×94.20E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/26, mbtmp4.3/17, MS3.8/14, Ms1 3.8/14, ms1mx3.6/29, Error ellipse: s-maj=30.2km s-min=12.6km az=49.0
BJI 18 18:28:30.7, 4.90N×94.34E, h40km, mB5.0, mb4.7, Ms4.1, Msz3.9
MOS 18 18:28:33.9±1.0, 5.48N×94.51E, h33km, mb4.8/14, Error ellipse: s-maj=16.9km s-min=7.9km az=119.6
ISCJB 18 18:28:34.0±0.3, 5.29N±0.05×94.40E±0.05, h40km, mb4.5/41, MS3.9/20, Error ellipse: s-maj=8.6km s-min=5.1km az=73.9
NEIC 18 18:28:34.7±0.3, 5.32N×94.40E, h30km, mb4.6/13, Error ellipse: s-maj=16.4km s-min=6.3km az=46.0
NEIC Felt in the Banda Aceh area.
SZGRF 18 18:28:35.1, 5.63N×94.73E, h33km, mb4.6, Northern Sumatera, Indonesia
ISC 18 18:28:36.6±0.3, 5.30N±0.05×94.37E±0.05, h45km, h45km±3.2km:pP-P, n106, σ1.00/104, mb4.5/41, MS3.9/20, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSI	Prapat	5.17	118	Pn	Pn	18 29 52.7	+1.3
	8.3nm,0.3s,baz=292,slow=11,SNR=9.4						
PSI				Sn	Sn	18 30 47.4	-2.5
	baz=338,slow=18,SNR=1.9						
PSI				LR	LR	18 32 20.0	
	comp=Z,713nm,18.3s,baz=288,slow=43						
PSI	Prapat	5.17	118	P	Pn	18 29 52.0	+0.5
PSI				S	Sn	18 30 47.4	-2.5
PSI	Prapat	5.17	118	Pn	Pn	18 29 52.7	+1.3
PSI				Sn	Sn	18 30 47.4	-2.5
PSI				LR	LR	18 32 20.0	
SNG	Songkhla	6.49	73	P	Pn	18 30 11.0	+1.6
	232nm,0.8s						
IPM	Ipoh	6.68	97	P	Pn	18 30 12.6	+0.5
NNT	Nongplab	8.97	36	P	Pn	18 30 43.5	-0.1
KGM	Kluang	9.51	110	P	Pn	18 30 52.0	+1.2
KKTK	Khon Kaen	13.75	36	P	Pn	18 31 58.0	+9.1
CHG	Chiang Mai	14.16	18	P	Pn	18 31 58.5	+4.1
CHTO	Chiang Mai	14.16	18	eP	Pn	18 31 58.5	+4.2
	21nm,0.8s						
NANT	Nan	14.77	24	P	Pn	18 32 08.0	+5.4
QIZ	Qiongzhong	20.34	47	P	P	18 33 09.4	+0.3
QIZ				S	S	18 36 49.8	-4.8
QIZ				AMB	AMB		
	comp=Z,13nm,2.0s						
QIZ				LR	LR		
	comp=N,280nm,18.4s,MS3.9						
QIZ				LR	LR		
	comp=E,352nm,15.4s,MS3.9						
QIZ				LR	LR		
	comp=Z,389nm,16.6s,MS3.8						
KMI	Kunming	21.29	21	P	P	18 33 20.9	+1.7
KMI				AP		18 33 28.6	
KMI				XP	sP	18 33 32.3	-3.4
KMI				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.1						
KMI				LR	LR		
	comp=N,167nm,22.5s,MS3.6						
KMI				LR	LR		
	comp=E,224nm,18.7s,MS3.6						
KMI				LR	LR		
	comp=Z,188nm,26.3s						
GYA	Guiyang	24.10	28	⇑iP	P	18 33 47.9	0.0
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,4.2s						
GYA				LR	LR		
	comp=N,500nm,12.6s,MS4.2						
GYA				LR	LR		
	comp=E,380nm,15.9s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,15.0s,MS3.9						
LSA	Lhasa	24.46	353	P	P	18 33 52.6	+1.4
LSA	Lhasa	24.46	353	eP	P	18 33 51.5	+0.3
	comp=Z,14nm,0.6s,mb4.6						
XAN	Xi'an	31.63	23	P	P	18 34 53.8	-1.5
XAN				AP	pP	18 35 02.9	-4.3
XAN				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
LZH	Lanzhou	31.86	15	eP	P	18 34 56.5	-0.8
LZH				AP	pP	18 35 10.3	+1.0
LZH				XP	sP	18 35 15.5	+0.9
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,50nm,4.0s						
GTA	Gaotai	34.32	7	P	P	18 35 18.5	-0.2
GTA				AP	pP	18 35 26.3	-4.5
GTA				XP	sP	18 35 30.4	-5.7
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2	Nanjing	35.12	38	eP	P	18 35 26.8	+1.2
NJ2				AP	pP	18 35 36.5	-1.2
NJ2				XP	sP	18 35 40.5	-2.5
NJ2				PP	PP	18 36 45.8	0.0
NJ2				S	S	18 40 58.0	+2.7
NJ2				XS	sS	18 41 14.0	-1.5
NJ2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,470nm,5.8s						
NJ2				LR	LR		
	comp=N,400nm,16.6s,MS4.3						
NJ2				LR	LR		
	comp=E,390nm,19.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,580nm,15.2s,MS4.5						
SSE	Sheshan	35.95	41	P	P	18 35 30.8	-2.0
SSE				XP	sP	18 35 43.3	-7.0
SSE				PP	PP	18 36 52.6	-2.5
SSE				PCP	PcP	18 37 56.6	-2.2
SSE				S	S	18 41 07.9	-0.2
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,162nm,5.9s						
SSE				LR	LR		
	comp=N,62nm,18.6s,MS3.6						
SSE				LR	LR		
	comp=E,92nm,19.3s,MS3.6						
SSE				LR	LR		
	comp=Z,122nm,20.6s,MS3.7						
FITZ	Fitzroy Crossi	38.63	128	eP	P	18 35 54.5	-1.0
	comp=Z,3.5nm,0.7s,mb4.2						
FITZ	Fitzroy Crossi	38.63	128	P	P	18 35 54.9	-0.6
	comp=Z,1.4nm,0.6s,mb3.9,baz=310,slow=10,SNR=13						
FITZ				PcP	PcP	18 38 07.4	+0.4
	comp=Z,0.7nm,0.5s,baz=328,slow=3.7,SNR=3.8						
FITZ				LR	LR	18 50 37.8	
	comp=Z,90nm,21.1s,MS3.6,baz=304,slow=34						
JOW	Kunigami	38.77	53	P	P	18 35 57.6	+1.0
	comp=Z,7.5nm,0.3s,mb4.9,baz=162,slow=9.9,SNR=11						
JOW				LR	LR	18 51 20.7	
	comp=Z,142nm,20.6s,MS3.8,baz=304,slow=35						
JOW	Kunigami	38.77	53	P	P	18 35 57.6	+1.0
JOW				LR	LR	18 51 20.7	
BJI	Beijing	39.78	26	eP	P	18 36 05.9	+0.8
BJI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=Z,216nm,25.0s,MS3.9						
AAK	Ala-Archa	41.15	338	iP	P	18 36 21.4	+5.0
AAK	Ala-Archa	41.15	338	eP	pP	18 36 29.0	+0.3
KAKA	Kakadu	41.85	116	eP	P	18 36 22.3	+0.2
	comp=Z,2.4nm,0.3s,mb4.3						
MKAR	Makanchi Array	42.64	348	P	P	18 36 28.4	-0.1
	comp=Z,18nm,0.7s,mb5.0,baz=167,slow=7.3,SNR=138						
MKAR				PcP	PcP	18 38 19.2	-0.7
	comp=Z,0.4nm,0.3s,baz=184,slow=4.1,SNR=4.5						
MKAR	Makanchi Array	42.64	348	⇑eP	P	18 36 28.7	+0.2
SONM	Songino Array	43.62	12	P	P	18 36 36.1	-0.4
	comp=Z,3.2nm,0.7s,mb4.2,baz=188,slow=8.6,SNR=22						
SONM				PcP	PcP	18 38 23.7	+0.5
	comp=Z,1.0nm,0.4s,baz=197,slow=4.1,SNR=7.8						
SONM				LR	LR	18 56 51.6	
	comp=Z,91nm,18.3s,MS3.7,baz=320,slow=39						
ULN	Ulaanbaatar	43.78	12	⇑iP	P	18 36 37.1	-0.7
ULN	Ulaanbaatar	43.78	12	eP	P	18 36 36.8	-1.0
	comp=Z,7.7nm,1.1s,mb4.3						
ULN				e	pP	18 36 49.1	-1.0
ZAK	Zakamensk	45.55	8	eP	P	18 36 51.3	-0.6
WRA	Warramunga Arr	46.62	124	P	P	18 37 00.4	+0.1
	comp=Z,3.6nm,0.3s,mb4.7,baz=306,slow=8.3,SNR=100						
WRA	Warramunga Arr	46.62	124	iP	P	18 37 00.4	+0.1
WRA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRAB	Tennant Creek	46.62	124	eP	P	18 37 00.6	+0.3
WRAB	Tennant Creek	46.62	124	eP	P	18 37 00.1	-0.2
	comp=Z,16nm,0.8s,mb5.0						
WB2	Warramunga Arr	46.63	124	eP	P	18 37 00.3	0.0
WB2	Warramunga Arr	46.63	124	eP	P	18 37 00.1	-0.2
TLY	Talaya	46.87	8	eP	P	18 37 10.3	+8.0
TLY				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.4						
TLY				MLR	MLR		
	comp=Z,88nm,20.0s,MS3.7						
ASPA	Alice Springs	48.12	128	eP	P	18 37 11.8	-0.1
AS31	Alice Springs	48.12	128	eP	P	18 37 11.8	-0.2
ASAR	Alice Springs	48.12	128	P	P	18 37 11.9	0.0
	comp=Z,1.3nm,0.4s,mb4.4,baz=302,slow=7.7,SNR=51						
ASAR				LR	LR	18 57 08.2	
	comp=Z,103nm,18.6s,MS3.8,baz=166,slow=36						
HIA	Hailar	48.80	22	eP	P	18 37 17.1	-0.1
ZAL	Zalesovo	49.12	353	P	P	18 37 19.6	0.0
	comp=Z,6.2nm,0.5s,mb4.9,baz=300,slow=5.8,SNR=20						
ZAL	Zalesovo	49.12	353	iP	P	18 37 19.7	+0.1
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NVS	Novosibirsk	50.21	352	eP	P	18 37 26.4	-1.5
GUMO	Guam	50.41	77	LR	LR	18 59 40.2	
	comp=Z,76nm,19.2s,MS3.7,baz=256,slow=37						
JHJ	Hachijo jima 2	50.47	51	LR	LR	18 59 13.6	
	comp=Z,65nm,19.5s,MS3.6,baz=85,slow=36						
BVAR	Borovoye Array	51.49	342	P	P	18 37 37.3	-0.3
	comp=Z,2.9nm,0.5s,mb4.5,baz=144,slow=9.2,SNR=22						
BRVK	Borovoye	51.55	342	eP	P	18 37 37.3	-0.7
	comp=Z,9.3nm,1.2s,mb4.6						
AKTK	Aktyubinsk	54.31	332	P	P	18 37 57.7	-0.6
AKTO	Aktyubinsk	54.31	332	P	P	18 37 57.7	-0.6
	comp=Z,0.9nm,0.2s,mb4.3,baz=83,slow=4.6,SNR=6.3						
BOD	Bodaibo	54.59	13	eP	P	18 37 57.6	-2.8
BOD				e	pP	18 38 11.4	-1.7
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
PMG	Port Moresby	54.60	105	eP	P	18 38 01.5	+1.1
HABR	Khabarovsk	55.18	32	eP	P	18 37 58.7	-6.0
HABR				eS	S	18 45 40.1	-4.5
GNI	Garni	56.41	315	P	P	18 38 15.3	+1.9
	comp=Z,1.8nm,0.4s,mb4.4,baz=148,slow=9.9,SNR=3.4						
GNI	Garni	56.41	315	eP	P	18 38 14.1	+0.7
GNI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CTA	Charters Tower	56.88	118	LR	LR	19 03 36.4	
	comp=Z,87nm,20.2s,MS3.9,baz=53,slow=37						
KMBO	Kilima Mbogo	57.40	265	LR	LR	18 58 01.7	
	comp=Z,134nm,20.1s,MS4.0,baz=96,slow=31						
STKA	Stephens Creek	58.19	133	P	P	18 38 25.4	-0.6
	comp=Z,1.1nm,0.7s,mb4.0,baz=273,slow=16,SNR=2.8						
ARU	Arti	58.34	338	⇓iP	P	18 38 26.3	-0.8
ARU				e		18 39 15.8	
ARU				e		18 40 32.5	
ARU				eS	S	18 46 28.0	+1.7
ARU				eSS	SS	18 50 18.4	-0.4
ARU				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
ARU	Arti	58.34	338	eP	P	18 38 25.6	-1.5
	comp=Z,26nm,1.2s,mb5.1						
ARU				e	pP	18 38 40.7	+0.8
YAK	Yakutsk	62.36	18	d iP	P	18 38 53.1	-1.4
YAK				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YAK	Yakutsk	62.36	18	P	P	18 38 52.1	-2.4
	comp=Z,3.4nm,0.5s,mb4.7						
YAK				e	pP	18 39 04.9	-2.4
BRTR	Keskin Array B	64.29	312	P	P	18 39 07.0	-0.2
	comp=Z,1.8nm,0.7s,mb4.2,baz=117,slow=6.4,SNR=10						
BRTR	Keskin Array B	64.29	312⇑	eP	P	18 39 07.0	-0.3
OBN	Obninsk	67.67	328⇑	eP	P	18 39 28.1	-0.9
OBN				e	pP	18 39 43.6	+1.6
OBN				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
AKASG	Malin Array Be	70.31	322	P	P	18 39 42.8	-2.6
	comp=Z,1.4nm,0.6s,mb4.1,baz=95,slow=4.8,SNR=9.5						
AKASG	Malin Array Be	70.31	322	i P	P	18 39 44.2	-1.2
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SEY	Seymchan	71.16	24	eP	P	18 39 49.0	-1.6
JOF	Joensuu	73.26	335	ep	P	18 40 03.7	+0.6
BOSA	Boshof	74.43	239	LR	LR	19 06 48.0	
	comp=Z,81nm,21.3s,MS4.0,baz=247,slow=31						
CRVS	Cervenica-Dubn	74.81	319	eP	P	18 40 13.5	+1.4
CRVS				e	pP	18 40 24.5	-0.8
STHS	Stebnicka Huta	75.04	320	eP	P	18 40 14.6	+1.2
STHS				e	pP	18 40 26.4	-0.2
STHS				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
STHS	Stebnicka Huta	75.04	320	eP	P	18 40 14.6	+1.2
	comp=Z,3.6nm,1.1s,mb4.2						
STHS				e	pP	18 40 26.4	-0.2
FINES	FINESS Array B	75.08	332	P	P	18 40 12.2	-1.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=102,slow=6.3,SNR=9.6						
FINES	FINESS Array B	75.08	332	i P	P	18 40 13.0	-0.7
KAF	Kangasniemi	75.18	333	ep	P	18 40 10.5	-3.7
KECS	Kecovo	75.38	319	eP	P	18 40 15.8	+0.4
KECS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
OJC	Ojcow	76.09	320	eP	P	18 40 19.9	+0.4
VYHS	Vyhne	76.47	319	eP	P	18 40 21.3	-0.3
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
OKC	Ostrava-Krasne	77.09	320	eP	P	18 40 25.6	+0.5
KEV	Kevo	77.33	341	ep	P	18 40 28.4	+1.9
ZST	Bratislava	77.58	318	eP	P	18 40 28.9	+1.0
ZST				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
ZST	Bratislava	77.58	318	eP	P	18 40 28.9	+1.0
	comp=Z,9.4nm,0.9s,mb4.7						
ARCES	ARCESS Array B	77.75	340	P	P	18 40 28.3	-0.5
	comp=Z,0.6nm,0.3s,mb4.0,baz=103,slow=6.6,SNR=16						
ARCES				LR	LR	19 16 56.3	
	comp=Z,70nm,18.4s,MS4.0,baz=166,slow=37						
DPC	Dobruska-Polom	78.32	320	eP	P	18 40 32.9	+1.0
UPC	Upice	78.53	320	eP	P	18 40 33.8	+0.7
PRU	Pruhonice	79.42	320	eP	P	18 40 38.6	+0.6
GEC2	GERESS Array S	79.89	319	eP	P	18 40 41.3	+0.7
GERES	GERESS Array B	79.89	319	P	P	18 40 40.9	+0.4
	comp=Z,4.2nm,0.8s,mb4.4,baz=93,slow=5.3,SNR=37						
KHC	Kasperske Hory	79.99	319	eP	P	18 40 41.2	+0.1
KHC				ex	x	18 41 01.0	
GRA1	Grafenberg Arr	81.55	319	eP	P	18 40 49.6	+0.2
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	81.55	319	eP	P	18 40 49.6	+0.2
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	81.55	319	eP	P	18 40 49.6	+0.2
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
NB2	NORSAR Subarra	82.08	331	P	P	18 40 50.9	-1.3
	comp=Z,1.8nm,1.0s,mb4.0,baz=93,slow=5.6						
NOA	NORSAR Array B	82.08	331	P	P	18 40 51.4	-0.8
	comp=Z,0.5nm,0.8s,mb3.5,baz=121,slow=6.0,SNR=2.7						
NOA				LR	LR	19 20 53.2	
	comp=Z,36nm,18.6s,MS3.8,baz=320,slow=38						
LPG	La Plagne	84.59	315	eP	P	18 41 05.8	+0.7
	comp=Z,9.1nm,0.9s,mb4.6						
LPG	La Plagne	84.59	315	eP	P	18 41 05.8	+0.7
	comp=Z,4.6nm,0.9s,mb4.6						
VNDA	Vanda	90.37	168	LR	LR	19 17 54.8	
	comp=Z,52nm,20.4s,MS4.0,baz=88,slow=33						
DBIC	Dimbokro	98.51	278	LR	LR	19 22 13.9	
	comp=Z,57nm,18.9s,MS4.1,baz=102,slow=33						
PDAR	Pinedale Array	127.46	22	PKP	PKPdf	18 47 37.1	+0.7
	comp=Z,0.9nm,0.9s,baz=62,slow=3.5,SNR=5.0						
CPUP	Villa Florida	145.82	229	PKPbc	PKPbc	18 48 11.8	+1.0
	comp=Z,0.4nm,0.4s,baz=57,slow=3.8,SNR=2.8						

---

*ISCJB **18** 18:33:02.6±0.5, 3962N±003×2055E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.4km az=57.2*
*NEIC **18** 18:33:02.9, 3956N×2054E, h18km, MD3.3(ATH), After ATH.*
*ATH **18** 18:33:02.9, 3956N×2054E, h18km±6km, MD3.3/4*
*CSEM **18** 18:33:03.4±0.1, 3953N×2055E, h2km, ML3.1, Error ellipse: s-maj=2.6km s-min=1.7km az=162.0*
*THE **18** 18:33:03.6, 3959N×2055E, h10km, ML3.1*
ISC 18 18:33:03.3±0.5, **3960N**±003×**2054E**±004, **h8**km±4km, **n21**, σ**1.22**/31, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.17	246	ePg	Pg	18 33 06.7	-0.2
IGT				eSg	Sg	18 33 10.4	+1.2
JAN	Janina	0.25	77	ePB	Pg	18 33 08.9	+0.6
JAN				eSB	Sg	18 33 12.5	+0.8
KEK	Kerkira	0.58	281	ePN	Pg	18 33 14.5	0.0
LKD	Levkas	0.90	174	ePg	Pg	18 33 18.9	-1.7
LKD				eSg	Sg	18 33 34.4	+2.2
EVR	Evrytania	1.20	124	ePN	Pn	18 33 25.3	-1.1
FNA	Florina	1.34	28	ePg	Pg	18 33 28.1	-1.1
FNA				eSg	Sg	18 33 49.0	+2.4
VLS	Valsamata	1.42	178	ePN	Pn	18 33 28.6	-0.9
VLS				eSN	Sn	18 33 48.9	+0.5
AGG	Agios Georgios	1.51	112	ePg	Pg	18 33 30.5	-1.7
AGG				eSg	Sg	18 33 52.6	+0.8
OHR	Ohrid	1.52	8	ePg	Pg	18 33 31.2	-1.3
OHR				eSg	Sg	18 33 53.7	+1.5
BIA	Bitola	1.54	23	ePg	Pg	18 33 30.9	-1.9
BIA	Bitola	1.54	23	i Pn	Pn	18 33 30.6	-0.5
BIA				i Sn	Sn	18 33 54.8	+3.6
BIA	Bitola	1.54	23	i Pn	Pn	18 33 30.5	-0.6
BIA	Bitola	1.54	23	ePg	Pg	18 33 30.9	-1.9
BIA				i Sn	Sn	18 33 54.8	+3.5
LIT	Litokhoron	1.58	71	ePg	Pg	18 33 31.8	-2.0
LIT				eSg	Sg	18 33 54.3	0.0
GRG	Griva	1.97	46	ePb	Pb	18 33 37.6	-1.8
XOR	Xorichti	2.07	96	ePn	Pn	18 33 39.4	+1.0
HORT	Hortiatis	2.20	62	ePn	Pn	18 33 40.8	+0.6
KNT	Kendrikon	2.38	48	ePn	Pn	18 33 43.4	+0.7
PAIG	Paliouri	2.44	81	ePn	Pn	18 33 43.8	+0.2
SOH	Sokhos	2.48	60	ePn	Pn	18 33 45.0	+1.0
OUR	Ouranopolis	2.75	73	ePn	Pn	18 33 47.8	+0.1

IDC 18 18:36:46.4±2.9, **1796S**×**11619W**, **h0**km, **mb3.8**/1, **mb1 4.3**/1, **mb1mx3.7**/13, **mbtmp3.8**/1, **MS4.0**/2, **Ms1 3.9**/2, **ms1mx3.0**/22, **Error ellipse: s-maj=151.7km s-min=89.6km az=94.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCRV	Puerto La Cruz	58.07	65	LR	LR	19 06 08.2	
	comp=Z,276nm,18.3s,baz=254,slow=30						
PDAR	Pinedale Array	60.73	6	P	P	18 47 00.0	+0.3
	1.1nm,0.8s,baz=156,slow=6.9,SNR=8.3						
PDAR				LR	LR	19 09 11.8	
	comp=Z,44nm,18.2s,baz=78,slow=32						
BRTR	Keskin Array B	146.07	44	PKPbc	PKPbc	18 56 28.0	-0.3
	0.8nm,0.7s,baz=297,slow=6.3,SNR=5.2						
MKAR	Makanchi Array	147.45	336	PKPbc	PKPbc	18 56 31.7	-0.6
	1.7nm,0.9s,baz=57,slow=4.5,SNR=9.5						

---

*ISCJB **18** 18:56:31.8±0.2, 872S±004×7473W±005, h138km, mb4.6/69, Error ellipse: s-maj=6.9km s-min=5.4km az=103.5*
*MOS **18** 18:56:31.1±0.9, 874S×7478W, h132km, mb5.0/36, Error ellipse: s-maj=11.5km s-min=8.6km az=81.1*
*NEIC **18** 18:56:32.6±0.6, 869S×7461W, h129km±6km, mb4.9/57, Error ellipse: s-maj=5.9km s-min=4.1km az=47.0*
NEIC Felt [II] at Puerto Inca.
*IDC **18** 18:56:32.9±0.5, 877S×7473W, h136km±4km, mb4.2/19, mb1 4.3/25, mb1mx4.3/29, mbtmp4.6/25, Error ellipse: s-maj=10.9km s-min=8.8km az=94.0*
*BJI **18** 18:56:34.5, 870S×7460W, h129km, mB5.3*
ISC 18 18:56:33.7±0.2, **875S**±004×**7466W**±005, **h140**km, **h140**km±1.9km**:pP-P**, **n213**, σ**0.81**/191, **mb4.6**/69, **Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	3.87	213	P	Pn	18 57 30.7	-1.2
	79nm,0.3s,baz=14,slow=8.5,SNR=318						
NNA				S	Sn	18 58 14.2	-2.9
	330nm,0.3s,baz=169,slow=23,SNR=9.3						
NNA	Nana	3.87	213	ePn	Pn	18 57 30.5	-1.4
NNA				eSn	Sn	18 58 12.6	-4.5
ATAH	Atahualpa	4.08	295	P	Pn	18 57 33.5	-1.2
	130nm,0.3s,baz=114,slow=6.5,SNR=816						
ATAH				S	Sn	18 58 14.2	-7.9
	81nm,0.3s,baz=73,slow=11,SNR=9.6						
LPAZ	La Paz	9.84	140	P	Pn	18 58 52.6	+1.0
	0.6nm,0.3s,baz=337,slow=14,SNR=32						
LPAZ	La Paz	9.84	140	eP	Pn	18 58 52.5	+0.9
LPAZ				pmax	pmax		
	comp=Z,11nm,1.0s						
LPAZ	La Paz	9.84	140	ePn	Pn	18 58 52.5	+0.9
	comp=Z,11nm,1.0s						
SAML	Samuel	11.35	92	ePn	Pn	18 59 09.2	-2.4
	comp=Z,13nm,0.6s						
SAML				eSn	Sn	19 01 12.2	-4.6
ROSC	El Rosal	13.52	1	P	Pn	18 59 40.2	+0.5
	comp=Z,0.6nm,0.3s,baz=116,slow=22,SNR=3.1						
SIV	San Ignacio	15.10	120	P	Pn	19 00 00.4	+0.7
	comp=Z,2.3nm,0.3s,baz=297,slow=12,SNR=123						
SIV				S	S	19 02 39.1	-15
	comp=Z,1.2nm,0.3s,baz=29,slow=23,SNR=3.2						
PAYG	Puerto Ayora	17.50	296	eP	Pn	19 00 29.1	+0.1
	comp=Z,186nm,1.3s						
SDV	Santo Domingo	17.97	13	P	Pn	19 00 33.4	-1.2
	comp=Z,4.5nm,0.3s,baz=275,slow=9.0,SNR=13						
SDV	Santo Domingo	17.97	13	eP	Pn	19 00 33.0	-1.6
	comp=Z,39nm,0.8s						
PCRV	Puerto La Cruz	21.28	28	P	P	19 01 08.7	-0.2
	comp=Z,28nm,0.6s,mb4.8,baz=204,slow=5.5,SNR=7.6						
CFAA	Coronel Fontan	23.52	166	P	P	19 01 31.8	+0.9
	comp=Z,0.3nm,0.5s,baz=341,slow=4.5,SNR=4.9						
CFAA	Coronel Fontan	23.52	166	P	P	19 01 31.8	+0.9
CPUP	Villa Florida	24.01	139	P	P	19 01 34.5	-0.8
	comp=Z,5.3nm,0.7s,mb4.2,baz=306,slow=9.5,SNR=16						
CPUP	Villa Florida	24.01	139	eP	P	19 01 34.3	-1.1
CPUP				e*PP		19 02 02.2	
CPUP				e		19 02 15.6	
CPUP				pmax	pmax		
	comp=Z,33nm,1.0s						
CPUP	Villa Florida	24.01	139	eP	P	19 01 34.3	-1.0
	comp=Z,33nm,1.0s,mb4.8						
CPUP				epP		19 02 02.2	
CPUP				e		19 02 15.6	
BDFB	Brasilia	26.91	107	P	P	19 02 03.4	+1.8
	comp=Z,11nm,0.6s,mb4.7,baz=281,slow=9.7,SNR=13						
BDFB				pP	pP	19 02 31.9	+0.7
	comp=Z,29nm,0.8s,baz=278,slow=13,SNR=8.3						
BDFB	Brasilia	26.91	107	eP	P	19 02 03.5	+1.9
BDFB				e*PP	pP	19 02 32.6	+1.4
BDFB				pmax	pmax		
	comp=Z,43nm,1.0s						
BDFB	Brasilia	26.91	107	eP	P	19 02 03.5	+1.9
	comp=Z,43nm,1.0s,mb5.0						
BDFB				epP	pP	19 02 32.6	+1.4
CPD	Cerro la Pandu	27.98	18	eP	P	19 02 09.1	-2.0
SJG	San Juan	27.98	17	P	P	19 02 10.5	-0.6
	comp=Z,17nm,0.4s,mb5.2,baz=234,slow=4.6,SNR=9.5						
SJG	San Juan	27.98	17	eP	P	19 02 10.6	-0.5
SJG				pmax	pmax		
	comp=Z,78nm,1.3s						
SJG	San Juan	27.98	17	eP	P	19 02 10.6	-0.5
	comp=Z,78nm,1.3s,mb5.3						
TRQA	Tornquist	31.35	161	eP	P	19 02 37.8	-3.0
PLCA	Paso Flores	32.06	174	P	P	19 02 46.0	-1.1
	comp=Z,1.0nm,0.9s,mb3.6,baz=325,slow=22,SNR=2.4						
PLCA				pP	pP	19 03 17.1	-0.1
	comp=Z,2.4nm,0.7s,baz=340,slow=12,SNR=4.4						
CMIG	Matias Romero	32.54	322	P	P	19 02 51.5	+0.3
	comp=Z,5.7nm,1.1s,mb4.2,baz=123,slow=7.9,SNR=6.8						
TKL	Tuckaleechee C	44.99	349	P	P	19 04 33.6	-1.3
	comp=Z,1.6nm,0.4s,mb4.0,baz=122,slow=9.5,SNR=1.9						
MIAR	Mount Ida	46.63	338	P	P	19 04 47.2	-0.6
MIAR				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.1						
MIAR	Mount Ida	46.63	338	P	P	19 04 47.2	-0.6
	comp=Z,3.5nm,0.6s,mb4.2						
MIAR				e		19 05 05.6	
WCI	Wyandotte Cave	47.98	348	P	P	19 04 59.5	+1.3
WCI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
WCI	Wyandotte Cave	47.98	348	P	P	19 04 59.5	+1.3
	comp=Z,10.0nm,0.5s,mb4.7						
MVL	Millersville	48.52	358	eP	P	19 05 02.8	+0.4
WMOK	Wichita Mounta	48.90	333	P	P	19 05 04.5	-0.7
WMOK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.3						
WMOK	Wichita Mounta	48.90	333	P	P	19 05 04.5	-0.7
	comp=Z,7.6nm,1.1s,mb4.2						
BINY	Binghamton	50.71	359	eP	P	19 05 19.0	+0.1
	comp=Z,32nm,0.8s,mb5.0						
BINY				epP	pP	19 05 51.3	+0.2
ANMO	Albuquerque	52.84	327	eP	P	19 05 34.9	+0.2
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ANMO	Albuquerque	52.84	327	eP	P	19 05 34.9	+0.2
	comp=Z,5.8nm,1.0s,mb4.3						
LONY	Lake Ozonia	53.12	0	eP	P	19 05 35.6	-1.1
SDCO	Great Sand Dun	54.50	330	eP	P	19 05 47.0	+0.2
	comp=Z,12nm,0.8s,mb4.7						
WUAZ	Wupatki	56.01	324	eP	P	19 05 58.5	+0.9
	comp=Z,21nm,1.0s,mb4.9						
SMCO	Snowmass	56.34	330	eP	P	19 06 01.0	+1.1
	comp=Z,5.8nm,1.0s,mb4.4						
PV01	Paradox Valley	56.35	328	eP	P	19 06 01.0	+0.9
EYMN	Ely	58.38	347	P	P	19 06 14.3	+0.1
EYMN				e		19 06 25.5	
MSU	Marysvale	58.57	326	eP	P	19 06 16.3	+0.8
ARUT	Antelope Range	58.77	325	eP	P	19 06 18.1	+1.1
TCUT	Toone Canyon	60.03	329	eP	P	19 06 26.2	+0.6
DUG	Dugway	60.11	327	eP	P	19 06 26.3	+0.2
DUG				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
DUG	Dugway	60.11	327	eP	P	19 06 26.3	+0.2
	comp=Z,14nm,1.1s,mb4.7						
PDAR	Pinedale Array	60.34	331	P	P	19 06 27.4	-0.3
	comp=Z,3.0nm,1.0s,mb4.1,baz=140,slow=7.7,SNR=16						
ISA	Isabella	60.45	320	eP	P	19 06 29.4	+1.0
HWUT	Hardware Ranch	60.47	329	eP	P	19 06 28.3	-0.2
	comp=Z,11nm,0.8s,mb4.7						
BGU	Big Grassy Mou	60.74	327	eP	P	19 06 30.7	+0.3
LOHW	Long Hollow	61.48	331	eP	P	19 06 35.5	+0.2
	comp=Z,3.5nm,1.0s,mb4.1						
ULM	Lac du Bonnet	61.59	345	P	P	19 06 36.3	+0.2
	comp=Z,3.9nm,1.1s,mb4.2,baz=248,slow=8.7,SNR=3.0						
RRI2	Red Ridge	61.63	330	eP	P	19 06 36.9	+0.5
	comp=Z,27nm,1.3s,mb4.9						
NVAR	Mina Array Bea	62.07	322	P	P	19 06 40.2	+0.9
	comp=Z,2.7nm,0.8s,mb4.1,baz=176,slow=6.8,SNR=24						
GCMT	Greycliff	62.70	333	eP	P	19 06 43.7	+0.2
GCMT				e		19 07 02.5	
GCMT				epP	pP	19 07 18.2	+1.2
QLMT	Earthquake Lak	62.78	331	eP	P	19 06 44.6	+0.5
HLID	Hailey	63.34	329	eP	P	19 06 47.9	+0.2
	comp=Z,3.3nm,0.9s,mb4.2						
SCHQ	Schefferville	63.68	5	P	P	19 06 47.9	-2.1
	comp=Z,26nm,1.3s,mb4.9,baz=153,slow=7.3,SNR=4.2						
SCHQ				pP	pP	19 07 23.9	+0.3
	comp=Z,4.1nm,0.4s,baz=169,slow=4.3,SNR=3.4						
WVOR	Wild Horse Val	64.84	325	eP	P	19 06 57.7	+0.1
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.4						
WVOR	Wild Horse Val	64.84	325	eP	P	19 06 57.7	+0.2
	comp=Z,9.2nm,1.4s,mb4.4						
KHMM	Horse Mountain	66.88	321	eP	P	19 07 10.4	-0.2
EDM	Edmonton	69.92	336	eP	P	19 07 28.5	-1.0
DBIC	Dimbokro	71.25	80	P	P	19 07 37.7	+0.2
	comp=Z,30nm,0.7s,mb5.1,baz=235,slow=5.4,SNR=34						
DBIC				pP	pP	19 08 11.7	-0.1
	comp=Z,13nm,0.9s,baz=244,slow=9.1,SNR=2.8						
DBIC	Dimbokro	71.25	80	eP	P	19 07 37.3	-0.2
DBIC				e*PP	pP	19 08 10.9	-0.9
DBIC				pmax	pmax		
	comp=Z,51nm,1.0s						
DBIC	Dimbokro	71.25	80	eP	P	19 07 37.3	-0.3
	comp=Z,51nm,1.0s,mb5.2						
DBIC				e		19 07 42.6	
DBIC				epP	pP	19 08 10.9	-0.8
SNAA	Sanae	76.06	162	e	P	19 08 06.6	+1.0
SNAA				e		19 08 19.2	
SNAA				e	pP	19 08 41.6	+1.3
SNAA				e		19 08 52.5	
YKA	Yellowknife Ar	77.40	342	P	P	19 08 12.3	-0.9
	comp=Z,0.5nm,0.5s,mb3.4,baz=152,slow=5.9,SNR=4.0						
MDT	Midelt	78.31	54	P	P	19 08 19.5	+1.3
	comp=Z,6.4nm,0.8s,mb4.3,baz=265,slow=5.0,SNR=16						
TOA0	Torodi Ar. Sit	78.87	75	eP	P	19 08 21.0	-0.2
TOA0				e		19 08 26.8	
TOA0				epP	pP	19 08 54.5	-1.6
TORD	Torodi Ar. Bea	78.87	75	P	P	19 08 21.2	0.0
	comp=Z,6.7nm,0.6s,mb4.5,baz=267,slow=4.9,SNR=56						
TORD				pP	pP	19 08 55.5	-0.6
	comp=Z,7.8nm,0.9s,baz=268,slow=5.5,SNR=4.1						
ESDC	Sonseca Array	81.02	48	P	P	19 08 33.7	+0.9
	comp=Z,9.7nm,0.9s,mb4.4,baz=255,slow=6.1,SNR=26						
ESLA	Sonseca Array	81.02	48	eP	P	19 08 33.0	+0.2
	comp=Z,2.8nm,1.0s,mb3.9						
QSPA	South Pole Qui	81.37	180	eP	P	19 08 36.1	+1.5
	comp=Z,3.1nm,0.9s,mb3.9						
SJPF	Ste Jean	84.06	45	eP	P	19 08 49.5	+1.0
	comp=Z,52nm,0.9s,mb5.0						
SJPF	Ste Jean	84.06	45	eP	P	19 08 49.5	+1.0
SJPF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
SJPF	Ste Jean	84.06	45	eP	P	19 08 49.5	+1.0
	comp=Z,26nm,0.9s,mb5.0						
QUIF	Quistinic	84.30	40	eP	P	19 08 49.8	0.0
ROSF	Rostrenen	84.38	39	eP	P	19 08 50.1	0.0
	comp=Z,35nm,1.1s,mb4.7						
ROSF	Rostrenen	84.38	39	eP	P	19 08 50.1	0.0
ROSF				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
ROSF	Rostrenen	84.38	39	eP	P	19 08 50.1	0.0
	comp=Z,18nm,1.1s,mb4.7						
ETSF	Etsaut	84.46	45	eP	P	19 08 51.6	+1.0
	comp=Z,21nm,0.9s,mb4.6						
ETSF	Etsaut	84.46	45	eP	P	19 08 51.6	+1.0
ETSF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
ETSF	Etsaut	84.46	45	eP	P	19 08 51.6	+1.0
	comp=Z,11nm,0.9s,mb4.6						
SGMF	Saint Gilles	84.80	40	eP	P	19 08 52.2	-0.1
	comp=Z,32nm,1.1s,mb4.7						
SGMF	Saint Gilles	84.80	40	eP	P	19 08 52.2	-0.1
SGMF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
SGMF	Saint Gilles	84.80	40	eP	P	19 08 52.2	-0.1
	comp=Z,16nm,1.1s,mb4.7						
EPF	Esparros	85.13	45	eP	P	19 08 55.0	+1.1
	comp=Z,29nm,1.1s,mb4.6						
EPF	Esparros	85.13	45	eP	P	19 08 55.0	+1.1
EPF				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.6						
EPF	Esparros	85.13	45	eP	P	19 08 55.0	+1.1
	comp=Z,15nm,1.1s,mb4.6						
MFF	Saint Martin d	85.84	42	eP	P	19 08 57.6	+0.2
	comp=Z,30nm,0.9s,mb4.7						
MFF	Saint Martin d	85.84	42	eP	P	19 08 57.6	+0.2
MFF				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
MFF	Saint Martin d	85.84	42	eP	P	19 08 57.6	+0.2
	comp=Z,15nm,0.9s,mb4.7						
GRR	Gorron	85.92	40	eP	P	19 08 57.6	-0.2
	comp=Z,27nm,1.0s,mb4.7						
GRR	Gorron	85.92	40	eP	P	19 08 57.6	-0.2
GRR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
GRR	Gorron	85.92	40	eP	P	19 08 57.6	-0.2
	comp=Z,14nm,1.0s,mb4.6						
LFF	La Frestale	85.95	44	eP	P	19 08 58.4	+0.4
	comp=Z,38nm,0.8s,mb4.9						
LFF	La Frestale	85.95	44	eP	P	19 08 58.4	+0.4
LFF				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
LFF	La Frestale	85.95	44	eP	P	19 08 58.4	+0.4
	comp=Z,19nm,0.8s,mb4.9						
FLN	La Foliniere	86.27	40	eP	P	19 08 58.6	-0.9
	comp=Z,26nm,0.9s,mb4.7						
FLN	La Foliniere	86.27	40	eP	P	19 08 58.6	-0.9
FLN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
FLN	La Foliniere	86.27	40	eP	P	19 08 58.6	-0.9
	comp=Z,13nm,0.9s,mb4.7						
LDF	La Druitiere	86.45	40	eP	P	19 09 00.3	-0.1
	comp=Z,57nm,1.3s,mb4.8						
LDF	La Druitiere	86.45	40	eP	P	19 09 00.3	-0.1
LDF				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.8						
LDF	La Druitiere	86.45	40	eP	P	19 09 00.3	-0.1
	comp=Z,28nm,1.3s,mb4.8						
MTLF	Montolieu	86.54	45	eP	P	19 09 00.5	-0.3
	comp=Z,6.8nm,0.7s,mb4.3						
MTLF	Montolieu	86.54	45	eP	P	19 09 00.5	-0.3
MTLF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
MTLF	Montolieu	86.54	45	eP	P	19 09 00.5	-0.3
	comp=Z,3.4nm,0.7s,mb4.3						
RJF	Les Rejaudoux	86.58	43	eP	P	19 09 01.4	+0.3
	comp=Z,18nm,0.9s,mb4.6						
RJF	Les Rejaudoux	86.58	43	eP	P	19 09 01.4	+0.3
RJF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
RJF	Les Rejaudoux	86.58	43	eP	P	19 09 01.4	+0.3
	comp=Z,8.9nm,0.9s,mb4.6						
ESK	Eskdalemuir	86.80	33	P	P	19 09 01.3	-0.8
ESK				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.0						
ESK	Eskdalemuir	86.80	33	P	P	19 09 01.3	-0.9
	comp=Z,27nm,1.1s,mb5.0						
CAF	Calviac	86.85	44	eP	P	19 09 02.2	-0.2
	comp=Z,16nm,0.9s,mb4.5						
CAF	Calviac	86.85	44	eP	P	19 09 02.2	-0.2
CAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CAF	Calviac	86.85	44	eP	P	19 09 02.2	-0.2
	comp=Z,8.1nm,0.9s,mb4.5						
TCF	Toulx Ste Croi	87.31	43	eP	P	19 09 04.1	-0.5
	comp=Z,13nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	87.31	43	eP	P	19 09 04.1	-0.5
TCF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
TCF	Toulx Ste Croi	87.31	43	eP	P	19 09 04.1	-0.5
	comp=Z,6.6nm,0.8s,mb4.5						
BGF	Bois d'Agland	87.81	42	eP	P	19 09 06.6	-0.4
	comp=Z,41nm,0.8s,mb5.0						
BGF	Bois d'Agland	87.81	42	eP	P	19 09 06.6	-0.4
BGF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.0						
BGF	Bois d'Agland	87.81	42	eP	P	19 09 06.6	-0.4
	comp=Z,21nm,0.8s,mb5.0						
HYF	Humbligny	87.86	42	eP	P	19 09 07.2	0.0
LASF	Ste Croix	87.87	45	eP	P	19 09 06.7	-0.6
	comp=Z,16nm,0.9s,mb4.5						
AVF	Avril sur Loir	88.21	42	eP	P	19 09 08.2	-0.6
	comp=Z,14nm,0.8s,mb4.5						
AVF	Avril sur Loir	88.21	42	eP	P	19 09 08.2	-0.6
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
AVF	Avril sur Loir	88.21	42	eP	P	19 09 08.2	-0.6
	comp=Z,7.2nm,0.8s,mb4.5						
VNDA	Vanda	88.35	190	eP	P	19 09 05.3	-4.2
VNDA				pmax	pmax		
	comp=Z,15nm,0.9s						
VNDA	Vanda	88.35	190	eP	P	19 09 05.3	-4.2
	comp=Z,15nm,0.9s,mb4.8						
SSF	Saint Saulge	88.38	42	eP	P	19 09 08.8	-0.8
	comp=Z,10nm,0.8s,mb4.4						
SSF	Saint Saulge	88.38	42	eP	P	19 09 08.8	-0.8
SSF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
SSF	Saint Saulge	88.38	42	eP	P	19 09 08.8	-0.8
	comp=Z,5.1nm,0.8s,mb4.4						
SMF	Signal de Mont	88.50	42	eP	P	19 09 09.8	-0.4
	comp=Z,32nm,0.9s,mb4.9						
SMF	Signal de Mont	88.50	42	eP	P	19 09 09.8	-0.4
SMF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
SMF	Signal de Mont	88.50	42	eP	P	19 09 09.8	-0.4
	comp=Z,16nm,0.9s,mb4.8						
VIVF	Saint-Julien-l	88.63	44	eP	P	19 09 11.1	+0.3
	comp=Z,21nm,1.0s,mb4.7						
VIVF	Saint-Julien-l	88.63	44	eP	P	19 09 11.1	+0.3

VIVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
VIVF	Saint-Julien-l	88.63	44	eP	P	19 09 11.1	+0.3
	comp=Z,10nm,1.0s,mb4.7						
LOR	Lormes	88.66	42	eP	P	19 09 10.3	-0.7
	comp=Z,12nm,0.7s,mb4.6						
LOR	Lormes	88.66	42	eP	P	19 09 10.3	-0.7
LOR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
LOR	Lormes	88.66	42	eP	P	19 09 10.3	-0.7
	comp=Z,6.0nm,0.7s,mb4.6						
SMRF	Simiane la Rot	89.06	45	eP	P	19 09 12.6	-0.2
TSUM	Tsumeb	89.27	109	eP	P	19 09 14.6	+0.8
	comp=Z,8.6nm,1.3s,mb4.5						
TSUM				epP	pP	19 09 49.2	-0.3
ORIF	Oris-en-Rattie	89.48	44	eP	P	19 09 15.4	+0.6
	comp=Z,25nm,0.7s,mb4.9						
ORIF	Oris-en-Rattie	89.48	44	eP	P	19 09 15.4	+0.6
ORIF				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
ORIF	Oris-en-Rattie	89.48	44	eP	P	19 09 15.4	+0.6
	comp=Z,12nm,0.7s,mb5.0						
BAIF	Baives	89.57	39	eP	P	19 09 14.8	-0.4
	comp=Z,14nm,1.0s,mb4.6						
BAIF	Baives	89.57	39	eP	P	19 09 14.8	-0.4
BAIF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BAIF	Baives	89.57	39	eP	P	19 09 14.8	-0.4
	comp=Z,7.1nm,1.0s,mb4.5						
LMR	La Mourre	89.58	46	eP	P	19 09 15.2	0.0
	comp=Z,26nm,0.9s,mb4.8						
LMR	La Mourre	89.58	46	eP	P	19 09 15.2	0.0
LMR				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
LMR	La Mourre	89.58	46	eP	P	19 09 15.2	0.0
	comp=Z,13nm,0.9s,mb4.8						
FRF	La Foret Royal	89.72	46	eP	P	19 09 16.0	+0.1
	comp=Z,23nm,1.0s,mb4.8						
FRF	La Foret Royal	89.72	46	eP	P	19 09 16.0	+0.1
FRF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
FRF	La Foret Royal	89.72	46	eP	P	19 09 16.0	+0.1
	comp=Z,11nm,1.0s,mb4.8						
SNF	Seneffe	89.73	39	P	P	19 09 14.7	-1.3
DOU	Dourbes	89.82	39	P	P	19 09 16.5	+0.1
GIVF	Givet	89.97	39	eP	P	19 09 17.0	-0.1
	comp=Z,38nm,0.8s,mb5.1						
GIVF	Givet	89.97	39	eP	P	19 09 17.0	-0.1
GIVF				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
GIVF	Givet	89.97	39	eP	P	19 09 17.0	-0.1
	comp=Z,19nm,0.8s,mb5.1						
CABF	La Chapelle	89.99	43	eP	P	19 09 17.1	-0.1
	comp=Z,47nm,1.2s,mb5.0						
CABF	La Chapelle	89.99	43	eP	P	19 09 17.1	-0.1
CABF				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
CABF	La Chapelle	89.99	43	eP	P	19 09 17.1	-0.1
	comp=Z,23nm,1.2s,mb5.0						
LPL	La Plagne	90.20	44	eP	P	19 09 19.0	+0.9
	comp=Z,25nm,0.8s,mb4.9						
LPL	La Plagne	90.20	44	eP	P	19 09 19.0	+0.9
LPL				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
LPL	La Plagne	90.20	44	eP	P	19 09 19.0	+0.9
	comp=Z,12nm,0.8s,mb4.9						
LPG	La Plagne	90.20	44	eP	P	19 09 19.2	+1.0
	comp=Z,38nm,0.9s,mb5.0						
LPG	La Plagne	90.20	44	eP	P	19 09 19.2	+1.0
LPG				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
LPG	La Plagne	90.20	44	eP	P	19 09 19.2	+1.0
	comp=Z,19nm,0.9s,mb5.0						
KEST	Kesra	90.22	54	P	P	19 09 18.2	-0.1
	comp=Z,2.3nm,0.8s,mb4.2,baz=347,slow=1.8,SNR=6.8						
BCLA	Clavier	90.34	39	P	P	19 09 18.5	-0.3
HAU	Haudompre	90.47	42	eP	P	19 09 18.1	-1.3
WLF	Walferdange	90.70	40	P	P	19 09 21.0	+0.5
CDF	Champ du Feu	91.16	41	eP	P	19 09 22.3	-0.3
	comp=Z,16nm,0.9s,mb4.7						
CDF	Champ du Feu	91.16	41	eP	P	19 09 22.3	-0.3
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
CDF	Champ du Feu	91.16	41	eP	P	19 09 22.3	-0.3
	comp=Z,7.8nm,0.9s,mb4.7						
CLL	Collm	95.30	39	eP	P	19 09 42.0	+0.4
KHC	Kasperske Hory	95.39	41	eP	P	19 09 42.0	-0.1
GERES	GERESS Array B	95.44	42	P	P	19 09 42.3	0.0
	comp=Z,0.6nm,0.8s,mb3.9,baz=270,slow=4.0,SNR=6.0						
LBTB	Lobatse	95.52	116	eP	P	19 09 43.4	+0.7
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
LBTB	Lobatse	95.52	116	eP	P	19 09 43.4	+0.7
	comp=Z,4.6nm,0.8s,mb4.9						
NB2	NORSAR Subarra	95.59	29	P	P	19 09 43.3	+0.3
	comp=Z,0.9nm,0.8s,mb4.2,baz=260,slow=4.8						
NOA	NORSAR Array B	95.59	29	P	P	19 09 43.7	+0.7
	comp=Z,2.9nm,1.0s,mb4.6,baz=258,slow=4.5,SNR=5.8						
NOA				pP	pP	19 10 16.9	-1.8
	comp=Z,2.2nm,0.9s,baz=259,slow=4.8,SNR=4.6						
STKA	Stephens Creek	126.78	219	PKP	PKPdf	19 15 20.9	+0.3
	comp=Z,1.6nm,0.8s,baz=108,slow=3.2,SNR=5.0						
ZAL	Zalesovo	132.00	16	PKP	PKPdf	19 15 31.2	+0.8
	comp=Z,1.5nm,0.7s,baz=170,slow=3.0,SNR=9.0						
ZAL				pPKP	pPKPdf	19 16 07.0	-0.7
	comp=Z,2.3nm,0.8s,baz=202,slow=3.1,SNR=3.3						
MKAR	Makanchi Array	137.28	23	PKP	PKPdf	19 15 41.0	+0.6
	comp=Z,0.9nm,0.8s,baz=8.9,slow=3.9,SNR=5.9						
MKAR				pPKP	pPKPdf	19 16 16.3	-1.3
	comp=Z,1.6nm,0.8s,baz=320,slow=3.2,SNR=5.1						
MKAR				SKPbc	SKPbc	19 19 01.4	+0.8
	comp=Z,1.1nm,0.8s,baz=306,slow=2.9,SNR=5.9						
MKAR	Makanchi Array	137.28	23	PKIKP	PKPdf	19 15 41.0	+0.7
MKAR						19 16 16.3	
MKAR	Makanchi Array	137.28	23	PKP	PKPdf	19 15 41.0	+0.6
MKAR				pPKP	pPKPdf	19 16 16.3	-1.3
MKAR				SKPbc	SKPbc	19 19 01.4	+0.8
ASAR	Alice Springs	137.37	220	PKhKP		19 15 30.9	
	comp=Z,0.6nm,0.7s,baz=124,slow=2.1,SNR=9.8						
ASAR				PKP	PKPdf	19 15 41.8	+1.3
	comp=Z,1.6nm,0.7s,baz=118,slow=1.4,SNR=14						
ASAR				pPKP	pPKPdf	19 16 17.5	-0.3
	comp=Z,1.7nm,1.0s,baz=120,slow=1.8,SNR=3.7						
ASAR				SKPbc	SKPbc	19 19 00.6	-0.3
	comp=Z,0.8nm,0.8s,baz=132,slow=4.4,SNR=4.2						
ASAR	Alice Springs	137.37	220	PKHKP		19 15 31.0	
ASAR						19 15 41.8	
ASAR						19 16 17.5	
MJAR	Matsushiro Arr	139.30	318	SKPbc	SKPbc	19 19 07.0	+0.6
	comp=Z,2.0nm,1.1s,baz=7.9,slow=4.4,SNR=4.6						
WRA	Warramunga Arr	139.65	225	PKhKP		19 15 37.6	
	comp=Z,0.4nm,0.6s,baz=122,slow=2.5,SNR=11						
WRA				PKP	PKPdf	19 15 46.2	+1.5
	comp=Z,2.5nm,0.7s,baz=129,slow=2.0,SNR=12						
WRA				pPKP	pPKPdf	19 16 21.3	-0.8
	comp=Z,1.8nm,0.8s,baz=144,slow=1.4,SNR=4.2						
WRA				SKPbc	SKPbc	19 19 07.4	+0.1
	comp=Z,1.1nm,0.8s,baz=132,slow=2.4,SNR=5.3						
WRA	Warramunga Arr	139.65	225	PKHKP		19 15 37.6	
WRA						19 15 46.2	
WRA						19 16 21.3	
GUMO	Guam	140.95	281	pPKP	pPKPdf	19 16 23.7	-0.7
	comp=Z,38nm,0.4s,baz=9.8,slow=24,SNR=3.6						
WMQ	Urumqi	141.82	21	ePKP	PKPdf	19 15 50.0	+1.4
WMQ				PP	PP	19 18 59.0	+4.5
WMQ				PKS		19 19 25.0	
WMQ				SKS	SKSdf	19 22 49.0	+3.5
WMQ				PP	PP		
	comp=Z,82nm,4.3s						
WMQ				LR	LR		
	comp=N,168nm,21.0s						
WMQ				LR	LR		
	comp=E,126nm,22.8s						
WMQ				LR	LR		
	comp=Z,128nm,21.4s						
KAKA	Kakadu	145.66	232	eP	PKPdf	19 15 57.1	+1.8
	comp=Z,14nm,0.6s						
FITZ	Fitzroy Crossi	146.63	217	eP	PKPdf	19 16 00.2	+3.3
	comp=Z,28nm,0.9s						
FITZ				e		19 16 34.8	
MBWA	Marble Bar	147.09	205	ePKPbc	PKPbc	19 16 00.8	+0.8
HHC	Hu-ho-hao-te	147.55	351	ePKP	PKPdf	19 15 58.0	-0.5
HHC				PKP2	PKPab	19 16 05.0	+1.2
HHC				APKP		19 16 32.0	
HHC				PP	PP	19 19 31.1	+2.5
HHC				SKS	SKSdf	19 22 52.5	-1.5
HHC				SKKS	SKKSac	19 26 06.1	-0.6
HHC				SS	SS	19 38 21.3	+0.7
HHC				PP	PP		
	comp=Z,106nm,5.1s						
HHC				LR	LR		
	comp=N,166nm,5.7s						
HHC				LR	LR		
	comp=E,190nm,4.9s						
HHC				LR	LR		
	comp=Z,208nm,6.1s						
GTA	Gaotai	149.07	8	PKP	PKPbc	19 16 06.6	+1.4
KOLN	Koldanda	152.09	45	eP	PKPbc	19 16 13.5	+1.1
GKN	Gorkha	152.65	43	eP	PKPbc	19 16 14.7	+1.1
LZH	Lanzhou	152.75	3	ePKP	PKPdf	19 16 08.6	+2.0
LZH				APKP		19 16 42.9	
LZH				XPKP		19 16 57.8	
LZH				LR	LR		
	comp=N,145nm,19.4s						
LZH				LR	LR		
	comp=Z,265nm,20.3s						
KKN	Kakani	153.22	42	eP	PKPbc	19 16 16.1	+1.2
	comp=Z,25nm,1.0s						
DMN	Daman	153.22	43	eP	PKPbc	19 16 16.5	+1.6
PKI	Pulchoki	153.45	43	eP	PKPbc	19 16 17.4	+2.0
GUN	Gumba	153.53	41	eP	PKPbc	19 16 17.4	+1.9
LSA	Lhasa	155.27	31	ePKPbc	PKPdf	19 16 21.6	+11
LSA				ePKPab	PKPab	19 16 38.1	+2.2
CD2	Chengdu	157.90	4	ePKP	PKPdf	19 16 10.8	-2.7
KMI	Kunming	163.53	8	PKP	PKPdf	19 16 23.0	+3.4

MOS 18 19:15:47.9±0.3**,4374N**×**4477E,h12**km**,mb3.8**/1**,6C-6D, Error ellipse: s-maj=14.8km s-min=8.5km az=54.3, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	Terskaya	0.03	245	⇓ iPG	Pg	19 15 51.0	+0.9
TRKR				i S	Sg	19 15 55.2	+3.6
PRTR	Priterechnaya	0.36	273	⇓ ePG	Pg	19 15 55.9	+0.9
PRTR				i S	Sg	19 16 03.7	+3.9
KMSR	Komsomolskaya	0.51	224	⇑ iPG	Pg	19 15 59.0	+1.2
ARNR	Ardon	0.66	213	⇓ iPG	Pg	19 16 01.5	+0.9
ARNR				i S	Sg	19 16 13.3	+4.1
VLKR	Vladikavkaz	0.69	186	⇓ iPG	Pg	19 16 01.7	+0.3
VLKR				i S	Sg	19 16 13.8	+3.3
KORR	Kora	0.83	219	⇑ iPG	Pg	19 16 04.5	+0.6
KORR				i S	Sg	19 16 18.5	+3.7
LACR	Lac	0.97	201	⇑ iPG	Pg	19 16 06.7	0.0
LACR				i S	Sg	19 16 22.5	+3.1
ZEI	Tsey	1.16	214	⇓ iPG	Pg	19 16 09.7	-0.5
ZEI				eS	Sb	19 16 27.6	+2.8
DIGR	Digorskoe uzhe	1.21	227	⇓ iPG	Pg	19 16 10.6	-0.5
DIGR				i S	Sb	19 16 29.2	+3.0
BEYR	Belyy Ugol+	1.44	282	⇑ ePG	Pg	19 16 14.3	-1.3
BEYR				eS	Sn	19 16 35.3	+2.7
KIV	Kislovodsk	1.52	279	⇑ ePG	Pg	19 16 15.7	-1.5
KIV				i S	Sn	19 16 37.0	+2.3
SHAR	Shatzhatmas	1.52	271	⇑ iPG	Pg	19 16 15.3	-1.9
SHAR				i S	Sn	19 16 37.5	+2.8

*MOS **18** 19:19:33.4±1.1,4374N×4472E,h14km,mb4.0/1,Error ellipse: s-maj=0.1km s-min=0.0km az=108.5*

ISC 18 19:19:27.7±1.3**,4397N**±004×**4509E**±007**,h2**km±4km**,n20,** σ**1§01**/38**,7C-6D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	Terskaya	0.36	227	⇑ iPG	**Pg**	**19 19 35.2**	**+0.7**
TRKR				i S	**Sg**	**19 19 39.8**	**+0.6**
PRTR	Priterechnaya	0.62	250	ePG	**Pg**	**19 19 40.8**	**+1.1**
PRTR				i S	**Sg**	**19 19 49.4**	**+1.6**
KMSR	Komsomolskaya	0.83	225	⇑ iPG	**Pg**	**19 19 43.9**	**+0.3**
KMSR				i S	**Sg**	**19 19 54.8**	**+0.4**
VLKR	Vladikavkaz	0.97	198	⇓ iPG	**Pg**	**19 19 46.4**	**+0.2**
VLKR				i S	**Sg**	**19 19 59.0**	**+0.2**
ARNR	Ardon	0.98	218	⇓ iPG	**Pg**	**19 19 46.5**	**+0.1**
ARNR				i S	**Sg**	**19 19 59.2**	**+0.1**
KORR	Kora	1.15	221	ePG	**Pg**	**19 19 49.6**	**-0.2**
KORR				i S	**Sg**	**19 20 04.9**	**+0.2**
KUBR	Kubataba	1.23	263	⇑ iPG	**Pg**	**19 19 52.0**	**+0.7**
KUBR				eS	**Sg**	**19 20 08.8**	**+1.6**
LACR	Lac	1.28	207	⇓ iPG	**Pg**	**19 19 51.6**	**-0.6**
LACR				i S	**Sg**	**19 20 08.1**	**-0.7**
PYA	Pyatigorsk	1.47	273	⇑ ePG	**Pg**	**19 19 56.1**	**+0.2**
PYA				eS	**Sb**	**19 20 15.0**	**+0.1**
ZEI	Tsey	1.48	217	⇓ iPG	**Pg**	**19 19 54.1**	**-2.0**
ZEI				e		19 20 11.5	
ZEI				pmax	pmax		
	comp=Z,64nm,0.1s						
ZEI				smax			
	comp=E,334nm,0.2s						
ZEI	Tsey	1.48	217	⇓ iPG	**Pg**	**19 19 54.1**	**-2.0**
ZEI				e		19 20 11.5	
ZEI				i S	**Sb**	**19 20 14.1**	**-1.0**
DIGR	Digorskoe uzhe	1.53	226	⇑ iPG	**Pg**	**19 19 54.9**	**-2.2**
DIGR				i S	**Sn**	**19 20 14.1**	**-2.5**
BEYR	Belyy Ugol+	1.64	272	⇑ ePG	**Pg**	**19 19 58.4**	**-0.8**
BEYR				eS	**Sn**	**19 20 19.2**	**-0.1**
KIV	Kislovodsk	1.74	270	⇓ iPG	**Pg**	**19 19 59.4**	**-1.6**
KIV				i S	**Sn**	**19 20 21.8**	**+0.2**
SHAR	Shatzhatmas	1.77	264	⇑ iPG	**Pg**	**19 20 00.3**	**-1.3**
SHAR				i S	**Sn**	**19 20 23.1**	**+0.7**
ONI	Oni	1.83	221	P	**Pn**	**19 19 59.5**	**-0.7**
ONI				S	**Sn**	**19 20 22.5**	**-1.4**
DUS	Dusheti	1.90	189	P	**Pn**	**19 20 02.5**	**+1.4**
DUS				S	**Sn**	**19 20 26.1**	**+0.5**
TBLG	Delisi	2.25	187	P	**Pn**	**19 20 10.6**	**+4.7**
TBLG				S	**Sn**	**19 20 35.2**	**+0.9**
MTA	Mtatsminda	2.28	186	S	**Sn**	**19 20 35.5**	**+0.4**
DGRG	David-gareji	2.52	175	P	**Pn**	**19 20 11.3**	**+1.6**
DGRG				S	**Sn**	**19 20 34.5**	**-6.5**

*MOS **18** 19:34:30.8±2.7,5294N×158.13E,h33km,mb4.2/1,Error ellipse: s-maj=56.1km s-min=23.4km az=69.5*

KRSC 18 19:34:27,5267N×**15965E,h35**km**,ML4.0,1D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.48	28	eP	Pn	19 34 38.3	+0.9
SPN				i S	Sn	19 34 45.9	+1.2
NLC	Nalytchevo	0.54	340	eP	Pn	19 34 38.9	+0.8
NLC				i S	Sn	19 34 47.3	+1.4
PET	Petropavlovsk	0.70	301	⇓ iPN	Pn	19 34 40.8	+0.4
PET				i S	Sn	19 34 50.1	+0.1
PET				pmax	pmax		
	comp=Z,502nm,0.3s						
PET				pmax	pmax		
	comp=Z,500nm,0.2s						
PET				smax			
	comp=N,3μm,0.4s						
PET				smax			
	comp=N,3μm,0.6s						
PET	Petropavlovsk	0.70	301	eP	Pn	19 34 40.9	+0.5
PET				i S	Sn	19 34 49.8	-0.2
RUS	Russkaya	0.73	252	eP	Pn	19 34 41.1	+0.2
RUS				i S	Sn	19 34 50.5	-0.3
AVH	Avacha	0.81	318	eP	Pn	19 34 42.9	+1.0
AVH				i S	Sn	19 34 54.0	+1.3
GRL	Gorelyy	0.97	264	eP	Pn	19 34 45.6	+1.5
GRL				i S	Sn	19 34 58.5	+1.9
KII	Karymskiy	1.37	355	eP	Pn	19 34 50.0	+0.3
KII				i S	Sn	19 35 07.1	+0.5
GNL	Ganaly	1.45	316	eP	Pn	19 34 52.0	+1.3
GNL				i S	Sn	19 35 10.5	+1.9
MIPR	Malaya Ipel'ka	1.81	259	eP	Pn	19 34 57.4	+1.7
MIPR				i S	Sn	19 35 19.9	+2.5
MKZ	Mys Kozlova	2.26	32	eP	Pn	19 35 02.2	+0.4
MKZ				i S	Sn	19 35 27.2	-1.3
TUMR	Tumrok	2.63	6	eP	Pn	19 35 09.6	+2.6
SKR	Severo-Kuril's	2.97	229	ePN	Pn	19 35 10.5	-1.0
SKR				eS	Sn	19 35 43.5	-2.4
SKR				pmax	pmax		
	comp=Z,60nm,0.4s						
SKR				smax			
	comp=N,110nm,0.3s						
SKR				smax			
	comp=E,200nm,0.3s						
KMNR	Kamenistaya	3.11	6	eP	Pn	19 35 17.0	+3.4
ALID	Alaid	3.12	236	eP	Pn	19 35 16.3	+2.6
ALID				i S	Sn	19 35 52.8	+3.1
KPT	Kopyto	3.32	6	P	Pn	19 35 18.8	+2.4
ZLN	Zelenaya	3.42	11	eP	Pn	19 35 21.2	+3.4
ZLN				i S	Sn	19 36 00.2	+3.1
SRDR	Sredinnyy	3.66	1	eP	Pn	19 35 23.0	+2.0
KBTR	Krutoberegovo	4.00	26	eP	Pn	19 35 27.5	+1.7
KBTR				i S	Sn	19 36 13.1	+1.7
SMKR	Semkarok	4.06	14	eP	Pn	19 35 29.2	+2.6
SMKR				i S	Sn	19 36 16.1	+3.2
SRKR	Sorokina	4.09	12	eP	Pn	19 35 30.3	+3.3
BILL	Bilibino	15.75	9	eP	Pn	19 38 11.8	+5.7
COLA	College	28.89	45	eP	P	19 40 30.0	+7.6
MKAR	Makanchi Array	48.10	296	i P	P	19 43 00.1	-3.1

*ISCJB **18** 19:39:19.7±1.4,300S±003×12971E±005,h5km±9km, mb5.0/57,MS4.0/15,Error ellipse: s-maj=8.0km s-min=4.6km az=149.2*

*BJI **18** 19:39:20.2,337S×130.13E,h37km,mB5.2,mb4.9,Ms4.5, Msz4.0*

*IDC **18** 19:39:21.1±0.5,297S×12964E,h0km,mb4.8/15, mb1 4.8/18,mb1mx4.8/20,mbtmp4.8/18,ML4.4/3,MS4.0/10, Ms1 4.0/10,ms1mx3.6/27,Error ellipse: s-maj=24.4km s-min=12.2km az=71.0*

*GCMT **18** 19:39:22.5±0.4,305S×12976E,h21km±1km,MW5.0/51, Moment Tensor Solution. s22,c23; s51,c69; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.27±.23; Mθθ-0.55±.12; Mφφ-2.72±.16; Mrθ0.34±.22; Mθφ0.96±.09; Mφr0.98±.24; Best double couple: Mo3.33500×10^16 NP1:φs150.00000°,δ39.00000°,λ74.00000°. NP2: φs350.00000°,δ53.00000°,λ102.00000°. Principal axes: T 3.4860, Plg78.0000°, Azm305.0000°; N -0.2980, Plg10.0000°, Azm162.0000°; P -3.1850, Plg7.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **18** 19:39:22.5±0.3,304S×12965E,h10km,mb5.0/16 Error ellipse: s-maj=11.7km s-min=5.7km az=66.0*

*MOS **18** 19:39:24.1±1.0,295S×12965E,h33km,mb5.1/15,Error ellipse: s-maj=14.7km s-min=6.9km az=117.0*

ISC 18 19:39:24.1±1.6**,298S**±003×**12975E**±005**,h20**km±11km**, h33**km±3.8km**:pP-P,n142,**σ**1§05**/135**,mb5.0**/57**,MS4.0**/15**, 9C-7D,Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	1.70	246	P	**Pn**	**19 39 52.9**	**+0.3**
	9μm,0.9s						
SWI	Sorong	2.59	36	P	**Pn**	**19 40 05.0**	**+0.1**
	1μm,0.9s						
KAKA	Kakadu	10.03	165	eP	**Pn**	**19 41 47.1**	**+0.2**
	37nm,0.5s						
PCI	Palu	10.12	282	P	**Pn**	**19 41 47.8**	**-0.4**
	131nm,1.1s						
JAY	Jayapura	10.96	88	P	**Pn**	**19 42 00.9**	**+1.2**
	86nm,0.8s						
FITZ	Fitzroy Crossi	15.56	195	⇓ iP	**Pn**	**19 43 00.4**	**-1.8**
	61nm,0.6s						
FITZ	Fitzroy Crossi	15.56	195	Pn	**Pn**	**19 43 00.8**	**-1.3**
	0.9nm,0.3s,baz=28,slow=14,SNR=23						
FITZ				Sn	**Sn**	**19 45 54.6**	**+0.7**
	0.2nm,0.3s,baz=138,slow=20,SNR=2.0						
FITZ				LR	LR	19 49 06.9	
	comp=Z,250nm,21.8s,baz=25,slow=38						
KKM	Kota Kinabalu	16.22	304	P	**Pn**	**19 43 14.8**	**+4.1**
KMMI	Kalianget	16.23	255	P	**Pn**	**19 43 15.4**	**+4.6**
	170nm,1.5s						
WRAB	Tennant Creek	17.44	165	i P	**Pn**	**19 43 25.2**	**-0.9**
WRAB	Tennant Creek	17.44	165	eP	**Pn**	**19 43 23.2**	**-2.8**
	80nm,0.8s						
WRA	Warramunga Arr	17.44	165	P	**Pn**	**19 43 22.9**	**-3.3**
	1.1nm,0.3s,baz=346,slow=12,SNR=50						
WRA				S	**Sn**	**19 46 34.8**	**-4.9**
	0.7nm,0.3s,baz=351,slow=21,SNR=4.2						
WRA	Warramunga Arr	17.44	165	i P	**Pn**	**19 43 23.2**	**-2.9**
WRA				pmax	pmax		
	comp=Z,21nm,0.8s						
WB2	Warramunga Arr	17.45	165	eP	**Pn**	**19 43 23.1**	**-3.1**
KRKI	Karangkates	17.96	253	P	**Pn**	**19 43 36.1**	**+3.6**
	comp=Z,234nm,1.0s						
PMG	Port Moresby	18.44	111	P	**Pn**	**19 43 39.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=283,slow=6.4,SNR=3.3						
TGY	Tagaytay City	19.09	333	P	**Pn**	**19 43 45.0**	**-1.3**
	comp=Z,51nm,0.3s,baz=154,slow=8.3,SNR=4.1						
KSM	Kuching	19.93	283	eP	**Pn**	**19 43 55.7**	**-0.6**
BJII	Banjamegara	20.41	257	P	**P**	**19 44 00.9**	**+1.1**
	comp=Z,125nm,1.3s						
MBWA	Marble Bar	20.53	208	⇑P	**P**	**19 44 03.7**	**+2.6**
	SNR=8.8						
MBWA	Marble Bar	20.53	208	eP	**P**	**19 43 58.9**	**-2.2**
	comp=Z,121nm,1.0s						
AS31	Alice Springs	20.95	169	eP	**P**	**19 44 06.0**	**+0.3**
AS31				eS	**S**	**19 47 54.5**	**-3.7**
ASPA	Alice Springs	20.95	169	eP	**P**	**19 44 06.0**	**+0.3**
ASPA				eS	**S**	**19 47 54.5**	**-3.7**
ASAR	Alice Springs	20.95	169	P	**P**	**19 44 06.2**	**+0.6**
	comp=Z,187nm,0.9s,baz=347,slow=11,SNR=612						
ASAR				S	**S**	**19 47 47.7**	**-11**
	comp=Z,1.4nm,0.8s,baz=350,slow=22,SNR=2.6						
ASAR				PcP	PcP	19 48 14.3	+1.5
	comp=Z,4.6nm,0.6s,baz=349,slow=1.5,SNR=6.7						
CTA	Charters Tower	23.42	138	eP	**P**	**19 44 33.0**	**+1.0**
	comp=Z,14nm,0.7s,mb4.5						
CTA	Charters Tower	23.42	138	P	**P**	**19 44 33.0**	**+1.0**
	comp=Z,24nm,1.0s,mb4.6,baz=323,slow=12,SNR=11						
CTA	Charters Tower	23.42	138	eP	**P**	**19 44 33.0**	**+1.0**
CTA				pmax	pmax		
	comp=Z,14nm,0.7s						
CTAO	Charters Tower	23.42	138	eP	**P**	**19 44 32.9**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,46nm,1.2s,mb4.8						
CTAO	Charters Tower	23.42	138	eP	**P**	**19 44 32.9**	**+0.9**
	comp=Z,46nm,1.2s,mb4.8						
KGM	Kluang	26.88	280	P	**P**	**19 45 04.8**	**+1.3**
FORT	Forrest	27.69	183	eP	**P**	**19 45 09.9**	**-0.9**
	comp=Z,30nm,0.6s,mb5.1						
PPI	Padang Panjang	29.44	274	P	**P**	**19 45 26.7**	**+0.4**
	comp=Z,126nm,1.1s,mb5.6						
IPM	Ipoh	29.64	284	P	**P**	**19 45 30.1**	**+2.0**
JOW	Kunigami	29.67	357	LR	LR	19 56 36.3	
	comp=Z,285nm,20.2s,MS3.9,baz=142,slow=35						
KULM	Kulim	30.20	286	eP	**P**	**19 45 33.6**	**+0.5**
KLBR	Kellerberrin	30.62	200	eP	**P**	**19 45 36.7**	**-0.1**
	comp=Z,45nm,1.2s,mb5.2						
STKA	Stephens Creek	30.83	160	eP	**P**	**19 45 39.4**	**+0.8**
	comp=Z,13nm,1.0s,mb4.7						
STKA	Stephens Creek	30.83	160	P	**P**	**19 45 39.0**	**+0.4**
	comp=Z,12nm,0.9s,mb4.7,baz=334,slow=8.8,SNR=18						
STKA	Stephens Creek	30.83	160	eP	**P**	**19 45 38.9**	**+0.3**
PSI	Prapat	31.34	280	P	**P**	**19 45 43.0**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9,baz=104,slow=5.0,SNR=15						
NWAO	Narrogin (SRO)	32.01	200	P	**P**	**19 45 48.7**	**-0.3**
	comp=Z,9.0nm,0.9s,mb4.6,baz=348,slow=15,SNR=7.3						
NWAO				LR	LR	20 00 54.6	
	comp=Z,293nm,18.5s,MS4.0,baz=212,slow=40						
NWAO	Narrogin (SRO)	32.01	200	P	**P**	**19 45 48.7**	**-0.3**
NWAO				LR	LR	20 00 54.6	
ARMA	Armidale	34.25	145	eP	**P**	**19 46 10.2**	**+1.6**
SSE	Sheshan	34.86	347	P	**P**	**19 46 12.8**	**-1.0**
SSE				XP	sP	19 46 25.3	+2.8
SSE				PP	PP	19 47 32.8	-0.1
SSE				PCP	PcP	19 48 43.3	-3.3
SSE				S	**S**	**19 51 44.6**	**+0.9**
SSE				XS	sS	19 51 59.8	+5.8
SSE				AMB	AMB		
	comp=Z,24nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=N,48nm,22.4s,MS3.4						
SSE				LR	LR		
	comp=E,56nm,22.8s,MS3.4						
SSE				LR	LR		
	comp=Z,50nm,22.8s,MS3.2						
NANT	Nan	35.85	308	⇑P	**P**	**19 46 21.0**	**-1.4**
	comp=Z,406nm,1.0s,mb6.3						
NJ2	Nanjing	36.34	344	eP	**P**	**19 46 25.8**	**-0.8**
NJ2				AP	pP	19 46 37.8	+5.0
NJ2				PP	PP	19 47 50.3	+0.9
NJ2				XS	sS	19 52 24.0	+7.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,420nm,6.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NJ2				LR	LR		
	comp=N,530nm,18.2s,MS4.5						
NJ2				LR	LR		
	comp=E,360nm,16.3s,MS4.5						
NJ2				LR	LR		
	comp=Z,560nm,15.8s,MS4.4						
GYA	**Guiyang**	**36.81**	**324**	P	**P**	**19 46 30.3**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
JHJ	**Hachijo jima 2**	**37.14**	**14**	LR	LR	19 59 48.7	
	comp=Z,226nm,19.9s,MS4.0,baz=55,slow=33						
CHG	**Chiang Mai**	**37.25**	**307**	⇑P	**P**	**19 46 35.5**	**+1.2**
	comp=Z,56nm,1.0s,mb5.3						
CHTO	**Chiang Mai**	**37.25**	**307**	⇓P	**P**	**19 46 35.8**	**+1.5**
	SNR=8.8						
CHTO	**Chiang Mai**	**37.25**	**307**	*e*P	**P**	**19 46 35.2**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.2						
CHTO	**Chiang Mai**	**37.25**	**307**	*e*P	**P**	**19 46 35.2**	**+0.8**
	comp=Z,40nm,0.9s,mb5.2						
TOO	**Toolangi**	**37.33**	**159**	*e*P	**P**	**19 46 37.4**	**+2.4**
	comp=Z,8.3nm,1.1s,mb4.5						
TOO	**Toolangi**	**37.33**	**159**	*e*P	**P**	**19 46 37.4**	**+2.4**
TOO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
KMI	**Kunming**	**38.30**	**318**	P	**P**	**19 46 44.9**	**+1.7**
KMI				AP	pP	19 46 53.8	+4.4
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,177nm,4.5s						
KMI				LR	LR		
	comp=N,114nm,27.7s						
KMI				LR	LR		
	comp=E,122nm,22.5s						
KMI				LR	LR		
	comp=Z,108nm,26.8s,MS3.5						
MJAR	**Matsushiro Arr**	**40.10**	**11**	P	**P**	**19 46 57.1**	**-1.2**
	comp=Z,3.6nm,0.8s,mb4.2,baz=191,slow=7.2,SNR=8.4						
BJI	**Beijing**	**44.59**	**345**	*e*P	**P**	**19 47 37.4**	**+2.6**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
BJI				LR	LR		
	comp=Z,207nm,25.0s,MS4.0						
LZH	**Lanzhou**	**45.78**	**330**	*e*P	**P**	**19 47 44.9**	**+0.6**
LZH				AP	pP	19 47 51.3	+0.7
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,100nm,4.5s						
HHC	**Hu-ho-hao-te**	**46.68**	**341**	*e*P	**P**	**19 47 56.3**	**+5.0**
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,172nm,4.6s						
LSA	**Lhasa**	**49.19**	**314**	P	**P**	**19 48 12.0**	**+1.3**
LSA	**Lhasa**	**49.19**	**314**	*e*P	**P**	**19 48 12.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
LSA	**Lhasa**	**49.19**	**314**	*e*P	**P**	**19 48 12.1**	**+1.3**
	comp=Z,9.4nm,0.7s,mb4.9						
GTA	**Gaotai**	**50.37**	**330**	*e*P	**P**	**19 48 19.9**	**+0.2**
GTA				PCP	PcP	19 49 39.8	+1.7
GTA				PP	PP	19 50 16.6	+1.3
GTA				S	**S**	**19 55 32.4**	**+0.6**
GTA				SS	SS	19 59 02.3	-3.2
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,114nm,5.3s						
GTA				LR	LR		
	comp=N,167nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=E,179nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,141nm,18.6s,MS4.0						
HABR	**Khabarovsk**	**51.45**	**5**	*e*P	**P**	**19 48 29.1**	**+1.2**
HABR				*e*S	**S**	**19 55 49.0**	**+2.3**
JIRN	**Jiri**	**51.82**	**309**	*e*P	**P**	**19 48 30.7**	**+0.1**
	comp=Z,33nm,0.9s,mb5.2						
KLR	**Kul'dur**	**52.03**	**2**	*e*P	**P**	**19 48 29.2**	**-3.0**
GUN	**Gumba**	**52.19**	**309**	*e*P	**P**	**19 48 33.8**	**+0.5**
	comp=Z,29nm,0.6s,mb5.4						
PKI	**Pulchoki**	**52.39**	**308**	*e*P	**P**	**19 48 34.8**	**-0.1**
KKN	**Kakani**	**52.59**	**309**	*e*P	**P**	**19 48 36.2**	**-0.2**
	comp=Z,18nm,0.7s,mb5.1						
DMN	**Daman**	**52.65**	**308**	*e*P	**P**	**19 48 36.8**	**+0.1**
	comp=Z,36nm,0.9s,mb5.3						
GKN	**Gorkha**	**53.20**	**309**	*e*P	**P**	**19 48 40.8**	**0.0**
	comp=Z,27nm,0.7s,mb5.3						
KOLN	**Koldanda**	**53.90**	**308**	*e*P	**P**	**19 48 46.3**	**+0.3**
	comp=Z,58nm,0.8s,mb5.6						
ULN	**Ulaanbaatar**	**54.40**	**341**	⇑*e*P	**P**	**19 48 49.7**	**+0.1**
HYB	**Hyderabad**	**54.40**	**294**	*i* P	**P**	**19 48 49.0**	**-0.6**
HYB	**Hyderabad**	**54.40**	**294**	*e*P	**P**	**19 48 49.0**	**-0.6**
SONM	**Songino Array**	**54.58**	**341**	P	**P**	**19 48 51.7**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.3,baz=154,slow=7.5,SNR=15						
SONM				PcP	PcP	19 49 54.6	+0.7
	comp=Z,3.8nm,0.8s,baz=153,slow=3.9,SNR=5.7						
SONM				LR	LR	20 15 28.2	
	comp=Z,81nm,18.2s,MS3.8,baz=276,slow=40						
SONM	**Songino Array**	**54.58**	**341**	P	**P**	**19 48 51.7**	**+0.8**
SONM						19 49 54.6	
ZAK	**Zakamensk**	**57.81**	**340**	*e*P	**P**	**19 49 13.4**	**-0.6**
ZAK				*e*		19 50 06.2	
WMQ	**Urumqi**	**59.93**	**326**	*e*P	**P**	**19 49 28.9**	**+0.2**
WMQ				AP	pP	19 49 39.0	+3.8
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,119nm,4.4s						
WMQ				LR	LR		
	comp=Z,130nm,20.4s,MS4.1						
PET	**Petropavlovsk**	**60.86**	**20**	*i* P	**P**	**19 49 34.4**	**-0.7**
PET				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.2						
BOD	**Bodaibo**	**61.92**	**351**	*e*P	**P**	**19 49 40.6**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
MA2	**Magadan**	**64.54**	**12**	*e*P	**P**	**19 50 01.1**	**+1.5**
MK31	**Makanchi Array**	**64.76**	**326**	P	**P**	**19 50 00.5**	**-0.6**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.1s,mb5.7						
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**	**19 50 01.0**	**-0.1**
	comp=Z,7.2nm,0.8s,mb4.7,baz=115,slow=8.1,SNR=45						
YAK	**Yakutsk**	**64.83**	**360**	*e*P	**P**	**19 50 01.6**	**+0.1**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.4						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK	**Yakutsk**	**64.83**	**360**	*e*P	**P**	**19 50 01.5**	**-0.1**
	comp=N,33nm,0.8s,mb5.4						
AAK	**Ala-Archa**	**67.34**	**319**	⇓*i*P	**P**	**19 50 17.0**	**-0.7**
AAK				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.7						
AAK	**Ala-Archa**	**67.34**	**319**	*e*P	**P**	**19 50 16.7**	**-1.0**
	comp=Z,20nm,1.5s,mb4.9						
ZAL	**Zalesovo**	**67.90**	**333**	P	**P**	**19 50 20.8**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.8,baz=1.8,slow=5.8,SNR=47						
SEY	**Seymchan**	**67.93**	**11**	⇑*e*P	**P**	**19 50 21.8**	**+0.4**
KURK	**Kurchatov**	**68.99**	**328**	P	**P**	**19 50 27.1**	**-0.9**
	comp=Z,223nm,0.9s,mb6.1,SNR=27						
NVS	**Novosibirsk**	**69.18**	**333**	*e*P	**P**	**19 50 27.5**	**-1.7**
NVS				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
NVS				pmax	pmax		
	comp=E,28nm,1.3s						
VOSK	**Vostochnaya**	**74.10**	**327**	P	**P**	**19 50 58.0**	**-0.8**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SMDO	**Samad**	**74.41**	**295**	⇓P	**P**	**19 51 01.3**	**+0.7**
	SNR=5.9						
BIDO	**Bidbid**	**74.42**	**295**	⇓P	**P**	**19 51 01.5**	**+0.8**
	SNR=11						
BVA0	**Borovoye Array**	**74.56**	**327**	*i* P	**P**	**19 51 00.9**	**-0.5**
BRVK	**Borovoye**	**74.63**	**327**	⇑P	**P**	**19 51 02.1**	**+0.2**
	SNR=7.5						
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**19 51 01.6**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**19 51 01.6**	**-0.2**
	comp=Z,8.7nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**74.73**	**328**	P	**P**	**19 51 01.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
BSY	**Bisya**	**75.13**	**294**	⇓P	**P**	**19 51 05.3**	**+0.6**
HOQ	**Hoqain**	**75.17**	**295**	⇓P	**P**	**19 51 06.0**	**+1.0**
VNDA	**Vanda**	**76.44**	**173**	P	**P**	**19 51 11.6**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=311,slow=5.8,SNR=16						
VNDA				LR	LR	20 23 52.7	
	comp=Z,129nm,18.5s,MS4.3,baz=343,slow=35						
MAW	**Mawson**	**78.58**	**201**	*e*P	**P**	**19 51 24.2**	**0.0**
	comp=Z,9.1nm,1.2s,mb4.6						
MAW	**Mawson**	**78.58**	**201**	P	**P**	**19 51 23.8**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.6,baz=76,slow=7.2,SNR=13						
MAW				LR	LR	20 23 43.3	
	comp=Z,133nm,20.8s,MS4.2,baz=246,slow=34						
MAW	**Mawson**	**78.58**	**201**	*e*P	**P**	**19 51 24.2**	**0.0**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.2s						
AB31	**Akbulak array**	**79.23**	**321**	*i* P	**P**	**19 51 27.2**	**-0.6**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AKTO	**Aktyubinsk**	**80.77**	**322**	P	**P**	**19 51 34.5**	**-1.6**
AKTO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
SVE	**Sverdlovsk**	**81.22**	**329**	*e*P	**P**	**19 51 40.0**	**+1.5**
SVE				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
ARU	**Arti**	**82.19**	**328**	P	**P**	**19 51 42.4**	**-1.2**
	comp=Z,94nm,1.0s,mb5.7,SNR=9.7						
ARU	**Arti**	**82.19**	**328**	⇑*i*P	**P**	**19 51 43.0**	**-0.6**
ARU				*e*		19 54 53.2	
ARU				*e*PPP		19 56 47.7	
ARU				*e*S	S	20 01 59.6	+2.0
ARU				*e*SS	SS	20 07 23.3	+5.9
ARU				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
ARU	**Arti**	**82.19**	**328**	*e*P	**P**	**19 51 42.7**	**-0.9**
	comp=Z,17nm,1.0s,mb4.9						
SOKR	**Solikamsk**	**84.00**	**331**	*e*P	**P**	**19 51 52.8**	**-0.2**
SOKR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.3						
RDF	**Al-Radifah**	**84.61**	**299**	*e*P	**P**	**19 51 55.6**	**-0.4**
RDF				AMb	AMB	19 51 59.5	
	comp=Z,15nm,0.6s,mb5.3						
MIB	**Mutribah**	**84.89**	**300**	*e*P	**P**	**19 51 57.4**	**-0.1**
MIB				AMb	AMB	19 51 59.4	
	comp=Z,32nm,0.7s,mb5.5						
NAY	**Al-Naaiem**	**84.91**	**300**	*e*P	**P**	**19 51 57.3**	**-0.3**
NAY				AMb	AMB	19 51 58.5	
	comp=Z,31nm,0.9s,mb5.4						
RST	**Umm Al-Ruwaisa**	**85.15**	**300**	*e*P	**P**	**19 51 58.8**	**0.0**
RST				AMb	AMB	19 51 59.6	
	comp=Z,68nm,0.7s,mb5.9						
QSPA	**South Pole Qui**	**86.97**	**180**	*e*P	**P**	**19 52 07.1**	**-0.7**
	comp=Z,11nm,1.0s,mb5.0						
SYO	**Syowa Base**	**87.29**	**201**	⇑*e*P	**P**	**19 52 08.6**	**-0.7**
SYO	**Syowa Base**	**87.29**	**201**	⇑*e*P	**P**	**19 52 15.6**	**+6.3**
BHD	**Baghdad**	**87.74**	**303**	*e*x	**P**	**19 52 07.0**	**-4.5**
ZEI	**Tsey**	**88.95**	**313**	*e*P	**P**	**19 52 16.9**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
MSL	**Mosul**	**89.05**	**306**	*e*x	pP	19 52 26.0	+1.6
KMBO	**Kilima Mbogo**	**92.43**	**269**	P	**P**	**19 52 35.3**	**+1.9**
	comp=Z,7.5nm,1.1s,mb5.0,baz=49,slow=6.8,SNR=11						
KMBO				LR	LR	20 28 46.4	
	comp=Z,79nm,20.7s,MS4.1,baz=91,slow=32						
KMBO	**Kilima Mbogo**	**92.43**	**269**	P	**P**	**19 52 35.3**	**+1.9**
KMBO				LR	LR	20 28 46.4	
DAWY	**Dawson**	**93.04**	**26**	*e*P	**P**	**19 52 37.3**	**+1.1**
OBN	**Obninsk**	**94.25**	**325**	*e*P	**P**	**19 52 40.6**	**-1.2**
INK	**Inuvik**	**95.25**	**22**	LR	LR	20 33 32.9	
	comp=Z,73nm,18.5s,MS4.2,baz=242,slow=34						
BRTR	**Keskin Array B**	**96.59**	**309**	P	**P**	**19 52 51.8**	**-0.7**
	comp=Z,1.1nm,0.8s,mb4.3,baz=94,slow=4.3,SNR=3.0						
BRTR				LR	LR	20 43 31.8	
	comp=Z,29nm,18.2s,MS3.8,baz=345,slow=40						
ARCES	**ARCESS Array B**	**97.75**	**340**	P	**P**	**19 52 56.6**	**-1.1**
	comp=Z,5.0nm,1.0s,mb5.0,baz=72,slow=4.0,SNR=5.0						
FINES	**FINESS Array B**	**99.13**	**332**	P	**P**	**19 53 02.6**	**-1.3**
	comp=Z,1.0nm,0.8s,mb4.4,baz=72,slow=13,SNR=3.5						
BOSA	**Boshof**	**101.25**	**240**	P	Pdif	19 53 13.2	-0.2
	comp=Z,2.3nm,0.9s,baz=126,slow=1.6,SNR=5.1						
NOA	**NORSAR Array B**	**106.10**	**334**	Pdiff	Pdif	19 53 32.4	-2.5
	comp=Z,0.9nm,0.8s,baz=77,slow=4.2,SNR=3.6						
PDAR	**Pinedale Array**	**114.23**	**44**	PKhKP		19 57 59.2	
	comp=Z,0.3nm,0.7s,baz=291,slow=2.5,SNR=2.9						
MNTX	**Cornudas Mount**	**120.91**	**55**	*e*PKPdf	PKPdf	19 58 16.9	+2.0
JCT	**Junction City**	**125.83**	**54**	*e*PKIKP	PKPdf	19 58 26.1	+1.7
TORD	**Torodi Ar. Bea**	**127.68**	**284**	PKP	PKPdf	19 58 29.5	+1.6
	comp=Z,2.7nm,0.8s,baz=69,slow=2.0,SNR=13						
PLCA	**Paso Flores**	**132.70**	**159**	PKP	PKPdf	19 58 39.5	+2.1
	comp=Z,3.7nm,0.8s,baz=178,slow=3.4,SNR=8.6						
PLCA	**Paso Flores**	**132.70**	**159**	PKP	PKPdf	19 58 39.5	+2.0
CPUP	**Villa Florida**	**150.07**	**167**	PKP	PKPdf	19 59 10.2	+2.0
	comp=Z,16nm,0.8s,baz=238,slow=1.3,SNR=7.2						
CPUP				PKPbc	PKPbc	19 59 15.0	+1.8
	comp=Z,15nm,0.7s,baz=184,slow=1.6,SNR=55						
CPUP	**Villa Florida**	**150.07**	**167**	PKP	PKPdf	19 59 10.2	+2.0
CPUP				PKPbc	PKPbc	19 59 15.0	+1.8
LPAZ	**La Paz**	**153.94**	**138**	PKP	PKPdf	19 59 17.4	+3.4
	comp=Z,1.6nm,0.9s,baz=283,slow=2.4,SNR=3.7						
LPAZ				PKPbc	PKPbc	19 59 25.1	+3.0
	comp=Z,2.8nm,0.9s,baz=205,slow=1.3,SNR=8.3						

IDC 18 19:48:08.9±1.2**, 1268N**×**14367E, h0**^{km}**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/19**, mbtmp3.8**/3**, MS3.9**/4**, Ms1 3.9**/4**, ms1mx3.3**/29**, Error ellipse: s-maj=36.0km s-min=19.0km az=122.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.47**	**52**	Pn	Pn	19 48 36.8	+0.2
	17nm,0.3s,baz=188,slow=19,SNR=5.2						
GUMO				Sn	Sn	19 48 57.3	+0.6
	22nm,0.3s,baz=35,slow=24,SNR=6.6						
WRA	**Warramunga Arr**	**33.70**	**196**	P	P	19 54 51.7	0.0
	1.4nm,0.6s,baz=18,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**37.37**	**195**	P	P	19 55 23.7	+0.5
	0.7nm,0.7s,baz=17,slow=12,SNR=8.4						
SONM	**Songino Array**	**46.81**	**326**	P	P	19 56 40.5	+0.2
	0.8nm,0.6s,baz=132,slow=7.3,SNR=7.9						
YKA	**Yellowknife Ar**	**84.19**	**27**	LR	LR	20 37 39.1	
	comp=Z,76nm,19.2s,baz=270,slow=35						
YBH	**Yreka Blue Hor**	**84.34**	**49**	LR	LR	20 34 49.4	
	comp=Z,108nm,18.6s,baz=277,slow=33						
NOA	**NORSAR Array B**	**97.47**	**339**	LR	LR	20 49 58.0	
	comp=Z,38nm,18.7s,baz=35,slow=38						
LPIG	**La Paz**	**99.06**	**63**	LR	LR	20 37 14.3	
	comp=Z,20nm,19.2s,baz=318,slow=30						

PRE 18 19:53:17.6±1.0**, 2000S**×**3276E, h5**^{km}**, ML4.1, Zimbabwe**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.46**	**227**	*e*P	Pn	19 54 13.9	+1.8
MSNA				*e*S	Sn	19 54 54.1	+0.7
MSNA				AML	AML	19 55 31.0	
	comp=Z,108nm,0.2s						
POGA	**Pongola**	**7.41**	**188**	*e*P	Pn	19 55 07.1	+0.7
POGA				*e*S	Sn	19 56 26.8	-4.1
POGA				AML	AML	19 57 12.6	
	comp=Z,13nm,0.4s						
KSR	**Koster**	**7.95**	**222**	*e*S	Sn	19 56 40.9	-3.1
KSR				AML	AML	19 57 06.9	
	comp=Z,34nm,0.3s						
LBTB	**Lobatse**	**8.29**	**232**	*e*P	Pn	19 55 19.9	+1.4
LBTB				*e*S	Sn	19 56 49.1	-3.4
LBTB				AML	AML	19 58 02.6	
	comp=Z,16nm,0.6s						
BOSA	**Boshof**	**10.97**	**217**	*e*P	Pn	19 55 56.0	+0.9
BOSA				*e*S	Sn	19 57 52.9	-5.3
BOSA				AML	AML	19 59 08.5	
	comp=Z,4.9nm,0.6s						

*NIED **18** 20:01:00, 4390N×14040E, h260^{km}, Mw4.3 Best double couple: M0 2.70000×10^{15} NP1:φs9.00000°, δ67.00000°, λ-69.00000°. NP2:φs145.00000°, δ30.00000°, λ-130.00000°.*
*SZGRF **18** 20:01:19.1, 4367N×14134E, h33^{km}, mb4.7, Hokkaido, Japan, region*
*ISCJB **18** 20:01:42.0±0.2, 4389N±003×14038E±005, h225^{km}±2^{km}, mb4.3/60, Error ellipse: s-maj=6.1km s-min=4.4km az=82.9*

*BJI **18** 20:01:41.9, 4408N×14059E, h245^{km}, mB4.9, mb4.4*
*NEIC **18** 20:01:42.4±0.5, 4396N×14037E, h214^{km}±5^{km}, mb4.4/19, Error ellipse: s-maj=6.3km s-min=6.1km az=148.0*
*IDC **18** 20:01:42.6±0.6, 4393N×14033E, h216^{km}±6^{km}, mb3.9/17, mb1 4.0/18, mb1mx3.9/23, mbtmp4.4/18, Error ellipse: s-maj=11.3km s-min=10.9km az=138.0*
*MOS **18** 20:01:42.0±1.0, 4394N×14044E, h228^{km}, mb4.4/28, Error ellipse: s-maj=12.0km s-min=5.8km az=115.6*
*JMA **18** 20:01:43.3±0.1, 4387N×14040E, h219^{km}±2^{km}, M4.3*
ISC 18 20:01:42.8±0.2**, 4391N**±003×**14039E**±005**, h222**^{km}±2^{km}**, n183,** σ0^{s}86/207**, mb4.3**/60**, 10C-20D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.56**	**174**	⇓P	**Pn**	**20 02 12.8**	**+0.3**
JSK				*e*S	**S**	**20 02 35.3**	**-0.5**
JYG	**Yagishiri**	**0.91**	**55**	⇓P	**Pn**	**20 02 14.3**	**+0.1**
JYG				*e*S	**S**	**20 02 38.3**	**-0.4**
JHR	**Hokuryu**	**0.98**	**99**	⇓P	**Pn**	**20 02 15.3**	**+0.7**
JHR				*e*S	**S**	**20 02 40.0**	**+0.5**
JSS	**Shosan**	**1.16**	**64**	⇓P	**Pn**	**20 02 16.6**	**+0.8**
JSH	**Shimam**	**1.29**	**191**	⇓P	**Pn**	**20 02 17.1**	**+0.4**
JSH				*e*S	**S**	**20 02 42.4**	**-0.8**
JEW	**Eniwo**	**1.32**	**144**	⇓P	**Pn**	**20 02 17.5**	**+0.6**
ASAJ	**Asahikawa**	**1.61**	**82**	P	**Pn**	**20 02 19.0**	**-0.3**
	138nm,0.3s,baz=272,slow=6.6,SNR=1185						
ASAJ				S	**S**	**20 02 47.6**	**-0.2**
	15nm,0.3s,baz=110,slow=28,SNR=14						
ASAJ	**Asahikawa**	**1.61**	**82**	PN	**Pn**	**20 02 19.0**	**-0.3**
ASAJ				S	**S**	**20 02 47.6**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,138nm,0.3s						
ASAJ				smax			
	comp=N,15nm,0.3s						
JKK2	**Kamakawa 2**	**1.71**	**90**	⇓P	**Pn**	**20 02 20.5**	**+0.4**
JKK2				*e*S	**S**	**20 02 49.5**	**+0.1**
JFR	**Furan**	**1.77**	**114**	⇓P	**Pn**	**20 02 20.6**	**-0.1**
JFR				*e*S	**S**	**20 02 50.5**	**+0.1**
JWK2	**Keihoku**	**1.77**	**37**	⇓P	**Pn**	**20 02 21.8**	**+1.1**
JWK2				*e*S	**S**	**20 02 52.0**	**+1.5**
JSE	**Soyaes**	**1.89**	**55**	P	**Pn**	**20 02 22.7**	**+0.9**
JSE				*e*S	**S**	**20 02 53.8**	**+1.4**
JOSM	**Okushiri--Mats**	**1.94**	**200**	⇓P	**Pn**	**20 02 22.7**	**+0.4**
JOSM				*e*S	**S**	**20 02 52.8**	**-0.5**
JKB	**Kayabe**	**2.07**	**167**	⇓P	**Pn**	**20 02 23.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.38**	**132**	⇓P	**Pn**	**20 02 26.2**	**-0.5**
JCH	**Churui**	**2.53**	**120**	⇓P	**Pn**	**20 02 26.8**	**-1.5**
JCH				*e*S	**S**	**20 03 00.5**	**-3.5**
JAR	**Ashorobuto**	**2.53**	**103**	⇓P	**Pn**	**20 02 28.4**	**+0.1**
JAR				*e*S	**S**	**20 03 04.2**	**+0.1**
JTKR	**Abashiri--Toko**	**2.54**	**87**	⇓P	**Pn**	**20 02 28.6**	**+0.1**
JTKR				*e*S	**S**	**20 03 04.7**	**+0.4**
JOT	**Ohata**	**2.57**	**169**	⇓P	**Pn**	**20 02 28.2**	**-0.6**
ERM	**Erimo**	**2.78**	**132**	*e*P	**Pn**	**20 02 31.2**	**+0.2**
ERM				*e*S	**S**	**20 03 02.5**	**-6.4**
JAK	**Akkeshi**	**3.27**	**105**	⇑P	**Pn**	**20 02 35.4**	**-1.2**
JAK				*e*S	**S**	**20 03 15.7**	**-3.3**
JRA	**Rausu**	**3.42**	**88**	P	**Pn**	**20 02 38.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**3.47**	**28**	⇑*i*PN	**Pn**	**20 02 39.0**	**0.0**
YSS				*i* S	**S**	**20 03 21.8**	**-1.5**
YSS				pmax	pmax		
	comp=Z,70nm,0.5s						
YSS				smax			
	comp=N,210nm,0.7s						
YSS				smax			
	comp=E,140nm,0.7s						
YSS	**Yuzh-Sakhalins**	**3.47**	**28**	*e*P	**Pn**	**20 02 38.6**	**-0.4**
YSS				*e*S	**S**	**20 03 19.9**	**-3.4**
KUR	**Kuril'sk**	**5.50**	**73**	*e*PN	**Pn**	**20 03 01.5**	**-2.5**
KUR				*e*S	**S**	**20 04 10.5**	**+2.0**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
KUR				smax			
	comp=N,80nm,0.4s						
KUR				smax			
	comp=E,40nm,0.4s						
HABR	**Khabarovsk**	**5.88**	**323**	*e*PN	**Pn**	**20 03 08.9**	**+0.1**
HABR				*e*S	**S**	**20 04 12.2**	**-5.0**
MAJO	**Matsushiro**	**7.54**	**194**	*e*PN	**Pn**	**20 03 29.7**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s						
MAJO	**Matsushiro**	**7.54**	**194**	*e*P	**Pn**	**20 03 29.7**	**-0.4**
	comp=Z,13nm,0.8s						
MAT	**Matsushiro**	**7.54**	**194**	P	**Pn**	**20 03 29.6**	**-0.5**
MAT				*e*S	**S**	**20 04 52.5**	**-3.4**
MJAR	**Matsushiro Arr**	**7.54**	**193**	P	**Pn**	**20 03 29.9**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=4.6,slow=12,SNR=15						
MJAR	**Matsushiro Arr**	**7.54**	**193**	PN	**Pn**	**20 03 29.9**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**7.78**	**279**	P	**Pn**	**20 03 33.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,21nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,262nm,3.5s						
MDJ	**Mudanjiang**	**7.78**	**279**	P	**Pn**	**20 03 33.1**	**-0.1**
KLR	**Kul'dur**	**7.98**	**315**	*e*PN	**Pn**	**20 03 32.8**	**-2.9**
JHJ	**Hachijo jima 2**	**10.78**	**183**	P	**Pn**	**20 04 07.6**	**-4.0**
	comp=Z,12nm,0.3s,baz=49,slow=18,SNR=4.3						
JHJ				S	**S**	**20 05 58.5**	**-14**
	comp=Z,11nm,0.3s,baz=131,slow=21,SNR=3.2						
SKR	**Severo-Kuril's**	**12.63**	**52**	*e*PN	**Pn**	**20 04 30.8**	**-4.1**
SKR				pmax	pmax		
	comp=N,60nm,0.6s						
SKR				pmax	pmax		
	comp=E,60nm,0.6s						
SKR				pmax	pmax		
	comp=Z,160nm,0.6s						
HIA	**Hailar**	**15.16**	**298**	*e*P	**Pn**	**20 05 05.0**	**-0.9**
HIA				pmax	pmax		
	comp=Z,20nm,0.7s						
HIA	**Hailar**	**15.16**	**298**	*e*P	**Pn**	**20 05 05.0**	**-0.9**
	comp=Z,20nm,0.7s						
YAK	**Yakutsk**	**19.22**	**345**	*e*P	**P**	**20 05 47.8**	**-2.4**
YAK				*e*S	**S**	**20 09 12.1**	**-3.7**
YAK				pmax	pmax		
	comp=Z,28nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				smax			
	comp=N,12nm,1.2s						
YAK				smax			
	comp=E,16nm,1.3s						
YAK	**Yakutsk**	**19.22**	**345**	*e*P	**P**	**20 05 46.6**	**-3.6**
	comp=E,28nm,0.6s						
SSE	**Sheshan**	**19.83**	**236**	P	**P**	**20 05 58.1**	**+1.3**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE				AMB	AMB		
	comp=Z,102nm,5.5s						
SEY	**Seymchan**	**20.29**	**16**	⇑*e*P	**P**	**20 05 59.7**	**-1.9**
NJ2	**Nanjing**	**20.63**	**242**	*e*P	**P**	**20 06 06.3**	**+1.1**
NJ2				S	**S**	**20 09 41.0**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,720nm,5.4s						
NJ2				LR	LR		
	comp=N,310nm,17.4s						
NJ2				LR	LR		
	comp=E,270nm,16.5s						
NJ2				LR	LR		
	comp=Z,390nm,20.1s						
BOD	**Bodaibo**	**21.52**	**320**	*e*P	**P**	**20 06 07.4**	**-7.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**23.43**	**291**	⇑*e*P	**P**	**20 06 31.9**	**-0.2**
ULN	**Ulaanbaatar**	**23.43**	**291**	*e*P	**P**	**20 06 31.8**	**-0.2**
	comp=Z,8.4nm,1.0s,mb4.2						
SONM	**Songino Array**	**23.88**	**291**	P	**P**	**20 06 36.4**	**+0.3**
	comp=Z,11nm,0.6s,mb4.7,baz=89,slow=8.2,SNR=74						
SONM	**Songino Array**	**23.88**	**291**	P	**P**	**20 06 36.4**	**+0.3**
SONM				pmax	pmax		
	comp=Z,11nm,0.6s						
TLY	**Talaya**	**25.66**	**301**	*e*P	**P**	**20 06 52.2**	**0.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
TLY	**Talaya**	**25.66**	**301**	*e*P	**P**	**20 06 52.2**	**-0.1**
	comp=Z,6.8nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**25.85**	**298**	*e*P	**P**	**20 06 53.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOY	Mondy	27.31	301	eP	P	20 07 07.3	+0.4
GTA	Gaotai	30.43	276	⇑P	P	20 07 35.8	+1.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
KMI	Kunming	35.85	251	P	P	20 08 22.9	+1.6
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
ZAL	Zalesovo	36.98	306	P	P	20 08 30.9	+0.1
	comp=Z,8.9nm,0.4s,mb4.6,baz=19,slow=8.9,SNR=30						
ZAL				ScP	ScP	20 14 12.9	+0.4
	comp=Z,1.2nm,0.6s,baz=18,slow=5.0,SNR=6.4						
ZAL	Zalesovo	36.98	306	P	P	20 08 31.0	+0.1
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZAL				pmax	pmax		
	comp=N,1.0nm,0.6s						
NVS	Novosibirsk	37.77	307	eP	P	20 08 35.8	-1.7
MKAR	Makanchi Array	40.13	295	P	P	20 08 57.3	+0.2
	comp=N,6.3nm,0.5s,mb4.3,baz=74,slow=12,SNR=77						
MKAR				ScP	ScP	20 14 25.2	+0.6
	comp=N,0.4nm,0.8s,baz=69,slow=4.4,SNR=4.2						
IMA2	Indian Mountai	41.30	34	eP	P	20 09 05.8	-0.8
LSA	Lhasa	41.30	267	eP	P	20 09 08.9	+2.3
	comp=N,5.5nm,0.8s,mb4.0						
KDAK	Kodiak Island	42.72	47	P	P	20 09 18.1	0.0
	comp=N,2.3nm,0.4s,mb4.0,baz=36,slow=13,SNR=5.0						
VOSK	Vostochnaya	45.32	307	P	P	20 09 38.7	0.0
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
BVA0	Borovoye Array	45.57	307	i P	P	20 09 40.8	+0.2
BRVK	Borovoye	45.62	307	eP	P	20 09 41.1	+0.1
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
BRVK	Borovoye	45.62	307	eP	P	20 09 41.1	+0.1
	comp=Z,6.4nm,0.6s,mb4.1						
JIRN	Jiri	46.04	268	eP	P	20 09 45.5	+1.2
	comp=Z,12nm,0.6s,mb4.4						
GUN	Gumba	46.12	269	eP	P	20 09 45.8	+0.9
	comp=Z,45nm,0.7s,mb4.9						
KKN	Kakani	46.62	269	eP	P	20 09 49.5	+0.7
EGAK	Eagle	46.65	35	eP	P	20 09 48.0	-1.0
AAK	Ala-Archa	46.83	293	⇑eP	P	20 09 50.0	-0.4
DMN	Daman	46.85	269	eP	P	20 09 51.4	+0.8
GKN	Gorkha	46.97	270	eP	P	20 09 51.9	+0.4
	comp=Z,21nm,0.7s,mb4.6						
KOLN	Koldanda	47.85	270	eP	P	20 09 58.0	-0.3
	comp=Z,11nm,0.5s,mb4.4						
INK	Inuvik	48.71	30	P	P	20 10 04.8	0.0
	comp=Z,11nm,0.3s,mb4.6,baz=288,slow=6.5,SNR=80						
INK	Inuvik	48.71	30	P	P	20 10 04.9	+0.1
INK				pmax	pmax		
	comp=Z,11nm,0.3s						
KK31	Karatay Array	49.26	295	i P	P	20 10 09.0	0.0
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
KKAR	Karatay Array	49.26	295	P	P	20 10 09.0	0.0
SOKR	Solikamsk	50.52	319	eP	P	20 10 18.6	+0.2
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
ARU	Arti	50.82	315	⇓iP	P	20 10 20.4	-0.3
ARU				e	pP	20 11 07.0	-2.2
ARU				e		20 12 18.9	
ARU				ePPP		20 13 22.0	
ARU				eS	S	20 17 18.1	-1.2
ARU				eSS	SS	20 20 55.1	-1.7
ARU				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
ARU	Arti	50.82	315	eP	P	20 10 20.3	-0.4
	comp=Z,36nm,1.2s,mb4.7						
AB31	Akbulak array	53.08	306	i P	P	20 10 37.5	+0.2
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
KEV	Kevo	56.77	338	ep	P	20 11 02.1	-1.6
ARCES	ARCESS Array B	57.32	338	P	P	20 11 07.2	-0.4
	comp=Z,1.7nm,0.5s,mb4.0,baz=50,slow=8.1,SNR=18						
ARCES	ARCESS Array B	57.32	338	P	P	20 11 07.2	-0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	58.32	32	P	P	20 11 14.4	-0.1
	comp=Z,1.0nm,0.4s,mb3.8,baz=305,slow=6.3,SNR=5.8						
YKA	Yellowknife Ar	58.32	32	P	P	20 11 14.4	-0.1
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	Yellowknife Ar	58.32	32	P	P	20 11 14.4	-0.1
JOF	Joensuu	59.58	330	ep	P	20 11 21.3	-1.9
	comp=Z,7.0nm,0.5s,mb4.5						
KAF	Kangasniemi	61.89	331	ep	P	20 11 36.8	-1.9
	comp=Z,4.2nm,0.4s,mb4.4,baz=47,slow=6.4						
KAF	Kangasniemi	61.89	331	eP	P	20 11 36.8	-1.9
KAF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
OBN	Obninsk	62.20	321	P	P	20 11 39.0	-1.8
FIA1	FINESS Array S	62.41	330	eP	P	20 11 41.5	-0.7
FINES	FINESS Array B	62.41	330	P	P	20 11 41.4	-0.8
	comp=Z,4.3nm,0.4s,mb4.4,baz=53,slow=7.9,SNR=71						
FINES	FINESS Array B	62.41	330	P	P	20 11 41.4	-0.8
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	FINESS Array B	62.41	330	P	P	20 11 41.4	-0.8
WRA	Warramunga Arr	63.78	186	P	P	20 11 51.2	+0.1
	comp=Z,0.4nm,0.4s,mb3.4,baz=4.4,slow=7.0,SNR=19						
KIV	Kislovodsk	65.92	308	eP	P	20 12 05.5	+0.6
KIV				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8						
KIV	Kislovodsk	65.92	308	eP	P	20 12 05.2	+0.2
	comp=Z,11nm,0.6s,mb4.7						
ASAR	Alice Springs	67.50	186	P	P	20 12 15.8	+0.8
	comp=Z,0.4nm,0.6s,mb3.2,baz=3.2,slow=5.1,SNR=12						
NB2	NORSAR Subarra	67.58	336	P	P	20 12 14.4	-1.0
	comp=Z,1.7nm,0.4s,mb4.0,baz=41,slow=6.9						
NOA	NORSAR Array B	67.58	336	P	P	20 12 14.3	-1.1
	comp=Z,1.7nm,0.5s,mb3.9,baz=37,slow=6.4,SNR=13						
NOA	NORSAR Array B	67.58	336	P	P	20 12 14.3	-1.1
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	67.58	336	P	P	20 12 14.3	-1.1
AKASG	Malin Array Be	68.45	320	P	P	20 12 20.4	-0.4
	comp=Z,3.9nm,0.4s,mb4.4,baz=42,slow=6.3,SNR=41						
AKASG	Malin Array Be	68.45	320	P	P	20 12 20.4	-0.4
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AKASG	Malin Array Be	68.45	320	P	P	20 12 20.4	-0.4
AKBB	Malin Array Si	68.45	320	eP	P	20 12 20.1	-0.7
NVAR	Mina Array Bea	71.55	54	P	P	20 12 41.3	+1.6
	comp=Z,1.1nm,0.7s,mb3.6,baz=315,slow=4.5,SNR=10.0						
UMR	Umm Al-Rimmam	71.96	294	eP	P	20 12 41.9	-0.2
UMR				AMb	AMB	20 12 42.5	
	comp=Z,30nm,0.5s,mb5.2						
MIB	Mutribah	72.04	294	eP	P	20 12 42.0	-0.6
MIB				AMb	AMB	20 12 43.1	
	comp=Z,22nm,0.6s,mb5.0						
RST	Umm Al-Ruwaisa	72.47	294	eP	P	20 12 44.3	-0.8
RST				AMb	AMB	20 12 45.3	
	comp=Z,22nm,0.8s,mb4.8						
NAY	Al-Naaiem	72.47	294	eP	P	20 12 44.6	-0.5
NAY				AMb	AMB	20 12 45.5	
	comp=Z,11nm,0.6s,mb4.7						
RDF	Al-Radifah	72.47	293	eP	P	20 12 44.0	-1.2
RDF				AMb	AMB	20 12 45.9	
	comp=Z,22nm,0.9s,mb4.8						
BURAR	Bucovina Array	72.49	320	⇓iP	P	20 12 45.6	+0.4
KOLS	Kolonicke sedl	72.85	323	eP	P	20 12 47.5	+0.2
STHS	Stebnicka Huta	72.94	323	eP	P	20 12 48.8	+1.0
STHS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
STHS	Stebnicka Huta	72.94	323	eP	P	20 12 48.8	+1.0
	comp=Z,5.0nm,0.7s,mb4.2						
OJC	Ojcow	72.94	325	eP	P	20 12 48.3	+0.4
NIE	Niedzica	73.33	324	eP	P	20 12 51.3	+1.1
PDAR	Pinedale Array	73.44	46	P	P	20 12 51.7	+0.9
	comp=Z,2.3nm,0.6s,mb4.0,baz=314,slow=1.6,SNR=24						
BSEG	Bad Segeberg	73.61	332	eP	P	20 12 52.0	+0.2
	comp=Z,8.0nm,0.9s,mb4.3						
BRTR	Keskin Array B	73.78	310	P	P	20 12 53.4	+0.6
	comp=Z,0.9nm,0.6s,mb3.6,baz=83,slow=2.9,SNR=5.7						
BRTR	Keskin Array B	73.78	310	P	P	20 12 53.4	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULM	Lac du Bonnet	74.21	34	P	P	20 12 55.0	-0.2
	comp=Z,2.7nm,0.4s,mb4.2,baz=339,slow=6.6,SNR=7.0						
MORC	Moravsky Berou	74.22	326	⇑iP	P	20 12 56.5	+1.2
DPC	Dobruska-Polom	74.26	327	eP	P	20 12 56.6	+1.1
UPC	Upice	74.26	327	eP	P	20 12 56.5	+1.0
PSZ	Piszkesteto	74.66	323	⇓iP	P	20 12 59.4	+1.6
VYHS	Vyhne	74.67	324	eP	P	20 12 58.5	+0.6
VYHS	Vyhne	74.67	324	eP	P	20 12 58.6	+0.7
CLL	Collm	74.78	329	eP	P	20 12 58.4	-0.1
	comp=Z,15nm,1.1s,mb4.5						
CLL	Collm	74.78	329	⇓iP	P	20 12 58.5	0.0
	comp=Z,14nm,0.9s,mb4.6						
CLL				i P(2)		20 13 00.0	
	comp=Z,11nm,0.6s						
PVCC	Panska Ves	74.81	328	eP	P	20 12 59.4	+0.7
VRAC	Vranov	74.97	326	⇑iP	P	20 13 01.0	+1.4
SMOL	Smolenice	75.25	325	eP	P	20 13 01.7	+0.5
PRU	Pruhonice	75.25	327	eP	P	20 13 02.1	+0.9
PRU				ex	x	20 13 03.4	
MOX	Moxa	75.83	329	eP	P	20 13 04.0	-0.5
	comp=Z,3.0nm,0.8s,mb4.0						
KHC	Kasperske Hory	76.31	327	eP	P	20 13 07.9	+0.7
KHC				ex	x	20 13 09.6	
ROTZ	Rotzenmuhle	76.33	328	eP	P	20 13 08.0	+0.7
	comp=Z,4.0nm,0.9s,mb4.0						
GEC2	GERESS Array S	76.50	327	eP	P	20 13 08.4	+0.2
	comp=Z,2.0nm,0.4s,mb4.1						
GEC2	GERESS Array S	76.50	327	eP	P	20 13 08.4	+0.2
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
GERES	GERESS Array B	76.50	327	P	P	20 13 08.5	+0.3
	comp=Z,1.7nm,0.5s,mb3.9,baz=39,slow=5.7,SNR=22						
GERES	GERESS Array B	76.50	327	P	P	20 13 08.5	+0.3
GERES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PKSM	Moragy	76.52	323	⇑iP	P	20 13 08.5	+0.1
WET	Wettzell	76.58	328	eP	P	20 13 09.1	+0.4
	comp=Z,6.0nm,1.0s,mb4.2						
WET	Wettzell	76.58	328	eP	P	20 13 09.1	+0.4
WET				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
GRA1	Grafenberg Arr	76.76	329	eP	P	20 13 09.4	-0.3
	comp=Z,10.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	76.76	329	eP	P	20 13 09.4	-0.3
	comp=Z,10.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	76.76	329	eP	P	20 13 09.4	-0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
VTS	Vitosha	77.16	318	⇑iP	P	20 13 13.3	+1.3
FUR	Furstenfeldbru	77.99	328	eP	P	20 13 17.1	+0.6
	comp=Z,12nm,0.7s,mb4.6						
FUR	Furstenfeldbru	77.99	328	eP	P	20 13 17.1	+0.6
FUR				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
BAIF	Baives	78.92	333	eP	P	20 13 21.0	-0.6
BFO	Black Forest	78.96	330	eP	P	20 13 21.8	0.0
	comp=Z,5.0nm,1.1s,mb4.1						
BFO	Black Forest	78.96	330	eP	P	20 13 21.8	0.0
BFO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
CDF	Champ du Feu	79.27	330	eP	P	20 13 23.4	-0.1
	comp=Z,4.6nm,0.6s,mb4.0						
MEZF	Maizieres J'vi	79.97	332	eP	P	20 13 27.3	0.0
LOR	Lormes	81.44	332	eP	P	20 13 34.6	-0.5
	comp=Z,11nm,0.8s,mb4.2						
FLN	La Foliniere	81.54	335	eP	P	20 13 35.0	-0.6
LDF	La Druitiere	81.58	335	eP	P	20 13 35.5	-0.3
SSF	Saint Saulge	81.74	332	eP	P	20 13 36.3	-0.3
LPL	La Plagne	81.92	329	eP	P	20 13 37.9	+0.4
LPG	La Plagne	81.93	329	eP	P	20 13 38.1	+0.5
	comp=Z,10nm,0.9s,mb4.2						
GRR	Gorron	81.99	335	eP	P	20 13 37.4	-0.5
SMF	Signal de Mont	81.99	331	eP	P	20 13 37.6	-0.3
	comp=Z,12nm,0.8s,mb4.2						
SMF	Signal de Mont	81.99	331	eP	P	20 13 37.6	-0.3
SMF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
SMF	Signal de Mont	81.99	331	eP	P	20 13 37.6	-0.3
	comp=Z,5.8nm,0.8s,mb4.3						
AVF	Avril sur Loir	82.03	332	eP	P	20 13 37.9	-0.2
	comp=Z,13nm,0.9s,mb4.2						
AVF	Avril sur Loir	82.03	332	eP	P	20 13 37.9	-0.2
AVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
AVF	Avril sur Loir	82.03	332	eP	P	20 13 37.9	-0.2
	comp=Z,6.5nm,0.9s,mb4.3						
MBDF	Montbardon	82.57	329	eP	P	20 13 41.1	+0.2
TCF	Toulx Ste Croi	82.86	332	eP	P	20 13 42.3	-0.1
SBF	Sospel	83.05	328	eP	P	20 13 43.1	-0.3
VIVF	Saint-Julien-l	83.24	330	eP	P	20 13 43.9	-0.4
MFF	Saint Martin d	83.35	334	eP	P	20 13 45.0	+0.1
	comp=Z,22nm,1.1s,mb4.5						
FRF	La Foret Royal	83.61	328	eP	P	20 13 45.8	-0.4
RJF	Les Rejaudoux	83.95	332	eP	P	20 13 47.6	-0.4
CAF	Calviac	84.10	332	eP	P	20 13 48.1	-0.6
LASF	Ste Croix	84.21	330	eP	P	20 13 49.5	+0.3
MTLF	Montolieu	85.43	331	eP	P	20 13 55.0	-0.3
	comp=Z,11nm,1.1s,mb4.2						
EPF	Esparros	86.36	332	eP	P	20 13 58.8	-1.1
	comp=Z,5.1nm,0.7s,mb4.1						
ETSF	Etsaut	86.78	332	eP	P	20 14 01.9	0.0
	comp=Z,6.8nm,0.8s,mb4.1						
SNAA	Sanae	147.01	200	PKPbc	PKPbc	20 20 57.8	-1.4
	comp=Z,0.2nm,0.4s,baz=51,slow=6.5,SNR=6.8						

---

*IDC **18** 20:14:57.2±0.8, 2221N×12158E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/21, mbtmp3.8/9, ML3.8/1, Error ellipse: s-maj=32.5km s-min=16.7km az=73.0*
*NIED **18** 20:15:00, 2240N×12170E, h5km, Mw3.9 Best double couple: M₀7.78000×10^14 NP1:φs63.00000°, δ82.00000°, λ-119.00000°. NP2:φs319.00000°, δ30.00000°, λ-16.00000°.*
*BJI **18** 20:15:01.9, 2249N×12095E, h3km, ML3.4*
*NEIC **18** 20:15:02.7±0.7, 2226N×12170E, h40km, MG3.8(JMA), Error ellipse: s-maj=20.3km s-min=13.0km az=85.0*
*ISCJB **18** 20:15:02.2±1.4, 2228N±008×12174E±008, h52km±14km, mb3.6/7, Error ellipse: s-maj=13.8km s-min=10.7km az=98.4*
*JMA **18** 20:15:03.4±0.2, 2241N×12169E, h82km, M3.8*
ISC 18 20:15:02.8±1.4, 2228N±008×12167E±008, h38km±16km, n20, σ0.84/30, mb3.6/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.50	29	P	Pn	20 15 41.3	+0.4
YOJ				S	Sn	20 16 09.4	-0.8
HATJ	Hateruma jima	2.65	48	P	Pn	20 15 43.4	+0.4
HATJ				S	Sn	20 16 13.8	0.0
TATO	Taipei	2.69	357	eP	Pn	20 15 42.7	-0.8
IRIF	Iriomote-Funau	2.79	42	P	Pn	20 15 45.1	+0.2
IRIF				eS	Sn	20 16 17.4	0.0
JKRS	Kuro-shima	2.91	47	P	Pn	20 15 47.3	+0.8
JKRS				S	Sn	20 16 20.4	+0.2
JTJ	Tarama	3.65	49	P	Pn	20 15 57.3	+0.6
JTJ				S	Sn	20 16 38.5	0.0
QZH	Quanzhou	3.87	314	P	Pn	20 15 55.0	-4.8
QZH				S	Sn	20 16 34.8	-9.2
QZH				Smax			
	comp=N,170nm,0.3s						
QZH				Smax			
	comp=E,170nm,0.3s						
JMJ	Miyako jima 2	4.18	52	P	Pn	20 16 04.8	+0.8
JMJ				eS	Sn	20 16 51.5	-0.1
JOGS	Gusukube	4.23	54	P	Pn	20 16 05.6	+0.9
JOGS				eS	Sn	20 16 52.6	-0.2
JKE	Kume jima 2	6.17	48	P	Pn	20 16 30.5	-0.8
JKE				eS	Sn	20 17 40.1	-0.5
JOW	Kunigami	7.53	52	Pn	Pn	20 16 48.3	-1.8
	comp=E,3.1nm,0.3s,baz=202,slow=18,SNR=16						
JOW				Sn	Sn	20 18 10.2	-4.0
	comp=E,0.2nm,0.3s,baz=131,slow=27,SNR=2.6						
MJAR	Matsushiro Arr	20.20	42	P	P	20 19 36.4	+2.2
	comp=E,3.2nm,0.9s,baz=236,slow=10,SNR=6.6						
SONM	Songino Array	28.29	338	P	P	20 20 53.4	+0.7
	comp=E,0.6nm,0.6s,mb3.4,baz=139,slow=11,SNR=3.9						
MKAR	Makanchi Array	40.02	317	P	P	20 22 33.9	-0.1
	comp=E,1.8nm,0.7s,mb3.9,baz=104,slow=10.0,SNR=14						
MKAR	Makanchi Array	40.02	317	P	P	20 22 33.9	-0.1
FITZ	Fitzroy Crossi	40.32	174	P	P	20 22 36.2	-0.3
	comp=E,1.1nm,0.8s,mb3.6,baz=13,slow=14,SNR=4.6						
ZAL	Zalesovo	42.09	328	P	P	20 22 51.8	+0.7
	comp=E,0.8nm,0.4s,mb3.7,baz=341,slow=9.4,SNR=4.9						
WRA	Warramunga Arr	43.75	163	P	P	20 23 03.1	-1.4
	comp=E,0.6nm,0.6s,mb3.5,baz=343,slow=9.0,SNR=10						
ASAR	Alice Springs	47.20	165	P	P	20 23 32.5	+0.7
	comp=E,0.5nm,0.5s,mb3.7,baz=354,slow=14,SNR=9.2						
NOA	NORSAR Array B	80.11	332	P	P	20 27 07.4	-1.4
	comp=E,0.2nm,0.5s,mb3.3,baz=56,slow=6.0,SNR=2.5						

IDC 18 20:28:39.3±31.0, 2045S×17827W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=593.3km s-min=147.9km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.59	244	P	P	20 35 55.2	-0.2
	1.0nm,0.5s,baz=83,slow=8.1,SNR=4.5						
ASAR	Alice Springs	44.29	257	P	P	20 36 50.6	0.0
	1.0nm,0.5s,baz=92,slow=7.7,SNR=11						
WB2	Warramunga Arr	44.35	262	eP	P	20 36 51.9	+0.7
WRA	Warramunga Arr	44.36	262	P	P	20 36 52.1	+0.8
	0.9nm,0.6s,baz=97,slow=7.4,SNR=68						
FITZ	Fitzroy Crossi	52.78	262	eP	P	20 37 56.6	+0.4
	5.3nm,1.8s						
FITZ	Fitzroy Crossi	52.78	262	P	P	20 37 56.7	+0.5
	0.6nm,0.5s,baz=112,slow=11,SNR=10						

---

*NEIC **18** 20:34:54.8±2.0, 527S×15323E, h35km, mb4.3/1, Error ellipse: s-maj=66.6km s-min=15.6km az=117.0*
*ISCJB **18** 20:35:05.3±5.7, 49S±03×1519E±05, h91km±40km, mb3.6/6, Error ellipse: s-maj=85.8km s-min=27.8km az=44.8*
*IDC **18** 20:35:07.1±7.7, 508S×15196E, h100km±53km, mb3.4/5, mb1 3.5/6, mb1mx3.4/14, mbtmp3.7/6, Error ellipse: s-maj=88.0km s-min=30.4km az=104.0*
ISC 18 20:35:06.5±5.3, 51S±02×1521E±05, h95km±35km, n10, σ0.91/9, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.50	228	P	Pn	20 36 39.4	0.0
	1.0nm,0.3s,baz=29,slow=10,SNR=3.0						
PMG				S	Sn	20 37 52.1	+0.1
	3.1nm,0.3s,baz=140,slow=20,SNR=5.2						
WRAB	Tennant Creek	22.70	228	eP	P	20 39 59.7	-0.5
	14nm,1.3s,mb4.1						
WB2	Warramunga Arr	22.71	228	eP	P	20 40 01.7	+1.4
WRA	Warramunga Arr	22.71	228	P	P	20 39 58.3	-2.1
	0.7nm,0.5s,mb3.2,baz=52,slow=9.7,SNR=8.5						
ASAR	Alice Springs	25.46	222	P	P	20 40 26.3	+0.8
	0.9nm,0.9s,mb3.2,baz=58,slow=9.3,SNR=7.8						
SONM	Songino Array	66.14	328	P	P	20 45 44.0	+0.4
	0.3nm,0.5s,mb3.4,baz=143,slow=6.4,SNR=4.3						
MKAR	Makanchi Array	80.03	319	P	P	20 47 05.8	+0.3
	0.8nm,0.9s,mb3.5,baz=91,slow=4.7,SNR=5.4						
BVAR	Borovoye Array	89.00	323	P	P	20 47 49.9	-0.7
	1.2nm,0.8s,mb4.0,baz=97,slow=6.4,SNR=5.7						
TORD	Torodi Ar. Bea	149.67	287	PKPbc	PKPbc	20 54 45.7	+0.7
	1.1nm,0.7s,baz=74,slow=2.1,SNR=8.4						
TORD	Torodi Ar. Bea	149.67	287	PKPbc	PKPbc	20 54 45.7	+0.7

---

*ISCJB **18** 20:36:39.9±1.9, 30S±02×1297E±02, h10km, mb4.0/1, Error ellipse: s-maj=41.3km s-min=13.0km az=108.0*
*NEIC **18** 20:36:41.8±1.5, 298S×12977E, h10km, mb3.8/1, Error ellipse: s-maj=35.7km s-min=15.3km az=51.0*
*IDC **18** 20:36:45.9±6.0, 315S×12985E, h24km±42km, mb4.1/2, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, ML4.2/2, Error ellipse: s-maj=91.7km s-min=30.4km az=80.0*
ISC 18 20:36:44.6±4.3, 32S±02×1295E±02, h18km±33km, n11, σ0.99/11, mb4.0/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.33	194	eP	Pn	20 40 21.9	+2.0
	6.8nm,1.1s						
FITZ	Fitzroy Crossi	15.33	194	Pn	Pn	20 40 20.5	+0.6
	0.4nm,0.3s,baz=17,slow=14,SNR=11						
WRA	Warramunga Arr	17.33	165	P	Pn	20 40 44.3	-1.2
	1.2nm,0.3s,baz=347,slow=13,SNR=22						
WRA				S	Sn	20 43 57.1	-0.8
	0.2nm,0.3s,baz=351,slow=24,SNR=3.3						
WB2	Warramunga Arr	17.34	165	eP	Pn	20 40 44.1	-1.5
KSM	Kuching	19.74	283	eP	Pn	20 41 14.0	-0.9
AS31	Alice Springs	20.82	169	eP	P	20 41 25.8	+0.7
ASAR	Alice Springs	20.82	169	P	P	20 41 26.0	+0.9
	9.0nm,0.4s,baz=348,slow=11,SNR=72						
ASAR				S	S	20 45 17.0	+0.3
	1.0nm,0.8s,baz=350,slow=18,SNR=3.7						
ASPA	Alice Springs	20.82	169	eP	P	20 41 25.8	+0.7
STKA	Stephens Creek	30.74	160	P	P	20 42 59.3	+0.6
	1.2nm,0.5s,mb4.0,baz=317,slow=9.4,SNR=3.0						
CPUP	Villa Florida	149.95	168	PKPbc	PKPbc	20 56 34.0	+0.2
	0.4nm,0.3s,baz=171,slow=4.1,SNR=4.9						
CPUP	Villa Florida	149.95	168	PKPbc	PKPbc	20 56 34.0	+0.2
CPUP				ePKPbc	PKPbc	20 56 34.3	+0.5

---

*LDG **18** 20:38:01.3±0.3, 1396S×16661E, h10km, Mb4.6/4, Error ellipse: s-maj=35.2km s-min=7.8km az=84.0*
*ISCJB **18** 20:38:04.4±2.4, 1440S±009×1665E±02, h41km±18km, mb4.4/11, MS3.7/2, Error ellipse: s-maj=29.5km s-min=8.7km az=130.9*
*IDC **18** 20:38:06.0±3.1, 1431S×16669E, h47km±25km, mb3.9/8, mb1 4.1/10, mb1mx4.0/15, mbtmp4.2/10, ML4.3/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/23, Error ellipse: s-maj=30.5km s-min=15.4km az=71.0*
*NEIC **18** 20:38:06.8±1.5, 1433S×16672E, h59km±12km, Error ellipse: s-maj=19.4km s-min=11.5km az=75.0*
ISC 18 20:38:07.0±2.1, 1436S±009×1666E±02, h49km±14km, n47, σ0.53/17, mb4.4/11, MS3.7/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.67	181	P	Pn	20 39 56.5	+0.4
	2.0nm,0.3s,baz=207,slow=22,SNR=11						
DZM				S	Sn	20 41 21.0	-0.6
	0.8nm,0.3s,baz=336,slow=18,SNR=2.3						
DZM				LR	LR	20 42 11.3	
	comp=Z,245nm,21.5s,baz=27,slow=32						
HNR	Honiara	8.17	306	P	Pn	20 40 03.3	+0.4
	11nm,0.3s,baz=77,slow=1.4,SNR=3.4						
HNR				S	Sn	20 41 33.4	-0.3
	16nm,0.3s,baz=82,slow=24,SNR=3.6						
STKA	Stephens Creek	28.77	228	P	P	20 44 01.3	+1.4
	1.9nm,0.7s,mb4.0,baz=52,slow=7.5,SNR=6.3						
STKA				LR	LR	20 55 29.7	
	comp=Z,267nm,18.8s,MS3.9,baz=204,slow=36						
STKA	Stephens Creek	28.77	228	P	P	20 44 00.2	+0.2
STKA				LR	LR	20 55 29.8	
WRA	Warramunga Arr	31.31	255	P	P	20 44 22.3	-0.2
	1.5nm,0.8s,mb3.9,baz=354,slow=23,SNR=5.9						
ASAR	Alice Springs	32.23	248	P	P	20 44 29.8	-0.7
	1.9nm,0.7s,mb4.0,baz=73,slow=9.5,SNR=10						
GUMO	Guam	35.14	321	LR	LR	20 56 38.0	
	comp=Z,78nm,20.0s,MS3.5,baz=88,slow=32						
FITZ	Fitzroy Crossi	39.47	259	P	P	20 45 33.2	+0.7
	1.9nm,0.7s,mb3.9,baz=131,slow=13,SNR=3.9						
PPT	Papeete	42.16	100	eLR	LR	20 57 27.8	
	87nm,26.0s						
RKT	Rikitea	55.69	108	eLR	LR	21 03 42.6	
	79nm,24.8s						
MJAR	Matsushiro Arr	57.29	333	P	P	20 47 48.9	-0.8
	3.4nm,0.9s,mb4.4,baz=152,slow=1.9,SNR=6.4						
VNDA	Vanda	63.22	181	P	P	20 48 30.2	0.0
	1.1nm,0.7s,mb4.1,baz=346,slow=3.2,SNR=6.6						
SONM	Songino Array	81.83	324	P	P	20 50 20.9	+0.1
	1.3nm,0.7s,mb3.9,baz=156,slow=7.7,SNR=11						
GUN	Gumba	88.67	299	eP	P	20 50 55.2	+0.2
PKI	Pulchoki	88.97	299	eP	P	20 50 56.1	-0.3
	12nm,0.6s,mb5.4						
KKN	Kakani	89.14	299	eP	P	20 50 57.9	+0.7
	9.2nm,0.7s,mb5.2						
GKN	Gorkha	89.75	299	eP	P	20 51 00.3	+0.3
	23nm,1.2s,mb5.4						
MKAR	Makanchi Array	96.51	317	P	P	20 51 30.6	-0.6
	1.0nm,0.7s,mb4.3,baz=96,slow=7.4,SNR=7.4						
ARCES	ARCESS Array B	119.74	345	PKP	PKPdf	20 56 49.1	-2.5
	1.7nm,0.6s,baz=27,slow=1.4,SNR=9.9						
FINES	FINESS Array B	125.15	338	PKP	PKPdf	20 56 59.6	-2.4
	0.9nm,0.6s,baz=1.9,slow=5.7,SNR=4.7						
NB2	NORSAR Subarra	130.10	345	PKPd	PKPdf	20 57 09.5	-1.9
	comp=Z,0.2nm,0.4s,baz=31,slow=1.9						
NOA	NORSAR Array B	130.10	345	PKP	PKPdf	20 57 09.7	-1.7
	comp=Z,0.3nm,0.7s,baz=18,slow=1.4,SNR=4.1						
GIVF	Givet	141.39	341	ePKP1	PKPdf	20 57 32.4	0.0
BAIF	Baives	141.62	342	ePKP1	PKPdf	20 57 31.0	-1.8
CABF	La Chapelle	143.95	337	ePKP1	PKPdf	20 57 36.5	-0.4
LOR	Lormes	144.18	340	ePKP1	PKPdf	20 57 36.3	-1.0
	comp=Z,6.8nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SSF	Saint Saulge	144.48	340	ePKP1	PKPdf	20 57 36.6	-1.2
LPL	La Plagne	144.60	335	ePKP1	PKPdf	20 57 36.7	-1.3
	comp=Z,5.8nm,0.7s						
LPG	La Plagne	144.61	335	ePKP1	PKPdf	20 57 36.8	-1.3
	comp=Z,6.2nm,0.6s						
SMF	Signal de Mont	144.73	339	ePKP1	PKPdf	20 57 36.3	-2.0
	comp=Z,5.8nm,0.7s						
AVF	Avril sur Loir	144.76	340	ePKP1	PKPdf	20 57 36.4	-1.9
	comp=Z,5.9nm,0.7s						
SGMF	Saint Gilles	145.04	347	ePKP1	PKPbc	20 57 37.2	-1.1
ROSF	Rostrenen	145.10	348	ePKP1	PKPbc	20 57 37.3	-1.2
BGF	Bois d'Agland	145.14	340	ePKP1	PKPbc	20 57 37.9	-0.7
	comp=Z,11nm,0.6s						
MBDF	Montbardon	145.23	335	ePKP1	PKPbc	20 57 38.2	-0.7
	comp=Z,12nm,0.9s						
ORIF	Oris-en-Rattie	145.43	336	ePKP1	PKPbc	20 57 39.3	-0.2
	comp=Z,34nm,0.8s						
QUIF	Quistinic	145.48	348	ePKP1	PKPbc	20 57 38.4	-1.3
TCF	Toulx Ste Croi	145.58	341	ePKP1	PKPbc	20 57 39.3	-0.7
	comp=Z,6.9nm,0.9s						
SBF	Sospel	145.63	333	ePKP1	PKPbc	20 57 39.3	-0.9
	comp=Z,30nm,0.8s						
MFF	Saint Martin d	146.00	344	ePKP1	PKPbc	20 57 40.4	-0.9
	comp=Z,7.6nm,0.8s						
FRF	La Foret Royal	146.22	333	ePKP1	PKPbc	20 57 41.2	-0.7
	comp=Z,19nm,0.8s						
SMRF	Simiane la Rot	146.34	335	ePKP1	PKPbc	20 57 42.0	-0.3
	comp=Z,22nm,0.9s						
LMR	La Mourre	146.46	333	ePKP1	PKPbc	20 57 41.9	-0.8
	comp=Z,21nm,0.9s						
LASF	Ste Croix	146.93	337	ePKP1	PKPbc	20 57 43.7	-0.3
	comp=Z,13nm,0.8s						
LFF	La Frestale	147.25	341	ePKP1	PKPbc	20 57 44.3	-0.6
	comp=Z,12nm,0.7s						
MTLF	Montolieu	148.17	338	ePKP1	PKPbc	20 57 47.0	-0.4
	comp=Z,8.2nm,0.7s						
KEST	Kesra	150.53	320	PKPbc	PKPbc	20 57 53.4	+0.1
	comp=Z,2.3nm,0.9s,baz=150,slow=0.6,SNR=6.2						

IDC 18 20:41:02.4±5.7**,1797S**×**17343W,h0**km**,mb4.1**/3**, mb1 4.2**/4**,mb1mx3.9**/16**,mbtmp4.1**/4**,ML2.4**/1**,Error ellipse: s-maj=193.0km s-min=31.7km az=135.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.34	22	Pn	Pn	20 42 09.5	0.0
	11nm,0.3s,baz=27,slow=22,SNR=7.6						
AFI				Sn	Sn	20 42 55.5	-5.4
	31nm,0.3s,baz=167,slow=21,SNR=8.1						
CTA	Charters Tower	38.10	260	P	P	20 48 23.6	+0.7
	11nm,1.1s,baz=68,slow=6.7,SNR=3.2						
WRA	Warramunga Arr	49.27	259	P	P	20 49 53.0	+0.2
	0.7nm,0.6s,baz=96,slow=8.8,SNR=10						
ASAR	Alice Springs	49.33	254	P	P	20 49 53.5	+0.3
	1.0nm,0.7s,baz=90,slow=8.3,SNR=9.2						
BRTR	Keskin Array B	148.09	318	PKPbc	PKPbc	21 00 49.9	-0.1
	0.3nm,0.8s,baz=98,slow=6.0,SNR=3.7						

IDC 18 20:49:05.6±3.2**,349S**×**15261E,h0**km**,mb3.9**/3**,mb1 4.1**/3**, mb1mx3.7**/14**,mbtmp3.9**/3**,Error ellipse: s-maj=122.2km s-min=45.4km az=121.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	24.18	226	eP	P	20 54 24.6	+1.0
WRA	Warramunga Arr	24.19	226	P	P	20 54 24.8	+1.1
	2.6nm,0.4s,baz=52,slow=9.7,SNR=70						
ASAR	Alice Springs	27.01	220	P	P	20 54 49.8	+0.6
	0.2nm,0.4s,baz=53,slow=8.6,SNR=5.8						
FITZ	Fitzroy Crossi	30.14	239	eP	P	20 55 17.7	+0.6
	2.2nm,0.6s						
FITZ	Fitzroy Crossi	30.14	239	P	P	20 55 17.3	+0.1
	1.6nm,0.7s,baz=50,slow=9.6,SNR=12						
TORD	Torodi Ar. Bea	149.70	290	PKPbc	PKPbc	21 08 57.5	+0.2
	0.1nm,0.3s,baz=79,slow=2.1,SNR=9.6						

---

*ISCJB **18** 20:49:06.1±0.2, 4738N±001×1141E±002, h8km, Error ellipse: s-maj=1.9km s-min=1.7km az=38.7*
*BGR **18** 20:49:07.4±0.3, 4731N×1145E, h10km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=2.2km az=19.0*
*VIE **18** 20:49:07.4±0.1, 4729N×1140E, h8km±1km, mb2.3/3, ML2.7/7, Error ellipse: s-maj=3.1km s-min=0.8km az=173.0 3 km N of Innsbruck felt 3-4 EMS98 north of Innsbruck / TYROL*
*NEIC **18** 20:49:07.0, 4725N×1141E, h10km, ML2.3(SZGRF), ML2.5(LEDBW), After LEDBW.*
*PRU **18** 20:49:08.0, 4731N×1150E, h0km*
*CSEM **18** 20:49:08.3±0.1, 4731N×1142E, h2km, ML2.8/12, Error ellipse: s-maj=1.8km s-min=0.9km az=177.0*
*ROM **18** 20:49:09.1±0.5, 47.14N×1145E, h6km, Md2.3/1, Ml1.8/2, Error ellipse: s-maj=5.7km s-min=2.8km az=172.0*
*LDG **18** 20:49:11.1±0.2, 4731N×1128E, h4km, Ml2.6/6, Error ellipse: s-maj=4.1km s-min=3.2km az=50.0*
ISC 18 20:49:07.3±0.2**,4734N**±001×**1141E**±002**,h4**km±2km**,n80,** σ1ˢ**21**/142**,10C-8D,Austria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WATA	Walderalm	0.11	90	ePg	Pg	20 49 10.7	+1.2
	SNR=22						
WATA	Walderalm	0.11	90	⇓ePg	Pg	20 49 10.6	+1.1
	25nm,0.1s,SNR=507						
WATA				⇓iSg	Sg	20 49 12.7	+1.7
	404nm,0.1s						
WATA	Walderalm	0.11	90	Pg	Pg	20 49 10.7	+1.2
	SNR=22						
WATA				Sg	Sg	20 49 12.7	+1.7
	404nm,0.1s						
WTTA	Wattenberg	0.17	115	ePg	Pg	20 49 11.4	+0.9
	SNR=229						
WTTA				eSg	Sg	20 49 13.9	+1.1
WTTA	Wattenberg	0.17	115	ePg	Pg	20 49 11.4	+0.8
	133nm,0.1s,SNR=248						
WTTA				⇓iSg	Sg	20 49 14.0	+1.2
	166nm,0.1s						
SQTA	Sankt Quirin	0.18	231	ePg	Pg	20 49 10.9	+0.1
	SNR=508						
SQTA	Sankt Quirin	0.18	231	ePg	Pg	20 49 10.9	+0.1
	569nm,0.1s,SNR=713						
SQTA				⇑iSg	Sg	20 49 13.5	+0.3
	539nm,0.2s						
MOTA	Moosalm	0.21	273	ePg	Pg	20 49 11.8	+0.4
	83nm,0.1s,SNR=810						
MOTA				⇑iSg	Sg	20 49 15.0	+0.8
	266nm,0.1s						
SCE	Schlegeis	0.36	146	ePg	Pg	20 49 14.0	-0.2
SCE				eSg	Sg	20 49 18.4	-0.4
SEST	Monte Rota	0.80	137	Pg	Pg	20 49 22.5	-0.2
SEST				Sg	Sg	20 49 32.6	-0.5
	7µm,8.4s						
FUR	Furstenfeldbru	0.84	354	eSg	Sg	20 49 41.1	+7.0
APPI	Appiano	0.87	189	Pg	Pg	20 49 23.4	-0.5
APPI				Sg	Sg	20 49 34.9	-0.2
	18nm,0.3s						
UBR	Ueberruh	0.95	292	⇑P	Pg	20 49 26.5	+1.0
UBR				S	Sg	20 49 40.3	+2.5
DAVA	Damuels	1.04	268	ePg	Pg	20 49 27.0	-0.3
	SNR=34						
DAVA				eSg	Sg	20 49 43.0	+2.1
	SNR=19						
DAVA	Damuels	1.04	268	⇑ePg	Pg	20 49 27.3	0.0
	31nm,0.2s,SNR=9.6						
DAVA				⇓iSg	Sg	20 49 41.9	+1.0
	110nm,0.2s						
BRMO	Bormio	1.12	220	Pg	Pg	20 49 28.6	-0.1
	7.0nm,0.2s						
CSMI	Casera Mimoias	1.18	134	⇑iPg	Pg	20 49 29.8	-0.2
CSMI				i Sg	Sg	20 49 44.0	-1.2
CTI	Castel Tesino	1.30	173	Pg	Pg	20 49 31.2	-0.9
CTI				Sg	Sg	20 49 47.5	-1.5
	16nm,0.2s						
KBA	Koelnbreinsper	1.34	100	ePg	Pg	20 49 32.5	-0.5
	SNR=10						
KBA				eSg	Sg	20 49 48.7	-1.7
	SNR=3.5						
KBA	Koelnbreinsper	1.34	100	⇑ePn	Pn	20 49 32.4	-0.4
	14nm,0.3s,SNR=17						
KBA				⇑iSn	Sn	20 49 51.3	+0.2
KBA				⇑iSg	Sg	20 49 52.2	+1.8
	12nm,0.3s						
KBA	Koelnbreinsper	1.34	100	Pg	Pg	20 49 32.5	-0.5
	SNR=10						
KBA				i Sn	Sn	20 49 51.2	+0.1
KBA				Sg	Sg	20 49 52.2	+1.8
	12nm,0.3s						
HDH	Heidenheim-Cha	1.49	327	Pg	Pg	20 49 36.8	+1.0
HDH				S	Sn	20 49 54.7	-0.1
HDH				Sg	Sg	20 49 57.5	+2.3
HDH	Heidenheim-Cha	1.49	327	Pg	Pg	20 49 36.8	+1.0
HDH				S	Sn	20 49 54.7	-0.1
PTCC	Patocco-Chiusa	1.62	124	Pg	Pg	20 49 39.0	+0.6
PTCC				Sg	Sg	20 50 01.3	+1.9
	3.0nm,0.2s						
GUT	Gutenstein	1.72	296	P	Pn	20 49 40.1	+2.1
GUT				Sg	Sg	20 50 03.5	+1.0
ROBS	Robic	1.81	126	eSn	Sn	20 50 06.2	+3.7
CADS	Cadrg	1.94	124	i Pn	Pn	20 49 42.9	+1.8
CADS				eSn	Sn	20 50 10.4	+4.5
CADS							
	comp=Z,4.0nm,0.2s						
MOA	Molln	2.00	74	⇑iPn	Pn	20 49 42.0	+0.2
MOA				⇓iPg	Pg	20 49 46.0	+0.4
	comp=Z,2.4nm,0.2s						
MOA	Molln	2.00	74	ePg	Pg	20 49 44.7	-0.8
	SNR=4.7						
MOA				eSg	Sg	20 50 10.2	-1.3
	SNR=5.7						
MOA	Molln	2.00	74	⇑iPn	Pn	20 49 42.0	+0.2
MOA				⇓iPg	Pg	20 49 46.0	+0.4
	comp=Z,2.4nm,0.2s						
MOA				⇓iSn	Sn	20 50 08.3	+1.1
MOA				⇓iSg	Sg	20 50 13.0	+1.5
	comp=Z,8.0nm,0.3s						
MOA	Molln	2.00	74	Pg	Pg	20 49 46.0	+0.5
	comp=Z,2.4nm,0.2s						
MOA				Sn	Sn	20 50 08.3	+1.0
MOA				Sg	Sg	20 50 13.0	+1.6
	comp=Z,8.0nm,0.3s						
GORS	Gorjuse	2.04	119	i Pn	Pn	20 49 45.2	+2.8
GORS				i Sn	Sn	20 50 14.3	+5.9
WET	Wettzell	2.06	28	ePn	Pn	20 49 43.1	+0.4
WET				eSn	Sn	20 50 09.7	+0.9
WET				eSg	Sg	20 50 13.8	+0.5
	SNR=6.3						
WET	Wettzell	2.06	28	ePn	Pn	20 49 43.1	+0.5
WET				eSn	Sn	20 50 09.7	+0.9
STU	Stuttgart	2.07	315	eSg	Sg	20 50 13.2	-0.6
	SNR=2.0						
VOJS	Vojsko	2.14	127	eSn	Sn	20 50 14.5	+3.6
GEC2	GERESS Array S	2.15	45	ePn	Pn	20 49 44.7	+0.7
GEC2				eSg	Sg	20 50 16.2	-0.2
	SNR=8.3						
GEC2	GERESS Array S	2.15	45	ePn	Pn	20 49 44.7	+0.7
GEC2				eSg	Sg	20 50 17.1	+0.7
GEC2	GERESS Array S	2.15	45	Pn	Pn	20 49 44.7	+0.7
GEC2				eSg	Sg	20 50 17.1	+0.7
OBKA	Obir	2.30	110	ePg	Pg	20 49 48.8	-2.6
	SNR=5.3						
OBKA				eSg	Sg	20 50 19.8	-1.4
	SNR=2.6						
BFO	Black Forest	2.30	297	eSg	Sg	20 50 21.7	+0.4
	SNR=3.0						
KHC	Kasperske Hory	2.31	38	ePG	Pg	20 49 51.6	+0.1
KHC				eSN	Sn	20 50 12.0	-2.9
KHC				eSG	Sg	20 50 21.7	+0.3
	comp=Z,9.7nm,0.3s						
SIND	Sindeldorf	2.35	330	Pg	Pg	20 49 53.4	+1.1
SIND				Sg	Sg	20 50 24.3	+1.6
GRA1	Grafenberg Arr	2.36	357	Sg	Sg	20 50 23.1	-0.1
	SNR=4.5						
GRF	Grafenberg Arr	2.36	357	eSg	Sg	20 50 23.1	-0.1
	SNR=4.5						
KIZ	Kirchzarten	2.44	286	Pg	Pg	20 49 54.9	+0.8
KIZ				Sg	Sg	20 50 26.0	+0.2
ARSA	Arzberg	2.80	90	eSg	Sg	20 50 35.5	-1.7
	SNR=2.4						
NKC	Novy Kostel	2.98	13	eSG	Sg	20 50 41.8	-1.2
	comp=Z,7.4nm,0.5s						
CDF	Champ du Feu	2.99	293	ePg	Pg	20 50 04.2	-0.3
CDF				eSg	Sg	20 50 42.9	-0.3
	comp=Z,5.6nm,0.4s						
CDF	Champ du Feu	2.99	293	ePn	Pn	20 49 56.3	+0.9
CDF				ePg	Pg	20 50 04.2	-0.3
CDF				eSg	Sg	20 50 42.9	-0.3
CDF	Champ du Feu	2.99	293	ePg	Pg	20 50 04.2	-0.3
CDF				eSg	Sg	20 50 42.9	-0.3
	comp=Z,2.8nm,0.4s						
GUNZ	Gunzen	3.09	11	eSg	Sg	20 50 45.4	-1.2
	SNR=3.5						
HINF	Hinteralfeld	3.12	281	ePn	Pn	20 49 57.8	+0.5
HINF				eSn	Sn	20 50 32.7	-2.4
HINF				eSg	Sg	20 50 46.4	-1.3
	comp=Z,5.1nm,0.4s						
HINF	Hinteralfeld	3.12	281	ePn	Pn	20 49 57.8	+0.5
HINF				eSn	Sn	20 50 32.7	-2.4
HINF				eSg	Sg	20 50 46.4	-1.3
	comp=Z,2.5nm,0.4s						
TANN	Tannenbergstha	3.16	12	eSg	Sg	20 50 47.6	-1.1
	SNR=2.7						
WERD	Werda	3.17	10	eSg	Sg	20 50 49.0	-0.1
	SNR=3.4						
MOX	Moxa	3.31	2	eSg	Sg	20 50 53.7	-0.1
	SNR=2.2						
PRU	Pruhonice	3.37	37	eSG	Sg	20 50 53.2	-2.3
HAU	Haudompre	3.49	283	ePn	Pn	20 50 03.4	+1.1
HAU				eSn	Sn	20 50 41.9	-2.2
HAU				eSg	Sg	20 50 57.6	-1.7
	comp=Z,8.0nm,0.3s						
HAU	Haudompre	3.49	283	ePn	Pn	20 50 03.4	+1.1
HAU				eSn	Sn	20 50 41.9	-2.2
HAU				eSg	Sg	20 50 57.6	-1.7
	comp=Z,4.0nm,0.3s						
TNS	Taunus Mts	3.49	327	eSg	Sg	20 50 58.4	-1.1
	SNR=1.5						
LPL	La Plagne	3.71	242	eSn	Sn	20 50 47.1	-2.5
CABF	La Chapelle	3.72	261	eSg	Sg	20 51 04.1	-2.6
	comp=Z,1.6nm,0.3s						
CABF	La Chapelle	3.72	261	eSg	Sg	20 51 04.1	-2.6
	comp=Z,0.8nm,0.3s						
KRUC	Moravsky	3.75	61	ePn	Pn	20 50 06.0	0.0
KRUC				eSn	Sn	20 50 48.5	-2.1
KRUC				eSg	Sg	20 51 07.2	-0.6
BRG	Berggiesshubel	3.91	24	SG	Sg	20 51 11.6	-1.3
	comp=Z,1.6nm,0.3s						
CLL	Collm	4.11	14	eSg	Sg	20 51 17.9	-1.3
	SNR=1.7						
CLL	Collm	4.11	14	i Sg	Sg	20 51 20.2	+0.9
DPC	Dobruska-Polom	4.43	45	eSG	Sg	20 51 27.2	-2.3
	comp=Z,3.1nm,0.4s						
ORIF	Oris-en-Rattie	4.54	240	ePn	Pn	20 50 18.2	+1.4
ORIF				eSn	Sn	20 51 07.5	-2.6
MORC	Moravsky Berou	4.75	57	eSg	Sg	20 51 40.2	+0.5
LOR	Lormes	5.14	272	ePn	Pn	20 50 25.6	+0.6
LOR				eSg	Sg	20 51 49.5	-2.9
	comp=Z,1.8nm,0.4s						
LOR	Lormes	5.14	272	ePn	Pn	20 50 25.6	+0.6
LOR				eSg	Sg	20 51 49.5	-2.9
	comp=Z,0.9nm,0.4s						
VIVF	Saint-Julien-l	5.30	245	ePn	Pn	20 50 27.5	+0.2
VIVF				eSn	Sn	20 51 24.7	-4.1
SSF	Saint Saulge	5.40	270	ePn	Pn	20 50 28.6	0.0
AVF	Avril sur Loir	5.54	267	ePn	Pn	20 50 31.2	+0.7
BGF	Bois d'Agland	5.92	266	ePn	Pn	20 50 36.3	+0.6
LASF	Ste Croix	6.21	241	ePg	Pg	20 51 04.5	-1.8
CAF	Calviac	6.93	253	ePn	Pn	20 50 49.8	+0.2
MFF	Saint Martin d	7.94	269	ePn	Pn	20 51 03.9	+0.4

MAN 18 21:00:10.8,827N×**12581E,h0**km**,mb3.7,ML4.8,MS1.8, 1C,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.72	345	eP	Pg	21 00 24.8	+0.2
BUKP	Musuan	0.83	243	eP	Pg	21 00 27.7	+1.0
CGP	Cagayan de Oro	1.12	280	⇑eP	Pg	21 00 31.8	-0.4
CGP				i S	Sg	21 00 49.8	+3.1
SCPH	Surigao	1.54	348	eP	Pn	21 00 38.9	-0.5
SCPH				eS	Sn	21 01 00.9	+0.7
PAGZ	Pagadian	2.44	260	eP	Pn	21 00 56.0	+4.1

---

*ISCJB **18** 21:03:55.8±0.6, 15.18N±004×11985E±008, h67km±7km, mb3.9/16, Error ellipse: s-maj=12.5km s-min=7.0km az=176.5*
*MAN **18** 21:03:56.0, 15.14N×11989E, h28km, mb3.4, ML4.6, MS2.4*
*IDC **18** 21:03:60.0±1.5, 15.19N×12050E, h106km±15km, mb3.6/10, mb1 3.8/10, mb1mx3.6/20, mbtmp3.9/10, Error ellipse: s-maj=88.6km s-min=15.4km az=66.0*
*NEIC **18** 21:03:59.7±1.0, 1524N×12060E, h106km±9km, mb4.0/4, Error ellipse: s-maj=54.3km s-min=8.6km az=65.0*
ISC 18 21:03:56.6±0.6**,1522N**±004×**11982E**±007**,h56**km±7km**, n36,**σ1ˢ**29**/42**,mb4.0**/16**,3C-3D,Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.56	9	eP	Pn	21 04 09.0	+0.1
SCZP				eS	Sn	21 04 15.7	-2.1
BOLP	Bolinao	1.16	4	eP	Pn	21 04 16.9	+0.4
BOLP				eS	Sn	21 04 29.7	-1.7
PCPH	Palayan	1.27	74	⇑iP	Pn	21 04 16.8	-1.3
PCPH				eS	Sn	21 04 32.4	-1.8
BCPH	Baguio City Da	1.36	32	⇑eP	Pn	21 04 19.7	+0.4
BCPH				i S	Sn	21 04 39.9	+3.5
LUBP	Lubang	1.53	164	eP	Pn	21 04 20.0	-1.6
TGY	Tagaytay City	1.55	136	⇓eP	Pn	21 04 27.8	+6.0
TGY				eS	Sn	21 04 44.1	+3.3
TGY	Tagaytay City	1.55	136	P	Pn	21 04 22.7	+0.9
	239nm,0.3s,baz=281,slow=2.6,SNR=28						
TGY				S	Sn	21 04 43.7	+2.8
	337nm,0.3s,baz=330,slow=15,SNR=19						
BALP	Baler	1.77	73	eP	Pn	21 04 24.2	-0.6
POLP	Polilio Island	2.10	103	eP	Pn	21 04 29.3	0.0
ABRA	Dolores	2.56	19	eP	Pn	21 04 36.4	+0.8
CAUP	Cauayan	2.58	48	eP	Pn	21 04 37.0	+1.2
PALP	Palanan	3.10	53	⇓eP	Pn	21 04 45.4	+2.4
PALP	Palanan	3.10	53	eP	Pn	21 04 44.5	+1.5
CVP	Callao Caves	3.13	38	eP	Pn	21 04 44.0	+0.7
PIP	Pasuquin	3.18	14	⇓eP	Pn	21 04 47.5	+3.4
BUSP	Coron	3.22	173	eP	Pn	21 04 45.0	+0.4
OTRP	Odiongan	3.55	143	eP	Pn	21 04 52.1	+2.9
ENPP	El Nido	4.01	186	eP	Pn	21 04 55.4	-0.1
SONM	Songino Array	34.37	344	P	P	21 10 38.2	+0.1
	0.6nm,0.6s,mb3.7,baz=165,slow=10.0,SNR=5.1						
WRAB	Tennant Creek	37.74	157	eP	P	21 11 02.7	-4.2
WRA	Warramunga Arr	37.74	157	P	P	21 11 02.8	-4.2
	1.7nm,0.8s,mb3.9,baz=337,slow=9.5,SNR=13						
ASAR	Alice Springs	41.03	160	P	P	21 11 31.2	-3.0
	0.5nm,0.4s,mb3.5,baz=337,slow=6.9,SNR=10.0						
MKAR	Makanchi Array	44.31	323	P	P	21 12 01.6	+0.7
	0.5nm,0.6s,mb3.4,baz=99,slow=8.0,SNR=4.1						
BVAR	Borovoye Array	54.05	325	P	P	21 13 16.0	+0.7
	0.8nm,0.5s,mb3.9,baz=117,slow=9.6,SNR=7.7						
BRVK	Borovoye	54.12	325	eP	P	21 13 16.9	+1.1
	1.3nm,0.8s,mb3.9						
CHKZ	Chkalovo	54.20	326	eP	P	21 13 16.8	+0.4
	1.2nm,0.7s,mb3.9						
AB31	Akbulak array	59.04	319	⇑P	P	21 13 51.6	+0.9
	0.6nm,0.5s,mb3.9,baz=100,slow=8.7,SNR=12						
JOF	Joensuu	75.91	332	ep	P	21 15 36.0	-1.2
	2.9nm,0.5s,mb4.5						
KEV	Kevo	76.82	339	ep	P	21 15 40.5	-1.8
	0.7nm,0.4s,mb3.9						
ARCES	ARCESS Array B	77.37	339	P	P	21 15 44.9	-0.6
	1.5nm,0.5s,mb4.2,baz=73,slow=6.9,SNR=20						
BRTR	Keskin Array B	77.55	308	P	P	21 15 48.0	+1.6
	0.4nm,0.4s,mb3.7,baz=104,slow=4.6,SNR=3.2						
KAF	Kangasniemi	78.32	331	ep	P	21 15 49.4	-1.3
	2.1nm,0.5s,mb4.3,baz=76,slow=5.1						
FINES	FINESS Array B	78.55	331	P	P	21 15 51.6	-0.4
	1.6nm,0.5s,mb4.2,baz=59,slow=6.5,SNR=24						
NB2	NORSAR Subarra	85.53	332	P	P	21 16 27.4	-1.1
	comp=Z,3.5nm,0.7s,mb4.7,baz=68,slow=5.3						
NOA	NORSAR Array B	85.53	332	P	P	21 16 27.7	-0.8
	comp=Z,3.2nm,0.7s,mb4.7,baz=67,slow=4.9,SNR=16						
GERES	GERESS Array B	88.92	321	P	P	21 16 45.2	+0.2
	comp=Z,0.6nm,0.8s,mb4.0,baz=76,slow=5.6,SNR=5.4						

CASC 18 21:28:40.1±2.2**,1042N**×**8621W,h2**km±10km**,MD3.8, ML3.4,6C-3D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VCR	Vista de Mar	0.64	117	⇑eP	Pg	21 28 52.9	+0.5
VCR				eS	Sg	21 29 03.4	+2.8
CRZC	La Cruz	0.80	48	⇓eP	Pg	21 28 55.9	+0.4
CRZC				eS	Sg	21 29 08.7	+2.8
RIN3	Volcan Rincon	0.90	65	⇑eP	Pg	21 28 57.1	-0.1
RIN3				eS	Sg	21 29 11.2	+2.3
SSNN	San Juan del S	0.93	22	eP	Pg	21 28 58.5	+0.5
SSNN				eS	Sg	21 29 13.0	+2.9
SSNN				i		21 29 17.2	
	comp=Z,1µm,0.5s						
LIM1	Limonal	0.98	73	⇑iP	Pg	21 28 58.4	-0.4
LIM1				i S	Sg	21 29 12.5	+1.0
MADN	Villa Maderas	1.19	34	⇑eP	Pg	21 29 02.9	0.0
JCR	Jicaral	1.22	117	eP	Pg	21 29 01.7	-1.8
CONN	Concepcion	1.27	27	⇑eP	Pg	21 29 03.7	-0.9
CAO	Cobano	1.30	123	eP	Pg	21 29 05.3	+0.3
CRUN	El Crucero	1.56	357	eP	Pn	21 29 09.0	+0.1
TICN	Ticuantepe	1.61	359	eP	Pn	21 29 08.8	-0.7
EPA	Esparza	1.64	105	eP	Pn	21 29 11.2	+1.2
CGA2	Cerro Gallo 2	1.76	103	eP	Pn	21 29 12.1	+0.5
COPN	Copaltepe	1.79	348	⇑eP	Pn	21 29 10.7	-1.3
PRS1	Puriscal	1.92	103	eP	Pn	21 29 14.6	+0.9
MIRN	Miramar	2.07	346	eP	Pn	21 29 15.5	-0.4
LEON	Leon	2.10	341	⇓eP	Pn	21 29 15.0	-1.3
CNGN	Cerro Negro	2.12	347	eP	Pn	21 29 17.3	+0.7
LCR2	La Lucha 2	2.27	107	eP	Pn	21 29 19.9	+1.2
URSC	Urasca	2.46	103	⇓eP	Pn	21 29 21.2	-0.1
BUS	Buena Vista	2.56	109	eP	Pn	21 29 22.4	-0.2

---

*IDC **18** 21:35:23.4±1.8, 1.18N×12677E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=161.7km s-min=22.1km az=65.0*
NEIC 18 21:35:25.5±2.4**,130N**×**12706E,h15**km**,mb4.1**/1**,Error ellipse: s-maj=275.0km s-min=16.1km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	22.28	162	eP	P	21 40 22.1	+0.1
	5.1nm,0.7s						
WRA	Warramunga Arr	22.28	162	P	P	21 40 21.6	-0.5
	2.5nm,0.6s,baz=340,slow=11,SNR=38						
WB2	Warramunga Arr	22.29	162	eP	P	21 40 21.8	-0.3
AS31	Alice Springs	25.69	165	eP	P	21 40 56.3	+1.4
ASPA	Alice Springs	25.69	165	eP	P	21 40 56.3	+1.4
ASAR	Alice Springs	25.69	165	P	P	21 40 55.2	+0.3
	0.5nm,0.3s,baz=345,slow=12,SNR=14						
STKA	Stephens Creek	35.76	159	P	P	21 42 24.6	+0.9
	1.3nm,0.7s,baz=339,slow=12,SNR=4.0						
MKAR	Makanchi Array	59.73	326	P	P	21 45 29.6	0.0
	0.6nm,0.4s,baz=118,slow=7.0,SNR=14						

---

*NAO **18** 21:41:22.5±3.5, 7991N×2079E, h19km±16km, ML2.8*
*CSEM **18** 21:41:22.5, 7991N×2079E, h19km, ML2.8, After NAO*
BER 18 21:41:22.6±2.5**,7993N**×**2135E,h21**km±22km**,MD2.8, ML2.6,ML2.8**(NAO)**,Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	2.00	211	Pn	Pn	21 41 53.5	-1.6
	baz=26,slow=14						
SPA0				Pg	Pn	21 41 57.7	+2.5
	baz=29,slow=16						
SPA0				Lg		21 42 23.9	
	baz=38,slow=28						
SPA0	Spitsbergen Ar	2.00	211	Pn	Pn	21 41 53.5	-1.6
	baz=26,slow=13,SNR=127						
SPA0	Spitsbergen Ar	2.00	211	Pg	Pn	21 41 57.7	+2.6
	baz=29,slow=15,SNR=7.5						
SPA0				Lg		21 42 23.9	
	baz=38,slow=25,SNR=4.2						
KBS	Kingsbay	2.00	245	Pn	Pn	21 41 53.1	-2.1
KBS				Pg	Pn	21 41 57.7	+2.5
KBS				Lg		21 42 22.7	
KBS	Kingsbay	2.00	245	eP	Pn	21 41 53.0	-2.2
KBS				ePg	Pn	21 41 57.5	+2.3
KBS				eSg	Sn	21 42 22.5	+2.9
KBS				AML	AML	21 42 23.4	
	comp=Z,92nm,0.3s						
KBS	Kingsbay	2.00	245	Pg	Pn	21 41 57.7	+2.5
KBS				Lg		21 42 22.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	3.52	166	eP	Pn	21 42 14.8	-1.2
HOPEN				eS	Sn	21 42 54.8	-2.2
ARA0	ARCESS Array S	10.50	172	Pn	Pn	21 43 49.9	-2.0
	baz=357,slow=10						
ARA0				Sn	Sn	21 45 39.6	-9.3
	baz=359,slow=22						
ARA0	ARCESS Array S	10.50	172	Pn	Pn	21 43 49.9	-2.0
	baz=357,slow=9.6,SNR=8.4						
ARA0				Sn	Sn	21 45 39.6	-9.3
	baz=359,slow=20,SNR=7.6						

IDC ***18*** *22:25:16.4±0.7, 10.94N×139.10E, h0km, mb4.3/14, mb1 4.5/15, mb1mx4.3/22, mbtmp4.3/15, ML4.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/30, Error ellipse: s-maj=23.8km s-min=14.5km az=89.0*
MOS ***18*** *22:25:21.9±0.9, 10.92N×139.16E, h51km, mb4.7/11, Error ellipse: s-maj=13.1km s-min=8.2km az=104.4*
NEIC ***18*** *22:25:23.3±1.2, 10.91N×139.22E, h46km±11km, mb4.6/15, Error ellipse: s-maj=7.1km s-min=5.9km az=72.0*
ISCJB ***18*** *22:25:24.1±1.7, 10.90N±0.05×139.11E±0.06, h69km±15km, mb4.6/48, Error ellipse: s-maj=9.8km s-min=7.1km az=114.5*
BJI ***18*** *22:25:33.0, 11.49N×138.70E, h100km, mB5.1, mb4.7*
ISC 18 22:25:24.9±1.4**, 10.97N**±0.05×**139.21E**±0.05**, h57**km±13km**, h80**km±5.3km**: pP-P, n106,** σ1.03/104**, mb4.7**/48**, MS3.7**/13**, 7C-1D, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.12	64	Pn	Pn	22 26 50.5	-2.2
	17nm,0.3s,baz=299,slow=7.7,SNR=7.0						
GUMO	Guam	6.12	64	P	Pn	22 26 50.5	-2.1
GUMO				pmax	pmax		
	comp=Z,17nm,0.3s						
JOW	Kunigami	18.85	328	P	Pn	22 29 41.4	+0.2
	comp=Z,0.7nm,0.3s,baz=161,slow=7.9,SNR=4.4						
JOW				LR	LR	22 35 04.8	
	comp=Z,136nm,19.0s,baz=199,slow=31						
NACB	Ninganchiao	21.28	310	P	P	22 30 06.6	+0.1
YHNB	Yeheng	21.73	311	eP	P	22 30 11.7	+0.3
PMG	Port Moresby	21.73	158	eP	P	22 30 13.6	+2.3
PMG	Port Moresby	21.73	158	P	P	22 30 13.6	+2.3
MJAR	Matsushiro Arr	25.48	358	P	P	22 30 44.6	-3.0
	comp=Z,1.7nm,0.8s,baz=176,slow=9.1,SNR=5.1						
MJAR	Matsushiro Arr	25.48	358	P	P	22 30 44.6	-3.0
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAJO	Matsushiro	25.48	358	eP	P	22 30 47.0	-0.6
MAJO	Matsushiro	25.48	358	P	P	22 30 47.0	-0.6
SSE	Sheshan	26.08	323	P	P	22 30 51.8	-1.2
SSE				AP	pP	22 31 12.3	+5.1
SSE				XP	sP	22 31 22.8	+8.8
SSE				PCP	PcP	22 34 18.8	-0.6
SSE				S	S	22 35 15.3	-4.8
SSE				XS	sS	22 35 50.9	+6.6
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,52nm,4.2s						
SSE				LR	LR		
	comp=N,34nm,17.6s,MS3.1						
SSE				LR	LR		
	comp=E,32nm,17.6s,MS3.1						
SSE				LR	LR		
	comp=Z,64nm,17.1s,MS3.2						
HNR	Honiara	28.92	134	LR	LR	22 41 53.0	
	comp=Z,132nm,18.6s,MS3.6,baz=359,slow=34						
QIZ	Qiongzhong	29.44	289	eP	P	22 31 25.0	+2.0
	comp=Z,2.9nm,0.5s,mb4.3						
WRAB	Tennant Creek	31.08	189	eP	P	22 31 36.5	-1.0
WB2	Warramunga Arr	31.09	189	P	P	22 31 36.2	-1.3
WRA	Warramunga Arr	31.09	189	P	P	22 31 35.8	-1.8
	comp=Z,1.6nm,1.1s,mb3.8,baz=5.2,slow=9.7,SNR=6.7						
WRA				LR	LR	22 45 06.8	
	comp=Z,114nm,18.3s,MS3.6,baz=45,slow=38						
CTAO	Charters Tower	31.63	167	eP	P	22 31 43.0	+0.6
	comp=Z,1.5nm,0.2s,mb4.5						
FITZ	Fitzroy Crossi	31.84	205	P	P	22 31 41.3	-2.9
	comp=Z,2.7nm,1.0s,mb4.0,baz=57,slow=9.3,SNR=3.7						
FITZ				LR	LR	22 44 47.5	
	comp=Z,50nm,20.5s,MS3.2,baz=188,slow=37						
GYA	Guiyang	34.33	301	P	P	22 32 07.5	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ	Mudanjiang	34.54	348	P	P	22 32 08.2	+0.5
ASAR	Alice Springs	34.81	189	P	P	22 32 09.4	-0.7
	comp=Z,1.1nm,0.5s,mb4.1,baz=17,slow=12,SNR=21						
ASAR				PcP	PcP	22 34 43.2	+1.0
	comp=Z,0.9nm,0.8s,baz=36,slow=3.1,SNR=4.9						
ASAR				LR	LR	22 47 23.0	
	comp=Z,124nm,18.2s,MS3.7,baz=357,slow=38						
ASAR	Alice Springs	34.81	189	P	P	22 32 09.4	-0.7
ASAR						22 34 43.3	
ASAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAR				MLR	MLR		
	comp=Z,124nm,18.2s						
BJT	Baijiatuau	35.41	329	eP	P	22 32 14.9	-0.3
	comp=Z,5.4nm,0.3s,mb5.0						
BJI	Beijing	35.42	329	eP	P	22 32 15.1	-0.2
BJI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=Z,55nm,17.4s,MS3.4						
KMI	Kunming	37.28	297	P	P	22 32 32.8	+1.6
KMI				S	S	22 38 11.3	-3.2
KMI				AMB	AMB		
	comp=Z,145nm,4.8s						
KMI				LR	LR		
	comp=N,144nm,13.7s,MS4.1						
KMI				LR	LR		
	comp=E,157nm,16.3s,MS4.1						
KMI				LR	LR		
	comp=Z,134nm,19.6s,MS3.7						
HABR	Khabarovsk	37.55	355	eP	P	22 32 33.2	-0.2
HABR				eS	S	22 38 17.9	-0.6
CD2	Chengdu	38.35	307	eP	P	22 32 39.0	-1.3
CD2				PP	PP	22 34 12.0	+3.2
CD2				S	S	22 38 26.0	-4.7
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,170nm,13.2s						
CD2				LR	LR		
	comp=Z,80nm,14.4s,MS3.7						
HHC	Hu-ho-hao-te	38.46	326	eP	P	22 32 43.0	+1.9
HHC				AP	pP	22 33 02.9	+7.2
HHC				XP	sP	22 33 13.5	+11
HHC				PP	PP	22 34 16.6	+6.6
HHC				PCP	PcP	22 34 53.5	+0.2
HHC				S	S	22 38 31.3	-1.0
HHC				SCP	ScP	22 38 33.8	-2.5
HHC				PCS	PcS	22 38 43.3	+0.8
HHC				XS	sS	22 39 06.3	+9.4
HHC				SCS	ScS	22 42 43.6	-2.9
HHC				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,140nm,4.9s						
HHC				LR	LR		
	comp=N,185nm,5.1s						
HHC				LR	LR		
	comp=E,254nm,5.3s						
HHC				LR	LR		
	comp=Z,73nm,5.7s						
KLR	Kul'dur	38.65	352	eP	P	22 32 39.2	-3.5
PSI	Prapat	40.76	262	P	P	22 32 58.6	-1.6
	comp=Z,10nm,0.8s,mb4.5,baz=95,slow=5.6,SNR=11						
PSI	Prapat	40.76	262	P	P	22 32 58.7	-1.6
PSI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
HIA	Hailar	41.47	341	eP	P	22 33 06.0	-0.1
STKA	Stephens Creek	42.66	177	P	P	22 33 14.7	-1.1
	comp=Z,5.8nm,0.9s,mb4.3,baz=344,slow=7.1,SNR=9.9						
STKA				LR	LR	22 52 45.0	
	comp=Z,241nm,18.5s,MS4.1,baz=204,slow=39						
STKA	Stephens Creek	42.66	177	eP	P	22 33 16.1	+0.4
PET	Petropavlovsk	44.77	17	⇑eP	P	22 33 32.1	-0.6
PET				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.0						
PET	Petropavlovsk	44.77	17	eP	P	22 33 34.0	+1.3
GTA	Gaotai	44.97	316	eP	P	22 33 34.6	+0.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
ULN	Ulaanbaatar	45.61	330	⇑eP	P	22 33 38.7	-0.7
ULN	Ulaanbaatar	45.61	330	eP	P	22 33 39.8	+0.4
	comp=Z,2.3nm,0.6s,mb4.3						
SONM	Songino Array	45.91	329	P	P	22 33 41.1	-0.6
	comp=Z,3.2nm,1.1s,mb4.2,baz=132,slow=8.0,SNR=15						
SONM				PcP	PcP	22 35 17.7	-0.2
	comp=Z,0.7nm,0.7s,baz=162,slow=2.9,SNR=3.2						
SONM	Songino Array	45.91	329	P	P	22 33 41.1	-0.7
SONM						22 35 17.7	
SONM				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LSA	Lhasa	48.38	300	P	P	22 34 03.0	+2.1
LSA	Lhasa	48.38	300	eP	P	22 34 02.6	+1.7
	comp=Z,3.5nm,0.7s,mb4.5						
ZAK	Zakamensk	49.13	330	eP	P	22 34 06.2	-0.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
MA2	Magadan	49.28	8	eP	P	22 34 09.2	+1.3
MA2	Magadan	49.28	8	P	P	22 34 09.2	+1.3
TLY	Talaya	49.81	332	eP	P	22 34 12.1	+0.2
	comp=Z,1.9nm,0.6s,mb4.3						
YAK	Yakutsk	51.44	354	⇑eP	P	22 34 24.4	+0.2
YAK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
JIRN	Jiri	52.32	296	eP	P	22 34 31.5	+0.8
	comp=Z,24nm,0.7s,mb5.2						
GUN	Gumba	52.62	297	eP	P	22 34 33.8	+0.8
	comp=Z,106nm,1.2s,mb5.6						
SEY	Seymchan	52.74	8	⇑eP	P	22 34 34.2	+0.4
PKI	Pulchoki	52.99	296	eP	P	22 34 36.0	+0.3
KKN	Kakani	53.13	296	eP	P	22 34 36.7	0.0
	comp=Z,19nm,0.9s,mb5.0						
DMN	Daman	53.27	296	eP	P	22 34 37.8	+0.1
	comp=Z,39nm,1.0s,mb5.3						
GKN	Gorkha	53.73	297	eP	P	22 34 41.3	+0.2
	comp=Z,43nm,1.2s,mb5.3						
AFI	Afiamalu	54.53	116	eP	P	22 34 47.8	+0.8
KOLN	Koldanda	54.61	296	eP	P	22 34 47.9	+0.4
	comp=Z,18nm,0.8s,mb5.2						
WMQ	Urumqi	55.05	316	⇓iP	P	22 34 52.8	+2.1
WMQ				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,90nm,5.7s						
WMQ				LR	LR		
	comp=Z,82nm,22.8s,MS3.8						
RAO	Raoul Island	57.52	135	eP	P	22 35 10.5	+2.2
PALK	Pallekele	57.81	272	P	P	22 35 11.2	+0.9
HYB	Hyderabad	58.95	284	i P	P	22 35 19.0	+0.7
HYB	Hyderabad	58.95	284	eP	P	22 35 19.0	+0.7
MKAR	Makanchi Array	59.63	318	P	P	22 35 23.0	+0.1
	comp=Z,4.6nm,0.8s,mb4.6,baz=98,slow=9.1,SNR=26						
MKAR	Makanchi Array	59.63	318	P	P	22 35 23.0	+0.1
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	Bilibino	59.73	11	P	P	22 35 23.0	-0.6
BILL				e	pP	22 35 39.7	+0.6
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
BILL	Bilibino	59.73	11	eP	P	22 35 23.7	+0.1
	comp=Z,9.5nm,0.4s,mb5.2						
ZAL	Zalesovo	60.63	327	P	P	22 35 29.2	-0.7
	comp=Z,1.8nm,0.6s,mb4.4,baz=1.2,slow=6.6,SNR=9.1						
ZAL	Zalesovo	60.63	327	P	P	22 35 29.2	-0.6
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	Zalesovo	60.63	327	P	P	22 35 29.2	-0.7
SNZO	South Karori	61.45	150	P	P	22 35 35.1	-0.3
AAK	Ala-Archa	64.08	312	⇑eP	P	22 35 52.2	-0.6
BVAR	Borovoye Array	68.59	323	P	P	22 36 21.2	-0.5
	comp=Z,4.4nm,0.7s,mb4.5,baz=108,slow=7.7,SNR=34						
BVAR	Borovoye Array	68.59	323	P	P	22 36 21.2	-0.5
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	Borovoye	68.66	323	eP	P	22 36 21.9	-0.3
	comp=Z,2.7nm,0.7s,mb4.3						
MCK	McKinley	72.22	26	eP	P	22 36 42.5	-1.3
	comp=Z,6.4nm,0.9s,mb4.5						
EGAK	Eagle	75.73	26	eP	P	22 37 03.6	-0.7
ARU	Arti	75.77	326	⇑eP	P	22 37 03.0	-1.5
ARU				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.5						
ARU	Arti	75.77	326	eP	P	22 37 03.6	-0.9
	comp=Z,3.1nm,0.5s,mb4.5						
ARU				ePcP	PcP	22 37 18.4	+1.4
PPT	Papeete	75.82	111	eLR	LR	23 00 30.2	
	comp=Z,150nm,28.8s						
DAWY	Dawson	76.45	27	eP	P	22 37 08.2	-0.1
INK	Inuvik	78.88	22	eP	P	22 37 21.0	-0.9
MIB	Mutribah	86.23	299	eP	P	22 38 00.2	0.0
MIB				AMb	AMB	22 38 02.6	
	comp=Z,26nm,0.9s,mb5.5						
NAY	Al-Naaiem	86.42	299	eP	P	22 38 00.9	-0.1
NAY				AMb	AMB	22 38 03.6	
	comp=Z,25nm,1.2s,mb5.3						
ZEI	Tsey	86.50	313	eP	P	22 38 00.5	-1.0
ZEI				e*PP	pP	22 38 21.5	+3.7
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7						
RST	Umm Al-Ruwaisa	86.58	299	eP	P	22 38 01.5	-0.4
RST				AMb	AMB	22 38 03.1	
	comp=Z,32nm,0.9s,mb5.5						
YKA	Yellowknife Ar	87.69	27	P	P	22 38 07.1	-0.2
	comp=Z,3.9nm,0.8s,mb4.7,baz=291,slow=5.1,SNR=10						
YKA				LR	LR	23 13 49.3	
	comp=Z,53nm,20.1s,MS4.0,baz=90,slow=33						
YKA	Yellowknife Ar	87.69	27	⇑eP	P	22 38 07.0	-0.2
YKA	Yellowknife Ar	87.69	27	P	P	22 38 07.1	-0.2
YKA				LR	LR	23 13 49.3	
YBH	Yreka Blue Hor	88.74	48	eP	P	22 38 13.1	+0.9
	comp=Z,7.0nm,0.9s,mb5.0						
WDC	Whiskeytown Da	89.13	49	eP	P	22 38 14.9	+0.8
	comp=Z,4.0nm,0.9s,mb4.8						
RKT	Rikitea	90.45	113	eLR	LR	23 07 16.7	
	comp=Z,64nm,31.8s						
NEW	Newport	90.83	40	eP	P	22 38 21.5	-0.5
FINES	FINESS Array B	91.12	334	P	P	22 38 21.2	-2.1
	comp=Z,1.4nm,0.8s,mb4.4,baz=20,slow=6.1,SNR=5.3						
FINES	FINESS Array B	91.12	334	i P	P	22 38 21.2	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BMO	Blue Mountains	91.72	44	eP	P	22 38 26.3	+0.2
	comp=Z,3.2nm,0.8s,mb4.7						
NVAR	Mina Array Bea	92.85	50	P	P	22 38 32.3	+1.0
	comp=Z,3.2nm,0.8s,mb4.8,baz=261,slow=8.4,SNR=15						
BMN	Battle Mountai	93.08	48	eP	P	22 38 32.8	+0.4
	comp=Z,3.1nm,0.7s,mb4.8						
HLID	Hailey	94.10	44	eP	P	22 38 38.0	+0.9
	comp=Z,5.7nm,0.9s,mb5.0						
HRY	Holter Researc	94.73	41	eP	P	22 38 40.0	0.0
MAW	Mawson	94.92	202	LR	LR	23 21 40.6	
	comp=Z,170nm,18.9s,MS4.5,baz=64,slow=36						
QLMT	Earthquake Lak	95.67	42	eP	P	22 38 45.4	+1.1
PDAR	Pinedale Array	97.70	44	P	P	22 38 53.9	+0.4
	comp=Z,0.5nm,0.7s,mb4.2,baz=299,slow=1.5,SNR=4.7						
PDAR				LR	LR	23 22 08.5	
	comp=Z,49nm,18.4s,MS4.0,baz=158,slow=35						
PV10	Paradox Valley	99.74	48	ePdif	Pdif	22 39 02.8	+0.2
PV01	Paradox Valley	100.17	48	Pdif	Pdif	22 39 04.2	-0.3
SDCO	Great Sand Dun	102.55	47	Pdif	Pdif	22 39 15.5	+0.4

IDC ***18*** *22:32:58.1±0.9, 32.88S×72.35W, h0km, mb4.2/7, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML4.2/2, MS3.8/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=30.5km s-min=16.6km az=89.0*
ISCJB ***18*** *22:32:59.5±0.9, 32.89S±0.03×72.44W±0.04, h19km±6km, mb4.3/15, MS3.9/1, Error ellipse: s-maj=5.8km s-min=4.1km az=109.7*
NEIC ***18*** *22:33:00.7, 32.89S×72.36W, h36km, mb4.5/10, MD4.4(GUC), After GUC.*
NEIC Felt [III] at Mendoza, Argentina.
GUC ***18*** *22:33:00.7±1.0, 32.89S×72.36W, h36km±2km, MD4.4, ML4.2*
ISC 18 22:33:00.4±0.9**, 32.89S**±0.03×**72.36W**±0.03**, h14**km±5km**, n73,** σ0.74/92**, mb4.3**/15**, MS3.9**/1**, 11C-10D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.62	103	⇑iP	Pg	22 33 13.0	+0.4
IHA				i S	Sg	22 33 22.5	+1.7
LCCH	Las Cruces	0.89	132	⇓iP	Pg	22 33 16.8	-0.7
ROCH	El Roble	1.14	94	⇓iP	Pb	22 33 21.1	-0.7
ROCH				i S	Sb	22 33 37.3	+0.8
CHNG	Los Chungos	1.24	36	⇑iP	Pn	22 33 22.6	-0.7
CHNG				i S	Sb	22 33 38.3	-1.1
LNV	Longovilo	1.33	143	⇑iP	Pn	22 33 23.0	-1.5
PTCH	Petorca	1.36	63	eP	Pn	22 33 24.5	-0.4
PTCH				i S	Sn	22 33 42.3	-0.5
PTCH				AML	AML	22 33 53.3	
	comp=N,5µm,0.4s						
PTCH	Petorca	1.36	63	eP	Pn	22 33 24.5	-0.4
PTCH				i S	Sn	22 33 42.3	-0.5
TACH	Talagante	1.42	123	⇓iP	Pn	22 33 25.0	-0.7
PEL	Peldehue	1.43	101	⇓iP	Pn	22 33 26.0	+0.1
PEL				i S	Sn	22 33 44.2	-0.3
PEL				AML	AML	22 33 47.5	
	comp=E,10µm,0.4s						
PEL	Peldehue	1.43	101	⇓iP	Pn	22 33 26.0	+0.1
PEL				i S	Sn	22 33 44.2	-0.3
RCDM	Rinconada Maip	1.44	115	⇑iP	Pn	22 33 25.2	-0.7
RCDM				i S	Sn	22 33 43.9	-0.7
RCDM				AML	AML	22 33 47.5	
	comp=N,2µm,0.5s						
RCDM	Rinconada Maip	1.44	115	⇑iP	Pn	22 33 25.2	-0.7
RCDM				i S	Sn	22 33 43.9	-0.7
JACH	Jahuel	1.50	83	⇓iP	Pn	22 33 26.4	-0.5
JACH				i S	Sn	22 33 47.4	+1.1
SAN	Santiago	1.53	112	eP	Pn	22 33 26.9	-0.4
SAN				i S	Sn	22 33 46.9	0.0
SAN				AML	AML	22 33 52.0	
	comp=N,3µm,0.6s						
SAN	Santiago	1.53	112	eP	Pn	22 33 26.9	-0.4
SAN				i S	Sn	22 33 46.9	0.0
DSCH	Colegio Aleman	1.59	109	eP	Pn	22 33 27.6	-0.5
DSCH				eS	Sn	22 33 48.3	-0.1
CLCH	Cerro Calan	1.61	109	⇑iP	Pn	22 33 28.5	+0.1
CLCH				i S	Sn	22 33 48.8	-0.2
CLCH				AML	AML	22 34 02.8	
	comp=N,6µm,0.9s						
CLCH				AML	AML	22 34 03.2	
	comp=N,7µm,0.7s						
FSR	Penalolen	1.65	111	eP	Pn	22 33 29.4	+0.5
FSR				i S	Sn	22 33 50.3	+0.5
CHCH	Chadas Angostu	1.77	127	⇓iP	Pn	22 33 30.0	-0.5
FCH	Farellones	1.79	105	⇑iP	Pn	22 33 30.8	-0.1
FCH				i S	Sn	22 33 54.3	+0.9
FCH				AML	AML	22 34 13.5	
	comp=N,2µm,0.5s						
SJCH	San Jose de Ma	1.84	115	eP	Pn	22 33 31.6	+0.1
SJCH				i S	Sn	22 33 54.8	+0.1
SJCH				AML	AML	22 34 22.2	
	comp=N,2µm,1.1s						
SJCH	San Jose de Ma	1.84	115	eP	Pn	22 33 31.6	+0.1
SJCH				i S	Sn	22 33 54.8	+0.1
CACH	El Canelo	1.92	130	⇑iP	Pn	22 33 32.9	+0.3
LMEL	Las Melosas	2.04	118	eP	Pn	22 33 34.8	+0.5
LMEL				AML	AML	22 34 19.6	
	comp=N,2µm,0.5s						
SFDO	San Fernando	2.05	147	⇓iP	Pn	22 33 33.9	-0.6
CMCH	Combarbala	2.06	34	eP	Pn	22 33 34.2	-0.4
CMCH				i S	Sn	22 33 59.2	-0.9
CMCH				AML	AML	22 34 22.0	
	comp=E,10µm,0.8s						
CMCH	Combarbala	2.06	34	eP	Pn	22 33 34.2	-0.4
CMCH				i S	Sn	22 33 59.2	-0.9
CICH	Cipreses	2.16	132	⇓iP	Pn	22 33 35.9	0.0
MDZ	Mendoza	2.96	91	eP	Pn	22 33 52.0	+5.2
MDZ				eS	Sn	22 34 36.2	+14
TLL	Tololo Astrono	3.02	27	⇑iP	Pn	22 33 48.3	+0.5
TLL				i S	Sn	22 34 24.1	+0.3
TLL				AML	AML	22 34 43.2	
	comp=N,2µm,0.7s						
TLL	Tololo Astrono	3.02	27	⇑iP	Pn	22 33 48.3	+0.5
TLL				i S	Sn	22 34 24.1	+0.3
CFAA	Coronel Fontan	3.72	71	Pn	Pn	22 33 58.4	+1.0
	comp=N,0.4nm,0.3s,baz=244,slow=12,SNR=23						
CFAA				Lg		22 34 58.9	
	comp=N,2.7nm,0.3s,baz=165,slow=22,SNR=6.6						
LCO	Las Campanas	4.12	21	eP	Pn	22 34 02.9	0.0
PLCA	Paso Flores	7.96	170	Pn	Pn	22 34 55.4	-0.2
	comp=N,0.5nm,0.3s,baz=336,slow=14,SNR=10						
PLCA				Lg		22 37 13.8	
	baz=275,slow=19,SNR=1.3						
TRQA	Tornquist	9.91	124	ePn	Pn	22 35 22.7	+0.4
	comp=N,34nm,1.1s						
TRQA				eSn	Sn	22 37 19.7	+6.4
CPUP	Villa Florida	14.61	67	Pn	Pn	22 36 21.8	-4.8
	comp=N,0.3nm,0.3s,baz=194,slow=9.2,SNR=2.9						
CPUP				LR	LR	22 42 26.8	
	comp=N,205nm,18.5s,baz=227,slow=39						
LPAZ	La Paz	16.97	14	Pn	Pn	22 36 58.4	+1.2
	comp=N,0.1nm,0.3s,baz=185,slow=8.4,SNR=17						
LPAZ	La Paz	16.97	14	ePn	Pn	22 36 59.0	+1.7
	comp=N,5.8nm,0.7s						
SIV	San Ignacio	19.69	34	P	Pn	22 37 28.4	-2.2
	comp=N,0.8nm,0.3s,baz=219,slow=11,SNR=24						
NNA	Nana	21.21	348	P	P	22 37 44.8	-0.8
	comp=N,4.0nm,0.3s,mb4.2						
SAML	Samuel	25.29	22	eP	P	22 38 27.1	+0.8
	comp=N,6.0nm,0.8s,mb4.2						
BDFB	Brasilia	27.95	58	P	P	22 38 49.9	-0.4
	comp=N,3.8nm,0.7s,mb4.2,baz=228,slow=9.5,SNR=5.1						
BDFB				LR	LR	22 51 03.7	
	comp=N,294nm,18.7s,MS3.9,baz=231,slow=39						
SDV	Santo Domingo	41.57	3	P	P	22 40 47.3	-0.3
	comp=N,1.2nm,0.4s,mb3.9,baz=239,slow=5.9,SNR=2.7						
SDV	Santo Domingo	41.57	3	eP	P	22 40 47.4	-0.2
	comp=N,3.2nm,0.8s,mb4.0						
VNA3	Neumayer Olymp	50.49	158	ePdiff	P	22 41 58.2	+0.4
VNA3				e		22 42 05.6	
VNA3				e		22 42 11.3	
VNA3				e		22 42 22.4	
VNA1	Neumayer--Stat	50.80	157	ePdiff	P	22 42 10.8	+11
VNA1				e		22 42 17.5	
VNA1				e		22 42 25.7	
VNA1				e		22 42 32.2	
SJG	San Juan	51.06	8	eP	P	22 42 02.4	+0.3
SNAA	Sanae	52.71	158	P	P	22 42 14.0	-0.5
	comp=N,3.0nm,1.1s,mb4.2,baz=287,slow=5.9,SNR=13						
SNAA	Sanae	52.71	158	ePdiff	P	22 42 12.9	-1.6
SNAA				e		22 42 19.7	
SNAA				e		22 42 23.0	
SNAA				e		22 42 32.2	
SNAA				e		22 42 38.1	
QSPA	South Pole Qui	57.34	180	eP	P	22 42 48.8	+0.8
	comp=N,10nm,1.0s,mb4.8						
SYO	Syowa Base	67.00	159	⇓eP	P	22 43 51.7	-1.0
SYO	Syowa Base	67.00	159	⇑eP	P	22 43 53.3	+0.6
WVT	Waverly	70.17	347	eP	P	22 44 13.1	+0.6
	comp=N,12nm,0.9s,mb4.8						
MNTX	Cornudas Mount	71.41	331	eP	P	22 44 21.1	+1.0
	comp=N,5.3nm,1.0s,mb4.4						
WMOK	Wichita Mounta	71.70	337	P	P	22 44 21.1	-0.7
MAW	Mawson	74.32	164	P	P	22 44 36.4	-0.9
	comp=N,5.7nm,1.0s,mb4.5,baz=248,slow=4.4,SNR=6.9						
MAW	Mawson	74.32	164	eP	P	22 44 37.8	+0.4
SDCO	Great Sand Dun	76.76	334	eP	P	22 44 51.0	-0.3
	comp=N,4.9nm,0.9s,mb4.4						
PV01	Paradox Valley	78.29	332	eP	P	22 44 54.1	-5.7
SMCO	Snowmass	78.57	333	eP	P	22 45 04.2	+2.8
	comp=N,13nm,1.0s,mb4.8						
PV10	Paradox Valley	78.68	331	eP	P	22 45 01.7	-0.3
ECSD	EROS,Sioux Fal	79.41	342	eP	P	22 45 06.3	+0.3
ECSD				ePcP	PcP	22 45 14.1	0.0
DAC	Darwin (Calif)	80.77	324	eP	P	22 45 13.9	+0.5
	comp=N,5.5nm,0.9s,mb4.5						
CASY	Casey	81.12	181	P	P	22 45 15.1	-0.1
RSSD	Black Hills	81.91	338	P	P	22 45 19.6	+0.3
PDAR	Pinedale Array	82.65	333	P	P	22 45 24.8	+1.5
	comp=N,0.6nm,0.8s,mb3.7,baz=119,slow=5.2,SNR=4.7						
NVAR	Mina Array Bea	82.82	325	P	P	22 45 23.9	-0.3
	comp=N,0.1nm,0.3s,mb3.3,baz=141,slow=5.8,SNR=2.4						
TORD	Torodi Ar. Bea	84.09	70	P	P	22 45 30.7	0.0
	comp=N,6.0nm,1.1s,mb4.6,baz=260,slow=4.5,SNR=15						
BVAR	Borovoye Array	146.64	42	PKPbc	PKPbc	22 52 41.8	+0.2
	comp=N,1.4nm,0.7s,baz=276,slow=4.2,SNR=8.7						
ZAL	Zalesovo	153.42	31	PKPbc	PKPbc	22 52 57.5	-0.7
	comp=N,1.6nm,0.9s,baz=197,slow=4.9,SNR=6.6						
MKAR	Makanchi Array	156.22	47	PKPab	PKPab	22 53 21.3	-1.0
	comp=N,1.4nm,0.9s,baz=305,slow=4.3,SNR=5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	156.22	47	PKPab	PKPab	22 53 21.3	-1.0
SONM	Songino Array	165.04	3	PKPab	PKPab	22 53 59.3	-1.4
	comp=N,0.8nm,1.1s,baz=352,slow=4.1,SNR=2.8						

*ISCJB **18** 22:33:13.5±0.9, 3806N±004×2378E±005, h7km±9km, Error ellipse: s-maj=6.7km s-min=5.5km az=98.9*
*NEIC **18** 22:33:14.1, 3803N×2383E, h15km, MD3.0(ATH), After ATH.*
*ATH **18** 22:33:14.1, 3803N×2383E, h15km±2km, MD3.0/8, ML2.8*
*CSEM **18** 22:33:14.8±0.1, 3804N×2379E, h8km, MD3.0, Error ellipse: s-maj=2.4km s-min=1.9km az=90.0*
*THE **18** 22:33:16.6, 38.13N×2391E, h9km*
ISC 18 22:33:14.3±0.5, **3805N**±003×**2381E**±005, **h13**km±4km, **n13**, σ**0s76**/19, **Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.04	97	ePB	Pg	22 33 16.6	-0.1
ATH	Athens Observa	0.11	222	ePB	Pg	22 33 17.3	-0.1
ATH				eSB	Sg	22 33 19.1	-0.5
KVR	Kavouri	0.23	188	ePB	Pg	22 33 19.5	+0.3
NAIG	Nisos Aigina	0.39	221	ePB	Pg	22 33 22.0	-0.1
MGER	Gerania Oros	0.44	261	ePB	Pg	22 33 23.5	+0.5
LKR	Lokris	0.87	313	ePN	Pn	22 33 31.0	-1.3
LKR				eSN	Sn	22 33 44.4	-0.5
AOS	Alonnisos	1.12	3	ePg	Pg	22 33 35.7	-0.2
AOS				eSg	Sg	22 33 51.4	+1.0
NEO	Neokhori	1.33	340	ePN	Pn	22 33 39.4	+0.8
XOR	Xorichti	1.40	340	ePg	Pg	22 33 41.2	0.0
XOR				eSg	Sg	22 33 58.6	-0.7
VLI	Veliai	1.50	208	ePN	Pn	22 33 41.4	+0.4
AGG	Agios Georgios	1.51	310	ePg	Pg	22 33 43.0	-0.3
AGG				eSg	Sg	22 34 04.2	+1.3
APE	Apeiranthos	1.69	125	ePb	Pb	22 33 44.3	-0.9
APE				eSb	Sb	22 34 07.9	+1.6
CHOS	Chios island	1.80	79	ePb	Pb	22 33 45.9	-1.2

*IDC **18** 22:45:53.2±10.0, 772S×12407E, h75km±117km, mb3.1/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=152.4km s-min=48.1km az=48.0*
NEIC 18 22:45:58.1±6.6, **821S**×**12351E**, **h128**km±73km, **mb3.7**/1, **Error ellipse: s-maj=77.7km s-min=28.7km az=215.0, Flores region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.05	168	P	Pn	22 48 19.2	+0.1
	0.1nm,0.3s,baz=2.6,slow=12,SNR=4.7						
FITZ				S	Sn	22 50 04.9	-5.1
	1.0nm,0.3s,baz=118,slow=17,SNR=9.9						
WRA	Warramunga Arr	15.69	139	P	Pn	22 49 31.7	-0.3
	0.3nm,0.3s,baz=317,slow=12,SNR=9.8						
WRA				S	S	22 52 15.6	-16
	0.2nm,0.3s,baz=314,slow=23,SNR=5.3						
WRAB	Tennant Creek	15.69	139	eP	Pn	22 49 32.7	+0.7
	2.4nm,0.5s						
ASAR	Alice Springs	18.32	148	P	P	22 50 02.5	+0.2
	0.2nm,0.3s,baz=331,slow=12,SNR=6.8						
MKAR	Makanchi Array	65.89	330	P	P	22 56 30.1	+0.1
	0.2nm,0.4s,baz=125,slow=5.8,SNR=7.2						

*IDC **18** 22:59:22.5±2.8, 2853N×5729E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, Error ellipse: s-maj=61.9km s-min=24.7km az=160.0*
*CSEM **18** 22:59:23.1±0.1, 2847N×5750E, h15km, ML3.4, Error ellipse: s-maj=3.7km s-min=2.6km az=90.0*
*ISCJB **18** 22:59:24.6±0.6, 2841N±003×5685E±005, h10km, mb3.4/7, Error ellipse: s-maj=6.8km s-min=3.9km az=114.2*
*THR **18** 22:59:29.2±0.3, 2864N×5648E, h15km, ML3.4*
*KISR **18** 22:59:30.8±0.9, 2884N×5667E, h34km, ML4.2*
*NEIC **18** 22:59:32.9, 2835N×5678E, h31km, ML3.4(THR), MN3.4(TEH), After TEH.*
ISC 18 22:59:28.6±0.6, **2844N**±004×**5732E**±008, **h53**km±10km, **n38**, σ**1s03**/50, **mb3.4**/7, **5C-3D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.45	225	ePG	Pn	22 59 52.7	+0.2
BNDS				AML	AML	23 00 16.1	
	comp=E,721nm,0.2s						
BNDS				AML	AML	23 00 17.3	
	comp=N,779nm,0.6s						
BNDS	Bandar-Abbas	1.45	225	ePg	Pn	22 59 52.0	-0.5
KRBR	Kerman	1.61	343	ePG	Pn	22 59 54.5	-0.2
KRBR				AML	AML	23 00 17.8	
	comp=N,620nm,0.9s						
KRBR				AML	AML	23 00 18.1	
	comp=E,470nm,0.4s						
KRBR	Kerman	1.61	343	ePg	Pn	22 59 54.0	-0.7
BANOM	Banah	2.67	200	⇓P	Pn	23 00 08.7	-0.4
	SNR=30						
IBAF	Bafgh	3.49	335	Pn	Pn	23 00 23.2	+2.8
IBAF				Sn	Sn	23 01 00.8	+0.4
IMEH	Mehriz	3.77	322	Pn	Pn	23 00 25.7	+1.5
IMEH				Sn	Sn	23 01 04.9	-2.3
ISRV	Sarvestan	3.81	285	Pn	Pn	23 00 27.1	+2.4
ISRV				Sn	Sn	23 00 59.8	-8.4
GHIR	Ghir-Karzin	3.82	269	ePn	Pn	23 00 19.7	-5.2
GHIR				AML	AML	23 01 06.7	
	comp=N,65nm,0.2s						
GHIR	Ghir-Karzin	3.82	269	ePn	Pn	23 00 19.0	-5.9
ASHO	Ashiyiah	3.91	197	⇑P	Pn	23 00 27.0	+0.9
	SNR=20						
IMOK	Mook	4.09	280	Pn	Pn	23 00 29.3	+0.7
IMOK				Sn	Sn	23 01 06.7	-8.5
ICHK	Chekchek	4.55	327	Pn	Pn	23 00 36.6	+1.6
ICHK				Sn	Sn	23 01 24.4	-2.2
ISAD	Sadrabad	4.68	319	Sn	Sn	23 01 25.7	-4.0
HOQ	Hoqain	4.84	180	⇑P	Pn	23 00 38.0	-0.9
	SNR=12						
BIDO	Bidbid	4.95	171	⇑P	Pn	23 00 38.8	-1.6
	SNR=9.2						
ARQ	Araqi	5.13	188	⇓P	Pn	23 00 43.4	+0.5
	SNR=10						
SMDO	Samad	5.40	173	⇓P	Pn	23 00 45.9	-0.6
	SNR=8.2						
BSY	Bisya	5.67	181	⇑P	Pn	23 00 51.2	+0.9
BSYO	Bisya	5.68	181	P	Pn	23 00 51.2	+0.7
WBK	Wadi Bani Khal	5.99	165	⇑P	Pn	23 00 53.6	-1.0
	SNR=7.4						
IZEF	Zefreh	6.18	317	Pn	Pn	23 00 57.6	+0.3
IZEF				Sn	Sn	23 02 00.3	-6.3
IKLH	Kalahroud	6.93	316	Pn	Pn	23 01 07.8	+0.3
IPIR	Pirpir	6.97	309	Pn	Pn	23 01 07.8	-0.3
IPIR				Sn	Sn	23 02 18.5	-7.5
QRN	Al-Qurain	8.27	274	eP	Pn	23 01 25.5	-0.5
QRN				eS	Sn	23 02 52.1	-5.8
QRN				AML	AML	23 02 53.6	
	comp=Z,46nm,0.3s						
RDF	Al-Radifah	8.60	276	eP	Pn	23 01 29.6	-0.7
RDF				eS	Sn	23 02 59.3	-6.6
RDF				AML	AML	23 03 02.7	
	comp=Z,26nm,0.5s						
MIB	Mutribah	8.84	281	eP	Pn	23 01 33.3	-0.3
MIB				eS	Sn	23 03 04.8	-7.0
MIB				AML	AML	23 03 09.3	
	comp=Z,16nm,0.5s						
NAY	Al-Naaiem	8.88	278	eP	Pn	23 01 34.3	+0.1
NAY				eS	Sn	23 03 05.8	-7.0
NAY				AML	AML	23 03 11.0	
	comp=Z,12nm,0.4s						
RST	Umm Al-Ruwaisa	9.10	279	eP	Pn	23 01 36.6	-0.7
RST				eS	Sn	23 03 11.4	-7.0
RST				AML	AML	23 03 12.3	
	comp=Z,8.6nm,0.6s						
BRTR	Keskin Array B	22.55	306	P	P	23 04 24.5	+0.4
	comp=Z,2.1nm,0.9s,mb3.6,baz=123,slow=8.9,SNR=9.5						
BVAR	Borovoye Array	26.40	18	P	P	23 05 00.0	-0.1
	comp=Z,0.9nm,0.7s,mb3.4,baz=200,slow=9.6,SNR=7.0						
MKAR	Makanchi Array	26.78	40	P	P	23 05 03.6	+0.1
	comp=Z,0.3nm,0.6s,mb3.0,baz=206,slow=9.5,SNR=2.7						
ZAL	Zalesovo	32.43	31	P	P	23 05 53.9	+0.2
	comp=Z,0.6nm,0.3s,mb3.9,baz=224,slow=8.4,SNR=3.1						
ZAL	Zalesovo	32.43	31	P	P	23 05 53.8	+0.2
FINES	FINESS Array B	38.99	337	P	P	23 06 49.0	-0.7
	comp=Z,1.4nm,0.9s,mb3.7,baz=138,slow=8.5,SNR=2.9						
FINES	FINESS Array B	38.99	337	P	P	23 06 49.0	-0.8
GERES	GERESS Array B	39.03	314	P	P	23 06 49.3	-0.8
	comp=Z,0.3nm,0.7s,mb3.2,baz=120,slow=5.9,SNR=4.4						
TORD	Torodi Ar. Bea	53.74	266	P	P	23 08 46.6	+1.2
	comp=Z,0.3nm,0.7s,mb3.3,baz=66,slow=6.5,SNR=4.2						

*ROM **18** 23:07:15.1±1.2, 4388N×17.15E, h10km, Ml3.1/2, Error ellipse: s-maj=21.8km s-min=7.6km az=107.0*
*ISCJB **18** 23:07:16.4±0.2, 4395N±002×1688E±003, h10km, Error ellipse: s-maj=3.9km s-min=2.0km az=87.0*
*NEIC **18** 23:07:16.6, 4394N×1708E, h3km, MD3.0(PDG), After PDG.*
*PDG **18** 23:07:16.6±0.3, 4394N×1708E, h3km±1km*
*CSEM **18** 23:07:17.6±0.1, 44.13N×1689E, h10km, ML3.2/3, Error ellipse: s-maj=2.2km s-min=1.4km az=42.0*
*LDG **18** 23:07:18.6±0.2, 4391N×1700E, h8km, Ml3.4/4, Error ellipse: s-maj=11.7km s-min=2.5km az=26.0*
*PRU **18** 23:07:20.2, 4409N×1621E, h0km*
ISC 18 23:07:17.6±0.2, **4394N**±002×**1690E**±003, **h10**km, **n62**, σ**1s43**/103, **16C-14D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.84	14	P	Pg	23 07 32.1	-1.6
BLY				S	Sg	23 07 45.4	+0.8
SISC	Sisak	1.58	346	Sn	Sn	23 08 08.2	+2.2
BRY	Bratogost	1.58	130	⇓iPg	Pn	23 07 43.7	-2.0
BRY				eSg	Sg	23 08 07.6	-0.9
NVLJ	Novalja	1.59	294	i Pn	Pn	23 07 45.4	-0.3
NVLJ				i Sn	Sn	23 08 08.7	+2.4
NVLJ	Novalja	1.59	294	i Pn	Pn	23 07 45.4	-0.3
NVLJ				i Sn	Sn	23 08 08.6	+2.3
TREB	Trebinje	1.61	139	P	Pn	23 07 43.2	-2.9
TREB				S	Sn	23 08 06.7	-0.3
UPM	Unac-Piva	1.64	116	⇓iPg	Pn	23 07 44.3	-2.1
UPM				eSg	Sg	23 08 08.6	-1.5
BBLS	Bajina Basta -	1.82	91	i Pn	Pn	23 07 47.4	-1.5
BBLS				Sg	Sg	23 08 15.7	-0.2
HCY	Herceg Novi	1.89	141	⇓iPn	Pn	23 07 49.7	-0.2
HCY				eSn	Sn	23 08 16.5	+2.6
NKY	Niksic	1.90	126	⇑iPn	Pn	23 07 49.5	-0.5
NKY				eSn	Sn	23 08 16.5	+2.5
PLE	Pljevlja	1.91	108	⇓iPn	Pn	23 07 49.3	-0.9
PLE				eSn	Sn	23 08 15.8	+1.5
BOJS	Bojanci	1.96	324	i Pn	Pn	23 07 50.4	-0.4
BOJS				eSg	Sg	23 08 16.6	-3.9
CRES	Cresnjev	2.15	332	i Pn	Pn	23 07 52.7	-0.8
CRES				eSn	Sn	23 08 22.2	+2.1
CRES							
	comp=Z,41nm,0.7s						
CRES	Cresnjev	2.15	332	i Pn	Pn	23 07 52.7	-0.8
CRES				eSn	Sn	23 08 22.2	+2.1
RHK3	Tenkes	2.17	26	⇑iP	Pn	23 07 51.5	-2.3
BUM	Brajici-Budva	2.19	138	⇑iPn	Pn	23 07 54.3	+0.3
BUM				eSn	Sn	23 08 23.6	+2.3
DIVS	Divcibare	2.24	85	i Pn	Pn	23 07 51.8	-2.8
TTG	Podgorica	2.29	130	⇑iPn	Pn	23 07 55.7	+0.3
TTG				eSn	Sn	23 08 26.2	+2.5
LEGS	Legarje	2.30	331	eSn	Sn	23 08 27.8	+3.8
FGMS	Monte Sant'Ang	2.33	198	Pn	Pn	23 07 54.7	-1.3
	comp=Z,13nm,0.3s						
KNDS	Knezji Dol	2.40	312	i Pn	Pn	23 07 58.0	+1.2
KNDS				i Sn	Sn	23 08 31.0	+4.7
IVA	Berane	2.43	115	⇓iPn	Pn	23 07 57.2	-0.1
IVA				eSn	Sn	23 08 29.0	+1.9
RGNG	Rignano Grg	2.46	204	Pn	Pn	23 07 55.5	-2.2
PDKS	Podkum	2.52	328	i Pn	Pn	23 07 57.8	-0.7
KOGS	Kog	2.55	350	i Pn	Pn	23 07 58.1	-0.9
KOGS				eSn	Sn	23 08 28.1	-2.0
PVY	Plav	2.62	120	⇑iPn	Pn	23 08 00.3	+0.4
PVY				eSn	Sn	23 08 34.1	+2.4
ULC	Ulcinj	2.62	138	⇓iPn	Pn	23 08 00.6	+0.7
ULC				eSn	Sn	23 08 34.5	+2.7
JAVS	Javornik	2.81	315	ePn	Pn	23 08 03.4	+0.9
ARV	Arcevia	2.90	263	Pn	Pn	23 08 03.5	-0.3
	comp=Z,6.0nm,0.5s						
SNTG	Esanatoglia	2.96	258	Pn	Pn	23 08 05.1	+0.5
	comp=Z,10.0nm,0.4s						
VOY	Vojsko	2.99	316	ePn	Pn	23 08 06.7	+1.7
VOY				e(Sn)	Sn	23 08 38.0	-2.9
VOY				e		23 08 45.6	
FSSB	Fossombrone	2.99	267	Pn	Pn	23 08 05.3	+0.2
	comp=Z,41nm,0.5s						
VOJS	Vojsko	2.99	315	i Pn	Pn	23 08 06.4	+1.3
OBKA	Obir	3.06	328	⇑iPn	Pn	23 08 05.9	-0.1
OBKA				⇓iSn	Sn	23 08 45.0	+2.3
LNSS	Leonessa	3.12	246	Pn	Pn	23 08 07.9	+1.1
	comp=Z,46nm,0.6s						
ARSA	Arzberg	3.45	344	⇑iPn	Pn	23 08 10.6	-0.8
ARSA				⇓iSn	Sn	23 08 54.7	+2.4
PTCC	Patocco-Chiusa	3.52	316	Pn	Pn	23 08 13.1	+0.8
	comp=Z,16nm,0.8s						
PKSG		3.61	16	⇑eP	Pn	23 08 12.3	-1.2
CONA	Conrad Observa	4.06	350	⇑iPn	Pn	23 08 19.0	-0.7
CONA				⇑iSn	Sn	23 09 09.6	+2.3
CTI	Castel Tesino	4.28	301	Pn	Pn	23 08 22.5	-0.3
	comp=Z,7.0nm,0.3s						
MOA	Molln	4.32	336	⇑iPn	Pn	23 08 23.1	-0.3
MOA				⇓iSn	Sn	23 09 16.1	+2.3
SMOL	Smolenice	4.59	4	eSN	Sn	23 09 19.2	-1.2
VYHS	Vyhne	4.75	16	ePN	Pn	23 08 28.3	-0.9
VYHS				eSN	Sn	23 09 21.5	-2.9
WTTA	Wattenberg	4.97	314	⇑iPn	Pn	23 08 32.5	+0.2
WTTA				⇑iSn	Sn	23 09 33.7	+4.0
WATA	Walderalm	5.05	314	⇓iPn	Pn	23 08 33.4	+0.1
WATA				⇓iSn	Sn	23 09 35.9	+4.2
SQTA	Sankt Quirin	5.17	311	⇑iPn	Pn	23 08 35.3	+0.3
SQTA				⇑iSn	Sn	23 09 38.5	+3.8
MOTA	Moosalm	5.30	312	⇓iPn	Pn	23 08 37.0	+0.2
MOTA				⇓iSn	Sn	23 09 41.9	+3.9
KHC	Kasperske Hory	5.68	337	ePN	Pn	23 08 40.3	-1.7
KHC				ex	x	23 09 13.0	
KHC				eSN	Sn	23 09 43.6	-3.6
KHC				eSG	Sg	23 10 23.0	+3.2
DAVA	Damuels	5.95	307	⇓iPn	Pn	23 08 46.1	+0.4
DAVA				⇑iSn	Sn	23 09 58.4	+4.4
MBDF	Montbardon	7.31	280	ePn	Pn	23 09 04.7	+0.4
LPG	La Plagne	7.40	286	ePn	Pn	23 09 05.9	+0.3
LPG				eSn	Sn	23 10 26.2	-3.3
	comp=Z,2.3nm,0.3s						
LPG				eSg	Sg	23 11 12.7	-2.2
LPG	La Plagne	7.40	286	ePn	Pn	23 09 05.9	+0.3
LPG				eSn	Sn	23 10 26.2	-3.3
	comp=Z,1.1nm,0.3s						
LPL	La Plagne	7.41	286	ePn	Pn	23 09 06.8	+1.0
LPL				eSn	Sn	23 10 25.2	-4.7
	comp=Z,4.6nm,0.5s						
LPL	La Plagne	7.41	286	ePn	Pn	23 09 06.8	+1.0
LPL				eSn	Sn	23 10 25.2	-4.7
	comp=Z,2.3nm,0.5s						
FRF	La Foret Royal	7.43	271	ePn	Pn	23 09 05.7	-0.4
FRF				eSn	Sn	23 10 25.6	-4.9
	comp=Z,2.5nm,0.4s						
FRF	La Foret Royal	7.43	271	ePn	Pn	23 09 05.7	-0.4
FRF				eSn	Sn	23 10 25.6	-4.9
	comp=Z,1.2nm,0.4s						
LMR	La Mourre	7.56	269	ePn	Pn	23 09 06.7	-1.2
ORIF	Oris-en-Rattie	7.95	281	ePn	Pn	23 09 13.4	+0.2
ORIF				eSn	Sn	23 10 40.4	-2.7
	comp=Z,29nm,1.4s						
CDF	Champ du Feu	8.04	307	ePn	Pn	23 09 14.0	-0.4
SMRF	Simiane la Rot	8.17	274	ePn	Pn	23 09 16.0	-0.2
HAU	Haudompre	8.40	303	ePn	Pn	23 09 19.3	0.0
AVF	Avril sur Loir	9.95	291	ePn	Pn	23 09 39.9	-0.7

IDC 18 23:15:42.2±7.0, **4875N**×**15311E**, **h0**km, **mb3.8**/5, **mb1 3.9**/6, **mb1mx3.6**/22, **mbtmp3.9**/6, **ML3.9**/1, **Error ellipse: s-maj=149.1km s-min=38.8km az=135.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	8.61	241	Pn	Pn	23 17 48.4	+0.3
	1.4nm,0.3s,baz=195,slow=18,SNR=5.1						
SONM	Songino Array	30.72	286	P	P	23 21 58.8	-0.1
	0.5nm,0.5s,baz=44,slow=8.8,SNR=4.0						
MKAR	Makanchi Array	46.05	296	P	P	23 24 06.4	-1.2
	0.5nm,0.6s,baz=56,slow=8.5,SNR=8.3						
BVAR	Borovoye Array	49.61	308	P	P	23 24 35.6	+0.4
	0.9nm,0.5s,baz=51,slow=8.1,SNR=9.1						
JOF	Joensuu	59.55	333	ep	P	23 25 46.1	-1.3
	0.5nm,0.3s						
FINES	FINESS Array B	62.24	334	P	P	23 26 05.4	-0.3
	0.7nm,0.3s,baz=36,slow=7.8,SNR=25						
NOA	NORSAR Array B	66.34	341	P	P	23 26 31.7	-0.9
	0.5nm,0.6s,baz=24,slow=6.0,SNR=3.6						

*NEIC **18** 23:21:52.3±2.5, 578S×15141E, h35km, mb3.8/1, Error ellipse: s-maj=77.2km s-min=20.3km az=115.0*
*ISCJB **18** 23:21:57.3±5.6, 57S±03×1509E±05, h71km±39km, mb3.4/3, Error ellipse: s-maj=89.2km s-min=34.9km az=53.8*
*IDC **18** 23:21:59.0±9.0, 579S×15087E, h69km±65km, mb3.1/2, mb1 3.5/3, mb1mx3.2/13, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=115.3km s-min=56.9km az=123.0*
ISC 18 23:21:58.2±5.5, **59S**±03×**1511E**±05, **h69**km±38km, **n7**, σ**0s38**/6, **mb3.4**/3, **New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.23	227	P	Pn	23 23 13.8	0.0
	4.2nm,0.3s,baz=41,slow=9.3,SNR=7.6						
PMG				S	Sn	23 24 12.8	+0.1
	3.1nm,0.3s,baz=101,slow=21,SNR=5.6						
WRAB	Tennant Creek	21.43	228	eP	P	23 26 40.4	-0.2
	1.6nm,0.4s,mb3.7						
WRA	Warramunga Arr	21.45	228	P	P	23 26 40.4	-0.3
	0.9nm,0.5s,mb3.3,baz=53,slow=10,SNR=18						
ASAR	Alice Springs	24.21	221	P	P	23 27 08.7	+0.4
	0.6nm,0.6s,mb3.1,baz=58,slow=9.4,SNR=6.7						
LSA	Lhasa	67.41	305	P	P	23 32 46.4	+0.1
TORD	Torodi Ar. Bea	148.95	286	PKPbc	PKPbc	23 41 39.5	+1.3
	0.6nm,0.8s,baz=81,slow=2.1,SNR=7.9						
TORD	Torodi Ar. Bea	148.95	286	PKPbc	PKPbc	23 41 39.5	+1.3

*NIED **18** 23:27:00, 2940N×13070E, h50km, Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φs289.00000°, δ82.00000°, λ123.00000°. NP2:φs32.00000°, δ34.00000°, λ15.00000°.*
*IDC **18** 23:27:09.9±1.4, 2933N×13078E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/22, mbtmp3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/29, Error ellipse: s-maj=44.0km s-min=22.0km az=80.0*
*NEIC **18** 23:27:14.9±1.6, 2940N×13060E, h39km±18km, mb3.5/1, Error ellipse: s-maj=24.3km s-min=14.6km az=109.0*
*ISCJB **18** 23:27:15.1±0.7, 2934N±004×13074E±009, h63km±8km, mb3.5/6, Error ellipse: s-maj=13.7km s-min=4.1km az=44.4*
*JMA **18** 23:27:15.4, 2938N×13070E, h74km±3km, M3.9*
ISC 18 23:27:16.1±0.6, **2934N**±004×**13074E**±008, **h48**km±9km, **n21**, σ**0s75**/30, **mb3.5**/6, **MS2.9**/1, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.91	304	P	Pn	23 27 32.5	0.0
JNN				eS	Sn	23 27 45.2	+0.7
JKC	Kuchinoerabu	1.21	337	P	Pn	23 27 36.6	-0.1
JKC				eS	Sn	23 27 51.9	-0.1
JZK	Kikaishima	1.22	214	P	Pn	23 27 37.5	+0.7
JZK				eS	Sn	23 27 53.8	+1.6
JTN	Tanegashima 3	1.33	9	P	Pn	23 27 38.0	-0.2
JTN				eS	Sn	23 27 55.1	+0.4
JAM	Amami Oshima	1.36	227	P	Pn	23 27 38.6	-0.1
JAM				eS	Sn	23 27 55.8	+0.3
JTSR	Tashiro 2	1.83	5	P	Pn	23 27 45.0	-0.1
JTSR				eS	Sn	23 28 06.8	-0.2
JSU	Suzuyama	2.17	354	P	Pn	23 27 49.5	-0.3
JTK	Tokunoshima	2.21	226	P	Pn	23 27 50.3	0.0
JTK				eS	Sn	23 28 15.9	-0.5
JNAR	Kushima--Naru	2.23	12	P	Pn	23 27 51.2	+0.7
JNAR				eS	Sn	23 28 17.1	+0.3
JSJ	Shimokoshiki	2.49	339	P	Pn	23 27 53.8	-0.4
JTZ	Takazaki	2.57	7	P	Pn	23 27 55.5	+0.3
JTZ				eS	Sn	23 28 24.9	-0.4
JOW	Kunigami	3.31	222	Pn	Pn	23 28 04.0	-1.5
	7.0nm,0.3s,baz=94,slow=17,SNR=22						
JOW				Sn	Sn	23 28 42.4	-1.2
	51nm,0.3s,baz=168,slow=28,SNR=21						
MAJO	Matsushiro	9.53	39	Pn	Pn	23 29 30.2	-0.5
GUMO	Guam	20.42	137	LR	LR	23 37 54.7	
	comp=Z,58nm,21.3s,MS2.9,baz=262,slow=32						
ULN	Ulaanbaatar	26.00	322	eP	P	23 32 41.0	-3.4
	0.7nm,0.4s,mb3.5						
MKAR	Makanchi Array	41.23	309	P	P	23 34 56.3	+0.1
	0.2nm,0.6s,mb2.9,baz=91,slow=12,SNR=2.8						
WRA	Warramunga Arr	49.12	176	P	P	23 35 58.6	-0.2
	0.6nm,0.8s,mb3.7,baz=353,slow=8.2,SNR=4.6						
ASAR	Alice Springs	52.79	176	P	P	23 36 27.0	+0.6
	0.4nm,0.6s,mb3.5,baz=10,slow=13,SNR=5.9						
FINES	FINESS Array B	71.26	331	P	P	23 38 30.0	-0.3
	0.8nm,0.7s,mb3.8,baz=55,slow=5.3,SNR=5.3						
FINES	FINESS Array B	71.26	331	P	P	23 38 30.0	-0.3
BRTR	Keskin Array B	76.88	308	P	P	23 39 06.0	+2.9
	0.6nm,0.8s,mb3.6,baz=77,slow=6.2,SNR=3.8						

*ISCJB **18** 23:33:38.9±0.5, 4638N±004×238E±004, h5km, Error ellipse: s-maj=6.0km s-min=3.2km az=139.8*
*STR **18** 23:33:40.0±0.2, 4625N×235E, h2km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 23:33:40.1±0.1, 4633N×242E, h5km, Md1.5/3, Ml1.6/4, Error ellipse: s-maj=1.9km s-min=1.0km az=161.0*
ISC 18 23:33:39.4±0.6, **4634N**±004×**241E**±004, **h16**km±6km, **n9**, σ**0s33**/18, **France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TCF	Toulx Ste Croi	0.14	251	ePg	Pg	23 33 43.2	-0.1
TCF				eSg	Sg	23 33 45.8	-0.1
	2.6nm,0.2s						
BGF	Bois d'Agland	0.38	54	ePg	Pg	23 33 47.8	+0.6
BGF				eSg	Sg	23 33 52.1	-0.3
	6.3nm,0.3s						
AGO	Saint Agoulin	0.58	119	Pg	Pg	23 33 51.0	+0.2
AGO				Sg	Sg	23 33 59.0	+0.4
PYM	Petit Puy Mans	0.72	144	Pg	Pg	23 33 52.7	-0.8
AVF	Avril sur Loir	0.80	55	ePg	Pg	23 33 55.1	+0.1
AVF				eSg	Sg	23 34 05.7	+0.2
	1.1nm,0.2s						
SMF	Signal de Mont	1.04	72	ePg	Pg	23 33 59.6	+0.1
SMF				eSg	Sg	23 34 13.2	+0.1
	1.0nm,0.2s						
SSF	Saint Saulge	1.05	46	ePg	Pg	23 33 59.6	-0.1
SSF				eSg	Sg	23 34 13.0	-0.5
	2.2nm,0.3s						
LOR	Lormes	1.37	46	ePg	Pg	23 34 05.8	0.0
LOR				eSg	Sg	23 34 23.4	-0.2
	0.7nm,0.2s						
MFF	Saint Martin d	1.78	280	ePn	Pn	23 34 09.8	+0.2
MFF				eSn	Sn	23 34 31.7	-0.2
MFF				eSg	Sg	23 34 37.2	+0.3
	0.3nm,0.1s						

*LDG **18** 23:45:11.0±0.6, 1559S×16737E, h10km, Mb5.1/4, Error ellipse: s-maj=57.6km s-min=31.0km az=5.0*
*ISCJB **18** 23:45:26.1±1.0, 1557S±004×16753E±004, h143km±9km, mb4.8/54, Error ellipse: s-maj=7.4km s-min=6.4km az=82.4*
*IDC **18** 23:45:26.8±1.1, 1557S×16751E, h136km±8km, mb4.6/19, mb1 4.7/21, mb1mx4.7/22, mbtmp5.1/21, MS3.7/7, Ms1 3.7/7, ms1mx3.4/22, Error ellipse: s-maj=10.8km s-min=9.9km az=121.0*
*BJI **18** 23:45:26.6, 1565S×16801E, h167km, mB5.1, mb4.9*
*NEIC **18** 23:45:27.3±1.3, 1555S×16760E, h140km±11km, mb4.9/27, Error ellipse: s-maj=8.3km s-min=7.5km az=182.0*
*GCMT **18** 23:45:27.3±0.3, 1551S×16751E, h130km±3km, MW5.0/68, Moment Tensor Solution. s32,c36; s68,c101; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.81±.12; $M_{\theta\theta}$0.50±.13; $M_{\phi\phi}$-3.31±.14; $M_{r\theta}$-0.39±.10; $M_{\theta\phi}$0.25±.17; $M_{\phi r}$-2.11±.12; Best double couple: M0 3.75100×10^16 NP1:φs345.00000°, δ29.00000°, λ72.00000°. NP2: φs185.00000°, δ63.00000°, λ100.00000°. Principal axes: T 3.5330, Plg71.0000°, Azm116.0000°; N 0.4360, Plg8.0000°, Azm1.0000°; P -3.9700, Plg17.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CRAAG **18** 23:45:27.5, 1561S×16748E, Mb5.1*

MOS **18** 23:45:28.5±1.3, 15.49S×167.47E, h156km, mb5.0/18, Error ellipse: s-maj=13.3km s-min=9.7km az=133.4

SZGRF **18** 23:48:26.1, 21.82S×172.30E, h50km, Southeast of Loyalty Islands

ISC 18 23:45:28.1±0.9**, 15.57S**±0.04×**167.56E**±0.04**, h146**km±8km**, h157**km±1.9km**: pP-P, n387, σ0.92**/127**, mb4.8**/54**, 58C-22D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.55	189	eP	Pn	23 47 00.9	-1.1
DZM				eS	Sn	23 48 15.7	+0.1
DZM	Mont Dzumac	6.55	189	P	Pn	23 47 01.2	-0.8
	82nm,0.3s,baz=44,slow=17,SNR=412						
DZM				S	Sn	23 48 13.3	-2.3
	47nm,0.3s,baz=134,slow=24,SNR=9.6						
DZM				LR	LR	23 48 24.7	
	comp=Z,215nm,20.5s,baz=225,slow=27						
HNR	Honiara	9.62	309	P	Pn	23 47 42.3	-0.7
	63nm,0.3s,baz=210,slow=0.7,SNR=16						
HNR	Honiara	9.62	309	P	Pn	23 47 42.3	-0.7
HNR				pmax	pmax		
	comp=Z,63nm,0.3s						
RAO	Raoul Island	19.09	138	eP	P	23 49 39.0	-0.4
	comp=Z,348nm,0.4s						
AFI	Afiamalu	20.05	88	P	P	23 49 49.9	+0.2
	comp=Z,56nm,0.8s,baz=103,slow=7.7,SNR=5.5						
AFI				LR	LR	23 55 37.9	
	comp=Z,246nm,21.4s,baz=286,slow=30						
AFI	Afiamalu	20.05	88	P	P	23 49 49.9	+0.1
AFI				pmax	pmax		
	comp=Z,56nm,0.8s						
AFI				MLR	MLR		
	comp=Z,246nm,21.4s						
CTA	Charters Tower	20.77	254	eP	P	23 49 58.6	+1.2
	comp=Z,36nm,0.8s						
CTA	Charters Tower	20.77	254	P	P	23 49 58.6	+1.2
	comp=Z,48nm,0.8s,baz=80,slow=11,SNR=30						
CTA	Charters Tower	20.77	254	P	P	23 49 58.6	+1.2
CTA				pmax	pmax		
	comp=Z,48nm,0.8s						
CTAO	Charters Tower	20.77	254	eP	P	23 49 59.1	+1.6
	comp=Z,40nm,0.8s						
ARMA	Armidale	20.78	222	eP	P	23 49 59.6	+2.0
PMG	Port Moresby	20.83	285	P	P	23 49 58.8	+0.7
	comp=Z,47nm,0.9s,baz=130,slow=6.0,SNR=6.7						
PMG	Port Moresby	20.83	285	P	P	23 49 58.8	+0.7
PMG				pmax	pmax		
	comp=Z,47nm,0.9s						
PMG	Port Moresby	20.83	285	eP	P	23 49 58.8	+0.7
	comp=Z,83nm,1.1s						
URZ	Urewera	24.12	161	P	P	23 50 30.4	+0.2
	comp=Z,34nm,0.8s,mb4.9,baz=1.5,slow=4.8,SNR=16						
URZ				LR	LR	23 58 24.5	
	comp=Z,147nm,19.8s,baz=167,slow=32						
CNB	Canberra Magne	25.54	216	eP	P	23 50 44.3	+1.2
	comp=Z,14nm,0.7s,mb4.7						
CNB				epP	pP	23 51 09.0	-4.6
SNZO	South Karori	26.38	168	eP	P	23 50 50.6	-0.1
	comp=Z,36nm,0.8s,mb5.0						
RPZ	Rata Peaks	28.21	175	P	P	23 51 07.5	+0.5
	comp=Z,34nm,0.6s,mb5.2,baz=1.8,slow=2.1,SNR=20						
STKA	Stephens Creek	28.67	231	eP	P	23 51 11.5	+0.4
	comp=Z,9.0nm,0.6s,mb4.7						
STKA				ePCP	PcP	23 54 18.4	+0.3
STKA				e		23 57 50.4	
STKA	Stephens Creek	28.67	231	P	P	23 51 11.9	+0.8
	comp=Z,13nm,0.7s,mb4.8,baz=44,slow=6.9,SNR=27						
STKA				PcP	PcP	23 54 18.4	+0.4
	comp=Z,14nm,0.7s,baz=70,slow=2.8,SNR=11						
STKA				ScP	ScP	23 57 49.1	+3.4
	comp=Z,3.2nm,0.6s,baz=223,slow=2.9,SNR=5.0						
STKA				LR	LR	00 01 52.6	
	comp=Z,139nm,21.7s,baz=34,slow=34						
WB2	Warramunga Arr	31.89	257	eP	P	23 51 39.0	-0.5
WB2				ePCP	PcP	23 54 27.1	+0.6
WB2				eS	S	23 56 36.5	-3.0
WRAB	Tennant Creek	31.89	257	eP	P	23 51 38.7	-0.8
WRAB	Tennant Creek	31.89	257	eP	P	23 51 39.0	-0.4
	comp=Z,25nm,0.8s,mb5.0						
WRA	Warramunga Arr	31.90	257	P	P	23 51 38.8	-0.8
	comp=Z,18nm,0.8s,mb4.9,baz=86,slow=8.6,SNR=94						
WRA				PcP	PcP	23 54 27.1	+0.6
	comp=Z,6.9nm,0.8s,baz=87,slow=2.8,SNR=13						
WRA				S	S	23 56 37.1	-2.6
	comp=Z,4.2nm,1.0s,baz=87,slow=14,SNR=8.6						
WRA				ScP	ScP	23 57 59.9	+3.6
	comp=Z,6.7nm,1.1s,baz=84,slow=3.5,SNR=8.0						
WRA				PKiKP	PKiKP	00 01 53.3	-1.4
	comp=Z,0.9nm,0.7s,baz=337,slow=0.4,SNR=12						
WRA				LR	LR	00 04 22.0	
	comp=Z,158nm,18.0s,baz=70,slow=36						
WRA	Warramunga Arr	31.90	257	P	P	23 51 38.8	-0.8
WRA						23 54 27.1	
WRA				S	S	23 56 37.1	-2.6
WRA						00 01 53.3	
WRA				pmax	pmax		
	comp=Z,18nm,0.8s						
WRA				smax			
	comp=N,4.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,158nm,18.0s						
WRA	Warramunga Arr	31.90	257	P	P	23 51 38.8	-0.8
WRA				PcP	PcP	23 54 27.1	+0.5
WRA				S	S	23 56 37.1	-2.6
WRA				ScP	ScP	23 57 59.9	+3.6
TAU	Tasmania Unive	32.29	208	eP	P	23 51 43.6	+0.7
	comp=Z,11nm,0.7s,mb4.7						
AS31	Alice Springs	32.64	250	eP	P	23 51 45.8	-0.2
AS31				ePcP	PcP	23 54 29.1	+0.5
AS31				eS	S	23 56 52.1	+0.9
ASAR	Alice Springs	32.64	250	P	P	23 51 46.0	-0.1
	comp=Z,34nm,0.8s,mb5.1,baz=78,slow=8.8,SNR=269						
ASAR				PcP	PcP	23 54 28.9	+0.3
	comp=Z,5.9nm,0.8s,baz=98,slow=3.0,SNR=11						
ASAR				S	S	23 56 49.0	-2.2
	comp=Z,0.2nm,0.3s,baz=105,slow=28,SNR=3.7						
ASAR				ScP	ScP	23 58 02.1	+3.3
	comp=Z,5.3nm,0.9s,baz=96,slow=3.1,SNR=17						
ASAR				PKiKP	PKiKP	00 01 53.4	-1.8
	comp=Z,0.5nm,0.6s,baz=106,slow=1.9,SNR=5.3						
ASAR				LR	LR	00 05 14.0	
	comp=Z,133nm,20.3s,baz=353,slow=36						
ASAR	Alice Springs	32.64	250	P	P	23 51 46.0	-0.1
ASAR						23 54 28.9	
ASAR				S	S	23 56 49.0	-2.2
ASAR						00 01 53.4	
ASAR				pmax	pmax		
	comp=Z,34nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,133nm,20.3s						
ASAR	Alice Springs	32.64	250	P	P	23 51 46.0	-0.1
ASAR				PcP	PcP	23 54 28.9	+0.3
ASAR				S	S	23 56 49.0	-2.2
ASAR				ScP	ScP	23 58 02.1	+3.3
ASPA	Alice Springs	32.65	250	eP	P	23 51 45.8	-0.3
ASPA				ePCP	PcP	23 54 29.1	+0.5
ASPA				eS	S	23 56 52.1	+0.8
KAKA	Kakadu	34.15	270	eP	P	23 51 58.9	-0.2
	comp=Z,11nm,0.6s,mb4.8						
FORT	Forrest	39.12	240	eP	P	23 52 41.9	+0.8
	comp=Z,57nm,0.6s,mb5.4						
FITZ	Fitzroy Crossi	40.14	260⇓	iP	P	23 52 49.8	+0.2
	comp=Z,84nm,0.8s,mb5.4						
FITZ				eS	S	23 58 44.5	-0.7
FITZ	Fitzroy Crossi	40.14	260	P	P	23 52 49.9	+0.3
	comp=Z,44nm,0.7s,mb5.2,baz=91,slow=8.1,SNR=156						
FITZ				LR	LR	00 09 44.8	
	comp=Z,191nm,18.8s,baz=85,slow=36						
PPT	Papeete	41.07	99	eLR	LR	00 04 28.1	
	comp=Z,374nm,29.8s						
VAH	Vaihoa	43.14	96	eP	P	23 53 14.2	+0.2
	comp=Z,100nm,1.4s,mb5.3						
MBWA	Marble Bar	45.60	256	eP	P	23 53 34.0	+0.5
	comp=Z,7.1nm,0.6s,mb4.5						
KLBR	Kellerberrin	47.94	241	eP	P	23 53 52.1	+0.4
	comp=Z,7.3nm,0.5s,mb4.6						
NWAO	Narrogin (SRO)	48.56	240	eP	P	23 53 56.8	+0.3
	comp=Z,11nm,0.9s,mb4.5						
TAOE	Nuku Hiva Isla	51.44	89	eP	P	23 54 19.0	+0.8
	comp=Z,765nm,1.0s						
RKT	Rikitea	54.46	107	eLR	LR	00 10 40.5	
	comp=Z,210nm,33.0s						
JOW	Kunigami	56.85	317	P	P	23 54 58.2	+0.8
	comp=Z,18nm,0.8s,mb4.9,baz=125,slow=10.0,SNR=4.8						
MJAR	Matsushiro Arr	58.78	333	P	P	23 55 09.8	-1.0
	comp=Z,3.4nm,0.6s,mb4.3,baz=166,slow=7.8,SNR=7.3						
MJAR				PcP	PcP	23 55 59.0	+0.1
	comp=Z,2.4nm,0.6s,baz=158,slow=3.2,SNR=4.9						
MJAR	Matsushiro Arr	58.78	333	P	P	23 55 09.8	-1.0
MJAR						23 55 59.0	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	Matsushiro	58.78	333	eP	P	23 55 10.2	-0.6
	comp=Z,4.3nm,0.4s,mb4.6						
TATO	Taipei	60.34	311	P	P	23 55 21.8	+0.3
VNDA	Vanda	62.03	181	P	P	23 55 32.6	-0.3
	comp=Z,10nm,0.8s,mb4.7,baz=357,slow=6.4,SNR=35						
VNDA	Vanda	62.03	181	P	P	23 55 32.6	-0.3
VNDA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SBA	Scott Base	62.30	180	eP	P	23 55 35.2	+0.6
	comp=Z,53nm,1.0s,mb5.3						
CASY	Casey	62.86	202	eP	P	23 55 38.2	-0.1
	comp=Z,15nm,0.5s,mb5.1						
ASAJ	Asahikawa	63.62	340	P	P	23 55 43.6	+0.2
	comp=Z,28nm,0.8s,mb5.2,baz=222,slow=13,SNR=8.3						
ASAJ	Asahikawa	63.62	340	P	P	23 55 43.7	+0.3
ASAJ				pmax	pmax		
	comp=Z,28nm,0.8s						
SSE	Sheshan	64.32	316	P	P	23 55 48.8	+0.8
SSE				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,192nm,5.1s						
YSS	Yuzh-Sakhalins	66.11	342	eP	P	23 55 59.1	-0.4
YSS				pmax	pmax		
	comp=Z,68nm,2.5s,mb5.0						
YSS	Yuzh-Sakhalins	66.11	342	eP	P	23 55 59.2	-0.3
	comp=Z,18nm,0.6s,mb5.1						
NJ2	Nanjing	66.47	316	eP	P	23 56 02.8	+1.0
NJ2				AP	pP	23 56 41.3	+4.4
NJ2				XP	sP	23 56 58.5	+5.9
NJ2				PP	PP	23 58 32.9	+2.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,140nm,7.2s						
NJ2				LR	LR		
	comp=N,220nm,17.4s						
NJ2				LR	LR		
	comp=E,280nm,19.4s						
NJ2				LR	LR		
	comp=Z,160nm,21.0s						
MDJ	Mudanjiang	69.15	332	P	P	23 56 18.6	0.0
MDJ				AP	pP	23 56 56.8	+2.9
MDJ				XP	sP	23 57 13.1	+3.5
MDJ				PP	PP	23 58 55.6	+2.4
MDJ				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,238nm,3.6s						
MDJ				LR	LR		
	comp=N,40nm,13.7s						
MDJ				LR	LR		
	comp=E,46nm,18.0s						
MDJ				LR	LR		
	comp=Z,40nm,15.1s						
MDJ	Mudanjiang	69.15	332	eP	P	23 56 18.8	+0.2
	comp=Z,21nm,0.8s,mb4.9						
HABR	Khabarovsk	70.02	338	eP	P	23 56 23.8	-0.1
HABR				eS	S	00 05 24.3	+1.7
HABR				pmax	pmax		
	comp=Z,88nm,1.6s,mb5.2						
CN2	Changchun	70.51	329	eP	P	23 56 27.0	+0.1
KLR	Kul'dur	71.89	336	eP	P	23 56 32.2	-3.0
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.1						
GYA	Guiyang	72.42	305⇑	iP	P	23 56 38.8	+0.5
GYA				AP	pP	23 57 17.8	+3.9
GYA				PP	PP	23 59 24.4	+3.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.2s						
GYA				LR	LR		
	comp=N,370nm,18.9s						
GYA				LR	LR		
	comp=E,380nm,19.0s						
GYA				LR	LR		
	comp=Z,410nm,19.4s						
BJT	Baijiatuau	73.08	321	eP	P	23 56 43.0	+0.7
	comp=Z,16nm,0.8s,mb4.8						
BJI	Beijing	73.09	321	eP	P	23 56 42.9	+0.6
BJI				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,58nm,26.0s						
XAN	Xi'an	74.46	313	P	P	23 56 50.6	+0.3
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
KMI	Kunming	74.98	302	P	P	23 56 54.3	+1.0
KMI				PCP	PcP	23 57 07.8	+1.4
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
MA2	Magadan	76.12	351	P	P	23 56 58.9	-0.9
HHC	Hu-ho-hao-te	76.41	320	eP	P	23 57 02.3	+0.9
HHC				PCP	PcP	23 57 13.5	+1.0
HHC				AP	pP	23 57 39.9	+2.6
HHC				XP	sP	23 57 55.8	+3.0
HHC				PP	PP	23 59 58.3	+3.4
HHC				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,73nm,5.8s						
HHC				LR	LR		
	comp=N,169nm,5.3s						
HHC				LR	LR		
	comp=E,170nm,5.3s						
HHC				LR	LR		
	comp=Z,148nm,5.1s						
CD2	Chengdu	76.74	308	eP	P	23 57 02.6	-0.7
CD2				PP	PP	23 59 58.8	+1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
CD2				AMB	AMB		
	comp=Z,60nm,5.4s						
HIA	Hailar	77.15	330	eP	P	23 57 05.1	-0.5
HIA	Hailar	77.15	330	eP	P	23 57 05.5	0.0
	comp=Z,9.5nm,0.8s,mb4.5						
LZH	Lanzhou	79.09	312	eP	P	23 57 17.4	+1.2
LZH				AP	pP	23 57 54.8	+2.4
LZH				XP	sP	23 58 14.8	+6.9
LZH				PP	PP	00 00 20.8	+3.4
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,123nm,4.0s						
SEY	Seymchan	79.15	353⇑	eP	P	23 57 15.4	-1.1
CLNS	Chul'man	80.41	338	eP	P	23 57 22.1	-1.2
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
MAW	Mawson	81.21	202	eP	P	23 57 27.6	0.0
	comp=Z,11nm,1.1s,mb4.4						
MAW	Mawson	81.21	202	P	P	23 57 27.7	+0.1
	comp=Z,14nm,1.0s,mb4.5,baz=102,slow=6.2,SNR=19						
MAW	Mawson	81.21	202	P	P	23 57 27.7	+0.1
MAW				pmax	pmax		
	comp=Z,14nm,1.0s						
MAW	Mawson	81.21	202	eP	P	23 57 27.6	+0.1
	comp=Z,18nm,1.0s,mb4.7						
CIT	Chita	81.94	330	eP	P	23 57 31.4	0.0
CIT				pmax	pmax		
	comp=Z,94nm,1.4s,mb5.2						
YAK	Yakutsk	82.91	343⇑	eP	P	23 57 34.9	-1.6
YAK				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
YAK	Yakutsk	82.91	343	eP	P	23 57 35.6	-0.9
	comp=Z,49nm,0.6s,mb5.4						
ULN	Ulaanbaatar	82.98	324⇑	eP	P	23 57 37.0	+0.2
ULN	Ulaanbaatar	82.98	324	eP	P	23 57 37.1	+0.3
	comp=Z,30nm,0.8s,mb5.1						
SONM	Songino Array	83.34	324	P	P	23 57 39.0	+0.4
	comp=Z,12nm,0.8s,mb4.7,baz=151,slow=8.4,SNR=56						
SONM	Songino Array	83.34	324	P	P	23 57 39.0	+0.4
SONM				pmax	pmax		
	comp=Z,12nm,0.8s						
BILL	Bilibino	83.38	360	P	P	23 57 36.0	-2.9
BILL				e*PP	pP	23 58 13.3	-2.1
GTA	Gaotai	83.45	314	⇑P	P	23 57 40.3	+1.1
GTA				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
BOD	Bodaibo	85.35	334	eP	P	23 57 45.3	-3.5
BOD				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.4						
MCK	McKinley	85.86	18	P	P	23 57 52.3	+1.0
CMB	Columbia Colle	85.94	49	eP	P	23 57 51.3	-0.4
	comp=Z,1.9nm,0.6s,mb4.0						
CMB				epP	pP	23 58 29.5	+1.1
LSA	Lhasa	86.24	302	eP	P	23 57 54.6	+1.4
ZAK	Zakamensk	86.40	325⇑	iP	P	23 57 53.3	-0.6
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.3						
ISA	Isabella	86.45	52	eP	P	23 57 54.2	0.0
	comp=Z,4.9nm,1.1s,mb4.2						
COLA	College	87.03	17	eP	P	23 57 56.7	-0.3
DAC	Darwin (Calif)	87.34	51	eP	P	23 57 58.8	+0.3
NVAR	Mina Array Bea	87.61	49	P	P	23 57 59.6	-0.2
	comp=Z,0.8nm,0.6s,baz=237,slow=10,SNR=7.7						
SYO	Syowa Base	87.98	197⇓	eP	P	23 58 00.2	-1.3
SYO	Syowa Base	87.98	197⇑	ePcP	PcP	23 58 02.0	-1.2
HAWA	Hanford	89.80	41	eP	P	23 58 09.8	-0.3
NVL	N'lazarevskaya	92.26	188c	iP	P	23 58 20.3	-1.2
NVL				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
NVL				pmax	pmax		
	comp=N,15nm,1.1s						
NVL				pmax	pmax		
	comp=E,11nm,1.4s						
MAIT	Maitri	92.26	188	eP	P	23 58 21.8	+0.3
NLU	North Lily Min	92.67	49	eP	P	23 58 22.8	-0.6
SNAA	Sanae	92.73	183⇑	eP	P	23 58 22.2	-1.4
TMUT	Trail Mountain	93.11	50	P	P	23 58 26.9	+1.6
WMQ	Urumqi	93.52	314	eP	P	23 58 26.3	-0.9
WMQ				AP	pP	23 59 07.0	+2.7
WMQ				XP	sP	23 59 24.0	+4.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,183nm,4.4s						
WMQ				LR	LR		
	comp=N,87nm,18.7s						
WMQ				LR	LR		
	comp=E,100nm,20.2s						
WMQ				LR	LR		
	comp=Z,102nm,22.0s						
WALA	Waterton Lakes	94.29	40	P	P	23 58 31.4	+0.5
DCID1	Drake Creek	94.41	46	eP	P	23 58 33.2	+1.9
PDAR	Pinedale Array	95.31	47	PKKPbc	PKKPbc	00 15 27.6	+0.1
	comp=Z,0.9nm,0.9s,baz=57,slow=5.5,SNR=6.7						
ANMO	Albuquerque	95.55	55	P	P	23 58 36.1	-0.4
SDCO	Great Sand Dun	97.00	53	ePP	PP	00 02 39.8	-0.8
ISCO	Idaho Springs	97.41	51	P	P	23 58 46.7	+1.8
ISCO				ePP	PP	00 02 44.4	+0.7
MKAR	Makanchi Array	98.00	316	P	P	23 58 47.3	-0.3
	comp=Z,3.8nm,0.8s,mb4.9,baz=93,slow=4.9,SNR=22						
MKAR				PKiKP	PKiKP	00 03 19.5	-0.6
	comp=Z,0.7nm,0.5s,baz=310,slow=0.4,SNR=18						
MKAR	Makanchi Array	98.00	316⇑	eP	P	23 58 48.0	+0.4
YKA	Yellowknife Ar	98.16	27	P	P	23 58 45.8	-2.5
	comp=Z,1.8nm,0.8s,mb4.6,baz=249,slow=4.7,SNR=6.5						
YKA	Yellowknife Ar	98.16	27	P	P	23 58 45.8	-2.6
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	Zalesovo	98.24	324	P	P	23 58 47.3	-1.4
	comp=Z,2.7nm,0.7s,mb4.8,baz=6.4,slow=5.6,SNR=18						
ZAL	Zalesovo	98.24	324	i P	P	23 58 47.7	-1.0
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HKT	Hockley	103.22	62	ePP	PP	00 03 26.6	-1.1
CHKZ	Chkalovo	106.48	322	ePKiKP	PKiKP	00 03 33.3	-2.3
BVAR	Borovoye Array	106.58	321	PKiKP	PKiKP	00 03 35.0	-0.7
	comp=Z,1.4nm,0.4s,baz=147,slow=1.2,SNR=16						
BRVK	Borovoye	106.64	321	ePKiKP	PKiKP	00 03 34.8	-1.1
ARU	Arti	113.34	325	i PKIKP	PKiKP	00 03 47.4	-1.1
ARU				e		00 04 40.1	
ARU				ePPP		00 07 04.4	
ARU				e		00 10 18.4	
ARU				eSS	SS	00 20 19.5	+4.1
ARU	Arti	113.34	325	ePKiKP	PKiKP	00 03 47.3	-1.2
DAG	Danmarks Havn	118.70	2	i P	PKPdf	00 03 54.0	-4.8
	comp=Z,8.3nm,0.2s						
DAG	Danmarks Havn	118.70	2	ePKIKP	PKPdf	00 03 54.0	-4.8
DAG				pmax	pmax		
	comp=Z,8.0nm,0.2s						
KEV	Kevo	120.61	345	epkp	PKPdf	00 04 00.3	-2.1
ARCES	ARCESS Array B	121.13	345	PKP	PKPdf	00 04 02.0	-1.5
	comp=Z,16nm,0.6s,baz=67,slow=1.2,SNR=120						
ARCES				PKKPbc	PKKPbc	00 14 04.7	-1.2
	comp=Z,1.6nm,0.8s,baz=230,slow=3.0,SNR=4.1						
SCHQ	Schefferville	122.84	34	PKP	PKPdf	00 04 04.9	-1.8
	comp=Z,3.8nm,1.0s,baz=170,slow=6.6,SNR=5.3						
SDV	Santo Domingo	122.88	89	PKP	PKPdf	00 04 06.0	-0.8
	comp=Z,1.7nm,0.3s,baz=199,slow=0.6,SNR=5.8						
BOSA	Boshof	122.91	220	PKP	PKPdf	00 04 07.6	+0.7
	comp=Z,11nm,0.8s,baz=135,slow=2.3,SNR=14						
BOSA	Boshof	122.91	220	PKIKP	PKPdf	00 04 07.6	+0.7
BOSA				pmax	pmax		
	comp=Z,11nm,0.8s						
QRN	Al-Qurain	123.11	294	eP	PKPdf	00 04 07.5	+0.3
QRN				AMb	AMB	00 04 09.0	
	comp=Z,108nm,0.7s						
RDF	Al-Radifah	123.43	295	eP	PKPdf	00 04 08.0	+0.2
RDF				AMb	AMB	00 04 09.7	
	comp=Z,101nm,0.7s						
MIB	Mutribah	123.61	296	eP	PKPdf	00 04 08.2	0.0
MIB				AMb	AMB	00 04 09.9	
	comp=Z,65nm,0.9s						
NAY	Al-Naaiem	123.70	295	eP	PKPdf	00 04 08.1	-0.3
NAY				AMb	AMB	00 04 10.0	
	comp=Z,27nm,0.9s						
JOF	Joensuu	123.77	338	epkp	PKPdf	00 04 06.6	-1.9
SAML	Samuel	124.15	112	ePKPdf	PKPdf	00 04 07.7	-1.6
DGRG	David-gareji	124.18	310	P	PKPdf	00 04 10.3	+1.0
MTA	Mtatsminda	124.57	310	P	PKPdf	00 04 10.4	+0.4
TBLG	Delisi	124.61	310	P	PKPdf	00 04 11.2	+1.1
GNI	Garni	124.87	308⇑	iPKIKP	PKPdf	00 04 11.2	+0.6
GNI	Garni	124.87	308	ePKPdf	PKPdf	00 04 11.8	+1.2
ZEI	Tsey	125.02	312	ePKIKP	PKPdf	00 04 11.1	+0.2
ONI	Oni	125.38	311	P	PKPdf	00 04 12.2	+0.6
OBN	Obninsk	125.56	328⇑	iPKIKP	PKPdf	00 04 11.3	-0.6
OBN				e		00 10 57.6	
OBN				pmax	pmax		
	comp=Z,13nm,0.8s						
OBN	Obninsk	125.56	328	ePKPdf	PKPdf	00 04 11.2	-0.7
KIV	Kislovodsk	125.63	313	ePKIKP	PKPdf	00 04 11.5	-0.6
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KIV	Kislovodsk	125.63	313	ePKPdf	PKPdf	00 04 12.2	+0.2
VRSR	Storozhevoye	125.71	323c	iPKIKP	PKPdf	00 04 11.6	-0.6
VRSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
KAF	Kangasniemi	126.08	339	epkp	PKPdf	00 04 10.8	-2.1
FINES	FINESS Array B	126.61	338	PKP	PKPdf	00 04 12.7	-1.2
	comp=E,6.4nm,0.7s,baz=43,slow=2.9,SNR=45						
FINES	FINESS Array B	126.61	338	PKIKP	PKPdf	00 04 12.7	-1.2
FINES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KMBO	Kilima Mbogo	128.18	256	PKP	PKPdf	00 04 19.0	+2.1
	comp=Z,4.1nm,1.0s,baz=34,slow=6.0,SNR=7.9						
KMBO	Kilima Mbogo	128.18	256	PKIKP	PKPdf	00 04 19.0	+2.1
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	Kilima Mbogo	128.18	256	PKP	PKPdf	00 04 19.0	+2.1
SJG	San Juan	128.68	79	PKP	PKPdf	00 04 17.0	-0.9
	comp=Z,13nm,0.6s,baz=22,slow=23,SNR=8.2						
SJG	San Juan	128.68	79	PKIKP	PKPdf	00 04 17.0	-0.9
SJG				pmax	pmax		
	comp=Z,13nm,0.6s						
SJG	San Juan	128.68	79	ePKPdf	PKPdf	00 04 17.0	-0.9
CPD	Cerro la Pandu	128.89	79	ePKPdf	PKPdf	00 04 17.5	-0.8
HUMP	Col San Antoni	128.97	79	ePKPdf	PKPdf	00 04 17.7	-0.8
MTP	Monte Pirata	129.24	79	ePKPdf	PKPdf	00 04 18.4	-0.6
LSZ	Lusaka	129.50	235	ePKPdf	PKPdf	00 04 19.2	-0.2
MALT	Malatya	130.03	307⇓	iP	PKPdf	00 04 22.1	+1.6
MALT	Malatya	130.03	307	ePKPdf	PKPdf	00 04 21.0	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NB2	**NORSAR Subarra**	**131.51**	**345**	PKPd	PKPdf	00 04 22.5	-0.8
	comp=Z,2.2nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**131.51**	**345**	PKP	PKPdf	00 04 23.0	-0.3
	comp=Z,5.0nm,0.6s,baz=34,slow=2.0,SNR=35						
NOA				SKPbc	SKPbc	00 07 36.3	+1.2
	comp=Z,3.5nm,0.8s,baz=33,slow=2.7,SNR=8.4						
NOA	**NORSAR Array B**	**131.51**	**345**	PKIKP	PKPdf	00 04 23.0	-0.3
NOA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
NOA				pmax	pmax		
	comp=N,4.0nm,0.8s						
AKASG	**Malin Array Be**	**131.59**	**326**	PKP	PKPdf	00 04 22.7	-0.7
	comp=N,4.9nm,0.6s,baz=60,slow=2.0,SNR=20						
AKASG				SKPbc	SKPbc	00 07 36.5	+1.1
	comp=N,1.5nm,0.7s,baz=54,slow=4.8,SNR=6.3						
AKASG	**Malin Array Be**	**131.59**	**326**	PKIKP	PKPdf	00 04 22.7	-0.7
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.7s						
AKBB	**Malin Array Si**	**131.59**	**326**	*e*PKPdf	PKPdf	00 04 22.3	-1.1
NAO01	**NORSAR Array S**	**131.76**	**345**	*e*PKPdf	PKPdf	00 04 24.1	+0.4
BDFB	**Brasilia**	**133.14**	**130**	PKP	PKPdf	00 04 26.3	-0.1
	comp=N,1.3nm,0.5s,baz=256,slow=4.2,SNR=3.2						
BDFB	**Brasilia**	**133.14**	**130**	PKIKP	PKPdf	00 04 26.3	0.0
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BR131	**Keskin Array S**	**133.27**	**310**	*e*PKPdf	PKPdf	00 04 26.9	+0.3
BRTR	**Keskin Array B**	**133.27**	**310**	PKP	PKPdf	00 04 26.6	0.0
	comp=Z,5.5nm,0.7s,baz=139,slow=4.2,SNR=29						
BRTR				SKPbc	SKPbc	00 07 42.6	+1.5
	comp=Z,0.2nm,0.4s,baz=44,slow=30,SNR=4.1						
EIL	**Elat**	**134.37**	**296**	*e*PKPdf	PKPdf	00 04 29.2	+0.6
CSS	**Prodhromos**	**134.78**	**304**	*e*PKPdf	PKPdf	00 04 30.3	+0.9
CFR	**Carcaliu**	**134.94**	**319**	⇓*i*P	PKPdf	00 04 31.4	+1.7
CFR	**Carcaliu**	**134.94**	**319**	⇓P	PKPdf	00 04 31.4	+1.6
BSD	**Bornholm Skovb**	**135.25**	**338**	⇓*i*P	PKPdf	00 04 30.9	+0.6
	comp=Z,12nm,0.8s						
BSD	**Bornholm Skovb**	**135.25**	**338**	⇓*i*PKIKP	PKPdf	00 04 30.9	+0.6
BSD				pmax	pmax		
	comp=Z,12nm,0.8s						
HARR	**Harsova**	**135.29**	**319**	⇓*i*P	PKPdf	00 04 32.6	+2.2
HARR	**Harsova**	**135.29**	**319**	⇓P	PKPdf	00 04 32.6	+2.2
BURAR	**Bucovina Array**	**135.45**	**324**	⇑*i*P	PKPdf	00 04 32.2	+1.5
BURAR	**Bucovina Array**	**135.45**	**324**	⇑P	PKPdf	00 04 32.2	+1.5
MLR	**Muntele Rosu**	**136.14**	**321**	⇑*i*P	PKPdf	00 04 31.9	0.0
MLR	**Muntele Rosu**	**136.14**	**321**	⇑P	PKPdf	00 04 31.9	0.0
KOLS	**Kolonicke sedl**	**136.30**	**327**	*e*PKIKP	PKPdf	00 04 32.4	+0.2
UZH	**Uzhgorod**	**136.47**	**327**	*e*PKIKP	PKPdf	00 04 33.0	+0.4
UZH				pmax	pmax		
	comp=Z,34nm,1.0s						
STHS	**Stebnicka Huta**	**136.53**	**328**	*e*PKIKP	PKPdf	00 04 33.4	+0.7
VOIR		**136.71**	**321**	⇓*i*P	PKPdf	00 04 36.7	+3.7
VOIR		**136.71**	**321**	⇓P	PKPdf	00 04 36.7	+3.7
OJC	**Ojcow**	**136.73**	**330**	*e*PKP	PKPdf	00 04 32.9	-0.1
NIE	**Niedzica**	**137.00**	**329**	*e*PKP	PKPdf	00 04 34.2	+0.7
DRGR		**137.33**	**324**	⇓*i*P	PKPdf	00 04 34.7	+0.6
DRGR		**137.33**	**324**	⇓P	PKPdf	00 04 34.7	+0.6
OKC	**Ostrava-Krasne**	**137.78**	**331**	*e*PKPdf	PKPdf	00 04 36.9	+1.9
BSEG	**Bad Segeberg**	**137.79**	**340**	*e*PKPdf	PKPdf	00 04 34.4	-0.6
BSEG	**Bad Segeberg**	**137.79**	**340**	*e*PKIKP	PKPdf	00 04 34.4	-0.6
GZR	**Gura Zlata**	**138.08**	**323**	⇓*i*P	PKPdf	00 04 35.5	0.0
GZR	**Gura Zlata**	**138.08**	**323**	⇓P	PKPdf	00 04 35.5	-0.1
MORC	**Moravsky Berou**	**138.10**	**331**	⇑*i*P	PKPdf	00 04 35.6	0.0
MORC	**Moravsky Berou**	**138.10**	**331**	⇑P	PKPdf	00 04 35.6	+0.1
PSZ	**Piszkesteto**	**138.17**	**327**	⇓*i*P	PKPdf	00 04 36.4	+0.7
PSZ	**Piszkesteto**	**138.17**	**327**	*e*PKPdf	PKPdf	00 04 35.9	+0.2
DPC	**Dobruska-Polom**	**138.25**	**332**	*e*PKPdf	PKPdf	00 04 36.4	+0.6
UPC	**Upice**	**138.28**	**333**	*e*PKP	PKPdf	00 04 34.8	-1.1
VYHS	**Vyhne**	**138.34**	**329**	*e*PKIKP	PKPdf	00 04 35.3	-0.7
BZS	**Buzias**	**138.63**	**324**	⇓*i*P	PKPdf	00 04 36.4	-0.1
BZS	**Buzias**	**138.63**	**324**	⇓P	PKPdf	00 04 36.4	-0.2
PVCC	**Panska Ves**	**138.89**	**334**	*e*PKPdf	PKPdf	00 04 37.4	+0.4
BRG	**Berggiesshubel**	**138.89**	**335**	*e*PKPdf	PKPdf	00 04 36.6	-0.4
BRG	**Berggiesshubel**	**138.89**	**335**	*e*PKPbc	SKPbc	00 08 00.7	+2.3
BRG	**Berggiesshubel**	**138.89**	**335**	*e*PKP	PKPdf	00 04 31.5	-5.5
	comp=Z,1.6nm,0.9s						
BRG				*i*		00 04 37.1	
	comp=Z,9.1nm,1.2s						
BRG				SKP		00 08 01.4	
	comp=Z,4.7nm,1.1s						
CLL	**Collm**	**138.94**	**336**	*e*PKPdf	PKPdf	00 04 37.1	0.0
CLL	**Collm**	**138.94**	**336**	*e*PKPbc	SKPbc	00 08 00.6	+2.1
CLL	**Collm**	**138.94**	**336**	*i* PKPdf	PKPdf	00 04 37.7	+0.6
	comp=Z,8.0nm,0.6s						
CLL				*e*(sSKPdf)		00 09 07.0	
CLL	**Collm**	**138.94**	**336**	*i* PKIKP	PKPdf	00 04 37.7	+0.6
CLL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CLL	**Collm**	**138.94**	**336**	*i* PKP	PKPdf	00 04 37.7	+0.6
CLL				*i* SKP		00 08 01.1	
CLL				*e*		00 09 07.0	
NRDL	**Niedersach Rie**	**139.05**	**339**	*e*PKPdf	PKPdf	00 04 37.2	-0.1
FBE	**Freiberg**	**139.09**	**335**	*e*PKPbc	SKPbc	00 08 01.1	+2.2
PRU	**Pruhonice**	**139.30**	**333**	*e*PKPdf	PKPdf	00 04 36.6	-1.2
PRU				*e*x	x	00 04 39.6	
VTS	**Vitosha**	**139.31**	**319**	⇑*i*P	PKPdf	00 04 37.5	-0.3
VTS	**Vitosha**	**139.31**	**319**	⇑P	PKPdf	00 04 37.5	-0.2
TREC	**Trest**	**139.39**	**332**	*e*PKPdf	PKPdf	00 04 37.6	-0.3
ZST	**Bratislava**	**139.40**	**330**	*e*PKIKP	PKPdf	00 04 37.9	0.0
NEUB	**Neuenburg**	**139.49**	**337**	*e*PKPbc	SKPbc	00 08 02.5	+2.5
TANN	**Tannenbergstha**	**139.84**	**335**	*e*PKPdf	PKPdf	00 04 39.3	+0.5
TANN	**Tannenbergstha**	**139.84**	**335**	*e*PKPbc	SKPbc	00 08 03.2	+2.2
WERD	**Werda**	**139.88**	**335**	*e*PKPbc	SKPbc	00 08 03.7	+2.6
PKSM	**Moragy**	**139.92**	**326**	⇑*i*P	PKPdf	00 04 38.4	-0.5
PKSM	**Moragy**	**139.92**	**326**	⇑P	PKPdf	00 04 38.4	-0.5
GUNZ	**Gunzen**	**139.94**	**335**	*e*PKPbc	SKPbc	00 08 03.1	+1.9
WERN	**Wernitzgruen**	**139.98**	**335**	*e*PKPbc	SKPbc	00 08 03.8	+2.5
NKC	**Novy Kostel**	**139.99**	**335**	*e*PKPdf	PKPdf	00 04 34.7	-4.3
MOX	**Moxa**	**140.00**	**336**	*e*PKPdf	PKPdf	00 04 38.5	-0.5
MOX	**Moxa**	**140.00**	**336**	*e*PKPbc	SKPbc	00 08 04.1	+2.7
MOX	**Moxa**	**140.00**	**336**	*e*PKP	PKPdf	00 04 38.5	-0.5
MANZ	**Manzenberg**	**140.32**	**335**	*e*PKPdf	PKPdf	00 04 39.6	0.0
MANZ	**Manzenberg**	**140.32**	**335**	*e*PKPbc	SKPbc	00 08 05.5	+3.3
VAY	**Valandovo**	**140.36**	**317**	*i* PKP	PKPdf	00 04 38.4	-1.3
KHC	**Kasperske Hory**	**140.36**	**333**	*e*PKPpre		00 04 32.4	
KHC				*e*PKPdf	PKPdf	00 04 37.0	-2.7
KHC				*e*SKP		00 08 04.5	
KHC	**Kasperske Hory**	**140.36**	**333**	⇑*i*PKIKP	PKPdf	00 04 39.7	0.0
KHC	**Kasperske Hory**	**140.36**	**333**	*e*PKP	PKPdf	00 04 32.4	-7.3
KHC				*e*		00 04 37.0	
STIP	**Stip**	**140.42**	**318**	*e*PKP	PKPdf	00 04 39.1	-0.7
ROTZ	**Rotzenmuhle**	**140.45**	**335**	*e*PKPbc	SKPbc	00 08 05.9	+3.3
SANT	**Santorini**	**140.47**	**309**	*e*PKPdf	PKPdf	00 04 41.4	+1.5
GEC2	**GERESS Array S**	**140.52**	**333**	*e*PKPdf	PKPdf	00 04 39.3	-0.7
GEC2	**GERESS Array S**	**140.52**	**333**	*e*PKPbc	SKPbc	00 08 05.5	+2.8
GEC2	**GERESS Array S**	**140.52**	**333**	*e*PKPdf	PKPdf	00 04 39.3	-0.7
GEC2				*e*PKPbc	SKPbc	00 08 05.5	+2.8
GERES	**GERESS Array B**	**140.52**	**333**	PKhKP		00 04 31.7	
	comp=Z,0.8nm,0.8s,baz=49,slow=4.1,SNR=8.6						
GERES				PKP	PKPdf	00 04 40.0	0.0
	comp=Z,4.9nm,0.8s,baz=75,slow=1.5,SNR=20						
GERES				SKPbc	SKPbc	00 08 03.6	+0.8
	comp=Z,2.7nm,0.8s,baz=40,slow=2.3,SNR=16						
WET	**Wettzell**	**140.65**	**334**	*e*PKPdf	PKPdf	00 04 40.1	-0.1
WET	**Wettzell**	**140.65**	**334**	*e*PKIKP	PKPdf	00 04 40.1	-0.1
SKO	**Skopje**	**140.75**	**319**	*e*PKP	PKPdf	00 04 40.3	-0.1
GRA1	**Grafenberg Arr**	**140.91**	**336**	*e*PKPdf	PKPdf	00 04 40.4	-0.3
GRA1				*e*PKPbc	SKPbc	00 08 05.5	+1.7
GRF	**Grafenberg Arr**	**140.91**	**336**	*e*PKPdf	PKPdf	00 04 40.4	-0.3
GRF	**Grafenberg Arr**	**140.91**	**336**	*e*PKPbc	SKPbc	00 08 05.5	+1.7
GRF	**Grafenberg Arr**	**140.91**	**336**	*e*PKIKP	PKPdf	00 04 40.4	-0.3
PERS	**Pernice**	**141.45**	**329**	*i* PKPdf	PKPdf	00 04 41.4	-0.3
PERS				*i*		00 04 43.9	
OHR	**Ohrid**	**141.61**	**318**	*e*PKP	PKPdf	00 04 41.8	-0.2
GCIS	**Gornji Cirnik**	**141.73**	**328**	*i* PKPdf	PKPdf	00 04 42.3	+0.1
GCIS				*i*		00 04 44.8	
MEM	**Membach**	**142.01**	**341**	PKP	PKPdf	00 04 42.8	+0.1
FUR	**Furstenfeldbru**	**142.08**	**334**	*e*PKPdf	PKPdf	00 04 39.4	-3.4
FUR	**Furstenfeldbru**	**142.08**	**334**	*e*PKIKP	PKPdf	00 04 39.4	-3.4
BOJS	**Bojanci**	**142.17**	**328**	*i* PKPdf	PKPdf	00 04 43.0	+0.1
BOJS				*i*		00 04 46.0	
WATA	**Walderalm**	**142.59**	**333**	⇓*i*P	PKPdf	00 04 40.6	-3.1
	comp=Z,6.8nm,1.0s						
WTTA	**Wattenberg**	**142.62**	**333**	⇑*i*P	PKPdf	00 04 40.0	-3.7
	comp=Z,17nm,1.0s						
WLF	**Walferdange**	**142.78**	**340**	*e*PKPdf	PKPdf	00 04 40.5	-3.5
WLF	**Walferdange**	**142.78**	**340**	PKP	PKPdf	00 04 40.7	-3.4
WLF	**Walferdange**	**142.78**	**340**	*e*PKPdf	PKPdf	00 04 40.6	-3.4
MOTA	**Moosalm**	**142.79**	**333**	⇑*i*P	PKPdf	00 04 40.4	-3.7
	comp=Z,11nm,1.0s						
SQTA	**Sankt Quirin**	**142.84**	**333**	⇑*i*P	PKPdf	00 04 40.7	-3.5
	comp=Z,12nm,1.0s						
DOU	**Dourbes**	**142.90**	**342**	PKP	PKPdf	00 04 40.9	-3.4
BFO	**Black Forest**	**143.13**	**337**	*e*PKPdf	PKPdf	00 04 40.8	-3.8
BFO	**Black Forest**	**143.13**	**337**	*e*PKHKP	PKPdf	00 04 40.8	-3.8
DAVA	**Damuels**	**143.36**	**334**	⇓*i*P	PKPdf	00 04 42.6	-2.4
	comp=Z,19nm,0.9s						
DAVA	**Damuels**	**143.36**	**334**	⇓*i*P	PKPdf	00 04 42.6	-2.4
WLS	**Welschbruch**	**143.43**	**338**	PKP	PKPdf	00 04 42.8	-2.4
CDF	**Champ du Feu**	**143.46**	**338**	*e*PKP1	PKPdf	00 04 42.1	-3.1
	comp=Z,46nm,1.0s						
CTI	**Castel Tesino**	**143.53**	**331**	PKP	PKPdf	00 04 42.8	-2.5
FELD	**Feldberg im Sc**	**143.63**	**337**	PKP	PKPdf	00 04 43.0	-2.5
ECH	**Echery**	**143.67**	**338**	PKP	PKPdf	00 04 42.8	-2.8
BRMO	**Bormio**	**143.78**	**333**	PKP	PKPdf	00 04 44.4	-1.4
MOF	**Molkenrain**	**143.98**	**337**	PKP	PKPdf	00 04 43.6	-2.5
THEF	**They Montfort**	**144.07**	**339**	PKP	PKPdf	00 04 44.3	-2.0
HINF	**Hinteralfeld**	**144.11**	**338**	⇑*i*PKP1	PKPdf	00 04 44.0	-2.4
	comp=Z,34nm,0.7s						
HAU	**Haudompre**	**144.13**	**338**	⇑*i*PKP1	PKPdf	00 04 44.4	-2.0
	comp=Z,71nm,0.8s						
MEZF	**Maizieres J'vi**	**144.15**	**340**	⇑*i*PKP1	PKPdf	00 04 44.8	-1.6
	comp=Z,62nm,0.7s						
TUE	**Stuetta**	**144.23**	**334**	PKP	PKPdf	00 04 45.5	-1.1
RGNG	**Rignano Grg**	**144.49**	**323**	PKP	PKPdf	00 04 45.8	-1.2
LOMF	**Lomont**	**144.51**	**337**	PKP	PKPdf	00 04 46.2	-0.9
FSSB	**Fossombrone**	**144.70**	**328**	PKP	PKPdf	00 04 46.8	-0.6
CING	**Cingoli**	**144.70**	**327**	PKP	PKPdf	00 04 47.1	-0.3
ARV	**Arcevia**	**144.75**	**327**	PKP	PKPdf	00 04 47.3	-0.2
SNTG	**Esanatoglia**	**144.92**	**327**	PKP	PKPdf	00 04 47.9	+0.1
ORI	**Oriolo Calabro**	**144.95**	**320**	PKP	PKPdf	00 04 48.4	+0.6
SFI	**Santa Sofia**	**145.02**	**329**	PKP	PKPdf	00 04 48.7	+0.8
ZCCA	**Zocca**	**145.12**	**330**	PKP	PKPdf	00 04 49.2	+1.1
VMG	**Vicchio**	**145.13**	**329**	PKP	PKPdf	00 04 49.0	+0.9
CDCA	**Citt' di Caste**	**145.14**	**328**	PKP	PKPdf	00 04 48.9	+0.8
SEI	**Scarperia**	**145.15**	**329**	PKP	PKPdf	00 04 48.6	+0.4
CRE	**Caprese Michel**	**145.17**	**328**	PKP	PKPdf	00 04 48.5	+0.3
FNVD	**Fontana Vidola**	**145.18**	**330**	PKP	PKPdf	00 04 49.2	+1.0
ASS	**Assisi**	**145.20**	**327**	PKP	PKPdf	00 04 48.0	-0.2
AQU	**L'Aquila**	**145.29**	**325**	⇓*i*P	PKPdf	00 04 48.7	+0.3
AQU	**L'Aquila**	**145.29**	**325**	*e*PKPdf	PKPdf	00 04 48.4	0.0
GSCL	**Gusciola**	**145.30**	**330**	PKP	PKPdf	00 04 48.8	+0.4
ERBM	**Eremo**	**145.34**	**331**	PKP	PKPdf	00 04 49.4	+0.9
CABF	**La Chapelle**	**145.41**	**337**	⇑*i*PKP1	PKPbc	00 04 49.3	+0.5
	comp=Z,288nm,1.0s						
ORO	**Oropa**	**145.47**	**334**	PKP	PKPdf	00 04 48.8	+0.1
FLN	**La Foliniere**	**145.48**	**346**	⇑*i*PKP1	PKPbc	00 04 48.5	-0.6
	comp=Z,157nm,0.7s						
FIAM	**Fiamignano**	**145.50**	**326**	PKP	PKPdf	00 04 49.3	+0.5
BDI	**Bagni Di Lucca**	**145.51**	**330**	PKP	PKPdf	00 04 48.6	-0.2
BOB	**Bobbio (Coli)**	**145.51**	**332**	PKP	PKPdf	00 04 48.9	+0.1
LDF	**La Druitiere**	**145.55**	**345**	⇑*i*PKP1	PKPbc	00 04 48.6	-0.7
	comp=Z,115nm,0.8s						
CSNT	**Castellina Chi**	**145.61**	**329**	PKP	PKPdf	00 04 48.3	-0.6
LOR	**Lormes**	**145.62**	**340**	⇑*i*PKP1	PKPbc	00 04 49.5	0.0
	comp=Z,112nm,0.9s						
GRI	**Girifalco**	**145.68**	**318**	PKP	PKPdf	00 04 49.8	+0.7
PII	**Pisa**	**145.80**	**330**	PKP	PKPdf	00 04 49.0	-0.3
GRR	**Gorron**	**145.92**	**346**	⇑*i*PKP1	PKPbc	00 04 50.1	-0.3
	comp=Z,162nm,0.9s						
SSF	**Saint Saulge**	**145.92**	**340**	⇑*i*PKP1	PKPbc	00 04 50.5	+0.1
	comp=Z,116nm,0.6s						
GRFL	**Gerfalco**	**146.00**	**329**	PKP	PKPdf	00 04 49.7	+0.1
HYF	**Humbligny**	**146.01**	**342**	⇑*i*PKP1	PKPbc	00 04 51.0	+0.3
LPL	**La Plagne**	**146.07**	**336**	⇑*i*PKP1	PKPbc	00 04 51.4	+0.5
	comp=Z,57nm,0.7s						
LPG	**La Plagne**	**146.08**	**336**	⇑*i*PKP1	PKPbc	00 04 51.6	+0.7
	comp=Z,75nm,0.7s						
SMF	**Signal de Mont**	**146.17**	**340**	⇑*i*PKP1	PKPbc	00 04 50.9	-0.3
	comp=Z,89nm,0.8s						
AVF	**Avril sur Loir**	**146.21**	**340**	⇑*i*PKP1	PKPbc	00 04 50.9	-0.4
	comp=Z,73nm,0.9s						
SOI	**Samo**	**146.34**	**317**	PKP	PKPdf	00 04 51.9	+1.7
SGMF	**Saint Gilles**	**146.41**	**348**	⇑*i*PKP1	PKPbc	00 04 51.4	-0.4
	comp=Z,84nm,0.7s						
ROSF	**Rostrenen**	**146.47**	**349**	⇑*i*PKP1	PKPbc	00 04 51.5	-0.5
	comp=Z,99nm,1.0s						
BNI	**Bardonecchia**	**146.48**	**335**	*e*PKPdf	PKPdf	00 04 50.9	+0.5
FIN	**Finale Ligure**	**146.50**	**333**	PKP	PKPdf	00 04 51.5	+1.0
BGF	**Bois d'Agland**	**146.57**	**341**	⇑*i*PKP1	PKPbc	00 04 52.2	-0.1
	comp=Z,127nm,0.6s						
GDM	**Grand'Maison**	**146.57**	**336**	PKP	PKPdf	00 04 53.0	+2.4
GRN	**Grenoble**	**146.69**	**336**	PKP	PKPdf	00 04 53.3	+2.5
MBDF	**Montbardon**	**146.70**	**335**	⇑*i*PKP1	PKPbc	00 04 52.6	-0.1
	comp=Z,52nm,0.8s						
PLDF	**La Plantade**	**146.84**	**339**	PKP	PKPdf	00 04 53.4	+2.4
QUIF	**Quistinic**	**146.85**	**349**	⇑*i*PKP1	PKPbc	00 04 52.3	-0.8
	comp=Z,40nm,0.7s						
SURF	**Saint Ours**	**146.89**	**334**	PKP	PKPdf	00 04 53.7	+2.6
ORIF	**Oris-en-Rattie**	**146.91**	**336**	⇑*i*PKP1	PKPbc	00 04 53.4	+0.1
	comp=Z,71nm,0.8s						
AGO	**Saint Agoulin**	**146.93**	**340**	PKP	PKPdf	00 04 53.7	+2.5
SAOF	**Saorge**	**146.97**	**333**	PKP	PKPdf	00 04 53.4	+2.2
TCF	**Toulx Ste Croi**	**147.02**	**341**	⇑*i*PKP1	PKPbc	00 04 53.4	-0.2
	comp=Z,88nm,0.9s						
AUTN	**L'Aution**	**147.02**	**333**	PKP	PKPdf	00 04 52.4	+1.1
TOUF	**Mont Tournerai**	**147.08**	**333**	PKP	PKPbc	00 04 54.0	+0.3
SBF	**Sospel**	**147.12**	**333**	*e*PKP1	PKPbc	00 04 53.4	-0.5
	comp=Z,158nm,0.9s						
MVIF	**Mont Vial**	**147.22**	**333**	PKP	PKPbc	00 04 56.3	+2.2
PYM	**Petit Puy Mans**	**147.24**	**340**	PKP	PKPbc	00 04 54.8	+0.6
MFF	**Saint Martin d**	**147.41**	**344**	⇑*i*PKP1	PKPbc	00 04 54.4	-0.2
	comp=Z,148nm,0.8s						
VIVF	**Saint-Julien-l**	**147.42**	**337**	⇑*i*PKP1	PKPbc	00 04 54.7	0.0
	comp=Z,66nm,1.1s						
LBL	**Lubilhac**	**147.61**	**339**	PKP	PKPbc	00 04 55.8	+0.6
FRF	**La Foret Royal**	**147.70**	**334**	⇑*i*PKP1	PKPbc	00 04 55.1	-0.3
	comp=Z,49nm,0.9s						
SMRF	**Simiane la Rot**	**147.81**	**335**	⇑*i*PKP1	PKPbc	00 04 56.0	+0.3
	comp=Z,50nm,0.8s						
VILF	**Villemus**	**147.85**	**335**	PKP	PKPbc	00 04 57.0	+1.2
TAVF	**Tavernes**	**147.91**	**334**	PKP	PKPbc	00 04 57.3	+1.3
LMR	**La Mourre**	**147.94**	**333**	*e*PKP1	PKPbc	00 04 55.8	-0.3
	comp=Z,127nm,1.1s						
RJF	**Les Rejaudoux**	**148.11**	**341**	⇑*i*PKP1	PKPbc	00 04 56.5	0.0
	comp=Z,44nm,0.7s						
PRAF	**Pradon**	**148.12**	**335**	PKP	PKPbc	00 04 57.5	+1.0
PUYF	**Puyloubier**	**148.12**	**335**	PKP	PKPbc	00 04 57.5	+0.9
TREF	**Trevaresse**	**148.18**	**335**	PKP	PKPbc	00 04 57.9	+1.2
CAF	**Calviac**	**148.28**	**340**	⇑*i*PKP1	PKPbc	00 04 57.1	+0.2
	comp=Z,51nm,0.9s						
BERF	**Bertagne**	**148.31**	**334**	PKP	PKPbc	00 04 57.9	+0.9
GELF	**Grande-Etoile**	**148.36**	**335**	PKP	PKPbc	00 04 57.7	+0.5
LASF	**Ste Croix**	**148.39**	**337**	⇑*i*PKP1	PKPbc	00 04 57.5	+0.3
	comp=Z,84nm,0.9s						
LFF	**La Frestale**	**148.68**	**342**	⇑*i*PKP1	PKPbc	00 04 58.0	0.0
	comp=Z,67nm,0.8s						
VSL	**Villasalto**	**149.46**	**326**	*e*PKPdf	PKPdf	00 04 54.5	-0.8
MTLF	**Montolieu**	**149.62**	**339**	⇑*i*PKP1	PKPbc	00 05 00.4	+0.1
	comp=Z,80nm,0.9s						
EPF	**Esparros**	**150.53**	**341**	*e*PKP1	PKPbc	00 05 02.4	-0.1
	comp=Z,58nm,1.0s						
SJPF	**Ste Jean**	**150.92**	**343**	*e*PKP1	PKPbc	00 05 03.6	+0.2
	comp=Z,29nm,0.8s						
ETSF	**Etsaut**	**150.93**	**342**	⇑*i*PKP1	PKPbc	00 05 04.0	+0.6
	comp=Z,52nm,0.7s						
KEST	**Kesra**	**152.03**	**320**	PKPbc	PKPbc	00 05 06.8	+0.8
	comp=Z,17nm,0.8s,baz=259,slow=0.3,SNR=58						
CMAH	**Djebel Manchou**	**152.58**	**324**	P	PKPbc	00 05 07.5	+0.3
ABSA	**Djebel Ababsia**	**152.79**	**323**	P	PKPbc	00 05 08.0	+0.3
CKFL	**Kef-Lekhel**	**153.14**	**324**	P	PKPbc	00 05 09.0	+0.6
CASM	**Ain Smara**	**153.37**	**324**	P	PKPbc	00 05 09.5	+0.6
DFRA	**Djebel Bou Aff**	**153.50**	**325**	P	PKPbc	00 05 10.4	+1.2
CTEI	**Djebel Teioual**	**153.56**	**324**	P	PKPbc	00 05 11.0	+1.7
SET	**Setif**	**154.02**	**326**	P	PKPbc	00 05 12.0	+1.7
ESDC	**Sonseca Array**	**154.87**	**344**	PKPbc	PKPbc	00 05 12.0	-0.1
	comp=Z,1.8nm,0.9s,baz=15,slow=4.6,SNR=7.2						
ESDC				PKPab	PKPab	00 05 28.0	+0.1
	comp=Z,3.4nm,0.8s,baz=8.9,slow=3.2,SNR=11						
TOA0	**Torodi Ar. Sit**	**166.09**	**262**	*e*PKPdf	PKPdf	00 05 15.7	+0.2
TORD	**Torodi Ar. Bea**	**166.09**	**262**	PKP	PKPdf	00 05 15.2	-0.4
	comp=Z,2.8nm,0.6s,baz=8.0,slow=0.7,SNR=39						
TORD				PKPab	PKPab	00 06 17.7	+0.8
	comp=Z,2.9nm,1.0s,baz=88,slow=3.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**166.09**	**262**	PKP	PKPdf	00 05 15.2	-0.4
TORD				PKPab	PKPab	00 06 17.7	+0.8
DBIC	**Dimbokro**	**168.44**	**221**	PKP	PKPdf	00 05 17.0	-0.3
	comp=Z,8.1nm,1.0s,baz=148,slow=2.7,SNR=5.0						
DBIC				PKPab	PKPab	00 06 28.1	+0.9
	comp=Z,3.7nm,0.7s,baz=140,slow=6.4,SNR=6.5						
DBIC	**Dimbokro**	**168.44**	**221**	PKIKP	PKPdf	00 05 17.0	-0.3
DBIC						00 06 28.1	
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.0s						

IDC ***19*** *00:00:38.0±7.1, 6.28S×129.87E, h110km±68km, mb4.0/4, mb1 4.1/7, mb1mx3.8/15, mbtmp4.4/7, Error ellipse: s-maj=52.8km s-min=27.1km az=67.0*

NEIC ***19*** *00:00:37.5±2.9, 6.22S×129.91E, h106km±27km, mb4.0/4, Error ellipse: s-maj=25.7km s-min=15.7km az=54.0*

ISCJB ***19*** *00:00:41.3±2.5, 6.4S±0.1×129.9E±0.2, h160km±23km, mb4.0/6, Error ellipse: s-maj=30.4km s-min=13.1km az=133.4*

ISC 19 00:00:38.4±3.4**, 6.2S**±0.2×**129.9E**±0.2**, h115**km±32km**, n15, σ0.83**/19**, mb4.0**/6**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.50**	**199**	P	**Pn**	**00 03 31.7**	**-0.5**
	1.8nm,0.3s,baz=30,slow=12,SNR=75						
FITZ				S	**Sn**	**00 05 42.0**	**-7.8**
	3.1nm,0.3s,baz=126,slow=22,SNR=9.0						
WRAB	**Tennant Creek**	**14.28**	**163**	*e*Pn	**Pn**	**00 03 55.4**	**+0.2**
WRA	**Warramunga Arr**	**14.28**	**163**	P	**Pn**	**00 03 54.0**	**-1.3**
	1.3nm,0.3s,baz=340,slow=13,SNR=34						
WRA				S	**Sn**	**00 06 25.1**	**-7.7**
	5.0nm,0.3s,baz=335,slow=22,SNR=11						
WB2	**Warramunga Arr**	**14.29**	**163**	*e*Pn	**Pn**	**00 03 55.9**	**+0.6**
WB2				*e*Sn	**Sn**	**00 06 23.1**	**-10**
ASAR	**Alice Springs**	**17.75**	**168**	P	**Pn**	**00 04 39.0**	**+0.8**
	1.7nm,0.3s,baz=344,slow=10,SNR=65						
ASAR				S	**S**	**00 07 45.4**	**-10**
	0.3nm,0.3s,baz=344,slow=26,SNR=5.6						
MBWA	**Marble Bar**	**17.81**	**213**	*e*Pn	**Pn**	**00 04 39.2**	**+0.3**
	4.0nm,0.5s						
STKA	**Stephens Creek**	**27.75**	**158**	P	**P**	**00 06 15.4**	**-0.7**
	2.4nm,0.8s,mb3.8,baz=340,slow=12,SNR=2.5						
NWAO	**Narrogin (SRO)**	**29.05**	**202**	P	**P**	**00 06 27.7**	**0.0**
	2.0nm,0.3s,mb4.2,baz=50,slow=9.5,SNR=6.9						
NWAO	**Narrogin (SRO)**	**29.05**	**202**	*e*P	**P**	**00 06 28.0**	**+0.3**
	4.4nm,0.6s,mb4.3						
TAU	**Tasmania Unive**	**39.63**	**160**	P	**P**	**00 08 00.4**	**+1.6**
MKAR	**Makanchi Array**	**67.54**	**327**	P	**P**	**00 11 23.2**	**+0.9**
	2.6nm,0.5s,mb4.3,baz=133,slow=6.1,SNR=2.1						
ZAL	**Zalesovo**	**70.87**	**334**	P	**P**	**00 11 42.2**	**-0.6**
	1.0nm,0.4s,mb4.0,baz=278,slow=3.3,SNR=3.4						
ZAL	**Zalesovo**	**70.87**	**334**	P	**P**	**00 11 42.2**	**-0.6**
VNDA	**Vanda**	**73.21**	**173**	*e*P	**P**	**00 11 55.5**	**-1.3**
	0.5nm,0.6s,mb3.5						
CHKZ	**Chkalovo**	**77.57**	**328**	*e*P	**P**	**00 12 21.6**	**-0.1**
	0.6nm,0.2s,mb4.0						

ISCJB ***19*** *00:04:40.1±3.8, 7.31N±0.09×77.61W±0.05, h15km±36km, mb3.9/3, Error ellipse: s-maj=16.2km s-min=7.8km az=31.9*

CASC ***19*** *00:04:42.8±1.4, 7.06N×77.97W, h3km±73km, mb3.6(NEIC)*

IDC ***19*** *00:04:43.9±1.7, 7.04N×77.44W, h0km, mb3.6/1, mb1 3.8/4, mb1mx3.5/23, mbtmp3.9/4, ML4.1/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=43.7km s-min=28.8km az=176.0*

NEIC ***19*** *00:04:48.1±0.8, 7.20N×77.34W, h35km, mb3.6/1, Error ellipse: s-maj=21.9km s-min=13.4km az=205.0*

ISC 19 00:04:41.6±4.2**, 7.3N**±0.1×**77.67W**±0.05**, h7**km±29km**, n12, σ1.08**/14**, mb3.9**/3**, 1C-1D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**1.27**	**344**	*e*S	**Sb**	**00 05 30.4**	**+8.2**
ACH	**Altos**	**2.60**	**301**	⇓*i*P	**Pn**	**00 05 23.9**	**-0.1**
ACH				*e*S	**Sn**	**00 05 56.9**	**+1.0**
AZU	**Azuero**	**2.62**	**280**	⇑*i*P	**Pn**	**00 05 23.5**	**-0.8**
AZU				*e*S	**Sn**	**00 05 53.1**	**-3.2**
ROSC	**El Rosal**	**4.13**	**126**	Pn	**Pn**	**00 05 43.8**	**-1.1**
	2.0nm,0.3s,baz=288,slow=15,SNR=11						
SDV	**Santo Domingo**	**7.14**	**77**	Pn	**Pn**	**00 06 28.2**	**+1.9**
	2.7nm,0.3s,baz=335,slow=12,SNR=6.8						
SDV				Sn	**Sn**	**00 07 46.8**	**-0.8**
	5.2nm,0.3s,baz=266,slow=23,SNR=7.6						
SDV				LR	LR	00 09 36.9	
	comp=Z,69nm,18.3s,baz=69,slow=42						
SDV	**Santo Domingo**	**7.14**	**77**	*e*Pn	**Pn**	**00 06 26.6**	**+0.2**
SDV				*e*Sn	**Sn**	**00 07 47.0**	**-0.6**
SDV				LR	LR	00 09 36.9	
ATAH	**Atahualpa**	**14.24**	**183**	Pn	**Pn**	**00 08 04.1**	**+0.5**
	1.1nm,0.3s,baz=311,slow=12,SNR=3.1						
SIV	**San Ignacio**	**28.40**	**145**	P	**P**	**00 10 37.6**	**+1.1**
	0.4nm,0.5s,mb3.3,baz=325,slow=12,SNR=3.8						
NATX	**Nacogdoches**	**29.02**	**329**	*e*P	**P**	**00 10 52.4**	**+10**
	17nm,0.5s,mb5.0						
ANMO	**Albuquerque**	**38.16**	**320**	P	**P**	**00 12 06.7**	**+5.3**
	0.4nm,0.4s,mb3.5						
ASAR	**Alice Springs**	**145.63**	**238**	PKPbc	PKPbc	00 24 25.3	+4.5
	0.3nm,0.6s,baz=129,slow=3.3,SNR=6.4						
WRA	**Warramunga Arr**	**146.54**	**245**	PKPbc	PKPbc	00 24 27.0	+3.4
	0.4nm,0.8s,baz=103,slow=3.4,SNR=5.3						

MAN 19 00:22:34.2, 13.94N×122.77E, h15km, mb1.8, ML3.6, MS1.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.31**	**263**	⇑*e*P	Pg	00 22 41.7	+1.0
GQP				*e*S	Sg	00 22 45.6	+0.5
BOAC	**Boac**	**1.02**	**242**	*e*P	Pb	00 22 51.7	-1.7
BOAC				*e*S	Sb	00 23 08.2	+1.6
POLP	**Polilio Island**	**1.12**	**314**	*e*P	Pb	00 22 54.3	-0.9
POLP				*e*S	Sb	00 23 10.7	+1.1
LQP	**Lukban**	**1.20**	**278**	*e*P	Pn	00 22 52.6	-3.8
PVCP	**Virac**	**1.39**	**104**	*e*P	Pn	00 22 58.3	-0.7
PVCP				*e*S	Sn	00 23 17.6	+0.5
OTRP	**Odiongan**	**1.73**	**205**	*e*P	Pn	00 23 04.1	+0.4
BALP	**Baler**	**2.12**	**327**	*e*P	Pn	00 23 11.7	+2.6
BALP				*e*S	Sn	00 23 41.5	+6.3

NIC ***19*** *00:28:48.1±0.2, 37.03N×35.55E, h45km, mb4.4, ML4.1, MW3.6*

IDC ***19*** *00:28:51.1±1.4, 35.98N×35.68E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, ML2.2/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/31, Error ellipse: s-maj=23.7km s-min=19.1km az=169.0*

ISK ***19*** *00:28:51.7, 35.91N×35.75E, h22km, ML4.0*

NEIC ***19*** *00:28:52.0, 35.95N×35.77E, h22km, mb4.2/10, ML4.1(NIC), ML3.8(ISK), MW3.5(GII), After ISK.*

ISCJB ***19*** *00:28:52.4±0.2, 36.06N±0.02×35.74E±0.02, h10km, mb3.8/18, MS3.0/3, Error ellipse: s-maj=2.7km s-min=2.1km az=59.9*

CSEM ***19*** *00:28:54.7±0.0, 36.14N×35.72E, h30km, mb4.2/10, Mw3.2, Error ellipse: s-maj=1.5km s-min=1.1km az=101.0*

GII ***19*** *00:28:58.5±0.0, 35.69N×35.32E, h0km, mb4.1/5, ML3.9/6, Mw3.5/5*

GRAL ***19*** *00:29:07.4±2.2, 35.17N×35.72E, h7km±17km, MD3.7*

ISC 19 00:28:53.7±0.2**, 36.06N**±0.02×**35.74E**±0.02**, h10**km**, n158, σ1.20**/176**, mb3.8**/18**, MS3.0**/3**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.33**	**79**	*i* PG	**Pg**	**00 29 00.4**	**+0.1**
HTY	**Hatay**	**0.33**	**79**	Pg	**Pg**	**00 29 00.2**	**0.0**
HTY				Sg	**Sg**	**00 29 05.2**	**+0.5**
KRTS	**Karatas**	**0.59**	**331**	PG	**Pg**	**00 29 05.7**	**+0.6**
KRTS				SG	**Sg**	**00 29 17.4**	**+4.5**
COBT	**Iskenderun**	**0.62**	**42**	*i* P	**Pg**	**00 29 04.7**	**-1.0**
COBT				*i* S	**Sg**	**00 29 13.0**	**-0.9**
CEYT	**Ceyhan**	**0.95**	**1**	PN	**Pg**	**00 29 12.2**	**+0.2**
CEYT	**Ceyhan**	**0.95**	**1**	Pg	**Pg**	**00 29 12.4**	**+0.4**
CEYT				Sg	**Sg**	**00 29 26.4**	**+2.1**
KARA	**Karaisali**	**1.32**	**336**	PN	**Pn**	**00 29 16.7**	**-1.4**
MEST	**Erdemli**	**1.39**	**293**	*i* P	**Pn**	**00 29 16.4**	**-2.6**
MEST				*i* S	**Sn**	**00 29 39.2**	**+1.7**
KOZT	**Kozan**	**1.42**	**3**	PN	**Pn**	**00 29 18.7**	**-0.9**
GAZ	**Gaziantep**	**1.63**	**46**	PN	**Pn**	**00 29 21.5**	**-0.9**
GAZ	**Gaziantep**	**1.63**	**46**	Pn	**Pn**	**00 29 21.6**	**-0.8**
IKL	**Isikli**	**1.67**	**277**	PN	**Pn**	**00 29 20.1**	**-2.8**
IKL	**Isikli**	**1.67**	**277**	Pn	**Pn**	**00 29 21.6**	**-1.4**
IKL	**Isikli**	**1.67**	**277**	Pn	**Pn**	**00 29 21.6**	**-1.3**
KMRS	**Kahramanmaras**	**1.72**	**33**	PN	**Pn**	**00 29 22.5**	**-1.2**
PHNC	**Paralimni**	**1.74**	**233**	P	**Pn**	**00 29 23.4**	**-0.5**
	19nm,0.7s						
PHNC				S	**Sg**	**00 29 53.2**	**+3.5**
HWQ	**Hawqa**	**1.78**	**174**	*e*P	**Pn**	**00 29 23.9**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HWQ				eS	Pg	00 29 36.6	+8.8
GZT	Gaziantep	1.96	48	i P	Pn	00 29 25.1	-1.8
GZT				i S	Sg	00 29 57.1	+0.5
BHL	Bhannes	2.15	182	eP	Pn	00 29 29.4	-0.1
BHL				eS	Sn	00 29 46.7	-10
MAMC	Mammari	2.23	247	P	Pn	00 29 29.0	-1.7
CSS	Prodhromos	2.25	242	P	Pn	00 29 29.8	-1.1
	5.4nm,0.6s						
CSS				S	Sn	00 30 03.2	+4.6
ERMK	Ermenek	2.35	285	i P	Pn	00 29 33.2	+0.8
ERMK				i S	Sg	00 30 12.2	+3.0
ATAB	Bozova	2.49	55	i P	Pn	00 29 33.6	-0.6
ATAB				i S	Sg	00 30 15.4	+1.6
RCY	Rachaya	2.57	178	eP	Pn	00 29 36.5	+1.2
MATL	Matirih	2.58	188	eP	Pn	00 29 34.8	-0.7
ALFC	Alevga	2.71	252	P	Pn	00 29 34.0	-3.2
	12nm,0.5s						
ALFC				S	Sn	00 30 09.9	-0.2
HDMB	Hadim	2.77	290	ePN	Pn	00 29 37.8	-0.3
HDMB	Hadim	2.77	290	Pn	Pn	00 29 37.8	-0.3
HRI	Mount Hermon	2.79	180	Pn	Pn	00 29 40.1	+1.8
BNN	Bunyan	2.79	2	ePN	Pn	00 29 38.8	+0.4
BNN	Bunyan	2.79	2	Pn	Pn	00 29 38.8	+0.4
AVNT	Avonos	2.81	346	i P	Pn	00 29 39.1	+0.5
URFA	Urfa	2.84	60	ePN	Pn	00 29 38.2	-0.8
URFA	Urfa	2.84	60	Pn	Pn	00 29 38.6	-0.4
URFA	Urfa	2.84	60	Pn	Pn	00 29 38.7	-0.3
KSDI	Kefar Szold	2.86	181	Pn	Pn	00 29 40.0	+0.7
KSDI	Kefar Szold	2.86	181	Pn	Pn	00 29 39.5	+0.2
HNTI	Hanita	3.00	189	Pn	Pn	00 29 41.4	+0.1
HNTI				Sn	Sn	00 30 15.6	-1.7
PPCY	Paphos	3.00	248	P	Pn	00 29 40.8	-0.5
MMC7	Mount Meron ar	3.04	185	Pn	Pn	00 29 41.7	-0.1
MMA0B	Mount Meron ar	3.05	185	Pn	Pn	00 29 42.1	+0.2
MMA0B				Sn	Sn	00 30 16.2	-2.2
KSHT	Keshet	3.07	179	Pn	Pn	00 29 44.0	+1.8
MALT	Malatya	3.11	43	ePn	Pn	00 29 42.2	-0.6
MALT				eS	Sg	00 30 33.2	-0.4
MALT	Malatya	3.11	43	ePn	Pn	00 29 42.2	-0.6
MYA	Malataya	3.12	43	ePN	Pn	00 29 42.4	-0.5
MYA	Malataya	3.12	43	Pn	Pn	00 29 42.9	0.0
MYA	Malataya	3.12	43	Pn	Pn	00 29 42.9	0.0
KONT	Konya--Tatoy	3.29	306	ePN	Pn	00 29 45.5	+0.2
KONT	Konya--Tatoy	3.29	306	Pn	Pn	00 29 45.2	0.0
KONT	Konya--Tatoy	3.29	306	Pn	Pn	00 29 45.2	-0.1
GLH	Golan-Tel Qazi	3.34	181	Pn	Pn	00 29 47.4	+1.5
OFRI	'Ofer	3.48	190	Pn	Pn	00 29 47.8	-0.1
YOZ	Yozgat	3.59	355	ePN	Pn	00 29 50.2	+0.8
YOZ	Yozgat	3.59	355	Pn	Pn	00 29 50.7	+1.3
MMLI	Mount Malkishu	3.62	184	Pn	Pn	00 29 50.9	+1.1
KAMT	Kaman	3.67	335	ePN	Pn	00 29 51.3	+0.8
KAMT	Kaman	3.67	335	Pn	Pn	00 29 51.9	+1.4
HMDT	Nahal Hemdat	3.80	183	Pn	Pn	00 29 53.3	+1.1
SLTI	Sal'it	3.85	189	Pn	Pn	00 29 53.3	+0.4
SLTI				Sn	Sn	00 30 36.6	-1.7
SVSK	Karacayir	3.98	14	ePN	Pn	00 29 55.1	+0.4
SVSK	Karacayir	3.98	14	Pn	Pn	00 29 55.2	+0.5
ASF	Jabal al Asfar	3.99	166	Pn	Pn	00 29 56.9	+2.0
	1.1nm,0.3s,baz=233,slow=10,SNR=13						
ASF				Sn	Sn	00 30 37.8	-3.9
	3.9nm,0.3s,baz=206,slow=23,SNR=7.6						
ASF				Lg		00 30 56.1	
	12nm,0.3s,baz=69,slow=23,SNR=9.3						
BRTR	Keskin Array B	4.02	336	Pn	Pn	00 29 56.6	+1.4
	1.1nm,0.3s,baz=176,slow=14,SNR=26						
BRTR				Lg		00 31 01.9	
	1.4nm,0.3s,baz=155,slow=30,SNR=6.9						
BR131	Keskin Array S	4.02	336	ePn	Pn	00 29 56.3	+1.0
BR131				eSn	Sn	00 30 46.0	+3.6
BR131	Keskin Array S	4.02	336	ePn	Pn	00 29 56.3	+1.0
DIY	Diyarbakir	4.04	62	ePN	Pn	00 29 54.6	-0.9
DIY	Diyarbakir	4.04	62	Pn	Pn	00 29 54.6	-0.9
PTK	Pertek	4.06	45	ePN	Pn	00 29 55.4	-0.4
PTK	Pertek	4.06	45	Pn	Pn	00 29 56.1	+0.3
PTK	Pertek	4.06	45	Pn	Pn	00 29 56.1	+0.3
KIZT	Kizilcal	4.16	314	ePN	Pn	00 29 58.1	+0.8
KIZT	Kizilcal	4.16	314	Pn	Pn	00 29 58.2	+0.9
CORM	Corum	4.21	348	ePN	Pn	00 29 59.0	+1.2
BCK	Bucak	4.36	290	ePN	Pn	00 29 59.0	-1.0
BCK	Bucak	4.36	290	Pn	Pn	00 30 00.6	+0.6
BCK	Bucak	4.36	290	Pn	Pn	00 30 00.6	+0.6
ANTO	Ankara	4.46	329	ePn	Pn	00 30 02.5	+1.2
ANTO	Ankara	4.46	329	ePn	Pn	00 30 02.5	+1.2
DRGI	Dragot	4.46	184	Pn	Pn	00 30 03.0	+1.6
DSI	Dead Sea	4.49	184	Pn	Pn	00 30 02.9	+1.2
DSI	Dead Sea	4.49	184	Pn	Pn	00 30 04.0	+2.3
MKRJ	Makawir	4.49	181	Pn	Pn	00 30 03.0	+1.3
YTIR	Yattir	4.71	186	Pn	Pn	00 30 06.0	+1.2
YTIR	Yattir	4.71	186	Pn	Pn	00 30 05.9	+1.1
BINT	Bingol	4.71	52	ePN	Pn	00 30 05.1	+0.3
BINT	Bingol	4.71	52	Pn	Pn	00 30 05.9	+1.1
BINT	Bingol	4.71	52	Pn	Pn	00 30 05.9	+1.1
ELL	Elmali	4.75	280	ePN	Pn	00 30 05.4	+0.1
ELL	Elmali	4.75	280	Pn	Pn	00 30 06.0	+0.7
ELL	Elmali	4.75	280	Pn	Pn	00 30 06.0	+0.7
EZC	Erzincan	4.90	40	ePN	Pn	00 30 04.0	-3.3
BTMT	Batman	5.07	63	ePN	Pn	00 30 07.3	-2.4
TOS	Tosya	5.15	345	ePN	Pn	00 30 12.2	+1.4
TOS	Tosya	5.15	345	Pn	Pn	00 30 12.9	+2.2
SVTA	Shivta	5.20	191	Pn	Pn	00 30 11.9	+0.5
KZIT	Kziot	5.26	193	Pn	Pn	00 30 12.7	+0.4
KZIT				Sn	Sn	00 31 10.1	-2.8
FETY	Fethiye	5.40	278	ePN	Pn	00 30 14.5	+0.3
FETY	Fethiye	5.40	278	Pn	Pn	00 30 15.2	+1.0
FETY	Fethiye	5.40	278	Pn	Pn	00 30 15.2	+1.0
PRNI	Paran	5.72	186	Pn	Pn	00 30 19.8	+1.2
PRNI	Paran	5.72	186	Pn	Pn	00 30 20.4	+1.7
EZM	Erzurum	5.87	47	ePN	Pn	00 30 21.6	+0.8
EZM	Erzurum	5.87	47	Pn	Pn	00 30 21.9	+1.1
MSL	Mosul	5.95	86	ex	x	00 30 43.5	
MSL				ex	x	00 30 53.0	
MSL				ex	x	00 32 08.0	
MSL				i x	x	00 32 17.5	
KMTI	Karmit	6.00	188	Pn	Pn	00 30 23.8	+1.4
MBH	Mount Berech	6.29	187	Pn	Pn	00 30 27.7	+1.3
MBH	Mount Berech	6.29	187	Pn	Pn	00 30 28.3	+1.9
EIL	Elat	6.40	186	ePn	Pn	00 30 27.3	-0.7
	144nm,0.8s						
EIL				eSn	Sn	00 31 36.0	-5.2
EIL	Elat	6.40	186	ePn	Pn	00 30 27.3	-0.7
	144nm,0.8s						
EIL				eSn	Sn	00 31 36.0	-5.2
CUKT	Cukurca	6.44	77	ePN	Pn	00 30 28.1	-0.4
DAT	Datca	6.61	278	ePN	Pn	00 30 31.7	+0.8
BODT	Bodrum	6.86	281	ePN	Pn	00 30 34.5	+0.3
BODT	Bodrum	6.86	281	Pn	Pn	00 30 35.7	+1.5
BODT	Bodrum	6.86	281	Pn	Pn	00 30 35.7	+1.5
BHD	Baghdad	7.65	109	ex	x	00 31 15.5	
BHD				ex	x	00 32 53.0	
GNI	Garni	8.19	57	Pn	Pn	00 30 54.3	+1.8
	0.9nm,0.3s,baz=316,slow=4.3,SNR=5.3						
MLR	Muntele Rosu	11.98	325	Pn	Pn	00 31 55.5	+11
	0.1nm,0.3s,baz=151,slow=13,SNR=2.8						
AKASG	Malin Array Be	15.37	344	Pn	Pn	00 32 32.0	+1.4
	1.0nm,0.3s,baz=164,slow=11,SNR=6.9						
VRAC	Vranov	19.25	319	LR	LR	00 41 24.1	
	comp=Z,26nm,19.2s,baz=323,slow=39						
GEC2	GERESS Array S	20.59	315	eP	P	00 33 31.9	-0.9
GEC2	GERESS Array S	20.59	315	eP	P	00 33 31.9	-0.8
GERES	GERESS Array B	20.59	315	P	P	00 33 32.0	-0.8
	1.8nm,0.7s,baz=116,slow=11,SNR=20						
GERES				LR	LR	00 42 38.6	
	comp=Z,36nm,18.4s,MS2.8,baz=274,slow=40						
KHC	Kasperske Hory	20.80	316	eP	P	00 33 34.5	-0.6
KEST	Kesra	21.36	277	P	P	00 33 39.6	-1.5
	1.4nm,0.8s,mb3.3,baz=164,slow=1.2,SNR=4.1						
AKTK	Aktyubinsk	21.56	41	P	P	00 33 42.8	-0.5
AKTK				LR	LR	00 44 07.3	
AKTK	Aktyubinsk	21.56	41	P	P	00 33 42.8	-0.5
AKTO	Aktyubinsk	21.56	41	P	P	00 33 42.8	-0.5
	1.9nm,0.7s,mb3.7,baz=252,slow=16,SNR=9.6						
AKTO				LR	LR	00 44 07.3	
	comp=Z,49nm,20.5s,MS2.9,baz=235,slow=42						
SBF	Sospel	22.97	299	eP	P	00 33 57.8	-0.5
FRF	La Foret Royal	23.49	298	eP	P	00 34 02.3	-1.4
	32nm,1.2s,mb4.3						
FRF	La Foret Royal	23.49	298	eP	P	00 34 02.3	-1.4
	16nm,1.2s,mb4.3						
MBDF	Montbardon	23.60	300	eP	P	00 34 04.0	-0.8
	13nm,0.9s,mb4.1						
MBDF	Montbardon	23.60	300	eP	P	00 34 04.0	-0.8
	6.4nm,0.9s,mb4.0						
LPG	La Plagne	23.78	302	eP	P	00 34 06.5	+0.1
	8.5nm,0.7s,mb4.0						
LPG	La Plagne	23.78	302	eP	P	00 34 06.5	+0.1
	4.2nm,0.7s,mb4.0						
LPL	La Plagne	23.80	302	eP	P	00 34 05.9	-0.7
	10nm,0.8s,mb4.0						
LPL	La Plagne	23.80	302	eP	P	00 34 05.9	-0.7
	5.1nm,0.8s,mb4.0						
ORIF	Oris-en-Rattie	24.26	301	eP	P	00 34 08.4	-2.4
	17nm,1.1s,mb4.1						
ORIF	Oris-en-Rattie	24.26	301	eP	P	00 34 08.4	-2.4
	8.6nm,1.1s,mb4.1						
CDF	Champ du Feu	24.27	309	eP	P	00 34 10.2	-0.7
CABF	La Chapelle	24.50	305	eP	P	00 34 12.8	-0.2
VIVF	Saint-Julien-l	25.09	300	eP	P	00 34 16.5	-1.9
	12nm,0.9s,mb4.1						
VIVF	Saint-Julien-l	25.09	300	eP	P	00 34 16.5	-1.9
	5.8nm,0.9s,mb4.1						
SMF	Signal de Mont	26.01	304	eP	P	00 34 24.0	-2.7
	5.0nm,0.6s,mb3.9						
SMF	Signal de Mont	26.01	304	eP	P	00 34 24.0	-2.7
	2.5nm,0.6s,mb3.9						
FINES	FINESS Array B	26.14	349	P	P	00 34 26.7	-1.1
	0.8nm,0.4s,mb3.6,baz=154,slow=12,SNR=11						
LOR	Lormes	26.14	305	eP	P	00 34 27.9	0.0
SSF	Saint Saulge	26.33	305	eP	P	00 34 28.9	-0.7
	9.0nm,0.9s,mb4.0						
SSF	Saint Saulge	26.33	305	eP	P	00 34 28.9	-0.7
	4.5nm,0.9s,mb4.0						
AVF	Avril sur Loir	26.37	304	eP	P	00 34 29.3	-0.7
	3.4nm,0.7s,mb3.7						
AVF	Avril sur Loir	26.37	304	eP	P	00 34 29.3	-0.7
	1.7nm,0.7s,mb3.7						
RJF	Les Rejaudoux	27.37	300	eP	P	00 34 39.1	+0.1
	14nm,0.9s,mb4.2						
RJF	Les Rejaudoux	27.37	300	eP	P	00 34 39.1	+0.1
	6.9nm,0.9s,mb4.2						
HFS	Hagfors	27.96	336	P	P	00 34 42.8	-1.5
	0.9nm,0.7s,mb3.5,baz=140,slow=9.7,SNR=6.8						
NOA	NORSAR Array B	29.46	336	P	P	00 34 55.0	-2.6
	0.2nm,0.3s,mb3.3,baz=134,slow=8.6,SNR=2.5						
ARCES	ARCESS Array B	34.00	354	P	P	00 35 38.4	+0.9
	2.4nm,1.0s,mb4.1,baz=166,slow=8.0,SNR=3.6						
MKAR	Makanchi Array	36.04	58	P	P	00 35 55.6	+0.5
	1.2nm,0.9s,mb3.8,baz=280,slow=7.0,SNR=4.9						
TORD	Torodi Ar. Bea	38.14	242	P	P	00 36 11.9	-1.1
	0.9nm,1.0s,mb3.5,baz=53,slow=7.4,SNR=4.1						
ZAL	Zalesovo	38.14	46	LR	LR	00 55 01.6	
	comp=Z,39nm,18.7s,MS3.2,baz=267,slow=41						

NEIC ***19*** *00:32:34.8±1.4, 6.69S×149.82E, h35km, mb4.3/3, Error ellipse: s-maj=35.8km s-min=21.6km az=139.0*
ISCJB ***19*** *00:32:37.4±5.0, 6.7S±0.3×149.6E±0.3, h69km±32km, mb3.7/4, Error ellipse: s-maj=57.4km s-min=39.3km az=115.7*
IDC ***19*** *00:32:38.6±8.2, 6.84S×149.70E, h57km±60km, mb3.5/3, mb1 3.9/5, mb1mx3.6/14, mbtmp3.9/5, ML3.8/2, MS3.5/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=59.8km s-min=51.6km az=110.0*
ISC 19 00:32:37.7±5.2**, 6.6S**±0.3×**149.5E**±0.3**, h65**km±35km**, n11,** σ**1.01**/10**, mb3.7**/4**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.64	219	P	Pn	00 33 31.9	+0.4
	14nm,0.3s,baz=34,slow=11,SNR=20						
PMG				S	Sn	00 34 13.8	+0.6
	13nm,0.3s,baz=15,slow=20,SNR=9.9						
PMG				LR	LR	00 34 58.3	
	comp=Z,314nm,21.1s,baz=41,slow=39						
WRAB	Tennant Creek	19.81	226	eP	Pn	00 37 03.9	-1.0
	9.9nm,0.8s						
WB2	Warramunga Arr	19.82	226	⇓iP	Pn	00 37 03.8	-1.1
WRA	Warramunga Arr	19.82	226	P	Pn	00 37 04.0	-1.0
	0.7nm,0.3s,baz=52,slow=11,SNR=46						
ASAR	Alice Springs	22.66	220	P	P	00 37 33.3	0.0
	0.9nm,0.7s,mb3.2,baz=53,slow=9.6,SNR=8.6						
FITZ	Fitzroy Crossi	25.93	242	eP	P	00 38 06.4	+2.7
	7.6nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	25.93	242	P	P	00 38 06.7	+3.1
	1.2nm,0.4s,mb3.6,baz=58,slow=12,SNR=5.1						
STKA	Stephens Creek	26.23	195	P	P	00 38 06.5	+0.2
	1.1nm,0.4s,mb3.6,baz=7.8,slow=10,SNR=3.2						
STKA				LR	LR	00 49 47.3	
	comp=Z,97nm,18.4s,baz=26,slow=40						
NWAO	Narrogin (SRO)	39.81	225	LR	LR	00 57 29.2	
	comp=Z,110nm,20.5s,baz=267,slow=38						
QSPA	South Pole Qui	83.39	180	eP	P	00 44 58.0	+0.3
	5.1nm,1.2s,mb4.2						
TORD	Torodi Ar. Bea	147.64	284	PKPbc	PKPbc	00 52 18.1	+3.5
	1.9nm,0.7s,baz=96,slow=2.9,SNR=24						

IDC ***19*** *00:35:57.3±3.8, 23.94S×179.67W, h485km±34km, mb3.5/4, mb1 3.6/5, mb1mx3.3/14, mbtmp4.4/5, Error ellipse: s-maj=41.4km s-min=32.2km az=19.0*
NEIC ***19*** *00:35:59.1±4.2, 24.00S×179.71W, h512km±43km, mb4.3/3, Error ellipse: s-maj=46.0km s-min=17.5km az=218.0*
ISCJB ***19*** *00:36:01.1±8.4, 24.1S±0.6×179.9W±0.8, h542km±64km, mb4.0/5, Error ellipse: s-maj=141.2km s-min=25.6km az=99.6*
ISC 19 00:36:00.5±8.0**, 24.1S**±0.6×**179.8W**±0.8**, h518**km±56km**, n15,** σ**0.25**/10**, mb4.0**/5**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.33	190	P	P	00 39 03.4	0.0
	1.5nm,0.3s,baz=323,slow=5.1,SNR=6.1						
CTA	Charters Tower	31.66	271	eP	P	00 41 40.5	-0.5
	9.3nm,1.1s,mb4.2						
CTA	Charters Tower	31.66	271	P	P	00 41 41.5	+0.6
	8.3nm,0.5s,mb4.5,baz=108,slow=8.3,SNR=11						
CTAO	Charters Tower	31.66	271	eP	P	00 41 41.2	+0.2
	7.4nm,0.4s,mb4.6						
PMG	Port Moresby	34.74	289	P	P	00 42 07.0	0.0
ASAR	Alice Springs	42.18	261	P	P	00 43 07.8	+0.4
	2.0nm,0.8s,mb3.7,baz=95,slow=8.2,SNR=13						
ASAR				ScP	ScP	00 47 54.6	+3.8
	0.5nm,0.8s,baz=120,slow=3.7,SNR=4.2						
WRAB	Tennant Creek	42.57	266	eP	P	00 43 10.1	-0.3
	8.3nm,0.9s,mb4.3						
WRA	Warramunga Arr	42.57	266	P	P	00 43 10.2	-0.3
	4.3nm,0.6s,mb4.2,baz=103,slow=8.1,SNR=32						
FITZ	Fitzroy Crossi	50.99	266	P	P	00 44 14.2	0.0
	1.9nm,0.5s,mb3.7,baz=135,slow=5.7,SNR=6.1						
SBA	Scott Base	54.16	183	eP	P	00 44 36.8	0.0
HFS	Hagfors	142.81	349	PKP	PKPdf	00 54 31.6	-3.2
	1.8nm,0.4s,baz=0.0,slow=0.0,SNR=26						
AKASG	Malin Array Be	145.26	327	PKPbc	PKPbc	00 54 38.9	-1.1
	0.8nm,0.3s,baz=46,slow=4.6,SNR=6.2						
AKASG	Malin Array Be	145.26	327	PKPbc	PKPbc	00 54 38.9	-1.1
BRTR	Keskin Array B	147.86	307	PKPab	PKPab	00 54 52.6	+1.1
	1.1nm,0.7s,baz=54,slow=4.6,SNR=6.1						
TORD	Torodi Ar. Bea	168.99	188	PKPab	PKPab	00 56 23.9	+1.0
	0.7nm,0.9s,baz=180,slow=4.1,SNR=3.0						

IDC 19 00:36:43.8±1.6**, 0.52N**×**123.36E, h0**km**, mb3.7**/4**, mb1 4.0**/5**, mb1mx3.8**/17**, mbtmp3.8**/5**, ML4.4**/1**, Error ellipse: s-maj=127.4km s-min=24.1km az=64.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.64	173	eP	Pn	00 40 59.8	-3.4
	6.1nm,0.4s						
FITZ	Fitzroy Crossi	18.64	173	P	Pn	00 41 03.8	+0.6
	0.8nm,0.3s,baz=0.0,slow=8.1,SNR=13						
WRA	Warramunga Arr	23.00	153	P	P	00 41 50.6	+0.4
	1.0nm,0.4s,baz=328,slow=10,SNR=41						
ASAR	Alice Springs	26.13	158	P	P	00 42 19.9	+0.4
	0.6nm,0.4s,baz=346,slow=14,SNR=7.3						
STKA	Stephens Creek	36.55	153	P	P	00 43 50.5	-0.7
	1.3nm,0.4s,baz=325,slow=7.6,SNR=4.1						
MKAR	Makanchi Array	58.37	328	P	P	00 46 41.2	+0.4
	0.2nm,0.5s,baz=117,slow=8.7,SNR=4.5						

IDC ***19*** *01:11:47.8±4.1, 50.26N×156.16E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=138.8km s-min=28.7km az=5.0*
NEIC ***19*** *01:11:52.8±0.7, 50.18N×156.11E, h35km, mb3.9/3, Error ellipse: s-maj=19.1km s-min=11.5km az=153.0*
KRSC ***19*** *01:11:54, 49.67N×156.96E, h78km, ML4.2*
MOS ***19*** *01:11:55.5±2.2, 49.98N×155.81E, h73km, mb4.2/4, Error ellipse: s-maj=26.0km s-min=9.9km az=71.5*
ISCJB ***19*** *01:11:56.1±1.3, 49.75N±0.10×156.5E±0.1, h103km±9km, mb3.6/8, Error ellipse: s-maj=18.2km s-min=8.9km az=114.6*
ISC 19 01:11:57.0±1.2**, 49.74N**±0.09×**156.5E**±0.1**, h98**km±9km**, n31,** σ**1.25**/42**, mb3.6**/8**, 2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.98	347	⇓iPN	Pn	01 12 11.1	-5.9
SKR				i S	Sn	01 12 26.0	-6.0
SKR				pmax	pmax		
	comp=N,140nm,0.2s						
SKR				pmax	pmax		
	comp=E,60nm,0.2s						
SKR				pmax	pmax		
	comp=Z,240nm,0.2s						
SKR				smax			
	comp=N,1μm,0.2s						
SKR				smax			
	comp=E,5μm,0.2s						
SKR				smax			
	comp=N,7μm,0.4s						
SKR				smax			
	comp=E,4μm,0.4s						
ALID	Alaid	1.28	333	eP	Pn	01 12 20.0	-0.4
ALID				i S	Sn	01 12 38.5	+0.4
MIPR	Malaya Ipel'ka	2.55	4	eP	Pn	01 12 37.0	+0.3
MIPR				i S	Sn	01 13 08.7	+1.6
RUS	Russkaya	2.99	25	eP	Pn	01 12 41.8	-0.8
RUS				i S	Sn	01 13 17.0	-0.7
GRL	Gorelyy	3.00	19	eP	Pn	01 12 43.3	+0.7
GRL				i S	Sn	01 13 18.0	+0.3
PET	Petropavlovsk	3.57	22	⇓ePN	Pn	01 12 56.2	+5.9
PET				eS	Sn	01 13 31.9	+0.5
PET				pmax	pmax		
	comp=Z,18nm,0.3s						
PET				smax			
	comp=N,95nm,0.5s						
PET				smax			
	comp=E,100nm,0.5s						
PET	Petropavlovsk	3.57	22	eP	Pn	01 12 51.1	+0.8
PET				i S	Sn	01 13 32.2	+0.8
NLC	Nalytchevo	3.88	26	eP	Pn	01 12 53.4	-1.1
NLC				i S	Sn	01 13 37.1	-2.0
SPN	Mys Shipunski	4.04	32	eP	Pn	01 12 56.1	-0.5
SPN				i S	Sn	01 13 41.4	-1.4
GNL	Ganaly	4.07	12	eP	Pn	01 12 58.4	+1.3
GNL				i S	Sn	01 13 45.3	+1.7
MKZ	Mys Kozlova	5.81	32	eP	Pn	01 13 19.0	-1.7
MKZ				i S	Sn	01 14 21.3	-4.6
KMNR	Kamenistaya	6.45	19	eP	Pn	01 13 31.5	+2.2
KBTR	Krutoberegovo	7.53	28	eP	Pn	01 13 43.3	-0.7
KBTR				i S	Sn	01 15 03.3	-4.4
MAJO	Matsushiro	18.68	232	eP	Pn	01 16 08.9	0.0
MAJO				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MAJO	Matsushiro	18.68	232	eP	Pn	01 16 08.9	0.0
	comp=Z,2.5nm,0.4s						
ULN	Ulaanbaatar	32.14	286	eP	P	01 18 13.2	-1.9
ULN	Ulaanbaatar	32.14	286	eP	P	01 18 13.1	-2.1
	comp=Z,0.5nm,0.4s,mb3.6						
MKAR	Makanchi Array	47.59	296	P	P	01 20 21.9	-1.0
	comp=Z,1.2nm,0.7s,mb3.8,baz=52,slow=7.0,SNR=8.2						
MKAR	Makanchi Array	47.59	296	i P	P	01 20 21.7	-1.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
QIZ	Qiongzhong	48.08	248	P	P	01 20 28.7	+2.1
CHKZ	Chkalovo	50.25	309	eP	P	01 20 41.8	-1.4
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	Chkalovo	50.25	309	eP	P	01 20 41.8	-1.4
	comp=Z,2.8nm,0.6s,mb4.4						
BRVK	Borovoye	50.75	309	eP	P	01 20 46.3	-0.7
NVAR	Mina Array Bea	59.11	66	P	P	01 21 49.8	+2.7
	comp=Z,0.2nm,0.5s,mb3.4,baz=294,slow=6.7,SNR=4.6						
PDAR	Pinedale Array	61.20	57	P	P	01 22 03.7	+2.2
	comp=Z,0.4nm,0.9s,mb3.5,baz=338,slow=6.1,SNR=2.9						
PDAR				pP	pP	01 22 23.7	-2.0
	comp=Z,0.8nm,0.9s,baz=298,slow=3.2,SNR=4.1						
FINES	FINESS Array B	62.27	336	P	P	01 22 07.1	-1.5
	comp=Z,0.6nm,0.8s,mb3.7,baz=48,slow=8.5,SNR=3.7						
FINES	FINESS Array B	62.27	336	i P	P	01 22 09.1	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	72.09	202	pP	pP	01 23 31.5	-4.1
	comp=Z,0.5nm,0.8s,baz=16,slow=6.7,SNR=2.7						
GERES	GERESS Array B	76.71	336	P	P	01 23 37.7	+0.3
	comp=Z,0.4nm,0.5s,mb3.5,baz=42,slow=6.1,SNR=4.6						
BRTR	Keskin Array B	77.70	318	P	P	01 23 43.0	0.0
	comp=Z,0.5nm,0.8s,mb3.3,baz=39,slow=5.1,SNR=3.8						
BRTR	Keskin Array B	77.70	318	P	P	01 23 43.0	0.0
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC ***19*** *01:22:29.6±3.5, 19.78S×168.82E, h0km, mb4.1/4, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=79.0km s-min=49.6km az=131.0*
ISCJB ***19*** *01:22:38.6±1.1, 20.1S±0.1×168.5E±0.1, h62km, mb4.1/5, Error ellipse: s-maj=21.3km s-min=14.5km az=76.3*
NEIC ***19*** *01:22:40.3±1.2, 20.07S×168.51E, mb4.2/2, Error ellipse: s-maj=23.0km s-min=18.2km az=210.0*
ISC 19 01:22:40.9±1.1**, 20.2S**±0.1×**168.5E**±0.1**, h64**km**, h64**km±1.2km**: pP-P, n15,** σ**0.82**/16**, mb4.1**/5**, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.71	225	eP	Pn	01 23 20.5	-1.6
DZM				eS	Sn	01 23 53.7	0.0
DZM	Mont Dzumac	2.71	225	Pn	Pn	01 23 20.7	-1.4
	3.8nm,0.3s,baz=326,slow=23,SNR=85						
DZM				Sn	Sn	01 23 54.3	+0.6
	18nm,0.3s,baz=116,slow=22,SNR=15						
CTA	Charters Tower	20.89	266	P	P	01 27 19.2	+1.4
	2.9nm,0.4s,baz=103,slow=14,SNR=3.3						
CTAO	Charters Tower	20.89	266	P	P	01 27 17.9	0.0
STKA	Stephens Creek	26.78	239	P	P	01 28 15.4	+0.7
	1.3nm,0.7s,mb3.5,baz=76,slow=8.3,SNR=3.3						
TAU	Tasmania Unive	28.84	213	eP	P	01 28 33.8	+0.7
	4.3nm,0.7s,mb4.3						
WRAB	Tennant Creek	32.06	264	eP	P	01 29 00.6	-0.8
	3.9nm,0.8s,mb4.3						
WRA	Warramunga Arr	32.06	264	P	P	01 29 00.2	-1.3
	1.2nm,0.8s,mb3.8,baz=91,slow=9.1,SNR=9.0						
WRA				pP	pP	01 29 16.2	-1.0
	0.5nm,0.5s,baz=90,slow=8.4,SNR=9.9						
AS31	Alice Springs	32.24	257	eP	P	01 29 03.6	+0.5
AS31				epP	pP	01 29 18.7	-0.1
ASAR	Alice Springs	32.24	257	P	P	01 29 03.5	+0.4
	4.5nm,0.7s,mb4.4,baz=87,slow=8.7,SNR=40						
ASAR				pP	pP	01 29 18.9	+0.1
	3.2nm,0.6s,baz=85,slow=8.8,SNR=12						
NWAO	Narrogin (SRO)	47.19	243	P	P	01 31 07.2	+0.2
VNDA	Vanda	57.50	182	P	P	01 32 22.9	-0.5
MAW	Mawson	77.33	202	eP	P	01 34 29.6	+1.1
SNAA	Sanae	88.22	183	P	P	01 35 24.5	-0.4
GERES	GERESS Array B	144.96	331	PKP	PKPdf	01 42 08.4	-2.3
	0.6nm,0.6s,baz=21,slow=3.4,SNR=7.9						

PDG ***19*** *01:26:32.8±0.4, 41.20N×20.50E, h0km±1km*
NEIC ***19*** *01:26:32.8, 41.20N×20.50E, h0km, MD3.0(PDG), MD3.3(ATH), ML3.0(BUC), After PDG.*
SKO ***19*** *01:26:32.0, 41.21N×20.50E, h18km, M0.9, ML2.3*
TIR ***19*** *01:26:32.0, 41.25N×20.43E, h11km*
CSEM ***19*** *01:26:32.6±0.1, 41.25N×20.49E, h2km, ML2.3, Error ellipse: s-maj=1.4km s-min=0.9km az=51.0*
ISCJB ***19*** *01:26:33.6±0.3, 41.25N±0.02×20.54E±0.02, h10km, Error ellipse: s-maj=3.1km s-min=2.0km az=90.1*
THE ***19*** *01:26:33.1, 41.29N×20.54E, h10km, ML3.1*
ATH ***19*** *01:26:35.6, 41.55N×20.95E, h45km, MD3.4/3*
ISC 19 01:26:34.3±0.3**, 41.23N**±0.02×**20.55E**±0.02**, h10**km**, n59,** σ**1.28**/98**, 11C-17D, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.23	122	ePg	Pg	01 26 37.8	-1.1
OHR				eSg	Sg	01 26 42.2	+0.2

OHR	Ohrid	0.23	122	⇑iPg	Pg	01 26 37.9	-1.0
OHR				i Sg	Sg	01 26 42.8	+0.8
OHR				eLg		01 26 43.2	
	comp=N,820nm,0.3s						
OHR				eLg		01 26 43.6	
	comp=E,459nm,0.3s						
OHR	Ohrid	0.23	122	⇑iPg	Pg	01 26 37.9	-1.0
OHR				i Sg	Sg	01 26 42.8	+0.8
TIR	Tirane	0.53	283	ePg	Pg	01 26 42.2	-2.3
TIR				eSg	Sg	01 26 50.4	-1.0
BIA	Bitola	0.62	109	ePg	Pg	01 26 44.7	-1.7
BIA				eSg	Sg	01 26 54.6	+0.1
BIA	Bitola	0.62	109	⇑iPg	Pg	01 26 44.8	-1.6
BIA				i Sg	Sg	01 26 55.3	+0.8
BIA	Bitola	0.62	109	⇑iPg	Pg	01 26 44.7	-1.7
BIA				S	Sg	01 26 54.6	+0.1
BIA				i Sg	Sg	01 26 55.3	+0.8
KBN	Korca	0.63	163	i Pg	Pg	01 26 46.0	-0.5
KBN				i Sg	Sg	01 26 56.7	+1.9
FNA	Florina	0.77	125	ePg	Pg	01 26 48.0	-1.1
FNA				eSg	Sg	01 27 00.4	+1.2
FNA	Florina	0.77	125	ePg	Pg	01 26 48.0	-1.1
FNA				eSg	Sg	01 27 00.4	+1.2
KKS	Kukesi	0.85	353	i Pg	Pg	01 26 48.2	-2.5
KKS				i Sg	Sg	01 27 01.8	0.0
PUK	Puka	0.95	329	i Pg	Pg	01 26 50.2	-2.3
PUK				i Sg	Sg	01 27 05.1	+0.2
SKO	Skopje	1.00	42	ePg	Pg	01 26 52.2	-1.3
SKO				eSg	Sg	01 27 07.0	+0.5
SKO	Skopje	1.00	42	i Pg	Pg	01 26 52.4	-1.1
SKO				i Sg	Sg	01 27 07.4	+0.9
SKO				eLg		01 27 07.5	
	comp=N,308nm,0.4s						
SKO				eLg		01 27 07.7	
	comp=E,274nm,0.5s						
SKO				eLg		01 27 08.2	
	comp=Z,133nm,0.3s						
SKO	Skopje	1.00	42	ePg	Pg	01 26 52.2	-1.3
SKO				i Sg	Sg	01 27 07.3	+0.8
LSK	Leskovik	1.08	178	i Pg	Pg	01 26 53.8	-1.2
LSK				i Sg	Sg	01 27 14.8	+5.7
BCI	Bajram Curri	1.19	343	i Pg	Pn	01 26 54.8	-2.2
ULC	Ulcinj	1.22	307	⇑iPg	Pn	01 26 54.7	-2.7
ULC				eSg	Sg	01 27 14.1	+0.6
KZN	Kozani	1.31	134	eP	Pn	01 26 59.5	+0.9
KZN				eS	Sb	01 27 17.5	+1.7
STIP	Stip	1.32	69	ePg	Pg	01 26 57.6	-2.0
STIP				eSg	Sg	01 27 16.5	-0.2
STIP	Stip	1.32	69	i Pn	Pn	01 26 57.8	-0.9
STIP				i Sn	Sn	01 27 17.2	+0.9
GRG	Griva	1.43	100	ePg	Pg	01 26 59.7	-2.0
PVY	Plav	1.43	343	⇓iPg	Pn	01 26 59.5	-0.7
PVY				eSg	Sg	01 27 22.2	+1.9
PVY	Plav	1.43	343	⇓iPg	Pn	01 26 59.5	-0.8
VAY	Valandovo	1.53	86	i Pn	Pn	01 27 00.9	-0.7
VAY				i Sn	Sn	01 27 23.7	+2.2
VAY				eLg		01 27 24.0	
	comp=N,54nm,0.5s						
VAY				eLg		01 27 24.4	
	comp=Z,39nm,0.5s						
VAY				eLg		01 27 24.6	
	comp=E,62nm,0.4s						
VAY	Valandovo	1.53	86	ePg	Pn	01 27 00.7	-0.9
VAY				eSg	Sg	01 27 22.0	-1.4
TTG	Podgorica	1.54	322	⇑iPg	Pn	01 27 00.3	-1.4
TTG				eSg	Sg	01 27 25.6	+1.9
TTG	Podgorica	1.54	322	⇑iPg	Pn	01 27 00.3	-1.4
JAN	Janina	1.59	172	eP	Pb	01 27 06.5	+2.8
BUM	Brajici-Budva	1.63	311	⇓iPn	Pn	01 27 02.6	-0.5
BUM				eSn	Sn	01 27 28.6	+4.5
IGT	Igoumenitsa	1.70	186	ePb	Pb	01 27 05.0	-0.7
IGT				eSb	Sb	01 27 28.5	+1.3
IVA	Berane	1.71	344	⇓iPn	Pn	01 27 04.9	+0.8
IVA				eSn	Sn	01 27 30.4	+4.4
KNT	Kendrikon	1.78	91	ePb	Pb	01 27 05.0	-1.9
KNT				eSb	Sb	01 27 29.2	0.0
KNT	Kendrikon	1.78	91	ePb	Pb	01 27 05.0	-1.9
KNT				eSb	Sb	01 27 29.2	0.0
HCY	Herceg Novi	1.96	309	⇑iPn	Pn	01 27 07.7	+0.2
HCY				eSn	Sn	01 27 36.4	+4.4
NKY	Niksic	1.96	324	⇓iPn	Pn	01 27 08.1	+0.6
NKY				eSn	Sn	01 27 37.0	+4.9
HORT	Hortiatis	2.04	107	ePn	Pn	01 27 08.9	+0.3
TREB	Trebinje	2.21	313	P	Pn	01 27 11.6	+0.6
BRY	Bratogost	2.24	319	⇓iPn	Pn	01 27 12.2	+0.8
BRY				eSn	Sn	01 27 43.4	+4.4
PLE	Pljevlja	2.27	338	⇑iPn	Pn	01 27 13.0	+1.2
PLE				eSn	Sn	01 27 44.2	+4.5
UPM	Unac-Piva	2.32	329	⇓iPn	Pn	01 27 13.8	+1.4
UPM				eSn	Sn	01 27 44.9	+3.9
VTS	Vitosha	2.41	55	⇓iP	Pn	01 27 14.5	+0.8
VTS	Vitosha	2.41	55	⇓P	Pn	01 27 14.5	+0.8
VTS				S	Sn	01 27 45.2	+1.9
VTS	Vitosha	2.41	55	⇓P	Pn	01 27 14.5	+0.8
VTS				S	Sn	01 27 45.2	+2.0
EVR	Evrytania	2.51	157	eP	Pb	01 27 20.0	+0.6
EVR	Evrytania	2.51	157	ePn	Pg	01 27 21.0	-1.3
LKD	Levkas	2.52	178	ePn	Pn	01 27 15.5	+0.3
PAIG	Paliouri	2.72	118	ePn	Pn	01 27 18.6	+0.6
XOR	Xorichti	2.75	132	ePn	Pn	01 27 18.8	+0.4
OUR	Ouranopolis	2.76	108	ePn	Pn	01 27 18.8	+0.2
BZS	Buzias	4.45	10	⇓iP	Pn	01 27 41.2	-0.6
BZS	Buzias	4.45	10	⇓P	Pn	01 27 41.2	-0.6
BZS				S	Sn	01 28 36.9	+3.1
BZS	Buzias	4.45	10	⇓P	Pn	01 27 41.2	-0.6
BZS				S	Sn	01 28 36.8	+3.1
GZR	Gura Zlata	4.47	21	⇓iP	Pn	01 27 42.3	+0.3
GZR	Gura Zlata	4.47	21	⇓P	Pn	01 27 42.3	+0.2
PKSM	Moragy	5.17	345	⇓iP	Pn	01 27 52.3	+0.6
PKSM	Moragy	5.17	345	⇓P	Pn	01 27 52.3	+0.7
MLR	Muntele Rosu	5.80	41	⇑iP	Pn	01 27 59.1	-1.2
MLR	Muntele Rosu	5.80	41	⇑P	Pn	01 27 59.1	-1.2

*NEIC **19** 01:28:26.6, 3690S×17751E, h162km, MG3.9(WEL), After WEL.*

WEL 19 01:28:26.9±0.4, 3690S×17749E, h160km±4km, ML3.9/11, Error ellipse: s-maj=5.3km s-min=4.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.93	136	P	Pn	01 28 51.9	-0.1
MXZ				S	Sn	01 29 11.2	-0.1
MXZ	Matakaoa Point	0.93	136	PN	Pn	01 28 51.8	-0.3
MXZ				SN	Sn	01 29 11.2	-0.1
PUZ	Puketiti	1.33	153	P	Pn	01 28 54.9	-0.5
PUZ	Puketiti	1.33	153	PN	Pn	01 28 55.6	+0.2
PUZ				SN	Sn	01 29 16.8	-0.6
URZ	Urewera	1.40	192	P	Pn	01 28 56.6	+0.5
URZ	Urewera	1.40	192	PN	Pn	01 28 56.7	+0.6
URZ				SN	Sn	01 29 18.9	+0.3
MWZ	Matawai	1.44	179	eP	Pn	01 28 57.0	+0.5
MWZ				S	Sn	01 29 19.3	0.0
MWZ	Matawai	1.44	179	PN	Pn	01 28 56.9	+0.4
MWZ				SN	Sn	01 29 19.3	0.0
KNZ	Kokohu	2.13	176	eP	Pn	01 29 04.0	0.0
KNZ	Kokohu	2.13	176	PN	Pn	01 29 04.0	0.0
BKZ	Black Stump Fm	2.40	199	P	Pn	01 29 07.1	-0.2
BKZ	Black Stump Fm	2.40	199	PN	Pn	01 29 07.1	-0.2
FWVZ	Far West T-bar	2.81	212	P	Pn	01 29 12.7	+0.5
FWVZ	Far West T-bar	2.81	212	PN	Pn	01 29 12.7	+0.5
MOVZ	Moawhango	2.86	208	P	Pn	01 29 12.2	-0.6
MOVZ	Moawhango	2.86	208	PN	Pn	01 29 12.2	-0.6
PXZ	Pawanui	3.17	189	PN	Pn	01 29 15.3	-1.4
PXZ				SN	Sn	01 29 52.7	-2.7
TSZ	Takapari Road	3.38	200	P	Pn	01 29 17.9	-1.5
TSZ	Takapari Road	3.38	200	PN	Pn	01 29 17.7	-1.7
TSZ				SN	Sn	01 29 58.4	-1.7
MRZ	Mangatainoka R	4.05	201	P	Pn	01 29 25.0	-2.9
MRZ	Mangatainoka R	4.05	201	PN	Pn	01 29 25.6	-2.3
MRZ				SN	Sn	01 30 12.1	-3.4
KIW	Kapiti Island	4.44	206	P	Pn	01 29 30.5	-2.6
KIW	Kapiti Island	4.44	206	PN	Pn	01 29 30.5	-2.6
KIW				SN	Sn	01 30 21.0	-3.8
CAW	Cannon Point	4.61	203	P	Pn	01 29 32.3	-3.0
CAW	Cannon Point	4.61	203	PN	Pn	01 29 32.3	-3.0
MRW	Makara Radio	4.84	206	P	Pn	01 29 34.6	-3.7
MRW	Makara Radio	4.84	206	PN	Pn	01 29 35.2	-3.2
TCW	Tory Channel	4.98	209	P	Pn	01 29 36.8	-3.4
TCW	Tory Channel	4.98	209	PN	Pn	01 29 36.8	-3.4
TCW				SN	Sn	01 30 32.3	-5.2
NNZ	Nelson	5.37	215	P	Pn	01 29 42.6	-2.7
NNZ	Nelson	5.37	215	PN	Pn	01 29 42.6	-2.7
NNZ				SN	Sn	01 30 42.6	-4.1
QRZ	Quartz Range	5.51	223	eP	Pn	01 29 44.0	-3.2
BSWZ	Blackbirch Sta	5.57	209	P	Pn	01 29 44.4	-3.5
BSWZ	Blackbirch Sta	5.57	209	PN	Pn	01 29 44.4	-3.5
THZ	Tophouse	6.02	215	eP	Pn	01 29 50.5	-3.4
THZ	Tophouse	6.02	215	PN	Pn	01 29 50.5	-3.4
KHZ	Kahutara	6.30	208	eP	Pn	01 29 50.0	-7.6
LTZ	Lake Taylor	7.12	213	eP	Pn	01 30 04.3	-4.2
MQZ	McQueen's Vall	7.74	207	eP	Pn	01 30 11.2	-5.5
RPZ	Rata Peaks	8.40	214	eP	Pn	01 30 34.7	+9.2
ODZ	Otahua Downs	9.64	210	eP	Pn	01 30 37.5	-4.4

*NNC **19** 01:33:46.9±1.1, 4289N×7728E, h5km±12km, mb2.9, mpv2.8, Error ellipse: s-maj=16.2km s-min=8.2km az=179.0*
*KNET **19** 01:33:49.3±0.7, 4284N×77.10E, h9km±2km, ml2.9, Error ellipse: s-maj=4.3km s-min=3.3km az=47.0*
*ISCJB **19** 01:33:50.8±1.3, 4291N±005×7705E±009, h10km, Error ellipse: s-maj=9.6km s-min=6.3km az=46.8*

ISC 19 01:33:49.3±1.1, 4289N±005×7718E±007, h10km, n10, σ1s14/17, 14C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	Almaty	0.36	335	⇑P	Pg	01 33 55.4	-1.1
	34nm,0.1s						
KNDC				⇑S	Sg	01 34 01.5	+0.1
	464nm,0.4s						
ULHL	Ulahol	0.94	227	⇑P	Pg	01 34 06.4	-1.1
	29nm,0.1s,SNR=269						
ULHL				⇓S	Sg	01 34 18.7	-1.0
	77nm,0.1s						
TKM2	Tokmak 2	1.16	272	⇑P	Pb	01 34 10.4	-1.1
	15nm,0.1s,SNR=16						
TKM2				⇓S	Sb	01 34 27.4	+0.9
	196nm,0.1s						
TKM2	Tokmak 2	1.16	272	⇑P	Pb	01 34 10.4	-1.1
	0.4nm,0.3s						
TKM2				⇑S	Sb	01 34 26.9	+0.4
	5.3nm,0.5s						
KBK	Karagaybulak	1.66	263	⇑P	Pn	01 34 19.5	+1.1
	23nm,0.1s,SNR=22						
KBK				⇑S	Sg	01 34 42.9	+0.3
	178nm,0.2s						
CHMS	Chumysh	1.78	274	⇓P	Pn	01 34 21.0	+0.9
	26nm,0.2s,SNR=18						
CHMS				⇑S	Sg	01 34 45.9	-0.8
	70nm,0.2s						
USP	Ospenovka	2.00	282	⇑P	Pn	01 34 24.6	+1.5
	9.8nm,0.1s,SNR=35						
USP				⇑S	Sg	01 34 52.3	-1.3
	108nm,0.2s						
EKS2	Erkin-Say	2.51	266	⇑P	Pn	01 34 33.0	+2.8
	6.7nm,0.2s,SNR=22						
KK31	Karatay Array	4.89	275	⇑Pg	Pb	01 35 16.6	+1.5
	1.9nm,0.7s,baz=88,slow=15,SNR=13						
KK31				⇑Lg		01 36 22.1	
	4.6nm,0.4s,baz=88,slow=26,SNR=7.2						
MK02	Makanchi Array	5.33	41	⇓Pn	Pn	01 35 07.8	-1.1
	1.2nm,0.8s,baz=222,slow=15						
MK02				⇓Lg		01 36 29.4	
	1.3nm,0.5s,baz=221,slow=27						

*IDC **19** 02:33:39.1±0.7, 251N×7986W, h0km, mb3.8/9, mb1 4.1/11, mb1mx4.0/23, mbtmp4.0/11, ML3.3/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=23.7km s-min=16.9km az=53.0*
*ISCJB **19** 02:33:42.3±5.2, 246N±008×7982W±007, h32km±38km, mb3.9/13, MS3.4/3, Error ellipse: s-maj=13.8km s-min=12.1km az=50.9*
*NEIC **19** 02:33:44.4±0.4, 249N×7979W, h35km, mb4.4/5, Error ellipse: s-maj=12.9km s-min=8.0km az=224.0*

ISC 19 02:33:42.8±5.3, 245N±008×7987W±006, h20km±34km, n26, σ0s93/20, mb3.9/13, MS3.4/3, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	6.02	66	Pn	Pn	02 35 11.3	+0.6
	5.3nm,0.3s,baz=100,slow=12,SNR=25						
ROSC				Sn	Sn	02 36 19.9	+0.8
	2.9nm,0.3s,baz=292,slow=20,SNR=6.6						
ROSC				LR	LR	02 37 50.7	
	comp=Z,100nm,20.3s,baz=51,slow=42						
ATAH	Atahualpa	9.50	171	LR	LR	02 39 42.9	
	comp=Z,106nm,21.8s,baz=230,slow=38						
PCRV	Puerto La Cruz	16.96	62	Pn	Pn	02 37 37.9	-1.0
	0.5nm,0.3s,baz=280,slow=11,SNR=2.9						
SAML	Samuel	20.12	124	eP	P	02 38 14.4	-1.0
	48nm,1.2s						
SJG	San Juan	20.57	40	P	P	02 38 20.7	+0.4
	4.7nm,0.2s,baz=236,slow=7.3,SNR=3.7						
CMIG	Matias Romero	20.72	316	LR	LR	02 44 06.0	
	comp=Z,73nm,20.8s,MS3.0,baz=330,slow=30						
LPAZ	La Paz	21.93	148	P	P	02 38 35.6	+0.6
	2.3nm,1.1s,mb3.5,baz=329,slow=11,SNR=5.9						
LPAZ	La Paz	21.93	148	eP	P	02 38 35.7	+0.7
SIV	San Ignacio	26.10	135	P	P	02 39 15.1	0.0
	0.5nm,0.8s,mb3.1,baz=299,slow=12,SNR=3.0						
CPUP	Villa Florida	35.96	144	LR	LR	02 55 39.0	
	comp=Z,58nm,18.6s,MS3.4,baz=103,slow=37						
BDFB	Brasilia	36.27	121	LR	LR	02 56 19.6	
	comp=Z,118nm,18.7s,MS3.7,baz=52,slow=38						
ANMO	Albuquerque	40.70	326	P	P	02 41 23.1	+1.2
	3.8nm,0.9s,mb4.0,baz=138,slow=7.7,SNR=19						
SDCO	Great Sand Dun	42.27	329	eP	P	02 41 35.9	+1.1
	3.3nm,0.9s,mb4.0						
PLCA	Paso Flores	43.81	170	P	P	02 41 48.2	+0.9
	2.9nm,1.0s,mb4.0,baz=351,slow=9.4,SNR=5.5						
WUAZ	Wupatki	43.99	322	eP	P	02 41 49.4	+0.6
	2.6nm,0.8s,mb4.0						
WUAZ				e		02 41 58.5	
RSSD	Black Hills	46.69	336	eP	P	02 42 10.6	+0.4
	3.2nm,0.8s,mb4.3						
PDAR	Pinedale Array	48.10	331	P	P	02 42 19.9	-1.2
	0.7nm,0.9s,mb3.7,baz=133,slow=8.3,SNR=3.9						
PDAR				PcP	PcP	02 43 47.8	-0.8
	0.5nm,0.7s,baz=151,slow=2.1,SNR=3.5						
HWUT	Hardware Ranch	48.27	328	eP	P	02 42 22.1	-0.3
	2.2nm,0.8s,mb4.2						
HWUT				e		02 42 30.7	
NVAR	Mina Array Bea	50.14	321	P	P	02 42 37.0	+0.3
	0.7nm,0.7s,mb3.8,baz=140,slow=7.1,SNR=5.9						
NVAR				PcP	PcP	02 43 56.1	+0.1
	1.1nm,0.7s,baz=122,slow=5.1,SNR=8.5						
YKA	Yellowknife Ar	65.24	343	P	P	02 44 20.2	-2.7
	1.3nm,0.8s,mb4.0,baz=134,slow=6.2,SNR=5.7						
YKA	Yellowknife Ar	65.24	343	P	P	02 44 20.2	-2.7
TORD	Torodi Ar. Bea	81.23	77	P	P	02 45 56.6	-0.7
	0.6nm,0.6s,mb3.7,baz=297,slow=6.3,SNR=3.3						
NOA	NORSAR Array B	88.40	29	P	P	02 46 32.3	-1.1
	0.6nm,0.7s,mb3.9,baz=262,slow=7.3,SNR=3.7						
SONM	Songino Array	129.62	355	PKP	PKPdf	02 52 50.0	-0.4
	0.2nm,0.3s,baz=20,slow=4.6,SNR=3.1						
WRA	Warramunga Arr	142.35	240	PKhKP		02 53 09.2	
	0.9nm,0.8s,baz=111,slow=3.1,SNR=5.8						
FITZ	Fitzroy Crossi	150.55	236	PKPbc	PKPbc	02 53 33.2	0.0
	3.4nm,0.9s,baz=176,slow=6.1,SNR=6.5						

*ISCJB **19** 02:55:58.6±1.3, 12N±05×1004E±05, h253km±10km, mb3.6/7, Error ellipse: s-maj=107.4km s-min=18.9km az=93.1*
*IDC **19** 02:55:59.6±1.2, 1.15N×10032E, h249km±8km, mb3.4/6, mb1 3.5/7, mb1mx3.2/19, mbtmp3.9/7, Error ellipse: s-maj=73.8km s-min=15.7km az=46.0*
*NEIC **19** 02:55:59.9±1.2, 107N×10029E, h256km±11km, mb3.7/1, Error ellipse: s-maj=80.6km s-min=14.9km az=47.0*

ISC 19 02:55:59.7±1.3, 12N±05×1004E±05, h248km±10km, n10, σ0s45/11, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.14	318	P	Pn	02 56 44.1	+0.8
	5.5nm,0.3s,baz=340,slow=4.3,SNR=19						
PSI				S	S	02 57 17.0	-0.6
	1.4nm,0.3s,baz=353,slow=22,SNR=19						
PSI	Prapat	2.14	318	P	Pn	02 56 44.1	+0.8
PSI				S	S	02 57 17.0	-0.6
WRA	Warramunga Arr	39.38	124	P	P	03 03 05.5	+0.1
	1.0nm,0.4s,mb3.7,baz=303,slow=9.1,SNR=23						
WRA				PcP	PcP	03 05 08.8	+0.5
	0.7nm,0.5s,baz=317,slow=2.6,SNR=19						
WRAB	Tennant Creek	39.38	124	eP	P	03 03 05.1	-0.3
	1.2nm,0.4s,mb3.8						
WRAB				ePcP	PcP	03 05 08.4	+0.1
ASAR	Alice Springs	40.91	129	PcP	PcP	03 05 14.2	+1.0
	0.4nm,0.7s,baz=326,slow=2.9,SNR=5.0						
MKAR	Makanchi Array	48.07	343	P	P	03 04 14.8	+0.5
	0.5nm,0.3s,mb3.3,baz=149,slow=7.5,SNR=5.3						
BVAR	Borovoye Array	57.33	339	P	P	03 05 21.8	-0.1
	0.6nm,0.5s,mb3.5,baz=126,slow=7.3,SNR=2.8						
BRTR	Keskin Array B	71.46	312	P	P	03 06 53.4	+0.1
	1.2nm,0.5s,mb3.8,baz=94,slow=5.8,SNR=9.0						
FINES	FINESS Array B	81.46	332	P	P	03 07 49.2	0.0
	0.5nm,0.4s,mb3.5,baz=101,slow=6.0,SNR=6.2						
ARCES	ARCESS Array B	83.60	340	P	P	03 07 59.6	-0.6
	1.6nm,0.8s,mb3.8,baz=88,slow=4.0,SNR=4.8						

*ISCJB **19** 03:01:11.4±0.9, 4293N±005×48.12E±006, h4km±6km, Error ellipse: s-maj=8.8km s-min=6.3km az=131.7*
*TIF **19** 03:01:12.1, 4250N×48.18E, h10km±2km*
*CSEM **19** 03:01:14.2±0.2, 4277N×4796E, h2km, mb4.4, Error ellipse: s-maj=5.6km s-min=3.8km az=166.0*
*MOS **19** 03:01:14.7±1.8, 4280N×4799E, h10km, mb4.4/1, Error ellipse: s-maj=20.9km s-min=9.4km az=33.7*

ISC 19 03:01:13.3±1.0, 4285N±005×4806E±006, h2km±7km, n25, σ1s32/38, 2C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSR	Manas	0.29	239	i PG	Pg	03 01 18.0	-0.9
MNSR				eS	Sg	03 01 25.0	+2.3
MNSR				pmax	pmax		
	comp=Z,164nm,0.2s						
MNSR	Manas	0.29	239	i Pg	Pg	03 01 18.0	-0.9
	comp=Z,164nm,0.2s						
MNSR				eSg	Sg	03 01 25.0	+2.3
MAK	Makhachkala	0.42	285	ePG	Sg	03 01 26.8	-0.1
MAK				pmax	pmax		
	comp=Z,97nm,0.2s						
MAK	Makhachkala	0.42	285	ePg	Sg	03 01 26.8	-0.1
	comp=Z,97nm,0.2s						
DRN	Derbent	0.85	166	PG	Pg	03 01 29.0	-0.5
KRNR	Karanay	0.85	269	i PG	Pg	03 01 26.0	-3.6
KRNR				i S	Sg	03 01 40.0	-0.6
KRNR				pmax	pmax		
	comp=Z,199nm,0.2s						
KRNR	Karanay	0.85	269	i Pg	Pg	03 01 26.0	-3.6
	comp=Z,199nm,0.2s						
KRNR				i Sg	Sg	03 01 40.0	-0.6
DBC	Dubki	0.92	281	PG	Pg	03 01 30.5	-0.4
DLMR	Dylym	1.07	282	i PG	Pg	03 01 33.0	-0.9
DLMR				eS	Sg	03 01 53.5	+5.7
DLMR				pmax	pmax		
	comp=Z,802nm,0.5s						
DLMR	Dylym	1.07	282	i Pg	Pg	03 01 33.0	-0.9
	comp=Z,802nm,0.5s						
DLMR				eSg	Sg	03 01 53.5	+5.7
BTLR	Botlikh	1.37	263	PG	Pn	03 01 37.0	-2.3
BTLR				S	Sg	03 01 58.0	+0.7
DUS	Dusheti	2.60	254	P	Pg	03 02 05.1	+2.0
DUS				S	Sg	03 02 35.1	-1.7
MTA	Mtatsminda	2.69	246	P	Pn	03 01 57.6	+0.2
MTA				S	Sn	03 02 30.7	+0.2
ZEI	Tsey	3.06	270	ePN	Pb	03 02 05.6	-2.9
ZEI				e		03 02 13.6	
ZEI				e		03 02 50.6	
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.1s						
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.1s						
ZEI				smax			
	comp=E,37nm,0.3s						
ZEI				smax			
	comp=E,38nm,0.4s						
ZEI	Tsey	3.06	270	ePn	Pb	03 02 05.6	-2.9
	comp=E,6.0nm,0.1s						
ZEI	Tsey	3.06	270	ePg	Pg	03 02 13.6	+1.6
	comp=E,7.0nm,0.1s						
ONI	Oni	3.41	267	P	Pn	03 02 08.9	+1.5
GNI	Garni	3.68	224	i Pn	Pb	03 02 18.3	-0.6
PYA	Pyatigorsk	3.83	290	i PN	Pb	03 02 17.0	-4.5
KIV	Kislovodsk	4.07	288	i PN	Pn	03 02 19.7	+3.2
GOF	Gofitskoye	4.25	303	ePN	Pg	03 02 41.0	+6.3
AKTO	Aktyubinsk	10.21	39	⇓Pn	Pn	03 03 40.3	-0.5
AKTO				⇑Sn	Sn	03 05 30.9	-4.8
	comp=E,0.1nm,1.1s						
AB31	Akbulak array	10.44	48	⇑Pn	Pn	03 03 44.4	+0.5
	comp=E,0.4nm,0.5s,baz=241,slow=13,SNR=7.0						
AB31				⇓Sn	Sn	03 05 34.6	-6.9
	comp=E,0.4nm,0.3s,baz=235,slow=22,SNR=4.8						
OBN	Obninsk	14.38	333	eP	Pn	03 04 39.5	+1.8
OBN				eS	Sn	03 07 17.2	-0.6
OBN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OBN	Obninsk	14.38	333	eP	Pn	03 04 39.5	+1.8
	comp=Z,5.0nm,1.1s						
OBN				eS	Sn	03 07 17.2	-0.6

*NEIC **19** 03:21:53.9, 3290S×69.13W, h4km, ML3.1(GUC), After GUC.*
NEIC Felt [III] at Mendoza.

GUC 19 03:21:53.9±0.7, 3290S×6913W, h4km±5km, MD3.6, ML3.1, 10C-5D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	Mendoza	0.24	86	eP	Pg	03 21 56.8	-1.8
MDZ				i		03 21 59.9	
MDZ				i S	Sg	03 22 01.0	-0.7
FCH	Farellones	1.06	246	⇓iP	Pg	03 22 14.0	-0.3
FCH				i S	Sg	03 22 29.4	+1.4
FCH				AML	AML	03 22 30.5	
	comp=N,399nm,0.2s						
JACH	Jahuel	1.25	280	⇑iP	Pg	03 22 17.3	-0.5
JACH				i S	Sg	03 22 34.5	+0.5
CLCH	Cerro Calan	1.28	247	⇓iP	Pg	03 22 17.8	-0.5
CLCH				i S	Sg	03 22 36.1	+1.2
CLCH				AML	AML	03 22 38.7	
	comp=E,321nm,0.5s						
CLCH				AML	AML	03 22 42.2	
	comp=N,450nm,0.6s						
LMEL	Las Melosas	1.30	223	⇓iP	Pn	03 22 17.9	-0.9
LMEL				i S	Sg	03 22 36.5	+0.8
LMEL				AML	AML	03 22 37.8	
	comp=N,431nm,0.2s						
LMEL	Las Melosas	1.30	223	⇓iP	Pn	03 22 17.9	-0.9
LMEL				i S	Sg	03 22 36.5	+0.8
DSCH	Colegio Aleman	1.30	247	i P	Pn	03 22 17.7	-1.1
DSCH				i S	Sg	03 22 36.3	+0.6
FSR	Penalolen	1.30	243	eP	Pn	03 22 18.3	-0.5
FSR				AML	AML	03 22 37.9	
	comp=E,672nm,0.3s						
PEL	Peldehue	1.33	259	⇑iP	Pn	03 22 18.6	-0.5
PEL				i S	Sg	03 22 37.0	+0.5
PEL				AML	AML	03 22 37.8	
	comp=N,720nm,0.3s						
PEL	Peldehue	1.33	259	⇑iP	Pn	03 22 18.6	-0.5
PEL				i S	Sg	03 22 37.0	+0.5
RCDM	Rinconada Maip	1.52	247	⇑iP	Pn	03 22 22.3	+0.5
RCDM				i S	Sn	03 22 43.7	+1.7
RCDM				AML	AML	03 22 45.4	
	comp=N,96nm,0.5s						
RCDM	Rinconada Maip	1.52	247	⇑iP	Pn	03 22 22.3	+0.5
RCDM				i S	Sn	03 22 43.7	+1.7
ROCH	El Roble	1.58	267	⇑iP	Pn	03 22 23.2	+0.6
ROCH				i S	Sn	03 22 45.7	+2.3
CHCH	Chadas Angostu	1.64	231	⇑iP	Pn	03 22 24.1	+0.7
CHCH				i S	Sn	03 22 46.7	+1.9
PTCH	Petorca	1.64	292	⇑iP	Pn	03 22 23.9	+0.4
PTCH				i S	Sn	03 22 47.1	+2.1
PTCH				AML	AML	03 22 48.5	
	comp=N,1µm,0.4s						
PTCH	Petorca	1.64	292	⇑iP	Pn	03 22 23.9	+0.4
PTCH				i S	Sn	03 22 47.1	+2.1
TACH	Talagante	1.69	243	eP	Pn	03 22 24.8	+0.7
TACH				i S	Sn	03 22 48.0	+1.9
CACH	El Canelo	1.73	225	⇓iP	Pn	03 22 25.8	+1.1
CACH				i S	Sn	03 22 50.1	+3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CICH	Cipreses	1.78	217	eP	Pn	03 22 26.5	+1.1
CICH				i S	Sn	03 22 51.4	+3.1
LCCH	Las Cruces	2.12	254	i S	Sn	03 23 01.2	+4.3
LNV	Longovilo	2.18	240	i P	Pn	03 22 32.9	+2.0
LNV				i S	Sn	03 23 02.4	+4.2
SFDO	San Fernando	2.32	222⇑	iP	Pn	03 22 35.7	+2.9
SFDO				i S	Sn	03 23 07.5	+5.8
CMCH	Combarbala	2.34	317	eP	Pn	03 22 35.4	+2.4
CMCH				i S	Sn	03 23 07.7	+5.5
CMCH				AML	AML	03 23 10.6	
	comp=E,794nm,0.7s						
CMCH	Combarbala	2.34	317	eP	Pn	03 22 35.4	+2.4
CMCH				i S	Sn	03 23 07.7	+5.5
TLL	Tololo Astrono	3.07	332	eP	Pn	03 22 49.2	+6.0
TLL				i S	Sn	03 23 30.8	+10
TLL				AML	AML	03 23 35.8	
	comp=E,215nm,0.7s						

*ISCJB **19** 03:29:23.5±0.9, 55.3S±0.1×28.1W±0.3, h10km, mb4.0/6, MS3.7/2, Error ellipse: s-maj=25.4km s-min=14.4km az=131.6*
*IDC **19** 03:29:24.1±0.9, 55.21S×28.12W, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.7/1, MS3.7/2, Ms1 3.6/2, ms1mx2.9/19, Error ellipse: s-maj=29.2km s-min=20.8km az=63.0*
*NEIC **19** 03:29:25.4±0.6, 55.21S×28.06W, h10km, mb4.2/1, Error ellipse: s-maj=18.4km s-min=11.7km az=66.0*
ISC 19 03:29:25.1±0.9, **55.3S**±0.1×**28.0W**±0.3, **h10km, n12,** σ0s87/9, **mb4.0**/6, **MS3.7**/2, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNAA	Sanae	19.64	156	P	Pn	03 33 54.0	-1.1
	0.2nm,0.3s,baz=309,slow=9.9,SNR=33						
PMSA	Palmer Station	20.08	227	P	P	03 33 59.4	+0.8
	7.8nm,0.8s,baz=56,slow=7.9,SNR=4.4						
QSPA	South Pole Qui	34.98	180	eP	P	03 36 17.6	+0.2
	2.4nm,0.7s,mb4.2						
CPUP	Villa Florida	35.96	312	P	P	03 36 25.2	-0.6
	2.3nm,0.7s,mb4.2,baz=130,slow=7.4,SNR=13						
CPUP	Villa Florida	35.96	312	P	P	03 36 25.2	-0.6
CFAA	Coronel Fontan	36.84	293	P	P	03 36 31.8	-1.5
	0.2nm,0.5s,mb3.2,baz=304,slow=3.6,SNR=3.4						
BOSA	Boshof	46.23	77	LR	LR	03 55 18.0	
	comp=Z,78nm,18.1s,MS3.7,baz=62,slow=34						
VNDA	Vanda	47.33	183	P	P	03 37 59.4	+0.4
	1.4nm,0.7s,mb4.0,baz=194,slow=8.6,SNR=10						
LPAZ	La Paz	49.56	306	P	P	03 38 17.1	+1.0
	1.8nm,0.7s,mb4.2,baz=165,slow=6.6,SNR=11						
TORD	Torodi Ar. Bea	72.61	30	P	P	03 40 53.3	+0.7
	1.5nm,0.6s,mb4.1,baz=197,slow=6.1,SNR=8.7						
TORD				LR	LR	04 04 58.0	
	comp=Z,42nm,19.0s,MS3.7,baz=265,slow=29						
MCK	McKinley	149.93	310	ePKPdf	PKPdf	03 49 05.6	-5.1
MCK				PKPbc	PKPbc	03 49 09.7	-5.9
MCK				ePKPab	PKPab	03 49 15.0	-6.2
SONM	Songino Array	151.12	86	PKPbc	PKPbc	03 49 18.1	-0.4
	0.7nm,0.6s,baz=216,slow=3.0,SNR=7.4						

*NEIC **19** 04:26:13.9, 34.92N×2.98W, h9km, MG3.3(MDD), After MDD.*
*CSEM **19** 04:26:13.2±0.2, 35.03N×2.88W, h8km, MD3.1, Error ellipse: s-maj=5.4km s-min=2.7km az=104.0*
*ISCJB **19** 04:26:14.1±0.6, 34.99N±0.03×2.80W±0.07, h20km±4km, Error ellipse: s-maj=10.1km s-min=3.9km az=23.7*
*CNRM **19** 04:26:15.1, 34.96N×2.65W, h12km, MD3.1*
*MDD **19** 04:26:15.4±0.4, 35.00N×2.82W, h10km±3km, mb3.3/8, Error ellipse: s-maj=7.9km s-min=3.4km az=77.0, PRXIMO*
ISC 19 04:26:14.7±0.5, **35.00N**±0.02×**2.83W**±0.07, **h15**km±3km, **n31,** σ**1s00**/55, **Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.07	114	P	Pg	04 26 17.0	-0.6
ZAI				S	Sg	04 26 19.5	-0.1
ZAI	Zaio	0.07	114	i P	Pg	04 26 17.0	-0.6
EMLI	Melilla	0.32	341	P	Pg	04 26 21.1	-0.1
	49nm,0.3s,SNR=9.8						
EMLI				S	Sg	04 26 26.3	+0.6
	156nm,0.1s,SNR=13						
EMEL	Melilla	0.32	340	P	Pg	04 26 21.1	-0.2
	49nm,0.3s,SNR=9.8						
EMEL				S	Sg	04 26 26.3	+0.5
	156nm,0.1s,SNR=13						
EALB	Alboran	0.95	350	P	Pb	04 26 32.8	-0.1
	18nm,0.4s,SNR=9.7						
EALB				S	Sb	04 26 46.4	+1.0
	12nm,0.2s,SNR=4.7						
EALB	Alboran	0.95	350	P	Pb	04 26 32.8	-0.1
	18nm,0.4s,SNR=9.7						
EALB				S	Sb	04 26 46.3	+1.0
TZK	Tazeka	1.44	231	i P	Pn	04 26 41.0	+0.8
TZK				i S	Sn	04 27 00.5	+1.6
EBER	Berja	1.90	358	P	Pn	04 26 46.1	-0.4
	2.9nm,0.4s,SNR=7.7						
EBER				S	Sn	04 27 10.6	+0.6
	3.4nm,0.3s,SNR=6.0						
EBER	Berja	1.90	358	P	Pn	04 26 46.1	-0.4
	2.9nm,0.4s,SNR=7.7						
EBER				S	Sn	04 27 10.6	+0.5
	3.4nm,0.3s,SNR=6.0						
EGUA	Guajares	1.93	342	P	Pn	04 26 44.7	-2.1
	0.8nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.03	14	P	Pn	04 26 47.1	-1.3
	2.5nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.22	315	P	Pn	04 26 49.7	-1.3
	3.9nm,0.6s,SNR=6.0						
EMIJ				S	Sn	04 27 14.6	-3.5
	2.9nm,0.2s						
EQUE	Quentar	2.26	347	P	Pn	04 26 52.2	+0.8
	2.0nm,0.3s,SNR=5.6						
EQUE				S	Sn	04 27 19.7	+0.7
	1.3nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	2.35	345	P	Pn	04 26 52.8	+0.1
	0.9nm,0.2s,SNR=7.9						
MIF	Mishlifen	2.55	232	eP	Pn	04 26 56.0	+0.6
MIF				i S	Sn	04 27 26.0	-0.1
CZD	Col de Zad	2.69	224	eP	Pn	04 26 58.0	+0.6
CZD				i S	Sn	04 27 30.0	+0.3
EQES	Quesada	2.80	356	P	Pn	04 27 00.8	+1.8
	2.9nm,0.4s,SNR=17						
EQES				S	Sn	04 27 33.0	+0.4
	1.4nm,0.3s						
EQES	Quesada	2.80	356	P	Pn	04 27 00.8	+1.8
	2.9nm,0.4s,SNR=17						
EQES				S	Sn	04 27 33.0	+0.5
	1.4nm,0.3s						
ZFT	Errachidia	3.22	204	P	Pn	04 27 06.0	+1.3
ZFT				S	Sn	04 27 41.0	-1.8
ZFT	Errachidia	3.22	204	eP	Pn	04 27 06.0	+1.3
EADA	Adamuz	3.46	336	P	Pn	04 27 08.2	+0.1
	1.4nm,0.3s,SNR=5.8						
EADA				S	Sn	04 27 47.1	-1.6
	1.4nm,0.2s						
EADA	Adamuz	3.46	336	P	Pn	04 27 08.2	+0.1
EADA				S	Sn	04 27 47.1	-1.6
EADA	Adamuz	3.46	336	P	Pn	04 27 08.2	+0.2
	1.4nm,0.3s,SNR=5.8						
EADA				S	Sn	04 27 47.1	-1.6
	1.4nm,0.2s						
ETOB	Tobarra	3.78	15	P	Pn	04 27 13.5	+1.1
	0.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	04 27 57.1	+0.5
	1.2nm,0.3s,SNR=7.9						
ETOB	Tobarra	3.78	15	P	Pn	04 27 12.5	+0.1
ETOB				S	Sn	04 27 57.1	+0.5
ETOB	Tobarra	3.78	15	P	Pn	04 27 12.5	+0.1
	SNR=7.9						
ETOB				S	Sn	04 27 57.1	+0.5
	1.2nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	4.15	313	P	Pn	04 27 16.6	-1.0
	0.4nm,0.1s,SNR=7.9						
EMIN				S	Sn	04 28 01.3	-4.6
	0.2nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.15	313	P	Pn	04 27 15.5	-2.0
EMIN				S	Sn	04 28 01.3	-4.6
EMIN	Mina Concepcio	4.15	313	P	Pn	04 27 15.5	-2.0
	SNR=7.9						
EBAD	Badajoz	5.03	319	P	Pn	04 27 28.4	-1.2
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	04 28 22.5	-5.0
	1.4nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.03	319	P	Pn	04 27 28.4	-1.2
	SNR=7.9						

*CSEM **19** 04:26:34.5±0.2, 35.03N×2.87W, h10km, MD3.4, Error ellipse: s-maj=7.9km s-min=3.7km az=103.0*
*ISCJB **19** 04:26:35.1±0.5, 35.00N±0.02×2.88W±0.05, h10km, Error ellipse: s-maj=6.0km s-min=3.3km az=28.0*
*CNRM **19** 04:26:36.1, 34.96N×2.65W, h12km, MD3.4*
*MDD **19** 04:26:36.5±0.4, 35.00N×2.84W, h9km±5km, mb3.4/8, Error ellipse: s-maj=8.4km s-min=4.0km az=84.0, PRXIMO*
*NEIC **19** 04:26:37.8, 35.05N×3.10W, h10km, MG3.4(MDD), After MDD.*
ISC 19 04:26:35.7±0.5, **35.00N**±0.02×**2.87W**±0.05, **h10km, n26,** σ**1s13**/46, **Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.11	104	P	Pg	04 26 38.0	-0.4
ZAI				S	Sg	04 26 40.5	+0.2
ZAI	Zaio	0.11	104	i P	Pg	04 26 38.0	-0.4
EMLI	Melilla	0.31	348	P	Pg	04 26 42.7	+0.9
	68nm,0.3s,SNR=5.9						
EMLI				S	Sg	04 26 47.5	+1.5
	171nm,0.1s,SNR=5.0						
EMEL	Melilla	0.31	347	P	Pg	04 26 42.7	+0.8
	68nm,0.3s,SNR=5.9						
EMEL				S	Sg	04 26 47.5	+1.5
	171nm,0.1s,SNR=5.0						
EALB	Alboran	0.95	352	P	Pg	04 26 53.8	-0.2
	14nm,0.3s,SNR=7.9						
EALB				S	Sg	04 27 06.2	-0.1
	3.2nm,0.1s,SNR=4.6						
EALB	Alboran	0.95	352	P	Pg	04 26 53.8	-0.2
	14nm,0.3s,SNR=7.9						
EALB				S	Sg	04 27 06.2	-0.1
	3.2nm,0.1s,SNR=4.6						
TZK	Tazeka	1.41	230	i P	Pn	04 27 02.0	+0.6
TZK				i S	Sn	04 27 21.0	+1.0
EBER	Berja	1.90	360	P	Pn	04 27 07.3	-0.8
	8.0nm,0.6s						
EBER				S	Sn	04 27 30.9	-1.2
	4.3nm,0.3s,SNR=7.9						
EBER	Berja	1.90	360	P	Pn	04 27 07.3	-0.8
	8.0nm,0.6s						
EBER				S	Sn	04 27 30.9	-1.1
	4.3nm,0.3s,SNR=7.9						
EGUA	Guajares	1.92	343	P	Pn	04 27 05.4	-3.0
	1.0nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.20	316	P	Pn	04 27 10.6	-1.7
	1.7nm,0.1s,SNR=7.9						
EMIJ				S	Sn	04 27 34.1	-5.3
	1.1nm,0.2s,SNR=7.9						
EQUE	Quentar	2.25	348	P	Pn	04 27 13.1	+0.1
	3.1nm,0.4s,SNR=7.9						
EQUE				S	Sn	04 27 38.5	-2.3
	0.8nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	2.34	346	P	Pn	04 27 13.9	-0.3
	SNR=4.0						
ELOJ	Sierra Loja	2.38	335	P	Pn	04 27 15.8	+1.0
	2.4nm,0.2s,SNR=7.9						
MIF	Mishlifen	2.51	232	eP	Pn	04 27 17.0	+0.4
MIF				i S	Sn	04 27 47.0	-0.3
CZD	Col de Zad	2.66	223	eP	Pn	04 27 19.0	+0.4
CZD				i S	Sn	04 27 51.0	+0.1
EQES	Quesada	2.81	357	P	Pn	04 27 22.0	+1.4
	2.2nm,0.2s,SNR=7.0						
EQES				S	Sn	04 27 55.0	+0.6
	2.0nm,0.2s,SNR=7.9						
EQES	Quesada	2.81	357	P	Pn	04 27 22.0	+1.4
	2.2nm,0.2s,SNR=7.0						
EQES				S	Sn	04 27 55.0	+0.6
	2.0nm,0.2s,SNR=7.9						
ZFT	Errachidia	3.20	203	P	Pn	04 27 27.0	+1.0
ZFT				S	Sn	04 28 02.0	-2.2
ZFT	Errachidia	3.20	203	eP	Pn	04 27 27.0	+1.0
EADA	Adamuz	3.45	337	P	Pn	04 27 29.3	-0.1
	1.1nm,0.2s,SNR=4.7						
EADA				S	Sn	04 28 06.8	-3.5
	SNR=4.0						
EADA	Adamuz	3.45	337	P	Pn	04 27 29.3	-0.1
	1.1nm,0.2s,SNR=4.7						
EADA				S	Sn	04 28 06.8	-3.5
	SNR=4.0						
ETOB	Tobarra	3.79	16	P	Pn	04 27 35.8	+1.6
	SNR=7.9						
ETOB				S	Sn	04 28 17.7	-1.1
	2.2nm,0.6s,SNR=7.9						
ETOB	Tobarra	3.79	16	P	Pn	04 27 35.8	+1.7
	SNR=7.9						
ETOB				S	Sn	04 28 17.7	-1.1
	2.2nm,0.6s,SNR=7.9						
EMIN	Mina Concepcio	4.13	313	P	Pn	04 27 37.5	-1.3
	0.5nm,0.1s,SNR=7.9						
EMIN				S	Sn	04 28 21.4	-5.6
	SNR=7.9						
EMIN	Mina Concepcio	4.13	313	P	Pn	04 27 37.5	-1.3

MAN 19 04:31:00.6, 1398N×12278E, h5km, mb1.7, ML3.5, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	0.33	258⇓	eP	Pg	04 31 07.4	+0.5
GQP				eS	Sg	04 31 12.5	+1.3
BOAC	Boac	1.04	241	eP	Pg	04 31 22.6	+2.0
BOAC				eS	Sg	04 31 36.5	+2.4
POLP	Polilio Island	1.10	313	eP	Pg	04 31 21.4	-0.4
POLP				eS	Sg	04 31 37.7	+1.6
PVCP	Virac	1.39	106	eP	Pn	04 31 25.5	-1.1
OTRP	Odiongan	1.77	205	eP	Pn	04 31 31.5	-0.2
BALP	Baler	2.10	327	eP	Pn	04 31 37.9	+1.4

*ISCJB **19** 04:31:34.9±1.8, 48.03N±0.06×6.55E±0.06, h13km±19km, Error ellipse: s-maj=11.4km s-min=5.4km az=53.3*
*CSEM **19** 04:31:35.4±0.1, 48.02N×6.54E, h10km, ML1.3, Error ellipse: s-maj=1.7km s-min=1.0km az=12.0*
*LDG **19** 04:31:35.4±0.1, 48.02N×6.55E, h11km, Md1.6/4, Error ellipse: s-maj=1.8km s-min=1.1km az=11.0*
*STR **19** 04:31:35.2±0.2, 48.01N×6.52E, h5km±1km, Ml1.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 19 04:31:35.3±1.6, **48.02N**±0.06×**6.54E**±0.06, **h13**km±17km, **n9,** σ**0s17**/17, **France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HAU	Haudompre	0.13	262	ePg	Pg	04 31 39.0	+0.4
HAU				eSg	Sg	04 31 40.9	-0.1
	3.1nm,0.3s						
HAU	Haudompre	0.13	262	ePg	Pg	04 31 39.0	+0.4
HAU				eSg	Sg	04 31 40.9	-0.1
	1.5nm,0.3s						
HINF	Hinteralfeld	0.30	134	ePg	Pg	04 31 41.4	0.0
HINF				eSg	Sg	04 31 45.3	-0.2
	1.4nm,0.1s						
HINF	Hinteralfeld	0.30	134	ePg	Pg	04 31 41.4	0.0
HINF				eSg	Sg	04 31 45.3	-0.2
	0.7nm,0.1s						
THEF	They Montfort	0.42	299	Pg	Pg	04 31 43.5	-0.2
THEF				Sg	Sg	04 31 49.2	-0.1
MOF	Molkenrain	0.43	113	Pg	Pg	04 31 44.1	+0.2
MOF				Sg	Sg	04 31 49.6	-0.1
ECH	Echery	0.46	65	Pg	Pg	04 31 44.4	+0.1
CDF	Champ du Feu	0.63	51	ePg	Pg	04 31 47.5	0.0
CDF				eSg	Sg	04 31 55.8	0.0
	1.1nm,0.3s						
CDF	Champ du Feu	0.63	51	ePg	Pg	04 31 47.5	0.0
CDF				eSg	Sg	04 31 55.8	0.0
	0.6nm,0.3s						

MAN 19 04:55:42.2, 1401N×12259E, h10km, mb1.0, ML3.1, 1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	0.18	232⇓	eP	Pg	04 55 45.9	-0.1
GQP				eS	Sg	04 55 50.7	+2.1
BOAC	Boac	0.91	233	eP	Pg	04 56 00.3	+0.6
BOAC				eS	Sg	04 56 14.5	+2.8
POLP	Polilio Island	0.95	318	eP	Pg	04 55 59.8	-0.7
POLP				eS	Sg	04 56 15.5	+2.6

*NEIC **19** 05:01:11.4±1.1, 26.28N×124.25E, h146km±20km, mb4.5/3, Error ellipse: s-maj=20.0km s-min=16.9km az=130.0*
*ISCJB **19** 05:01:16.8±0.9, 26.0N±0.1×122.68E±0.06, h267km±9km, mb4.5/1, Error ellipse: s-maj=17.3km s-min=7.8km az=143.4*
*JMA **19** 05:01:17.9±0.4, 25.86N×122.58E, h269km, M4.2*
ISC 19 05:01:17.7±0.9, **26.1N**±0.1×**122.66E**±0.06, **h257**km±9km, **n16,** σ**1s00**/29, **mb4.5**/1, **1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TATO	Taipei	1.52	224	ePn	Pn	05 01 57.1	+0.3
YOJ	Yonaguni jima	1.64	169	P	Pn	05 01 57.8	+0.1
YOJ				S	S	05 02 30.6	+1.4
YHNB	Yeheng	1.82	220	ePn	Pn	05 01 59.0	-0.2
YHNB				eS	S	05 02 31.5	-0.4
IRIF	Iriomote-Funau	1.98	151	P	Pn	05 02 00.3	-0.2
IRIF				S	S	05 02 34.0	-0.4
NACB	Ninganchiao	2.12	207⇓	ePn	Pn	05 02 00.7	-1.1
NACB				eS	S	05 02 33.4	-3.4
JKRS	Kuro-shima	2.20	146	P	Pn	05 02 02.7	+0.2
JKRS				S	S	05 02 37.2	-0.7
HATJ	Hateruma jima	2.26	152	P	Pn	05 02 03.2	+0.1
HATJ				S	S	05 02 37.6	-1.4
JTJ	Tarama	2.33	127	P	Pn	05 02 04.8	+1.0
JTJ				S	S	05 02 40.3	+0.1
JMJ	Miyako jima 2	2.69	117	P	Pn	05 02 08.9	+1.6
JMJ				S	S	05 02 47.1	+0.5
JOGS	Gusukube	2.81	117	P	Pn	05 02 09.9	+1.4
JOGS				eS	S	05 02 49.9	+1.1
JKE	Kume jima 2	3.71	85	P	Pn	05 02 19.5	+1.1
JIH	Iheya	4.85	77	P	Pn	05 02 32.9	+1.1
JIH				S	S	05 03 29.0	-1.9
JOW	Kunigami	5.09	80	P	Pn	05 02 34.4	-0.3
JOW				eS	S	05 03 33.9	-2.3
JTK	Tokunoshima	5.87	72	P	Pn	05 02 44.3	0.0
JTK				eS	S	05 03 48.5	-5.1
JMZ	Minamidaito 2	7.71	90	P	Pn	05 03 07.1	-0.2
JMZ				eS	S	05 04 30.8	-4.8
PMG	Port Moresby	42.56	143	eP	P	05 08 47.7	-0.7
	35nm,1.0s,mb4.5						

PRE 19 05:07:23.6±1.4, **2171S×3326E, h5km, ML3.7, Mozambique**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSNA	Messina	3.07	258	eP	Pn	05 08 13.7	+1.0
MSNA				eS	Sn	05 08 50.9	+1.2
MSNA				AML	AML	05 09 15.5	
	comp=Z,76nm,0.8s						
POGA	Pongola	5.83	195	eP	Pn	05 08 51.7	+1.1
POGA				eS	Sn	05 09 54.5	-3.3
POGA				AML	AML	05 10 47.5	
	comp=Z,12nm,0.4s						
LBTB	Lobatse	7.77	244	eP	Pn	05 09 17.9	+0.6
LBTB				eS	Sn	05 10 41.8	-3.8
LBTB				AML	AML	05 11 52.6	
	comp=Z,12nm,0.6s						
BOSA	Boshof	9.98	225	eP	Pn	05 09 48.5	+0.9
BOSA				eS	Sn	05 11 35.4	-4.6
BOSA				AML	AML	05 12 49.9	
	comp=Z,5.6nm,0.7s						

*MOS **19** 05:14:16.5±1.6, 51.36N×159.42E, h10km, mb4.6/22, Error ellipse: s-maj=12.6km s-min=5.7km az=95.8*
*IDC **19** 05:14:17.9±0.8, 51.55N×159.20E, h0km, mb4.1/15, mb1 4.3/15, mb1mx4.2/23, mbtmp4.1/15, MS3.1/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=20.5km s-min=17.7km az=124.0*
*KRSC **19** 05:14:18, 51.46N×159.81E, h5km, ML4.7*
*BJI **19** 05:14:22.6, 51.54N×159.15E, h32km, mB5.1, mb4.8, Ms4.3, Msz4.2*
*NEIC **19** 05:14:23.2±0.5, 51.58N×159.23E, h35km, mb4.6/10, Error ellipse: s-maj=11.3km s-min=8.3km az=135.0*
*ISCJB **19** 05:14:23.4±0.8, 51.51N±0.06×159.40E±0.08, h62km±5km, mb4.3/32, Error ellipse: s-maj=11.2km s-min=6.1km az=98.8*
ISC 19 05:14:25.0±0.8, **51.54N**±0.06×**159.37E**±0.09, **h60**km±5km, **n95,** σ**1s14**/106, **mb4.3**/32, **MS4.1**/2, **6C-4D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUS	Russkaya	1.04	330	eP	Pn	05 14 42.9	-0.6
RUS				i S	Sn	05 15 00.2	+2.9
GRL	Gorelyy	1.30	322	eP	Pn	05 14 47.5	+0.6
PET	Petropavlovsk	1.55	344⇑	iPN	Pn	05 14 49.4	-1.0
PET				eS	Sn	05 15 15.3	+5.8
PET				pmax	pmax		
	comp=Z,700nm,2.7s						
PET				smax			
	comp=E,500nm,2.0s						
PET				smax			
	comp=N,500nm,2.0s						
PET				smax			
	comp=E,3µm,1.6s						
PET				smax			
	comp=N,3µm,1.5s						
PET				smax			
	comp=E,2µm,0.9s						
PET				smax			
	comp=N,3µm,1.0s						
PET	Petropavlovsk	1.55	344⇑	ePn	Pn	05 14 49.3	-1.1
PET	Petropavlovsk	1.55	344	eP	Pn	05 14 49.5	-0.9
PET				i S	Sn	05 15 12.2	+2.7
INSR	Institute	1.60	343	eP	Pn	05 14 49.5	-1.5
INSR				i S	Sn	05 15 12.3	+1.6
SPN	Mys Shipunski	1.61	14	eP	Pn	05 14 48.9	-2.3
SPN				i S	Sn	05 15 11.1	+0.2
NLC	Nalytchevo	1.64	359	eP	Pn	05 14 50.1	-1.4
SDLR	Sedlovina	1.77	350	eP	Pn	05 14 52.2	-1.1
AVH	Avacha	1.77	348	eP	Pn	05 14 53.3	0.0
MIPR	Malaya Ipel'ka	1.78	296	eP	Pn	05 14 54.9	+1.5
MIPR				i S	Sn	05 15 21.3	+6.3
SKR	Severo-Kuril's	2.22	249	ePN	Pn	05 14 52.0	-7.4
SKR				eS	Sn	05 15 20.1	-5.7
SKR				pmax	pmax		
	comp=E,120nm,0.9s						
SKR				pmax	pmax		
	comp=Z,230nm,0.9s						
SKR				smax			
	comp=E,390nm,0.5s						
SKR				smax			
	comp=N,1µm,0.6s						
SKR				smax			
	comp=N,2µm,2.0s						
SKR				smax			
	comp=E,2µm,2.0s						
SKR				MLR	MLR		
	comp=N,3µm,12.0s						
SKR				MLR	MLR		
	comp=E,4µm,12.0s						
SKR				MLR	MLR		
	comp=Z,2µm,12.0s						
GNL	Ganaly	2.33	339	eP	Pn	05 15 01.4	+0.5
ALID	Alaid	2.50	256	eP	Pn	05 15 03.5	+0.3
ALID				i S	Sn	05 15 36.7	+4.3
MKZ	Mys Kozlova	3.34	24	eP	Pn	05 15 11.2	-3.5
MKZ				i S	Sn	05 15 49.7	-3.5
TUMR	Tumrok	3.78	7	eP	Pn	05 15 20.4	-0.3
KMNR	Kamenistaya	4.26	7	eP	Pn	05 15 28.2	+0.9
KPT	Kopyto	4.47	6	eP	Pn	05 15 30.2	+0.1
KOZ	Kozyrevsk	4.54	4	eP	Pn	05 15 32.9	+1.8
KOZR	Kozyr	4.55	4	PN	Pn	05 15 32.9	+1.7
ZLN	Zelenaya	4.57	10	eP	Pn	05 15 31.5	0.0
SRDR	Sredinnyy	4.79	2	eP	Pn	05 15 34.4	-0.2
KBTR	Krutoberegovo	5.11	22	eP	Pn	05 15 36.7	-2.1
BDR	Baidarnaya	5.16	11	eP	Pn	05 15 41.0	+1.4
SRKR	Sorokina	5.24	11	eP	Pn	05 15 41.0	+0.4
SEY	Seymchan	12.03	344	ePN	Pn	05 17 12.7	-0.8
ASAJ	Asahikawa	13.48	243	LR	LR	05 23 29.8	
	comp=Z,84nm,19.2s,baz=30,slow=41						
HABR	Khabarovsk	15.91	268	eP	Pn	05 18 04.5	-0.5
HABR				eS	S	05 20 57.3	-14
BILL	Bilibino	16.89	9⇑	iP	Pn	05 18 16.8	-0.5
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						

BILL MLR MLR
comp=Z,100nm,16.0s
KLR Kul'dur 17.73 273 *e*P **Pn** **05 18 25.8 -1.8**
YAK Yakutsk 19.18 315 *e*P **Pn** **05 18 43.4 -1.6**
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK Yakutsk 19.18 315 *e*P **Pn** **05 18 41.9 -3.2**
comp=N,49nm,0.8s
MDJ Mudanjiang 20.97 262 P **P** **05 19 01.8 -1.2**
comp=N,3.6nm,0.4s
MAJO Matsushiro 21.25 233 *e*P **P** **05 19 07.0 +1.0**
MAJO pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
MAJO Matsushiro 21.25 233 *e*P **P** **05 19 07.0 +0.9**
comp=Z,7.6nm,0.6s,mb4.2
MAT Matsushiro 21.25 233 P **P** **05 19 06.4 +0.4**
MJAR Matsushiro Arr 21.25 233 P **P** **05 19 06.0 -0.1**
comp=Z,7.2nm,0.8s,mb4.0,baz=31,slow=9.1,SNR=15
TIXI Tiksi 24.33 337*d* *i*P **P** **05 19 37.0 0.0**
TIXI pmax pmax
comp=Z,11nm,0.7s,mb4.4
HIA Hailar 25.15 281 *e*P **P** **05 19 43.8 -0.7**
HIA pmax pmax
comp=Z,22nm,0.9s
HIA Hailar 25.15 281 *e*P **P** **05 19 43.8 -0.7**
comp=Z,22nm,0.9s,mb4.7
EGAK Eagle 32.69 43 *e*P **P** **05 20 50.6 -0.9**
ULN Ulaanbaatar 33.44 285⇑*e*P **P** **05 20 58.6 +0.5**
SONM Songino Array 33.85 285 P **P** **05 20 59.7 -2.0**
comp=Z,0.6nm,0.4s,mb3.9,baz=64,slow=7.2,SNR=5.8
ZAK Zakamensk 34.62 291 *e*P **P** **05 21 08.0 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
SSE Sheshan 34.67 249 P **P** **05 21 07.4 -1.3**
SSE AMB AMB
comp=Z,12nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,86nm,5.9s
NJ2 Nanjing 35.35 252 *e*P **P** **05 21 15.5 +0.9**
NJ2 AP pP 05 21 30.4 +0.9
NJ2 PP PP 05 22 36.0 +0.3
NJ2 S **S** **05 26 45.0 +0.3**
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,190nm,6.2s
NJ2 LR LR
comp=N,270nm,19.4s,MS4.2
NJ2 LR LR
comp=E,250nm,18.9s,MS4.2
NJ2 LR LR
comp=Z,350nm,19.8s,MS4.1
INK Inuvik 35.38 36 P **P** **05 21 14.8 -0.1**
comp=Z,2.0nm,0.9s,mb4.1,baz=282,slow=6.8,SNR=5.6
INK Inuvik 35.38 36 *e*P **P** **05 21 15.3 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 35.38 36 *e*P **P** **05 21 15.3 +0.4**
comp=Z,3.1nm,0.9s,mb4.2
GTA Gaotai 42.36 278 *e*P **P** **05 22 18.3 +5.1**
GTA AP pP 05 22 22.3 -6.1
GTA XP sP 05 22 25.4 -10
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb3.9
GYA Guiyang 46.74 258 P **P** **05 22 49.6 +1.5**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
MKAR Makanchi Array 48.44 296 P **P** **05 23 01.3 0.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=56,slow=7.7,SNR=10
MKAR Makanchi Array 48.44 296 *i*P **P** **05 23 02.4 +1.1**
CHKZ Chkalovo 50.52 310 *e*P **P** **05 23 15.8 -1.3**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CHKZ Chkalovo 50.52 310 *e*P **P** **05 23 15.8 -1.4**
comp=Z,8.6nm,0.6s,mb4.9
BVAR Borovoye Array 51.02 309 P **P** **05 23 19.8 -1.1**
comp=Z,3.8nm,0.5s,mb4.6,baz=53,slow=7.9,SNR=26
BVAR Borovoye Array 51.02 309 P **P** **05 23 19.8 -1.1**
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BRVK Borovoye 51.05 309 *e*P **P** **05 23 20.4 -0.7**
BRVK pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
BRVK Borovoye 51.05 309 *e*P **P** **05 23 20.4 -0.7**
comp=Z,1.8nm,0.4s,mb4.3
ARU Arti 54.25 318⇓*i*P **P** **05 23 44.2 -0.5**
ARU *e*S **S** **05 31 17.5 -0.3**
ARU *e*SS SS 05 35 01.2 +0.9
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ARCES ARCESS Array B 54.63 342 P **P** **05 23 47.6 +0.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=36,slow=7.3,SNR=11
ARCES ARCESS Array B 54.63 342 P **P** **05 23 47.6 +0.1**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 56.71 69 P **P** **05 24 04.1 +1.7**
comp=Z,0.2nm,0.5s,mb3.4,baz=331,slow=5.4,SNR=2.9
AKTK Aktyubinsk 58.55 313 P **P** **05 24 14.3 -1.0**
AKTO Aktyubinsk 58.55 313 P **P** **05 24 14.3 -1.0**
comp=Z,0.9nm,0.4s,mb4.1,baz=57,slow=7.3,SNR=5.0
AKTO Aktyubinsk 58.55 313 P **P** **05 24 14.3 -1.0**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
PDAR Pinedale Array 58.68 60 P **P** **05 24 17.2 +0.9**
comp=Z,0.8nm,0.4s,mb4.1,baz=306,slow=3.2,SNR=3.4
JOF Joensuu 58.80 335 *ep* **P** **05 24 15.4 -1.6**
comp=Z,1.9nm,0.4s,mb4.5
JOF Joensuu 58.80 335 *e*P **P** **05 24 15.4 -1.6**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KAF Kangasniemi 60.74 337 *ep* **P** **05 24 30.0 -0.4**
comp=Z,3.0nm,0.4s,mb4.8,baz=32,slow=6.3
KAF Kangasniemi 60.74 337 *e*P **P** **05 24 30.0 -0.4**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
FINES FINESS Array B 61.38 337 P **P** **05 24 34.9 +0.2**
comp=Z,1.8nm,0.5s,mb4.5,baz=40,slow=7.8,SNR=15
FINES FINESS Array B 61.38 337 *i* P **P** **05 24 35.0 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
OBN Obninsk 63.59 327 *e*P **P** **05 24 49.0 -0.5**
OBN *e* 05 25 22.1
OBN *e* 05 27 08.4
OBN pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
NB2 NORSAR Subarra 64.92 344 P **P** **05 24 58.6 +0.5**
comp=Z,1.2nm,0.6s,mb4.1,baz=20,slow=6.9
NOA NORSAR Array B 64.92 344 P **P** **05 24 58.8 +0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=22,slow=6.6,SNR=8.3
NOA NORSAR Array B 64.92 344 P **P** **05 24 58.8 +0.7**
NOA pmax pmax
comp=Z,2.0nm,0.6s
KONO Kongsberg 66.50 344⇑*e*P **P** **05 25 07.0 -1.4**
AKASG Malin Array Be 69.72 329 P **P** **05 25 28.7 +0.2**
comp=Z,6.3nm,0.6s,mb4.7,baz=30,slow=6.2,SNR=22
AKASG Malin Array Be 69.72 329 P **P** **05 25 28.7 +0.2**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 69.72 329 *e*P **P** **05 25 28.3 -0.2**
KWP Kalwaria 72.67 332 *e*P **P** **05 25 47.7 +1.4**
KWP pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KWP Kalwaria 72.67 332 *e*P **P** **05 25 47.7 +1.3**
comp=Z,9.4nm,0.9s,mb4.7
BURAR Bucovina Array 73.70 330⇓*i*P **P** **05 25 53.2 +0.8**
WRA Warramunga Arr 74.48 204 P **P** **05 25 57.2 +0.3**
comp=Z,1.1nm,0.7s,mb3.9,baz=22,slow=6.2,SNR=14
WRA Warramunga Arr 74.48 204 P **P** **05 25 57.2 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 75.34 328⇑*i*P **P** **05 26 03.8 +1.9**
GERES GERESS Array B 75.79 337 P **P** **05 26 05.8 +1.4**
comp=Z,0.4nm,0.3s,mb3.9,baz=46,slow=5.8,SNR=4.0
MALT Malatya 76.73 316⇓*i*P **P** **05 26 12.2 +2.4**
MALT Malatya 76.73 316 *e*P **P** **05 26 11.6 +1.8**
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MALT Malatya 76.73 316 *e*P **P** **05 26 11.6 +1.8**
comp=Z,7.3nm,0.9s,mb4.6
BRTR Keskin Array B 77.54 320 P **P** **05 26 15.2 +0.8**
comp=Z,2.8nm,0.9s,mb4.2,baz=57,slow=4.6,SNR=8.6
BRTR Keskin Array B 77.54 320 *i* P **P** **05 26 16.1 +1.8**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
ASAR Alice Springs 78.15 204 P **P** **05 26 18.9 +1.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=23,slow=4.9,SNR=8.4
ASAR Alice Springs 78.15 204 P **P** **05 26 18.9 +1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.6s

*NEIC **19** 05:44:47.4, 3731S×17781E, h54km, ML3.9(WEL), After WEL.*
WEL 19 05:44:47.5±0.3, 3731S×17780E, h53km±3km, ML3.9/6, 2C-1D, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.48**	**122**	P		Pn		05 44 58.2	-0.5
MXZ				S		Sn		05 45 07.0	+0.3
MXZ	**Matakaoa Point**	**0.48**	**122**	⇓P*		Pn		05 44 58.2	-0.5
MXZ				S*		Sn		05 45 07.0	+0.3
MXZ				S*		Sn		05 45 07.1	+0.4
WIZ	**White Island**	**0.53**	**246**	P		Pn		05 44 59.8	+0.5
WIZ				S		Sn		05 45 07.9	+0.1
WIZ	**White Island**	**0.53**	**246**	P*		Pn		05 44 59.8	+0.5
WIZ				S*		Sn		05 45 07.9	+0.2
PUZ	**Puketiti**	**0.84**	**154**	*e*P		Pn		05 45 04.0	+0.8
PUZ	**Puketiti**	**0.84**	**154**	PN		Pn		05 45 04.0	+0.7
MWZ	**Matawai**	**1.04**	**192**	P		Pn		05 45 05.6	-0.3
MWZ				S		Sn		05 45 19.2	-0.3
MWZ	**Matawai**	**1.04**	**192**	⇑P*		Pn		05 45 05.6	-0.3
MWZ				S*		Sn		05 45 18.9	-0.6
MWZ				S*		Sn		05 45 19.2	-0.3
URZ	**Urewera**	**1.09**	**210**	P		Pn		05 45 06.3	-0.2
URZ	**Urewera**	**1.09**	**210**	⇑P*		Pn		05 45 06.3	-0.3
URZ				S*		Sn		05 45 20.4	-0.2
MARZ	**Manawahe**	**1.12**	**233**	P		Pn		05 45 05.9	-1.0
MARZ	**Manawahe**	**1.12**	**233**	P*		Pn		05 45 06.6	-0.2
EDRZ	**Edgecumbe**	**1.16**	**226**	P		Pn		05 45 07.4	0.0
EDRZ	**Edgecumbe**	**1.16**	**226**	P*		Pn		05 45 07.3	-0.1
TAZ	**Tarawera**	**1.37**	**228**	P		Pn		05 45 11.2	+0.8
TAZ	**Tarawera**	**1.37**	**228**	P*		Pn		05 45 10.8	+0.5
KNZ	**Kokohu**	**1.71**	**183**	*e*P		Pn		05 45 14.6	-0.3
KNZ	**Kokohu**	**1.71**	**183**	PN		Pn		05 45 14.5	-0.4
KUZ	**Kuaotunu**	**1.75**	**288**	P		Pn		05 45 15.1	-0.4
KUZ	**Kuaotunu**	**1.75**	**288**	PN		Pn		05 45 15.1	-0.5
KUZ				SN		Sn		05 45 35.9	-0.8
BKZ	**Black Stump Fm**	**2.12**	**209**	*e*P		Pn		05 45 20.2	-0.3
BKZ	**Black Stump Fm**	**2.12**	**209**	*e*P*		Pn		05 45 20.2	-0.3
FWVZ	**Far West T-bar**	**2.62**	**222**	*e*P		Pn		05 45 28.7	+1.3
FWVZ	**Far West T-bar**	**2.62**	**222**	P*		Pn		05 45 28.5	+1.1
MOVZ	**Moawhango**	**2.64**	**217**	P		Pn		05 45 27.6	0.0
MOVZ	**Moawhango**	**2.64**	**217**	P*		Pn		05 45 27.5	-0.1
MOVZ				S*		Sn		05 45 58.4	0.0
PXZ	**Pawanui**	**2.81**	**195**	PN		Pn		05 45 27.9	-2.1
PXZ				SN		Sn		05 46 01.8	-0.9
WCZ	**Waipu Caves**	**3.10**	**295**	*e*P		Pn		05 45 34.7	+0.8

*ISCJB **19** 05:45:21.2±2.9, 02S±03×1003E±04, h159km±26km, mb3.6/4, Error ellipse: s-maj=75.4km s-min=25.0km az=108.1*
*IDC **19** 05:45:23.9±2.7, 0.17N×10079E, h152km±29km, mb3.3/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.6/4, Error ellipse: s-maj=122.7km s-min=20.5km az=53.0*
*NEIC **19** 05:45:23.3±2.0, 009S×10043E, h158km±19km, mb3.9/1, Error ellipse: s-maj=50.2km s-min=18.4km az=55.0*
ISC 19 05:45:22.2±2.8, 02S±03×1003E±04, h149km±25km, n8, σ0s80/10, mb3.6/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.23**	**336**	P		Pn		**05 46 13.0**	**+0.7**
PSI				S		Sn		**05 46 47.7**	**-3.5**

1.0nm,0.3s,baz=149,slow=12,SNR=9.6
baz=141,slow=16,SNR=4.5

PSI	**Prapat**	**3.23**	**336**	P		Pn		**05 46 13.0**	**+0.7**
PSI				S		Sn		**05 46 47.7**	**-3.5**
KULM	**Kulim**	**5.43**	**4**	*e*Pn		Pn		**05 46 41.6**	**+0.3**
WRA	**Warramunga Arr**	**38.73**	**123**	P		P		**05 52 31.0**	**-0.8**

0.6nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=9.4

WRA				PcP		PcP		05 54 41.2	+0.9

0.3nm,0.8s,baz=319,slow=2.4,SNR=5.0

WRAB	**Tennant Creek**	**38.74**	**123**	P		P		**05 52 31.7**	**-0.1**

0.7nm,0.3s,mb3.8

ASAR	**Alice Springs**	**40.15**	**128**	P		P		**05 52 43.9**	**+0.4**

0.2nm,0.4s,mb3.1,baz=299,slow=7.8,SNR=4.1

MKAR	**Makanchi Array**	**49.34**	**344**	P		P		**05 53 56.4**	**+0.2**

1.1nm,0.3s,mb3.9,baz=159,slow=7.4,SNR=10

MKAR	**Makanchi Array**	**49.34**	**344**	P		P		**05 53 56.4**	**+0.2**

FUNV 19 06:07:51.6, 670N×7323W, h170km, MW3.6, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.47**	**38**⇑	*i*P		Pn		06 08 22.1	-0.3
CAPV				*e*S		Sn		06 08 44.0	-2.1
VIGV	**El Vigia**	**2.81**	**41**⇑	*e*P		Pn		06 08 36.6	-0.9
SOCV	**Socops**	**2.83**	**56**	*e*P		Pn		06 08 36.9	-0.8
SOCV				*e*S		Sn		06 09 09.6	-3.8
ELOV	**Elorza**	**3.73**	**85**	*e*P		Pn		06 08 48.4	-0.5
VIRV	**Villa del Rosa**	**3.86**	**12**	*e*P		Pn		06 08 48.9	-1.7
VIRV				*e*S		Sn		06 09 32.3	-4.3
SANV	**Sanarito**	**4.59**	**52**	*e*P		Pn		06 08 58.4	-1.6
CURV	**Curarigua**	**4.61**	**44**	*e*P		Pn		06 08 58.9	-1.4
SIQV	**Siquisique**	**5.18**	**41**	*e*P		Pn		06 09 06.0	-1.7
SIQV				*e*S		Sn		06 10 01.5	-5.7
BAUV	**El Baul**	**5.60**	**66**⇓	*e*P		Pn		06 09 10.5	-2.7

*NEIC **19** 06:18:54.7, 3291S×7233W, h34km, ML3.3(GUC), After GUC.*
GUC 19 06:18:54.7±0.8, 3291S×7233W, h34km±2km, MD3.9, ML3.3, 12C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.59**	**102**⇑	*i*P		Pn		06 19 06.7	0.0
IHA				*i* S		Sb		06 19 16.3	+1.2
LCCH	**Las Cruces**	**0.85**	**132**⇓	*i*P		Pn		06 19 10.5	+0.2
LCCH				*i* S		Sn		06 19 22.2	+0.5
ROCH	**El Roble**	**1.11**	**94**⇓	*i*P		Pn		06 19 14.9	+1.0
CHNG	**Los Chungos**	**1.24**	**35**⇑	*i*P		Pn		06 19 16.4	+0.8
CHNG				*i* S		Sn		06 19 32.8	+1.6
LNV	**Longovilo**	**1.30**	**144**⇑	*i*P		Pn		06 19 16.7	+0.2
PTCH	**Petorca**	**1.35**	**62**⇑	*i*P		Pn		06 19 18.2	+1.1
PTCH				*i* S		Sn		06 19 36.0	+2.2
PTCH				AML		AML		06 19 42.6	

comp=N,2μm,0.3s

PTCH	**Petorca**	**1.35**	**62**⇑	*i*P		Pn		06 19 18.2	+1.1
PTCH				*i* S		Sn		06 19 36.0	+2.2
TACH	**Talagante**	**1.39**	**123**⇓	*i*P		Pn		06 19 18.7	+1.1
TACH				*e*S		Sn		06 19 37.1	+2.4
PEL	**Peldehue**	**1.40**	**100**⇓	*i*P		Pn		06 19 19.8	+1.9
PEL				*i* S		Sn		06 19 38.5	+3.2
PEL				AML		AML		06 19 41.4	

comp=E,2μm,0.5s

PEL	**Peldehue**	**1.40**	**100**⇓	*i*P		Pn		06 19 19.8	+1.9
PEL				*i* S		Sn		06 19 38.5	+3.2
RCDM	**Rinconada Maip**	**1.41**	**115**	*e*P		Pn		06 19 18.9	+1.0
RCDM				*i* S		Sn		06 19 37.4	+2.2
RCDM				AML		AML		06 19 41.7	

comp=N,375nm,0.6s

RCDM	**Rinconada Maip**	**1.41**	**115**	*e*P		Pn		06 19 18.9	+1.0
RCDM				*i* S		Sn		06 19 37.4	+2.2
JACH	**Jahuel**	**1.48**	**82**⇓	*i*P		Pn		06 19 20.1	+1.1
JACH				*i* S		Sn		06 19 39.9	+2.7
SAN	**Santiago**	**1.50**	**112**	*i* S		Sn		06 19 40.2	+2.6
SAN				AML		AML		06 19 49.6	

comp=E,596nm,0.6s

STL	**Santa Lucia**	**1.51**	**111**⇑	*i*P		Pn		06 19 20.7	+1.3
STL				*i* S		Sn		06 19 40.3	+2.3
DSCH	**Colegio Aleman**	**1.56**	**109**	*e*P		Pn		06 19 21.2	+1.2
CLCH	**Cerro Calan**	**1.58**	**108**⇑	*i*P		Pn		06 19 22.4	+2.0
CLCH				*i* S		Sn		06 19 42.5	+2.9
CLCH				AML		AML		06 19 47.1	

comp=N,670nm,0.4s

CLCH				AML		AML		06 19 55.0	

comp=N,743nm,0.6s

FSR	**Penalolen**	**1.62**	**111**	*e*P		Pn		06 19 23.1	+2.2
FSR				*i* S		Sn		06 19 43.9	+3.4
FSR				AML		AML		06 19 50.6	

comp=E,610nm,0.4s

FSR	**Penalolen**	**1.62**	**111**	*e*P		Pn		06 19 23.1	+2.2
FSR				*i* S		Sn		06 19 43.9	+3.4
CHCH	**Chadas Angostu**	**1.74**	**127**	*e*P		Pn		06 19 24.3	+1.8
CHCH				*i* S		Sn		06 19 46.0	+2.5
FCH	**Farellones**	**1.77**	**104**⇑	*i*P		Pn		06 19 25.1	+2.3
FCH				*i* S		Sn		06 19 47.9	+3.8
FCH				AML		AML		06 19 55.2	

comp=E,283nm,0.6s

SJCH	**San Jose de Ma**	**1.81**	**114**	*e*P		Pn		06 19 25.2	+1.7
SJCH				AML		AML		06 19 54.9	

comp=E,290nm,0.5s

CACH	**El Canelo**	**1.89**	**130**⇑	*i*P		Pn		06 19 26.6	+2.1
LMEL	**Las Melosas**	**2.01**	**118**	*i* P		Pn		06 19 28.6	+2.3
LMEL				*i* S		Sn		06 19 53.8	+3.5
LMEL				AML		AML		06 20 03.8	

comp=N,441nm,0.4s

LMEL	**Las Melosas**	**2.01**	**118**	*i* P		Pn		06 19 28.6	+2.3
LMEL				*i* S		Sn		06 19 53.8	+3.5
SFDO	**San Fernando**	**2.03**	**148**⇑	*i*P		Pn		06 19 27.8	+1.3
CMCH	**Combarbala**	**2.06**	**34**⇓	*i*P		Pn		06 19 28.1	+1.2
CICH	**Cipreses**	**2.13**	**132**⇓	*i*P		Pn		06 19 29.7	+1.8
TLL	**Tololo Astrono**	**3.03**	**26**⇑	*i*P		Pn		06 19 42.1	+1.9
TLL				*i* S		Sn		06 20 18.4	+3.1
TLL				AML		AML		06 20 37.5	

comp=N,163nm,0.6s

TLL	**Tololo Astrono**	**3.03**	**26**⇑	*i*P		Pn		06 19 42.1	+1.9
TLL				*i* S		Sn		06 20 18.4	+3.1

*NEIC **19** 06:19:17.5, 3701N×2056E, h9km, MD3.9(ATH), After ATH.*
*ATH **19** 06:19:17.5, 3701N×2056E, h9km±1km, MD3.9/10*
*IDC **19** 06:19:18.9±5.5, 3721N×2014E, h0km, mb3.5/4, mb1 3.5/5, mb1mx3.4/22, mbtmp3.5/5, ML3.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/32, Error ellipse: s-maj=91.6km s-min=50.9km az=30.0*
*ISCJB **19** 06:19:18.1±0.9, 3702N±005×2050E±006, h10km, mb3.6/3, Error ellipse: s-maj=9.0km s-min=5.4km az=88.3*
*CSEM **19** 06:19:21.1±0.4, 37.13N×2056E, h25km, MD3.9, Error ellipse: s-maj=8.8km s-min=3.5km az=49.0*
*NAO **19** 06:19:34.0, 3969N×2697E, h33km, mb3.4*
ISC 19 06:19:20.1±0.9, 3708N±005×2060E±007, h10km, n36, σ0s86/40, mb3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.07**	**84**	*e*PB		**Pb**		**06 19 38.3**	**-2.4**
ITM				*e*SB		**Sb**		**06 19 54.4**	**-0.3**
VLS	**Valsamata**	**1.10**	**360**	*e*PB		**Pb**		**06 19 39.8**	**-1.4**
VLS				*e*SB		**Sb**		**06 19 55.8**	**+0.3**
RLS	**Riolos of Patr**	**1.20**	**35**	*e*PG		**Pg**		**06 19 41.3**	**-1.8**
RLS				*e*SB		**Sb**		**06 19 58.6**	**+0.2**
VLI	**Veliai**	**1.91**	**100**	*e*PN		**Pn**		**06 19 52.9**	**+0.2**
VLI				*e*SN		**Sn**		**06 20 18.0**	**+1.2**
EVR	**Evrytania**	**2.07**	**27**	*e*PN		**Pn**		**06 19 55.9**	**+1.0**
EVR				*e*SN		**Sb**		**06 20 24.1**	**+0.6**
KYTH	**Kithira**	**2.12**	**111**	*e*PN		**Pn**		**06 19 55.5**	**-0.1**
MGER	**Gerania Oros**	**2.30**	**66**	*e*PN		**Pn**		**06 19 58.3**	**+0.4**
AGG	**Agios Georgios**	**2.37**	**35**	*e*P		**Pn**		**06 19 58.8**	**-0.3**
NAIG	**Nisos Aigina**	**2.40**	**73**	*e*PN		**Pn**		**06 19 59.5**	**0.0**
IGT	**Igoumenitsa**	**2.46**	**355**	*e*P		**Pb**		**06 20 05.4**	**+0.9**
LKR	**Lokris**	**2.46**	**50**	*e*PN		**Pn**		**06 20 00.9**	**+0.5**
JAN	**Janina**	**2.58**	**4**	*e*PN		**Pn**		**06 20 02.5**	**+0.5**
KVR	**Kavouri**	**2.63**	**73**	*e*PN		**Pn**		**06 20 03.0**	**+0.3**
KEK	**Kerkira**	**2.70**	**347**	*e*PN		**Pn**		**06 20 04.7**	**+1.0**
NEO	**Neokhori**	**3.04**	**42**	*e*PN		**Pn**		**06 20 08.3**	**+0.1**
XOR	**Xorichti**	**3.06**	**41**	*e*P		**Pn**		**06 20 08.6**	**0.0**
KARN	**Karanos**	**3.16**	**121**	*e*P		**Pg**		**06 20 28.0**	**+7.2**
AOS	**Alonnisos**	**3.33**	**50**	*e*P		**Pn**		**06 20 11.8**	**-0.4**
LIT	**Litokhoron**	**3.36**	**26**	*e*P		**Pn**		**06 20 12.8**	**+0.1**
FNA	**Florina**	**3.75**	**9**	*e*P		**Pn**		**06 20 18.6**	**+0.5**
BIA	**Bitola**	**3.98**	**8**	*e*P		**Pn**		**06 20 21.4**	**+0.3**
HORT	**Hortiatis**	**4.02**	**28**	*e*P		**Pn**		**06 20 21.7**	**-0.1**
OHR	**Ohrid**	**4.03**	**2**	*e*P		**Pn**		**06 20 22.9**	**+1.0**
GRG	**Griva**	**4.12**	**19**	*e*P		**Pn**		**06 20 23.0**	**-0.1**
SOH	**Sokhos**	**4.31**	**29**	*e*P		**Pn**		**06 20 25.0**	**-0.8**
KNT	**Kendrikon**	**4.45**	**23**	*e*P		**Pn**		**06 20 27.4**	**-0.3**
VAY	**Valandovo**	**4.50**	**19**	*e*Pn		**Pn**		**06 20 28.2**	**-0.2**
VAY	**Valandovo**	**4.50**	**19**	*e*Pn		**Pn**		**06 20 28.1**	**-0.3**
STIP	**Stip**	**4.77**	**14**	*e*P		**Pn**		**06 20 32.3**	**+0.2**
AKASG	**Malin Array Be**	**14.95**	**22**	Pn		**Pn**		**06 22 50.7**	**-0.9**

0.6nm,0.3s,baz=205,slow=10,SNR=4.3

GNI	**Garni**	**19.10**	**73**	LR		LR		06 32 19.1	

comp=Z,30nm,21.3s,baz=339,slow=40

HFS	**Hagfors**	**23.49**	**351**	P		**P**		**06 24 27.2**	**-3.0**

1.8nm,0.6s,mb3.7,baz=160,slow=13,SNR=3.4

FINES	**FINESS Array B**	**24.63**	**6**	P		**P**		**06 24 40.7**	**0.0**

1.8nm,0.9s,mb3.6,baz=206,slow=12,SNR=3.2

NB2	**NORSAR Subarra**	**24.71**	**349**	P		**P**		**06 24 39.7**	**-1.7**

comp=Z,0.9nm,0.6s,mb3.5,baz=148,slow=10

NOA	**NORSAR Array B**	**24.71**	**349**	P		**P**		**06 24 39.9**	**-1.5**

comp=Z,1.0nm,0.8s,mb3.4,baz=156,slow=9.0,SNR=4.0

MKAR	**Makanchi Array**	**45.83**	**57**	P		**P**		**06 27 44.1**	**+1.8**

comp=Z,0.2nm,0.6s,baz=287,slow=7.4,SNR=2.1

*CSEM **19** 06:22:28.3, 37.12N×20.75E, h5km, MD3.6/4, After ATH*
*NEIC **19** 06:22:28.3, 37.12N×20.75E, h5km, MD3.7(ATH), After ATH.*
ATH 19 06:22:28.3, 37.12N×20.75E, h5km±4km, MD3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.94	86	ePG	Pg	06 22 46.0	-0.4
ITM				eSB	Sb	06 23 00.0	+0.1
VLS	Valsamata	1.06	353	ePB	Pb	06 22 49.0	-0.2
VLS				eSB	Sb	06 23 04.0	+0.6
VLI	Veliai	1.80	102	ePG	Pg	06 23 02.0	-0.8
EVR	Evrytania	1.98	25	ePN	Pn	06 23 05.5	+3.1
KYTH	Kithira	2.02	114	ePN	Pn	06 23 06.0	+3.0

*ISCJB **19** 06:28:43.2±1.6, 2.9S±0.2×129.9E±0.4, h10km, mb4.0/2, Error ellipse: s-maj=55.4km s-min=18.2km az=146.3*
*IDC **19** 06:28:44.7±1.7, 2.91S×129.66E, h0km, mb4.0/2, mb1 4.3/4, mb1mx3.9/16, mbtmp4.0/4, ML3.7/2, Error ellipse: s-maj=104.7km s-min=25.7km az=73.0*
ISC 19 06:28:45.4±5.1, 2.9S±0.2×129.9E±0.4, h8km±32km, n8, σ1.48/8, mb4.0/2, Seram

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.68	195	eP	Pn	06 32 26.0	-0.5
	6.7nm,0.7s						
FITZ	Fitzroy Crossi	15.68	195	Pn	Pn	06 32 26.8	+0.2
	0.2nm,0.3s,baz=31,slow=15,SNR=9.5						
WRA	Warramunga Arr	17.48	166	P	Pn	06 32 49.1	-0.5
	0.3nm,0.3s,baz=348,slow=12,SNR=19						
WB2	Warramunga Arr	17.49	166	eP	Pn	06 32 47.9	-1.7
ASAR	Alice Springs	21.01	170	P	P	06 33 30.5	+1.3
	7.0nm,0.6s,mb4.2,baz=347,slow=10,SNR=88						
ASAR				S	S	06 37 22.9	-0.4
	0.6nm,0.9s,baz=349,slow=19,SNR=3.1						
ASPA	Alice Springs	21.01	170	eP	P	06 33 30.8	+1.6
MKAR	Makanchi Array	64.78	326	P	P	06 39 24.1	-0.3
	0.4nm,0.4s,mb3.9,baz=132,slow=8.0,SNR=6.8						
CPUP	Villa Florida	150.11	167	PKPbc	PKPbc	06 48 39.0	+2.3
	1.4nm,0.8s,baz=180,slow=3.0,SNR=4.0						

*NEIC **19** 06:44:02.2, 28.33S×70.49W, h85km, MG3.8(GUC), After GUC.*
GUC 19 06:44:02.2±1.0, 28.33S×70.49W, h85km±10km, ML3.8, 5C, Central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.34	224	⇑iP	Pn	06 44 20.2	+4.9
VACH				iS	Sn	06 44 30.9	+5.9
VACH				AML	AML	06 44 32.9	
	comp=E,4µm,0.1s						
VACH	Vallenar	0.34	224	⇑iP	Pn	06 44 20.2	+4.9
VACH				iS	Sn	06 44 30.9	+5.9
CPCH	Copiapo	0.97	7	⇑iP	Pn	06 44 21.3	0.0
CPCH				iS	Sn	06 44 36.3	+0.8
CPCH				AML	AML	06 44 37.6	
	comp=E,7µm,0.1s						
CPCH	Copiapo	0.97	7	⇑iP	Pn	06 44 21.3	0.0
CPCH				iS	Sn	06 44 36.3	+0.8
CDCH	Caldera	1.29	346	eP	Pn	06 44 25.6	+0.6
CDCH				iS	Sn	06 44 42.5	+0.3
TLL	Tololo Astrono	1.85	189	⇑iP	Pn	06 44 33.2	+0.9
TLL				iS	Sn	06 44 57.0	+1.9

*IDC **19** 06:56:39.9±0.5, 29.39N×81.54E, h0km, mb4.6/22, mb1 4.7/22, mb1mx4.6/26, mbtmp4.6/22, MS3.7/8, Ms1 3.7/8, ms1mx3.3/33, Error ellipse: s-maj=17.3km s-min=14.3km az=45.0*
*SZGRF **19** 06:56:39.4, 28.80N×82.50E, h33km, mb4.8, Nepal*
*MOS **19** 06:56:42.2±0.9, 29.44N×81.57E, h27km, mb4.9/53, Error ellipse: s-maj=9.6km s-min=4.7km az=121.6*
*BJI **19** 06:56:43.2, 29.59N×81.53E, h26km, mB4.7, mb4.6, ML4.2, Ms4.3, Msz3.9*
*LDG **19** 06:56:43.2±0.1, 29.46N×81.47E, h33km, Mb4.8/21, Ms3.4/1, Error ellipse: s-maj=9.0km s-min=3.2km az=27.0*
*DMN **19** 06:56:43.5±0.7, 29.51N×81.81E, h10km, Ml5.0/4, Error ellipse: s-maj=24.8km s-min=12.6km az=29.0*
*ISCJB **19** 06:56:44.9±0.3, 29.51N±0.03×81.46E±0.02, h43km±3km, mb4.6/78, MS3.7/12, Error ellipse: s-maj=4.8km s-min=2.5km az=28.5*
*NEIC **19** 06:56:44.6±2.7, 29.49N×81.57E, h28km±18km, mb4.7/41, Error ellipse: s-maj=7.6km s-min=4.9km az=206.0*
NEIC Felt at Dharchula, India.
*NDI **19** 06:56:45.3±3.5, 29.43N×81.57E, h20km, ML4.7, mb4.7(NEIC)*
*NNC **19** 06:56:51.5±8.2, 30.38N×81.30E, h14km±54km, mb4.3, Error ellipse: s-maj=38.9km s-min=32.5km az=112.0*
ISC 19 06:56:46.4±0.3, 29.57N±0.03×81.49E±0.02, h37km±3km, n284, σ1.01/308, mb4.6/78, MS3.7/12, 20C-19D, Nepal

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTH	Pithoragarh	1.11	270	eP	Pn	06 57 07.0	+1.5
PTH				eS	Sn	06 57 25.0	+5.4
JOSI	Joshimath	1.95	301	ex	x	06 57 24.8	
JOSI				AML	AML	06 57 29.8	
	comp=N,43µm,0.8s						
JOSI				AML	AML	06 57 30.5	
	comp=E,28µm,0.7s						
KOLN	Koldanda	2.57	134	ePn	Pn	06 57 26.3	+0.7
KOLN				eSn	Sn	06 57 58.7	+3.1
	comp=E,7µm,0.8s						
DDI	Dehra Dun	3.08	285	eP	Pn	06 57 35.0	+2.5
DDI				ex	x	06 58 00.0	
GKN	Gorkha	3.17	119	ePn	Pn	06 57 34.5	+0.7
GKN				eSn	Sn	06 58 11.6	+1.3
	comp=E,2µm,0.3s						
KLP	Kalpa	3.42	306	eP	Pn	06 57 39.8	+2.6
KLP				eS	Sn	06 58 20.7	+4.2
KLP				ex	x	06 58 44.6	
	comp=N,2µm,0.7s						
KLP				ex	x	06 58 45.2	
	comp=E,2µm,0.7s						
DMN	Daman	3.73	121	ePn	Pn	06 57 41.8	+0.4
DMN				eSn	Sn	06 58 25.0	+0.9
KKN	Kakani	3.77	117	ePn	Pn	06 57 42.5	+0.5
KKN				eSn	Sn	06 58 26.6	+1.5
	comp=E,844nm,0.4s						
NDI	New Delhi	3.84	258	eP	Pn	06 57 43.4	+0.4
NDI				eS	Sn	06 58 26.0	-0.9
NDI				AML	AML	06 58 27.8	
	comp=N,1µm,0.5s						
NDI				AML	AML	06 58 28.1	
	comp=E,2µm,0.2s						
AYAN	Aya Nagar	3.97	255	eP	Pn	06 57 45.3	+0.5
AYAN				eS	Sn	06 58 30.6	+0.4
PKI	Pulchoki	3.98	119	ePn	Pn	06 57 45.2	+0.3
PKI				eSn	Sn	06 58 31.2	+1.0
	comp=E,1µm,0.7s						
SMLA	Simla	4.05	294	eP	Pn	06 57 47.4	+1.5
SMLA				eS	Sn	06 58 34.2	+2.2
SMLA				AML	AML	06 58 55.6	
	comp=N,2µm,0.5s						
SMLA				AML	AML	06 58 56.0	
	comp=E,2µm,0.3s						
BHGR	Bahadurgarh	4.08	259	eP	Pn	06 57 46.8	+0.5
BHGR				eS	Sn	06 58 33.7	+1.0
BHGR				ex	x	06 58 34.5	
	comp=Z,936nm,0.2s						
KKR	Kurukshetra	4.08	277	eP	Pn	06 57 47.2	+0.9
KKR				eS	Sn	06 58 34.5	+1.6
KKR				ex	x	06 58 56.2	
	comp=Z,1µm,0.2s						
SONA	Sohna	4.08	252	eP	Pn	06 57 47.0	+0.6
SONA				eS	Sn	06 58 32.5	-0.4
GUN	Gumba	4.19	112	ePn	Pn	06 57 48.1	+0.3
GUN				eSn	Sn	06 58 35.9	+0.4
SDNR	Sundarnagar	4.35	297	eP	Pn	06 57 52.2	+2.2
SDNR				eS	Sn	06 58 39.8	+0.3
JIRN	Jiri	4.54	114	ePn	Pn	06 57 53.3	+0.6
JIRN				eSn	Sn	06 58 44.8	+0.6
KUDL	Kundal	4.61	253	eP	Pn	06 57 53.8	+0.2
KUDL				eS	Sn	06 58 45.0	-0.9
KHET	Khetri	5.21	255	eP	Pn	06 58 01.9	+0.1
KHET				eS	Sn	06 58 57.8	-2.8
DLH	Dalhousie	5.59	303	eP	Pn	06 58 06.0	-1.1
DLH				eS	Sn	06 59 09.0	-1.1
THN	Thein Dam	5.72	301	eP	Pn	06 58 09.0	+0.1
THN				eS	Sn	06 59 12.1	-1.2
JBP	Jabalpur	6.51	192	⇑eP	Pn	06 58 17.7	-2.0
JBP				ex	x	06 59 28.4	
AJM	Ajmer	6.79	245	eP	Pn	06 58 23.4	-0.1
AJM				eS	Sn	06 59 35.4	-4.1
AJM				AML	AML	06 59 37.6	
	comp=N,577nm,0.3s						
AJM				AML	AML	06 59 40.6	
	comp=E,605nm,0.3s						
BOK	Bokaro	6.96	145	eP	Pn	06 58 24.8	-1.0
BOK				eS	Sn	06 59 37.5	-6.3
BHPL	Bhopal	7.28	211	eP	Pn	06 58 28.0	-2.2
BHPL				eS	Sn	06 59 45.6	-6.0
BHPL				AML	AML	07 00 35.7	
	comp=E,723nm,0.9s						
BHPL				AML	AML	07 00 36.0	
	comp=N,604nm,0.3s						
SARP	Sargodha	7.95	289	P	Pn	06 58 38.3	-1.1
CHCP	Chirah Chowk	8.12	302	⇑P	Pn	06 58 41.3	-0.4
CHCP				S	Sn	07 00 11.0	-1.2
LSA	Lhasa	8.41	87	P	Pn	06 58 49.0	+3.3
NGP	Nagpur	8.67	195	eP	Pn	06 58 44.1	-5.1
NGP				eS	Sn	07 00 13.6	-12
THW	Thamme Wali	8.95	294	⇑P	Pn	06 58 51.7	-1.5
CEP	Cherat	9.20	300	P	Pn	06 58 55.3	-1.3
CEP				S	Sn	07 00 34.0	-4.8
SBDP	Sheikh Budin	9.57	289	P	Pn	06 59 00.7	-1.0
SBDP				S	Sn	07 00 46.0	-2.0
JASL	Jaisalmer	9.70	257	eP	Pn	06 59 03.0	-0.4
AKL	Akola	9.71	206	eP	Pn	06 59 01.9	-1.7
AKL				eS	Sn	07 00 42.5	-8.8
AKL				AML	AML	07 02 12.6	
	comp=E,157nm,0.4s						
AKL				AML	AML	07 02 15.6	
	comp=N,167nm,0.7s						
DRP	Derazinda	9.96	285	P	Pn	06 59 06.3	-0.7
SHL	Shillong	10.04	111	iP	Pn	06 59 05.5	-2.6
SHL				eP		06 59 06.2	
SHL				iS	Sn	07 00 50.0	-9.4
SHL				AML	AML	07 00 56.4	
	comp=N,1µm,0.2s						
SHL				AML	AML	07 00 56.5	
	comp=E,10µm,0.4s						
VIS	Vishakhapatnam	11.91	171	eP	Pn	06 59 29.5	-4.2
HYB	Hyderabad	12.39	193	iP	Pn	06 59 35.0	-5.2
	comp=E,64nm,0.8s						
HYB				e		07 01 44.0	
HYB				eS	Sn	07 01 56.0	-0.9
HYB	Hyderabad	12.39	193	eP	Pn	06 59 35.0	-5.2
HYB				pmax	pmax		
	comp=Z,64nm,0.8s						
HYB	Hyderabad	12.39	193	eP	Pn	06 59 35.0	-5.2
	comp=Z,64nm,0.8s						
HYB				eS	Sn	07 01 40.0	-17
POO	Poona	13.01	214	⇑ix	Pn	06 59 42.0	-6.7
POO				iS	Sn	07 01 59.0	-13
BOM	Bombay	13.24	219	ex	x	07 02 02.9	
BOM				ex	x	07 03 27.6	
KAD	Karad	13.92	210	eP	Pn	06 59 56.7	-4.4
KAD				ex	x	07 02 20.7	
TKM2	Tokmak 2	14.14	342	⇑P	Pn	07 00 03.9	-0.3
	comp=Z,4.0nm,0.9s						
AAK	Ala-Archa	14.21	339	d iP	Pn	07 00 04.0	-1.0
AAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AAK				MLR	MLR		
	comp=Z,400nm,16.0s						
AAK	Ala-Archa	14.21	339	ePn	Pn	07 00 03.1	-1.9
	comp=Z,42nm,0.9s						
WMQ	Urumqi	15.06	18	eP	Pn	07 00 16.3	-0.2
WMQ				AP	pP	07 00 23.0	-7.8
WMQ				PP		07 00 29.3	
WMQ				S	S	07 03 02.8	-16
WMQ				SS		07 03 20.5	
WMQ				AMB	AMB		
	comp=Z,21nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,136nm,3.9s						
WMQ				LR	LR		
	comp=N,733nm,11.4s						
WMQ				LR	LR		
	comp=E,785nm,14.0s						
KK31	Karatay Array	16.13	330	⇓P	Pn	07 00 27.0	-3.2
	comp=E,4.0nm,0.3s,baz=135,slow=12,SNR=81						
KK31				⇑S	S	07 03 18.6	-22
	comp=E,11nm,0.6s,baz=23,slow=41,SNR=4.2						
KK31	Karatay Array	16.13	330	iP	Pn	07 00 27.0	-3.3
KK31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
KKAR	Karatay Array	16.13	330	iP	Pn	07 00 27.0	-3.3
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MK02	Makanchi Array	17.19	2	⇑P	Pn	07 00 41.1	-2.5
	comp=Z,14nm,0.7s						
MK31	Makanchi Array	17.21	2	P	Pn	07 00 41.1	-2.8
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	Makanchi Array	17.21	2	P	Pn	07 00 41.6	-2.3
	comp=Z,0.9nm,0.3s,baz=183,slow=12,SNR=40						
MKAR	Makanchi Array	17.21	2	P	Pn	07 00 41.7	-2.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	Gaotai	17.99	52	eP	Pn	07 00 51.3	-2.2
GTA				AP	pP	07 00 59.3	-3.9
GTA				XP	sP	07 01 02.8	-5.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,149nm,3.8s						
GTA				LR	LR		
	comp=N,242nm,13.0s						
GTA				LR	LR		
	comp=E,182nm,16.1s						
GTA				LR	LR		
	comp=Z,187nm,16.8s						
CHTO	Chiang Mai	19.16	120	eP	Pn	07 01 09.1	+1.4
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CHTO	Chiang Mai	19.16	120	eP	Pn	07 01 09.1	+1.5
	comp=Z,3.9nm,0.6s						
CD2	Chengdu	19.28	80	eP	Pn	07 01 08.0	-1.2
CM31	Chiang Mai Arr	19.37	121	eP	Pn	07 01 09.5	-0.7
	comp=Z,11nm,0.9s						
KMI	Kunming	19.38	98	P	Pn	07 01 10.9	+0.6
KMI				AP	pP	07 01 19.9	+1.4
KMI				AMB	AMB		
	comp=Z,16nm,1.0s						
LZH	Lanzhou	19.86	65	eP	Pn	07 01 14.9	-1.1
LZH				AP	pP	07 01 23.1	-0.6
LZH				XP	sP	07 01 26.5	-2.0
LZH				AMB	AMB		
	comp=Z,29nm,1.3s						
PALK	Pallekele	22.19	182	eP	P	07 01 43.7	+4.4
	comp=Z,32nm,1.3s,mb4.6						
GYA	Guiyang	22.42	92	⇑iP	P	07 01 40.8	-1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
XAN	Xi'an	23.70	72	P	P	07 01 53.4	-1.4
XAN				AP		07 02 05.4	
XAN				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.1						
VOSK	Vostochnaya	24.40	344	⇑P	P	07 02 01.7	+0.5
	comp=Z,18nm,0.6s,mb4.7						
VOSK	Vostochnaya	24.40	344	P	P	07 02 01.7	+0.5
VOSK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.5						
ZAL	Zalesovo	24.47	5	P	P	07 02 01.9	+0.1
	comp=Z,24nm,0.4s,mb5.0,baz=275,slow=9.2,SNR=49						
ZAL	Zalesovo	24.47	5	P	P	07 02 02.0	+0.2
ZAL				pmax	pmax		
	comp=Z,25nm,0.4s						
BVA0	Borovoye Array	24.82	344	⇑P	P	07 02 05.1	+0.1
	comp=Z,1.4nm,0.6s,mb3.7,baz=154,slow=6.3,SNR=64						
BVA0	Borovoye Array	24.82	344	iP	P	07 02 04.9	-0.1
BVAR	Borovoye Array	24.82	344	P	P	07 02 04.5	-0.5
	comp=Z,10.0nm,0.5s,mb4.6,baz=152,slow=11,SNR=57						
BVAR				PcP	PcP	07 05 40.9	+0.3
	comp=Z,2.4nm,0.5s,baz=192,slow=2.3,SNR=6.2						
BVAR				LR	LR	07 12 46.7	
	comp=Z,225nm,19.0s,MS3.7,baz=137,slow=39						
BVAR	Borovoye Array	24.82	344	P	P	07 02 04.5	-0.5
BVAR						07 05 40.9	
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,225nm,19.0s						
BRVK	Borovoye	24.88	344	eP	P	07 02 06.2	+0.7
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
BRVK	Borovoye	24.88	344	eP	P	07 02 06.2	+0.6
	comp=Z,4.7nm,0.6s,mb4.2						
CHKZ	Chkalovo	25.37	345	⇑P	P	07 02 10.3	+0.3
	comp=Z,27nm,0.6s,mb5.0						
CHKZ	Chkalovo	25.37	345	eP	P	07 02 10.3	+0.3
CHKZ				e		07 05 41.5	
CHKZ				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.1						
CHKZ	Chkalovo	25.37	345	eP	P	07 02 10.2	+0.3
	comp=Z,41nm,0.6s,mb5.1						
CHKZ				ePcP	PcP	07 05 41.5	-0.3
AB31	Akbulak array	25.61	326	⇑P	P	07 02 13.6	+1.4
	comp=Z,15nm,0.4s,mb4.9,baz=126,slow=9.5,SNR=418						
AB31	Akbulak array	25.61	326	iP	P	07 02 13.5	+1.3
AB31				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.5						
BTO	Baotou	25.70	57	eP	P	07 02 13.4	+0.4
SONM	Songino Array	26.47	40	P	P	07 02 21.7	+1.7
	comp=Z,5.3nm,0.5s,mb4.3,baz=233,slow=8.2,SNR=52						
SONM				PcP	PcP	07 05 43.7	-0.6
	comp=Z,1.9nm,0.6s,baz=218,slow=4.3,SNR=7.4						
SONM				LR	LR	07 13 46.3	
	comp=Z,152nm,21.8s,MS3.5,baz=254,slow=39						
SONM	Songino Array	26.47	40	P	P	07 02 21.7	+1.7
SONM						07 05 43.7	
SONM				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SONM				MLR	MLR		
	comp=Z,152nm,21.8s						
ZAK	Zakamensk	26.49	32	⇓iP	P	07 02 20.9	+0.8
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
ULN	Ulaanbaatar	26.85	40	⇑eP	P	07 02 24.7	+1.3
ULN	Ulaanbaatar	26.85	40	eP	P	07 02 24.5	+1.0
	comp=Z,19nm,1.3s,mb4.5						
AKTK	Aktyubinsk	27.32	326	P	P	07 02 28.6	+0.9
AKTK				LR	LR	07 14 21.3	
AKTO	Aktyubinsk	27.32	326	⇑P	P	07 02 28.2	+0.5
	comp=Z,0.1nm,0.6s,mb2.6						
AKTO	Aktyubinsk	27.32	326	P	P	07 02 28.6	+0.9
	comp=Z,10.0nm,0.5s,mb4.6,baz=118,slow=9.6,SNR=37						
AKTO				LR	LR	07 14 21.3	
	comp=Z,275nm,19.1s,MS3.8,baz=326,slow=39						
AKTO	Aktyubinsk	27.32	326	P	P	07 02 28.6	+0.9
AKTO				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
AKTO				MLR	MLR		
	comp=Z,275nm,19.1s,MS3.8						
BJI	Beijing	30.16	60	P	P	07 02 53.9	+1.0
BJI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
PSI	Prapat	31.34	145	LR	LR	07 16 36.1	
	comp=Z,64nm,18.5s,MS3.3,baz=72,slow=38						
ARU	Arti	31.36	335	⇓iP	P	07 03 03.5	+0.1
ARU				e		07 04 02.7	
ARU				e		07 05 49.6	
ARU				eS	S	07 08 10.9	+2.8
ARU				eSS	SS	07 09 56.9	-26
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.8						
ARU	Arti	31.36	335	eP	P	07 03 03.3	-0.1
	comp=Z,15nm,0.9s,mb4.8						
GNI	Garni	31.75	299	iP	P	07 03 08.6	+1.7
GNI				pmax	pmax		
	comp=Z,20nm,1.6s						
NJ2	Nanjing	32.08	76	eP	P	07 03 09.4	-0.4
NJ2				AP	pP	07 03 18.9	-1.4
NJ2				XP	sP	07 03 23.0	-1.8
NJ2				PP	PP	07 04 16.0	-6.6
NJ2				S	S	07 08 18.0	-1.4
NJ2				XS	sS	07 08 35.0	-1.9
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,330nm,5.0s						
NJ2				LR	LR		
	comp=N,340nm,16.9s,MS4.2						
NJ2				LR	LR		
	comp=E,320nm,20.7s,MS4.2						
NJ2				LR	LR		
	comp=Z,290nm,14.0s						
SSE	Sheshan	34.17	77	P	P	07 03 24.8	-3.2
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,67nm,6.4s						
SOKR	Solikamsk	34.37	338	c iP	P	07 03 30.5	+0.8
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
SNY	Shenyang	35.96	59	⇑P	P	07 03 43.8	+0.3
SNY				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
BOD	Bodaibo	36.11	29	eP	P	07 03 44.8	+0.1
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MALT	Malatya	36.51	295	⇓iP	P	07 03 50.0	+1.9
MALT	Malatya	36.51	295	eP	P	07 03 49.4	+1.3
	comp=Z,5.2nm,0.9s,mb4.4						
CN2	Changchun	37.56	56	eP	P	07 03 57.3	+0.2
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
VRSR	Storozhevoye	38.10	317	eP	P	07 04 01.6	0.0
VRSR				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
VRSR				pmax	pmax		
	comp=N,5.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
BR131	Keskin Array S	40.24	298	eP	P	07 04 20.6	+1.1
	comp=E,1.3nm,0.4s,mb4.0						
BRTR	Keskin Array B	40.24	298	P	P	07 04 20.4	+0.9
	comp=E,3.1nm,0.6s,mb4.2,baz=107,slow=8.6,SNR=18						
BRTR	Keskin Array B	40.24	298	iP	P	07 04 20.3	+0.8
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
OBN	Obninsk	40.87	322	⇓eP	P	07 04 24.5	-0.2
OBN				e		07 05 59.6	
OBN				eS	S	07 10 37.7	+4.2
OBN				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,26.0s,MS3.6						
JOW	Kunigami	41.11	82	LR	LR	07 23 08.7	
	comp=Z,62nm,20.0s,MS3.5,baz=302,slow=39						
AKASG	Malin Array Be	44.12	314	P	P	07 04 50.5	-0.6
	comp=Z,4.2nm,0.5s,mb4.5,baz=81,slow=7.4,SNR=21						
AKASG				PcP	PcP	07 06 35.2	-0.5
	comp=Z,0.2nm,0.3s,baz=75,slow=4.7,SNR=4.7						
AKASG	Malin Array Be	44.12	314	P	P	07 04 50.5	-0.6
AKASG						07 06 35.2	
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	Malin Array Be	44.12	314	P	P	07 04 50.5	-0.6
AKASG				PcP	PcP	07 06 35.2	-0.5
AKBB	Malin Array Si	44.12	314	eP	P	07 04 50.5	-0.6
HABR	Khabarovsk	44.70	50	eP	P	07 04 52.9	-2.8
HABR				eS	S	07 11 27.7	-2.0
YAK	Yakutsk	45.03	30	iP	P	07 04 58.0	-0.3
YAK				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.7						
MLR	Muntele Rosu	45.92	306	⇓iP	P	07 05 07.7	+2.3
JOF	Joensuu	46.23	331	ep	P	07 05 07.1	-0.7
	comp=Z,8.4nm,0.4s,mb5.0						
JOF	Joensuu	46.23	331	eP	P	07 05 07.1	-0.7
JOF				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.0						
BURAR	Bucovina Array	46.47	309	⇓iP	P	07 05 10.9	+1.2
BURAR	Bucovina Array	46.47	309	⇓P	P	07 05 10.9	+1.1
VOIR		46.55	306	⇓iP	P	07 05 11.4	+1.0
VOIR		46.55	306	⇓P	P	07 05 11.4	+1.0
APE	Apeiranthos	46.79	295	⇓iP	P	07 05 12.5	+0.3
APE	Apeiranthos	46.79	295	⇓P	P	07 05 12.5	+0.3
VSU	Vasula	47.01	324	iP	P	07 05 13.9	-0.1
VTS	Vitosha	47.99	302	⇑iP	P	07 05 22.7	+1.1
VTS	Vitosha	47.99	302	⇑P	P	07 05 22.7	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FIA1	FINESS Array S	48.08	328	eP	P	07 05 22.0	-0.2
FINES	FINESS Array B	48.08	328	P	P	07 05 22.3	+0.1
	comp=Z,16nm,0.6s,mb5.2,baz=109,slow=8.7,SNR=75						
FINES	FINESS Array B	48.08	328	i P	P	07 05 22.2	0.0
FINES				pmax	pmax		
	comp=Z,16nm,0.6s						
KAF	Kangasniemi	48.16	329	ep	P	07 05 22.5	-0.3
	comp=Z,1.3nm,0.3s,mb4.4,baz=105,slow=7.6						
DRGR		48.17	308⇓	iP	P	07 05 23.6	+0.7
DRGR		48.17	308	⇓P	P	07 05 23.6	+0.6
KWP	Kalwaria	48.20	312	eP	P	07 05 24.4	+1.2
BZS	Buzias	48.96	306⇓	iP	P	07 05 30.2	+1.2
BZS	Buzias	48.96	306	⇓P	P	07 05 30.2	+1.2
CRVS	Cervenica-Dubn	49.00	311	eP	P	07 05 30.5	+1.1
TIXI	Tiksi	49.27	18	i P	P	07 05 31.7	+0.3
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
VYHS	Vyhne	50.75	310	eP	P	07 05 42.5	-0.1
VYHS				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
VYHS	Vyhne	50.75	310	eP	P	07 05 42.5	-0.1
	comp=Z,2.3nm,1.1s,mb4.0						
ARCES	ARCESS Array B	50.88	338	P	P	07 05 43.5	-0.1
	comp=Z,5.3nm,0.8s,mb4.5,baz=102,slow=7.7,SNR=25						
ARCES				LR	LR	07 29 01.0	
	comp=Z,73nm,18.4s,MS3.7,baz=111,slow=38						
ARCES	ARCESS Array B	50.88	338	P	P	07 05 43.5	-0.1
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,73nm,18.4s						
MORC	Moravsky Berou	51.55	312⇓	iP	P	07 05 49.5	+0.9
MORC	Moravsky Berou	51.55	312	eP	P	07 05 49.0	+0.3
	comp=Z,3.3nm,0.7s,mb4.4						
KMBO	Kilima Mbogo	52.09	242	P	P	07 05 53.0	+0.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=55,slow=17,SNR=4.5						
KOGS	Kog	52.63	308	eP	P	07 05 57.1	+0.4
CRES	Cresnjev	53.25	307	i P	P	07 06 01.8	+0.6
PERS	Pernice	53.39	308	i P	P	07 06 03.0	+0.7
BRG	Berggiesshubel	53.80	313	i P	P	07 06 05.7	+0.4
	comp=Z,3.1nm,0.6s,mb4.4						
BRG				e		07 06 12.7	
	comp=Z,3.3nm,0.9s						
BRG				i	pP	07 06 16.4	+0.1
	comp=Z,2.1nm,0.6s						
BRG	Berggiesshubel	53.80	313	i P	P	07 06 05.7	+0.4
BRG				e		07 06 12.7	
BRG				i	pP	07 06 16.4	+0.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRG	Berggiesshubel	53.80	313	i P	P	07 06 05.7	+0.4
	comp=Z,3.1nm,0.6s,mb4.4						
BRG				e		07 06 12.7	
BRG				i	pP	07 06 16.4	+0.1
HFS	Hagfors	53.86	325	P	P	07 06 05.1	-0.6
	comp=Z,8.1nm,0.4s,mb5.0,baz=104,slow=6.3,SNR=43						
HFS	Hagfors	53.86	325	P	P	07 06 05.1	-0.6
HFS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
LJU	Ljubljana	53.87	307	eP	P	07 06 06.5	+0.8
CEY	Cerknica	53.97	307	i P	P	07 06 07.1	+0.6
GERES	GERESS Array B	54.12	311	P	P	07 06 08.1	+0.5
	comp=Z,0.8nm,0.4s,mb4.0,baz=86,slow=6.1,SNR=9.2						
GERES	GERESS Array B	54.12	311	P	P	07 06 08.1	+0.5
GERES				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KHC	Kasperske Hory	54.17	311	i P	P	07 06 08.9	+0.9
JAVS	Javornik	54.20	307	i P	P	07 06 08.7	+0.5
VOY	Vojsko	54.31	308	eP	P	07 06 09.3	+0.3
CADS	Cadrg	54.39	308	i P	P	07 06 09.8	+0.2
NB2	NORSAR Subarra	55.12	326	P	P	07 06 13.8	-1.0
	comp=Z,14nm,1.0s,mb5.0,baz=91,slow=6.9						
NOA	NORSAR Array B	55.12	326	P	P	07 06 14.1	-0.8
	comp=Z,7.1nm,0.7s,mb4.8,baz=91,slow=7.1,SNR=27						
NOA				LR	LR	07 31 09.9	
	comp=Z,77nm,21.8s,MS3.7,baz=85,slow=37						
NOA	NORSAR Array B	55.12	326	P	P	07 06 14.1	-0.7
NOA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,77nm,21.8s						
SEY	Seymchan	55.46	32⇑	eP	P	07 06 16.9	-0.4
GRA1	Grafenberg Arr	55.65	312	eP	P	07 06 19.9	+1.3
	comp=Z,13nm,1.4s,mb4.8						
GRF	Grafenberg Arr	55.65	312	eP	P	07 06 19.9	+1.3
	comp=Z,13nm,1.4s,mb4.8						
GRF	Grafenberg Arr	55.65	312	eP	P	07 06 19.9	+1.3
GRF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
GRF	Grafenberg Arr	55.65	312	eP	P	07 06 19.9	+1.3
GRF				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.8						
CDF	Champ du Feu	58.40	311	eP	P	07 06 38.2	+0.1
HINF	Hinteralfeld	58.79	311	eP	P	07 06 40.7	-0.1
HAU	Haudompre	59.09	311	eP	P	07 06 42.8	-0.1
	comp=Z,11nm,0.6s,mb4.8						
HAU	Haudompre	59.09	311	eP	P	07 06 42.8	-0.1
HAU				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
HAU	Haudompre	59.09	311	eP	P	07 06 42.8	-0.1
	comp=Z,5.7nm,0.6s,mb4.8						
SBF	Sospel	59.20	306	eP	P	07 06 43.9	+0.2
	comp=Z,37nm,0.9s,mb5.1						
SBF	Sospel	59.20	306	eP	P	07 06 43.9	+0.2
SBF				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
SBF	Sospel	59.20	306	eP	P	07 06 43.9	+0.2
	comp=Z,19nm,0.9s,mb5.1						
LPG	La Plagne	59.32	308	eP	P	07 06 45.2	+0.7
LPL	La Plagne	59.33	308	eP	P	07 06 45.3	+0.7
	comp=Z,16nm,0.5s,mb5.0						
LPL	La Plagne	59.33	308	eP	P	07 06 45.3	+0.7
LPL				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0						
LPL	La Plagne	59.33	308	eP	P	07 06 45.3	+0.7
	comp=Z,8.0nm,0.5s,mb5.0						
BNI	Bardonecchia	59.47	307	eP	P	07 06 45.6	+0.1
BNI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BNI	Bardonecchia	59.47	307	eP	P	07 06 45.6	+0.1
	comp=Z,3.4nm,0.6s,mb4.5						
MBDF	Montbardon	59.47	307	eP	P	07 06 46.2	+0.6
	comp=Z,11nm,0.7s,mb4.7						
MBDF	Montbardon	59.47	307	eP	P	07 06 46.2	+0.6
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
MBDF	Montbardon	59.47	307	eP	P	07 06 46.2	+0.6
	comp=Z,5.3nm,0.7s,mb4.7						
CABF	La Chapelle	59.54	309	eP	P	07 06 46.6	+0.6
KEST	Kesra	59.82	296	P	P	07 06 48.0	+0.1
	comp=Z,3.4nm,0.7s,mb4.5,baz=247,slow=0.7,SNR=9.0						
FRF	La Foret Royal	59.83	306	eP	P	07 06 47.1	-0.9
	comp=Z,18nm,0.7s,mb4.9						
FRF	La Foret Royal	59.83	306	eP	P	07 06 47.1	-0.9
FRF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
FRF	La Foret Royal	59.83	306	eP	P	07 06 47.1	-0.9
	comp=Z,8.9nm,0.7s,mb4.9						
MEZF	Maizieres J'vi	59.84	312	eP	P	07 06 48.1	0.0
LMR	La Mourre	59.98	306	eP	P	07 06 49.6	+0.6
SMRF	Simiane la Rot	60.48	306	eP	P	07 06 53.1	+0.6
LOR	Lormes	60.89	310	eP	P	07 06 55.0	-0.2
	comp=Z,6.8nm,0.6s,mb4.7						
LOR	Lormes	60.89	310	eP	P	07 06 55.0	-0.2
LOR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
LOR	Lormes	60.89	310	eP	P	07 06 55.0	-0.2
	comp=Z,3.4nm,0.6s,mb4.7						
VIVF	Saint-Julien-l	60.90	308	eP	P	07 06 55.6	+0.3
BILL	Bilibino	61.01	25	i P	P	07 06 54.4	-1.7
BILL				eS	S	07 15 12.5	+0.5
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb5.1						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
SMF	Signal de Mont	61.04	310	eP	P	07 06 55.9	-0.4
	comp=Z,35nm,1.1s,mb5.1						
SMF	Signal de Mont	61.04	310	eP	P	07 06 55.9	-0.4
SMF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
SMF	Signal de Mont	61.04	310	eP	P	07 06 55.9	-0.4
	comp=Z,18nm,1.1s,mb5.1						
SSF	Saint Saulge	61.17	310	eP	P	07 06 56.8	-0.4
	comp=Z,12nm,0.8s,mb4.8						
SSF	Saint Saulge	61.17	310	eP	P	07 06 56.8	-0.4
SSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
SSF	Saint Saulge	61.17	310	eP	P	07 06 56.8	-0.4
	comp=Z,6.2nm,0.8s,mb4.8						
AVF	Avril sur Loir	61.34	310	eP	P	07 06 57.8	-0.5
LASF	Ste Croix	61.66	307	eP	P	07 07 00.9	+0.4
	comp=Z,24nm,1.0s,mb5.0						
BGF	Bois d'Agland	61.73	310	eP	P	07 07 00.9	0.0
TCF	Toulx Ste Croi	62.22	310	eP	P	07 07 04.3	0.0
	comp=Z,17nm,0.9s,mb4.9						
TCF	Toulx Ste Croi	62.22	310	eP	P	07 07 04.3	0.0
TCF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
TCF	Toulx Ste Croi	62.22	310	eP	P	07 07 04.3	0.0
	comp=Z,8.6nm,0.9s,mb4.9						
CAF	Calviac	62.67	308	eP	P	07 07 07.6	+0.3
RJF	Les Rejaudoux	62.95	309	eP	P	07 07 09.6	+0.5
	comp=Z,14nm,0.9s,mb4.8						
RJF	Les Rejaudoux	62.95	309	eP	P	07 07 09.6	+0.5
RJF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
RJF	Les Rejaudoux	62.95	309	eP	P	07 07 09.6	+0.5
	comp=Z,6.9nm,0.9s,mb4.8						
MTLF	Montolieu	63.00	306	eP	P	07 07 09.6	+0.2
	comp=Z,15nm,1.0s,mb4.8						
MTLF	Montolieu	63.00	306	eP	P	07 07 09.6	+0.2
MTLF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
MTLF	Montolieu	63.00	306	eP	P	07 07 09.6	+0.2
	comp=Z,7.6nm,1.0s,mb4.8						
LDF	La Druitiere	63.16	313	eP	P	07 07 10.1	-0.4
	comp=Z,17nm,0.7s,mb5.0						
LDF	La Druitiere	63.16	313	eP	P	07 07 10.1	-0.4
LDF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
LDF	La Druitiere	63.16	313	eP	P	07 07 10.1	-0.4
	comp=Z,8.5nm,0.7s,mb5.0						
LFF	La Frestale	63.58	308	eP	P	07 07 13.6	+0.4
GRR	Gorron	63.69	313	eP	P	07 07 13.5	-0.5
MFF	Saint Martin d	63.71	310	eP	P	07 07 13.7	-0.4
	comp=Z,14nm,0.7s,mb4.8						
MFF	Saint Martin d	63.71	310	eP	P	07 07 13.7	-0.4
MFF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
MFF	Saint Martin d	63.71	310	eP	P	07 07 13.7	-0.4
	comp=Z,7.0nm,0.7s,mb4.8						
SGMF	Saint Gilles	64.82	313	eP	P	07 07 21.2	-0.2
	comp=Z,22nm,0.7s,mb5.0						
SGMF	Saint Gilles	64.82	313	eP	P	07 07 21.2	-0.2
SGMF				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
SGMF	Saint Gilles	64.82	313	eP	P	07 07 21.2	-0.2
	comp=Z,11nm,0.7s,mb5.0						
ETSF	Etsaut	65.07	307	eP	P	07 07 23.4	+0.4
	comp=Z,8.0nm,0.5s,mb4.7						
ETSF	Etsaut	65.07	307	eP	P	07 07 23.4	+0.4
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
ETSF	Etsaut	65.07	307	eP	P	07 07 23.4	+0.4
	comp=Z,4.0nm,0.5s,mb4.7						
ROSF	Rostrenen	65.25	313	eP	P	07 07 23.9	-0.3
	comp=Z,20nm,0.8s,mb4.9						
ROSF	Rostrenen	65.25	313	eP	P	07 07 23.9	-0.3
ROSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ROSF	Rostrenen	65.25	313	eP	P	07 07 23.9	-0.3
	comp=Z,9.8nm,0.8s,mb4.9						
QUIF	Quistinic	65.31	313	eP	P	07 07 23.9	-0.7
SJPF	Ste Jean	65.47	307	eP	P	07 07 26.1	+0.5
	comp=Z,4.4nm,0.5s,mb4.4						
SJPF	Ste Jean	65.47	307	eP	P	07 07 26.1	+0.5
SJPF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
SJPF	Ste Jean	65.47	307	eP	P	07 07 26.1	+0.5
	comp=Z,2.2nm,0.5s,mb4.4						
ESDC	Sonseca Array	68.57	304	P	P	07 07 45.4	+0.1
	comp=Z,4.8nm,0.8s,mb4.5,baz=60,slow=6.8,SNR=15						
ESLA	Sonseca Array	68.57	304	eP	P	07 07 45.2	-0.1
	comp=Z,1.4nm,0.9s,mb3.9						
SUMG	Summit	70.30	344	eP	P	07 07 56.1	+0.1
	comp=Z,5.9nm,0.6s,mb4.7						
PVRL	Vila Real	70.63	307	eP	P	07 07 57.9	-0.1
WRA	Warramunga Arr	70.82	127	P	P	07 07 57.8	-1.4
	comp=Z,3.8nm,0.7s,mb4.4,baz=322,slow=6.1,SNR=40						
WRA	Warramunga Arr	70.82	127	P	P	07 07 57.8	-1.3
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRAB	Tennant Creek	70.82	127	eP	P	07 07 57.3	-1.9
WRAB				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
WRAB	Tennant Creek	70.82	127	eP	P	07 07 57.3	-1.8
	comp=Z,14nm,1.0s,mb4.8						
WB2	Warramunga Arr	70.83	127⇑	iP	P	07 07 57.7	-1.5
MTE	Manteigas	70.85	306	eP	P	07 07 59.9	+0.6
	comp=Z,20nm,1.2s,mb4.9						
PCBR	Castelo Branco	71.02	306	eP	P	07 08 00.6	+0.2
PBEJ	Beja	72.01	304	eP	P	07 08 06.3	-0.1
AS31	Alice Springs	73.06	131	eP	P	07 08 11.4	-1.2
ASAR	Alice Springs	73.06	131	P	P	07 08 11.1	-1.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=315,slow=6.0,SNR=21						
ASAR	Alice Springs	73.06	131	P	P	07 08 11.1	-1.5
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TOA0	Torodi Ar. Sit	74.86	277	eP	P	07 08 22.6	-0.5
TORD	Torodi Ar. Bea	74.86	277	P	P	07 08 22.9	-0.1
	comp=Z,2.5nm,0.6s,mb4.3,baz=56,slow=4.8,SNR=27						
LBTB	Lobatse	76.31	231	eP	P	07 08 30.9	-0.5
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LBTB	Lobatse	76.31	231	eP	P	07 08 30.9	-0.5
	comp=Z,3.8nm,0.6s,mb4.5						
COLA	College	78.37	19⇓	eP	P	07 08 42.9	-0.1
COLA	College	78.37	19	eP	P	07 08 42.1	-0.8
	comp=Z,8.5nm,1.0s,mb4.6						
MCK	McKinley	78.89	20	eP	P	07 08 45.0	-0.8
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MCK	McKinley	78.89	20	eP	P	07 08 45.0	-0.8
	comp=Z,1.5nm,0.5s,mb4.2						
BOSA	Boshof	78.94	228	P	P	07 08 44.6	-1.5
	comp=Z,4.2nm,0.7s,mb4.5,baz=4.6,slow=3.4,SNR=5.8						
BOSA				LR	LR	07 38 52.9	
	comp=Z,80nm,19.3s,MS4.1,baz=307,slow=32						
INK	Inuvik	79.02	13	P	P	07 08 45.8	-0.8
	comp=Z,2.1nm,0.5s,mb4.4,baz=341,slow=5.7,SNR=15						
INK	Inuvik	79.02	13	P	P	07 08 45.8	-0.7
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	Inuvik	79.02	13	eP	P	07 08 45.6	-0.9
	comp=Z,2.6nm,0.5s,mb4.4						
EGAK	Eagle	80.27	17	eP	P	07 08 52.5	-0.8
PMR	Palmer	80.40	22	eP	P	07 08 53.0	-1.0
PMR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
PMR	Palmer	80.40	22	eP	P	07 08 53.0	-1.0
	comp=Z,6.5nm,0.6s,mb4.7						
KDAK	Kodiak Island	81.91	26	P	P	07 09 02.1	0.0
	comp=Z,28nm,0.7s,mb5.3,baz=301,slow=5.0,SNR=15						
DBIC	Dimbokro	83.58	274	P	P	07 09 11.2	+0.5
	comp=Z,4.7nm,0.6s,mb4.8,baz=40,slow=7.1,SNR=11						
DBIC	Dimbokro	83.58	274	P	P	07 09 11.3	+0.6
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
DBIC	Dimbokro	83.58	274	eP	P	07 09 10.5	-0.3
YKA	Yellowknife Ar	87.36	7	P	P	07 09 28.1	-1.4
	comp=Z,1.4nm,0.6s,mb4.4,baz=336,slow=5.2,SNR=7.0						
PDAR	Pinedale Array	107.31	9	PKiKP	PKiKP	07 15 08.3	-0.5
	comp=Z,0.4nm,0.5s,baz=336,slow=2.0,SNR=4.4						
NVAR	Mina Array Bea	109.87	16	PKiKP	PKiKP	07 15 14.3	+0.7
	comp=Z,0.3nm,0.5s,baz=338,slow=1.5,SNR=3.6						
CPUP	Villa Florida	143.62	265	PKP	PKPdf	07 16 14.8	-2.4
	comp=Z,1.1nm,0.6s,baz=86,slow=2.3,SNR=7.8						
CPUP	Villa Florida	143.62	265	ePKPdf	PKPdf	07 16 14.1	-3.1
TRQA	Tornquist	148.65	245	ePKPbc	PKPbc	07 16 29.5	0.0
LPAZ	La Paz	149.17	289	PKPbc	PKPbc	07 16 31.8	+1.0
	comp=Z,1.8nm,0.7s,baz=32,slow=5.3,SNR=11						
LPAZ	La Paz	149.17	289	PKP2	PKPbc	07 16 31.8	+1.0
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LPAZ	La Paz	149.17	289	ePKPbc	PKPbc	07 16 31.4	+0.6
PLCA	Paso Flores	154.68	236	PKPbc	PKPbc	07 16 43.5	+0.2
	comp=Z,0.9nm,0.8s,baz=22,slow=5.4,SNR=4.0						
PLCA	Paso Flores	154.68	236	PKIKP	PKPbc	07 16 43.5	+0.1
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **19** 07:03:29.5±1.3, 23.47S±0.06×67.6W±0.1, h119^{km}±15^{km}, mb3.7/2, Error ellipse: s-maj=21.4km s-min=10.3km az=6.4*
*IDC **19** 07:03:31.6±2.1, 23.52S×67.57W, h126^{km}±19^{km}, mb3.8/3, mb1 3.7/7, mb1mx3.6/19, mbtmp4.1/7, Error ellipse: s-maj=30.6km s-min=18.4km az=115.0*
ISC 19 07:03:30.9±1.1**, 23.49S**±0.06×**67.6W**±0.1**, h114**^{km}±13^{km}**, n13,** σ0^{s}79/13**, mb3.7**/2**, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	7.18	356	P	Pn	07 05 16.1	+2.8
	1.3nm,0.3s,baz=170,slow=8.1,SNR=34						
LPAZ				S	Sn	07 06 32.7	-0.6
	baz=217,slow=17,SNR=2.4						
CFAA	Coronel Fontan	8.10	184	P	Pn	07 05 25.8	0.0
	0.1nm,0.3s,baz=0.7,slow=11,SNR=13						
SIV	San Ignacio	9.66	41	P	Pn	07 05 45.9	-1.0
	11nm,0.3s,baz=223,slow=12,SNR=150						
SIV				S	Sn	07 07 26.7	-6.7
	baz=120,slow=20,SNR=2.3						
CPUP	Villa Florida	9.74	109	P	Pn	07 05 47.9	0.0
	0.1nm,0.3s,baz=274,slow=16,SNR=6.8						
PLCA	Paso Flores	17.37	188	P	Pn	07 07 25.9	-0.3
	0.1nm,0.3s,baz=13,slow=14,SNR=3.3						
BDFB	Brasilia	20.02	71	P	P	07 07 55.4	+0.8
	15nm,0.6s,baz=252,slow=11,SNR=23						
VNA3	Neumayer Olymp	57.81	161	ePdiff	P	07 13 10.3	0.0
VNA1	Neumayer--Stat	58.01	160	ePdiff	P	07 13 12.5	+0.8
SNAA	Sanae	60.01	161	ePdiff	P	07 13 25.2	-0.3
VNDA	Vanda	75.11	190	P	P	07 14 59.8	-0.6
	0.6nm,0.7s,mb3.4,baz=106,slow=7.4,SNR=3.2						
TORD	Torodi Ar. Bea	76.90	69	P	P	07 15 10.3	-0.2
	1.5nm,0.6s,mb3.9,baz=257,slow=5.9,SNR=28						
ASAR	Alice Springs	128.69	205	PKP	PKPdf	07 22 23.7	-0.9
	0.6nm,0.5s,baz=146,slow=1.6,SNR=9.8						
WRA	Warramunga Arr	131.82	208	PKP	PKPdf	07 22 30.1	-0.5
	0.6nm,0.5s,baz=156,slow=1.7,SNR=18						

---

*NEIC **19** 07:06:17.8, 31.77S×69.90W, h130^{km}, MD3.5(GUC), After GUC.*
GUC 19 07:06:17.8±0.5**, 31.77S×69.90W, h130**^{km}±9^{km}**, MD3.5, ML2.8, 7D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	Petorca	1.00	240⇓	iP	Pn	07 06 41.1	+0.4
PTCH				i S	Sn	07 06 58.5	+0.4
PTCH				AML	AML	07 07 01.9	
	comp=N,264nm,0.2s						
PTCH	Petorca	1.00	240⇓	iP	Pn	07 06 41.1	+0.4
PTCH				i S	Sn	07 06 58.5	+0.4
CMCH	Combarbala	1.11	302	eP	Pn	07 06 41.9	+0.2
CMCH				i S	Sn	07 07 00.9	+0.9
CMCH				AML	AML	07 07 03.9	
	comp=E,473nm,0.6s						
CMCH	Combarbala	1.11	302	eP	Pn	07 06 41.9	+0.2
CMCH				i S	Sn	07 07 00.9	+0.9
PEL	Peldehue	1.52	205	eP	Pn	07 06 46.7	+0.5
PEL				i S	Sn	07 07 08.2	+0.4
PEL				AML	AML	07 07 09.1	
	comp=E,113nm,0.4s						
PEL	Peldehue	1.52	205	eP	Pn	07 06 46.7	+0.5
PEL				i S	Sn	07 07 08.2	+0.4
FCH	Farellones	1.59	192⇓	iP	Pn	07 06 48.1	+1.1
FCH				i S	Sn	07 07 11.1	+1.9
FCH				AML	AML	07 07 11.8	
	comp=N,86nm,0.3s						
CLCH	Cerro Calan	1.71	198	eP	Pn	07 06 48.9	+0.6
CLCH				i S	Sn	07 07 12.4	+0.7
CLCH				AML	AML	07 07 15.9	
	comp=E,66nm,0.6s						
TLL	Tololo Astrono	1.77	334⇓	iP	Pn	07 06 49.9	+0.9
TLL				i S	Sn	07 07 14.4	+1.5
TLL				AML	AML	07 07 20.2	
	comp=N,74nm,0.5s						
TLL	Tololo Astrono	1.77	334⇓	iP	Pn	07 06 49.9	+0.9
TLL				i S	Sn	07 07 14.4	+1.5
RCDM	Rinconada Maip	1.88	204⇓	iP	Pn	07 06 50.8	+0.5
RCDM				i S	Sn	07 07 16.1	+1.0
RCDM				AML	AML	07 07 16.8	
	comp=E,139nm,0.4s						
RCDM	Rinconada Maip	1.88	204⇓	iP	Pn	07 06 50.8	+0.5
RCDM				i S	Sn	07 07 16.1	+1.0
LMEL	Las Melosas	2.09	187	i P	Pn	07 06 53.9	+1.0
LMEL				AML	AML	07 07 28.5	
	comp=N,46nm,0.2s						

WEL 19 07:11:44.1±1.1**, 36.43S×177.93E, h208**^{km}±9^{km}**, ML3.5**/3**, Error ellipse: s-maj=20.3km s-min=12.8km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.17	165	PN	Pn	07 12 15.4	-0.4
PUZ	Puketiti	1.66	171	PN	Pn	07 12 20.5	+0.7
MWZ	Matawai	1.93	190	PN	Pn	07 12 23.2	+0.8
MWZ				SN	Sn	07 12 52.1	-0.2
URZ	Urewera	1.94	200	PN	Pn	07 12 23.0	+0.5
URZ				SN	Sn	07 12 52.5	0.0
KNZ	Kokohu	2.59	184	PN	Pn	07 12 29.9	+0.4
PXZ	Pawanui	3.69	193	PN	Pn	07 12 41.4	-0.9
PXZ				SN	Sn	07 13 26.9	-1.2
MRZ	Mangatainoka R	4.61	203	PN	Pn	07 12 51.7	-1.9
TCW	Tory Channel	5.56	210	PN	Pn	07 13 03.4	-2.4
TCW				SN	Sn	07 14 07.3	-3.2

---

*IDC **19** 07:13:39.5±1.5, 9.21N×126.29E, h0^{km}, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=127.7km s-min=20.1km az=71.0*
*ISCJB **19** 07:13:47.4±1.0, 9.08N±0.06×126.26E±0.09, h73^{km}±9^{km}, mb3.7/6, Error ellipse: s-maj=15.1km s-min=9.2km az=0.3*
*MAN **19** 07:13:51.0, 9.10N×126.01E, h20^{km}, mb3.6, ML4.7, MS2.3*
ISC 19 07:13:48.8±1.1**, 9.10N**±0.05×**126.23E**±0.10**, h68**^{km}±10^{km}**, n16,** σ1^{s}05/23**, mb3.7**/6**, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.62	258	eP	Pn	07 14 01.2	-1.5
BUTP				eS	Sn	07 14 12.9	0.0
SCPH	Surigao	1.00	313	eP	Pn	07 14 05.7	-1.5
SCPH				eS	Sn	07 14 20.1	-0.9
CGP	Cagayan de Oro	1.65	247⇑	iP	Pn	07 14 14.9	-0.8
CGP				i S	Sn	07 14 34.9	-1.1
BUKP	Musuan	1.67	224	eP	Pn	07 14 17.0	+1.0
BUKP				eS	Sn	07 14 40.6	+4.0
MSLP	Maasin	1.70	307	eP	Pn	07 14 17.2	+0.8
MSLP				eS	Sn	07 14 42.6	+5.4
TBP	Tagbilaran	2.41	284	eP	Pn	07 14 27.1	+1.1
LLP	Lapu-Lapu	2.54	299⇑	eP	Pn	07 14 29.6	+1.8
LLP				eS	Sn	07 14 58.0	+0.4
PAGZ	Pagadian	3.08	246	eP	Pn	07 14 36.8	+1.8
PAGZ				eS	Sn	07 15 09.7	-1.1
GUIM	Jordan	3.90	293	eP	Pn	07 14 47.9	+1.7
PVCP	Virac	4.92	336	eP	Pn	07 15 00.1	0.0
FITZ	Fitzroy Crossi	27.03	181	P	P	07 19 24.9	+0.5
	0.7nm,0.6s,mb3.4,baz=353,slow=16,SNR=3.6						
WRA	Warramunga Arr	29.94	165	P	P	07 19 50.7	+0.4
	0.2nm,0.3s,mb3.2,baz=342,slow=8.4,SNR=6.3						
ASAR	Alice Springs	33.41	167	P	P	07 20 20.4	-0.4
	0.3nm,0.3s,mb3.6,baz=348,slow=7.5,SNR=7.8						
MKAR	Makanchi Array	52.94	323	P	P	07 22 57.7	-0.4
	1.8nm,0.6s,mb4.3,baz=118,slow=6.9,SNR=15						
ARCES	ARCESS Array B	85.28	340	P	P	07 26 17.5	-0.6
	1.9nm,0.8s,mb4.1,baz=81,slow=7.5,SNR=4.6						
FINES	FINESS Array B	86.90	332	P	P	07 26 24.9	-1.2
	0.6nm,0.6s,mb3.7,baz=99,slow=7.2,SNR=3.6						

---

*NEIC **19** 07:37:30.9, 32.98S×72.19W, h18^{km}, ML3.0(GUC), After GUC.*
GUC 19 07:37:30.9±0.9**, 32.98S×72.19W, h18**^{km}±8^{km}**, MD3.7, ML3.0, 15C-8D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.47	96⇓	iP	Pg	07 37 40.1	-0.2
IHA				i S	Sg	07 37 46.7	0.0
LCCH	Las Cruces	0.72	134⇑	iP	Pb	07 37 44.0	-0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
LCCH				iS	Sb	07 37 54.1	-0.3
ROCH	El Roble	0.99	90	eP	Pb	07 37 48.8	-0.8
ROCH				iS	Sb	07 38 02.4	+0.1
LNV	Longovilo	1.17	146⇓	iP	Pn	07 37 51.0	-1.4
CHNG	Los Chungos	1.24	28⇑	iP	Pn	07 37 52.6	-0.7
CHNG				iS	Sb	07 38 08.5	-1.0
TACH	Talagante	1.25	123⇓	iP	Pn	07 37 52.7	-0.7
TACH				iS	Sb	07 38 08.6	-1.0
RCDM	Rinconada Maip	1.27	114⇑	iP	Pn	07 37 53.0	-0.7
RCDM				iS	Sb	07 38 09.8	-0.4
RCDM				AML	AML	07 38 14.7	
	comp=N,241nm,0.3s						
RCDM	Rinconada Maip	1.27	114⇑	iP	Pn	07 37 53.0	-0.7
RCDM				iS	Sb	07 38 09.8	-0.4
PEL	Peldehue	1.28	98⇑	iP	Pn	07 37 53.6	-0.2
PEL				iS	Sb	07 38 09.8	-0.6
PEL				AML	AML	07 38 18.4	
	comp=E,568nm,0.5s						
PEL	Peldehue	1.28	98⇑	iP	Pn	07 37 53.6	-0.2
PEL				iS	Sb	07 38 09.8	-0.6
PTCH	Petorca	1.28	56⇓	iP	Pn	07 37 54.0	+0.1
PTCH				iS	Sn	07 38 11.0	+0.3
PTCH				AML	AML	07 38 14.5	
	comp=N,903nm,0.3s						
PTCH	Petorca	1.28	56⇓	iP	Pn	07 37 54.0	+0.1
PTCH				iS	Sn	07 38 11.0	+0.3
STL	Santa Lucia	1.38	110⇑	iP	Pn	07 37 54.8	-0.4
STL				iS	Sn	07 38 12.6	-0.4
JACH	Jahuel	1.38	78⇑	iP	Pn	07 37 55.0	-0.3
JACH				iS	Sn	07 38 13.1	+0.1
DSCH	Colegio Aleman	1.42	107	eP	Pn	07 37 55.5	-0.4
DSCH				iS	Sn	07 38 13.8	-0.3
CLCH	Cerro Calan	1.45	107⇑	iP	Pn	07 37 56.2	0.0
CLCH				iS	Sn	07 38 15.2	+0.5
CLCH				AML	AML	07 38 26.9	
	comp=E,312nm,0.3s						
CLCH				AML	AML	07 38 27.6	
	comp=E,373nm,0.7s						
FSR	Penalolen	1.48	110⇑	iP	Pn	07 37 57.0	+0.4
FSR				iS	Sn	07 38 16.2	+0.7
FSR				AML	AML	07 38 22.2	
	comp=N,295nm,0.3s						
FSR	Penalolen	1.48	110⇑	iP	Pn	07 37 57.0	+0.4
FSR				iS	Sn	07 38 16.2	+0.7
CHCH	Chadas Angostu	1.60	127⇑	iP	Pn	07 37 58.5	+0.2
FCH	Farellones	1.63	103⇑	iP	Pn	07 37 59.3	+0.6
FCH				AML	AML	07 38 25.7	
	comp=N,191nm,0.4s						
CACH	El Canelo	1.75	131⇓	iP	Pn	07 38 00.8	+0.6
CACH				iS	Sn	07 38 23.3	+1.2
LMEL	Las Melosas	1.88	118⇓	iP	Pn	07 38 02.9	+0.8
LMEL				iS	Sn	07 38 27.9	+2.6
LMEL				AML	AML	07 38 34.0	
	comp=N,342nm,0.5s						
LMEL	Las Melosas	1.88	118⇓	iP	Pn	07 38 02.9	+0.8
LMEL				S	Sn	07 38 27.9	+2.6
SFDO	San Fernando	1.90	149⇑	iP	Pn	07 38 02.1	-0.3
SFDO				iS	Sn	07 38 27.1	+1.2
CICH	Cipreses	1.99	133⇑	iP	Pn	07 38 04.0	+0.3
CMCH	Combarbala	2.07	30	eP	Pn	07 38 04.4	-0.3
CMCH				iS	Sn	07 38 30.5	+0.5
CMCH				AML	AML	07 38 40.3	
	comp=E,577nm,0.7s						
CMCH	Combarbala	2.07	30	eP	Pn	07 38 04.4	-0.3
CMCH				iS	Sn	07 38 30.5	+0.5

IDC 19 08:28:43.8±1.3, 020N×12624E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, Error ellipse: s-maj=137.0km s-min=21.7km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.54	159	P	P	08 33 35.2	+0.7
	4.7nm,0.9s,baz=338,slow=11,SNR=12						
ASAR	Alice Springs	24.87	163	P	P	08 34 08.8	+0.8
	0.9nm,0.8s,baz=341,slow=8.1,SNR=9.7						
SONM	Songino Array	50.48	343	P	P	08 37 43.9	+0.4
	0.4nm,0.9s,baz=151,slow=9.2,SNR=2.5						
MKAR	Makanchi Array	60.19	327	P	P	08 38 53.6	+0.2
	0.4nm,0.4s,baz=122,slow=7.7,SNR=5.2						
VNDA	Vanda	80.01	173	P	P	08 40 53.7	-1.4
	0.5nm,0.8s,baz=309,slow=6.1,SNR=3.5						

NIED 19 08:42:00, 3720N×14220E, h35km, Mw3.5 Best double couple: Mo2.32000×10^14 NP1:φs322.00000°, δ72.00000°, λ49.00000°. NP2:φs212.00000°, δ44.00000°, λ153.00000°.
IDC 19 08:42:29.4±2.8, 3726N×14258E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=47.5km s-min=33.9km az=53.0
ISCJB 19 08:42:33.9±1.1, 37.15N±0.04×142.22E±0.08, h35km±15km, mb3.3/2, Error ellipse: s-maj=10.6km s-min=7.2km az=13.7
JMA 19 08:42:34.2±0.2, 3720N×142.16E, h36km, M3.6
ISC 19 08:42:33.9±1.8, 3719N±004×14215E±007, h18km±12km, n15, σ1ˢ05/26, mb3.3/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.03	280	P	Pb	08 42 52.6	-0.7
JFK				eS	Sb	08 43 05.9	-0.6
ONAJ	Iwakimizuishiy	1.08	266	P	Pb	08 42 53.3	-0.9
ONAJ				eS	Sb	08 43 07.2	-0.8
JMM	Marumori	1.27	302	P	Pn	08 42 56.1	-0.7
JMM				eS	Sb	08 43 12.5	-0.9
JIO	Ouri	1.41	333	P	Pn	08 42 57.9	-0.8
JIO				eS	Sn	08 43 14.5	-2.3
JFT	Otama	1.48	283	P	Pn	08 43 00.1	+0.4
JFT				eS	Sn	08 43 18.7	+0.1
JOU	Okura	1.66	315	P	Pn	08 43 02.6	+0.5
JOU				eS	Sn	08 43 22.8	-0.2
JMK	Ichinoseki	1.90	338	P	Pn	08 43 05.4	-0.1
JYS	Shirataka	1.95	302	P	Pn	08 43 07.2	+1.1
JYS				eS	Sn	08 43 32.0	+1.9
JYK	Kaneyama	2.23	321	P	Pn	08 43 10.9	+0.9
JAG	Ashikaga	2.30	251	P	Pn	08 43 10.9	0.0
JAG				eS	Sn	08 43 38.1	-0.6
MJAR	Matsushiro Arr	3.23	260	Pn	Pn	08 43 25.1	+1.4
	2.8nm,0.3s,baz=85,slow=15,SNR=18						
MJAR				Sn	Sn	08 44 11.1	+9.4
	2.5nm,0.3s,baz=90,slow=7.4,SNR=5.0						
MAT	Matsushiro	3.23	260	P	Pn	08 43 26.4	+2.7
MAT				eS	Sn	08 44 03.5	+1.8
JHJ	Hachijo jima 2	4.50	206	Pn	Pn	08 43 41.5	+0.2
	4.7nm,0.3s,baz=73,slow=19,SNR=4.2						
JHJ				Sn	Sn	08 44 31.7	-1.5
	6.6nm,0.3s,baz=234,slow=23,SNR=2.7						
SONM	Songino Array	28.19	304	P	P	08 48 26.0	+0.6
	0.4nm,0.6s,mb3.2,baz=91,slow=12,SNR=3.9						
WRA	Warramunga Arr	57.30	189	P	P	08 52 19.9	-0.7
	0.4nm,1.0s,mb3.4,baz=7.9,slow=7.1,SNR=4.7						

NEIC 19 08:48:18.4, 3063S×6843W, h150km, MG3.7(GUC), After GUC.
GUC 19 08:48:18.4±0.7, 3063S×6843W, h150km, ML3.7, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLL	Tololo Astrono	2.10	282⇑	iP	Pn	08 48 59.7	+5.0
TLL				iS	Sn	08 49 27.7	+5.1
TLL				AML	AML	08 49 34.5	
	comp=E,217nm,0.7s						
TLL	Tololo Astrono	2.10	282⇑	iP	Pn	08 48 59.7	+5.0
TLL				iS	Sn	08 49 27.7	+5.1
MDZ	Mendoza	2.27	189	eP	Pn	08 48 57.0	+0.3
CMCH	Combarbala	2.27	256⇑	iP	Pn	08 48 57.5	+0.8
CMCH				iS	Sn	08 49 26.9	+0.7
CMCH				AML	AML	08 49 32.1	
	comp=E,945nm,0.6s						
CMCH	Combarbala	2.27	256⇑	iP	Pn	08 48 57.5	+0.8
CMCH				iS	Sn	08 49 26.9	+0.7
PTCH	Petorca	2.68	232⇓	iP	Pn	08 49 02.6	+0.8
PTCH				iS	Sn	08 49 35.5	+0.3
PTCH				AML	AML	08 49 41.1	
	comp=E,287nm,0.3s						
PTCH	Petorca	2.68	232⇓	iP	Pn	08 49 02.6	+0.8
PTCH				iS	Sn	08 49 35.5	+0.3
FCH	Farellones	3.12	210	eP	Pn	08 49 08.3	+1.1
FCH				iS	Sn	08 49 47.0	+2.0
FCH				AML	AML	08 49 54.2	
	comp=E,50nm,0.6s						
PEL	Peldehue	3.15	217	eP	Pn	08 49 08.1	+0.4
PEL				AML	AML	08 49 55.9	
	comp=E,137nm,0.3s						
CLCH	Cerro Calan	3.28	212⇓	iP	Pn	08 49 09.9	+0.6
CLCH				iS	Sn	08 49 50.3	+1.5
CLCH				AML	AML	08 49 58.1	
	comp=N,128nm,0.6s						
RCDM	Rinconada Maip	3.49	215	iS	Sn	08 49 54.4	+0.9
RCDM				AML	AML	08 49 58.6	
	comp=E,48nm,0.6s						

CSEM 19 09:06:25.0, 3102N×5125E, h14km, ML3.0, After THR
THR 19 09:06:25.0±0.4, 3102N×5125E, h14km±4km, ML3.0
KISR 19 09:06:31.0±1.1, 3157N×51.19E, h2km±229km, ML2.8
ISCJB 19 09:06:34.6±0.7, 3175N±007×51.12E±008, h10km, Error ellipse: s-maj=13.7km s-min=4.4km az=95.7
ISC 19 09:06:36.1±0.7, 3178N±008×5111E±008, h10km, n10, σ1ˢ28/17, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NASN	Na'in	1.77	54	ePg	Pn	09 07 05.4	-1.3
NASN				eSg	Sg	09 07 34.8	+1.9
NASN				AML	AML	09 07 42.1	
	comp=N,72nm,0.6s						
NASN	Na'in	1.77	54	ePg	Pn	09 07 05.4	-1.3
	SNR=90						
NASN				eSg	Sg	09 07 34.8	+1.9
	comp=N,72nm,0.6s,SNR=90						
SHGR	Shooshtar-Gavs	1.99	280	ePg	Pn	09 07 07.7	-2.1
SHGR				AML	AML	09 07 51.3	
	comp=E,97nm,0.6s						
SHGR				AML	AML	09 07 53.4	
	comp=N,101nm,0.5s						
ASAO	Ashtian	2.91	342	ePn	Pn	09 07 23.7	+1.3
ASAO				AML	AML	09 08 21.6	
	comp=N,31nm,0.6s						
ASAO				AML	AML	09 08 23.8	
	comp=E,27nm,0.5s						
MIB	Mutribah	3.79	240	eP	Pn	09 07 33.9	-0.7
MIB				eS	Sn	09 08 21.4	+2.2
MIB				AML	AML	09 08 28.3	
	comp=Z,17nm,0.6s						
QRN	Al-Qurain	4.09	223	eP	Pn	09 07 37.4	-1.3
QRN				eS	Sn	09 08 26.8	+0.2
QRN				AML	AML	09 08 30.4	
	comp=Z,12nm,0.3s						
NAY	Al-Naaiem	4.18	234	eP	Pn	09 07 39.1	-0.8
NAY				eS	Sn	09 08 30.3	+1.5
NAY				AML	AML	09 08 32.6	
	comp=Z,16nm,0.7s						
RDF	Al-Radifah	4.19	228	eP	Pn	09 07 39.2	-0.8
RDF				eS	Sn	09 08 29.5	+0.6
RDF				AML	AML	09 08 31.9	
	comp=Z,14nm,0.5s						
RST	Umm Al-Ruwaisa	4.21	238	eP	Pn	09 07 39.0	-1.2
RST				eS	Sn	09 08 30.7	+1.3
RST				AML	AML	09 08 34.1	
	comp=Z,8.2nm,0.5s						
SNGE	Sanandaj	4.56	317	ePn	Pn	09 07 44.8	-0.4

MAN 19 09:08:45.9, 838N×12567E, h0km, mb3.4, ML4.6, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	0.59	356	eP	Pg	09 08 58.0	+0.8
BUKP	Musuan	0.78	230	eP	Pg	09 09 01.5	+0.7
BUKP				eS	Sg	09 09 19.2	+8.4
CGP	Cagayan de Oro	0.96	275⇑	eP	Pg	09 09 04.1	-0.2
CGP				eS	Sg	09 09 21.8	+4.9
DAV	Davao City (W)	1.30	184	eP	Pg	09 09 09.0	-1.9
SCPH	Surigao	1.41	353	eP	Pn	09 09 12.0	-0.8
SCPH				eS	Sg	09 09 38.1	+7.1
TBP	Tagbilaran	2.21	306	eP	Pn	09 09 23.6	-0.2
PAGZ	Pagadian	2.32	257	eP	Pn	09 09 29.2	+3.9
SNPH	Sibulan	2.58	292	eP	Pn	09 09 33.0	+4.0
GUIM	Jordan	3.77	307	eP	Pn	09 09 42.9	-2.3

IDC 19 09:16:09.6±2.3, 2207S×6787W, h95km±22km, mb3.6/3, mb1 3.5/7, mb1mx3.4/19, mbtmp3.8/7, Error ellipse: s-maj=49.6km s-min=17.2km az=113.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.76	358	P	Pn	09 17 33.2	+0.6
	1.3nm,0.3s,baz=175,slow=4.5,SNR=24						
SIV	San Ignacio	8.83	48	P	Pn	09 18 16.0	+1.6
	1.4nm,0.3s,baz=239,slow=12,SNR=56						
SIV				S	Sn	09 19 52.1	+0.1
	0.3nm,0.3s,baz=133,slow=22,SNR=4.4						
CFAA	Coronel Fontan	9.50	182	P	Pn	09 18 21.8	-1.7
	0.1nm,0.3s,baz=3.2,slow=11,SNR=10						
PLCA	Paso Flores	18.74	186	P	Pn	09 20 22.6	+0.2
	0.1nm,0.3s,baz=5.7,slow=9.9,SNR=6.7						
SNAA	Sanae	61.43	161	P	P	09 26 15.5	-0.3
	0.3nm,0.8s,baz=285,slow=7.2,SNR=6.1						
DBIC	Dimbokro	67.98	73	P	P	09 26 59.5	+1.1
	2.3nm,0.5s,baz=220,slow=7.4,SNR=6.4						
TORD	Torodi Ar. Bea	76.64	70	P	P	09 27 50.0	+0.1
	1.2nm,0.5s,baz=256,slow=5.5,SNR=20						

IDC 19 09:20:38.5±1.7, 7237N×270E, h0km, mb4.0/7, mb1 4.2/11, mb1mx3.9/26, mbtmp4.1/11, ML3.8/4, MS3.3/15, Ms1 3.3/15, ms1mx3.1/36, Error ellipse: s-maj=32.0km s-min=22.6km az=135.0
NAO 19 09:20:39.2±2.8, 7236N×309E, ML3.1
NEIC 19 09:20:39.9±0.5, 7241N×285E, h10km, mb4.2/5, Error ellipse: s-maj=7.8km s-min=6.2km az=70.0
MOS 19 09:20:39.3±1.7, 7239N×342E, h10km, mb4.2/12, Error ellipse: s-maj=29.8km s-min=7.3km az=99.3
ISCJB 19 09:20:39.6±0.5, 7242N±004×38E±0.1, h10km, mb4.0/18, MS3.3/11, Error ellipse: s-maj=6.4km s-min=6.2km az=112.6
BER 19 09:20:40.8±3.2, 7247N×251E, h10km, MD2.8, ML2.7, ML3.1(NAO)
CSEM 19 09:20:44.4±0.1, 7233N×4.14E, h35km, mb4.2/6, Error ellipse: s-maj=3.6km s-min=1.9km az=90.0
SZGRF 19 09:20:57.2, 71.10N×380E, h33km, mb4.2, Norwegian Sea
ISC 19 09:20:40.4±0.5, 7240N±004×33E±01, h10km, n92, σ1ˢ29/100, mb4.0/18, MS3.3/11, Norwegian Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	4.00	255	LR	LR	09 22 36.9	
	comp=Z,195nm,21.7s,baz=360,slow=31						
LOF	Lofoten	5.50	136	eP	Pn	09 22 05.0	+2.6
LOF				eS	Sn	09 23 05.8	+0.1
LOF				AML	AML	09 23 12.0	
	comp=Z,16nm,0.4s						
LOF	Lofoten	5.50	136	eP	Pn	09 22 05.0	+2.6
LOF				eS	Sn	09 23 05.8	+0.1
TRO	Tromso	5.79	111	eP	Pn	09 22 06.0	-0.4
TRO				eS	Sn	09 23 07.6	-5.2
TRO				AML	AML	09 23 10.3	
	comp=Z,15nm,0.5s						
TRO	Tromso	5.79	111	eP	Pn	09 22 06.0	-0.4
TRO				eS	Sn	09 23 07.6	-5.2
TRO	Tromso	5.79	111	eP	Pn	09 22 06.0	-0.3
TRO				eS	Sn	09 23 07.6	-5.2
SPB4	Spitsbergen Ar	6.66	24	ePn	Pn	09 22 18.3	0.0
SPA0	Spitsbergen Ar	6.66	24	Pn	Pn	09 22 18.2	-0.1
	baz=217,slow=14						
KBS	Kingsbay	6.88	14	Pn	Pn	09 22 20.2	-1.2
KBS	Kingsbay	6.88	14	ePn	Pn	09 22 21.6	+0.2
KBS	Kingsbay	6.88	14	ePn	Pn	09 22 21.6	+0.2
STOK	Stokkvaagen	6.98	146	eP	Pn	09 22 22.7	0.0
STOK				eS	Sn	09 23 36.9	-5.3
STOK				AML	AML	09 23 42.1	
	comp=Z,7.6nm,0.3s						
STOK	Stokkvaagen	6.98	146	eP	Pn	09 22 22.7	0.0
STOK				eS	Sn	09 23 36.9	-5.3
MOR8	Moi Rana	7.38	142	eP	Pn	09 22 28.3	+0.1
MOR8				eS	Sn	09 23 47.2	-4.7
MOR8				AML	AML	09 23 54.1	
	comp=Z,19nm,0.3s						
MOR8	Moi Rana	7.38	142	eP	Pn	09 22 28.3	+0.1
MOR8				eS	Sn	09 23 47.2	-4.7
KTK1	Kautokeino	7.39	108	eP	Pn	09 22 30.0	+1.6
KTK1				eS	Sn	09 23 51.4	-0.9
KTK1	Kautokeino	7.39	108	eP	Pn	09 22 30.0	+1.6
KTK1				eS	Sn	09 23 49.9	-2.4
KTK1	Kautokeino	7.39	108	eP	Pn	09 22 30.0	+1.7
KTK1				eS	Sn	09 23 49.9	-2.4
ARA0	ARCESS Array S	7.77	101	Pn	Pn	09 22 34.5	+1.0
	baz=300,slow=11						
ARA0				Sn	Sn	09 23 59.1	-2.4
	baz=306,slow=22						
ARCES	ARCESS Array B	7.77	101	Pn	Pn	09 22 34.3	+0.8
	comp=Z,3.1nm,0.3s,baz=301,slow=11,SNR=51						
ARCES				Sn	Sn	09 23 59.2	-2.3
	comp=Z,1.0nm,0.3s,baz=312,slow=20,SNR=2.8						
ARCES				LR	LR	09 25 45.7	
	comp=Z,105nm,21.3s,baz=160,slow=39						
ARCES	ARCESS Array B	7.77	101	P	Pn	09 22 34.3	+0.8
ARCES						09 23 59.2	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ARCES				smax			
	comp=N,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,105nm,21.3s						
ARCES	ARCESS Array B	7.77	101	P	Pn	09 22 34.3	+0.8
	comp=Z,3.0nm,0.3s						
ARCES				S	Sn	09 23 59.2	-2.3
	comp=Z,105nm,21.3s						
ARE0	ARCESS Array S	7.77	101	ePn	Pn	09 22 34.7	+1.2
ARE0				eSn	Sn	09 24 01.0	-0.5
KEV	Kevo	8.10	98	eP	Pn	09 22 37.8	-0.3
NB2	NORSAR Subarra	11.81	161	P	Pn	09 23 28.0	-0.9
	comp=Z,3.0nm,0.8s,baz=343,slow=11						
NB2	NORSAR Subarra	11.81	161	Pn	Pn	09 23 29.4	+0.5
	baz=359,slow=18						
NOA	NORSAR Array B	11.81	161	Pn	Pn	09 23 26.6	-2.3
	comp=Z,0.6nm,0.3s,baz=346,slow=13,SNR=6.1						
NOA				LR	LR	09 28 01.7	
	comp=Z,105nm,18.8s,baz=0.0,slow=37						
NOA	NORSAR Array B	11.81	161	P	Pn	09 23 26.6	-2.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		
	comp=Z,105nm,18.8s						
NAO01	NORSAR Array S	11.97	162	Pn	Pn	09 23 33.3	+2.2
SUMG	Summit	12.40	291	ePn	Pn	09 23 33.7	-3.2
HFS	Hagfors	12.97	156	Pn	Pn	09 23 43.7	-1.1
	comp=Z,1.5nm,0.3s,baz=354,slow=12,SNR=34						
HFS				LR	LR	09 28 28.1	
	comp=Z,140nm,19.3s,baz=335,slow=36						
HFS	Hagfors	12.97	156	Pn	Pn	09 23 44.6	-0.2
	baz=343,slow=14						
HFS	Hagfors	12.97	156	P	Pn	09 23 43.7	-1.1
HFS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
HFS				MLR	MLR		
	comp=Z,140nm,19.3s						
KAF	Kangasniemi	13.49	128	ep	Pn	09 23 49.8	-2.0
	comp=Z,7.2nm,0.5s						
KAF	Kangasniemi	13.49	128	eP	Pn	09 23 49.8	-2.0
KAF				pmax	pmax		
	comp=Z,7.0nm,0.5s						
FIA0	FINESS Array S	14.02	130	Pn	Pn	09 23 58.8	-0.2
	baz=340,slow=16						
FINES	FINESS Array B	14.02	130	Pn	Pn	09 23 58.8	-0.2
	comp=Z,0.5nm,0.3s,baz=353,slow=14,SNR=23						
FINES				LR	LR	09 29 04.2	
	comp=Z,189nm,19.4s,baz=187,slow=36						
FINES	FINESS Array B	14.02	130	P	Pn	09 23 58.8	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,189nm,19.4s						
JOF	Joensuu	14.09	118	ep	Pn	09 23 57.9	-2.1
	comp=Z,11nm,0.5s						
JOF	Joensuu	14.09	118	eP	Pn	09 23 57.9	-2.1
JOF				pmax	pmax		
	comp=Z,11nm,0.5s						
EKA	Eskdalemuir Ar	17.36	193	P	Pn	09 24 40.9	-1.8
	comp=Z,0.3nm,0.3s,baz=4.3,slow=9.9,SNR=4.5						
NRDL	Niedersach Rie	20.20	168	eP	P	09 25 15.7	+0.4
	comp=Z,31nm,1.7s						
CLL	Collm	21.60	163	e(P)	P	09 25 34.0	+3.6
UBBA	Unterbreizbach	21.86	169	eP	P	09 25 31.6	-1.6
BRG	Berggiesshubel	22.11	162	eP	P	09 25 41.7	+5.8
	comp=Z,3.1nm,0.9s,mb3.7						
BRG	Berggiesshubel	22.11	162	eP	P	09 25 41.7	+5.8
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
MOX	Moxa	22.14	166	eP	P	09 25 36.4	+0.2
	comp=Z,9.0nm,1.0s,mb4.2						
OBN	Obninsk	22.20	124	eP	P	09 25 37.9	+1.1
OBN				e		09 29 35.2	
OBN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS3.6						
OBN	Obninsk	22.20	124	eP	P	09 25 37.9	+1.1
	comp=Z,12nm,1.0s,mb4.3						
TANN	Tannenbergstha	22.44	165	eP	P	09 25 40.1	+0.7
	comp=Z,4.0nm,0.9s,mb3.9						
ROTZ	Rotzenmuhle	23.06	165	eP	P	09 25 45.7	-0.3
	comp=Z,5.0nm,0.7s,mb4.0						
GRA1	Grafenberg Arr	23.07	167	eP	P	09 25 45.7	-0.3
	comp=Z,10.0nm,0.4s,mb4.6						
GRF	Grafenberg Arr	23.07	167	eP	P	09 25 45.7	-0.3
	comp=Z,10.0nm,0.4s,mb4.6						
GRF	Grafenberg Arr	23.07	167	eP	P	09 25 45.7	-0.3
GRF				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.6						
MORC	Moravsky Berou	23.59	157	P	P	09 25 50.9	-0.5
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
MORC	Moravsky Berou	23.59	157	P	P	09 25 50.9	-0.5
	comp=Z,4.1nm,0.9s,mb3.9						
MORC	Moravsky Berou	23.59	157	P	P	09 25 50.9	-0.5
	comp=Z,4.0nm,0.9s,mb3.9						
VRAC	Vranov	23.93	158	LR	LR	09 34 55.4	
	comp=Z,50nm,18.8s,MS3.0,baz=338,slow=36						
GEC2	GERESS Array S	24.10	163	eP	P	09 25 56.4	+0.3
	comp=Z,5.0nm,0.8s,mb4.0						
GEC2	GERESS Array S	24.10	163	eP	P	09 25 56.4	+0.3
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
GERES	GERESS Array B	24.10	163	P	P	09 25 56.8	+0.7
	comp=Z,3.6nm,0.7s,mb3.9,baz=358,slow=9.5,SNR=26						
GERES				LR	LR	09 35 11.9	
	comp=Z,57nm,19.4s,MS3.1,baz=102,slow=36						
GERES	GERESS Array B	24.10	163	P	P	09 25 56.8	+0.7
GERES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES				MLR	MLR		
	comp=Z,57nm,19.4s						
BFO	Black Forest	24.26	172	eP	P	09 25 58.3	+0.7
	comp=Z,10.0nm,0.9s,mb4.2						
BFO	Black Forest	24.26	172	eP	P	09 25 58.3	+0.7
BFO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
AKASG	Malin Array Be	24.60	138	P	P	09 26 00.5	-0.2
	comp=Z,2.9nm,0.5s,mb4.1,baz=340,slow=10.0,SNR=10						
AKASG	Malin Array Be	24.60	138	P	P	09 26 00.5	-0.2
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	Malin Array Be	24.60	138	P	P	09 26 00.5	-0.2
AKBB	Malin Array Si	24.60	138	eP	P	09 26 01.1	+0.4
FRB	Frobisher Bay	26.45	288	LR	LR	09 36 39.7	
	comp=Z,103nm,18.2s,MS3.4,baz=207,slow=37						
ARU	Arti	27.32	96	eP	P	09 26 28.0	+2.7
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
ARU	Arti	27.32	96	eP	P	09 26 28.0	+2.7
	comp=Z,6.2nm,0.8s,mb4.2						
ARU	Arti	27.32	96	eP	P	09 26 28.0	+2.7
	comp=Z,6.2nm,0.8s,mb4.2						
AKTK	Aktyubinsk	32.35	103	P	P	09 27 10.8	+0.9
AKTK	Aktyubinsk	32.35	103	P	P	09 27 10.8	+1.0
AKTO	Aktyubinsk	32.35	103	P	P	09 27 10.8	+0.9
	comp=Z,1.3nm,0.8s,mb3.8,baz=346,slow=9.5,SNR=4.6						
AKTO				LR	LR	09 40 21.2	
	comp=Z,72nm,18.9s,MS3.4,baz=168,slow=36						
AKTO	Aktyubinsk	32.35	103	P	P	09 27 10.8	+1.0
AKTO				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.0nm,0.8s,mb3.7						
AKTO				MLR	MLR		
	comp=Z,73nm,18.9s,MS3.4						
SCHQ	Schefferville	33.21	276	LR	LR	09 39 54.9	
	comp=Z,36nm,19.0s,MS3.1,baz=149,slow=35						
BVAR	Borovoye Array	33.82	88	P	P	09 27 24.4	+1.8
	comp=Z,0.4nm,0.3s,mb3.8,baz=308,slow=5.3,SNR=3.0						
BVAR				LR	LR	09 41 41.0	
	comp=Z,32nm,18.5s,MS3.1,baz=197,slow=37						
BVAR	Borovoye Array	33.82	88	P	P	09 27 24.4	+1.8
BRTR	Keskin Array B	36.01	139	P	P	09 27 43.1	+1.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=342,slow=7.8,SNR=4.3						
BRTR				LR	LR	09 43 23.4	
	comp=Z,28nm,21.0s,MS3.0,baz=212,slow=38						
BRTR	Keskin Array B	36.01	139	P	P	09 27 43.1	+1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR				MLR	MLR		
	comp=Z,28nm,21.0s						
ZAL	Zalesovo	37.35	75	LR	LR	09 45 35.9	
	comp=Z,43nm,20.0s,MS3.2,baz=276,slow=40						
MALT	Malatya	38.38	133	*e*P	P	09 28 04.4	+2.7
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MALT	Malatya	38.38	133	*e*P	P	09 28 04.4	+2.7
	comp=Z,2.9nm,0.8s,mb4.1						
YKA	Yellowknife Ar	38.97	319	LR	LR	09 43 47.9	
	comp=Z,74nm,18.2s,MS3.5,baz=335,slow=36						
MKAR	Makanchi Array	42.93	82	P	P	09 28 39.7	+0.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=352,slow=7.4,SNR=6.4						
ULM	Lac du Bonnet	45.64	298	LR	LR	09 47 33.1	
	comp=Z,63nm,18.8s,MS3.6,baz=308,slow=36						
TORD	Torodi Ar. Bea	59.24	182	P	P	09 30 41.1	-0.7
	comp=Z,2.1nm,0.6s,mb4.3,baz=358,slow=6.8,SNR=19						
PV01	Paradox Valley	60.24	303	*e*P	P	09 30 47.3	-1.5
WMOK	Wichita Mounta	60.81	293	*e*P	P	09 30 50.2	-2.4
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.3						
WMOK	Wichita Mounta	60.81	293	*e*P	P	09 30 50.2	-2.4
	comp=Z,0.7nm,0.4s,mb4.1						
ASAR	Alice Springs	124.17	57	PKP	PKPdf	09 39 37.4	-1.8
	comp=Z,0.3nm,0.6s,baz=2.9,slow=2.0,SNR=7.2						

CASC 19 09:23:23.2±2.6**, 1196N×8230W, h95km**±229km**, MD4.1, ML3.6, 1C-2D, North of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCM	Ochomogo	2.62	219	*e*P	Pn	09 24 04.4	+0.7
OCM				*e*S	Sn	09 24 38.3	+3.5
LAJ	Bijagual	2.74	221	*e*P	Pn	09 24 10.8	+5.5
LAJ				*e*S	Sn	09 24 51.6	+14
LCR2	La Lucha 2	2.76	217	*e*P	Pn	09 24 05.7	0.0
LCR2				*e*S	Sn	09 24 41.2	+3.0
PRS1	Puriscal	2.78	225	*e*P	Pn	09 24 07.8	+1.9
PRS1				*e*S	Sn	09 24 43.5	+4.9
BUS	Buena Vista	2.78	211	*e*P	Pn	09 24 06.0	+0.1
BUS				*e*S	Sn	09 24 41.0	+2.3
CTCR	Cotoan	3.07	188	*e*P	Pn	09 24 08.7	-1.0
LIM1	Limonal	3.15	247	⇑*e*P	Pn	09 24 09.6	-1.3
MADN	Villa Maderas	3.21	261	*e*P	Pn	09 24 12.1	+0.4
CONN	Concepcion	3.28	264	⇓*e*P	Pn	09 24 13.9	+1.4
SSNN	San Juan del S	3.54	260	*e*P	Pn	09 24 16.4	+0.3
SSNN				*e*S	Sn	09 24 58.3	+1.3
MGAN	Managua	3.87	273	⇓*e*P	Pn	09 24 22.6	+2.1
MGAN				*e*S	Sn	09 25 04.5	-0.3
MGAN				*i*		09 25 05.5	
	comp=N,182nm,0.2s						
COPN	Copaltepe	4.20	273	*e*P	Pn	09 24 26.0	+1.0

JMA 19 09:47:35.0±0.3**, 4394N×14785E, h0km, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.63	250	P	Pn	09 48 05.3	+0.3
NEM2				*e*S	Sn	09 48 27.0	+0.3
JRA	Rausu	1.97	271	P	Pn	09 48 10.3	+0.7
JRA				*e*S	Sn	09 48 35.9	+0.9
JNK	Nakash	2.30	262	P	Pn	09 48 14.9	+0.8
JNK				*e*S	Sn	09 48 43.5	+0.4
JAK	Akkeshi	2.48	249	P	Pn	09 48 17.4	+0.7
JAK				*e*S	Sn	09 48 48.2	+0.6
JAR	Ashorobuto	3.03	259	P	Pn	09 48 25.9	+1.7
JAR				*e*S	Sn	09 49 03.0	+1.8
JCH	Churui	3.54	250	P	Pn	09 48 32.5	+1.4
JCH				*e*S	Sn	09 49 14.1	+0.5
JNBK	Urakawa-nobuka	4.08	248	P	Pn	09 48 40.5	+1.8

*MOS **19** 09:48:40.9±0.7, 3651N×7099E, h192km, mb4.5/22, Error ellipse: s-maj=12.5km s-min=5.7km az=93.2*
*BJI **19** 09:48:41.7, 3649N×7090E, h216km, mB4.7, mb4.6*
*NEIC **19** 09:48:42.4±1.2, 3646N×7101E, h193km±11km, mb4.4/17, Error ellipse: s-maj=8.2km s-min=6.0km az=221.0*
*ISCJB **19** 09:48:42.7±0.3, 3654N±002×7100E±004, h208km±4km, mb4.4/39, Error ellipse: s-maj=5.0km s-min=3.5km az=159.4*
*IDC **19** 09:48:46.0±2.9, 3654N×7099E, h227km±27km, mb4.1/14, mb1 4.2/18, mb1mx4.0/27, mbtmp4.6/18, Error ellipse: s-maj=11.8km s-min=10.7km az=117.0*
*NNC **19** 09:48:48.0±3.3, 3701N×7080E, h196km±21km, mb3.2, mpv4.2, Error ellipse: s-maj=34.9km s-min=14.9km az=0.0*
ISC 19 09:48:43.6±0.3**, 3657N**±002**×7097E**±004**, h204km**±3km**, n147, σ0.93**/168**, mb4.4**/39**, 15C-14D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.84	164	⇑P	Pn	09 49 32.5	+0.9
CHCP	Chirah Chowk	3.46	146	⇓P	Pn	09 49 39.9	+1.1
THW	Thamme Wali	3.81	170	⇓P	Pn	09 49 43.7	+0.5
SBDP	Sheikh Budin	4.26	182	⇓P	Pn	09 49 48.5	-0.2
SARP	Sargodha	4.84	163	⇓P	Pn	09 49 56.1	+0.1
SARP				S	Sn	09 50 50.0	-3.2
KSH	Kashi	4.93	52	⇓*i*P	Pn	09 49 58.6	+1.5
KSH				S	Sn	09 50 55.3	+0.2
KSH				Smax			
	comp=N,200nm,0.4s						
KSH				Smax			
	comp=E,224nm,0.4s						
DLH	Dalhousie	5.75	133	*e*P	Pn	09 50 07.0	-0.7
DLH				*e*x	x	09 51 00.0	
AML	Almayashu	5.95	20	P	Pn	09 50 10.5	+0.4
	SNR=110						
UCH	Uchtor	6.28	25	P	Pn	09 50 15.1	+0.6
	SNR=126						
EKS2	Erkin-Say	6.46	19	P	Pn	09 50 17.1	+0.3
	SNR=34						
KK31	Karatay Array	6.54	357	⇓P	Pn	09 50 17.5	-0.3
	comp=E,5.9nm,0.3s,baz=179,slow=12,SNR=98						
KK31				⇑S	Sn	09 51 26.3	-6.3
	comp=E,68nm,0.6s,baz=183,slow=14,SNR=5.4						
KK31	Karatay Array	6.54	357	*i* PN	Pn	09 50 17.3	-0.5
KK31				pmax	pmax		
	comp=Z,9.0nm,0.2s						
KKAR	Karatay Array	6.54	357	PN	Pn	09 50 17.3	-0.5
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
AAK	Ala-Archa	6.64	23	⇓P	Pn	09 50 18.6	-0.6
	SNR=7.8						
AAK	Ala-Archa	6.64	23	*e*PN	Pn	09 50 18.6	-0.6
AAK				*e*		09 51 31.6	
AAK				pmax	pmax		
	comp=Z,40nm,0.3s						
AAK	Ala-Archa	6.64	23	*e*Pn	Pn	09 50 18.6	-0.6
	comp=Z,40nm,0.3s						
AAK				*e*Sn	Sn	09 51 31.6	-3.4
KBK	Karagaybulak	6.81	26	P	Pn	09 50 22.0	+0.7
	SNR=32						
BHK	Bhakra	6.84	137	*e*S	Sn	09 51 31.6	-8.1
ULHL	Ulahol	6.99	34	P	Pn	09 50 23.8	+0.2
	SNR=23						
CHMS	Chumysh	7.05	23	P	Pn	09 50 25.0	+0.5
	SNR=11						
SDNR	Sundarnagar	7.09	134	*e*P	Pn	09 50 24.0	-1.0
SDNR				*e*x	x	09 51 39.6	
USP	Ospenovka	7.22	21	P	Pn	09 50 26.7	0.0
	SNR=15						
TKM2	Tokmak 2	7.28	28	P	Pn	09 50 27.8	+0.3
	SNR=73						
TKM2	Tokmak 2	7.28	28	⇓P	Pn	09 50 27.7	+0.3
	comp=Z,26nm,0.8s						
TKM2				⇑S	Sn	09 51 46.2	-3.7
	comp=Z,20nm,1.5s						
SMLA	Simla	7.48	135	*e*P	Pn	09 50 29.3	-0.7
SMLA				*e*S	Sn	09 51 47.4	-7.4
KLP	Kalpa	7.85	128	*e*P	Pn	09 50 33.5	-1.4
KLP				*e*S	Sn	09 51 58.4	-5.1
KLP				AML	AML	09 52 00.2	
	comp=E,234nm,0.7s						
KLP				AML	AML	09 52 02.6	
	comp=N,283nm,0.7s						
KHET	Khetri	9.40	153	*e*P	Pn	09 50 52.9	-2.1
KHET				*e*S	Sn	09 52 30.9	-9.4
NDI	New Delhi	9.46	144	*e*P	Pn	09 50 56.0	+0.3
NDI				*e*S	Sn	09 52 32.0	-10
AYAN	Aya Nagar	9.59	145	*e*P	Pn	09 50 56.8	-0.6
AYAN				*e*S	Sn	09 52 37.6	-7.1
KUDL	Kundal	9.60	149	*e*P	Pn	09 50 56.9	-0.7
KUDL				*e*S	Sn	09 52 36.1	-9.0
SONA	Sohna	9.77	146	*e*P	Pn	09 50 59.1	-0.5
SONA				AMb	AMB	09 50 60.0	
	comp=Z,9.3nm,0.2s						
AJM	Ajmer	10.53	162	*e*x	x	09 52 48.0	
MK02	Makanchi Array	13.24	36	⇑P	Pn	09 51 43.1	-0.8
	comp=Z,8.6nm,1.1s,baz=224,slow=11						
MK31	Makanchi Array	13.25	36	P	Pn	09 51 44.1	+0.1
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	Makanchi Array	13.25	36	P	Pn	09 51 43.9	-0.1
	comp=Z,0.4nm,0.3s,baz=219,slow=9.4,SNR=20						
MKAR	Makanchi Array	13.25	36	*i* P	Pn	09 51 44.2	+0.2
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KOLN	Koldanda	13.82	126	*e*P	Pn	09 51 51.7	+0.6
	comp=Z,10nm,0.4s						
GKN	Gorkha	14.36	123	*e*P	Pn	09 51 58.1	+0.4
	comp=Z,26nm,0.3s						
WMQ	Urumqi	14.68	55	⇓*i*P	Pn	09 52 01.6	0.0
WMQ				S	S	09 54 39.0	-5.7
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,152nm,5.2s						
DMN	Daman	14.93	123	*e*P	Pn	09 52 05.6	+0.9
	comp=Z,13nm,0.3s						
KKN	Kakani	14.93	122	*e*P	Pn	09 52 05.1	+0.4
AB31	Akbulak array	15.02	331	⇑P	Pn	09 52 04.5	-1.2
	comp=Z,24nm,0.9s						
AB31	Akbulak array	15.02	331	P	Pn	09 52 04.5	-1.3
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
PKI	Pulchoki	15.16	122	*e*P	Pn	09 52 08.9	+1.4
GUN	Gumba	15.27	120	*e*P	Pn	09 52 09.9	+1.1
	comp=Z,18nm,0.3s						
JIRN	Jiri	15.64	120	*e*P	Pn	09 52 14.0	+0.7
	comp=Z,26nm,0.3s						
VOSK	Vostochnaya	16.16	0	⇑P	P	09 52 18.9	0.0
	comp=Z,4.6nm,0.6s						
VOSK	Vostochnaya	16.16	0	P	P	09 52 19.0	+0.1
VOSK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BANOM	Banah	16.41	234	⇓P	P	09 52 22.0	+0.3
BVA0	Borovoye Array	16.46	359	⇑P	P	09 52 22.6	+0.4
	comp=Z,1.0nm,0.6s						
BVA0	Borovoye Array	16.46	359	P	P	09 52 22.6	+0.3
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	16.46	359	P	P	09 52 23.1	+0.9
	comp=Z,3.0nm,0.3s,baz=154,slow=10.0,SNR=28						
BVAR				S	S	09 55 22.9	-1.1
	comp=Z,0.1nm,0.3s,baz=166,slow=13,SNR=3.6						
BVAR	Borovoye Array	16.46	359	P	P	09 52 23.1	+0.8
BVAR				S	S	09 55 22.9	-1.1
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRVK	Borovoye	16.50	359	⇑P	P	09 52 23.5	+0.9
	SNR=7.5						
BRVK	Borovoye	16.50	359	*e*P	P	09 52 22.8	+0.1
BRVK				*e*S	S	09 55 25.6	+0.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	Borovoye	16.50	359	*e*P	P	09 52 22.8	+0.1
	comp=Z,5.3nm,0.6s						
BRVK				*e*S	S	09 55 25.6	+0.9
AKTK	Aktyubinsk	16.71	330	P	P	09 52 26.1	+1.1
AKTK				S	S	09 55 27.0	-2.0
AKTO	Aktyubinsk	16.71	330	⇑P	P	09 52 25.9	+1.0
	comp=Z,0.8nm,0.8s						
AKTO	Aktyubinsk	16.71	330	P	P	09 52 26.1	+1.1
	comp=Z,4.3nm,0.3s,baz=138,slow=10,SNR=154						
AKTO				S	S	09 55 27.0	-2.0
	comp=Z,0.2nm,0.3s,baz=324,slow=19,SNR=3.2						
AKTO	Aktyubinsk	16.71	330	P	P	09 52 26.1	+1.1
AKTO				S	S	09 55 27.0	-2.0
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CHKZ	Chkalovo	17.11	359	⇑P	P	09 52 29.7	+0.4
	comp=Z,6.0nm,0.8s						
CHKZ	Chkalovo	17.11	359	*e*P	P	09 52 29.7	+0.3
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHKZ	Chkalovo	17.11	359	*e*P	P	09 52 29.7	+0.3
	comp=Z,6.9nm,0.7s						
ASHO	Ashiyiah	17.44	231	⇑P	P	09 52 34.0	+1.1
	SNR=9.4						
ZAL	Zalesovo	19.85	25	P	P	09 52 59.4	+0.4
	comp=Z,2.2nm,0.3s,baz=258,slow=10,SNR=17						
ZAL				S	S	09 56 29.9	-1.3
	comp=Z,0.6nm,0.3s,baz=172,slow=23,SNR=7.4						
ZAL	Zalesovo	19.85	25	P	P	09 52 59.4	+0.4
ZAL				S	S	09 56 29.9	-1.3
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				smax			
	comp=N,1.0nm,0.3s						
NVS	Novosibirsk	20.13	21	*e*P	P	09 53 00.2	-1.8
NVS				*e*PPP		09 53 33.8	
NVS				*e*S	S	09 56 30.9	-5.7
NVS				pmax	pmax		
	comp=N,12nm,0.9s						
NVS				pmax	pmax		
	comp=Z,11nm,0.9s						
NVS				smax			
	comp=N,29nm,1.4s						
NVS				smax			
	comp=E,33nm,1.4s						
GNI	Garni	20.85	288	*i* P	P	09 53 09.7	+0.1
KBD	Kabd	20.86	256	*e*P	P	09 53 10.4	+0.6
KBD				AMb	AMB	09 53 13.9	
	comp=Z,109nm,0.6s						
MIB	Mutribah	20.87	258	*e*P	P	09 53 09.6	-0.2
MIB				AMb	AMB	09 53 12.9	
	comp=Z,30nm,0.8s						
RDF	Al-Radifah	21.09	256	*e*P	P	09 53 12.2	0.0
RDF				AMb	AMB	09 53 19.0	
	comp=Z,38nm,0.5s,mb5.2						
NAY	Al-Naaiem	21.18	257	*e*P	P	09 53 13.2	0.0
NAY				AMb	AMB	09 53 19.1	
	comp=Z,14nm,0.7s,mb4.6						
SVE	Sverdlovsk	21.43	344	*e*P	P	09 53 13.5	-2.2
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.6						
ARU	Arti	21.56	341	⇑*i*P	P	09 53 17.1	0.0
ARU				*e*PPP		09 53 58.6	
ARU				*e*S	S	09 57 07.2	+5.1
ARU				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.7						
ARU	Arti	21.56	341	*e*P	P	09 53 17.7	+0.5
	comp=Z,11nm,0.6s,mb4.6						
KIV	Kislovodsk	22.74	298	*e*P	P	09 53 26.8	-1.3
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
GTA	Gaotai	22.87	74	*e*P	P	09 53 31.6	+2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
SONM	Songino Array	28.32	55	P	P	09 54 19.5	+1.2
	comp=Z,1.8nm,0.8s,mb3.8,baz=256,slow=9.5,SNR=13						
SONM	Songino Array	28.32	55	P	P	09 54 19.5	+1.3
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	Ulaanbaatar	28.76	56	*i* P	P	09 54 23.4	+1.2
BRTR	Keskin Array B	29.39	288	⇑*e*P	P	09 54 25.0	-2.7
KMI	Kunming	29.44	104	P	P	09 54 28.0	-0.1
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
OBN	Obninsk	29.87	319	*i* P	P	09 54 32.8	+0.8
OBN				*e*S	S	09 59 16.0	+2.2
OBN				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.8						
HHC	Hu-ho-hao-te	31.76	70	*e*P	P	09 54 48.9	+0.3
HHC				AP	pP	09 55 28.4	-1.8
HHC				PP	PP	09 56 01.5	-3.1
HHC				PCP	PcP	09 57 36.4	+1.7
HHC				S	S	09 59 42.6	-0.6
HHC				SCP	ScP	10 01 00.6	+2.0
HHC				PCS	PcS	10 01 20.0	+0.5
HHC				SS	SS	10 01 47.8	-21
HHC				SCS	ScS	10 04 57.8	+0.6
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,163nm,5.1s						
HHC				LR	LR		
	comp=N,150nm,4.9s						
HHC				LR	LR		
	comp=E,184nm,6.5s						
HHC				LR	LR		
	comp=Z,165nm,5.3s						
AKASG	Malin Array Be	32.89	309	P	P	09 54 59.0	+0.7
	comp=Z,2.3nm,0.4s,mb4.0,baz=81,slow=7.3,SNR=14						
AKASG				PcP	PcP	09 57 37.0	-0.8
	comp=Z,0.2nm,0.3s,baz=84,slow=3.4,SNR=5.3						
AKASG	Malin Array Be	32.89	309	P	P	09 54 59.0	+0.7
AKASG						09 57 37.0	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	Joensuu	35.80	330	*e*p	P	09 55 23.5	+0.2
	comp=Z,18nm,0.3s,mb5.1						
JOF	Joensuu	35.80	330	*e*P	P	09 55 23.5	+0.2
JOF				pmax	pmax		
	comp=Z,18nm,0.3s,mb5.1						
FINES	FINESS Array B	37.42	326	P	P	09 55 37.3	+0.3
	comp=Z,11nm,0.8s,mb4.5,baz=117,slow=9.8,SNR=31						
FINES	FINESS Array B	37.42	326	*i* P	P	09 55 37.5	+0.5
FINES				pmax	pmax		
	comp=Z,11nm,0.8s						
KAF	Kangasniemi	37.56	327	*e*p	P	09 55 37.9	-0.3
	comp=Z,1.5nm,0.3s,mb4.0						
KAF	Kangasniemi	37.56	327	*e*P	P	09 55 37.9	-0.3
KAF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
NJ2	Nanjing	39.49	82	*e*P	P	09 55 52.8	-1.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.0						
KEV	Kevo	40.73	338	*e*p	P	09 56 04.1	-0.3
	comp=Z,8.7nm,0.6s,mb4.4						
KEV	Kevo	40.73	338	*e*P	P	09 56 04.1	-0.3
KEV				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
ARCES	ARCESS Array B	41.08	338	P	P	09 56 07.7	+0.4
	comp=Z,18nm,0.7s,mb4.6,baz=111,slow=8.2,SNR=99						
ARCES	ARCESS Array B	41.08	338	P	P	09 56 07.7	+0.5
ARCES				pmax	pmax		
	comp=Z,18nm,0.7s						
ARE0	ARCESS Array S	41.08	338	*e*P	P	09 56 07.5	+0.2
SSE	Sheshan	41.69	82	P	P	09 56 09.0	-3.2
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,168nm,4.3s						
YAK	Yakutsk	43.93	36	⇓*e*P	P	09 56 30.3	+0.1
YAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.3						
NB2	NORSAR Subarra	44.31	323	P	P	09 56 33.0	-0.2
	comp=Z,12nm,0.7s,mb4.3,baz=96,slow=7.9						
NOA	NORSAR Array B	44.31	323	P	P	09 56 33.3	0.0
	comp=Z,11nm,0.8s,mb4.3,baz=96,slow=7.7,SNR=40						
NOA	NORSAR Array B	44.31	323	P	P	09 56 33.3	+0.1
NOA				pmax	pmax		
	comp=Z,11nm,0.8s						
HABR	Khabarovsk	47.40	54	*e*P	P	09 56 55.7	-1.6
HABR				*e*S	S	10 03 37.6	+2.0
KMBO	Kilima Mbogo	48.86	227	P	P	09 57 09.7	+1.2
	comp=Z,1.4nm,0.5s,mb3.5,baz=39,slow=14,SNR=4.1						
KMBO	Kilima Mbogo	48.86	227	*i* P	P	09 57 10.8	+2.3
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SEY	Seymchan	54.38	34	⇑*e*P	P	09 57 49.8	+0.5
DAG	Danmarks Havn	54.66	344	⇓*i*P	P	09 57 52.3	+1.0
	comp=Z,4.0nm,0.6s,mb4.1						
DAG	Danmarks Havn	54.66	344	⇓*i*P	P	09 57 52.3	+1.0
DAG				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
BILL	Bilibino	58.56	26	*e*P	P	09 58 19.0	+0.2
BILL				*e**PP	pP	09 59 00.0	-5.1
BILL				*e*		10 00 28.1	
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
SUMG	Summit	60.99	341	*e*P	P	09 58 36.4	+1.1
	comp=Z,5.4nm,0.8s,mb4.2						
TORD	Torodi Ar. Bea	65.70	269	P	P	09 59 04.9	-1.2
	comp=Z,4.0nm,0.5s,mb4.3,baz=50,slow=5.9,SNR=75						
INK	Inuvik	73.84	9	P	P	09 59 56.4	+0.6
	comp=Z,7.5nm,0.6s,mb4.5,baz=0.4,slow=6.9,SNR=39						
INK	Inuvik	73.84	9	P	P	09 59 56.4	+0.6
INK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
INK	Inuvik	73.84	9	*e*P	P	09 59 56.3	+0.5
	comp=Z,11nm,0.9s,mb4.5						
COLA	College	74.42	16	*d i*P	P	09 59 59.8	+0.6
COLA	College	74.42	16	*e*P	P	09 59 59.6	+0.4
	comp=Z,5.6nm,0.7s,mb4.3						
LBTB	Lobatse	74.71	222	*e*P	P	10 00 01.3	+0.5
LBTB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
LBTB	Lobatse	74.71	222	*e*P	P	10 00 01.3	+0.5
	comp=Z,3.7nm,0.6s,mb4.2						
TSUM	Tsumeb	74.94	232	*e*P	P	10 00 03.2	+1.0
	comp=Z,7.5nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	74.95	127	⇑*i*P	P	10 00 02.3	+0.1
	comp=Z,6.6nm,0.8s,mb4.3						
FITZ	Fitzroy Crossi	74.95	127	P	P	10 00 02.4	+0.2
	comp=Z,3.2nm,0.7s,mb4.1,baz=329,slow=5.1,SNR=13						
KAKA	Kakadu	75.78	118	*e*P	P	10 00 06.8	-0.2
	comp=Z,7.1nm,0.6s,mb4.5						
DAWY	Dawson	76.86	13	*e*P	P	10 00 12.9	-0.1
BOSA	Boshof	77.78	220	P	P	10 00 18.0	-0.1
	comp=Z,5.6nm,0.8s,mb4.3,baz=32,slow=5.3,SNR=7.0						
BOSA	Boshof	77.78	220	P	P	10 00 18.0	-0.1
BOSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
BOSA	Boshof	77.78	220	P	P	10 00 18.0	-0.1
YKA	Yellowknife Ar	81.18	3	P	P	10 00 36.5	0.0
	comp=Z,4.7nm,0.4s,mb4.5,baz=350,slow=5.4,SNR=53						
YKA	Yellowknife Ar	81.18	3	P	P	10 00 36.5	+0.1
YKA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
YKA	Yellowknife Ar	81.18	3	P	P	10 00 36.5	0.0
WRA	Warramunga Arr	82.04	122	P	P	10 00 40.2	-0.7
	comp=Z,4.9nm,0.5s,mb4.4,baz=323,slow=5.0,SNR=181						
WRA				PKKPbc	PKKPbc	10 19 09.6	+1.0
	comp=Z,0.2nm,0.4s,baz=130,slow=2.4,SNR=5.7						
WRAB	Tennant Creek	82.05	122	*e*P	P	10 00 40.2	-0.8
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
WRAB	Tennant Creek	82.05	122	*e*P	P	10 00 40.2	-0.7
	comp=Z,18nm,0.8s,mb4.7						
WB2	Warramunga Arr	82.05	122	*e*P	P	10 00 40.1	-0.9
DLBC	Dease Lake	83.74	11	P	P	10 00 50.0	+0.3
	comp=Z,0.8nm,0.5s,mb3.7,baz=244,slow=5.0,SNR=4.2						
DLBC	Dease Lake	83.74	11	P	P	10 00 50.0	+0.3
ASPA	Alice Springs	84.31	125	*e*P	P	10 00 51.9	-0.6
AS31	Alice Springs	84.31	125	*e*P	P	10 00 51.9	-0.6
ASAR	Alice Springs	84.31	125	P	P	10 00 51.9	-0.7
	comp=Z,6.3nm,0.6s,mb4.6,baz=310,slow=4.9,SNR=138						
ASAR	Alice Springs	84.31	125	P	P	10 00 51.9	-0.6
ASAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTA	Charters Tower	90.59	115	*e*P	P	10 01 22.5	-0.1
	comp=Z,5.2nm,0.9s,mb4.5						
CTA	Charters Tower	90.59	115	*e*P	P	10 01 22.5	-0.1
CTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	94.85	126	*e*P	P	10 01 41.9	-0.3
	comp=Z,3.2nm,1.3s,mb4.3						
CPUP	Villa Florida	135.19	268	PKP	PKPdf	10 07 38.1	-0.6
	comp=Z,0.5nm,0.3s,baz=325,slow=0.9,SNR=6.9						
CPUP	Villa Florida	135.19	268	PKIKP	PKPdf	10 07 38.1	-0.6
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**149.83**	**250**	PKPbc	PKPbc	10 08 09.4	+0.1
	comp=Z,5.2nm,0.9s,baz=95,slow=1.1,SNR=10.0						
PLCA	**Paso Flores**	**149.83**	**250**	PKP2	PKPbc	10 08 09.4	0.0
PLCA				pmax	pmax		
	comp=Z,5.0nm,0.9s						

*MOS **19** 10:01:22.8±0.1, 45.89N×152.12E, h22km, mb4.3/1, Error ellipse: s-maj=99.9km s-min=20.0km az=67.9*

KRSC 19 10:01:35.7±3.0**, 4611N×15443E, h25**km±25km**, ML4.1, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.71**	**13**	*e*PN	Pn	10 02 45.0	-0.2
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,70nm,0.5s						
ALID	**Alaid**	**4.82**	**8**	*e*P	Pn	10 02 48.0	+1.3
ALID				*i* S	Sn	10 03 40.8	-0.9
MIPR	**Malaya Ipel'ka**	**6.36**	**13**	*e*P	Pn	10 03 11.9	+4.1
RUS	**Russkaya**	**6.87**	**21**	*e*P	Pn	10 03 17.5	+2.7
RUS				*i* S	Sn	10 04 32.4	+0.3
GRL	**Gorelyy**	**6.87**	**19**	*e*P	Pn	10 03 18.0	+3.2
SPN	**Mys Shipunski**	**7.88**	**25**	*e*P	Pn	10 03 32.5	+3.8
SPN				*i* S	Sn	10 04 56.9	-0.1
GNL	**Ganaly**	**7.92**	**15**	*e*P	Pn	10 03 33.6	+4.3
MKZ	**Mys Kozlova**	**9.65**	**26**	*e*P	Pn	10 03 56.8	+3.8
MKZ				*i* S	Sn	10 05 40.4	-0.2
KBTR	**Krutoberegovo**	**11.39**	**24**	*e*P	Pn	10 04 19.7	+2.9

*BJI **19** 10:02:28.9, 63.09N×150.59W, h110km, mB5.1, mb4.8*
*IDC **19** 10:02:29.4±2.0, 63.16N×150.71W, h90km±20km, mb3.9/13, mb1 4.0/17, mb1mx3.9/25, mbtmp4.2/17, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=16.6km s-min=13.4km az=63.0*
*ISCJB **19** 10:02:30.9±0.2, 63.13N±0.03×150.40W±0.07, h123km±2km, mb4.5/27, Error ellipse: s-maj=5.3km s-min=5.1km az=85.5*
*MOS **19** 10:02:31.0±1.0, 63.20N×150.43W, h122km, mb4.8/7, Error ellipse: s-maj=21.6km s-min=8.4km az=94.3*
*NEIC **19** 10:02:32.5, 63.11N×150.39W, h115km, MG4.2(AEIC), After AEIC.*
NEIC Felt at Trapper Creek.

ISC 19 10:02:31.9±0.2**, 6312N**±003×**15042W**±007**, h118**km±2km**, n69, σ0.98**/79**, mb4.5**/27**, 1C-2D, Central Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.34**	**10**	P	**Pn**	**10 02 49.3**	**+0.6**
TRF				S	**Sn**	**10 03 01.7**	**+0.4**
KTH	**Kantishna Hill**	**0.49**	**333**	P	**Pn**	**10 02 49.8**	**+0.3**
KTH				S	**Sn**	**10 03 02.6**	**-0.1**
MCK	**McKinley**	**0.91**	**47**	P	**Pn**	**10 02 53.3**	**+0.5**
MCK				S	**Sn**	**10 03 08.4**	**-0.2**
GHO	**Glory Hole Cre**	**1.52**	**152**	P	**Pn**	**10 03 00.0**	**+0.7**
PMR	**Palmer**	**1.65**	**158**	P	**Pn**	**10 03 00.8**	**0.0**
PMR				S	**Sn**	**10 03 22.5**	**-0.5**
FIB	**Fire Island**	**1.97**	**177**	P	**Pn**	**10 03 06.1**	**+1.4**
RC01	**Rabbit Creek A**	**2.06**	**171**	P	**Pn**	**10 03 05.9**	**-0.1**
RC01				S	**Sn**	**10 03 31.1**	**-1.0**
COLA	**College**	**2.09**	**32**	P	**Pn**	**10 03 06.7**	**+0.4**
COLA	**College**	**2.09**	**32**	P	**Pn**	**10 03 06.8**	**+0.4**
TTA	**Tatalina**	**2.56**	**268**	P	**Pn**	**10 03 12.2**	**-0.1**
TTA				*e*Pn	**Pn**	**10 03 12.3**	**+0.1**
TTA				*e*Sn	**Sn**	**10 03 43.1**	**-0.2**
SLKM	**Skilak Lake**	**2.62**	**178**	P	**Pn**	**10 03 13.4**	**+0.3**
DOT	**Dot Lake**	**2.91**	**77**	P	**Pn**	**10 03 17.1**	**+0.2**
DOT				S	**Sn**	**10 03 49.8**	**-1.7**
MENT	**Mentasta**	**3.06**	**90**	P	**Pn**	**10 03 19.5**	**+0.7**
SEW	**Seward**	**3.06**	**171**	P	**Pn**	**10 03 18.6**	**-0.3**
SVW2	**Sparrevohn**	**3.16**	**232**	P	**Pn**	**10 03 20.4**	**+0.2**
IMA2	**Indian Mountai**	**3.28**	**336**	P	**Pn**	**10 03 21.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.40**	**137**	P	**Pn**	**10 03 23.4**	**0.0**
COLD	**Coldfoot**	**4.12**	**1**	P	**Pn**	**10 03 33.5**	**+0.5**
EGAK	**Eagle**	**4.41**	**64**	*e*Pn	**Pn**	**10 03 36.4**	**-0.4**
EGAK				*e*Sn	**Sn**	**10 04 20.6**	**-6.6**
DAWY	**Dawson**	**5.01**	**74**	P	**Pn**	**10 03 45.1**	**+0.2**
KDAK	**Kodiak Island**	**5.46**	**192**	P	**Pn**	**10 03 47.9**	**-3.1**
	7.3nm,0.3s,baz=42,slow=8.9,SNR=76						
KDAK				S	**Sn**	**10 04 49.1**	**-3.5**
	12nm,0.3s,baz=192,slow=23,SNR=7.0						
KDAK	**Kodiak Island**	**5.46**	**192**	P	**Pn**	**10 03 50.0**	**-1.0**
PNL	**Peninsula**	**6.32**	**118**	P	**Pn**	**10 04 02.2**	**-0.4**
CHGN	**Chignik**	**7.94**	**214**	*e*P	**Pn**	**10 04 23.2**	**-1.3**
SKAG	**Skagway**	**8.13**	**110**	*e*P	**Pn**	**10 04 27.1**	**0.0**
INK	**Inuvik**	**8.67**	**46**	P	**Pn**	**10 04 33.4**	**-1.0**
	2.1nm,0.3s,baz=239,slow=16,SNR=55						
DLBC	**Dease Lake**	**10.99**	**106**	P	**Pn**	**10 05 07.2**	**+1.6**
	0.1nm,0.3s,baz=299,slow=10,SNR=2.8						
DLBC				LR	LR	10 09 07.1	
	comp=Z,118nm,20.8s,baz=170,slow=36						
YKA	**Yellowknife Ar**	**16.25**	**76**	P	**Pn**	**10 06 13.0**	**-0.3**
	baz=288,slow=9.8,SNR=23						
YKA				PcP	PcP	10 10 59.3	-0.7
	baz=296,slow=1.4,SNR=6.4						
YKA	**Yellowknife Ar**	**16.25**	**76**	P	**Pn**	**10 06 12.9**	**-0.3**
BILL	**Bilibino**	**18.25**	**305**	*e*P	**P**	**10 06 38.4**	**+2.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.1s						
NEW	**Newport**	**23.57**	**113**	P	**P**	**10 07 33.8**	**+2.2**
	comp=Z,0.9nm,0.5s,mb3.4,baz=340,slow=8.9,SNR=3.9						
SEY	**Seymchan**	**25.22**	**296**	⇓*e*P	**P**	**10 07 46.4**	**-0.2**
MA2	**Magadan**	**27.56**	**290**	P	**P**	**10 08 08.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,20nm,0.3s,mb5.1						
PDAR	**Pinedale Array**	**31.16**	**111**	P	**P**	**10 08 40.6**	**+1.2**
	comp=Z,1.2nm,0.8s,mb3.7,baz=325,slow=7.4,SNR=9.2						
PDAR				PcP	PcP	10 11 32.3	+0.6
	comp=Z,1.1nm,0.6s,baz=111,slow=1.2,SNR=7.4						
NVAR	**Mina Array Bea**	**31.38**	**127**	P	**P**	**10 08 43.3**	**+1.9**
	comp=Z,0.4nm,0.7s,mb3.3,baz=317,slow=9.1,SNR=3.8						
NVAR				PcP	PcP	10 11 34.1	+1.8
	comp=Z,0.4nm,0.5s,baz=290,slow=1.8,SNR=3.6						
YAK	**Yakutsk**	**34.60**	**305**	*i* P	**P**	**10 09 09.1**	**-0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
CLNS	**Chul'man**	**39.89**	**301**	*e*P	**P**	**10 09 53.3**	**-0.8**
CLNS				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.9s						
MDJ	**Mudanjiang**	**47.16**	**286**	P	**P**	**10 10 51.4**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,136nm,4.5s						
ARCES	**ARCESS Array B**	**47.60**	**2**	P	**P**	**10 10 54.5**	**-1.2**
	comp=Z,3.0nm,0.6s,mb4.3,baz=2.9,slow=7.7,SNR=17						
CN2	**Changchun**	**49.61**	**289**	*e*P	**P**	**10 11 12.5**	**+1.4**
ZAK	**Zakamensk**	**52.95**	**310**	*e*P	**P**	**10 11 36.5**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	**Ulaanbaatar**	**53.69**	**305**	*c i*P	**P**	**10 11 42.4**	**+1.0**
SONM	**Songino Array**	**53.96**	**306**	P	**P**	**10 11 44.1**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.7,baz=23,slow=6.8,SNR=44						
NVS	**Novosibirsk**	**55.20**	**325**	*e*P	**P**	**10 11 48.8**	**-3.5**
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
NOA	**NORSAR Array B**	**55.38**	**11**	P	**P**	**10 11 52.5**	**-1.1**
	comp=Z,1.8nm,0.6s,mb4.2,baz=351,slow=7.0,SNR=5.8						
ZAL	**Zalesovo**	**55.59**	**324**	P	**P**	**10 11 54.6**	**-0.5**
	comp=Z,4.3nm,0.6s,mb4.7,baz=84,slow=7.2						
ZAL	**Zalesovo**	**55.59**	**324**	P	**P**	**10 11 54.6**	**-0.6**
FINES	**FINESS Array B**	**55.73**	**2**	P	**P**	**10 11 54.8**	**-1.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=4.5,slow=9.8,SNR=5.6						
FINES	**FINESS Array B**	**55.73**	**2**	*i* P	**P**	**10 11 54.7**	**-1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SVE	**Sverdlovsk**	**58.00**	**340**	*e*P	**P**	**10 12 10.0**	**-2.1**
SVE				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
ARU	**Arti**	**58.69**	**342**	⇓*i*P	**P**	**10 12 15.9**	**-1.0**
ARU				*e*PPP		10 15 48.2	
ARU				*e*S	**S**	**10 20 15.6**	**+3.3**
ARU				*e*		10 21 54.5	
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
BRVK	**Borovoye**	**59.86**	**333**	*i* P	**P**	**10 12 24.8**	**-0.2**
BVAR	**Borovoye Array**	**59.87**	**333**	P	**P**	**10 12 24.8**	**-0.2**
	comp=Z,3.8nm,0.4s,mb4.8,baz=34,slow=7.1,SNR=25						
OBN	**Obninsk**	**61.98**	**355**	*i* P	**P**	**10 12 38.9**	**-0.4**
OBN				*e*		10 13 15.0	
OBN				*e*S	**S**	**10 20 56.3**	**+2.0**
OBN				*e*SS	SS	10 25 02.0	+3.4
OBN				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.1						
SSE	**Sheshan**	**62.05**	**284**	P	**P**	**10 12 35.5**	**-4.3**
SSE				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,48nm,4.5s						
NJ2	**Nanjing**	**62.26**	**286**	*e*P	**P**	**10 12 45.4**	**+4.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
MKAR	**Makanchi Array**	**62.74**	**322**	P	**P**	**10 12 43.6**	**-0.8**
	comp=Z,3.4nm,0.4s,mb4.6,baz=39,slow=7.1,SNR=28						
MKAR	**Makanchi Array**	**62.74**	**322**	*i* P	**P**	**10 12 43.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
GTA	**Gaotai**	**63.63**	**306**	P	**P**	**10 12 51.1**	**+0.8**
GTA				AP	pP	10 13 20.0	+1.0
GTA				XP	sP	10 13 32.6	+0.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
WMQ	**Urumqi**	**63.85**	**317**	*e*P	**P**	**10 12 54.5**	**+2.8**
AKTO	**Aktyubinsk**	**64.58**	**340**	P	**P**	**10 12 55.5**	**-1.0**
	comp=Z,5.1nm,0.5s,mb4.6,baz=36,slow=8.3,SNR=24						
LZH	**Lanzhou**	**65.01**	**301**	*e*P	**P**	**10 12 59.5**	**+0.2**
LZH				AP	pP	10 13 28.4	+0.3
LZH				XP	sP	10 13 40.8	-0.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,52nm,4.0s						
AKASG	**Malin Array Be**	**66.52**	**0**	P	**P**	**10 13 08.1**	**-0.9**
	comp=Z,1.8nm,0.4s,mb4.2,baz=1.6,slow=6.5,SNR=10.0						
AAK	**Ala-Archa**	**68.68**	**326**	*i* P	**P**	**10 13 22.1**	**-0.4**
KMI	**Kunming**	**75.12**	**296**	P	**P**	**10 14 01.6**	**+0.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
BRTR	**Keskin Array B**	**77.45**	**357**	P	**P**	**10 14 13.7**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.7,baz=357,slow=7.3,SNR=3.2						
BRTR	**Keskin Array B**	**77.45**	**357**	P	**P**	**10 14 13.6**	**-0.5**
VNDA	**Vanda**	**143.41**	**196**	PKP	PKPdf	10 21 49.1	-3.2
	comp=Z,0.4nm,0.5s,baz=321,slow=6.5,SNR=2.3						
BOSA	**Boshof**	**145.37**	**7**	PKPbc	PKPbc	10 21 55.6	-0.3
	comp=Z,1.6nm,0.5s,baz=340,slow=5.6,SNR=3.5						

*IDC **19** 10:08:25.9±0.8, 7.22S×106.69E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, MS3.6/5, Ms1 3.6/5, ms1mx3.2/23, Error ellipse: s-maj=42.6km s-min=14.6km az=46.0*
*ISCJB **19** 10:08:29.6±0.6, 7.1S±0.2×106.8E±0.2, h33km, mb4.3/17, MS3.6/4, Error ellipse: s-maj=32.2km s-min=8.9km az=85.7*
*MOS **19** 10:08:29.7±0.6, 7.06S×106.84E, h33km, mb5.3/2, Error ellipse: s-maj=44.0km s-min=19.5km az=111.4*
*NEIC **19** 10:08:31.6±0.5, 7.15S×106.74E, h35km, mb4.4/3, Error ellipse: s-maj=24.5km s-min=7.4km az=223.0*

ISC 19 10:08:31.7±0.6**, 71S**±02×**1067E**±02**, h35**km**, n28, σ0.73**/25**, mb4.3**/17**, MS3.6**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**12.54**	**321**	LR	LR	10 16 25.9	
	comp=Z,199nm,20.2s,baz=129,slow=38						
FITZ	**Fitzroy Crossi**	**21.43**	**122**	*e*P	**P**	**10 13 17.4**	**+0.7**
	6.3nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**21.43**	**122**	P	**P**	**10 13 16.9**	**+0.3**
	2.7nm,0.7s,mb3.7,baz=267,slow=6.9,SNR=10						
KAKA	**Kakadu**	**25.92**	**104**	*e*P	**P**	**10 14 00.3**	**-0.2**
	6.7nm,0.6s,mb4.3						
NWAO	**Narrogin (SRO)**	**27.49**	**161**	LR	LR	10 24 43.3	
	comp=Z,146nm,20.3s,MS3.5,baz=30,slow=36						
WRA	**Warramunga Arr**	**29.66**	**118**	P	**P**	**10 14 33.0**	**-1.0**
	0.7nm,0.4s,mb3.7,baz=291,slow=11,SNR=17						
WRA				PcP	PcP	10 17 37.5	-0.3
	0.7nm,0.6s,baz=308,slow=2.0,SNR=5.2						
WB2	**Warramunga Arr**	**29.68**	**118**	*e*P	**P**	**10 14 34.1**	**0.0**
ASPA	**Alice Springs**	**30.85**	**125**	*e*P	**P**	**10 14 45.6**	**+1.1**
ASAR	**Alice Springs**	**30.85**	**125**	P	**P**	**10 14 43.8**	**-0.8**
	0.4nm,0.4s,mb3.6,baz=300,slow=8.0,SNR=19						
ASAR				PcP	PcP	10 17 40.9	+0.1
	0.5nm,0.8s,baz=352,slow=2.5,SNR=4.8						
ASAR				LR	LR	10 26 29.4	
	comp=Z,90nm,18.9s,MS3.5,baz=186,slow=35						
ASAR	**Alice Springs**	**30.85**	**125**	P	**P**	**10 14 43.8**	**-0.7**
ASAR						10 17 40.9	
AS31	**Alice Springs**	**30.85**	**125**	*e*P	**P**	**10 14 45.6**	**+1.1**
STKA	**Stephens Creek**	**40.78**	**132**	*e*P	**P**	**10 16 08.7**	**-0.8**
	6.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.78**	**132**	P	**P**	**10 16 08.3**	**-1.1**
	7.8nm,0.7s,mb4.5,baz=282,slow=6.4,SNR=18						
STKA				LR	LR	10 34 42.5	
	comp=Z,94nm,18.5s,MS3.7,baz=306,slow=39						
NDI	**New Delhi**	**45.55**	**323**	*e*P	**P**	**10 16 47.0**	**-1.0**
MJAR	**Matsushiro Arr**	**52.49**	**32**	P	**P**	**10 17 40.9**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=190,slow=6.2,SNR=3.7						
SONM	**Songino Array**	**54.69**	**360**	P	**P**	**10 17 58.6**	**+1.4**
	0.9nm,0.4s,mb4.1,baz=182,slow=8.7,SNR=12						
SONM				PcP	PcP	10 18 59.9	+0.1
	0.8nm,0.5s,baz=183,slow=4.5,SNR=6.8						
ZAL	**Zalesovo**	**63.55**	**346**	P	**P**	**10 18 58.6**	**0.0**
	2.4nm,0.4s,mb4.5,baz=75,slow=1.4,SNR=3.8						
ZAL				LR	LR	10 49 25.0	
	comp=Z,48nm,18.1s,MS3.7,baz=162,slow=39						
BVAR	**Borovoye Array**	**67.35**	**337**	P	**P**	**10 19 23.7**	**+0.5**
	9.5nm,0.6s,mb5.0,baz=126,slow=10,SNR=6.4						
SVE	**Sverdlovsk**	**73.98**	**336**	*e*P	**P**	**10 20 03.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
ASF	**Jabal al Asfar**	**76.99**	**305**	P	**P**	**10 20 21.8**	**+1.0**
	comp=Z,2.4nm,0.6s,mb4.3,baz=56,slow=1.3,SNR=4.8						
BRTR	**Keskin Array B**	**81.69**	**312**	P	**P**	**10 20 46.3**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=124,slow=6.7,SNR=6.5						
VRSR	**Storozhevoye**	**81.77**	**324**	*e*P	**P**	**10 20 46.2**	**-0.7**
VRSR				pmax	pmax		
	comp=N,4.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
AKASG	**Malin Array Be**	**87.60**	**322**	P	**P**	**10 21 16.8**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.4,baz=85,slow=5.0,SNR=5.6						
MLR	**Muntele Rosu**	**88.59**	**316**	P	**P**	**10 21 21.4**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.7,baz=212,slow=1.6,SNR=3.9						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**10 21 35.5**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.5,baz=94,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**10 21 35.5**	**-0.1**
ARCES	**ARCESS Array B**	**93.53**	**340**	P	**P**	**10 21 43.1**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.5,baz=91,slow=6.4,SNR=4.1						
NVAR	**Mina Array Bea**	**128.81**	**45**	PKP	PKPdf	10 27 36.9	+1.5
	comp=Z,0.1nm,0.3s,baz=302,slow=2.0,SNR=3.9						

*IDC **19** 10:10:30.4±2.1, 34.46N×73.72E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, ML4.0/2, Error ellipse: s-maj=60.5km s-min=28.4km az=51.0*
*ISCJB **19** 10:10:31.9±0.8, 34.70N±0.08×73.7E±0.2, h10km, mb3.4/3, Error ellipse: s-maj=20.9km s-min=6.2km az=120.7*
*MOS **19** 10:10:35.7±2.1, 34.77N×74.12E, h33km, mb4.0/2, Error ellipse: s-maj=49.8km s-min=24.5km az=108.8*

ISC 19 10:10:33.7±0.8**, 3475N**±008×**737E**±02**, h10**km**, n14, σ1.28**/19**, mb3.4**/3**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**2.92**	**138**	*e*P	**Pn**	**10 11 21.0**	**+0.9**
DLH				*e*S	**Sn**	**10 11 58.0**	**+2.8**
SMLA	**Simla**	**4.65**	**140**	*e*P	**Pn**	**10 11 42.4**	**-1.6**
SMLA				*e*x	**Sn**	**10 12 36.4**	**-1.6**
	300nm,0.3s						
KLP	**Kalpa**	**5.00**	**129**	*e*P	**Pn**	**10 11 47.8**	**-1.0**
KLP				*e*S	**Sn**	**10 12 47.8**	**+1.1**
KLP				AML	AML	10 13 11.1	
	comp=E,146nm,0.3s						
KLP				AML	AML	10 13 11.7	
	comp=N,48nm,0.4s						
NDI	**New Delhi**	**6.76**	**153**	*e*x	**Sn**	**10 13 19.0**	**-11**
KUDL	**Kundal**	**7.01**	**159**	*e*P	**Pn**	**10 12 17.3**	**+0.9**
KUDL				*e*S	**Sn**	**10 13 36.4**	**+0.2**
KUDL				AML	AML	10 14 13.9	
	comp=E,7.8nm,0.5s						
KUDL				AML	AML	10 14 15.3	
	comp=N,7.3nm,0.7s						
SONA	**Sohna**	**7.10**	**155**	*e*P	**Pb**	**10 12 42.2**	**+5.1**
SONA				*e*S	**Sb**	**10 14 07.0**	**+5.1**
SONA				AML	AML	10 14 18.5	
	comp=N,8.8nm,0.4s						
SONA				AML	AML	10 14 18.8	
	comp=E,15nm,0.3s						
BVAR	**Borovoye Array**	**18.42**	**354**	P	**Pn**	**10 14 50.6**	**+1.5**
	comp=E,0.6nm,0.3s,baz=155,slow=9.3,SNR=8.2						
BVAR	**Borovoye Array**	**18.42**	**354**	P	**Pn**	**10 14 50.6**	**+1.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**19.39**	**329**	P	**Pn**	**10 15 01.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=131,slow=14,SNR=4.2						
SONM	**Songino Array**	**27.62**	**52**	P	**P**	**10 16 20.8**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.2,baz=260,slow=8.9,SNR=4.4						
SONM	**Songino Array**	**27.62**	**52**	P	**P**	**10 16 20.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**43.59**	**338**	P	**P**	**10 18 37.6**	**-0.3**
	comp=Z,1.2nm,0.9s,mb3.6,baz=120,slow=8.8,SNR=5.2						
ARCES	**ARCESS Array B**	**43.59**	**338**	P	**P**	**10 18 37.6**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**79.21**	**123**	P	**P**	**10 22 36.6**	**-2.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=316,slow=4.3,SNR=5.2						

*ISCJB **19** 10:12:32.1±0.9, 41.70N±0.09×68.91E±0.05, h10km, mb3.7/3, Error ellipse: s-maj=13.3km s-min=4.8km az=17.9*
*NEIC **19** 10:12:36.3±1.2, 41.79N×68.62E, h10km, Error ellipse: s-maj=18.9km s-min=12.2km az=170.0*
*IDC **19** 10:12:39.4±4.7, 41.68N×68.67E, h35km±42km, mb3.5/3, mb1 3.8/6, mb1mx3.5/23, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=34.8km s-min=18.0km az=21.0*
*MOS **19** 10:12:40.4±1.3, 42.13N×68.62E, h33km, mb4.0/2, Error ellipse: s-maj=17.8km s-min=8.8km az=85.7*
*NNC **19** 10:12:41.4±6.3, 42.03N×68.82E, h33km±61km, mb3.9, mpv3.5, Error ellipse: s-maj=44.4km s-min=25.6km az=30.0*

ISC 19 10:12:34.8±0.9**, 4170N**±009×**6884E**±005**, h10**km**, n43, σ1.02**/50**, mb3.7**/3**, 9C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**1.87**	**41**	⇑Pn	**Pg**	**10 13 10.2**	**-0.5**
	16nm,0.2s,baz=219,slow=10,SNR=437						
KK31				⇑Lg		10 13 37.2	
	525nm,0.4s,baz=224,slow=29,SNR=5.3						
KK31	**Karatay Array**	**1.87**	**41**	*i* PN	**Pg**	**10 13 10.0**	**-0.7**
AML	**Almayashu**	**3.65**	**82**	P	**Pg**	**10 13 44.8**	**+0.1**
	SNR=11						
EKS2	**Erkin-Say**	**3.79**	**74**	P	**Pg**	**10 13 47.5**	**+0.1**
	SNR=20						
UCH	**Uchtor**	**4.26**	**81**	P	**Pg**	**10 13 56.3**	**-0.1**
	SNR=18						
AAK	**Ala-Archa**	**4.30**	**76**	P	**Pg**	**10 13 57.2**	**-0.1**
	SNR=20						
AAK	**Ala-Archa**	**4.30**	**76**	*e*Pn	**Pn**	**10 13 44.4**	**+4.1**
AAK				*e*Sg	**Sg**	**10 14 54.5**	**+1.5**
USP	**Ospenovka**	**4.47**	**68**	P	**Pg**	**10 13 59.0**	**-1.4**
	SNR=7.2						
CHMS	**Chumysh**	**4.57**	**71**	P	**Pg**	**10 14 00.8**	**-1.5**
	SNR=11						
KBK	**Karagaybulak**	**4.64**	**76**	P	**Pg**	**10 14 03.2**	**-0.4**
	SNR=16						
KZA	**Kyzart**	**4.80**	**83**	P	**Pg**	**10 14 06.2**	**-0.5**
	SNR=7.0						
TKM2	**Tokmak 2**	**5.16**	**74**	P	**Pg**	**10 14 13.0**	**-0.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**5.16**	**74**	⇑Pg	**Pg**	**10 14 12.3**	**-1.2**
	2.3nm,0.6s						
TKM2				⇑Lg		10 15 19.6	
	5.4nm,0.5s						
KNDC	**Almaty**	**6.20**	**73**	⇓Lg		10 15 54.9	
	271nm,0.7s						
AB31	**Akbulak array**	**9.80**	**323**	⇑Pn	**Pn**	**10 14 55.0**	**-0.8**
	3.8nm,0.4s,baz=127,slow=14,SNR=73						
AB31				⇓Sn	**Sn**	**10 16 37.5**	**-8.4**
	9.1nm,0.5s,baz=128,slow=26,SNR=4.3						
AB31	**Akbulak array**	**9.80**	**323**	P	**Pn**	**10 14 55.0**	**-0.8**
AB31				S	**Sn**	**10 16 37.8**	**-8.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
AB31				smax			
	comp=Z,2.0nm,0.2s						
MKAR	**Makanchi Array**	**10.90**	**58**	Pn	**Pn**	**10 15 13.4**	**+2.5**
	comp=Z,0.5nm,0.3s,baz=248,slow=15,SNR=5.4						
MKAR				Lg		10 18 19.2	
	comp=Z,1.1nm,0.3s,baz=235,slow=27,SNR=5.2						
MK02	**Makanchi Array**	**10.91**	**58**	⇓Pn	**Pn**	**10 15 13.9**	**+3.0**
	comp=Z,1.4nm,0.5s,baz=246,slow=16						
MK02				⇑Lg		10 18 18.4	
	comp=Z,46nm,1.1s,baz=245,slow=27						
VOSK	**Vostochnaya**	**11.13**	**7**	⇑Pn	**Pn**	**10 15 14.3**	**+0.4**
	comp=Z,3.3nm,0.5s						
VOSK	**Vostochnaya**	**11.13**	**7**	P	**Pn**	**10 15 14.2**	**+0.3**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVA0	**Borovoye Array**	**11.38**	**5**	Pn	**Pn**	**10 15 17.3**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=182,slow=13,SNR=23						
BVA0	**Borovoye Array**	**11.38**	**5**	*i* P	**Pn**	**10 15 17.3**	**-0.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**11.38**	**5**	Pn	**Pn**	**10 15 17.5**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=178,slow=12,SNR=28						
BVAR	**Borovoye Array**	**11.38**	**5**	P	**Pn**	**10 15 17.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BRVK	**Borovoye**	**11.41**	**4**	*e*P	**Pn**	**10 15 17.6**	**-0.2**
BRVK				*e*		10 17 17.9	
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BRVK	**Borovoye**	**11.41**	**4**	*e*Pn	**Pn**	**10 15 17.6**	**-0.2**
	comp=Z,3.8nm,0.4s						
BRVK				*e*Sn	**Sn**	**10 17 17.9**	**-7.4**
AKTK	**Aktyubinsk**	**11.52**	**323**	Pn	**Pn**	**10 15 19.3**	**0.0**
AKTK				Sn	**Sn**	**10 17 21.4**	**-6.6**
AKTO	**Aktyubinsk**	**11.52**	**323**	⇑Pn	**Pn**	**10 15 19.1**	**-0.1**
	comp=Z,0.1nm,0.9s						
AKTO				⇓Sn	**Sn**	**10 17 19.1**	**-8.8**
	comp=Z,0.3nm,0.8s						
AKTO	**Aktyubinsk**	**11.52**	**323**	Pn	**Pn**	**10 15 19.3**	**0.0**
	comp=Z,1.6nm,0.3s,baz=132,slow=15,SNR=20						
AKTO				Sn	**Sn**	**10 17 21.4**	**-6.6**
	comp=Z,1.0nm,0.3s,baz=352,slow=19,SNR=6.4						
AKTO	**Aktyubinsk**	**11.52**	**323**	P	**Pn**	**10 15 19.3**	**0.0**
AKTO						10 17 21.4	
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
CHKZ	**Chkalovo**	**12.04**	**5**	⇑Pn	**Pn**	**10 15 25.5**	**-1.0**
	comp=N,4.0nm,0.5s						
CHKZ	**Chkalovo**	**12.04**	**5**	*e*P	**Pn**	**10 15 25.3**	**-1.2**
CHKZ				*e*		10 17 32.1	
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CHKZ	**Chkalovo**	**12.04**	**5**	*e*Pn	**Pn**	**10 15 25.3**	**-1.2**
	comp=Z,7.8nm,0.7s						
CHKZ				*e*Sn	**Sn**	**10 17 32.1**	**-8.8**
CHKZ				*e*Sg	**Sn**	**10 17 56.1**	**+15**
ARU	**Arti**	**16.18**	**339**	*i* P	**Pn**	**10 16 22.3**	**0.0**
ZAL	**Zalesovo**	**16.22**	**36**	Pn	**Pn**	**10 16 25.7**	**+2.9**
	comp=Z,0.8nm,0.3s,baz=270,slow=13,SNR=3.5						
ZAL	**Zalesovo**	**16.22**	**36**	P	**Pn**	**10 16 25.7**	**+2.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**26.65**	**278**	P	**P**	**10 18 14.7**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.4,baz=98,slow=9.0,SNR=4.3						
BRTR	**Keskin Array B**	**26.65**	**278**	P	**P**	**10 18 14.7**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**32.29**	**322**	pP	pP	10 19 11.8	+5.0
	comp=Z,1.2nm,0.5s,baz=110,slow=9.2,SNR=9.9						
ARCES	**ARCESS Array B**	**35.72**	**336**	P	**P**	**10 19 34.4**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=108,slow=8.7,SNR=9.4						

ARCES ARCESS Array B 35.72 336 P P 10 19 34.4 +0.9
ARCES pmax pmax
comp=Z,1.0nm,0.6s
TORD Torodi Ar. Bea 64.34 265 P P 10 23 09.7 -0.9
comp=Z,0.3nm,0.5s,mb3.6,baz=43,slow=7.5,SNR=3.5
TORD Torodi Ar. Bea 64.34 265 P P 10 23 09.7 -0.9

GUC 19 10:34:39.4±0.6, 3302S×7226W, h15^{km}±8^{km}, MD3.5, ML2.4, 3C-2D, Off coast of central Chile

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
LCCH Las Cruces 0.74 129 eP Pg 10 34 52.9 -0.9
LCCH iS Sg 10 35 03.2 -0.4
ROCH El Roble 1.05 88⇑iP Pb 10 34 58.1 -1.2
LNV Longovilo 1.18 143 eP Pn 10 35 00.1 -1.1
LNV iS Sb 10 35 15.0 -1.4
TACH Talagante 1.28 120 eP Pn 10 35 01.5 -1.2
TACH iS Sb 10 35 18.0 -1.4
RCDM Rinconada Maip 1.31 112 eP Pn 10 35 01.9 -1.1
RCDM iS Sb 10 35 18.9 -1.2
RCDM AML AML 10 35 25.5
comp=E,80nm,0.5s
PEL Peldehue 1.33 96⇑iP Pn 10 35 02.6 -0.8
PEL AML AML 10 35 25.3
comp=N,144nm,0.4s
PTCH Petorca 1.35 57⇑iP Pn 10 35 03.1 -0.5
PTCH iS Sn 10 35 20.3 -1.0
PTCH AML AML 10 35 24.3
comp=E,210nm,0.3s
JACH Jahuel 1.44 77 eP Pn 10 35 03.8 -1.1
JACH eS Sn 10 35 23.6 0.0
CLCH Cerro Calan 1.49 105 eP Pn 10 35 05.2 -0.4
CLCH iS Sn 10 35 24.6 -0.3
CLCH AML AML 10 35 29.9
comp=E,97nm,0.4s
CHCH Chadas Angostu 1.63 125 eP Pn 10 35 07.3 -0.1
FCH Farellones 1.68 101 eP Pn 10 35 08.6 +0.4
FCH iS Sn 10 35 30.9 +1.4
FCH AML AML 10 35 38.9
comp=E,60nm,0.6s
CACH El Canelo 1.77 129⇓iP Pn 10 35 10.2 +0.7
CACH iS Sn 10 35 33.8 +2.2
SFDO San Fernando 1.90 147⇓iP Pn 10 35 11.3 0.0
LMEL Las Melosas 1.91 116 eP Pn 10 35 12.0 +0.6
LMEL AML AML 10 35 42.0
comp=N,96nm,0.2s

MEX 19 10:35:58.4±0.3, 1376N×9305W, h20^{km}±53^{km}, MD4.5, Off coast of Chiapas

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CCIG Comitan 2.66 19 eP Pn 10 36 38.1 -2.1
CCIG iS Sn 10 37 08.9 -2.9
SCX San Cristobal 2.99 8 eP Pn 10 36 42.5 -2.2
SCX iS Sn 10 37 15.0 -4.9
CMIG Matias Romero 3.76 332 eP Pn 10 36 53.2 -1.9
CMIG iS Sn 10 37 35.8 -3.0
OXX Oaxaca 4.84 314 eP Pn 10 37 12.0 +1.9
UTMO Huajuapan 6.11 312 iS Sn 10 38 33.6 -3.2
TPIG Tehuac#an 6.22 319 iS Sn 10 38 38.4 -1.1

*ISCJB **19** 10:51:41.7±0.7, 2394S±003×6670W±005, h152^{km}±6^{km}, mb4.8/74, Error ellipse: s-maj=7.2km s-min=4.9km az=143.5*
*MOS **19** 10:51:43.2±1.1, 2388S×6678W, h164^{km}, mb4.9/17, Error ellipse: s-maj=13.1km s-min=6.8km az=110.9*
*NEIC **19** 10:51:44.2±0.5, 2399S×6672W, h164^{km}±4^{km}, mb4.9/56, Error ellipse: s-maj=5.9km s-min=4.6km az=72.0*
*GUC **19** 10:51:44.4±0.6, 24.15S×6737W, h220^{km}, ML5.4*
*IDC **19** 10:51:45.6±1.2, 2393S×6680W, h178^{km}±9^{km}, mb4.4/22, mb1 4.4/28, mb1mx4.4/30, mbtmp4.9/28, MS3.5/1, Ms1 3.5/1, ms1mx2.7/26, Error ellipse: s-maj=13.7km s-min=8.2km az=63.0*
*BJI **19** 10:51:47.2, 2400S×6670W, h164^{km}, mB5.2*
ISC 19 10:51:43.5±0.6, 2399S±003×6674W±004, h155^{km}±5^{km}, h162^{km}±5.8^{km}:pP-P, n255, σ1s00/228, mb4.8/74, 10C-5D, Jujuy Province

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
ANCH Antofagasta 3.37 274⇑iP Pn 10 52 38.8 +3.1
ANCH iS Sn 10 53 17.2 +0.9
ANCH AML AML 10 53 22.2
comp=N,6µm,0.7s
ANCH Antofagasta 3.37 274⇑iP Pn 10 52 38.8 +3.1
ANCH iS Sn 10 53 17.2 +0.9
CPCH Copiapo 4.68 223 eP Pn 10 52 51.7 -1.0
CPCH iS Sn 10 53 43.2 -3.4
CDCH Caldera 4.80 229⇑iP Pn 10 52 53.0 -1.3
CDCH iS Sn 10 53 44.3 -5.3
VACH Vallenar 5.82 217 iP Pn 10 53 10.0 +2.2
VACH iS Sn 10 54 13.1 -0.7
LPAZ La Paz 7.77 350 P Pn 10 53 36.9 +3.1
comp=N,16nm,0.3s,baz=157,slow=11,SNR=198
LPAZ S Sn 10 55 01.4 +0.9
comp=N,2.7nm,0.3s,baz=16,slow=17,SNR=5.1
LPAZ La Paz 7.77 350 eP Pn 10 53 37.6 +3.9
LPAZ e 10 54 59.5
LPAZ pmax pmax
comp=Z,62nm,0.6s
LPAZ La Paz 7.77 350 ePn Pn 10 53 37.6 +3.9
comp=Z,62nm,0.6s
LPAZ eSn Sn 10 54 59.5 -1.0
ARE Arequipa 8.71 328 eP Pn 10 53 45.0 -1.3
ARE eS Sn 10 55 19.0 -4.1
CPUP Villa Florida 8.84 107 P Pn 10 53 50.9 +2.9
comp=Z,3.5nm,0.3s,baz=270,slow=11,SNR=35
CPUP Villa Florida 8.84 107 ePn Pn 10 53 50.7 +2.7
SIV San Ignacio 9.57 35 P Pn 10 54 00.3 +2.6
comp=Z,13nm,0.3s,baz=222,slow=13,SNR=434
TRQA Tornquist 14.60 165 ePn Pn 10 55 01.2 -1.5
TRQA eSn Sn 10 57 44.2 -0.5
NNA Nana 15.31 319 P Pn 10 55 12.0 +0.6
comp=Z,2.9nm,0.3s,baz=179,slow=12,SNR=7.9
NNA S S 10 58 01.4 -0.6
comp=Z,1.1nm,0.3s,baz=237,slow=22,SNR=2.4
NNA Nana 15.31 319 eP Pn 10 55 12.4 +1.0
comp=Z,42nm,0.7s
SAML Samuel 15.34 13 eP Pn 10 55 12.5 +0.8
comp=Z,110nm,0.9s
PLCA Paso Flores 17.00 190 P Pn 10 55 31.1 -0.9
comp=Z,0.3nm,0.3s,baz=13,slow=16,SNR=12
PLCA ScP ScP 11 03 24.9 -3.6
comp=Z,0.1nm,0.3s,baz=328,slow=4.3,SNR=6.3
PLCA Paso Flores 17.00 190 eP Pn 10 55 31.2 -0.8
VAO Valinhos 18.17 91⇑iP P 10 55 46.3 +2.2
VAO i 10 55 55.4
BDFB Brasilia 19.46 68 P P 10 56 00.1 +1.9
comp=Z,9.8nm,0.3s,baz=243,slow=12,SNR=141
BDFB Brasilia 19.46 68 eP P 10 56 00.4 +2.2
ATAH Atahualpa 20.26 325 P P 10 56 06.4 -0.3
comp=Z,15nm,0.7s,baz=180,slow=7.8,SNR=10
CAM4 Nova Friburgo 22.28 91 eP P 10 56 25.5 -2.6
CAM4 i 10 56 29.0
CAM4 i 10 56 31.5
CAM4 i 10 56 37.7
CAM3 Guarapari 24.45 88⇓iP P 10 56 48.8 +0.9
CAM3 i 10 56 50.4
ROSC El Rosal 29.61 345 P P 10 57 34.5 +0.6
comp=Z,10nm,0.6s,mb4.8,baz=263,slow=19,SNR=5.0
ROSC LR LR 11 09 50.7
comp=Z,87nm,20.9s,baz=185,slow=37
SDV Santo Domingo 32.89 353 P P 10 58 01.2 -1.5
comp=Z,30nm,0.8s,mb5.0,baz=243,slow=3.4,SNR=15
SDV Santo Domingo 32.89 353 eP P 10 58 01.6 -1.2
comp=Z,15nm,0.4s,mb5.1
PCRV Puerto La Cruz 34.02 4 P P 10 58 12.9 +0.5
comp=Z,15nm,0.6s,mb4.9,baz=180,slow=4.7,SNR=9.0
FDF Fort de France 38.87 9⇓eP P 10 58 53.0 -0.6
PMSA Palmer Station 40.82 178 P P 10 59 10.1 +0.4
comp=Z,4.6nm,0.6s,mb4.3,baz=346,slow=10,SNR=5.2
CPD Cerro la Pandu 41.77 1 eP P 10 59 15.8 -1.7
MTP Monte Pirata 41.84 2 eP P 10 59 15.7 -2.3
SJG San Juan 41.85 1 P P 10 59 15.9 -2.2
comp=Z,44nm,0.7s,mb5.2,baz=184,slow=1.7,SNR=24
SJG San Juan 41.85 1 eP P 10 59 16.5 -1.6
HUMP Col San Antoni 41.88 1 eP P 10 59 17.1 -1.2
MPR Mayaguez 41.94 359 eP P 10 59 17.1 -1.7
CBYP Canovanas 42.01 1 eP P 10 59 17.6 -1.7
VNA3 Neumayer Olymp 57.09 161⇑iP P 11 01 13.5 0.0
VNA3 e 11 01 15.9
VNA3 e 11 01 19.7
VNA3 e 11 01 24.2
VNA3 e pP 11 01 49.8 +0.3
VNA3 e 11 01 59.3
VNA3 e 11 02 01.7
VNA3 e 11 02 07.8
VNA3 e 11 02 14.0
VNA3 e 11 02 48.3
VNA3 e 11 03 01.5
VNA3 e 11 03 11.1
VNA3 e 11 03 15.0
VNA3 e 11 03 22.3
VNA3 e 11 03 26.1
VNA3 e 11 05 50.3
VNA1 Neumayer--Stat 57.28 160⇑iP P 11 01 15.4 +0.6
VNA1 e 11 01 17.6
VNA1 e 11 01 20.6
VNA1 e pP 11 01 51.1 +0.2
VNA1 e 11 01 59.8
VNA1 e 11 02 03.0
VNA1 e 11 02 52.3
VNA1 e 11 03 11.2
VNA1 e 11 03 23.3
VNA1 e 11 03 26.4
SNAA Sanae 59.28 161 P P 11 01 28.4 -0.3
comp=Z,5.4nm,0.6s,mb4.5,baz=283,slow=7.1,SNR=149
SNAA Sanae 59.28 161⇑iP P 11 01 28.2 -0.5
SNAA e 11 01 30.8
SNAA e 11 01 34.1
SNAA e 11 01 39.8
SNAA e pP 11 02 08.7 +3.6
SNAA Sanae 59.28 161c iP P 11 01 28.4 -0.3
SNAA Sanae 59.28 161 eP P 11 01 28.1 -0.6
comp=Z,15nm,0.7s,mb4.9
LRAL Lakeview Retre 59.90 340 eP P 11 01 32.0 -1.0
comp=Z,14nm,0.6s,mb5.0
HKT Hockley 60.47 331 eP P 11 01 36.9 +0.1
HKT pmax pmax
comp=Z,12nm,1.0s,mb4.7
HKT Hockley 60.47 331 eP P 11 01 36.9 0.0
comp=Z,12nm,1.0s,mb4.7
MYNC Murphy 61.01 344 eP P 11 01 39.9 -0.5
OXF Oxford 62.03 339 eP P 11 01 46.1 -1.2
OXF pmax pmax
comp=Z,55nm,0.8s,mb5.4
OXF Oxford 62.03 339 eP P 11 01 46.1 -1.2
comp=Z,55nm,0.8s,mb5.4
PLAL Pickwick Lake 62.04 340 eP P 11 01 46.0 -1.4
comp=Z,33nm,0.9s,mb5.2
JCT Junction City 62.76 328 eP P 11 01 51.9 -0.2
JCT pmax pmax
comp=Z,42nm,0.7s,mb5.4
JCT Junction City 62.76 328 eP P 11 01 51.9 -0.3
comp=Z,42nm,0.7s,mb5.4
WVT Waverly 63.03 341 eP P 11 01 52.6 -1.3
WVT pmax pmax
comp=Z,68nm,0.6s,mb5.7
WVT Waverly 63.03 341 eP P 11 01 52.6 -1.3
comp=Z,68nm,0.6s,mb5.7
MIAR Mount Ida 63.54 335 eP P 11 01 56.5 -0.8
MIAR pmax pmax
comp=Z,38nm,1.1s,mb5.1
MIAR Mount Ida 63.54 335 eP P 11 01 56.5 -0.8
comp=Z,38nm,1.1s,mb5.1
GLAT Glass 63.60 340 eP P 11 01 57.4 -0.3
MAIT Maitri 63.77 159 eP P 11 02 00.0 +1.2
MAIT eS S 11 10 19.6 -1.6
NVL N'lazarevskaya 63.80 159c iP P 11 01 58.9 -0.1
NVL pmax pmax
comp=Z,30nm,0.8s,mb5.2
MVL Millersville 64.28 352 eP P 11 02 00.5 -1.6
MCWV Mont Chateau 64.49 349 eP P 11 02 02.9 -0.6
comp=Z,21nm,0.8s,mb5.0
WCI Wyandotte Cave 64.55 343 eP P 11 02 02.4 -1.5
WCI pmax pmax
comp=Z,52nm,0.5s,mb5.6
WCI Wyandotte Cave 64.55 343 eP P 11 02 02.4 -1.5
comp=Z,52nm,0.5s,mb5.6
USIN University of 64.68 342 eP P 11 02 03.0 -1.7
comp=Z,18nm,0.6s,mb5.1
SIUC Southern Illin 64.91 340 eP P 11 02 05.0 -1.2
comp=Z,17nm,0.5s,mb5.1
BLO Bloomington 65.50 343 eP P 11 02 08.6 -1.4
FVM French Village 65.54 340 eP P 11 02 08.8 -1.4
FVM pmax pmax
comp=Z,26nm,0.6s,mb5.2
FVM French Village 65.54 340 eP P 11 02 08.8 -1.4
comp=Z,26nm,0.6s,mb5.2
ACSO Alum Creek Sta 65.66 346 eP P 11 02 10.0 -1.0
comp=Z,18nm,0.9s,mb4.9
WMOK Wichita Mounta 65.84 331 eP P 11 02 11.0 -1.2
QSPA South Pole Qui 66.22 180 eP P 11 02 14.7 +0.1
comp=Z,5.4nm,0.8s,mb4.4
HRV Harvard--Oak R 66.31 356 eP P 11 02 15.5 +0.3
HRV pmax pmax
comp=Z,21nm,0.9s,mb5.0
HRV Harvard--Oak R 66.31 356 eP P 11 02 15.5 +0.3
comp=Z,21nm,0.9s,mb5.0
BINY Binghamton 66.40 353 eP P 11 02 15.9 +0.1
MNTX Cornudas Mount 66.57 325 eP P 11 02 15.9 -1.0
comp=Z,20nm,0.9s,mb4.9
HNH Hanover 67.55 356 eP P 11 02 24.3 +1.3
DBIC Dimbokro 67.58 71 P P 11 02 23.3 +0.2
comp=Z,4.0nm,0.5s,mb4.4,baz=215,slow=8.2,SNR=9.3
SADO Sadowa 69.35 351 P P 11 02 33.0 -1.2
comp=Z,6.8nm,0.5s,mb4.6,baz=150,slow=3.5,SNR=4.4
ANMO Albuquerque 69.67 326d iP P 11 02 36.8 +0.6
ANMO Albuquerque 69.67 326 eP P 11 02 37.0 +0.8
comp=Z,23nm,0.8s,mb5.0
SCIA State Center 69.99 339 eP P 11 02 37.2 -0.9
JFWS Jewell Farm 70.00 342 eP P 11 02 37.3 -0.9
TUC Tucson 70.02 321 eP P 11 02 38.8 +0.5
TUC pmax pmax
comp=Z,22nm,1.3s,mb4.7
TUC Tucson 70.02 321 eP P 11 02 38.8 +0.5
comp=Z,22nm,1.3s,mb4.7
SDCO Great Sand Dun 71.40 328 eP P 11 02 47.5 +0.9
comp=Z,22nm,0.8s,mb4.9
WUAZ Wupatki 72.71 323 eP P 11 02 55.5 +1.1
comp=Z,30nm,0.8s,mb5.1
ECSD EROS,Sioux Fal 72.75 338 eP P 11 02 53.8 -0.9
GLA Glamis 72.92 319 eP P 11 02 56.5 +0.8
ISCO Idaho Springs 73.09 330 eP P 11 02 57.6 +0.9
ISCO pmax pmax
comp=Z,13nm,0.8s,mb4.7
ISCO Idaho Springs 73.09 330 eP P 11 02 57.6 +0.9
comp=Z,13nm,0.8s,mb4.7
PV01 Paradox Valley 73.21 327 eP P 11 02 58.4 +1.0
SMCO Snowmass 73.24 328 eP P 11 02 58.8 +1.2
comp=Z,23nm,0.7s,mb5.0
SYO Syowa Base 73.48 159⇓iP P 11 02 58.3 -0.6
PV10 Paradox Valley 73.63 327 eP P 11 02 59.9 +0.1
BAR Barrett 73.78 318 eP P 11 03 01.4 +0.7
PHWY Pilot Hill 74.22 331 eP P 11 03 03.9 +0.7
PFO Pinyon Flat Ob 74.28 319 eP P 11 03 04.7 +1.1
PFO pmax pmax
comp=Z,16nm,0.8s,mb4.8
PFO Pinyon Flat Ob 74.28 319 eP P 11 03 04.7 +1.1
comp=Z,16nm,0.8s,mb4.8
VNDA Vanda 74.75 190 P P 11 03 06.2 -0.1
comp=Z,0.6nm,0.7s,baz=103,slow=0.9,SNR=3.1
SRU San Rafael 74.94 326 eP P 11 03 08.1 +0.7
EYMN Ely 74.98 343 eP P 11 03 06.3 -1.4
CCUT Cedar City 75.29 323 eP P 11 03 11.1 +1.7
RWWY Rawlins 75.33 330 eP P 11 03 10.5 +0.9
comp=Z,27nm,0.8s,mb4.9
MSU Marysvale 75.35 325 eP P 11 03 10.9 +1.1
ARUT Antelope Range 75.50 323 eP P 11 03 12.2 +1.6
SHPR Sheep Range 75.54 322 eP P 11 03 11.9 +1.1
SUR Sutherland 75.61 119 P P 11 03 12.1 +0.9
comp=Z,7.7nm,0.9s,mb4.3,baz=245,slow=6.2,SNR=7.6
GSC Goldstone 75.66 320 eP P 11 03 12.2 +0.7
MWC Mount Wilson 75.68 318 eP P 11 03 12.6 +1.0
RSSD Black Hills 75.90 333 eP P 11 03 13.3 +0.4
RSSD pmax pmax
comp=Z,14nm,0.9s,mb4.6
RSSD Black Hills 75.90 333 eP P 11 03 13.2 +0.4
comp=Z,14nm,0.9s,mb4.6
MPU Maple Canyon 76.19 326 eP P 11 03 15.2 +0.7
comp=Z,16nm,1.0s,mb4.6
TOA0 Torodi Ar. Sit 76.34 69 eP P 11 03 15.7 +0.3
TORD Torodi Ar. Bea 76.34 69 P P 11 03 15.7 +0.3
comp=Z,7.7nm,0.5s,mb4.5,baz=260,slow=5.9,SNR=138
NLU North Lily Min 76.37 326 eP P 11 03 16.8 +1.3
CTU Camp Tracy 76.75 326 eP P 11 03 18.5 +0.8
DAC Darwin (Calif) 76.79 320 eP P 11 03 18.7 +0.8
DAC pmax pmax
comp=Z,16nm,0.9s,mb4.7
DAC Darwin (Calif) 76.79 320 eP P 11 03 18.7 +0.8
comp=Z,16nm,0.9s,mb4.6
ISA Isabella 76.90 319 eP P 11 03 19.5 +1.0
DUG Dugway 76.93 326 eP P 11 03 19.4 +0.8
BW06 Boulder Array 77.26 329 eP P 11 03 20.5 +0.1
PDAR Pinedale Array 77.26 329 P P 11 03 20.5 0.0
comp=Z,4.9nm,0.6s,mb4.3,baz=131,slow=7.6,SNR=50
HWUT Hardware Ranch 77.34 327 eP P 11 03 21.3 +0.4
comp=Z,14nm,0.6s,mb4.8
TSUM Tsumeb 77.43 106 P P 11 03 21.8 +0.4
comp=Z,9.6nm,0.7s,mb4.6,baz=230,slow=8.2,SNR=15
TSUM Tsumeb 77.43 106 eP P 11 03 21.9 +0.5
SPUT South Promonto 77.56 326 eP P 11 03 21.7 -0.5
BGU Big Grassy Mou 77.58 326 eP P 11 03 22.6 +0.4
TPH Tonopah 77.81 321 eP P 11 03 24.8 +1.2
TPH pmax pmax
comp=Z,21nm,1.0s,mb4.7
TPH Tonopah 77.81 321 eP P 11 03 24.8 +1.2
comp=Z,21nm,1.0s,mb4.7
PTRM Twissleman Ran 77.95 318 eP P 11 03 25.2 +0.9
AHID Auburn Hatcher 77.99 328 eP P 11 03 25.0 +0.4
HVU Hansel Valley 78.08 327 eP P 11 03 25.6 +0.6
MTUM Tungsten Hills 78.09 320 eP P 11 03 25.9 +0.8
ULM Lac du Bonnet 78.29 341 P P 11 03 25.1 -1.1
comp=Z,25nm,0.6s,mb5.0,baz=152,slow=6.4,SNR=62
REDW Red Top Meadow 78.32 329 eP P 11 03 26.9 +0.5
comp=Z,18nm,0.8s,mb4.8
SNOW Snow King Moun 78.35 329 eP P 11 03 27.1 +0.6
comp=Z,18nm,0.7s,mb4.8
LOHW Long Hollow 78.40 329 eP P 11 03 27.4 +0.6
comp=Z,17nm,0.7s,mb4.8
TPAW Teton Pass 78.47 329 eP P 11 03 27.8 +0.6
comp=Z,14nm,0.7s,mb4.7
SCHQ Schefferville 78.49 360 P P 11 03 26.2 -1.1
comp=Z,5.3nm,0.6s,mb4.4,baz=188,slow=4.8,SNR=14
RRI2 Red Ridge 78.53 329 eP P 11 03 28.3 +0.7
ELK Elko 78.60 325 eP P 11 03 28.8 +0.9
ELK pmax pmax
comp=Z,14nm,1.0s
ELK Elko 78.60 325 eP P 11 03 28.8 +0.9
comp=Z,14nm,1.0s,mb4.5
DCID1 Drake Creek 78.66 329 eP P 11 03 29.0 +0.7
NVAR Mina Array Bea 78.67 321 P P 11 03 28.9 +0.6
comp=Z,3.2nm,0.6s,mb4.1,baz=182,slow=6.5,SNR=38
NVAR Mina Array Bea 78.67 321 P P 11 03 28.9 +0.6
IMW Indian Meadow 78.77 329 eP P 11 03 29.5 +0.6
comp=Z,23nm,0.8s,mb4.9
FLWY Flagg Ranch 78.80 329 eP P 11 03 29.9 +0.9
comp=Z,28nm,0.9s,mb4.9
LAO LASA Array 78.89 334 eP P 11 03 29.5 0.0
comp=Z,30nm,0.9s,mb4.9
YFT Old Faithful 79.14 330 eP P 11 03 33.0 +2.1
YMR Madison River 79.37 330 eP P 11 03 33.2 +1.1
comp=Z,20nm,0.7s,mb4.9
WAKR Walker 79.38 321 eP P 11 03 33.6 +1.5
BMN Battle Mountai 79.45 323 eP P 11 03 34.0 +1.5
DGMT Dagmar 79.54 336 eP P 11 03 33.5 +0.4
CMB Columbia Colle 79.62 320 eP P 11 03 33.5 0.0
CMB pmax pmax
comp=Z,30nm,0.7s,mb5.0
CMB Columbia Colle 79.62 320 eP P 11 03 33.5 0.0
comp=Z,3.0nm,0.7s,mb4.0
GCMT Greycliff 79.64 331 eP P 11 03 33.9 +0.3
QLMT Earthquake Lak 79.71 329 eP P 11 03 35.1 +1.2
PAHR Pah Rah Range 80.16 322 eP P 11 03 37.4 +1.1
comp=Z,38nm,0.9s,mb5.0
HLID Hailey 80.20 327 eP P 11 03 37.6 +1.0
comp=Z,28nm,0.8s,mb4.9
MCMT McKenzie Canyo 80.37 329 eP P 11 03 38.2 +0.8
BOZ Bozeman (W) 80.42 330 eP P 11 03 37.0 -0.7
BOSA Boshof 80.53 117 P P 11 03 38.6 +0.3
comp=Z,8.5nm,0.6s,mb4.6,baz=255,slow=3.3,SNR=12
LRM Limekiln Ridge 80.93 330 eP P 11 03 40.9 +0.5
OHCM Honcut 81.12 320 eP P 11 03 41.5 0.0
HRY Holter Researc 81.31 330 eP P 11 03 43.0 +0.5
MAW Mawson 81.38 163 P P 11 03 42.6 -0.2
comp=Z,5.4nm,0.8s,mb4.2,baz=227,slow=5.0,SNR=15
EGMT Eagleton 81.41 332 eP P 11 03 42.3 -0.6
comp=Z,21nm,0.9s,mb4.8
MDT Midelt 81.84 49 P P 11 03 46.2 +1.0
comp=Z,9.4nm,1.0s,mb4.4,baz=238,slow=4.8,SNR=14
CHMT Chamberlain Mo 82.11 330 eP P 11 03 46.8 +0.1
MOD Modoc 82.15 323 eP P 11 03 47.1 +0.3
comp=Z,9.6nm,1.1s,mb4.3
MSO Missoula 82.37 329 eP P 11 03 48.2 +0.3
comp=Z,2.7nm,0.6s,mb4.0
WDC Whiskeytown Da 82.55 321 eP P 11 03 47.4 -1.5
BMO Blue Mountains 82.58 326 eP P 11 03 49.0 0.0
comp=Z,3.0nm,0.6s,mb4.2
YBH Yreka Blue Hor 83.39 321 P P 11 03 52.0 -1.3
comp=Z,4.4nm,0.8s,mb4.2,baz=98,slow=3.1,SNR=15
BSMT Bassoo Peak 83.51 330 P P 11 03 53.9 +0.1
WALA Waterton Lakes 84.00 331 eP P 11 03 55.9 -0.5
comp=Z,9.6nm,0.8s,mb4.6
BBOR Butler Butte 84.12 322 P P 11 03 56.3 -0.7
HSO Harness Mounta 84.76 323 P P 11 04 00.4 +0.2
HAWA Hanford 84.78 326 eP P 11 04 00.2 -0.1
GBL Gable Mountain 84.88 327 P P 11 04 01.0 +0.2
BROR Big Rock Looko 84.89 323 P P 11 04 00.3 -0.6
NEW Newport 84.89 329 P P 11 03 59.4 -1.5
comp=Z,5.3nm,0.6s,mb4.4,baz=149,slow=3.4,SNR=6.4
OD2 Odessa Site #2 85.05 328 P P 11 04 01.5 -0.1
HOOD Mount Hood Mea 85.15 325 eP P 11 04 02.4 +0.3
EBG Ellensburg 85.65 326 P P 11 04 05.1 +0.5
TBM Table Mountain 85.84 326 P P 11 04 05.7 +0.2
WTV Waterville 85.88 327 P P 11 04 05.4 -0.3
ETW Entiat 86.00 327 P P 11 04 06.2 -0.1
ESDC Sonseca Array 86.22 43 P P 11 04 07.7 +0.3
comp=Z,0.5nm,0.3s,mb3.7,baz=244,slow=4.0,SNR=10
EDM Edmonton 86.86 334 eP P 11 04 08.8 -1.7
JCW Jim Creek 87.19 327 P P 11 04 11.0 -1.1
GNW Green Mountain 87.24 326 eP P 11 04 11.8 -0.6
STW Striped Peak 88.05 326 P P 11 04 16.4 +0.3
PGC Sidney 88.26 326 eP P 11 04 17.1 -0.1
LSZ Lusaka 88.28 106 eP P 11 04 18.6 +1.3
LSZ pmax pmax
comp=Z,11nm,0.9s,mb4.7
LSZ Lusaka 88.28 106 eP P 11 04 18.6 +1.3
comp=Z,11nm,0.9s,mb4.7
SJPF Ste Jean 89.87 42 eP P 11 04 24.3 -0.4
comp=Z,21nm,1.0s,mb4.7
SJPF Ste Jean 89.87 42 eP P 11 04 24.3 -0.4
SJPF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SJPF Ste Jean 89.87 42 eP P 11 04 24.3 -0.4
comp=Z,11nm,1.0s,mb4.7
ETSF Etsaut 90.16 42 eP P 11 04 26.5 +0.4
comp=Z,7.8nm,0.7s,mb4.5
ETSF Etsaut 90.16 42 eP P 11 04 26.5 +0.4
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ETSF Etsaut 90.16 42 eP P 11 04 26.5 +0.4
comp=Z,3.9nm,0.7s,mb4.5
QUIF Quistinic 91.45 37 eP P 11 04 31.0 -1.1
LFF La Frestale 92.05 41 eP P 11 04 33.7 -1.1
comp=Z,22nm,1.0s,mb4.8
LFF La Frestale 92.05 41 eP P 11 04 33.7 -1.1
LFF pmax pmax
comp=Z,11nm,1.0s,mb4.8
LFF La Frestale 92.05 41 eP P 11 04 33.7 -1.1
comp=Z,11nm,1.0s,mb4.8
MTLF Montolieu 92.11 43 eP P 11 04 34.5 -0.6
MFF Saint Martin d 92.42 39 eP P 11 04 35.9 -0.6
GRR Gorron 92.99 38 eP P 11 04 38.0 -1.2
comp=Z,7.5nm,0.7s,mb4.6
GRR Gorron 92.99 38 eP P 11 04 38.0 -1.2
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
GRR Gorron 92.99 38 eP P 11 04 38.0 -1.2
comp=Z,3.8nm,0.7s,mb4.6
TCF Toulx Ste Croi 93.64 40 eP P 11 04 41.2 -0.9
YKA Yellowknife Ar 94.19 340 P P 11 04 43.5 -1.1
comp=Z,9.0nm,0.5s,mb5.1,baz=133,slow=4.6,SNR=71
YKA Yellowknife Ar 94.19 340 P P 11 04 43.5 -1.1
YKW3 Yellowknife Ar 94.25 340 eP P 11 04 43.7 -1.2
LOR Lormes 95.11 40 eP P 11 04 47.8 -1.1
HAU Haudompre 96.94 40 eP P 11 04 56.0 -1.2
AKASG Malin Array Be 111.87 43 PKiKP PKiKP 11 09 58.5 -1.4

	comp=Z,1.1nm,0.6s,baz=260,slow=2.7,SNR=6.8						
OBN	**Obninsk**	**116.86**	**39**	*e*PKIKP	PKPdf	11 10 08.8	-0.7
OBN				*e*		11 10 48.8	
OBN				pmax	pmax		
	comp=Z,2.0nm,0.4s						
GNI	**Garni**	**121.09**	**56**	*i* PKIKP	PKPdf	11 10 23.4	+5.8
BILL	**Bilibino**	**125.56**	**338**	*e*PKIKP	PKPdf	11 10 24.4	-1.8
BILL				*e*		11 12 18.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AS31	**Alice Springs**	**128.57**	**204**	*e*PKP	PKPdf	11 10 31.5	-0.4
ASAR	**Alice Springs**	**128.57**	**204**	PKP	PKPdf	11 10 31.4	-0.6
	comp=Z,3.6nm,0.7s,baz=136,slow=2.0,SNR=50						
ASAR				SKPbc		11 13 34.0	
	comp=Z,0.7nm,0.6s,baz=147,slow=3.3,SNR=12						
ASPA	**Alice Springs**	**128.57**	**204**	*e*PKP	PKPdf	11 10 31.5	-0.4
ARU	**Arti**	**129.03**	**36**	⇓*i*PKIKP	PKPdf	11 10 33.3	+0.5
WB2	**Warramunga Arr**	**131.74**	**207**	*e*PKP	PKPdf	11 10 37.7	-0.3
WRA	**Warramunga Arr**	**131.75**	**207**	PKP	PKPdf	11 10 37.7	-0.3
	comp=Z,2.6nm,0.5s,baz=160,slow=1.7,SNR=68						
WRA				SKPbc	SKPbc	11 13 45.4	-3.8
	comp=Z,9.0nm,0.8s,baz=153,slow=3.4,SNR=37						
SEY	**Seymchan**	**133.16**	**337**	⇑*i*PKIKP	PKPdf	11 10 40.2	-0.4
FITZ	**Fitzroy Crossi**	**136.46**	**197**	*e*PKP	PKPdf	11 10 47.0	+0.2
	comp=Z,3.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**136.46**	**197**	PKP	PKPdf	11 10 46.9	+0.1
	comp=Z,1.6nm,0.6s,baz=200,slow=9.7,SNR=6.5						
FITZ				SKPbc	SKPbc	11 14 01.6	-3.1
	comp=Z,2.2nm,0.7s,baz=171,slow=11,SNR=5.6						
KAKA	**Kakadu**	**138.99**	**209**	*e*PKP	PKPdf	11 10 51.6	+0.1
	comp=Z,8.0nm,0.9s						
NVS	**Novosibirsk**	**141.99**	**28**	*e*PKHKP		11 10 50.2	
NVS				pmax	pmax		
	comp=N,5.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
AAK	**Ala-Archa**	**143.05**	**50**	*i* PKIKP	PKPdf	11 10 59.6	+0.9
ZAL	**Zalesovo**	**143.27**	**28**	PKP	PKPdf	11 10 56.3	-2.8
	comp=Z,10nm,0.7s,baz=170,slow=4.7,SNR=42						
ZAL				SKPbc	SKPbc	11 14 19.6	-3.4
	comp=Z,1.9nm,0.3s,baz=106,slow=3.4,SNR=4.6						
CLNS	**Chul'man**	**146.11**	**349**	*e*PKP2	PKPab	11 11 03.6	-2.5
CLNS				pmax	pmax		
	comp=Z,25nm,0.8s						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,11nm,1.0s						
BOD	**Bodaibo**	**146.20**	**359**	*e*PKIKP	PKPdf	11 11 02.6	-1.6
BOD				pmax	pmax		
	comp=Z,25nm,0.7s						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	PKPbc	11 11 04.5	-1.4
	comp=Z,25nm,0.7s,baz=330,slow=1.7,SNR=84						
MKAR				SKPbc	SKPbc	11 14 28.2	-1.9
	comp=Z,0.4nm,0.3s,baz=339,slow=3.7,SNR=4.0						
MKAR	**Makanchi Array**	**146.37**	**40**	*i* PKP2	PKPab	11 11 04.5	-2.6
MKAR				pmax	pmax		
	comp=Z,25nm,0.7s						
HABR	**Khabarovsk**	**150.10**	**330**	*e*PKHKP	PKPbc	11 11 14.3	-1.5
MOY	**Mondy**	**150.80**	**16**	*e*PKIKP	PKPbc	11 11 17.9	+0.5
MOY				pmax	pmax		
	comp=Z,27nm,1.2s						
KLR	**Kul'dur**	**150.92**	**335**	*e*PKIKP	PKPdf	11 11 13.7	+1.9
WMQ	**Urumqi**	**151.18**	**40**	PKP	PKPdf	11 11 10.5	-1.8
WMQ				PKP2	PKPab	11 11 27.0	+0.3
WMQ				APKP		11 11 53.0	
WMQ				XPKP		11 12 10.0	
WMQ				*e*PP	PP	11 14 59.0	+1.3
WMQ				SKS	SKSdf	11 18 00.0	-5.2
WMQ				PP	PP		
	comp=Z,135nm,5.0s						
WMQ				LR	LR		
	comp=Z,160nm,28.0s						
ZAK	**Zakamensk**	**152.53**	**14**	*e*PKIKP	PKPdf	11 11 14.4	+0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
MJAR	**Matsushiro Arr**	**155.16**	**306**	PKPbc	PKPdf	11 11 26.2	+8.2
	comp=Z,5.8nm,1.1s,baz=112,slow=1.7,SNR=5.9						
MJAR				PKPab	PKPab	11 11 43.4	-0.1
	comp=Z,8.9nm,0.9s,baz=60,slow=2.1,SNR=13						
MDJ	**Mudanjiang**	**155.48**	**331**	PKP	PKPdf	11 11 17.6	-0.8
MDJ				PP	PP		
	comp=Z,319nm,4.0s						
SONM	**Songino Array**	**155.58**	**11**	PKP	PKPdf	11 11 18.9	+0.3
	comp=Z,1.8nm,0.9s,baz=13,slow=0.8,SNR=8.1						
SONM				PKPbc	PKPdf	11 11 27.6	+9.1
	comp=Z,1.2nm,0.6s,baz=275,slow=1.0,SNR=6.0						
SONM				PKPab	PKPab	11 11 45.7	+0.4
	comp=Z,3.9nm,0.7s,baz=322,slow=4.4,SNR=15						
CN2	**Changchun**	**157.84**	**336**	*e*PKP	PKPdf	11 11 21.0	-0.5
GTA	**Gaotai**	**160.87**	**33**	*i* PKP	PKPdf	11 11 25.8	+0.9
GTA				APKP		11 12 09.1	
GTA				XPKP		11 12 26.5	
GTA				PP	PP	11 15 59.4	+8.0
HHC	**Hu-ho-hao-te**	**163.13**	**4**	*e*PKP	PKPdf	11 11 25.5	-1.7
HHC				APKP		11 12 08.3	
HHC				PKP2	PKPab	11 12 18.3	+0.2
HHC				XPKP		11 12 24.8	
HHC				PKS		11 14 57.8	
HHC				PP	PP	11 16 04.1	+0.8
HHC				SKS	SKSdf	11 18 12.5	-4.8
HHC				SKKS	SKKSac	11 22 33.9	-2.5
HHC				SS	SS	11 36 12.0	-3.4
HHC				PP	PP		
	comp=Z,179nm,5.5s						
HHC				LR	LR		
	comp=N,162nm,4.7s						
HHC				LR	LR		
	comp=E,119nm,4.7s						
HHC				LR	LR		
	comp=Z,89nm,5.5s						
BJI	**Beijing**	**163.81**	**352**	PKP	PKPdf	11 11 34.0	+6.1
LZH	**Lanzhou**	**165.46**	**32**	*e*PKP	PKPdf	11 11 28.1	-1.2
LZH				XPKP		11 12 29.5	
LZH				PP	PP	11 16 16.3	+0.8
LZH				SS	SS	11 36 36.0	-3.2
LZH				PP	PP		
	comp=Z,100nm,6.0s						
CD2	**Chengdu**	**169.11**	**49**	*e*PKP	PKPdf	11 11 28.3	-3.6
KMI	**Kunming**	**170.36**	**81**	PKP	PKPdf	11 11 33.3	+0.6
NJ2	**Nanjing**	**170.57**	**330**	*e*PKP	PKPdf	11 11 32.3	-0.5
NJ2				APKP		11 12 15.3	
NJ2				XPKP		11 12 31.5	
NJ2				PKP2	PKPab	11 12 51.5	+0.5
NJ2				PP	PP	11 16 44.0	+2.5
NJ2				SKS	SKSdf	11 18 19.0	-2.7
NJ2				SS	SS	11 37 30.0	-0.4
NJ2				PP	PP		
	comp=Z,210nm,8.9s						
NJ2				LR	LR		
	comp=N,830nm,31.2s						
NJ2				LR	LR		
	comp=E,660nm,31.6s						
NJ2				LR	LR		
	comp=Z,180nm,29.6s						
GYA	**Guiyang**	**173.54**	**66**	PKP	PKPdf	11 11 30.9	-3.3
GYA				APKP		11 12 23.8	
GYA				PP	PP		
	comp=Z,110nm,7.8s						

*NEIC **19** 10:52:56.0, 3189S×6731W, h180km, MG4.2(GUC), After GUC.*
GUC 19 10:52:56.0±0.8**, 3189S×6731W, h180**km**, ML4.2, 7C-3D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**1.63**	**232**	*e*P	Pn	10 53 27.2	-2.0
MDZ				*i* S	Sn	10 53 53.1	-1.8
JACH	**Jahuel**	**2.89**	**253**	*e*P	Pn	10 53 44.9	+1.6
JACH				*i* S	Sn	10 54 21.3	+1.3
FCH	**Farellones**	**2.89**	**240**	⇑*i*P	Pn	10 53 44.6	+1.4
FCH				*i* S	Sn	10 54 21.5	+1.4
PTCH	**Petorca**	**3.09**	**262**	*e*P	Pn	10 53 46.4	+0.7
PTCH				*i* S	Sn	10 54 25.0	+0.5
PTCH				AML	AML	10 54 27.4	
	comp=N,546nm,0.5s						
CLCH	**Cerro Calan**	**3.11**	**240**	⇓*i*P	Pn	10 53 47.0	+1.1
CLCH				*i* S	Sn	10 54 25.3	+0.6
CLCH				AML	AML	10 54 32.3	
	comp=E,131nm,0.6s						
PEL	**Peldehue**	**3.11**	**245**	⇓*i*P	Pn	10 53 46.7	+0.7
PEL				*i* S	Sn	10 54 25.9	+1.0
PEL				AML	AML	10 54 30.2	
	comp=N,242nm,0.6s						
PEL	**Peldehue**	**3.11**	**245**	⇓*i*P	Pn	10 53 46.7	+0.7
PEL				*i* S	Sn	10 54 25.9	+1.0
LMEL	**Las Melosas**	**3.12**	**231**	⇑*i*P	Pn	10 53 47.2	+1.2
CMCH	**Combarbala**	**3.23**	**282**	⇑*i*P	Pn	10 53 48.8	+1.4
CMCH				*i* S	Sn	10 54 27.8	+0.3
CMCH				AML	AML	10 54 29.5	
	comp=E,894nm,0.7s						
CMCH	**Combarbala**	**3.23**	**282**	⇑*i*P	Pn	10 53 48.8	+1.4
CMCH				*i* S	Sn	10 54 27.8	+0.3
RCDM	**Rinconada Maip**	**3.35**	**241**	⇑*i*P	Pn	10 53 49.9	+1.0
RCDM				*i* S	Sn	10 54 31.3	+1.2
RCDM				AML	AML	10 54 32.8	
	comp=E,173nm,0.1s						
RCDM	**Rinconada Maip**	**3.35**	**241**	⇑*i*P	Pn	10 53 49.9	+1.0
RCDM				*i* S	Sn	10 54 31.3	+1.2
CHCH	**Chadas Angostu**	**3.47**	**233**	*e*P	Pn	10 53 51.8	+1.4
TACH	**Talagante**	**3.52**	**239**	*e*P	Pn	10 53 51.9	+0.9
CACH	**El Canelo**	**3.54**	**230**	*e*P	Pn	10 53 52.8	+1.5
SFDO	**San Fernando**	**4.12**	**228**	⇑*i*P	Pn	10 53 59.2	+0.6

*CSEM **19** 11:23:33.9±0.2, 3449N×3674E, h8km, Mc1.2, Error ellipse: s-maj=5.6km s-min=5.0km az=129.0*
*ISCJB **19** 11:23:34.8±0.6, 3440N±003×3670E±004, h10km, Error ellipse: s-maj=4.8km s-min=4.3km az=24.0*
*GRAL **19** 11:23:34.6±1.9, 3443N×3679E, h0km±331km, MD3.0*
*NSSC **19** 11:23:34.2, 3435N×3658E, h24km±2km*
ISC 19 11:23:35.0±0.7**, 3441N**±005×**3669E**±005**, h15**km±8km**, n12,** σ1s16/22**, 7D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.26**	**294**	⇑P	**Pg**	**11 23 40.0**	**-0.6**
HAWK				⇑S	**Sg**	**11 23 44.4**	**0.0**
HAWK	**Haweek**	**0.26**	**294**	⇑*i*P	**Pg**	**11 23 40.0**	**-0.6**
FKH	**Fakeheh**	**0.30**	**234**	*e*Pg	**Pg**	**11 23 39.9**	**-1.3**
FKH				*e*Sg	**Sg**	**11 23 45.9**	**+0.4**
MARH	**Ras Al Marh**	**0.42**	**204**	⇑P	**Pg**	**11 23 41.1**	**-2.4**
MARH				⇑S	**Sg**	**11 23 47.7**	**-1.5**
ROOS	**tl_alroos**	**0.55**	**116**	⇓P	**Pg**	**11 23 45.8**	**0.0**
ROOS				⇓S	**Sg**	**11 23 55.4**	**+2.2**
ROOS	**tl_alroos**	**0.55**	**116**	⇓*i*P	**Pg**	**11 23 45.8**	**0.0**
HWQ	**Hawqa**	**0.63**	**258**	*e*Pg	**Pg**	**11 23 47.6**	**+0.2**
HWQ				*e*Sg	**Sg**	**11 23 56.9**	**+1.1**
BIDA	**Albida**	**0.67**	**333**	⇑P	**Pb**	**11 23 47.7**	**-0.7**
BIDA				⇑S	**Sb**	**11 23 58.8**	**+1.3**
BIDA	**Albida**	**0.67**	**333**	⇑*i*P	**Pb**	**11 23 47.7**	**-0.7**
BIDA				⇑*i*S	**Sb**	**11 23 58.8**	**+1.3**
BHL	**Bhannes**	**1.00**	**240**	*e*Pg	**Pg**	**11 23 55.1**	**+0.8**
BHL				*e*Sg	**Sg**	**11 24 09.0**	**+1.6**
WRDH	**Warideh**	**1.12**	**348**	⇓P	**Pn**	**11 23 55.2**	**-0.9**
WRDH				⇓S	**Sb**	**11 24 09.7**	**-0.5**
WRDH	**Warideh**	**1.12**	**348**	⇓*i*P	**Pn**	**11 23 55.2**	**-0.8**
WRDH				⇓*i*S	**Sb**	**11 24 09.7**	**-0.6**

IDC 19 12:33:04.7±7.0**, 320N×12814E, h0**km**, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.7**/4**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.3**/31**, Error ellipse: s-maj=112.6km s-min=93.3km az=137.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.31**	**187**	P	P	12 37 53.2	+0.2
	1.0nm,1.1s,baz=356,slow=15,SNR=2.2						
PMG	**Port Moresby**	**22.72**	**124**	LR	LR	12 45 24.1	
	comp=Z,64nm,21.5s,baz=294,slow=32						
WRA	**Warramunga Arr**	**23.80**	**165**	P	P	12 38 19.2	+0.1
	1.3nm,0.3s,baz=346,slow=11,SNR=45						
WB2	**Warramunga Arr**	**23.80**	**165**	*e*P	P	12 38 19.2	+0.1
ASAR	**Alice Springs**	**27.29**	**168**	P	P	12 38 50.6	-0.2
	0.2nm,0.5s,baz=350,slow=7.5,SNR=7.9						
STKA	**Stephens Creek**	**37.16**	**161**	P	P	12 40 18.1	+0.9
	7.8nm,1.2s,baz=321,slow=10,SNR=3.9						

*IDC **19** 12:39:15.0±1.4, 287S×13897E, h0km, mb4.1/3, mb1 4.2/5, mb1mx4.0/11, mbtmp4.0/5, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.0/26, Error ellipse: s-maj=53.5km s-min=26.0km az=87.0*
*ISCJB **19** 12:39:15.1±1.3, 29S±0.1×1389E±03, h10km, mb4.2/4, MS3.5/3, Error ellipse: s-maj=37.0km s-min=17.5km az=12.7*
*NEIC **19** 12:39:16.5±0.9, 293S×13909E, h10km, mb4.3/3, Error ellipse: s-maj=28.9km s-min=14.1km az=105.0*
ISC 19 12:39:16.3±1.3**, 29S**±01×**1391E**±03**, h10**km**, n19,** σ0s82/15**, mb4.2**/4**, MS3.5**/4**, 1D, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.79**	**214**	⇓*i*P	**Pn**	**12 42 05.2**	**+0.7**
	35nm,0.9s						
GUMO	**Guam**	**17.34**	**19**	LR	LR	12 48 00.4	
	comp=Z,70nm,20.9s,baz=106,slow=30						
WRAB	**Tennant Creek**	**17.56**	**195**	*e*P	**Pn**	**12 43 20.1**	**-1.1**
	18nm,0.8s						
WB2	**Warramunga Arr**	**17.57**	**195**	*e*P	**Pn**	**12 43 20.1**	**-1.2**
WRA	**Warramunga Arr**	**17.57**	**195**	P	**Pn**	**12 43 20.0**	**-1.3**
	0.4nm,0.3s,baz=14,slow=12,SNR=40						
WRA				Lg		12 48 40.8	
	baz=23,slow=27,SNR=3.1						
CTA	**Charters Tower**	**18.44**	**158**	LR	LR	12 51 02.0	
	comp=Z,210nm,19.9s,baz=159,slow=38						
FITZ	**Fitzroy Crossi**	**20.08**	**220**	*e*P	**P**	**12 43 50.0**	**+0.1**
	9.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.08**	**220**	P	**P**	**12 43 49.8**	**-0.1**
	0.1nm,0.3s,baz=40,slow=12,SNR=10						
FITZ				LR	LR	12 52 24.2	
	comp=Z,139nm,18.9s,MS3.3,baz=68,slow=40						
AS31	**Alice Springs**	**21.25**	**193**	*e*P	**P**	**12 44 03.5**	**+1.0**
ASAR	**Alice Springs**	**21.25**	**193**	P	**P**	**12 44 03.5**	**+0.9**
	4.7nm,0.7s,mb3.9,baz=20,slow=9.9,SNR=22						
ASAR				S	**S**	**12 48 05.7**	**+7.0**
	1.4nm,0.9s,baz=13,slow=27,SNR=5.0						
ASAR				LR	LR	12 53 08.0	
	comp=Z,147nm,18.4s,MS3.4,baz=17,slow=39						
ASAR	**Alice Springs**	**21.25**	**193**	P	**P**	**12 44 03.5**	**+0.9**
ASAR				S	**S**	**12 48 05.7**	**+7.0**
ASAR				LR	LR	12 53 08.1	
ASPA	**Alice Springs**	**21.25**	**193**	*e*P	**P**	**12 44 03.6**	**+1.0**
STKA	**Stephens Creek**	**28.91**	**176**	LR	LR	12 56 41.7	
	comp=Z,131nm,20.1s,MS3.5,baz=24,slow=36						
SONM	**Songino Array**	**58.08**	**335**	LR	LR	13 11 37.3	
	comp=Z,38nm,18.8s,MS3.5,baz=168,slow=34						
MKAR	**Makanchi Array**	**70.20**	**322**	P	**P**	**12 50 29.0**	**-0.4**
	1.0nm,0.4s,mb4.1,baz=101,slow=8.0,SNR=9.5						
VNDA	**Vanda**	**75.55**	**175**	P	**P**	**12 51 01.1**	**0.0**
	2.1nm,0.8s,mb4.1,baz=336,slow=6.7,SNR=9.2						
QSPA	**South Pole Qui**	**87.04**	**180**	*e*P	**P**	**12 52 02.3**	**+0.2**
	3.6nm,0.8s,mb4.7						
LPAZ	**La Paz**	**146.99**	**126**	PKPbc	PKPbc	12 59 01.5	+2.3
	1.0nm,0.8s,baz=266,slow=2.4,SNR=4.0						
LPAZ	**La Paz**	**146.99**	**126**	PKPbc	PKPbc	12 59 01.5	+2.3

*IGIL **19** 12:53:31.4, 4166N×1585W, h10km, ML3.1*
*NEIC **19** 12:53:32.1, 4160N×1552W, h0km, MG4.6(MDD), After MDD.*
*INMG **19** 12:53:34.8±1.5, 4167N×1587W, h10km, Mb4.1, ML3.1, Error ellipse: s-maj=7.3km s-min=5.0km az=90.0*
*CSEM **19** 12:53:37.6±0.5, 4148N×1492W, h30km, mb4.6/10, Error ellipse: s-maj=9.0km s-min=7.6km az=98.0*
MDD 19 12:53:32.4±2.1**, 4159N×1549W, h0**km**, mb4.6**/12**, mbLg3.5**/1**, Error ellipse: s-maj=18.5km s-min=15.3km az=93.0, PRXIMO, North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**5.02**	**72**	P	Pn	12 54 47.3	-1.7
	2.4nm,0.1s,SNR=7.9						
EMAZ				S	Sn	12 55 41.9	-5.8
	16nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.02**	**72**	P	Pn	12 54 47.3	-1.7
EMAZ				S	Sn	12 55 41.9	-5.8
EZAM	**Zamans**	**5.11**	**81**	P	Pn	12 54 48.3	-1.8
	3.6nm,0.1s,SNR=7.9						
EZAM				S	Sn	12 55 44.5	-5.3
	9.3nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**5.11**	**81**	P	Pn	12 54 48.3	-1.8
EZAM				S	Sn	12 55 44.5	-5.3
PTO	**Porto**	**5.21**	**93**	*e*Sn	Sn	12 55 47.5	-4.7
PMAFR	**Mafra**	**5.43**	**117**	*e*Pn	Pn	12 54 53.1	-1.5
PMAFR				*e*Sn	Sn	12 55 52.5	-5.2
PLOU	**Loures**	**5.55**	**117**	*e*Pn	Pn	12 54 55.5	-0.8
PLOU				*e*Sn	Sn	12 55 55.5	-5.3
PLOU							
	33nm,0.2s						
PLOU	**Loures**	**5.55**	**117**	*e*Pn	Pn	12 54 55.5	-0.8
PLOU				*e*Sn	Sn	12 55 55.5	-5.3
	33nm,0.2s						
PTOM	**Tomar**	**5.74**	**108**	*e*Pn	Pn	12 54 57.7	-1.1
PTOM				*e*Sn	Sn	12 55 59.8	-5.6
PTOM							
	31nm,0.1s						
PTOM	**Tomar**	**5.74**	**108**	*e*Pn	Pn	12 54 57.7	-1.1
PTOM				*e*Sn	Sn	12 55 59.8	-5.6
	31nm,0.1s						
PVIS	**Viseu**	**5.80**	**96**	*e*Pn	Pn	12 54 58.8	-0.9
PVIS				*e*Sn	Sn	12 56 01.8	-5.1
PVRL	**Vila Real**	**5.85**	**90**	*e*Sn	Sn	12 56 02.9	-5.3
PVRL							
	44nm,0.2s						
PVRL	**Vila Real**	**5.85**	**90**	S	Sn	12 56 02.9	-5.3
	22nm,0.2s						
MTE	**Manteigas**	**6.13**	**99**	*e*Pn	Pn	12 55 03.0	-1.2
MTE				*e*Sn	Sn	12 56 09.2	-5.8
MTE							
	9.7nm,0.3s						
MTE	**Manteigas**	**6.13**	**99**	*e*Pn	Pn	12 55 03.0	-1.2
MTE				*e*Sn	Sn	12 56 09.2	-5.8
	9.7nm,0.3s						
PCBR	**Castelo Branco**	**6.34**	**103**	*e*Pn	Pn	12 55 05.7	-1.3
PCBR				*e*Sn	Sn	12 56 14.0	-6.1
PCBR							
	5.8nm,0.2s						
PCBR	**Castelo Branco**	**6.34**	**103**	*e*Pn	Pn	12 55 05.7	-1.3
PCBR				*e*Sn	Sn	12 56 14.0	-6.1
	5.8nm,0.2s						
EPON	**Pontenova**	**6.41**	**72**	P	Pn	12 55 06.8	-1.2
	0.8nm,0.1s,SNR=7.9						
EPON				S	Sn	12 56 15.1	-6.8
	4.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**6.41**	**72**	P	Pn	12 55 06.8	-1.2
EPON				S	Sn	12 56 15.1	-6.8
PBRG	**Braganca**	**6.55**	**85**	*e*Sn	Sn	12 56 19.4	-6.1
PBRG							
	8.2nm,0.1s						
PBRG	**Braganca**	**6.55**	**85**	Sn	Sn	12 56 19.4	-6.1
	4.1nm,0.1s						
ECAL	**Calabor**	**6.56**	**84**	P	Pn	12 55 09.0	-1.0
	1.4nm,0.1s,SNR=7.1						
ECAL				S	Sn	12 56 20.5	-5.0
	9.6nm,0.1s,SNR=19						
ECAL	**Calabor**	**6.56**	**84**	P	Pn	12 55 09.0	-1.1
	1.4nm,0.1s,SNR=7.1						
ECAL				S	Sn	12 56 20.5	-5.0
PTEO	**Sao Teotonio**	**6.61**	**125**	*e*Pn	Pn	12 55 09.4	-1.3
PTEO				*e*Sn	Sn	12 56 20.6	-6.1
PTEO							
	5.5nm,0.2s						
PESTR	**Estremoz**	**6.63**	**112**	*e*Pn	Pn	12 55 09.8	-1.3
PESTR				*e*Sn	Sn	12 56 20.8	-6.5
PESTR							
	5.9nm,0.2s						
MORF	**Marmelete**	**6.80**	**127**	*e*P	Pn	12 55 11.9	-1.6
MORF				*e*S	Sn	12 56 25.4	-6.2
MORF				*e*S	Sn	12 56 25.6	-6.0
MORF				AML	AML	12 56 31.0	
	comp=N,17nm,0.2s						
MORF	**Marmelete**	**6.80**	**127**	*e*P	Pn	12 55 11.9	-1.6
MORF				*e*S	Sn	12 56 25.4	-6.2
PBEJ	**Beja**	**6.87**	**119**	*e*Sn	Sn	12 56 26.9	-6.2
EBAD	**Badajoz**	**7.08**	**111**	P	Pn	12 55 15.3	-2.0
	comp=N,3.9nm,0.1s,SNR=23						
EBAD				S	Sn	12 56 32.1	-6.4
	comp=N,23nm,0.2s,SNR=8.5						
EBAD	**Badajoz**	**7.08**	**111**	P	Pn	12 55 15.3	-2.0
	comp=N,3.9nm,0.1s,SNR=23						
EBAD				S	Sn	12 56 32.1	-6.4
EGRO	**El Granado**	**7.39**	**121**	P	Pn	12 55 20.4	-1.2
	comp=N,8.9nm,0.2s,SNR=11						
EGRO				S	Sn	12 56 40.4	-5.7
	comp=N,3.3nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**7.39**	**121**	P	Pn	12 55 20.4	-1.1
	comp=N,8.9nm,0.2s,SNR=11						
EGRO				S	Sn	12 56 40.4	-5.7
	comp=N,3.3nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.80**	**74**	P	Pn	12 55 26.8	-0.3
	comp=N,2.1nm,0.2s,SNR=11						
EARI				S	Sn	12 56 49.4	-6.6
	comp=N,0.4nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.80**	**74**	P	Pn	12 55 26.8	-0.3
	comp=N,2.1nm,0.2s,SNR=11						
EARI				S	Sn	12 56 49.4	-6.6
EMIN	**Mina Concepcio**	**7.80**	**116**	P	Pn	12 55 26.2	-0.9
	comp=N,2.5nm,0.2s,SNR=19						
EMIN				S	Sn	12 56 49.5	-6.6
	comp=N,1.5nm,0.1s,SNR=5.6						
EMIN	**Mina Concepcio**	**7.80**	**116**	P	Pn	12 55 26.2	-0.9
	comp=N,2.5nm,0.2s,SNR=19						
EMIN				S	Sn	12 56 49.5	-6.6
	comp=N,1.5nm,0.1s,SNR=5.6						
GUD	**Guadarrama**	**8.61**	**93**	P	Pn	12 55 36.1	-2.2
	comp=N,1.0nm,0.2s,SNR=7.9						
GUD				S	Sn	12 57 09.3	-6.9
	comp=N,2.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**8.61**	**93**	P	Pn	12 55 36.1	-2.2
GUD				S	Sn	12 57 11.3	-4.9
GUD	**Guadarrama**	**8.61**	**93**	P	Pn	12 55 36.1	-2.2
	comp=N,1.0nm,0.2s,SNR=7.9						
GUD				S	Sn	12 57 11.3	-4.8
	comp=N,2.4nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.84**	**119**	P	Pn	12 55 41.5	+0.2
	comp=N,3.2nm,0.2s,SNR=6.3						
ESPR				S	Sn	12 57 15.9	-5.7
	comp=N,4.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**8.84**	**119**	P	Pn	12 55 41.5	+0.1
	comp=N,3.2nm,0.2s,SNR=6.3						
ESPR				S	Sn	12 57 15.9	-5.7
	comp=N,4.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**8.97**	**99**	P	Pn	12 55 42.3	-0.9
	comp=N,3.4nm,0.1s,baz=285,slow=13,SNR=15						
ESDC	**Sonseca Array**	**8.97**	**99**	P	Pn	12 55 42.3	-0.9
	comp=N,3.4nm,0.1s,SNR=15						
EADA	**Adamuz**	**9.06**	**109**	P	Pn	12 55 42.4	-2.1
	comp=N,2.4nm,0.2s,SNR=16						
EADA				S	Sn	12 57 19.6	-7.5
	comp=N,2.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**9.06**	**109**	P	Pn	12 55 42.4	-2.0
	comp=N,2.4nm,0.2s,SNR=16						
EADA				S	Sn	12 57 19.6	-7.5
	comp=N,2.0nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**9.07**	**76**	P	Pn	12 55 44.1	-0.4
	comp=N,0.9nm,0.2s,SNR=7.9						
ELAN				S	Sn	12 57 22.7	-4.7
	comp=N,2.7nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**9.07**	**76**	P	Pn	12 55 44.1	-0.5
	comp=N,0.9nm,0.2s,SNR=7.9						
ELAN				S	Sn	12 57 22.7	-4.7
	comp=N,2.7nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**9.63**	**107**	P	Pn	12 55 48.6	-3.6
	comp=N,1.3nm,0.2s,SNR=7.9						
EBAN				S	Sn	12 57 33.8	-7.2
	comp=N,1.4nm,0.1s,SNR=7.9						
ETOR	**Torete**	**10.16**	**90**	P	Pn	12 55 59.6	+0.1
	comp=N,2.7nm,0.1s,SNR=7.9						
ETOR				S	Sn	12 57 46.1	-8.0
	comp=N,4.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**10.16**	**90**	P	Pn	12 55 59.6	+0.1
	comp=N,2.7nm,0.1s,SNR=7.9						
ETOR				S	Sn	12 57 46.1	-8.0
ETOR				S	Sn	12 57 46.1	-8.0
	comp=N,4.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**10.29**	**107**	P	Pn	12 55 58.7	-2.6
	comp=N,0.4nm,0.1s,SNR=7.9						
EQES				S	Sn	12 57 48.3	-9.1
	comp=N,0.7nm,0.1s,SNR=7.9						
EQES	**Quesada**	**10.29**	**107**	P	Pn	12 55 58.7	-2.6
EQES				S	Sn	12 57 48.3	-9.0
EQUE	**Quentar**	**10.30**	**111**	P	Pn	12 55 59.6	-1.8
	comp=N,0.9nm,0.3s,SNR=7.9						
EQUE				S	Sn	12 57 50.4	-7.2
	comp=N,1.7nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**11.08**	**101**	P	Pn	12 56 11.0	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,1.3nm,0.3s,SNR=7.9						
ETOB	Tobarra	11.08	101	P	Pn	12 56 11.0	-1.0
	comp=N,1.3nm,0.3s						
EBIE	Bielsa	11.66	79	P	Pn	12 56 20.4	+0.3
	comp=N,0.9nm,0.3s,SNR=7.9						
EBIE				S	Sn	12 58 25.4	-5.6
	comp=N,1.0nm,0.3s,SNR=7.9						
EBIE	Bielsa	11.66	79	P	Pn	12 56 20.4	+0.3
	comp=N,0.9nm,0.3s						
EBIE				S	Sn	12 58 25.4	-5.6

ISCJB 19 12:59:35.3±1.5, 23.22S±0.07×179.8W±0.1, h496km±21km, mb3.8/10, Error ellipse: s-maj=15.8km s-min=11.2km az=16.8

NEIC 19 12:59:36.2±1.1, 23.21S×179.76W, h504km±12km, mb4.0/1, Error ellipse: s-maj=16.1km s-min=11.4km az=140.0

IDC 19 12:59:41.9±2.3, 23.25S×179.99W, h562km±26km, mb3.3/9, mb1 3.5/9, mb1mx3.4/14, mbtmp4.2/9, Error ellipse: s-maj=20.7km s-min=13.5km az=163.0

ISC 19 12:59:35.7±1.3, 23.33S±0.07×179.8W±0.1, h487km±18km, n35, σ0.s76/25, mb3.8/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	12.03	40	P	P	13 02 14.3	-0.2
	2.6nm,0.3s,baz=42,slow=18,SNR=4.6						
DZM	Mont Dzumac	12.81	273	P	P	13 02 23.6	+0.8
	0.2nm,0.3s,baz=270,slow=20,SNR=1.9						
URZ	Urewera	15.12	190	P	P	13 02 46.8	-0.6
	3.0nm,0.3s,baz=307,slow=5.6,SNR=13						
URZ				S	S	13 05 23.8	-1.7
	1.0nm,0.3s,baz=157,slow=7.6,SNR=4.7						
URZ	Urewera	15.12	190	PN	P	13 02 46.9	-0.5
NNZ	Nelson	18.75	196	PN	P	13 03 24.0	+0.5
TUWZ	Tuamarina	18.81	195	PN	P	13 03 24.5	+0.4
THZ	Tophouse	19.38	197	PN	P	13 03 29.9	+0.6
KHZ	Kahutara	19.84	195	PN	P	13 03 33.2	-0.2
LTZ	Lake Taylor	20.50	197	PN	P	13 03 39.3	-0.2
RPZ	Rata Peaks	21.70	198	P	P	13 03 51.0	+0.6
	19nm,0.7s,mb4.8,baz=339,slow=8.0,SNR=9.0						
CTA	Charters Tower	31.71	269	P	P	13 05 18.7	+0.2
	6.8nm,1.0s,mb4.0,baz=98,slow=14,SNR=7.1						
CTA	Charters Tower	31.71	269	P	P	13 05 18.7	+0.2
STKA	Stephens Creek	35.15	247	P	P	13 05 48.5	+0.9
	2.0nm,0.4s,mb3.9,baz=92,slow=13,SNR=8.2						
STKA				PcP	PcP	13 08 05.0	-0.5
	3.8nm,1.0s,baz=86,slow=13,SNR=3.0						
ASAR	Alice Springs	42.36	260	P	P	13 06 46.1	0.0
	2.4nm,0.6s,mb3.8,baz=96,slow=8.1,SNR=29						
ASAR				PcP	PcP	13 08 27.5	-1.0
	0.4nm,0.7s,baz=93,slow=3.4,SNR=4.4						
ASAR				S	S	13 12 26.2	-5.2
	0.7nm,0.8s,baz=91,slow=15,SNR=6.3						
WB2	Warramunga Arr	42.67	265	eP	P	13 06 47.6	-1.0
WRA	Warramunga Arr	42.68	265	P	P	13 06 48.0	-0.6
	1.1nm,0.3s,mb3.8,baz=90,slow=5.9,SNR=132						
WRA				S	S	13 12 29.5	-6.4
	0.6nm,0.9s,baz=94,slow=12,SNR=3.7						
FITZ	Fitzroy Crossi	51.10	265	eP	P	13 07 52.4	-0.1
	2.8nm,0.4s,mb4.0						
VNDA	Vanda	54.97	185	P	P	13 08 21.5	+1.5
	0.5nm,0.7s,mb3.0,baz=30,slow=12,SNR=3.1						
VNDA	Vanda	54.97	185	P	P	13 08 21.5	+1.5
MJAR	Matsushiro Arr	71.56	325	P	P	13 10 05.3	-1.6
	1.2nm,0.6s,mb3.6,baz=166,slow=4.6,SNR=4.7						
NVAR	Mina Array Bea	84.18	44	P	P	13 11 15.5	+0.5
	0.6nm,0.5s,mb3.4,baz=229,slow=11,SNR=6.7						
PDAR	Pinedale Array	92.12	44	P	P	13 11 52.2	-0.2
	0.5nm,0.6s,mb3.6,baz=247,slow=4.2,SNR=5.2						
MKAR	Makanchi Array	111.94	313	PKiKP	PKiKP	13 17 12.1	-2.8
	0.3nm,0.3s,baz=20,slow=1.8,SNR=3.5						
BVAR	Borovoye Array	120.16	319	PKP	PKPdf	13 17 28.1	-2.6
	1.4nm,0.5s,baz=94,slow=2.7,SNR=8.3						
AKTK	Aktyubinsk	128.04	317	PKP	PKPdf	13 17 44.2	-1.6
AKTO	Aktyubinsk	128.04	317	PKP	PKPdf	13 17 44.2	-1.6
	0.6nm,0.4s,baz=110,slow=5.6,SNR=6.0						
ARCES	ARCESS Array B	131.38	348	PKP	PKPdf	13 17 49.4	-2.7
	2.3nm,0.7s,baz=17,slow=1.3,SNR=8.8						
FINES	FINESS Array B	137.98	342	PKP	PKPdf	13 18 03.1	-1.3
	0.9nm,0.6s,baz=101,slow=2.8,SNR=4.3						
AKASG	Malin Array Be	144.62	328	PKP	PKPdf	13 18 13.9	-2.3
	5.2nm,0.5s,baz=44,slow=4.0,SNR=25						
BRTR	Keskin Array B	147.41	308	PKPbc	PKPbc	13 18 22.6	-1.6
	1.1nm,0.6s,baz=144,slow=5.6,SNR=5.9						
KSP	Ksiaz	149.84	340	eP	PKPbc	13 18 29.0	-1.2
CLL	Collm	150.38	344	⇓iPKPbc	PKPbc	13 18 30.1	-1.4
	comp=Z,15nm,0.9s						
CLL				ePKPab	PKPab	13 18 38.0	-2.0
BRG	Berggiesshubel	150.52	342	i P	PKPbc	13 18 30.3	-1.5
	comp=Z,4.6nm,0.6s						
GERES	GERESS Array B	152.40	341	PKPbc	PKPbc	13 18 33.3	-2.7
	comp=Z,0.5nm,0.2s,baz=76,slow=5.6,SNR=5.0						
GERES				PKPab	PKPab	13 18 45.2	-3.3
	comp=Z,0.4nm,0.2s,baz=46,slow=5.8,SNR=4.2						
TORD	Torodi Ar. Bea	169.78	188	PKPab	PKPab	13 20 03.8	-0.7
	comp=Z,0.9nm,0.9s,baz=218,slow=2.8,SNR=4.4						

LDG 19 13:10:26.5±0.4, 12.55S×167.20E, h10km, Mb4.2/1, Error ellipse: s-maj=51.0km s-min=15.4km az=86.0

BJI 19 13:10:44.0, 13.70S×167.00E, h170km, mb4.3

ISCJB 19 13:10:49.7±1.5, 13.81S±0.07×167.0E±0.1, h221km±11km, mb4.3/20, Error ellipse: s-maj=19.3km s-min=8.2km az=126.2

IDC 19 13:10:49.3±1.8, 13.74S×167.01E, h206km±15km, mb4.1/10, mb1 4.1/12, mb1mx4.0/17, mbtmp4.6/12, MS4.1/2, Ms1 4.1/2, ms1mx2.9/30, Error ellipse: s-maj=14.8km s-min=13.2km az=73.0

NEIC 19 13:10:50.3±1.6, 13.74S×166.99E, h216km±13km, mb4.6/10, Error ellipse: s-maj=13.6km s-min=9.8km az=82.0

ISC 19 13:10:49.1±1.3, 13.77S±0.07×167.0E±0.1, h204km±9km, n88, σ0.s91/37, mb4.3/20, 15C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.18	301	P	Pn	13 12 45.7	+1.1
	7.7nm,0.3s,baz=236,slow=3.6,SNR=5.3						
HNR				S	Sn	13 14 15.8	-0.9
	4.1nm,0.3s,baz=102,slow=14,SNR=2.3						
DZM	Mont Dzumac	8.28	184	P	Pn	13 12 47.2	+1.3
	1.7nm,0.3s,baz=33,slow=16,SNR=13						
DZM				S	Sn	13 14 18.0	-1.0
	baz=288,slow=20,SNR=1.9						
DZM				LR	LR	13 15 41.8	
	comp=Z,205nm,22.0s,baz=294,slow=35						
CTA	Charters Tower	20.84	250	eP	P	13 15 15.5	+0.4
	8.1nm,0.6s						
CTA	Charters Tower	20.84	250	P	P	13 15 15.4	+0.3
	11nm,0.6s,baz=81,slow=13,SNR=12						
RIV	Riverview	24.63	213	eP	P	13 15 52.4	+1.5
URZ	Urewera	25.98	162	P	P	13 16 01.8	-1.1
	9.4nm,0.9s,mb4.4,baz=24,slow=20,SNR=2.6						
CNB	Canberra Magne	26.72	214	eP	P	13 16 11.0	+1.4
	33nm,1.4s,mb4.8						
STKA	Stephens Creek	29.45	228	⇑iP	P	13 16 34.9	+1.1
	12nm,0.3s,mb5.0						
STKA	Stephens Creek	29.45	228	P	P	13 16 35.1	+1.2
	20nm,0.5s,mb5.0,baz=49,slow=8.5,SNR=90						
STKA				PcP	PcP	13 19 33.9	-0.3
	4.4nm,0.5s,baz=24,slow=3.0,SNR=9.2						
TOO	Toolangi	30.50	215	eP	P	13 16 44.1	+1.1
	7.6nm,0.7s,mb4.4						
WB2	Warramunga Arr	31.84	254	eP	P	13 16 53.8	-1.0
WRA	Warramunga Arr	31.86	254	P	P	13 16 54.2	-0.8
	2.3nm,0.6s,mb3.9,baz=86,slow=9.2,SNR=35						
WRA				PcP	PcP	13 19 41.3	+0.7
	2.4nm,0.7s,baz=81,slow=3.1,SNR=14						
WRA				ScP	ScP	13 23 09.8	+5.3
	1.0nm,0.7s,baz=84,slow=3.1,SNR=7.9						
WRA				PKiKP	PKiKP	13 27 07.8	-0.9
	0.4nm,0.5s,baz=359,slow=0.4,SNR=17						
WRA	Warramunga Arr	31.86	254	P	P	13 16 54.2	-0.8
WRA				PcP	PcP	13 19 41.3	+0.7
WRA				ScP	ScP	13 23 09.8	+5.3
AS31	Alice Springs	32.82	248	eP	P	13 17 02.2	-1.1
AS31				eP		13 17 02.5	
ASAR	Alice Springs	32.82	248	P	P	13 17 02.7	-0.6
	6.1nm,0.5s,mb4.4,baz=73,slow=9.6,SNR=138						
ASAR				PcP	PcP	13 19 43.4	+0.1
	2.4nm,0.7s,baz=79,slow=2.9,SNR=13						
ASAR				S	S	13 22 05.8	+0.6
	1.6nm,0.7s,baz=78,slow=16,SNR=9.9						
ASAR				ScP	ScP	13 23 12.8	+5.1
	1.3nm,0.7s,baz=86,slow=3.6,SNR=9.3						
ASAR				PKiKP	PKiKP	13 27 08.5	-0.8
	0.3nm,0.5s,baz=121,slow=1.8,SNR=6.0						
ASAR	Alice Springs	32.82	248	P	P	13 17 02.7	-0.6
ASAR				PcP	PcP	13 19 43.4	+0.1
ASAR				S	S	13 22 05.8	+0.6
ASAR				ScP	ScP	13 23 12.8	+5.1
ASPA	Alice Springs	32.82	248	eP	P	13 17 02.5	-0.8
KAKA	Kakadu	33.68	268	eP	P	13 17 10.8	0.0
	7.7nm,0.6s,mb4.4						
FORT	Forrest	39.60	238	eP	P	13 18 00.5	-0.2
	26nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	39.98	258	eP	P	13 18 04.0	+0.1
	5.3nm,1.2s,mb3.9						
KLBR	Kellerberrin	48.38	240	eP	P	13 19 09.7	-0.7
	30nm,1.5s,mb4.4						
VNDA	Vanda	63.81	181	P	P	13 20 59.5	-0.1
	1.0nm,0.5s,mb3.7,baz=337,slow=6.5,SNR=8.8						
KMI	Kunming	73.62	302	P	P	13 22 01.4	+1.3
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4						
QSPA	South Pole Qui	76.25	180	eP	P	13 22 15.2	0.0
	comp=Z,13nm,1.0s,mb4.5						
LZH	Lanzhou	77.52	312	eP	P	13 22 23.3	+1.1
LZH				AP	pP	13 23 05.1	-5.9
LZH				XP	sP	13 23 24.1	-8.5
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.6						
RPN	Rapa Nui	78.26	115	LR	LR	13 48 46.1	
	comp=Z,639nm,20.6s,baz=350,slow=29						
SONM	Songino Array	81.60	324	P	P	13 22 44.0	-0.2
	comp=Z,1.4nm,0.7s,mb3.7,baz=140,slow=6.1,SNR=12						
GTA	Gaotai	81.85	314	eP	P	13 22 46.3	+0.8
GTA				AP	pP	13 23 28.1	-6.7
GTA				XP	sP	13 23 47.3	-8.9
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
MAW	Mawson	82.69	202	P	P	13 22 50.4	+0.6
	comp=Z,3.9nm,0.5s,mb4.4,baz=122,slow=5.5,SNR=18						
PDAR	Pinedale Array	94.46	47	PKKPbc	PKKPbc	13 40 44.4	+0.4
	comp=Z,0.5nm,0.8s,baz=106,slow=3.7,SNR=3.5						
SNAA	Sanae	94.49	183	e	P	13 23 45.3	-0.8
SNAA				e		13 23 48.2	
SNAA				e		13 23 50.2	
SNAA	Sanae	94.49	183	eP	P	13 23 45.2	-0.9
	comp=Z,3.6nm,1.0s,mb4.4						
VNA3	Neumayer Olymp	95.16	181	e	P	13 23 48.3	-0.9
VNA3				e		13 23 51.5	
VNA3				e		13 23 52.8	
MKAR	Makanchi Array	96.36	316	P	P	13 23 54.4	-0.3
	comp=Z,1.5nm,0.6s,mb4.4,baz=86,slow=6.3,SNR=12						
ZAL	Zalesovo	96.50	324	P	P	13 23 53.9	-1.4
	comp=Z,1.0nm,0.3s,mb4.5,baz=268,slow=1.5,SNR=3.7						
ARCES	ARCESS Array B	119.27	345	PKP	PKPdf	13 29 12.6	-1.3
	comp=Z,3.3nm,0.5s,baz=79,slow=2.4,SNR=36						
ARCES				PKKPbc	PKKPbc	13 39 26.1	-0.9
	comp=Z,3.3nm,0.9s,baz=223,slow=2.5,SNR=6.6						
JOF	Joensuu	121.92	338	ep	PKPdf	13 29 17.2	-1.8
	comp=Z,3.9nm,0.6s						
BOSA	Boshof	123.95	221	PKP	PKPdf	13 29 23.8	+0.9
	comp=Z,2.8nm,0.6s,baz=145,slow=11,SNR=8.3						
KAF	Kangasniemi	124.23	339	ep	PKPdf	13 29 21.7	-1.7
	comp=Z,2.2nm,0.3s						
FINES	FINESS Array B	124.75	338	PKP	PKPdf	13 29 23.6	-0.8
	comp=Z,1.6nm,0.5s,baz=33,slow=1.7,SNR=15						
NB2	NORSAR Subarra	129.65	345	PKPd	PKPdf	13 29 32.8	-1.0
	comp=Z,1.4nm,0.7s,baz=31,slow=1.9						
NOA	NORSAR Array B	129.65	345	PKP	PKPdf	13 29 32.4	-1.4
	comp=Z,1.2nm,0.7s,baz=31,slow=2.1,SNR=4.0						
CLL	Collm	137.09	336	ePKPdf	PKPdf	13 29 49.0	+1.2
GERES	GERESS Array B	138.69	333	PKP	PKPdf	13 29 50.7	0.0
	comp=Z,0.7nm,0.5s,baz=64,slow=2.3,SNR=6.7						
DSB	Dublin	140.28	354	ePKPdf	PKiKP	13 29 58.9	+2.8
BAIF	Baives	141.19	342	ePKP1	PKPdf	13 29 55.5	+0.3
CABF	La Chapelle	143.56	338	ePKP1	PKPdf	13 29 59.3	-0.1
	comp=Z,5.0nm,0.5s						
FLN	La Foliniere	143.62	346	ePKP1	PKPdf	13 29 56.4	-3.1
GRR	Gorron	144.06	346	⇑iPKP1	PKPdf	13 29 58.3	-2.0
	comp=Z,11nm,0.5s						
SSF	Saint Saulge	144.06	341	ePKP1	PKPdf	13 29 58.9	-1.4
LPL	La Plagne	144.23	336	ePKP1	PKPdf	13 29 59.9	-0.7
	comp=Z,11nm,0.6s						
LPG	La Plagne	144.24	336	ePKP1	PKPdf	13 30 00.0	-0.6
SMF	Signal de Mont	144.32	340	ePKP1	PKPdf	13 29 59.4	-1.4
	comp=Z,21nm,0.9s						
AVF	Avril sur Loir	144.35	341	ePKP1	PKPdf	13 29 59.4	-1.4
	comp=Z,16nm,0.9s						
SGMF	Saint Gilles	144.55	348	⇑iPKP1	PKPdf	13 30 00.0	-1.2
	comp=Z,41nm,0.6s						
ROSF	Rostrenen	144.61	349	⇑iPKP1	PKPdf	13 30 00.1	-1.2
	comp=Z,22nm,0.7s						
BNI	Bardonecchia	144.64	336	ePKPbc	PKPdf	13 30 01.9	+0.6
BGF	Bois d'Agland	144.72	341	ePKP1	PKPdf	13 30 00.9	-0.6
	comp=Z,29nm,0.6s						
MBDF	Montbardon	144.87	335	⇑iPKP1	PKPdf	13 30 01.4	-0.3
	comp=Z,9.7nm,0.8s						
QUIF	Quistinic	144.99	348	ePKP1	PKPdf	13 30 01.2	-0.7
	comp=Z,19nm,0.5s						
ORIF	Oris-en-Rattie	145.06	336	⇑iPKP1	PKPbc	13 30 02.5	+0.5
	comp=Z,32nm,0.7s						
TCF	Toulx Ste Croi	145.16	341	⇑iPKP1	PKPbc	13 30 02.3	+0.1
	comp=Z,18nm,0.7s						
SBF	Sospel	145.29	334	ePKP1	PKPbc	13 30 02.5	-0.2
	comp=Z,80nm,1.0s						
MFF	Saint Martin d	145.54	344	⇑iPKP1	PKPbc	13 30 03.4	0.0
	comp=Z,13nm,0.5s						
VIVF	Saint-Julien-l	145.57	338	ePKP1	PKPbc	13 30 04.3	+0.8
FRF	La Foret Royal	145.87	334	⇑iPKP1	PKPbc	13 30 04.3	-0.1
	comp=Z,26nm,0.5s						
SMRF	Simiane la Rot	145.97	336	⇑iPKP1	PKPbc	13 30 05.2	+0.5
	comp=Z,18nm,0.7s						
LMR	La Mourre	146.12	334	⇑iPKP1	PKPbc	13 30 05.1	-0.1
	comp=Z,29nm,0.6s						
RJF	Les Rejaudoux	146.25	341	ePKP1	PKPbc	13 30 05.0	-0.6
CAF	Calviac	146.42	341	ePKP1	PKPbc	13 30 05.5	-0.5
LASF	Ste Croix	146.54	338	⇑iPKP1	PKPbc	13 30 06.9	+0.5
	comp=Z,15nm,0.6s						
LFF	La Frestale	146.82	342	ePKP1	PKPbc	13 30 07.3	+0.1
MTLF	Montolieu	147.77	339	⇑iPKP1	PKPbc	13 30 10.2	+0.4
	comp=Z,21nm,0.6s						
EBIE	Bielsa	149.04	341	PKP	PKiKP	13 30 15.2	+1.1
SJPF	Ste Jean	149.06	343	⇑iPKP1	PKPbc	13 30 13.7	+0.6
	comp=Z,5.9nm,0.5s						
ETSF	Etsaut	149.07	342	⇑iPKP1	PKPbc	13 30 13.3	+0.2
	comp=Z,7.9nm,0.4s						
ELAN	Lanestosa	149.52	346	PKP	PKiKP	13 30 14.7	-0.4
EPOB	Poblet	149.92	339	PKP	PKiKP	13 30 15.2	-0.8
ESAC	San Caprasio	150.11	341	PKP	PKiKP	13 30 16.2	-0.2
EPON	Pontenova	150.13	351	PKP	PKiKP	13 30 15.7	-0.7
KEST	Kesra	150.33	321	PKPbc	PKPbc	13 30 17.0	+0.9
	comp=Z,4.9nm,0.6s,baz=43,slow=1.1,SNR=17						
ETOS	Mallorca	150.62	335	PKP	PKiKP	13 30 17.9	+0.4
STS	Santiago	150.74	353	PKP	PKiKP	13 30 16.8	-0.9
ERUA	La Rua	151.04	351	PKP	PKiKP	13 30 16.5	-1.8
ECAL	Calabor	151.42	350	PKP	PKiKP	13 30 18.8	-0.3
ETOR	Torete	151.42	343	PKP	PKiKP	13 30 19.1	0.0
GUD	Guadarrama	152.14	346	PKP	PKiKP	13 30 20.1	-0.5
TORD	Torodi Ar. Bea	165.73	269	PKP	PKPdf	13 30 29.9	+0.6
	comp=Z,1.5nm,0.7s,baz=47,slow=0.8,SNR=9.7						
TORD				PKPab	PKPab	13 31 30.4	+0.7
	comp=Z,0.4nm,0.4s,baz=98,slow=4.6,SNR=5.1						

IDC 19 13:28:56.4±1.0, 38.95N×71.58E, h0km, mb4.1/11, mb1 4.4/15, mb1mx4.3/25, mbtmp4.2/15, ML4.2/4, MS3.6/5, Ms1 3.6/5, ms1mx3.2/38, Error ellipse: s-maj=17.3km s-min=13.2km az=160.0

ISCJB 19 13:29:02.6±0.6, 39.25N±0.03×71.42E±0.05, h53km±7km, mb4.4/32, MS4.3/5, Error ellipse: s-maj=6.9km s-min=4.6km az=165.8

BJI 19 13:29:02.0, 39.02N×71.66E, h40km, mB4.7, mb4.7, ML4.2, Ms3.8, Msz3.9

NNC 19 13:29:03.5±3.5, 39.39N×71.28E, h24km±19km, mb4.4, mpv4.4, Error ellipse: s-maj=20.8km s-min=16.2km az=16.0

MOS 19 13:29:03.1±1.0, 39.50N×71.51E, h47km, mb4.6/22, Error ellipse: s-maj=10.8km s-min=6.3km az=116.4

NEIC 19 13:29:05.5±2.1, 39.44N×71.48E, h55km±16km, mb4.7/13, Error ellipse: s-maj=21.3km s-min=9.3km az=174.0

ISC 19 13:29:03.3±0.4, 39.32N±0.02×71.41E±0.05, h38km±5km, n131, σ1.s33/149, mb4.4/31, MS4.3/5, 17C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.30	31	P	Pn	13 29 55.5	+3.0
	SNR=132						
KSH	Kashi	3.54	85	eP	Pn	13 29 53.3	-2.5
KSH				S	Sn	13 30 28.1	-8.3
KSH				Smax			
	comp=N,901nm,0.9s						
KSH				Smax			
	comp=E,1μm,0.7s						
UCH	Uchtor	3.74	38	P	Pn	13 30 01.6	+3.0
	SNR=259						
EKS2	Erkin-Say	3.79	27	P	Pn	13 30 02.5	+3.2
	SNR=84						
KK31	Karatay Array	3.84	350	⇑Pn	Pn	13 30 03.3	+3.4
	comp=E,63nm,0.4s,baz=174,slow=14,SNR=12						
KK31				⇑Sn	Sn	13 30 51.3	+7.5
	comp=E,100nm,0.5s,baz=170,slow=24,SNR=6.9						
KK31				⇑Lg		13 31 04.1	
	comp=E,230nm,0.5s,baz=170,slow=29,SNR=5.6						
KZA	Kyzart	4.01	45	P	Pn	13 30 05.1	+2.8
	SNR=95						
AAK	Ala-Archa	4.05	34	P	Pn	13 30 06.0	+3.2
	SNR=189						
AAK	Ala-Archa	4.05	34	ePn	Pn	13 30 05.0	+2.2
AAK				eSn	Sn	13 30 54.5	+5.5
FRU	Bishkek	4.27	34	ePN	Pn	13 30 10.0	+4.2
FRU				pmax	pmax		
	comp=Z,361nm,1.8s						
KBK	Karagaybulak	4.28	38	P	Pn	13 30 09.5	+3.6
	SNR=93						
CHMS	Chumysh	4.46	33	P	Pn	13 30 11.8	+3.4
	SNR=159						
USP	Ospenovka	4.58	30	P	Pn	13 30 13.0	+3.0
	SNR=93						
TKM2	Tokmak 2	4.79	40	P	Pn	13 30 15.6	+2.7
	SNR=38						
TKM2	Tokmak 2	4.79	40	⇑Pn	Pn	13 30 15.8	+2.8
	comp=Z,5.1nm,0.5s						
TKM2				⇑Sn	Sn	13 31 14.5	+7.2
	comp=Z,15nm,0.8s						
TKM2				⇑Lg		13 31 28.6	
	comp=Z,22nm,0.8s						
CEP	Cherat	5.50	176	P	Pn	13 30 22.5	-0.2
KNDC	Almaty	5.72	45	⇑Pn	Pn	13 30 29.5	+3.8
	comp=Z,120nm,0.8s						
KNDC				⇓Lg		13 31 59.0	
	comp=Z,192nm,0.7s						
CHCP	Chirah Chowk	5.84	165	P	Pn	13 30 28.9	+1.5
CHCP				S	Sn	13 31 34.0	+0.9
THW	Thamme Wali	6.52	178	P	Pn	13 30 38.0	+1.4
SBDP	Sheikh Budin	7.02	184	P	Pn	13 30 42.8	-0.8
DLH	Dalhousie	7.71	150	eP	Pn	13 30 51.0	-2.0
DLH				ex	x	13 32 18.0	
KLP	Kalpa	9.56	142	eP	Pn	13 31 15.9	-2.5
KLP				eS	Sn	13 32 51.1	-13
KLP				AML	AML	13 33 12.1	
	comp=E,278nm,0.7s						
KLP				AML	AML	13 33 15.1	
	comp=N,280nm,0.9s						
MK02	Makanchi Array	10.90	43	⇑Pn	Pn	13 31 37.9	+1.1
	comp=N,8.8nm,0.9s,baz=236,slow=14						
MK02				⇑Lg		13 34 48.9	
	comp=N,23nm,1.4s,baz=238,slow=24						
MKAR	Makanchi Array	10.91	43	Pn	Pn	13 31 38.4	+1.5
	comp=N,0.4nm,0.3s,baz=236,slow=13,SNR=27						
MKAR				Lg		13 34 47.2	
	comp=N,0.5nm,0.3s,baz=232,slow=26,SNR=4.1						
NDI	New Delhi	11.65	154	eP	Pn	13 31 47.0	0.0
NDI				eS	Sn	13 33 44.0	-12
KUDL	Kundal	11.92	158	ex	x	13 31 45.2	
KUDL				eS	Sn	13 33 51.8	-10
SONA	Sohna	12.00	155	eP	Pn	13 31 49.3	-2.5
SONA				eS	Sn	13 33 53.6	-11
LGTI	Lohaghat	12.25	141	ex	x	13 34 26.5	
AB31	Akbulak array	12.88	324	Pn	Pn	13 32 02.6	-1.1
	comp=N,7.5nm,0.5s,baz=136,slow=14,SNR=185						
AB31				⇑Sn	Sn	13 34 24.8	-0.9
	comp=N,23nm,0.6s,baz=138,slow=22,SNR=17						
VOSK	Vostochnaya	13.41	359	⇑Pn	Pn	13 32 10.2	-0.9
	comp=N,7.6nm,0.8s						
VOSK				⇓Sn	Sn	13 34 36.2	-2.6
	comp=N,7.6nm,0.8s						
VOSK				⇑Lg		13 36 03.6	
	comp=N,28nm,1.4s						
BVA0	Borovoye Array	13.73	357	Pn	Pn	13 32 14.6	-0.7
	comp=N,1.7nm,0.8s,baz=162,slow=12,SNR=35						
BVA0				Sn	Sn	13 34 44.3	-2.2
	comp=N,2.7nm,0.9s,baz=171,slow=21,SNR=10						
BVA0				⇑Lg		13 36 24.7	
	comp=N,5.8nm,1.1s,baz=190,slow=28,SNR=4.0						
BVAR	Borovoye Array	13.73	357	Pn	Pn	13 32 14.7	-0.7
	comp=N,1.1nm,0.3s,baz=165,slow=12,SNR=32						
BVAR				Sn	Sn	13 34 44.7	-1.9
	comp=N,0.9nm,0.3s,baz=166,slow=20,SNR=9.7						
BVAR				Lg		13 36 24.5	
	comp=N,0.2nm,0.3s,baz=181,slow=27,SNR=3.6						
BVAR				LR	LR	13 37 52.4	
	comp=N,185nm,21.6s,baz=140,slow=38						
BVAR	Borovoye Array	13.73	357	P	Pn	13 32 14.7	-0.7
BVAR						13 34 44.7	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,185nm,21.6s						
BRVK	Borovoye	13.77	357	eP	Pn	13 32 15.1	-0.8
BRVK				e		13 34 46.4	
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	Borovoye	13.77	357	ePn	Pn	13 32 15.1	-0.8
	comp=Z,4.7nm,0.6s						
BRVK				eSn	Sn	13 34 46.4	-1.0
CHKZ	Chkalovo	14.37	358	⇑Pn	Pn	13 32 20.7	-3.5
	comp=Z,6.9nm,0.9s						
CHKZ				⇑Sn	Sn	13 35 00.8	-1.4
	comp=Z,10nm,0.8s						
CHKZ				⇓Lg		13 36 29.9	
	comp=Z,44nm,1.7s						
CHKZ	Chkalovo	14.37	358	eP	Pn	13 32 23.1	-1.1
CHKZ				e		13 35 01.9	
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHKZ	Chkalovo	14.37	358	ePn	Pn	13 32 23.1	-1.1
	comp=Z,7.2nm,0.8s						
CHKZ				eSn	Sn	13 35 01.9	-0.3
AKTK	Aktyubinsk	14.59	324	Pn	Pn	13 32 25.9	-1.2
AKTK				Sn	Sn	13 35 08.2	+0.7
AKTK				LR	LR	13 38 38.9	
AKTO	Aktyubinsk	14.59	324	⇑Pn	Pn	13 32 26.1	-1.1
	comp=Z,0.7nm,0.8s						
AKTO				⇑Sn	Sn	13 35 08.4	+0.8
	comp=Z,1.3nm,1.1s						
AKTO	Aktyubinsk	14.59	324	Pn	Pn	13 32 25.9	-1.2
	comp=Z,1.1nm,0.3s,baz=136,slow=13,SNR=11						
AKTO				Sn	Sn	13 35 08.2	+0.7
	comp=Z,1.9nm,0.3s,baz=12,slow=21,SNR=6.4						
AKTO				LR	LR	13 38 38.9	
	comp=Z,242nm,18.5s,baz=141,slow=39						
AKTO	Aktyubinsk	14.59	324	P	Pn	13 32 25.9	-1.2
AKTO						13 35 08.2	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,2.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,242nm,18.5s						
KOLN	Koldanda	15.34	135	eP	Pn	13 32 30.1	-6.9
	comp=Z,37nm,1.0s						
KOLN				eS	S	13 35 13.3	-28
GKN	Gorkha	15.75	132	eP	Pn	13 32 35.0	-7.3
	comp=Z,29nm,0.6s						
GKN				eS	S	13 35 23.7	-26
KKN	Kakani	16.28	131	eP	Pn	13 32 41.5	-7.6
	comp=Z,20nm,0.5s						
DMN	Daman	16.32	132	eP	Pn	13 32 42.7	-6.9
PKI	Pulchoki	16.52	131	eP	Pn	13 32 44.8	-7.4
	comp=Z,22nm,0.5s						
GUN	Gumba	16.55	129	eP	Pn	13 32 45.9	-6.6
JIRN	Jiri	16.92	129	eP	Pn	13 32 51.0	-6.2
	comp=Z,17nm,0.5s						
ZAL	Zalesovo	17.23	28	P	Pn	13 32 59.9	-1.1
	comp=Z,3.0nm,0.3s,baz=262,slow=9.2,SNR=10						
ZAL				S	S	13 36 21.1	+1.6
	comp=Z,0.4nm,0.3s,baz=48,slow=16,SNR=2.3						
ZAL				LR	LR	13 40 26.8	
	comp=Z,66nm,18.2s,baz=76,slow=40						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	17.23	28	P	Pn	13 32 59.9	-1.1
ZAL				S	S	13 36 21.1	+1.6
ZAL				LR	LR	13 40 26.8	
NVS	Novosibirsk	17.45	23	eP	Pn	13 33 01.0	-2.8
NVS				eS	S	13 36 02.0	-22
NVS				pmax	pmax		
	comp=N,23nm,2.0s						
NVS				pmax	pmax		
	comp=E,15nm,2.0s						
NVS				pmax	pmax		
	comp=Z,23nm,2.0s						
NVS				smax			
	comp=N,16nm,2.0s						
NVS				smax			
	comp=E,27nm,2.0s						
SVE	Sverdlovsk	18.90	342	eP	Pn	13 33 19.0	-2.4
SVE				MLR	MLR		
	comp=N,300nm,12.0s						
SVE				MLR	MLR		
	comp=E,400nm,12.0s						
SVE				MLR	MLR		
	comp=Z,400nm,12.0s						
ARU	Arti	19.11	338	eP	Pn	13 33 24.1	+0.1
ARU				eS	S	13 36 58.6	+1.0
ARU				MLR	MLR		
	comp=E,70nm,18.0s						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU				MLR	MLR		
	comp=N,100nm,20.0s						
ARU	Arti	19.11	338	eP	Pn	13 33 24.4	+0.4
	comp=N,11nm,0.9s						
GNI	Garni	20.50	281	P	P	13 33 41.5	+3.4
	comp=N,3.8nm,0.4s,baz=358,slow=14,SNR=5.7						
GNI	Garni	20.50	281	P	P	13 33 41.5	+3.4
GNI				pmax	pmax		
	comp=Z,4.0nm,0.4s						
ZEI	Tsey	21.00	288	eP	P	13 33 46.0	+2.6
ZEI				e*PP		13 33 58.5	
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KIV	Kislovodsk	21.91	292	eP	P	13 33 58.6	+5.4
KIV				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.4						
KIV				MLR	MLR		
	comp=Z,25nm,13.0s						
GTA	Gaotai	21.93	81	eP	P	13 33 52.6	-0.8
GTA				AP		13 33 58.3	
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,129nm,4.6s						
GTA				LR	LR		
	comp=N,143nm,16.0s,MS3.6						
GTA				LR	LR		
	comp=E,152nm,15.2s,MS3.6						
GTA				LR	LR		
	comp=Z,227nm,10.7s,MS3.9						
ZAK	Zakamensk	24.97	53	eP	P	13 34 23.2	0.0
VRSR	Storozhevoye	25.39	309	eP	P	13 34 27.9	+0.8
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
VRSR				pmax	pmax		
	comp=N,7.0nm,1.0s						
MALT	Malatya	25.64	278	eP	P	13 34 32.7	+3.3
MALT				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
MALT	Malatya	25.64	278	eP	P	13 34 32.7	+3.4
	comp=Z,4.7nm,0.8s,mb4.1						
SONM	Songino Array	26.55	60	P	P	13 34 37.1	-0.5
	comp=Z,2.2nm,0.8s,mb3.8,baz=258,slow=9.0,SNR=15						
SONM	Songino Array	26.55	60	P	P	13 34 37.1	-0.5
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
OBN	Obninsk	28.08	316	eP	P	13 34 58.1	+6.8
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
BRTR	Keskin Array B	29.00	283	P	P	13 35 01.1	+1.6
	comp=Z,2.1nm,0.8s,mb3.9,baz=91,slow=7.7,SNR=8.2						
BRTR	Keskin Array B	29.00	283	P	P	13 35 01.1	+1.6
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	Malin Array Be	31.51	305	P	P	13 35 22.1	+0.4
	comp=Z,0.4nm,0.3s,mb3.7,baz=77,slow=7.7,SNR=4.9						
BOD	Bodaibo	33.00	42	eP	P	13 35 33.8	-0.9
BOD				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
FINES	FINESS Array B	35.37	324	P	P	13 35 56.1	+0.9
	comp=Z,0.7nm,0.3s,mb4.0,baz=117,slow=8.8,SNR=13						
FINES				LR	LR	13 51 10.9	
	comp=Z,86nm,21.1s,MS3.5,baz=120,slow=37						
FINES	FINESS Array B	35.37	324	P	P	13 35 56.1	+0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,86nm,21.1s						
ARCES	ARCESS Array B	38.68	336	P	P	13 36 24.2	+0.8
	comp=Z,3.8nm,0.8s,mb4.2,baz=108,slow=7.8,SNR=15						
ARCES				LR	LR	13 53 33.8	
	comp=Z,235nm,18.5s,MS4.0,baz=52,slow=38						
ARCES	ARCESS Array B	38.68	336	P	P	13 36 24.2	+0.8
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,235nm,18.5s						
ARCES	ARCESS Array B	38.68	336	P	P	13 36 24.2	+0.8
ARCES				LR	LR	13 53 33.8	
NJ2	Nanjing	38.85	86	eP	P	13 36 25.6	+0.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
SSE	Sheshan	41.06	86	P	P	13 36 42.8	-0.3
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,68nm,3.6s						
BRG	Berggiesshubel	41.19	306	eP	P	13 36 45.8	+1.6
	comp=Z,3.1nm,0.8s,mb4.0						
BRG	Berggiesshubel	41.19	306	eP	P	13 36 45.8	+1.6
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
GERES	GERESS Array B	41.62	303	P	P	13 36 49.3	+1.6
	comp=Z,1.0nm,0.7s,mb3.6,baz=351,slow=16,SNR=3.6						
NB2	NORSAR Subarra	42.36	321	P	P	13 36 53.6	-0.1
	comp=Z,1.2nm,0.5s,mb3.8,baz=90,slow=8.6						
NOA	NORSAR Array B	42.36	321	P	P	13 36 54.1	+0.4
	comp=Z,1.6nm,0.7s,mb3.8,baz=92,slow=8.2,SNR=5.3						
NOA	NORSAR Array B	42.36	321	P	P	13 36 54.1	+0.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CDF	Champ du Feu	45.89	303	eP	P	13 37 22.0	0.0
HAU	Haudompre	46.59	303	eP	P	13 37 27.2	-0.3
LPL	La Plagne	47.00	300	eP	P	13 37 30.2	-0.5
SBF	Sospel	47.00	297	eP	P	13 37 30.4	-0.4
CABF	La Chapelle	47.12	301	eP	P	13 37 31.3	-0.4
LOR	Lormes	48.41	303	eP	P	13 37 41.6	0.0
SMF	Signal de Mont	48.60	302	eP	P	13 37 42.7	-0.4
SSF	Saint Saulge	48.70	303	eP	P	13 37 43.3	-0.6
	comp=Z,7.3nm,0.7s,mb4.5						
SSF	Saint Saulge	48.70	303	eP	P	13 37 43.3	-0.6
SSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
SSF	Saint Saulge	48.70	303	eP	P	13 37 43.3	-0.6
	comp=Z,3.7nm,0.7s,mb4.5						
AVF	Avril sur Loir	48.88	302	eP	P	13 37 45.0	-0.3
	comp=Z,14nm,0.8s,mb4.7						
AVF	Avril sur Loir	48.88	302	eP	P	13 37 45.0	-0.3
AVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
AVF	Avril sur Loir	48.88	302	eP	P	13 37 45.0	-0.3
	comp=Z,6.8nm,0.8s,mb4.7						
LASF	Ste Croix	49.39	299	eP	P	13 37 49.4	+0.2
	comp=Z,16nm,0.9s,mb4.7						
TCF	Toulx Ste Croi	49.78	302	eP	P	13 37 52.2	0.0
	comp=Z,20nm,0.9s,mb4.8						
TCF	Toulx Ste Croi	49.78	302	eP	P	13 37 52.2	0.0
TCF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TCF	Toulx Ste Croi	49.78	302	eP	P	13 37 52.2	0.0
	comp=Z,10.0nm,0.9s,mb4.8						
RJF	Les Rejaudoux	50.56	301	eP	P	13 37 57.7	-0.3
LDF	La Druitiere	50.58	305	eP	P	13 37 57.7	-0.5
MTLF	Montolieu	50.76	298	eP	P	13 37 59.6	+0.1
GRR	Gorron	51.10	305	eP	P	13 38 01.5	-0.7
	comp=Z,22nm,0.9s,mb4.8						
GRR	Gorron	51.10	305	eP	P	13 38 01.5	-0.7
GRR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
GRR	Gorron	51.10	305	eP	P	13 38 01.5	-0.7
	comp=Z,11nm,0.9s,mb4.8						
MFF	Saint Martin d	51.22	303	eP	P	13 38 03.1	+0.1
	comp=Z,16nm,1.0s,mb4.6						
MFF	Saint Martin d	51.22	303	eP	P	13 38 03.1	+0.1
MFF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MFF	Saint Martin d	51.22	303	eP	P	13 38 03.1	+0.1
	comp=Z,7.8nm,1.0s,mb4.6						
MJAR	Matsushiro Arr	51.67	71	P	P	13 38 04.7	-1.7
	comp=Z,2.7nm,0.8s,mb4.3,baz=292,slow=9.3,SNR=5.9						
MJAR	Matsushiro Arr	51.67	71	P	P	13 38 04.7	-1.7
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SGMF	Saint Gilles	52.22	306	eP	P	13 38 10.1	-0.4
	comp=Z,15nm,0.7s,mb4.7						
SGMF	Saint Gilles	52.22	306	eP	P	13 38 10.1	-0.4
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
SGMF	Saint Gilles	52.22	306	eP	P	13 38 10.1	-0.4
	comp=Z,7.4nm,0.7s,mb4.7						
ROSF	Rostrenen	52.64	306	eP	P	13 38 13.8	+0.2
	comp=Z,24nm,0.9s,mb4.8						
ROSF	Rostrenen	52.64	306	eP	P	13 38 13.8	+0.2
ROSF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ROSF	Rostrenen	52.64	306	eP	P	13 38 13.8	+0.2
	comp=Z,12nm,0.9s,mb4.8						
ETSF	Etsaut	52.81	299	eP	P	13 38 15.1	+0.2
	comp=Z,17nm,1.0s,mb4.6						
ETSF	Etsaut	52.81	299	eP	P	13 38 15.1	+0.2
ETSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ETSF	Etsaut	52.81	299	eP	P	13 38 15.1	+0.2
	comp=Z,8.7nm,1.0s,mb4.6						
ESDC	Sonseca Array	56.46	296	P	P	13 38 42.1	+0.8
	comp=Z,2.2nm,0.7s,mb4.3,baz=62,slow=7.4,SNR=8.9						
ESDC	Sonseca Array	56.46	296	P	P	13 38 42.1	+0.8
CBIJ	Chichi jima	59.10	79	LR	LR	14 04 10.9	
	comp=Z,953nm,21.4s,MS4.9,baz=312,slow=36						
TOA0	Torodi Ar. Sit	66.13	268	eP	P	13 39 46.4	-0.3
TORD	Torodi Ar. Bea	66.13	268	P	P	13 39 46.4	-0.4
	comp=Z,2.6nm,0.6s,mb4.5,baz=49,slow=5.5,SNR=30						
INK	Inuvik	71.08	10	eP	P	13 40 18.1	+0.5
INK				pmax	pmax		
	comp=Z,11nm,0.9s						
INK	Inuvik	71.08	10	eP	P	13 40 18.1	+0.5
	comp=Z,12nm,0.9s,mb4.8						
COLA	College	71.69	17	eP	P	13 40 19.5	-1.8
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
COLA	College	71.69	17	eP	P	13 40 19.5	-1.7
	comp=Z,7.2nm,0.9s,mb4.6						
YKA	Yellowknife Ar	78.42	3	P	P	13 41 00.2	+0.2
	comp=Z,6.2nm,0.7s,mb4.6,baz=350,slow=5.5,SNR=18						
ULM	Lac du Bonnet	90.11	352	LR	LR	14 28 13.0	
	comp=Z,842nm,18.2s,MS5.2,baz=79,slow=39						

IDC ***19*** *13:29:51.8±0.4, 2597S×17559W, h0km, mb5.4/17, mb1 5.5/18, mb1mx5.5/18, mbtmp5.4/18, ML5.8/1, MS5.0/16, Ms1 5.0/16, ms1mx4.7/34, Error ellipse: s-maj=16.3km s-min=14.6km az=175.0*

ISCJB ***19*** *13:29:52.7±0.1, 2622S±004×17562W±004, h17km, mb5.6/90, MS5.4/162, Error ellipse: s-maj=6.7km s-min=3.9km az=121.7*

BJI ***19*** *13:29:52.8, 2563S×17507W, h14km, mB6.1, mb5.7, Ms5.9, Msz5.7*

CRAAG ***19*** *13:29:52.8, 2601S×17564W, Mw5.7*

NEIC ***19*** *13:29:54.3±0.7, 26.15S×17560W, h18km±4km, mb5.7/55, MS5.4/137, MW5.7, Error ellipse: s-maj=5.7km s-min=3.2km az=143.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; Mrr-3.45; Mθθ0.38; Mφφ3.07; Mrθ0.13; Mθφ-0.98; Mφr1.92; Best double couple: Mo3.90000×10^{17} NP1:φs172.00000°, δ60.00000°, λ-80.00000°. NP2:φs332.00000°, δ32.00000°, λ-107.00000°. Principal axes: T 3.8400, Plg14.0000°, Azm255.0000°; N 0.1700, Plg9.0000°, Azm347.0000°; P -4.0100, Plg73.0000°, Azm108.0000°;*

GCMT ***19*** *13:29:54.3±0.1, 26.10S×175.16W, h12km, MW5.6/101, Moment Tensor Solution. s90,c188; s101,c260; Duration: 1s6 Moment tensor: Scale 10^{17}Nm; Mrr-3.11±.03; Mθθ0.17±.03; Mφφ2.94±.03; Mrθ-0.29±.08; Mθφ-0.62±.03; Mφr-1.61±.08; Best double couple: Mo3.49600×10^{17} NP1:φs159.00000°, δ33.00000°, λ-106.00000°. NP2:φs358.00000°, δ59.00000°, λ-80.00000°. Principal axes: T 3.4300, Plg13.0000°, Azm80.0000°; N 0.1350, Plg9.0000°, Azm172.0000°; P -3.5620, Plg74.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***19*** *13:29:55.1±2.0, 2607S×17569W, h36km, mb5.8/47, MS5.2/46 Error ellipse: s-maj=13.2km s-min=8.2km az=76.4*

SZGRF ***19*** *13:29:57.2, 2524S×17479W, h33km, South of Tonga Islands*

ISC 19 13:29:54.5±0.1**, 2618S**±004×**17555W**±004**, h18**km±.8km**:pP-P, n809, σ0s95**/334**, mb5.6**/90**, MS5.4**/162**, 25C-80D, South of Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	3.71	214	Pn	Pn	13 30 52.0	+1.0
	663nm,0.3s,baz=266,slow=21,SNR=26						
RAO				Sn	Sn	13 31 35.5	+1.2
	2µm,0.3s,baz=124,slow=22,SNR=14						
RAO				T		13 35 16.9	
	863nm,0.3s,baz=250,slow=20,SNR=9.3						
RAO	Raoul Island	3.71	214	ePn	Pn	13 30 51.5	+0.5
RAO				eSn	Sn	13 31 36.2	+1.9
AFI	Afiamalu	12.71	17	Pn	Pn	13 32 45.7	-8.6
	26nm,0.3s,baz=140,slow=2.7,SNR=27						
AFI				Sn	Sn	13 34 55.3	-20
	24nm,0.3s,baz=29,slow=22,SNR=8.0						
AFI				LR	LR	13 36 59.0	
	comp=Z,2µm,20.6s,baz=194,slow=34						
AFI				T		13 45 43.5	
	50nm,0.3s,baz=55,slow=22,SNR=5.3						
AFI	Afiamalu	12.71	17	ePn	Pn	13 32 45.5	-8.8
	128nm,0.4s						
AFI				eSn	Sn	13 34 53.7	-22
PUZ	Puketiti	12.97	202	eP	Pn	13 32 49.3	-8.6
PUZ	Puketiti	12.97	202	PN	Pn	13 32 48.2	-10
PUZ				SN	Sn	13 35 09.8	-12
MWZ	Matawai	13.46	204	SN	Sn	13 35 23.1	-11
URZ	Urewera	13.55	205	Pn	Pn	13 32 60.0	-5.9
	0.8nm,0.3s,baz=30,slow=23,SNR=14						
URZ				Sn	Sn	13 35 25.6	-10
	33nm,0.3s,baz=170,slow=22,SNR=15						
URZ				T		13 46 38.1	
	3.9nm,0.3s,baz=100,slow=8.5,SNR=4.0						
URZ	Urewera	13.55	205	eP	Pn	13 32 56.7	-9.1
URZ				Pn	Pn	13 32 60.0	-5.9
URZ				Sn	Sn	13 35 25.6	-10
URZ	Urewera	13.55	205	PN	Pn	13 32 56.4	-9.4
URZ				SN	Sn	13 35 26.8	-9.2
KNZ	Kokohu	14.02	202	SN	Sn	13 35 33.7	-14
TSZ	Takapari Road	15.55	205	SN	Sn	13 36 10.6	-14
TIWZ	Tintock	16.21	204	SN	Sn	13 36 26.6	-14
MRZ	Mangatainoka R	16.22	205	eP	Pn	13 33 34.5	-7.0
MRZ	Mangatainoka R	16.22	205	PN	Pn	13 33 34.5	-7.0
MRZ				SN	Sn	13 36 26.7	-14
KIW	Kapiti Island	16.65	206	SN	Sn	13 36 33.4	-18
PAWZ	Paruwai Farm	16.90	204	SN	Sn	13 36 39.4	-18
DZM	Mont Dzumac	16.94	280	eP	Pn	13 33 53.7	+3.1
DZM				eS	Sn	13 36 41.3	-17
DZM	Mont Dzumac	16.94	280	Pn	Pn	13 33 55.7	+5.1
	2.5nm,0.3s,baz=90,slow=17,SNR=18						
DZM				LR	LR	13 37 52.2	
	comp=Z,7µm,18.6s,baz=105,slow=28						
TCW	Tory Channel	17.20	207	P	Pn	13 33 52.1	-1.8
TCW	Tory Channel	17.20	207	PN	Pn	13 33 52.1	-1.8
TUWZ	Tuamarina	17.52	207	SN	Sn	13 36 52.7	-20
NNZ	Nelson	17.58	209	eP	Pn	13 33 53.1	-5.5
NNZ	Nelson	17.58	209	PN	Pn	13 33 52.9	-5.7
NNZ				SN	Sn	13 36 56.1	-18
THZ	Tophouse	18.23	209	eP	Pn	13 34 00.8	-5.8
THZ	Tophouse	18.23	209	PN	Pn	13 34 00.3	-6.3
THZ				SN	Sn	13 37 10.5	-19
KHZ	Kahutara	18.51	206	eP	Pn	13 34 01.7	-8.4
KHZ	Kahutara	18.51	206	PN	Pn	13 34 01.7	-8.4
KHZ				SN	Sn	13 37 15.4	-21
LTZ	Lake Taylor	19.34	208	eP	Pn	13 34 13.9	-6.1
LTZ	Lake Taylor	19.34	208	PN	Pn	13 34 13.9	-6.1
LTZ				SN	Sn	13 37 36.8	-20
MQZ	McQueen's Vall	19.95	206	SN	Sx	13 37 47.3	
WVZ	Waitaha Valley	20.24	210	SN	S	13 37 55.9	-19
RPZ	Rata Peaks	20.61	209	P	P	13 34 30.9	-1.8
	41nm,0.6s,baz=359,slow=0.6,SNR=23						
RPZ				S	S	13 38 03.4	-19
	25nm,0.7s,baz=162,slow=20,SNR=8.2						
RPZ				LR	LR	13 42 02.5	
	comp=Z,3µm,21.7s,MS4.6,baz=23,slow=35						
ODZ	Otahua Downs	21.86	207	eP	P	13 34 45.7	-0.5
ODZ	Otahua Downs	21.86	207	PN	P	13 34 45.3	-0.9
JCZ	Jackson Bay	21.93	211	eP	P	13 34 45.8	-1.1
JCZ	Jackson Bay	21.93	211	PN	P	13 34 45.8	-1.1
TUZ	Tuapeka	23.02	207	eP	P	13 35 02.4	+3.9
TUZ	Tuapeka	23.02	207	PN	P	13 35 02.4	+3.9
PAE	Paea	25.50	76	eP	P	13 35 23.0	+1.2
	206nm,1.2s,mb5.5						
PAE	Paea	25.50	76	eP	P	13 35 23.0	+1.2
PAE				pmax	pmax		
	comp=Z,206nm,1.2s,mb5.5						
PPT	Papeete	25.54	76	eP	P	13 35 23.6	+1.4
	comp=Z,122nm,1.3s,mb5.3						
PPT	Papeete	25.54	76	eLQ		13 40 24.4	
	comp=Z,3µm,23.2s						
PPT				eLR	LR	13 41 30.2	
	comp=Z,17µm,28.2s,baz=251						
PPT	Papeete	25.54	76	P	P	13 35 18.0	-4.2
	comp=Z,37nm,1.0s,mb4.9,baz=18,slow=20,SNR=2.4						
PPT				LR	LR	13 42 33.3	
	comp=Z,4µm,18.9s,MS5.0,baz=236,slow=30						
PPT				T		14 01 30.5	
	comp=Z,108nm,0.5s,baz=22,slow=18,SNR=8.2						
PPT	Papeete	25.54	76	P	P	13 35 18.0	-4.2
PPT				eP	pP	13 35 23.6	-3.9
PPT				eLQ		13 40 24.4	
PPT				LR	LR	13 42 33.3	
TVO	Taravao	25.74	76	eP	P	13 35 25.4	+1.4
	comp=Z,204nm,1.0s,mb5.6						
TVO	Taravao	25.74	76	eP	P	13 35 25.4	+1.4
TVO				pmax	pmax		
	comp=Z,204nm,1.0s,mb5.6						
VAH	Vaihoa	28.23	73	eP	P	13 35 48.1	+1.7
	comp=Z,164nm,1.4s,mb5.5						
HNR	Honiara	28.58	301	P	P	13 35 44.6	-4.9
	comp=Z,65nm,0.8s,mb5.4,baz=121,slow=5.9,SNR=1.8						
HNR				LR	LR	13 43 33.4	
	comp=Z,1µm,21.8s,MS4.5,baz=178,slow=29						
HNR	Honiara	28.58	301	eP	P	13 35 48.1	-1.4
HNR				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.7						
HNR	Honiara	28.58	301	P	P	13 35 44.6	-4.9
HNR				eP	pP	13 35 48.1	-6.7
HNR				LR	LR	13 43 33.4	
ARMA	Armidale	29.15	254	eP	P	13 35 55.8	+1.2
CNB	Canberra Magne	31.37	245	eP	P	13 36 15.8	+1.6
	comp=Z,30nm,0.7s,mb5.2						
TAU	Tasmania Unive	34.52	232	PFAKE		13 36 50.0	+8.3
TAU				LR	LR		
	comp=Z,594nm,19.0s,MS4.3						
TOO	Toolangi	34.76	241	eP	P	13 36 45.5	+1.7
	comp=Z,21nm,1.2s,mb5.0						
CTA	Charters Tower	35.56	272	eP	P	13 36 51.4	+0.7
	comp=Z,84nm,0.7s,mb5.8						
CTA				ePP	PP	13 38 18.0	+6.5
CTA				eS	S	13 42 50.8	+25
CTA	Charters Tower	35.56	272	P	P	13 36 51.5	+0.8
	comp=Z,101nm,0.7s,mb5.8,baz=102,slow=11,SNR=62						
CTA				LR	LR	13 48 50.0	
	comp=Z,3µm,20.8s,MS5.0,baz=112,slow=32						
CTA	Charters Tower	35.56	272	eP	P	13 36 51.4	+0.7
CTA				pmax	pmax		
	comp=Z,84nm,0.7s						
CTAO	Charters Tower	35.56	272	eP	P	13 36 50.5	-0.2
CTAO				MLR	MLR		
	comp=Z,3µm,20.0s,MS5.1						
RKT	Rikitea	36.90	94	eS	S	13 42 44.9	-1.2
	comp=Z,1µm,28.0s						
RKT				eLQ		13 45 20.6	
	comp=Z,1µm,32.5s						
RKT				eLR	LR	13 46 46.5	
	comp=Z,7µm,30.2s,baz=261						
STKA	Stephens Creek	37.72	251	eP	P	13 37 10.5	+1.4
	comp=Z,12nm,0.9s,mb4.6						
STKA				ePCP	PcP	13 39 27.5	+1.5
STKA				eS	S	13 43 11.2	+13
STKA	Stephens Creek	37.72	251	P	P	13 37 10.5	+1.4
	comp=Z,13nm,0.8s,mb4.7,baz=90,slow=10,SNR=15						
STKA				PcP	PcP	13 39 26.8	+0.8
	comp=Z,16nm,0.9s,baz=50,slow=6.6,SNR=3.6						
STKA				LR	LR	13 51 20.1	
	comp=Z,5µm,18.2s,MS5.3,baz=86,slow=34						
TAOE	Nuku Hiva Isla	37.72	69	eS	S	13 42 57.4	-1.2
	comp=Z,4µm,26.3s						
TAOE				eLR	LR	13 47 03.4	
	comp=Z,15µm,28.6s,baz=249						
PMG	Port Moresby	39.05	288	P	P	13 37 18.7	-1.6
	comp=Z,65nm,0.9s,mb5.3,baz=117,slow=4.8,SNR=7.6						
PMG				LR	LR	13 50 46.5	
	comp=Z,3µm,18.4s,MS5.1,baz=272,slow=32						
PMG	Port Moresby	39.05	288	eP	P	13 37 18.9	-1.3
PMG				LR	LR		
	comp=Z,3µm,20.0s,MS5.1						
PTCN	Pitcairn Islan	40.84	99	PFAKE		13 37 50.0	+15
PTCN				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
AS31	Alice Springs	45.68	262	eP	P	13 38 13.0	-1.3
AS31				eS	S	13 44 51.8	-4.6
ASAR	Alice Springs	45.68	262	P	P	13 38 13.1	-1.2
	comp=Z,78nm,1.0s,mb5.6,baz=107,slow=8.2,SNR=64						
ASAR				PcP	PcP	13 39 54.0	+1.8
	comp=Z,13nm,1.1s,baz=116,slow=6.1,SNR=4.2						
ASAR				S	S	13 44 51.0	-5.5
	comp=Z,6.9nm,1.0s,baz=109,slow=14,SNR=7.8						
ASAR				LR	LR	13 54 36.6	
	comp=Z,3µm,21.5s,MS5.2,baz=33,slow=32						
ASAR	Alice Springs	45.68	262	P	P	13 38 13.1	-1.2
ASAR						13 39 54.0	
ASAR				S	S	13 44 51.0	-5.4
ASAR				pmax	pmax		
	comp=Z,78nm,1.0s						
ASAR				smax			
	comp=N,7.0nm,1.0s						
ASPA	Alice Springs	45.68	262	eP	P	13 38 13.0	-1.3
ASPA				eS	S	13 44 51.8	-4.7
WB2	Warramunga Arr	46.29	267	eP	P	13 38 17.5	-1.6
WB2				eS	S	13 45 00.6	-4.6
WB2				eSS	SS	13 48 38.2	+7.5
WRAB	Tennant Creek	46.30	267	eP	P	13 38 17.9	-1.2
WRAB				e*PP	pP	13 38 24.1	-0.5
WRAB				MLR	MLR		
	comp=Z,523nm,20.0s,MS4.5						
WRA	Warramunga Arr	46.30	267	P	P	13 38 18.0	-1.2
	comp=Z,46nm,0.7s,mb5.5,baz=105,slow=7.8,SNR=140						
WRA				PcP	PcP	13 39 54.5	+0.2
	comp=Z,34nm,1.2s,baz=103,slow=4.2,SNR=7.1						
WRA				S	S	13 45 00.9	-4.5
	comp=Z,12nm,1.1s,baz=102,slow=14,SNR=11						
WRA				LR	LR	13 57 02.8	
	comp=Z,1µm,18.9s,MS4.9,baz=55,slow=35						
WRA	Warramunga Arr	46.30	267	P	P	13 38 18.0	-1.2
WRA						13 39 54.5	
WRA				S	S	13 45 00.9	-4.5
WRA				pmax	pmax		
	comp=Z,47nm,0.7s						
WRA				smax			
	comp=N,12nm,1.1s						
WRA				MLR	MLR		
	comp=Z,1µm,18.9s						
DRV	Dumont d'Urvil	48.85	202	P	P	13 38 39.0	0.0
DRV				S	S	13 45 41.0	-0.6
DRV				R		13 53 00.0	
FORT	Forrest	49.35	251	eP	P	13 38 40.4	-2.4
	comp=Z,70nm,0.7s,mb5.8						
KIP	Kipapa	50.28	21	eP	P	13 38 49.5	-0.3
KIP				pmax	pmax		
	comp=Z,104nm,1.1s,mb5.8						
KIP	Kipapa	50.28	21	eP	P	13 38 49.5	-0.3
	comp=Z,104nm,1.1s,mb5.8						

KAKA **Kakadu** 50.53 275 *e*P P 13 38 50.1 -1.7
comp=Z,32nm,0.6s,mb5.4
KAKA *e*PCP PcP 13 40 10.5 +0.9
SBA **Scott Base** 52.40 185 *e*P P 13 39 05.8 0.0
SBA pmax pmax
comp=Z,109nm,1.2s,mb5.7
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.0
SBA **Scott Base** 52.40 185 *e*P P 13 39 05.8 0.0
comp=Z,109nm,1.2s,mb5.7
SBA LR LR
comp=Z,1μm,20.0s,MS5.0
VNDA **Vanda** 52.50 186 P P 13 39 08.5 +2.0
comp=Z,14nm,0.9s,mb4.9,baz=8.6,slow=7.7,SNR=56
VNDA **Vanda** 52.50 186 *e*P P 13 39 08.5 +1.9
VNDA LR LR
comp=Z,867nm,21.0s,MS4.8
FITZ **Fitzroy Crossi** 54.69 266 *e*P P 13 39 21.4 -1.1
comp=Z,64nm,0.9s,mb5.7
FITZ *e*S S 13 46 57.5 -4.4
FITZ **Fitzroy Crossi** 54.69 266 P P 13 39 21.8 -0.7
comp=Z,26nm,0.7s,mb5.4,baz=132,slow=8.0,SNR=46
FITZ S S 13 47 00.2 -1.7
comp=Z,1.8nm,1.1s,baz=252,slow=19,SNR=2.7
GUMO **Guam** 55.18 311 P P 13 39 25.6 -0.5
comp=Z,148nm,0.8s,mb6.0,baz=168,slow=10,SNR=10
GUMO **Guam** 55.18 311 P P 13 39 25.6 -0.5
GUMO pmax pmax
comp=Z,149nm,0.8s,mb6.1
KLBR **Kellerberrin** 57.86 248 *e*P P 13 39 43.8 -1.3
comp=Z,70nm,0.8s,mb5.7
NWAO **Narrogin (SRO)** 58.00 246 P P 13 39 46.8 +0.6
comp=Z,15nm,0.8s,mb5.1,baz=142,slow=5.3,SNR=7.9
NWAO **Narrogin (SRO)** 58.00 246 P P 13 39 46.8 +0.6
NWAO LR LR
comp=Z,10μm,19.0s,MS5.9
MBWA **Marble Bar** 58.96 260 *e*P P 13 39 52.0 -0.9
comp=Z,41nm,0.9s,mb5.5
MBWA LR LR
comp=Z,13μm,19.0s,MS6.1
MUN **Mundaring** 59.05 247 *e*P P 13 39 52.6 -0.9
CASY **Casey** 59.87 207 *e*P P 13 39 59.6 +0.5
CASY *e*pP pP 13 40 15.1 +10
CASY **Casey** 59.87 207 *e*P P 13 39 59.6 +0.5
CASY *e*pP pP 13 40 15.1 +10
CASY LR LR
comp=Z,858nm,19.0s,MS4.9
QSPA **South Pole Qui** 63.92 180⇓ *i*P P 13 40 27.7 +1.3
comp=Z,158nm,0.9s,mb6.0
QSPA LR LR
comp=Z,1.0nm,20.0s
MIR **Mirnyy** 66.86 206 *d i*P P 13 40 43.0 -2.4
MIR pmax pmax
comp=Z,50nm,1.5s,mb5.3
TSM **Tawau** 71.12 285 P P 13 41 13.2 +1.2
JHJ **Hachijo jima 2** 72.68 322 LR LR 14 11 21.7
comp=Z,553nm,19.3s,MS4.8,baz=301,slow=34
KKM **Kota Kinabalu** 73.42 285 P P 13 41 27.0 +1.4
KKM **Kota Kinabalu** 73.42 285 *e*P P 13 41 26.4 +0.7
PMSA **Palmer Station** 75.21 156 *e*P P 13 41 35.9 -0.2
comp=Z,37nm,1.4s,mb5.1
PMSA LR LR
comp=Z,2μm,22.0s,MS5.3
JOW **Kunigami** 75.53 310 P P 13 41 38.9 +1.0
comp=Z,89nm,0.7s,mb5.8,baz=145,slow=5.6,SNR=21
MJAR **Matsushiro Arr** 76.09 323 P P 13 41 40.7 -0.4
comp=Z,20nm,1.0s,mb5.0,baz=158,slow=5.7,SNR=27
MJAR **Matsushiro Arr** 76.09 323 P P 13 41 40.7 -0.4
MJAR pmax pmax
comp=Z,20nm,1.0s
MAJO **Matsushiro** 76.09 323 *e*P P 13 41 40.6 -0.5
MAJO MLR MLR
comp=Z,439nm,20.0s,MS4.8
MAT **Matsushiro** 76.09 323 P P 13 41 40.4 -0.7
MAT S S 13 51 23.0 -0.9
KSM **Kuching** 76.45 278 *e*P P 13 41 43.8 +0.6
MAW **Mawson** 77.00 200 P P 13 41 47.6 +1.4
comp=Z,45nm,1.0s,mb5.3,baz=123,slow=7.0,SNR=65
MAW **Mawson** 77.00 200 P P 13 41 47.4 +1.1
MAW pmax pmax
comp=Z,150nm,1.4s
MAW **Mawson** 77.00 200 P P 13 41 47.6 +1.3
MAW LR LR
comp=Z,2μm,22.0s,MS5.4
ERM **Erimo** 77.85 330 PFAKE 13 42 00.0 +9.0
ERM LR LR
comp=Z,337nm,19.0s,MS4.7
NACB **Ninganchiao** 78.71 304 *e*P P 13 41 55.0 -0.8
NIKO **Nikolski** 79.03 4 *e*P P 13 41 56.4 -1.1
SMY **Shemya** 79.09 354 PFAKE 13 42 10.0 +12
SMY LR LR
comp=Z,1μm,21.0s,MS5.1
YHNB **Yeheng** 79.16 304 *e*P P 13 41 58.5 +0.3
TATO **Taipei** 79.25 305 ⇓P P 13 41 58.9 +0.2
SNR=6.4
TATO **Taipei** 79.25 305 *e*P P 13 41 58.9 +0.1
TATO LR LR
comp=Z,4μm,19.0s,MS5.8
SNCC **San Nicolas Is** 79.55 45 PFAKE 13 42 10.0 +10
SNCC LR LR
comp=Z,2μm,19.0s,MS5.5
SKR **Severo-Kuril's** 80.52 342 *e*P P 13 42 00.0 -5.6
SKR *e* 13 52 14.0
SAO **San Andreas Ge** 80.69 41 *e*P P 13 42 06.9 +0.4
SAO pmax pmax
comp=Z,61nm,1.3s,mb5.4
SAO MLR MLR
comp=Z,2μm,20.0s,MS5.4
SAO **San Andreas Ge** 80.69 41 *e*P P 13 42 06.9 +0.4
comp=Z,61nm,1.3s,mb5.4
SAO LR LR
comp=Z,2μm,20.0s,MS5.4
PTRM **Twissleman Ran** 80.70 43 *e*P P 13 42 07.1 +0.6
BAR **Barrett** 81.03 47 *e*P P 13 42 08.3 0.0
MWC **Mount Wilson** 81.11 45 *e*P P 13 42 08.9 +0.2
HOPS **Hopland** 81.28 39 *e*P P 13 42 10.1 +0.4
comp=Z,80nm,1.2s,mb5.5
HOPS LR LR
comp=Z,983nm,20.0s,MS5.2
QZH **Quanzhou** 81.40 303⇓ *i*P P 13 42 11.5 +1.2
QZH S S 13 52 23.0 +2.4
QZH AMB AMB
comp=Z,190nm,0.8s,mb6.1
QZH AMB AMB
comp=Z,2μm,3.6s
QZH LR LR
comp=Z,8μm,19.1s,MS6.1
SYO **Syowa Base** 81.69 192⇑ *i*P P 13 42 11.4 -0.4
SYO **Syowa Base** 81.69 192 *e*SH 13 52 34.0
PFO **Pinyon Flat Ob** 81.75 46 *e*P P 13 42 12.5 +0.4
PFO MLR MLR
comp=Z,459nm,19.0s,MS4.9
ISA **Isabella** 81.77 44 *e*P P 13 42 12.1 -0.2
comp=Z,0.1nm,1.3s
ISA LR LR
comp=Z,334nm,19.0s,MS4.7
YSS **Yuzh-Sakhalins** 81.95 333κ *i*P P 13 42 13.8 +0.6
YSS *e**SP sP 13 42 21.8 +0.7
YSS *e*S S 13 52 28.0 +1.6
YSS pmax pmax
comp=Z,150nm,1.2s,mb5.8
YSS pmax pmax
comp=E,70nm,1.1s
YSS MLR MLR
comp=Z,900nm,20.0s,MS5.1
YSS **Yuzh-Sakhalins** 81.95 333 *e*P P 13 42 14.4 +1.2
YSS LR LR
comp=Z,1μm,20.0s,MS5.2
PET **Petropavlovsk** 82.01 345κ *i*P P 13 42 12.4 -1.1
PET *e*S S 13 52 27.3 +0.4
PET *e*PS 13 53 08.6
PET *e*PPS 13 53 40.3
PET pmax pmax
comp=Z,39nm,1.3s,mb5.2
PET pmax pmax
comp=Z,800nm,7.5s
PET smax
comp=E,400nm,13.4s
PET smax
comp=E,500nm,6.1s
PET **Petropavlovsk** 82.01 345 *e*P P 13 42 12.3 -1.2
comp=E,86nm,1.5s,mb5.5
CMB **Columbia Colle** 82.17 41 *e*P P 13 42 13.8 -0.6
CMB pmax pmax
comp=Z,66nm,1.2s,mb5.4
CMB MLR MLR
comp=Z,2μm,20.0s,MS5.4
CMB **Columbia Colle** 82.17 41 *e*P P 13 42 13.8 -0.5
comp=Z,66nm,1.2s,mb5.4
CMB LR LR
comp=Z,2μm,20.0s,MS5.4
SDPT **Sand Point** 82.21 9 *e*P P 13 42 13.2 -1.4
KHMM **Horse Mountain** 82.23 37 *e*P P 13 42 15.7 +1.0
SNAA **Sanae** 82.29 178⇓ *i*P P 13 42 14.6 -0.4
SNAA *e* 13 42 16.4
SNAA *e* pP 13 42 21.1 +0.3
SNAA *e* 13 42 24.3
SNAA *e* 13 43 36.9
SNAA *e* 13 43 44.7
SNAA **Sanae** 82.29 178 *e*P P 13 42 14.6 -0.4
SNAA pmax pmax
comp=Z,57nm,1.3s
SNAA **Sanae** 82.29 178 *e*P P 13 42 14.6 -0.4
comp=Z,56nm,1.3s,mb5.3
VNA3 **Neumayer Olymp** 82.34 175⇓ *i*P P 13 42 14.8 -0.5
VNA3 *e* 13 42 16.2
VNA3 *e* pP 13 42 21.5 +0.4
VNA3 *e* 13 42 24.0
VNA3 *e* 13 42 40.0
VNA3 *e* 13 43 39.9
VNA3 *e* 13 43 46.9
VNA3 *e* 13 44 00.0
VNA3 *e* 13 45 23.5
OHCM **Honcut** 82.41 39 *e*P P 13 42 15.2 -0.4
GLA **Glamis** 82.47 48 *e*P P 13 42 16.2 +0.3
GSC **Goldstone** 82.59 45 *e*P P 13 42 15.5 -1.0
KS15 **Wonju Array Si** 82.62 318 *e*P P 13 42 18.0 +1.3
WDC **Whiskeytown Da** 82.67 38 *e*P P 13 42 16.9 -0.1
WDC pmax pmax
comp=Z,74nm,1.3s,mb5.6
WDC MLR MLR
comp=Z,838nm,20.0s,MS5.1
WDC **Whiskeytown Da** 82.67 38 *e*P P 13 42 16.9 -0.1
comp=Z,74nm,1.3s,mb5.6
WDC LR LR
comp=Z,838nm,20.0s,MS5.1
DAC **Darwin (Calif)** 82.71 44 *e*P P 13 42 16.3 -0.9
DAC MLR MLR
comp=Z,2μm,20.0s,MS5.4
MTUM **Tungsten Hills** 82.81 42 *e*P P 13 42 17.9 +0.2
KGM **Kluang** 82.93 276 P P 13 42 20.2 +1.9
VNA1 **Neumayer--Stat** 83.02 176⇓ *i*P P 13 42 19.0 +0.2
VNA1 *e* 13 42 20.2
VNA1 *e* pP 13 42 25.4 +0.8
VNA1 *e* 13 42 28.1
VNA1 *e* 13 42 41.5
VNA1 *e* 13 43 40.3
SSE **Sheshan** 83.03 309 P P 13 42 19.8 +0.9
SSE PCP PcP 13 42 24.5 +1.0
SSE AP pP 13 42 26.4 +1.7
SSE XP sP 13 42 29.0 +2.2
SSE PP PP 13 45 28.1 -1.6
SSE S S 13 52 37.3 -0.1
SSE XS sS 13 52 48.6 +1.6
SSE SCS ScS 13 52 51.8 +0.1
SSE SS SS 13 58 01.3 +0.2
SSE AMB AMB
comp=Z,48nm,1.0s,mb5.5
SSE AMB AMB
comp=Z,700nm,6.5s
SSE LR LR
comp=N,3μm,17.7s,MS5.8
SSE LR LR
comp=E,2μm,17.7s,MS5.8
SSE LR LR
comp=Z,5μm,13.7s,MS6.0
WAKR **Walker** 83.04 41 *e*P P 13 42 19.1 +0.2
NVL **N'lazarevskaya** 83.19 182 *d i*P P 13 42 19.1 -0.5
NVL *e*PS 13 53 40.7
NVL pmax pmax
comp=Z,89nm,1.3s,mb5.6
NVL MLR MLR
comp=Z,2μm,17.8s,MS5.5
KEBM **Edson Butte** 83.31 35 *e*P P 13 42 21.1 +0.8
YBH **Yreka Blue Hor** 83.38 37 LR LR 14 15 00.4
comp=Z,712nm,18.3s,MS5.1,baz=232,slow=32
YBH **Yreka Blue Hor** 83.38 37 *e*P P 13 42 20.8 +0.2
YBH pmax pmax
comp=Z,52nm,1.1s
YBH MLR MLR
comp=Z,877nm,21.0s
YBH **Yreka Blue Hor** 83.38 37 *e*P P 13 42 20.8 +0.1
comp=Z,52nm,1.1s,mb5.5
YBH LR LR
comp=Z,877nm,21.0s,MS5.1
INCN **Inchon** 83.41 317 *e*P P 13 42 22.1 +1.4
comp=Z,57nm,1.0s,mb5.6
INCN LR LR
comp=Z,2μm,19.0s,MS5.6
CHGN **Chignik** 83.43 10 *e*P P 13 42 20.3 -0.6
LBCM **Butte Creek Ri** 83.51 38 P P 13 42 21.0 -0.3
NVAR **Mina Array Bea** 83.67 42 P P 13 42 22.1 -0.1
comp=Z,32nm,0.9s,mb5.5,baz=227,slow=9.9,SNR=157
NVAR PKKPbc PKKPbc 14 00 41.9 +2.9
comp=Z,0.5nm,0.6s,baz=86,slow=5.5,SNR=3.8
NVAR PKPPKP 14 08 47.9
comp=Z,0.6nm,0.8s,baz=121,slow=1.6,SNR=2.9
PLCA **Paso Flores** 83.77 132 P P 13 42 23.4 +0.8
comp=Z,42nm,1.0s,mb5.5,baz=239,slow=5.3,SNR=71
PLCA LR LR 14 14 24.1
comp=Z,1μm,18.1s,MS5.4,baz=252,slow=32
PLCA **Paso Flores** 83.77 132 *e*P P 13 42 23.3 +0.7
PLCA pmax pmax
comp=Z,75nm,1.1s
PLCA MLR MLR
comp=Z,1μm,20.0s
PLCA **Paso Flores** 83.77 132 *e*P P 13 42 23.2 +0.6
comp=Z,75nm,1.1s,mb5.7
PLCA LR LR
comp=Z,1μm,20.0s,MS5.3
PAHR **Pah Rah Range** 83.87 40 *e*P P 13 42 23.2 +0.1
comp=Z,73nm,1.2s,mb5.7
LASM **Arnica Sink** 83.90 38 P P 13 42 23.4 +0.1
BUOR **Burton Butte** 84.00 37 P P 13 42 24.2 +0.4
TPH **Tonopah** 84.09 42 *e*P P 13 42 24.4 +0.1
TPH MLR MLR
comp=Z,951nm,22.0s,MS5.1
HOG **Hogback Mounta** 84.27 37 P P 13 42 25.7 +0.5
SHPR **Sheep Range** 84.38 45 *e*P P 13 42 26.1 +0.3
HSO **Harness Mounta** 84.42 35 P P 13 42 26.6 +0.6
GZH **Guangzhou** 84.44 299 P P 13 42 27.5 +1.4
GZH S S 13 52 51.0 -0.6
GZH LR LR
comp=N,2μm,24.2s,MS5.7
GZH LR LR
comp=E,3μm,21.4s,MS5.7
GZH LR LR
comp=Z,5μm,24.2s,MS5.8
TUC **Tucson** 84.78 50 P P 13 42 27.8 +0.1
TUC pmax pmax
comp=Z,71nm,1.5s,mb5.6
TUC **Tucson** 84.78 50 *e*P P 13 42 28.1 +0.4
comp=Z,71nm,1.5s,mb5.6
TUC LR LR
comp=Z,663nm,19.0s,MS5.0
MOD **Modoc** 84.81 38 *e*P P 13 42 27.6 -0.3
comp=Z,43nm,1.1s,mb5.5
MOD LR LR
comp=Z,564nm,22.0s,MS4.9
COR **Corvallis** 85.05 35 PFAKE 13 42 40.0 +11
COR LR LR
comp=Z,2μm,19.0s,MS5.5
EFI **East Falkland** 85.12 146 PFAKE 13 42 40.0 +11
EFI LR LR
comp=Z,372nm,21.0s,MS4.8
NJ2 **Nanjing** 85.21 309 *e*P P 13 42 30.6 +0.7
NJ2 AP pP 13 42 37.1 +1.3
NJ2 XP sP 13 42 39.8 +2.0
NJ2 PP PP 13 45 49.8 +2.4
NJ2 SKS 13 52 51.0
NJ2 S S 13 52 59.0 -0.2
NJ2 XS sS 13 53 09.0 +0.1
NJ2 AMB AMB
comp=Z,100nm,1.1s,mb5.9
NJ2 AMB AMB
comp=Z,2μm,9.5s
NJ2 LR LR
comp=N,2μm,25.1s
NJ2 LR LR
comp=E,2μm,18.6s
NJ2 LR LR
comp=Z,1μm,25.4s,MS5.2
QIZ **Qiongzhong** 85.22 294 P P 13 42 31.4 +1.4
QIZ AMB AMB
comp=Z,30nm,1.7s,mb5.2
QIZ AMB AMB
comp=Z,729nm,8.3s
QIZ **Qiongzhong** 85.22 294 PFAKE 13 42 40.0 +10
QIZ LR LR
comp=Z,10μm,19.0s,MS6.2
MOIG **Morelia** 85.33 66 *i*P P 13 42 30.6 +0.1
PAYG **Puerto Ayora** 85.45 89 PFAKE 13 42 40.0 +8.9
PAYG LR LR
comp=Z,2μm,20.0s,MS5.4
BMN **Battle Mountai** 85.60 41 *e*P P 13 42 31.5 -0.4
BMN pmax pmax
comp=Z,83nm,1.3s,mb5.8
BMN **Battle Mountai** 85.60 41 *e*P P 13 42 31.5 -0.4
comp=Z,83nm,1.3s,mb5.8
ZAIG **Zacatecas** 85.76 62 *i*P P 13 42 33.4 +0.8
KDAK **Kodiak Island** 85.83 12 PFAKE 13 42 40.0 +7.0
KDAK LR LR
comp=Z,264nm,20.0s,MS4.6
IPM **Ipoh** 86.07 277 P P 13 42 36.1 +1.9
WVOR **Wild Horse Val** 86.09 38 *e*P P 13 42 33.8 -0.5
WVOR pmax pmax
comp=Z,59nm,1.3s,mb5.7
WVOR MLR MLR
comp=Z,887nm,19.0s,MS5.2
WVOR **Wild Horse Val** 86.09 38 *e*P P 13 42 33.8 -0.5
comp=Z,60nm,1.3s,mb5.7
WVOR LR LR
comp=Z,887nm,19.0s,MS5.2
PLIG **Platanillo** 86.09 67 *i*P P 13 42 34.8 +0.5
CCUT **Cedar City** 86.16 45 *e*P P 13 42 35.1 +0.5
WUAZ **Wupatki** 86.24 47 *e*P P 13 42 35.4 +0.4
comp=Z,76nm,1.3s,mb5.8
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.4
ARUT **Antelope Range** 86.25 45 *e*P P 13 42 35.5 +0.4
HOOD **Mount Hood Mea** 86.41 35 *e*P P 13 42 35.9 0.0
MDJ **Mudanjiang** 86.43 324 P P 13 42 36.8 +0.8
MDJ AP pP 13 42 40.0 -1.8
MDJ XP sP 13 42 41.3 -2.6
MDJ PP PP 13 45 57.8 +0.5
MDJ S S 13 53 13.3 +2.1
MDJ XS sS 13 53 18.8 -2.0
MDJ AMB AMB
comp=Z,45nm,1.4s,mb5.5
MDJ AMB AMB
comp=Z,899nm,6.1s
MDJ LR LR
comp=N,2μm,16.3s,MS5.7
MDJ LR LR
comp=E,1μm,15.7s,MS5.7
MDJ LR LR
comp=Z,3μm,15.1s,MS5.8
MDJ **Mudanjiang** 86.43 324 *e*P P 13 42 36.8 +0.8
comp=Z,51nm,1.1s,mb5.7
MDJ LR LR
comp=Z,2μm,22.0s,MS5.4
HABR **Khabarovsk** 86.47 330 *e*P P 13 42 37.0 +0.8
HABR *e*S S 13 53 01.8 -10
KULM **Kulim** 86.77 277 *e*P P 13 42 39.2 +1.5
ELK **Elko** 86.97 41 *e*P P 13 42 38.8 +0.2
ELK MLR MLR
comp=Z,1μm,20.0s
PPM **Popocatepetl** 87.14 67 *i*P P 13 42 40.7 +1.3
PSI **Prapat** 87.21 274 P P 13 42 40.1 +0.3
comp=Z,110nm,1.2s,mb6.0,baz=188,slow=7.8,SNR=53
PSI **Prapat** 87.21 274 P P 13 42 40.1 +0.3
PSI pmax pmax
comp=Z,110nm,1.2s,mb6.0
GNW **Green Mountain** 87.38 33 *e*P P 13 42 40.8 +0.2
DL2 **Dalian** 87.38 316 PR P 13 42 41.4 +0.8
DL2 S S 13 53 24.3 +3.9
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.5
DL2 AMB AMB
comp=Z,490nm,5.1s
DL2 LR LR
comp=N,600nm,15.2s,MS5.2
DL2 LR LR
comp=E,340nm,14.2s,MS5.2
DL2 LR LR
comp=Z,800nm,17.9s,MS5.2
MSU **Marysvale** 87.48 45 *e*P P 13 42 41.8 +0.7
WHN **Wuhan** 87.59 306 ⇓P P 13 42 42.8 +1.2
WHN AMB AMB
comp=Z,80nm,1.3s,mb5.8
OXX **Oaxaca** 87.79 70 *e*P P 13 42 43.0 +0.4
SNY **Shenyang** 87.97 319 ⇓P P 13 42 43.8 +0.3
SNY S S 13 53 29.8 +3.7
SNY AMB AMB
comp=Z,27nm,1.2s,mb5.3
DUG **Dugway** 88.09 43 P P 13 42 44.0 0.0
DUG pmax pmax
comp=Z,100nm,0.9s,mb6.0
DUG **Dugway** 88.09 43 *e*P P 13 42 43.8 -0.2
comp=Z,9.8nm,0.9s,mb5.0
DUG *e*pP pP 13 42 49.6 -0.3
DUG LR LR
comp=Z,1μm,19.0s,MS5.4
CN2 **Changchun** 88.14 322 ⇓P P 13 42 43.9 -0.3
CN2 *e*XP sP 13 42 51.0 -1.2
CN2 *e*S S 13 53 26.4 -1.3
CN2 AMB AMB
comp=Z,70nm,1.3s,mb5.7
CN2 AMB AMB
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.9
CN2 LR LR
comp=E,2μm,18.0s,MS5.9
CN2 LR LR
comp=Z,4μm,18.0s,MS5.8
TBM **Table Mountain** 88.20 34 P P 13 42 44.5 0.0
HAWA **Hanford** 88.22 35 *e*P P 13 42 44.1 -0.5
HAWA LR LR
comp=Z,127nm,19.0s,MS4.3
JCW **Jim Creek** 88.25 33 P P 13 42 44.4 -0.4
MNTX **Cornudas Mount** 88.25 53 *e*P P 13 42 44.4 -0.3
MNTX LR LR
comp=Z,586nm,19.0s,MS5.0
MDW **Midway** 88.25 35 P P 13 42 44.8 0.0
BMO **Blue Mountains** 88.39 37 *e*P P 13 42 44.5 -0.9
BMO pmax pmax
comp=Z,48nm,1.8s,mb5.4
BMO MLR MLR
comp=Z,768nm,20.0s,MS5.1
BMO **Blue Mountains** 88.39 37 *e*P P 13 42 44.5 -1.0
comp=Z,48nm,1.8s,mb5.4
BMO LR LR
comp=Z,768nm,20.0s,MS5.1
BGU **Big Grassy Mou** 88.40 42 *e*P P 13 42 45.0 -0.5
NLU **North Lily Min** 88.40 43 *e*P P 13 42 45.9 +0.4
SVW2 **Sparrevohn** 88.46 10 *e*P P 13 42 44.4 -1.4
SVW2 *e*P 13 42 44.7
KLR **Kul'dur** 88.53 329 *e*P P 13 42 43.6 -2.5
KLR pmax pmax
comp=E,58nm,2.0s
KLR pmax pmax
comp=Z,140nm,2.0s,mb6.0
KLR pmax pmax
comp=Z,1μm,9.0s
TMUT **Trail Mountain** 88.56 44 *e*P P 13 42 46.8 +0.5
MBW **Mount Baker** 88.67 32 P P 13 42 46.5 -0.3
MPU **Maple Canyon** 88.71 44 *e*P P 13 42 46.4 -0.5
TIA **Tai'an** 88.74 312 ⇓P P 13 42 48.1 +1.0
TIA AMB AMB
comp=Z,129nm,1.4s,mb6.1
SLKM **Skilak Lake** 88.82 12 *e*P P 13 42 47.0 -0.4
SLKM *e*pP pP 13 42 52.2 -1.1
SRU **San Rafael** 88.88 45 *e*P P 13 42 47.7 0.0
NLW **Nelson Butte** 88.95 33 P P 13 42 47.8 -0.3
SPUT **South Promonto** 88.98 42 *e*P P 13 42 47.4 -0.8
CRAG **Craig** 89.02 23 *e*P P 13 42 48.2 -0.2
comp=Z,106nm,2.0s,mb5.8
CTU **Camp Tracy** 89.04 43 *e*P P 13 42 48.6 +0.1
HVU **Hansel Valley** 89.07 42 *e*P P 13 42 48.3 -0.3
HLID **Hailey** 89.19 40 *e*P P 13 42 48.9 -0.3
comp=Z,70nm,1.9s,mb5.7
HLID LR LR
comp=Z,799nm,19.0s,MS5.2
ANMO **Albuquerque** 89.24 50 *d i*P P 13 42 49.4 0.0
ANMO **Albuquerque** 89.24 50 *e*P P 13 42 49.5 +0.1

comp=Z,56nm,1.4s,mb5.7
ANMO LR LR
comp=Z,1µm,19.0s,MS5.3
OD2 Odessa Site #2 89.31 35 P **P 13 42 49.2 -0.5**
CMIG Matias Romero 89.35 71 *i* P **P 13 42 50.2 +0.3**
PV10 Paradox Valley 89.41 46 *e*P **P 13 42 50.0 -0.2**
TCUT Toone Canyon 89.50 43 *e*P **P 13 42 51.1 +0.5**
SIT Sitka 89.57 21 *e*P **P 13 42 51.5 +0.5**
SIT MLR MLR
comp=Z,1µm,20.0s,MS5.3
PV01 Paradox Valley 89.58 47 *e*P **P 13 42 50.9 -0.1**
PV01 *e*pP pP 13 42 55.6 -1.3
HWUT Hardware Ranch 89.69 42 *e*P **P 13 42 51.0 -0.5**
HWUT LR LR
comp=Z,1µm,20.0s,MS5.4
EYAK Cordova Ski Ar 89.77 14 *e*P **P 13 42 51.7 -0.2**
MA2 Magadan 89.83 344 *d* i P **P 13 42 51.0 -1.2**
MA2 *e* 13 46 24.3
MA2 *e*S S 13 53 39.9 -3.7
MA2 *e*SS SS 13 59 42.3 +1.5
MA2 pmax pmax
comp=Z,70nm,1.2s,mb5.9
MA2 pmax pmax
comp=N,10.0nm,1.1s
MA2 Magadan 89.83 344 *e*P **P 13 42 51.2 -1.1**
comp=N,66nm,1.3s,mb5.8
MA2 LR LR
comp=Z,630nm,22.0s,MS5.0
PMR Palmer 90.03 12 *e*P **P 13 42 52.2 -0.9**
PMR pmax pmax
comp=Z,203nm,2.3s,mb6.0
PMR MLR MLR
comp=Z,671nm,19.0s,MS5.1
PMR Palmer 90.03 12 *e*P **P 13 42 52.2 -0.9**
comp=Z,202nm,2.3s,mb6.0
PMR LR LR
comp=Z,671nm,19.0s,MS5.1
WRAK Wrangell Islan 90.04 22 *e*P **P 13 42 53.1 0.0**
TTA Tatalina 90.15 9 *e*P **P 13 42 53.3 -0.4**
TTA *e*P 13 42 53.6
TTA *e*pP pP 13 42 58.8 -0.8
AHID Auburn Hatcher 90.65 42 *e*P **P 13 42 56.7 +0.7**
comp=Z,38nm,1.1s,mb5.6
AHID LR LR
comp=Z,1µm,20.0s,MS5.3
NEW Newport 90.69 35 LR LR 14 17 12.5
comp=Z,1µm,19.1s,MS5.4,baz=228,slow=31
NEW Newport 90.69 35 *e*P **P 13 42 55.1 -1.1**
NEW pmax pmax
comp=Z,41nm,1.2s
NEW MLR MLR
comp=Z,2µm,19.0s
NEW Newport 90.69 35 *e*P **P 13 42 55.1 -1.1**
comp=Z,41nm,1.2s,mb5.6
NEW *e*pP pP 13 42 59.0 -3.0
NEW LR LR
comp=Z,2µm,19.0s,MS5.6
TRQA Tornquist 90.82 134 *e*P **P 13 42 57.0 +0.2**
comp=Z,52nm,1.3s,mb5.7
TRQA *e*pP pP 13 43 01.6 -1.0
TRQA LR LR
comp=Z,2µm,19.0s,MS5.6
MCMT McKenzie Canyo 90.86 39 *e*P **P 13 42 54.5 -2.4**
MCMT *e*pP pP 13 43 01.8 -1.0
MCMT *e*sP sP 13 43 05.5 +0.6
RRI2 Red Ridge 90.86 41 *e*P **P 13 42 57.4 +0.4**
REDW Red Top Meadow 91.15 41 *e*P **P 13 42 58.1 -0.2**
TPAW Teton Pass 91.16 41 *e*P **P 13 42 58.1 -0.2**
comp=Z,70nm,1.5s,mb5.8
SMCO Snowmass 91.20 46 *e*P **P 13 42 58.6 +0.1**
comp=Z,49nm,1.2s,mb5.7
SNOW Snow King Moun 91.26 41 *e*P **P 13 42 59.3 +0.5**
DLMT Dillon 91.32 39 *e*P **P 13 43 00.6 +1.4**
GYA Guiyang 91.38 299 ⇓ *i* P **P 13 42 59.9 +0.5**
GYA AP pP 13 43 04.8 -0.5
GYA XP sP 13 43 07.3 0.0
GYA AMB AMB
comp=Z,80nm,1.5s,mb5.8
GYA AMB AMB
comp=Z,560nm,8.2s
GYA LR LR
comp=N,1µm,14.6s,MS5.8
GYA LR LR
comp=E,2µm,13.8s,MS5.8
GYA LR LR
comp=Z,2µm,11.7s,MS5.8
SDCO Great Sand Dun 91.39 48 PFAKE 13 43 10.0 +11
SDCO LR LR
comp=Z,1µm,19.0s,MS5.4
IMW Indian Meadow 91.41 41 *e*P **P 13 42 59.5 -0.1**
LOHW Long Hollow 91.44 41 *e*P **P 13 42 59.5 -0.2**
comp=Z,71nm,1.5s,mb5.8
MSO Missoula 91.46 37 *e*P **P 13 42 58.6 -1.2**
MSO LR LR
comp=Z,608nm,21.0s,MS5.0
BJT Baijiatuau 91.47 314 *e*P **P 13 43 00.9 +1.1**
BJT pmax pmax
comp=Z,28nm,1.0s
BJT MLR MLR
comp=Z,5µm,19.0s
BJT Baijiatuau 91.47 314 *e*P **P 13 43 00.9 +1.0**
comp=Z,28nm,1.0s,mb5.5
BJT *e*pP pP 13 43 04.7 -1.0
BJT *e*sP sP 13 43 06.4 -1.4
BJT LR LR
comp=Z,5µm,19.0s,MS5.9
BJI Beijing 91.48 314 P **P 13 43 01.8 +1.9**
BJI AMB AMB
comp=Z,160nm,1.2s,mb6.2
SKAG Skagway 91.54 19 *e*P **P 13 43 00.4 +0.3**
comp=Z,138nm,1.8s,mb6.0
BW06 Boulder Array 91.58 42 *e*P **P 13 42 59.8 -0.5**
BW06 LR LR
comp=Z,1µm,19.0s,MS5.3
PDAR Pinedale Array 91.58 42 P **P 13 42 59.4 -0.9**
comp=Z,14nm,1.0s,mb5.2,baz=205,slow=3.1,SNR=60
PDAR PP PP 13 46 36.3 -2.2
comp=Z,2.3nm,1.1s,baz=231,slow=7.1,SNR=4.7
PDAR PKKPbc PKKPbc 14 00 21.3 +1.4
comp=Z,0.6nm,0.9s,baz=72,slow=4.8,SNR=4.9
PDAR PKPPKP 14 08 31.4
comp=Z,0.3nm,0.4s,baz=104,slow=3.1,SNR=5.9
PDAR LR LR 14 16 01.9
comp=Z,929nm,21.0s,MS5.2,baz=216,slow=30
TNA Tin City 91.63 3 PFAKE 13 43 10.0 +9.5
TNA LR LR
comp=Z,657nm,22.0s,MS5.0
BSMT Bassoo Peak 91.64 36 *e*P **P 13 42 59.6 -1.0**
QLMT Earthquake Lak 91.67 40 *e*P **P 13 43 01.2 +0.4**
LRM Limekiln Ridge 91.68 39 *e*P **P 13 43 00.2 -0.6**
JCT Junction City 91.74 57 *e*P **P 13 43 02.6 +1.5**
JCT MLR MLR
comp=Z,2µm,20.0s,MS5.4
YFT Old Faithful 91.79 40 *e*P **P 13 43 02.0 +0.7**
YMR Madison River 91.84 40 *e*P **P 13 43 02.6 +1.0**
comp=Z,78nm,1.3s,mb5.9
CHMT Chamberlain Mo 91.89 37 *e*P **P 13 43 00.8 -1.0**
LCCM Lewis and Clar 92.01 39 P **P 13 43 01.9 -0.4**
MCK McKinley 92.03 12 *e*P **P 13 43 01.7 -0.7**
MCK MLR MLR
comp=Z,375nm,20.0s,MS4.8
BOZ Bozeman (W) 92.04 39 *e*P **P 13 43 02.0 -0.4**
BOZ Bozeman (W) 92.04 39 PFAKE 13 43 10.0 +7.6
BOZ LR LR
comp=Z,1µm,21.0s,MS5.3
YNR Norris Junctio 92.04 40 *e*P **P 13 43 07.5 +5.1**
LKWY Lake 92.11 40 *e*P **P 13 43 04.4 +1.6**
LKWY pmax pmax
comp=Z,43nm,1.2s,mb5.7
LKWY MLR MLR
comp=Z,2µm,19.0s,MS5.5
LKWY Lake 92.11 40 *e*P **P 13 43 04.4 +1.6**
comp=Z,43nm,1.2s,mb5.7
LKWY LR LR
comp=Z,2µm,19.0s,MS5.5
MENT Mentasta 92.35 14 *e*P **P 13 43 03.5 -0.4**
SEY Seymchan 92.39 346 *i* P **P 13 43 03.4 -0.7**
SEY Seymchan 92.39 346 *i* Pr **P 13 43 03.4 -0.7**
ISCO Idaho Springs 92.42 46 *e*P **P 13 43 04.4 +0.2**
ISCO MLR MLR
comp=Z,1µm,19.0s,MS5.4
RWWY Rawlins 92.42 44 *e*P **P 13 43 03.8 -0.4**
NNA Nana 92.44 105 PFAKE 13 43 20.0 +16
NNA LR LR
comp=Z,528nm,19.0s,MS5.0
HRY Holter Researc 92.55 38 *e*P **P 13 43 04.3 -0.5**
NANT Nan 92.75 289 ⇓ P **P 13 43 08.0 +2.3**
comp=Z,575nm,0.4s
WALA Waterton Lakes 92.84 35 *e*P **P 13 43 05.3 -0.9**
comp=Z,46nm,1.1s,mb5.8
RLMT Red Lodge 93.09 40 *e*P **P 13 43 07.2 -0.1**
GCMT Greycliff 93.24 40 *e*P **P 13 43 07.7 -0.3**
COLA College 93.27 11 *i* P **P 13 43 06.6 -1.5**
COLA College 93.27 11 *i* Pr **P 13 43 06.6 -1.5**
COLA LR LR
comp=Z,663nm,20.0s,MS5.1
PHWY Pilot Hill 93.32 45 *e*P **P 13 43 08.1 -0.2**
XAN Xi'an 93.33 306 P **P 13 43 09.3 +0.9**
XAN SKS 13 53 37.6
XAN S S 13 54 18.9 +3.7
XAN AMB AMB
comp=Z,17nm,1.4s,mb5.3
XAN LR LR
comp=Z,3µm,20.6s,MS5.7
KMI Kunming 93.89 296 P **P 13 43 12.8 +1.8**
KMI AP pP 13 43 17.6 +0.7
KMI XP sP 13 43 19.6 +0.7
KMI PP PP 13 47 00.6 +3.9
KMI PPP 13 49 04.0
KMI SKS 13 53 45.0
KMI S S 13 54 18.8 -1.3
KMI SS SS 14 00 42.3 +3.1
KMI AMB AMB
comp=Z,36nm,1.3s,mb5.6
KMI AMB AMB
comp=Z,485nm,5.2s
KMI LR LR
comp=N,7µm,24.0s
KMI LR LR
comp=E,5µm,33.0s
KMI LR LR
comp=Z,6µm,27.0s,MS5.9
CM31 Chiang Mai Arr 94.09 288 PFAKE 13 43 20.0 +8.1
CM31 LR LR
comp=Z,11µm,19.0s,MS6.3
CHG Chiang Mai 94.24 289 ⇓ P **P 13 43 14.8 +2.2**
comp=Z,69nm,1.3s,mb5.9
CHTO Chiang Mai 94.24 289 P **P 13 43 15.1 +2.5**
SNR=21
CHTO Chiang Mai 94.24 289 *e*P **P 13 43 14.7 +2.1**
CHTO pmax pmax
comp=Z,58nm,0.9s,mb6.0
CHTO Chiang Mai 94.24 289 *e*P **P 13 43 14.7 +2.0**
comp=Z,58nm,0.9s,mb6.0
DAWY Dawson 94.30 15 *e*P **P 13 43 11.7 -1.2**
EGMT Eagleton 94.46 38 *e*P **P 13 43 13.3 -0.3**
comp=Z,27nm,1.4s,mb5.5
EGMT LR LR
comp=Z,665nm,20.0s,MS5.1
HKT Hockley 94.51 59 *e*P **P 13 43 13.8 0.0**
HKT pmax pmax
comp=Z,28nm,1.5s,mb5.5
HKT MLR MLR
comp=Z,1µm,20.0s,MS5.4
HKT Hockley 94.51 59 *e*P **P 13 43 13.8 0.0**
comp=Z,28nm,1.5s,mb5.5
HKT LR LR
comp=Z,1µm,20.0s,MS5.4
EGAK Eagle 94.51 14 *e*P **P 13 43 13.5 -0.4**
WMOK Wichita Mounta 94.56 54 *e*P **P 13 43 13.1 -0.9**
WMOK MLR MLR
comp=Z,658nm,20.0s,MS5.1
HIA Hailar 94.59 324 PFAKE 13 43 20.0 +5.8
HIA LR LR
comp=Z,4µm,19.0s,MS5.9
HHC Hu-ho-hao-te 94.89 313 *e*P **P 13 43 16.0 +0.4**
HHC AP pP 13 43 20.8 -0.7
HHC XP sP 13 43 23.0 -0.5
HHC PP PP 13 47 07.5 +3.0
HHC SKS 13 53 49.8
HHC S S 13 54 26.8 -2.1
HHC XS sS 13 54 35.1 -3.5
HHC PS PS 13 55 50.8 +3.6
HHC SS SS 14 00 56.0 +2.5
HHC AMB AMB
comp=Z,25nm,0.5s,mb5.9
HHC AMB AMB
comp=Z,372nm,5.6s
HHC LR LR
comp=N,1µm,12.3s,MS5.8
HHC LR LR
comp=E,1µm,11.3s,MS5.8
HHC LR LR
comp=Z,2µm,21.6s
BILL Bilibino 94.90 353 *d* i P **P 13 43 14.9 -0.7**
BILL pmax pmax
comp=Z,49nm,1.2s,mb5.8
BILL Bilibino 94.90 353 *i* Pr **P 13 43 14.0 -1.6**
EDM Edmonton 95.65 32 *e*P **P 13 43 18.1 -1.0**
RSSD Black Hills 95.69 43 *e*P **P 13 43 18.4 -0.8**
RSSD MLR MLR
comp=Z,3µm,19.0s,MS5.8
CD2 Chengdu 95.70 302 ⇑ *i* P **P 13 43 21.1 +1.8**
CD2 AP pP 13 43 25.9 +0.7
CD2 XP sP 13 43 28.1 +0.9
CD2 PP PP 13 47 15.3 +4.5
CD2 SKS 13 53 55.4
CD2 S S 13 54 31.1 -4.8
CD2 XS sS 13 54 43.3 -2.4
CD2 PS 13 55 01.1
CD2 SS SS 14 01 08.8 +3.8
CD2 AMB AMB
comp=Z,30nm,1.2s,mb5.6
CD2 AMB AMB
comp=Z,310nm,5.3s
LAO LASA Array 95.73 40 *e*P **P 13 43 19.5 +0.1**
comp=Z,43nm,1.2s,mb5.8
LAO LR LR
comp=Z,968nm,19.0s,MS5.3
BTO Baotou 95.79 313 *e*P **P 13 43 19.8 +0.1**
NATX Nacogdoches 96.23 58 PFAKE 13 43 30.0 +8.3
NATX LR LR
comp=Z,1µm,19.0s,MS5.4
LPAZ La Paz 97.82 112 P **P 13 43 30.7 +1.8**
comp=Z,7.3nm,1.2s,mb5.1,baz=248,slow=3.0,SNR=9.0
LPAZ LR LR 14 21 13.4
comp=Z,985nm,18.4s,MS5.3,baz=2.8,slow=32
LPAZ La Paz 97.82 112 *e*P **P 13 43 31.3 +2.5**
LPAZ LR LR
comp=Z,1µm,19.0s,MS5.3
DGMT Dagmar 97.83 40 PFAKE 13 43 40.0 +11
DGMT LR LR
comp=Z,753nm,19.0s,MS5.2
LZH Lanzhou 97.96 306 *e*P **P 13 43 30.8 +1.3**
LZH AP pP 13 43 34.9 -0.5
LZH XP sP 13 43 37.8 +0.3
LZH PP PP 13 47 32.8 +4.6
LZH SKS 13 54 07.0
LZH *e*S S 13 54 54.1 -1.2
LZH SS SS 14 01 40.1 +3.2
LZH AMB AMB
comp=Z,47nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,210nm,4.6s
LZH LR LR
comp=Z,8µm,15.8s,MS6.3
YAK Yakutsk 98.20 337 ⇓ *e*P **P 13 43 29.1 -1.5**
MIAR Mount Ida 98.28 56 PFAKE 13 43 40.0 +9.0
MIAR LR LR
comp=Z,1µm,20.0s,MS5.5
INK Inuvik 99.16 15 *e*P **P 13 43 33.9 -1.0**
YKA Yellowknife Ar 100.72 24 P Pdif 13 43 40.3 -1.5
comp=Z,2.5nm,0.9s,baz=247,slow=4.1,SNR=6.7
CPUP Villa Florida 100.82 126 P Pdif 13 43 44.6 +2.4
comp=Z,0.5nm,0.4s,baz=169,slow=6.6,SNR=4.1
CPUP Villa Florida 100.82 126 P Pdif 13 43 44.6 +2.4
CPUP LR LR
comp=Z,337nm,20.0s,MS4.8
ULN Ulaanbaatar 101.09 318 *i* P Pdif 13 43 42.5 -1.0
ULN Ulaanbaatar 101.09 318 *i* P Pdif 13 43 42.6 -0.9
ULN LR LR
comp=Z,5µm,22.0s,MS6.0
OXF Oxford 101.39 57 PFAKE 13 44 00.0 +15
OXF LR LR
comp=Z,1µm,19.0s,MS5.4
SONM Songino Array 101.47 318 P Pdif 13 43 43.9 -1.3
comp=Z,0.4nm,0.8s,baz=79,slow=7.7,SNR=3.8
SONM PP PP 13 47 48.6 -6.3
comp=Z,2.3nm,1.1s,baz=123,slow=6.2,SNR=4.6
SONM PKKPbc PKKPbc 13 59 53.3 +0.2
comp=Z,0.5nm,0.4s,baz=276,slow=1.7,SNR=5.4
SONM Songino Array 101.47 318 P Pdif 13 43 43.9 -1.3
SONM 13 47 48.6
FFC Flin Flon 102.12 35 PFAKE 13 44 00.0 +12
FFC LR LR
comp=Z,333nm,21.0s,MS4.8
GTA Gaotai 102.26 308 *e*P Pdif 13 43 48.9 +0.2
GTA AP 13 43 54.1
GTA PP PP 13 47 58.5 -2.3
GTA SKS 13 54 25.4
GTA S Sdif 13 55 19.8 -12
GTA AMB AMB
comp=Z,3.0nm,1.4s
GTA AMB AMB
comp=Z,275nm,6.9s
PLAL Pickwick Lake 102.58 57 PFAKE 13 44 00.0 +10
PLAL LR LR
comp=Z,1µm,19.0s,MS5.5
LRAL Lakeview Retre 102.65 59 PFAKE 13 44 00.0 +10
LRAL LR LR
comp=Z,1µm,19.0s,MS5.4
WVT Waverly 103.21 56 PFAKE 13 44 00.0 +7.1
WVT LR LR
comp=Z,1µm,19.0s,MS5.4
ULM Lac du Bonnet 103.47 41 PFAKE 13 44 10.0 +16
ULM LR LR
comp=Z,1µm,19.0s,MS5.5
ZAK Zakamensk 104.41 319 *e*P Pdif 13 44 06.7 +8.5
ZAK pmax pmax
comp=Z,3.0nm,1.5s
TLY Talaya 104.71 321 PFAKE 13 44 10.0 +10
TLY LR LR
comp=Z,984nm,21.0s,MS5.3
TIXI Tiksi 104.79 344 PFAKE 13 44 10.0 +10
TIXI LR LR
comp=Z,3µm,20.0s,MS5.8
WCI Wyandotte Cave 105.14 55 PFAKE 13 48 30.0 +14
WCI LR LR
comp=Z,1µm,19.0s,MS5.4
LSA Lhasa 105.15 296 PFAKE 13 48 30.0 +14
LSA LR LR
comp=Z,5µm,19.0s,MS6.0
EYMN Ely 105.20 44 PFAKE 13 48 30.0 +14
EYMN LR LR
comp=Z,98nm,19.0s,MS4.4
DWPF Disney 105.22 66 PFAKE 13 48 30.0 +14
DWPF LR LR
comp=Z,901nm,22.0s,MS5.3
PALK Pallekele 105.49 271 PFAKE 13 48 30.0 +14
PALK LR LR
comp=Z,238nm,20.0s,MS4.7
SAML Samuel 105.66 108 PFAKE 13 48 30.0 +13
SAML LR LR
comp=Z,1µm,20.0s,MS5.5
DGAR Diego Garcia 106.12 253 PFAKE 13 48 30.0 +12
DGAR LR LR
comp=Z,618nm,19.0s,MS5.2
SDV Santo Domingo 107.21 88 PFAKE 13 48 30.0 +10
SDV LR LR
comp=Z,550nm,22.0s,MS5.1
JSC Jenkinsville 107.55 60 P Pdif 13 44 19.8 +7.6
ACSO Alum Creek Sta 108.24 54 PFAKE 13 48 30.0 +8.4
ACSO LR LR
comp=Z,489nm,20.0s,MS5.1
GUN Gumba 108.84 292 *e*P PKiKP 13 48 23.5 +0.8
comp=Z,33nm,0.9s
PKI Pulchoki 109.11 292 *e*P PKiKP 13 48 23.6 +0.4
comp=Z,36nm,1.1s
BLA Blacksburg 109.17 57 PFAKE 13 48 30.0 +6.7
BLA LR LR
comp=Z,53nm,19.0s
KKN Kakani 109.29 292 *e*P PKiKP 13 48 23.5 -0.1
comp=Z,25nm,0.9s
DMN Daman 109.38 292 *e*P PKiKP 13 48 23.7 0.0
comp=Z,28nm,1.0s
GKN Gorkha 109.90 292 *e*P PKiKP 13 48 23.8 -0.9
comp=Z,24nm,1.1s
MCWV Mont Chateau 110.35 55 PFAKE 13 48 40.0 +14
MCWV LR LR
comp=Z,1µm,20.0s,MS5.5
KOLN Koldanda 110.69 292 *e*P PKiKP 13 48 25.9 -0.3
comp=Z,28nm,1.1s
CBN Corbin 111.77 57 PFAKE 13 48 40.0 +12
CBN LR LR
comp=Z,1µm,21.0s,MS5.5
SSPA Standing Stone 112.07 54 PFAKE 13 48 40.0 +11
SSPA LR LR
comp=Z,1µm,19.0s,MS5.5
WMQ Urumqi 112.29 309 *e*PKP PKiKP 13 48 27.5 -1.7
WMQ *e*PP PP 13 49 17.0 +2.7
WMQ PKS 13 52 03.0
WMQ SKS SKSdf 13 55 35.0 -5.5
WMQ PP PP
comp=Z,161nm,6.0s
WMQ LR LR
comp=N,2µm,17.7s,MS5.9
WMQ LR LR
comp=E,2µm,15.6s,MS5.9
WMQ LR LR
comp=Z,3µm,21.0s
BINY Binghamton 113.86 53 PFAKE 13 48 40.0 +7.8
BINY LR LR
comp=Z,1µm,20.0s,MS5.5
BDFB Brasilia 114.20 123 PFAKE 13 48 50.0 +17
BDFB LR LR
comp=Z,2µm,19.0s,MS5.7
SJG San Juan 114.80 81 PFAKE 13 48 50.0 +16
SJG LR LR
comp=Z,663nm,20.0s,MS5.2
TRIS Tristan da Cun 115.14 165 PFAKE 13 48 50.0 +15
TRIS LR LR
comp=Z,2µm,22.0s,MS5.7
NCB Newcomb 115.53 52 PFAKE 13 48 50.0 +15
NCB LR LR
comp=Z,736nm,19.0s,MS5.3
MDV Middlebury 116.27 52 *e*P Pdif 13 44 50.1 -0.8
ZAL Zalesovo 116.29 319 PKP PKPdf 13 48 35.8 -1.1
comp=Z,3.6nm,0.6s,baz=227,slow=1.8,SNR=18
ZAL Zalesovo 116.29 319 PKIKP PKPdf 13 48 35.8 -1.1
ZAL pmax pmax
comp=Z,4.0nm,0.6s
NDI New Delhi 116.33 291 *e*P PKPdf 13 48 34.5 -2.5
MKAR Makanchi Array 116.67 311 PKP PKPdf 13 48 36.7 -1.0
comp=Z,8.8nm,0.8s,baz=70,slow=1.4,SNR=29
MKAR PKKPbc PKKPbc 13 59 04.8 +0.4
comp=Z,1.4nm,0.9s,baz=289,slow=3.7,SNR=4.2
MKAR Makanchi Array 116.67 311 PKP PKPdf 13 48 36.7 -1.0
MKAR PKKPbc PKKPbc 13 59 04.8 +0.4
HRV Harvard--Oak R 117.13 54 PFAKE 13 48 50.0 +11
HRV LR LR
comp=Z,1µm,19.0s,MS5.5
LBNH Lisbon 117.20 52 PFAKE 13 48 50.0 +11
LBNH LR LR
comp=Z,951nm,19.0s,MS5.4
WES Weston 117.28 54 PFAKE 13 48 50.0 +11
WES LR LR
comp=Z,946nm,21.0s,MS5.4
NVS Novosibirsk 117.33 320 *e*PKIKP PKPdf 13 48 36.2 -2.7
NVS pmax pmax
comp=N,10.0nm,1.2s
NVS pmax pmax
comp=E,20nm,1.2s
NVS pmax pmax
comp=Z,43nm,1.2s
SUR Sutherland 119.72 196 PFAKE 13 49 00.0 +17
SUR LR LR
comp=Z,789nm,20.0s,MS5.3
KSH Kashi 119.89 302 *e*PKP PKPdf 13 48 45.0 +1.2
KSH *e*PP PP 13 50 10.8 +3.2
KSH *e*PKS 13 52 20.1
KSH *e*SKS SKSdf 13 55 51.5 -3.6
KSH PP PP
comp=Z,505nm,5.8s
KSH LR LR
comp=Z,4µm,16.6s,MS6.1
TKM2 Tokmak 2 120.73 306 P PKPdf 13 48 45.2 -0.2
SNR=7.4
KBK Karagaybulak 121.17 306 P PKPdf 13 48 46.3 0.0
SNR=9.1
CHMS Chumysh 121.36 306 P PKPdf 13 48 46.3 -0.3
SNR=10
UCH Uchtor 121.43 305 P PKPdf 13 48 47.5 +0.7
SNR=17
AAK Ala-Archa 121.50 306 *d* i PKIKP PKPdf 13 48 45.5 -1.4
AAK Ala-Archa 121.50 306 *i* PKPr PKPdf 13 48 45.6 -1.3

AAK LR LR
comp=Z,570nm,19.0s,MS5.2
USP Ospenovka 121.58 306 P PKPdf 13 48 47.1 0.0
SNR=16
SCHQ Schefferville 121.64 40 PFAKE 13 49 00.0 +13
SCHQ LR LR
comp=Z,1µm,20.0s,MS5.5
BOSA Boshof 121.97 202 PKP PKPdf 13 48 49.3 +1.5
comp=Z,27nm,1.1s,baz=118,slow=3.9,SNR=10
BOSA Boshof 121.97 202 PKP PKPdf 13 48 49.3 +1.5
BOSA LR LR
comp=Z,5µm,19.0s,MS6.2
AML Almayashu 122.02 305 P PKPdf 13 48 48.7 +0.8
SNR=8.0
EKS2 Erkin-Say 122.03 306 P PKPdf 13 48 48.0 +0.1
SNR=9.1
CHKZ Chkalovo 124.66 319 *e*PKIKP PKPdf 13 48 51.4 -1.6
BRVK Borovoye 124.88 318 *i* PKIKP PKPdf 13 48 52.7 -0.7
BRVK MLR MLR
comp=Z,293nm,21.0s,MS4.9
BRVK Borovoye 124.88 318 *i* PKPr PKPdf 13 48 52.7 -0.7
BRVK LR LR
comp=Z,293nm,21.0s,MS4.9
LBTB Lobatse 125.16 204 PFAKE 13 49 10.0 +16
LBTB LR LR
comp=Z,3µm,19.0s,MS5.9
KBS Kingsbay 127.06 358 *i* PKIKP PKPdf 13 48 57.7 +0.1
KBS MLR MLR
comp=Z,2µm,20.0s,MS5.8
DAG Danmarks Havn 128.12 7⇓*i*P PKPdf 13 48 57.6 -2.0
comp=Z,16nm,1.2s
DAG Danmarks Havn 128.12 7⇓*i*PKIKP PKPdf 13 48 57.6 -2.0
DAG pmax pmax
comp=Z,16nm,1.2s
RCBR Riachuelo 129.57 123 PFAKE 13 49 10.0 +7.6
RCBR LR LR
comp=Z,1µm,21.0s,MS5.6
SVE Sverdlovsk 129.90 323⇓*i*PKIKP PKPdf 13 49 01.2 -1.8
SVE *e* 13 54 08.0
SVE *e*SS SS 14 08 32.0 -6.2
SVE pmax pmax
comp=Z,100nm,1.3s
SOKR Solikamsk 131.08 328*d i*PKIKP PKPdf 13 49 03.9 -1.3
SOKR pmax pmax
comp=Z,40nm,0.9s
ARU Arti 131.11 323 *i* PKIKP PKPdf 13 49 04.3 -1.0
ARU *e*PPP 13 54 13.3
ARU *e* 13 56 11.9
ARU *e*SS SS 14 08 47.6 -5.4
ARU Arti 131.11 323 *i* PKPr PKPdf 13 49 04.2 -1.1
ARU LR LR
comp=Z,666nm,22.0s,MS5.3
AKTK Aktyubinsk 132.74 316 PKP PKPdf 13 49 07.8 -0.5
AKTO Aktyubinsk 132.74 316 PKP PKPdf 13 49 07.8 -0.5
comp=Z,12nm,0.9s,baz=91,slow=2.3,SNR=22
AKTO Aktyubinsk 132.74 316 PKIKP PKPdf 13 49 07.8 -0.5
AKTO pmax pmax
comp=Z,12nm,0.9s
LSZ Lusaka 132.77 212 *e*PKIKP PKPdf 13 49 09.6 +1.2
LSZ MLR MLR
comp=Z,3µm,20.0s,MS6.0
TSUM Tsumeb 133.12 197 *e*PKPdf PKPdf 13 49 11.4 +2.3
TSUM LR LR
comp=Z,3µm,19.0s,MS6.0
HATD Hatta, Dubai 133.59 280 P PKPdf 13 49 10.6 +0.6
SNR=7.9
LVZ Lovozero 134.43 345*c i*PKIKP PKPdf 13 49 05.3 -6.2
LVZ *e* 13 51 41.8
KEV Kevo 134.44 349 PFAKE 13 49 20.0 +8.4
KEV LR LR
comp=Z,2µm,19.0s,MS5.8
ARCES ARCESS Array B 134.88 350 PKP PKPdf 13 49 11.2 -1.2
comp=Z,17nm,0.8s,baz=30,slow=0.8,SNR=25
ARCES ARCESS Array B 134.88 350 PKIKP PKPdf 13 49 11.2 -1.2
ARCES pmax pmax
comp=Z,17nm,0.8s
APA Apatity 134.99 345⇓*i*PKIKP PKPdf 13 49 12.3 -0.3
APA *i* 13 51 46.0
APA pmax pmax
comp=Z,29nm,1.2s
KTK1 Kautokeino 135.71 350 *e*P PKPdf 13 49 13.2 -0.7
KMBO Kilima Mbogo 138.30 235 PKP PKPdf 13 49 21.3 +2.6
comp=Z,13nm,1.1s,baz=6.8,slow=1.9,SNR=14
KMBO Kilima Mbogo 138.30 235 PKIKP PKPdf 13 49 21.3 +2.6
KMBO pmax pmax
comp=Z,13nm,1.1s
PECR Pechory 138.59 328 *e*PKIKP PKPdf 13 49 18.6 -0.6
PECR *e* 13 52 06.0
PECR pmax pmax
comp=Z,500nm,8.0s
ATD Arta Tunnel 141.02 255 PKP PKPdf 13 49 23.6 -0.1
comp=Z,5.8nm,0.8s,baz=270,slow=20,SNR=3.4
MAK Makhachkala 141.26 307 *i* PKIKP PKPdf 13 49 18.8 -5.3
MAK *i* 13 52 22.7
MAK pmax pmax
comp=Z,466nm,1.5s
UMR Umm Al-Rimmam 141.77 285 *e*P PKPdf 13 49 21.8 -3.2
UMR AMb AMB 13 49 27.0
comp=Z,127nm,1.4s
FIA1 FINESS Array S 141.83 343 *e*PKPdf PKPdf 13 49 18.6 -6.6
FINES FINESS Array B 141.83 343 PKP PKPdf 13 49 25.1 0.0
comp=Z,22nm,1.1s,baz=35,slow=4.7,SNR=4.4
FINES FINESS Array B 141.83 343 PKIKP PKPdf 13 49 25.1 0.0
FINES pmax pmax
comp=Z,22nm,1.1s
RDF Al-Radifah 141.84 284 *e*P PKPdf 13 49 20.9 -4.3
RDF AMb AMB 13 49 27.2
comp=Z,131nm,1.4s
MOS Moscow 141.93 330⇑*i*PKIKP PKPdf 13 49 24.0 -1.3
MOS *e* 13 52 25.4
MOS pmax pmax
comp=Z,120nm,1.3s
PUL Pulkovo 141.96 339*c i*PKHKP 13 49 17.8
MIB Mutribah 142.12 286 *e*P PKPdf 13 49 21.3 -4.3
MIB AMb AMB 13 49 27.5
comp=Z,89nm,1.1s
NAY Al-Naaiem 142.15 285 *e*P PKPdf 13 49 20.4 -5.3
NAY AMb AMB 13 49 27.3
comp=Z,32nm,1.4s
OBN Obninsk 142.79 330⇑*i*PKIKP PKPdf 13 49 22.6 -4.2
OBN *e* 13 52 33.0
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,1µm,22.0s,MS5.7
OBN Obninsk 142.79 330⇑*e*PKP PKPdf 13 49 22.7 -4.1
OBN LR LR
comp=Z,111nm,19.0s,MS4.6
VOR Voronezh 143.40 324 PKIKP PKPdf 13 49 24.5 -3.4
VOR pmax pmax
comp=Z,180nm,1.8s
MTA Mtatsminda 143.49 305 P PKPdf 13 49 23.4 -4.6
TBLG Delisi 143.52 306 P PKPdf 13 49 26.3 -1.8
VRSR Storozhevoye 143.66 323*c i*PKIKP PKPdf 13 49 25.2 -3.2
VRSR *e* 13 52 38.8
VRSR pmax pmax
comp=Z,260nm,3.2s
VRSR pmax pmax
comp=N,50nm,3.1s
VRSR pmax pmax
comp=E,140nm,3.9s
GNI Garni 143.82 303 PKP PKPdf 13 49 26.9 -1.7
comp=E,4.6nm,0.4s,baz=103,slow=8.8,SNR=6.0
GNI Garni 143.82 303*d i*PKIKP PKPdf 13 49 26.5 -2.1
GNI Garni 143.82 303 PKP PKPdf 13 49 26.9 -1.7
GNI LR LR
comp=Z,797nm,22.0s,MS5.4
ZEI Tsey 143.89 307 *e*PKIKP PKPdf 13 49 26.0 -2.8
ZEI *e* 13 52 39.3
VSU Vasula 144.13 340*d i*PKIKP PKPdf 13 49 24.8 -4.4
KIV Kislovodsk 144.41 310*d i*PKIKP PKPdf 13 49 27.8 -1.9
KIV *e* 13 52 44.1
KIV pmax pmax
comp=Z,70nm,1.2s
KIV Kislovodsk 144.41 310 *i* PKPr PKPdf 13 49 27.8 -1.9
KIV LR LR
comp=Z,325nm,19.0s,MS5.1
FOO Floro 144.59 360 *e*P PKPdf 13 49 26.4 -3.6
FOO AMb AMB 13 49 27.9
comp=Z,76nm,1.3s
CLDR Caldiran 144.62 301 *e*P PKPdf 13 49 29.6 -0.5
BHD Baghdad 144.78 291 *i* x x 13 49 26.0
BHD *ex* x 13 52 48.0
BHD *ex* x 13 53 08.8
NB2 NORSAR Subarra1 144.84 354 PKPa PKPdf 13 49 28.3 -2.1
comp=Z,249nm,1.1s,baz=11,slow=3.6
NB2 NORSAR Subarra1 144.84 354 PKPa PKPdf 13 49 28.3 -2.1
baz=11,slow=3.6
NOA NORSAR Array B 144.84 354 PKP PKPdf 13 49 28.2 -2.2
comp=Z,136nm,1.0s,baz=11,slow=2.4,SNR=128
NOA NORSAR Array B 144.84 354 PKIKP PKPdf 13 49 28.2 -2.2
NOA pmax pmax
comp=Z,136nm,1.0s
HKR Hakkari 144.99 299 *e*P PKPbc 13 49 30.4 +0.4
HYA Hoyanger 145.00 359 *e*P PKPbc 13 49 29.6 -0.4
HYA AMb AMB 13 49 32.8
comp=Z,191nm,1.6s
NAO01 NORSAR Array S 145.07 355 *e*PKPbc PKPbc 13 49 29.1 -1.1
NAO01 LR LR
comp=Z,1µm,19.0s,MS5.8
TVAN Van 145.11 300 *i* P PKPbc 13 49 31.2 +0.8
CUKT Cukurca 145.13 298 *e*P PKPbc 13 49 30.5 0.0
MSL Mosul 145.66 297 *i* x x 13 49 39.5
MSL *i* x x 13 49 52.5
MSL *ex* x 13 53 17.0
ASK Askoy 145.70 359 *e*P PKPdf 13 49 31.5 -0.4
ASK AMb AMB 13 49 33.2
comp=Z,505nm,1.4s
BER Bergen 145.80 359 *e*P PKPdf 13 49 32.0 0.0
BER *e*P 13 49 32.8
BER AMb AMB 13 49 33.8
comp=Z,354nm,1.1s
BER Bergen 145.80 359 *e*P PKPdf 13 49 32.8 +0.7
BCA Borcka 145.86 306 *e*P PKPdf 13 49 30.4 -1.8
EGD Espegrend 145.91 359 *e*P PKPdf 13 49 33.2 +1.0
ODD1 Odda 146.25 358 *e*P PKPdf 13 49 32.0 -0.9
ODD1 AMb AMB 13 49 33.9
comp=Z,182nm,1.5s
KONO Kongsberg 146.35 355 *e*P PKPdf 13 49 33.4 +0.4
KONO Kongsberg 146.35 355 *e*PKPbc PKPbc 13 49 32.9 -1.4
KONO LR LR
comp=Z,1µm,19.0s,MS5.7
ERZM Erzurum 146.41 303 *i* P PKPdf 13 49 34.9 +1.8
EZM Erzurum 146.41 303 *e*P PKPdf 13 49 34.7 +1.6
BLS5 Blasjo 146.74 358 *e*P PKPdf 13 49 35.9 +2.2
BLS5 AMb AMB 13 49 39.6
comp=Z,156nm,1.7s
BNGL BINGOL 146.78 302 *i* P PKPdf 13 49 35.0 +1.3
MNK Minsk 146.88 335 *e*PKHKP 13 49 29.0
MNK pmax pmax
comp=Z,390nm,1.0s
KMY Karmoy 146.98 359 *e*P PKPdf 13 49 35.2 +1.1
KMY AMb AMB 13 49 36.7
comp=Z,244nm,1.2s
BINT Bingol 147.29 302 *e*P PKPbc 13 49 38.5 +1.5
KTUT Trabzon 147.33 306 *e*P PKPbc 13 49 34.1 -3.0
MARD Mardin 147.36 299 *i* P PKPdf 13 49 35.0 +0.3
KBSD Kabsdagh 147.59 298⇓P PKPdf 13 49 38.2 +3.1
EZC Erzincan 147.61 304 *e*P PKPbc 13 49 36.7 -1.1
ANN Anapa 147.65 314*d i*PKIKP PKPdf 13 49 34.2 -1.0
ANN pmax pmax
comp=Z,203nm,1.4s
MZRK Al-Mazaregh 147.67 296⇓P PKPdf 13 49 36.4 +1.2
KELT Kelkit 147.93 305 *i* P PKPdf 13 49 36.2 +0.6
SFNV Sufian 148.02 297⇓P PKPbc 13 49 40.4 +1.4
PTK Pertek 148.13 302 *e*P PKPbc 13 49 36.5 -2.7
DRBT Darb Altahta 148.20 298⇓P PKPbc 13 49 43.5 +4.2
BSHR Al Beshri 148.36 296⇓P PKPbc 13 49 42.3 +2.5
GRSN GIRESUNGRSN 148.44 306 *i* P PKPdf 13 49 36.3 -0.2
ELZG Elazig 148.53 302 *i* P PKPbc 13 49 41.8 +1.5
URFA Urfa 148.87 300 *e*P PKPdf 13 49 37.3 +0.1
SUW Suwalki 148.92 338 *e*PKP PKPdf 13 49 36.6 -0.7
SUW *e* 13 49 40.7
SUW Suwalki 148.92 338 *e*PKIKP PKPdf 13 49 36.8 -0.5
SUW *e* 13 49 41.1
MYA Malataya 148.99 301 *e*P PKPdf 13 49 38.1 +0.8
MALT Malatya 148.99 301⇑*i*P PKPdf 13 49 37.9 +0.5
MALT Malatya 148.99 301 P PKPdf 13 49 38.0 +0.6
AKASG Malin Array Be 149.03 329 PKPbc PKPbc 13 49 40.4 -1.1
comp=Z,53nm,1.0s,baz=36,slow=2.9,SNR=27
AKASG Malin Array Be 149.03 329 *i* PKIKP PKPdf 13 49 36.7 -0.7
AKASG pmax pmax
comp=Z,53nm,1.0s
AKBB Malin Array Si 149.03 329 PKIKP PKPdf 13 49 36.9 -0.5
AKBB Malin Array Si 149.03 329 *e*PKPdf PKPdf 13 49 36.8 -0.7
AKBB *e*PKPbc PKPbc 13 49 40.6 -1.0
JHLN Al Jahlan 149.47 296⇓P PKPbc 13 49 43.8 +1.2
MUD Monsted U'grnd 149.56 355⇓*i*P PKPdf 13 49 37.6 -0.7
comp=Z,181nm,1.2s
MUD *i* 14 03 33.4
MUD
comp=Z,1µm,20.0s
MUD Monsted U'grnd 149.56 355⇓*i*PKHKP PKPdf 13 49 37.6 -0.7
MUD pmax pmax
comp=Z,180nm,1.2s
MUD MLR MLR
comp=Z,1µm,20.0s,MS5.7
MUD Monsted U'grnd 149.56 355⇓*i*P PKPdf 13 49 37.6 -0.7
MUD *i* 14 03 33.4
SIM Simferopol' 149.70 316*de*PKP2 PKPbc 13 49 44.4 +1.2
SIM pmax pmax
comp=Z,370nm,13.0s
COP Copenhagen 149.95 351 *i* P PKPdf 13 49 40.1 +1.2
comp=Z,144nm,1.3s
COP *i* 13 49 52.8
COP *i* 13 53 10.1
COP
comp=Z,490nm,21.0s
COP Copenhagen 149.95 351 *i* PKHKP PKPdf 13 49 40.1 +1.2
COP pmax pmax
comp=Z,140nm,1.3s
COP MLR MLR
comp=Z,490nm,21.0s,MS5.3
KVT Kavak 149.98 308 *e*P PKPdf 13 49 39.3 +0.4
BSD Bornholm Skovb 150.09 348⇓*i*P PKPdf 13 49 38.4 -0.7
comp=Z,222nm,1.1s
BSD *e* 13 53 16.7
BSD *i* 14 03 33.6
BSD *i* 14 12 42.9
BSD
comp=Z,980nm,20.0s
BSD Bornholm Skovb 150.09 348⇓*i*PKHKP PKPdf 13 49 38.4 -0.7
BSD *e* 13 53 16.7
BSD pmax pmax
comp=Z,220nm,1.1s
BSD MLR MLR
comp=Z,980nm,20.0s,MS5.6
BSD Bornholm Skovb 150.09 348⇓*i*P PKPdf 13 49 38.4 -0.7
BSD *e* 13 53 16.7
BSD *i* 14 03 33.6
BSD *i* 14 12 42.9
GAZ Gaziantep 150.18 300 *e*P PKPdf 13 49 39.8 +0.5
DIKM Dikmen 150.34 309 *e*P PKPdf 13 49 39.0 -0.5
KMRS Kahramanmaras 150.35 300 *e*P PKPdf 13 49 39.2 -0.3
ESK Eskdalemuir 150.35 9 PFAKE 13 49 50.0 +10
ESK LR LR
comp=Z,391nm,20.0s,MS5.2
ROOS tl_alroos 150.61 294⇓P PKPbc 13 49 46.3 +1.0
BOYT Boyabat 150.67 309 *i* P PKPbc 13 49 45.6 +0.1
ZALF Zalf 150.70 291⇓P PKPbc 13 49 47.1 +1.5
DRWC Darouich 150.72 299⇓P PKPbc 13 49 46.5 +0.9
BNN Bunyan 150.82 303 *e*P PKPbc 13 49 46.3 +0.4
KFRA Kufra 150.87 296⇓P PKPbc 13 49 47.1 +1.1
BTCH Batrach 151.00 298⇓P PKPbc 13 49 47.0 +0.7
CTKT Corum 151.03 307 *i* P PKPdf 13 49 40.9 +0.3
COBT Iskenderun 151.07 299 *i* P PKPbc 13 49 47.3 +0.8
BZK Bozkurt 151.08 310 *e*P PKPbc 13 49 46.3 -0.2
WAR Warsaw 151.12 339 *e*PKP PKPdf 13 49 42.1 +1.4
WAR *e* 13 49 47.3
ASF Jabal al Asfar 151.12 290 PKP PKPdf 13 49 41.7 +1.0
comp=Z,1.1nm,0.3s,baz=315,slow=2.9,SNR=11
ASF PKPbc PKPbc 13 49 48.1 +1.5
comp=Z,54nm,1.0s,baz=358,slow=0.8,SNR=45
ASF Jabal al Asfar 151.12 290 PKIKP PKPdf 13 49 41.7 +1.0
ASF 13 49 48.1
ASF pmax pmax
comp=Z,1.0nm,0.3s
WRDH Warideh 151.13 297⇓P PKPbc 13 49 47.4 +0.8
KOZT Kozan 151.19 301 *e*P PKPdf 13 49 40.3 -0.5
SALA Sala 151.22 291⇓P PKPbc 13 49 48.4 +1.5
HTY Hatay 151.24 298 *e*P PKPbc 13 49 46.6 -0.2
BIDA Albida 151.29 296⇓P PKPbc 13 49 47.7 +0.7
HAWK Haweek 151.29 295⇓P PKPbc 13 49 48.0 +1.0
MARH Ras Al Marh 151.29 294⇓P PKPbc 13 49 49.1 +2.2
CORM Corum 151.30 307 *e*P PKPdf 13 49 40.4 -0.6
GKP Gorka Klasztor 151.30 344 *e*PKP PKPdf 13 49 40.8 -0.2
GKP *e* 13 49 47.0
CEYT Ceyhan 151.36 300 *e*P PKPdf 13 49 39.1 -2.0
TOTH TOTAH 151.41 292⇓P PKPbc 13 49 48.7 +1.4
DCN Croghan 151.48 15 *e*P PKPdf 13 49 43.0 +1.7
QASN Qassioun 151.52 293⇓P PKPbc 13 49 49.1 +1.6
AVNT Avonos 151.58 304 *i* P PKPdf 13 49 41.2 -0.2
KIS Kishinev 151.66 323 *e*PKIKP PKPdf 13 49 39.0 -2.5
KIS *i* 13 49 46.0
KIS *e* 13 53 28.0
KIS *e* 13 56 50.0
CDAG Cicekdag 151.67 306 *i* P PKPdf 13 49 40.5 -1.0
BALT Daday 151.68 310 *i* P PKPdf 13 49 41.7 +0.2
DLF Lyons Farm 151.69 14 *e*P PKPdf 13 49 43.0 +1.4
KARA Karaisali 151.84 301 *e*P PKPdf 13 49 39.7 -2.1
RCY Rachaya 151.91 293 *e*P PKPbc 13 49 49.4 +1.0
BSEG Bad Segeberg 151.93 353 *e*PKPdf PKPdf 13 49 41.7 -0.3
BSEG *e*PKPbc PKPbc 13 49 48.4 0.0
LVV L'vov 151.97 332 *e*PKIKP PKPdf 13 49 42.3 +0.3
BHL Bhannes 151.99 293 *e*P PKPbc 13 49 49.6 +1.0
ELDT Eldivan 152.05 308 *i* P PKPbc 13 49 47.8 -0.9
BR131 Keskin Array S 152.17 306 *e*PKPdf PKPdf 13 49 41.9 -0.4
BR131 *e*PKPbc PKPbc 13 49 49.1 +0.1
BR131 LR LR
comp=Z,999nm,21.0s,MS5.6
BRTR Keskin Array B 152.17 306 PKP PKPdf 13 49 41.6 -0.7
comp=Z,17nm,1.1s,baz=132,slow=1.8,SNR=39
BRTR PKPbc PKPbc 13 49 49.0 +0.1
comp=Z,43nm,1.0s,baz=132,slow=1.8,SNR=34
BRTR Keskin Array B 152.17 306 PKIKP PKPdf 13 49 41.6 -0.7
BRTR 13 49 49.1
BRTR pmax pmax
comp=Z,17nm,1.1s
BRTR pmax pmax
comp=Z,43nm,1.0s
CMLA Cha da Macela 152.19 58 PFAKE 13 49 50.0 +7.7
CMLA LR LR
comp=Z,400nm,19.0s,MS5.2
KAMT Kaman 152.24 306 *e*P PKPdf 13 49 41.2 -1.2
SAFT Safranbolu 152.28 310 *e*P PKPbc 13 49 48.7 -0.5
KWP Kalwaria 152.65 334 *e*PKP PKPdf 13 49 42.7 -0.3
KWP *e* 13 49 50.2
MEST Erdemli 152.71 300 *i* P PKPdf 13 49 46.3 +3.2
ANTO Ankara 152.73 307 *e*P PKPdf 13 49 41.4 -1.8
ANTO Ankara 152.73 307 PKPdf PKPdf 13 49 42.8 -0.3
ANTO pPKPdf pPKPdf 13 49 50.7 +1.6
ANTO Ankara 152.73 307⇓*i*P PKPdf 13 49 42.8 -0.3
ANTO Ankara 152.73 307 *e*PKPdf PKPdf 13 49 43.1 0.0
ANTO *e*PKPbc PKPbc 13 49 51.1 +0.9
ANTO LR LR
comp=Z,1µm,22.0s,MS5.6
RUE Ruedersdorf 152.81 347 *e*PKPdf PKPbc 13 49 50.4 0.0
EIL Elat 152.87 284 *e*PKPdf PKPdf 13 49 43.5 +0.2
EIL *e*PKPbc PKPbc 13 49 52.0 +1.4
SGKT Sivrigoynuk 152.98 309 *i* P PKPdf 13 49 43.2 -0.3
BURAR Bucovina Array 153.07 328⇓*i*P PKPdf 13 49 43.7 +0.1
BURAR Bucovina Array 153.07 328⇑*i*P PKPdf 13 49 43.6 0.0
IKL Isikli 153.15 299 *e*P PKPdf 13 49 41.0 -2.8
OJC Ojcow 153.24 338 *e*PKPdf PKPdf 13 49 42.9 -1.0
OJC *e*PKPbc PKPbc 13 49 50.7 -0.7
OJC *e*PKPab PKPab 13 50 03.5 +0.3
OJC *e*PP PP 13 53 32.0 -4.6
KOLS Kolonicke sedl 153.38 333 *e*PKP PKPdf 13 49 43.8 -0.3
KOLS *e* 13 49 49.6
KOLS *e* 13 49 52.7
KOLS *e* 13 49 58.0
STHS Stebnicka Huta 153.39 335 *e*PKP PKPdf 13 49 44.6 +0.5
STHS *e* 13 49 52.4
STHS *e* 13 49 55.7
UZH Uzhgorod 153.61 333⇓*i*PKIKP PKPdf 13 49 44.0 -0.4
UZH *e* 13 49 55.7
UZH pmax pmax
comp=N,130nm,1.3s
ERMK Ermenek 153.65 300 *i* P PKPdf 13 49 43.8 -0.7
HENT Hendek 153.68 310 *i* P PKPdf 13 49 42.1 -2.4
CSS Prodhromos 153.71 296 *e*PKPbc PKPbc 13 49 53.0 +0.6
CRVS Cervenica-Dubn 153.73 334 *e*PKP PKPdf 13 49 44.0 -0.6
CRVS *e* 13 49 52.7
CRVS *e* 13 49 58.6
NIE Niedzica 153.74 336 *e*PKPdf PKPdf 13 49 45.5 +0.9
NIE *e*PKPbc PKPbc 13 49 53.5 +1.1
KSP Ksiaz 153.75 343 *e*PKP PKPdf 13 49 44.4 -0.2
KSP *e* 13 49 52.8
KSP Ksiaz 153.75 343 *e*PKP PKPdf 13 49 44.3 -0.3
KSP *e*PKPdf PKPbc 13 49 52.5 0.0
KSP *e*PP PP 13 53 32.0 -7.5
IBBN Ibbenburen 153.78 355 *e*PKPdf PKPdf 13 49 44.4 -0.3
IBBN *e*PKPbc PKPbc 13 49 52.7 +0.2
IBBN *e*PKPab PKPab 13 50 05.1 -0.4
CLL Collm 154.07 348 *e*PKPdf PKPdf 13 49 44.1 -1.0
comp=Z,47nm,1.6s
CLL *e*PKPbc PKPbc 13 49 52.7 -0.5
comp=Z,82nm,1.2s
CLL *e*pPKPbc pPKPbc 13 49 56.9 -2.3
CLL *e*PKPab PKPab 13 50 05.8 -0.9
CLL *e*PP PP 13 53 38.0 -3.3
CLL *e*SKKSac SKKSac 14 00 28.3 -2.4
CLL *e*PSKS 14 04 01.9
CLL *e*PPS 14 06 45.8
CLL *e*SS SS 14 13 17.3 -1.5
CLL *e*SSS 14 19 13.7
CLL *e*L 15 08 07.5
comp=Z,1µm,20.0s
CLL Collm 154.07 348 *i* PKPdf PKPdf 13 49 44.2 -0.9
comp=Z,46nm,1.6s
CLL ⇓*i*PKPbc PKPbc 13 49 52.8 -0.4
comp=Z,80nm,1.2s
CLL *i* PKPab PKPab 13 50 06.0 -0.7
CLL *i* x x 13 50 26.9
CLL *e*PP PP 13 53 37.0 -4.3
CLL *e*SKKSac SKKSac 14 00 26.0 -4.7
CLL *e*PSKS 14 03 58.0
CLL *ex* x 14 04 36.0
CLL *e*PPS 14 06 46.0
CLL LmV 14 07 00.0
comp=Z,2µm,18.4s
CLL *e*SS SS 14 13 12.0 -6.8
CLL *e*SSS 14 19 18.0
CLL Collm 154.07 348⇓*i*PKIKP PKPdf 13 49 44.2 -0.9
CLL *i* 13 49 52.8
CLL *i* 13 50 06.0
CLL pmax pmax
comp=Z,46nm,1.6s
CLL MLR MLR
comp=Z,2µm,18.4s,MS5.8
CLL Collm 154.07 348 *i* PKP PKPdf 13 49 44.2 -0.9
CLL ⇓*i*PKP PKPbc 13 49 52.8 -0.4
CLL *i* PKP PKPab 13 50 06.0 -0.7
CLL *e*SKKS SKKSac 14 00 26.0 -4.7
CLL LR LR
comp=Z,2µm,18.4s,MS5.8
OKC Ostrava-Krasne 154.11 339 *e*PKPDF PKPdf 13 49 45.5 +0.4
OKC ⇑*e*PKPB PKPbc 13 49 53.6 +0.4
OKC *e*PKPAB PKPab 13 50 07.1 +0.2
OKC *e*PP PP 13 53 35.4 -6.1
OKC *ex* x 14 04 04.9
OKC AMS AMS 15 07 20.0
comp=Z,800nm,16.7s
OKC Ostrava-Krasne 154.11 339 *e*PKIKP PKPdf 13 49 45.5 +0.4
OKC *e* 13 49 53.6
OKC *e* 13 53 35.4
OKC MLR MLR
comp=Z,800nm,16.7s,MS5.6
OKC Ostrava-Krasne 154.11 339 *e*PKP PKPdf 13 49 45.5 +0.4
OKC *e* 13 49 53.6
OKC *e* 13 50 07.1
OKC *e*PP PP 13 53 35.4 -6.1
OKC *e*SKS 14 04 04.9
UPC Upice 154.13 343 *e*PKPDF PKPdf 13 49 45.3 +0.1
UPC ⇑*e*PKPB PKPbc 13 49 53.9 +0.6
UPC *e*PKPAB PKPab 13 50 07.2 +0.2
UPC Upice 154.13 343 *e*PKIKP PKPdf 13 49 45.3 +0.1
UPC *e* 13 49 53.9
MLR Muntele Rosu 154.16 324⇓*i*P PKPdf 13 49 45.4 +0.2
MLR Muntele Rosu 154.16 324 P PKPdf 13 49 44.8 -0.3
WTSB Winterswijk 154.18 357 *e*P PKPdf 13 49 44.1 -1.2
comp=Z,34nm,1.7s
WTSB *ex* x 13 49 53.4
comp=Z,54nm,1.1s
WTSB *i* x x 13 50 06.6
comp=Z,75nm,1.3s
DPC Dobruska-Polom 154.19 342 *e*PKPDF PKPdf 13 49 45.5 +0.3
DPC ⇑*e*PKPB PKPbc 13 49 54.2 +0.8
DPC *e*PKPAB PKPab 13 50 07.6 +0.4
DPC *e*PP PP 13 53 39.6 -2.4

DPC ex x 14 04 02.9
DPC ex x 14 16 29.0
DPC ex x 14 30 38.7
DPC AMS AMS 15 07 40.0
comp=Z,1µm,18.2s
DPC Dobruska-Polom 154.19 342 ePKIKP PKPdf 13 49 45.5 +0.3
DPC e 13 49 54.2
DPC e 13 53 39.6
DPC MLR MLR
comp=Z,1µm,18.2s,MS5.8
DPC Dobruska-Polom 154.19 342 ePKP PKPdf 13 49 45.5 +0.3
DPC e 13 49 54.2
DPC e 13 50 07.6
DPC ePP PP 13 53 39.6 -2.4
DPC LR LR
comp=Z,1µm,18.2s,MS5.8
ESKT Eskisehir 154.25 308 *i* P PKPdf 13 49 44.0 -1.3
BRG Berggiesshubel 154.29 346 ePKPdf PKPdf 13 49 44.8 -0.6
BRG ePKPbc PKPbc 13 49 53.8 +0.2
BRG ePKPab PKPab 13 50 06.9 -0.7
BRG Berggiesshubel 154.29 346 *i* PKP PKPdf 13 49 44.8 -0.5
comp=Z,32nm,1.4s
BRG *i* 13 49 53.7
comp=Z,42nm,1.4s
BRG *i* 13 50 07.2
comp=Z,30nm,1.1s
BRG Berggiesshubel 154.29 346 *i* PKIKP PKPdf 13 49 44.8 -0.6
BRG *i* 13 49 53.7
BRG *i* 13 50 07.2
BRG pmax pmax
comp=Z,32nm,1.4s
MORC Moravsky Berou 154.35 340⇑ *i*P PKPdf 13 49 45.0 -0.5
MORC Moravsky Berou 154.35 340 ePKPdf PKPdf 13 49 44.5 -0.9
MORC ePKPbc PKPbc 13 49 53.3 -0.5
MORC ePKPab PKPab 13 50 07.7 -0.2
BORA Eskisehir 154.38 309 *i* P PKPdf 13 49 44.5 -1.0
KECS Kecovo 154.45 335 ePKP PKPdf 13 49 45.2 -0.4
KECS e 13 49 54.2
KECS e 13 50 08.2
PVCC Panska Ves 154.47 345 ePKPDF PKPdf 13 49 45.7 +0.1
PVCC ⇑ePKPB PKPbc 13 49 54.3 +0.3
PVCC ePKPAB PKPab 13 50 08.6 +0.2
PVCC ePP PP 13 53 40.2 -3.3
PVCC ex x 14 04 04.9
PVCC AMS AMS 15 08 40.0
comp=Z,1µm,18.4s
PVCC Panska Ves 154.47 345 ePKIKP PKPdf 13 49 45.7 +0.1
PVCC e 13 49 54.3
PVCC e 13 53 40.2
PVCC MLR MLR
comp=Z,1µm,18.4s,MS5.8
VOIR 154.67 325⇓ *i*P PKPdf 13 49 45.4 -0.5
VOIR 154.67 325⇓P PKPdf 13 49 45.4 -0.5
BUG Bochum--Univer 154.68 356 ePKPdf PKPdf 13 49 45.5 -0.4
BUG ePKPbc PKPbc 13 49 54.4 -0.1
BUG ePKPab PKPab 13 50 08.2 -1.1
DRGR 154.84 330⇑ *i*P PKPdf 13 49 45.4 -0.7
DRGR 154.84 330 P PKPdf 13 49 45.7 -0.4
MOX Moxa 154.96 349 ePKPdf PKPdf 13 49 45.3 -1.0
MOX ePKPbc PKPdf 13 49 54.7 +8.4
MOX ePKPab PKPab 13 50 09.1 -1.4
MOX Moxa 154.96 349 ePKP PKPdf 13 49 45.9 -0.4
comp=Z,61nm,1.6s
MOX e 13 50 10.1
MOX
comp=Z,1µm,19.0s
MOX Moxa 154.96 349 ePKIKP PKPdf 13 49 45.9 -0.4
MOX e 13 50 10.1
MOX pmax pmax
comp=Z,61nm,1.6s
MOX MLR MLR
comp=Z,1µm,19.0s,MS5.7
MOX Moxa 154.96 349 ePKPdf PKPdf 13 49 45.9 -0.4
MOX ePKP PKPdf 13 49 54.7 +8.4
MOX ePP PP 13 53 48.0 +1.8
MOX eSSS 14 16 54.0
MOX eLQ 14 31 17.0
MOX LR LR
comp=Z,1µm,19.0s,MS5.7
PRU Pruhonice 154.98 344 ePKPDF PKPdf 13 49 46.0 -0.3
PRU ⇑ePKPB PKPdf 13 49 55.5 +9.2
PRU ePKPAB PKPab 13 50 10.5 -0.1
PRU ePP PP 13 53 43.7 -2.7
PRU eSKS 14 04 06.0
PRU AMS AMS 15 08 00.0
comp=Z,1µm,18.3s
PRU Pruhonice 154.98 344 ePKIKP PKPdf 13 49 46.0 -0.3
PRU e 13 49 55.5
PRU e 13 50 10.5
PRU e 13 53 43.7
PRU MLR MLR
comp=Z,1µm,18.3s,MS5.8
TANN Tannenbergstha 155.03 348 ePKPdf PKPdf 13 49 45.8 -0.6
TANN ePKPbc PKPdf 13 49 54.3 +7.9
TANN ePKPab PKPab 13 50 10.2 -0.6
TANN ePP PP 13 53 44.3 -2.3
UBBA Unterbreizbach 155.03 352 ePKPdf PKPdf 13 49 45.8 -0.6
UBBA ePKPbc PKPdf 13 49 54.5 +8.1
UBBA ePKPab PKPab 13 50 09.8 -1.0
VYHS Vyhne 155.04 337 ePKP PKPdf 13 49 45.6 -0.8
VYHS e 13 49 55.4
VYHS e 13 50 11.1
VYHS Vyhne 155.04 337 ePKIKP PKPdf 13 49 45.6 -0.8
VYHS e 13 49 55.4
VRAC Vranov 155.06 341⇑ *i*P PKPdf 13 49 45.5 -0.9
VRAC Vranov 155.06 341 P PKPdf 13 49 46.8 +0.3
PSZ Piszkesteto 155.13 335⇓ ePKP/F PKPdf 13 49 45.6 -0.9
PSZ Piszkesteto 155.13 335⇓ *i*P PKPdf 13 49 45.5 -1.0
PSZ Piszkesteto 155.13 335 P PKPdf 13 49 46.8 +0.3
TKTP Tekketepe 155.19 305 *i* P PKPdf 13 49 45.6 -1.0
NKC Novy Kostel 155.20 348 ePKPDF PKPdf 13 49 46.8 +0.2
NKC ePKPAB PKPab 13 50 11.0 -0.5
NKC ePP PP 13 53 42.9 -4.7
NKC AMS AMS 15 08 00.0
comp=Z,1µm,17.3s
NKC Novy Kostel 155.20 348 ePKP PKPdf 13 49 46.8 +0.2
NKC e 13 50 11.0
NKC ePP PP 13 53 42.9 -4.7
TREC Trest 155.38 342 ePKPDF PKPdf 13 49 46.7 -0.2
TREC ePKPAB PKPab 13 50 12.1 -0.2
TREC ePP PP 13 53 43.6 -5.0
TREC AMS AMS 15 06 10.0
comp=Z,1µm,18.3s
BEBN Eben Emael 155.40 358 PKPab PKPab 13 50 11.8 -0.6
UCC Uccle 155.41 0 PKPab PKPab 13 50 11.8 -0.6
HGN Heimansgroeve 155.42 358 ePKP PKPdf 13 49 45.8 -1.1
comp=Z,24nm,1.9s
HGN ex x 13 49 56.3
comp=Z,31nm,1.3s
HGN *i* x x 13 50 11.9
comp=Z,99nm,2.4s
SMOL Smolenice 155.50 339 ePKP PKPdf 13 49 54.7 +7.7
SMOL ePKP PKPab 13 50 13.4 +0.6
MANZ Manzenberg 155.50 348 ePKPdf PKPdf 13 49 46.7 -0.3
MANZ ePKPab PKPab 13 50 11.8 -1.0
MANZ ePPP PP 13 53 45.2 -4.1
MEM Membach 155.57 358 PKPab PKPab 13 50 12.7 -0.4
ROTZ Rotzenmuhle 155.70 348 ePKPdf PKPdf 13 49 46.4 -0.9
ROTZ ePKPbc PKPdf 13 49 56.9 +10
ROTZ ePKPab PKPab 13 50 13.3 -0.3
ROTZ ePP PP 13 53 45.9 -4.5
SNF Seneffe 155.71 0 PKPab PKPab 13 50 13.3 -0.4
BCLA Clavier 155.79 359 PKPab PKPab 13 50 13.3 -0.7
TNS Taunus Mts 155.79 354 ePKPdf PKPdf 13 49 46.8 -0.6
TNS ePKPbc PKPdf 13 49 56.5 +9.1
TNS ePKPab PKPab 13 50 13.6 -0.4
BUD Budapest 155.82 335⇓ ePKP/F PKPdf 13 49 46.3 -1.2
GZR Gura Zlata 155.84 327⇓ *i*P PKPdf 13 49 47.3 -0.2
GZR Gura Zlata 155.84 327 ⇓PKIKP PKPdf 13 49 47.6 +0.1
GZR Gura Zlata 155.84 327 P PKPdf 13 49 47.2 -0.3
GRA1 Grafenberg Arr 155.94 349 ePKPdf PKPdf 13 49 46.4 -1.2
GRA1 ePKPab PKPab 13 50 14.5 -0.2
GRA1 ePPP PP 13 53 47.7 -4.0
GRF Grafenberg Arr 155.94 349 ePKPdf PKPdf 13 49 46.4 -1.2
GRF ePKPab PKPab 13 50 14.5 -0.2
GRF ePPP PP 13 53 47.7 -4.0
KHC Kasperske Hory 156.01 345 ePKPDF PKPdf 13 49 47.5 -0.2
KHC ⇑ePKPB PKPdf 13 49 57.7 +10
KHC ePKPAB PKPab 13 50 14.9 -0.1
KHC ePP PP 13 53 48.1 -4.0
KHC *ex* x 14 04 13.7
KHC Kasperske Hory 156.01 345 *e*PKIKP PKPdf 13 49 47.5 -0.2
KHC *e* 13 49 57.7
KHC *e* 13 50 14.9
KHC *e* 13 53 48.1
KHC MLR MLR
comp=Z,1µm,19.1s,MS5.8
GIVF Givet 156.11 359 *e*PKIKP PKPdf 13 49 46.8 -1.0
DOU Dourbes 156.12 360 E 13 49 57.8
DOU PKPab PKPab 13 50 14.8 -0.6
WET Wettzell 156.15 346 *e*PKPdf PKPdf 13 49 47.1 -0.8
WET ePKPab PKPab 13 50 14.9 -0.7
WET ePP PP 13 53 49.3 -3.6
BAIF Baives 156.16 0 ePKIKP PKPdf 13 49 47.0 -0.9
comp=Z,51nm,1.3s
ABH Alteburg 156.21 355 PKP PKPdf 13 49 48.0 0.0
BZS Buzias 156.23 329⇓ *i*P PKPdf 13 49 47.2 -0.8
BZS Buzias 156.23 329 P PKPdf 13 49 47.9 -0.1
GEC2 GERESS Array S 156.25 345 ePKPdf PKPdf 13 49 47.3 -0.7
GEC2 ePKPab PKPab 13 50 15.5 -0.5
GEC2 ePP PP 13 53 51.3 -2.1
GEC2 GERESS Array S 156.25 345 PKIKP PKPdf 13 49 47.2 -0.8
GERES GERESS Array B 156.25 345 PKP PKPdf 13 49 47.1 -0.9
comp=Z,5.0nm,1.0s,baz=124,slow=0.5,SNR=26
GERES PKPab PKPab 13 50 15.0 -1.0
comp=Z,1.7nm,0.6s,baz=86,slow=4.1,SNR=5.9
GERES GERESS Array B 156.25 345 PKIKP PKPdf 13 49 47.1 -0.9
GERES 13 50 15.0
GERES pmax pmax
comp=Z,5.0nm,1.0s
TOD Tromm 156.37 353 PKIKP PKPdf 13 49 47.5 -0.7
RUP Ruppelstein 156.43 356 PKIKP PKPdf 13 49 47.5 -0.8
CONA Conrad Observa 156.51 341⇓ *i*PKPdf PKPdf 13 49 47.3 -1.1
comp=Z,17nm,1.6s,SNR=7.5
SOP Sopron 156.51 339⇓ *e*PKP/F PKPdf 13 49 47.5 -0.9
WLF Walferdange 156.51 357 ePKPdf PKPdf 13 49 47.8 -0.6
WLF ePKPab PKPab 13 50 16.8 -0.3
WLF Walferdange 156.51 357 PKPab PKPab 13 50 17.1 0.0
CAAB Canakkale 156.65 312 *e*P PKPdf 13 49 47.4 -1.1
AKHS Akhisar 156.66 309 *i* P PKPdf 13 49 47.8 -0.8
PKSM Moragy 157.03 334⇑ *i*P PKPdf 13 49 48.4 -0.6
PKSM Moragy 157.03 334 P PKPdf 13 49 48.7 -0.3
MOA Molln 157.03 343⇓ *i*P PKPdf 13 49 47.7 -1.3
comp=Z,436nm,5.2s
LANF Langenberg 157.09 354 PKP PKPdf 13 49 48.8 -0.3
FLN La Foliniere 157.13 8 *e*PKIKP PKPdf 13 49 47.8 -1.4
FLN *eR*
comp=Z,2µm,22.5s
FLN La Foliniere 157.13 8 *e*PKPdf PKPdf 13 49 47.8 -1.4
FLN LR LR
comp=Z,2µm,22.5s,MS5.8
STU Stuttgart 157.14 352 ePKPdf PKPdf 13 49 48.8 -0.4
STU ePKPab PKPab 13 50 19.5 -0.3
ARSA Arzberg 157.22 340⇓ *i*P PKPdf 13 49 48.3 -1.0
comp=Z,327nm,5.3s,SNR=5.6
LDF La Druitiere 157.34 8 *e*PKIKP PKPdf 13 49 48.3 -1.1
comp=Z,110nm,1.7s
FUR Furstenfeldbru 157.41 348 ePKPdf PKPdf 13 49 48.9 -0.6
FUR ePKPab PKPab 13 50 20.9 -0.1
GRR Gorron 157.44 9 *e*PKIKP PKPdf 13 49 48.8 -0.8
QUIF Quistinic 157.49 13 *e*PKIKP PKPdf 13 49 48.5 -1.1
VTS Vitosha 157.55 322⇓ *i*P PKPdf 13 49 48.8 -0.9
VTS Vitosha 157.55 322⇓ PKIKP PKPdf 13 49 48.9 -0.8
VTS Vitosha 157.55 322 P PKPdf 13 49 49.3 -0.4
BFO Black Forest 157.68 353 ePKPdf PKPdf 13 49 48.8 -1.1
BFO ePKPab PKPab 13 50 21.5 -0.7
BFO Black Forest 157.68 353 ePKPdf PKPdf 13 49 48.8 -1.1
BFO ePKPab PKPab 13 50 21.4 -0.8
WLS Welschbruch 157.69 355 PKP PKPdf 13 49 49.7 -0.2
CDF Champ du Feu 157.69 355 ePKIKP PKPdf 13 49 48.6 -1.3
comp=Z,50nm,1.6s
KOGS Kog 157.70 338 ePKPdf PKPdf 13 49 48.8 -1.1
KOGS ePKPab PKPab 13 50 21.7 -0.5
MEZF Maizieres J'vi 157.71 359 ePKIKP PKPdf 13 49 49.3 -0.6
comp=Z,79nm,1.2s
SPAK Spaichingen-Ko 157.85 352 PKP PKPdf 13 49 49.3 -0.8
PERS Pernice 157.89 340 ePKPdf PKPdf 13 49 48.9 -1.2
ECH Echery 157.90 355 PKP PKPdf 13 49 49.5 -0.6
THEF They Montfort 157.96 357 PKP PKPdf 13 49 49.9 -0.3
HAU Haudompre 158.16 357 ePKIKP PKPdf 13 49 49.3 -1.1
comp=Z,88nm,1.4s
HAU *eR*
comp=Z,1µm,21.8s
HAU Haudompre 158.16 357 ePKPdf PKPdf 13 49 49.3 -1.1
HAU LR LR
comp=Z,1µm,21.8s,MS5.7
FELD Feldberg im Sc 158.16 354 PKP PKPdf 13 49 50.3 -0.1
WTTA Wattenberg 158.20 347⇑ *i*P PKPdf 13 49 49.6 -0.9
comp=Z,278nm,3.4s
MOTA Moosalm 158.23 348⇑ *i*P PKPdf 13 49 49.7 -0.9
comp=Z,33nm,1.3s
MOF Molkenrain 158.26 355 PKP PKPdf 13 49 50.1 -0.5
HINF Hinteralfeld 158.32 356 ePKIKP PKPdf 13 49 49.5 -1.1
SQTA Sankt Quirin 158.33 347⇑ *i*P PKPdf 13 49 49.4 -1.2
comp=Z,28nm,1.3s
DAVA Damuels 158.50 350⇓ *i*P PKPdf 13 49 50.0 -0.8
comp=Z,302nm,3.7s
LJU Ljubljana 158.60 340 ePKPdf PKPdf 13 49 50.4 -0.6
LJU ePKPab PKPab 13 50 25.3 -0.8
PTCC Patocco-Chiusa 158.60 343 P PKPdf 13 49 49.9 -1.1
DBIC Dimbokro 158.67 154 PKP PKPdf 13 49 52.1 +1.0
comp=Z,15nm,1.1s,baz=184,slow=4.2,SNR=7.5
DBIC PKPab PKPab 13 50 27.3 +0.8
comp=Z,12nm,0.9s,baz=186,slow=5.1,SNR=6.3
DBIC Dimbokro 158.67 154 PKP PKPdf 13 49 52.1 +1.0
DBIC PKPab PKPab 13 50 27.3 +0.8
DBIC LR LR
comp=Z,1µm,21.0s,MS5.7
STIP Stip 158.71 321 *e*PKP PKPdf 13 49 50.8 -0.3
VAY Valandovo 158.73 320 *i* PKP PKPdf 13 49 49.8 -1.4
GMNA Gemona 158.75 343 P PKPdf 13 49 50.8 -0.4
LOMF Lomont 158.78 356 PKP PKPdf 13 49 51.0 -0.2
VOJS Vojsko 158.80 342 ePKPdf PKPdf 13 49 50.2 -1.0
BOJS Bojanci 158.86 339 ePKPdf PKPdf 13 49 50.8 -0.5
BOJS ePKPab PKPab 13 50 26.5 -0.8
SKO Skopje 158.94 323 *i* PKP PKPdf 13 49 51.7 +0.3
LOR Lormes 158.94 1 ePKIKP PKPdf 13 49 50.6 -0.8
comp=Z,112nm,1.5s
LOR *eR*
comp=Z,1µm,19.2s
LOR Lormes 158.94 1 *e*PKPdf PKPdf 13 49 50.6 -0.8
LOR LR LR
comp=Z,1µm,19.3s,MS5.8
APE Apeiranthos 159.07 306⇑ *i*P PKPdf 13 49 50.0 -1.5
APE Apeiranthos 159.07 306⇑P PKPdf 13 49 50.0 -1.5
SSF Saint Saulge 159.14 2 ePKIKP PKPdf 13 49 50.8 -0.8
comp=Z,100nm,1.7s
MFF Saint Martin d 159.29 9 ePKIKP PKPdf 13 49 51.0 -0.8
comp=Z,76nm,1.4s
CTI Castel Tesino 159.35 346 PKIKP PKPdf 13 49 51.7 -0.2
TUE Stuetta 159.37 350 P PKPdf 13 49 51.4 -0.5
AVF Avril sur Loir 159.41 2 ePKIKP PKPdf 13 49 50.8 -1.1
comp=Z,24nm,1.2s
CABF La Chapelle 159.56 357 ePKIKP PKPdf 13 49 51.8 -0.3
comp=Z,89nm,1.3s
SMF Signal de Mont 159.57 1 ePKIKP PKPdf 13 49 51.1 -1.0
BGF Bois d'Agland 159.62 3 ePKIKP PKPdf 13 49 51.4 -0.8
comp=Z,110nm,1.5s
BIA Bitola 159.64 321 *e*PKP PKPdf 13 49 51.0 -1.2
TCF Toulx Ste Croi 159.85 5 ePKIKP PKPdf 13 49 51.5 -0.9
comp=Z,56nm,1.3s
OHR Ohrid 159.88 322 *i* PKP PKPdf 13 49 51.8 -0.7
AGO Saint Agoulin 160.14 3 PKP PKPdf 13 49 53.2 +0.4
PLDF La Plantade 160.24 2 PKP PKPdf 13 49 53.0 +0.1
LPL La Plagne 160.62 355 ePKIKP PKPdf 13 49 53.1 -0.2
LPG La Plagne 160.63 355 ePKIKP PKPdf 13 49 53.2 -0.1
comp=Z,78nm,1.7s
RJF Les Rejaudoux 160.77 6 ePKIKP PKPdf 13 49 52.8 -0.7
comp=Z,70nm,1.3s
RJF *eR*
comp=Z,1µm,21.5s
RJF Les Rejaudoux 160.77 6 *e*PKPdf PKPdf 13 49 52.8 -0.7
RJF LR LR
comp=Z,1µm,21.5s
LBL Lubilhac 160.96 3 PKP PKPdf 13 49 54.2 +0.5
LFF La Frestale 161.04 8 ePKIKP PKPdf 13 49 53.1 -0.6
BNI Bardonecchia 161.08 355 ePKIKP PKPdf 13 49 54.3 +0.5
CCAN Las Canadas 161.16 79 PKP PKPdf 13 49 55.2 +1.3
CAF Calviac 161.19 5 ePKIKP PKPdf 13 49 53.4 -0.5
comp=Z,54nm,1.3s
ERUA La Rua 161.23 28 PKIKP PKPdf 13 49 51.7 -2.2
ORIF Oris-en-Rattie 161.26 357 ePKIKP PKPdf 13 49 53.5 -0.5
comp=Z,97nm,1.6s
ORIF *eR*
comp=Z,2µm,18.8s
SFI Santa Sofia 161.32 343 PKIKP PKPdf 13 49 53.9 -0.1
VIVF Saint-Julien-l 161.36 360 *e*PKIKP PKPdf 13 49 53.7 -0.4
comp=Z,87nm,1.5s
ARV Arcevia 161.39 340 PKIKP PKPdf 13 49 53.7 -0.4
MBDF Montbardon 161.40 355 *e*PKIKP PKPdf 13 49 53.6 -0.5
comp=Z,120nm,1.9s
ECAL Calabor 161.77 28 PKP PKPdf 13 49 53.8 -0.8
ELAN Lanestosa 161.81 19 PKP PKPdf 13 49 51.7 -2.8
PBRG Braganca 161.88 28 *e*PKPdf PKPdf 13 49 54.4 -0.2
PBRG Braganca 161.88 28 *e*PKPab PKPab 13 50 39.5 -1.0
PVRL Vila Real 161.88 31 *e*PKPdf PKPdf 13 49 54.2 -0.4
PVRL Vila Real 161.88 31 *e*PKPab PKPab 13 50 40.2 -0.3
LASF Ste Croix 162.13 1 *e*PKIKP PKPdf 13 49 54.6 -0.3
comp=Z,135nm,1.5s
SBF Sospel 162.19 353 *e*PKIKP PKPdf 13 49 53.9 -1.0
comp=Z,242nm,1.8s
SMRF Simiane la Rot 162.22 357 *e*PKIKP PKPdf 13 49 54.8 -0.2
comp=Z,160nm,1.6s
PVIS Viseu 162.24 32 *e*PKPdf PKPdf 13 49 54.8 -0.2
PVIS Viseu 162.24 32 *e*PKPab PKPab 13 50 41.4 -0.6
GRFL Gerfalco 162.25 344 P PKPdf 13 49 53.6 -1.4
EALK Alkurruntz 162.31 14 PKP PKPdf 13 49 54.5 -0.6
SJPF Ste Jean 162.48 14 *e*PKIKP PKPdf 13 49 55.3 +0.1
comp=Z,74nm,1.5s
FRF La Foret Royal 162.56 355 *e*PKIKP PKPdf 13 49 54.4 -0.9
comp=Z,110nm,1.5s
MTE Manteigas 162.65 32 *e*PKPdf PKPdf 13 49 55.1 -0.3
MTE Manteigas 162.65 32 *e*PKPab PKPab 13 50 42.5 -1.3
MTE Manteigas 162.65 32 *e*PP PP 13 54 32.8 +4.6
MTE *e*SKSdf SKSdf 13 56 54.2 -5.1
MTE Manteigas 162.65 32 *e*PKPdf PKPdf 13 49 56.1 +0.8
MTLF Montolieu 162.78 6 *e*PKIKP PKPdf 13 49 55.0 -0.5
comp=Z,55nm,1.5s
LMR La Mourre 162.80 355 *e*PKIKP PKPdf 13 49 54.5 -1.0
PMAFR Mafra 162.81 39 *e*PP PP 13 54 32.8 +3.8
PMAFR Mafra 162.81 39 *i* - 14 53 12.4
PTOM Tomar 162.81 36 *e*PKPdf PKPdf 13 49 55.5 -0.1
PTOM Tomar 162.81 36 *e*PKPab PKPab 13 50 43.7 -0.8
ETSF Etsaut 162.82 13 *e*PKIKP PKPdf 13 49 55.7 +0.1
comp=Z,58nm,1.4s
EPF Esparros 162.85 10 *e*PKIKP PKPdf 13 49 55.4 -0.2
comp=Z,45nm,1.3s
PCBR Castelo Branco 163.12 33 *e*PKPdf PKPdf 13 49 55.7 -0.2
CFTV Fuerteventura 163.37 78 PKP PKPdf 13 49 56.3 +0.2
PESTR Estremoz 163.79 36 *e*PKPdf PKPdf 13 49 56.5 0.0
PESTR Estremoz 163.79 36 *e*PKPab PKPab 13 50 47.9 -0.9
PESTR Estremoz 163.79 36 *e*PP PP 13 54 37.6 +3.4
GUD Guadarrama 163.90 24 PKIKP PKPdf 13 49 56.8 +0.2
EBAD Badajoz 164.18 35 PKP PKPdf 13 49 56.0 -0.8
PBEJ Beja 164.25 38 *e*PKPdf PKPdf 13 49 57.3 +0.4
ESDC Sonseca Array 164.81 26 PKP PKPdf 13 49 58.0 +0.6
comp=Z,0.9nm,0.5s,baz=347,slow=3.5,SNR=17
ESDC PKPab PKPab 13 50 52.7 -0.6
comp=Z,11nm,0.9s,baz=314,slow=4.3,SNR=17
ESLA Sonseca Array 164.81 26 *e*PKPdf PKPdf 13 49 58.2 +0.8
ESLA LR LR
comp=Z,5µm,19.0s
EGRO El Granado 164.81 39 PKP PKPdf 13 49 56.8 -0.6
ERTA Horta de San J 164.87 12 PKP PKPdf 13 49 56.4 -1.0
EMIN Mina Concepcio 165.09 36 PKP PKPdf 13 49 57.4 -0.2
EADA Adamuz 165.82 30 PKP PKPdf 13 49 58.2 -0.1
EBAN Banos Encina 166.17 28 PKIKP PKPdf 13 49 58.2 -0.3
ESPR Espera 166.19 37 PKP PKPdf 13 49 58.8 +0.2
EVIA Vianos 166.26 24 PKIKP PKPdf 13 49 58.9 +0.3
ETOB Tobarra 166.58 21 PKP PKPdf 13 49 58.7 -0.1
EJIF Jimena Fronter 166.71 37 PKIKP PKPdf 13 49 58.5 -0.4
EQES Quesada 166.77 27 PKP PKPdf 13 49 57.5 -1.5
TOA0 Torodi Ar. Sit 166.78 168 *e*PKPdf PKPdf 13 49 59.4 +0.4
TORD Torodi Ar. Bea 166.78 168 PKP PKPdf 13 49 59.1 +0.1
comp=Z,17nm,1.1s,baz=318,slow=0.1,SNR=40
TORD PKPab PKPab 13 51 02.8 +0.8
comp=Z,9.2nm,0.8s,baz=182,slow=3.6,SNR=15
TORD PP PP 13 54 50.0 +0.2
comp=Z,2.7nm,1.1s,baz=168,slow=6.3,SNR=4.0
EBEN Beniarda 166.90 16 PKP PKPdf 13 49 59.1 0.0
EHUE Huescar 166.95 25 PKIKP PKPdf 13 49 57.7 -1.4
ECOG Cogollos-Vega 167.01 30 PKIKP PKPdf 13 49 56.9 -2.3
EMUR La Murta 167.41 21 PKP PKPdf 13 49 58.3 -1.2
ENIJ Nijar 167.84 26 PKIKP PKPdf 13 50 00.5 +0.7
EALB Alboran 168.35 32 PKP PKPdf 13 49 59.1 -1.0
KEST Kesra 169.59 337 PKP PKPdf 13 50 05.2 +4.4
comp=Z,5.3nm,1.1s,baz=238,slow=4.7,SNR=4.7
KEST PKPab PKPab 13 51 12.2 -2.3
comp=Z,2.9nm,1.1s,baz=328,slow=3.2,SNR=3.7
EBNR Beni Rached 169.61 13 P PKPdf 13 50 04.5 +3.6
ECHA Ech Chlef 169.71 14 P PKPdf 13 50 04.1 +3.1
EANR 'Ain N'Sour 169.84 16 P PKPdf 13 50 03.0 +2.0
EMHD Djebel Mahouad 169.93 7 P PKPdf 13 50 04.2 +3.1
ETRT Tiaret 170.43 16 P PKPdf 13 50 04.0 +2.6

NEIC ***19*** *13:30:14.8, 3143S×7199W, h38km, MD4.1(GUC), After GUC.*

GUC 19 13:30:14.8±0.9**, 3143S×7199W, h38**km±3km**, MD4.1, ML3.5,7C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.61**	**138**	*e*P	Pn	13 30 26.9	-0.2
CHNG				*i* S	Sn	13 30 36.2	+0.5
CHNG				AML	AML	13 30 37.4	
comp=E,2µm,0.6s							
CMCH	**Combarbala**	**0.88**	**74**⇓	*i*P	Pn	13 30 31.3	+0.7
CMCH				*i* S	Sn	13 30 44.1	+1.9
CMCH				AML	AML	13 30 45.6	
comp=E,8µm,0.7s							
CMCH	**Combarbala**	**0.88**	**74**⇓	*i*P	Pn	13 30 31.3	+0.7
CMCH				*i* S	Sn	13 30 44.1	+1.9
OVCH	**Ovalle**	**1.06**	**40**	*e*P	Pn	13 30 33.3	+0.2
OVCH				*i* S	Sn	13 30 47.9	+1.3
OVCH				AML	AML	13 30 52.9	
comp=E,1µm,0.4s							
OVCH	**Ovalle**	**1.06**	**40**	*e*P	Pn	13 30 33.3	+0.2
OVCH				*i* S	Sn	13 30 47.9	+1.3
PTCH	**Petorca**	**1.23**	**133**	*e*P	Pn	13 30 36.5	+1.0
PTCH				*i* S	Sn	13 30 52.7	+1.9
PTCH				AML	AML	13 30 53.3	
comp=N,2µm,0.6s							
PTCH	**Petorca**	**1.23**	**133**	*e*P	Pn	13 30 36.5	+1.0
PTCH				*i* S	Sn	13 30 52.7	+1.9
TLL	**Tololo Astrono**	**1.61**	**39**⇑	*i*P	Pn	13 30 41.7	+0.9
TLL				*i* S	Sn	13 31 02.9	+2.5
TLL				AML	AML	13 31 14.6	
comp=N,847nm,0.7s							
TLL	**Tololo Astrono**	**1.61**	**39**⇑	*i*P	Pn	13 30 41.7	+0.9
TLL				*i* S	Sn	13 31 02.9	+2.5
LSCH	**La Serena**	**1.64**	**23**⇑	*i*P	Pn	13 30 40.8	-0.3
LSCH				*i* S	Sn	13 31 01.8	+0.7
JACH	**Jahuel**	**1.72**	**137**	*e*P	Pn	13 30 44.1	+1.8
JACH				*i* S	Sn	13 31 05.9	+2.9
PEL	**Peldehue**	**2.04**	**148**	*e*P	Pn	13 30 47.9	+1.3
PEL				*i* S	Sn	13 31 12.5	+1.8
PEL				AML	AML	13 31 14.8	
comp=E,599nm,0.3s							
PEL	**Peldehue**	**2.04**	**148**	*e*P	Pn	13 30 47.9	+1.3
PEL				*i* S	Sn	13 31 12.5	+1.8
RCDM	**Rinconada Maip**	**2.29**	**154**⇑	*i*P	Pn	13 30 51.2	+1.2
RCDM				AML	AML	13 31 19.8	
comp=E,403nm,0.1s							
CLCH	**Cerro Calan**	**2.31**	**148**⇑	*i*P	Pn	13 30 51.8	+1.4
CLCH				*i* S	Sn	13 31 19.4	+1.8
CLCH				AML	AML	13 31 22.8	
comp=E,353nm,0.4s							
FCH	**Farellones**	**2.38**	**143**	*e*P	Pn	13 30 53.2	+2.0
FCH				*i* S	Sn	13 31 22.3	+3.2
FCH				AML	AML	13 31 23.8	
comp=N,189nm,0.5s							
TACH	**Talagante**	**2.39**	**159**	*e*P	Pn	13 30 52.7	+1.3
TACH				*i* S	Sn	13 31 21.2	+1.7
CHCH	**Chadas Angostu**	**2.74**	**156**	*e*P	Pn	13 30 57.9	+1.6
LMEL	**Las Melosas**	**2.84**	**149**⇓	*i*P	Pn	13 30 59.7	+2.1
LMEL				*i* S	Sn	13 31 33.0	+2.4
LMEL				AML	AML	13 31 34.0	
comp=N,230nm,0.4s							
LMEL	**Las Melosas**	**2.84**	**149**⇓	*i*P	Pn	13 30 59.7	+2.1
LMEL				*i* S	Sn	13 31 33.0	+2.4
CACH	**El Canelo**	**2.92**	**157**⇑	*i*P	Pn	13 31 01.2	+2.5
VACH	**Vallenar**	**3.03**	**21**	*i* P	Pn	13 31 02.9	+2.6
VACH				*i* S	Sn	13 31 39.0	+3.6
VACH				AML	AML	13 31 45.4	
comp=E,504nm,0.4s							
VACH	**Vallenar**	**3.03**	**21**	*i* P	Pn	13 31 02.9	+2.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VACH				iS	Sn	13 31 39.0	+3.6
CICH	Cipreses	3.17	156	eP	Pn	13 31 03.8	+1.6
SFDO	San Fernando	3.28	166	⇑iP	Pn	13 31 04.9	+1.2

*CSEM **19** 13:33:02.2, 4356N×4247E, h15km, mb3.7, After OBN*

MOS 19 13:33:02.2±2.4**, 4356N×4247E, h15km, mb3.7**/1**, 1C-2D, Error ellipse: s-maj=11.5km s-min=11.1km az=168.4, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAR	Shatzhatmas	0.23	38	⇓iPG	Pg	13 33 12.9	+5.5
SHAR				iS	Sg	13 33 17.4	+6.5
KIV	Kislovodsk	0.42	22	⇑ePG	Pg	13 33 13.8	+3.1
KIV				iS	Sg	13 33 19.3	+2.8
PYA	Pyatigorsk	0.64	42	⇓ePG	Pg	13 33 12.9	-1.8
KUBR	Kubataba	0.72	70	iPg	Pg	13 33 12.1	-4.2
DIGR	Digorskoe uzhe	1.05	129	iPg	Pg	13 33 22.7	+0.3
DIGR				eSg	Sg	13 33 33.7	-2.4
KORR	Kora	1.26	112	iPg	Pg	13 33 25.4	-1.1
ZEI	Tsey	1.31	127	ePg	Pg	13 33 26.9	-0.5
KMSR	Komsomolskaya	1.34	97	ePg	Pg	13 33 26.4	-1.6
ARNR	Ardon	1.37	105	iPg	Pg	13 33 27.0	-1.6
LACR	Lac	1.52	118	iPg	Pg	13 33 30.0	-1.5
TRKR	Terskaya	1.65	84	ePn	Pn	13 33 31.5	+0.9

MAN 19 13:46:04.8, 952N×12252E, h33km, mb2.2, ML3.9, MS2.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.73	104	eP	Pn	13 46 19.0	+0.2
GUIM	Jordan	1.10	4	eP	Pn	13 46 24.0	+0.2
GUIM				eS	Sn	13 46 38.4	+0.5
DCPH	Dipolog City	1.25	138	eP	Pn	13 46 25.3	-0.6
DCPH				eS	Sn	13 46 41.6	+0.1
IPIL	Ipil	1.73	178	eP	Pn	13 46 33.6	+1.1
IPIL				eS	Sn	13 46 53.8	+0.4
PAGZ	Pagadian	1.87	153	eP	Pn	13 46 36.3	+1.9
CUYO	Cuyo Island	1.98	312	eP	Pn	13 46 36.7	+0.8
CUYO				eS	Sn	13 46 59.5	-0.1

NEIC 19 13:54:28.3, 6323N×16784W, h8km, ML4.2(AEIC)**, After AEIC., Bering Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	Tin City	2.34	359	P	Pn	13 55 07.2	+0.2
TNA				S	Sn	13 55 37.2	+1.3
TTA	Tatalina	5.38	88	P	Pn	13 55 48.9	0.0
SVW2	Sparrevohn	6.13	105	P	Pn	13 55 59.3	+0.2
SPIA	Saint Paul Isl	6.19	192	P	Pn	13 56 01.2	+1.3
IMA2	Indian Mountai	6.71	59	P	Pn	13 56 07.0	0.0
KTH	Kantishna Hill	7.60	80	P	Pn	13 56 18.6	-0.7
COLD	Coldfoot	8.40	54	P	Pn	13 56 28.3	-2.0
MCK	McKinley	8.47	78	P	Pn	13 56 30.3	-0.9
COLA	College	8.91	70	P	Pn	13 56 35.9	-1.3
EGAK	Eagle	11.77	71	ePn	Pn	13 57 15.8	-0.6
INK	Inuvik	14.82	55	ePn	Pn	13 57 57.0	-1.1
	8.6nm,0.8s						

*IDC **19** 13:58:55.0±0.3, 986S×10741E, h0km, mb5.6/32, mb1 5.6/33, mb1mx5.6/34, mbtmp5.6/33, ML4.8/1, MS5.4/17, Ms1 5.4/17, ms1mx5.2/23, Error ellipse: s-maj=12.3km s-min=8.5km az=51.0*

*CRAAG **19** 13:58:54.2, 988S×10739E, Mw5.9*

*ISCJB **19** 13:58:55.7±0.1, 991S±002×10742E±002, h15km, mb6.0/153, MS5.5/56, Error ellipse: s-maj=3.5km s-min=3.1km az=107.0*

*BJI **19** 13:58:55.8, 990S×10730E, h12km, mB6.1, mb5.7, Ms5.8, Msz5.6*

*GCMT **19** 13:58:56.9±0.1, 10.10S×10743E, h18km, MW5.9/103, Moment Tensor Solution. s93,c188; s103,c318; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.35±.08; $M_{\theta\theta}$5.67±.06; $M_{\phi\phi}$0.67±.08; $M_{r\theta}$-0.57±.14; $M_{\theta\phi}$-4.21±.05; $M_{\phi r}$-2.36±.18; Best double couple: $M_0$7.72400×10^{17} NP1:ϕ_s98.00000°,δ47.00000°, λ-122.00000°. NP2:ϕ_s320.00000°,δ52.00000°, λ-61.00000°. Principal axes: T 8.1010, Plg3.0000°, Azm30.0000°; N -0.7550, Plg22.0000°, Azm121.0000°; P -7.3470, Plg67.0000°, Azm294.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **19** 13:58:56.9±0.1, 990S×10735E, h12km, mb5.9/46, ME5.9, MS5.5/9, MW5.9 Error ellipse: s-maj=5.0km s-min=3.2km az=42.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}-7.15; $M_{\theta\theta}$7.30; $M_{\phi\phi}$-0.14; $M_{r\theta}$-3.76; $M_{\theta\phi}$-2.79; $M_{\phi r}$-0.40; Best double couple: $M_0$8.60000×10^{17} NP1:ϕ_s97.00000°,δ58.00000°,λ-103.00000°. NP2: ϕ_s301.00000°,δ34.00000°,λ-69.00000°. Principal axes: T 8.9700, Plg12.0000°, Azm196.0000°; N -0.7600, Plg11.0000°, Azm104.0000°; P -8.2200, Plg73.0000°, Azm332.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s120.00000°,δ55.00000°,λ-90.00000°. NP2: ϕ_s300.00000°,δ35.00000°,λ-90.00000°. Principal axes: T Plg10.0000°, Azm210.0000°; N Plg0.0000°, Azm0.0000°; P Plg80.0000°, Azm30.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Pangandaran, [III] at Tasikmalaya and [II] at Pacitan.

*SZGRF **19** 13:58:57.9, 832S×10874E, h10km, mb5.5, Jawa, Indonesia*

*MOS **19** 13:59:02.1±1.1, 987S×10728E, h58km, mb6.2/61, MS5.3/31, Error ellipse: s-maj=9.7km s-min=4.6km az=122.2*

ISC 19 13:58:57.6±0.1**, 994S**±002×**10740E**±002**, h16km, h16km**±1.3km**:pP-P, n803,** σ0s**90**/597**, mb6.0**/152**, MS5.5**/56**, 42C-127D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	3.10	4	P	Pn	13 59 46.2	+0.4
	17µm,0.9s						
BJII	Banjamegara	3.45	42	P	Pn	13 59 50.2	-0.4
	4µm,1.5s						
KSM	Kuching	11.70	14	eP	Pn	14 01 44.3	+0.5
PPI	Padang Panjang	11.71	323	P	Pn	14 01 47.3	+3.3
	97nm,1.6s						
KGM	Kluang	12.55	341	P	Pn	14 01 54.1	-1.3
PSI	Prapat	15.21	326	Pn	Pn	14 02 25.4	-6.3
	0.6nm,0.3s,baz=166,slow=13,SNR=8.8						
PSI				Sn	Sn	14 05 08.6	-11
	1.0nm,0.3s,baz=40,slow=22,SNR=2.0						
PSI				LR	LR	14 09 37.1	
	comp=Z,11µm,20.1s,baz=136,slow=43						
PSI	Prapat	15.21	326	P	Pn	14 02 25.4	-6.3
PSI						14 05 08.6	
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				smax			
	comp=N,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,11µm,20.1s						
PCI	Palu	15.28	55	P	Pn	14 02 31.8	-0.7
	comp=Z,980nm,1.8s						
IPM	Ipoh	15.66	336	P	Pn	14 02 37.1	-0.5
MBWA	Marble Bar	16.28	135	eP	Pn	14 02 41.3	-4.3
	comp=Z,126nm,0.5s						
MBWA				eS	Sn	14 05 26.1	-20
KULM	Kulim	16.55	336	eP	Pn	14 02 44.9	-4.2
TARAI	Tarakan	16.62	38	P	Pn	14 02 50.5	+0.7
	comp=Z,749nm,1.2s						
TSM	Tawau	17.57	37	P	Pn	14 03 02.4	+0.7
KKM	Kota Kinabalu	18.14	29	P	Pn	14 03 08.5	-0.3
KKM	Kota Kinabalu	18.14	29	eP	Pn	14 03 07.9	-0.8
SNG	Songkhla	18.29	338	P	Pn	14 03 07.5	-3.2
	comp=Z,634nm,0.9s						
FITZ	Fitzroy Crossi	19.45	117	eP	Pn	14 03 24.7	0.0
	comp=Z,146nm,0.6s						
FITZ				eS	Sn	14 06 44.4	-18
FITZ	Fitzroy Crossi	19.45	117	P	Pn	14 03 24.7	0.0
	comp=Z,2.2nm,0.3s,baz=292,slow=8.5,SNR=106						
FITZ				S	Sn	14 06 45.2	-17
	comp=Z,2.7nm,0.3s,baz=196,slow=21,SNR=2.3						
FITZ				LR	LR	14 10 22.4	
	comp=Z,8µm,19.8s,baz=302,slow=35						
BSI	Banda Aceh	19.50	321	P	Pn	14 03 23.1	-2.2
	comp=Z,3µm,1.2s						
BATP	Bataraza	21.29	29	eP	P	14 03 43.5	0.0
PPR	Puerto Princes	22.59	30	⇑iP	P	14 04 00.9	+3.6
MUN	Mundaring	23.40	161	eP	P	14 04 05.7	-0.2
MUN				eS	S	14 08 17.8	-0.3
KLBR	Kellerberrin	23.59	157	eP	P	14 04 06.8	-1.0
	comp=Z,386nm,1.5s,mb5.6						
KLBR				eS	S	14 08 17.0	-4.2
NNT	Nongplab	23.64	341	P	P	14 04 07.5	-0.7
PAGZ	Pagadian	23.78	43	eP	P	14 04 10.0	+0.6
NWAO	Narrogin (SRO)	24.61	160	P	P	14 04 16.5	-0.6
	comp=Z,54nm,0.6s,mb5.2,baz=329,slow=10,SNR=40						
NWAO				S	S	14 08 44.0	+6.4
	comp=Z,33nm,0.6s,baz=80,slow=20,SNR=5.2						
NWAO				LR	LR	14 13 35.7	
	comp=Z,11µm,18.0s,MS5.4,baz=324,slow=36						
NWAO	Narrogin (SRO)	24.61	160	P	P	14 04 16.5	-0.6
NWAO				S	S	14 08 44.1	+6.4
NWAO				pmax	pmax		
	comp=Z,54nm,0.6s						
NWAO				smax			
	comp=N,33nm,0.6s						
NWAO				MLR	MLR		
	comp=Z,11µm,18.0s						
NWAO	Narrogin (SRO)	24.61	160	eP	P	14 04 16.4	-0.7
	comp=Z,250nm,1.4s,mb5.5						
KAKA	Kakadu	24.70	99	eP	P	14 04 18.3	+0.4
	comp=Z,284nm,0.8s,mb5.8						
KAKA				eS	S	14 09 01.7	+23
DAV	Davao City (W)	24.76	48	eP	P	14 04 20.0	+1.6
SNPH	Sibulan	24.80	40	eP	P	14 04 20.0	+1.2
BUKP	Musuan	24.95	45	eP	P	14 04 20.8	+0.7
BUSP	Coron	25.23	31	eP	P	14 04 23.4	+0.7
GUIM	Jordan	25.40	37	eP	P	14 04 25.2	+0.9
TBP	Tagbilaran	25.46	41	eP	P	14 04 25.0	+0.2
PBA	Port Blair	25.93	325	ex	x	14 04 16.3	
PBA				ex	x	14 10 03.0	
LLP	Lapu-Lapu	26.00	40	⇑eP	P	14 04 29.4	-0.3
	comp=Z,372µm,1.3s						
KALP	Kalibo	26.10	35	⇓eP	P	14 04 33.6	+3.0
BUTP	Butuan	26.11	45	eP	P	14 04 30.8	+0.2
RCP	Roxas	26.24	36	⇑eP	P	14 04 32.9	+1.0
	comp=Z,174µm,1.0s						
NST	Nakhon Sawan	26.44	344	⇑P	P	14 04 34.5	+0.8
	comp=Z,725nm,1.0s,mb6.2						
OTRP	Odiongan	26.49	34	eP	P	14 04 35.4	+1.3
KKTK	Khon Kaen	26.49	350	⇓P	P	14 04 35.0	+0.9
	comp=Z,2µm,0.9s,mb6.6						
LUBP	Lubang	26.75	29	eP	P	14 04 35.6	-0.8
OCLP	Ormoc	26.97	40	eP	P	14 04 38.7	+0.2
BOAC	Boac	27.31	32	eP	P	14 04 40.7	-0.7
TGY	Tagaytay City	27.40	30	⇓eP	P	14 04 49.1	+6.8
TGY	Tagaytay City	27.40	30	P	P	14 04 40.9	-1.4
	comp=Z,88nm,0.4s,baz=294,slow=10.0,SNR=3.3						
TGY	Tagaytay City	27.40	30	P	P	14 04 40.9	-1.4
TGY				pmax	pmax		
	comp=Z,88nm,0.4s						
AUQP	San Andres	27.64	34	eP	P	14 04 46.1	+1.6
LQP	Lukban	27.70	31	eP	P	14 04 48.3	+3.3
WRA	Warramunga Arr	27.82	114	P	P	14 04 45.7	-0.4
	comp=Z,62nm,0.7s,mb5.3,baz=286,slow=10,SNR=268						
WRA				PcP	PcP	14 08 02.4	+0.4
	comp=Z,31nm,0.8s,baz=292,slow=2.1,SNR=12						
WRA				P3KPbc		14 37 14.3	
	comp=Z,5.4nm,1.0s,baz=110,slow=4.7,SNR=20						
WRA	Warramunga Arr	27.82	114	P	P	14 04 45.7	-0.4
WRA				PcP	PcP	14 08 02.4	+0.4
WRA				e		14 37 14.3	
WRAB	Tennant Creek	27.83	114	d iP	P	14 04 45.6	-0.6
WRAB	Tennant Creek	27.83	114	eP	P	14 04 46.0	-0.1
	comp=Z,2.7nm,0.8s						
WB2	Warramunga Arr	27.83	114	⇓iP	P	14 04 45.9	-0.3
WB2				ePCP	PcP	14 08 03.0	+1.0
FORT	Forrest	28.27	140	eP	P	14 04 50.3	+0.2
	comp=Z,71nm,0.7s,mb5.4						
FORT				ePCP	PcP	14 08 04.3	+1.2
FORT				eS	S	14 10 08.2	+33
SCZP	Santa Cruz	28.39	26	eP	P	14 04 50.7	-0.5
POLP	Polilio Island	28.43	31	eP	P	14 04 51.2	-0.3
PVCP	Virac	28.69	36	⇓eP	P	14 04 53.8	0.0
PVCP	Virac	28.69	36	eP	P	14 04 53.5	-0.3
ASPA	Alice Springs	28.74	122	⇑iP	P	14 04 54.4	+0.2
ASPA				ePCP	PcP	14 08 05.4	+1.1
ASPA				eS	S	14 10 29.1	+46
AS31	Alice Springs	28.74	122	⇑iP	P	14 04 54.4	+0.1
AS31				ePcP	PcP	14 08 05.4	+1.1
AS31				eS	S	14 10 29.1	+46
ASAR	Alice Springs	28.74	122	P	P	14 04 53.8	-0.5
	comp=Z,25nm,1.1s,mb4.9,baz=298,slow=8.4,SNR=80						
ASAR				PcP	PcP	14 08 05.1	+0.8
	comp=Z,35nm,0.7s,baz=298,slow=2.1,SNR=19						
ASAR				LR	LR	14 16 32.2	
	comp=Z,6µm,18.4s,MS5.2,baz=299,slow=37						
ASAR				P3KPbc		14 37 10.1	
	comp=Z,3.2nm,0.9s,baz=118,slow=4.3,SNR=18						
ASAR	Alice Springs	28.74	122	P	P	14 04 53.8	-0.5
ASAR				PcP	PcP	14 08 05.1	+0.8
ASAR				LR	LR	14 16 32.2	
ASAR				e		14 37 10.1	
QIZ	Qiongzhong	28.88	5	P	P	14 04 56.8	+1.3
QIZ				AP	pP	14 05 01.0	+0.6
QIZ				XP	sP	14 05 03.4	+1.0
QIZ				PP	PP	14 05 49.8	-11
QIZ				PPP		14 06 03.4	
QIZ				S	S	14 09 45.1	0.0
QIZ				XS	sS	14 09 51.4	-1.8
QIZ				SS	SS	14 11 12.3	-35
QIZ				AMB	AMB		
	comp=Z,210nm,1.3s,mb5.7						
QIZ				AMB	AMB		
	comp=Z,2µm,11.0s						
QIZ				LR	LR		
	comp=E,15µm,17.9s						
QIZ				LR	LR		
	comp=Z,12µm,17.6s,MS5.5						
QIZ	Qiongzhong	28.88	5	eP	P	14 04 57.5	+1.9
	comp=Z,519nm,1.4s,mb6.1						
BOLP	Bolinao	28.93	25	eP	P	14 04 56.5	+0.6
BALP	Baler	29.12	29	eP	P	14 04 57.1	-0.5
NANT	Nan	29.31	347	⇑P	P	14 04 59.0	-0.3
	comp=Z,575nm,0.4s,mb6.7						
CHG	Chiang Mai	29.76	344	⇓P	P	14 05 04.2	+0.9
	comp=Z,150nm,1.0s,mb5.7						
CAUP	Cauayan	30.27	28	eP	P	14 05 07.3	-0.6
ABRA	Dolores	30.40	26	eP	P	14 05 08.2	-0.8
PALK	Pallekele	31.61	302	eP	P	14 05 22.2	+2.5
	comp=Z,451nm,1.8s,mb6.0						
HKC	Hong Kong	32.72	12	⇑iP	P	14 05 34.0	+4.6
HKC				iS	S	14 10 47.0	+1.8
GZH	Guangzhou	33.33	10	P	P	14 05 40.6	+5.9
GZH				S	S	14 11 01.6	+6.9
GZH				LR	LR		
	comp=N,4µm,18.0s,MS5.4						
GZH				LR	LR		
	comp=E,6µm,19.6s,MS5.4						
GZH				LR	LR		
	comp=Z,10µm,17.7s,MS5.6						
KMI	Kunming	35.14	353	⇓P	P	14 05 53.1	+2.7
KMI				AP	pP	14 05 57.6	+2.3
KMI				PP	PP	14 07 11.1	+0.9
KMI				PPP		14 07 29.3	
KMI				PCP	PcP	14 08 22.0	+0.4
KMI				S	S	14 11 24.9	+2.2
KMI				XS	sS	14 11 30.8	0.0
KMI				SS	SS	14 13 37.8	-18
KMI				SSS		14 14 08.5	
KMI				SCS	ScS	14 16 09.3	-1.2
KMI				AMB	AMB		
	comp=Z,242nm,1.2s,mb6.0						
KMI				AMB	AMB		
	comp=Z,3µm,4.6s						
KMI				LR	LR		
	comp=N,16µm,14.0s,MS6.0						
KMI				LR	LR		
	comp=E,16µm,16.4s,MS6.0						
KMI				LR	LR		
	comp=Z,16µm,14.6s,MS5.9						
MDRS	Chennai	35.34	310	eP	P	14 05 51.5	-0.7
MDRS				ex	x	14 07 17.1	
TRD	Trivandrum	35.42	300	eP	P	14 05 54.1	+1.3
TRD				AMb	AMB	14 05 56.3	
	comp=Z,293nm,1.4s,mb6.0						
GYA	Guiyang	36.18	359	⇓iP	P	14 06 00.8	+1.4
GYA				AP	pP	14 06 05.3	+1.0
GYA				XP	sP	14 06 07.9	+1.6
GYA				PP	PP	14 07 21.8	+0.1
GYA				PPP		14 07 41.4	
GYA				PCP	PcP	14 08 26.0	+1.3
GYA				S	S	14 11 39.0	+0.3
GYA				SCP	ScP	14 12 12.9	+2.5
GYA				SCS	ScS	14 16 16.6	+0.4
GYA				AMB	AMB		
	comp=Z,150nm,1.3s,mb5.8						
GYA				AMB	AMB		
	comp=Z,2µm,9.0s						
GYA				LR	LR		
	comp=N,5µm,16.5s,MS5.6						
GYA				LR	LR		
	comp=E,6µm,16.5s,MS5.6						
GYA				LR	LR		
	comp=Z,8µm,15.6s,MS5.6						
VIS	Vishakhapatnam	36.34	319	eP	P	14 06 00.5	-0.3
VIS				AMb	AMB	14 06 05.0	
	comp=Z,671nm,1.5s,mb6.3						
VIS				ix	x	14 11 36.5	
QZH	Quanzhou	36.34	17	⇑iP	P	14 06 04.4	+3.7
QZH				PP	PP	14 07 29.5	+6.1
QZH				S	S	14 11 42.0	+0.9
QZH				AMB	AMB		
	comp=Z,4µm,7.6s						
QZH				LR	LR		
	comp=N,4µm,11.2s,MS5.5						
QZH				LR	LR		
	comp=E,3µm,12.9s,MS5.5						
QZH				LR	LR		
	comp=Z,5µm,16.0s,MS5.4						
NACB	Ninganchiao	36.62	22	eP	P	14 06 02.7	-0.4
IMP	Imphal	36.92	339	eP	P	14 06 06.0	+0.3
YHNB	Yeheng	37.00	21	eP	P	14 06 06.8	+0.5
AGT	Agartala	37.13	335	ix	P	14 06 12.0	+4.5
AGT				ix	x	14 06 50.0	
TATO	Taipei	37.32	21	eP	P	14 06 09.3	+0.3
	comp=Z,249nm,1.0s,mb6.0						
SHL	Shillong	38.39	337	iP	P	14 06 18.5	+0.4
SHL				iPCP	PcP	14 08 32.0	+0.6
SHL				ix	x	14 12 08.5	
STKA	Stephens Creek	38.43	130	⇓iP	P	14 06 18.6	+0.2
	comp=Z,182nm,0.7s,mb5.9						
STKA				ipP	pP	14 06 32.9	+10
STKA				ePCP	PcP	14 08 31.8	+0.2
STKA	Stephens Creek	38.43	130	P	P	14 06 18.7	+0.3
	comp=Z,215nm,0.8s,mb5.9,baz=295,slow=8.4,SNR=225						
STKA				PcP	PcP	14 08 32.4	+0.8
	comp=Z,36nm,0.5s,baz=302,slow=5.3,SNR=6.0						
STKA				S	S	14 12 11.3	-1.5
	comp=Z,7.2nm,1.1s,baz=211,slow=21,SNR=1.5						
STKA				LR	LR	14 22 22.9	
	comp=Z,8µm,18.6s,MS5.6,baz=280,slow=37						
CTA	Charters Tower	38.77	110	eP	P	14 06 22.6	+1.3
	comp=Z,68nm,1.8s,mb5.1						
CTA				ePCP	PcP	14 08 33.7	+1.1
CTA	Charters Tower	38.77	110	P	P	14 06 21.7	+0.4
	comp=Z,24nm,0.7s,mb5.1,baz=279,slow=10.0,SNR=25						
CTA				PcP	PcP	14 08 34.0	+1.4
	comp=Z,27nm,1.0s,baz=270,slow=8.1,SNR=2.8						
CTA				LR	LR	14 22 42.0	
	comp=Z,8µm,19.3s,MS5.6,baz=290,slow=37						
CTA	Charters Tower	38.77	110	eP	P	14 06 22.6	+1.3
CTA				e		14 08 33.7	
CTA				pmax	pmax		
	comp=Z,68nm,1.8s						
CTAO	Charters Tower	38.77	110	eP	P	14 06 22.7	+1.4
CTAO				pmax	pmax		
	comp=Z,752nm,2.0s,mb6.1						
CTAO	Charters Tower	38.77	110	eP	P	14 06 22.7	+1.4
	comp=Z,752nm,2.0s,mb6.1						
PMG	Port Moresby	39.18	93	P	P	14 06 25.4	+0.7
	comp=Z,110nm,1.0s,mb5.5,baz=188,slow=4.5,SNR=14						
PMG				PcP	PcP	14 08 36.1	+2.2
	comp=Z,82nm,1.0s,baz=323,slow=3.2,SNR=4.3						
PMG				S	S	14 12 20.6	-3.5
	comp=Z,13nm,0.9s,baz=307,slow=18,SNR=1.5						
PMG	Port Moresby	39.18	93	P	P	14 06 25.4	+0.7
PMG						14 08 36.1	
PMG				S	S	14 12 20.6	-3.5
PMG				pmax	pmax		
	comp=Z,110nm,1.0s						
PMG				smax			
	comp=N,13nm,1.0s						
HYB	Hyderabad	39.39	313	iP	P	14 06 26.5	0.0
	comp=N,140nm,1.0s,mb5.7						
HYB				e		14 06 36.0	
HYB				ePP	PP	14 08 08.0	+11
HYB				eS	S	14 12 28.0	+0.7
HYB				eSS	SS	14 15 24.0	+2.7
HYB				LR	LR	14 22 46.0	
	comp=N,6.3nm,20.0s						
HYB	Hyderabad	39.39	313	eP	P	14 06 26.5	0.0
HYB				eS	S	14 12 30.0	+2.7
HYB				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.7						
HYB	Hyderabad	39.39	313	eP	P	14 06 26.5	0.0
	comp=Z,140nm,1.0s,mb5.7						
HYB				eS	S	14 12 30.0	+2.7
MNGI	Mangalore	39.54	304	eP	P	14 06 27.9	+0.2
MNGI				ix	x	14 12 35.8	
BOK	Bokaro	39.58	328	iP	P	14 06 27.2	-0.8
BOK				iS	S	14 12 29.2	-0.9
SHBG	Sahibganj	39.88	332	ex	x	14 06 03.3	
CD2	Chengdu	40.76	355	⇓iP	P	14 06 38.3	+0.5
CD2				AP	pP	14 06 42.8	0.0
CD2				XP	sP	14 06 45.8	+1.0
CD2				PP	PP	14 08 16.3	+4.5
CD2				PCP	PcP	14 08 38.9	-0.1
CD2				PCS	PcS	14 12 28.6	-1.1
CD2				S	S	14 12 49.9	+2.1
CD2				XS	sS	14 12 57.3	+1.3
CD2				SS	SS	14 15 47.3	-1.4
CD2				SCS	ScS	14 16 40.5	-2.1
CD2				AMB	AMB		
	comp=Z,150nm,1.1s,mb5.5						
CD2				AMB	AMB		
	comp=Z,1µm,7.5s						
CD2				LR	LR		
	comp=N,4µm,18.0s						
CD2				LR	LR		
	comp=Z,6µm,16.8s,MS5.5						
WHN	Wuhan	40.79	9	⇓P	P	14 06 39.0	+0.9
WHN				S	S	14 12 40.8	-7.5
WHN				AMB	AMB		
	comp=Z,5µm,7.2s						
WHN				LR	LR		
	comp=Z,13µm,16.4s,MS5.9						
GTK	Gangtok	41.28	334	ex	x	14 06 56.0	
LATR	Latur	41.47	313	ex	x	14 07 05.7	
NGP	Nagpur	41.60	318	⇓iP	P	14 06 42.7	-2.0
NGP				ex	x	14 06 44.8	
	comp=Z,762nm,1.3s						
NGP				ex	x	14 12 54.9	
JOW	Kunigami	41.79	29	P	P	14 06 45.8	-0.5
	comp=Z,129nm,1.1s,mb5.5,baz=217,slow=6.8,SNR=21						
JOW				S	S	14 12 58.6	-4.5
	comp=Z,18nm,1.1s,baz=148,slow=18,SNR=2.6						
LSA	Lhasa	42.40	339	P	P	14 06 52.0	+0.7
LSA				AP	pP	14 07 00.0	+3.7
LSA				XP	sP	14 07 04.4	+6.2
LSA				PP	PP	14 08 30.5	+0.9
LSA				PCP	PcP	14 08 43.6	-0.7
LSA				S	S	14 13 10.0	-2.1
LSA				XS	sS	14 13 29.4	+9.1
LSA				AMB	AMB		
	comp=Z,540nm,1.2s,mb6.0						
LSA				AMB	AMB		
	comp=Z,2µm,8.6s						
LSA				LR	LR		
	comp=N,2µm,22.8s,MS5.2						
LSA				LR	LR		
	comp=E,3µm,25.5s,MS5.2						
LSA				LR	LR		
	comp=Z,4µm,21.4s,MS5.2						
LSA	Lhasa	42.40	339	eP	P	14 06 52.9	+1.6
LSA				pmax	pmax		
	comp=Z,684nm,1.1s,mb6.2						
LSA	Lhasa	42.40	339	eP	P	14 06 52.9	+1.6
	comp=Z,684nm,1.1s,mb6.2						

JBP Jabalpur 42.46 321 ⇓ *i* P P 14 06 52.5 +0.7
JBP *ex* x 14 06 54.0
comp=Z,610nm,1.1s
JBP *i* x x 14 12 44.1
KAD Karad 42.55 309 *e* P P 14 06 52.6 +0.1
KAD AMb AMB 14 06 56.0
comp=Z,265nm,1.3s,mb5.8
KAD *i* x x 14 08 44.9
JIRN Jiri 42.65 332 ⇓ *i* P P 14 06 54.5 +1.2
comp=Z,1μm,1.2s,mb6.6
AKL Akola 42.66 316 *e* P P 14 06 54.1 +0.7
AKL *i* P 14 06 54.2
AKL AMb AMB 14 06 56.5
comp=Z,390nm,1.6s,mb5.9
AKL *i* x x 14 13 12.2
SSE Sheshan 42.88 17 P P 14 06 55.8 +0.6
SSE AP pP 14 06 59.0 -1.2
SSE XP sP 14 07 00.1 -2.1
SSE PP PP 14 08 36.3 +1.5
SSE PCP PcP 14 08 47.1 +1.1
SSE S **S 14 13 21.3 +2.1**
SSE XS sS 14 13 26.6 -0.8
SSE AMB AMB
comp=Z,154nm,1.2s,mb5.6
SSE AMB AMB
comp=Z,1μm,7.4s
SSE LR LR
comp=N,3μm,17.7s,MS5.3
SSE LR LR
comp=E,2μm,17.7s,MS5.3
SSE LR LR
comp=Z,5μm,13.7s,MS5.5
PKI Pulchoki 42.94 331 ⇓ *i* P P 14 06 56.2 +0.5
comp=Z,680nm,1.3s,mb6.2
GUN Gumba 43.01 332 ⇓ *i* P P 14 06 57.3 +1.1
comp=Z,3μm,1.4s,mb6.8
DMN Daman 43.12 330 ⇓ *i* P P 14 06 57.9 +0.8
comp=Z,904nm,1.1s,mb6.4
NJ2 Nanjing 43.16 14 *e* P P 14 06 58.6 +1.1
NJ2 AP pP 14 07 03.3 +0.9
NJ2 XP sP 14 07 05.6 +1.2
NJ2 PP PP 14 08 42.4 +4.7
NJ2 S **S 14 13 25.0 +1.7**
NJ2 XS sS 14 13 34.0 +2.5
NJ2 AMB AMB
comp=Z,1μm,1.1s,mb6.5
NJ2 AMB AMB
comp=Z,3μm,10.0s
NJ2 LR LR
comp=N,8μm,20.0s,MS5.7
NJ2 LR LR
comp=E,5μm,24.0s,MS5.7
NJ2 LR LR
comp=Z,7μm,26.0s,MS5.5
KKN Kakani 43.19 331 ⇓ *i* P P 14 06 58.4 +0.7
comp=Z,1μm,1.1s,mb6.5
POO Poona 43.54 310 ⇓ *i* P P 14 06 59.0 -1.5
comp=Z,330nm,1.0s,mb6.0
POO *i* PP PP 14 08 41.5 -0.3
POO *i* x x 14 08 44.5
POO *i* x x 14 09 15.0
POO *i* S **S 14 13 28.0 -0.9**
GKN Gorkha 43.68 330 ⇓ *i* P P 14 07 02.2 +0.6
comp=Z,2μm,1.3s,mb6.6
XAN Xi'an 43.75 2 P P 14 07 02.3 +0.1
XAN PP PP 14 08 42.4 -1.7
XAN S **S 14 13 23.3 -8.7**
XAN SS SS 14 16 42.5 -5.2
XAN AMB AMB
comp=Z,96nm,1.2s,mb5.4
XAN AMB AMB
comp=Z,2μm,8.6s
XAN LR LR
comp=N,5μm,17.2s,MS5.7
XAN LR LR
comp=E,5μm,14.6s,MS5.7
XAN LR LR
comp=Z,13μm,17.2s,MS5.9
GUMO Guam 43.92 59 P P 14 07 02.3 -1.3
comp=Z,34nm,0.6s,mb5.3,baz=147,slow=8.3,SNR=3.7
GUMO PcP PcP 14 08 49.9 +0.4
comp=Z,22nm,0.5s,baz=197,slow=15,SNR=3.6
GUMO LR LR 14 23 08.9
comp=Z,889nm,21.2s,MS4.7,baz=237,slow=33
TOO Toolangi 43.93 135 *e* P P 14 07 04.9 +1.2
comp=Z,38nm,1.3s,mb5.0
TOO *e* PP PP 14 08 48.1 +2.1
TOO Toolangi 43.93 135 *e* P P 14 07 04.9 +1.2
TOO *e* 14 08 48.1
TOO pmax pmax
comp=Z,38nm,1.3s,mb5.0
KOLN Koldanda 44.00 329 ⇓ *i* P P 14 07 04.9 +0.7
comp=Z,888nm,0.9s,mb6.5
BHPL Bhopal 44.13 319 *e* P P 14 07 04.4 -0.9
BHPL AMb AMB 14 07 06.6
comp=Z,298nm,1.1s,mb5.9
CNB Canberra Magne 45.75 130 *e* P P 14 07 18.7 +0.5
comp=Z,93nm,1.3s,mb5.6
CNB *e* PP PP 14 09 09.6 +4.2
ARMA Armidale 45.88 123 *e* P P 14 07 21.0 +1.8
ARMA *e* PCP PcP 14 08 58.2 +2.0
LZH Lanzhou 45.90 356 ⇓ P P 14 07 20.8 +1.5
LZH AP pP 14 07 30.0 +5.7
LZH XP sP 14 07 33.5 +7.2
LZH PP PP 14 09 10.3 +3.4
LZH S **S 14 14 05.0 +2.0**
LZH SS SS 14 17 24.3 -3.4
LZH AMB AMB
comp=Z,433nm,1.4s,mb6.2
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=N,5μm,14.1s
LZH LR LR
comp=Z,8μm,15.8s,MS5.8
RIV Riverview 46.58 128 ⇑ *i* P P 14 07 26.5 +1.8
AGRA Agra 46.70 323 *e* P P 14 07 25.2 -0.4
AGRA AMb AMB 14 07 27.0
comp=Z,711nm,0.9s,mb6.6
TIA Tai'an 46.80 11 ⇓ P P 14 07 26.0 -0.4
TIA S **S 14 14 12.0 -4.0**
TIA AMB AMB
comp=Z,130nm,1.2s,mb5.7
TIA LR LR
comp=N,1μm,18.0s,MS5.4
TIA LR LR
comp=E,4μm,17.0s,MS5.4
LGTI Lohaghat 47.10 327 *i* x x 14 07 49.5
PTH Pithoragarh 47.19 327 *e* P P 14 07 30.2 +0.7
TAU Tasmania Unive 47.82 140 *e* P P 14 07 35.7 +1.3
TAU pmax pmax
comp=Z,152nm,1.1s,mb5.9
TAU Tasmania Unive 47.82 140 *e* P P 14 07 35.7 +1.4
comp=Z,152nm,1.1s,mb5.9
SONA Sohna 47.97 323 *e* P P 14 07 34.9 -0.5
SONA AMb AMB 14 07 36.8
comp=Z,675nm,1.0s,mb6.6
SONA *ex* x 14 14 26.1
BISR Bishrakh 47.99 324 *e* P P 14 07 35.5 -0.2
BISR AMb AMB 14 07 36.8
comp=Z,35nm,0.6s,mb5.6
AYAN Aya Nagar 48.11 323 *e* P P 14 07 35.8 -0.8
AYAN AMb AMB 14 07 37.8
comp=Z,370nm,1.0s,mb6.3
AJM Ajmer 48.20 319 *e* P P 14 07 36.3 -0.9
AJM AMb AMB 14 07 40.1
comp=Z,232nm,1.5s,mb6.0
NDI New Delhi 48.21 324 *e* P P 14 07 35.5 -1.9
NDI *ex* x 14 14 26.0
KUDL Kundal 48.24 323 *e* P P 14 07 37.0 -0.6
KUDL AMb AMB 14 07 39.0
comp=Z,967nm,1.1s,mb6.8
KUDL *ex* x 14 14 28.2
JOSI Joshimath 48.34 327 *ex* x 14 07 15.7
KHET Khetri 48.60 322 *e* P P 14 07 39.0 -1.4
KHET AMb AMB 14 07 40.3
comp=Z,426nm,1.1s,mb6.4
KHET *ex* x 14 14 34.4
DDI Dehra Dun 48.97 326 *e* P P 14 07 43.0 -0.2
DDI *ex* x 14 08 20.2
GTA Gaotai 49.59 352 P P 14 07 49.4 +1.4
GTA AP pP 14 07 53.0 0.0
GTA XP sP 14 07 56.3 +1.3
GTA PCP PcP 14 09 10.5 +1.0
GTA PP PP 14 09 45.3 +2.9
GTA PCS PcS 14 13 05.4 -0.8
GTA S **S 14 14 56.4 +0.9**
GTA XS sS 14 15 05.3 +1.5
GTA SCS ScS 14 17 36.5 -2.6
GTA SS SS 14 18 25.3 -2.3
GTA AMB AMB
comp=Z,314nm,0.9s,mb6.3
GTA AMB AMB
comp=Z,4μm,7.3s
GTA LR LR
comp=N,7μm,16.4s,MS5.9
GTA LR LR
comp=E,6μm,17.2s,MS5.9
GTA LR LR
comp=Z,7μm,16.0s,MS5.7
KLP Kalpa 49.80 327 *e* P P 14 07 48.6 -0.9
KLP AMb AMB 14 07 51.4
comp=Z,208nm,1.7s,mb5.9
KLP *ex* x 14 14 53.1
CBIJ Chichi jima 49.93 42 P P 14 07 48.5 -2.0
comp=Z,67nm,0.8s,mb5.7,baz=330,slow=8.1,SNR=4.0
SMLA Simla 50.08 326 *e* P P 14 07 51.0 -0.6
SMLA AMb AMB 14 07 52.9
comp=Z,677nm,1.7s,mb6.4
BTO Baotou 50.34 3 *e* P P 14 07 52.8 -0.9
BTO AMB AMB
comp=Z,47nm,1.1s,mb5.4
BJT Baijiatuau 50.36 9 P P 14 07 53.9 +0.1
BJT Baijiatuau 50.36 9 *e* P P 14 07 53.8 0.0
BJT pmax pmax
comp=Z,186nm,1.1s
BJT Baijiatuau 50.36 9 *e* P P 14 07 53.8 0.0
comp=Z,186nm,1.1s,mb6.0
DL2 Dalian 50.36 14 PR P 14 07 51.8 -2.0
DL2 PCP PcP 14 09 12.9 +0.6
DL2 PP PP 14 09 53.0 +3.7
DL2 PCS PcS 14 13 08.9 -0.5
DL2 S **S 14 15 02.3 -4.0**
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
DL2 AMB AMB
comp=Z,690nm,7.2s
DL2 LR LR
comp=N,1μm,18.8s,MS5.1
DL2 LR LR
comp=E,1μm,17.2s,MS5.1
DL2 LR LR
comp=Z,2μm,16.0s,MS5.2
BJI Beijing 50.38 9 P P 14 07 53.6 -0.4
BJI S **S 14 15 00.1 -6.4**
BJI AMB AMB
comp=Z,160nm,1.2s,mb5.9
BJI LR LR
comp=N,2μm,20.7s,MS5.5
BJI LR LR
comp=E,4μm,20.7s,MS5.5
BJI LR LR
comp=Z,3μm,48.0s
SDNR Sundarnagar 50.47 326 *e* P P 14 07 54.0 -0.6
SDNR *ex* x 14 14 11.4
INCN Inchon 50.49 20 ⇑ P P 14 07 54.5 -0.4
SNR=6.5
INCN Inchon 50.49 20 *e* P P 14 07 54.3 -0.6
comp=Z,393nm,2.0s,mb6.1
HHC Hu-ho-hao-te 50.67 4 ⇓ *i* P P 14 07 56.9 +0.7
HHC AP pP 14 08 01.5 +0.3
HHC XP sP 14 08 03.8 +0.6
HHC PCP PcP 14 09 13.5 +0.1
HHC PP PP 14 09 53.9 +1.7
HHC SCP ScP 14 13 08.0 -0.9
HHC PCS PcS 14 13 09.5 -1.3
HHC S **S 14 15 11.4 +0.8**
HHC XS sS 14 15 19.3 +0.4
HHC PS 14 15 22.0
HHC SCS ScS 14 17 43.9 -2.6
HHC SS SS 14 18 44.1 -0.8
HHC AMB AMB
comp=Z,104nm,1.0s,mb5.7
HHC AMB AMB
comp=Z,2μm,7.5s
HHC LR LR
comp=N,5μm,16.2s,MS5.7
HHC LR LR
comp=E,3μm,15.7s,MS5.7
HHC LR LR
comp=Z,5μm,16.7s,MS5.6
BHK Bhakra 50.71 325 *e* P P 14 07 57.6 +1.1
BHK *ex* x 14 08 19.6
HNR Honiara 51.75 94 P P 14 08 05.1 +0.8
comp=Z,72nm,0.8s,mb5.6,baz=254,slow=3.9,SNR=7.6
HNR PcP PcP 14 09 19.5 +2.1
comp=Z,130nm,0.9s,baz=88,slow=5.5,SNR=4.5
HNR Honiara 51.75 94 P P 14 08 06.6 +2.3
HNR pmax pmax
comp=Z,460nm,1.4s,mb6.2
THN Thein Dam 51.87 326 *e* P P 14 08 03.0 -2.1
SNY Shenyang 53.61 15 ⇓ P P 14 08 16.4 -1.6
SNY S **S 14 15 46.4 -4.4**
SNY AMB AMB
comp=Z,91nm,1.5s,mb5.5
SNY LR LR
comp=N,4μm,18.0s
SNY LR LR
comp=Z,3μm,19.2s,MS5.3
NIL Nilore 54.16 325 P P 14 08 21.2 -0.8
comp=Z,347nm,1.1s,mb6.2,SNR=16
MAJO Matsushiro 54.56 30 *e* P P 14 08 20.7 -4.2
MAJO pmax pmax
comp=Z,90nm,0.9s,mb5.8
MAJO Matsushiro 54.56 30 *e* P P 14 08 20.7 -4.3
comp=Z,90nm,0.9s,mb5.8
MAT Matsushiro 54.56 30 P P 14 08 22.7 -2.2
MJAR Matsushiro Arr 54.56 30 P P 14 08 22.9 -2.1
comp=Z,101nm,1.1s,mb5.8,baz=207,slow=7.6,SNR=102
MJAR PcP PcP 14 09 29.6 +1.6
comp=Z,43nm,0.9s,baz=202,slow=4.5,SNR=8.6
MJAR Matsushiro Arr 54.56 30 P P 14 08 22.9 -2.1
MJAR 14 09 29.6
MJAR pmax pmax
comp=Z,101nm,1.1s
CN2 Changchun 55.94 16 ⇓ P P 14 08 33.8 -1.1
CN2 *e* S **S 14 16 21.1 -1.1**
CN2 AMB AMB
comp=Z,100nm,1.4s,mb5.7
CN2 AMB AMB
comp=Z,1μm,5.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.6
CN2 LR LR
comp=E,2μm,18.0s,MS5.6
CN2 LR LR
comp=Z,4μm,19.0s,MS5.5
CASY Casey 56.31 178 *e* P P 14 08 36.5 -1.0
WMQ Urumqi 56.42 343 ⇓ *i* P P 14 08 39.3 +1.0
WMQ AP pP 14 08 44.0 +0.6
WMQ XP sP 14 08 46.5 +1.1
WMQ PCP PcP 14 09 37.0 +1.8
WMQ PP PP 14 10 47.0 +3.1
WMQ SCP ScP 14 13 35.0 +1.1
WMQ S **S 14 16 27.5 -1.0**
WMQ XS sS 14 16 37.0 +0.1
WMQ SCS ScS 14 18 25.0 -2.0
WMQ SS SS 14 20 15.0 -0.6
WMQ AMB AMB
comp=Z,320nm,1.4s,mb6.2
WMQ AMB AMB
comp=Z,2μm,4.9s
WMQ LR LR
comp=N,6μm,19.2s
WMQ LR LR
comp=E,6μm,29.2s
WMQ LR LR
comp=Z,7μm,22.8s,MS5.7
KSH Kashi 57.20 331 *i* PR P 14 08 44.0 +0.1
KSH *e* AP pP 14 08 48.1 -0.9
KSH *e* XP sP 14 08 51.0 +0.1
KSH *e* PCP PcP 14 09 37.3 -1.0
KSH *e* PP PP 14 10 51.1 +0.2
KSH *e* PPP 14 11 50.3
KSH *e* SCP ScP 14 13 35.3 -2.1
KSH *e* S **S 14 16 36.0 -2.9**
KSH *e* SCS ScS 14 18 28.1 -4.6
KSH *e* SS SS 14 20 24.0 -3.9
KSH AMB AMB
comp=Z,661nm,1.1s,mb6.6
KSH LR LR
comp=N,5μm,16.9s,MS6.0
KSH LR LR
comp=E,8μm,16.8s,MS6.0
KSH LR LR
comp=Z,5μm,18.1s,MS5.7
MIR Mirnyy 57.39 187 *d i* P P 14 08 46.0 +0.8
MIR pmax pmax
comp=Z,500nm,2.0s,mb6.2
WBK Wadi Bani Khal 57.42 305 ⇓ P P 14 08 46.1 +0.7
SNR=40
SONM Songino Array 57.52 359 P P 14 08 46.8 +0.7
comp=Z,120nm,0.9s,mb5.9,baz=174,slow=7.4,SNR=399
SONM S **S 14 16 42.7 -0.3**
comp=Z,0.7nm,0.8s,baz=265,slow=16,SNR=1.6
SONM LR LR 14 37 03.4
comp=Z,4μm,18.2s,MS5.6,baz=171,slow=40
SONM PKPPKP 14 38 29.5
comp=Z,1.0nm,0.9s,baz=74,slow=0.6,SNR=4.2
SONM Songino Array 57.52 359 P P 14 08 46.8 +0.7
SONM S **S 14 16 42.7 -0.3**
SONM pmax pmax
comp=Z,120nm,1.0s
SONM smax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,4μm,18.2s
ULN Ulaanbaatar 57.54 360 P P 14 08 47.2 +0.9
SNR=55
ULN Ulaanbaatar 57.54 360 *i* Pr P 14 08 46.6 +0.3
DZM Mont Dzumac 57.71 110 *e* P P 14 08 47.8 +0.3
DZM Mont Dzumac 57.71 110 P P 14 08 49.5 +2.0
comp=Z,31nm,0.8s,mb5.4,baz=288,slow=7.8,SNR=12
MDJ Mudanjiang 57.89 19 P P 14 08 47.8 -0.9
MDJ PCP PcP 14 09 40.3 -0.7
MDJ PP PP 14 10 54.8 -2.2
MDJ SCP ScP 14 13 39.3 -1.1
MDJ PCS PcS 14 13 41.8 -0.5
MDJ S **S 14 16 47.3 -0.6**
MDJ AMB AMB
comp=Z,78nm,1.2s,mb5.6
MDJ AMB AMB
comp=Z,845nm,8.7s
MDJ LR LR
comp=N,805nm,29.6s
MDJ LR LR
comp=E,1μm,37.7s
MDJ LR LR
comp=Z,2μm,42.1s
MDJ Mudanjiang 57.89 19 *e* P P 14 08 47.6 -1.1
comp=Z,103nm,1.3s,mb5.7
SMDO Samad 58.38 305 ⇓ P P 14 08 52.7 +0.6
SNR=71
BIDO Bidbid 58.53 305 ⇓ P P 14 08 54.0 +0.7
SNR=87
OPO Ambohidratompo 58.77 254 P P 14 08 56.1 +1.2
baz=80,slow=6.7
KZA Kyzart 59.57 333 P P 14 09 00.9 +0.5
SNR=24
HIA Hailar 59.94 9 ⇑ *e* P P 14 09 00.5 -2.4
UCH Uchtor 60.02 332 P P 14 09 03.8 +0.3
SNR=37
TKM2 Tokmak 2 60.08 333 P P 14 09 03.9 -0.1
SNR=35
KBK Karagaybulak 60.16 333 P P 14 09 04.8 +0.4
SNR=52
ZAK Zakamensk 60.17 357 ⇑ *i* P P 14 09 04.7 +0.2
ZAK *e* 14 09 50.6
ZAK *e* 14 11 14.0
ZAK pmax pmax
comp=Z,76nm,1.3s,mb5.6
AML Almayashu 60.33 332 P P 14 09 05.8 +0.2
SNR=28
AAK Ala-Archa 60.35 333 *i* P P 14 09 04.7 -1.1
AAK Ala-Archa 60.35 333 *i* Pr P 14 09 04.7 -1.1
FRU Bishkek 60.45 333 ⇓ *i* P P 14 09 06.5 0.0
FRU pmax pmax
comp=Z,550nm,2.0s,mb6.2
FRU MLR MLR
comp=Z,2μm,19.0s,MS5.4
CHMS Chumysh 60.52 333 P P 14 09 06.2 -0.7
SNR=24
EKS2 Erkin-Say 60.70 332 P P 14 09 08.4 +0.2
SNR=43
MKAR Makanchi Array 60.77 340 P P 14 09 08.4 -0.2
comp=Z,98nm,0.8s,mb6.0,baz=146,slow=7.0,SNR=225
MKAR S **S 14 17 27.3 +2.2**
comp=Z,5.7nm,1.0s,baz=138,slow=7.4,SNR=3.5
MKAR PKPPKP 14 38 28.4
comp=Z,2.0nm,1.0s,baz=0.0,slow=1.2,SNR=5.4
MKAR Makanchi Array 60.77 340 P P 14 09 08.5 -0.1
MKAR S **S 14 17 27.3 +2.2**
MKAR pmax pmax
comp=Z,98nm,0.8s
MKAR smax
comp=N,6.0nm,1.0s
DRV Dumont d'Urvil 60.80 166 S S 14 17 24.0 -1.6
USP Ospenovka 60.84 333 P P 14 09 08.7 -0.5
SNR=47
TLY Talaya 61.45 357 *d i* P P 14 09 13.9 +0.7
TLY *e* 14 09 55.1
TLY *e* 14 11 30.0
TLY *e* S **S 14 17 30.9 -2.9**
TLY *e* PS 14 18 00.3
TLY pmax pmax
comp=Z,175nm,1.5s,mb6.0
TLY MLR MLR
comp=Z,4μm,17.0s,MS5.7
TLY Talaya 61.45 357 *i* Pr P 14 09 13.7 +0.5
MOY Mondy 61.60 355 *e* P P 14 09 14.9 +0.6
MOY pmax pmax
comp=Z,460nm,1.9s,mb6.3
CIT Chita 61.93 4 *e* P P 14 09 17.0 +0.5
CIT *e* 14 17 35.2
CIT pmax pmax
comp=Z,585nm,1.7s,mb6.4
IRK Irkutsk 61.98 358 *e* P P 14 09 16.8 -0.1
IRK *e* 14 11 30.9
IRK *e* S **S 14 17 41.3 +0.7**
IRK pmax pmax
comp=Z,301nm,1.9s,mb6.1
KLR Kul'dur 62.68 18 *c e* P P 14 09 17.3 -4.2
KLR *e* S **S 14 17 39.5 -10**
KLR pmax pmax
comp=E,100nm,1.2s
KLR pmax pmax
comp=Z,340nm,1.2s,mb6.3
KLR pmax pmax
comp=E,600nm,9.0s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR MLR MLR
comp=E,1μm,15.0s
KLR MLR MLR
comp=Z,4μm,15.0s,MS5.7
HABR Khabarovsk 63.08 20 ⇓ *i* P P 14 09 23.6 -0.5
HABR *e* S **S 14 17 54.4 +0.1**
HABR pmax pmax
comp=Z,264nm,1.1s,mb6.3
HABR MLR MLR
comp=Z,1μm,20.0s,MS5.1
RPZ Rata Peaks 64.21 134 P P 14 09 31.9 +0.3
comp=Z,57nm,1.0s,mb5.5,baz=244,slow=7.1,SNR=17
MAW Mawson 64.69 197 *e* P P 14 09 34.1 -0.7
comp=Z,50nm,0.6s,mb5.7
MAW *e* S **S 14 18 08.6 -5.8**
MAW *e* PKPPKP 14 38 10.7
MAW Mawson 64.69 197 P P 14 09 34.4 -0.4
comp=Z,51nm,0.6s,mb5.8,baz=48,slow=7.6,SNR=196
MAW LR LR 14 34 06.0
comp=Z,2μm,19.1s,MS5.2,baz=36,slow=33
MAW PKPPKP 14 38 18.5
comp=Z,3.2nm,1.0s,baz=248,slow=7.4,SNR=4.7
MAW Mawson 64.69 197 *e* P P 14 09 34.1 -0.7
MAW *e* S **S 14 18 08.6 -5.8**
MAW pmax pmax
comp=Z,50nm,0.6s
YSS Yuzh-Sakhalins 64.81 26 κ *i* P P 14 09 35.0 -0.6
YSS *e* 14 09 48.8
YSS *e* 14 10 10.0
YSS *i* S **S 14 18 12.0 -3.8**
YSS *e* PPS 14 18 48.0
YSS pmax pmax
comp=Z,390nm,1.4s,mb6.2
YSS pmax pmax
comp=N,110nm,1.3s

YSS smax
comp=E,2μm,10.0s
YSS MLR MLR
comp=N,2μm,19.0s,MS5.4
YSS MLR MLR
comp=E,1μm,19.0s,MS5.4
YSS MLR MLR
comp=Z,2μm,19.0s,MS5.2
YSS Yuzh-Sakhalins 64.81 26 *i* Pr **P** **14 09 35.2 -0.4**
KURK Kurchatov 65.38 340 P **P** **14 09 39.1 -0.1**
comp=Z,3μm,1.2s
BDHA Al Bayda' 65.78 290⇑ *e*P **P** **14 09 43.8 +1.9**
LBOS 66.04 290⇑ *e*P **P** **14 09 45.3 +1.8**
ZAL Zalesovo 66.45 346 P **P** **14 09 45.4 -0.8**
comp=Z,57nm,1.0s,mb5.6,baz=319,slow=4.0,SNR=179
ZAL PKPPKP 14 38 12.6
comp=Z,3.2nm,1.0s,baz=147,slow=3.7,SNR=3.5
ZAL LR LR 14 42 43.8
comp=Z,2μm,19.1s,MS5.4,baz=147,slow=40
ZAL Zalesovo 66.45 346 P **P** **14 09 45.4 -0.8**
ZAL P'P' 14 38 12.6
ZAL LR LR 14 42 43.8
SNZO South Karori 66.48 131 *e*P **P** **14 09 45.7 -0.7**
NVS Novosibirsk 67.66 345⇓ *i*P **P** **14 09 50.7 -3.1**
NVS *e*S S 14 18 43.9 -6.5
NVS pmax pmax
comp=N,225nm,1.7s
NVS pmax pmax
comp=E,142nm,1.7s
NVS pmax pmax
comp=Z,262nm,1.7s,mb6.0
BOD Bodaibo 67.73 4⇑ *i*P **P** **14 09 53.4 -0.9**
BOD pmax pmax
comp=Z,145nm,1.3s,mb5.8
URZ Urewera 68.00 127 P **P** **14 09 55.4 -0.5**
comp=Z,22nm,0.7s,mb5.3,baz=288,slow=5.6,SNR=14
CLNS Chul'man 68.08 10 *e*P **P** **14 09 54.5 -2.0**
CLNS *e* 14 10 20.5
CLNS *e*S S 14 18 48.1 -7.4
CLNS *e*PS 14 19 20.1
CLNS *e*SS SS 14 23 12.7 -5.2
CLNS pmax pmax
comp=Z,267nm,1.3s,mb6.1
CLNS pmax pmax
comp=N,185nm,1.4s
CLNS pmax pmax
comp=E,94nm,1.2s
CLNS smax
comp=N,450nm,11.7s
CLNS smax
comp=Z,440nm,10.4s
CLNS smax
comp=E,817nm,9.7s
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.8
CLNS MLR MLR
comp=N,1μm,16.0s,MS5.6
CLNS MLR MLR
comp=E,2μm,15.0s,MS5.6
QRN Al-Qurain 69.07 306 *e*P **P** **14 10 01.9 -0.7**
QRN AMb AMB 14 10 03.5
comp=Z,713nm,1.0s,mb6.6
KBD Kabd 69.42 306 *e*P **P** **14 10 04.3 -0.6**
KBD AMb AMB 14 10 05.9
comp=Z,2μm,1.3s,mb6.8
RDF Al-Radifah 69.44 306 *e*P **P** **14 10 04.2 -0.7**
RDF AMb AMB 14 10 05.9
comp=Z,899nm,1.1s,mb6.6
UMR Umm Al-Rimmam 69.56 307 *e*P **P** **14 10 05.1 -0.6**
UMR AMb AMB 14 10 06.7
comp=Z,753nm,1.2s,mb6.5
NAY Al-Naaiem 69.81 306 *e*P **P** **14 10 06.4 -0.9**
NAY AMb AMB 14 10 08.0
comp=Z,325nm,1.1s,mb6.2
BVAR Borovoye Array 70.21 337 P **P** **14 10 09.5 -0.2**
comp=Z,314nm,0.9s,mb6.2,baz=142,slow=7.5,SNR=742
BVAR Borovoye Array 70.21 337 P **P** **14 10 09.5 -0.2**
BVAR pmax pmax
comp=Z,314nm,0.9s
KMBO Kilima Mbogo 70.26 272 P **P** **14 10 11.2 +1.2**
comp=Z,58nm,1.0s,mb5.5,baz=74,slow=6.7,SNR=75
KMBO PKPPKP 14 38 13.5
comp=Z,0.5nm,0.3s,baz=244,slow=4.7,SNR=6.6
KMBO LR LR 14 39 23.7
comp=Z,3μm,18.3s,MS5.6,baz=95,slow=35
BRVK Borovoye 70.27 337 P **P** **14 10 10.2 +0.1**
SNR=164
BRVK Borovoye 70.27 337 *i* Pr **P** **14 10 09.8 -0.3**
CHKZ Chkalovo 70.63 338 *e*P **P** **14 10 12.2 -0.1**
CHKZ pmax pmax
comp=Z,89nm,1.1s,mb5.6
CHKZ Chkalovo 70.63 338 *e*P **P** **14 10 12.2 -0.1**
comp=Z,896nm,1.1s,mb6.6
FUNA Funafuti 70.75 96 P **P** **14 10 09.8 -3.2**
FURI Furi 70.92 283 *e*P **P** **14 10 17.7 +3.7**
RAO Raoul Island 71.89 118 P **P** **14 10 20.7 +0.8**
comp=Z,468nm,0.3s,mb6.8,baz=321,slow=22,SNR=4.8
RAO Raoul Island 71.89 118 P **P** **14 10 20.7 +0.8**
RAO pmax pmax
comp=Z,47nm,0.3s,mb5.9
SYO Syowa Base 72.91 200⇑ *i*P **P** **14 10 24.7 -1.2**
SYO Syowa Base 72.91 200⇑ *i*P pP **14 10 38.2 +7.0**
VNDA Vanda 73.03 169 P **P** **14 10 25.7 -1.0**
comp=Z,28nm,0.9s,mb5.2,baz=306,slow=6.2,SNR=105
VNDA PKPPKP 14 38 08.8
comp=Z,2.6nm,1.1s,baz=306,slow=0.9,SNR=4.4
VNDA LR LR 14 40 53.3
comp=Z,2μm,18.1s,MS5.5,baz=312,slow=34
VNDA Vanda 73.03 169 *e*P **P** **14 10 25.3 -1.3**
comp=Z,373nm,0.6s,mb6.5
SKR Severo-Kuril's 73.66 30 *e*P **P** **14 10 28.0 -2.4**
SKR *e* 14 10 43.5
SKR *e* 14 10 45.0
SKR *e* 14 13 18.0
SKR *e*S S 14 19 54.0 -6.4
SKR *e*PS 14 20 26.0
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.3
SKR pmax pmax
comp=E,2μm,10.0s
SKR pmax pmax
comp=Z,2μm,10.0s
SKR pmax pmax
comp=N,1μm,14.0s
SKR smax
comp=N,2μm,14.0s
SKR smax
comp=E,2μm,12.0s
SKR MLR MLR
comp=N,1μm,16.0s,MS5.4
SKR MLR MLR
comp=Z,2μm,16.0s,MS5.5
SKR MLR MLR
comp=E,1μm,18.0s,MS5.4
BHD Baghdad 73.69 309 *i* x x 14 10 25.0
BHD *ex* x 14 10 40.0
BHD *ex* x 14 13 05.0
BHD *ex* x 14 19 52.0
BHD *ex* x 14 20 16.0
YAK Yakutsk 73.82 11 *d* *i*P **P** **14 10 30.3 -1.0**
YAK *e* 14 10 45.4
YAK *e* 14 13 17.1
YAK *e*S S 14 19 56.5 -5.6
YAK *e* 14 20 42.4
YAK *e*SS SS 14 24 41.4 -4.6
YAK pmax pmax
comp=Z,300nm,1.2s,mb6.1
YAK pmax pmax
comp=N,110nm,1.1s
YAK pmax pmax
comp=N,12nm,1.3s
YAK smax
comp=N,6.0nm,1.3s
YAK smax
comp=Z,4.0nm,1.1s
YAK MLR MLR
comp=Z,1μm,16.0s,MS5.3
YAK MLR MLR
comp=N,1μm,20.0s
YAK Yakutsk 73.82 11 *i* Pr **P** **14 10 30.4 -0.9**
AKTK Aktyubinsk 73.84 330 P **P** **14 10 30.9 -0.6**
AKTK P'P' 14 38 09.3
comp=N,105nm,1.1s,mb5.7,baz=134,slow=7.6
AKTO PKPPKP 14 38 09.3
comp=N,1.6nm,0.9s,baz=1.7,slow=2.7,SNR=6.1
SBA Scott Base 74.10 169 *e*P **P** **14 10 33.5 +0.5**
SBA pmax pmax
comp=Z,611nm,2.2s,mb6.1
SBA Scott Base 74.10 169 *e*P **P** **14 10 33.5 +0.5**
comp=Z,610nm,2.2s,mb6.1
MAK Makhachkala 75.74 319 *c* *i*P **P** **14 10 39.7 -2.7**
MAK *e* 14 13 28.8
MAK *e*PPP 14 15 15.2
MAK *e*S S 14 20 19.5 -4.0
MAK pmax pmax
comp=Z,2μm,3.1s
MAK smax
comp=E,678nm,2.1s
MAK smax
comp=N,381nm,1.0s
MSL Mosul 75.88 311 *i* x x 14 10 25.0
MSL *ex* x 14 10 40.0
MSL *ex* x 14 13 05.0
MSL *ex* x 14 19 52.0
MSL *ex* x 14 20 16.0
GNI Garni 76.31 316 P **P** **14 10 45.6 -0.1**
comp=N,15nm,0.5s,mb5.2,baz=13,slow=3.6,SNR=34
GNI Garni 76.31 316 P **P** **14 10 45.9 +0.2**
SNR=31
GNI Garni 76.31 316 P **P** **14 10 45.6 -0.1**
GNI pmax pmax
comp=Z,15nm,0.5s
PET Petropavlovsk 76.36 29 *κ* *i*P **P** **14 10 45.6 -0.4**
PET *e* 14 13 38.4
PET *e*S S 14 20 28.3 -2.0
PET *e*PS 14 21 02.7
PET *e*PPS 14 21 18.8
PET *e*SS SS 14 25 31.1 +6.6
PET pmax pmax
comp=Z,192nm,1.4s,mb5.8
PET pmax pmax
comp=Z,2μm,7.2s
PET Petropavlovsk 76.36 29 *i* Pr **P** **14 10 45.5 -0.5**
TVAN Van 76.56 314 *i* P **P** **14 10 47.2 +0.1**
SVE Sverdlovsk 76.83 336⇓ *i*P **P** **14 10 42.7 -6.0**
SVE *e* 14 13 48.0
SVE *i*S S 14 20 35.0 -0.5
SVE *e*PS 14 21 14.0
SVE *e* 14 25 23.0
SVE pmax pmax
comp=N,900nm,7.0s
SVE pmax pmax
comp=E,600nm,7.0s
SVE pmax pmax
comp=Z,2μm,7.0s
SVE smax
comp=N,900nm,7.0s
SVE smax
comp=E,1μm,7.0s
SVE MLR MLR
comp=N,1μm,22.0s,MS5.2
SVE MLR MLR
comp=E,200nm,22.0s,MS5.2
SVE MLR MLR
comp=Z,2μm,22.0s,MS5.5
MTA Mtatsminda 76.95 317 P **P** **14 10 49.4 +0.1**
TBLG Delisi 77.00 317 P **P** **14 10 50.2 +0.6**
KZR Kazreti 77.06 317 P **P** **14 10 49.5 -0.5**
LSZ Lusaka 77.13 257 P **P** **14 10 51.6 +1.3**
SNR=41
LSZ Lusaka 77.13 257 *e*P **P** **14 10 51.1 +0.8**
LSZ pmax pmax
comp=Z,253nm,1.1s,mb6.1
LSZ Lusaka 77.13 257 *e*P **P** **14 10 51.1 +0.8**
comp=Z,253nm,1.1s,mb6.1
DUS Dusheti 77.18 317 P **P** **14 10 52.6 +2.0**
ARU Arti 77.42 335⇓ *i*P **P** **14 10 51.8 -0.2**
ARU *e* 14 11 02.8
ARU *e* 14 13 47.0
ARU *e*PPP 14 15 36.9
ARU *e*S S 14 20 40.3 -1.7
ARU *e* 14 21 08.1
ARU pmax pmax
comp=Z,580nm,1.1s,mb6.4
ARU MLR MLR
comp=N,1μm,22.0s,MS5.3
ARU MLR MLR
comp=Z,2μm,22.0s,MS5.5
ARU MLR MLR
comp=E,1μm,21.0s,MS5.3
ARU Arti 77.42 335 *i* Pr **P** **14 10 51.5 -0.5**
MA2 Magadan 77.47 21 *d* *i*P **P** **14 10 52.2 0.0**
MA2 *e* 14 13 49.6
MA2 *e*S S 14 20 39.7 -2.8
MA2 *e*PS 14 21 20.0
MA2 *e*SS SS 14 25 38.3 -3.0
MA2 pmax pmax
comp=N,100nm,1.2s
MA2 pmax pmax
comp=Z,300nm,1.2s,mb6.1
MA2 MLR MLR
comp=Z,2μm,17.6s,MS5.6
MA2 Magadan 77.47 21 *i* Pr **P** **14 10 52.2 0.0**
MZRK Al-Mazaregh 77.52 310 ⇓P **P** **14 10 53.9 +1.4**
GOR Gori 77.53 317 P **P** **14 10 53.2 +0.6**
BEST Besiri 77.84 312 *i* P **P** **14 10 54.2 -0.2**
MARD Mardin 77.98 312 *i* P **P** **14 10 55.2 +0.1**
ZEI Tsey 78.01 318 *e*P **P** **14 10 55.1 -0.2**
ZEI *e* 14 13 50.7
ZEI pmax pmax
comp=Z,87nm,0.9s,mb5.7
KBSD Kabsdagh 78.04 311 ⇓P **P** **14 10 55.5 +0.1**
BSHR Al Beshri 78.09 310 ⇓P **P** **14 10 57.4 +1.7**
SFNV Sufian 78.14 311 ⇓P **P** **14 10 55.7 -0.3**
ONI Oni 78.23 317 P **P** **14 10 56.9 +0.4**
BOSA Boshof 78.46 243 P **P** **14 10 58.4 +0.7**
comp=Z,49nm,0.8s,mb5.5,baz=96,slow=6.1,SNR=40
BOSA LR LR 14 41 25.1
comp=Z,5μm,18.4s,MS5.8,baz=100,slow=32
BOSA Boshof 78.46 243 *e*P **P** **14 10 58.5 +0.7**
BOSA pmax pmax
comp=Z,215nm,1.3s,mb5.9
BOSA Boshof 78.46 243 *e*P **P** **14 10 58.5 +0.7**
comp=Z,215nm,1.3s,mb5.9
LBTB Lobatse 78.49 246 *e*P **P** **14 10 58.7 +0.8**
LBTB pmax pmax
comp=Z,342nm,1.5s,mb6.1
LBTB Lobatse 78.49 246 *e*P **P** **14 10 58.7 +0.8**
comp=Z,342nm,1.5s,mb6.1
DRBT Darb Altahta 78.53 311 ⇓P **P** **14 11 03.3 +5.2**
ERZM Erzurum 78.56 314 *i* P **P** **14 10 59.1 +0.8**
AFI Afiamalu 78.84 102 *e*P **P** **14 11 02.5 +2.7**
AFI pmax pmax
comp=Z,302nm,1.5s,mb6.0
AFI Afiamalu 78.84 102 *e*P **P** **14 11 02.5 +2.7**
comp=Z,302nm,1.5s,mb6.0
ZALF Zalf 79.06 306 ⇓P **P** **14 11 02.3 +1.2**
JHLN Al Jahlan 79.14 309 ⇓P **P** **14 11 01.8 +0.4**
ASF Jabal al Asfar 79.16 306 P **P** **14 11 02.8 +1.2**
comp=Z,162nm,1.0s,mb5.9,baz=353,slow=2.4,SNR=249
ASF Jabal al Asfar 79.16 306 P **P** **14 11 02.8 +1.2**
ASF pmax pmax
comp=Z,162nm,1.0s
KIV Kislovodsk 79.32 318 P **P** **14 11 02.8 +0.3**
SNR=18
KIV Kislovodsk 79.32 318 *d* *i*P **P** **14 11 02.1 -0.4**
KIV *e* 14 14 01.7
KIV *e*S S 14 20 58.6 -3.7
KIV pmax pmax
comp=Z,193nm,1.1s,mb5.9
KIV pmax pmax
comp=Z,1μm,3.6s
KIV Kislovodsk 79.32 318 *i* Pr **P** **14 11 02.1 -0.4**
SALA Sala 79.47 306 ⇓P **P** **14 11 04.6 +1.3**
ROOS tl_alroos 79.51 308 ⇓P **P** **14 11 04.3 +0.8**
ELZG Elazig 79.74 312 *i* P **P** **14 11 05.1 +0.4**
ATAB Bozova 79.88 311 *i* P **P** **14 11 06.1 +0.6**
TOTH TOTAH 79.92 307 ⇓P **P** **14 11 06.9 +1.2**
EIL Elat 79.97 303 *e*P **P** **14 11 06.3 +0.3**
comp=Z,6μm,1.2s
MBH Mount Berech 80.04 303 ⇓P **P** **14 11 07.1 +0.7**
ZFRI Zfri 80.05 303 P **P** **14 11 07.4 +1.0**
QSPA South Pole Qui 80.07 180⇓ *i*P **P** **14 11 06.0 -0.6**
comp=Z,204nm,1.2s,mb5.9
MALT Malatya 80.08 312⇓ *i*P **P** **14 11 07.0 +0.4**
MALT Malatya 80.08 312 ⇓P **P** **14 11 07.0 +0.4**
MARH Ras Al Marh 80.10 307 ⇓P **P** **14 11 08.3 +1.6**
QASN Qassioun 80.10 307 ⇓P **P** **14 11 07.7 +1.1**
MZDA Masada 80.13 304 ⇓P **P** **14 11 07.4 +0.5**
PRNI Paran 80.13 303 ⇓P **P** **14 11 07.6 +0.7**
KELT Kelkit 80.15 314 *i* P **P** **14 11 07.3 +0.3**
SOKR Solikamsk 80.17 336 *d* *i*P **P** **14 11 06.7 -0.4**
SOKR 14 14 13.0
SOKR S S 14 21 07.0 -4.3
SOKR pmax pmax
comp=Z,440nm,1.0s,mb6.3
DRGI Dragot 80.19 305 P **P** **14 11 07.8 +0.6**
FKH Fakeheh 80.23 307 *e*P **P** **14 11 08.4 +1.0**
HMDT Nahal Hemdat 80.29 305 ⇓P **P** **14 11 08.5 +0.8**
HAWK Haweek 80.32 308 ⇓P **P** **14 11 08.6 +0.8**
GLH Golan-Tel Qazi 80.34 306 P **P** **14 11 09.3 +1.3**
GZT Gaziantep 80.39 311 *i* P **P** **14 11 08.6 +0.4**
SEY Seymchan 80.42 19 *d* *i*P **P** **14 11 08.4 0.0**
SEY Seymchan 80.42 19 *i* Pr **P** **14 11 08.5 +0.1**
MMLI Mount Malkishu 80.43 305 ⇓P **P** **14 11 09.5 +1.0**
RCY Rachaya 80.44 306 *e*P **P** **14 11 09.7 +1.1**
KSDI Kefar Szold 80.48 306 ⇓P **P** **14 11 09.9 +1.2**
MASH Mash'abbe Sade 80.51 304 P **P** **14 11 09.7 +0.8**
BIDA Albida 80.54 308 ⇓P **P** **14 11 09.6 +0.5**
SVTA Shivta 80.62 304 P **P** **14 11 10.2 +0.7**
WRDH Warideh 80.64 309 ⇓P **P** **14 11 09.9 +0.4**
SLTI Sal'it 80.68 305 ⇓P **P** **14 11 10.6 +0.8**
BHL Bhannes 80.71 307 *e*P **P** **14 11 11.0 +1.0**
BTCH Batrach 80.77 309 ⇓P **P** **14 11 10.7 +0.4**
KZIT Kziot 80.80 304 ⇓P **P** **14 11 11.0 +0.5**
DRWC Darouich 80.81 310 ⇓P **P** **14 11 10.9 +0.3**
SLNF Slenfeh 80.81 309 ⇓P **P** **14 11 11.3 +0.8**
HNTI Hanita 80.83 306 ⇓P **P** **14 11 11.8 +1.2**
OFRI 'Ofer 80.84 305 ⇓P **P** **14 11 11.3 +0.6**
COBT Iskenderun 81.09 309 *i* P **P** **14 11 12.4 +0.4**
GRSN GIRESUNGRSN 81.14 314 *i* P **P** **14 11 11.5 -0.7**
SVST Sivas 81.67 313 *i* P **P** **14 11 15.9 +0.8**
SUR Sutherland 81.90 239 *e*P **P** **14 11 18.0 +1.7**
comp=Z,374nm,1.4s,mb6.1
NVL N'lazarevskaya 82.53 199 *d* *i*P **P** **14 11 19.6 0.0**
NVL *i*S S 14 21 34.0 -1.8
NVL pmax pmax
comp=Z,246nm,1.5s,mb6.0
MEST Erdemli 82.72 309 *i* P **P** **14 11 20.6 0.0**
CSS Prodhromos 82.86 307 P **P** **14 11 21.6 +0.3**
comp=Z,6.2nm,1.2s
ANN Anapa 83.11 318 *d* *i*P **P** **14 11 21.9 -0.7**
ANN *e* 14 14 33.4
ANN *e*SS SS 14 27 07.7 +1.9
ANN pmax pmax
comp=Z,221nm,1.4s,mb6.0
SZAC Souni-Zanaja 83.15 307 P **P** **14 11 23.7 +0.9**
ALFC Alevga 83.49 307 P **P** **14 11 24.5 -0.1**
CDAG Cicekdag 83.50 312 *i* P **P** **14 11 24.3 -0.3**
CTKT Corum 83.52 313 *i* P **P** **14 11 25.0 +0.3**
PPCY Paphos 83.61 307 P **P** **14 11 25.2 0.0**
ERMK Ermenek 83.68 309 *i* P **P** **14 11 26.1 +0.5**
BOYT Boyabat 83.69 314 *i* P **P** **14 11 25.9 +0.3**
PECR Pechory 84.02 330⇑ *i*P **P** **14 11 26.4 -0.9**
PECR *i* 14 14 41.5
PECR *i*S S 14 21 44.0 -6.9
PECR pmax pmax
comp=Z,330nm,2.0s,mb6.1
PECR pmax pmax
comp=Z,2μm,10.0s
PECR smax
comp=N,1μm,10.0s
PECR smax
comp=E,1μm,7.0s
BR131 Keskin Array S 84.07 312 *e*P **P** **14 11 27.1 -0.4**
comp=E,199nm,1.1s,mb6.2
BRTR Keskin Array B 84.07 312 P **P** **14 11 27.1 -0.4**
comp=E,134nm,1.1s,mb6.0,baz=131,slow=6.7,SNR=351
BRTR PKKPbc PKKPbc 14 29 43.0 +1.5
comp=E,1.6nm,1.0s,baz=211,slow=1.4,SNR=6.4
BRTR PKPPKP 14 37 50.8
comp=E,0.7nm,0.7s,baz=247,slow=2.5,SNR=4.3
VORD Divnogorie 84.29 324 *e*P **P** **14 11 27.6 -1.1**
VORD pmax pmax
comp=N,70nm,1.1s
VORD pmax pmax
comp=Z,310nm,1.1s,mb6.3
VORD pmax pmax
comp=E,220nm,1.0s
VORD MLR MLR
comp=Z,1μm,24.0s,MS5.3
VORD MLR MLR
comp=N,750nm,18.0s
VORD MLR MLR
comp=E,1μm,19.0s
VRSR Storozhevoye 84.45 324 *d* *i*P **P** **14 11 28.7 -0.8**
VRSR *e* 14 14 43.3
VRSR *e* 14 21 46.1
VRSR *e*S S 14 21 52.8 -2.4
VRSR pmax pmax
comp=N,160nm,1.0s
VRSR pmax pmax
comp=E,510nm,1.0s
VRSR pmax pmax
comp=Z,490nm,1.0s,mb6.6
VRSR smax
comp=N,230nm,3.6s
VRSR smax
comp=E,340nm,5.4s
VRSR MLR MLR
comp=E,1μm,21.0s,MS5.4
VRSR MLR MLR
comp=Z,1μm,21.0s,MS5.3
VRSR MLR MLR
comp=N,850nm,18.0s,MS5.4
ELDT Eldivan 84.46 313 *i* P **P** **14 11 29.7 +0.2**
VOR Voronezh 84.65 325 *e*P **P** **14 11 30.0 -0.5**
VOR pmax pmax
comp=Z,860nm,1.7s,mb6.6
VOR pmax pmax
comp=N,220nm,1.4s
VOR pmax pmax
comp=E,500nm,1.4s
ANTO Ankara 84.73 312 ⇓*i*P **P** **14 11 31.0 +0.1**
ANTO Ankara 84.73 312 P **P** **14 11 31.3 +0.4**
SNR=73
ANTO Ankara 84.73 312 ⇓P **P** **14 11 31.0 +0.1**
BALT Daday 84.81 314 *i* P **P** **14 11 31.9 +0.6**
SIM Simferopol' 85.38 317 *e*P **P** **14 11 35.4 +1.3**
SIM *e* 14 11 48.5
SIM *e* 14 14 53.2
SIM 14 21 59.4
SIM pmax pmax
comp=Z,220nm,0.9s,mb6.3
SIM pmax pmax
comp=Z,380nm,8.8s
SGKT Sivrigoynuk 85.48 312 *i* P **P** **14 11 34.8 +0.2**
ISP Isparta 85.86 309 *e*P **P** **14 11 35.5 -1.0**
ISP Isparta 85.86 309 P **P** **14 11 36.3 -0.2**
ISP pmax pmax
comp=Z,57nm,1.0s,mb5.8
TKTP Tekketepe 86.06 310 *i* P **P** **14 11 37.1 -0.4**
ESKT Eskisehir 86.07 311 *i* P **P** **14 11 37.5 -0.1**
AKAS Kas 86.13 308 *i* P **P** **14 11 36.6 -1.2**
HENT Hendek 86.39 312 *i* P **P** **14 11 38.9 -0.3**
BORA Eskisehir 86.46 311 *i* P **P** **14 11 39.4 -0.1**
TSUM Tsumeb 86.62 251 *e*P **P** **14 11 40.0 -0.3**
comp=Z,148nm,1.3s,mb6.1
AMKA Amchitka 86.66 37 *e*P **P** **14 11 40.5 0.0**
SNAA Sanae 86.86 197⇓ *i*P **P** **14 11 41.3 -0.2**
SNAA *e* 14 11 43.6
SNAA *e* pP 14 11 44.9 -1.9
SNAA *e* pP 14 11 46.0 -0.8
SNAA *e* 14 11 54.9
SNAA Sanae 86.86 197 *d* *i*P **P** **14 11 40.7 -0.8**
SNAA Sanae 86.86 197 *e*P **P** **14 11 41.2 -0.2**
comp=Z,217nm,1.1s,mb6.3
GDZ Gediz 86.97 310 *i* P **P** **14 11 42.0 0.0**
MOS Moscow 87.06 328 *κ* *i*P **P** **14 11 42.3 -0.1**
MOS *i* 14 12 00.2
MOS *e* 14 15 03.7
MOS *i*S S 14 22 18.8 -2.1
MOS pmax pmax
comp=Z,2μm,2.0s,mb6.9
MOS pmax pmax
comp=Z,659nm,1.4s,mb6.7
ARG Arkhangelos 87.28 307 *e*P **P** **14 11 44.0 +0.5**
OBN Obninsk 87.39 327 *d* *i*P **P** **14 11 43.4 -0.6**

OBN				*e**PP	pP	14 11 57.8	+8.5	
OBN				*e*		14 15 07.5		
OBN				*e*S	S	14 22 05.6	-18	
OBN				*e*SS	SS	14 28 00.8	-7.9	
OBN				pmax	pmax			
	comp=Z,585nm,1.0s,mb6.8							
OBN				MLR	MLR			
	comp=Z,2µm,27.0s,MS5.3							
OBN	**Obninsk**	**87.39 327**	*i* Pr	**P**		**14 11 43.4**	**-0.6**	
OBN				LR	LR			
	comp=Z,2µm,27.0s,MS5.3							
ISK	**Istanbul-Kandi**	**87.80 312**	*e*P	pP		14 11 60.0	+8.6	
KARP	**Karpathos**	**87.88 306**	*e*P	**P**		**14 11 47.0**	**+0.6**	
BILL	**Bilibino**	**88.12 19***d*	*i*P	**P**		**14 11 46.6**	**-0.9**	
BILL			*e**PP	pP		14 12 00.9	+8.1	
BILL			*e*			14 15 15.0		
BILL			*e*S	S		14 22 10.8	-20	
BILL			*e*SS	SS		14 28 23.2	+3.8	
BILL			pmax	pmax				
	comp=Z,205nm,1.5s,mb6.1							
BILL			MLR	MLR				
	comp=Z,1µm,24.0s,MS5.3							
BILL	**Bilibino**	**88.12 19**	*i* Pr	**P**		**14 11 46.7**	**-0.8**	
NISR	**Nisiros**	**88.16 307**	*e*P	**P**		**14 11 47.5**	**-0.2**	
AKHS	**Akhisar**	**88.18 310**	*i* P	**P**		**14 11 48.2**	**+0.4**	
ELBA	**Catalca**	**88.28 312**	*i* P	**P**		**14 11 48.1**	**-0.2**	
KDAG	**Bornova**	**88.48 309**	*i* P	**P**		**14 11 50.0**	**+0.8**	
SMG	**Samos**	**88.64 308**	*e*P	**P**		**14 11 50.0**	**0.0**	
VNA1	**Neumayer--Stat**	**88.89 197**	⇓*i*P	**P**		**14 11 51.8**	**+0.7**	
VNA1			*e*			14 11 53.3		
VNA1			*e*			14 11 54.2		
VNA1			*e*	pP		14 11 55.3	-1.2	
VNA1			*e*			14 12 06.5		
XRY	**Khrisi**	**88.90 306**	*e*P	**P**		**14 11 51.5**	**+0.3**	
VNA3	**Neumayer Olymp**	**89.02 197**	⇓*i*P	**P**		**14 11 51.8**	**+0.1**	
VNA3			*e*			14 11 53.3		
VNA3			*e*	pP		14 11 54.9	-2.2	
VNA3			*e*	pP		14 11 56.4	-0.7	
VNA3			*e*			14 12 05.7		
NPS	**Neapolis**	**89.05 306**	*e*P	**P**		**14 11 52.0**	**+0.1**	
SART	**Tekirdag**	**89.09 311**	*i* P	**P**		**14 11 52.0**	**0.0**	
PSN	**Preselentsi**	**89.10 315**	⇓P	**P**		**14 11 51.9**	**-0.2**	
TIRR	**Tirgusor**	**89.13 315**	⇓*i*P	**P**		**14 11 52.3**	**0.0**	
TIRR	**Tirgusor**	**89.13 315**	⇓P	**P**		**14 11 52.3**	**0.0**	
CHOS	**Chios island**	**89.40 309**	*e*P	**P**		**14 11 54.2**	**+0.7**	
SANT	**Santorini**	**89.41 307**	*e*P	**P**		**14 11 53.3**	**-0.3**	
PRK	**Paraskevi**	**89.43 310**	*e*P	**P**		**14 11 54.5**	**+0.8**	
CFR	**Carcaliu**	**89.51 316**	⇓*i*P	**P**		**14 11 54.0**	**0.0**	
CFR	**Carcaliu**	**89.51 316**	P	**P**		**14 11 54.5**	**+0.5**	
CFR	**Carcaliu**	**89.51 316**	⇓P	**P**		**14 11 54.0**	**0.0**	
APE	**Apeiranthos**	**89.51 308**	*e*P	**P**		**14 11 53.6**	**-0.4**	
APE	**Apeiranthos**	**89.51 308**	*e*P	**P**		**14 11 53.5**	**-0.6**	
APE	**Apeiranthos**	**89.51 308**	⇓*i*P	**P**		**14 11 53.8**	**-0.3**	
APE	**Apeiranthos**	**89.51 308**	P	**P**		**14 11 54.1**	**0.0**	
KIS	**Kishinev**	**89.51 318***d*	*i*P	**P**		**14 11 52.0**	**-2.1**	
KIS			*e*			14 15 20.0		
KIS			*i* S	S		14 22 40.0	-4.1	
KIS			pmax	pmax				
	comp=Z,2µm,5.0s							
HARR	**Harsova**	**89.53 315**	⇓*i*P	**P**		**14 11 54.3**	**+0.2**	
HARR	**Harsova**	**89.53 315**	⇓P	**P**		**14 11 54.3**	**+0.2**	
PRD	**Provadia**	**89.53 314**	P	**P**		**14 11 54.0**	**-0.2**	
BOZC	**Bozcaada**	**89.73 310**	*i* P	**P**		**14 11 55.0**	**-0.1**	
JMB	**Yambol**	**89.94 313**	*e*P	**P**		**14 11 56.3**	**+0.3**	
JMB	**Yambol**	**89.94 313**	P	**P**		**14 11 56.2**	**+0.1**	
ALN	**Alexandroupoli**	**89.97 311**	*e*P	**P**		**14 11 56.0**	**-0.2**	
TMCR	**Tamitsa**	**90.11 336**	*e*P	**P**		**14 11 56.5**	**-0.4**	
TMCR			pmax	pmax				
	comp=Z,297nm,1.6s,mb6.4							
GVD	**Gavdhos**	**90.18 305**	*e*P	**P**		**14 11 57.5**	**+0.3**	
GVD	**Gavdhos**	**90.18 305**	*e*P	**P**		**14 11 57.0**	**-0.2**	
AKASG	**Malin Array Be**	**90.22 322**	P	**P**		**14 11 56.1**	**-1.3**	
	comp=Z,59nm,1.1s,mb5.8,baz=86,slow=4.3,SNR=170							
AKASG			PP	PP		14 15 28.2	-2.9	
	comp=Z,18nm,0.9s,baz=98,slow=6.3,SNR=9.5							
AKASG			LR	LR		14 57 34.0		
	comp=Z,834nm,20.4s,MS5.2,baz=75,slow=39							
AKBB	**Malin Array Si**	**90.22 322**	P	**P**		**14 11 56.3**	**-1.1**	
AKBB	**Malin Array Si**	**90.22 322**	*e*P	**P**		**14 11 56.1**	**-1.3**	
RDO	**Rodhopi**	**90.40 312**	*e*P	**P**		**14 11 57.5**	**-0.7**	
LOS	**Limnos**	**90.48 310**	*e*P	**P**		**14 11 58.0**	**-0.6**	
SZH	**Strazhica**	**90.59 314**	P	**P**		**14 12 00.5**	**+1.4**	
KDZ	**Kurdzhali**	**90.60 312**	P	**P**		**14 11 58.4**	**-0.8**	
DIM	**Dimitrovgrad**	**90.61 312**	P	**P**		**14 11 59.2**	**0.0**	
BUC1	**Bucharest**	**90.77 315**	P	**P**		**14 12 01.1**	**+1.2**	
PVL	**Pavlikeni**	**91.01 314**	P	**P**		**14 12 01.8**	**+0.8**	
PTL	**Penteli**	**91.01 308**	*e*P	**P**		**14 12 01.0**	**-0.1**	
ZIMR		**91.08 314**	P	**P**		**14 12 02.3**	**+0.9**	
MLR	**Muntele Rosu**	**91.08 316**	P	**P**		**14 12 01.7**	**+0.3**	
	comp=Z,227nm,1.2s,mb6.4,baz=79,slow=1.6,SNR=106							
MLR			PP	PP		14 15 38.0	+0.1	
	comp=Z,9.0nm,0.9s,baz=78,slow=7.0,SNR=3.1							
MLR	**Muntele Rosu**	**91.08 316**	⇑*i*P	**P**		**14 12 01.8**	**+0.4**	
MLR	**Muntele Rosu**	**91.08 316**	P	**P**		**14 12 01.7**	**+0.3**	
MLR						14 15 38.0		
MLR			pmax	pmax				
	comp=Z,227nm,1.2s							
MLR	**Muntele Rosu**	**91.08 316**	⇑P	**P**		**14 12 01.8**	**+0.4**	
PLD	**Plovdiv**	**91.22 312**	P	**P**		**14 12 01.4**	**-0.6**	
AOS	**Alonnisos**	**91.23 309**	*e*P	**P**		**14 12 01.1**	**-0.9**	
NAIG	**Nisos Aigina**	**91.25 308**	*e*P	**P**		**14 12 02.0**	**-0.1**	
KYTH	**Kithira**	**91.31 306**	*e*P	**P**		**14 12 02.0**	**-0.4**	
SNX	**Sinaia**	**91.35 316**	⇓*i*P	**P**		**14 12 02.9**	**+0.3**	
OUR	**Ouranopolis**	**91.39 311**	*e*P	**P**		**14 12 02.6**	**-0.2**	
VLI	**Veliai**	**91.47 307**	*e*P	**P**		**14 12 02.0**	**-1.2**	
PAIG	**Paliouri**	**91.53 310**	*e*P	**P**		**14 12 02.9**	**-0.6**	
MTUR	**Matau**	**91.63 316**	⇓*i*P	**P**		**14 12 04.3**	**+0.4**	
VOIR		**91.69 316**	⇑*i*P	**P**		**14 12 03.6**	**-0.6**	
XOR	**Xorichti**	**91.79 310**	*e*P	**P**		**14 12 03.5**	**-1.2**	
PLG	**Polygyros**	**91.80 311**	*e*P	**P**		**14 12 02.0**	**-2.7**	
MMB	**Musomiste**	**91.83 312**	*e*P	**P**		**14 12 03.9**	**-0.9**	
MMB	**Musomiste**	**91.83 312**	P	**P**		**14 12 04.0**	**-0.8**	
SOH	**Sokhos**	**91.95 311**	*e*P	**P**		**14 12 04.7**	**-0.7**	
MNK	**Minsk**	**92.02 325**	*e*P	**P**		**14 12 01.0**	**-4.7**	
MNK			pmax	pmax				
	comp=Z,490nm,1.0s,mb6.8							
BURAR	**Bucovina Array**	**92.04 318**	⇓*i*P	**P**		**14 12 06.4**	**+0.6**	
BURAR	**Bucovina Array**	**92.04 318**	⇓P	**P**		**14 12 06.4**	**+0.6**	
PUL	**Pulkovo**	**92.09 330**	⇑*e*P	**P**		**14 12 05.9**	**-0.1**	
PUL			*e*			14 15 44.3		
PUL			*e*PPP			14 17 49.1		
PUL			*e*			14 22 33.8		
PUL			*e*SP	SP		14 24 12.6	-4.8	
PUL			pmax	pmax				
	comp=Z,208nm,1.1s,mb6.4							
PUL	**Pulkovo**	**92.09 330**	⇑*e*P	**P**		**14 12 06.6**	**+0.6**	
HORT	**Hortiatis**	**92.10 311**	*e*P	**P**		**14 12 05.2**	**-0.9**	
THE	**Thessaloniki**	**92.21 311**	*e*P	**P**		**14 12 05.4**	**-1.2**	
ITM	**Ithomi**	**92.35 307**	*e*P	**P**		**14 12 08.0**	**+0.7**	
KKB	**Krupnik**	**92.36 312**	P	**P**		**14 12 07.0**	**-0.3**	
KNT	**Kendrikon**	**92.36 311**	*e*P	**P**		**14 12 06.3**	**-0.9**	
AGG	**Agios Georgios**	**92.38 309**	*e*P	**P**		**14 12 06.4**	**-1.0**	
VTS	**Vitosha**	**92.41 313**	*e*P	**P**		**14 12 07.2**	**-0.3**	
VTS	**Vitosha**	**92.41 313**	⇓*i*P	**P**		**14 12 07.3**	**-0.2**	
VTS	**Vitosha**	**92.41 313**	P	**P**		**14 12 07.7**	**+0.2**	
LIT	**Litokhoron**	**92.46 310**	*e*P	**P**		**14 12 06.9**	**-0.9**	
JOF	**Joensuu**	**92.52 334**	*e*pkp	**P**		**14 12 06.3**	**-1.7**	
VAY	**Valandovo**	**92.63 311**	*e*P	**P**		**14 12 07.1**	**-1.5**	
VAY	**Valandovo**	**92.63 311**	⇓*i*P	**P**		**14 12 07.2**	**-1.4**	
GRG	**Griva**	**92.69 311**	*e*P	**P**		**14 12 06.8**	**-2.0**	
LVZ	**Lovozero**	**92.76 339**	⇑*e*P	**P**		**14 12 08.2**	**-0.9**	
LVZ			*e*			14 22 36.7		
LVZ			*e*			14 23 03.6		
LVZ			pmax	pmax				
	comp=Z,88nm,1.0s,mb6.1							
LVZ	**Lovozero**	**92.76 339**	*i* Pr	**P**		**14 12 07.7**	**-1.4**	
EVR	**Evrytania**	**92.76 309**	*e*P	**P**		**14 12 09.0**	**-0.1**	
APA	**Apatity**	**93.10 338**	⇓*i*P	**P**		**14 12 10.4**	**-0.3**	
APA			*i*			14 12 23.5		
APA			*i*			14 12 32.0		
APA			*i*			14 15 54.0		
APA			*i*			14 22 42.0		
APA			*e*S	S		14 23 10.0	-6.7	
APA			*i* SP	SP		14 24 27.0	-1.6	
APA			pmax	pmax				
	comp=Z,150nm,1.5s,mb6.2							
GZR	**Gura Zlata**	**93.25 315**	⇑*i*P	**P**		**14 12 12.1**	**+0.7**	
GZR	**Gura Zlata**	**93.25 315**	⇑P	**P**		**14 12 12.1**	**+0.8**	
LVV	**L'vov**	**93.26 320**	*e*P	**P**		**14 12 09.9**	**-1.6**	
LVV			*e*PPP			14 17 54.1		
LVV			*e*S	S		14 23 13.5	-4.6	
LVV			*e*PS	PS		14 24 23.3	-9.2	
LVV			*e*SS	SS		14 29 35.3	+1.6	
VSU	**Vasula**	**93.55 329**	*i* P	**P**		**14 12 11.9**	**-0.9**	
VSU	**Vasula**	**93.55 329**	*i* Pr	**P**		**14 12 11.9**	**-0.9**	
DRGR		**93.55 317**	⇓*i*P	**P**		**14 12 12.8**	**0.0**	
VLS	**Valsamata**	**93.57 308**	*e*P	**P**		**14 12 13.0**	**+0.1**	
SKO	**Skopje**	**93.58 312**	*e*P	**P**		**14 12 12.2**	**-0.7**	
SKO	**Skopje**	**93.58 312**	*i* P	**P**		**14 12 12.3**	**-0.6**	
LKD	**Levkas**	**93.62 308**	*e*P	**P**		**14 12 12.9**	**-0.2**	
JAN	**Janina**	**93.62 309**	*e*P	**P**		**14 12 13.5**	**+0.4**	
OHR	**Ohrid**	**93.91 311**	⇓*i*P	**P**		**14 12 12.8**	**-1.6**	
IGT	**Igoumenitsa**	**94.00 309**	*e*P	**P**		**14 12 14.5**	**-0.3**	
KWP	**Kalwaria**	**94.07 320**	*e*Pd	**P**		**14 12 15.0**	**-0.2**	
KWP			*e*PP	PP		14 16 03.2	+1.8	
KWP			L			14 59 35.0		
	comp=Z,1.0nm,26.3s							
KWP	**Kalwaria**	**94.07 320**	⇓*e*P	**P**		**14 12 15.0**	**-0.2**	
KWP			*e*PP	PP		14 16 03.2	+1.8	
BZS	**Buzias**	**94.09 315**	⇓*i*P	**P**		**14 12 14.9**	**-0.4**	
BZS	**Buzias**	**94.09 315**	⇓P	**P**		**14 12 14.9**	**-0.3**	
SVIS	**Svilajnac**	**94.14 314**	*i* P	**P**		**14 12 15.4**	**-0.1**	
UZH	**Uzhgorod**	**94.16 318**	*e*P	**P**		**14 12 15.0**	**-0.6**	
UZH			*i*			14 16 00.5		
UZH			pmax	pmax				
	comp=Z,156nm,2.0s,mb6.1							
KOLS	**Kolonicke sedl**	**94.23 319**	*e*P	**P**		**14 12 16.1**	**+0.2**	
KOLS			pmax	pmax				
	comp=Z,17nm,1.0s,mb5.4							
KOLS	**Kolonicke sedl**	**94.23 319**	*e*P	**P**		**14 12 16.1**	**+0.2**	
	comp=Z,17nm,1.0s,mb5.4							
KOLS			*e*			14 15 21.3		
KOLS			*e*			14 15 40.6		
FIA1	**FINESS Array S**	**94.53 332**	*e*P	**P**		**14 12 17.0**	**-0.3**	
FINES	**FINESS Array B**	**94.53 332**	P	**P**		**14 12 16.2**	**-1.1**	
	comp=Z,20nm,1.0s,mb5.5,baz=93,slow=3.8,SNR=38							
FINES			PP	PP		14 16 05.7	+0.8	
	comp=Z,4.3nm,0.8s,baz=113,slow=15,SNR=4.0							
FINES			PKiKP	PKiKP		14 17 00.1	-0.1	
	comp=Z,2.7nm,0.7s,baz=106,slow=2.8,SNR=4.1							
FINES			PKKPbc	PKKPbc		14 29 15.8	+0.2	
	comp=Z,0.8nm,0.6s,baz=149,slow=4.0,SNR=4.3							
FINES			LR	LR		15 01 47.7		
	comp=Z,1µm,18.4s,MS5.3,baz=98,slow=40							
FINES	**FINESS Array B**	**94.53 332**	P	**P**		**14 12 16.2**	**-1.1**	
FINES						14 16 05.7		
FINES			pmax	pmax				
	comp=Z,21nm,1.0s							
KAF	**Kangasniemi**	**94.56 332**	*e*pkp	**P**		**14 12 16.2**	**-1.2**	
SUW	**Suwalki**	**94.58 324**	*e*Pd	**P**		**14 12 16.4**	**-1.1**	
SUW			*e*PP	PP		14 16 03.8	-1.6	
SUW			L			14 57 28.9		
	comp=Z,1.3nm,23.6s							
SUW	**Suwalki**	**94.58 324**	⇓*e*P	**P**		**14 12 16.4**	**-1.1**	
SUW			*e*PP	PP		14 16 03.8	-1.6	
TIR	**Tirane**	**94.64 311**	*e*P	**P**		**14 12 17.2**	**-0.6**	
CRVS	**Cervenica-Dubn**	**94.75 319**	*e*P	**P**		**14 12 17.7**	**-0.6**	
CRVS			*e*			14 15 24.2		
CRVS			*e*			14 15 56.4		
BEO	**Belgrade**	**94.77 315**	*i* P	**P**		**14 12 18.1**	**-0.2**	
STHS	**Stebnicka Huta**	**94.97 319**	*e*P	**P**		**14 12 19.2**	**-0.1**	
STHS			pmax	pmax				
	comp=Z,23nm,1.0s,mb5.6							
STHS	**Stebnicka Huta**	**94.97 319**	*e*P	**P**		**14 12 19.2**	**-0.1**	
	comp=Z,23nm,1.0s,mb5.6							
DIVS	**Divcibare**	**94.98 314**	*i* P	**P**		**14 12 19.2**	**-0.1**	
DIVS	**Divcibare**	**94.98 314**	*e*P	**P**		**14 12 19.0**	**-0.4**	
KECS	**Kecovo**	**95.32 318**	*e*P	**P**		**14 12 20.5**	**-0.4**	
KECS			pmax	pmax				
	comp=Z,11nm,1.1s,mb5.2							
KECS	**Kecovo**	**95.32 318**	*e*P	**P**		**14 12 20.5**	**-0.4**	
	comp=Z,11nm,1.1s,mb5.2							
KECS			*e*	pP		14 12 26.4	+0.2	
KECS			*e*			14 15 18.9		
BBLS	**Bajina Basta -**	**95.36 313**	*i* P	**P**		**14 12 21.4**	**+0.4**	
WAR	**Warsaw**	**95.56 322**	*e*P	**P**		**14 12 22.6**	**+0.6**	
WAR			*e*PP	PP		14 16 13.5	+0.5	
PSZ	**Piszkesteto**	**95.62 318**	⇓*e*P	**P**		**14 12 21.8**	**-0.5**	
PSZ	**Piszkesteto**	**95.62 318**	⇓*i*P	**P**		**14 12 21.9**	**-0.4**	
OJC	**Ojcow**	**96.02 320**	*i* Pd	**P**		**14 12 23.3**	**-0.8**	
OJC			*e*PP	PP		14 16 14.2	-2.4	
OJC			*e*SKSac	SKSac		14 22 58.4	-1.5	
OJC			*e*SS	SS		14 30 15.0	+2.0	
OJC			L			15 03 33.9		
	comp=Z,4.3nm,20.2s							
OJC	**Ojcow**	**96.02 320**	⇓*i*P	**P**		**14 12 23.3**	**-0.8**	
OJC			*e*			14 16 14.2		
OJC			*e*			14 22 58.4		
OJC			*e*SS	SS		14 30 15.0	+2.0	
BUD	**Budapest**	**96.14 317**	⇓*e*P	**P**		**14 12 24.1**	**-0.6**	
PKSM	**Moragy**	**96.23 316**	⇑*i*P	**P**		**14 12 24.4**	**-0.7**	
PKSM	**Moragy**	**96.23 316**	⇑P	**P**		**14 12 24.4**	**-0.6**	
VYHS	**Vyhne**	**96.41 318**	*e*P	**P**		**14 12 25.2**	**-0.6**	
VYHS			*e*			14 15 21.7		
VYHS			*e*			14 16 12.1		
VYHS	**Vyhne**	**96.41 318**	*e*P	**P**		**14 12 25.3**	**-0.5**	
VYHS			pmax	pmax				
	comp=Z,29nm,1.5s,mb5.5							
VYHS	**Vyhne**	**96.41 318**	*e*P	**P**		**14 12 25.3**	**-0.5**	
	comp=Z,29nm,1.5s,mb5.5							
VYHS			*e*			14 15 21.7		
VYHS			*e*			14 16 12.1		
ARCES	**ARCESS Array B**	**96.41 339**	P	**P**		**14 12 24.8**	**-1.1**	
	comp=Z,24nm,0.9s,mb5.6,baz=94,slow=5.2,SNR=33							
ARCES			LR	LR		15 03 25.2		
	comp=Z,2µm,18.1s,MS5.6,baz=98,slow=40							
ARE0	**ARCESS Array S**	**96.41 339**	*e*P	**P**		**14 12 25.3**	**-0.5**	
OKC	**Ostrava-Krasne**	**97.03 319**	*e*P	**P**		**14 12 28.8**	**+0.1**	
OKC			*e*PP	PP		14 16 23.1	-1.2	
OKC			*e*SKS			14 23 02.2		
OKC			*e*SS	SS		14 30 21.8	-5.4	
OKC			AMS	AMS		15 05 20.0		
	comp=Z,800nm,17.0s							
OKC	**Ostrava-Krasne**	**97.03 319**	*e*Pdif	**P**		**14 12 28.8**	**+0.1**	
OKC			*e*PP	PP		14 16 23.1	-1.2	
OKC			*e*Sdif			14 23 02.2		
OKC			*e*SS	SS		14 30 21.8	-5.4	
MORC	**Moravsky Berou**	**97.41 319**	⇓*i*P	**P**		**14 12 30.1**	**-0.3**	
MORC	**Moravsky Berou**	**97.41 319**	⇓P	**P**		**14 12 30.1**	**-0.3**	
ZST	**Bratislava**	**97.52 318**	*e*P	**P**		**14 12 31.1**	**+0.2**	
ZST			*e*			14 16 27.2		
ZST			pmax	pmax				
	comp=Z,22nm,1.1s,mb5.6							
ZST	**Bratislava**	**97.52 318**	*e*P	**P**		**14 12 31.1**	**+0.2**	
	comp=Z,22nm,1.1s,mb5.6							
ZST			*e*			14 16 27.2		
KOGS	**Kog**	**97.90 316**	*e*Pdiff	**P**		**14 12 32.3**	**-0.3**	
KOGS			*e*			14 12 45.5		
KOGS			*e*PP	PP		14 16 31.6	+0.5	
VRAC	**Vranov**	**97.97 319**	P	**P**		**14 12 32.8**	**-0.1**	
	comp=Z,1.8nm,0.3s,mb5.0,baz=140,slow=6.5,SNR=8.9							
VRAC	**Vranov**	**97.97 319**	P	**P**		**14 12 33.3**	**+0.4**	
DPC	**Dobruska-Polom**	**98.25 320**	*e*P	**P**		**14 12 34.2**	**0.0**	
DPC			*e*PP	PP		14 16 30.6	-3.1	
DPC			*e*SKKS	SKKSac		14 23 33.7	-7.0	
DPC			*e*SS	SS		14 30 38.0	-6.4	
DPC			AMS	AMS		15 07 30.0		
	comp=Z,1µm,18.2s							
DPC	**Dobruska-Polom**	**98.25 320**	*e*P	**P**		**14 12 34.2**	**0.0**	
DPC			*e*			14 16 30.6		
DPC			*e*SS	SS		14 30 38.0	-6.4	
DPC			MLR	MLR				
	comp=Z,1µm,18.2s,MS5.5							
KSP	**Ksiaz**	**98.32 320**	*e*Pd	**P**		**14 12 34.5**	**0.0**	
KSP			*e*PP	PP		14 16 33.7	-0.5	
KSP			L			15 08 10.5		
	comp=Z,2.5nm,20.8s							
KSP	**Ksiaz**	**98.32 320**	⇓*e*P	**P**		**14 12 34.3**	**-0.2**	
KSP			*e*			14 16 33.0		
KSP			*e*SS	SS		14 30 46.0	+0.6	
KSP	**Ksiaz**	**98.32 320**	⇓*e*P	**P**		**14 12 34.3**	**-0.2**	
KSP			*e*PP	PP		14 16 33.0	-1.2	
KSP			*e*SS	SS		14 30 46.0	+0.6	
KSP			LR	LR				
	comp=Z,3µm,20.8s,MS5.8							
CONA	**Conrad Observa**	**98.32 317**	⇓*i*PcP	PcP		14 12 33.6	-0.9	
	comp=Z,12nm,1.2s							
CONA			⇑*i*PP	PP		14 16 33.8	-0.5	
	comp=Z,39nm,1.6s							
UPC	**Upice**	**98.46 320**	*e*P	**P**		**14 12 35.4**	**+0.3**	
ARSA	**Arzberg**	**98.48 316**	⇑*i*	PP		14 16 35.4	-0.1	
	comp=Z,271nm,3.7s							
ARSA	**Arzberg**	**98.48 316**	⇓*i*Pdiff	**P**		**14 12 34.6**	**-0.6**	
	comp=Z,101nm,1.8s,mb6.0,SNR=11							
ARSA			⇑*i*PP	PP		14 16 35.4	-0.1	
	comp=Z,271nm,3.7s							
BOJS	**Bojanci**	**98.50 315**	*e*Pdiff	**P**		**14 12 34.9**	**-0.4**	
TREC	**Trest**	**98.69 319**	*e*P	**P**		**14 12 36.2**	**+0.1**	
TREC			*e*PP	PP		14 16 31.9	-5.2	
TREC			AMS	AMS		14 58 10.0		
	comp=Z,1µm,24.4s							
PERS	**Pernice**	**98.70 316**	*e*Pdiff	**P**		**14 12 35.9**	**-0.3**	
LJU	**Ljubljana**	**99.06 315**	*i* Pdiff	**P**		**14 12 37.8**	**0.0**	
LJU			*e*			14 12 50.8		
LJU			*e*PP	PP		14 16 39.9	0.0	
LJU			*e*SKSac	SKSac		14 23 12.3	-3.2	
OBKA	**Obir**	**99.08 316**	⇑*i*	PP		14 16 40.1	0.0	
	comp=Z,267nm,2.5s							
OBKA	**Obir**	**99.08 316**	⇓*i*Pdiff	**P**		**14 12 37.6**	**-0.3**	
	comp=Z,180nm,2.8s,mb6.1							
OBKA			⇑*i*PP	PP		14 16 40.1	0.0	
	comp=Z,267nm,2.5s							
PPT	**Papeete**	**99.23 110**	*e*PP	PP		14 16 43.3	+2.1	
	comp=Z,212nm,24.0s							
PPT	**Papeete**	**99.23 110**	*e*SP	SP		14 25 34.6	-1.0	
	comp=Z,608nm,25.2s							
PPT			*e*SS	SS		14 31 00.1	+2.0	
	comp=Z,993nm,28.8s							
PPT			*e*LR	LR		14 45 06.0		
	comp=Z,2µm,26.8s							
PPT	**Papeete**	**99.23 110**	LR	LR		14 57 26.0		
	comp=Z,1µm,18.4s,MS5.4,baz=268,slow=35							
PRU	**Pruhonice**	**99.36 319**	*e*PDIF	**P**		**14 12 39.2**	**+0.1**	
PRU			*e*PP	PP		14 16 39.2	-3.0	
PRU			*e*SDIF	S		14 24 15.8	+5.1	
PRU			*ex*	x		14 30 49.7		
PRU			AMS	AMS		15 07 50.0		
	comp=Z,1µm,18.3s							
MOA	**Molln**	**99.38 317**	⇑*i*	PP		14 16 40.6	-1.8	
	comp=Z,274nm,3.6s							
MOA	**Molln**	**99.38 317**	⇓*i*Pdiff	**P**		**14 12 38.6**	**-0.6**	
	comp=Z,36nm,1.8s,mb5.6							
MOA			⇑*i*PP	PP		14 16 40.6	-1.8	
	comp=Z,274nm,3.6s							
PVCC	**Panska Ves**	**99.38 320**	*e*PDIF	**P**		**14 12 39.4**	**+0.2**	
PVCC			*e*PP	PP		14 16 39.7	-2.7	
PVCC			*e*SS	SS		14 30 56.4	-3.9	
PVCC			AMS	AMS		15 08 20.0		
	comp=Z,1µm,18.4s							
PRA	**Prague**	**99.44 319**	PDIF	**P**		**14 12 38.0**	**-1.5**	
PRA			PP	PP		14 16 39.0	-3.8	
VOY	**Vojsko**	**99.50 315**	*e*	sP		14 12 57.1	+10	
VOY			*e*			14 16 11.2		
VOY			*e*PP	PP		14 16 43.4	+0.2	
VOJS	**Vojsko**	**99.50 315**	*e*Pdiff	**P**		**14 12 38.8**	**-1.0**	
CADS	**Cadrg**	**99.62 315**	*e*Pdiff	Pdif		14 12 39.5	-0.7	
CADS			*e*PP	PP		14 16 44.5	+0.3	
BRG	**Berggiesshubel**	**99.80 320**	*e*Pdiff	Pdif		14 12 40.5	-0.6	
BRG			*e*PP	PP		14 16 43.5	-2.1	
BRG	**Berggiesshubel**	**99.80 320**	*i* P	Pdif		14 12 40.7	-0.4	
	comp=Z,28nm,1.6s							
BRG			*e*			14 12 54.7		
	comp=Z,14nm,1.4s							
BRG			*e*			14 15 51.4		
	comp=Z,15nm,1.8s							
BRG			PP	PP		14 16 43.5	-2.0	
	comp=Z,125nm,2.5

MOX ePP PP 14 16 56.3 -0.4
GRA1 Grafenberg Arr 101.49 319 ePdif Pdif 14 12 48.3 -0.3
GRA1 ePP PP 14 16 57.2 -1.2
GRA1 LR LR
comp=Z,1μm,18.0s,MS5.5
GRF Grafenberg Arr 101.49 319 ePdiff Pdif 14 12 48.3 -0.3
GRF ePP PP 14 16 57.2 -1.2
GRF eL 15 10 40.7
comp=Z,1μm,18.0s
GRF Grafenberg Arr 101.49 319 eP Pdif 14 12 48.3 -0.3
GRF e 14 16 57.2
NB2 NORSAR Subarra101.62 330 P Pdif 14 12 47.5 -1.7
comp=Z,21nm,1.4s,baz=95,slow=4.8
NB2 NORSAR Subarra101.62 330 P Pdif 14 12 47.4 -1.8
comp=Z,20nm,1.2s,baz=95,slow=4.8
NB2 NORSAR Subarra101.62 330 P Pdif 14 12 47.4 -1.8
baz=95,slow=4.8
NB2 NORSAR Subarra101.62 330 P Pdif 14 12 47.5 -1.7
baz=95,slow=4.8
NOA NORSAR Array B101.62 330 P Pdif 14 12 47.6 -1.6
comp=Z,3.1nm,0.8s,baz=95,slow=4.5,SNR=4.8
NOA PP PP 14 16 58.4 -1.0
comp=Z,8.8nm,1.0s,baz=101,slow=6.9,SNR=7.2
NOA NORSAR Array B101.62 330 P Pdif 14 12 47.6 -1.6
NOA 14 16 58.4
NOA pmax pmax
comp=Z,3.0nm,0.9s
BSEG Bad Segeberg 102.13 323 ePdiff Pdif 14 12 50.8 -0.6
BSEG ePP PP 14 17 00.5 -2.7
KEST Kesra 102.24 304 P Pdif 14 12 52.9 +1.0
comp=Z,5.4nm,1.1s,baz=223,slow=3.5,SNR=6.9
KEST PP PP 14 17 08.6 +4.6
comp=Z,5.4nm,1.1s,baz=276,slow=5.8,SNR=4.6
NRDL Niedersach Rie 102.25 322 ePdiff Pdif 14 12 52.8 +0.8
NRDL ePP PP 14 17 02.1 -2.0
UBBA Unterbreizbach 102.30 320 ePdiff Pdif 14 12 51.6 -0.6
UBBA ePP PP 14 17 01.6 -2.8
DAVA Damuels 102.32 316⇑*i* PP 14 17 00.1 -4.5
comp=Z,182nm,2.4s
DAVA Damuels 102.32 316⇓*i*Pdiff Pdif 14 12 51.1 -1.2
comp=Z,238nm,3.2s
DAVA ⇑*i*PP PP 14 17 00.1 -4.5
comp=Z,182nm,2.4s
TNS Taunus Mts 103.29 319 ePdiff Pdif 14 12 56.2 -0.4
TNS ePP PP 14 17 08.5 -3.4
BFO Black Forest 103.38 317 ePdiff Pdif 14 12 55.5 -1.5
BFO ePP PP 14 17 09.7 -2.8
CMAH Djebel Manchou 103.84 305 P PKiKP 14 17 15.0 -1.8
CDF Champ du Feu 104.08 317 ePKIKP PKiKP 14 17 15.5 -1.8
LPG La Plagne 104.47 314 ePKIKP PKiKP 14 17 18.6 +0.6
comp=Z,92nm,1.3s
LPL La Plagne 104.48 314 ePKIKP PKiKP 14 17 19.0 +1.0
comp=Z,105nm,1.4s
CASM Ain Smara 104.58 305 P PKiKP 14 17 17.0 -1.2
MCK McKinley 104.89 27 P Pdif 14 13 04.1 +0.4
MCK pmax pmax
comp=Z,6.0nm,0.9s
MCK McKinley 104.89 27 eP Pdif 14 13 03.8 +0.1
comp=Z,6.0nm,0.9s
DFRA Djebel Bou Aff 105.08 305 P PKiKP 14 17 21.0 +1.9
GIVF Givet 105.62 319 ePKIKP PKiKP 14 17 18.5 -1.6
comp=Z,216nm,1.6s
BAIF Baives 106.02 319 ePKIKP PKiKP 14 17 20.1 -0.7
comp=Z,141nm,1.5s
LOR Lormes 106.42 316 ePKIKP PKiKP 14 17 20.0 -1.6
comp=Z,37nm,1.2s
SSF Saint Saulge 106.67 316 ePKIKP PKiKP 14 17 21.4 -0.6
comp=Z,41nm,1.2s
AVF Avril sur Loir 106.79 316 ePKIKP PKiKP 14 17 20.1 -2.2
comp=Z,92nm,1.4s
TORD Torodi Ar. Bea 107.37 281 PKiKP PKiKP 14 17 23.4 +0.1
comp=Z,10nm,1.1s,baz=62,slow=1.2,SNR=15
TORD PP PP 14 17 41.1 -1.0
comp=Z,6.6nm,1.1s,baz=78,slow=4.9,SNR=9.3
TORD PKKPbc PKKPbc 14 28 40.0 +1.3
comp=Z,3.0nm,0.9s,baz=305,slow=3.6,SNR=8.4
TORD Torodi Ar. Bea 107.37 281 PKPdf PKiKP 14 17 23.4 +0.1
TORD PP PP 14 17 41.1 -1.0
TORD PKKPbc PKKPbc 14 28 40.0 +1.3
EMHD Djebel Mahouad 107.44 305 P PKiKP 14 17 15.0 -8.5
DAG Danmarks Havn 107.48 349⇑*i*P Pdif 14 13 14.0 -1.2
comp=Z,6.7nm,0.9s
DAG Danmarks Havn 107.48 349⇑*e*P Pdif 14 13 14.0 -1.2
DAG pmax pmax
comp=Z,7.0nm,0.9s
DAG Danmarks Havn 107.48 349⇑eP Pdif 14 13 14.0 -1.2
comp=Z,6.7nm,0.9s
EBNR Beni Rached 108.58 305 P PKiKP 14 17 20.0 -5.6
ETRT Tiaret 108.79 304 P PKiKP 14 17 32.0 +6.0
EANR 'Ain N'Sour 108.94 305 P PKiKP 14 17 26.5 +0.2
INK Inuvik 109.70 20 PKiKP PKiKP 14 17 26.1 -1.6
baz=301,slow=3.3
INK PKKPbc PKKPbc 14 28 30.2 -1.0
comp=Z,3.6nm,0.9s,baz=208,slow=5.2,SNR=4.8
TAOE Nuku Hiva Isla 110.22 103 eSP SP 14 27 28.8 -1.4
comp=Z,910nm,25.3s
TAOE eSS SS 14 33 29.8 +1.1
comp=Z,842nm,24.9s
TAOE eLR LR 14 50 15.2
comp=Z,3μm,25.4s
RKT Rikitea 110.71 119 ePP PP 14 18 04.2 -2.2
comp=Z,173nm,25.2s
RKT Rikitea 110.71 119 eSP SP 14 27 32.4 -2.3
comp=Z,904nm,29.2s
RKT eSS SS 14 33 36.9 +1.6
comp=Z,687nm,26.5s
RKT eLR LR 14 50 24.9
comp=Z,2μm,27.8s
ESDC Sonseca Array 112.71 309 PKiKP PKiKP 14 17 33.7 +0.3
comp=Z,0.9nm,0.4s,baz=51,slow=2.0,SNR=9.6
ESDC PP PP 14 18 21.9 +1.2
comp=Z,4.5nm,0.9s,baz=80,slow=7.7,SNR=9.8
ESDC PKKPbc PKKPbc 14 28 21.6 +0.2
comp=Z,0.2nm,0.3s,baz=287,slow=4.1,SNR=4.8
ESDC PKKPab PKKPab 14 28 31.1 +1.4
comp=Z,3.1nm,0.8s,baz=272,slow=4.0,SNR=8.7
DBIC Dimbokro 112.98 273 PKiKP PKiKP 14 17 34.1 +0.2
comp=Z,8.6nm,1.0s,baz=243,slow=3.7,SNR=5.7
DBIC Dimbokro 112.98 273 *i* PKIKP PKiKP 14 17 34.1 +0.2
DBIC pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 114.15 349 ePKPdf PKiKP 14 17 36.2 +0.1
DLBC Dease Lake 115.14 29 PKP PKiKP 14 17 38.5 +0.4
comp=Z,22nm,1.1s,baz=320,slow=2.5,SNR=19
BBB Bella Bella 118.59 35 PKP PKPdf 14 17 45.3 +0.6
comp=Z,24nm,1.0s,baz=11,slow=2.9,SNR=13
YKA Yellowknife Ar 119.45 21 PKP PKPdf 14 17 45.3 -1.1
comp=Z,22nm,0.8s,baz=302,slow=1.9,SNR=51
YKA PKKPbc PKKPbc 14 27 57.2 -0.6
comp=Z,2.3nm,0.6s,baz=116,slow=4.1,SNR=7.6
YKA Yellowknife Ar 119.45 21 PKP PKPdf 14 17 45.3 -1.1
YKA PKKPbc PKKPbc 14 27 57.2 -0.6
OSD Olympics--Snow 122.92 39 P PKPdf 14 17 55.1 +2.1
MCW Mount Constitu 123.09 37 PKiKP PKPdf 14 17 54.9 +1.6
VDB Vedder Mountai 123.38 37 P PKPdf 14 17 54.4 +0.5
MBW Mount Baker 123.60 37 P PKPdf 14 17 55.4 +1.1
SHW Mount Saint He 124.51 40 PKiKP PKPdf 14 17 58.2 +2.1
ETW Entiat 125.07 38 P PKPdf 14 17 57.8 +0.7
KRMB Red Mountain 125.14 46 ePKPdf PKPdf 14 17 58.4 +1.1
WTV Waterville 125.25 37 P PKPdf 14 17 57.8 +0.3
KHMM Horse Mountain 125.49 46 ePKPdf PKPdf 14 18 00.2 +2.2
EDM Edmonton 125.85 29 PKiKP PKPdf 14 17 57.9 -0.7
EDM Edmonton 125.85 29 ePKPdf PKPdf 14 17 57.5 -1.1
YBH Yreka Blue Hor 125.91 45 PKP PKPdf 14 17 59.6 +0.8
comp=Z,21nm,1.2s,baz=105,slow=3.1,SNR=12
YBH Yreka Blue Hor 125.91 45 PKiKP PKPdf 14 17 59.6 +0.9
YBH pmax pmax
comp=Z,21nm,1.2s
KIPM Iron Peak 126.02 48 ePKPdf PKPdf 14 17 59.4 +0.4
BUOR Burton Butte 126.04 44 P PKPdf 14 18 00.5 +1.5
RSW Rattlesnake Hi 126.07 39 P PKPdf 14 18 00.7 +1.7
HAWA Hanford 126.11 39 ePKPdf PKPdf 14 18 00.6 +1.5
OD2 Odessa Site #2 126.14 37 P PKPdf 14 18 00.1 +0.9
H2OWA Water 126.18 39 P PKPdf 14 18 00.8 +1.6
HOG Hogback Mounta 126.42 44 P PKPdf 14 18 01.3 +1.6
WDC Whiskeytown Da 126.44 46 ePKIKP PKPdf 14 18 00.4 +0.6
NEW Newport 126.64 36 PKP PKPdf 14 18 00.9 +0.8
comp=Z,18nm,0.9s,baz=257,slow=0.9,SNR=22
NEW Newport 126.64 36 PKIKP PKPdf 14 18 00.9 +0.8
NEW pmax pmax
comp=Z,18nm,0.9s
LTIM Timbered Crate 126.97 45 P PKPdf 14 18 02.5 +1.7
LNOR Lincton Mounta 127.12 39 PKiKP PKPdf 14 18 01.9 +0.8
MOD Modoc 127.52 44 ePKPdf PKPdf 14 18 03.1 +1.3
OHCM Honcut 127.63 48 ePKPdf PKPdf 14 18 03.1 +1.1
WALA Waterton Lakes 128.01 33 ePKPdf PKPdf 14 18 03.0 +0.3
WVOR Wild Horse Val 128.43 43 ePKIKP PKPdf 14 18 04.5 +1.0
FCC Fort Churchill 128.61 14 ePKIKP PKPdf 14 18 03.8 -0.1
CMB Columbia Colle 128.89 49 ePKIKP PKPdf 14 18 05.9 +1.5
LRV Little Rabbit 128.95 51 ePKPdf PKPdf 14 18 04.5 -0.1
PAHR Pah Rah Range 129.01 46 ePKPdf PKPdf 14 18 06.4 +1.8
MSO Missoula 129.23 36 ePKPdf PKPdf 14 18 05.2 +0.2
PLCA Paso Flores 129.55 182 PKP PKPdf 14 18 06.7 +1.0
comp=Z,15nm,0.9s,baz=198,slow=2.4,SNR=27
PLCA Paso Flores 129.55 182 PKIKP PKPdf 14 18 06.7 +1.0
PLCA pmax pmax
comp=Z,15nm,0.9s
CHMT Chamberlain Mo 129.58 35 ePKPdf PKPdf 14 18 05.9 +0.2
FFC Flin Flon 129.61 22 ePKIKP PKPdf 14 18 05.4 -0.4
PTRM Twissleman Ran 129.82 52 ePKPdf PKPdf 14 18 08.3 +2.2
BMN Battle Mountai 130.24 45 ePKIKP PKPdf 14 18 07.5 +0.5
NVAR Mina Array Bea 130.28 47 PKhKP 14 17 57.0
comp=Z,0.8nm,0.7s,baz=262,slow=4.1,SNR=5.6
NVAR PKP PKPdf 14 18 09.3 +2.2
comp=Z,10.0nm,0.8s,baz=209,slow=0.5,SNR=47
NVAR Mina Array Bea 130.28 47 PKP PKPdf 14 18 09.3 +2.2
MTUM Tungsten Hills 130.49 49 ePKPdf PKPdf 14 18 08.4 +0.9
HLID Hailey 130.65 40 ePKPdf PKPdf 14 18 07.9 +0.1
EGMT Eagleton 130.85 32 ePKPdf PKPdf 14 18 08.7 +0.6
MCMT McKenzie Canyo 130.96 38 ePKPdf PKPdf 14 18 09.2 +0.9
TPH Tonopah 131.20 47 ePKIKP PKPdf 14 18 10.0 +1.2
BOZ Bozeman (W) 131.22 36 ePKIKP PKPdf 14 18 09.8 +0.9
TRQA Tornquist 131.24 191 eP PKPdf 14 18 08.9 0.0
ELK Elko 131.46 43 ePKIKP PKPdf 14 18 10.8 +1.5
DAC Darwin (Calif) 131.60 50 ePKIKP PKPdf 14 18 11.3 +1.7
QLMT Earthquake Lak 131.80 37 ePKPdf PKPdf 14 18 10.5 +0.6
YMR Madison River 132.16 37 ePKPdf PKPdf 14 18 13.1 +2.5
GCMT Greycliff 132.26 35 ePKPdf PKPdf 14 18 12.2 +1.4
YNR Norris Junctio 132.31 36 ePKPdf PKPdf 14 18 13.7 +2.8
YFT Old Faithful 132.36 37 ePKPdf PKPdf 14 18 14.0 +3.0
LKWY Lake 132.56 36 ePKIKP PKPdf 14 18 12.6 +1.2
HVU Hansel Valley 132.59 41 ePKIKP PKPdf 14 18 13.1 +1.7
IMW Indian Meadow 132.61 38 ePKPdf PKPdf 14 18 13.3 +1.8
RRI2 Red Ridge 132.69 38 ePKPdf PKPdf 14 18 12.9 +1.3
TPAW Teton Pass 132.83 38 ePKPdf PKPdf 14 18 13.5 +1.6
BGU Big Grassy Mou 132.85 42 ePKPdf PKPdf 14 18 13.4 +1.5
RLMT Red Lodge 132.88 35 ePKPdf PKPdf 14 18 12.7 +0.7
SNOW Snow King Moun 132.97 38 ePKPdf PKPdf 14 18 14.2 +2.0
LOHW Long Hollow 132.97 38 ePKPdf PKPdf 14 18 13.2 +1.0
SPUT South Promonto 133.04 41 ePKPdf PKPdf 14 18 12.4 +0.1
AHID Auburn Hatcher 133.14 39 ePKPdf PKPdf 14 18 15.3 +2.8
DGMT Dagmar 133.34 29 ePKPdf PKPdf 14 18 13.2 +0.4
DUG Dugway 133.35 43 ePKIKP PKPdf 14 18 14.5 +1.6
PFO Pinyon Flat Ob 133.42 53 ePKIKP PKPdf 14 18 14.6 +1.6
HWUT Hardware Ranch 133.46 41 ePKPdf PKPdf 14 18 14.5 +1.4
LAO LASA Array 133.56 32 ePKPdf PKPdf 14 18 12.2 -1.1
NOQ North Oquirrh 133.59 42 ePKPdf PKPdf 14 18 15.3 +2.0
NLU North Lily Min 133.96 43 ePKPdf PKPdf 14 18 15.4 +1.4
ARUT Antelope Range 134.03 46 ePKIKP PKPdf 14 18 14.3 +0.1
PDAR Pinedale Array 134.08 38 PKP PKPdf 14 18 15.2 +1.0
comp=Z,4.3nm,0.6s,baz=233,slow=1.5,SNR=17
CCUT Cedar City 134.19 46 ePKPdf PKPdf 14 18 15.7 +1.2
MPU Maple Canyon 134.23 42 ePKPdf PKPdf 14 18 16.4 +1.9
SCHQ Schefferville 134.99 355 PKP PKPdf 14 18 15.7 -0.2
comp=Z,29nm,0.9s,baz=344,slow=2.5,SNR=20
SCHQ PP PP 14 20 41.0 -10
comp=Z,5.9nm,0.8s,baz=14,slow=3.1,SNR=3.8
ULM Lac du Bonnet 135.43 21 PKP PKPdf 14 18 16.6 -0.1
comp=Z,26nm,1.0s,baz=324,slow=3.4,SNR=14
RWWY Rawlins 136.13 38 ePKPdf PKPdf 14 18 19.1 +1.1
PHWY Pilot Hill 137.41 37 ePKPdf PKPdf 14 18 20.2 -0.3
SMCO Snowmass 137.72 41 ePKPdf PKPdf 14 18 23.1 +2.1
ISCO Idaho Springs 138.22 39 PKIKP PKPdf 14 18 19.7 -2.2
ISCO Idaho Springs 138.22 39 ePKPdf PKPdf 14 18 18.4 -3.5
TUC Tucson 138.32 52 ePKIKP PKPdf 14 18 19.3 +2.2
SDCO Great Sand Dun 139.48 42 ePKPdf PKPdf 14 18 26.0 +1.7
ANMO Albuquerque 140.33 46 PKhKP 14 18 20.2
comp=Z,6.1nm,0.8s,baz=301,slow=3.9,SNR=8.7
ANMO PKP PKPdf 14 18 27.2 +1.4
comp=Z,19nm,0.9s,baz=327,slow=3.6,SNR=17
ANMO PP PP 14 21 18.6 -5.3
comp=Z,4.1nm,0.9s,baz=295,slow=8.4,SNR=3.3
ANMO Albuquerque 140.33 46 PKP PKPdf 14 18 20.2 -5.6
ANMO PKP PKPdf 14 18 27.2 +1.4
ANMO PP PP 14 21 18.6 -5.3
ECSD EROS,Sioux Fal 140.39 28 ePKPdf PKPdf 14 18 18.8 -7.1
CPUP Villa Florida 141.02 202 PKhKP 14 18 21.0
comp=Z,1.9nm,0.5s,baz=133,slow=2.3,SNR=10.0
CPUP PKP PKPdf 14 18 28.2 +1.2
comp=Z,2.1nm,0.6s,baz=112,slow=0.9,SNR=2.9
CPUP Villa Florida 141.02 202 PKHKP 14 18 21.0
CPUP 14 18 28.3
CPUP pmax pmax
comp=Z,2.0nm,0.5s
MNTX Cornudas Mount 142.72 50 ePKPdf PKPdf 14 18 27.6 -2.5
SCIA State Center 143.36 26 ePKPdf PKPdf 14 18 28.7 -2.5
JFWS Jewell Farm 143.71 22 ePKIKP PKPdf 14 18 28.7 -3.1
KSU1 Kansas State U 143.89 33 ePKPdf PKPdf 14 18 30.6 -1.5
BAO Brasilia Array 144.80 224 PKPdf PKPdf 14 18 33.0 -0.7
BDFB Brasilia 144.81 224 PKP PKPdf 14 18 34.1 +0.4
comp=Z,113nm,0.9s,baz=126,slow=2.4,SNR=90
BDFB Brasilia 144.81 224 PKIKP PKPdf 14 18 34.1 +0.4
BDFB pmax pmax
comp=Z,113nm,1.0s
SADO Sadowa 144.84 8 PKP PKPdf 14 18 32.6 -1.2
comp=Z,135nm,0.9s,baz=336,slow=4.9,SNR=42
MSNY Massena 145.01 3 ePKPab PKPab 14 18 33.4 0.0
LONY Lake Ozonia 145.40 2 ePKPbc PKPbc 14 18 34.6 -0.1
WMOK Wichita Mounta 145.62 40 ePKP2 PKPab 14 18 35.9 +0.2
LBNH Lisbon 145.82 359 ePKP2 PKPab 14 18 36.1 -0.3
NCB Newcomb 146.06 2 ePKPbc PKPbc 14 18 36.1 -0.6
HNH Hanover 146.36 360 ePKPbc PKPbc 14 18 37.5 -0.1
FFD Franklin Falls 146.58 359 ePKPdf PKPdf 14 18 37.6 +0.9
FFD ePKPbc PKPbc 14 18 38.4 +0.2
CJM Chamela 147.26 69 *i* P PKPbc 14 18 42.0 +1.8
SLM Saint Louis 147.34 26 ePKP2 PKPab 14 18 40.6 -1.7
JCT Junction City 147.45 47 ePKIKP PKPdf 14 18 39.1 +0.9
JCT *e* 14 18 42.5
JCT Junction City 147.45 47 ePKPdf PKPdf 14 18 39.1 +0.8
JCT ePKPbc PKPbc 14 18 42.5 +1.7
JCT ePKPab PKPab 14 18 44.1 +1.4
HRV Harvard--Oak R 147.54 359 PKPdf PKPdf 14 18 38.9 +0.5
HRV PKPdf PKPdf 14 18 41.3 +2.9
HRV Harvard--Oak R 147.54 359 ePKPdf PKPdf 14 18 39.1 +0.7
HRV ePKPbc PKPbc 14 18 41.0 0.0
ALLY Alegheny Colle 147.72 11 ePKPdf PKPdf 14 18 39.5 +0.9
ALLY ePKPbc PKPbc 14 18 41.6 +0.1
ALLY ePKPab PKPab 14 18 44.3 +0.5
BINY Binghamton 147.72 5 ePKPdf PKPdf 14 18 38.9 +0.2
BINY ePKPbc PKPbc 14 18 41.4 -0.1
BLO Bloomington 148.34 21 ePKIKP PKPdf 14 18 40.2 +0.5
BLO *e* 14 18 43.8
ACSO Alum Creek Sta 148.45 15 ePKPdf PKPdf 14 18 40.1 +0.2
ACSO ePKPbc PKPbc 14 18 43.5 +0.2
ZAIG Zacatecas 148.62 62 *i* P PKPdf 14 18 42.8 +2.7
SFJM Santa Fe 148.87 67 *i* P PKPdf 14 18 42.0 +1.5
MIAR Mount Ida 148.88 35 ePKIKP PKPdf 14 18 41.7 +1.1
MIAR *e* 14 18 45.8
MIAR Mount Ida 148.88 35 ePKPdf PKPdf 14 18 41.7 +1.2
MIAR ePKPbc PKPbc 14 18 45.8 +1.3
MIAR ePKPab PKPab 14 18 50.4 +2.0
USIN University of 148.97 23 ePKPdf PKPdf 14 18 40.3 -0.4
USIN ePKPbc PKPbc 14 18 45.4 +0.7
USIN ePKPab PKPab 14 18 50.0 +1.2
PAL Palisades 149.03 2 ePKPdf PKPdf 14 18 40.2 -0.6
PAL ePKPbc PKPbc 14 18 45.0 +0.1
PAL ePKPab PKPab 14 18 48.9 -0.1
SSPA Standing Stone 149.07 8 ePKPdf PKPdf 14 18 40.3 -0.5
SSPA ePKPbc PKPbc 14 18 45.4 +0.4
PARMO Parma 149.19 28 ePKPdf PKPdf 14 18 42.0 +0.9
PARMO ePKPbc PKPbc 14 18 46.3 +1.0
PARMO ePKPab PKPab 14 18 51.3 +1.6
CPNY Central Park 149.25 2 ePKPdf PKPdf 14 18 41.8 +0.7
CPNY ePKPbc PKPbc 14 18 46.2 +0.7
WCI Wyandotte Cave 149.26 21 PKPdf PKPdf 14 18 41.6 +0.4
WCI Wyandotte Cave 149.26 21 ePKPdf PKPdf 14 18 41.0 -0.2
WCI ePKPbc PKPbc 14 18 46.1 +0.7
WCI ePKPab PKPab 14 18 50.8 +0.8
UALR University of 149.39 33 ePKPdf PKPdf 14 18 42.4 +1.0
UALR ePKPbc PKPbc 14 18 46.2 +0.4
UALR ePKPab PKPab 14 18 51.8 +1.3
HBAR Harrisburg 149.65 30 ePKPdf PKPdf 14 18 43.1 +1.3
HBAR ePKPbc PKPbc 14 18 47.5 +1.1
HBAR ePKPab PKPab 14 18 53.0 +1.4
MCWV Mont Chateau 149.70 11 ePKPdf PKPdf 14 18 42.6 +0.7
MCWV ePKPbc PKPbc 14 18 47.0 +0.5
MCWV ePKPab PKPab 14 18 52.3 +0.5
GLAT Glass 149.72 27 ePKPdf PKPdf 14 18 43.0 +1.1
GLAT ePKPbc PKPbc 14 18 47.7 +1.1
GLAT ePKPab PKPab 14 18 53.5 +1.6
UTMT University of 149.85 27 ePKPdf PKPdf 14 18 43.4 +1.3
UTMT ePKPbc PKPbc 14 18 47.6 +0.7
UTMT ePKPab PKPab 14 18 52.6 +0.2
MVL Millersville 149.87 6 ePKPdf PKPdf 14 18 42.9 +0.7
MVL ePKPbc PKPbc 14 18 47.7 +0.8
MVL ePKPab PKPab 14 18 52.7 +0.2
HALT Halls 149.99 28 ePKPdf PKPdf 14 18 43.2 +0.9
HALT ePKPbc PKPbc 14 18 48.2 +0.9
HALT ePKPab PKPab 14 18 54.4 +1.4
NATX Nacogdoches 150.18 40 ePKPdf PKPdf 14 18 43.8 +1.2
NATX ePKPbc PKPbc 14 18 49.8 +2.1
NATX ePKPab PKPab 14 18 54.5 +0.8
MET Memphis--Englin 150.35 30 ePKPbc PKPbc 14 18 49.0 +0.8
KVTX Kingsville 150.43 50 ePKPdf PKPdf 14 18 43.0 -0.1
KVTX ePKPbc PKPbc 14 18 51.7 +3.4
WVT Waverly 150.48 26 ePKPdf PKPdf 14 18 43.0 -0.1
WVT ePKPbc PKPbc 14 18 48.9 +0.4
WVT ePKPab PKPab 14 18 55.3 +0.3
HKT Hockley 150.56 44 PKPdf PKPdf 14 18 44.6 +1.4
HKT Hockley 150.56 44 ePKPdf PKPdf 14 18 44.9 +1.6
HKT ePKPbc PKPbc 14 18 50.9 +2.3
MRX Morelia 150.75 67 eP PKPbc 14 18 50.0 +0.9
OXF Oxford 151.10 30 ePKPdf PKPdf 14 18 44.6 +0.5
OXF ePKPbc PKPbc 14 18 50.2 +0.3
OXF ePKPab PKPab 14 18 58.9 +1.4
PLAL Pickwick Lake 151.34 27 ePKPdf PKPdf 14 18 44.0 -0.4
PLAL ePKPbc PKPbc 14 18 50.0 -0.5
PLAL ePKPab PKPab 14 18 59.0 +0.5
CBN Corbin 151.53 8 ePKPdf PKPdf 14 18 45.9 +1.2
CBN ePKPbc PKPbc 14 18 51.9 +1.0
CBN ePKPab PKPab 14 18 59.8 +0.5
BLA Blacksburg 151.94 13 ePKPdf PKPdf 14 18 46.0 +0.7
BLA ePKPbc PKPbc 14 18 52.2 +0.4
BLA ePKPab PKPab 14 19 01.3 +0.2
TKL Tuckaleechee C 152.44 20 PKP PKPdf 14 18 46.8 +0.7
comp=Z,50nm,1.1s,baz=160,slow=1.8,SNR=23
TKL PKPbc PKPbc 14 18 53.6 +0.6
comp=Z,154nm,0.8s,baz=134,slow=0.5,SNR=69
TKL PKPab PKPab 14 19 03.6 +0.4
comp=Z,118nm,1.1s,baz=242,slow=1.8,SNR=5.9
TKL Tuckaleechee C 152.44 20 PKIKP PKPdf 14 18 46.8 +0.7
TKL 14 19 03.6
TKL pmax pmax
comp=Z,50nm,1.1s
ACX Acapulco 152.57 73 *i* P PKPbc 14 18 55.0 +1.8
LRAL Lakeview Retre 153.45 28 ePKPdf PKPdf 14 18 48.4 +0.9
LRAL ePKPbc PKPbc 14 18 55.9 +0.7
LRAL ePKPab PKPab 14 19 08.6 +1.1
LPAZ La Paz 153.57 190 PKP PKPdf 14 18 49.6 +1.9
comp=Z,11nm,1.1s,baz=76,slow=1.8,SNR=33
LPAZ PKPbc PKPbc 14 18 57.8 +2.4
comp=Z,17nm,0.8s,baz=85,slow=4.8,SNR=28
LPAZ PKPab PKPab 14 19 10.0 +2.0
comp=Z,30nm,0.8s,baz=160,slow=3.0,SNR=13
LPAZ La Paz 153.57 190 PKIKP PKPdf 14 18 49.6 +1.9
LPAZ 14 19 10.0
LPAZ pmax pmax
comp=Z,11nm,1.1s
ARE Arequipa 153.75 182 eP PKPbc 14 18 58.0 +2.2
JSC Jenkinsville 154.50 17 ePKPdf PKPdf 14 18 50.3 +1.2
JSC ePKPbc PKPbc 14 18 58.3 +0.9
JSC ePKPab PKPab 14 19 12.5 +0.6
OXX Oaxaca 155.51 71 eP PKPdf 14 18 53.0 +2.6
BBSR BB Station 156.51 343 ePKPdf PKPdf 14 18 53.0 +1.3
CMIG Matias Romero 157.21 69 PKP PKPdf 14 18 53.9 +1.3
comp=Z,30nm,1.2s,baz=199,slow=0.8,SNR=15
CMIG PKPbc PKPdf 14 19 07.1 +14
comp=Z,30nm,1.3s,baz=180,slow=2.2,SNR=6.0
CMIG PKPab PKPab 14 19 24.5 +1.0
comp=Z,8.7nm,0.8s,baz=178,slow=0.9,SNR=6.2
CMIG Matias Romero 157.21 69 PKP PKPdf 14 18 53.9 +1.3
CMIG PKPbc PKPdf 14 19 07.1 +14
CMIG PKPab PKPab 14 19 24.5 +1.0
DWPF Disney 160.10 23 ePKPdf PKPdf 14 18 57.1 +1.0
MGV Manicaragua 165.97 29 eP PKPdf 14 19 01.6 -0.1
CCCC Cccc 167.75 23 eP PKPdf 14 19 03.4 +0.4
MTP Monte Pirata 169.39 321 ePKPdf PKPdf 14 19 04.7 +0.5
RCP Rio Carpintero 169.56 16 eP PKPdf 14 19 04.2 0.0
SJG San Juan 169.75 323 PKIKP PKPdf 14 19 07.7 +1.2
ROSC El Rosal 174.67 161 PKP PKPdf 14 19 07.7 +1.2
comp=Z,3.8nm,0.3s,baz=105,slow=21,SNR=19

*ISCJB **19** 14:14:17.5±0.6,3628N±004×708E±0.1,h156km±12km, Error ellipse: s-maj=14.5km s-min=5.9km az=154.6*
*NNC **19** 14:14:24.7±3.3,3682N×6975E,h66km±111km,mb3.6, mpv4.0,Error ellipse: s-maj=67.2km s-min=25.8km az=89.0*

ISC 19 14:14:18.5±0.6,3628N±004×708E±01,h153km±11km,n25, σ0ᵴ76/32,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.62**	**159**	⇑P	**Pn**	**14 15 01.8**	**+0.6**
CEP				S	Sn	**14 15 34.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.31**	**141**	P	**Pn**	**14 15 11.2**	**+1.3**
THW	**Thamme Wali**	**3.56**	**167**	⇓P	**Pn**	**14 15 13.5**	**+0.4**
SBDP	**Sheikh Budin**	**3.97**	**180**	P	**Pn**	**14 15 18.1**	**-0.3**
DRP	**Derazinda**	**4.55**	**186**	P	**Pn**	**14 15 26.1**	**+0.1**
SARP	**Sargodha**	**4.62**	**160**	P	**Pn**	**14 15 26.5**	**-0.4**
DLH	**Dalhousie**	**5.68**	**130**	eP	**Pn**	**14 15 39.0**	**-1.9**
DLH				eS	**Sn**	**14 16 42.0**	**-3.3**
AML	**Almayashu** SNR=38	**6.26**	**20**	P	**Pn**	**14 15 48.5**	**-0.2**
UCH	**Uchtor** SNR=35	**6.61**	**25**	P	**Pn**	**14 15 53.3**	**0.0**
EKS2	**Erkin-Say** SNR=23	**6.78**	**19**	P	**Pn**	**14 15 55.3**	**-0.3**
KK31	**Karatay Array** 4.8nm,0.3s,baz=174,slow=13,SNR=280	**6.82**	**358**	⇑P	**Pn**	**14 15 55.1**	**-1.0**
KK31				⇑S	**Sn**	**14 17 06.5**	**-6.1**
	6.9nm,0.3s,baz=196,slow=22,SNR=16						
AAK	**Ala-Archa** SNR=13	**6.96**	**23**	P	**Pn**	**14 15 58.8**	**+0.8**
ULHL	**Ulahol** SNR=6.9	**7.31**	**34**	P	**Pn**	**14 16 02.6**	**0.0**
CHMS	**Chumysh** SNR=7.9	**7.38**	**23**	P	**Pn**	**14 16 05.0**	**+1.5**
USP	**Ospenovka** SNR=7.3	**7.54**	**21**	P	**Pn**	**14 16 05.3**	**-0.4**
TKM2	**Tokmak 2** 14nm,2.0s	**7.60**	**28**	⇓P	**Pn**	**14 16 06.3**	**-0.2**
KOLN	**Koldanda**	**13.78**	**124**	eP	**Pn**	**14 17 26.9**	**-0.5**
KOLN				eS	**Sn**	**14 19 52.2**	**-7.8**
GKN	**Gorkha** 49nm,0.6s	**14.33**	**121**	eP	**Pn**	**14 17 33.7**	**-0.6**
GKN				eS	**Sn**	**14 20 03.9**	**-9.4**
DMN	**Daman**	**14.90**	**121**	eP	**Pn**	**14 17 42.0**	**+0.5**
KKN	**Kakani** 20nm,0.5s	**14.91**	**120**	eP	**Pn**	**14 17 41.3**	**-0.3**
PKI	**Pulchoki** 7.8nm,0.3s	**15.14**	**121**	eP	**Pn**	**14 17 44.8**	**+0.5**
AB31	**Akbulak array** 1.8nm,0.3s,baz=145,slow=11,SNR=92	**15.20**	**332**	⇑P	**Pn**	**14 17 44.1**	**-0.9**
AB31				⇓S	**S**	**14 20 20.8**	**-14**
	4.6nm,0.7s,baz=154,slow=20,SNR=11						
GUN	**Gumba**	**15.26**	**119**	eP	**Pn**	**14 17 45.9**	**0.0**
JIRN	**Jiri** 16nm,0.3s	**15.63**	**119**	eP	**Pn**	**14 17 51.4**	**+1.0**
AKTO	**Aktyubinsk** 0.1nm,0.7s	**16.89**	**331**	⇑P	**Pn**	**14 18 06.3**	**+0.6**
AKTO				⇓S	**S**	**14 21 01.1**	**-12**
	0.8nm,1.6s						

MAN 19 14:27:12.4,856N×12300E,h1km,mb1.6,ML3.5,MS4.1, 2D,Mindanao

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

MAN 19 14:28:11.1, 865N×12319E, h33km, mb1.6, ML3.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.17**	**113**	↓*iP*	Pb	14 28 18.8	+1.4
DCPH				*eS*	Sb	14 28 23.7	+2.0
PAGZ	**Pagadian**	**0.82**	**167**	*eP*	Pn	14 28 27.3	+1.0
PAGZ				*eS*	Sn	14 28 38.5	+1.2
IPIL	**Ipil**	**1.05**	**216**	↑*eP*	Pn	14 28 29.4	-0.1
IPIL				*eS*	Sn	14 28 41.0	-2.1
IPIL	**Ipil**	**1.05**	**216**	*eP*	Pn	14 28 29.3	-0.2
IPIL				*eS*	Sn	14 28 41.0	-2.1

*JMA **19** 15:03:05.7±0.4, 3602N×12972E, h0km, M3.2*
*ISCJB **19** 15:03:10.8±0.8, 3585N±004×12974E±009, h10km, Error ellipse: s-maj=10.6km s-min=5.3km az=138.0*
*KMA **19** 15:03:10.8±0.4, 3592N×12956E, ML2.6*
ISC 19 15:03:11.1±0.8, 3584N±004×12972E±009, h10km, n13, σ1°36/15, South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSPHA	**Pohang**	**0.45**	**321**	P	**Pg**	**15 03 20.0**	**+0.2**
KSDAG	**Daegu**	**0.67**	**264**	P	**Pg**	**15 03 24.1**	**0.0**
KSBUS	**Busan**	**0.77**	**220**	P	**Pg**	**15 03 26.0**	**+0.1**
KSULJ	**Uljin**	**0.89**	**344**	P	**Pg**	**15 03 27.6**	**-0.7**
KSAND	**Andong**	**1.09**	**312**	P	**Pb**	**15 03 31.3**	**-0.8**
JTU	**Tsushima**	**1.34**	**191**	P	**Pn**	**15 03 34.3**	**-1.5**
JTU				S	**Sb**	**15 03 53.2**	**-0.3**
KSJIN	**Jinju**	**1.54**	**244**	P	**Pn**	**15 03 37.7**	**-0.8**
KSCHJ	**Chungju**	**1.74**	**307**	P	**Pn**	**15 03 38.6**	**-2.8**
JTY	**Toyota**	**1.93**	**145**	P	**Pn**	**15 03 42.4**	**-1.5**
JTY				S	**Sn**	**15 04 09.9**	**+1.8**
KSDGY	**Daegwallycong**	**2.02**	**336**	P	**Pn**	**15 03 47.2**	**+1.9**
JII	**Iki**	**2.04**	**180**	P	**Pn**	**15 03 45.4**	**-0.1**
KSKUS	**Gunsan**	**2.35**	**275**	P	**Pn**	**15 03 52.1**	**+2.4**
KSKOH	**Goheung**	**2.35**	**239**	P	**Pn**	**15 03 52.5**	**+2.8**

IDC 19 15:06:34.5±2.1, 033N×12647E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/16, mbtmp3.2/3, Error ellipse: s-maj=169.2km s-min=27.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**159**	P	P	15 11 25.3	-0.3
	0.3nm,0.5s,baz=338,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**24.92**	**164**	P	P	15 11 60.0	+0.8
	0.2nm,0.5s,baz=343,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**60.21**	**327**	P	P	15 16 44.4	+0.1
	0.4nm,0.5s,baz=136,slow=7.9,SNR=3.8						

*ISCJB **19** 15:20:53.7±0.7, 3146S±005×6682W±007, h126km±14km, Error ellipse: s-maj=10.8km s-min=8.3km az=55.7*
*IDC **19** 15:20:54.1±1.6, 3153S×6674W, h118km±20km, mb1 3.4/4, mb1mx3.2/18, mbtmp3.6/4, Error ellipse: s-maj=35.2km s-min=24.1km az=136.0*
*NEIC **19** 15:20:54.7±0.6, 3152S×6674W, h120km±12km, mb3.9/2, Error ellipse: s-maj=10.4km s-min=8.6km az=110.0*
*GUC **19** 15:20:54.1±0.7, 3138S×6695W, h150km, ML4.3*
ISC 19 15:20:54.8±0.7, 3145S±005×6679W±007, h118km±15km, n26, σ0°82/36, 3C-4D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.24**	**263**	P	**Pn**	**15 21 19.4**	**+0.3**
	7.9nm,0.3s,baz=84,slow=12,SNR=725						
CFAA				S	**Sn**	**15 21 37.6**	**0.0**
	21nm,0.3s,baz=196,slow=21,SNR=142						
MDZ	**Mendoza**	**2.25**	**230**	*eP*	**Pn**	**15 21 36.0**	**+4.7**
MDZ				*eS*	**Sn**	**15 22 04.0**	**+4.7**
JACH	**Jahuel**	**3.45**	**248**	*eP*	**Pn**	**15 21 47.3**	**+0.4**
FCH	**Farellones**	**3.50**	**237**	*eP*	**Pn**	**15 21 48.1**	**+0.5**
FCH				*i* S	**Sn**	**15 22 29.8**	**+1.4**
FCH				AML	AML	15 22 34.9	
	comp=N,104nm,0.3s						
PTCH	**Petorca**	**3.61**	**256**	*i* S	**Sn**	**15 22 29.7**	**-1.4**
PTCH				AML	AML	15 22 30.8	
	comp=N,489nm,0.4s						
CMCH	**Combarbala**	**3.61**	**273**	*eP*	**Pn**	**15 21 48.8**	**-0.3**
CMCH				*i* S	**Sn**	**15 22 29.5**	**-1.6**
CMCH				AML	AML	15 22 30.9	
	comp=N,923nm,0.6s						
CMCH	**Combarbala**	**3.61**	**273**	*eP*	**Pn**	**15 21 48.8**	**-0.3**
CMCH				*i* S	**Sn**	**15 22 29.5**	**-1.6**
TLL	**Tololo Astrono**	**3.68**	**289**	↓*iP*	**Pn**	**15 21 51.2**	**+1.3**
TLL				*i* S	**Sn**	**15 22 32.8**	**+0.1**
TLL				AML	AML	15 22 36.4	
	comp=N,204nm,0.4s						
TLL	**Tololo Astrono**	**3.68**	**289**	↓*iP*	**Pn**	**15 21 51.2**	**+1.3**
TLL				*i* S	**Sn**	**15 22 32.8**	**+0.1**
CLCH	**Cerro Calan**	**3.71**	**238**	*eP*	**Pn**	**15 21 50.5**	**+0.1**
CLCH				*i* S	**Sn**	**15 22 33.6**	**+0.1**
LMEL	**Las Melosas**	**3.74**	**229**	↑*iP*	**Pn**	**15 21 51.2**	**+0.4**
LMEL				*i* S	**Sn**	**15 22 34.7**	**+0.7**
RCDM	**Rinconada Maip**	**3.95**	**238**	*eP*	**Pn**	**15 21 53.5**	**-0.2**
RCDM				*i* S	**Sn**	**15 22 39.3**	**+0.1**
CHNG	**Los Chungos**	**4.04**	**263**	↑*iP*	**Pn**	**15 21 53.8**	**-0.9**
CHCH	**Chadas Angostu**	**4.09**	**232**	↓*iP*	**Pn**	**15 21 55.6**	**+0.2**
TACH	**Talagante**	**4.13**	**237**	↑*iP*	**Pn**	**15 21 55.3**	**-0.7**
TACH				*i* S	**Sn**	**15 22 42.6**	**-0.8**
CACH	**El Canelo**	**4.16**	**229**	↓*iP*	**Pn**	**15 21 56.8**	**+0.4**
CICH	**Cipreses**	**4.18**	**226**	*eP*	**Pn**	**15 21 57.5**	**+0.8**
TRQA	**Tornquist**	**7.69**	**150**	*e*Pn	**Pn**	**15 22 43.7**	**-0.2**
	comp=N,7.4nm,0.5s						
CPUP	**Villa Florida**	**9.74**	**61**	P	**Pn**	**15 23 10.5**	**-1.2**
	comp=N,1.8nm,0.3s,baz=223,slow=12,SNR=8.6						
CPUP	**Villa Florida**	**9.74**	**61**	P	**Pn**	**15 23 10.5**	**-1.2**
PLCA	**Paso Flores**	**9.74**	**197**	P	**Pn**	**15 23 10.6**	**-1.2**
	comp=N,0.1nm,0.3s,baz=2.4,slow=11,SNR=4.6						
PLCA	**Paso Flores**	**9.74**	**197**	*eP*	**Pn**	**15 23 10.9**	**-1.0**
LPAZ	**La Paz**	**15.15**	**355**	P	**Pn**	**15 24 24.7**	**+2.3**
	comp=N,0.2nm,0.3s,baz=165,slow=13,SNR=5.4						
LPAZ	**La Paz**	**15.15**	**355**	*eP*	**Pn**	**15 24 25.9**	**+3.5**
	comp=N,1.0nm,0.6s						
SIV	**San Ignacio**	**16.25**	**20**	P	**Pn**	**15 24 36.3**	**+0.2**
	comp=N,0.2nm,0.3s,baz=204,slow=14,SNR=4.6						
MKAR	**Makanchi Array**	**151.77**	**48**	PKPbc	PKPbc	15 40 34.2	-1.2
	comp=N,0.2nm,0.3s,baz=232,slow=1.6,SNR=2.8						

MAN 19 15:22:46.6, 866N×12311E, h34km, mb2.1, ML3.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.26**	**108**	↓*iP*	Pb	15 22 54.7	+0.8
DCPH				*i* S	Sb	15 22 59.7	+0.9
PAGZ	**Pagadian**	**0.85**	**161**	*eP*	Pn	15 23 03.2	+1.0
PAGZ				*eS*	Sn	15 23 14.4	+0.9
IPIL	**Ipil**	**1.02**	**211**	↑*eP*	Pn	15 23 05.3	+0.8
IPIL				*eS*	Sn	15 23 17.2	-0.3
IPIL	**Ipil**	**1.02**	**211**	*eP*	Pn	15 23 05.2	+0.8
IPIL				*eS*	Sn	15 23 17.0	-0.5

*NEIC **19** 16:14:28.7, 3395S×7048W, h17km, ML2.7(GUC), After GUC.*
GUC 19 16:14:28.7±0.7, 3395S×7048W, h17km±2km, MD3.7, ML2.7, 8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCH	**Chadas Angostu**	**0.14**	**275**	↑*iP*	Pg	16 14 32.7	0.0
CHCH				*i* S	Sg	16 14 35.2	-0.3
CACH	**El Canelo**	**0.20**	**210**	*eP*	Pg	16 14 33.8	+0.3
CACH				*i* S	Sg	16 14 37.1	+0.3
LMEL	**Las Melosas**	**0.25**	**67**	↑*iP*	Pg	16 14 34.5	+0.1
LMEL				*i* S	Sg	16 14 38.3	+0.1
LMEL				AML	AML	16 14 39.5	
	comp=N,9μm,0.2s						
LMEL	**Las Melosas**	**0.25**	**67**	↑*iP*	Pg	16 14 34.5	+0.1
LMEL				*i* S	Sg	16 14 38.3	+0.1
SJCH	**San Jose de Ma**	**0.32**	**20**	↓*iP*	Pg	16 14 35.4	-0.2
SJCH				*i* S	Sg	16 14 40.2	+0.1
SJCH				AML	AML	16 14 40.6	
	comp=E,1μm,0.5s						
SJCH	**San Jose de Ma**	**0.32**	**20**	↓*iP*	Pg	16 14 40.2	+0.1
CICH	**Cipreses**	**0.38**	**172**	↓*iP*	Pg	16 14 36.6	+0.1
CICH				*i* S	Sg	16 14 42.0	+0.2
TACH	**Talagante**	**0.48**	**307**	↑*iP*	Pg	16 14 38.2	-0.1
TACH				*i* S	Sg	16 14 44.7	-0.1
SAN	**Santiago**	**0.51**	**343**	↓*iP*	Pg	16 14 38.5	-0.4
SAN				*i* S	Sg	16 14 46.1	+0.2
SAN				AML	AML	16 14 46.5	
	comp=E,497nm,0.3s						
SAN	**Santiago**	**0.51**	**343**	↓*iP*	Pg	16 14 38.5	-0.4
SAN				*i* S	Sg	16 14 46.1	+0.2
STL	**Santa Lucia**	**0.52**	**345**	*i* P	Pg	16 14 38.8	-0.3
STL				*i* S	Sg	16 14 45.9	-0.3
RCDM	**Rinconada Maip**	**0.53**	**329**	*eP*	Pg	16 14 39.1	-0.2
RCDM				*i* S	Sg	16 14 46.4	0.0
RCDM				AML	AML	16 14 46.6	
	comp=E,2μm,0.1s						
CLCH	**Cerro Calan**	**0.55**	**355**	↓*iP*	Pg	16 14 39.6	0.0
CLCH				*i* S	Sg	16 14 47.5	+0.4
CLCH				AML	AML	16 14 49.3	
	comp=E,381nm,1.0s						
CLCH				AML	AML	16 14 54.9	
	comp=N,332nm,0.5s						
FCH	**Farellones**	**0.64**	**15**	↑*iP*	Pg	16 14 41.1	-0.1
FCH				*i* S	Sg	16 14 49.9	+0.1
FCH				AML	AML	16 14 50.4	
	comp=N,902nm,0.2s						
LNV	**Longovilo**	**0.77**	**269**	↓*iP*	Pb	16 14 42.9	-0.7
SFDO	**San Fernando**	**0.80**	**213**	↑*iP*	Pb	16 14 43.8	-0.3
SFDO				*i* S	Sb	16 14 54.6	0.0
PEL	**Peldehue**	**0.82**	**348**	*eP*	Pb	16 14 43.7	-0.7
PEL				*i* S	Sb	16 14 55.4	+0.3
PEL				AML	AML	16 14 56.4	
	comp=N,739nm,0.2s						
PEL	**Peldehue**	**0.82**	**348**	*eP*	Pb	16 14 43.7	-0.7
PEL				*i* S	Sb	16 14 55.4	+0.3
LCCH	**Las Cruces**	**1.02**	**297**	↑*iP*	Pb	16 14 47.2	-0.7
ROCH	**El Roble**	**1.07**	**335**	*eP*	Pb	16 14 48.4	-0.2
NICH	**Los Niches**	**1.22**	**210**	↑*iP*	Pn	16 14 51.0	0.0
NICH				*i* S	Sb	16 15 07.5	+0.7
JACH	**Jahuel**	**1.26**	**356**	*eP*	Pn	16 14 52.1	+0.6
PTCH	**Petorca**	**1.72**	**347**	*i* P	Pn	16 14 59.5	+1.8
PTCH				*i* S	Sn	16 15 22.5	+3.2
PTCH				AML	AML	16 15 24.7	
	comp=N,392nm,0.2s						
PTCH	**Petorca**	**1.72**	**347**	*i* P	Pn	16 14 59.5	+1.8
PTCH				*i* S	Sn	16 15 22.5	+3.2

*IDC **19** 17:14:26.3±4.8, 3566N×14048E, h66km±33km, mb3.2/2, mb1 3.4/4, mb1mx3.1/22, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=56.1km s-min=8.8km az=65.0*
*ISCJB **19** 17:14:27.3±0.9, 3559N±006×14017E±0.10, h85km±5km, mb3.6/2, Error ellipse: s-maj=15.5km s-min=6.6km az=108.4*
*JMA **19** 17:14:27.3±0.2, 3570N×14015E, h77km±2km, M3.0*
ISC 19 17:14:28.3±0.9, 3560N±006×14016E±010, h79km±5km, n11, σ0°88/19, mb3.6/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18**	**170**	P	**Pn**	**17 14 39.8**	**-0.1**
JCN				*e*S	**Sn**	**17 14 49.6**	**+1.2**
TOK	**Tokyo**	**0.34**	**285**	P	**Pn**	**17 14 40.2**	**-0.5**
TOK				*e*S	**Sn**	**17 14 49.8**	**0.0**
BSO3	**Boso 3**	**0.84**	**160**	P	**Pn**	**17 14 44.8**	**-0.6**
BSO3				*e*S	**Sn**	**17 14 58.6**	**+0.4**
JOD2	**Odawara 2**	**0.94**	**250**	P	**Pn**	**17 14 45.7**	**-0.9**
JOD2				*e*S	**Sn**	**17 14 59.0**	**-1.2**
JAG	**Ashikaga**	**1.01**	**325**	P	**Pn**	**17 14 45.9**	**-1.5**
JRY	**Ryogami san**	**1.11**	**293**	P	**Pn**	**17 14 48.1**	**-0.5**
JRY				*e*S	**Sn**	**17 15 03.2**	**-0.6**
MJAR	**Matsushiro Arr**	**1.84**	**301**	P	**Pn**	**17 14 57.6**	**-0.5**
	5.7nm,0.3s,baz=98,slow=14,SNR=47						
MJAR				S	**Sn**	**17 15 22.6**	**+2.0**
	6.0nm,0.3s,baz=52,slow=26,SNR=8.4						
MAT	**Matsushiro**	**1.84**	**301**	P	**Pn**	**17 14 58.2**	**+0.1**
MAT				S	**Sn**	**17 15 22.4**	**+1.7**
JHJ	**Hachijo jima 2**	**2.49**	**187**	P	**Pn**	**17 15 07.1**	**+0.3**
	46nm,0.3s,baz=27,slow=18,SNR=24						
JHJ				S	**Sn**	**17 15 36.7**	**+0.5**
	38nm,0.3s,baz=264,slow=23,SNR=5.2						
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**17 23 54.7**	**-0.5**
	0.4nm,0.4s,mb3.8,baz=0.5,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**59.24**	**187**	P	**P**	**17 24 22.3**	**+0.9**
	0.2nm,0.4s,mb3.5,baz=21,slow=12,SNR=5.0						

MEX 19 17:23:00.2±0.5, 1801N×10057W, h52km±30km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.91**	**95**	*i* P	Pn	17 23 15.2	-1.6
MEIG				*i* S	Sn	17 23 27.1	-1.8
CAIG	**El Cayaco**	**0.99**	**163**	*i* P	Pn	17 23 16.2	-1.7
CAIG				*i* S	Sn	17 23 29.3	-1.6
PLIG	**Platanillo**	**1.09**	**69**	*i* P	Pn	17 23 18.2	-0.9
PLIG				*i* S	Sn	17 23 31.3	-1.8
ACX	**Acapulco**	**1.29**	**151**	*i* P	Pn	17 23 21.5	-0.4
UTMO	**Huajuapan**	**2.64**	**93**	*i* P	Pn	17 23 39.7	-0.6
UTMO				*e*S	Sn	17 24 09.2	-1.9

*IDC **19** 17:44:41.3±5.8, 2476S×17984W, h444km±58km, mb3.9/5, mb1 3.9/6, mb1mx3.5/14, mbtmp4.7/6, Error ellipse: s-maj=46.0km s-min=33.1km az=81.0*
*ISCJB **19** 17:44:42.1±4.2, 2495S±02×17991W±04, h476km±38km, mb4.3/10, Error ellipse: s-maj=68.3km s-min=19.4km az=118.0*
*NEIC **19** 17:44:43.5±2.6, 2489S×17996W, h474km±24km, mb4.3/7, Error ellipse: s-maj=32.9km s-min=15.0km az=55.0*
ISC 19 17:44:43.0±3.9, 2495S±03×17981W±04, h479km±31km, n21, σ0°78/20, mb4.3/10, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.59**	**190**	P	**P**	**17 47 38.0**	**-0.5**
	0.6nm,0.3s,baz=286,slow=12,SNR=3.0						
SNZO	**South Karori**	**17.00**	**194**	*eP*	**P**	**17 48 15.4**	**+0.9**
	130nm,1.2s						
RPZ	**Rata Peaks**	**20.22**	**200**	P	**P**	**17 48 41.3**	**-3.4**
	12nm,0.7s,baz=274,slow=19,SNR=2.8						
HNR	**Honiara**	**24.66**	**305**	P	**P**	**17 49 24.3**	**-0.4**
	39nm,0.7s,mb5.0,baz=252,slow=4.2,SNR=2.8						
CTA	**Charters Tower**	**31.68**	**272**	↓*iP*	**P**	**17 50 27.3**	**+1.2**
	9.0nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.68**	**272**	P	**P**	**17 50 27.4**	**+1.3**
	16nm,0.6s,mb4.7,baz=96,slow=11,SNR=17						
STKA	**Stephens Creek**	**34.54**	**249**	↓*iP*	**P**	**17 50 50.9**	**+0.6**
	2.3nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**34.54**	**249**	P	**P**	**17 50 51.1**	**+0.7**
	2.4nm,0.4s,mb4.0,baz=108,slow=15,SNR=18						
AS31	**Alice Springs**	**42.07**	**262**	*eP*	**P**	**17 51 52.0**	**+0.2**
ASAR	**Alice Springs**	**42.07**	**262**	P	**P**	**17 51 52.1**	**+0.3**
	1.6nm,0.3s,mb3.9,baz=91,slow=7.2,SNR=90						
ASPA	**Alice Springs**	**42.07**	**262**	*eP*	**P**	**17 51 52.0**	**+0.2**
WB2	**Warramunga Arr**	**42.53**	**267**	*eP*	**P**	**17 51 55.2**	**-0.2**
WRAB	**Tennant Creek**	**42.53**	**267**	*eP*	**P**	**17 51 54.9**	**-0.5**
WRA	**Warramunga Arr**	**42.54**	**267**	P	**P**	**17 51 55.4**	**0.0**
	5.0nm,0.3s,mb4.4,baz=100,slow=6.9,SNR=378						
FORT	**Forrest**	**46.15**	**250**	*eP*	**P**	**17 52 21.7**	**-1.8**
	8.6nm,0.7s,mb4.3						
KAKA	**Kakadu**	**46.59**	**276**	*eP*	**P**	**17 52 26.7**	**-0.2**
	8.7nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.95**	**266**	*eP*	**P**	**17 52 59.9**	**+0.6**
	7.2nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**54.79**	**248**	*eP*	**P**	**17 53 26.1**	**-0.7**
	30nm,1.4s,mb4.4						
CASY	**Casey**	**59.31**	**206**	*eP*	**P**	**17 53 57.7**	**-0.2**
MAW	**Mawson**	**76.89**	**200**	*eP*	**P**	**17 55 46.0**	**+0.9**
	1.6nm,0.6s,mb3.7						
AKASG	**Malin Array Be**	**145.90**	**327**	PKPbc	PKPbc	18 03 28.8	+0.5
	0.4nm,0.5s,baz=42,slow=3.8,SNR=5.5						

*ISCJB **19** 18:01:01.1±0.7, 5158S±006×13971E±0.4, h10km, mb4.2/9, MS3.5/6, Error ellipse: s-maj=32.5km s-min=8.9km az=0.2*
*IDC **19** 18:01:01.8±1.1, 5155S×13975E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.1/11, mbtmp4.0/6, ML4.1/1, MS3.5/7, Ms1 3.5/7, ms1mx3.3/20, Error ellipse: s-maj=65.2km s-min=19.1km az=90.0*
*NEIC **19** 18:01:02.9±0.5, 5159S×13974E, h10km, mb4.5/6, Error ellipse: s-maj=25.5km s-min=7.8km az=91.0*
ISC 19 18:01:02.6±0.7, 5160S±006×1398E±04, h10km, n41, σ0°55/20, mb4.2/9, MS3.5/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.75**	**5**	*eP*	**Pn**	**18 05 34.4**	**+0.4**
	4.8nm,0.7s						
STKA	**Stephens Creek**	**19.75**	**5**	P	**Pn**	**18 05 34.0**	**0.0**
	0.3nm,0.3s,baz=165,slow=9.9,SNR=14						
STKA				LR	LR	18 11 48.0	
	comp=Z,165nm,18.2s,baz=28,slow=33						
STKA	**Stephens Creek**	**19.75**	**5**	*eP*	**Pn**	**18 05 34.0**	**0.0**
CASY	**Casey**	**20.78**	**214**	*eP*	**P**	**18 05 43.3**	**-0.4**
FORT	**Forrest**	**22.55**	**333**	*eP*	**P**	**18 06 03.7**	**+1.0**
	25nm,0.7s,mb4.8						
VNDA	**Vanda**	**27.29**	**170**	P	**P**	**18 06 48.2**	**+1.0**
	1.4nm,0.9s,mb3.5,baz=331,slow=7.8,SNR=4.9						
VNDA				LR	LR	18 17 09.3	
	comp=Z,50nm,21.9s,MS3.0,baz=93,slow=35						
VNDA	**Vanda**	**27.29**	**170**	P	**P**	**18 06 48.2**	**+1.0**
	1.3nm,1.0s,mb3.4						
VNDA				LR	LR	18 17 09.3	
ASAR	**Alice Springs**	**28.26**	**349**	P	**P**	**18 06 56.0**	**+0.2**
	0.5nm,0.5s,mb3.5,baz=164,slow=10,SNR=18						
ASAR				PcP	PcP	18 10 08.6	-0.4
	0.5nm,0.7s,baz=163,slow=2.6,SNR=4.3						
ASAR				LR	LR	18 16 09.1	
	comp=Z,65nm,20.6s,MS3.2,baz=339,slow=32						
ASAR	**Alice Springs**	**28.26**	**349**	P	**P**	**18 06 56.0**	**+0.2**
ASAR				PcP	PcP	18 10 08.6	-0.4
ASAR				LR	LR	18 16 09.1	
CTA	**Charters Tower**	**31.85**	**12**	LR	LR	18 18 18.1	
	comp=Z,70nm,21.2s,MS3.3,baz=219,slow=33						
WB2	**Warramunga Arr**	**31.88**	**350**	*eP*	**P**	**18 07 26.8**	**-1.1**
WRA	**Warramunga Arr**	**31.88**	**350**	P	**P**	**18 07 27.8**	**-0.1**
	4.1nm,0.7s,mb4.4,baz=174,slow=7.4,SNR=63						
WRA				PcP	PcP	18 10 18.3	-0.1
	0.9nm,0.7s,baz=179,slow=2.4,SNR=7.1						
WRAB	**Tennant Creek**	**31.89**	**350**	*eP*	**P**	**18 07 28.0**	**0.0**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.26**	**336**	*eP*	**P**	**18 07 57.4**	**+0.1**
	4.2nm,1.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**35.26**	**336**	P	**P**	**18 07 57.5**	**+0.2**
	2.1nm,0.9s,mb4.1,baz=174,slow=12,SNR=5.0						
MAW	**Mawson**	**39.10**	**216**	P	**P**	**18 08 30.5**	**+0.5**
	1.7nm,0.8s,mb3.8,baz=109,slow=14,SNR=3.8						
MAW				LR	LR	18 22 43.2	
	comp=Z,67nm,18.0s,MS3.5,baz=78,slow=33						
PMG	**Port Moresby**	**42.50**	**11**	LR	LR	18 25 55.3	
	comp=Z,100nm,18.1s,MS3.8,baz=102,slow=35						
AFI	**Afiamalu**	**53.94**	**64**	LR	LR	18 27 43.9	
	comp=Z,124nm,20.5s,MS4.0,baz=78,slow=30						
SNAA	**Sanae**	**54.22**	**194**	*eP*	**P**	**18 10 27.9**	**-0.5**
	6.3nm,1.2s,mb4.4						
VNA3	**Neumayer Olymp**	**55.54**	**191**	*e*	**P**	**18 10 37.5**	**-0.5**
VNA3				*e*	pP	18 10 39.3	-1.8
VNA3				*e*	pP	18 10 41.7	+0.6
VNA1	**Neumayer--Stat**	**55.91**	**192**	*e*	**P**	**18 10 40.8**	**+0.2**
VNA1				*e*	pP	18 10 42.0	-1.8
VNA1				*e*	pP	18 10 43.6	-0.2
KULM	**Kulim**	**65.79**	**316**	*eP*	**P**	**18 11 47.5**	**-0.3**
TRQA	**Tornquist**	**88.70**	**163**	P	**P**	**18 13 56.0**	**-0.2**
	2.9nm,1.1s,mb4.5						
FINES	**FINESS Array B**	**143.72**	**312**	PKP	PKPdf	18 20 35.2	-2.5
	0.9nm,0.8s,baz=112,slow=5.1,SNR=3.5						
ARCES	**ARCESS Array B**	**145.28**	**326**	PKPbc	PKPbc	18 20 39.5	-0.7
	6.6nm,0.7s,baz=86,slow=5.0,SNR=19						
GERES	**GERESS Array B**	**146.06**	**287**	PKPbc	PKPbc	18 20 41.9	-0.8
	1.3nm,0.7s,baz=123,slow=4.9,SNR=14						
KHC	**Kasperske Hory**	**146.25**	**287**	*e*PKP	PKPdf	18 20 44.0	+1.8
LPG	**La Plagne**	**148.77**	**278**	*e*PKP1	PKPbc	18 20 50.4	+0.2
LPL	**La Plagne**	**148.79**	**278**	*e*PKP1	PKPbc	18 20 49.9	-0.4
	3.8nm,0.7s						
CABF	**La Chapelle**	**149.70**	**279**	*e*PKP1	PKPbc	18 20 51.7	-0.8
	8.3nm,0.7s						
MTLF	**Montolieu**	**150.52**	**271**	*e*PKP1	PKPbc	18 20 54.5	0.0
NB2	**NORSAR Subarra**	**150.71**	**309**	PKPa	PKPbc	18 20 53.7	-1.3
	comp=Z,2.7nm,0.9s,baz=79,slow=4.0						
NOA	**NORSAR Array B**	**150.71**	**309**	PKPbc	PKPbc	18 20 53.2	-1.7
	comp=Z,1.4nm,0.7s,baz=248,slow=3.1,SNR=4.3						
SMF	**Signal de Mont**	**151.10**	**278**	*e*PKP1	PKPbc	18 20 55.3	-0.6
	comp=Z,14nm,0.9s						
CAF	**Calviac**	**151.41**	**273**	*e*PKP1	PKPbc	18 20 56.2	-0.4
	comp=Z,4.5nm,0.7s						
AVF	**Avril sur Loir**	**151.47**	**278**	*e*PKP1	PKPbc	18 20 55.6	-1.1
	comp=Z,8.7nm,0.9s						
SSF	**Saint Saulge**	**151.49**	**278**	*e*PKP1	PKPbc	18 20 55.8	-1.0
	comp=Z,8.6nm,1.1s						
EPF	**Esparros**	**151.53**	**269**	*e*PKP1	PKPbc	18 20 56.3	-0.6
BAIF	**Baives**	**152.23**	**285**	*e*PKP1	PKPbc	18 20 58.0	-0.5

MAN 19 18:48:54.1, 1156N×12204E, h25km, mb3.3, ML4.6, MS2.4, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALP	**Kalibo**	**0.31**	**68**↑	*eP*	Pb	18 49 02.5	+1.3
KALP				*i* S	Sb	18 49 09.6	+3.5
RCP	**Roxas**	**0.69**	**90**	*eP*	Pb	18 49 08.3	+0.9
RCP				*eS*	Sb	18 49 19.7	+3.1
OTRP	**Odiongan**	**0.80**	**358**	*eP*	Pb	18 49 09.5	+0.2
OTRP				*eS*	Sb	18 49 22.3	+2.6
GUIM	**Jordan**	**1.07**	**150**	*eP*	Pn	18 49 13.8	+0.2
GUIM				*eS*	Sb	18 49 31.2	+3.6
CUYO	**Cuyo Island**	**1.23**	**235**	*eP*	Pn	18 49 14.6	-1.1
CUYO				*eS*	Sn	18 49 31.5	0.0
BUSP	**Coron**	**1.86**	**284**	*eP*	Pn	18 49 24.7	+0.4
BOAC	**Boac**	**1.90**	**354**	*eP*	Pn	18 49 25.3	+0.4
BOAC				*eS*	Sn	18 49 49.3	+1.4
LUBP	**Lubang**	**2.78**	**321**	*eP*	Pn	18 49 37.9	+0.9

MAN 19 18:57:47.6, 1562N×12177E, h13km, mb3.1, ML4.4, MS1.3, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.22**	**302**	*eP*	Pg	18 57 53.6	+1.2
BALP				*eS*	Sg	18 57 58.3	+2.6
PCPH	**Palayan**	**0.65**	**265**↑	*eP*	Pg	18 58 00.2	-0.1
PCPH				*eS*	Sg	18 58 09.8	+0.9
POLP	**Polilio Island**	**0.90**	**170**	*eP*	Pg	18 58 04.7	-0.3
POLP				*eS*	Sg	18 58 18.9	+2.0
CAUP	**Cauayan**	**1.31**	**2**	*eP*	Pn	18 58 10.8	-0.9
CAUP				*eS*	Sb	18 58 29.1	+0.2
BCPH	**Baguio City Da**	**1.37**	**304**↑	*iP*	Pn	18 58 11.6	-0.8
BCPH				*i* S	Sn	18 58 30.7	+0.3
LQP	**Lukban**	**1.52**	**188**	*eP*	Pn	18 58 21.8	+7.4
PALP	**Palanan**	**1.56**	**24**↑	*eP*	Pn	18 58 13.7	-1.4
PALP	**Palanan**	**1.56**	**24**	*eP*	Pn	18 58 13.3	-1.7
PALP				*eS*	Sn	18 58 38.4	+3.2
TGY	**Tagaytay City**	**1.71**	**208**	*eP*	Pn	18 58 20.2	+3.1
TGY				*eS*	Sn	18 58 43.6	+4.8
SCZP	**Santa Cruz**	**1.80**	**275**	*eP*	Pn	18 58 18.0	-0.3
SCZP				*eS*	Sn	18 58 41.1	+0.2
GQP	**Guinayangan**	**1.83**	**159**↓	*eP*	Pn	18 58 19.3	+0.6
GQP				*eS*	Sn	18 58 41.9	+0.2
BOLP	**Bolinao**	**1.94**	**293**	*eP*	Pn	18 58 20.4	+0.2
BOLP				*eS*	Sn	18 58 48.6	+4.2
CVP	**Callao Caves**	**2.07**	**1**↑	*eP*	Pn	18 58 12.0	-10
CVP				*eS*	Sn	18 58 46.0	-1.7
BOAC	**Boac**	**2.15**	**178**	*eP*	Pn	18 58 24.4	+1.2
BOAC				*eS*	Sn	18 58 54.9	+5.2
ABRA	**Dolores**	**2.26**	**333**	*eP*	Pn	18 58 25.4	+0.9
ABRA				*eS*	Sn	18 58 55.9	+3.6
LUBP	**Lubang**	**2.39**	**218**	*eP*	Pn	18 58 26.9	+0.5
PVCP	**Virac**	**3.06**	**131**	*eP*	Pn	18 58 34.7	-1.0

SZGRF ***19*** *19:04:21.8, 1989S×17850W, h33km, Fiji Islands region*
ISCJB ***19*** *19:05:24.8±0.7, 1787S±007×17867W±006, h556km±9km, mb4.4/53, Error ellipse: s-maj=12.6km s-min=6.0km az=111.5*
BJI ***19*** *19:05:24.3, 1768S×17821W, h556km, mB4.8, mb4.4*
NEIC ***19*** *19:05:25.2±0.8, 1781S×17864W, h548km±8km, mb4.4/37, Error ellipse: s-maj=10.3km s-min=5.7km az=146.0*
IDC ***19*** *19:05:25.2±1.2, 1787S×17855W, h550km±14km, mb3.9/17, mb1 4.1/19, mb1mx4.0/23, mbtmp4.9/19, Error ellipse: s-maj=16.3km s-min=9.7km az=142.0*
MOS ***19*** *19:05:25.5±1.4, 1722S×17892W, h533km, mb4.5/18, Error ellipse: s-maj=12.4km s-min=11.5km az=164.2*
ISC 19 19:05:25.6±0.7, 1786S±007×17859W±006, h553km±8km, h542km±7.8km; pP-P, n264, σ102/118, mb4.4/53, 57C-23D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.64**	**60**	P	**P**	**19 07 18.9**	**-0.9**
	26nm,0.3s,baz=22,slow=16,SNR=25						
AFI				S	**S**	**19 08 52.8**	**-0.6**
	4.2nm,0.3s,baz=252,slow=17,SNR=3.0						
AFI	**Afiamalu**	**7.64**	**60**	*eP*	**P**	**19 07 19.9**	**+0.1**
AFI				*e*		19 08 51.8	
AFI				pmax	pmax		
	comp=Z,192nm,0.6s						
AFI	**Afiamalu**	**7.64**	**60**	*e*Pn	**P**	**19 07 19.9**	**0.0**
	comp=Z,192nm,0.6s						
AFI				*e*Sn	**S**	**19 08 51.8**	**-1.7**
DZM	**Mont Dzumac**	**14.68**	**251**	*eP*	**P**	**19 08 31.6**	**0.0**
DZM	**Mont Dzumac**	**14.68**	**251**	P	**P**	**19 08 32.0**	**+0.3**
	comp=Z,6.2nm,0.3s,baz=66,slow=12,SNR=39						
URZ	**Urewera**	**20.67**	**190**	P	**P**	**19 09 26.0**	**-1.5**
	comp=Z,14nm,0.5s,baz=29,slow=6.0,SNR=9.5						
SNZO	**South Karori**	**24.07**	**192**	*eP*	**P**	**19 09 56.8**	**-1.0**
	comp=Z,197nm,1.2s,mb5.6						
RPZ	**Rata Peaks**	**27.22**	**197**	P	**P**	**19 10 25.4**	**-0.2**
	comp=Z,11nm,0.6s,mb4.7,baz=279,slow=6.3,SNR=6.4						
ARMA	**Armidale**	**29.82**	**240**↓	*iP*	**P**	**19 10 49.6**	**+1.4**
CTA	**Charters Tower**	**33.29**	**260**↓	*iP*	**P**	**19 11 17.9**	**+0.2**
	comp=Z,6.3nm,0.7s,mb4.2						
CTA	**Charters Tower**	**33.29**	**260**	P	**P**	**19 11 18.1**	**+0.4**
	comp=Z,9.3nm,0.6s,mb4.5,baz=82,slow=11,SNR=14						
CTA	**Charters Tower**	**33.29**	**260**↓	*iP*	**P**	**19 11 17.9**	**+0.2**
CTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CTAO	**Charters Tower**	**33.29**	**260**	*eP*	**P**	**19 11 17.9**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**33.29**	**260**	*eP*	**P**	**19 11 17.9**	**+0.2**
	comp=Z,8.9nm,0.6s,mb4.5						
CNB	**Canberra Magne**	**33.32**	**232**	*eP*	**P**	**19 11 19.3**	**+1.3**
	comp=Z,44nm,0.5s,mb5.2						
PMG	**Port Moresby**	**34.28**	**280**	P	**P**	**19 11 27.8**	**+1.7**
	comp=Z,22nm,0.8s,mb4.8,baz=144,slow=8.7,SNR=6.0						
PMG	**Port Moresby**	**34.28**	**280**	*eP*	**P**	**19 11 27.3**	**+1.2**
PMG				pmax	pmax		
	comp=Z,32nm,0.9s						
PMG	**Port Moresby**	**34.28**	**280**	*eP*	**P**	**19 11 27.2**	**+1.2**
	comp=Z,32nm,0.9s,mb4.8						
TOO	**Toolangi**	**37.07**	**231**↓	*iP*	**P**	**19 11 50.2**	**+1.1**
	comp=Z,38nm,0.7s,mb5.0						
TOO	**Toolangi**	**37.07**	**231**↓	*iP*	**P**	**19 11 50.2**	**+1.1**
TOO				pmax	pmax		
	comp=Z,38nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**38.50**	**241**↓	*iP*	**P**	**19 12 02.0**	**+1.2**
	comp=Z,22nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**19 12 02.0**	**+1.2**
	comp=Z,26nm,0.5s,mb5.0,baz=92,slow=9.5,SNR=104						
WB2	**Warramunga Arr**	**44.46**	**260**↓	*iP*	**P**	**19 12 47.3**	**-0.5**
WB2				*eS*	**S**	**19 18 38.9**	**-3.9**
WRAB	**Tennant Creek**	**44.46**	**260**	*eP*	**P**	**19 12 47.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
WRAB	**Tennant Creek**	**44.46**	**260**	*eP*	**P**	**19 12 47.4**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**19 12 47.5**	**-0.4**
	comp=Z,5.9nm,0.5s,mb4.4,baz=92,slow=6.9,SNR=218						
WRA				PcP	PcP	19 14 19.2	-0.1
	comp=Z,1.9nm,0.7s,baz=89,slow=3.9,SNR=5.9						
WRA				S	**S**	**19 18 38.7**	**-4.3**
	comp=Z,1.0nm,0.7s,baz=97,slow=13,SNR=5.8						
AS31	**Alice Springs**	**44.64**	**254**	*eP*	**P**	**19 12 48.8**	**-0.4**
AS31				*eS*	**S**	**19 18 42.1**	**-3.2**
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**19 12 49.6**	**+0.4**
	comp=Z,73nm,0.6s,mb5.4,baz=89,slow=8.0,SNR=1881						
ASAR				PcP	PcP	19 14 20.1	+0.3
	comp=Z,2.1nm,0.5s,baz=93,slow=4.1,SNR=6.5						
ASAR				ScP	ScP	19 17 20.4	+1.0
	comp=Z,1.0nm,0.7s,baz=100,slow=4.3,SNR=5.2						
ASAR				S	**S**	**19 18 42.7**	**-2.6**
	comp=Z,2.5nm,0.9s,baz=86,slow=15,SNR=13						
ASAR	**Alice Springs**	**44.64**	**254**	P	**P**	**19 12 49.6**	**+0.4**
ASAR						19 14 20.2	
ASAR				S	**S**	**19 18 42.7**	**-2.6**
ASPA	**Alice Springs**	**44.64**	**254**	*eP*	**P**	**19 12 48.8**	**-0.4**
ASPA				*eS*	**S**	**19 18 42.1**	**-3.3**
KAKA	**Kakadu**	**47.41**	**269**	*eP*	**P**	**19 13 10.5**	**+0.3**
	comp=Z,5.8nm,0.3s,mb4.6						
GUMO	**Guam**	**47.71**	**308**	P	**P**	**19 13 13.3**	**+0.8**
	comp=Z,31nm,0.5s,mb5.1,baz=55,slow=14,SNR=3.4						
FORT	**Forrest**	**49.87**	**245**	*eP*	**P**	**19 13 28.2**	**-0.3**
	comp=Z,16nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.87**	**261**	*eP*	**P**	**19 13 50.5**	**+0.4**
	comp=Z,1.8nm,0.3s,mb3.9						
FITZ				*eS*	**S**	**19 20 36.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**52.87**	**261**	P	**P**	**19 13 50.8**	**+0.7**
	comp=Z,1.0nm,0.3s,mb3.6,baz=28,slow=7.5,SNR=21						
MBWA	**Marble Bar**	**57.92**	**256**	*eP*	**P**	**19 14 24.9**	**-0.3**
	comp=Z,15nm,1.2s,mb4.1						
KLBR	**Kellerberrin**	**58.70**	**244**	*eP*	**P**	**19 14 30.1**	**-0.3**
	comp=Z,52nm,1.7s,mb4.5						
CASY	**Casey**	**66.11**	**205**	*eP*	PcP	19 15 46.7	+3.3
CASY	**Casey**	**66.11**	**205**	*eP*	**P**	**19 15 18.2**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.1						
MJAR	**Matsushiro Arr**	**67.77**	**323**	P	**P**	**19 15 28.0**	**-0.5**
	comp=Z,9.7nm,0.7s,mb4.5,baz=156,slow=5.5,SNR=24						
MAJO	**Matsushiro**	**67.77**	**323**	*eP*	**P**	**19 15 27.7**	**-0.8**
KKM	**Kota Kinabalu**	**68.57**	**284**	*eP*	**P**	**19 15 33.7**	**+0.3**
KSM	**Kuching**	**72.51**	**277**	*eP*	**P**	**19 15 57.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**73.30**	**333**	P	**P**	**19 16 01.3**	**+0.2**
YSS				pmax	pmax		
	comp=Z,29nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**73.30**	**333**	P	**P**	**19 16 01.3**	**+0.2**
	comp=Z,29nm,1.0s,mb4.7						
NJ2	**Nanjing**	**77.78**	**310**	*eP*	**P**	**19 16 27.3**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
HABR	**Khabarovsk**	**77.89**	**330**	*eP*	**P**	**19 16 23.3**	**-3.2**
HABR				*eS*	S	19 25 29.7	-5.0
ISA	**Isabella**	**77.91**	**46**	*eP*	**P**	**19 16 27.6**	**+1.0**
CMB	**Columbia Colle**	**77.92**	**43**	*eP*	**P**	**19 16 26.8**	**+0.1**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
CMB	**Columbia Colle**	**77.92**	**43**	*eP*	**P**	**19 16 26.8**	**+0.1**
	comp=Z,3.8nm,0.7s,mb3.8						
MDJ	**Mudanjiang**	**78.05**	**325**	P	**P**	**19 16 27.9**	**+0.5**
MDJ				AP	pP	19 18 21.1	-3.2
MDJ				XP	sP	19 19 20.9	-0.1
MDJ				S	S	19 25 37.5	+1.1
MDJ				SCS	ScS	19 25 56.5	+0.2
MDJ				XS	sS	19 29 05.4	+0.6
MDJ				SS	SS	19 30 54.9	+1.4
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,119nm,3.5s						
MDJ	**Mudanjiang**	**78.05**	**325**	*eP*	**P**	**19 16 26.7**	**-0.7**
	comp=Z,14nm,0.9s,mb4.3						
KDAK	**Kodiak Island**	**78.40**	**14**	P	**P**	**19 16 28.8**	**-0.5**
	comp=Z,7.6nm,0.6s,mb4.2,baz=199,slow=8.1,SNR=5.3						
KDAK	**Kodiak Island**	**78.40**	**14**	P	**P**	**19 16 28.8**	**-0.5**
MTUM	**Tungsten Hills**	**78.75**	**45**	*eP*	**P**	**19 16 32.5**	**+1.3**
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**19 16 36.6**	**+1.5**
	comp=Z,4.2nm,0.7s,mb3.9,baz=224,slow=7.6,SNR=16						
MOD	**Modoc**	**80.16**	**40**	*eP*	**P**	**19 16 39.1**	**+0.5**
	comp=Z,4.6nm,0.8s,mb3.9						
MA2	**Magadan**	**81.11**	**345**	*eP*	**P**	**19 16 41.8**	**-1.7**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
MA2	**Magadan**	**81.11**	**345**	*eP*	**P**	**19 16 41.6**	**-1.9**
	comp=Z,13nm,1.1s,mb4.3						
SLKM	**Skilak Lake**	**81.39**	**14**	*eP*	**P**	**19 16 43.5**	**-1.4**
TUC	**Tucson**	**81.81**	**52**	*eP*	**P**	**19 16 48.7**	**+1.7**
TUC				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
TUC	**Tucson**	**81.81**	**52**	*eP*	**P**	**19 16 48.7**	**+1.6**
	comp=Z,5.6nm,1.3s,mb3.8						
CCUT	**Cedar City**	**82.40**	**47**	*eP*	**P**	**19 16 51.1**	**+1.0**
WUAZ	**Wupatki**	**82.84**	**49**	*eP*	**P**	**19 16 53.6**	**+1.3**
	comp=Z,10nm,1.0s,mb4.3						
BMO	**Blue Mountains**	**83.61**	**39**	*eP*	**P**	**19 16 56.1**	**0.0**
BMO				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
BMO	**Blue Mountains**	**83.61**	**39**	*eP*	**P**	**19 16 56.1**	**0.0**
	comp=Z,10nm,1.4s,mb4.2						
BJT	**Baijiatuao**	**83.63**	**315**	*eP*	**P**	**19 16 56.2**	**0.0**
BJT				pmax	pmax		
	comp=Z,12nm,0.9s						
BJT	**Baijiatuao**	**83.63**	**315**	*eP*	**P**	**19 16 56.2**	**0.0**
	comp=Z,12nm,0.9s,mb4.4						
SEY	**Seymchan**	**83.69**	**347**↑	*eP*	**P**	**19 16 55.5**	**-1.0**
PSI	**Prapat**	**83.71**	**275**	P	**P**	**19 16 56.1**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.2,baz=170,slow=3.2,SNR=5.4						
MAW	**Mawson**	**83.84**	**200**	P	**P**	**19 16 57.5**	**+0.2**
	comp=Z,1.7nm,0.5s,mb3.8,baz=124,slow=11,SNR=7.3						
MAW	**Mawson**	**83.84**	**200**	*eP*	**P**	**19 16 56.9**	**-0.3**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MAW	**Mawson**	**83.84**	**200**	*eP*	**P**	**19 16 56.9**	**-0.4**
	comp=Z,3.1nm,0.8s,mb3.9						
MCK	**McKinley**	**84.53**	**13**	*eP*	**P**	**19 16 59.0**	**-1.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
MCK	**McKinley**	**84.53**	**13**	*eP*	**P**	**19 16 59.0**	**-1.7**
	comp=Z,4.8nm,0.7s,mb4.1						
HLID	**Hailey**	**84.71**	**41**	*eP*	**P**	**19 17 02.5**	**+1.0**
	comp=Z,7.4nm,0.9s,mb4.2						
NEW	**Newport**	**85.57**	**36**	P	**P**	**19 17 04.4**	**-1.3**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
NEW	**Newport**	**85.57**	**36**	P	**P**	**19 17 04.4**	**-1.3**
	comp=Z,3.6nm,0.6s,mb4.2						
COLA	**College**	**85.77**	**13***c*	*iP*	**P**	**19 17 05.0**	**-1.6**
COLA	**College**	**85.77**	**13**	*eP*	**P**	**19 17 04.8**	**-1.8**
	comp=Z,22nm,1.1s,mb4.7						
PV01	**Paradox Valley**	**86.03**	**48**	*eP*	**P**	**19 17 08.6**	**+0.7**
XAN	**Xi'an**	**86.10**	**307**	P	**P**	**19 17 09.3**	**+1.1**
XAN				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.6						
ANMO	**Albuquerque**	**86.20**	**52**↑	*eP*	**P**	**19 17 10.3**	**+1.6**
ANMO	**Albuquerque**	**86.20**	**52**	*eP*	**P**	**19 17 09.3**	**+0.7**
	comp=Z,6.8nm,1.3s,mb4.1						
BILL	**Bilibino**	**86.37**	**354**↑	*eP*	**P**	**19 17 09.2**	**-0.2**
BILL				*eS*	S	19 26 36.5	-23
BILL				*e*SS	SS	19 32 54.2	-1.2
BILL				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
RRI2	**Red Ridge**	**86.56**	**42**	*eP*	**P**	**19 17 11.1**	**+0.7**
	comp=Z,16nm,0.8s,mb4.7						
IMW	**Indian Meadow**	**87.07**	**42**	*eP*	**P**	**19 17 13.7**	**+1.0**
	comp=Z,19nm,1.1s,mb4.6						
DAWY	**Dawson**	**87.09**	**16**	*eP*	**P**	**19 17 12.2**	**-0.6**
CHMT	**Chamberlain Mo**	**87.11**	**39**	*eP*	**P**	**19 17 12.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**87.12**	**315**	*eP*	**P**	**19 17 13.6**	**+0.6**
HHC				AP	pP	19 19 12.6	-0.7
HHC				XP	sP	19 20 06.3	-2.8
HHC				PP	PP	19 20 49.8	+3.0
HHC				SKS		19 26 48.9	
HHC				S	S	19 27 07.0	+0.8
HHC				XS	sS	19 30 37.5	-3.1
HHC				SS	SS	19 33 10.6	+4.4
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,64nm,4.6s						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**19 17 15.1**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.2,baz=226,slow=3.1,SNR=23						
KMI	**Kunming**	**87.66**	**297**	P	**P**	**19 17 17.4**	**+1.9**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WALA	**Waterton Lakes**	**87.80**	**37**	*eP*	**P**	**19 17 15.8**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.1						
CD2	**Chengdu**	**88.90**	**303**	*eP*	**P**	**19 17 23.0**	**+1.7**
YAK	**Yakutsk**	**89.47**	**338**↑	*eP*	**P**	**19 17 22.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
YAK	**Yakutsk**	**89.47**	**338**	*eP*	**P**	**19 17 21.2**	**-2.7**
	comp=Z,5.7nm,0.6s,mb4.6						
SNAA	**Sanae**	**90.65**	**179**	*eP*	**P**	**19 17 28.3**	**-1.1**
SNAA				*e*		19 17 29.0	
SNAA	**Sanae**	**90.65**	**179**	*eP*	**P**	**19 17 28.4**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SNAA	**Sanae**	**90.65**	**179**	*eP*	**P**	**19 17 28.4**	**-1.0**
	comp=Z,2.3nm,0.5s,mb4.4						
LZH	**Lanzhou**	**90.73**	**308**	*eP*	**P**	**19 17 31.0**	**+1.3**
LZH				AP	pP	19 19 33.3	+2.4
LZH				XP	sP	19 20 24.9	-1.5
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,52nm,4.1s						
VNA3	**Neumayer Olymp**	**90.80**	**176**	*eP*	**P**	**19 17 29.7**	**-0.3**
VNA3				*e*		19 17 30.6	
RSSD	**Black Hills**	**91.65**	**44**	*eP*	**P**	**19 17 33.9**	**-0.1**
RSSD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
RSSD	**Black Hills**	**91.65**	**44**	*e*P	**P**	**19 17 33.9**	**-0.1**
	comp=Z,6.2nm,0.9s,mb4.6						
INK	**Inuvik**	**91.89**	**15**	*e*P	**P**	**19 17 33.5**	**-1.6**
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**91.89**	**15**	*e*P	**P**	**19 17 33.5**	**-1.6**
	comp=Z,6.9nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**93.01**	**320**	*e*P	**P**	**19 17 39.5**	**-0.7**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**93.01**	**320**	*e*P	**P**	**19 17 39.5**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**93.41**	**319**	P	**P**	**19 17 41.3**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=124,slow=4.7,SNR=5.4						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**19 17 45.0**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.3,baz=247,slow=4.7,SNR=4.9						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**19 17 45.0**	**-1.3**
ZAL	**Zalesovo**	**108.10**	**322**	PKiKP	PKiKP	19 22 49.4	-1.5
	comp=Z,0.8nm,0.6s,baz=331,slow=2.8,SNR=3.9						
MKAR	**Makanchi Array**	**108.98**	**314**	PKiKP	PKiKP	19 22 51.1	-1.3
	comp=Z,1.2nm,0.5s,baz=318,slow=0.4,SNR=8.9						
BRVK	**Borovoye**	**116.76**	**321**	PKIKP	PKPdf	19 23 07.1	-0.2
ARU	**Arti**	**122.72**	**326***d*	PKIKP	PKPdf	19 23 17.8	-1.0
ARCES	**ARCESS Array B**	**126.24**	**350**	PKP	PKPdf	19 23 24.5	-1.0
	comp=Z,4.1nm,0.8s,baz=70,slow=1.2,SNR=8.4						
JOF	**Joensuu**	**130.46**	**343**	*e*pkp	PKPdf	19 23 31.0	-2.5
KAF	**Kangasniemi**	**132.48**	**344**	*e*pkp	PKPdf	19 23 35.4	-1.9
FINES	**FINESS Array B**	**133.10**	**344**	PKP	PKPdf	19 23 37.1	-1.4
	comp=Z,2.0nm,0.7s,baz=72,slow=2.8,SNR=7.9						
OBN	**Obninsk**	**134.18**	**333**	*e*PKIKP	PKPdf	19 23 38.8	-1.7
OBN				*e*SS	SS	19 43 20.2	-5.4
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NB2	**NORSAR Subarra**	**136.31**	**353**	PKPa	PKPdf	19 23 43.9	-0.6
	comp=Z,0.6nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**136.31**	**353**	PKP	PKPdf	19 23 44.7	+0.2
	comp=Z,1.4nm,0.7s,baz=13,slow=4.0,SNR=3.9						
NOA	**NORSAR Array B**	**136.31**	**353**	PKP	PKPdf	19 23 44.7	+0.2
KMBO	**Kilima Mbogo**	**139.99**	**246**	PKP	PKPdf	19 23 53.5	+2.3
	comp=Z,0.3nm,0.3s,baz=224,slow=7.8,SNR=3.6						
AKASG	**Malin Array Be**	**140.44**	**332**	PKhKP		19 23 44.6	
AKASG				PKP	PKPdf	19 23 52.1	+0.1
	comp=Z,1.2nm,0.4s,baz=37,slow=2.5,SNR=3.8						
MALT	**Malatya**	**141.85**	**310**↑	*iP*	PKPdf	19 23 51.3	-3.3
GZT	**Gaziantep**	**142.84**	**309**	*i* P	PKPdf	19 23 53.9	-2.4
BOYT	**Boyabat**	**142.97**	**316**	*i* P	PKPdf	19 23 53.3	-3.2
LVV	**L'vov**	**143.29**	**335**	*e*PKHKP	PKPdf	19 23 54.1	-3.0
CTKT	**Corum**	**143.43**	**315**	*i* P	PKPdf	19 23 56.5	-0.8
BALT	**Daday**	**143.90**	**318**	*i* P	PKPdf	19 23 57.5	-0.7
DCN	**Croghan**	**143.95**	**9**	*e*P	PKPdf	19 23 56.6	-1.6
KWP	**Kalwaria**	**143.96**	**336**	*e*PKP	PKPdf	19 23 57.7	-0.6
DLF	**Lyons Farm**	**144.10**	**8**	*e*P	PKPdf	19 23 57.1	-1.4
COBT	**Iskenderun**	**144.13**	**308**	*i* P	PKPdf	19 23 58.8	+0.3
AVNT	**Avonos**	**144.23**	**313**	*i* P	PKPdf	19 23 58.7	0.0
ELDT	**Eldivan**	**144.40**	**316**	*i* P	PKPdf	19 23 59.5	+0.4
BURAR	**Bucovina Array**	**144.49**	**332**↑	*iP*	PKPdf	19 24 00.0	+0.8
OJC	**Ojcow**	**144.51**	**340**	*e*PKP	PKPdf	19 23 59.0	-0.2
BR131	**Keskin Array S**	**144.63**	**315**	*e*PKPdf	PKPdf	19 23 59.5	+0.1
BRTR	**Keskin Array B**	**144.63**	**315**	PKP	PKPdf	19 23 59.5	+0.1
	comp=Z,9.4nm,0.8s,baz=116,slow=2.9,SNR=43						
STHS	**Stebnicka Huta**	**144.69**	**337**	*e*PKP	PKPdf	19 24 00.1	+0.6
KOLS	**Kolonicke sedl**	**144.69**	**336**	*e*PKP	PKPdf	19 24 00.1	+0.6
KOLS				*e*		19 24 01.7	
CFR	**Carcaliu**	**144.81**	**327**↓	*iP*	PKPd

PERS	**Pernice**	**149.15**	**341**	*i* PKPdf	PKPbc	19 24 11.0	-0.8
CDF	**Champ du Feu**	**149.16**	**352** ⇑	*i*PKP1	PKPbc	19 24 11.7	-0.1
	comp=Z,17nm,0.7s						
VTS	**Vitosha**	**149.16**	**328** ⇓	*i*P	PKPbc	19 24 11.7	-0.2
MEZF	**Maizieres J'vi**	**149.30**	**355**	*e*PKP1	PKPbc	19 24 11.4	-0.8
	comp=Z,18nm,0.7s						
LDF	**La Druitiere**	**149.32**	**2** ⇑	*i*PKP1	PKPbc	19 24 11.6	-0.6
	comp=Z,8.3nm,0.4s						
ECH	**Echery**	**149.37**	**352**	PKP	PKPbc	19 24 14.1	+1.8
ROSF	**Rostrenen**	**149.37**	**6**	*e*PKP1	PKPbc	19 24 11.5	-0.9
WATA	**Walderalm**	**149.44**	**346** ⇑	*i*P	PKPbc	19 24 12.2	-0.4
	comp=Z,12nm,1.1s						
THEF	**They Montfort**	**149.49**	**354**	PKP	PKPbc	19 24 12.4	-0.2
WTTA	**Wattenberg**	**149.50**	**346** ⇑	*i*P	PKPbc	19 24 12.5	-0.2
	comp=Z,22nm,0.6s						
WTTA	**Wattenberg**	**149.50**	**346** ⇑	*i*P	PKPbc	19 24 12.5	-0.2
GRR	**Gorron**	**149.50**	**3** ⇑	*i*PKP1	PKPbc	19 24 12.2	-0.5
	comp=Z,25nm,0.6s						
SGMF	**Saint Gilles**	**149.52**	**5** ⇑	*i*PKP1	PKPbc	19 24 12.0	-0.7
	comp=Z,44nm,1.0s						
MOTA	**Moosalm**	**149.54**	**347** ⇑	*i*P	PKPbc	19 24 12.2	-0.6
	comp=Z,12nm,1.0s						
AYDN	**Tasoluk**	**149.56**	**316**	*i* P	PKPbc	19 24 13.1	+0.2
SQTA	**Sankt Quirin**	**149.63**	**347** ⇑	*i*P	PKPbc	19 24 12.8	-0.2
	comp=Z,8.3nm,0.9s						
HAU	**Haudompre**	**149.67**	**353** ⇑	*i*PKP1	PKPbc	19 24 12.7	-0.4
	comp=Z,20nm,0.7s						
CRES	**Cresnjev**	**149.77**	**340**	*i* PKPdf	PKPbc	19 24 12.8	-0.5
CRES				*i*		19 24 20.2	
QUIF	**Quistinic**	**149.79**	**6**	*e*PKP1	PKPbc	19 24 13.4	0.0
HINF	**Hinteralfeld**	**149.79**	**353** ⇑	*i*PKP1	PKPbc	19 24 12.9	-0.5
	comp=Z,14nm,0.8s						
DAVA	**Damuels**	**149.84**	**348** ⇑	*i*P	PKPbc	19 24 13.2	-0.3
	comp=Z,14nm,0.8s						
LJU	**Ljubljana**	**149.86**	**342**	*i* PKPdf	PKPbc	19 24 13.1	-0.5
VOY	**Vojsko**	**150.06**	**342**	*e*PKPdf	PKPbc	19 24 13.1	-0.9
BOJS	**Bojanci**	**150.12**	**340**	*i* PKPdf	PKPbc	19 24 14.0	-0.2
CEY	**Cerknica**	**150.17**	**342**	*i* PKPdf	PKPbc	19 24 13.7	-0.6
CEY				*e*		19 24 22.1	
LOMF	**Lomont**	**150.26**	**353**	PKP	PKPbc	19 24 15.7	+1.3
LOR	**Lormes**	**150.61**	**357** ⇑	*i*PKP1	PKPbc	19 24 15.0	-0.3
	comp=Z,21nm,0.6s						
HYF	**Humbligny**	**150.66**	**358**	*e*PKP1	PKPbc	19 24 15.5	+0.1
SSF	**Saint Saulge**	**150.83**	**357** ⇑	*i*PKP1	PKPbc	19 24 15.6	-0.2
	comp=Z,33nm,0.9s						
CABF	**La Chapelle**	**151.07**	**353** ⇑	*i*PKP1	PKPbc	19 24 16.7	+0.4
	comp=Z,39nm,1.0s						
AVF	**Avril sur Loir**	**151.11**	**357** ⇑	*i*PKP1	PKPbc	19 24 15.7	-0.7
	comp=Z,11nm,0.8s						
MFF	**Saint Martin d**	**151.31**	**2** ⇑	*i*PKP1	PKPbc	19 24 16.4	-0.5
	comp=Z,18nm,0.7s						
BGF	**Bois d'Agland**	**151.36**	**358** ⇑	*i*PKP1	PKPbc	19 24 16.7	-0.3
	comp=Z,17nm,0.7s						
TCF	**Toulx Ste Croi**	**151.65**	**359**	*e*PKP1	PKPbc	19 24 17.1	-0.5
	comp=Z,20nm,0.9s						
LPL	**La Plagne**	**152.07**	**352**	*e*PKP1	PKPbc	19 24 19.1	+0.6
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	**152.09**	**352** ⇑	*i*PKP1	PKPbc	19 24 19.3	+0.7
	comp=Z,9.8nm,0.8s						
RJF	**Les Rejaudoux**	**152.64**	**360** ⇑	*i*PKP1	PKPbc	19 24 19.4	-0.4
	comp=Z,8.8nm,0.7s						
ORIF	**Oris-en-Rattie**	**152.77**	**353** ⇑	*i*PKP1	PKPbc	19 24 20.1	0.0
	comp=Z,5.0nm,0.6s						
MBDF	**Montbardon**	**152.84**	**352** ⇑	*i*PKP1	PKPbc	19 24 20.3	+0.1
	comp=Z,11nm,0.7s						
VIVF	**Saint-Julien-l**	**152.95**	**355** ⇑	*i*PKP1	PKPbc	19 24 20.4	-0.1
	comp=Z,5.1nm,0.7s						
CAF	**Calviac**	**153.01**	**359**	*e*PKP1	PKPbc	19 24 20.4	-0.2
	comp=Z,5.6nm,0.7s						
SBF	**Sospel**	**153.59**	**350**	*e*PKP1	PKPbc	19 24 20.6	-1.2
	comp=Z,21nm,0.8s						
ESDC	**Sonseca Array**	**157.77**	**11**	PKPab	PKPab	19 24 54.7	-0.7
	comp=Z,1.1nm,0.6s,baz=338,slow=3.4,SNR=8.1						
KEST	**Kesra**	**160.86**	**340**	PKPab	PKPab	19 25 08.8	0.0
	comp=Z,1.2nm,0.9s,baz=0.0,slow=4.0,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**175.30**	**183**	*e*PKPdf	PKPdf	19 24 30.4	-1.7

*NEIC **19** 19:08:58.7, 32.90S×72.39W, h33km, ML3.3(GUC), After GUC.*

GUC 19 19:08:58.7±0.8, 32.90S×72.39W, h33km±2km, MD3.9, ML3.3, 7C-10D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**101** ⇑	*i*P	Pn	19 09 11.2	-0.2
IHA				*i* S	Sb	19 09 20.8	+0.5
LCCH	**Las Cruces**	**0.89**	**130** ⇓	*i*P	Pn	19 09 15.0	+0.1
LCCH				*i* S	Sn	19 09 26.9	+0.3
ROCH	**El Roble**	**1.16**	**94** ⇑	*i*P	Pn	19 09 19.6	+1.0
ROCH				*i* S	Sn	19 09 35.7	+2.4
CHNG	**Los Chungos**	**1.27**	**37** ⇓	*i*P	Pn	19 09 21.1	+1.1
CHNG				*i* S	Sn	19 09 37.3	+1.4
LNV	**Longovilo**	**1.33**	**142** ⇑	*i*P	Pn	19 09 21.2	+0.3
PTCH	**Petorca**	**1.39**	**63** ⇓	*i*P	Pn	19 09 22.9	+1.2
PTCH				*i* S	Sn	19 09 41.1	+2.2
PTCH				AML	AML	19 09 45.0	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**1.39**	**63** ⇓	*i*P	Pn	19 09 22.9	+1.2
PTCH				*i* S	Sn	19 09 41.1	+2.2
TACH	**Talagante**	**1.43**	**122** ⇓	*i*P	Pn	19 09 23.2	+1.0
RCDM	**Rinconada Maip**	**1.45**	**114** ⇓	*i*P	Pn	19 09 23.5	+1.0
RCDM				*i* S	Sn	19 09 42.0	+1.6
RCDM				AML	AML	19 09 49.9	
	comp=N,311nm,0.5s						
RCDM	**Rinconada Maip**	**1.45**	**114** ⇓	*i*P	Pn	19 09 23.5	+1.0
RCDM				*i* S	Sn	19 09 42.0	+1.6
PEL	**Peldehue**	**1.45**	**100** ⇓	*i*P	Pn	19 09 24.3	+1.7
PEL				*i* S	Sn	19 09 43.1	+2.6
PEL				AML	AML	19 09 45.9	
	comp=E,1μm,0.3s						
PEL	**Peldehue**	**1.45**	**100** ⇓	*i*P	Pn	19 09 24.3	+1.7
PEL				*i* S	Sn	19 09 43.1	+2.6
JACH	**Jahuel**	**1.53**	**82**	*e*P	Pn	19 09 25.1	+1.4
JACH				*e*S	Sn	19 09 45.7	+3.3
SAN	**Santiago**	**1.55**	**111**	*e*P	Pn	19 09 25.7	+1.8
SAN				*i* S	Sn	19 09 45.6	+2.7
SAN				AML	AML	19 10 01.3	
	comp=E,510nm,0.4s						
SAN	**Santiago**	**1.55**	**111**	*e*P	Pn	19 09 25.7	+1.8
SAN				*i* S	Sn	19 09 45.6	+2.7
CLCH	**Cerro Calan**	**1.63**	**108** ⇑	*i*P	Pn	19 09 27.0	+1.9
CLCH				*i* S	Sn	19 09 47.8	+2.9
CLCH				AML	AML	19 09 56.2	
	comp=N,525nm,0.4s						
CLCH				AML	AML	19 09 56.8	
	comp=N,644nm,0.5s						
CHCH	**Chadas Angostu**	**1.78**	**126** ⇓	*i*P	Pn	19 09 28.7	+1.6
FCH	**Farellones**	**1.81**	**104** ⇑	*i*P	Pn	19 09 29.8	+2.3
FCH				*i* S	Sn	19 09 53.2	+3.9
FCH				AML	AML	19 09 57.9	
	comp=E,289nm,0.2s						
CACH	**El Canelo**	**1.92**	**129**	*e*P	Pn	19 09 31.2	+2.2
SFDO	**San Fernando**	**2.06**	**146** ⇑	*i*P	Pn	19 09 32.4	+1.5
LMEL	**Las Melosas**	**2.06**	**118**	*e*P	Pn	19 09 33.1	+2.2
LMEL				*i* S	Sn	19 09 58.8	+3.4
LMEL				AML	AML	19 10 08.4	
	comp=N,265nm,0.6s						
LMEL	**Las Melosas**	**2.06**	**118**	*e*P	Pn	19 09 33.1	+2.2
LMEL				*i* S	Sn	19 09 58.8	+3.4
CMCH	**Combarbala**	**2.09**	**35**	*e*P	Pn	19 09 32.7	+1.4
CMCH				*i* S	Sn	19 09 58.6	+2.5
CMCH				AML	AML	19 10 10.6	
	comp=E,553nm,0.5s						
CMCH	**Combarbala**	**2.09**	**35**	*e*P	Pn	19 09 32.7	+1.4
CMCH				*i* S	Sn	19 09 58.6	+2.5
CICH	**Cipreses**	**2.17**	**131**	*e*P	Pn	19 09 34.3	+1.9
MDZ	**Mendoza**	**2.98**	**91**	*e*P	Pn	19 09 55.6	+12
TLL	**Tololo Astrono**	**3.05**	**27** ⇑	*i*P	Pn	19 09 46.6	+2.1
TLL				AML	AML	19 10 51.9	
	comp=N,113nm,0.6s						

MEX 19 19:17:02.2±0.9, 16.54N×91.90W, h46km±19km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.34**	**222**	*i* P	Pn	19 17 10.3	-1.0
CCIG				*i* S	Sn	19 17 16.5	-1.3
SCX	**San Cristobal**	**0.73**	**285**	*i* P	Pn	19 17 14.0	-2.2
SCX				*i* S	Sn	19 17 25.0	-1.3
SCIG	**Sabancuy, Camp**	**2.51**	**16**	*i* P	Pn	19 17 40.9	+0.5
SCIG				*i* S	Sn	19 18 08.7	-1.1
TUIG	**Tuzandepetl**	**2.83**	**302**	*i* P	Pn	19 17 45.4	+0.5
CMIG	**Matias Romero**	**2.91**	**281**	*i* P	Pn	19 17 45.3	-0.7
CMIG				*i* S	Sn	19 18 18.5	-1.2

*ISCJB **19** 19:51:34.4±0.7, 3661N×004×145E±008, h10km, Error ellipse: s-maj=9.6km s-min=5.0km az=150.0*
*CRAAG **19** 19:51:35.6, 3646N×153E, Ml2.8*
*MDD **19** 19:51:36.5±0.9, 3654N×151E, h0km, mb2.7/4, Error ellipse: s-maj=10.0km s-min=8.2km az=110.0, PRXIMO*

ISC 19 19:51:34.9±0.7, 3659N±004×151E±009, h10km, n9, σ1§34/13, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.30**	**176**	P	**Pg**	**19 51 40.0**	**-0.9**
ECHA	**Ech Chlef**	**0.46**	**194**	P	**Pg**	**19 51 43.0**	**-0.8**
ECHF	**Ech Chlef**	**0.46**	**197**	P	**Pg**	**19 51 43.0**	**-0.8**
EANR	**'Ain N'Sour**	**0.72**	**207**	P	**Pg**	**19 51 50.0**	**+1.2**
EMHD	**Djebel Mahouad**	**1.23**	**108**	P	**Pn**	**19 51 59.0**	**+0.9**
EIBI	**Ibiza**	**2.43**	**357**	P	**Pn**	**19 52 14.1**	**-0.6**
	0.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 52 45.7**	**+1.1**
	0.9nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.52**	**327**	P	**Pn**	**19 52 14.8**	**-1.1**
	0.1nm,0.1s,SNR=4.0						
EBEN				S	**Sn**	**19 52 44.3**	**-2.3**
	0.1nm,0.1s,SNR=4.0						
EQES	**Quesada**	**3.85**	**290**	P	**Pn**	**19 52 36.9**	**+2.7**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**19 53 20.3**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.07**	**338**	P	**Pn**	**19 52 40.1**	**+2.9**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**19 53 23.9**	**-1.0**
	0.1nm,0.1s,SNR=7.9						

*KRSC **19** 19:55:04, 5141N×15992E, h43km, ML4.2*
*ISCJB **19** 19:55:05.7±1.0, 5143N±006×15978E±008, h56km±7km, mb4.0/11, MS3.4/1, Error ellipse: s-maj=12.0km s-min=6.9km az=112.5*
*MOS **19** 19:55:05.3±1.8, 5149N×15948E, h48km, mb4.2/8, Error ellipse: s-maj=21.2km s-min=8.1km az=91.6*
*IDC **19** 19:55:07.1±1.4, 5160N×15958E, h35km±7km, mb3.5/7, mb1 3.7/7, mb1mx3.5/21, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.6/32, Error ellipse: s-maj=47.9km s-min=22.2km az=94.0*
*NEIC **19** 19:55:08.0±1.1, 5161N×15925E, mb4.4/2, Error ellipse: s-maj=35.3km s-min=12.1km az=96.0*

ISC 19 19:55:07.8±1.0, 5147N±006×15969E±009, h56km±7km, n44, σ1§35/53, mb4.0/11, MS3.4/1, 1C-1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.21**	**323**	*e*P	**Pn**	**19 55 26.9**	**-1.5**
RUS				*i* S	**Sn**	**19 55 44.0**	**+0.2**
GRL	**Gorelyy**	**1.47**	**318**	*e*P	**Pn**	**19 55 31.7**	**-0.3**
GRL				*i* S	**Sn**	**19 55 51.9**	**+1.7**
SPN	**Mys Shipunski**	**1.64**	**7**	*e*P	**Pn**	**19 55 32.1**	**-2.2**
SPN				*i* S	**Sn**	**19 55 53.0**	**-1.3**
PET	**Petropavlovsk**	**1.68**	**338**	*e*PN	**Pn**	**19 55 33.3**	**-1.5**
PET				*e*S	**Sn**	**19 55 56.3**	**+1.1**
PET				pmax	pmax		
	comp=Z,100nm,5.7s						
PET				pmax	pmax		
	comp=Z,300nm,3.5s						
PET				pmax	pmax		
	comp=Z,220nm,0.6s						
PET				smax			
	comp=N,1μm,0.5s						
PET	**Petropavlovsk**	**1.68**	**338**	*e*P	**Pn**	**19 55 32.6**	**-2.2**
PET	**Petropavlovsk**	**1.68**	**338**	*e*P	**Pn**	**19 55 33.2**	**-1.6**
PET				*i* S	**Sn**	**19 55 54.0**	**-1.2**
NLC	**Nalytchevo**	**1.71**	**353**	*e*P	**Pn**	**19 55 33.9**	**-1.4**
AVH	**Avacha**	**1.89**	**342**	*e*P	**Pn**	**19 55 39.6**	**+2.0**
MIPR	**Malaya Ipel'ka**	**1.99**	**295**	*e*P	**Pn**	**19 55 38.9**	**-0.1**
MIPR				*i* S	**Sn**	**19 56 04.4**	**+1.6**
SKR	**Severo-Kuril's**	**2.39**	**252**	*e*PN	**Pn**	**19 55 40.0**	**-4.5**
SKR				*e*S	**Sn**	**19 56 05.0**	**-7.6**
SKR				pmax	pmax		
	comp=Z,50nm,0.6s						
SKR				smax			
	comp=N,460nm,0.5s						
SKR				smax			
	comp=E,310nm,0.5s						
SKR				smax			
	comp=N,1μm,2.0s						
SKR				smax			
	comp=E,1μm,2.0s						
SKR				MLR	MLR		
	comp=Z,800nm,8.0s						
SKR				MLR	MLR		
	comp=E,1μm,10.0s						
GNL	**Ganaly**	**2.47**	**335**	*e*P	**Pn**	**19 55 46.1**	**+0.5**
KII	**Karymskiy**	**2.57**	**357**	*e*P	**Pn**	**19 55 48.6**	**+1.6**
ALID	**Alaid**	**2.68**	**259**	*e*P	**Pn**	**19 55 47.4**	**-1.0**
ALID				*i* S	**Sn**	**19 56 18.4**	**-1.2**
MKZ	**Mys Kozlova**	**3.33**	**21**	*e*P	**Pn**	**19 55 54.4**	**-2.9**
MKZ				*i* S	**Sn**	**19 56 31.4**	**-4.1**
TUMR	**Tumrok**	**3.83**	**4**	*e*P	**Pn**	**19 56 04.5**	**+0.3**
KMNR	**Kamenistaya**	**4.30**	**4**	*e*P	**Pn**	**19 56 11.6**	**+0.9**
KPT	**Kopyto**	**4.51**	**4**	*e*P	**Pn**	**19 56 14.6**	**+1.0**
ZLN	**Zelenaya**	**4.60**	**8**	*e*P	**Pn**	**19 56 15.9**	**+1.1**
SRDR	**Sredinnyy**	**4.85**	**0**	*e*P	**Pn**	**19 56 20.3**	**+2.1**
KBTR	**Krutoberegovo**	**5.09**	**20**	*e*P	**Pn**	**19 56 19.9**	**-1.6**
BDR	**Baidarnaya**	**5.18**	**9**	*e*P	**Pn**	**19 56 22.1**	**-0.7**
SMKR	**Semkarok**	**5.23**	**11**	*e*P	**Pn**	**19 56 23.6**	**+0.3**
SRKR	**Sorokina**	**5.26**	**9**	*e*P	**Pn**	**19 56 24.6**	**+0.7**
BILL	**Bilibino**	**16.93**	**9**	*i* P	**Pn**	**19 59 03.6**	**+2.8**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YAK	**Yakutsk**	**19.36**	**315**	*d i*P	**Pn**	**19 59 26.8**	**-3.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
MJAR	**Matsushiro Arr**	**21.37**	**234**	P	**P**	**19 59 51.4**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.3,baz=30,slow=10,SNR=6.1						
MJAR				pP		20 00 02.4	
	comp=Z,4.1nm,0.9s,baz=28,slow=10,SNR=6.0						
SONM	**Songino Array**	**34.06**	**285**	LR	LR	20 17 25.6	
	comp=Z,64nm,19.0s,MS3.4,baz=257,slow=39						
MKAR	**Makanchi Array**	**48.65**	**297**	P	**P**	**20 03 45.2**	**-0.9**
	comp=Z,1.2nm,1.0s,mb3.9,baz=74,slow=6.6,SNR=4.6						
MKAR	**Makanchi Array**	**48.65**	**297**	P	**P**	**20 03 45.2**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**	**20 04 00.0**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**50.72**	**310**	*e*P	**P**		
	comp=Z,2.4nm,0.7s,mb4.2						
ARU	**Arti**	**54.43**	**318** ⇑	*i*P	**P**	**20 04 28.8**	**-0.5**
ARU				*e*		20 06 29.4	
ARU				*e*S	**S**	**20 12 01.7**	**-2.0**
ARU				*e*SS	SS	20 15 46.2	-0.4
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KAF	**Kangasniemi**	**60.88**	**337**	*ep*	**P**	**20 05 14.0**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**60.88**	**337**	*e*P	**P**	**20 05 14.0**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**61.51**	**337**	P	**P**	**20 05 19.2**	**+0.4**
	comp=Z,2.3nm,1.0s,mb4.3,baz=34,slow=8.5,SNR=6.6						
FINES	**FINESS Array B**	**61.51**	**337**	P	**P**	**20 05 19.2**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**63.75**	**328**	*e*P	**P**	**20 05 30.1**	**-3.7**
OBN				*e*		20 06 10.6	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**65.03**	**344**	P	**P**	**20 05 42.7**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=20,slow=6.6,SNR=2.8						
NOA	**NORSAR Array B**	**65.03**	**344**	P	**P**	**20 05 42.7**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**69.88**	**329**	P	**P**	**20 06 12.9**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=30,slow=6.2,SNR=9.8						
AKASG	**Malin Array Be**	**69.88**	**329**	P	**P**	**20 06 13.0**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**74.50**	**205**	P	**P**	**20 06 41.8**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.5,baz=20,slow=6.0,SNR=6.3						
WRA				pP	pP	20 06 52.4	-3.5
	comp=Z,2.1nm,0.9s,baz=19,slow=6.3,SNR=8.9						
WRA	**Warramunga Arr**	**74.50**	**205**	P	**P**	**20 06 41.8**	**+1.5**
WRA				*PP	pP	20 06 52.4	-3.5
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**78.17**	**204**	P	**P**	**20 07 03.8**	**+2.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=17,slow=5.4,SNR=8.2						
ASAR				pP	pP	20 07 14.4	-2.4
	comp=Z,0.7nm,0.8s,baz=16,slow=5.0,SNR=4.6						

*IDC **19** 20:12:40.1±1.8, 430N×9575E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=58.2km s-min=17.3km az=48.0*
*ISCJB **19** 20:12:45.4±4.4, 42N±03×957E±03, h57km±34km, mb3.7/6, Error ellipse: s-maj=65.0km s-min=18.0km az=104.1*
*NEIC **19** 20:12:46.2±1.2, 463N×9620E, h30km, mb3.8/1, Error ellipse: s-maj=32.7km s-min=13.5km az=50.0*

ISC 19 20:12:46.7±4.5, 43N±03×957E±03, h49km±35km, n9, σ0§60/10, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.54**	**114**	Pn	**Pn**	**20 13 38.5**	**-0.5**
	6.4nm,0.3s,baz=311,slow=12,SNR=25						
PSI				Sn	**Sn**	**20 14 20.1**	**+0.5**
	7.6nm,0.3s,baz=336,slow=20,SNR=2.7						
PSI				Lg		20 14 32.4	
	9.1nm,0.3s,baz=204,slow=20,SNR=6.0						
KULM	**Kulim**	**5.04**	**78**	*e*Pn	**Pn**	**20 13 51.4**	**-8.3**
FITZ	**Fitzroy Crossi**	**36.96**	**128**	P	**P**	**20 19 50.2**	**-0.8**
	1.2nm,0.7s,mb3.8,baz=320,slow=16,SNR=3.5						
AAK	**Ala-Archa**	**42.61**	**337**	P	**P**	**20 20 38.4**	**+0.5**
	1.4nm,0.7s,mb3.8						
MKAR	**Makanchi Array**	**43.93**	**347**	P	**P**	**20 20 49.0**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=154,slow=8.4,SNR=4.8						
MKAR	**Makanchi Array**	**43.93**	**347**	P	**P**	**20 20 49.0**	**+0.4**
SONM	**Songino Array**	**44.37**	**10**	P	**P**	**20 20 51.3**	**-0.8**
	0.4nm,0.6s,mb3.4,baz=192,slow=8.0,SNR=5.1						
WRA	**Warramunga Arr**	**44.95**	**124**	P	**P**	**20 20 56.5**	**-0.2**
	0.9nm,0.6s,mb3.8,baz=301,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**46.45**	**129**	P	**P**	**20 21 09.4**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=298,slow=8.2,SNR=21						

*STR **19** 20:13:20.7±0.5, 4453N×651E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ISCJB **19** 20:13:23.1±0.4, 4453N±002×673E±004, h2km±6km, Error ellipse: s-maj=5.3km s-min=2.8km az=146.3*
*LDG **19** 20:13:24.2±0.1, 4456N×679E, h2km, Md2.0/3, Ml1.9/6, Error ellipse: s-maj=3.1km s-min=1.6km az=84.0*

ISC 19 20:13:23.7±0.4, 4454N±002×676E±005, h9km±5km, n17, σ0§52/32, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.19**	**3**	*e*Pg	**Pg**	**20 13 27.5**	**-0.2**
MBDF				*e*Sg	**Sg**	**20 13 30.3**	**0.0**
	19nm,0.3s						
OG22	**Abries**	**0.31**	**25**	Pg	**Pg**	**20 13 29.8**	**-0.1**
OG22				Sg	**Sg**	**20 13 34.0**	**-0.1**
OG25	**Le Caire**	**0.52**	**251**	Pg	**Pg**	**20 13 26.1**	**-7.7**
OG25				Sg	**Sg**	**20 13 33.3**	**-7.3**
TOUF	**Mont Tournerai**	**0.64**	**146**	Pg	**Pg**	**20 13 35.8**	**-0.2**
TOUF				Sg	**Sg**	**20 13 44.8**	**+0.5**
AUTN	**L'Aution**	**0.73**	**138**	Pg	**Pg**	**20 13 37.4**	**-0.4**
AUTN				Sg	**Sg**	**20 13 47.3**	**0.0**
ORIF	**Oris-en-Rattie**	**0.73**	**301**	*e*Pg	**Pg**	**20 13 38.1**	**+0.3**
ORIF				*e*Sg	**Sg**	**20 13 47.8**	**+0.4**
	4.2nm,0.3s						
LUCF	**Luceram**	**0.78**	**147**	Pg	**Pg**	**20 13 38.6**	**-0.1**
LUCF				Sg	**Sg**	**20 13 49.1**	**+0.3**
SBF	**Sospel**	**0.83**	**144**	*e*Pg	**Pg**	**20 13 40.4**	**+0.6**
SBF				*e*Sg	**Sg**	**20 13 49.8**	**-0.9**
	6.9nm,0.3s						
LPG	**La Plagne**	**0.96**	**360**	*e*Pg	**Pg**	**20 13 42.1**	**-0.1**
LPG	**La Plagne**	**0.96**	**360**	*e*Pn	**Pn**	**20 13 42.9**	**-0.4**
LPG				*e*Sg	**Sg**	**20 13 54.6**	**0.0**
	1.9nm,0.3s						
LPL	**La Plagne**	**0.98**	**359**	*e*Pg	**Pg**	**20 13 42.3**	**-0.2**
LPL				*e*Sg	**Sg**	**20 13 55.9**	**+0.7**
	1.7nm,0.4s						
FRF	**La Foret Royal**	**0.98**	**185**	*e*Pg	**Pg**	**20 13 42.6**	**-0.1**

IDC ***19*** *20:31:38.6±16.0, 2066S×17420W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.2/5, Error ellipse: s-maj=316.3km s-min=142.7km az=83.0*
ISCJB ***19*** *20:31:42.4±1.6, 2105S±06×1748W±03, h10km, mb4.5/9, Error ellipse: s-maj=91.5km s-min=23.8km az=130.4*
NEIC ***19*** *20:31:43.7±1.3, 2104S×17468W, h10km, mb4.5/8, Error ellipse: s-maj=71.7km s-min=19.7km az=156.0*

ISC 19 20:31:44.1±1.6, 211S±06×1747W±03, h10km, n18, σ0s72/17, mb4.5/9, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**36.54**	**264**	*eP*		**P**	**20 38 50.2**	**+0.4**
	8.3nm,1.4s,mb4.4							
CTA	**Charters Tower**	**36.54**	**264**	P		**P**	**20 38 51.0**	**+1.2**
	2.7nm,0.4s,mb4.5,baz=80,slow=11,SNR=6.3							
CTAO	**Charters Tower**	**36.54**	**264**	*eP*		**P**	**20 38 50.7**	**+0.9**
	5.7nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**40.36**	**245**	*eP*		**P**	**20 39 22.9**	**+0.9**
	2.3nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**40.36**	**245**	P		**P**	**20 39 22.8**	**+0.9**
	0.5nm,0.3s,mb3.7,baz=85,slow=11,SNR=8.4							
AS31	**Alice Springs**	**47.42**	**257**	*eP*		**P**	**20 40 18.6**	**-0.1**
ASAR	**Alice Springs**	**47.42**	**257**	P		**P**	**20 40 18.7**	**0.0**
	2.7nm,0.7s,mb4.3,baz=99,slow=7.6,SNR=37							
ASPA	**Alice Springs**	**47.42**	**257**	*eP*		**P**	**20 40 18.6**	**-0.1**
WB2	**Warramunga Arr**	**47.60**	**262**	*eP*		**P**	**20 40 18.3**	**-1.8**
WRAB	**Tennant Creek**	**47.60**	**262**	*eP*		**P**	**20 40 19.2**	**-0.9**
	3.3nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**47.61**	**262**	P		**P**	**20 40 19.9**	**-0.3**
	1.1nm,0.3s,mb4.4,baz=97,slow=8.1,SNR=89							
KAKA	**Kakadu**	**51.10**	**270**	*eP*		**P**	**20 40 47.9**	**+1.0**
	3.6nm,0.4s,mb4.7							
FORT	**Forrest**	**51.93**	**247**	*eP*		**P**	**20 40 52.8**	**-0.2**
	12nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**56.04**	**262**	⇓*iP*		**P**	**20 41 23.5**	**+0.4**
	3.8nm,1.2s,mb4.3							
FITZ	**Fitzroy Crossi**	**56.04**	**262**	P		**P**	**20 41 23.6**	**+0.5**
	0.9nm,0.3s,mb4.3,baz=116,slow=8.9,SNR=21							
MBWA	**Marble Bar**	**60.77**	**257**	*eP*		**P**	**20 41 56.1**	**0.0**
	5.9nm,0.8s,mb4.8							
MUN	**Mundaring**	**61.88**	**244**	*eP*		PcP	20 42 40.5	-4.0
PV01	**Paradox Valley**	**85.50**	**46**	*eP*		**P**	**20 44 22.3**	**0.0**

BJI ***19*** *20:39:38.1, 488N×9455E, h41km, mB5.0, mb4.9, Ms4.3, Msz3.9*
ISCJB ***19*** *20:39:39.8±0.2, 507N±003×9452E±003, h40km, mb4.8/117, MS3.9/19, Error ellipse: s-maj=5.3km s-min=3.6km az=55.5*
MOS ***19*** *20:39:39.3±0.8, 524N×9460E, h33km, mb4.9/30, Error ellipse: s-maj=11.6km s-min=5.4km az=121.6*
NEIC ***19*** *20:39:40.1±0.1, 5.11N×9453E, h30km, mb4.8/70, Error ellipse: s-maj=5.1km s-min=3.0km az=212.0*
IDC ***19*** *20:39:42.4±2.5, 5.14N×9458E, h49km±23km, mb4.3/25, mb1 4.4/26, mb1mx4.4/27, mbtmp4.6/26, ML4.7/1, MS3.8/9, Ms1 3.8/9, ms1mx3.4/33, Error ellipse: s-maj=15.9km s-min=10.3km az=54.0*

ISC 19 20:39:41.9±0.2, 508N±003×9451E±003, h42km, h42km±2.6km:pP-P, n318, σ0s85/314, mb4.8/117, MS3.9/19, 62C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PKT	**Phuket**	**4.72**	**51**	P		**Pn**	**20 40 54.0**	**+3.5**
PSI	**Prapat**	**4.96**	**117**	P		**Pn**	**20 40 55.6**	**+1.8**
	31nm,0.3s,baz=301,slow=12,SNR=87							
PSI				S		**Sn**	**20 41 50.7**	**+0.9**
	5.1nm,0.3s,baz=6.2,slow=19,SNR=2.5							
PSI				LR		LR	20 43 18.5	
	comp=Z,902nm,18.7s,baz=286,slow=44							
PSI	**Prapat**	**4.96**	**117**	P		**Pn**	**20 40 55.6**	**+1.8**
PSI				S		**Sn**	**20 41 50.7**	**+0.9**
PSI				pmax		pmax		
	comp=Z,31nm,0.3s							
PSI				smax				
	comp=N,5.0nm,0.3s							
KULM	**Kulim**	**6.12**	**88**	*e*Pn		**Pn**	**20 41 10.2**	**+0.4**
SNG	**Songkhla**	**6.42**	**71**	P		**Pn**	**20 41 15.0**	**+1.1**
	comp=N,270nm,0.9s							
IPM	**Ipoh**	**6.53**	**95**	P		**Pn**	**20 41 16.6**	**+1.3**
NNT	**Nongplab**	**9.07**	**34**	P		**Pn**	**20 41 53.5**	**+3.3**
KGM	**Kluang**	**9.31**	**109**	P		**Pn**	**20 41 54.2**	**+0.7**
KKTK	**Khon Kaen**	**13.84**	**35**	P		**Pn**	**20 43 04.5**	**+9.0**
PALK	**Pallekele**	**13.89**	**280**	*e*Pn		**Pn**	**20 42 56.5**	**+0.3**
PALK				*e*Sn		**Sn**	**20 45 15.3**	**-14**
CM31	**Chiang Mai Arr**	**13.98**	**18**	*e*Pn		**Pn**	**20 42 59.9**	**+2.6**
	comp=N,27nm,0.6s							
CM31				*e*			20 43 05.0	
CHG	**Chiang Mai**	**14.32**	**17**	⇑P		**Pn**	**20 43 06.9**	**+5.0**
	comp=N,50nm,0.6s							
CHTO	**Chiang Mai**	**14.32**	**17**	*e*Pn		**Pn**	**20 43 03.4**	**+1.5**
	comp=N,31nm,0.7s							
CHTO				*e*			20 43 07.9	
NANT	**Nan**	**14.91**	**23**	P		**Pn**	**20 43 17.0**	**+7.2**
KSM	**Kuching**	**16.18**	**102**	*e*Pn		**Pn**	**20 43 25.4**	**-0.8**
TRD	**Trivandrum**	**17.75**	**282**	*e*S		**S**	**20 47 11.1**	**+2.9**
HYB	**Hyderabad**	**19.85**	**309**	*e*P		**Pn**	**20 44 11.0**	**-0.1**
QIZ	**Qiongzhong**	**20.39**	**46**	P		**P**	**20 44 15.6**	**+0.5**
QIZ				*e*S		**S**	**20 47 58.5**	**-2.7**
QIZ				AMB		AMB		
	comp=Z,28nm,1.5s							
QIZ				LR		LR		
	comp=N,338nm,18.2s							
QIZ				LR		LR		
	comp=Z,340nm,19.9s,MS3.7							
QIZ	**Qiongzhong**	**20.39**	**46**	P		**P**	**20 44 15.8**	**+0.7**
	comp=Z,12nm,0.8s							
KMI	**Kunming**	**21.43**	**21**	P		**P**	**20 44 27.6**	**+1.2**
KMI				AP			20 44 36.8	
KMI				XP		sP	20 44 40.3	-1.7
KMI				PP			20 44 54.3	
KMI				S		**S**	**20 48 21.8**	**0.0**
KMI				XS		sS	20 48 34.0	-4.5
KMI				SS			20 48 55.4	
KMI				AMB		AMB		
	comp=Z,16nm,1.1s,mb4.3							
KMI				AMB		AMB		
	comp=Z,78nm,3.5s							
KMI				LR		LR		
	comp=N,204nm,19.3s,MS3.7							
KMI				LR		LR		
	comp=E,165nm,15.6s,MS3.7							
KMI				LR		LR		
	comp=Z,179nm,21.0s							
KKM	**Kota Kinabalu**	**21.63**	**86**	*e*P		**P**	**20 44 28.9**	**+0.5**
PKI	**Pulchoki**	**23.98**	**340**	*e*P		**P**	**20 44 51.5**	**-0.9**
	comp=Z,26nm,0.6s,mb4.8							
DMN	**Daman**	**24.12**	**339**	*e*P		**P**	**20 44 53.1**	**-0.6**
	comp=Z,55nm,0.9s,mb5.0							
GUN	**Gumba**	**24.14**	**341**	*e*P		**P**	**20 44 52.9**	**-0.9**
	comp=Z,81nm,0.7s,mb5.3							
GYA	**Guiyang**	**24.22**	**27**	⇑*iP*		**P**	**20 44 54.6**	**0.0**
GYA				AMB		AMB		
	comp=Z,50nm,0.7s,mb5.0							
GYA				AMB		AMB		
	comp=Z,130nm,4.5s							
KKN	**Kakani**	**24.23**	**340**	*e*P		**P**	**20 44 53.9**	**-0.8**
	comp=Z,77nm,0.9s,mb5.2							
GKN	**Gorkha**	**24.65**	**339**	*e*P		**P**	**20 44 58.6**	**+0.1**
	comp=Z,132nm,0.9s,mb5.5							
LSA	**Lhasa**	**24.69**	**353**	P		**P**	**20 44 57.3**	**-1.6**
LSA	**Lhasa**	**24.69**	**353**	*e*P		**P**	**20 44 59.2**	**+0.4**
	comp=Z,26nm,0.6s,mb4.9							
KOLN	**Koldanda**	**24.83**	**336**	*e*P		**P**	**20 45 00.5**	**+0.3**
	comp=Z,154nm,1.1s,mb5.4							
TGY	**Tagaytay City**	**27.53**	**69**	P		**P**	**20 45 25.7**	**+1.2**
	comp=Z,110nm,0.3s,baz=188,slow=15,SNR=3.5							
TGY	**Tagaytay City**	**27.53**	**69**	P		**P**	**20 45 25.7**	**+1.2**
TGY				pmax		pmax		
	comp=Z,11nm,0.3s							
WHN	**Wuhan**	**31.48**	**34**	⇓P		**P**	**20 46 00.0**	**+0.5**
WHN				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.2							
XAN	**Xi'an**	**31.77**	**23**	P		**P**	**20 46 00.9**	**-1.2**
XAN				AMB		AMB		
	comp=Z,57nm,0.7s,mb5.5							
LZH	**Lanzhou**	**32.03**	**14**	*e*P		**P**	**20 46 03.4**	**-0.9**
LZH				AP		pP	20 46 20.0	+4.2
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb4.9							
LZH				AMB		AMB		
	comp=Z,110nm,4.8s							
LZH				LR		LR		
	comp=E,390nm,14.7s							
LZH				LR		LR		
	comp=Z,556nm,16.0s,MS4.3							
GTA	**Gaotai**	**34.51**	**7**	⇑*iP*		**P**	**20 46 25.6**	**-0.4**
GTA				AP		pP	20 46 36.3	-1.2
GTA				XP		sP	20 46 39.8	-2.7
GTA				S		**S**	**20 51 54.8**	**+3.1**
GTA				AMB		AMB		
	comp=Z,23nm,0.9s,mb5.1							
GTA				AMB		AMB		
	comp=Z,64nm,4.2s							
GTA				LR		LR		
	comp=N,75nm,17.1s,MS3.8							
GTA				LR		LR		
	comp=E,117nm,16.7s,MS3.8							
GTA				LR		LR		
	comp=Z,110nm,17.5s,MS3.6							
NJ2	**Nanjing**	**35.20**	**37**	*e*P		**P**	**20 46 32.8**	**+0.9**
NJ2				AP		pP	20 46 42.5	-1.0
NJ2				XP		sP	20 46 46.5	-2.0
NJ2				PP		PP	20 47 52.1	-0.2
NJ2				S		**S**	**20 52 04.0**	**+1.6**
NJ2				XS		sS	20 52 20.0	-1.6
NJ2				AMB		AMB		
	comp=Z,90nm,1.0s,mb5.7							
NJ2				AMB		AMB		
	comp=Z,90nm,10.0s							
NJ2				LR		LR		
	comp=N,260nm,20.0s,MS4.1							
NJ2				LR		LR		
	comp=E,210nm,22.0s,MS4.1							
NJ2				LR		LR		
	comp=Z,80nm,22.0s,MS3.4							
MBWA	**Marble Bar**	**35.95**	**137**	P		**P**	**20 46 37.7**	**-0.7**
	comp=Z,13nm,1.0s,mb4.8							
SSE	**Sheshan**	**36.02**	**41**	P		**P**	**20 46 36.1**	**-2.9**
SSE				AP		pP	20 46 44.9	-5.6
SSE				PP		PP	20 47 59.1	-2.3
SSE				S		**S**	**20 52 15.1**	**+0.1**
SSE				XS		sS	20 52 29.9	-4.3
SSE				AMB		AMB		
	comp=Z,24nm,0.8s,mb5.2							
SSE				AMB		AMB		
	comp=Z,27nm,3.7s							
SSE				LR		LR		
	comp=N,64nm,16.0s,MS3.6							
SSE				LR		LR		
	comp=E,48nm,16.0s,MS3.6							
SSE				LR		LR		
	comp=Z,95nm,16.5s,MS3.6							
FITZ	**Fitzroy Crossi**	**38.39**	**128**	*e*P		**P**	**20 46 57.7**	**-1.4**
	comp=Z,18nm,0.6s,mb5.0							
FITZ				*e*PCP		PcP	20 49 12.6	+0.7
FITZ	**Fitzroy Crossi**	**38.39**	**128**	P		**P**	**20 46 58.1**	**-1.0**
	comp=Z,10nm,0.6s,mb4.7,baz=307,slow=5.7,SNR=50							
FITZ				PcP		PcP	20 49 12.7	+0.7
	comp=Z,5.0nm,0.7s,baz=322,slow=3.8,SNR=9.5							
HHC	**Hu-ho-hao-te**	**38.76**	**21**	*e*P		**P**	**20 47 03.0**	**+0.8**
HHC				AP		pP	20 47 12.8	-1.0
HHC				XP		sP	20 47 16.8	-2.5
HHC				PP		PP	20 48 35.9	+4.5
HHC				PCP		PcP	20 49 14.3	+1.2
HHC				S		**S**	**20 52 58.8**	**+2.3**
HHC				PCS		PcS	20 53 02.3	-0.2
HHC				XS		sS	20 53 15.3	-0.6
HHC				SS		SS	20 55 42.5	-5.9
HHC				SCS		ScS	20 57 08.3	-0.3
HHC				AMB		AMB		
	comp=Z,13nm,0.4s,mb5.0							
HHC				AMB		AMB		
	comp=Z,72nm,3.9s							
HHC				LR		LR		
	comp=N,139nm,4.3s							
HHC				LR		LR		
	comp=E,226nm,4.5s							
HHC				LR		LR		
	comp=Z,207nm,8.2s							
JOW	**Kunigami**	**38.79**	**52**	P		**P**	**20 47 03.0**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8,baz=235,slow=8.4,SNR=10							
WMQ	**Urumqi**	**39.04**	**352**	⇑*iP*		**P**	**20 47 04.8**	**+0.3**
WMQ				AP		pP	20 47 14.5	-1.7
WMQ				XP		sP	20 47 19.0	-2.1
WMQ				PP		PP	20 48 39.0	+4.5
WMQ				S		**S**	**20 53 01.0**	**+0.2**
WMQ				XS		sS	20 53 19.0	-1.1
WMQ				AMB		AMB		
	comp=Z,22nm,0.8s,mb4.9							
WMQ				AMB		AMB		
	comp=Z,143nm,4.8s							
WMQ				LR		LR		
	comp=N,186nm,26.6s,MS4.1							
WMQ				LR		LR		
	comp=E,298nm,25.2s,MS4.1							
WMQ				LR		LR		
	comp=Z,232nm,28.8s,MS3.9							
BJT	**Baijiatuao**	**39.88**	**26**	*e*P		**P**	**20 47 12.4**	**+0.8**
	comp=Z,24nm,0.8s,mb5.0							
UCH	**Uchtor**	**41.04**	**337**	P		**P**	**20 47 22.4**	**+1.3**
	SNR=21							
KBK	**Karagaybulak**	**41.25**	**338**	P		**P**	**20 47 24.0**	**+1.2**
	SNR=16							
AML	**Almayashu**	**41.28**	**336**	P		**P**	**20 47 24.1**	**+1.0**
	SNR=14							
AAK	**Ala-Archa**	**41.40**	**338**	P		**P**	**20 47 27.9**	**+3.9**
	SNR=6.3							
AAK	**Ala-Archa**	**41.40**	**338**	⇓*e*P		**P**	**20 47 24.3**	**+0.3**
AAK				pmax		pmax		
	comp=Z,19nm,1.5s,mb4.5							
AAK	**Ala-Archa**	**41.40**	**338**	*e*P		**P**	**20 47 23.6**	**-0.5**
	comp=Z,13nm,0.8s,mb4.6							
KAKA	**Kakadu**	**41.63**	**115**	*e*P		**P**	**20 47 24.6**	**-1.4**
	comp=Z,6.8nm,0.5s,mb4.5							
EKS2	**Erkin-Say**	**41.70**	**337**	P		**P**	**20 47 29.4**	**+2.9**
	SNR=6.5							
USP	**Ospenovka**	**41.94**	**338**	P		**P**	**20 47 28.8**	**+0.4**
	SNR=12							
MUN	**Mundaring**	**42.26**	**152**	*e*P		**P**	**20 47 31.0**	**0.0**
KLBR	**Kellerberrin**	**42.68**	**150**	*e*P		**P**	**20 47 33.3**	**-1.2**
	comp=Z,21nm,1.0s,mb4.8							
MK31	**Makanchi Array**	**42.87**	**348**	P		**P**	**20 47 35.7**	**-0.3**
MK31				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**42.87**	**348**	P		**P**	**20 47 36.0**	**-0.1**
	comp=Z,24nm,0.8s,mb5.0,baz=159,slow=7.3,SNR=167							
MKAR	**Makanchi Array**	**42.87**	**348**	P		**P**	**20 47 36.0**	**0.0**
MKAR				pmax		pmax		
	comp=Z,25nm,0.8s							
MKAR	**Makanchi Array**	**42.87**	**348**	P		**P**	**20 47 36.0**	**-0.1**
KKAR	**Karatay Array**	**43.41**	**334**	*i* P		**P**	**20 47 40.2**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
SONM	**Songino Array**	**43.80**	**12**	P		**P**	**20 47 42.7**	**-0.8**
	comp=Z,10nm,0.8s,mb4.6,baz=190,slow=8.3,SNR=72							
SONM				PcP		PcP	20 49 29.6	+0.1
	comp=Z,6.0nm,0.6s,baz=194,slow=3.4,SNR=14							
SONM				LR		LR	21 08 49.2	
	comp=Z,97nm,20.0s,MS3.7,baz=194,slow=40							
SONM	**Songino Array**	**43.80**	**12**	P		**P**	**20 47 42.7**	**-0.8**
SONM							20 49 29.6	
SONM				pmax		pmax		
	comp=Z,10.0nm,0.8s							
SONM				MLR		MLR		
	comp=Z,97nm,20.0s							
ULN	**Ulaanbaatar**	**43.96**	**12**	*c iP*		**P**	**20 47 43.8**	**-1.0**
ULN	**Ulaanbaatar**	**43.96**	**12**	*eP*		**P**	**20 47 43.7**	**-1.1**
	comp=Z,5.1nm,0.7s,mb4.4							
ULN				*e*PcP		PcP	20 49 29.9	-0.2
ZAK	**Zakamensk**	**45.74**	**8**	*eP*		**P**	**20 47 58.2**	**-0.8**
ZAK				*e*			20 49 35.7	
WRA	**Warramunga Arr**	**46.39**	**124**	P		**P**	**20 48 04.0**	**-0.1**
	comp=Z,47nm,0.8s,mb5.5,baz=300,slow=9.6,SNR=405							
WRA	**Warramunga Arr**	**46.39**	**124**	P		**P**	**20 48 04.0**	**-0.1**
WRA				pmax		pmax		
	comp=Z,47nm,0.8s							
WRAB	**Tennant Creek**	**46.39**	**124**	*c iP*		**P**	**20 48 04.2**	**+0.1**
WRAB	**Tennant Creek**	**46.39**	**124**	*eP*		**P**	**20 48 03.8**	**-0.4**
	comp=Z,68nm,0.6s,mb5.8							
WB2	**Warramunga Arr**	**46.40**	**124**	*eP*		**P**	**20 48 04.1**	**-0.1**
TLY	**Talaya**	**47.06**	**8**	*eP*		**P**	**20 48 10.0**	**+0.7**
TLY				*e*			20 59 30.8	
TLY				pmax		pmax		
	comp=Z,11nm,1.4s,mb4.6							
TLY				MLR		MLR		
	comp=Z,65nm,16.0s,MS3.7							
TLY	**Talaya**	**47.06**	**8**	P		**P**	**20 48 08.9**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.5							
ASPA	**Alice Springs**	**47.88**	**128**	*eP*		**P**	**20 48 15.6**	**-0.1**
ASPA				*e*PCP		PcP	20 49 44.2	+0.4
AS31	**Alice Springs**	**47.88**	**128**	*eP*		**P**	**20 48 15.6**	**-0.1**
AS31				*e*PcP		PcP	20 49 44.2	+0.4
ASAR	**Alice Springs**	**47.88**	**128**	P		**P**	**20 48 15.6**	**-0.2**
	comp=Z,7.8nm,0.6s,mb4.9,baz=298,slow=8.0,SNR=119							
ASAR				PcP		PcP	20 49 44.2	+0.4
	comp=Z,8.4nm,1.0s,baz=310,slow=3.7,SNR=8.2							
ASAR				LR		LR	21 09 06.3	
	comp=Z,75nm,20.0s,MS3.7,baz=189,slow=37							
ASAR	**Alice Springs**	**47.88**	**128**	P		**P**	**20 48 15.6**	**-0.1**
ASAR							20 49 44.2	
ASAR				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ASAR				MLR		MLR		
	comp=Z,75nm,20.0s							
HIA	**Hailar**	**48.95**	**22**	*eP*		**P**	**20 48 22.1**	**-1.8**
	comp=Z,9.2nm,0.7s,mb4.9							
ZAL	**Zalesovo**	**49.34**	**352**	P		**P**	**20 48 26.9**	**0.0**
	comp=Z,11nm,0.7s,mb5.0,baz=297,slow=6.3,SNR=44							
ZAL				LR		LR	21 12 31.2	
	comp=Z,54nm,18.1s,MS3.6,baz=171,slow=40							
ZAL	**Zalesovo**	**49.34**	**352**	P		**P**	**20 48 26.9**	**0.0**
ZAL				pmax		pmax		
	comp=Z,11nm,0.7s							
ZAL				MLR		MLR		
	comp=Z,54nm,18.1s							
ZAL	**Zalesovo**	**49.34**	**352**	P		**P**	**20 48 26.9**	**0.0**
ZAL				LR		LR	21 12 31.2	
MDJ	**Mudanjiang**	**49.93**	**32**	P		**P**	**20 48 31.5**	**+0.1**
MDJ				AP		pP	20 48 40.5	-2.8
MDJ				XP		sP	20 48 44.3	-3.9
MDJ				PCP		PcP	20 49 49.6	-1.6
MDJ				PP		PP	20 50 26.6	+0.1
MDJ				SCP		ScP	20 53 44.4	+1.0
MDJ				PCS		PcS	20 53 48.0	-0.1
MDJ				S		**S**	**20 55 40.9**	**+2.2**
MDJ				XS		sS	20 55 56.5	-2.0
MDJ				AMB		AMB		
	comp=Z,17nm,2.1s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,218nm,4.8s							
MDJ				LR		LR		
	comp=N,26nm,23.6s,MS3.6							
MDJ				LR		LR		
	comp=E,66nm,20.6s,MS3.6							
MDJ				LR		LR		
	comp=Z,72nm,21.6s,MS3.6							
MDJ	**Mudanjiang**	**49.93**	**32**	P		**P**	**20 48 33.1**	**+1.8**
	comp=Z,11nm,0.8s,mb4.9							
NVS	**Novosibirsk**	**50.44**	**352**	*eP*		**P**	**20 48 33.0**	**-2.3**
NVS				pmax		pmax		
	comp=N,12nm,0.9s							
NVS				pmax		pmax		
	comp=E,11nm,0.9s							
NVS				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.1							
MAJO	**Matsushiro**	**50.79**	**46**	P		**P**	**20 48 36.6**	**-1.3**
	comp=Z,6.3nm,0.7s,mb4.7							
MJAR	**Matsushiro Arr**	**50.79**	**46**	P		**P**	**20 48 37.8**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=251,slow=8.1,SNR=7.5							
MJAR				LR		LR	21 12 06.2	
	comp=Z,143nm,19.2s,MS4.0,baz=230,slow=38							
MJAR	**Matsushiro Arr**	**50.79**	**46**	P		**P**	**20 48 37.8**	**-0.1**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MJAR				MLR		MLR		
	comp=Z,143nm,19.2s							
VOSK	**Vostochnaya**	**51.29**	**342**	P		**P**	**20 48 40.7**	**-1.0**
VOSK				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.6							
BVA0	**Borovoye Array**	**51.73**	**342**	*i* P		**P**	**20 48 44.3**	**-0.7**
BRVK	**Borovoye**	**51.79**	**342**	*i* P		**P**	**20 48 44.9**	**-0.5**
BRVK	**Borovoye**	**51.79**	**342**	*eP*		**P**	**20 48 44.5**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.6							
CHKZ	**Chkalovo**	**52.22**	**342**	P		**P**	**20 48 48.4**	**-0.2**
CHKZ	**Chkalovo**	**52.22**	**342**	*eP*		**P**	**20 48 48.3**	**-0.3**
	comp=Z,19nm,0.8s,mb5.1							
CHKZ				*e*		pP	20 49 00.7	+0.1
AB31	**Akbulak array**	**52.84**	**332**	*i* P		**P**	**20 48 52.8**	**-0.4**
AB31				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.8							
PMG	**Port Moresby**	**54.41**	**105**	P		**P**	**20 49 03.9**	**-0.7**
	comp=Z,22nm,0.9s,mb5.1,baz=333,slow=6.8,SNR=4.0							
PMG	**Port Moresby**	**54.41**	**105**	P		**P**	**20 49 03.9**	**-0.8**
PMG				pmax		pmax		
	comp=Z,22nm,0.9s							
PMG	**Port Moresby**	**54.41**	**105**	P		**P**	**20 49 03.4**	**-1.3**
	comp=Z,24nm,0.8s,mb5.2							
AKTO	**Aktyubinsk**	**54.56**	**332**	P		**P**	**20 49 05.0**	**-0.8**
BOD	**Bodaibo**	**54.77**	**13**	*eP*		**P**	**20 49 04.0**	**-3.3**
BOD				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
GNI	**Garni**	**56.65**	**316**	*i* P		**P**	**20 49 21.4**	**+0.6**
GNI	**Garni**	**56.65**	**316**	*eP*		**P**	**20 49 20.5**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.7							
KMBO	**Kilima Mbogo**	**57.52**	**265**	P		**P**	**20 49 29.7**	**+2.7**
	comp=Z,2.3nm,0.5s,mb4.5,baz=73,slow=9.7,SNR=12							
KMBO				LR		LR	21 09 09.4	
	comp=Z,115nm,21.0s,MS4.0,baz=92,slow=31							
KMBO	**Kilima Mbogo**	**57.52**	**265**	*i* P		**P**	**20 49 29.8**	**+2.9**
KMBO				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KMBO	**Kilima Mbogo**	**57.52**	**265**	P		**P**	**20 49 29.7**	**+2.7**
KMBO				LR		LR	21 09 09.4	
STKA	**Stephens Creek**	**57.95**	**133**	*eP*		**P**	**20 49 29.3**	**-0.6**
	comp=Z,5.4nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**57.95**	**133**	P		**P**	**20 49 29.7**	**-0.2**
	comp=Z,2.3nm,0.9s,mb4.2,baz=291,slow=6.7,SNR=6.3							
STKA				LR		LR	21 15 19.0	
	comp=Z,66nm,18.1s,MS3.8,baz=26,slow=37							
SVE	**Sverdlovsk**	**

comp=Z,117nm,18.3s,MS4.2,baz=112,slow=33
LSZ Lusaka 68.71 252 *e*P **P 20 50 42.2 +1.0**
comp=Z,3.3nm,0.9s,mb4.3
MA2 Magadan 69.06 27 *e*P **P 20 50 42.3 -1.0**
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 Magadan 69.06 27 *e*P **P 20 50 42.1 -1.2**
comp=Z,13nm,0.7s,mb5.0
CFR Carcaliu 69.84 316 ⇓P **P 20 50 47.6 -0.5**
AKASG Malin Array Be 70.56 322 *i*P **P 20 50 50.6 -1.9**
comp=Z,4.8nm,0.7s,mb4.6,baz=91,slow=4.8,SNR=23
AKASG Malin Array Be 70.56 322 *i*P **P 20 50 50.5 -2.0**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
PET Petropavlovsk 70.58 35 *i*P **P 20 50 51.2 -1.4**
PET pmax pmax
comp=Z,14nm,1.1s,mb4.8
VRI Vrincioaia 70.96 317⇑*i*P **P 20 50 55.6 +0.6**
VRI Vrincioaia 70.96 317 ⇑P **P 20 50 55.6 +0.7**
PLOR Plostina 71.01 317 ⇓*i*P **P 20 50 55.8 +0.5**
SEY Seymchan 71.30 24 *i*P **P 20 50 56.6 -0.4**
MLR Muntele Rosu 71.42 316 P **P 20 50 58.1 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=196,slow=2.0,SNR=13
MLR Muntele Rosu 71.42 316 ⇓*i*P **P 20 50 58.2 +0.5**
MLR Muntele Rosu 71.42 316 ⇓P **P 20 50 58.2 +0.5**
VOIR 72.02 316 ⇓*i*P **P 20 51 00.6 -0.8**
VOIR 72.02 316 ⇓P **P 20 51 00.6 -0.8**
BURAR Bucovina Array 72.35 318⇑*i*P **P 20 51 03.5 +0.2**
BURAR Bucovina Array 72.35 318 ⇑P **P 20 51 03.5 +0.2**
VTS Vitosha 72.83 313⇑*i*P **P 20 51 06.1 -0.1**
VTS Vitosha 72.83 313 ⇑P **P 20 51 06.1 -0.1**
LBTB Lobatse 73.25 242 P **P 20 51 10.1 +1.5**
comp=Z,8.3nm,1.0s,mb4.6
JOF Joensuu 73.51 335 *ep* **P 20 51 08.7 -1.5**
comp=Z,4.9nm,1.0s,mb4.4
JOF Joensuu 73.51 335 *e*P **P 20 51 08.7 -1.5**
JOF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KWP Kalwaria 74.38 320 *e*P **P 20 51 15.3 0.0**
BOSA Boshof 74.43 239 P **P 20 51 16.8 +1.2**
comp=Z,3.3nm,0.7s,mb4.4,baz=109,slow=15,SNR=4.9
BOSA Boshof 74.43 239 P **P 20 51 16.8 +1.2**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KOLS Kolonicke sedl 74.54 319 *e*P **P 20 51 16.5 +0.3**
SUW Suwalki 74.97 325 *e*P **P 20 51 17.7 -1.0**
CRVS Cervenica-Dubn 75.06 319 *e*P **P 20 51 19.6 +0.4**
STHS Stebnicka Huta 75.28 320 *e*P **P 20 51 21.5 +1.0**
STHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
STHS Stebnicka Huta 75.28 320 *e*P **P 20 51 21.5 +1.0**
comp=Z,9.7nm,0.8s,mb4.8
STHS *e*PP pP 20 51 35.4 +2.4
STHS *e*SP 20 51 41.9
FINES FINESS Array B 75.33 332 P **P 20 51 19.7 -1.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=97,slow=7.1,SNR=13
FINES FINESS Array B 75.33 332 *i*P **P 20 51 21.8 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 75.43 333 *ep* **P 20 51 19.2 -2.1**
comp=Z,3.3nm,0.7s,mb4.4
KAF Kangasniemi 75.43 333 *e*P **P 20 51 19.2 -2.1**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KECS Kecovo 75.63 319 *e*P **P 20 51 22.5 0.0**
KECS *e*SP sP 20 51 36.2 -3.6
KECS *e* 20 51 43.8
KECS Kecovo 75.63 319 *e*P **P 20 51 22.5 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 75.63 319 *e*P **P 20 51 22.5 0.0**
comp=Z,4.1nm,0.8s,mb4.4
KECS *e*PP pP 20 51 36.3 +1.3
KECS *e*SP 20 51 43.8
NIE Niedzica 75.89 320 *e*Pc **P 20 51 24.4 +0.5**
MAW Mawson 75.90 192 P **P 20 51 24.6 +0.6**
comp=Z,1.8nm,0.7s,mb4.1,baz=35,slow=4.4,SNR=8.8
MAW Mawson 75.90 192 P **P 20 51 24.6 +0.6**
MAW pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 75.90 192 *e*P **P 20 51 24.7 +0.7**
comp=Z,3.0nm,0.8s,mb4.3
MAW *e* pP 20 51 38.6 +2.1
OJC Ojcow 76.33 320 *i* Pc **P 20 51 26.4 -0.1**
PKSM Moragy 76.57 316⇑*i*P **P 20 51 27.6 -0.2**
PKSM Moragy 76.57 316 ⇑P **P 20 51 27.6 -0.3**
VYHS Vyhne 76.72 319 *i* P **P 20 51 28.8 +0.1**
VYHS *e*Sn S 21 00 52.9 -20
OKC Ostrava-Krasne 77.34 320 *e*P **P 20 51 32.5 +0.4**
MORC Moravsky Berou 77.72 320⇑*i*P **P 20 51 34.8 +0.5**
MORC Moravsky Berou 77.72 320 *e*P **P 20 51 34.4 +0.1**
comp=Z,14nm,1.1s,mb4.8
ZST Bratislava 77.83 318 *i* P **P 20 51 35.6 +0.7**
ZST pmax pmax
comp=Z,22nm,0.9s,mb5.1
ZST Bratislava 77.83 318 *i* P **P 20 51 35.6 +0.7**
comp=Z,22nm,0.9s,mb5.1
ARCES ARCESS Array B 78.00 340 P **P 20 51 34.9 -0.9**
comp=Z,1.1nm,0.5s,mb4.0,baz=94,slow=5.2,SNR=11
ARCES LR LR 21 28 20.4
comp=Z,70nm,21.0s,MS4.0,baz=300,slow=37
ARCES ARCESS Array B 78.00 340 P **P 20 51 34.9 -0.9**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES MLR MLR
comp=Z,70nm,21.0s
ARCES ARCESS Array B 78.00 340 P **P 20 51 34.9 -0.9**
ARCES LR LR 21 28 20.4
KOGS Kog 78.24 316 *e*P **P 20 51 37.3 +0.1**
VRAC Vranov 78.28 319 ⇓*i*P **P 20 51 37.5 +0.1**
VRAC Vranov 78.28 319 ⇓P **P 20 51 37.5 +0.1**
GKP Gorka Klasztor 78.33 323 *e*P **P 20 51 37.6 -0.1**
BILL Bilibino 78.53 21 P **P 20 51 37.2 -1.6**
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
DPC Dobruska-Polom 78.56 320 *e*P **P 20 51 39.6 +0.6**
KSP Ksiaz 78.63 321 *e*P **P 20 51 39.9 +0.6**
KSP Ksiaz 78.63 321 *e*P **P 20 51 39.5 +0.2**
UPC Upice 78.78 320 *e*P **P 20 51 40.7 +0.6**
ARSA Arzberg 78.81 317 ⇓*i*P **P 20 51 40.6 +0.4**
comp=Z,43nm,1.9s,mb5.1
BOJS Bojanci 78.86 315 *i* P **P 20 51 40.6 0.0**
TREC Trest 79.00 319 *e*P **P 20 51 41.4 0.0**
PERS Pernice 79.04 316 *i* P **P 20 51 42.0 +0.4**
LJU Ljubljana 79.40 316 *i* P **P 20 51 43.9 +0.4**
PRU Pruhonice 79.67 320 *e*P **P 20 51 45.2 +0.2**
PVCC Panska Ves 79.70 320 *e*P **P 20 51 45.5 +0.4**
MOA Molln 79.70 318⇑*i*P **P 20 51 44.9 -0.3**
comp=Z,13nm,1.8s,mb4.6
GORS Gorjuse 79.79 316 *e*P **P 20 51 45.6 0.0**
BRG Berggiesshubel 80.12 321 *e*Pdiff **P 20 51 47.7 +0.3**
BRG Berggiesshubel 80.12 321⇑*i*P **P 20 51 47.6 +0.2**
comp=Z,5.2nm,0.8s,mb4.5
BRG Berggiesshubel 80.12 321⇑*i*P **P 20 51 47.7 +0.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 80.14 319 *e*Pdiff **P 20 51 47.8 +0.3**
GERES GERESS Array B 80.14 319 P **P 20 51 47.9 +0.4**
comp=Z,16nm,0.8s,mb5.0,baz=96,slow=5.4,SNR=121
GERES GERESS Array B 80.14 319 P **P 20 51 47.9 +0.4**
GERES pmax pmax
comp=Z,16nm,0.8s
KHC Kasperske Hory 80.24 319 *e*P **P 20 51 48.1 0.0**
RUE Ruedersdorf 80.34 322 *e*Pdiff **P 20 51 48.7 +0.1**
FBE Freiberg 80.50 321 *e*Pdiff **P 20 51 49.5 0.0**
WET Wettzell 80.70 319 *e*Pdiff **P 20 51 50.7 +0.2**
CLL Collm 80.74 321 *e*Pdiff **P 20 51 50.4 -0.4**
CLL Collm 80.74 321⇑*i*P **P 20 51 50.5 -0.3**
comp=Z,11nm,1.0s,mb4.7
CLL *ep*PcP 20 52 07.0
CLL Collm 80.74 321⇑*i*P **P 20 51 50.5 -0.3**
CLL *e* 20 52 07.0
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
NKC Novy Kostel 81.03 320 *e*P **P 20 51 52.7 +0.4**
TANN Tannenbergstha 81.03 320 *e*Pdiff **P 20 51 52.0 -0.3**
WERN Wernitzgruen 81.08 320 *e*Pdiff **P 20 51 52.9 +0.3**
GUNZ Gunzen 81.11 320 *e*Pdiff **P 20 51 53.0 +0.2**
WERD Werda 81.13 320 *e*Pdiff **P 20 51 52.7 -0.2**
ROTZ Rotzenmuhle 81.17 319 *e*Pdiff **P 20 51 53.6 +0.6**
MANZ Manzenberg 81.24 320 *e*Pdiff **P 20 51 54.1 +0.7**
WTTA Wattenberg 81.45 317⇑*i*P **P 20 51 54.1 -0.4**
comp=Z,31nm,1.3s,mb5.1
WATA Walderalm 81.49 317⇑*i*P **P 20 51 54.1 -0.7**
comp=Z,5.9nm,1.0s,mb4.5
MOX Moxa 81.58 320 *e*Pdiff **P 20 51 55.0 -0.2**
GRA1 Grafenberg Arr 81.80 319 *e*Pdif **P 20 51 56.7 +0.3**
GRF Grafenberg Arr 81.80 319 *e*Pdiff **P 20 51 56.7 +0.3**
MOTA Moosalm 81.81 317⇑*i*P **P 20 51 55.9 -0.6**
comp=Z,9.6nm,1.0s,mb4.7
NB2 NORSAR Subarra 82.33 331 P **P 20 51 57.1 -2.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=91,slow=5.1
NOA NORSAR Array B 82.33 331 P **P 20 51 58.0 -1.1**
comp=Z,2.6nm,0.9s,mb4.2,baz=94,slow=5.8,SNR=4.6
NOA NORSAR Array B 82.33 331 P **P 20 51 58.1 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.9s
CLZ Clausthal 82.40 321 *e*Pdiff **P 20 51 59.5 0.0**
BSEG Bad Segeberg 82.49 324 *e*Pdiff **P 20 52 00.1 +0.1**
DAVA Damuels 82.65 317 ⇓*i*P **P 20 52 01.0 +0.1**
comp=Z,12nm,1.2s,mb4.8
SYO Syowa Base 82.86 197⇑*e*P **P 20 52 02.6 +0.6**
KEST Kesra 83.13 305 P **P 20 52 04.1 +0.8**
comp=Z,2.2nm,0.9s,mb4.2,baz=324,slow=4.5,SNR=6.4
TNS Taunus Mts 83.60 320 *e*Pdiff **P 20 52 05.9 +0.2**
BFO Black Forest 83.69 318 *e*Pdiff **P 20 52 05.7 -0.5**
BUG Bochum-Univer 84.33 321 *e*Pdiff **P 20 52 09.8 +0.3**
CDF Champ du Feu 84.39 318⇑*i*P **P 20 52 09.3 -0.5**
comp=Z,7.5nm,0.8s,mb4.6
CDF Champ du Feu 84.39 318⇑*i*P **P 20 52 09.3 -0.5**
comp=Z,3.8nm,0.8s,mb4.6
SBF Sospel 84.40 313⇑*i*P **P 20 52 09.9 +0.1**
comp=Z,30nm,0.7s,mb5.2
SBF Sospel 84.40 313⇑*i*P **P 20 52 09.9 +0.1**
comp=Z,15nm,0.7s,mb5.2
HINF Hinteralfeld 84.69 317 *e*P **P 20 52 11.3 0.0**
LPG La Plagne 84.83 315⇑*i*P **P 20 52 12.4 +0.4**
comp=Z,23nm,0.9s,mb5.0
LPG La Plagne 84.83 315⇑*i*P **P 20 52 12.4 +0.4**
comp=Z,12nm,0.9s,mb5.0
LPL La Plagne 84.85 315⇑*i*P **P 20 52 12.4 +0.3**
comp=Z,24nm,0.8s,mb5.1
LPL La Plagne 84.85 315⇑*i*P **P 20 52 12.4 +0.3**
comp=Z,12nm,0.8s,mb5.1
MBDF Montbardon 84.85 314⇑*i*P **P 20 52 11.6 -0.5**
comp=Z,10nm,0.9s,mb4.7
MBDF Montbardon 84.85 314⇑*i*P **P 20 52 11.6 -0.5**
comp=Z,5.2nm,0.9s,mb4.7
BNI Bardonecchia 84.90 315 *e*P **P 20 52 12.1 -0.3**
comp=Z,4.9nm,0.8s,mb4.7
FRF La Foret Royal 84.98 313⇑*i*P **P 20 52 12.9 +0.2**
comp=Z,18nm,0.7s,mb5.0
FRF La Foret Royal 84.98 313⇑*i*P **P 20 52 12.9 +0.2**
comp=Z,8.8nm,0.7s,mb5.0
HAU Haudompre 85.02 318⇑*i*P **P 20 52 12.5 -0.5**
comp=Z,24nm,0.8s,mb5.1
HAU Haudompre 85.02 318⇑*i*P **P 20 52 12.5 -0.5**
comp=Z,12nm,0.8s,mb5.1
LMR La Mourre 85.09 313⇑*i*P **P 20 52 13.3 0.0**
comp=Z,18nm,1.0s,mb4.9
LMR La Mourre 85.09 313⇑*i*P **P 20 52 13.3 0.0**
comp=Z,9.2nm,1.0s,mb4.9
CABF La Chapelle 85.25 316⇑*i*P **P 20 52 14.3 +0.2**
comp=Z,14nm,0.7s,mb4.9
CABF La Chapelle 85.25 316⇑*i*P **P 20 52 14.3 +0.2**
comp=Z,6.8nm,0.7s,mb4.9
ORIF Oris-en-Rattie 85.47 315⇑*i*P **P 20 52 15.5 +0.3**
comp=Z,7.1nm,0.7s,mb4.6
ORIF Oris-en-Rattie 85.47 315⇑*i*P **P 20 52 15.5 +0.3**
comp=Z,3.5nm,0.7s,mb4.6
SMRF Simiane la Rot 85.74 314 *e*P **P 20 52 17.2 +0.7**
comp=Z,33nm,1.1s,mb5.2
SMRF Simiane la Rot 85.74 314 *e*P **P 20 52 17.2 +0.7**
comp=Z,33nm,1.1s,mb5.5
MEZF Maizieres J'vi 85.87 318⇑*i*P **P 20 52 16.9 -0.3**
comp=Z,8.7nm,0.6s,mb4.9
MEZF Maizieres J'vi 85.87 318⇑*i*P **P 20 52 16.9 -0.3**
comp=Z,8.7nm,0.6s,mb5.2
GIVF Givet 85.93 320 *e*P **P 20 52 17.4 -0.1**
BAIF Baives 86.33 320⇑*i*P **P 20 52 19.6 +0.1**
comp=Z,10nm,0.7s,mb4.9
BAIF Baives 86.33 320⇑*i*P **P 20 52 19.6 +0.1**
comp=Z,5.2nm,0.7s,mb4.9
VIVF Saint-Julien-l 86.33 315 *e*P **P 20 52 19.5 0.0**
comp=Z,12nm,0.9s,mb4.8
VIVF Saint-Julien-l 86.33 315 *e*P **P 20 52 19.5 0.0**
comp=Z,6.2nm,0.9s,mb4.8
LOR Lormes 86.74 317⇑*i*P **P 20 52 21.2 -0.3**
comp=Z,11nm,0.6s,mb5.0
LOR Lormes 86.74 317⇑*i*P **P 20 52 21.2 -0.3**
comp=Z,5.6nm,0.6s,mb5.0
SMF Signal de Mont 86.80 316⇑*i*P **P 20 52 21.5 -0.2**
comp=Z,20nm,0.8s,mb5.1
SMF Signal de Mont 86.80 316⇑*i*P **P 20 52 21.5 -0.2**
comp=Z,10nm,0.8s,mb5.1
LASF Ste Croix 86.97 314 *e*P **P 20 52 22.9 +0.3**
comp=Z,16nm,1.1s,mb4.9
SSF Saint Saulge 87.00 317⇑*i*P **P 20 52 22.4 -0.3**
comp=Z,7.0nm,0.8s,mb4.6
SSF Saint Saulge 87.00 317⇑*i*P **P 20 52 22.4 -0.3**
comp=Z,3.5nm,0.8s,mb4.6
AVF Avril sur Loir 87.12 317⇑*i*P **P 20 52 23.1 -0.2**
comp=Z,17nm,1.0s,mb4.9
AVF Avril sur Loir 87.12 317⇑*i*P **P 20 52 23.1 -0.2**
comp=Z,8.5nm,1.0s,mb4.9
URZ Urewera 87.33 129 P **P 20 52 22.9 -1.4**
comp=Z,7.7nm,0.8s,mb5.0,baz=137,slow=13,SNR=3.3
BGF Bois d'Agland 87.49 316 *e*P **P 20 52 25.3 +0.2**
comp=Z,19nm,0.9s,mb5.0
BGF Bois d'Agland 87.49 316 *e*P **P 20 52 25.3 +0.2**
comp=Z,9.6nm,0.9s,mb5.0
HYF Humbligny 87.57 317 *e*P **P 20 52 25.2 -0.3**
TCF Toulx Ste Croi 87.95 316 *e*P **P 20 52 27.5 +0.2**
comp=Z,3.3nm,0.8s,mb4.5
TCF Toulx Ste Croi 87.95 316 *e*P **P 20 52 27.5 +0.2**
comp=Z,1.6nm,0.6s,mb4.4
CAF Calviac 88.18 315 *e*P **P 20 52 28.8 +0.4**
comp=Z,9.2nm,1.0s,mb4.7
CAF Calviac 88.18 315 *e*P **P 20 52 28.8 +0.4**
comp=Z,4.6nm,1.0s,mb4.7
MTLF Montolieu 88.21 313 *e*P **P 20 52 28.9 +0.4**
LFF La Frestale 89.11 315 *e*P **P 20 52 33.5 +0.7**
LDF La Druitiere 89.28 319⇑*i*P **P 20 52 33.7 +0.1**
comp=Z,24nm,0.9s,mb5.2
LDF La Druitiere 89.28 319⇑*i*P **P 20 52 33.7 +0.1**
comp=Z,12nm,0.9s,mb5.2
FLN La Foliniere 89.50 319⇑*i*P **P 20 52 34.7 +0.1**
comp=Z,19nm,0.8s,mb5.2
FLN La Foliniere 89.50 319⇑*i*P **P 20 52 34.7 +0.1**
comp=Z,9.5nm,0.8s,mb5.2
MFF Saint Martin d 89.54 317 *e*P **P 20 52 34.9 +0.1**
GRR Gorron 89.80 318 *e*P **P 20 52 36.0 0.0**
VNDA Vanda 90.14 168 P **P 20 52 36.8 -0.8**
comp=Z,1.5nm,1.0s,mb4.3,baz=308,slow=5.7,SNR=3.7
VNDA Vanda 90.14 168 P **P 20 52 36.8 -0.8**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 90.14 168 *e*P **P 20 52 36.7 -0.9**
comp=Z,3.0nm,1.1s,mb4.5
ETSF Etsaut 90.28 313 *e*P **P 20 52 39.2 +1.0**
comp=Z,9.8nm,1.0s,mb4.8
ETSF Etsaut 90.28 313 *e*P **P 20 52 39.2 +1.0**
comp=Z,4.9nm,1.0s,mb4.8
SJPF Ste Jean 90.74 313 *e*P **P 20 52 41.4 +1.0**
comp=Z,9.6nm,0.9s,mb4.8
SJPF Ste Jean 90.74 313 *e*P **P 20 52 41.4 +1.0**
comp=Z,4.8nm,0.9s,mb4.8
SGMF Saint Gilles 90.94 318 *e*P **P 20 52 41.4 +0.1**
comp=Z,10nm,0.8s,mb4.9
SGMF Saint Gilles 90.94 318 *e*P **P 20 52 41.4 +0.1**
comp=Z,5.1nm,0.8s,mb4.9
QUIF Quistinic 91.39 318 *e*P **P 20 52 43.3 -0.1**
comp=Z,17nm,0.9s,mb5.1
QUIF Quistinic 91.39 318 *e*P **P 20 52 43.3 -0.1**
comp=Z,8.4nm,0.9s,mb5.1
TORD Torodi Ar. Bea 91.59 283 P **P 20 52 45.0 +0.7**
comp=Z,0.9nm,1.0s,mb4.1,baz=100,slow=5.1,SNR=6.5
TORD PKKPbc PKKPbc 21 10 05.0 +1.3
comp=Z,0.3nm,0.7s,baz=257,slow=5.8,SNR=4.7
TORD Torodi Ar. Bea 91.59 283 P **P 20 52 45.0 +0.7**
TORD PKKPbc PKKPbc 21 10 05.0 +1.3
ESDC Sonseca Array 93.28 310 P **P 20 52 52.3 +0.2**
comp=Z,0.7nm,0.6s,mb4.3,baz=58,slow=5.2,SNR=5.8
ULM Lac du Bonnet 124.16 8 PKP PKPdf 20 58 35.0 -0.9
comp=Z,2.2nm,0.6s,baz=313,slow=4.7,SNR=4.4
NVAR Mina Array Bea 127.09 32 PKP PKPdf 20 58 42.5 +1.0
comp=Z,1.0nm,0.5s,baz=219,slow=0.5,SNR=5.5
NVAR Mina Array Bea 127.09 32 PKP PKPdf 20 58 42.5 +1.0
PDAR Pinedale Array 127.61 22 PKP PKPdf 20 58 42.7 +0.3
comp=Z,1.3nm,0.7s,baz=48,slow=2.2,SNR=9.2
BDFB Brasilia 141.74 251 PKP PKPdf 20 59 10.8 +2.0
comp=Z,1.7nm,0.5s,baz=252,slow=5.6,SNR=3.5
BDFB Brasilia 141.74 251 PKIKP PKPdf 20 59 10.8 +2.0
BDFB pmax pmax
comp=Z,2.0nm,0.5s
JCT Junction City 142.08 20 *e*PKPpre 20 59 03.8
CPUP Villa Florida 145.78 229 PKPbc PKPbc 20 59 17.0 +0.6
comp=Z,8.3nm,0.8s,baz=90,slow=3.1,SNR=26
CPUP Villa Florida 145.78 229 PKP2 PKPab 20 59 17.0 +0.2
CPUP pmax pmax
comp=Z,8.0nm,0.8s
CPUP Villa Florida 145.78 229 *e*PKPdf PKPdf 20 59 16.8 +0.9
CFAA Coronel Fontan 149.05 209 PKPbc PKPbc 20 59 25.9 +0.5
comp=Z,1.1nm,0.7s,baz=163,slow=2.5,SNR=5.1
MTP Monte Pirata 149.71 320 *e*PKPbc PKPbc 20 59 27.4 +0.3
SJG San Juan 150.08 321 PKPbc PKPbc 20 59 28.7 +0.8
comp=Z,6.3nm,0.4s,baz=345,slow=17,SNR=4.2
SJG San Juan 150.08 321 PKIKP PKPbc 20 59 28.7 +0.8
SJG pmax pmax
comp=Z,6.0nm,0.4s
SIV San Ignacio 153.69 244 PKP PKPdf 20 59 29.2 +0.9
comp=Z,2.0nm,0.6s,baz=262,slow=22,SNR=5.3
SIV PKPbc PKPbc 20 59 36.1 0.0
comp=Z,1.4nm,0.7s,baz=195,slow=5.1,SNR=6.9
LPAZ La Paz 159.65 236 PKP PKPdf 20 59 37.5 +1.5
comp=Z,1.3nm,0.8s,baz=126,slow=3.4,SNR=6.3
LPAZ PKPab PKPab 21 00 16.2 +1.6
comp=Z,1.4nm,0.8s,baz=141,slow=4.6,SNR=5.5
LPAZ La Paz 159.65 236 PKIKP PKPdf 20 59 37.5 +1.5
LPAZ 21 00 16.2
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

NEIC ***19*** *20:56:08.3, 3553S×17898E, h212km, MG3.9(WEL), After WEL.*
WEL 19 20:56:08.5±0.5, 3557S×17899E, h216km±14km, ML3.9/12, Error ellipse: s-maj=17.1km s-min=11.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.06**	**195**	*e*P		Pn	20 56 49.8 +1.0
MXZ				S		S	20 57 18.3 -2.1
MXZ	**Matakaoa Point**	**2.06**	**195**	*e*PN		Pn	20 56 49.8 +1.0
MXZ				SN		S	20 57 18.3 -2.1
MXZ				SN		S	20 57 18.7 -1.7
PUZ	**Puketiti**	**2.56**	**193**	P		Pn	20 56 54.0 -0.1
PUZ				S		S	20 57 29.0 -0.8
PUZ	**Puketiti**	**2.56**	**193**	PN		Pn	20 56 54.0 -0.1
PUZ				SN		S	20 57 29.0 -0.8
MWZ	**Matawai**	**3.00**	**203**	*e*P		Pn	20 56 59.1 +0.2
MWZ				S		S	20 57 38.9 +0.4
MWZ	**Matawai**	**3.00**	**203**	*e*PN		Pn	20 56 59.1 +0.2
MWZ				SN		S	20 57 38.9 +0.4
URZ	**Urewera**	**3.08**	**209**	*e*P		Pn	20 56 59.3 -0.6
URZ	**Urewera**	**3.08**	**209**	*e*PN		Pn	20 56 59.3 -0.6
KNZ	**Kokohu**	**3.60**	**197**	*e*P		Pn	20 57 06.3 +0.3
KNZ	**Kokohu**	**3.60**	**197**	*e*PN		Pn	20 57 06.3 +0.3
BKZ	**Black Stump Fm**	**4.10**	**208**	*e*P		Pn	20 57 11.2 -0.9
BKZ	**Black Stump Fm**	**4.10**	**208**	*e*PN		Pn	20 57 11.2 -0.9
FWVZ	**Far West T-bar**	**4.58**	**216**	*e*P		Pn	20 57 17.7 -0.4
FWVZ	**Far West T-bar**	**4.58**	**216**	*e*PN		Pn	20 57 17.7 -0.4
TSZ	**Takapari Road**	**5.08**	**207**	*e*PN		Pn	20 57 22.3 -2.0
MRZ	**Mangatainoka R**	**5.75**	**207**	*e*P		Pn	20 57 30.1 -2.7
MRZ	**Mangatainoka R**	**5.75**	**207**	*e*PN		Pn	20 57 30.1 -2.7
KIW	**Kapiti Island**	**6.18**	**210**	*e*P		Pn	20 57 35.1 -3.2
KIW	**Kapiti Island**	**6.18**	**210**	*e*PN		Pn	20 57 35.1 -3.2
CAW	**Cannon Point**	**6.33**	**208**	*e*P		Pn	20 57 36.8 -3.4
CAW	**Cannon Point**	**6.33**	**208**	*e*PN		Pn	20 57 36.8 -3.4
THZ	**Tophouse**	**7.80**	**216**	*e*P		Pn	20 57 55.5 -3.6
THZ	**Tophouse**	**7.80**	**216**	*e*PN		Pn	20 57 55.5 -3.7
THZ				SN		S	20 59 21.6 -5.9
KHZ	**Kahutara**	**8.04**	**210**	*e*P		Pn	20 57 58.8 -3.5
KHZ	**Kahutara**	**8.04**	**210**	*e*PN		Pn	20 57 58.8 -3.5
MQZ	**McQueen's Vall**	**9.48**	**209**	PN		Pn	20 58 16.2 -4.6

CSEM ***19*** *20:57:22.0±0.1, 3040N×5182E, h5km, mb4.4/10, Error ellipse: s-maj=2.0km s-min=1.6km az=53.0*
IDC ***19*** *20:57:23.9±1.0, 3043N×5181E, h0km, mb4.0/15, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.7/34, Error ellipse: s-maj=23.4km s-min=15.8km az=128.0*
ISCJB ***19*** *20:57:23.3±0.2, 3041N±002×5190E±003, h10km, mb4.2/31, MS3.7/4, Error ellipse: s-maj=3.2km s-min=3.1km az=91.8*
TEH ***19*** *20:57:23.4, 3015N×5155E, h28km, Mn4.1*
NEIC ***19*** *20:57:24.5, 3048N×5191E, h15km, mb4.2/12, ML4.1(THR), MN4.1(TEH), After THR.*
THR ***19*** *20:57:24.7±0.5, 3049N×5191E, h15km, ML4.1*
BJI ***19*** *20:57:24.5, 3050N×5190E, h15km, mB5.0, mb4.2, Ms4.4, Msz4.1*
MOS ***19*** *20:57:26.0±1.3, 3034N×5193E, h32km, mb4.2/18, Error ellipse: s-maj=11.2km s-min=7.0km az=119.1*
ISC 19 20:57:25.2±0.2, 3043N±002×5185E±002, h10km, (h24km±3.9km: pP-P), n186, σ1§36/220, mb4.2/31, MS3.7/4, 6C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.97**	**144**	*e*Pg		**Pg**	**20 57 41.1 -2.8**
SHI				*e*Sg		**Sg**	**20 57 54.8 -1.7**
SHI	**Shiraz**	**0.97**	**144**	Pg		**Pg**	**20 57 41.0 -2.9**
SHI				Sg		**Sg**	**20 57 54.7 -1.8**
ISRV	**Sarvestan**	**1.51**	**133**	*e*Pn		**Pn**	**20 57 46.1 -6.2**
ISRV				*e*Sn		**Sn**	**20 58 08.0 -4.0**
ISRV	**Sarvestan**	**1.51**	**133**	Pn		**Pn**	**20 57 46.0 -6.3**
ISRV				Sn		**Sn**	**20 58 08.0 -4.0**
IMOK	**Mook**	**1.57**	**151**	*e*Pn		**Pn**	**20 57 48.0 -5.1**
IMOK				*e*Lg			20 58 11.3
IMOK	**Mook**	**1.57**	**151**	Pn		**Pn**	**20 57 47.9 -5.2**
IMOK				Lg			20 58 11.3
IGAR	**Garneh**	**1.84**	**9**	*e*Pn		**Pn**	**20 57 56.4 -0.4**
IGAR				*e*Sn		**Sg**	**20 58 25.8 +1.5**
ISAD	**Sadrabad**	**2.16**	**46**	*e*Pn		**Pn**	**20 57 59.4 -1.9**
ISAD				*e*Sn		**Sn**	**20 58 31.2 +3.1**
ISAD	**Sadrabad**	**2.16**	**46**	Pn		**Pn**	**20 57 59.3 -2.0**
ISAD				Sn		**Sn**	**20 58 31.2 +3.1**
IPIR	**Pirpir**	**2.40**	**340**	*e*Pn		**Pn**	**20 58 01.0 -3.5**
IPIR				*e*Sn		**Sn**	**20 58 32.3 -1.6**
IPIR	**Pirpir**	**2.40**	**340**	Pn		**Pn**	**20 58 00.9 -3.6**
IPIR				Sn		**Sn**	**20 58 32.2 -1.7**
IPIR	**Pirpir**	**2.40**	**340**	Pn		**Pn**	**20 58 00.9 -3.6**
IPIR				*e*Sn		**Sn**	**20 58 32.3 -1.6**
IZEF	**Zefreh**	**2.50**	**9**	*e*Pn		**Pn**	**20 58 06.3 +0.4**
IZEF				*e*Sn		**Sn**	**20 58 38.2 +1.8**
IZEF	**Zefreh**	**2.50**	**9**	Pn		**Pn**	**20 58 06.2 +0.3**
IZEF				Sn		**Sn**	**20 58 38.2 +1.8**
NASN	**Na'in**	**2.50**	**19**	*e*PN		**Pn**	**20 58 06.0 0.0**
NASN	**Na'in**	**2.50**	**19**	Pn		**Pn**	**20 58 05.0 -1.0**
IMEH	**Mehriz**	**2.56**	**67**	*e*Pn		**Pn**	**20 58 04.7 -2.1**
IMEH				*e*Sn		**Sn**	**20 58 40.6 +2.6**
IMEH	**Mehriz**	**2.56**	**67**	Pn		**Pn**	**20 58 04.6 -2.2**
IMEH				Sn		**Sn**	**20 58 40.6 +2.6**
ICHK	**Chekchek**	**2.84**	**50**	*e*Pn		**Pn**	**20 58 08.4 -2.2**
ICHK				*e*Sn		**Sn**	**20 58 48.2 +3.3**
ICHK	**Chekchek**	**2.84**	**50**	Pn		**Pn**	**20 58 08.4 -2.2**
ICHK				Sn		**Sn**	**20 58 48.1 +3.2**
IKLH	**Kalahroud**	**2.89**	**355**	*e*Pn		**Pn**	**20 58 08.7 -2.6**
IKLH

ISFB	**Sefidab**	**3.93**	**5**	Pn	**Pn**	**20 58 24.7**	**-0.9**
ISFB				Sn	**Sn**	**20 59 12.2**	**+0.4**
MIB	**Mutribah**	**3.96**	**262**	*e*P	**Pn**	**20 58 27.5**	**+1.5**
MIB				AML	AML	20 59 18.2	
	comp=Z,143nm,0.7s						
RDF	**Al-Radifah**	**4.03**	**249**	*e*P	**Pn**	**20 58 27.7**	**+0.7**
RDF				AML	AML	20 59 16.5	
	comp=Z,204nm,0.7s						
NAY	**Al-Naaiem**	**4.17**	**255**	*e*P	**Pn**	**20 58 30.4**	**+1.4**
NAY				AML	AML	20 59 20.5	
	comp=Z,67nm,0.5s						
KRBR	**Kerman**	**4.27**	**95**	*e*PN	**Pn**	**20 58 31.0**	**+0.7**
KRBR				AML	AML	20 59 53.6	
	comp=N,224nm,0.7s						
KRBR				AML	AML	21 00 08.3	
	comp=E,187nm,0.6s						
KRBR	**Kerman**	**4.27**	**95**	Pn	**Pn**	**20 58 30.0**	**-0.3**
RST	**Umm Al-Ruwaisa**	**4.31**	**259**	*e*P	**Pn**	**20 58 32.0**	**+1.2**
RST				AML	AML	20 59 24.1	
	comp=Z,188nm,0.6s						
ASAO	**Ashtian**	**4.39**	**340**	*e*PN	**Pn**	**20 58 33.0**	**+1.1**
ASAO	**Ashtian**	**4.39**	**340**	Pn	**Pn**	**20 58 32.0**	**+0.1**
IVRN	**Varamin**	**4.56**	**359**	*e*Pn	**Pn**	**20 58 33.5**	**-0.7**
ILAS	**Lasjerd**	**5.03**	**10**	*e*Pn	**Pn**	**20 58 40.6**	**-0.1**
ILAS	**Lasjerd**	**5.03**	**10**	Pn	**Pn**	**20 58 40.5**	**-0.2**
IDMV	**Damavand**	**5.14**	**2**	*e*Pn	**Pn**	**20 58 41.7**	**-0.5**
DAMV	**Damavand**	**5.19**	**1**	*e*PN	**Pn**	**20 58 43.0**	**0.0**
DAMV	**Damavand**	**5.19**	**1**	Pn	**Pn**	**20 58 42.0**	**-0.9**
IRAZ	**Razeghan**	**5.22**	**342**	*e*Pn	**Pn**	**20 58 44.7**	**+1.4**
IRAZ	**Razeghan**	**5.22**	**342**	Pn	**Pn**	**20 58 44.6**	**+1.3**
IKOM	**Komasi**	**5.24**	**317**	*e*Pn	**Pn**	**20 58 39.1**	**-4.5**
IKOM				*e*Sn	**Sn**	**20 59 37.0**	**-7.1**
IFIR	**Firoozkooh**	**5.26**	**8**	*e*Pn	**Pn**	**20 58 43.7**	**-0.1**
IFIR				*e*Sn	**Sn**	**20 59 42.5**	**-2.0**
IFIR	**Firoozkooh**	**5.26**	**8**	Pn	**Pn**	**20 58 43.6**	**-0.2**
IFIR				Sn	**Sn**	**20 59 42.5**	**-2.0**
IANJ	**Anjiloo**	**5.32**	**18**	*e*Pn	**Pn**	**20 58 44.4**	**-0.3**
IANJ	**Anjiloo**	**5.32**	**18**	Pn	**Pn**	**20 58 44.3**	**-0.4**
IAFJ	**Afjeh**	**5.42**	**359**	*e*Pn	**Pn**	**20 58 43.7**	**-2.3**
IAFJ				*e*Sn	**Sn**	**20 59 46.8**	**-1.6**
IAFJ	**Afjeh**	**5.42**	**359**	Pn	**Pn**	**20 58 43.6**	**-2.4**
IAFJ				Sn	**Sn**	**20 59 46.7**	**-1.7**
CHTH	**Charan**	**5.50**	**354**	*e*PN	**Pn**	**20 58 47.9**	**+0.7**
ISHM	**Shahmirzad**	**5.50**	**12**	*e*Pn	**Pn**	**20 58 47.4**	**+0.2**
ISHM	**Shahmirzad**	**5.50**	**12**	Pn	**Pn**	**20 58 47.3**	**+0.1**
IPRN	**Paran-Amol**	**5.81**	**3**	*e*Pn	**Pn**	**20 58 52.2**	**+0.8**
IPRN	**Paran-Amol**	**5.81**	**3**	Pn	**Pn**	**20 58 52.1**	**+0.7**
IVIS	**Veys**	**5.88**	**315**	*e*Pn	**Pn**	**20 58 48.7**	**-3.7**
IVIS				*e*Sn	**Sn**	**20 59 50.7**	**-9.1**
IVIS	**Veys**	**5.88**	**315**	Pn	**Pn**	**20 58 48.6**	**-3.8**
IVIS				Sn	**Sn**	**20 59 50.7**	**-9.1**
IGHG	**Ghaleghazi**	**5.93**	**312**	*e*Pn	**Pn**	**20 58 49.4**	**-3.6**
IGHG				*e*Sn	**Sn**	**20 59 51.9**	**-9.1**
IGHG	**Ghaleghazi**	**5.93**	**312**	Pn	**Pn**	**20 58 49.3**	**-3.7**
IGHG				Sn	**Sn**	**20 59 51.9**	**-9.1**
IKIA	**Kiasar**	**5.97**	**14**	*e*Pn	**Pn**	**20 58 54.6**	**+1.0**
SNGE	**Sanandaj**	**6.00**	**322**	*e*PN	**Pn**	**20 58 55.4**	**+1.3**
SNGE	**Sanandaj**	**6.00**	**322**	*e*Pn	**Pn**	**20 58 55.3**	**+1.2**
	SNR=52						
IDHR	**Dehrash**	**6.28**	**314**	*e*Pn	**Pn**	**20 58 54.9**	**-3.0**
IDHR				*e*Sn	**Sn**	**21 00 00.2**	**-9.5**
IDHR	**Dehrash**	**6.28**	**314**	Pn	**Pn**	**20 58 54.9**	**-3.0**
IDHR				Sn	**Sn**	**21 00 00.1**	**-10**
ITEG		**6.38**	**65**	*e*Pn	**Pn**	**20 59 00.0**	**+0.8**
IKOO		**6.43**	**70**	*e*Pn	**Pn**	**20 58 59.8**	**-0.1**
IKOO				*e*Sn	**Sn**	**21 00 11.9**	**-1.5**
BHD	**Baghdad**	**6.96**	**296**	*ex*	x	20 59 33.5	
BHD				*ex*	x	21 01 04.5	
MRVT	**Maraveh tapeh**	**8.03**	**25**	*e*Pn	**Pn**	**20 59 22.4**	**+0.6**
IAKL	**Akhlamad**	**8.40**	**41**	*e*Pn	**Pn**	**20 59 28.8**	**+1.9**
IKRD	**Kardeh**	**8.42**	**40**	*e*Pn	**Pn**	**20 59 32.7**	**+5.4**
IKRD	**Kardeh**	**8.42**	**40**	Pn	**Pn**	**20 59 32.3**	**+5.3**
IPAY	**Payeh**	**8.47**	**43**	*e*Pn	**Pn**	**20 59 27.9**	**0.0**
IPAY	**Payeh**	**8.47**	**43**	Pn	**Pn**	**20 59 27.8**	**-0.1**
IMYA	**Miamay**	**9.07**	**47**	*e*Pn	**Pn**	**20 59 37.8**	**+1.6**
IMYA	**Miamay**	**9.07**	**47**	Pn	**Pn**	**20 59 37.7**	**+1.5**
MSL	**Mosul**	**9.37**	**311**	*ex*	x	20 59 41.5	
MSL				*ex*	x	21 01 21.5	
ISHB	**Shabestar**	**9.38**	**328**	*e*Pn	**Pn**	**20 59 36.3**	**-4.1**
ISHB	**Shabestar**	**9.38**	**328**	Pn	**Pn**	**20 59 36.2**	**-4.2**
GNI	**Garni**	**11.30**	**331**	LR	LR	21 04 04.1	
	comp=Z,49nm,21.2s,baz=338,slow=36						
ASF	**Jabal al Asfar**	**12.91**	**282**	Pn	**Pn**	**21 00 26.6**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=321,slow=8.5,SNR=6.3						
ASF				Sn	**Sn**	**21 02 47.0**	**-5.4**
	comp=Z,0.4nm,0.3s,baz=154,slow=23,SNR=3.5						
ASF	**Jabal al Asfar**	**12.91**	**282**	P	**Pn**	**21 00 26.6**	**-2.1**
ASF						21 02 47.0	
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MALT	**Malatya**	**13.59**	**309**	*e*P	**Pn**	**21 00 36.3**	**-1.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**13.59**	**309**	*e*Pn	**Pn**	**21 00 36.3**	**-1.7**
	comp=Z,6.0nm,0.9s						
MALT	**Malatya**	**13.59**	**309**	*e*P	**Pn**	**21 00 36.3**	**-1.7**
	comp=Z,6.0nm,0.9s						
ZEI	**Tsey**	**13.87**	**335**	*e*P	**Pn**	**21 00 46.7**	**+4.9**
EIL	**Elat**	**14.66**	**271**	*e*Pn	**Pn**	**21 00 52.1**	**-0.5**
	comp=Z,112nm,0.8s						
EIL	**Elat**	**14.66**	**271**	*e*Pn	**Pn**	**21 00 52.1**	**-0.5**
	comp=Z,112nm,0.8s						
KIV	**Kislovodsk**	**15.34**	**334**	*e*P	**Pn**	**21 01 09.3**	**+7.6**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV	**Kislovodsk**	**15.34**	**334**	*e*Pn	**Pn**	**21 01 04.8**	**+3.1**
	comp=Z,17nm,0.7s						
BR131	**Keskin Array S**	**17.53**	**307**	*e*Pn	**Pn**	**21 01 27.8**	**-1.9**
	comp=Z,1.9nm,0.6s						
BRTR	**Keskin Array B**	**17.53**	**307**	P	**Pn**	**21 01 29.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=114,slow=12,SNR=11						
AKTK	**Aktyubinsk**	**20.52**	**11**	P	**P**	**21 02 02.5**	**-1.0**
AKTK	**Aktyubinsk**	**20.52**	**11**	P	**P**	**21 02 02.5**	**-1.0**
AKTO	**Aktyubinsk**	**20.52**	**11**	P	**P**	**21 02 02.5**	**-1.0**
	comp=Z,3.4nm,0.7s,baz=192,slow=11,SNR=9.2						
AKTO	**Aktyubinsk**	**20.52**	**11**	P	**P**	**21 02 02.5**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ATD	**Arta Tunnel**	**20.58**	**206**	LR	LR	21 10 53.7	
	comp=Z,113nm,20.9s,MS3.2,baz=22,slow=39						
AAK	**Ala-Archa**	**21.82**	**50**	P	**P**	**21 02 17.0**	**-0.6**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**21.82**	**50**	P	**P**	**21 02 17.0**	**-0.6**
	comp=Z,9.5nm,1.3s,mb4.1						
SANT	**Santorini**	**22.78**	**292**	*e*P	**P**	**21 02 26.2**	**-1.7**
	comp=Z,22nm,0.6s,mb4.8						
SANT	**Santorini**	**22.78**	**292**	*e*P	**P**	**21 02 26.2**	**-1.6**
	comp=Z,22nm,0.6s,mb4.8						
APE	**Apeiranthos**	**22.83**	**294**	⇑*i*P	**P**	**21 02 27.0**	**-1.3**
APE	**Apeiranthos**	**22.83**	**294**	⇑P	**P**	**21 02 26.9**	**-1.3**
HARR	**Harsova**	**23.60**	**314**	⇓*i*P	**P**	**21 02 36.9**	**+0.5**
HARR	**Harsova**	**23.60**	**314**	⇓P	**P**	**21 02 36.9**	**+0.6**
CFR	**Carcaliu**	**23.72**	**315**	⇑*i*P	**P**	**21 02 40.5**	**+3.1**
VRI	**Vrincioaia**	**24.92**	**315**	⇓*i*P	**P**	**21 02 48.0**	**-0.4**
PLOR	**Plostina**	**24.96**	**315**	⇑*i*P	**P**	**21 02 48.9**	**+0.2**
MLR	**Muntele Rosu**	**25.22**	**314**	P	**P**	**21 02 52.4**	**+1.2**
	comp=Z,6.6nm,0.7s,mb4.3,baz=285,slow=5.6,SNR=7.6						
MLR	**Muntele Rosu**	**25.22**	**314**	⇓*i*P	**P**	**21 02 54.7**	**+3.6**
MLR	**Muntele Rosu**	**25.22**	**314**	P	**P**	**21 02 52.4**	**+1.3**
MLR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MLR	**Muntele Rosu**	**25.22**	**314**	⇓P	**P**	**21 02 54.7**	**+3.6**
VOIR		**25.76**	**313**	⇓*i*P	**P**	**21 02 57.8**	**+1.8**
VOIR		**25.76**	**313**	⇓P	**P**	**21 02 57.8**	**+1.8**
VTS	**Vitosha**	**25.90**	**306**	⇓*i*P	**P**	**21 02 59.5**	**+2.2**
VTS	**Vitosha**	**25.90**	**306**	⇓P	**P**	**21 02 59.5**	**+2.2**
BRVK	**Borovoye**	**26.32**	**25**	*e*P	**P**	**21 02 58.6**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**26.32**	**25**	*e*P	**P**	**21 02 58.6**	**-2.5**
	comp=Z,2.9nm,0.8s,mb3.9						
BRVK	**Borovoye**	**26.32**	**25**	*e*P	**P**	**21 02 58.6**	**-2.5**
	comp=Z,2.9nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**26.33**	**26**	P	**P**	**21 03 01.1**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.1,baz=222,slow=6.0,SNR=25						
BVAR	**Borovoye Array**	**26.33**	**26**	P	**P**	**21 03 01.1**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AKASG	**Malin Array Be**	**26.38**	**327**	P	**P**	**21 03 01.2**	**-0.4**
	comp=Z,1.1nm,0.4s,mb3.7,baz=133,slow=9.5,SNR=7.0						
AKASG	**Malin Array Be**	**26.38**	**327**	P	**P**	**21 03 01.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARU	**Arti**	**26.42**	**8**	*e*P	**P**	**21 03 04.4**	**+2.4**
ARU				*e*		21 03 39.3	
ARU				*e*		21 06 23.6	
ARU				*e*S	**S**	**21 07 39.0**	**+3.5**
ARU				*e*SS		21 08 44.6	
ARU	**Arti**	**26.42**	**8**	P	**P**	**21 03 05.3**	**+3.3**
	comp=Z,2.6nm,0.8s,mb3.8						
ARU	**Arti**	**26.42**	**8**	*e*PcP	PcP	21 06 23.6	-3.7
BURAR	**Bucovina Array**	**26.69**	**318**	⇑*i*P	**P**	**21 03 06.7**	**+2.2**
BURAR	**Bucovina Array**	**26.69**	**318**	⇑P	**P**	**21 03 06.7**	**+2.2**
OBN	**Obninsk**	**26.98**	**341**	*e*P	**P**	**21 03 11.9**	**+4.8**
OBN				*e*S	**S**	**21 07 50.4**	**+6.0**
OBN				*e*SS			
	comp=Z,2.0nm,0.6s,mb3.8			pmax	pmax		
KOLN	**Koldanda**	**27.82**	**87**	*e*P	**P**	**21 03 21.2**	**+6.6**
MKAR	**Makanchi Array**	**28.62**	**47**	*e*P	**P**	**21 03 20.8**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.5,baz=246,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**28.62**	**47**	P	**P**	**21 03 20.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GKN	**Gorkha**	**28.66**	**87**	*e*P	**P**	**21 03 23.6**	**+1.5**
	comp=Z,8.3nm,0.6s,mb4.6						
DMN	**Daman**	**29.16**	**87**	*e*P	**P**	**21 03 28.3**	**+1.8**
KKN	**Kakani**	**29.27**	**87**	*e*P	**P**	**21 03 28.3**	**+0.8**
	comp=Z,9.1nm,0.7s,mb4.6						
PKI	**Pulchoki**	**29.43**	**87**	*e*P	**P**	**21 03 30.6**	**+1.7**
GUN	**Gumba**	**29.76**	**86**	*e*P	**P**	**21 03 31.1**	**-0.7**
WMQ	**Urumqi**	**31.30**	**55**	*e*P	**P**	**21 03 47.0**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
ZAL	**Zalesovo**	**33.39**	**36**	P	**P**	**21 04 05.2**	**+1.4**
	comp=Z,1.1nm,0.3s,mb4.2,baz=236,slow=5.1,SNR=5.3						
ZAL	**Zalesovo**	**33.39**	**36**	P	**P**	**21 04 05.2**	**+1.4**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**33.91**	**81**	P	**P**	**21 04 07.8**	**-0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
LSA	**Lhasa**	**33.91**	**81**	P	**P**	**21 04 07.8**	**-0.4**
	comp=Z,3.8nm,1.0s,mb4.3						
LSA	**Lhasa**	**33.91**	**81**	P	**P**	**21 04 07.8**	**-0.5**
	comp=Z,3.8nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**34.21**	**313**	P	**P**	**21 04 10.9**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=140,slow=8.7,SNR=5.3						
KHC	**Kasperske Hory**	**34.38**	**314**	*e*P	**P**	**21 04 13.0**	**+0.7**
FINES	**FINESS Array B**	**35.35**	**339**	P	**P**	**21 04 20.3**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=135,slow=8.8,SNR=7.8						
FINES	**FINESS Array B**	**35.35**	**339**	P	**P**	**21 04 20.3**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KEST	**Kesra**	**35.80**	**290**	P	**P**	**21 04 26.3**	**+1.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=267,slow=13,SNR=3.1						
SBF	**Sospel**	**37.42**	**304**	*e*P	**P**	**21 04 38.0**	**-0.4**
MBDF	**Montbardon**	**37.99**	**305**	*e*P	**P**	**21 04 43.0**	**-0.2**
	comp=Z,12nm,1.2s,mb4.2						
MBDF	**Montbardon**	**37.99**	**305**	*e*P	**P**	**21 04 43.0**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
MBDF	**Montbardon**	**37.99**	**305**	*e*P	**P**	**21 04 43.0**	**-0.2**
	comp=Z,11nm,1.2s,mb4.5						
LPG	**La Plagne**	**38.09**	**306**	*e*P	**P**	**21 04 44.0**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.1						
LPG	**La Plagne**	**38.09**	**306**	*e*P	**P**	**21 04 44.0**	**-0.1**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
LPG	**La Plagne**	**38.09**	**306**	*e*P	**P**	**21 04 44.0**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.3						
LPL	**La Plagne**	**38.11**	**306**	*e*P	**P**	**21 04 44.2**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.1						
LPL	**La Plagne**	**38.11**	**306**	*e*P	**P**	**21 04 44.2**	**-0.1**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
LPL	**La Plagne**	**38.11**	**306**	*e*P	**P**	**21 04 44.2**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.4						
GTA	**Gaotai**	**39.94**	**64**	*e*P	**P**	**21 05 01.9**	**+2.3**
GTA				AP	pP	21 05 05.1	+2.4
GTA				XP	sP	21 05 08.3	+4.4
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
GTA				AMB	AMB		
	comp=Z,38nm,4.6s						
GTA				LR	LR		
	comp=N,83nm,16.3s,MS3.9						
GTA				LR	LR		
	comp=E,125nm,16.7s,MS3.9						
GTA				LR	LR		
	comp=Z,113nm,15.2s,MS3.8						
NOA	**NORSAR Array B**	**40.61**	**331**	P	**P**	**21 05 04.5**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.5,baz=132,slow=7.5,SNR=3.3						
NOA	**NORSAR Array B**	**40.61**	**331**	P	**P**	**21 05 04.5**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.93**	**346**	P	**P**	**21 05 16.6**	**+0.6**
	comp=Z,2.3nm,0.8s,mb3.8,baz=142,slow=6.1,SNR=7.3						
ARCES	**ARCESS Array B**	**41.93**	**346**	P	**P**	**21 05 16.6**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LDF	**La Druitiere**	**43.11**	**310**	*e*P	**P**	**21 05 24.7**	**-0.9**
CHTO	**Chiang Mai**	**44.06**	**94**	*e*P	**P**	**21 05 31.5**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**44.06**	**94**	*e*P	**P**	**21 05 31.4**	**-1.8**
	comp=Z,9.1nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**44.06**	**94**	*e*P	**P**	**21 05 31.5**	**-1.8**
	comp=Z,9.1nm,1.0s,mb4.5						
KMI	**Kunming**	**45.03**	**84**	P	**P**	**21 05 39.8**	**-1.2**
KMI				AP	pP	21 05 47.8	+3.6
KMI				XP	sP	21 05 51.3	+5.9
KMI				PP	PP	21 07 27.9	+1.7
KMI				S	**S**	**21 12 15.3**	**-4.4**
KMI				XS	sS	21 12 32.9	+8.0
KMI				SS	SS	21 15 33.3	-8.3
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
KMI				AMB	AMB		
	comp=Z,52nm,4.2s						
KMI				LR	LR		
	comp=N,119nm,16.6s,MS4.1						
KMI				LR	LR		
	comp=E,115nm,14.4s,MS4.1						
KMI				LR	LR		
	comp=Z,96nm,14.4s,MS3.9						
ULN	**Ulaanbaatar**	**45.21**	**51**	*e*P	**P**	**21 05 44.4**	**+1.9**
HHC	**Hu-ho-hao-te**	**48.79**	**61**	*e*P	**P**	**21 06 10.1**	**-0.3**
HHC				AP	pP	21 06 18.9	+5.3
HHC				XP	sP	21 06 22.6	+7.8
HHC				PCP	PcP	21 07 33.9	-1.3
HHC				PP	PP	21 08 03.9	+0.3
HHC				SCP	ScP	21 11 25.4	-4.8
HHC				PCS	PcS	21 11 28.9	-2.4
HHC				S	**S**	**21 13 11.8**	**-1.6**
HHC				XS	sS	21 13 25.6	+7.0
HHC				SCS	ScS	21 15 57.0	-6.0
HHC				SS	SS	21 16 38.8	-5.0
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,106nm,4.8s						
HHC				LR	LR		
	comp=N,60nm,4.9s						
HHC				LR	LR		
	comp=E,90nm,5.1s						
HHC				LR	LR		
	comp=Z,90nm,5.3s						
TOA0	**Torodi Ar. Sit**	**49.23**	**261**	*e*P	**P**	**21 06 12.5**	**-1.3**
TOA0	**Torodi Ar. Sit**	**49.23**	**261**	*e*P	**P**	**21 06 12.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**49.23**	**261**	P	**P**	**21 06 12.7**	**-1.1**
	comp=Z,1.0nm,1.2s,mb3.7,baz=56,slow=7.2,SNR=25						
BOD	**Bodaibo**	**50.09**	**38**	*e*P	**P**	**21 06 18.9**	**-1.4**
LSZ	**Lusaka**	**50.83**	**210**	P	**P**	**21 06 27.7**	**+1.8**
	comp=Z,1.1nm,0.6s,mb3.9,baz=356,slow=10,SNR=4.5						
LSZ	**Lusaka**	**50.83**	**210**	P	**P**	**21 06 27.7**	**+1.8**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NJ2	**Nanjing**	**56.45**	**70**	*e*P	**P**	**21 07 06.3**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
DBIC	**Dimbokro**	**58.05**	**258**	P	**P**	**21 07 17.8**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.5,baz=25,slow=8.4,SNR=5.5						
DBIC	**Dimbokro**	**58.05**	**258**	*e*P	**P**	**21 07 18.2**	**-0.3**
DBIC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DBIC	**Dimbokro**	**58.05**	**258**	*e*P	**P**	**21 07 18.2**	**-0.2**
	comp=Z,10nm,1.2s,mb4.7						
DBIC	**Dimbokro**	**58.05**	**258**	*e*P	**P**	**21 07 18.2**	**-0.3**
	comp=Z,10nm,1.2s,mb4.7						
MDJ	**Mudanjiang**	**61.07**	**53**	P	**P**	**21 07 37.3**	**-2.0**
MDJ				AP	pP	21 07 43.6	+1.1
MDJ				XP	sP	21 07 46.3	+2.6
MDJ				PCP	PcP	21 08 19.3	-3.0
MDJ				PP	PP	21 09 52.1	-1.6
MDJ				SCP	ScP	21 12 19.3	-4.6
MDJ				PCS	PcS	21 12 22.3	-2.7
MDJ				S	**S**	**21 15 57.4**	**-0.8**
MDJ				XS	sS	21 16 08.4	+4.9
MDJ				AMB	AMB		
	comp=Z,112nm,4.2s						
MDJ				LR	LR		
	comp=N,27nm,19.8s						
MDJ				LR	LR		
	comp=E,50nm,26.9s						
MDJ				LR	LR		
	comp=Z,61nm,16.5s,MS3.8						
BOSA	**Boshof**	**63.96**	**206**	P	**P**	**21 07 59.3**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.4,baz=29,slow=5.2,SNR=3.8						
BOSA	**Boshof**	**63.96**	**206**	P	**P**	**21 07 59.3**	**+0.7**
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SEY	**Seymchan**	**67.92**	**29**	*i* P	**P**	**21 08 26.9**	**+2.8**

IDC 19 20:57:37.3±0.8, 664N×7290W, h160km±9km, mb3.2/2, mb1 3.7/4, mb1mx3.2/22, mbtmp3.8/4, Error ellipse: s-maj=40.1km s-min=7.6km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.27**	**219**	P	Pn	20 58 18.6	+2.4
	28nm,0.3s,baz=326,slow=6.4,SNR=34						
ROSC				S	Sn	20 58 47.0	+0.9
	52nm,0.3s,baz=64,slow=21,SNR=12						
SDV	**Santo Domingo**	**3.17**	**45**	P	Pn	20 58 28.5	+1.4
	27nm,0.3s,baz=231,slow=2.6,SNR=20						
SDV				S	Sn	20 59 06.3	+0.6
	26nm,0.3s,baz=273,slow=22,SNR=28						
PDAR	**Pinedale Array**	**48.35**	**324**	P	P	21 06 02.2	-0.5
	0.2nm,0.4s,baz=137,slow=9.4,SNR=2.7						
YKA	**Yellowknife Ar**	**63.51**	**340**	P	P	21 07 49.6	-0.8
	1.0nm,0.5s,baz=132,slow=7.4,SNR=5.5						
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	PKPbc	21 17 07.7	+0.9
	0.6nm,0.5s,baz=114,slow=3.7,SNR=10.0						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	PKPbc	21 17 10.9	+1.1
	0.5nm,0.4s,baz=108,slow=2.6,SNR=25						

*NEIC **19** 21:00:35.6, 3835S×17621E, h137km, MG3.7(WEL), After WEL.*

WEL 19 21:00:35.4±0.3, 3837S×17622E, h139km±3km, ML3.8/17, 2C, Error ellipse: s-maj=3.2km s-min=3.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.71**	**82**	*e*P	Pn	21 00 56.4	-0.4
URZ	**Urewera**	**0.71**	**82**	*e*PN	Pn	21 00 56.4	-0.3
URZ				SN	Sn	21 01 12.8	-0.2
BKZ	**Black Stump Fm**	**0.83**	**165**	P	Pn	21 00 58.0	+0.3
BKZ				S	Sn	21 01 15.0	+0.4
BKZ	**Black Stump Fm**	**0.83**	**165**	⇑PN	Pn	21 00 58.0	+0.3
BKZ				SN	Sn	21 01 14.9	+0.3
TWVZ	**Taurewa**	**0.93**	**221**	PN	Pn	21 00 58.7	+0.1
TUVZ	**Tukino**	**1.00**	**206**	P	Pn	21 00 59.6	+0.4
TUVZ	**Tukino**	**1.00**	**206**	PN	Pn	21 00 59.6	+0.4
MWZ	**Matawai**	**1.03**	**89**	*e*P	Pn	21 00 59.7	+0.3
MWZ	**Matawai**	**1.03**	**89**	PN	Pn	21 00 59.6	+0.2
MWZ				SN	Sn	21 01 17.4	-0.2

URZ				SN	Sn	21 57 38.3	-0.2
TUVZ	**Tukino**	**0.80**	**213**	PN	Pn	21 57 25.5	+0.4
TUVZ				SN	Sn	21 57 38.9	+0.3
WPVZ	**Whakapapa**	**0.80**	**221**	PN	Pn	21 57 25.5	+0.3
FWVZ	**Far West T-bar**	**0.83**	**218**	PN	Pn	21 57 26.0	+0.5
FWVZ				SN	Sn	21 57 39.2	-0.1
DRZ	**Dome Shelter**	**0.84**	**217**	PN	Pn	21 57 25.6	0.0
DRZ				SN	Sn	21 57 40.3	+0.8
WNVZ	**Wahianoa**	**0.87**	**213**	PN	Pn	21 57 26.1	+0.2
MOVZ	**Moawhango**	**0.88**	**204**	PN	Pn	21 57 25.8	-0.2
MOVZ				SN	Sn	21 57 39.4	-0.8
PKVZ	**Pokaka**	**0.96**	**224**	⇓PN	Pn	21 57 26.9	0.0
MWZ	**Matawai**	**1.07**	**76**	PN	Pn	21 57 27.9	-0.1
MWZ				SN	Sn	21 57 44.0	+0.3
HIZ	**Hauiti**	**1.07**	**274**	⇓PN	Pn	21 57 27.9	-0.1
HIZ				SN	Sn	21 57 43.4	-0.4
KNZ	**Kokohu**	**1.22**	**111**	PN	Pn	21 57 30.0	+0.3
KNZ				SN	Sn	21 57 47.2	+0.5
TSZ	**Takapari Road**	**1.47**	**188**	PN	Pn	21 57 31.8	-1.0
TSZ				SN	Sn	21 57 50.8	-1.4
WAZ	**Wanganui**	**1.50**	**219**	PN	Pn	21 57 33.1	0.0
WAZ				SN	Sn	21 57 52.5	-0.3
PXZ	**Pawanui**	**1.51**	**161**	PN	Pn	21 57 33.0	-0.3
MXZ	**Matakaoa Point**	**1.95**	**58**	PN	Pn	21 57 39.1	+0.2
BFZ	**Birch Farm**	**2.08**	**179**	PN	Pn	21 57 38.9	-1.6
MRZ	**Mangatainoka R**	**2.11**	**193**	PN	Pn	21 57 39.1	-1.9
MRZ				SN	Sn	21 58 03.4	-3.5
TIWZ	**Tintock**	**2.19**	**187**	PN	Pn	21 57 40.3	-1.7
KIW	**Kapiti Island**	**2.47**	**204**	PN	Pn	21 57 43.2	-2.5
MTW	**Mount Morrison**	**2.61**	**192**	PN	Pn	21 57 44.7	-2.8

NEIC ***19*** *22:51:15.4±1.1, 5.88S×149.90E, h35km, mb4.0/1, Error ellipse: s-maj=33.8km s-min=13.9km az=152.0*
ISCJB ***19*** *22:51:16.7±5.0, 6.1S±04×1499E±02, h58km±38km, mb3.2/2, Error ellipse: s-maj=67.4km s-min=23.6km az=134.8*
IDC ***19*** *22:51:19.2±8.7, 6.14S×149.90E, h58km±67km, mb3.2/3, mb1 3.5/4, mb1mx3.3/14, mbtmp3.6/4, ML2.6/1, Error ellipse: s-maj=105.6km s-min=55.8km az=130.0*

ISC 19 22:51:18.5±5.1, 61S±04×1499E±02, h55km±39km, n8, σ0§40/8, mb3.2/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.29**	**219**	P	**Pn**	**22 52 21.0**	**-0.1**
	2.5nm,0.3s,baz=31,slow=12,SNR=4.3						
PMG				S	**Sn**	**22 53 10.2**	**+0.3**
	3.3nm,0.3s,baz=170,slow=19,SNR=5.1						
WRAB	**Tennant Creek**	**20.46**	**226**	*e*P	**P**	**22 55 51.2**	**-0.2**
	3.7nm,0.5s						
WB2	**Warramunga Arr**	**20.46**	**226**	*e*P	**P**	**22 55 51.2**	**-0.3**
WRA	**Warramunga Arr**	**20.47**	**226**	P	**P**	**22 55 51.4**	**-0.1**
	2.7nm,0.7s,baz=52,slow=11,SNR=32						
ASAR	**Alice Springs**	**23.30**	**220**	P	**P**	**22 56 21.4**	**-0.3**
	0.5nm,0.8s,mb3.0,baz=61,slow=8.7,SNR=3.9						
FITZ	**Fitzroy Crossi**	**26.53**	**241**	P	**P**	**22 56 51.5**	**+0.6**
	1.3nm,0.9s,mb3.5,baz=56,slow=12,SNR=3.0						
AFI	**Afiamalu**	**38.48**	**105**	*e*P	**P**	**22 58 35.3**	**+0.2**
	31nm,0.3s						
TORD	**Torodi Ar. Bea**	**147.91**	**285**	PKPbc	PKPbc	23 10 58.2	+0.8
	0.2nm,0.4s,baz=102,slow=2.1,SNR=7.5						

NIED ***19*** *22:57:00, 34.30N×132.70E, h41km, Mw3.5 Best double couple: Mo1.75000×10^14 NP1:φ=1.00000°, δ55.00000°, λ=-73.00000°. NP2:φ=152.00000°, δ38.00000°, λ=-113.00000°.*

JMA 19 22:57:40.3, 3428N×13274E, h44km, M3.5, 7C-2D Broadband fault plane solution: P waves. NP1: φs=161.00000°, δ33.00000°, λ=-88.00000°. **NP2:** φs=339.00000°, δ57.00000°, λ=-91.00000°. **Principal axes:** T Plg12.0000°, Azm70.0000°; N Plg1.0000°, Azm340.0000°; P Plg78.0000°, Azm245.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHM	**Kurahashi**	**0.22**	**231**	⇑P	Pn	22 57 48.1	-0.1
JHM				S	Sn	22 57 53.7	0.0
JHT	**Toyohira**	**0.46**	**325**	⇑P	Pn	22 57 50.8	+0.1
JHT				S	Sn	22 57 58.4	+0.3
JET	**Tanbara**	**0.56**	**153**	⇓P	Pn	22 57 52.0	0.0
JET				S	Sn	22 58 00.6	+0.3
JNA	**Nagahama**	**0.75**	**197**	⇑P	Pn	22 57 54.9	+0.4
JNA				S	Sn	22 58 05.0	+0.2
JHS	**Saijyo**	**0.78**	**23**	⇑P	Pn	22 57 55.3	+0.4
JHS				S	Sn	22 58 06.4	+0.9
JGT	**Gotsu**	**0.82**	**336**	⇓P	Pn	22 57 55.4	0.0
JGT				S	Sn	22 58 07.1	+0.7
JJS	**Sakaide**	**0.99**	**84**	⇑P	Pn	22 57 57.6	-0.1
JJS				*e*S	Sn	22 58 10.8	+0.2
JKU	**Kubokawa**	**1.00**	**164**	⇑P	Pn	22 57 57.8	-0.1
JKU				S	Sn	22 58 11.0	+0.1
UWA2	**Uwa jima 2**	**1.07**	**185**	⇑P	Pn	22 57 59.1	+0.3
UWA2				S	Sn	22 58 12.5	0.0

BJI ***19*** *23:06:25.8, 4139N×7927E, h16km, ML2.7*
ISCJB ***19*** *23:06:30.1±1.5, 417N±0.1×789E±02, h10km, Error ellipse: s-maj=24.7km s-min=7.4km az=72.7*
NNC ***19*** *23:06:30.8±3.0, 4172N×7887E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=27.8km s-min=15.7km az=176.0*

ISC 19 23:06:32.4±1.4, 417N±01, 788E±02, h10km, n5, σ0§98/7, 7C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDC	**Almaty**	**2.01**	**318**	⇑Pn	**Pn**	**23 07 07.3**	**+0.9**
	14nm,0.4s						
KNDC				⇑Lg		23 07 39.0	
	190nm,0.5s						
TKM2	**Tokmak 2**	**2.65**	**298**	⇑Pn	**Pn**	**23 07 14.6**	**-0.7**
	0.5nm,0.5s						
TKM2				⇑Lg		23 07 54.9	
	2.5nm,0.5s						
KSH	**Kashi**	**3.08**	**225**	*e*PG	**Pn**	**23 07 22.8**	**+1.7**
KSH				S	**Sn**	**23 07 56.8**	**-1.2**
KSH				Smax			
	comp=N,29nm,0.6s						
KSH				Smax			
	comp=E,48nm,1.0s						
MK02	**Makanchi Array**	**5.64**	**25**	⇓Pn	**Pn**	**23 07 55.7**	**-0.5**
	comp=E,1.4nm,0.9s,baz=193,slow=10						
MK02				⇑Sn	**Sn**	**23 09 00.9**	**-0.1**
	comp=E,2.0nm,0.7s,baz=203,slow=25						
MK02				⇑Lg		23 09 24.3	
	comp=E,5.2nm,1.0s,baz=207,slow=26						
KK31	**Karatay Array**	**6.28**	**285**	⇓Pg	**Pb**	**23 08 27.0**	**+5.1**
	comp=E,0.7nm,0.6s,baz=98,slow=15,SNR=7.3						
KK31				⇑Lg		23 09 47.5	
	comp=E,1.5nm,0.5s,baz=106,slow=26,SNR=5.8						

ISCJB ***19*** *23:16:03.3±3.5, 3.08S±0.09×1296E±0.1, h11km±24km, mb3.3/1, MS3.7/2, Error ellipse: s-maj=23.6km s-min=10.0km az=117.9*
IDC ***19*** *23:16:03.5±2.2, 3.09S×129.63E, h0km, mb3.8/2, mb1 4.1/4, mb1mx3.8/16, mbtmp3.8/4, ML3.7/2, MS3.8/2, Ms1 3.7/2, ms1mx2.8/26, Error ellipse: s-maj=104.3km s-min=17.2km az=72.0*
NEIC ***19*** *23:16:04.9±0.8, 3.07S×129.60E, h10km, mb3.8/1, Error ellipse: s-maj=19.7km s-min=9.1km az=58.0*

ISC 19 23:16:05.8±4.1, 310S±008×1296E±01, h12km±28km, n15, σ1§15/16, mb3.3/1, MS3.7/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.41**	**194**	Pn	**Pn**	**23 19 44.2**	**+1.3**
	0.1nm,0.3s,baz=14,slow=11,SNR=4.7						
KKM	**Kota Kinabalu**	**16.16**	**304**	Pn	**Pn**	**23 19 51.8**	**-0.9**
WRAB	**Tennant Creek**	**17.36**	**165**	*e*Pn	**Pn**	**23 20 05.8**	**-2.1**
	3.8nm,0.4s						
WRAB				*e*Sn	**Sn**	**23 23 12.7**	**-8.2**
WRA	**Warramunga Arr**	**17.37**	**165**	P	**Pn**	**23 20 07.4**	**-0.5**
	0.4nm,0.3s,baz=348,slow=13,SNR=13						
WRA				S	**Sn**	**23 23 19.4**	**-1.7**
	0.1nm,0.3s,baz=339,slow=21,SNR=3.1						
WB2	**Warramunga Arr**	**17.37**	**165**	*e*Pn	**Pn**	**23 20 07.8**	**-0.1**
PMG	**Port Moresby**	**18.53**	**111**	P	**Pn**	**23 20 22.1**	**-0.2**
MBWA	**Marble Bar**	**20.36**	**207**	P	**P**	**23 20 41.0**	**-1.0**
AS31	**Alice Springs**	**20.87**	**169**	*e*P	**P**	**23 20 48.9**	**+1.4**
ASAR	**Alice Springs**	**20.87**	**169**	P	**P**	**23 20 49.0**	**+1.4**
	10.0nm,0.6s,baz=350,slow=10,SNR=57						
ASAR				S	**S**	**23 24 42.9**	**+2.9**
	1.0nm,0.8s,baz=348,slow=22,SNR=5.5						
ASPA	**Alice Springs**	**20.87**	**169**	*e*P	**P**	**23 20 48.9**	**+1.4**
KULM	**Kulim**	**30.10**	**286**	*e*P	**P**	**23 22 15.0**	**0.0**
STKA	**Stephens Creek**	**30.77**	**160**	LR	LR	23 36 38.4	
	comp=Z,68nm,19.5s,MS3.3,baz=206,slow=40						
LSA	**Lhasa**	**49.16**	**314**	P	**P**	**23 24 54.3**	**+0.8**
RPZ	**Rata Peaks**	**54.57**	**144**	LR	LR	23 48 32.1	
	comp=Z,170nm,18.0s,MS4.2,baz=200,slow=36						
MKAR	**Makanchi Array**	**64.78**	**326**	P	**P**	**23 26 43.5**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=115,slow=6.6,SNR=3.7						

CSEM ***19*** *23:17:02.6, 3790N×2097E, h24km, MD3.5/7, After ATH*
NEIC ***19*** *23:17:02.6, 3790N×2097E, h24km, MD3.5(ATH), After ATH.*

ATH 19 23:17:02.6, 3790N×2097E, h24km±1km, MD3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.41**	**313**	*e*PB	Pb	23 17 11.3	+0.1
VLS				*e*SB	Sb	23 17 18.4	+1.3
RLS	**Riolos of Patr**	**0.42**	**68**	*e*PB	Pb	23 17 10.9	-0.6
RLS				*e*SB	Sb	23 17 17.8	+0.3
ITM	**Ithomi**	**1.05**	**133**	*e*PN	Pn	23 17 22.2	+0.4
ITM				*e*SN	Sn	23 17 37.8	+2.2
EVR	**Evrytania**	**1.21**	**33**	*e*PN	Pn	23 17 26.3	+2.3
EVR				*e*SN	Sn	23 17 43.0	+3.4
JAN	**Janina**	**1.76**	**357**	*e*PN	Pn	23 17 33.7	+2.2
LKR	**Lokris**	**1.76**	**64**	*e*PB	Pb	23 17 33.2	-1.1
VLI	**Veliai**	**1.96**	**126**	*e*PN	Pn	23 17 37.0	+2.7
KEK	**Kerkira**	**2.03**	**334**	*e*PB	Pb	23 17 37.2	-1.6

ISCJB ***19*** *23:18:32.7±1.7, 72S±01×15534E±008, h44km±16km, mb4.0/7, MS3.2/2, Error ellipse: s-maj=21.7km s-min=11.3km az=36.5*
NEIC ***19*** *23:18:33.0±1.4, 7.44S×155.63E, h48km±14km, mb4.3/1, Error ellipse: s-maj=18.0km s-min=12.2km az=182.0*
IDC ***19*** *23:18:35.3±4.9, 7.37S×155.44E, h59km±49km, mb3.6/5, mb1 3.7/6, mb1mx3.6/15, mbtmp4.0/6, ML4.5/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/27, Error ellipse: s-maj=38.6km s-min=30.5km az=134.0*

ISC 19 23:18:35.7±2.0, 75S±02×1555E±01, h67km±19km, n17, σ0§88/14, mb3.9/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.82**	**114**	P	**Pn**	**23 19 46.3**	**+0.7**
	19nm,0.3s,baz=270,slow=7.1,SNR=2.8						
HNR				S	**Sn**	**23 20 46.5**	**+6.2**
	15nm,0.3s,baz=271,slow=18,SNR=3.5						
HNR				LR	LR	23 21 38.8	
	comp=Z,301nm,18.6s,baz=182,slow=37						
HNR	**Honiara**	**4.82**	**114**	*e*Pn	**Pn**	**23 19 41.5**	**-4.2**
HNR				S	**Sn**	**23 20 46.5**	**+6.2**
PMG	**Port Moresby**	**8.47**	**256**	LR	LR	23 23 52.1	
	comp=Z,100nm,18.1s,baz=148,slow=38						
PMG	**Port Moresby**	**8.47**	**256**	*e*Pn	**Pn**	**23 20 35.1**	**-0.5**
CTA	**Charters Tower**	**15.42**	**215**	LR	LR	23 27 20.8	
	comp=Z,65nm,20.5s,baz=239,slow=34						
WRA	**Warramunga Arr**	**23.97**	**237**	P	**P**	**23 23 44.9**	**+1.2**
	1.9nm,0.8s,mb3.5,baz=62,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**26.25**	**220**	P	**P**	**23 24 04.8**	**+0.4**
	0.2nm,0.5s,mb2.8,baz=64,slow=9.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**30.93**	**247**	LR	LR	23 38 02.7	
	comp=Z,53nm,18.2s,baz=249,slow=38						
TAU	**Tasmania Unive**	**36.04**	**190**	P	**P**	**23 25 29.4**	**-1.0**
MRZ	**Mangatainoka R**	**37.61**	**155**	*e*SN	**S**	**23 31 35.9**	**+7.3**
JOW	**Kunigami**	**43.11**	**323**	LR	LR	23 42 51.0	
	comp=Z,31nm,18.4s,baz=74,slow=34						
SONM	**Songino Array**	**69.99**	**327**	P	**P**	**23 29 40.7**	**+0.6**
	2.1nm,0.8s,mb4.0,baz=139,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**84.08**	**319**	P	**P**	**23 30 59.6**	**+0.6**
	2.2nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=16						
CHKZ	**Chkalovo**	**92.92**	**324**	*e*P	**P**	**23 31 40.7**	**-0.6**
	0.3nm,0.2s,mb4.3						
BVAR	**Borovoye Array**	**92.96**	**323**	P	**P**	**23 31 39.8**	**-1.7**
	0.9nm,0.8s,mb4.2,baz=116,slow=6.6,SNR=5.3						
BRVK	**Borovoye**	**93.03**	**323**	*e*P	**P**	**23 31 42.3**	**+0.5**
	0.9nm,0.6s,mb4.3						
BDFB	**Brasilia**	**147.31**	**135**	PKPbc	PKPbc	23 38 13.2	+1.7
	4.2nm,0.7s,baz=202,slow=2.3,SNR=6.1						

IDC ***19*** *23:28:11.5±1.4, 3679N×1279W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.6/24, mbtmp3.7/6, ML5.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/31, Error ellipse: s-maj=29.8km s-min=25.4km az=52.0*
IGIL ***19*** *23:28:13.4, 3664N×1272W, h10km, ML4.2*
MDD ***19*** *23:28:14.7±1.1, 3681N×1252W, h0km, mb5.0/49, Error ellipse: s-maj=11.3km s-min=7.9km az=76.0, PRXIMO*
SFS ***19*** *23:28:16.0, 3686N×1240W, h16km, ML5.0*
NEIC ***19*** *23:28:16.1, 3686N×1243W, h0km, MG5.0(MDD), After MDD.*
LDG ***19*** *23:28:16.1±0.3, 3672N×1276W, h25km, Ml4.2/19, Error ellipse: s-maj=7.5km s-min=4.9km az=94.0*
ISCJB ***19*** *23:28:18.4±0.5, 3705N±002×1199W±003, h10km, mb3.5/5, Error ellipse: s-maj=4.2km s-min=3.2km az=115.7*
CSEM ***19*** *23:28:19.7±0.2, 37.10N×1189W, h10km, mb5.1/31, Error ellipse: s-maj=3.8km s-min=2.7km az=48.0*
CNRM ***19*** *23:28:21.9, 3642N×1228W, h24km, MD4.0*

ISC 19 23:28:20.7±0.5, 3707N±002×1202W±003, h10km, n183, σ1§19/326, mb3.5/5, 8C-2D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.67**	**79**	*i* Pn	**Pn**	**23 29 04.7**	**+0.9**
PTEO				*e*Sn	**Sn**	**23 29 38.9**	**+2.6**
PTEO							
	144nm,0.2s						
MORF	**Marmelete**	**2.70**	**84**	*e*P	**Pn**	**23 29 04.8**	**+0.5**
MORF				*e*S	**Sn**	**23 29 40.6**	**+3.6**
MORF				*e*S	**Sn**	**23 29 40.6**	**+3.6**
MORF				AML	AML	23 29 42.4	
	comp=N,685nm,0.2s						
MORF	**Marmelete**	**2.70**	**84**	*e*P	**Pn**	**23 29 04.8**	**+0.6**
MORF				*e*S	**Sn**	**23 29 40.6**	**+3.6**
LIS	**Lisbon**	**2.81**	**53**	*e*P	**Pn**	**23 29 06.9**	**+1.3**
LIS				*e*S	**Sn**	**23 29 43.9**	**+4.4**
LIS				*e*S	**Sn**	**23 29 44.0**	**+4.4**
LIS				AML	AML	23 29 45.1	
	comp=E,1μm,0.3s						
LIS	**Lisbon**	**2.81**	**53**	*e*P	**Pn**	**23 29 06.9**	**+1.2**
LIS				*e*S	**Sn**	**23 29 43.9**	**+4.3**
INMG	**Instituto de M**	**2.86**	**52**	*e*Pn	**Pn**	**23 29 08.0**	**+1.7**
INMG				*e*Sn	**Sn**	**23 29 45.3**	**+4.5**
PMAFR	**Mafra**	**2.87**	**48**	*i* Pn	**Pn**	**23 29 07.9**	**+1.4**
PMAFR				*e*Sn	**Sn**	**23 29 45.1**	**+4.0**
PLML	**Palmela**	**2.88**	**58**	*e*Pn	**Pn**	**23 29 08.5**	**+1.8**
PLOU	**Loures**	**2.91**	**50**	*i* Pn	**Pn**	**23 29 08.4**	**+1.4**
PLOU				*e*Sn	**Sn**	**23 29 46.0**	**+4.0**
PLOU							
	comp=E,315nm,0.2s						
ALMR	**Almeirim**	**3.43**	**51**	*e*P	**Pn**	**23 29 15.4**	**+1.2**
ALMR				*e*S	**Sn**	**23 29 58.3**	**+3.5**
ALMR				*e*S	**Sn**	**23 29 58.4**	**+3.6**
ALMR				AML	AML	23 30 00.3	
	comp=N,400nm,0.3s						
ALMR	**Almeirim**	**3.43**	**51**	*e*P	**Pn**	**23 29 15.4**	**+1.2**
ALMR				*e*S	**Sn**	**23 29 58.3**	**+3.5**
PBEJ	**Beja**	**3.44**	**73**	*e*Pn	**Pn**	**23 29 15.1**	**+0.7**
PBEJ				*e*Sn	**Sn**	**23 29 57.8**	**+2.6**
PBEJ							
	comp=N,73nm,0.3s						
EGRO	**El Granado**	**3.65**	**81**	⇑P	**Pn**	**23 29 17.8**	**+0.6**
	SNR=18						
EGRO				S	**Sn**	**23 30 01.5**	**+1.2**
	comp=N,117nm,0.2s,SNR=5.5						
EGRO	**El Granado**	**3.65**	**81**	P	**Pn**	**23 29 17.8**	**+0.6**
	SNR=18						
EGRO				S	**Sn**	**23 30 01.5**	**+1.1**
	comp=N,117nm,0.2s,SNR=5.5						
PTOM	**Tomar**	**3.81**	**47**	*e*Pn	**Pn**	**23 29 20.9**	**+1.4**
PTOM				*e*Sn	**Sn**	**23 30 08.2**	**+3.8**
PTOM							
	comp=N,180nm,0.2s						
ERIP	**Rio Piedras**	**3.82**	**84**	⇑P	**Pn**	**23 29 20.2**	**+0.6**
	comp=N,38nm,0.1s,SNR=18						
ERIP				S	**Sn**	**23 30 06.3**	**+1.8**
	comp=N,109nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**3.94**	**61**	*e*Pn	**Pn**	**23 29 21.9**	**+0.7**
PESTR				*e*Sn	**Sn**	**23 30 09.7**	**+2.3**
PESTR							
	comp=N,34nm,0.3s						
EBAD	**Badajoz**	**4.31**	**65**	P	**Pn**	**23 29 26.9**	**+0.6**
	comp=N,45nm,0.1s,SNR=197						
EBAD				S	**Sn**	**23 30 18.6**	**+2.1**
	comp=N,38nm,0.1s						
EBAD	**Badajoz**	**4.31**	**65**	P	**Pn**	**23 29 26.9**	**+0.6**
	comp=N,45nm,0.1s,SNR=197						
EBAD				S	**Sn**	**23 30 18.6**	**+2.1**
	comp=N,38nm,0.1s						
EMIN	**Mina Concepcio**	**4.32**	**79**	P	**Pn**	**23 29 26.8**	**+0.4**
	comp=N,47nm,0.1s,SNR=578						
EMIN				S	**Sn**	**23 30 18.1**	**+1.3**
	comp=N,45nm,0.2s						
EMIN	**Mina Concepcio**	**4.32**	**79**	P	**Pn**	**23 29 26.8**	**+0.4**
	comp=N,47nm,0.1s,SNR=578						
EMIN				S	**Sn**	**23 30 18.1**	**+1.3**
	comp=N,45nm,0.2s						
PCBR	**Castelo Branco**	**4.52**	**51**	*e*Pn	**Pn**	**23 29 30.1**	**+0.9**
PCBR				*e*Sn	**Sn**	**23 30 23.6**	**+1.9**
PCBR							
	comp=N,34nm,0.2s						
MTE	**Manteigas**	**4.83**	**45**	*e*Pn	**Pn**	**23 29 34.3**	**+0.8**
MTE				*e*Sn	**Sn**	**23 30 31.7**	**+2.2**
MTE							
	comp=N,107nm,0.3s						
MTE	**Manteigas**	**4.83**	**45**	*e*Pn	**Pn**	**23 29 34.2**	**+0.7**
	comp=N,77nm,0.4s						
MTE				*e*Sn	**Sn**	**23 30 31.1**	**+1.7**
MTE	**Manteigas**	**4.83**	**45**	*e*Sn	**Sn**	**23 30 31.1**	**+1.6**
CNIL	**Conil**	**4.85**	**96**	*e*P	**Pn**	**23 29 35.0**	**+1.3**
CNIL				*e*S	**Sn**	**23 30 32.0**	**+2.2**
PTO	**Porto**	**4.86**	**32**	*e*Pn	**Pn**	**23 29 34.2**	**+0.3**
PTO				*e*Sn	**Sn**	**23 30 30.1**	**-0.1**
PTO							
	comp=N,228nm,0.1s						
PVIS	**Viseu**	**4.86**	**40**	*e*Pn	**Pn**	**23 29 34.4**	**+0.5**
PVIS				*e*Sn	**Sn**	**23 30 31.1**	**+0.8**
PVIS							
	comp=N,119nm,0.1s						
ESPR	**Espera**	**4.94**	**90**	⇑P	**Pn**	**23 29 35.4**	**+0.4**
	comp=N,37nm,0.1s,SNR=18						
ESPR				S	**Sn**	**23 30 32.1**	**-0.1**
	comp=N,154nm,0.2s						
ESPR	**Espera**	**4.94**	**90**	P	**Pn**	**23 29 35.4**	**+0.4**
	comp=N,37nm,0.1s,SNR=18						
ESPR				S	**Sn**	**23 30 32.1**	**-0.1**
	comp=N,154nm,0.2s						
TSY	**Tnine Yamani**	**5.18**	**107**	*i* P	**Pn**	**23 29 38.0**	**-0.2**
TSY				*i* S	**Sn**	**23 30 35.0**	**-3.0**
EJIF	**Jimena Fronter**	**5.30**	**95**	P	**Pn**	**23 29 39.5**	**-0.4**
	comp=N,8.0nm,0.2s,SNR=18						
EJIF				S	**Sn**	**23 30 40.6**	**-0.4**
	comp=N,4.1nm,0.2s						
LIJA	**Lijar**	**5.30**	**90**	*i* P	**Pn**	**23 29 40.5**	**+0.5**
LIJA				*e*S	**Sn**	**23 30 43.0**	**+1.9**
AVE	**Averroes**	**5.33**	**134**	P	**Pn**	**23 29 34.0**	**-6.3**
PVRL	**Vila Real**	**5.37**	**37**	*e*Pn	**Pn**	**23 29 40.9**	**0.0**
PVRL				*e*Sn	**Sn**	**23 30 42.8**	**0.0**
PVRL							
	comp=N,116nm,0.2s						
MDAL	**Dalia**	**5.40**	**101**	*i* S	**Sn**	**23 30 42.0**	**-1.5**
RSA	**Sarsar**	**5.48**	**112**	*i* P	**Pn**	**23 29 41.0**	**-1.4**
RSA				*i* S	**Sn**	**23 30 40.0**	**-5.4**
REAL	**Reales**	**5.50**	**94**	*e*P	**Pn**	**23 29 43.0**	**+0.3**
REAL				*e*S	**Sn**	**23 30 47.0**	**+1.0**
DKH	**Dar Kharkhour**	**5.61**	**104**	P	**Pn**	**23 29 44.0**	**-0.2**
DKH				S	**Sn**	**23 30 46.0**	**-2.6**
EZAM	**Zamans**	**5.69**	**26**	P	**Pn**	**23 29 43.9**	**-1.3**
	comp=N,18nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**23 30 47.3**	**-3.3**
	comp=N,75nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**5.84**	**93**	P	**Pn**	**23 29 47.0**	**-0.4**
	comp=N,11nm,0.3s,SNR=32						
EMIJ				S	**Sn**	**23 30 54.9**	**+0.5**
	comp=N,13nm,0.3s						
EADA	**Adamuz**	**6.01**	**77**	⇑P	**Pn**	**23 29 49.9**	**+0.2**
	comp=N,49nm,0.2s,SNR=18						
EADA				S	**Sn**	**23 30 58.9**	**+0.3**
	comp=N,25nm,0.2s,SNR=7.8						
EADA	**Adamuz**	**6.01**	**77**	⇑P	**Pn**	**23 29 50.0**	**+0.3**
EADA				S	**Sn**	**23 30 58.9**	**+0.3**
	comp=N,25nm,0.2s,SNR=7.8						
MAL	**Malaga**	**6.11**	**91**	*i* P	**Pn**	**23 29 50.5**	**-0.6**
MAL				*e*S	**Sn**	**23 31 00.3**	**-0.7**
CIA	**Chichaoua**	**6.12**	**153**	P	**Pn**	**23 29 43.0**	**-8.1**
CIA				S	**Sn**	**23 30 45.5**	**-16**
ELUQ	**Luque**	**6.20**	**83**	P	**Pn**	**23 29 51.6**	**-0.7**
	comp=N,7.8nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**23 31 03.5**	**+0.2**
	comp=N,7.7nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.25**	**39**	*e*Pn	**Pn**	**23 29 53.0**	**0.0**
PBRG				*e*Sn	**Sn**	**23 31 03.9**	**-0.6**
PBRG							
	comp=N,42nm,0.2s						
ELOJ	**Sierra Loja**	**6.29**	**87**	P	**Pn**	**23 29 53.9**	**+0.4**
	comp=N,3.9nm,0.2s,SNR=14						
ELOJ				S	**Sn**	**23 31 04.7**	**-0.8**
	comp=N,3.9nm,0.3s				

ESLA *e*Sn **Sn** **23 31 23.2 +4.1**
ESLA Sonseca Array 6.85 65 *e*Pn **Pn** **23 30 01.0 -0.2**
comp=N,3.0nm,0.4s
ESBB Sonseca Array 6.85 65 P **Pn** **23 30 01.7 +0.5**
ESBB S **Sn** **23 31 19.9 +0.8**
ESBB Sonseca Array 6.85 65 P **Pn** **23 30 01.7 +0.5**
ESBB S **Sn** **23 31 19.9 +0.7**
EQUE Quentar 6.86 86 P **Pn** **23 30 02.3 +0.9**
comp=N,14nm,0.3s,SNR=64
EQUE S **Sn** **23 31 20.0 +0.6**
comp=N,2.3nm,0.2s,SNR=7.9
CZD Col de Zad 7.00 123 P **Pn** **23 30 01.0 -2.2**
CZD S **Sn** **23 31 13.0 -10**
TZK Tazeka 7.04 113 P **Pn** **23 30 02.0 -1.9**
TZK S **Sn** **23 31 16.0 -8.0**
TZK Tazeka 7.04 113 *i* P **Pn** **23 30 02.0 -1.9**
GUD Guadarrama 7.10 57 ⇓P **Pn** **23 30 04.3 -0.3**
comp=N,13nm,0.2s,SNR=18
GUD S **Sn** **23 31 27.3 +1.8**
comp=N,4.0nm,0.3s
EQES Quesada 7.16 81 P **Pn** **23 30 05.3 -0.1**
comp=N,12nm,0.3s,SNR=99
EQES S **Sn** **23 31 27.1 +0.3**
comp=N,21nm,0.3s,SNR=7.9
EQES Quesada 7.16 81 P **Pn** **23 30 05.3 -0.2**
comp=N,12nm,0.3s,SNR=99
EQES S **Sn** **23 31 27.1 +0.2**
comp=N,21nm,0.3s,SNR=7.9
EPON Pontenova 7.28 29 P **Pn** **23 30 06.7 -0.4**
comp=N,5.2nm,0.1s,SNR=51
EPON S **Sn** **23 31 27.1 -2.7**
comp=N,28nm,0.2s,SNR=7.9
EPON Pontenova 7.28 29 P **Pn** **23 30 06.7 -0.4**
comp=N,5.2nm,0.1s,SNR=51
EBER Berja 7.31 89 P **Pn** **23 30 08.0 +0.4**
comp=N,6.5nm,0.3s,SNR=7.9
EBER S **Sn** **23 31 29.3 -1.3**
comp=N,4.8nm,0.3s,SNR=7.9
EBER Berja 7.31 89 P **Pn** **23 30 08.0 +0.4**
comp=N,6.5nm,0.3s,SNR=7.9
EBER S **Sn** **23 31 29.4 -1.2**
EALB Alboran 7.33 96 P **Pn** **23 30 08.5 +0.8**
EALB S **Sn** **23 31 27.6 -3.3**
EALB Alboran 7.33 96 P **Pn** **23 30 08.5 +0.7**
EALB S **Sn** **23 31 27.6 -3.4**
comp=N,6.2nm,0.2s,SNR=7.9
MDT Midelt 7.42 123 Pn **Pn** **23 30 05.0 -4.0**
comp=N,1.5nm,0.3s,baz=303,slow=5.2,SNR=53
MDT Sn **Sn** **23 31 23.9 -9.2**
comp=N,15nm,0.3s,baz=176,slow=13,SNR=15
EMEL Melilla 7.54 101 S **Sn** **23 31 29.7 -6.5**
comp=N,10nm,0.1s,SNR=7.9
EVIA Vianos 7.70 75 ⇓P **Pn** **23 30 11.2 -1.6**
comp=N,15nm,0.2s,SNR=18
EVIA S **Sn** **23 31 38.6 -1.4**
comp=N,7.2nm,0.2s,SNR=7.9
ENIJ Nijar 7.85 88 P **Pn** **23 30 15.1 +0.1**
comp=N,5.3nm,0.2s,SNR=8.0
ZFT Errachidia 8.08 126 P **Pn** **23 30 17.0 -1.0**
ZFT S **Sn** **23 31 39.0 -10**
ZFT Errachidia 8.08 126 *i* P **Pn** **23 30 17.0 -1.0**
EARI Arriondas 8.12 38 P **Pn** **23 30 19.8 +1.1**
comp=N,5.6nm,0.2s,SNR=83
EARI S **Sn** **23 31 49.6 -0.9**
comp=N,5.2nm,0.2s,SNR=7.9
EARI Arriondas 8.12 38 P **Pn** **23 30 19.8 +1.2**
comp=N,5.6nm,0.2s,SNR=83
ETOB Tobarra 8.44 76 P **Pn** **23 30 22.3 -0.6**
comp=N,8.5nm,0.2s,SNR=80
ETOB S **Sn** **23 31 58.5 +0.3**
comp=N,5.5nm,0.3s,SNR=7.9
ETOB Tobarra 8.44 76 P **Pn** **23 30 22.4 -0.6**
ETOB S **Sn** **23 31 58.5 +0.3**
comp=N,5.5nm,0.3s,SNR=7.9
EMUR La Murta 8.61 82 P **Pn** **23 30 25.8 +0.4**
comp=N,7.8nm,0.3s,SNR=8.7
EMUR S **Sn** **23 31 59.7 -2.8**
comp=N,2.6nm,0.3s,SNR=7.9
EMUR La Murta 8.61 82 P **Pn** **23 30 25.8 +0.4**
comp=N,7.8nm,0.3s,SNR=8.7
EMUR S **Sn** **23 31 59.7 -2.9**
comp=N,2.6nm,0.3s,SNR=7.9
ETOR Torete 8.62 61 ⇑P **Pn** **23 30 26.5 +0.9**
comp=N,197nm,0.2s,SNR=18
ETOR S **Sn** **23 32 00.5 -2.3**
comp=N,7.7nm,0.3s,SNR=7.9
ETOR Torete 8.62 61 ⇑P **Pn** **23 30 26.5 +1.0**
ETOR S **Sn** **23 32 00.5 -2.3**
comp=N,7.7nm,0.3s,SNR=7.9
ETOR S **Sn** **23 32 00.5 -2.3**
ELAN Lanestosa 9.01 44 P **Pn** **23 30 31.5 +0.7**
comp=N,4.9nm,0.2s,SNR=32
ELAN S **Sn** **23 32 11.0 -1.3**
comp=N,3.6nm,0.2s,SNR=7.9
ELAN Lanestosa 9.01 44 P **Pn** **23 30 31.5 +0.7**
comp=N,4.9nm,0.2s,SNR=32
ELAN S **Sn** **23 32 11.0 -1.3**
comp=N,3.6nm,0.2s,SNR=7.9
EBEN Beniarda 9.47 76 P **Pn** **23 30 36.5 -0.6**
comp=N,4.3nm,0.4s,SNR=7.2
EBEN S **Sn** **23 32 24.6 +0.9**
comp=N,1.2nm,0.2s,SNR=7.9
EBEN Beniarda 9.47 76 P **Pn** **23 30 36.5 -0.7**
comp=N,4.3nm,0.4s,SNR=7.2
EBEN S **Sn** **23 32 24.6 +0.9**
SNR=7.9
EMOS Mosqueruela 9.61 66 P **Pn** **23 30 40.2 +1.1**
comp=N,13nm,0.5s,SNR=27
EMOS S **Sn** **23 32 24.7 -2.3**
comp=N,8.9nm,0.4s,SNR=7.9
EMOS Mosqueruela 9.61 66 P **Pn** **23 30 40.2 +1.1**
comp=N,13nm,0.5s,SNR=27
EMOS S **Sn** **23 32 24.8 -2.3**
EARA Aranguren 9.84 51 P **Pn** **23 30 43.5 +1.3**
comp=N,13nm,0.2s,SNR=7.4
EARA S **Sn** **23 32 30.9 -1.8**
comp=N,4.8nm,0.3s,SNR=7.9
IUSE Utxeti 9.95 51 P **Pn** **23 30 45.1 +1.4**
comp=N,20nm,0.5s,SNR=18
IUSE S **Sn** **23 32 34.9 -0.6**
comp=N,1.0nm,0.2s,SNR=7.9
IPRE Itoiz 9.99 52 P **Pn** **23 30 46.0 +1.6**
comp=N,2.6nm,0.2s,SNR=9.4
IPRE S **Sn** **23 32 36.0 -0.5**
comp=N,0.3nm,0.1s,SNR=7.9
ESAC San Caprasio 10.08 59 P **Pn** **23 30 46.6 +1.1**
comp=N,8.3nm,0.2s,SNR=9.2
ESAC S **Sn** **23 32 38.2 -0.4**
comp=N,3.2nm,0.2s,SNR=7.9
ESAC San Caprasio 10.08 59 P **Pn** **23 30 46.6 +1.1**
comp=N,8.3nm,0.2s
ESAC S **Sn** **23 32 38.2 -0.3**
ELIZ Elizondo 10.08 50 P **Pn** **23 30 45.1 -0.4**
comp=N,26nm,0.2s,SNR=107
EALK Alkurruntz 10.12 49 P **Pn** **23 30 47.2 +1.1**
comp=N,14nm,0.2s,SNR=49
EALK S **Sn** **23 32 39.0 -0.7**
comp=N,6.3nm,0.3s,SNR=7.9
SJPF Ste Jean 10.24 51 *e*Pn **Pn** **23 30 48.7 +1.0**
SJPF *e*Sn **Sn** **23 32 40.5 -2.0**
comp=N,13nm,0.4s
SJPF Ste Jean 10.24 51 *e*Pn **Pn** **23 30 48.7 +1.0**
SJPF *e*Sn **Sn** **23 32 40.5 -2.0**
comp=N,6.6nm,0.4s
OSSF Osses 10.29 50 Pg **Pn** **23 30 50.2 +1.8**
LARF Larrau 10.35 51 Pg **Pn** **23 30 50.3 +1.1**
ERTA Horta de San J 10.37 64 P **Pn** **23 30 50.3 +0.8**
comp=N,1.7nm,0.2s,SNR=12
ERTA S **Sn** **23 32 42.5 -3.3**
comp=N,0.6nm,0.2s,SNR=7.9
ERTA Horta de San J 10.37 64 P **Pn** **23 30 50.3 +0.8**
comp=N,1.7nm,0.2s
ERTA S **Sn** **23 32 42.5 -3.2**
ORDF Ordiarp 10.47 51 Pg **Pn** **23 30 51.3 +0.4**
ETSF Etsaut 10.55 53 *e*Pn **Pn** **23 30 52.7 +0.8**
ETSF *e*Sn **Sn** **23 32 50.5 +0.4**
comp=N,6.0nm,0.3s
ETSF Etsaut 10.55 53 P **Pn** **23 30 52.7 +0.8**
ETSF S **Sn** **23 32 50.5 +0.4**
comp=N,3.0nm,0.3s
EIBI Ibiza 10.72 75 P **Pn** **23 30 54.2 -0.1**
comp=N,1.4nm,0.2s,SNR=7.9
EIBI S **Sn** **23 32 49.5 -4.9**
comp=N,0.7nm,0.3s,SNR=7.9
EIBI Ibiza 10.72 75 P **Pn** **23 30 54.2 -0.1**
EBIE Bielsa 10.90 55 P **Pn** **23 30 57.2 +0.5**
comp=N,21nm,0.4s,SNR=75
EBIE S **Sn** **23 32 57.2 -1.5**
comp=N,1.0nm,0.3s,SNR=7.9
EBIE Bielsa 10.90 55 P **Pn** **23 30 57.2 +0.4**
comp=N,21nm,0.4s
EBIE S **Sn** **23 32 57.2 -1.5**
EBIE Bielsa 10.90 55 P **Pn** **23 30 57.2 +0.5**
comp=N,21nm,0.4s
EBIE S **Sn** **23 32 57.2 -1.5**
VIEF Viey 10.91 54 Pg **Pn** **23 30 57.9 +1.0**
LABF Labassere 11.02 53 Pg **Pn** **23 30 59.7 +1.3**
EPOB Poblet 11.03 63 P **Pn** **23 30 58.4 -0.1**
comp=N,5.8nm,0.2s,SNR=30
EPOB S **Sn** **23 32 59.4 -2.4**
comp=N,0.7nm,0.2s,SNR=7.9
EPOB Poblet 11.03 63 P **Pn** **23 30 58.4 -0.1**
comp=N,5.8nm,0.2s
EPOB S **Sn** **23 32 59.4 -2.5**
EPF Esparros 11.19 54 *e*Pn **Pn** **23 31 01.5 +0.8**
EPF *e*Sn **Sn** **23 33 06.2 +0.4**
comp=N,4.7nm,0.3s
EPF Esparros 11.19 54 P **Pn** **23 31 01.5 +0.8**
EPF S **Sn** **23 33 06.2 +0.4**
comp=N,2.3nm,0.3s
ETOS Mallorca 11.95 72 P **Pn** **23 31 11.9 +0.8**
comp=N,1.5nm,0.4s,SNR=7.9
ETOS Mallorca 11.95 72 P **Pn** **23 31 11.9 +0.8**
LFF La Frestale 12.43 47 *e*Pn **Pn** **23 31 17.5 -0.2**
LFF *e*Sn **Sn** **23 33 33.3 -2.9**
comp=N,4.9nm,0.4s
LFF La Frestale 12.43 47 P **Pn** **23 31 17.5 -0.2**
LFF S **Sn** **23 33 33.3 -2.9**
comp=N,2.5nm,0.4s
MTLF Montolieu 12.55 56 *e*Pn **Pn** **23 31 19.9 +0.5**
MTLF *e*Sn **Sn** **23 33 37.4 -1.9**
comp=N,2.0nm,0.4s
MTLF Montolieu 12.55 56 P **Pn** **23 31 19.9 +0.5**
MTLF S **Sn** **23 33 37.4 -1.9**
comp=N,1.0nm,0.4s
QUIF Quistinic 12.65 28 *e*Pn **Pn** **23 31 19.5 -1.2**
QUIF *e*Sn **Sn** **23 33 32.4 -9.2**
comp=N,16nm,0.6s
QUIF Quistinic 12.65 28 *e*Pn **Pn** **23 31 19.5 -1.2**
QUIF *e*Sn **Sn** **23 33 32.4 -9.2**
comp=N,7.9nm,0.6s
EJON La Jonquera 12.67 60 P **Pn** **23 31 21.1 +0.2**
comp=N,1.7nm,0.3s,SNR=7.9
EJON La Jonquera 12.67 60 P **Pn** **23 31 21.1 +0.2**
comp=N,1.7nm,0.3s
ROSF Rostrenen 12.96 27 *e*Pn **Pn** **23 31 23.5 -1.4**
ROSF *e*Sn **Sn** **23 33 40.4 -8.8**
comp=N,13nm,0.5s
ROSF Rostrenen 12.96 27 *e*Pn **Pn** **23 31 23.5 -1.4**
ROSF *e*Sn **Sn** **23 33 40.4 -8.8**
comp=N,6.7nm,0.5s
MFF Saint Martin d 12.99 39 *e*Pn **Pn** **23 31 24.8 -0.6**
MFF *e*Sn **Sn** **23 33 46.5 -3.5**
comp=N,8.4nm,0.6s
MFF Saint Martin d 12.99 39 P **Pn** **23 31 24.8 -0.6**
MFF S **Sn** **23 33 46.5 -3.5**
comp=N,4.2nm,0.6s
RJF Les Rejaudoux 13.09 47 *e*Pn **Pn** **23 31 26.2 -0.5**
RJF *e*Sn **Sn** **23 33 48.2 -4.2**
comp=N,4.3nm,0.2s
RJF Les Rejaudoux 13.09 47 P **Pn** **23 31 26.2 -0.5**
RJF S **Sn** **23 33 48.2 -4.2**
comp=N,2.2nm,0.2s
SGMF Saint Gilles 13.16 29 *e*Pn **Pn** **23 31 26.5 -1.1**
SGMF *e*Sn **Sn** **23 33 44.8 -9.2**
comp=N,3.5nm,0.2s
SGMF Saint Gilles 13.16 29 *e*Pn **Pn** **23 31 26.5 -1.1**
SGMF *e*Sn **Sn** **23 33 44.8 -9.2**
comp=N,1.8nm,0.2s
CAF Calviac 13.21 49 *e*Pn **Pn** **23 31 28.0 -0.3**
CAF *e*Sn **Sn** **23 33 51.6 -3.7**
comp=N,2.7nm,0.3s
CAF Calviac 13.21 49 P **Pn** **23 31 28.0 -0.3**
CAF S **Sn** **23 33 51.6 -3.7**
comp=N,1.4nm,0.3s
LASF Ste Croix 13.94 55 *e*Pn **Pn** **23 31 38.0 -0.3**
GRR Gorron 13.96 32 *e*Pn **Pn** **23 31 37.5 -1.0**
GRR *e*Sn **Sn** **23 34 05.7 -7.8**
comp=N,11nm,0.5s
GRR Gorron 13.96 32 *e*Pn **Pn** **23 31 37.5 -1.0**
GRR *e*Sn **Sn** **23 34 05.7 -7.8**
comp=N,5.7nm,0.5s
TCF Toulx Ste Croi 14.05 45 *e*Pn **Pn** **23 31 39.1 -0.7**
TCF *e*Sn **Sn** **23 34 11.8 -4.1**
comp=N,4.8nm,0.3s
TCF Toulx Ste Croi 14.05 45 P **Pn** **23 31 39.1 -0.7**
TCF S **Sn** **23 34 11.8 -4.1**
comp=N,2.4nm,0.3s
FLN La Foliniere 14.41 32 *e*Pn **Pn** **23 31 43.7 -0.9**
FLN *e*Sn **Sn** **23 34 17.6 -6.9**
comp=N,7.6nm,0.5s
FLN La Foliniere 14.41 32 P **Pn** **23 31 43.7 -0.9**
FLN S **Sn** **23 34 17.6 -6.9**
comp=N,3.8nm,0.5s
LDF La Druitiere 14.43 33 *e*Pn **Pn** **23 31 43.9 -1.1**
LDF *e*Sn **Sn** **23 34 17.3 -7.8**
comp=N,8.8nm,0.6s
BGF Bois d'Agland 14.57 45 *e*Pn **Pn** **23 31 46.4 -0.5**
BGF *e*Sn **Sn** **23 34 26.2 -2.2**
comp=N,9.2nm,0.4s
BGF Bois d'Agland 14.57 45 P **Pn** **23 31 46.4 -0.5**
BGF S **Sn** **23 34 26.2 -2.2**
comp=N,4.6nm,0.4s
VIVF Saint-Julien-l 14.80 53 *e*Pn **Pn** **23 31 50.3 +0.2**
HYF Humbligny 14.88 42 *e*Pn **Pn** **23 31 50.7 -0.4**
HYF *e*Sn **Sn** **23 34 34.8 -1.2**
AVF Avril sur Loir 14.99 45 *e*Pn **Pn** **23 31 52.1 -0.5**
AVF *e*Sn **Sn** **23 34 36.3 -2.3**
comp=N,4.3nm,0.6s
AVF Avril sur Loir 14.99 45 P **Pn** **23 31 52.1 -0.5**
AVF S **Sn** **23 34 36.3 -2.3**
comp=N,2.2nm,0.6s
SMRF Simiane la Rot 15.04 57 *e*Pn **Pn** **23 31 54.1 +0.8**
SMF Signal de Mont 15.18 46 *e*Pn **Pn** **23 31 54.3 -0.9**
SSF Saint-Saulge 15.23 44 *e*Pn **Pn** **23 31 55.3 -0.5**
LMR La Mourre 15.47 60 *e*Pn **Pn** **23 32 00.0 +1.1**
LOR Lormes 15.55 44 *e*Pn **Pn** **23 31 59.8 -0.1**
baz=218
LOR *e*Sn **Sn** **23 34 47.3 -4.9**
comp=N,3.6nm,0.5s
LOR Lormes 15.55 44 P **Pn** **23 31 59.8 -0.1**
LOR S **Sn** **23 34 47.3 -4.9**
comp=N,1.8nm,0.5s
ORIF Oris-en-Rattie 15.61 54 *e*Pn **Pn** **23 32 01.8 +1.1**
FRF La Foret Royal 15.63 60 *e*Pn **Pn** **23 32 01.6 +0.5**
LPG La Plagne 16.41 53 *e*Pn **Pn** **23 32 12.0 +0.9**
MEZF Maizieres J'vi 16.92 42 *e*Pn **Pn** **23 32 18.6 +1.1**
baz=225
GERES GERESS Array B 22.09 50 P **P** **23 33 15.9 -0.1**
comp=N,0.7nm,0.7s,mb3.2,baz=236,slow=9.4,SNR=6.3
TORD Torodi Ar. Bea 26.80 149 P **P** **23 35 55.0 -5.9**
comp=N,0.4nm,0.6s,mb3.2,baz=324,slow=10,SNR=5.3
TORD Torodi Ar. Bea 26.80 149 P **P** **23 33 55.0 -6.0**
FINES FINESS Array B 34.03 32 P **P** **23 35 01.7 -3.1**
comp=N,0.8nm,0.8s,mb3.7,baz=232,slow=6.8,SNR=3.5
FINES FINESS Array B 34.03 32 P **P** **23 35 01.7 -3.1**
ARCES ARCESS Array B 38.29 20 P **P** **23 35 37.5 -3.7**
comp=N,3.3nm,0.9s,mb4.0,baz=238,slow=8.4,SNR=4.8
PDAR Pinedale Array 70.80 309 P **P** **23 39 27.9 -9.5**
comp=N,0.3nm,0.5s,mb3.5,baz=76,slow=5.7,SNR=3.3

*IDC **19** 23:28:53.5±8.5, 1537S×173.17W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/15, mbtmp3.9/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/28, Error ellipse: s-maj=451.0km s-min=26.7km az=144.0*
*ISCJB **19** 23:28:57.1±4.0, 152S±02.0×173.1W±0.3, h51km±52km, mb4.3/5, MS3.8/9, Error ellipse: s-maj=46.0km s-min=37.6km az=54.0*
*NEIC **19** 23:28:57.8±0.7, 1519S×173.15W, h35km, mb4.4/2, Error ellipse: s-maj=32.5km s-min=12.7km az=139.0*
ISC 19 23:28:58.3±3.8, 152S±02×1730W±03, h43km±51km, n22, σ1$00/8, mb4.2/5, MS3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.76**	**43**	Pn	**Pn**		**23 29 27.0**	**+0.7**
	14nm,0.3s,baz=260,slow=20,SNR=12							
AFI				Sn	**Sn**		**23 29 46.9**	**-0.6**
	45nm,0.3s,baz=205,slow=13,SNR=9.3							

DZM Mont Dzumac 20.61 248 LR LR 23 38 38.8
comp=Z,146nm,18.8s,MS3.4,baz=80,slow=29
PPT Papeete 22.61 99 *e*LQ 23 38 26.2
703nm,26.5s
PPT *e*LR LR 23 39 18.0
176nm,27.8s
TBI Tubuai 23.64 114 *e*LQ 23 38 53.2
346nm,28.8s
TBI *e*LR LR 23 39 53.9
260nm,25.8s
HNR Honiara 27.01 279 LR LR 23 42 55.0
comp=Z,130nm,21.9s,MS3.5,baz=179,slow=31
SNZO South Karori 28.11 200 *e*Pn **P** **23 34 45.1 -0.9**
10nm,0.6s,mb4.6
RKT Rikitea 36.71 108 *e*LR LR 23 45 55.9
164nm,32.5s
CTA Charters Tower 39.05 257 LR LR 23 48 38.3
comp=Z,71nm,20.5s,MS3.5,baz=237,slow=30
PMG Port Moresby 39.29 274 LR LR 23 50 07.6
comp=Z,107nm,19.4s,MS3.7,baz=49,slow=32
STKA Stephens Creek 44.45 240 P **P** **23 37 04.7 -0.4**
WRAB Tennant Creek 50.24 257 *e*P **P** **23 37 50.5 +0.5**
4.3nm,1.0s,mb4.4
WRA Warramunga Arr 50.25 257 P **P** **23 37 50.3 +0.1**
1.0nm,0.9s,mb3.8,baz=91,slow=7.2,SNR=3.9
ASAR Alice Springs 50.52 252 P **P** **23 37 51.5 -0.7**
1.6nm,0.7s,mb4.1,baz=86,slow=7.9,SNR=12
VNDA Vanda 63.61 186 LR LR 00 01 31.9
comp=Z,38nm,21.8s,MS3.5,baz=268,slow=31
MJAR Matsushiro Art 69.03 320 LR LR 00 03 25.7
comp=Z,110nm,21.0s,MS4.1,baz=195,slow=30
CASY Casey 70.74 205 *e*P **P** **23 40 11.2 +1.2**
4.3nm,1.1s,mb4.3
PLCA Paso Flores 89.37 132 LR LR 00 12 57.0
comp=Z,68nm,19.1s,MS4.1,baz=194,slow=30
ULM Lac du Bonnet 93.55 39 LR LR 00 19 19.0
comp=Z,71nm,18.3s,MS4.2,baz=284,slow=32
SONM Songino Array 94.94 318 LR LR 00 18 20.0
comp=Z,54nm,20.2s,MS4.0,baz=297,slow=31
BRVK Borovoye 118.01 322 *e*PKPdf PKPdf 23 47 39.9 -0.4
GERES GERESS Array B 146.00 352 PKPbc PKPbc 23 48 37.7 +4.4
0.2nm,0.5s,baz=313,slow=6.5,SNR=3.5
BRTR Keskin Array B 146.23 321 PKPbc PKPbc 23 48 38.1 +4.1
0.6nm,0.8s,baz=147,slow=2.9,SNR=3.6

*IDC **19** 23:29:25.2±2.5, 440S×101.80E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/33, Error ellipse: s-maj=118.4km s-min=16.0km az=54.0*
*ISCJB **19** 23:29:27.3±0.8, 455S±01.0×1016E±02, h33km, mb4.1/10, Error ellipse: s-maj=33.0km s-min=11.5km az=112.4*
*NEIC **19** 23:29:29.2±0.6, 450S×101.71E, h30km, mb4.3/2, Error ellipse: s-maj=24.3km s-min=8.4km az=56.0*
ISC 19 23:29:29.9±0.8, 45S±01×1016E±02, h35km, n15, σ0$63/15, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**27.08**	**122**	P	**P**		**23 35 08.5**	**-0.5**
	1.9nm,0.7s,mb3.7,baz=283,slow=6.8,SNR=6.5							
NWAO	**Narrogin (SRO)**	**31.79**	**155**	P	**P**		**23 35 51.8**	**+0.9**
WRA	**Warramunga Arr**	**35.34**	**119**	P	**P**		**23 36 21.4**	**-0.4**
	0.9nm,0.5s,mb4.0,baz=303,slow=9.0,SNR=18							
WRAB	**Tennant Creek**	**35.34**	**118**	*e*P	**P**		**23 36 20.9**	**-0.9**
	5.5nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**35.35**	**118**	*e*P	**P**		**23 36 21.8**	**-0.1**
ASAR	**Alice Springs**	**36.47**	**125**	P	**P**		**23 36 31.8**	**+0.4**
	0.6nm,0.4s,mb3.9,baz=295,slow=7.8,SNR=8.9							
PMG	**Port Moresby**	**45.42**	**99**	P	**P**		**23 37 45.3**	**+0.2**
STKA	**Stephens Creek**	**46.27**	**131**	P	**P**		**23 37 53.2**	**+1.4**
	3.9nm,0.5s,mb4.6,baz=333,slow=9.3,SNR=10							
STKA	**Stephens Creek**	**46.27**	**131**	P	**P**		**23 37 53.2**	**+1.4**
SONM	**Songino Array**	**52.30**	**4**	P	**P**		**23 38 38.1**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=184,slow=9.5,SNR=16							
MKAR	**Makanchi Array**	**53.89**	**344**	P	**P**		**23 38 50.1**	**+0.5**
	1.9nm,0.6s,mb4.2,baz=139,slow=7.6,SNR=24							
ZAL	**Zalesovo**	**59.94**	**349**	P	**P**		**23 39 32.1**	**-0.3**
	2.4nm,0.4s,mb4.6,baz=318,slow=1.2,SNR=8.7							
CASY	**Casey**	**61.96**	**176**	*e*P	**P**		**23 39 45.2**	**-0.9**
BVAR	**Borovoye Array**	**63.10**	**339**	P	**P**		**23 39 53.3**	**-0.5**
	0.3nm,0.3s,mb3.8,baz=132,slow=7.9,SNR=4.6							
CHKZ	**Chkalovo**	**63.56**	**340**	*e*P	**P**		**23 39 57.1**	**+0.3**
	1.0nm,0.6s,mb4.0							

IDC 19 23:46:42.2±2.0, 4752N×15269E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=62.8km s-min=33.2km az=82.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SONM	**Songino Array**	**30.81**	**288**	P	P		23 53 00.3	+0.6
	0.2nm,0.5s,baz=74,slow=11,SNR=2.3							
MKAR	**Makanchi Array**	**46.33**	**297**	P	P		23 55 08.9	-0.9
	0.3nm,0.4s,baz=49,slow=7.5,SNR=4.3							
FINES	**FINESS Array B**	**63.22**	**334**	P	P		23 57 11.4	-0.8
	0.6nm,0.4s,baz=34,slow=8.5,SNR=7.7							
HFS	**Hagfors**	**67.63**	**339**	P	P		23 57 40.8	-0.1
	2.4nm,1.0s,baz=59,slow=6.9,SNR=6.5							
ASAR	**Alice Springs**	**72.85**	**198**	P	P		23 58 12.7	-0.1
	0.5nm,0.7s,baz=10,slow=5.0,SNR=4.9							

IDC 19 23:58:18.3±8.4, 3220S×17981E, h319km±58km, mb3.1/2, mb1 3.4/3, mb1mx3.2/12, mbtmp3.9/3, Error ellipse: s-maj=94.4km s-min=31.0km az=45.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.00**	**192**	PN	Pn		23 59 48.9	+0.9
PUZ				SN	S		00 00 58.0	-2.6
MWZ	**Matawai**	**6.40**	**196**	PN	Pn		23 59 55.4	+2.6
URZ	**Urewera**	**6.44**	**199**	P	Pn		23 59 53.6	+0.3
	1.9nm,0.3s,baz=49,slow=9.3,SNR=14							
URZ				S	S		00 01 09.9	-0.2
	4.0nm,0.3s,baz=76,slow=23,SNR=25							
URZ	**Urewera**	**6.44**	**199**	PN	Pn		23 59 53.1	-0.1
BKZ	**Black Stump Fm**	**7.46**	**200**	PN	Pn		00 00 07.8	+2.4
ASAR	**Alice Springs**	**41.19**	**270**	P	P		00 05 32.4	-0.2
	0.4nm,0.6s,baz=104,slow=7.4,SNR=8.3							
WRA	**Warramunga Arr**	**42.34**	**275**	P	P		00 05 42.2	+0.4
	1.2nm,0.3s,baz=114,slow=7.8,SNR=54							
TORD	**Torodi Ar. Bea**	**160.96**	**186**	PKPab	PKPab		00 18 25.1	-0.1
	0.3nm,0.5s,baz=167,slow=3.7,SNR=7.3							

*ISCJB **20** 00:09:04.2±2.3, 463N±006×9608E±005, h10km±14km, mb4.3/22, MS3.7/8, Error ellipse: s-maj=10.8km s-min=8.0km az=75.1*
*IDC **20** 00:09:04.0±0.7, 471N×96.19E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, ML4.2/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/24, Error ellipse: s-maj=32.9km s-min=15.6km az=50.0*
*BJI **20** 00:09:05.6, 432N×9583E, h30km, mB4.7, mb4.5, Ms4.7, Msz4.3*
*NEIC **20** 00:09:08.7±0.4, 470N×96.14E, h30km, mb4.6/4, Error ellipse: s-maj=12.5km s-min=7.9km az=51.0*
ISC 20 00:09:07.7±2.4, 462N±005×9606E±005, h20km±17km, n48, σ1$08/48, mb4.3/22, MS3.7/8, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PSI	**Prapat**	**3.38**	**122**	Pn	**Pn**		**00 10 00.4**	**+1.1**
	21nm,0.3s,baz=320,slow=14,SNR=79							
PSI				Sn	**Sn**		**00 10 44.0**	**+5.3**
	17nm,0.3s,baz=0.6,slow=20,SNR=3.4							
KULM	**Kulim**	**4.62**	**81**	*e*Pn	**Pn**		**00 10 14.8**	**-1.5**
KULM				*e*Sn	**Sn**		**00 11 10.4**	**+1.0**
HYB	**Hyderabad**	**21.35**	**308**	*i* P	**P**		**00 13 54.0**	**+0.4**
KMI	**Kunming**	**21.38**	**17**	P	**P**		**00 13 58.0**	**+4.1**
KMI				AP			00 14 04.4	
KMI				XP	sP		00 14 08.4	+6.2
KMI				PP			00 14 20.6	
KMI				S	**S**		**00 17 50.3**	**+0.1**
KMI				XS	sS		00 18 03.1	+3.7
KMI				SS			00 18 22.6	
KMI				AMB	AMB			
	comp=Z,5.0nm,0.9s,mb3.8							
KMI				AMB	AMB			
	comp=Z,47nm,3.9s							
KMI				LR	LR			
	comp=N,148nm,12.1s,MS3.9							

KMI LR LR
comp=E,271nm,13.1s,MS3.9
KMI LR LR
comp=Z,170nm,12.1s,MS3.7
LSA Lhasa 25.38 350 P **P 00 14 34.2 +0.7**
NACB Ninganchiao 31.34 49 P **P 00 15 26.3 -0.5**
YHNB Yeheng 31.46 48 *e*P **P 00 15 27.0 -0.9**
NJ2 Nanjing 34.66 35 *e*P **P 00 15 58.8 +3.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
GTA Gaotai 34.80 5 *e*P **P 00 15 58.0 +1.0**
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
FITZ Fitzroy Crossi 36.88 129 *e*P **P 00 16 13.6 -1.2**
comp=Z,6.0nm,0.8s,mb4.5
JOW Kunigami 37.86 51 P **P 00 16 25.1 +1.9**
comp=Z,3.1nm,0.6s,mb4.2,baz=302,slow=29,SNR=4.2
HHC Hu-ho-hao-te 38.67 19 *e*P **P 00 16 31.4 +1.5**
HHC AP pP 00 16 41.3 +5.2
HHC XP sP 00 16 45.1 +6.5
HHC PP PP 00 18 04.5 +6.0
HHC PCP PcP 00 18 43.4 +1.7
HHC S **S 00 22 25.4 -0.1**
HHC SCP ScP 00 22 27.8 -0.9
HHC PCS PcS 00 22 31.6 +0.6
HHC XS sS 00 22 41.8 +6.0
HHC SS SS 00 25 07.9 -8.2
HHC SCS ScS 00 26 36.9 -2.3
HHC AMB AMB
comp=Z,6.0nm,0.3s,mb4.8
HHC AMB AMB
comp=Z,100nm,7.6s
HHC LR LR
comp=N,145nm,5.1s
HHC LR LR
comp=E,149nm,4.1s
HHC LR LR
comp=Z,105nm,5.3s
WMQ Urumqi 39.74 351 *e*P **P 00 16 40.0 +1.2**
WMQ AMB AMB
comp=Z,11nm,0.6s,mb4.8
WMQ AMB AMB
comp=Z,141nm,3.7s
NWAO Narrogin (SRO) 42.40 153 P **P 00 17 01.9 +1.2**
MKAR Makanchi Array 43.67 346 P **P 00 17 10.6 -0.5**
comp=Z,1.0nm,0.7s,mb3.6,baz=157,slow=6.6,SNR=6.3
MKAR Makanchi Array 43.67 346 P **P 00 17 10.6 -0.5**
SONM Songino Array 43.96 10 P **P 00 17 11.2 -2.2**
comp=Z,1.0nm,0.6s,mb3.7,baz=192,slow=8.8,SNR=9.2
SONM LR LR 00 37 01.2
comp=Z,62nm,19.8s,MS3.5,baz=191,slow=38
WRA Warramunga Arr 44.84 124 P **P 00 17 19.6 -0.9**
comp=Z,2.0nm,0.5s,mb4.2,baz=302,slow=9.3,SNR=20
WRAB Tennant Creek 44.85 124 *e*P **P 00 17 19.9 -0.6**
comp=Z,6.9nm,0.6s,mb4.7
WB2 Warramunga Arr 44.85 124 ⇓*i*P **P 00 17 19.4 -1.1**
WB2 Warramunga Arr 44.85 124 *e*P **P 00 17 19.8 -0.7**
ASPA Alice Springs 46.38 129 *e*P **P 00 17 32.5 -0.1**
AS31 Alice Springs 46.38 129 *e*P **P 00 17 32.4 -0.2**
AS31 *e* 00 17 41.3
ASAR Alice Springs 46.38 129 P **P 00 17 31.6 -1.0**
comp=Z,3.9nm,0.6s,mb4.5,baz=300,slow=7.8,SNR=46
ASAR LR LR 00 38 01.0
comp=Z,66nm,18.8s,MS3.6,baz=173,slow=38
FORT Forrest 46.62 141 *e*P **P 00 17 34.6 +0.2**
comp=Z,9.9nm,0.6s,mb4.9
CN2 Changchun 46.84 29 *e*P **P 00 17 40.6 +4.4**
MDJ Mudanjiang 49.50 31 P **P 00 17 56.8 0.0**
MDJ XP sP 00 18 09.4 +3.8
MDJ PP PP 00 19 51.3 +0.3
MDJ SCP ScP 00 23 09.8 -3.0
MDJ PCS PcS 00 23 13.5 -1.7
MDJ S **S 00 25 03.3 0.0**
MDJ XS sS 00 25 18.6 +4.9
MDJ AMB AMB
comp=Z,8.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,66nm,6.1s
MDJ LR LR
comp=N,32nm,23.0s,MS3.6
MDJ LR LR
comp=E,69nm,21.3s,MS3.6
MDJ LR LR
comp=Z,40nm,21.3s,MS3.4
BVAR Borovoye Array 52.67 341 P **P 00 18 19.6 -0.9**
comp=Z,0.5nm,0.7s,mb3.6,baz=131,slow=18,SNR=4.2
BVAR Borovoye Array 52.67 341 P **P 00 18 19.6 -1.0**
BRVK Borovoye 52.73 341 P **P 00 18 20.0 -1.0**
CHKZ Chkalovo 53.15 341 *e*P **P 00 18 22.8 -1.3**
comp=Z,0.9nm,0.4s,mb4.0
STKA Stephens Creek 56.49 133 *e*P **P 00 18 47.8 -0.5**
comp=Z,7.3nm,1.8s,mb4.4
STKA Stephens Creek 56.49 133 P **P 00 18 47.5 -0.9**
comp=Z,2.6nm,0.6s,mb4.4,baz=298,slow=7.8,SNR=8.8
STKA LR LR 00 45 35.0
comp=Z,113nm,19.5s,MS4.0,baz=202,slow=39
STKA Stephens Creek 56.49 133 *e*P **P 00 18 48.2 -0.1**
STKA *e* 00 18 58.8
KMBO Kilima Mbogo 59.03 266 P **P 00 19 07.5 +1.4**
comp=Z,1.1nm,0.8s,mb4.0,baz=63,slow=14,SNR=3.9
KMBO LR LR 00 42 09.7
comp=Z,30nm,18.3s,MS3.5,baz=5.5,slow=34
BRTR Keskin Array B 66.00 312 P **P 00 19 50.0 -2.7**
comp=Z,0.9nm,0.6s,mb4.0,baz=141,slow=7.4,SNR=6.2
MAW Mawson 75.77 192 P **P 00 20 53.5 +1.4**
ARCES ARCESS Array B 78.96 340 P **P 00 21 09.5 -0.4**
comp=Z,3.7nm,0.9s,mb4.3,baz=90,slow=6.1,SNR=4.1
ARCES ARCESS Array B 78.96 340 P **P 00 21 09.5 -0.4**
GERES GERESS Array B 81.51 319 P **P 00 21 24.2 +0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=94,slow=4.0,SNR=3.7
NOA NORSAR Array B 83.49 331 LR LR 01 03 07.9
comp=Z,37nm,19.2s,MS3.8,baz=50,slow=39
VNDA Vanda 89.38 169 LR LR 01 01 52.6
comp=Z,43nm,18.0s,MS3.9,baz=59,slow=35
VNDA Vanda 89.38 169 *e*P **P 00 22 04.0 +1.2**
TORD Torodi Ar. Bea 93.20 283 P **P 00 22 20.6 0.0**
comp=Z,0.7nm,0.6s,mb4.2,baz=93,slow=6.1,SNR=5.9
QSPA South Pole Qui 94.54 180 P **P 00 22 26.6 -0.1**
CPUP Villa Florida 146.62 227 PKPbc PKPbc 00 28 48.4 +0.6
comp=Z,0.9nm,0.6s,baz=208,slow=2.1,SNR=4.3
CPUP Villa Florida 146.62 227 *e*PKPdf PKPdf 00 28 48.0 +1.8
CPUP PKPbc PKPbc 00 28 48.4 +0.6
RPN Rapa Nui 147.01 135 PKPbc PKPbc 00 28 49.5 +0.6
comp=Z,28nm,0.3s,baz=228,slow=4.8,SNR=7.4

SZGRF ***20*** *00:15:30.9, 1752S×17801W, h490km, Fiji Islands region*
NEIC ***20*** *00:15:36.5±0.8, 1783S×17854W, h548km±9km, mb4.5/28, Error ellipse: s-maj=14.6km s-min=6.3km az=152.0*
ISCJB ***20*** *00:15:36.8±1.1, 1787S±009×17862W±007, h565km±13km, mb4.4/45, Error ellipse: s-maj=16.0km s-min=6.7km az=124.1*
BJI ***20*** *00:15:36.4, 1780S×17850W, h547km, mB4.6, mb4.4*
MOS ***20*** *00:15:36.7±1.7, 1787S×17860W, h553km, mb4.5/11, Error ellipse: s-maj=14.0km s-min=10.0km az=142.6*
IDC ***20*** *00:15:42.1±2.1, 1801S×17859W, h624km±25km, mb4.0/16, mb1 4.0/17, mb1mx3.9/23, mbtmp4.9/17, Error ellipse: s-maj=31.5km s-min=9.7km az=152.0*
ISC 20 00:15:38.6±1.0, 1781S±010×17858W±007, h572km±12km, n181, σ0§93/102, mb4.5/45, 17C-13D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.61**	**60**	P	**P**	**00 17 32.2**	**-0.9**
	4.8nm,0.3s,baz=180,slow=18,SNR=4.1						
AFI	**Afiamalu**	**7.61**	**60**	P	**P**	**00 17 31.6**	**-1.5**
RAO	**Raoul Island**	**11.40**	**177**	*e*P	**P**	**00 18 05.9**	**-5.1**
DZM	**Mont Dzumac**	**14.71**	**251**	*e*P	**P**	**00 18 47.3**	**+2.6**
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**00 18 45.2**	**+0.5**
	2.5nm,0.3s,baz=89,slow=16,SNR=19						
HNR	**Honiara**	**22.45**	**289**	*e*P	**P**	**00 19 53.4**	**-2.1**
ARMA	**Armidale**	**29.85**	**240**	⇓*i*P	**P**	**00 21 01.2**	**+0.8**
CTA	**Charters Tower**	**33.30**	**260**	⇓*i*P	**P**	**00 21 30.3**	**+0.5**
	21nm,0.7s,mb4.9						
CTA	**Charters Tower**	**33.30**	**260**	P	**P**	**00 21 30.4**	**+0.5**
	25nm,0.6s,mb5.0,baz=100,slow=10,SNR=21						
CTA	**Charters Tower**	**33.30**	**260**	⇓*i*P	**P**	**00 21 30.3**	**+0.5**
CTA				pmax	pmax		
	comp=Z,21nm,0.7s						
CTAO	**Charters Tower**	**33.30**	**260**	*e*P	**P**	**00 21 30.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,21nm,0.6s,mb4.9						
CTAO	**Charters Tower**	**33.30**	**260**	*e*P	**P**	**00 21 30.2**	**+0.4**
	comp=Z,21nm,0.6s,mb5.0						
CNB	**Canberra Magne**	**33.36**	**232**	*e*P	**P**	**00 21 30.7**	**+0.4**
	comp=Z,24nm,0.5s,mb5.1						
PMG	**Port Moresby**	**34.28**	**280**	P	**P**	**00 21 39.8**	**+1.7**
	comp=Z,74nm,0.8s,mb5.4,baz=88,slow=7.0,SNR=15						
PMG	**Port Moresby**	**34.28**	**280**	*d*⇓*i*P	**P**	**00 21 40.0**	**+2.0**
PMG	**Port Moresby**	**34.28**	**280**	*e*P	**P**	**00 21 39.9**	**+1.9**
	comp=Z,76nm,0.8s,mb5.4						
TOO	**Toolangi**	**37.10**	**231**	*e*P	**P**	**00 22 01.1**	**-0.2**
	comp=Z,20nm,1.1s,mb4.5						
TOO	**Toolangi**	**37.10**	**231**	*e*P	**P**	**00 22 01.1**	**-0.2**
TOO				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**38.53**	**241**	⇓*i*P	**P**	**00 22 13.4**	**+0.5**
	comp=Z,15nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**00 22 13.6**	**+0.7**
	comp=Z,22nm,0.6s,mb4.9,baz=88,slow=9.6,SNR=52						
STKA	**Stephens Creek**	**38.53**	**241**	*e*P	**P**	**00 22 13.4**	**+0.5**
WB2	**Warramunga Arr**	**44.48**	**259**	*e*P	**P**	**00 22 59.0**	**-0.7**
WRAB	**Tennant Creek**	**44.48**	**259**	*d*⇓*i*P	**P**	**00 22 59.3**	**-0.5**
WRAB	**Tennant Creek**	**44.48**	**259**	*e*P	**P**	**00 22 59.2**	**-0.5**
	comp=Z,31nm,0.6s,mb5.0						
WRA	**Warramunga Arr**	**44.49**	**259**	P	**P**	**00 22 59.5**	**-0.3**
	comp=Z,18nm,0.5s,mb4.8,baz=92,slow=7.3,SNR=503						
WRA				S	**S**	**00 28 50.9**	**-3.1**
	comp=Z,0.2nm,0.5s,baz=100,slow=15,SNR=3.4						
AS31	**Alice Springs**	**44.66**	**254**	*e*P	**P**	**00 23 01.3**	**+0.2**
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**00 23 01.4**	**+0.3**
	comp=Z,116nm,0.6s,mb5.6,baz=88,slow=8.6,SNR=1143						
ASAR				S	**S**	**00 28 54.7**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=88,slow=15,SNR=5.5						
ASPA	**Alice Springs**	**44.66**	**254**	*e*P	**P**	**00 23 01.3**	**+0.1**
KAKA	**Kakadu**	**47.42**	**269**	*e*P	**P**	**00 23 22.1**	**+0.1**
	comp=Z,49nm,0.4s,mb5.4						
FORT	**Forrest**	**49.90**	**245**	⇓*i*P	**P**	**00 23 39.4**	**-1.0**
	comp=Z,35nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.88**	**261**	*e*P	**P**	**00 24 02.1**	**+0.2**
	comp=Z,6.4nm,0.3s,mb4.4						
MBWA	**Marble Bar**	**57.94**	**256**	*e*P	**P**	**00 24 36.5**	**-0.4**
	comp=Z,17nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**58.73**	**243**	*e*P	**P**	**00 24 41.1**	**-1.1**
	comp=Z,20nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	P	**P**	**00 24 42.9**	**-1.9**
	comp=Z,13nm,1.0s,mb4.0,baz=67,slow=7.7,SNR=3.8						
NWAO	**Narrogin (SRO)**	**59.11**	**242**	*e*P	**P**	**00 24 44.4**	**-0.4**
MUN	**Mundaring**	**60.02**	**243**	*e*P	**P**	**00 24 50.4**	**-0.4**
VNDA	**Vanda**	**60.52**	**185**	P	**P**	**00 24 56.1**	**+2.0**
MJAR	**Matsushiro Arr**	**67.73**	**323**	P	**P**	**00 25 39.0**	**-0.7**
	comp=Z,2.0nm,0.5s,mb3.8,baz=152,slow=5.9,SNR=4.5						
JOW	**Kunigami**	**68.04**	**310**	P	**P**	**00 25 43.0**	**+1.3**
	comp=Z,2.3nm,0.4s,mb3.9,baz=0.0,slow=11,SNR=3.6						
KSM	**Kuching**	**72.51**	**277**	*e*P	**P**	**00 26 09.0**	**+1.0**
SSE	**Sheshan**	**75.56**	**310**	P	**P**	**00 26 26.8**	**+1.6**
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,73nm,5.0s						
NJ2	**Nanjing**	**77.75**	**310**	*e*P	**P**	**00 26 36.0**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
ISA	**Isabella**	**77.87**	**46**	*e*P	**P**	**00 26 38.2**	**+0.4**
CMB	**Columbia Colle**	**77.88**	**43**	*e*P	**P**	**00 26 37.6**	**-0.3**
CMB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CMB	**Columbia Colle**	**77.88**	**43**	*e*P	**P**	**00 26 37.6**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.3						
MDJ	**Mudanjiang**	**78.02**	**325**	P	**P**	**00 26 40.5**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,100nm,5.7s						
KDAK	**Kodiak Island**	**78.35**	**14**	P	**P**	**00 26 39.5**	**-0.9**
	comp=Z,13nm,0.9s,mb4.3,baz=303,slow=8.2,SNR=4.3						
KDAK	**Kodiak Island**	**78.35**	**14**	P	**P**	**00 26 39.5**	**-0.9**
YBH	**Yreka Blue Hor**	**78.55**	**39**	P	**P**	**00 26 41.9**	**+0.4**
	comp=Z,7.9nm,0.6s,mb4.3,baz=160,slow=1.8,SNR=16						
BUOR	**Burton Butte**	**79.16**	**39**	P	**P**	**00 26 45.5**	**+0.8**
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**00 26 46.9**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.0,baz=216,slow=7.2,SNR=32						
WHN	**Wuhan**	**80.42**	**306**	*e*P	**P**	**00 26 51.8**	**+0.5**
TUC	**Tucson**	**81.77**	**52**	*e*P	**P**	**00 26 59.2**	**+1.0**
TUC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
TUC	**Tucson**	**81.77**	**52**	*e*P	**P**	**00 26 59.2**	**+1.0**
	comp=Z,6.1nm,0.9s,mb4.1						
HDW	**Hoodsport**	**81.92**	**34**	P	**P**	**00 26 59.4**	**+0.4**
BBB	**Bella Bella**	**82.31**	**29**	P	**P**	**00 27 00.6**	**-0.4**
	comp=Z,8.0nm,0.9s,mb4.2,baz=8.4,slow=11,SNR=5.8						
BBB	**Bella Bella**	**82.31**	**29**	P	**P**	**00 27 00.6**	**-0.4**
GSM	**Grass Mountain**	**82.33**	**35**	P	**P**	**00 27 01.4**	**+0.3**
CCUT	**Cedar City**	**82.36**	**47**	*e*P	**P**	**00 27 01.9**	**+0.6**
ARUT	**Antelope Range**	**82.43**	**46**	P	**P**	**00 27 02.0**	**+0.5**
RMW	**Rattlesnake Mo**	**82.48**	**35**	P	**P**	**00 27 01.9**	**+0.1**
RPW	**Rockport**	**83.22**	**34**	P	**P**	**00 27 05.2**	**-0.4**
BJT	**Baijiatuau**	**83.60**	**315**	P	**P**	**00 27 06.9**	**-0.5**
SEY	**Seymchan**	**83.65**	**347**	⇑*i*P	**P**	**00 27 07.1**	**-0.5**
MCK	**McKinley**	**84.48**	**13**	*e*P	**P**	**00 27 10.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
MCK	**McKinley**	**84.48**	**13**	*e*P	**P**	**00 27 10.6**	**-1.2**
	comp=Z,2.3nm,0.6s,mb3.9						
HLID	**Hailey**	**84.66**	**41**	*e*P	**P**	**00 27 12.9**	**+0.3**
	comp=Z,4.7nm,0.7s,mb4.2						
TMUT	**Trail Mountain**	**84.68**	**46**	P	**P**	**00 27 13.8**	**+1.0**
SRU	**San Rafael**	**85.07**	**46**	*e*P	**P**	**00 27 14.7**	**+0.1**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
SRU	**San Rafael**	**85.07**	**46**	*e*P	**P**	**00 27 14.7**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.3						
NEW	**Newport**	**85.53**	**36**	P	**P**	**00 27 15.7**	**-1.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=252,slow=3.6,SNR=6.3						
NEW	**Newport**	**85.53**	**36**	*e*P	**P**	**00 27 16.2**	**-0.6**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NEW	**Newport**	**85.53**	**36**	*e*P	**P**	**00 27 16.2**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.1						
HWUT	**Hardware Ranch**	**85.53**	**44**	*e*P	**P**	**00 27 16.5**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.0						
MNTX	**Comudas Mount**	**85.65**	**55**	*e*P	**P**	**00 27 17.6**	**+0.2**
	comp=Z,2.6nm,0.5s,mb4.1						
COLA	**College**	**85.72**	**13**	*i*P	**P**	**00 27 16.1**	**-1.6**
DLBC	**Dease Lake**	**85.81**	**23**	P	**P**	**00 27 17.7**	**-0.5**
	comp=Z,2.8nm,0.8s,mb4.0,baz=218,slow=4.6,SNR=4.9						
ANMO	**Albuquerque**	**86.16**	**52**	⇓*e*P	**P**	**00 27 20.3**	**+0.5**
ANMO	**Albuquerque**	**86.16**	**52**	*e*P	**P**	**00 27 20.0**	**+0.2**
	comp=Z,4.4nm,1.1s,mb4.0						
MCMT	**McKenzie Canyo**	**86.27**	**41**	*e*P	**P**	**00 27 20.9**	**+0.6**
BILL	**Bilibino**	**86.32**	**354**	*e*P	**P**	**00 27 19.1**	**-1.5**
BILL				*e*PP	pP	00 29 20.7	-3.2
BILL				*e*SS	SS	00 43 06.2	+0.7
BILL				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s						
RRI2	**Red Ridge**	**86.52**	**42**	*e*P	**P**	**00 27 21.9**	**+0.5**
	comp=Z,18nm,0.8s,mb4.8						
BSMT	**Bassoo Peak**	**86.64**	**37**	P	**P**	**00 27 21.5**	**-0.6**
TPAW	**Teton Pass**	**86.82**	**42**	*e*P	**P**	**00 27 23.4**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.5						
REDW	**Red Top Meadow**	**86.83**	**43**	*e*P	**P**	**00 27 23.3**	**+0.4**
	comp=Z,14nm,1.1s,mb4.6						
IMW	**Indian Meadow**	**87.02**	**42**	*e*P	**P**	**00 27 24.2**	**+0.3**
	comp=Z,9.0nm,0.7s,mb4.6						
HHC	**Hu-ho-hao-te**	**87.09**	**315**	*e*P	**P**	**00 27 25.8**	**+1.6**
HHC				PP	PP	00 30 59.0	+0.6
HHC				S	S	00 37 25.8	+10
HHC				SS	SS	00 43 24.0	+7.4
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,95nm,4.9s						
QLMT	**Earthquake Lak**	**87.16**	**41**	*e*P	**P**	**00 27 25.5**	**+1.0**
PDAR	**Pinedale Array**	**87.39**	**43**	P	**P**	**00 27 24.9**	**-0.7**
	comp=Z,5.4nm,0.6s,mb4.4,baz=223,slow=3.0,SNR=53						
PDAR				PP	PP	00 30 58.0	-2.8
	comp=Z,0.4nm,0.5s,baz=251,slow=4.5,SNR=4.2						
KMI	**Kunming**	**87.64**	**297**	P	**P**	**00 27 28.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.6						
WALA	**Waterton Lakes**	**87.76**	**37**	*e*P	**P**	**00 27 27.1**	**-0.1**
	comp=Z,7.7nm,0.5s,mb4.2						
HRY	**Holter Researc**	**87.81**	**39**	P	**P**	**00 27 27.5**	**0.0**
SDCO	**Great Sand Dun**	**88.02**	**49**	*e*P	**P**	**00 27 28.7**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8						
SNAA	**Sanae**	**90.70**	**179**	P	**P**	**00 27 38.0**	**-2.9**
VNA3	**Neumayer Olymp**	**90.84**	**176**	*e*P	**P**	**00 27 40.6**	**-1.0**
VNA3				*e*		00 27 42.5	
VNA3				*e*		00 28 11.6	
VNA3				*e*		00 28 13.8	
RSSD	**Black Hills**	**91.61**	**44**	*e*P	**P**	**00 27 44.9**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
RSSD	**Black Hills**	**91.61**	**44**	*e*P	**P**	**00 27 44.9**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4						
INK	**Inuvik**	**91.84**	**15**	*e*P	**P**	**00 27 44.8**	**-1.4**
INK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**91.84**	**15**	*e*P	**P**	**00 27 44.8**	**-1.4**
	comp=Z,4.3nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**94.31**	**25**	P	**P**	**00 27 56.0**	**-1.4**
	comp=Z,1.0nm,0.5s,mb4.2,baz=238,slow=4.6,SNR=6.8						
MKAR	**Makanchi Array**	**108.95**	**314**	PKiKP	PKiKP	00 33 01.7	-1.9
	comp=Z,0.4nm,0.8s,baz=294,slow=1.4,SNR=4.7						
MKAR	**Makanchi Array**	**108.95**	**314**	PKPdf	PKiKP	00 33 01.7	-1.9
BRVK	**Borovoye**	**116.73**	**321**	PKIKP	PKPdf	00 33 19.3	+0.9
ARU	**Arti**	**122.68**	**326**	*e*PKIKP	PKPdf	00 33 31.7	+1.8
ARU	**Arti**	**122.68**	**326**	*e*P	PKPdf	00 33 31.7	+1.8
ARCES	**ARCESS Array B**	**126.19**	**350**	PKP	PKPdf	00 33 34.6	-2.0
	comp=Z,1.9nm,0.8s,baz=11,slow=2.5,SNR=4.8						
FINES	**FINESS Array B**	**133.05**	**344**	PKP	PKPdf	00 33 49.0	-0.6
	comp=Z,0.4nm,0.4s,baz=14,slow=3.9,SNR=4.5						
FINES	**FINESS Array B**	**133.05**	**344**	*i* PKIKP	PKPdf	00 33 49.4	-0.2
OBN	**Obninsk**	**134.14**	**333**	*e*PKIKP	PKPdf	00 33 51.6	0.0
OBN				*e*		00 36 29.4	
OBN				*e*		00 40 02.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.8s						
GNI	**Garni**	**136.60**	**310**	*e*PKIKP	PKPdf	00 33 58.2	+2.0
KIV	**Kislovodsk**	**136.68**	**316**	*e*PKIKP	PKPdf	00 33 57.7	+1.4
KIV	**Kislovodsk**	**136.68**	**316**	*e*P	PKPdf	00 33 57.7	+1.4
MALT	**Malatya**	**141.83**	**310**	⇑*i*P	PKPdf	00 34 08.7	+3.0
MALT	**Malatya**	**141.83**	**310**	PKPdf	PKPdf	00 34 07.3	+1.7
BSEG	**Bad Segeberg**	**143.30**	**351**	*e*PKPbc	PKPdf	00 34 05.6	-2.7
BURAR	**Bucovina Array**	**144.46**	**332**	⇓*i*P	PKPdf	00 34 11.3	+1.0
BRTR	**Keskin Array B**	**144.60**	**315**	PKP	PKPdf	00 34 10.9	+0.4
	comp=Z,0.5nm,0.5s,baz=85,slow=3.6,SNR=3.5						
STHS	**Stebnicka Huta**	**144.64**	**338**	*e*PKP	PKPdf	00 34 11.8	+1.2
KOLS	**Kolonicke sedl**	**144.65**	**336**	*e*PKP	PKPdf	00 34 11.1	+0.5
NRDL	**Niedersach Rie**	**144.73**	**351**	*e*PKPbc	PKPdf	00 34 11.4	+0.7
NIE	**Niedzica**	**144.97**	**338**	*e*PKPc		00 34 12.2	
CLZ	**Clausthal**	**145.32**	**350**	*e*PKPbc	PKPbc	00 34 12.3	-0.7
OKC	**Ostrava-Krasne**	**145.33**	**341**	*e*PKP	PKPdf	00 34 12.7	+0.9
CLL	**Collm**	**145.34**	**347**	*e*PKPbc	PKPbc	00 34 12.3	-0.7
CLL	**Collm**	**145.34**	**347**	⇑*i*PKPbc	PKPbc	00 34 12.5	-0.5
	comp=Z,10.0nm,0.9s						
CLL				*e*PKiKP	PKiKP	00 34 18.0	+2.0
UPC	**Upice**	**145.35**	**344**	*e*PKP	PKPdf	00 34 13.2	+1.4
DPC	**Dobruska-Polom**	**145.41**	**343**	*e*PKP	PKPdf	00 34 13.3	+1.4
BRG	**Berggiesshubel**	**145.54**	**346**	*e*PKPbc	PKPbc	00 34 13.1	-0.5
BRG	**Berggiesshubel**	**145.54**	**346**	⇑*i*P	PKPdf	00 34 13.2	+1.1
	comp=Z,2.8nm,0.7s						
MORC	**Moravsky Berou**	**145.57**	**341**	⇓*i*P	PKPdf	00 34 12.2	0.0
KECS	**Kecovo**	**145.70**	**337**	*e*PKP	PKPdf	00 34 14.1	+1.7
PVCC	**Panska Ves**	**145.71**	**345**	*e*PKP	PKPdf	00 34 14.2	+1.8
BUG	**Bochum--Univer**	**146.13**	**353**	*e*PKPbc	PKPbc	00 34 15.3	0.0
DRGR		**146.18**	**333**	⇑*i*P	PKPdf	00 34 15.0	+1.8
PRU	**Pruhonice**	**146.21**	**345**	*e*PKP	PKPdf	00 34 15.1	+1.8
VYHS	**Vyhne**	**146.27**	**339**	*e*PKP	PKPdf	00 34 15.7	+2.3
TANN	**Tannenbergstha**	**146.29**	**347**	*e*PKPbc	PKPbc	00 34 15.2	-0.5
NKC	**Novy Kostel**	**146.47**	**347**	*e*PKP	PKPdf	00 34 12.6	-1.1
MANZ	**Manzenberg**	**146.77**	**347**	*e*PKPbc	PKPbc	00 34 16.4	-0.6
CSS	**Hradhmos**	**146.90**	**307**	*e*PKP	PKPbc	00 34 17.7	+0.3
ROTZ	**Rotzenmuhle**	**146.96**	**347**	*e*PKPbc	PKPbc	00 34 17.2	-0.3
TNS	**Taunus Mts**	**147.18**	**352**	*e*PKPbc	PKPbc	00 34 17.7	-0.4
GRA1	**Grafenberg Arr**	**147.23**	**348**	*e*PKPbc	PKPbc	00 34 17.3	-0.9
GRF	**Grafenberg Arr**	**147.23**	**348**	*e*PKPbc	PKPbc	00 34 17.3	-0.9
EIL	**Elat**	**147.24**	**297**	*e*PKPbc	PKPbc	00 34 18.4	+0.2
KHC	**Kasperske Hory**	**147.25**	**345**	*e*PKP	PKPbc	00 34 18.1	-0.2
WET	**Wettzell**	**147.40**	**346**	*e*PKPbc	PKPbc	00 34 19.3	+0.6
GEC2	**GERESS Array S**	**147.48**	**345**	*e*PKPbc	PKPbc	00 34 17.8	-1.1
GERES	**GERESS Array B**	**147.48**	**345**	PKPbc	PKPbc	00 34 18.4	-0.5
	comp=Z,3.0nm,0.6s,baz=24,slow=2.8,SNR=32						
BZS	**Buzias**	**147.58**	**333**	⇓*i*P	PKPbc	00 34 18.5	-0.6
GIVF	**Givet**	**147.67**	**356**	*e*PKP1	PKPbc	00 34 18.9	-0.5
	comp=Z,6.8nm,0.4s						
GRB5	**Grafenberg Arr**	**147.69**	**347**

USP	**Ospenovka**	**7.31**	**20**	P		**Pn**	**00 19 29.3**	**-0.2**
	SNR=13							
TKM2	**Tokmak 2**	**7.35**	**27**	P		**Pn**	**00 19 30.1**	**+0.1**
	SNR=7.2							
TKM2	**Tokmak 2**	**7.35**	**27**	⇑Pn		**Pn**	**00 19 30.2**	**+0.2**
	0.4nm,0.5s							
TKM2				⇑Sn		**Sn**	**00 20 50.5**	**-1.3**
	0.5nm,0.7s							
MK09	**Makanchi Array**	**13.28**	**35**	P		**Pn**	**00 20 54.4**	**+5.6**
	baz=212,slow=9.0							
AB31	**Akbulak array**	**15.21**	**331**	⇓P		**Pn**	**00 21 12.6**	**-0.7**
	0.6nm,0.3s,baz=147,slow=14,SNR=23							
AB31				⇑S		**S**	**00 23 49.7**	**-20**
	3.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.90**	**330**	⇓P		**Pn**	**00 21 37.0**	**+2.8**
AKTO				⇑S		**S**	**00 24 30.3**	**-12**
	0.1nm,1.1s							

*ISCJB **20** 00:20:47.8±0.3, 3870N±003×1302E±003, h20km, Error ellipse: s-maj=4.6km s-min=2.9km az=82.4*
*NEIC **20** 00:20:47.0, 3870N×1300E, h27km, ML3.4(ROM), After ROM.*
*ROM **20** 00:20:48.8±0.3, 3865N×1312E, h20km, Md3.2/25, Ml3.5/19, Error ellipse: s-maj=5.1km s-min=3.5km az=84.0*
*CSEM **20** 00:20:48.8, 3865N×1323E, h20km, MD3.2/25*
*LDG **20** 00:20:49.5±0.3, 3850N×1303E, h10km, Ml2.9/2, Error ellipse: s-maj=10.2km s-min=5.4km az=29.0*

ISC 20 00:20:49.2±0.3, 3866N±003×1306E±003, h20km, n67, σ1§11/82, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
USI	**Ustica**	**0.10**	**61**	Pg		**Pb**	**00 20 53.1**	**-0.1**
USI				Sg		**Sb**	**00 20 56.0**	**+0.1**
	78μm,0.4s							
USI	**Ustica**	**0.10**	**61**	P		**Pb**	**00 20 53.1**	**-0.1**
MPG	**Monte Pellegri**	**0.55**	**155**	Pg		**Pb**	**00 20 57.9**	**-2.2**
MPG	**Monte Pellegri**	**0.55**	**155**	P		**Pb**	**00 20 58.1**	**-1.9**
ERC	**Erice**	**0.72**	**211**	Pg		**Pb**	**00 21 01.0**	**-1.5**
ERC	**Erice**	**0.72**	**211**	P		**Pb**	**00 21 01.7**	**-1.3**
CORL	**Corleone**	**0.79**	**166**	Pg		**Pb**	**00 21 02.3**	**-1.8**
CORL				Sg		**Sb**	**00 21 15.5**	**+1.2**
GIB	**Gibilmanna**	**1.01**	**131**	Pg		**Pb**	**00 21 07.0**	**-0.9**
GIB				Sg		**Sb**	**00 21 20.2**	**-0.6**
	2μm,0.4s							
CSLB	**Castelbuono**	**1.06**	**132**	Pg		**Pb**	**00 21 07.5**	**-1.4**
CSLB				Sg		**Sb**	**00 21 21.4**	**-0.9**
	379nm,0.2s							
CSLB	**Castelbuono**	**1.06**	**132**	P		**Pb**	**00 21 07.5**	**-1.3**
MCT	**Mte Cammarata**	**1.12**	**156**	Pg		**Pn**	**00 21 11.1**	**+1.4**
	3μm,1.5s							
MCT	**Mte Cammarata**	**1.12**	**156**	P		**Pn**	**00 21 10.8**	**+1.1**
IFIL	**Filicudi I Eol**	**1.18**	**94**	Pg		**Pn**	**00 21 09.3**	**-1.2**
IFIL				Sg		**Sb**	**00 21 23.4**	**-2.3**
	4μm,0.4s							
SLNA	**Salina**	**1.39**	**93**	Pg		**Pn**	**00 21 12.3**	**-1.1**
	622nm,0.3s							
SLNA	**Salina**	**1.39**	**93**	P		**Pn**	**00 21 12.4**	**-1.0**
FAVR	**Favara**	**1.47**	**161**	Pg		**Pn**	**00 21 16.3**	**+1.8**
	254nm,0.5s							
FAVR	**Favara**	**1.47**	**161**	P		**Pn**	**00 21 16.4**	**+2.0**
MNO	**Monte Soro**	**1.47**	**119**	Pg		**Pn**	**00 21 14.2**	**-0.3**
	264nm,0.3s							
MNO	**Monte Soro**	**1.47**	**119**	P		**Pn**	**00 21 14.3**	**-0.3**
LLI	**Lipari**	**1.49**	**98**	Pg		**Pn**	**00 21 15.1**	**+0.3**
	2μm,0.5s							
VPL	**Vulcano Piano**	**1.53**	**100**	Pg		**Pn**	**00 21 14.0**	**-1.4**
	467nm,0.5s							
RAFF	**Raffo Rosso**	**1.76**	**144**	Pg		**Pn**	**00 21 19.7**	**+1.2**
ESLN	**Serra La Nave**	**1.79**	**122**	Pg		**Pn**	**00 21 21.1**	**+2.2**
	493nm,0.6s							
MMME	**Mongiuffi-Meli**	**1.87**	**112**	Pg		**Pn**	**00 21 19.7**	**-0.3**
	214nm,0.4s							
MSRU	**Castanea**	**1.96**	**101**	Pg		**Pn**	**00 21 19.7**	**-1.5**
HVZN	**Vizzini**	**1.97**	**138**	Pg		**Pn**	**00 21 22.1**	**+0.7**
HVZN				Sg		**Sn**	**00 21 47.6**	**+2.1**
	2μm,0.4s							
HVZN	**Vizzini**	**1.97**	**138**	P		**Pn**	**00 21 22.6**	**+1.2**
MSI	**Messina ING**	**2.01**	**102**	P		**Pn**	**00 21 21.5**	**-0.4**
SCLL	**Scilla**	**2.12**	**100**	Pg		**Pn**	**00 21 22.2**	**-1.2**
	16nm,0.4s							
SCLL	**Scilla**	**2.12**	**100**	P		**Pn**	**00 21 22.2**	**-1.2**
HAGA	**Augusta**	**2.15**	**129**	Pg		**Pn**	**00 21 23.8**	**0.0**
	304nm,0.5s							
MTTG	**Motta San Giov**	**2.17**	**107**	Pg		**Pn**	**00 21 24.5**	**+0.4**
	52nm,0.4s							
MTTG	**Motta San Giov**	**2.17**	**107**	P		**Pn**	**00 21 24.2**	**+0.1**
HMDC	**Modica**	**2.17**	**141**	Pg		**Pn**	**00 21 25.1**	**+0.9**
HMDC				Sg		**Sn**	**00 21 51.8**	**+1.3**
	787nm,0.5s							
HMDC	**Modica**	**2.17**	**141**	P		**Pn**	**00 21 25.3**	**+1.1**
SSY	**Sortino**	**2.19**	**133**	Pg		**Pn**	**00 21 24.9**	**+0.6**
SSY				Sg		**Sn**	**00 21 51.7**	**+0.9**
	945nm,0.6s							
SSY	**Sortino**	**2.19**	**133**	P		**Pn**	**00 21 25.0**	**+0.7**
AGST	**Augusta-Monte**	**2.21**	**129**	Pg		**Pn**	**00 21 24.7**	**0.0**
	237nm,0.5s							
AGST	**Augusta-Monte**	**2.21**	**129**	P		**Pn**	**00 21 25.1**	**+0.5**
AGST				S			00 21 28.3	
CEL	**Celeste**	**2.26**	**99**	Pg		**Pn**	**00 21 24.2**	**-1.1**
	76nm,0.8s							
CEL	**Celeste**	**2.26**	**99**	P		**Pn**	**00 21 24.3**	**-1.0**
HAVL	**Avola**	**2.35**	**135**	Pg		**Pn**	**00 21 27.2**	**+0.6**
	412nm,0.5s							
HAVL	**Avola**	**2.35**	**135**	P		**Pn**	**00 21 29.0**	**+2.4**
CMPR	**Campora**	**2.40**	**46**	Pg		**Pn**	**00 21 27.8**	**+0.5**
	87nm,0.5s							
SOI	**Samo**	**2.42**	**103**	Pg		**Pn**	**00 21 27.1**	**-0.5**
	44nm,0.4s							
SOI	**Samo**	**2.42**	**103**	P		**Pn**	**00 21 27.2**	**-0.4**
CUC	**Castrocucco**	**2.52**	**57**	P		**Pn**	**00 21 30.5**	**+1.6**
CUC				S		**Sn**	**00 21 59.6**	**+0.6**
CUC	**Castrocucco**	**2.52**	**57**	Pg		**Pn**	**00 21 29.7**	**+0.8**
	82nm,0.7s							
CUC				S		**Sn**	**00 21 59.6**	**+0.6**
GRI	**Girifalco**	**2.63**	**85**	Pg		**Pn**	**00 21 29.9**	**-0.6**
GRI				Sg		**Sn**	**00 22 00.8**	**-1.0**
	58nm,0.7s							
GRI	**Girifalco**	**2.63**	**85**	P		**Pn**	**00 21 29.8**	**-0.7**
SLCN	**Sala Consilina**	**2.63**	**48**	P		**Pn**	**00 21 33.0**	**+2.5**
PLAC	**Placanica**	**2.66**	**93**	Pg		**Pn**	**00 21 30.4**	**-0.4**
	30nm,0.7s							
MCRV	**Calabrutti - M**	**2.67**	**37**	Pg		**Pn**	**00 21 32.2**	**+1.2**
SERS	**Sersale**	**2.86**	**81**	Pg		**Pn**	**00 21 33.7**	**+0.1**
	27nm,0.5s							
TIP	**Timpagrande**	**2.93**	**79**	P		**Pn**	**00 21 39.1**	**+4.6**
ORI	**Oriolo Calabro**	**2.98**	**61**	P		**Pb**	**00 21 42.9**	**+1.4**
VSL	**Villasalto**	**2.99**	**287**	*e*Pn		**Pn**	**00 21 34.2**	**-1.1**
VSL				*e*Sn		**Sn**	**00 22 09.9**	**-0.7**
VSL	**Villasalto**	**2.99**	**287**	*e*Pn		**Pn**	**00 21 34.2**	**-1.2**
VSL	**Villasalto**	**2.99**	**287**	Pg		**Pn**	**00 21 34.4**	**-1.0**
VSL				*e*Sn		**Sn**	**00 22 09.9**	**-0.7**
RGNG	**Rignano Grg**	**3.58**	**32**	P		**Pn**	**00 21 47.4**	**+3.9**
LMR	**La Mourre**	**6.81**	**315**	*e*Pn		**Pn**	**00 22 27.3**	**-0.6**
LMR				*e*Sn		**Sn**	**00 23 44.4**	**-0.4**
	1.8nm,0.5s							
FRF	**La Foret Royal**	**6.89**	**317**	*e*Pn		**Pn**	**00 22 29.3**	**+0.3**
SMRF	**Simiane la Rot**	**7.74**	**316**	*e*Pn		**Pn**	**00 22 41.7**	**+1.0**
SMRF				*e*Sn		**Sn**	**00 24 07.9**	**+0.1**
	1.2nm,0.4s							
VIVF	**Saint-Julien-l**	**8.81**	**317**	*e*P		**Pn**	**00 23 02.6**	**+7.3**
CAF	**Calviac**	**10.32**	**311**	*e*Pn		**Pn**	**00 23 15.8**	**-0.3**
CAF	**Calviac**	**10.32**	**311**	*e*P		**Pn**	**00 23 22.0**	**+5.9**
CAF	**Calviac**	**10.32**	**311**	*e*P		**Pn**	**00 23 22.0**	**+5.9**

JMA 20 00:29:52.0±0.7, 4461N×14998E, h30km, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.30**	**249**	P		Pn	00 30 40.6	-1.0
JRA	**Rausu**	**3.55**	**261**	P		Pn	00 30 46.9	+1.8
JRA				eS		Sn	00 31 27.8	+1.7
JAR	**Ashorobuto**	**4.67**	**256**	P		Pn	00 31 01.6	+1.1
JAR				eS		Sn	00 31 54.2	+0.6
JMP	**Maruseppu**	**4.79**	**265**	P		Pn	00 31 04.6	+2.5
JCH	**Churui**	**5.20**	**250**	P		Pn	00 31 07.6	-0.1
JCH				eS		Sn	00 32 04.2	-2.5
JKK2	**Kamakawa 2**	**5.25**	**264**	P		Pn	00 31 10.4	+2.0
ASAJ	**Asahikawa**	**5.32**	**267**	P		Pn	00 31 12.6	+3.3
JKB	**Kayabe**	**7.08**	**251**	P		Pn	00 31 33.2	-0.3
JKB				*e*S		Sn	00 32 48.2	-4.7
JANG	**Nango**	**7.55**	**239**	*e*S		Sn	00 32 56.5	-8.1
JTH	**Tanohata**	**7.62**	**235**	*e*S		Sn	00 32 56.7	-9.4

*IDC **20** 00:48:34.9±1.1, 2402N×6840E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.8/5, MS3.3/5, Ms1 3.3/5, ms1mx2.8/37, Error ellipse: s-maj=33.7km s-min=28.9km az=170.0*
*ISCJB **20** 00:48:35.1±1.0, 2372N±008×6823E±007, h10km, mb3.6/5, MS3.2/5, Error ellipse: s-maj=12.3km s-min=9.0km az=24.5*

ISC 20 00:48:37.3±1.0, 2382N±009×6822E±007, h10km, n13, σ1§11/11, mb3.6/5, MS3.2/5, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BHV	**Bhavnagar**	**4.17**	**119**	*e*P		**Pn**	**00 49 41.5**	**+0.6**
BHV				*e*S		**Sg**	**00 50 51.0**	**-0.1**
AJM	**Ajmer**	**6.40**	**64**	*ex*		**Pn**	**00 50 16.0**	**+4.4**
AJM				*i* x		**Sb**	**00 51 45.0**	**-0.2**
NDI	**New Delhi**	**9.42**	**57**	*ex*		**Pn**	**00 50 55.0**	**+2.0**
NDI				*ex*		**Sn**	**00 52 44.5**	**+5.6**
MKAR	**Makanchi Array**	**25.56**	**23**	P		**P**	**00 54 02.3**	**-4.0**
	1.0nm,0.8s,mb3.4,baz=212,slow=11,SNR=5.4							
AKTO	**Aktyubinsk**	**27.73**	**346**	LR		LR	01 06 54.7	
	comp=Z,37nm,18.3s,MS3.0,baz=312,slow=40							
BVAR	**Borovoye Array**	**29.21**	**3**	LR		LR	01 08 44.4	
	comp=Z,52nm,19.7s,MS3.2,baz=139,slow=42							
ZAL	**Zalesovo**	**32.56**	**18**	LR		LR	01 08 33.8	
	comp=Z,34nm,20.4s,MS3.0,baz=183,slow=37							
SONM	**Songino Array**	**38.57**	**42**	P		**P**	**00 55 58.3**	**-1.9**
	0.3nm,0.5s,mb3.3,baz=241,slow=8.3,SNR=4.4							
KMBO	**Kilima Mbogo**	**38.98**	**235**	LR		LR	01 11 40.9	
	comp=Z,45nm,19.6s,MS3.3,baz=90,slow=35							
TORD	**Torodi Ar. Bea**	**63.50**	**273**	P		**P**	**00 59 08.5**	**+0.9**
	1.6nm,0.8s,mb4.1,baz=63,slow=5.8,SNR=9.9							
BOSA	**Boshof**	**66.55**	**221**	LR		LR	01 25 47.6	
	comp=Z,44nm,18.1s,MS3.7,baz=6.8,slow=33							
WRA	**Warramunga Arr**	**77.72**	**118**	P		**P**	**01 00 33.8**	**-0.5**
	1.1nm,0.9s,mb3.8,baz=314,slow=5.1,SNR=8.2							
ASAR	**Alice Springs**	**79.31**	**122**	P		**P**	**01 00 42.4**	**-0.7**
	0.6nm,0.7s,mb3.6,baz=307,slow=5.8,SNR=5.8							

*ISCJB **20** 01:20:04.8±0.3, 4190N±003×14131E±005, h131km±2km, mb3.9/11, Error ellipse: s-maj=6.4km s-min=4.8km az=90.9*
*IDC **20** 01:20:05.3±1.6, 4191N×14141E, h126km±16km, mb3.5/7, mb1 3.6/9, mb1mx3.4/24, mbtmp3.9/9, Error ellipse: s-maj=26.0km s-min=15.9km az=103.0*
*MOS **20** 01:20:05.5±2.3, 4170N×14131E, h126km, mb3.9/8, Error ellipse: s-maj=17.5km s-min=11.7km az=79.3*
*JMA **20** 01:20:06.3±0.1, 41.94N×141.26E, h124km±1km, M3.1*
JMA Felt I J1.
*NEIC **20** 01:20:06.8±0.7, 4185N×14132E, h138km±9km, mb4.0/4, Error ellipse: s-maj=13.8km s-min=9.9km az=103.0*

ISC 20 01:20:05.8±0.3, 4191N±003×14130E±004, h127km±2km, n44, σ0§72/59, mb4.0/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JKB	**Kayabe**	**0.20**	**265**	P		**Pn**	**01 20 23.4**	**+0.2**
JKB				eS		Sn	01 20 36.1	-0.3
JOT	**Ohata**	**0.56**	**200**	P		**Pn**	**01 20 25.5**	**+0.7**
JNB	**Noboribetsu**	**0.59**	**341**	P		**Pn**	**01 20 24.8**	**-0.3**
JNB				eS		Sn	**01 20 39.2**	**-0.4**
JYM2	**Yakumo 2**	**0.72**	**287**	P		**Pn**	**01 20 26.1**	**+0.1**
JYM2				eS		Sn	**01 20 41.2**	**-0.1**
JSR	**Shiriuchi**	**0.76**	**241**	P		**Pn**	**01 20 26.5**	**+0.2**
JSR				eS		Sn	**01 20 41.6**	**-0.2**
JEW	**Eniwo**	**0.94**	**7**	P		**Pn**	**01 20 28.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.15**	**70**	P		**Pn**	**01 20 30.7**	**+0.9**
JNBK				eS		Sn	**01 20 48.8**	**+0.7**
JBT2	**Biratori 2**	**1.18**	**42**	P		**Pn**	**01 20 30.6**	**+0.5**
JBT2				eS		Sn	**01 20 49.4**	**+0.8**
JSH	**Shimam**	**1.19**	**309**	P		**Pn**	**01 20 30.3**	**+0.1**
JOSM	**Okushiri--Mats**	**1.37**	**278**	P		**Pn**	**01 20 31.6**	**-0.6**
JOSM				eS		Sn	**01 20 51.4**	**-0.9**
ERM	**Erimo**	**1.39**	**85**	*e*Pn		**Pn**	**01 20 33.8**	**+1.4**
ERM				*e*Sn		Sn	**01 20 51.2**	**-1.4**
JANG	**Nango**	**1.54**	**174**	P		**Pn**	**01 20 34.1**	**0.0**
JANG				eS		Sn	**01 20 54.7**	**-1.0**
JSK	**Shakotan**	**1.57**	**338**	P		**Pn**	**01 20 34.5**	**+0.1**
JSK				eS		Sn	**01 20 56.3**	**0.0**
JFR	**Furan**	**1.58**	**37**	P		**Pn**	**01 20 34.3**	**-0.3**
JCH	**Churui**	**1.69**	**65**	P		**Pn**	**01 20 36.7**	**+0.9**
JCH				eS		Sn	**01 20 58.9**	**+0.2**
JHR	**Hokuryu**	**1.86**	**10**	P		**Pn**	**01 20 38.7**	**+0.8**
JHR				eS		Sn	**01 21 03.2**	**+0.7**
JKK2	**Kamakawa 2**	**2.24**	**28**	P		**Pn**	**01 20 42.5**	**0.0**
JKK2				eS		Sn	**01 21 09.7**	**-1.0**
ASAJ	**Asahikawa**	**2.41**	**23**	P		**Pn**	**01 20 44.8**	**+0.1**
	15nm,0.3s,baz=232,slow=12,SNR=77							
ASAJ				S		Sn	**01 21 13.3**	**-1.1**
	9.3nm,0.3s,baz=89,slow=29,SNR=9.0							
ASAJ	**Asahikawa**	**2.41**	**23**	P		**Pn**	**01 20 44.8**	**+0.2**
ASAJ				S		Sn	**01 21 13.4**	**-1.1**
ASAJ				pmax		pmax		
	comp=Z,15nm,0.3s							
ASAJ				smax				
	comp=N,9.0nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**3.97**	**56**	*e*S		**Sn**	**01 21 49.5**	**-1.4**
YUK				smax				
	comp=N,2μm,0.6s							
YUK				smax				
	comp=E,2μm,0.6s							
YUK				smax				
	comp=N,1μm,0.5s							
YUK				smax				
	comp=E,1μm,0.6s							
MAJO	**Matsushiro**	**5.87**	**205**	P		**Pn**	**01 21 30.4**	**-0.1**
MJAR	**Matsushiro Arr**	**5.87**	**205**	P		**Pn**	**01 21 32.2**	**+1.7**
	comp=E,1.2nm,0.3s,baz=22,slow=12,SNR=4.7							
MJAR	**Matsushiro Arr**	**5.87**	**205**	P		**Pn**	**01 21 32.2**	**+1.7**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ULN	**Ulaanbaatar**	**24.84**	**296**	*e*P		**P**	**01 25 16.4**	**+0.1**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb3.7							
ULN	**Ulaanbaatar**	**24.84**	**296**	*e*P		**P**	**01 25 16.4**	**+0.1**
	comp=Z,1.1nm,0.3s,mb3.8							
SONM	**Songino Array**	**25.29**	**296**	P		**P**	**01 25 19.7**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.3,baz=84,slow=8.4,SNR=6.5							
ZAL	**Zalesovo**	**38.72**	**308**	P		**P**	**01 27 17.2**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.1,baz=16,slow=10,SNR=6.8							
ZAL	**Zalesovo**	**38.72**	**308**	P		**P**	**01 27 17.2**	**-0.2**
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**41.62**	**298**	P		**P**	**01 27 41.0**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=80,slow=9.6,SNR=7.1							
MKAR	**Makanchi Array**	**41.62**	**298**	P		**P**	**01 27 41.1**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
CHKZ	**Chkalovo**	**47.02**	**310**	*e*P		**P**	**01 28 25.6**	**+1.3**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.2s,mb4.7							
CHKZ	**Chkalovo**	**47.02**	**310**	*e*P		**P**	**01 28 25.6**	**+1.3**
	comp=Z,2.9nm,0.2s,mb4.7							
BVAR	**Borovoye Array**	**47.33**	**309**	P		**P**	**01 28 27.6**	**+1.0**
	comp=Z,2.5nm,0.3s,mb4.4,baz=78,slow=9.2,SNR=17							
BVAR	**Borovoye Array**	**47.33**	**309**	P		**P**	**01 28 27.6**	**+0.9**
BVAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
BRVK	**Borovoye**	**47.38**	**309**	*e*P		**P**	**01 28 27.7**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.8							
BRVK	**Borovoye**	**47.38**	**309**	*e*P		**P**	**01 28 27.7**	**+0.6**
	comp=Z,1.1nm,0.5s,mb3.8							
INK	**Inuvik**	**50.13**	**29**	P		**P**	**01 28 48.0**	**-0.1**
	comp=Z,1.6nm,0.9s,mb3.9,baz=89,slow=5.7,SNR=4.3							
INK	**Inuvik**	**50.13**	**29**	P		**P**	**01 28 48.5**	**+0.4**
WRAB	**Tennant Creek**	**61.86**	**187**	*e*P		**P**	**01 30 11.2**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.3							
WRAB	**Tennant Creek**	**61.86**	**187**	*e*P		**P**	**01 30 11.2**	**-0.3**
	comp=Z,1.0nm,0.3s,mb4.3							
WB2	**Warramunga Arr**	**61.87**	**187**	*e*P		**P**	**01 30 11.0**	**-0.6**
WRA	**Warramunga Arr**	**61.87**	**187**	P		**P**	**01 30 10.4**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=3.8,slow=6.8,SNR=6.3							
WRA	**Warramunga Arr**	**61.87**	**187**	P		**P**	**01 30 10.4**	**-1.2**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**64.49**	**331**	P		**P**	**01 30 27.7**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.4,baz=40,slow=7.2,SNR=4.6							

*ISCJB **20** 01:20:55.0±2.3, 2312S±008×1782W±02, h297km±34km, mb4.1/11, Error ellipse: s-maj=27.1km s-min=12.7km az=158.8*
*NEIC **20** 01:20:58.5±1.4, 2298S×17804W, h332km±15km, mb4.2/10, Error ellipse: s-maj=14.6km s-min=11.1km az=135.0*
*IDC **20** 01:20:59.1±10.0, 2304S×17798W, h338km±93km, mb3.9/5, mb1 3.9/6, mb1mx3.6/15, mbtmp4.6/6, Error ellipse: s-maj=54.6km s-min=29.9km az=44.0*

ISC 20 01:20:57.5±2.3, 2315S±01×1781W±02, h314km±34km, n35, σ0§88/27, mb4.1/11, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**10.94**	**34**	*e*Pn		**Pn**	**01 23 26.3**	**-0.5**
URZ	**Urewera**	**15.63**	**194**	P		**P**	**01 24 21.5**	**+0.9**
	1.0nm,0.3s,baz=310,slow=8.6,SNR=9.4							
URZ				S		**S**	**01 27 06.9**	**-2.4**
	0.4nm,0.3s,baz=108,slow=20,SNR=6.6							
URZ	**Urewera**	**15.63**	**194**	P		**P**	**01 24 21.5**	**+0.9**
URZ				S		**S**	**01 27 06.9**	**-2.4**
HNR	**Honiara**	**25.08**	**299**	P		**P**	**01 25 53.7**	**-0.4**
CTA	**Charters Tower**	**33.27**	**268**	*e*P		**P**	**01 27 07.3**	**+1.2**
	12nm,0.4s,mb4.8							
CTA	**Charters Tower**	**33.27**	**268**	P		**P**	**01 27 07.2**	**+1.1**
	12nm,0.4s,mb4.8,baz=97,slow=11,SNR=25							
CTAO	**Charters Tower**	**33.27**	**268**	*e*P		**P**	**01 27 07.3**	**+1.2**
	12nm,0.4s,mb4.8							
PMG	**Port Moresby**	**35.96**	**287**	P		**P**	**01 27 28.9**	**-0.1**
STKA	**Stephens Creek**	**36.66**	**247**	*e*P		**P**	**01 27 36.5**	**+1.6**
	1.2nm,0.4s,mb3.7							
STKA	**Stephens Creek**	**36.66**	**247**	P		**P**	**01 27 35.9**	**+1.0**
	1.1nm,0.3s,mb3.7,baz=86,slow=5.4,SNR=6.0							
AS31	**Alice Springs**	**43.92**	**259**	*e*P		**P**	**01 28 34.3**	**+0.3**
ASAR	**Alice Springs**	**43.93**	**259**	P		**P**	**01 28 34.3**	**+0.3**
	6.9nm,0.6s,mb4.0,baz=101,slow=6.8,SNR=62							
ASPA	**Alice Springs**	**43.93**	**259**	*e*P		**P**	**01 28 34.3**	**+0.3**
WB2	**Warramunga Arr**	**44.24**	**265**	⇓P		**P**	**01 28 35.8**	**-0.6**
WRAB	**Tennant Creek**	**44.24**	**265**	*e*P		**P**	**01 28 36.1**	**-0.3**
	9.2nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**44.25**	**265**	P		**P**	**01 28 36.2**	**-0.3**
	4.9nm,0.3s,mb4.2,baz=96,slow=8.2,SNR=346							
KAKA	**Kakadu**	**48.03**	**274**	*e*P		**P**	**01 29 05.1**	**-0.7**
	2.9nm,0.3s,mb4.1							
FORT	**Forrest**	**48.25**	**249**	*e*P		**P**	**01 29 07.6**	**+0.2**
	15nm,0.5s,mb4.6							
FITZ	**Fitzroy Crossi**	**52.67**	**264**	*e*P		**P**	**01 29 40.2**	**-0.1**
	4.4nm,0.4s,mb4.1							
FITZ	**Fitzroy Crossi**	**52.67**	**264**	P		**P**	**01 29 40.5**	**+0.2**
	3.7nm,0.7s,mb3.9,baz=80,slow=4.8,SNR=25							
VNDA	**Vanda**	**55.29**	**185**	*e*P		**P**	**01 29 59.1**	**+0.1**
NWAO	**Narrogin (SRO)**	**57.17**	**245**	*e*P		**P**	**01 30 09.8**	**-2.4**
MBWA	**Marble Bar**	**57.27**	**259**	*e*P		**P**	**01 30 12.6**	**-0.3**
	3.7nm,0.4s,mb4.2							
CASY	**Casey**	**61.57**	**206**	*e*P		**P**	**01 30 42.6**	**+0.5**
	1.6nm,0.6s,mb3.8							
MAW	**Mawson**	**79.08**	**200**	*e*P		**P**	**01 32 28.8**	**+1.4**
	0.8nm,0.6s,mb3.6							
CHKZ	**Chkalovo**	**120.88**	**320**	PKPdf		PKPdf	01 39 10.8	-1.7
BRVK	**Borovoye**	**121.11**	**319**	*e*PKPdf		PKPdf	01 39 12.0	-1.0
ARCES	**ARCESS Array B**	**131.50**	**349**	PKP		PKPdf	01 39 30.8	-2.0
	3.0nm,0.9s,baz=77,slow=2.6,SNR=6.3							
FINES	**FINESS Array B**	**138.28**	**343**	PKP		PKPdf	01 39 44.7	-0.7
	1.3nm,0.9s,baz=70,slow=2.2,SNR=4.2							
FINES	**FINESS Array B**	**138.28**	**343**	PKP		PKPdf	01 39 44.7	-0.7
AKASG	**Malin Array Be**	**145.27**	**329**	PKPbc		PKPdf	01 39 54.8	-3.1
	0.6nm,0.3s,baz=39,slow=3.9

0.5nm,0.5s,mb3.3,baz=130,slow=11,SNR=3.0
MKAR Makanchi Array 41.53 304 P **P** **01 51 39.1 -0.4**
0.3nm,0.5s,mb3.2,baz=87,slow=12,SNR=3.6
WRAB Tennant Creek 53.85 181 P **P** **01 53 14.0 -1.1**
WRA Warramunga Arr 53.86 181 P **P** **01 53 12.8 -2.4**
1.5nm,0.9s,mb3.9,baz=357,slow=7.8,SNR=9.7
ASAR Alice Springs 57.58 182 P **P** **01 53 41.1 -0.8**
0.4nm,0.7s,mb3.5,baz=13,slow=13,SNR=6.2

---

*ISCJB **20** 01:46:43.0±7.9, 168S±07.4×178.4E±09.1, h33km±, mb4.1/5, Error ellipse: s-maj=157.2km s-min=28.4km az=106.8*
*IDC **20** 01:46:43.2±66.0, 17.12S×178.07E, h0km±, mb3.8/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.8/3, Error ellipse: s-maj=1178.0km s-min=150.3km az=76.0*
*NEIC **20** 01:46:46.1±5.2, 1693S×178.32E, h35km±, mb4.6/2, Error ellipse: s-maj=107.0km s-min=22.0km az=52.0*
ISC 20 01:46:46.2±7.1, 169S±06×178.4E±08, h35km±, n8, σ0°46/8, mb4.1/5, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNZO	**South Karori**	**24.49**	**187**	P	**P**	**01 52 01.9**	**-0.1**
PMG	**Port Moresby**	**31.25**	**280**	*e*P	**P**	**01 53 02.2**	**-0.3**
	3.5nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**36.43**	**239**	P	**P**	**01 53 47.4**	**-0.1**
	1.0nm,0.4s,mb4.1,baz=63,slow=9.0,SNR=4.1						
WB2	**Warramunga Arr**	**41.77**	**259**	*e*P	**P**	**01 54 31.5**	**-0.5**
WRAB	**Tennant Creek**	**41.77**	**259**	P	**P**	**01 54 33.1**	**+1.0**
WRA	**Warramunga Arr**	**41.78**	**259**	P	**P**	**01 54 31.9**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=94,slow=7.7,SNR=7.8						
ASAR	**Alice Springs**	**42.09**	**253**	P	**P**	**01 54 34.6**	**-0.1**
	2.4nm,0.6s,mb4.0,baz=90,slow=8.1,SNR=32						
MBWA	**Marble Bar**	**55.31**	**256**	*e*P	**P**	**01 56 16.8**	**+0.5**
	7.0nm,1.0s,mb4.7						

---

*IDC **20** 01:47:47.7±3.7, 4576N×151.39E, h0km, mb4.1/9, mb1 4.2/10, mb1mx3.9/22, mbtmp4.0/10, ML3.6/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/34, Error ellipse: s-maj=91.2km s-min=27.9km az=154.0*
*JMA **20** 01:47:48.2±0.7, 4555N×151.58E, h30km, M4.6*
*ISCJB **20** 01:47:51.8±1.2, 445N±0.1×1516E±0.1, h103km±11km, mb4.0/14, Error ellipse: s-maj=19.0km s-min=9.1km az=116.2*
*MOS **20** 01:47:51.7±1.5, 4496N×151.53E, h79km, mb4.3/12, Error ellipse: s-maj=24.2km s-min=16.0km az=122.5*
*NEIC **20** 01:48:08.2±7.0, 4673N×150.93E, h117km±62km, mb4.1/4, Error ellipse: s-maj=22.1km s-min=13.6km az=98.0*
ISC 20 01:47:52.6±1.1, 445N±01×1516E±01, h98km±10km, n55, σ1°09/62, mb4.0/14, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.40**	**257**	P	**Pn**	**01 48 56.4**	**-0.6**
NEM2				*e*S	**Sn**	**01 49 46.0**	**-1.1**
JRA	**Rausu**	**4.71**	**266**	P	**Pn**	**01 49 00.4**	**-0.9**
JNK	**Nakash**	**5.07**	**262**	P	**Pn**	**01 49 04.9**	**-1.2**
JNK				*e*S	**Sn**	**01 50 04.7**	**+1.4**
JAK	**Akkeshi**	**5.24**	**256**	P	**Pn**	**01 49 07.7**	**-0.7**
JAK				*e*S	**Sn**	**01 50 06.9**	**-0.7**
JTKR	**Abashiri--Toko**	**5.58**	**267**	P	**Pn**	**01 49 13.4**	**+0.4**
JAR	**Ashorobuto**	**5.80**	**261**	P	**Pn**	**01 49 16.9**	**+0.8**
JAR				*e*S	**Sn**	**01 50 23.4**	**+2.1**
JOB	**Onbets**	**5.87**	**257**	P	**Pn**	**01 49 17.5**	**+0.5**
JOB				*e*S	**Sn**	**01 50 24.2**	**+1.3**
JCH	**Churui**	**6.29**	**256**	P	**Pn**	**01 49 22.5**	**-0.3**
JCH				*e*S	**Sn**	**01 50 32.3**	**-0.9**
JKK2	**Kamakawa 2**	**6.42**	**268**	P	**Pn**	**01 49 24.8**	**+0.3**
ASAJ	**Asahikawa**	**6.50**	**270**	Pn	**Pn**	**01 49 25.3**	**-0.2**
	1.2nm,0.3s,baz=205,slow=22,SNR=2.9						
ASAJ				LR	LR	01 52 09.2	
	comp=Z,175nm,18.1s,baz=136,slow=40						
JNBK	**Urakawa-nobuka**	**6.83**	**254**	P	**Pn**	**01 49 30.2**	**+0.1**
JBT2	**Biratori 2**	**6.94**	**259**	P	**Pn**	**01 49 31.7**	**+0.2**
JNB	**Noboribetsu**	**7.96**	**259**	P	**Pn**	**01 49 46.5**	**+1.0**
JNB				*e*S	**Sn**	**01 51 13.3**	**-0.6**
JKB	**Kayabe**	**8.17**	**255**	P	**Pn**	**01 49 48.7**	**+0.4**
JKB				*e*S	**Sn**	**01 51 17.2**	**-1.7**
JANG	**Nango**	**8.53**	**245**	P	**Pn**	**01 49 52.8**	**-0.4**
JYM2	**Yakumo 2**	**8.55**	**258**	P	**Pn**	**01 49 53.3**	**-0.1**
JTM	**Tenmabayashi**	**8.62**	**248**	P	**Pn**	**01 49 55.0**	**+0.6**
JTM				*e*S	**Sn**	**01 51 28.9**	**-0.9**
JSR	**Shiriuchi**	**8.73**	**254**	P	**Pn**	**01 49 56.3**	**+0.4**
JOSM	**Okushiri--Mats**	**9.19**	**259**	P	**Pn**	**01 50 03.1**	**+1.0**
OFUJ	**Ofunato**	**9.19**	**237**	P	**Pn**	**01 50 03.5**	**+1.4**
OFUJ				*e*S	**Sn**	**01 51 43.2**	**-0.5**
JIO	**Ouri**	**9.78**	**236**	P	**Pn**	**01 50 10.8**	**+0.6**
JIO				*e*S	**Sn**	**01 51 57.1**	**-1.1**
BILL	**Bilibino**	**24.84**	**13**	*e*P	**P**	**01 53 04.1**	**-1.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**30.73**	**292**	*e*P	**P**	**01 54 01.8**	**+3.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**30.73**	**292**	*e*P	**P**	**01 54 01.8**	**+3.4**
	comp=Z,0.9nm,0.4s,mb3.9						
SONM	**Songino Array**	**31.18**	**292**	P	**P**	**01 54 03.1**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.4,baz=99,slow=7.4,SNR=2.5						
NACB	**Ninganchiao**	**31.75**	**240**	*e*P	pP	01 54 28.8	-0.5
TLY	**Talaya**	**32.36**	**300**	P	**P**	**01 54 13.5**	**+0.9**
ZAL	**Zalesovo**	**43.15**	**307**	LR	LR	02 15 19.8	
	comp=Z,86nm,18.4s,baz=229,slow=39						
INK	**Inuvik**	**44.13**	**31**	P	**P**	**01 55 49.5**	**-1.8**
	comp=Z,4.2nm,1.0s,mb4.1,baz=321,slow=4.6,SNR=6.3						
INK	**Inuvik**	**44.13**	**31**	*e*P	**P**	**01 55 50.9**	**-0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**44.13**	**31**	*e*P	**P**	**01 55 50.9**	**-0.4**
	comp=Z,3.0nm,0.7s,mb4.1						
MKAR	**Makanchi Array**	**47.09**	**299**	P	**P**	**01 56 14.4**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=64,slow=8.2,SNR=8.1						
MKAR				PcP	PcP	01 57 49.0	+4.1
	comp=Z,0.5nm,0.6s,baz=55,slow=5.0,SNR=3.9						
MKAR	**Makanchi Array**	**47.09**	**299**	P	**P**	**01 56 14.4**	**-0.1**
MKAR						01 57 49.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**01 56 44.2**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
CHKZ	**Chkalovo**	**51.12**	**311**	*e*P	**P**	**01 56 44.2**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.2						
ARCES	**ARCESS Array B**	**59.66**	**341**	P	**P**	**01 57 44.3**	**-2.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=28,slow=6.6,SNR=11						
ARCES	**ARCESS Array B**	**59.66**	**341**	P	**P**	**01 57 44.3**	**-2.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
JOF	**Joensuu**	**62.91**	**334**	*e*p	**P**	**01 58 06.4**	**-2.0**
	comp=Z,0.5nm,0.3s,mb3.9						
JOF	**Joensuu**	**62.91**	**334**	*e*P	**P**	**01 58 06.4**	**-2.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**65.65**	**335**	P	**P**	**01 58 24.9**	**-1.5**
	comp=Z,1.5nm,0.4s,mb4.2,baz=38,slow=7.9,SNR=18						
FINES	**FINESS Array B**	**65.65**	**335**	P	**P**	**01 58 24.9**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WB2	**Warramunga Arr**	**66.03**	**198**	P	pP	01 58 55.3	+2.1
NB2	**NORSAR Subarra**	**70.04**	**341**	P	**P**	**01 58 53.4**	**-0.4**
	comp=Z,1.2nm,0.3s,mb4.2,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**70.04**	**341**	P	**P**	**01 58 53.4**	**-0.4**
	comp=Z,3.2nm,0.7s,mb4.3,baz=29,slow=6.2,SNR=7.2						
NOA	**NORSAR Array B**	**70.04**	**341**	P	**P**	**01 58 53.4**	**-0.4**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**72.85**	**326**	P	**P**	**01 59 10.6**	**-0.1**
	comp=Z,1.4nm,0.3s,mb4.2,baz=38,slow=6.3,SNR=8.8						
AKASG	**Malin Array Be**	**72.85**	**326**	P	**P**	**01 59 10.6**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
STKA	**Stephens Creek**	**76.54**	**189**	P	pP	01 59 55.9	-1.2
BURAR	**Bucovina Array**	**76.90**	**326**	*i*P	**P**	**01 59 36.1**	**+2.0**
CLL	**Collm**	**78.09**	**335**	*e*P	**P**	**01 59 41.0**	**+0.3**
BRTR	**Keskin Array B**	**79.32**	**316**	P	**P**	**01 59 50.1**	**+2.7**
	comp=Z,0.6nm,0.8s,mb3.5,baz=65,slow=7.0,SNR=4.3						
BRTR	**Keskin Array B**	**79.32**	**316**	P	**P**	**01 59 50.1**	**+2.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**80.03**	**333**	P	**P**	**01 59 52.5**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=35,slow=4.9,SNR=5.2						
GERES	**GERESS Array B**	**80.03**	**333**	P	**P**	**01 59 52.5**	**+1.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ESLA	**Sonseca Array**	**93.39**	**341**	*e*P	**P**	**02 00 60.0**	**+3.2**
	comp=Z,1.2nm,0.6s,mb4.4						

IDC 20 02:00:01.2±3.3, 3032S×13843E, h0km, mb1 3.1/3, mb1mx3.1/12, mbtmp2.9/3, ML2.9/3, Error ellipse: s-maj=77.5km s-min=15.6km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.13**	**121**	Pn	Pn	02 00 50.8	-1.0
	0.4nm,0.3s,baz=288,slow=13,SNR=9.2						
STKA				Pg	Pg	02 00 58.5	-2.8
	2.2nm,0.3s,baz=304,slow=12,SNR=22						
STKA				Sn	Sn	02 01 28.1	-1.7
	1.5nm,0.3s,baz=307,slow=12,SNR=3.5						
STKA				Lg		02 01 41.5	
	2.8nm,0.3s,baz=6.7,slow=20,SNR=6.3						
ASAR	**Alice Springs**	**7.76**	**328**	Pn	Pn	02 01 56.1	+0.7
	0.1nm,0.3s,baz=149,slow=12,SNR=6.3						
ASAR				Sn	Sn	02 03 25.9	+2.0
	0.1nm,0.3s,baz=151,slow=22,SNR=3.7						
WRA	**Warramunga Arr**	**10.97**	**339**	Pn	Pn	02 02 39.8	+0.4
	0.1nm,0.3s,baz=154,slow=12,SNR=13						
WRA				Sn	Sn	02 04 42.5	-0.4
	0.0nm,0.3s,baz=162,slow=24,SNR=3.0						

IDC 20 02:18:48.1±2.2, 685S×12887E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=88.7km s-min=29.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.62**	**195**	Pn	Pn	02 21 34.2	-0.9
	0.5nm,0.3s,baz=31,slow=12,SNR=49						
FITZ				Sn	Sn	02 23 32.6	-13
	0.4nm,0.3s,baz=346,slow=12,SNR=6.2						
WRA	**Warramunga Arr**	**14.06**	**158**	Pn	Pn	02 22 08.8	+0.3
	0.1nm,0.3s,baz=338,slow=13,SNR=9.8						
WRA				Sn	Sn	02 24 32.3	-13
	0.3nm,0.3s,baz=322,slow=24,SNR=7.9						
ASAR	**Alice Springs**	**17.41**	**164**	P	Pn	02 22 53.4	+1.1
	0.1nm,0.3s,baz=335,slow=11,SNR=4.3						
ASAR				S	Sn	02 25 54.5	-12
	0.1nm,0.3s,baz=322,slow=16,SNR=3.3						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	02 29 46.0	+0.2
	0.4nm,0.6s,baz=129,slow=5.8,SNR=3.8						

KRSC 20 02:31:17, 5322N×15716E, h313km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**0.67**	**44**	*e*P	Pn	02 31 59.3	+1.8
GNL				*e*S	S	02 32 30.6	+0.8
GRL	**Gorelyy**	**0.87**	**140**	*e*P	Pn	02 31 59.9	+1.7
AVH	**Avacha**	**0.95**	**87**	*e*P	Pn	02 32 00.9	+2.4
AVH				*e*S	S	02 32 32.6	+1.0
MIPR	**Malaya Ipel'ka**	**0.98**	**195**	*e*P	Pn	02 32 00.0	+1.4
RUS	**Russkaya**	**1.14**	**133**	*e*P	Pn	02 32 00.8	+1.4
RUS				*e*S	S	02 32 32.7	-0.5
NLC	**Nalytchevo**	**1.32**	**91**	*e*P	Pn	02 32 02.0	+1.7
NLC				*e*S	S	02 32 35.0	+0.1
SPN	**Mys Shipunski**	**1.73**	**93**	*e*P	Pn	02 32 04.9	+2.0
SPN				*e*S	S	02 32 38.7	-0.8
TUMR	**Tumrok**	**2.71**	**39**	*e*S	S	02 32 55.9	+1.9
MKZ	**Mys Kozlova**	**3.02**	**62**	*e*P	Pn	02 32 16.1	+2.3
MKZ				*e*S	S	02 32 59.0	-0.2
ZLN	**Zelenaya**	**3.51**	**36**	*e*P	Pn	02 32 19.5	+0.8
ZLN				*e*S	S	02 33 05.7	-2.5
SRKR	**Sorokina**	**4.14**	**32**	*e*P	Pn	02 32 28.0	+2.6
SRKR				*e*S	S	02 33 20.6	+0.2
SMKR	**Semkarok**	**4.19**	**35**	*e*P	Pn	02 32 27.5	+1.6
SMKR				*e*S	S	02 33 18.8	-2.4
KBTR	**Krutoberegovo**	**4.44**	**45**	*e*P	Pn	02 32 31.2	+2.5
KBTR				*e*S	S	02 33 25.3	-1.0

IDC 20 02:50:11.6±1.5, 014S×12524E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, ML3.5/1, MS3.6/1, Ms1 3.5/1, ms1mx2.4/22, Error ellipse: s-maj=114.2km s-min=22.1km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.85**	**179**	P	Pn	02 54 21.5	+0.2
	0.1nm,0.3s,baz=286,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**21.60**	**156**	P	P	02 55 02.8	-0.2
	0.7nm,0.5s,baz=335,slow=11,SNR=24						
ASAR	**Alice Springs**	**24.85**	**161**	P	P	02 55 36.0	+0.3
	0.9nm,0.8s,baz=340,slow=7.0,SNR=9.5						
STKA	**Stephens Creek**	**35.15**	**155**	P	P	02 57 07.6	+0.7
	1.5nm,0.4s,baz=332,slow=22,SNR=5.1						
STKA				LR	LR	03 13 37.0	
	comp=Z,78nm,18.3s,baz=18,slow=40						
MKAR	**Makanchi Array**	**59.93**	**327**	P	P	03 00 19.6	+0.1
	1.0nm,0.4s,baz=121,slow=8.0,SNR=9.7						

IDC 20 03:20:05.8±2.0, 129N×12666E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=168.8km s-min=24.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.41**	**161**	P	P	03 25 06.4	+0.5
	4.0nm,0.4s,baz=340,slow=11,SNR=125						
WB2	**Warramunga Arr**	**22.41**	**161**	*e*P	P	03 25 06.5	+0.6
ASAR	**Alice Springs**	**25.79**	**165**	P	P	03 25 38.6	+0.2
	1.2nm,0.5s,baz=339,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**59.51**	**326**	P	P	03 30 10.9	+0.2
	0.2nm,0.4s,baz=136,slow=6.6,SNR=4.0						

---

*ISCJB **20** 03:39:29.7±0.3, 3414S±002×7047W±005, h111km±2km, mb4.1/14, Error ellipse: s-maj=7.7km s-min=3.5km az=31.3*
*IDC **20** 03:39:29.8±1.9, 3417S×7037W, h98km±16km, mb3.8/7, mb1 3.8/13, mb1mx3.7/20, mbtmp4.0/13, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=28.3km s-min=12.9km az=99.0*
*NEIC **20** 03:39:30.7, 3411S×7049W, h107km, mb4.2/11, After GUC.*
NEIC Felt [II] at Curico, Rancagua, Santiago and Talca.
*BJI **20** 03:39:30.7, 3410S×7050W, h106km, mB5.3*
*GUC **20** 03:39:30.7±0.9, 3411S×7049W, h107km±4km, ML4.6*
ISC 20 03:39:30.6±0.3, 3414S±002×7049W±005, h106km±2km, n69, σ0°76/92, mb4.1/14, 12C-16D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACH	**El Canelo**	**0.10**	**285**	*i*P	**Pn**	**03 39 45.7**	**+0.5**
CICH	**Cipreses**	**0.18**	**163**	*i*P	**Pn**	**03 39 45.8**	**+0.3**
CHCH	**Chadas Angostu**	**0.25**	**326**	*i*P	**Pn**	**03 39 45.8**	**+0.1**
PCH	**Pirque**	**0.52**	**357**	*i*P	**Pn**	**03 39 47.5**	**+0.3**
TACH	**Talagante**	**0.62**	**322**	*i*P	**Pn**	**03 39 48.0**	**+0.1**
SFDO	**San Fernando**	**0.64**	**223**	*i*P	**Pn**	**03 39 48.7**	**+0.7**
SAN	**Santiago**	**0.70**	**348**	*e*P	**Pn**	**03 39 48.5**	**-0.1**
SAN				*i* S	**Sn**	**03 40 02.1**	**0.0**
RCDM	**Rinconada Maip**	**0.70**	**338**	*i*P	**Pn**	**03 39 48.6**	**0.0**
RCDM				*i* S	**Sn**	**03 40 02.2**	**+0.1**
RCDM				AML	AML	03 40 03.5	
	comp=N,18μm,0.5s						
RCDM	**Rinconada Maip**	**0.70**	**338**	*i*P	**Pn**	**03 39 48.6**	**0.0**
RCDM				*i* S	**Sn**	**03 40 02.2**	**+0.1**
DSCH	**Colegio Aleman**	**0.74**	**355**	*i*P	**Pn**	**03 39 48.6**	**-0.4**
DSCH				*i* S	**Sn**	**03 40 02.6**	**-0.2**
CLCH	**Cerro Calan**	**0.75**	**357**	*i*P	**Pn**	**03 39 49.2**	**+0.3**
CLCH				*i* S	**Sn**	**03 40 03.2**	**+0.4**
CLCH				AML	AML	03 40 05.4	
	comp=N,40μm,0.7s						
LNV	**Longovilo**	**0.79**	**283**	*i*P	**Pn**	**03 39 49.4**	**0.0**
FCH	**Farellones**	**0.83**	**11**	*i*P	**Pn**	**03 39 50.3**	**+0.6**
FCH				*i* S	**Sn**	**03 40 05.0**	**+0.9**
FCH				AML	AML	03 40 07.2	
	comp=N,17μm,0.5s						
PEL	**Peldehue**	**1.01**	**350**	*i*P	**Pn**	**03 39 51.9**	**+0.3**
PEL				*i* S	**Sn**	**03 40 07.8**	**+0.4**
PEL				AML	AML	03 40 09.4	
	comp=E,25μm,0.5s						
PEL	**Peldehue**	**1.01**	**350**	*i*P	**Pn**	**03 39 51.9**	**+0.3**
PEL				*i* S	**Sn**	**03 40 07.8**	**+0.4**
NICH	**Los Niches**	**1.05**	**215**	*i*P	**Pn**	**03 39 52.6**	**+0.6**
NICH				*i* S	**Sn**	**03 40 09.4**	**+1.1**
LCCH	**Las Cruces**	**1.12**	**306**	*i*P	**Pn**	**03 39 52.8**	**+0.1**
LCCH				*i* S	**Sn**	**03 40 09.5**	**0.0**
ROCH	**El Roble**	**1.25**	**339**	*i*P	**Pn**	**03 39 54.3**	**+0.1**
ROCH				*i* S	**Sn**	**03 40 12.5**	**+0.5**
JACH	**Jahuel**	**1.46**	**356**	*i*P	**Pn**	**03 39 56.9**	**+0.2**
JACH				*i* S	**Sn**	**03 40 16.8**	**+0.3**
IHA	**Instituto Hidr**	**1.47**	**319**	*e*P	**Pn**	**03 39 57.0**	**+0.1**
IHA				*i* S	**Sn**	**03 40 15.9**	**-0.8**
TALC	**Talca**	**1.57**	**217**	*i*P	**Pn**	**03 39 56.3**	**-1.7**
TALC				*i* S	**Sn**	**03 40 17.2**	**-1.6**
TALC				AML	AML	03 40 18.9	
	comp=N,14μm,0.4s						
TALC	**Talca**	**1.57**	**217**	*i*P	**Pn**	**03 39 56.3**	**-1.7**
TALC				*i* S	**Sn**	**03 40 17.2**	**-1.6**
MDZ	**Mendoza**	**1.86**	**48**	*e*P	**Pn**	**03 40 02.0**	**+0.4**
MDZ				*e*		03 40 31.6	
PTCH	**Petorca**	**1.91**	**349**	*e*P	**Pn**	**03 40 02.3**	**+0.1**
PTCH				*i* S	**Sn**	**03 40 26.0**	**-0.5**
PTCH				AML	AML	03 40 28.2	
	comp=E,5μm,0.4s						
PTCH	**Petorca**	**1.91**	**349**	*e*P	**Pn**	**03 40 02.3**	**+0.1**
PTCH				S	**Sn**	**03 40 26.0**	**-0.5**
LNCH	**Linares**	**1.93**	**208**	*i*P	**Pn**	**03 40 02.8**	**+0.2**
LNCH				*i* S	**Sn**	**03 40 27.4**	**+0.5**
LNCH				AML	AML	03 40 29.1	
	comp=E,3μm,0.7s						
LNCH	**Linares**	**1.93**	**208**	*i*P	**Pn**	**03 40 02.8**	**+0.2**
LNCH				*i* S	**Sn**	**03 40 27.4**	**+0.5**
CTCH	**Constitucion**	**1.98**	**233**	*e*P	**Pn**	**03 40 03.8**	**+0.7**
CTCH				S	**Sn**	**03 40 27.9**	**0.0**
CTCH				AML	AML	03 40 36.1	
	comp=E,13μm,1.0s						
CTCH	**Constitucion**	**1.98**	**233**	*e*P	**Pn**	**03 40 03.8**	**+0.7**
CTCH				S	**Sn**	**03 40 27.9**	**0.0**
CNCO	**Chanco**	**2.31**	**226**	*e*P	**Pn**	**03 40 07.4**	**0.0**
CNCO				*i* S	**Sn**	**03 40 35.5**	**-0.1**
CHNG	**Los Chungos**	**2.41**	**339**	*i*P	**Pn**	**03 40 08.6**	**-0.1**
CHNG				*i* S	**Sn**	**03 40 36.0**	**-1.9**
COCH	**Cobquecura**	**2.74**	**223**	*e*P	**Pn**	**03 40 12.4**	**-0.6**
COCH				*i* S	**Sn**	**03 40 42.5**	**-3.1**
CCHI	**Chillan**	**2.78**	**207**	*i*P	**Pn**	**03 40 13.8**	**+0.3**
CCHI				*i* S	**Sn**	**03 40 46.4**	**-0.2**
CCHI				AML	AML	03 40 53.5	
	comp=E,2μm,0.5s						
CCHI	**Chillan**	**2.78**	**207**	*i*P	**Pn**	**03 40 13.8**	**+0.3**
CCHI				*i* S	**Sn**	**03 40 46.4**	**-0.2**
CMCH	**Combarbala**	**2.99**	**352**	*e*P	**Pn**	**03 40 15.6**	**-0.8**
CFAA	**Coronel Fontan**	**3.16**	**37**	P	**Pn**	**03 40 18.4**	**-0.2**
	comp=E,1.7nm,0.3s,baz=211,slow=13,SNR=66						
CFAA				S	**Sn**	**03 40 50.3**	**-5.3**
	comp=E,2.5nm,0.3s,baz=203,slow=13,SNR=15						
TLL	**Tololo Astrono**	**3.97**	**356**	*e*P	**Pn**	**03 40 28.7**	**-0.7**
PLCA	**Paso Flores**	**6.58**	**180**	P	**Pn**	**03 41 04.8**	**+0.1**
	comp=E,1.9nm,0.3s,baz=358,slow=11,SNR=44						
PLCA				S	**Sn**	**03 42 14.7**	**-3.5**
	comp=E,0.4nm,0.3s,baz=13,slow=11,SNR=3.7						
PLCA	**Paso Flores**	**6.58**	**180**	*e*Pn	**Pn**	**03 41 04.9**	**+0.2**
	comp=E,4.3nm,0.4s						
TRQA	**Tornquist**	**7.92**	**122**	*e*Pn	**Pn**	**03 41 21.7**	**-1.2**
	comp=E,40nm,0.8s						
TRQA				*e*		03 41 30.8	
LVC	**Limon Verde**	**11.57**	**7**	P	**Pn**	**03 42 12.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=3.1						
CPUP	**Villa Florida**	**13.77**	**59**	P	**Pn**	**03 42 39.3**	**-2.0**
	comp=E,0.2nm,0.3s,baz=211,slow=12,SNR=2.9						
CPUP				LR	LR	03 48 50.9	
	comp=E,42nm,20.0s,baz=176,slow=41						
LPAZ	**La Paz**	**17.91**	**7**	P	**Pn**	**03 43 33.6**	**+0.9**
	comp=E,0.2nm,0.3s,baz=88,slow=3.9,SNR=5.9						
LPAZ	**La Paz**	**17.91**	**7**	*e*P	**Pn**	**03 43 34.5**	**+1.8**
	comp=E,1.9nm,0.8s						
SIV	**San Ignacio**	**19.96**	**27**	P	**P**	**03 43 52.9**	**-1.4**
	comp=E,0.2nm,0.3s,baz=219,slow=10,SNR=24						
BDFB	**Brasilia**	**27.37**	**53**	P	**P**	**03 45 04.4**	**-1.3**
	comp=E,7.0nm,0.8s,mb4.2,baz=218,slow=6.9,SNR=11						
SNAA	**Sanae**	**50.97**	**158**	P	**P**	**03 48 21.6**	**+0.3**
	comp=E,0.6nm,0.4s,mb4.0,baz=284,slow=5.9,SNR=24						
SNAA	**Sanae**	**50.97**	**158**	*e*P	**P**	**03 48 22.4**	**+1.1**
	comp=E,1.6nm,0.5s,mb4.3						
QSPA	**South Pole Qui**	**56.10**	**180**	*e*P	**P**	**03 49 00.0**	**+1.3**
	comp=E,3.3

LPAZ **La Paz** 2.92 22 *e*Pn Pn 04 12 57.1 +3.8
ARE **Arequipa** 3.31 320⇑ *i*P Pn 04 12 55.5 -2.9
ARE *e*S Sn 04 13 30.0 -7.0
LVC **Limon Verde** 3.59 175 P Pn 04 13 01.0 -1.2
32nm,0.3s,baz=356,slow=8.9,SNR=181
LVC S Sn 04 13 41.5 -2.3
377nm,0.3s,baz=156,slow=22,SNR=9.7
LVC **Limon Verde** 3.59 175 *e*Pn Pn 04 13 01.3 -0.9
LVC *e*Sn Sn 04 13 29.3 -14
SIV **San Ignacio** 8.38 70 P Pn 04 14 06.5 -0.4
38nm,0.3s,baz=257,slow=11,SNR=360
NNA **Nana** 10.10 313 P Pn 04 14 25.4 -4.9
2.3nm,0.3s,baz=134,slow=15,SNR=5.3
NNA S Sn 04 16 17.1 -4.6
6.8nm,0.3s,baz=210,slow=13,SNR=3.7
NNA LR LR 04 19 17.0
comp=Z,78nm,19.5s,baz=148,slow=42
NNA **Nana** 10.10 313 *e*Pn Pn 04 14 30.2 -0.2
NNA *e*Sn Sn 04 16 09.9 -12
SAML **Samuel** 11.62 31 *e*Pn Pn 04 14 48.7 -1.9
CFAA **Coronel Fontan** 12.57 176 P Pn 04 14 57.2 -6.0
0.4nm,0.3s,baz=353,slow=13,SNR=41
CFAA S Sn 04 17 06.5 -15
0.1nm,0.3s,baz=176,slow=21,SNR=2.2
CPUP **Villa Florida** 13.20 126 P Pn 04 15 09.1 -2.4
6.6nm,0.3s,baz=289,slow=12,SNR=43
CPUP **Villa Florida** 13.20 126 *e*Pn Pn 04 15 09.5 -2.0
MDZ **Mendoza** 13.81 179 *e*P Pn 04 15 22.9 +3.4
ATAH **Atahualpa** 14.88 322 P Pn 04 15 33.0 -0.1
0.6nm,0.3s,baz=163,slow=11,SNR=8.6
TRQA **Tornquist** 20.01 163 *e*P P 04 16 31.1 -1.2
46nm,0.6s
BDFB **Brasilia** 20.56 84 P P 04 16 38.2 -0.2
67nm,0.4s,baz=264,slow=10,SNR=55
BAO **Brasilia Array** 20.59 84 P P 04 16 39.0 +0.4
VAO **Valinhos** 21.19 105 *e*P P 04 16 42.9 -2.1
VAO *i* 04 16 44.7
VAO *i* 04 16 49.0
VAO *i* 04 16 54.9
VAO *i* 04 17 01.9
VAO *i* 04 17 29.7
PLCA **Paso Flores** 21.67 183 P P 04 16 49.1 -1.1
44nm,0.9s,mb4.8,baz=0.1,slow=11,SNR=76
PLCA **Paso Flores** 21.67 183 *e*P P 04 16 48.8 -1.4
PLCA pmax pmax
comp=Z,61nm,1.0s
PLCA **Paso Flores** 21.67 183 *e*P P 04 16 48.8 -1.4
comp=Z,61nm,1.0s,mb4.9
ROSC **El Rosal** 24.24 348 P P 04 17 16.2 +1.1
comp=Z,3.8nm,0.4s,mb4.0,baz=94,slow=19,SNR=3.9
ROSC LR LR 04 26 23.8
comp=Z,138nm,21.3s,baz=13,slow=35
CAM4 **Nova Friburgo** 25.19 102⇓ *i*P P 04 17 21.0 -2.6
CAM4 *i* 04 17 24.7
CAM4 *i* 04 17 27.7
CAM4 *i* 04 17 32.6
CAM4 *i* pP 04 17 45.7 -1.6
CAM3 **Guarapari** 27.07 98⇓ *i*P P 04 17 40.3 -0.4
CAM3 *i* 04 17 40.8
CAM3 *i* 04 17 49.2
CAM3 *i* pP 04 17 59.0 -5.5
SDV **Santo Domingo** 27.76 357 P P 04 17 48.4 +1.6
comp=Z,5.4nm,0.3s,mb4.6,baz=248,slow=6.2,SNR=5.4
SDV **Santo Domingo** 27.76 357 *e*P P 04 17 45.9 -0.8
PCRV **Puerto La Cruz** 29.37 9 P P 04 18 01.2 +0.1
comp=Z,4.7nm,0.4s,mb4.5,baz=224,slow=1.0,SNR=8.7
RCBR **Riachuelo** 35.04 72 *e*P P 04 18 51.9 +1.4
CPD **Cerro la Pandu** 36.97 5 *e*P P 04 19 04.7 -2.3
SJG **San Juan** 37.02 5 *e*P P 04 19 05.2 -2.3
SJG pmax pmax
comp=Z,22nm,0.8s
SJG **San Juan** 37.02 5 *e*P P 04 19 05.2 -2.3
comp=Z,22nm,0.8s,mb5.2
MPR **Mayaguez** 37.05 3 *e*P P 04 19 06.1 -1.6
MTP **Monte Pirata** 37.06 6 *e*P P 04 19 04.9 -2.9
HUMP **Col San Antoni** 37.08 5 *e*P P 04 19 05.8 -2.2
CBYP **Canovanas** 37.21 5 *e*P P 04 19 06.8 -2.2
CBYP *e* pP 04 19 34.5 +0.9
HKT **Hockley** 55.00 332 *e*P P 04 21 28.1 -0.3
HKT pmax pmax
comp=Z,24nm,1.1s,mb5.1
HKT **Hockley** 55.00 332 *e*P P 04 21 28.1 -0.3
comp=Z,24nm,1.1s,mb5.1
HKT *e*pP pP 04 21 53.8 -0.7
SWET **Sewanee** 56.21 344 *e*P P 04 21 35.8 -1.2
SWET *e*pP pP 04 22 01.6 -1.7
SWET *es*P sP 04 22 13.3 -1.9
OXF **Oxford** 56.58 340 *e*P P 04 21 37.7 -1.9
OXF pmax pmax
comp=Z,40nm,1.0s,mb5.4
OXF **Oxford** 56.58 340 *e*P P 04 21 37.7 -2.0
comp=Z,40nm,1.0s,mb5.4
OXF *e*pP pP 04 22 03.4 -2.4
PLAL **Pickwick Lake** 56.60 342 *e*P P 04 21 38.2 -1.6
comp=Z,20nm,1.1s,mb5.1
PLAL *e*pP pP 04 22 03.8 -2.2
TZTN **Tazewell** 56.88 346 *e*pP pP 04 22 07.2 -0.9
BLA **Blacksburg** 56.91 349 *e*P P 04 21 41.8 -0.2
comp=Z,3.5nm,1.3s,mb4.2
BLA *e*pP pP 04 22 08.0 -0.2
ELN **Prospectdale** 56.98 349 *e*P P 04 21 42.3 -0.2
ELN *e*pP pP 04 22 09.2 +0.4
JCT **Junction City** 57.31 329 *e*P P 04 21 44.3 -0.5
JCT pmax pmax
comp=Z,19nm,0.8s,mb5.2
JCT **Junction City** 57.31 329 *e*P P 04 21 44.3 -0.5
comp=Z,19nm,0.8s,mb5.2
FWV **Forest Hill** 57.34 349 *e*P P 04 21 44.4 -0.6
FWV *e*pP pP 04 22 09.6 -1.7
WVT **Waverly** 57.59 342 *e*P P 04 21 45.0 -1.8
WVT pmax pmax
comp=Z,21nm,0.9s,mb5.2
WVT **Waverly** 57.59 342 *e*P P 04 21 45.0 -1.8
comp=Z,21nm,0.9s,mb5.2
WVT *e*pP pP 04 22 11.1 -2.0
UALR **University of** 57.82 338 *e*P P 04 21 46.9 -1.4
comp=Z,12nm,0.9s,mb4.9
WCI **Wyandotte Cave** 59.15 344 *e*P P 04 21 55.7 -1.9
WCI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WCI **Wyandotte Cave** 59.15 344 *e*P P 04 21 55.7 -1.9
comp=Z,8.5nm,0.7s,mb4.9
WCI *e*pP pP 04 22 22.2 -1.9
MCWV **Mont Chateau** 59.20 351 *e*pP pP 04 22 23.1 -1.3
SIUC **Southern Illin** 59.47 342 *e*P P 04 21 58.9 -0.9
comp=Z,36nm,0.7s,mb5.5
SIUC *e*pP pP 04 22 24.9 -1.3
FVM **French Village** 60.09 341 *e*P P 04 22 02.5 -1.5
FVM pmax pmax
comp=Z,34nm,0.6s,mb5.5
FVM **French Village** 60.09 341 *e*P P 04 22 02.5 -1.5
comp=Z,34nm,0.6s,mb5.5
FVM *e*pP pP 04 22 29.3 -1.2
BLO **Bloomington** 60.09 345 *e*P P 04 22 02.1 -2.0
BLO *e*pP pP 04 22 29.0 -1.6
ACSO **Alum Creek Sta** 60.31 348 *e*P P 04 22 04.0 -1.6
ACSO *e*pP pP 04 22 30.4 -1.7
WMOK **Wichita Mounta** 60.37 332 *e*P P 04 22 04.8 -1.2
WMOK pmax pmax
comp=Z,16nm,1.3s,mb4.9
WMOK **Wichita Mounta** 60.37 332 *e*P P 04 22 04.8 -1.2
comp=Z,16nm,1.3s,mb4.9
WMOK *e*pP pP 04 22 30.7 -1.9
MNTX **Cornudas Mount** 61.18 325 *e*P P 04 22 09.6 -1.8
comp=Z,19nm,1.1s,mb5.0
MNTX *e*pP pP 04 22 36.1 -1.9
ALLY **Alegheny Colle** 61.19 351 *e*pP pP 04 22 38.4 +0.3
BINY **Binghamton** 61.22 354 *e*pP pP 04 22 39.5 +1.2
VNA3 **Neumayer Olymp** 62.52 162 *e*P P 04 22 20.5 0.0
VNA3 *e* 04 22 23.8
VNA3 *e* 04 22 37.6
VNA3 *e* pP 04 22 47.1 0.0
VNA3 *e* 04 22 58.1
VNA3 *e* 04 23 01.0
VNA3 *e* 04 23 08.5
VNA3 *e* 04 23 16.8
VNA3 *e* 04 26 53.5
VNA1 **Neumayer--Stat** 62.73 161 *e*P P 04 22 22.7 +0.9
VNA1 *e* 04 22 26.3
VNA1 *e* 04 22 40.2
VNA1 *e* pP 04 22 49.2 +0.7
VNA1 *e* 04 22 58.3
VNA1 *e* 04 23 02.3
VNA1 *e* 04 23 11.4
VNA1 *e* 04 23 18.0
VNA1 *e* 04 27 01.9
KSU1 **Kansas State U** 63.23 336 *e*P P 04 22 24.0 -1.1
MSNY **Massena** 63.91 356 *e*P P 04 22 29.1 -0.5
ANMO **Albuquerque** 64.25 327 *e*P P 04 22 31.5 -0.3
ANMO *e**PP pP 04 22 58.4 -0.3
ANMO pmax pmax
comp=Z,7.0nm,0.8s
ANMO **Albuquerque** 64.25 327 *e*P P 04 22 31.5 -0.3
comp=Z,7.1nm,0.8s,mb4.5
ANMO *e*pP pP 04 22 58.4 -0.3
SCIA **State Center** 64.54 340 *e*P P 04 22 32.2 -1.5
JFWS **Jewell Farm** 64.58 343 *e*P P 04 22 32.1 -1.9
JFWS *e**PP pP 04 22 59.3 -1.5
JFWS pmax pmax
comp=Z,19nm,0.6s,mb5.1
JFWS **Jewell Farm** 64.58 343 *e*P P 04 22 32.1 -1.9
comp=Z,19nm,0.6s,mb5.1
JFWS *e*pP pP 04 22 59.3 -1.6
TUC **Tucson** 64.69 322 *e*P P 04 22 34.8 +0.1
SNAA **Sanae** 64.72 161 P P 04 22 34.5 -0.5
comp=Z,1.8nm,0.8s,mb4.0,baz=288,slow=6.4,SNR=24
SNAA **Sanae** 64.72 161 *e*P P 04 22 34.6 -0.3
SNAA *e* 04 22 38.8
SNAA *e* 04 22 50.0
SNAA *e* pP 04 23 01.5 -0.3
SNAA *e* 04 23 08.4
SNAA *e* 04 23 14.7
SNAA **Sanae** 64.72 161 *e*P P 04 22 34.1 -0.8
SNAA pmax pmax
comp=Z,29nm,1.3s
SNAA **Sanae** 64.72 161 *e*P P 04 22 34.1 -0.8
comp=Z,29nm,1.3s,mb5.0
SNAA *e*pP pP 04 23 01.2 -0.5
SDCO **Great Sand Dun** 65.95 329 *e*P P 04 22 42.9 +0.1
comp=Z,35nm,1.1s,mb5.1
SDCO *e*pP pP 04 23 09.5 -0.2
ECSD **EROS,Sioux Fal** 67.29 339 *e*P P 04 22 49.9 -1.5
ECSD *e*pP pP 04 23 16.7 -1.7
WUAZ **Wupatki** 67.34 324 *e*P P 04 22 52.2 +0.5
comp=Z,24nm,1.0s,mb5.0
WUAZ *e*pP pP 04 23 18.8 +0.1
ISCO **Idaho Springs** 67.63 330 *e*P P 04 22 53.6 +0.1
ISCO *e**PP pP 04 23 20.0 -0.5
ISCO pmax pmax
comp=Z,14nm,1.0s,mb4.8
ISCO **Idaho Springs** 67.63 330 *e*P P 04 22 53.6 +0.1
comp=Z,14nm,1.0s,mb4.7
ISCO *e*pP pP 04 23 20.0 -0.5
GLA **Glamis** 67.63 320 *e*P P 04 22 54.3 +0.8
SMCO **Snowmass** 67.79 329 *e*P P 04 22 55.4 +0.9
comp=Z,12nm,0.7s,mb4.8
SMCO *e* pP 04 23 22.0 +0.5
LIC **Lamto** 68.04 75 *e*P P 04 22 55.6 -0.5
comp=Z,13nm,0.4s,mb4.8
LIC *e*R
comp=Z,113nm,19.2s
LIC **Lamto** 68.04 75 *e*P P 04 22 55.6 -0.5
comp=Z,6.7nm,0.4s,mb4.8
LIC LR LR
comp=Z,60nm,19.3s
DBIC **Dimbokro** 68.38 75 P P 04 22 58.1 0.0
comp=Z,23nm,0.7s,mb5.1,baz=219,slow=7.0,SNR=47
DBIC pP pP 04 23 26.4 +1.1
comp=Z,11nm,0.6s,baz=226,slow=5.1,SNR=3.1
DBIC LR LR 04 51 53.6
comp=Z,102nm,19.7s,baz=280,slow=35
DBIC **Dimbokro** 68.38 75 *e*P P 04 22 58.5 +0.4
DBIC *e**PP pP 04 23 26.6 +1.4
DBIC pmax pmax
comp=Z,47nm,0.9s
DBIC **Dimbokro** 68.38 75 *e*P P 04 22 58.5 +0.4
comp=Z,47nm,0.9s,mb5.3
DBIC *e*pP pP 04 23 26.6 +1.4
BAR **Barrett** 68.53 318 *e*P P 04 23 00.1 +1.0
EGOM **La Gomera** 68.80 48 P P 04 23 01.5 +0.7
comp=Z,92nm,0.7s,mb5.7
PFO **Pinyon Flat Ob** 69.01 319 *e*P P 04 23 03.0 +0.9
PFO pmax pmax
comp=Z,15nm,0.9s,mb4.8
PFO **Pinyon Flat Ob** 69.01 319 *e*P P 04 23 03.0 +0.9
comp=Z,15nm,0.9s,mb4.8
MAIT **Maitri** 69.23 160 *e*P P 04 23 04.6 +1.2
MAIT *e*PP PP 04 25 44.2 +6.5
MAIT *e*SKSac SKSac 04 32 23.7 -30
CCAN **Las Canadas** 69.27 49 P P 04 23 03.6 0.0
comp=Z,16nm,0.7s,mb5.0
SRU **San Rafael** 69.52 327 *e*P P 04 23 05.4 +0.2
SRU *e**PP pP 04 23 32.1 -0.3
SRU pmax pmax
comp=Z,12nm,0.8s,mb4.8
SRU **San Rafael** 69.52 327 *e*P P 04 23 05.3 +0.1
comp=Z,12nm,0.8s,mb4.8
SRU *e*pP pP 04 23 32.1 -0.3
EYMN **Ely** 69.57 344 *e*P P 04 23 03.5 -2.0
comp=Z,0.4nm,0.6s
RWWY **Rawlins** 69.87 331 *e*P P 04 23 07.8 +0.5
comp=Z,54nm,1.5s,mb5.2
CCUT **Cedar City** 69.91 324 *e*P P 04 23 08.7 +1.1
CCUT *e*pP pP 04 23 35.2 +0.4
EOSO **Osorio** 69.93 49 P P 04 23 07.6 -0.1
comp=Z,157nm,2.2s,mb5.5
MSU **Marysvale** 69.95 325 *e*P P 04 23 08.6 +0.7
MSU *e**PP pP 04 23 35.5 +0.4
TMUT **Trail Mountain** 70.02 327 *e*P P 04 23 08.8 +0.6
TMUT *e*PcP PcP 04 23 30.5 +0.7
TMUT *e*pP pP 04 23 33.9 -1.6
ARUT **Antelope Range** 70.12 324 *e*P P 04 23 09.9 +1.0
ARUT *e**PP pP 04 23 36.5 +0.4
SHPR **Sheep Range** 70.20 322 *e*P P 04 23 10.4 +1.0
SHPR *e*pP pP 04 23 37.2 +0.5
GSC **Goldstone** 70.36 320 *e*P P 04 23 10.8 +0.5
GSC *e*pP pP 04 23 38.9 +1.3
RSSD **Black Hills** 70.42 334 *e*P P 04 23 10.2 -0.6
RSSD pmax pmax
comp=Z,11nm,0.8s,mb4.7
RSSD **Black Hills** 70.42 334 *e*P P 04 23 10.2 -0.5
comp=Z,11nm,0.8s,mb4.7
MPU **Maple Canyon** 70.77 327 *e*P P 04 23 12.9 0.0
MPU *e*pP pP 04 23 41.3 +1.2
NLU **North Lily Min** 70.95 326 *e*P P 04 23 14.7 +0.7
QSPA **South Pole Qui** 71.16 180 *e*P P 04 23 15.2 0.0
comp=Z,11nm,0.8s,mb4.7
CFTV **Fuerteventura** 71.19 50 P P 04 23 14.9 -0.5
comp=Z,11nm,0.6s,mb4.9
DAC **Darwin (Calif)** 71.49 320 *e*P P 04 23 18.0 +0.8
DAC pmax pmax
comp=Z,16nm,1.1s,mb4.8
DAC **Darwin (Calif)** 71.49 320 *e*P P 04 23 18.0 +0.8
comp=Z,16nm,1.1s,mb4.8
DAC *e*pP pP 04 23 44.6 +0.2
DUG **Dugway** 71.51 326 *e*P P 04 23 17.9 +0.6
DUG pmax pmax
comp=Z,22nm,1.2s,mb4.9
DUG **Dugway** 71.51 326 *e*P P 04 23 17.9 +0.5
comp=Z,22nm,1.2s,mb4.9
DUG *e*pP pP 04 23 45.5 +0.9
ISA **Isabella** 71.62 319 *e*P P 04 23 19.2 +1.2
ISA *e*pP pP 04 23 45.1 -0.1
BW06 **Boulder Array** 71.80 330 *e*P P 04 23 18.5 -0.6
comp=Z,10nm,1.3s,mb4.5
BW06 *e*pP pP 04 23 46.1 -0.3
PDAR **Pinedale Array** 71.80 330 P P 04 23 18.1 -1.0
comp=Z,2.3nm,0.8s,mb4.1,baz=142,slow=5.3,SNR=14
PDAR pP pP 04 23 46.4 0.0
comp=Z,1.5nm,0.4s,baz=119,slow=5.2,SNR=6.2
PDAR sP sP 04 23 57.0 -1.1
comp=Z,1.6nm,0.5s,baz=107,slow=7.9,SNR=1.9
HWUT **Hardware Ranch** 71.91 328 *e*P P 04 23 19.9 +0.2
comp=Z,10nm,1.0s,mb4.6
HWUT *e*pP pP 04 23 46.4 -0.6
BGU **Big Grassy Mou** 72.16 327 *e*P P 04 23 21.1 -0.1
BGU *e*pP pP 04 23 48.8 +0.2
MTUM **Tungsten Hills** 72.78 321 *e*P P 04 23 25.5 +0.6
ULM **Lac du Bonnet** 72.86 342 P P 04 23 24.2 -1.1
comp=Z,8.8nm,0.6s,mb4.8,baz=140,slow=6.2,SNR=24
ULM pP pP 04 23 51.0 -1.8
comp=Z,12nm,0.6s,baz=157,slow=5.9,SNR=7.9
ULM LR LR 04 53 10.5
comp=Z,79nm,21.3s,baz=292,slow=34
ULM **Lac du Bonnet** 72.86 342 *e*P P 04 23 24.0 -1.4
comp=Z,7.8nm,0.6s,mb4.7
ULM *e*pP pP 04 23 50.9 -1.8
REDW **Red Top Meadow** 72.87 330 *e*P P 04 23 25.8 +0.4
comp=Z,19nm,1.3s,mb4.8
SNOW **Snow King Moun** 72.90 330 *e*P P 04 23 26.2 +0.6
LOHW **Long Hollow** 72.94 330 *e*P P 04 23 26.3 +0.5
comp=Z,18nm,1.4s,mb4.7
LOHW *e*pP pP 04 23 53.0 -0.2
TPAW **Teton Pass** 73.02 330 *e*P P 04 23 26.2 -0.1
comp=Z,28nm,1.4s,mb4.9
RRI2 **Red Ridge** 73.08 329 *e*P P 04 23 26.9 +0.2
comp=Z,35nm,1.1s,mb5.1
RRI2 *e*pP pP 04 23 54.3 +0.3
MOOW **Moose Ponds** 73.11 330 *e*P P 04 23 26.4 -0.5
comp=Z,16nm,1.4s,mb4.7
MOOW *e*pP pP 04 23 54.2 -0.1
IMW **Indian Meadow** 73.32 330 *e*P P 04 23 28.2 +0.2
comp=Z,21nm,1.1s,mb4.9
IMW *e*pP pP 04 23 55.7 +0.2
NVAR **Mina Array Bea** 73.34 322 P P 04 23 29.0 +0.8
comp=Z,3.3nm,0.7s,mb4.3,baz=140,slow=5.8,SNR=16
NVAR pP pP 04 23 56.0 +0.4
comp=Z,2.1nm,0.7s,baz=124,slow=7.7,SNR=4.2
FLWY **Flagg Ranch** 73.34 330 *e*P P 04 23 29.0 +0.8
comp=Z,31nm,0.9s,mb5.1
LAO **LASA Array** 73.41 334 *e*P P 04 23 28.2 -0.4
comp=Z,20nm,0.9s,mb4.9
RLMT **Red Lodge** 73.48 332 *e*P P 04 23 29.4 +0.4
RLMT *e*pP pP 04 23 56.4 0.0
LKWY **Lake** 73.57 331 *e*P P 04 23 30.9 +1.4
LKWY pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
LKWY **Lake** 73.57 331 *e*P P 04 23 30.9 +1.4
comp=Z,8.8nm,0.8s,mb4.5
SCHQ **Schefferville** 73.58 1 P P 04 23 27.8 -1.8
comp=Z,4.8nm,0.9s,mb4.2,baz=208,slow=9.3,SNR=6.1
SCHQ pP pP 04 23 57.1 +0.1
comp=Z,5.2nm,0.9s,baz=196,slow=8.2,SNR=2.5
SCHQ **Schefferville** 73.58 1 P P 04 23 27.8 -1.8
SCHQ pP pP 04 23 57.1 +0.1
YNR **Norris Junctio** 73.81 331 *e*P P 04 23 32.3 +1.4
YMR **Madison River** 73.91 330 *e*P P 04 23 32.5 +1.0
comp=Z,36nm,1.1s,mb5.0
WAKR **Walker** 74.06 321 *e*P P 04 23 33.8 +1.4
DGMT **Dagmar** 74.07 337 *e*P P 04 23 32.6 +0.2
comp=Z,23nm,0.8s,mb5.0
DGMT *e*pP pP 04 23 59.2 -0.7
GCMT **Greycliff** 74.17 332 *e*P P 04 23 33.1 0.0
GCMT *e*pP pP 04 24 00.1 -0.4
QLMT **Earthquake Lak** 74.25 330 *e*P P 04 23 34.9 +1.4
QLMT *e*pP pP 04 24 01.8 +0.8
CMB **Columbia Colle** 74.32 320 *e*P P 04 23 34.4 +0.5
HLID **Hailey** 74.77 328 *e*P P 04 23 37.4 +0.9
comp=Z,22nm,1.1s,mb4.8
HLID *e*pP pP 04 24 02.9 -1.1
PAHR **Pah Rah Range** 74.82 322 *e*P P 04 23 38.1 +1.4
comp=Z,29nm,0.9s,mb5.0
PAHR *e*pP pP 04 24 04.7 +0.4
MCMT **McKenzie Canyo** 74.92 329 *e*P P 04 23 38.2 +0.9
MCMT *e*pP pP 04 24 05.3 +0.4
BOZ **Bozeman (W)** 74.96 331 *e*P P 04 23 37.6 0.0
BOZ pmax pmax
comp=Z,23nm,1.5s,mb4.7
BOZ **Bozeman (W)** 74.96 331 *e*P P 04 23 37.6 0.0
comp=Z,23nm,1.5s,mb4.7
BOZ *e*pP pP 04 24 05.4 +0.3
DLMT **Dillon** 75.20 330 *e*P P 04 23 39.7 +0.7
comp=Z,24nm,1.4s,mb4.7
DLMT *e*pP pP 04 24 07.1 +0.6
LRM **Limekiln Ridge** 75.47 330 *e*P P 04 23 41.2 +0.7
LRM *e*pP pP 04 24 08.6 +0.5
PPT **Papeete** 75.58 256 LR LR 04 48 39.4
comp=Z,160nm,18.0s,baz=114,slow=29
HRY **Holter Researc** 75.85 331 *e*P P 04 23 42.7 +0.1
EGMT **Eagleton** 75.94 333 *e*P P 04 23 42.8 -0.4
comp=Z,16nm,0.9s,mb4.7
TOA0 **Torodi Ar. Sit** 76.86 71 *e*P P 04 23 47.6 -0.7
TORD **Torodi Ar. Bea** 76.86 71 P P 04 23 47.7 -0.6
comp=Z,16nm,0.5s,mb5.0,baz=253,slow=5.4,SNR=217
TORD pP pP 04 24 17.2 +1.3
comp=Z,11nm,0.6s,baz=254,slow=5.2,SNR=3.1
TORD **Torodi Ar. Bea** 76.86 71 P P 04 23 47.7 -0.6
TORD pP pP 04 24 17.2 +1.3
BMO **Blue Mountains** 77.16 327 *e*P P 04 23 50.0 0.0
comp=Z,18nm,1.1s,mb4.7
BMO *e*pP pP 04 24 18.2 +0.5
BSMT **Bassoo Peak** 78.05 331 *e*P P 04 23 55.8 +0.8
WALA **Waterton Lakes** 78.53 332 *e*P P 04 23 57.9 +0.3
comp=Z,12nm,0.9s,mb4.7
WALA *e*PcP PcP 04 24 06.3 0.0
WALA *e*pP pP 04 24 24.7 -0.6
SYO **Syowa Base** 78.93 160⇑ *e*P P 04 24 00.8 +0.9
SYO **Syowa Base** 78.93 160⇑ *e*pP pP 04 24 26.8 -0.8
VNDA **Vanda** 79.22 190 P P 04 24 00.7 -0.8
comp=Z,3.1nm,0.8s,mb4.2,baz=142,slow=6.1,SNR=8.7
VNDA pP pP 04 24 28.1 -1.1
comp=Z,1.8nm,0.8s,baz=109,slow=4.2,SNR=2.7
VNDA **Vanda** 79.22 190 *e*P P 04 24 01.5 +0.1
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA **Vanda** 79.22 190 *e*P P 04 24 01.5 +0.1
comp=Z,4.1nm,0.9s,mb4.3
HAWA **Hanford** 79.35 327 *e*P P 04 24 02.8 +0.7
comp=Z,1.5nm,1.1s
HAWA *e*pP pP 04 24 29.9 0.0
NEW **Newport** 79.44 330 *e*P P 04 24 01.9 -0.7
NEW pmax pmax
comp=Z,3.0nm,0.9s
NEW **Newport** 79.44 330 *e*P P 04 24 01.9 -0.7
comp=Z,2.7nm,0.9s,mb4.1
GBL **Gable Mountain** 79.45 327 P P 04 24 03.3 +0.6
OD2 **Odessa Site #2** 79.61 328 P P 04 24 04.0 +0.5
HOOD **Mount Hood Mea** 79.75 325 *e*P P 04 24 05.3 +0.9
PTEO **Sao Tenonio** 80.02 45 *e*P P 04 24 07.7 +1.9
comp=Z,54nm,1.2s,mb5.2
EBG **Ellensburg** 80.23 327 P P 04 24 07.8 +0.9
MDT **Midelt** 80.42 51 P P 04 24 09.2 +1.2
comp=Z,6.5nm,0.8s,mb4.5,baz=266,slow=6.1,SNR=17
WTV **Waterville** 80.44 328 P P 04 24 08.3 +0.3
EGRO **El Granado** 80.85 45 P P 04 24 11.3 +1.2
comp=Z,41nm,1.0s,mb5.2
PBEJ **Beja** 80.85 45 *e*P P 04 24 11.2 +1.0
comp=Z,19nm,1.5s,mb4.7
TSUM **Tsumeb** 81.08 107 *e*P P 04 24 12.8 +1.4
comp=Z,18nm,0.8s,mb5.0
EDM **Edmonton** 81.38 335 *e*P P 04 24 11.5 -1.5
EDM *e*pP pP 04 24 39.0 -1.9
PESTR **Estremoz** 81.49 44 *e*P P 04 24 13.1 -0.5
comp=Z,16nm,1.1s,mb4.8
EMIN **Mina Concepcio** 81.51 45 P P 04 24 14.6 +0.9
comp=Z,24nm,0.8s,mb5.1
ESPR **Espera** 81.60 46 P P 04 24 15.9 +1.7
comp=Z,32nm,1.3s,mb5.0
EJIF **Jimena Fronter** 81.65 47 P P 04 24 17.2 +2.8
EJIF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
EJIF **Jimena Fronter** 81.65 47 P P 04 24 17.2 +2.8
comp=Z,6.7nm,0.6s,mb4.7
JCW **Jim Creek** 81.77 327 P P 04 24 14.5 -0.5
EBAD **Badajoz** 81.81 44 P P 04 24 16.4 +1.1
comp=Z,34nm,1.5s,mb5.0
CMW **Cultus Mountai** 82.01 328 P P 04 24 16.0 -0.3
PTO **Porto** 82.08 42 *e*P P 04 24 16.8 +0.1
PCBR **Castelo Branco** 82.09 43 *e*P P 04 24 16.7 0.0
comp=Z,22nm,1.9s,mb4.7
EMIJ **Mijas** 82.19 47 P P 04 24 21.8 +4.6
comp=Z,10nm,0.6s,mb4.8
PVIS **Viseu** 82.29 42 *e*P P 04 24 18.0 +0.2
comp=Z,18nm,1.1s,mb4.8
MTE **Manteigas** 82.35 43 *e*P P 04 24 18.5 +0.4
comp=Z,28nm,1.4s,mb4.9
PVRL **Vila Real** 82.71 42 *e*P P 04 24 20.2 +0.2
comp=Z,14nm,0.8s,mb4.8
EMAZ **Mazaricos** 82.86 40 P P 04 24 20.5 -0.2
comp=Z,116nm,1.9s,mb5.4
ELOJ **Sierra Loja** 82.92 47 P P 04 24 23.1 +2.1
ELOJ pmax pmax
comp=Z,16nm,0.7s,mb5.0
ELOJ **Sierra Loja** 82.92 47 P P 04 24 23.1 +2.1
comp=Z,16nm,0.7s,mb5.0
EADA **Adamuz** 83.14 46 P P 04 24 26.3 +4.1
comp=Z,23nm,1.3s,mb4.8
PBRG **Braganca** 83.61 42 *e*P P 04 24 24.8 +0.2
comp=Z,36nm,1.6s,mb5.0
EBER **Berja** 83.67 48 P P 04 24 28.8 +4.0
comp=Z,21nm,1.3s,mb4.8
ECAL **Calabor** 83.69 42 P P 04 24 26.5 +1.5
comp=Z,121nm,1.9s,mb5.4

EQES	**Quesada**	**83.99**	**47**	P		**P**	**04 24 30.2**	**+3.7**
	comp=Z,17nm,1.0s,mb4.8								
EPON	**Pontenova**	**84.18**	**40**	P		**P**	**04 24 27.5**	**0.0**
	comp=Z,67nm,2.0s,mb5.1								
ESDC	**Sonseca Array**	**84.31**	**45**	P		**P**	**04 24 29.0**	**+0.9**
	comp=Z,5.5nm,0.7s,mb4.5,baz=245,slow=5.6,SNR=24								
ESDC				pP		pP	04 24 57.6	+1.4	
	comp=Z,2.5nm,0.7s,baz=251,slow=4.8,SNR=3.2								
ESLA	**Sonseca Array**	**84.31**	**45**	*e*P		**P**	**04 24 28.9**	**+0.8**
	comp=Z,3.4nm,1.0s,mb4.1								
GUD	**Guadarrama**	**84.67**	**44**	P		**P**	**04 24 30.5**	**+0.5**
GUD				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
GUD	**Guadarrama**	**84.67**	**44**	P		**P**	**04 24 30.5**	**+0.6**
	comp=Z,3.1nm,0.6s,mb4.4								
EVIA	**Vianos**	**84.79**	**46**	P		**P**	**04 24 34.7**	**+4.2**
EVIA				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.8								
EVIA	**Vianos**	**84.79**	**46**	P		**P**	**04 24 34.7**	**+4.2**
	comp=Z,13nm,1.0s,mb4.8								
BOSA	**Boshof**	**84.91**	**118**	P		**P**	**04 24 31.3**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=232,slow=3.3,SNR=4.7								
BOSA				LR		LR	04 57 36.8		
	comp=Z,119nm,20.0s,baz=78,slow=32								
BOSA	**Boshof**	**84.91**	**118**	*e*P		**P**	**04 24 31.4**	**+0.3**
BOSA				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
BOSA	**Boshof**	**84.91**	**118**	*e*P		**P**	**04 24 31.4**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.6								
EARI	**Arriondas**	**85.36**	**41**	P		**P**	**04 24 33.0**	**-0.4**
	comp=Z,132nm,2.5s,mb5.4								
ETOB	**Tobarra**	**85.44**	**47**	P		**P**	**04 24 36.9**	**+3.1**
	comp=Z,42nm,1.1s,mb5.3								
MAW	**Mawson**	**86.79**	**163**	P		**P**	**04 24 39.3**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=233,slow=6.8,SNR=4.2								
MAW				pP		pP	04 25 07.5	-1.1	
	comp=Z,2.8nm,0.7s,baz=216,slow=7.8,SNR=4.3								
MAW	**Mawson**	**86.79**	**163**	*e*P		P	**04 24 40.4**	**0.0**
MAW				pmax		pmax			
	comp=Z,6.0nm,1.2s								
MAW	**Mawson**	**86.79**	**163**	*e*P		**P**	**04 24 40.4**	**-0.1**
	comp=Z,5.8nm,1.2s,mb4.4								
MAW				*e*pP		pP	04 25 08.2	-0.5	
SJPF	**Ste Jean**	**87.79**	**43**	*e*P		**P**	**04 24 45.4**	**+0.2**
	comp=Z,27nm,1.2s,mb4.9								
SJPF	**Ste Jean**	**87.79**	**43**	*e*P		**P**	**04 24 45.4**	**+0.2**
SJPF				pmax		pmax			
	comp=Z,14nm,1.2s,mb4.9								
SJPF	**Ste Jean**	**87.79**	**43**	*e*P		**P**	**04 24 45.4**	**+0.2**
	comp=Z,14nm,1.2s,mb4.9								
ERTA	**Horta de San J**	**87.81**	**45**	P		**P**	**04 24 50.5**	**+5.2**
	comp=Z,83nm,1.4s,mb5.6								
ETSF	**Etsaut**	**88.12**	**43**	*e*P		**P**	**04 24 46.8**	**0.0**
	comp=Z,20nm,1.1s,mb4.7								
ETSF	**Etsaut**	**88.12**	**43**	*e*P		**P**	**04 24 46.8**	**0.0**
ETSF				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.8								
ETSF	**Etsaut**	**88.12**	**43**	*e*P		**P**	**04 24 46.8**	**0.0**
	comp=Z,9.8nm,1.1s,mb4.8								
EBIE	**Bielsa**	**88.48**	**44**	P		**P**	**04 24 52.5**	**+4.1**
	comp=Z,69nm,2.2s,mb5.3								
YKA	**Yellowknife Ar**	**88.75**	**341**	P		**P**	**04 24 48.6**	**-1.1**
	comp=Z,23nm,0.7s,mb5.3,baz=132,slow=4.8,SNR=118								
YKA				pP		pP	04 25 16.5	-1.5	
	comp=Z,11nm,0.6s,baz=135,slow=4.8,SNR=9.1								
YKA				sP		sP	04 25 27.7	-1.9	
	comp=Z,8.0nm,0.8s,baz=135,slow=4.9,SNR=3.2								
YKA	**Yellowknife Ar**	**88.75**	**341**	P		**P**	**04 24 48.6**	**-1.1**
YKA				pP		pP	04 25 16.5	-1.5	
YKA				sP		sP	04 25 27.7	-1.9	
EPF	**Esparros**	**88.77**	**43**	*e*P		**P**	**04 24 50.6**	**+0.8**
LFF	**La Frestale**	**89.90**	**42**	*e*P		**P**	**04 24 54.6**	**-0.5**
	comp=Z,16nm,0.7s,mb5.0								
LFF	**La Frestale**	**89.90**	**42**	*e*P		**P**	**04 24 54.6**	**-0.5**
LFF				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb5.0								
LFF	**La Frestale**	**89.90**	**42**	*e*P		**P**	**04 24 54.6**	**-0.5**
	comp=Z,8.3nm,0.7s,mb5.0								
CAF	**Calviac**	**90.73**	**42**	*e*P		**P**	**04 24 58.4**	**-0.6**
	comp=Z,14nm,0.9s,mb4.8								
CAF	**Calviac**	**90.73**	**42**	*e*P		**P**	**04 24 58.4**	**-0.6**
CAF				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.8								
CAF	**Calviac**	**90.73**	**42**	*e*P		**P**	**04 24 58.4**	**-0.6**
	comp=Z,7.0nm,0.9s,mb4.8								
LASF	**Ste Croix**	**91.52**	**44**	*e*P		**P**	**04 25 03.1**	**+0.4**
	comp=Z,30nm,1.3s,mb5.0								
VIVF	**Saint-Julien-l**	**92.38**	**43**	*e*P		**P**	**04 25 07.3**	**+0.7**
	comp=Z,14nm,1.1s,mb4.8								
VIVF	**Saint-Julien-l**	**92.38**	**43**	*e*P		**P**	**04 25 07.3**	**+0.7**
VIVF				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.8								
VIVF	**Saint-Julien-l**	**92.38**	**43**	*e*P		**P**	**04 25 07.3**	**+0.7**
	comp=Z,7.3nm,1.1s,mb4.8								
SMF	**Signal de Mont**	**92.60**	**41**	*e*P		**P**	**04 25 06.3**	**-1.3**
	comp=Z,16nm,0.9s,mb5.0								
SMF	**Signal de Mont**	**92.60**	**41**	*e*P		**P**	**04 25 06.3**	**-1.3**
SMF				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb5.0								
SMF	**Signal de Mont**	**92.60**	**41**	*e*P		**P**	**04 25 06.3**	**-1.3**
	comp=Z,7.8nm,0.9s,mb5.0								
SMRF	**Simiane la Rot**	**92.61**	**44**	*e*P		**P**	**04 25 08.9**	**+1.2**
	comp=Z,21nm,1.2s,mb5.0								
SMRF	**Simiane la Rot**	**92.61**	**44**	*e*P		**P**	**04 25 08.9**	**+1.2**
	comp=Z,21nm,1.2s,mb5.3								
EKA	**Eskdalemuir Ar**	**92.69**	**32**	P		**P**	**04 25 06.3**	**-1.7**
	comp=Z,1.9nm,0.8s,mb4.5,baz=233,slow=4.1,SNR=3.6								
LOR	**Lormes**	**92.88**	**41**	*e*P		**P**	**04 25 08.7**	**-0.2**
LOR				*e*R					
	comp=Z,63nm,20.8s								
LOR	**Lormes**	**92.88**	**41**	*e*P		**P**	**04 25 08.7**	**-0.2**
LOR				LR		LR			
	comp=Z,60nm,20.8s								
ORIF	**Oris-en-Rattie**	**93.19**	**43**	*e*P		**P**	**04 25 12.4**	**+2.1**
	comp=Z,25nm,1.1s,mb5.2								
ORIF				*e*R					
	comp=Z,73nm,22.2s								
ORIF	**Oris-en-Rattie**	**93.19**	**43**	*e*P		**P**	**04 25 12.4**	**+2.1**
ORIF				pmax		pmax			
	comp=Z,12nm,1.1s,mb5.1								
ORIF	**Oris-en-Rattie**	**93.19**	**43**	*e*P		**P**	**04 25 12.4**	**+2.1**
	comp=Z,12nm,1.1s,mb5.2								
SUMG	**Summit**	**93.67**	**9**	*e*P		**P**	**04 25 12.6**	**0.0**
	comp=Z,12nm,1.1s,mb5.1								
LPL	**La Plagne**	**93.98**	**43**	*e*P		**P**	**04 25 14.7**	**+0.7**
	comp=Z,20nm,1.2s,mb5.0								
LPL	**La Plagne**	**93.98**	**43**	*e*P		**P**	**04 25 14.7**	**+0.7**
LPL				pmax		pmax			
	comp=Z,10.0nm,1.2s,mb5.0								
LPL	**La Plagne**	**93.98**	**43**	*e*P		**P**	**04 25 14.7**	**+0.7**
	comp=Z,9.8nm,1.2s,mb5.0								
SQTA	**Sankt Quirin**	**97.49**	**43**	⇑*i*P		**P**	**04 25 35.8**	**+5.8**
	comp=Z,3.9nm,0.9s,mb4.8								
SQTA	**Sankt Quirin**	**97.49**	**43**	⇑*i*P		**P**	**04 25 29.3**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.8								
SQTA	**Sankt Quirin**	**97.49**	**43**	⇑*i*P		**P**	**04 25 35.8**	**+5.9**
SQTA				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.8								
WTTA	**Wattenberg**	**97.78**	**43**	⇑*i*P		**P**	**04 25 35.6**	**+4.3**
	comp=Z,7.2nm,1.0s,mb5.2								
WTTA	**Wattenberg**	**97.78**	**43**	⇑*i*P		**P**	**04 25 30.6**	**-0.6**
	comp=Z,7.2nm,1.0s,mb5.2								
WTTA	**Wattenberg**	**97.78**	**43**	⇑*i*P		**P**	**04 25 35.6**	**+4.4**
WTTA				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb5.2								
GERES	**GERESS Array B**	**99.59**	**42**	P		Pdif	04 25 39.9	+0.6	
	comp=Z,0.3nm,0.4s,baz=225,slow=37,SNR=2.1								
FINES	**FINESS Array B**	**109.05**	**30**	PKKPbc		PKKPbc	04 41 31.6	-0.7	
	comp=Z,1.3nm,0.9s,baz=46,slow=5.5,SNR=3.3								
BRTR	**Keskin Array B**	**111.66**	**54**	PKKPab		PKKPab	04 41 32.9	-0.5	
	comp=Z,0.9nm,0.8s,baz=123,slow=4.6,SNR=4.3								
OBN	**Obninsk**	**114.42**	**37**	*e*PKIKP		PKiKP	04 30 36.5	+1.1	
OBN				*e*			04 31 14.4		
OBN				*e*			04 31 29.4		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ANN	**Anapa**	**114.90**	**49**	*e*PKIKP		PKiKP	04 30 43.4	+7.1	
ANN				pmax		pmax			
	comp=Z,60nm,1.7s								
BILL	**Bilibino**	**120.10**	**339**	*e*PKIKP		PKPdf	04 30 45.2	-1.1	
BILL				*e*			04 31 16.2		
BILL				*e*			04 37 29.2		
BILL				*e*SS		SS	04 48 31.5	+0.9	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.9s								
STKA	**Stephens Creek**	**121.38**	**211**	*e*PKP		PKPdf	04 30 48.8	0.0	
	comp=Z,1.9nm,0.6s								
STKA	**Stephens Creek**	**121.38**	**211**	PKP		PKPdf	04 30 48.5	-0.3	
	comp=Z,2.1nm,0.5s,baz=85,slow=21,SNR=6.0								
SEY	**Seymchan**	**127.69**	**337**	*i* PKIKP		PKPdf	04 31 01.3	+0.5	
CTA	**Charters Tower**	**127.82**	**224**	PKP		PKPdf	04 31 01.2	+0.1	
	comp=Z,1.8nm,0.5s,baz=298,slow=1.1,SNR=5.4								
ASAR	**Alice Springs**	**131.93**	**209**	PKP		PKPdf	04 31 08.3	-0.5	
	comp=Z,2.3nm,0.5s,baz=125,slow=1.6,SNR=32								
ASAR				pPKP		pPKPdf	04 31 38.5	0.0	
	comp=Z,1.0nm,0.5s,baz=114,slow=1.5,SNR=3.9								
ASAR				SKPab			04 34 24.8		
	comp=Z,3.3nm,1.0s,baz=154,slow=4.7,SNR=8.4								
AS31	**Alice Springs**	**131.93**	**209**	*e*PKP		PKPdf	04 31 08.9	0.0	
AS31				*e*PKS			04 34 34.1		
ASPA	**Alice Springs**	**131.93**	**209**	*e*PKP		PKPdf	04 31 08.9	0.0	
ASPA				*e*PKS			04 34 34.1		
BVAR	**Borovoye Array**	**133.92**	**33**	PKP		PKPdf	04 31 13.7	+1.1	
	comp=Z,0.4nm,0.7s,baz=29,slow=3.4,SNR=4.0								
BVAR				pPKP		pPKPdf	04 31 42.7	+0.5	
	comp=Z,1.6nm,0.7s,baz=268,slow=2.7,SNR=6.2								
WB2	**Warramunga Arr**	**134.88**	**212**	*e*PKP		PKPdf	04 31 14.5	+0.1	
WB2				*e*PKS			04 34 44.1		
WRA	**Warramunga Arr**	**134.89**	**212**	PKhKP			04 31 00.9		
	comp=Z,0.7nm,0.8s,baz=130,slow=3.2,SNR=7.2								
WRA				PKP		PKPdf	04 31 14.8	+0.4	
	comp=Z,4.6nm,0.5s,baz=149,slow=1.8,SNR=37								
WRA				pPKP		pPKPdf	04 31 44.2	+0.1	
	comp=Z,2.7nm,0.7s,baz=156,slow=1.7,SNR=4.4								
WRA				SKPbc		SKPbc	04 34 34.3	-0.6	
	comp=Z,4.0nm,1.1s,baz=149,slow=2.9,SNR=8.5								
WRA	**Warramunga Arr**	**134.89**	**212**	PKHKP			04 31 00.9		
WRA							04 31 14.8		
WRAB	**Tennant Creek**	**134.89**	**212**	*i* PKIKP		PKPdf	04 31 15.3	+0.8	
WRAB	**Tennant Creek**	**134.89**	**212**	*e*PKPdf		PKPdf	04 31 14.7	+0.3	
FITZ	**Fitzroy Crossi**	**140.31**	**203**	*e*PKP			04 31 16.5		
	comp=Z,5.1nm,0.7s								
FITZ	**Fitzroy Crossi**	**140.31**	**203**	PKhKP			04 31 16.5		
	comp=Z,1.6nm,0.7s,baz=212,slow=5.7,SNR=8.7								
FITZ				PKP		PKPdf	04 31 25.0	+0.6	
	comp=Z,2.3nm,0.6s,baz=204,slow=8.0,SNR=9.0								
FITZ	**Fitzroy Crossi**	**140.31**	**203**	*e*PKP			04 31 16.5		
FITZ				PKP		PKPdf	04 31 25.0	+0.6	
AAK	**Ala-Archa**	**141.42**	**44**	*i* PKIKP		PKPdf	04 31 23.0	-3.4	
MKAR	**Makanchi Array**	**143.80**	**34**	PKP		PKPdf	04 31 28.0	-2.6	
	comp=Z,0.6nm,0.4s,baz=330,slow=3.1,SNR=6.9								
MKAR				pPKP		pPKPdf	04 31 59.2	-1.1	
	comp=Z,1.8nm,0.7s,baz=336,slow=2.7,SNR=4.5								
MKAR				SKPbc		SKPbc	04 35 00.4	+1.0	
	comp=Z,2.4nm,0.7s,baz=355,slow=2.6,SNR=10								
MKAR	**Makanchi Array**	**143.80**	**34**	PKIKP		PKPdf	04 31 28.0	-2.6	
MKAR							04 31 59.2		
MKAR	**Makanchi Array**	**143.80**	**34**	PKP		PKPdf	04 31 28.0	-2.6	
MKAR				pPKP		pPKPdf	04 31 59.2	-1.1	
MKAR				SKPbc		SKPbc	04 35 00.4	+1.0	
HABR	**Khabarovsk**	**144.64**	**332**	*e*PKIKP		PKPdf	04 31 31.5	-0.6	
KLR	**Kul'dur**	**145.44**	**336**	*e*PKIKP		PKPdf	04 31 30.2	-3.3	
MOY	**Mondy**	**146.53**	**11**	*e*PKP2		PKPab	04 31 39.3	+1.1	
GUMO	**Guam**	**146.83**	**266**	PKPbc		PKPbc	04 31 36.8	-1.0	
	comp=Z,24nm,0.3s,baz=356,slow=21,SNR=4.8								
GUMO	**Guam**	**146.83**	**266**	PKPbc		PKPbc	04 31 36.8	-1.0	
ZAK	**Zakamensk**	**148.15**	**9**	*e*PKP2		PKPab	04 31 42.8	-1.8	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.6s								
WMQ	**Urumqi**	**148.62**	**33**	PKP		PKPdf	04 31 40.3	+1.5	
WMQ				PKP2		PKPab	04 31 50.0	+3.5	
WMQ				APKP			04 32 07.0		
WMQ				XPKP			04 32 18.0		
WMQ				*e*PP		PP	04 35 17.5	+4.5	
WMQ				SKS		SKSdf	04 38 37.0	-0.1	
WMQ				PP		PP			
	comp=Z,118nm,4.6s								
WMQ				LR		LR			
	comp=Z,122nm,23.8s								
MDJ	**Mudanjiang**	**150.01**	**332**	PKP		PKPdf	04 31 41.0	0.0	
MDJ				PP		PP	04 35 21.6	+0.5	
MDJ				SKS		SKSdf	04 38 32.6	-6.3	
MDJ				SS		SS	04 54 30.4	+1.4	
MDJ				PP		PP			
	comp=Z,58nm,5.1s								
MJAR	**Matsushiro Arr**	**150.23**	**312**	PKPbc		PKPbc	04 31 46.9	+0.3	
	comp=Z,6.0nm,0.7s,baz=82,slow=1.7,SNR=15								
MJAR				PKPab		PKPab	04 31 52.2	-0.8	
	comp=Z,8.1nm,0.7s,baz=70,slow=4.0,SNR=9.7								
MJAR				pPKPbc		pPKPbc	04 32 15.3	-0.7	
	comp=Z,3.4nm,0.7s,baz=90,slow=1.9,SNR=2.5								
MJAR	**Matsushiro Arr**	**150.23**	**312**	PKIKP		PKPbc	04 31 46.9	+0.3	
MJAR							04 31 52.2		
MJAR	**Matsushiro Arr**	**150.23**	**312**	PKPbc		PKPbc	04 31 46.9	+0.3	
MJAR				PKPab		PKPab	04 31 52.2	-0.8	
MJAR				pPKPbc		pPKPbc	04 32 15.3	-0.7	
MAJO	**Matsushiro**	**150.23**	**312**	*e*PKPdf		PKPdf	04 31 41.7	+0.3	
MAJO				*e*PKPbc		PKPbc	04 31 46.7	+0.1	
MAJO				*e*PKPab		PKPab	04 31 52.3	-0.7	
MAT	**Matsushiro**	**150.23**	**312**	X			04 31 46.8		
SONM	**Songino Array**	**151.04**	**6**	PKPbc		PKPbc	04 31 48.9	+0.4	
	comp=Z,3.0nm,0.5s,baz=291,slow=1.3,SNR=9.8								
SONM				PKPab		PKPab	04 31 55.6	-0.8	
	comp=Z,1.8nm,0.4s,baz=302,slow=1.7,SNR=3.5								
SONM				pPKPbc		pPKPbc	04 32 18.3	+0.3	
	comp=Z,11nm,0.5s,baz=336,slow=1.5,SNR=11								
SONM	**Songino Array**	**151.04**	**6**	PKIKP		PKPbc	04 31 48.9	+0.4	
SONM							04 31 55.6		
ULN	**Ulaanbaatar**	**151.07**	**5**	*e*PKIKP		PKPbc	04 31 47.5	-1.1	
CN2	**Changchun**	**152.37**	**337**	*e*PKP		PKPdf	04 31 45.3	+0.7	
KOLN	**Koldanda**	**153.66**	**66**	*e*P		PKPab	04 32 10.4	+2.9	
GKN	**Gorkha**	**154.50**	**65**	*e*P		PKPab	04 32 11.0	0.0	
	comp=Z,36nm,0.7s								
SNY	**Shenyang**	**154.77**	**337**	*e*PKP		PKPdf	04 31 48.3	+0.3	
DMN	**Daman**	**155.00**	**65**	*e*P		PKPab	04 32 13.2	+0.1	
	comp=Z,34nm,0.9s								
KKN	**Kakani**	**155.10**	**65**	*e*P		PKPab	04 32 12.2	-1.4	
	comp=Z,44nm,0.8s								
PKI	**Pulchoki**	**155.27**	**65**	*e*P		PKPab	04 32 12.1	-2.2	
GUN	**Gumba**	**155.58**	**64**	*e*P		PKPab	04 32 13.9	-1.7	
	comp=Z,50nm,0.8s								
GTA	**Gaotai**	**157.59**	**23**	*e*PKP		PKPdf	04 31 55.6	+3.9	
GTA				APKP			04 32 22.9		
GTA				XPKP			04 32 34.0		
HHC	**Hu-ho-hao-te**	**158.23**	**358**	*e*PKP		PKPdf	04 31 52.0	-0.5	
HHC				APKP			04 32 19.3		
HHC				PKP2		PKPab	04 32 28.8	+1.7	
HHC				XPKP			04 32 30.0		
HHC				PKS			04 35 24.4		
HHC				PP		PP	04 36 09.4	+2.2	
HHC				SKS		SKSdf	04 38 46.1	-2.2	
HHC				SKKS		SKKSac	04 42 46.4	+0.3	
HHC				SS		SS	04 55 58.1	-0.2	
HHC				PP		PP			
	comp=Z,107nm,5.3s								
HHC				LR		LR			
	comp=N,53nm,4.3s								
HHC				LR		LR			
	comp=E,99nm,5.1s								
HHC				LR		LR			
	comp=Z,79nm,4.7s								
LZH	**Lanzhou**	**161.94**	**18**	*e*PKP		PKPdf	04 31 55.5	-1.2	
LZH				APKP			04 32 24.5		
LZH				XPKP			04 32 38.9		
LZH				LR		LR			
	comp=N,145nm,19.5s								
LZH				LR		LR			
	comp=Z,254nm,20.3s								
SSE	**Sheshan**	**164.71**	**324**	PKP		PKPdf	04 32 00.0	+0.7	
SSE				PP		PP			
	comp=Z,59nm,4.5s								
CD2	**Chengdu**	**166.58**	**27**	*e*PKP		PKPdf	04 31 59.5	-1.3	
KMI	**Kunming**	**170.42**	**49**	PKP		PKPdf	04 32 02.9	-0.4	
GYA	**Guiyang**	**171.70**	**26**	PKP		PKPdf	04 32 06.5	+2.5	
GYA				APKP			04 32 33.6		
GYA				PP		PP			
	comp=Z,110nm,7.9s								

*ISCJB **20** 04:17:55.8±0.8, 360N±0.1×729E±0.3, h10km, mb3.9/4, Error ellipse: s-maj=36.9km s-min=7.1km az=119.0*
*IDC **20** 04:17:55.4±8.9, 3588N×7278E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.6/23, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=168.7km s-min=95.7km az=116.0*
*NNC **20** 04:18:03.9±11.0, 3633N×7223E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=250.1km s-min=71.2km az=92.0*
ISC 20 04:17:57.3±0.8, 360N±01×728E±02, h10km, n10, σ0.99/12,

mb3.9/4, 3C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**4.31**	**142**	*e*P	**Pn**	**04 19 04.0**	**+1.2**
DLH				*e*S	**Sn**	**04 19 52.0**	**-1.1**
KK31	**Karatay Array**	**7.34**	**347**	P	**Pn**	**04 19 46.2**	**+1.7**
	0.7nm,0.2s,baz=148,slow=11,SNR=38						
KK31				⇑S	**Sn**	**04 21 06.7**	**-1.2**
	1.7nm,0.5s,baz=149,slow=22,SNR=4.8						
AB31	**Akbulak array**	**16.28**	**329**	⇑P	**Pn**	**04 21 44.9**	**-1.0**
	0.8nm,0.5s,baz=130,slow=13,SNR=12						
BVAR	**Borovoye Array**	**17.14**	**355**	P	**Pn**	**04 21 57.6**	**+0.7**
	0.2nm,0.3s,baz=171,slow=10,SNR=4.3						
AKTO	**Aktyubinsk**	**17.98**	**328**	⇑P	**Pn**	**04 22 09.4**	**+2.1**
AKTO	**Aktyubinsk**	**17.98**	**328**	P	**Pn**	**04 22 07.1**	**-0.3**
	0.4nm,0.3s,baz=131,slow=12,SNR=5.7						
FINES	**FINESS Array B**	**38.74**	**326**	P	**P**	**04 25 21.9**	**+0.2**
	0.7nm,0.4s,mb3.8,baz=124,slow=9.4,SNR=6.2						
ARCES	**ARCESS Array B**	**42.19**	**337**	P	**P**	**04 25 49.8**	**-0.4**
	2.5nm,0.9s,mb3.9,baz=108,slow=7.8,SNR=5.5						
HFS	**Hagfors**	**44.38**	**322**	P	**P**	**04 26 07.7**	**-0.2**
	3.1nm,1.0s,mb4.0,baz=115,slow=13,SNR=6.6						
NOA	**NORSAR Array B**	**45.68**	**323**	P	**P**	**04 26 17.8**	**-0.5**
	0.9nm,0.7s,mb3.8,baz=94,slow=7.5,SNR=2.8						

*SKO **20** 04:25:41.8, 4149N×2319E, h30km, M0.7, ML2.1*
*ISCJB **20** 04:25:42.5±0.4, 4147N±002×2318E±003, h8km±5km, Error ellipse: s-maj=4.3km s-min=3.2km az=12.2*
*CSEM **20** 04:25:42.9±0.1, 4151N×2318E, h10km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.3km az=100.0*
*THE **20** 04:25:43.3, 4147N×2318E, h6km, ML2.7*
*SOF **20** 04:25:43.7, 4155N×2327E, h15km, MD2.7*
*ATH **20** 04:25:46.0, 4132N×2337E, h22km±2km, MD3.4/3*
ISC 20 04:25:43.0±0.4, 4147N±002×2318E±003, h14km±5km, n25,
σ0.90/47, 1C, Greece-Balkania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.37**	**214**	*e*Pg	**Pg**	**04 25 51.0**	**+0.5**
KNT				*e*Sg	**Sg**	**04 25 55.9**	**+0.4**
KNT	**Kendrikon**	**0.37**	**214**	*e*Pg	**Pg**	**04 25 51.0**	**+0.5**
KNT				*e*Sg	**Sg**	**04 25 55.9**	**+0.3**
KKB	**Krupnik**	**0.40**	**350**	*i* Pg	**Pg**	**04 25 50.6**	**-0.4**
KKB				*i* Sg	**Sg**	**04 25 55.3**	**-1.1**
MMB	**Musomiste**	**0.43**	**74**	*e*Pg	**Pg**	**04 25 50.9**	**-0.6**
MMB				*e*Sg	**Sg**	**04 25 57.5**	**+0.1**
MMB	**Musomiste**	**0.43**	**74**	*i* Pg	**Pg**	**04 25 51.0**	**-0.6**
MMB				*i* Sg	**Sg**	**04 25 57.0**	**-0.4**
MMB	**Musomiste**	**0.43**	**74**	*i* Pg	**Pg**	**04 25 51.0**	**-0.6**
MMB				*e*Sg	**Sg**	**04 25 57.5**	**+0.1**
VAY	**Valandovo**	**0.48**	**252**	*e*Pg	**Pg**	**04 25 52.3**	**-0.1**
VAY				*e*Sg	**Sg**	**04 25 59.1**	**+0.3**
VAY	**Valandovo**	**0.48**	**252**	*i* Pg	**Pg**	**04 25 52.7**	**+0.2**
VAY				*i* Sg	**Sg**	**04 25 59.4**	**+0.5**
VAY				*e*Lg		04 26 00.8	
	comp=N,105nm,0.4s						
VAY				*e*Lg		04 26 01.1	
	comp=E,86nm,0.2s						
VAY	**Valandovo**	**0.48**	**252**	*e*Pg	**

IDMV	**Damavand**	**3.16 251**	*e*Pn	**Pn**	**04 45 50.0**	**+1.1**
DAMV	**Damavand**	**3.19 252**	*e*PN	**Pn**	**04 45 50.3**	**+1.0**
DAMV			AML	AML	04 46 43.5	
	comp=E,105nm,0.5s					
DAMV			AML	AML	04 46 47.7	
	comp=N,105nm,0.7s					
IAFJ	**Afjeh**	**3.32 257**	*e*Pn	**Pn**	**04 45 51.8**	**+0.7**
IMYA	**Miamay**	**3.56 94**	*e*Pn	**Pb**	**04 45 59.8**	**-2.3**
TEH	**Tehran**	**3.61 256**	*e*Pn	**Pn**	**04 45 54.7**	**-0.4**
IVRN	**Varamin**	**3.63 244**	*e*Pn	**Pn**	**04 45 55.4**	**0.0**
ISFB	**Sefidab**	**3.65 232**	*e*Pn	**Pn**	**04 45 55.5**	**-0.1**
CHTH	**Charan**	**3.77 260**	*e*PN	**Pn**	**04 45 58.3**	**+1.0**
THKV	**Tehran--Karaj**	**3.97 260**	*e*PN	**Pn**	**04 46 00.9**	**+0.9**
ITEG		**4.53 145**	*e*Pn	**Pn**	**04 46 13.4**	**+5.7**
NASN	**Na'in**	**4.54 212**	*e*Pn	**Pn**	**04 46 09.1**	**+1.2**
IZEF	**Zefreh**	**4.68 217**	*e*Pn	**Pn**	**04 46 11.5**	**+1.7**
IZEF			*e*Sn	**Sn**	**04 47 02.9**	**-1.5**
IKLH	**Kalahroud**	**4.76 226**	*e*Pn	**Pn**	**04 46 11.3**	**+0.4**
IMON		**4.76 136**	*e*Pn	**Pn**	**04 46 16.3**	**+5.4**
IKOO		**5.04 146**	*e*Pn	**Pn**	**04 46 19.9**	**+5.2**
ASAO	**Ashtian**	**5.08 247**	*e*PN	**Pn**	**04 46 16.4**	**+1.1**
ASAO			AML	AML	04 47 43.1	
	comp=E,15nm,0.6s					
ASAO			AML	AML	04 47 44.9	
	comp=N,20nm,0.6s					
IDAH		**5.21 138**	*e*Pn	**Pn**	**04 46 22.0**	**+4.9**
IPIR	**Pirpir**	**5.61 226**	*e*Pn	**Pn**	**04 46 23.3**	**+0.7**

*ISCJB **20** 05:21:12.0±0.9, 2241S×008.6°78W±0.2, h84km±20km, mb3.6/2, Error ellipse: s-maj=27.9km s-min=11.0km az=33.7*
*IDC **20** 05:21:12.9±0.9, 2233S×6790W, h86km±16km, mb3.5/1, mb1 3.3/5, mb1mx3.2/18, mbtmp3.6/5, Error ellipse: s-maj=28.4km s-min=15.6km az=126.0*
*NEIC **20** 05:21:13.8±0.9, 2221S×6808W, h99km±12km, mb3.6/2, Error ellipse: s-maj=24.0km s-min=11.9km az=108.0*

ISC 20 05:21:12.9±0.7, 2238S±007×677W±01, h70km±15km, n10, σ0§92/13, mb3.6/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.12 258**		P	**Pn**	**05 21 33.3**	**+0.4**
	130nm,0.3s,baz=36,slow=7.3,SNR=4109						
LVC				S	**Sn**	**05 21 47.2**	**-0.7**
	97nm,0.3s,baz=235,slow=20,SNR=63						
LPAZ	**La Paz**	**6.07 356**		P	**Pn**	**05 22 40.2**	**+0.1**
	0.5nm,0.3s,baz=168,slow=9.0,SNR=12						
SIV	**San Ignacio**	**8.94 46**		P	**Pn**	**05 23 20.9**	**+1.7**
	2.3nm,0.3s,baz=253,slow=11,SNR=67						
SIV				S	**Sn**	**05 24 56.7**	**-1.6**
	0.2nm,0.3s,baz=159,slow=21,SNR=2.7						
CFAA	**Coronel Fontan**	**9.20 183**		P	**Pn**	**05 23 24.1**	**+1.3**
	0.1nm,0.3s,baz=1.6,slow=12,SNR=9.2						
CFAA				S	**Sn**	**05 25 03.7**	**-0.9**
	0.0nm,0.3s,baz=229,slow=22,SNR=3.2						
CFAA	**Coronel Fontan**	**9.20 183**		P	**Pn**	**05 23 24.1**	**+1.3**
CFAA				S	**Sn**	**05 25 03.7**	**-0.9**
TRQA	**Tornquist**	**16.39 164**	*e*P		**Pn**	**05 25 03.1**	**+4.8**
	2.4nm,0.8s						
BDFB	**Brasilia**	**19.79 74**	P		**Pn**	**05 25 39.5**	**-0.1**
	0.3nm,0.3s,baz=265,slow=14,SNR=3.3						
SNAA	**Sanae**	**61.09 161**	*e*P		**P**	**05 31 19.4**	**-0.1**
	0.5nm,0.6s,mb3.7						
TORD	**Torodi Ar. Bea**	**76.62 70**	P		**P**	**05 32 55.9**	**-0.1**
	0.5nm,0.4s,mb3.6,baz=254,slow=5.6,SNR=16						
WRA	**Warramunga Arr**	**132.74 209**	PKP		PKPdf	05 40 16.7	-3.0
	0.7nm,1.1s,baz=153,slow=2.0,SNR=4.6						

IDC 20 05:59:59.0±2.8, 3054S×13823E, h0km, mb1 3.6/5, mb1mx3.5/14, mbtmp3.4/5, ML3.3/5, Error ellipse: s-maj=53.9km s-min=14.5km az=40.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.18 116**		Pn	Pn	06 00 51.0	+0.8
	0.9nm,0.3s,baz=295,slow=12,SNR=12						
STKA				Pg	Pg	06 00 57.9	-2.0
	5.4nm,0.3s,baz=296,slow=15,SNR=39						
STKA				Sn	Sn	06 01 28.2	-0.5
	2.5nm,0.3s,baz=266,slow=13,SNR=4.0						
STKA				Lg		06 01 39.1	
	5.7nm,0.3s,baz=318,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**7.85 330**		Pn	Pn	06 01 56.0	+1.6
	0.3nm,0.3s,baz=150,slow=11,SNR=8.2						
ASAR				Sn	Sn	06 03 27.6	+3.6
	0.2nm,0.3s,baz=151,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**11.12 341**		Pn	Pn	06 02 39.0	-0.2
	0.2nm,0.3s,baz=155,slow=14,SNR=8.8						
WRA				Sn	Sn	06 04 43.9	-0.4
	0.1nm,0.3s,baz=163,slow=26,SNR=4.7						
CTA	**Charters Tower**	**12.68 37**		Pn	Pn	06 02 59.8	-0.7
	0.4nm,0.3s,baz=228,slow=16,SNR=3.0						
FITZ	**Fitzroy Crossi**	**16.86 314**		Pn	Pn	06 03 54.6	-1.7
	0.1nm,0.3s,baz=158,slow=11,SNR=2.6						

*IDC **20** 06:11:34.0±3.0, 3151S×17859W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, ML3.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=67.6km s-min=44.6km az=115.0*

ISC 20 06:11:45.1±2.7, 338S±02×1763W±05, h258km±16km, n13, σ1§07/13, mb3.3/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.75 343**		LR	LR	06 12 35.0	
	comp=Z,325nm,19.4s,baz=216,slow=26						
MXZ	**Matakaoa Point**	**5.77 228**	*e*PN		**Pn**	**06 13 11.1**	**+0.6**
PUZ	**Puketiti**	**6.13 224**	*e*PN		**Pn**	**06 13 13.7**	**-1.3**
PUZ			*e*SN		**S**	**06 14 29.0**	**+2.0**
MWZ	**Matawai**	**6.74 226**	*e*PN		**Pn**	**06 13 21.8**	**-0.7**
URZ	**Urewera**	**6.95 228**	Pn		**Pn**	**06 13 25.5**	**+0.3**
	1.7nm,0.3s,baz=47,slow=17,SNR=18						
URZ				Sn	**S**	**06 14 45.2**	**-0.4**
	1.4nm,0.3s,baz=117,slow=22,SNR=7.4						
MRZ	**Mangatainoka R**	**9.42 221**	*e*SN		**S**	**06 15 43.2**	**+0.7**
TCW	**Tory Channel**	**10.52 223**	*e*SN		**S**	**06 16 06.6**	**-1.3**
NNZ	**Nelson**	**11.04 225**	*e*SN		**S**	**06 16 17.5**	**-2.5**
KHZ	**Kahutara**	**11.74 220**	*e*SN		**S**	**06 16 37.4**	**+1.2**
MQZ	**McQueen's Vall**	**13.11 218**	*e*SN		**S**	**06 17 07.7**	**+0.3**
ASAR	**Alice Springs**	**44.45 270**	P		**P**	**06 19 31.4**	**+0.6**
	0.6nm,0.5s,mb3.1,baz=104,slow=7.6,SNR=6.6						
WRA	**Warramunga Arr**	**45.74 275**	P		**P**	**06 19 40.8**	**0.0**
	1.3nm,0.4s,mb3.6,baz=113,slow=7.8,SNR=59						
FINES	**FINESS Array B**	**148.83 339**	PKPbc		PKPbc	06 31 14.1	+12
	0.8nm,0.4s,baz=46,slow=3.7,SNR=7.1						

MEX 20 06:14:49.7±1.6, 1625N×9440W, h74km±35km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.95 331**		*i* P	Pn	06 15 06.1	-1.7
CMIG				*i* S	Sn	06 15 19.8	-1.5
HUIG	**Huatulco**	**1.71 254**		*i* P	Pn	06 15 15.1	-2.5
HUIG				*i* S	Sn	06 15 38.1	-0.6
CCIG	**Comitan**	**2.17 89**		*i* P	Pn	06 15 23.4	-0.3
CCIG				*i* S	Sn	06 15 48.0	-1.7
OXX	**Oaxaca**	**2.38 291**		*e*P	Pn	06 15 26.5	0.0
VHO	**Vista Hermosa**	**2.38 290**		*i* P	Pn	06 15 26.0	-0.5
VHO				*i* S	Sn	06 15 53.6	-1.1

*CSEM **20** 06:15:44.2, 3506N×394W, h18km, MD2.6, After CNRM*
*CNRM **20** 06:15:44.2, 3506N×394W, h18km, MD2.6*

MDD 20 06:15:42.1±1.2, 3515N×406W, h0km, mbLg1.2/1, Error ellipse: s-maj=8.8km s-min=7.9km az=24.0, PRXIMO SIN SOLUCIN, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAL	**Palemas**	**0.12 51**		*i* P	Pg	06 15 48.0	+3.6
MPAL				*i* S	Sg	06 15 52.0	+6.0
TOU	**Touzarine**	**0.31 127**		*i* P	Pg	06 15 48.8	+0.8
TOU				*i* S	Sg	06 15 52.0	0.0
TZK	**Tazeka**	**1.06 186**		*i* P	Pg	06 16 01.0	-1.4
TZK				*i* S	Sg	06 16 15.0	-1.2
ZAI	**Zaio**	**1.09 99**		*e*P	Pg	06 16 01.0	-2.0
ZAI				*e*S	Sg	06 16 15.0	-2.1
EMIJ	**Mijas**	**1.53 338**		S	Sb	06 16 29.4	-1.7
	0.9nm,0.2s,SNR=7.9						

IDC 20 06:27:26.0±2.2, 302S×12948E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.9/16, mbtmp3.9/4, ML3.7/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/22, Error ellipse: s-maj=113.2km s-min=25.8km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.46 194**		Pn	Pn	06 31 06.7	+1.3
	0.1nm,0.3s,baz=22,slow=15,SNR=7.2						
FITZ				LR	LR	06 37 15.6	
	comp=Z,29nm,20.9s,baz=182,slow=38						
WRA	**Warramunga Arr**	**17.48 165**		P	Pn	06 31 29.6	-1.5
	0.4nm,0.3s,baz=346,slow=13,SNR=18						
ASAR	**Alice Springs**	**20.97 169**		P	P	06 32 11.7	+1.0
	8.0nm,0.6s,baz=346,slow=11,SNR=70						
CTA	**Charters Tower**	**23.57 137**		LR	LR	06 42 08.1	
	comp=Z,95nm,19.0s,baz=51,slow=37						
MKAR	**Makanchi Array**	**64.64 326**		P	P	06 38 05.5	+0.1
	0.5nm,0.6s,baz=111,slow=6.6,SNR=6.6						

*CSEM **20** 06:32:16.7, 35.14N×2420E, h11km, MD3.6/5, After ATH*
*NEIC **20** 06:32:16.6, 35.14N×2420E, h13km, MD3.6(ATH), After ATH.*

ATH 20 06:32:16.7, 3514N×2420E, h11km±1km, MD3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.27 360**		*e*PG	Pg	06 32 22.4	+0.3
GVD	**Gavdhos**	**0.31 197**		*e*PB	Pg	06 32 23.0	0.0
NPS	**Neapolis**	**1.16 84**		*e*PB	Pb	06 32 38.3	-0.5
SANT	**Santorini**	**1.60 39**		*e*Pn	Pn	06 32 46.5	+1.6
SANT				*e*Sn	Sn	06 33 05.4	-0.1
VLI	**Veliai**	**1.88 327**		*e*PN	Pn	06 32 50.8	+2.1
APE	**Apeiranthos**	**2.21 29**		*e*PN	Pn	06 32 56.1	+2.9
APE	**Apeiranthos**	**2.21 29**		*e*Pn	Pn	06 32 52.7	-0.5

*IPEC **20** 06:36:21.8±1.7, 5031N×1890E, h1km±12km, ML2.2/3, Error ellipse: s-maj=23.0km s-min=8.0km az=168.0*
*CSEM **20** 06:36:22.3±0.2, 5027N×1894E, h2km, ML3.0/4, Error ellipse: s-maj=4.9km s-min=2.3km az=8.0*
*NEIC **20** 06:36:23.2±0.7, 5022N×1888E, h5km, MG2.8(WAR), Error ellipse: s-maj=12.4km s-min=5.4km az=187.0*
*VIE **20** 06:36:25.5±0.6, 4990N×1883E, h0km, mb2.2/3, ML2.5/3, Error ellipse: s-maj=4.0km s-min=3.5km az=173.0 40 km SSW of Kattowitz Suspected Mining induced.*

WAR 20 06:36:22.5, 5025N×1896E, ML2.8, 2C-5D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.52 252**		*e*Pg	Pg	06 36 32.7	+0.3
RAC				*e*Sg	Sg	06 36 40.2	+1.1
OJC	**Ojcow**	**0.54 92**		*e*Pgd	Pg	06 36 33.0	+0.1
OJC				*i* Sg	Sg	06 36 41.0	+1.1
OJC	**Ojcow**	**0.54 92**		*e*Pg	Pg	06 36 32.9	0.0
OJC				*e*Sg	Sg	06 36 40.3	+0.4
OKC	**Ostrava-Krasne**	**0.66 232**		*e*PG	Pg	06 36 34.9	-0.3
OKC				*e*SG	Sg	06 36 44.2	+0.4
	52nm,0.6s						
OKC	**Ostrava-Krasne**	**0.66 232**		*e*Pg	Pg	06 36 34.9	-0.3
OKC				*e*Sg	Sg	06 36 43.2	-0.6
MORC	**Moravsky Berou**	**1.02 243**		⇓*i*P	Pg	06 36 41.4	-0.7
MORC	**Moravsky Berou**	**1.02 243**		*e*Pg	Pg	06 36 41.0	-1.2
MORC				*e*Sg	Sg	06 36 55.0	-0.5
MORC	**Moravsky Berou**	**1.02 243**		*e*Pg	Pg	06 36 41.2	-0.9
MORC				*e*Sg	Sg	06 36 55.0	-0.4
NIE	**Niedzica**	**1.21 133**		*e*Pg	Pg	06 36 45.3	-0.3
NIE				*e*Sg	Sg	06 37 02.0	+0.7
JAVC	**Velka Javorina**	**1.62 212**		*e*Pn	Pn	06 36 52.2	-0.1
DPC	**Dobruska-Polom**	**1.69 275**		*e*PG	Pg	06 36 52.1	-2.8
DPC				*e*SG	Sg	06 37 14.3	-2.6
	38nm,0.5s						
STHS	**Stebnicka Huta**	**1.70 118**		*e*PN	Pn	06 36 54.4	+1.0
STHS				*e*SN	Sn	06 37 17.7	+1.9
VYHS	**Vyhne**	**1.75 183**		*e*PN	Pn	06 36 53.0	-1.1
VYHS				*e*SN	Sn	06 37 15.7	-1.5
VRAC	**Vranov**	**1.79 239**		⇓*i*P	Pn	06 36 54.0	-0.7
VRAC	**Vranov**	**1.79 239**		*e*Pn	Pn	06 36 53.7	-1.0
VRAC				*e*Sg	Sg	06 37 18.1	-2.1
	24nm,0.6s						
KSP	**Ksiaz**	**1.80 290**		*e*Pg	Pg	06 36 55.7	-1.3
KSP				*e*Sg	Sg	06 37 19.2	-1.2
UPC	**Upice**	**1.90 279**		*e*PG	Pg	06 36 54.6	-4.4
KECS	**Kecovo**	**2.03 150**		*e*PN	Pn	06 36 59.9	+2.0
KECS				*e*SN	Sn	06 37 26.3	+2.4
KRUC	**Moravsky**	**2.04 236**		*e*Pn	Pn	06 36 57.2	-0.9
KRUC				*e*Sn	Sn	06 37 24.7	+0.4
	15nm,0.6s						
CRVS	**Cervenica-Dubn**	**2.11 129**		*e*PN	Pn	06 37 00.9	+1.8
CRVS				*e*SN	Sn	06 37 29.1	+3.0
PSZ	**Piszkesteto**	**2.41 165**		⇓*i*P	Pn	06 37 09.2	+6.0
PSZ	**Piszkesteto**	**2.41 165**		*e*Pn	Pn	06 37 02.5	-0.7
PSZ				*e*Sg	Sg	06 37 46.0	+6.1
PSZ	**Piszkesteto**	**2.41 165**		*e*Pn	Pn	06 37 02.5	-0.7
PSZ				*e*Sg	Sg	06 37 46.0	+6.1
KWP	**Kalwaria**	**2.50 103**		*e*Pn	Pn	06 37 05.8	+1.4
PRU	**Pruhonice**	**2.85 267**		*e*PG	Pg	06 37 12.9	-4.3
PRU				*e*SG	Sg	06 37 51.0	-3.2
	8.2nm,0.6s						
KHC	**Kasperske Hory**	**3.67 254**		*e*PG	Pg	06 37 27.1	-5.7
KHC				*e*SG	Sg	06 38 18.3	-2.0
	10nm,0.6s						
MOA	**Molln**	**3.91 234**		⇑*i*Pn	Pn	06 37 22.9	-0.9
MOA				⇓*i*Sg	Sg	06 38 26.2	-1.8
	comp=Z,4.3nm,0.5s						
CLL	**Collm**	**3.92 288**		*i* Sg	Sg	06 38 26.8	-1.8
	comp=Z,10.0nm,0.9s						
NKC	**Novy Kostel**	**4.18 272**		*e*SG	Sg	06 38 33.6	-3.1
	comp=Z,5.4nm,0.6s						
DRGR		**4.26 143**		⇑*i*P	Pg	06 37 44.1	-0.1
BURAR	**Bucovina Array**	**4.89 120**		⇓*i*P	Pn	06 37 37.2	-0.1

*NEIC **20** 06:53:18.8, 3701N×1239W, h0km, MN3.2(MDD), After MDD.*
*MDD **20** 06:53:18.7±2.1, 3690N×1238W, h0km, mb4.6/7, Error ellipse: s-maj=19.0km s-min=15.5km az=45.0, PRXIMO*
*ISCJB **20** 06:53:19.8±1.1, 3707N±006×1215W±007, h10km, Error ellipse: s-maj=9.0km s-min=7.6km az=77.9*
*IGIL **20** 06:53:19.6, 3999N×1038W, h2km, ML2.9*
*INMG **20** 06:53:20.4±0.9, 3665N×1270W, h10km±16km, ML2.7, Error ellipse: s-maj=5.8km s-min=4.9km az=130.0*
*CSEM **20** 06:53:21.2±0.8, 3725N×1202W, h10km, ML2.7, Error ellipse: s-maj=17.3km s-min=9.5km az=43.0*

ISC 20 06:53:21.3±1.1, 3700N±005×1215W±007, h10km, n41, σ1§00/69, 1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**2.78 78**		*e*Pn	**Pn**	**06 54 06.4**	**+0.5**
PTEO				*e*Sn	**Sn**	**06 54 40.6**	**+1.0**
PTEO							
	11nm,0.2s						
PTEO	**Sao Teotonio**	**2.78 78**		*e*Pn	**Pn**	**06 54 06.4**	**+0.5**
PTEO				*e*Sn	**Sn**	**06 54 40.6**	**+1.0**
MORF	**Marmelete**	**2.81 83**		*e*P	**Pn**	**06 54 06.4**	**+0.1**
MORF				*e*S	**Sn**	**06 54 40.5**	**+0.4**
MORF				*e*S	**Sn**	**06 54 40.6**	**+0.4**
MORF				AML	AML	06 54 43.9	
	comp=N,42nm,0.2s						
MORF	**Marmelete**	**2.81 83**		*e*P	**Pn**	**06 54 06.4**	**+0.1**
MORF				*e*S	**Sn**	**06 54 40.6**	**+0.4**
PMAFR	**Mafra**	**2.99 48**		*e*Pn	**Pn**	**06 54 09.6**	**+0.8**
PMAFR				*e*Sn	**Sn**	**06 54 46.7**	**+2.1**
PLML	**Palmela**	**3.00 58**		*e*Pn	**Pn**	**06 54 10.1**	**+1.2**
PLOU	**Loures**	**3.03 51**		*i* Pn	**Pn**	**06 54 09.9**	**+0.7**
PLOU				*e*Sn	**Sn**	**06 54 47.6**	**+2.1**
PLOU							
	comp=N,24nm,0.1s						
PBEJ	**Beja**	**3.55 72**		*e*Pn	**Pn**	**06 54 17.4**	**+0.9**
PBEJ				*e*Sn	**Sn**	**06 54 59.2**	**+0.6**
PBEJ							
	comp=N,4.2nm,0.1s						
EGRO	**El Granado**	**3.76 80**		P	**Pn**	**06 54 19.6**	**+0.3**
	comp=N,1.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**06 55 03.1**	**-0.5**
	comp=N,5.9nm,0.1s,SNR=5.6						
EGRO	**El Granado**	**3.76 80**		P	**Pn**	**06 54 19.6**	**+0.3**
	comp=N,1.9nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**06 55 03.1**	**-0.5**
	comp=N,5.9nm,0.1s,SNR=5.6						
PTOM	**Tomar**	**3.93 47**		*e*Pn	**Pn**	**06 54 22.6**	**+0.9**
PTOM				*e*Sn	**Sn**	**06 55 09.5**	**+1.6**
PTOM							
	comp=N,11nm,0.1s						
PESTR	**Estremoz**	**4.06 61**		*e*Pn	**Pn**	**06 54 24.0**	**+0.6**
PESTR				*e*Sn	**Sn**	**06 55 11.3**	**+0.3**
EBAD	**Badajoz**	**4.42 65**		P	**Pn**	**06 54 28.6**	**+0.1**
	comp=N,4.9nm,0.1s,SNR=7.0						
EBAD				S	**Sn**	**06 55 19.8**	**-0.2**
	comp=N,4.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.42 65**		P	**Pn**	**06 54 28.6**	**+0.1**
	comp=N,4.9nm,0.1s,SNR=7.0						
EBAD				S	**Sn**	**06 55 19.8**	**-0.2**
	comp=N,4.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.43 78**		P	**Pn**	**06 54 28.7**	**+0.2**
	comp=N,3.9nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**06 55 19.7**	**-0.4**
	comp=N,2.3nm,0.1s						
EMIN	**Mina Concepcio**	**4.43 78**		P	**Pn**	**06 54 28.7**	**+0.2**
	comp=N,3.9nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**06 55 19.7**	**-0.4**
	comp=N,2.3nm,0.1s						
PCBR	**Castelo Branco**	**4.64 51**		*e*Pn	**Pn**	**06 54 32.0**	**+0.6**
PCBR				*e*Sn	**Sn**	**06 55 25.9**	**+0.6**
MTE	**Manteigas**	**4.95 45**		*e*Sn	**Sn**	**06 55 33.3**	**+0.3**
PVIS	**Viseu**	**4.98 40**		*e*Sn	**Sn**	**06 55 33.1**	**-0.6**
PVIS							
	comp=N,14nm,0.1s						
PVIS	**Viseu**	**4.98 40**		S	**Sn**	**06 55 33.1**	**-0.6**
	comp=N,7.2nm,0.1s						
ESPR	**Espera**	**5.04 90**		P	**Pn**	**06 54 36.5**	**-0.4**
	comp=N,4.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**06 55 34.8**	**-0.4**
	comp=N,23nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.04 90**		P	**Pn**	**06 54 36.5**	**-0.4**
	comp=N,4.5nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**06 55 34.8**	**-0.4**
	comp=N,23nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**5.79 26**		S	**Sn**	**06 55 48.7**	**-5.1**
	comp=N,5.2nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**5.93 92**		S	**Sn**	**06 55 56.2**	**-1.0**
	comp=N,3.2nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**6.12 77**		P	**Pn**	**06 54 52.0**	**+0.2**
	comp=N,3.7nm,0.2s,SNR=7.5						
EADA				S	**Sn**	**06 56 00.4**	**-1.5**
	comp=N,3.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.12 77**		P	**Pn**	**06 54 52.0**	**+0.2**
	comp=N,3.7nm,0.2s,SNR=7.5						
EADA				S	**Sn**	**06 56 00.4**	**-1.5**
	comp=N,3.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.42 21**		P	**Pn**	**06 54 54.0**	**-1.9**
	comp=N,1.2nm,0.1s,SNR=4.0						
EMAZ				S	**Sn**	**06 56 02.9**	**-6.4**
	comp=N,19nm,0.2s,SNR=9.1						
EMAZ	**Mazaricos**	**6.42 21**		P	**Pn**	**06 54 54.0**	**-1.9**
	comp=N,1.2nm,0.1s,SNR=4.0						
ECAL	**Calabor**	**6.47 39**		P	**Pn**	**06 54 56.3**	**-0.3**
	comp=N,0.9nm,0.1s,SNR=6.5						
ECAL				S	**Sn**	**06 56 08.4**	**-2.1**
	comp=N,16nm,0.4s,SNR=6.5						
ECAL	**Calabor**	**6.47 39**		P	**Pn**	**06 54 56.3**	**-0.3**
	comp=N,0.9nm,0.1s,SNR=6.5						
ECAL				S	**Sn**	**06 56 08.4**	**-2.1**
	comp=N,16nm,0.4s,SNR=6.5						
ESDC	**Sonseca Array**	**6.96 65**		P	**Pn**	**06 55 02.7**	**-0.7**
	comp=N,5.8nm,0.1s,baz=254,slow=13,SNR=4.0						
ESDC	**Sonseca Array**	**6.96 65**		P	**Pn**	**06 55 02.7**	**-0.7**
	comp=N,5.8nm,0.1s,SNR=4.0						
EQES	**Quesada**	**7.27 81**		S	**Sn**	**06 56 28.1**	**-2.0**
	comp=N,1.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**7.27 81**		S	**Sn**	**06 56 28.1**	**-2.0**
	comp=N,1.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.39 30**		P	**Pn**	**06 55 08.0**	**-1.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**06 56 28.7**	**-4.3**
	comp=N,5.0nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.39 30**		P	**Pn**	**06 55 08.0**	**-1.2**
	comp=N,0.6nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**06 56 28.7**	**-4.4**
	comp=N,5.0nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.23 38**		P	**Pn**	**06 55 20.0**	**-0.8**
	comp=N,0.5nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**06 56 51.8**	**-2.0**
	comp=N,0.2nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.23 38**		P	**Pn**	**06 55 20.0**	**-0.8**
	comp=N,0.5nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**06 56 51.8**	**-2.1**
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**8.55 76**		P	**Pn**	**06 55 24.8**	**-0.3**
	comp=N,0.9nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**8.55 76**		P	**Pn**	**06 55 24.8**	**-0.3**
	comp=N,0.9nm,0.4s,SNR=7.9						
ETOR	**Torete**	**8.74 61**		⇓P	**Pn**	**06

RAEZ	**Rainy Point**	**1.38**	**246**	PN	Pn	07 05 01.9	+0.2
PXZ	**Pawanui**	**1.45**	**153**	⇑PN	Pn	07 05 02.5	0.0
NEZ	**North Egmont**	**1.59**	**250**	P	Pn	07 05 04.5	+0.3
NEZ	**North Egmont**	**1.59**	**250**	PN	Pn	07 05 04.4	+0.2
PKE	**Pukeiti**	**1.65**	**253**	P	Pn	07 05 04.7	-0.2
PKE	**Pukeiti**	**1.65**	**253**	PN	Pn	07 05 04.7	-0.2
NRZ	**Ngariki Road**	**1.73**	**249**	*e*P	Pn	07 05 05.7	-0.2
NRZ	**Ngariki Road**	**1.73**	**249**	PN	Pn	07 05 05.7	-0.2
NWEZ	**Newall Road**	**1.76**	**252**	P	Pn	07 05 05.8	-0.5
PUZ	**Puketiti**	**1.88**	**70**	*e*P	Pn	07 05 07.6	-0.2
PUZ				S	Sn	07 05 31.0	-0.9
PUZ	**Puketiti**	**1.88**	**70**	PN	Pn	07 05 07.6	-0.1
PUZ				SN	Sn	07 05 31.0	-0.9
BFZ	**Birch Farm**	**1.95**	**175**	P	Pn	07 05 07.6	-1.0
BFZ	**Birch Farm**	**1.95**	**175**	PN	Pn	07 05 07.6	-1.1
MRZ	**Mangatainoka R**	**1.95**	**190**	P	Pn	07 05 07.3	-1.4
MRZ	**Mangatainoka R**	**1.95**	**190**	⇑PN	Pn	07 05 07.3	-1.4
MRZ				SN	Sn	07 05 30.9	-2.6
TIWZ	**Tintock**	**2.04**	**183**	PN	Pn	07 05 08.3	-1.4
MXZ	**Matakaoa Point**	**2.15**	**58**	PN	Pn	07 05 11.4	+0.3
KIW	**Kapiti Island**	**2.29**	**202**	P	Pn	07 05 10.9	-2.0
KIW	**Kapiti Island**	**2.29**	**202**	⇑PN	Pn	07 05 10.9	-2.0
MTW	**Mount Morrison**	**2.45**	**189**	P	Pn	07 05 12.8	-2.2
CAW	**Cannon Point**	**2.48**	**197**	P	Pn	07 05 13.1	-2.3
PAWZ	**Paruwai Farm**	**2.68**	**190**	P	Pn	07 05 15.5	-2.5
MRW	**Makara Radio**	**2.69**	**202**	P	Pn	07 05 15.4	-2.7
WEL	**Wellington**	**2.72**	**200**	P	Pn	07 05 16.0	-2.5
MSWZ	**Moikau Station**	**2.74**	**192**	P	Pn	07 05 16.1	-2.7
SNZO	**South Karori**	**2.76**	**201**	P	Pn	07 05 16.2	-2.9
TCW	**Tory Channel**	**2.81**	**208**	P	Pn	07 05 16.9	-2.8
NNZ	**Nelson**	**3.20**	**218**	*e*P	Pn	07 05 21.9	-3.0
BSWZ	**Blackbirch Sta**	**3.40**	**208**	P	Pn	07 05 24.2	-3.3
QRZ	**Quartz Range**	**3.40**	**231**	*e*P	Pn	07 05 24.8	-2.8
THZ	**Tophouse**	**3.85**	**217**	*e*P	Pn	07 05 30.3	-3.2
KHZ	**Kahutara**	**4.13**	**206**	*e*P	Pn	07 05 33.6	-3.7
DSZ	**Denniston Nort**	**4.41**	**226**	*e*P	Pn	07 05 37.1	-3.9
LTZ	**Lake Taylor**	**4.94**	**214**	*e*P	Pn	07 05 43.7	-4.5
ODZ	**Otahua Downs**	**7.47**	**211**	*e*P	Pn	07 06 17.0	-5.4

WEL 20 07:14:40.4±0.2, 3721S×17751E, h136km±2km, ML3.5/4, 2C-1D, Error ellipse: s-maj=1.4km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.72**	**119**	PN	Pn	07 15 01.4	-0.2
MXZ				SN	Sn	07 15 17.9	+0.3
PUZ	**Puketiti**	**1.04**	**146**	⇑PN	Pn	07 15 04.2	+0.1
PUZ				*e*SN	Sn	07 15 21.9	-0.4
URZ	**Urewera**	**1.09**	**197**	⇑PN	Pn	07 15 04.7	+0.1
URZ				SN	Sn	07 15 23.2	+0.1
MWZ	**Matawai**	**1.12**	**179**	PN	Pn	07 15 05.0	0.0
MWZ				SN	Sn	07 15 23.6	0.0
KUZ	**Kuaotunu**	**1.51**	**287**	⇓PN	Pn	07 15 08.9	0.0
KNZ	**Kokohu**	**1.81**	**176**	PN	Pn	07 15 12.0	-0.4
KNZ				SN	Sn	07 15 36.8	-0.1

NNC 20 07:19:00.7±4.4, 5434N×8600E, h0km, mb3.6, mpv3.2, 6C-5D, Error ellipse: s-maj=35.1km s-min=15.4km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK04	**Makanchi Array**	**7.94**	**199**	⇓Pn	Pn	07 20 55.6	-1.7
	0.5nm,0.4s,baz=22,slow=14						
MK04				⇓Sn	Sn	07 22 26.6	-1.2
	1.4nm,0.6s,baz=22,slow=28						
MK04				⇓Lg		07 23 15.8	
	3.3nm,0.8s						
CHKZ	**Chkalovo**	**9.09**	**272**	⇓Pn	Pn	07 21 13.7	+0.5
	1.4nm,0.9s						
CHKZ				⇑Sn	Sn	07 22 55.8	-0.4
	1.7nm,0.7s						
VOSK	**Vostochnaya**	**9.10**	**266**	⇑Pn	Pn	07 21 14.2	+1.0
	2.2nm,0.4s						
VOSK				⇑Sn	Sn	07 22 56.9	+0.6
	5.9nm,0.8s						
BVA0	**Borovoye Array**	**9.36**	**268**	⇑Pn	Pn	07 21 18.3	+1.5
	0.2nm,0.5s,baz=70,slow=16,SNR=9.4						
BVA0				⇑Sn	Sn	07 23 02.7	-0.2
	0.4nm,0.7s,baz=76,slow=24,SNR=5.8						
ZRNK	**Zerenda**	**10.19**	**269**	⇑Pn	Pn	07 21 30.6	+2.3
ZRNK				⇓Sn	Sn	07 23 21.8	-1.4
	3.2nm,0.8s						

PGC 20 07:24:20.3, 4921N×12966W, h10km, MLSn3.0/1, Mw3.6, 231km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.55**	**52**	Pn	Pn	07 24 45.8	-2.1
BPBC				Sn	Sn	07 25 04.4	-3.7
	comp=Z,71nm,0.2s						
BPBC				Trac		07 25 10.5	
	comp=Z,71nm,0.2s						
HOLB	**Holberg**	**1.74**	**34**	Pn	Pn	07 24 48.5	-2.1
HOLB				Sn	Sn	07 25 09.1	-3.6
	comp=Z,30nm,0.2s						
HOLB				Trac		07 25 14.5	
	comp=Z,30nm,0.2s						
EDB	**Eliza Dome**	**1.79**	**67**	Pn	Pn	07 24 48.7	-2.4
EDB				Sn	Sn	07 25 09.8	-4.0
EDB				Trac		07 25 11.6	
	comp=Z,8.0nm,0.2s						
MAYB	**Maynard**	**2.01**	**53**	Pn	Pn	07 24 52.5	-1.7
MAYB				Sn	Sn	07 25 16.5	-2.9
	comp=Z,5.0nm,0.2s						
MAYB				Trac		07 25 21.4	
	comp=Z,5.0nm,0.2s						
PHC	**Port Hardy**	**2.08**	**43**	Pn	Pn	07 24 53.5	-1.7
PHC				Sn	Sn	07 25 17.5	-3.6
PHC				Trac		07 25 21.6	
	comp=Z,9.0nm,0.1s						
WOSB	**Woss**	**2.22**	**63**	Pn	Pn	07 24 56.0	-1.2
WOSB				Sn	Sn	07 25 20.4	-4.3
	comp=Z,5.0nm,0.2s						
WOSB				Trac		07 25 25.0	
	comp=Z,5.0nm,0.2s						
GDR	**Gold River**	**2.44**	**75**	Pn	Pn	07 24 58.0	-2.0
GDR				Trac		07 25 33.4	
	comp=Z,4.0nm,0.3s						
NCRB	**Newcastle Ridg**	**2.62**	**62**	Pn	Pn	07 25 02.0	-0.7
NCRB				Sn	Sn	07 25 29.9	-4.6
	comp=Z,7.0nm,0.2s						
NCRB				Trac		07 25 34.2	
	comp=Z,7.0nm,0.2s						
BTB	**Buttle Lake**	**2.72**	**83**	Pn	Pn	07 25 02.1	-1.9
BTB				Sn	Sn	07 25 31.6	-5.3
	comp=Z,8.0nm,0.4s						
BTB				Trac		07 25 37.5	
	comp=Z,8.0nm,0.4s						
CBB	**Campbell River**	**2.91**	**72**	Pn	Pn	07 25 06.2	-0.4
CBB				Sn	Sn	07 25 37.9	-3.9
CBB				Trac		07 25 41.8	
	comp=Z,1.0nm,0.1s						
BBB	**Bella Bella**	**3.14**	**18**	Pn	Pn	07 25 08.7	-1.1
BBB				Sn	Sn	07 25 43.1	-4.2
BBB				Trac		07 25 46.1	
	comp=Z,19nm,0.2s						
MGB	**Mount Grey**	**3.27**	**92**	Pn	Pn	07 25 09.8	-1.8
MGB				Sn	Sn	07 25 47.2	-3.4
	comp=Z,3.0nm,0.2s						
MGB				Trac		07 25 48.2	
	comp=Z,3.0nm,0.2s						
TXB	**Texada**	**3.44**	**80**	Pn	Pn	07 25 13.0	-1.0
NLLB	**Nanaimo Lost L**	**3.72**	**88**	Pn	Pn	07 25 17.8	+0.1
NLLB				Sn	Sn	07 25 59.2	-2.4
NLLB				Trac		07 26 01.9	
	comp=Z,1.0nm,0.1s						
SHB	**Sechelt**	**3.80**	**82**	Pn	Pn	07 25 19.1	+0.2
SHB				Sn	Sn	07 26 02.8	-0.7
SHB				Trac		07 26 05.9	
	comp=Z,3.0nm,0.3s						
BIB	**Bowen Island**	**4.16**	**85**	Pn	Pn	07 25 23.8	-0.1
WPB	**Watts Point**	**4.24**	**81**	Pn	Pn	07 25 24.1	-0.8
WSLR	**Whistler**	**4.47**	**76**	Pn	Pn	07 25 28.5	+0.4
VDB	**Vedder Mountai**	**4.97**	**89**	Pn	Pn	07 25 34.6	-0.3
LLLB	**Lillooet**	**5.22**	**71**	Pn	Pn	07 25 39.1	+0.7
FSB	**Fort Saint Jam**	**6.22**	**30**	Pn	Pn	07 25 53.1	+1.0

*ISCJB **20** 07:25:59.4±0.6, 1832N×1003×7680W±005, h10km, Error ellipse: s-maj=7.5km s-min=3.8km az=16.5*
*JSN **20** 07:26:03.7±0.8, 1800N×7682W, h10km±8km, MD2.4*
*SSNC **20** 07:26:04.6, 2043N×7421W, h32km, mb3.9, MD2.2, ML1.2*
ISC 20 07:26:00.3±0.6, 1829N±003×7682W±005, h10km, n7, σ1§08/13, 2C-3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.21**	**176**	⇓*i*P	**Pg**	**07 26 05.4**	**+0.7**
STH				*i* S	**Sg**	**07 26 07.2**	**-0.4**
GWJ	**Greenwich**	**0.23**	**157**	⇓*i*P	**Pg**	**07 26 06.3**	**+1.3**
GWJ				*i* S	**Sg**	**07 26 08.9**	**+0.7**
HOJ	**Hope**	**0.29**	**166**	⇓*i*P	**Pg**	**07 26 05.9**	**-0.3**
HOJ				*i* S	**Sg**	**07 26 07.5**	**-2.5**
PCJ	**Portland Cotta**	**0.63**	**210**	⇑*i*P	**Pg**	**07 26 11.0**	**-1.4**
MCJ	**Malvern**	**0.90**	**246**	⇑*i*P	**Pg**	**07 26 18.2**	**+0.7**
MCJ				*e*S	**Sg**	**07 26 29.9**	**+0.6**
LMGC	**Las Mercedes**	**1.78**	**355**	*e*PG	**Pg**	**07 26 35.2**	**+0.8**
	baz=105						
LMGC				*e*SG	**Sg**	**07 26 55.4**	**-2.0**
	comp=N,206nm,0.1s						
LMGC				*e*			
	comp=E,148nm,0.0s						
RCC	**Rio Carpintero**	**2.01**	**32**	*e*PG	**Pg**	**07 26 39.2**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=281						
RCC				*e*SG	**Sg**	**07 27 05.1**	**+0.3**
	comp=N,3.0nm,0.2s						
RCC				*e*			

NNC 20 07:31:40.8±2.5, 5432N×8574E, h0km, mb3.6, mpv3.4, 1C-4D, Error ellipse: s-maj=27.5km s-min=13.0km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK06	**Makanchi Array**	**7.86**	**197**	⇓Pn	Pn	07 33 36.2	-0.1
	0.7nm,0.5s,baz=27,slow=14						
MK06				⇓Sn	Sn	07 35 07.7	+1.7
	2.3nm,0.6s,baz=34,slow=27						
MK06				⇓Lg		07 35 51.5	
	4.1nm,0.9s						
VOSK	**Vostochnaya**	**8.94**	**266**	⇓Pn	Pn	07 33 52.1	+0.9
	0.7nm,0.3s						
VOSK				⇑Sn	Sn	07 35 32.9	+0.4
	4.2nm,0.7s						
ZRNK	**Zerenda**	**10.03**	**269**	Pn	Pn	07 34 07.8	+1.6
ZRNK				Sn	Sn	07 35 58.5	-1.0

MEX 20 07:45:32.0±0.9, 1900N×10476W, h22km±82km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.56**	**331**	*i* P	Pb	07 45 41.8	-1.4
CJM				*i* S	Sb	07 45 48.4	-2.5
SFJM	**Santa Fe**	**2.19**	**47**	*i* P	Pn	07 46 04.0	-3.1
SFJM				*i* S	Sn	07 46 31.0	-2.5
ZAIG	**Zacatecas**	**4.27**	**28**	*e*P	Pn	07 46 34.1	-1.6
ZAIG				*i* S	Sn	07 47 22.7	-2.2

CASC 20 07:51:10.6±1.9, 1183N×8756W, h19km±9km, MD3.6, 3C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.88**	**49**	*e*P	Pb	07 51 26.2	-0.9
LEON				*e*S	Sb	07 51 39.6	+1.2
COPN	**Copaltepe**	**1.01**	**70**	*e*P	Pb	07 51 29.0	-0.5
MIRN	**Miramar**	**1.03**	**54**	⇓*e*P	Pb	07 51 28.7	-1.1
CNGN	**Cerro Negro**	**1.07**	**52**	*e*P	Pb	07 51 28.8	-1.8
MOMJ	**Momotombo**	**1.15**	**60**	*e*P	Pn	07 51 31.8	+0.1
XAVN	**Gruta Xavier**	**1.25**	**75**	*e*P	Pn	07 51 33.0	0.0
XAVN				*e*S	Sb	07 51 49.1	-0.1
TISN	**Laguna Tiscapa**	**1.30**	**76**	*e*P	Pn	07 51 33.4	-0.4
TISN				*e*S	Sn	07 51 51.6	+0.9
TICN	**Ticuantepe**	**1.32**	**81**	*e*P	Pn	07 51 34.0	+0.1
MGAN	**Managua**	**1.33**	**76**	⇓*e*P	Pn	07 51 34.1	+0.1
MGAN				*e*S	Sn	07 51 52.0	+0.8
VSM	**San Miguel**	**1.73**	**336**	*e*P	x	07 51 46.2	
VSM				*e*S	x	07 52 08.2	
SSNN	**San Juan del S**	**1.77**	**108**	*e*P	Pn	07 51 40.0	-0.1
CONN	**Concepcion**	**1.92**	**98**	⇓*e*P	Pn	07 51 42.0	-0.1
LCBS	**La Ceiba**	**2.28**	**323**	⇑*e*P	x	07 51 53.2	
LCBS				*e*S	x	07 52 20.4	
LBRS	**Las Brisas**	**2.38**	**323**	⇑*e*P	x	07 51 55.5	
LBRS				*e*S	x	07 52 25.8	

MEX 20 07:55:24.3±0.8, 1594N×9773W, h17km±47km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.59**	**320**	*i* P	Pg	07 55 34.0	-1.9
PNIG				*i* S	Sg	07 55 41.6	-2.2
VHO	**Vista Hermosa**	**1.48**	**40**	*i* P	Pn	07 55 46.6	-3.4
VHO				*i* S	Sn	07 56 03.8	-5.1
OXX	**Oaxaca**	**1.49**	**40**	*i* P	Pn	07 55 47.5	-2.8
OXX				*i* S	Sn	07 56 05.0	-4.3
UTMO	**Huajuapan**	**1.88**	**358**	*i* P	Pn	07 55 53.4	-2.2
UTMO				*i* S	Sn	07 56 15.3	-3.6
MEIG	**Mezcala**	**2.67**	**318**	*e*P	Pn	07 56 02.9	-3.6
MEIG				*i* S	Sn	07 56 36.1	-2.5

*NEIC **20** 08:11:44.6, 3982S×175.17E, h75km, ML4.3(WEL), After WEL.*
WEL 20 08:11:44.4±0.1, 3982S×17517E, h77km±1km, ML4.4/24, 4C-20D, Error ellipse: s-maj=0.8km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.16**	**295**	P	Pn	08 11 55.4	-0.2
WAZ				S	Sn	08 12 03.6	-0.3
WAZ	**Wanganui**	**0.16**	**295**	⇓PN	Pn	08 11 55.3	-0.3
WAZ				SN	Sn	08 12 03.6	-0.3
MTVZ	**Mangateitei**	**0.49**	**28**	SN	Sn	08 12 07.5	-0.2
PKVZ	**Pokaka**	**0.55**	**14**	⇓PN	Pn	08 11 58.0	-0.3
WNVZ	**Wahianoa**	**0.59**	**34**	P	Pn	08 11 58.7	0.0
WNVZ	**Wahianoa**	**0.59**	**34**	PN	Pn	08 11 58.7	0.0
TRVZ	**Turoa**	**0.60**	**29**	PN	Pn	08 11 58.7	0.0
MOVZ	**Moawhango**	**0.61**	**48**	P	Pn	08 11 58.7	-0.2
MOVZ				S	Sn	08 12 09.0	-0.6
MOVZ	**Moawhango**	**0.61**	**48**	⇓PN	Pn	08 11 58.7	-0.2
MOVZ				SN	Sn	08 12 09.0	-0.6
DRZ	**Dome Shelter**	**0.62**	**29**	P	Pn	08 11 59.1	+0.1
DRZ	**Dome Shelter**	**0.62**	**29**	⇑PN	Pn	08 11 59.0	0.0
FWVZ	**Far West T-bar**	**0.64**	**28**	P	Pn	08 11 59.0	-0.2
FWVZ				S	Sn	08 12 09.7	-0.4
FWVZ	**Far West T-bar**	**0.64**	**28**	⇑PN	Pn	08 11 59.0	-0.1
FWVZ				SN	Sn	08 12 09.7	-0.3
TSZ	**Takapari Road**	**0.65**	**112**	P	Pn	08 11 59.5	+0.2
TSZ	**Takapari Road**	**0.65**	**112**	⇓PN	Pn	08 11 59.5	+0.2
TSZ				SN	Sn	08 12 11.0	+0.7
TUVZ	**Tukino**	**0.67**	**34**	P	Pn	08 11 59.5	0.0
TUVZ	**Tukino**	**0.67**	**34**	⇓PN	Pn	08 11 59.5	0.0
WPVZ	**Whakapapa**	**0.68**	**25**	P	Pn	08 11 59.5	-0.1
WPVZ	**Whakapapa**	**0.68**	**25**	PN	Pn	08 11 59.4	-0.2
NGZ	**Ngauruhoe**	**0.73**	**27**	P	Pn	08 11 59.9	-0.2
NGZ	**Ngauruhoe**	**0.73**	**27**	⇓PN	Pn	08 11 59.9	-0.2
OTVZ	**Oturere**	**0.76**	**30**	⇓PN	Pn	08 12 00.5	+0.1
VRZ	**Vera Road**	**0.77**	**335**	P	Pn	08 12 00.0	-0.5
VRZ	**Vera Road**	**0.77**	**335**	⇓PN	Pn	08 12 00.0	-0.5
VRZ				*e*SN	Sn	08 12 11.7	-0.7
WTVZ	**West Tongariro**	**0.78**	**25**	P	Pn	08 12 00.3	-0.3
WTVZ	**West Tongariro**	**0.78**	**25**	⇓PN	Pn	08 12 00.3	-0.3
TWVZ	**Taurewa**	**0.78**	**16**	P	Pn	08 12 00.1	-0.6
TWVZ	**Taurewa**	**0.78**	**16**	⇓PN	Pn	08 12 00.1	-0.6
RAEZ	**Rainy Point**	**0.80**	**311**	P	Pn	08 12 01.0	0.0
RAEZ	**Rainy Point**	**0.80**	**311**	⇓PN	Pn	08 12 01.0	+0.1
KRVZ	**Karewarewa**	**0.81**	**27**	PN	Pn	08 12 00.6	-0.4
MRZ	**Mangatainoka R**	**0.90**	**160**	P	Pn	08 12 02.1	+0.1
MRZ	**Mangatainoka R**	**0.90**	**160**	⇓PN	Pn	08 12 02.0	0.0
KATZ	**Kakaramea**	**0.94**	**26**	P	Pn	08 12 02.2	-0.3
KATZ	**Kakaramea**	**0.94**	**26**	PN	Pn	08 12 02.2	-0.3
DFE	**Dawson Falls**	**0.96**	**301**	P	Pn	08 12 01.4	-1.4
NEZ	**North Egmont**	**1.00**	**303**	⇑PN	Pn	08 12 03.7	+0.5
RITZ	**Rihia Road**	**1.00**	**33**	P	Pn	08 12 03.2	0.0
KIW	**Kapiti Island**	**1.06**	**191**	P	Pn	08 12 04.1	+0.1
KIW	**Kapiti Island**	**1.06**	**191**	PN	Pn	08 12 04.1	+0.1
RATZ	**Rangitukua**	**1.06**	**26**	P	Pn	08 12 04.1	+0.1
RATZ	**Rangitukua**	**1.06**	**26**	PN	Pn	08 12 04.1	+0.1
NRZ	**Ngariki Road**	**1.07**	**296**	P	Pn	08 12 04.2	+0.1
NRZ	**Ngariki Road**	**1.07**	**296**	PN	Pn	08 12 04.1	0.0
PKE	**Pukeiti**	**1.11**	**304**	P	Pn	08 12 04.6	0.0
PKE	**Pukeiti**	**1.11**	**304**	PN	Pn	08 12 04.5	-0.1
NWEZ	**Newall Road**	**1.15**	**298**	P	Pn	08 12 05.0	-0.1
NWEZ	**Newall Road**	**1.15**	**298**	⇓PN	Pn	08 12 05.0	0.0
HATZ	**Hinemaiaia**	**1.17**	**38**	P	Pn	08 12 05.0	-0.4
HATZ	**Hinemaiaia**	**1.17**	**38**	PN	Pn	08 12 04.9	-0.4
BFZ	**Birch Farm**	**1.19**	**137**	*e*P	Pn	08 12 05.3	-0.3
BFZ	**Birch Farm**	**1.19**	**137**	*e*PN	Pn	08 12 05.2	-0.4
WATZ	**Wairara**	**1.19**	**22**	P	Pn	08 12 05.6	-0.1
WATZ	**Wairara**	**1.19**	**22**	PN	Pn	08 12 05.4	-0.3
BKZ	**Black Stump Fm**	**1.21**	**58**	P	Pn	08 12 06.0	+0.1
BKZ	**Black Stump Fm**	**1.21**	**58**	PN	Pn	08 12 06.0	0.0
CAW	**Cannon Point**	**1.29**	**183**	P	Pn	08 12 06.8	0.0
CAW	**Cannon Point**	**1.29**	**183**	PN	Pn	08 12 06.8	0.0
WHTZ	**Whakaora**	**1.30**	**28**	P	Pn	08 12 07.7	+0.6
PXZ	**Pawanui**	**1.32**	**100**	PN	Pn	08 12 07.5	+0.3
HIZ	**Hauiti**	**1.33**	**349**	P	Pn	08 12 07.1	-0.3
HIZ	**Hauiti**	**1.33**	**349**	⇓PN	Pn	08 12 07.1	-0.3
MTW	**Mount Morrison**	**1.36**	**169**	P	Pn	08 12 07.4	-0.4
MTW	**Mount Morrison**	**1.36**	**169**	⇓PN	Pn	08 12 07.4	-0.3
DUWZ	**D'Urville Isla**	**1.37**	**224**	PN	Pn	08 12 07.8	0.0
MRW	**Makara Radio**	**1.45**	**194**	P	Pn	08 12 08.8	-0.1
MRW	**Makara Radio**	**1.45**	**194**	⇓PN	Pn	08 12 08.8	-0.2
WEL	**Wellington**	**1.49**	**192**	P	Pn	08 12 09.2	-0.3
WEL	**Wellington**	**1.49**	**192**	PN	Pn	08 12 09.1	-0.4
SNZO	**South Karori**	**1.53**	**193**	P	Pn	08 12 09.6	-0.3
SNZO	**South Karori**	**1.53**	**193**	⇓PN	Pn	08 12 09.6	-0.4
TCW	**Tory Channel**	**1.55**	**206**	P	Pn	08 12 10.0	-0.2
TCW	**Tory Channel**	**1.55**	**206**	⇓PN	Pn	08 12 09.9	-0.3
PAWZ	**Paruwai Farm**	**1.57**	**173**	P	Pn	08 12 10.0	-0.5
PAWZ	**Paruwai Farm**	**1.57**	**173**	PN	Pn	08 12 09.9	-0.5
MSWZ	**Moikau Station**	**1.59**	**178**	P	Pn	08 12 10.3	-0.5
MSWZ	**Moikau Station**	**1.59**	**178**	PN	Pn	08 12 10.3	-0.5
MSWZ				SN	Sn	08 12 28.3	-2.4
BHW	**Baring Head**	**1.60**	**188**	P	Pn	08 12 10.4	-0.5
BHW	**Baring Head**	**1.60**	**188**	PN	Pn	08 12 10.4	-0.5
TRWZ	**Traveller**	**1.62**	**166**	PN	Pn	08 12 10.9	-0.3
PATZ	**Paeroa**	**1.67**	**31**	P	Pn	08 12 13.1	+1.3
PATZ	**Paeroa**	**1.67**	**31**	*e*PN	Pn	08 12 12.1	+0.3
TUWZ	**Tuamarina**	**1.86**	**210**	PN	Pn	08 12 13.8	-0.5
TAZ	**Tarawera**	**1.90**	**34**	P	Pn	08 12 15.7	+0.9
TAZ	**Tarawera**	**1.90**	**34**	PN	Pn	08 12 15.6	+0.7
NNZ	**Nelson**	**1.95**	**224**	P	Pn	08 12 14.9	-0.6
NNZ	**Nelson**	**1.95**	**224**	PN	Pn	08 12 14.9	-0.6
KNZ	**Kokohu**	**2.10**	**68**	P	Pn	08 12 16.7	-0.8
KNZ	**Kokohu**	**2.10**	**68**	PN	Pn	08 12 16.7	-0.8
TOZ	**Tahuroa Road**	**2.10**	**7**	P	Pn	08 12 17.1	-0.5
TOZ	**Tahuroa Road**	**2.10**	**7**	PN	Pn	08 12 17.1	-0.5
BSWZ	**Blackbirch Sta**	**2.13**	**207**	P	Pn	08 12 17.3	-0.6
BSWZ	**Blackbirch Sta**	**2.13**	**207**	PN	Pn	08 12 17.2	-0.7
URZ	**Urewera**	**2.17**	**45**	P	Pn	08 12 17.6	-0.9
URZ	**Urewera**	**2.17**	**45**	PN	Pn	08 12 17.5	-1.0
QRZ	**Quartz Range**	**2.25**	**243**	P	Pn	08 12 18.7	-0.9
QRZ	**Quartz Range**	**2.25**	**243**	⇓PN	Pn	08 12 18.7	-0.9
MWZ	**Matawai**	**2.36**	**52**	P	Pn	08 12 20.1	-0.9
MWZ	**Matawai**	**2.36**	**52**	PN	Pn	08 12 20.1	-0.9
THZ	**Tophouse**	**2.59**	**221**	P	Pn	08 12 23.5	-0.7
THZ	**Tophouse**	**2.59**	**221**	⇑PN	Pn	08 12 23.5	-0.6
MKAZ	**Moumakai**	**2.71**	**360**	P	Pn	08 12 25.5	-0.2
KHZ	**Kahutara**	**2.87**	**205**	P	Pn	08 12 26.7	-1.2
KHZ	**Kahutara**	**2.87**	**205**	⇓PN	Pn	08 12 26.6	-1.3
OTAZ	**Otara**	**2.87**	**356**	P	Pn	08 12 28.2	+0.2
WTAZ	**Waiatarua**	**2.92**	**351**	P	Pn	08 12 29.1	+0.5
PUZ	**Puketiti**	**2.97**	**55**	P	Pn	08 12 27.9	-1.4
PUZ	**Puketiti**	**2.97**	**55**	PN	Pn	08 12 27.9	-1.4
MTAZ	**Motutapu**	**3.04**	**356**	P	Pn	08 12 29.9	-0.3
KUZ	**Kuaotunu**	**3.10**	**8**	*e*P	Pn	08 12 30.2	-0.8
KUZ	**Kuaotunu**	**3.10**	**8**	PN	Pn	08 12 30.1	-1.0
DSZ	**Denniston Nort**	**3.20**

NPS			*e*SN	**Sn**	**09 09 27.0**	**+0.2**
APE	**Apeiranthos**	**2.43**	**325** *e*PN	**Pn**	**09 09 22.5**	**-0.6**
SMG	**Samos**	**2.63**	**352** *e*PN	**Pn**	**09 09 25.0**	**-0.9**
SWA1		**5.97**	**193** ⇑P	**Pn**	**09 10 11.9**	**+0.2**
SWA2		**6.04**	**195**⇑*e*P	**Pn**	**09 10 12.6**	**-0.1**
SWA2			S	**Sn**	**09 11 20.8**	**-0.7**
HFRF	**Wahat Farafira**	**7.97**	**173** ⇑P	**Pn**	**09 10 39.5**	**+0.3**

*IDC **20** 09:25:48.6±4.4, 299N×12859E, h207km±45km, mb3.5/10, mb1 3.6/10, mb1mx3.5/18, mbtmp4.0/10, Error ellipse: s-maj=39.3km s-min=11.1km az=79.0*

NEIC 20 09:25:50.6±3.6, 298N×12862E, h231km±38km, mb3.8/3, Error ellipse: s-maj=31.7km s-min=9.3km az=82.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.16**	**188**	P	P	09 30 17.2	-0.8
	0.8nm,0.4s,baz=20,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**23.46**	**166**	P	P	09 30 39.4	0.0
	1.1nm,0.5s,baz=345,slow=10,SNR=26						
JOW	**Kunigami**	**23.71**	**359**	P	P	09 30 42.5	+0.9
	2.6nm,0.4s,baz=124,slow=27,SNR=6.0						
AS31	**Alice Springs**	**26.98**	**169**	*e*P	P	09 31 11.9	+0.8
ASAR	**Alice Springs**	**26.98**	**169**	P	P	09 31 11.9	+0.9
	1.0nm,0.5s,baz=352,slow=8.1,SNR=19						
ASAR				PcP	PcP	09 34 27.9	+1.6
	0.5nm,0.4s,baz=346,slow=2.1,SNR=7.1						
MJAR	**Matsushiro Arr**	**34.55**	**14**	P	P	09 32 16.3	-0.9
	0.9nm,0.5s,baz=193,slow=9.2,SNR=4.4						
STKA	**Stephens Creek**	**36.80**	**161**	P	P	09 32 37.1	+0.8
	1.1nm,0.3s,baz=350,slow=16,SNR=10.0						
SONM	**Songino Array**	**48.62**	**340**	P	P	09 34 11.9	+0.9
	0.4nm,0.5s,baz=162,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**59.24**	**325**	P	P	09 35 28.4	+0.6
	0.9nm,0.3s,baz=100,slow=6.6,SNR=12						
BVAR	**Borovoye Array**	**68.97**	**327**	P	P	09 36 31.0	+0.1
	1.0nm,0.4s,baz=88,slow=3.3,SNR=6.9						
BRVK	**Borovoye**	**69.04**	**327**	*e*P	P	09 36 31.3	0.0
	1.0nm,0.4s						
CHKZ	**Chkalovo**	**69.12**	**327**	*e*P	P	09 36 31.8	0.0
	0.7nm,0.4s						
ZRNK	**Zerenda**	**69.71**	**326**	*e*P	P	09 36 35.3	-0.1
	1.2nm,0.5s						
ARCES	**ARCESS Array B**	**91.79**	**340**	P	P	09 38 30.9	-1.2
	3.0nm,1.0s,baz=68,slow=6.9,SNR=5.3						
ARCES	**ARCESS Array B**	**91.79**	**340**	P	P	09 38 30.9	-1.2
TORD	**Torodi Ar. Bea**	**124.94**	**288**	PKP	PKPdf	09 44 24.4	+1.3
	0.2nm,0.3s,baz=82,slow=1.5,SNR=7.1						

IDC 20 09:43:02.4±3.0, 906S×10923E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/16, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=127.4km s-min=22.1km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.30**	**121**	P	Pn	09 47 17.1	-0.6
	0.1nm,0.3s,baz=312,slow=13,SNR=4.1						
FITZ				S	Sn	09 50 25.8	-17
	0.0nm,0.3s,baz=313,slow=21,SNR=2.3						
WRA	**Warramunga Arr**	**26.57**	**117**	P	P	09 48 42.1	0.0
	0.4nm,0.7s,baz=287,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**27.71**	**125**	P	P	09 48 53.4	+1.1
	0.2nm,0.9s,baz=301,slow=9.4,SNR=2.6						
SONM	**Songino Array**	**56.69**	**358**	P	P	09 52 48.3	+0.7
	0.6nm,0.6s,baz=177,slow=8.8,SNR=4.4						
MKAR	**Makanchi Array**	**60.57**	**339**	P	P	09 53 14.2	-0.4
	0.8nm,0.5s,baz=147,slow=7.1,SNR=6.3						

*LDG **20** 09:47:18.1±0.3, 1299S×16657E, h10km, Mb4.7/3, Error ellipse: s-maj=46.2km s-min=8.0km az=83.0*
*ISCJB **20** 09:47:20.6±0.6, 1344S±005×1662E±0.1, h33km, mb4.4/14, MS3.9/8, Error ellipse: s-maj=14.6km s-min=6.2km az=142.4*
*MOS **20** 09:47:20.9±1.0, 1330S×16623E, h33km, mb4.9/6, Error ellipse: s-maj=21.9km s-min=13.9km az=129.9*
*NEIC **20** 09:47:21.8±0.4, 1326S×16646E, h35km, mb4.6/3, Error ellipse: s-maj=15.0km s-min=10.0km az=80.0*
*BJI **20** 09:47:21.2, 1330S×16650E, h35km, mB5.2, mb5.0*
*IDC **20** 09:47:23.2±5.0, 1331S×16629E, h37km±38km, mb4.1/7, mb1 4.2/9, mb1mx4.1/14, mbtmp4.3/9, ML4.3/2, MS3.8/10, Ms1 3.8/10, ms1mx3.5/18, Error ellipse: s-maj=33.9km s-min=20.6km az=81.0*

ISC 20 09:47:22.3±0.6, 1333S±006×16635E±010, h35km, n52, σ1s08/30, mb4.4/14, MS3.9/8, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.37**	**301**	Pn	**Pn**	**09 49 07.7**	**+0.3**
	10nm,0.3s,baz=90,slow=19,SNR=3.3						
HNR				Sn	**Sn**	**09 50 29.0**	**-0.8**
	1.6nm,0.3s,baz=94,slow=19,SNR=4.4						
HNR	**Honiara**	**7.37**	**301**	*e*Pn	**Pn**	**09 49 07.8**	**+0.3**
HNR				*e*Sn	**Sn**	**09 50 28.1**	**-1.8**
HNR				Sn	**Sn**	**09 50 29.1**	**-0.8**
DZM	**Mont Dzumac**	**8.69**	**179**	*e*P	**Pn**	**09 49 26.1**	**+0.6**
DZM				*e*S	**Sn**	**09 51 00.2**	**-2.1**
DZM	**Mont Dzumac**	**8.69**	**179**	Pn	**Pn**	**09 49 27.0**	**+1.5**
	1.7nm,0.3s,baz=356,slow=24,SNR=32						
DZM				Sn	**Sn**	**09 51 01.1**	**-1.2**
	0.7nm,0.3s,baz=316,slow=22,SNR=2.3						
DZM				LR	LR	09 51 39.5	
	comp=Z,174nm,19.8s,baz=23,slow=29						
PMG	**Port Moresby**	**19.21**	**280**	LR	LR	09 58 27.0	
	comp=Z,120nm,18.6s,baz=7.2,slow=35						
CTA	**Charters Tower**	**20.37**	**248**	P	**P**	**09 52 01.4**	**+5.6**
	3.7nm,0.7s,baz=66,slow=12,SNR=2.7						
CTA				LR	LR	09 58 48.4	
	comp=Z,364nm,18.6s,MS3.8,baz=52,slow=34						
RAO	**Raoul Island**	**21.55**	**140**	LR	LR	09 59 21.8	
	comp=Z,160nm,18.5s,MS3.5,baz=305,slow=33						
STKA	**Stephens Creek**	**29.25**	**227**	P	**P**	**09 53 21.9**	**+0.9**
	2.3nm,0.8s,mb3.9,baz=327,slow=20,SNR=2.6						
STKA				LR	LR	10 04 25.6	
	comp=Z,213nm,21.0s,MS3.7,baz=25,slow=35						
WRA	**Warramunga Arr**	**31.33**	**254**	P	**P**	**09 53 39.7**	**+0.4**
	2.1nm,0.8s,mb4.0,baz=85,slow=9.0,SNR=15						
WRA				PcP	PcP	09 56 33.9	+1.2
	1.1nm,0.9s,baz=83,slow=2.6,SNR=5.8						
WRA				LR	LR	10 05 53.9	
	comp=Z,292nm,19.0s,MS4.0,baz=75,slow=36						
WRA	**Warramunga Arr**	**31.33**	**254**	P	**P**	**09 53 39.7**	**+0.4**
WRA						09 56 33.9	
ASAR	**Alice Springs**	**32.37**	**247**	P	**P**	**09 53 49.0**	**+0.6**
	2.7nm,0.8s,mb4.1,baz=73,slow=9.4,SNR=38						
ASAR				PcP	PcP	09 56 36.0	+0.5
	0.8nm,0.7s,baz=70,slow=2.5,SNR=7.4						
ASAR				LR	LR	10 06 04.0	
	comp=Z,285nm,20.1s,MS4.0,baz=270,slow=35						
ASAR	**Alice Springs**	**32.37**	**247**	P	**P**	**09 53 49.0**	**+0.6**
ASAR						09 56 36.1	
PPT	**Papeete**	**42.62**	**102**	*e*LR	LR	10 07 13.5	
	162nm,25.8s						
PPT	**Papeete**	**42.62**	**102**	LR	LR	10 08 28.0	
	comp=Z,217nm,21.0s,MS4.0,baz=305,slow=30						
TBI	**Tubuai**	**42.97**	**110**	*e*LR	LR	10 07 25.4	
	169nm,24.0s						
TAOE	**Nuku Hiva Isla**	**52.62**	**91**	*e*LR	LR	10 11 51.7	
	244nm,22.5s						
MJAR	**Matsushiro Arr**	**56.26**	**333**	P	**P**	**09 56 59.1**	**0.0**
	3.5nm,0.7s,mb4.5,baz=163,slow=8.4,SNR=9.9						
RKT	**Rikitea**	**56.27**	**109**	*e*LR	LR	10 13 34.3	
	84nm,27.5s						
VNDA	**Vanda**	**64.23**	**181**	P	**P**	**09 57 54.2**	**+0.5**
	2.2nm,0.8s,mb4.2,baz=357,slow=7.6,SNR=4.1						
VNDA				LR	LR	10 22 55.9	
	comp=Z,65nm,21.2s,MS3.8,baz=349,slow=33						
KLR	**Kul'dur**	**69.37**	**337**	*e*P	**P**	**09 58 24.7**	**-1.7**
QSPA	**South Pole Qui**	**76.69**	**180**	*e*P	**P**	**09 59 09.8**	**+0.1**
	14nm,1.0s,mb4.9						
CLNS	**Chul'man**	**77.90**	**338**	*e*P	**P**	**09 59 14.4**	**-2.1**
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
RPN	**Rapa Nui**	**79.06**	**115**	LR	LR	10 27 14.9	
	comp=N,134nm,20.8s,MS4.3,baz=330,slow=30						
ULN	**Ulaanbaatar**	**80.48**	**324**	*e*P	**P**	**09 59 30.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**80.48**	**324**	*e*P	**P**	**09 59 30.6**	**0.0**
	comp=Z,6.6nm,1.0s,mb4.5						
SONM	**Songino Array**	**80.84**	**324**	P	**P**	**09 59 33.4**	**+0.8**
	comp=Z,0.8nm,0.3s,mb4.1,baz=131,slow=5.0,SNR=13						
GTA	**Gaotai**	**81.06**	**314**	*e*P	**P**	**09 59 36.0**	**+2.3**
GTA				AP	pP	09 59 48.8	+4.1
GTA				XP	sP	09 59 52.9	+4.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
BILL	**Bilibino**	**81.15**	**360**	*e*P	**P**	**09 59 34.3**	**+0.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BOD	**Bodaibo**	**82.83**	**335**	*e*P	**P**	**09 59 42.8**	**-0.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
ZAK	**Zakamensk**	**83.90**	**325**	*e*P	**P**	**09 59 48.8**	**+0.3**
SNAA	**Sanae**	**94.89**	**183**	*e*P	**P**	**10 00 38.7**	**-2.0**
SNAA				*e**PP	pP	10 00 49.3	-2.6
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SNAA	**Sanae**	**94.89**	**183**	*e*P	**P**	**10 00 38.7**	**-2.0**
	comp=Z,1.9nm,0.9s,mb4.5						
SNAA				*e*pP	pP	10 00 49.3	-2.6
MKAR	**Makanchi Array**	**95.58**	**317**	P	**P**	**10 00 44.8**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.5,baz=91,slow=5.7,SNR=10						
ARCES	**ARCESS Array B**	**118.68**	**345**	PKP	PKPdf	10 06 04.8	-1.8
	comp=Z,2.2nm,0.8s,baz=79,slow=3.1,SNR=13						
GERES	**GERESS Array B**	**138.00**	**333**	PKP	PKPdf	10 06 43.9	+0.7
	comp=Z,0.4nm,0.3s,baz=48,slow=2.0,SNR=4.9						
SSF	**Saint Sauige**	**143.42**	**340**	*e*PKP1	PKPdf	10 06 52.7	-0.3
LPL	**La Plagne**	**143.56**	**336**	*e*PKP1	PKPdf	10 06 51.6	-1.7
	comp=Z,7.6nm,0.7s						
LPG	**La Plagne**	**143.56**	**336**	*e*PKP1	PKPdf	10 06 51.8	-1.5
	comp=Z,5.7nm,0.7s						
MBDF	**Montbardon**	**144.19**	**335**	*e*PKP1	PKPdf	10 06 53.1	-1.3
ORIF	**Oris-en-Rattie**	**144.39**	**336**	⇑*i*PKP1	PKPdf	10 06 54.3	-0.4
	comp=Z,31nm,0.8s						
TCF	**Toulx Ste Croi**	**144.53**	**341**	*e*PKP1	PKPdf	10 06 54.2	-0.8
SBF	**Sospel**	**144.60**	**333**	*e*PKP1	PKPdf	10 06 54.3	-0.8
	comp=Z,74nm,0.8s						
VIVF	**Saint-Julien-l**	**144.91**	**337**	*e*PKP1	PKPdf	10 06 55.9	+0.3
	comp=Z,38nm,0.9s						
MFF	**Saint Martin d**	**144.94**	**344**	*e*PKP1	PKPdf	10 06 55.4	-0.3
	comp=Z,19nm,0.7s						
FRF	**La Foret Royal**	**145.18**	**334**	⇑*i*PKP1	PKPbc	10 06 56.4	+0.7
	comp=Z,48nm,1.0s						
LASF	**Ste Croix**	**145.88**	**337**	*e*PKP1	PKPbc	10 06 57.3	-0.6
	comp=Z,49nm,1.3s						
MTLF	**Montolieu**	**147.12**	**338**	*e*PKP1	PKPbc	10 07 00.3	-1.2
	comp=Z,26nm,1.0s						
ETSF	**Etsaut**	**148.44**	**341**	*e*PKP1	PKPbc	10 07 07.3	+2.2
	comp=Z,8.3nm,0.7s						
KEST	**Kesra**	**149.57**	**321**	PKPbc	PKPbc	10 07 09.5	+1.5
	comp=Z,3.0nm,0.7s,baz=69,slow=1.5,SNR=8.6						
ESDC	**Sonseca Array**	**152.40**	**344**	PKPbc	PKPbc	10 07 15.4	+0.8
	comp=Z,0.2nm,0.3s,baz=29,slow=3.4,SNR=4.6						
ESDC				PKPab	PKPab	10 07 25.9	+1.1
	comp=Z,2.0nm,0.6s,baz=12,slow=3.9,SNR=8.6						
TORD	**Torodi Ar. Bea**	**165.06**	**271**	PKP	PKPdf	10 07 23.2	+0.5
	comp=Z,1.6nm,0.9s,baz=31,slow=1.1,SNR=8.8						
TORD				PKPab	PKPab	10 08 21.1	+1.6
	comp=Z,0.6nm,0.8s,baz=79,slow=4.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**165.06**	**271**	PKP	PKPdf	10 07 23.2	+0.5
TORD				PKPab	PKPab	10 08 21.1	+1.6

*NEIC **20** 09:55:19.0, 4509S×16748E, h118km, MG3.9(WEL), After WEL.*

WEL 20 09:55:19.1±0.3, 4509S×16750E, h118km±2km, ML3.5/11, 1C-4D, Error ellipse: s-maj=2.8km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.46**	**212**	P	Pn	09 55 35.8	-0.7
DCZ				S	Sn	09 55 49.3	-0.4
DCZ	**Deep Cove**	**0.46**	**212**	PN	Pn	09 55 35.8	-0.7
DCZ				SN	Sn	09 55 49.3	-0.4
MSZ	**Milford Sound**	**0.52**	**37**	PN	Pn	09 55 36.7	-0.2
MSZ				SN	Sn	09 55 49.9	-0.4
MLZ	**Mavora Lakes**	**0.54**	**119**	P	Pn	09 55 36.9	-0.1
MLZ				S	Sn	09 55 50.6	0.0
MLZ	**Mavora Lakes**	**0.54**	**119**	⇑PN	Pn	09 55 36.9	-0.2
MLZ				SN	Sn	09 55 50.2	-0.4
WHZ	**Wether Hill Ro**	**0.87**	**159**	P	Pn	09 55 39.8	+0.2
WHZ	**Wether Hill Ro**	**0.87**	**159**	PN	Pn	09 55 39.8	+0.1
WKZ	**Wanaka**	**1.11**	**77**	*e*P	Pn	09 55 42.0	0.0
WKZ				S	Sn	09 55 59.0	-0.4
WKZ	**Wanaka**	**1.11**	**77**	PN	Pn	09 55 42.0	0.0
WKZ				SN	Sn	09 55 59.0	-0.4
EAZ	**Earnscleugh**	**1.29**	**97**	P	Pn	09 55 43.8	-0.1
EAZ	**Earnscleugh**	**1.29**	**97**	⇓PN	Pn	09 55 43.8	-0.2
TUZ	**Tuapeka**	**1.73**	**121**	P	Pn	09 55 49.1	0.0
TUZ				S	Sn	09 56 10.1	-2.0
TUZ	**Tuapeka**	**1.73**	**121**	⇓PN	Pn	09 55 49.1	-0.1
TUZ				SN	Sn	09 56 10.1	-2.0
APZ	**The Paps**	**1.78**	**169**	PN	Pn	09 55 49.6	-0.1
SYZ	**Scrubby Hill**	**1.85**	**142**	⇓PN	Pn	09 55 50.6	0.0
LBZ	**Lake Benmore**	**2.04**	**71**	*e*P	Pn	09 55 51.1	-1.8
LBZ	**Lake Benmore**	**2.04**	**71**	PN	Pn	09 55 51.1	-1.7
LBZ				SN	Sn	09 56 15.6	-3.2
FOZ	**Fox Glacier**	**2.19**	**47**	PN	Pn	09 55 53.2	-1.6
ODZ	**Otahua Downs**	**2.23**	**90**	P	Pn	09 55 54.1	-1.2
ODZ	**Otahua Downs**	**2.23**	**90**	⇓PN	Pn	09 55 54.1	-1.2
HHSZ	**Highcliff Hill**	**2.32**	**111**	PN	Pn	09 55 56.0	-0.4

*NEIC **20** 09:55:59.6, 3315S×7238W, h32km±2km, ML3.6(GUC), After GUC.*

GUC 20 09:55:59.6±0.7, 3315S×7238W, h32km±2km, MD3.9, ML3.6, 13C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.63**	**79**	⇓*i*P	Pn	09 56 11.4	-0.8
IHA				*i*S	Sb	09 56 21.1	+0.3
LCCH	**Las Cruces**	**0.75**	**116**	⇑*i*P	Pn	09 56 13.0	-0.9
LCCH				*i*S	Sn	09 56 23.9	-0.2
LNV	**Longovilo**	**1.14**	**135**	*e*P	Pn	09 56 19.6	+0.3
ROCH	**El Roble**	**1.16**	**82**	⇑*i*P	Pn	09 56 20.2	+0.7
ROCH				*i*S	Sn	09 56 36.3	+2.0
TACH	**Talagante**	**1.31**	**113**	⇑*i*P	Pn	09 56 22.1	+0.6
TACH				*i*S	Sn	09 56 39.4	+1.5
RCDM	**Rinconada Maip**	**1.36**	**105**	⇑*i*P	Pn	09 56 23.3	+1.0
RCDM				*i*S	Sn	09 56 40.6	+1.4
PEL	**Peldehue**	**1.42**	**90**	⇑*i*P	Pn	09 56 24.7	+1.6
PEL				*i*S	Sn	09 56 43.1	+2.4
PEL				AML	AML	09 56 49.3	
	comp=N,3μm,0.5s						
PEL	**Peldehue**	**1.42**	**90**	⇑*i*P	Pn	09 56 24.7	+1.6
PEL				*i*S	Sn	09 56 43.1	+2.4
CHNG	**Los Chungos**	**1.46**	**31**	⇑*i*P	Pn	09 56 24.9	+1.2
CHNG				*i*S	Sn	09 56 43.7	+2.0
SAN	**Santiago**	**1.47**	**103**	⇑*i*P	Pn	09 56 25.1	+1.4
SAN				*i*S	Sn	09 56 44.6	+2.7
SAN				AML	AML	09 56 51.4	
	comp=E,930nm,0.6s						
SAN	**Santiago**	**1.47**	**103**	⇑*i*P	Pn	09 56 25.1	+1.4
SAN				*i*S	Sn	09 56 44.6	+2.7
STL	**Santa Lucia**	**1.48**	**102**	⇓*i*P	Pn	09 56 24.8	+0.8
STL				*i*S	Sn	09 56 44.6	+2.4
PTCH	**Petorca**	**1.50**	**55**	*e*P	Pn	09 56 26.0	+1.7
PTCH				*i*S	Sn	09 56 45.4	+2.6
PTCH				AML	AML	09 56 50.1	
	comp=E,1μm,0.3s						
PTCH	**Petorca**	**1.50**	**55**	*e*P	Pn	09 56 26.0	+1.7
PTCH				*i*S	Sn	09 56 45.4	+2.6
DSCH	**Colegio Aleman**	**1.54**	**100**	*e*P	Pn	09 56 26.3	+1.6
DSCH				*i*S	Sn	09 56 46.2	+2.7
DSCH				AML	AML	09 56 51.2	
	comp=N,337nm,0.4s						
DSCH	**Colegio Aleman**	**1.54**	**100**	*e*P	Pn	09 56 26.3	+1.6
DSCH				*i*S	Sn	09 56 46.2	+2.7
CLCH	**Cerro Calan**	**1.56**	**100**	⇓*i*P	Pn	09 56 26.6	+1.6
CLCH				*i*S	Sn	09 56 47.1	+3.0
CLCH				AML	AML	09 56 57.8	
	comp=E,1μm,0.6s						
CLCH				AML	AML	09 56 58.4	
	comp=E,1μm,0.5s						
JACH	**Jahuel**	**1.57**	**73**	⇑*i*P	Pn	09 56 26.5	+1.4
CHCH	**Chadas Angostu**	**1.64**	**119**	*e*P	Pn	09 56 27.9	+1.7
CHCH				*i*S	Sn	09 56 48.9	+2.8
FCH	**Farellones**	**1.76**	**96**	⇑*i*P	Pn	09 56 29.9	+2.1
FCH				*i*S	Sn	09 56 53.0	+4.0
FCH				AML	AML	09 56 56.8	
	comp=N,888nm,0.3s						
SJCH	**San Jose de Ma**	**1.76**	**107**	*e*P	Pn	09 56 29.7	+1.9
SJCH				AML	AML	09 56 59.6	
	comp=N,492nm,0.3s						
CACH	**El Canelo**	**1.77**	**124**	*e*P	Pn	09 56 30.0	+2.1
CACH				*i*S	Sn	09 56 53.9	+4.6
SFDO	**San Fernando**	**1.85**	**143**	*e*P	Pn	09 56 30.9	+1.8
LMEL	**Las Melosas**	**1.95**	**112**	*e*P	Pn	09 56 32.2	+1.9
LMEL				*i*S	Sn	09 56 56.8	+3.1
LMEL				AML	AML	09 57 04.0	
	comp=N,652nm,0.2s						
LMEL	**Las Melosas**	**1.95**	**112**	*e*P	Pn	09 56 32.2	+1.9
LMEL				*i*S	Sn	09 56 56.8	+3.1
CICH	**Cipreses**	**2.01**	**126**	*e*P	Pn	09 56 33.2	+2.0
CMCH	**Combarbala**	**2.29**	**31**	*e*P	Pn	09 56 36.4	+1.3
CMCH				*i*S	Sn	09 57 04.7	+2.6
CMCH				AML	AML	09 57 17.6	
	comp=E,1μm,0.7s						
CMCH	**Combarbala**	**2.29**	**31**	*e*P	Pn	09 56 36.4	+1.3
CMCH				*i*S	Sn	09 57 04.7	+2.6
TLL	**Tololo Astrono**	**3.26**	**25**	⇑*i*P	Pn	09 56 50.8	+2.4
TLL				*i*S	Sn	09 57 28.6	+2.6
TLL				AML	AML	09 57 49.8	
	comp=N,167nm,0.6s						
TLL	**Tololo Astrono**	**3.26**	**25**	⇑*i*P	Pn	09 56 50.8	+2.4
TLL				*i*S	Sn	09 57 28.6	+2.6

KRSC 20 10:42:13, 5296N×15483E, h543km, ML3.8, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**2.01**	**67**	*e*P	P	10 43 24.3	+2.3
GNL				*i*S	S	10 44 16.4	-1.8
RUS	**Russkaya**	**2.30**	**102**	*e*P	P	10 43 25.8	+2.4
RUS				*i*S	S	10 44 17.7	-3.1
PET	**Petropavlovsk**	**2.31**	**87**	*e*P	P	10 43 26.6	+3.1
PET				*i*S	S	10 44 18.5	-2.4
AVH	**Avacha**	**2.38**	**81**	*e*P	P	10 43 27.3	+3.5
NLC	**Nalytchevo**	**2.73**	**84**	*e*P	P	10 43 28.6	+2.8
NLC				*i*S	S	10 44 23.7	-1.4
SPN	**Mys Shipunski**	**3.14**	**85**	*e*P	P	10 43 30.9	+2.6
SPN				*i*S	S	10 44 27.1	-2.5
TUMR	**Tumrok**	**3.90**	**51**	*e*P	P	10 43 36.4	+2.9
MKZ	**Mys Kozlova**	**4.40**	**66**	*e*P	P	10 43 40.5	+3.1
MKZ				*i*S	S	10 44 43.5	-2.8
ZLN	**Zelenaya**	**4.64**	**46**	*e*P	P	10 43 41.2	+1.9
ZLN				*i*S	S	10 44 46.9	-2.9
KBTR	**Krutoberegovo**	**5.67**	**52**	*e*P	P	10 43 50.3	+2.1
KBTR				*i*S	S	10 45 03.0	-3.1

IDC 20 10:49:43.2±1.5, 338N×12666E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=107.2km s-min=19.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.37**	**183**	P	P	10 54 32.3	+0.1
	2.2nm,0.9s,baz=18,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**24.38**	**162**	P	P	10 55 03.1	+0.1
	6.0nm,0.9s,baz=342,slow=10,SNR=43						
ASAR	**Alice Springs**	**27.80**	**166**	P	P	10 55 34.4	+0.5
	0.4nm,0.5s,baz=343,slow=7.4,SNR=10						
STKA	**Stephens Creek**	**37.83**	**159**	P	P	10 57 01.9	+0.5
	5.6nm,1.1s,baz=357,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**57.80**	**325**	P	P	10 59 36.2	0.0
	0.8nm,0.5s,baz=122,slow=7.9,SNR=9.0						
BVAR	**Borovoye Array**	**67.57**	**327**	P	P	11 00 41.6	+0.1
	0.4nm,0.5s,baz=126,slow=7.3,SNR=3.8						

*NEIC **20** 10:55:01.6, 3266S×7178W, h28km±6km, ML2.6(GUC), After GUC.*

GUC 20 10:55:01.6±0.6, 3266S×7178W, h28km±6km, MD3.8, ML2.6, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.71**	**116**	⇑*i*P	Pb	10 55 15.5	0.0
ROCH				*i*S	Sb	10 55 25.6	+0.6
CHNG	**Los Chungos**	**0.81**	**17**	*e*P	Pn	10 55 16.5	-0.6
CHNG				*i*S	Sb	10 55 27.4	-0.4
PTCH	**Petorca**	**0.82**	**61**	⇓*e*P	Pn	10 55 17.1	-0.1
PTCH				*i*S	Sb	10 55 28.4	+0.4
PTCH				AML	AML	10 55 30.6	
	com

ASAR	**Alice Springs**	**27.95**	**164**	P	P	11 14 30.7	+0.7
	0.7nm,0.5s,baz=349,slow=6.9,SNR=12						
STKA	**Stephens Creek**	**38.05**	**158**	P	P	11 15 58.8	+0.7
	1.3nm,0.3s,baz=330,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**57.45**	**326**	P	P	11 18 27.5	-1.1
	0.6nm,0.7s,baz=120,slow=8.8,SNR=4.8						
BVAR	**Borovoye Array**	**67.24**	**327**	P	P	11 19 35.2	+1.1
	0.9nm,0.6s,baz=125,slow=9.0,SNR=4.6						

MAN 20 11:10:14.6, 1365N×12061E, h91km, mb2.4, ML4.0, MS1.7, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.36**	**283**	*e*P	Pn	11 10 29.6	+1.1
LUBP				*e*S	Sn	11 10 41.8	+3.0
PGP	**Puerto Galera**	**0.36**	**114**↑	*e*P	Pn	11 10 30.4	+1.9
PGP				*i* S	Sn	11 10 41.8	+3.0
TGY	**Tagaytay City**	**0.55**	**35**↑	*e*P	Pn	11 10 34.6	+4.8
TGY				*e*S	Sn	11 10 48.3	+7.1
BOAC	**Boac**	**1.21**	**99**	*e*P	Pn	11 10 35.9	-1.0
BUSP	**Coron**	**1.69**	**194**	*e*P	Pn	11 10 43.6	+0.8
BUSP				*e*S	Sn	11 11 05.3	+1.1
OTRP	**Odiongan**	**1.88**	**133**	*e*P	Pn	11 10 46.3	+1.0
BALP	**Baler**	**2.28**	**24**	*e*P	Pn	11 10 51.8	+1.3
ENPP	**El Nido**	**2.69**	**206**	*e*P	Pn	11 10 57.2	+1.2
CUYO	**Cuyo Island**	**2.81**	**172**	*e*P	Pn	11 10 58.3	+0.6

*ISCJB **20** 11:53:02.3±1.3, 2476S±007×1786W±0.1, h293km±18km, mb4.1/11, Error ellipse: s-maj=21.8km s-min=8.4km az=50.6*
*IDC **20** 11:53:05.4±2.6, 2463S×17863W, h313km±24km, mb3.5/6, mb1 3.7/8, mb1mx3.6/13, mbtmp4.3/8, Error ellipse: s-maj=22.1km s-min=18.2km az=137.0*
*NEIC **20** 11:53:08.1±2.1, 2462S×17858W, h344km±21km, mb4.6/6, Error ellipse: s-maj=17.9km s-min=12.2km az=140.0*

ISC 20 11:53:05.0±1.5, 2483S±010×1786W±01, h304km±20km, n28, σ0♦66/24, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.62**	**32**	P	**Pn**	**11 55 55.1**	**+0.2**
	7.0nm,0.3s,baz=188,slow=0.9,SNR=13						
AFI				S	**S**	**11 58 06.6**	**-8.1**
	3.0nm,0.3s,baz=175,slow=22,SNR=3.8						
PUZ	**Puketiti**	**13.47**	**191**	*e*PN	**Pn**	**11 56 04.8**	**-0.3**
MWZ	**Matawai**	**13.86**	**193**	*e*PN	**Pn**	**11 56 08.9**	**-0.8**
URZ	**Urewera**	**13.88**	**194**	P	**Pn**	**11 56 11.8**	**+1.9**
	3.0nm,0.3s,baz=160,slow=1.3,SNR=28						
URZ				S	**S**	**11 58 37.3**	**-5.1**
	2.5nm,0.3s,baz=110,slow=22,SNR=18						
URZ	**Urewera**	**13.88**	**194**	*e*PN	**Pn**	**11 56 09.5**	**-0.4**
CTA	**Charters Tower**	**32.78**	**271**	*e*P	**P**	**11 59 11.5**	**+1.4**
	17nm,0.3s,mb5.0						
CTAO	**Charters Tower**	**32.78**	**271**	*e*P	**P**	**11 59 11.8**	**+1.7**
	22nm,0.4s,mb5.0						
TAU	**Tasmania Univ**	**33.27**	**229**	*e*P	**P**	**11 59 18.1**	**+3.8**
	142nm,1.6s,mb5.2						
STKA	**Stephens Creek**	**35.59**	**249**	P	**P**	**11 59 34.0**	**-0.1**
	2.6nm,0.8s,mb3.8,baz=74,slow=3.3,SNR=5.3						
AS31	**Alice Springs**	**43.16**	**261**	*e*P	**P**	**12 00 36.2**	**-0.1**
ASAR	**Alice Springs**	**43.16**	**261**	P	**P**	**12 00 36.2**	**-0.1**
	1.8nm,0.3s,mb3.7,baz=93,slow=6.9,SNR=47						
ASAR				S	**S**	**12 06 30.8**	**-8.5**
	0.2nm,0.7s,baz=96,slow=15,SNR=2.8						
ASPA	**Alice Springs**	**43.16**	**261**	*e*P	**P**	**12 00 36.2**	**-0.1**
WB2	**Warramunga Arr**	**43.62**	**267**	*e*P	**P**	**12 00 39.4**	**-0.5**
WRAB	**Tennant Creek**	**43.63**	**267**	*e*P	**P**	**12 00 39.8**	**-0.2**
	12nm,0.3s,mb4.6						
WRA	**Warramunga Arr**	**43.63**	**267**	P	**P**	**12 00 39.8**	**-0.2**
	6.4nm,0.3s,mb4.3,baz=100,slow=6.9,SNR=445						
WRA				ScP	ScP	12 05 43.5	+0.3
	1.6nm,0.8s,baz=102,slow=3.7,SNR=14						
WRA				S	**S**	**12 06 38.5**	**-7.6**
	0.5nm,0.8s,baz=102,slow=14,SNR=3.4						
KAKA	**Kakadu**	**47.68**	**275**	*e*P	**P**	**12 01 10.8**	**-0.6**
	5.3nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.05**	**266**	*e*P	**P**	**12 01 44.2**	**+0.1**
	5.7nm,0.6s,mb4.1						
VNDA	**Vanda**	**53.57**	**185**	P	**P**	**12 01 55.8**	**+0.7**
	0.9nm,0.8s,mb3.1,baz=8.6,slow=3.7,SNR=2.7						
MAW	**Mawson**	**77.33**	**200**	P	**P**	**12 04 26.4**	**+0.1**
	1.7nm,0.8s,mb3.8,baz=156,slow=6.7,SNR=4.2						
NVAR	**Mina Array Bea**	**84.53**	**43**	P	**P**	**12 05 03.7**	**-0.5**
	0.2nm,0.3s,mb3.4,baz=243,slow=4.0,SNR=2.8						
ARCES	**ARCESS Array B**	**133.05**	**349**	PKP	PKPdf	12 11 43.2	-1.1
	3.3nm,0.9s,baz=132,slow=1.8,SNR=5.1						
ARCES	**ARCESS Array B**	**133.05**	**349**	PKP	PKPdf	12 11 43.2	-1.2
NB2	**NORSAR Subarra**	**143.19**	**352**	PKPa	PKP	12 11 58.3	
	comp=Z,0.2nm,0.6s,baz=18,slow=3.5						
NOA	**NORSAR Array B**	**143.19**	**352**	PKP	PKPdf	12 11 59.0	-3.9
	comp=Z,2.7nm,0.8s,baz=14,slow=2.4,SNR=4.3						
HFS	**Hagfors**	**143.70**	**350**	PKP	PKPdf	12 12 00.5	-3.3
	comp=Z,5.0nm,0.4s,baz=64,slow=3.4,SNR=42						
AKASG	**Malin Array Be**	**146.45**	**328**	PKPbc	PKPbc	12 12 08.7	-1.7
	comp=Z,1.6nm,0.5s,baz=49,slow=4.1,SNR=4.8						
BRTR	**Keskin Array B**	**149.17**	**307**	PKPbc	PKPbc	12 12 16.2	-1.3
	comp=Z,0.5nm,0.4s,baz=151,slow=3.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**168.38**	**181**	PKPab	PKPab	12 13 46.2	+0.1
	comp=Z,0.3nm,0.5s,baz=169,slow=4.3,SNR=6.0						

*ISCJB **20** 11:59:17.1±0.9, 1816N±006×7743W±006, h27km±8km, Error ellipse: s-maj=10.9km s-min=8.7km az=36.0*
*JSN **20** 11:59:18.9±0.4, 1809N×7740W, h3km±3km, MD2.4*
*SSNC **20** 11:59:23.0, 1932N×7598W, h0km, MD2.9, ML3.0*

ISC 20 11:59:17.4±0.8, 1815N±006×7743W±006, h25km±8km, n6, σ0♦75/10, 3C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CVJ	**Coleyville**	**0.13**	**307**	*i* P	**Pb**	**11 59 22.7**	**+0.4**
CVJ				*i* S	**Sb**	**11 59 25.4**	**-0.2**
MCJ	**Malvern**	**0.33**	**228**	*i* P	**Pb**	**11 59 25.3**	**+0.4**
MCJ				*i* S	**Sb**	**11 59 29.6**	**-0.5**
PCJ	**Portland Cotta**	**0.48**	**148**↓	*i* P	**Pb**	**11 59 26.8**	**-0.5**
STH	**Stony Hill**	**0.59**	**97**↑	*i* P	**Pb**	**11 59 29.1**	**0.0**
STH				*i* S	**Sb**	**11 59 37.1**	**0.0**
GWJ	**Greenwich**	**0.67**	**96**↑	*i* P	**Pb**	**11 59 30.5**	**+0.1**
LMGC	**Las Mercedes**	**1.95**	**12**	*e*PG	**Pn**	**11 59 50.6**	**+1.8**
	baz=127						
LMGC				*e*SG	**Sn**	**12 00 11.0**	**-1.4**
	comp=N,315nm,0.0s						
LMGC				*e*			
	comp=E,253nm,0.1s						

BJI 20 12:14:52.5, 3989N×7730E, h7km, ML3.2, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.09**	**250**	PG	Pg	12 15 11.6	-1.8
KSH				SG	Sg	12 15 26.8	-0.8
KSH				Smax			
	comp=N,465nm,0.2s						
KSH				Smax			
	comp=E,387nm,0.2s						
TKM2	**Tokmak 2**	**3.29**	**338**	↓P*n*	Pg	12 15 50.1	-5.4
	comp=E,0.1nm,0.2s						
TKM2				↑Sn	Sg	12 16 42.2	+4.1
	comp=E,1.0nm,0.5s						
KK31	**Karatay Array**	**6.02**	**304**	Pg	Pg	12 16 40.3	-7.6
	comp=E,1.2nm,0.5s,baz=134,slow=17,SNR=11						
KK31				Lg		12 18 04.1	
	comp=E,4.6nm,0.8s,baz=120,slow=27,SNR=5.1						
MK08	**Makanchi Array**	**7.76**	**26**	↑P	Pn	12 16 30.2	-16
	comp=E,1.0nm,0.2s,baz=178,slow=12						
MK08				↑S		12 16 52.3	
	comp=E,3.7nm,0.4s,baz=179,slow=27						

IDC 20 12:22:22.9±1.3, 1122N×9185E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, Error ellipse: s-maj=53.5km s-min=19.6km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.98**	**64**	*e*P	x	12 22 28.6	
PBA				*e*S	x	12 22 40.0	
PBA				*ex*	x	12 22 41.7	
	comp=E,4μm,0.5s						
PBA				*ex*	x	12 22 42.1	
	comp=N,6μm,0.4s						
MKAR	**Makanchi Array**	**36.37**	**349**	P	P	12 29 28.8	0.0
	comp=N,1.0nm,0.7s,baz=160,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**38.49**	**16**	P	P	12 29 46.8	+0.1
	comp=N,0.4nm,0.5s,baz=201,slow=7.7,SNR=4.7						
FITZ	**Fitzroy Crossi**	**44.29**	**131**	P	P	12 30 34.4	+0.1
	comp=N,1.8nm,1.0s,baz=304,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**52.04**	**126**	P	P	12 31 34.5	+0.2
	comp=N,0.3nm,0.4s,baz=306,slow=8.6,SNR=14						
ASAR	**Alice Springs**	**53.79**	**130**	P	P	12 31 48.1	+1.0
	comp=N,0.2nm,0.5s,baz=308,slow=6.5,SNR=4.9						
BRTR	**Keskin Array B**	**58.55**	**310**	P	P	12 32 21.7	+0.4
	comp=N,0.5nm,0.7s,baz=118,slow=8.8,SNR=3.1						

*NEIC **20** 12:37:55.2, 3317S×7233W, h1km±3km, MD3.9, ML2.8, 6C-4D, Off coast of central Chile*

GUC 20 12:37:55.2±0.7, 3317S×7233W, h1km±3km, MD3.9, ML2.8, 6C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.71**	**116**↑	*i* P	Pg	12 38 09.4	+0.6
LCCH				*i* S	Sg	12 38 20.7	+2.7
LNV	**Longovilo**	**1.10**	**136**↑	*i* P	Pg	12 38 15.8	-0.5
LNV				*i* S	Sg	12 38 31.6	+1.0
ROCH	**El Roble**	**1.13**	**80**↓	*i* P	Pg	12 38 16.8	0.0
ROCH				*i* S	Sg	12 38 32.8	+1.4
TACH	**Talagante**	**1.26**	**113**	*e*P	Pg	12 38 18.6	-0.9
TACH				*i* S	Sg	12 38 35.9	+0.1
RCDM	**Rinconada Maip**	**1.32**	**104**	*e*P	Pg	12 38 19.4	-1.0
RCDM				*i* S	Sg	12 38 37.3	-0.2
RCDM				AML	AML	12 38 38.7	
	comp=N,269nm,0.5s						
RCDM	**Rinconada Maip**	**1.32**	**104**	*e*P	Pg	12 38 19.4	-1.0
RCDM				*i* S	Sg	12 38 37.3	-0.2
PEL	**Peldehue**	**1.38**	**89**↑	*e*P	Pn	12 38 20.6	-1.0
PEL				*i* S	Sg	12 38 40.3	+0.7
PEL				AML	AML	12 38 45.6	
	comp=N,492nm,0.5s						
PEL	**Peldehue**	**1.38**	**89**↑	*e*P	Pn	12 38 20.6	-1.0
PEL				*i* S	Sg	12 38 40.3	+0.7
CLCH	**Cerro Calan**	**1.52**	**99**↓	*e*P	Pn	12 38 23.1	-0.4
CLCH				*i* S	Sn	12 38 44.2	+0.3
CLCH				AML	AML	12 38 53.8	
	comp=E,255nm,0.7s						
JACH	**Jahuel**	**1.54**	**72**↑	*i* P	Pn	12 38 23.0	-0.8
JACH				*i* S	Sn	12 38 42.8	-1.6
CHCH	**Chadas Angostu**	**1.60**	**119**↓	*i* P	Pn	12 38 24.1	-0.4
FCH	**Farellones**	**1.72**	**96**↑	*e*P	Pn	12 38 26.2	0.0
FCH				*i* S	Sn	12 38 48.8	0.0
FCH				AML	AML	12 38 53.2	
	comp=N,153nm,0.3s						
CACH	**El Canelo**	**1.73**	**124**	*e*P	Pn	12 38 27.1	+0.7
SFDO	**San Fernando**	**1.81**	**143**↓	*i* P	Pn	12 38 27.6	+0.2
LMEL	**Las Melosas**	**1.90**	**111**	*e*P	Pn	12 38 29.2	+0.4
LMEL				*i* S	Sn	12 38 53.2	-0.1
CICH	**Cipreses**	**1.96**	**126**	*i* P	Pn	12 38 30.2	+0.6

IDC 20 13:02:18.0±7.5, 8264N×589E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.7/4, MS3.2/4, Ms1 3.2/4, ms1mx2.8/30, Error ellipse: s-maj=150.0km s-min=36.5km az=101.0, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**13.83**	**150**	Pn	Pn	13 05 30.9	-4.4
	0.2nm,0.3s,baz=353,slow=13,SNR=4.8						
ARCES				LR	LR	13 10 45.8	
	comp=Z,63nm,19.8s,baz=203,slow=37						
FINES	**FINESS Array B**	**21.90**	**154**	LR	LR	13 15 13.5	
	comp=Z,43nm,20.7s,baz=92,slow=35						
SCHQ	**Schefferville**	**33.80**	**263**	LR	LR	13 21 22.3	
	comp=Z,81nm,21.9s,baz=339,slow=34						
MKAR	**Makanchi Array**	**42.15**	**96**	P	P	13 10 11.4	-0.7
	0.5nm,0.7s,baz=4.5,slow=7.4,SNR=4.2						
BRTR	**Keskin Array B**	**44.01**	**149**	P	P	13 10 26.6	-0.5
	0.6nm,0.5s,baz=359,slow=7.9,SNR=4.9						
SONM	**Songino Array**	**44.20**	**72**	P	P	13 10 28.2	-0.5
	0.7nm,0.8s,baz=348,slow=6.3,SNR=5.7						
SONM				LR	LR	13 31 12.5	
	comp=Z,51nm,18.2s,baz=65,slow=39						

IDC 20 13:02:36.5±1.0, 1617N×14820E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.9/19, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=34.4km s-min=21.5km az=109.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.12**	**232**	Pn	Pn	13 03 41.3	+0.7
	15nm,0.3s,baz=2.5,slow=22,SNR=15						
GUMO				Sn	Sn	13 04 28.8	-0.7
	38nm,0.3s,baz=41,slow=18,SNR=7.9						
WRA	**Warramunga Arr**	**38.38**	**201**	P	P	13 09 59.7	+0.3
	2.1nm,0.6s,baz=25,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**41.98**	**200**	P	P	13 10 29.4	+0.1
	0.9nm,0.6s,baz=22,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**61.93**	**315**	P	P	13 12 58.8	+0.9
	0.3nm,0.3s,baz=80,slow=7.4,SNR=5.1						
BVAR	**Borovoye Array**	**69.94**	**321**	P	P	13 13 49.2	-0.3
	0.9nm,0.5s,baz=98,slow=6.3,SNR=8.0						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	P	13 15 03.0	+0.5
	0.2nm,0.4s,baz=250,slow=4.7,SNR=3.8						
DBIC	**Dimbokro**	**144.99**	**308**	PKP	PKPdf	13 22 15.2	-0.4
	3.2nm,0.5s,baz=58,slow=4.2,SNR=7.3						
LPAZ	**La Paz**	**145.15**	**95**	PKPbc	PKPbc	13 22 16.9	+1.4
	0.5nm,0.4s,baz=328,slow=3.7,SNR=4.4						

CASC 20 13:15:35.5±3.3, 1197N×8850W, h4km±74km, MD4.1, ML3.3, 6C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.59**	**63**	*e*P	Pn	13 16 04.4	0.0
LEON	**Leon**	**1.63**	**74**↓	*i* P	Pn	13 16 06.0	+1.1
LEON				*e*S	Sn	13 16 29.5	+3.1
LEON				*i*		13 16 31.6	
	comp=Z,406nm,0.4s						
TELN	**Telica**	**1.75**	**69**	*e*P	Pn	13 16 05.8	-0.8
MIRN	**Miramar**	**1.81**	**75**↑	*i* P	Pn	13 16 07.2	-0.2
CNGN	**Cerro Negro**	**1.84**	**73**↓	*i* P	Pn	13 16 06.7	-1.1
CNGN				*e*S	Sn	13 16 32.2	+0.8
COPN	**Copaltepe**	**1.88**	**83**↑	*e*P	Pn	13 16 09.1	+0.8
COPN				*e*S	Sn	13 16 33.1	+0.7
MOMJ	**Momotombo**	**1.96**	**77**↓	*e*P	Pn	13 16 08.4	-1.1
TISN	**Laguna Tiscapa**	**2.19**	**85**↓	*e*P	Pn	13 16 11.8	-0.8
MGAN	**Managua**	**2.21**	**85**	*e*P	Pn	13 16 10.9	-2.0
TICN	**Ticuantepe**	**2.22**	**88**	*e*P	Pn	13 16 12.7	-0.3
SSNN	**San Juan del S**	**2.68**	**104**↑	*i* P	Pn	13 16 20.7	+1.3
SSNN				*e*S	Sn	13 16 53.8	+1.6
CONN	**Concepcion**	**2.84**	**98**↑	*i* P	Pn	13 16 20.5	-1.1
MADN	**Villa Maderas**	**2.96**	**101**	*e*P	Pn	13 16 22.2	-1.0
JCR	**Jicaral**	**3.93**	**122**	*e*P	Pn	13 16 39.6	+3.0
JCR				*e*S	Sn	13 17 25.9	+2.7
CAO	**Cobano**	**4.02**	**124**↑	*e*P	Pn	13 16 40.8	+3.0
CAO				*e*S	Sn	13 17 27.7	+2.3
CGA2	**Cerro Gallo 2**	**4.41**	**116**	*e*P	Pn	13 16 43.8	+0.7
PRS1	**Puriscal**	**4.56**	**115**	*e*P	Pn	13 16 46.1	+1.0
LAJ	**Bijagual**	**4.78**	**116**	*e*P	Pn	13 16 45.4	-2.9
LAJ				*e*S	Sn	13 17 36.2	-7.8
LCR2	**La Lucha 2**	**4.94**	**116**	*e*P	Pn	13 16 50.2	-0.2
BUS	**Buena Vista**	**5.24**	**117**	*e*P	Pn	13 16 54.5	0.0

*ISCJB **20** 13:33:46.5±2.1, 4151N±009×737E±0.1, h10km, Error ellipse: s-maj=14.7km s-min=10.7km az=94.9*
*KNET **20** 13:33:49.7±0.5, 4167N×7383E, h16km±2km, ml1.8, Error ellipse: s-maj=3.0km s-min=1.9km az=0.0*

ISC 20 13:33:46.5±1.6, 4152N±008×7374E±008, h10km, n7, σ0♦78/12, 7C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**0.62**	**357**	↓P	**Pg**	**13 33 59.4**	**+0.9**
	41nm,0.2s,SNR=97						
AML				↑S	**Sg**	**13 34 07.0**	**+0.5**
	105nm,0.2s						
UCH	**Uchtor**	**0.92**	**39**	P	**Pg**	**13 34 04.6**	**+0.4**
	6.9nm,0.1s,SNR=49						
UCH				↑S	**Sg**	**13 34 16.4**	**+0.3**
	52nm,0.2s						
EKS2	**Erkin-Say**	**1.15**	**2**	↓P	**Pb**	**13 34 08.8**	**+0.4**
	1.8nm,0.1s,SNR=10						
EKS2				↑S	**Sb**	**13 34 23.0**	**-0.3**
	4.5nm,0.1s						
AAK	**Ala-Archa**	**1.25**	**27**	↓P	**Pn**	**13 34 10.8**	**+0.8**
	2.7nm,0.2s,SNR=9.2						
AAK				↓S	**Sb**	**13 34 26.5**	**+0.1**
	19nm,0.1s						
KZA	**Kyzart**	**1.26**	**63**	↑P	**Pn**	**13 34 10.7**	**+0.5**
	2.4nm,0.1s,SNR=20						
TKM2	**Tokmak 2**	**1.97**	**44**	↑P	**Pg**	**13 34 23.5**	**-0.8**
	0.1nm,0.4s						
TKM2				↑S	**Sg**	**13 34 48.3**	**-1.5**
	0.3nm,0.5s						
KK31	**Karatay Array**	**2.87**	**305**	Pn	**Pg**	**13 34 40.1**	**-1.4**
	1.2nm,0.5s,baz=120,slow=16,SNR=10						
KK31				↑Lg		13 35 17.8	
	5.3nm,0.5s,baz=122,slow=28,SNR=5.2						

*MOS **20** 15:17:37.3±1.2, 6048N×16560E, h10km, mb4.2/7, Error ellipse: s-maj=25.6km s-min=18.9km az=95.3*
*ISCJB **20** 15:17:38.8±6.7, 6047N±0.1×16560E±0.1, h15km±46km, mb4.0/12, Error ellipse: s-maj=25.0km s-min=12.1km az=176.5*
*IDC **20** 15:17:38.7±1.3, 6077N×16546E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=37.1km s-min=22.8km az=177.0*
*NEIC **20** 15:17:43.5±4.3, 6076N×16560E, h34km±32km, mb4.1/5, Error ellipse: s-maj=24.1km s-min=9.3km az=174.0*

ISC 20 15:17:40.6±4.5, 6056N±01×16560E±01, h22km±35km, n26, σ1♦05/26, mb4.0/12, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MA2	**Magadan**	**7.50**	**269**	*e*PN	**Pn**	**15 19 29.4**	**+0.8**
PET	**Petropavlovsk**	**8.44**	**210**	*e*PN	**Pn**	**15 19 39.9**	**-1.6**
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
YAK	**Yakutsk**	**17.20**	**291**	*e*P	**Pn**	**15 21 40.8**	**+1.3**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
YAK	**Yakutsk**	**17.20**	**291**	*e*P	**Pn**	**15 21 40.8**	**+1.3**
	comp=Z,4.4nm,0.6s						
MCK	**McKinley**	**21.13**	**62**	*e*P	**P**	**15 22 24.4**	**+0.5**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.0						
MCK	**McKinley**	**21.13**	**62**	*e*P	**P**	**15 22 24.4**	**+0.4**
	comp=Z,8.1nm,1.1s,mb4.0						
EGAK	**Eagle**	**24.19**	**57**	*e*P	**P**	**15 22 53.4**	**-2.0**
BOD	**Bodaibo**	**26.03**	**287**	*e*P	**P**	**15 23 12.4**	**+0.3**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.9						
INK	**Inuvik**	**26.31**	**47**	P	**P**	**15 23 15.6**	**+0.9**
	comp=Z,3.6nm,1.0s,mb3.8,baz=294,slow=10.0,SNR=5.9						
INK	**Inuvik**	**26.31**	**47**	*e*P	**P**	**15 23 15.5**	**+0.8**
CHKZ	**Chkalovo**	**47.70**	**307**	P	**P**	**15 26 15.1**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
CHKZ	**Chkalovo**	**47.70**	**307**	P	**P**	**15 26 15.1**	**-0.5**
	comp=Z,4.6nm,1.4s,mb4.3						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**15 26 16.4**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.2,baz=42,slow=8.3,SNR=12						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**15 26 16.4**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.85**	**293**	P	**P**	**15 26 16.4**	**-0.3**
BVAR	**Borovoye Array**	**48.28**	**306**	P	**P**	**15 26 19.8**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=44,slow=6.9,SNR=10						
BVAR	**Borovoye Array**	**48.28**	**306**	P	**P**	**15 26 19.8**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**48.30**	**306**	P	**P**	**15 26 20.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**48.30**	**306**	P	**P**	**15 26 20.1**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.2						
BW06	**Boulder Array**	**51.62**	**69**	*e*P	**P**	**15 26 46.1**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**51.62**	**69**	P	**P**	**15 26 46.2**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.0,baz=316,slow=3.4,SNR=13						
AKTK	**Aktyubinsk**	**55.07**	**312**	P	**P**	**15 27 10.3**	**-0.4**
AKTO	**Aktyubinsk**	**55.07**	**312**	P	**P**	**15 27 10.3**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=50,slow=7.9,SNR=3.1						
NOA	**NORSAR Array B**	**57.16**	**346**	P	**P**	**15 27 23.7**	**-2.0**
	comp=Z,0.7nm,0.6s,mb3.9,baz=14,slow=7.3,SNR=2.8						
NOA	**NORSAR Array B**	**57.16**	**346**	P	**P**	**15 27 23.7**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**84.09**	**209**	P	**P**	**15 30 11.9**	**+2.1**
	comp=Z,0.4nm,0.8s,mb3.6,baz=14,slow=5.0,SNR=5.1						

MAN 20 16:01:14.0, 1357N×11977E, h3km, mb1.8, ML3.6, MS2.6, 1D, Philippine Islands region

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

BALT			*i* S		**Sn**	**17 07 00.2**	**+1.7**
ESKT	**Eskisehir**	**1.53**	**202**	*i* P	**Pn**	**17 06 41.2**	**+1.2**
ESKT				*i* S	**Sn**	**17 07 01.6**	**+1.7**

IDC ***20*** *17:09:24.5±7.8, 648S×150.13E, h57km±59km, mb3.9/4, mb1 4.2/5, mb1mx3.7/12, mbtmp4.2/5, ML3.0/1, MS3.4/5, Ms1 3.4/5, ms1mx3.0/20, Error ellipse: s-maj=54.1km s-min=45.9km az=101.0*

NEIC 20 17:09:20.6±1.1, 646S×15038E, h35km, mb4.3/4, 1D, Error ellipse: s-maj=33.1km s-min=16.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.33**	**227**	P	Pn	17 10 25.3	+1.3
	7.2nm,0.3s,baz=39,slow=9.4,SNR=24						
PMG				S	Sn	17 11 13.1	0.0
	12nm,0.3s,baz=97,slow=19,SNR=5.6						
PMG	**Port Moresby**	**4.33**	**227**	*e*Pn	Pn	17 10 25.1	+1.2
PMG				*e*Sn	Sn	17 11 12.4	-0.8
CTA	**Charters Tower**	**14.13**	**196**	LR	LR	17 16 36.1	
	comp=Z,107nm,21.4s,baz=183,slow=31						
KAKA	**Kakadu**	**18.75**	**249**	*e*P	Pn	17 13 36.3	-0.7
	3.2nm,0.6s						
WRAB	**Tennant Creek**	**20.54**	**228**	*e*P	P	17 13 56.4	+0.5
	14nm,0.6s						
WB2	**Warramunga Arr**	**20.54**	**228**	⇓*i*P	P	17 13 56.4	+0.4
WRA	**Warramunga Arr**	**20.55**	**228**	P	P	17 13 56.5	+0.5
	11nm,0.6s,baz=52,slow=11,SNR=96						
AS31	**Alice Springs**	**23.32**	**221**	*e*P	P	17 14 24.4	-1.2
ASAR	**Alice Springs**	**23.32**	**221**	P	P	17 14 25.6	0.0
	3.1nm,1.0s,baz=56,slow=9.2,SNR=17						
ASAR				LR	LR	17 24 38.4	
	comp=Z,42nm,19.5s,baz=187,slow=40						
ASPA	**Alice Springs**	**23.32**	**221**	*e*P	P	17 14 24.4	-1.2
STKA	**Stephens Creek**	**26.59**	**197**	*e*P	P	17 14 55.8	+0.4
	3.3nm,0.6s						
STKA	**Stephens Creek**	**26.59**	**197**	P	P	17 14 56.4	+0.9
	4.3nm,0.7s,baz=15,slow=11,SNR=9.8						
STKA				LR	LR	17 24 52.2	
	comp=Z,86nm,19.1s,baz=26,slow=35						
FITZ	**Fitzroy Crossi**	**26.76**	**242**	*e*P	P	17 14 57.9	+0.9
	12nm,1.2s						
FITZ	**Fitzroy Crossi**	**26.76**	**242**	P	P	17 14 57.2	+0.2
	1.1nm,0.4s,baz=64,slow=8.1,SNR=16						
FITZ				LR	LR	17 27 16.5	
	comp=Z,73nm,18.7s,baz=160,slow=40						
RPZ	**Rata Peaks**	**41.31**	**157**	LR	LR	17 31 37.5	
	comp=Z,127nm,18.3s,baz=334,slow=32						
GERES	**GERESS Array B**	**124.16**	**327**	PKP	PKPdf	17 28 16.1	+0.7
	0.2nm,0.3s,baz=64,slow=2.3,SNR=6.2						
TORD	**Torodi Ar. Bea**	**148.46**	**285**	PKPbc	PKPbc	17 29 05.0	+1.5
	1.9nm,0.6s,baz=52,slow=3.1,SNR=22						
TORD	**Torodi Ar. Bea**	**148.46**	**285**	PKPbc	PKPbc	17 29 05.0	+1.5

JMA 20 17:10:11.4±0.1, 4052N×13915E, h20km±2km, M3.5, 4C, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.66**	**83**	⇑P	Pb	17 10 23.9	-0.3
JIW				S	Sb	17 10 32.4	-0.5
JOG2	**Oga 2**	**0.78**	**141**	⇑P	Pb	17 10 26.1	-0.2
JOG2				S	Sb	17 10 36.6	+0.2
JAH	**Hinai**	**1.18**	**106**	⇑P	Pn	17 10 32.4	-0.4
JAH				S	Sb	17 10 48.0	0.0
JSR	**Shiriuchi**	**1.39**	**43**	P	Pn	17 10 35.7	0.0
JSR				S	Sn	17 10 52.1	-1.3
JTM	**Tenmabayashi**	**1.48**	**79**	P	Pn	17 10 37.1	+0.2
JTM				S	Sn	17 10 55.7	0.0
JOSM	**Okushiri--Mats**	**1.58**	**9**	P	Pn	17 10 37.2	-1.1
JOT	**Ohata**	**1.68**	**58**	P	Pn	17 10 39.8	+0.2
JOT				S	Sn	17 11 00.6	+0.1
JANG	**Nango**	**1.81**	**94**	P	Pn	17 10 42.2	+0.8
JYM2	**Yakumo 2**	**1.84**	**30**	P	Pn	17 10 42.2	+0.4
JYK	**Kaneyama**	**1.85**	**149**	⇑P	Pn	17 10 41.7	-0.3
JYK				S	Sn	17 11 04.5	-0.3

ISCJB ***20*** *17:12:46.0±0.6, 1667S±0.10×6957W±005, h187km±7km, mb3.8/3, Error ellipse: s-maj=16.0km s-min=8.5km az=171.1*

NEIC ***20*** *17:12:46.8±0.7, 1668S×6959W, h180km±9km, mb4.0/1, Error ellipse: s-maj=13.1km s-min=11.4km az=181.0*

IDC ***20*** *17:12:48.8±1.8, 1692S×6931W, h182km±6km, mb3.5/4, mb1 3.6/6, mb1mx3.4/18, mbtmp4.1/6, Error ellipse: s-maj=34.1km s-min=12.6km az=115.0*

ISC 20 17:12:47.1±0.6, 1670S±010×6957W±005, h180km±7km, n11, σ1§04/16, mb3.8/3, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.44**	**74**	P	**Pn**	**17 13 20.4**	**+2.0**
	3.7nm,0.3s,baz=258,slow=5.6,SNR=127						
LPAZ				S	**Sn**	**17 13 43.6**	**+1.0**
	11nm,0.3s,baz=2.3,slow=24,SNR=46						
ARE	**Arequipa**	**1.86**	**277**	⇓*i*P	**Pn**	**17 13 22.5**	**-0.2**
ARE				*e*S	**Sn**	**17 13 50.0**	**-0.1**
LVC	**Limon Verde**	**5.92**	**174**	P	**Pn**	**17 14 12.2**	**-0.8**
	11nm,0.3s,baz=328,slow=12,SNR=101						
LVC				S	**Sn**	**17 15 15.3**	**-5.2**
	4.3nm,0.3s,baz=118,slow=23,SNR=5.9						
SIV	**San Ignacio**	**8.19**	**86**	P	**Pn**	**17 14 41.3**	**-1.5**
	2.9nm,0.3s,baz=273,slow=12,SNR=33						
SIV				S	**Sn**	**17 16 12.4**	**-2.0**
	0.3nm,0.3s,baz=8.0,slow=17,SNR=3.2						
NNA	**Nana**	**8.46**	**303**	P	**Pn**	**17 14 45.2**	**-1.2**
NNA				*e*S	**Sn**	**17 16 14.6**	**-6.5**
CFAA	**Coronel Fontan**	**14.89**	**176**	P	**Pn**	**17 16 08.8**	**+0.1**
	0.1nm,0.3s,baz=354,slow=11,SNR=4.7						
BDFB	**Brasilia**	**20.73**	**90**	P	**P**	**17 17 13.9**	**+0.3**
	2.2nm,0.5s,baz=260,slow=9.2,SNR=3.3						
PLCA	**Paso Flores**	**23.96**	**182**	P	**P**	**17 17 45.9**	**+0.9**
	1.9nm,1.0s,mb3.6,baz=318,slow=8.5,SNR=3.3						
DBIC	**Dimbokro**	**68.06**	**76**	P	**P**	**17 23 27.9**	**+0.7**
	1.4nm,0.5s,mb4.0,baz=233,slow=7.1,SNR=4.7						
DBIC	**Dimbokro**	**68.06**	**76**	*e*P	**P**	**17 23 28.0**	**+0.8**
	1.2nm,0.4s,mb4.0						
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**17 24 17.1**	**+0.5**
	2.1nm,0.7s,mb3.9,baz=263,slow=4.8,SNR=20						

BJI ***20*** *17:12:47.3, 573S×150.23E, h36km, mB4.9, mb5.0, Ms4.1, Msz3.7*

NEIC ***20*** *17:12:49.7±0.7, 556S×150.40E, h35km, mb4.8/19, Error ellipse: s-maj=21.4km s-min=9.6km az=101.0*

ISCJB ***20*** *17:13:00.6±1.0, 551S±005×150.06E±006, h142km±10km, mb4.5/31, Error ellipse: s-maj=11.1km s-min=7.0km az=42.7*

IDC ***20*** *17:13:02.9±1.4, 561S×150.05E, h150km±11km, mb4.1/11, mb1 4.1/14, mb1mx4.1/17, mbtmp4.6/14, Error ellipse: s-maj=15.0km s-min=9.0km az=109.0*

ISC 20 17:13:03.3±0.9, 561S±004×15007E±007, h151km±8km, n58, σ1§00/62, mb4.4/31, 3C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.75**	**217**	P	**Pn**	**17 14 13.0**	**-0.3**
	34nm,0.3s,baz=25,slow=8.0,SNR=34						
PMG				S	**Sn**	**17 15 08.5**	**+0.4**
	75nm,0.3s,baz=160,slow=22,SNR=16						
PMG	**Port Moresby**	**4.75**	**217**	*e*Pn	**Pn**	**17 14 12.7**	**-0.7**
PMG				*e*		17 14 44.2	
PMG				*e*Sn	**Sn**	**17 15 08.5**	**+0.5**
HNR	**Honiara**	**10.50**	**112**	P	**Pn**	**17 15 29.1**	**-0.7**
	2.5nm,0.3s,baz=96,slow=5.9,SNR=2.7						
CTA	**Charters Tower**	**14.87**	**194**	*e*P	**Pn**	**17 16 26.6**	**+0.7**
	6.7nm,0.6s						
CTA	**Charters Tower**	**14.87**	**194**	P	**Pn**	**17 16 27.1**	**+1.3**
	1.1nm,0.3s,baz=22,slow=12,SNR=15						
CTAO	**Charters Tower**	**14.87**	**194**	*e*P	**Pn**	**17 16 27.5**	**+1.7**
KAKA	**Kakadu**	**18.77**	**247**	*e*P	**P**	**17 17 09.3**	**-1.5**
	17nm,0.5s						
KAKA				*e*S	**S**	**17 20 32.8**	**-3.6**
WRAB	**Tennant Creek**	**20.89**	**226**	*e*P	**P**	**17 17 33.4**	**-0.2**
	34nm,0.5s						
WB2	**Warramunga Arr**	**20.90**	**226**	⇓*i*P	**P**	**17 17 33.4**	**-0.2**
WB2				*e*S	**S**	**17 21 17.4**	**-0.7**
WRA	**Warramunga Arr**	**20.91**	**226**	P	**P**	**17 17 33.5**	**-0.2**
	18nm,0.5s,baz=50,slow=10,SNR=95						
WRA				S	**S**	**17 21 18.4**	**+0.2**
	3.1nm,0.8s,baz=48,slow=20,SNR=7.2						
WRA				PcP	PcP	17 21 35.9	+0.5
	2.8nm,0.8s,baz=9.1,slow=1.5,SNR=8.8						
WRA				ScP	ScP	17 24 59.5	+1.6
	0.9nm,0.7s,baz=51,slow=2.9,SNR=8.6						
DZM	**Mont Dzumac**	**22.78**	**138**	P	**P**	**17 17 52.9**	**+0.1**
	11nm,0.5s,mb4.5,baz=277,slow=4.1,SNR=23						
AS31	**Alice Springs**	**23.76**	**219**	*e*P	**P**	**17 18 02.3**	**+0.6**
AS31				*e*S	**S**	**17 22 06.3**	**+0.3**
ASAR	**Alice Springs**	**23.77**	**219**	P	**P**	**17 18 02.4**	**+0.6**
	5.3nm,0.5s,mb4.3,baz=49,slow=8.8,SNR=77						
ASAR				PcP	PcP	17 21 41.5	+0.4
	1.6nm,0.7s,baz=57,slow=2.3,SNR=6.1						
ASAR				S	**S**	**17 22 06.8**	**+0.7**
	2.8nm,0.7s,baz=49,slow=14,SNR=12						
ASAR				ScP	ScP	17 25 07.2	+1.9
	0.7nm,0.8s,baz=52,slow=2.6,SNR=4.2						
ASPA	**Alice Springs**	**23.77**	**219**	*e*P	**P**	**17 18 02.3**	**+0.5**
ASPA				*e*S	**S**	**17 22 06.3**	**+0.3**
ARMA	**Armidale**	**24.73**	**177**	*e*P	**P**	**17 18 13.4**	**+2.9**
FITZ	**Fitzroy Crossi**	**26.90**	**240**	⇓*i*P	**P**	**17 18 29.5**	**-0.5**
	23nm,0.4s,mb5.2						
FITZ	**Fitzroy Crossi**	**26.90**	**240**	P	**P**	**17 18 29.6**	**-0.5**
	12nm,0.4s,mb4.9,baz=63,slow=8.4,SNR=135						
STKA	**Stephens Creek**	**27.32**	**196**	*e*P	**P**	**17 18 34.4**	**+0.6**
	6.5nm,1.4s,mb4.1						
STKA	**Stephens Creek**	**27.32**	**196**	P	**P**	**17 18 33.8**	**0.0**
	1.5nm,0.5s,mb3.9,baz=216,slow=11,SNR=6.4						
FORT	**Forrest**	**32.48**	**217**	⇑*i*P	**P**	**17 19 19.4**	**+0.1**
	18nm,0.7s,mb4.9						
MBWA	**Marble Bar**	**33.22**	**239**	*e*P	**P**	**17 19 25.1**	**-0.6**
	20nm,0.8s,mb4.9						
TGY	**Tagaytay City**	**34.91**	**304**	P	**P**	**17 19 41.4**	**+1.1**
	43nm,0.4s,baz=300,slow=16,SNR=2.9						
JOW	**Kunigami**	**38.54**	**328**	P	**P**	**17 20 12.4**	**+1.5**
	11nm,0.6s,mb4.7,baz=136,slow=9.5,SNR=10						
KLBR	**Kellerberrin**	**39.79**	**225**	⇑*i*P	**P**	**17 20 20.8**	**-0.6**
	28nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**40.91**	**224**	*e*P	**P**	**17 20 28.8**	**-1.8**
YHNB	**Yeheng**	**41.06**	**318**	*e*P	**P**	**17 20 32.3**	**+0.5**
MUN	**Mundaring**	**41.11**	**226**	⇑*i*P	**P**	**17 20 32.1**	**-0.1**
MJAR	**Matsushiro Arr**	**43.37**	**346**	P	**P**	**17 20 49.7**	**-0.9**
	1.6nm,0.5s,mb3.9,baz=119,slow=1.0,SNR=11						
MAJO	**Matsushiro**	**43.37**	**346**	*e*P	**P**	**17 20 49.8**	**-0.8**
	5.9nm,0.6s,mb4.4						
MAT	**Matsushiro**	**43.37**	**346**	P	**P**	**17 20 49.4**	**-1.1**
YSS	**Yuzh-Sakhalins**	**52.73**	**354**	*e*P	**P**	**17 22 02.3**	**-0.1**
	6.0nm,0.5s,mb4.6						
MDJ	**Mudanjiang**	**53.27**	**342**	P	**P**	**17 22 06.8**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,74nm,6.9s						
MDJ				LR	LR		
	comp=N,17nm,27.1s						
MDJ				LR	LR		
	comp=E,19nm,27.1s						
MDJ				LR	LR		
	comp=Z,26nm,34.7s						
MDJ	**Mudanjiang**	**53.27**	**342**	*e*P	**P**	**17 22 06.7**	**+0.3**
	comp=Z,24nm,0.8s,mb5.0						
CN2	**Changchun**	**53.97**	**338**	*e*P	**P**	**17 22 11.3**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
BJT	**Baijiatuan**	**55.09**	**329**	*e*P	**P**	**17 22 19.8**	**+0.3**
	comp=Z,6.9nm,0.6s,mb4.6						
KMI	**Kunming**	**55.21**	**306**	P	**P**	**17 22 21.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
XAN	**Xi'an**	**55.37**	**318**	P	**P**	**17 22 21.8**	**+0.3**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.8						
HHC	**Hu-ho-hao-te**	**58.16**	**326**	*e*P	**P**	**17 22 43.5**	**+2.4**
HHC				PCP	PcP	17 23 33.0	+2.0
HHC				PP	PP	17 24 56.0	+4.5
HHC				PCS	PcS	17 27 33.0	+0.4
HHC				S	**S**	**17 30 30.6**	**0.0**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb4.9						
HHC				LR	LR		
	comp=N,41nm,3.9s						
HHC				LR	LR		
	comp=E,67nm,4.1s						
HHC				LR	LR		
	comp=Z,73nm,6.3s						
HIA	**Hailar**	**60.70**	**338**	*e*P	**P**	**17 22 58.9**	**+0.3**
	comp=Z,19nm,0.6s,mb5.1						
GTA	**Gaotai**	**64.43**	**319**	*e*P	**P**	**17 23 23.3**	**0.0**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**65.27**	**330**	*e*P	**P**	**17 23 29.0**	**+0.3**
	comp=Z,6.6nm,0.9s,mb4.5						
SONM	**Songino Array**	**65.59**	**329**	P	**P**	**17 23 31.4**	**+0.6**
	comp=Z,7.2nm,0.6s,mb4.7,baz=143,slow=5.2,SNR=42						
CASY	**Casey**	**66.47**	**196**	*e*P	**P**	**17 23 36.2**	**-0.2**
	comp=Z,2.7nm,0.4s,mb4.4						
LSA	**Lhasa**	**66.47**	**306**	*e*P	**P**	**17 23 38.3**	**+1.9**
	comp=Z,2.7nm,0.6s,mb4.2						
VNDA	**Vanda**	**72.14**	**177**	*e*P	**P**	**17 24 11.9**	**+0.6**
WMQ	**Urumqi**	**74.51**	**318**	*e*P	**P**	**17 24 26.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**79.16**	**320**	P	**P**	**17 24 49.6**	**-1.6**
	comp=Z,1.1nm,0.4s,mb3.8,baz=95,slow=7.6,SNR=15						
AAK	**Ala-Archa**	**83.25**	**314**	P	**P**	**17 25 11.7**	**-1.1**
	comp=Z,1.1nm,0.4s,mb3.9						
MAW	**Mawson**	**83.79**	**203**	P	**P**	**17 25 14.1**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.0,baz=58,slow=6.2,SNR=6.7						
QSPA	**South Pole Qui**	**84.36**	**180**	*e*P	**P**	**17 25 18.9**	**+0.5**
	comp=Z,4.6nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**88.26**	**324**	*e*P	**P**	**17 25 34.1**	**-3.3**
	comp=Z,1.5nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**88.26**	**324**	P	**P**	**17 25 35.3**	**-2.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=102,slow=4.9,SNR=14						
ZRNK	**Zerenda**	**89.07**	**323**	P	**P**	**17 25 37.9**	**-3.3**
	comp=Z,1.1nm,0.5s,mb4.0						
GERES	**GERESS Array B**	**123.28**	**327**	PKP	PKPdf	17 31 41.3	-0.8
	comp=Z,0.5nm,0.5s,baz=90,slow=1.6,SNR=6.5						
LPAZ	**La Paz**	**136.39**	**121**	PKP	PKPdf	17 32 08.7	+1.8
	comp=Z,0.7nm,0.6s,baz=0.0,slow=4.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.94**	**286**	PKPbc	PKPbc	17 32 30.8	+0.2
	comp=Z,1.4nm,0.3s,baz=96,slow=2.7,SNR=40						
TORD	**Torodi Ar. Bea**	**147.94**	**286**	PKPbc	PKPbc	17 32 30.8	+0.2
BDFB	**Brasilia**	**152.32**	**140**	PKPbc	PKPbc	17 32 43.7	+2.6
	comp=Z,2.4nm,0.4s,baz=141,slow=7.8,SNR=3.5						

NEIC ***20*** *17:44:13.9, 1653N×100.16W, h4km, MD3.8(MEX), After MEX.*

MEX 20 17:44:14.0±0.8, 1654N×10015W, h4km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.40**	**35**	*i* P	Pg	17 44 21.0	-0.6
ACX				*i* S	Sg	17 44 27.0	+0.2
CAIG	**El Cayaco**	**0.52**	**348**	*i* P	Pg	17 44 23.6	-0.3
CAIG				*i* S	Sg	17 44 32.0	+1.3
MEIG	**Mezcala**	**1.47**	**20**	*i* P	Pn	17 44 37.9	-3.4
MEIG				*i* S	Sb	17 44 55.2	-5.7
PLIG	**Platanillo**	**1.94**	**19**	*i* P	Pn	17 44 45.2	-2.6
PLIG				*i* S	Sn	17 45 08.0	-4.6
PNIG	**Pinotepa**	**1.95**	**94**	*i* P	Pn	17 44 45.6	-2.2
PNIG				*i* S	Sn	17 45 08.1	-4.6
UTMO	**Huajuapan**	**2.59**	**60**	*i* P	Pn	17 44 52.4	-4.2
UTMO				*i* S	Sn	17 45 26.1	-2.4
PPM	**Popocatepetl**	**2.91**	**30**	*i* P	Pn	17 45 00.3	-0.7
PPM				*i* S	Sn	17 45 32.0	-4.3
TPIG	**Tehuac#an**	**3.26**	**55**	*i* P	Sn	17 45 43.2	-1.8
VHO	**Vista Hermosa**	**3.32**	**80**	*i* P	Pn	17 45 05.2	-1.4
VHO				*i* S	Sn	17 45 43.7	-2.8

IDC 20 18:04:30.8±3.6, 570S×15143E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/10, mbtmp3.2/2, Error ellipse: s-maj=140.0km s-min=49.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**228**	P	P	18 09 23.6	-1.1
	0.4nm,0.4s,baz=54,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**24.57**	**222**	P	P	18 09 54.0	+1.6
	0.5nm,0.7s,baz=58,slow=8.9,SNR=8.4						
TORD	**Torodi Ar. Bea**	**149.27**	**286**	PKPbc	PKPbc	18 24 21.9	+0.5
	0.7nm,0.6s,baz=52,slow=2.6,SNR=6.4						

IDC 20 18:26:58.9±16.0, 1904S×17423W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.3/5, Error ellipse: s-maj=306.0km s-min=140.8km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.20**	**262**	*e*P	P	18 34 13.4	+1.7
	3.7nm,0.4s						
CTA	**Charters Tower**	**37.20**	**262**	P	P	18 34 12.9	+1.2
	3.7nm,0.4s,baz=84,slow=11,SNR=10						
STKA	**Stephens Creek**	**41.62**	**243**	P	P	18 34 48.8	+0.1
	1.7nm,0.5s,baz=101,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**48.32**	**255**	P	P	18 35 41.9	-0.1
	4.0nm,0.8s,baz=92,slow=7.9,SNR=87						
ASPA	**Alice Springs**	**48.32**	**255**	*e*P	P	18 35 41.8	-0.2
WB2	**Warramunga Arr**	**48.33**	**260**	*e*P	P	18 35 42.1	0.0
WRA	**Warramunga Arr**	**48.34**	**260**	P	P	18 35 42.2	0.0
	1.9nm,0.3s,baz=97,slow=7.5,SNR=107						
KAKA	**Kakadu**	**51.53**	**269**	*e*P	P	18 36 08.1	+1.7
	6.5nm,1.0s						
FITZ	**Fitzroy Crossi**	**56.76**	**260**	P	P	18 36 45.2	+0.6
	0.8nm,0.5s,baz=186,slow=22,SNR=12						

IDC ***20*** *18:44:55.4±3.0, 724S×149.14E, h0km, mb3.1/1, mb1 3.7/3, mb1mx3.4/11, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=114.9km s-min=33.8km az=122.0*

NEIC 20 18:44:58.9±2.3, 738S×14938E, h35km, mb4.4/1, 1C, Error ellipse: s-maj=86.6km s-min=23.5km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.98**	**227**	Pn	Pn	18 45 44.4	+0.8
	6.2nm,0.3s,baz=63,slow=6.7,SNR=20						
PMG				Sn	Sn	18 46 21.7	+3.6
	14nm,0.3s,baz=137,slow=21,SNR=14						
WB2	**Warramunga Arr**	**19.19**	**228**	*e*P	Pn	18 49 19.7	-1.0
WRA	**Warramunga Arr**	**19.20**	**228**	P	Pn	18 49 19.9	-0.8
	0.3nm,0.3s,baz=53,slow=11,SNR=26						
AS31	**Alice Springs**	**21.97**	**221**	*e*P	P	18 49 49.8	+0.1
ASAR	**Alice Springs**	**21.98**	**221**	P	P	18 49 49.8	+0.1
	0.5nm,0.4s,baz=59,slow=9.0,SNR=22						
ASPA	**Alice Springs**	**21.98**	**221**	*e*P	P	18 49 49.8	+0.1
FITZ	**Fitzroy Crossi**	**25.45**	**243**	⇑*i*P	P	18 50 23.3	-0.2
	4.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**147.71**	**283**	PKPbc	PKPbc	19 04 41.6	+1.9
	0.4nm,0.6s,baz=46,slow=3.6,SNR=8.2						

MEX 20 18:52:30.2±0.6, 1475N×9444W, h11km±11km, MD4.2, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.90**	**302**	*i* P	Pn	18 53 00.7	-1.9
HUIG				*i* S	Sn	18 53 21.8	-4.6
CMIG	**Matias Romero**	**2.37**	**350**	*i* P	Pn	18 53 06.1	-2.9
CMIG				*i* S	Sn	18 53 33.7	-4.3
SCX	**San Cristobal**	**2.63**	**41**	*i* P	Pn	18 53 11.0	-1.7
SCX				*i* S	Sn	18 53 41.0	-3.6
CCIG	**Comitan**	**2.70**	**55**	*i* P	Pn	18 53 10.3	-3.2
CCIG				*i* S	Sn	18 53 42.8	-3.4

ISCJB ***20*** *19:02:31.3±0.7, 3497N±003×2305E±003, h7km±5km, mb4.0/20, MS3.2/3, Error ellipse: s-maj=4.7km s-min=3.4km az=35.6*

ATH ***20*** *19:02:33.1, 35.11N×23.13E, h6km±1km, MD4.1/13, ML4.2*

CSEM ***20*** *19:02:33.5±0.1, 3478N×2308E, h38km±1km, mb4.2/9, Error ellipse: s-maj=2.6km s-min=1.8km az=28.0*

NEIC ***20*** *19:02:33.7, 35.13N×23.18E, h7km, mb4.1/10, ML4.2(ATH), After ATH.*

MOS ***20*** *19:02:34.8±1.6, 3499N×2300E, h33km, mb4.2/15, Error ellipse: s-maj=9.7km s-min=4.8km az=89.8*

THE ***20*** *19:02:35.5, 35.16N×2323E, h10km, ML4.3*

HLW ***20*** *19:02:36.7, 35.13N×2376E, h33km, Mb3.6*

IDC ***20*** *19:02:38.4±2.6, 3513N×2304E, h47km±25km, mb3.8/10, mb1 3.8/15, mb1mx3.7/26, mbtmp3.9/15, ML3.7/5, MS3.1/5, Ms1 3.1/5, ms1mx2.8/39, Error ellipse: s-maj=22.4km s-min=14.4km az=143.0*

NAO ***20*** *19:02:45.2, 3535N×2344E, h33km, mb4.3*

ISC 20 19:02:32.6±0.8, 3497N±003×2310E±003, h3km±5km, n170, σ1§36/181, mb4.0/20, MS3.2/3, 9C-10D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.80**	**57**	*e*Pg	**Pg**	**19 02 46.8**	**-1.1**
KARN				*e*Sg	**Sg**	**19 02 56.8**	**-1.5**
GVD	**Gavdhos**	**0.82**	**99**	*e*Pg	**Pg**	**19 02 49.0**	**+0.7**
GVD				*e*Sg	**Sg**	**19 03 03.0**	**+4.0**
GVD	**Gavdhos**	**0.82**	**99**	*e*P	**Pg**	**19 02 49.0**	**+0.7**
VAM	**Vamos**	**1.00**	**64**	*e*PG	**Pg**	**19 02 50.5**	**-1.3**
VAM				*e*SB	**Sb**	**19 03 03.6**	**-2.6**
KYTH	**Kithira**	**1.31**	**358**	*

VAE				S		Sn	19 05 48.6	+1.2
	2.3nm,0.3s,baz=345,slow=15,SNR=4.0							
VTS	Vitosha	7.62	1	⇑P		Pn	19 04 30.2	+5.8
VTS	Vitosha	7.62	1	⇑P		Pn	19 04 30.2	+5.8
CUC	Castrococuco	7.66	313	Pn		Pn	19 04 25.5	+0.4
ESKT	Eskisehir	7.67	51	*i* P		Pn	19 04 31.1	+5.9
SLCN	Sala Consilina	8.02	315	Pn		Pn	19 04 30.7	+0.7
AWBH		8.27	142	⇑P		Pn	19 04 32.3	-1.1
HNAT	Natroun	8.29	128	⇑P		Pn	19 04 31.0	-2.7
HFRF	Wahat Farafira	8.98	149	P		Pn	19 04 43.2	0.0
SGKT	Sivrigoynuk	9.03	49	*i* P		Pn	19 04 46.8	+2.9
GLL	Jalalah	9.05	124	⇓P		Pn	19 04 41.2	-2.9
ANTO	Ankara	9.13	55	*e*P		Pn	19 04 47.5	+2.3
ANTO				pmax	pmax			
	comp=Z,17nm,1.1s							
ANTO	Ankara	9.13	55	*e*P		Pn	19 04 47.5	+2.2
	comp=Z,17nm,1.1s							
ANTO	Ankara	9.13	55	*e*P		Pn	19 04 47.5	+2.3
	comp=Z,17nm,1.1s							
AMAG	Maghara	9.54	114	⇓P		Pn	19 04 47.0	-3.7
BRTR	Keskin Array B	9.64	57	P		Pn	19 04 54.1	+1.9
	comp=Z,0.1nm,0.3s,baz=238,slow=13,SNR=8.4							
BRTR	Keskin Array B	9.64	57	*e*P		Pn	19 04 54.1	+1.9
BR131	Keskin Array S	9.64	57	*e*P		Pn	19 04 53.8	+1.5
	comp=Z,4.2nm,0.8s							
BR131	Keskin Array S	9.64	57	*e*P		Pn	19 04 53.8	+1.6
	comp=Z,4.2nm,0.8s							
SUZ		9.68	119	⇑P		Pn	19 04 49.0	-3.8
TIRR	Tirgusor	10.32	22	⇓*i*P		Pn	19 05 03.5	+2.0
TIRR	Tirgusor	10.32	22	⇓P		Pn	19 05 03.5	+2.0
GZR	Gura Zlata	10.42	359	⇓*i*P		Pn	19 05 06.8	+3.9
GZR	Gura Zlata	10.42	359	⇓P		Pn	19 05 06.8	+3.9
BZS	Buzias	10.70	354	⇑*i*P		Pn	19 05 04.2	-2.5
BZS	Buzias	10.70	354	⇑P		Pn	19 05 04.2	-2.5
MLR	Muntele Rosu	10.73	11	P		Pn	19 05 09.0	+1.8
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=5.2							
MLR				LR		LR	19 09 16.1	
	comp=Z,113nm,19.3s,baz=189,slow=38							
MLR	Muntele Rosu	10.73	11	⇑*i*P		Pn	19 05 10.8	+3.6
PLOR	Plostina	11.20	13	⇓*i*P		Pn	19 05 16.6	+3.0
PLOR	Plostina	11.20	13	P		Pn	19 05 16.7	+3.1
KEST	Kesra	11.26	278	LR		LR	19 10 45.4	
	comp=Z,28nm,18.9s,baz=325,slow=44							
EIL	Elat	11.33	114	*e*P		Pn	19 05 12.7	-2.6
EIL	Elat	11.33	114	*e*P		Pn	19 05 12.7	-2.6
PKSM	Moragy	11.73	345	⇓*i*P		Pn	19 05 17.1	-3.7
PKSM	Moragy	11.73	345	⇓P		Pn	19 05 17.1	-3.7
KECS	Kecovo	13.65	353	*e*PN		Pn	19 05 48.9	+1.9
STHS	Stebnicka Huta	14.51	355	*e*P		Pn	19 06 06.3	+7.6
STHS	Stebnicka Huta	14.51	355	*e*Pn		Pn	19 05 57.1	-1.6
STHS				*e*			19 06 06.3	
OKC	Ostrava-Krasne	15.30	348	*e*P		Pn	19 06 13.9	+4.4
MORC	Moravsky Berou	15.35	346	*e*P		Pn	19 06 14.8	+4.6
MORC				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MORC	Moravsky Berou	15.35	346	*e*P		Pn	19 06 14.8	+4.7
	comp=Z,3.5nm,0.7s							
GERES	GERESS Array B	15.52	336	P		Pn	19 06 09.9	-2.4
	comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=4.9							
KHC	Kasperske Hory	15.80	336	*e*P		Pn	19 06 23.2	+7.2
KHC	Kasperske Hory	15.80	336	*e*P		Pn	19 06 16.9	+0.9
MBDF	Montbardon	15.86	313	*e*P		Pn	19 06 16.8	+0.1
	comp=Z,6.4nm,0.7s							
MBDF	Montbardon	15.86	313	*e*P		Pn	19 06 16.8	+0.1
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MBDF	Montbardon	15.86	313	*e*P		Pn	19 06 16.8	+0.1
	comp=Z,3.2nm,0.7s							
DPC	Dobruska-Polom	16.15	344	*e*P		Pn	19 06 26.5	+6.0
PRU	Pruhonice	16.27	340	*e*P		Pn	19 06 23.6	+1.6
AKASG	Malin Array Be	16.35	14	P		Pn	19 06 20.8	-2.3
	comp=Z,0.8nm,0.3s,baz=206,slow=12,SNR=7.4							
AKASG	Malin Array Be	16.35	14	P		Pn	19 06 20.8	-2.2
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	Malin Array Be	16.35	14	P		Pn	19 06 20.8	-2.3
UPC	Upice	16.37	344	*e*P		Pn	19 06 28.6	+5.3
GRA1	Grafenberg Arr	17.10	333	*e*P		Pn	19 06 34.3	+1.7
	comp=Z,26nm,1.1s							
GRF	Grafenberg Arr	17.10	333	*e*P		Pn	19 06 34.3	+1.7
	comp=Z,26nm,1.1s							
GRF	Grafenberg Arr	17.10	333	*e*P		Pn	19 06 34.3	+1.7
GRF				pmax	pmax			
	comp=Z,26nm,1.1s							
GRF	Grafenberg Arr	17.10	333	*e*P		Pn	19 06 34.3	+1.7
GRF				pmax	pmax			
	comp=Z,26nm,1.1s							
NKC	Novy Kostel	17.13	336	*e*P		Pn	19 06 34.2	+1.3
KIV	Kislovodsk	17.55	53	*e*P		Pn	19 06 44.4	+6.1
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
HINF	Hinteralfeld	17.66	322	*e*P		Pn	19 06 36.6	-2.9
CLL	Collm	17.89	339	*e*(PP)		pP	19 06 48.0	+4.1
GNI	Garni	17.91	67	LR		LR	19 14 44.9	
	comp=Z,68nm,19.1s,baz=277,slow=41							
ZEI	Tsey	17.95	58	*e*P		Pn	19 06 45.2	+2.1
BAIF	Baives	20.44	323	*e*P		P	19 07 08.0	-3.1
	comp=Z,16nm,0.9s							
BAIF	Baives	20.44	323	*e*P		P	19 07 08.0	-3.1
BAIF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
BAIF	Baives	20.44	323	*e*P		P	19 07 08.0	-3.1
	comp=Z,7.8nm,0.9s							
RST	Umm Al-Ruwaisa	20.92	98	*e*P		P	19 07 15.9	-0.3
RST				AMb	AMB		19 07 18.6	
	comp=Z,9.7nm,0.6s							
MIB	Mutribah	21.09	97	*e*P		P	19 07 17.8	-0.2
MIB				AMb	AMB		19 07 20.8	
	comp=Z,22nm,0.8s,mb4.5							
NAY	Al-Naaiem	21.21	99	*e*P		P	19 07 18.6	-0.8
NAY				AMb	AMB		19 07 23.4	
	comp=Z,12nm,0.8s,mb4.3							
LDF	La Druitiere	21.92	315	*e*P		P	19 07 25.4	-1.6
ESDC	Sonseca Array	21.99	290	P		P	19 07 28.2	+0.4
	comp=Z,1.6nm,0.8s,mb3.5,baz=95,slow=9.4,SNR=3.4							
OBN	Obninsk	22.21	21	*e*P		P	19 07 30.1	0.0
OBN				*e*			19 07 35.7	
OBN				*e**PP			19 07 41.3	
OBN				*e*			19 07 51.3	
OBN				*e*S		S	19 11 23.9	-11
OBN				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.1							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s,MS3.3							
OBN	Obninsk	22.21	21	*e*P		P	19 07 30.1	0.0
	comp=Z,10.0nm,1.2s,mb4.1							
FLN	La Foliniere	22.21	316	*e*P		P	19 07 28.5	-1.6
	comp=Z,26nm,0.9s,mb4.4							
FLN	La Foliniere	22.21	316	*e*P		P	19 07 28.5	-1.6
FLN				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.4							
FLN	La Foliniere	22.21	316	*e*P		P	19 07 28.5	-1.6
	comp=Z,13nm,0.9s,mb4.4							
MDT	Midelt	23.08	273	P		P	19 07 39.5	+0.1
	comp=Z,1.7nm,0.8s,mb3.5,baz=101,slow=11,SNR=4.2							
HFS	Hagfors	25.92	349	P		P	19 08 04.0	-1.9
	comp=Z,3.6nm,0.7s,mb4.0,baz=146,slow=11,SNR=10							
HFS	Hagfors	25.92	349	P		P	19 08 04.0	-1.9
HFS				pmax	pmax			
	comp=Z,4.0nm,0.7s							
FINES	FINESS Array B	26.57	3	P		P	19 08 09.2	-2.5
	comp=Z,2.4nm,0.8s,mb3.8,baz=156,slow=9.8,SNR=5.4							
FINES	FINESS Array B	26.57	3	P		P	19 08 09.3	-2.5
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NAO01	NORSAR Array S	27.07	347	*e*P		P	19 08 14.9	-1.4
NB2	NORSAR Subarra	27.19	347	P		P	19 08 13.8	-3.6
	comp=Z,5.5nm,1.0s,mb4.0,baz=158,slow=9.3							
NOA	NORSAR Array B	27.19	347	P		P	19 08 17.6	+0.3
	comp=Z,1.2nm,0.7s,mb3.5,baz=141,slow=11,SNR=4.8							
NOA	NORSAR Array B	27.19	347	P		P	19 08 17.7	+0.3
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	NORSAR Array B	27.19	347	P		P	19 08 17.6	+0.2
KAF	Kangasniemi	27.24	3	*e*p		P	19 08 16.7	-1.2
	comp=Z,2.6nm,0.5s,mb4.0,baz=184,slow=9.6							
KAF	Kangasniemi	27.24	3	*e*P		P	19 08 16.7	-1.2
KAF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.1							
EKA	Eskdalemuir Ar	27.25	326	P		P	19 08 16.7	-1.2
	comp=Z,1.9nm,0.8s,mb3.6,baz=126,slow=11,SNR=3.0							
EKA	Eskdalemuir Ar	27.25	326	P		P	19 08 16.7	-1.2
EKA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
JOF	Joensuu	28.44	8	*e*p		P	19 08 27.5	-1.1
	comp=Z,1.0nm,0.4s,mb3.8							
JOF	Joensuu	28.44	8	*e*P		P	19 08 27.5	-1.1
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.8							
TOA0	Torodi Ar. Sit	29.10	227	*e*P		P	19 08 35.1	+0.7
TORD	Torodi Ar. Bea	29.10	227	P		P	19 08 35.4	+1.0
	comp=Z,1.2nm,0.6s,mb3.8,baz=34,slow=8.9,SNR=12							
ATD	Arta Tunnel	29.44	138	LR		LR	19 21 12.1	
	comp=Z,43nm,18.6s,MS3.1,baz=149,slow=38							
AKTO	Aktyubinsk	29.63	48	LR		LR	19 22 31.4	
	comp=Z,66nm,19.6s,MS3.3,baz=96,slow=40							
ARCES	ARCESS Array B	34.65	1	P		P	19 09 20.1	-3.0
	comp=Z,2.5nm,0.8s,mb4.2,baz=188,slow=10,SNR=6.7							
ARCES	ARCESS Array B	34.65	1	P		P	19 09 20.1	-3.1
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KEV	Kevo	34.91	2	*e*p		P	19 09 23.4	-2.0
	comp=Z,3.2nm,0.7s,mb4.4							
KEV	Kevo	34.91	2	*e*P		P	19 09 23.4	-2.0
KEV				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	Zerenda	36.87	46	*e*P		P	19 09 41.2	-1.0
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.0							
ZRNK	Zerenda	36.87	46	*e*P		P	19 09 41.2	-1.0
	comp=Z,2.0nm,0.8s,mb4.0							
ZRNK	Zerenda	36.87	46	*e*P		P	19 09 41.2	-1.0
	comp=Z,2.0nm,0.8s,mb4.0							
CHKZ	Chkalovo	37.95	46	*e*P		P	19 09 49.9	-1.5
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.6							
CHKZ	Chkalovo	37.95	46	*e*P		P	19 09 49.9	-1.5
	comp=Z,1.4nm,0.7s,mb3.8							
CHKZ	Chkalovo	37.95	46	*e*P		P	19 09 49.9	-1.5
	comp=Z,1.4nm,0.7s,mb3.8							
DBIC	Dimbokro	38.15	229	P		P	19 09 53.7	+0.7
	comp=Z,2.0nm,0.6s,mb4.0,baz=352,slow=9.8,SNR=5.0							
DBIC	Dimbokro	38.15	229	P		P	19 09 53.7	+0.7
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	Makanchi Array	45.29	56	P		P	19 10 52.1	+0.6
	comp=Z,1.2nm,0.6s,mb3.9,baz=271,slow=7.3,SNR=8.4							
MKAR	Makanchi Array	45.29	56	P		P	19 10 52.1	+0.6
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NVS	Novosibirsk	45.42	45	*e*P		P	19 10 53.0	+0.4
TIXI	Tiksi	61.94	20	*e*P		P	19 12 53.9	+0.3
TIXI				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.8							
TIXI	Tiksi	61.94	20	*e*P		P	19 12 53.9	+0.3
	comp=Z,9.0nm,1.1s,mb4.8							
ASAR	Alice Springs	119.68	99	PKP	PKPdf		19 21 22.9	-1.1
	comp=Z,0.3nm,0.7s,baz=320,slow=1.4,SNR=4.2							

IDC 20 19:40:06.0±5.7, 750S×12873E, h292km±65km, mb3.0/1, mb1 3.2/4, mb1mx3.0/13, mbtmpb3.8/4, Error ellipse: s-maj=60.9km s-min=30.7km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.96	196	P		Pn	19 42 35.9	+0.1
	0.2nm,0.3s,baz=25,slow=15,SNR=25							
FITZ				S		S	19 44 39.7	+1.2
	0.1nm,0.3s,baz=140,slow=22,SNR=2.6							
WRA	Warramunga Arr	13.51	157	P		Pn	19 43 05.8	-1.1
	0.6nm,0.3s,baz=335,slow=12,SNR=34							
WRA				S		S	19 45 28.5	-7.7
	0.5nm,0.3s,baz=330,slow=24,SNR=9.1							
ASAR	Alice Springs	16.82	163	P		P	19 43 44.4	+1.1
	0.5nm,0.3s,baz=348,slow=8.4,SNR=46							
ASAR				S		S	19 46 44.3	+0.4
	0.1nm,0.3s,baz=328,slow=17,SNR=2.8							
MKAR	Makanchi Array	67.96	328	P		P	19 50 33.9	+0.1
	0.3nm,0.4s,baz=112,slow=8.0,SNR=4.2							

IDC 20 19:50:31.8±2.1, 187S×12865E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/2, Error ellipse: s-maj=121.0km s-min=24.2km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	16.40	190	Pn		Pn	19 54 25.0	+1.7
	0.1nm,0.3s,baz=7.5,slow=18,SNR=3.9							
WRA	Warramunga Arr	18.80	163	P		Pn	19 54 52.4	-0.8
	0.3nm,0.3s,baz=344,slow=13,SNR=25							
WRA				S		Sn	19 58 14.8	-9.4
	0.0nm,0.3s,baz=339,slow=21,SNR=3.0							
ASAR	Alice Springs	22.26	167	P		P	19 55 30.9	+0.6
	2.6nm,0.6s,baz=346,slow=11,SNR=70							
MKAR	Makanchi Array	63.23	326	P		P	20 01 02.0	0.0
	0.3nm,0.4s,baz=119,slow=7.2,SNR=3.5							

MEX 20 19:51:25.5±1.7, 1491N×9447W, h15km±155km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CMIG	Matias Romero	2.20	350	*i* P		Pn	19 51 59.1	-2.4
CMIG				*i* S		Sn	19 52 23.1	-5.3
SCX	San Cristobal	2.53	44	*i* P		Pn	19 52 04.5	-1.5
SCX				*i* S		Sn	19 52 34.5	-2.1
CCIG	Comitan	2.63	59	*i* P		Pn	19 52 03.5	-3.8
CCIG				*i* S		Sn	19 52 35.1	-3.9

*ISCJB **20** 19:52:52.5±0.7, 3626N±008×71.1E±0.1, h141km±18km, Error ellipse: s-maj=17.4km s-min=8.7km az=103.9*
*NNC **20** 19:53:01.3±3.9, 3720N×6993E, h0km, mb3.8, mpv4.0, Error ellipse: s-maj=43.0km s-min=26.6km az=116.0*

ISC 20 19:52:53.4±0.7, 3625N±007×711E±0.1, h140km±16km, n17, σ1§05/24, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CEP	Cherat	2.52	164	⇓P		Pn	19 53 35.3	+1.0
CEP				S		Sn	19 54 06.0	+0.2
CHCP	Chirah Chowk	3.16	144	P		Pn	19 53 43.9	+1.5
THW	Thamme Wali	3.50	170	⇓P		Pn	19 53 47.5	+0.7
THW				S		Sn	19 54 28.0	-0.1
SBDP	Sheikh Budin	3.95	183	P		Pn	19 53 53.0	+0.3
SBDP				S		Sn	19 54 37.0	-1.7
SARP	Sargodha	4.52	162	⇓P		Pn	19 54 00.3	0.0
DRP	Derazinda	4.55	189	P		Pn	19 54 02.2	+1.5
DRP				S		Sn	19 54 50.0	-3.0
THN	Thein Dam	5.42	133	*e*P		Pn	19 54 10.8	-1.4
THN				*e*S		Sn	19 55 13.8	+0.1
KK31	Karatay Array	6.86	357	⇓P		Pn	19 54 30.1	-1.4
	4.5nm,0.3s,baz=177,slow=12,SNR=222							
KK31				⇓S		Sn	19 55 39.8	-8.4
	3.7nm,0.4s,baz=322,slow=207,SNR=11							
KOLN	Koldanda	13.58	125	*e*P		Pn	19 55 59.8	-0.6
	7.8nm,0.4s							
GKN	Gorkha	14.13	122	*e*P		Pn	19 56 06.3	-1.0
	9.5nm,0.3s							
DMN	Daman	14.70	122	*e*P		Pn	19 56 14.9	+0.4
	5.1nm,0.2s							
KKN	Kakani	14.71	121	*e*P		Pn	19 56 13.9	-0.7
	14nm,0.7s							
PKI	Pulchoki	14.94	121	*e*P		Pn	19 56 17.9	+0.5
GUN	Gumba	15.05	119	*e*P		Pn	19 56 19.0	+0.1
	12nm,0.4s							
AB31	Akbulak array	15.32	331	⇑P		Pn	19 56 21.2	-1.1
	3.0nm,0.3s,baz=152,slow=12,SNR=115							
AB31				S		S	19 58 59.8	-19
	1.7nm,0.7s,baz=152,slow=22,SNR=7.7							
JIRN	Jiri	15.43	119	*e*P		Pn	19 56 24.3	+0.8
	12nm,0.2s							
AKTO	Aktyubinsk	17.02	330	⇑P		Pn	19 56 45.1	+2.1
	0.1nm,0.9s							

MAN 20 20:55:13.4, 931N×12523E, h1km, mb2.3, ML3.9, MS0.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SCPH	Surigao	0.54	29	*e*P		Pg	20 55 24.0	+0.4
SCPH				*e*S		Sg	20 55 37.5	+6.9
MSLP	Maasin	0.90	336	*e*P		Pg	20 55 30.4	-0.1
BUKP	Musuan	1.43	187	*e*P		Pn	20 55 39.8	-0.7

*IDC **20** 21:25:17.9±0.7, 529N×8267W, h0km, mb4.2/11, mb1 4.5/16, mb1mx4.3/26, mbtmp4.3/16, ML3.7/5, MS3.9/19, Ms1 3.9/19, ms1mx3.7/34, Error ellipse: s-maj=21.1km s-min=13.8km az=57.0*
*ISCJB **20** 21:25:20.2±0.3, 549N±003×8270W±004, h33km, mb4.4/22, MS4.0/16, Error ellipse: s-maj=6.5km s-min=3.5km az=123.0*
*MOS **20** 21:25:20.8±0.8, 537N×8254W, h33km, mb4.8/6, Error ellipse: s-maj=22.1km s-min=12.3km az=114.1*
*NEIC **20** 21:25:23.0±1.0, 531N×8264W, h38km±10km, mb4.7/10, Error ellipse: s-maj=8.3km s-min=6.6km az=52.0*
*GCMT **20** 21:25:23.0±0.4, 549N×8247W, h24km±1km, MW4.8/65, Moment Tensor Solution. s18,c22; s65,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.01±.14; $M_{\theta\theta}$0.16±.10; $M_{\phi\phi}$-0.16±.14; $M_{r\theta}$-0.03±.14; $M_{\theta\phi}$2.17±.09; $M_{\phi r}$0.53±.16; Best double couple: M_o2.24000×10^{16} NP1:ψ_s92.00000°,δ76.00000°,λ-1.00000°. NP2: ϕ_s182.00000°,δ89.00000°,λ-166.00000°. Principal axes: T 2.2260, Plg9.0000°, Azm316.0000°; N 0.0290, Plg76.0000°, Azm187.0000°; P -2.2540, Plg10.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 20 21:25:22.6±0.3, 548N±003×8274W±004, h35km, n89, σ1§53/78, mb4.4/22, MS4.0/16, 5C-6D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DVD	David	2.95	6	*e*P		Pn	21 26 04.4	-2.6
DVD				*e*S		Sn	21 26 44.0	+2.7
AZU	Azuero	3.36	47	*e*P		Pn	21 26 08.1	-4.6
CTCR	Cotoan	3.40	360	*e*P		Pn	21 26 11.3	-1.9
CTCR				*e*S		Sn	21 26 51.3	-0.9
CNI	Changuinola	3.92	3	*e*P		Pn	21 26 19.2	-1.1
CNI				*e*S		Sn	21 27 07.2	+2.1
BUS	Buena Vista	4.17	346	⇓*e*P		Pn	21 26 22.8	-1.0
LCR2	La Lucha 2	4.42	344	⇓*e*P		Pn	21 26 26.0	-1.2
OCM	Ochomogo	4.55	345	⇑*e*P		Pn	21 26 27.3	-1.7
OCM				*e*S		Sn	21 27 21.2	+0.5
LAJ	Bijagual	4.57	343	⇑*e*P		Pn	21 26 27.4	-1.8
IRZ2	Volcan Irazu 2	4.61	346	⇓*e*P		Pn	21 26 29.0	-0.8
SJS	Escuela Geolog	4.62	344	⇓*e*P		Pn	21 26 29.1	-0.8
VTU	Volcan Turrial	4.62	348	*e*P		Pn	21 26 28.4	-1.6
PRS1	Puriscal	4.74	341	*e*P		Pn	21 26 28.5	-3.0
CAO	Cobano	4.80	331	⇑*e*P		Pn	21 26 30.6	-1.9
CGA2	Cerro Gallo 2	4.82	339	⇓*e*P		Pn	21 26 31.5	-1.2
CGA2				*e*S		Sn	21 27 27.6	+0.3
EPA	Esparza	4.84	338	⇑*e*P		Pn	21 26 30.9	-2.1
EPA				*e*S		Sn	21 27 27.3	-0.5
POA2	Poas 2	4.90	342	*e*P		Pn	21 26 33.0	-0.8
POA2				*e*S		Sn	21 27 32.5	+3.2
JCR	Jicaral	4.94	332	*e*P		Pn	21 26 32.2	-2.1
VACR	Volcan Arenal	5.32	339	⇑*e*P		Pn	21 26 39.5	0.0
VCR	Vista de Mar	5.43	328	⇓*e*P		Pn	21 26 39.8	-1.3
LIM1	Limonal	5.75	335	*i* P		Pn	21 26 45.2	-0.3
LIM1				*i* S		Sn	21 27 50.4	+0.1
RIN3	Volcan Rincon	5.89	334	*e*P		Pn	21 26 47.3	0.0
CRZC	La Cruz	6.13	333	*e*P		Pn	21 26 50.5	-0.2
CRZC				*e*S		Sn	21 28 02.1	+2.6
BOA	Boaco	7.55	337	*e*P		Pn	21 27 07.8	-2.4
ROSC	El Rosal	8.40	94	Pn		Pn	21 27 20.9	-0.9
	2.9nm,0.3s,baz=82,slow=17,SNR=4.0							
ROSC				LR		LR	21 30 30.9	
	comp=Z,109nm,19.0s,baz=298,slow=38							
PAYG	Puerto Ayora	9.70	231	*e*P		Pn	21 27 40.5	+0.9
	89nm,1.1s							
SDV	Santo Domingo	12.48	74	Pn		Pn	21 28 17.8	+0.1
	1.6nm,0.3s,baz=264,slow=9.6,SNR=24							
SDV				Sn		Sn	21 30 36.3	+0.8
	2.5nm,0.3s,baz=85,slow=20,SNR=5.9							
ATAH	Atahualpa	13.13	161	Pn		Pn	21 28 28.1	+1.5
	1.2nm,0.3s,baz=33,slow=6.4,SNR=4.6							
ATAH				LR		LR	21 32 54.2	
	comp=Z,1μm,21.5s,baz=335,slow=35							
CMIG	Matias Romero	16.57	315	Pn		Pn	21 29 13.9	+1.7
	0.1nm,0.3s,baz=112,slow=7.9,SNR=7.1							
CMIG				LR		LR	21 34 51.7	
	comp=Z,305nm,21.2s,baz=117,slow=34							
NNA	Nana	18.32	161	P		Pn	21 29 31.7	-2.2
	1.7nm,0.3s,baz=311,slow=6.8,SNR=8.3							
NNA				LR		LR	21 35 55.2	
	comp=Z,186nm,19.1s,baz=316,slow=35							
NNA	Nana	18.32	161	P		Pn	21 29 31.7	-2.2
NNA				LR		LR	21 35 55.2	
PCRV	Puerto La Cruz	18.53	74	P		Pn	21 29 38.0	+1.6
	0.5nm,0.3s,baz=294,slow=9.8,SNR=3.4					

INK	**Inuvik**	**71.21**	**342**	P	**P**	**21**	**36**	**39.6 +1.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=294,slow=5.2,SNR=3.0							
SUMG	**Summit**	**72.24**	**13**	*e*P	**P**	**21**	**36**	**46.3 +2.1**
	comp=Z,14nm,1.0s,mb4.8							
COLA	**College**	**74.65**	**336**	*e*P	**P**	**21**	**36**	**55.8 -2.6**
KDAK	**Kodiak Island**	**74.70**	**329**	LR	LR	22	09	56.1
	comp=Z,95nm,21.6s,MS4.0,baz=274,slow=36							
ESDC	**Sonseca Array**	**77.89**	**51**	P	**P**	**21**	**37**	**19.3 +2.5**
	comp=Z,2.7nm,1.0s,mb4.1,baz=279,slow=5.7,SNR=5.4							
ESDC				LR	LR	22	04	55.1
	comp=Z,64nm,21.5s,MS3.9,baz=40,slow=30							
TORD	**Torodi Ar. Bea**	**83.37**	**77**	P	**P**	**21**	**37**	**46.6 +0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=285,slow=6.2,SNR=10.0							
TORD				LR	LR	22	15	37.5
	comp=Z,61nm,18.6s,MS4.0,baz=160,slow=36							
NOA	**NORSAR Array B**	**87.17**	**29**	LR	LR	22	09	46.1
	comp=Z,45nm,20.6s,MS3.9,baz=250,slow=31							
GERES	**GERESS Array B**	**90.15**	**41**	LR	LR	22	17	12.5
	comp=Z,58nm,19.4s,MS4.0,baz=116,slow=34							
AFI	**Afiamalu**	**90.36**	**256**	LR	LR	22	10	48.9
	comp=Z,140nm,19.2s,MS4.4,baz=90,slow=30							
ARCES	**ARCESS Array B**	**91.20**	**20**	LR	LR	22	18	55.7
	comp=Z,19nm,18.9s,MS3.6,baz=203,slow=35							
VRAC	**Vranov**	**91.95**	**40**	LR	LR	22	12	27.8
	comp=Z,97nm,21.9s,MS4.2,baz=284,slow=31							
BILL	**Bilibino**	**92.65**	**339**	*e*P	**P**	**21**	**38**	**30.0 -0.8**
BILL				*e*		21	48	56.4
BILL				*e*SS	SS	21	55	44.5 -1.0
BILL				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.6							
BILL				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.3							
FINES	**FINESS Array B**	**94.08**	**27**	LR	LR	22	16	42.4
	comp=Z,55nm,19.8s,MS4.0,baz=179,slow=33							
ASAR	**Alice Springs**	**140.37**	**239**	PKP	PKPdf	21	44	47.6 -0.3
	comp=Z,0.5nm,0.7s,baz=124,slow=1.7,SNR=5.1							
WRAB	**Tennant Creek**	**141.19**	**245**	*i* PKIKP	PKPdf	21	44	50.2 +0.8
WRA	**Warramunga Arr**	**141.19**	**245**	PKP	PKPdf	21	44	49.0 -0.4
	comp=Z,0.9nm,0.7s,baz=96,slow=3.5,SNR=7.7							
GKN	**Gorkha**	**144.56**	**19**	*e*P	PKPdf	21	44	55.8 +0.5
KKN	**Kakani**	**144.96**	**19**	*e*P	PKPdf	21	44	55.9 -0.1
	comp=Z,25nm,1.0s							
GUN	**Gumba**	**145.04**	**18**	*e*P	PKPbc	21	44	56.5 +0.9
	comp=Z,65nm,1.0s							
DMN	**Daman**	**145.08**	**19**	*e*P	PKPbc	21	44	56.4 +0.7
	comp=Z,26nm,0.9s							
PKI	**Pulchoki**	**145.21**	**19**	*e*P	PKPbc	21	44	57.0 +0.9
FITZ	**Fitzroy Crossi**	**149.58**	**243**	PKPbc	PKPbc	21	45	10.6 +2.3
	comp=Z,2.6nm,1.0s,baz=169,slow=10,SNR=3.5							

*ISCJB **20** 21:55:25.1±0.8, 236S±0.1×1118W±0.2, h10km, mb4.4/8, MS4.0/10, Error ellipse: s-maj=25.3km s-min=15.2km az=168.6*
*IDC **20** 21:55:25.4±1.9, 2345S×11195W, h0km, mb4.0/3, mb1 4.4/3, mb1mx4.0/13, mbtmp4.0/3, MS3.9/11, Ms1 3.9/11, ms1mx3.8/15, Error ellipse: s-maj=74.4km s-min=36.0km az=32.0*
*NEIC **20** 21:55:27.0±0.6, 2361S×11174W, h10km, mb4.7/4, Error ellipse: s-maj=27.0km s-min=14.3km az=67.0*
*MOS **20** 21:55:29.8±2.6, 2451S×11152W, h10km, mb4.7/2, Error ellipse: s-maj=44.5km s-min=41.1km az=105.5*

ISC 20 21:55:26.7±0.8, 237S±01×1119W±02, h10km, n39, σ1§34/15, mb4.4/8, MS4.0/10, 1D, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RPN	**Rapa Nui**	**4.14**	**146**	LR	LR	21	57	53.2
	comp=Z,1μm,19.7s,baz=334,slow=34							
RPN	**Rapa Nui**	**4.14**	**146**	*e*P	**Pn**	**21**	**56**	**27.6 -2.4**
PPT	**Papeete**	**35.71**	**273**	LR	LR	22	12	25.2
	comp=Z,200nm,18.1s,MS3.9,baz=127,slow=29							
PLCA	**Paso Flores**	**38.50**	**126**	LR	LR	22	14	29.0
	comp=Z,143nm,20.9s,MS3.8,baz=273,slow=30							
LPAZ	**La Paz**	**41.66**	**88**	P	**P**	**22**	**03**	**16.6 +1.3**
	2.0nm,0.7s,mb3.8,baz=245,slow=5.0,SNR=8.1							
LPAZ				LR	LR	22	16	23.1
	comp=Z,217nm,21.2s,MS4.0,baz=297,slow=30							
TRQA	**Tornquist**	**44.67**	**121**	*e*P	**P**	**22**	**03**	**41.0 +1.3**
	8.9nm,1.0s,mb4.5							
ROSC	**El Rosal**	**46.33**	**57**	LR	LR	22	19	43.5
	comp=Z,187nm,19.6s,MS4.0,baz=224,slow=32							
SAML	**Samuel**	**48.75**	**81**	*e*P	**P**	**22**	**04**	**10.5 -1.1**
	14nm,1.3s,mb4.8							
CPUP	**Villa Florida**	**49.22**	**105**	LR	LR	22	21	20.6
	comp=Z,74nm,19.2s,MS3.7,baz=250,slow=32							
BDFB	**Brasilia**	**60.28**	**95**	LR	LR	22	28	45.7
	comp=Z,156nm,21.1s,MS4.1,baz=106,slow=33							
NVAR	**Mina Array Bea**	**62.07**	**354**	P	**P**	**22**	**05**	**48.2 +0.7**
	0.9nm,0.6s,mb4.1,baz=185,slow=8.7,SNR=4.7							
NVAR	**Mina Array Bea**	**62.07**	**354**	P	**P**	**22**	**05**	**48.2 +0.7**
SWET	**Sewanee**	**63.54**	**24**	*e*P	**P**	**22**	**05**	**57.6 +0.3**
PDAR	**Pinedale Array**	**66.15**	**2**	P	**P**	**22**	**06**	**12.2 -2.2**
	1.2nm,0.7s,mb4.1,baz=167,slow=7.0,SNR=6.2							
PDAR				LR	LR	22	28	51.4
	comp=Z,101nm,18.9s,MS4.0,baz=2.0,slow=30							
VNDA	**Vanda**	**66.24**	**194**	LR	LR	22	30	14.7
	comp=Z,65nm,19.0s,MS3.9,baz=181,slow=31							
QSPA	**South Pole Qui**	**66.48**	**180**	*e*P	**P**	**22**	**06**	**19.0 +2.6**
	6.1nm,0.9s,mb4.6							
VNA3	**Neumayer Olymp**	**71.63**	**161**	*e*	**P**	**22**	**06**	**48.9 +0.5**
VNA3				*e*	pP	22	06	50.9 -0.8
VNA3				*e*		22	06	55.5
VNA3				*e*		22	07	00.6
SNAA	**Sanae**	**73.49**	**162**	*e*	**P**	**22**	**06**	**59.2 -0.3**
SNAA				*e*		22	07	05.4
SNAA	**Sanae**	**73.49**	**162**	*e*P	**P**	**22**	**07**	**00.1 +0.6**
SNAA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SNAA	**Sanae**	**73.49**	**162**	*e*P	**P**	**22**	**07**	**00.1 +0.6**
	comp=Z,2.0nm,0.8s,mb4.1							
SYO	**Syowa Base**	**85.28**	**170**	*e*P	**P**	**22**	**08**	**03.9 +0.1**
MIR	**Mirnyy**	**88.09**	**190**	*e*P	**P**	**22**	**08**	**16.0 -1.5**
MIR				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.3							
MAW	**Mawson**	**88.91**	**178**	LR	LR	22	45	23.2
	comp=Z,48nm,20.5s,MS3.9,baz=62,slow=34							
STKA	**Stephens Creek**	**90.67**	**235**	LR	LR	22	45	26.1
	comp=Z,93nm,18.2s,MS4.3,baz=206,slow=33							
AKASG	**Malin Array Be**	**139.65**	**38**	PKP	PKPdf	22	14	53.7 -1.0
	comp=Z,0.4nm,0.4s,baz=288,slow=2.5,SNR=4.6							
AKASG	**Malin Array Be**	**139.65**	**38**	PKP	PKPdf	22	14	53.7 -1.0
SONM	**Songino Array**	**141.25**	**318**	PKP	PKPdf	22	14	59.1 +1.5
	comp=Z,0.6nm,0.8s,baz=90,slow=1.5,SNR=3.9							
ARU	**Arti**	**146.55**	**10**	*e*PKHKP	PKPbc	22	15	08.7 +0.4
BR131	**Keskin Array S**	**146.84**	**53**	*e*PKPbc	PKPbc	22	15	09.7 +0.6
BRTR	**Keskin Array B**	**146.84**	**53**	PKPbc	PKPbc	22	15	09.8 +0.6
	comp=Z,3.7nm,1.0s,baz=200,slow=3.3,SNR=13							
NVS	**Novosibirsk**	**146.90**	**344**	*e*PKHKP	PKPbc	22	15	08.0 -1.3
CHKZ	**Chkalovo**	**149.99**	**357**	*e*PKIKP	PKPbc	22	15	16.4 -1.0
BVAR	**Borovoye Array**	**150.65**	**357**	PKPbc	PKPbc	22	15	18.6 -0.4
	comp=Z,2.3nm,0.8s,baz=288,slow=0.9,SNR=9.9							
ZRNK	**Zerenda**	**150.77**	**359**	*e*PKIKP	PKPbc	22	15	19.0 -0.3
MALT	**Malatya**	**150.83**	**53**	*e*PKIKP	PKPbc	22	15	21.3 +1.9
AKTK	**Aktyubinsk**	**152.16**	**14**	PKPbc	PKPbc	22	15	22.1 -0.3
AKTO	**Aktyubinsk**	**152.16**	**14**	PKPbc	PKPbc	22	15	22.1 -0.3
	comp=Z,0.6nm,0.4s,baz=343,slow=4.9,SNR=4.2							
MKAR	**Makanchi Array**	**154.27**	**337**	PKPbc	PKPbc	22	15	26.4 -0.7
	comp=Z,0.3nm,0.3s,baz=18,slow=8.2,SNR=5.2							
MKAR				PKPab	PKPab	22	15	38.9 -2.2
	comp=Z,0.7nm,0.4s,baz=17,slow=5.1,SNR=5.8							
MKAR	**Makanchi Array**	**154.27**	**337**	PKPbc	PKPbc	22	15	26.4 -0.7
MKAR				PKPab	PKPab	22	15	38.9 -2.2

*NEIC **20** 22:24:53.3, 3207S×6756W, h10km, ML4.2(GUC), After GUC.*

GUC 20 22:24:53.3±0.8, 3207S×6756W, h10km, MD4.1, ML4.2, 1C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MDZ	**Mendoza**	**1.36**	**233**	*e*P	Pn	22	25	17.9 -0.4
MDZ				*e*		22	25	29.9
MDZ				*e*S	Sb	22	25	40.0 +3.8
FCH	**Farellones**	**2.62**	**241**	*e*P	Pn	22	25	37.4 +1.7
FCH				*i* S	Sn	22	26	11.4 +3.9
FCH				AML	AML	22	26	15.8
	comp=N,522nm,0.2s							
JACH	**Jahuel**	**2.64**	**256**	*e*P	Pn	22	25	36.9 +1.0
CLCH	**Cerro Calan**	**2.84**	**241**	*e*P	Pn	22	25	39.4 +0.7
CLCH				*i* S	Sn	22	26	14.9 +2.1
CLCH				AML	AML	22	26	23.4
	comp=N,649nm,0.6s							
PEL	**Peldehue**	**2.85**	**247**	*e*P	Pn	22	25	40.0 +1.2
PEL				*i* S	Sn	22	26	15.3 +2.2
PEL				AML	AML	22	26	24.8
	comp=E,379nm,0.7s							
PEL	**Peldehue**	**2.85**	**247**	*e*P	Pn	22	25	40.0 +1.2
PEL				*i* S	Sn	22	26	15.3 +2.2
PTCH	**Petorca**	**2.87**	**265**	*e*P	Pn	22	25	39.6 +0.6
PTCH				*i* S	Sn	22	26	15.6 +2.0
PTCH				AML	AML	22	26	21.1
	comp=N,1μm,0.3s							
PTCH	**Petorca**	**2.87**	**265**	*e*P	Pn	22	25	39.6 +0.6
PTCH				*i* S	Sn	22	26	15.6 +2.0
ROCH	**El Roble**	**3.05**	**252**	*i* P	Pn	22	25	43.2 +1.6
CMCH	**Combarbala**	**3.07**	**286**	*e*P	Pn	22	25	40.6 -1.2
CMCH				*i* S	Sn	22	26	18.2 -0.4
CMCH				AML	AML	22	26	24.7
	comp=N,2μm,0.5s							
CMCH	**Combarbala**	**3.07**	**286**	*e*P	Pn	22	25	40.6 -1.2
CMCH				*i* S	Sn	22	26	18.2 -0.4
CHCH	**Chadas Angostu**	**3.19**	**234**	*e*P	Pn	22	25	44.8 +1.2
CACH	**El Canelo**	**3.27**	**231**	*e*P	Pn	22	25	48.1 +3.6
TLL	**Tololo Astrono**	**3.37**	**303**	*e*P	Pn	22	25	47.9 +1.9
TLL				*e*S	Sn	22	26	27.1 +1.1
TLL				AML	AML	22	26	34.8
	comp=N,571nm,0.6s							
TLL	**Tololo Astrono**	**3.37**	**303**	*e*P	Pn	22	25	47.9 +1.9
TLL				S	Sn	22	26	27.1 +1.1
TRQA	**Tornquist**	**7.52**	**144**	*e*Pn	Pn	22	26	44.2 +1.2
	comp=N,3.0nm,0.6s							
TRQA				*e*Sn	Sn	22	28	08.3 -0.1
CPUP	**Villa Florida**	**10.61**	**60**	*e*Pn	Pn	22	27	25.1 -0.3
	comp=N,9.0nm,0.5s							
CPUP				Sn	Sn	22	29	19.6 -4.6

*NEIC **21** 00:15:34.2, 3852N×2059E, h5km, MD3.3(ATH), After ATH.*
*ISCJB **21** 00:15:35.7±0.6, 3848N±003×2065E±006, h10km, Error ellipse: s-maj=6.6km s-min=3.7km az=176.3*
*ATH **21** 00:15:35.6, 3848N×2065E, h4km±3km, MD3.3/5*
*CSEM **21** 00:15:35.5±0.1, 3851N×2055E, h2km, MD3.3, Error ellipse: s-maj=3.5km s-min=1.8km az=88.0*
*THE **21** 00:15:36.1, 3852N×2061E, h10km, ML2.8*

ISC 21 00:15:36.2±0.6, 3846N±003×2064E±006, h10km, n25, σ1§01/34, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
VLS	**Valsamata**	**0.28**	**188**	*e*PG	**Pg**	**00**	**15**	**41.5 -0.4**
VLS				*e*SG	**Sg**	**00**	**15**	**46.8 +1.0**
VLS	**Valsamata**	**0.28**	**188**	*e*Pb	**Pg**	**00**	**15**	**41.4 -0.5**
VLS				*e*Sb	**Sg**	**00**	**15**	**46.9 +1.1**
RLS	**Riolos of Patr**	**0.77**	**121**	*e*PB	**Pg**	**00**	**15**	**50.3 -0.7**
RLS	**Riolos of Patr**	**0.77**	**121**	*e*Pb	**Pg**	**00**	**15**	**50.1 -0.9**
EVR	**Evrytania**	**1.02**	**63**	*e*PG	**Pg**	**00**	**15**	**54.1 -1.8**
EVR	**Evrytania**	**1.02**	**63**	*e*Pb	**Pg**	**00**	**15**	**54.0 -1.9**
IGT	**Igoumenitsa**	**1.10**	**348**	*e*Pg	**Pg**	**00**	**15**	**54.7 -2.7**
IGT				*e*Sg	**Sg**	**00**	**16**	**10.8 -0.9**
JAN	**Janina**	**1.21**	**8**	*e*PB	**Pn**	**00**	**15**	**57.8 -1.4**
MEV	**Metsovon**	**1.40**	**19**	*e*Pg	**Pg**	**00**	**16**	**01.7 -1.5**
MEV				*e*Sg	**Sg**	**00**	**16**	**21.1 -0.3**
AGG	**Agios Georgios**	**1.44**	**66**	*e*Pg	**Pg**	**00**	**16**	**02.9 -1.0**
AGG				*e*Sg	**Sg**	**00**	**16**	**22.7 +0.2**
ITM	**Ithomi**	**1.63**	**141**	*e*PB	**Pb**	**00**	**16**	**06.7 +0.3**
LSK	**Leskovik**	**1.69**	**359**	*i* Pn	**Pn**	**00**	**16**	**06.7 +0.9**
LSK				*i* Sn	**Sg**	**00**	**16**	**32.8 +2.2**
LKR	**Lokris**	**1.86**	**83**	*e*PB	**Pb**	**00**	**16**	**10.0 -0.3**
LIT	**Litokhoron**	**2.18**	**41**	*e*Pn	**Pn**	**00**	**16**	**12.6 +0.1**
LIT				*e*Sn	**Sn**	**00**	**16**	**40.8 +1.1**
NEO	**Neokhori**	**2.19**	**66**	*e*PN	**Pn**	**00**	**16**	**14.7 +2.0**
XOR	**Xorichti**	**2.19**	**65**	*e*Pn	**Pn**	**00**	**16**	**13.2 +0.5**
XOR	**Xorichti**	**2.19**	**65**	*e*Pn	**Pn**	**00**	**16**	**13.1 +0.4**
FNA	**Florina**	**2.39**	**14**	*e*Pn	**Pn**	**00**	**16**	**14.8 -0.7**
FNA				*e*Sn	**Sn**	**00**	**16**	**45.9 +1.1**
BIA	**Bitola**	**2.61**	**11**	*e*Pn	**Pn**	**00**	**16**	**18.7 +0.2**
BIA				*e*Sn	**Sn**	**00**	**16**	**51.1 +0.9**
THE	**Thessaloniki**	**2.82**	**39**	*e*Pn	**Pn**	**00**	**16**	**20.9 -0.4**
GRG	**Griva**	**2.84**	**28**	*e*Pn	**Pn**	**00**	**16**	**21.3 -0.3**
OUR	**Ouranopolis**	**3.20**	**53**	*e*Pn	**Pn**	**00**	**16**	**26.7 +0.1**
KNT	**Kendrikon**	**3.21**	**32**	*e*Pn	**Pn**	**00**	**16**	**27.4 +0.6**
STIP	**Stip**	**3.44**	**20**	*e*Pn	**Pn**	**00**	**16**	**30.2 +0.2**
MMB	**Musomiste**	**3.92**	**36**	*e*Pn	**Pn**	**00**	**16**	**37.1 +0.6**

CASC 21 00:26:12.9±2.2, 766N×8300W, h11km±14km, MD4.1, 7C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DVD	**David**	**0.94**	**35**	*i* P	Pg	00	26	29.9 -1.1
BRU	**Baru**	**1.22**	**21**	*e*P	Pn	00	26	33.8 -2.0
CTCR	**Cotoan**	**1.25**	**11**	*e*P	Pn	00	26	35.2 -1.1
CTCR				*e*S	Sb	00	26	53.2 +0.7
CNI	**Changuinola**	**1.81**	**15**	*e*P	Pn	00	26	43.9 -0.1
BUS	**Buena Vista**	**2.02**	**338**	*e*P	Pn	00	26	46.8 -0.2
BUS				*e*S	Sn	00	27	13.5 +1.3
LCR2	**La Lucha 2**	**2.29**	**334**	*e*P	Pn	00	26	50.7 +0.1
LCR2				*e*S	Sn	00	27	19.1 +0.4
OCM	**Ochomogo**	**2.41**	**337**	*e*P	Pn	00	26	52.3 0.0
OCM				*e*S	Sn	00	27	22.9 +1.2
LAJ	**Bijagual**	**2.45**	**333**	*e*P	Pn	00	26	53.3 +0.5
IRZ2	**Volcan Irazu 2**	**2.46**	**339**	*e*P	Pn	00	26	53.2 +0.3
VTU	**Volcan Turrial**	**2.46**	**342**	*e*P	Pn	00	26	52.4 -0.6
PRS1	**Puriscal**	**2.65**	**331**	*e*P	Pn	00	26	54.3 -1.1
AZU	**Azuero**	**2.71**	**87**	*e*P	Pn	00	26	54.9 -1.4
CGA2	**Cerro Gallo 2**	**2.75**	**328**	*e*P	Pn	00	26	55.5 -0.4
POA2	**Poas 2**	**2.79**	**334**	*e*P	Pn	00	26	58.1 +0.7
CAO	**Cobano**	**2.90**	**314**	*e*P	Pn	00	26	58.7 -0.3
JCR	**Jicaral**	**3.01**	**316**	*e*P	Pn	00	27	01.1 +0.6
ACH	**Altos**	**3.20**	**72**	*e*P	Pn	00	27	05.0 +1.9

*IDC **21** 00:47:41.6±1.1, 0.98N×96.92E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=20.9km s-min=16.9km az=89.0*
*ISCJB **21** 00:47:45.0±0.8, 1.13N±009×97.1E±0.1, h33km, mb4.0/10, Error ellipse: s-maj=17.6km s-min=11.4km az=128.2*
*NEIC **21** 00:47:46.6±0.7, 1.10N×97.07E, h30km, mb4.2/3, Error ellipse: s-maj=14.6km s-min=9.2km az=63.0*

ISC 21 00:47:47.7±0.8, 116N±009×971E±01, h35km, n16, σ0§78/18, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PSI	**Prapat**	**2.43**	**48**	Pn	**Pn**	**00**	**48**	**24.5 -0.5**
	6.5nm,0.3s,baz=252,slow=8.1,SNR=28							
PSI				Pg	**Pn**	**00**	**48**	**31.2 +6.3**
	9.6nm,0.3s,baz=228,slow=12,SNR=31							
PSI				Lg		00	49	04.8
	4.2nm,0.3s,baz=0.7,slow=22,SNR=7.9							
PSI				LR	LR	00	49	14.2
	comp=Z,264nm,18.3s,baz=308,slow=35							
PSI	**Prapat**	**2.43**	**48**	Pn	**Pn**	**00**	**48**	**24.5 -0.5**
PSI				Pg	**Pn**	**00**	**48**	**31.2 +6.3**
PSI				Lg		00	49	04.8
PSI				LR	LR	00	49	14.2
KULM	**Kulim**	**5.41**	**41**	*e*Pn	**Pn**	**00**	**49**	**05.8 0.0**
KKM	**Kota Kinabalu**	**19.66**	**75**	*e*P	**Pn**	**00**	**52**	**14.5 -0.5**
YHNB	**Yeheng**	**33.11**	**43**	P	**P**	**00**	**54**	**21.2 +0.9**
FITZ	**Fitzroy Crossi**	**33.97**	**126**	P	**P**	**00**	**54**	**25.8 -2.0**
	1.3nm,0.9s,mb3.9,baz=21,slow=14,SNR=4.1							
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**00**	**55**	**36.2 0.0**
	1.6nm,0.5s,mb3.9,baz=300,slow=9.1,SNR=24							
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**00**	**55**	**36.7 +0.5**
	2.7nm,0.5s,mb4.1							
WB2	**Warramunga Arr**	**42.09**	**122**	*e*P	**P**	**00**	**55**	**36.4 +0.2**
WB2				*e*PP	PP	00	57	13.5 -0.5
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**00**	**55**	**47.1 0.0**
	0.6nm,0.4s,mb3.6,baz=295,slow=7.7,SNR=8.8							
SONM	**Songino Array**	**47.19**	**9**	P	**P**	**00**	**56**	**17.6 +0.7**
	0.9nm,0.5s,mb4.0,baz=194,slow=8.9,SNR=5.7							
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**00**	**56**	**18.1 +0.6**
	1.3nm,0.5s,mb4.1,baz=160,slow=9.0,SNR=19							
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**00**	**57**	**05.0 +1.3**
	3.4nm,0.9s,mb4.3,baz=315,slow=5.7,SNR=4.6							
BVAR	**Borovoye Array**	**56.27**	**341**	P	**P**	**00**	**57**	**23.7 -1.0**
	0.6nm,0.5s,mb3.9,baz=144,slow=11,SNR=5.3							
ZRNK	**Zerenda**	**56.66**	**340**	P	**P**	**00**	**57**	**26.8 -0.7**
	0.7nm,0.4s,mb4.0							
CHKZ	**Chkalovo**	**56.74**	**341**	*e*P	**P**	**00**	**57**	**28.0 0.0**
	1.1nm,0.4s,mb4.2							

*NEIC **21** 00:48:13.5, 3894S×17505E, h211km, MG4.0(WEL), After WEL.*

WEL 21 00:48:13.5±0.4, 3894S×17505E, h210km±2km, ML4.0/13, Error ellipse: s-maj=4.4km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
VRZ	**Vera Road**	**0.29**	**231**	P	Pn	00	48	40.9 -0.3
VRZ				S	S	00	49	02.0 -0.7
VRZ	**Vera Road**	**0.29**	**231**	PN	Pn	00	48	40.9 -0.3
VRZ				SN	S	00	49	02.0 -0.7
TWVZ	**Taurewa**	**0.33**	**114**	P	Pn	00	48	41.1 -0.2
TWVZ				S	S	00	49	01.9 -0.9
TWVZ	**Taurewa**	**0.33**	**114**	PN	Pn	00	48	41.1 -0.1
TWVZ				SN	S	00	49	01.9 -0.9
WTVZ	**West Tongariro**	**0.45**	**113**	P	Pn	00	48	41.6 0.0
WTVZ	**West Tongariro**	**0.45**	**113**	PN	Pn	00	48	41.6 0.0
HIZ	**Hauiti**	**0.45**	**340**	P	Pn	00	48	41.2 -0.4
HIZ				S	S	00	49	02.8 -0.7
HIZ	**Hauiti**	**0.45**	**340**	PN	Pn	00	48	41.2 -0.4
HIZ				SN	S	00	49	02.8 -0.7
WPVZ	**Whakapapa**	**0.47**	**125**	P	Pn	00	48	41.8 +0.2
WPVZ	**Whakapapa**	**0.47**	**125**	PN	Pn	00	48	41.8 +0.1
FWVZ	**Far West T-bar**	**0.50**	**129**	P	Pn	00	48	42.0 +0.2
FWVZ	**Far West T-bar**	**0.50**	**129**	PN	Pn	00	48	42.0 +0.2
RATZ	**Rangitukua**	**0.56**	**83**	P	Pn	00	48	41.6 -0.4
RATZ	**Rangitukua**	**0.56**	**83**	PN	Pn	00	48	41.6 -0.4
WATZ	**Wairara**	**0.58**	**67**	P	Pn	00	48	41.9 -0.2
WATZ	**Wairara**	**0.58**	**67**	PN	Pn	00	48	41.9 -0.2
MOVZ	**Moawhango**	**0.71**	**131**	P	Pn	00	48	42.4 -0.3
MOVZ	**Moawhango**	**0.71**	**131**	PN	Pn	00	48	42.4 -0.3
BKZ	**Black Stump Fm**	**1.14**	**102**	P	Pn	00	48	44.6 -0.7
BKZ	**Black Stump Fm**	**1.14**	**102**	PN	Pn	00	48	44.6 -0.6
TSZ	**Takapari Road**	**1.32**	**148**	P	Pn	00	48	46.8 +0.2
TSZ	**Takapari Road**	**1.32**	**148**	PN	Pn	00	48	46.8 +0.2
URZ	**Urewera**	**1.75**	**68**	P	Pn	00	48	48.4 -1.9
URZ	**Urewera**	**1.75**	**68**	PN	Pn	00	48	48.4 -1.9
MRZ	**Mangatainoka R**	**1.77**	**167**	P	Pn	00	48	50.1 -0.4
MRZ	**Mangatainoka R**	**1.77**	**167**	PN	Pn	00	48	50.1 -0.3
PXZ	**Pawanui**	**1.77**	**128**	PN	Pn	00	48	50.1 -0.4
KIW	**Kapiti Island**	**1.92**	**183**	P	Pn	00	48	51.5 -0.5
KIW	**Kapiti Island**	**1.92**	**183**	PN	Pn	00	48	51.5 -0.4
BFZ	**Birch Farm**	**1.96**	**153**	*e*P	Pn	00	48	51.9 -0.5
BFZ	**Birch Farm**	**1.96**	**153**	PN	Pn	00	48	51.9 -0.5
MWZ	**Matawai**	**2.03**

Error ellipse: s-maj=8.5km s-min=2.9km az=15.3
GII ***21*** *00:57:44.0±0.2, 3203N×3545E, h1*$^{km}_{\pm 1km}$*, ML3.5/11, Mw3.2/12*
CSEM ***21*** *00:57:44.4±0.1, 3206N×3546E, h2*^{km}*, Mw2.6, Error ellipse: s-maj=2.2km s-min=0.9km az=96.0*
GRAL ***21*** *00:57:45.6±1.2, 3200N×3545E, h0*$^{km}_{\pm 12km}$*, MD3.5*
ISC 21 00:57:44.7±0.5, 3201N±002×3548E±006, h4$^{km}_{\pm 4km}$**, n29, σ0s55/38, Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.25**	**10**	Pg	**Pg**	**00 57 49.1**	**-0.4**
DRGI	**Dragot**	**0.42**	**190**	Pg	**Pg**	**00 57 53.3**	**+0.5**
MMLI	**Mount Malkishu**	**0.43**	**354**	Pg	**Pg**	**00 57 52.5**	**-0.4**
MMLI				Sg	**Sg**	**00 57 59.4**	**+0.9**
SLTI	**Sal'it**	**0.43**	**302**	Pg	**Pg**	**00 57 52.6**	**-0.5**
SLTI				Sg	**Sg**	**00 57 59.6**	**+0.9**
DSI	**Dead Sea**	**0.45**	**191**	Pg	**Pg**	**00 57 53.3**	**+0.1**
MKRJ	**Makawir**	**0.48**	**163**	Pg	**Pg**	**00 57 54.7**	**+0.8**
AMAZ	**Amatzia**	**0.67**	**225**	Pg	**Pg**	**00 57 57.9**	**+0.3**
MZDA	**Masada**	**0.70**	**188**	Pg	**Pg**	**00 57 58.5**	**+0.3**
YTIR	**Yattir**	**0.71**	**206**	Pg	**Pg**	**00 57 58.5**	**+0.2**
GLH	**Golan-Tel Qazi**	**0.72**	**12**	Pg	**Pg**	**00 57 58.3**	**-0.1**
OFRI	**'Ofer**	**0.74**	**326**	Pg	**Pg**	**00 57 58.4**	**-0.4**
HNTI	**Hanita**	**1.10**	**347**	Pg	**Pg**	**00 58 04.9**	**-0.9**
HNTI				Sg	**Sg**	**00 58 20.4**	**+0.4**
RTMI	**Retamim**	**1.16**	**215**	Pg	**Pg**	**00 58 06.5**	**-0.5**
MASH	**Mash'abbe Sade**	**1.17**	**210**	Pg	**Pg**	**00 58 06.6**	**-0.5**
KSDI	**Kefar Szold**	**1.19**	**7**	Pg	**Pg**	**00 58 06.6**	**-0.9**
KSDI				Sg	**Sg**	**00 58 23.9**	**+1.0**
SVTA	**Shivta**	**1.30**	**214**	Pg	**Pg**	**00 58 08.8**	**-0.8**
KZIT	**Kziot**	**1.44**	**220**	Pn	**Pn**	**00 58 11.0**	**-0.4**
KZIT				Sn	**Sn**	**00 58 31.1**	**+0.4**
ZFRI	**Zfri**	**1.47**	**190**	Pn	**Pn**	**00 58 11.9**	**0.0**
MATL	**Matirih**	**1.48**	**355**	*e*P	**Pn**	**00 58 11.2**	**-0.8**
RCY	**Rachaya**	**1.50**	**11**	*e*P	**Pn**	**00 58 11.8**	**-0.5**
RCY				*e*S	**Sn**	**00 58 32.4**	**+0.1**
RMNI	**Mount Ramon**	**1.54**	**204**	Pn	**Pn**	**00 58 12.8**	**0.0**
PRNI	**Paran**	**1.70**	**194**	Pn	**Pn**	**00 58 15.1**	**+0.1**
PRNI				Sn	**Sn**	**00 58 37.8**	**+0.5**
BHL	**Bhannes**	**1.90**	**4**	*e*P	**Pn**	**00 58 18.3**	**+0.6**
BHL				*e*S	**Sn**	**00 58 41.8**	**-0.2**
HRFI	**Mount Harif**	**2.00**	**191**	Pn	**Pn**	**00 58 19.3**	**+0.1**
KMTI	**Karmit**	**2.00**	**199**	Pn	**Pn**	**00 58 19.5**	**+0.2**
MBH	**Mount Berech**	**2.26**	**192**	Pn	**Pn**	**00 58 22.8**	**0.0**
MBH	**Mount Berech**	**2.26**	**192**	Pn	**Pn**	**00 58 22.7**	**-0.1**
HWQ	**Hawqa**	**2.30**	**10**	*e*P	**Pn**	**00 58 24.4**	**+1.1**
HWQ				*e*S	**Sn**	**00 58 51.7**	**-0.2**
AQBJ	**Aqaba**	**2.30**	**189**	Pn	**Pn**	**00 58 22.5**	**-0.8**

ISCJB ***21*** *00:59:57.1±0.2, 4811N±001×799E±001, h13*$^{km}_{\pm 1km}$*, Error ellipse: s-maj=1.8km s-min=1.6km az=154.3*
NEIC ***21*** *00:59:58.6, 4809N×804E, h14*^{km}*, ML2.4(STR), ML2.4(LEDBW), ML2.7(LDG), After LDG.*
NEIC Felt [III] at Freiburg im Breisgau.
ZUR ***21*** *00:59:58.6, 4806N×802E, h2*$^{km}_{\pm 1km}$*, ML2.4/12*
STR ***21*** *00:59:58.5±0.2, 4806N×804E, h10*$^{km}_{\pm 1km}$*, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LEDBW ***21*** *00:59:58.7±0.1, 48076N±0007×8035E±0006, h12*$^{km}_{\pm 2km}$*, ML2.4, Error ellipse: s-maj=2.4km s-min=2.0km az=156.0*
BGR ***21*** *00:59:58.3±0.2, 4811N×803E, h10*^{km}*, ML2.3/3, Error ellipse: s-maj=2.2km s-min=1.1km az=107.0*
CSEM ***21*** *00:59:58.4±0.0, 4808N×806E, h15*^{km}*, ML2.7/19, Error ellipse: s-maj=0.9km s-min=0.6km az=167.0*
LDG ***21*** *00:59:58.6±0.0, 4809N×804E, h14*^{km}*, Md2.9/2, Ml2.7/19, Error ellipse: s-maj=0.9km s-min=0.7km az=155.0*
PRU ***21*** *01:00:00.5, 48.17N×8.16E, h0*^{km}
ISC 21 00:59:57.7±0.1, 4810N±001×802E±001, h19$^{km}_{\pm 1km}$**, n156, σ0s90/293, 21C-23D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FBB	**Freiburg im Br**	**0.14**	**229**	⇑*i*P*	**Pg**	**01 00 02.4**	**+0.4**
FBB				S*	**Sg**	**01 00 04.5**	**-0.3**
FBB	**Freiburg im Br**	**0.14**	**229**	⇑*i*P	**Pg**	**01 00 02.4**	**+0.5**
FBB				S	**Sg**	**01 00 04.5**	**-0.3**
FBB	**Freiburg im Br**	**0.14**	**229**	⇑*i*Pg	**Pg**	**01 00 02.4**	**+0.4**
FBB	**Freiburg im Br**	**0.14**	**229**	⇑*e*Pg	**Pg**	**01 00 00.6**	**-1.4**
FBB				Sg	**Sg**	**01 00 04.5**	**-0.3**
FBB				x	x	01 00 07.0	
KIZ	**Kirchzarten**	**0.16**	**205**	⇑*i*P*	**Pg**	**01 00 02.3**	**+0.2**
KIZ				*i* S*	**Sg**	**01 00 04.7**	**-0.4**
KIZ				PmP		01 00 05.0	
KIZ	**Kirchzarten**	**0.16**	**205**	⇑*i*P	**Pg**	**01 00 02.3**	**+0.2**
KIZ				*i* S	**Sg**	**01 00 04.7**	**-0.3**
KIZ	**Kirchzarten**	**0.16**	**205**	⇑*i*Pg	**Pg**	**01 00 02.3**	**+0.2**
KIZ	**Kirchzarten**	**0.16**	**205**	PmP		01 00 05.0	
KIZ				*i* Sg	**Sg**	**01 00 04.7**	**-0.4**
FELD	**Feldberg im Sc**	**0.22**	**182**	⇓*i*P*	**Pg**	**01 00 03.3**	**+0.3**
FELD				S*	**Sg**	**01 00 06.4**	**-0.3**
FELD	**Feldberg im Sc**	**0.22**	**182**	⇓*i*P	**Pg**	**01 00 03.3**	**+0.3**
FELD				S	**Sg**	**01 00 06.4**	**-0.2**
FELD	**Feldberg im Sc**	**0.22**	**182**	⇓*e*Pg	**Pg**	**01 00 03.2**	**+0.2**
FELD	**Feldberg im Sc**	**0.22**	**182**	⇓*i*Pg	**Pg**	**01 00 03.3**	**+0.3**
FELD				*e*Sg	**Sg**	**01 00 06.3**	**-0.3**
FELD				Sg	**Sg**	**01 00 06.4**	**-0.3**
FELD	**Feldberg im Sc**	**0.22**	**182**	Pg	**Pg**	**01 00 03.3**	**+0.3**
FELD				Sg	**Sg**	**01 00 06.3**	**-0.3**
LIBD	**Limburg**	**0.28**	**281**	P*	**Pg**	**01 00 05.2**	**+1.2**
LIBD				S*	**Sg**	**01 00 09.8**	**+1.5**
LIBD	**Limburg**	**0.28**	**281**	P	**Pg**	**01 00 05.2**	**+1.2**
LIBD				S	**Sg**	**01 00 09.8**	**+1.6**
STAU	**Staufen im Bre**	**0.30**	**220**	⇑Pg	**Pg**	**01 00 04.7**	**+0.5**
STAU				*e*Sg	**Sg**	**01 00 08.6**	**0.0**
BFO	**Black Forest**	**0.31**	**42**	⇑*i*P*	**Pg**	**01 00 05.1**	**+0.6**
BFO				S*	**Sg**	**01 00 09.4**	**+0.3**
BFO	**Black Forest**	**0.31**	**42**	⇑*i*Pg	**Pg**	**01 00 05.1**	**+0.6**
BFO				Sg	**Sg**	**01 00 09.4**	**+0.3**
BFO	**Black Forest**	**0.31**	**42**	*e*Pg	**Pg**	**01 00 04.4**	**-0.1**
BFO				*e*Sg	**Sg**	**01 00 08.6**	**-0.5**
BREM	**Bremgarten**	**0.32**	**234**	⇑*e*Pg	**Pg**	**01 00 05.6**	**+0.9**
BREM				*e*Sg	**Sg**	**01 00 10.5**	**+1.2**
OFBG	**Offenburg**	**0.35**	**356**	⇑Pg	**Pg**	**01 00 06.0**	**+0.9**
OFBG				*e*Sg	**Sg**	**01 00 10.9**	**+0.8**
OFBG				*e*SmS		01 00 14.2	
SLE	**Schleitheim** SNR=86	**0.46**	**136**	*e*Pg	**Pg**	**01 00 07.4**	**+0.2**
SLE				*e*Sg	**Sg**	**01 00 13.3**	**-0.2**
	SNR=5.3						
SLE	**Schleitheim** 210nm,0.3s	**0.46**	**136**	*e*Sg	**Pg**	**01 00 07.4**	**+0.3**
SLE	**Schleitheim** 210nm,0.3s	**0.46**	**136**	⇓*i*Pg	**Sg**	**01 00 13.4**	**0.0**
SLE	**Schleitheim**	**0.46**	**136**	⇓*i*P	**Pg**	**01 00 07.4**	**+0.3**
SPAK	**Spaichingen-Ko**	**0.52**	**89**	P*	**Pb**	**01 00 08.7**	**+0.5**
SPAK				S*	**Sb**	**01 00 15.2**	**-0.1**
SPAK	**Spaichingen-Ko**	**0.52**	**89**	P	**Pg**	**01 00 08.7**	**+0.6**
SPAK	**Spaichingen-Ko**	**0.52**	**89**	Pg	**Pg**	**01 00 08.3**	**+0.2**
WLS	**Welschbruch**	**0.54**	**306**	⇓*i*P*	**Pb**	**01 00 09.9**	**+1.2**
WLS				PmP		01 00 10.5	
WLS	**Welschbruch**	**0.54**	**306**	Pg	**Pg**	**01 00 09.7**	**+1.1**
SULZ	**Sulz-Cheisache** SNR=8.1	**0.57**	**173**	*e*Pg	**Pg**	**01 00 09.6**	**+0.4**
SULZ				*e*Sg	**Sg**	**01 00 16.6**	**-0.3**
	SNR=12						
SULZ	**Sulz-Cheisache** 462nm,0.3s	**0.57**	**173**	*i* Sg	**Pg**	**01 00 09.5**	**+0.3**
SULZ	**Sulz-Cheisache** 462nm,0.3s	**0.57**	**173**	⇓*i*Pg	**Sg**	**01 00 17.5**	**+0.6**
CDF	**Champ du Feu**	**0.59**	**303**	*e*Pg	**Pg**	**01 00 10.5**	**+1.1**
CDF				*e*Sg	**Sg**	**01 00 18.2**	**+1.0**
	60nm,0.2s,SNR=1.0						
CDF	**Champ du Feu** 30nm,0.2s,SNR=1.0	**0.59**	**303**	*e*Pg	**Pg**	**01 00 10.5**	**+1.1**
CDF				*e*Sg	**Sg**	**01 00 18.2**	**+1.0**
ECH	**Echery**	**0.59**	**282**	⇑P*	**Pb**	**01 00 10.5**	**+1.1**
ECH				S*	**Sb**	**01 00 18.4**	**+1.1**
ECH	**Echery**	**0.59**	**282**	⇑Pg	**Pb**	**01 00 10.5**	**+1.1**
ECH				Sg	**Sb**	**01 00 18.4**	**+1.1**
ECH	**Echery**	**0.59**	**282**	Pg	**Pg**	**01 00 10.3**	**+0.9**
ECH				Sg	**Sg**	**01 00 18.3**	**+1.1**
TRULL	**Truellikon**	**0.64**	**135**	⇓*i*Pg	**Pg**	**01 00 10.7**	**+0.4**
MSS	**Messtetten**	**0.64**	**82**	⇓Pg	**Pg**	**01 00 10.9**	**+0.6**
MSS				*e*Sg	**Sg**	**01 00 19.4**	**+0.5**
MSS	**Messtetten**	**0.64**	**82**	PmP		01 00 11.4	
MOF	**Molkenrain**	**0.64**	**248**	P*	**Pb**	**01 00 11.4**	**+1.0**
FLACH	**Flaach**	**0.65**	**145**	⇓*i*P	**Pb**	**01 00 10.9**	**+0.5**
STEIN	**Stein am Rhein**	**0.72**	**126**	*e*Sg	**Pb**	**01 00 12.3**	**+0.7**
	98nm,0.1s						
STEIN	**Stein am Rhein** 98nm,0.1s	**0.72**	**126**	⇓*i*Pg	**Sb**	**01 00 21.7**	**+0.6**
STEIN	**Stein am Rhein**	**0.72**	**126**	⇓*i*P	**Pb**	**01 00 12.3**	**+0.7**
GUT	**Gutenstein**	**0.74**	**92**	⇑*i*P*	**Pg**	**01 00 12.6**	**+0.4**
GUT				PmP		01 00 13.0	
GUT				S*	**Sg**	**01 00 22.3**	**+0.2**
GUT				SmS		01 00 23.3	
GUT	**Gutenstein**	**0.74**	**92**	⇑*i*P	**Pb**	**01 00 12.6**	**+0.6**
GUT				S	**Sb**	**01 00 22.3**	**+0.6**
GUT	**Gutenstein**	**0.74**	**92**	⇑*i*Pg	**Pg**	**01 00 12.6**	**+0.4**
GUT				Sg	**Sg**	**01 00 22.3**	**+0.2**
GUT	**Gutenstein**	**0.74**	**92**	PmP		01 00 13.0	
GUT				Sx	Sx	01 00 23.3	
SISB	**Singen-Schiene**	**0.76**	**122**	⇓*i*P*	**Pg**	**01 00 13.1**	**+0.5**
SISB				PmP		01 00 13.3	
SISB				S*	**Sg**	**01 00 23.1**	**+0.4**
SISB				*i* SmS		01 00 24.0	
SISB	**Singen-Schiene**	**0.76**	**122**	⇓*i*Pg	**Pg**	**01 00 13.1**	**+0.5**
SISB				Sg	**Sg**	**01 00 23.1**	**+0.4**
SISB	**Singen-Schiene**	**0.76**	**122**	Px	**Pb**	**01 00 13.3**	**+1.0**
SISB				*i* SmS		01 00 24.0	
LBG	**Lerchenberg**	**0.77**	**42**	⇑*e*P*	**Pg**	**01 00 13.3**	**+0.6**
LBG				PmP		01 00 13.6	
LBG				S*	**Sg**	**01 00 23.8**	**+0.8**
LBG	**Lerchenberg**	**0.77**	**42**	⇑*e*P	**Pb**	**01 00 13.3**	**+0.8**
LBG				S	**Sb**	**01 00 23.8**	**+1.2**
LBG	**Lerchenberg**	**0.77**	**42**	⇑*e*Pg	**Pg**	**01 00 13.3**	**+0.6**
LBG				Sg	**Sg**	**01 00 23.8**	**+0.8**
LBG	**Lerchenberg**	**0.77**	**42**	PmP		01 00 13.6	
BALST	**Balsthal** SNR=12	**0.79**	**196**	*e*Pg	**Pg**	**01 00 13.6**	**+0.4**
BALST				*e*Sg	**Sg**	**01 00 23.3**	**-0.4**
	SNR=8.3						
BALST	**Balsthal** 263nm,0.2s	**0.79**	**196**	⇑*i*P	**Pb**	**01 00 13.6**	**+0.7**
ZUR	**Zurich** SNR=9.9	**0.82**	**152**	*e*Pg	**Pg**	**01 00 14.2**	**+0.4**
ZUR				*e*Sg	**Sg**	**01 00 24.8**	**+0.1**
	SNR=12						
ZUR	**Zurich** 243nm,0.2s	**0.82**	**152**	*i* Sg	**Pb**	**01 00 14.2**	**+0.8**
ZUR	**Zurich** 243nm,0.2s	**0.82**	**152**	⇓*i*Pg	**Sb**	**01 00 24.9**	**+0.8**
HINF	**Hinteralfeld** SNR=1.0	**0.83**	**251**	*e*Pg	**Pg**	**01 00 14.0**	**+0.1**
HINF				*e*Sg	**Sg**	**01 00 25.5**	**+0.6**
	72nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld** SNR=1.0	**0.83**	**251**	*e*Pg	**Pg**	**01 00 14.0**	**+0.1**
HINF				*e*Sg	**Sg**	**01 00 25.5**	**+0.6**
	36nm,0.3s,SNR=1.0						
TUBL	**Tuebingen-Lenn**	**0.83**	**59**	P*	**Pn**	**01 00 15.6**	**+1.2**
TUBL				PmP		01 00 16.1	
TUBL				S*	**Sn**	**01 00 26.4**	**+0.2**
TUBL				SmS		01 00 27.1	
TUBL	**Tuebingen-Lenn**	**0.83**	**59**	Pn	**Pn**	**01 00 15.6**	**+1.2**
TUBL				Sn	**Sn**	**01 00 26.4**	**+0.2**
TUBL	**Tuebingen-Lenn**	**0.83**	**59**	PmP		01 00 16.1	
TUBL				SmS		01 00 27.1	
WEIN	**Weingarten** 107nm,0.2s	**0.87**	**131**	⇓*i*Pg	**Pg**	**01 00 14.8**	**+0.2**
WEIN	**Weingarten**	**0.87**	**131**	⇓*i*P	**Pb**	**01 00 15.2**	**+1.0**
BOURR	**Bourrignon** SNR=32	**0.88**	**217**	*e*Pg	**Pg**	**01 00 14.8**	**-0.1**
BOURR				*e*Sg	**Sg**	**01 00 26.9**	**+0.4**
	SNR=5.5						
BOURR	**Bourrignon** 156nm,0.3s	**0.88**	**217**	⇑*i*Pn	**Pn**	**01 00 15.2**	**+0.1**
BOURR	**Bourrignon**	**0.88**	**217**	⇑*i*P	**Pb**	**01 00 14.8**	**+0.4**
LANF	**Langenberg**	**0.89**	**351**	P	**Pb**	**01 00 15.7**	**+1.1**
LANF				S	**Sb**	**01 00 28.1**	**+1.9**
LANF	**Langenberg**	**0.89**	**351**	Pg	**Pg**	**01 00 16.2**	**+1.1**
WILA	**Wila** SNR=24	**0.91**	**138**	*e*Pg	**Pg**	**01 00 16.0**	**+0.5**
WILA				*e*Sg	**Sg**	**01 00 27.9**	**+0.5**
	SNR=12						
WILA	**Wila** 290nm,0.2s	**0.91**	**138**	⇑*i*P	**Pb**	**01 00 15.7**	**+0.8**
STU	**Stuttgart** SNR=3.8	**1.03**	**49**	*e*Pg	**Pg**	**01 00 18.4**	**+0.6**
STU				*e*Sg	**Sg**	**01 00 31.0**	**-0.4**
	SNR=7.0						
LOMF	**Lomont**	**1.10**	**227**	Pg	**Pg**	**01 00 19.6**	**+0.7**
LOMF	**Lomont**	**1.10**	**227**	Pg	**Pg**	**01 00 19.4**	**+0.4**
HAU	**Haudompre**	**1.12**	**266**	*e*Pg	**Pg**	**01 00 20.1**	**+0.6**
HAU				*e*Sg	**Sg**	**01 00 34.5**	**+0.3**
	98nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**1.12**	**266**	*e*Pn	**Pn**	**01 00 18.4**	**0.0**
HAU				*e*Pg	**Pg**	**01 00 20.1**	**+0.6**
HAU				*e*Sg	**Sg**	**01 00 34.5**	**+0.3**
HAU	**Haudompre**	**1.12**	**266**	*e*Pg	**Pg**	**01 00 20.1**	**+0.6**
HAU				*e*Sg	**Sg**	**01 00 34.5**	**+0.3**
	49nm,0.3s,SNR=1.0						
MUO	**Muotathal** 196nm,0.7s	**1.21**	**159**	*i* P	**Pn**	**01 00 21.5**	**+1.9**
BNALP	**Bannalp** 147nm,0.4s	**1.26**	**167**	⇓*i*P	**Pn**	**01 00 22.4**	**+2.1**
LIENZ	**Alp Oberkamor** SNR=5.2	**1.28**	**128**	*e*Pg	**Pg**	**01 00 23.0**	**+0.6**
LIENZ				*e*Sg	**Sg**	**01 00 39.6**	**+0.4**
	SNR=9.7						
THEF	**They Montfort**	**1.36**	**276**	P	**Pn**	**01 00 21.9**	**+0.2**
THEF				Sg	**Sg**	**01 00 42.4**	**+0.5**
THEF	**They Montfort**	**1.36**	**276**	S	**Sg**	**01 00 42.4**	**+0.5**
SWS	**Schriesheim-Wi**	**1.46**	**18**	Sg	**Sg**	**01 00 44.6**	**-0.3**
UBR	**Ueberruh**	**1.47**	**106**	Pg	**Pg**	**01 00 26.8**	**+0.8**
UBR				Sg	**Sg**	**01 00 45.1**	**-0.1**
DAVA	**Damuels** comp=Z,5.8nm,0.2s	**1.50**	**122**	⇑*i*Sg	**Sg**	**01 00 45.2**	**-1.0**
DAVA	**Damuels**	**1.50**	**122**	⇓*i*Pg	**Pg**	**01 00 27.1**	**+0.5**
DAVA				⇑*i*Sn	**Sg**	**01 00 45.2**	**-1.0**
	5.8nm,0.2s						
HDH	**Heidenheim-Cha**	**1.54**	**71**	Pg	**Pg**	**01 00 27.5**	**+0.1**
HDH				PmP		01 00 27.9	
HDH				S	**Sn**	**01 00 43.7**	**0.0**
HDH	**Heidenheim-Cha**	**1.54**	**71**	Px	**Pn**	**01 00 27.9**	**+3.7**
TOD	**Tromm**	**1.60**	**19**	Sg	**Sg**	**01 00 48.9**	**-0.3**
SIND	**Sindeldorf**	**1.64**	**39**	Pg	**Pg**	**01 00 29.0**	**-0.2**
SIND				S	**Sn**	**01 00 44.1**	**-1.9**
SIND				Sg	**Sg**	**01 00 49.2**	**-1.3**
RFYF	**Reffroy**	**1.78**	**288**	*e*Pg	**Pg**	**01 00 31.9**	**0.0**
RFYF				*e*Sg	**Sg**	**01 00 55.7**	**+0.7**
	24nm,0.2s						
RFYF	**Reffroy**	**1.78**	**288**	*e*Pg	**Pg**	**01 00 31.9**	**0.0**
RFYF				*e*Sg	**Sg**	**01 00 55.7**	**+0.7**
	12nm,0.2s						
ABH	**Alteburg**	**1.81**	**350**	Pg	**Pg**	**01 00 33.0**	**+0.4**
ABH				Sg	**Sg**	**01 00 56.2**	**0.0**
CABF	**La Chapelle** SNR=1.0	**1.98**	**222**	*e*Pg	**Pg**	**01 00 35.7**	**-0.1**
CABF				*e*Sg	**Sg**	**01 01 01.0**	**-0.6**
	2.7nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.98**	**222**	*e*Pn	**Pn**	**01 00 29.8**	**-0.5**
CABF				*e*Pg	**Pg**	**01 00 35.7**	**-0.1**
CABF				*e*Sg	**Sg**	**01 01 01.0**	**-0.6**
CABF	**La Chapelle** SNR=1.0	**1.98**	**222**	*e*Pg	**Pg**	**01 00 35.7**	**-0.1**
CABF				*e*Sg	**Sg**	**01 01 01.0**	**-0.6**
	1.4nm,0.2s,SNR=1.0						
WLF	**Walferdange** SNR=2.9	**1.99**	**323**	*e*Pg	**Pg**	**01 00 36.5**	**+0.5**
WLF				*e*Sg	**Sg**	**01 01 01.7**	**-0.2**
	SNR=2.8						
SFTF	**Sexfontaines** baz=102	**2.00**	**274**	*e*Pn	**Pn**	**01 00 30.4**	**-0.1**
SFTF	**Sexfontaines** baz=94	**2.00**	**274**	*e*Pg	**Pg**	**01 00 36.2**	**+0.1**
SFTF				*e*Sn	**Sn**	**01 00 54.1**	**-0.8**
SFTF				*e*Sg	**Sg**	**01 01 02.1**	**+0.1**
	9.1nm,0.2s						
SFTF	**Sexfontaines**	**2.00**	**274**	*e*Pn	**Pn**	**01 00 30.4**	**-0.1**
SFTF				*e*Pg	**Pg**	**01 00 36.2**	**+0.1**
SFTF				*e*Sn	**Sn**	**01 00 54.1**	**-0.8**
SFTF				*e*Sg	**Sg**	**01 01 02.1**	**+0.1**
SFTF	**Sexfontaines**	**2.00**	**274**	*e*Pg	**Pg**	**01 00 36.2**	**+0.1**
SFTF				*e*Sn	**Sn**	**01 00 54.1**	**-0.8**
SFTF				*e*Sg	**Sg**	**01 01 02.1**	**+0.1**
	4.6nm,0.2s						
MEZF	**Maizieres J'vi** baz=103	**2.02**	**283**	*e*Pn	**Pn**	**01 00 30.7**	**-0.1**
MEZF	**Maizieres J'vi** baz=102	**2.02**	**283**	*e*Pg	**Pg**	**01 00 36.5**	**0.0**
MEZF				*e*Sn	**Sn**	**01 00 54.3**	**-1.2**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**01 01 02.5**	**-0.2**
	9.2nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**2.02**	**283**	*e*Pn	**Pn**	**01 00 30.7**	**-0.1**
MEZF				*e*Pg	**Pg**	**01 00 36.5**	**0.0**
MEZF				*e*Sn	**Sn**	**01 00 54.3**	**-1.2**
MEZF				Sn	**Sn**	**01 00 54.9**	**-0.6**
MEZF				Sg	**Sg**	**01 01 01.5**	**-1.2**
MEZF				*e*Sg	**Sg**	**01 01 02.5**	**-0.2**
MEZF	**Maizieres J'vi**	**2.02**	**283**	*e*Pg	**Pg**	**01 00 36.5**	**0.0**
MEZF				*e*Sn	**Sn**	**01 00 54.3**	**-1.2**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**01 01 02.5**	**-0.2**
	4.6nm,0.2s,SNR=1.0						
TNS	**Taunus Mts** SNR=3.8	**2.15**	**7**	*e*Sg	**Sg**	**01 01 05.5**	**-1.3**
MOTA	**Moosalm**	**2.22**	**109**	⇑*i*Pn	**Pn**	**01 00 37.3**	**+3.8**
MOTA				⇓*i*Pg	**Pg**	**01 00 40.9**	**+0.7**
MOTA	**Moosalm** comp=Z,5.2nm,0.2s	**2.22**	**109**	⇑*i*Sg	**Sg**	**01 01 08.6**	**-0.5**
MOTA	**Moosalm**	**2.22**	**109**	⇑*i*Pn	**Pn**	**01 00 37.3**	**+3.8**
MOTA				⇓*i*Pg	**Pg**	**01 00 40.9**	**+0.7**
MOTA				⇑*i*Sg	**Sg**	**01 01 08.6**	**-0.5**
	5.2nm,0.2s						
SQTA	**Sankt Quirin**	**2.33**	**111**	⇑*i*Pg	**Pg**	**01 00 42.6**	**+0.1**
SQTA				⇓*i*Sg	**Sg**	**01 01 12.3**	**-0.4**
	12nm,0.2s						
GRA1	**Grafenberg Arr**	**2.65**	**52**	*e*Pg	**Pg**	**01 00 48.3**	**-0.2**
GRA1				*e*Sg	**Sg**	**01 01 21.0**	**-1.9**
GRF	**Grafenberg Arr** SNR=3.6	**2.65**	**52**	*e*Pg	**Pg**	**01 00 48.3**	**-0.2**
GRF				*e*Sg	**Sg**	**01 01 21.0**	**-1.9**
	SNR=3.7						
LPL	**La Plagne**	**2.73**	**199**	*e*Pg	**Pg**	**01 00 49.5**	**-0.5**
LPL				*e*Sg	**Sg**	**01 01 25.1**	**-0.3**
	3.1nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.73**	**199**	*e*Pn	**Pn**	**01 00 40.5**	**0.0**
LPL				*e*Pg	**Pg**	**01 00 49.5**	**-0.5**
LPL				*e*Sg	**Sg**	**01 01 25.1**	**-0.3**
LPL				Sg	**Sg**	**01 01 26.6**	**+1.2**
LPL	**La Plagne**	**2.73**	**199**	*e*Pg	**Pg**	**01 00 49.5**	**-0.5**
LPL				*e*Sg	**Sg**	**01 01 25.1**	**-0.3**
	1.5nm,0.4s,SNR=1.0						
LPG	**La Plagne** SNR=1.0	**2.74**	**199**	*e*Pg	**Pg**	**01 00 49.9**	**-0.4**
LPG				*e*Sg	**Sg**	**01 01 25.4**	**-0.5**
	2.3nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**2.74**	**199**	*e*Pn	**Pn**	**01 00 40.7**	**0.0**
LPG				*e*Pg	**Pg**	**01 00 49.9**	**-0.4**
LPG				Pg	**Pg**	**01 00 50.4**	**+0.1**
LPG				*e*Sg	**Sg**	**01 01 25.4**	**-0.5**
LPG				Sg	**Sg**	**01 01 26.6**	**+0.7**
LPG	**La Plagne** SNR=1.0	**2.74**	**199**	*e*Pg	**Pg**	**01 00 49.9**	**-0.4**
LPG				*e*Sg	**Sg**	**01 01 25.4**	**-0.5**
	1.1nm,0.3s,SNR=1.0						
LOR	**Lormes** baz=68	**2.93**	**255**	*e*Pn	**Pn**	**01 00 43.3**	**0.0**
LOR	**Lormes** baz=78,SNR=1.0	**2.93**	**255**	*e*Pg	**Pg**	**01 00 53.4**	**-0.4**
LOR				*e*Sn	**Sn**	**01 01 16.4**	**-1.5**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**01 01 30.4**	**-1.4**
	7.1nm,0.2s						
LOR	**Lormes**	**2.93**	**255**	*e*Pn	**Pn**	**01 00 43.3**	**0.0**
LOR				Pg	**Pg**	**01 00 53.4**	**-0.4**
LOR				Sn	**Sn**	**01 01 16.5**	**-1.4**
LOR				*e*Sg	**Sg**	**01 01 30.4**	**-1.4**
LOR	**Lormes** SNR=1.0	**2.93**	**255**	*e*Pg	**Pg**	**01 00 53.4**	**-0.4**
LOR				*e*Sn	**Sn**	**01 01 16.4**	**-1.5**

GEC2	**GERESS Array S**	**3.86**	**77**	*e*Sg		**Sg**	**01 01 59.6**	**-2.0**
	SNR=2.9							
VIVF	**Saint-Julien-I**	**3.98**	**217**	*e*Pg		**Pg**	**01 01 12.3**	**-1.7**
VIVF				*e*Sg		**Sg**	**01 02 03.2**	**-2.3**
	1.4nm,0.3s,SNR=1.0							
VIVF	**Saint-Julien-I**	**3.98**	**217**	*e*Pg		**Pg**	**01 01 12.3**	**-1.7**
VIVF				*e*Sg		**Sg**	**01 02 03.2**	**-2.3**
	0.7nm,0.3s,SNR=1.0							
CLL	**Collm**	**4.56**	**43**	*e*Sg		**Sg**	**01 02 18.0**	**-6.1**

ISCJB ***21*** *01:03:43.1±0.6, 4222N±006×1382E±0.1, h279km±8km, mb3.2/4, Error ellipse: s-maj=14.6km s-min=9.6km az=37.1*

IDC ***21*** *01:03:43.4±1.5, 4231N×13809E, h265km±22km, mb3.0/4, mb1 3.1/6, mb1mx3.0/21, mbtmp3.6/6, Error ellipse: s-maj=28.2km s-min=17.2km az=85.0*

JMA ***21*** *01:03:44.3±0.1, 4225N×138.13E, h265km±2km, M3.4*

ISC 21 01:03:43.9±0.6, 4223N±006×1383E±01, h274km±8km, n20, σ0§92/27, mb3.2/4, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.91**	**99**	P	**Pn**	**01 04 20.8**	**-0.3**
JOSM				*e*S	**S**	**01 04 49.5**	**-1.0**
JSH	**Shimam**	**1.38**	**72**	P	**Pn**	**01 04 23.9**	**+0.2**
JSK	**Shakotan**	**1.98**	**55**	P	**Pn**	**01 04 28.5**	**+0.3**
JKB	**Kayabe**	**2.09**	**99**	P	**Pn**	**01 04 29.8**	**+0.6**
JKB				*e*S	**S**	**01 05 05.3**	**+0.2**
JOT	**Ohata**	**2.25**	**111**	P	**Pn**	**01 04 31.0**	**+0.4**
JOT				*e*S	**S**	**01 05 07.8**	**+0.2**
JHR	**Hokuryu**	**2.96**	**58**	P	**Pn**	**01 04 38.6**	**+1.2**
JANG	**Nango**	**3.07**	**126**	P	**Pn**	**01 04 38.4**	**-0.3**
JANG				*e*S	**S**	**01 05 20.8**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.33**	**88**	*e*S	**S**	**01 05 26.7**	**-0.5**
JKK2	**Kamakawa 2**	**3.67**	**62**	P	**Pn**	**01 04 46.1**	**+1.0**
JKK2				*e*S	**S**	**01 05 33.3**	**-0.6**
JYK	**Kaneyama**	**3.68**	**154**	P	**Pn**	**01 04 46.1**	**+0.9**
ASAJ	**Asahikawa**	**3.69**	**58**	P	**Pn**	**01 04 46.1**	**+0.8**
	11nm,0.3s,baz=253,slow=9.1,SNR=27						
ASAJ				S	**S**	**01 05 33.8**	**-0.4**
	0.7nm,0.3s,baz=336,slow=33,SNR=6.5						
JCH	**Churui**	**3.79**	**83**	P	**Pn**	**01 04 46.6**	**+0.1**
JCH				*e*S	**S**	**01 05 33.9**	**-2.5**
JMK	**Ichinoseki**	**3.98**	**145**	P	**Pn**	**01 04 48.2**	**-0.3**
JWK2	**Keihoku**	**4.05**	**39**	P	**Pn**	**01 04 50.7**	**+1.3**
JTKR	**Abashiri--Toko**	**4.48**	**65**	P	**Pn**	**01 04 55.9**	**+1.5**
MJAR	**Matsushiro Arr**	**5.68**	**180**	P	**Pn**	**01 05 09.5**	**+0.8**
	0.8nm,0.3s,baz=3.6,slow=11,SNR=9.6						
SONM	**Songino Array**	**23.10**	**295**	P	**P**	**01 08 24.2**	**-1.7**
	0.4nm,0.4s,mb3.1,baz=81,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**39.46**	**296**	P	**P**	**01 10 46.6**	**-1.3**
	0.4nm,0.6s,mb3.0,baz=65,slow=9.5,SNR=4.0						
WRA	**Warramunga Arr**	**61.97**	**184**	P	**P**	**01 13 35.8**	**+0.7**
	0.5nm,0.8s,mb3.2,baz=0.2,slow=7.0,SNR=12						
FINES	**FINESS Array B**	**63.09**	**330**	P	**P**	**01 13 41.8**	**-0.7**
	0.9nm,0.7s,mb3.5,baz=43,slow=6.5,SNR=6.2						

NEIC ***21*** *01:16:21.7, 1683N×9966W, h5km, MD3.5(MEX), After MEX.*

MEX 21 01:16:21.4±0.6, 1682N×9965W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.26**	**281**	*i* P	Pg	01 16 26.0	-0.4
ACX				*i* S	Sg	01 16 30.0	+0.2
CAIG	**El Cayaco**	**0.63**	**291**	*i* P	Pg	01 16 32.9	-0.7
CAIG				*i* S	Sg	01 16 42.4	+0.6
MEIG	**Mezcala**	**1.10**	**2**	*i* P	Pg	01 16 39.5	-3.0
MEIG				*i* S	Sg	01 16 53.7	-3.1
PLIG	**Platanillo**	**1.57**	**5**	*i* P	Pn	01 16 46.9	-3.0
PLIG				*i* S	Sn	01 17 07.2	-3.5
UTMO	**Huajuapan**	**2.03**	**60**	*i* P	Pn	01 16 54.3	-1.9
UTMO				*i* S	Sn	01 17 19.5	-2.5
PPM	**Popocatepetl**	**2.44**	**23**	*i* S	Sn	01 17 29.9	-2.1
OXX	**Oaxaca**	**2.81**	**84**	*e*P	Pn	01 17 14.0	+7.0

IDC ***21*** *01:25:58.2±1.4, 369S×13981E, h0km, mb4.2/3, mb1 4.6/7, mb1mx4.4/10, mbtmp4.4/7, ML3.9/3, MS3.7/9, Ms1 3.7/9, ms1mx3.3/26, Error ellipse: s-maj=29.0km s-min=19.3km az=134.0*

ISCJB ***21*** *01:26:00.2±2.8, 367S±006×1399E±0.1, h26km±20km, mb4.2/6, MS3.6/7, Error ellipse: s-maj=17.5km s-min=10.4km az=13.0*

NEIC ***21*** *01:26:03.8±1.8, 364S×13986E, h41km±15km, mb4.2/9, Error ellipse: s-maj=13.9km s-min=12.6km az=49.0*

ISC 21 01:26:04.0±1.6, 368S±008×13989E±009, h42km±14km, n32, σ0§99/31, mb4.2/6, MS3.6/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.19**	**129**	Pn	**Pn**	**01 28 13.0**	**-1.0**
	1.0nm,0.3s,baz=292,slow=11,SNR=9.2						
PMG				Sn	**Sn**	**01 29 49.4**	**-6.7**
	0.4nm,0.3s,baz=53,slow=20,SNR=2.0						
KAKA	**Kakadu**	**11.61**	**219**	*e*P	**Pn**	**01 28 48.1**	**+1.0**
	31nm,0.7s						
KAKA				*e*S	**Sn**	**01 30 53.8**	**-1.5**
WRAB	**Tennant Creek**	**17.04**	**198**	*e*Pn	**Pn**	**01 29 59.0**	**-0.1**
	85nm,1.0s						
WRAB				*e*PcP	PcP	01 35 04.9	+22
WB2	**Warramunga Arr**	**17.04**	**198**	*e*P	**Pn**	**01 29 58.5**	**-0.7**
WB2				*e*S	**S**	**01 33 05.3**	**-11**
WRA	**Warramunga Arr**	**17.05**	**198**	P	**Pn**	**01 29 59.0**	**-0.3**
	1.2nm,0.3s,baz=15,slow=13,SNR=28						
WRA				S	**S**	**01 33 02.2**	**-14**
	0.2nm,0.3s,baz=16,slow=21,SNR=4.1						
WRA				LR	LR	01 37 07.3	
	comp=Z,238nm,18.9s,baz=5.0,slow=39						
CTA	**Charters Tower**	**17.45**	**160**	*e*P	**Pn**	**01 30 06.2**	**+2.0**
	5.1nm,0.9s						
CTA	**Charters Tower**	**17.45**	**160**	P	**Pn**	**01 30 03.9**	**-0.3**
	0.4nm,0.3s,baz=330,slow=14,SNR=5.3						
CTAO	**Charters Tower**	**17.45**	**160**	*e*Pn	**Pn**	**01 30 07.1**	**+2.9**
	8.4nm,0.8s						
GUMO	**Guam**	**17.85**	**16**	LR	LR	01 35 55.5	
	comp=Z,112nm,21.2s,baz=225,slow=33						
FITZ	**Fitzroy Crossi**	**20.00**	**223**	*e*P	**P**	**01 30 33.9**	**+0.8**
	13nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.00**	**223**	P	**P**	**01 30 33.9**	**+0.8**
	0.3nm,0.3s,baz=44,slow=9.8,SNR=11						
FITZ				S	**S**	**01 34 17.6**	**+1.9**
	0.2nm,0.3s,baz=141,slow=9.7,SNR=4.9						
FITZ				LR	LR	01 39 04.7	
	comp=Z,224nm,19.7s,MS3.5,baz=28,slow=39						
AS31	**Alice Springs**	**20.69**	**196**	*e*P	**P**	**01 30 42.2**	**+1.7**
ASAR	**Alice Springs**	**20.70**	**196**	P	**P**	**01 30 41.5**	**+0.9**
	51nm,0.7s,baz=27,slow=8.3,SNR=226						
ASAR				S	**S**	**01 34 27.8**	**-1.6**
	1.1nm,0.8s,baz=9.7,slow=29,SNR=3.6						
ASAR				LR	LR	01 39 14.0	
	comp=Z,229nm,20.5s,MS3.5,baz=353,slow=38						
ASPA	**Alice Springs**	**20.70**	**196**	*e*P	**P**	**01 30 42.2**	**+1.6**
MBWA	**Marble Bar**	**26.19**	**227**	*e*P	**P**	**01 31 33.0**	**-1.6**
STKA	**Stephens Creek**	**28.10**	**177**	LR	LR	01 43 37.3	
	comp=Z,245nm,20.6s,MS3.8,baz=25,slow=38						
STKA	**Stephens Creek**	**28.10**	**177**	*e*P	**P**	**01 31 52.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**36.00**	**213**	LR	LR	01 47 37.7	
	comp=Z,227nm,20.7s,MS3.9,baz=186,slow=36						
NWAO	**Narrogin (SRO)**	**36.00**	**213**	*e*P	**P**	**01 33 00.7**	**-0.3**
	19nm,1.1s,mb5.0						
JHJ	**Hachijo jima 2**	**36.60**	**360**	LR	LR	01 45 35.1	
	comp=Z,108nm,19.0s,MS3.6,baz=273,slow=32						
QIZ	**Qiongzhong**	**37.20**	**308**	P	**P**	**01 33 10.4**	**-0.7**
MJAR	**Matsushiro Arr**	**40.04**	**358**	LR	LR	01 49 23.1	
	comp=Z,36nm,20.4s,MS3.2,baz=130,slow=35						
CASY	**Casey**	**65.78**	**193**	*e*P	**P**	**01 36 44.3**	**-0.5**
	0.7nm,0.5s,mb4.0						
MKAR	**Makanchi Array**	**71.27**	**322**	P	**P**	**01 37 19.9**	**+0.9**
	0.4nm,0.6s,mb3.5,baz=99,slow=8.9,SNR=3.5						
VNDA	**Vanda**	**74.72**	**175**	P	**P**	**01 37 38.4**	**-1.0**
	1.7nm,0.8s,mb4.0,baz=314,slow=7.3,SNR=5.5						
VNDA				LR	LR	02 09 46.1	
	comp=Z,74nm,21.8s,MS3.9,baz=358,slow=35						
VNDA	**Vanda**	**74.72**	**175**	*e*P	**P**	**01 37 39.1**	**-0.3**
	2.2nm,0.8s,mb4.1						
BRVK	**Borovoye**	**80.85**	**325**	*e*P	**P**	**01 38 13.3**	**-0.2**
	0.5nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**80.86**	**326**	P	**P**	**01 38 13.6**	**+0.1**
MAW	**Mawson**	**81.68**	**202**	*e*P	**P**	**01 38 18.1**	**+0.1**
QSPA	**South Pole Qui**	**86.27**	**180**	*e*P	**P**	**01 38 40.6**	**-0.8**
	7.3nm,0.6s,mb5.1						
SNAA	**Sanae**	**101.00**	**191**	*e*Pdif	Pdif	01 39 49.4	+0.3
CPUP	**Villa Florida**	**145.83**	**152**	PKPbc	PKPbc	01 45 38.5	-0.2
	3.4nm,1.0s,baz=220,slow=3.4,SNR=4.4						

IDC ***21*** *01:41:52.7±16.0, 19.12S×174.68W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.2/15, mbtmp4.5/5, Error ellipse: s-maj=304.0km s-min=152.4km az=80.0*

ISCJB ***21*** *01:41:56.7±1.7, 19.3S±02×174.8W±0.2, h33km, mb4.7/7, Error ellipse: s-maj=36.2km s-min=17.5km az=100.4*

NEIC ***21*** *01:41:57.8±0.8, 19.18S×174.70W, h35km, mb4.8/5, Error ellipse: s-maj=17.2km s-min=12.5km az=53.0*

ISC 21 01:41:58.2±1.8, 19.2S±02×174.7W±0.2, h35km, n21, σ0§52/19, mb4.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**10.40**	**196**	Pn	**Pn**	**01 44 24.3**	**-0.4**
CTA	**Charters Tower**	**36.73**	**262**	*e*P	**P**	**01 49 02.9**	**+0.8**
	4.0nm,0.3s,mb4.7						
CTA	**Charters Tower**	**36.73**	**262**	P	**P**	**01 49 03.0**	**+0.9**
	5.4nm,0.4s,mb4.8,baz=93,slow=11,SNR=12						
CTAO	**Charters Tower**	**36.73**	**262**	*e*P	**P**	**01 49 03.1**	**+1.0**
	5.2nm,0.3s,mb4.8						
PMG	**Port Moresby**	**38.16**	**279**	P	**P**	**01 49 13.8**	**-0.3**
TAU	**Tasmania Unive**	**39.71**	**225**	P	**P**	**01 49 27.7**	**+0.5**
STKA	**Stephens Creek**	**41.14**	**243**	P	**P**	**01 49 38.6**	**-0.3**
	0.9nm,0.4s,mb3.7,baz=95,slow=12,SNR=3.1						
AS31	**Alice Springs**	**47.85**	**255**	*e*P	**P**	**01 50 32.3**	**-0.2**
ASAR	**Alice Springs**	**47.85**	**255**	P	**P**	**01 50 32.3**	**-0.2**
	12nm,0.7s,mb5.1,baz=95,slow=8.2,SNR=148						
ASPA	**Alice Springs**	**47.85**	**255**	*e*P	**P**	**01 50 32.3**	**-0.2**
WB2	**Warramunga Arr**	**47.86**	**260**	*e*P	**P**	**01 50 32.1**	**-0.5**
WRAB	**Tennant Creek**	**47.87**	**260**	*e*P	**P**	**01 50 32.2**	**-0.4**
	6.3nm,0.3s,mb5.1						
WRA	**Warramunga Arr**	**47.88**	**260**	P	**P**	**01 50 32.4**	**-0.3**
	2.6nm,0.3s,mb4.7,baz=95,slow=7.4,SNR=172						
FITZ	**Fitzroy Crossi**	**56.30**	**261**	*e*P	**P**	**01 51 36.2**	**+0.9**
	2.1nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**56.30**	**261**	P	**P**	**01 51 36.2**	**+0.9**
	1.4nm,0.4s,mb4.4,baz=126,slow=7.5,SNR=22						
VNDA	**Vanda**	**59.45**	**186**	P	**P**	**01 51 58.5**	**+1.0**
MBWA	**Marble Bar**	**61.18**	**256**	*e*P	**P**	**01 52 09.3**	**0.0**
	3.4nm,0.6s,mb4.7						
CASY	**Casey**	**66.43**	**205**	P	**P**	**01 52 43.8**	**0.0**
PMSA	**Palmer Station**	**81.19**	**156**	*e*P	**P**	**01 54 09.7**	**-0.6**
CHKZ	**Chkalovo**	**119.88**	**321**	*e*PKPdf	PKPdf	02 00 43.9	-0.9
BRVK	**Borovoye**	**120.16**	**321**	PKPdf	PKPdf	02 00 44.3	-1.0

IDC ***21*** *02:07:56.1±1.1, 2.12N×93.12E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, ML4.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/32, Error ellipse: s-maj=44.5km s-min=16.5km az=45.0*

ISCJB ***21*** *02:07:58.6±0.7, 2.04N±007×93.18E±009, h28km, mb4.3/19, MS3.7/6, Error ellipse: s-maj=13.5km s-min=9.0km az=121.8*

NEIC ***21*** *02:08:00.6±0.5, 2.16N×9322E, mb4.6/3, Error ellipse: s-maj=13.4km s-min=7.7km az=223.0*

BJI ***21*** *02:08:00.6, 2.20N×9320E, h28km, mB4.9, mb4.7, Ms4.2, Msz3.9*

ISC 21 02:08:01.4±0.6, 209N±007×9323E±007, h29km, h29km±.8km: pP-P, n24, σ1§33/31, mb4.3/19, MS3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.73**	**83**	Pn	**Pn**	**02 09 24.0**	**-0.4**
	11nm,0.3s,baz=278,slow=4.6,SNR=55						
PSI				Sn	**Sn**	**02 10 25.6**	**-3.6**
	3.3nm,0.3s,baz=65,slow=22,SNR=4.5						
PSI				LR	LR	02 11 54.4	
	comp=Z,276nm,18.4s,baz=311,slow=41						
KULM	**Kulim**	**8.05**	**67**	*e*Pn	**Pn**	**02 09 54.9**	**-1.5**
KULM				*e*Sn	**Sn**	**02 11 20.3**	**-6.0**
CHTO	**Chiang Mai**	**17.54**	**18**	P	**Pn**	**02 12 02.6**	**-1.0**
	2.9nm,0.7s						
QIZ	**Qiongzhong**	**23.41**	**43**	P	**P**	**02 13 11.1**	**+3.1**
QIZ				S	**S**	**02 17 22.0**	**+3.1**
QIZ				AMB	AMB		
	comp=Z,20nm,2.1s,mb4.2						
QIZ				LR	LR		
	comp=E,191nm,17.6s						
QIZ				LR	LR		
	12nm,0.7s,mb4.6,baz=146,slow=8.2,SNR=148						
	comp=Z,146nm,16.6s,MS3.5						
KMI	**Kunming**	**24.67**	**21**	P	**P**	**02 13 21.8**	**+2.3**
KMI				AP		02 13 29.3	
KMI				XP	sP	02 13 32.5	+0.9
KMI				PP		02 13 58.0	
KMI				S	**S**	**02 17 37.0**	**-2.3**
KMI				XS	sS	02 17 53.9	+0.6
KMI				SS		02 18 34.4	
KMI				AMB	AMB		
	comp=Z,14nm,0.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,21nm,3.1s						
KMI				LR	LR		
	comp=N,112nm,13.3s,MS3.7						
KMI				LR	LR		
	comp=E,144nm,13.9s,MS3.7						
KMI				LR	LR		
	comp=Z,80nm,13.9s,MS3.4						
LSA	**Lhasa**	**27.53**	**356**	*e*P	**P**	**02 13 46.5**	**+1.1**
	comp=Z,11nm,0.8s,mb4.5						
LSA				*e*pP	pP	02 13 54.7	+0.8
CD2	**Chengdu**	**30.34**	**18**	*e*P	**P**	**02 14 12.0**	**+1.6**
CD2				AP	pP	02 14 20.5	+1.5
CD2				XP	sP	02 14 24.4	+1.8
CD2				PP	PP	02 15 11.0	-8.1
CD2				S	**S**	**02 19 10.0**	**+1.1**
CD2				XS	sS	02 19 22.1	-0.9
CD2				SS	SS	02 20 48.5	-30
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=N,70nm,13.2s						
CD2				LR	LR		
	comp=Z,60nm,10.8s,MS3.5						
FITZ	**Fitzroy Crossi**	**37.69**	**124**	P	**P**	**02 15 14.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.6,baz=306,slow=8.7,SNR=3.3						
NJ2	**Nanjing**	**38.34**	**36**	*e*P	**P**	**02 15 20.3**	**+0.7**
NJ2				AP	pP	02 15 27.8	-0.5
NJ2				XP	sP	02 15 31.0	-0.8
NJ2				S	**S**	**02 21 12.0**	**-0.2**
NJ2				XS	sS	02 21 27.0	+0.5
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,100nm,9.6s						
NJ2				LR	LR		
	comp=N,140nm,26.5s,MS4.1						
NJ2				LR	LR		
	comp=E,320nm,22.8s,MS4.1						
NJ2				LR	LR		
	comp=Z,200nm,23.5s,MS3.9						
WMQ	**Urumqi**	**41.84**	**354**	*e*P	**P**	**02 15 49.0**	**+0.4**
WMQ				AP	pP	02 15 56.5	-0.9
WMQ				XP	sP	02 16 00.0	-0.9
WMQ				PP	PP	02 17 30.0	+4.4
WMQ				*e*S	**S**	**02 22 05.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,149nm,4.7s						
WMQ				LR	LR		
	comp=N,94nm,16.3s,MS4.2						
WMQ				LR	LR		
	comp=E,250nm,21.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,132nm,19.2s,MS3.8						
HHC	**Hu-ho-hao-te**	**41.99**	**21**	*e*P	**P**	**02 15 52.0**	**+2.2**
HHC				AP	pP	02 16 01.0	+2.4
HHC				XP	sP	02 16 04.3	+2.2
HHC				PP	PP	02 17 32.5	+5.3
HHC				PCP	PcP	02 17 47.0	+2.3
HHC				SCP	ScP	02 21 34.0	+1.1
HHC				PCS	PcS	02 21 37.0	+0.7
HHC				S	**S**	**02 22 09.4**	**+2.7**
HHC				XS	sS	02 22 24.3	+3.2
HHC				SS	SS	02 25 12.3	-1.9
HHC				SCS	ScS	02 25 50.3	0.0
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,122nm,5.5s						
HHC				LR	LR		
	comp=N,85nm,4.8s						
HHC				LR	LR		
	comp=E,95nm,3.7s						
HHC				LR	LR		
	comp=Z,60nm,4.6s						
MKAR	**Makanchi Array**	**45.54**	**349**	P	**P**	**02 16 17.3**	**-1.0**
	comp=Z,4.1nm,0.7s,mb4.5,baz=163,slow=7.9,SNR=32						
WRA	**Warramunga Arr**	**45.88**	**121**	P	**P**	**02 16 21.4**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=300,slow=8.6,SNR=27						
WRAB	**Tennant Creek**	**45.89**	**120**	*e*P	**P**	**02 16 21.5**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.5						
WRAB				*e*pP	pP	02 16 30.4	+0.4
WB2	**Warramunga Arr**	**45.89**	**121**	*e*P	**P**	**02 16 21.8**	**+0.7**
SONM	**Songino Array**	**46.97**	**12**	P	**P**	**02 16 29.2**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=191,slow=8.1,SNR=7.4						
ASAR	**Alice Springs**	**47.12**	**125**	P	**P**	**02 16 30.8**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=322,slow=7.9,SNR=4.9						
MDJ	**Mudanjiang**	**53.12**	**32**	P	**P**	**02 17 17.1**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,59nm,3.6s						
BVAR	**Borovoye Array**	**54.19**	**343**	P	**P**	**02 17 22.0**	**-2.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=145,slow=8.5,SNR=7.2						
CHKZ	**Chkalovo**	**54.70**	**344**	*e*P	**P**	**02 17 25.7**	**-2.1**
	comp=Z,9.2nm,1.5s,mb4.6						
CHKZ				*e*pP	pP	02 17 34.0	-2.8
KMBO	**Kilima Mbogo**	**56.06**	**267**	LR	LR	02 40 18.4	
	comp=Z,63nm,18.4s,MS3.7,baz=110,slow=35						
BRTR	**Keskin Array B**	**65.60**	**313**	P	**P**	**02 18 41.6**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=125,slow=6.5,SNR=5.5						
FINES	**FINESS Array B**	**77.40**	**333**	P	**P**	**02 19 51.8**	**-1.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=187,slow=27,SNR=3.7						
GERES	**GERESS Array B**	**81.54**	**319**	P	**P**	**02 20 15.9**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=92,slow=5.9,SNR=7.0						

ISCJB ***21*** *02:44:33.8±0.6, 1037N±003×12604E±005, h68km±5km, mb4.6/50, Error ellipse: s-maj=8.8km s-min=4.2km az=150.6*

MAN ***21*** *02:44:34.6, 1037N×12593E, h23km, mb4.1, MS1.9*

BJI ***21*** *02:44:35.3, 1034N×12602E, h90km, mB4.9, mb4.7*

IDC ***21*** *02:44:36.1±2.5, 1042N×12602E, h75km±22km, mb4.3/20, mb1 4.4/21, mb1mx4.4/22, mbtmp4.6/21, MS3.8/15, Ms1 3.8/15, ms1mx3.6/29, Error ellipse: s-maj=22.3km s-min=9.5km az=70.0*

NEIC ***21*** *02:44:37.3±1.3, 1038N×12600E, h86km±11km, mb4.7/24, Error ellipse: s-maj=11.7km s-min=5.1km az=73.0*

ISC 21 02:44:35.6±0.6, 1036N±003×12600E±005, h68km±4km, h84km±3.6km: pP-P, n122, σ1§08/111, mb4.6/50, 4C-30, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.77**	**221**	*e*P	**Pn**	**02 44 48.4**	**-2.7**
SCPH				*e*S	**Sn**	**02 45 00.5**	**-2.1**
MSLP	**Maasin**	**1.15**	**259**	*e*P	**Sn**	**02 45 11.7**	**+0.8**
PLP	**Palo**	**1.28**	**309**	*e*P	**Sn**	**02 45 13.8**	**-0.2**
BESP	**Borongan**	**1.35**	**336**	*e*P	**Sn**	**02 45 14.2**	**-1.4**
BUTP	**Butuan**	**1.43**	**195**	*e*P	**Sn**	**02 45 15.5**	**-2.2**
OCLP	**Ormoc**	**1.53**	**297**	*e*P	**Sn**	**02 45 23.9**	**+4.0**
LLP	**Lapu-Lapu**	**2.00**	**269**	*e*P	**Pn**	**02 45 07.0**	**-0.1**
LLP				*e*S	**Sn**	**02 45 35.5**	**+4.3**
TBP	**Tagbilaran**	**2.21**	**253**	*e*P	**Pn**	**02 45 09.8**	**-0.1**
TBP				*e*S	**Sn**	**02 45 35.0**	**-1.3**
CGP	**Cagayan de Oro**	**2.29**	**214**	*e*P	**Pn**	**02 45 11.3**	**+0.2**
CGP				*i* S	**Sn**	**02 45 42.0**	**+3.8**
BUKP	**Musuan**	**2.63**	**201**	*e*P	**Pn**	**02 45 16.6**	**+0.8**
SNPH	**Sibulan**	**2.91**	**250**	*e*P	**Pn**	**02 45 20.0**	**+0.6**
DCPH	**Dipolog City**	**3.15**	**236**	*e*P	**Pn**	**02 45 23.2**	**+0.4**
DCPH				*e*S	**Sn**	**02 45 55.8**	**-3.5**
GUIM	**Jordan**	**3.36**	**275**	*e*P	**Pn**	**02 45 25.7**	**0.0**
MATI	**Mati**	**3.40**	**176**	*e*P	**Pn**	**02 45 27.2**	**+1.0**
RCP	**Roxas**	**3.41**	**291**	*e*P	**Pn**	**02 45 26.4**	**+0.1**
KCP	**Kidapawan**	**3.45**	**195**	*i* P	**Pn**	**02 45 18.5**	**-8.3**
KCP				*i* S	**Sn**	**02 46 11.8**	**+5.2**
PAGZ	**Pagadian**	**3.59**	**226**	*e*P	**Pn**	**02 45 30.0**	**+1.2**
OTRP	**Odiongan**	**4.38**	**297**	*e*P	**Pn**	**02 45 40.0**	**+0.4**
AUQP	**San Andres**	**4.39**	**312**	*e*P	**Pn**	**02 45 40.8**	**+1.1**
CUYO	**Cuyo Island**	**4.92**	**276**	*e*P	**Pn**	**02 45 47.4**	**+0.5**
BOAC	**Boac**	**5.10**	**308**	*e*P	**Pn**	**02 45 48.1**	**-1.3**
BUSP	**Coron**	**5.92**	**287**	*e*P	**Pn**	**02 46 01.1**	**+0.5**
TGY	**Tagaytay City**	**6.19**	**307**	P	**Pn**	**02 46 06.2**	**+2.0**
	45nm,0.3s,baz=139,slow=6.4,SNR=9.1						
ENPP	**El Nido**	**6.51**	**278**	*e*P	**Pn**	**02 46 09.5**	**+0.8**
LUBP	**Lubang**	**6.55**	**301**	*e*P	**Pn**	**02 46 08.6**	**-0.6**
BALP	**Baler**	**6.87**	**322**	*e*P	**Pn**	**02 46 11.7**	**-1.8**
CAUP	**Cauayan**	**7.70**	**329**	*e

comp=Z,3.6nm,0.6s,mb4.1
MJAR Matsushiro Arr 28.31 21 PcP PcP 02 53 35.4 +1.3
comp=Z,2.0nm,0.6s,baz=193,slow=3.2,SNR=6.2
MJAR LR LR 02 59 49.2
comp=Z,214nm,19.3s,baz=210,slow=32
CD2 Chengdu 29.06 318 *eP* **P 02 50 29.8 +0.5**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,20nm,5.2s
BJI Beijing 30.82 345 P **P 02 50 44.6 -0.3**
BJI AMB AMB
comp=Z,8.0nm,1.2s,mb4.3
BJI LR LR
comp=Z,84nm,22.0s
WRAB Tennant Creek 31.21 165 *eP* **P 02 50 47.1 -1.2**
comp=Z,24nm,1.4s,mb4.7
WRA Warramunga Arr 31.21 165 P **P 02 50 47.2 -1.1**
comp=Z,2.7nm,0.6s,mb4.1,baz=342,slow=9.7,SNR=30
WRA PcP PcP 02 53 42.4 +0.8
comp=Z,0.5nm,0.6s,baz=344,slow=3.5,SNR=4.9
WB2 Warramunga Arr 31.22 165 *eP* **P 02 50 47.2 -1.2**
MBWA Marble Bar 31.92 191 *eP* **P 02 50 55.2 +0.6**
comp=Z,6.9nm,0.6s,mb4.6
LZH Lanzhou 32.55 325 *eP* **P 02 51 00.0 -0.1**
LZH AP pP 02 51 20.1 +3.6
LZH XP sP 02 51 30.8 +6.3
LZH PP PP 02 52 12.5 -2.2
LZH AMB AMB
comp=Z,16nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,68nm,5.6s
LZH LR LR
comp=E,315nm,12.3s
LZH LR LR
comp=Z,447nm,15.7s
HHC Hu-ho-hao-te 32.94 340 *eP* **P 02 51 05.1 +1.7**
HHC AP pP 02 51 24.9 +5.0
HHC XP sP 02 51 35.1 +7.2
HHC PP PP 02 52 18.3 -0.7
HHC PCP PcP 02 53 47.1 +0.8
HHC S **S 02 56 16.3 -0.2**
HHC XS sS 02 56 49.9 +5.2
HHC SCP ScP 02 57 22.6 -1.8
HHC PCS PcS 02 57 31.5 -0.2
HHC SS SS 02 58 21.3 -19
HHC SCS ScS 03 01 21.8 -2.8
HHC AMB AMB
comp=Z,11nm,0.5s,mb4.9
HHC AMB AMB
comp=Z,114nm,3.7s
HHC LR LR
comp=N,173nm,4.4s
HHC LR LR
comp=E,158nm,4.5s
HHC LR LR
comp=Z,183nm,12.2s
MDJ Mudanjiang 34.27 5 P **P 02 51 17.3 +2.3**
MDJ AP pP 02 51 36.0 +4.4
MDJ XP sP 02 51 45.6 +6.1
MDJ PP PP 02 52 36.4 +2.7
MDJ PCP PcP 02 53 47.5 -2.5
MDJ S **S 02 56 40.0 +2.9**
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.3
MDJ AMB AMB
comp=Z,98nm,5.1s
MDJ LR LR
comp=N,58nm,30.0s
MDJ LR LR
comp=E,29nm,18.6s
MDJ LR LR
comp=Z,74nm,25.8s
AS31 Alice Springs 34.69 167 *eP* **P 02 51 17.8 -0.9**
ASPA Alice Springs 34.69 167 *eP* **P 02 51 17.8 -0.9**
ASAR Alice Springs 34.69 167 P **P 02 51 18.4 -0.3**
comp=Z,1.9nm,0.3s,mb4.4,baz=350,slow=7.1,SNR=40
ASAR PcP PcP 02 53 52.0 +0.7
comp=Z,2.5nm,0.8s,baz=350,slow=2.4,SNR=6.8
ASAR S **S 02 56 45.4 +1.8**
comp=Z,1.3nm,1.0s,baz=351,slow=18,SNR=5.3
CTA Charters Tower 36.24 147 LR LR 03 06 40.2
comp=Z,151nm,18.2s,baz=49,slow=36
ASAJ Asahikawa 36.57 20 LR LR 03 04 48.5
comp=Z,133nm,18.2s,baz=255,slow=33
GTA Gaotai 37.15 326 *eP* **P 02 51 40.1 +0.4**
GTA AP pP 02 52 03.5 +7.1
GTA XP sP 02 52 14.4 +10
GTA PP PP 02 53 08.8 +3.3
GTA PCP PcP 02 53 59.8 +1.2
GTA S **S 02 57 16.3 -5.0**
GTA XS sS 02 57 56.5 +6.8
GTA SS SS 02 59 54.4 -10
GTA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,97nm,5.3s
GTA LR LR
comp=N,200nm,19.0s
GTA LR LR
comp=E,181nm,16.7s
GTA LR LR
comp=Z,351nm,19.8s
HNR Honiara 39.09 119 LR LR 03 05 33.1
comp=Z,183nm,19.4s,baz=358,slow=32
ULN Ulaanbaatar 40.65 340 *eP* **P 02 52 09.2 +0.3**
comp=Z,3.2nm,0.5s,mb4.4
SONM Songino Array 40.84 340 P **P 02 52 10.5 0.0**
comp=Z,1.5nm,0.6s,mb4.0,baz=152,slow=8.8,SNR=11
SONM PcP PcP 02 54 10.2 0.0
comp=Z,2.3nm,0.7s,baz=159,slow=3.1,SNR=7.1
SONM LR LR 03 11 31.2
comp=Z,99nm,19.4s,baz=256,slow=40
FORT Forrest 40.95 177 *eP* **P 02 52 11.9 +0.5**
comp=Z,62nm,0.7s,mb5.5
KLBR Kellerberrin 42.45 190 *eP* **P 02 52 24.5 +0.8**
comp=Z,13nm,0.4s,mb5.0
MUN Mundaring 43.13 192 *eP* **P 02 52 30.1 +1.0**
NWAO Narrogin (SRO) 43.85 191 P **P 02 52 36.4 +1.4**
comp=Z,31nm,0.8s,mb5.1,baz=17,slow=10.0,SNR=12
STKA Stephens Creek 44.57 161 *eP* **P 02 52 40.9 +0.2**
comp=Z,4.8nm,0.6s,mb4.4
STKA Stephens Creek 44.57 161 P **P 02 52 41.4 +0.7**
comp=Z,7.8nm,0.9s,mb4.4,baz=330,slow=11,SNR=11
TLY Talaya 45.06 340 *eP* **P 02 52 44.4 -0.2**
comp=Z,14nm,1.0s,mb4.6
WMQ Urumqi 46.99 322 *eP* **P 02 53 00.8 +1.1**
WMQ AP pP 02 53 19.5 +2.6
WMQ XP sP 02 53 28.0 +3.3
WMQ PP PP 02 54 52.0 +1.2
WMQ *eS* **S 02 59 46.0 -0.1**
WMQ XS sS 03 00 18.0 +2.7
WMQ SS SS 03 03 05.0 -8.6
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,93nm,4.0s
WMQ LR LR
comp=N,302nm,19.3s
WMQ LR LR
comp=E,259nm,18.6s
WMQ LR LR
comp=Z,378nm,18.2s
DZM Mont Dzumac 51.11 129 P **P 02 53 32.1 +0.9**
comp=Z,5.7nm,0.6s,mb4.8,baz=297,slow=20,SNR=8.1
DZM LR LR 03 12 19.1
comp=Z,110nm,18.4s,baz=15,slow=32
DZM Mont Dzumac 51.11 129 P **P 02 53 32.1 +0.9**
DZM LR LR 03 12 19.1
MKAR Makanchi Array 51.79 323 P **P 02 53 36.0 -0.3**
comp=Z,13nm,0.8s,mb5.0,baz=115,slow=8.2,SNR=73
BVAR Borovoye Array 61.44 325 P **P 02 54 44.2 -0.6**
comp=Z,3.4nm,0.7s,mb4.5,baz=128,slow=8.3,SNR=24
BRVK Borovoye 61.51 325 *eP* **P 02 54 44.2 -1.1**
comp=Z,5.3nm,0.9s,mb4.6
CHKZ Chkalovo 61.56 326 *eP* **P 02 54 44.0 -1.7**
comp=Z,3.2nm,0.8s,mb4.4
ZRNK Zerenda 62.19 325 *eP* **P 02 54 48.5 -1.3**
comp=Z,8.3nm,0.7s,mb4.9
ARU Arti 69.00 327 *eP* **P 02 55 32.1 -1.6**
comp=Z,12nm,0.6s,mb4.9
IMA2 Indian Mountai 76.66 24 *eP* **P 02 56 19.7 +0.7**
CASY Casey 77.28 186 *eP* **P 02 56 23.0 +0.5**
KIV Kislovodsk 78.09 313 *eP* **P 02 56 27.2 +0.2**
comp=Z,6.3nm,0.7s,mb4.5
MCK McKinley 78.60 27 *eP* **P 02 56 29.8 0.0**
comp=Z,4.7nm,0.6s,mb4.5
DAWY Dawson 82.78 26 *eP* **P 02 56 53.2 +1.1**
JOF Joensuu 82.99 333 *ep* **P 02 56 51.7 -1.5**
comp=Z,4.5nm,0.5s,mb4.5
ARCES ARCESS Array B 84.02 340 P **P 02 56 57.8 -0.7**
comp=Z,2.9nm,0.6s,mb4.3,baz=83,slow=6.0,SNR=18
ARCES LR LR 03 38 45.4
comp=Z,66nm,18.2s,baz=199,slow=39
INK Inuvik 84.30 22 *eP* **P 02 57 00.3 +0.4**
comp=Z,3.4nm,0.6s,mb4.3
BR131 Keskin Array S 85.27 309 *eP* **P 02 57 03.8 -0.9**
comp=Z,1.8nm,0.7s,mb4.1
BRTR Keskin Array B 85.27 309 P **P 02 57 04.2 -0.6**
comp=Z,1.9nm,0.7s,mb4.2,baz=115,slow=4.6,SNR=15
BRTR LR LR 03 40 58.0
comp=Z,44nm,19.2s,baz=345,slow=40
BRTR Keskin Array B 85.27 309 P **P 02 57 04.2 -0.6**
BRTR LR LR 03 40 58.0
KAF Kangasniemi 85.42 332 *ep* **P 02 57 03.9 -1.7**
comp=Z,8.2nm,0.9s,mb4.7,baz=72,slow=4.5
FINES FINESS Array B 85.68 332 P **P 02 57 05.9 -1.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=68,slow=5.1,SNR=22
CSS Prodhromos 86.31 305 *eP* **P 02 57 10.5 +0.6**
comp=Z,8.8nm,0.6s,mb4.9
AKASG Malin Array Be 86.33 321 P **P 02 57 08.9 -1.1**
comp=Z,2.5nm,0.5s,mb4.4,baz=66,slow=4.6,SNR=11
KMBO Kilima Mbogo 88.97 269 P **P 02 57 23.3 +0.7**
comp=Z,2.4nm,0.8s,mb4.3,baz=60,slow=5.1,SNR=6.9
MAW Mawson 89.69 200 *eP* **P 02 57 26.0 -0.1**
comp=Z,6.2nm,0.6s,mb4.9
MAW Mawson 89.69 200 P **P 02 57 26.0 -0.1**
comp=Z,8.1nm,0.6s,mb5.0,baz=54,slow=5.5,SNR=29
MAW LR LR 03 35 17.0
comp=Z,27nm,21.3s,baz=242,slow=34
VNDA Vanda 90.05 173 P **P 02 57 27.9 +0.1**
comp=Z,2.7nm,0.9s,mb4.4,baz=311,slow=5.2,SNR=8.8
VNDA LR LR 03 39 40.8
comp=Z,69nm,20.0s,baz=103,slow=37
VNDA Vanda 90.05 173 *eP* **P 02 57 27.7 -0.1**
comp=Z,3.9nm,1.0s,mb4.5
NOA NORSAR Array B 92.56 334 P **P 02 57 38.5 -0.8**
comp=Z,1.2nm,0.7s,mb4.3,baz=77,slow=8.1,SNR=3.4
NOA LR LR 03 41 23.5
comp=Z,64nm,21.6s,baz=40,slow=37
GERES GERESS Array B 96.46 322 P **P 02 57 56.4 -0.8**
comp=Z,0.6nm,0.7s,mb4.1,baz=72,slow=4.3,SNR=5.9
GERES LR LR 03 41 54.2
comp=Z,68nm,19.0s,baz=288,slow=36
SUMG Summit 96.61 355 *eP* **P 02 57 58.8 +0.9**
comp=Z,4.3nm,0.8s,mb4.9
WMOK Wichita Mounta 118.28 41 *e*PKPdf PKPdf 03 03 15.7 +0.7
TORD Torodi Ar. Bea 119.99 292 PKP PKPdf 03 03 19.0 +0.7
comp=Z,1.8nm,0.7s,baz=63,slow=2.0,SNR=39
JCT Junction City 120.13 46 *e*PKPdf PKPdf 03 03 19.7 +1.2
PARMO Parma 122.40 34 *e*PKPdf PKPdf 03 03 23.8 +1.0
WVT Waverly 123.83 33 *e*PKPdf PKPdf 03 03 26.6 +1.0
DBIC Dimbokro 128.22 287 PKP PKPdf 03 03 35.5 +1.5
comp=Z,2.6nm,0.8s,baz=86,slow=20,SNR=3.6
DBIC Dimbokro 128.22 287 *e*PKPdf PKPdf 03 03 35.7 +1.7
PLCA Paso Flores 146.40 157 PKPbc PKPbc 03 04 09.5 +0.8
comp=Z,5.7nm,0.8s,baz=224,slow=2.2,SNR=13
PLCA Paso Flores 146.40 157 *e*PKPbc PKPbc 03 04 09.8 +1.2
SJG San Juan 149.27 23 *e*PKPdf PKPdf 03 04 12.7 +0.7
SJG *e*PKPbc PKPbc 03 04 17.8 +1.4
CPD Cerro la Pandu 149.43 23 *e*PKPbc PKPbc 03 04 18.4 +1.6
CPD *e*PKPab PKPab 03 04 23.6 +1.9
MTP Monte Pirata 149.51 22 *e*PKPbc PKPbc 03 04 18.6 +1.6
MTP *e*PKPab PKPab 03 04 23.6 +1.6
TRQA Tornquist 151.51 167 *e*PKPbc PKPbc 03 04 22.4 +0.6
TRQA *e*PKPab PKPab 03 04 31.2 +0.8
SDV Santo Domingo 154.71 41 *e*PKPdf PKPdf 03 04 22.4 +2.2
SDV *e*PKPbc PKPbc 03 04 30.8 +2.1
CPUP Villa Florida 163.81 169 PKPab PKPab 03 05 22.2 -1.2
comp=Z,1.9nm,0.8s,baz=180,slow=6.1,SNR=5.1
LPAZ La Paz 165.05 115 PKP PKPdf 03 04 35.1 +3.3
comp=Z,1.2nm,0.7s,baz=6.3,slow=1.4,SNR=6.6
LPAZ La Paz 165.05 115 *e*PKPdf PKPdf 03 04 34.5 +2.7
SAML Samuel 170.84 82 *e*PKPdf PKPdf 03 04 36.9 +1.1
SAML *e*PKPab PKPab 03 05 56.2 +1.8

*ISCJB **21** 02:55:46.9±0.7, 495N±02×1540E±02, h195km±7km, mb3.4/10, Error ellipse: s-maj=35.9km s-min=10.0km az=101.9*
*MOS **21** 02:55:46.3±1.2, 4905N×15453E, h185km, mb3.9/1, Error ellipse: s-maj=65.4km s-min=14.3km az=58.2*
*IDC **21** 02:55:50.3±3.7, 4953N×15379E, h211km±37km, mb3.2/6, mb1 3.6/8, mb1mx3.3/21, mbtmp3.9/8, Error ellipse: s-maj=29.4km s-min=15.1km az=132.0*
*NEIC **21** 02:55:50.2±1.1, 4955N×15379E, h212km±11km, mb3.7/5, Error ellipse: s-maj=24.7km s-min=8.0km az=138.0*
ISC 21 02:55:47.8±0.7, 495N±02×1539E±02, h189km±7km, n20, σ1s00/21, mb3.6/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.87**	**49**	⇓*i*	PN **Pn**	**02 56 22.9**	**-1.2**
SKR				*e*	S **Sn**	**02 56 52.0**	**-0.2**
SKR					pmax pmax		
	comp=E,80nm,0.5s						
SKR					pmax pmax		
	comp=Z,310nm,0.5s						
SKR					pmax pmax		
	comp=N,100nm,0.4s						
SKR					smax		
	comp=N,360nm,0.9s						
SKR					smax		
	comp=E,80nm,0.5s						
PET	**Petropavlovsk**	**4.64**	**38**		PN **Pn**	**02 57 00.1**	**+2.8**
ASAJ	**Asahikawa**	**9.42**	**240**		P **Pn**	**02 58 01.4**	**+1.9**
	comp=E,7.0nm,0.3s,baz=62,slow=12,SNR=31						
ASAJ	**Asahikawa**	**9.42**	**240**		PN **Pn**	**02 58 01.5**	**+1.9**
ASAJ					pmax pmax		
	comp=Z,7.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.24**	**227**		P **Pn**	**02 59 36.9**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=22,slow=12,SNR=9.0						
MAJO	**Matsushiro**	**17.24**	**227**	*e*	P **Pn**	**02 59 36.7**	**-0.7**
MAJO					pmax pmax		
	comp=Z,2.0nm,0.3s						
MAJO	**Matsushiro**	**17.24**	**227**	*e*	P **Pn**	**02 59 36.7**	**-0.7**
	comp=Z,2.4nm,0.3s						
INK	**Inuvik**	**39.08**	**34**		P **P**	**03 02 55.3**	**-1.2**
	comp=Z,1.4nm,0.8s,mb3.6,baz=304,slow=3.6,SNR=3.8						
MKAR	**Makanchi Array**	**46.20**	**295**		P **P**	**03 03 53.3**	**-0.5**
	comp=Z,0.1nm,0.3s,mb2.9,baz=100,slow=26,SNR=3.3						
BOZ	**Bozeman (W)**	**59.70**	**54**	*e*	P **P**	**03 05 32.9**	**+0.5**
BOZ					pmax pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
BOZ	**Bozeman (W)**	**59.70**	**54**	*e*	P **P**	**03 05 32.9**	**+0.5**
	comp=Z,1.1nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**60.73**	**64**		P **P**	**03 05 40.8**	**+1.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=288,slow=8.8,SNR=6.2						
DUG	**Dugway**	**62.70**	**59**	*e*	P **P**	**03 05 52.7**	**+0.1**
DUG					pmax pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
DUG	**Dugway**	**62.70**	**59**	*e*	P **P**	**03 05 52.7**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.6						
BW06	**Boulder Array**	**62.74**	**55**	*e*	P **P**	**03 05 53.0**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.7						
PDAR	**Pinedale Array**	**62.74**	**55**		P **P**	**03 05 53.3**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=316,slow=6.2,SNR=5.4						
RSSD	**Black Hills**	**64.68**	**51**	*e*	P **P**	**03 06 04.4**	**-1.1**
RSSD					pmax pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
RSSD	**Black Hills**	**64.68**	**51**	*e*	P **P**	**03 06 04.4**	**-1.1**
	comp=Z,1.6nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**71.26**	**199**		P **P**	**03 06 45.8**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=22,slow=6.8,SNR=5.6						
ASAR	**Alice Springs**	**74.96**	**199**		P **P**	**03 07 08.5**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=12,slow=5.5,SNR=8.1						

IDC 21 02:57:32.2±2.5, 271S×13015E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/15, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=122.6km s-min=27.4km az=74.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**15.93**	**196**		Pn Pn	03 01 19.1	+1.5
	0.1nm,0.3s,baz=34,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**17.61**	**167**		P Pn	03 01 37.7	-1.3
	0.3nm,0.3s,baz=348,slow=12,SNR=17						
ASAR	**Alice Springs**	**21.15**	**170**		P P	03 02 19.4	+0.6
	4.2nm,0.7s,baz=348,slow=11,SNR=35						
ASPA	**Alice Springs**	**21.15**	**170**	*e*	P P	03 02 20.1	+1.3
MKAR	**Makanchi Array**	**64.76**	**326**		P P	03 08 12.6	+0.2
	0.4nm,0.6s,baz=132,slow=5.1,SNR=3.8						

IDC 21 03:21:04.5±2.2, 134S×12861E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=123.8km s-min=25.8km az=71.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.91**	**190**		Pn Pn	03 25 04.1	+1.6
	0.1nm,0.3s,baz=29,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**19.32**	**163**		P Pn	03 25 29.7	-2.5
	0.2nm,0.3s,baz=344,slow=12,SNR=12						
ASAR	**Alice Springs**	**22.78**	**167**		P P	03 26 09.8	+1.3
	1.5nm,0.4s,baz=349,slow=12,SNR=28						
MKAR	**Makanchi Array**	**62.77**	**326**		P P	03 31 31.7	0.0
	0.4nm,0.4s,baz=117,slow=7.8,SNR=4.3						

*ISCJB **21** 03:26:15.5±2.5, 368N±0.1×706E±0.2, h148km±46km, Error ellipse: s-maj=28.1km s-min=24.0km az=145.8*
*NNC **21** 03:26:17.9±7.8, 3736N×7007E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=62.4km s-min=60.3km az=86.0*
ISC 21 03:26:17.1±3.3, 369N±02×704E±02, h164km±64km, n8, σ0s87/11, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AML	**Almayashu**	**5.82**	**25**		P **Pn**	**03 27 41.2**	**-0.3**
	SNR=27						
UCH	**Uchtor**	**6.20**	**29**		P **Pn**	**03 27 45.8**	**-0.8**
	SNR=9.5						
KK31	**Karatay Array**	**6.22**	**1**	⇓	Pn **Pn**	**03 27 48.0**	**+1.3**
	3.9nm,0.6s,baz=174,slow=12,SNR=4.7						
KK31				⇓	Sn **Sn**	**03 28 57.8**	**+0.6**
	6.7nm,0.5s,baz=191,slow=24,SNR=16						
EKS2	**Erkin-Say**	**6.32**	**23**		P **Pn**	**03 27 48.7**	**+0.5**
	SNR=6.4						
AAK	**Ala-Archa**	**6.54**	**27**		P **Pn**	**03 27 51.0**	**-0.1**
	SNR=6.4						
USP	**Ospenovka**	**7.10**	**25**		P **Pn**	**03 27 58.1**	**-0.3**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.22**	**32**	⇑	Pn **Pn**	**03 27 58.8**	**-1.2**
	0.1nm,0.4s						
TKM2				⇓	Sn **Sn**	**03 29 21.6**	**+0.5**
	0.3nm,0.7s						
AB31	**Akbulak array**	**14.54**	**332**	⇓	Pn **Pn**	**03 29 36.3**	**+1.3**
	0.3nm,0.3s,baz=141,slow=12,SNR=11						
AB31				⇑	Sn **Sn**	**03 32 15.2**	**-1.4**
	1.2nm,0.6s,baz=148,slow=23,SNR=3.8						

CASC 21 03:32:57.3±2.7, 1136N×8594W, h184km±7km, MD3.8, ML2.9, 11C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SSNN	**San Juan del S**	**0.11**	**128**	*e*	P Pn	03 33 22.1	+0.6
SSNN					*e*S Sn	03 33 41.5	+1.4
CONN	**Concepcion**	**0.37**	**56**	*e*	P Pn	03 33 22.4	+0.4
CONN					*e*S Sn	03 33 41.7	+0.6
MADN	**Villa Maderas**	**0.40**	**82**	*e*	P Pn	03 33 23.6	+1.4
MADN					*e*S Sn	03 33 43.7	+2.4
TICN	**Ticuantepe**	**0.73**	**337**	*e*	P Pn	03 33 24.2	+0.6
MGAN	**Managua**	**0.84**	**339**	⇑*e*	P Pn	03 33 24.6	+0.3
MGAN					*e*S Sn	03 33 46.5	+1.4
MGAN					*e*	03 33 53.5	
	comp=E,129nm,0.3s						
TISN	**Laguna Tiscapa**	**0.85**	**338**	⇓	*e*P Pn	03 33 24.7	+0.4
XAVN	**Gruta Xavier**	**0.88**	**334**	⇑	*e*P Pn	03 33 25.0	+0.4
LIM1	**Limonal**	**0.94**	**134**	⇓	*i*P Pn	03 33 25.6	+0.7
LIM1					*e*S Sn	03 33 46.7	+0.4
COPN	**Copaltepe**	**1.04**	**322**	⇓	*e*P Pn	03 33 25.6	-0.1
BOA	**Boaco**	**1.14**	**11**		*e*P Pn	03 33 25.8	-0.6
MOMJ	**Momotombo**	**1.20**	**331**	⇑	*e*P Pn	03 33 27.1	+0.1
MOMJ					*e*S Sn	03 33 51.1	+1.3
VCR	**Vista de Mar**	**1.26**	**166**		*e*P Pn	03 33 28.8	+1.4
VCR					*e*S Sn	03 33 52.2	+1.5
MIRN	**Miramar**	**1.32**	**325**	⇑	*e*P Pn	03 33 28.3	+0.4
MIRN					*e*S Sn	03 33 53.2	+1.6
CNGN	**Cerro Negro**	**1.36**	**327**	⇑	*e*P Pn	03 33 28.3	0.0
LEON	**Leon**	**1.41**	**319**	⇓	*e*P Pn	03 33 28.9	+0.2
LEON					*e*S Sn	03 33 53.1	+0.1
JCR	**Jicaral**	**1.70**	**151**		*e*P Pn	03 33 33.2	+1.7
JCR					*e*S Sn	03 33 59.0	+1.0
CAO	**Cobano**	**1.84**	**153**	⇑	*e*P Pn	03 33 33.7	+0.8
CAO					*e*S Sn	03 34 00.4	-0.1
EPA	**Esparza**	**1.89**	**136**		*e*P Pn	03 33 34.2	+0.8
EPA					*e*S Sn	03 34 02.0	+0.5
CGA2	**Cerro Gallo 2**	**1.97**	**132**		*e*P Pn	03 33 34.9	+0.6
CGA2					*e*S Sn	03 34 02.8	0.0
POA2	**Poas 2**	**2.03**	**125**	⇑	*e*P Pn	03 33 35.8	+0.9
POA2					*e*S Sn	03 34 05.8	+1.7
PRS1	**Puriscal**	**2.10**	**130**	⇑	*e*P Pn	03 33 37.0	+1.3
LAJ	**Bijagual**	**2.32**	**130**	⇑	*i*P Pn	03 33 37.2	-0.9
LAJ					*e*S Sn	03 34 06.3	-3.5
LCR2	**La Lucha 2**	**2.49**	**130**	⇑	*e*P Pn	03 33 40.9	+0.8
BUS	**Buena Vista**	**2.79**	**130**	⇑	*e*P Pn	03 33 44.9	+1.3
BUS					*e*S Sn	03 34 21.7	+2.0
LCBS	**La Ceiba**	**3.75**	**308**	⇓	*e*P x	03 34 12.0	
LCBS					*e*S x	03 34 56.2	
LFRS	**El Faro**	**3.79**	**307**		*e*P x	03 34 13.0	
LFRS					*e*S x	03 34 57.5	
LBRS	**Las Brisas**	**3.85**	**308**		*e*P x	03 34 14.1	
CTCR	**Cotoan**	**3.97**	**128**		*e*P Pn	03 34 02.6	+4.5

*ISCJB **21** 03:59:52.8±1.2, 4431N±009×148.1E±0.1, h107km±7km, mb3.8/6, Error ellipse: s-maj=21.4km s-min=7.8km az=83.2*
*MOS **21** 03:59:57.3±0.7, 4515N×14762E, h105km, mb4.0/5, Error ellipse: s-maj=34.1km s-min=28.6km az=102.9*
*JMA **21** 03:59:57.6±0.3, 4410N×14790E, h90km, M3.7*
*IDC **21** 03:59:59.9±7.3, 4513N×14752E, h105km±56km, mb3.6/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.9/7, Error ellipse: s-maj=76.2km s-min=23.9km az=82.0*
ISC 21 03:59:54.0±1.2, 4433N±009×1481E±01, h103km±7km, n27, σ1s05/34, mb3.8/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
KUR	**Kuril'sk**	**0.92**	**350**	⇓*i*	PN **Pn**	**04 00 13.0**	**-0.8**
KUR				*i*	S **Sn**	**04 00 28.0**	**-0.7**
KUR					pmax pmax		
	comp=Z,160nm,0.4s						
KUR					smax		
	comp=N,950nm,0.4s						
KUR					smax		
	comp=E,570nm,0.4s						
NEM2	**Nemuro 2**	**1.95**	**241**		P **Pn**	**04 00 26.7**	**+0.6**
NEM2					*e*S **Sn**	**04 00 48.0**	**-2.6**
JRA	**Rausu**	**2.17**	**261**		P **Pn**	**04 00 30.2**	**+1.3**
JRA					*e*S **Sn**	**04 00 55.6**	**0.0**
JNK	**Nakash**	**2.55**	**254**		P **Pn**	**04 00 34.9**	**+1.1**
JNK					*e*S **Sn**	**04 01 03.1**	**-1.2**
JAK	**Akkeshi**	**2.80**	**243**		P **Pn**	**04 00 37.6**	**+0.5**
JAK					*e*S **Sn**	**04 01 08.2**	**-2.1**
JTKR	**Abashiri--Toko**	**3.03**	**265**		P **Pn**	**04 00 41.4**	**+1.2**
JTKR					*e*S **Sn**	**04 01 15.8**	**-0.1**
JAR	**Ashorobuto**	**3.29**	**253**		P **Pn**	**04 00 45.3**	**+1.6**
JAR					*e*S **Sn**	**04 01 22.1**	**0.0**
JCH	**Churui**	**3.84**	**245**		P **Pn**	**04 00 51.5**	**+0.4**
JCH					*e*S Sx	04 01 31.5	
JKK2	**Kamakawa 2**	**3.88**	**265**		P **Pn**	**04 00 53.2**	**+1.7**
ASAJ	**Asahikawa**	**3.96**	**269**		P **Pn**	**04 00 54.4**	**+1.8**
	comp=E,2.3nm,0.3s,baz=50,slow=28,SNR=7.0						
ASAJ	**Asahikawa**	**3.96**	**269**		PN **Pn**	**04 00 54.4**	**+1.8**
ASAJ					pmax pmax		
	comp=Z,2.0nm,0.3s						
JNBK	**Urakawa-nobuka**	**4.40**	**244**		P **Pn**	**04 00 58.5**	**-0.1**
JNBK					*e*S Sx	04 01 46.0	
JKB	**Kayabe**	**5.71**	**247**		P **Pn**	**04 01 16.8**	**+0.4**
JKB					*e*S Sx	04 02 16.2	
JOT	**Ohata**	**5.96**	**243**		P **Pn**	**04 01 19.1**	**-0.5**
JOT					*e*S Sx	04 02 20.1	
JANG	**Nango**	**6.27**	**233**		P **Pn**	**04 01 22.4**	**-1.6**
JANG					*e*S Sx	04 02 27.4	
MKAR	**Makanchi Array**	**44.92**	**297**		P **P**	**04 07 58.1**	**-0.3**
	comp=Z,1.8nm,0.7s,mb3.9,baz=75,slow=8.4,SNR=9.4						
MKAR	**Makanchi Array**	**44.92**	**297**		P **P**	**04 07 58.1**	**-0.3**
MKAR					pmax pmax		

	comp=Z,2.0nm,0.7s							
ARCES	**ARCESS Array B**	**58.94**	**340**	P	**P**	04 09 41.4	**-1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=62,slow=8.2,SNR=5.2							
ARCES	**ARCESS Array B**	**58.94**	**340**	P	**P**	04 09 41.4	**-1.0**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**64.67**	**333**	P	**P**	04 10 19.9	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.0,baz=52,slow=7.5,SNR=9.4							
FINES	**FINESS Array B**	**64.67**	**333**	P	**P**	04 10 19.9	**-0.9**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**65.18**	**194**	P	**P**	04 10 34.1	**+10**
	comp=Z,0.3nm,0.8s,mb3.2,baz=21,slow=9.0,SNR=2.6							
WRA	**Warramunga Arr**	**65.18**	**194**	P	**P**	04 10 34.1	**+10**
NOA	**NORSAR Array B**	**69.31**	**339**	P	**P**	04 10 50.2	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.0,baz=31,slow=6.4,SNR=3.7							
NOA	**NORSAR Array B**	**69.31**	**339**	P	**P**	04 10 50.3	**+0.2**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**71.52**	**324**	P	**P**	04 11 03.6	**0.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=33,slow=5.5,SNR=4.4							
AKASG	**Malin Array Be**	**71.52**	**324**	P	**P**	04 11 03.6	**0.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							

*ISCJB **21** 04:20:33.2±2.4, 395N±02×744E±02, h88km±44km, Error ellipse: s-maj=28.7km s-min=19.1km az=17.4*
*NNC **21** 04:20:35.9±5.0, 3957N×7419E, h77km±226km, mb2.8, mpv2.8, Error ellipse: s-maj=47.5km s-min=30.3km az=8.0*
ISC 21 04:20:33.8±2.4, **394N**±02×**744E**±01, **h92**km±45km, **n13, σ0$74/15, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**2.74**	**14**	P	**Pn**	**04 21 14.3**	**-1.6**
	SNR=43						
AML	**Almayashu**	**2.76**	**349**	P	**Pn**	**04 21 16.2**	**0.0**
	SNR=26						
UCH	**Uchtor**	**2.81**	**2**	P	**Pn**	**04 21 16.2**	**-0.6**
	SNR=81						
ULHL	**Ulahol**	**3.15**	**26**	P	**Pn**	**04 21 21.7**	**+0.3**
	SNR=17						
AAK	**Ala-Archa**	**3.21**	**1**	P	**Pn**	**04 21 22.2**	**0.0**
	SNR=16						
KBK	**Karagaybulak**	**3.26**	**7**	P	**Pn**	**04 21 23.6**	**+0.6**
	SNR=12						
EKS2	**Erkin-Say**	**3.27**	**352**	P	**Pn**	**04 21 24.5**	**+1.4**
	SNR=6.5						
CHMS	**Chumysh**	**3.59**	**4**	P	**Pn**	**04 21 27.0**	**-0.3**
	SNR=9.1						
TKM2	**Tokmak 2**	**3.62**	**14**	P	**Pn**	**04 21 27.4**	**-0.3**
	SNR=12						
TKM2	**Tokmak 2**	**3.62**	**14**	⇑Pn	**Pn**	**04 21 27.1**	**-0.6**
	0.8nm,0.4s						
TKM2				⇑Sn	**Sn**	**04 22 09.9**	**+0.5**
	4.4nm,0.7s						
USP	**Ospenovka**	**3.85**	**1**	P	**Pn**	**04 21 36.1**	**+5.3**
	SNR=6.0						
KK31	**Karatay Array**	**4.70**	**323**	Pn	**Pn**	**04 21 43.4**	**+1.0**
	1.2nm,0.4s,baz=136,slow=12,SNR=8.4						
KK31				⇓Sn	**Sn**	**04 22 35.0**	**-0.7**
	4.0nm,0.7s,baz=135,slow=19,SNR=3.6						
KK31				⇑Lg		04 23 00.3	
	2.7nm,0.5s,baz=114,slow=28,SNR=5.2						
AB31	**Akbulak array**	**14.25**	**318**	⇓Pn	**Pn**	**04 23 51.0**	**-0.2**
	0.4nm,0.5s,baz=119,slow=11,SNR=4.5						

*NEIC **21** 04:21:05.9, 3699S×17703E, h198km, MG4.7(WEL), After WEL.*
WEL 21 04:21:06.0±0.5, **3697S×17704E, h197**km±4km, **ML4.7**/22, **Error ellipse: s-maj=3.7km s-min=3.2km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.57**	**168**	P	Pn	04 21 33.8	+0.8
WIZ	**White Island**	**0.57**	**168**	PN	Pn	04 21 33.5	+0.5
KUZ	**Kuaotunu**	**1.08**	**281**	P	Pn	04 21 35.6	-0.4
KUZ				S	Sn	04 21 58.9	-0.3
KUZ	**Kuaotunu**	**1.08**	**281**	PN	Pn	04 21 35.6	-0.3
KUZ				SN	Sn	04 21 58.9	-0.3
MXZ	**Matakaoa Point**	**1.17**	**121**	P	Pn	04 21 36.7	+0.1
MXZ				S	Sn	04 22 01.3	+0.9
MXZ	**Matakaoa Point**	**1.17**	**121**	PN	Pn	04 21 36.7	0.0
MXZ				SN	Sn	04 22 01.3	+0.9
URZ	**Urewera**	**1.29**	**178**	P	Pn	04 21 37.2	-0.4
URZ	**Urewera**	**1.29**	**178**	PN	Pn	04 21 37.2	-0.4
URZ				SN	Sn	04 22 01.3	-0.7
TAZ	**Tarawera**	**1.33**	**198**	P	Pn	04 21 38.7	+0.8
TAZ	**Tarawera**	**1.33**	**198**	PN	Pn	04 21 38.7	+0.8
MWZ	**Matawai**	**1.42**	**164**	P	Pn	04 21 38.3	-0.3
MWZ				S	Sn	04 22 03.7	-0.3
MWZ	**Matawai**	**1.42**	**164**	PN	Pn	04 21 38.3	-0.4
MWZ				SN	Sn	04 22 03.7	-0.3
PUZ	**Puketiti**	**1.47**	**139**	P	Pn	04 21 39.2	+0.1
PUZ				S	Sn	04 22 04.5	-0.3
PUZ	**Puketiti**	**1.47**	**139**	PN	Pn	04 21 39.2	+0.1
PUZ				SN	Sn	04 22 04.5	-0.3
MKAZ	**Moumakai**	**1.50**	**264**	P	Pn	04 21 39.5	+0.1
MKAZ	**Moumakai**	**1.50**	**264**	PN	Pn	04 21 39.5	+0.1
PATZ	**Paeroa**	**1.54**	**203**	*e*P	Pn	04 21 40.2	+0.5
PATZ	**Paeroa**	**1.54**	**203**	*e*PN	Pn	04 21 40.2	+0.5
MTAZ	**Motutapu**	**1.72**	**275**	P	Pn	04 21 41.5	+0.1
MTAZ	**Motutapu**	**1.72**	**275**	PN	Pn	04 21 41.5	+0.1
KAAZ	**Kauri Point**	**1.88**	**274**	P	Pn	04 21 43.0	0.0
KAAZ	**Kauri Point**	**1.88**	**274**	PN	Pn	04 21 42.3	-0.7
WTAZ	**Waiatarua**	**1.98**	**270**	P	Pn	04 21 43.9	-0.1
WTAZ	**Waiatarua**	**1.98**	**270**	PN	Pn	04 21 43.9	-0.1
HATZ	**Hinemaiaia**	**2.06**	**201**	P	Pn	04 21 44.2	-0.6
HATZ	**Hinemaiaia**	**2.06**	**201**	PN	Pn	04 21 44.2	-0.6
KNZ	**Kokohu**	**2.11**	**166**	P	Pn	04 21 44.7	-0.7
KNZ	**Kokohu**	**2.11**	**166**	PN	Pn	04 21 44.7	-0.7
BKZ	**Black Stump Fm**	**2.24**	**191**	P	Pn	04 21 45.4	-1.3
BKZ	**Black Stump Fm**	**2.24**	**191**	PN	Pn	04 21 45.4	-1.3
KRVZ	**Karewarewa**	**2.39**	**207**	PN	Pn	04 21 47.8	-0.6
WCZ	**Waipu Caves**	**2.40**	**294**	P	Pn	04 21 47.7	-0.8
WCZ	**Waipu Caves**	**2.40**	**294**	PN	Pn	04 21 47.7	-0.8
WTVZ	**West Tongariro**	**2.43**	**208**	PN	Pn	04 21 48.3	-0.5
TWVZ	**Taurewa**	**2.45**	**211**	P	Pn	04 21 48.5	-0.6
NGZ	**Ngauruhoe**	**2.48**	**207**	P	Pn	04 21 49.0	-0.4
NGZ	**Ngauruhoe**	**2.48**	**207**	PN	Pn	04 21 49.0	-0.4
WPVZ	**Whakapapa**	**2.52**	**207**	PN	Pn	04 21 49.3	-0.6
TUVZ	**Tukino**	**2.54**	**205**	P	Pn	04 21 49.3	-0.8
TUVZ	**Tukino**	**2.54**	**205**	PN	Pn	04 21 49.3	-0.8
FWVZ	**Far West T-bar**	**2.57**	**207**	PN	Pn	04 21 49.6	-0.8
DRZ	**Dome Shelter**	**2.58**	**206**	P	Pn	04 21 50.0	-0.5
DRZ	**Dome Shelter**	**2.58**	**206**	PN	Pn	04 21 50.0	-0.5
WNVZ	**Wahianoa**	**2.62**	**205**	P	Pn	04 21 50.0	-0.9
WNVZ	**Wahianoa**	**2.62**	**205**	PN	Pn	04 21 50.0	-1.0
MOVZ	**Moawhango**	**2.64**	**202**	P	Pn	04 21 49.5	-1.7
MOVZ	**Moawhango**	**2.64**	**202**	PN	Pn	04 21 49.5	-1.7
PKVZ	**Pokaka**	**2.67**	**209**	PN	Pn	04 21 50.7	-0.9
VRZ	**Vera Road**	**2.81**	**219**	P	Pn	04 21 53.0	-0.1
VRZ	**Vera Road**	**2.81**	**219**	PN	Pn	04 21 53.0	-0.1
PXZ	**Pawanui**	**3.06**	**183**	PN	Pn	04 21 54.2	-2.0
TSZ	**Takapari Road**	**3.20**	**195**	P	Pn	04 21 55.5	-2.3
TSZ	**Takapari Road**	**3.20**	**195**	PN	Pn	04 21 55.5	-2.3
WAZ	**Wanganui**	**3.22**	**209**	P	Pn	04 21 56.0	-2.0
BFZ	**Birch Farm**	**3.76**	**189**	P	Pn	04 22 01.8	-2.8
BFZ	**Birch Farm**	**3.76**	**189**	PN	Pn	04 22 01.5	-3.1
MRZ	**Mangatainoka R**	**3.86**	**197**	P	Pn	04 22 02.5	-3.3
MRZ	**Mangatainoka R**	**3.86**	**197**	PN	Pn	04 22 02.5	-3.4
TIWZ	**Tintock**	**3.91**	**193**	PN	Pn	04 22 03.7	-2.8
KIW	**Kapiti Island**	**4.23**	**202**	P	Pn	04 22 06.7	-3.7
KIW	**Kapiti Island**	**4.23**	**202**	PN	Pn	04 22 06.7	-3.7
MTW	**Mount Morrison**	**4.35**	**195**	P	Pn	04 22 07.9	-4.1
MTW	**Mount Morrison**	**4.35**	**195**	PN	Pn	04 22 07.9	-4.1
TRWZ	**Traveller**	**4.55**	**193**	PN	Pn	04 22 10.5	-3.9
PAWZ	**Paruwai Farm**	**4.58**	**195**	P	Pn	04 22 10.6	-4.3
PAWZ	**Paruwai Farm**	**4.58**	**195**	PN	Pn	04 22 10.6	-4.3
MRW	**Makara Radio**	**4.63**	**202**	P	Pn	04 22 11.3	-4.2
MRW	**Makara Radio**	**4.63**	**202**	PN	Pn	04 22 11.3	-4.2
MSWZ	**Moikau Station**	**4.65**	**197**	PN	Pn	04 22 11.6	-4.2
WEL	**Wellington**	**4.66**	**202**	P	Pn	04 22 12.0	-3.9
WEL	**Wellington**	**4.66**	**202**	PN	Pn	04 22 12.0	-3.9
SNZO	**South Karori**	**4.70**	**202**	P	Pn	04 22 11.9	-4.5
SNZO	**South Karori**	**4.70**	**202**	PN	Pn	04 22 11.9	-4.5
BHW	**Baring Head**	**4.74**	**200**	P	Pn	04 22 12.4	-4.6
BHW	**Baring Head**	**4.74**	**200**	PN	Pn	04 22 12.4	-4.6
TCW	**Tory Channel**	**4.75**	**206**	P	Pn	04 22 12.8	-4.3
TCW	**Tory Channel**	**4.75**	**206**	PN	Pn	04 22 12.8	-4.2
TUWZ	**Tuamarina**	**5.06**	**207**	PN	Pn	04 22 16.8	-4.3
NNZ	**Nelson**	**5.11**	**213**	*e*P	Pn	04 22 17.0	-4.6
QRZ	**Quartz Range**	**5.22**	**221**	*e*P	Pn	04 22 19.4	-3.6
QRZ	**Quartz Range**	**5.22**	**221**	PN	Pn	04 22 19.4	-3.6
BSWZ	**Blackbirch Sta**	**5.34**	**206**	P	Pn	04 22 20.4	-4.1
BSWZ	**Blackbirch Sta**	**5.34**	**206**	PN	Pn	04 22 20.4	-4.2
THZ	**Tophouse**	**5.76**	**213**	*e*P	Pn	04 22 25.6	-4.4
THZ	**Tophouse**	**5.76**	**213**	*e*PN	Pn	04 22 24.9	-5.2
KHZ	**Kahutara**	**6.07**	**205**	P	Pn	04 22 29.2	-4.9
KHZ	**Kahutara**	**6.07**	**205**	PN	Pn	04 22 29.2	-4.9
DSZ	**Denniston Nort**	**6.26**	**219**	*e*P	Pn	04 22 33.0	-3.5
DSZ	**Denniston Nort**	**6.26**	**219**	*e*PN	Pn	04 22 31.4	-5.1
LTZ	**Lake Taylor**	**6.87**	**211**	*e*P	Pn	04 22 39.6	-4.8
LTZ	**Lake Taylor**	**6.87**	**211**	PN	Pn	04 22 39.6	-4.8
MQZ	**McQueen's Vall**	**7.52**	**205**	*e*PN	Pn	04 22 45.9	-6.9
FOZ	**Fox Glacier**	**8.65**	**218**	PN	Pn	04 23 01.6	-6.0
QSPA	**South Pole Qui**	**53.16**	**180**	*e*P	P	04 30 02.5	-1.0
	5.0nm,0.7s						

*ISCJB **21** 04:30:33.3±0.5, 4026N±004×2401E±003, h16km±6km, Error ellipse: s-maj=6.1km s-min=4.2km az=27.8*
*NEIC **21** 04:30:33.0, 4029N×2396E, h35km, MD3.0(ATH), After ATH.*
*ATH **21** 04:30:33.0, 4029N×2396E, h35km±4km, MD3.0/5*
*CSEM **21** 04:30:33.2±0.1, 4026N×2398E, h17km±1km, ML2.2, Error ellipse: s-maj=2.3km s-min=1.5km az=19.0*
*THE **21** 04:30:33.4, 4024N×2396E, h11km, ML2.2*
ISC 21 04:30:32.7±0.5, **4026N**±003×**2399E**±003, **h19**km±4km, **n15, σ0$63/25, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.07**	**354**	*e*Pg	**Pg**	**04 30 36.4**	**+0.2**
OUR				*e*Sg	**Sg**	**04 30 38.3**	**-0.4**
PLG	**Polygyros**	**0.43**	**285**	*e*PB	**Pb**	**04 30 42.0**	**+0.3**
PLG				*e*SB	**Sb**	**04 30 48.4**	**+0.6**
SOH	**Sokhos**	**0.74**	**319**	*e*Pg	**Pg**	**04 30 47.9**	**+0.6**
SOH				*e*Sg	**Sg**	**04 30 57.8**	**+0.6**
HORT	**Hortiatis**	**0.76**	**297**	*e*Pg	**Pg**	**04 30 47.7**	**+0.1**
HORT				*e*Sg	**Sg**	**04 30 58.3**	**+0.6**
THE	**Thessaloniki**	**0.87**	**296**	*e*Pg	**Pg**	**04 30 49.4**	**-0.2**
THE				*e*Sg	**Sg**	**04 31 00.9**	**-0.2**
LOS	**Limnos**	**0.90**	**111**	*e*Pg	**Pg**	**04 30 50.3**	**+0.1**
LOS				*e*Sg	**Sg**	**04 31 03.1**	**+1.1**
LIA	**Limnos Island**	**0.98**	**111**	*e*PN	**Pn**	**04 30 52.3**	**+0.9**
XOR	**Xorichti**	**1.08**	**215**	*e*Pg	**Pg**	**04 30 53.6**	**-0.1**
XOR				*e*Sg	**Sg**	**04 31 08.0**	**0.0**
NVR	**Nevrokopi**	**1.09**	**355**	*e*PN	**Pn**	**04 30 53.3**	**+0.4**
LIT	**Litokhoron**	**1.16**	**263**	*e*Pg	**Pg**	**04 30 54.4**	**-0.8**
KNT	**Kendrikon**	**1.23**	**318**	*e*Pg	**Pg**	**04 30 55.9**	**-0.5**
KNT				*e*Sg	**Sg**	**04 31 13.1**	**+0.6**
MMB	**Musomiste**	**1.34**	**351**	*e*Pg	**Pg**	**04 30 57.3**	**-1.9**
MMB				*e*Sg	**Sg**	**04 31 16.5**	**+0.3**
RDO	**Rodhopi**	**1.47**	**52**	*e*PB	**Pb**	**04 30 58.6**	**-0.8**
ALN	**Alexandroupoli**	**1.69**	**67**	*e*Pb	**Pb**	**04 31 02.1**	**-0.9**
ALN				*e*Sb	**Sb**	**04 31 23.8**	**-0.1**
KZN	**Kozani**	**1.70**	**272**	*e*PB	**Pb**	**04 31 02.0**	**-1.3**

*IDC **21** 04:48:43.3±1.2, 4420S×7506W, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/17, mbtmp3.8/8, ML3.1/2, MS3.7/5, Ms1 3.6/5, ms1mx3.2/24, Error ellipse: s-maj=49.9km s-min=19.5km az=109.0*
*NEIC **21** 04:48:44.3±0.9, 4421S×7511W, h7km±5km, mb4.0/2, Error ellipse: s-maj=20.8km s-min=11.0km az=119.0*
*ISCJB **21** 04:48:46.9±0.8, 443S±01×748W±02, h33km, mb3.9/8, MS3.7/4, Error ellipse: s-maj=23.5km s-min=12.9km az=58.7*
ISC 21 04:48:48.6±0.8, **443S**±01×**749W**±02, **h35**km, **n16, σ0$93/15, mb3.9/8, MS3.7/4, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.76**	**44**	Pn	**Pn**	**04 49 58.2**	**+0.3**
	0.3nm,0.3s,baz=230,slow=14,SNR=14						
PLCA				LR	LR	04 52 17.7	
	comp=Z,347nm,18.0s,baz=234,slow=45						
PLCA	**Paso Flores**	**4.76**	**44**	Pn	**Pn**	**04 49 58.2**	**+0.3**
PLCA				LR	LR	04 52 17.7	
TRQA	**Tornquist**	**11.53**	**62**	Pn	**Pn**	**04 51 31.1**	**+0.5**
CFAA	**Coronel Fontan**	**13.67**	**25**	Pn	**Pn**	**04 51 59.6**	**-0.4**
	0.0nm,0.3s,baz=204,slow=7.7,SNR=2.9						
LVC	**Limon Verde**	**22.15**	**15**	P	**P**	**04 53 39.1**	**-2.1**
	2.8nm,0.8s,mb3.8,baz=201,slow=9.4,SNR=3.2						
LVC	**Limon Verde**	**22.15**	**15**	*e*P	**P**	**04 53 39.4**	**-1.9**
	5.9nm,0.9s,mb4.0						
CPUP	**Villa Florida**	**22.84**	**44**	P	**P**	**04 53 47.6**	**-0.9**
	4.1nm,0.9s,mb3.9,baz=226,slow=8.7,SNR=9.8						
CPUP				LR	LR	05 03 40.9	
	comp=Z,75nm,18.1s,MS3.2,baz=17,slow=39						
LPAZ	**La Paz**	**28.47**	**14**	P	**P**	**04 54 41.4**	**+1.1**
	0.6nm,0.9s,mb3.2,baz=158,slow=5.4,SNR=2.2						
LPAZ	**La Paz**	**28.47**	**14**	P	**P**	**04 54 41.4**	**+1.1**
BDFB	**Brasilia**	**36.50**	**47**	P	**P**	**04 55 50.5**	**0.0**
	2.7nm,0.8s,mb4.3,baz=84,slow=1.9,SNR=3.0						
BDFB				LR	LR	05 10 23.8	
	comp=Z,95nm,18.7s,MS3.6,baz=203,slow=36						
SAML	**Samuel**	**36.62**	**20**	*e*P	**P**	**04 55 52.1**	**+0.6**
	2.6nm,0.9s,mb4.1						
VNDA	**Vanda**	**53.62**	**193**	P	**P**	**04 58 05.3**	**-1.0**
	1.3nm,1.0s,mb3.8,baz=155,slow=5.0,SNR=3.6						
MAW	**Mawson**	**63.98**	**163**	P	**P**	**04 59 18.9**	**+0.5**
	1.3nm,0.8s,mb4.0,baz=256,slow=5.8,SNR=4.5						
MAW				LR	LR	05 26 15.9	
	comp=Z,78nm,19.8s,MS3.9,baz=61,slow=35						
BOSA	**Boshof**	**77.28**	**117**	LR	LR	05 30 39.6	
	comp=Z,112nm,18.1s,MS4.2,baz=5.0,slow=32						
ANMO	**Albuquerque**	**83.91**	**334**	*e*pP	**P**	**05 01 16.4**	**+1.5**
PDAR	**Pinedale Array**	**92.03**	**335**	P	**P**	**05 01 53.4**	**-0.5**
	0.3nm,0.6s,mb3.8,baz=116,slow=3.4,SNR=3.5						

*IDC **21** 04:58:33.7±7.0, 3517N×13597E, h170km±155km, mb3.3/2, mb1 3.6/2, mb1mx3.0/19, mbtmp3.8/2, ML3.0/1, Error ellipse: s-maj=228.2km s-min=115.9km az=177.0*
*ISCJB **21** 04:58:35.8±1.0, 361N±02×1370E±01, h275km±6km, mb3.3/2, Error ellipse: s-maj=26.7km s-min=13.8km az=122.9*
*JMA **21** 04:58:36.6±0.3, 3617N×13700E, h270km±3km, M2.7*
ISC 21 04:58:36.9±1.0, **361N**±01×**1370E**±01, **h270**km±6km, **n14, σ0$46/19, mb3.3/2, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.26**	**71**	P	**Pn**	**04 59 11.5**	**0.0**
JGM	**Miyama**	**0.50**	**209**	P	**Pn**	**04 59 12.1**	**+0.1**
JGM				S	**S**	**04 59 39.5**	**-0.2**
JKG	**Kaga**	**0.57**	**284**	*e*S	**S**	**04 59 39.9**	**-0.2**
MAT	**Matsushiro**	**1.04**	**67**	P	**Pn**	**04 59 14.1**	**-0.1**
MAT				S	**S**	**04 59 43.3**	**-0.4**
MAT	**Matsushiro**	**1.04**	**67**	P	**Pn**	**04 59 14.2**	**0.0**
MAT				S	**S**	**04 59 43.9**	**+0.2**
MJAR	**Matsushiro Arr**	**1.05**	**67**	P	**Pn**	**04 59 14.2**	**0.0**
	3.6nm,0.3s,baz=252,slow=6.6,SNR=16						
MJAR				S	**S**	**04 59 44.4**	**+0.7**
	baz=214,slow=22,SNR=5.1						
JYN	**Shimob**	**1.40**	**117**	P	**Pn**	**04 59 16.6**	**+0.3**
JRY	**Ryogami san**	**1.53**	**94**	P	**Pn**	**04 59 18.4**	**+1.1**
JRY				*e*S	**S**	**04 59 48.6**	**-0.6**
JWT	**Wachi**	**1.56**	**237**	P	**Pn**	**04 59 17.5**	**0.0**
JAG	**Ashikaga**	**1.99**	**81**	P	**Pn**	**04 59 20.0**	**-0.9**
JSD	**Sado**	**2.14**	**27**	P	**Pn**	**04 59 22.0**	**-0.2**
JWZ	**Kozaga**	**2.81**	**203**	P	**Pn**	**04 59 28.6**	**0.0**
WRA	**Warramunga Arr**	**55.83**	**183**	P	**P**	**05 07 45.9**	**-0.5**
	0.6nm,0.3s,mb3.5,baz=0.3,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**59.55**	**183**	P	**P**	**05 08 12.7**	**+0.4**
	0.3nm,0.5s,mb3.0,baz=12,slow=13,SNR=6.0						

*IDC **21** 05:02:09.0±3.0, 3275S×17721W, h0km, mb4.1/3, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, ML4.2/2, Error ellipse: s-maj=65.5km s-min=33.4km az=118.0*
*ISCJB **21** 05:02:14.3±0.8, 324S±02×1793W±04, h33km, Error ellipse: s-maj=55.4km s-min=5.1km az=48.2*
ISC 21 05:02:16.6±1.3, **325S**±02×**1789W**±05, **h35**km, **n16, σ1$25/17, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.29**	**15**	Pn	**Pn**	**05 03 03.7**	**-2.0**
	50nm,0.3s,baz=68,slow=23,SNR=2.4						
RAO				Sn	**Sn**	**05 03 44.8**	**+1.2**
	115nm,0.3s,baz=70,slow=23,SNR=4.5						
PUZ	**Puketiti**	**6.08**	**202**	PN	**Pn**	**05 03 39.4**	**-4.5**
PUZ				SN	**Sn**	**05 04 52.6**	**+0.4**
MWZ	**Matawai**	**6.56**	**205**	*e*PN	**Pn**	**05 03 50.0**	**-0.5**
MWZ				SN	**Sn**	**05 05 05.9**	**+1.8**
URZ	**Urewera**	**6.65**	**208**	PN	**Pn**	**05 03 53.5**	**+1.6**
	1.6nm,0.3s,baz=128,slow=4.8,SNR=7.9						
URZ				Sn	**Sn**	**05 05 10.7**	**+4.3**
	4.2nm,0.3s,baz=141,slow=21,SNR=4.8						
URZ	**Urewera**	**6.65**	**208**	*e*PN	**Pn**	**05 03 52.7**	**+0.9**
URZ				SN	**Sn**	**05 05 09.9**	**+3.5**
MRZ	**Mangatainoka R**	**9.32**	**207**	SN	**Sn**	**05 06 10.5**	**-1.5**
KIW	**Kapiti Island**	**9.76**	**209**	SN	**Sn**	**05 06 22.2**	**-0.5**
TCW	**Tory Channel**	**10.31**	**210**	SN	**Sn**	**05 06 35.3**	**-1.0**
NNZ	**Nelson**	**10.71**	**213**	SN	**Sn**	**05 06 47.5**	**+1.3**
THZ	**Tophouse**	**11.36**	**213**	SN	**Sn**	**05 07 01.4**	**-0.7**
MQZ	**McQueen's Vall**	**13.05**	**208**	SN	**Sn**	**05 07 34.2**	**-9.2**
RPZ	**Rata Peaks**	**13.74**	**212**	Sn	**Sn**	**05 07 54.5**	**-5.7**
	0.7nm,0.3s,baz=301,slow=19,SNR=2.9						
CTA	**Charters Tower**	**33.43**	**283**	P	pP	05 09 03.8	+1.7
	4.1nm,1.1s,baz=107,slow=15,SNR=3.1						
ASAR	**Alice Springs**	**42.27**	**270**	P	pP	05 10 15.9	-1.0
	1.2nm,0.6s,baz=109,slow=7.9,SNR=16						
WRA	**Warramunga Arr**	**43.45**	**275**	P	pP	05 10 25.1	-1.4
	1.1nm,0.4s,baz=115,slow=7.9,SNR=38						
FINES	**FINESS Array B**	**146.78**	**338**	PKPbc	PKPbc	05 21 54.0	-0.9
	3.4nm,1.0s,baz=90,slow=6.9,SNR=2.8						

*SZGRF **21** 05:14:29.9, 2861S×16775E, h33km, Norfolk Island, Australia, region*
*ISCJB **21** 05:14:37.8±0.5, 2326S±008×17036E±008, h34km, mb4.8/27, MS4.1/18, Error ellipse: s-maj=12.3km s-min=8.3km az=74.9*
*BJI **21** 05:14:38.9, 2314S×17009E, h33km, mB5.0, mb5.0, Ms5.1, Msz4.6*
*IDC **21** 05:14:39.6±3.6, 2298S×17040E, h43km±30km, mb4.3/10, mb1 4.5/12, mb1mx4.4/15, mbtmp4.5/12, ML4.3/2, MS3.9/15, Ms1 3.9/15, ms1mx3.7/28, Error ellipse: s-maj=25.9km s-min=17.2km az=60.0*
*NEIC **21** 05:14:40.4±0.4, 2313S×17027E, mb5.0/15, Error ellipse: s-maj=10.9km s-min=9.2km az=221.0*
ISC 21 05:14:39.9±0.5, **2323S**±008×**17039E**±008, **h36**km, **h36**km±2.3km**: pP-P, n120, σ1$16/51, mb4.9/27, MS4.1/18, 9C-8D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.82**	**287**	*e*P	**Pn**	**05 15 35.3**	**-0.8**
DZM				*e*S	**Sn**	**05 16 20.7**	**+0.9**
DZM	**Mont Dzumac**	**3.82**	**287**	P	**Pn**	**05 15 35.3**	**-0.8**
	58nm,0.3s,baz=97,slow=16,SNR=435						
DZM				S	**Sn**	**05 16 18.5**	**-1.4**
	17nm,0.3s,baz=109,slow=23,SNR=4.0						
RAO	**Raoul Island**	**12.08**	**122**	LR	LR	05 21 00.6	
	comp=Z,589nm,21.0s,baz=213,slow=31						
URZ	**Urewera**	**16.05**	**161**	P	**Pn**	**05 18 26.9**	**+4.2**
	0.4nm,0.3s,baz=156,slow=6.0,SNR=3.9						
AFI	**Afiamalu**	**19.27**	**64**	LR	LR	05 24 50.5	
	comp=Z,461nm,18.1s,baz=222,slow=32						
RPZ	**Rata Peaks**	**20.44**	**179**	P	**P**	**05 19 16.6**	**+2.6**
	11nm,0.6s,baz=51,slow=15,SNR=3.7						
RPZ				LR	LR	05 24 48.5	
	comp=Z,281nm,21.3s,MS3.6,baz=221,slow=29						
RPZ	**Rata Peaks**	**20.44**	**179**	P	**P**	**05 19 16.6**	**+2.6**
RPZ				LR	LR	05 24

MAW *e* pP 05 26 29.2 -0.4
MAW Mawson 75.15 202 P **P** **05 26 18.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=128,slow=7.0,SNR=13
MAW LR LR 05 52 17.1
comp=Z,72nm,20.5s,MS4.0,baz=239,slow=30
MDJ Mudanjiang 77.13 331 P **P** **05 26 31.9 +2.3**
MDJ AP pP 05 26 41.4 +0.6
MDJ XP sP 05 26 45.1 +0.1
MDJ PP PP 05 29 23.3 -0.2
MDJ S S 05 36 20.6 +4.5
MDJ XS sS 05 36 36.8 +2.2
MDJ SS SS 05 41 15.0 +1.1
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
MDJ AMB AMB
comp=Z,57nm,4.7s
MDJ LR LR
comp=N,103nm,17.1s
MDJ LR LR
comp=E,77nm,24.2s
MDJ LR LR
comp=Z,109nm,18.0s,MS4.2
CN2 Changchun 78.41 329 *e*P **P** **05 26 34.4 -2.3**
CN2 LR LR
comp=N,400nm,12.0s,MS5.0
CN2 LR LR
comp=E,200nm,12.0s,MS5.0
CN2 LR LR
comp=Z,200nm,17.0s,MS4.5
CHTO Chiang Mai 81.28 295 *e*P **P** **05 26 52.9 +0.6**
comp=Z,13nm,1.0s,mb4.8
KMI Kunming 81.28 302 P **P** **05 26 53.8 +1.5**
KMI AMB AMB
comp=Z,13nm,0.8s,mb4.9
SYO Syowa Base 81.41 196⇓ *e*P **P** **05 26 50.8 -2.2**
SYO Syowa Base 81.41 196⇑ *e*pP pP 05 27 03.0 -1.2
CD2 Chengdu 83.50 307 *e*P **P** **05 27 04.3 +0.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.8s
HHC Hu-ho-hao-te 83.93 319 *e*P **P** **05 27 07.8 +1.7**
HHC AP pP 05 27 18.4 +1.0
HHC XP sP 05 27 22.3 +0.8
HHC PP PP 05 30 24.0 +4.1
HHC SKS 05 37 24.8
HHC S S 05 37 28.4 +1.1
HHC XS sS 05 37 45.9 -0.1
HHC PS 05 38 26.6
HHC SS SS 05 42 59.9 +4.3
HHC AMB AMB
comp=Z,11nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,138nm,4.8s
HHC LR LR
comp=N,67nm,4.7s
HHC LR LR
comp=E,89nm,4.3s
HHC LR LR
comp=Z,67nm,5.5s
SNAA Sanae 85.23 182 *e* **P** **05 27 06.1 -6.6**
SNAA *e* pP 05 27 14.1 -10
SNAA *e* pP 05 27 17.7 -6.3
VNA3 Neumayer Olymp 85.78 180 *e* **P** **05 27 11.9 -3.5**
VNA3 *e* 05 27 19.1
LZH Lanzhou 86.18 312⇓ P **P** **05 27 17.6 +0.2**
LZH AP pP 05 27 29.5 +0.8
LZH XP sP 05 27 33.3 +0.5
LZH PP PP 05 30 40.6 +2.5
LZH SKS 05 37 38.3
LZH *e*S S 05 37 48.8 -0.8
LZH XS sS 05 38 07.5 -0.9
LZH PS 05 38 53.6
LZH *e*SS SS 05 43 31.4 +2.7
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,102nm,7.8s
LZH LR LR
comp=N,225nm,15.7s
LZH LR LR
comp=Z,397nm,18.2s,MS4.8
YBH Yreka Blue Hor 89.43 44 LR LR 05 57 43.4
comp=Z,94nm,21.1s,MS4.2,baz=227,slow=29
GTA Gaotai 90.63 313 *e*P **P** **05 27 38.9 +0.4**
GTA AP pP 05 27 45.9 -4.0
GTA XP sP 05 27 50.3 -3.7
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.7
NVAR Mina Array Bea 90.65 48 P **P** **05 27 36.5 -2.1**
comp=Z,2.1nm,0.8s,mb4.5,baz=231,slow=11,SNR=14
ULN Ulaanbaatar 90.69 323 *e*P **P** **05 27 40.0 +1.2**
comp=Z,6.3nm,1.0s,mb4.9
ULN *e*pP pP 05 27 52.5 +2.3
SONM Songino Array 91.04 323 P **P** **05 27 39.4 -1.0**
comp=Z,3.8nm,1.1s,mb4.7,baz=155,slow=4.9,SNR=9.3
PDAR Pinedale Array 98.53 47 LR LR 06 08 48.0
comp=Z,112nm,18.1s,MS4.4,baz=271,slow=33
INK Inuvik 99.98 18 LR LR 06 10 59.6
comp=Z,90nm,20.0s,MS4.3,baz=306,slow=34
WMQ Urumqi 100.72 313 *e*P Pdif 05 28 24.0 -0.4
WMQ AMB AMB
comp=Z,7.0nm,0.7s
WMQ AMB AMB
comp=Z,102nm,6.2s
WMQ LR LR
comp=Z,76nm,18.0s,MS4.2
AKASG Malin Array Be 139.32 322 PKP PKPdf 05 34 02.5 -0.6
comp=Z,0.2nm,0.3s,baz=50,slow=2.2,SNR=5.0
AKASG Malin Array Be 139.32 322 PKP PKPdf 05 34 02.5 -0.6
KOLS Kolonicke sedl 144.09 324 *e*PKP PKPdf 05 34 09.9 -1.7
KOLS Kolonicke sedl 144.09 324 *e*P PKPdf 05 34 10.0 -1.6
DRGR 144.99 320⇑ *i*P PKPdf 05 34 12.3 -0.9
KECS Kecovo 145.32 324 *e*PKP PKPdf 05 34 12.9 -0.8
KECS *e* 05 34 22.3
BSEG Bad Segeberg 145.86 339 *e*PKPbc PKPbc 05 34 15.9 +0.6
MORC Moravsky Berou 146.02 328⇑ *i*P PKPdf 05 34 15.1 +0.2
DPC Dobruska-Polom 146.22 330 *e*PKP PKPdf 05 34 14.9 -0.4
UPC Upice 146.25 330 *e*PKP PKPdf 05 34 15.5 +0.2
VTS Vitosha 146.65 313⇑ *i*P PKPdf 05 34 17.5 +1.5
PVCC Panska Ves 146.88 331 *e*PKP PKPdf 05 34 18.0 +1.6
BRG Berggiesshubel 146.90 332 *e*PKPbc PKPbc 05 34 17.7 -0.6
BRG Berggiesshubel 146.90 332 *i* P PKPdf 05 34 17.5 +1.1
comp=Z,3.9nm,0.7s
BRG *e* 05 34 25.3
comp=Z,6.6nm,1.2s
CLL Collm 146.97 334 *e*PKPbc PKPbc 05 34 18.0 -0.5
CLL Collm 146.97 334 *i* PKPbc PKPbc 05 34 17.8 -0.7
comp=Z,10.0nm,0.7s
CLL *i* pPKPbc pPKPbc 05 34 29.0 -1.2
comp=Z,11nm,0.7s
NRDL Niedersach Rie 147.12 338 *e*PKPbc PKPbc 05 34 19.7 +0.7
PRU Pruhonice 147.28 331 *e*PKP PKPdf 05 34 18.1 +1.0
PRU *e*pPKP pPKPdf 05 34 31.6 +2.8
BARS Barje 147.47 314 *e*P PKPbc 05 34 20.2 +0.2
CLZ Clausthal 147.56 337 *e*PKPbc PKPbc 05 34 20.5 +0.3
VAY Valandovo 147.61 312 *i* Pn PKPdf 05 34 18.1 +0.5
PKSM Moragy 147.66 322⇑ *i*P PKPbc 05 34 19.7 -0.8
TANN Tannenbergstha 147.87 333 *e*PKPbc PKPbc 05 34 19.5 -1.5
NKC Novy Kostel 148.01 333 *e*PKP PKPbc 05 34 20.3 -1.1
MOX Moxa 148.04 334 *e*PKPbc PKPbc 05 34 20.9 -0.6
MOX Moxa 148.04 334 *e*(P) PKPbc 05 34 22.7 +1.2
IBBN Ibbenburen 148.06 340 *e*PKPbc PKPbc 05 34 22.1 +0.6
SKO Skopje 148.10 313⇓ *i*Pn PKPbc 05 34 21.4 -0.2
KHC Kasperske Hory 148.34 330 *e*PKP PKPdf 05 34 20.5 +1.7
KHC *e*pPKP pPKPdf 05 34 32.8 +2.3
MANZ Manzenberg 148.34 333 *e*PKPbc PKPbc 05 34 21.3 -1.0
ROTZ Rotzenmuhle 148.47 333 *e*PKPbc PKPbc 05 34 21.6 -1.0
GEC2 GERESS Array S 148.49 330 *e*PKPbc PKPbc 05 34 21.1 -1.5
GERES GERESS Array B 148.49 330 PKP PKPdf 05 34 18.1 -0.9
comp=Z,3.7nm,0.8s,baz=307,slow=0.7,SNR=4.5
GERES PKPbc PKPbc 05 34 21.2 -1.5
comp=Z,4.1nm,0.8s,baz=46,slow=2.8,SNR=21
OHR Ohrid 148.91 312⇓ *i*Pn PKPdf 05 34 22.2 +2.5
GRA1 Grafenberg Arr 148.94 333 *e*PKPbc PKPbc 05 34 22.9 -0.9
GRF Grafenberg Arr 148.94 333 *e*PKPbc PKPbc 05 34 22.9 -0.9
TNS Taunus Mts 149.59 337 *e*PKPbc PKPbc 05 34 24.7 -0.7
OBKA Obir 149.69 326⇑ *i*P PKPbc 05 34 24.2 -1.4
comp=Z,9.6nm,1.2s
KBA Koelnbreinsper 149.91 328⇑ *i*P PKPbc 05 34 24.7 -1.5
comp=Z,15nm,1.1s
VOY Vojsko 150.35 326 *e*P PKPbc 05 34 25.9 -1.4
VOY *e* 05 34 36.0
WTTA Wattenberg 150.59 330⇓ *i*P PKPbc 05 34 26.7 -1.2
comp=Z,32nm,1.3s
MOTA Moosalm 150.77 330⇑ *i*P PKPbc 05 34 26.1 -2.1
comp=Z,16nm,1.0s
WLF Walferdange 150.85 339 *e*PKPdf PKPdf 05 34 18.9 -3.9
WLF *e*PKPbc PKPbc 05 34 27.9 -0.6
GIVF Givet 150.90 341 *e*PKP1 PKPbc 05 34 27.3 -1.3
comp=Z,33nm,0.9s
DOU Dourbes 150.97 341 PKPbc PKPbc 05 34 29.4 +0.7
DOU PKPab PKPab 05 34 37.8 +1.6
DOU E 05 34 51.8
BAIF Baives 151.12 341 *e*PKP1 PKPbc 05 34 27.8 -1.3
comp=Z,14nm,0.8s
BFO Black Forest 151.18 335 *e*PKPbc PKPbc 05 34 27.6 -1.6
CDF Champ du Feu 151.51 336 *e*PKP1 PKPbc 05 34 28.7 -1.3
comp=Z,21nm,0.9s
HINF Hinteralfeld 152.17 336 *e*PKP1 PKPbc 05 34 30.0 -1.5
HAU Haudompre 152.20 337 *e*PKP1 PKPbc 05 34 30.1 -1.4
MEZF Maizieres J'vi 152.22 339 *e*PKP1 PKPbc 05 34 30.7 -0.9
SSF Saint Saulge 153.99 339 *e*PKP1 PKPbc 05 34 35.3 -0.2
LPL La Plagne 154.10 333 *e*PKP1 PKPbc 05 34 34.9 -0.8
LPG La Plagne 154.10 333 *e*PKP1 PKPbc 05 34 35.0 -0.7
comp=Z,10nm,0.7s
PGF Pioggiola 155.29 326 *e*PKP1 PKPdf 05 34 37.2 +8.0
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 165.31 229 PKP PKPdf 05 34 39.7 -0.6
comp=Z,2.2nm,1.0s,baz=154,slow=0.3,SNR=9.2
TORD PKPab PKPab 05 35 36.9 -1.2
comp=Z,1.8nm,1.1s,baz=110,slow=4.8,SNR=5.5
TORD Torodi Ar. Bea 165.31 229 PKP PKPdf 05 34 39.7 -0.6
TORD PKPab PKPab 05 35 36.9 -1.2

*ISCJB **21** 05:32:04.9±0.6,3686N±003×2810E±005,h79km±5km, Error ellipse: s-maj=6.6km s-min=4.9km az=103.4*
*CSEM **21** 05:32:05.0±0.2,3689N×2809E,h58km±1km,MD3.1, Error ellipse: s-maj=2.5km s-min=2.3km az=37.0*
*ISK **21** 05:32:05.1,3685N×2810E,h72km,MD3.1,ML3.2*
*ATH **21** 05:32:06.2,3685N×2796E,h65km±2km*
ISC 21 05:32:05.8±0.6,3686N±003×2810E±004,h74km±5km,n26,σ0$64/40,2C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.31**	**28**	*i* PG	**Pn**	**05 32 17.5**	**+0.1**
YER				SG	**Sn**	**05 32 25.9**	**0.0**
DALT	**Dalyan (Mudla)**	**0.44**	**102**	*i* PG	**Pn**	**05 32 18.3**	**-0.1**
DALT				SG	**Sn**	**05 32 27.4**	**-0.2**
DAT	**Datca**	**0.44**	**253**	*i* PG	**Pn**	**05 32 18.2**	**-0.2**
DAT				SG	**Sn**	**05 32 27.5**	**-0.2**
MLSB	**Milas**	**0.51**	**329**	*i* PG	**Pn**	**05 32 19.3**	**+0.3**
MLSB				SG	**Sn**	**05 32 28.9**	**+0.2**
BDRM	**Kayabasi**	**0.56**	**291**	*i* P	**Pn**	**05 32 19.5**	**0.0**
BDRM				*i* S	**Sn**	**05 32 29.2**	**-0.5**
ARG	**Arkhangelos**	**0.64**	**178**	*e*P	**Pn**	**05 32 20.5**	**+0.2**
ARG				*e*S	**Sn**	**05 32 31.6**	**+0.5**
BODT	**Bodrum**	**0.67**	**288**	PG	**Pn**	**05 32 20.6**	**0.0**
BODT				SG	**Sn**	**05 32 31.4**	**-0.1**
AYDN	**Tasoluk**	**0.82**	**348**	*i* P	**Pn**	**05 32 22.8**	**+0.5**
AYDN				*i* S	**Sn**	**05 32 35.2**	**+0.7**
FETY	**Fethiye**	**0.82**	**106**	PG	**Pn**	**05 32 22.0**	**-0.3**
DENT	**Denizli**	**1.16**	**40**	PN	**Pn**	**05 32 27.0**	**+0.5**
SMG	**Samos**	**1.32**	**310**	*e*P	**Pn**	**05 32 28.7**	**+0.2**
SMG				*e*S	**Sn**	**05 32 44.7**	**-0.8**
AKAS	**Kas**	**1.36**	**117**	*i* P	**Pn**	**05 32 28.3**	**-0.7**
AKAS				*i* S	**Sn**	**05 32 46.5**	**0.0**
ELL	**Elmali**	**1.46**	**94**	PN	**Pn**	**05 32 30.0**	**-0.2**
KARP	**Karpathos**	**1.52**	**210**	*e*P	**Pn**	**05 32 31.3**	**+0.3**
KARP				*e*S	**Sn**	**05 32 49.8**	**-0.3**
KDAG	**Bornova**	**1.68**	**337**	*i* P	**Pn**	**05 32 33.4**	**+0.2**
KDAG				*i* S	**Sn**	**05 32 54.5**	**+0.6**
KDAG	**Bornova**	**1.68**	**337**	*i* P	**Pn**	**05 32 33.3**	**+0.1**
KDAG				*i* S	**Sn**	**05 32 54.5**	**+0.6**
BLCB	**Balcova**	**1.74**	**331**	PN	**Pn**	**05 32 34.3**	**+0.3**
URLA	**Izmir**	**1.92**	**322**	*i* P	**Pn**	**05 32 36.8**	**+0.4**
URLA				*i* S	**Sn**	**05 32 57.4**	**-2.2**
AKS	**Akhisar**	**2.03**	**354**	PN	**Pn**	**05 32 38.1**	**+0.2**
APE	**Apeiranthos**	**2.07**	**277**	*e*P	**Pn**	**05 32 38.6**	**+0.2**
NPS	**Neapolis**	**2.57**	**232**	*e*P	**Pn**	**05 32 45.3**	**+0.1**
MLR	**Muntele Rosu**	**8.77**	**350**⇑	*i*P	**Pn**	**05 34 07.8**	**-2.0**
VOIR		**8.87**	**346**⇓	*i*P	**Pn**	**05 34 10.3**	**-0.8**
GZR	**Gura Zlata**	**9.42**	**336**⇑	*i*P	**Pn**	**05 34 14.0**	**-4.6**
DIVS	**Divcibare**	**9.51**	**322**	*i* P	**Pn**	**05 34 20.9**	**+1.1**
BBLS	**Bajina Basta -**	**9.64**	**319**	*i* P	**Pn**	**05 34 22.9**	**+1.3**

*NIED **21** 05:51:00,33.10N×141.90E,h5km,Mw4.1 Best double couple: M0:1.34000×10^15 NP1:φs152.00000°,δ68.00000°, λ50.00000°. NP2:φs37.00000°,δ45.00000°,λ148.00000°.*
*IDC **21** 05:51:38.1±0.7,3306N×14181E,h0km,mb4.2/11, mb1 4.3/13,mb1mx4.3/21,mbtmp4.2/13,ML4.1/2, Error ellipse: s-maj=19.6km s-min=14.9km az=66.0*
*ISCJB **21** 05:51:39.6±1.5,3311N±004×14189E±005,h23km±11km, mb4.3/28,MS3.9/2, Error ellipse: s-maj=8.5km s-min=4.8km az=120.5*
*JMA **21** 05:51:40.7±0.2,3313N×14192E,h75km,M3.7*
*BJI **21** 05:51:42.5,33.16N×141.55E,h40km,mB4.7,mb4.8,Ms4.1, Msz3.9*
*MOS **21** 05:51:44.8±2.7,3255N×140.12E,h33km,mb4.6/6, Error ellipse: s-maj=27.0km s-min=9.3km az=112.9*
*NEIC **21** 05:51:44.1±1.3,3308N×14168E,h40km±11km,mb4.4/13, Error ellipse: s-maj=12.0km s-min=7.2km az=82.0*
ISC 21 05:51:40.3±1.6,3312N±004×14185E±005,h14km±10km, n62,σ0$87/73,mb4.3/28,MS3.9/2,1C-1D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.69**	**335**	P	**Pn**	**05 52 09.2**	**-0.2**
BSO1				S	**Sn**	**05 52 30.1**	**-0.7**
JHJ2	**Mitsune**	**1.71**	**270**	P	**Pn**	**05 52 10.4**	**+0.7**
JHJ2				*e*S	**Sn**	**05 52 31.8**	**+0.5**
JHJ	**Hachijo jima 2**	**1.74**	**270**	Pn	**Pn**	**05 52 09.7**	**-0.4**
	50nm,0.3s,baz=175,slow=10,SNR=20						
JHJ				Sn	**Sn**	**05 52 33.1**	**+1.2**
	138nm,0.3s,baz=220,slow=22,SNR=12						
BSO3	**Boso 3**	**2.01**	**327**	P	**Pn**	**05 52 13.6**	**-0.2**
BSO3				*e*S	**Sn**	**05 52 38.8**	**0.0**
BSO4	**Boso 4**	**2.25**	**326**	P	**Pn**	**05 52 17.2**	**+0.1**
BSO4				*e*S	**Sn**	**05 52 45.0**	**+0.4**
KTR	**Katsuura**	**2.39**	**328**	P	**Pn**	**05 52 19.3**	**+0.3**
KTR				S	**Sn**	**05 52 47.9**	**-0.2**
JIM2	**Oshima 3**	**2.56**	**309**	P	**Pn**	**05 52 20.8**	**-0.6**
JIZS	**Izushimoda**	**2.94**	**304**	P	**Pn**	**05 52 26.7**	**+0.1**
JIZS				S	**Sn**	**05 53 08.8**	**+1.1**
JOD2	**Odawara 2**	**3.13**	**314**	P	**Pn**	**05 52 28.8**	**-0.4**
JOD2				*e*S	**Sn**	**05 53 05.2**	**-1.2**
JYN	**Shimob**	**3.62**	**312**	P	**Pn**	**05 52 36.5**	**+0.6**
JRY	**Ryogami san**	**3.77**	**321**	P	**Pn**	**05 52 37.9**	**-0.2**
JRY				S	**Sn**	**05 53 22.6**	**+0.3**
JAG	**Ashikaga**	**3.84**	**330**	P	**Pn**	**05 52 39.0**	**0.0**
JAG				S	**Sn**	**05 53 22.5**	**-1.4**
MJAR	**Matsushiro Arr**	**4.54**	**320**	Pn	**Pn**	**05 52 49.4**	**+0.8**
	7.0nm,0.3s,baz=143,slow=11,SNR=52						
MJAR				Sn	**Sn**	**05 53 40.9**	**-0.3**
	2.8nm,0.3s,baz=82,slow=11,SNR=4.5						
MAJO	**Matsushiro**	**4.54**	**320**	*e*P	**Pn**	**05 52 49.6**	**+1.0**
MAT	**Matsushiro**	**4.54**	**320**	P	**Pn**	**05 52 49.6**	**+1.0**
MAT				S	**Sn**	**05 53 41.1**	**-0.1**
MAT	**Matsushiro**	**4.54**	**320**	P	**Pn**	**05 52 49.4**	**+0.8**
MAT				*e*S	**Sn**	**05 53 41.1**	**-0.1**
JMM	**Marumori**	**4.81**	**350**	P	**Pn**	**05 52 51.5**	**-0.8**
CBIJ	**Chichi jima**	**6.01**	**177**	Pn	**Pn**	**05 53 07.6**	**-1.3**
	16nm,0.3s,baz=271,slow=22,SNR=17						
CBIJ				Sn	**Sn**	**05 54 11.2**	**-6.3**
	24nm,0.3s,baz=90,slow=23,SNR=7.6						
WHN	**Wuhan**	**23.48**	**271**	P	**P**	**05 56 49.0**	**-0.7**
HHC	**Hu-ho-hao-te**	**25.30**	**296**	*e*P	**P**	**05 57 06.6**	**+0.2**
HHC				AMB	AMB		
	comp=Z,14nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,105nm,3.2s						
ULN	**Ulaanbaatar**	**29.99**	**310**	*e*P	**P**	**05 57 49.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**29.99**	**310**	*e*P	**P**	**05 57 49.2**	**+0.8**
	comp=Z,4.7nm,0.8s,mb4.3						
SONM	**Songino Array**	**30.41**	**309**	P	**P**	**05 57 53.1**	**+1.0**
	comp=Z,4.3nm,1.0s,mb4.2,baz=120,slow=8.4,SNR=8.4						
BOD	**Bodaibo**	**31.07**	**331**	*e*P	**P**	**05 58 02.6**	**+4.7**
BOD				pmax	pmax		

	comp=Z,6.0nm,1.7s,mb4.2						
ZAK	**Zakamensk**	**33.09**	**313**	*e*P	**P**	**05 58 14.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
GTA	**Gaotai**	**34.23**	**293**	⇓P	**P**	**05 58 25.5**	**-0.1**
GTA				AP	pP	05 58 34.8	+4.9
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
GTA				LR	LR		
	comp=N,109nm,17.9s,MS4.0						
GTA				LR	LR		
	comp=E,207nm,18.2s,MS4.0						
GTA				LR	LR		
	comp=Z,163nm,16.0s,MS3.9						
WMQ	**Urumqi**	**43.03**	**301**	*e*P	**P**	**05 59 42.3**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
WMQ				LR	LR		
	comp=Z,153nm,17.0s,MS4.0						
MKAR	**Makanchi Array**	**46.59**	**305**	P	**P**	**06 00 07.3**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.3,baz=83,slow=9.9,SNR=16						
FITZ	**Fitzroy Crossi**	**53.24**	**199**	*e*P	**P**	**06 00 58.6**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.24**	**199**	P	**P**	**06 00 57.9**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=23,slow=8.4,SNR=14						
WRAB	**Tennant Creek**	**53.24**	**189**⇑	*i*P	**P**	**06 00 57.8**	**-0.6**
WRAB	**Tennant Creek**	**53.24**	**189**	*e*P	**P**	**06 00 57.7**	**-0.6**
	comp=Z,9.5nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**53.25**	**189**	*e*P	**P**	**06 00 58.0**	**-0.4**
WRA	**Warramunga Arr**	**53.25**	**189**	P	**P**	**06 00 58.0**	**-0.5**
	comp=Z,5.9nm,0.5s,mb4.7,baz=6.1,slow=7.6,SNR=86						
CHKZ	**Chkalovo**	**53.29**	**315**	*e*P	**P**	**06 00 57.9**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**53.29**	**315**	*e*P	**P**	**06 00 57.9**	**-0.8**
	comp=Z,5.7nm,1.0s,mb4.5						
BRVK	**Borovoye**	**53.58**	**315**	*e*P	**P**	**06 01 00.8**	**0.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**53.58**	**315**	*e*P	**P**	**06 01 00.8**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**54.35**	**315**	*e*P	**P**	**06 01 06.1**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ZRNK	**Zerenda**	**54.35**	**315**	*e*P	**P**	**06 01 06.1**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.4						
AS31	**Alice Springs**	**56.98**	**189**	*e*P	**P**	**06 01 25.9**	**+0.6**
ASAR	**Alice Springs**	**56.98**	**189**	P	**P**	**06 01 24.4**	**-1.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=18,slow=12,SNR=18						
MBWA	**Marble Bar**	**57.96**	**204**	*e*P	**P**	**06 01 32.3**	**0.0**
	comp=Z,42nm,1.6s,mb5.2						
ARU	**Arti**	**59.56**	**320**	*e*P	**P**	**06 01 39.1**	**-4.3**
ARU	**Arti**	**59.56**	**320**	*e*P	**P**	**06 01 42.8**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.7						
JOF	**Joensuu**	**69.59**	**333**	*e*p	**P**	**06 02 47.5**	**-1.4**
	comp=Z,2.8nm,0.5s,mb4.5						
KAF	**Kangasniemi**	**71.95**	**334**	*e*p	**P**	**06 03 00.6**	**-2.7**
	comp=Z,4.7nm,0.6s,mb4.6,baz=51,slow=5.7						
KAF	**Kangasniemi**	**71.95**	**334**	*e*P	**P**	**06 03 00.6**	**-2.7**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**72.44**	**333**	P	**P**	**06 03 05.6**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=4.6						
NVAR	**Mina Array Bea**	**77.06**	**53**	P	**P**	**06 03 34.2**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=312,slow=4.1,SNR=7.3						
BOZ	**Bozeman (W)**	**77.28**	**44**	*e*P	**P**	**06 03 35.5**	**+1.3**
	comp=Z,1.5nm,0.8s,mb4.0						
AKASG	**Malin Array Be**	**77.62**	**323**	P	**P**	**06 03 35.1**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.1,baz=47,slow=5.5,SNR=4.7						
NB2	**NORSAR Subarra**	**77.93**	**338**	P	**P**	**06 03 37.3**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.3,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**77.93**	**338**	P	**P**	**06 03 37.8**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=41,slow=5.8,SNR=4.9						
TPAW	**Teton Pass**	**78.91**	**45**	*e*P	**P**	**06 03 45.1**	**+1.8**
	comp=Z,1.2nm,0.7s,mb3.9						
DUG	**Dugway**	**79.65**	**49**	*e*P	**P**	**06 03 48.5**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**80.16**	**45**	P	**P**	**06 03 51.5**	**+1.5**
	comp=Z,0.3nm,0.7s,mb3.3,baz=296,slow=3.9,SNR=3.5						
BR131	**Keskin Array S**	**81.72**	**312**	*e*P	**P**	**06 03 59.1**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**81.72**	**312**	P	**P**	**06 03 59.1**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=109,slow=4.4,SNR=9.7						
SAML	**Samuel**	**146.64**	**49**	*e*PKPbc	PKPbc	06 11 22.6	+1.1
LPAZ	**La Paz**	**148.17**	**66**	*e*PKPbc	PKPbc	06 11 27.7	+2.0
	comp=Z,2.3nm,0.7s,baz=357,slow=7.8,SNR=12						
LPAZ	**La Paz**	**148.17**	**66**	*e*PKPbc	PKPbc	06 11 27.8	+2.1

*KRSC **21** 05:55:57,49.10N×155.82E,h13km,ML4.5*
*ISCJB **21** 05:55:59.0±1.2,493N±01×1550E±0.1,h83km±10km, mb4.0/17, Error ellipse: s-maj=21.5km s-min=9.4km az=103.8*
*MOS **21** 05:55:58.7±1.0,4934N×15490E,h80km,mb4.2/8, Error ellipse: s-maj=28.8km s-min=10.6km az=63.8*
*IDC **21** 05:56:04.1±4.6,4920N×15476E,h118km±44km,mb3.5/7, mb1 3.8/8,mb1mx3.5/21,mbtmp3.9/8, Error ellipse: s-maj=33.5km s-min=17.6km az=140.0*
*NEIC **21** 05:56:04.6±8.2,4921N×15481E,h123km±74km,mb4.1/11, Error ellipse: s-maj=20.2km s-min=9.6km az=162.0*
ISC 21 05:56:00.6±1.1,493N±01×1549E±01,h81km±9km,n44, σ0$89/50,mb4.0/17,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.57**	**29**	*e*PN	**Pn**	**05 56 21.3**	**-5.6**
SKR				*e*S	**Sn**	**05 56 41.3**	**-5.5**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				smax			
	comp=N,1μm,0.2s						
SKR				smax			
	comp=E,540nm,0.5s						
ALID	**Alaid**	**1.61**	**14**	*e*P	**Pn**	**05 56 26.9**	**-0.5**
ALID				*i* S	**Sn**	**05 56 48.7**	**+1.1**
MIPR	**Malaya Ipel'ka**	**3.19**	**21**	P	**Pn**	**05 56 48.0**	**-0.5**
GRL	**Gorelyy**	**3.81**	**30**	*e*P	**Pn**	**05 56 57.1**	**+0.2**
GRL				*i* S	**Sn**	**05 57 40.2**	**-0.3**
RUS	**Russkaya**	**3.86**	**35**	*e*P	**Pn**	**05 56 55.9**	**-1.8**
RUS				*i* S	**Sn**	**05 57 37.9**	**-4.0**
PET	**Petropavlovsk**	**4.39**	**31**	*e*P	**Pn**	**05 57 05.9**	**+1.0**
PET	**Petropavlovsk**	**4.39**	**31**	PN	**Pn**	**05 57 04.9**	**0.0**
PET				S	**Sn**	**05 57 54.2**	**-0.6**
PET	**Petropavlovsk**	**4.39**	**31**	*e*P	**Pn**	**05 57 04.9**	**0.0**
PET				*i* S	**Sn**	**05 57 54.2**	**-0.6**
AVH	**Avacha**	**4.62**	**30**	*e*P	**Pn**	**05 57 09.2**	**+1.2**
GNL	**Ganaly**	**4.78**	**22**	*e*P	**Pn**	**05 57 11.6**	**+1.5**
SPN	**Mys Shipunski**	**4.96**	**38**	*e*P	**Pn**	**05 57 10.8**	**-1.8**

comp=Z,1.7nm,0.9s,mb4.1,baz=299,slow=10,SNR=3.0
HLID Hailey 59.09 58 *e*P **P 06 05 53.2 +0.8**
comp=Z,0.9nm,0.8s,mb3.9
NVAR Mina Array Bea 60.20 65 P **P 06 06 00.7 +0.6**
comp=Z,1.2nm,0.8s,mb4.0,baz=301,slow=6.3,SNR=4.6
HWUT Hardware Ranch 61.96 58 *e*P **P 06 06 12.6 +0.7**
comp=Z,1.5nm,0.6s,mb4.2
DUG Dugway 62.21 60 *e*P **P 06 06 13.6 0.0**
DUG pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
DUG Dugway 62.21 60 *e*P **P 06 06 13.6 0.0**
comp=Z,10nm,1.8s,mb4.5
BW06 Boulder Array 62.28 56 *e*P **P 06 06 14.5 +0.4**
comp=Z,3.0nm,0.9s,mb4.3
PDAR Pinedale Array 62.28 56 P **P 06 06 14.6 +0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=330,slow=2.4,SNR=13
RSSD Black Hills 64.26 52 *e*P **P 06 06 27.1 -0.1**
RSSD pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
RSSD Black Hills 64.26 52 *e*P **P 06 06 27.1 -0.1**
comp=Z,1.2nm,0.5s,mb4.0
ISCO Idaho Springs 66.48 56 *e*P **P 06 06 41.9 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
ISCO Idaho Springs 66.48 56 *e*P **P 06 06 41.9 +0.5**
comp=Z,3.1nm,1.1s,mb4.0
WRA Warramunga Arr 71.34 200 P **P 06 07 09.4 -2.2**
comp=Z,0.3nm,0.6s,mb3.3,baz=15,slow=6.0,SNR=4.6
WRA Warramunga Arr 71.34 200 *e*P **P 06 07 10.6 -1.0**
WMOK Wichita Mounta 73.88 55 *e*P **P 06 07 22.9 -3.8**
WMOK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
WMOK Wichita Mounta 73.88 55 *e*P **P 06 07 22.9 -3.8**
comp=Z,2.2nm,0.8s,mb3.9
ASAR Alice Springs 75.03 200 P **P 06 07 32.2 -1.1**
comp=Z,0.4nm,0.6s,mb3.3,baz=10,slow=5.4,SNR=5.1
CPUP Villa Florida 146.13 59 PKPbc PKPbc 06 15 29.6 -1.8
comp=Z,0.2nm,0.3s,baz=18,slow=5.1,SNR=3.7

TIF ***21*** *06:09:03.1,41.31N×4390E,h15km±2km*
ISCJB ***21*** *06:09:05.7±1.0,4132N±003×4393E±007,h21km±8km, Error ellipse: s-maj=8.9km s-min=5.4km az=141.5*
MOS ***21*** *06:09:05.6±1.3,4138N×45.10E,h53km, mb3.9/1, Error ellipse: s-maj=34.4km s-min=8.9km az=104.3*
ISC 21 06:09:04.2±1.2,4131N±003×4387E±007,h9km±5km,n16, σ0♀74/30,2C,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZR	**Kazreti**	**0.42**	**81**	P	**Pg**	**06 09 12.0**	**-0.3**
KZR				S	**Sg**	**06 09 17.6**	**-0.3**
GOR	**Gori**	**0.70**	**15**	P	**Pg**	**06 09 17.1**	**-0.5**
GOR				S	**Sg**	**06 09 27.2**	**+0.5**
TBLG	**Delisi**	**0.78**	**57**	P	**Pg**	**06 09 18.7**	**-0.5**
TBLG				S	**Sg**	**06 09 29.5**	**+0.2**
MTA	**Mtatsminda**	**0.79**	**61**	P	**Pg**	**06 09 19.3**	**-0.1**
MTA				S	**Sg**	**06 09 29.2**	**-0.6**
DUS	**Dusheti**	**1.00**	**39**	P	**Pg**	**06 09 23.7**	**+0.4**
DUS				S	**Sg**	**06 09 37.9**	**+1.6**
DGRG	**David-gareji**	**1.14**	**83**	P	**Pb**	**06 09 25.2**	**-0.9**
DGRG				S	**Sb**	**06 09 41.8**	**+0.7**
ONI	**Oni**	**1.30**	**346**	P	**Pn**	**06 09 28.2**	**-0.4**
ONI				S	**Sb**	**06 09 45.8**	**+0.2**
GNI	**Garni**	**1.34**	**150**	⇑*i*P	**Pn**	**06 09 29.3**	**+0.2**
GNI				*e*S	**Sb**	**06 09 47.7**	**+1.0**
ZEI	**Tsey**	**1.46**	**1**	⇑*i*P	**Pn**	**06 09 31.2**	**+0.5**
ZEI				*i* S	**Sn**	**06 09 51.5**	**+1.6**
LACR	**Lac**	**1.54**	**12**	*e*P	**Pn**	**06 09 31.5**	**-0.4**
LACR				*i* S	**Sn**	**06 09 52.0**	**-0.1**
KORR	**Kora**	**1.78**	**5**	*e*P	**Pn**	**06 09 35.1**	**0.0**
KORR				*e*S	**Sn**	**06 09 58.2**	**+0.4**
SNJR	**Sundja**	**1.89**	**22**	*e*P	**Pn**	**06 09 35.5**	**-1.1**
SNJR				*e*S	**Sn**	**06 09 58.9**	**-1.7**
ARNR	**Ardon**	**1.90**	**9**	*e*P	**Pn**	**06 09 36.4**	**-0.4**
ARNR				*e*S	**Sn**	**06 10 00.6**	**-0.2**
KIV	**Kislovodsk**	**2.78**	**342**	*e*P	**Pn**	**06 09 54.4**	**+5.5**
KIV				*e*S	**Sn**	**06 10 31.8**	**+9.2**
OBN	**Obninsk**	**14.63**	**343**	*e*P	**Pn**	**06 12 35.4**	**+4.1**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BRVK	**Borovoye**	**21.32**	**48**	*e*P	**P**	**06 13 41.5**	**-10**

IDC ***21*** *06:54:05.9±1.1,555N×12579E,h0km,mb3.8/6,mb1 3.9/6, mb1mx3.7/17,mbtmp3.8/6, Error ellipse: s-maj=71.5km s-min=18.7km az=75.0*
ISCJB ***21*** *06:54:12.2±5.0,56N±0.1×1258E±0.4,h68km±55km, mb3.7/6, Error ellipse: s-maj=72.4km s-min=18.9km az=152.9*
ISC 21 06:54:13.6±3.2,56N±01×1258E±04,h59km±38km,n7, σ0♀96/7,mb3.7/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**13.02**	**338**	*e*P	**Pn**	**06 57 15.4**	**-0.2**
JOW	**Kunigami**	**21.29**	**6**	P	**P**	**06 58 55.7**	**+0.6**
	4.3nm,0.7s,mb3.9,baz=148,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**23.51**	**180**	P	**P**	**06 59 19.4**	**+1.3**
	2.1nm,0.6s,mb3.7,baz=332,slow=7.0,SNR=14						
WRA	**Warramunga Arr**	**26.68**	**162**	P	**P**	**06 59 46.1**	**-0.9**
	0.2nm,0.4s,mb3.0,baz=341,slow=9.7,SNR=5.2						
ASAR	**Alice Springs**	**30.09**	**165**	P	**P**	**07 00 17.4**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=348,slow=7.3,SNR=3.8						
STKA	**Stephens Creek**	**40.14**	**159**	P	**P**	**07 01 43.2**	**-0.4**
	0.9nm,0.3s,mb4.0,baz=341,slow=16,SNR=2.7						
MKAR	**Makanchi Array**	**55.56**	**325**	P	**P**	**07 03 42.4**	**-0.4**
	1.9nm,0.5s,mb4.4,baz=114,slow=8.1,SNR=12						

ISCJB ***21*** *06:57:32.4±0.2,4456N±001×682E±002,h11km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=109.3*
NEIC ***21*** *06:57:32.9,4460N×689E,h2km,ML2.4(STR), ML2.7(LDG),After LDG.*
LDG ***21*** *06:57:32.9±0.1,4460N×689E,h2km,Md2.7/3,Ml2.7/9, Error ellipse: s-maj=2.7km s-min=1.7km az=58.0*
ROM ***21*** *06:57:32.4±0.3,4453N×680E,h10km,Md2.4/5,Ml1.7/2, Error ellipse: s-maj=4.5km s-min=1.6km az=123.0*
GEN ***21*** *06:57:32.3,4453N×677E,h0km,ML2.0*
STR ***21*** *06:57:33.4±0.2,4457N×689E,h5km±1km,Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
CSEM ***21*** *06:57:33.2±0.1,4456N×687E,h8km,ML2.7/11, Error ellipse: s-maj=1.2km s-min=0.9km az=54.0*
ISC 21 06:57:32.9±0.2,4457N±001×684E±002,h13km±2km,n62, σ0♀80/122,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.09**	**192**	Pg	**Pg**	**06 57 34.6**	**-1.2**
SURF				Sg	**Sg**	**06 57 35.9**	**-2.0**
MBDF	**Montbardon**	**0.16**	**343**	*e*Pg	**Pg**	**06 57 36.7**	**0.0**
MBDF				*e*Sg	**Sg**	**06 57 39.5**	**+0.1**
	103nm,0.2s						
MBDF	**Montbardon**	**0.16**	**343**	*e*Pg	**Pg**	**06 57 36.7**	**0.0**
MBDF				*e*Sg	**Sg**	**06 57 39.5**	**+0.1**
	52nm,0.2s						
PZZ	**Prazzo**	**0.20**	**110**	P	**Pg**	**06 57 37.7**	**+0.4**
OG22	**Abries**	**0.26**	**17**	Pg	**Pg**	**06 57 38.9**	**+0.5**
OG22				Sg	**Sg**	**06 57 43.0**	**+0.9**
DOI	**San Damiano**	**0.30**	**103**	Pg	**Pg**	**06 57 39.2**	**+0.1**
DOI				Sg	**Sg**	**06 57 44.1**	**+0.9**
	50nm,0.3s						
RRL	**Cesana Torines**	**0.35**	**354**	P	**Pg**	**06 57 40.4**	**+0.4**
STV	**Sta Anna Valdi**	**0.48**	**133**	Pg	**Pg**	**06 57 42.0**	**-0.3**
STV				Sg	**Sg**	**06 57 48.8**	**+0.1**
	114nm,0.6s						
BNI	**Bardonecchia**	**0.49**	**347**	Pg	**Pg**	**06 57 43.1**	**+0.5**
BNI				Sg	**Sg**	**06 57 50.5**	**+1.3**
	54nm,1.3s						
BNI	**Bardonecchia**	**0.49**	**347**	Pg	**Pg**	**06 57 43.1**	**+0.5**
BNI				Pg	**Pg**	**06 57 43.2**	**+0.6**
BNI				*e*Sg	**Sg**	**06 57 50.3**	**+1.1**
BNI				Sg	**Sg**	**06 57 50.5**	**+1.3**
ENR	**Entracque**	**0.54**	**129**	P	**Pg**	**06 57 43.2**	**-0.3**
OG25	**Le Caire**	**0.58**	**250**	Pg	**Pg**	**06 57 44.0**	**-0.3**
TOUF	**Mont Tournerai**	**0.63**	**152**	Pg	**Pg**	**06 57 45.1**	**-0.1**
TOUF				Sg	**Sg**	**06 57 53.8**	**+0.3**
RSP	**Reno Superiore**	**0.65**	**27**	Pg	**Pg**	**06 57 46.1**	**+0.5**
RSP				Sg	**Sg**	**06 57 56.4**	**+2.2**
MVIF	**Mont Vial**	**0.71**	**161**	Pg	**Pg**	**06 57 46.4**	**-0.3**
MVIF				Sg	**Sg**	**06 57 56.7**	**+0.6**
AUTN	**L'Aution**	**0.71**	**144**	Pg	**Pg**	**06 57 46.5**	**-0.3**
AUTN				Sg	**Sg**	**06 57 56.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.77**	**297**	*e*Pg	**Pg**	**06 57 47.1**	**-0.7**
ORIF				*e*Sg	**Sg**	**06 57 57.3**	**-0.5**
	23nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.77**	**297**	*e*Pg	**Pg**	**06 57 47.1**	**-0.7**
ORIF				*e*Sg	**Sg**	**06 57 57.3**	**-0.5**
	12nm,0.2s						
LUCF	**Luceram**	**0.77**	**152**	Pg	**Pg**	**06 57 47.8**	**-0.1**
LUCF				Sg	**Sg**	**06 57 58.2**	**+0.2**
SAOF	**Saorge**	**0.78**	**138**	Pg	**Pg**	**06 57 47.8**	**-0.2**
SAOF				Sg	**Sg**	**06 57 58.0**	**-0.3**
ROB	**Roburent**	**0.79**	**110**	P	**Pg**	**06 57 48.2**	**0.0**
ROB				S	**Sg**	**06 57 59.0**	**+0.4**
GDM	**Grand'Maison**	**0.81**	**321**	Pg	**Pg**	**06 57 49.6**	**+0.9**
MONE	**Monesi**	**0.82**	**127**	P	**Pg**	**06 57 48.5**	**-0.3**
MONE				S	**Sg**	**06 57 59.5**	**-0.1**
SBF	**Sospel**	**0.83**	**149**	*e*Pg	**Pg**	**06 57 48.9**	**0.0**
SBF				*e*Sg	**Sg**	**06 57 58.9**	**-0.9**
	62nm,0.3s						
SBF	**Sospel**	**0.83**	**149**	*e*Pg	**Pg**	**06 57 48.9**	**0.0**
SBF				*e*Sg	**Sg**	**06 57 58.9**	**-0.9**
	31nm,0.3s						
STOF	**St-Etienne Org**	**0.88**	**230**	Pg	**Pg**	**06 57 52.9**	**+3.0**
STOF				Sg	**Sg**	**06 58 07.0**	**+5.5**
LSD	**Ceresole Reale**	**0.91**	**14**	P	**Pg**	**06 57 51.0**	**+0.4**
REVF	**Revere**	**0.92**	**155**	Pg	**Pg**	**06 57 51.1**	**+0.5**
LPG	**La Plagne**	**0.93**	**356**	*e*Pn	**Pn**	**06 57 51.6**	**0.0**
LPG				*e*Sg	**Sg**	**06 58 01.6**	**-1.3**
	8.3nm,0.2s						
LPG	**La Plagne**	**0.93**	**356**	*e*Pg	**Pg**	**06 57 49.4**	**-1.4**
LPG				*e*Pn	**Pn**	**06 57 51.6**	**0.0**
LPG				*e*Sg	**Sg**	**06 58 01.6**	**-1.3**
LPG	**La Plagne**	**0.93**	**356**	*e*Pn	**Pn**	**06 57 51.6**	**0.0**
LPG				*e*Sg	**Sg**	**06 58 01.6**	**-1.3**
	4.2nm,0.2s						
LPL	**La Plagne**	**0.95**	**355**	*e*Pn	**Pn**	**06 57 50.8**	**-1.1**
LPL				*e*Sg	**Sg**	**06 58 01.3**	**-2.3**
	12nm,0.3s						
LPL	**La Plagne**	**0.95**	**355**	*e*Pg	**Pg**	**06 57 48.6**	**-2.6**
LPL				*e*Pn	**Pn**	**06 57 50.8**	**-1.1**
LPL				*e*Sg	**Sg**	**06 58 01.3**	**-2.3**
LPL	**La Plagne**	**0.95**	**355**	*e*Pn	**Pn**	**06 57 50.8**	**-1.1**
LPL				*e*Sg	**Sg**	**06 58 01.3**	**-2.3**
	6.2nm,0.3s						
NEGI	**Negi**	**0.95**	**139**	P	**Pb**	**06 57 50.8**	**-0.5**
FRF	**La Foret Royal**	**1.02**	**188**	*e*Pn	**Pn**	**06 57 52.9**	**0.0**
FRF				*e*Sn	**Sn**	**06 58 07.3**	**+0.2**
	40nm,0.2s						
FRF	**La Foret Royal**	**1.02**	**188**	*e*Pg	**Pg**	**06 57 51.8**	**-0.8**
FRF				*e*Pn	**Pn**	**06 57 52.9**	**0.0**
FRF				*e*Sn	**Sn**	**06 58 07.3**	**+0.2**
FRF	**La Foret Royal**	**1.02**	**188**	*e*Pn	**Pn**	**06 57 52.9**	**0.0**
FRF				*e*Sn	**Sn**	**06 58 07.3**	**+0.2**
	20nm,0.2s						
GRN	**Grenoble**	**1.03**	**311**	Pg	**Pg**	**06 57 52.8**	**+0.1**
FIN	**Finale Ligure**	**1.05**	**110**	Pg	**Pg**	**06 57 52.8**	**-0.3**
FIN				Sg	**Sg**	**06 58 06.6**	**-0.1**
	18nm,0.2s						
VILF	**Villemus**	**1.08**	**229**	Pg	**Pg**	**06 57 54.7**	**+0.9**
SMRF	**Simiane la Rot**	**1.09**	**237**	*e*Pg	**Pg**	**06 57 55.3**	**+1.5**
SMRF				*e*Sg	**Sg**	**06 58 08.7**	**+0.7**
	52nm,0.3s						
SMRF	**Simiane la Rot**	**1.09**	**237**	*e*Pn	**Pn**	**06 57 54.0**	**+0.2**
SMRF				*e*Pg	**Pg**	**06 57 55.3**	**+1.5**
SMRF				*e*Sg	**Sg**	**06 58 08.7**	**+0.7**
SMRF	**Simiane la Rot**	**1.09**	**237**	*e*Pg	**Pg**	**06 57 55.3**	**+1.5**
SMRF				*e*Sg	**Sg**	**06 58 08.7**	**+0.7**
	26nm,0.3s						
TAVF	**Tavernes**	**1.11**	**211**	Pg	**Pg**	**06 57 54.5**	**+0.2**
TAVF				Sg	**Sg**	**06 58 10.9**	**+2.2**
PCP	**Pian Castagno**	**1.22**	**91**	P	**Pn**	**06 57 56.0**	**+0.4**
LMR	**La Mourre**	**1.26**	**191**	*e*Pg	**Pg**	**06 57 56.6**	**-0.6**
LMR				*e*Sg	**Sg**	**06 58 13.7**	**+0.1**
	32nm,0.2s						
LMR	**La Mourre**	**1.26**	**191**	*e*Pn	**Pn**	**06 57 55.8**	**-0.4**
LMR				*e*Pg	**Pg**	**06 57 56.6**	**-0.6**
LMR				*e*Sg	**Sg**	**06 58 13.7**	**+0.1**
LMR	**La Mourre**	**1.26**	**191**	*e*Pg	**Pg**	**06 57 56.6**	**-0.6**
LMR				*e*Sg	**Sg**	**06 58 13.7**	**+0.1**
	16nm,0.2s						
PUYF	**Puyloubier**	**1.32**	**219**	Pg	**Pg**	**06 57 58.3**	**-0.1**
ORX	**Oropa**	**1.33**	**37**	P	**Pn**	**06 57 57.7**	**+0.5**
PRAF	**Pradon**	**1.43**	**238**	Pg	**Pg**	**06 58 00.1**	**-0.2**
VIVF	**Saint-Julien-l**	**1.57**	**281**	*e*Pg	**Pg**	**06 58 03.0**	**-0.1**
VIVF				*e*Sn	**Sn**	**06 58 20.9**	**+0.3**
VIVF				*e*Sg	**Sg**	**06 58 24.0**	**+0.5**
	14nm,0.4s						
VIVF	**Saint-Julien-l**	**1.57**	**281**	*e*Pn	**Pn**	**06 58 01.2**	**+0.7**
VIVF				*e*Pg	**Pg**	**06 58 03.0**	**-0.1**
VIVF				*e*Sn	**Sn**	**06 58 20.9**	**+0.3**
VIVF				*e*Sg	**Sg**	**06 58 24.0**	**+0.5**
VIVF	**Saint-Julien-l**	**1.57**	**281**	*e*Pg	**Pg**	**06 58 03.0**	**-0.1**
VIVF				*e*Sn	**Sn**	**06 58 20.9**	**+0.3**
VIVF				*e*Sg	**Sg**	**06 58 24.0**	**+0.5**
	6.8nm,0.4s						
LASF	**Ste Croix**	**2.20**	**258**	*e*Pg	**Pg**	**06 58 14.7**	**-0.3**
LASF				*e*Sn	**Sn**	**06 58 36.2**	**+0.1**
	3.9nm,0.2s						
LASF	**Ste Croix**	**2.20**	**258**	*e*Pn	**Pn**	**06 58 09.3**	**+0.2**
LASF				*e*Pg	**Pg**	**06 58 14.7**	**-0.3**
LASF				*e*Sn	**Sn**	**06 58 36.2**	**+0.1**
LASF	**Ste Croix**	**2.20**	**258**	*e*Pg	**Pg**	**06 58 14.7**	**-0.3**
LASF				*e*Sn	**Sn**	**06 58 36.2**	**+0.1**
	2.0nm,0.2s						
PGF	**Pioggiola**	**2.56**	**141**	*e*Pn	**Pn**	**06 58 14.6**	**+0.5**
PGF				*e*Sn	**Sn**	**06 58 44.3**	**-0.8**
	7.3nm,0.2s						
PGF	**Pioggiola**	**2.56**	**141**	*e*Pn	**Pn**	**06 58 14.6**	**+0.5**
PGF				*e*Sn	**Sn**	**06 58 44.3**	**-0.8**
	3.7nm,0.2s						
MTLF	**Montolieu**	**3.56**	**251**	*e*Pg	**Pg**	**06 58 39.6**	**-1.4**
MTLF				*e*Sn	**Sn**	**06 59 08.7**	**-1.0**
	2.2nm,0.3s						
MTLF	**Montolieu**	**3.56**	**251**	*e*Pg	**Pg**	**06 58 39.6**	**-1.4**
MTLF				*e*Sn	**Sn**	**06 59 08.7**	**-1.0**
	1.1nm,0.3s						

IDC ***21*** *07:16:23.0±0.7,2092S×17348E,h0km,mb4.6/14, mb1 4.8/18,mb1mx4.8/20,mbtmp4.7/18,ML3.9/4,MS4.5/21, Ms1 4.5/21,ms1mx4.4/22,Error ellipse: s-maj=17.7km s-min=14.8km az=81.0*
ISCJB ***21*** *07:16:25.5±0.2,2103S±005×17338E±005,h25km, mb4.9/50,MS4.6/35,Error ellipse: s-maj=7.8km s-min=5.8km az=126.5*
SZGRF ***21*** *07:16:25.3,2140S×17207E,h10km,Southeast of Loyalty Islands*
NEIC ***21*** *07:16:27.5±0.2,2095S×17345E,mb5.0/25,Error ellipse: s-maj=9.0km s-min=6.1km az=146.0*
GCMT ***21*** *07:16:27.5±0.1,2091S×17341E,h18km,MW5.3/92, Moment Tensor Solution. s80,c126; s92,c161; Duration: 1♀1 Moment tensor: Scale 10¹⁷Nm; Mrr-0.02±.02; Mθθ-0.43±.02; Mϕϕ0.44±.02; Mrθ0.19±.04; Mθϕ-1.04±.02; Mϕr0.06±.04; Best double couple: M₀1.14600×10¹⁷ NP1:♀s191.00000°,δ81.00000°, λ-5.00000°. NP2:♀s282.00000°,δ85.00000°, λ-171.00000°. Principal axes: T 1.1400, Plg3.0000°, Azm56.0000°; N 0.0110, Plg80.0000°, Azm310.0000°; P -1.1520, Plg10.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***21*** *07:16:28.0±1.7,2091S×17332E,h33km,mb5.1/26, MS4.5/7 Error ellipse: s-maj=11.6km s-min=11.5km az=168.9*
BJI ***21*** *07:16:32.5,2010S×17264E,h26km,mB5.2,mb4.9,Ms5.1, Msz4.6*
ISC 21 07:16:27.4±0.2,2097S±005×17344E±004,h26km, h26km±1.5km:pP-P,n190,σ1♀08/114,mb4.9/50,MS4.6/35, 9C-14D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.60**	**259**	*e*P	**Pn**	**07 18 01.8**	**-0.9**
DZM	**Mont Dzumac**	**6.60**	**259**	Pn	**Pn**	**07 18 02.8**	**0.0**
	3.2nm,0.3s,baz=84,slow=17,SNR=32						
DZM				Sn	**Sn**	**07 19 16.3**	**-0.9**
	baz=349,slow=16,SNR=1.0						
RAO	**Raoul Island**	**11.37**	**138**	LR	LR	07 22 38.3	

---

comp=Z,4μm,19.6s,baz=331,slow=33
AFI Afiamalu 15.75 66 Pn **Pn 07 20 05.0 -2.4**
1.0nm,0.3s,baz=225,slow=10.0,SNR=4.2
AFI Afiamalu 15.75 66 P **Pn 07 20 05.0 -2.4**
AFI pmax pmax
comp=Z,1.0nm,0.3s
AFI Afiamalu 15.75 66 *e*Pn **Pn 07 20 05.6 -1.9**
HNR Honiara 17.33 309 P **Pn 07 20 27.8 +0.3**
comp=Z,8.4nm,0.3s,baz=146,slow=0.9,SNR=4.2
HNR LR LR 07 26 16.3
comp=Z,898nm,18.8s,baz=177,slow=34
HNR Honiara 17.33 309 *e*P **Pn 07 20 27.1 -0.4**
HNR pmax pmax
comp=Z,542nm,1.6s
HNR Honiara 17.33 309 *e*Pn **Pn 07 20 27.1 -0.4**
comp=Z,542nm,1.6s
URZ Urewera 17.52 170 P **Pn 07 20 30.8 +0.9**
comp=Z,0.7nm,0.3s,baz=14,slow=7.3,SNR=12
URZ S **Sn 07 23 47.2 +3.0**
comp=Z,0.2nm,0.3s,baz=322,slow=18,SNR=2.1
URZ LR LR 07 25 38.0
comp=Z,2μm,19.6s,baz=23,slow=32
SNZO South Karori 20.31 177 *e*P **P 07 21 01.3 0.0**
comp=Z,48nm,0.8s
ARMA Armidale 21.76 240 *e*P **P 07 21 18.5 +1.5**
RPZ Rata Peaks 22.77 184 P **P 07 21 27.5 -0.3**
comp=Z,18nm,0.9s,mb4.5,baz=210,slow=20,SNR=2.9
RPZ LR LR 07 29 10.8
comp=Z,1μm,20.4s,MS4.2,baz=358,slow=34
RAR Rarotonga 24.99 95 LR LR 07 28 47.9
comp=Z,822nm,18.7s,MS4.3,baz=266,slow=30
CTA Charters Tower 25.46 267 *e*P **P 07 21 54.5 +1.2**
comp=Z,24nm,0.9s,mb4.7
CTA Charters Tower 25.46 267 P **P 07 21 54.6 +1.4**
comp=Z,21nm,1.0s,mb4.6,baz=106,slow=12,SNR=10
CTA LR LR 07 30 22.8
comp=Z,2μm,21.4s,MS4.5,baz=92,slow=33
CTA Charters Tower 25.46 267 P **P 07 21 54.6 +1.3**
CTA pmax pmax
comp=Z,21nm,1.0s
CTA MLR MLR
comp=Z,2μm,21.4s
CTAO Charters Tower 25.46 267 *e*P **P 07 21 54.5 +1.2**
CTAO pmax pmax
comp=Z,42nm,0.9s,mb5.0
CTAO Charters Tower 25.46 267 *e*P **P 07 21 54.5 +1.3**
comp=Z,42nm,0.9s,mb5.0
PMG Port Moresby 27.79 290 LR LR 07 31 44.6
comp=Z,878nm,18.0s,MS4.4,baz=28,slow=33
STKA Stephens Creek 30.41 242 *e*P **P 07 22 36.9 -0.6**
comp=Z,24nm,1.0s,mb4.9
STKA Stephens Creek 30.41 242 P **P 07 22 37.3 -0.2**
comp=Z,20nm,0.9s,mb4.8,baz=85,slow=8.7,SNR=15
STKA LR LR 07 33 42.1
comp=Z,804nm,19.9s,MS4.4,baz=56,slow=34
STKA Stephens Creek 30.41 242 *e*P **P 07 22 37.0 -0.5**
STKA epP pP 07 22 44.8 -0.4
TBI Tubuai 34.38 101 *e*S **S 07 28 44.2 +5.7**
comp=Z,552nm,28.5s
TBI *e*LQ 07 30 46.1
comp=Z,3μm,29.0s
TBI *e*LR LR 07 32 22.2
comp=Z,410nm,27.2s
PPT Papeete 35.03 91 *e*S **S 07 28 54.4 +5.9**
comp=Z,208nm,25.0s
PPT *e*LQ 07 30 58.7
comp=Z,4μm,30.2s
PPT *e*LR LR 07 32 46.9
comp=Z,1μm,27.5s
PPT Papeete 35.03 91 LR LR 07 33 50.3
comp=Z,472nm,18.6s,MS4.3,baz=83,slow=30
WB2 Warramunga Arr 36.58 264 *e*P **P 07 23 30.3 -0.8**
WRAB Tennant Creek 36.58 265 *e*P **P 07 23 30.2 -1.0**
WRA Warramunga Arr 36.59 264 P **P 07 23 30.2 -1.1**
comp=Z,10.0nm,0.9s,mb4.6,baz=96,slow=8.6,SNR=14
WRA LR LR 07 38 02.5
comp=Z,2μm,20.0s,MS4.8,baz=110,slow=36
WRA Warramunga Arr 36.59 264 P **P 07 23 30.2 -1.0**
WRA pmax pmax
comp=Z,10.0nm,1.0s
WRA MLR MLR
comp=Z,2μm,20.0s
AS31 Alice Springs 36.59 258 *e*P **P 07 23 31.1 -0.2**
AS31 *e* 07 23 41.7
ASAR Alice Springs 36.59 258 P **P 07 23 31.1 -0.2**
comp=Z,19nm,0.7s,mb5.0,baz=85,slow=8.9,SNR=43
ASAR LR LR 07 37 48.8
comp=Z,1μm,20.1s,MS4.7,baz=103,slow=35
ASAR Alice Springs 36.59 258 P **P 07 23 31.1 -0.2**
ASAR pmax pmax
comp=Z,19nm,0.7s
ASAR MLR MLR
comp=Z,1μm,20.1s
GUMO Guam 44.35 318 LR LR 07 39 52.8
comp=Z,452nm,20.8s,MS4.4,baz=127,slow=32
FITZ Fitzroy Crossi 45.01 265 P **P 07 24 41.2 +0.6**
comp=Z,27nm,0.7s,mb5.2,baz=112,slow=6.6,SNR=6.5
FITZ LR LR 07 43 16.1
comp=Z,1μm,18.8s,MS4.8,baz=138,slow=36
TAOE Nuku Hiva Isla 46.28 82 *e*S **S 07 31 42.3 +6.3**
comp=Z,3μm,27.1s
TAOE *e*LR LR 07 37 56.2
comp=Z,3μm,26.7s
RKT Rikitea 47.67 103 *e*S **S 07 32 01.1 +5.3**
comp=Z,147nm,29.5s
RKT *e*LR LR 07 38 29.1
comp=Z,429nm,27.5s
MBWA Marble Bar 49.91 260 *e*P **P 07 25 18.9 +0.1**
comp=Z,45nm,0.8s,mb5.5
MBWA *e* 07 25 29.9
NWAO Narrogin (SRO) 50.98 244 P **P 07 25 26.5 -0.3**
comp=Z,40nm,0.9s,mb5.3,baz=74,slow=10,SNR=7.4
NWAO LR LR 07 47 07.7
comp=Z,744nm,18.1s,MS4.8,baz=98,slow=36
NWAO Narrogin (SRO) 50.98 244 *e*P **P 07 25 27.0 +0.2**
NWAO pmax pmax
comp=Z,58nm,1.1s
NWAO Narrogin (SRO) 50.98 244 *e*P **P 07 25 27.0 +0.2**
comp=Z,58nm,1.1s,mb5.4
VNDA Vanda 56.88 183 P **P 07 26 09.2 -0.7**
comp=Z,3.8nm,1.1s,mb4.3,baz=0.1,slow=7.8,SNR=7.8
VNDA LR LR 07 46 18.7
comp=Z,211nm,18.5s,MS4.3,baz=12,slow=32
SBA Scott Base 57.02 182 *e*P **P 07 26 11.2 +0.2**
SBA pmax pmax
comp=Z,17nm,0.8s,mb5.1
SBA Scott Base 57.02 182 *e*P **P 07 26 11.2 +0.2**
comp=Z,17nm,0.8s,mb5.1
CASY Casey 60.16 205 *e*P **P 07 26 31.8 -1.0**
comp=Z,15nm,0.8s,mb5.1
CASY *e* pP 07 26 39.2 -1.8
JOW Kunigami 64.59 315 LR LR 07 50 53.4
comp=Z,411nm,22.0s,MS4.6,baz=126,slow=32
MJAR Matsushiro Arr 66.17 329 P **P 07 27 12.7 0.0**
comp=Z,1.1nm,0.3s,mb4.3,baz=165,slow=7.8,SNR=4.8
MJAR LR LR 07 52 39.8
comp=Z,213nm,21.7s,MS4.3,baz=155,slow=33
MAT Matsushiro 66.18 329 P **P 07 27 10.6 -2.1**
MAT S S 07 36 02.0 +2.1
MIR Mirnyy 67.16 205 ⇓*i*P **P 07 27 22.5 +3.5**
MIR *i* 07 27 56.0
MIR pmax pmax
comp=Z,190nm,1.5s,mb5.9
QSPA South Pole Qui 69.10 180 *e*P **P 07 27 30.2 -1.0**
comp=Z,25nm,1.0s,mb5.1
**SSE Sheshan 72.06

QIZ S S 07 37 33.3 +3.4
QIZ AMB AMB
comp=Z,22nm,1.8s,mb4.8
QIZ LR LR
comp=N,220nm,27.5s
QIZ LR LR
comp=Z,200nm,38.9s
NJ2 Nanjing 74.21 314 *e*P **P 07 28 02.1 +0.2**
NJ2 AP pP 07 28 12.5 +2.3
NJ2 XP sP 07 28 16.4 +3.1
NJ2 PP PP 07 30 49.6 +1.9
NJ2 S S 07 37 36.0 +2.2
NJ2 AMB AMB
comp=Z,40nm,0.5s,mb5.6
NJ2 AMB AMB
comp=Z,150nm,6.5s
NJ2 LR LR
comp=N,510nm,22.4s,MS4.9
NJ2 LR LR
comp=E,420nm,22.8s,MS4.9
NJ2 LR LR
comp=Z,540nm,32.2s
WHN Wuhan 76.45 310 *e*P **P 07 28 14.5 -0.3**
MDJ Mudanjiang 76.56 329 P **P 07 28 17.1 +1.7**
MDJ AP pP 07 28 23.6 -0.1
MDJ XP sP 07 28 26.3 -0.5
MDJ PP PP 07 31 07.9 +0.3
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
MDJ AMB AMB
comp=Z,79nm,3.7s
MDJ LR LR
comp=N,145nm,30.1s
MDJ LR LR
comp=E,137nm,35.8s
MDJ LR LR
comp=Z,226nm,34.5s,MS4.2
PSI Prapat 76.59 278 P **P 07 28 14.7 -0.9**
comp=Z,11nm,0.9s,mb4.8,baz=197,slow=4.9,SNR=5.0
PSI Prapat 76.59 278 P **P 07 28 14.7 -0.9**
PSI pmax pmax
comp=Z,11nm,0.9s,mb4.8
HABR Khabarovsk 77.17 335 P **P 07 28 16.8 -2.1**
HABR *e*S S 07 38 04.4 -2.2
CN2 Changchun 78.02 327 *e*P **P 07 28 26.8 +3.2**
CN2 *e*AP pP 07 28 31.3 -0.6
CN2 *e*XP sP 07 28 33.8 -1.2
CN2 PCP PcP 07 28 36.6 +3.4
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CN2 LR LR
comp=N,300nm,13.0s,MS4.9
CN2 LR LR
comp=E,200nm,13.0s,MS4.9
CN2 LR LR
comp=Z,400nm,25.0s
MAW Mawson 78.30 201 P **P 07 28 25.0 -0.1**
comp=Z,2.5nm,0.8s,mb4.2,baz=104,slow=5.3,SNR=5.7
MAW LR LR 08 00 06.4
comp=Z,227nm,18.2s,MS4.5,baz=270,slow=34
MAW Mawson 78.30 201 *e*P **P 07 28 24.6 -0.6**
MAW *e**PP pP 07 28 32.8 -0.7
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW Mawson 78.30 201 *e*P **P 07 28 24.6 -0.6**
comp=Z,8.4nm,1.0s,mb4.6
MAW *e*pP pP 07 28 32.8 -0.7
GYA Guiyang 80.05 303 P **P 07 28 40.3 +5.6**
GYA AP pP 07 28 45.0 +1.9
GYA XP sP 07 28 47.8 +1.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,110nm,4.2s
GYA LR LR
comp=N,340nm,18.6s,MS4.9
GYA LR LR
comp=E,380nm,19.0s,MS4.9
GYA LR LR
comp=Z,320nm,18.9s,MS4.7
BJI Beijing 80.79 319 P **P 07 28 39.8 +1.1**
BJI AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
BJI LR LR
comp=N,211nm,18.0s,MS4.7
BJI LR LR
comp=E,193nm,18.0s,MS4.7
BJI LR LR
comp=Z,425nm,26.9s
XAN Xi'an 82.20 311 P **P 07 28 48.6 +2.5**
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
MA2 Magadan 82.37 349⇑ *e*P **P 07 28 47.4 +0.3**
MA2 pmax pmax
comp=Z,33nm,1.5s,mb5.0
MA2 MLR MLR
comp=Z,100nm,20.0s,MS4.2
KMI Kunming 82.54 300 P **P 07 28 50.3 +2.4**
KMI S S 07 39 06.1 +2.9
KMI AMB AMB
comp=Z,11nm,0.5s,mb5.1
KMI LR LR
comp=Z,155nm,24.9s,MS4.3
CHTO Chiang Mai 82.95 293 *e*P **P 07 28 52.2 +2.1**
CHTO *e* pP 07 28 59.9 +1.4
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CHTO Chiang Mai 82.95 293 *e*P **P 07 28 52.1 +2.1**
comp=Z,6.3nm,0.8s,mb4.7
CHTO *e* pP 07 28 59.9 +1.4
HHC Hu-ho-hao-te 84.12 318 *e*P **P 07 28 57.9 +1.8**
HHC AP pP 07 29 06.0 +1.5
HHC XP sP 07 29 09.1 +1.6
HHC PP PP 07 32 14.0 +3.7
HHC SKS 07 39 16.3
HHC S S 07 39 20.6 +1.5
HHC XS sS 07 39 34.0 +0.9
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.4
HHC AMB AMB
comp=Z,231nm,4.5s
HHC LR LR
comp=N,184nm,4.9s
HHC LR LR
comp=E,328nm,5.1s
HHC LR LR
comp=Z,470nm,25.5s,MS4.8
SYO Syowa Base 84.34 195⇓ *e*P **P 07 28 55.6 -1.6**
CD2 Chengdu 84.42 306 *e*P **P 07 28 58.0 +0.4**
CD2 AP pP 07 29 05.9 -0.1
CD2 XP sP 07 29 09.1 0.0
CD2 PP PP 07 32 15.5 +2.7
CD2 SKS 07 39 16.4
CD2 S S 07 39 20.8 -1.4
CD2 XS sS 07 39 35.5 -0.6
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CD2 AMB AMB
comp=Z,30nm,6.2s
CD2 LR LR
comp=N,160nm,22.8s
CD2 LR LR
comp=Z,120nm,24.0s,MS4.2
SEY Seymchan 85.26 351 *i* P **P 07 29 00.4 -1.4**
CMB Columbia Colle 85.42 46 *e*P **P 07 29 02.6 0.0**
CMB *e**PP pP 07 29 11.1 +0.1
CMB pmax pmax
comp=Z,11nm,1.2s,mb4.9
CMB Columbia Colle 85.42 46 *e*P **P 07 29 02.5 -0.1**
comp=Z,10nm,1.2s,mb4.8
CMB *e*pP pP 07 29 11.1 +0.1
ISA Isabella 85.55 49 *e*P **P 07 29 04.2 +0.9**
ISA pmax pmax
comp=Z,14nm,1.2s,mb5.1
ISA Isabella 85.55 49 *e*P **P 07 29 04.2 +0.9**
comp=Z,14nm,1.2s,mb5.1
YBH Yreka Blue Hor 85.85 42 *e*P **P 07 29 05.2 +0.5**
YBH pmax pmax
comp=Z,17nm,1.3s
YBH Yreka Blue Hor 85.85 42 *e*P **P 07 29 05.2 +0.4**
comp=Z,17nm,1.3s,mb5.1
WAKR Walker 86.30 46 *e*P **P 07 29 07.4 +0.4**
LZH Lanzhou 86.83 311 *e*P **P 07 29 13.5 +4.0**
LZH AP pP 07 29 16.8 -1.2
LZH XS sS 07 39 58.5 -1.3
LZH AMB AMB
comp=Z,23nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,96nm,8.6s
LZH LR LR
comp=N,319nm,15.7s
LZH LR LR
comp=Z,495nm,18.6s,MS4.9
NVAR Mina Array Bea 87.04 47 P **P 07 29 09.8 -0.7**
comp=Z,2.2nm,1.0s,mb4.3,baz=229,slow=10,SNR=13
NVAR Mina Array Bea 87.04 47 P **P 07 29 09.8 -0.8**
MOD Modoc 87.47 43 *e*P **P 07 29 12.8 +0.1**
comp=Z,12nm,1.4s,mb4.9
MOD *e*pP pP 07 29 21.3 +0.2
PMR Palmer 87.56 17 *e*P **P 07 29 12.2 -0.9**
PMR *e* pP 07 29 20.4 -1.2
PMR pmax pmax
comp=Z,22nm,1.7s,mb5.1
PMR Palmer 87.56 17 *e*P **P 07 29 12.2 -0.9**
comp=Z,22nm,1.7s,mb5.1
PMR *e* pP 07 29 20.4 -1.2
SNAA Sanae 87.57 181 *e*P **P 07 29 10.5 -2.7**
SNAA *e* 07 29 21.9
SNAA Sanae 87.57 181 *e*P **P 07 29 11.0 -2.2**
TPH Tonopah 87.61 48 *e*P **P 07 29 13.1 -0.2**
TPH pmax pmax
comp=Z,15nm,1.3s,mb5.1
TPH Tonopah 87.61 48 *e*P **P 07 29 13.1 -0.3**
comp=Z,14nm,1.3s,mb5.0
VNA3 Neumayer Olymp 88.01 179 *e*P **P 07 29 12.4 -2.9**
VNA3 *e* 07 29 23.0
VNA3 *e* 07 29 27.4
SHPR Sheep Range 88.31 50 *e*P **P 07 29 17.3 +0.6**
BMN Battle Mountai 88.75 46 *e*P **P 07 29 19.1 +0.4**
WVOR Wild Horse Val 88.80 43 *e*P **P 07 29 19.3 +0.3**
WVOR *e* pP 07 29 29.1 +1.6
WVOR pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
WVOR Wild Horse Val 88.80 43 *e*P **P 07 29 19.3 +0.3**
comp=Z,9.7nm,1.1s,mb5.0
WVOR *e* pP 07 29 29.1 +1.6
MCK McKinley 89.38 16 *e*P **P 07 29 21.1 -0.6**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
MCK McKinley 89.38 16 *e*P **P 07 29 21.1 -0.7**
comp=Z,1.7nm,0.8s,mb4.4
HAWA Hanford 90.25 40 *e*P **P 07 29 26.0 +0.2**
COLA College 90.59 15 *e*P **P 07 29 24.6 -2.8**
COLA *e* 07 29 36.9
COLA pmax pmax
comp=Z,29nm,2.2s,mb5.2
COLA College 90.59 15 *e*P **P 07 29 24.6 -2.7**
comp=Z,29nm,2.2s,mb5.2
COLA *e* 07 29 36.9
WUAZ Wupatki 90.62 52 *e*P **P 07 29 28.2 +0.7**
comp=Z,12nm,1.3s,mb5.1
ULN Ulaanbaatar 90.62 322⇑ *e*P **P 07 29 27.3 -0.2**
BMO Blue Mountains 90.83 42 *e*P **P 07 29 28.6 +0.1**
comp=Z,4.7nm,1.1s,mb4.7
BMO *e*pP pP 07 29 37.0 +0.1
SONM Songino Array 90.99 322 P **P 07 29 30.0 +0.8**
comp=Z,2.4nm,1.0s,mb4.5,baz=134,slow=4.1,SNR=9.8
SONM LR LR 08 08 49.8
comp=Z,143nm,19.8s,MS4.4,baz=94,slow=35
SONM Songino Array 90.99 322 P **P 07 29 30.0 +0.8**
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM MLR MLR
comp=Z,143nm,19.8s
GTA Gaotai 91.19 312 *e*P **P 07 29 31.3 +1.2**
GTA SKS 07 40 03.4
GTA XS sS 07 40 38.8 -2.0
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,102nm,3.8s
GTA LR LR
comp=N,158nm,21.7s,MS4.7
GTA LR LR
comp=E,246nm,20.9s,MS4.7
GTA LR LR
comp=Z,186nm,22.1s,MS4.5
MSU Marysvale 91.33 49 *e*P **P 07 29 30.7 -0.1**
MSU *e**PP pP 07 29 39.9 +0.6
DUG Dugway 91.62 47 *e*P **P 07 29 32.5 +0.3**
DUG pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
DUG Dugway 91.62 47 *e*P **P 07 29 32.5 +0.3**
comp=Z,5.8nm,1.2s,mb4.8
DAWY Dawson 92.30 19 *e*P **P 07 29 34.3 -1.0**
MNTX Cornudas Mount 93.66 58 *e*P **P 07 29 42.2 +0.7**
ZAK Zakamensk 94.02 323 *e*P **P 07 29 42.1 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.6
DLMT Dillon 94.03 43 *e*PP PP 07 33 28.6 -0.8
ANMO Albuquerque 94.06 54 *e*P **P 07 29 43.8 +0.4**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
ANMO Albuquerque 94.06 54 *e*P **P 07 29 43.8 +0.4**
comp=Z,1.8nm,0.9s,mb4.5
LRM Limekiln Ridge 94.32 42 *e*P **P 07 29 44.9 +0.3**
LRM *e*PP PP 07 33 30.8 -1.0
IMW Indian Meadow 94.47 45 *e*P **P 07 29 45.6 +0.4**
comp=Z,12nm,1.5s,mb5.1
IMW *e*PP PP 07 33 32.3 -0.6
PLCA Paso Flores 94.60 137 LR LR 08 02 34.5
comp=Z,273nm,20.8s,MS4.7,baz=235,slow=29
PDAR Pinedale Array 94.93 46 P **P 07 29 47.1 -0.3**
comp=Z,0.3nm,0.6s,mb3.9,baz=56,slow=0.5,SNR=4.0
PDAR LR LR 08 05 32.8
comp=Z,439nm,19.2s,MS4.9,baz=233,slow=31
WMQ Urumqi 101.26 313 *e*P Pdif 07 30 15.8 0.0
WMQ AP 07 30 23.6
WMQ SKS 07 40 52.0
WMQ *e*S Sdif 07 41 50.0 -3.7
WMQ AMB AMB
comp=Z,10.0nm,0.8s
WMQ AMB AMB
comp=Z,110nm,4.5s
WMQ LR LR
comp=N,324nm,28.0s,MS5.0
WMQ LR LR
comp=E,592nm,30.8s,MS5.0
WMQ LR LR
comp=Z,201nm,25.7s
AAK Ala-Archa 110.32 309⇑ *i* PKIKP PKiKP 07 34 57.5 +0.4
ARU Arti 120.94 324 *i* PKIKP PKPdf 07 35 16.1 -1.3
ARU *e* 07 36 54.3
ARU *e* 07 42 11.7
ARU *e*SS SS 07 53 21.2 +4.6
AKTK Aktyubinsk 122.01 317 PKP PKPdf 07 35 19.9 +0.4
AKTO Aktyubinsk 122.01 317 PKP PKPdf 07 35 19.9 +0.4
comp=Z,0.8nm,0.4s,baz=63,slow=2.3,SNR=2.8
AKTO Aktyubinsk 122.01 317 PKIKP PKPdf 07 35 19.9 +0.4
AKTO pmax pmax
comp=Z,1.0nm,0.4s
OBN Obninsk 133.08 327 *i* PKIKP PKPdf 07 35 37.8 -2.8
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.6
OBN Obninsk 133.08 327 *e*PKPdf PKPdf 07 35 37.9 -2.7
KIV Kislovodsk 133.37 311 *i* PKIKP PKPdf 07 35 40.4 -0.7
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,78nm,18.0s,MS4.5
BURAR Bucovina Array 143.08 324⇓ *i* P PKPdf 07 35 53.9 -5.0
BURAR Bucovina Array 143.08 324⇓ P PKPdf 07 35 53.9 -5.1
MLR Muntele Rosu 143.83 320⇓ *i* P PKPdf 07 36 00.7 +0.5
MLR Muntele Rosu 143.83 320⇓ P PKPdf 07 36 00.7 +0.5
UZH Uzhgorod 144.02 327 *e*PKIKP PKPdf 07 36 09.0 +8.4
UZH pmax pmax
comp=Z,36nm,1.3s
BSEG Bad Segeberg 144.65 343 *e*PKPbc PKPdf 07 36 00.3 -1.4
DRGR 144.94 324⇑ *i* P PKPdf 07 36 00.7 -1.5
KECS Kecovo 145.02 328 *e*PKP PKPdf 07 36 01.5 -0.8
OKC Ostrava-Krasne 145.17 332 *e*PKP PKPdf 07 36 01.8 -0.8
OKC *ep*PKP pPKPdf 07 36 09.2 -2.1
KSP Ksiaz 145.19 334 *e*PKIKP PKPdf 07 36 01.8 -0.8
MORC Moravsky Berou 145.48 332⇓ *i* P PKPdf 07 36 03.2 +0.1
MORC Moravsky Berou 145.48 332⇓ P PKPdf 07 36 03.2 +0.1
DPC Dobruska-Polom 145.56 334 *e*PKP PKPdf 07 36 01.5 -1.7
DPC *ep*PKP pPKPdf 07 36 15.3 +3.4

UPC Upice 145.57 334 *e*PKP PKPdf 07 36 02.1 -1.1
PSZ Piszkesteto 145.69 328⇓ *i* P PKPdf 07 36 01.1 -2.4
PSZ Piszkesteto 145.69 328⇓ P PKPdf 07 36 01.1 -2.4
NRDL Niedersach Rie 145.99 342 *e*PKPbc PKPbc 07 36 04.4 -0.3
CLL Collm 146.07 338 *e*PKPbc PKPbc 07 36 04.3 -0.7
CLL Collm 146.07 338⇓ *i* PKPbc PKPbc 07 36 04.1 -0.9
comp=Z,9.0nm,0.8s
CLL *i* pPKPbc pPKPbc 07 36 11.8 -1.8
CLL *i* pPKiKP 07 36 16.3
CLL Collm 146.07 338⇓ *i* PKP PKPdf 07 36 04.1 0.0
CLL *i* 07 36 11.8
BRG Berggiesshubel 146.08 337 *e*PKPbc PKPbc 07 36 04.6 -0.4
BRG Berggiesshubel 146.08 337 *i* P PKPdf 07 36 04.7 +0.6
comp=Z,9.3nm,1.3s
BRG *i* 07 36 12.6
comp=Z,9.0nm,0.9s
PVCC Panska Ves 146.12 336 *e*PKP PKPdf 07 36 04.4 +0.2
FBE Freiberg 146.26 337 *e*PKPbc PKPbc 07 36 05.3 -0.3
CLZ Clausthal 146.48 341 *e*PKPbc PKPbc 07 36 06.0 -0.2
PRU Pruhonice 146.56 335 *e*PKP PKPdf 07 36 05.5 +0.6
TANN Tannenbergstha 147.00 337 *e*PKPbc PKPbc 07 36 07.4 -0.3
VTS Vitosha 147.03 318⇑ *i* P PKPbc 07 36 08.5 +0.7
VTS Vitosha 147.03 318⇑ P PKPbc 07 36 08.5 +0.7
WERD Werda 147.03 338 *e*PKPbc PKPbc 07 36 06.9 -0.9
GUNZ Gunzen 147.09 338 *e*PKPbc PKPbc 07 36 07.7 -0.3
MOX Moxa 147.10 339 *e*(PKP) PKPab 07 36 13.0 +3.4
NKC Novy Kostel 147.15 337 *e*PKP PKPdf 07 36 06.7 +0.8
PKSM Moragy 147.48 327⇓ *i* P PKPbc 07 36 08.8 -0.2
PKSM Moragy 147.48 327⇓ P PKPbc 07 36 08.8 -0.3
MANZ Manzenberg 147.48 337 *e*PKPbc PKPbc 07 36 08.5 -0.5
KHC Kasperske Hory 147.62 335 *e*PKP PKPbc 07 36 09.1 -0.3
BUG Bochum--Univer 147.72 344 *e*PKPbc PKPbc 07 36 10.8 +1.1
BARS Barje 147.76 319 *i* PKP PKPbc 07 36 10.2 +0.4
GEC2 GERESS Array S 147.80 335 *e*PKPbc PKPbc 07 36 09.1 -0.8
GERES GERESS Array B 147.80 335 PKPbc PKPbc 07 36 09.1 -0.8
comp=Z,3.4nm,0.8s,baz=48,slow=2.0,SNR=20
GERES GERESS Array B 147.80 335 PKP2 PKPbc 07 36 09.1 -0.8
GERES pmax pmax
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 148.04 338 *e*PKP2 PKPbc 07 36 10.1 -0.5
GRF MLR MLR
comp=Z,2µm,19.0s,MS5.9
VAY Valandovo 148.09 316 *i* PKP PKPdf 07 36 08.9 +1.5
DIVS Divcibare 148.10 322 *i* PKP PKPdf 07 36 08.8 +1.3
SKO Skopje 148.47 318 *i* PKP PKPbc 07 36 12.0 +0.4
TNS Taunus Mts 148.48 341 *e*PKPbc PKPbc 07 36 11.7 0.0
BBLS Bajina Basta - 148.58 323 *i* PKP PKPbc 07 36 12.7 +0.7
GCIS Gornji Cirnik 149.22 329 *e*PKPbc PKPbc 07 36 12.6 -1.0
OHR Ohrid 149.34 317 *i* PKP PKPbc 07 36 13.0 -0.9
KBA Koelnbreinsper 149.34 333⇑ *i* P PKPbc 07 36 13.2 -0.7
comp=Z,13nm,1.1s
BOJS Bojanci 149.66 329 *e*PKPbc PKPbc 07 36 14.1 -0.6
CEY Cerknica 149.88 330 *e*PKPbc PKPbc 07 36 14.3 -0.9
WTTA Wattenberg 149.90 335⇑ *i* P PKPdf 07 36 12.3 +1.9
comp=Z,29nm,1.4s
VOY Vojsko 149.91 331 *e*PKPbc PKPbc 07 36 14.3 -1.0
VOY *e* 07 36 26.3
VOJS Vojsko 149.91 331 *e*PKPbc PKPbc 07 36 14.0 -1.3
BFO Black Forest 150.19 340 *e*PKPbc PKPbc 07 36 15.4 -0.6
CDF Champ du Feu 150.44 341 *e*PKP1 PKPdf 07 36 12.7 +1.4
comp=Z,27nm,0.9s
HAU Haudompre 151.08 342 *e*PKP1 PKPdf 07 36 14.1 +1.9
HINF Hinteralfeld 151.10 341 *e*PKP1 PKPdf 07 36 14.1 +1.8
TORD Torodi Ar. Bea 168.92 227 PKP PKPdf 07 36 32.5 +0.4
comp=Z,0.2nm,0.7s,baz=198,slow=36,SNR=2.6
TORD PKPab PKPab 07 37 43.3 +0.2
comp=Z,5.8nm,1.0s,baz=122,slow=4.9,SNR=11

IDC ***21*** *07:18:53.1±0.8, 8.75S×123.54E, h0km, mb4.2/5, mb1 4.3/8, mb1mx4.2/17, mbtmp4.2/8, ML4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.1/27, Error ellipse: s-maj=60.7km s-min=17.8km az=58.0*
ISCJB ***21*** *07:18:54.7±0.5, 9.16S±006×12362E±009, h33km, mb4.4/8, Error ellipse: s-maj=14.4km s-min=5.3km az=117.2*
NEIC ***21*** *07:19:01.6±1.4, 8.96S×123.47E, h71km±16km, mb4.1/1, Error ellipse: s-maj=25.7km s-min=9.8km az=57.0*
ISC 21 07:18:58.0±0.5, 909S±008×12357E±010, h35km, n22, σ1°13/28, mb4.4/8, 1C, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.19**	**168**	*i* P			**Pn**	**07 21 13.2**	**+5.3**
	12nm,0.6s								
FITZ				*e*S			**Sn**	**07 22 48.5**	**-1.5**
FITZ	**Fitzroy Crossi**	**9.19**	**168**	Pn			**Pn**	**07 21 13.3**	**+5.4**
	0.9nm,0.3s,baz=3.2,slow=7.7,SNR=49								
FITZ				Sn			**Sn**	**07 22 49.6**	**-0.4**
	2.8nm,0.3s,baz=131,slow=5.1,SNR=19								
FITZ				LR		LR		07 24 27.5	
	comp=Z,44nm,20.6s,baz=233,slow=35								
KAKA	**Kakadu**	**9.43**	**113**	*e*P			**Pn**	**07 21 16.2**	**+4.9**
	19nm,0.6s								
KAKA				*i* S			**Sn**	**07 22 55.1**	**-0.9**
WRA	**Warramunga Arr**	**15.00**	**137**	Pn			**Pn**	**07 22 28.4**	**+1.1**
	0.5nm,0.3s,baz=318,slow=13,SNR=23								
WRA				Sn			**Sn**	**07 25 02.3**	**-10**
	0.5nm,0.3s,baz=97,slow=10,SNR=8.5								
WRAB	**Tennant Creek**	**15.00**	**137**	*e*Pn			**Pn**	**07 22 31.2**	**+4.0**
	10nm,0.8s								
WRAB				*e*Sn			**Sn**	**07 25 06.6**	**-5.5**
WB2	**Warramunga Arr**	**15.00**	**137**	*e*P			**Pn**	**07 22 27.7**	**+0.3**
WB2				*e*S			**Sn**	**07 25 00.9**	**-11**
KKM	**Kota Kinabalu**	**16.72**	**334**	*e*Pn			**Pn**	**07 22 50.0**	**+0.5**
KKM				*ep*Pn				07 22 59.8	
AS31	**Alice Springs**	**17.55**	**147**	*e*P			**Pn**	**07 23 03.6**	**+3.8**
AS31				*e*S			**S**	**07 26 07.9**	**-13**
ASAR	**Alice Springs**	**17.55**	**147**	P			**Pn**	**07 23 04.3**	**+4.5**
	1.1nm,0.3s,baz=332,slow=14,SNR=45								
ASAR				S			**S**	**07 26 05.6**	**-15**
	0.2nm,0.3s,baz=320,slow=22,SNR=4.7								
ASAR	**Alice Springs**	**17.55**	**147**	P			**Pn**	**07 23 04.3**	**+4.5**
ASAR				S			**S**	**07 26 05.6**	**-15**
CTA	**Charters Tower**	**24.49**	**119**	P			**P**	**07 24 16.1**	**+2.3**
	4.9nm,0.8s,mb4.0,baz=304,slow=7.3,SNR=4.4								
GUN	**Gumba**	**51.79**	**316**	*e*P			**P**	**07 28 03.2**	**+1.0**
	10.0nm,0.5s,mb5.0								
PKI	**Pulchoki**	**51.89**	**316**	*e*P			**P**	**07 28 03.4**	**+0.4**
	11nm,0.5s,mb5.1								
GKN	**Gorkha**	**52.70**	**316**	*e*P			**P**	**07 28 08.9**	**0.0**
KOLN	**Koldanda**	**53.27**	**315**	*e*P			**P**	**07 28 13.6**	**+0.4**
	7.2nm,0.8s,mb4.7								
SONM	**Songino Array**	**58.68**	**347**	P			**P**	**07 28 50.4**	**-1.5**
	0.7nm,0.5s,mb3.9,baz=162,slow=10,SNR=4.6								
MKAR	**Makanchi Array**	**66.67**	**330**	P			**P**	**07 29 45.0**	**-0.1**
	2.4nm,0.5s,mb4.5,baz=128,slow=7.9,SNR=20								
ZAL	**Zalesovo**	**70.81**	**337**	P			**P**	**07 30 08.2**	**-2.7**
	1.2nm,0.4s,mb4.2,baz=287,slow=2.1,SNR=3.8								
AKTO	**Aktyubinsk**	**81.91**	**324**	P			**P**	**07 31 13.3**	**-0.5**
	1.8nm,0.8s,mb4.1,baz=116,slow=7.8								
TORD	**Torodi Ar. Bea**	**122.92**	**280**	PKP			PKPdf	07 37 50.6	+0.2
	4.4nm,0.9s,baz=100,slow=3.3,SNR=10								
CPUP	**Villa Florida**	**144.79**	**179**	PKPbc			PKPdf	07 38 31.4	+0.4
	0.3nm,0.4s,baz=211,slow=12,SNR=3.3								
LPAZ	**La Paz**	**152.26**	**155**	PKP			PKPdf	07 38 46.7	+3.5
	0.8nm,0.9s,baz=248,slow=5.4,SNR=3.4								
LPAZ				PKPab			PKPab	07 39 02.8	+3.0
	0.4nm,0.5s,baz=194,slow=4.2,SNR=4.9								

IDC ***21*** *07:42:07.9±1.5, 6.30S×103.70E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, Error ellipse: s-maj=69.8km s-min=15.6km az=45.0*
ISCJB ***21*** *07:42:11.7±1.2, 62.5±03×1039E±03, h33km, mb4.5/17, Error ellipse: s-maj=58.3km s-min=10.1km az=88.2*
NEIC ***21*** *07:42:12.1±1.4, 6.36S×103.65E, h30km, mb4.5/1, Error ellipse: s-maj=60.9km s-min=9.9km az=47.0*
ISC 21 07:42:13.7±1.2, 63S±03×1038E±03, h35km, n20, σ0°81/20, mb4.5/17, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.35**	**121**	P			**P**	**07 47 29.6**	**+1.4**
	1.9nm,0.9s,mb3.5,baz=297,slow=9.0,SNR=3.7								
WRA	**Warramunga Arr**	**32.64**	**117**	P			**P**	**07 48 41.9**	**-0.3**
	1.5nm,0.6s,mb4.1,baz=286,slow=12,SNR=18								
WB2	**Warramunga Arr**	**32.65**	**117**	*e*P			**P**	**07 48 41.9**	**-0.4**
ASAR	**Alice Springs**	**33.73**	**124**	P			**P**	**07 48 51.5**	**-0.2**
	1.1nm,0.8s,mb3.8,baz=306,slow=7.9,SNR=12								
JIRN	**Jiri**	**37.80**	**334**	*e*P			**P**	**07 49 27.9**	**+1.4**
	6.0nm,0.2s,mb5.0								
GUN	**Gumba**	**38.15**	**334**	*e*P			**P**	**07 49 30.5**	**+1.0**
	40nm,0.6s,mb5.4								

KKN	**Kakani**	**38.31**	**333**	*e*P	**P**	**07 49 31.3**	**+0.4**
	24nm,0.8s,mb5.0						
GKN	**Gorkha**	**38.79**	**332**	*e*P	**P**	**07 49 35.4**	**+0.5**
	18nm,0.5s,mb5.0						
KOLN	**Koldanda**	**39.08**	**331**	*e*P	**P**	**07 49 38.1**	**+0.8**
	23nm,0.7s,mb5.0						
PMG	**Port Moresby**	**43.09**	**97**	P	**P**	**07 50 10.3**	**0.0**
	9.8nm,0.7s,mb4.7,baz=297,slow=6.8,SNR=3.2						
SONM	**Songino Array**	**53.96**	**2**	P	**P**	**07 51 34.5**	**+0.6**
	5.4nm,0.8s,mb4.6,baz=177,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**56.20**	**342**	P	**P**	**07 51 49.4**	**-0.7**
	2.8nm,0.6s,mb4.5,baz=143,slow=7.0,SNR=11						
ZAL	**Zalesovo**	**62.11**	**347**	P	**P**	**07 52 29.2**	**-1.8**
	3.2nm,0.4s,mb4.8,baz=288,slow=3.7,SNR=7.6						
ZAL	**Zalesovo**	**62.11**	**347**	P	**P**	**07 52 29.2**	**-1.8**
BVAR	**Borovoye Array**	**65.52**	**339**	P	**P**	**07 52 52.6**	**-0.9**
	3.3nm,0.7s,mb4.5,baz=137,slow=8.9,SNR=12						
CHKZ	**Chkalovo**	**65.96**	**339**	*e*P	**P**	**07 52 55.8**	**-0.5**
	2.7nm,0.7s,mb4.4						
AKTK	**Aktyubinsk**	**68.92**	**331**	P	**P**	**07 53 14.2**	**-0.8**
AKTO	**Aktyubinsk**	**68.92**	**331**	P	**P**	**07 53 14.2**	**-0.8**
	0.6nm,0.4s,mb3.9,baz=122,slow=9.5,SNR=3.4						
AKASG	**Malin Array Be**	**85.16**	**322**	P	**P**	**07 54 46.8**	**+0.5**
	1.1nm,0.5s,mb4.2,baz=92,slow=4.6,SNR=4.6						
FINES	**FINESS Array B**	**89.65**	**332**	P	**P**	**07 55 07.7**	**-0.2**
	0.5nm,0.3s,mb4.3,baz=352,slow=37,SNR=3.0						

IDC ***21*** *07:42:45.3±1.2, 41.13N×88.39E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=136.3km s-min=18.8km az=48.0*

ISCJB ***21*** *07:42:48.2±0.8, 4160N±008×888E±0.1, h33km, mb3.5/3, Error ellipse: s-maj=13.7km s-min=8.5km az=90.1*

MOS ***21*** *07:42:48.3±1.5, 4171N×8878E, h33km, mb3.6/1, Error ellipse: s-maj=50.0km s-min=14.1km az=127.8*

BJI ***21*** *07:42:48.3, 4187N×8899E, h14km, ML3.6*

NEIC ***21*** *07:42:50.0±0.8, 4146N×8850E, h35km, mb3.4/1, Error ellipse: s-maj=52.3km s-min=12.1km az=46.0*

ISC 21 07:42:50.7±2.0, 417N±01×889E±01, h43km±19km, n17, σ1§28/22, mb3.5/3, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.33**	**337**	⇑*i*P	**Pn**	**07 43 27.5**	**+0.9**
WMQ				S	**Sn**	**07 43 54.3**	**+0.3**
WMQ				SG	**Sn**	**07 43 56.5**	**+2.5**
WMQ				Smax			
	comp=N,718nm,0.6s						
WMQ				Smax			
	comp=E,1μm,0.7s						
MK02	**Makanchi Array**	**6.97**	**319**	⇓Pn	**Pn**	**07 44 29.0**	**-1.3**
	comp=E,2.4nm,0.5s,baz=141,slow=13						
MK02				⇑Lg		07 46 29.8	
	comp=E,17nm,0.8s,baz=137,slow=28						
MK31	**Makanchi Array**	**7.00**	**319**	P	**Pn**	**07 44 29.5**	**-1.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MK31				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**7.00**	**319**	Pn	**Pn**	**07 44 29.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=123,slow=10,SNR=18						
MKAR				Sn	**Sn**	**07 45 50.4**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=126,slow=27,SNR=4.6						
MKAR				Lg		07 46 26.9	
	comp=Z,1.6nm,0.3s,baz=142,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**7.00**	**319**	P	**Pn**	**07 44 29.7**	**-0.9**
MKAR						07 45 50.4	
MKAR	**Makanchi Array**	**7.00**	**319**	Pn	**Pn**	**07 44 29.6**	**-1.0**
MKAR				Sn	**Sn**	**07 45 50.4**	**+1.5**
MKAR				Lg		07 46 26.9	
TKM2	**Tokmak 2**	**9.97**	**282**	⇑Pn	**Pn**	**07 45 11.5**	**+0.2**
	comp=Z,0.2nm,0.6s						
TKM2				⇑Sn	**Sn**	**07 47 02.4**	**+0.6**
	comp=Z,0.9nm,0.8s						
TKM2				⇑Lg		07 48 02.2	
	comp=Z,0.8nm,0.8s						
TKM2	**Tokmak 2**	**9.97**	**282**	P	**Pn**	**07 45 11.5**	**+0.2**
TKM2						07 47 05.0	
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KK31	**Karatay Array**	**13.70**	**282**	⇑P	**Pn**	**07 46 04.4**	**+2.1**
	comp=Z,0.9nm,0.2s,baz=166,slow=12,SNR=4.2						
BVAR	**Borovoye Array**	**16.88**	**319**	Pn	**Pn**	**07 46 41.2**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=126,slow=11,SNR=8.3						
CHKZ	**Chkalovo**	**17.16**	**321**	*e*P	**Pn**	**07 46 46.2**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.16**	**321**	*e*Pn	**Pn**	**07 46 46.2**	**-1.1**
	comp=Z,1.3nm,0.4s						
AKTK	**Aktyubinsk**	**23.04**	**303**	P	**P**	**07 47 51.1**	**-1.1**
AKTO	**Aktyubinsk**	**23.04**	**303**	P	**P**	**07 47 51.1**	**-1.1**
	comp=Z,1.6nm,0.7s,mb3.6,baz=96,slow=8.0,SNR=5.8						
WRA	**Warramunga Arr**	**74.32**	**136**	P	**P**	**07 54 24.0**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=335,slow=6.3,SNR=6.3						
ASAR	**Alice Springs**	**77.19**	**138**	P	**P**	**07 54 40.6**	**+0.5**
	comp=Z,0.4nm,1.0s,mb3.3,baz=336,slow=6.2,SNR=4.2						
EDM	**Edmonton**	**83.54**	**13**	*e*P	**P**	**07 55 16.2**	**+2.0**

IDC 21 08:13:41.3±2.1, 331N×12858E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=104.6km s-min=25.6km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.47**	**188**	P	P	08 18 33.2	+1.9
	1.2nm,0.5s,baz=18,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**23.79**	**166**	P	P	08 18 55.5	-0.2
	0.5nm,0.3s,baz=345,slow=11,SNR=20						
ASAR	**Alice Springs**	**27.31**	**169**	P	P	08 19 27.3	-0.3
	0.6nm,0.5s,baz=346,slow=7.0,SNR=14						
MKAR	**Makanchi Array**	**58.96**	**325**	P	P	08 23 42.6	+0.2
	0.2nm,0.4s,baz=116,slow=5.5,SNR=3.9						

CSEM ***21*** *08:14:15.2, 32.10N×4750E, h36km, ML3.0, After THR*

KISR ***21*** *08:14:15.2±0.7, 3246N×4758E, h34km, ML2.0*

THR ***21*** *08:14:15.2±0.7, 3210N×4750E, h36km±6km, ML3.0*

ISCJB ***21*** *08:14:16.3±0.8, 3239N±004×4764E±006, h10km, Error ellipse: s-maj=8.2km s-min=5.6km az=43.5*

ISC 21 08:14:17.6±0.7, 3239N±004×4765E±006, h10km, n8, σ0§96/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.02**	**106**	*e*PG	**Pg**	**08 14 35.7**	**-1.4**
SHGR				*e*SG	**Sg**	**08 14 50.9**	**+0.5**
SHGR				AML	AML	08 14 55.9	
	comp=E,444nm,0.2s						
SHGR				AML	AML	08 14 55.9	
	comp=N,324nm,0.3s						
SHGR	**Shooshtar-Gavs** SNR=101	**1.02**	**106**	*e*Pg	**Pg**	**08 14 35.7**	**-1.5**
SHGR				*e*Sg	**Sg**	**08 14 50.9**	**+0.5**
	comp=N,324nm,0.3s,SNR=101						
SNGE	**Sanandaj**	**2.70**	**355**	*e*Pn	**Pn**	**08 15 02.8**	**+1.7**
SNGE				*e*Pg	**Pg**	**08 15 07.8**	**-1.6**
SNGE				AML	AML	08 15 47.8	
	comp=N,36nm,0.5s						
ASAO	**Ashtian**	**2.93**	**42**	*e*PN	**Pn**	**08 15 05.6**	**+1.4**
ASAO				AML	AML	08 15 53.9	
	comp=N,36nm,0.6s						
ASAO				AML	AML	08 15 59.8	
	comp=E,27nm,0.5s						
RST	**Umm Al-Ruwaisa**	**2.94**	**191**	*e*P	**Pn**	**08 15 03.6**	**-0.6**
RST				*e*S	**Sn**	**08 15 40.0**	**+0.4**
RST				AML	AML	08 15 44.8	
	comp=Z,3.1nm,0.2s						
NAY	**Al-Naaiem**	**3.15**	**186**	*e*P	**Pn**	**08 15 06.3**	**-0.9**
NAY				*e*S	**Sn**	**08 15 45.2**	**+0.2**
NAY				AML	AML	08 15 46.8	
	comp=Z,1.6nm,0.3s						
RDF	**Al-Radifah**	**3.46**	**181**	*e*P	**Pn**	**08 15 11.5**	**0.0**
RDF				*e*S	**Sn**	**08 15 53.0**	**+0.6**
RDF				AML	AML	08 15 53.4	
	comp=Z,7.9nm,0.4s						
NASN	**Na'in**	**4.38**	**83**	*e*PN	**Pn**	**08 15 23.9**	**-0.2**

NEIC ***21*** *08:34:47.5, 1656N×9848W, h21km, MD4.0(MEX), After MEX.*

MEX 21 08:34:46.4±0.9, 1652N×9852W, h11km±12km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**108**	*i* P	Pg	08 34 54.1	-0.2
PNIG				*i* S	Sg	08 35 00.4	+0.8
PNIG	**Pinotepa**	**0.40**	**108**	*i* P	Pg	08 34 54.1	-0.1
PNIG				*i* S	Sg	08 35 00.4	+0.8
UTMO	**Huajuapan**	**1.47**	**28**	*e*P	Pn	08 35 09.1	-3.7
UTMO				*i* S	Sn	08 35 26.5	-5.5
MEIG	**Mezcala**	**1.75**	**323**	*i* P	Pn	08 35 14.0	-2.7
MEIG				*i* S	Sn	08 35 34.9	-4.0
CAIG	**El Cayaco**	**1.75**	**288**	*e*P	Pn	08 35 13.2	-3.5
CAIG				*i* S	Sn	08 35 34.2	-4.8
CAIG	**El Cayaco**	**1.75**	**288**	*e*P	Pn	08 35 13.2	-3.5
CAIG				*i* S	Sn	08 35 35.1	-3.9
VHO	**Vista Hermosa**	**1.80**	**72**	*i* P	Pn	08 35 13.5	-3.7
VHO				*i* S	Sn	08 35 35.0	-5.1
VHO	**Vista Hermosa**	**1.80**	**72**	*i* P	Pn	08 35 13.5	-3.7
VHO				*i* S	Sn	08 35 34.7	-5.4
OXX	**Oaxaca**	**1.81**	**72**	*i* P	Pn	08 35 14.0	-3.4
OXX				*i* S	Sn	08 35 34.5	-5.8
PLIG	**Platanillo**	**2.09**	**333**	*i* P	Pn	08 35 19.9	-1.4
PLIG				*i* S	Sn	08 35 44.1	-3.1
TPIG	**Tehuac#an**	**2.19**	**30**	*i* P	Pn	08 35 20.5	-2.1
TPIG				*i* S	Sn	08 35 45.8	-4.0
YAIG	**Yautepec**	**2.39**	**347**	*i* P	Pn	08 35 25.0	-0.4
YAIG				*i* S	Sn	08 35 51.3	-3.3
HUIG	**Huatulco**	**2.43**	**108**	*i* P	Pn	08 35 20.7	-5.3
HUIG				*i* S	Sn	08 35 49.2	-6.6
PPM	**Popocatepetl**	**2.54**	**358**	*e*P	Pn	08 35 25.9	-1.5
PPM				*i* S	Sn	08 35 56.4	-1.9
PPM	**Popocatepetl**	**2.54**	**358**	*e*P	Pn	08 35 25.9	-1.5
PPM				*i* S	Sn	08 35 57.0	-1.3
UNM	**Universidad Na**	**2.86**	**347**	*i* P	Pn	08 35 27.6	-4.3
UNM				*i* S	Sn	08 36 03.3	-3.1
UNM	**Universidad Na**	**2.86**	**347**	*i* P	Pn	08 35 27.6	-4.3
UNM				*i* S	Sn	08 36 06.0	-0.3
ZIIG	**Zihuatanejo**	**3.02**	**291**	*i* P	Pn	08 35 29.8	-4.3
ZIIG				*i* S	Sn	08 36 07.0	-3.2
ZIIG	**Zihuatanejo**	**3.02**	**291**	*i* P	Pn	08 35 29.4	-4.7
ZIIG				*i* S	Sn	08 36 07.0	-3.2
CMIG	**Matias Romero**	**3.53**	**80**	*i* P	Pn	08 35 36.6	-4.4
CMIG				*i* S	Sn	08 36 15.2	-7.6
MOIG	**Morelia**	**4.04**	**321**	*i* S	Sn	08 36 29.8	-5.6
MRX	**Morelia**	**4.06**	**322**	*e*P	Pn	08 36 02.0	+14

IDC 21 09:09:38.4±1.4, 2200N×14316E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.8/18, mbtmp3.8/6, Error ellipse: s-maj=61.8km s-min=20.9km az=74.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.09**	**320**	P	P	09 17 07.8	+0.6
	0.5nm,0.5s,baz=121,slow=6.7,SNR=4.6						
WRA	**Warramunga Arr**	**42.56**	**192**	P	P	09 17 36.1	+0.2
	1.1nm,0.9s,baz=15,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**46.27**	**192**	P	P	09 18 05.7	+0.1
	0.5nm,0.6s,baz=15,slow=10,SNR=11						
ZAL	**Zalesovo**	**53.97**	**322**	P	P	09 19 03.1	-0.9
	1.2nm,0.4s,baz=30,slow=3.9,SNR=4.7						
MKAR	**Makanchi Array**	**54.48**	**312**	P	P	09 19 07.8	+0.1
	0.4nm,0.6s,baz=82,slow=8.7,SNR=4.6						
BVAR	**Borovoye Array**	**62.43**	**319**	P	P	09 20 03.3	+0.1
	0.8nm,0.5s,baz=90,slow=7.4,SNR=7.5						
LPAZ	**La Paz**	**149.94**	**85**	PKPbc	PKPbc	09 29 32.0	+1.3
	0.8nm,0.8s,baz=285,slow=3.5,SNR=5.8						

ISCJB ***21*** *09:27:57.8±0.6, 4091S±009×917W±0.1, h10km, mb4.0/12, MS4.1/14, Error ellipse: s-maj=13.3km s-min=11.4km az=147.8*

IDC ***21*** *09:27:57.2±1.0, 4089S×9185W, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.1/17, mbtmp3.9/10, ML3.5/1, MS4.2/16, Ms1 4.2/16, ms1mx4.0/23, Error ellipse: s-maj=29.9km s-min=20.9km az=121.0*

NEIC ***21*** *09:27:58.9±0.8, 4093S×9185W, h10km, mb4.5/2, Error ellipse: s-maj=17.6km s-min=13.9km az=118.0*

GCMT ***21*** *09:27:58.8±0.3, 4063S×9187W, h20km±1km, MW5.1/65, Moment Tensor Solution. s23,c28; s65,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.94±.29; Mθθ=0.99±.17; Mϕϕ=4.92±.21; Mrθ=2.61±.38; Mrϕ=-0.80±.13; Mθϕ=0.96±.30; Best double couple: Mo=5.33900×10^16 NP1:ϕ=326.00000°, δ=49.00000°, λ=-133.00000°. NP2: ϕ=200.00000°, δ=57.00000°, λ=-52.00000°. Principal axes: T 5.0730, Plg4.0000°, Azm264.0000°; N 0.5260, Plg31.0000°, Azm357.0000°; P -5.6060, Plg59.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 21 09:27:59.3±0.6, 4094S±009×918W±01, h10km, (h4km±.4km:pP-P), n31, σ0§98/20, mb4.0/12, MS4.1/14, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**16.08**	**96**	Pn	**Pn**	**09 31 46.2**	**+0.8**
	0.0nm,0.3s,baz=249,slow=14,SNR=4.6						
PLCA				LR	LR	09 36 29.1	
	comp=Z,2μm,20.1s,baz=261,slow=32						
PLCA	**Paso Flores**	**16.08**	**96**	Pn	**Pn**	**09 31 46.2**	**+0.8**
PLCA				LR	LR	09 36 29.1	
RPN	**Rapa Nui**	**19.98**	**308**	LR	LR	09 38 03.2	
	comp=Z,949nm,19.6s,baz=115,slow=30						
CFAA	**Coronel Fontan**	**21.10**	**71**	P	**P**	**09 32 43.5**	**-0.4**
	1.0nm,0.9s,mb3.1,baz=234,slow=9.5,SNR=9.9						
CFAA				LR	LR	09 39 03.5	
	comp=Z,163nm,19.9s,MS3.4,baz=240,slow=32						
TRQA	**Tornquist**	**23.13**	**93**	*e*P	**P**	**09 33 05.4**	**-0.2**
	13nm,1.2s,mb4.2						
LVC	**Limon Verde**	**26.56**	**53**	LR	LR	09 41 28.7	
	comp=Z,726nm,19.5s,MS4.2,baz=200,slow=30						
PMSA	**Palmer Station**	**28.70**	**155**	LR	LR	09 42 13.3	
	comp=Z,376nm,19.7s,MS4.0,baz=186,slow=30						
NNA	**Nana**	**31.69**	**29**	LR	LR	09 43 40.7	
	comp=Z,355nm,21.2s,MS4.0,baz=190,slow=30						
CPUP	**Villa Florida**	**31.95**	**74**	P	**P**	**09 34 25.1**	**-0.1**
	0.4nm,0.4s,mb3.6,baz=306,slow=1.6,SNR=3.5						
CPUP				LR	LR	09 45 49.2	
	comp=Z,555nm,20.2s,MS4.2,baz=219,slow=34						
LPAZ	**La Paz**	**31.97**	**47**	P	**P**	**09 34 26.4**	**+1.0**
	1.2nm,0.7s,mb3.8,baz=243,slow=4.5,SNR=6.0						
LPAZ				LR	LR	09 44 31.4	
	comp=Z,256nm,19.8s,MS3.9,baz=136,slow=31						
LPAZ	**La Paz**	**31.97**	**47**	P	**P**	**09 34 26.4**	**+1.0**
LPAZ				LR	LR	09 44 31.4	
ATAH	**Atahualpa**	**35.85**	**23**	LR	LR	09 46 20.0	
	comp=Z,414nm,19.2s,MS4.2,baz=200,slow=31						
SIV	**San Ignacio**	**36.38**	**56**	P	**P**	**09 35 03.1**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=274,slow=16						
RKT	**Rikitea**	**40.24**	**283**	*e*LR	LR	09 46 42.6	
	1μm,27.2s						
BDFB	**Brasilia**	**45.42**	**69**	LR	LR	09 54 41.5	
	comp=Z,869nm,18.6s,MS4.7,baz=232,slow=35						
ROSC	**El Rosal**	**48.30**	**24**	P	**P**	**09 36 43.2**	**+2.5**
	3.2nm,0.4s,mb4.8,baz=284,slow=6.9,SNR=5.1						
VNA3	**Neumayer Olymp**	**49.36**	**155**	*e*	**P**	**09 36 49.4**	**+0.6**
VNA3				*e*	pP	09 36 50.3	-1.7
VNA3				*e*		09 36 55.6	
VNA1	**Neumayer--Stat**	**49.92**	**154**	*e*	**P**	**09 36 54.2**	**+1.1**
VNA1				*e*	pP	09 36 55.2	-1.0
VNA1				*e*		09 37 00.6	
TBI	**Tubuai**	**50.98**	**272**	*e*S	**S**	**09 44 19.3**	**+1.3**
	268nm,25.8s						
TBI				*e*LR	LR	09 51 37.1	
	1μm,28.0s,baz=130						
SNAA	**Sanae**	**51.42**	**156**	*e*	**P**	**09 37 04.0**	**-0.4**
SNAA				*e*	pP	09 37 05.3	-2.3
SNAA				*e*		09 37 10.5	
SNAA	**Sanae**	**51.42**	**156**	*e*P	**P**	**09 37 03.8**	**-0.6**
	7.1nm,0.8s,mb4.7						
SDV	**Santo Domingo**	**53.28**	**26**	P	**P**	**09 37 16.9**	**-1.3**
	3.2nm,0.9s,mb4.3,baz=3.1,slow=23,SNR=4.4						
TAOE	**Nuku Hiva Isla**	**53.33**	**293**	*e*LR	LR	09 52 45.2	
	1μm,23.0s						
VNDA	**Vanda**	**53.79**	**195**	P	**P**	**09 37 21.7**	**-0.3**
	0.7nm,0.9s,mb3.6,baz=128,slow=7.4,SNR=3.6						
VNDA				LR	LR	09 55 55.7	
	comp=Z,118nm,19.7s,MS4.0,baz=140,slow=31						
PPT	**Papeete**	**54.48**	**277**	*e*S	**S**	**09 45 06.4**	**+0.6**
	255nm,25.0s						
PPT				*e*LR	LR	09 53 09.0	
	923nm,27.8s						
PPT	**Papeete**	**54.48**	**277**	LR	LR	09 54 31.3	
	comp=Z,207nm,21.4s,MS4.2,baz=136,slow=29						
MAW	**Mawson**	**70.09**	**170**	P	**P**	**09 39 10.0**	**-1.6**
	2.7nm,0.8s,mb4.2,baz=199,slow=5.7,SNR=5.1						
MAW				LR	LR	10 10 28.5	
	comp=Z,77nm,19.7s,MS4.0,baz=65,slow=36						
ANMO	**Albuquerque**	**76.72**	**348**	P	**P**	**09 39 49.3**	**-1.3**
	1.8nm,0.9s,mb4.0,baz=142,slow=5.3,SNR=4.0						
PDAR	**Pinedale Array**	**84.86**	**347**	P	**P**	**09 40 34.0**	**-0.2**
	2.9nm,0.9s,mb4.4,baz=163,slow=5.9,SNR=22						
PDAR				LR	LR	10 11 01.2	
	comp=Z,84nm,20.9s,MS4.1,baz=321,slow=30						
BOSA	**Boshof**	**89.53**	**128**	LR	LR	10 16 19.1	
	comp=Z,92nm,19.2s,MS4.2,baz=83,slow=32						
DBIC	**Dimbokro**	**92.01**	**83**	LR	LR	10 16 45.6	
	comp=Z,155nm,21.6s,MS4.4,baz=156,slow=32						

JMA 21 09:31:45.4±0.2, 2810N×14252E, h26km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.04**	**197**	P	Pn	09 32 04.3	0.0
CBIJ				*e*S	Sn	09 32 17.6	-0.5
JHHJ	**Haha-jima-NKT**	**1.50**	**192**	P	Pn	09 32 11.1	+0.6
JHHJ				*e*S	Sn	09 32 29.9	+0.7
JHJ2	**Mitsune**	**5.51**	**336**	*e*S	Sn	09 34 03.6	-4.7
BSO4	**Boso 4**	**7.12**	**345**	P	Pn	09 33 28.8	+1.0
BSO4				*e*S	Sn	09 34 46.7	-1.1
JAG	**Ashikaga**	**8.70**	**343**	*e*S	Sn	09 35 21.7	-5.0

ISCJB ***21*** *09:56:23.1±0.7, 3670N±006×698E±02, h33km, Error ellipse: s-maj=18.6km s-min=5.3km az=140.2*

NNC ***21*** *09:56:32.5±3.9, 3701N×7049E, h213km±48km, mb2.1, mpv3.1, Error ellipse: s-maj=37.0km s-min=22.5km az=26.0*

ISC 21 09:56:25.2±0.7, 3676N±005×700E±01, h35km, n9, σ1§14/13, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.33**	**151**	⇓P	**Pn**	**09 57 16.5**	**+1.7**
CEP				S	**Sn**	**09 57 53.0**	**-0.1**
CHCP	**Chirah Chowk**	**4.11**	**138**	P	**Pn**	**09 57 25.5**	**+0.1**
THW	**Thamme Wali**	**4.22**	**159**	⇑P	**Pn**	**09 57 27.3**	**+0.4**
SBDP	**Sheikh Budin**	**4.50**	**171**	⇑P	**Pn**	**09 57 30.8**	**0.0**
SARP	**Sargodha**	**5.32**	**154**	P	**Pn**	**09 57 40.1**	**-2.0**
KK31	**Karatay Array**	**6.35**	**4**	P	**Pn**	**09 58 01.2**	**+5.0**
	1.7nm,0.2s,baz=191,slow=14,SNR=80						
KK31				⇑S	**Sn**	**09 59 12.1**	**+4.5**
	14nm,0.7s,baz=188,slow=24,SNR=7.3						
TKM2	**Tokmak 2**	**7.53**	**33**	⇓P	**Pn**	**09 58 13.8**	**+1.4**
	0.2nm,0.6s						
TKM2				⇓S	**Sn**	**09 59 35.4**	**-1.1**
	0.7nm,0.8s						
AB31	**Akbulak array**	**14.46**	**333**	⇓P	**Pn**	**09 59 46.4**	**-0.9**
	1.2nm,0.7s,baz=150,slow=12,SNR=14						
AB31				⇓S	**Sn**	**10 02 27.4**	**+1.0**
	0.3nm,0.5s,baz=166,slow=11,SNR=3.4						
AKTO	**Aktyubinsk**	**16.15**	**332**	P	**Pn**	**10 00 08.3**	**-1.0**
	0.1nm,0.7s						

MAN 21 10:18:01.4, 918N×12559E, h5km, mb2.3, ML3.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.21**	**171**	*e*P	Pg	10 18 06.1	+0.6
BUTP				*e*S	Sg	10 18 11.3	+2.9
SCPH	**Surigao**	**0.60**	**351**	*e*P	Pg	10 18 13.2	+0.2
SCPH				*e*S	Sg	10 18 23.8	+3.0
CGP	**Cagayan de Oro**	**1.14**	**231**	⇑*e*P	Pg	10 18 22.3	-0.9
CGP				*i* S	Sg	10 18 37.3	-0.7
BUKP	**Musuan**	**1.39**	**202**	*e*P	Pn	10 18 27.1	-0.3
PAGZ	**Pagadian**	**2.55**	**239**	*e*P	Pn	10 18 33.1	-10

IDC ***21*** *10:23:43.8±0.6, 298S×12956E, h0km, mb4.3/10, mb1 4.5/12, mb1mx4.4/18, mbtmp4.4/12, ML4.2/2, MS3.9/3, Ms1 3.9/3, ms1mx3.1/22, Error ellipse: s-maj=32.4km s-min=12.4km az=70.0*

BJI ***21*** *10:23:44.7, 286S×12958E, h4km, mB4.6, mb4.7, Ms4.4, Msz4.1*

NEIC ***21*** *10:23:45.4±0.3, 302S×12958E, h10km, mb4.4/14, Error ellipse: s-maj=12.2km s-min=5.4km az=69.0*

MOS ***21*** *10:23:46.8±0.9, 301S×12954E, h33km, mb4.5/16, Error ellipse: s-maj=23.2km s-min=9.1km az=109.6*

ISCJB ***21*** *10:23:47.0±0.3, 303S±004×12965E±007, h33km, mb4.5/26, MS3.9/8, Error ellipse: s-maj=10.0km s-min=4.6km az=151.4*

ISC 21 10:23:47.9±1.7, 306S±004×12964E±007, h25km±12km, n75, σ1§16/79, mb4.5/26, MS3.9/8, 4C-2D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.57**	**246**	P	**Pn**	**10 24 14.4**	**+0.2**
	6μm,1.0s						
SWI	**Sorong**	**2.72**	**37**	P	**Pn**	**10 24 30.4**	**+0.4**
	777nm,0.8s						
KAKA	**Kakadu**	**9.99**	**164**	*e*P	**Pn**	**10 26 10.7**	**+0.9**
	19nm,0.6s						
KAKA				*e*S	**Sn**	**10 28 04.0**	**+3

	comp=Z,4.3nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**30.80**	**160**	P	**P**	**10 30 02.5**	**+1.0**
	comp=Z,2.5nm,0.5s,mb4.3,baz=344,slow=11,SNR=4.1							
PSI	**Prapat**	**31.24**	**280**	P	**P**	**10 30 05.1**	**-0.3**
	comp=Z,6.0nm,0.7s,mb4.5,baz=206,slow=3.1,SNR=6.4							
PSI	**Prapat**	**31.24**	**280**	P	**P**	**10 30 05.1**	**-0.4**
PSI				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.5							
SSE	**Sheshan**	**34.90**	**347**	*e*P	**P**	**10 30 36.5**	**-0.9**
SSE				AMB	AMB			
	comp=Z,49nm,0.7s,mb5.5							
SSE				AMB	AMB			
	comp=Z,38nm,7.3s							
NANT	**Nan**	**35.81**	**308**	⇓P	**P**	**10 30 44.0**	**-1.2**
	comp=Z,122nm,1.0s,mb5.8							
NJ2	**Nanjing**	**36.38**	**344**	*e*P	**P**	**10 30 52.3**	**+2.2**
NJ2				PP	PP	10 32 16.1	+3.0
NJ2				S	**S**	**10 36 33.0**	**+3.0**
NJ2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.2							
NJ2				LR	LR			
	comp=N,190nm,18.0s,MS4.1							
NJ2				LR	LR			
	comp=E,220nm,19.4s,MS4.1							
NJ2				LR	LR			
	comp=Z,250nm,19.5s,MS4.0							
CHG	**Chiang Mai**	**37.21**	**307**	⇑P	**P**	**10 30 57.7**	**+0.6**
	comp=Z,13nm,1.0s,mb4.7							
CHTO	**Chiang Mai**	**37.21**	**307**	*e*P	**P**	**10 30 57.5**	**+0.4**
CHTO				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.7							
CHTO	**Chiang Mai**	**37.21**	**307**	*e*P	**P**	**10 30 57.5**	**+0.4**
	comp=Z,12nm,0.9s,mb4.7							
KMI	**Kunming**	**38.28**	**319**	P	**P**	**10 31 07.8**	**+1.6**
KMI				AP	pP	10 31 12.8	-1.0
KMI				XP	sP	10 31 16.1	-0.7
KMI				PP	PP	10 32 40.0	+6.1
KMI				PPP		10 33 00.4	
KMI				S	**S**	**10 37 00.8**	**+2.0**
KMI				XS	sS	10 37 10.9	-0.3
KMI				SS	SS	10 39 39.8	-7.2
KMI				SSS		10 40 13.8	
KMI				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.4							
KMI				AMB	AMB			
	comp=Z,25nm,3.1s							
KMI				LR	LR			
	comp=N,88nm,19.1s,MS3.9							
KMI				LR	LR			
	comp=E,153nm,17.2s,MS3.9							
KMI				LR	LR			
	comp=Z,108nm,18.2s,MS3.7							
MJAR	**Matsushiro Arr**	**40.20**	**11**	P	**P**	**10 31 20.8**	**-1.4**
	comp=Z,2.2nm,0.8s,mb3.9,baz=184,slow=9.0,SNR=6.6							
MJAR				LR	LR	10 47 36.9		
	comp=Z,99nm,18.5s,MS3.7,baz=115,slow=36							
MJAR	**Matsushiro Arr**	**40.20**	**11**	P	**P**	**10 31 20.8**	**-1.4**
MJAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MJAR				MLR	MLR			
	comp=Z,99nm,18.5s							
MJAR	**Matsushiro Arr**	**40.20**	**11**	P	**P**	**10 31 20.8**	**-1.4**
MJAR				LR	LR	10 47 36.9		
MAJO	**Matsushiro**	**40.20**	**11**	*e*P	**P**	**10 31 21.6**	**-0.6**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
MAJO	**Matsushiro**	**40.20**	**11**	*e*P	**P**	**10 31 21.6**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.3							
CD2	**Chengdu**	**41.83**	**326**	*e*P	**P**	**10 31 36.8**	**+1.2**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5							
HHC	**Hu-ho-hao-te**	**46.71**	**341**	*e*P	**P**	**10 32 17.0**	**+2.3**
HHC				PCP	PcP	10 33 50.3	+2.3
HHC				PP	PP	10 34 07.4	+2.8
HHC				SCP	ScP	10 37 39.3	-0.6
HHC				PCS	PcS	10 37 43.0	+0.2
HHC				S	**S**	**10 39 04.6**	**+1.7**
HHC				SCS	ScS	10 42 06.3	-1.5
HHC				SS	SS	10 42 24.3	-4.9
HHC				AMB	AMB			
	comp=Z,19nm,0.4s,mb5.4							
HHC				AMB	AMB			
	comp=Z,89nm,4.4s							
HHC				LR	LR			
	comp=N,65nm,4.2s							
HHC				LR	LR			
	comp=E,78nm,3.9s							
HHC				LR	LR			
	comp=Z,55nm,5.7s							
YSS	**Yuzh-Sakhalins**	**51.12**	**12**	*i* P	**P**	**10 32 47.5**	**-1.1**
YSS				pmax	pmax			
	comp=Z,18nm,1.3s,mb4.8							
YSS				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.9							
ULN	**Ulaanbaatar**	**54.43**	**341**	⇓*i*P	**P**	**10 33 13.2**	**+0.2**
SONM	**Songino Array**	**54.61**	**341**	P	**P**	**10 33 14.1**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=149,slow=7.6,SNR=10							
SONM	**Songino Array**	**54.61**	**341**	P	**P**	**10 33 14.1**	**-0.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ZAK	**Zakamensk**	**57.85**	**340**	*e*P	**P**	**10 33 37.0**	**-0.4**
ZAK				*e*		10 34 26.0		
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.9s,mb3.8							
WMQ	**Urumqi**	**59.93**	**326**	*e*P	**P**	**10 33 53.0**	**+1.2**
WMQ				AMB	AMB			
	comp=Z,11nm,1.0s,mb4.8							
WMQ				LR	LR			
	comp=Z,168nm,25.2s,MS4.1							
BOD	**Bodaibo**	**61.97**	**351**	*e*P	**P**	**10 34 04.3**	**-1.4**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.7s,mb4.4							
CASY	**Casey**	**64.52**	**188**	*e*P	**P**	**10 34 21.5**	**-1.1**
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**	**10 34 23.6**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.2,baz=120,slow=8.4,SNR=11							
MKAR	**Makanchi Array**	**64.76**	**326**	*i* P	**P**	**10 34 24.0**	**-0.2**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
YAK	**Yakutsk**	**64.91**	**0**	*i* P	**P**	**10 34 24.9**	**-0.2**
YAK				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.1							
YAK				MLR	MLR			
	comp=Z,40nm,17.0s,MS3.7							
ZAL	**Zalesovo**	**67.92**	**333**	P	**P**	**10 34 42.8**	**-1.6**
	comp=Z,1.3nm,0.4s,mb4.3,baz=313,slow=4.4,SNR=7.7							
ZAL				LR	LR	11 09 22.7		
	comp=Z,106nm,19.9s,MS4.1,baz=82,slow=40							
ZAL	**Zalesovo**	**67.92**	**333**	P	**P**	**10 34 42.8**	**-1.6**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZAL				MLR	MLR			
	comp=Z,106nm,19.9s							
NVS	**Novosibirsk**	**69.20**	**333**	*e*P	**P**	**10 34 48.7**	**-3.7**
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**10 35 24.6**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**74.63**	**327**	*e*P	**P**	**10 35 24.6**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.2							
CHKZ	**Chkalovo**	**74.74**	**328**	*e*P	**P**	**10 35 25.1**	**-0.5**
CHKZ				*e*		10 35 40.0		
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**74.74**	**328**	*e*P	**P**	**10 35 25.1**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.2							
CHKZ				*e*		10 35 40.0		
ZRNK	**Zerenda**	**75.28**	**327**	*e*P	**P**	**10 35 27.9**	**-0.8**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
ZRNK	**Zerenda**	**75.28**	**327**	*e*P	**P**	**10 35 27.9**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.3							
VNDA	**Vanda**	**76.38**	**173**	P	**P**	**10 35 34.4**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=308,slow=5.3,SNR=8.8							
VNDA	**Vanda**	**76.38**	**173**	P	**P**	**10 35 34.4**	**-0.6**
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**76.38**	**173**	*e*P	**P**	**10 35 34.9**	**-0.1**
	comp=Z,2.2nm,1.1s,mb4.0							
MAW	**Mawson**	**78.47**	**201**	*e*P	**P**	**10 35 46.2**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.1							
MAW	**Mawson**	**78.47**	**201**	P	**P**	**10 35 46.2**	**-0.5**
	comp=Z,2.6nm,0.9s,mb4.2,baz=65,slow=5.3,SNR=7.3							
MAW	**Mawson**	**78.47**	**201**	P	**P**	**10 35 46.2**	**-0.5**
MAW				pmax	pmax			
	comp=Z,3.0nm,0.9s							

QSPA	**South Pole Qui**	**86.89**	**180**	*e*P	**P**	**10 36 31.0**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.6							
SYO	**Syowa Base**	**87.18**	**201**	⇑*e*P	**P**	**10 36 32.0**	**+0.1**
KMBO	**Kilima Mbogo**	**92.32**	**269**	LR	LR	11 20 58.0		
	comp=Z,62nm,18.1s,MS4.1,baz=93,slow=37							
TORD	**Torodi Ar. Bea**	**127.59**	**284**	PKP	PKPdf	10 42 52.4	+1.6
	comp=Z,1.1nm,1.0s,baz=45,slow=2.2,SNR=4.9							
CPUP	**Villa Florida**	**150.02**	**167**	PKPbc	PKPbc	10 43 37.4	+1.2
	comp=Z,8.9nm,0.8s,baz=167,slow=1.3,SNR=20							
CPUP	**Villa Florida**	**150.02**	**167**	*e*PKPbc	PKPbc	10 43 37.7	+1.5
LPAZ	**La Paz**	**153.97**	**138**	PKPbc	PKPbc	10 43 47.7	+2.5
	comp=Z,0.6nm,0.7s,baz=225,slow=11,SNR=2.8							
LPAZ				PKPab	PKPab	10 43 59.7	+1.2
	comp=Z,1.9nm,1.0s,baz=181,slow=2.2,SNR=4.9							
LPAZ	**La Paz**	**153.97**	**138**	*e*PKPbc	PKPbc	10 43 47.4	+2.3
LPAZ				*e*PKPab	PKPab	10 44 00.4	+1.9

*NEIC **21** 10:30:23.9, 3706S×17667E, h302km, MG3.8(WEL), After WEL.*

WEL 21 10:30:23.6±0.3, 3702S×17665E, h302km±3km, ML3.9/13, Error ellipse: s-maj=4.9km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.29**	**164**	P	Pn	10 31 05.8	+0.2
URZ	**Urewera**	**1.29**	**164**	PN	Pn	10 31 05.8	+0.2
URZ				SN	S	10 31 38.4	-0.7
MXZ	**Matakaoa Point**	**1.43**	**113**	P	Pn	10 31 06.6	+0.1
MXZ				S	S	10 31 39.7	-0.9
MXZ	**Matakaoa Point**	**1.43**	**113**	PN	Pn	10 31 06.6	+0.2
MXZ				SN	S	10 31 39.7	-0.9
MWZ	**Matawai**	**1.48**	**152**	P	Pn	10 31 07.2	+0.4
MWZ				S	S	10 31 40.9	-0.3
MWZ	**Matawai**	**1.48**	**152**	PN	Pn	10 31 07.2	+0.4
MWZ				SN	S	10 31 40.9	-0.4
PUZ	**Puketiti**	**1.65**	**130**	*e*P	Pn	10 31 08.0	+0.1
PUZ				S	S	10 31 42.0	-1.2
PUZ	**Puketiti**	**1.65**	**130**	PN	Pn	10 31 08.0	+0.1
PUZ				SN	S	10 31 42.0	-1.2
BKZ	**Black Stump Fm**	**2.15**	**183**	P	Pn	10 31 11.8	+0.1
BKZ	**Black Stump Fm**	**2.15**	**183**	PN	Pn	10 31 11.8	+0.1
KNZ	**Kokohu**	**2.15**	**158**	P	Pn	10 31 11.8	+0.1
KNZ	**Kokohu**	**2.15**	**158**	PN	Pn	10 31 11.8	0.0
TWVZ	**Taurewa**	**2.26**	**205**	P	Pn	10 31 08.9	-3.7
MOVZ	**Moawhango**	**2.48**	**196**	P	Pn	10 31 14.9	+0.3
MOVZ	**Moawhango**	**2.48**	**196**	PN	Pn	10 31 14.9	+0.3
PXZ	**Pawanui**	**3.01**	**177**	PN	Pn	10 31 19.5	-0.1
PXZ				SN	S	10 32 03.9	-0.3
TSZ	**Takapari Road**	**3.08**	**190**	*e*P	Pn	10 31 17.3	-2.9
TSZ	**Takapari Road**	**3.08**	**190**	PN	Pn	10 31 19.6	-0.6
MRZ	**Mangatainoka R**	**3.73**	**193**	P	Pn	10 31 25.7	-1.3
MRZ	**Mangatainoka R**	**3.73**	**193**	PN	Pn	10 31 25.6	-1.3
KIW	**Kapiti Island**	**4.07**	**199**	P	Pn	10 31 29.4	-1.2
KIW	**Kapiti Island**	**4.07**	**199**	PN	Pn	10 31 29.4	-1.2
MTW	**Mount Morrison**	**4.23**	**192**	P	Pn	10 31 30.7	-1.7
MTW	**Mount Morrison**	**4.23**	**192**	PN	Pn	10 31 30.7	-1.7
CAW	**Cannon Point**	**4.26**	**196**	P	Pn	10 31 31.5	-1.3
CAW	**Cannon Point**	**4.26**	**196**	PN	Pn	10 31 31.5	-1.2
DUWZ	**D'Urville Isla**	**4.33**	**209**	PN	Pn	10 31 32.5	-1.0
MRW	**Makara Radio**	**4.47**	**199**	P	Pn	10 31 33.8	-1.3
MRW	**Makara Radio**	**4.47**	**199**	PN	Pn	10 31 33.8	-1.2
TCW	**Tory Channel**	**4.58**	**203**	P	Pn	10 31 35.1	-1.2
TCW	**Tory Channel**	**4.58**	**203**	PN	Pn	10 31 35.1	-1.1
TUWZ	**Tuamarina**	**4.88**	**205**	PN	Pn	10 31 38.3	-1.5
NNZ	**Nelson**	**4.90**	**210**	P	Pn	10 31 38.1	-1.9
NNZ	**Nelson**	**4.90**	**210**	PN	Pn	10 31 38.1	-1.9
QRZ	**Quartz Range**	**4.98**	**219**	*e*P	Pn	10 31 38.7	-2.2
QRZ	**Quartz Range**	**4.98**	**219**	PN	Pn	10 31 38.7	-2.2
THZ	**Tophouse**	**5.55**	**210**	*e*P	Pn	10 31 45.5	-2.1
THZ	**Tophouse**	**5.55**	**210**	PN	Pn	10 31 45.5	-2.1
KHZ	**Kahutara**	**5.90**	**203**	*e*P	Pn	10 31 50.5	-1.2
KHZ	**Kahutara**	**5.90**	**203**	PN	Pn	10 31 50.5	-1.2
LTZ	**Lake Taylor**	**6.67**	**209**	*e*P	Pn	10 31 58.8	-2.1
LTZ	**Lake Taylor**	**6.67**	**209**	PN	Pn	10 31 58.8	-2.1
MQZ	**McQueen's Vall**	**7.34**	**203**	SN	S	10 33 29.1	-5.5

MAN 21 10:43:55.5, 1354N×12047E, h47km, mb1.8, ML3.6, MS2.4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.47**	**95**	⇑*e*P	Pn	10 44 07.9	+1.7
TGY	**Tagaytay City**	**0.72**	**39**	⇓*e*P	Pn	10 44 10.9	+1.6
TGY				*e*S	Sn	10 44 22.2	+2.8
BUSP	**Coron**	**1.55**	**190**	*e*P	Pn	10 44 21.8	+1.2
OTRP	**Odiongan**	**1.91**	**128**	*e*P	Pn	10 44 26.3	+0.7
ENPP	**El Nido**	**2.54**	**204**	*e*P	Pn	10 44 35.3	+1.1

*NEIC **21** 10:55:58.4, 3405S×7137W, h44km, MD3.7(GUC), After GUC.*

GUC 21 10:55:58.4±0.7, 3405S×7137W, h44km±2km, MD3.7, ML2.5, 7C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.10**	**342**	⇑*i*P	Pn	10 56 05.2	-0.3
LNV				*i* S	Sn	10 56 10.8	+0.4
TACH	**Talagante**	**0.54**	**42**	⇑*i*P	Pn	10 56 10.2	+0.4
TACH				*i* S	Sn	10 56 19.0	+1.1
CHCH	**Chadas Angostu**	**0.61**	**79**	⇑*i*P	Pn	10 56 11.4	+0.7
CHCH				*i* S	Sn	10 56 20.8	+1.3
SFDO	**San Fernando**	**0.63**	**152**	⇑*i*P	Pn	10 56 11.4	+0.4
SFDO				*i* S	Sn	10 56 20.8	+0.8
CACH	**El Canelo**	**0.65**	**96**	⇓*i*P	Pn	10 56 12.5	+1.2
CACH				*i* S	Sn	10 56 12.5	+2.2
RCDM	**Rinconada Maip**	**0.73**	**40**	⇑*e*P	Pn	10 56 12.5	+0.1
RCDM				*i* S	Sn	10 56 23.2	+0.7
RCDM				AML	AML	10 56 25.7	
	comp=N,634nm,0.1s						
RCDM	**Rinconada Maip**	**0.73**	**40**	⇑*e*P	Pn	10 56 12.5	+0.1
RCDM				*i* S	Sn	10 56 23.2	+0.7
CICH	**Cipreses**	**0.83**	**109**	⇑*i*P	Pn	10 56 14.4	+0.7
CICH				*i* S	Sn	10 56 26.5	+1.6
CLCH	**Cerro Calan**	**0.96**	**47**	*e*P	Pn	10 56 15.8	+0.5
CLCH				*i* S	Sn	10 56 29.6	+1.8
CLCH				AML	AML	10 56 34.0	
	comp=N,227nm,0.7s						
PEL	**Peldehue**	**1.07**	**32**	*e*P	Pn	10 56 18.0	+1.0
PEL				*i* S	Sn	10 56 32.8	+2.1
PEL				AML	AML	10 56 39.6	
	comp=N,165nm,0.3s						
PEL	**Peldehue**	**1.07**	**32**	*e*P	Pn	10 56 18.0	+1.0
PEL				*i* S	Sn	10 56 32.8	+2.1
FCH	**Farellones**	**1.16**	**52**	⇓*i*P	Pn	10 56 19.0	+0.9
FCH				*i* S	Sn	10 56 34.8	+2.1
FCH				AML	AML	10 56 38.8	
	comp=E,158nm,0.2s						
JACH	**Jahuel**	**1.52**	**26**	*e*P	Pn	10 56 23.9	+0.8

*ISCJB **21** 11:26:02.8±1.2, 2981N±007×3642E±008, h0km, Error ellipse: s-maj=10.7km s-min=8.9km az=94.2*
*CSEM **21** 11:26:03.2±0.3, 2959N×3640E, h1km, ML2.3, Error ellipse: s-maj=6.9km s-min=5.5km az=102.0, Mining explosion.*
*HLW **21** 11:26:04.3, 2948N×3667E, h18km, Mb3.3*
*GII **21** 11:26:05.4±0.7, 2995N×3629E, h0km±15km, ML2.3/3*

ISC 21 11:26:02.8±1.2, 2981N±007×3647E±008, h0km, n21, σ1§09/26, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQBJ	**Aqaba**	**1.24**	**267**	Pg	**Pg**	**11 26 26.9**	**+0.4**
HRFI	**Mount Harif**	**1.27**	**281**	Pg	**Pg**	**11 26 26.3**	**-0.7**
EIL	**Elat**	**1.33**	**264**	Pg	**Pg**	**11 26 28.7**	**+0.4**
EIL	**Elat**	**1.33**	**264**	Pg	**Pg**	**11 26 28.8**	**+0.6**
EIL				Sg	**Sg**	**11 26 46.5**	**+1.0**
EIL	**Elat**	**1.33**	**264**	Pg	**Pg**	**11 26 28.7**	**+0.4**
EIL				Sg	**Sg**	**11 26 46.5**	**+1.0**
ZFRI	**Zfri**	**1.34**	**304**	Pg	**Pg**	**11 26 27.4**	**-1.1**
MBH	**Mount Berech**	**1.35**	**270**	Pg	**Pg**	**11 26 28.4**	**-0.3**
PRNI	**Paran**	**1.38**	**293**	Pg	**Pg**	**11 26 28.3**	**-1.0**
PRNI				Sg	**Sg**	**11 26 45.5**	**-1.6**
KMTI	**Karmit**	**1.54**	**281**	Pn	**Pn**	**11 26 31.4**	**-0.1**
HBST	**Basata**	**1.63**	**249**	⇓P	**Pn**	**11 26 31.8**	**-0.8**
MASH	**Mash'abbe Sade**	**1.88**	**309**	Pn	**Pn**	**11 26 37.3**	**+1.2**
YTIR	**Yattir**	**1.94**	**323**	Pn	**Pn**	**11 26 37.8**	**+0.8**

HDHB	**Dhahab**	**1.95**	**237**	⇓P	**Pn**	**11 26 35.1**	**-2.0**
SVTA	**Shivta**	**1.95**	**305**	Pn	**Pn**	**11 26 38.0**	**+0.9**
RTMI	**Retamim**	**1.97**	**309**	Pn	**Pn**	**11 26 37.3**	**-0.1**
DRGI	**Dragot**	**2.00**	**333**	Pn	**Pn**	**11 26 36.6**	**-1.3**
HNKL	**Nakhl**	**2.17**	**274**	P	**Pn**	**11 26 41.5**	**+1.4**
HNKL				S	**Sn**	**11 27 08.4**	**+0.8**
HNKL	**Nakhl**	**2.17**	**274**	P	**Pn**	**11 26 41.5**	**+1.4**
HNKL				S	**Sn**	**11 27 08.4**	**+0.8**
HKAT	**Jabal Katrina**	**2.52**	**240**	P	**Pn**	**11 26 43.7**	**-1.3**
AMAG	**Maghara**	**2.94**	**287**	P	**Pn**	**11 26 52.9**	**+2.1**
SUZ		**3.16**	**271**	⇓P	**Pn**	**11 26 54.9**	**+1.1**

*ISCJB **21** 11:35:42.7±0.6, 4447N±002×726E±005, h12km±4km, Error ellipse: s-maj=6.6km s-min=2.9km az=126.3*
*STR **21** 11:35:42.8±0.2, 4450N×736E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **21** 11:35:43.0±0.1, 4449N×733E, h3km, Md2.5/2, Ml2.3/7, Error ellipse: s-maj=2.5km s-min=1.0km az=60.0*

ISC 21 11:35:43.0±0.6, 4448N±002×729E±005, h15km±4km, n24, σ0§54/36, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.34**	**271**	Pg	**Pg**	**11 35 50.9**	**+0.8**
SURF				Sg	**Sg**	**11 35 56.2**	**+1.4**
OG22	**Abries**	**0.42**	**324**	Pg	**Pg**	**11 35 51.3**	**-0.2**
OG22				Sg	**Sg**	**11 35 56.6**	**-0.6**
MBDF	**Montbardon**	**0.45**	**304**	*e*Pg	**Pg**	**11 35 52.2**	**+0.3**
MBDF				*e*Sg	**Sg**	**11 35 57.8**	**-0.2**
	65nm,0.3s						
TOUF	**Mont Tournerai**	**0.47**	**184**	Pg	**Pg**	**11 35 52.5**	**+0.2**
AUTN	**L'Aution**	**0.49**	**169**	Pg	**Pg**	**11 35 52.8**	**0.0**
AUTN				Sg	**Sg**	**11 35 59.3**	**-0.1**
SAOF	**Saorge**	**0.53**	**159**	Pg	**Pg**	**11 35 53.2**	**-0.2**
SAOF				Sg	**Sg**	**11 36 00.2**	**-0.3**
LUCF	**Luceram**	**0.59**	**176**	Pg	**Pg**	**11 35 54.5**	**-0.1**
MVIF	**Mont Vial**	**0.59**	**190**	Pg	**Pg**	**11 35 54.8**	**+0.2**
MVIF				Sg	**Sg**	**11 36 03.1**	**+0.6**
SBF	**Sospel**	**0.62**	**170**	*e*Pg	**Pg**	**11 35 55.0**	**-0.2**
SBF	**Sospel**	**0.62**	**170**	*e*P	**Pg**	**11 35 56.4**	**+1.2**
SBF	**Sospel**	**0.62**	**170**	*e*Pn	**Pn**	**11 35 57.6**	**+0.2**
SBF				*e*Sg	**Sg**	**11 36 03.6**	**+0.1**
	22nm,0.2s						
OG25	**Le Caire**	**0.88**	**263**	Pg	**Pg**	**11 36 00.9**	**+0.8**
FRF	**La Foret Royal**	**1.03**	**207**	*e*Pg	**Pg**	**11 36 02.7**	**-0.2**
FRF	**La Foret Royal**	**1.03**	**207**	*e*Pn	**Pn**	**11 36 03.2**	**+0.3**
FRF				*e*Sn	**Sn**	**11 36 17.1**	**0.0**
LPG	**La Plagne**	**1.09**	**340**	*e*Sg	**Sg**	**11 36 18.3**	**0.0**
	5.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.10**	**294**	*e*Pg	**Pg**	**11 36 04.0**	**-0.2**
ORIF				*e*Sg	**Sg**	**11 36 18.0**	**-0.6**
	10nm,0.4s						
LPL	**La Plagne**	**1.11**	**339**	*e*Sg	**Sg**	**11 36 18.8**	**-0.2**
	4.3nm,0.3s						
TAVF	**Tavernes**	**1.24**	**226**	Pg	**Pg**	**11 36 07.1**	**+0.2**
LMR	**La Mourre**	**1.28**	**207**	*e*Pn	**Pn**	**11 36 06.1**	**-0.3**
LMR	**La Mourre**	**1.28**	**207**	*e*Pg	**Pg**	**11 36 06.9**	**-0.7**
LMR				*e*Sg	**Sg**	**11 36 23.7**	**-0.5**
	12nm,0.2s						
SMRF	**Simiane la Rot**	**1.33**	**248**	*e*Sg	**Sg**	**11 36 25.4**	**-0.6**
	11nm,0.3s						
PUYF	**Puyloubier**	**1.49**	**231**	Pg	**Pg**	**11 36 10.4**	**-1.2**
VIVF	**Saint-Julien-l**	**1.91**	**282**	*e*Pn	**Pn**	**11 36 16.2**	**+1.2**
VIVF				*e*Sn	**Sn**	**11 36 39.1**	**+0.3**
	3.1nm,0.2s						
LASF	**Ste Croix**	**2.50**	**262**	*e*Pn	**Pn**	**11 36 22.9**	**-0.3**
LASF				*e*Sn	**Sn**	**11 36 52.9**	**-0.5**
	3.6nm,0.4s						

*BJI **21** 12:47:29.2, 1000S×16130E, h76km, mB5.1, mb4.9, Ms5.2, Msz4.4*
*MOS **21** 12:47:30.2±1.2, 1007S×16147E, h90km, mb4.7/12, Error ellipse: s-maj=11.7km s-min=11.0km az=159.0*
*IDC **21** 12:47:30.8±0.6, 1015S×16146E, h81km±4km, mb4.5/13, mb1 4.6/15, mb1mx4.5/17, mbtmp4.8/15, MS4.1/11, Ms1 4.1/11, ms1mx4.0/16, Error ellipse: s-maj=13.6km s-min=7.3km az=39.0*
*ISCJB **21** 12:47:30.1±0.2, 1012S±004×161.18E±005, h79km, mb4.9/66, Error ellipse: s-maj=7.3km s-min=5.6km az=60.6*
*NEIC **21** 12:47:31.5±0.2, 1012S×16128E, mb5.1/44, Error ellipse: s-maj=7.3km s-min=5.0km az=128.0*
*GCMT **21** 12:47:31.5±0.2, 1015S×16136E, h84km±2km, MW5.1/66, Moment Tensor Solution. s58,c81; s66,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.17±.15; $M_{\theta\theta}$0.71±.14; $M_{\phi\phi}$-0.87±.15; $M_{r\theta}$-1.78±.12; $M_{\theta\phi}$5.31±.14; $M_{\phi r}$1.81±.10; Best double couple: M_w5.85800×10^{16} NP1:φs186.00000°, δ74.00000°, λ-166.00000°. NP2: φs92.00000°, δ77.00000°, λ-17.00000°. Principal axes: T 5.2

comp=Z,44nm,0.7s,baz=77,slow=8.5,SNR=13
WRA LR LR 13 03 06.3
comp=Z,317nm,20.8s,baz=60,slow=34
WRA Warramunga Arr 27.78 246 P **P** **12 53 13.2 +0.2**
WRA *PP pP 12 53 33.1 +1.4
WRA pmax pmax
comp=Z,18nm,0.8s
WRA pmax pmax
comp=Z,45nm,0.7s
WRA MLR MLR
comp=Z,317nm,20.8s
WRA Warramunga Arr 27.78 246 P **P** **12 53 13.2 +0.2**
WRA pP pP 12 53 33.1 +1.4
WRA LR LR 13 03 06.3
STKA Stephens Creek 28.30 217 *eP* **P** **12 53 19.4 +1.8**
comp=Z,11nm,1.0s,mb4.3
STKA Stephens Creek 28.30 217 P **P** **12 53 17.6 0.0**
comp=Z,6.6nm,0.7s,mb4.3,baz=41,slow=14,SNR=13
STKA LR LR 13 03 05.5
comp=Z,739nm,20.7s,baz=40,slow=33
KAKA Kakadu 28.42 262⇑ *iP* **P** **12 53 18.2 -0.5**
comp=Z,22nm,0.5s,mb4.9
GUMO Guam 28.68 325 LR LR 13 03 49.7
comp=Z,363nm,20.9s,baz=146,slow=34
AS31 Alice Springs 29.40 239 *eP* **P** **12 53 26.4 -1.0**
ASAR Alice Springs 29.40 239 P **P** **12 53 26.6 -0.8**
comp=Z,5.7nm,0.6s,mb4.4,baz=63,slow=10,SNR=43
ASAR pP pP 12 53 47.8 +1.6
comp=Z,13nm,0.8s,baz=65,slow=10,SNR=12
ASAR ScP ScP 13 00 04.7 -1.4
comp=Z,1.4nm,0.9s,baz=74,slow=2.4,SNR=3.3
ASAR LR LR 13 03 52.1
comp=Z,707nm,20.4s,baz=65,slow=33
ASAR Alice Springs 29.40 239 P **P** **12 53 26.6 -0.8**
ASAR *PP pP 12 53 47.8 +1.6
ASAR pmax pmax
comp=Z,6.0nm,0.6s
ASAR pmax pmax
comp=Z,13nm,0.8s
ASAR pmax pmax
comp=N,1.0nm,1.0s
ASAR MLR MLR
comp=Z,707nm,20.4s
ASPA Alice Springs 29.41 239 *eP* **P** **12 53 26.4 -1.0**
TOO Toolangi 30.81 205 *eP* **P** **12 53 40.0 +0.2**
comp=Z,5.9nm,0.6s,mb4.5
URZ Urewera 31.38 156 P **P** **12 53 42.9 -1.9**
comp=Z,3.6nm,0.5s,mb4.3,baz=278,slow=4.7,SNR=3.6
RPZ Rata Peaks 34.50 168 P **P** **12 54 11.7 -0.3**
comp=Z,19nm,1.0s,mb4.9,baz=317,slow=3.9,SNR=4.9
FITZ Fitzroy Crossi 35.45 253 *eP* **P** **12 54 19.4 -0.8**
comp=Z,26nm,0.6s,mb5.2
FORT Forrest 37.09 232 *eP* **P** **12 54 38.3 +4.1**
comp=Z,45nm,1.2s,mb5.3
MBWA Marble Bar 41.40 250 *eP* **P** **12 55 09.8 -0.3**
comp=Z,16nm,0.7s,mb5.0
MBWA *epP* pP 12 55 26.6 -2.9
KLBR Kellerberrin 45.57 235 *eP* **P** **12 55 44.3 +0.7**
comp=Z,56nm,1.3s,mb5.1
NWAO Narrogin (SRO) 46.41 234 P **P** **12 55 49.6 -0.6**
comp=Z,9.1nm,0.5s,mb4.7,baz=45,slow=7.1,SNR=5.5
NWAO Narrogin (SRO) 46.41 234 P **P** **12 55 49.6 -0.6**
NWAO pmax pmax
comp=Z,9.0nm,0.5s
MUN Mundaring 46.94 235 *eP* **P** **12 55 54.3 0.0**
PPT Papeete 48.13 104 *eLQ* 13 07 38.9
comp=Z,904nm,32.2s
PPT *eLR* LR 13 09 57.3
comp=Z,262nm,25.2s
TBI Tubuai 48.70 112 *eLQ* 13 08 08.2
comp=Z,1μm,34.5s
TBI *eLR* LR 13 10 17.2
comp=Z,238nm,30.8s
KIP Kipapa 50.78 52 *eP* **P** **12 56 20.4 -3.3**
MJAR Matsushiro Arr 51.28 336 P **P** **12 56 26.1 -1.4**
comp=Z,4.6nm,0.7s,mb4.6,baz=170,slow=8.4,SNR=14
MJAR LR LR 13 16 49.8
comp=Z,125nm,18.4s,baz=150,slow=34
MAJO Matsushiro 51.28 336 *eP* **P** **12 56 25.6 -1.8**
comp=Z,13nm,0.7s,mb5.1
MAT Matsushiro 51.28 336 P **P** **12 56 26.2 -1.2**
MAT S **S** **13 03 41.0 +0.8**
NACB Ninganchiao 51.66 312 *eP* **P** **12 56 29.9 -0.4**
KSM Kuching 52.07 280 *eP* **P** **12 56 33.0 -0.3**
KSM *epP* pP 12 56 52.3 -1.1
YHNB Yeheng 52.12 312 *eP* **P** **12 56 33.0 -0.6**
SSE Sheshan 56.24 318 *eP* **P** **12 57 04.6 +1.0**
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,45nm,6.3s
SSE LR LR
comp=Z,62nm,30.9s
NJ2 Nanjing 58.38 318 *eP* **P** **12 57 20.5 +1.8**
NJ2 AP pP 12 57 39.8 +0.6
NJ2 XP sP 12 57 48.4 +0.2
NJ2 PP PP 12 59 31.9 +3.3
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,180nm,5.9s
NJ2 LR LR
comp=N,190nm,12.3s
NJ2 LR LR
comp=E,250nm,16.7s
NJ2 LR LR
comp=Z,280nm,21.8s
QIZ Qiongzhong 58.44 300 P **P** **12 57 19.3 +0.2**
QIZ S **S** **13 05 18.5 +2.5**
QIZ XS sS 13 05 51.9 +0.9
QIZ AMB AMB
comp=Z,14nm,1.8s,mb4.7
YSS Yuzh-Sakhalins 59.21 345 *eP* **P** **12 57 24.4 0.0**
YSS Yuzh-Sakhalins 59.21 345 *eP* **P** **12 57 24.2 -0.2**
comp=Z,15nm,0.7s,mb5.1
WHN Wuhan 60.59 314⇓ P **P** **12 57 33.5 -0.4**
MDJ Mudanjiang 61.60 335 P **P** **12 57 42.8 +2.1**
MDJ AP pP 12 58 01.1 -0.3
MDJ XP sP 12 58 09.1 -1.3
MDJ PP PP 12 59 59.1 +2.0
MDJ PCS PcS 13 02 26.3 +1.6
MDJ S **S** **13 05 59.9 +3.3**
MDJ XS sS 13 06 31.8 0.0
MDJ SCS ScS 13 07 22.8 -2.0
MDJ AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
MDJ AMB AMB
comp=Z,51nm,3.3s
MDJ LR LR
comp=Z,86nm,35.0s
MDJ Mudanjiang 61.60 335 *eP* **P** **12 57 40.6 -0.1**
comp=Z,9.3nm,0.8s,mb4.9
MDJ *epP* pP 12 58 01.9 +0.5
RKT Rikitea 61.97 111 *eLR* LR 13 16 21.3
comp=Z,265nm,27.8s
CN2 Changchun 62.81 332 *eP* **P** **12 57 48.9 +0.1**
CN2 *eAP* pP 12 58 08.4 -1.1
CN2 *eXP* sP 12 58 17.1 -1.4
CN2 *eS* **S** **13 06 12.3 +0.6**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
HABR Khabarovsk 62.81 341 P **P** **12 57 47.2 -1.6**
HABR *eS* **S** **13 06 11.4 -0.4**
KLR Kul'dur 64.58 339 *eP* **P** **12 57 56.0 -4.5**
XAN Xi'an 66.34 314 P **P** **12 58 11.3 -0.5**
XAN AMB AMB
comp=Z,20nm,0.7s,mb5.1
KMI Kunming 66.96 303 P **P** **12 58 16.4 +0.7**
KMI AP pP 12 58 38.3 +1.6
KMI XP sP 12 58 47.5 +1.9
KMI PP PP 13 00 47.9 +3.8
KMI S S 13 07 04.9 +2.2
KMI AMB AMB
comp=Z,19nm,1.1s,mb4.8
KMI LR LR
comp=Z,87nm,26.1s
VNDA Vanda 67.36 180 P **P** **12 58 17.5 -0.8**
comp=Z,5.0nm,0.8s,mb4.4,baz=341,slow=6.7,SNR=25
VNDA *pP* pP 12 58 37.9 -1.3
comp=Z,11nm,0.9s,baz=343,slow=7.2,SNR=14
VNDA Vanda 67.36 180 P **P** **12 58 17.5 -0.7**
VNDA *PP pP 12 58 37.9 -1.3
VNDA pmax pmax
comp=Z,5.0nm,0.9s
VNDA pmax pmax
comp=Z,11nm,0.9s
VNDA Vanda 67.36 180 *eP* **P** **12 58 17.4 -0.9**
comp=Z,14nm,1.0s,mb4.8
VNDA *epP* pP 12 58 37.6 -1.5
NIKO Nikolski 67.84 19 *eP* **P** **12 58 20.8 -0.5**
CHTO Chiang Mai 67.90 295 *eP* **P** **12 58 20.6 -1.0**
comp=Z,16nm,1.3s,mb4.7
CHTO *epP* pP 12 58 35.4 -7.2
HHC Hu-ho-hao-te 68.38 321 *eP* **P** **12 58 26.8 +2.2**
HHC AP pP 12 58 46.3 +0.6
HHC PCP PcP 12 58 51.9 +2.3
HHC XP sP 12 58 55.1 +0.5
HHC PP PP 13 01 00.5 +4.1
HHC SCP 13 02 47.3
HHC PCS 13 02 55.4
HHC S S 13 07 20.9 +1.3
HHC XS sS 13 07 54.8 -0.6
HHC PS 13 07 56.3
HHC SCS ScS 13 08 16.1 -0.8
HHC SS SS 13 11 47.1 +2.7
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,88nm,4.8s
HHC LR LR
comp=N,117nm,4.7s
HHC LR LR
comp=E,171nm,4.3s
HHC LR LR
comp=Z,58nm,5.1s
CD2 Chengdu 68.63 309 *eP* **P** **12 58 26.9 +0.7**
CD2 AP pP 12 58 46.8 -0.4
CD2 XP sP 12 58 55.3 -0.8
CD2 PP PP 13 01 01.4 +2.8
CD2 S S 13 07 22.1 -0.5
CD2 XS sS 13 07 56.3 -2.1
CD2 SS SS 13 11 49.3 +1.1
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.6s
CD2 LR LR
comp=E,70nm,16.8s
CD2 LR LR
comp=Z,90nm,15.6s
HIA Hailar 69.50 332 *c iP* **P** **12 58 31.8 +0.2**
HIA Hailar 69.50 332 *eP* **P** **12 58 31.5 -0.1**
comp=Z,12nm,0.8s,mb4.8
MA2 Magadan 70.00 354 *eP* **P** **12 58 33.6 -1.1**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 Magadan 70.00 354 *eP* **P** **12 58 33.5 -1.1**
comp=Z,11nm,0.6s,mb4.9
LZH Lanzhou 70.97 314 *eP* **P** **12 58 42.1 +1.5**
LZH AP pP 12 59 02.3 +0.6
LZH XP sP 12 59 10.8 +0.2
LZH PP PP 13 01 22.5 +3.8
LZH PPP 13 03 04.5
LZH *eS* S 13 07 50.6 +0.6
LZH XS sS 13 08 25.1 -0.9
LZH PS 13 08 29.8
LZH SKS 13 08 33.3
LZH *eSS* SS 13 12 27.3 +3.1
LZH AMB AMB
comp=Z,29nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,123nm,7.3s
LZH LR LR
comp=E,614nm,14.9s
LZH LR LR
comp=Z,886nm,17.8s
MIR Mirnyy 72.18 203 *eP* **P** **12 58 49.0 +1.2**
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.7
SEY Seymchan 73.18 356 *c iP* **P** **12 58 53.2 -0.6**
ULN Ulaanbaatar 75.06 326 *d iP* **P** **12 59 05.1 +0.4**
ULN Ulaanbaatar 75.06 326 *eP* **P** **12 59 05.1 +0.4**
comp=Z,18nm,0.8s,mb4.8
SONM Songino Array 75.41 325 P **P** **12 59 06.9 +0.2**
comp=Z,26nm,0.6s,mb5.1,baz=141,slow=5.7,SNR=172
SONM *pP* pP 12 59 27.2 -0.9
comp=Z,7.0nm,0.8s,baz=135,slow=5.8,SNR=2.7
SONM LR LR 13 33 06.9
comp=Z,83nm,18.0s,baz=116,slow=36
SONM Songino Array 75.41 325 P **P** **12 59 06.9 +0.2**
SONM *PP pP 12 59 27.2 -0.9
SONM pmax pmax
comp=Z,26nm,0.6s
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,83nm,18.0s
YAK Yakutsk 76.06 345 *c iP* **P** **12 59 09.7 -0.7**
YAK pmax pmax
comp=Z,51nm,0.8s,mb5.3
YAK Yakutsk 76.06 345 *eP* **P** **12 59 08.9 -1.5**
comp=Z,26nm,0.7s,mb5.1
KDAK Kodiak Island 77.41 23 P **P** **12 59 17.6 -0.4**
comp=Z,222nm,0.8s,mb5.9,SNR=6.8
KDAK Kodiak Island 77.41 23 P **P** **12 59 17.9 -0.1**
comp=Z,30nm,0.8s,mb5.1,baz=213,slow=3.4,SNR=24
KDAK Kodiak Island 77.41 23 *eP* **P** **12 59 17.8 -0.2**
comp=Z,25nm,0.8s,mb5.0
BOD Bodaibo 77.92 336 *eP* **P** **12 59 19.6 -1.2**
BOD *e* pP 12 59 39.3 -3.0
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
BOD pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
BILL Bilibino 78.07 2 *d iP* **P** **12 59 21.0 -0.7**
BILL *e* 12 59 29.8
BILL *i* pP 12 59 44.1 +1.0
BILL *PP pP 12 59 52.3 +9.2
BILL pmax pmax
comp=Z,22nm,0.8s,mb4.9
BILL Bilibino 78.07 2 *eP* **P** **12 59 20.2 -1.5**
comp=Z,32nm,0.9s,mb5.0
BILL *epP* pP 12 59 41.6 -1.5
ZAK Zakamensk 78.51 326 *eP* **P** **12 59 23.1 -1.0**
ZAK *e* pP 12 59 42.8 -2.8
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
SVW2 Sparrevohn 78.68 20 *eP* **P** **12 59 25.6 +0.6**
TLY Talaya 79.00 328 P **P** **12 59 26.3 -0.5**
comp=Z,66nm,0.7s,mb5.6,SNR=5.7
TLY Talaya 79.00 328 *eP* **P** **12 59 26.2 -0.6**
TLY *e* pP 12 59 46.2 -2.1
TLY *eS* ScS 13 09 40.3 -1.6
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TLY Talaya 79.00 328 *eP* **P** **12 59 26.1 -0.7**
comp=Z,8.3nm,0.8s,mb4.6
TLY *epP* pP 12 59 46.5 -1.8
QSPA South Pole Qui 79.85 180 *eP* **P** **12 59 30.4 -1.0**
comp=Z,13nm,1.1s,mb4.7
TTA Tatalina 79.89 18 *eP* **P** **12 59 31.8 +0.2**
SLKM Skilak Lake 80.15 22 *eP* **P** **12 59 32.5 -0.6**
PMR Palmer 81.27 22 *eP* **P** **12 59 38.6 -0.4**
comp=Z,23nm,0.8s,mb5.1
DIV Divide 82.23 23 *eP* **P** **12 59 44.4 +0.3**
comp=Z,58nm,1.0s,mb5.4
MCK McKinley 82.74 20 *eP* **P** **12 59 45.6 -1.1**
comp=Z,31nm,0.9s,mb5.1
MCK *epP* pP 13 00 06.5 -1.9
IMA2 Indian Mountai 82.86 17 *eP* **P** **12 59 47.4 +0.1**
COLA College 83.84 19 *d iP* **P** **12 59 51.0 -1.4**
COLA College 83.84 19 *eP* **P** **12 59 50.8 -1.6**
comp=Z,26nm,0.8s,mb5.1
MAW Mawson 83.90 202 *eP* **P** **12 59 51.6 -1.1**
comp=Z,2.0nm,0.9s,mb4.0
MAW *i* pP pP 13 00 12.5 -1.9
MAW Mawson 83.90 202 P **P** **12 59 51.7 -1.0**
comp=Z,1.9nm,0.6s,mb4.1,baz=111,slow=10,SNR=4.7
MAW *pP* pP 13 00 12.7 -1.7
comp=Z,6.3nm,0.6s,baz=128,slow=5.7,SNR=8.9
MAW Mawson 83.90 202 P **P** **12 59 51.7 -1.0**
MAW *PP pP 13 00 12.7 -1.7
MAW pmax pmax
comp=Z,2.0nm,0.6s
MAW pmax pmax
comp=Z,6.0nm,0.6s
MENT Mentasta 84.09 22 *eP* **P** **12 59 53.8 +0.2**
TIXI Tiksi 84.43 350⇑ *iP* **P** **12 59 52.9 -2.4**
TIXI pmax pmax
comp=Z,11nm,1.4s,mb4.5
WMQ Urumqi 85.41 316 *eP* **P** **13 00 00.3 +0.1**
WMQ AP pP 13 00 20.5 -1.5
WMQ XP sP 13 00 29.0 -1.7
WMQ SKS 13 10 15.0
WMQ XS sS 13 10 58.0 -3.8
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,172nm,4.5s
WMQ LR LR
comp=N,165nm,26.8s
WMQ LR LR
comp=E,188nm,25.4s
WMQ LR LR
comp=Z,220nm,29.8s
EGAK Eagle 86.08 21 *eP* **P** **13 00 03.3 -0.3**
EGAK *epP* pP 13 00 25.3 0.0
DAWY Dawson 86.33 22 *eP* **P** **13 00 04.8 -0.1**
DAWY *epP* pP 13 00 27.2 +0.6
YBH Yreka Blue Hor 86.41 47 *eP* **P** **13 00 06.1 +0.9**
comp=Z,9.4nm,0.9s,mb4.7
YBH *epP* pP 13 00 28.8 +1.8
CMB Columbia Colle 87.11 51 *eP* **P** **13 00 08.9 +0.3**
comp=Z,5.4nm,0.9s,mb4.5
MOD Modoc 88.19 47 *eP* **P** **13 00 14.3 +0.6**
comp=Z,5.7nm,0.9s,mb4.6
MOD *epP* pP 13 00 36.9 +1.2
PAHR Pah Rah Range 88.30 49 *eP* **P** **13 00 15.1 +0.9**
comp=Z,5.0nm,0.7s,mb4.7
MTUM Tungsten Hills 88.34 52 *eP* **P** **13 00 15.5 +1.0**
DAC Darwin (Calif) 88.84 53 *eP* **P** **13 00 17.9 +1.1**
comp=Z,19nm,1.0s,mb5.1
WVOR Wild Horse Val 89.52 47 *eP* **P** **13 00 20.8 +0.8**
comp=Z,41nm,1.4s,mb5.4
MKAR Makanchi Array 89.91 318 P **P** **13 00 20.9 -1.0**
comp=Z,1.8nm,0.5s,mb4.4,baz=89,slow=6.0,SNR=15
MKAR Makanchi Array 89.91 318 P **P** **13 00 20.9 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
BMN Battle Mountai 90.08 49 *eP* **P** **13 00 23.6 +1.0**
comp=Z,15nm,0.9s,mb5.1
ZAL Zalesovo 90.31 325 LR LR 13 40 22.5
comp=Z,89nm,18.6s,baz=12,slow=35
BMO Blue Mountains 91.03 45 *eP* **P** **13 00 27.3 +0.3**
comp=Z,11nm,1.1s,mb4.9
NVS Novosibirsk 91.44 326 *eP* **P** **13 00 26.6 -2.4**
NEW Newport 91.92 41 *eP* **P** **13 00 30.9 -0.2**
comp=Z,16nm,0.9s,mb5.2
ARUT Antelope Range 92.41 52 *eP* **P** **13 00 34.6 +1.2**
HLID Hailey 92.79 46 *eP* **P** **13 00 36.2 +1.0**
comp=Z,18nm,1.1s,mb5.3
MSU Marysvale 93.52 52 *eP* **P** **13 00 41.1 +2.5**
TUC Tucson 93.58 58 *eP* **P** **13 00 40.1 +1.3**
comp=Z,3.1nm,0.8s,mb4.7
MCMT McKenzie Canyo 94.13 45 *eP* **P** **13 00 42.0 +0.7**
WALA Waterton Lakes 94.17 41 *eP* **P** **13 00 42.0 +0.5**
comp=Z,9.6nm,0.8s,mb5.2
DLMT Dillon 94.40 45 *eP* **P** **13 00 43.4 +0.9**
comp=Z,15nm,1.2s,mb5.2
AAK Ala-Archa 94.47 312⇑ *iP* **P** **13 00 41.4 -1.5**
AAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.5
BOZ Bozeman (W) 95.12 45 *eP* **P** **13 00 46.4 +0.5**
comp=Z,6.4nm,1.0s,mb5.0
QLMT Earthquake Lak 95.12 46 *eP* **P** **13 00 46.9 +1.0**
HRY Holter Researc 95.15 44 *eP* **P** **13 00 46.2 +0.2**
PDAR Pinedale Array 96.16 48 P **P** **13 00 50.9 +0.3**
comp=Z,1.6nm,0.9s,mb4.5,baz=235,slow=1.3,SNR=9.9
EGMT Eagleton 96.74 43 *eP* **P** **13 00 53.5 +0.2**
comp=Z,14nm,1.0s,mb5.3
EGMT *epP* pP 13 01 15.0 -0.2
ANMO Albuquerque 97.53 56 *c iP* **P** **13 00 53.4 -3.4**
SNAA Sanae 97.68 185 *e*Pdiff **P** **13 01 07.3 +10**
SNAA *e* 13 01 15.3
SNAA *e* 13 01 22.4
SNAA *e* pP 13 01 31.5 +12
VNA3 Neumayer Olymp 98.57 183 *e*Pdiff **P** **13 01 09.0 +7.5**
VNA3 *e* 13 01 20.2
VNA3 *e* 13 01 25.7
VNA3 *e* pP 13 01 34.9 +11
VNA3 *e* 13 01 41.7
ARCES ARCESS Array B 114.34 344 PKP PKiKP 13 05 59.0 -3.0
comp=Z,2.4nm,0.9s,baz=90,slow=1.2,SNR=5.8
ARCES ARCESS Array B 114.34 344 PKIKP PKiKP 13 05 59.1 -3.0
ARCES pmax pmax
comp=Z,2.0nm,0.9s
BOSA Boshof 122.68 226 PKP PKPdf 13 06 17.2 -0.9
comp=Z,1.9nm,0.5s,baz=64,slow=3.8,SNR=7.3
BOSA pPKP pPKPdf 13 06 40.8 -0.1
comp=Z,1.3nm,0.6s,baz=101,slow=7.0,SNR=2.4
BOSA Boshof 122.68 226 PKIKP PKPdf 13 06 17.2 -0.9
BOSA 13 06 40.8
BOSA pmax pmax
comp=Z,2.0nm,0.5s
BOSA pmax pmax
comp=Z,1.0nm,0.6s
BOSA Boshof 122.68 226 PKP PKPdf 13 06 17.2 -0.9
BOSA pPKP pPKPdf 13 06 40.8 -0.1
AKASG Malin Array Be 123.70 325 PKP PKPdf 13 06 17.9 -2.1
comp=Z,1.0nm,0.6s,baz=57,slow=1.6,SNR=5.4
AKASG pPKP pPKPdf 13 06 40.8 -2.0
comp=Z,0.9nm,0.5s,baz=57,slow=1.9,SNR=2.7
AKASG Malin Array Be 123.70 325 PKIKP PKPdf 13 06 18.0 -2.0
AKASG 13 06 40.8
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 124.46 118 PKP PKPdf 13 06 22.7 +1.2
comp=Z,0.6nm,0.6s,baz=348,slow=4.2,SNR=5.6
LPAZ La Paz 124.46 118 PKIKP PKPdf 13 06 22.7 +1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 125.14 312 pPKP pPKPdf 13 06 43.8 -1.8
comp=Z,0.5nm,0.7s,baz=90,slow=7.4,SNR=2.4
SDV Santo Domingo 128.79 87 *e*PKPdf PKPdf 13 06 30.0 +0.2
KEST Kesra 143.99 319 PKP PKPdf 13 06 55.9 -2.0
comp=Z,1.9nm,0.7s,baz=180,slow=2.0,SNR=5.4
TORD Torodi Ar. Bea 159.83 280 PKP PKPdf 13 07 19.9 -1.4
comp=Z,0.7nm,0.8s,baz=58,slow=0.9,SNR=3.8
TORD pPKP pPKPdf 13 07 42.2 -2.0
comp=Z,1.1nm,0.8s,baz=32,slow=2.1,SNR=4.0
TORD pPKPab PKPab 13 08 01.4 +0.7
comp=Z,0.8nm,0.7s,baz=74,slow=3.5,SNR=4.5
TORD pPKPab pPKPab 13 08 21.9 -0.8
comp=Z,2.1nm,1.0s,baz=72,slow=3.3,SNR=3.3
TORD Torodi Ar. Bea 159.83 280 PKP PKPdf 13 07 19.9 -1.4
TORD pPKP pPKPdf 13 07 42.2 -2.0
TORD PKPab PKPab 13 08 01.4 +0.7
TORD pPKPab pPKPab 13 08 21.9 -0.8

---

*CSEM **21** 13:20:37.7±0.1,3674N×2772E,h98km,MD3.0,Error ellipse: s-maj=1.7km s-min=1.4km az=160.0*
*ISCJB **21** 13:20:38.8±0.7,3660N±005×2763E±006,h103km±6km, Error ellipse: s-maj=8.7km s-min=7.5km az=88.8*
*ISK **21** 13:20:39.8,3669N×2760E,h95km,MD3.0*
*ATH **21** 13:20:40.4,3664N×2746E,h82km±1km*
*HLW **21** 13:20:41.3,3621N×2737E,h25km,Mb3.4*

ISC 21 13:20:39.5±0.8,3661N±005×2764E±006,h100km±7km, n22,σ1°10/32,3C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.12**	**337**	*i* PG	**Pn**	**13 20 53.7**	**+0.3**
DAT				SG	**Sn**	**13 21 03.2**	**-0.6**
BDRM	**Kayabasi**	**0.48**	**341**	*i* P	**Pn**	**13 20 54.9**	**-0.2**
BDRM				*i* S	**Sn**	**13 21 06.8**	**+0.1**
BODT	**Bodrum**	**0.52**	**330**	*i* PG	**Pn**	**13 20 55.3**	**-0.1**
BODT				SG	**Sn**	**13 21 06.3**	**-0.9**
ARG	**Arkhangelos**	**0.56**	**135**	*eP*	**Pn**	**13 20 56.8**	**+1.1**
ARG				*eS*	**Sn**	**13 21 08.8**	**+1.0**
MLSB	**Milas**	**0.69**	**9**	PG	**Pn**	**13 20 56.1**	**-0.7**
YER	**Yerkesik**	**0.73**	**45**	PG	**Pn**	**13 20 57.8**	**+0.6**
DALT	**Dalyan (Mudla)**	**0.82**	**79**	PG	**Pn**	**13 20 59.3**	**+1.3**
AYDN	**Tasoluk**	**1.06**	**10**	*i* P	**Pn**	**13 21 01.1**	**+0.5**
AYDN				*i* S	**Sn**	**13 21 12.8**	**-3.6**
AYDN	**Tasoluk**	**1.06**	**10**	*i* P	**Pn**	**13 21 01.0**	**+0.5**

AYDN				*i* S		**Sn**	**13 21 12.8**	**-3.6**
KARP	**Karpathos**	**1.13**	**200**	*e*P		**Pn**	**13 21 01.8**	**+0.5**
KARP				*e*S		**Sn**	**13 21 17.5**	**-0.3**
FETY	**Fethiye**	**1.16**	**89**	PN		**Pn**	**13 21 02.1**	**+0.4**
AKAS	**Kas**	**1.63**	**103**	*i* P		**Pn**	**13 21 08.4**	**+1.0**
AKAS				*i* S		**Sn**	**13 21 27.0**	**-1.5**
NPS	**Neapolis**	**2.13**	**231**	*e*P		**Pn**	**13 21 13.6**	**-0.1**
XRY	**Khrisi**	**2.35**	**223**	*e*P		**Pn**	**13 21 17.4**	**+0.8**
TKTP	**Tekketepe**	**2.57**	**56**	*i* P		**Pn**	**13 21 20.5**	**+1.1**
TKTP				*i* S		**Sn**	**13 21 46.6**	**-3.6**
GVD	**Gavdhos**	**3.39**	**240**	*e*P		**Pn**	**13 21 31.4**	**+1.0**
HBRG	**Burj al 'Arab**	**6.30**	**162**	⇑P		**Pn**	**13 22 07.6**	**-2.2**
SWA1		**7.51**	**193**	⇓P		**Pn**	**13 22 22.7**	**-3.5**
SWA1				S		**Sn**	**13 23 37.1**	**-13**
SWA2		**7.58**	**195**	⇑P		**Pn**	**13 22 23.6**	**-3.6**
SUZ		**8.03**	**146**	P		**Pn**	**13 22 33.4**	**0.0**
HFRF	**Wahat Farafira**	**9.46**	**176**	⇑P		**Pn**	**13 22 51.0**	**-1.7**
HKAT	**Jabal Katrina**	**9.68**	**145**	P		**Pn**	**13 22 56.7**	**+0.9**

MEX 21 13:34:03.4±1.1**, 1707N**×**10013W, h3**km±25km**, MD3.5, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.14**	**262**	*i* P	Pg	13 34 05.7	-0.3
CAIG				*i* S	Sg	13 34 08.2	+0.4
ACX	**Acapulco**	**0.28**	**135**	*i* P	Pg	13 34 08.5	-0.3
ACX				*i* S	Sg	13 34 13.0	+0.5
MEIG	**Mezcala**	**0.98**	**29**	*i* P	Pg	13 34 19.7	-2.5
MEIG				*i* S	Sg	13 34 32.9	-2.1
PLIG	**Platanillo**	**1.45**	**24**	*i* P	Pn	13 34 28.0	-2.5
PLIG				*i* S	Sb	13 34 45.4	-4.4
UTMO	**Huajupan**	**2.34**	**71**	*e*P	Pn	13 34 39.8	-3.1
UTMO				*i* S	Sn	13 35 09.0	-3.1

*ISCJB **21** 14:21:57.3±0.9, 1780S±0.10×1783W±0.1, h553km±17km, mb4.1/14, Error ellipse: s-maj=20.5km s-min=11.3km az=70.2*
*IDC **21** 14:21:57.4±1.5, 1805S×178.14W, h551km±19km, mb3.3/5, mb1 3.5/7, mb1mx3.3/14, mbtmp4.4/7, Error ellipse: s-maj=47.2km s-min=15.0km az=144.0*
*NEIC **21** 14:21:57.5±0.8, 1792S×17826W, h546km±10km, mb4.2/10, Error ellipse: s-maj=26.9km s-min=8.6km az=148.0*

ISC 21 14:21:57.8±0.8**, 1792S**±010×**1782W**±01**, h551**km±15km**, n27**,σ0°**70/26, mb4.1/14, 1C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.35**	**58**	P	**P**	**14 23 50.3**	**+1.2**
	6.0nm,0.3s,baz=114,slow=5.7,SNR=8.1						
AFI				S	**S**	**14 25 19.7**	**-0.6**
	2.8nm,0.3s,baz=53,slow=23,SNR=4.3						
AFI	**Afiamalu**	**7.35**	**58**	*e*P	**P**	**14 23 49.4**	**+0.3**
AFI				*e*S	**S**	**14 25 14.9**	**-5.4**
RAO	**Raoul Island**	**11.29**	**179**	S	**S**	**14 26 33.3**	**+0.1**
	96nm,0.3s,baz=281,slow=22,SNR=4.2						
DZM	**Mont Dzumac**	**15.01**	**251**	P	**P**	**14 25 06.9**	**-0.4**
	0.8nm,0.3s,baz=71,slow=19,SNR=10.0						
HNR	**Honiara**	**22.83**	**289**	P	**P**	**14 26 18.1**	**-1.0**
	51nm,1.1s,mb5.1						
CTA	**Charters Tower**	**33.64**	**261**	P	**P**	**14 27 53.1**	**+0.1**
	2.5nm,0.6s,mb4.0,baz=84,slow=11,SNR=7.5						
CTAO	**Charters Tower**	**33.64**	**261**	*e*P	**P**	**14 27 53.1**	**+0.1**
	4.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**38.80**	**241**	⇑ *i*P	**P**	**14 28 35.6**	**+0.1**
	3.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**14 28 35.4**	**-0.1**
	4.0nm,0.5s,mb4.2,baz=103,slow=11,SNR=13						
STKA	**Stephens Creek**	**38.80**	**241**	*e*P	**P**	**14 28 35.5**	**0.0**
WRAB	**Tennant Creek**	**44.82**	**260**	*e*P	**P**	**14 29 22.5**	**-0.4**
	3.8nm,0.9s,mb3.9						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**14 29 22.6**	**-0.3**
	0.6nm,0.4s,mb3.5,baz=96,slow=7.3,SNR=39						
WRA				PcP	PcP	14 30 52.6	-0.3
	0.3nm,0.4s,baz=98,slow=3.6,SNR=4.7						
AS31	**Alice Springs**	**44.98**	**254**	*e*P	**P**	**14 29 24.1**	**0.0**
	16nm,0.4s,mb4.9						
ASAR	**Alice Springs**	**44.98**	**254**	P	**P**	**14 29 24.2**	**+0.1**
	3.8nm,0.6s,mb4.1,baz=89,slow=8.9,SNR=165						
ASAR				PcP	PcP	14 30 53.0	-0.5
	0.7nm,0.5s,baz=102,slow=4.0,SNR=6.0						
ASPA	**Alice Springs**	**44.98**	**254**	*e*P	**P**	**14 29 24.1**	**-0.1**
MJAR	**Matsushiro Arr**	**68.03**	**323**	P	**P**	**14 32 03.0**	**+0.6**
	3.1nm,0.5s,mb4.1,baz=150,slow=5.7,SNR=9.3						
MAJO	**Matsushiro**	**68.03**	**323**	P	**P**	**14 32 03.0**	**+0.6**
	3.9nm,0.5s,mb4.2						
KSM	**Kuching**	**72.88**	**277**	*e*P	**P**	**14 32 31.9**	**+0.9**
MDJ	**Mudanjiang**	**78.31**	**325**	P	**P**	**14 33 02.1**	**+1.0**
	7.5nm,0.8s,mb4.1						
PMR	**Palmer**	**82.56**	**14**	*e*P	**P**	**14 33 22.5**	**-0.7**
	2.8nm,0.6s,mb4.0						
KULM	**Kulim**	**83.23**	**278**	P	**P**	**14 33 27.0**	**+0.4**
MCK	**McKinley**	**84.50**	**13**	*e*P	**P**	**14 33 32.3**	**-0.5**
	1.3nm,0.6s,mb3.6						
ANMO	**Albuquerque**	**85.94**	**51**	P	**P**	**14 33 36.2**	**-3.6**
	1.1nm,0.6s,mb3.7						
YAK	**Yakutsk**	**89.66**	**338**	P	**P**	**14 33 53.2**	**-3.9**
	8.5nm,0.7s,mb4.7						
BRTR	**Keskin Array B**	**144.93**	**315**	PKPbc	PKPdf	14 40 32.7	+0.4
	1.6nm,0.8s,baz=134,slow=3.6,SNR=7.5						
CLL	**Collm**	**145.51**	**348**	*i* PKPbc	PKPbc	14 40 34.8	+0.1
	comp=Z,10.0nm,0.8s						
GERES	**GERESS Array B**	**147.67**	**345**	PKPbc	PKPbc	14 40 40.2	-0.3
	comp=Z,1.5nm,0.6s,baz=32,slow=3.3,SNR=11						

*ISCJB **21** 14:22:22.2±2.7, 3889S±007×729W±03, h61km±20km, mb4.1/7, Error ellipse: s-maj=43.1km s-min=11.4km az=176.8*
*NEIC **21** 14:22:25.3±2.4, 3884S×7252W, h62km±17km, mb4.4/4, Error ellipse: s-maj=44.5km s-min=10.5km az=87.0*
*IDC **21** 14:22:26.0±3.5, 3881S×7242W, h64km±25km, mb3.6/4, mb1 3.5/8, mb1mx3.4/17, mbtmp3.7/8, ML4.0/4, MS3.2/3, Ms1 3.2/3, ms1mx2.8/20, Error ellipse: s-maj=64.2km s-min=17.4km az=92.0*

ISC 21 14:22:24.5±2.6**, 3891S**±007×**727W**±04**, h64**km±18km**, n20,** σ1°**26/21, mb4.1/7, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.45**	**139**	P	**Pn**	**14 23 02.2**	**+0.1**
	6.8nm,0.3s,baz=303,slow=13,SNR=45						
PLCA				S	**Sn**	**14 23 42.8**	**+12**
	56nm,0.3s,baz=29,slow=18,SNR=13						
PLCA				LR	LR	14 24 21.8	
	comp=Z,553nm,18.7s,baz=322,slow=48						
CFAA	**Coronel Fontan**	**8.15**	**28**	P	**Pn**	**14 24 20.4**	**+0.3**
	0.1nm,0.3s,baz=208,slow=9.8,SNR=4.6						
TRQA	**Tornquist**	**8.44**	**88**	*e*Pn	**Pn**	**14 24 29.4**	**+5.4**
EFI	**East Falkland**	**16.35**	**146**	Pn	**Pn**	**14 26 09.7**	**-0.2**
	17nm,0.9s						
LVC	**Limon Verde**	**16.57**	**12**	P	**Pn**	**14 26 11.1**	**-1.5**
	0.4nm,0.3s,baz=12,slow=9.3,SNR=6.1						
LVC				LR	LR	14 32 55.6	
	comp=Z,57nm,20.9s,baz=302,slow=38						
LVC	**Limon Verde**	**16.57**	**12**	P	**Pn**	**14 26 11.1**	**-1.5**
LVC				*e*pP	pP	14 26 30.1	+2.6
LVC				LR	LR	14 32 55.6	
CPUP	**Villa Florida**	**17.99**	**50**	P	**Pn**	**14 26 30.1**	**+0.1**
	0.2nm,0.3s,baz=254,slow=11,SNR=2.6						
CPUP				LR	LR	14 34 46.0	
	comp=Z,122nm,20.2s,baz=104,slow=42						
CPUP	**Villa Florida**	**17.99**	**50**	P	**Pn**	**14 26 30.1**	**+0.1**
CPUP				Pn	**Pn**	**14 26 30.6**	**+0.5**
CPUP				LR	LR	14 34 46.0	
LPAZ	**La Paz**	**22.89**	**11**	P	**P**	**14 27 23.8**	**+1.0**
	1.3nm,0.8s,mb3.4,baz=163,slow=3.8,SNR=6.3						
LPAZ	**La Paz**	**22.89**	**11**	P	**P**	**14 27 23.8**	**+1.0**
LPAZ				*e*pP		14 27 36.8	
SIV	**San Ignacio**	**25.01**	**27**	P	**P**	**14 27 42.1**	**-0.2**
	1.2nm,0.8s,mb3.5,baz=236,slow=13,SNR=6.9						
PMSA	**Palmer Station**	**26.39**	**172**	P	**P**	**14 27 57.4**	**+2.5**
	19nm,0.8s,mb4.7,baz=321,slow=8.1,SNR=11						
VNA3	**Neumayer Olymp**	**45.05**	**156**	*e*	**P**	**14 30 31.8**	**-2.1**
VNA3				*e*		14 30 39.4	
SNAA	**Sanae**	**47.27**	**156**	*e*	**P**	**14 30 49.9**	**-1.5**
SNAA				*e*		14 30 56.3	
SNAA	**Sanae**	**47.27**	**156**	*e*P	**P**	**14 30 48.6**	**-2.8**
	4.6nm,0.9s,mb4.4						
QSPA	**South Pole Qui**	**51.33**	**180**	P	**P**	**14 31 26.9**	**+4.5**
	4.1nm,1.0s,mb4.3						
DBIC	**Dimbokro**	**77.28**	**71**	P	**P**	**14 34 13.5**	**+1.5**
	2.9nm,0.7s,mb4.3,baz=112,slow=6.6,SNR=4.4						
DBIC	**Dimbokro**	**77.28**	**71**	P	**P**	**14 34 12.9**	**+1.0**
	16nm,1.4s,mb4.8						
TORD	**Torodi Ar. Bea**	**86.38**	**70**	P	**P**	**14 34 59.3**	**-0.4**
	0.5nm,0.7s,mb3.9,baz=235,slow=5.6,SNR=2.9						
MKAR	**Makanchi Array**	**160.09**	**59**	PKPab	PKPab	14 42 55.7	-0.9
	0.8nm,0.7s,baz=284,slow=4.9,SNR=4.8						

*ISCJB **21** 14:22:57.8±0.4, 3386N±002×596W±004, h10km, Error ellipse: s-maj=4.3km s-min=3.5km az=155.3*
*CNRM **21** 14:23:00.6, 3381N×592W, h17km, MD3.2*
*CSEM **21** 14:23:00.2±0.1, 3375N×587W, h25km, ML2.9/6, Error ellipse: s-maj=3.2km s-min=2.4km az=87.0*
*MDD **21** 14:23:01.1±0.7, 3378N×592W, h22km±7km, mb4.1/3, Error ellipse: s-maj=4.9km s-min=4.3km az=28.0, PRXIMO*

ISC 21 14:22:58.7±0.4**, 3382N**±002×**592W**±003**, h10**km**, n23,** σ1°**40/43, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIF	**Mishlifen**	**0.71**	**126**	*i* P	**Pg**	**14 23 14.0**	**+1.7**
MIF				*i* S	**Sg**	**14 23 24.0**	**+2.5**
IFR	**Ifrane**	**0.72**	**115**	P	**Pg**	**14 23 11.0**	**-1.7**
TGT	**Taghat**	**0.76**	**71**	*i* P	**Pg**	**14 23 15.0**	**+1.7**
TGT				*i* S	**Sg**	**14 23 26.0**	**+2.9**
RTC	**Rabat Centre**	**0.80**	**282**	*i* P	**Pg**	**14 23 16.0**	**+1.9**
RTC				*i* S	**Sg**	**14 23 27.0**	**+2.5**
CZD	**Col de Zad**	**1.07**	**137**	*i* P	**Pg**	**14 23 19.0**	**-0.3**
CZD				*i* S	**Sg**	**14 23 33.0**	**-0.3**
KIB	**El Ksiba**	**1.25**	**185**	*i* P	**Pn**	**14 23 21.0**	**-1.1**
KIB				*i* S	**Sb**	**14 23 36.0**	**-2.4**
AVE	**Averroes**	**1.35**	**248**	P	**Pn**	**14 23 24.0**	**+0.4**
AVE				S	**Sb**	**14 23 42.0**	**+0.5**
TZK	**Tazeka**	**1.46**	**79**	*i* P	**Pn**	**14 23 25.0**	**-0.1**
TZK				*i* S	**Sn**	**14 23 45.0**	**+0.7**
TZC	**Tazercounte**	**1.74**	**196**	*i* P	**Pn**	**14 23 29.0**	**+0.1**
TZC				*i* S	**Sn**	**14 23 51.0**	**-0.1**
ZFT	**Errachidia**	**2.22**	**143**	*e*P	**Pn**	**14 23 35.0**	**-0.5**
ZFT				*i* S	**Sn**	**14 24 02.0**	**-0.9**
CIA	**Chichaoua**	**3.29**	**228**	P	**Pn**	**14 23 49.0**	**-1.2**
CIA				S	**Sn**	**14 24 25.0**	**-4.4**
CIA	**Chichaoua**	**3.29**	**228**	*e*P	**Pn**	**14 23 49.0**	**-1.2**
EGRO	**El Granado**	**3.92**	**341**	P	**Pn**	**14 24 00.3**	**+1.5**
	1.2nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**14 24 43.9**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.92**	**341**	Pn	**Pn**	**14 24 00.3**	**+1.5**
	1.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**14 24 43.9**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.98**	**351**	P	**Pn**	**14 24 00.1**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**14 24 43.9**	**-2.6**
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.98**	**351**	Pn	**Pn**	**14 24 00.1**	**+0.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**14 24 43.9**	**-2.6**
	0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.47**	**14**	P	**Pn**	**14 24 07.3**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**14 24 55.7**	**-2.8**
	0.9nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.47**	**14**	Pn	**Pn**	**14 24 06.0**	**-0.4**
	SNR=7.9						
EADA				Sn	**Sn**	**14 24 55.7**	**-2.8**
	0.9nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.66**	**21**	P	**Pn**	**14 24 09.5**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**14 24 58.8**	**-4.5**
	0.6nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**4.66**	**21**	Pn	**Pn**	**14 24 09.5**	**+0.4**
	1.0nm,0.1s,SNR=7.9						
EBAN				Sn	**Sn**	**14 25 02.5**	**-0.8**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.00**	**350**	P	**Pn**	**14 24 14.8**	**+1.0**
	1.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**14 25 08.3**	**-3.3**
	0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.00**	**350**	Pn	**Pn**	**14 24 14.8**	**+1.0**
	1.6nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**14 25 11.1**	**-0.5**
	0.7nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**5.54**	**29**	S	**Sn**	**14 25 22.0**	**-2.9**
	0.8nm,0.1s,SNR=7.9						

*NEIC **21** 14:24:13.8, 1775N×9475W, h137km, MD4.0(MEX), After MEX.*

MEX 21 14:24:14.5±0.8**, 1765N**×**9477W, h137**km±11km**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.56**	**191**	*i* P	Pn	14 24 33.2	-1.5
CMIG				*i* S	Sn	14 24 48.2	-1.8
OXX	**Oaxaca**	**1.95**	**254**	*i* P	Pn	14 24 47.0	-1.2
OXX				*i* S	Sn	14 25 14.5	+0.5
VHO	**Vista Hermosa**	**1.96**	**253**	*i* P	Pn	14 24 46.7	-1.6
VHO				*i* S	Sn	14 25 13.3	-1.0
TPIG	**Tehuac#an**	**2.58**	**288**	*i* P	Pn	14 24 55.7	-0.3
TPIG				*i* S	Sn	14 25 25.8	-2.2
CCIG	**Comitan**	**2.86**	**118**	*i* P	Pn	14 24 58.4	-1.2
CCIG				*i* S	Sn	14 25 33.0	-1.4
UTMO	**Huajuapan**	**2.90**	**274**	*i* P	Pn	14 24 58.8	-1.2
UTMO				*i* S	Sn	14 25 33.6	-1.5

*NEIC **21** 14:32:18.0, 1569N×9801W, h10km, MD3.9(MEX), After MEX.*

MEX 21 14:32:19.1±0.5**, 1575N**×**9794W, h10**km**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**344**	*i* P	Pg	14 32 30.6	-1.3
PNIG				*i* S	Sg	14 32 39.7	-1.0
PNIG	**Pinotepa**	**0.67**	**344**	*i* P	Pg	14 32 30.7	-1.3
PNIG				*i* S	Sg	14 32 40.0	-0.6
VHO	**Vista Hermosa**	**1.75**	**41**	*i* P	Pn	14 32 46.0	-3.5
VHO				*i* S	Sn	14 33 08.5	-3.4
OXX	**Oaxaca**	**1.77**	**41**	*i* P	Pn	14 32 46.5	-3.2
OXX				*i* S	Sn	14 33 10.0	-2.2
UTMO	**Huajupan**	**2.07**	**4**	*e*P	Pn	14 32 51.9	-2.1
UTMO				*i* S	Sn	14 33 15.7	-4.1
MEIG	**Mezcala**	**2.70**	**324**	*i* S	Sn	14 33 30.5	-4.8
TPIG	**Tehuac#an**	**2.71**	**12**	*i* S	Sn	14 33 31.2	-4.4
PLIG	**Platanillo**	**3.02**	**331**	*i* P	Pn	14 33 01.4	-5.6
PLIG				*i* S	Sn	14 33 38.2	-5.0
CMIG	**Matias Romero**	**3.22**	**65**	*i* P	Pn	14 33 06.5	-3.2
CMIG				*i* S	Sn	14 33 43.5	-4.7
CMIG	**Matias Romero**	**3.22**	**65**	*i* P	Pn	14 33 06.5	-3.2
CMIG				*i* S	Sn	14 33 41.8	-6.4
PPM	**Popocatepetl**	**3.36**	**349**	*i* S	Sn	14 33 47.3	-4.4

*ISCJB **21** 14:47:20.4±1.6, 4339N±007×825E±0.1, h6km±10km, mb3.4/3, Error ellipse: s-maj=18.1km s-min=11.3km az=22.7*
*IDC **21** 14:47:20.1±1.1, 4321N×8223E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=30.6km s-min=14.8km az=86.0*
*NNC **21** 14:47:30.1±2.9, 4364N×8233E, h24km±14km, mb3.5, mpv3.1, Error ellipse: s-maj=25.6km s-min=14.2km az=142.0*

ISC 21 14:47:23.1±1.7**, 4340N**±007×**826E**±01**, h12**km±11km**, n7,** σ1°**32/10, mb3.4/3, 4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK02	**Makanchi Array**	**3.38**	**357**	⇑Pn	**Pn**	**14 48 17.3**	**+1.7**
	1.1nm,0.3s,baz=184,slow=13						
MK02				⇑Pg	**Pg**	**14 48 26.6**	**-1.1**
	19nm,0.4s,baz=174,slow=14						
MK02				⇓Sn	**Sn**	**14 48 55.3**	**-0.3**
	8.2nm,0.4s,baz=171,slow=27						
MK02				⇑Lg		14 49 11.3	
	15nm,0.3s,baz=182,slow=26						
MKAR	**Makanchi Array**	**3.40**	**357**	Pn	**Pn**	**14 48 17.6**	**+1.6**
	1.7nm,0.3s,baz=185,slow=11,SNR=18						
MKAR				Pg	**Pg**	**14 48 27.0**	**-1.2**
	16nm,0.3s,baz=179,slow=14,SNR=104						
MKAR				Lg		14 49 13.8	
	15nm,0.3s,baz=182,slow=26,SNR=12						
TKM2	**Tokmak 2**	**5.11**	**267**	⇑Pg	**Pg**	**14 49 02.1**	**+1.2**
	0.3nm,0.5s						
TKM2				⇓Lg		14 50 07.4	
	1.4nm,0.6s						
SONM	**Songino Array**	**17.24**	**67**	P	**Pn**	**14 51 25.9**	**+2.2**
	0.1nm,0.3s,baz=263,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**74.48**	**273**	P	**P**	**14 58 59.5**	**-1.9**
	0.5nm,0.5s,mb3.7,baz=42,slow=5.6,SNR=7.6						
WRA	**Warramunga Arr**	**78.93**	**131**	P	**P**	**14 59 25.9**	**-0.6**
	0.3nm,0.8s,mb3.3,baz=327,slow=5.2,SNR=4.8						
ASAR	**Alice Springs**	**81.71**	**134**	P	**P**	**14 59 40.8**	**-0.8**
	0.2nm,0.5s,mb3.3,baz=326,slow=5.5,SNR=4.9						

*IDC **21** 15:42:47.2±1.0, 3345S×7228W, h0km, mb4.0/5, mb1 4.1/10, mb1mx4.0/20, mbtmp3.9/10, ML4.1/5, MS3.6/3, Ms1 3.6/3, ms1mx3.1/17, Error ellipse: s-maj=32.1km s-min=20.1km az=105.0*
*ISCJB **21** 15:42:48.5±1.0, 3349S±003×7235W±005, h18km±6km, mb4.3/9, MS3.8/2, Error ellipse: s-maj=7.4km s-min=4.7km az=5.1*
*GUC **21** 15:42:49.9±0.8, 3349S×7225W, h32km±3km, MD4.3, ML4.4*
*NEIC **21** 15:42:50.5±1.6, 3352S×7218W, h19km±8km, mb4.5/8, ML4.4(GUC), Error ellipse: s-maj=9.9km s-min=5.1km az=90.0*
NEIC Felt [II] at Santiago.

ISC 21 15:42:49.5±0.9**, 3350S**±003×**7227W**±005**, h14**km±5km**, n56,** σ0°**91/64, mb4.3/9, MS3.8/2, 14C-8D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.58**	**88**	⇑ *i*P	**Pg**	**15 43 00.9**	**0.0**
IHA	**Instituto Hidr**	**0.70**	**48**	⇓ *i*P	**Pg**	**15 43 03.7**	**+0.5**
IHA				*i* S	**Sg**	**15 43 13.7**	**+1.1**
LNV	**Longovilo**	**0.85**	**123**	⇓ *i*P	**Pg**	**15 43 05.3**	**-0.7**
TACH	**Talagante**	**1.12**	**98**	⇑ *i*P	**Pb**	**15 43 09.3**	**-1.3**
ROCH	**El Roble**	**1.18**	**64**	⇑ *i*P	**Pn**	**15 43 11.0**	**-0.5**
ROCH				*i* S	**Sb**	**15 43 27.4**	**+0.7**
RCDM	**Rinconada Maip**	**1.22**	**90**	⇓ *i*P	**Pn**	**15 43 10.9**	**-1.2**
RCDM				*i* S	**Sb**	**15 43 26.5**	**-1.5**
RCDM				AML	AML	15 43 33.3	
	comp=N,5μm,0.7s						
RCDM	**Rinconada Maip**	**1.22**	**90**	⇓ *i*P	**Pn**	**15 43 10.9**	**-1.2**
RCDM				*i* S	**Sb**	**15 43 26.5**	**-1.5**
SAN	**Santiago**	**1.34**	**89**	⇑ *i*P	**Pn**	**15 43 13.4**	**-0.4**
SAN				*i* S	**Sn**	**15 43 30.6**	**-0.9**
SAN				AML	AML	15 43 37.1	
	comp=N,8μm,0.4s						
SAN	**Santiago**	**1.34**	**89**	⇑ *i*P	**Pn**	**15 43 13.4**	**-0.4**
SAN				*i* S	**Sn**	**15 43 30.6**	**-0.9**
CHCH	**Chadas Angostu**	**1.41**	**108**	⇑ *i*P	**Pn**	**15 43 14.0**	**-0.8**
CLCH	**Cerro Calan**	**1.45**	**86**	⇓ *i*P	**Pn**	**15 43 15.4**	**+0.1**
CLCH				*i* S	**Sn**	**15 43 33.8**	**-0.3**
CLCH				AML	AML	15 43 43.8	
	comp=N,9μm,0.6s						
CACH	**El Canelo**	**1.52**	**114**	⇓ *i*P	**Pn**	**15 43 16.7**	**+0.4**
SFDO	**San Fernando**	**1.52**	**137**	⇑ *i*P	**Pn**	**15 43 15.8**	**-0.5**
JACH	**Jahuel**	**1.62**	**60**	⇓ *i*P	**Pn**	**15 43 17.7**	**0.0**
JACH				*i* S	**Sn**	**15 43 38.6**	**+0.2**
FCH	**Farellones**	**1.66**	**85**	⇓ *i*P	**Pn**	**15 43 20.1**	**+1.8**
FCH				*i* S	**Sn**	**15 43 41.4**	**+2.0**
FCH				AML	AML	15 43 47.9	
	comp=E,8μm,0.2s						
NICH	**Los Niches**	**1.73**	**150**	⇑ *i*P	**Pn**	**15 43 19.0**	**-0.2**
NICH				*i* S	**Sn**	**15 43 41.9**	**+0.9**
CHNG	**Los Chungos**	**1.74**	**22**	⇑ *i*P	**Pn**	**15 43 18.7**	**-0.5**
CHNG				*i* S	**Sn**	**15 43 39.8**	**-1.4**
CHNG				AML	AML	15 43 53.5	
	comp=N,1μm,0.5s						
CICH	**Cipreses**	**1.74**	**119**	⇑ *i*P	**Pn**	**15 43 19.6**	**+0.3**
CICH				*i* S	**Sn**	**15 43 41.7**	**+0.4**
TALC	**Talca**	**1.97**	**165**	⇑ *i*P	**Pn**	**15 43 22.3**	**-0.1**
TALC				*i* S	**Sn**	**15 43 47.2**	**+0.4**
TALC				AML	AML	15 43 51.3	
	comp=E,11μm,0.4s						
TALC	**Talca**	**1.97**	**165**	⇑ *i*P	**Pn**	**15 43 22.3**	**-0.1**
TALC				*i* S	**Sn**	**15 43 47.2**	**+0.4**
CCHI	**Chillan**	**3.10**	**177**	AML	AML	15 44 33.4	
	comp=N,3μm,0.8s						
CCHI				AML	AML	15 44 33.4	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**3.55**	**21**	⇑ *i*P	**Pn**	**15 43 44.7**	**+0.5**
TLL				*i* S	**Sn**	**15 44 26.1**	**+0.2**
TLL				AML	AML	15 44 52.7	
	comp=N,2μm,0.6s						
TLL	**Tololo Astrono**	**3.55**	**21**	⇑ *i*P	**Pn**	**15 43 44.7**	**+0.5**
TLL				*i* S	**Sn**	**15 44 26.1**	**+0.2**
CFAA	**Coronel Fontan**	**3.89**	**62**	Pn	**Pn**	**15 43 50.4**	**+1.5**
	comp=N,0.9nm,0

PRE 21 15:50:48.0±1.4, 2643S×2755E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.65**	**74**	*e*P	Pg	15 51 00.7	+0.3
ERPM				*e*S	Sg	15 51 08.6	-0.2
ERPM				AML	AML	15 51 09.6	
	comp=Z,145nm,0.5s						
ERPM	**east rand prop**	**0.65**	**74**	*e*P	Pg	15 51 00.7	+0.3
ERPM				*e*S	Sg	15 51 08.0	-0.9
ERPM				AML	AML	15 51 09.6	
	comp=Z,145nm,0.5s						
KSR	**Koster**	**0.82**	**314**	*e*P	Pg	15 51 03.5	-0.3
KSR				*e*S	Sg	15 51 15.1	+0.8
KSR				AML	AML	15 51 23.6	
	comp=Z,47nm,0.2s						
KSR	**Koster**	**0.82**	**314**	*e*P	Pg	15 51 03.5	-0.3
KSR				*e*S	Sg	15 51 15.1	+0.8
KSR				AML	AML	15 51 23.6	
	comp=Z,47nm,0.2s						
SLR	**Silverton**	**0.95**	**44**	*e*P	Pg	15 51 06.2	-0.1
SLR				*e*S	Sg	15 51 20.6	+1.9
SLR				AML	AML	15 51 24.6	
	comp=Z,41nm,0.2s						
SEK	**Senekal**	**1.89**	**178**	*e*P	Pn	15 51 22.7	+1.4
SEK				*e*S	Sn	15 51 46.5	+0.8
SEK				AML	AML	15 51 48.2	
	comp=Z,36nm,0.7s						
SEK	**Senekal**	**1.89**	**178**	*e*P	Pn	15 51 22.7	+1.4
SEK				*e*S	Sn	15 51 46.5	+0.8
SEK				AML	AML	15 51 48.2	
	comp=Z,36nm,0.7s						
LBTB	**Lobatse**	**2.25**	**308**	*e*P	Pn	15 51 27.3	+1.1
LBTB				*e*S	Sn	15 51 54.9	+0.3
LBTB				AML	AML	15 51 59.8	
	comp=Z,44nm,0.2s						
LBTB	**Lobatse**	**2.25**	**308**	*e*P	Pn	15 51 27.3	+1.1
LBTB				*e*S	Sn	15 51 54.9	+0.3
LBTB				AML	AML	15 51 59.8	
	comp=Z,44nm,0.2s						
BOSA	**Boshof**	**2.98**	**223**	*e*P	Pn	15 51 37.1	+0.8
BOSA				*e*S	Sn	15 52 12.7	+0.1
BOSA				AML	AML	15 52 21.4	
	comp=Z,5.8nm,0.3s						
BOSA	**Boshof**	**2.98**	**223**	*e*P	Pn	15 51 37.1	+0.8
BOSA				*e*S	Sn	15 52 12.7	+0.1
BOSA				AML	AML	15 52 21.4	
	comp=Z,5.8nm,0.3s						
POGA	**Pongola**	**3.75**	**105**	*e*P	Pn	15 51 47.9	+1.1
POGA				*e*S	Sn	15 52 33.1	+1.6
POGA				AML	AML	15 52 47.0	
	comp=Z,9.1nm,0.4s						
POGA	**Pongola**	**3.75**	**105**	*e*P	Pn	15 51 47.9	+1.1
POGA				*e*S	Sn	15 52 33.1	+1.6
POGA				AML	AML	15 52 47.0	
	comp=Z,9.1nm,0.4s						

*NEIC **21** 16:05:23.8, 34.11S×70.26W, h114km, mb3.5/1, MD3.7(GUC), After GUC.*

GUC 21 16:05:23.8±0.6, 3411S×7026W, h114km±2km, MD3.7, ML3.8, 8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.25**	**213**	↑*i*P	Pn	16 05 40.3	+0.4
CICH				*i* S	Sn	16 05 52.2	+0.3
CACH	**El Canelo**	**0.29**	**268**	↓*i*P	Pn	16 05 40.5	+0.5
CHCH	**Chadas Angostu**	**0.37**	**298**	↓*i*P	Pn	16 05 40.8	+0.4
CHCH				*i* S	Sn	16 05 53.5	+0.6
SJCH	**San Jose de Ma**	**0.47**	**350**	*e*P	Pn	16 05 41.2	+0.3
SJCH				*i* S	Sn	16 05 54.8	+0.9
SJCH				AML	AML	16 05 55.2	
	comp=N,2μm,0.4s						
SJCH	**San Jose de Ma**	**0.47**	**350**	*e*P	Pn	16 05 41.2	+0.3
SJCH				*i* S	Sn	16 05 54.8	+0.9
TACH	**Talagante**	**0.73**	**308**	↓*i*P	Pn	16 05 43.1	+0.3
TACH				*i* S	Sn	16 05 57.7	+0.6
SAN	**Santiago**	**0.73**	**332**	*e*P	Pn	16 05 43.1	+0.3
SAN				*i* S	Sn	16 05 58.0	+0.7
SAN				AML	AML	16 05 58.6	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**0.73**	**332**	*e*P	Pn	16 05 43.1	+0.3
SAN				*i* S	Sn	16 05 58.0	+0.7
CLCH	**Cerro Calan**	**0.75**	**342**	↑*i*P	Pn	16 05 43.5	+0.6
CLCH				*i* S	Sn	16 05 58.5	+1.1
CLCH				AML	AML	16 05 59.8	
	comp=N,3μm,0.4s						
CLCH				AML	AML	16 06 00.3	
	comp=N,4μm,0.4s						
DSCH	**Colegio Aleman**	**0.75**	**340**	*i* P	Pn	16 05 42.9	-0.1
DSCH				*i* S	Sn	16 05 57.9	+0.4
RCDM	**Rinconada Maip**	**0.77**	**323**	*e*P	Pn	16 05 43.4	+0.3
RCDM				*i* S	Sn	16 05 58.4	+0.6
RCDM				AML	AML	16 05 59.9	
	comp=N,3μm,0.2s						
RCDM	**Rinconada Maip**	**0.77**	**323**	*e*P	Pn	16 05 43.4	+0.3
RCDM				*i* S	Sn	16 05 58.4	+0.6
FCH	**Farellones**	**0.78**	**358**	↑*i*P	Pn	16 05 44.6	+1.4
FCH				*i* S	Sn	16 05 59.9	+2.0
FCH				AML	AML	16 06 01.9	
	comp=N,3μm,0.6s						
SFDO	**San Fernando**	**0.81**	**231**	↓*i*P	Pn	16 05 44.0	+0.6
SFDO				*i* S	Sn	16 05 59.2	+0.8
LNV	**Longovilo**	**0.97**	**279**	↑*i*P	Pn	16 05 45.1	0.0
LNV				*i* S	Sn	16 06 01.3	+0.2
PEL	**Peldehue**	**1.03**	**339**	↓*i*P	Pn	16 05 45.9	+0.3
PEL				*i* S	Sn	16 06 02.7	+0.7
PEL				AML	AML	16 06 04.3	
	comp=N,5μm,0.3s						
PEL	**Peldehue**	**1.03**	**339**	↓*i*P	Pn	16 05 45.9	+0.3
PEL				*i* S	Sn	16 06 02.7	+0.7
NICH	**Los Niches**	**1.20**	**222**	*e*P	Pn	16 05 48.1	+0.6
LCCH	**Las Cruces**	**1.26**	**300**	↓*i*P	Pn	16 05 48.2	+0.1
LCCH				*i* S	Sn	16 06 07.2	+0.6
ROCH	**El Roble**	**1.30**	**331**	↑*i*P	Pn	16 05 49.1	+0.6
JACH	**Jahuel**	**1.45**	**349**	*e*P	Pn	16 05 50.9	+0.7
JACH				*i* S	Sn	16 06 11.3	+1.0
MDZ	**Mendoza**	**1.69**	**44**	*e*P	Pn	16 06 14.8	+22
TALC	**Talca**	**1.72**	**221**	↑*i*P	Pn	16 05 51.6	-1.9
TALC				*i* S	Sn	16 06 14.3	-1.7
TALC				AML	AML	16 06 16.6	
	comp=E,4μm,0.3s						
TALC	**Talca**	**1.72**	**221**	↑*i*P	Pn	16 05 51.6	-1.9
TALC				*i* S	Sn	16 06 14.3	-1.7
CHNG	**Los Chungos**	**2.45**	**334**	↑*i*P	Pn	16 06 03.0	+0.2
CHNG				AML	AML	16 06 32.8	
	comp=E,461nm,0.5s						
LPAZ	**La Paz**	**17.85**	**7**	*e*P	Pn	16 09 25.8	+1.0
	comp=E,2.3nm,0.7s						

*ISCJB **21** 16:23:38.9±1.1, 5464N±008×15958W±009, h42km±10km, mb4.0/6, MS3.7/1, Error ellipse: s-maj=13.3km s-min=7.4km az=137.4*
*IDC **21** 16:23:39.4±7.2, 5528N×16009W, h0km, mb4.0/5, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, ML3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.9/29, Error ellipse: s-maj=169.6km s-min=20.8km az=160.0*
*NEIC **21** 16:23:41.1±1.0, 5466N×15959W, h43km±7km, mb4.1/1, ML3.6(AEIC), Error ellipse: s-maj=16.6km s-min=5.7km az=160.0*

ISC 21 16:23:36.9±1.5, 5457N±006×15963W±008, h9km±8km, n27, σ1§33/31, mb4.0/6, MS3.7/1, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.92**	**328**	P	**Pg**	**16 23 55.4**	**+0.8**
SDPT				S	**Sg**	**16 24 05.4**	**-1.2**
CHGN	**Chignik**	**1.87**	**21**	P	**Pn**	**16 24 10.0**	**+1.0**
AKUT	**Akutan**	**3.62**	**266**	*e*Pn	**Pn**	**16 24 35.6**	**+2.6**
KDAK	**Kodiak Island**	**5.09**	**48**	Pn	**Pn**	**16 24 53.4**	**+0.2**
	3.4nm,0.3s,baz=252,slow=10,SNR=26						
KDAK				Sn	**Sn**	**16 25 47.1**	**-5.0**
	2.0nm,0.3s,baz=49,slow=18,SNR=3.0						
KDAK				Lg		16 26 12.8	
	2.6nm,0.3s,baz=187,slow=19,SNR=2.7						
KDAK	**Kodiak Island**	**5.09**	**48**	*e*Pn	**Pn**	**16 24 53.2**	**0.0**
KDAK				*e*Sg	**Sg**	**16 26 17.3**	**-2.9**
NIKO	**Nikolski**	**5.70**	**257**	*e*Pn	**Pn**	**16 24 58.9**	**-2.8**
SPIA	**Saint Paul Isl**	**6.52**	**298**	*e*Pn	**Pn**	**16 25 15.0**	**+2.1**
SVW2	**Sparrevohn**	**6.89**	**17**	*e*Pn	**Pn**	**16 25 19.8**	**+1.8**
SVW2				*e*Sn	**Sn**	**16 26 38.2**	**+1.6**
SLKM	**Skilak Lake**	**7.81**	**37**	P	**Pn**	**16 25 31.4**	**+0.8**
RC01	**Rabbit Creek A**	**8.40**	**35**	P	**Pn**	**16 25 38.5**	**-0.1**
TTA	**Tatalina**	**8.59**	**11**	*e*Pn	**Pn**	**16 25 42.4**	**+1.1**
	5.8nm,0.3s						
TTA				*e*Sn	**Sn**	**16 27 18.0**	**-0.4**
PMR	**Palmer**	**8.96**	**34**	Pn	**Pn**	**16 25 47.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**9.56**	**46**	*e*Pn	**Pn**	**16 25 54.2**	**-0.4**
DIV	**Divide**	**9.88**	**43**	*e*Pn	**Pn**	**16 26 02.1**	**+3.2**
DIV				*e*Pg	Sn	16 28 13.7	+24
RAGM	**Ragged Mountai**	**9.93**	**48**	P	**Pn**	**16 25 59.6**	**0.0**
TRF	**Thorofare Moun**	**10.12**	**25**	P	**Pn**	**16 26 01.7**	**-0.5**
AMKA	**Amchitka**	**13.08**	**265**	*e*Pn	**Pn**	**16 26 43.6**	**+0.9**
EGAK	**Eagle**	**13.78**	**35**	*e*Pn	**Pn**	**16 26 51.6**	**-0.7**
SIT	**Sitka**	**13.87**	**70**	*e*Pn	**Pn**	**16 26 55.1**	**+1.6**
INK	**Inuvik**	**18.36**	**31**	P	**Pn**	**16 27 49.6**	**-2.0**
	0.3nm,0.3s,baz=239,slow=11,SNR=7.8						
INK				LR	LR	16 35 12.4	
	comp=Z,90nm,18.3s,baz=108,slow=39						
ULN	**Ulaanbaatar**	**54.67**	**305**	*e*P	**P**	**16 33 05.0**	**-1.0**
	1.3nm,0.7s,mb4.1						
SONM	**Songino Array**	**55.00**	**305**	P	**P**	**16 33 08.2**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=49,slow=5.3,SNR=3.4						
ARCES	**ARCESS Array B**	**56.15**	**358**	P	**P**	**16 33 15.5**	**-1.2**
	4.2nm,0.9s,mb4.5,baz=29,slow=7.7,SNR=3.9						
ZAL	**Zalesovo**	**59.54**	**322**	LR	LR	16 59 47.0	
	comp=Z,50nm,18.5s,MS3.7,baz=197,slow=37						
FINES	**FINESS Array B**	**64.25**	**357**	P	**P**	**16 34 11.0**	**-1.2**
	0.8nm,0.6s,mb3.9,baz=358,slow=9.7,SNR=5.2						
MKAR	**Makanchi Array**	**66.28**	**319**	P	**P**	**16 34 23.9**	**-1.5**
	0.4nm,0.5s,mb3.7,baz=46,slow=6.6,SNR=5.4						
AKASG	**Malin Array Be**	**74.84**	**354**	P	**P**	**16 35 16.2**	**-1.4**
	0.6nm,0.3s,mb4.0,baz=8.2,slow=6.0,SNR=4.8						

CASC 21 16:38:08.1±3.5, 1418N×8814W, h20km±24km, MD3.9, ML3.0, 9C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCBS	**La Ceiba**	**0.97**	**238**	↑*e*P	x	16 38 50.4	
LCBS				*e*S	x	16 39 04.1	
LBRS	**Las Brisas**	**0.98**	**244**	*e*P	x	16 38 52.2	
LBRS				*e*S	x	16 39 06.0	
LFU	**La Fuente**	**1.04**	**246**	↑*e*P	x	16 38 52.1	
LFU				*e*S	x	16 39 08.1	
LFRS	**El Faro**	**1.05**	**238**	↑*e*P	x	16 38 50.1	
LFRS				*e*S	x	16 39 03.8	
BOQS	**Boqueron**	**1.19**	**248**	↑*e*P	x	16 38 52.7	
BOQS				*e*S	x	16 39 08.0	
SNJE	**San Jose**	**1.46**	**258**	*e*P	x	16 38 56.2	
SNJE				*e*S	x	16 39 14.8	
SBLS	**San Blas**	**1.48**	**257**	↑*e*P	x	16 38 56.0	
SBLS				*e*S	x	16 39 15.6	
RTR	**El Retiro**	**1.49**	**259**	↑*e*P	x	16 38 57.4	
RTR				*e*S	x	16 39 16.9	
RBDL	**Robledal**	**1.50**	**268**	↑*e*P	x	16 39 00.3	
RBDL				*e*S	x	16 39 22.0	
CRIN	**San Cristobal**	**1.81**	**144**	*e*P	Pn	16 38 38.7	+0.6
TELN	**Telica**	**2.02**	**141**	*e*P	Pn	16 38 41.4	+0.4
LEON	**Leon**	**2.13**	**145**	↑*e*P	Pn	16 38 41.9	-0.6
LEON				*e*S	Sn	16 39 07.2	-1.2
LEON				*i*		16 39 09.4	
	comp=Z,108nm,0.3s						
CNGN	**Cerro Negro**	**2.18**	**140**	↑*e*P	Pn	16 38 45.0	+1.8
CNGN				*e*S	Sn	16 39 11.5	+1.9
MIRN	**Miramar**	**2.22**	**141**	*e*P	Pn	16 38 45.1	+1.3
MOMJ	**Momotombo**	**2.35**	**138**	*e*P	Pn	16 38 47.5	+2.0
MOMJ				*e*S	Sn	16 39 16.6	+2.8
COPN	**Copaltepe**	**2.49**	**143**	*e*P	Pn	16 38 47.1	-0.4
COPN				*i*		16 39 16.5	
	comp=Z,124nm,0.4s						
CGA2	**Cerro Gallo 2**	**5.48**	**139**	*e*P	Pn	16 39 27.6	-0.9
PRS1	**Puriscal**	**5.60**	**138**	*e*P	Pn	16 39 30.1	-0.2
LCR2	**La Lucha 2**	**5.99**	**137**	*e*P	Pn	16 39 34.9	-0.6
BUS	**Buena Vista**	**6.28**	**137**	*e*P	Pn	16 39 39.5	-0.1
CTCR	**Cotoan**	**7.44**	**134**	*e*P	Pn	16 39 55.4	-0.1

*BJI **21** 17:31:56.3, 3667N×14196E, h28km, mB4.7, mb4.5, Ms4.2, Msz3.6*
*MOS **21** 17:31:59.4±0.8, 3641N×14155E, h33km, mb4.5/7, Error ellipse: s-maj=16.8km s-min=10.9km az=114.4*
*NEIC **21** 17:31:59.3±4.2, 3641N×14148E, h15km±25km, mb4.3/7, Error ellipse: s-maj=13.4km s-min=9.0km az=98.0*
*NIED **21** 17:32:00, 3640N×14120E, h35km, Mw4.0 Best double couple: M0.1.09000×10^15 NP1:φs19.00000°, δ73.00000°, λ83.00000°. NP2:φs221.00000°, δ18.00000°, λ111.00000°.*
*ISCJB **21** 17:32:01.2±0.8, 3640N±003×14137E±007, h41km±7km, mb4.1/5, Error ellipse: s-maj=9.9km s-min=5.3km az=7.9*
*IDC **21** 17:32:03.1±3.1, 3638N×14139E, h39km±26km, mb3.7/6, mb1 3.9/9, mb1mx3.7/21, mbtmp4.0/9, ML3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/37, Error ellipse: s-maj=37.2km s-min=15.8km az=82.0*
*JMA **21** 17:32:03.4±0.1, 3638N×141.11E, h48km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs199.00000°, δ11.00000°, λ95.00000°. NP2:φs14.00000°, δ79.00000°, λ89.00000°. Principal axes: T Plg56.0000°, Azm283.0000°; N Plg1.0000°, Azm14.0000°; P Plg34.0000°, Azm105.0000°;*
JMA Felt I J1.

ISC 21 17:32:02.1±0.8, 3640N±003×14127E±006, h27km±5km, n39, σ0§88/50, mb4.1/15, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.60**	**291**	↓P	**Pb**	**17 32 14.3**	**+0.3**
JHO				*e*S	**Sb**	**17 32 22.1**	**0.0**
CHOJ	**Chosi**	**0.77**	**206**	↑P	**Pb**	**17 32 17.1**	**+0.2**
CHOJ				S	**Sb**	**17 32 26.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.79**	**332**	↓P	**Pb**	**17 32 17.6**	**+0.3**
ONAJ				S	**Sb**	**17 32 27.3**	**-0.3**
JYT	**Yasato**	**0.88**	**259**	↓P	**Pn**	**17 32 17.8**	**-0.9**
JYT				S	**Sb**	**17 32 27.3**	**-2.9**
JFK	**Kawauchi**	**1.01**	**342**	P	**Pn**	**17 32 20.6**	**+0.1**
JFT	**Otama**	**1.34**	**327**	P	**Pn**	**17 32 26.3**	**+1.3**
JFT				S	**Sn**	**17 32 42.4**	**+0.5**
JAG	**Ashikaga**	**1.46**	**271**	↓P	**Pn**	**17 32 26.3**	**-0.3**
JAG				S	**Sn**	**17 32 43.2**	**-1.7**
JFY	**Yanaizu**	**1.60**	**309**	↓P	**Pn**	**17 32 29.4**	**+0.8**
JKT	**Katashina**	**1.67**	**283**	↓P	**Pn**	**17 32 29.9**	**+0.5**
JKT				S	**Sn**	**17 32 49.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.47**	**274**	Pn	**Pn**	**17 32 41.5**	**+1.0**
	26nm,0.3s,baz=98,slow=9.0,SNR=398						
MJAR				LR	LR	17 33 44.8	
	comp=Z,454nm,21.0s,baz=140,slow=40						
MJAR	**Matsushiro Arr**	**2.47**	**274**	Pn	**Pn**	**17 32 41.5**	**+1.0**
MAJO	**Matsushiro**	**2.47**	**274**	*e*P	**Pn**	**17 32 41.5**	**+1.0**
MAT	**Matsushiro**	**2.47**	**274**	P	**Pn**	**17 32 41.3**	**+0.8**
MAT				S	**Sn**	**17 33 13.5**	**+3.7**
JHJ	**Hachijo jima 2**	**3.50**	**201**	Pn	**Pn**	**17 32 55.9**	**+1.3**
	29nm,0.3s,baz=80,slow=22,SNR=26						
JHJ				Sn	**Sn**	**17 33 35.8**	**+0.8**
	93nm,0.3s,baz=94,slow=22,SNR=9.3						
ASAJ	**Asahikawa**	**7.77**	**7**	Pn	**Pn**	**17 33 53.4**	**+0.1**
	1.4nm,0.3s,baz=183,slow=11,SNR=15						
ASAJ				Sn	**Sn**	**17 35 20.6**	**+0.1**
	0.7nm,0.3s,baz=46,slow=34,SNR=3.2						
ASAJ	**Asahikawa**	**7.77**	**7**	P	**Pn**	**17 33 53.4**	**+0.1**
ASAJ						17 35 20.6	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**10.60**	**6**	P	**Pn**	**17 34 29.9**	**-2.2**
HHC	**Hu-ho-hao-te**	**23.57**	**290**	*e*P	**P**	**17 37 11.1**	**+0.7**
HHC				AP		17 37 17.8	
HHC				XP	sP	17 37 21.6	0.0
HHC				PP		17 37 44.3	
HHC				PCP	PcP	17 40 56.8	+1.8
HHC				S	**S**	**17 41 21.9**	**-0.8**
HHC				XS	sS	17 41 33.4	-2.4
HHC				SS		17 42 10.5	
HHC				SCP	ScP	17 44 31.8	+0.6
HHC				PCS	PcS	17 44 34.6	+0.2
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,121nm,4.4s						
HHC				LR	LR		
	comp=N,133nm,4.9s						
HHC				LR	LR		
	comp=E,99nm,4.3s						
HHC				LR	LR		
	comp=Z,62nm,6.3s						
YAK	**Yakutsk**	**26.66**	**348**	P	**P**	**17 37 37.8**	**-0.7**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.5						
YAK	**Yakutsk**	**26.66**	**348**	P	**P**	**17 37 37.8**	**-0.7**
	comp=Z,8.0nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**27.62**	**305**	*e*P	**P**	**17 37 46.7**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**27.62**	**305**	*e*P	**P**	**17 37 46.7**	**-0.4**
	comp=Z,2.2nm,0.9s,mb3.8						
SONM	**Songino Array**	**28.05**	**305**	P	**P**	**17 37 51.0**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.7,baz=106,slow=11,SNR=6.2						
WMQ	**Urumqi**	**41.02**	**297**	*e*P	**P**	**17 39 45.0**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
WMQ				LR	LR		
	comp=Z,68nm,17.8s						
ZAL	**Zalesovo**	**42.27**	**313**	P	**P**	**17 39 53.0**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.0,baz=20,slow=6.8,SNR=7.8						
MKAR	**Makanchi Array**	**44.36**	**303**	P	**P**	**17 40 10.2**	**+0.3**
	comp=Z,0.5nm,0.3s,mb3.7,baz=75,slow=10,SNR=7.9						
AAK	**Ala-Archa**	**50.69**	**299**	*e*P	**P**	**17 40 58.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**50.69**	**299**	*e*P	**P**	**17 40 58.6**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1						
BRVK	**Borovoye**	**50.97**	**313**	*e*P	**P**	**17 41 00.8**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BRVK	**Borovoye**	**50.97**	**313**	*e*P	**P**	**17 41 00.8**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.0						
ZRNK	**Zerenda**	**51.75**	**313**	*e*P	**P**	**17 41 06.8**	**-0.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ZRNK	**Zerenda**	**51.75**	**313**	*e*P	**P**	**17 41 06.8**	**-0.2**
	comp=Z,3.7nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**56.41**	**188**	*e*P	**P**	**17 41 40.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**56.41**	**188**	*e*P	**P**	**17 41 40.3**	**-0.7**
	comp=Z,7.6nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**56.42**	**188**	P	**P**	**17 41 39.7**	**-1.4**
	comp=Z,0.4nm,0.3s,mb4.0,baz=0.8,slow=7.5,SNR=32						
ARU	**Arti**	**56.76**	**319**	*e*P	**P**	**17 41 42.6**	**-0.9**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ARU	**Arti**	**56.76**	**319**	*e*P	**P**	**17 41 42.6**	**-0.9**
	comp=Z,2.4nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**60.15**	**188**	P	**P**	**17 42 07.2**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=0.7,slow=5.9,SNR=10						
FINES	**FINESS Array B**	**69.32**	**332**	P	**P**	**17 43 07.0**	**0.0**
	comp=Z,2.5nm,0.9s,mb4.1,baz=44,slow=14,SNR=4.7						

*ISCJB **21** 17:43:05.0±1.4, 824S±007×11966E±009, h169km±14km, mb4.3/12, Error ellipse: s-maj=18.0km s-min=7.6km az=109.2*
*NEIC **21** 17:43:05.2±1.7, 825S×11959E, h155km±18km, mb4.4/11, Error ellipse: s-maj=14.1km s-min=7.9km az=77.0*
*IDC **21** 17:43:10.3±2.0, 8.19S×11986E, h208km±19km, mb3.9/8, mb1 4.0/10, mb1mx3.7/19, mbtmp4.4/10, Error ellipse: s-maj=27.4km s-min=8.2km az=58.0*

ISC 21 17:43:10.1±1.4, 827S±008×11983E±010, h205km±14km, n26, σ1§14/36, mb4.2/12, 2C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.29**	**151**	↑*i*P	**Pn**	**17 45 43.7**	**-2.1**
	12nm,0.8s						
FITZ				*e*S	**Sn**	**17 47 44.1**	**-7.8**
FITZ	**Fitzroy Crossi**	**11.29**	**151**	P	**Pn**	**17 45 44.8**	**-1.0**
	0.5nm,0.3s,baz=0.9,slow=8.7,SNR=32						
FITZ				S	**Sn**	**17 47 46.8**	**-5.1**
	1.1nm,0.3s,baz=204,slow=19,SNR=8.8						
MBWA	**Marble Bar**	**12.82**	**180**	*e*Pn	**Pn**	**17 46 01.5**	**-3.6**
MBWA				*e*S	**S**	**17 48 15.2**	**-13**
KAKA	**Kakadu**	**13.16**	**111**	*e*P	**Pn**	**17 46 09.2**	**-0.2**
	4.9nm,0.3s						
KAKA				*e*S	**S**	**17 48 27.6**	**-8.5**
WRA	**Warramunga Arr**	**18.22**	**131**	P	**P**	**17 47 08.4**	**+0.5**
	1.2nm,0.3s,baz=302,slow=12,SNR=71						
WRA				S	**S**	**17 50 29.0**	**+3.4**
	0.4nm,0.3s,baz=307,slow=24,SNR=8.1						
WRAB	**Tennant Creek**	**18.23**	**131**	*e*P	**P**	**17 47 08.6**	**+0.6**
	13nm,0.8s						
WRAB				*e*S	**S**	**17 50 24.4**	**-1.3**
WB2	**Warramunga Arr**	**18.23**	**131**	↑*i*P	**P**	**17 47 08.6**	**+0.6**
WB2				*e*S	**S**	**17 50 25.1**	**-0.7**
ASPA	**Alice Springs**	**20.40**	**140**	*e*P	**P**	**17 47 32.2**	**+0.8**
ASPA				*e*S	**S**	**17 51 08.4**	**+0.1**
AS31	**Alice Springs**	**20.41**	**140**	*e*P	**P**	**17 47 32.2**	**+0.8**
AS31				*e*S	**S**	**17 51 08.4**	**+0.1**
ASAR	**Alice Springs**	**20.41**	**140**	P	**P**	**17 47 32.2**	**+0.9**
	9.1nm,0.8s,baz=312,slow=9.1,SNR=97						
ASAR				S	**S**	**17 51 06.5**	**-1.9**
	1.9nm,0.9s,baz=304,slow=18,SNR=8.7						
ASAR				ScP	ScP	17 54 53.4	+1.8
	0.6nm,0.6s,baz=328,slow=2.1,SNR=6.1						
TGY	**Tagaytay City**	**22.25**	**3**	P	**P**	**17 47 50.4**	**+0.3**
	36nm,0.5s,baz=184,slow=13,SNR=3.9						
KLBR	**Kellerberrin**	**23.29**	**184**	*e*P	**P**	**17 47 59.2**	**

comp=N,980nm,4.7s
GYA LR LR
comp=E,710nm,4.8s
GYA LR LR
comp=Z,1μm,4.2s
CD2 Chengdu 2.69 337 P **Pn** **17 54 38.5 +0.4**
CD2 S **Sn** **17 55 12.3 +2.8**
CD2 Smax
comp=N,1μm,0.8s
CD2 Smax
comp=E,2μm,0.6s
KMI Kunming 3.85 212 P **Pn** **17 54 54.3 +0.4**
KMI PG **Pn** **17 55 02.9 +9.0**
KMI S **Sn** **17 55 32.5 -5.3**
KMI SG **Sn** **17 55 43.0 +5.2**
KMI Smax
comp=N,60nm,1.0s
KMI Smax
comp=E,57nm,1.3s
KMI LR LR
comp=N,476nm,5.0s
KMI LR LR
comp=E,729nm,5.0s
KMI LR LR
comp=Z,266nm,5.2s
XAN Xi'an 6.54 30 P **Pn** **17 55 28.6 -2.2**
XAN SG Sn 17 57 24.1 +40
XAN Smax
comp=N,221nm,1.2s
XAN Smax
comp=E,202nm,1.1s
XAN LR LR
comp=N,281nm,9.1s
XAN LR LR
comp=E,321nm,11.1s
XAN LR LR
comp=Z,206nm,12.7s
WHN Wuhan 8.44 73 P **Pn** **17 55 57.8 +0.9**
WHN S **Sn** **17 57 27.5 -3.3**
WHN Smax
comp=N,128nm,0.6s
WHN Smax
comp=E,192nm,0.6s
GZH Guangzhou 9.22 123 P **Pn** **17 56 05.0 -2.6**
GZH S **Sn** **17 57 50.9 +0.8**
GZH Smax
comp=N,84nm,1.6s
GZH Smax
comp=E,88nm,1.2s
GTA Gaotai 11.76 340 *eP* **Pn** **17 56 42.6 +0.2**
GTA AP 17 56 48.0
GTA XP 17 56 51.8
GTA AMB AMB
comp=Z,2.0nm,1.0s
LSA Lhasa 12.16 279 P **Pn** **17 56 46.5 -1.4**
LSA Lhasa 12.16 279 P **Pn** **17 56 45.6 -2.3**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 12.16 279 P **Pn** **17 56 45.6 -2.3**
comp=Z,4.7nm,0.7s
SONM Songino Array 19.41 3 P **Pn** **17 58 20.9 -0.2**
comp=Z,1.1nm,0.3s,baz=186,slow=11,SNR=9.0
ULN Ulaanbaatar 19.48 4 P **Pn** **17 58 21.4 -0.4**
ULN pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 19.48 4 P **Pn** **17 58 21.4 -0.5**
comp=Z,7.0nm,1.1s
WMQ Urumqi 20.70 323 *eP* **P** **17 58 37.0 +3.5**
WMQ AMB AMB
comp=Z,19nm,0.7s
WMQ AMB AMB
comp=Z,75nm,3.5s
JOW Kunigami 20.70 89 P **P** **17 58 34.2 +0.7**
comp=Z,5.2nm,0.3s,baz=240,slow=6.5,SNR=26
ZAK Zakamensk 21.97 357 *eP* **P** **17 58 47.0 -0.2**
KULM Kulim 23.37 191 *eP* **P** **17 59 02.2 +0.3**
KKM Kota Kinabalu 24.68 152 P **P** **17 59 14.5 +0.6**
MKAR Makanchi Array 25.53 322 P **P** **17 59 21.4 -0.2**
comp=Z,3.3nm,0.8s,mb3.9,baz=118,slow=10,SNR=17
ZAL Zalesovo 29.46 336 P **P** **17 59 56.6 -0.2**
comp=Z,1.3nm,0.3s,mb4.1,baz=347,slow=5.9,SNR=5.0
ZAL LR LR 18 13 39.7
comp=Z,66nm,20.5s,MS3.2,baz=139,slow=40
BVAR Borovoye Array 35.38 324 P **P** **18 00 47.8 -0.7**
comp=Z,0.6nm,0.6s,mb3.7,baz=223,slow=41,SNR=4.3
ZRNK Zerenda 36.07 323 *eP* **P** **18 00 54.1 -0.4**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZRNK Zerenda 36.07 323 *eP* **P** **18 00 54.1 -0.4**
comp=Z,1.9nm,0.9s,mb4.0
YAK Yakutsk 37.36 19 *eP* **P** **18 01 05.5 +0.1**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
YAK Yakutsk 37.36 19 *eP* **P** **18 01 05.5 +0.1**
comp=Z,8.7nm,0.6s,mb4.8
AKTK Aktyubinsk 41.54 315 P **P** **18 01 40.8 +0.5**
AKTO Aktyubinsk 41.54 315 P **P** **18 01 40.8 +0.5**
comp=Z,0.7nm,0.4s,mb3.6,baz=100,slow=15,SNR=4.5
FITZ Fitzroy Crossi 50.38 154 P **P** **18 02 49.9 0.0**
comp=Z,1.1nm,0.8s,mb3.9,baz=339,slow=14,SNR=2.2
WRAB Tennant Creek 55.83 146 *eP* **P** **18 03 28.9 -1.1**
comp=Z,20nm,1.2s,mb5.0
WRA Warramunga Arr 55.83 146 P **P** **18 03 29.4 -0.6**
comp=Z,2.7nm,0.6s,mb4.5,baz=337,slow=8.2,SNR=35
BR131 Keskin Array S 58.75 301 P **P** **18 03 50.1 -0.4**
comp=Z,1.0nm,0.7s,mb4.0
BRTR Keskin Array B 58.75 301 P **P** **18 03 50.0 -0.5**
comp=Z,0.3nm,0.5s,mb3.6,baz=65,slow=9.0,SNR=3.2
ASAR Alice Springs 58.81 149 P **P** **18 03 50.8 -0.3**
comp=Z,1.4nm,0.7s,mb4.1,baz=329,slow=6.8,SNR=15
ARCES ARCESS Array B 60.01 336 P **P** **18 03 59.2 -0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=82,slow=7.2,SNR=6.5
ARCES ARCESS Array B 60.01 336 P **P** **18 03 59.2 -0.1**
FINES FINESS Array B 60.22 327 P **P** **18 04 00.6 -0.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=92,slow=5.7,SNR=6.1
NB2 NORSAR Subarra 67.32 328 P **P** **18 04 46.8 -0.7**
comp=Z,2.2nm,0.8s,mb4.2,baz=61,slow=5.9
NOA NORSAR Array B 67.32 328 P **P** **18 04 47.2 -0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=60,slow=5.7,SNR=3.5
NOA NORSAR Array B 67.32 328 P **P** **18 04 47.2 -0.3**
STKA Stephens Creek 69.35 147 LR LR 18 40 02.0
comp=Z,160nm,19.1s,MS4.3,baz=206,slow=40
GERES GERESS Array B 69.97 315 P **P** **18 05 04.4 +0.4**
comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=5.9,SNR=5.2
KDAK Kodiak Island 72.65 33 P **P** **18 05 20.9 +0.7**
comp=Z,4.6nm,0.5s,mb4.7,baz=237,slow=3.4,SNR=7.3
INK Inuvik 74.43 19 P **P** **18 05 30.5 -0.1**
comp=Z,1.1nm,0.4s,mb4.1,baz=125,slow=3.3,SNR=5.4
LPG La Plagne 75.64 314↑ *iP* **P** **18 05 38.3 +0.7**
comp=Z,4.0nm,0.5s,mb4.3
LPL La Plagne 75.65 314↑ *iP* **P** **18 05 38.3 +0.7**
comp=Z,5.1nm,0.4s,mb4.5
AVF Avril sur Loir 77.17 316↑ *iP* **P** **18 05 46.0 -0.2**
comp=Z,3.0nm,0.5s,mb4.2

*IDC **21** 18:02:02.8±1.4,886S×11073E,h0km,mb4.0/8,mb1 4.1/9, mb1mx4.0/17,mbtmp4.0/9,ML3.3/1, Error ellipse: s-maj=58.1km s-min=16.9km az=52.0*
*ISCJB **21** 18:02:05.9±1.1,88S±02×1108E±03,h33km,mb4.0/9, Error ellipse: s-maj=47.1km s-min=12.5km az=99.4*
*NEIC **21** 18:02:07.9±0.8,888S×11078E,h35km,mb4.2/1, Error ellipse: s-maj=37.4km s-min=9.9km az=50.0*
ISC 21 18:02:08.1±1.1,89S±02×1108E±03,h35km,n11,σ0§68/11, mb4.0/9,Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.11**	**124**	P	P	**Pn**	**18 06 03.2**	**-1.2**
	0.1nm,0.3s,baz=287,slow=11,SNR=4.2							
WRA	**Warramunga Arr**	**25.30**	**118**	P	P		**18 07 32.2**	**+0.9**
	3.3nm,0.7s,mb4.0,baz=292,slow=11,SNR=26							
ASAR	**Alice Springs**	**26.57**	**126**	P	P		**18 07 43.7**	**+0.9**
	1.4nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=17							
STKA	**Stephens Creek**	**36.63**	**133**	P	P		**18 09 10.6**	**-0.5**
	2.3nm,0.7s,mb4.2,baz=315,slow=9.9,SNR=4.8							
STKA	**Stephens Creek**	**36.63**	**133**	*eP*	P		**18 09 10.9**	**-0.2**
MJAR	**Matsushiro Arr**	**51.99**	**28**	P	P		**18 11 13.5**	**-0.3**
	1.6nm,0.6s,mb4.1,baz=209,slow=7.9,SNR=7.3							
SONM	**Songino Array**	**56.58**	**356**	P	P		**18 11 47.9**	**+0.7**
	0.7nm,0.5s,mb4.0,baz=165,slow=8.1,SNR=5.6							
MKAR	**Makanchi Array**	**60.95**	**338**	P	P		**18 12 17.6**	**+0.1**
	1.1nm,0.5s,mb4.2,baz=149,slow=6.7,SNR=16							
ZAL	**Zalesovo**	**66.31**	**344**	P	P		**18 12 52.9**	**0.0**
	1.1nm,0.4s,mb4.3,baz=190,slow=7.0,SNR=3.7							
CHKZ	**Chkalovo**	**70.95**	**336**	*eP*	P		**18 13 21.0**	**-0.9**
	1.9nm,0.9s,mb4.0							
BRTR	**Keskin Array B**	**85.86**	**311**	P	P		**18 14 44.2**	**+0.1**
	0.7nm,0.7s,mb4.0,baz=117,slow=4.3,SNR=3.5							

IDC 21 18:04:41.6±2.3,690S×12863E,h0km,mb3.6/1,mb1 3.7/4, mb1mx3.5/14,mbtmp3.5/4,ML3.5/3,MS3.4/1,Ms1 3.4/1, ms1mx2.5/17,Error ellipse: s-maj=106.1km s-min=29.4km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.51**	**194**	Pn	Pn	Pn	18 07 27.5	+0.4
	0.5nm,0.3s,baz=13,slow=14,SNR=8.3							
FITZ				Sn	Sn	Sn	18 09 23.4	-13
	0.6nm,0.3s,baz=108,slow=21,SNR=7.2							
WRA	**Warramunga Arr**	**14.10**	**157**	Pn	Pn	Pn	18 08 03.7	+1.1
	0.2nm,0.3s,baz=335,slow=14,SNR=7.6							
WRA				Sn	Sn	Sn	18 10 25.7	-14
	0.5nm,0.3s,baz=324,slow=24,SNR=8.2							
ASAR	**Alice Springs**	**17.43**	**164**	P	Pn		18 08 45.2	-0.8
	0.1nm,0.3s,baz=346,slow=11,SNR=4.1							
ASAR				S	Sn		18 11 46.2	-14
	0.1nm,0.3s,baz=347,slow=27,SNR=5.7							
HNR	**Honiara**	**31.10**	**97**	LR	LR		18 25 14.7	
	comp=Z,64nm,18.1s,baz=180,slow=40							
MKAR	**Makanchi Array**	**67.40**	**327**	P	P		18 15 39.0	+0.2
	1.7nm,1.1s,baz=141,slow=7.8,SNR=3.8							

*JSN **21** 18:05:06.3±0.6,1760N×7678W,h0km±5km,MD3.1*
*ISCJB **21** 18:05:07.2±1.6,177N±0.1×7680W±006,h32km±5km, Error ellipse: s-maj=18.2km s-min=7.5km az=131.0*
*SSNC **21** 18:05:10.8,1787N×7649W,h0km,MD3.1,ML2.7*
ISC 21 18:05:07.1±1.6,177N±01×7680W±006,h28km±6km,n9, σ0§72/14,4C-3D,Jamaica region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HOJ	**Hope**	**0.34**	**9**	↑ *iP*		**Pb**	**18 05 14.4**	**-0.5**
PCJ	**Portland Cotta**	**0.35**	**282**	↓ *iP*		**Pb**	**18 05 14.4**	**-0.6**
STH	**Stony Hill**	**0.41**	**359**	↑ *iP*		**Pb**	**18 05 15.4**	**-0.5**
STH				*eS*		**Sb**	**18 05 22.3**	**+0.4**
GWJ	**Greenwich**	**0.41**	**10**	↑ *iP*		**Pb**	**18 05 15.6**	**-0.4**
CMJ	**Castle Mountai**	**0.62**	**41**	↓ *iP*		**Pb**	**18 05 18.6**	**-0.8**
CMJ				*i* S		**Sb**	**18 05 28.9**	**+1.1**
BBJ	**Bamboo Saint A**	**0.84**	**328**	↑ *eP*		**Pb**	**18 05 23.2**	**+0.1**
MCJ	**Malvern**	**0.88**	**287**	↓ *iP*		**Pn**	**18 05 23.5**	**-0.2**
MCJ				*eS*		**Sb**	**18 05 36.1**	**+0.9**
LMGC	**Las Mercedes**	**2.39**	**355**	*eP*		**Pn**	**18 05 45.5**	**+1.1**
	baz=149							
LMGC				*eS*		**Sn**	**18 06 11.5**	**-1.3**
	comp=N,220nm,0.1s							
LMGC				*e*				
	comp=E,192nm,0.1s							
RCC	**Rio Carpintero**	**2.54**	**24**	*eP*		**Pn**	**18 05 47.2**	**+0.7**
	baz=134							
RCC				*eS*		**Sn**	**18 06 16.4**	**-0.1**
	comp=N,9.1nm,0.3s							
RCC				*e*				
	comp=E,8.8nm,0.3s							

CASC 21 18:07:29.6±3.0,1384N×9122W,h21km±28km,MD3.6, 3C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.81**	**66**	↓ *eP*		Pb	18 07 45.4	+0.4
IXG				*eS*		Sb	18 07 57.8	+2.2
TP2	**Tecpan 2**	**0.96**	**11**	*eP*		Pb	18 07 47.8	+0.2
TP2				*eS*		Sb	18 08 01.2	+1.4
RTR	**El Retiro**	**1.53**	**88**	↑ *eP*		x	18 08 18.3	
RTR				*eS*		x	18 08 41.0	
SBLS	**San Blas**	**1.55**	**90**	*eP*		x	18 08 18.4	
SBLS				*eS*		x	18 08 39.4	
SNJE	**San Jose**	**1.57**	**89**	↑ *iP*		x	18 08 18.8	
SNJE				*eS*		x	18 08 38.2	
BOQS	**Boqueron**	**1.89**	**93**	↓ *eP*		x	18 08 23.1	
BOQS				*eS*		x	18 08 47.9	
LFRS	**El Faro**	**2.11**	**96**	↑ *eP*		x	18 08 26.3	
LFRS				*eS*		x	18 08 52.2	
LCBS	**La Ceiba**	**2.18**	**94**	*eP*		x	18 08 27.7	
LCBS				*eS*		x	18 08 54.5	

*IDC **21** 18:13:06.7±0.9,895S×11063E,h0km,mb4.2/9, mb1 4.3/10,mb1mx4.1/17,mbtmp4.2/10,ML3.5/1, Error ellipse: s-maj=40.2km s-min=15.4km az=56.0*
*NEIC **21** 18:13:08.1±0.7,902S×11056E,h10km,mb4.1/4, Error ellipse: s-maj=26.6km s-min=10.1km az=54.0*
*ISCJB **21** 18:13:10.2±0.8,89S±01×1107E±02,h33km,mb4.3/11, Error ellipse: s-maj=32.8km s-min=10.3km az=108.0*
ISC 21 18:13:12.3±0.8,89S±01×1107E±02,h35km,n19,σ1§00/20, mb4.3/11,Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.16**	**124**	*eP*		**Pn**	**18 17 07.3**	**-2.0**
	6.5nm,0.9s							
FITZ				*eS*		S	18 20 06.1	-21
FITZ	**Fitzroy Crossi**	**17.16**	**124**	P		**Pn**	**18 17 07.5**	**-1.8**
	0.1nm,0.3s,baz=297,slow=13,SNR=7.0							
FITZ				S		**S**	**18 20 08.2**	**-19**
	0.5nm,0.3s,baz=188,slow=22,SNR=6.5							
WRA	**Warramunga Arr**	**25.36**	**118**	P		**P**	**18 18 35.7**	**-0.4**
	5.2nm,0.7s,mb4.2,baz=292,slow=11,SNR=45							
WB2	**Warramunga Arr**	**25.38**	**118**	*eP*		**P**	**18 18 36.2**	**0.0**
ASPA	**Alice Springs**	**26.62**	**126**	*eP*		**P**	**18 18 49.6**	**+2.1**
ASAR	**Alice Springs**	**26.62**	**126**	P		**P**	**18 18 46.9**	**-0.6**
	1.7nm,0.6s,mb3.7,baz=300,slow=8.9,SNR=31							
ASAR				PcP		PcP	18 22 11.4	+0.6
	0.5nm,0.7s,baz=320,slow=1.8,SNR=6.8							
AS31	**Alice Springs**	**26.62**	**126**	*eP*		**P**	**18 18 49.6**	**+2.1**
STKA	**Stephens Creek**	**36.67**	**133**	*eP*		**P**	**18 20 15.2**	**-0.4**
	2.0nm,0.8s,mb4.0							
STKA	**Stephens Creek**	**36.67**	**133**	P		**P**	**18 20 15.5**	**-0.2**
	2.8nm,0.8s,mb4.1,baz=317,slow=16,SNR=6.2							
MJAR	**Matsushiro Arr**	**52.09**	**28**	P		**P**	**18 22 19.3**	**+0.5**
	3.8nm,0.6s,mb4.5,baz=205,slow=7.9,SNR=12							
ULN	**Ulaanbaatar**	**56.61**	**357**	*eP*		**P**	**18 22 52.2**	**+0.5**
	2.5nm,0.8s,mb4.3							
SONM	**Songino Array**	**56.62**	**357**	P		**P**	**18 22 52.7**	**+0.9**
	2.1nm,0.6s,mb4.3,baz=179,slow=8.0,SNR=13							
SONM				PcP		PcP	18 23 47.9	+0.1
	0.5nm,0.5s,baz=167,slow=1.5,SNR=3.9							
MKAR	**Makanchi Array**	**60.96**	**338**	P		**P**	**18 23 21.5**	**-0.3**
	2.6nm,0.5s,mb4.6,baz=148,slow=6.8,SNR=38							
MKAR	**Makanchi Array**	**60.96**	**338**	P		**P**	**18 23 21.5**	**-0.3**
ZAL	**Zalesovo**	**66.33**	**344**	P		**P**	**18 23 56.6**	**-0.6**
	3.1nm,0.4s,mb4.7,baz=336,slow=4.0,SNR=7.7							
YAK	**Yakutsk**	**72.25**	**9**	*eP*		**P**	**18 24 32.8**	**-1.2**
	17nm,0.8s,mb5.0							
VNDA	**Vanda**	**73.44**	**170**	P		**P**	**18 24 41.1**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=297,slow=4.5,SNR=5.2							
BR131	**Keskin Array S**	**85.82**	**311**	*eP*		**P**	**18 25 48.2**	**0.0**
	1.0nm,0.6s,mb4.2							
BRTR	**Keskin Array B**	**85.82**	**311**	P		**P**	**18 25 47.8**	**-0.4**
	1.0nm,0.7s,mb4.2,baz=133,slow=7.9,SNR=7.6							

*ISCJB **21** 18:16:55.7±0.7,1755N±006×1456E±01,h502km±8km, mb4.0/19,Error ellipse: s-maj=19.9km s-min=8.9km az=0.2*
*IDC **21** 18:16:56.4±0.8,1754N×14572E,h497km±9km,mb3.6/16, mb1 3.7/19,mb1mx3.6/23,mbtmp4.5/19,Error ellipse: s-maj=16.0km s-min=7.7km az=93.0*
*NEIC **21** 18:16:56.6±1.0,1758N×14567E,h503km±12km,mb4.3/6, Error ellipse: s-maj=17.1km s-min=9.6km az=89.0*
ISC 21 18:16:56.2±0.7,1758N±006×1456E±01,h493km±8km,n35, σ1§01/32,mb4.0/19,1C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.04**	**191**	P		**P**	**18 18 15.5**	**+1.0**
	75nm,0.3s,baz=9.8,slow=2.5,SNR=69							
GUMO				S		**S**	**18 19 16.6**	**-1.6**
	37nm,0.3s,baz=4.4,slow=23,SNR=6.8							
JHJ	**Hachijo jima 2**	**16.34**	**342**	P		**P**	**18 20 21.4**	**+0.9**
	3.7nm,0.3s,baz=240,slow=23,SNR=6.8							
JOW	**Kunigami**	**18.50**	**303**	P		**P**	**18 20 42.0**	**+0.5**
	2.8nm,0.3s,baz=133,slow=11,SNR=21							
MJAR	**Matsushiro Arr**	**19.99**	**342**	P		**P**	**18 20 54.7**	**-0.4**
	8.9nm,0.7s,baz=166,slow=9.5,SNR=33							
MAJO	**Matsushiro**	**20.00**	**342**	*eP*		**P**	**18 20 54.0**	**-1.1**
	17nm,0.7s							
MAT	**Matsushiro**	**20.00**	**342**	P		**P**	**18 20 54.8**	**-0.3**
TGY	**Tagaytay City**	**24.00**	**265**	P		**P**	**18 21 33.0**	**+1.8**
	51nm,0.5s,baz=115,slow=11,SNR=5.3							
ASAJ	**Asahikawa**	**26.57**	**355**	P		**P**	**18 21 55.5**	**+1.5**
	9.2nm,0.5s,mb4.4,baz=207,slow=11,SNR=15							
KAKA	**Kakadu**	**32.80**	**204**	*eP*		**P**	**18 22 46.2**	**-1.7**
	7.2nm,0.7s,mb4.2							
WB2	**Warramunga Arr**	**38.90**	**197**	*eP*		**P**	**18 23 39.0**	**+0.4**
WRA	**Warramunga Arr**	**38.91**	**197**	P		**P**	**18 23 39.1**	**+0.5**
	1.6nm,0.4s,mb3.8,baz=3.8,slow=8.4,SNR=36							
WRA				ScP		ScP	18 28 36.9	-1.2
	3.3nm,0.8s,baz=16,slow=4.2,SNR=16							
FITZ	**Fitzroy Crossi**	**40.55**	**210**	↑ *iP*		**P**	**18 23 52.6**	**+0.7**
	9.2nm,0.2s,mb4.9							
FITZ	**Fitzroy Crossi**	**40.55**	**210**	P		**P**	**18 23 52.7**	**+0.8**
	4.6nm,0.3s,mb4.4,baz=36,slow=11,SNR=142							
ASAR	**Alice Springs**	**42.57**	**196**	P		**P**	**18 24 08.3**	**+0.5**
	0.9nm,0.5s,mb3.5,baz=16,slow=6.0,SNR=14							
ASAR				PcP		ScP	18 28 51.6	-1.0
	1.4nm,0.9s,baz=18,slow=3.6,SNR=9.3							
ASAR				S		**S**	**18 29 54.3**	**+0.2**
	1.5nm,0.9s,baz=19,slow=21,SNR=7.9							
SONM	**Songino Array**	**43.98**	**322**	P		**P**	**18 24 20.0**	**+1.1**
	2.3nm,0.8s,mb3.6,baz=139,slow=7.1,SNR=8.1							
SONM				PcP		PcP	18 25 53.6	-0.4
	0.7nm,0.5s,baz=125,slow=4.8,SNR=3.6							
STKA	**Stephens Creek**	**49.33**	**185**	*eP*		**P**	**18 24 59.6**	**+0.1**
	7.4nm,1.6s,mb3.8							
STKA	**Stephens Creek**	**49.33**	**185**	P		**P**	**18 24 59.9**	**+0.4**
	1.7nm,0.4s,mb3.7,baz=26,slow=18,SNR=6.8							
ZAL	**Zalesovo**	**58.87**	**323**	P		**P**	**18 26 06.7**	**-0.2**
	2.2nm,0.4s,mb3.8,baz=3.7,slow=5.0,SNR=6.5							
MKAR	**Makanchi Array**	**59.19**	**314**	P		**P**	**18 26 09.8**	**+0.7**
	2.5nm,0.4s,mb3.9,baz=82,slow=8.5,SNR=40							
KDAK	**Kodiak Island**	**60.32**	**33**	P		**P**	**18 26 17.3**	**+0.7**
	3.1nm,0.4s,mb4.1,baz=122,slow=18,SNR=7.6							
CHKZ	**Chkalovo**	**67.17**	**321**	*eP*		**P**	**18 26 59.5**	**-0.9**
	1.3nm,0.6s,mb3.7							
BRVK	**Borovoye**	**67.36**	**321**	*eP*		**P**	**18 27 01.8**	**+0.2**
ZRNK	**Zerenda**	**68.13**	**321**	*eP*		**P**	**18 27 05.7**	**-0.6**
	2.2nm,0.4s,mb4.1							
INK	**Inuvik**	**70.42**	**23**	P		**P**	**18 27 20.1**	**-0.1**
	2.2nm,0.7s,mb3.8,baz=306,slow=5.9,SNR=6.6							
ARCES	**ARCESS Array B**	**83.53**	**342**	P		**P**	**18 28 30.9**	**-0.9**
	3.7nm,0.6s,mb4.1,baz=82,slow=8.3,SNR=22							
NVAR	**Mina Array Bea**	**83.87**	**52**	P		**P**	**18 28 34.5**	**+1.0**
	2.6nm,0.6s,mb4.0,baz=277,slow=4.5,SNR=18							
JOF	**Joensuu**	**85.00**	**335**	*ep*		**P**	**18 28 36.9**	**-2.1**
	3.9nm,0.3s,mb4.5							
FINES	**FINESS Array B**	**87.87**	**335**	P		**P**	**18 28 50.8**	**-1.9**
	2.2nm,0.3s,mb4.3,baz=67,slow=4.5,SNR=41							
PDAR	**Pinedale Array**	**88.65**	**45**	P		**P**	**18 28 56.9**	**+0.6**
	0.4nm,0.5s,mb3.5,baz=177,slow=3.0,SNR=4.3							
NOA	**NORSAR Array B**	**93.59**	**340**	P		**P**	**18 29 17.6**	**-1.5**
	0.3nm,0.5s,mb3.6,baz=34,slow=3.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**133.10**	**308**	PKP		PKPdf	18 35 16.4	+1.2
	0.6nm,0.6s,baz=7.7,slow=2.5,SNR=8.6							
TORD				SKPbc		SKPbc	18 37 55.8	-0.9
	1.3nm,0.9s,baz=38,slow=2.2,SNR=5.2							
DBIC	**Dimbokro**	**142.18**	**307**	PKhKP			18 35 29.1	
	2.2nm,0.3s,baz=44,slow=4.3,SNR=12							
LPAZ	**La Paz**	**147.70**	**93**	PKPbc		PKPbc	18 35 43.5	-1.4
	4.8nm,0.4s,baz=16,slow=3.5,SNR=30							
LPAZ	**La Paz**	**147.70**	**93**	PKPbc		PKPbc	18 35 43.5	-1.4
SAML	**Samuel**	**150.70**	**77**	*e*PKPbc		PKPbc	18 35 52.8	+0.7

*NEIC **21** 18:21:34.9,3267S×7162W,h10km,ML2.8(GUC), After GUC.*
GUC 21 18:21:34.9±0.6,3267S×7162W,h10km±3km,MD3.8, ML2.8,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.79**	**8**	*eP*		Pg	18 21 50.0	-0.2
CHNG				*i* S		Sg	18 22 00.9	+0.3
LCCH	**Las Cruces**	**0.80**	**177**	*eP*		Pg	18 21 49.9	-0.4
JACH	**Jahuel**	**0.87**	**91**	↓ *iP*		Pg	18 21 51.3	-0.4
JACH				*i* S		Sg	18 22 03.5	+0.5
TACH	**Talagante**	**1.13**	**150**	*eP*		Pb	18 21 55.6	-1.0
CLCH	**Cerro Calan**	**1.16**	**129**	*eP*		Pb	18 21 55.4	-1.7
CLCH				*i* S		Sb	18 22 11.9	-0.2
CLCH				AML	AML		18 22 13.7	
	comp=N,239nm,0.2s							
LNV	**Longovilo**	**1.29**	**172**	*eP*		Pn	18 21 57.6	-1.4
LNV				*i* S		Sb	18 22 14.9	-0.9
FCH	**Farellones**	**1.30**	**121**	*eP*		Pn	18 21 58.6	-0.4
FCH				*i* S		Sb	18 22 16.4	+0.4
FCH				AML	AML		18 22 18.0	
	comp=E,184nm,0.2s							
CMCH	**Combarbala**	**1.58**	**20**	*eP*		Pn	18 22 02.4	-0.6
CMCH				*i* S		Sn	18 22 23.3	-0.2
CMCH				AML	AML		18 22 27.2	
	comp=N,404nm,0.5s							
CMCH	**Combarbala**	**1.58**	**20**	*eP*		Pn	18 22 02.4	-0.6
CMCH				*i* S		Sn	18 22 23.3	-0.2
SFDO	**San Fernando**	**2.00**	**165**	↑ *eP*		Pn	18 22 08.8	+0.1
SFDO				*i* S		Sn	18 22 35.0	+1.2
TLL	**Tololo Astrono**	**2.59**	**16**	↓ *eP*		Pn	18 22 18.3	+1.5
TLL				*i* S		Sn	18 22 51.7	+3.3
TLL				AML	AML		18 23 00.3	
	comp=N,57nm,0.6s							
TLL	**Tololo Astrono**	**2.59**	**16**	↓ *eP*		Pn	18 22 18.3	+1.5
TLL				*i* S		Sn	18 22 51.7	+3.3

*IDC **21** 18:54:45.5±0.3,893S×11045E,h0km,mb5.5/27, mb1 5.4/29,mb1mx5.4/30,mbtmp5.4/29,ML4.7/2,MS5.6/22, Ms1 5.6/22,ms1mx5.6/23,Error ellipse: s-maj=13.4km s-min=8.5km az=57.0*
*ISCJB **21** 18:54:46.8±0.1,9.11S±002×11035E±002,h18km, mb5.8/143,MS5.7/185, Error ellipse: s-maj=3.7km s-min=3.2km az=62.6*
*MOS **21** 18:54:47.8±1.1,897S×11046E,h24km,mb6.1/33, MS5.7/50,Error ellipse: s-maj=8.9km s-min=5.0km az=112.2*
*NEIC **21** 18:54:50.0±0.1,905S×11037E,h25km,mb5.7/37,ME5.6, MS5.7/142,MW5.9,Error ellipse: s-maj=6.9km s-min=4.8km az=59.0,Moment Tensor Solution. s31 Moment tensor: Scale 10^17Nm; Mrr5.63; Mθθ-5.61; Mϕϕ-0.02; Mrθ4.85; Mθϕ-1.22; Mϕr-0.71; Best double couple: Mo7.60000×10^17 NP1:ϕs91.00000°,δ65.00000°, λ101.00000°. NP2:ϕs246.00000°,δ27.00000°,λ67.00000°. Principal axes: T 7.5900, Plg68.0000°, Azm222

	0.0nm,0.0s								
LEM	**Lembang**	**3.54**	**310**	P	**Pn**	**18 55 46.9**	**+4.2**		
	0.0nm,0.0s								
NBBI	**Negara**	**4.29**	**80**	P	**Pn**	**18 55 55.3**	**+2.4**		
	0.0nm,0.0s								
CBJI	**Citeko**	**4.39**	**308**	P	**Pn**	**18 55 55.5**	**+1.2**		
	0.0nm,0.0s								
DNP	**Denpasar**	**4.82**	**85**	P	**Pn**	**18 56 01.5**	**+1.2**		
	0.0nm,0.0s								
SBJI	**Serang**	**5.14**	**305**	P	**Pn**	**18 56 09.2**	**+4.6**		
	0.0nm,0.0s								
KLI	**Kotabumi**	**6.91**	**308**	P	**Pn**	**18 56 33.5**	**+4.6**		
	0.0nm,0.0s								
WSI	**Waingapu**	**9.83**	**94**	P	**Pn**	**18 57 08.0**	**-1.0**		
	0.0nm,0.0s								
KSM	**Kuching**	**10.54**	**360**	*e*P	**Pn**	**18 57 23.6**	**+5.0**		
PCI	**Palu**	**12.49**	**50**	P	**Pn**	**18 57 49.0**	**+3.7**		
	0.0nm,0.0s								
KGM	**Kluang**	**13.10**	**327**	P	**Pn**	**18 57 58.6**	**+4.9**		
PPI	**Padang Panjang**	**13.13**	**310**	P	**Pn**	**18 58 01.4**	**+7.3**		
	0.0nm,0.0s								
TARAI	**Tarakan**	**14.32**	**30**	P	**Pn**	**18 58 14.8**	**+4.5**		
	0.0nm,0.0s								
MBWA	**Marble Bar**	**14.99**	**144**	⇓P	**Pn**	**18 58 14.9**	**-4.5**		
	SNR=15								
MBWA	**Marble Bar**	**14.99**	**144**	*e*Pn	**Pn**	**18 58 14.2**	**-5.3**		
MBWA				*e*Sn	Sn	19 00 42.8	-22		
TSM	**Tawau**	**15.30**	**30**	P	**Pn**	**18 58 28.9**	**+5.4**		
KKM	**Kota Kinabalu**	**16.17**	**21**	P	**Pn**	**18 58 38.5**	**+3.7**		
KKM	**Kota Kinabalu**	**16.17**	**21**	*e*P	**Pn**	**18 58 36.3**	**+1.5**		
IPM	**Ipoh**	**16.41**	**325**	P	**Pn**	**18 58 41.4**	**+3.5**		
PSI	**Prapat**	**16.44**	**316**	Pn	**Pn**	**18 58 37.2**	**-1.0**		
	1.1nm,0.3s,baz=134,slow=8.8,SNR=6.4								
PSI				LR	LR	19 06 24.6			
	comp=Z,39µm,18.2s,baz=140,slow=43								
KULM	**Kulim**	**17.28**	**326**	*e*P	**Pn**	**18 58 48.0**	**-0.8**		
FITZ	**Fitzroy Crossi**	**17.32**	**123**	*e*P	**Pn**	**18 58 45.7**	**-3.6**		
	161nm,0.6s								
FITZ				*e*S	**Sn**	**19 01 42.4**	**-19**		
FITZ	**Fitzroy Crossi**	**17.32**	**123**	P	**Pn**	**18 58 47.6**	**-1.7**		
	3.5nm,0.3s,baz=298,slow=9.5,SNR=87								
FITZ				S	**Sn**	**19 01 43.5**	**-18**		
	6.2nm,0.3s,baz=157,slow=11,SNR=3.1								
FITZ				LR	LR	19 05 38.5			
	comp=Z,18µm,19.9s,baz=302,slow=38								
AAI	**Ambon**	**18.53**	**74**	P	**Pn**	**18 59 03.0**	**-1.3**		
	2µm,1.6s								
BATP	**Bataraza**	**19.30**	**23**	*e*P	**Pn**	**18 59 14.8**	**+1.3**		
IPIL	**Ipil**	**20.75**	**36**	⇓*e*P	**P**	**18 59 34.2**	**+5.9**		
BSI	**Banda Aceh**	**20.89**	**314**	P	**P**	**18 59 33.8**	**+4.1**		
	55nm,0.9s								
PAGZ	**Pagadian**	**21.29**	**38**	*e*P	**P**	**18 59 36.7**	**+2.7**		
DCPH	**Dipolog City**	**21.85**	**37**	*e*P	**P**	**18 59 43.3**	**+3.3**		
KAKA	**Kakadu**	**21.98**	**101**	*e*P	**P**	**18 59 36.6**	**-4.8**		
	330nm,0.6s,mb5.9								
KAKA				*e*S	**S**	**19 03 39.3**	**-3.8**		
ENPP	**El Nido**	**22.13**	**24**	*e*P	**P**	**18 59 44.7**	**+1.6**		
BUKP	**Musuan**	**22.37**	**41**	*e*P	**P**	**18 59 46.6**	**+1.0**		
SWI	**Sorong**	**22.38**	**70**	P	**P**	**18 59 43.1**	**-2.6**		
	682nm,1.0s,mb6.0								
TLE	**Tual**	**22.47**	**83**	P	**P**	**18 59 45.1**	**-1.6**		
	2µm,0.9s,mb6.6								
MATI	**Mati**	**22.50**	**45**	*e*P	**P**	**18 59 48.5**	**+1.5**		
CUYO	**Cuyo Island**	**22.51**	**28**	*e*P	**P**	**18 59 49.1**	**+2.0**		
CGP	**Cagayan de Oro**	**22.57**	**40**	⇑*i*P	**P**	**18 59 48.5**	**+0.7**		
TBP	**Tagbilaran**	**23.04**	**36**	*e*P	**P**	**18 59 53.4**	**+0.8**		
GUIM	**Jordan**	**23.10**	**32**	*e*P	**P**	**18 59 54.7**	**+1.4**		
BUSP	**Coron**	**23.17**	**25**	*e*P	**P**	**18 59 55.5**	**+1.4**		
MUN	**Mundaring**	**23.37**	**167**	*e*P	**P**	**18 59 55.5**	**-0.7**		
MUN				*e*S	**S**	**19 04 10.1**	**+2.2**		
KLBR	**Kellerberrin**	**23.38**	**164**	*e*P	**P**	**18 59 56.3**	**0.0**		
	76nm,0.8s,mb5.2								
KLBR				*e*S	**S**	**19 04 06.4**	**-1.6**		
BUTP	**Butuan**	**23.55**	**41**	*e*P	**P**	**18 59 59.5**	**+1.5**		
LLP	**Lapu-Lapu**	**23.60**	**35**	*e*P	**P**	**19 00 00.1**	**+1.7**		
KALP	**Kalibo**	**23.86**	**30**	⇑*e*P	**P**	**19 00 03.5**	**+2.7**		
RCP	**Roxas**	**23.97**	**31**	⇑*e*P	**P**	**19 00 03.2**	**+1.4**		
MSLP	**Maasin**	**23.98**	**37**	*e*P	**P**	**19 00 02.1**	**+0.2**		
NNT	**Nongplab**	**24.02**	**334**	P	**P**	**19 00 04.0**	**+1.7**		
OTRP	**Odiongan**	**24.30**	**29**	*e*P	**P**	**19 00 06.5**	**+1.6**		
NWAO	**Narrogin (SRO)**	**24.52**	**166**	P	**P**	**19 00 06.8**	**0.0**		
	92nm,0.8s,mb5.4,baz=339,slow=11,SNR=28								
NWAO				S	**S**	**19 04 33.8**	**+7.3**		
	44nm,0.8s,baz=285,slow=19,SNR=3.2								
NWAO				LR	LR	19 09 47.3			
	comp=Z,31µm,20.1s,MS5.8,baz=147,slow=36								
NWAO	**Narrogin (SRO)**	**24.52**	**166**	P	**P**	**19 00 06.9**	**+0.1**		
NWAO				S	**S**	**19 04 33.8**	**+7.4**		
NWAO				pmax	pmax				
	comp=Z,92nm,0.8s								
NWAO				smax					
	comp=N,44nm,0.8s								
NWAO				MLR	MLR				
	comp=Z,31µm,20.1s								
NWAO	**Narrogin (SRO)**	**24.52**	**166**	*e*P	**P**	**19 00 07.3**	**+0.5**		
	comp=Z,192nm,1.1s,mb5.5								
NWAO				LR	LR				
	comp=Z,25µm,20.0s,MS5.7								
OCLP	**Ormoc**	**24.56**	**36**	*e*P	**P**	**19 00 07.7**	**+0.5**		
LUBP	**Lubang**	**24.75**	**24**	*e*P	**P**	**19 00 09.2**	**+0.2**		
PLP	**Palo**	**24.87**	**36**	*e*P	**P**	**19 00 09.8**	**-0.1**		
BOAC	**Boac**	**25.18**	**27**	*e*P	**P**	**19 00 13.5**	**+0.7**		
TGY	**Tagaytay City**	**25.36**	**25**	⇑*e*P	**P**	**19 00 16.4**	**+1.9**		
TGY	**Tagaytay City**	**25.36**	**25**	P	**P**	**19 00 15.3**	**+0.8**		
	comp=Z,248nm,0.9s,baz=157,slow=15,SNR=15								
TGY				LR	LR	19 11 11.1			
	comp=Z,50nm,20.8s,baz=201,slow=39								
AUQP	**San Andres**	**25.45**	**29**	*e*P	**P**	**19 00 18.1**	**+2.8**		
BESP	**Borongan**	**25.48**	**36**	*e*P	**P**	**19 00 18.2**	**+2.6**		
WRA	**Warramunga Arr**	**25.55**	**118**	P	**P**	**19 00 15.1**	**-1.1**		
	comp=Z,297nm,0.8s,mb5.9,baz=292,slow=11,SNR=287								
WRA				PcP	PcP	19 03 49.3	+2.1		
	comp=Z,12nm,0.6s,baz=314,slow=1.5,SNR=4.7								
WRA				Sn	S	19 05 08.5	+26		
	comp=Z,21nm,0.7s,baz=293,slow=22,SNR=5.2								
WRA				LR	LR	19 10 59.7			
	comp=Z,10µm,20.5s,MS5.3,baz=295,slow=38								
WRA	**Warramunga Arr**	**25.55**	**118**	P	**P**	**19 00 15.1**	**-1.1**		
WRA						19 03 49.3			
WRAB	**Tennant Creek**	**25.56**	**117**	*e*P	**P**	**19 00 15.4**	**-0.9**		
WRAB				MLR	MLR				
	comp=Z,3µm,22.0s,MS4.8								
WB2	**Warramunga Arr**	**25.56**	**118**	*e*P	**P**	**19 00 12.8**	**-3.5**		
WB2				*e*S	**S**	**19 04 58.8**	**+16**		
POLP	**Polilio Island**	**26.34**	**26**	*e*P	**P**	**19 00 13.7**	**-10**		
KKTK	**Khon Kaen**	**26.38**	**344**	P	**P**	**19 00 30.0**	**+6.3**		
	comp=Z,401nm,0.5s,mb6.2								
SCZP	**Santa Cruz**	**26.50**	**21**	*e*P	**P**	**19 00 25.1**	**+0.3**		
NST	**Nakhon Sawan**	**26.64**	**338**	P	**P**	**19 00 27.0**	**+0.9**		
ASPA	**Alice Springs**	**26.76**	**126**	*e*P	**P**	**19 00 26.1**	**-1.0**		
ASPA				*e*S	S	19 05 28.2	+26		
AS31	**Alice Springs**	**26.76**	**126**	*e*P	**P**	**19 00 26.1**	**-1.0**		
AS31				*e*S	S	19 05 28.2	+26		
ASAR	**Alice Springs**	**26.76**	**126**	P	**P**	**19 00 26.0**	**-1.1**		
	comp=Z,50nm,0.7s,mb5.2,baz=304,slow=8.5,SNR=108								
ASAR				PcP	PcP	19 03 51.3	+1.3		
	comp=Z,16nm,0.6s,baz=320,slow=1.8,SNR=6.8								
ASAR				Sn	S	19 05 36.1	+34		
	comp=Z,46nm,0.8s,baz=306,slow=24,SNR=7.6								
ASAR				LR	LR	19 11 26.3			
	comp=Z,22µm,20.3s,MS5.7,baz=306,slow=37								
ASAR	**Alice Springs**	**26.76**	**126**	P	**P**	**19 00 26.0**	**-1.1**		
ASAR						19 03 51.3			
BAKI	**Biak**	**26.82**	**74**	P	**P**	**19 00 28.6**	**+0.9**		
	comp=Z,602nm,1.1s,mb6.0								
BOLP	**Bolinao**	**27.06**	**21**	*e*P	**P**	**19 00 30.9**	**+1.1**		
PBA	**Port Blair**	**27.07**	**319**	*ex*	x	19 00 53.5			
PBA				*ex*	x	19 01 07.6			
	comp=Z,138nm,1.7s								
PBA				*ex*	x	19 08 08.6			
BALP	**Baler**	**27.10**	**24**	*e*P	**P**	**19 00 30.5**	**+0.3**		
FORT	**Forrest**	**27.14**	**145**	*e*P	**P**	**19 00 30.3**	**-0.3**		
	comp=Z,167nm,0.7s,mb5.7								
FORT				*e*S	**S**	**19 05 04.6**	**-3.4**		
QIZ	**Qiongzhong**	**27.99**	**359**	P	**P**	**19 00 39.6**	**+1.4**		
QIZ				PP		19 01 25.5			
QIZ				S	**S**	**19 05 23.4**	**+2.1**		
QIZ				XS	sS	19 05 34.8	+3.7		
QIZ				AMB	AMB				
	comp=Z,15nm,1.1s								
QIZ				LR	LR				
	comp=N,13µm,14.5s								
QIZ				LR	LR				
	comp=Z,15µm,25.4s								
QIZ	**Qiongzhong**	**27.99**	**359**	PFAKE		19 00 50.0	+12		
QIZ				LR	LR				
	comp=Z,12µm,22.0s,MS5.5								
CAUP	**Cauayan**	**28.28**	**24**	*e*P	**P**	**19 00 40.5**	**-0.3**		
CVP	**Callao Caves**	**28.97**	**23**	*e*P	**P**	**19 00 46.0**	**-0.9**		
NANT	**Nan**	**29.34**	**341**	⇓P	**P**	**19 00 47.0**	**-3.2**		
	comp=Z,265nm,1.0s,mb5.9								
CM31	**Chiang Mai Arr**	**29.64**	**338**	PFAKE		19 01 10.0	+17		
CM31				LR	LR				
	comp=Z,16µm,20.0s,MS5.7								
MMPI	**Merauke**	**29.68**	**91**	P	**P**	**19 01 00.2**	**+7.0**		
	comp=Z,446nm,1.6s,mb6.0								
CHG	**Chiang Mai**	**29.96**	**338**	⇑P	**P**	**19 00 56.0**	**+0.3**		
	comp=Z,18nm,0.8s,mb4.9								
CHTO	**Chiang Mai**	**29.96**	**338**	P	**P**	**19 00 55.4**	**-0.3**		
CHTO				pmax	pmax				
	comp=Z,51nm,1.2s,mb5.1								
CHTO	**Chiang Mai**	**29.96**	**338**	*e*P	**P**	**19 00 55.3**	**-0.4**		
	comp=Z,51nm,1.3s,mb5.1								
CHTO				LR	LR				
	comp=Z,20µm,19.0s,MS5.8								
JAY	**Jayapura**	**30.89**	**80**	P	**P**	**19 01 03.5**	**-0.4**		
	comp=Z,92nm,1.3s,mb5.5								
HKC	**Hong Kong**	**31.46**	**7**	⇑*i*P	**P**	**19 01 11.0**	**+2.0**		
GZH	**Guangzhou**	**32.15**	**5**	P	**P**	**19 01 19.1**	**+4.1**		
GZH				S	**S**	**19 06 36.6**	**+10**		
GZH				LR	LR				
	comp=N,8µm,19.3s,MS5.5								
GZH				LR	LR				
	comp=E,3µm,18.0s,MS5.5								
GZH				LR	LR				
	comp=Z,13µm,18.6s,MS5.7								
PALK	**Pallekele**	**33.74**	**298**	⇑P	**P**	**19 01 32.4**	**+3.5**		
	SNR=6.3								
PALK	**Pallekele**	**33.74**	**298**	*e*P	**P**	**19 01 32.0**	**+3.1**		
	comp=Z,93nm,1.0s,mb5.7								
PALK				LR	LR				
	comp=Z,2µm,21.0s,MS4.8								
QZH	**Quanzhou**	**34.81**	**13**	⇑*i*P	**P**	**19 01 38.0**	**-0.1**		
QZH				XP	sP	19 01 48.6	+2.1		
QZH				PPP		19 03 09.0			
QZH				S	**S**	**19 07 04.0**	**-3.8**		
QZH				AMB	AMB				
	comp=Z,2µm,4.8s								
QZH				LR	LR				
	comp=N,18µm,18.5s,MS5.9								
QZH				LR	LR				
	comp=E,7µm,14.7s,MS5.9								
QZH				LR	LR				
	comp=Z,23µm,19.1s,MS5.9								
KMI	**Kunming**	**34.85**	**348**	P	**P**	**19 01 41.0**	**+2.5**		
KMI				AP	pP	19 01 46.0	+1.6		
KMI				XP	sP	19 01 48.5	+1.6		
KMI				PP	PP	19 02 57.8	+0.2		
KMI				PPP		19 03 15.8			
KMI				PCP	PcP	19 04 15.5	+4.2		
KMI				S	**S**	**19 07 08.6**	**+0.2**		
KMI				SCP	ScP	19 07 58.6	+2.9		
KMI				PCS	PcS	19 08 00.6	+2.6		
KMI				SS	SS	19 09 20.4	-19		
KMI				SSS		19 09 47.1			
KMI				SCS	ScS	19 11 53.1	-6.0		
KMI				AMB	AMB				
	comp=Z,59nm,1.4s,mb5.3								
KMI				AMB	AMB				
	comp=Z,1µm,7.6s								
KMI				LR	LR				
	comp=N,24µm,15.2s,MS6.1								
KMI				LR	LR				
	comp=E,10µm,15.2s,MS6.1								
KMI				LR	LR				
	comp=Z,29µm,15.2s,MS6.1								
NACB	**Ninganchiao**	**34.88**	**18**	*e*P	**P**	**19 01 38.0**	**-0.7**		
YHNB	**Yeheng**	**35.28**	**18**	*e*P	**P**	**19 01 42.1**	**-0.1**		
GYA	**Guiyang**	**35.56**	**354**	⇑*i*P	**P**	**19 01 44.8**	**+0.2**		
GYA				PP	PP	19 03 05.3	-0.1		
GYA				S	**S**	**19 07 19.3**	**0.0**		
GYA				SCP	ScP	19 07 58.9	+0.6		
GYA				SS	SS	19 09 41.8	-12		
GYA				AMB	AMB				
	comp=Z,80nm,1.0s,mb5.6								
GYA				AMB	AMB				
	comp=Z,1µm,10.8s								
GYA				LR	LR				
	comp=N,16µm,21.0s,MS5.8								
GYA				LR	LR				
	comp=E,6µm,17.6s,MS5.8								
GYA				LR	LR				
	comp=Z,20µm,20.0s,MS5.9								
TATO	**Taipei**	**35.60**	**18**	*e*P	**P**	**19 01 45.0**	**0.0**		
	comp=Z,109nm,0.8s,mb5.8								
TATO				LR	LR				
	comp=Z,13µm,19.0s,MS5.7								
PMG	**Port Moresby**	**36.32**	**93**	P	**P**	**19 01 51.5**	**+0.4**		
	comp=Z,32nm,0.9s,mb5.3,baz=228,slow=3.7,SNR=7.6								
PMG	**Port Moresby**	**36.32**	**93**	*d*⇑*i*P	**P**	**19 01 52.4**	**+1.3**		
PMG	**Port Moresby**	**36.32**	**93**	*e*P	**P**	**19 01 52.2**	**+1.1**		
PMG				LR	LR				
	comp=Z,9µm,20.0s,MS5.6								
CTA	**Charters Tower**	**36.33**	**112**	*e*P	**P**	**19 01 51.4**	**+0.2**		
	comp=Z,33nm,0.8s,mb5.3								
CTA				*e*S	**S**	**19 07 30.6**	**-0.6**		
CTA	**Charters Tower**	**36.33**	**112**	P	**P**	**19 01 51.8**	**+0.6**		
	comp=Z,37nm,0.8s,mb5.4,baz=274,slow=12,SNR=36								
CTA	**Charters Tower**	**36.33**	**112**	*e*P	**P**	**19 01 51.4**	**+0.2**		
CTA				*e*S	**S**	**19 07 30.6**	**-0.6**		
CTA				pmax	pmax				
	comp=Z,33nm,0.8s								
CTAO	**Charters Tower**	**36.33**	**112**	*e*P	**P**	**19 01 51.5**	**+0.3**		
CTAO				MLR	MLR				
	comp=Z,19µm,22.0s,MS5.8								
STKA	**Stephens Creek**	**36.76**	**132**	*e*P	**P**	**19 01 54.1**	**-0.8**		
	comp=Z,86nm,0.6s,mb5.8								
STKA				*e*S	**S**	**19 07 34.0**	**-3.8**		
STKA	**Stephens Creek**	**36.76**	**132**	P	**P**	**19 01 54.7**	**-0.2**		
	comp=Z,95nm,0.6s,mb5.8,baz=302,slow=8.7,SNR=92								
STKA				LR	LR	19 16 43.4			
	comp=Z,20µm,21.7s,MS5.9,baz=302,slow=36								
MDRS	**Chennai**	**37.15**	**306**	*e*P	**P**	**19 01 58.7**	**+0.5**		
MDRS				AMb	AMB	19 02 01.2			
	comp=Z,174nm,0.6s,mb6.1								
MDRS				*ex*	x	19 07 40.6			
IMP	**Imphal**	**37.32**	**335**	*e*P	**P**	**19 02 01.0**	**+1.4**		
IMP				*ex*	x	19 04 29.0			
DGAR	**Diego Garcia**	**37.53**	**270**	PFAKE		19 02 10.0	+8.6		
DGAR				LR	LR				
	comp=Z,2µm,19.0s,MS4.9								
TRD	**Trivandrum**	**37.59**	**297**	*e*P	**P**	**19 02 01.5**	**-0.4**		
TRD				AMb	AMB	19 02 22.8			
	comp=Z,160nm,1.8s,mb5.4								
VIS	**Vishakhapatnam**	**37.74**	**315**	*e*P	**P**	**19 02 03.5**	**+0.3**		
VIS				AMb	AMB	19 02 08.0			
	comp=Z,143nm,1.6s,mb5.5								
SALM	**Salem**	**38.05**	**302**	*e*P	**P**	**19 02 08.0**	**+2.2**		
CAL	**Calcutta**	**38.16**	**326**	*e*P	**P**	**19 02 06.1**	**-0.6**		
CAL				*ex*	x	19 08 06.4			
CAL				AMP		19 23 19.4			
	comp=Z,12µm,17.4s								
SHL	**Shillong**	**38.89**	**333**	*i* P	**P**	**19 02 12.0**	**-0.9**		
SHL				AMb	AMB	19 02 43.5			
	comp=Z,556nm,1.0s,mb6.2								
SHL				*i* x	x	19 08 07.0			
SHL				*i* SCS	ScS	19 12 19.0	-2.7		
WHN	**Wuhan**	**39.63**	**5**	⇑P	**P**	**19 02 19.6**	**+0.5**		
WHN				PP	PP	19 04 00.3	+10		
WHN				S	**S**	**19 08 21.4**	**+0.2**		
WHN				AMB	AMB				
	comp=Z,2µm,6.2s								
WHN				LR	LR				
	comp=Z,18µm,17.0s,MS6.0								
JOW	**Kunigami**	**39.76**	**25**	P	**P**	**19 02 20.5**	**+0.4**		
	comp=Z,431nm,1.2s,mb6.1,baz=216,slow=6.8,SNR=126								
JOW				LR	LR	19 21 19.7			
	comp=Z,6µm,18.5s,MS5.5,baz=226,slow=40								
CD2	**Chengdu**	**40.31**	**351**	⇑*i*P	**P**	**19 02 25.4**	**+0.7**		
CD2				PP	PP	19 04 02.4	+4.8		
CD2				PCP	PcP	19 04 29.0	+1.0		
CD2				PCS	PcS	19 08 17.5	-1.0		
CD2				S	**S**	**19 08 30.8**	**-0.6**		
CD2				SS	SS	19 11 21.8	-8.3		
CD2				SCS	ScS	19 12 29.1	-0.9		
CD2				AMB	AMB				
	comp=Z,80nm,1.3s,mb5.3								
CD2				AMB	AMB				
	comp=Z,890nm,5.1s								
CD2				LR	LR				
	comp=N,9µm,18.6s								
CD2				LR	LR				
	comp=Z,7µm,13.8s,MS5.7								
BOK	**Bokaro**	**40.53**	**324**	*e*P	**P**	**19 02 27.7**	**+1.1**		
MNCY	**Minicoy**	**40.99**	**294**	*i* x	x	19 02 34.0			
MNCY				*i* x	x	19 03 31.0			
HYB	**Hyderabad**	**41.03**	**310**	*i* P	**P**	**19 02 31.0**	**+0.4**		
	comp=Z,210nm,1.0s,mb5.7								
HYB				*es*P	sP	19 02 43.0	+3.9		
HYB				*e*S	**S**	**19 08 40.0**	**-2.0**		
HYB				LR	LR	19 20 36.0			
	comp=Z,11nm,20.0s								
HYB	**Hyderabad**	**41.03**	**310**	*e*P	**P**	**19 02 31.0**	**+0.4**		
HYB				*e*		19 02 43.0			
HYB				*e*S	**S**	**19 08 40.0**	**-2.0**		
HYB				pmax	pmax				
	comp=Z,210nm,1.0s,mb5.7								
HYB	**Hyderabad**	**41.03**	**310**	*e*P	**P**	**19 02 31.0**	**+0.4**		
	comp=Z,210nm,1.0s,mb5.7								
HYB				*e*		19 02 43.0			
HYB				*e*S	**S**	**19 08 40.0**	**-2.0**		
HYB				eLR	LR	19 20 36.0			
GUMO	**Guam**	**41.03**	**57**	P	**P**	**19 02 29.6**	**-1.1**		
	comp=Z,72nm,0.4s,mb5.7,baz=191,slow=11,SNR=7.4								
GUMO				LR	LR	19 20 08.4			
	comp=Z,3µm,19.7s,MS5.2,baz=237,slow=37								
GUMO	**Guam**	**41.03**	**57**	*e*P	**P**	**19 02 31.0**	**+0.3**		
GUMO				pmax	pmax				
	comp=Z,470nm,1.2s,mb6.0								
SSE	**Sheshan**	**41.33**	**14**	⇑P	**P**	**19 02 34.3**	**+1.2**		
SSE				PCP	PcP	19 04 32.8	+1.5		
SSE				S	**S**	**19 08 49.3**	**+2.8**		
SSE				SCS	ScS	19 12 35.8	-0.3		
SSE				AMB	AMB				
	comp=Z,143nm,1.3s,mb5.4								
SSE				AMB	AMB				
	comp=Z,1µm,12.0s								
SSE				LR	LR				
	comp=N,6µm,21.0s,MS5.5								
SSE				LR	LR				
	comp=E,3µm,21.0s,MS5.5								
SSE				LR	LR				
	comp=Z,7µm,22.8s,MS5.5								
MNGI	**Mangalore**	**41.55**	**301**	*e*P	**P**	**19 02 35.5**	**+0.6**		
MNGI				AMb	AMB	19 02 40.6			
	comp=Z,82nm,1.0s,mb5.3								
MNGI				*i* S	**S**	**19 08 50.2**	**+0.5**		
MNGI				*ex*	x	19 19 34.5			
	comp=Z,8µm,21.0s								
NJ2	**Nanjing**	**41.75**	**11**	*e*P	**P**	**19 02 37.1**	**+0.5**		
NJ2				PP	PP	19 04 16.8	+3.6		
NJ2				S	**S**	**19 08 53.0**	**+0.3**		
NJ2				AMB	AMB				
	comp=Z,30nm,0.7s,mb5.0								
NJ2				AMB	AMB				
	comp=Z,210nm,7.0s								
LSA	**Lhasa**	**42.80**	**335**	P	**P**	**19 02 45.8**	**+0.6**		
LSA				XP	sP	19 03 00.1	+6.5		
LSA				PP	PP	19 04 26.5	+1.9		
LSA				S	**S**	**19 09 07.4**	**-0.9**		
LSA				AMB	AMB				
	comp=Z,20nm,1.0s,mb4.8								
LSA				AMB	AMB				
	comp=Z,1µm,11.9s								
LSA				LR	LR				
	comp=E,4µm,49.1s								
LSA				LR	LR				
	comp=Z,6µm,40.1s								
LSA	**Lhasa**	**42.80**	**335**	*e*P	**P**	**19 02 45.4**	**+0.2**		
LSA				*e*S	**S**	**19 09 07.9**	**-0.4**		
LSA				pmax	pmax				
	comp=Z,73nm,0.7s,mb5.5								
LSA				MLR	MLR				
	comp=Z,11µm,22.0s,MS5.7								
LSA	**Lhasa**	**42.80**	**335**	*e*P	**P**	**19 02 45.4**	**+0.2**		
	comp=Z,73nm,0.7s,mb5.5								
LSA				*e*S	**S**	**19 09 07.9**	**-0.4**		
LSA				LR	LR				
	comp=Z,11µm,22.0s,MS5.7								
YNG	**Young**	**42.92**	**131**	*e*P	**P**	**19 02 45.5**	**-0.6**		
	comp=Z,38nm,0.8s,mb5.2								
XAN	**Xi'an**	**42.95**	**358**	P	**P**	**19 02 45.4**	**-1.0**		
XAN				AP	pP	19 03 00.3	+7.9		
XAN				S	**S**	**19 09 06.4**	**-4.1**		
XAN				AMB	AMB				
	comp=Z,141nm,1.3s,mb5.5								
XAN				AMB	AMB				
	comp=Z,1µm,15.0s								
XAN				LR	LR				
	comp=N,4µm,22.6s,MS5.6								
XAN				LR	LR				
	comp=E,7µm,18.5s,MS5.6								
XAN				LR	LR				
	comp=Z,17µm,20.3s,MS5.9		

TAU Tasmania Unive 46.64 143 PFAKE 19 03 30.0 +14
TAU LR LR
comp=Z,2μm,19.0s,MS5.1
AGRA Agra 47.89 320 *e*P **P** **19 03 24.9 -0.6**
AGRA AMb AMB 19 03 28.1
comp=Z,90nm,0.6s,mb6.0
LGTI Lohaghat 48.09 324 *i* x x 19 03 47.0
BHV Bhavnagar 48.45 310 *e*P **P** **19 03 30.0 +0.2**
INCN Inchon 48.81 17 *e*P **P** **19 03 31.9 -0.7**
comp=Z,201nm,1.1s,mb6.1
INCN LR LR
comp=Z,6μm,19.0s,MS5.6
HNR Honiara 48.91 95 P **P** **19 03 33.1 -0.3**
comp=Z,273nm,0.9s,mb6.3,baz=223,slow=0.7,SNR=15
HNR Honiara 48.91 95 P **P** **19 03 33.4 0.0**
HNR pmax pmax
comp=Z,490nm,1.0s,mb6.5
HNR Honiara 48.91 95 *e*P **P** **19 03 33.1 -0.2**
comp=Z,489nm,1.0s,mb6.5
HNR LR LR
comp=Z,3μm,20.0s,MS5.2
DL2 Dalian 48.93 12⇑ *i*P **P** **19 03 31.4 -2.1**
DL2 PP PP 19 05 26.1 -0.8
DL2 PCS PcS 19 08 53.5 -0.4
DL2 S **S** **19 10 33.6 -2.8**
DL2 SCS ScS 19 13 22.9 -1.9
DL2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,590nm,6.4s
DL2 LR LR
comp=N,4μm,19.7s,MS5.5
DL2 LR LR
comp=E,2μm,17.6s,MS5.5
DL2 LR LR
comp=Z,7μm,19.2s,MS5.7
SONA Sohna 49.14 320 *e*P **P** **19 03 34.2 -1.0**
SONA AMb AMB 19 03 37.7
comp=Z,88nm,1.6s,mb5.5
KS15 Wonju Array Si 49.16 18 *e*P **P** **19 03 35.4 +0.1**
BJT Baijiatuau 49.20 6 *e*P **P** **19 03 34.4 -1.1**
BJT pmax pmax
comp=Z,240nm,1.0s
BJT MLR MLR
comp=Z,5μm,20.0s
BJT Baijiatuau 49.20 6 *e*P **P** **19 03 34.4 -1.2**
comp=Z,240nm,1.0s,mb6.2
BJT LR LR
comp=Z,5μm,20.0s,MS5.5
BJI Beijing 49.22 6 P **P** **19 03 35.3 -0.4**
BJI PP PP 19 05 28.8 -0.7
BJI S **S** **19 10 37.6 -2.9**
BJI AMB AMB
comp=Z,192nm,1.2s,mb6.0
BJI AMB AMB
comp=Z,2μm,11.0s
BJI LR LR
comp=N,4μm,17.0s,MS5.8
BJI LR LR
comp=E,8μm,17.0s,MS5.8
BJI LR LR
comp=Z,5μm,29.8s
GTA Gaotai 49.27 349⇑ *i*P **P** **19 03 36.8 +0.7**
GTA PCP PcP 19 04 59.1 +0.3
GTA PP PP 19 05 31.9 +1.9
GTA SCP ScP 19 08 52.3 -0.7
GTA S **S** **19 10 41.1 -0.2**
GTA SCS ScS 19 13 24.8 -2.3
GTA SS SS 19 14 10.8 -2.0
GTA AMB AMB
comp=Z,74nm,0.9s,mb5.7
GTA AMB AMB
comp=Z,2μm,5.7s
GTA LR LR
comp=N,9μm,17.2s,MS6.0
GTA LR LR
comp=E,9μm,17.2s,MS6.0
GTA LR LR
comp=Z,9μm,22.9s
AYAN Aya Nagar 49.28 320 *e*P **P** **19 03 35.3 -0.9**
AYAN AMb AMB 19 03 38.7
comp=Z,98nm,1.9s,mb5.5
NDI New Delhi 49.36 321 *e*P **P** **19 03 34.0 -2.8**
NDI *ex* x 19 10 35.0
BTO Baotou 49.49 360 *e*P **P** **19 03 37.3 -0.5**
BTO S **S** **19 10 38.0 -6.3**
BTO AMB AMB
comp=Z,44nm,1.3s,mb5.3
AJM Ajmer 49.55 317 *e*P **P** **19 03 38.5 +0.3**
AJM AMb AMB 19 03 41.8
comp=Z,122nm,1.6s,mb5.7
HHC Hu-ho-hao-te 49.74 1⇑ *i*P **P** **19 03 39.5 -0.2**
HHC PCP PcP 19 05 00.3 -0.2
HHC PP PP 19 05 34.8 +0.5
HHC SCP ScP 19 08 53.8 -1.2
HHC S **S** **19 10 47.8 0.0**
HHC SCS ScS 19 13 27.6 -2.7
HHC SS SS 19 14 16.6 -3.7
HHC AMB AMB
comp=Z,30nm,0.4s,mb5.7
HHC AMB AMB
comp=Z,856nm,4.5s
HHC LR LR
comp=N,7μm,14.7s,MS5.9
HHC LR LR
comp=E,4μm,15.1s,MS5.9
HHC LR LR
comp=Z,6μm,19.0s,MS5.6
KHET Khetri 49.84 319 *e*P **P** **19 03 38.4 -2.0**
JHJ Hachijo jima 2 50.51 32 P **P** **19 03 43.9 -1.6**
comp=Z,313nm,0.8s,mb6.3,baz=177,slow=5.9,SNR=7.2
KLP Kalpa 50.78 324 *e*P **P** **19 03 47.1 -0.5**
KLP AMb AMB 19 03 52.5
comp=Z,104nm,1.1s,mb5.7
SMLA Simla 51.12 323 *e*P **P** **19 03 49.5 -0.7**
SMLA AMb AMB 19 03 53.0
comp=Z,483nm,1.5s,mb6.2
SDNR Sundarnagar 51.51 323 *e*P **P** **19 03 52.0 -1.0**
SNY Shenyang 52.14 13⇑ P **P** **19 03 56.4 -1.4**
SNY S **S** **19 11 16.1 -5.0**
SNY AMB AMB
comp=Z,203nm,1.8s,mb5.8
SNY AMB AMB
comp=Z,1μm,12.0s
SNY LR LR
comp=N,3μm,22.2s,MS5.7
SNY LR LR
comp=E,6μm,19.2s,MS5.7
SNY LR LR
comp=Z,10μm,20.1s,MS5.8
MAJO Matsushiro 52.44 28 *e*P **P** **19 03 57.6 -2.4**
MAJO MLR MLR
comp=Z,8μm,20.0s,MS5.8
MAT Matsushiro 52.44 28 P **P** **19 03 57.9 -2.1**
MAT S **S** **19 11 26.4 +1.3**
MJAR Matsushiro Arr 52.44 28 P **P** **19 03 58.4 -1.5**
comp=Z,279nm,0.9s,mb6.2,baz=205,slow=7.5,SNR=278
MJAR LR LR 19 26 05.2
comp=Z,9μm,21.1s,MS5.8,baz=205,slow=36
THN Thein Dam 52.92 323 *e*P **P** **19 04 02.1 -1.4**
THN *ex* x 19 11 29.1
CN2 Changchun 54.44 13 *e*P **P** **19 04 12.8 -1.8**
CN2 PCP PcP 19 05 16.3 -1.8
CN2 PP PP 19 06 18.3 +1.5
CN2 *e*S **S** **19 11 50.6 -1.7**
CN2 *e*SS SS 19 15 34.9 +0.3
CN2 AMB AMB
comp=Z,210nm,0.9s,mb6.1
CN2 AMB AMB
comp=Z,2μm,5.0s
CN2 LR LR
comp=N,7μm,19.0s,MS5.9
CN2 LR LR
comp=E,7μm,19.0s,MS5.9
CN2 LR LR
comp=Z,9μm,19.0s,MS5.8
NIL Nilore 55.25 322 P **P** **19 04 19.5 -1.0**
comp=Z,277nm,0.6s,mb6.5,SNR=12
VLA Vladivostok 55.59 19 *i* P **P** **19 04 22.5 -0.4**
VLA Vladivostok 55.59 19 *i* Pr **P** **19 04 22.5 -0.4**
MDJ Mudanjiang 56.26 16 P **P** **19 04 26.8 -0.9**
MDJ PCP PcP 19 05 26.0 +0.9
MDJ PCS PcS 19 09 26.0 +0.3
MDJ S **S** **19 12 10.3 -6.3**
MDJ SCS ScS 19 14 15.8 -0.2
MDJ AMB AMB
comp=Z,253nm,1.2s,mb6.1
MDJ AMB AMB
comp=Z,1μm,12.1s
MDJ LR LR
comp=N,5μm,18.1s,MS5.7
MDJ LR LR
comp=E,2μm,17.2s,MS5.7
MDJ LR LR
comp=Z,5μm,19.8s,MS5.6
MDJ Mudanjiang 56.26 16 *e*P **P** **19 04 26.6 -1.2**
comp=Z,305nm,1.1s,mb6.2
MDJ LR LR
comp=Z,5μm,20.0s,MS5.6
WMQ Urumqi 56.58 340⇑ *i*P **P** **19 04 29.8 -0.2**
WMQ PCP PcP 19 05 26.0 -0.4
WMQ PP PP 19 06 37.0 +1.1
WMQ PPP 19 07 54.0
WMQ PCS PcS 19 09 25.5 -1.6
WMQ S **S** **19 12 19.0 -1.8**
WMQ SCS ScS 19 14 14.0 -4.3
WMQ SS SS 19 16 06.0 -2.3
WMQ AMB AMB
comp=Z,88nm,1.7s,mb5.5
WMQ AMB AMB
comp=Z,1μm,5.8s
WMQ LR LR
comp=N,5μm,16.8s,MS5.9
WMQ LR LR
comp=E,5μm,17.5s,MS5.9
WMQ LR LR
comp=Z,6μm,23.2s
ULN Ulaanbaatar 56.82 357⇑ *i*P **P** **19 04 31.7 -0.1**
ULN LR LR
comp=Z,5μm,20.0s,MS5.6
SONM Songino Array 56.82 357 P **P** **19 04 31.6 -0.2**
comp=Z,97nm,1.0s,mb5.8,baz=172,slow=6.9,SNR=197
SONM PcP PcP 19 05 27.4 +0.1
comp=Z,42nm,1.0s,baz=172,slow=4.5,SNR=5.0
SONM LR LR 19 33 22.3
comp=Z,6μm,20.0s,MS5.7,baz=193,slow=41
SONM PKP2bc 19 34 37.3
comp=Z,0.9nm,0.8s,baz=321,slow=4.2,SNR=4.5
SONM Songino Array 56.82 357 P **P** **19 04 31.6 -0.2**
SONM 19 05 27.4
SONM Songino Array 56.82 357 P **P** **19 04 31.6 -0.2**
SONM PcP PcP 19 05 27.4 +0.1
SONM LR LR 19 33 22.3
SONM ⇑ *e* 19 34 37.3
CASY Casey 57.06 180 *e*P **P** **19 04 32.6 -0.9**
CASY LR LR
comp=Z,7μm,20.0s,MS5.8
KSH Kashi 57.96 329⇑ *i*P **P** **19 04 39.3 -0.5**
KSH PCP PcP 19 05 32.4 +0.6
KSH PP PP 19 06 48.3 +0.1
KSH PPP 19 08 08.1
KSH SCP ScP 19 09 30.3 -0.6
KSH PCS PcS 19 09 32.3 -0.9
KSH S **S** **19 12 34.0 -5.0**
KSH AMB AMB
comp=Z,198nm,0.7s,mb6.2
KSH AMB AMB
comp=Z,2μm,2.6s,mb6.6
KSH LR LR
comp=N,7μm,14.5s,MS6.1
KSH LR LR
comp=E,10μm,15.1s,MS6.1
KSH LR LR
comp=Z,9μm,17.5s,MS6.0
MIR Mirnyy 58.55 188⇑ *i*P **P** **19 04 46.0 +2.1**
MIR *e*PPP 19 07 05.0
MIR pmax pmax
comp=Z,500nm,1.1s,mb6.5
MIR pmax pmax
comp=Z,1μm,6.0s
HIA Hailar 58.73 7⇑ *i*P **P** **19 04 44.2 -1.0**
HIA LR LR
comp=Z,9μm,19.0s,MS5.9
ERM Erimo 59.11 28 P **P** **19 04 48.2 +0.4**
comp=Z,829nm,0.9s,mb6.8,SNR=5.1
ERM Erimo 59.11 28 *d* *i*P **P** **19 04 47.9 +0.1**
ERM Erimo 59.11 28 *e*P **P** **19 04 47.7 -0.1**
comp=Z,117nm,0.8s,mb6.0
ERM LR LR
comp=Z,2μm,21.0s,MS5.1
ZAK Zakamensk 59.58 355 *e*P **P** **19 04 50.4 -0.7**
ZAK *e* 19 05 39.0
ZAK pmax pmax
comp=Z,45nm,1.7s,mb5.2
ZAK pmax pmax
comp=Z,28nm,1.4s,mb5.1
ULHL Ulahol 59.90 331 P **P** **19 04 53.6 +0.3**
SNR=13
KZA Kyzart 60.25 330 P **P** **19 04 56.0 +0.3**
SNR=112
UCH Uchtor 60.72 330 P **P** **19 04 59.3 +0.4**
SNR=50
TKM2 Tokmak 2 60.73 331 P **P** **19 04 58.4 -0.5**
SNR=142
TKM2 Tokmak 2 60.73 331 *i* P **P** **19 04 58.7 -0.2**
KBK Karagaybulak 60.83 331 P **P** **19 05 00.1 +0.4**
SNR=102
TLY Talaya 60.84 355 *c* *i*P **P** **19 04 59.4 -0.3**
TLY *e* 19 05 13.4
TLY *e*S **S** **19 13 09.9 -6.4**
TLY *e* 19 14 44.6
TLY *e*SSS 19 19 55.9
TLY pmax pmax
comp=Z,156nm,1.7s,mb5.9
TLY MLR MLR
comp=Z,7μm,17.0s,MS5.9
TLY Talaya 60.84 355 *e*P **P** **19 04 59.8 +0.1**
TLY LR LR
comp=Z,2μm,19.0s,MS5.3
DRV Dumont d'Urvil 60.89 167 P **P** **19 05 02.0 +2.0**
DRV S **S** **19 13 20.0 +3.1**
DRV SS SS 19 17 20.0 +3.9
DRV R 19 24 00.0
CIT Chita 60.97 2 *e*P **P** **19 05 01.0 +0.4**
CIT *e* 19 05 44.8
CIT pmax pmax
comp=Z,709nm,2.2s,mb6.4
AAK Ala-Archa 61.04 330 P **P** **19 05 01.7 +0.7**
SNR=45
AAK Ala-Archa 61.04 330 *c* *i*P **P** **19 05 00.1 -0.9**
AAK pmax pmax
comp=Z,123nm,1.3s,mb5.9
AAK Ala-Archa 61.04 330 *e*P **P** **19 05 00.0 -1.0**
AAK LR LR
comp=Z,1μm,20.0s,MS5.1
MK31 Makanchi Array 61.04 338 P **P** **19 05 00.3 -0.8**
MK31 pmax pmax
comp=Z,18nm,0.4s,mb5.5
MKAR Makanchi Array 61.04 338 P **P** **19 05 00.9 -0.1**
comp=Z,54nm,0.5s,mb5.9,baz=144,slow=6.9,SNR=156
AML Almayashu 61.06 330 P **P** **19 05 01.4 +0.2**
SNR=51
KLR Kul'dur 61.08 16 *d* *i*P **P** **19 04 56.5 -4.8**
KLR *e*PPP 19 08 41.0
KLR *e*S **S** **19 13 11.0 -8.3**
KLR *e*SS SS 19 17 09.0 -10
KLR pmax pmax
comp=E,160nm,1.4s
KLR pmax pmax
comp=Z,430nm,1.4s,mb6.4
KLR pmax pmax
comp=Z,2μm,11.0s
KLR MLR MLR
comp=N,1μm,16.0s
KLR MLR MLR
comp=Z,4μm,16.0s,MS5.7
MOY Mondy 61.09 353 *e*P **P** **19 05 01.2 -0.2**
MOY pmax pmax
comp=Z,370nm,2.0s,mb6.2
FRU Bishkek 61.13 331 *e*P **P** **19 05 01.8 +0.2**
FRU *e* 19 05 39.4
FRU *e*S **S** **19 13 17.0 -2.9**
FRU *e* 19 14 54.0
FRU pmax pmax
comp=Z,400nm,2.0s,mb6.2
FRU smax
comp=N,2μm,8.0s
FRU MLR MLR
comp=Z,4μm,21.0s,MS5.6
FRU MLR MLR
comp=N,4μm,19.0s
CHMS Chumysh 61.19 331 P **P** **19 05 01.9 -0.2**
SNR=28
IRK Irkutsk 61.35 356 *e*P **P** **19 05 02.4 -0.8**
IRK *e* 19 13 22.8
IRK *e* 19 14 51.9
IRK pmax pmax
comp=Z,330nm,1.8s,mb6.2
HABR Khabarovsk 61.36 18⇑ *i*P **P** **19 05 03.0 -0.2**
HABR *e*S **S** **19 13 23.8 +1.0**
HABR pmax pmax
comp=Z,215nm,0.8s,mb6.3
HABR MLR MLR
comp=Z,3μm,19.7s,MS5.5
EKS2 Erkin-Say 61.41 330 P **P** **19 05 03.4 -0.1**
SNR=99
USP Ospenovka 61.51 331 P **P** **19 05 03.7 -0.6**
SNR=48
OPO Ambohidratompo 61.78 254 P **P** **19 05 08.3 +2.3**
comp=Z,11nm,0.9s,mb5.0,baz=74,slow=5.2,SNR=8.6
YSS Yuzh-Sakhalins 62.85 24⇑ *e*P **P** **19 05 11.9 -1.3**
YSS *e**SP sP 19 05 17.9 -4.0
YSS *e* 19 05 25.2
YSS *e* 19 05 53.0
YSS *e*S **S** **19 13 33.0 -8.7**
YSS *e*PPS 19 14 08.0
YSS 19 15 02.0
YSS pmax pmax
comp=Z,1μm,1.8s,mb6.7
YSS pmax pmax
comp=N,360nm,1.6s
YSS pmax pmax
comp=E,480nm,1.7s
YSS pmax pmax
comp=N,160nm,1.0s
YSS pmax pmax
comp=E,120nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.2
YSS MLR MLR
comp=N,1μm,22.0s,MS5.3
YSS MLR MLR
comp=Z,4μm,22.0s,MS5.6
YSS MLR MLR
comp=E,2μm,21.0s,MS5.3
YSS Yuzh-Sakhalins 62.85 24 *e*P **P** **19 05 11.5 -1.7**
YSS LR LR
comp=Z,4μm,21.0s,MS5.6
KK31 Karatay Array 63.38 328 *i* P **P** **19 05 15.5 -1.3**
KKAR Karatay Array 63.38 328 *i* P **P** **19 05 15.5 -1.3**
KKAR pmax pmax
comp=Z,13nm,0.7s,mb5.2
SNZO South Karori 64.81 131 PFAKE 19 05 40.0 +14
SNZO LR LR
comp=Z,11μm,22.0s,MS6.0
KURK Kurchatov 65.65 338 P **P** **19 05 31.0 -0.6**
comp=Z,1μm,1.1s,mb6.8
MAW Mawson 66.33 198 *e*P **P** **19 05 36.0 0.0**
comp=Z,18nm,0.8s,mb5.2
MAW *e*S S 19 14 21.4 -3.3
MAW Mawson 66.33 198 P **P** **19 05 36.1 +0.1**
comp=Z,26nm,1.0s,mb5.2,baz=52,slow=9.0,SNR=29
MAW LR LR 19 28 11.6
comp=Z,11μm,21.9s,MS6.0,baz=52,slow=30
MAW PKP2bc 19 34 09.8
comp=Z,7.6nm,1.0s,baz=210,slow=5.4,SNR=4.1
MAW Mawson 66.33 198 *e*P **P** **19 05 36.0 0.0**
MAW *e*S S 19 14 21.4 -3.3
MAW pmax pmax
comp=Z,18nm,0.8s
MAW MLR MLR
comp=Z,17μm,21.0s
MAW Mawson 66.33 198 *e*P **P** **19 05 36.0 0.0**
comp=Z,18nm,0.8s,mb5.2
MAW *e*S S 19 14 21.4 -3.3
MAW LR LR
comp=Z,17μm,21.0s,MS6.2
ZAL Zalesovo 66.45 344 P **P** **19 05 35.5 -1.2**
comp=Z,62nm,0.4s,mb6.0,baz=323,slow=4.6,SNR=214
ZAL S S 19 14 21.8 -4.2
comp=Z,2.8nm,0.9s,baz=95,slow=21,SNR=11
ZAL PKP2bc 19 34 13.3
comp=Z,0.7nm,0.4s,baz=193,slow=8.7,SNR=5.9
ZAL LR LR 19 37 19.6
comp=Z,7μm,20.1s,MS5.9,baz=314,slow=38
ZAL Zalesovo 66.45 344 P **P** **19 05 35.5 -1.2**
ZAL S S 19 14 21.8 -4.2
ZAL Zalesovo 66.45 344 P **P** **19 05 35.5 -1.2**
ZAL S S 19 14 21.8 -4.2
ZAL ⇑ *e* 19 34 13.3
ZAL LR LR 19 37 19.6
KRAR Krasnoyarsk 66.51 349 *c* *i*P **P** **19 05 36.5 -0.6**
KRAR pmax pmax
comp=Z,489nm,1.7s,mb6.3
KRAR MLR MLR
comp=Z,6μm,20.0s,MS5.8
NRGR Nerungri 66.62 9 *i* P **P** **19 05 37.7 -0.1**
NRGR S S 19 14 23.9 -4.2
NRGR pmax pmax
comp=Z,458nm,0.5s,mb6.8
NRGR smax
comp=E,14nm,0.4s
BOD Bodaibo 66.78 2⇓ *i*P **P** **19 05 37.6 -1.2**
BOD pmax pmax
comp=Z,311nm,1.7s,mb6.1
CLNS Chul'man 66.82 9 *e*P **P** **19 05 39.0 -0.1**
CLNS *e* 19 06 06.8
CLNS pmax pmax
comp=N,281nm,1.0s
CLNS pmax pmax
comp=Z,483nm,1.0s,mb6.5
CLNS pmax pmax
comp=E,186nm,1.1s
ABKT Ailbek 67.56 317 P **P** **19 05 44.6 +0.8**
comp=E,768nm,1.0s,mb6.7,SNR=45
ABKT Ailbek 67.56 317 P **P** **19 05 44.2 +0.4**
NVS Novosibirsk 67.68 343⇑ *i*P **P** **19 05 43.0 -1.5**
NVS *i* S S 19 14 33.3 -7.6
NVS pmax pmax
comp=Z,344nm,1.5s,mb6.2
NVS pmax pmax
comp=N,265nm,1.6s
NVS pmax pmax
comp=E,160nm,1.4s
NVS smax
comp=N,102nm,2.4s
NVS smax
comp=E,159nm,2.0s
FUNA Funafuti 67.93 96 PFAKE 19 06 00.0 +14
FUNA LR LR
comp=Z,11μm,19.0s,MS6.1
RAO Raoul Island 69.69 118 PFAKE 19 06 10.0 +13
RAO LR LR
comp=Z,6μm,20.0s,MS5.8
VOSK Vostochnaya 70.17 336 P **P** **19 05 59.2 -0.8**
VOSK pmax pmax
comp=Z,257nm,1.6s,mb5.9
ATD Arta Tunnel 70.18 286 P **P** **19 06 01.0 +0.9**
comp=Z,10nm,0.8s,mb4.8,baz=250,slow=21,SNR=7.0
BVA0 Borovoye Array 70.64 336 *i* P **P** **19 06 02.0 -0.9**
BVA0 pmax pmax
comp=Z,39nm,1.3s,mb5.2
BVAR Borovoye Array 70.64 336 P **P** **19 06 02.2 -0.7**
comp=Z,115nm,1.0s,mb5.8,baz=142,slow=7.5,SNR=247
BVAR S S 19 15 12.9 -3.0
comp=Z,0.3nm,0.4s,baz=272,slow=40,SNR=2.3
BRVK Borovoye 70.70 336 *e*P **P** **19 06 02.6 -0.7**
BRVK pmax pmax
comp=Z,96nm,1.0s,mb5.7
BRVK MLR MLR
comp=Z,789nm,22.0s,MS4.9
BRVK Borovoye 70.70 336 *e*P **P** **19 06 02.6 -0.7**
comp=Z,96nm,1.0s,mb5.7
BRVK LR LR
comp=Z,789nm,22.0s,MS4.9
QRN Al-Qurain 70.98 305 *e*P **P** **19 06 04.9 -0.1**
QRN AMb AMB 19 06 09.6
comp=Z,226nm,0.7s,mb6.2
CHKZ Chkalovo 71.03 336 P **P** **19 06 04.6 -0.7**
CHKZ pmax pmax
comp=Z,4.0nm,1.1s
CHKZ Chkalovo 71.03 336 *e*P **P** **19 06 04.2 -1.0**
ZRNK Zerenda 71.15 335 P **P** **19 06 05.4 -0.6**
ZRNK pmax pmax
comp=Z,211nm,1.3s,mb5.9
ZRNK Zerenda 71.15 335 *e*P **P** **19 06 05.2 -0.8**

comp=Z,175nm,1.0s,mb5.9
KBD Kabd 71.33 305 *e*P **P** **19 06 07.1 +0.1**
KBD AMb AMB 19 06 08.8
comp=Z,434nm,0.8s,mb6.4
RDF Al-Radifah 71.35 305 *e*P **P** **19 06 07.2 0.0**
RDF AMb AMB 19 06 08.9
comp=Z,205nm,0.9s,mb6.1
UMR Umm Al-Rimmam 71.45 305 *e*P **P** **19 06 07.8 0.0**
UMR AMb AMB 19 06 09.6
comp=Z,236nm,0.9s,mb6.1
SKR Severo-Kuril's 71.55 29 *e*P **P** **19 06 02.0 -6.4**
SKR *e* pP 19 06 07.2 -7.5
SKR *e* 19 06 22.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR pmax pmax
comp=Z,2μm,4.0s
NAY Al-Naaiem 71.72 305 *e*P **P** **19 06 09.1 -0.3**
NAY AMb AMB 19 06 11.0
comp=Z,129nm,0.8s,mb5.9
MIB Mutribah 71.85 305 *e*P **P** **19 06 10.2 0.0**
MIB AMb AMB 19 06 11.9
comp=Z,234nm,1.0s,mb6.1
RST Umm Al-Ruwaisa 72.01 305 *e*P **P** **19 06 10.9 -0.2**
RST AMb AMB 19 06 12.6
comp=Z,314nm,0.8s,mb6.3
YAK Yakutsk 72.53 9*ce*P **P** **19 06 12.8 -1.5**
YAK *e**PP pP 19 06 18.1 -2.5
YAK *e* 19 06 26.2
YAK *e* 19 09 00.6
YAK *i* S S 19 15 31.7 -5.9
YAK *e* 19 16 25.2
YAK pmax pmax
comp=Z,258nm,1.1s,mb6.1
YAK pmax pmax
comp=N,176nm,1.7s
YAK pmax pmax
comp=E,97nm,1.4s
YAK pmax pmax
comp=Z,34nm,1.2s,mb5.2
YAK smax
comp=E,63nm,1.4s
YAK smax
comp=N,43nm,1.3s
YAK MLR MLR
comp=Z,4μm,18.0s,MS5.7
YAK MLR MLR
comp=N,3μm,19.0s,MS5.8
YAK MLR MLR
comp=E,4μm,21.0s,MS5.8
YAK Yakutsk 72.53 9 *e*P **P** **19 06 12.6 -1.7**
YAK LR LR
comp=Z,4μm,21.0s,MS5.6
AB31 Akbulak array 72.95 328 *i* P **P** **19 06 16.5 -0.3**
KMBO Kilima Mbogo 73.13 272 P **P** **19 06 20.4 +2.5**
comp=Z,4.3nm,0.8s,baz=65,slow=7.7,SNR=13
KMBO LR LR 19 33 09.9
comp=Z,5μm,20.7s,MS5.8,baz=97,slow=32
DESE Dese 73.15 285 *e*P **P** **19 06 23.5 +5.6**
DESE *e*S S 19 15 53.9 +9.1
VNDA Vanda 73.28 170 P **P** **19 06 18.0 -0.7**
comp=Z,34nm,1.1s,mb5.2,baz=303,slow=6.4,SNR=70
VNDA LR LR 19 36 37.8
comp=Z,6μm,19.2s,MS5.9,baz=322,slow=34
VNDA Vanda 73.28 170 *e*P **P** **19 06 18.2 -0.5**
VNDA LR LR
comp=Z,5μm,20.0s,MS5.8
PET Petropavlovsk 74.27 28*c i*P **P** **19 06 23.5 -1.0**
PET *e*S S 19 15 57.6 +0.2
PET pmax pmax
comp=Z,56nm,0.6s,mb5.7
PET pmax pmax
comp=N,400nm,20.0s
PET pmax pmax
comp=Z,1μm,16.8s
PET pmax pmax
comp=E,400nm,17.8s
PET MLR MLR
comp=Z,4μm,21.0s,MS5.7
PET MLR MLR
comp=Z,4μm,19.0s
PET Petropavlovsk 74.27 28 *e*P **P** **19 06 24.1 -0.5**
comp=Z,58nm,0.6s,mb5.7
PET LR LR
comp=Z,4μm,21.0s,MS5.7
SBA Scott Base 74.35 169 *e*P **P** **19 06 25.8 +0.8**
SBA MLR MLR
comp=Z,3μm,20.0s,MS5.7
AKTK Aktyubinsk 74.65 328 P **P** **19 06 26.5 -0.2**
AKTK S S 19 15 59.1 -2.5
AKTO Aktyubinsk 74.65 328 P **P** **19 06 26.5 -0.2**
comp=Z,30nm,0.5s,mb5.5,baz=110,slow=5.1,SNR=104
AKTO S S 19 15 59.1 -2.5
comp=Z,2.5nm,0.9s,baz=316,slow=19,SNR=7.6
SYO Syowa Base 74.67 201⇑ *e*P **P** **19 06 26.0 -0.9**
BHD Baghdad 75.47 308 *i* x x 19 06 26.0
BHD *ex* x 19 16 00.0
MA2 Magadan 75.71 20*ce*P **P** **19 06 32.2 -0.6**
MA2 *e* 19 06 48.7
MA2 *e*PP PP 19 09 24.2 +1.6
MA2 *e*S S 19 16 12.4 -1.0
MA2 *e* 19 16 32.6
MA2 pmax pmax
comp=Z,200nm,1.0s,mb6.0
MA2 Magadan 75.71 20 *e*P **P** **19 06 32.2 -0.7**
comp=Z,125nm,0.9s,mb5.8
MA2 LR LR
comp=Z,3μm,20.0s,MS5.5
AFI Afiamalu 76.17 102 PFAKE 19 06 50.0 +15
AFI LR LR
comp=Z,3μm,20.0s,MS5.7
SEMD Semdilli 76.88 312 P **P** **19 06 37.4 -2.1**
MAK Makhachkala 77.07 318 *i* P **P** **19 06 40.3 -0.2**
MAK *e* 19 09 31.5
MAK *e*PPP 19 11 29.7
MAK *i* S S 19 16 26.6 -1.7
MAK *i* 19 16 58.7
MAK *e*SS SS 19 21 29.2 +3.7
MAK pmax pmax
comp=Z,329nm,1.7s,mb6.0
CUKT Cukurca 77.52 311 P **P** **19 06 42.6 -0.4**
HKR Hakkari 77.54 312 P **P** **19 06 43.2 0.0**
MSL Mosul 77.56 310 *ex* x 19 06 50.0
MSL *ex* x 19 07 04.0
MSL *ex* x 19 07 23.5
MSL *ex* x 19 16 29.0
MSL *ex* x 19 16 51.0
GNI Garni 77.80 314 P **P** **19 06 43.1 -1.5**
GNI Garni 77.80 314 P **P** **19 06 45.8 +1.1**
comp=Z,21nm,0.9s,mb5.0,baz=346,slow=3.5,SNR=20
GNI Garni 77.80 314 P **P** **19 06 45.8 +1.2**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI Garni 77.80 314 *e*P **P** **19 06 44.8 +0.2**
comp=Z,60nm,0.9s,mb5.5
GNI LR LR
comp=Z,2μm,22.0s,MS5.4
DGRG David-gareji 77.88 316 P **P** **19 06 46.5 +1.5**
DGRG S S 19 16 34.5 -2.5
ARU Arti 77.98 333 P **P** **19 06 44.6 -1.0**
comp=Z,663nm,1.5s,mb6.3,SNR=12
ARU Arti 77.98 333⇑ *i*P **P** **19 06 45.1 -0.5**
ARU *e* 19 06 55.0
ARU *e* 19 09 42.1
ARU *e*PPP 19 11 28.6
ARU *e*S S 19 16 36.2 -2.0
ARU *e* 19 16 47.8
ARU *e*SS SS 19 21 44.7 +5.4
ARU pmax pmax
comp=Z,171nm,1.4s,mb5.8
ARU MLR MLR
comp=Z,7μm,20.0s,MS6.0
ARU MLR MLR
comp=N,2μm,19.0s,MS6.0
ARU MLR MLR
comp=E,6μm,21.0s,MS6.0
ARU Arti 77.98 333 *e*P **P** **19 06 44.6 -1.0**
comp=E,309nm,1.5s,mb6.0
ARU LR LR
comp=Z,2μm,22.0s,MS5.5
CLDR Caldiran 78.00 313 P **P** **19 06 46.0 +0.3**
TVAN Van 78.14 312 *i* P **P** **19 06 47.4 +0.9**
MTA Mtatsminda 78.37 316 P **P** **19 06 48.3 +0.5**
MTA S S 19 16 39.2 -3.3
TBLG Delisi 78.42 316 P **P** **19 06 49.1 +1.0**

SEY Seymchan 78.74 18⇑ *i*P **P** **19 06 49.2 -0.6**
MIDW Midway 78.98 59 PFAKE 19 07 00.0 +8.8
MIDW LR LR
comp=Z,2μm,21.0s,MS5.5
ZEI Tsey 79.41 317 *e*P **P** **19 06 54.7 +1.2**
BTMT Batman 79.42 312 P **P** **19 06 54.1 +0.5**
ONI Oni 79.64 316 P **P** **19 06 55.9 +1.2**
ONI S S 19 16 55.2 -0.7
MARD Mardin 79.65 311 *i* P **P** **19 06 53.5 -1.3**
BNGL BINGOL 79.94 312 *i* P **P** **19 06 56.2 -0.2**
ERZM Erzurum 80.11 313 *i* P **P** **19 06 58.3 +1.0**
EZM Erzurum 80.12 313 P **P** **19 06 58.9 +1.5**
LSZ Lusaka 80.14 256⇓ P **P** **19 07 00.5 +3.0**
SNR=16
LSZ Lusaka 80.14 256 *e*P **P** **19 06 59.2 +1.8**
LSZ LR LR
comp=Z,9μm,21.0s,MS6.1
BCA Borcka 80.48 315 P **P** **19 06 59.3 0.0**
KIV Kislovodsk 80.68 317*c i*P **P** **19 07 00.0 -0.4**
KIV *e*S S 19 17 04.4 -2.4
KIV pmax pmax
comp=Z,44nm,0.8s,mb5.4
KIV pmax pmax
comp=Z,894nm,4.2s
KIV Kislovodsk 80.68 317 *e*P **P** **19 07 00.5 +0.1**
comp=Z,111nm,1.1s,mb5.7
KIV LR LR
comp=Z,458nm,20.0s,MS4.8
QSPA South Pole Qui 80.87 180 *e*P **P** **19 07 00.9 -0.5**
comp=Z,38nm,0.9s,mb5.3
QSPA LR LR
comp=Z,8μm,20.0s,MS6.1
GOF Gofitskoye 80.87 319⇑ *i*P **P** **19 07 04.0 +2.6**
GOF pmax pmax
comp=Z,254nm,1.7s,mb5.9
ASF Jabal al Asfar 81.08 305 P **P** **19 07 04.1 +1.6**
comp=Z,27nm,0.9s,mb5.2,baz=356,slow=2.0,SNR=29
URFA Urfa 81.17 310 P **P** **19 07 03.7 +0.7**
EZC Erzincan 81.18 313 P **P** **19 07 05.7 +2.6**
PTK Pertek 81.21 312 P **P** **19 07 03.7 +0.5**
ELZG Elazig 81.38 311 *i* P **P** **19 07 05.0 +0.9**
BOSA Boshof 81.41 242 P **P** **19 07 05.8 +1.5**
comp=Z,7.1nm,0.9s,baz=110,slow=5.1,SNR=7.2
BOSA LR LR 19 37 43.2
comp=Z,10μm,19.6s,MS6.2,baz=108,slow=32
LBTB Lobatse 81.47 246 *e*P **P** **19 07 05.6 +1.0**
LBTB MLR MLR
comp=Z,3μm,20.0s,MS5.7
TIXI Tiksi 81.54 6⇓ *i*P **P** **19 07 02.7 -2.3**
TIXI *e*S SKSac 19 17 05.8 -18
TIXI *e*SS SS 19 22 24.5 -8.2
TIXI pmax pmax
comp=Z,137nm,1.0s,mb5.8
TIXI pmax pmax
comp=N,28nm,1.2s
TIXI pmax pmax
comp=E,8.0nm,1.0s
TIXI pmax pmax
comp=Z,1μm,2.5s,mb6.3
TIXI smax
comp=N,405nm,2.7s
TIXI smax
comp=E,319nm,2.4s
TIXI MLR MLR
comp=Z,6μm,18.0s,MS6.0
TIXI MLR MLR
comp=N,4μm,17.0s,MS5.8
TIXI MLR MLR
comp=E,1μm,17.0s,MS5.8
TIXI Tiksi 81.54 6⇑ *i*P **P** **19 07 03.4 -1.6**
TIXI LR LR
comp=Z,7μm,20.0s,MS6.0
ATAB Bozova 81.57 310 *i* P **P** **19 07 05.4 +0.3**
MACK Trabzon 81.62 314 *i* P **P** **19 07 03.7 -1.6**
KTUT Trabzon 81.63 314 P **P** **19 07 04.2 -1.3**
KELT Kelkit 81.72 313 *i* P **P** **19 07 07.1 +1.2**
MALT Malatya 81.74 311⇑ *i*P **P** **19 07 07.3 +1.3**
MALT Malatya 81.74 311 *e*P **P** **19 07 07.0 +1.0**
MYA Malataya 81.74 311 P **P** **19 07 07.2 +1.2**
SMY Shemya 81.93 33 PFAKE 19 07 20.0 +13
SMY LR LR
comp=Z,2μm,20.0s,MS5.5
EIL Elat 82.01 302 *e*P **P** **19 07 08.8 +1.3**
GZT Gaziantep 82.09 310 *i* P **P** **19 07 08.7 +0.8**
GAZ Gaziantep 82.30 310 P **P** **19 07 10.2 +1.3**
KMRS Kahramanmaras 82.64 310 P **P** **19 07 11.1 +0.4**
GRSN GIRESUNGRSN 82.69 313 *i* P **P** **19 07 10.4 -0.6**
HTY Hatay 82.82 308 P **P** **19 07 13.0 +1.4**
SVST Sivas 83.28 312 *i* P **P** **19 07 13.4 -0.7**
SVSK Karacayir 83.29 312 P **P** **19 07 15.5 +1.4**
CEYT Ceyhan 83.37 309 P **P** **19 07 16.6 +2.1**
KOZT Kozan 83.45 309 P **P** **19 07 13.8 -1.1**
BNN Bunyan 83.83 311 P **P** **19 07 18.0 +1.1**
KARA Karaisali 83.98 309 P **P** **19 07 17.8 +0.2**
NVL N'lazarevskaya 84.24 199 *e*P **P** **19 07 20.4 +1.4**
NVL *e*S S 19 17 42.3 -1.0
NVL *e*SSS 19 26 50.3
NVL pmax pmax
comp=Z,29nm,1.3s,mb5.2
AMKA Amchitka 84.30 36 P **P** **19 07 18.4 -0.9**
KVT Kavak 84.33 313 P **P** **19 07 20.2 +0.8**
YOZ Yozgat 84.45 311 P **P** **19 07 21.1 +1.1**
MEST Erdemli 84.49 308 *i* P **P** **19 07 18.1 -2.1**
ANN Anapa 84.50 317*c i*P **P** **19 07 19.1 -1.2**
ANN *e**PP pP 19 07 25.9 -0.8
ANN *e*S S 19 17 40.2 -5.7
ANN pmax pmax
comp=Z,107nm,1.9s,mb5.7
CSS Prodhromos 84.71 307 *e*P **P** **19 07 22.6 +1.3**
comp=Z,130nm,1.0s,mb6.0
IKL Isikli 84.76 308 P **P** **19 07 21.1 -0.5**
SUR Sutherland 84.79 238 PFAKE 19 07 30.0 +8.3
SUR LR LR
comp=Z,2μm,19.0s,MS5.5
PECR Pechory 84.81 329 *e*P **P** **19 07 20.8 -1.0**
PECR *e* 19 10 38.7
PECR *i*S S 19 17 44.7 -4.2
PECR pmax pmax
comp=Z,2μm,1.8s,mb6.8
PECR pmax pmax
comp=Z,2μm,8.0s
PECR smax
comp=N,2μm,10.0s
PECR smax
comp=E,1μm,9.0s
DIKM Dikmen 85.07 313 P **P** **19 07 23.2 +0.1**
CORM Corum 85.11 312 P **P** **19 07 23.1 -0.3**
CTKT Corum 85.11 312 *i* P **P** **19 07 23.9 +0.6**
CDAG Cicekdag 85.14 311 *i* P **P** **19 07 23.4 -0.1**
BOYT Boyabat 85.26 313 *i* P **P** **19 07 24.3 +0.3**
BYBT Boyabat 85.37 313 P **P** **19 07 26.5 +1.9**
VORD Divnogorie 85.38 323 *e*P **P** **19 07 23.7 -1.0**
VORD *e*S S 19 17 52.4 -2.2
VORD pmax pmax
comp=Z,50nm,1.3s,mb5.5
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,40nm,1.1s
VORD smax
comp=Z,10.0nm,1.9s
VORD smax
comp=N,100nm,3.0s
VORD smax
comp=E,100nm,2.8s
ERMK Ermenek 85.47 308 *i* P **P** **19 07 25.0 -0.1**
VRSR Storozhevoye 85.53 323 *e*P **P** **19 07 25.0 -0.4**
VRSR *e*S S 19 17 51.3 -4.8
VRSR pmax pmax
comp=Z,80nm,1.0s,mb5.9
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,120nm,1.1s
VRSR MLR MLR
comp=Z,2μm,22.0s,MS5.5
VRSR MLR MLR
comp=N,450nm,16.0s
VRSR MLR MLR
comp=E,2μm,22.0s
KAMT Kaman 85.57 311 P **P** **19 07 25.5 -0.1**
BR131 Keskin Array S 85.72 311 *e*P **P** **19 07 26.8 +0.5**
comp=E,53nm,0.8s,mb5.8
BR131 LR LR
comp=Z,2μm,21.0s,MS5.4
BRTR Keskin Array B 85.72 311 P **P** **19 07 27.1 +0.8**
comp=Z,34nm,0.7s,mb5.7,baz=130,slow=6.6,SNR=124
BRTR LR LR 19 47 08.9
comp=Z,2μm,22.0s,MS5.5,baz=88,slow=37
TOS Tosya 85.79 313 P **P** **19 07 27.4 +0.7**
HDMB Hadim 85.88 308 P **P** **19 07 25.8 -1.4**
CANT Cankiri 85.97 312 P **P** **19 07 28.6 +1.0**
BZK Bozkurt 86.05 313 P **P** **19 07 28.2 +0.2**
ELDT Eldivan 86.08 312 *i* P **P** **19 07 29.0 +0.9**
KONT Konya--Tatoy 86.22 309 P **P** **19 07 28.5 -0.3**
ANTO Ankara 86.38 311 P **P** **19 07 29.1 -0.6**
ANTO Ankara 86.38 311⇑ *i*P **P** **19 07 31.5 +1.9**
ANTO Ankara 86.38 311 P **P** **19 07 31.5 +1.9**
ANTO pmax pmax
comp=Z,99nm,1.2s,mb5.9
ANTO Ankara 86.38 311 *e*P **P** **19 07 30.9 +1.2**
comp=Z,99nm,1.3s,mb5.9
ANTO LR LR
comp=Z,2μm,22.0s,MS5.5
BALT Daday 86.38 313 *i* P **P** **19 07 29.9 +0.3**
BILL Bilibino 86.44 18⇑ *i*P **P** **19 07 29.0 -0.9**
BILL MLR MLR
comp=Z,3μm,21.0s,MS5.6
KDHN Kadinhani 86.55 310 *i* P **P** **19 07 27.8 -2.7**
SIM Simferopol' 86.80 316*ce*P **P** **19 07 33.4 +1.7**
SIM *e* 19 17 54.8
SIM *e*S S 19 18 06.9 -1.6
SIM pmax pmax
comp=Z,710nm,17.0s
SAFT Safranbolu 86.81 312 P **P** **19 07 32.6 +0.9**
SGKT Sivrigoynuk 87.11 312 *i* P **P** **19 07 32.5 -0.7**
KDZE Karadeniz Ereo 87.74 312 P **P** **19 07 37.1 +0.9**
ESKT Eskisehir 87.75 310 P **P** **19 07 37.0 +0.8**
ESSK Eskisehir 87.75 310 *i* P **P** **19 07 36.8 +0.5**
TKTP Tekketepe 87.81 309 *i* P **P** **19 07 35.6 -1.0**
MOS Moscow 87.95 327 *e*P **P** **19 07 35.8 -1.4**
MOS *e* 19 07 44.9
MOS *e* 19 11 11.3
MOS *e*S SKSac 19 18 02.3 -2.3
MOS pmax pmax
comp=Z,700nm,2.0s,mb6.5
MOS pmax pmax
comp=Z,291nm,1.9s,mb6.2
MOS smax
comp=N,3μm,3.8s
HENT Hendek 88.02 312 *i* P **P** **19 07 38.0 +0.5**
OBN Obninsk 88.31 327⇑ *e*P **P** **19 07 39.0 0.0**
OBN *i* 19 07 50.9
OBN *i* 19 18 03.3
OBN *i* S SKSac 19 18 11.1 +4.3
OBN *e*SS SS 19 24 15.7 +3.3
OBN pmax pmax
comp=Z,247nm,1.6s,mb6.2
OBN Obninsk 88.31 327 *e*P **P** **19 07 38.9 -0.1**
OBN LR LR
comp=Z,930nm,19.0s,MS5.2
SNAA Sanae 88.48 197 *e*P **P** **19 07 39.4 -0.3**
SNAA *e* 19 07 41.3
SNAA *e* 19 07 42.9
SNAA *e* pP 19 07 44.4 -1.8
SNAA *e* 19 07 50.5
SNAA *e* 19 07 57.4
SNAA Sanae 88.48 197⇓ *i*P **P** **19 07 40.8 +1.1**
SNAA Sanae 88.48 197 *e*P **P** **19 07 39.9 +0.2**
comp=Z,51nm,1.2s,mb5.6
GDZ Gediz 88.69 310 *i* P **P** **19 07 36.9 -3.9**
GDZ Gediz 88.69 310 *i* P **P** **19 07 36.9 -3.9**
ADVT Abdulvahap 88.79 311 P **P** **19 07 41.5 +0.2**
HRT Hereke 88.93 311 P **P** **19 07 41.4 -0.5**
YLV Yalova 89.09 311 P **P** **19 07 42.3 -0.4**
YER Yerkesik 89.19 308 *e*P **P** **19 07 42.8 -0.3**
GEMT Gemlik 89.20 311 P **P** **19 07 42.7 -0.5**
MLSB Milas 89.62 308 *e*P **P** **19 07 45.2 +0.1**
TSUM Tsumeb 89.63 251 LR LR 19 41 28.5
comp=Z,4μm,21.9s,MS5.8,baz=87,slow=31
TSUM Tsumeb 89.63 251 *e*P **P** **19 07 51.0 +5.8**
comp=Z,86nm,1.8s,mb5.8
TSUM LR LR
comp=Z,4μm,22.0s,MS5.8
KARP Karpathos 89.76 306 *e*P **P** **19 07 47.5 +1.8**
AKHS Akhisar 89.91 309 *i* P **P** **19 07 46.4 -0.1**
KDAG Bornova 90.23 309 *i* P **P** **19 07 48.7 +0.7**
IZM Izmir 90.24 309 *e*P **P** **19 07 47.6 -0.4**
BLCB Balcova 90.41 309 *e*P **P** **19 07 49.5 +0.7**
SMG Samos 90.43 308 *e*P **P** **19 07 48.0 -0.9**
VNA1 Neumayer--Stat 90.51 197 *e*P **P** **19 07 50.7 +1.4**
VNA1 *e* 19 07 52.3
VNA1 *e* 19 07 53.4
VNA1 *e* pP 19 07 55.4 -0.4
VNA1 *e* 19 08 02.3
TMCR Tamitsa 90.59 335 *e*P **P** **19 07 49.1 -0.5**
TMCR *e**PP pP 19 07 55.6 -0.5
TMCR pmax pmax
comp=Z,116nm,1.6s,mb6.0
VNA3 Neumayer Olymp 90.61 196 *e*P **P** **19 07 50.4 +0.7**
VNA3 *e* 19 07 51.6
VNA3 *e* 19 07 53.6
VNA3 *e* pP 19 07 55.2 -1.0
VNA3 *e* 19 08 02.4
VNA3 *e* 19 08 12.2
MFT Murefte 90.69 311 *e*P **P** **19 07 48.2 -1.9**
CANB Canakkale 90.71 310 *e*P **P** **19 07 49.2 -1.0**
URLA Izmir 90.74 309 *i* P **P** **19 07 48.4 -2.0**
SART Tekirdag 90.75 311 *i* P **P** **19 07 48.8 -1.6**
RKY Sarkoy-Tekirda 90.75 311 *e*P **P** **19 07 50.7 +0.3**
NPS Neapolis 90.94 305 *e*P **P** **19 07 52.0 +0.7**
PRK Paraskevi 91.16 309 *e*P **P** **19 07 51.5 -0.8**
EDRB Edirne 91.30 312 *e*P **P** **19 07 52.0 -0.9**
APE Apeiranthos 91.34 307 *e*P **P** **19 07 43.0 -10**
AKASG Malin Array Be 91.42 321 P **P** **19 07 52.6 -0.9**
comp=Z,9.4nm,0.9s,mb5.1,baz=88,slow=4.5,SNR=33
AKASG PP PP 19 11 22.5 -8.7
comp=Z,2.1nm,0.8s,baz=79,slow=7.4,SNR=4.1
AKASG LR LR 19 57 44.0
comp=Z,2μm,19.1s,MS5.6,baz=85,slow=41
AKBB Malin Array Si 91.42 321 P **P** **19 07 52.6 -0.9**
AKBB Malin Array Si 91.42 321 *e*P **P** **19 07 51.8 -1.7**
BOZC Bozcaada 91.44 310 *i* P **P** **19 07 52.5 -1.1**
GADA Gvkgeada 91.62 310 *e*P **P** **19 07 54.9 +0.5**
RDO Rodhopi 92.06 311 *e*P **P** **19 07 54.0 -2.4**
VRI Vrincioaia 92.07 316⇑ *i*P **P** **19 07 56.9 +0.4**
GVD Gavdhos 92.10 305 P **P** **19 07 58.1 +1.5**
LIA Limnos Island 92.11 310 *e*P **P** **19 07 54.0 -2.7**
VAM Vamos 92.11 305 *e*P **P** **19 07 59.5 +2.8**
PLOR Plostina 92.12 316⇓ *i*P **P** **19 07 58.2 +1.5**
PUL Pulkovo 92.84 330 P **P** **19 07 53.0 -7.0**
MNK Minsk 93.04 325 *e*P **P** **19 07 56.0 -5.0**
LVZ Lovozero 93.07 338 P **P** **19 07 52.8 -8.3**
JOF Joensuu 93.11 333 *ep* **P** **19 07 59.9 -1.4**
comp=Z,29nm,0.9s,mb5.7
UNV Unalaska Valle 93.28 36 PFAKE 19 08 10.0 +7.9
UNV LR LR
comp=Z,5μm,22.0s,MS6.0
VLI Velíai 93.33 306 *e*P **P** **19 07 53.0 -9.3**
BURAR Bucovina Array 93.41 318⇓ *i*P **P** **19 08 03.5 +0.8**
APA Apatity 93.44 338⇑ *e*P **P** **19 08 04.0 +1.2**
APA *e*PPP 19 13 56.0
APA *i* 19 18 35.0
APA *i* S S 19 19 08.0 -1.9
APA pmax pmax
comp=Z,43nm,1.2s,mb5.8
APA MLR MLR
comp=Z,7μm,21.0s,MS6.1
AKUT Akutan 93.76 36 *e*P **P** **19 08 04.0 -0.3**
comp=Z,285nm,1.2s,mb6.6
AKUT LR LR
comp=Z,4μm,23.0s,MS5.8
VTS Vitosha 94.01 312⇑ *i*P **P** **19 08 05.4 0.0**
ITM Ithomi 94.20 307 *e*P **P** **19 07 58.0 -8.3**
VSU Vasula 94.38 328⇑ *i*P **P** **19 08 06.6 -0.6**
LVV L'vov 94.53 320 *e*P sP 19 08 24.5 +7.9
LVV *e* 19 18 37.1
LVV *e*SS SS 19 25 37.3 -4.8
GZR Gura Zlata 94.73 315⇓ *i*P **P** **19 08 10.3 +1.6**
KIP Kipapa 94.79 69 PFAKE 19 08 20.0 +11
KIP LR LR
comp=Z,2μm,19.0s,MS5.6
TNA Tin City 94.83 24 PFAKE 19 08 20.0 +11
TNA LR LR
comp=Z,2μm,22.0s,MS5.5
FINES FINESS Array B 95.22 331 P **P** **19 08 10.8 -0.2**

FINES LR LR 19 55 33.7
comp=Z,8.1nm,0.8s,mb5.2,baz=97,slow=4.4,SNR=17
KAF Kangasniemi 95.22 332 *e*P **P 19 08 10.5 -0.5**
comp=Z,2µm,21.6s,MS5.6,baz=277,slow=38
KAF pmax pmax
KAF Kangasniemi 95.22 332 *e*P **P 19 08 10.5 -0.5**
comp=Z,12nm,0.7s,mb5.4
UZH *e* 19 12 02.0
UZH Uzhgorod 95.50 318 *e*P **P 19 08 08.0 -4.2**
UZH *e* 19 12 02.0
UZH *e*S S 19 19 19.0 -8.8
UZH *e* 19 20 39.0
UZH MLR MLR
comp=Z,2µm,17.8s
BRG PP PP 19 12 46.0 +0.3
BRG SKS 19 19 22.0
BRG S Sdif 19 20 07.0 -8.0
BRG *e* 19 21 58.0
BRG SS SS 19 27 03.0 -11
BRG
comp=N,900nm,19.0s
UZH MLR MLR
comp=Z,830nm,19.0s,MS5.2
KOLS Kolonicke sedl 95.55 319 *e*P **P 19 08 13.3 +0.8**
KOLS *e* 19 11 48.0
TBI Tubuai 95.65 115 *e*PP PP 19 12 00.7 -3.6
comp=Z,325nm,26.8s
TBI Tubuai 95.65 115 *e*SP SP 19 20 46.7 -0.2
comp=Z,902nm,31.8s
TBI *e*SS SS 19 25 52.1 -5.8
comp=Z,3µm,30.0s
TBI *e*LR LR 19 39 02.5
comp=Z,9µm,24.0s
CRVS Cervenica-Dubn 96.08 318 *e*P **P 19 08 16.7 +1.8**
KEV Kevo 96.20 340 PFAKE 19 08 30.0 +15
KEV LR LR
comp=Z,4µm,20.0s,MS5.9
STHS Stebnicka Huta 96.28 319 *e*P **P 19 08 16.3 +0.5**
STHS pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
STHS Stebnicka Huta 96.28 319 *e*P **P 19 08 16.3 +0.5**
comp=Z,7.3nm,1.0s,mb5.1
KECS Kecovo 96.67 318 *e*P **P 19 08 17.5 -0.1**
KECS *e*pP pP 19 08 25.5 +1.4
KECS Kecovo 96.67 318 *e*P **P 19 08 17.6 0.0**
KECS *e* 19 08 25.5
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 96.67 318 *e*P **P 19 08 17.6 0.0**
comp=Z,1.9nm,1.0s
KECS *e* 19 08 25.5
ARCES ARCESS Array B 96.68 339 P **P 19 08 16.3 -1.3**
comp=Z,4.4nm,0.6s,mb5.1,baz=99,slow=5.6,SNR=20
ARCES LR LR 19 58 28.4
comp=Z,5µm,19.6s,MS6.0,baz=107,slow=40
PPT Papeete 96.75 109 *e*LQ 19 35 32.7
comp=Z,3µm,32.2s
PPT Papeete 96.75 109 *e*PP PP 19 12 04.2 -8.6
comp=Z,244nm,27.2s
PPT Papeete 96.75 109 *e*SP SP 19 20 57.4 -1.5
comp=Z,926nm,29.5s
PPT *e*LR LR 19 39 40.6
comp=Z,9µm,24.0s
PPT Papeete 96.75 109 LR LR 19 47 38.5
comp=Z,3µm,21.4s,MS5.8,baz=257,slow=33
POHA Pohakuloa 96.88 71 PFAKE 19 08 30.0 +11
POHA LR LR
comp=Z,2µm,22.0s,MS5.6
KTK1 Kautokeino 97.42 339 *e*P **P 19 08 19.7 -1.3**
VYHS Vyhne 97.76 318 *e*P **P 19 08 23.6 +1.1**
VYHS *e*pP pP 19 08 30.5 +1.5
OKC Ostrava-Krasne 98.32 319 *e*S S 19 19 48.4 -3.7
OKC *ex* x 19 26 26.2
OKC AMS AMS 20 01 20.0
comp=Z,2µm,17.0s
SMOL Smolenice 98.70 318 *e*P **P 19 08 26.9 +0.2**
MORC Moravsky Berou 98.71 319 P **P 19 08 26.3 -0.5**
MORC *e* 19 12 26.2
MORC pmax pmax
comp=Z,25nm,1.6s,mb5.5
MORC Moravsky Berou 98.71 319 P **P 19 08 26.3 -0.4**
comp=Z,25nm,1.6s,mb5.5
MORC *e*PP PP 19 12 26.2 -1.6
ZST Bratislava 98.89 317 *e*P **P 19 08 25.6 -2.0**
ZST pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
ZST Bratislava 98.89 317 *e*P **P 19 08 25.6 -2.0**
comp=Z,3.4nm,0.6s,mb5.0
TRO Tromso 98.99 339 *e*P **P 19 08 26.6 -1.4**
TRO *e*SKSa 19 18 57.6
TRO AMS AMS 19 58 00.9
comp=Z,5µm,24.8s,MS5.9
TRO Tromso 98.99 339 *e*P **P 19 08 26.6 -1.4**
TRO *e* 19 18 59.3
TRO LR LR
comp=Z,5µm,24.8s,MS5.9
BJO Bjornoya 99.05 344 AMS AMS 19 59 44.0
comp=Z,5µm,22.7s,MS6.0
KOGS Kog 99.36 316 *e*P PP 19 12 32.5 -0.4
DPC Dobruska-Polom 99.53 320 *e*SDIF S 19 20 03.2 +1.0
DPC *ex* x 19 26 37.4
DPC AMS AMS 19 59 50.0
comp=Z,2µm,23.4s
TTA Tatalina 99.72 28 *e*P Pdif 19 08 30.7 -0.6
TTA 19 08 43.6
TTA Tatalina 99.72 28 *e*P Pdif 19 08 31.4 +0.1
CRES Cresnjev 99.88 315 *e*P PP 19 12 36.8 +0.1
SVW2 Sparrevohn 99.90 29 *e*P Pdif 19 08 32.3 +0.2
BOJS Bojanci 100.01 315 *e*P PP 19 12 36.8 -0.9
KBS Kingsbay 100.52 349 *e*P Pdif 19 08 22.2 -13
KBS *e*PP PP 19 12 35.8 -5.8
KBS *i* 19 12 44.8
PVCC Panska Ves 100.65 320 AMS AMS 20 00 30.0
comp=Z,2µm,22.0s
PRU Pruhonice 100.66 319 *e*SDIF Sdif 19 20 03.0 -8.7
PRU *ex* x 19 26 57.0
PRU AMS AMS 20 01 40.0
comp=Z,2µm,19.5s
IMA2 Indian Mountai 100.71 24 *e*P Pdif 19 08 36.9 +1.2
MOA Molln 100.78 317⇑ *i*PP PP 19 12 38.1 -5.5
comp=Z,15nm,1.3s
MOA Molln 100.78 317⇑ *i*PP PP 19 12 38.1 -5.5
comp=Z,15nm,1.3s
BRG Berggiesshubel 101.06 320 *e*P Pdif 19 08 42.0 +4.8
BRG PP PP 19 12 46.0 +0.3
BRG SKS 19 19 22.0
BRG S Sdif 19 20 07.0 -8.0
BRG *e* 19 21 58.0
BRG SS SS 19 27 03.0 -11
BRG
comp=Z,2µm,17.8s
BRG
comp=N,990nm,17.5s
BRG
comp=E,930nm,17.5s
BRG Berggiesshubel 101.06 320 *e*P Pdif 19 08 42.0 +4.8
BRG 19 12 46.0
BRG S Sdif 19 20 07.0 -8.0
BRG MLR MLR
comp=Z,2µm,17.8s,MS5.6
BRG MLR MLR
comp=N,990nm,17.5s,MS5.5
BRG MLR MLR
comp=E,930nm,17.5s,MS5.5
BRG Berggiesshubel 101.06 320 *e*P Pdif 19 08 42.0 +4.8
BRG PP PP 19 12 46.0 +0.3
BRG SKS 19 19 22.0
BRG S Sdif 19 20 07.0 -8.0
BRG *e* 19 21 58.0
BRG SS SS 19 27 03.0 -11
BRG LR LR
comp=Z,2µm,17.8s,MS5.6
CADS Cadrg 101.09 315 *e*P PP 19 12 44.5 -1.4
GERES GERESS Array B 101.18 318 P Pdif 19 08 36.5 -1.2
comp=Z,0.4nm,0.6s,baz=128,slow=2.9,SNR=4.6
KHC Kasperske Hory 101.27 318 *e*SDIF Sdif 19 20 09.8 -6.9
KHC *ex* x 19 27 08.7
KHC AMS AMS 20 00 50.0
comp=Z,2µm,21.4s
KDAK Kodiak Island 101.43 33 PFAKE 19 08 50.0 +11
KDAK LR LR
comp=Z,685nm,22.0s,MS5.1
CLL Collm 101.65 321 *e*(Pdif) 19 08 45.0
CLL *e*PP PP 19 12 44.0 -6.2
CLL *e*SKSac SKSac 19 19 30.0 +12
CLL *e*Sdif Sdif 19 20 20.0 0.0
CLL *e*SS SS 19 27 15.0 -7.2
CLL Collm 101.65 321 *e*Pdif Pdif 19 08 45.0 +5.1
CLL *e*PP PP 19 12 44.0 -6.2
CLL *e*SKS 19 19 30.0
CLL *e*Sdif Sdif 19 20 20.0 0.0
CLL LR LR
comp=Z,3µm,16.6s,MS5.8
NSS Namsos 101.80 334 AMS AMS 20 00 52.4
comp=Z,5µm,22.5s,MS6.0
NB2 NORSAR Subarra102.36 331 P Pdif 19 08 41.7 -1.3
comp=Z,15nm,1.4s,baz=86,slow=4.3
NOA NORSAR Array B 102.36 331 P Pdif 19 08 42.2 -0.8
comp=Z,3.5nm,1.0s,baz=88,slow=4.3,SNR=4.9
NOA PP PP 19 12 58.1 +2.6
comp=Z,3.1nm,0.8s,baz=96,slow=7.5,SNR=4.4
NOA NORSAR Array B 102.36 331 P Pdif 19 08 42.2 -0.8
NOA PP PP 19 12 58.1 +2.7
NAO01 NORSAR Array S 102.53 330 PFAKE 19 09 00.0 +16
NAO01 LR LR
comp=Z,6µm,20.0s,MS6.1
MOX Moxa 102.54 320 *e*P Pdif 19 08 43.0 -0.8
MOX *e* 19 12 58.0
MOX MLR MLR
comp=Z,2µm,19.0s,MS5.7
MOX Moxa 102.54 320 *e*P Pdif 19 08 43.0 -0.8
MOX *e*PP PP 19 12 58.0 +1.2
MOX *e*SS SS 19 27 15.0 -19
MOX LR LR
comp=Z,2µm,19.0s,MS5.7
GRF Grafenberg Arr 102.81 319 *e*L 20 03 23.8
comp=Z,2µm,19.0s
MCK McKinley 102.88 27 *e*P Pdif 19 08 45.6 +0.3
PMR Palmer 102.98 29 PFAKE 19 09 00.0 +14
PMR LR LR
comp=Z,1µm,20.0s,MS5.5
COLA College 103.23 25 PFAKE 19 09 00.0 +13
COLA LR LR
comp=Z,1µm,21.0s,MS5.5
KONO Kongsberg 103.26 329 *e* PKiKP 19 13 00.9 -5.4
KONO *e* 19 20 39.4
KONO Kongsberg 103.26 329 PFAKE 19 09 00.0 +13
KONO LR LR
comp=Z,3µm,20.0s,MS5.9
KEST Kesra 104.18 305 PP PP 19 13 14.4 +5.3
comp=Z,4.2nm,1.2s,baz=52,slow=9.2,SNR=5.0
DIV Divide 104.64 29 PFAKE 19 09 00.0 +6.8
DIV LR LR
comp=Z,5µm,22.0s,MS6.0
BER Bergen 105.30 330 *e*PP PP 19 13 17.1 -0.3
BER *e*SKSa SKSac 19 19 33.3 -1.9
BER Bergen 105.30 330 *e*P PP 19 13 21.9 +4.5
BER *i* 19 20 50.8
CDF Champ du Feu 105.45 318 *e*PKIKP PKiKP 19 13 09.1 -1.2
SBF Sospel 105.58 313 *e*PKIKP PKiKP 19 13 09.6 -0.9
comp=Z,114nm,1.6s
MBDF Montbardon 106.01 314 *e*PKIKP PKiKP 19 13 09.3 -2.1
comp=Z,7.8nm,0.7s
PMSA Palmer Station 106.18 182 PFAKE 19 13 20.0 +8.3
PMSA LR LR
comp=Z,4µm,19.0s,MS5.9
CABF La Chapelle 106.38 316 *e*PKIKP PKiKP 19 13 11.5 -0.5
comp=Z,33nm,1.2s
DAWY Dawson 106.98 26 *e*PP PP 19 13 30.6 +0.8
TAOE Nuku Hiva Isla 107.56 102 *e*SS SS 19 28 50.2 +7.1
comp=Z,3µm,25.6s
TAOE *e*LR LR 19 44 53.3
comp=Z,7µm,24.3s
JMIC Jan Mayen 107.77 342 *e* PP 19 13 39.6 +4.0
JMIC AMS AMS 20 02 49.3
comp=Z,2µm,24.1s,MS5.6
LOR Lormes 107.84 317 *e*PKIKP PKiKP 19 13 13.9 -0.9
comp=Z,65nm,1.6s
SSF Saint Saulge 108.10 316 *e*PKIKP PKiKP 19 13 14.3 -0.9
comp=Z,23nm,1.2s
RKT Rikitea 108.54 118 *e*PP PP 19 13 37.3 -3.9
comp=Z,179nm,26.0s
RKT Rikitea 108.54 118 *e*SP SP 19 22 59.9 -3.6
comp=Z,433nm,25.8s
RKT *e*SS SS 19 29 01.3 +4.9
comp=Z,2µm,31.2s
RKT *e*LR LR 19 44 55.5
comp=Z,5µm,24.0s
TORD Torodi Ar. Bea 110.08 281 PKiKP PKiKP 19 13 19.6 +0.7
comp=Z,2.2nm,0.8s,baz=68,slow=1.7,SNR=9.8
TORD PKKPbc PKKPbc 19 24 22.4 +1.9
comp=Z,0.9nm,0.7s,baz=296,slow=3.8,SNR=4.0
SIT Sitka 110.75 32 PFAKE 19 13 30.0 +10
SIT LR LR
comp=Z,3µm,20.0s,MS5.8
ESK Eskdalemuir 110.79 326 PFAKE 19 13 30.0 +10
ESK LR LR
comp=Z,868nm,19.0s,MS5.3
PTCN Pitcairn Islan 112.04 122 PFAKE 19 13 40.0 +17
PTCN LR LR
comp=Z,5µm,20.0s,MS6.1
ESDC Sonseca Array 114.46 309 PP PP 19 14 33.0 +9.4
comp=Z,1.2nm,0.7s,baz=65,slow=7.0,SNR=4.8
ESLA Sonseca Array 114.46 309 PFAKE 19 13 40.0 +13
ESLA LR LR
comp=Z,7µm,21.0s,MS6.2
DBIC Dimbokro 115.84 273 PKP PKPdf 19 13 30.8 +0.8
comp=Z,2.3nm,0.7s,baz=19,slow=5.7,SNR=4.8
DBIC Dimbokro 115.84 273 PKP PKPdf 19 13 30.8 +0.8
DBIC LR LR
comp=Z,3µm,22.0s,MS5.8
YKW3 Yellowknife Ar 117.61 22 *e*PKPdf PKPdf 19 13 33.5 +0.2
EFI East Falkland 118.62 188 PFAKE 19 13 50.0 +15
EFI LR LR
comp=Z,1µm,21.0s,MS5.6
HDW Hoodsport 120.95 39 P PKPdf 19 13 41.2 +1.4
GNW Green Mountain 121.12 39 *e*PKPdf PKPdf 19 13 41.6 +1.6
COR Corvallis 121.91 43 PFAKE 19 13 50.0 +8.4
COR LR LR
comp=Z,2µm,20.0s,MS5.7
FMW Mount Fremont 122.09 40 P PKPdf 19 13 42.8 +0.8
KHMM Horse Mountain 122.83 47 *e*PKPdf PKPdf 19 13 45.9 +2.5
BBOR Butler Butte 122.92 44 P PKPdf 19 13 44.8 +1.2
YBH Yreka Blue Hor 123.28 46 *e*PKIKP PKPdf 19 13 46.1 +1.9
YBH MLR MLR
comp=Z,1µm,20.0s
HAWA Hanford 123.66 39 *e*PKPdf PKPdf 19 13 46.3 +1.3
HAWA LR LR
comp=Z,96nm,21.0s
LHEM Herd Peak 123.66 46 P PKPdf 19 13 45.5 +0.6
EDM Edmonton 123.73 30 *e*PKIKP PKPdf 19 13 45.4 +0.3
WDC Whiskeytown Da 123.78 47 PFAKE 19 14 00.0 +15
WDC LR LR
comp=Z,2µm,21.0s,MS5.7
HOPS Hopland 123.88 49 PFAKE 19 14 00.0 +15
HOPS LR LR
comp=Z,2µm,21.0s,MS5.7
NEW Newport 124.29 37 *e*PKIKP PKPdf 19 13 48.1 +1.9
NEW MLR MLR
comp=Z,1µm,21.0s
LBCM Butte Creek Ri 124.55 46 P PKPdf 19 13 47.9 +1.2
MOD Modoc 124.91 45 *e*PKPdf PKPdf 19 13 48.4 +1.1
MOD LR LR
comp=Z,840nm,20.0s,MS5.4
OHCM Honcut 124.94 48 *e*PKPdf PKPdf 19 13 49.1 +1.7
BMO Blue Mountains 125.73 40 *e*PKIKP PKPdf 19 13 49.7 +0.8
BMO MLR MLR
comp=Z,1µm,20.0s,MS5.6
WALA Waterton Lakes 125.73 34 *e*PKPdf PKPdf 19 13 50.3 +1.4
SAO San Andreas Ge 125.76 51 PFAKE 19 14 00.0 +11
SAO LR LR
comp=Z,1µm,19.0s,MS5.6
BSMT Bassoo Peak 125.86 36 P PKPdf 19 13 49.9 +0.8
WVOR Wild Horse Val 125.86 44 PKIKP PKPdf 19 13 50.6 +1.4
WVOR Wild Horse Val 125.86 44 *e*PKPdf PKPdf 19 13 50.1 +1.0
WVOR LR LR
comp=Z,2µm,19.0s,MS5.8
CMB Columbia Colle 126.17 49 *e*PKIKP PKPdf 19 13 51.4 +1.6
CMB MLR MLR
comp=Z,1µm,20.0s,MS5.6
PAHR Pah Rah Range 126.35 47 *e*PKPdf PKPdf 19 13 52.5 +2.4
WAKR Walker 126.73 48 *e*PKPdf PKPdf 19 13 53.6 +2.7
MSO Missoula 126.87 37 *e*PKPdf PKPdf 19 13 52.1 +1.0
MSO LR LR
comp=Z,1µm,20.0s,MS5.5
CHMT Chamberlain Mo 127.23 36 *e*PKPdf PKPdf 19 13 52.8 +1.0
RPN Rapa Nui 127.29 134 PFAKE 19 14 00.0 +8.1
RPN LR LR
comp=Z,614nm,21.0s,MS5.3
NVAR Mina Array Bea 127.59 48 PKP PKPdf 19 13 53.5 +1.0
comp=Z,2.5nm,0.6s,baz=32,slow=0.6,SNR=17
BMN Battle Mountai 127.62 45 PFAKE 19 14 10.0 +17
BMN LR LR
comp=Z,1µm,21.0s,MS5.6
MTUM Tungsten Hills 127.76 49 *e*PKPdf PKPdf 19 13 55.8 +2.9
FFC Flin Flon 127.77 23 *e*PKIKP PKPdf 19 13 52.6 -0.2
FFC MLR MLR
comp=Z,432nm,21.0s,MS5.1
HLID Hailey 128.17 41 *e*PKPdf PKPdf 19 13 55.5 +1.9
HLID LR LR
comp=Z,2µm,20.0s,MS5.7
SNCC San Nicolas Is 128.27 55 PFAKE 19 14 10.0 +16
SNCC LR LR
comp=Z,2µm,21.0s,MS5.7
LRM Limekiln Ridge 128.27 37 *e*PKPdf PKPdf 19 13 55.6 +1.8
ISA Isabella 128.38 51 *e*PKIKP PKPdf 19 13 56.8 +2.8
ISA MLR MLR
comp=Z,427nm,21.0s,MS5.1
DLMT Dillon 128.42 38 *e*PKPdf PKPdf 19 13 56.3 +2.2
MCMT McKenzie Canyo 128.54 39 *e*P PKPdf 19 13 55.2 +1.0
EGMT Eagleton 128.60 34 *e*PKPdf PKPdf 19 13 48.7 -5.8
EGMT LR LR
comp=Z,1µm,22.0s,MS5.6
BOZ Bozeman (W) 128.85 37 PKIKP PKPdf 19 13 57.0 +2.1
BOZ *e* 19 14 04.1
BOZ Bozeman (W) 128.85 37 *e*PKPdf PKPdf 19 13 56.4 +1.5
BOZ *e*PKPdf pPKPdf 19 14 04.1 +2.5
BOZ LR LR
comp=Z,1µm,21.0s,MS5.6
DAC Darwin (Calif) 128.86 50 *e*PKIKP PKPdf 19 13 58.2 +3.3
DAC MLR MLR
comp=Z,1µm,20.0s,MS5.6
ELK Elko 128.87 44 PFAKE 19 14 10.0 +15
ELK LR LR
comp=Z,2µm,21.0s,MS5.7
QLMT Earthquake Lak 129.40 38 *e*PKPdf PKPdf 19 13 58.1 +2.2
TRCR Troy Canyon 129.60 47 *e*PKPdf PKPdf 19 13 59.4 +3.1
YMR Madison River 129.77 38 PFAKE 19 14 10.0 +13
YMR LR LR
comp=Z,1µm,19.0s,MS5.7
GSC Goldstone 129.79 51 *e*PKIKP PKPdf 19 13 59.2 +2.5
YNR Norris Junctio 129.92 38 *e*PKPdf PKPdf 19 14 01.6 +4.7
YFT Old Faithful 129.96 38 *e*PKPdf PKPdf 19 14 02.2 +5.2
HVU Hansel Valley 130.07 42 *e*PKIKP PKPdf 19 14 00.3 +3.1
LKWY Lake 130.17 38 PFAKE 19 14 10.0 +13
LKWY LR LR
comp=Z,2µm,19.0s,MS5.9
IMW Indian Meadow 130.19 39 *e*PKPdf PKPdf 19 14 00.5 +3.1
RRI2 Red Ridge 130.24 39 *e*PKPdf PKPdf 19 13 59.7 +2.2
BGU Big Grassy Mou 130.30 43 *e*PKPdf PKPdf 19 13 59.4 +1.7
PLCA Paso Flores 130.38 179 PKP PKPdf 19 14 00.2 +2.4
comp=Z,4.0nm,0.7s,baz=70,slow=1.1,SNR=6.6
PLCA SKPbc SKPbc 19 17 21.6 +1.7
comp=Z,19nm,1.2s,baz=176,slow=7.2,SNR=5.9
PLCA Paso Flores 130.38 179 PKP PKPdf 19 14 00.2 +2.4
PLCA SKPbc SKPbc 19 17 21.6 +1.7
PLCA LR LR
comp=Z,3µm,22.0s,MS6.0
MOOW Moose Ponds 130.39 39 *e*PKPdf PKPdf 19 14 04.3 +6.5
TPAW Teton Pass 130.40 39 *e*PKPdf PKPdf 19 14 01.0 +3.2
REDW Red Top Meadow 130.52 39 *e*PKPdf PKPdf 19 13 59.7 +1.7
SNOW Snow King Moun 130.53 39 *e*PKPdf PKPdf 19 14 01.2 +3.2
LOHW Long Hollow 130.55 39 *e*PKPdf PKPdf 19 13 58.8 +0.7
PFO Pinyon Flat Ob 130.61 53 *e*PKIKP PKPdf 19 14 01.9 +3.7
PFO MLR MLR
comp=Z,627nm,22.0s,MS5.3
SHPR Sheep Range 130.61 49 *e*PKPdf PKPdf 19 14 01.3 +3.1
SHPR *e*PP PP 19 16 12.7 -0.4
AHID Auburn Hatcher 130.67 40 PFAKE 19 14 10.0 +12
AHID LR LR
comp=Z,2µm,21.0s,MS5.7
DUG Dugway 130.78 44 *e*PKIKP PKPdf 19 14 01.9 +3.4
DUG MLR MLR
comp=Z,1µm,22.0s,MS5.6
HWUT Hardware Ranch 130.95 42 *e*PKPdf PKPdf 19 14 00.9 +2.0
HWUT LR LR
comp=Z,2µm,20.0s,MS5.8
CMLA Cha da Macela 131.14 313 PFAKE 19 14 10.0 +11
CMLA LR LR
comp=Z,635nm,19.0s,MS5.3
DGMT Dagmar 131.22 30 *e*PKPdf PKPdf 19 14 00.2 +0.8
DGMT LR LR
comp=Z,2µm,21.0s,MS5.7
TCUT Toone Canyon 131.29 42 *e*PKPdf PKPdf 19 14 02.7 +3.2
LAO LASA Array 131.32 33 *e*PKPdf PKPdf 19 14 02.6 +3.0
LAO LR LR
comp=Z,2µm,21.0s,MS5.7
BW06 Boulder Array 131.64 39 *e*PKPdf PKPdf 19 14 07.6 +7.4
BW06 LR LR
comp=Z,1µm,20.0s,MS5.7
PDAR Pinedale Array 131.64 39 PKP PKPdf 19 14 00.7 +0.5
comp=Z,1.7nm,0.6s,baz=285,slow=0.4,SNR=12
PDAR PP PP 19 16 18.2 -1.6
comp=Z,2.1nm,0.9s,baz=298,slow=1.9,SNR=3.3
PDAR SKPbc SKPbc 19 17 26.0 +1.4
comp=Z,4.1nm,1.0s,baz=327,slow=2.5,SNR=4.5
MPU Maple Canyon 131.66 43 *e*PKPdf PKPdf 19 14 03.1 +2.9
MPU *e*SKP 19 17 25.3
MPU LR LR
comp=Z,2µm,20.0s,MS5.7
MVU Marysvale 131.95 46 PFAKE 19 14 10.0 +9.2
MVU LR LR
comp=Z,1µm,21.0s,MS5.6
MSU Marysvale 131.97 45 *e*PKIKP PKPdf 19 14 03.5 +2.7
GLA Glamis 132.08 53 *e*PKIKP PKPdf 19 14 04.8 +3.8
TMUT Trail Mountain 132.29 44 *e*PKPdf PKPdf 19 14 03.8 +2.4
TRQA Tornquist 132.51 188 *e*PKPdf PKPdf 19 14 03.2 +1.4
TRQA LR LR
comp=Z,4µm,21.0s,MS6.0
SRU San Rafael 132.84 44 *e*PKIKP PKPdf 19 14 04.1 +1.7
RWWY Rawlins 133.69 39 *e*PKPdf PKPdf 19 14 06.4 +2.4
WUAZ Wupatki 133.82 49 *e*PKPdf PKPdf 19 14 05.7 +1.4
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.8
RSSD Black Hills 134.13 35 *e*PKIKP PKPdf 19 14 05.1 +0.2
RSSD MLR MLR
comp=Z,2µm,21.0s,MS5.8
SCHQ Schefferville 134.37 358 PKP PKPdf 19 14 05.8 +0.5
comp=Z,7.4nm,1.0s,baz=267,slow=1.0,SNR=3.8
SCHQ PP PP 19 16 33.5 -3.7
comp=Z,28nm,1.0s,baz=16,slow=11,SNR=10
SCHQ Schefferville 134.37 358 *e*P PKPdf 19 14 06.7 +1.4
SCHQ *e*PP PP 19 16 32.6 -4.5
SCHQ LR LR
comp=Z,3µm,22.0s,MS6.0
SMCO Snowmass 135.20 42 *e*PKPdf PKPdf 19 14 09.4 +2.5
TUC Tucson 135.53 53 PFAKE 19 14 20.0 +13
TUC LR LR
comp=Z,2µm,20.0s,MS5.8
ISCO Idaho Springs 135.75 40 *e*PKIKP PKPdf 19 14 10.7 +2.8
ISCO MLR MLR
comp=Z,2µm,22.0s,MS5.8
SDCO Great Sand Dun 136.94 43 *e*PKPdf PKPdf 19 14 12.7 +2.6
SDCO LR LR
comp=Z,2µm,21.0s,MS5.8
EYMN Ely 137.13 22 *e*PKPdf PKPdf 19 14 12.8 +2.3
EYMN LR LR
comp=Z,175nm,20.0s,MS4.8
ANMO Albuquerque 137.68 47 *e*PKIKP PKPdf 19 14 14.8 +3.3
ANMO MLR MLR
comp=Z,2µm,20.0s
ECSD EROS,Sioux Fal 138.30 30 *e*PKPdf PKPdf 19 14 02.0 -11
MNTX Cornudas Mount 139.97 51 *e*PKPdf PKPdf 19 14 11.1 -4.6
MNTX LR LR
comp=Z,1µm,21.0s,MS5.7
KSU1 Kansas State U 141.62 35 *e*PKPpre 19 14 13.0
JFWS Jewell Farm 141.82 25 *e*PKIKP PKPdf 19 14 19.1 +0.1
CPUP Villa Florida 142.77 198 PKhKP 19 14 18.5
comp=Z,5.3nm,0.7s,baz=136,slow=4.0,SNR=18
CPUP Villa Florida 142.77 198 PKIKP PKPdf 19 14 18.5 -2.2
CPUP pmax pmax
comp=Z,5.0nm,0.7s
CPUP Villa Florida 142.77 198 *e*PKPdf PKPdf 19 14 19.0 -1.6
CPUP LR LR
comp=Z,539nm,20.0s,MS5.3
WMOK Wichita Mounta 143.11 42 *e*PKIKP PKPdf 19 14 20.3 -1.0
WMOK MLR MLR
comp=Z,2µm,21.0s,MS5.8
MSNY Massena 143.98 6 *e*PKPpre 19 14 20.4
PKME Peaks-Kenny Pk 144.00 360 *e*PKPpre 19 14 21.0
CJM Chamela 144.26 69 *i* P PKPdf 19 14 23.0 -0.3
FRNY Flat Rock 144.27 5 *e*PKPpre 19 14 20.4
LONY Lake Ozonia 144.39 6 *e*PKPdf PKPdf 19 14 21.6 -1.9
EMMW East Machias 144.50 357 *e*PKPdf PKPdf 19 14 22.4 -1.3
WVL Waterville 144.70 0 *e*PKPdf PKPdf 19 14 23.0 -1.1
JCT Junction City 144.76 49 *e*PKIKP PKPdf 19 14 23.9 -0.3
JCT MLR MLR
comp=Z,2µm,22.0s,MS5.8
LBNH Lisbon 144.97 3 PFAKE 19 14 40.0 +15
LBNH LR LR

comp=Z,4μm,22.0s,MS6.1
MIV Mineville/With 145.03 5 *e*PKPdf PKPdf 19 14 24.0 -0.6
NCB Newcomb 145.07 6 *e*PKPab PKPab 19 14 24.5 +0.3
NCB LR LR
comp=Z,2μm,20.0s,MS5.9
CCM Cathedral Cave 145.25 31 *e*PKIKP PKPdf 19 14 23.7 -1.3
CCM MLR MLR
comp=Z,2μm,20.0s,MS5.9
SLM Saint Louis 145.29 29 *e*PKIKP PKPdf 19 14 24.9 -0.2
HNH Hanover 145.48 3 *e*PKPdf PKPdf 19 14 25.9 +0.5
ZAIG Zacatecas 145.67 63 *i* P PKPdf 19 14 27.8 +2.1
ACCN Adirondack Com 145.70 5 *e*PKPdf PKPdf 19 14 26.5 +0.8
FVM French Village 145.71 30 *e*PKIKP PKPdf 19 14 25.6 -0.2
SFJM Santa Fe 145.88 67 *i* P PKPdf 19 14 29.0 +2.9
ALLY Alegheny Colle 146.31 14 *e*PKPdf PKPdf 19 14 28.6 +1.8
BLO Bloomington 146.49 24 *e*PKP2 PKPab 19 14 28.5 -1.0
SIUC Southern Illin 146.51 29 *e*PKPab PKPab 19 14 29.5 0.0
MIAR Mount Ida 146.52 37 *e*PKP2 PKPab 19 14 29.5 -0.1
MIAR MLR MLR
comp=Z,2μm,21.0s,MS6.0
BINY Binghamton 146.60 9 *e*PKPdf PKPdf 19 14 29.6 +2.3
BINY LR LR
comp=Z,2μm,20.0s,MS6.0
HRV Harvard--Oak R 146.72 3 *e*PKP2 PKPab 19 14 29.3 -1.1
HRV MLR MLR
comp=Z,2μm,22.0s,MS5.9
ACSO Alum Creek Sta 146.83 19 *e*PKPdf PKPdf 19 14 29.1 +1.4
ACSO LR LR
comp=Z,1μm,20.0s,MS5.6
WES Weston 146.85 2 *e*PKP2 PKPab 19 14 30.7 -0.2
WES MLR MLR
comp=Z,1μm,19.0s,MS5.7
QUA2 Belchertown 146.90 4 *e*PKPdf PKPdf 19 14 30.1 +2.2
USIN University of 147.02 27 *e*PKPab PKPab 19 14 31.6 0.0
PARMO Parma 147.08 31 *e*PKPdf PKPdf 19 14 29.5 +1.4
UALR University of 147.09 36 *e*PKPdf PKPdf 19 14 30.3 +2.1
BAO Brasilia Array 147.35 221 PKPdf PKPbc 19 14 34.0 +3.0
BDFB Brasilia 147.36 221 PKPbc PKPbc 19 14 33.0 +1.9
comp=Z,23nm,0.6s,baz=145,slow=2.5,SNR=28
BDFB Brasilia 147.36 221 PKPbc PKPbc 19 14 33.0 +1.9
BDFB LR LR
comp=Z,7μm,21.0s,MS6.4
WCI Wyandotte Cave 147.38 25 *e*PKP2 PKPab 19 14 31.5 -1.5
WCI MLR MLR
comp=Z,2μm,20.0s,MS5.9
HBAR Harrisburg 147.46 33 *e*PKPbc PKPbc 19 14 33.3 +2.0
GLAT Glass 147.62 30 *e*PKPab PKPab 19 14 35.4 +1.4
NATX Nacogdoches 147.66 42 *e*PKPab PKPab 19 14 34.4 +0.3
NATX LR LR
comp=Z,2μm,19.0s,MS5.9
MRX Morelia 147.75 67 *e*P PKPbc 19 14 32.0 -0.1
MOIG Morelia 147.76 68 *i* P PKPbc 19 14 32.2 +0.1
UTMT University of 147.77 30 *e*PKPab PKPab 19 14 34.4 -0.1
SSPA Standing Stone 147.78 12 *e*PKPdf PKPdf 19 14 30.6 +1.3
SSPA LR LR
comp=Z,3μm,20.0s,MS6.0
HALT Halls 147.87 31 *e*PKPbc PKPbc 19 14 33.2 +0.8
HKT Hockley 147.93 46 PKPdf PKPdf 19 14 31.1 +1.5
HKT Hockley 147.93 46 *e*PKPdf PKPbc 19 14 32.8 +0.2
HKT LR LR
comp=Z,2μm,19.0s,MS5.9
PAL Palisades 148.03 6 *e*PKP2 PKPbc 19 14 33.2 +0.4
CPNY Central Park 148.24 6 *e*PKPab PKPab 19 14 34.8 -1.6
MCWV Mont Chateau 148.27 15 *e*PKPdf PKPbc 19 14 34.2 +0.7
MCWV LR LR
comp=Z,2μm,21.0s,MS6.0
BRNJ Basking Ridge 148.28 7 *e*PKPab PKPab 19 14 35.9 -0.7
WVT Waverly 148.44 29 PKPdf PKPdf 19 14 31.1 +0.7
WVT PKPdf PKPbc 19 14 34.2 +0.2
WVT Waverly 148.44 29 *e*PKPbc PKPbc 19 14 34.0 +0.1
WVT LR LR
comp=Z,3μm,22.0s,MS6.0
LVC Limon Verde 148.44 181 *e*PKPdf PKPbc 19 14 33.8 -0.2
LVC LR LR
comp=Z,2μm,21.0s,MS6.0
MVL Millersville 148.69 10 *e*PKPdf PKPdf 19 14 32.3 +1.5
OXF Oxford 148.91 33 *e*PKP2 PKPab 19 14 35.8 -3.3
OXF MLR MLR
comp=Z,3μm,20.0s,MS6.0
CAIG El Cayaco 149.19 72 *i* P PKPbc 19 14 37.8 +2.0
PLAL Pickwick Lake 149.24 30 *e*PKPdf PKPdf 19 14 31.6 0.0
PLAL LR LR
comp=Z,2μm,20.0s,MS5.9
ACX Acapulco 149.56 72 *e*P PKPbc 19 14 38.0 +1.3
PLIG Platanillo 149.62 69 *i* P PKPdf 19 14 35.2 +2.9
TZTN Tazewell 149.93 23 *e*PKPdf PKPdf 19 14 34.4 +1.6
FWV Forest Hill 149.93 18 *e*PKPdf PKPdf 19 14 33.2 +0.5
FWV *e*PKPbc PKPbc 19 14 37.6 0.0
SWET Sewanee 150.07 27 *e*PKPdf PKPdf 19 14 34.5 +1.6
CBN Corbin 150.23 12 PFAKE 19 14 50.0 +17
CBN LR LR
comp=Z,4μm,21.0s,MS6.2
PPM Popocatepetl 150.26 67 *i* PKIKP PKPbc 19 14 41.6 +3.2
ELN Prospectdale 150.28 18 *e*PKPbc PKPbc 19 14 38.3 -0.2
BLA Blacksburg 150.39 18 *e*PKIKP PKPbc 19 14 38.7 -0.1
BLA MLR MLR
comp=Z,201nm,21.0s,MS4.9
LRAL Lakeview Retre 151.32 31 *e*PKPdf PKPdf 19 14 36.7 +1.8
LRAL LR LR
comp=Z,3μm,21.0s,MS6.1
LVIG Laguna Verde 152.06 65 *i* P PKPbc 19 14 43.5 +0.9
OXX Oaxaca 152.50 71 *e*P PKPbc 19 14 46.0 +2.4
JSC Jenkinsville 152.79 21 *e*PKIKP PKPbc 19 14 45.2 +0.9
CMIG Matias Romero 154.21 70 *i* P PKPdf 19 14 41.3 +2.1
ARE Areopaga 154.50 176 *e*PKP PKPab 19 15 07.0 +4.6
LPAZ La Paz 154.70 183 PKP PKPdf 19 14 43.4 +3.5
comp=Z,5.0nm,1.0s,baz=75,slow=4.0,SNR=16
LPAZ PKPab PKPab 19 15 04.3 +1.0
comp=Z,7.0nm,0.6s,baz=56,slow=3.3,SNR=6.7
LPAZ La Paz 154.70 183 PKIKP PKPdf 19 14 43.4 +3.6
LPAZ 19 15 04.3
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ pmax pmax
comp=Z,7.0nm,0.6s
LPAZ La Paz 154.70 183 *e*PKPdf PKPdf 19 14 43.2 +3.3
LPAZ LR LR
comp=Z,3μm,22.0s,MS6.1
BBSR BB Station 156.42 349 PFAKE 19 14 50.0 +7.8
BBSR LR LR
comp=Z,2μm,20.0s,MS6.0
CCIG Comitan 156.96 70 *i* P pPKPdf 19 14 56.3 +6.7
PAYG Puerto Ayora 157.25 114 PFAKE 19 15 00.0 +17
PAYG LR LR
comp=Z,2μm,19.0s,MS6.0
NNA Nana 157.83 161 PFAKE 19 15 00.0 +16
NNA LR LR
comp=Z,929nm,20.0s,MS5.6
DWPF Disney 158.10 29 PFAKE 19 15 00.0 +16
DWPF LR LR
comp=Z,4μm,21.0s,MS6.2
SAML Samuel 160.92 200 *e*PKPdf PKPdf 19 14 49.5 +2.0
SAML LR LR
comp=Z,4μm,20.0s
MTP Monte Pirata 170.24 336 *e*PKPab PKPab 19 16 12.1 +0.9
CPD Cerro la Pandu 170.43 338 *e*PKP2 PKPab 19 16 12.6 +0.5
SJG San Juan 170.45 340 PFAKE 19 15 10.0 +15
SJG LR LR
comp=Z,2μm,21.0s
ROSC El Rosal 173.71 132 *e*PKPdf PKPdf 19 14 60.0 +3.2
SDV Santo Domingo 179.00 104 PFAKE 19 15 10.0 +12
SDV LR LR
comp=Z,3μm,22.0s

IDC 21 18:59:54.3±5.9, 930S×11054E, h0km, mb4.6/7, mb1 4.7/7, mb1mx4.4/18, mbtmp4.6/7, Error ellipse: s-maj=145.4km s-min=52.8km az=158.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**52.49**	**28**	P	P	P	19 09 09.1	+0.1
	4.4nm,0.6s,baz=208,slow=7.9,SNR=5.8							
SONM	**Songino Array**	**56.99**	**357**	P	P		19 09 42.5	+0.9
	2.5nm,0.9s,baz=176,slow=7.1,SNR=5.0							
MKAR	**Makanchi Array**	**61.26**	**338**	P	P	P	19 10 11.8	+0.5
	4.8nm,0.6s,baz=144,slow=5.5,SNR=4.3							
ZAL	**Zalesovo**	**66.65**	**344**	P	P	P	19 10 46.5	-0.2
	6.2nm,0.4s,baz=327,slow=4.1,SNR=5.9							
BVAR	**Borovoye Array**	**70.86**	**336**	P	P	P	19 11 11.6	-1.3
	4.0nm,0.7s,baz=130,slow=7.8,SNR=3.9							
AKTO	**Aktyubinsk**	**74.89**	**328**	P	P	P	19 11 37.1	+0.3
	2.5nm,0.6s,baz=90,slow=7.1,SNR=4.3							
BRTR	**Keskin Array B**	**85.97**	**311**	P	P	P	19 12 37.3	+1.0
	1.5nm,0.7s,baz=121,slow=7.0,SNR=3.2							

IDC 21 19:17:45.9±2.0, 884S×11054E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=77.1km s-min=20.7km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.52**	**118**	P	P	P	19 23 16.0	-0.1
	1.6nm,0.7s,baz=291,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.78**	**126**	P	P		19 23 28.4	+0.9
	0.3nm,0.6s,baz=297,slow=8.9,SNR=6.4							
MJAR	**Matsushiro Arr**	**52.09**	**28**	P	P	P	19 26 57.7	+0.1
	1.5nm,0.7s,baz=207,slow=7.9,SNR=5.7							
SONM	**Songino Array**	**56.54**	**357**	P	P		19 27 30.8	+0.8
	0.6nm,0.6s,baz=181,slow=8.9,SNR=3.5							
MKAR	**Makanchi Array**	**60.84**	**338**	P	P		19 28 00.2	+0.2
	0.4nm,0.3s,baz=150,slow=6.6,SNR=7.4							
ZAL	**Zalesovo**	**66.21**	**344**	P	P	P	19 28 35.1	-0.4
	1.1nm,0.4s,baz=2.0,slow=0.8,SNR=3.5							
BVAR	**Borovoye Array**	**70.44**	**336**	P	P	P	19 29 01.7	-0.4
	0.4nm,0.5s,baz=133,slow=8.7,SNR=4.4							

IDC 21 19:22:20.6±2.2, 856S×11087E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=127.0km s-min=26.5km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.20**	**125**	P	P	Pn	19 26 21.4	-0.9
	0.1nm,0.3s,baz=316,slow=14,SNR=2.6							
WRA	**Warramunga Arr**	**25.36**	**119**	P	P		19 27 50.0	+0.7
	2.2nm,0.8s,baz=293,slow=11,SNR=9.9							
WRA					PcP	PcP	19 31 21.4	-0.6
	0.2nm,0.4s,baz=311,slow=1.6,SNR=5.9							
ASAR	**Alice Springs**	**26.68**	**127**	P	P	P	19 28 02.1	+0.8
	1.0nm,0.8s,baz=302,slow=8.9,SNR=8.2							
MKAR	**Makanchi Array**	**60.71**	**338**	P	P	P	19 32 34.2	+0.4
	0.3nm,0.5s,baz=136,slow=6.2,SNR=4.4							

IDC 21 19:27:07.3±2.5, 876S×11069E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=80.9km s-min=25.9km az=56.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.43**	**118**	P	P	P	19 32 36.6	0.0
	0.8nm,0.6s,baz=291,slow=11,SNR=10							
ASAR	**Alice Springs**	**26.70**	**126**	P	P	P	19 32 49.0	+0.8
	0.6nm,0.7s,baz=301,slow=9.2,SNR=8.1							
MJAR	**Matsushiro Arr**	**51.96**	**28**	P	P	P	19 36 18.1	+0.1
	0.5nm,0.4s,baz=207,slow=7.7,SNR=5.2							
MKAR	**Makanchi Array**	**60.83**	**338**	P	P	P	19 37 21.4	+0.2
	0.4nm,0.4s,baz=141,slow=6.2,SNR=4.1							

IDC ***21*** *19:31:38.7±1.3, 904S×11056E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/17, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=54.4km s-min=16.7km az=52.0*
NEIC ***21*** *19:31:40.2±0.8, 905S×11054E, h10km, mb4.6/1, Error ellipse: s-maj=34.1km s-min=9.0km az=50.0*
ISCJB ***21*** *19:31:42.0±1.1, 90S±02×1106E±03, h33km, mb4.1/9, Error ellipse: s-maj=46.5km s-min=12.3km az=99.4*
ISC 21 19:31:44.2±1.1, 90S±02×1106E±03, h35km, n13, σ0$46/13, mb4.1/9, 1C-1D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.18**	**123**	P	P	Pn	19 35 41.2	-0.2
	0.1nm,0.3s,baz=291,slow=16,SNR=3.5							
WRA	**Warramunga Arr**	**25.39**	**118**	P	P	P	19 37 08.4	+0.1
	5.0nm,0.8s,mb4.1,baz=292,slow=11,SNR=23							
WRAB	**Tennant Creek**	**25.39**	**118**	*e*P	P	P	19 37 08.9	+0.6
	10nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**26.63**	**126**	P	P	P	19 37 19.6	+0.1
	1.8nm,0.7s,mb3.7,baz=299,slow=9.0,SNR=19							
ASAR					PcP	PcP	19 40 43.7	+0.9
	0.3nm,0.6s,baz=326,slow=1.5,SNR=4.6							
STKA	**Stephens Creek**	**36.66**	**133**	P	P	P	19 38 46.9	-0.6
	7.2nm,1.2s,mb4.4,baz=306,slow=10,SNR=4.9							
MJAR	**Matsushiro Arr**	**52.23**	**28**	P	P	P	19 40 51.5	-0.3
	1.7nm,0.6s,mb4.1,baz=211,slow=7.9,SNR=7.5							
SONM	**Songino Array**	**56.73**	**357**	P	P	P	19 41 25.2	+0.7
	0.7nm,0.6s,mb3.9,baz=180,slow=8.3,SNR=7.3							
MKAR	**Makanchi Array**	**61.03**	**338**	P	P	P	19 41 54.2	-0.1
	1.2nm,0.6s,mb4.2,baz=142,slow=7.0,SNR=9.3							
MKAR	**Makanchi Array**	**61.03**	**338**	P	P	P	19 41 54.2	-0.1
ZAL	**Zalesovo**	**66.41**	**344**	P	P	P	19 42 29.0	-0.8
	1.1nm,0.5s,mb4.1,baz=316,slow=2.6,SNR=5.4							
BRTR	**Keskin Array B**	**85.83**	**311**	P	P	P	19 44 20.4	+0.3
	0.8nm,0.9s,mb4.0,baz=152,slow=5.6,SNR=4.5							
VRI	**Vrincioaia**	**92.16**	**316**	*i* P	P	P	19 44 56.9	+6.8
PLOR	**Plostina**	**92.21**	**316**	*i* P	P	P	19 44 56.0	+5.7

IDC ***21*** *19:43:16.2±0.8, 896S×11052E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.0/10, ML3.3/1, Error ellipse: s-maj=35.7km s-min=16.0km az=57.0*
NEIC ***21*** *19:43:17.9±0.5, 899S×11046E, h10km, mb4.0/3, Error ellipse: s-maj=18.6km s-min=7.0km az=47.0*
ISCJB ***21*** *19:43:19.4±0.8, 90S±02×1105E±02, h33km, mb4.0/10, Error ellipse: s-maj=31.2km s-min=10.1km az=96.1*
ISC 21 19:43:21.6±0.8, 90S±02×1105E±02, h35km, n18, σ0$72/17, mb4.0/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.28**	**123**	*e*P	P	Pn	19 47 19.6	-0.4
	9.3nm,1.4s							
FITZ	**Fitzroy Crossi**	**17.28**	**123**	P	P	Pn	19 47 18.2	-1.8
	0.1nm,0.3s,baz=302,slow=13,SNR=3.3							
FITZ					S	S	19 50 15.3	-24
	0.1nm,0.3s,baz=179,slow=17,SNR=3.4							
KAKA	**Kakadu**	**21.88**	**102**	*e*P	P	P	19 48 12.1	+0.7
	4.2nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**25.50**	**118**	P	P	P	19 48 46.9	+0.4
	3.3nm,0.8s,mb3.9,baz=290,slow=11,SNR=15							
WRAB	**Tennant Creek**	**25.50**	**118**	*e*P	P	P	19 48 46.8	+0.2
WB2	**Warramunga Arr**	**25.51**	**118**	*e*P	P	P	19 48 46.9	+0.3
ASAR	**Alice Springs**	**26.73**	**126**	P	P	P	19 48 57.8	+0.1
	1.9nm,0.8s,mb3.7,baz=302,slow=9.2,SNR=17							
STKA	**Stephens Creek**	**36.75**	**133**	*e*P	P	P	19 50 26.1	+0.5
	3.4nm,1.1s,mb4.1							
STKA	**Stephens Creek**	**36.75**	**133**	P	P	P	19 50 26.2	+0.7
	2.1nm,0.6s,mb4.2,baz=306,slow=12,SNR=5.2							
LSA	**Lhasa**	**42.75**	**335**	P	P	P	19 51 16.5	+1.1
MJAR	**Matsushiro Arr**	**52.28**	**28**	P	P	P	19 52 28.8	-0.6
	2.3nm,0.6s,mb4.3,baz=204,slow=7.7,SNR=12							
SONM	**Songino Array**	**56.71**	**357**	P	P	P	19 53 01.1	-0.5
	0.5nm,0.6s,mb3.8,baz=180,slow=8.4,SNR=4.6							
MKAR	**Makanchi Array**	**60.98**	**338**	P	P	P	19 53 31.0	-0.3
	0.6nm,0.4s,mb4.1,baz=150,slow=6.6,SNR=9.8							
ZAL	**Zalesovo**	**66.37**	**344**	P	P	P	19 54 06.4	-0.4
	1.1nm,0.2s,mb4.4,baz=288,slow=3.2,SNR=3.4							
CHKZ	**Chkalovo**	**70.97**	**336**	*e*P	P	P	19 54 34.8	-0.7
VNDA	**Vanda**	**73.38**	**170**	P	P	P	19 54 48.8	-1.1
	1.1nm,0.7s,mb3.9,baz=303,slow=6.8,SNR=8.5							
BRTR	**Keskin Array B**	**85.73**	**311**	P	P	P	19 55 58.2	+1.3
	1.1nm,0.9s,mb4.1,baz=102,slow=5.2,SNR=5.5							
BDFB	**Brasilia**	**147.53**	**221**	PKPbc	PKPbc		20 03 04.2	+2.3
	2.1nm,0.3s,baz=104,slow=4.2,SNR=4.2							

IDC ***21*** *19:46:48.5±0.8, 902S×11053E, h0km, mb4.4/9, mb1 4.5/9, mb1mx4.3/16, mbtmp4.4/9, Error ellipse: s-maj=36.9km s-min=15.9km az=58.0*
NEIC ***21*** *19:46:49.8±0.4, 904S×11053E, h10km, mb4.6/5, Error ellipse: s-maj=19.5km s-min=7.7km az=51.0*
ISCJB ***21*** *19:46:51.6±0.7, 90S±01×1107E±02, h33km, mb4.4/13, Error ellipse: s-maj=30.0km s-min=11.4km az=106.3*
ISC 21 19:46:53.7±0.7, 90S±01×1106E±02, h35km, n16, σ0$60/15, mb4.4/13, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.40**	**118**	P	P	P	19 52 18.4	+0.6
	7.5nm,0.7s,mb4.3,baz=292,slow=11,SNR=26							
WRA					PcP	PcP	19 55 50.6	+1.1
	0.4nm,0.3s,baz=309,slow=1.7,SNR=8.6							
WRAB	**Tennant Creek**	**25.41**	**118**	P	P	P	19 52 17.1	-0.8
	12nm,0.8s,mb4.5							
ASAR	**Alice Springs**	**26.64**	**126**	P	P	P	19 52 29.6	+0.5
	2.9nm,0.8s,mb3.9,baz=304,slow=9.4,SNR=14							
ASAR					PcP	PcP	19 55 53.6	+1.3
	0.6nm,0.6s,baz=311,slow=1.6,SNR=6.2							
STKA	**Stephens Creek**	**36.67**	**133**	P	P	P	19 53 57.6	+0.5
	4.1nm,0.7s,mb4.4,baz=335,slow=7.4,SNR=4.1							
LSA	**Lhasa**	**42.79**	**335**	*e*P	P	P	19 54 48.8	+0.8
	2.6nm,0.6s,mb4.1							
MAT	**Matsushiro**	**52.23**	**28**	P	P	P	19 56 00.5	-0.7
MJAR	**Matsushiro Arr**	**52.23**	**28**	P	P	P	19 56 01.1	-0.1
	7.8nm,0.7s,mb4.7,baz=206,slow=7.9,SNR=25							
SONM	**Songino Array**	**56.72**	**357**	P	P	P	19 56 34.6	+0.8
	1.6nm,0.4s,mb4.4,baz=172,slow=8.3,SNR=13							
SONM					PcP	PcP	19 57 30.2	+0.6
	0.9nm,0.5s,baz=165,slow=3.8,SNR=5.7							
MKAR	**Makanchi Array**	**61.02**	**338**	P	P	P	19 57 03.7	0.0
	3.4nm,0.5s,mb4.8,baz=149,slow=7.2,SNR=30							
ZAL	**Zalesovo**	**66.39**	**344**	P	P	P	19 57 38.6	-0.5
	5.5nm,0.4s,mb5.0,baz=327,slow=4.4,SNR=17							
CHKZ	**Chkalovo**	**71.01**	**336**	*e*P	P	P	19 58 07.5	-0.4
	3.0nm,0.4s,mb4.6							
CHKZ				*e*	pP	pP	19 58 19.6	+0.9
ZRNK	**Zerenda**	**71.14**	**335**	*e*P	P	P	19 58 08.2	-0.4
	6.9nm,0.7s,mb4.7							
ZRNK				*e*	pP	pP	19 58 20.5	+0.9
VNDA	**Vanda**	**73.36**	**170**	P	P	P	19 58 21.1	-0.8
	0.5nm,0.8s,mb3.5,baz=309,slow=5.5,SNR=3.9							
BR131	**Keskin Array S**	**85.81**	**311**	*e*P	P	P	19 59 29.4	-0.1
	1.5nm,0.7s,mb4.3							
BRTR	**Keskin Array B**	**85.81**	**311**	P	P	P	19 59 30.4	+1.0
	1.2nm,0.7s,mb4.3,baz=136,slow=6.3,SNR=7.9							
BDFB	**Brasilia**	**147.60**	**221**	PKPbc	PKPbc		20 06 35.2	+0.9
	2.0nm,0.5s,baz=154,slow=7.1,SNR=3.1							

ISCJB ***21*** *19:59:03.4±0.9, 179S±01×17860W±009, h555km±14km, mb4.6/19, Error ellipse: s-maj=19.5km s-min=11.1km az=120.4*
IDC ***21*** *19:59:04.7±1.4, 1776S×17856W, h555km±16km, mb3.9/9, mb1 4.0/11, mb1mx3.9/15, mbtmp4.8/11, Error ellipse: s-maj=18.8km s-min=11.6km az=147.0*
NEIC ***21*** *19:59:05.0±0.8, 1786S×17854W, h565km±10km, mb4.8/13, Error ellipse: s-maj=13.7km s-min=8.2km az=147.0*
ISC 21 19:59:04.4±0.8, 179S±01×17848W±009, h556km±12km, n43, σ0$92/35, mb4.6/19, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.56**	**59**	P	P	P	20 00 58.9	+1.1
	16nm,0.3s,baz=161,slow=23,SNR=12							
AFI					S	S	20 02 29.6	-1.3
	3.6nm,0.3s,baz=352,slow=19,SNR=5.5							
DZM	**Mont Dzumac**	**14.78**	**251**	*e*P	P	P	20 02 12.4	+1.0
DZM	**Mont Dzumac**	**14.78**	**251**	P	P	P	20 02 12.9	+1.5
	2.5nm,0.3s,baz=77,slow=18,SNR=26							
URZ	**Urewera**	**20.67**	**190**	P	P	P	20 03 03.8	-2.3
	4.7nm,0.4s,baz=359,slow=17,SNR=4.3							
ARMA	**Armidale**	**29.90**	**240**	*e*P	P	P	20 04 27.9	+0.4
CTA	**Charters Tower**	**33.39**	**260**	*e*P	P	P	20 04 57.5	+0.3
	13nm,0.7s,mb4.6							
CTAO	**Charters Tower**	**33.39**	**260**	*e*P	P	P	20 04 57.3	+0.1
	42nm,1.3s,mb4.8							
CNB	**Canberra Magne**	**33.39**	**232**	*e*P	P	P	20 04 58.1	+0.8
	35nm,0.5s,mb5.1							
PMG	**Port Moresby**	**34.39**	**280**	P	P	P	20 05 05.6	0.0
	43nm,0.8s,mb5.0,baz=88,slow=5.1,SNR=8.4							
TOO	**Toolangi**	**37.14**	**231**	*i* P	P	P	20 05 29.6	+1.3
	26nm,0.7s,mb4.9							
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	P	P	20 05 40.8	+0.7
	26nm,0.5s,mb5.0							
STKA	**Stephens Creek**	**38.59**	**241**	P	P	P	20 05 41.2	+1.1
	34nm,0.5s,mb5.2,baz=92,slow=9.9,SNR=164							
WB2	**Warramunga Arr**	**44.56**	**260**	*e*P	P	P	20 06 26.1	-1.1
WRAB	**Tennant Creek**	**44.56**	**260**	*e*P	P	P	20 06 26.6	-0.7
	19nm,0.5s,mb4.9							
WRA	**Warramunga Arr**	**44.58**	**260**	P	P	P	20 06 26.9	-0.5
	14nm,0.5s,mb4.8,baz=96,slow=7.1,SNR=496							
WRA					PcP	PcP	20 07 57.9	-0.3
	2.3nm,0.7s,baz=99,slow=3.4,SNR=4.7							
AS31	**Alice Springs**	**44.74**	**254**	*e*P	P	P	20 06 28.3	-0.3
ASAR	**Alice Springs**	**44.74**	**254**	P	P	P	20 06 28.4	-0.1
	116nm,0.6s,mb5.6,baz=88,slow=8.3,SNR=1883							
ASAR					PcP	PcP	20 07 58.8	+0.1
	3.1nm,0.5s,baz=96,slow=4.0,SNR=4.6							
ASPA	**Alice Springs**	**44.74**	**254**	*e*P	P	P	20 06 28.3	-0.3
KAKA	**Kakadu**	**47.52**	**269**	*e*P	P	P	20 06 49.3	-0.3
	26nm,0.4s,mb5.1							
FORT	**Forrest**	**49.96**	**245**	*e*P	P	P	20 07 06.9	-0.8
	34nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**52.97**	**261**	*i* P	P	P	20 07 29.6	+0.2
	6.6nm,0.5s,mb4.2							
FITZ	**Fitzroy Crossi**	**52.97**	**261**	P	P	P	20 07 29.7	+0.3
	3.8nm,0.5s,mb4.0,baz=130,slow=4.4,SNR=28							
KLBR	**Kellerberrin**	**58.78**	**244**	*e*P	P	P	20 08 08.8	-0.8
	15nm,0.5s,mb4.5							
NWAO	**Narrogin (SRO)**	**59.17**	**242**	P	P	P	20 08 12.2	0.0
	10nm,0.7s,mb4.2,baz=135,slow=9.8,SNR=6.4							
MUN	**Mundaring**	**60.08**	**243**	*i* P	P	P	20 08 18.2	0.0
VNDA	**Vanda**	**60.47**	**185**	P	P	P	20 08 21.8	+1.0
	0.7nm,0.6s,baz=358,slow=7.1,SNR=10							
CASY	**Casey**	**66.14**	**205**	*e*P	P	P	20 08 56.2	-0.8
	9.8nm,1.1s,mb4.2							
MJAR	**Matsushiro Arr**	**67.84**	**323**	P	P	P	20 09 07.5	-0.1
	2.0nm,0.6s,mb3.8,baz=157,slow=6.5,SNR=7.1							
QSPA	**South Pole Qui**	**72.17**	**180**	*e*P	P	P	20 09 33.4	+0.2
	8.3nm,0.9s,mb4.2							
YBH	**Yreka Blue Hor**	**78.54**	**39**	P	P	P	20 10 10.2	+1.6
	3.5nm,0.7s,mb3.8,baz=186,slow=9.2,SNR=6.8							
MTUM	**Tungsten Hills**	**78.69**	**45**	*e*P	P	P	20 10 11.2	+1.8
MAW	**Mawson**	**83.87**	**200**	*e*P	P	P	20 10 35.7	-0.2
	2.4nm,0

1.2nm,0.4s,baz=0.8,slow=7.6,SNR=62
ASAR Alice Springs 51.83 186 P P 21 02 19.1 +0.2
0.3nm,0.5s,baz=14,slow=11,SNR=6.7
FINES FINESS Array B 75.55 333 P P 21 04 50.0 -0.5
0.8nm,0.5s,baz=71,slow=5.4,SNR=13

*NEIC **21** 21:01:15.9, 1884N×6448W, h25km, MD3.6(RSPR), After RSPR.*
RSPR 21 21:01:15.9, 1884N×6448W, h25km±28km, MD3.6/9, MD3.6/9, 9C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDVI	**St. Ox**	**1.11**	**194**	⇓*e*P		Pn	21 01 33.5	-2.5
CDVI				*e*S		Sn	21 01 47.8	-2.7
MTP	**Monte Pirata**	**1.26**	**234**	⇑*e*P		Pn	21 01 35.2	-2.7
MTP				*e*S		Sn	21 01 51.3	-2.8
CBYP	**Canovanas**	**1.43**	**247**	⇑*e*P		Pn	21 01 37.5	-2.8
CBYP				*e*S		Sn	21 01 55.0	-3.2
HUMP	**Col San Antoni**	**1.48**	**242**	⇑*e*P		Pn	21 01 38.4	-2.5
HUMP				*e*S		Sn	21 01 56.8	-2.6
CPD	**Cerro la Pandu**	**1.58**	**240**	⇑*e*P		Pn	21 01 40.3	-2.0
CPD				*e*S		Sn	21 01 59.8	-2.2
CELP	**Cerrillos**	**2.14**	**250**	⇑*e*P		Pn	21 01 48.3	-1.7
CELP				*e*S		Sn	21 02 13.2	-2.6
ICM	**Isla Caja Muer**	**2.16**	**245**	⇑*e*P		Pn	21 01 49.0	-1.3
ICM				*e*S		Sn	21 02 13.5	-2.8
AOPR	**Arecibo Observ**	**2.22**	**258**	⇑*e*P		Pn	21 01 49.7	-1.4
AOPR				*e*S		Sn	21 02 15.0	-2.6
LSP	**Las Mesas**	**2.56**	**256**	⇑*e*P		Pn	21 01 54.4	-1.4
LSP				*e*S		Sn	21 02 24.2	-2.0
CRPR	**Cabo Rojo, PR**	**2.63**	**252**	⇑*e*P		Pn	21 01 55.3	-1.6
CRPR				*e*S		Sn	21 02 25.5	-2.5

*IDC **21** 21:06:27.8±4.6, 3691N×7197E, h134km±44km, mb3.6/14, mb1 3.7/17, mb1mx3.6/24, mbtmp4.1/17, Error ellipse: s-maj=20.2km s-min=12.5km az=14.0*
*MOS **21** 21:06:27.2±1.0, 3706N×7195E, h135km, mb4.2/8, Error ellipse: s-maj=11.7km s-min=5.8km az=96.9*
*ISCJB **21** 21:06:28.4±0.4, 3704N±002×7198E±005, h152km±5km, mb4.0/26, Error ellipse: s-maj=6.5km s-min=3.3km az=162.0*
*BJI **21** 21:06:29.0, 3726N×7185E, h150km, mB4.9, mb4.7*
*NEIC **21** 21:06:30.5±1.9, 3707N×7194E, h152km±19km, mb4.3/12, Error ellipse: s-maj=13.9km s-min=9.1km az=215.0*
*NNC **21** 21:06:37.3±2.4, 3766N×7185E, h200km±17km, mb3.1, mpv4.0, Error ellipse: s-maj=20.3km s-min=15.4km az=27.0*
ISC 21 21:06:28.9±0.3, 3699N±002×7200E±005, h140km±5km, n122, σ1§33/150, mb4.0/26, 9C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.16**	**181**	⇑P		Pn	21 07 20.8	+2.8
CHCP	**Chirah Chowk**	**3.48**	**162**	P		Pn	21 07 26.1	+4.0
CHCP				S		Sn	21 08 02.0	-1.3
KSH	**Kashi**	**4.01**	**50**	P		Pn	21 07 32.5	+3.5
KSH				S		Sn	21 08 19.1	+3.4
KSH				Smax			
	comp=N,1μm,0.6s						
KSH				Smax			
	comp=E,1μm,0.4s						
THW	**Thamme Wali**	**4.20**	**183**	P		Pn	21 07 33.6	+2.2
SBDP	**Sheikh Budin**	**4.79**	**192**	P		Pn	21 07 39.8	+0.5
SARP	**Sargodha**	**5.09**	**174**	P		Pn	21 07 44.8	+1.5
SARP				S		Sn	21 08 39.0	-2.3
AML	**Almayashu**	**5.29**	**14**	P		Pn	21 07 47.1	+1.1
	SNR=411						
DRP	**Derazinda**	**5.44**	**196**	P		Pn	21 07 49.9	+1.9
THN	**Thein Dam**	**5.48**	**145**	*e*P		Pn	21 07 51.3	+2.8
THN				*ex*		x	21 08 54.7	
DLH	**Dalhousie**	**5.51**	**143**	*e*P		Pn	21 07 50.0	+1.1
DLH				*ex*		x	21 08 55.0	
UCH	**Uchtor**	**5.57**	**20**	P		Pn	21 07 51.3	+1.5
	SNR=305						
KZA	**Kyzart**	**5.66**	**25**	P		Pn	21 07 52.0	+1.1
	SNR=31						
EKS2	**Erkin-Say**	**5.82**	**13**	P		Pn	21 07 53.8	+0.7
	SNR=58						
AAK	**Ala-Archa**	**5.95**	**18**	P		Pn	21 07 56.3	+1.5
	SNR=71						
AAK	**Ala-Archa**	**5.95**	**18**	*e*PN		Pn	21 07 54.6	-0.2
AAK				*e*S		Sn	21 09 00.3	-1.6
AAK				pmax	pmax		
	comp=Z,52nm,0.5s						
AAK	**Ala-Archa**	**5.95**	**18**	*e*P		Pn	21 07 54.6	-0.1
	comp=Z,52nm,0.5s						
AAK				*e*S		Sn	21 09 00.3	-1.6
KBK	**Karagaybulak**	**6.09**	**21**	P		Pn	21 07 58.0	+1.3
	SNR=48						
ULHL	**Ulahol**	**6.18**	**31**	P		Pn	21 07 58.9	+1.0
	SNR=34						
KK31	**Karatay Array**	**6.21**	**350**	P		Pn	21 07 57.9	-0.4
	comp=Z,29nm,0.4s,baz=19,slow=46,SNR=954						
KK31				S		Sn	21 09 03.5	-4.6
	comp=Z,125nm,0.3s,baz=21,slow=15,SNR=38						
KKAR	**Karatay Array**	**6.21**	**350**	PN		Pn	21 07 57.9	-0.4
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
CHMS	**Chumysh**	**6.36**	**19**	P		Pn	21 08 01.1	+0.9
	SNR=71						
TKM2	**Tokmak 2**	**6.53**	**24**	P		Pn	21 08 03.7	+1.1
	SNR=37						
TKM2	**Tokmak 2**	**6.53**	**24**	⇑P		Pn	21 08 03.5	+0.9
	comp=Z,4.4nm,0.8s						
TKM2				⇑S		Sn	21 09 14.7	-1.1
	comp=Z,11nm,0.7s						
TKM2	**Tokmak 2**	**6.53**	**24**	PN		Pn	21 08 03.5	+0.9
TKM2							21 09 14.7	
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TKM2				smax			
	comp=Z,69nm,0.7s						
USP	**Ospenovka**	**6.55**	**16**	P		Pn	21 08 03.2	+0.4
	SNR=36						
BHK	**Bhakra**	**6.66**	**145**	*e*P		Pn	21 08 07.6	+3.3
BHK				*e*S		Sn	21 09 19.4	+0.5
SDNR	**Sundarnagar**	**6.85**	**142**	*e*P		Pn	21 08 08.0	+1.1
SDNR				*e*S		Sn	21 09 21.0	-2.5
SMLA	**Simla**	**7.25**	**142**	*e*P		Pn	21 08 13.3	+1.0
SMLA				*e*S		Sn	21 09 29.7	-3.4
SMLA				AML	AML		21 09 36.3	
	comp=E,362nm,0.4s						
SMLA				AML	AML		21 09 36.5	
	comp=N,460nm,0.4s						
KLP	**Kalpa**	**7.51**	**135**	*e*P		Pn	21 08 17.4	+1.7
KLP				*e*S		Sn	21 09 36.6	-2.8
KLP				AML	AML		21 09 41.1	
	comp=E,842nm,0.4s						
KLP				AML	AML		21 09 41.1	
	comp=N,371nm,0.2s						
KKR	**Kurukshetra**	**8.08**	**149**	*e*P		Pn	21 08 23.9	+0.5
DDI	**Dehra Dun**	**8.35**	**141**	*e*S		Sn	21 09 57.0	-2.6
NDI	**New Delhi**	**9.37**	**151**	*e*P		Pn	21 08 39.0	-1.7
NDI				*e*S		Sn	21 10 18.5	-5.9
KHET	**Khetri**	**9.45**	**159**	*e*P		Pn	21 08 39.4	-2.3
KHET				*e*S		Sn	21 10 19.7	-6.6
KHET				AML	AML		21 10 20.7	
	comp=E,84nm,0.4s						
KHET				AML	AML		21 10 22.1	
	comp=N,45nm,0.5s						
AYAN	**Aya Nagar**	**9.52**	**152**	*e*P		Pn	21 08 42.4	-0.2
AYAN				*e*S		Sn	21 10 23.0	-4.9
SONA	**Sohna**	**9.71**	**152**	*e*P		Pn	21 08 44.9	-0.2
SONA				*e*S		Sn	21 10 25.6	-7.0
SONA				AML	AML		21 10 29.2	
	comp=N,85nm,0.5s						
SONA				AML	AML		21 10 30.5	
	comp=E,203nm,0.4s						
LGTI	**Lohaghat**	**10.21**	**135**	*i* P		Pn	21 09 11.5	+20
LGTI				*i* S		Sn	21 11 01.0	+17
AJM	**Ajmer**	**10.72**	**167**	*e*P		Pn	21 08 58.4	-0.1
AJM				*e*S		Sn	21 10 49.5	-7.4
AJM				AML	AML		21 10 53.9	
	comp=N,75nm,0.4s						
AJM				AML	AML		21 10 54.0	
	comp=E,60nm,0.3s						
AGRA	**Agra**	**10.96**	**151**	*e*P		Pn	21 09 01.5	-0.2
AGRA				*e*S		Sn	21 10 56.0	-6.6
MK09	**Makanchi Array**	**12.40**	**35**	⇑P		Pn	21 09 19.9	-0.7
	comp=E,12nm,0.8s						
MKAR	**Makanchi Array**	**12.42**	**35**	P		Pn	21 09 19.6	-1.2
	comp=E,0.8nm,0.3s,baz=224,slow=15,SNR=63						
KOLN	**Koldanda**	**13.43**	**130**	*e*P		Pn	21 09 33.3	-0.5
	comp=E,66nm,0.7s						
KOLN				*e*S		Sn	21 11 54.2	-8.0
WMQ	**Urumqi**	**13.75**	**55**	*e*P		Pn	21 09 38.3	+0.3
WMQ				AMB	AMB			
	comp=Z,17nm,0.8s						
WMQ				AMB	AMB			
	comp=Z,202nm,5.4s						
GKN	**Gorkha**	**13.92**	**126**	*e*P		Pn	21 09 39.8	-0.3
	comp=Z,46nm,0.4s						
GKN				*e*S		Sn	21 12 04.6	-9.4
KKN	**Kakani**	**14.48**	**126**	*e*P		Pn	21 09 46.6	-0.5
	comp=Z,34nm,0.5s						
BHPL	**Bhopal**	**14.48**	**160**	*e*P		Pn	21 09 51.5	+4.3
BHPL				*ex*		x	21 12 18.2	
DMN	**Daman**	**14.49**	**126**	*e*P		Pn	21 09 48.0	+0.7
	comp=E,61nm,0.6s						
PKI	**Pulchoki**	**14.71**	**126**	*e*P		Pn	21 09 50.7	+0.6
	comp=Z,36nm,0.5s						
GUN	**Gumba**	**14.79**	**124**	*e*P		Pn	21 09 50.8	-0.3
	comp=Z,28nm,0.5s						
AB31	**Akbulak array**	**15.06**	**328**	⇓P		Pn	21 09 53.3	-1.2
	comp=Z,4.0nm,0.5s,baz=139,slow=12,SNR=101						
AB31				S		S	21 12 30.9	-18
	comp=Z,11nm,0.5s,baz=150,slow=22,SNR=13						
AB31	**Akbulak array**	**15.06**	**328**	P		Pn	21 09 53.4	-1.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
JIRN	**Jiri**	**15.16**	**124**	*e*P		Pn	21 09 55.8	+0.1
	comp=Z,29nm,0.3s						
JBP	**Jabalpur**	**15.40**	**151**	⇓*i*x		x	21 09 58.5	
JBP				*i* x		x	21 12 37.8	
VOSK	**Vostochnaya**	**15.74**	**358**	⇓P		Pn	21 10 00.4	-2.5
	comp=Z,5.4nm,0.7s						
VOSK				⇓S		S	21 12 45.7	-13
	comp=Z,11nm,1.1s						
VOSK	**Vostochnaya**	**15.74**	**358**	P		Pn	21 10 00.3	-2.6
VOSK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BVA0	**Borovoye Array**	**16.07**	**356**	P		Pn	21 10 05.0	-1.9
	comp=Z,1.0nm,0.6s,baz=166,slow=13,SNR=54						
BVA0				S		S	21 12 53.4	-13
	comp=Z,3.5nm,1.1s,baz=172,slow=22,SNR=12						
BVA0	**Borovoye Array**	**16.07**	**356**	*i* P		Pn	21 10 04.9	-2.0
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**16.07**	**356**	P		Pn	21 10 05.1	-1.8
	comp=Z,1.2nm,0.3s,baz=161,slow=12,SNR=47						
BVAR				S		S	21 12 56.6	-9.3
	comp=Z,1.2nm,0.3s,baz=169,slow=24,SNR=9.8						
ZRNK	**Zerenda**	**16.09**	**353**	⇓P		Pn	21 10 06.9	-0.3
	comp=Z,5.1nm,0.6s						
ZRNK				⇑S		S	21 12 57.0	-10
	comp=Z,7.7nm,0.8s						
ZRNK	**Zerenda**	**16.09**	**353**	*e*P		Pn	21 10 05.0	-2.2
ZRNK				*e*S		S	21 12 53.6	-13
ZRNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ZRNK	**Zerenda**	**16.09**	**353**	*e*P		Pn	21 10 05.0	-2.2
	comp=Z,7.8nm,0.6s						
ZRNK				*e*S		S	21 12 53.5	-13
BRVK	**Borovoye**	**16.11**	**356**	*e*P		Pn	21 10 05.0	-2.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BRVK	**Borovoye**	**16.11**	**356**	*e*P		Pn	21 10 05.0	-2.4
	comp=Z,4.0nm,0.5s						
CHKZ	**Chkalovo**	**16.71**	**357**	⇑P		Pn	21 10 12.0	-2.7
	comp=Z,3.8nm,0.6s						
CHKZ				⇑S		S	21 13 09.9	-11
	comp=Z,12nm,0.9s						
CHKZ	**Chkalovo**	**16.71**	**357**	*e*P		Pn	21 10 12.0	-2.7
CHKZ				*e*S		S	21 13 10.5	-10
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHKZ	**Chkalovo**	**16.71**	**357**	*e*P		Pn	21 10 12.0	-2.7
	comp=Z,6.6nm,0.7s						
CHKZ				*e*S		S	21 13 10.5	-10
AKTK	**Aktyubinsk**	**16.77**	**328**	P		Pn	21 10 14.2	-1.2
AKTK				S		S	21 13 11.2	-11
AKTO	**Aktyubinsk**	**16.77**	**328**	⇓P		Pn	21 10 14.5	-1.0
	comp=Z,0.1nm,0.6s						
AKTO				⇑S		S	21 13 10.7	-11
	comp=Z,0.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.77**	**328**	P		Pn	21 10 14.2	-1.2
	comp=Z,1.3nm,0.3s,baz=141,slow=8.5,SNR=26						
AKTO				S		S	21 13 11.2	-11
	comp=Z,1.0nm,0.3s,baz=229,slow=18,SNR=7.2						
AKL	**Akola**	**16.81**	**164**	*ex*		x	21 10 14.4	
AKL				*ex*		x	21 13 09.5	
LSA	**Lhasa**	**17.56**	**109**	P		Pn	21 10 28.3	+3.4
LSA	**Lhasa**	**17.56**	**109**	*e*P		Pn	21 10 28.7	+3.8
LSA				pmax	pmax			
	comp=Z,6.0nm,0.8s						
LSA	**Lhasa**	**17.56**	**109**	*e*P		Pn	21 10 28.7	+3.8
	comp=Z,5.9nm,0.8s						
POO	**Poona**	**18.47**	**174**	*ex*		x	21 10 34.0	
ZAL	**Zalesovo**	**19.12**	**24**	P		P	21 10 41.0	+0.1
	comp=Z,6.0nm,0.3s,baz=249,slow=7.7,SNR=207						
NVS	**Novosibirsk**	**19.44**	**20**	⇑*i*P		P	21 10 44.2	-0.2
NVS				*e*			21 14 14.0	
NVS				pmax	pmax			
	comp=Z,60nm,0.9s						
NVS				pmax	pmax			
	comp=N,37nm,0.7s						
NVS				pmax	pmax			
	comp=E,12nm,0.7s						
NVS				smax				
	comp=N,20nm,1.7s						
NVS				smax				
	comp=E,29nm,1.7s						
HYB	**Hyderabad**	**20.34**	**162**	*i* P		P	21 10 57.0	+2.9
HYB	**Hyderabad**	**20.34**	**162**	*e*P		P	21 10 57.0	+2.9
SHL	**Shillong**	**20.41**	**118**	*ex*		x	21 10 59.0	
SHL				*ex*		x	21 14 35.0	
ARU	**Arti**	**21.44**	**339**	*e*P		P	21 11 04.2	-1.6
ARU				*e*S		S	21 14 58.2	+2.6
ARU	**Arti**	**21.44**	**339**	*e*P		P	21 11 04.3	-1.6
	comp=E,16nm,1.0s,mb4.3						
GNI	**Garni**	**21.52**	**287**	P		P	21 11 07.1	+0.5
	comp=E,4.5nm,0.9s,mb3.9,baz=0.0,slow=20,SNR=2.6						
GTA	**Gaotai**	**21.96**	**75**	*e*P		P	21 11 13.8	+2.5
GTA				AP			21 11 46.9	
GTA				XP		sP	21 12 02.8	+8.6
GTA				AMB	AMB			
	comp=Z,32nm,0.9s,mb4.8						
GTA				AMB	AMB			
	comp=Z,70nm,5.0s						
GTA				LR	LR			
	comp=N,170nm,19.5s						
GTA				LR	LR			
	comp=E,139nm,18.3s						
GTA				LR	LR			
	comp=Z,236nm,24.8s						
ZEI	**Tsey**	**22.27**	**294**	*e*P		P	21 11 16.1	+1.5
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.0						
MDRS	**Chennai**	**24.94**	**161**	*ex*		x	21 15 09.0	
LZH	**Lanzhou**	**25.54**	**82**	*e*P		P	21 11 47.1	+2.6
LZH				AMB	AMB			
	comp=Z,19nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**26.06**	**49**	*e*P		P	21 11 50.4	+1.2
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**27.39**	**56**	P		P	21 12 02.6	+1.5
	comp=Z,4.4nm,0.5s,mb4.3,baz=265,slow=8.9,SNR=29						
ULN	**Ulaanbaatar**	**27.83**	**56**	*e*P		P	21 12 06.4	+1.4
ULN				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**27.83**	**56**	*e*P		P	21 12 06.4	+1.4
	comp=Z,4.6nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**30.06**	**287**	P		P	21 12 25.4	+0.7
	comp=Z,1.1nm,0.6s,mb3.8,baz=101,slow=8.4,SNR=8.3						
AKASG	**Malin Array Be**	**33.27**	**308**	P		P	21 12 53.9	+1.1
	comp=Z,0.8nm,0.4s,mb3.8,baz=81,slow=7.0,SNR=5.4						
AKASG	**Malin Array Be**	**33.27**	**308**	P		P	21 12 53.9	+1.1
JOF	**Joensuu**	**35.85**	**329**	*ep*		P	21 13 14.3	-0.7
	comp=Z,6.6nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**37.53**	**325**	P		P	21 13 28.6	-0.6
	comp=Z,0.8nm,0.4s,mb3.7,baz=114,slow=9.6,SNR=8.9						
ARCES	**ARCESS Array B**	**41.00**	**337**	P		P	21 13 57.6	-0.4
	comp=Z,1.2nm,0.4s,mb3.9,baz=111,slow=7.5,SNR=25						
PSI	**Prapat**	**42.09**	**138**	P		P	21 14 07.6	+0.7
	comp=Z,3.1nm,0.6s,mb4.1,baz=116,slow=5.5,SNR=3.9						
PSI	**Prapat**	**42.09**	**138**	P		P	21 14 07.6	+0.7
NB2	**NORSAR Subarra**	**44.47**	**323**	P		P	21 14 24.9	-1.1
	comp=Z,2.6nm,0.6s,mb4.0,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.47**	**323**	P		P	21 14 25.0	-1.1
	comp=Z,1.8nm,0.6s,mb3.9,baz=95,slow=7.7,SNR=7.2						
PGF	**Pioggiola**	**47.76**	**297**	*e*P		P	21 14 52.0	+0.3
	comp=Z,7.9nm,0.9s,mb4.0						
PGF	**Pioggiola**	**47.76**	**297**	*e*P		P	21 14 52.0	+0.3
PGF				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.0						
PGF	**Pioggiola**	**47.76**	**297**	*e*P		P	21 14 52.0	+0.3
	comp=Z,4.0nm,0.9s,mb4.0						
SBF	**Sospel**	**48.52**	**299**	*e*P		P	21 14 58.4	+0.9
	comp=Z,19nm,0.9s,mb4.4						
SBF	**Sospel**	**48.52**	**299**	*e*P		P	21 14 58.4	+0.9
SBF				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.4						
SBF	**Sospel**	**48.52**	**299**	*e*P		P	21 14 58.4	+0.9
	comp=Z,9.4nm,0.9s,mb4.4						
FRF	**La Foret Royal**	**49.15**	**299**	*e*P		P	21 15 02.8	+0.5
	comp=Z,10nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**49.15**	**299**	*e*P		P	21 15 02.8	+0.5
FRF				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**49.15**	**299**	*e*P		P	21 15 02.8	+0.5
	comp=Z,5.3nm,0.8s,mb4.2						
KEST	**Kesra**	**49.64**	**288**	P		P	21 15 06.7	+0.5
	comp=Z,0.6nm,0.5s,mb3.5,baz=4.0,slow=5.8,SNR=5.3						
KMBO	**Kilima Mbogo**	**49.76**	**228**	P		P	21 15 07.2	+0.2
	comp=Z,1.6nm,0.7s,mb3.8,baz=34,slow=12,SNR=6.4						
SMF	**Signal de Mont**	**50.25**	**304**	*e*P		P	21 15 11.7	+1.0
	comp=Z,5.8nm,0.6s,mb4.1						
SMF	**Signal de Mont**	**50.25**	**304**	*e*P		P	21 15 11.7	+1.0
SMF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.1						
SMF	**Signal de Mont**	**50.25**	**304**	*e*P		P	21 15 11.7	+1.0
	comp=Z,2.9nm,0.6s,mb4.1						
AVF	**Avril sur Loir**	**50.54**	**304**	*e*P		P	21 15 12.4	-0.4
	comp=Z,12nm,1.0s,mb4.2						
AVF	**Avril sur Loir**	**50.54**	**304**	*e*P		P	21 15 12.4	-0.4
AVF				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.2						
AVF	**Avril sur Loir**	**50.54**	**304**	*e*P		P	21 15 12.4	-0.4
	comp=Z,6.2nm,1.0s,mb4.2						
LFF	**La Frestale**	**52.81**	**302**	*e*P		P	21 15 31.0	+1.3
ESDC	**Sonseca Array**	**57.94**	**298**	P		P	21 16 05.8	-0.6
	comp=Z,1.3nm,0.6s,mb3.9,baz=55,slow=7.7,SNR=7.1						
TORD	**Torodi Ar. Bea**	**66.53**	**269**	P		P	21 17 01.6	-2.1
	comp=Z,1.1nm,0.5s,mb4.0,baz=50,slow=5.8,SNR=32						
INK	**Inuvik**	**73.29**	**10**	*e*P		P	21 17 44.1	-0.8
WRA	**Warramunga Arr**	**81.57**	**123**	P		P	21 18 30.2	-0.7
	comp=Z,0.4nm,0.6s,mb3.2,baz=329,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**83.88**	**126**	P		P	21 18 42.2	-0.7
	comp=Z,0.6nm,0.7s,mb3.4,baz=312,slow=4.7,SNR=8.3						

*HLW **21** 21:07:50.7, 3243N×35.17E, h15km, Mb3.0*
*ISCJB **21** 21:07:51.7±0.5, 3202N±002×3547E±006, h1km±4km, Error ellipse: s-maj=7.9km s-min=2.7km az=16.6*
*CSEM **21** 21:07:51.8±0.1, 3203N×3547E, h2km, Mw2.7, Error ellipse: s-maj=1.8km s-min=0.8km az=97.0*
*GII **21** 21:07:52.0±1.2, 3204N×3547E, h2km±6km, ML3.5/9, Mw3.3/11*
*GRAL **21** 21:07:53.6±1.1, 3201N×3541E, h0km±11km, MD3.5*
ISC 21 21:07:52.3±0.5, 3202N±002×3548E±005, h2km±4km, n38, σ0§71/48, 2C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMDT	**Nahal Hemdat**	**0.23**	**10**	Pg		Pg	21 07 56.8	0.0
MMLI	**Mount Malkishu**	**0.42**	**354**	Pg		Pg	21 08 00.3	-0.1
SLTI	**Sal'it**	**0.43**	**301**	Pg		Pg	21 08 00.2	-0.4
SLTI				Sg		Sg	21 08 07.6	+1.4
DRGI	**Dragot**	**0.43**	**190**	Pg		Pg	21 08 01.0	+0.4
DSI	**Dead Sea**	**0.46**	**190**	Pg		Pg	21 08 01.1	0.0
MKRJ	**Makawir**	**0.49**	**163**	Pg		Pg	21 08 02.4	+0.7
AMAZ	**Amatzia**	**0.68**	**225**	Pg		Pg	21 08 05.6	+0.2
GLH	**Golan-Tel Qazi**	**0.71**	**12**	Pg		Pg	21 08 06.1	+0.2
MZDA	**Masada**	**0.72**	**188**	Pg		Pg	21 08 06.3	+0.3
MZDA				Sg		Sg	21 08 16.4	+1.1
YTIR	**Yattir**	**0.72**	**205**	Pg		Pg	21 08 06.3	+0.1
OFRI	**'Ofer**	**0.73**	**325**	Pg		Pg	21 08 06.2	0.0
MMA0	**Mount Meron ar**	**0.99**	**356**	Pg		Pg	21 08 10.6	-0.7
MMA0				Sg		Sg	21 08 25.0	+0.8
KSHT	**Keshet**	**1.00**	**16**	Pg		Pg	21 08 11.1	-0.4
HNTI	**Hanita**	**1.09**	**347**	Pg		Pg	21 08 12.6	-0.6
HNTI				Sg		Sg	21 08 28.0	+0.7
RTMI	**Retamim**	**1.17**	**215**	Pg		Pg	21 08 14.3	-0.5
KSDI	**Kefar Szold**	**1.18**	**7**	Pg		Pg	21 08 13.8	-1.1
MASH	**Mash'abbe Sade**	**1.18**	**210**	Pg		Pg	21 08 14.4	-0.5
MASH	**Mash'abbe Sade**	**1.18**	**210**	Pg		Pg	21 08 14.4	-0.5
HRI	**Mount Hermon**	**1.26**	**10**	Pg		Pg	21 08 15.6	-0.9
SVTA	**Shivta**	**1.31**	**214**	Pn		Pn	21 08 16.5	-1.0
KZIT	**Kziot**	**1.44**	**220**	Pn		Pn	21 08 18.7	-0.7
KZIT				Sn		Sn	21 08 39.0	+0.1
MATL	**Matirih**	**1.47**	**355**	*e*P		Pn	21 08 19.5	-0.2
ZFRI	**Zfri**	**1.48**	**190**	Pn		Pn	21 08 19.4	-0.6
RCY	**Rachaya**	**1.49**	**11**	*e*P		Pn	21 08 19.7	-0.3
RC

294nm,1.3s
JAY Jayapura 10.98 88 P **Pn** **21 31 31.5 +1.5**
91nm,0.8s
TSM Tawau 13.87 301 P **Pn** **21 32 06.0 -3.5**
MSLP Maasin 13.90 340 *eP* **Pn** **21 32 18.9 +8.9**
FITZ Fitzroy Crossi 15.55 195 *eP* **Pn** **21 32 27.7 -4.4**
70nm,0.6s
FITZ *eS* **Sn** **21 35 24.6 +1.2**
FITZ Fitzroy Crossi 15.55 195 Pn **Pn** **21 32 30.1 -2.0**
2.0nm,0.3s,baz=42,slow=13,SNR=31
FITZ LR LR 21 37 59.1
comp=Z,1µm,20.2s,baz=23,slow=35
KKM Kota Kinabalu 16.20 304 P **Pn** **21 32 38.3 -2.0**
KMMI Kalianget 16.21 255 P **Pn** **21 32 40.5 0.0**
206nm,1.4s
OTRP Odiongan 17.05 333 *eP* **Pn** **21 32 53.7 +2.5**
PVCP Virac 17.37 342 *eP* **Pn** **21 32 57.2 +2.1**
WRAB Tennant Creek 17.45 165 *eP* **Pn** **21 32 58.3 +2.2**
WRAB Tennant Creek 17.45 165 *eP* **Pn** **21 32 54.3 -1.8**
89nm,0.6s
WRA Warramunga Arr 17.45 165 P **Pn** **21 32 54.8 -1.4**
3.2nm,0.3s,baz=344,slow=13,SNR=61
WRA S **Sn** **21 36 13.8 +4.3**
1.5nm,0.3s,baz=348,slow=20,SNR=9.9
WRA Warramunga Arr 17.45 165 P **Pn** **21 32 54.8 -1.4**
WRA S **Sn** **21 36 13.8 +4.3**
WRA pmax pmax
comp=Z,3.0nm,0.3s
WRA smax
comp=N,2.0nm,0.3s
WB2 Warramunga Arr 17.46 165 *eP* **Pn** **21 32 52.8 -3.4**
WB2 *eS* **Sn** **21 36 07.1 -2.4**
BUSP Coron 17.64 328 *eP* **Pn** **21 32 55.9 -2.6**
AUQP San Andres 17.64 337 *eP* **Pn** **21 33 05.8 +7.3**
KRKI Karangkates 17.94 253 P **Pn** **21 33 04.5 +2.3**
comp=N,350nm,0.7s
BOAC Boac 18.11 335 *eP* **Pn** **21 33 04.5 +0.2**
PMG Port Moresby 18.46 111 P **Pn** **21 33 10.9 +2.3**
comp=N,0.8nm,0.3s,baz=283,slow=15,SNR=2.8
PMG Port Moresby 18.46 111 P **Pn** **21 33 10.9 +2.3**
PMG pmax pmax
comp=Z,1.0nm,0.3s
TGY Tagaytay City 19.08 333 P **Pn** **21 33 14.7 -1.3**
comp=Z,34nm,0.3s,baz=12,slow=3.5,SNR=4.7
TGY Tagaytay City 19.08 333 P **Pn** **21 33 14.7 -1.3**
TGY pmax pmax
comp=Z,34nm,0.3s
LUBP Lubang 19.08 331 *eP* **Pn** **21 33 15.0 -1.0**
KSM Kuching 19.91 283 *eP* **Pn** **21 33 25.0 -0.9**
BALP Baler 20.27 337 *eP* **P** **21 33 27.9 -0.1**
BJII Banjamegara 20.39 257 P **P** **21 33 31.0 +1.6**
comp=Z,175nm,1.4s
MBWA Marble Bar 20.52 208 *eP* **P** **21 33 29.0 -1.8**
comp=Z,83nm,1.1s
AS31 Alice Springs 20.96 169 *eP* **P** **21 33 36.2 +0.7**
AS31 *eS* **S** **21 37 27.3 0.0**
ASAR Alice Springs 20.96 169 P **P** **21 33 36.2 +0.7**
comp=Z,172nm,0.7s,baz=348,slow=10,SNR=376
ASAR S **S** **21 37 27.7 +0.4**
comp=Z,38nm,1.0s,baz=349,slow=20,SNR=12
ASAR Alice Springs 20.96 169 P **P** **21 33 36.2 +0.7**
ASAR S **S** **21 37 27.7 +0.4**
ASAR pmax pmax
comp=Z,172nm,0.7s
ASAR smax
comp=N,38nm,1.0s
ASPA Alice Springs 20.96 169 *eP* **P** **21 33 36.2 +0.7**
ASPA *eS* **S** **21 37 27.3 0.0**
SCZP Santa Cruz 21.01 333 *eP* **P** **21 33 34.0 -2.1**
CAUP Cauayan 21.28 339 *eP* **P** **21 33 40.4 +1.4**
CVP Callao Caves 21.98 340 *eP* **P** **21 33 47.0 +0.6**
ABRA Dolores 22.34 337 *eP* **P** **21 33 56.4 +6.1**
LEM Lembang 22.35 259 P **P** **21 33 48.8 -1.6**
comp=N,50nm,1.6s,mb4.7
CBJI Citeko 23.05 261 P **P** **21 33 59.9 +2.1**
comp=N,107nm,0.6s,mb5.5
CTA Charters Tower 23.44 138 *eP* **P** **21 34 03.2 +1.3**
comp=N,42nm,0.9s,mb4.9
CTA Charters Tower 23.44 138 P **P** **21 34 03.2 +1.4**
comp=N,48nm,1.0s,mb4.9,baz=319,slow=10,SNR=16
CTA Charters Tower 23.44 138 P **P** **21 34 03.2 +1.3**
CTA pmax pmax
comp=Z,48nm,1.0s
CTAO Charters Tower 23.44 138 *eP* **P** **21 34 03.2 +1.3**
comp=Z,47nm,0.8s,mb5.0
KGM Kluang 26.86 280 P **P** **21 34 34.2 +1.3**
FORT Forrest 27.70 183 *eP* **P** **21 34 39.9 -0.5**
comp=Z,45nm,0.7s,mb5.2
QIZ Qiongzhong 29.34 319 P **P** **21 34 53.0 -2.1**
QIZ S **S** **21 39 45.6 -0.8**
QIZ LR LR
comp=N,570nm,20.2s
QIZ LR LR
comp=Z,836nm,20.2s,MS4.3
IPM Ipoh 29.62 284 P **P** **21 34 58.9 +1.3**
JOW Kunigami 29.67 357 P **P** **21 34 57.6 -0.3**
comp=Z,5.1nm,1.0s,mb4.2,baz=170,slow=17,SNR=4.4
JOW LR LR 21 45 57.6
comp=Z,1µm,20.9s,MS4.6,baz=165,slow=35
QZH Quanzhou 29.78 339 P **P** **21 34 58.1 -0.9**
QZH S **S** **21 39 53.5 +0.1**
QZH LR LR
comp=N,970nm,13.5s
QZH LR LR
comp=E,1µm,19.7s
QZH LR LR
comp=Z,2µm,25.4s
KULM Kulim 30.18 286 *eP* **P** **21 35 02.7 +0.1**
KLBR Kellerberrin 30.61 200 *eP* **P** **21 35 00.4 -5.9**
STKA Stephens Creek 30.84 160 *eP* **P** **21 35 06.1 -2.2**
comp=Z,11nm,0.7s,mb4.8
STKA Stephens Creek 30.84 160 P **P** **21 35 09.4 +1.1**
comp=Z,19nm,0.9s,mb4.9,baz=330,slow=7.8,SNR=12
PSI Prapat 31.32 280 P **P** **21 35 11.3 -1.2**
comp=Z,13nm,0.6s,mb5.0,baz=76,slow=7.1,SNR=17
PSI Prapat 31.32 280 P **P** **21 35 11.4 -1.1**
PSI pmax pmax
comp=Z,13nm,0.6s,mb4.9
MUN Mundaring 31.53 202 *eP* **P** **21 35 13.1 -1.3**
NWAO Narrogin (SRO) 32.01 200 P **P** **21 35 17.6 -1.0**
comp=Z,7.2nm,0.5s,mb4.7,baz=353,slow=6.5,SNR=7.3
NWAO Narrogin (SRO) 32.01 200 P **P** **21 35 17.7 -0.9**
NWAO pmax pmax
comp=Z,7.0nm,0.5s
CBIJ Chichi jima 32.23 21 LR LR 21 46 44.7
comp=Z,1µm,19.2s,MS4.7,baz=108,slow=33
KKTK Khon Kaen 32.79 307 ⇑P **P** **21 35 26.0 +0.5**
comp=Z,864nm,0.6s
ARMA Armidale 34.27 145 *eP* **P** **21 35 40.7 +2.4**
NST Nakhon Sawan 34.65 303 P **P** **21 35 42.6 +1.0**
NANT Nan 35.84 308 ⇑P **P** **21 35 50.0 -1.8**
comp=Z,12nm,44.0s
NJ2 Nanjing 36.33 344 *eP* **P** **21 35 54.5 -1.6**
NJ2 AP pP 21 36 04.3 -1.1
NJ2 XP sP 21 36 08.1 -1.1
NJ2 PP PP 21 37 17.5 -1.5
NJ2 XS sS 21 41 48.0 -2.3
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
NJ2 AMB AMB
comp=Z,320nm,8.6s
NJ2 LR LR
comp=N,1µm,23.3s
NJ2 LR LR
comp=E,1µm,29.8s
NJ2 LR LR
comp=Z,950nm,20.1s,MS4.6
WHN Wuhan 36.42 337 P **P** **21 35 57.0 +0.1**
GYA Guiyang 36.79 324 ⇑*i*P **P** **21 36 00.1 +0.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
JHJ Hachijo jima 2 37.14 14 LR LR 21 49 22.3
comp=Z,1µm,19.9s,MS4.8,baz=356,slow=33
CHG Chiang Mai 37.23 307 ⇑P **P** **21 36 04.7 +0.9**
comp=Z,94nm,0.8s,mb5.7
CHTO Chiang Mai 37.23 307 *eP* **P** **21 36 04.6 +0.9**
comp=Z,181nm,1.4s,mb5.7
TOO Toolangi 37.34 159 *eP* **P** **21 36 03.0 -1.7**
comp=Z,5.5nm,0.6s,mb4.6
KMI Kunming 38.28 318 P **P** **21 36 13.8 +1.2**
KMI AP pP 21 36 20.3 -1.6
KMI XP sP 21 36 22.8 -2.9
KMI AMB AMB
comp=Z,44nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,196nm,3.1s
KMI LR LR
comp=N,297nm,17.2s,MS4.3
KMI LR LR
comp=E,344nm,17.2s,MS4.3
KMI LR LR
comp=Z,605nm,19.2s,MS4.4
MJAR Matsushiro Arr 40.10 11 P **P** **21 36 26.4 -1.4**
comp=Z,10nm,0.8s,mb4.6,baz=184,slow=8.3,SNR=22
MJAR LR LR 21 51 31.7
comp=Z,503nm,19.7s,MS4.4,baz=210,slow=34
MJAR Matsushiro Arr 40.10 11 P **P** **21 36 26.4 -1.4**
MJAR pmax pmax
comp=Z,10.0nm,0.8s
MJAR MLR MLR
comp=Z,503nm,19.7s
MAJO Matsushiro 40.10 11 *eP* **P** **21 36 26.3 -1.5**
comp=Z,15nm,0.8s,mb4.8
MAT Matsushiro 40.10 11 P **P** **21 36 26.4 -1.4**
MAT S S 21 42 53.0 +21
XAN Xi'an 41.71 334 P **P** **21 36 39.9 -1.2**
XAN AP pP 21 36 45.5 -4.9
XAN AMB AMB
comp=Z,17nm,1.6s,mb4.4
CD2 Chengdu 41.81 326 P **P** **21 36 42.4 +0.5**
CD2 LR LR
comp=N,390nm,14.4s
CD2 LR LR
comp=Z,380nm,17.4s,MS4.3
BJT Baijiatuan 44.56 345 *eP* **P** **21 37 04.2 +0.1**
comp=Z,12nm,0.8s,mb4.8
BJI Beijing 44.58 345 P **P** **21 37 03.1 -1.1**
BJI AMB AMB
comp=Z,17nm,1.5s,mb4.7
LZH Lanzhou 45.77 330 ⇑P **P** **21 37 14.3 +0.6**
LZH AP pP 21 37 21.3 -1.8
LZH XP sP 21 37 24.5 -2.4
LZH PP PP 21 38 59.3 -1.9
LZH AMB AMB
comp=Z,84nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,217nm,5.7s
LZH LR LR
comp=N,698nm,14.3s
LZH LR LR
comp=Z,976nm,17.2s,MS4.8
HHC Hu-ho-hao-te 46.67 341 *eP* **P** **21 37 21.0 +0.2**
HHC AP pP 21 37 31.3 +1.1
HHC PP PP 21 39 09.9 -0.7
HHC SCS ScS 21 47 11.6 -1.6
HHC AMB AMB
comp=Z,20nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,296nm,6.3s
HHC LR LR
comp=N,401nm,17.6s
HHC LR LR
comp=E,520nm,27.5s
HHC LR LR
comp=Z,721nm,27.7s
MDJ Mudanjiang 47.38 360 P **P** **21 37 25.1 -1.2**
MDJ AP pP 21 37 28.3 -7.5
MDJ PP PP 21 39 19.8 +2.2
MDJ SCS ScS 21 47 14.9 -3.0
MDJ AMB AMB
comp=Z,14nm,1.4s,mb4.7
MDJ AMB AMB
comp=Z,344nm,11.8s
MDJ LR LR
comp=N,321nm,15.9s,MS4.5
MDJ LR LR
comp=E,313nm,20.3s,MS4.5
MDJ LR LR
comp=Z,478nm,20.3s,MS4.5
ASAJ Asahikawa 48.28 12 P **P** **21 37 33.6 +0.3**
comp=Z,16nm,1.0s,mb5.0,baz=233,slow=12,SNR=5.0
ASAJ Asahikawa 48.28 12 P **P** **21 37 33.7 +0.4**
ASAJ pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 49.17 314 P **P** **21 37 41.3 +1.2**
LSA Lhasa 49.17 314 *eP* **P** **21 37 41.3 +1.2**
comp=Z,20nm,0.6s,mb5.3
GTA Gaotai 50.36 330 ⇑P **P** **21 37 48.9 -0.3**
GTA AP pP 21 37 52.6 -6.1
GTA XP sP 21 37 55.9 -6.5
GTA PCP PcP 21 39 09.3 +1.9
GTA PP PP 21 39 44.1 -0.7
GTA AMB AMB
comp=Z,28nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,180nm,3.8s
GTA LR LR
comp=N,345nm,21.0s,MS4.5
GTA LR LR
comp=E,355nm,22.5s,MS4.5
GTA LR LR
comp=Z,568nm,22.9s,MS4.5
GUN Gumba 52.16 309 *eP* **P** **21 38 03.0 +0.3**
comp=Z,105nm,0.9s,mb5.8
PKI Pulchoki 52.37 308 *eP* **P** **21 38 04.0 -0.2**
KKN Kakani 52.57 309 *eP* **P** **21 38 05.4 -0.3**
comp=Z,110nm,1.4s,mb5.6
DMN Daman 52.62 308 *eP* **P** **21 38 06.1 0.0**
GKN Gorkha 53.18 309 *eP* **P** **21 38 10.0 -0.2**
comp=Z,39nm,0.7s,mb5.4
KOLN Koldanda 53.88 308 *eP* **P** **21 38 15.4 0.0**
comp=Z,102nm,0.9s,mb5.8
HYB Hyderabad 54.38 294 *i* P **P** **21 38 18.0 -1.0**
HYB *e* 21 38 25.0
HYB Hyderabad 54.38 294 *eP* **P** **21 38 18.0 -1.0**
ULN Ulaanbaatar 54.38 341 *i* P **P** **21 38 18.7 -0.3**
ULN Ulaanbaatar 54.38 341 *i* Pr **P** **21 38 18.7 -0.3**
SONM Songino Array 54.57 341 P **P** **21 38 20.0 -0.3**
comp=Z,3.9nm,0.7s,mb4.5,baz=152,slow=8.4,SNR=26
SONM PcP PcP 21 39 22.9 -0.4
comp=Z,3.9nm,0.8s,baz=156,slow=3.4,SNR=4.1
SONM LR LR 22 02 28.3
comp=Z,492nm,21.5s,MS4.5,baz=261,slow=37
SONM Songino Array 54.57 341 P **P** **21 38 20.0 -0.4**
SONM 21 39 22.9
SONM pmax pmax
comp=Z,4.0nm,0.7s
SONM pmax pmax
comp=Z,4.0nm,0.8s
SONM MLR MLR
comp=Z,492nm,21.5s
CIT Chita 56.49 348 *eP* **P** **21 38 30.8 -3.3**
CIT pmax pmax
comp=Z,117nm,1.9s,mb5.6
ZAK Zakamensk 57.80 340 *eP* **P** **21 38 43.1 -0.4**
ZAK *e* 21 39 36.9
ZAK pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TLY Talaya 58.80 341 *eP* **P** **21 38 50.3 -0.1**
TLY pmax pmax
comp=Z,17nm,1.3s,mb4.9
TLY MLR MLR
comp=Z,314nm,18.0s,MS4.5
TLY Talaya 58.80 341 ⇑*i*P **P** **21 38 50.6 +0.2**
IRK Irkutsk 59.08 342 *eP* **P** **21 38 51.4 -1.0**
IRK pmax pmax
comp=Z,73nm,2.1s,mb5.3
MOY Mondy 59.67 340 *eP* **P** **21 38 56.6 +0.2**
MOY pmax pmax
comp=Z,106nm,2.5s,mb5.4
WMQ Urumqi 59.91 326 ⇑*i*P **P** **21 38 58.1 0.0**
WMQ AMB AMB
comp=Z,45nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,265nm,5.3s
WMQ LR LR
comp=Z,533nm,22.3s,MS4.6
PET Petropavlovsk 60.87 20 *eP* **P** **21 39 07.8 +3.2**
PET pmax pmax
comp=Z,93nm,1.4s,mb5.7
PET Petropavlovsk 60.87 20 *eP* **P** **21 39 07.9 +3.3**
BOD Bodaibo 61.91 351 *eP* **P** **21 39 11.7 0.0**
BOD pmax pmax
comp=Z,19nm,2.0s,mb4.9
MA2 Magadan 64.54 12 *eP* **P** **21 39 30.2 +1.1**
MA2 *e* 21 48 43.9
MA2 pmax pmax
comp=Z,60nm,1.4s,mb5.4
MA2 Magadan 64.54 12 *eP* **P** **21 39 30.3 +1.2**
CASY Casey 64.61 188 *eP* **P** **21 39 28.9 -0.7**
MK31 Makanchi Array 64.75 326 P **P** **21 39 30.0 -0.4**
MK31 pmax pmax
comp=Z,46nm,1.2s,mb5.4
MKAR Makanchi Array 64.75 326 P **P** **21 39 30.2 -0.2**
comp=Z,9.0nm,0.6s,mb5.0,baz=118,slow=7.2,SNR=84
YAK Yakutsk 64.83 360*c* *i*P **P** **21 39 30.9 -0.1**
YAK pmax pmax
comp=Z,72nm,0.7s,mb5.8
YAK Yakutsk 64.83 360 ⇑*i*P **P** **21 39 30.0 -1.0**
KSH Kashi 64.91 316 *eP* **P** **21 39 32.5 +1.0**
KSH *e*AP pP 21 39 42.1 +0.8
KSH *e*PCP PcP 21 40 04.1 -0.4
KSH *e*PP PP 21 41 57.1 +2.7
KSH *e*PPP 21 43 31.3
KSH *e*SCP 21 44 03.1
KSH *e*PCS 21 44 07.0
KSH *e*S **S** **21 48 10.1 -0.7**
KSH *e*XS sS 21 48 27.3 +0.4
KSH AMB AMB
comp=Z,237nm,1.6s,mb6.0
KSH LR LR
comp=N,461nm,5.6s
KSH LR LR
comp=E,488nm,5.4s
KSH LR LR
comp=Z,515nm,5.4s
KZA Kyzart 66.57 319 P **P** **21 39 43.3 +1.1**
SNR=13
TKM2 Tokmak 2 66.74 320 P **P** **21 39 43.8 +0.4**
SNR=14
KBK Karagaybulak 67.04 319 P **P** **21 39 46.2 +1.0**
SNR=9.1
UCH Uchtor 67.13 319 P **P** **21 39 47.3 +1.6**
SNR=25
AAK Ala-Archa 67.33 319 P **P** **21 39 48.0 +1.0**
SNR=6.6
AAK Ala-Archa 67.33 319 ⇓P **P** **21 39 46.5 -0.5**
SNR=11
AAK Ala-Archa 67.33 319*c* *i*P **P** **21 39 46.3 -0.7**
AAK pmax pmax
comp=Z,28nm,1.6s,mb5.0
AAK Ala-Archa 67.33 319 ⇑*i*P **P** **21 39 46.4 -0.6**
CHMS Chumysh 67.33 319 P **P** **21 39 48.1 +1.1**
SNR=5.9
FRU Bishkek 67.34 319 P **P** **21 39 48.0 +0.9**
FRU *e* 21 40 08.0
USP Ospenovka 67.61 320 P **P** **21 39 48.8 0.0**
SNR=15
AML Almayashu 67.63 318 P **P** **21 39 49.9 +1.0**
SNR=15
EKS2 Erkin-Say 67.81 319 P **P** **21 39 50.8 +0.8**
SNR=17
ZAL Zalesovo 67.89 333 P **P** **21 39 50.0 -0.6**
comp=Z,9.6nm,0.9s,mb4.8,baz=0.3,slow=6.5,SNR=53
ZAL Zalesovo 67.89 333 P **P** **21 39 50.0 -0.6**
ZAL pmax pmax
comp=Z,10.0nm,0.9s
ZAL Zalesovo 67.89 333 P **P** **21 39 50.0 -0.6**
SEY Seymchan 67.93 11*d* *i*P **P** **21 39 52.3 +1.5**
SEY Seymchan 67.93 11 *i* Pr **P** **21 39 52.3 +1.5**
MIR Mirnyy 68.43 195 ⇓*i*P **P** **21 39 55.0 +1.1**
MIR pmax pmax
comp=Z,150nm,1.6s,mb5.8
KURK Kurchatov 68.97 328 P **P** **21 39 57.7 +0.4**
comp=Z,332nm,1.0s,mb6.2,SNR=34
NVS Novosibirsk 69.17 333 ⇑*i*P **P** **21 39 57.2 -1.4**
NVS pmax pmax
comp=N,65nm,1.6s
NVS pmax pmax
comp=Z,107nm,1.6s,mb5.5
NVS pmax pmax
comp=E,59nm,1.4s
KK31 Karatay Array 70.17 318 *i* P **P** **21 40 03.9 -0.8**
KK31 pmax pmax
comp=Z,30nm,1.1s,mb5.1
KK31 Karatay Array 70.17 318 *i* P **P** **21 40 03.0 -1.7**
KKAR Karatay Array 70.17 318 P **P** **21 40 03.9 -0.8**
KKAR pmax pmax
comp=Z,34nm,1.2s,mb5.2
BIDO Bidbid 74.40 295 ⇑P **P** **21 40 30.9 +0.9**
SNR=12
TIXI Tiksi 74.49 360 *eP* **P** **21 40 28.1 -2.4**
TIXI *e* 21 40 34.8
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.0
TIXI Tiksi 74.49 360 ⇑*i*P **P** **21 40 29.3 -1.2**
BVA0 Borovoye Array 74.54 327 P **P** **21 40 30.2 -0.6**
BVA0 pmax pmax
comp=Z,12nm,1.4s,mb4.6
BVAR Borovoye Array 74.54 327 P **P** **21 40 30.5 -0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=124,slow=8.6,SNR=50
BVAR LR LR 22 14 07.3
comp=Z,239nm,21.8s,MS4.5,baz=305,slow=36
BVAR Borovoye Array 74.54 327 P **P** **21 40 30.5 -0.3**
BVAR pmax pmax
comp=Z,8.0nm,0.8s
BVAR MLR MLR
comp=Z,239nm,21.8s
BRVK Borovoye 74.61 327 P **P** **21 40 31.1 -0.2**
SNR=19
BRVK Borovoye 74.61 327 ⇑*i*P **P** **21 40 31.0 -0.2**
CHKZ Chkalovo 74.72 328 *eP* **P** **21 40 31.3 -0.6**
comp=Z,44nm,1.4s,mb5.2
HOQ Hoqain 75.15 295 ⇑P **P** **21 40 35.4 +1.1**
SNR=9.6
ZRNK Zerenda 75.26 327 *eP* **P** **21 40 34.6 -0.4**
comp=Z,76nm,1.5s,mb5.4
BILL Bilibino 75.29 13 *eP* **P** **21 40 35.9 +0.8**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HATD Hatta, Dubai 76.42 296 ⇑P **P** **21 40 42.4 +0.8**
SNR=6.3
VNDA Vanda 76.45 173 P **P** **21 40 41.8 0.0**
comp=Z,2.9nm,0.5s,mb4.5,baz=313,slow=6.4,SNR=32
VNDA LR LR 22 13 13.3
comp=Z,582nm,19.3s,MS4.9,baz=339,slow=35
VNDA Vanda 76.45 173 P **P** **21 40 41.8 +0.1**
VNDA pmax pmax
comp=Z,3.0nm,0.5s
VNDA MLR MLR
comp=Z,582nm,19.3s
MAW Mawson 78.57 201 *eP* **P** **21 40 53.6 0.0**
comp=Z,5.7nm,0.6s,mb4.7
MAW Mawson 78.57 201 P **P** **21 40 53.6 0.0**
comp=Z,4.5nm,0.6s,mb4.6,baz=82,slow=6.8,SNR=15
MAW LR LR 22 12 05.5
comp=Z,407nm,21.3s,MS4.7,baz=63,slow=33
MAW Mawson 78.57 201 P **P** **21 40 53.6 0.0**
MAW pmax pmax
comp=Z,5.0nm,0.6s
MAW MLR MLR
comp=Z,407nm,21.3s
AB31 Akbulak array 79.21 321 P **P** **21 40 56.6 -0.5**
AB31 pmax pmax
comp=Z,11nm,0.8s,mb4.8
AB31 Akbulak array 79.21 321 *i* P **P** **21 40 56.7 -0.4**
AKTK Aktyubinsk 80.75 322 P **P** **21 41 05.2 -0.2**
AKTO Aktyubinsk 80.75 322 P **P** **21 41 05.2 -0.2**
comp=Z,17nm,1.0s,mb4.9,baz=112,slow=6.7,SNR=30
AKTO Aktyubinsk 80.75 322 P **P** **21 41 05.2 -0.2**
AKTO pmax pmax
comp=Z,17nm,1.0s,mb4.9
SVE Sverdlovsk 81.21 329 *eP* **P** **21 41 10.5 +2.6**
SVE *e* 21 41 16.8
SVE pmax pmax
comp=Z,80nm,1.8s,mb5.3
ARU Arti 82.17 328 P **P** **21 41 12.8 -0.1**
comp=Z,127nm,0.8s,mb5.9,SNR=11
ARU Arti 82.17 328 ⇓*i*P **P** **21 41 12.2 -0.7**
ARU *e* 21 44 20.4
ARU *e*S S 21 51 25.5 -0.3
ARU *e*SS SS 21 56 43.7 -2.1
ARU pmax pmax
comp=Z,23nm,1.0s,mb5.1
ARU Arti 82.17 328 *eP* **P** **21 41 12.1 -0.9**
comp=Z,20nm,0.9s,mb5.0
QRN Al-Qurain 84.24 299 *eP* **P** **21 41 23.4 -0.2**
QRN AMb AMB 21 41 26.1
comp=Z,64nm,1.0s,mb5.7
KBD Kabd 84.49 300 *eP* **P** **21 41 24.8 0.0**
KBD AMb AMB 21 41 27.5
comp=Z,143nm,1.7s,mb5.8
RDF Al-Radifah 84.58 299 *eP* **P** **21 41 24.6 -0.8**
RDF AMb AMB 21 41 33.0
comp=Z,49nm,1.0s,mb5.6

MIB	**Mutribah**	**84.86**	**300**	*e*P		**P**	**21 41 26.6**	**-0.2**	
MIB				AMb		AMB	21 41 30.9		
	comp=Z,58nm,1.1s,mb5.6								
NAY	**Al-Naaiem**	**84.89**	**300**	*e*P		**P**	**21 41 26.8**	**-0.1**	
NAY				AMb		AMB	21 41 27.9		
	comp=Z,28nm,0.9s,mb5.4								
TTA	**Tatalina**	**85.53**	**26**	*e*P		**P**	**21 41 31.1**	**+1.0**	
	comp=Z,114nm,1.8s,mb5.8								
QSPA	**South Pole Qui**	**86.97**	**180**	*e*P		**P**	**21 41 36.2**	**-1.0**	
	comp=Z,12nm,1.1s,mb5.0								
SYO	**Syowa Base**	**87.29**	**201**⇓	*e*P		**P**	**21 41 38.0**	**-0.7**	
SYO	**Syowa Base**	**87.29**	**201**⇓	*e*P		**P**	**21 41 45.6**	**+6.9**	
BHD	**Baghdad**	**87.72**	**303**	*ex*		x	21 41 37.0		
GNI	**Garni**	**88.06**	**310**	P		**P**	**21 41 44.0**	**+1.5**	
	comp=Z,1.5nm,0.3s,mb4.7,baz=122,slow=14,SNR=5.5								
GNI	**Garni**	**88.06**	**310**	P		**P**	**21 41 44.0**	**+1.6**	
GNI				pmax		pmax			
	comp=Z,2.0nm,0.3s								
MCK	**McKinley**	**88.81**	**26**	*e*P		**P**	**21 41 45.5**	**-0.5**	
	comp=Z,7.1nm,1.2s,mb4.9								
ZEI	**Tsey**	**88.93**	**313**	*e*P		**P**	**21 41 46.7**	**+0.1**	
ZEI				*e**PP		pP	21 41 56.4	-0.3	
ZEI				*e*			21 45 16.4		
ZEI				pmax		pmax			
	comp=Z,12nm,0.7s,mb5.3								
MSL	**Mosul**	**89.03**	**306**	*ex*		x	21 41 55.0		
KIV	**Kislovodsk**	**89.91**	**314**	*e*P		**P**	**21 41 54.2**	**+3.1**	
KIV				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb5.0								
DIV	**Divide**	**89.93**	**29**	*e*P		**P**	**21 41 53.4**	**+2.2**	
KMBO	**Kilima Mbogo**	**92.41**	**269**	P		**P**	**21 42 05.3**	**+2.6**	
	comp=Z,2.3nm,0.7s,mb4.6,baz=51,slow=6.7,SNR=7.2								
KMBO				LR		LR	22 19 50.4		
	comp=Z,473nm,20.9s,MS4.9,baz=97,slow=33								
KMBO	**Kilima Mbogo**	**92.41**	**269**	P		**P**	**21 42 05.3**	**+2.6**	
KMBO				pmax		pmax			
	comp=Z,2.0nm,0.7s								
KMBO				MLR		MLR			
	comp=Z,473nm,20.9s								
KMBO	**Kilima Mbogo**	**92.41**	**269**	P		**P**	**21 42 05.3**	**+2.6**	
KMBO				LR		LR	22 19 50.4		
DAWY	**Dawson**	**93.05**	**26**	*e*P		**P**	**21 42 06.2**	**+0.5**	
ANN	**Anapa**	**93.71**	**315**	*e*P		**P**	**21 42 04.5**	**-4.2**	
ANN				pmax		pmax			
	comp=Z,125nm,5.9s								
OBN	**Obninsk**	**94.23**	**325***c*	*i*P		**P**	**21 42 10.5**	**-0.6**	
OBN				*e*		pP	21 42 19.7	-1.6	
OBN				pmax		pmax			
	comp=Z,38nm,1.6s,mb5.6								
OBN	**Obninsk**	**94.23**	**325**⇑	*i*P		**P**	**21 42 10.6**	**-0.5**	
INK	**Inuvik**	**95.25**	**22**	LR		LR	22 21 40.4		
	comp=Z,186nm,20.1s,MS4.5,baz=87,slow=33								
BR131	**Keskin Array S**	**96.57**	**309**	P		**P**	**21 42 24.1**	**+2.3**	
BRTR	**Keskin Array B**	**96.57**	**309**	P		**P**	**21 42 21.5**	**-0.3**	
	comp=Z,0.8nm,0.8s,mb4.2,baz=134,slow=8.9,SNR=4.4								
BRTR				LR		LR	22 33 22.5		
	comp=Z,121nm,21.4s,MS4.3,baz=343,slow=40								
BRTR	**Keskin Array B**	**96.57**	**309**	P		**P**	**21 42 21.5**	**-0.3**	
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRTR				MLR		MLR			
	comp=Z,121nm,21.4s								
ARCES	**ARCESS Array B**	**97.73**	**340**	P		**P**	**21 42 26.5**	**-0.6**	
	comp=Z,3.5nm,0.7s,mb5.0,baz=70,slow=7.0,SNR=7.3								
ARCES				LR		LR	22 32 54.0		
	comp=Z,189nm,18.6s,MS4.6,baz=88,slow=39								
ARCES	**ARCESS Array B**	**97.73**	**340**	P		**P**	**21 42 26.5**	**-0.6**	
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
ARCES				MLR		MLR			
	comp=Z,189nm,18.6s								
AKASG	**Malin Array Be**	**98.95**	**321**	LR		LR	22 35 47.0		
	comp=Z,86nm,19.4s,MS4.3,baz=100,slow=41								
BBB	**Bella Bella**	**99.80**	**38**	LR		LR	22 23 39.1		
	comp=Z,119nm,18.3s,MS4.4,baz=80,slow=33								
BOSA	**Boshof**	**101.23**	**240**	P		Pdif	21 42 43.1	+0.5	
	comp=Z,3.2nm,0.8s,baz=128,slow=3.8,SNR=6.4								
BOSA	**Boshof**	**101.23**	**240**	P		Pdif	21 42 43.2	+0.5	
BOSA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
NOA	**NORSAR Array B**	**106.09**	**334**	Pdiff		Pdif	21 43 03.1	-1.1	
	comp=Z,0.9nm,0.8s,baz=64,slow=7.8,SNR=3.3								
NOA	**NORSAR Array B**	**106.09**	**334**	P		Pdif	21 43 03.1	-1.1	
NOA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
PDAR	**Pinedale Array**	**114.24**	**44**	PKKPbc		PKKPbc	21 58 12.4	+1.1	
	comp=Z,0.6nm,0.7s,baz=110,slow=5.7,SNR=5.5								
TORD	**Torodi Ar. Bea**	**127.66**	**284**	PKP		PKPdf	21 47 58.8	+1.6	
	comp=Z,2.3nm,0.9s,baz=81,slow=1.7,SNR=11								
TORD				PP		PP	21 50 01.9	+3.3	
	comp=Z,0.5nm,0.9s,baz=94,slow=1.2,SNR=3.8								
PLCA	**Paso Flores**	**132.72**	**159**	PKP		PKPdf	21 48 07.7	+0.8	
	comp=Z,3.5nm,0.8s,baz=221,slow=8.5,SNR=6.4								
PLCA	**Paso Flores**	**132.72**	**159**	PKIKP		PKPdf	21 48 07.7	+0.9	
PLCA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
CPUP	**Villa Florida**	**150.08**	**167**	PKP		PKPdf	21 48 40.3	+2.7	
	comp=Z,14nm,0.7s,baz=104,slow=0.7,SNR=5.0								
CPUP				PKPbc		PKPbc	21 48 44.6	+2.0	
	comp=Z,11nm,0.6s,baz=196,slow=1.1,SNR=39								
CPUP	**Villa Florida**	**150.08**	**167**	PKIKP		PKPdf	21 48 40.3	+2.7	
CPUP							21 48 44.7		
CPUP				pmax		pmax			
	comp=Z,14nm,0.7s								
CPUP				pmax		pmax			
	comp=Z,11nm,0.6s								
CPUP	**Villa Florida**	**150.08**	**167**	PKPdf		PKPdf	21 48 39.4	+1.8	
CPUP				PKP		PKPdf	21 48 40.3	+2.7	
CPUP				*e*PKPbc		PKPbc	21 48 44.6	+2.0	
LPAZ	**La Paz**	**153.96**	**138**	PKP		PKPdf	21 48 47.4	+3.9	
	comp=Z,2.0nm,1.1s,baz=46,slow=1.3,SNR=6.2								
LPAZ				PKPbc		PKPbc	21 48 53.5	+2.0	
	comp=Z,3.2nm,0.8s,baz=253,slow=2.2,SNR=9.8								
LPAZ	**La Paz**	**153.96**	**138**	PKIKP		PKPdf	21 48 47.4	+4.0	
LPAZ							21 48 53.5		
LPAZ				pmax		pmax			
	comp=Z,2.0nm,1.1s								
LPAZ				pmax		pmax			
	comp=Z,3.0nm,0.9s								
LPAZ	**La Paz**	**153.96**	**138**	PKP		PKPdf	21 48 47.4	+3.9	
LPAZ				PKPbc		PKPbc	21 48 53.5	+2.0	
SDV	**Santo Domingo**	**158.93**	**73**	*e*PKPdf		PKPdf	21 48 51.7	+1.8	

IDC ***21*** *22:09:48.6≚3.2,291N×12799E,h116km±28km,mb4.1/15, mb1 4.2/15,mb1mx4.1/20,mbtmp4.5/15,Error ellipse: s-maj=29.0km s-min=9.2km az=71.0*
ISCJB ***21*** *22:09:51.4≚1.1,289N±006×12821E±009,h159km±10km, mb4.5/42,Error ellipse: s-maj=16.1km s-min=7.0km az=133.3*
BJI ***21*** *22:10:01.8,295N×12827E,h257km,mB4.7,mb4.4*
NEIC ***21*** *22:10:03.6≚2.6,301N×12886E,h275km±27km,mb4.2/15, Error ellipse: s-maj=17.5km s-min=6.9km az=67.0*
ISC 21 22:09:52.4≚1.1,286N±005×12818E±010,h150km±10km, n68,σ1ß10/64,mb4.5/41,1C,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.49**	**335**	*e*P	**Pn**	**22 10 59.4**	**+0.3**
BUKP	**Musuan**	**5.87**	**328**	*e*P	**Pn**	**22 11 17.4**	**0.0**
PAGZ	**Pagadian**	**6.88**	**316**	*e*P	**Pn**	**22 11 29.4**	**-1.4**
IPIL	**Ipil**	**7.43**	**311**	*e*P	**Sn**	**22 12 54.9**	**-6.2**
KSM	**Kuching**	**17.91**	**266**	P	**Pn**	**22 13 52.0**	**-0.1**
FITZ	**Fitzroy Crossi** 4.6nm,0.6s	**20.98**	**187**	*e*P	**P**	**22 14 22.5**	**-1.2**
FITZ	**Fitzroy Crossi** 1.2nm,0.4s,baz=29,slow=9.3,SNR=11	**20.98**	**187**	P	**P**	**22 14 22.1**	**-1.6**
NACB	**Ninganchiao**	**22.13**	**344**	P	**P**	**22 14 37.5**	**+1.7**
PMG	**Port Moresby**	**22.50**	**123**	*e*P	**P**	**22 14 35.2**	**-4.2**
YHNB	**Yeheng**	**22.66**	**344**	P	**P**	**22 14 42.0**	**+1.1**
WRAB	**Tennant Creek** 24nm,0.6s,mb4.8	**23.45**	**165**	*e*P	**P**	**22 14 48.3**	**+0.2**
WRA	**Warramunga Arr** 15nm,0.6s,mb4.6,baz=344,slow=10,SNR=45	**23.45**	**165**	P	**P**	**22 14 48.4**	**+0.3**
WRA	0.4nm,0.4s,baz=354,slow=2.1,SNR=3.4			PcP	PcP	22 18 30.6	+0.9
WRA	5.4nm,1.1s,baz=343,slow=18,SNR=7.2			S	**S**	**22 18 54.9**	**+4.6**
WB2	**Warramunga Arr**	**23.45**	**165**	*e*P	**P**	**22 14 48.5**	**+0.3**
QIZ	**Qiongzhong** 49nm,1.5s,mb4.8	**24.09**	**313**	*e*P	**P**	**22 14 59.9**	**+6.0**
MBWA	**Marble Bar** 2.3nm,0.4s,mb4.1	**25.26**	**199**	*e*P	**P**	**22 15 04.4**	**-0.2**
ASAR	**Alice Springs**	**26.95**	**168**	P	**P**	**22 15 19.9**	**+0.2**
	0.8nm,0.5s,mb3.6,baz=352,slow=7.7,SNR=3.0						
ASAR				PcP	PcP	22 18 38.1	+0.5
	2.8nm,0.4s,baz=350,slow=2.1,SNR=17						
CTAO	**Charters Tower**	**28.89**	**143**	P	**P**	**22 15 35.2**	**-1.8**
NJ2	**Nanjing**	**30.34**	**344**	*e*P	**P**	**22 15 49.9**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ENH	**Enshi**	**32.51**	**329**	*e*P	**P**	**22 16 13.2**	**+4.4**
HNR	**Haniara**	**33.93**	**111**	*e*P	**P**	**22 16 16.3**	**-4.8**
	comp=Z,23nm,0.4s,mb5.2						
MJAR	**Matsushiro Arr**	**34.77**	**14**	P	**P**	**22 16 26.1**	**-2.2**
	comp=Z,1.7nm,0.5s,mb3.9,baz=186,slow=9.5,SNR=5.4						
XAN	**Xi'an**	**35.85**	**332**	P	**P**	**22 16 37.4**	**-0.2**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**36.82**	**161**	*e*P	**P**	**22 16 46.2**	**+0.4**
	comp=Z,7.4nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**36.82**	**161**	P	**P**	**22 16 46.4**	**+0.6**
	comp=Z,11nm,0.5s,mb4.8,baz=336,slow=8.6,SNR=27						
STKA	**Stephens Creek**	**36.82**	**161**	*e*P	**P**	**22 16 46.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**37.07**	**195**	P	**P**	**22 16 52.9**	**+5.0**
BJI	**Beijing**	**38.58**	**345**	P	**P**	**22 17 00.3**	**-0.3**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
LZH	**Lanzhou**	**39.99**	**329**	*e*P	**P**	**22 17 14.0**	**+1.7**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.6						
HHC	**Hu-ho-hao-te**	**40.69**	**341**	*e*P	**P**	**22 17 21.5**	**+3.5**
HHC				PP	PP	22 19 04.8	+10
HHC				PCP	PcP	22 19 16.5	-0.2
HHC				SCP	ScP	22 22 34.3	-18
HHC				PCS	PcS	22 23 06.5	-1.1
HHC				S	**S**	**22 23 08.6**	**-8.2**
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,88nm,4.2s						
HHC				LR	LR		
	comp=N,62nm,5.1s						
HHC				LR	LR		
	comp=E,124nm,4.3s						
HHC				LR	LR		
	comp=Z,147nm,6.3s						
LSA	**Lhasa**	**44.10**	**311**	*e*P	**P**	**22 17 47.4**	**+1.9**
	comp=Z,4.4nm,0.6s,mb4.3						
GTA	**Gaotai**	**44.59**	**328**	*e*P	**P**	**22 17 50.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.3						
DZM	**Mont Dzumac**	**44.85**	**125**	P	**P**	**22 17 53.9**	**+2.3**
	comp=Z,3.1nm,0.6s,mb4.1,baz=341,slow=18,SNR=2.9						
JIRN	**Jiri**	**47.05**	**306**	*e*P	**P**	**22 18 09.9**	**+1.1**
	comp=Z,7.7nm,0.2s,mb5.0						
GUN	**Gumba**	**47.40**	**306**	*e*P	**P**	**22 18 12.4**	**+0.9**
	comp=Z,40nm,0.5s,mb5.3						
PKI	**Pulchoki**	**47.65**	**305**	*e*P	**P**	**22 18 13.9**	**+0.5**
	comp=Z,8.6nm,0.4s,mb4.8						
KKN	**Kakani**	**47.84**	**306**	*e*P	**P**	**22 18 15.2**	**+0.3**
	comp=Z,31nm,0.7s,mb5.0						
DMN	**Daman**	**47.91**	**305**	*e*P	**P**	**22 18 16.0**	**+0.6**
	comp=Z,17nm,0.7s,mb4.8						
GKN	**Gorkha**	**48.45**	**306**	*e*P	**P**	**22 18 19.0**	**-0.5**
	comp=Z,11nm,0.6s,mb4.7						
SONM	**Songino Array**	**48.59**	**341**	P	**P**	**22 18 20.5**	**-0.1**
	comp=Z,2.0nm,0.7s,mb3.9,baz=152,slow=8.1,SNR=12						
SONM				PcP	PcP	22 19 44.0	+0.1
	comp=Z,2.0nm,0.7s,baz=156,slow=4.3,SNR=7.3						
KOLN	**Koldanda**	**49.21**	**305**	*e*P	**P**	**22 18 26.2**	**+0.9**
	comp=Z,34nm,0.4s,mb5.3						
WMQ	**Urumqi**	**54.27**	**325**⇑	*i*P	**P**	**22 19 03.8**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,254nm,4.5s						
MKAR	**Makanchi Array**	**59.09**	**325**	P	**P**	**22 19 36.9**	**0.0**
	comp=Z,7.3nm,0.5s,mb4.8,baz=110,slow=7.8,SNR=101						
URZ	**Urewera**	**60.92**	**137**	P	**P**	**22 19 51.0**	**+1.6**
	comp=Z,5.8nm,0.7s,mb4.5,baz=5.7,slow=10,SNR=3.1						
AAK	**Ala-Archa**	**61.97**	**318**	*e*P	**P**	**22 19 55.7**	**-0.7**
	comp=Z,1.3nm,0.3s,mb4.2						
ZAL	**Zalesovo**	**62.02**	**333**	P	**P**	**22 19 55.3**	**-1.4**
	comp=Z,2.1nm,0.3s,mb4.4,baz=348,slow=6.3,SNR=6.7						
BVAR	**Borovoye Array**	**68.84**	**327**	P	**P**	**22 20 39.7**	**-0.8**
	comp=Z,2.2nm,0.4s,mb4.2,baz=126,slow=7.5,SNR=14						
BRVK	**Borovoye**	**68.91**	**327**	*e*P	**P**	**22 20 39.9**	**-1.1**
	comp=Z,1.4nm,0.3s,mb4.2						
CHKZ	**Chkalovo**	**68.99**	**327**	*e*P	**P**	**22 20 40.4**	**-1.0**
	comp=Z,1.5nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**69.57**	**326**	*e*P	**P**	**22 20 44.1**	**-0.8**
	comp=Z,5.4nm,0.5s,mb4.5						
ZRNK				*e*		22 21 28.5	
CASY	**Casey**	**70.14**	**187**	*e*P	**P**	**22 20 49.2**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.0						
ARU	**Arti**	**76.44**	**328**	*e*P	**P**	**22 21 23.9**	**-1.6**
TTA	**Tatalina**	**81.02**	**27**	*e*P	**P**	**22 21 45.5**	**-5.0**
TTA				*e*PcP	PcP	22 21 51.4	-5.0
KDAK	**Kodiak Island**	**81.85**	**32**	P	**P**	**22 21 55.1**	**+0.4**
	comp=Z,9.4nm,0.7s,mb4.5,baz=75,slow=10,SNR=5.2						
VNDA	**Vanda**	**82.39**	**173**	P	**P**	**22 21 57.5**	**-0.1**
	comp=Z,1.3nm,0.4s,mb3.9,baz=307,slow=8.3,SNR=17						
VNDA	**Vanda**	**82.39**	**173**	*e*P	**P**	**22 21 53.1**	**-4.5**
	comp=Z,1.4nm,0.6s,mb3.8						
IMA2	**Indian Mountai**	**82.59**	**24**	*e*P	**P**	**22 21 59.8**	**+1.2**
SBA	**Scott Base**	**83.28**	**172**	*e*P	**P**	**22 21 54.1**	**-8.0**
	comp=Z,6.0nm,0.9s,mb4.3						
MAW	**Mawson**	**83.44**	**201**	*e*P	**P**	**22 22 02.5**	**-0.5**
	comp=Z,10nm,1.6s,mb4.3						
MCK	**McKinley**	**84.30**	**26**	*e*P	**P**	**22 22 03.2**	**-4.1**
	comp=Z,1.5nm,0.6s,mb3.9						
MALT	**Malatya**	**86.05**	**308**	*e*P	**P**	**22 22 25.1**	**-0.6**
ARCES	**ARCESS Array B**	**91.76**	**340**	P	**P**	**22 22 40.5**	**-2.4**
	comp=Z,4.3nm,0.9s,mb4.5,baz=64,slow=8.2,SNR=9.1						
FINES	**FINESS Array B**	**93.28**	**332**	P	**P**	**22 22 48.1**	**-1.9**
	comp=Z,1.8nm,1.0s,mb4.2,baz=45,slow=3.2,SNR=5.4						
ARUT	**Antelope Range**	**110.24**	**48**	*e*Pdif	Pdif	22 24 01.1	-4.8
PV10	**Paradox Valley**	**113.23**	**46**	*e*Pdif	Pdif	22 24 16.9	-2.3
PV01	**Paradox Valley**	**113.67**	**46**	*e*Pdif	Pdif	22 24 17.6	-3.5
SCHQ	**Schefferville**	**121.18**	**10**	PKP	PKPdf	22 28 27.1	-0.2
	comp=Z,2.7nm,0.7s,baz=292,slow=5.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**124.56**	**288**	PKP	PKPdf	22 28 34.6	+0.8
	comp=Z,1.5nm,0.6s,baz=59,slow=1.7,SNR=33						
TKL	**Tuckaleechee C**	**131.41**	**35**	PKP	PKPdf	22 28 48.5	+1.6
	comp=Z,1.5nm,0.6s,baz=148,slow=18,SNR=5.0						

SZGRF ***21*** *22:11:36.8,1838S×178.18W,h33km,Fiji Islands region*
BJI ***21*** *22:12:31.7,1782S×177.85W,h535km,mB4.6,mb4.7*
ISCJB ***21*** *22:12:32.5≚0.7,1787S±006×178.48W±005,h522km±9km, mb4.4/64,Error ellipse: s-maj=9.5km s-min=5.6km az=116.8*
MOS ***21*** *22:12:33.0≚1.0,1782S×178.49W,h524km,mb4.5/21, Error ellipse: s-maj=10.8km s-min=9.7km az=153.3*
IDC ***21*** *22:12:33.6≚1.0,1787S×178.45W,h525km±11km,mb4.0/19, mb1 4.0/22,mb1mx4.0/25,mbtmp4.8/22,Error ellipse: s-maj=11.3km s-min=8.3km az=148.0*
NEIC ***21*** *22:12:33.1≚0.6,1785S×178.44W,h519km±7km,mb4.5/41, Error ellipse: s-maj=7.5km s-min=4.6km az=149.0*
ISC 21 22:12:33.6≚0.7,1788S±006×17841W±005,h523km±8km, n252,σ0ß75/154,mb4.4/64,16C-15D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.50**	**59**	P	**P**	**22 14 24.9**	**-0.5**
	9.1nm,0.3s,baz=57,slow=19,SNR=11						
AFI				S	**S**	**22 15 56.8**	**-0.4**
	7.6nm,0.3s,baz=284,slow=23,SNR=4.8						
AFI	**Afiamalu**	**7.50**	**59**	P	**P**	**22 14 24.9**	**-0.6**
AFI				S	**S**	**22 15 56.8**	**-0.5**
AFI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
AFI				smax			
	comp=N,8.0nm,0.3s						
AFI	**Afiamalu**	**7.50**	**59**	*e*P	**P**	**22 14 24.6**	**-0.9**
	comp=N,80nm,0.8s						
AFI				*e*S	**S**	**22 15 53.3**	**-4.0**
RAO	**Raoul Island**	**11.33**	**178**	P	**P**	**22 15 04.7**	**-0.3**
DZM	**Mont Dzumac**	**14.83**	**251**	P	**P**	**22 15 42.0**	**+0.4**
	comp=N,2.0nm,0.3s,baz=86,slow=18,SNR=14						
RAR	**Rarotonga**	**17.88**	**104**	P	**P**	**22 16 12.5**	**+0.9**
	comp=N,2.8nm,0.3s,baz=242,slow=6.6,SNR=3.6						
RAR	**Rarotonga**	**17.88**	**104**	P	**P**	**22 16 12.5**	**+1.0**
RAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
URZ	**Urewera**	**20.68**	**190**	P	**P**	**22 16 36.2**	**-0.9**
	comp=Z,15nm,0.5s,baz=335,slow=3.6,SNR=18						
HNR	**Honiara**	**22.62**	**289**	*e*P	**P**	**22 16 55.8**	**+1.2**
SNZO	**South Karori**	**24.09**	**193**	*e*P	**P**	**22 17 07.2**	**-0.4**
RPZ	**Rata Peaks**	**27.25**	**197**	P	**P**	**22 17 35.5**	**0.0**
	comp=Z,4.6nm,0.4s,mb4.5,baz=344,slow=7.4,SNR=5.3						
ARMA	**Armidale**	**29.95**	**240**⇓	*i*P	**P**	**22 18 00.4**	**+1.4**
CNB	**Canberra Magne**	**33.44**	**232**	*e*P	**P**	**22 18 30.0**	**+1.2**
	comp=Z,10nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.45**	**260**⇓	*i*P	**P**	**22 18 28.9**	**0.0**
	comp=Z,14nm,0.8s,mb4.6						
CTA	**Charters Tower**	**33.45**	**260**	P	**P**	**22 18 28.9**	**0.0**
	comp=Z,18nm,0.6s,mb4.8,baz=80,slow=11,SNR=18						
CTA	**Charters Tower**	**33.45**	**260**	P	**P**	**22 18 28.9**	**0.0**
CTA				pmax	pmax		
	comp=Z,18nm,0.6s						
CTAO	**Charters Tower**	**33.45**	**260**	*e*P	**P**	**22 18 28.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
CTAO	**Charters Tower**	**33.45**	**260**	*e*P	**P**	**22 18 28.8**	**-0.1**
	comp=Z,16nm,0.8s,mb4.6						
PMG	**Port Moresby**	**34.45**	**280**	P	**P**	**22 18 38.1**	**+0.8**
	comp=Z,41nm,0.8s,mb5.1,baz=88,slow=6.4,SNR=8.3						
PMG	**Port Moresby**	**34.45**	**280**	P	**P**	**22 18 38.1**	**+0.8**
PMG				pmax	pmax		
	comp=Z,41nm,0.8s						
PMG	**Port Moresby**	**34.45**	**280**	*e*P	**P**	**22 18 38.1**	**+0.7**
	comp=Z,33nm,0.7s,mb5.0						
TOO	**Toolangi**	**37.19**	**231**⇓	*i*P	**P**	**22 19 00.8**	**+0.8**
	comp=Z,19nm,1.1s,mb4.5						
TOO	**Toolangi**	**37.19**	**231**⇓	*i*P	**P**	**22 19 00.8**	**+0.8**
TOO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**38.64**	**241**⇓	*i*P	**P**	**22 19 12.7**	**+0.9**
	comp=Z,14nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**22 19 12.9**	**+1.1**
	comp=Z,12nm,0.4s,mb4.8,baz=80,slow=8.4,SNR=28						
WB2	**Warramunga Arr**	**44.62**	**260**⇓	*i*P	**P**	**22 19 58.2**	**-0.9**
WRAB	**Tennant Creek**	**44.62**	**260***c*	*i*P	**P**	**22 19 58.8**	**-0.4**
WRAB	**Tennant Creek**	**44.62**	**260**	*e*P	**P**	**22 19 58.2**	**-1.0**
	comp=Z,12nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**22 19 58.3**	**-0.9**
	comp=Z,12nm,0.5s,mb4.7,baz=92,slow=7.2,SNR=97						
WRA	**Warramunga Arr**	**44.63**	**260**	P	**P**	**22 19 58.3**	**-0.9**
WRA				pmax	pmax		
	comp=Z,12nm,0.5s						
AS31	**Alice Springs**	**44.80**	**254**	*e*P	**P**	**22 20 00.5**	**0.0**
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**22 20 00.6**	**+0.1**
	comp=Z,126nm,0.6s,baz=89,slow=8.2,SNR=855						
ASAR				S	**S**	**22 25 56.5**	**-2.8**
	comp=Z,2.8nm,0.9s,baz=90,slow=16,SNR=11						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**22 20 00.6**	**+0.1**
ASAR				S	**S**	**22 25 56.6**	**-2.7**
ASAR				pmax	pmax		
	comp=Z,126nm,0.6s						
ASAR				smax			
	comp=N,3.0nm,0.9s						
ASPA	**Alice Springs**	**44.80**	**254**	*e*P	**P**	**22 20 00.5**	**0.0**
MIDW	**Midway**	**45.83**	**1**	P	**P**	**22 20 09.0**	**+0.6**
KAKA	**Kakadu**	**47.58**	**269**	*e*P	**P**	**22 20 21.0**	**-0.6**
	comp=N,17nm,0.3s,mb5.0						
GUMO	**Guam**	**47.86**	**308**	P	**P**	**22 20 24.1**	**+0.4**
	comp=N,201nm,0.7s,baz=166,slow=9.9,SNR=14						
GUMO	**Guam**	**47.86**	**308**	P	**P**	**22 20 24.1**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,201nm,0.7s						
FORT	**Forrest**	**50.02**	**245**	*e*P	**P**	**22 20 39.2**	**-0.5**
	comp=Z,52nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	*e*P	**P**	**22 21 01.0**	**-0.5**
	comp=Z,8.5nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.03**	**261**	P	**P**	**22 21 01.5**	**0.0**

PGC					*e*PcP	PcP		22 24 03.6	-0.3
EYAK	**Cordova Ski Ar**	**82.48**	**16**		P	**P**		**22 24 00.7**	**-0.4**
PMR	**Palmer**	**82.58**	**14**		P	**P**		**22 24 00.8**	**-0.8**
SIT	**Sitka**	**82.85**	**22**		P	**P**		**22 24 03.7**	**+0.7**
DIV	**Divide**	**82.97**	**15**		*e*P	**P**		**22 24 03.7**	**+0.1**
	comp=Z,7.8nm,0.5s,mb4.5								
HAWA	**Hanford**	**83.08**	**37**		*e*P	**P**		**22 24 04.2**	**0.0**
	comp=Z,0.4nm,0.8s								
HAWA					*e*PcP	PcP		22 24 06.9	-0.5
MSU	**Marysvale**	**83.58**	**46**		*e*P	**P**		**22 24 08.4**	**+1.8**
SEY	**Seymchan**	**83.75**	**347**	*c*	*i*P	**P**		**22 24 06.0**	**-1.5**
BJT	**Baijiatuau**	**83.76**	**315**		*e*P	**P**		**22 24 06.9**	**-0.6**
BJT					pmax	pmax			
	comp=Z,6.0nm,0.5s								
BJT	**Baijiatuau**	**83.76**	**315**		*e*P	**P**		**22 24 06.8**	**-0.7**
	comp=Z,5.9nm,0.5s,mb4.4								
BJI	**Beijing**	**83.76**	**315**		P	**P**		**22 24 06.8**	**-0.7**
BJI					AMB	AMB			
	comp=Z,16nm,0.9s,mb4.5								
PSI	**Prapat**	**83.88**	**275**		P	**P**		**22 24 07.8**	**-0.3**
	comp=Z,9.7nm,0.8s,mb4.4,baz=78,slow=1.4,SNR=8.5								
PSI	**Prapat**	**83.88**	**275**		P	**P**		**22 24 07.9**	**-0.2**
PSI					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.4								
MAW	**Mawson**	**83.89**	**200**		*e*P	**P**		**22 24 08.0**	**-0.1**
	comp=Z,1.2nm,0.4s,mb3.8								
MAW	**Mawson**	**83.89**	**200**		P	**P**		**22 24 07.9**	**-0.3**
	comp=Z,0.8nm,0.4s,mb3.6,baz=139,slow=3.0,SNR=5.0								
MAW	**Mawson**	**83.89**	**200**		*e*P	**P**		**22 24 08.1**	**-0.1**
MAW					pmax	pmax			
	comp=Z,2.0nm,0.4s								
MAW	**Mawson**	**83.89**	**200**		*e*P	**P**		**22 24 08.1**	**0.0**
	comp=Z,1.5nm,0.4s,mb3.9								
HLID	**Hailey**	**84.61**	**41**		*e*P	**P**		**22 24 11.9**	**+0.2**
	comp=Z,9.3nm,0.6s,mb4.5								
SRU	**San Rafael**	**85.00**	**46**		*e*P	**P**		**22 24 13.8**	**+0.2**
GYA	**Guiyang**	**85.02**	**300**	⇑	*i*P	**P**		**22 24 14.6**	**+0.9**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.5								
HWUT	**Hardware Ranch**	**85.47**	**44**		*e*P	**P**		**22 24 15.9**	**0.0**
NEW	**Newport**	**85.49**	**36**		*e*P	**P**		**22 24 14.9**	**-1.1**
MNTX	**Cornudas Mount**	**85.56**	**55**		*e*P	**P**		**22 24 17.1**	**+0.7**
	comp=Z,2.8nm,0.6s,mb4.1								
ANMO	**Albuquerque**	**86.08**	**52**		P	**P**		**22 24 18.8**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.1,baz=219,slow=5.8,SNR=6.5								
ANMO	**Albuquerque**	**86.08**	**52**		P	**P**		**22 24 18.8**	**0.0**
ANMO					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ANMO	**Albuquerque**	**86.08**	**52**		P	**P**		**22 24 18.8**	**0.0**
MCMT	**McKenzie Canyo**	**86.22**	**40**		*e*P	**P**		**22 24 19.8**	**+0.3**
XAN	**Xi'an**	**86.24**	**307**		P	**P**		**22 24 19.8**	**+0.2**
XAN					AMB	AMB			
	comp=Z,27nm,1.0s,mb4.8								
AHID	**Auburn Hatcher**	**86.33**	**43**		*e*P	**P**		**22 24 20.3**	**+0.3**
BILL	**Bilibino**	**86.40**	**354**	⇑	*e*P	**P**		**22 24 18.4**	**-1.9**
BILL					*e*			22 27 45.0	
BILL					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.2								
RRI2	**Red Ridge**	**86.46**	**42**		*e*P	**P**		**22 24 21.1**	**+0.5**
	comp=Z,18nm,0.8s,mb4.7								
DLMT	**Dillon**	**86.64**	**40**		*e*P	**P**		**22 24 21.5**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.5								
TPAW	**Teton Pass**	**86.77**	**42**		*e*P	**P**		**22 24 22.2**	**+0.2**
	comp=Z,5.3nm,0.7s,mb4.3								
SNOW	**Snow King Moun**	**86.88**	**42**		*e*P	**P**		**22 24 22.7**	**+0.1**
LRM	**Limekiln Ridge**	**86.95**	**40**		P	**P**		**22 24 23.1**	**+0.1**
IMW	**Indian Meadow**	**86.97**	**42**		*e*P	**P**		**22 24 22.8**	**-0.2**
	comp=Z,14nm,0.9s,mb4.6								
CHMT	**Chamberlain Mo**	**87.01**	**39**		*e*P	**P**		**22 24 23.0**	**-0.2**
DAWY	**Dawson**	**87.06**	**16**		P	**P**		**22 24 23.4**	**-0.1**
HHC	**Hu-ho-hao-te**	**87.25**	**314**		*e*P	**P**		**22 24 26.0**	**+1.7**
HHC					AP	pP		22 26 19.3	+0.1
HHC					GRF	sP		22 27 09.8	-2.5
HHC					PP	PP		22 28 01.6	+3.8
HHC					SKS			22 34 04.4	
HHC					S	S		22 34 22.6	+2.3
HHC					SS	SS		22 40 26.1	+6.3
HHC					AMB	AMB			
	comp=Z,9.0nm,0.3s,mb4.9								
HHC					AMB	AMB			
	comp=Z,78nm,5.9s								
BW06	**Boulder Array**	**87.33**	**43**		*e*P	**P**		**22 24 24.5**	**-0.2**
	comp=Z,3.6nm,0.5s,mb4.3								
PDAR	**Pinedale Array**	**87.33**	**43**		P	**P**		**22 24 24.7**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.2,baz=222,slow=3.0,SNR=32								
PDAR					PP	PP		22 27 55.4	-3.1
	comp=Z,0.6nm,0.9s,baz=234,slow=7.1,SNR=4.2								
SMCO	**Snowmass**	**87.50**	**48**		*e*P	**P**		**22 24 25.9**	**+0.5**
	comp=Z,5.1nm,1.0s,mb4.1								
WALA	**Waterton Lakes**	**87.72**	**36**		*e*P	**P**		**22 24 26.3**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.2								
KMI	**Kunming**	**87.82**	**297**		P	**P**		**22 24 28.5**	**+1.5**
KMI					AMB	AMB			
	comp=Z,12nm,0.9s,mb4.6								
SDCO	**Great Sand Dun**	**87.95**	**49**		*e*P	**P**		**22 24 28.1**	**+0.6**
	comp=Z,1.4nm,0.3s,mb4.2								
GCMT	**Greycliff**	**88.65**	**41**		P	**P**		**22 24 30.1**	**-0.8**
ISCO	**Idaho Springs**	**88.72**	**47**		*e*P	**P**		**22 24 31.7**	**+0.5**
ISCO					pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.8								
ISCO	**Idaho Springs**	**88.72**	**47**		*e*P	**P**		**22 24 31.7**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.9								
CHTO	**Chiang Mai**	**88.99**	**290**		*e*P	**P**		**22 24 33.0**	**+0.6**
CHTO					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.3								
CHTO	**Chiang Mai**	**88.99**	**290**		*e*P	**P**		**22 24 33.0**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.3								
CD2	**Chengdu**	**89.05**	**303**		*e*P	**P**		**22 24 34.0**	**+1.3**
CMIG	**Matias Romero**	**89.22**	**72**		P	**P**		**22 24 34.1**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.4,baz=271,slow=5.2,SNR=8.5								
YAK	**Yakutsk**	**89.55**	**338**		*e*P	**P**		**22 24 34.7**	**-0.3**
EDM	**Edmonton**	**90.14**	**33**		P	**P**		**22 24 35.9**	**-1.9**
SNAA	**Sanae**	**90.63**	**179**		*e*P	**P**		**22 24 38.8**	**-1.2**
SNAA	**Sanae**	**90.63**	**179**		*e*P	**P**		**22 24 38.9**	**-1.1**
SNAA					pmax	pmax			
	comp=Z,2.0nm,0.5s								
SNAA	**Sanae**	**90.63**	**179**		*e*P	**P**		**22 24 38.9**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.3								
VNA3	**Neumayer Olymp**	**90.77**	**176**		*e*P	**P**		**22 24 40.2**	**-0.5**
LZH	**Lanzhou**	**90.87**	**308**		*e*P	**P**		**22 24 41.5**	**+0.3**
LZH					AMB	AMB			
	comp=Z,25nm,1.1s,mb5.1								
RSSD	**Black Hills**	**91.55**	**44**		*e*P	**P**		**22 24 44.0**	**-0.3**
RSSD					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
RSSD	**Black Hills**	**91.55**	**44**		*e*P	**P**		**22 24 44.0**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.5								
INK	**Inuvik**	**91.86**	**15**		*e*P	**P**		**22 24 44.1**	**-1.6**
ULN	**Ulaanbaatar**	**93.13**	**319**	*c*	*i*P	**P**		**22 24 51.2**	**-0.3**
SONM	**Songino Array**	**93.53**	**319**		P	**P**		**22 24 52.7**	**-0.6**
	comp=Z,1.3nm,0.7s,mb4.2,baz=138,slow=5.5,SNR=8.4								
SONM					PP	PP		22 28 40.1	-6.7
	comp=Z,0.2nm,0.5s,baz=132,slow=4.2,SNR=3.7								
GTA	**Gaotai**	**95.01**	**310**		*e*P	**P**		**22 25 00.0**	**-0.1**
GTA					AMB	AMB			
	comp=Z,4.0nm,0.9s,mb4.5								
TIXI	**Tiksi**	**96.13**	**345**		*e*P	**P**		**22 25 01.8**	**-3.3**
TIXI					pmax	pmax			
	comp=Z,11nm,1.7s,mb4.8								
MKAR	**Makanchi Array**	**109.11**	**314**		PKiKP	PKiKP		22 30 01.4	-2.4
	comp=Z,0.8nm,0.5s,baz=45,slow=0.5,SNR=16								
HNH	**Hanover**	**113.70**	**50**		*e*PKiKP	PKiKP		22 30 12.2	-0.2
CHKZ	**Chkalovo**	**116.62**	**322**		*e*PKiKP	PKPdf		22 30 16.1	-2.0
BRVK	**Borovoye**	**116.88**	**321**		*e*PKiKP	PKPdf		22 30 17.2	-1.4
ARU	**Arti**	**122.83**	**326**		*e*PKiKP	PKPdf		22 30 28.9	-1.1
ARU	**Arti**	**122.83**	**326**		*e*PKPdf	PKPdf		22 30 28.9	-1.1
ARCES	**ARCESS Array B**	**126.29**	**350**		PKP	PKPdf		22 30 35.1	-1.6
	comp=Z,2.1nm,0.8s,baz=3.1,slow=1.4,SNR=14								
ARCES	**ARCESS Array B**	**126.29**	**350**		PKiKP	PKPdf		22 30 35.1	-1.5
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**133.16**	**344**		PKP	PKPdf		22 30 48.6	-1.0
	comp=Z,1.1nm,0.8s,baz=108,slow=4.5,SNR=9.1								
FINES					SKPbc	SKPbc		22 33 28.0	-0.7
	comp=Z,1.8nm,0.5s,baz=56,slow=3.3,SNR=15								
FINES	**FINESS Array B**	**133.16**	**344**		PKiKP	PKPdf		22 30 48.6	-1.1
FINES								22 33 28.0	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.8s								
FINES					pmax	pmax			
	comp=N,2.0nm,0.5s								
OBN	**Obninsk**	**134.27**	**333**		*i* PKiKP	PKPdf		22 30 47.0	-4.7
OBN					*i*			22 33 31.6	
OBN					pmax	pmax			
	comp=Z,3.0nm,1.0s								
NOA	**NORSAR Array B**	**136.35**	**353**		PKP	PKPdf		22 30 55.5	-0.1
	comp=Z,0.7nm,0.7s,baz=273,slow=9.9,SNR=2.5								
NOA					SKPbc	SKPbc		22 33 37.6	-1.0
	comp=Z,1.8nm,0.9s,baz=14,slow=4.5,SNR=3.5								
NOA	**NORSAR Array B**	**136.35**	**353**		PKiKP	PKPdf		22 30 55.5	-0.1
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NOA					pmax	pmax			
	comp=N,2.0nm,0.9s								
AKASG	**Malin Array Be**	**140.53**	**332**		PKhKP			22 30 55.0	
	comp=N,0.9nm,0.4s,baz=46,slow=4.0,SNR=10.0								
AKASG	**Malin Array Be**	**140.53**	**332**		PKHKP			22 30 55.0	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
MALT	**Malatya**	**142.00**	**310**	⇓	*i*P	PKPdf		22 31 02.2	-3.6
MALT	**Malatya**	**142.00**	**310**		*e*PKPdf	PKPdf		22 31 02.0	-3.8
LVV	**L'vov**	**143.38**	**336**		*e*PKHKP			22 31 05.1	
KWP	**Kalwaria**	**144.04**	**336**		*e*PKP	PKPdf		22 31 08.1	-1.3
OJC	**Ojcow**	**144.59**	**340**		*e*PKP	PKPdf		22 31 09.6	-0.8
BURAR	**Bucovina Array**	**144.59**	**332**	⇓	*i*P	PKPdf		22 31 10.7	+0.3
BR131	**Keskin Array S**	**144.76**	**315**		*e*PKPdf	PKPdf		22 31 10.5	-0.2
BRTR	**Keskin Array B**	**144.76**	**315**		PKP	PKPdf		22 31 10.2	-0.4
	comp=Z,9.7nm,0.8s,baz=128,slow=2.5,SNR=64								
BRTR	**Keskin Array B**	**144.76**	**315**	*i*	PKiKP	PKPdf		22 31 10.5	-0.2
BRTR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
STHS	**Stebnicka Huta**	**144.76**	**338**		*e*PKP	PKPdf		22 31 11.0	+0.3
KOLS	**Kolonicke sedl**	**144.78**	**336**		*e*PKP	PKPdf		22 31 11.0	+0.3
NRDL	**Niedersach Rie**	**144.82**	**351**		*e*PKPbc	PKPdf		22 31 10.2	-0.6
UZH	**Uzhgorod**	**145.01**	**336**	⇓	*i*PKiKP	PKPdf		22 31 11.2	+0.1
UZH					pmax	pmax			
	comp=Z,31nm,0.7s								
KSP	**Ksiaz**	**145.08**	**344**		*e*PKP	PKPdf		22 31 11.8	+0.6
KSP	**Ksiaz**	**145.08**	**344**		*e*PKP	PKPdf		22 31 11.5	+0.3
NIE	**Niedzica**	**145.09**	**339**		*e*PKPc	PKPdf		22 31 11.9	+0.7
CRVS	**Cervenica-Dubn**	**145.11**	**337**		*e*PKP	PKPdf		22 31 11.9	+0.6
VRI	**Vrincioaia**	**145.15**	**329**	⇑	*i*P	PKPdf		22 31 11.8	+0.5
ANTO	**Ankara**	**145.26**	**316**	⇓	*i*P	PKPdf		22 31 12.3	+0.8
ANTO	**Ankara**	**145.26**	**316**		*e*PKP	PKPdf		22 31 11.7	+0.2
CLZ	**Clausthal**	**145.41**	**350**		*e*PKPbc	PKPbc		22 31 12.1	-0.9
CLL	**Collm**	**145.44**	**347**		*e*PKPbc	PKPbc		22 31 12.2	-0.9
CLL	**Collm**	**145.44**	**347**	⇓	*i*PKPbc	PKPbc		22 31 12.2	-0.9
	comp=Z,18nm,0.8s								
OKC	**Ostrava-Krasne**	**145.45**	**341**		*e*PKP	PKPdf		22 31 12.2	+0.4
UPC	**Upice**	**145.46**	**344**		*e*PKP	PKPdf		22 31 12.6	+0.7
DPC	**Dobruska-Polom**	**145.52**	**343**		*e*PKP	PKPdf		22 31 12.9	+0.9
BRG	**Berggiesshubel**	**145.64**	**346**		*e*PKPbc	PKPbc		22 31 12.8	-0.8
BRG	**Berggiesshubel**	**145.64**	**346**		*i* P	PKPdf		22 31 12.9	+0.7
	comp=Z,4.9nm,0.8s								
BRG					*i*			22 31 14.2	
	comp=Z,5.2nm,0.8s								
MORC	**Moravsky Berou**	**145.68**	**342**	⇑	*i*P	PKPdf		22 31 13.1	+0.9
MORC	**Moravsky Berou**	**145.68**	**342**		*e*PKPdf	PKPdf		22 31 12.6	+0.3
PVCC	**Panska Ves**	**145.81**	**345**		*e*PKP	PKPdf		22 31 13.6	+1.1
KECS	**Kecovo**	**145.82**	**337**		*e*PKP	PKPdf		22 31 14.0	+1.5
DRGR		**146.31**	**333**	⇑	*i*P	PKPdf		22 31 14.9	+1.6
PRU	**Pruhonice**	**146.32**	**345**		*e*PKPbc	PKPbc		22 31 14.9	-0.7
PRU					*e*PKPab	PKPab		22 31 17.1	-0.7
VRAC	**Vranov**	**146.38**	**342**	⇑	*i*P	PKPbc		22 31 18.0	+2.3
VYHS	**Vyhne**	**146.39**	**339**		*e*PKP	PKPdf		22 31 15.5	+2.1
TANN	**Tannenbergstha**	**146.39**	**347**		*e*PKPbc	PKPbc		22 31 15.2	-0.6
PSZ	**Piszkesteto**	**146.51**	**337**	⇑	*i*P	PKPdf		22 31 16.1	+2.5
NKC	**Novy Kostel**	**146.57**	**347**		*e*PKP	PKPdf		22 31 15.6	+1.9
SMOL	**Smolenice**	**146.84**	**341**		*e*PKP	PKPbc		22 31 17.2	+0.2
SMOL	**Smolenice**	**146.84**	**341**		*e*PKP	PKPbc		22 31 17.3	+0.3
MANZ	**Manzenberg**	**146.87**	**348**		*e*PKPbc	PKPbc		22 31 16.8	-0.3
ROTZ	**Rotzenmuhle**	**147.06**	**347**		*e*PKPbc	PKPbc		22 31 17.0	-0.6
CSS	**Prodhromos**	**147.06**	**307**		*e*PKPdf	PKPdf		22 31 15.8	+1.2
ZST	**Bratislava**	**147.22**	**341**		*e*PKP	PKPbc		22 31 18.0	0.0
TNS	**Taunus Mts**	**147.27**	**352**		*e*PKPbc	PKPbc		22 31 17.6	-0.5
GRA1	**Grafenberg Arr**	**147.33**	**348**		*e*PKPbc	PKPbc		22 31 17.9	-0.4
GRF	**Grafenberg Arr**	**147.33**	**348**		*e*PKPbc	PKPbc		22 31 17.9	-0.4
KHC	**Kasperske Hory**	**147.35**	**345**		*e*PKPbc	PKPbc		22 31 17.6	-0.7
KHC					*e*PKPab	PKPab		22 31 20.6	-1.4
GZR	**Gura Zlata**	**147.37**	**332**	⇓	*i*P	PKPdf		22 31 17.4	+2.3
EIL	**Elat**	**147.41**	**297**		*e*PKPdf	PKPdf		22 31 16.6	+1.5
GEC2	**GERESS Array S**	**147.59**	**345**		*e*PKPbc	PKPbc		22 31 18.0	-0.9
GERES	**GERESS Array B**	**147.59**	**345**		PKPbc	PKPbc		22 31 18.3	-0.6
	comp=Z,4.4nm,0.5s,baz=23,slow=3.1,SNR=56								
GERES	**GERESS Array B**	**147.59**	**345**		PKP2	PKPbc		22 31 18.3	-0.6
GERES					pmax	pmax			
	comp=Z,4.0nm,0.5s								
GIVF	**Givet**	**147.75**	**356**		*e*PKP1	PKPbc		22 31 18.0	-1.4
BAIF	**Baives**	**147.83**	**357**		*e*PKP1	PKPbc		22 31 18.9	-0.7
CONA	**Conrad Observa**	**147.84**	**342**	⇑	*i*PKPbc	PKPbc		22 31 19.6	0.0
	comp=Z,7.5nm,1.1s								
WLF	**Walferdange**	**148.08**	**354**		*e*PKPbc	PKPbc		22 31 20.3	+0.1
PKSM	**Moragy**	**148.41**	**337**	⇓	*i*P	PKPdf		22 31 19.6	+2.8
BFO	**Black Forest**	**149.13**	**351**		*e*PKPbc	PKPbc		22 31 22.2	-0.6
FLN	**La Foliniere**	**149.15**	**3**		*e*PKP1	PKPbc		22 31 21.8	-1.0
CDF	**Champ du Feu**	**149.20**	**353**		*e*PKP1	PKPbc		22 31 22.4	-0.5
	comp=Z,6.7nm,0.5s								
PERS	**Pernice**	**149.22**	**342**		*i* PKPbc	PKPbc		22 31 21.8	-1.2
VTS	**Vitosha**	**149.26**	**328**	⇑	*i*P	PKPbc		22 31 22.5	-0.6
KBA	**Koelnbreinsper**	**149.31**	**344**	⇑	*i*P	PKPbc		22 31 22.1	-1.1
	comp=Z,7.7nm,0.8s								
MEZF	**Maizieres J'vi**	**149.33**	**355**		*e*PKP1	PKPbc		22 31 22.8	-0.4
	comp=Z,2.4nm,0.3s								
LDF	**La Druitiere**	**149.33**	**2**		*e*PKP1	PKPbc		22 31 22.0	-1.3
	comp=Z,6.3nm,0.4s								
GRR	**Gorron**	**149.51**	**3**		*e*PKP1	PKPbc		22 31 22.7	-1.0
	comp=Z,8.2nm,0.5s								
WTTA	**Wattenberg**	**149.55**	**346**	⇓	*i*P	PKPbc		22 31 23.2	-0.6
	comp=Z,7.5nm,0.5s								
MOTA	**Moosalm**	**149.59**	**347**	⇓	*i*P	PKPbc		22 31 22.9	-1.0
	comp=Z,3.3nm,0.5s								
SQTA	**Sankt Quirin**	**149.69**	**347**	⇑	*i*P	PKPbc		22 31 23.5	-0.6
	comp=Z,4.9nm,0.5s								
HAU	**Haudompre**	**149.70**	**354**		*e*PKP1	PKPbc		22 31 23.4	-0.7
	comp=Z,5.3nm,0.4s								
CRES	**Kresnjev**	**149.84**	**341**		*e*PKPbc	PKPbc		22 31 23.6	-0.9
BOJS	**Bojanci**	**150.19**	**340**		*e*PKPbc	PKPbc		22 31 24.9	-0.4
JAVS	**Javornik**	**150.20**	**342**		*e*PKPbc	PKPbc		22 31 24.2	-1.1
LOR	**Lormes**	**150.63**	**357**		*e*PKP1	PKPbc		22 31 25.7	-0.6
	comp=Z,9.5nm,0.3s								
HYF	**Humbligny**	**150.68**	**359**		*e*PKP1	PKPbc		22 31 26.1	-0.3
SSF	**Saint Saulge**	**150.86**	**357**		*e*PKP1	PKPbc		22 31 26.2	-0.6
	comp=Z,4.5nm,0.3s								
CABF	**La Chapelle**	**151.11**	**354**		*e*PKP1	PKPbc		22 31 28.2	+0.8
AVF	**Avril sur Loir**	**151.13**	**357**		*e*PKP1	PKPbc		22 31 27.4	-0.1
SMF	**Signal de Mont**	**151.25**	**357**		*e*PKP1	PKPbc		22 31 27.6	-0.1
BGF	**Bois d'Agland**	**151.38**	**358**		*e*PKP1	PKPbc		22 31 27.0	-1.0
SANT	**Santorini**	**152.01**	**316**		*e*PKPdf	PKPdf		22 31 23.5	+1.2
LPL	**La Plagne**	**152.11**	**352**		*e*PKP1	PKPbc		22 31 30.3	+0.7
ORIF	**Oris-en-Rattie**	**152.80**	**353**		*e*PKP1	PKPbc		22 31 31.1	-0.1
MBDF	**Montbardon**	**152.88**	**352**		*e*PKP1	PKPbc		22 31 30.9	-0.4
KEST	**Kesra**	**160.93**	**340**		PKPab	PKPab		22 32 19.8	-0.1
	comp=Z,0.8nm,0.6s,baz=143,slow=1.0,SNR=7.5								
TORD	**Torodi Ar. Bea**	**175.29**	**181**		PKP	PKPdf		22 31 42.4	-0.8
	comp=Z,0.4nm,0.8s,baz=356,slow=2.4,SNR=4.0								
TORD					PKPab	PKPab		22 33 23.5	0.0
	comp=Z,0.4nm,0.9s,baz=188,slow=3.1,SNR=4.7								

az=80.2
NEIC ***21*** *22:43:22.9±2.2,2680N×9674E,h62km±18km,mb4.2/3, Error ellipse: s-maj=22.1km s-min=16.7km az=221.0*

ISC 21 22:43:24.1±2.1,270N±01×969E±01,h68km±17km,n24, σ0°73/26,mb3.9/13,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**4.69**	**254**		*e*PN	**Pn**	**22 44 32.0**	**-0.2**
SHL					*e*SN	**Sn**	**22 45 26.0**	**+0.7**
LSA	**Lhasa**	**5.74**	**300**		P	**Pn**	**22 44 46.3**	**-0.3**
LSA	**Lhasa**	**5.74**	**300**		*e*P	**Pn**	**22 44 45.9**	**-0.7**
LSA					*e*		22 45 58.7	
LSA					pmax	pmax		
	comp=Z,6.0nm,0.5s							
LSA	**Lhasa**	**5.74**	**300**		*e*Pn	**Pn**	**22 44 45.9**	**-0.8**
	comp=Z,5.9nm,0.5s							
LSA					*e*Sn	**Sn**	**22 45 58.7**	**+7.6**
SONM	**Songino Array**	**22.14**	**17**		P	**P**	**22 48 15.4**	**+1.3**
	comp=Z,0.5nm,0.6s,mb3.0,baz=196,slow=9.9,SNR=2.7							
MKAR	**Makanchi Array**	**22.91**	**334**		P	**P**	**22 48 20.6**	**-1.6**
	comp=Z,0.8nm,0.7s,mb3.2,baz=142,slow=8.8,SNR=8.0							
AAK	**Ala-Archa**	**24.03**	**316**		P	**P**	**22 48 32.4**	**-0.2**
BVAR	**Borovoye Array**	**32.66**	**330**		P	**P**	**22 49 50.4**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=120,slow=8.5,SNR=3.5							
BVAR					PcP	PcP	22 52 35.0	+0.9
	comp=Z,0.4nm,0.6s,baz=164,slow=3.5,SNR=3.6							
BRVK	**Borovoye**	**32.73**	**330**		P	**P**	**22 49 51.2**	**+1.0**
AKTK	**Aktyubinsk**	**37.71**	**319**		P	**P**	**22 50 33.2**	**+0.2**
AKTO	**Aktyubinsk**	**37.71**	**319**		P	**P**	**22 50 33.2**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.6,baz=118,slow=6.0,SNR=5.0							
MIB	**Mutribah**	**43.41**	**286**		*e*P	**P**	**22 51 20.7**	**+0.7**
MIB					AMb	AMB	22 51 21.5	
	comp=Z,12nm,0.6s,mb4.8							
NAY	**Al-Naaiem**	**43.58**	**285**		*e*P	**P**	**22 51 22.0**	**+0.7**
NAY					AMb	AMB	22 51 23.4	
	comp=Z,6.1nm,0.6s,mb4.5							
RST	**Umm Al-Ruwaisa**	**43.75**	**285**		*e*P	**P**	**22 51 22.7**	**-0.1**
RST					AMb	AMB	22 51 23.7	
	comp=Z,15nm,0.5s,mb4.9							
KIV	**Kislovodsk**	**46.45**	**306**		*e*P	**P**	**22 51 43.6**	**-0.5**
KIV					pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0							
KIV	**Kislovodsk**	**46.45**	**306**		*e*P	**P**	**22 51 43.6**	**-0.5**
	comp=Z,1.0nm,0.3s,mb4.0							
MALT	**Malatya**	**49.78**	**299**		*e*P	**P**	**22 52 08.3**	**-1.5**
MALT					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
MALT	**Malatya**	**49.78**	**299**		*e*P	**P**	**22 52 08.3**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.8							
FINES	**FINESS Array B**	**57.56**	**327**		P	**P**	**22

CASY	**Casey**	**57.05**	**180**	*eP*	**P**	**23**	**11 15.3 +1.8**
MKAR	**Makanchi Array**	**61.14**	**338**	P	**P**	**23**	**11 40.6 -1.2**
	comp=Z,0.6nm,0.4s,mb4.1,baz=149,slow=7.1,SNR=11						
AAK	**Ala-Archa**	**61.16**	**330**	P	**P**	**23**	**11 42.9 +1.0**
ZAL	**Zalesovo**	**66.52**	**344**	P	**P**	**23**	**12 15.8 -1.4**
	comp=Z,1.7nm,0.3s,mb4.5,baz=107,slow=8.1,SNR=3.5						
CHKZ	**Chkalovo**	**71.13**	**336**	*eP*	**P**	**23**	**12 44.4 -1.5**
	comp=Z,0.8nm,0.4s,mb4.0						
VNDA	**Vanda**	**73.23**	**170**	P	**P**	**23**	**12 57.5 -1.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=305,slow=6.4,SNR=5.9						
VNDA	**Vanda**	**73.23**	**170**	*eP*	**P**	**23**	**12 57.8 -0.7**
	comp=Z,0.7nm,0.7s,mb3.7						
SBA	**Scott Base**	**74.29**	**169**	*eP*	**P**	**23**	**13 04.5 -0.2**
	comp=Z,0.8nm,0.4s,mb4.0						
ARU	**Arti**	**78.09**	**333**	*eP*	**P**	**23**	**13 24.9 -1.4**
	comp=Z,0.9nm,0.2s,mb4.3						
QSPA	**South Pole Qui**	**80.85**	**180**	*eP*	**P**	**23**	**13 41.0 -0.3**
	comp=Z,1.4nm,0.4s,mb4.2						
LBTB	**Lobatse**	**81.66**	**246**	*eP*	**P**	**23**	**13 48.5 +2.9**
BRTR	**Keskin Array B**	**85.89**	**311**	P	**P**	**23**	**14 08.9 +1.7**
	comp=Z,0.3nm,0.6s,mb3.7,baz=134,slow=6.2,SNR=3.0						
SNAA	**Sanae**	**88.52**	**197**	*eP*	**P**	**23**	**14 19.2 -0.7**
	comp=Z,0.4nm,0.5s,mb4.0						
BDFB	**Brasilia**	**147.49**	**221**	PKPbc	PKPbc	23	21 12.5 +1.1
	comp=Z,2.4nm,0.6s,baz=68,slow=2.9,SNR=3.7						

*CSEM **21** 23:18:38.5, 6785N×2024E, h0km, ML3.5, Mining explosion. After UPP*
*UPP **21** 23:18:38.5, 6785N×2024E, h0km, ML3.5, Mining explosion.*

HEL 21 23:17:51.6±0.1, 6784N×2018E, h0km, ML1.4, ML2.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	23 17 53.8	-0.4
KUA				*i* S	Sg	23 17 55.7	-0.2
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 17 59.4	-0.5
LANU	**Lannavaara**	**0.71**	**72**	*i* P	Pg	23 18 04.4	-0.9
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	23 18 04.5	-1.1
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	23 18 05.8	-0.9
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	23 18 05.9	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pb	23 18 14.4	-0.7
KIF				*e*SN	Sn	23 18 32.0	-0.5
PAJU	**Pajala**	**1.40**	**124**	*e*Pn	Pn	23 18 16.4	-1.9
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 18 19.3	-0.6
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	23 18 32.5	+0.3
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pb	23 18 34.2	-2.5
SGF				*e*SG	Sg	23 19 07.7	-2.9

IDC 21 23:21:53.8±86.0, 1326S×17122E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, Error ellipse: s-maj=1481.0km s-min=141.2km az=66.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.88**	**231**	P	P	23 28 29.4	0.0
	4.0nm,0.9s,baz=56,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**35.91**	**254**	P	P	23 28 56.5	+0.8
	0.2nm,0.4s,baz=85,slow=8.8,SNR=5.9						
ASAR	**Alice Springs**	**36.78**	**248**	P	P	23 29 03.1	0.0
	0.4nm,0.4s,baz=76,slow=9.7,SNR=6.1						

*ISCJB **21** 23:41:15.5±0.7, 3682N×00745.18E×008, h10km, Error ellipse: s-maj=12.9km s-min=5.4km az=79.6*
*CSEM **21** 23:41:16.6±0.1, 3696N×4515E, h15km, MD3.8, Error ellipse: s-maj=3.8km s-min=2.4km az=24.0*
*ISK **21** 23:41:18.5, 3694N×4510E, h32km, MD3.8*

ISC 21 23:41:17.2±0.6, 3696N±005×4525E±005, h10km, n14, σ1ᵍ32/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEMD	**Semdilli**	**0.70**	**304**	PG	**Pg**	**23 41 28.3**	**-2.5**
SEMD				SG	**Sg**	**23 41 40.6**	**+0.6**
CUKT	**Cukurca**	**1.35**	**283**	PN	**Pn**	**23 41 39.8**	**-2.2**
HKR	**Hakkari**	**1.36**	**298**	PN	**Pn**	**23 41 40.3**	**-1.9**
MSL	**Mosul**	**1.86**	**250**	*i* x	x	23 41 55.0	
MSL				*i* x	x	23 41 56.5	
MSL				*i* x	x	23 42 19.5	
MSL				*i* x	x	23 42 20.5	
VANT	**Van**	**2.10**	**316**	PN	**Pn**	**23 41 52.6**	**+0.3**
VANB	**Van**	**2.20**	**318**	PN	**Pn**	**23 41 53.7**	**-0.1**
CLDR	**Caldiran**	**2.42**	**335**	*e*PN	**Pn**	**23 41 56.8**	**0.0**
MAKU	**Maku**	**2.44**	**350**	*e*Pn	**Pn**	**23 41 58.9**	**+1.9**
	SNR=52						
SNGE	**Sanandaj**	**2.52**	**137**	*e*Pn	**Pn**	**23 42 00.2**	**+2.1**
	SNR=52						
SNGE				*e*Sg	**Sg**	**23 42 37.1**	**-1.0**
	SNR=91						
GRMI	**Germi**	**2.79**	**48**	*e*Pn	**Pn**	**23 42 03.5**	**+1.6**
	SNR=52						
GRMI				*e*Sg	**Sg**	**23 42 45.1**	**-1.7**
	SNR=91						
GNI	**Garni**	**3.21**	**353**	*e*PN	**Pn**	**23 42 08.1**	**+0.4**
BTMT	**Batman**	**3.23**	**294**	*e*PN	**Pn**	**23 42 08.9**	**+0.9**
PTK	**Pertek**	**5.02**	**294**	*e*PN	**Pn**	**23 42 32.9**	**+0.4**
MYA	**Malataya**	**5.59**	**286**	*e*PN	**Pn**	**23 42 40.7**	**+0.4**

*ISCJB **21** 23:46:09.9±0.5, 3979N×00245.84E×004, h5km±7km, Error ellipse: s-maj=5.0km s-min=3.7km az=23.3*
*NEIC **21** 23:46:09.3, 3979N×2206E, h24km, MD3.0(ATH), After ATH.*
*ATH **21** 23:46:09.3, 3979N×2206E, h24km, MD3.0/7*
*THE **21** 23:46:11.6, 3978N×2179E, h12km, ML2.6*
*CSEM **21** 23:46:11.2±0.1, 3979N×2182E, h5km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.2km az=126.0*

ISC 21 23:46:10.8±0.4, 3978N±002×2184E±004, h11km±6km, n19, σ1ᵍ06/29, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.53**	**354**	*e*PN	**Pg**	**23 46 21.0**	**-0.2**
KZN				*e*SN	**Sg**	**23 46 29.3**	**+1.1**
LIT	**Litokhoron**	**0.59**	**57**	*e*Pg	**Pg**	**23 46 22.7**	**+0.4**
LIT				*e*Sg	**Sg**	**23 46 33.7**	**+3.5**
AGG	**Agios Georgios**	**0.84**	**153**	*e*Pg	**Pg**	**23 46 27.5**	**+0.3**
AGG				*e*Sg	**Sg**	**23 46 41.3**	**+3.1**
EVR	**Evrytania**	**0.86**	**182**	*e*PN	**Pg**	**23 46 26.4**	**-1.0**
EVR				*e*SN	**Sg**	**23 46 39.3**	**+0.6**
FNA	**Florina**	**1.06**	**341**	*e*Pg	**Pg**	**23 46 30.3**	**-1.0**
FNA				*e*Sg	**Sg**	**23 46 46.9**	**+1.7**
XOR	**Xorichti**	**1.12**	**111**	*e*Pg	**Pg**	**23 46 32.5**	**+0.1**
IGT	**Igoumenitsa**	**1.19**	**259**	*e*Pg	**Pg**	**23 46 32.6**	**-1.1**
IGT				*e*Sg	**Sg**	**23 46 49.4**	**+0.2**
THE	**Thessaloniki**	**1.21**	**45**	*e*Pg	**Pg**	**23 46 33.8**	**-0.3**
GRG	**Griva**	**1.25**	**20**	*e*Pg	**Pg**	**23 46 34.2**	**-0.7**
GRG				*e*Sg	**Sg**	**23 46 52.0**	**+0.9**
HORT	**Hortiatis**	**1.27**	**49**	*e*Pg	**Pg**	**23 46 33.7**	**-1.5**
HORT				*e*Sg	**Sg**	**23 46 52.6**	**+1.0**
BIA	**Bitola**	**1.30**	**343**	*e*Pg	**Pg**	**23 46 34.0**	**-1.8**
BIA				*e*Sg	**Sg**	**23 46 52.2**	**-0.5**
PLG	**Polygyros**	**1.37**	**64**	*e*PN	**Pn**	**23 46 32.0**	**-3.9**
LKR	**Lokris**	**1.44**	**141**	*e*PN	**Pn**	**23 46 35.0**	**-1.9**
SOH	**Sokhos**	**1.56**	**48**	*e*Pg	**Pn**	**23 46 38.4**	**-0.1**
SOH				*e*Sg	**Sg**	**23 46 59.8**	**-1.1**
KEK	**Kerkira**	**1.58**	**268**	*e*PN	**Pn**	**23 46 40.0**	**+1.3**
OUR	**Ouranopolis**	**1.73**	**71**	*e*Pb	**Pn**	**23 46 41.2**	**+0.3**
RLS	**Riolos of Patr**	**1.74**	**190**	*e*PN	**Pn**	**23 46 41.0**	**0.0**
VLS	**Valsamata**	**1.87**	**212**	*e*PN	**Pn**	**23 46 43.5**	**+0.7**
STIP	**Stip**	**1.93**	**8**	*e*Pb	**Pn**	**23 46 44.5**	**+0.8**

IDC 21 23:54:03.4±4.0, 1137S×11811E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/14, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=265.6km s-min=31.3km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.79**	**121**	P	Pn	23 58 11.4	-0.9
	0.0nm,0.3s,baz=290,slow=14,SNR=4.3						
WRA				S	Sn	00 01 17.0	-14
	0.1nm,0.3s,baz=286,slow=25,SNR=3.9						
ASAR	**Alice Springs**	**19.38**	**131**	P	Pn	23 58 31.9	+0.2
	0.1nm,0.3s,baz=305,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**66.17**	**334**	P	P	00 04 52.7	0.0
	0.2nm,0.3s,baz=154,slow=7.5,SNR=3.1						

PRE 22 00:02:22.1±1.6, 2114S×3352E, h5km, ML3.7, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.47**	**249**	*e*P	Pn	00 03 18.5	+1.8
MSNA				*e*S	Sn	00 03 58.5	+0.3
MSNA				AML	AML	00 04 13.6	
	comp=Z,66nm,0.1s						
POGA	**Pongola**	**6.44**	**195**	*e*P	Pn	00 03 58.7	+1.1
POGA				*e*S	Sn	00 05 07.9	-3.6
POGA				AML	AML	00 05 49.3	
	comp=Z,9.8nm,0.5s						
KSR	**Koster**	**7.68**	**231**	*e*P	Pn	00 04 15.0	+0.4
KSR				*e*S	Sn	00 05 39.7	-2.2
KSR				AML	AML	00 05 41.8	
	comp=Z,21nm,0.2s						
LBTB	**Lobatse**	**8.25**	**241**	*e*P	Pn	00 04 23.0	+0.6
LBTB				*e*S	Sn	00 05 52.8	-3.2
LBTB				AML	AML	00 06 51.8	
	comp=Z,6.5nm,0.7s						
SEK	**Senekal**	**8.94**	**216**	*e*P	Pn	00 04 33.1	+1.3
SEK				*e*S	Sn	00 06 08.0	-4.8
SEK				AML	AML	00 08 48.8	
	comp=Z,4.4nm,0.1s						
BOSA	**Boshof**	**10.56**	**224**	*e*P	Pn	00 04 55.7	+1.6
BOSA				*e*S	Sn	00 06 47.7	-5.1
BOSA				AML	AML	00 08 00.1	
	comp=Z,2.4nm,0.6s						

*THE **22** 00:33:05.3, 3825N×2020E, h29km, ML3.0*
*NEIC **22** 00:33:06.3, 3851N×2061E, h12km, MD3.4(ATH), After ATH.*
*ATH **22** 00:33:06.3, 3851N×2061E, h12km±1km, MD3.4/11*
*ISCJB **22** 00:33:07.1±0.6, 3849N±003×2057E±006, h10km, Error ellipse: s-maj=7.3km s-min=3.4km az=145.0*
*CSEM **22** 00:33:07.4±0.1, 3846N×2060E, h8km, ML3.0, Error ellipse: s-maj=3.7km s-min=2.2km az=64.0*

ISC 22 00:33:07.3±0.6, 3847N±003×2052E±006, h10km, n22, σ1ᵍ09/30, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.29**	**169**	*e*PB	**Pg**	**00 33 13.2**	**0.0**
VLS				*e*SB	**Sg**	**00 33 18.7**	**+1.5**
RLS	**Riolos of Patr**	**0.85**	**118**	*e*PB	**Pg**	**00 33 22.1**	**-1.6**
RLS				*e*SB	**Sg**	**00 33 33.1**	**-1.7**
IGT	**Igoumenitsa**	**1.07**	**352**	*e*Pg	**Pg**	**00 33 26.3**	**-1.6**
IGT				*e*Sg	**Sg**	**00 33 42.7**	**+0.8**
EVR	**Evrytania**	**1.10**	**66**	*e*PB	**Pg**	**00 33 25.6**	**-2.9**
JAN	**Janina**	**1.22**	**12**	*e*PB	**Pn**	**00 33 28.3**	**-2.0**
KEK	**Kerkira**	**1.36**	**336**	*e*PB	**Pn**	**00 33 31.7**	**-0.7**
KEK				*e*SB	**Sb**	**00 33 50.6**	**+0.2**
AGG	**Agios Georgios**	**1.52**	**68**	*e*Pb	**Pn**	**00 33 33.2**	**-1.3**
AGG				*e*Sb	**Sb**	**00 33 57.0**	**+2.1**
ITM	**Ithomi**	**1.70**	**139**	*e*PB	**Pb**	**00 33 38.3**	**-0.4**
ITM				*e*SB	**Sb**	**00 34 01.4**	**+1.3**
LKR	**Lokris**	**1.95**	**84**	*e*PN	**Pn**	**00 33 40.3**	**-0.2**
KZN	**Kozani**	**2.08**	**27**	*e*PN	**Pn**	**00 33 42.0**	**-0.2**
LIT	**Litokhoron**	**2.24**	**43**	*e*Pn	**Pn**	**00 33 45.5**	**+1.2**
LIT				*e*Sn	**Sb**	**00 34 15.9**	**+0.4**
XOR	**Xorichti**	**2.27**	**66**	*e*Pn	**Pn**	**00 33 45.7**	**+0.9**
NEO	**Neokhori**	**2.27**	**67**	*e*PN	**Pn**	**00 33 44.5**	**-0.4**
FNA	**Florina**	**2.41**	**16**	*e*Pn	**Pn**	**00 33 46.7**	**0.0**
FNA				*e*Sn	**Sn**	**00 34 17.4**	**+1.1**
VLI	**Veliai**	**2.59**	**132**	*e*PN	**Pn**	**00 33 50.3**	**+1.0**
AOS	**Alonnisos**	**2.72**	**74**	*e*Pn	**Pn**	**00 33 50.0**	**-1.0**
GRG	**Griva**	**2.88**	**30**	*e*Pn	**Pn**	**00 33 54.0**	**+0.7**
PLG	**Polygyros**	**2.96**	**49**	*e*PN	**Pn**	**00 33 53.5**	**-0.8**
SOH	**Sokhos**	**3.21**	**42**	*e*Pn	**Pn**	**00 33 59.0**	**+1.2**
KNT	**Kendrikon**	**3.25**	**33**	*e*Pn	**Pn**	**00 33 59.2**	**+0.8**
OUR	**Ouranopolis**	**3.27**	**54**	*e*Pn	**Pn**	**00 33 58.4**	**-0.1**
STIP	**Stip**	**3.47**	**21**	*e*Pn	**Pn**	**00 34 01.4**	**+0.1**

*ISCJB **22** 00:49:55.6±0.7, 2407S×00576.85W×009, h185km±9km, mb3.9/4, Error ellipse: s-maj=13.3km s-min=8.4km az=172.7*
*IDC **22** 00:49:56.6±1.1, 2401S×6683W, h178km±12km, mb3.7/3, mb1 3.8/9, mb1mx3.6/18, mbtmp4.2/9, Error ellipse: s-maj=16.6km s-min=14.4km az=115.0*
*NEIC **22** 00:49:56.5±0.7, 2407S×6685W, h180km±8km, mb4.2/3, Error ellipse: s-maj=11.6km s-min=7.9km az=95.0*

ISC 22 00:49:56.6±0.6, 2408S±005×6686W±009, h178km±9km, n22, σ0ᵍ97/23, mb3.9/4, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**307**	P	**Pn**	**00 50 39.1**	**+1.3**
	3.1nm,0.3s,baz=61,slow=14,SNR=21						
LVC				S	**Sn**	**00 51 10.2**	**+0.4**
	144nm,0.3s,baz=356,slow=20,SNR=107						
CFAA	**Coronel Fontan**	**7.60**	**189**	P	**Pn**	**00 51 43.8**	**-0.7**
	0.1nm,0.3s,baz=4.2,slow=11,SNR=18						
CFAA				S	**Sn**	**00 53 04.0**	**-5.8**
	0.5nm,0.3s,baz=270,slow=21,SNR=11						
LPAZ	**La Paz**	**7.84**	**351**	P	**Pn**	**00 51 48.7**	**+1.0**
	3.2nm,0.3s,baz=152,slow=8.6,SNR=64						
LPAZ				S	**Sn**	**00 53 14.2**	**-1.4**
	0.5nm,0.3s,baz=325,slow=18,SNR=4.8						
ARE	**Arequipa**	**8.73**	**329**	*e*P	**Pn**	**00 52 06.0**	**+6.6**
ARE				*e*S	**Sn**	**00 53 31.0**	**-6.0**
CPUP	**Villa Florida**	**8.91**	**107**	P	**Pn**	**00 52 01.4**	**-0.4**
	0.3nm,0.3s,baz=281,slow=11,SNR=6.2						
SIV	**San Ignacio**	**9.71**	**35**	P	**Pn**	**00 52 11.6**	**-0.6**
	1.7nm,0.3s,baz=240,slow=11,SNR=68						
SIV				S	**Sn**	**00 53 49.5**	**-11**
	0.1nm,0.3s,baz=229,slow=15,SNR=5.3						
TRQA	**Tornquist**	**14.54**	**164**	*e*Pn	**Pn**	**00 53 12.5**	**-1.5**
	11nm,0.6s						
SAML	**Samuel**	**15.45**	**14**	*e*P	**Pn**	**00 53 24.6**	**-0.5**
	4.5nm,0.7s						
PLCA	**Paso Flores**	**16.90**	**190**	P	**Pn**	**00 53 42.2**	**-0.4**
	0.3nm,0.3s,baz=3.0,slow=13,SNR=6.4						
PLCA	**Paso Flores**	**16.90**	**190**	P	**Pn**	**00 53 42.2**	**-0.4**
BDFB	**Brasilia**	**19.59**	**68**	P	**P**	**00 54 12.2**	**+1.2**
	2.3nm,0.3s,baz=245,slow=11,SNR=47						
BAO	**Brasilia Array**	**19.61**	**68**	P	**P**	**00 54 13.0**	**+1.8**
HBAR	**Harrisburg**	**63.44**	**338**	P	**P**	**01 00 06.5**	**-0.7**
SDMD	**Soldier's Deli**	**63.84**	**351**	*e*P	**P**	**01 00 08.5**	**-1.3**
QSPA	**South Pole Qui**	**66.13**	**180**	*e*P	**P**	**01 00 25.2**	**+0.6**
	3.5nm,0.7s,mb4.3						
VNDA	**Vanda**	**74.65**	**190**	P	**P**	**01 01 17.3**	**+1.1**
	0.8nm,0.9s,mb3.3,baz=143,slow=3.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P	**P**	**01 01 26.3**	**-0.3**
	0.8nm,0.5s,mb3.6,baz=256,slow=5.5,SNR=24						
MAW	**Mawson**	**81.33**	**163**	P	**P**	**01 01 53.7**	**+0.7**
	4.7nm,0.8s,mb4.2,baz=222,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**128.44**	**205**	PKP	PKPdf	01 08 42.3	+0.3
	0.6nm,0.5s,baz=143,slow=3.0,SNR=7.0						
WRA	**Warramunga Arr**	**131.62**	**207**	PKP	PKPdf	01 08 48.5	+0.5
	0.6nm,0.5s,baz=156,slow=1.8,SNR=21						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	PKPbc	01 09 15.5	-1.2
	0.8nm,0.7s,baz=306,slow=4.2,SNR=6.6						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	PKPbc	01 09 15.5	-1.2

*ISCJB **22** 00:53:40.9±0.3, 3698N±003×345E±004, h10km, Error ellipse: s-maj=4.2km s-min=3.8km az=121.8*
*CSEM **22** 00:53:40.4±0.1, 3692N×350E, h5km, ML3.0/4, Error ellipse: s-maj=2.4km s-min=1.8km az=70.0*
*CRAAG **22** 00:53:41.2, 3682N×345E, Ml3.5*
*MDD **22** 00:53:42.1±0.4, 3688N×351E, h0km, mb4.1/9, Error ellipse: s-maj=5.6km s-min=3.9km az=84.0, PRXIMO*
*NEIC **22** 00:53:44.2, 3704N×340E, h0km, MG4.0(MDD), After MDD.*
*LDG **22** 00:53:45.8±0.5, 3697N×343E, h10km, Ml3.1/5, Error ellipse: s-maj=11.2km s-min=5.2km az=155.0*

ISC 22 00:53:42.4±0.3, 3690N±003×344E±004, h10km, n58, σ1ᵍ16/83, 1C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABMS	**Boumerdes**	**0.15**	**169**	P	**Pg**	**00 53 43.4**	**-2.4**
ABA	**Alger-Bouzarea**	**0.34**	**253**	P	**Pg**	**00 53 49.8**	**+0.6**
ADJB	**Djebel Djouab**	**0.74**	**180**	P	**Pg**	**00 53 55.8**	**-1.0**
EMHD	**Djebel Mahouad**	**0.80**	**210**	P	**Pg**	**00 53 58.0**	**+0.1**
AKET	**Djebel Ketaf**	**0.92**	**157**	P	**Pg**	**00 53 59.9**	**-0.3**
EBNR	**Beni Rached**	**1.66**	**249**	P	**Pg**	**00 54 20.0**	**+5.8**
SET	**Setif**	**1.72**	**113**	P	**Pn**	**00 54 11.0**	**-1.4**
ECHA	**Ech Chlef**	**1.83**	**246**	P	**Pg**	**00 54 23.0**	**+5.4**
ECHF	**Ech Chlef**	**1.85**	**247**	P	**Pg**	**00 54 23.0**	**+5.1**
DFRA	**Djebel Bou Aff**	**1.99**	**100**	P	**Pn**	**00 54 14.5**	**-1.5**
EANR	**'Ain N'Sour**	**2.12**	**244**	P	**Pg**	**00 54 25.0**	**+2.0**
ETRT	**Tiaret**	**2.30**	**230**	P	**Pg**	**00 54 27.0**	**+0.5**
CTEI	**Djebel Teioual**	**2.53**	**108**	P	**Pg**	**00 54 32.0**	**+1.1**
EIBI	**Ibiza**	**2.69**	**323**	P	**Pn**	**00 54 26.2**	**+0.4**
	8.9nm,0.2s,SNR=17						
EIBI				S	**Sn**	**00 54 56.8**	**-1.6**
	12nm,0.2s,SNR=6.7						
EIBI	**Ibiza**	**2.69**	**323**	P	**Pn**	**00 54 26.1**	**+0.3**
EIBI				S	**Sn**	**00 54 56.8**	**-1.6**
	12nm,0.2s,SNR=6.7						
ETOS	**Mallorca**	**2.90**	**350**	⇑P	**Pn**	**00 54 28.5**	**-0.1**
	5.4nm,0.1s,SNR=18						
ETOS				S	**Sn**	**00 55 00.2**	**-3.4**
	5.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.90**	**350**	P	**Pn**	**00 54 28.5**	**-0.1**
	5.4nm,0.1s,SNR=18						
ETOS				S	**Sn**	**00 55 00.2**	**-3.4**
	5.8nm,0.2s,SNR=7.9						
CMAH	**Djebel Manchou**	**3.21**	**94**	P	**Pn**	**00 54 32.0**	**-0.8**
EBEN	**Beniarda**	**3.42**	**303**	P	**Pn**	**00 54 35.2**	**-0.5**
	1.6nm,0.2s,SNR=12						
EBEN				S	**Sn**	**00 55 14.3**	**-1.9**
	2.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.85**	**286**	P	**Pn**	**00 54 41.8**	**+0.2**
	1.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.85**	**286**	P	**Pn**	**00 54 41.8**	**+0.2**
	1.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.32**	**295**	P	**Pn**	**00 54 48.8**	**+0.7**
	5.8nm,0.1s,SNR=85						
ETOB				S	**Sn**	**00 55 36.8**	**-1.8**
	1.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.32**	**295**	P	**Pn**	**00 54 48.8**	**+0.7**
ETOB				S	**Sn**	**00 55 36.8**	**-1.8**
EMOS	**Mosqueruela**	**4.62**	**320**	P	**Pn**	**00 54 52.7**	**+0.5**
	0.6nm,0.2s,SNR=17						
EMOS				S	**Sn**	**00 55 43.6**	**-2.3**
	3.2nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.62**	**320**	P	**Pn**	**00 54 52.8**	**+0.6**
EMOS				S	**Sn**	**00 55 43.6**	**-2.3**
	3.2nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**4.72**	**330**	P	**Pn**	**00 54 54.9**	**+1.3**
	SNR=7.9						
ERTA				S	**Sn**	**00 55 44.0**	**-4.4**
	1.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.72**	**330**	P	**Pn**	**00 54 54.9**	**+1.3**
	SNR=7.9						
EPOB	**Poblet**	**4.81**	**338**	P	**Pn**	**00 54 55.2**	**+0.4**
	1.0nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**00 55 46.4**	**-4.2**
	1.0nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.81**	**338**	P	**Pn**	**00 54 55.2**	**+0.4**
	1.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.02**	**292**	P	**Pn**	**00 54 57.7**	**0.0**
	2.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.27**	**282**	P	**Pn**	**00 55 02.7**	**+1.5**
	4.8nm,0.4s,SNR=12						
EQES				S	**Sn**	**00 56 01.4**	**-0.5**
	SNR=7.9						
EQES	**Quesada**	**5.27**	**282**	P	**Pn**	**00 55 02.7**	**+1.6**
	SNR=12						
EQES				S	**Sn**	**00 56 01.4**	**-0.5**
	SNR=7.9						
EJON	**La Jonquera**	**5.55**	**356**	P	**Pn**	**00 55 05.5**	**+0.4**
	3.3nm,0.2s,SNR=21						
EJON				S	**Sn**	**00 56 04.2**	**-4.8**
	SNR=7.9						
EJON	**La Jonquera**	**5.55**	**356**	P	**Pn**	**00 55 05.5**	**+0.4**
EJON				S	**Sn**	**00 56 04.2**	**-4.8**
EJON	**La Jonquera**	**5.55**	**356**	P	**Pn**	**00 55 05.5**	**+0.4**
	SNR=21						
ETOR	**Torete**	**5.80**	**314**	P	**Pn**	**00 55 11.7**	**+3.2**
	4.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.45**	**298**	P	**Pn**	**00 55 17.5**	**+0.1**
	0.8nm,0.3s,baz=111,slow=14,SNR=12						
MTLF	**Montolieu**	**6.50**	**352**	*e*Pn	**Pn**	**00 55 18.4**	**+0.3**
MTLF				*e*Sn	**Sn**	**00 56 27.3**	**-4.9**
	0.6nm,0.2s						
MTLF	**Montolieu**	**6.50**	**352**	P	**Pn**	**00 55 18.4**	**+0.3**
MTLF				S	**Sn**	**00 56 27.3**	**-4.9**
	0.3nm,0.2s						
EPF	**Esparros**	**6.57**	**340**	*e*Pn	**Pn**	**00 55 20.8**	**+1.8**
LMR	**La Mourre**	**6.84**	**19**	*e*Pn	**Pn**	**00 55 21.7**	**-1.0**
LMR				*e*Sn	**Sn**	**00 56 34.7**	**-5.9**
	1.5nm,0.3s						
LMR	**La Mourre**	**6.84**	**19**	*e*Pn	**Pn**	**00 55 21.7**	**-1.

ODZ	**Otahua Downs**	**2.98**	**209**	PN	Pn	01	24	00.5	-1.6
HIZ	**Hauiti**	**4.27**	**24**	*e*PN	Pn	01	24	20.6	+0.8

*CSEM **22** 01:25:13.5, 6784N×2020E, h0km, ML3.1, Suspected Mining explosion. After UPP*
*UPP **22** 01:25:13.5, 6784N×2020E, h0km, ML3.1, Suspected Mining explosion.*

HEL 22 01:25:14.2±0.1, 6785N×2021E, h0km, ML3.1(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	01 25 16.2	-0.3
KUA				*i* S	Sg	01 25 18.3	+0.3
NIKU	**Nikkaluokta**	**0.44**	**273**	*i* P	Pg	01 25 21.7	-1.0
NIKU				*i* S	Sg	01 25 27.9	-0.5
LANU	**Lannavaara**	**0.70**	**72**	*i* P	Pg	01 25 26.6	-1.0
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	01 25 27.4	-1.0
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	01 25 28.1	-1.2
SALU	**Saltoluokta**	**0.80**	**235**	*i* P	Pg	01 25 29.0	-0.6
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	Pg	01 25 37.6	+0.7
KIF				*e*S	Sg	01 25 50.8	-1.4
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	01 25 38.4	-2.5
PAJU				*e*S	Sg	01 25 57.0	-2.0
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	01 25 42.3	-0.2
ERTU	**Ertsjaerv** baz=302	**1.51**	**148**	P	Pn	01 25 42.3	-0.2
HARU	**Harads**	**1.72**	**170**	P	Pn	01 25 44.7	-0.7
HARU				S	Sn	01 26 07.0	-1.0
KALU	**Kalix**	**2.35**	**147**	P	Pn	01 25 53.9	-0.2
SGF	**Sodankyl**	**2.45**	**97**	*e*P	Pn	01 25 56.3	+0.9
SGF				*e*S	Sn	01 26 25.4	-0.7

*IDC **22** 01:50:33.7±6.5, 31.03S×179.35W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.9/10, mbtmp3.9/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/17, Error ellipse: s-maj=258.3km s-min=60.7km az=156.0*
*ISCJB **22** 01:50:35.3±1.1, 31.1S±0.1×179.1W±02, h33km, mb3.9/5, MS3.1/1, Error ellipse: s-maj=28.3km s-min=17.1km az=64.0*
*NEIC **22** 01:50:37.8±0.7, 31.07S×179.19W, h35km, mb4.1/3, Error ellipse: s-maj=23.0km s-min=14.3km az=124.0*

ISC 22 01:50:37.5±1.1, 311S±01×1791W±02, h35km, n10, σ0s58/7, mb3.9/5, MS3.1/1, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**18.39**	**23**	P	**Pn**	**01 54 49.7**	**+0.1**
TAU	**Tasmania Unive**	**29.09**	**237**	P	**P**	**01 56 34.8**	**+0.1**
ASAR	**Alice Springs** 1.0nm,0.5s,mb3.7,baz=105,slow=7.4,SNR=11	**42.12**	**268**	P	**P**	**01 58 26.1**	**-0.2**
WRAB	**Tennant Creek** 1.7nm,0.6s,mb4.0	**43.16**	**274**	*e*P	**P**	**01 58 34.4**	**-0.3**
WRA	**Warramunga Arr** 1.0nm,0.5s,mb3.8,baz=114,slow=7.7,SNR=12	**43.17**	**273**	P	**P**	**01 58 34.7**	**0.0**
CASY	**Casey** 0.9nm,0.7s,mb3.8	**54.07**	**208**	P	**P**	**01 59 59.8**	**+1.2**
GUMO	**Guam** comp=Z,15nm,20.7s,MS3.1,baz=264,slow=33	**56.31**	**317**	LR	LR	02 21 35.2	
QSPA	**South Pole Qui** 2.0nm,0.5s,mb4.4	**59.01**	**180**	*e*P	**P**	**02 00 32.8**	**-0.9**
ZRNK	**Zerenda**	**127.06**	**315**	PKP	PKPdf	02 09 37.9	+0.1
FINES	**FINESS Array B** 1.8nm,0.9s,baz=46,slow=4.0,SNR=3.8	**145.46**	**339**	PKPbc	PKPbc	02 10 11.7	-0.1

*ISCJB **22** 02:07:22.9±1.5, 24.29S±0.007×179.91E±0.09, h504km±20km, mb4.1/16, Error ellipse: s-maj=14.4km s-min=9.0km az=66.4*
*IDC **22** 02:07:23.4±1.6, 24.31S×179.99W, h496km±15km, mb3.6/9, mb1 3.8/11, mb1mx3.7/15, mbtmp4.5/11, Error ellipse: s-maj=17.2km s-min=16.1km az=76.0*
*NEIC **22** 02:07:23.2±1.1, 24.30S×179.99E, h499km±13km, mb4.5/10, Error ellipse: s-maj=12.0km s-min=9.5km az=141.0*

ISC 22 02:07:22.8±1.1, 2437S±007×17993W±009, h494km±16km, n39, σ0s97/30, mb4.1/16, 4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.73**	**278**	*e*P	**P**	**02 10 12.6**	**+3.5**
DZM	**Mont Dzumac** 1.8nm,0.3s,baz=83,slow=16,SNR=16	**12.73**	**278**	P	**P**	**02 10 12.8**	**+3.7**
AFI	**Afiamalu** 3.4nm,0.3s,baz=334,slow=21,SNR=7.8	**12.94**	**38**	P	**P**	**02 10 10.8**	**-0.5**
AFI				S	**S**	**02 12 29.1**	**-1.1**
URZ	**Urewera** 2.1nm,0.3s,baz=335,slow=3.3,SNR=10.0	**14.08**	**190**	P	**P**	**02 10 25.0**	**+1.7**
URZ				S	**S**	**02 12 51.9**	**-0.4**
RPZ	**Rata Peaks** 10nm,0.5s,baz=58,slow=2.7,SNR=7.6	**20.67**	**199**	P	**P**	**02 11 27.3**	**-0.5**
CTA	**Charters Tower** 14nm,0.3s,mb4.9	**31.54**	**271**	*e*P	**P**	**02 13 04.8**	**+1.1**
CTA	**Charters Tower** 18nm,0.4s,mb4.9,baz=94,slow=11,SNR=44	**31.54**	**271**	P	**P**	**02 13 04.8**	**+1.1**
CTAO	**Charters Tower** 11nm,0.4s,mb4.6	**31.54**	**271**	*e*P	**P**	**02 13 04.5**	**+0.8**
STKA	**Stephens Creek** 2.7nm,0.6s,mb3.9,baz=80,slow=11,SNR=6.2	**34.61**	**249**	P	**P**	**02 13 30.2**	**+0.5**
STKA	**Stephens Creek**	**34.61**	**249**	*e*P	**P**	**02 13 30.2**	**+0.5**
ASAR	**Alice Springs** 2.1nm,0.5s,mb3.9,baz=97,slow=7.4,SNR=35	**42.02**	**261**	P	**P**	**02 14 30.2**	**+0.1**
ASAR				ScP	ScP	02 19 17.6	+0.7
WB2	**Warramunga Arr** 0.5nm,0.7s,baz=118,slow=4.5,SNR=4.2	**42.43**	**267**	*i* P	**P**	**02 14 32.9**	**-0.4**
WB2				*e*SCP	ScP	02 19 19.7	+1.2
WB2				*e*S	**S**	**02 20 13.7**	**-4.9**
WRAB	**Tennant Creek** 6.0nm,0.4s,mb4.4	**42.43**	**267**	*e*P	**P**	**02 14 32.6**	**-0.7**
WRA	**Warramunga Arr** 7.5nm,0.4s,mb4.5,baz=98,slow=8.3,SNR=240	**42.44**	**267**	P	**P**	**02 14 33.1**	**-0.3**
WRA				ScP	ScP	02 19 19.2	+0.6
FORT	**Forrest** 3.7nm,1.0s,baz=103,slow=3.6,SNR=16	**46.21**	**250**	*e*P	**P**	**02 15 01.9**	**-0.7**
KAKA	**Kakadu** 17nm,0.7s,mb4.6	**46.41**	**276**	*i* P	**P**	**02 15 03.6**	**-0.6**
FITZ	**Fitzroy Crossi** 4.7nm,0.2s,mb4.6	**50.86**	**266**	*e*P	**P**	**02 15 37.6**	**+0.4**
VNDA	**Vanda** 7.6nm,0.6s,mb4.2	**53.92**	**185**	P	**P**	**02 16 00.1**	**+0.8**
VNDA	**Vanda** 0.8nm,0.5s,mb3.3,baz=0.5,slow=8.0,SNR=15	**53.92**	**185**	P	**P**	**02 16 00.1**	**+0.8**
VNDA	**Vanda** 1.2nm,0.7s,mb3.3	**53.92**	**185**	*e*P	**P**	**02 15 59.8**	**+0.5**
CASY	**Casey** 2.2nm,0.5s,mb3.8	**59.72**	**206**	*e*P	**P**	**02 16 37.9**	**-1.2**
QSPA	**South Pole Qui** 11nm,0.6s,mb4.7	**65.72**	**180**	*e*P	**P**	**02 17 18.4**	**+0.5**
MAW	**Mawson** 3.2nm,0.5s,mb4.1,baz=134,slow=5.2,SNR=14	**77.33**	**200**	P	**P**	**02 18 26.3**	**+0.3**
SYO	**Syowa Base**	**82.57**	**193**	*e*P	**P**	**02 18 51.7**	**-1.8**
SYO	**Syowa Base**	**82.57**	**193**	*e*PcP	PcP	02 18 55.0	-2.1
SNAA	**Sanae** 1.4nm,0.5s,mb3.8	**84.20**	**179**	*e*P	**P**	**02 19 00.2**	**-1.4**
NVAR	**Mina Array Bea** 0.7nm,0.6s,mb3.5,baz=224,slow=5.0,SNR=4.1	**85.04**	**44**	P	**P**	**02 19 07.2**	**+1.5**
TUC	**Tucson** 2.1nm,0.8s,mb3.9	**86.75**	**52**	*e*P	**P**	**02 19 15.5**	**+1.6**
PDAR	**Pinedale Array** 0.5nm,0.8s,mb3.6,baz=222,slow=2.0,SNR=4.5	**92.98**	**44**	P	**P**	**02 19 43.7**	**+0.9**
ARCES	**ARCESS Array B** 1.3nm,0.6s,baz=65,slow=1.1,SNR=8.1	**132.36**	**348**	PKP	PKPdf	02 25 39.4	-1.0
FINES	**FINESS Array B** 0.5nm,0.5s,baz=46,slow=5.5,SNR=6.3	**138.91**	**341**	PKhKP		02 25 42.4	
FINES				PKP	PKPdf	02 25 52.3	-0.2
FINES	0.5nm,0.3s,baz=46,slow=1.0,SNR=5.9			SKPbc	SKPbc	02 28 38.2	-2.5
FINES	**FINESS Array B** 3.0nm,0.9s,baz=40,slow=1.7,SNR=10	**138.91**	**341**	PKP		02 25 42.4	
FINES				PKP	PKPdf	02 25 52.3	-0.2
FINES				SKPbc	SKPbc	02 28 38.2	-2.5
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=32,slow=2.6,SNR=2.9	**142.55**	**351**	PKhKP		02 25 54.4	
AKASG	**Malin Array Be** 1.0nm,0.4s,baz=43,slow=3.6,SNR=7.8	**145.40**	**327**	PKPbc	PKPbc	02 26 03.6	-1.4
BR131	**Keskin Array S**	**147.91**	**307**	*e*PKPbc	PKPbc	02 26 11.4	-0.5
BRTR	**Keskin Array B** 1.1nm,0.7s,baz=146,slow=3.7,SNR=6.0	**147.91**	**307**	PKPbc	PKPbc	02 26 11.4	-0.5
KSP	**Ksiaz**	**150.75**	**339**	*e*P	PKPbc	02 26 18.6	-0.1
CLL	**Collm** comp=Z,7.0nm,0.6s	**151.32**	**343**	*i* PKPbc	PKPbc	02 26 19.5	-0.5
BRG	**Berggiesshubel** comp=Z,3.3nm,0.6s	**151.45**	**341**	*i* P	PKPbc	02 26 19.3	-1.0
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.6s,baz=187,slow=4.1,SNR=17	**168.73**	**188**	PKPab	PKPab	02 27 46.5	+0.2

IGQ 22 02:12:44.9, 132N×7950W, h12km±6km, Mb4.1, Ms3.9, 5C-2D, Error ellipse: s-maj=6.2km s-min=4.3km az=135.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAG1	**Magdalena**	**1.41**	**191**	P	Pn	02 13 11.2	+0.9
COTA	**Cotacachi**	**1.52**	**130**	P	Pn	02 13 13.1	+1.3
COTA				S	Sn	02 13 34.6	+3.1
YANA	**Yana**	**1.70**	**147**	⇑P	Pn	02 13 16.3	+1.9
YANA				S	Sn	02 13 40.2	+4.1
PINO	**Pino**	**1.72**	**149**	⇑P	Pn	02 13 16.6	+2.0
PINO				S	Sn	02 13 39.9	+3.4
TERV	**Terraza Guagua**	**1.73**	**149**	P	Pn	02 13 18.2	+3.4
TERV				S	Sn	02 13 40.9	+4.1
GGP	**Refugio Guagua**	**1.74**	**149**	⇑P	Pn	02 13 16.7	+1.9
GGP				S	Sn	02 13 42.2	+5.2
JUA2	**San Juan 2**	**1.77**	**150**	P	Sn	02 13 17.2	+1.9
JUA2				S	Sn	02 13 41.2	+3.6
CAYA	**Cayambe**	**1.95**	**129**	⇓P	Pn	02 13 20.7	+2.9
CAYA				S	Sn	02 13 48.1	+5.8
CAYR	**Refugio Cayamb**	**1.98**	**131**	P	Pn	02 13 21.3	+3.1
CAYR				S	Sn	02 13 49.0	+6.1
NAS1	**Nasa**	**2.19**	**152**	P	Pn	02 13 25.3	+4.2
ANTI	**Antisana**	**2.21**	**143**	⇓P	Pn	02 13 24.6	+3.2
ANTI				S	Sn	02 13 54.6	+6.0
CAMI	**Rancho Maria**	**2.22**	**153**	⇑P	Pn	02 13 25.6	+4.1
VC1	**Cotopaxi 1**	**2.24**	**151**	P	Pn	02 13 23.3	+1.6
TAMB	**Tambo**	**2.30**	**150**	P	Pn	02 13 27.0	+4.4
ARRY	**Arrayan**	**3.00**	**160**	⇑P	Pn	02 13 36.4	+4.3

IGQ 22 02:17:04.8, 232S×7736W, h15km±5km, Mb4.0, Ms3.8, 2C-2D, Error ellipse: s-maj=9.1km s-min=2.3km az=122.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**1.34**	**307**	⇓P	Pn	02 17 30.1	+1.1
PATA				S	Sn	02 17 49.0	+2.3
ULBA	**Ulba**	**1.36**	**310**	P	Pn	02 17 30.1	+0.9
ULBA				S	Sn	02 17 49.1	+2.2
ARRY				S	Sn	02 17 47.9	+0.9
ARRY	**Arrayan**	**1.36**	**306**	⇑P	Pn	02 17 29.9	+0.6
RUN5	**Runtun**	**1.39**	**310**	P	Pn	02 17 30.7	+1.0
RUN5				S	Sn	02 17 49.8	+2.0
JUIV	**Juive**	**1.42**	**309**	P	Pn	02 17 30.9	+0.9
JUIV				S	Sn	02 17 49.7	+1.2
PISA	**Pisayambo**	**1.62**	**321**	P	Pn	02 17 35.1	+2.3
PISA				S	Sn	02 17 56.7	+3.3
TAMB	**Tambo**	**1.90**	**328**	⇑P	Pn	02 17 40.0	+3.3
TAMB				S	Sn	02 18 03.6	+3.2
VC1	**Cotopaxi 1**	**1.97**	**328**	P	Pn	02 17 41.1	+3.5
VC1				S	Sn	02 18 04.1	+2.2
CAMI	**Rancho Maria**	**1.99**	**325**	⇓P	Pn	02 17 41.5	+3.5
CAMI				S	Sn	02 18 05.2	+2.5

*KNET **22** 02:26:39.0±0.8, 42.52N×75.27E, h7km±22km, ml1.8, Error ellipse: s-maj=2.7km s-min=1.5km az=145.0*
*ISCJB **22** 02:26:39.7±0.6, 42.53N±0.003×75.29E±0.004, h9km±6km, Error ellipse: s-maj=5.3km s-min=4.6km az=66.3*

ISC 22 02:26:39.9±0.6, 4254N±003×7529E±004, h13km±7km, n11, σ0s60/21, 10C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	**Karagaybulak** 60nm,0.1s,SNR=45	**0.28**	**296**	⇑P	**Pg**	**02 26 46.0**	**+0.2**
KBK				⇑S	**Sg**	**02 26 50.4**	**+0.8**
TKM2	**Tokmak 2** 338nm,0.2s	**0.45**	**31**	⇓P	**Pg**	**02 26 49.0**	**+0.2**
TKM2				⇑S	**Sg**	**02 26 55.2**	**+0.5**
TKM2	**Tokmak 2** 81nm,0.1s	**0.45**	**31**	⇓P	**Pg**	**02 26 48.9**	**+0.2**
TKM2				⇑S	**Sg**	**02 26 55.1**	**+0.4**
KZA	**Kyzart** 67nm,0.1s,SNR=29	**0.46**	**184**	⇓P	**Pg**	**02 26 49.2**	**+0.2**
KZA				⇓S	**Sg**	**02 26 55.9**	**+0.7**
AAK	**Ala-Archa** 14nm,0.1s,SNR=23	**0.59**	**280**	⇑P	**Pg**	**02 26 51.2**	**-0.3**
AAK				⇓S	**Sg**	**02 26 59.1**	**-0.2**
CHMS	**Chumysh** 4.3nm,0.1s,SNR=10.0	**0.61**	**320**	⇑P	**Pg**	**02 26 51.6**	**-0.1**
CHMS				⇑S	**Sg**	**02 26 59.6**	**-0.2**
UCH	**Uchtor** 3.3nm,0.2s,SNR=20	**0.65**	**242**	⇓P	**Pg**	**02 26 52.2**	**-0.5**
UCH				⇓S	**Sg**	**02 27 00.4**	**-0.9**
ULHL	**Ulahol** 4.3nm,0.1s,SNR=68	**0.76**	**112**	⇑P	**Pg**	**02 26 54.4**	**-0.3**
ULHL				⇓S	**Sg**	**02 27 04.5**	**-0.2**
USP	**Ospenovka** 3.1nm,0.1s,SNR=21	**0.93**	**322**	⇓P	**Pb**	**02 26 57.4**	**-0.5**
USP				⇓S	**Sb**	**02 27 09.7**	**-0.4**
EKS2	**Erkin-Say** 1.3nm,0.1s,SNR=11	**1.12**	**277**	⇓P	**Pb**	**02 27 01.3**	**+0.2**
EKS2				⇑S	**Sb**	**02 27 17.0**	**+1.4**
KK31	**Karatay Array** 0.3nm,0.4s,baz=104,slow=16,SNR=3.6	**3.56**	**281**	⇓Pg	**Pg**	**02 27 44.4**	**-3.7**
KK31	0.9nm,0.5s,baz=95,slow=29			⇑Lg		02 28 31.8	

*BGS **22** 02:32:21.4±1.2, 2548S×6303W, h498km, mb5.6*
*CRAAG **22** 02:32:22.1, 2677S×6309W, Mw6.0*
*BJI **22** 02:32:24.9, 2639S×6363W, h594km, mB5.8*
*MOS **22** 02:32:24.5±0.9, 2672S×6311W, h588km, mb6.3/86, Error ellipse: s-maj=7.6km s-min=4.8km az=73.3*
*ISCJB **22** 02:32:24.2±0.2, 2678S±002×6311W±003, h588km±3km, mb6.0/265, Error ellipse: s-maj=3.5km s-min=3.2km az=120.5*
*GCMT **22** 02:32:25.6±0.1, 2685S×6305W, h602km, MW6.0/97, Moment Tensor Solution. s97,c208; s69,c86; Duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.79±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$0.83±.01; $M_{r\theta}$-0.45±.01; $M_{\theta\phi}$-0.14±.01; $M_{r\phi}$0.55±.01; Best double couple: $M_0$1.08400×10^{18} NP1:ϕs9.00000°, δ29.00000°, λ-57.00000°. NP2: ϕs152.00000°, δ66.00000°, λ-107.00000°. Principal axes: T 1.0670, Plg19.0000°, Azm255.0000°; N 0.0330, Plg15.0000°, Azm159.0000°; P -1.1000, Plg65.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*NEIC **22** 02:32:25.6±0.1, 2687S×6315W, mb6.1/221, ME5.9, MW6.0 Error ellipse: s-maj=2.9km s-min=2.8km az=115.0, Moment Tensor Solution. s54 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.20000×10^{18} NP1: ϕs151.00000°, δ63.00000°, λ-106.00000°. NP2:ϕs2.00000°, δ31.00000°, λ-63.00000°. Principal axes: T 1.1200, Plg16.0000°, Azm253.0000°; N 0.0800, Plg14.0000°, Azm158.0000°; P -1.2000, Plg68.0000°, Azm30.0000°; Broadband fault plane solution: P waves. NP1: ϕs330.00000°, δ40.00000°, λ-90.00000°. NP2: ϕs150.00000°, δ50.00000°, λ-90.00000°. Principal axes: T Plg5.0000°, Azm240.0000°; N Plg0.0000°, Azm0.0000°; P Plg85.0000°, Azm60.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
*GUC **22** 02:32:25.4±1.4, 2683S×6340W, h600km, MW6.0, MW6.0(NEIC)*
*IDC **22** 02:32:25.8±0.4, 2674S×6298W, h593km±4km, mb5.4/21, mb1 5.4/26, mb1mx5.4/26, mbtmp6.3/26, Error ellipse: s-maj=7.4km s-min=5.5km az=65.0*
*SZGRF **22** 02:32:30.7, 2540S×6254W, h577km, Santiago del Estero Province, Argentina*
*LDG **22** 02:32:30.2±0.5, 26.14S×63.18W, h640km, Mb6.2/45, Ms4.5/8, Error ellipse: s-maj=37.4km s-min=11.5km az=72.0*

ISC 22 02:32:24.6±0.2, 2685S±002×6312W±003, h583km±2km, h596km±2.4km; pP-P, n1283, σ0s94/873, mb6.0/260, 132C-364D, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida** 248nm,0.3s,baz=237,slow=8.2,SNR=1191	**5.21**	**86**	P	**P**	**02 33 59.6**	**+1.6**
CPUP	53nm,0.3s,baz=214,slow=6.1,SNR=1.3			S	**S**	**02 35 17.7**	**+3.3**
CPUP	2.5nm,0.3s,baz=264,slow=2.6,SNR=3.5			ScP	ScP	02 42 25.9	-0.1
CPUP	1.5nm,0.3s,baz=223,slow=2.0,SNR=7.6			PKiKP		02 47 50.5	
CPUP	0.3nm,0.3s,baz=92,slow=2.1,SNR=4.7			P3KPbc		03 10 45.4	
CPUP	**Villa Florida**	**5.21**	**86**	P	**P**	**02 33 59.6**	**+1.6**
CPUP				S	**S**	**02 35 17.7**	**+3.3**
CPUP	comp=Z,248nm,0.3s			pmax	pmax		
CPUP	comp=N,53nm,0.3s			smax			
CPUP	comp=N,3.0nm,0.3s			pmax	pmax		
CPUP	comp=Z,2.0nm,0.3s			pmax	pmax		
CPUP	**Villa Florida**	**5.21**	**86**	⇑*e*Pn	**P**	**02 33 59.5**	**+1.5**
CPCH	**Copiapo**	**6.47**	**264**	⇑*i*P	**P**	**02 34 08.3**	**-0.6**
CPCH				*i* S	**S**	**02 35 33.0**	**-1.4**
CFAA	**Coronel Fontan** comp=Z,72nm,0.3s,baz=56,slow=7.9,SNR=3147	**6.52**	**222**	P	**P**	**02 34 09.8**	**+0.4**
CFAA				S	**S**	**02 35 35.2**	**0.0**
CFAA	comp=Z,13nm,0.3s,baz=300,slow=21,SNR=30			ScS	ScS	02 45 58.6	-1.6
CFAA	comp=Z,0.0nm,0.3s,baz=48,slow=23,SNR=11			PKiKP		02 47 50.4	
CFAA	comp=Z,0.2nm,0.3s,baz=283,slow=1.6,SNR=8.3			P3KPbc		03 10 42.6	
CFAA	comp=Z,0.0nm,0.3s,baz=254,slow=3.0,SNR=7.7						
CFAA	**Coronel Fontan**	**6.52**	**222**	P	**P**	**02 34 09.8**	**+0.4**
CFAA				S	**S**	**02 35 35.2**	**0.0**
CFAA				ScS	ScS	02 45 58.6	-1.6
LVC	**Limon Verde** comp=Z,793nm,0.3s,baz=125,slow=10,SNR=3573	**6.75**	**307**	P	**P**	**02 34 12.5**	**+1.0**
LVC				S	**S**	**02 35 38.3**	**-0.7**
LVC	comp=Z,230nm,0.3s,baz=157,slow=2.7,SNR=5.6			ScP	ScP	02 42 28.6	+1.5
LVC	comp=Z,4.5nm,0.3s,baz=281,slow=2.0,SNR=5.6			ScS	ScS	02 46 02.6	+2.1
LVC	comp=Z,0.2nm,0.3s,baz=346,slow=23,SNR=12						
LVC	**Limon Verde**	**6.75**	**307**	*e*P	**P**	**02 34 11.9**	**+0.4**
LVC				*e*S	**S**	**02 35 38.5**	**-0.5**
CDCH	**Caldera**	**6.89**	**266**	⇑*i*P	**P**	**02 34 12.3**	**-0.4**
LCO	**Las Campanas**	**7.05**	**250**	P	**P**	**02 34 14.8**	**+0.5**
LCO				S	**S**	**02 35 44.4**	**+0.3**
LCO				ScS	ScS	02 46 00.8	-0.1
ANCH	**Antofagasta**	**7.32**	**294**	⇑*i*P	**P**	**02 34 17.8**	**+1.1**
ANCH				*i* S	**S**	**02 35 49.4**	**+0.7**
TLL	**Tololo Astrono**	**7.53**	**242**	⇑*i*P	**P**	**02 34 19.4**	**+0.6**
TLL				*i* S	**S**	**02 35 52.6**	**+0.2**
MDZ	**Mendoza**	**7.81**	**218**	⇓*i*P	**P**	**02 34 20.5**	**-0.9**
MDZ				*e*S	**S**	**02 35 54.3**	**-2.9**
OVCH	**Ovalle**	**8.03**	**240**	⇓*i*P	**P**	**02 34 22.8**	**-0.7**
OVCH				*i* S	**S**	**02 35 59.4**	**-1.7**
CMCH	**Combarbala**	**8.14**	**236**	⇓*i*P	**P**	**02 34 24.1**	**-0.5**
CMCH				*i* S	**S**	**02 36 01.9**	**-1.2**
PTCH	**Petorca**	**8.69**	**230**	*i* P	**P**	**02 34 29.6**	**-0.3**
CHNG	**Los Chungos**	**8.87**	**234**	⇑*i*P	**P**	**02 34 31.3**	**-0.4**
FCH	**Farellones**	**8.96**	**222**	⇑*i*P	**P**	**02 34 33.5**	**+0.9**
FCH				*i* S	**S**	**02 36 18.7**	**+1.0**
PEL	**Peldehue**	**9.08**	**224**	⇓*i*P	**P**	**02 34 33.5**	**-0.3**
PEL				*i* S	**S**	**02 36 19.2**	**-0.6**
CLCH	**Cerro Calan**	**9.16**	**223**	*e*P	**P**	**02 34 34.7**	**+0.1**
CLCH				*i* S	**S**	**02 36 20.9**	**-0.4**
LPA	**La Plata** comp=Z,6μm,0.9s	**9.19**	**152**	*de*P	**P**	**02 34 37.0**	**+2.1**
LPA				*e*SP		02 36 19.0	
LPA				*e*S	**S**	**02 36 23.0**	**+1.2**
RCDM	**Rinconada Maip**	**9.39**	**223**	*e*P	**P**	**02 34 36.5**	**-0.3**
RCDM				*i* S	**S**	**02 36 25.1**	**-0.3**
IHA	**Instituto Hidr**	**9.62**	**228**	⇑*i*P	**P**	**02 34 38.0**	**-1.2**
NICH	**Los Niches**	**10.70**	**219**	⇑*i*P	**P**	**02 34 49.2**	**-0.8**
NICH				*i* S	**S**	**02 36 48.4**	**-1.1**
SIV	**San Ignacio** comp=Z,37nm,0.3s,baz=199,slow=9.0,SNR=1344	**10.97**	**10**	P	**P**	**02 34 53.3**	**+0.6**
SIV				S	**S**	**02 36 54.6**	**+0.2**
SIV	comp=Z,0.8nm,0.3s,baz=220,slow=13,SNR=12			ScP	ScP	02 42 33.0	+1.0
TALC	**Talca**	**11.22**	**218**	⇓*e*P	**P**	**02 34 52.0**	**-3.3**
TRQA	**Tornquist**	**11.22**	**175**	⇓*i*P	**P**	**02 34 53.4**	**-1.9**
TRQA				*e*S	**S**	**02 36 53.2**	**-5.9**
TRQA				*e*ScP	ScP	02 42 31.6	-0.6
LPAZ	**La Paz**	**11.49**	**335**	P	**P**	**02 34 58.4**	**+0.4**
LPAZ				PcP	PcP	02 39 56.2	+1.7
LPAZ				ScS	ScS	02 46 09.1	+0.6
LPAZ	**La Paz** comp=Z,35nm,0.3s,baz=156,slow=9.0,SNR=712	**11.49**	**335**	P	**P**	**02 34 58.4**	**+0.4**
LPAZ				S	**S**	**02 37 02.4**	**-1.7**
LPAZ	comp=Z,6.8nm,0.3s,baz=294,slow=17,SNR=5.3			PcP	PcP	02 39 56.3	+1.8
LPAZ	comp=Z,2.9nm,0.3s,baz=290,slow=0.9,SNR=4.3			ScP	ScP	02 42 33.8	+1.1
LPAZ	comp=Z,0.7nm,0.3s,baz=70,slow=2.9,SNR=15			ScS	ScS	02 46 09.3	+0.9
LPAZ	comp=Z,0.4nm,0.3s,baz=68,slow=24,SNR=13			PKiKP	PKiKP	02 47 53.2	+0.6
LPAZ	comp=Z,0.8nm,0.3s,baz=28,slow=1.5,SNR=7.7			P3KPbc		03 10 28.1	
LPAZ	comp=Z,0.1nm,0.3s,baz=342,slow=6.4,SNR=4.1						
LPAZ	**La Paz**	**11.49**	**335**	*e*P	**P**	**02 34 58.4**	**+0.4**
LPAZ				*e*S	**S**	**02 37 03.1**	**-1.1**
LNCH	**Linares**	**11.53**	**217**	*e*P	**P**	**02 35 00.7**	**+2.3**
CCHI	**Chillan**	**12.35**	**216**	⇑*i*P	**P**	**02 35 05.9**	**-0.9**
CCHI				*i* S	**S**	**02 37 19.0**	**-1.1**
COCH	**Cobquecura**	**12.39**	**219**	⇓*i*P	**P**	**02 35 06.3**	**-0.9**
ARE	**Arequipa**	**12.93**	**321**	⇑*i*P	**P**	**02 35 12.8**	**+0.2**
ARE				*e*S	**S**	**02 37 35.0**	**+4.2**
VAO	**Valinhos**	**15.14**	**79**	⇑*i*P	**P**	**02 35 34.8**	**+0.1**
VAO				*i*		02 35 35.8	
VAO				*i*		02 35

SAML	**Samuel**	**17.80**	**360**	⇓*i*P	**P**	**02 35 59.0**	**-0.1**
SAML				*e*S	**S**	**02 38 51.0**	**-2.4**
SAML				*e*ScP	ScP	02 42 43.9	-0.2
BDFB	**Brasilia**	**17.93**	**55**	P	**P**	**02 36 01.2**	**+0.9**
	comp=Z,37nm,0.3s,baz=234,slow=8.0,SNR=543						
BDFB				S	**S**	**02 38 52.6**	**-3.0**
	baz=225,slow=25,SNR=5.7						
BDFB				ScP	ScP	02 42 45.2	+0.8
	comp=Z,3.3nm,0.3s,baz=216,slow=3.1,SNR=3.5						
BDFB				PKiKP	PKiKP	02 47 54.1	-0.5
	comp=Z,1.3nm,0.3s,baz=113,slow=11,SNR=5.6						
BDFB	**Brasilia**	**17.93**	**55**	P	**P**	**02 36 01.2**	**+0.9**
BDFB				S	**S**	**02 38 52.6**	**-3.0**
BDFB	**Brasilia**	**17.93**	**55**	P	**P**	**02 36 01.2**	**+0.9**
BDFB				S	**S**	**02 38 52.6**	**-3.0**
BDFB				ScP	ScP	02 42 45.2	+0.8
BAO	**Brasilia Array**	**17.96**	**55**	P	**P**	**02 36 02.0**	**+1.5**
BAO				S	**S**	**02 38 58.0**	**+2.1**
CAM4	**Nova Friburgo**	**19.21**	**81**	*e*P	**P**	**02 36 13.2**	**+1.4**
CAM4				*i*		02 36 15.4	
CAM4				*i*		02 36 41.7	
CAM4				*i*		02 37 01.2	
NNA	**Nana**	**19.62**	**316**	P	**P**	**02 36 15.0**	**-0.6**
	comp=Z,564nm,0.9s,SNR=9.8						
NNA	**Nana**	**19.62**	**316**	P	**P**	**02 36 15.5**	**-0.1**
	comp=Z,9.6nm,0.3s,baz=152,slow=7.1,SNR=22						
NNA				S	**S**	**02 39 20.4**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=305,slow=15,SNR=25						
NNA				PcP	PcP	02 40 06.7	0.0
	comp=Z,5.4nm,0.3s,baz=136,slow=0.6,SNR=12						
NNA				ScP	ScP	02 42 47.4	-0.8
	comp=Z,5.7nm,0.3s,baz=170,slow=1.8,SNR=20						
NNA				ScS	ScS	02 46 30.8	-0.2
	baz=159,slow=5.3,SNR=13						
NNA				PKiKP	PKiKP	02 47 54.9	-0.5
	comp=Z,1.3nm,0.3s,baz=305,slow=2.6,SNR=7.4						
NNA	**Nana**	**19.62**	**316**	⇑*i*P	**P**	**02 36 14.6**	**-1.0**
	comp=Z,90nm,0.7s						
NNA				*e*PcP	PcP	02 40 06.9	+0.2
NNA				*e*ScP	ScP	02 42 47.5	-0.7
COYC	**Coyhaique**	**20.02**	**199**	*e*P	**P**	**02 36 18.4**	**-0.8**
CAM3	**Guarapari**	**21.54**	**78**	*e*P	**P**	**02 36 32.9**	**+0.1**
CAM3				*i*		02 36 38.8	
CAM3				*i*		02 36 42.7	
CAM3				*i*		02 36 47.5	
CAM3				*i*		02 36 50.1	
CAM3				*i*		02 36 59.5	
ATAH	**Atahualpa**	**24.51**	**321**	P	**P**	**02 37 00.8**	**+1.6**
	comp=Z,74nm,0.8s,mb5.3,baz=165,slow=6.9,SNR=55						
ATAH				PcP	PcP	02 40 18.9	+2.1
	comp=Z,112nm,0.8s,baz=162,slow=3.6,SNR=8.7						
ATAH				S	**S**	**02 40 41.7**	**+2.1**
	comp=Z,49nm,1.1s,baz=54,slow=16,SNR=5.5						
ATAH				ScP	ScP	02 43 02.5	+1.6
	comp=Z,223nm,0.9s,baz=139,slow=2.8,SNR=22						
ATAH				ScS	ScS	02 46 51.6	+1.9
	comp=Z,26nm,1.0s,baz=158,slow=4.5,SNR=14						
EFI	**East Falkland**	**25.09**	**173**	P	**P**	**02 37 03.6**	**-0.7**
	comp=Z,431nm,0.5s,mb6.3,SNR=14						
EFI	**East Falkland**	**25.09**	**173**	*e*P	**P**	**02 37 03.5**	**-0.8**
EFI				pmax	pmax		
	comp=Z,98nm,0.8s,mb5.5						
EFI	**East Falkland**	**25.09**	**173**	*e*P	**P**	**02 37 03.5**	**-0.9**
	comp=Z,98nm,0.8s,mb5.5						
EFI				*e*ScP	ScP	02 43 01.9	-0.7
ROSC	**El Rosal**	**33.33**	**339**	P	**P**	**02 38 16.0**	**+0.6**
	comp=Z,394nm,0.8s,mb6.1,baz=165,slow=3.8,SNR=197						
ROSC				PcP	PcP	02 40 40.6	+0.9
	comp=Z,183nm,0.7s,baz=117,slow=5.7,SNR=11						
ROSC				S	**S**	**02 42 54.5**	**-1.2**
	comp=Z,34nm,0.9s,baz=249,slow=22,SNR=9.0						
ROSC				ScP	ScP	02 43 29.7	+0.4
	comp=Z,140nm,1.0s,baz=157,slow=3.3,SNR=8.3						
ROSC				ScS	ScS	02 47 29.8	-2.1
	comp=Z,51nm,1.2s,baz=90,slow=20,SNR=6.1						
ROSC	**El Rosal**	**33.33**	**339**	⇓*i*P	**P**	**02 38 15.6**	**+0.2**
ROSC				*e*PcP	PcP	02 40 40.4	+0.7
ROSC				*e*S	**S**	**02 42 55.0**	**-0.7**
ROSC				*e*ScP	ScP	02 43 29.6	+0.3
HOPE	**Hope Point**	**33.68**	**152**	P	**P**	**02 38 19.7**	**+1.4**
	comp=Z,3µm,0.7s,mb7.0,SNR=19						
HOPE	**Hope Point**	**33.68**	**152**	P	**P**	**02 38 19.1**	**+0.8**
SDV	**Santo Domingo**	**36.26**	**347**	P	**P**	**02 38 38.3**	**-1.4**
	comp=Z,238nm,0.4s,mb6.0,baz=176,slow=8.8,SNR=206						
SDV				PcP	PcP	02 40 48.4	+0.1
	comp=Z,177nm,1.1s,baz=276,slow=6.7,SNR=5.2						
SDV				S	**S**	**02 43 34.7**	**-4.9**
	comp=Z,39nm,1.0s,baz=37,slow=23,SNR=3.7						
SDV				ScS	ScS	02 47 49.2	+1.1
	comp=Z,25nm,1.0s,baz=58,slow=23,SNR=3.3						
SDV	**Santo Domingo**	**36.26**	**347**	*e*P	**P**	**02 38 38.0**	**-1.7**
	comp=Z,532nm,0.9s,mb6.1						
SDV				*e*PcP	PcP	02 40 48.7	+0.3
SDV				*e*S	**S**	**02 43 34.2**	**-5.4**
PCRV	**Puerto La Cruz**	**36.83**	**358**	P	**P**	**02 38 44.3**	**-0.1**
	comp=Z,610nm,0.8s,mb6.2,baz=162,slow=2.9,SNR=165						
PCRV				PcP	PcP	02 40 50.5	+0.3
	comp=Z,48nm,0.5s,baz=279,slow=1.4,SNR=7.3						
PCRV				S	**S**	**02 43 43.0**	**-5.0**
	comp=Z,19nm,0.7s,baz=12,slow=20,SNR=7.8						
PAYG	**Puerto Ayora**	**36.87**	**310**	*e*P	**P**	**02 38 45.4**	**+0.7**
	comp=Z,121nm,1.3s,mb5.3						
PAYG				*e*PcP	PcP	02 40 51.4	+1.1
PAYG				*e*ScP	ScP	02 43 42.7	+0.5
TPP	**Pointe-a-Pierr**	**36.97**	**3**	⇑*i*P	**P**	**02 38 47.3**	**+1.8**
TBH	**Brigand Hill**	**37.16**	**3**	⇓*i*P	**P**	**02 38 48.2**	**+1.2**
TRN	**Trinidad (W)**	**37.30**	**3**	⇑*i*P	**P**	**02 38 48.7**	**+0.5**
BOT	**Bacolet**	**37.85**	**4**	*e*P	**P**	**02 38 53.5**	**+0.8**
TPR	**Prospect**	**37.87**	**4**	*e*P	**P**	**02 38 53.0**	**+0.1**
PMSA	**Palmer Station**	**37.94**	**181**	P	**P**	**02 38 54.1**	**+0.7**
	comp=Z,76nm,1.0s,mb5.2,baz=8.8,slow=6.7,SNR=46						
PMSA				PcP	PcP	02 40 53.1	-0.5
	comp=Z,52nm,0.7s,baz=78,slow=4.9,SNR=18						
PMSA				ScP	ScP	02 43 45.9	-0.4
	comp=Z,69nm,1.0s,baz=4.3,slow=2.7,SNR=12						
PMSA	**Palmer Station**	**37.94**	**181**	⇑*i*P	**P**	**02 38 53.8**	**+0.4**
	comp=Z,68nm,0.9s,mb5.2						
PMSA				*e*PcP	PcP	02 40 53.1	-0.5
PMSA				*e*ScP	ScP	02 43 46.0	-0.3
GRW	**Mount Saint Ca**	**38.80**	**2**	*e*P	**P**	**02 39 00.5**	**+0.1**
GRHS	**Sauteurs**	**38.86**	**2**	*e*P	**P**	**02 39 00.9**	**+0.1**
GRIC	**Isle de Caille**	**38.92**	**2**	*e*P	**P**	**02 39 01.9**	**+0.6**
GRSS	**Sisters**	**38.94**	**2**	*e*P	**P**	**02 39 01.5**	**+0.1**
GRCU	**Cariacou**	**39.11**	**3**	*e*P	**P**	**02 39 03.4**	**+0.5**
BBGH	**Gun Hill**	**39.90**	**5**	⇓*i*P	**P**	**02 39 10.3**	**+1.1**
BBGH				*e*		02 40 59.6	
CTCR	**Cotoan**	**40.32**	**329**	⇓*e*P	**P**	**02 39 13.8**	**+1.3**
RPN	**Rapa Nui**	**41.01**	**259**	P	**P**	**02 39 19.3**	**+1.4**
	comp=Z,6µm,0.9s,SNR=8.3						
RPN	**Rapa Nui**	**41.01**	**259**	P	**P**	**02 39 20.0**	**+2.1**
	comp=Z,716nm,0.8s,mb6.2,baz=75,slow=4.4,SNR=26						
RPN	**Rapa Nui**	**41.01**	**259**	⇓*i*P	**P**	**02 39 19.4**	**+1.4**
	comp=Z,1µm,0.9s,mb6.4						
FDF	**Fort de France**	**41.37**	**3**	⇓*e*P	**P**	**02 39 19.8**	**-1.0**
OCM	**Ochomogo**	**41.75**	**328**	⇓*i*P	**P**	**02 39 25.8**	**+1.9**
IRZ2	**Volcan Irazu 2**	**41.79**	**328**	⇑*e*P	**P**	**02 39 26.7**	**+2.6**
DSHT	**Scott's Head**	**41.84**	**3**	*e*P	**P**	**02 39 24.7**	**+0.2**
DBCT	**Belle View Cho**	**41.90**	**3**	*e*P	**P**	**02 39 24.8**	**-0.2**
MDN	**Morne-Daniel**	**41.94**	**2**	*e*P	**P**	**02 39 25.4**	**+0.1**
CAO	**Cobano**	**42.13**	**327**	⇑*e*P	**P**	**02 39 28.2**	**+1.3**
EPA	**Esparza**	**42.14**	**327**	⇑*e*P	**P**	**02 39 28.5**	**+1.7**
POA2	**Poas 2**	**42.14**	**328**	⇓*e*P	**P**	**02 39 28.9**	**+2.1**
BBL	**Barber's Block**	**42.15**	**2**	*e*P	**P**	**02 39 26.0**	**-0.9**
DWS	**Wesley**	**42.20**	**3**	*e*P	**P**	**02 39 28.2**	**+0.9**
TBG	**Guadaloupe-3**	**42.47**	**2**	⇓*e*P	**P**	**02 39 27.9**	**-1.5**
MGG	**Marie-Galante**	**42.54**	**3**	*e*P	**P**	**02 39 28.8**	**-1.2**
VACR	**Volcan Arenal**	**42.60**	**328**	*e*P	**P**	**02 39 31.9**	**+1.4**
DOG	**Dongo Capester**	**42.64**	**2**	⇓*e*P	**P**	**02 39 29.7**	**-1.1**
LZG	**Guadaloupe-1**	**42.75**	**2**	⇓*e*P	**P**	**02 39 30.0**	**-1.6**
DEG	**La Desirade**	**42.95**	**3**	⇓*e*P	**P**	**02 39 31.8**	**-1.4**
SEG	**Port Louis**	**43.02**	**2**	*e*P	**P**	**02 39 32.5**	**-1.2**
LIM1	**Limonal**	**43.07**	**327**	*e*P	**P**	**02 39 35.3**	**+1.2**
MADN	**Villa Maderas**	**43.82**	**327**	*e*P	**P**	**02 39 40.5**	**+0.6**
TRIS	**Tristan da Cun**	**43.84**	**117**	*e*P	**P**	**02 39 40.9**	**+0.8**
	comp=Z,725nm,0.8s,mb6.3						
CONN	**Concepcion**	**44.00**	**327**	⇑*e*P	**P**	**02 39 41.4**	**+0.2**
CPD	**Cerro la Pandu**	**44.70**	**356**	⇓*i*P	**P**	**02 39 44.6**	**-2.0**
CPD				*e*		02 41 15.7	
CPD				*e**PP	pP	02 41 30.8	+0.6
CPD				*e*		02 41 41.5	
CPD				*e*S	**S**	**02 45 36.6**	**-4.9**
CPD	**Cerro la Pandu**	**44.70**	**356**	⇓*i*P	**P**	**02 39 44.6**	**-2.0**
CPD				*e*PcP	PcP	02 41 15.7	-0.5
CPD				*e*pP	pP	02 41 30.8	+0.6

CPD				*e*PP	PP	02 41 41.5	-0.2
CPD				*e*ScP	ScP	02 44 12.0	-1.4
CPD				*e*S	**S**	**02 45 36.5**	**-5.0**
MTP	**Monte Pirata**	**44.74**	**357**	⇓*i*P	**P**	**02 39 44.6**	**-2.3**
MTP				*e*PcP	PcP	02 41 15.8	-0.5
MTP				*e*ScP	ScP	02 44 12.7	-0.8
SJG	**San Juan**	**44.78**	**356**	P	**P**	**02 39 45.9**	**-1.5**
	comp=Z,415nm,0.8s,mb6.0,baz=118,slow=3.8,SNR=219						
SJG				S	**S**	**02 45 37.9**	**-4.9**
	comp=Z,84nm,1.0s,baz=73,slow=22,SNR=26						
SJG	**San Juan**	**44.78**	**356**	⇓*i*P	**P**	**02 39 44.8**	**-2.5**
SJG				*e*		02 41 15.5	
SJG				*e*		02 41 42.5	
SJG				*e*S	**S**	**02 45 37.6**	**-5.2**
SJG				pmax	pmax		
	comp=Z,465nm,0.8s						
SJG	**San Juan**	**44.78**	**356**	⇓*i*P	**P**	**02 39 44.8**	**-2.5**
	comp=Z,465nm,0.8s,mb6.1						
SJG				*e*PcP	PcP	02 41 15.5	-1.1
SJG				*e*PP	PP	02 41 42.5	0.0
SJG				*e*S	**S**	**02 45 37.6**	**-5.1**
HUMP	**Col San Antoni**	**44.80**	**356**	*e*P	**P**	**02 39 45.3**	**-2.1**
MGAN	**Managua**	**44.80**	**327**	*e*P	**P**	**02 39 47.4**	**-0.1**
TISN	**Laguna Tiscapa**	**44.81**	**327**	⇑*e*P	**P**	**02 39 47.4**	**-0.1**
XAVN	**Gruta Xavier**	**44.84**	**327**	⇓*e*P	**P**	**02 39 47.6**	**-0.2**
CBYP	**Canovanas**	**44.93**	**356**	*e*P	**P**	**02 39 46.1**	**-2.3**
MPR	**Mayaguez**	**44.96**	**355**	*e*P	**P**	**02 39 46.0**	**-2.7**
COPN	**Copaltepe**	**45.00**	**327**	⇓*e*P	**P**	**02 39 48.3**	**-0.7**
MOMJ	**Momotombo**	**45.17**	**327**	*e*P	**P**	**02 39 49.5**	**-0.8**
MIRN	**Miramar**	**45.28**	**327**	⇓*e*P	**P**	**02 39 51.1**	**0.0**
CNGN	**Cerro Negro**	**45.33**	**327**	⇑*e*P	**P**	**02 39 51.1**	**-0.3**
CNGN				*e*P		02 39 51.2	
LEON	**Leon**	**45.35**	**326**	*e*P	**P**	**02 39 51.4**	**-0.2**
PCJ	**Portland Cotta**	**46.37**	**341**	⇑*i*P	**P**	**02 39 59.6**	**+0.2**
HOJ	**Hope**	**46.51**	**342**	⇑*i*P	**P**	**02 40 00.6**	**+0.2**
CMJ	**Castle Mountai**	**46.53**	**343**	⇑*i*P	**P**	**02 40 00.7**	**+0.1**
GWJ	**Greenwich**	**46.56**	**342**	⇓*i*P	**P**	**02 40 01.6**	**+0.8**
STH	**Stony Hill**	**46.59**	**342**	⇑*i*P	**P**	**02 40 01.3**	**+0.2**
MCJ	**Malvern**	**46.70**	**341**	⇑*i*P	**P**	**02 40 02.5**	**+0.7**
TGUH	**Tegucigalpa,Un**	**46.95**	**327**	⇑*i*P	**P**	**02 40 03.1**	**-0.6**
TGUH				*e*ScP	ScP	02 44 22.8	0.0
TGUH				*e*S	**S**	**02 46 11.8**	**-1.0**
BBJ	**Bamboo Saint A**	**47.01**	**341**	⇑*i*P	**P**	**02 40 04.4**	**+0.2**
MASC	**Masc**	**47.97**	**346**	*e*P	**P**	**02 40 12.2**	**+0.9**
LMGC	**Las Mercedes**	**48.54**	**342**	*e*P	**P**	**02 40 16.4**	**+0.9**
TP2	**Tecpan 2**	**49.47**	**323**	⇓*e*P	**P**	**02 40 23.1**	**+0.7**
CCCC	**Cccc**	**49.83**	**342**	*e*P	**P**	**02 40 23.7**	**-1.3**
ASCN	**Ascension**	**49.83**	**77**	P	**P**	**02 40 25.6**	**+0.5**
	comp=Z,6µm,0.8s,SNR=11						
ASCN	**Ascension**	**49.83**	**77**	P	**P**	**02 40 25.3**	**+0.2**
CCIG	**Comitan**	**51.30**	**323**	*i* P	**P**	**02 40 35.3**	**-0.5**
OXX	**Oaxaca**	**54.51**	**319**	*i* P	**P**	**02 41 00.0**	**+1.5**
SNAA	**Sanae**	**55.51**	**161**	P	**P**	**02 41 05.1**	**-0.4**
	comp=Z,155nm,0.8s,mb5.3,baz=290,slow=5.9,SNR=1620						
SNAA				PcP	PcP	02 41 56.4	-0.2
	comp=Z,46nm,0.6s,baz=275,slow=5.1,SNR=6.3						
SNAA				pP	pP	02 42 58.7	+2.6
	comp=Z,254nm,1.1s,baz=298,slow=6.4,SNR=18						
SNAA				ScP	ScP	02 44 59.3	-0.6
	comp=Z,24nm,0.8s,baz=282,slow=4.1,SNR=4.7						
SNAA				S	**S**	**02 48 06.4**	**-1.0**
	comp=Z,4.3nm,0.8s,baz=99,slow=22,SNR=13						
SNAA	**Sanae**	**55.51**	**161**	⇓*i*P	**P**	**02 41 05.5**	**+0.1**
SNAA				*e*		02 41 06.9	
SNAA				*e*		02 41 56.2	
SNAA				*e*	pP	02 42 58.1	+2.0
SNAA				*e*		02 43 19.4	
SNAA				*e*		02 44 58.6	
SNAA				*e*S	**S**	**02 48 06.6**	**-0.7**
SNAA				*e*		02 48 11.2	
SNAA				*e*		02 48 16.8	
SNAA				*e*		02 49 52.4	
SNAA				*e*		02 50 10.9	
SNAA				*e*		03 11 10.2	
SNAA	**Sanae**	**55.51**	**161**	P	**P**	**02 41 05.1**	**-0.3**
SNAA						02 41 56.4	
SNAA				*PP	pP	02 42 58.7	+2.6
SNAA				S	**S**	**02 48 06.4**	**-0.9**
SNAA				pmax	pmax		
	comp=Z,155nm,0.8s						
SNAA				pmax	pmax		
	comp=Z,46nm,0.6s						
SNAA				pmax	pmax		
	comp=Z,254nm,1.1s						
SNAA				pmax	pmax		
	comp=N,24nm,0.8s						
SNAA				smax			
	comp=N,4.0nm,0.8s						
SNAA	**Sanae**	**55.51**	**161**	⇓*i*P	**P**	**02 41 04.9**	**-0.5**
	comp=N,472nm,0.9s,mb5.7						
SNAA				*e*PcP	PcP	02 41 56.1	-0.4
SNAA				*e*pP	pP	02 42 58.1	+2.0
SNAA				*e*ScP	ScP	02 44 59.1	-0.8
ACX	**Acapulco**	**56.26**	**316**	*i* P	**P**	**02 41 11.0**	**+0.4**
CAIG	**El Cayaco**	**56.61**	**316**	*i* P	**P**	**02 41 13.4**	**+0.4**
PLIG	**Platanillo**	**57.17**	**318**	*i* P	**P**	**02 41 18.2**	**+1.3**
PPM	**Popocatepetl**	**57.18**	**319**	*i* P	**P**	**02 41 18.4**	**+1.5**
YAIG	**Yautepec**	**57.28**	**319**	*i* P	**P**	**02 41 19.0**	**+1.4**
ZIIG	**Zihuatanejo**	**57.78**	**316**	*i* P	**P**	**02 41 21.9**	**+0.9**
BBSR	**BB Station**	**58.91**	**358**	⇑*i*P	**P**	**02 41 28.2**	**-0.3**
	comp=N,538nm,0.9s,mb5.7						
BBSR				*e*PcP	PcP	02 42 09.7	-0.3
MOIG	**Morelia**	**59.17**	**317**	*i* P	**P**	**02 41 31.4**	**+1.1**
MRX	**Morelia**	**59.20**	**317**	*i* P	**P**	**02 41 32.0**	**+1.5**
MAIT	**Maitri**	**59.92**	**158**	*e*P	**P**	**02 41 36.6**	**+1.3**
MAIT				*e*PP	pP	02 43 29.4	+0.9
MAIT				*e*S	**S**	**02 49 03.7**	**+0.4**
NVL	**N'lazarevskaya**	**59.95**	**158**	*d* *i*P	**P**	**02 41 35.7**	**+0.2**
NVL				*i* *PP	PcP	02 42 14.5	+0.2
NVL				*i*	pP	02 43 30.9	+2.2
NVL				*i* S	**S**	**02 49 03.0**	**-0.7**
NVL				*i* *SS	ScS	02 50 24.2	-3.3
NVL				pmax	pmax		
	comp=N,100nm,0.7s						
NVL				pmax	pmax		
	comp=Z,828nm,0.7s,mb6.1						
NVL				pmax	pmax		
	comp=E,426nm,0.8s						
NVL				pmax	pmax		
	comp=Z,333nm,1.1s,mb5.5						
SFJM	**Santa Fe**	**60.92**	**316**	*i* P	**P**	**02 41 42.5**	**+0.7**
CJM	**Chamela**	**61.44**	**314**	*i* P	**P**	**02 41 46.1**	**+0.9**
COW	**Cow Castle Cre**	**62.18**	**343**	*e*P	**P**	**02 41 56.6**	**+6.5**
ZAIG	**Zacatecas**	**62.36**	**319**	*i* P	**P**	**02 41 52.5**	**+1.3**
JSC	**Jenkinsville**	**63.18**	**343**	P	**P**	**02 41 56.5**	**0.0**
JSC	**Jenkinsville**	**63.18**	**343**	*e*P	**P**	**02 41 56.7**	**+0.2**
QSPA	**South Pole Qui**	**63.37**	**180**	*e*P	**P**	**02 41 57.9**	**+0.2**
	comp=Z,192nm,0.8s,mb5.5						
KVTX	**Kingsville**	**63.58**	**326**	*e*P	**P**	**02 42 00.2**	**+1.2**
RKT	**Rikitea**	**64.44**	**256**	*e*S	**S**	**02 49 59.6**	**+1.2**
	comp=Z,2µm,28.8s						
HKT	**Hockley**	**64.58**	**329**	P	**P**	**02 42 05.7**	**+0.4**
HKT				S	**S**	**02 49 59.9**	**-0.2**
HKT	**Hockley**	**64.58**	**329**	*e*P	**P**	**02 42 05.8**	**+0.5**
HKT				pmax	pmax		
	comp=Z,503nm,1.3s,mb5.8						
HKT	**Hockley**	**64.58**	**329**	*e*P	**P**	**02 42 05.8**	**+0.4**
	comp=Z,503nm,1.3s,mb5.8						
MYNC	**Murphy**	**64.71**	**341**	*e*P	**P**	**02 42 05.8**	**-0.4**
MYNC				*e*		02 42 34.0	
MYNC				pmax	pmax		
	comp=Z,15nm,0.5s						
MYNC	**Murphy**	**64.71**	**341**	*e*P	**P**	**02 42 05.8**	**-0.4**
	comp=Z,15nm,0.5s						
MYNC				*e*PcP	PcP	02 42 34.0	+0.2
MAIG	**Mazatlaan**	**65.02**	**316**	*i* P	**P**	**02 42 09.0**	**+0.9**
LIC	**Lamto**	**65.09**	**69**	⇓*i*P	**P**	**02 42 08.4**	**-0.2**
	comp=Z,1µm,0.9s,mb6.0,baz=246						
LIC				*e*R			
	comp=Z,461nm,21.2s						
LIC	**Lamto**	**65.09**	**69**	⇓*i*P	**P**	**02 42 08.4**	**-0.2**
	comp=Z,577nm,0.9s,mb6.0						
LIC				LR	LR		
	comp=Z,230nm,21.3s						
SWET	**Sewanee**	**65.39**	**340**	*e*P	**P**	**02 42 09.8**	**-0.7**
DBIC	**Dimbokro**	**65.48**	**68**	P	**P**	**02 42 10.9**	**0.0**
	comp=Z,792nm,0.7s,mb6.3,baz=212,slow=7.1,SNR=1203						
DBIC				S	S	02 50 08.8	-1.9
	comp=Z,17nm,1.0s,baz=95,slow=21,SNR=12						
DBIC				PKP2bc		03 10 45.6	
	comp=Z,4.9nm,0.8s,baz=81,slow=7.9,SNR=4.0						
DBIC	**Dimbokro**	**65.48**	**68**	P	**P**	**02 42 11.0**	**0.0**
DBIC				S	S	02 50 08.8	-2.0

DBIC				pmax	pmax		
	comp=Z,792nm,0.7s						
DBIC				smax			
	comp=N,17nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DBIC	**Dimbokro**	**65.48**	**68**	*e*P	**P**	**02 42 11.1**	**+0.1**
	comp=Z,868nm,0.8s,mb6.2						
NATX	**Nacogdoches**	**65.58**	**331**	*e*P	**P**	**02 42 12.3**	**+0.7**
BLA	**Blacksburg**	**65.76**	**345**	*e*P	**P**	**02 42 13.1**	**+0.4**
BLA				*e*S	S	02 50 15.0	+0.9
BLA				pmax	pmax		
	comp=Z,65nm,1.1s,mb5.0						
BLA	**Blacksburg**	**65.76**	**345**	*e*P	**P**	**02 42 13.1**	**+0.3**
	comp=Z,65nm,1.1s,mb5.0						
BLA				*e*S	S	02 50 15.0	+0.9
ELN	**Prospectdale**	**65.86**	**345**	*e*P	**P**	**02 42 13.8**	**+0.5**
PLAL	**Pickwick Lake**	**65.87**	**338**	*e*P	**P**	**02 42 12.0**	**-1.4**
OXF	**Oxford**	**65.91**	**336**	*e*P	**P**	**02 42 12.5**	**-1.2**
OXF				pmax	pmax		
	comp=Z,1µm,1.0s,mb6.2						
OXF	**Oxford**	**65.91**	**336**	*e*P	**P**	**02 42 12.5**	**-1.2**
	comp=Z,1µm,1.0s,mb6.2						
TZTN	**Tazewell**	**65.92**	**342**	*e*P	**P**	**02 42 13.0**	**-0.7**
CBN	**Corbin**	**66.07**	**348**	⇓*i*P	**P**	**02 42 14.8**	**+0.2**
	comp=Z,778nm,0.9s,mb6.1						
FWV	**Forest Hill**	**66.21**	**345**	*e*P	**P**	**02 42 15.5**	**0.0**
MET	**Memphis--Engin**	**66.65**	**336**	⇓*i*P	**P**	**02 42 17.3**	**-0.9**
WVT	**Waverly**	**66.83**	**338**	P	**P**	**02 42 18.0**	**-1.3**
WVT				PcP	PcP	02 42 42.1	-0.6
WVT				pP	pP	02 44 18.6	+2.5
WVT				S	S	02 50 22.0	-4.7
WVT				SKSac	SKSac	02 51 15.3	-4.4
WVT	**Waverly**	**66.83**	**338**	⇓*i*P	**P**	**02 42 18.0**	**-1.4**
WVT				*e*		02 42 42.0	
WVT				pmax	pmax		
	comp=Z,782nm,0.8s,mb6.2						
WVT	**Waverly**	**66.83**	**338**	⇓*i*P	**P**	**02 42 18.0**	**-1.4**
	comp=Z,782nm,0.8s,mb6.2						
WVT				*e*PcP	PcP	02 42 42.0	-0.7
JCT	**Junction City**	**66.93**	**326**	⇓*i*P	**P**	**02 42 20.0**	**0.0**
JCT				pmax	pmax		
	comp=Z,790nm,0.8s,mb6.2						
JCT	**Junction City**	**66.93**	**326**	⇓*i*P	**P**	**02 42 20.0**	**+0.1**
	comp=Z,790nm,0.8s,mb6.2						
UALR	**University of**	**67.24**	**334**	⇓*i*P	**P**	**02 42 21.2**	**-0.7**
	comp=Z,678nm,1.0s,mb6.0						
HBAR	**Harrisburg**	**67.30**	**336**	⇓*i*P	**P**	**02 42 21.7**	**-0.5**
UTMT	**University of**	**67.37**	**338**	*e*P	**P**	**02 42 21.8**	**-0.9**
	comp=Z,1µm,0.9s,mb6.3						
GLAT	**Glass**	**67.45**	**337**	⇓*i*P	**P**	**02 42 22.4**	**-0.8**
MIAR	**Mount Ida**	**67.53**	**333**	⇓*i*P	**P**	**02 42 23.0**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,665nm,1.1s,mb6.0						
MIAR	**Mount Ida**	**67.53**	**333**	⇓*i*P	**P**	**02 42 23.0**	**-0.6**
	comp=Z,665nm,1.1s,mb6.0						
MVL	**Millersville**	**67.63**	**349**	⇓*i*P	**P**	**02 42 24.6**	**+0.4**
PARMO	**Parma**	**67.97**	**337**	*e*P	**P**	**02 42 25.7**	**-0.6**
MCWV	**Mont Chateau**	**67.97**	**346**	⇓*i*P	**P**	**02 42 26.7**	**+0.4**
	comp=Z,1µm,0.9s,mb6.3						
BRNJ	**Basking Ridge**	**68.02**	**351**	⇓*i*P	**P**	**02 42 26.9**	**+0.3**
CPNY	**Central Park**	**68.04**	**351**	⇓*i*P	**P**	**02 42 26.5**	**-0.2**
LPIG	**La Paz**	**68.14**	**314**	*i* P	**P**	**02 42 27.9**	**+0.6**
PAL	**Palisades**	**68.24**	**351**	*e*P	**P**	**02 42 27.9**	**-0.1**
PAL				pmax	pmax		
	comp=Z,420nm,1.1s,mb5.8						
PAL	**Palisades**	**68.24**	**351**	⇓*i*P	**P**	**02 42 27.6**	**-0.3**
	comp=Z,416nm,1.1s,mb5.8						
WCI	**Wyandotte Cave**	**68.28**	**341**	*e*P	**P**	**02 42 27.0**	**-1.2**
WCI				pmax	pmax		
	comp=Z,659nm,0.8s,mb6.1						
WCI	**Wyandotte Cave**	**68.28**	**341**	*e*P	**P**	**02 42 27.0**	**-1.2**
	comp=Z,659nm,0.8s,mb6.1						
USIN	**University of**	**68.46**	**339**	⇓*i*P	**P**	**02 42 27.3**	**-1.9**
	comp=Z,1µm,1.1s,mb6.2						
USIN				*e*PcP	PcP	02 42 48.2	-1.3
SSPA	**Standing Stone**	**68.53**	**348**	⇓*i*P	**P**	**02 42 29.9**	**+0.3**
	comp=Z,637nm,1.0s,mb6.0						
SIUC	**Southern Illin**	**68.73**	**338**	*e*P	**P**	**02 42 29.4**	**-1.5**
	comp=Z,770nm,0.8s,mb6.2						
SIUC				*e*PcP	PcP	02 42 49.7	-1.0
BLO	**Bloomington**	**69.22**	**341**	⇓*i*P	**P**	**02 42 32.7**	**-1.1**
BLO				*e*		02 42 52.5	
BLO				pmax	pmax		
	comp=Z,764nm,0.8s,mb6.2						
BLO	**Bloomington**	**69.22**	**341**	⇓*i*P	**P**	**02 42 32.7**	**-1.1**
	comp=Z,764nm,0.8s,mb6.2						
BLO				*e*PcP	PcP	02 42 52.5	-0.3
ACSO	**Alum Creek Sta**	**69.25**	**344**	⇓*i*P	**P**	**02 42 33.2**	**-0.8**
	comp=Z,466nm,0.8s,mb6.0						
WES	**Weston**	**69.30**	**354**	⇓*i*P	**P**	**02 42 34.4**	**+0.1**
WES				*e*		02 45 17.1	
WES				pmax	pmax		
	comp=Z,350nm,1.0s,mb5.7						
WES	**Weston**	**69.30**	**354**	⇓*i*P	**P**	**02 42 34.4**	**+0.1**
	comp=Z,350nm,1.0s,mb5.7						
WES				*e*PP	PP	02 45 17.1	-0.8
QUA2	**Belchertown**	**69.30**	**353**	⇓*i*P	**P**	**02 42 34.1**	**-0.2**
	comp=Z,384nm,0.9s,mb5.8						
FVM	**French Village**	**69.39**	**337**	⇓*i*P	**P**	**02 42 33.6**	**-1.2**
FVM				*e*		02 42 53.4	
FVM				pmax	pmax		
	comp=Z,871nm,0.8s,mb6.2						
FVM	**French Village**	**69.39**	**337**	⇓*i*P	**P**	**02 42 33.6**	**-1.2**
	comp=Z,871nm,0.8s,mb6.2						
FVM				*e*PcP	PcP	02 42 53.4	-0.1
HRV	**Harvard--Oak R**	**69.44**	**353**	P	**P**	**02 42 35.5**	**+0.3**
HRV	**Harvard--Oak R**	**69.44**	**353**	⇓*i*P	**P**	**02 42 35.4**	**+0.3**
HRV				pmax	pmax		
	comp=Z,497nm,0.9s,mb5.9						
HRV	**Harvard--Oak R**	**69.44**	**353**	⇓*i*P	**P**	**02 42 35.4**	**+0.2**
	comp=Z,497nm,0.9s,mb5.9						
CHIE	**El Hierro**	**69.47**	**42**	P	**P**	**02 42 34.9**	**-0.4**
	comp=Z,217nm,0.7s,mb5.7						
SYO	**Syowa Base**	**69.62**	**158**	⇑*i*P	**P**	**02 42 35.4**	**-0.8**
BINY	**Binghamton**	**69.72**	**350**	⇓*i*P	**P**	**02 42 37.0**	**+0.2**
	comp=Z,792nm,0.9s,mb6.1						
CCM	**Cathedral Cave**	**69.74**	**337**	⇓*i*P	**P**	**02 42 34.6**	**-2.3**
CCM				*e*S	S	02 50 55.0	-5.3
CCM				pmax	pmax		
	comp=Z,765nm,0.7s,mb6.2						
CCM	**Cathedral Cave**	**69.74**	**337**	⇓*i*P	**P**	**02 42 34.6**	**-2.3**
	comp=Z,764nm,0.7s,mb6.2						
CCM				*e*S	S	02 50 55.0	-5.2
SLM	**Saint Louis**	**69.91**	**338**	⇓*i*P	**P**	**02 42 36.5**	**-1.4**
SLM				pmax	pmax		
	comp=Z,743nm,1.0s,mb6.1						
SLM	**Saint Louis**	**69.91**	**338**	⇓*i*P	**P**	**02 42 36.5**	**-1.4**
	comp=Z,743nm,1.0s,mb6.1						
WMOK	**Wichita Mounta**	**69.94**	**329**	⇓*i*P	**P**	**02 42 37.3**	**-0.8**
WMOK				*e*S	S	02 51 00.5	-2.0
WMOK				pmax	pmax		
	comp=Z,136nm,0.7s,mb5.5						
WMOK	**Wichita Mounta**	**69.94**	**329**	⇓*i*P	**P**	**02 42 37.3**	**-0.8**
	comp=Z,136nm,0.7s,mb5.5						
WMOK				*e*S	S	02 51 00.5	-2.1
ALLY	**Alegheny Colle**	**69.95**	**346**	⇓*i*P	**P**	**02 42 38.0**	**-0.2**
EGOM	**La Gomera**	**70.24**	**42**	P	**P**	**02 42 39.7**	**-0.2**
	comp=Z,1µm,0.9s,mb6.3						
FFD	**Franklin Falls**	**70.41**	**353**	⇓*i*P	**P**	**02 42 41.3**	**+0.4**
	comp=Z,1µm,1.2s,mb6.2						
FFD				*e*PP	PP	02 45 26.8	-0.5
ACCN	**Adirondack Com**	**70.55**	**352**	⇓*i*P	**P**	**02 42 41.9**	**+0.1**
ACCN				*e*PP	PP	02 45 27.8	-0.7
CCAN	**Las Canadas**	**70.65**	**43**	P	**P**	**02 42 42.0**	**-0.2**
	comp=Z,300nm,0.8s,mb5.9						
HNH	**Hanover**	**70.71**	**353**	⇓*i*P	**P**	**02 42 43.3**	**+0.7**
	comp=Z,71nm,1.0s,mb5.2						
MNTX	**Cornudas Mount**	**70.81**	**323**	⇓*i*P	**P**	**02 42 42.1**	**-1.1**
	comp=Z,290nm,1.0s,mb5.8						
MNTX				*e*S	S	02 51 11.2	-1.2
EBAJ	**Bajamar**	**71.04**	**43**	P	**P**	**02 42 44.7**	**+0.1**
	comp=Z,898nm,1.4s,mb6.1						
EOSO	**Osorio**	**71.19**	**44**	P	**P**	**02 42 46.0**	**+0.6**
	comp=Z,2µm,1.3s,mb6.5						
LBNH	**Lisbon**	**71.20**	**353**	⇓*i*P	**P**	**02 42 46.1**	**+0.6**
LBNH				*e*		02 45 33.7	
LBNH				pmax	pmax		
	comp=Z,555nm,0.8s,mb6.1						
LBNH	**Lisbon**	**71.20**	**353**	⇓*i*P	**P**	**02 42 46.1**	**+0.6**
	comp=Z,555nm,0.8s,mb6.1						
LBNH				*e*PP	PP	02 45 33.6	-0.3
NCB	**Newcomb**	**71.20**	**352**	⇓*i*P	**P**	**02 42 45.7**	**+0.2**
	comp=Z,459nm,0.9s,mb6.0						
WVL	**Waterville**	**71.31**	**355**	*e*P	**P**	**02 42 46.8**	**+0.6**

comp=Z,547nm,0.8s,mb6.1
EMMW East Machias 71.32 357 *e*P P **02 42 46.9 +0.7**
SUR Sutherland 71.38 117⇓*e*P P **02 42 47.7 +1.2**
comp=Z,568nm,0.7s,mb6.2
SBA Scott Base 71.52 190 *e*P P **02 42 48.3 +0.9**
SBA *e**PP pP 02 44 48.1 +1.7
SBA pmax pmax
comp=Z,64nm,1.4s,mb5.0
SBA Scott Base 71.52 190 *e*P P **02 42 48.2 +0.9**
comp=Z,64nm,1.4s,mb5.0
SBA *ep*P pP 02 44 48.1 +1.7
LONY Lake Ozonia 71.89 351⇓*i*P P **02 42 49.7 +0.2**
FRNY Flat Rock 71.97 352⇓*i*P P **02 42 50.2 +0.2**
PKME Peaks-Kenny Pk 71.98 355 *e*P P **02 42 50.5 +0.5**
MSNY Massena 72.30 351 *e*P P **02 42 52.0 +0.1**
CFTV Fuerteventura 72.34 44 P P **02 42 51.9 -0.2**
comp=Z,437nm,0.8s,mb6.0
VNDA Vanda 72.49 189 P P **02 42 53.9 +0.9**
comp=Z,34nm,0.8s,mb4.9,baz=135,slow=5.4,SNR=227
VNDA pP pP 02 44 54.2 +1.7
comp=Z,18nm,0.9s,baz=143,slow=8.4,SNR=4.5
VNDA S S 02 51 33.5 +2.4
comp=Z,2.4nm,0.8s,baz=261,slow=21,SNR=6.3
VNDA PKPPKP 03 10 19.2
comp=Z,20nm,1.0s,baz=300,slow=3.7,SNR=14
VNDA Vanda 72.49 189⇓*i*P P **02 42 53.1 +0.1**
VNDA *e**PP pP 02 44 53.8 +1.3
VNDA *e*S S 02 51 34.1 +3.0
VNDA pmax pmax
comp=Z,31nm,0.8s
VNDA Vanda 72.49 189⇓*i*P P **02 42 53.1 +0.1**
comp=Z,31nm,0.8s,mb4.9
VNDA *ep*P pP 02 44 53.8 +1.3
VNDA *e*S S 02 51 34.1 +3.0
PCND Candelaria 72.62 28 *e*P P **02 42 55.1 +1.4**
comp=Z,368nm,1.0s,mb5.9
PBOI Pico dos Bois 72.63 28 *e*P P **02 42 54.8 +1.0**
comp=Z,378nm,0.9s,mb5.9
KSU1 Kansas State U 72.69 333⇓*i*P P **02 42 53.4 -0.7**
KSU1 *e*S S 02 51 26.9 -6.4
PLUZ Luz 72.87 27 *e*P P **02 42 58.5 +3.3**
comp=Z,351nm,1.4s,mb5.7
PSMN Pico do Norte, 72.90 31 *e*P P **02 42 55.4 +0.1**
PMAN Manadas 72.92 28 *e*P P **02 42 56.5 +1.1**
comp=Z,2µm,1.1s,mb6.6
PAMA Santo Amaro 72.92 28 *e*P P **02 42 56.2 +0.8**
comp=Z,676nm,1.4s,mb6.0
EFAM Famara 73.19 44 P P **02 42 57.8 +0.8**
comp=Z,1µm,1.0s,mb6.4
ADH Angra Heroismo 73.30 29 *e*P P **02 42 58.8 +1.2**
PVIA Vitoria 73.30 28 *e*P P **02 42 59.3 +1.7**
comp=Z,243nm,0.8s,mb5.8
PRCH Ribeira Ch 73.30 30 *e*P P **02 42 58.4 +0.8**
comp=Z,286nm,1.0s,mb5.8
CML Cha da Macela 73.31 30 *e*P P **02 42 58.4 +0.8**
CMLA Cha da Macela 73.31 30 *e*P P **02 42 58.6 +0.9**
CMLA Cha da Macela 73.31 30 *e*P P **02 42 56.7 -1.0**
comp=Z,746nm,1.0s,mb6.2
PPAD Pico dos Padre 73.31 29 *e*P P **02 42 59.3 +1.6**
comp=Z,445nm,1.1s,mb5.9
ASBA Santa Barbara 73.31 29 *e*P P **02 42 59.4 +1.7**
comp=Z,398nm,1.3s,mb5.8
STGR Santa Cruz 73.33 28 *e*P P **02 42 59.3 +1.5**
comp=Z,271nm,0.7s,mb5.9
VIF Vila Franca 73.33 30 *e*P P **02 42 59.0 +1.2**
comp=Z,130nm,0.7s,mb5.6
LFA Lagoa do Fogo 73.34 30 *e*P P **02 42 58.8 +1.0**
RIB2 Ribeirinha 73.34 29 *e*P P **02 42 59.5 +1.7**
comp=Z,615nm,1.1s,mb6.0
PVER Pico Vermelho 73.34 30 *e*P P **02 42 58.5 +0.7**
comp=Z,256nm,1.1s,mb5.7
PSBA Serra de Santa 73.35 29 *e*P P **02 42 58.3 +0.4**
comp=Z,1µm,0.8s,mb6.4
FRA1 Furnas 73.37 30 *e*P P **02 42 58.7 +0.7**
MESC Monte Escuro 73.37 30 *e*P P **02 42 58.8 +0.8**
PCNG Congro 73.37 30 *e*P P **02 42 59.0 +1.0**
comp=Z,372nm,1.3s,mb5.8
PMAT Coroa da Mata 73.38 30 *e*P P **02 42 58.8 +0.8**
comp=Z,247nm,0.9s,mb5.7
PFAV Pico das Favas 73.41 29 *e*P P **02 42 59.8 +1.6**
comp=Z,483nm,1.0s,mb6.0
PVNV Vila Nova 73.42 29 *e*P P **02 43 00.1 +1.8**
comp=Z,556nm,1.3s,mb5.9
PFAD Fenais da Ajud 73.46 30 *e*P P **02 42 59.2 +0.7**
TSUM Tsumeb 73.54 103 P P **02 43 00.2 +1.2**
comp=Z,631nm,0.9s,mb6.1,baz=219,slow=6.0,SNR=755
TSUM S S 02 51 43.1 +0.4
comp=Z,23nm,1.1s,baz=24,slow=21,SNR=18
TSUM Tsumeb 73.54 103⇓*i*P P **02 42 59.5 +0.5**
comp=Z,575nm,0.8s,mb6.2
JFWS Jewell Farm 73.78 340⇓*i*P P **02 42 59.6 -0.7**
JFWS pmax pmax
comp=Z,2µm,0.6s,mb6.7
JFWS Jewell Farm 73.78 340⇓*i*P P **02 42 59.6 -0.7**
comp=Z,2µm,0.6s,mb6.7
SCIA State Center 73.85 337⇓*i*P P **02 42 59.9 -0.9**
ANMO Albuquerque 73.88 324⇓*i*P P **02 43 01.7 +0.8**
ANMO *e*S S 02 51 45.6 -0.8
ANMO pmax pmax
comp=Z,338nm,0.8s
ANMO Albuquerque 73.88 324⇓*i*P P **02 43 01.7 +0.8**
comp=Z,338nm,0.8s,mb5.9
ANMO *e*S S 02 51 45.6 -0.8
TUC Tucson 74.30 319⇓*i*P P **02 43 03.7 +0.4**
TUC *e**PP pP 02 45 08.1 +4.5
TUC pmax pmax
comp=Z,169nm,1.0s,mb5.5
TUC Tucson 74.30 319⇓*i*P P **02 43 03.7 +0.4**
comp=Z,169nm,1.0s,mb5.5
TUC *ep*P pP 02 45 08.1 +4.5
PMPS Porto Santo 74.34 39 *e*P P **02 43 03.9 +0.4**
comp=Z,964nm,1.6s,mb6.1
TOA0 Torodi Ar. Sit 74.40 66⇓*i*P P **02 43 03.6 -0.2**
TOA0 *e*S S 02 51 48.6 -3.5
TORD Torodi Ar. Bea 74.40 66 P P **02 43 03.9 +0.1**
comp=Z,1µm,0.7s,mb6.6,baz=268,slow=5.8,SNR=6404
TORD pP pP 02 45 07.6 +3.4
comp=Z,47nm,0.8s,baz=255,slow=4.8,SNR=3.5
TORD PKiKP PKiKP 02 48 49.6 -0.1
comp=Z,4.4nm,0.6s,baz=265,slow=1.5,SNR=16
TORD S S 02 51 50.7 -1.4
comp=Z,22nm,0.9s,baz=252,slow=12,SNR=14
TORD PKKP PKKPbc 03 02 04.5 -21
comp=Z,4.3nm,0.8s,baz=44,slow=4.9,SNR=7.8
TORD P3KP 03 09 17.7
comp=Z,2.0nm,0.8s,baz=48,slow=2.9,SNR=8.3
TORD PKPPKP 03 10 21.4
comp=Z,1.9nm,1.0s,baz=348,slow=0.7,SNR=3.7
TORD Torodi Ar. Bea 74.40 66 P P **02 43 03.9 +0.1**
TORD pP pP 02 45 07.6 +3.4
TAOE Nuku Hiva Isla 74.53 268 *e*P P **02 43 06.4 +1.9**
comp=Z,1µm,1.1s,mb6.4
SDCO Great Sand Dun 75.56 327⇓*i*P P **02 43 11.3 +1.0**
comp=Z,508nm,1.1s,mb5.9
SDCO *e*S S 02 52 06.1 +1.5
BOSA Boshof 76.33 115 P P **02 43 14.6 +0.1**
comp=Z,905nm,0.6s,mb6.4,baz=255,slow=4.0,SNR=1843
BOSA S S 02 52 11.4 -1.4
comp=Z,17nm,1.0s,baz=107,slow=18,SNR=8.5
BOSA PKKPbc PKKPbc 03 02 21.6 +0.4
comp=Z,3.6nm,0.6s,baz=342,slow=0.9,SNR=6.0
BOSA Boshof 76.33 115 P P **02 43 14.6 +0.1**
BOSA S S 02 52 11.4 -1.4
BOSA pmax pmax
comp=Z,905nm,0.6s,mb6.4
BOSA smax
comp=N,17nm,1.0s
BOSA pmax pmax
comp=Z,4.0nm,0.6s
BOSA Boshof 76.33 115⇓*i*P P **02 43 14.7 +0.2**
comp=Z,781nm,0.5s,mb6.4
ECSD EROS,Sioux Fal 76.66 336⇓*i*P P **02 43 15.8 -0.6**
ECSD *e*S S 02 52 12.2 -4.1
TBI Tubuai 76.74 250 *e*P P **02 43 18.6 +1.8**
comp=Z,516nm,1.0s,mb5.9
TBI Tubuai 76.74 250 *e*S S 02 52 16.7 -0.4
comp=Z,1µm,27.7s
TBI *e*LR LR 03 07 46.2
comp=Z,1µm,25.5s
TBI Tubuai 76.74 250 *e*P P **02 43 18.6 +1.8**
TBI *e*S S 02 52 16.7 -0.4
WUAZ Wupatki 76.97 321⇓*i*P P **02 43 19.2 +1.2**
comp=Z,522nm,0.9s,mb6.0
GLA Glamis 77.22 317⇓*i*P P **02 43 20.1 +0.7**
ISCO Idaho Springs 77.22 328⇓*i*P P **02 43 20.2 +0.8**
ISCO pmax pmax
comp=Z,426nm,0.9s,mb5.9
ISCO Idaho Springs 77.22 328⇓*i*P P **02 43 20.2 +0.8**
comp=Z,426nm,0.9s,mb5.9
SMCO Snowmass 77.40 327⇓*i*P P **02 43 21.6 +1.3**
comp=Z,568nm,0.8s,mb6.0
PV01 Paradox Valley 77.41 325⇓*i*P P **02 43 21.5 +1.1**
MAW Mawson 77.66 161⇓*i*P P **02 43 21.4 -0.3**
comp=Z,357nm,0.6s,mb6.0
MAW *ep*P pP 02 45 25.8 +2.3
MAW *e*S S 02 52 24.7 -2.1
MAW Mawson 77.66 161 P P **02 43 21.5 -0.3**
comp=Z,445nm,0.8s,mb6.0,baz=220,slow=6.3,SNR=838
MAW pP pP 02 45 25.7 +2.2
comp=Z,99nm,1.0s,baz=224,slow=7.3,SNR=8.3
MAW S S 02 52 24.9 -1.9
comp=Z,3.9nm,0.8s,baz=346,slow=22,SNR=7.2
MAW PKKPbc PKKPbc 03 02 17.6 -0.7
comp=Z,4.3nm,0.8s,baz=25,slow=4.9,SNR=4.9
MAW PKP2bc 03 09 55.8
comp=Z,2.7nm,0.8s,baz=312,slow=7.5,SNR=3.6
MAW Mawson 77.66 161 P P **02 43 21.5 -0.2**
MAW *PP pP 02 45 25.7 +2.2
MAW S S 02 52 24.9 -1.9
MAW pmax pmax
comp=Z,445nm,0.8s
MAW pmax pmax
comp=Z,99nm,1.0s
MAW smax
comp=N,4.0nm,0.8s
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW pmax pmax
comp=Z,3.0nm,0.8s
PV10 Paradox Valley 77.83 325⇓*i*P P **02 43 23.0 +0.3**
LBTB Lobatse 78.05 112⇓*i*P P **02 43 24.3 +0.5**
LBTB pmax pmax
comp=Z,1µm,0.8s,mb6.3
LBTB Lobatse 78.05 112⇓*i*P P **02 43 24.3 +0.5**
comp=Z,1µm,0.8s,mb6.3
BAR Barrett 78.10 316 *e*P P **02 43 24.6 +0.5**
PHWY Pilot Hill 78.33 329⇓*i*P P **02 43 25.8 +0.4**
VAH Vaihoa 78.48 259 *e*P P **02 43 28.2 +2.1**
comp=Z,358nm,0.9s,mb5.8
VAH *ep*P pP 02 45 31.8 +3.6
comp=Z,127nm,1.1s
PFO Pinyon Flat Ob 78.60 317⇓*i*P P **02 43 27.6 +0.9**
PFO pmax pmax
comp=Z,266nm,1.1s,mb5.5
PFO Pinyon Flat Ob 78.60 317⇓*i*P P **02 43 27.6 +0.8**
comp=Z,266nm,1.1s,mb5.5
EYMN Ely 78.70 341⇓*i*P P **02 43 26.4 -0.9**
comp=Z,36nm,0.7s
PMOR Pomariorio Ree 78.81 259 *e*P P **02 43 30.0 +2.1**
comp=Z,226nm,0.9s,mb5.5
TVO Taravao 78.83 256 *e*P P **02 43 30.0 +2.0**
comp=Z,364nm,1.1s,mb5.6
SRU San Rafael 79.15 324⇓*i*P P **02 43 30.4 +0.7**
SRU pmax pmax
comp=Z,567nm,0.8s,mb6.0
SRU San Rafael 79.15 324⇓*i*P P **02 43 30.4 +0.7**
comp=Z,567nm,0.8s,mb6.0
PAE Paea 79.17 256 *e*P P **02 43 31.6 +1.8**
comp=Z,336nm,1.2s,mb5.5
PPT Papeete 79.20 256 *e*P P **02 43 32.0 +2.0**
comp=Z,144nm,1.1s,mb5.2
PPT Papeete 79.20 256 *e*S S 02 52 43.8 +1.0
comp=Z,1µm,27.0s
PPT *e*LR LR 03 09 07.8
comp=Z,853nm,24.5s
PPT Papeete 79.20 256 P P **02 43 32.6 +2.6**
comp=Z,102nm,0.7s,mb5.2,baz=34,slow=18,SNR=6.9
RWWY Rawlins 79.46 328⇓*i*P P **02 43 32.1 +0.8**
comp=Z,800nm,0.8s,mb6.1
CCUT Cedar City 79.54 322⇓*i*P P **02 43 33.4 +1.6**
MSU Marysvale 79.59 323⇓*i*P P **02 43 33.1 +1.1**
TMUT Trail Mountain 79.64 324⇓*i*P P **02 43 33.0 +0.8**
ARUT Antelope Range 79.75 322 P P **02 43 34.0 +1.1**
ARUT Antelope Range 79.75 322 *e*P P **02 43 34.2 +1.3**
SHPR Sheep Range 79.82 320 *e*P P **02 43 34.2 +1.0**
RSSD Black Hills 79.94 331⇓*i*P P **02 43 33.6 -0.2**
RSSD pmax pmax
comp=Z,234nm,0.8s,mb5.6
RSSD Black Hills 79.94 331⇓*i*P P **02 43 33.6 -0.3**
comp=Z,234nm,0.8s,mb5.6
GSC Goldstone 79.96 318⇑*i*P P **02 43 34.7 +0.8**
GSC *e**PP pP 02 45 41.5 +4.8
MWC Mount Wilson 79.99 316 *e*P P **02 43 34.7 +0.6**
SNCC San Nicolas Is 80.26 315⇓*i*P P **02 43 35.6 +0.1**
comp=Z,0.5nm,0.9s
AGMN Agassiz Refuge 80.36 339⇓*i*P P **02 43 35.5 -0.5**
MPU Maple Canyon 80.40 324⇓*i*P P **02 43 36.8 +0.6**
comp=Z,386nm,0.8s,mb5.8
NLU North Lily Min 80.58 324⇓*i*P P **02 43 38.0 +0.8**
CTU Camp Tracy 80.95 325⇓*i*P P **02 43 39.3 +0.2**
comp=Z,209nm,1.0s,mb5.5
TCUT Toone Canyon 81.09 325⇓*i*P P **02 43 40.4 +0.6**
DAC Darwin (Calif) 81.09 318⇓*i*P P **02 43 40.3 +0.5**
DAC *e**PP pP 02 45 47.4 +4.4
DAC pmax pmax
comp=Z,231nm,1.0s,mb5.6
DAC Darwin (Calif) 81.09 318⇓*i*P P **02 43 40.3 +0.5**
comp=Z,231nm,1.0s,mb5.6
DAC *ep*P pP 02 45 47.4 +4.4
NOQ North Oquirrh 81.11 324⇓*i*P P **02 43 40.0 +0.1**
comp=Z,261nm,0.9s,mb5.7
DUG Dugway 81.15 324⇓*i*P P **02 43 40.5 +0.4**
DUG pmax pmax
comp=Z,249nm,0.8s,mb5.7
DUG Dugway 81.15 324⇓*i*P P **02 43 40.5 +0.4**
comp=Z,249nm,0.8s,mb5.7
ISA Isabella 81.21 317⇓*i*P P **02 43 40.9 +0.5**
comp=Z,0.5nm,1.2s
MDT Midelt 81.33 47 P P **02 43 42.2 +1.2**
comp=Z,296nm,0.8s,mb5.7,baz=254,slow=4.0,SNR=495
TRCR Troy Canyon 81.35 321⇓*i*P P **02 43 42.1 +1.0**
BW06 Boulder Array 81.40 327⇓*i*P P **02 43 41.5 +0.1**
comp=Z,318nm,1.0s,mb5.7
PDAR Pinedale Array 81.40 327 P P **02 43 41.3 -0.1**
comp=Z,174nm,0.7s,mb5.6,baz=138,slow=6.9,SNR=1140
PDAR S S 02 53 04.5 -0.6
comp=Z,4.0nm,1.1s,baz=112,slow=4.0,SNR=7.8
PDAR PKKPbc PKKPbc 03 02 10.2 +0.1
comp=Z,8.0nm,0.6s,baz=208,slow=0.5,SNR=17
PDAR PKPPKP 03 10 13.9
comp=Z,4.0nm,0.9s,baz=12,slow=4.6,SNR=7.9
SCHQ Schefferville 81.40 358 P P **02 43 40.6 -0.7**
comp=Z,490nm,0.8s,mb6.0,baz=188,slow=3.6,SNR=271
SCHQ S S 02 53 02.6 -2.6
comp=Z,12nm,1.1s,baz=280,slow=18,SNR=5.6
SCHQ PKKPbc PKKPbc 03 02 10.4 +0.3
comp=Z,9.6nm,0.6s,baz=335,slow=1.9,SNR=11
SCHQ PKPPKP 03 10 15.2
comp=Z,6.4nm,1.0s,baz=31,slow=5.7,SNR=4.2
SCHQ Schefferville 81.40 358⇓*i*P P **02 43 40.6 -0.8**
comp=Z,861nm,1.0s,mb6.1
SCHQ *ep*P pP 02 45 47.5 +2.8
HWUT Hardware Ranch 81.53 325⇓*i*P P **02 43 42.2 +0.2**
comp=Z,413nm,0.6s,mb6.1
HWUT *e*S S 02 53 07.3 +0.8
SPUT South Promonto 81.76 325⇓*i*P P **02 43 42.5 -0.8**
BGU Big Grassy Mou 81.79 324⇓*i*P P **02 43 43.5 +0.2**
PTEO Sao Teotonio 81.90 41 *i*P P **02 43 44.5 +0.6**
comp=Z,800nm,1.5s,mb6.0
ULM Lac du Bonnet 82.07 339 P P **02 43 43.8 -0.9**
comp=Z,455nm,0.9s,mb6.0,baz=158,slow=4.6,SNR=487
ULM S S 02 53 08.3 -3.5
comp=Z,18nm,0.9s,baz=177,slow=7.4,SNR=26
ULM PKKPbc PKKPbc 03 02 08.2 -0.4
comp=Z,26nm,0.7s,baz=337,slow=2.9,SNR=29
ULM PKPPKP 03 10 11.4
comp=Z,3.6nm,0.9s,baz=321,slow=2.9,SNR=3.9
ULM Lac du Bonnet 82.07 339⇓*i*P P **02 43 43.7 -1.0**
comp=Z,702nm,0.9s,mb6.2
ULM *ep*P pP 02 45 50.0 +1.6
AHID Auburn Hatcher 82.15 326⇓*i*P P **02 43 45.3 +0.1**
comp=Z,479nm,1.0s,mb6.0
AHID *ep*P pP 02 45 52.4 +3.6
PTRM Twissleman Ran 82.26 316 *e*P P **02 43 46.6 +0.8**
HVU Hansel Valley 82.27 325⇓*i*P P **02 43 45.6 -0.2**
HVU pmax pmax
comp=Z,308nm,0.8s,mb5.9
HVU Hansel Valley 82.27 325⇓*i*P P **02 43 45.6 -0.2**
comp=Z,308nm,0.8s,mb5.9
MTUM Tungsten Hills 82.39 319 *e*P P **02 43 46.8 +0.4**
REDW Red Top Meadow 82.48 327⇓*i*P P **02 43 46.7 -0.1**
comp=Z,5.6nm,0.2s
REDW *e*S S 02 53 19.7 +3.8
PLML Palmela 82.48 40 *e*P P **02 43 47.8 +1.0**
SNOW Snow King Moun 82.50 327⇓*i*P P **02 43 47.2 +0.3**
comp=Z,198nm,0.8s,mb5.7
PMAFR Mafra 82.54 39 *e*P P **02 43 47.4 +0.3**
LOHW Long Hollow 82.54 327⇓*i*P P **02 43 47.3 +0.2**
comp=Z,282nm,0.8s,mb5.8
LOHW *e*S S 02 53 18.1 +1.6
PLOU Loures 82.56 40 *i*P P **02 43 47.6 +0.3**
comp=Z,670nm,1.3s,mb6.0
EGRO El Granado 82.62 41 P P **02 43 47.5 0.0**
comp=Z,1µm,1.2s,mb6.3
TPAW Teton Pass 82.62 327⇓*i*P P **02 43 47.6 +0.1**
comp=Z,250nm,1.0s,mb5.7
RRI2 Red Ridge 82.69 327⇓*i*P P **02 43 48.1 +0.2**
comp=Z,449nm,0.8s,mb6.0
RRI2 *ep*P pP 02 45 55.7 +3.9
RRI2 *e*S S 02 53 18.5 +0.5
MOOW Moose Ponds 82.71 327⇓*i*P P **02 43 48.0 0.0**
comp=Z,11nm,1.1s
MOOW *ep*P pP 02 45 55.5 +3.6
MOOW *e*S S 02 53 18.9 +0.7
PBEJ Beja 82.72 41 *i*P P **02 43 48.4 +0.4**
comp=Z,532nm,1.3s,mb5.9
DCID1 Drake Creek 82.81 327⇓*i*P P **02 43 48.6 +0.1**
DCID1 *e*S S 02 53 21.2 +2.0
ELK Elko 82.83 323⇓*i*P P **02 43 49.0 +0.4**
ELK pmax pmax
comp=Z,315nm,0.9s
ELK Elko 82.83 323⇓*i*P P **02 43 49.0 +0.3**
comp=Z,315nm,0.9s,mb5.8
IMW Indian Meadow 82.92 327⇓*i*P P **02 43 49.3 +0.3**
comp=Z,486nm,0.8s,mb6.1
LAO LASA Array 82.92 332⇓*i*P P **02 43 48.5 -0.5**
comp=Z,432nm,0.8s,mb6.0
FLWY Flagg Ranch 82.94 328⇓*i*P P **02 43 49.5 +0.4**
comp=Z,714nm,1.2s,mb6.1
FLWY *e*S S 02 53 21.5 +1.1
NVAR Mina Array Bea 82.96 319 PKKPbc PKKPbc 03 02 07.9 +1.3
comp=Z,8.3nm,0.7s,baz=344,slow=2.0,SNR=16
RLMT Red Lodge 83.05 329⇓*i*P P **02 43 49.6 -0.1**
RLMT *e*S S 02 53 20.8 -0.7
EJIF Jimena Fronter 83.12 43 P P **02 43 50.6 +0.6**
EJIF pmax pmax
comp=Z,306nm,0.8s,mb5.9
EJIF Jimena Fronter 83.12 43 P P **02 43 50.6 +0.6**
comp=Z,306nm,0.8s,mb5.9
ESPR Espera 83.15 43 P P **02 43 50.5 +0.3**
comp=Z,1µm,0.9s,mb6.5
LKWY Lake 83.16 328⇓*i*P P **02 43 51.3 +1.1**
LKWY pmax pmax
comp=Z,122nm,0.8s,mb5.5
LKWY Lake 83.16 328⇓*i*P P **02 43 51.3 +1.1**
comp=Z,122nm,0.8s,mb5.5
EMIN Mina Concepcio 83.25 42 P P **02 43 50.6 -0.1**
comp=Z,1µm,0.9s,mb6.4
LRV Little Rabbit 83.26 317 *e*P P **02 43 51.8 +1.1**
YFT Old Faithful 83.28 328⇓*i*P P **02 43 52.1 +1.3**
YNR Norris Junctio 83.40 328⇓*i*P P **02 43 52.0 +0.6**
PESTR Estremoz 83.45 40 *i*P P **02 43 52.0 +0.3**
comp=Z,718nm,1.3s,mb6.0
PTOM Tomar 83.48 39 *i*P P **02 43 52.1 +0.3**
comp=Z,2µm,1.1s,mb5.5
YMR Madison River 83.50 328⇓*i*P P **02 43 52.6 +0.6**
comp=Z,457nm,0.9s,mb6.0
YMR *ep*P pP 02 46 02.5 +6.3
DGMT Dagmar 83.52 334⇓*i*P P **02 43 51.9 -0.1**
comp=Z,667nm,0.7s,mb6.3
DGMT *ep*P pP 02 46 00.7 +4.5
EMIJ Mijas 83.62 44 P P **02 43 52.2 -0.3**
comp=Z,868nm,1.0s,mb6.2
WAKR Walker 83.67 319 *e*P P **02 43 53.7 +1.0**
BMN Battle Mountai 83.70 322 P P **02 43 52.3 -0.6**
BMN pmax pmax
comp=Z,69nm,1.0s,mb5.1
BMN Battle Mountai 83.70 322⇓*i*P P **02 43 51.9 -1.0**
comp=Z,69nm,1.0s,mb5.1
EBAD Badajoz 83.71 41 P P **02 43 53.0 +0.1**
comp=Z,1µm,1.4s,mb6.3
GCMT Greycliff 83.74 329 *e*P P **02 43 52.9 -0.2**
SAO San Andreas Ge 83.74 317⇓*i*P P **02 43 53.3 +0.2**
SAO pmax pmax
comp=Z,115nm,0.9s,mb5.4
SAO San Andreas Ge 83.74 317⇓*i*P P **02 43 53.3 +0.2**
comp=Z,115nm,0.9s,mb5.4
QLMT Earthquake Lak 83.85 328 *e*P P **02 43 54.2 +0.6**
CMB Columbia Colle 83.92 318⇓*i*P P **02 43 53.8 -0.2**
CMB pmax pmax
comp=Z,144nm,1.1s,mb5.4
CMB Columbia Colle 83.92 318⇓*i*P P **02 43 53.8 -0.2**
comp=Z,144nm,1.1s,mb5.4
PCBR Castelo Branco 84.17 40 *i*P P **02 43 55.0 -0.2**
comp=Z,828nm,1.2s,mb6.1
EALB Alboran 84.31 45 P P **02 43 55.7 -0.2**
comp=Z,2µm,1.2s,mb6.4
ELOJ Sierra Loja 84.38 43 P P **02 43 56.4 +0.2**
ELOJ pmax pmax
comp=Z,443nm,1.1s,mb5.9
ELOJ Sierra Loja 84.38 43 P P **02 43 56.4 +0.2**
comp=Z,443nm,1.1s,mb5.9
LSZ Lusaka 84.38 104⇓*i*P P **02 43 58.0 +1.8**
LSZ pmax pmax
comp=Z,1µm,1.0s,mb6.4
LSZ Lusaka 84.38 104⇓*i*P P **02 43 58.0 +1.8**
comp=Z,1µm,1.0s,mb6.4
HLID Hailey 84.40 325⇓*i*P P **02 43 57.1 +0.8**
comp=Z,868nm,0.9s,mb6.3
HLID *e*S S 02 53 33.9 -0.7
PAHR Pah Rah Range 84.44 320⇓*i*P P **02 43 57.2 +0.7**
comp=Z,620nm,1.0s,mb6.1
MTE Manteigas 84.50 39 *i*P P **02 43 56.8 0.0**
comp=Z,1µm,1.1s,mb6.5
MTE Manteigas 84.50 39⇓*i*P P **02 43 56.1 -0.7**
comp=Z,879nm,0.9s,mb6.4
ERON Agron 84.51 44 P P **02 43 56.9 0.0**
comp=Z,144nm,0.8s,mb5.7
PVIS Viseu 84.52 39 *i*P P **02 43 56.9 0.0**
comp=Z,474nm,1.6s,mb5.9
MCMT McKenzie Canyo 84.53 327 *e*P P **02 43 57.6 +0.6**
EGUA Guajares 84.54 44 P P **02 43 56.1 -0.9**
EGUA pmax pmax
comp=Z,8.0nm,0.6s
EGUA Guajares 84.54 44 P P **02 43 56.1 -0.9**
comp=Z,7.9nm,0.6s
BOZ Bozeman (W) 84.55 328⇓*i*P P **02 43 56.6 -0.5**
BOZ pmax pmax
comp=Z,77nm,0.8s,mb5.4
BOZ Bozeman (W) 84.55 328⇓*i*P P **02 43 56.5 -0.5**
comp=Z,77nm,0.8s,mb5.4
EADA Adamuz 84.77 42 P P **02 43 58.0 -0.1**
comp=Z,580nm,0.9s,mb6.2
DLMT Dillon 84.80 327⇓*i*P P **02 43 58.4 +0.2**
comp=Z,644nm,1.1s,mb6.2
ECOG Cogollos-Vega 84.82 44 P P **02 43 57.9 -0.5**
ECOG pmax pmax
comp=Z,236nm,0.8s,mb5.9
ECOG Cogollos-Vega 84.82 44 P P **02 43 57.9 -0.5**
comp=Z,236nm,0.8s,mb5.9
SAC San Andreas 84.86 317 *e*P P **02 43 59.6 +1.0**
PVRL Vila Real 85.00 39 *i*P P **02 43 59.2 0.0**
comp=Z,1µm,1.1s,mb6.5
EBER Berja 85.00 44 P P **02 43 59.1 -0.1**
comp=Z,860nm,1.3s,mb6.2
EZAM Zamans 85.05 37 P P **02 43 58.9 -0.6**
EZAM pmax pmax
comp=Z,481nm,1.0s,mb6.1
EZAM Zamans 85.05 37 P P **02 43 58.9 -0.7**
comp=Z,481nm,1.0s,mb6.1
ODZI Dziouia 85.06 46 P P **02 44 02.0 +2.4**
LRM Limekiln Ridge 85.06 328 *e*P P **02 43 59.9 +0.3**
DRV Dumont d'Urvil 85.14 189 S S 02 53 57.0 +15
MIR Mirnyy 85.14 171⇓*i*P P **02 44 00.0 0.0**
MIR pmax pmax
comp=Z,1µm,1.0s,mb6.4
EBAN Banos Encina 85.25 43 P P **02 44 00.3 -0.2**
EBAN pmax pmax
comp=Z,677nm,0.8s,mb6.3
EBAN Banos Encina 85.25 43 P P **02 44 00.3 -0.2**
comp=Z,677nm,0.8s,mb6.3
OTSS Djebel Tessala 85.34 47 P P **02 44 03.0 +2.1**
OHCM Honcut 85.42 319 *e*P P **02 44 01.4 +0.1**
EMAZ Mazaricos 85.45 37 P P **02 44 00.7 -0.7**
comp=Z,803nm,1.9s,mb6.0
EQES Quesada 85.45 44 P P **02 44 00.6 -0.9**
comp=Z,619nm,1.3s,mb6.1
ENIJ Nijar 85.47 45 P P **02 44 00.9 -0.6**

ENIJ pmax pmax
comp=Z,184nm,0.8s,mb5.8
ENIJ Nijar 85.47 45 P **P** 02 44 00.9 -0.7
comp=Z,184nm,0.8s,mb5.8
EGMT Eagleton 85.47 331⇓*iP* **P** 02 44 00.7 -0.9
comp=Z,378nm,1.1s,mb5.9
STS Santiago 85.63 37 P **P** 02 44 01.7 -0.6
STS pmax pmax
comp=Z,385nm,1.4s,mb5.8
STS Santiago 85.63 37 P **P** 02 44 01.7 -0.6
comp=Z,385nm,1.4s,mb5.8
EHUE Huescar 85.76 44 P **P** 02 44 02.2 -0.7
EHUE pmax pmax
comp=Z,59nm,0.6s,mb5.4
EHUE Huescar 85.76 44 P **P** 02 44 02.2 -0.6
comp=Z,58nm,0.6s,mb5.4
USTO Oran 85.77 46 P **P** 02 44 08.0 +5.1
ODJA Bouhanifia 85.79 47 P **P** 02 44 05.0 +2.0
WVOR Wild Horse Val 85.84 322 P **P** 02 44 03.4 +0.1
WVOR pmax pmax
comp=Z,790nm,1.0s,mb6.3
WVOR Wild Horse Val 85.84 322⇓*iP* **P** 02 44 03.3 0.0
comp=Z,789nm,1.1s,mb6.3
PBRG Braganca 85.89 39 *i* P **P** 02 44 03.6 +0.1
comp=Z,582nm,1.5s,mb6.0
ECAL Calabor 85.99 39 P **P** 02 44 04.1 +0.1
comp=Z,1μm,2.0s,mb6.3
ERUA La Rua 86.06 38 P **P** 02 44 04.1 -0.2
ERUA pmax pmax
comp=Z,139nm,0.6s,mb5.8
ERUA La Rua 86.06 38 P **P** 02 44 04.1 -0.2
comp=Z,139nm,0.6s,mb5.8
ESDC Sonseca Array 86.10 42 P **P** 02 44 04.7 +0.2
comp=Z,102nm,0.7s,mb5.6,baz=235,slow=4.6,SNR=240
ESDC PKiKP PKiKP 02 49 08.1 +0.1
comp=Z,2.0nm,0.6s,baz=262,slow=1.5,SNR=6.4
ESDC Sonseca Array 86.10 42 P **P** 02 44 04.3 -0.3
comp=Z,103nm,0.7s,mb5.6
ESLA Sonseca Array 86.10 42⇓*iP* **P** 02 44 04.5 0.0
comp=Z,81nm,1.1s,mb5.3
HOPS Hopland 86.15 317⇓*iP* **P** 02 44 05.2 +0.4
comp=Z,279nm,1.2s,mb5.8
CHMT Chamberlain Mo 86.24 328 *eP* **P** 02 44 04.6 -0.6
LBCM Butte Creek Ri 86.31 320 P **P** 02 44 05.4 -0.1
EVIA Vianos 86.33 43 P **P** 02 44 05.2 -0.4
EVIA pmax pmax
comp=Z,147nm,0.6s,mb5.8
EVIA Vianos 86.33 43 P **P** 02 44 05.2 -0.4
comp=Z,147nm,0.6s,mb5.8
MOD Modoc 86.41 321⇑*iP* **P** 02 44 06.1 +0.1
comp=Z,222nm,1.1s,mb5.7
OJGS Djebel Guires 86.48 47 P **P** 02 44 10.0 +3.7
MSO Missoula 86.50 328⇓*iP* **P** 02 44 06.5 +0.1
comp=Z,224nm,1.2s,mb5.8
CART Cartagena 86.61 45 *eP* **P** 02 44 06.0 -0.9
comp=Z,471nm,1.4s,mb6.0
GUD Guadarrama 86.61 41 P **P** 02 44 06.8 -0.1
GUD pmax pmax
comp=Z,77nm,0.8s,mb5.5
GUD Guadarrama 86.61 41 P **P** 02 44 06.8 -0.1
comp=Z,77nm,0.8s,mb5.5
LTIM Timbered Crate 86.61 320 P **P** 02 44 07.1 +0.2
EMUR La Murta 86.61 44 P **P** 02 44 06.2 -0.8
comp=Z,484nm,2.3s,mb5.8
EPON Pontenova 86.69 37 P **P** 02 44 07.0 -0.3
comp=Z,60nm,0.7s,mb5.4
OKGL Djebel Kef Gue 86.73 47 P **P** 02 44 09.0 +1.5
ETRT Tiaret 86.77 48 P **P** 02 44 09.0 +1.3
BMO Blue Mountains 86.78 325⇓*iP* **P** 02 44 07.5 -0.3
comp=Z,208nm,1.0s,mb5.8
WDC Whiskeytown Da 86.84 319⇓*iP* **P** 02 44 06.8 -1.2
WDC pmax pmax
comp=Z,215nm,0.8s,mb5.9
WDC Whiskeytown Da 86.84 319⇓*iP* **P** 02 44 06.8 -1.2
comp=Z,215nm,0.8s,mb5.9
KIPM Iron Peak 86.91 318 *eP* **P** 02 44 09.3 +1.0
ETOB Tobarra 86.92 44 P **P** 02 44 08.2 -0.2
comp=Z,163nm,0.8s,mb5.8
EANR 'Ain N'Sour 86.97 47 P **P** 02 44 08.0 -0.6
CASY Casey 87.05 177 *eP* **P** 02 44 09.0 0.0
CASY epP pP 02 46 14.9 +0.4
CASY eSKS S 02 53 37.0
CASY *eS* S 02 53 58.1 -1.6
ECHA Ech Chlef 87.26 47 P **P** 02 44 12.0 +2.0
EBNR Beni Rached 87.45 47 P **P** 02 44 14.0 +3.1
BSMT Bassoo Peak 87.64 328 *eP* **P** 02 44 11.7 -0.1
YBH Yreka Blue Hor 87.67 320 PKKPbc PKKPbc 03 01 56.2 +0.6
comp=Z,7.7nm,0.6s,baz=352,slow=4.8,SNR=19
YBH Yreka Blue Hor 87.67 320⇓*iP* **P** 02 44 10.9 -1.0
YBH pmax pmax
comp=Z,170nm,0.9s
YBH Yreka Blue Hor 87.67 320⇓*iP* **P** 02 44 10.9 -1.0
comp=Z,170nm,0.9s,mb5.8
EARI Arriondas 87.73 38 P **P** 02 44 12.2 +0.1
comp=Z,106nm,0.9s,mb5.6
KHMM Horse Mountain 87.73 319⇓*iP* **P** 02 44 13.0 +0.8
BUOR Burton Butte 87.76 320 P **P** 02 44 12.6 +0.3
EBEN Beniarda 87.77 44 P **P** 02 44 12.1 -0.3
comp=Z,210nm,0.7s,mb6.0
FFC Flin Flon 87.84 339⇓*iP* **P** 02 44 11.8 -0.9
FFC pmax pmax
comp=Z,413nm,1.0s,mb6.1
FFC Flin Flon 87.84 339⇓*iP* **P** 02 44 11.8 -0.9
comp=Z,413nm,1.0s,mb6.1
ETOR Torete 87.96 42 P **P** 02 44 13.5 +0.3
ETOR pmax pmax
comp=Z,461nm,0.9s,mb6.2
ETOR Torete 87.96 42 P **P** 02 44 13.5 +0.3
comp=Z,461nm,0.9s,mb6.2
WALA Waterton Lakes 88.10 329⇓*iP* **P** 02 44 13.7 -0.2
comp=Z,399nm,0.8s,mb6.2
KRMB Red Mountain 88.24 319⇓*iP* **P** 02 44 15.4 +0.8
EMHD Djebel Mahouad 88.34 48 P **P** 02 44 17.0 +2.0
EMOS Mosqueruela 88.63 43 P **P** 02 44 17.0 +0.7
comp=Z,295nm,0.9s,mb6.1
ELAN Lanestosa 88.68 39 P **P** 02 44 16.7 +0.1
comp=Z,306nm,0.8s,mb6.2
ABA Alger-Bouzarea 88.74 47 P **P** 02 44 19.0 +2.2
KBO Bosley Butte 88.85 319⇓*iP* **P** 02 44 18.2 +0.9
EIBI Ibiza 88.95 45 P **P** 02 44 18.2 +0.4
comp=Z,199nm,0.7s,mb6.0
HAWA Hanford 88.98 325⇓*iP* **P** 02 44 17.6 -0.4
comp=Z,8.7nm,0.8s
NEW Newport 89.05 327 PKKPbc PKKPbc 03 01 52.8 +0.5
comp=Z,4.0nm,0.6s,baz=236,slow=0.3,SNR=5.8
NEW Newport 89.05 327 P **P** 02 44 16.9 -1.4
NEW pmax pmax
comp=Z,85nm,0.8s
NEW Newport 89.05 327⇓*iP* **P** 02 44 16.7 -1.6
comp=Z,85nm,0.8s,mb5.6
FCC Fort Churchill 89.09 344⇓*iP* **P** 02 44 17.9 -0.6
FCC pmax pmax
comp=Z,697nm,1.0s,mb6.4
FCC Fort Churchill 89.09 344⇓*iP* **P** 02 44 17.9 -0.6
comp=Z,697nm,1.0s,mb6.4
BROR Big Rock Looko 89.14 322 P **P** 02 44 18.4 -0.3
OD2 Odessa Site #2 89.23 326 P **P** 02 44 18.7 -0.4
KEBM Edson Butte 89.33 320⇓*iP* **P** 02 44 19.8 +0.2
HOOD Mount Hood Mea 89.39 323 *eP* **P** 02 44 20.7 +0.8
ESAC San Caprasio 89.45 42 P **P** 02 44 20.6 +0.5
comp=Z,383nm,0.8s,mb6.3
ERTA Horta de San J 89.47 43 P **P** 02 44 20.8 +0.5
comp=Z,292nm,0.7s,mb6.2
SSOR Sweet Springs 89.53 322 P **P** 02 44 20.1 -0.4
RNO Roman Nose 89.64 321 P **P** 02 44 21.4 +0.3
ELIZ Elizondo 89.72 40 P **P** 02 44 21.4 0.0
ELIZ pmax pmax
comp=Z,83nm,0.9s,mb5.6
ELIZ Elizondo 89.72 40 P **P** 02 44 21.4 0.0
comp=Z,83nm,0.9s,mb5.6
EALK Alkurruntz 89.77 40 P **P** 02 44 22.5 +0.9
comp=Z,414nm,1.5s,mb6.0
COR Corvallis 89.82 322 P **P** 02 44 22.2 +0.4
COR Corvallis 89.82 322 P **P** 02 44 22.6 +0.7
COR pmax pmax
comp=Z,340nm,0.8s,mb6.2
COR Corvallis 89.82 322⇓*iP* **P** 02 44 22.3 +0.5
comp=Z,342nm,0.8s,mb6.2
SJPF Ste Jean 89.86 40⇓*iP* **P** 02 44 22.1 0.0
comp=Z,757nm,1.0s,mb6.2
SJPF Ste Jean 89.86 40⇓*iP* **P** 02 44 22.1 0.0
SJPF pmax pmax
comp=Z,379nm,1.0s,mb6.2
SJPF Ste Jean 89.86 40⇓*iP* **P** 02 44 22.1 0.0
comp=Z,378nm,1.0s,mb6.2
OSSF Osses 89.93 40 *eP* **P** 02 44 22.0 -0.4

CKHR Kef el Ahmar 89.94 49 P **P** 02 44 23.8 +1.4
SET Setif 89.97 49 P **P** 02 44 24.0 +1.5
TBM Table Mountain 90.04 325 P **P** 02 44 23.1 +0.2
ORDF Ordiarp 90.09 40 *eP* **P** 02 44 22.8 -0.3
ETSF Etsaut 90.12 41⇓*iP* **P** 02 44 23.4 +0.2
comp=Z,526nm,1.1s,mb6.0
ETSF Etsaut 90.12 41⇓*iP* **P** 02 44 23.4 +0.2
ETSF pmax pmax
comp=Z,263nm,1.1s,mb6.0
ETSF Etsaut 90.12 41⇓*iP* **P** 02 44 23.4 +0.2
comp=Z,263nm,1.1s,mb6.0
ATE Arette 90.15 40 *eP* **P** 02 44 23.6 +0.2
EPOB Poblet 90.16 43 P **P** 02 44 23.4 -0.1
comp=Z,117nm,0.8s,mb5.8
ETOS Mallorca 90.30 45 P **P** 02 44 24.9 +0.8
comp=Z,206nm,1.0s,mb5.9
LON Longmire 90.39 324 *eP* **P** 02 44 23.9 -0.6
EBIE Bielsa 90.40 41 P **P** 02 44 25.6 +1.0
comp=Z,54nm,1.0s,mb5.3
VIEF Viey 90.45 41 *eP* **P** 02 44 25.1 +0.3
DFRA Djebel Bou Aff 90.48 49 P **P** 02 44 26.0 +1.1
CTEI Djebel Teioual 90.57 49 P **P** 02 44 26.5 +1.2
LABF Labassere 90.58 41 *eP* **P** 02 44 25.5 +0.1
RESF Ens 90.59 41 *eP* **P** 02 44 25.8 +0.4
EPF Esparros 90.72 41⇓*iP* **P** 02 44 25.9 -0.1
comp=Z,437nm,1.5s,mb5.9
EPF Esparros 90.72 41⇓*iP* **P** 02 44 25.9 -0.1
EPF pmax pmax
comp=Z,218nm,1.5s,mb5.9
EPF Esparros 90.72 41⇓*iP* **P** 02 44 25.9 -0.1
comp=Z,218nm,1.5s,mb5.9
CASM Ain Smara 90.74 49 P **P** 02 44 27.0 +0.9
EDM Edmonton 90.87 332⇓*iP* **P** 02 44 25.2 -1.5
EDM *e**PP pP 02 46 35.8 +2.5
MELF Melles 90.87 41 *eP* **P** 02 44 27.4 +0.7
CKFL Kef-Lekhel 90.97 49 P **P** 02 44 28.5 +1.3
VAL Valentia 91.08 30⇓*iP* **P** 02 44 25.9 -1.8
MLS Moulis 91.12 41 *eP* **P** 02 44 28.2 +0.3
CAEH 'Ain El Ouahch 91.26 49 P **P** 02 44 29.5 +1.0
VALF Valcebollere 91.34 42 *eP* **P** 02 44 29.4 +0.5
ABSA Djebel Ababsia 91.41 50 P **P** 02 44 30.0 +0.8
GNW Green Mountain 91.45 324 *eP* **P** 02 44 28.4 -1.0
OLEF Ile d'Oleron 91.54 38 *eP* **P** 02 44 29.1 -0.7
CMAH Djebel Manchou 91.56 49 P **P** 02 44 30.5 +0.6
CARF Carcanieres 91.58 42 *eP* **P** 02 44 30.5 +0.5
FILF Fillols 91.76 42 *eP* **P** 02 44 30.5 -0.3
QUIF Quistinic 91.80 36⇓*iP* **P** 02 44 29.7 -1.3
comp=Z,566nm,1.0s,mb6.2
QUIF Quistinic 91.80 36⇓*iP* **P** 02 44 29.7 -1.3
QUIF pmax pmax
comp=Z,283nm,1.0s,mb6.2
QUIF Quistinic 91.80 36⇓*iP* **P** 02 44 29.7 -1.3
comp=Z,283nm,1.0s,mb6.2
LRYF La Roche-sur-Y 91.82 37 *eP* **P** 02 44 30.8 -0.3
EJON La Jonquera 91.90 43 P **P** 02 44 31.5 +0.1
comp=Z,117nm,0.9s,mb5.9
LRDF Laroque-de-Fa 91.97 42 *eP* **P** 02 44 31.4 -0.4
ROSF Rostrenen 92.01 35⇓*iP* **P** 02 44 30.8 -1.1
comp=Z,896nm,1.0s,mb6.5
ROSF Rostrenen 92.01 35⇓*iP* **P** 02 44 30.8 -1.1
ROSF pmax pmax
comp=Z,448nm,1.0s,mb6.5
ROSF Rostrenen 92.01 35⇓*iP* **P** 02 44 30.8 -1.1
comp=Z,448nm,1.0s,mb6.5
MTLF Montolieu 92.01 42⇓*iP* **P** 02 44 31.1 -0.9
comp=Z,639nm,1.3s,mb6.2
MTLF Montolieu 92.01 42⇓*iP* **P** 02 44 31.1 -0.9
MTLF pmax pmax
comp=Z,320nm,1.3s,mb6.2
MTLF Montolieu 92.01 42⇓*iP* **P** 02 44 31.1 -0.9
comp=Z,320nm,1.3s,mb6.2
VDB Vedder Mountai 92.01 326 P **P** 02 44 30.6 -1.4
CPZ Penzance 92.03 33⇑*eP* **P** 02 44 31.6 -0.4
CPZ Penzance 92.03 33⇑*eP* **P** 02 44 31.6 -0.4
MATF Mathat 92.05 38 *eP* **P** 02 44 31.9 -0.3
LFF La Frestale 92.10 40⇓*iP* **P** 02 44 31.8 -0.6
comp=Z,487nm,0.8s,mb6.3
LFF La Frestale 92.10 40⇓*iP* **P** 02 44 31.8 -0.6
LFF pmax pmax
comp=Z,243nm,0.8s,mb6.3
LFF La Frestale 92.10 40⇓*iP* **P** 02 44 31.8 -0.6
comp=Z,243nm,0.8s,mb6.3
CGH1 Goonhilly 92.16 33⇑*eP* **P** 02 44 32.2 -0.5
CGH1 Goonhilly 92.16 33⇑*eP* **P** 02 44 32.2 -0.5
CMA1 Manaccan 92.20 33 *eP* **P** 02 44 32.3 -0.5
CMA1 Manaccan 92.20 33 *eP* **P** 02 44 32.3 -0.5
CCA1 Carnmenellis 92.22 33 *eP* **P** 02 44 31.9 -1.1
CCA1 Carnmenellis 92.22 33 *eP* **P** 02 44 31.9 -1.1
CRQ2 Rosemanowes 2 92.24 33⇑*eP* **P** 02 44 32.4 -0.6
CRQ2 Rosemanowes 2 92.24 33⇑*eP* **P** 02 44 32.4 -0.6
SGMF Saint Gilles 92.33 36⇓*iP* **P** 02 44 32.0 -1.4
comp=Z,230nm,0.9s,mb5.9
SGMF Saint Gilles 92.33 36⇓*iP* **P** 02 44 32.0 -1.4
SGMF pmax pmax
comp=Z,115nm,0.9s,mb5.9
SGMF Saint Gilles 92.33 36⇓*iP* **P** 02 44 32.0 -1.4
comp=Z,115nm,0.9s,mb5.9
KEST Kesra 92.41 51 P **P** 02 44 34.6 +0.8
comp=Z,58nm,0.9s,mb5.6,baz=168,slow=1.4,SNR=147
KEST PKKPbc PKKPbc 03 01 45.2 +1.3
comp=Z,4.8nm,0.6s,baz=300,slow=1.9,SNR=27
PGC Sidney 92.46 325⇓*iP* **P** 02 44 33.5 -0.6
comp=Z,219nm,1.0s,mb6.1
CSA1 St Austell 92.49 33⇑*eP* **P** 02 44 33.6 -0.6
CSA1 St Austell 92.49 33⇑*eP* **P** 02 44 33.6 -0.6
MFF Saint Martin d 92.60 38⇓*iP* **P** 02 44 33.9 -0.8
comp=Z,766nm,1.2s,mb6.3
MFF Saint Martin d 92.60 38⇓*iP* **P** 02 44 33.9 -0.8
MFF pmax pmax
comp=Z,383nm,1.2s,mb6.3
MFF Saint Martin d 92.60 38⇓*iP* **P** 02 44 33.9 -0.8
comp=Z,383nm,1.2s,mb6.3
RJF Les Rejaudoux 92.75 40⇓*iP* **P** 02 44 34.5 -0.9
comp=Z,657nm,1.3s,mb6.2
RJF *eR*
comp=Z,377nm,20.2s
RJF Les Rejaudoux 92.75 40⇓*iP* **P** 02 44 34.5 -0.9
RJF pmax pmax
comp=Z,328nm,1.3s,mb6.2
RJF MLR MLR
comp=Z,380nm,20.3s
RJF Les Rejaudoux 92.75 40⇓*iP* **P** 02 44 34.5 -0.9
comp=Z,328nm,1.3s,mb6.2
RJF LR LR
comp=Z,380nm,20.3s
CAF Calviac 92.85 40⇓*iP* **P** 02 44 35.3 -0.5
comp=Z,461nm,1.1s,mb6.1
CAF Calviac 92.85 40⇓*iP* **P** 02 44 35.3 -0.5
CAF pmax pmax
comp=Z,231nm,1.1s,mb6.1
CAF Calviac 92.85 40⇓*iP* **P** 02 44 35.3 -0.5
comp=Z,231nm,1.1s,mb6.1
DYA Yadsworthy 93.02 33 *eP* **P** 02 44 35.3 -1.2
DYA Yadsworthy 93.02 33 *eP* **P** 02 44 35.3 -1.2
HTL Hartland 93.11 33 *eP* **P** 02 44 36.1 -0.9
HTL AMb AMb 02 44 38.0
comp=Z,197nm,1.6s,mb5.9
HTL Hartland 93.11 33 *eP* **P** 02 44 36.1 -0.9
HTL AMb AMb 02 44 38.0
comp=Z,197nm,1.6s,mb5.9
GRR Gorron 93.30 36⇓*iP* **P** 02 44 36.4 -1.5
comp=Z,290nm,0.9s,mb6.0
GRR Gorron 93.30 36⇓*iP* **P** 02 44 36.4 -1.5
GRR pmax pmax
comp=Z,145nm,0.9s,mb6.0
GRR Gorron 93.30 36⇓*iP* **P** 02 44 36.4 -1.5
comp=Z,145nm,0.9s,mb6.0
DCN Croghan 93.36 30⇑*iP* **P** 02 44 35.6 -2.5
FRNF Fournols 93.40 40 *eP* **P** 02 44 38.6 +0.3
LASF Ste Croix 93.41 42⇓*iP* **P** 02 44 37.9 -0.5
comp=Z,450nm,1.4s,mb6.0
HEX Exmoor 93.48 33 *eP* **P** 02 44 37.5 -1.2
HEX Exmoor 93.48 33 *eP* **P** 02 44 37.5 -1.2
VERF Verneugheol 93.57 40 *eP* **P** 02 44 39.2 +0.1
DLF Lyons Farm 93.66 30⇑*iP* **P** 02 44 37.0 -2.5
DSB Dublin 93.70 30⇓*iP* **P** 02 44 38.5 -1.1
comp=Z,132nm,0.9s,mb6.1
LBL Lubilhac 93.71 40 *eP* **P** 02 44 40.1 +0.4
TCF Toulx Ste Croi 93.72 39⇓*iP* **P** 02 44 38.8 -1.0
comp=Z,255nm,0.9s,mb6.0
TCF Toulx Ste Croi 93.72 39⇓*iP* **P** 02 44 38.8 -1.0
TCF pmax pmax
comp=Z,127nm,0.9s,mb6.0
TCF Toulx Ste Croi 93.72 39⇓*iP* **P** 02 44 38.8 -1.0
comp=Z,127nm,0.9s,mb6.0

FLN La Foliniere 93.73 36⇓*iP* **P** 02 44 38.5 -1.3
comp=Z,314nm,1.1s,mb6.1
FLN *eR*
comp=Z,350nm,18.8s
FLN La Foliniere 93.73 36⇓*iP* **P** 02 44 38.5 -1.3
FLN pmax pmax
comp=Z,157nm,1.1s,mb6.0
FLN MLR MLR
comp=Z,350nm,18.8s
FLN La Foliniere 93.73 36⇓*iP* **P** 02 44 38.5 -1.3
comp=Z,157nm,1.1s,mb6.1
FLN LR LR
comp=Z,350nm,18.8s
LDF La Druitiere 93.81 36⇓*iP* **P** 02 44 38.9 -1.3
comp=Z,332nm,1.0s,mb6.1
LDF La Druitiere 93.81 36⇓*iP* **P** 02 44 38.9 -1.3
LDF pmax pmax
comp=Z,166nm,1.0s,mb6.1
LDF La Druitiere 93.81 36⇓*iP* **P** 02 44 38.9 -1.3
comp=Z,166nm,1.0s,mb6.1
PYM Petit Puy Mans 93.87 40 *eP* **P** 02 44 40.6 +0.1
GELF Grande-Etoile 93.96 43 *eP* **P** 02 44 41.4 +0.5
SFJD Kangerlussuaq 94.02 5 *eS* S 02 55 00.4 -1.5
SFJD *i* 02 56 25.6
SFJD *e* 02 58 24.9
SFJD Kangerlussuaq 94.02 5⇓*iP* **P** 02 44 40.1 -1.1
SFJD *eS* S 02 55 00.4 -1.5
SFJD *i* 02 56 25.6
SFJD pmax pmax
comp=Z,71nm,1.0s,mb5.8
SFJD Kangerlussuaq 94.02 5⇓*iP* **P** 02 44 40.1 -1.1
comp=Z,71nm,1.0s,mb5.8
SFJD *eS* S 02 55 00.4 -1.5
SFJD *i* 02 56 25.6
SFJD *e* 02 58 24.9
PRAF Pradon 94.04 42 *eP* **P** 02 44 41.4 +0.2
TREF Trevaresse 94.07 43 *eP* **P** 02 44 41.8 +0.4
BERF Bertagne 94.08 43 *eP* **P** 02 44 42.0 +0.6
AGO Saint Agoulin 94.11 40 *eP* **P** 02 44 41.7 +0.1
COLF Collangettes 94.13 40 *eP* **P** 02 44 42.2 +0.6
PUYF Puyloubier 94.21 43 *eP* **P** 02 44 42.3 +0.3
BGF Bois d'Agland 94.24 39⇓*iP* **P** 02 44 41.4 -0.7
comp=Z,342nm,0.9s,mb6.2
BGF Bois d'Agland 94.24 39⇓*iP* **P** 02 44 41.4 -0.7
BGF pmax pmax
comp=Z,171nm,0.9s,mb6.2
BGF Bois d'Agland 94.24 39⇓*iP* **P** 02 44 41.4 -0.7
comp=Z,171nm,0.9s,mb6.2
SWK Warminster 94.30 33⇑*eP* **P** 02 44 41.4 -1.0
SWK Warminster 94.30 33⇑*eP* **P** 02 44 41.4 -1.0
HGH Gray Hill 94.33 33⇑*eP* **P** 02 44 41.5 -1.1
HGH Gray Hill 94.33 33⇑*eP* **P** 02 44 41.5 -1.1
VIVF Saint-Julien-l 94.33 41⇓*iP* **P** 02 44 42.3 -0.2
comp=Z,253nm,0.9s,mb6.0
VIVF Saint-Julien-l 94.33 41⇓*iP* **P** 02 44 42.3 -0.2
VIVF pmax pmax
comp=Z,127nm,0.9s,mb6.0
VIVF Saint-Julien-l 94.33 41⇓*iP* **P** 02 44 42.3 -0.2
comp=Z,127nm,0.9s,mb6.0
PLDF La Plantade 94.34 40 *eP* **P** 02 44 43.1 +0.5
SMRF Simiane la Rot 94.38 42⇓*iP* **P** 02 44 43.1 +0.3
comp=Z,581nm,1.1s,mb6.3
SMRF Simiane la Rot 94.38 42⇓*iP* **P** 02 44 43.1 +0.3
comp=Z,581nm,1.1s,mb6.6
HTR Trewern Hill 94.38 32 *eP* **P** 02 44 41.1 -1.7
HTR Trewern Hill 94.38 32 *eP* **P** 02 44 41.1 -1.7
VSL Villasalto 94.39 46⇓*iP* **P** 02 44 42.7 -0.1
comp=Z,69nm,0.8s,mb5.8
VILF Villemus 94.40 43 *eP* **P** 02 44 43.6 +0.7
SIW Isle of Wight 94.43 34⇑*eP* **P** 02 44 41.9 -1.2
SIW Isle of Wight 94.43 34⇑*eP* **P** 02 44 41.9 -1.2
MCH1 Michaelchurch 94.46 33⇑*eP* **P** 02 44 41.4 -1.7
MCH1 *eP* 02 44 41.4
MCH1 AMb AMB 02 44 43.9
comp=Z,146nm,1.4s,mb5.9
MCH1 Michaelchurch 94.46 33⇑*eP* **P** 02 44 41.4 -1.7
MCH1 *eP* 02 44 41.4
MCH1 AMb AMB 02 44 43.9
comp=Z,146nm,1.4s,mb5.9
TAVF Tavernes 94.48 43 *eP* **P** 02 44 43.6 +0.4
HYF Humbligny 94.53 39⇓*iP* **P** 02 44 42.7 -0.8
GMM Mts of Mourne 94.55 30 *eP* **P** 02 44 42.2 -1.4
GMM Mts of Mourne 94.55 30 *eP* **P** 02 44 42.2 -1.4
OG26 St.-Nazaire-De 94.55 42 *eP* **P** 02 44 43.9 +0.4
STOF St-Etienne Org 94.59 43 *eP* **P** 02 44 44.4 +0.7
LMR La Mourre 94.60 43⇓*iP* **P** 02 44 43.5 -0.3
comp=Z,561nm,1.0s,mb6.3
LMR La Mourre 94.60 43⇓*iP* **P** 02 44 43.5 -0.3
LMR pmax pmax
comp=Z,280nm,1.0s,mb6.3
LMR La Mourre 94.60 43⇓*iP* **P** 02 44 43.5 -0.3
comp=Z,280nm,1.0s,mb6.3
AVF Avril sur Loir 94.66 39⇓*iP* **P** 02 44 43.1 -0.9
comp=Z,314nm,1.0s,mb6.1
AVF Avril sur Loir 94.66 39⇓*iP* **P** 02 44 43.1 -0.9
AVF pmax pmax
comp=Z,157nm,1.0s,mb6.1
AVF Avril sur Loir 94.66 39⇓*iP* **P** 02 44 43.1 -0.9
comp=Z,157nm,1.0s,mb6.1
SWN1 Swindon 94.74 33⇑*eP* **P** 02 44 43.5 -1.0
SWN1 Swindon 94.74 33⇑*eP* **P** 02 44 43.5 -1.0
PTS Pantelleria 94.80 51 P **P** 02 44 45.2 +0.5
FRF La Foret Royal 94.80 43⇓*iP* **P** 02 44 44.4 -0.3
comp=Z,295nm,1.0s,mb6.0
FRF La Foret Royal 94.80 43⇓*iP* **P** 02 44 44.4 -0.3
FRF pmax pmax
comp=Z,147nm,1.0s,mb6.1
FRF La Foret Royal 94.80 43⇓*iP* **P** 02 44 44.4 -0.3
comp=Z,147nm,1.0s,mb6.1
HLM1 Long Mynd 94.85 32 *eP* **P** 02 44 43.3 -1.6
HLM1 Long Mynd 94.85 32 *eP* **P** 02 44 43.3 -1.6
SMF Signal de Mont 94.85 40⇓*iP* **P** 02 44 44.4 -0.5
comp=Z,1μm,1.1s,mb6.6
SMF Signal de Mont 94.85 40⇓*iP* **P** 02 44 44.4 -0.5
SMF pmax pmax
comp=Z,632nm,1.1s,mb6.7
SMF Signal de Mont 94.85 40⇓*iP* **P** 02 44 44.4 -0.5
comp=Z,632nm,1.1s,mb6.7
OG25 Le Caire 94.90 42 *eP* **P** 02 44 45.9 +0.8
SSF Saint Saulge 94.90 39⇓*iP* **P** 02 44 44.0 -1.1
comp=Z,507nm,1.0s,mb6.3
SSF Saint Saulge 94.90 39⇓*iP* **P** 02 44 44.0 -1.1
SSF pmax pmax
comp=Z,254nm,1.0s,mb6.3
SSF Saint Saulge 94.90 39⇓*iP* **P** 02 44 44.0 -1.1
comp=Z,254nm,1.0s,mb6.3
SBD1 Bryn Du 94.91 32 *eP* **P** 02 44 43.6 -1.5
SBD1 Bryn Du 94.91 32 *eP* **P** 02 44 43.6 -1.5
DGI Dorgali Grotta 94.97 47 P **P** 02 44 45.3 -0.1
SSW Stow on the Wo 95.00 33⇑*eP* **P** 02 44 44.2 -1.3
SSW Stow on the Wo 95.00 33⇑*eP* **P** 02 44 44.2 -1.3
GCL Cushendall 95.02 29⇑*eP* **P** 02 44 44.4 -1.3
GCL Cushendall 95.02 29⇑*eP* **P** 02 44 44.4 -1.3
ORIF Oris-en-Rattie 95.08 42⇓*iP* **P** 02 44 46.2 +0.3
comp=Z,539nm,1.0s,mb6.3
ORIF *eR*
comp=Z,314nm,18.2s
ORIF Oris-en-Rattie 95.08 42⇓*iP* **P** 02 44 46.2 +0.3
ORIF pmax pmax
comp=Z,269nm,1.0s,mb6.3
ORIF Oris-en-Rattie 95.08 42⇓*iP* **P** 02 44 46.2 +0.3
comp=Z,269nm,1.0s,mb6.3
GRN Grenoble 95.18 41 *eP* **P** 02 44 47.0 +0.6
LOR Lormes 95.22 39⇓*iP* **P** 02 44 45.5 -1.1
comp=Z,598nm,1.1s,mb6.3
LOR *eR*
comp=Z,334nm,21.2s
LOR Lormes 95.22 39⇓*iP* **P** 02 44 45.5 -1.1
LOR pmax pmax
comp=Z,299nm,1.1s,mb6.3
LOR MLR MLR
comp=Z,330nm,21.3s
LOR Lormes 95.22 39⇓*iP* **P** 02 44 45.5 -1.1
comp=Z,299nm,1.1s,mb6.3
LOR LR LR
comp=Z,330nm,21.3s
GIM North Isle of 95.24 30⇑*eP* **P** 02 44 45.5 -1.2
GIM North Isle of 95.24 30⇑*eP* **P** 02 44 45.5 -1.2
MVIF Mont Vial 95.29 43 *eP* **P** 02 44 47.1 +0.2
REVF Revere 95.34 43 *eP* **P** 02 44 47.5 +0.4
SKP1 Kophill 95.36 34⇑*eP* **P** 02 44 45.7 -1.5
SKP1 Kophill 95.36 34⇑*eP* **P** 02 44 45.7 -1.5
GDM Grand'Maison 95.38 42 *eP* **P** 02 44 47.7 +0.4
SURF Saint Ours 95.40 42 *eP* **P** 02 44 48.3 +0.9

LUCF	**Luceram**	**95.41**	**43**	*eP*	**P**	**02 44 47.8**	**+0.4**
TOUF	**Mont Tournerai**	**95.42**	**43**	*eP*	**P**	**02 44 47.8**	**+0.3**
GMK	**Mull of Kintyr**	**95.43**	**29**	*eP*	**P**	**02 44 46.1**	**-1.4**
GMK	**Mull of Kintyr**	**95.43**	**29**	*eP*	**P**	**02 44 46.1**	**-1.4**
SBF	**Sospel**	**95.45**	**43**	*⇓iP*	**P**	**02 44 47.4**	**-0.2**
	comp=Z,702nm,1.1s,mb6.4						
SBF	**Sospel**	**95.45**	**43**	*⇓iP*	**P**	**02 44 47.4**	**-0.2**
SBF				pmax	pmax		
	comp=Z,351nm,1.1s,mb6.4						
SBF	**Sospel**	**95.45**	**43**	*⇓iP*	**P**	**02 44 47.4**	**-0.2**
	comp=Z,351nm,1.1s,mb6.4						
GAL1	**Galloway**	**95.50**	**30**	*eP*	**P**	**02 44 46.3**	**-1.5**
GAL1				*⇑eP*		02 44 46.3	
GAL1				AMb	AMB	02 44 47.4	
	comp=Z,189nm,1.1s,mb6.2						
GAL1	**Galloway**	**95.50**	**30**	*eP*	**P**	**02 44 46.3**	**-1.5**
GAL1				*⇑eP*		02 44 46.3	
GAL1				AMb	AMB	02 44 47.4	
	comp=Z,189nm,1.1s,mb6.2						
MBDF	**Montbardon**	**95.51**	**42**	*⇓iP*	**P**	**02 44 48.0**	**+0.1**
	comp=Z,204nm,0.9s,mb6.0						
MBDF	**Montbardon**	**95.51**	**42**	*⇓iP*	**P**	**02 44 48.0**	**+0.1**
MBDF				pmax	pmax		
	comp=Z,102nm,0.9s,mb6.0						
MBDF	**Montbardon**	**95.51**	**42**	*⇓iP*	**P**	**02 44 48.0**	**+0.1**
	comp=Z,102nm,0.9s,mb6.0						
AUTN	**L'Aution**	**95.51**	**43**	*eP*	**P**	**02 44 48.5**	**+0.6**
SAOF	**Saorge**	**95.59**	**43**	*eP*	**P**	**02 44 48.3**	**+0.1**
BNI	**Bardonecchia**	**95.63**	**42**	*⇓iP*	**P**	**02 44 49.0**	**+0.6**
BNI				pmax	pmax		
	comp=Z,102nm,1.0s,mb6.0						
BNI	**Bardonecchia**	**95.63**	**42**	*⇓iP*	**P**	**02 44 49.0**	**+0.6**
	comp=Z,102nm,1.0s,mb6.0						
KWE	**Weaver Farm**	**95.65**	**32**	*eP*	**P**	**02 44 47.3**	**-1.2**
KWE	**Weaver Farm**	**95.65**	**32**	*eP*	**P**	**02 44 47.3**	**-1.2**
DOI	**San Damiano**	**95.68**	**43**	P	**P**	**02 44 48.2**	**-0.4**
PGF	**Pioggiola**	**95.73**	**45**	*⇓iP*	**P**	**02 44 48.6**	**-0.3**
	comp=Z,153nm,1.0s,mb5.9						
PGF	**Pioggiola**	**95.73**	**45**	*⇓iP*	**P**	**02 44 48.6**	**-0.3**
PGF				pmax	pmax		
	comp=Z,77nm,1.0s,mb5.9						
PGF	**Pioggiola**	**95.73**	**45**	*⇓iP*	**P**	**02 44 48.6**	**-0.3**
	comp=Z,77nm,1.0s,mb5.9						
ERC	**Erice**	**95.82**	**50**	P	**P**	**02 44 50.0**	**+0.7**
XDE	**Dent Fell**	**95.82**	**30**	*⇑eP*	**P**	**02 44 48.1**	**-1.2**
XDE	**Dent Fell**	**95.82**	**30**	*⇑eP*	**P**	**02 44 48.1**	**-1.2**
GCD	**Castle Douglas**	**95.84**	**30**	*⇑eP*	**P**	**02 44 48.0**	**-1.4**
GCD	**Castle Douglas**	**95.84**	**30**	*⇑eP*	**P**	**02 44 48.0**	**-1.4**
LPL	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.1**	**+0.4**
	comp=Z,416nm,1.0s,mb6.3						
LPL	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.1**	**+0.4**
LPL				pmax	pmax		
	comp=Z,208nm,1.0s,mb6.3						
LPL	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.1**	**+0.4**
	comp=Z,208nm,1.0s,mb6.3						
LPG	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.2**	**+0.5**
	comp=Z,499nm,1.0s,mb6.4						
LPG	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.2**	**+0.5**
LPG				pmax	pmax		
	comp=Z,249nm,1.0s,mb6.4						
LPG	**La Plagne**	**95.91**	**42**	*⇓iP*	**P**	**02 44 50.2**	**+0.5**
	comp=Z,249nm,1.0s,mb6.4						
RSL	**Roselend**	**95.94**	**41**	*eP*	**P**	**02 44 50.0**	**+0.2**
KBI1	**Birley Grange**	**95.95**	**32**	*⇑eP*	**P**	**02 44 49.1**	**-0.7**
KBI1	**Birley Grange**	**95.95**	**32**	*⇑eP*	**P**	**02 44 49.1**	**-0.7**
TFO1	**Folkestone**	**95.97**	**35**	*eP*	**P**	**02 44 49.0**	**-1.0**
TFO1	**Folkestone**	**95.97**	**35**	*eP*	**P**	**02 44 49.0**	**-1.0**
CKE	**Keswick**	**96.04**	**30**	*⇑eP*	**P**	**02 44 49.2**	**-1.1**
CKE	**Keswick**	**96.04**	**30**	*⇑eP*	**P**	**02 44 49.2**	**-1.1**
FIN	**Finale Ligure**	**96.11**	**43**	P	**P**	**02 44 50.3**	**-0.3**
CABF	**La Chapelle**	**96.12**	**40**	*⇓iP*	**P**	**02 44 50.2**	**-0.4**
	comp=Z,520nm,1.1s,mb6.4						
CABF	**La Chapelle**	**96.12**	**40**	*⇓iP*	**P**	**02 44 50.2**	**-0.4**
CABF				pmax	pmax		
	comp=Z,260nm,1.1s,mb6.4						
CABF	**La Chapelle**	**96.12**	**40**	*⇓iP*	**P**	**02 44 50.2**	**-0.4**
	comp=Z,260nm,1.1s,mb6.4						
BWH	**Wardlaw**	**96.17**	**30**	*eP*	**P**	**02 44 49.4**	**-1.4**
BWH	**Wardlaw**	**96.17**	**30**	*eP*	**P**	**02 44 49.4**	**-1.4**
MENF	**Mencas**	**96.17**	**36**	*eP*	**P**	**02 44 49.6**	**-1.3**
PGBU	**Glenifferbraes**	**96.21**	**29**	*eP*	**P**	**02 44 49.9**	**-1.2**
PGBU				AMb	AMB	02 44 52.0	
	comp=Z,113nm,1.4s,mb5.9						
PGBU	**Glenifferbraes**	**96.21**	**29**	*eP*	**P**	**02 44 49.9**	**-1.2**
PGBU				AMb	AMB	02 44 52.0	
	comp=Z,113nm,1.4s,mb5.9						
BDL	**Dobcross Hall**	**96.25**	**30**	*⇑eP*	**P**	**02 44 50.2**	**-1.1**
BDL	**Dobcross Hall**	**96.25**	**30**	*⇑eP*	**P**	**02 44 50.2**	**-1.1**
TCR	**Colchester**	**96.28**	**34**	*eP*	**P**	**02 44 50.2**	**-1.1**
TCR	**Colchester**	**96.28**	**34**	*eP*	**P**	**02 44 50.2**	**-1.1**
BHH	**Howats Hill**	**96.31**	**30**	*eP*	**P**	**02 44 49.9**	**-1.5**
BHH	**Howats Hill**	**96.31**	**30**	*eP*	**P**	**02 44 49.9**	**-1.5**
OQ01	**Vacheresse**	**96.32**	**41**	*eP*	**P**	**02 44 51.8**	**+0.3**
KAR1	**Arisaig**	**96.36**	**28**	*eP*	**P**	**02 44 49.2**	**-2.5**
KAR1	**Arisaig**	**96.36**	**28**	*eP*	**P**	**02 44 49.2**	**-2.5**
ECK	**Cauldkaine Hil**	**96.41**	**30**	*⇑eP*	**P**	**02 44 50.3**	**-1.6**
ECK	**Cauldkaine Hil**	**96.41**	**30**	*⇑eP*	**P**	**02 44 50.3**	**-1.6**
ESK	**Eskdalemuir**	**96.46**	**30**	*eP*	**P**	**02 44 50.5**	**-1.6**
ESK				AMb	AMB	02 44 56.9	
	comp=N,170nm,1.9s						
ESK	**Eskdalemuir**	**96.46**	**30**	*eP*	**P**	**02 44 50.5**	**-1.6**
ESK				AMb	AMB	02 44 56.9	
	comp=N,170nm,1.9s						
ESK	**Eskdalemuir**	**96.46**	**30**	*⇓eP*	**P**	**02 44 50.6**	**-1.5**
ESK				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.8						
ESK	**Eskdalemuir**	**96.46**	**30**	*⇓eP*	**P**	**02 44 50.6**	**-1.6**
	comp=Z,40nm,0.6s,mb5.8						
EAB	**Aberfoyle**	**96.52**	**29**	*⇑eP*	**P**	**02 44 51.1**	**-1.3**
EAB	**Aberfoyle**	**96.52**	**29**	*⇑eP*	**P**	**02 44 51.1**	**-1.3**
MEZF	**Maizieres J'vi**	**96.57**	**38**	*⇓iP*	**P**	**02 44 51.7**	**-0.9**
	comp=Z,299nm,0.8s,mb6.3						
MEZF	**Maizieres J'vi**	**96.57**	**38**	*⇓iP*	**P**	**02 44 51.7**	**-0.9**
	comp=Z,299nm,0.8s,mb6.6						
XAL	**Allendale**	**96.62**	**31**	*⇑eP*	**P**	**02 44 51.4**	**-1.4**
XAL	**Allendale**	**96.62**	**31**	*⇑eP*	**P**	**02 44 51.4**	**-1.4**
EAU	**Auchinoon**	**96.69**	**29**	*eP*	**P**	**02 44 51.4**	**-1.7**
EAU	**Auchinoon**	**96.69**	**29**	*eP*	**P**	**02 44 51.4**	**-1.7**
KPL	**Plockton**	**96.71**	**27**	*eP*	**P**	**02 44 51.5**	**-1.7**
KPL				AMb	AMB	02 44 53.6	
	comp=Z,127nm,1.9s,mb5.8						
KPL	**Plockton**	**96.71**	**27**	*eP*	**P**	**02 44 51.5**	**-1.7**
KPL				AMb	AMB	02 44 53.6	
	comp=Z,127nm,1.9s,mb5.8						
ORO	**Oropa**	**96.71**	**42**	P	**P**	**02 44 52.3**	**-1.0**
EBL	**Broad Law**	**96.82**	**30**	*eP*	**P**	**02 44 52.6**	**-1.2**
EBL	**Broad Law**	**96.82**	**30**	*eP*	**P**	**02 44 52.6**	**-1.2**
EDI	**Edinburgh**	**96.85**	**29**	*eP*	**P**	**02 44 53.1**	**-0.8**
EDI				AMb	AMB	02 44 55.7	
	comp=Z,108nm,1.4s,mb5.9						
EDI	**Edinburgh**	**96.85**	**29**	*eP*	**P**	**02 44 53.1**	**-0.8**
EDI				AMb	AMB	02 44 55.7	
	comp=Z,108nm,1.4s,mb5.9						
BORG	**Borgarnes**	**96.89**	**17**	*eP*	**P**	**02 44 52.0**	**-2.1**
	comp=Z,290nm,1.5s,mb6.3						
AEU	**East Anglia Un**	**96.91**	**34**	*⇑eP*	**P**	**02 44 52.8**	**-1.4**
AEU	**East Anglia Un**	**96.91**	**34**	*⇑eP*	**P**	**02 44 52.8**	**-1.4**
THEF	**They Montfort**	**96.94**	**39**	*eP*	**P**	**02 44 54.0**	**-0.3**
LOMF	**Lomont**	**96.95**	**40**	*eP*	**P**	**02 44 54.5**	**+0.2**
KAC	**Achnashellach**	**96.96**	**27**	*eP*	**P**	**02 44 52.6**	**-1.7**
KAC	**Achnashellach**	**96.96**	**27**	*eP*	**P**	**02 44 52.6**	**-1.7**
BAIF	**Baives**	**96.97**	**37**	*⇓iP*	**P**	**02 44 53.2**	**-1.2**
	comp=Z,169nm,0.9s,mb6.0						
BAIF	**Baives**	**96.97**	**37**	*⇓iP*	**P**	**02 44 53.2**	**-1.2**
BAIF				pmax	pmax		
	comp=Z,85nm,0.9s,mb6.0						
BAIF	**Baives**	**96.97**	**37**	*⇓iP*	**P**	**02 44 53.2**	**-1.2**
	comp=Z,85nm,0.9s,mb6.0						
XSO	**Sourhope Farm**	**96.99**	**30**	*⇑eP*	**P**	**02 44 53.2**	**-1.3**
XSO	**Sourhope Farm**	**96.99**	**30**	*⇑eP*	**P**	**02 44 53.2**	**-1.3**
ABA1	**Baconsthorpe**	**97.02**	**33**	*⇑eP*	**P**	**02 44 53.8**	**-0.9**
ABA1	**Baconsthorpe**	**97.02**	**33**	*⇑eP*	**P**	**02 44 53.8**	**-0.9**
HAU	**Haudompre**	**97.03**	**39**	*⇓iP*	**P**	**02 44 53.7**	**-1.0**
	comp=Z,326nm,1.0s,mb6.2						
HAU				*eR*			
	comp=Z,212nm,19.0s						
HAU	**Haudompre**	**97.03**	**39**	*⇓iP*	**P**	**02 44 53.7**	**-1.0**
HAU				pmax	pmax		
	comp=Z,163nm,1.0s,mb6.2						
HAU				MLR	MLR		
	comp=Z,210nm,19.0s						
HAU	**Haudompre**	**97.03**	**39**	*⇓iP*	**P**	**02 44 53.7**	**-1.0**
	comp=Z,163nm,1.0s,mb6.2						
HAU				LR	LR		
	comp=Z,210nm,19.0s						
ESY	**Stoneypath**	**97.10**	**30**	*⇑eP*	**P**	**02 44 53.6**	**-1.4**
ESY	**Stoneypath**	**97.10**	**30**	*⇑eP*	**P**	**02 44 53.6**	**-1.4**
BOB	**Bobbio (Coli)**	**97.15**	**43**	P	**P**	**02 44 53.8**	**-1.4**
DOU	**Dourbes**	**97.20**	**37**	P	**P**	**02 44 55.0**	**-0.5**
HINF	**Hinteralfeld**	**97.21**	**40**	*⇓iP*	**P**	**02 44 54.5**	**-1.0**
	comp=Z,193nm,1.0s,mb6.0						
HINF	**Hinteralfeld**	**97.21**	**40**	*⇓iP*	**P**	**02 44 54.5**	**-1.0**
HINF				pmax	pmax		
	comp=Z,97nm,1.0s,mb6.0						
HINF	**Hinteralfeld**	**97.21**	**40**	*⇓iP*	**P**	**02 44 54.5**	**-1.0**
	comp=Z,97nm,1.0s,mb6.0						
SNF	**Seneffe**	**97.26**	**36**	P	**P**	**02 44 55.3**	**-0.5**
GIVF	**Givet**	**97.33**	**37**	*⇓iP*	**P**	**02 44 55.1**	**-0.9**
	comp=Z,266nm,0.9s,mb6.2						
GIVF	**Givet**	**97.33**	**37**	*⇓iP*	**P**	**02 44 55.1**	**-0.9**
GIVF				pmax	pmax		
	comp=Z,133nm,0.9s,mb6.2						
GIVF	**Givet**	**97.33**	**37**	*⇓iP*	**P**	**02 44 55.1**	**-0.9**
	comp=Z,133nm,0.9s,mb6.2						
MOF	**Molkenrain**	**97.39**	**40**	*eP*	**P**	**02 44 55.5**	**-0.8**
TOLF	**Tolfa**	**97.41**	**47**	P	**P**	**02 44 56.3**	**-0.1**
VLC	**Villacollemand**	**97.42**	**44**	*⇓iP*	**P**	**02 44 55.6**	**-0.9**
	comp=Z,27nm,0.8s,mb5.5						
UCC	**Uccle**	**97.47**	**36**	P	**P**	**02 44 55.6**	**-1.1**
BDI	**Bagni Di Lucca**	**97.51**	**44**	P	Pdif	02 44 55.8	-1.0
ECH	**Echery**	**97.60**	**39**	*eP*	Pdif	02 44 56.6	-0.6
CSNT	**Castellina Chi**	**97.65**	**45**	P	Pdif	02 44 56.8	-0.6
MVH1	**Achvaich**	**97.69**	**27**	*⇑eP*	Pdif	02 44 56.1	-1.5
MVH1	**Achvaich**	**97.69**	**27**	*⇑eP*	Pdif	02 44 56.1	-1.5
BCLA	**Clavier**	**97.76**	**37**	P	Pdif	02 44 57.5	-0.5
CDF	**Champ du Feu**	**97.77**	**39**	*⇓iP*	Pdif	02 44 57.1	-0.9
	comp=Z,363nm,1.0s						
CDF	**Champ du Feu**	**97.77**	**39**	*⇓iP*	Pdif	02 44 57.1	-0.9
CDF				pmax	pmax		
	comp=Z,182nm,1.0s,mb6.4						
CDF	**Champ du Feu**	**97.77**	**39**	*⇓iP*	Pdif	02 44 57.1	-0.9
	comp=Z,182nm,1.0s						
WLF	**Walferdange**	**97.81**	**38**	*ePdiff*	Pdif	02 44 58.1	-0.1
WLF	**Walferdange**	**97.81**	**38**	P	Pdif	02 44 58.3	+0.1
WLF	**Walferdange**	**97.81**	**38**	*⇓iP*	Pdif	02 44 58.0	-0.2
WLF				pmax	pmax		
	comp=Z,322nm,1.0s,mb6.6						
WLF	**Walferdange**	**97.81**	**38**	*⇓iP*	Pdif	02 44 58.0	-0.1
	comp=Z,322nm,1.0s						
WLS	**Welschbruch**	**97.81**	**39**	*eP*	Pdif	02 44 57.9	-0.3
LIBD	**Limburg**	**97.82**	**40**	*eP*	Pdif	02 44 57.9	-0.3
MME1	**Meikle Cairn**	**97.82**	**28**	*eP*	Pdif	02 44 56.5	-1.7
MME1	**Meikle Cairn**	**97.82**	**28**	*eP*	Pdif	02 44 56.5	-1.7
MCD	**Coleburn Disti**	**97.86**	**28**	*eP*	Pdif	02 44 56.8	-1.6
MCD	**Coleburn Disti**	**97.86**	**28**	*eP*	Pdif	02 44 56.8	-1.6
FNVD	**Fontana Vidola**	**97.89**	**44**	P	Pdif	02 44 58.2	-0.3
FELD	**Feldberg im Sc**	**97.90**	**40**	*⇓eP*	Pdif	02 44 58.5	-0.1
TUE	**Stuetta**	**97.96**	**42**	P	Pdif	02 44 58.9	0.0
CERT	**Cerreto**	**97.99**	**47**	P	Pdif	02 44 58.5	-0.5
BEBN	**Eben Emael**	**98.16**	**37**	P	Pdif	02 44 59.3	-0.5
FIAM	**Fiamignano**	**98.23**	**47**	P	Pdif	02 45 00.2	+0.2
MEM	**Membach**	**98.24**	**37**	P	Pdif	02 44 59.8	-0.3
ORE	**Reay**	**98.26**	**27**	*⇑eP*	Pdif	02 44 58.9	-1.3
ORE	**Reay**	**98.26**	**27**	*⇑eP*	Pdif	02 44 58.9	-1.3
HGN	**Heimansgroeve**	**98.28**	**37**	*⇓iP*	Pdif	02 44 59.7	-0.6
	comp=Z,104nm,1.3s						
BFO	**Black Forest**	**98.32**	**40**	*ePdiff*	Pdif	02 45 00.2	-0.3
BFO				*ePP*	PP	02 49 06.2	-3.9
LANF	**Langenberg**	**98.36**	**39**	*eP*	Pdif	02 45 00.5	-0.1
MABI	**Malga Bissina**	**98.45**	**42**	P	Pdif	02 45 00.3	-0.7
AQU	**L'Aquila**	**98.46**	**47**	*⇓iP*	Pdif	02 45 02.0	+1.0
AQU	**L'Aquila**	**98.46**	**47**	*⇓iP*	Pdif	02 45 00.8	-0.2
AQU				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.6						
AQU	**L'Aquila**	**98.46**	**47**	*⇓iP*	Pdif	02 45 00.8	-0.2
	comp=Z,25nm,0.8s						
SPAK	**Spaichingen-Ko**	**98.47**	**40**	*eP*	Pdif	02 45 00.7	-0.4
OBR	**Brabster**	**98.55**	**27**	*eP*	Pdif	02 45 00.4	-1.1
OBR	**Brabster**	**98.55**	**27**	*eP*	Pdif	02 45 00.4	-1.1
SNTG	**Esanatoglia**	**98.59**	**46**	P	Pdif	02 45 00.9	-0.7
DAVA	**Damuels**	**98.69**	**41**	*⇓i*	PP	02 49 10.2	-2.6
	comp=Z,724nm,5.3s						
DAVA	**Damuels**	**98.69**	**41**	*i* Pdiff	Pdif	02 45 02.2	+0.1
	comp=Z,298nm,2.8s,SNR=27						
DAVA				*⇓iPP*	PP	02 49 10.2	-2.6
	comp=Z,724nm,5.3s						
ABH	**Alteburg**	**98.69**	**38**	*eP*	Pdif	02 45 01.6	-0.5
KTD	**Kalmit**	**98.70**	**39**	*eP*	Pdif	02 45 02.0	-0.1
ARV	**Arcevia**	**98.71**	**46**	P	Pdif	02 45 01.3	-0.9
KMBO	**Kilima Mbogo**	**98.74**	**96**	P	Pdif	02 45 05.9	+3.6
	comp=Z,11nm,0.9s,baz=239,slow=5.7,SNR=11						
KMBO					PKKPbc	PKKPbc	03 01 29.5	+2.2
	comp=Z,2.1nm,0.7s,baz=225,slow=2.9,SNR=4.6						
CUC	**Castrocucco**	**98.96**	**50**	P	Pdif	02 45 02.4	-0.9
STU	**Stuttgart**	**99.05**	**40**	*ePdiff*	Pdif	02 45 03.5	-0.2
STU	**Stuttgart**	**99.05**	**40**	*eP*	Pdif	02 45 03.1	-0.6
STU				pmax	pmax		
	comp=Z,164nm,1.1s,mb6.3						
STU	**Stuttgart**	**99.05**	**40**	*ePdif*	Pdif	02 45 03.1	-0.5
	comp=Z,164nm,1.1s						
CTI	**Castel Tesino**	**99.14**	**43**	P	Pdif	02 45 04.0	-0.1
TIP	**Timpagrande**	**99.24**	**51**	*ePdif*	Pdif	02 45 02.7	-1.8
TIP				*epP*	pP	02 47 17.9	+6.0
TOD	**Tromm**	**99.25**	**39**	*eP*	Pdif	02 45 03.5	-1.1
BUG	**Bochum--Univer**	**99.36**	**37**	*ePdiff*	Pdif	02 45 04.6	-0.4
BUG				*ePP*	PP	02 49 12.8	-5.0
TNS	**Taunus Mts**	**99.36**	**38**	*ePdiff*	Pdif	02 45 05.1	0.0
WTSB	**Winterswijk**	**99.38**	**36**	*⇓iP*	Pdif	02 45 04.8	-0.4
	comp=Z,122nm,1.1s						
MOTA	**Moosalm**	**99.44**	**42**	*i P*	Pdif	02 45 05.3	-0.1
	comp=Z,67nm,1.0s,SNR=49						
MOTA	**Moosalm**	**99.44**	**42**	*i P*	Pdif	02 45 05.3	-0.1
MOTA				pmax	pmax		
	comp=Z,67nm,1.0s,mb5.9						
SQTA	**Sankt Quirin**	**99.44**	**42**	*i P*	Pdif	02 45 05.4	-0.1
	comp=Z,119nm,1.1s,SNR=77						
SQTA	**Sankt Quirin**	**99.44**	**42**	*i P*	Pdif	02 45 05.4	0.0
SQTA				pmax	pmax		
	comp=Z,119nm,1.1s,mb6.1						
WATA	**Walderalm**	**99.72**	**42**	*⇑iP*	Pdif	02 45 06.5	-0.2
	comp=Z,80nm,1.3s,SNR=16						
WATA	**Walderalm**	**99.72**	**42**	*⇑iP*	Pdif	02 45 06.5	-0.2
WATA				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.9						
WTTA	**Wattenberg**	**99.72**	**42**	*⇓iP*	Pdif	02 45 06.7	+0.1
	comp=Z,375nm,1.8s,SNR=29						
WTTA	**Wattenberg**	**99.72**	**42**	*⇓iP*	Pdif	02 45 06.7	0.0
WTTA				pmax	pmax		
	comp=Z,375nm,1.8s,mb6.4						
WIT	**Witteveen**	**99.76**	**35**	*⇓iP*	Pdif	02 45 07.1	+0.3
	comp=Z,430nm,1.5s						
FUR	**Furstenfeldbru**	**99.94**	**41**	*ePdiff*	Pdif	02 45 07.7	0.0
FUR				*ePP*	PP	02 49 19.1	-3.1
FVI	**Forni Avoltri**	**100.09**	**43**	P	Pdif	02 45 08.3	0.0
LRW	**Lerwick**	**100.28**	**27**	*eP*	Pdif	02 45 08.3	-0.9
LRW				AMb	AMB	02 45 11.5	
	comp=Z,52nm,1.7s						
LRW	**Lerwick**	**100.28**	**27**	*eP*	Pdif	02 45 08.3	-0.9
LRW				AMb	AMB	02 45 11.5	
	comp=Z,52nm,1.7s						
ROBS	**Robic**	**100.37**	**43**	*i* Pdiff	Pdif	02 45 09.4	-0.1
ROBS				*ePP*	PP	02 49 16.0	-9.4
VOY	**Vojsko**	**100.50**	**44**	*ePdiff*	Pdif	02 45 10.4	+0.3
UBBA	**Unterbreizbach**	**100.52**	**38**	*ePdiff*	Pdif	02 45 10.2	0.0
UBBA				*ePP*	PP	02 49 21.5	-5.0
SUMG	**Summit**	**100.58**	**7**	*ePdif*	Pdif	02 45 10.0	-0.5
	comp=Z,81nm,1.1s						
GRA1	**Grafenberg Arr**	**100.66**	**40**	*ePdif*	Pdif	02 45 10.5	-0.3
GRA1				*ePP*	PP	02 49 23.6	-3.9
GRF	**Grafenberg Arr**	**100.66**	**40**	*ePdiff*	Pdif	02 45 10.5	-0.3
GRF				*ePP*	PP	02 49 23.6	-3.9
KBA	**Koelnbreinsper**	**100.66**	**43**	*⇑i*	PP	02 49 22.9	-4.6
	comp=Z,342nm,3.3s						
KBA	**Koelnbreinsper**	**100.66**	**43**	*⇑iPdiff*	Pdif	02 45 10.6	-0.3
	comp=Z,152nm,2.6s,SNR=29						
KBA				*⇑iPP*	PP	02 49 22.9	-4.6
	comp=Z,342nm,3.3s						
GTTG	**Gvttingen**	**100.86**	**37**	*ePdiff*	Pdif	02 45 12.0	+0.3
GTTG				*ePP*	PP	02 49 24.8	-4.2
LJU	**Ljubljana**	**100.90**	**44**	*i* Pdiff	Pdif	02 45 11.6	-0.3
LJU				*i* PP	PP	02 49 26.2	-3.1
BOJS	**Bojanci**	**101.11**	**45**	*ePdiff*	Pdif	02 45 13.2	+0.3
OBKA	**Obir**	**101.13**	**43**	*⇑i*	PP	02 49 27.7	-3.3
	comp=Z,403nm,2.5s						
OBKA	**Obir**	**101.13**	**43**	*i* Pdiff	Pdif	02 45 13.2	+0.3
	comp=Z,343nm,4.4s,SNR=15						
OBKA				*⇑iPP*	PP	02 49 27.7	-3.3
	comp=Z,403nm,2.5s						
CLZ	**Clausthal**	**101.23**	**37**	*ePdiff*	Pdif	02 45 13.2	-0.2
CLZ				*ePP*	PP	02 49 27.0	-4.7
ROTZ	**Rotzenmuhle**	**101.25**	**40**	*ePdiff*	Pdif	02 45 13.6	+0.1
ROTZ				*ePP*	PP	02 49 27.8	-4.1
MANZ	**Manzenberg**	**101.30**	**40**	*ePdiff*	Pdif	02 45 14.0	+0.3
MANZ				*ePP*	PP	02 49 28.8	-3.5
MOX	**Moxa**	**101.33**	**39**	*ePdiff*	Pdif	02 45 13.8	0.0
MOX				*ePP*	PP	02 49 27.2	-5.3
MOX	**Moxa**	**101.33**	**39**	*eP*	Pdif	02 45 14.1	+0.3
	comp=Z,66nm,1.5s						
MOX				*e*		02 45 32.0	
MOX				*e*		02 49 27.6	
MOX	**Moxa**	**101.33**	**39**	*eP*	Pdif	02 45 14.1	+0.3
MOX				pmax	pmax		
	comp=Z,66nm,1.5s						
MOX	**Moxa**	**101.33**	**39**	*eP*	Pdif	02 45 14.1	+0.3
	comp=Z,66nm,1.5s						
MOX				*e*		02 45 32.0	
MOX				*ePP*	PP	02 49 27.6	-4.9
MOX				*ePS*	SP	02 57 36.0	-4.2
WET	**Wettzell**	**101.35**	**41**	*ePdiff*	Pdif	02 45 13.2	-0.7
WET				*ePP*	PP	02 49 27.3	-5.3
LEGS	**Legarje**	**101.35**	**44**	*ePdiff*	Pdif	02 45 14.2	+0.4
WRAK	**Wrangell Islan**	**101.38**	**328**	*ePdif*	Pdif	02 45 13.6	-0.4
NRDL	**Niedersach Rie**	**101.40**	**37**	*ePdiff*	Pdif	02 45 14.4	+0.3
NRDL				*ePP*	PP	02 49 29.0	-4.0
MOA	**Molln**	**101.57**	**42**	*⇓i*	PKiKP	02 49 29.5	-5.3
	comp=Z,132nm,1.8s						
MOA	**Molln**	**101.57**	**42**	*i* Pdiff	Pdif	02 45 14.7	-0.1
	comp=Z,487nm,3.9s,SNR=17						
MOA				*⇓iPKiKP*	PKiKP	02 49 29.5	-5.3
	comp=Z,132nm,1.8s						
GUNZ	**Gunzen**	**101.61**	**39**	*ePdiff*	Pdif	02 45 15.4	+0.4
GUNZ				*ePP*	PP	02 49 30.5	-4.0
NKC	**Novy Kostel**	**101.61**	**39**	*ePDIF*	Pdif	02 45 15.5	+0.4
NKC				*ePP*	PP	02 49 30.7	-3.8
WERD	**Werda**	**101.63**	**39**	*ePdiff*	Pdif	02 45 15.2	0.0
WERD				*ePP*	PP	02 49 29.9	-4.8
GEC2	**GERESS Array S**	**101.69**	**41**	*ePdiff*	Pdif	02 45 14.7	-0.7
GEC2				*ePP*	PP	02 49 30

DPC **Dobruska-Polom** **103.88** **40** *e*PDIF Pdif 02 45 25.8 +0.6
DPC *e*PP PP 02 49 46.3 -5.0
KSP **Ksiaz** **104.08** **40** *e*Pdiff Pdif 02 45 27.1 +1.1
KSP *e*PP PP 02 49 48.3 -4.4
KSP *e*SP SP 02 58 10.9 +2.2
KSP *e*PS PS 02 59 15.3 -5.0
KSP **Ksiaz** **104.08** **40** *e*P Pdif 02 45 26.5 +0.5
KSP *e*SP SP 02 58 06.5 -2.2
KSP **Ksiaz** **104.08** **40** *e*Pdif Pdif 02 45 26.5 +0.5
KSP *e*PP PP 02 49 47.5 -5.2
KSP *e*SP SP 02 58 06.5 -2.2
KSP *e* 03 01 57.0
SKAG **Skagway** **104.29** **330** *e*Pdif Pdif 02 45 27.1 +0.1
MORC **Moravsky Berou** **104.36** **41** *e*P Pdif 02 45 27.7 +0.4
MORC pmax pmax
comp=Z,12nm,1.0s
MORC **Moravsky Berou** **104.36** **41** *e*Pdif Pdif 02 45 27.7 +0.4
comp=Z,12nm,1.0s
MORC *e*PKP PKiKP 02 49 39.6 -0.3
VYHS **Vyhne** **104.61** **43** PDIF Pdif 02 45 28.6 +0.2
VYHS **Vyhne** **104.61** **43** *e*PKP PKiKP 02 49 40.5 +0.1
VYHS **Vyhne** **104.61** **43** *e*P Pdif 02 45 28.6 +0.2
VYHS pmax pmax
comp=Z,8.0nm,1.5s
VYHS **Vyhne** **104.61** **43** *e*P Pdif 02 45 28.6 +0.2
comp=Z,8.4nm,1.5s
VYHS *e* 02 49 40.5
OKC **Ostrava-Krasne** **104.74** **41** *e*PDIF Pdif 02 45 29.3 +0.3
OKC *e*PP PKiKP 02 49 40.6 0.0
BSD **Bornholm Skovb** **105.14** **36** *i* P Pdif 02 45 30.6 -0.2
comp=Z,22nm,0.9s
BSD **Bornholm Skovb** **105.14** **36** *e*P Pdif 02 45 30.6 -0.2
BSD pmax pmax
comp=Z,22nm,0.9s
BSD **Bornholm Skovb** **105.14** **36** *e*P Pdif 02 45 30.6 -0.2
comp=Z,22nm,0.9s
BZS **Buzias** **105.21** **46**⇑ *i*P Pdif 02 45 31.6 +0.5
BZS **Buzias** **105.21** **46**⇑ *i*P PKiKP 02 49 40.8 -0.7
KECS **Kecovo** **105.61** **43** PDIF Pdif 02 45 33.5 +0.7
KECS **Kecovo** **105.61** **43** *e*PKP PKiKP 02 49 42.0 -0.2
KECS **Kecovo** **105.61** **43** *e*P Pdif 02 45 33.5 +0.7
KECS pmax pmax
comp=Z,3.0nm,1.1s
KECS **Kecovo** **105.61** **43** *e*P Pdif 02 45 33.5 +0.7
comp=Z,2.6nm,1.1s
KECS *e* 02 49 42.0
GKP **Gorka Klasztor** **105.61** **38** *e*Pdiff Pdif 02 45 34.4 +1.5
GKP *e*PKiKP PKiKP 02 49 41.8 -0.4
NA001 **NORSAR Array S** **105.73** **29** *e*PKP PKiKP 02 49 41.5 -0.9
NIE **Niedzica** **105.86** **42** *e*Pdif Pdif 02 45 35.5 +1.5
NIE *e*PKPdif PKiKP 02 49 43.3 +0.6
OJC **Ojcow** **105.87** **42** *e*Pdif Pdif 02 45 34.3 +0.3
OJC *e*PKPdif PKiKP 02 49 42.5 -0.2
GZR **Gura Zlata** **105.88** **47**⇓ *i*P Pdif 02 45 36.2 +2.2
GZR **Gura Zlata** **105.88** **47**⇓ *i*P PKiKP 02 49 46.5 +3.8
NB2 **NORSAR Subarra** **105.96** **29** P Pdif 02 45 33.8 -0.6
comp=Z,71nm,1.7s,baz=248,slow=4.6
NOA **NORSAR Array B** **105.96** **29** Pdiff Pdif 02 45 34.5 +0.1
comp=Z,3.1nm,0.8s,baz=237,slow=4.7,SNR=8.8
NOA PKiKP PKiKP 02 49 42.2 -0.6
comp=Z,7.7nm,0.9s,baz=247,slow=2.0,SNR=3.8
NOA PKKPab PKKPab 03 01 23.9 -1.6
comp=Z,2.8nm,0.7s,baz=65,slow=4.6,SNR=6.5
NOA **NORSAR Array B** **105.96** **29** Pdif Pdif 02 45 34.5 +0.1
NOA PKPdif PKiKP 02 49 42.2 -0.6
NOA PKKPab PKKPab 03 01 23.9 -1.6
DRGR **106.36** **46**⇓ *i*P Pdif 02 45 38.7 +2.5
DRGR **106.36** **46**⇓ *i*P PKiKP 02 49 43.5 -0.1
DRGR **106.36** **46** P PKiKP 02 49 43.5 -0.1
CRVS **Cervenica-Dubn** **106.37** **43** PDIF Pdif 02 45 37.0 +0.8
CRVS **Cervenica-Dubn** **106.37** **43** *e*PKP PKiKP 02 49 45.0 +1.4
CRVS **Cervenica-Dubn** **106.37** **43** *e*P Pdif 02 45 37.0 +0.8
CRVS *e* 02 49 45.0
STHS **Stebnicka Huta** **106.43** **43** PDIF Pdif 02 45 38.2 +1.7
STHS *e* 02 45 47.2
STHS **Stebnicka Huta** **106.43** **43** *e*PKP PKiKP 02 49 43.9 +0.2
STHS **Stebnicka Huta** **106.43** **43** *e*P Pdif 02 45 38.3 +1.8
STHS *e* 02 45 47.2
STHS *e* 02 49 43.9
HFS **Hagfors** **106.67** **31** PKKPbc PKKPab 03 01 20.9 -1.4
comp=Z,2.4nm,0.5s,baz=86,slow=4.5,SNR=7.9
UZH **Uzhgorod** **106.78** **44** *e*P Pdif 02 45 37.0 -1.0
DAG **Danmarks Havn** **106.87** **10**⇑ *i*P Pdif 02 45 37.7 -0.8
comp=Z,2.0nm,0.6s
DAG **Danmarks Havn** **106.87** **10**⇑ *e*P Pdif 02 45 37.7 -0.8
DAG pmax pmax
comp=Z,2.0nm,0.6s
DAG **Danmarks Havn** **106.87** **10**⇑ *e*P Pdif 02 45 37.7 -0.8
comp=Z,2.0nm,0.6s
KOLS **Kolonicke sedl** **106.88** **43** *e* Pdif 02 45 40.2 +1.7
KOLS *e* 02 45 47.4
KOLS **Kolonicke sedl** **106.88** **43** *e*PKP PKiKP 02 49 44.5 -0.1
KOLS **Kolonicke sedl** **106.88** **43** *e*P Pdif 02 45 40.2 +1.7
KOLS *e* 02 45 47.4
KOLS *e* 02 49 44.5
VOIR **107.39** **48**⇑ *i*P Pdif 02 45 49.3 +8.6
VOIR **107.39** **48**⇑ *i*P PKiKP 02 49 45.5 0.0
KWP **Kalwaria** **107.39** **43** *e*Pdiff Pdif 02 45 44.3 +3.5
KWP *e*PKiKP PKiKP 02 49 45.4 -0.1
KWP *e*PP PP 02 50 15.1 -1.6
KWP **Kalwaria** **107.39** **43** P Pdif 02 45 43.8 +3.0
KWP pmax pmax
comp=Z,25nm,1.2s
SNX **Sinaia** **107.67** **48**⇑ *i*P Pdif 02 45 46.5 +4.5
SNX **Sinaia** **107.67** **48**⇑ *i*P PKiKP 02 49 48.7 +2.6
NSS **Namsos** **107.79** **26** *e* PKiKP 02 49 44.7 -1.6
INK **Inuvik** **107.79** **338** PKKPbc PKKPbc 03 01 00.8 -0.1
comp=Z,41nm,0.6s,baz=329,slow=3.9,SNR=70
INK SKKPbc 03 03 47.6
comp=Z,10nm,0.9s,baz=351,slow=1.0,SNR=4.2
INK **Inuvik** **107.79** **338** *e*P Pdif 02 45 41.9 -0.6
INK pmax pmax
comp=Z,31nm,1.2s
INK **Inuvik** **107.79** **338** *e*Pdif Pdif 02 45 41.9 -0.7
comp=Z,31nm,1.2s
INK *e*PKP PKiKP 02 49 44.7 -1.6
MLR **Muntele Rosu** **108.00** **48** PKKPbc PKKPbc 03 01 00.9 +0.7
comp=Z,2.5nm,0.5s,baz=117,slow=2.3,SNR=4.7
DAWY **Dawson** **108.07** **333** *e*Pdif Pdif 02 45 43.2 -0.6
DAWY *e*PKP PKiKP 02 49 45.3 -1.5
BURAR **Bucovina Array** **108.25** **45**⇑ *i*P Pdif 02 45 47.4 +2.8
BURAR **Bucovina Array** **108.25** **45**⇑ *i*P PKiKP 02 49 46.2 -0.9
BURAR **Bucovina Array** **108.25** **45**⇑ *i*P PKiKP 02 49 47.0 -0.1
PLOR **Plostina** **108.58** **48**⇓ *i*P Pdif 02 45 53.3 +7.2
VRI **Vrincioaia** **108.64** **48**⇑ *i*P Pdif 02 45 49.7 +3.4
VRI **Vrincioaia** **108.64** **48**⇑ *i*P PKiKP 02 49 47.0 -0.9
HARR **Harsova** **109.05** **49**⇑ *i*P PKiKP 02 49 48.4 -0.3
HARR **Harsova** **109.05** **49** P PKiKP 02 49 48.8 +0.1
EGAK **Eagle** **109.06** **334** *e*Pdif Pdif 02 45 47.5 -0.7
EGAK *e*PKP PKiKP 02 49 47.6 -1.1
SUW **Suwalki** **109.18** **39** *e*Pdiff Pdif 02 45 49.3 +0.6
SUW *e*PKiKP PKiKP 02 49 48.3 -0.6
SUW *e*SKS SKSac 02 55 29.8 -1.8
EIL **Elat** **109.29** **66** *e*PKP PKiKP 02 49 49.2 +0.1
EIL *e*PP PP 02 50 29.1 -1.1
TIRR **Tirgusor** **109.30** **49** *e*PKP PKiKP 02 49 48.2 -0.9
CFR **Carcaliu** **109.35** **49**⇑ *i*P PKiKP 02 49 48.4 -0.8
CFR **Carcaliu** **109.35** **49** P PKiKP 02 49 48.9 -0.3
MOR8 **Moi Rana** **109.40** **25** *e* PKiKP 02 49 48.2 -1.1
MOR8 *e*PP PP 02 50 29.7 -1.3
MENT **Mentasta** **109.43** **331** *e*PKP PKiKP 02 49 48.7 -0.7
EYAK **Cordova Ski Ar** **109.50** **329** *e*PKP PKiKP 02 49 49.3 -0.2
IAS **Iasi** **109.61** **46** P PKiKP 02 49 48.9 -0.8
CSS **Prodhromos** **109.79** **60** *e*PKP PKiKP 02 49 50.2 +0.2
CSS *e*PP PP 02 50 33.6 -0.2
ANTO **Ankara** **110.95** **55**⇑ *i*P PKiKP 02 49 52.3 +0.1
ANTO **Ankara** **110.95** **55** PKiKP PKiKP 02 49 52.8 +0.6
ANTO **Ankara** **110.95** **55** *e*PKP PKiKP 02 49 52.4 +0.1
PMR **Palmer** **111.39** **329** *e*PKIKP PKiKP 02 49 52.3 -0.8
BR131 **Keskin Array S** **111.53** **55** *e*Pdif Pdif 02 45 59.5 +0.3
BR131 *e*PKP PKiKP 02 49 52.9 -0.4
BRTR **Keskin Array B** **111.53** **55** Pdiff Pdif 02 46 00.1 +1.0
comp=Z,0.4nm,0.7s,baz=256,slow=6.5,SNR=2.5
BRTR PKiKP PKiKP 02 49 53.1 -0.2
comp=Z,24nm,0.8s,baz=194,slow=2.9,SNR=57
BRTR PP PP 02 50 36.8 -9.3
comp=Z,13nm,0.9s,baz=223,slow=4.8,SNR=6.0
BRTR SKiKP 02 52 32.9
comp=Z,2.7nm,0.8s,baz=194,slow=2.5,SNR=3.6
BRTR **Keskin Array B** **111.53** **55** P Pdif 02 46 00.2 +1.0
BRTR 02 49 53.1
BRTR **Keskin Array B** **111.53** **55** Pdif Pdif 02 46 00.1 +1.0
BRTR PKPdf PKiKP 02 49 53.1 -0.2
BRTR PP PP 02 50 36.8 -9.3
AKASG **Malin Array Be** **111.70** **43** Pdiff Pdif 02 46 01.9 +2.0
comp=Z,1.8nm,0.7s,baz=262,slow=4.2,SNR=7.6
AKASG PKiKP PKiKP 02 49 52.1 -1.6
comp=Z,38nm,0.6s,baz=263,slow=2.7,SNR=137
AKASG SKiKP 02 52 33.1
comp=Z,4.5nm,0.6s,baz=261,slow=2.7,SNR=6.6
AKASG PKKPbc PKKPbc 03 00 48.5 0.0
comp=Z,2.7nm,0.6s,baz=60,slow=4.1,SNR=6.6
AKASG **Malin Array Be** **111.70** **43** P Pdif 02 46 01.9 +2.0
AKASG 02 49 52.1
AKASG **Malin Array Be** **111.70** **43** Pdif Pdif 02 46 01.9 +2.0
AKASG PKPdf PKiKP 02 49 52.1 -1.6
AKASG PKKPbc PKKPbc 03 00 48.5 0.0
AKBB **Malin Array Si** **111.70** **43** *e*PKIKP PKiKP 02 49 51.8 -1.9
AKBB *e* 02 50 45.5
AKBB **Malin Array Si** **111.70** **43** *e*PKP PKiKP 02 49 51.8 -1.9
AKBB *e*PP PP 02 50 45.5 -1.8
AKBB *e*SKPdf SKPdf 02 52 32.6 -1.6
COLA **College** **111.79** **333**⇑ *i*PKIKP PKiKP 02 49 52.2 -1.6
COLA **College** **111.79** **333** *e*Pdif Pdif 02 45 59.5 -0.8
COLA *e*PKP PKiKP 02 49 51.8 -2.1
COLA ⇑ *i*PKP PKiKP 02 49 52.2 -1.6
MCK **McKinley** **111.92** **331** *e*PKP PKiKP 02 49 53.4 -0.7
MCK *e*SKPdf SKPdf 02 52 33.1 -1.6
KDAK **Kodiak Island** **112.01** **325** PKKPbc PKKPbc 03 00 47.8 +0.3
comp=Z,36nm,0.7s,baz=298,slow=2.4,SNR=14
KDAK **Kodiak Island** **112.01** **325** *e*PKP PKiKP 02 49 53.8 -0.5
TRO **Tromso** **112.17** **22** *e* PKiKP 02 49 52.5 -2.1
TRO AMb AMB 02 49 53.6
comp=Z,36nm,1.1s
TRO *e*PP PP 02 50 48.9 -1.7
VSU **Vasula** **112.39** **35***d* *i*PKIKP PKiKP 02 49 53.8 -1.2
VSU **Vasula** **112.39** **35** *i* PKPr PKiKP 02 49 53.9 -1.1
FINES **FINESS Array B** **112.82** **31** Pdiff Pdif 02 46 05.2 +0.3
comp=Z,2.2nm,1.0s,baz=229,slow=3.6,SNR=3.3
FINES PKiKP PKiKP 02 49 54.8 -1.0
comp=Z,18nm,0.8s,baz=141,slow=0.9,SNR=37
FINES PKKPbc PKKPbc 03 00 44.2 -0.7
comp=Z,6.9nm,0.6s,baz=81,slow=5.2,SNR=24
FINES SKKPbc 03 03 32.2
comp=Z,1.1nm,0.6s,baz=90,slow=4.2,SNR=3.8
FINES PKPPKP 03 09 09.6
comp=Z,1.9nm,0.7s,baz=66,slow=3.4,SNR=5.4
FINES **FINESS Array B** **112.82** **31** P Pdif 02 46 05.2 +0.3
FINES 02 49 54.8
FINES 03 00 44.2
FINES **FINESS Array B** **112.82** **31** Pdif Pdif 02 46 05.2 +0.3
FINES PKPdf PKiKP 02 49 54.8 -1.0
FINES PKKPbc PKKPbc 03 00 44.2 -0.7
FINES SKKPbc 03 03 32.2
FINES P'P' 03 09 09.6
FIA1 **FINESS Array S** **112.82** **31** *e*PKP PKiKP 02 49 54.5 -1.4
KAF **Kangasniemi** **113.09** **31** *e*pkp PKiKP 02 49 54.0 -2.3
KBS **Kingsbay** **113.34** **12** *e* PKiKP 02 49 55.8 -1.0
KTK1 **Kautokeino** **113.48** **23** *e* PKiKP 02 49 55.7 -1.4
KTK1 AMb AMB 02 49 56.8
comp=Z,68nm,0.7s
KTK1 *e*PP PP 02 50 57.8 -2.0
ARMA **Armidale** **114.07** **213** *e*PKP PKiKP 02 49 59.1 +0.9
ARCES **ARCESS Array B** **114.39** **23** PKP PKiKP 02 49 57.5 -1.3
comp=Z,8.2nm,0.3s,baz=256,slow=2.7,SNR=187
ARCES PP PP 02 51 03.8 -2.2
comp=Z,25nm,0.9s,baz=258,slow=5.7,SNR=7.7
ARCES PKKPbc PKKPbc 03 00 36.6 -3.1
comp=Z,19nm,0.5s,baz=79,slow=2.8,SNR=54
ARCES SKKPbc 03 03 27.4
comp=Z,6.4nm,0.7s,baz=86,slow=3.8,SNR=8.9
ARCES PKPPKP 03 09 09.3
comp=Z,2.3nm,0.8s,baz=52,slow=4.8,SNR=5.5
ARCES **ARCESS Array B** **114.39** **23** PKIKP PKiKP 02 49 57.5 -1.3
ARCES 02 51 03.8
ARCES **ARCESS Array B** **114.39** **23** PKP PKiKP 02 49 57.5 -1.3
ARCES PP PP 02 51 03.8 -2.2
ARCES PKKPbc PKKPbc 03 00 36.6 -3.1
ARCES SKKPbc 03 03 27.4
ARCES P'P' 03 09 09.3
ARE0 **ARCESS Array S** **114.39** **23** *e*PKP PKiKP 02 49 57.5 -1.3
ARE0 *e*PP PP 02 51 03.5 -2.5
IMA2 **Indian Mountai** **114.44** **333** *e*PKP PKPdf 02 49 58.3 -0.6
PUL **Pulkovo** **114.49** **34**⇑ *e*PKIKP PKPdf 02 49 58.1 -0.9
MALT **Malatya** **114.70** **58**⇑ *i*P PKPdf 02 49 59.8 +0.4
MALT **Malatya** **114.70** **58** *e*PKPdf PKPdf 02 49 59.5 +0.1
MALT *e*SKPdf SKPdf 02 52 39.5 -0.5
TTA **Tatalina** **114.84** **330** *e*PKIKP PKPdf 02 49 59.1 -0.6
KEV **Kevo** **114.94** **23** *e*pkp PKPdf 02 49 58.0 -1.9
JOF **Joensuu** **115.53** **30** *e*pkp PKPdf 02 49 59.1 -1.9
ANN **Anapa** **115.58** **51***d* *i*PKIKP PKPdf 02 50 00.5 -0.6
ANN *e* 02 51 14.0
ANN *e* 02 55 56.2
ANN pmax pmax
comp=Z,146nm,0.9s
OBN **Obninsk** **117.00** **39**k *i*PKIKP PKPdf 02 50 02.4 -1.4
OBN *i* 02 51 21.4
OBN *e* 02 55 59.7
OBN *e*SP SP 03 00 05.5 -4.8
OBN *e*SS SS 03 06 43.5 -4.8
OBN pmax pmax
comp=Z,280nm,1.1s
OBN **Obninsk** **117.00** **39** *e*PKPdf PKPdf 02 50 02.5 -1.4
STKA **Stephens Creek** **117.03** **204** *e*PKP PKPdf 02 50 03.6 -0.3
comp=Z,20nm,0.8s
STKA *e*PKKP PKKPbc 03 00 30.3 -0.4
STKA **Stephens Creek** **117.03** **204** PKP PKPdf 02 50 03.9 -0.1
comp=Z,23nm,0.7s,baz=104,slow=1.8,SNR=24
STKA PKKPbc PKKPbc 03 00 29.1 -1.6
comp=Z,32nm,0.7s,baz=334,slow=4.2,SNR=22
LVZ **Lovozero** **117.48** **25***d* *i*PKIKP PKPdf 02 50 03.7 -1.1
LVZ **Lovozero** **117.48** **25** *i* PKPr PKPdf 02 50 03.8 -1.0
MOS **Moscow** **117.68** **39** *e*PKIKP PKPdf 02 50 04.9 -0.3
MOS *e* 02 56 01.8
MOS pmax pmax
comp=Z,300nm,0.8s
MOS pmax pmax
comp=Z,289nm,0.8s
MSL **Mosul** **117.78** **61** *ex* x 02 50 13.0
VRSR **Storozhevoye** **117.97** **44** *i* PKIKP PKPdf 02 50 04.4 -1.3
VRSR *e* 02 56 02.2
VORD **Divnogorie** **117.99** **44** *e*PKIKP PKPdf 02 50 04.3 -1.5
VORD pmax pmax
comp=Z,160nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.3s
VORD pmax pmax
comp=E,30nm,0.4s
AKUT **Akutan** **118.58** **319** *e*PKPdf PKPdf 02 50 05.7 -1.2
AKUT *e*SKPdf SKPdf 02 52 45.7 -1.8
TMCR **Tamitsa** **118.65** **29** *i* PKIKP PKPdf 02 50 06.1 -0.9
TMCR pmax pmax
comp=Z,222nm,1.1s
KIV **Kislovodsk** **119.10** **53***b* *i*PKIKP PKPdf 02 50 07.8 -0.1
KIV *i* 02 51 42.7
KIV *e*SP SP 03 00 27.1 -1.9
KIV *e*PS PS 03 01 31.9 -4.0
KIV pmax pmax
comp=Z,225nm,0.8s
KIV **Kislovodsk** **119.10** **53** *e*PKPdf PKPdf 02 50 07.5 -0.4
KIV *e*PP PP 02 51 37.1 -1.2
KIV *e*SKPdf SKPdf 02 52 48.5 0.0
NAY **Al-Naaiem** **119.34** **70** *e*P PKPdf 02 50 08.1 -0.2
NAY AMb AMB 02 50 09.3
comp=Z,76nm,0.9s
RDF **Al-Radifah** **119.51** **70** *e*P PKPdf 02 50 08.5 -0.2
RDF AMb AMB 02 50 09.6
comp=Z,116nm,0.5s
MIB **Mutribah** **119.57** **69** *e*P PKPdf 02 50 08.8 0.0
MIB AMb AMB 02 50 11.8
comp=Z,135nm,0.6s
KBD **Kabd** **119.70** **70** *e*P PKPdf 02 50 08.7 -0.4
KBD AMb AMB 02 50 13.2
comp=Z,129nm,0.5s
ZEI **Tsey** **119.76** **54** *e*PKIKP PKPdf 02 50 09.6 +0.4
ZEI *e* 02 51 38.9
QRN **Al-Qurain** **119.77** **71** *e*P PKPdf 02 50 09.3 +0.1
QRN AMb AMB 02 50 10.4
comp=Z,186nm,0.7s
UMR **Umm Al-Rimmam** **119.82** **70** *e*P PKPdf 02 50 09.4 +0.1
UMR AMb AMB 02 50 10.4
comp=Z,354nm,0.6s
GNI **Garni** **119.90** **57** *e*PKIKP PKPdf 02 50 09.4 0.0
GNI *e* 02 51 43.7
TBLG **Delisi** **120.19** **56** P PKPdf 02 50 10.3 +0.3
MTA **Mtatsminda** **120.22** **56** P PKPdf 02 50 09.8 -0.2
DUS **Dusheti** **120.23** **55** P PKPdf 02 50 11.6 +1.5
NWAO **Narrogin (SRO)** **120.56** **180** PKKPbc PKKPbc 03 00 17.3 -0.9
comp=Z,30nm,1.0s,baz=321,slow=4.6,SNR=8.1
DGRG **David-gareji** **120.61** **56** P PKPdf 02 50 11.1 +0.3
SPIA **Saint Paul Isl** **121.33** **322** *e*PKPdf PKPdf 02 50 11.8 -0.3
MUN **Mundaring** **121.50** **179** *e*P PKPdf 02 50 12.2 -0.3
MUN *e*PP PP 02 51 53.6 -0.9
MUN *e*SKP 02 52 53.3
MUN *e*PKKP PKKPbc 03 00 14.2 -0.5
MUN **Mundaring** **121.50** **179** *e*PKIKP PKPdf 02 50 12.2 -0.3
MUN *e* 02 51 53.6
FORT **Forrest** **121.71** **191** *e*PKP PKPdf 02 50 12.0 -0.9
comp=Z,120nm,0.6s
FORT *e*pPKP pPKPdf 02 52 27.5 -0.4
FORT *e*SKP 02 52 52.5
FORT *e*PKKP PKKPbc 03 00 13.1 -0.8
KLBR **Kellerberrin** **121.89** **181** *e*PKP PKPdf 02 50 12.8 -0.4
comp=Z,99nm,0.6s
KLBR *e*SKP 02 52 53.6
MAK **Makhachkala** **122.41** **54** *i* PKIKP PKPdf 02 50 11.0 -3.2
MAK *i* PPP 02 54 50.6
MAK pmax pmax
comp=Z,316nm,1.2s
CTA **Charters Tower** **125.34** **214** *e*PKP PKPdf 02 50 19.9 0.0
comp=Z,78nm,0.6s
CTA *e*pPKP pPKPdf 02 52 40.7 +5.8
CTA *e*SKKS SKKSac 02 58 13.6 -4.6
CTA *e*PKKP PKKPbc 03 00 01.8 +1.7
CTA **Charters Tower** **125.34** **214** PKKPab PKKPab 03 00 01.8 +1.5
baz=341,slow=5.3
CTAO **Charters Tower** **125.34** **214** *e*PKIKP PKPdf 02 50 20.2 +0.3
CTAO *e* 02 52 18.5
ASAR **Alice Springs** **127.16** **200** PKP PKPdf 02 50 23.5 +0.2
comp=Z,228nm,0.6s,baz=140,slow=1.8,SNR=311
ASAR SKPbc 02 52 45.4
comp=Z,60nm,0.8s,baz=153,slow=3.9,SNR=17
ASAR PKKPab 02 59 52.8
comp=Z,12nm,0.7s,baz=341,slow=3.2,SNR=18
ASAR PKKP 03 00 35.0
comp=Z,5.1nm,0.5s,baz=352,slow=1.8,SNR=13
ASAR SKKPbc 03 02 46.9
comp=Z,4.0nm,0.9s,baz=330,slow=3.5,SNR=4.1
ASAR SKKP 03 03 20.1
comp=Z,6.8nm,0.9s,baz=332,slow=4.2,SNR=4.1
ASAR PKPPKP 03 08 43.5
comp=Z,0.7nm,0.7s,baz=323,slow=1.7,SNR=4.3
AS31 **Alice Springs** **127.16** **200** *e*PKPdf PKPdf 02 50 23.2 -0.1
AMKA **Amchitka** **127.54** **316** *e*PKPdf PKPdf 02 50 22.7 -1.3
ARU **Arti** **129.35** **38** *i* PKIKP PKPdf 02 50 27.1 -0.4
ARU *e* 02 52 41.5
ARU *e* 02 53 39.3
BILL **Bilibino** **129.42** **338**⇑ *e*PKHKP 02 50 13.0
BILL *i* 02 50 27.3
BILL *e* 02 52 34.3
BILL *i* 02 52 54.2
BILL *e* 03 04 49.1
BILL pmax pmax
comp=Z,5.0nm,0.5s
BILL pmax pmax
comp=Z,233nm,0.9s
BILL **Bilibino** **129.42** **338** *e*PKPdf PKPdf 02 50 26.9 -0.7
BILL *e*SKPbc SKPbc 02 52 54.6 -0.8
AKTK **Aktyubinsk** **129.84** **45** PKP PKPdf 02 50 28.9 +0.5
AKTK SKPbc SKPbc 02 52 55.6 -1.5
AKTO **Aktyubinsk** **129.84** **45** PKP PKPdf 02 50 28.9 +0.5
comp=Z,64nm,0.8s,baz=341,slow=4.0,SNR=22
AKTO SKPbc SKPbc 02 52 55.6 -1.5
comp=Z,80nm,0.9s,baz=316,slow=3.7,SNR=11
SVE **Sverdlovsk** **130.40** **37** *i* PKIKP PKPdf 02 50 29.0 -0.5
SVE *e* 02 52 48.0
SVE pmax pmax
comp=Z,480nm,2.0s
WB2 **Warramunga Arr** **130.50** **202** *e*PKP PKPdf 02 50 29.9 +0.2
WB2 *e*SKP 02 52 58.3
WB2 *e*PKS 02 53 55.1
WB2 *e*SKS SKSdf 02 56 42.1 -4.2
WB2 *e*SKKS SKKSac 02 58 42.5 -7.8
WB2 *e*SKKP 03 03 16.6
WRA **Warramunga Arr** **130.51** **202** PKP PKPdf 02 50 29.9 +0.2
comp=Z,122nm,0.5s,baz=170,slow=1.7,SNR=174
WRA SKPbc SKPbc 02 52 58.1 -1.4
comp=Z,827nm,0.9s,baz=159,slow=3.6,SNR=174
WRA PKKPab 02 59 40.9
comp=Z,5.3nm,0.9s,baz=337,slow=4.1,SNR=18
WRA PKKP 03 00 29.3
comp=Z,4.6nm,0.9s,baz=340,slow=2.1,SNR=4.9
WRA SKKPbc 03 02 26.1
comp=Z,4.0nm,0.8s,baz=318,slow=5.8,SNR=6.3
WRA SKKP 03 03 13.3
comp=Z,12nm,0.8s,baz=344,slow=5.6,SNR=8.8
WRA **Warramunga Arr** **130.51** **202** PKIKP PKPdf 02 50 29.9 +0.2
WRA 02 52 58.1
WRAB **Tennant Creek** **130.51** **202** *e*PKIKP PKPdf 02 50 29.9 +0.2
WRAB *e* 02 52 58.4
SMY **Shemya** **130.60** **318** *e*PKIKP PKPdf 02 50 29.3 -0.6
SMY *e* 02 52 58.1
AB31 **Akbulak array** **131.20** **47** PKHKP 02 50 11.9
AB31 pmax pmax
comp=Z,93nm,0.7s
MBWA **Marble Bar** **132.20** **184** *e*PKPpre 02 50 28.9
MBWA *e*PKPdf PKPdf 02 50 32.4 -0.5
MBWA *e*SKPbc SKPbc 02 53 05.4 -0.1
PMG **Port Moresby** **133.51** **223** SKPbc SKPbc 02 53 10.3 +0.5
comp=Z,289nm,0.9s,baz=46,slow=3.7,SNR=35
PMG **Port Moresby** **133.51** **223** *e*PKIKP PKPdf 02 50 36.7 +1.4
PMG *e* 02 53 10.0
FITZ **Fitzroy Crossi** **134.52** **192** *e*PKP PKPdf 02 50 37.9 +0.7
comp=Z,129nm,0.6s
FITZ *e*SKP 02 53 12.9
FITZ *e*SKKS SKKSac 02 59 09.1 -5.5
FITZ *e*SKKP 03 03 08.4
TIXI **Tiksi** **134.66** **355** *e*PKIKP PKPdf 02 50 32.8 -4.7
TIXI *e* 02 53 15.8
TIXI *e*SS SS 03 10 18.9 -7.1
TIXI pmax pmax
comp=Z,34nm,0.8s
TIXI pmax pmax
comp=Z,90nm,1.0s
TIXI **Tiksi** **134.66** **355**⇑ *e*PKP PKPdf 02 50 36.6 -0.9
ZRNK **Zerenda** **136.07** **40** *e*PKHKP 02 50 27.0
ZRNK *e* 02 50 40.3
ZRNK **Zerenda** **136.07** **40** *e*PKPpre 02 50 27.0
ZRNK *e*PKPdf PKPdf 02 50 40.3 +0.2
ZRNK *e*SKP 02 53 17.1
CHKZ **Chkalovo** **136.76** **39** *e*PKHKP 02 50 28.5
CHKZ *e* 02 50 41.4
CHKZ **Chkalovo** **136.76** **39** *e*PKPpre 02 50 28.5
CHKZ *e*PKPdf PKPdf 02 50 41.4 0.0
CHKZ *e*SKP 02 53 19.3
BRVK **Borovoye** **136.77** **40** *e*PKHKP 02 50 29.1
BRVK *e* 02 50 41.7
BRVK **Borovoye** **136.77** **40** *e*PKPpre 02 50 29.1
BRVK *e*PKPdf PKPdf 02 50 41.7 +0.3
BRVK *i* PKPr PKPdf 02 50 42.1 +0.7
BRVK *e*SKP 02 53 20.0
BVA0 **Borovoye Array** **136.84** **40** *i* PKHKP 02 50 26.9
BVA0 pmax pmax
comp=Z,25nm,0.8s
BVAR **Borovoye Array** **136.84** **40** PKHKP 02 50 29.6
comp=Z,25nm,0.6s,baz=281,slow=3.8,SNR=34
BVAR PKP PKPdf 02 50 42.3 +0.8
comp=Z,174nm,0.6s,baz=277,slow=3.0,SNR=89
BVAR SKPbc SKPbc 02 53 20.1 0.0
comp=Z,24nm,0.7s,baz=278,slow=4.3,SNR=6.3
BVAR SKKPbc 03 02 11.6
comp=Z,16nm,0.9s,baz=115,slow=4.7,SNR=10
BVAR PKPPKP 03 08 32.1
comp=Z,7.2nm,1.0s,baz=123,slow=5.5,SNR=12
BVAR **Borovoye Array** **136.84** **40** PKHKP 02 50 29.6
BVAR 02 52 42.3
SEY **Seymchan** **137.07** **337***c* *i*PKIKP PKPdf 02 50 42.5 +0.5
SEY **Seymchan** **137.07** **337**⇑ *i*PKP PKPdf 02 50 42.6 +0.6
VOSK **Vostochnaya** **137.28** **40** PKHKP 02 50 31.0
VOSK pmax pmax
comp=Z,222nm,0.9s
KAKA **Kakadu** **137.88** **203** *e*PKP 02 50 31.8
comp=Z,80nm,0.6s
KAKA *e*SKP 02 53 22.3
KAKA *e*SKKS SKKSac 02 59 29.3 -5.2
TRD **Trivandrum** **138.05** **108** *e*P PKPdf 02 50 42.5 -1.2
BHV **Bhavnagar** **139.06** **87** *ex* x 02 50 39.0
KK31 **Karatay Array** **139.23** **54** *i* PKHKP 02 50 35.7

KK31						pmax	pmax			
	comp=Z,51nm,0.6s									
KKAR	**Karatay Array**	**139.23**	**54**	*i*	PKHKP			02 50 35.7		
KKAR						pmax	pmax			
	comp=Z,31nm,0.6s									
KAD	**Karad**	**139.47**	**95**	*i*	x	x		02 50 38.9		
PET	**Petropavlovsk**	**139.51**	**322**	*e*	PKHKP			02 50 38.0		
PET				*i*				02 50 45.6		
PET				*e*				02 53 50.6		
PET				*i*	SS	SS		03 11 26.4	+3.6	
PET						pmax	pmax			
	comp=Z,224nm,0.9s									
PET						pmax	pmax			
	comp=Z,129nm,0.9s									
PET						pmax	pmax			
	comp=Z,100nm,11.8s									
PET						pmax	pmax			
	comp=Z,224nm,0.9s									
PET						pmax	pmax			
	comp=Z,300nm,13.5s									
PET						pmax	pmax			
	comp=N,1µm,20.1s									
PET	**Petropavlovsk**	**139.51**	**322**	*e*	PKPpre			02 50 40.0		
PET				*e*	PKPdf	PKPdf		02 50 46.0	-0.4	
PET				⇑*e*	PKP	PKPdf		02 50 47.8	+1.4	
PET				*e*	SKPbc	SKPbc		02 53 26.5	-1.0	
POO	**Poona**	**139.59**	**93**	*ex*		x		02 51 35.4		
POO				*i*	x	x		02 53 08.0		
POO				*i*	x	x		02 53 35.0		
MA2	**Magadan**	**139.83**	**334**	*c i*	PKHKP			02 50 39.8		
MA2				*e*				02 50 47.1		
MA2				*e*				03 04 29.2		
MA2						pmax	pmax			
	comp=Z,300nm,0.8s									
MA2	**Magadan**	**139.83**	**334**	*e*	PKPpre			02 50 39.6		
MA2				*i*	PKPr	PKPdf		02 50 47.1	+0.1	
MA2				*e*	SKPbc	SKPbc		02 53 27.3	-1.1	
PALK	**Pallekele**	**140.52**	**113**	*e*	PKPpre			02 50 42.8		
PALK				*e*	PKPdf	PKPdf		02 50 48.7	+0.4	
PALK				*e*	SKPbc	SKPbc		02 53 30.0	-0.2	
SALM	**Salem**	**140.66**	**105**	*e*	P	PKPdf		02 50 45.0	-3.5	
EKS2	**Erkin-Say**	**141.67**	**54**		P	PKPdf		02 50 46.9	-3.4	
	SNR=24									
AML	**Almayashu**	**141.70**	**55**		P	PKPdf		02 50 47.1	-3.3	
	SNR=26									
SKR	**Severo-Kuril's**	**141.89**	**319**	*e*	PKHKP			02 50 42.4		
SKR				*e*				02 50 49.5		
SKR						pmax	pmax			
	comp=Z,320nm,0.6s									
SKR						pmax	pmax			
	comp=E,60nm,0.5s									
LATR	**Latur**	**141.97**	**94**	*ex*		x		02 50 44.4		
USP	**Ospenovka**	**142.07**	**53**		P	PKPdf		02 50 46.8	-4.2	
	SNR=175									
AAK	**Ala-Archa**	**142.19**	**54**		P	PKPdf		02 50 48.4	-2.8	
	SNR=390									
AAK	**Ala-Archa**	**142.19**	**54**	*e*	PKPpre			02 50 47.0		
AAK				*e*	SKPbc	SKPbc		02 53 33.7	-0.7	
FRU	**Bishkek**	**142.24**	**54**	*i*	PKIKP	PKPdf		02 50 49.0	-2.3	
FRU						pmax	pmax			
	comp=Z,1µm,1.8s									
UCH	**Uchtor**	**142.28**	**55**		P	PKPdf		02 50 49.0	-2.3	
	SNR=538									
CHMS	**Chumysh**	**142.31**	**54**		P	PKPdf		02 50 48.2	-3.2	
	SNR=125									
AJM	**Ajmer**	**142.38**	**81**	*e*	P	PKPdf		02 50 48.8	-2.7	
AJM					AMb	AMB		02 50 50.7		
	comp=Z,819nm,0.8s									
KBK	**Karagaybulak**	**142.52**	**54**		P	PKPdf		02 50 50.0	-1.8	
	SNR=62									
NVS	**Novosibirsk**	**142.81**	**32**	*e*	PKIKP	PKPdf		02 50 49.4	-2.9	
NVS				*e*				02 54 11.4		
NVS						pmax	pmax			
	comp=N,241nm,0.7s									
NVS						pmax	pmax			
	comp=E,327nm,0.7s									
NVS						pmax	pmax			
	comp=Z,1µm,0.7s									
KZA	**Kyzart**	**142.84**	**55**		P	PKPdf		02 50 51.4	-1.0	
	SNR=36									
TKM2	**Tokmak 2**	**142.93**	**54**		P	PKPdf		02 50 50.4	-2.1	
	SNR=1227									
MDRS	**Chennai**	**143.08**	**105**	⇓*e*	P	PKPdf		02 50 50.2	-2.6	
MDRS				*e*	P			02 50 51.8		
MDRS					AMb	AMB		02 50 54.2		
	comp=Z,974nm,1.0s									
MDRS				*ex*		x		02 52 59.5		
AKL	**Akola**	**143.11**	**91**	*e*	P	PKPdf		02 50 50.9	-1.9	
AKL				*e*	PKPd	PKPdf		02 50 51.8	-1.0	
AKL				*i*	x	x		02 52 18.6		
HYB	**Hyderabad**	**143.39**	**97**	⇓*i*	PKP	PKPdf		02 50 52.0	-1.3	
	comp=Z,1µm,1.0s									
HYB				*e*				02 51 30.0		
HYB				*e*				02 51 47.0		
HYB				*e*	SKKP			03 01 47.0		
HYB	**Hyderabad**	**143.39**	**97**	⇓*e*	P	PKPdf		02 50 52.0	-1.3	
ULHL	**Ulahol**	**143.54**	**54**		P	PKPdf		02 50 53.1	-0.4	
	SNR=589									
YAK	**Yakutsk**	**143.79**	**350**		PKPbc	PKPdf		02 50 52.3	-1.7	
YAK					pPKPdf	pPKPdf		02 53 12.7	+3.3	
YAK					SKPbc	SKPbc		02 53 36.9	-1.3	
YAK	**Yakutsk**	**143.79**	**350**	*e*	PKIKP	PKPdf		02 50 53.5	-0.5	
YAK					pmax	pmax				
	comp=Z,4µm,0.9s									
YAK					pmax	pmax				
	comp=N,415nm,0.8s									
YAK					pmax	pmax				
	comp=E,193nm,0.9s									
YAK					pmax	pmax				
	comp=Z,124nm,1.1s									
YAK					pmax	pmax				
	comp=N,42nm,0.8s									
YAK					pmax	pmax				
	comp=E,56nm,0.9s									
YAK					pmax	pmax				
	comp=N,32nm,1.6s									
YAK	**Yakutsk**	**143.79**	**350**	*e*	PKPbc	PKPdf		02 50 52.6	-1.4	
YAK				*e*	SKPbc	SKPbc		02 53 36.6	-1.6	
YAK				*e*	PP	PP		02 54 13.4	-1.2	
KSH	**Kashi**	**143.80**	**59**	*i*	PKP	PKPdf		02 50 52.3	-1.7	
KSH					PKS			02 54 26.1		
KSH					SKS	SKSdf		02 57 09.1	+0.4	
THN	**Thein Dam**	**143.95**	**71**	*e*	P	PKPdf		02 50 53.3	-1.0	
ZAL	**Zalesovo**	**144.08**	**32**		PKP	PKPdf		02 50 54.3	-0.2	
	comp=N,692nm,0.7s,baz=174,slow=3.9,SNR=1959									
ZAL					SKPbc	SKPbc		02 53 38.5	-0.4	
	comp=N,84nm,0.8s,baz=175,slow=3.8,SNR=5.5									
ZAL					SKKPbc			03 01 42.5		
	comp=N,5.7nm,0.9s,baz=315,slow=5.0,SNR=5.2									
DLH	**Dalhousie**	**144.16**	**71**	*e*	P	PKPdf		02 50 53.0	-1.7	
DLH				*ex*		x		02 51 10.0		
BHPL	**Bhopal**	**144.17**	**87**	*e*	P	PKPdf		02 50 54.7	+0.1	
BHK	**Bhakra**	**144.50**	**73**	*ex*		x		02 51 09.2		
NDI	**New Delhi**	**144.96**	**78**	*e*	P	PKPdf		02 50 56.0	0.0	
SDNR	**Sundarnagar**	**144.97**	**73**	*e*	P	PKPdf		02 50 57.0	+0.9	
NGP	**Nagpur**	**145.06**	**91**	*e*	P	PKPdf		02 50 55.2	-1.0	
SMLA	**Simla**	**145.12**	**73**	*e*	P	PKPdf		02 50 57.7	+1.4	
DDI	**Dehra Dun**	**145.84**	**75**	*e*	P	PKPdf		02 50 58.0	+0.5	
DDI				*ex*		x		02 51 17.5		
MK31	**Makanchi Array**	**146.27**	**45**		PKIKP	PKPdf		02 50 58.4	+0.2	
MK31					pmax	pmax				
	comp=Z,980nm,0.7s									
MKAR	**Makanchi Array**	**146.27**	**45**		PKPbc	PKPbc		02 50 59.2	-1.4	
	comp=Z,1µm,0.7s,baz=321,slow=1.6,SNR=1434									
MKAR					SKKPbc			03 01 31.4		
	comp=Z,13nm,0.9s,baz=72,slow=4.9,SNR=7.8									
MKAR	**Makanchi Array**	**146.27**	**45**		PKPbc	PKPbc		02 50 59.2	-1.4	
MKAR					SKKPbc			03 01 31.4		
JBP	**Jabalpur**	**146.43**	**88**	⇓*e*	P	PKPdf		02 50 59.6	+1.1	
JBP				*i*	x	x		02 51 03.7		
PTH	**Pithoragarh**	**147.65**	**77**	*e*	P	PKPdf		02 51 02.2	+1.7	
PTH				*ex*		x		02 51 27.1		
LGTI	**Lohaghat**	**147.67**	**77**	*i*	x	x		02 51 41.5		
LGTI				*ex*		x		02 52 29.5		
VIS	**Vishakhapatnam**	**147.73**	**99**	*e*	P	PKPdf		02 51 00.5	-0.2	
VIS				*i*	x	x		02 53 19.6		
ALBI	**Allahabad**	**148.51**	**85**	*e*	P	PKPdf		02 51 02.5	+0.6	
ALBI				*ex*		x		02 51 45.0		
BOD	**Bodaibo**	**148.98**	**3**	⇓*i*	PKHKP			02 51 01.9		
BOD					pmax	pmax				
	comp=Z,103nm,0.9s									
KOLN	**Koldanda**	**150.46**	**81**	*e*	PKIKP	PKPdf		02 51 05.3	+0.3	
	comp=Z,535nm,1.0s									
PSI	**Prapat**	**150.54**	**141**		PKP	PKPdf		02 51 06.2	+1.1	
	comp=Z,85nm,0.9s,baz=292,slow=2.0									
PSI					PKPbc	PKPbc		02 51 11.6	+0.4	
	baz=226,slow=5.4									
PSI	**Prapat**	**150.54**	**141**		PKP	PKPdf		02 51 06.2	+1.1	
PSI					PKPbc	PKPbc		02 51 11.6	+0.4	
GUMO	**Guam**	**150.70**	**249**		PKP	PKPdf		02 51 05.8	+0.5	
	comp=Z,121nm,0.8s,baz=186,slow=6.9,SNR=10									
GUMO					PKPbc	PKPbc		02 51 11.8	+0.3	
	comp=Z,467nm,0.5s,baz=176,slow=6.7,SNR=35									
GUMO	**Guam**	**150.70**	**249**		PKIKP	PKPdf		02 51 05.8	+0.5	
GUMO					pmax	pmax				
	comp=Z,121nm,0.8s									
GUMO					pmax	pmax				
	comp=Z,467nm,0.5s									
GUMO	**Guam**	**150.70**	**249**	*e*	PKPdf	PKPdf		02 51 05.5	+0.2	
GUMO				*e*	PKPbc	PKPbc		02 51 11.5	-0.1	
WMQ	**Urumqi**	**150.99**	**47**		PKP	PKPdf		02 51 06.3	+0.5	
WMQ					PKP2	PKPab		02 51 23.0	+0.5	
WMQ					APKP			02 53 25.5		
WMQ					XPKP			02 54 18.0		
WMQ					PKS			02 54 39.5		
WMQ					PP	PP		02 54 59.5	+3.4	
WMQ					SKS	SKSdf		02 57 17.0	-1.6	
WMQ					SKKS	SKKSac		03 00 50.0	+1.3	
WMQ					PP	PP				
	comp=Z,384nm,3.8s									
WMQ	**Urumqi**	**150.99**	**47**		PKPdf	PKPdf		02 51 06.1	+0.3	
WMQ					PKPbc	PKPbc		02 51 12.4	+0.2	
WMQ					PKPab	PKPab		02 51 23.6	+1.1	
GKN	**Gorkha**	**151.39**	**80**	*e*	PKIKP	PKPdf		02 51 06.7	+0.3	
	comp=Z,848nm,1.1s									
YSS	**Yuzh-Sakhalins**	**151.39**	**321**	κ *i*	PKIKP	PKPdf		02 51 06.2	-0.2	
YSS				*e*				02 54 57.0		
YSS				*e*	SS	SS		03 13 37.0	+0.9	
YSS					pmax	pmax				
	comp=Z,230nm,1.0s									
YSS					pmax	pmax				
	comp=Z,1µm,0.8s									
YSS					pmax	pmax				
	comp=Z,570nm,0.9s									
YSS	**Yuzh-Sakhalins**	**151.39**	**321**	*e*	PKPdf	PKPdf		02 51 06.3	-0.1	
YSS				*e*	PKPbc	PKPbc		02 51 12.6	-0.5	
YSS				*e*	PKPab	PKPab		02 51 24.1	-0.1	
YSS				*e*	pPKPdf	pPKPdf		02 53 22.4	+0.3	
YSS				*e*	PP	PP		02 54 57.5	-0.9	
DMN	**Daman**	**151.77**	**81**	*e*	PKIKP	PKPdf		02 51 07.7	+0.7	
	comp=Z,531nm,1.1s									
BOK	**Bokaro**	**151.85**	**89**	*e*	P	PKPdf		02 51 07.5	+0.5	
KKN	**Kakani**	**151.94**	**81**	*e*	PKIKP	PKPdf		02 51 07.8	+0.6	
	comp=Z,549nm,1.0s									
PKI	**Pulchoki**	**152.03**	**81**	*e*	PKIKP	PKPdf		02 51 07.9	+0.6	
	comp=Z,450nm,0.9s									
KGM	**Kluang**	**152.09**	**150**		P	PKPdf		02 51 08.5	+1.0	
MOY	**Mondy**	**152.45**	**22**	*e*	PKIKP	PKPdf		02 51 09.1	+1.2	
MOY					pmax	pmax				
	comp=Z,208nm,1.3s									
GUN	**Gumba**	**152.48**	**81**	*e*	PKIKP	PKPdf		02 51 08.6	+0.6	
JIRN	**Jiri**	**152.73**	**81**	*e*	PKIKP	PKPdf		02 51 09.0	+0.6	
PBA	**Port Blair**	**152.73**	**119**	*ex*		x		02 50 55.4		
PBA				*ex*		x		02 51 02.1		
IRK	**Irkutsk**	**152.91**	**17**	*e*	PKIKP	PKPdf		02 51 08.2	-0.4	
IRK				*e*				02 51 30.1		
IRK					pmax	pmax				
	comp=Z,688nm,1.9s									
ASAJ	**Asahikawa**	**153.05**	**316**		PKP	PKPdf		02 51 09.7	+0.8	
	comp=Z,144nm,0.8s,baz=259,slow=8.0,SNR=57									
ASAJ					PKPbc	PKPbc		02 51 17.0	+0.3	
	comp=Z,266nm,0.8s,baz=225,slow=1.4,SNR=35									
ASAJ					PKPab	PKPab		02 51 31.7	+0.5	
	comp=Z,127nm,0.8s,baz=83,slow=2.1,SNR=7.5									
ASAJ	**Asahikawa**	**153.05**	**316**		PKIKP	PKPdf		02 51 09.7	+0.9	
ASAJ								02 51 31.7		
ASAJ					pmax	pmax				
	comp=Z,144nm,0.8s									
ASAJ					pmax	pmax				
	comp=Z,266nm,0.9s									
ASAJ					pmax	pmax				
	comp=Z,127nm,0.8s									
IPM	**Ipoh**	**153.09**	**143**		P	PKPdf		02 51 09.9	+1.0	
TLY	**Talaya**	**153.25**	**18**	*i*	PKIKP	PKPdf		02 51 08.4	-0.7	
TLY				*e*				02 51 32.0		
TLY				*e*				02 53 26.6		
TLY				*e*				02 55 03.3		
TLY				*e*	PPP			02 58 40.8		
TLY					pmax	pmax				
	comp=Z,157nm,1.8s									
TLY	**Talaya**	**153.25**	**18**	*e*	PKPdf	PKPdf		02 51 09.5	+0.4	
TLY				*e*	PKPbc	PKPbc		02 51 17.4	+0.2	
TLY				*e*	PKPab	PKPab		02 51 32.7	+0.6	
KULM	**Kulim**	**153.55**	**141**	*e*	PKPdf	PKPdf		02 51 10.4	+0.9	
KULM				*e*	PKPbc	PKPbc		02 51 18.4	+0.6	
KULM				*e*	PKPab	PKPab		02 51 33.4	0.0	
ERM	**Erimo**	**153.71**	**312**	*e*	PKPdf	PKPdf		02 51 11.1	+1.4	
ERM				*e*	PKPbc	PKPbc		02 51 19.2	+1.1	
ERM				*e*	PKPab	PKPab		02 51 35.1	+1.0	
KSM	**Kuching**	**153.99**	**165**	*e*	PKPdf	PKPdf		02 51 10.6	+0.4	
KSM				*e*	PKPbc	PKPbc		02 51 19.6	+0.9	
KSM				*e*	PKPab	PKPab		02 51 36.1	+0.8	
HABR	**Khabarovsk**	**154.18**	**332**	⇓*i*	PKIKP	PKPdf		02 51 10.9	+0.5	
HABR				*i*				02 51 36.6		
HABR				*e*				02 53 27.8		
ZAK	**Zakamensk**	**154.29**	**20**	*e*	PKIKP	PKPdf		02 51 10.5	-0.1	
ZAK				*e*				02 51 36.8		
ZAK				*e*				02 55 16.7		
ZAK					pmax	pmax				
	comp=Z,43nm,1.1s									
ZAK					pmax	pmax				
	comp=Z,122nm,1.1s									
ZAK					pmax	pmax				
	comp=Z,26nm,1.9s									
CIT	**Chita**	**154.73**	**5**	*e*	PKIKP	PKPdf		02 51 11.6	+0.4	
CIT				*e*				02 53 30.4		
CIT				*e*				02 55 11.0		
CIT					pmax	pmax				
	comp=Z,1µm,1.5s									
GTK	**Gangtok**	**154.85**	**82**	*ex*		x		02 51 26.0		
KLR	**Kul'dur**	**154.86**	**337**	*e*	PKIKP	PKPdf		02 51 06.7	-4.6	
KLR				*e*				02 51 35.3		
KLR					pmax	pmax				
	comp=E,50nm,1.2s									
KLR					pmax	pmax				
	comp=Z,300nm,1.2s									
KLR					pmax	pmax				
	comp=Z,900nm,6.5s									
SNG	**Songkhla**	**155.07**	**139**		P	PKPdf		02 51 12.0	+0.4	
	comp=Z,336nm,1.0s									
AGT	**Agartala**	**156.66**	**92**	*i*	x	x		02 52 18.0		
AGT				*i*	x	x		02 52 51.0		
LSA	**Lhasa**	**157.17**	**77**		PKP	PKPdf		02 51 16.0	+1.7	
LSA	**Lhasa**	**157.17**	**77**	*e*	PKPdf	PKPdf		02 51 15.8	+1.5	
LSA				*e*	PKPab	PKPab		02 51 50.6	+1.6	
LSA				*e*	PP	PP		02 55 32.4	+2.1	
SONM	**Songino Array**	**157.49**	**19**		PKP	PKPdf		02 51 15.0	+0.3	
	comp=Z,88nm,0.9s,baz=273,slow=0.9,SNR=386									
SONM					PKPbc	PKPdf		02 51 26.5	+12	
	comp=Z,45nm,0.9s,baz=321,slow=1.8,SNR=12									
SONM					PKPab	PKPab		02 51 50.5	+0.1	
	comp=Z,82nm,0.7s,baz=318,slow=4.3,SNR=11									
SONM					PP	PP		02 55 33.2	+1.1	
	comp=Z,14nm,1.0s,baz=339,slow=7.9,SNR=5.8									
SONM					PKKP			02 59 35.2		
	comp=Z,5.0nm,0.9s,baz=217,slow=1.4,SNR=3.5									
SONM	**Songino Array**	**157.49**	**19**		PKIKP	PKPdf		02 51 15.0	+0.3	
SONM								02 55 33.2		
HIA	**Hailar**	**157.50**	**355**	*e*	PKPdf	PKPdf		02 51 14.2	-0.5	
HIA				*e*	PKPab	PKPab		02 51 50.0	-0.4	
HIA				*e*	PP	PP		02 55 29.2	-2.9	
TSM	**Tawau**	**157.56**	**183**		P	PKPdf		02 51 16.5	+1.7	
NNT	**Nongplab**	**158.55**	**128**		P	PKPdf		02 51 17.2	+1.2	
IMP	**Imphal**	**159.24**	**91**	*e*	P	PKPdf		02 51 17.0	+0.2	
IMP				*ex*		x		02 51 59.0		
KKM	**Kota Kinabalu**	**159.30**	**178**		P	PKPdf		02 51 17.9	+1.0	
KKM	**Kota Kinabalu**	**159.30**	**178**	*e*	PKPdf	PKPdf		02 51 17.4	+0.6	
KKM				*e*	PKPab	PKPab		02 51 59.0	+0.7	
MJAR	**Matsushiro Arr**	**159.48**	**303**		PKP	PKPdf		02 51 17.0	0.0	
	comp=Z,19nm,0.9s,baz=39,slow=0.9,SNR=46									
MJAR					PKPab	PKPab		02 51 59.3	+0.2	
	comp=Z,89nm,1.0s,baz=51,slow=2.4,SNR=30									
MJAR					PKKP			02 59 29.9		
	comp=Z,0.8nm,0.4s,baz=285,slow=10,SNR=4.3									
MAJO	**Matsushiro**	**159.48**	**303**		PKPdf	PKPdf		02 51 16.4	-0.6	
MAJO					PKPab	PKPab		02 51 59.2	+0.1	
MAJO					SKKSac	SKKSac		03 01 32.5	-1.2	
MAJO	**Matsushiro**	**159.48**	**303**	*e*	PKPdf	PKPdf		02 51 16.6	-0.5	
MAJO				*e*	PKPab	PKPab		02 51 59.1	0.0	
MAT	**Matsushiro**	**159.48**	**303**		PKP	PKPdf		02 51 16.0	-1.0	
MDJ	**Mudanjiang**	**159.53**	**333**		PKPdf	PKPdf		02 51 16.0	-1.1	
MDJ					PKPab	PKPab		02 51 59.3	0.0	
MDJ	**Mudanjiang**	**159.53**	**333**	*e*	PKPdf	PKPdf		02 51 16.2	-0.9	
MDJ				*e*	PKPab	PKPab		02 51 59.1	-0.1	
NST	**Nakhon Sawan**	**160.86**	**122**	⇑	P	PKPdf		02 51 19.2	+0.7	
	comp=Z,375nm,0.9s									
GTA	**Gaotai**	**161.03**	**44**		PKP	PKPdf		02 51 19.1	+0.4	
GTA					PKP2	PKPab		02 52 05.3	-0.6	
GTA					APKP			02 53 36.8		
GTA					XPKP			02 54 34.1		
GTA					SKS	SKSdf		02 57 27.8	-1.4	
GTA					PP	PP				
	comp=Z,398nm,5.3s									
CM31	**Chiang Mai Arr**	**161.47**	**113**	*e*	PKPdf	PKPdf		02 51 20.4	+1.2	
CM31				*e*	PKPab	PKPab		02 52 08.2	+0.3	
CHG	**Chiang Mai**	**161.65**	**112**	⇓	P	PKPdf		02 51 20.2	+0.8	
	comp=Z,150nm,1.2s									
CHTO	**Chiang Mai**	**161.65**	**112**	*e*	PKIKP	PKPdf		02 51 20.0	+0.6	
CHTO				*e*				02 52 08.9		
CHTO				*e*				02 55 51.3		
CN2	**Changchun**	**161.72**	**340**	*e*	PKP	PKPdf		02 51 18.3	-1.1	
CN2					PKP2	PKPab		02 52 08.6	-0.3	
CN2					APKP			02 53 38.5		
CN2					PP	PP		02 55 49.3	-5.2	
CN2					PP	PP				
	comp=Z,700nm,7.0s									
BTO	**Baotou**	**165.14**	**21**	*e*	PKP	PKPdf		02 51 22.0	-0.6	
HHC	**Hu-ho-hao-te**	**165.35**	**16**	⇓ *i*	PKP	PKPdf		02 51 23.3	+0.5	
HHC					PKP2	PKPab		02 52 26.3	+1.4	
HHC					APKP			02 53 40.3		
HHC					XPKP			02 54 33.5		
HHC					PKS			02 54 54.8		
HHC					PP	PP		02 56 15.8	+2.5	
HHC					SKS	SKSdf		02 57 33.0	+0.6	
HHC					SKKS	SKKSac		03 02 05.6	+2.0	
HHC					SS	SS		03 16 03.4	+1.3	
LZH	**Lanzhou**	**165.57**	**47**	⇓	PKP	PKPdf		02 51 23.8	+0.9	
INCN	**Inchon**	**166.57**	**325**	*e*	PKPdf	PKPdf		02 51 23.3	-0.4	
INCN				*e*	PKPab	PKPab		02 52 30.2	-0.1	
BJI	**Beijing**	**166.83**	**2**		PKP	PKPdf		02 51 24.1	+0.2	
BJT	**Baijiatuan**	**166.85**	**2**	*e*	PKIKP	PKPdf		02 51 24.1	+0.2	
BJT				*e*				02 52 30.4		
BJT				*e*				02 56 19.7		
KMI	**Kunming**	**167.16**	**95**		PKP	PKPdf		02 51 24.3	+0.2	
KMI	**Kunming**	**167.16**	**95**		PKPdf	PKPdf		02 51 24.9	+0.7	
KMI					PKPab	PKPab		02 52 34.0	+1.1	
DL2	**Dalian**	**167.33**	**343**	*i*	PKP	PKPdf		02 51 23.8	-0.5	
DL2					PKP2	PKPab		02 52 32.5	-1.2	
DL2					APKP			02 53 42.8		
DL2					XPKP			02 54 42.0		
DL2					PP	PP		02 56 19.6	-3.8	
DL2					PP	PP				
	comp=Z,320nm,3.7s									
CD2	**Chengdu**	**167.81**	**68**		PKP	PKPdf		02 51 26.0	+1.4	
CD2					PKP2	PKPab		02 52 37.3	+1.5	
CD2					APKP			02 53 44.8		
CD2					XPKP			02 54 34.8		
CD2					PKS			02 54 56.0		
CD2					PP	PP		02 56 29.5	+3.8	
CD2					SS	SS		03 16 29.5	+3.0	
CD2					PP	PP				
	comp=Z,380nm,7.5s									
JOW	**Kunigami**	**169.83**	**272**		PKP	PKPdf		02 51 27.3	+1.4	
	comp=Z,245nm,0.9s,baz=207,slow=0.6,SNR=132									
JOW					PKPab	PKPab		02 52 45.9	+1.2	
	comp=Z,7.9nm,0.8s,baz=332,slow=4.7,SNR=1.9									
QIZ	**Qiongzhong**	**169.87**	**139**		PKP	PKPdf		02 51 21.0	-4.9	
QIZ					PP	PP				
	comp=Z,341nm,6.5s									
QIZ	**Qiongzhong**	**169.87**	**139**		PKPdf	PKPdf		02 51 27.0	+1.1	
QIZ					PKPab	PKPab		02 52 45.1	+0.2	
QIZ	**Qiongzhong**	**169.87**	**139**	*e*	PKPdf	PKPdf		02 51 27.0	+1.1	
QIZ				*e*	PKPab	PKPab		02 52 44.9	0.0	
XAN	**Xi'an**	**170.07**	**42**		PKP	PKPdf		02 51 25.9	-0.1	
XAN					PP	PP				
	comp=Z,651nm,8.6s									
XAN	**Xi'an**	**170.07**	**42**		PKP

ISC 22 02:44:35.1±0.6**, 3916N**±003×**2162E**±005**, h10**km**, n17, σ0^{s}96**/24**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.28**	**148**	*e*PB	**Pg**	**02 44 40.6**	**-0.2**
EVR				*e*SB	**Sg**	**02 44 45.7**	**+1.1**
AGG	**Agios Georgios**	**0.57**	**103**	*e*Pg	**Pg**	**02 44 45.8**	**-0.4**
AGG				*e*Sg	**Sg**	**02 44 54.0**	**+0.4**
IGT	**Igoumenitsa**	**1.07**	**291**	*e*Pg	**Pg**	**02 44 55.9**	**+0.2**
IGT				*e*Sg	**Sg**	**02 45 14.0**	**+4.4**
RLS	**Riolos of Patr**	**1.10**	**186**	*e*PN	**Pn**	**02 44 55.8**	**-0.8**
KZN	**Kozani**	**1.16**	**6**	*e*PN	**Pn**	**02 44 55.2**	**-2.2**
LIT	**Litokhoron**	**1.16**	**35**	*e*Pg	**Pg**	**02 44 55.5**	**-1.9**
LIT				*e*Sg	**Sg**	**02 45 13.7**	**+1.2**
LKR	**Lokris**	**1.19**	**115**	*e*PN	**Pn**	**02 44 53.6**	**-4.2**
XOR	**Xorichti**	**1.24**	**80**	*e*Pg	**Pg**	**02 44 58.3**	**-0.6**
XOR				*e*Sg	**Sg**	**02 45 15.1**	**+0.1**
NEO	**Neokhori**	**1.25**	**83**	*e*PN	**Pn**	**02 44 54.5**	**-4.2**
VLS	**Valsamata**	**1.27**	**220**	*e*PN	**Pn**	**02 44 59.7**	**+0.8**
FNA	**Florina**	**1.64**	**353**	*e*Pb	**Pn**	**02 45 03.4**	**-0.6**
FNA				*e*Sb	**Sb**	**02 45 27.3**	**+1.2**
FNA	**Florina**	**1.64**	**353**	*e*Pb	**Pn**	**02 45 03.3**	**-0.7**
FNA				*e*Sb	**Sb**	**02 45 27.3**	**+1.2**
GRG	**Griva**	**1.90**	**18**	*e*Pb	**Pn**	**02 45 07.0**	**-0.6**
OUR	**Ouranopolis**	**2.17**	**56**	*e*Pn	**Pn**	**02 45 10.9**	**-0.4**
KNT	**Kendrikon**	**2.23**	**26**	*e*Pn	**Pn**	**02 45 13.2**	**+1.1**
VAY	**Valandovo**	**2.28**	**18**	*e*P	**Pb**	**02 45 17.1**	**+0.7**
MMB	**Musomiste**	**2.92**	**33**	*e*Pn	**Pn**	**02 45 21.8**	**+0.3**

---

*LDG **22** 02:51:30.6±0.1, 4276N×080E, h8km, Md1.6/1, Ml1.4/2, Error ellipse: s-maj=1.9km s-min=1.3km az=35.0*
*STR **22** 02:51:31.1±0.1, 4277N×085E, h3km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 22 02:51:30.6±0.3**, 4276N**×**078E, h10**km±2km**, mbLg1.0**/3**, Error ellipse: s-maj=3.3km s-min=2.3km az=19.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MELF	**Melles**	**0.11**	**351**	Pg	Pg	02 51 33.7	+0.3
MELF				Sg	Sg	02 51 36.0	+0.6
MELF	**Melles**	**0.11**	**351**	P	Pg	02 51 33.8	+0.3
MELF				S	Sg	02 51 36.0	+0.6
SALF	**Salau**	**0.30**	**90**	Pg	Pg	02 51 36.1	-0.5
SALF				Sg	Sg	02 51 39.8	-0.9
SALF	**Salau**	**0.30**	**90**	P	Pg	02 51 36.1	-0.6
SALF				S	Sg	02 51 39.9	-0.8
MLS	**Moulis**	**0.30**	**49**	Pg	Pg	02 51 36.3	-0.4
MLS				Sg	Sg	02 51 40.1	-0.7
MLS	**Moulis**	**0.30**	**49**	P	Pg	02 51 36.4	-0.3
MLS				S	Sg	02 51 40.1	-0.7
EPF	**Esparros**	**0.42**	**310**	*e*Pg	Pg	02 51 38.7	-0.2
EPF				*e*Sg	Sg	02 51 44.3	-0.2
	12nm,0.4s						
EPF	**Esparros**	**0.42**	**310**	Pg	Pg	02 51 38.7	-0.2
EPF				Lg		02 51 44.3	
	5.8nm,0.4s						
CSOR	**Sort**	**0.47**	**146**	P	Pg	02 51 39.4	-0.3
CSOR				S	Sg	02 51 45.8	-0.1
EBIE	**Bielsa**	**0.48**	**261**	Lg		02 51 45.6	
	2.7nm,0.1s,SNR=7.9						
CORG	**Organya**	**0.66**	**143**	S	Sg	02 51 52.0	-0.1
CAVN	**Les Avellanes**	**0.88**	**182**	S	Sg	02 52 00.3	+1.3
	0.9nm,0.1s						
CLLI	**Llivia**	**0.92**	**107**	S	Sg	02 52 00.2	-0.3
ETSF	**Etsaut**	**1.00**	**278**	*e*Sg	Sg	02 52 02.5	-0.3
	0.8nm,0.2s						
ETSF	**Etsaut**	**1.00**	**278**	Lg		02 52 02.5	
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.20**	**61**	*e*Pg	Pg	02 51 52.9	-0.8
MTLF				*e*Sg	Sg	02 52 08.3	-1.0
	0.7nm,0.2s						
MTLF	**Montolieu**	**1.20**	**61**	Pg	Pg	02 51 52.9	-0.8
MTLF				Lg		02 52 08.3	
	0.3nm,0.2s						
EPOB	**Poblet**	**1.43**	**171**	Pg	Pg	02 51 56.9	-1.0
	0.1nm,0.2s,SNR=7.9						
EPOB				Lg		02 52 15.5	
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.83**	**191**	Pg	Pg	02 52 04.9	-0.9
	0.1nm,0.1s,SNR=7.9						
ERTA				Lg		02 52 27.9	
	0.2nm,0.1s,SNR=7.9						

---

*NEIC **22** 04:25:58.3, 3403S×7006W, h20km, mb4.2/8, ML4.3(GUC), After GUC.*
NEIC Felt [II] at Machali and Santiago.
*GUC **22** 04:25:58.3±0.6, 3403S×7006W, h20km±1km, MD4.1, ML4.3*
*ISCJB **22** 04:26:00.0±0.4, 3405S±002×7015W±004, h20km, mb4.0/12, MS3.9/1, Error ellipse: s-maj=4.5km s-min=3.2km az=175.1*
*IDC **22** 04:26:01.1±1.1, 3372S×7059W, h0km, mb4.0/6, mb1 4.0/10, mb1mx3.9/19, mbtmp3.9/10, ML3.8/3, MS3.4/3, Ms1 3.4/3, ms1mx2.9/19, Error ellipse: s-maj=36.0km s-min=17.2km az=106.0*
ISC 22 04:26:01.0±0.4**, 3403S**±002×**7022W**±004**, h20**km**, n58, σ1^{s}37**/71**, mb4.0**/12**, MS3.9**/1**, 10C-9D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.33**	**254**	⇓*i*P	**Pb**	**04 26 07.2**	**-1.0**
CICH	**Cipreses**	**0.34**	**210**	⇑*i*P	**Pb**	**04 26 06.6**	**-1.6**
CHCH	**Chadas Angostu**	**0.37**	**285**	*i* P	**Pb**	**04 26 08.2**	**-0.7**
PCH	**Pirque**	**0.47**	**329**	⇓*i*P	**Pb**	**04 26 09.3**	**-1.3**
ANTU	**Antumapu**	**0.57**	**323**	⇑*i*P	**Pb**	**04 26 11.2**	**-1.1**
ANTU				*i* S	**Sb**	**04 26 20.6**	**+0.6**
ANTU				AML	AML	04 26 21.4	
	comp=N,21μm,0.3s						
ANTU	**Antumapu**	**0.57**	**323**	⇑*i*P	**Pb**	**04 26 11.2**	**-1.1**
ANTU				*i* S	**Sb**	**04 26 20.6**	**+0.6**
SAN	**Santiago**	**0.68**	**327**	AML	AML	04 26 24.1	
	comp=N,9μm,0.3s						
CLCH	**Cerro Calan**	**0.68**	**337**	⇑*i*P	**Pb**	**04 26 12.8**	**-1.4**
CLCH				*i* S	**Sb**	**04 26 23.7**	**+0.5**
CLCH				AML	AML	04 26 24.9	
	comp=E,18μm,0.8s						
DSCH	**Colegio Aleman**	**0.69**	**335**	⇑*i*P	**Pb**	**04 26 12.3**	**-2.1**
DSCH				*i* S	**Sb**	**04 26 23.5**	**0.0**
DSCH				AML	AML	04 26 23.9	
	comp=N,4μm,0.3s						
DSCH	**Colegio Aleman**	**0.69**	**335**	⇑*i*P	**Pb**	**04 26 12.3**	**-2.1**
DSCH				*i* S	**Sb**	**04 26 23.5**	**0.0**
FCH	**Farellones**	**0.70**	**355**	⇑*i*P	**Pb**	**04 26 12.4**	**-2.1**
FCH				*i* S	**Sb**	**04 26 23.4**	**-0.3**
FCH				AML	AML	04 26 24.1	
	comp=N,10μm,0.3s						
TACH	**Talagante**	**0.70**	**302**	⇓*i*P	**Pb**	**04 26 13.8**	**-0.8**
RCDM	**Rinconada Maip**	**0.73**	**318**	*e*P	**Pb**	**04 26 13.9**	**-1.1**
RCDM				*i* S	**Sb**	**04 26 25.5**	**+1.1**
RCDM				AML	AML	04 26 26.2	
	comp=N,12μm,0.4s						
RCDM	**Rinconada Maip**	**0.73**	**318**	*e*P	**Pb**	**04 26 13.9**	**-1.1**
RCDM				*i* S	**Sb**	**04 26 25.5**	**+1.1**
SFDO	**San Fernando**	**0.88**	**228**	⇑*i*P	**Pb**	**04 26 16.6**	**-1.0**
PEL	**Peldehue**	**0.96**	**336**	⇓*i*P	**Pb**	**04 26 17.5**	**-1.5**
PEL				*i* S	**Sb**	**04 26 31.6**	**+0.3**
PEL				AML	AML	04 26 32.5	
	comp=E,12μm,0.4s						
PEL	**Peldehue**	**0.96**	**336**	⇓*i*P	**Pb**	**04 26 17.5**	**-1.5**
PEL				*i* S	**Sb**	**04 26 31.6**	**+0.3**
LNV	**Longovilo**	**0.99**	**274**	⇓*i*P	**Pb**	**04 26 18.7**	**-0.8**
ROCH	**El Roble**	**1.24**	**328**	⇓*i*P	**Pn**	**04 26 22.3**	**-0.8**
ROCH				*i* S	**Sn**	**04 26 40.9**	**+1.6**
LCCH	**Las Cruces**	**1.25**	**296**	⇓*i*P	**Pn**	**04 26 23.0**	**-0.3**
LCCH				⇑*i*S	**Sn**	**04 26 41.6**	**+2.0**
NICH	**Los Niches**	**1.28**	**220**	*e*P	**Pn**	**04 26 22.9**	**-0.8**
NICH				*i* S	**Sn**	**04 26 41.5**	**+1.2**
JACH	**Jahuel**	**1.38**	**347**	*e*P	**Pn**	**04 26 24.0**	**-1.0**
JACH				*i* S	**Sn**	**04 26 43.4**	**+0.7**
IHA	**Instituto Hidr**	**1.55**	**310**	⇑*i*P	**Pn**	**04 26 27.8**	**+0.3**
IHA				*i* S	**Sn**	**04 26 50.0**	**+3.0**
MDZ	**Mendoza**	**1.62**	**45**	⇓*i*P	**Pn**	**04 26 26.4**	**-1.9**
MDZ				*i*		04 26 27.5	
MDZ				*i* S	**Sn**	**04 26 50.4**	**+1.9**
TALC	**Talca**	**1.80**	**220**	*i* P	**Pn**	**04 26 29.8**	**-0.9**
TALC				*i* S	**Sn**	**04 26 55.0**	**+2.0**
TALC				AML	AML	04 26 59.0	
	comp=E,13μm,0.8s						
TALC	**Talca**	**1.80**	**220**	*i* P	**Pn**	**04 26 29.8**	**-0.9**
TALC				*i* S	**Sn**	**04 26 55.0**	**+2.0**
PTCH	**Petorca**	**1.86**	**341**	*i* P	**Pn**	**04 26 33.0**	**+1.3**
PTCH				*i* S	**Sn**	**04 26 58.5**	**+4.0**
PTCH				AML	AML	04 27 04.6	
	comp=E,5μm,0.4s						
PTCH	**Petorca**	**1.86**	**341**	*i* P	**Pn**	**04 26 33.0**	**+1.3**
PTCH				*i* S	**Sn**	**04 26 58.5**	**+4.0**
LNCH	**Linares**	**2.14**	**212**	AML	AML	04 27 11.4	
	comp=E,4μm,0.4s						
CHNG	**Los Chungos**	**2.40**	**333**	AML	AML	04 27 14.4	
	comp=E,2μm,0.5s						
CNCO	**Chanco**	**2.55**	**228**	AML	AML	04 27 23.8	
	comp=E,3μm,0.3s						
CMCH	**Combarbala**	**2.92**	**347**	AML	AML	04 27 33.1	
	comp=E,5μm,0.5s						
CFAA	**Coronel Fontan**	**2.94**	**35**	Pn	**Pn**	**04 26 48.4**	**+1.9**
	baz=206,slow=16						
CFAA				Sn	**Sn**	**04 27 26.3**	**+5.2**
	comp=E,4.3nm,0.3s,baz=263,slow=8.3,SNR=4.5						
CCHI	**Chillan**	**2.98**	**210**	AML	AML	04 27 39.5	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**3.88**	**352**	AML	AML	04 28 17.7	
	comp=N,906nm,0.5s						
PLCA	**Paso Flores**	**6.70**	**182**	Pn	**Pn**	**04 27 43.5**	**+5.4**
	comp=N,0.4nm,0.3s,baz=353,slow=16,SNR=9.9						
PLCA				Pg	Pn	04 28 05.5	+27
	comp=N,0.7nm,0.3s,baz=4.1,slow=18,SNR=7.7						
PLCA				Sn	Sn	04 29 23.2	+29
	comp=N,0.7nm,0.3s,baz=81,slow=18,SNR=2.0						
PLCA				LR	LR	04 30 24.5	
	comp=N,368nm,20.9s,baz=186,slow=38						
TRQA	**Tornquist**	**7.79**	**123**	*e*Pn	**Pn**	**04 27 52.7**	**-0.5**
	comp=N,31nm,0.7s						
LVC	**Limon Verde**	**11.43**	**6**	Pn	**Pn**	**04 28 39.5**	**-3.5**
	comp=N,0.1nm,0.3s,baz=207,slow=4.5,SNR=2.5						
LVC				Sn	**Sn**	**04 30 48.9**	**-1.2**
	comp=N,0.1nm,0.3s,baz=320,slow=9.7,SNR=2.5						
LVC				Lg		04 31 58.4	
	comp=N,0.6nm,0.3s,baz=22,slow=11,SNR=5.6						
CPUP	**Villa Florida**	**13.53**	**59**	Pn	**Pn**	**04 29 08.7**	**-3.0**
	comp=N,0.4nm,0.3s,baz=218,slow=9.8,SNR=5.9						
CPUP				Lg		04 33 19.6	
	comp=N,1.1nm,0.3s,baz=303,slow=17,SNR=4.0						
CPUP				LR	LR	04 34 18.6	
	comp=N,45nm,20.9s,baz=221,slow=36						
LPAZ	**La Paz**	**17.77**	**7**	Pn	**Pn**	**04 30 08.8**	**+1.8**
	comp=N,0.1nm,0.3s,baz=193,slow=10,SNR=7.5						
LPAZ	**La Paz**	**17.77**	**7**	*e*P	**Pn**	**04 30 09.2**	**+2.2**
	comp=N,16nm,1.4s						
SIV	**San Ignacio**	**19.76**	**27**	P	**Pn**	**04 30 30.5**	**-0.6**
	comp=N,0.1nm,0.3s,baz=218,slow=14,SNR=14						
NNA	**Nana**	**22.76**	**343**	P	**P**	**04 30 59.5**	**-2.4**
	comp=N,4.4nm,0.7s,mb4.0,baz=108,slow=20,SNR=1.7						
NNA	**Nana**	**22.76**	**343**	*e*P	**P**	**04 31 01.8**	**0.0**
	comp=N,9.8nm,0.7s,mb4.3						
SAML	**Samuel**	**25.79**	**16**	*e*P	**P**	**04 31 31.5**	**+1.1**
	comp=N,1.7nm,0.9s,mb3.6						
BDFB	**Brasilia**	**27.12**	**53**	P	**P**	**04 31 45.0**	**+2.4**
	comp=N,2.2nm,0.7s,mb3.8,baz=201,slow=9.8,SNR=3.7						
PMSA	**Palmer Station**	**31.01**	**175**	P	**P**	**04 32 23.6**	**+6.6**
	comp=N,4.3nm,0.9s,mb4.3,baz=276,slow=15,SNR=5.4						
PCRV	**Puerto La Cruz**	**44.28**	**8**	LR	LR	04 55 52.8	
	comp=N,119nm,18.1s,MS3.9,baz=164,slow=41						
SNAA	**Sanae**	**50.99**	**158**	P	**P**	**04 35 01.1**	**-0.2**
	comp=N,1.1nm,1.0s,mb3.8,baz=269,slow=12,SNR=7.1						
SNAA	**Sanae**	**50.99**	**158**	*e*P	**P**	**04 35 00.9**	**-0.3**
	comp=N,6.7nm,1.3s,mb4.4						
QSPA	**South Pole Qui**	**56.21**	**180**	*e*P	**P**	**04 35 42.4**	**+2.9**
	comp=N,8.3nm,1.1s,mb4.7						
VNDA	**Vanda**	**64.37**	**191**	P	**P**	**04 36 39.0**	**+3.7**
	comp=N,1.3nm,1.2s,mb3.8,baz=137,slow=3.4,SNR=3.6						
WVT	**Waverly**	**71.71**	**345**	*e*P	**P**	**04 37 21.9**	**+0.5**
	comp=N,6.4nm,0.8s,mb4.6						
MNTX	**Cornudas Mount**	**73.29**	**329**	*e*P	**P**	**04 37 31.7**	**+0.8**
	comp=N,1.4nm,0.8s,mb3.9						
SDCO	**Great Sand Dun**	**78.59**	**332**	*e*P	**P**	**04 38 02.0**	**+1.0**
	comp=N,1.1nm,0.7s,mb3.9						
TORD	**Torodi Ar. Bea**	**82.80**	**69**	P	**P**	**04 38 29.6**	**+5.9**
	comp=N,2.1nm,1.0s,mb4.1,baz=252,slow=4.4,SNR=6.4						
PDAR	**Pinedale Array**	**84.48**	**332**	P	**P**	**04 38 34.9**	**+2.7**
	comp=N,0.4nm,0.8s,mb3.6,baz=143,slow=7.9,SNR=3.1						
CHKZ	**Chkalovo**	**146.18**	**42**	*e*PKPbc	PKPbc	04 45 40.0	+0.3

---

*ISCJB **22** 04:30:12.9±0.5, 4044N±003×2152E±004, h12km±11km, Error ellipse: s-maj=5.1km s-min=4.7km az=80.8*
*SKO **22** 04:30:13.6, 4041N×2146E, h6km*
*THE **22** 04:30:14.0, 4046N×2151E, h4km, ML2.7*
*CSEM **22** 04:30:13.6±0.2, 4048N×2140E, h20km, ML2.7, Error ellipse: s-maj=3.4km s-min=1.8km az=44.0*
ISC 22 04:30:13.7±0.5**, 4046N**±003×**2151E**±004**, h18**km±9km**, n14, σ0^{s}80**/25**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FNA	**Florina**	**0.34**	**342**	*e*Pg	**Pg**	**04 30 20.6**	**-0.3**
FNA				*e*Sg	**Sg**	**04 30 26.1**	**+0.3**
BIA	**Bitola**	**0.58**	**346**	*e*Pg	**Pg**	**04 30 24.0**	**-1.2**
BIA				*e*Sg	**Sg**	**04 30 33.8**	**+0.8**
BIA	**Bitola**	**0.58**	**346**	*e*Pg	**Pg**	**04 30 24.1**	**-1.0**
BIA				*e*Sg	**Sg**	**04 30 34.0**	**+1.0**
BIA	**Bitola**	**0.58**	**346**	*e*Pg	**Pg**	**04 30 24.1**	**-1.1**
BIA				*e*Sg	**Sg**	**04 30 33.9**	**+0.9**
LIT	**Litokhoron**	**0.83**	**115**	*e*Pg	**Pg**	**04 30 29.0**	**-0.9**
LIT				*e*Sg	**Sg**	**04 30 42.2**	**+1.3**
GRG	**Griva**	**0.84**	**53**	*e*Pg	**Pg**	**04 30 29.8**	**-0.3**
GRG				*e*Sg	**Sg**	**04 30 41.9**	**+0.7**
OHR	**Ohrid**	**0.85**	**321**	*e*Pg	**Pg**	**04 30 29.3**	**-0.9**
OHR				*e*Sg	**Sg**	**04 30 42.2**	**+0.8**
OHR	**Ohrid**	**0.85**	**321**	*e*Pg	**Pg**	**04 30 28.7**	**-1.5**
OHR				*e*Sg	**Sg**	**04 30 41.7**	**+0.3**
HORT	**Hortiatis**	**1.22**	**83**	*e*Pg	**Pg**	**04 30 37.2**	**-0.1**
KNT	**Kendrikon**	**1.27**	**56**	*e*Pg	**Pg**	**04 30 37.5**	**-0.6**
KNT				*e*Sg	**Sg**	**04 30 55.4**	**+0.8**
IGT	**Igoumenitsa**	**1.29**	**225**	*e*Pg	**Pg**	**04 30 38.3**	**-0.4**
IGT				*e*Sg	**Sg**	**04 30 57.0**	**+1.3**
SOH	**Sokhos**	**1.45**	**75**	*e*Pg	**Pg**	**04 30 40.6**	**-1.0**
AGG	**Agios Georgios**	**1.57**	**156**	*e*Pg	**Pn**	**04 30 40.9**	**+0.3**
AGG				*e*Sg	**Sg**	**04 31 03.6**	**-0.7**
XOR	**Xorichti**	**1.69**	**130**	*e*Pb	**Pn**	**04 30 42.7**	**+0.4**

---

*ISCJB **22** 04:46:46.0±0.5, 2703S±006×6278W±009, h625km±7km, mb3.8/11, Error ellipse: s-maj=11.6km s-min=8.4km az=160.7*
*IDC **22** 04:46:46.5±0.8, 2697S×6281W, h613km±11km, mb3.2/7, mb1 3.4/15, mb1mx3.3/24, mbtmp4.3/15, Error ellipse: s-maj=14.2km s-min=11.9km az=87.0*
*NEIC **22** 04:46:46.2±0.4, 2702S×6283W, h611km±5km, mb4.1/12, Error ellipse: s-maj=9.6km s-min=7.3km az=93.0*
ISC 22 04:46:46.5±0.5**, 2701S**±005×**6285W**±009**, h612**km±7km**, n36, σ0^{s}81**/39**, mb3.8**/11**, Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**4.98**	**83**	P	**P**	**04 48 20.3**	**+0.4**
	6.1nm,0.3s,baz=238,slow=8.3,SNR=143						
CPUP	**Villa Florida**	**4.98**	**83**	*e*Pn	**P**	**04 48 20.4**	**+0.5**
CFAA	**Coronel Fontan**	**6.57**	**225**	P	**P**	**04 48 33.5**	**+0.4**
	1.7nm,0.3s,baz=41,slow=8.9,SNR=103						
CFAA				S	**S**	**04 50 01.8**	**+1.4**
	0.4nm,0.3s,baz=322,slow=23,SNR=12						
CFAA	**Coronel Fontan**	**6.57**	**225**	P	**P**	**04 48 33.5**	**+0.4**
CFAA				S	**S**	**04 50 01.8**	**+1.4**
LVC	**Limon Verde**	**7.04**	**307**	P	**P**	**04 48 38.6**	**+1.4**
	1.1nm,0.3s,baz=101,slow=4.3,SNR=12						
LVC				S	**S**	**04 50 06.5**	**-1.5**
	2.3nm,0.3s,baz=210,slow=23,SNR=24						
LVC	**Limon Verde**	**7.04**	**307**	*e*Pn	**P**	**04 48 37.7**	**+0.5**
	10nm,0.3s						
LVC				*e*S	**S**	**04 50 07.8**	**-0.2**
MDZ	**Mendoza**	**7.83**	**220**	*e*P	**P**	**04 48 44.2**	**-0.4**
TRQA	**Tornquist**	**11.04**	**176**	*e*Pn	**P**	**04 49 13.9**	**-1.8**
	22nm,0.9s						
SIV	**San Ignacio**	**11.09**	**9**	P	**P**	**04 49 15.8**	**-0.3**
	1.5nm,0.3s,baz=186,slow=10,SNR=44						
LPAZ	**La Paz**	**11.74**	**334**	P	**P**	**04 49 23.4**	**+0.7**
	0.9nm,0.3s,baz=148,slow=4.7,SNR=28						
LPAZ				S	**S**	**04 51 29.4**	**-1.6**
	0.1nm,0.3s,baz=206,slow=21,SNR=6.4						
LPAZ	**La Paz**	**11.74**	**334**	*e*Pn	**P**	**04 49 22.5**	**-0.2**
	2.4nm,0.4s						
LPAZ				*e*S	**S**	**04 51 29.8**	**-1.2**
PLCA	**Paso Flores**	**15.10**	**203**	P	**P**	**04 49 54.6**	**-0.4**
	2.2nm,0.3s,baz=24,slow=10,SNR=105						
PLCA	**Paso Flores**	**15.10**	**203**	*e*P	**P**	**04 49 54.0**	**-1.0**
	27nm,0.7s						
BDFB	**Brasilia**	**17.84**	**54**	P	**P**	**04 50 20.5**	**+0.5**
	10nm,0.3s,baz=239,slow=7.8,SNR=56						
BAO	**Brasilia Array**	**17.86**	**54**	P	**P**	**04 50 21.0**	**+0.8**
SAML	**Samuel**	**17.97**	**359**	*e*P	**P**	**04 50 21.1**	**-0.1**
	7.1nm,0.5s						
NNA	**Nana**	**19.91**	**316**	P	**P**	**04 50 38.9**	**+0.1**
	0.4nm,0.3s,baz=170,slow=9.0,SNR=4.1						
NNA	**Nana**	**19.91**	**316**	*e*P	**P**	**04 50 38.7**	**-0.1**
	13nm,0.7s						
ATAH	**Atahualpa**	**24.79**	**321**	P	**P**	**04 51 22.6**	**+0.4**
	3.6nm,0.7s,mb4.1,baz=331,slow=13,SNR=3.0						
SNAA	**Sanae**	**55.28**	**161**	P	**P**	**04 55 23.3**	**-0.4**
	0.1nm,0.3s,baz=45,slow=19,SNR=6.4						
DBIC	**Dimbokro**	**65.31**	**68**	P	**P**	**04 56 29.6**	**0.0**
	3.2nm,0.3s,mb4.2,baz=211,slow=7.4,SNR=18						
DBIC	**Dimbokro**	**65.31**	**68**	*e*P	**P**	**04 56 29.1**	**-0.6**
	5.7nm,0.7s,mb4.1						
WVT	**Waverly**	**67.08**	**338**	*e*P	**P**	**04 56 39.5**	**-1.0**
	3.9nm,0.7s,mb4.0						
JCT	**Junction City**	**67.20**	**326**	*e*P	**P**	**04 56 41.8**	**+0.5**
	6.6nm,0.6s,mb4.2						
MNTX	**Cornudas Mount**	**71.08**	**322**	*e*P	**P**	**04 57 03.6**	**-0.9**
	1.8nm,0.7s,mb3.7						
VNDA	**Vanda**	**72.37**	**189**	P	**P**	**04 57 12.1**	**+0.3**
	0.4nm,0.9s,mb3.0,baz=134,slow=6.4,SNR=6.0						
VNDA	**Vanda**	**72.37**	**189**	P	**P**	**04 57 12.1**	**+0.2**
ANMO	**Albuquerque**	**74.16**	**324**	*e*P	**P**	**04 57 22.9**	**+0.9**
	2.3nm,0.7s,mb3.8						
TORD	**Torodi Ar. Bea**	**74.25**	**66**	P	**P**	**04 57 22.6**	**+0.1**
	4.9nm,0.6s,mb4.2,baz=276,slow=7.1,SNR=108						
TORD				pP	pP	04 59 29.0	+1.5
	0.8nm,0.8s,baz=241,slow=6.3,SNR=4.0						
MAW	**Mawson**	**77.43**	**161**	P	**P**	**04 57 39.2**	**-0.8**
	0.8nm,0.5s,mb3.4,baz=291,slow=7.0,SNR=2.9						
ARUT	**Antelope Range**	**80.03**	**322**	*e*P	**P**	**04 57 55.5**	**+1.7**
PDAR	**Pinedale Array**	**81.67**	**327**	P	**P**	**04 58 02.7**	**+0.5**
	0.9nm,0.5s,mb3.6,baz=124,slow=8.9,SNR=11						
BW06	**Boulder Array**	**81.67**	**327**	*e*P	**P**	**04 58 02.0**	**-0.2**
	1.2nm,0.8s,mb3.5						
ASAR	**Alice Springs**	**127.09**	**199**	PKP	PKPdf	05 04 42.6	+0.4
	1.4nm,0.6s,baz=144,slow=1.7,SNR=14						
WRA	**Warramunga Arr**	**130.44**	**201**	PKP	PKPdf	05 04 49.1	+0.4
	1.1nm,0.5s,baz=171,slow=1.7,SNR=45						
WRA				SKPab		05 07 15.5	
	0.6nm,0.6s,baz=155,slow=3.2,SNR=9.8						
MKAR	**Makanchi Array**	**146.22**	**45**	PKPbc	PKPbc	05 05 17.6	-2.0
	0.7nm,0.5s,baz=322,slow=4.0,SNR=4.1						

---

*MOS **22** 05:05:49.8±0.9, 2874N×13932E, h415km, mb4.3/27, Error ellipse: s-maj=12.4km s-min=6.4km az=102.9*
*ISCJB **22** 05:05:51.9±0.3, 2881N±003×13941E±004, h432km±3km, mb4.3/76, Error ellipse: s-maj=5.0km s-min=4.6km az=154.3*
*BJI **22** 05:05:52.8, 2876N×13954E, h470km, mB4.7, mb4.7*
*IDC **22** 05:05:52.4±0.6, 2882N×13947E, h429km±6km, mb3.7/17, mb1 3.8/21, mb1mx3.8/23, mbtmp4.5/21, Error ellipse: s-maj=14.1km s-min=8.0km az=75.0*
*NEIC **22** 05:05:53.8±0.7, 2883N×13935E, h442km±7km, mb4.2/32, Error ellipse: s-maj=6.7km s-min=4.8km az=118.0*
*JMA **22** 05:05:53.2±0.2, 2895N×13992E, h445km, M4.2*
ISC 22 05:05:52.8±0.3**, 2886N**±003×**13944E**±004**, h426**km±3km**, n179, σ0^{s}95**/189**, mb4.3**/76**, 8C-6D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.00**	**125**	P	**P**	**05 06 58.1**	**+0.2**
	244nm,0.3s,baz=66,slow=2.0,SNR=18						
CBIJ				S	**S**	**05 07 49.6**	**-1.1**
	890nm,0.3s,baz=288,slow=22,SNR=26						
CBIJ	**Chichi jima**	**3.00**	**125**	P	**P**	**05 06 58.0**	**+0.1**
CBIJ				*e*S	**S**	**05 07 49.5**	**-1.3**
JHHJ	**Haha-jima-NKT**	**3.29**	**132**	*e*S	**S**	**05 07 54.2**	**-0.8**
JHJ2	**Mitsune**	**4.26**	**4**	P	**P**	**05 07 09.8**	**+1.0**
JHJ2				*e*S	**S**	**05 08 10.7**	**+0.1**
JHJ	**Hachijo jima 2**	**4.26**	**4**	P	**P**	**05 07 10.1**	**+1.2**
	23nm,0.3s,baz=207,slow=11,SNR=12						
JHJ				S	**S**	**05 08 10.8**	**+0.1**
	69nm,0.3s,baz=245,slow=22,SNR=8.8						
BSO1	**Boso 1**	**5.93**	**12**	P	**P**	**05 07 26.3**	**+0.8**
BSO1				*e*S	**S**	**05 08 39.4**	**-1.7**
JIE	**Ise**	**5.99**	**338**	P	**P**	**05 07 29.7**	**+3.5**
JOD2	**Odawara 2**	**6.40**	**357**	P	**P**	**05 07 30.8**	**+0.4**
JOD2				*e*S	**S**	**05 08 48.7**	**-1.5**
JRY	**Ryogami san**	**7.16**	**357**	P	**P**	**05 07 39.1**	**+0.5**
JRY				*e*S	**S**	**05 09 03.0**	**-2.3**
MJAR	**Matsushiro Arr**	**7.74**	**353**	P	**P**	**05 07 45.1**	**+0.2**
	1.5nm,0.3s,baz=171,slow=11,SNR=6.5						
MJAR				S	**S**	**05 09 17.2**	**+0.3**
	1.2nm,0.3s,baz=159,slow=9.2,SNR=4.7						
MAJO	**Matsushiro**	**7.74**	**353**	*e*P	**P**	**05 07 45.1**	**+0.1**
MAT	**Matsushiro**	**7.74**	**353**	P	**P**	**05 07 44.9**	**-0.1**
MAT				S	**S**	**05 09 15.4**	**-1.5**
MAT	**Matsushiro**	**7.74**	**353**	P	**P**	**05 07 45.4**	**+0.4**
MAT				S	**S**	**05 09 15.4**	**-1.5**
JHS	**Saijyo**	**8.14**	**320**	P	**P**	**05 07 52.6**	**+3.1**
JSJ	**Shimokoshiki**	**8.87**	**291**	P	**P**	**05 08 00.6**	**+3.2**
JOW	**Kunigami**	**10.08**	**261**	P	**P**	**05 08 13.7**	**+2.8**
	5.8nm,0.3s,baz=101,slow=9.5,SNR=23						
JMK	**Ichinoseki**	**10.18**	**8**	P	**P**	**05 08 12.5**	**+0.6**
JMK				*e*S	**S**	**05 10 05.3**	**-1.1**
JKE	**Kume jima 2**	**11.50**	**260**	P	**P**	**05 08 29.1**	**+2.7**
JOT	**Ohata**	**12.57**	**6**	P	**P**	**05 08 40.0**	**+1.9**
JOSM	**Okushiri--Mats**	**13.20**	**0**	P	**P**	**05 08 46.2**	**+1.2**
ERM	**Erimo**	**13.47**	**12**	*i* P	**P**	**05 08 49.3**	**+1.4**
ASAJ	**Asahikawa**	**15.44**	**9**	P	**P**	**05 09 09.2**	**+0.1**
	1.4nm,0.3s,baz=252,slow=20,SNR=3.6						
ASAJ	**Asahikawa**	**15.44**	**9**	P	**P**	**05 09 09.2**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SSE	**Sheshan**	**15.97**	**283**	P	**P**	**05 09 12.8**	**-2.0**
SSE				AMB	AMB		
	comp=Z,48nm,0.7s						
SSE				AMB	AMB		
	comp=Z,87nm,4.2s						
DL2	**Dalian**	**17.84**	**309**	P	**P**	**05 09 35.4**	**+0.9**
DL2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2	**Nanjing**	**18.03**	**285**	*e*P	**P**	**05 09 37.3**	**+0.8**
NJ2				S	**S**	**05 12 38.0**	**-3.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,180nm,5.4s						
YSS	**Yuzh-Sakhalins**	**18.25**	**7**	*i* P	**P**	**05 09 37.7**	**-1.2**
CN2	**Changchun**	**18.66**	**327**	*e*P	**P**	**05 09 41.4**	**-1.7**
CN2				*e*S	**S**	**05 12 47.1**	**-4.5**
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
WHN	**Wuhan**	**21.85**	**281**	P	**P**	**05 10 13.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**25.70**	**305**	*e*P	**P**	**05 10 46.5**	**-0.4**
HHC				PCP	PcP	05 14 04.6	+1.0
HHC				S	**S**	**05 14 43.8**	**-0.2**
HHC				PCS	PcS	05 17 43.9	-0.9
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,67nm,4.0s						
QIZ	**Qiongzhong**	**28.69**	**257**	P	**P**	**05 11 13.0**	**-0.2**
LZH	**Lanzhou**	**30.76**	**293**	⇑P	**P**	**05 11 30.5**	**-0.8**
LZH				PP	PP	05 12 55.4	+3.0
LZH				AMB	AMB		
	comp=Z,32nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,63nm,4.9s						
CD2	**Chengdu**	**30.93**	**283**	P	**P**	**05 11 34.0**	**+1.3**
MA2	**Magadan**	**31.68**	**11**	⇑*e*P	**P**	**05 11 39.2**	**0.0**
MA2				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.1						
SONM	**Songino Array**	**31.77**	**316**	P	**P**	**05 11 40.3**	**+0.4**
	comp=Z,12nm,0.6s,mb4.4,baz=129,slow=8.3,SNR=76						
KMI	**Kunming**	**32.83**	**272**	P	**P**	**05 11 49.6**	**+0.5**
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.2						
BOD	**Bodaibo**	**33.95**	**336**	*e*P	**P**	**05 11 57.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
GTA	**Gaotai**	**34.20**	**298**	⇓P	**P**	**05 12 01.0**	**+0.2**

GTA AMB AMB
comp=Z,18nm,0.7s,mb4.5
ZAK Zakamensk 34.69 318 *e*P **P 05 12 04.7 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.0
SMY Shemya 34.92 37 *e*P **P 05 12 08.0 +1.2**
SMY pmax pmax
comp=Z,34nm,0.7s,mb4.8
SMY Shemya 34.92 37 *e*P **P 05 12 08.0 +1.1**
comp=Z,34nm,0.7s,mb4.8
TLY Talaya 35.05 321 ⇑P **P 05 12 08.4 +0.5**
SNR=5.2
TLY Talaya 35.05 321 *e*P **P 05 12 08.2 +0.3**
TLY pmax pmax
comp=Z,15nm,0.7s,mb4.4
TLY Talaya 35.05 321 *e*P **P 05 12 08.8 +0.9**
SEY Seymchan 35.11 10⇑*e*P **P 05 12 09.1 +0.7**
MOY Mondy 36.53 319 *e*P **P 05 12 20.6 +0.3**
CHTO Chiang Mai 38.21 264 *e*P **P 05 12 33.8 -0.3**
CHTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
CHTO Chiang Mai 38.21 264 *e*Pn **P 05 12 33.8 -0.3**
comp=Z,6.3nm,0.7s,mb4.0
PMG Port Moresby 38.76 168 *e*P **P 05 12 36.4 -2.3**
BILL Bilibino 42.33 15*d i*P **P 05 13 07.7 +0.3**
BILL pmax pmax
comp=Z,27nm,1.0s,mb4.5
KULM Kulim 43.54 245 *e*P **P 05 13 17.5 +0.5**
WMQ Urumqi 43.58 304 P **P 05 13 17.0 -0.3**
WMQ AMB AMB
comp=Z,20nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,157nm,5.4s
NIKO Nikolski 44.68 42 *e*P **P 05 13 24.7 -1.2**
ZAL Zalesovo 46.58 318 P **P 05 13 40.0 -0.5**
comp=Z,3.1nm,0.8s,mb3.7,baz=13,slow=7.7,SNR=14
JIRN Jiri 46.59 282 *e*P **P 05 13 41.6 +1.1**
comp=Z,6.2nm,0.3s,mb4.5
AKUT Akutan 46.70 41 *e*P **P 05 13 41.0 -0.4**
GUN Gumba 46.79 282 *e*P **P 05 13 43.0 +0.9**
comp=Z,67nm,0.8s,mb5.0
PKI Pulchoki 47.28 282 *e*P **P 05 13 46.4 +0.6**
KKN Kakani 47.33 282 *e*P **P 05 13 46.8 +0.6**
comp=Z,43nm,1.0s,mb4.8
MKAR Makanchi Array 47.48 308 P **P 05 13 47.0 -0.4**
comp=Z,9.8nm,0.6s,mb4.3,baz=82,slow=8.9,SNR=52
MKAR ScP ScP 05 18 19.0 -3.3
comp=Z,0.6nm,0.6s,baz=90,slow=5.8,SNR=3.8
DMN Daman 47.53 282 *e*P **P 05 13 48.2 +0.5**
comp=Z,27nm,0.7s,mb4.7
NVS Novosibirsk 47.63 319 *e*P **P 05 13 47.7 -0.8**
GKN Gorkha 47.83 283 *e*P **P 05 13 50.4 +0.4**
comp=Z,60nm,1.1s,mb4.8
FITZ Fitzroy Crossi 48.55 198 *e*P **P 05 13 55.4 0.0**
comp=Z,5.5nm,0.6s,mb4.1
WRAB Tennant Creek 48.75 186 *e*P **P 05 13 56.1 -0.8**
WRAB pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
WRAB Tennant Creek 48.75 186 *e*P **P 05 13 56.1 -0.8**
comp=Z,9.7nm,0.6s,mb4.3
WB2 Warramunga Arr 48.76 186 *e*P **P 05 13 56.4 -0.6**
WRA Warramunga Arr 48.76 186 P **P 05 13 56.5 -0.5**
comp=Z,8.5nm,0.6s,mb4.3,baz=2.5,slow=7.8,SNR=247
WRA ScP ScP 05 18 25.2 -2.5
comp=Z,0.8nm,0.7s,baz=0.3,slow=4.6,SNR=5.7
KOLN Koldanda 48.78 283 *e*P **P 05 13 57.3 +0.2**
comp=Z,39nm,0.8s,mb4.8
CTAO Charters Tower 49.10 172 *e*P **P 05 13 57.7 -1.8**
CTAO pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
CTAO Charters Tower 49.10 172 *e*P **P 05 13 57.7 -1.8**
comp=Z,7.3nm,0.4s,mb4.4
ULHL Ulaho! 52.03 303 P **P 05 14 21.7 +0.7**
SNR=8.6
TKM2 Tokmak 2 52.42 304 P **P 05 14 24.6 +0.7**
SNR=12
AS31 Alice Springs 52.49 186 *e*P **P 05 14 23.7 -0.6**
ASAR Alice Springs 52.49 186 P **P 05 14 23.9 -0.5**
comp=Z,3.4nm,0.5s,mb3.8,baz=16,slow=12,SNR=56
KZA Kyzart 52.78 303 P **P 05 14 28.1 +1.6**
SNR=7.1
KBK Karagaybulak 52.93 303 P **P 05 14 28.2 +0.7**
SNR=8.4
USP Ospenovka 53.18 304 P **P 05 14 29.4 0.0**
SNR=6.0
MBWA Marble Bar 53.23 203 *e*P **P 05 14 29.4 -0.4**
comp=Z,8.5nm,0.6s,mb4.2
AAK Ala-Archa 53.26 303 P **P 05 14 30.2 +0.3**
SNR=7.5
AAK Ala-Archa 53.26 303 P **P 05 14 29.1 -0.9**
SNR=8.6
AAK Ala-Archa 53.26 303*d i*P **P 05 14 29.1 -0.8**
AAK pmax pmax
comp=Z,8.0nm,0.7s,mb4.1
AAK Ala-Archa 53.26 303 *e*P **P 05 14 28.4 -1.5**
comp=Z,8.7nm,0.6s,mb4.2
UCH Uchtor 53.30 303 P **P 05 14 31.1 +0.9**
SNR=20
EKS2 Erkin-Say 53.78 304 P **P 05 14 33.8 +0.2**
SNR=7.2
AML Almayashu 53.92 303 P **P 05 14 35.9 +1.3**
SNR=27
KDAK Kodiak Island 54.44 38 P **P 05 14 37.2 -1.1**
comp=Z,34nm,0.9s,mb4.6,baz=267,slow=23,SNR=15
KDAK Kodiak Island 54.44 38 *e*P **P 05 14 37.7 -0.6**
comp=Z,30nm,0.8s,mb4.6
VOSK Vostochnaya 54.76 316 P **P 05 14 39.5 -1.1**
VOSK pmax pmax
comp=Z,10.0nm,0.9s,mb4.0
CHKZ Chkalovo 54.94 317 *e*P **P 05 14 40.8 -1.1**
CHKZ pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
CHKZ Chkalovo 54.94 317 *e*P **P 05 14 40.8 -1.1**
comp=Z,9.8nm,0.7s,mb4.2
BVA0 Borovoye Array 55.10 317 *i*P **P 05 14 42.4 -0.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.4s,mb3.4
BRVK Borovoye 55.17 317 *e*P **P 05 14 42.4 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.0
BRVK Borovoye 55.17 317 *e*P **P 05 14 42.4 -1.0**
comp=Z,9.0nm,0.8s,mb4.0
ZRNK Zerenda 55.94 317 *e*P **P 05 14 48.1 -0.8**
ZRNK pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
ZRNK Zerenda 55.94 317 *e*P **P 05 14 48.1 -0.8**
comp=Z,5.6nm,0.6s,mb4.1
KK31 Karatay Array 56.09 305 *i*P **P 05 14 49.8 -0.1**
KK31 pmax pmax
comp=Z,16nm,0.4s,mb4.7
KKAR Karatay Array 56.09 305 *i*P **P 05 14 49.8 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.4s,mb4.3
MCK McKinley 56.43 30 *e*P **P 05 14 51.8 -0.5**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
MCK McKinley 56.43 30 *e*P **P 05 14 51.8 -0.5**
comp=Z,7.3nm,0.9s,mb4.0
COLA College 56.95 29*c i*P **P 05 14 55.6 -0.3**
COLA College 56.95 29 *e*P **P 05 14 55.5 -0.4**
comp=Z,5.9nm,0.9s,mb3.9
MENT Mentasta 58.78 31 *e*P **P 05 15 08.2 -0.2**
FORT Forrest 60.28 191 *e*P **P 05 15 18.0 -0.5**
comp=Z,14nm,0.5s,mb4.7
STKA Stephens Creek 60.43 178 P **P 05 15 18.5 -1.0**
comp=Z,3.4nm,0.9s,mb3.8,baz=333,slow=6.8,SNR=2.4
STKA Stephens Creek 60.43 178 P **P 05 15 18.5 -1.0**
ARU Arti 61.54 321 ⇓*i*P **P 05 15 25.6 -1.3**
ARU *e* 05 17 34.8
ARU *e*S **S 05 23 12.8 -1.7**
ARU pmax pmax
comp=Z,13nm,0.6s,mb4.6
INK Inuvik 62.45 25 P **P 05 15 31.9 -0.9**
comp=Z,2.1nm,0.5s,mb3.9,baz=286,slow=3.8,SNR=20
INK Inuvik 62.45 25 P **P 05 15 31.9 -0.9**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 62.45 25 *e*P **P 05 15 31.7 -1.1**
comp=Z,2.6nm,0.6s,mb3.9
AKTO Aktyubinsk 63.08 315 P **P 05 15 35.5 -1.4**
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
SKAG Skagway 63.26 35 *e*P **P 05 15 38.3 +0.2**
ARCES ARCESS Array B 71.08 340 P **P 05 16 26.0 -0.5**
comp=Z,2.1nm,0.5s,mb3.9,baz=65,slow=8.3,SNR=21
JOF Joensuu 72.42 333 *e*p **P 05 16 32.8 -1.6**
comp=Z,5.1nm,0.4s,mb4.4
BSY Bisya 72.91 287 P **P 05 16 37.8 +0.6**
SNR=5.3
ASHO Ashiyiah 73.06 289 ⇓P **P 05 16 38.5 +0.5**
SNR=6.4
ARQ Araqi 73.23 288 ⇑P **P 05 16 39.6 +0.6**
SNR=5.8
OBN Obninsk 73.70 324⇑*e*P **P 05 16 41.2 -0.6**
OBN pmax pmax
comp=Z,11nm,0.6s,mb4.7
CMW Cultus Mountai 74.20 43 P **P 05 16 45.6 +1.0**
JCW Jim Creek 74.41 43 P **P 05 16 46.6 +0.8**
KAF Kangasniemi 74.83 333 *e*p **P 05 16 46.3 -1.9**
comp=Z,3.8nm,0.5s,mb4.3
KAF Kangasniemi 74.83 333 *e*P **P 05 16 46.3 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
KIV Kislovodsk 75.07 312⇓*e*P **P 05 16 51.1 +1.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
FINES FINESS Array B 75.29 333 P **P 05 16 49.8 -1.0**
comp=Z,2.1nm,0.4s,mb4.2,baz=71,slow=5.0,SNR=29
GNI Garni 75.33 308⇑*e*P **P 05 16 51.4 +0.4**
GNI pmax pmax
comp=Z,20nm,1.7s
EBG Ellensburg 75.81 44 P **P 05 16 54.3 +0.6**
EPH Ephrata 76.20 43 P **P 05 16 56.0 +0.2**
HAWA Hanford 76.68 44 *e*P **P 05 16 59.2 +0.7**
OD2 Odessa Site #2 76.71 43 P **P 05 16 58.6 -0.1**
EDM Edmonton 76.85 36 *e*P **P 05 16 59.3 -0.2**
NEW Newport 77.23 42 *e*P **P 05 17 01.4 -0.2**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 77.23 42 *e*P **P 05 17 01.4 -0.2**
comp=Z,7.0nm,0.9s,mb4.3
UMR Umm Al-Rimmam 77.72 297 *e*P **P 05 17 03.7 -0.6**
UMR AMb AMB 05 17 04.5
comp=Z,45nm,0.5s,mb5.4
MIB Mutribah 77.91 297 *e*P **P 05 17 04.8 -0.4**
MIB AMb AMB 05 17 05.6
comp=Z,51nm,0.5s,mb5.4
RDF Al-Radifah 78.13 296 *e*P **P 05 17 05.9 -0.6**
RDF AMb AMB 05 17 06.9
comp=Z,39nm,0.8s,mb5.1
NAY Al-Naaiem 78.23 297 *e*P **P 05 17 06.5 -0.5**
NAY AMb AMB 05 17 07.3
comp=Z,31nm,0.5s,mb5.2
RST Umm Al-Ruwaisa 78.31 297 *e*P **P 05 17 06.5 -0.9**
RST AMb AMB 05 17 07.5
comp=Z,48nm,0.6s,mb5.3
BMO Blue Mountains 78.79 45 *e*P **P 05 17 10.6 +0.6**
BSMT Bassoo Peak 78.80 41 P **P 05 17 10.9 +0.8**
AKASG Malin Array Be 79.76 323 P **P 05 17 13.9 -1.2**
comp=Z,1.8nm,0.5s,mb4.0,baz=49,slow=5.4,SNR=11
MALT Malatya 80.53 308 *e*P **P 05 17 19.6 +0.4**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
MALT Malatya 80.53 308 *e*P **P 05 17 19.6 +0.4**
comp=Z,2.5nm,0.6s,mb4.1
NB2 NORSAR Subarra 81.07 337 P **P 05 17 20.1 -1.9**
comp=Z,0.9nm,0.6s,mb3.7,baz=44,slow=5.3
NOA NORSAR Array B 81.07 337 P **P 05 17 20.6 -1.4**
comp=Z,1.2nm,0.6s,mb3.8,baz=45,slow=5.1,SNR=4.2
LRM Limekiln Ridge 81.23 42 *e*P **P 05 17 23.6 +0.8**
HLID Hailey 81.24 45 *e*P **P 05 17 23.9 +1.0**
comp=Z,2.6nm,0.8s,mb4.0
NVAR Mina Array Bea 81.32 51 P **P 05 17 24.3 +0.9**
comp=Z,4.2nm,0.6s,mb4.3,baz=305,slow=4.1,SNR=24
NVAR Mina Array Bea 81.32 51 P **P 05 17 24.3 +0.9**
BOZ Bozeman (W) 81.81 42 *e*P **P 05 17 26.3 +0.4**
QLMT Earthquake Lak 82.37 43 *e*P **P 05 17 29.5 +0.8**
BR131 Keskin Array S 83.03 312 *e*P **P 05 17 31.3 -0.7**
comp=Z,1.6nm,0.8s,mb3.8
BRTR Keskin Array B 83.03 312 P **P 05 17 31.6 -0.5**
comp=Z,1.7nm,0.6s,mb4.0,baz=108,slow=3.5,SNR=8.5
IMW Indian Meadow 83.18 43 *e*P **P 05 17 33.8 +1.0**
comp=Z,4.9nm,0.8s,mb4.3
RRI2 Red Ridge 83.25 44 *e*P **P 05 17 34.5 +1.3**
comp=Z,5.2nm,0.7s,mb4.4
TPAW Teton Pass 83.40 44 *e*P **P 05 17 34.7 +0.7**
comp=Z,4.6nm,0.8s,mb4.3
RLMT Red Lodge 83.48 42 *e*P **P 05 17 35.0 +0.7**
SNOW Snow King Moun 83.53 44 *e*P **P 05 17 35.6 +1.0**
comp=Z,7.7nm,0.7s,mb4.1
LOHW Long Hollow 83.54 43 *e*P **P 05 17 35.4 +0.7**
comp=Z,2.3nm,0.7s,mb4.0
GSC Goldstone 83.94 53 *e*P **P 05 17 36.6 0.0**
DUG Dugway 84.04 47 *e*P **P 05 17 37.6 +0.4**
DUG pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
DUG Dugway 84.04 47 *e*P **P 05 17 37.5 +0.4**
comp=Z,5.2nm,0.6s,mb4.4
HWUT Hardware Ranch 84.06 45 *e*P **P 05 17 37.5 +0.3**
comp=Z,8.2nm,0.8s,mb4.5
SHPR Sheep Range 84.45 51 *e*P **P 05 17 40.1 +0.9**
BW06 Boulder Array 84.65 44 *e*P **P 05 17 40.1 0.0**
comp=Z,2.7nm,0.9s,mb4.0
PDAR Pinedale Array 84.65 44 P **P 05 17 40.2 0.0**
comp=Z,1.3nm,0.5s,mb3.9,baz=323,slow=2.1,SNR=17
PFO Pinyon Flat Ob 85.06 54 *e*P **P 05 17 42.7 +0.5**
RSSD Black Hills 87.08 40 *e*P **P 05 17 52.6 +0.7**
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
RSSD Black Hills 87.08 40 *e*P **P 05 17 52.6 +0.8**
comp=Z,3.0nm,0.7s,mb4.1
ULM Lac du Bonnet 87.27 32 P **P 05 17 50.8 -2.0**
comp=Z,1.4nm,0.8s,mb3.8,baz=316,slow=2.2,SNR=3.7
GERES GERESS Array B 88.74 328 P **P 05 17 57.7 -1.9**
comp=Z,0.4nm,0.3s,mb3.6,baz=64,slow=3.1,SNR=4.2
SDCO Great Sand Dun 90.11 46 *e*P **P 05 18 06.4 +0.4**
comp=Z,1.9nm,0.8s,mb4.0
ANMO Albuquerque 91.17 49 *e*P **P 05 18 11.9 +1.0**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 91.17 49 *e*P **P 05 18 11.9 +0.9**
comp=Z,3.8nm,0.9s,mb4.2
MNTX Cornudas Mount 93.85 51 *e*P **P 05 18 23.5 +0.3**
comp=Z,1.0nm,0.6s,mb4.0
TORD Torodi Ar. Bea 121.60 310 PKP PKPdf 05 23 55.9 -1.0
comp=Z,0.1nm,0.3s,baz=286,slow=1.6,SNR=4.1
SAML Samuel 150.95 51 *e*PKPbc PKPbc 05 24 55.9 -0.3
LPAZ La Paz 151.72 70 PKPbc PKPbc 05 24 59.1 +1.2
comp=Z,0.8nm,0.6s,baz=25,slow=21,SNR=7.0
LPAZ La Paz 151.72 70 PKPbc PKPbc 05 24 58.9 +1.0
CPUP Villa Florida 164.92 84 PKPab PKPab 05 26 05.2 -0.7
comp=Z,0.2nm,0.4s,baz=328,slow=3.0,SNR=3.1

IDC 22 05:17:44.2±68.0, 1993S×17997W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/11, mbtmp4.1/3, Error ellipse: s-maj=1217.0km s-min=156.5km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.38**	**243**	P	P	05 24 48.8	-1.3
	5.9nm,1.0s,baz=96,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**42.84**	**262**	P	P	05 25 45.0	+1.0
	0.7nm,0.3s,baz=94,slow=7.6,SNR=47						
ASAR	**Alice Springs**	**46.25**	**256**	P	P	05 25 44.6	+0.6
	1.9nm,0.6s,baz=96,slow=7.8,SNR=21						

IDC 22 05:37:42.8±6.4, 1917S×17651W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=179.4km s-min=102.0km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.63**	**243**	P	P	05 45 16.4	+0.3
	4.4nm,1.0s,baz=80,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**46.19**	**260**	P	P	05 46 09.8	+0.5
	1.1nm,0.6s,baz=96,slow=8.1,SNR=30						
ASAR	**Alice Springs**	**46.20**	**255**	P	P	05 46 09.5	+0.1
	2.3nm,0.8s,baz=92,slow=7.9,SNR=13						
AKASG	**Malin Array Be**	**142.50**	**333**	PKP	PKPdf	05 57 17.0	-0.6
	1.2nm,0.4s,baz=42,slow=4.1,SNR=8.5						

IDC 22 05:43:22.8±6.5, 1922S×17662W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/12, mbtmp4.4/3, Error ellipse: s-maj=187.1km s-min=104.8km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.52**	**243**	P	P	05 50 55.2	0.0
	3.6nm,0.8s,baz=85,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**46.08**	**261**	P	P	05 51 49.1	+0.6
	2.1nm,0.3s,baz=97,slow=7.6,SNR=83						
ASAR	**Alice Springs**	**46.09**	**255**	P	P	05 51 48.8	+0.2
	3.3nm,0.6s,baz=94,slow=7.6,SNR=41						
AKASG	**Malin Array Be**	**142.50**	**333**	PKP	PKPdf	06 02 56.8	-0.9
	0.7nm,0.4s,baz=40,slow=4.0,SNR=5.6						

NEIC 22 05:50:34.9, 6008N×14845W, h21km, ML2.8(AEIC), ML2.9(PMR), After AEIC., Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEW	**Seward**	**0.50**	**273**	P	Pb	05 50 44.4	-0.6
SEW				S	Sb	05 50 51.8	-0.2
SLKM	**Skilak Lake**	**0.98**	**297**	P	Pb	05 50 51.6	-1.6
SLKM				S	Sb	05 51 04.5	-1.1
RC01	**Rabbit Creek A**	**1.20**	**328**	P	Pn	05 50 54.4	-2.0
RC01				S	Sb	05 51 09.7	-2.2
FIB	**Fire Island**	**1.38**	**323**	P	Pn	05 50 57.4	-1.5
EYAK	**Cordova Ski Ar**	**1.42**	**70**	P	Pn	05 50 57.7	-1.8
EYAK				S	Sn	05 51 16.0	-1.6
PMR	**Palmer**	**1.55**	**348**	*e*P	Pn	05 50 59.8	-1.5
DIV	**Divide**	**1.69**	**50**	P	Pn	05 51 02.3	-0.9
GHO	**Glory Hole Cre**	**1.71**	**352**	P	Pn	05 51 01.2	-2.3
BMRM	**Bremner River**	**2.10**	**63**	P	Pn	05 51 08.5	-0.4
KDAK	**Kodiak Island**	**3.15**	**225**	P	Pn	05 51 22.3	-1.0
MENT	**Mentasta**	**3.65**	**36**	*e*P	Pn	05 51 29.0	-1.2
MCK	**McKinley**	**3.67**	**357**	*e*Pn	Pn	05 51 30.8	+0.3
EGAK	**Eagle**	**5.80**	**33**	*e*Pn	Pn	05 51 58.6	-1.1

*BJI **22** 05:57:10.2, 6795×12880E, h328km, mB4.5, mb4.4*
*MOS **22** 05:57:11.1±0.8, 6485×12828E, h300km, mb4.1/14, Error ellipse: s-maj=27.7km s-min=9.5km az=111.6*
*ISCJB **22** 05:57:12.7±0.7, 6575±004×1284E±0.1, h320km±8km, mb4.2/23, Error ellipse: s-maj=16.7km s-min=5.6km az=151.4*
*IDC **22** 05:57:13.7±2.1, 6535×12837E, h312km±21km, mb3.8/7, mb1 4.0/10, mb1mx3.9/15, mbtmp4.6/10, Error ellipse: s-maj=27.4km s-min=8.7km az=73.0*
*NEIC **22** 05:57:13.1±1.0, 6505×12828E, h305km±11km, mb4.3/14, Error ellipse: s-maj=11.6km s-min=6.5km az=72.0*

ISC 22 05:57:14.4±0.7, 6545±004×12835E±009, h321km±7km, n68, σ0°93/70, mb4.2/23, 4C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**2.84**	**357**	P	**Pn**	**05 58 10.9**	**+0.8**
	0.0nm,0.0s						
SWI	**Sorong**	**6.34**	**27**	P	**Pn**	**05 58 46.8**	**-1.5**
	0.0nm,0.0s						
KAKA	**Kakadu**	**7.33**	**147**	*e*P	**Pn**	**05 58 58.9**	**-1.2**
	27nm,0.6s						
KAKA				*e*S	**S**	**06 00 20.6**	**-5.2**
BAKI	**Biak**	**9.38**	**56**	P	**Pn**	**05 59 30.3**	**+5.4**
	0.0nm,0.0s						
PCI	**Palu**	**10.18**	**303**	P	**Pn**	**05 59 40.0**	**+5.5**
	0.0nm,0.0s						
FITZ	**Fitzroy Crossi**	**11.79**	**193**	*e*P	**Pn**	**05 59 52.9**	**-1.0**
	13nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.79**	**193**	P	**Pn**	**05 59 52.6**	**-1.3**
	baz=360,slow=12						
FITZ				S	**S**	**06 02 05.3**	**0.0**
WRAB	**Tennant Creek**	**14.53**	**157**	⇓*i*P	**P**	**06 00 25.6**	**+0.5**
WRAB	**Tennant Creek**	**14.53**	**157**	*e*P	**P**	**06 00 25.5**	**+0.4**
	38nm,0.6s						
WRA	**Warramunga Arr**	**14.53**	**157**	P	**P**	**06 00 25.6**	**+0.5**
	3.9nm,0.3s,baz=340,slow=12,SNR=219						
WRA				S	**S**	**06 03 03.7**	**+0.2**
	0.6nm,0.3s,baz=340,slow=22,SNR=10						
WRA	**Warramunga Arr**	**14.53**	**157**	P	**P**	**06 00 25.6**	**+0.5**
WRA				S	**S**	**06 03 03.7**	**+0.3**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
WB2	**Warramunga Arr**	**14.54**	**157**⇑	*i*P	**P**	**06 00 25.8**	**+0.6**
WB2				*i* S	**S**	**06 02 58.5**	**-5.0**
BUKP	**Musuan**	**14.70**	**347**	*e*P	**P**	**06 00 30.1**	**+3.1**
MBWA	**Marble Bar**	**17.26**	**209**	*e*P	**P**	**06 00 49.5**	**+0.1**
	comp=N,12nm,0.3s						
AS31	**Alice Springs**	**17.84**	**163**	*e*P	**P**	**06 01 02.1**	**+1.0**
AS31				*e*S	**S**	**06 04 07.4**	**-1.7**
ASAR	**Alice Springs**	**17.84**	**163**	P	**P**	**06 01 02.3**	**+1.2**
	comp=N,4.0nm,0.3s,baz=344,slow=11,SNR=383						
ASAR				S	**S**	**06 04 09.2**	**+0.1**
	comp=N,0.4nm,0.3s,baz=342,slow=19,SNR=15						
ASAR				ScP	ScP	06 08 25.5	+0.5
	comp=N,0.2nm,0.3s,baz=349,slow=2.0,SNR=7.6						
TGY	**Tagaytay City**	**21.79**	**340**	P	**P**	**06 01 40.3**	**-0.5**
	comp=N,125nm,0.4s,baz=177,slow=6.1,SNR=4.8						
TGY	**Tagaytay City**	**21.79**	**340**	P	**P**	**06 01 40.3**	**-0.5**
TGY				pmax	pmax		
	comp=Z,125nm,0.4s						
CTA	**Charters Tower**	**21.98**	**129**	*e*P	**P**	**06 01 44.5**	**+2.0**
	comp=Z,6.7nm,0.8s,mb3.9						
CTA	**Charters Tower**	**21.98**	**129**	*e*P	**P**	**06 01 44.5**	**+2.0**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLBR	**Kellerberrin**	**26.82**	**200**	*e*P	**P**	**06 02 24.7**	**-1.3**
	comp=Z,38nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**28.07**	**156**⇑	*i*P	**P**	**06 02 38.0**	**+0.9**
	comp=Z,9.4nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**28.07**	**156**	P	**P**	**06 02 37.5**	**+0.4**
	comp=Z,11nm,0.8s,mb4.1,baz=324,slow=10,SNR=9.1						
STKA	**Stephens Creek**	**28.07**	**156**	*e*P	**P**	**06 02 37.7**	**+0.7**
PSI	**Prapat**	**30.81**	**287**	P	**P**	**06 03 01.1**	**0.0**
	comp=Z,4.7nm,0.8s,mb3.8,baz=106,slow=18,SNR=4.9						
PSI	**Prapat**	**30.81**	**287**	P	**P**	**06 03 01.1**	**0.0**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.8						
SSE	**Sheshan**	**38.05**	**350**	P	**P**	**06 03 58.8**	**-3.9**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,86nm,3.7s						
WHN	**Wuhan**	**39.24**	**341**	P	**P**	**06 04 13.3**	**+0.8**
NJ2	**Nanjing**	**39.43**	**347**	*e*P	**P**	**06 04 15.0**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb4.8						
MAJO	**Matsushiro**	**43.84**	**11**	*e*P	**P**	**06 04 48.4**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb3.9						
MAJO	**Matsushiro**	**43.84**	**11**	*e*P	**P**	**06 04 48.4**	**-1.2**
	comp=Z,9.4nm,0.9s,mb3.9						
MAT	**Matsushiro**	**43.84**	**11**	P	**P**	**06 04 48.5**	**-1.1**
MJAR	**Matsushiro Arr**	**43.84**	**11**	P	**P**	**06 04 48.7**	**-0.8**
	comp=Z,8.2nm,0.9s,mb3.9,baz=188,slow=8.4,SNR=15						
MJAR	**Matsushiro Arr**	**43.84**	**11**	P	**P**	**06 04 48.7**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**43.84**	**11**	P	**P**	**06 04 48.7**	**-0.8**
BJT	**Baijiatuao**	**47.67**	**347**	*e*P	**P**	**06 05 19.3**	**0.0**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuao**	**47.67**	**347**	*e*P	**P**	**06 05 19.3**	**+0.1**
	comp=Z,9.8nm,0.6s,mb4.2						
LZH	**Lanzhou**	**48.25**	**333**	*e*P	**P**	**06 05 24.1**	**+0.5**
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.2						
HHC	**Hu-ho-hao-te**	**49.62**	**343**	*e*P	**P**	**06 05 38.3**	**+4.3**
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,82nm,5.7s						
SONM	**Songino Array**	**57.51**	**343**	P	**P**	**06 06 31.5**	**+0.8**
	comp=Z,4.4nm,0.8s,mb3.9,baz=159,slow=7.4,SNR=22						
SONM	**Songino Array**	**57.51**	**343**	P	**P**	**06 06 31.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOD	**Bodaibo**	**65.20**	**352**	*e*P	**P**	**06 07 16.0**	**-5.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.1						
MKAR	**Makanchi Array**	**66.96**	**327**	P	**P**	**06 07 33.8**	**+0.8**
	comp=Z,4.7nm,0.7s,mb4.3,baz=120,slow=7.9,SNR=34						
MKAR	**Makanchi Array**	**66.96**	**327**	P	**P**	**06 07 33.8**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YAK	**Yakutsk**	**68.38**	**1**⇑	*e*P	**P**	**06 07 41.5**	**-0.3**

YAK					pmax	pmax			
	comp=Z,43nm,0.9s,mb5.2								
YAK	**Yakutsk**	**68.38**		**1**	*eP*	**P**	**06 07 41.4**	**-0.4**
	comp=Z,20nm,0.6s,mb5.0								
AAK	**Ala-Archa**	**69.14**	**320**		*eP*	**P**	**06 07 47.3**	**+0.8**
AAK					pmax	pmax			
	comp=Z,3.0nm,1.1s,mb3.9								
AAK	**Ala-Archa**	**69.14**	**320**		*eP*	**P**	**06 07 47.3**	**+0.8**
	comp=Z,3.5nm,1.1s,mb4.0								
ZAL	**Zalesovo**	**70.46**	**334**		P	**P**	**06 07 54.3**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.1,baz=350,slow=4.1,SNR=15								
ZAL	**Zalesovo**	**70.46**	**334**		P	**P**	**06 07 54.3**	**-0.2**
ZAL					pmax	pmax			
	comp=Z,3.0nm,0.7s								
SEY	**Seymchan**	**71.67**		**11⇑**	*eP*	**P**	**06 08 02.2**	**+0.5**
NVS	**Novosibirsk**	**71.75**	**334**		*eP*	**P**	**06 08 00.2**	**-1.9**
NVS					pmax	pmax			
	comp=N,3.0nm,0.9s								
NVS					pmax	pmax			
	comp=E,4.0nm,0.9s								
NVS					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.3								
VNDA	**Vanda**	**73.10**	**173**		P	**P**	**06 08 09.6**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.5,baz=298,slow=7.7,SNR=6.2								
VNDA	**Vanda**	**73.10**	**173**		P	**P**	**06 08 09.6**	**-0.4**
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
VNDA	**Vanda**	**73.10**	**173**		*eP*	**P**	**06 08 09.6**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.5								
BRVK	**Borovoye**	**76.89**	**328**		*eP*	**P**	**06 08 31.3**	**-0.2**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.9								
BRVK	**Borovoye**	**76.89**	**328**		*eP*	**P**	**06 08 31.3**	**-0.3**
	comp=Z,1.6nm,0.9s,mb3.8								
CHKZ	**Chkalovo**	**77.03**	**329**		*eP*	**P**	**06 08 32.2**	**-0.1**
CHKZ					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.0								
CHKZ	**Chkalovo**	**77.03**	**329**		*eP*	**P**	**06 08 32.2**	**-0.1**
	comp=Z,2.8nm,0.9s,mb4.0								
ZRNK	**Zerenda**	**77.50**	**328**		*eP*	**P**	**06 08 34.7**	**-0.3**
ZRNK					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.2								
ZRNK	**Zerenda**	**77.50**	**328**		*eP*	**P**	**06 08 34.7**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.3								
BILL	**Bilibino**	**79.05**	**14**		P	**P**	**06 08 38.0**	**-5.4**
ARU	**Arti**	**84.46**	**328**		*i P*	**P**	**06 09 11.3**	**-0.1**
ARU					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.2								
ARCES	**ARCESS Array B**	**100.58**	**340**		P	Pdif	06 10 26.5	+0.7
	comp=Z,2.2nm,1.0s,baz=53,slow=4.7,SNR=4.0								
ARCES	**ARCESS Array B**	**100.58**	**340**		P	Pdif	06 10 26.5	+0.7
ARCES					pmax	pmax			
	comp=Z,2.0nm,1.0s								
CPUP	**Villa Florida**	**146.86**	**171**		PKPbc	PKPbc	06 16 20.6	+1.6
	comp=Z,2.6nm,0.9s,baz=169,slow=3.3,SNR=7.2								
CPUP	**Villa Florida**	**146.86**	**171**		PKP2	PKPab	06 16 20.6	-0.6
CPUP					pmax	pmax			
	comp=Z,3.0nm,0.9s								
LPAZ	**La Paz**	**152.06**	**144**		PKPbc	PKPbc	06 16 33.9	+2.1
	comp=Z,0.2nm,0.4s,baz=68,slow=5.4,SNR=2.7								
LPAZ					PKPab	PKPab	06 16 45.1	+2.6
	comp=Z,0.5nm,0.7s,baz=206,slow=10,SNR=4.6								

*IDC **22** 06:30:43.0±13.0,3609N×7060E,h127km±126km,mb3.5/5, mb1 3.6/6,mb1mx3.3/21,mbtmp3.9/6,ML3.8/1,MS3.0/1, Ms1 2.9/1,ms1mx2.5/19,Error ellipse: s-maj=65.9km s-min=23.1km az=17.0*

*NEIC **22** 06:30:45.6±3.1,3613N×7063E,h151km±27km,mb4.1/5, Error ellipse: s-maj=24.7km s-min=13.8km az=219.0*

*MOS **22** 06:30:48.0±0.7,3632N×7064E,h186km,mb4.6/1,Error ellipse: s-maj=24.6km s-min=8.2km az=88.6*

*ISCJB **22** 06:30:50.3±0.4,3647N±003×7079E±008,h205km±6km, mb3.6/5,Error ellipse: s-maj=10.3km s-min=4.3km az=163.7*

*NNC **22** 06:30:55.3±6.8,3687N×7055E,h176km±60km,mb3.0, mpv3.6,Error ellipse: s-maj=57.5km s-min=33.6km az=3.0*

ISC 22 06:30:51.1±0.4,3648N±003×7079E±008,h198km±6km, n56,σ0°98/66,mb3.6/5,7C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.80**	**161**	⇓P	**Pn**	**06 31 39.6**	**+1.3**
CEP				S	**Sn**	**06 32 15.0**	**-0.2**
CHCP	**Chirah Chowk**	**3.47**	**144**	⇓P	**Pn**	**06 31 47.8**	**+1.6**
THW	**Thamme Wali**	**3.76**	**168**	⇑P	**Pn**	**06 31 50.4**	**+0.6**
THW				S	**Sn**	**06 32 35.0**	**-0.8**
SBDP	**Sheikh Budin**	**4.17**	**180**	⇑P	**Pn**	**06 31 54.1**	**-0.8**
DRP	**Derazinda**	**4.75**	**186**	P	**Pn**	**06 32 03.0**	**+0.8**
THN	**Thein Dam**	**5.73**	**133**	*eP*	**Pn**	**06 32 14.8**	**0.0**
THN				*ex*	x	06 33 19.9	
AML	**Almayashu**	**6.08**	**21**	P	**Pn**	**06 32 20.0**	**+0.7**
	SNR=109						
UCH	**Uchtor**	**6.42**	**26**	P	**Pn**	**06 32 24.6**	**+0.8**
	SNR=37						
KZA	**Kyzart**	**6.57**	**30**	P	**Pn**	**06 32 22.6**	**-3.1**
	SNR=12						
EKS2	**Erkin-Say**	**6.59**	**20**	P	**Pn**	**06 32 26.7**	**+0.8**
	SNR=28						
KK31	**Karatay Array**	**6.62**	**358**	P	**Pn**	**06 32 26.1**	**-0.2**
	6.7nm,0.3s,baz=173,slow=13,SNR=254						
KK31				⇑S	**Sn**	**06 33 36.9**	**-4.9**
	168nm,0.6s,baz=184,slow=22						
KKAR	**Karatay Array**	**6.62**	**358**	PN	**Pn**	**06 32 26.1**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**06 32 29.3**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**6.78**	**24**	*e*PN	**Pn**	**06 32 28.0**	**-0.4**
AAK				pmax	pmax		
	comp=Z,12nm,0.3s						
AAK	**Ala-Archa**	**6.78**	**24**	*e*Pn	**Pn**	**06 32 28.0**	**-0.4**
	comp=Z,12nm,0.3s						
AAK				*e*Sn	**Sn**	**06 33 42.9**	**-2.7**
KBK	**Karagaybulak**	**6.95**	**26**	P	**Pn**	**06 32 31.7**	**+1.0**
	SNR=5.5						
SDNR	**Sundarnagar**	**7.14**	**132**	*eP*	**Pn**	**06 32 32.0**	**-1.1**
SDNR				*eS*	**Sn**	**06 33 49.5**	**-4.5**
CHMS	**Chumysh**	**7.19**	**24**	P	**Pn**	**06 32 34.5**	**+0.7**
	SNR=5.4						
USP	**Ospenovka**	**7.35**	**22**	P	**Pn**	**06 32 36.3**	**+0.4**
	SNR=8.8						
TKM2	**Tokmak 2**	**7.42**	**28**	P	**Pn**	**06 32 37.4**	**+0.6**
	SNR=22						
TKM2	**Tokmak 2**	**7.42**	**28**	⇓P	**Pn**	**06 32 37.4**	**+0.6**
	comp=Z,0.6nm,0.4s						
TKM2				⇓S	**Sn**	**06 33 58.8**	**-1.9**
	comp=Z,2.4nm,0.8s						
TKM2	**Tokmak 2**	**7.42**	**28**	PN	**Pn**	**06 32 37.3**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KLP	**Kalpa**	**7.92**	**126**	*eP*	**Pn**	**06 32 42.8**	**-0.4**
KLP				*eS*	**Sn**	**06 34 05.2**	**-7.2**
KLP				AML	AML	06 34 12.9	
	comp=E,231nm,0.7s						
KLP				AML	AML	06 34 14.6	
	comp=N,182nm,0.7s						
KHET	**Khetri**	**9.39**	**152**	*eP*	**Pn**	**06 32 59.5**	**-2.9**
KHET				*eS*	**Sn**	**06 34 36.1**	**-11**
KHET				AML	AML	06 34 40.7	
	comp=E,49nm,0.4s						
KHET				AML	AML	06 34 41.6	
	comp=N,64nm,0.5s						
SONA	**Sohna**	**9.78**	**145**	*eP*	**Pn**	**06 33 06.0**	**-1.4**
SONA				*eS*	**Sn**	**06 34 46.2**	**-10**
SONA				AML	AML	06 34 55.8	
	comp=E,32nm,0.4s						
SONA				AML	AML	06 34 56.8	
	comp=N,22nm,0.4s						
MKAR	**Makanchi Array**	**13.41**	**36**	P	**Pn**	**06 33 54.1**	**+0.5**
	comp=N,0.4nm,0.3s,baz=218,slow=9.2,SNR=7.4						
KOLN	**Koldanda**	**13.89**	**125**	*eP*	**Pn**	**06 33 59.1**	**-0.6**
	comp=N,7.5nm,0.3s						
GKN	**Gorkha**	**14.44**	**122**	*eP*	**Pn**	**06 34 06.2**	**-0.2**
	comp=N,24nm,0.3s						
GKN				*eS*	**Sn**	**06 36 35.7**	**-12**
DMN	**Daman**	**15.01**	**122**	*eP*	**Pn**	**06 34 13.9**	**+0.5**
	comp=N,9.0nm,0.3s						
KKN	**Kakani**	**15.01**	**121**	*eP*	**Pn**	**06 34 13.7**	**+0.2**
	comp=N,23nm,0.5s						
AB31	**Akbulak array**	**15.02**	**332**	⇑P	**Pn**	**06 34 12.6**	**-1.0**
	comp=N,2.7nm,0.5s,baz=144,slow=11,SNR=52						
AB31	**Akbulak array**	**15.02**	**332**	*i* P	**Pn**	**06 34 12.5**	**-1.1**
AB31						06 36 51.6	
AB31					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AB31					smax				
	comp=Z,2.0nm,0.7s								
PKI	**Pulchoki**	**15.24**	**122**	*eP*	**Pn**	**06 34 17.7**	**+1.5**
GUN	**Gumba**	**15.35**	**120**	*eP*	**Pn**	**06 34 17.9**	**+0.2**
JIRN	**Jiri**	**15.72**	**120**	*eP*	**Pn**	**06 34 23.6**	**+1.5**
	comp=Z,22nm,0.3s						
VOSK	**Vostochnaya**	**16.24**	**0**	⇑P	**Pn**	**06 34 27.6**	**-0.8**
	comp=Z,3.0nm,0.6s						
VOSK	**Vostochnaya**	**16.24**	**0**	P	**Pn**	**06 34 27.5**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZRNK	**Zerenda**	**16.52**	**356**	⇓P	**Pn**	**06 34 32.4**	**+0.7**
	comp=Z,4.8nm,0.5s						
ZRNK	**Zerenda**	**16.52**	**356**	P	**Pn**	**06 34 32.1**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZRNK	**Zerenda**	**16.52**	**356**	*eP*	**Pn**	**06 34 32.5**	**+0.8**
	comp=Z,1.3nm,0.7s						
BVA0	**Borovoye Array**	**16.55**	**359**	⇑P	**Pn**	**06 34 32.9**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=175,slow=13,SNR=19						
BVA0	**Borovoye Array**	**16.55**	**359**	*i* P	**Pn**	**06 34 32.2**	**+0.2**
BRVK	**Borovoye**	**16.58**	**359**	*eP*	**Pn**	**06 34 32.8**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	**Borovoye**	**16.58**	**359**	*eP*	**Pn**	**06 34 32.8**	**+0.4**
	comp=Z,4.8nm,0.7s						
AKTO	**Aktyubinsk**	**16.71**	**331**	⇓P	**Pn**	**06 34 34.3**	**+0.3**
	comp=Z,0.7nm,1.0s						
AKTO	**Aktyubinsk**	**16.71**	**331**	P	**Pn**	**06 34 34.3**	**+0.3**
AKTO						06 37 34.3	
AKTO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CHKZ	**Chkalovo**	**17.20**	**360**	⇑P	**Pn**	**06 34 39.7**	**-0.1**
	comp=Z,1.5nm,0.3s						
CHKZ	**Chkalovo**	**17.20**	**360**	P	**Pn**	**06 34 39.6**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.20**	**360**	*eP*	**Pn**	**06 34 40.0**	**+0.2**
	comp=Z,3.6nm,0.5s						
ZAL	**Zalesovo**	**19.99**	**25**	P	**P**	**06 35 09.1**	**+0.7**
	comp=Z,4.2nm,0.4s,baz=260,slow=9.4,SNR=12						
ZAL				LR	LR	06 43 26.7	
	comp=Z,39nm,20.1s,baz=89,slow=37						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**06 37 45.6**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.4,baz=104,slow=8.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**65.55**	**269**	P	**P**	**06 41 12.0**	**-1.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=46,slow=5.3,SNR=7.7						
WRA	**Warramunga Ar**	**82.12**	**122**	P	**P**	**06 42 49.3**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=325,slow=5.0,SNR=22						
WRAB	**Tennant Creek**	**82.12**	**122**	*eP*	**P**	**06 42 49.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
WRAB	**Tennant Creek**	**82.12**	**122**	*eP*	**P**	**06 42 49.1**	**-0.5**
	comp=Z,10.0nm,1.2s,mb4.3						
ASAR	**Alice Springs**	**84.38**	**125**	P	**P**	**06 43 00.9**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=307,slow=5.0,SNR=8.7						

*NEIC **22** 06:40:25.1,3042S×7164W,h19km,ML3.0(GUC),After GUC.*

GUC 22 06:40:25.1±0.8,3042S×7164W,h19km±14km,MD3.8, ML3.0,10C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.42**	**117**	*i* P	Pg	06 40 33.9	+0.1
OVCH				*i* S	Sg	06 40 40.1	+0.4
OVCH				AML	AML	06 40 40.8	
	comp=E,2µm,0.4s						
OVCH	**Ovalle**	**0.42**	**117**	*i* P	Pg	06 40 33.9	+0.1
OVCH				*i* S	Sg	06 40 40.1	+0.4
TLL	**Tololo Astrono**	**0.76**	**71**	*i* P	Pb	06 40 39.8	+0.1
TLL				*i* S	Sb	06 40 50.2	+0.4
TLL				AML	AML	06 40 52.9	
	comp=N,420nm,0.3s						
TLL	**Tololo Astrono**	**0.76**	**71**	*i* P	Pb	06 40 39.8	+0.1
TLL				*i* S	Sb	06 40 50.2	+0.4
CMCH	**Combarbala**	**0.93**	**144**	*i* P	Pb	06 40 41.2	-1.4
CMCH				*i* S	Sb	06 40 53.8	-0.7
CMCH				AML	AML	06 40 55.1	
	comp=E,1µm,0.7s						
CMCH	**Combarbala**	**0.93**	**144**	*i* P	Pb	06 40 41.2	-1.4
CMCH				*i* S	Sb	06 40 53.8	-0.7
CHNG	**Los Chungos**	**1.46**	**175**	*i* P	Pn	06 40 50.0	-0.4
CHNG				*i* S	Sn	06 41 08.7	-0.3
PTCH	**Petorca**	**1.94**	**162**	*i* P	Pn	06 40 57.2	+0.3
PTCH				*i* S	Sn	06 41 22.4	+1.7
PTCH				AML	AML	06 41 23.9	
	comp=E,241nm,0.4s						
PTCH	**Petorca**	**1.94**	**162**	*i* P	Pn	06 40 57.2	+0.3
PTCH				*i* S	Sn	06 41 22.4	+1.7
VACH	**Vallenar**	**1.99**	**23**	*i* P	Pn	06 41 01.8	+4.1
VACH				*i* S	Sn	06 41 27.2	+5.1
CLCH	**Cerro Calan**	**3.11**	**163**	*eP*	Pn	06 41 14.5	+1.4
CLCH				AML	AML	06 42 04.0	
	comp=E,56nm,0.6s						

*NEIC **22** 06:43:55.3,1937N×6871W,h15km,MD3.9(RSPR),After RSPR.*

RSPR 22 06:43:55.3,1937N×6871W,h15km±33km,MD3.9/12, MD3.9/12,14C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.75**	**120**	⇑*e*P	Pn	06 44 22.2	-3.0
AGPR				*e*S	Sn	06 44 43.3	-4.0
MPR	**Mayaguez**	**1.88**	**128**	⇑*e*P	Pn	06 44 24.6	-2.3
MPR				*e*S	Sn	06 44 46.5	-3.8
LSP	**Las Mesas**	**1.94**	**127**	⇑*e*P	Pn	06 44 24.2	-3.6
LSP				*e*S	Sn	06 44 47.9	-3.9
CRPR	**Cabo Rojo, PR**	**2.03**	**132**	⇑*e*P	Pn	06 44 24.9	-4.1
CRPR				*e*S	Sn	06 44 50.3	-3.8
AOPR	**Arecibo Observ**	**2.11**	**118**	⇑*e*P	Pn	06 44 27.8	-2.3
AOPR				*e*S	Sn	06 44 52.4	-3.6
GBPR	**Guanica, Bosqu**	**2.22**	**128**	⇑*e*P	Pn	06 44 28.9	-2.7
GBPR	**Guanica, Bosqu**	**2.22**	**128**	*e*S	Sn	06 44 54.9	-3.8
OBIP	**Obispado Ponce**	**2.39**	**123**	⇑*e*P	Pn	06 44 31.7	-2.2
OBIP				*e*S	Sn	06 44 59.6	-3.3
CELP	**Cerrillos**	**2.39**	**122**	⇑*e*P	Pn	06 44 31.9	-2.0
CELP				*e*S	Sn	06 44 60.0	-3.0
ICM	**Isla Caja Muer**	**2.54**	**125**	⇑*e*P	Pn	06 44 34.1	-1.8
ICM				*e*S	Sn	06 45 04.0	-2.7
SJG	**San Juan**	**2.73**	**117**	⇑*e*P	Pn	06 44 35.2	-3.3
SJG				*e*S	Sn	06 45 07.9	-3.4
CBYP	**Canovanas**	**2.91**	**112**	⇑*e*P	Pn	06 44 38.2	-2.9
CBYP				*e*S	Sn	06 45 12.1	-3.7
CPD	**Cerro la Pandu**	**2.96**	**116**	⇑*e*P	Pn	06 44 40.1	-1.6
CPD				*e*S	Sn	06 45 14.1	-2.9
HUMP	**Col San Antoni**	**2.97**	**114**	⇑*e*P	Pn	06 44 39.8	-2.1
HUMP				*e*S	Sn	06 45 14.2	-3.1
MTP	**Monte Pirata**	**3.25**	**112**	⇑*e*P	Pn	06 44 43.1	-2.6
MTP				*e*S	Sn	06 45 21.1	-2.9

MAN 22 06:56:31.3,1368N×12349E,h24km,mb2.0,ML3.7,MS2.4, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.66**	**97**	⇓*i* P	Pb	06 56 44.1	+0.1
PVCP				*i* S	Sb	06 56 55.9	+3.1
PVCP	**Virac**	**0.66**	**97**	*e*P	Pb	06 56 44.1	0.0
PVCP				*e*S	Sb	06 56 55.1	+2.3
GQP	**Guinayangan**	**1.03**	**283**	*e*P	Pn	06 56 50.1	-0.2
GQP				*e*S	Sb	06 57 02.7	-1.0
BOAC	**Boac**	**1.61**	**262**	*e*P	Pn	06 56 58.5	+0.3
POLP	**Polilio Island**	**1.83**	**305**	*e*P	Pn	06 57 01.4	+0.1
POLP				*e*S	Sn	06 57 24.5	+1.0
LQP	**Lukban**	**1.94**	**283**	*e*P	Pn	06 56 56.1	-6.7

*ISK **22** 06:57:50.3,3973N×26.14E,h8km,ML2.9*

*NEIC **22** 06:57:51.8,3982N×26.15E,h3km,MD2.7(ISK), MD3.1(ATH),After ATH.*

*ISCJB **22** 06:57:51.5±0.4,3980N±002×26.11E±004,h9km±4km, Error ellipse: s-maj=4.7km s-min=3.8km az=146.0*

*ATH **22** 06:57:51.8,3982N×26.15E,h3km±2km,MD3.1/3*

*THE **22** 06:57:52.0,3981N×26.10E,h3km,ML2.8*

*CSEM **22** 06:57:52.1±0.1,3980N×26.16E,h12km,MD3.1,Error ellipse: s-maj=2.9km s-min=2.6km az=117.0*

ISC 22 06:57:52.0±0.4,3980N±002×2611E±004,h10km±3km,n26, σ1°01/35,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.06**	**312**	*i* P	**Pg**	**06 57 54.6**	**+0.4**
BOZC				*i* S	**Sg**	**06 57 56.0**	**+0.3**
GADA	**Gvkgeada**	**0.42**	**337**	PG	**Pg**	**06 58 00.2**	**-0.1**
PRK	**Paraskevi**	**0.57**	**167**	*e*PG	**Pg**	**06 58 02.9**	**-0.2**
PRK				*e*SG	**Sg**	**06 58 10.9**	**+0.3**
LIA	**Limnos Island**	**0.72**	**278**	⇓*i*PG	**Pg**	**06 58 06.0**	**+0.1**
CANB	**Canakkale**	**0.76**	**73**	PG	**Pg**	**06 58 05.6**	**-1.1**
CANB				SG	**Sg**	**06 58 16.4**	**-0.3**
LOS	**Limnos**	**0.80**	**280**	*e*Pg	**Pg**	**06 58 07.8**	**+0.3**
LOS				*e*Sg	**Sg**	**06 58 18.5**	**+0.5**
ALN	**Alexandroupoli**	**1.09**	**357**	*e*Pg	**Pg**	**06 58 13.1**	**0.0**
ALN				*e*Sg	**Sg**	**06 58 28.0**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.20**	**42**	PN	**Pn**	**06 58 14.6**	**-0.3**
SART	**Tekirdag**	**1.21**	**42**	*i* P	**Pn**	**06 58 15.0**	**+0.1**
SART				*i* S	**Sb**	**06 58 32.1**	**+1.6**
MFT	**Murefte**	**1.33**	**42**	PN	**Pn**	**06 58 16.6**	**0.0**
MRMT	**Marmara Adasi**	**1.39**	**54**	PN	**Pn**	**06 58 16.4**	**-1.0**
RDO	**Rodhopi**	**1.41**	**342**	*e*PB	**Pb**	**06 58 18.2**	**-0.2**
CHOS	**Chios island**	**1.41**	**182**	*e*Pg	**Pg**	**06 58 16.9**	**-2.3**
CHOS				*e*Sg	**Sg**	**06 58 38.2**	**+0.7**
URLA	**Izmir**	**1.49**	**165**	*i* P	**Pn**	**06 58 20.0**	**+1.2**
URLA				*i* S	**Sn**	**06 58 37.3**	**-0.9**
AKS	**Akhisar**	**1.61**	**124**	*e*PN	**Pn**	**06 58 18.8**	**-1.7**
AKHS	**Akhisar**	**1.61**	**124**	*i* P	**Pn**	**06 58 21.9**	**+1.5**
AKHS				*i* S	**Sn**	**06 58 43.6**	**+2.3**
OUR	**Ouranopolis**	**1.72**	**289**	*e*Pb	**Pb**	**06 58 21.7**	**-1.9**
KCT	**Karacabey**	**1.79**	**74**	*e*PN	**Pn**	**06 58 21.1**	**-1.8**
EDRB	**Edirne**	**2.10**	**13**	*e*PN	**Pn**	**06 58 27.5**	**+0.3**
SMG	**Samos**	**2.17**	**165**	*e*PN	**Pn**	**06 58 31.0**	**+2.9**
CTT	**Catalca**	**2.22**	**52**	*e*PN	**Pn**	**06 58 29.5**	**+0.6**
SOH	**Sokhos**	**2.34**	**297**	*e*Pn	**Pn**	**06 58 30.1**	**-0.4**
MMB	**Musomiste**	**2.54**	**315**	*e*Pn	**Pn**	**06 58 33.1**	**-0.2**
ISK	**Istanbul-Kandi**	**2.58**	**60**	*e*Pn	**Pn**	**06 58 33.0**	**-0.7**
ISK	**Istanbul-Kandi**	**2.58**	**60**	*e*Pn	**Pn**	**06 58 33.0**	**-0.8**
KNT	**Kendrikon**	**2.80**	**300**	*e*Pn	**Pn**	**06 58 37.4**	**+0.6**

*NEIC **22** 07:38:54.1,1471N×9440W,h29km,MD4.4(MEX),After MEX.*

MEX 22 07:38:54.1±0.4,1479N×9436W,h8km±19km,MD4.4,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**2.34**	**348**	*i* P	Pn	07 39 29.7	-3.1
CMIG				*i* S	Sn	07 39 57.7	-4.1
SCX	**San Cristobal**	**2.55**	**40**	*e*P	Pn	07 39 33.0	-2.7
SCX				*i* S	Sn	07 40 04.0	-3.0
CCIG	**Comitan**	**2.61**	**55**	*i* P	Pn	07 39 33.8	-2.7
CCIG				*i* S	Sn	07 40 03.8	-4.6
OXX	**Oaxaca**	**3.22**	**315**	*e*P	Pn	07 39 43.0	-1.9
VHO	**Vista Hermosa**	**3.22**	**315**	*i* P	Pn	07 39 43.2	-1.6
VHO				*i* S	Sn	07 40 17.3	-6.1
VHO				*i* S	Sn	07 40 19.9	-3.5

IDC 22 07:49:24.0±6.2,976S×12776E,h0km,mb4.0/1,mb1 4.2/3, mb1mx3.8/13,mbtmp4.0/3,ML4.1/2,Error ellipse: s-maj=139.6km s-min=72.3km az=63.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.45**	**123**	*e*P	Pn	07 50 44.0	-2.4
	8.9nm,0.2s						
KAKA				*e*S	Sn	07 51 52.1	+2.3
FITZ	**Fitzroy Crossi**	**8.54**	**194**	*e*P	Pn	07 51 31.7	+2.8
	6.9nm,0.3s						
FITZ				*e*S	Sn	07 53 13.3	+7.4
WRA	**Warramunga Arr**	**11.95**	**149**	Pn	Pn	07 52 14.0	-1.6
	1.7nm,0.3s,baz=330,slow=14,SNR=67						
WRA				Sn	Sn	07 54 32.0	+2.4
	2.8nm,0.3s,baz=325,slow=22,SNR=12						
WB2	**Warramunga Arr**	**11.96**	**149**	*e*P	Pn	07 52 13.8	-1.9
WB2				*e*S	Sn	07 54 31.3	+1.6
ASAR	**Alice Springs**	**15.02**	**158**	Pn	Pn	07 52 58.4	+0.8
	0.4nm,0.3s,baz=332,slow=11,SNR=25						
ASAR				Sn	Sn	07 55 47.9	+3.3
	0.8nm,0.3s,baz=314,slow=18,SNR=6.6						
STKA	**Stephens Creek**	**25.47**	**152**	P	P	07 54 54.2	+0.5
	2.0nm,0.7s,baz=318,slow=13,SNR=4.2						

IDC 22 08:00:05.3±5.0,5258N×3691E,h0km,mb1 3.8/3, mb1mx3.4/18,mbtmp3.6/3,ML3.3/3,Error ellipse: s-maj=63.5km s-min=18.0km az=124.0,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**5.14**	**252**	Pn	Pn	08 01 21.9	-1.7
	1.4nm,0.3s,baz=59,slow=16,SNR=5.3						
AKASG			

JHJ Hachijo jima 2 49.27 334 LR LR 09 58 53.9
comp=Z,111nm,21.4s,baz=282,slow=30
VNDA Vanda 66.42 180 P P 09 44 51.6 +1.3
0.3nm,0.7s,baz=2.9,slow=5.1,SNR=7.1
SONM Songino Array 77.19 325 P P 09 45 55.4 +0.5
0.5nm,0.6s,baz=152,slow=6.4,SNR=2.9
SONM LR LR 10 18 53.9
comp=Z,45nm,18.4s,baz=67,slow=35
RPN Rapa Nui 82.88 116 LR LR 10 16 21.7
comp=Z,81nm,18.4s,baz=318,slow=31
MKAR Makanchi Array 91.79 317 P P 09 47 07.4 -1.3
0.5nm,0.6s,baz=90,slow=5.0,SNR=6.7

IDC ***22*** *09:44:22.7±6.3, 193N×12748E, h82km±60km, mb4.1/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.4/9, ML4.3/1, Error ellipse: s-maj=48.2km s-min=14.1km az=79.0*
ISCJB ***22*** *09:44:26.1±4.5, 19N±01×1274E±03, h133km±44km, mb4.2/9, Error ellipse: s-maj=55.1km s-min=15.8km az=162.0*
NEIC ***22*** *09:44:28.3±3.2, 193N×12752E, h140km±31km, mb4.4/3, Error ellipse: s-maj=35.7km s-min=10.8km az=81.0*

ISC 22 09:44:28.7±4.1, 19N±01×1275E±03, h142km±41km, n16, σ0§57/16, mb4.2/9, 2C, Halmahera

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 7.5nm,0.5s	**15.34 161**	*e*P	**Pn**	**09 47 58.6**	**+1.0**
FITZ	**Fitzroy Crossi** 5.1nm,0.4s	**19.97 185**	*e*P	**P**	**09 48 48.8**	**-1.0**
FITZ	**Fitzroy Crossi** 0.7nm,0.3s,baz=24,slow=9.6,SNR=24	**19.97 185**	P	**P**	**09 48 48.4**	**-1.4**
WRAB	**Tennant Creek** 37nm,0.7s,mb4.9	**22.73 163**	*e*P	**P**	**09 49 18.3**	**-0.3**
WRA	**Warramunga Arr** 25nm,0.6s,mb4.8,baz=342,slow=11,SNR=109	**22.74 163**	⇑*i*P	**P**	**09 49 18.3**	**-0.3**
WB2	**Warramunga Arr**	**22.74 163**	⇑*i*P	**P**	**09 49 18.3**	**-0.4**
AS31	**Alice Springs**	**26.18 167**	*e*P	**P**	**09 49 49.9**	**0.0**
ASAR	**Alice Springs** 1.3nm,0.3s,mb4.0,baz=344,slow=7.6,SNR=44	**26.18 167**	P	**P**	**09 49 49.8**	**-0.1**
ASAR			PcP	PcP	09 53 14.7	+1.5
MJAR	**Matsushiro Arr** 0.6nm,0.5s,baz=348,slow=2.2,SNR=4.8	**35.85 15**	P	**P**	**09 51 14.2**	**-0.5**
STKA	**Stephens Creek** 2.9nm,0.6s,mb4.1,baz=192,slow=8.5,SNR=7.3	**36.17 159**	⇑*i*P	**P**	**09 51 18.0**	**+0.6**
STKA	**Stephens Creek** 13nm,0.8s,mb4.6	**36.17 159**	P	**P**	**09 51 18.0**	**+0.6**
STKA	**Stephens Creek** 18nm,0.7s,mb4.8,baz=332,slow=9.3,SNR=34	**36.17 159**	P	**P**	**09 51 18.0**	**+0.6**
STKA	**Stephens Creek**	**36.17 159**	*e*P	**P**	**09 51 17.9**	**+0.5**
SONM	**Songino Array** 1.0nm,0.6s,mb3.6,baz=151,slow=10.0,SNR=7.3	**49.25 341**	P	**P**	**09 53 02.5**	**-0.2**
MKAR	**Makanchi Array** 2.2nm,0.4s,mb4.3,baz=114,slow=8.5,SNR=17	**59.47 326**	P	**P**	**09 54 17.2**	**+0.7**
VNDA	**Vanda** 1.1nm,0.8s,mb3.5,baz=316,slow=7.0,SNR=9.7	**81.54 173**	P	**P**	**09 56 30.4**	**0.0**
MAW	**Mawson** 0.9nm,0.5s,mb3.7,baz=70,slow=2.4,SNR=8.6	**82.32 200**	P	**P**	**09 56 35.1**	**+0.6**

MAN 22 10:12:37.2, 869N×12656E, h56km, mb2.8, ML4.2, MS2.1, 1C, Mindanao

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.96 287**	*e*P	Pn	10 12 55.5	+1.0
BUTP			*e*S	Sn	10 13 09.0	+1.6
SCPH	**Surigao**	**1.51 316**	*e*P	Pn	10 13 02.9	+1.0
SCPH			*e*S	Sn	10 13 22.3	+1.7
BUKP	**Musuan**	**1.68 242**	*e*P	Pn	10 13 05.5	+1.3
BUKP			*e*S	Sn	10 13 26.3	+1.7
CGP	**Cagayan de Oro**	**1.85 263**	⇑*i*P	Pn	10 13 06.9	+0.4
CGP			*i* S	Sn	10 13 27.8	-1.0
PAGZ	**Pagadian**	**3.25 255**	*e*P	Pn	10 13 26.8	+1.2

NIED ***22*** *10:15:00, 3780N×141.10E, h35km, Mw3.6 Best double couple: M03.29000×10^14 NP1:φ=202.00000°, δ75.00000°, λ-130.00000°. NP2:φ=95.00000°, δ42.00000°, λ-23.00000°.*
ISCJB ***22*** *10:15:10.8±1.1, 3775N±004×141.14E±009, h62km±9km, Error ellipse: s-maj=12.7km s-min=6.8km az=26.1*
JMA ***22*** *10:15:10.9, 3776N×141.10E, h65km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ=238.00000°, δ5.00000°, λ-156.00000°. NP2: φ=124.00000°, δ88.00000°, λ-86.00000°. Principal axes: T Plg43.0000°, Azm210.0000°; N Plg4.0000°, Azm304.0000°; P Plg47.0000°, Azm39.0000°;*
JMA Felt I J1.

ISC 22 10:15:11.2±1.1, 3775N±004×14116E±010, h60km±10km, n12, σ0§22/20, 3C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.31 292**	⇓P	**Pn**	**10 15 21.3**	**-0.1**
JMM			S	**Sn**	**10 15 28.8**	**0.0**
JFK	**Kawauchi**	**0.45 211**	⇓P	**Pn**	**10 15 22.6**	**0.0**
JFK			S	**Sn**	**10 15 31.1**	**+0.2**
JFT	**Otama**	**0.69 251**	⇓P	**Pn**	**10 15 25.1**	**-0.2**
JFT			*e*S	**Sn**	**10 15 35.7**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.71 204**	⇓P	**Pn**	**10 15 25.4**	**-0.1**
ONAJ			*e*S	**Sn**	**10 15 35.9**	**-0.1**
JIO	**Ouri**	**0.72 12**	P	**Pn**	**10 15 25.9**	**+0.3**
JIO			*e*S	**Sn**	**10 15 36.3**	**+0.1**
JOU	**Okura**	**0.73 328**	⇑P	**Pn**	**10 15 25.5**	**-0.3**
JOU			*e*S	**Sn**	**10 15 36.3**	**-0.1**
JYS	**Shirataka**	**0.98 299**	⇓P	**Pn**	**10 15 28.7**	**-0.3**
JYS			*e*S	**Sn**	**10 15 42.4**	**+0.2**
JMK	**Ichinoseki**	**1.20 2**	⇑P	**Pn**	**10 15 31.7**	**-0.1**
JFY	**Yanaizu**	**1.21 254**	⇓P	**Pn**	**10 15 31.6**	**-0.3**
JYK	**Kaneyama**	**1.32 332**	⇑P	**Pn**	**10 15 33.5**	**0.0**
JYA	**Atsumi**	**1.42 307**	P	**Pn**	**10 15 35.0**	**+0.3**
MAT	**Matsushiro**	**2.65 244**	P	**Pn**	**10 15 52.0**	**+0.5**
MAT			S	**Sn**	**10 16 28.8**	**+6.4**

IDC ***22*** *10:31:50.6±1.0, 534N×12650E, h0km, mb4.4/12, mb1 4.4/12, mb1mx4.3/20, mbtmp4.4/12, MS4.0/4, Ms1 4.0/4, ms1mx3.3/30, Error ellipse: s-maj=73.4km s-min=13.2km az=73.0*
MAN ***22*** *10:31:53.6, 523N×12709E, h33km, mb3.9, ML5.0, MS2.6*
NEIC ***22*** *10:31:55.8±6.7, 531N×12651E, h34km±49km, mb4.5/7, Error ellipse: s-maj=31.2km s-min=8.1km az=75.0*
BJI ***22*** *10:31:55.8, 530N×12650E, h34km, mB4.6, mb4.7*
ISCJB ***22*** *10:31:56.5±1.2, 541N±007×1270E±0.1, h65km±10km, mb4.4/19, Error ellipse: s-maj=26.6km s-min=7.4km az=135.7*

ISC 22 10:31:58.0±1.1, 540N±007×1270E±02, h60km±9km, n43, σ1§10/42, mb4.4/19, 3D, Philippine Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.70 334**	*e*P	**Pn**	**10 32 24.4**	**-1.1**
DAV	**Davao City (W)**	**2.18 320**	*e*P	**Pn**	**10 32 32.0**	**+0.1**
DMPH	**Davao City--Mi**	**2.23 318**	⇓*i*P	**Pn**	**10 32 31.4**	**-1.3**
DMPH			*i* S	**Sn**	**10 33 05.6**	**+6.4**
KCP	**Kidapawan**	**2.48 310**	⇓*e*P	**Pn**	**10 32 34.8**	**-1.3**
KCP			*i* S	**Sn**	**10 33 06.3**	**+1.2**
BUKP	**Musuan**	**3.12 322**	*e*P	**Pn**	**10 32 44.4**	**-0.4**
BUTP	**Butuan**	**3.80 339**	*e*P	**Pn**	**10 32 50.0**	**-4.0**
CGP	**Cagayan de Oro**	**3.80 323**	⇓*e*P	**Pn**	**10 32 53.6**	**-0.5**
CGP			*e*S	**Sn**	**10 33 40.0**	**+2.5**
PAGZ	**Pagadian**	**4.34 304**	*e*P	**Pn**	**10 33 01.4**	**-0.1**
MSLP	**Maasin**	**5.16 336**	*e*P	**Pn**	**10 33 12.8**	**+0.1**
SNPH	**Sibulan**	**5.41 317**	*e*P	**Pn**	**10 33 18.0**	**+1.9**
KAKA	**Kakadu** 10nm,0.5s	**18.79 163**	*e*P	**Pn**	**10 36 11.3**	**-2.2**
GUMO	**Guam** comp=Z,110nm,20.9s,baz=88,slow=32	**19.40 64**	LR	LR	10 42 33.0	
FITZ	**Fitzroy Crossi** 6.1nm,0.4s,mb4.4	**23.39 183**	*e*P	**P**	**10 37 01.5**	**0.0**
FITZ	**Fitzroy Crossi** 3.6nm,0.4s,mb4.2,baz=10,slow=9.7,SNR=43	**23.39 183**	P	**P**	**10 37 01.1**	**-0.4**
WRAB	**Tennant Creek** 19nm,0.8s,mb4.7	**26.19 164**	*e*P	**P**	**10 37 28.3**	**+1.4**
WRA	**Warramunga Arr** 9.0nm,0.7s,mb4.4,baz=342,slow=10,SNR=65	**26.20 164**	P	**P**	**10 37 28.7**	**+1.7**
WB2	**Warramunga Arr**	**26.20 164**	*e*P	**P**	**10 37 28.5**	**+1.5**
MBWA	**Marble Bar**	**27.34 195**	*e*P	**P**	**10 37 35.6**	**-1.6**
AS31	**Alice Springs**	**29.66 167**	*e*P	**P**	**10 37 59.4**	**+1.4**
ASAR	**Alice Springs** 0.8nm,0.5s,mb3.7,baz=355,slow=8.1,SNR=26	**29.66 167**	P	**P**	**10 37 58.6**	**+0.7**
JHJ	**Hachijo jima 2** comp=Z,1μm,21.6s,baz=251,slow=33	**30.04 22**	LR	LR	10 48 35.3	
XAN	**Xi'an**	**33.07 332**	P	**P**	**10 38 28.1**	**+0.3**
BJT	**Baijiatuau**	**35.82 346**	*e*P	**P**	**10 38 52.4**	**+0.8**
LZH	**Lanzhou**	**37.22 328**	*e*P	**P**	**10 39 04.8**	**+1.3**
LZH			AP	pP	10 39 11.3	-7.4
LZH			XP	sP	10 39 14.5	-11
LZH			AMB	AMB		
NWAO	**Narrogin (SRO)** comp=Z,19nm,1.1s,mb4.8	**39.23 193**	P	**P**	**10 39 18.9**	**-1.5**
NWAO	**Narrogin (SRO)** comp=Z,3.8nm,0.3s,mb4.6,baz=341,slow=9.1,SNR=9.0	**39.23 193**	P	**P**	**10 39 18.9**	**-1.5**
STKA	**Stephens Creek** comp=Z,3.6nm,0.6s,mb4.3,baz=346,slow=8.9,SNR=4.6	**39.59 160**	P	**P**	**10 39 24.1**	**+0.6**
ASAJ	**Asahikawa** comp=Z,179nm,21.3s,baz=166,slow=33	**40.92 17**	LR	LR	10 54 22.1	
GTA	**Gaotai**	**41.82 328**	*e*P	**P**	**10 39 42.5**	**+0.7**
GTA			AP	pP	10 39 48.1	-9.0
GTA			AMB	AMB		
SONM	**Songino Array** comp=Z,5.0nm,1.0s,mb4.1	**45.81 341**	P	**P**	**10 40 14.0**	**+0.2**
MKAR	**Makanchi Array** comp=Z,0.7nm,0.4s,mb4.0,baz=150,slow=7.7,SNR=4.2	**56.35 325**	P	**P**	**10 41 31.7**	**-1.1**
ZAL	**Zalesovo** comp=Z,2.8nm,0.6s,mb4.5,baz=124,slow=8.4,SNR=22	**59.24 332**	P	**P**	**10 41 51.9**	**-1.2**
BVAR	**Borovoye Array** comp=Z,2.3nm,0.3s,mb4.6,baz=7.4,slow=4.8,SNR=7.4	**66.08 327**	P	**P**	**10 42 39.1**	**+0.4**
BRVK	**Borovoye** comp=Z,5.4nm,0.7s,mb4.7,baz=120,slow=8.8,SNR=20	**66.15 327**	*e*P	**P**	**10 42 39.4**	**+0.3**
CHKZ	**Chkalovo** comp=Z,5.4nm,0.9s,mb4.6	**66.23 327**	*e*P	**P**	**10 42 39.1**	**-0.5**
ZRNK	**Zerenda** comp=Z,3.1nm,0.8s,mb4.4	**66.81 326**	*e*P	**P**	**10 42 41.7**	**-1.6**
CASY	**Casey** comp=Z,16nm,0.9s,mb5.0	**72.50 187**	*e*P	**P**	**10 43 18.7**	**+0.4**
AKTK	**Aktyubinsk** comp=Z,4.0nm,1.1s,mb4.3	**72.53 321**	P	**P**	**10 43 17.4**	**-1.0**
AKTO	**Aktyubinsk** comp=Z,3.3nm,0.8s,mb4.3,baz=100,slow=8.0,SNR=15	**72.53 321**	P	**P**	**10 43 17.4**	**-1.0**
ARCES	**ARCESS Array B** comp=Z,2.3nm,0.7s,mb4.6,baz=84,slow=6.3,SNR=10	**88.98 340**	P	**P**	**10 44 46.4**	**+0.2**
ARCES			LR	LR	11 26 37.4	
FINES	**FINESS Array B** comp=Z,0.6nm,0.5s,mb4.2,baz=46,slow=8.2,SNR=3.8	**90.50 332**	P	**P**	**10 44 52.9**	**-0.3**
FINES	**FINESS Array B**	**90.50 332**	P	**P**	**10 44 52.9**	**-0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=69,slow=1.6,SNR=5.9	**122.64 289**	PKP	PKPdf	10 50 47.9	+1.1

IDC ***22*** *10:54:32.6±2.4, 457S×153.14E, h48km±21km, mb4.1/11, mb1 4.2/12, mb1mx4.2/16, mbtmp4.4/12, ML3.4/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/19, Error ellipse: s-maj=21.6km s-min=13.3km az=113.0*
ISCJB ***22*** *10:54:33.2±3.5, 470S±010×153.1E±01, h63km±29km, mb4.4/15, Error ellipse: s-maj=21.2km s-min=16.1km az=149.0*
BJI ***22*** *10:54:33.6, 460S×153.10E, h68km, mB5.3, mb4.8*
NEIC ***22*** *10:54:34.7±2.1, 459S×15308E, h68km±17km, mb4.7/3, Error ellipse: s-maj=15.6km s-min=10.9km az=78.0*

ISC 22 10:54:34.3±2.2, 468S±008×1532E±01, h61km±18km, n39, σ1§18/32, mb4.4/15, New Ireland region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.1nm,0.3s,baz=36,slow=16,SNR=9.0	**7.64 232**	P	**Pn**	**10 56 23.1**	**+0.3**
PMG			S	**Sn**	**10 57 48.5**	**+0.5**
GUMO	**Guam** comp=Z,166nm,20.7s,baz=339,slow=31	**19.96 336**	LR	LR	11 04 43.0	
DZM	**Mont Dzumac** 8.3nm,0.8s,mb4.2,baz=34,slow=7.4,SNR=5.6	**21.51 145**	P	**P**	**10 59 19.5**	**+1.4**
DZM			LR	LR	11 06 23.7	
WRAB	**Tennant Creek** 11nm,0.4s,mb4.6	**23.84 229**	*e*P	**P**	**10 59 40.7**	**-1.0**
WRA	**Warramunga Arr** 4.0nm,0.4s,mb4.2,baz=51,slow=9.6,SNR=52	**23.85 229**	P	**P**	**10 59 41.4**	**-0.5**
WRA			S	**S**	**11 03 55.8**	**+2.4**
AS31	**Alice Springs**	**26.53 223**	*e*P	**P**	**11 00 06.6**	**+0.5**
ASAR	**Alice Springs** 0.4nm,0.4s,mb3.3,baz=55,slow=9.1,SNR=12	**26.53 223**	P	**P**	**11 00 05.2**	**-0.9**
ASAR			PcP	PcP	11 03 29.8	+0.3
ASAR	0.4nm,0.5s,baz=54,slow=2.7,SNR=4.8		LR	LR	11 10 01.5	
STKA	**Stephens Creek** comp=Z,176nm,21.1s,baz=257,slow=35	**29.18 201**	LR	LR	11 12 05.3	
FITZ	**Fitzroy Crossi** comp=Z,264nm,19.5s,baz=198,slow=36	**30.10 241**	P	**P**	**11 00 36.5**	**-1.4**
FITZ	6.1nm,0.6s,mb4.5,baz=69,slow=6.5,SNR=34		LR	LR	11 14 18.4	
AFI	**Afiamalu** comp=Z,118nm,19.9s,baz=237,slow=39	**35.68 107**	LR	LR	11 11 50.9	
MBWA	**Marble Bar** comp=Z,76nm,21.6s,baz=239,slow=29	**36.41 240**	*e*P	**P**	**11 01 32.0**	**-0.8**
RAO	**Raoul Island** comp=Z,255nm,18.5s,baz=146,slow=34	**36.65 135**	LR	LR	11 15 14.9	
MJAR	**Matsushiro Arr** 0.6nm,0.4s,mb3.7,baz=157,slow=6.4,SNR=4.5	**43.34 342**	P	**P**	**11 02 27.3**	**-3.0**
MJAR			PcP	PcP	11 04 17.5	-0.6
GTA	**Gaotai** 2.0nm,0.9s,baz=187,slow=2.9,SNR=5.3	**65.86 317**	*e*P	**P**	**11 05 14.6**	**+1.2**
GTA			AMB	AMB		
SONM	**Songino Array** comp=Z,7.0nm,1.2s,mb4.6	**66.45 328**	P	**P**	**11 05 17.4**	**+0.2**
SONM	comp=Z,1.3nm,0.4s,mb4.3,baz=140,slow=5.8,SNR=12		LR	LR	11 31 51.8	
VNDA	**Vanda** comp=Z,67nm,19.4s,baz=67,slow=34	**72.94 178**	P	**P**	**11 05 57.3**	**+0.3**
MKAR	**Makanchi Array** comp=Z,2.5nm,0.9s,mb4.2,baz=324,slow=5.2,SNR=13	**80.52 319**	P	**P**	**11 06 40.0**	**+0.2**
ZAL	**Zalesovo** comp=Z,4.3nm,0.5s,mb4.6,baz=101,slow=6.5,SNR=22	**81.30 326**	P	**P**	**11 06 41.7**	**-2.3**
ZAL	**Zalesovo** comp=Z,1.7nm,0.4s,mb4.3,baz=20,slow=5.5,SNR=4.4	**81.30 326**	P	**P**	**11 06 41.7**	**-2.3**
TKM2	**Tokmak 2** SNR=11	**84.16 314**	P	**P**	**11 06 59.7**	**+0.9**
KZA	**Kyzart** SNR=8.1	**84.24 313**	P	**P**	**11 07 01.3**	**+2.1**
CHMS	**Chumysh** SNR=8.4	**84.78 314**	P	**P**	**11 07 02.5**	**+0.6**
UCH	**Uchtor** SNR=16	**84.80 313**	P	**P**	**11 07 03.9**	**+1.8**
AAK	**Ala-Archa** SNR=8.5	**84.89 313**	P	**P**	**11 07 03.6**	**+1.1**
AAK	**Ala-Archa** comp=Z,12nm,0.9s,mb5.0	**84.89 313**	*e*P	**P**	**11 07 02.5**	**0.0**
USP	**Ospenovka** SNR=16	**85.01 314**	P	**P**	**11 07 03.8**	**+0.7**
QSPA	**South Pole Qui** comp=Z,7.2nm,1.1s,mb4.7	**85.28 180**	*e*P	**P**	**11 07 03.6**	**-0.8**
AML	**Almayashu** SNR=15	**85.38 313**	P	**P**	**11 07 06.7**	**+1.8**
EKS2	**Erkin-Say** SNR=12	**85.42 313**	P	**P**	**11 07 06.2**	**+1.1**
MAW	**Mawson** comp=Z,1.7nm,0.5s,mb4.5,baz=104,slow=8.7,SNR=10	**85.85 203**	P	**P**	**11 07 06.4**	**-0.8**
CHKZ	**Chkalovo**	**89.36 324**	*e*P	**P**	**11 07 22.5**	**-1.6**
BVAR	**Borovoye Array** comp=Z,13nm,0.7s,mb5.4,baz=103,slow=5.6,SNR=33	**89.40 323**	P	**P**	**11 07 23.2**	**-1.1**
BVAR	comp=Z,63nm,18.1s,baz=63,slow=34		LR	LR	11 45 46.9	
BRVK	**Borovoye**	**89.47 323**	*e*P	**P**	**11 07 23.6**	**-1.0**
ZRNK	**Zerenda**	**90.22 323**	*e*P	**P**	**11 07 26.6**	**-1.5**
CLL	**Collm**	**122.95 331**	*e*PKPdf	PKPdf	11 13 24.0	+0.4
GERES	**GERESS Array B** comp=Z,2.2nm,0.7s,baz=48,slow=2.0,SNR=9.3	**124.17 329**	PKP	PKPdf	11 13 26.3	+0.4
LPAZ	**La Paz** comp=Z,0.6nm,0.6s,baz=355,slow=1.4,SNR=3.5	**134.09 118**	PKP	PKPdf	11 13 47.8	+3.0
TOA0	**Torodi Ar. Sit**	**150.68 289**	*e*PKPbc	PKPbc	11 14 19.8	+0.4
TORD	**Torodi Ar. Bea** comp=Z,11nm,0.7s,baz=67,slow=2.1,SNR=61	**150.68 289**	PKPbc	PKPbc	11 14 19.9	+0.4

MEX 22 11:30:38.6±0.9, 1582N×9490W, h25km±87km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.16 268**	*i* P	Pn	11 30 56.7	-2.6
HUIG			*i* S	Sn	11 31 10.3	-4.0
CMIG	**Matias Romero**	**1.27 1**	*i* P	Pn	11 30 58.3	-2.4
CMIG			*i* S	Sn	11 31 13.0	-4.0
VHO	**Vista Hermosa**	**2.15 306**	*i* P	Pn	11 31 09.5	-3.5
VHO			*i* S	Sn	11 31 37.2	-1.6
CCIG	**Comitan**	**2.70 80**	*i* P	Pn	11 31 19.8	-0.6
CCIG			*i* S	Sn	11 31 48.5	-3.7

ISCJB ***22*** *11:39:01.1±1.0, 2985N±006×3626E±006, h10km, Error ellipse: s-maj=8.5km s-min=7.9km az=120.1*
HLW ***22*** *11:39:01.1, 2977N×3659E, h20km, Mb3.3*
GII ***22*** *11:39:01.4±0.6, 2990N×3618E, h0km±14km, ML2.2/4*

ISC 22 11:39:01.5±1.0, 2986N±006×3628E±007, h10km, n20, σ1§01/25, Western Arabian Peninsula

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.08 263**	Pg	**Pg**	**11 39 21.1**	**-1.1**
HRFI	**Mount Harif**	**1.09 280**	Pg	**Pg**	**11 39 21.1**	**-1.4**
HRFI			Sg	**Sg**	**11 39 37.8**	**+1.1**
EIL	**Elat**	**1.17 261**	Pg	**Pg**	**11 39 23.8**	**-0.2**
ZFRI	**Zfri**	**1.18 306**	Pg	**Pg**	**11 39 22.4**	**-1.8**
MBH	**Mount Berech**	**1.19 267**	Pg	**Pg**	**11 39 23.2**	**-1.1**
PRNI	**Paran**	**1.21 294**	Pg	**Pg**	**11 39 23.1**	**-1.6**
PRNI			Sg	**Sg**	**11 39 40.8**	**+0.4**
KMTI	**Karmit**	**1.37 281**	Pg	**Pn**	**11 39 25.4**	**-1.3**
KMTI			Sg	**Sb**	**11 39 43.5**	**-1.3**
HBST	**Basata**	**1.49 245**	P	**Pn**	**11 39 28.7**	**+0.3**
MZDA	**Masada**	**1.65 332**	Pn	**Pn**	**11 39 30.8**	**+0.3**
MASH	**Mash'abbe Sade**	**1.72 312**	Pn	**Pn**	**11 39 31.7**	**+0.3**
SVTA	**Shivta**	**1.79 307**	Pn	**Pn**	**11 39 33.0**	**+0.6**
YTIR	**Yattir**	**1.80 327**	Pn	**Pn**	**11 39 32.0**	**-0.6**
RTMI	**Retamim**	**1.81 311**	Pn	**Pn**	**11 39 33.1**	**+0.2**
DSI	**Dead Sea**	**1.87 336**	Pn	**Pn**	**11 39 33.2**	**-0.4**
KZIT	**Kziot**	**1.93 303**	Pn	**Pn**	**11 39 34.8**	**+0.4**
KZIT			Sn	**Sn**	**11 39 59.9**	**+1.2**
HNKL	**Nakhl**	**2.00 273**	P	**Pn**	**11 39 36.5**	**+1.2**
HNKL			S	**Sn**	**11 40 02.4**	**+2.0**
AMAZ	**Amatzia**	**2.04 325**	Pn	**Pn**	**11 39 36.9**	**+1.0**
HKAT	**Jabal Katrina**	**2.40 237**	P	**Pn**	**11 39 41.2**	**+0.3**
TR2		**2.68 237**	P	**Pn**	**11 39 44.7**	**+0.1**
SUZ		**2.99 270**	P	**Pn**	**11 39 50.4**	**+1.4**

IDC ***22*** *11:39:30.6±13.0, 2357S×179.17W, h471km±104km, mb3.6/6, mb1 3.7/7, mb1mx3.4/15, mbtmp4.5/7, Error ellipse: s-maj=178.1km s-min=38.3km az=55.0*

NEIC 22 11:39:32.7±7.5, 2364S×17911W, h512km±53km, mb4.3/3, 2D, Error ellipse: s-maj=127.7km s-min=32.0km az=57.0, South of Fiji Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.9nm,0.3s,baz=331,slow=21,SNR=6.5	**14.92 192**	P	P	11 42 41.5	-0.4
RPZ	**Rata Peaks** 2.2nm,0.5s,baz=27,slow=2.3,SNR=3.6	**21.60 200**	P	P	11 43 45.5	+0.4
CTA	**Charters Tower** 12nm,0.5s	**32.29 269**	⇓*i*P	P	11 45 20.0	+1.1
CTA	**Charters Tower** 16nm,0.5s,baz=89,slow=10.0,SNR=24	**32.29 269**	P	P	11 45 19.7	+0.8
STKA	**Stephens Creek** 6.7nm,1.1s,baz=103,slow=16,SNR=6.5	**35.57 248**	P	P	11 45 46.5	0.0
STKA	**Stephens Creek**	**35.57 248**	P	P	11 45 46.5	0.0
AS31	**Alice Springs**	**42.88 260**	*e*P	P	11 46 45.4	-0.1
ASAR	**Alice Springs** 4.1nm,0.7s,baz=97,slow=7.4,SNR=73	**42.88 260**	P	P	11 46 46.0	+0.5
WB2	**Warramunga Arr**	**43.22 266**	⇓*i*P	P	11 46 48.3	+0.1
WRA	**Warramunga Arr** 5.6nm,0.3s,baz=96,slow=8.3,SNR=295	**43.23 266**	P	P	11 46 48.5	+0.2
KAKA	**Kakadu** 3.5nm,0.3s	**47.10 275**	*e*P	P	11 47 18.4	+0.5
FITZ	**Fitzroy Crossi** 4.7nm,0.8s	**51.66 265**	*e*P	P	11 47 52.9	+1.3
FITZ	**Fitzroy Crossi** 1.7nm,0.4s,baz=154,slow=3.5,SNR=23	**51.66 265**	P	P	11 47 53.1	+1.4
MBWA	**Marble Bar**	**56.22 260**	P	P	11 48 23.7	-0.2

ISCJB ***22*** *11:48:09.9±0.2, 5027N±001×741E±002, h11km±2km, Error ellipse: s-maj=2.1km s-min=1.7km az=100.4*
NEIC ***22*** *11:48:11.0, 5038N×738E, h10km, ML2.9(LEDBW), ML3.0(STR), ML3.3(LDG), After LEDBW.*
NEIC Felt in the epicentral area.
PRU ***22*** *11:48:11.5, 5036N×753E, h0km*
CSEM ***22*** *11:48:11.8±0.0, 5033N×745E, h12km, ML3.3/18, Error ellipse: s-maj=0.7km s-min=0.7km az=76.0*
LEDBW ***22*** *11:48:11.2±1.7, 5038N±010×738E±006, h10km, ML2.9, Error ellipse: s-maj=38.0km s-min=10.0km az=151.0*
BGR ***22*** *11:48:11.2±0.2, 5033N×746E, h5km, ML2.8/7, Error ellipse: s-maj=2.2km s-min=2.2km az=114.0*
STR ***22*** *11:48:12.0±0.4, 5029N×742E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BNS ***22*** *11:48:12.5±1.4, 5034N×741E, h4km±55km, ML2.6*
LDG ***22*** *11:48:12.2±0.1, 5032N×740E, h10km, Md3.3/4, Ml3.3/20, Error ellipse: s-maj=2.0km s-min=1.6km az=45.0*
UCC ***22*** *11:48:12.6±1.0, 5028N×736E, h16km±2km, ML2.4*

ISC 22 11:48:10.9±0.2, 5030ZN±0010×741E±001, h16km±1km, n187, σ1§25/378, 15C-11D, Germany

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGG	**Burgeitz**	**0.11 205**	⇑*i*Pg	**Pg**	**11 48 15.5**	**+1.1**
BGG	1μm,0.1s		*i* Sg	**Sg**	**11 48 17.4**	**+0.7**
ABH	**Alteburg** SNR=46	**0.43 168**	*e*Pg	**Pg**	**11 48 21.0**	**+1.4**
ABH	**Alteburg**	**0.43 168**	⇑*i*P	**Pg**	**11 48 21.1**	**+1.5**
ABH	**Alteburg**	**0.43 168**	⇑*i*Pg	**Pg**	**11 48 21.1**	**+1.5**
ABH	**Alteburg** SNR=46	**0.43 168**	Pg	**Pg**	**11 48 21.0**	**+1.4**
ABH			Sg	**Sg**	**11 48 26.3**	**+0.8**
STB	**Steinbach**	**0.47 309**	⇓*e*Pg	**Pg**	**11 48 21.3**	**+1.1**
STB	240nm,0.3s		*e*Sg	**Sg**	**11 48 27.1**	**+0.5**
STB	**Steinbach**	**0.47 309**	Pg	**Pg**	**11 48 21.3**	**+1.0**
STB	240nm,0.3s		Sg	**Sg**	**11 48 27.0**	**+0.5**
HILG	**Hillesheim**	**0.47 269**	⇑*e*Pg	**Pg**	**11 48 21.5**	**+1.2**
HILG			*i* Sg

WLF	**Walferdange**	**1.03 232**	⇓P	**Pb**	**11 48 30.6 +0.3**
WLF			S	**Sb**	**11 48 44.9 +1.3**
	comp=E,74nm,0.4s				
WLF	**Walferdange**	**1.03 232**	*e*P	**Pb**	**11 48 30.5 +0.1**
HGN	**Heimansgroeve**	**1.05 297**	*e*Pg	**Pg**	**11 48 31.6 +0.4**
	SNR=84				
HGN			*e*Sg	**Sg**	**11 48 45.0 +0.1**
	SNR=8.5				
HGN	**Heimansgroeve**	**1.05 297**	⇓*e*Pg	**Pg**	**11 48 31.9 +0.7**
	comp=E,36nm,0.2s,baz=80				
HGN			*e*Sg	**Sg**	**11 48 44.8 -0.2**
KTD	**Kalmit**	**1.08 156**	*e*Pg	**Pg**	**11 48 32.7 +1.0**
	SNR=3.0				
KTD	**Kalmit**	**1.08 156**	Pg	**Pg**	**11 48 32.6 +0.9**
KTD			Sg	**Sg**	**11 48 46.5 +0.7**
KTD	**Kalmit**	**1.08 156**	Px	Px	11 48 32.7
KTD	**Kalmit**	**1.08 156**	Pg	**Pg**	**11 48 32.7 +1.0**
	SNR=3.0				
KTD			Sg	**Sg**	**11 48 46.5 +0.7**
LAUG	**Laupendahl**	**1.09 345**	*e*Pg	**Pg**	**11 48 31.9 -0.1**
TOD	**Tromm**	**1.14 127**	*e*Pg	**Pg**	**11 48 33.1 +0.2**
	SNR=24				
TOD	**Tromm**	**1.14 127**	Pg	**Pg**	**11 48 33.5 +0.6**
TOD	**Tromm**	**1.14 127**	P	**Pn**	**11 48 33.5 +1.4**
BUG	**Bochum--Univer**	**1.14 356**	*e*Pg	**Pg**	**11 48 32.7 -0.3**
	SNR=7.3				
BUG			*e*Sg	**Sg**	**11 48 47.4 -0.5**
	SNR=6.6				
BUG	**Bochum--Univer**	**1.14 356**	*e*Pg	**Pg**	**11 48 32.7 -0.3**
BUG			*e*Sg	**Sg**	**11 48 47.7 -0.2**
RODG	**Roetgen-Dahlhe**	**1.15 318**	*e*Pg	**Pg**	**11 48 33.8 +0.7**
SWS	**Schriesheim-Wi**	**1.17 134**	P	**Pn**	**11 48 33.5 +0.9**
SWS			Pg	**Pg**	**11 48 34.1 +0.6**
SWS			S	**Sb**	**11 48 48.8 +1.2**
SWS	**Schriesheim-Wi**	**1.17 134**	P	**Pn**	**11 48 33.5 +0.9**
SWS			Pg	**Pg**	**11 48 34.1 +0.6**
SWS			S	**Sb**	**11 48 48.8 +1.2**
SWS	**Schriesheim-Wi**	**1.17 134**	P	**Pg**	**11 48 34.1 +0.6**
BEBN	**Eben Emael**	**1.21 295**	P	**Pn**	**11 48 34.1 +1.0**
BEBN			S	**Sb**	**11 48 49.1 +0.4**
	comp=N,46nm,0.2s				
LANF	**Langenberg**	**1.35 169**	*e*Pg	**Pg**	**11 48 37.2 +0.4**
	SNR=9.7				
LANF	**Langenberg**	**1.35 169**	Pg	**Pg**	**11 48 37.0 +0.1**
LANF			Sg	**Sg**	**11 48 54.4 0.0**
LANF	**Langenberg**	**1.35 169**	Pn	**Pn**	**11 48 37.2 +2.2**
LANF	**Langenberg**	**1.35 169**	Pg	**Pg**	**11 48 37.2 +0.3**
	SNR=9.7				
LANF			Sg	**Sg**	**11 48 54.4 0.0**
BCLA	**Clavier**	**1.35 276**	P	**Pn**	**11 48 36.5 +1.5**
BCLA			S	**Sn**	**11 48 51.4 -1.2**
	comp=N,65nm,0.2s				
GIVF	**Givet**	**1.67 264**	*e*P	**Pn**	**11 48 41.7 +2.2**
	SNR=1.0				
GIVF	**Givet**	**1.67 264**	*e*Pg	**Pg**	**11 48 43.4 +0.4**
GIVF			*e*Sn	**Sn**	**11 49 00.1 -0.4**
	SNR=1.0				
GIVF			*e*Sg	**Sg**	**11 49 04.9 +0.1**
	comp=N,96nm,0.2s,SNR=1.0				
GIVF	**Givet**	**1.67 264**	*e*Pn	**Pn**	**11 48 40.0 +0.5**
GIVF			*e*P		11 48 41.7
GIVF			*e*Pg	**Pg**	**11 48 43.4 +0.4**
GIVF			*e*Sn	**Sn**	**11 49 00.1 -0.4**
GIVF			*e*Sg	**Sg**	**11 49 04.9 +0.1**
GIVF	**Givet**	**1.67 264**	*e*P	**Pn**	**11 48 41.7 +2.2**
	SNR=1.0				
GIVF	**Givet**	**1.67 264**	*e*Pg	**Pg**	**11 48 43.4 +0.4**
GIVF			*e*Sn	**Sn**	**11 49 00.1 -0.4**
	SNR=1.0				
GIVF			*e*Sg	**Sg**	**11 49 04.9 +0.1**
	comp=N,48nm,0.2s,SNR=1.0				
WTSB	**Winterswijk**	**1.71 347**	*e*Pg	**Pg**	**11 48 43.2 -0.6**
	SNR=5.4				
WTSB			*e*Sg	**Sg**	**11 49 04.9 -1.1**
	SNR=7.7				
WTSB	**Winterswijk**	**1.71 347**	⇓*i*Pg	**Pg**	**11 48 43.8 0.0**
	comp=N,26nm,0.4s				
WTSB			*i* Sg	**Sg**	**11 49 03.9 -2.1**
SIND	**Sindeldorf**	**1.71 123**	P	**Pn**	**11 48 41.2 +1.2**
SIND			Pg	**Pg**	**11 48 44.3 +0.4**
SIND			S	**Sn**	**11 49 02.5 +0.9**
SIND			Sg	**Sg**	**11 49 07.7 +1.6**
SIND	**Sindeldorf**	**1.71 123**	P	**Pn**	**11 48 41.3 +1.3**
SIND			Pg	**Pg**	**11 48 44.3 +0.5**
SIND			S	**Sn**	**11 49 02.5 +0.9**
SIND			Sg	**Sg**	**11 49 07.7 +1.6**
SIND	**Sindeldorf**	**1.71 123**	Pn	**Pn**	**11 48 41.2 +1.2**
SIND			Sn	**Sn**	**11 49 02.5 +0.9**
SIND	**Sindeldorf**	**1.71 123**	P	**Pg**	**11 48 44.3 +0.4**
SIND			S	**Sg**	**11 49 07.7 +1.6**
SIND	**Sindeldorf**	**1.71 123**	P	**Pn**	**11 48 41.2 +1.2**
DOU	**Dourbes**	**1.82 265**	P	**Pn**	**11 48 43.7 +2.2**
DOU			S	**Sn**	**11 49 06.1 +2.0**
	comp=E,58nm,0.4s				
DOU	**Dourbes**	**1.82 265**	P	**Pn**	**11 48 43.6 +2.1**
DOU			S	**Sn**	**11 49 06.1 +1.9**
	comp=E,58nm,0.4s				
LBG	**Lerchenberg**	**1.87 151**	P	**Pn**	**11 48 43.9 +1.7**
LBG			Pg	**Pg**	**11 48 49.3 +2.5**
LBG			Sg	**Sg**	**11 49 10.3 -0.9**
LBG	**Lerchenberg**	**1.87 151**	Px	Px	11 48 43.9
LBG	**Lerchenberg**	**1.87 151**	Px	Px	11 48 49.3
LBG			S	**Sg**	**11 49 10.3 -0.9**
WLS	**Welschbruch**	**1.89 181**	P	**Pn**	**11 48 43.9 +1.4**
WLS	**Welschbruch**	**1.89 181**	Px	Px	11 48 43.9
WLS	**Welschbruch**	**1.89 181**	Pg	**Pg**	**11 48 46.8 -0.4**
CDF	**Champ du Feu**	**1.89 183**	*e*Pg	**Pg**	**11 48 46.7 -0.6**
CDF			*e*Sn	**Sn**	**11 49 06.1 +0.1**
	SNR=1.0				
CDF			*e*Sg	**Sg**	**11 49 12.3 +0.4**
	comp=E,51nm,0.2s				
CDF	**Champ du Feu**	**1.89 183**	*e*Pn	**Pn**	**11 48 43.2 +0.7**
CDF			*e*Pg	**Pg**	**11 48 46.7 -0.6**
CDF			*e*Sn	**Sn**	**11 49 06.1 +0.1**
CDF			*e*Sg	**Sg**	**11 49 12.3 +0.4**
CDF	**Champ du Feu**	**1.89 183**	*e*Pg	**Pg**	**11 48 46.7 -0.6**
CDF			*e*Sn	**Sn**	**11 49 06.1 +0.1**
	SNR=1.0				
CDF			*e*Sg	**Sg**	**11 49 12.3 +0.4**
	comp=E,25nm,0.2s				
STU	**Stuttgart**	**1.92 142**	*e*Pg	**Pg**	**11 48 47.9 +0.1**
	SNR=1.3				
STU			*e*Sg	**Sg**	**11 49 11.6 -1.3**
	SNR=1.8				
SNF	**Seneffe**	**2.01 277**	P	**Pn**	**11 48 46.6 +2.5**
IBBN	**Ibbenburen**	**2.02 6**	*e*Pg	**Pg**	**11 48 48.7 -1.0**
	SNR=2.0				
IBBN			*e*Sg	**Sg**	**11 49 14.3 -1.6**
	SNR=2.6				
IBBN	**Ibbenburen**	**2.02 6**	*e*Pg	**Pg**	**11 48 49.4 -0.3**
IBBN			*e*Sg	**Sg**	**11 49 14.2 -1.7**
GTTG	**Gyttingen**	**2.04 51**	*e*Pg	**Pg**	**11 48 49.2 -0.9**
	SNR=2.4				
GTTG			*e*Sg	**Sg**	**11 49 15.2 -1.4**
	SNR=3.6				
BFO	**Black Forest**	**2.06 163**	P	**Pn**	**11 48 46.1 +1.3**
BFO			*e*Pg	**Pg**	**11 48 50.4 -0.1**
	SNR=6.3				
BFO			S	**Sn**	**11 49 08.4 -1.8**
BFO			*e*Sg	**Sg**	**11 49 15.6 -1.7**
	SNR=3.5				
BFO	**Black Forest**	**2.06 163**	Pn	**Pn**	**11 48 46.1 +1.3**
BFO			Sn	**Sn**	**11 49 08.4 -1.8**
BFO	**Black Forest**	**2.06 163**	*e*Pn	**Pn**	**11 48 46.8 +2.0**
BFO			*e*Sg	**Sg**	**11 49 15.7 -1.6**
BAIF	**Baives**	**2.07 264**	*e*Pg	**Pg**	**11 48 50.7 0.0**
	SNR=1.0				
BAIF			*e*Sn	**Sn**	**11 49 09.5 -0.9**
	SNR=1.0				
BAIF			*e*Sg	**Sg**	**11 49 15.2 -2.3**
	comp=E,87nm,0.3s,SNR=1.0				
BAIF	**Baives**	**2.07 264**	*e*Pn	**Pn**	**11 48 44.9 0.0**
BAIF			*e*Pg	**Pg**	**11 48 50.7 0.0**
BAIF			*e*Sn	**Sn**	**11 49 09.5 -0.9**
BAIF			*e*Sg	**Sg**	**11 49 15.2 -2.3**
BAIF	**Baives**	**2.07 264**	*e*Pg	**Pg**	**11 48 50.7 0.0**
	SNR=1.0				
BAIF			*e*Sn	**Sn**	**11 49 09.5 -0.9**
	SNR=1.0				
BAIF			*e*Sg	**Sg**	**11 49 15.2 -2.3**
	comp=E,44nm,0.3s,SNR=1.0				
TUBL	**Tuebingen-Lenn**	**2.09 148**	Pg	**Pg**	**11 48 43.7 -7.3**
TUBL	**Tuebingen-Lenn**	**2.09 148**	Px	Px	11 48 43.7
ECH	**Echery**	**2.09 185**	*e*Pn	**Pn**	**11 48 46.7 +1.4**
	SNR=1.4				
ECH			Pg	**Pg**	**11 48 54.0 +3.0**
ECH	**Echery**	**2.09 185**	Pn	**Pn**	**11 48 46.5 +1.3**
ECH	**Echery**	**2.09 185**	P	**Pg**	**11 48 54.0 +3.0**
ECH	**Echery**	**2.09 185**	Pn	**Pn**	**11 48 46.4 +1.1**
RFYF	**Reffroy**	**2.10 218**	*e*Pn	**Pn**	**11 48 46.3 +1.0**
	baz=43				
RFYF	**Reffroy**	**2.10 218**	*e*Pg	**Pg**	**11 48 51.7 +0.6**
	baz=37				
RFYF			*e*Sn	**Sn**	**11 49 10.4 -0.6**
RFYF			*e*Sg	**Sg**	**11 49 18.9 +0.6**
	comp=E,49nm,0.2s				
RFYF	**Reffroy**	**2.10 218**	*e*Pn	**Pn**	**11 48 46.3 +1.0**
RFYF			*e*Pg	**Pg**	**11 48 51.7 +0.6**
RFYF			*e*Sn	**Sn**	**11 49 10.4 -0.6**
RFYF			*e*Sg	**Sg**	**11 49 18.9 +0.6**
RFYF	**Reffroy**	**2.10 218**	*e*Pg	**Pg**	**11 48 51.7 +0.6**
RFYF			*e*Sn	**Sn**	**11 49 10.4 -0.6**
RFYF			*e*Sg	**Sg**	**11 49 18.9 +0.6**
	comp=E,24nm,0.2s				
LIBD	**Limburg**	**2.16 177**	*e*Pg	**Pg**	**11 48 52.9 +0.6**
	SNR=1.9				
THEF	**They Montfort**	**2.28 205**	*e*Pn	**Pn**	**11 48 49.1 +1.3**
	SNR=2.1				
THEF			*e*Pg	**Pg**	**11 48 53.1 -1.5**
	SNR=7.3				
THEF			Sg	**Sg**	**11 49 23.2 -0.9**
THEF	**They Montfort**	**2.28 205**	Pg	**Pg**	**11 48 54.0 -0.6**
THEF	**They Montfort**	**2.28 205**	Pn	**Pn**	**11 48 48.2 +0.4**
THEF			Pg	**Pg**	**11 48 54.0 -0.6**
THEF	**They Montfort**	**2.28 205**	P	**Pn**	**11 48 48.5 +0.7**
THEF			S	**Sg**	**11 49 23.2 -0.9**
THEF	**They Montfort**	**2.28 205**	P	**Pg**	**11 48 53.1 -1.4**
THEF	**They Montfort**	**2.28 205**	Pg	**Pg**	**11 48 54.0 -0.6**
MEZF	**Maizieres J'vi**	**2.37 221**	*e*Pn	**Pn**	**11 48 50.2 +1.2**
	baz=38,SNR=1.0				
MEZF	**Maizieres J'vi**	**2.37 221**	*e*Pg	**Pg**	**11 48 56.5 +0.2**
	baz=38				
MEZF	**Maizieres J'vi**	**2.37 221**	*e*Pn	**Pn**	**11 48 50.2 +1.2**
MEZF			*e*Pg	**Pg**	**11 48 56.5 +0.2**
MEZF			*e*Sn	**Sn**	**11 49 17.0 -0.7**
MEZF			*e*Sg	**Sg**	**11 49 26.9 -0.2**
MEZF	**Maizieres J'vi**	**2.37 221**	*e*Pg	**Pg**	**11 48 56.5 +0.2**
MEZF			*e*Sn	**Sn**	**11 49 17.0 -0.7**
MEZF			*e*Sg	**Sg**	**11 49 26.9 -0.2**
	comp=E,21nm,0.3s,SNR=1.0				
KIZ	**Kirchzarten**	**2.37 172**	P	**Pn**	**11 48 50.1 +1.1**
KIZ			Pg	**Pg**	**11 48 56.2 -0.2**
KIZ			S	**Sn**	**11 49 15.6 -2.2**
KIZ			Sg	**Sg**	**11 49 26.9 -0.2**
KIZ	**Kirchzarten**	**2.37 172**	P	**Pn**	**11 48 50.1 +1.0**
KIZ			Pg	**Pg**	**11 48 56.2 -0.2**
KIZ			S	**Sn**	**11 49 15.6 -2.2**
KIZ			Sg	**Sg**	**11 49 26.9 -0.3**
KIZ	**Kirchzarten**	**2.37 172**	P	**Pn**	**11 48 50.1 +1.1**
KIZ			S	**Sn**	**11 49 15.6 -2.2**
KIZ	**Kirchzarten**	**2.37 172**	P	**Pg**	**11 48 56.2 -0.2**
KIZ			S	**Sg**	**11 49 26.9 -0.2**
HAU	**Haudompre**	**2.40 197**	*e*Pg	**Pg**	**11 48 56.9 -0.1**
HAU	**Haudompre**	**2.40 197**	*e*Pn	**Pn**	**11 48 50.2 +0.7**
HAU			*e*Pg	**Pg**	**11 48 56.9 -0.1**
HAU			*e*Sn	**Sn**	**11 49 17.7 -0.8**
HAU			*e*Sg	**Sg**	**11 49 28.5 +0.4**
HAU	**Haudompre**	**2.40 197**	*e*Pg	**Pg**	**11 48 56.9 -0.1**
HAU			*e*Sn	**Sn**	**11 49 17.7 -0.8**
HAU			*e*Sg	**Sg**	**11 49 28.5 +0.4**
	comp=E,22nm,0.3s				
CLZ	**Clausthal**	**2.42 49**	*e*Pg	**Pg**	**11 48 55.2 -2.2**
	SNR=6.6				
CLZ			*e*Sg	**Sg**	**11 49 26.2 -2.6**
	SNR=2.9				
FELD	**Feldberg im Sc**	**2.46 171**	*e*Pn	**Pn**	**11 48 51.5 +1.2**
	SNR=1.9				
FELD			*e*Pg	**Pg**	**11 48 58.1 0.0**
	SNR=6.9				
FELD			Sg	**Sg**	**11 49 30.7 +0.7**
FELD	**Feldberg im Sc**	**2.46 171**	P	**Pn**	**11 48 51.5 +1.2**
FELD			Pg	**Pg**	**11 48 58.3 +0.2**
FELD			Sg	**Sg**	**11 49 30.7 +0.7**
FELD	**Feldberg im Sc**	**2.46 171**	P	**Pn**	**11 48 51.5 +1.2**
FELD			S	**Sg**	**11 49 30.7 +0.7**
FELD	**Feldberg im Sc**	**2.46 171**	P	**Pg**	**11 48 58.2 +0.2**
FELD	**Feldberg im Sc**	**2.46 171**	Pn	**Pn**	**11 48 51.4 +1.1**
MOF	**Molkenrain**	**2.46 184**	*e*Pg	**Pg**	**11 48 57.5 -0.6**
	SNR=5.7				
MOF			Sg	**Sg**	**11 49 30.7 +0.8**
MOF	**Molkenrain**	**2.46 184**	P	**Pg**	**11 48 57.5 -0.5**
MOF			S	**Sg**	**11 49 30.7 +0.8**
MOF	**Molkenrain**	**2.46 184**	Pn	**Pn**	**11 48 51.0 +0.7**
GUT	**Gutenstein**	**2.50 153**	P	**Pn**	**11 48 52.4 +1.6**
GUT			S	**Sn**	**11 49 19.8 -1.1**
HINF	**Hinteralfeld**	**2.51 189**	*e*P	**Pn**	**11 48 54.4 +3.4**
	SNR=1.0				
HINF	**Hinteralfeld**	**2.51 189**	*e*Pg	**Pg**	**11 48 59.0 -0.1**
HINF			*e*Sn	**Sn**	**11 49 20.2 -1.1**
HINF			*e*Sg	**Sg**	**11 49 31.8 +0.1**
	comp=E,40nm,0.2s				
HINF	**Hinteralfeld**	**2.51 189**	*e*Pn	**Pn**	**11 48 51.5 +0.5**
HINF			*e*P		11 48 54.4
HINF			*e*Pg	**Pg**	**11 48 59.0 -0.1**
HINF			*e*Sn	**Sn**	**11 49 20.2 -1.1**
HINF			*e*Sg	**Sg**	**11 49 31.8 +0.1**
HINF	**Hinteralfeld**	**2.51 189**	*e*P	**Pn**	**11 48 54.4 +3.4**
	SNR=1.0				
HINF	**Hinteralfeld**	**2.51 189**	*e*Pg	**Pg**	**11 48 59.0 -0.1**
HINF			*e*Sn	**Sn**	**11 49 20.2 -1.1**
HINF			*e*Sg	**Sg**	**11 49 31.8 +0.1**
	comp=E,20nm,0.2s				
GRF	**Grafenberg Arr**	**2.54 102**	*e*Sg	**Sg**	**11 49 32.8 +0.4**
	SNR=1.5				
MOX	**Moxa**	**2.71 81**	*e*Pg	**Pg**	**11 49 02.7 -0.2**
MOX			*e*Sn	**Sn**	**11 49 26.3 +0.1**
MOX			*e*Sg	**Sg**	**11 49 34.5 -3.6**
	SNR=5.6				
MOX	**Moxa**	**2.71 81**	*e*Pg	**Pg**	**11 49 02.7 -0.2**
MOX			*e*Sn	**Sn**	**11 49 26.3 +0.1**
MOX			*e*Sg	**Sg**	**11 49 35.2 -2.8**
MOX	**Moxa**	**2.71 81**	*e*Pg	**Pg**	**11 49 02.7 -0.2**
MOX			*e*Sn	**Sn**	**11 49 26.3 +0.1**
SISB	**Singen-Schiene**	**2.81 158**	Pg	**Pn**	**11 48 57.2 +2.1**
NEUB	**Neuenburg**	**2.92 70**	*e*Sg	**Sg**	**11 49 41.6 -3.0**
	SNR=2.5				
LOMF	**Lomont**	**2.98 188**	*e*Pg	**Pg**	**11 49 07.6 -0.3**
	SNR=3.1				
LOMF	**Lomont**	**2.98 188**	P	**Pg**	**11 49 07.4 -0.6**
WERD	**Werda**	**3.14 85**	*e*Sg	**Sg**	**11 49 49.3 -2.5**
	SNR=3.2				
GUNZ	**Gunzen**	**3.16 87**	*e*Sg	**Sg**	**11 49 50.0 -2.3**
	SNR=4.7				
UBR	**Ueberruh**	**3.17 145**	P	**Pn**	**11 49 02.2 +2.2**
UBR			Sg	**Sg**	**11 49 53.1 +0.3**
NKC	**Novy Kostel**	**3.23 89**	*e*PN	**Pn**	**11 49 03.0 +2.1**
TANN	**Tannenbergstha**	**3.24 86**	*e*Sg	**Sg**	**11 49 52.5 -2.5**
	SNR=3.3				
DAVA	**Damuels**	**3.43 151**	⇓*i*Sn	**Sn**	**11 49 42.3 -1.6**
DAVA			⇑*i*Sg	**Sg**	**11 49 57.1 -4.1**
	comp=E,8.9nm,0.4s				
DAVA	**Damuels**	**3.43 151**	⇑*i*Pn	**Pn**	**11 49 06.0 +2.4**
DAVA			⇓*i*Sn	**Sn**	**11 49 45.8 +1.9**
DAVA			⇓*i*Sg	**Sg**	**11 50 02.5 +1.4**
	comp=E,8.9nm,0.4s				
DAVA	**Damuels**	**3.43 151**	⇑*i*Pn	**Pn**	**11 49 06.0 +2.4**
DAVA			*i* Sn	**Sn**	**11 49 42.3 -1.6**
DAVA			*i* Sg	**Sg**	**11 49 57.1 -4.1**
DAVA	**Damuels**	**3.43 151**	Pn	**Pn**	**11 49 06.0 +2.3**
DAVA			Sn	**Sn**	**11 49 42.3 -1.7**
DAVA			Sg	**Sg**	**11 50 02.5 +1.4**
	comp=E,8.9nm,0.4s				
CLL	**Collm**	**3.69 72**	*e*Pg	**Pb**	**11 49 13.0 -2.7**
CLL			*e*Sg	**Sg**	**11 50 04.0 -5.4**
	SNR=3.9				
CLL	**Collm**	**3.69 72**	*e*Pg	**Pg**	**11 49 21.0 -0.6**
CLL			*e*Sg	**Sg**	**11 50 07.0 -2.4**
	comp=E,10.0nm,0.8s				
CLL	**Collm**	**3.69 72**	*e*Pg	**Pb**	**11 49 13.0 -2.7**
CLL			*e*Sg	**Sg**	**11 50 07.0 -2.4**
CABF	**La Chapelle**	**3.80 194**	*e*Pg	**Pg**	**11 49 23.6 0.0**
	SNR=1.0				
CABF			*e*Sg	**Sg**	**11 50 12.5 -0.3**
	comp=E,14nm,0.5s,SNR=1.0				
CABF	**La Chapelle**	**3.80 194**	*e*Pn	**Pn**	**11 49 09.3 +0.6**
CABF			*e*Pg	**Pg**	**11 49 23.6 0.0**
CABF			*e*Sg	**Sg**	**11 50 12.5 -0.3**
CABF	**La Chapelle**	**3.80 194**	*e*Pg	**Pg**	**11 49 23.6 0.0**
	SNR=1.0				
CABF			*e*Sg	**Sg**	**11 50 12.5 -0.3**
	comp=E,6.8nm,0.5s,SNR=1.0				
LOR	**Lormes**	**3.84 219**	*e*Pn	**Pn**	**11 49 09.2 0.0**
	baz=48,SNR=1.0				
LOR	**Lormes**	**3.84 219**	*e*Pg	**Pg**	**11 49 23.2 -1.2**
	baz=40				
LOR			*e*Sn	**Sn**	**11 49 52.0 -1.9**
	SNR=1.0				
LOR			*e*Sg	**Sg**	**11 50 13.3 -0.8**
	comp=Z,22nm,0.5s,SNR=1.0				
LOR	**Lormes**	**3.84 219**	*e*Pn	**Pn**	**11 49 09.2 0.0**
LOR			*e*Pg	**Pg**	**11 49 23.2 -1.2**
LOR			*e*Sn	**Sn**	**11 49 52.0 -1.9**
LOR			*e*Sg	**Sg**	**11 50 13.3 -0.8**
LOR	**Lormes**	**3.84 219**	*e*Pg	**Pg**	**11 49 23.2 -1.2**
LOR			*e*Sn	**Sn**	**11 49 52.0 -1.9**
	SNR=1.0				
LOR			*e*Sg	**Sg**	**11 50 13.3 -0.8**
	comp=Z,11nm,0.5s,SNR=1.0				
WTTA	**Wattenberg**	**4.13 136**	⇑*i*Pn	**Pn**	**11 49 14.9 +1.7**
SSF	**Saint Saulge**	**4.15 220**	*e*Pg	**Pg**	**11 49 29.0 -1.3**
	SNR=1.0				
SSF			*e*Sn	**Sn**	**11 50 00.0 -1.6**
	SNR=1.0				
SSF			*e*Sg	**Sg**	**11 50 22.3 -1.7**
	comp=Z,10.0nm,0.4s,SNR=1.0				
SSF	**Saint Saulge**	**4.15 220**	*e*Pn	**Pn**	**11 49 13.3 -0.2**
SSF			*e*Pg	**Pg**	**11 49 29.0 -1.3**
SSF			*e*Sn	**Sn**	**11 50 00.0 -1.6**
SSF			*e*Sg	**Sg**	**11 50 22.3 -1.7**
SSF	**Saint Saulge**	**4.15 220**	*e*Pg	**Pg**	**11 49 29.0 -1.3**
	SNR=1.0				
SSF			*e*Sn	**Sn**	**11 50 00.0 -1.6**
	SNR=1.0				
SSF			*e*Sg	**Sg**	**11 50 22.3 -1.7**
	comp=Z,5.0nm,0.4s,SNR=1.0				
KHC	**Kasperske Hory**	**4.17 104**	*e*PN	**Pn**	**11 49 15.9 +2.1**
KHC			*e*SN	**Sn**	**11 50 02.0 -0.2**
KHC	**Kasperske Hory**	**4.17 104**	*e*Pn	**Pn**	**11 49 15.9 +2.1**
KHC			*e*Sn	**Sn**	**11 50 02.0 -0.2**
BRG	**Berggiesshubel**	**4.20 80**	SG	**Sg**	**11 50 23.6 -2.3**
	comp=Z,3.0nm,0.4s				
SMF	**Signal de Mont**	**4.36 214**	*e*Pg	**Pg**	**11 49 33.4 -1.0**
	SNR=1.0				
SMF			*e*Sn	**Sn**	**11 50 04.7 -2.2**
SMF			*e*Sg	**Sg**	**11 50 30.1 -0.8**
	comp=Z,13nm,0.5s,SNR=1.0				
SMF	**Signal de Mont**	**4.36 214**	*e*Pn	**Pn**	**11 49 15.8 -0.6**
SMF			*e*Pg	**Pg**	**11 49 33.4 -1.0**
SMF			*e*Sn	**Sn**	**11 50 04.7 -2.2**
SMF			*e*Sg	**Sg**	**11 50 30.1 -0.8**
SMF	**Signal de Mont**	**4.36 214**	*e*Pg	**Pg**	**11 49 33.4 -1.0**
	SNR=1.0				
SMF			*e*Sn	**Sn**	**11 50 04.7 -2.2**
SMF			*e*Sg	**Sg**	**11 50 30.1 -0.8**
	comp=Z,6.4nm,0.5s,SNR=1.0				
HYF	**Humbligny**	**4.38 228**	*e*Pg	**Pg**	**11 49 33.7 -1.0**
HYF			*e*Sn	**Sn**	**11 50 04.7 -2.5**
HYF			*e*Sg	**Sg**	**11 50 30.0 -1.4**
AVF	**Avril sur Loir**	**4.43 219**	*e*Pg	**Pg**	**11 49 34.4 -1.3**
AVF			*e*Sn	**Sn**	**11 50 06.2 -2.3**
AVF			*e*Sg	**Sg**	**11 50 31.6 -1.4**
	comp=Z,4.0nm,0.4s				
AVF	**Avril sur Loir**	**4.43 219**	*e*Pn	**Pn**	**11 49 17.2 -0.1**
AVF			*e*Pg	**Pg**	**11 49 34.4 -1.3**
AVF			*e*Sn	**Sn**	**11 50 06.2 -2.3**
AVF			*e*Sg	**Sg**	**11 50 31.6 -1.4**
AVF	**Avril sur Loir**	**4.43 219**	*e*Pg	**Pg**	**11 49 34.4 -1.3**
AVF			*e*Sn	**Sn**	**11 50 06.2 -2.3**
AVF			*e*Sg	**Sg**	**11 50 31.6 -1.4**
	comp=Z,2.0nm,0.4s				
BGF	**Bois d'Agland**	**4.82 221**	*e*Pg	**Pg**	**11 49 41.9 -1.3**
	SNR=1.0				
BGF			*e*Sn	**Sn**	**11 50 15.7 -2.5**
	SNR=1.0				
BGF			*e*Sg	**Sg**	**11 50 44.1 -1.6**
	comp=Z,20nm,0.4s,SNR=1.0				
BGF	**Bois d'Agland**	**4.82 221**	*e*Pn	**Pn**	**11 49 22.9 +0.1**
BGF			*e*Pg	**Pg**	**11 49 41.9 -1.3**
BGF			*e*Sn	**Sn**	**11 50 15.7 -2.5**
BGF			*e*Sg	**Sg**	**11 50 44.1 -1.6**
BGF	**Bois d'Agland**	**4.82 221**	*e*Pg	**Pg**	**11 49 41.9 -1.3**
	SNR=1.0				
BGF			*e*Sn	**Sn**	**11 50 15.7 -2.5**
	SNR=1.0				
BGF			*e*Sg	**Sg**	**11 50 44.1 -1.6**
	comp=Z,10nm,0.4s,SNR=1.0				
KBA	**Koelnbreinsper**	**5.08 127**	⇑*i*Sn	**Sn**	**11 50 22.7 -2.1**
KBA	**Koelnbreinsper**	**5.08 127**	⇑*i*Pn	**Pn**	**11 49 28.3 +1.9**
KBA			⇑*i*Sn	**Sn**	**11 50 24.5 -0.2**
KBA	**Koelnbreinsper**	**5.08 127**	⇑*i*Pn	**Pn**	**11 49 28.3 +1.9**
KBA			*i* Sn	**Sn**	**11 50 22.7 -2.1**
KBA	**Koelnbreinsper**	**5.08 127**	Pn	**Pn**	**11 49 28.3 +1.9**
KBA			Sn	**Sn**	**11 50 22.7 -2.0**
MOA	**Molln**	**5.13 116**	⇑*i*Sn	**Sn**	**11 50 24.2 -1.7**
MOA	**Molln**	**5.13 116**	⇓*i*Pn	**Pn**	**11 49 29.4 +2.3**
MOA			⇓*i*Sn	**Sn**	**11 50 27.2 +1.3**
MOA	**Molln**	**5.13 116**	⇓*i*Pn	**Pn**	**11 49 29.4 +2.3**
MOA			*i* Sn	**Sn**	**11 50 24.2 -1.7**
MOA

MQZ	**McQueen's Vall**	**1.50**	**116**	PN	Pn	11 56 23.7	-1.0
DSZ	**Denniston Nort**	**1.52**	**30**	P	Pn	11 56 24.0	-1.0
DSZ	**Denniston Nort**	**1.52**	**30**	PN	Pn	11 56 24.0	-0.9
JCZ	**Jackson Bay**	**1.79**	**235**	*e*P	Pn	11 56 27.2	-1.5
JCZ	**Jackson Bay**	**1.79**	**235**	PN	Pn	11 56 27.2	-1.5
ODZ	**Otahua Downs**	**1.98**	**183**	*e*P	Pn	11 56 31.3	0.0
ODZ	**Otahua Downs**	**1.98**	**183**	PN	Pn	11 56 31.3	-0.1
THZ	**Tophouse**	**2.04**	**51**	P	Pn	11 56 31.9	-0.2
THZ	**Tophouse**	**2.04**	**51**	PN	Pn	11 56 31.9	-0.2
KHZ	**Kahutara**	**2.13**	**73**	P	Pn	11 56 33.3	-0.1
KHZ	**Kahutara**	**2.13**	**73**	PN	Pn	11 56 33.3	0.0
WKZ	**Wanaka**	**2.18**	**215**	*e*P	Pn	11 56 34.2	+0.2
WKZ	**Wanaka**	**2.18**	**215**	PN	Pn	11 56 34.2	+0.1
EAZ	**Earnscleugh**	**2.41**	**206**	*e*P	Pn	11 56 36.3	-1.0
EAZ	**Earnscleugh**	**2.41**	**206**	PN	Pn	11 56 36.2	-1.0
QRZ	**Quartz Range**	**2.59**	**31**	P	Pn	11 56 38.8	-0.9
QRZ	**Quartz Range**	**2.59**	**31**	PN	Pn	11 56 38.8	-0.8
MSZ	**Milford Sound**	**2.62**	**231**	*e*P	Pn	11 56 44.8	+4.7
NNZ	**Nelson**	**2.67**	**47**	*e*P	Pn	11 56 40.8	0.0
NNZ	**Nelson**	**2.67**	**47**	PN	Pn	11 56 40.8	0.0
MLZ	**Mavora Lakes**	**2.96**	**219**	*e*P	Pn	11 56 45.7	+0.9
MLZ	**Mavora Lakes**	**2.96**	**219**	*e*PN	Pn	11 56 45.3	+0.6
TUZ	**Tuapeka**	**3.00**	**196**	*e*P	Pn	11 56 45.8	+0.4
TUZ	**Tuapeka**	**3.00**	**196**	PN	Pn	11 56 45.4	-0.1
TCW	**Tory Channel**	**3.19**	**56**	P	Pn	11 56 48.5	+0.6
TCW	**Tory Channel**	**3.19**	**56**	PN	Pn	11 56 48.5	+0.6
SNZO	**South Karori**	**3.40**	**60**	P	Pn	11 56 50.3	-0.5
SNZO	**South Karori**	**3.40**	**60**	PN	Pn	11 56 50.3	-0.6
MRW	**Makara Radio**	**3.44**	**59**	P	Pn	11 56 51.0	-0.4
SYZ	**Scrubby Hill**	**3.66**	**198**	PN	Pn	11 56 54.5	0.0
MSWZ	**Moikau Station**	**3.70**	**65**	P	Pn	11 56 53.8	-1.2
CAW	**Cannon Point**	**3.74**	**60**	P	Pn	11 56 54.4	-1.1
CAW	**Cannon Point**	**3.74**	**60**	PN	Pn	11 56 54.4	-1.1
KIW	**Kapiti Island**	**3.78**	**56**	P	Pn	11 56 55.8	-0.3
KIW	**Kapiti Island**	**3.78**	**56**	PN	Pn	11 56 55.8	-0.3
MTW	**Mount Morrison**	**3.99**	**63**	P	Pn	11 56 57.3	-1.7
MTW	**Mount Morrison**	**3.99**	**63**	PN	Pn	11 56 57.3	-1.6
MRZ	**Mangatainoka R**	**4.31**	**58**	*e*P	Pn	11 57 01.7	-1.7
MRZ	**Mangatainoka R**	**4.31**	**58**	*e*PN	Pn	11 57 01.2	-2.1
NRZ	**Ngariki Road**	**4.42**	**34**	P	Pn	11 57 05.6	+0.8
NWEZ	**Newall Road**	**4.44**	**33**	P	Pn	11 57 05.6	+0.4
NEZ	**North Egmont**	**4.54**	**34**	P	Pn	11 57 06.6	+0.1
PKE	**Pukeiti**	**4.56**	**33**	P	Pn	11 57 07.3	+0.5
PKE	**Pukeiti**	**4.56**	**33**	PN	Pn	11 57 07.3	+0.5
RAEZ	**Rainy Point**	**4.65**	**37**	P	Pn	11 57 08.6	+0.5
RAEZ	**Rainy Point**	**4.65**	**37**	PN	Pn	11 57 08.6	+0.5
VRZ	**Vera Road**	**4.95**	**39**	P	Pn	11 57 12.4	+0.2
VRZ	**Vera Road**	**4.95**	**39**	PN	Pn	11 57 12.4	+0.3
FWVZ	**Far West T-bar**	**5.24**	**45**	*e*P	Pn	11 57 17.8	+1.7
HIZ	**Hauiti**	**5.50**	**36**	P	Pn	11 57 19.1	-0.6
HIZ	**Hauiti**	**5.50**	**36**	PN	Pn	11 57 19.1	-0.6
KUZ	**Kuaotunu**	**7.36**	**33**	*e*P	Pn	11 57 44.5	-0.8
WCZ	**Waipu Caves**	**7.63**	**22**	*e*P	Pn	11 57 48.5	-0.4
WCZ	**Waipu Caves**	**7.63**	**22**	PN	Pn	11 57 48.5	-0.5
OUZ	**Omahuta**	**8.13**	**16**	*e*P	Pn	11 57 55.5	-0.4
OUZ	**Omahuta**	**8.13**	**16**	PN	Pn	11 57 55.5	-0.3

NEIC ***22*** *12:06:03.4, 1863N×6455W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 22 12:06:03.4, 1863N×6455W, h25km±28km**, MD3.5/6, MD3.5/6, 6C-1D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.08**	**241**⇓	*e*P	Pn	12 06 20.7	-2.3
MTP				*e*S	Sn	12 06 34.7	-2.4
CBYP	**Canovanas**	**1.29**	**254**	*e*S	Sn	12 06 39.4	-2.8
HUMP	**Col San Antoni**	**1.32**	**249**⇑	*e*P	Pn	12 06 23.8	-2.4
HUMP				*e*S	Sn	12 06 39.7	-3.3
CPD	**Cerro la Pandu**	**1.42**	**246**⇑	*e*P	Pn	12 06 25.6	-2.0
CPD				*e*S	Sn	12 06 43.2	-2.2
CELP	**Cerrillos**	**2.00**	**254**⇑	*e*P	Pn	12 06 33.8	-1.7
CELP				*e*S	Sn	12 06 56.9	-2.9
ICM	**Isla Caja Muer**	**2.01**	**249**⇑	*e*P	Pn	12 06 34.5	-1.2
ICM				*e*S	Sn	12 06 57.8	-2.2
AOPR	**Arecibo Observ**	**2.11**	**263**⇑	*e*P	Pn	12 06 35.2	-1.8
AOPR				*e*S	Sn	12 07 00.6	-1.8
CRPR	**Cabo Rojo, PR**	**2.50**	**256**⇑	*e*P	Pn	12 06 40.8	-1.7
CRPR				*e*S	Sn	12 07 09.8	-2.4

ISCJB ***22*** *12:11:59.2±0.9, 3896N±004×24.16E±005, h9km±7km, Error ellipse: s-maj=7.7km s-min=5.9km az=129.3*
CSEM ***22*** *12:11:59.3±0.1, 3894N×2422E, h8km, ML2.6, Error ellipse: s-maj=2.7km s-min=2.0km az=69.0*
ATH ***22*** *12:12:00.0, 3895N×2418E, h28km±3km, MD2.9/7, ML2.9*
NEIC ***22*** *12:12:00.0, 3895N×2418E, h28km, ML2.9(ATH), After ATH.*
THE ***22*** *12:12:00.7, 3905N×24.16E, h10km, ML2.6*

ISC 22 12:11:59.9±0.9, 3896N±005×2416E±005, h14km±6km**, n13,** σ0**981/18, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.30**	**314**	*e*Pg	**Pg**	**12 12 05.5**	**-0.6**
AOS				*e*Sg	**Sg**	**12 12 10.3**	**0.0**
NEO	**Neokhori**	**0.81**	**296**	*e*PN	**Pn**	**12 12 16.0**	**-0.9**
NEO				*e*SN	**Sn**	**12 12 28.0**	**-0.6**
XOR	**Xorichti**	**0.85**	**299**	*e*Pg	**Pg**	**12 12 16.6**	**+0.2**
XOR				*e*Sg	**Sg**	**12 12 28.0**	**+0.4**
PTL	**Penteli**	**0.94**	**194**	*e*PN	**Pn**	**12 12 18.0**	**-0.7**
ATH	**Athens Observa**	**1.05**	**199**	*e*PN	**Pn**	**12 12 20.1**	**-0.1**
KVR	**Kavouri**	**1.17**	**195**	*e*PN	**Pn**	**12 12 21.6**	**-0.3**
MGER	**Gerania Oros**	**1.20**	**216**	*e*PN	**Pn**	**12 12 23.5**	**+1.2**
LOS	**Limnos**	**1.21**	**36**	*e*Pg	**Pg**	**12 12 21.9**	**-1.3**
LOS				*e*Sg	**Sg**	**12 12 39.5**	**+0.6**
NAIG	**Nisos Aigina**	**1.31**	**204**	*e*PN	**Pn**	**12 12 24.0**	**+0.2**
OUR	**Ouranopolis**	**1.38**	**354**	*e*Pg	**Pn**	**12 12 24.1**	**-0.6**
AGG	**Agios Georgios**	**1.43**	**273**	*e*Pg	**Pg**	**12 12 26.6**	**-0.7**
AGG				*e*Sg	**Sg**	**12 12 47.0**	**+1.2**
PLG	**Polygyros**	**1.52**	**339**	*e*PN	**Pn**	**12 12 27.0**	**+0.4**
ALN	**Alexandroupoli**	**2.42**	**36**	*e*Pn	**Pn**	**12 12 41.1**	**+2.1**

ISCJB ***22*** *12:13:37.7±0.6, 320S±009×1293E±02, h10km, mb4.1/10, MS3.3/2, Error ellipse: s-maj=30.0km s-min=8.2km az=137.8*
IDC ***22*** *12:13:37.8±0.8, 307S×12953E, h0km, mb4.1/8, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, ML4.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/28, Error ellipse: s-maj=67.6km s-min=15.2km az=68.0*
NEIC ***22*** *12:13:39.6±0.6, 3.145S×12945E, h10km, mb4.3/7, Error ellipse: s-maj=28.5km s-min=9.0km az=70.0*

ISC 22 12:13:40.0±4.1, 3145S±009×1295E±02, h12km±26km**, n23,** σ1⇟**11/22, mb4.1/10, MS3.3/2, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.96**	**163**	*e*P	**Pn**	**12 16 03.3**	**+0.5**
	13nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.33**	**194**	*e*P	**Pn**	**12 17 18.7**	**+2.6**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.33**	**194**	Pn	**Pn**	**12 17 18.1**	**+1.9**
	0.6nm,0.3s,baz=17,slow=13,SNR=13						
WRAB	**Tennant Creek**	**17.36**	**164**	*e*P	**Pn**	**12 17 40.9**	**-1.2**
	13nm,0.6s						
WRA	**Warramunga Arr**	**17.37**	**164**	P	**Pn**	**12 17 40.9**	**-1.2**
	0.9nm,0.3s,baz=343,slow=13,SNR=44						
WB2	**Warramunga Arr**	**17.37**	**164**	*e*P	**Pn**	**12 17 41.0**	**-1.2**
MBWA	**Marble Bar**	**20.25**	**207**	*e*P	**P**	**12 18 13.6**	**-1.5**
	18nm,1.0s						
AS31	**Alice Springs**	**20.85**	**168**	*e*P	**P**	**12 18 22.5**	**+0.9**
ASAR	**Alice Springs**	**20.85**	**168**	P	**P**	**12 18 22.6**	**+1.0**
	13nm,0.5s,baz=348,slow=11,SNR=215						
ASAR				S	**S**	**12 22 14.0**	**0.0**
	1.8nm,0.9s,baz=349,slow=25,SNR=4.2						
GUMO	**Guam**	**22.59**	**42**	LR	LR	12 27 42.8	
	comp=Z,36nm,18.2s,MS2.8,baz=238,slow=38						
CTA	**Charters Tower**	**23.50**	**137**	*e*P	**P**	**12 18 51.6**	**+1.7**
	8.1nm,0.9s,mb4.2						
CTA	**Charters Tower**	**23.50**	**137**	P	**P**	**12 18 50.0**	**+0.2**
	11nm,0.9s,mb4.3,baz=324,slow=11,SNR=7.2						
STKA	**Stephens Creek**	**30.78**	**160**	P	**P**	**12 19 55.6**	**+0.3**
	2.7nm,1.0s,mb4.0,baz=343,slow=12,SNR=3.4						
CHTO	**Chiang Mai**	**37.12**	**307**	*e*P	**P**	**12 20 50.9**	**+0.6**
	6.5nm,0.8s,mb4.5						
SONM	**Songino Array**	**54.63**	**341**	P	**P**	**12 23 07.8**	**-0.7**
	0.2nm,0.4s,mb3.5,baz=145,slow=7.1,SNR=2.3						
SONM				LR	LR	12 47 01.3	
	comp=Z,63nm,20.1s,MS3.7,baz=298,slow=37						
MKAR	**Makanchi Array**	**64.73**	**326**	P	**P**	**12 24 17.0**	**-1.1**
	1.4nm,0.6s,mb4.2,baz=120,slow=7.1,SNR=7.5						
ZAL	**Zalesovo**	**67.91**	**333**	P	**P**	**12 24 38.7**	**+0.3**
	1.7nm,0.8s,mb4.1,baz=41,slow=5.4,SNR=4.9						
ZAL	**Zalesovo**	**67.91**	**333**	P	**P**	**12 24 38.7**	**+0.3**
BVAR	**Borovoye Array**	**74.53**	**327**	P	**P**	**12 25 19.1**	**+0.6**
	1.9nm,0.6s,mb4.2,baz=126,slow=7.5,SNR=9.1						
CHKZ	**Chkalovo**	**74.71**	**328**	*e*P	**P**	**12 25 22.2**	**+2.6**
	1.5nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**75.25**	**327**	*e*P	**P**	**12 25 21.4**	**-1.2**
	4.6nm,0.8s,mb4.5						
VNDA	**Vanda**	**76.32**	**173**	P	**P**	**12 25 28.3**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=310,slow=5.7,SNR=6.9						
CPUP	**Villa Florida**	**149.98**	**168**	PKPbc	PKPbc	12 33 30.1	-0.1
	3.7nm,0.8s,baz=174,slow=1.6,SNR=7.7						

GRAL ***22*** *12:15:43.1±2.6, 3456N×3635E, h0km±21km, MD2.7*
NSSC ***22*** *12:15:44.7, 3423N×3607E, h8km±1km*
CSEM ***22*** *12:15:45.1±0.2, 3431N×3624E, h2km, ML2.7, Error ellipse: s-maj=7.0km s-min=3.5km az=29.0*
ISCJB ***22*** *12:15:46.9±0.6, 3430N±004×3624E±004, h3km±8km, Error ellipse: s-maj=6.5km s-min=4.9km az=61.2*

ISC 22 12:15:46.7±0.8, 3426N±004×**3621E**±004**, h13**km±7km**, n12,** σ0**99/22, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.16**	**100**	*e*Pg	**Pg**	**12 15 48.7**	**-1.8**
FKH				*e*Sg	**Sg**	**12 15 52.3**	**-0.9**
HWQ	**Hawqa**	**0.22**	**274**	*e*Pg	**Pg**	**12 15 51.0**	**-0.5**
HWQ				*e*Sg	**Sg**	**12 15 55.5**	**+0.6**
HWQ	**Hawqa**	**0.22**	**274**	*e*Pg	**Pg**	**12 15 51.0**	**-0.5**
HWQ				*e*Sg	**Sg**	**12 15 55.5**	**+0.7**
MARH	**Ras Al Marh**	**0.33**	**137**	⇑P	**Pg**	**12 15 52.6**	**-0.8**
MARH				⇑S	**Sg**	**12 15 58.9**	**+1.1**
MARH	**Ras Al Marh**	**0.33**	**137**	⇑*i*P	**Pg**	**12 15 52.6**	**-0.7**
BHL	**Bhannes**	**0.59**	**232**	*e*Pg	**Pg**	**12 15 58.8**	**+0.6**
BHL				*e*Sg	**Sg**	**12 16 10.5**	**+4.5**
BIDA	**Albida**	**0.75**	**7**	⇑P	**Pg**	**12 16 00.8**	**-0.5**
BIDA				⇑S	**Sg**	**12 16 12.4**	**+1.2**
BIDA	**Albida**	**0.75**	**7**	⇑*i*P	**Pg**	**12 16 00.8**	**-0.5**
BIDA				⇑*i*S	**Sg**	**12 16 12.4**	**+1.2**
ROOS	**tl_alroos**	**0.90**	**96**	⇑P	**Pg**	**12 16 03.7**	**-0.3**
ROOS				⇑S	**Sg**	**12 16 17.7**	**+1.9**
ROOS	**tl_alroos**	**0.90**	**96**	⇑*i*P	**Pg**	**12 16 03.7**	**-0.3**
ROOS				⇑*i*S	**Sg**	**12 16 17.7**	**+2.0**
WRDH	**Warideh**	**1.25**	**7**	⇑P	**Pn**	**12 16 08.9**	**-0.9**
WRDH				⇑S	**Sb**	**12 16 26.2**	**+0.1**
WRDH	**Warideh**	**1.25**	**7**	⇑*i*P	**Pn**	**12 16 08.9**	**-0.9**

SZGRF ***22*** *12:27:22.9, 2223S×17220E, h33km, Southeast of Loyalty Islands*
IDC ***22*** *12:27:32.4±2.5, 2228S×17169E, h104km±20km, mb4.6/14, mb1 4.7/17, mb1mx4.7/18, mbtmp4.9/17, MS3.9/15, Ms1 3.9/15, ms1mx3.7/25, Error ellipse: s-maj=17.3km s-min=13.4km az=64.0*
BJI ***22*** *12:27:33.1, 2177S×17170E, h109km, mB5.2, mb5.1*
MOS ***22*** *12:27:33.7±1.6, 2237S×17139E, h113km, mb5.1/15, Error ellipse: s-maj=16.8km s-min=11.2km az=128.8*
ISCJB ***22*** *12:27:33.3±1.3, 2234S±005×17158E±006, h124km±11km, mb5.1/48, Error ellipse: s-maj=9.8km s-min=8.3km az=123.1*
GCMT ***22*** *12:27:34.7±0.2, 2236S×17151E, h113km±2km, MW5.1/74, Moment Tensor Solution. s48,c62; s74,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.18±.14; Mθθ-1.97±.17; Mϕϕ-1.21±.16; Mrθ2.84±.11; Mrϕ3.27±.15; Mθϕ0.96±.11; Best double couple: M05.23500×10^16 NP1:ϕs342.00000°, δ45.00000°, λ143.00000°. NP2: ϕs101.00000°, δ65.00000°, λ51.00000°. Principal axes: T 5.2920, Plg53.0000°, Azm323.0000°; N -0.1130, Plg34.0000°, Azm120.0000°; P -5.1790, Plg11.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *12:27:34.7±1.2, 2229S×17164E, h126km±10km, mb5.2/20 Error ellipse: s-maj=8.0km s-min=6.4km az=64.0*

ISC 22 12:27:34.4±1.3, 2235S±005×**17165E**±006**, h122**km±10km**, n189,** σ0**90/94, mb5.1/48, 25C-13D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.83**	**272**	*e*P	**Pn**	**12 28 44.6**	**-0.5**
DZM				*e*S	**Sn**	**12 29 35.8**	**-4.4**
DZM	**Mont Dzumac**	**4.83**	**272**	P	**Pn**	**12 28 44.6**	**-0.5**
	54nm,0.3s,baz=82,slow=18,SNR=870						
DZM				S	**Sn**	**12 29 38.3**	**-1.8**
	247nm,0.3s,baz=96,slow=20,SNR=5.7						
RAO	**Raoul Island**	**11.64**	**128**	LR	LR	12 33 57.9	
	comp=Z,308nm,18.6s,baz=263,slow=33						
URZ	**Urewera**	**16.54**	**165**	P	**Pn**	**12 31 20.4**	**+1.4**
	1.0nm,0.3s,baz=350,slow=8.9,SNR=8.5						
URZ				LR	LR	12 36 49.3	
	comp=Z,394nm,18.5s,baz=343,slow=34						
HNR	**Honiara**	**17.06**	**317**	P	**Pn**	**12 31 25.2**	**-0.2**
	6.3nm,0.3s,baz=258,slow=1.0,SNR=7.0						
HNR	**Honiara**	**17.06**	**317**	P	**Pn**	**12 31 25.2**	**-0.3**
HNR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ARMA	**Armidale**	**19.64**	**242**	*e*P	**P**	**12 31 56.6**	**+3.2**
RPZ	**Rata Peaks**	**21.31**	**181**	P	**P**	**12 32 12.2**	**+0.8**
	comp=Z,62nm,1.2s,mb4.8,baz=7.2,slow=3.4,SNR=7.4						
RPZ				LR	LR	12 39 43.7	
	comp=Z,336nm,19.4s,baz=15,slow=34						
CTA	**Charters Tower**	**23.78**	**271**	*e*P	**P**	**12 32 36.9**	**+1.2**
	comp=Z,18nm,0.8s,mb4.4						
CTA	**Charters Tower**	**23.78**	**271**	P	**P**	**12 32 37.0**	**+1.4**
	comp=Z,23nm,0.8s,mb4.6,baz=90,slow=12,SNR=20						
CTA	**Charters Tower**	**23.78**	**271**	P	**P**	**12 32 37.1**	**+1.4**
CTA				pmax	pmax		
	comp=Z,23nm,0.8s						
RAR	**Rarotonga**	**26.54**	**93**	LR	LR	12 41 08.2	
	comp=Z,169nm,21.0s,baz=288,slow=31						
PMG	**Port Moresby**	**26.79**	**295**	P	**P**	**12 33 03.3**	**+0.4**
	comp=Z,39nm,0.8s,mb5.0,baz=127,slow=5.4,SNR=7.7						
PMG				LR	LR	12 42 28.9	
	comp=Z,150nm,18.9s,baz=101,slow=34						
PMG	**Port Moresby**	**26.79**	**295**	P	**P**	**12 33 03.3**	**+0.4**
PMG				pmax	pmax		
	comp=Z,39nm,0.8s						
PMG				MLR	MLR		
	comp=Z,150nm,18.9s						
STKA	**Stephens Creek**	**28.31**	**244**	*e*P	**P**	**12 33 17.3**	**+0.8**
	comp=Z,9.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**28.31**	**244**	P	**P**	**12 33 17.0**	**+0.5**
	comp=Z,14nm,0.9s,mb4.5,baz=88,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**34.71**	**260**	P	**P**	**12 34 12.4**	**-0.1**
	comp=Z,55nm,0.8s,mb5.4,baz=86,slow=8.9,SNR=330						
ASAR				PcP	PcP	12 36 43.3	-0.4
	comp=Z,3.3nm,1.0s,baz=98,slow=3.8,SNR=4.7						
ASAR				S	**S**	**12 39 34.0**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=86,slow=18,SNR=4.0						
ASAR				ScP	ScP	12 40 22.1	+4.3
	comp=Z,1.3nm,1.0s,baz=117,slow=1.4,SNR=4.7						
ASAR	**Alice Springs**	**34.71**	**260**	P	**P**	**12 34 12.5**	**0.0**
ASAR						12 36 43.3	
ASAR				S	**S**	**12 39 34.1**	**+0.6**
ASAR						12 40 22.1	
ASAR				pmax	pmax		
	comp=Z,55nm,0.9s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASAR				smax			
	comp=N,1.0nm,0.9s						
ASAR				pmax	pmax		
	comp=N,1.0nm,1.0s						
WB2	**Warramunga Arr**	**34.82**	**267**⇑	*i*P	**P**	**12 34 12.6**	**-0.9**
WRAB	**Tennant Creek**	**34.82**	**267**⇓	*i*P	**P**	**12 34 12.1**	**-1.4**
WRAB	**Tennant Creek**	**34.82**	**267**	*e*P	**P**	**12 34 12.1**	**-1.4**
	comp=N,20nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**34.83**	**267**	P	**P**	**12 34 12.8**	**-0.8**
	comp=N,8.6nm,0.5s,mb4.9,baz=97,slow=8.4,SNR=176						
WRA				PcP	PcP	12 36 43.5	-0.5
	comp=N,4.2nm,1.0s,baz=106,slow=2.3,SNR=4.9						
WRA				S	**S**	**12 39 33.2**	**-2.2**
	comp=N,1.8nm,0.9s,baz=98,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**34.83**	**267**	P	**P**	**12 34 12.8**	**-0.8**
WRA						12 36 43.5	
WRA				S	**S**	**12 39 33.2**	**-2.2**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA				smax			
	comp=N,2.0nm,0.9s						
TBI	**Tubuai**	**35.78**	**99**	*e*LR	LR	12 44 03.8	
	comp=N,272nm,29.5s						
PPT	**Papeete**	**36.68**	**90**	*e*LQ		12 43 02.3	
	comp=N,439nm,33.2s						
PPT				*e*LR	LR	12 44 29.4	
	comp=N,353nm,27.5s						
KAKA	**Kakadu**	**38.50**	**278**⇑	*i*P	**P**	**12 34 44.4**	**-0.3**
	comp=N,33nm,0.7s,mb5.3						
FORT	**Forrest**	**39.69**	**248**⇑	*i*P	**P**	**12 34 54.5**	**0.0**
	comp=N,62nm,0.6s,mb5.6						
FITZ	**Fitzroy Crossi**	**43.26**	**267**⇑	*i*P	**P**	**12 35 24.4**	**+0.7**
	comp=N,167nm,0.9s,mb5.8						
FITZ	**Fitzroy Crossi**	**43.26**	**267**	P	**P**	**12 35 24.9**	**+1.2**
	baz=139,slow=9.6						
FITZ				LR	LR	12 52 29.1	
	comp=N,87nm,21.7s,baz=279,slow=35						
MBWA	**Marble Bar**	**48.04**	**261**	*e*P	**P**	**12 36 01.6**	**+0.3**
	comp=N,63nm,1.0s,mb5.4						
TAOE	**Nuku Hiva Isla**	**48.12**	**82**	eLR	LR	12 49 47.2	
	comp=N,484nm,26.2s						
KLBR	**Kellerberrin**	**48.50**	**247**⇑	*i*P	**P**	**12 36 04.5**	**-0.3**
	comp=N,76nm,1.0s,mb5.6						
RKT	**Rikitea**	**49.00**	**102**	eLR	LR	12 50 07.3	
	comp=N,178nm,35.0s						
MUN	**Mundaring**	**49.80**	**246**⇑	*i*P	**P**	**12 36 14.6**	**-0.1**
VNDA	**Vanda**	**55.42**	**183**	P	**P**	**12 36 56.0**	**-0.1**
	comp=N,1.8nm,0.6s,mb4.3,baz=0.9,slow=7.8,SNR=25						
VNDA				LR	LR	12 56 28.7	
	comp=N,121nm,21.7s,baz=26,slow=31						
SBA	**Scott Base**	**55.60**	**181**	*e*P	**P**	**12 36 58.1**	**+0.7**
	comp=N,27nm,0.8s,mb5.3						
CASY	**Casey**	**58.22**	**205**⇑	*i*P	**P**	**12 37 15.2**	**-0.6**
JHJ	**Hachijo jima 2**	**62.99**	**330**	LR	LR	13 03 12.1	
	comp=N,90nm,18.1s,baz=280,slow=34						
KSM	**Kuching**	**64.27**	**283**	*e*P	**P**	**12 37 57.0**	**+0.5**
JOW	**Kunigami**	**64.44**	**317**	P	**P**	**12 37 58.4**	**+0.7**
	comp=N,24nm,0.9s,mb5.0,baz=193,slow=24,SNR=7.2						
MIR	**Mirnyy**	**65.20**	**206**⇑	*i*P	**P**	**12 38 03.0**	**+0.4**
MIR				*e*		12 38 26.0	
MIR				pmax	pmax		
	comp=Z,120nm,1.5s,mb5.5						
MJAR	**Matsushiro Arr**	**66.55**	**331**	P	**P**	**12 38 10.9**	**-0.4**
	comp=Z,13nm,0.9s,mb4.7,baz=160,slow=6.5,SNR=20						
MJAR				LR	LR	13 02 39.1	
	comp=Z,67nm,20.1s,baz=95,slow=32						
MAJO	**Matsushiro**	**66.55**	**331**	*e*P	**P**	**12 38 10.9**	**-0.4**
	comp=Z,24nm,1.0s,mb5.0						
MAT	**Matsushiro**	**66.55**	**331**	P	**P**	**12 38 10.6**	**-0.7**
QSPA	**South Pole Qui**	**67.72**	**180**	*e*P	**P**	**12 38 18.5**	**-0.2**
	comp=Z,42nm,1.1s,mb5.2						
KGM	**Kluang**	**70.83**	**280**	P	**P**	**12 38 39.3**	**+1.5**
ASAJ	**Asahikawa**	**71.30**	**338**	LR	LR	13 07 08.0	
	comp=Z,50nm,18.5s,baz=286,slow=33						
SSE	**Sheshan**	**71.87**	**316**	P	**P**	**12 38 44.4**	**+0.3**
SSE				AMB	AMB		
	comp=Z,59nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,93nm,3.2s						
INCN	**Inchon**	**73.05**	**324**	*e*P	**P**	**12 38 51.3**	**+0.2**
	comp=Z,36nm,0.8s,mb5.2						
QIZ	**Qiongzhong**	**73.07**	**299**	P	**P**	**12 38 50.0**	**-1.2**
YSS	**Yuzh-Sakhalins**	**73.75**	**340**⇑	*i*P	**P**	**12 38 56.0**	**+0.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins**	**73.75**	**340**⇑	*e*P	**P**	**12 38 55.4**	**+0.2**
IPM	**Ipoh**	**73.93**	**282**	P	**P**	**12 38 57.2**	**+1.0**
NJ2	**Nanjing**	**74.00**	**315**	*e*P	**P**	**12 38 57.1**	**+0.5**
NJ2				PP	PP	12 41 44.8	+1.5
NJ2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.6						
NJ2				AMB

YAK pmax pmax
comp=Z,11nm,1.1s,mb4.9
YAK Yakutsk 90.51 342⇑ eP P 12 40 21.1 -1.4
GTA Gaotai 90.89 313 ⇑P P 12 40 25.0 +0.7
GTA AMB AMB
comp=Z,23nm,1.2s,mb5.2
BMN Battle Mountai 90.90 46 eP P 12 40 25.0 +0.7
comp=Z,30nm,1.3s,mb5.3
WVOR Wild Horse Val 90.95 44 eP P 12 40 24.6 +0.1
comp=Z,24nm,1.4s,mb5.1
SONM Songino Array 91.05 322 P P 12 40 25.3 +0.3
comp=Z,14nm,1.0s,mb5.1,baz=136,slow=4.1,SNR=63
SONM LR LR 13 16 30.6
comp=Z,49nm,19.9s,baz=69,slow=32
COLA College 92.37 16 eP P 12 40 28.7 -2.4
comp=Z,9.3nm,1.0s,mb5.0
ZAK Zakamensk 94.13 323 eP P 12 40 38.3 -0.9
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.7
TLY Talaya 94.59 325 eP P 12 40 40.1 -1.2
TLY pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
PLCA Paso Flores 94.72 138 P P 12 40 41.9 0.0
comp=Z,3.7nm,1.0s,mb4.8,baz=180,slow=6.5,SNR=5.2
PLCA LR LR 13 16 19.7
comp=Z,70nm,18.7s,baz=88,slow=31
PLCA Paso Flores 94.72 138 P P 12 40 41.9 0.0
PLCA LR LR 13 16 19.7
PDAR Pinedale Array 97.08 47 P P 12 40 52.3 -0.3
comp=Z,0.5nm,1.0s,baz=255,slow=8.5,SNR=3.3
PDAR LR LR 13 23 14.8
comp=Z,74nm,18.0s,baz=130,slow=34
MKAR Makanchi Array 105.52 315 Pdiff Pdif 12 41 30.4 +0.2
comp=Z,1.2nm,0.7s,baz=97,slow=6.2,SNR=8.8
MKAR Makanchi Array 105.52 315 P Pdif 12 41 30.5 +0.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
AKTK Aktyubinsk 121.87 316 PKP PKPdf 12 46 12.4 -1.8
AKTO Aktyubinsk 121.87 316 PKP PKPdf 12 46 12.4 -1.8
comp=Z,1.8nm,0.8s,baz=73,slow=4.3,SNR=5.2
AKTO Aktyubinsk 121.87 316 PKIKP PKPdf 12 46 12.4 -1.8
AKTO pmax pmax
comp=Z,2.0nm,0.8s
LBTB Lobatse 122.53 217 eP PKPdf 12 46 16.4 +1.0
KMBO Kilima Mbogo 129.81 248 PKP PKPdf 12 46 31.3 +2.0
comp=Z,4.1nm,0.9s,baz=51,slow=3.6,SNR=6.5
KMBO Kilima Mbogo 129.81 248 PKIKP PKPdf 12 46 31.3 +2.0
KMBO pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 140.48 306 PKhKP 12 46 45.8
comp=Z,1.9nm,0.9s,baz=64,slow=2.9,SNR=6.5
BRTR PP PP 12 49 49.1 0.0
comp=Z,1.2nm,0.7s,baz=75,slow=5.2,SNR=5.0
BRTR Keskin Array B 140.48 306 PKIKP PKPdf 12 46 45.8 -3.4
BRTR 12 49 49.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
VRI Vrincioaia 143.12 318⇓ iP PKPdf 12 46 51.7 -2.2
PLOR Plostina 143.17 318⇓ iP PKPdf 12 46 51.7 -2.3
MLR Muntele Rosu 143.78 318⇓ iP PKPdf 12 46 53.1 -2.0
MLR Muntele Rosu 143.78 318 P PKPdf 12 46 53.6 -1.5
UZH Uzhgorod 144.22 325 ePKIKP PKPdf 12 46 54.0 -1.8
UZH *i* 12 53 44.6
UZH pmax pmax
comp=Z,78nm,1.0s
VOIR 144.36 318⇑ iP PKPdf 12 46 55.3 -0.8
OJC Ojcow 144.50 329 ePKP PKPdf 12 46 54.3 -2.0
CRVS Cervenica-Dubn 144.50 326 ePKP PKPdf 12 46 55.1 -1.2
NIE Niedzica 144.77 327 ePKP PKPdf 12 46 55.8 -1.0
SZH Strazhica 144.78 314 *i* P PKPdf 12 46 57.0 +0.2
DRGR 145.05 322⇑ iP PKPbc 12 46 57.7 +0.8
DRGR 145.05 322 P PKPbc 12 46 57.4 +0.5
PVL Pavlikeni 145.20 315 *i* P PKPbc 12 46 58.0 +0.6
KECS Kecovo 145.27 326 ePKP PKPdf 12 46 57.2 -0.4
BSEG Bad Segeberg 145.44 341 ePKPbc PKPbc 12 46 57.2 -1.0
OKC Ostrava-Krasne 145.55 329 ePKP PKPdf 12 46 57.7 -0.4
KSP Ksiaz 145.68 332 ePKIKP PKPdf 12 46 58.4 +0.1
GZR Gura Zlata 145.76 320⇓ iP PKPdf 12 46 58.8 +0.3
GZR Gura Zlata 145.76 320 P PKPdf 12 46 59.0 +0.5
MORC Moravsky Berou 145.87 330 PKP2 PKPab 12 46 59.6 -0.5
PSZ Piszkesteto 145.93 325⇑ iP PKPdf 12 46 59.8 +1.0
PSZ Piszkesteto 145.93 325 P PKPdf 12 47 00.1 +1.3
DPC Dobruska-Polom 146.02 331 ePKP PKPdf 12 46 59.3 +0.4
UPC Upice 146.04 332 ePKP PKPdf 12 46 59.7 +0.7
VYHS Vyhne 146.11 327 ePKP PKPdf 12 46 59.7 +0.6
PGB Panagyurishte 146.26 314 *i* P PKPbc 12 47 02.7 +2.0
RZN Rozhen 146.27 313 *i* P PKPdf 12 47 00.0 +0.7
BZS Buzias 146.33 321⇓ iP PKPbc 12 47 02.1 +1.2
BZS Buzias 146.33 321 P PKPdf 12 47 00.4 +1.0
BRG Berggiesshubel 146.64 334 ePKPbc PKPbc 12 47 01.0 -0.8
BRG Berggiesshubel 146.64 334⇑ iPKP PKPdf 12 47 01.1 +1.1
comp=Z,8.7nm,0.9s
BRG Berggiesshubel 146.64 334⇑ iPKIKP PKPdf 12 47 01.1 +1.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
VRAC Vranov 146.64 330 PKPbc PKPbc 12 47 00.4 -1.4
comp=Z,13nm,0.9s,baz=80,slow=3.3,SNR=12
VRAC Vranov 146.64 330⇓ iP PKPdf 12 47 00.7 +0.7
VRAC Vranov 146.64 330 P PKPdf 12 47 01.8 +1.8
PVCC Panska Ves 146.65 333 ePKP PKPbc 12 47 01.4 +1.4
CLL Collm 146.67 335 ePKPbc PKPbc 12 47 01.0 -0.8
CLL Collm 146.67 335⇑ iPKPbc PKPbc 12 47 01.0 -0.8
comp=Z,20nm,1.0s
CLL *i* PKPab PKPab 12 47 02.8 -0.4
comp=Z,12nm,0.8s
CLL Collm 146.67 335⇑ iPKIKP PKPdf 12 47 01.0 +1.0
CLL *i* 12 47 02.8
CLL pmax pmax
comp=Z,20nm,1.0s
NRDL Niedersach Rie 146.73 339 ePKPbc PKPbc 12 47 01.3 -0.7
EKA Eskdalemuir Ar 146.84 355 PKPbc PKPbc 12 47 00.8 -1.6
comp=Z,9.9nm,0.9s,baz=7.0,slow=2.4,SNR=14
EKA Eskdalemuir Ar 146.84 355 PKIKP PKPdf 12 47 00.8 +0.5
EKA pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 146.88 315⇑ iP PKPbc 12 47 02.6 +0.2
VTS Vitosha 146.88 315 *i* P PKPdf 12 47 02.3 +1.9
VTS Vitosha 146.88 315 PKP2 PKPab 12 47 02.4 -1.6
MMB Musomiste 146.98 313 *i* P PKPdf 12 47 02.0 +1.5
PRU Pruhonice 147.06 332 ePKP PKPdf 12 47 02.2 +1.5
CLZ Clausthal 147.19 338 ePKPbc PKPbc 12 47 01.7 -1.6
KKB Krupnik 147.29 314 *i* P PKPdf 12 47 02.9 +1.8
TANN Tannenbergstha 147.59 335 ePKPbc PKPbc 12 47 03.7 -0.7
IBBN Ibbenburen 147.62 341 ePKPbc PKPbc 12 47 03.6 -0.9
PKSM Moragy 147.66 324⇓ iP PKPdf 12 47 03.6 +1.9
PKSM Moragy 147.66 324 P PKPdf 12 47 04.1 +2.4
MOX Moxa 147.73 336 ePKPbc PKPbc 12 47 03.9 -0.9
MOX Moxa 147.73 336 ePKP PKPdf 12 47 04.0 +2.2
NKC Novy Kostel 147.74 335 ePKP PKPdf 12 47 04.2 +2.4
VAY Valandovo 147.88 313 ePKP PKPbc 12 47 07.8 +2.6
MANZ Manzenberg 148.07 335 ePKPbc PKPbc 12 47 05.2 -0.6
KHC Kasperske Hory 148.12 332 ePKP PKPdf 12 47 05.1 +2.7
ROTZ Rotzenmuhle 148.20 334 ePKPbc PKPbc 12 47 05.8 -0.2
GEC2 GERESS Array S 148.29 332 ePKPbc PKPbc 12 47 05.6 -0.6
GERES GERESS Array B 148.29 332 PKPbc PKPbc 12 47 05.6 -0.7
comp=Z,5.4nm,0.7s,baz=52,slow=2.2,SNR=29
GERES GERESS Array B 148.29 332 PKIKP PKPdf 12 47 05.6 +2.9
GERES pmax pmax
comp=Z,5.0nm,0.7s
SKO Skopje 148.33 315 ePKP PKPbc 12 47 07.0 +0.7
WET Wettzell 148.41 333 ePKPbc PKPbc 12 47 06.0 -0.6
GRA1 Grafenberg Arr 148.65 335 ePKPbc PKPbc 12 47 06.3 -0.9
GRF Grafenberg Arr 148.65 335 ePKPbc PKPbc 12 47 06.3 -0.9
OHR Ohrid 149.16 314 ePKP PKPbc 12 47 07.6 -0.9
TNS Taunus Mts 149.21 339 ePKPbc PKPbc 12 47 08.2 -0.4
PERS Pernice 149.22 328 ePKPbc PKPbc 12 47 07.5 -1.1
LJU Ljubljana 149.93 327 *i* PKPbc PKPbc 12 47 09.5 -0.9
ROBS Robic 150.29 329 *i* PKPbc PKPbc 12 47 09.4 -1.8
GIVF Givet 150.43 343 ePKP1 PKPbc 12 47 10.6 -0.9
comp=Z,50nm,1.1s
BAIF Baives 150.63 343 ePKP1 PKPbc 12 47 11.2 -0.8
CDF Champ du Feu 151.16 338 ePKP1 PKPbc 12 47 12.2 -1.0
MEZF Maizieres J'vi 151.80 341 ePKP1 PKPbc 12 47 14.1 -0.6
comp=Z,28nm,0.9s
LOR Lormes 153.26 341 ePKP1 PKPbc 12 47 19.8 +1.8
SMF Signal de Mont 153.83 341 ePKP1 PKPbc 12 47 20.5 +1.3
comp=Z,10nm,0.9s
KEST Kesra 159.62 315 PKPab PKPab 12 47 58.9 +1.2
comp=Z,4.7nm,0.9s,baz=30,slow=1.6,SNR=13
ESDC Sonseca Array 162.33 349 PKPab PKPab 12 48 08.7 -0.8
comp=Z,0.2nm,0.3s,baz=2.4,slow=2.5,SNR=6.9

TORD Torodi Ar. Bea 166.77 228 PKP PKPdf 12 47 25.7 +0.3
comp=Z,2.9nm,1.2s,baz=48,slow=1.8,SNR=7.1
TORD PKPab PKPab 12 48 29.8 +0.7
comp=Z,6.8nm,0.9s,baz=119,slow=4.5,SNR=25

IDC 22 12:52:17.5±32.0, 1664S×17821W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/12, mbtmp3.9/4, Error ellipse: s-maj=607.6km s-min=149.2km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.41**	**240**	P		P	P	12 59 49.9	+0.8
	4.3nm,1.1s,baz=106,slow=7.4,SNR=3.6								
WRA	**Warramunga Arr**	**45.06**	**258**	P		P	P	13 00 35.6	+0.5
	0.5nm,0.5s,baz=96,slow=7.9,SNR=14								
ASAR	**Alice Springs**	**45.33**	**253**	P		P	P	13 00 37.6	+0.4
	4.3nm,0.6s,baz=88,slow=8.3,SNR=82								
FITZ	**Fitzroy Crossi**	**53.43**	**260**	P		P	P	13 01 38.9	-0.2
	0.6nm,0.8s,baz=135,slow=2.9,SNR=3.3								

*ISCJB **22** 12:59:45.5±0.6, 4134N±004×14238E±004, h43km±11km, mb3.7/2, MS3.8/1, Error ellipse: s-maj=7.6km s-min=4.2km az=109.4*
*JMA **22** 12:59:45.9, 4139N×14234E, h38km±3km, M3.5 Broadband fault plane solution: P waves. NP1: φs175.00000°, δ25.00000°, λ-167.00000°. NP2: φs73.00000°, δ85.00000°, λ-65.00000°. Principal axes: T Plg35.0000°, Azm142.0000°; N Plg25.0000°, Azm251.0000°; P Plg45.0000°, Azm8.0000°;*
*MOS **22** 12:59:46.2±2.7, 4179N×142.17E, h10km, mb3.6/1 Error ellipse: s-maj=33.4km s-min=19.0km az=61.3*
*NEIC **22** 12:59:47.5±0.7, 42.14N×142.16E, h10km, MG3.5(JMA), Error ellipse: s-maj=21.0km s-min=12.7km az=192.0*
*IDC **22** 12:59:58.0±2.8, 4221N×14183E, h97km±29km, mb3.4/4, mb1 3.6/4, mb1mx3.3/20, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/24, Error ellipse: s-maj=37.5km s-min=25.3km az=101.0*
ISC 22 12:59:44.8±0.7, 4135N±004×14236E±004, h21km±6km, n22, σ0°90/33, mb3.7/2, MS3.8/1, 6C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.90**	**42**	*e*P		**Pb**	**Pb**	**13 00 01.4**	**-0.3**
ERM				*e*S		**Sb**	**Sb**	**13 00 14.1**	**+0.9**
JEM	**Erimo**	**0.90**	**42**	⇓P		**Pb**	**Pb**	**13 00 01.4**	**-0.3**
JEM				*e*S		**Sb**	**Sb**	**13 00 13.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.98**	**17**	P		**Pb**	**Pb**	**13 00 02.7**	**-0.4**
JOT	**Ohata**	**0.99**	**273**	⇑P		**Pb**	**Pb**	**13 00 03.4**	**+0.2**
JOT				*e*S		**Sb**	**Sb**	**13 00 16.0**	**+0.2**
JTM	**Tenmabayashi**	**1.12**	**241**	⇓P		**Pn**	**Pn**	**13 00 06.2**	**+0.9**
JTM				*e*S		**Sb**	**Sb**	**13 00 20.6**	**+0.9**
JKB	**Kayabe**	**1.13**	**299**	⇑P		**Pn**	**Pn**	**13 00 04.8**	**-0.6**
JKB				*e*S		**Sb**	**Sb**	**13 00 18.9**	**-1.1**
JANG	**Nango**	**1.16**	**214**	P		**Pn**	**Pn**	**13 00 05.8**	**-0.1**
JANG				*e*S		**Sb**	**Sb**	**13 00 20.0**	**-0.9**
JBT2	**Biratori 2**	**1.43**	**0**	P		**Pn**	**Pn**	**13 00 09.5**	**0.0**
JCH	**Churui**	**1.47**	**30**	⇓P		**Pn**	**Pn**	**13 00 14.0**	**+0.3**
JCH				*e*S		**Sn**	**Sn**	**13 00 28.9**	**+0.2**
JSR	**Shiriuchi**	**1.47**	**278**	⇑P		**Pn**	**Pn**	**13 00 10.5**	**+0.4**
JSR				*e*S		**Sn**	**Sn**	**13 00 29.1**	**+0.4**
JNB	**Noboribetsu**	**1.49**	**319**	⇑P		**Pn**	**Pn**	**13 00 09.5**	**-0.9**
JNB				*e*S		**Sn**	**Sn**	**13 00 27.3**	**-2.0**
JEW	**Eniwo**	**1.64**	**336**	⇑P		**Pn**	**Pn**	**13 00 12.5**	**+0.1**
JEW				*e*S		**Sn**	**Sn**	**13 00 32.6**	**-0.3**
JYM2	**Yakumo 2**	**1.68**	**298**	⇑P		**Pn**	**Pn**	**13 00 13.2**	**+0.3**
JYM2				*e*S		**Sn**	**Sn**	**13 00 34.8**	**+1.0**
JFR	**Furan**	**1.82**	**5**	P		**Pn**	**Pn**	**13 00 15.2**	**+0.2**
ASAJ	**Asahikawa**	**2.77**	**4**	P		**Pn**	**Pn**	**13 00 30.4**	**+2.4**
	18nm,0.3s,baz=215,slow=10,SNR=84								
ASAJ				S			**Sn**	**13 01 03.4**	**+2.5**
	4.2nm,0.3s,baz=278,slow=33,SNR=8.5								
ASAJ	**Asahikawa**	**2.77**	**4**	P		**Pn**	**Pn**	**13 00 30.4**	**+2.4**
ASAJ				S		**Sn**	**Sn**	**13 01 03.4**	**+2.5**
ASAJ				pmax	pmax				
	comp=Z,18nm,0.3s								
ASAJ				smax					
	comp=N,4.0nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**3.73**	**43**	*e*P		**Pn**	**Pn**	**13 00 41.0**	**-0.1**
YUK				*e*S		**Sn**	**Sn**	**13 01 22.2**	**-2.1**
YUK				smax					
	comp=N,650nm,0.5s								
YUK				smax					
	comp=E,230nm,0.5s								
SONM	**Songino Array**	**26.25**	**297**	P		**P**	**P**	**13 05 17.3**	**-1.1**
	comp=E,0.5nm,0.6s,mb3.2,baz=95,slow=8.4,SNR=4.1								
INK	**Inuvik**	**50.24**	**29**	P		**P**	**P**	**13 08 39.4**	**0.0**
	comp=E,2.4nm,0.9s,mb4.2,baz=268,slow=3.2,SNR=3.8								
ARCES	**ARCESS Array B**	**60.24**	**339**	LR		LR	LR	13 37 46.5	
	comp=E,60nm,19.2s,MS3.8,baz=132,slow=38								
WRA	**Warramunga Arr**	**61.43**	**189**	P		pP		13 10 09.0	+2.8
	comp=E,0.6nm,0.7s,baz=7.1,slow=6.8,SNR=9.3								
ASAR	**Alice Springs**	**65.15**	**189**	P		pP		13 10 34.2	+3.2
	comp=E,0.7nm,0.7s,baz=1.5,slow=6.7,SNR=8.2								

*ISCJB **22** 13:01:17.9±0.3, 6038N±004×14363W±005, h10km, mb4.1/16, MS3.8/3, Error ellipse: s-maj=5.6km s-min=3.3km az=28.0*
*IDC **22** 13:01:18.9±0.8, 6033N×14351W, h0km, mb4.0/9, mb1 4.1/14, mb1mx3.9/24, mbtmp4.0/14, ML3.7/5, MS3.8/3, Ms1 3.7/3, ms1mx3.1/23, Error ellipse: s-maj=16.1km s-min=9.3km az=32.0*
*NEIC **22** 13:01:18.9, 6038N×14366W, h3km, mb4.5/5, ML3.9(AEIC), ML4.0(PMR), After AEIC.*
*BJI **22** 13:01:18.8, 6040N×14370W, h2km, mB4.8, mb4.4, Ms4.1, Msz4.2*
*PGC **22** 13:01:22.4, 6040N×14328W, h1km, ML3.9/3, 184km southeast of Valdez, Ak Chugach Mountains, Alaska.*
ISC 22 13:01:19.3±0.3, 6035N±004×14372W±005, h10km, n58, σ1§43/76, mb4.1/16, MS3.8/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAGM	**Ragged Mountai**	**0.48**	**275**	P		P	**Pg**	**13 01 29.2**	**+0.6**
BMRM	**Bremner River**	**0.76**	**325**	P		P	**Pg**	**13 01 32.9**	**-1.0**
EYAK	**Cordova Ski Ar**	**1.03**	**282**	P		P	**Pg**	**13 01 37.7**	**-1.4**
DIV	**Divide**	**1.28**	**309**	P		P	**Pn**	**13 01 41.1**	**-2.0**
MID	**Middleton Isla**	**1.61**	**236**	*e*P		P	**Pn**	**13 01 47.5**	**-0.3**
MENT	**Mentasta**	**2.60**	**360**	*e*P		P	**Pn**	**13 02 03.1**	**+1.8**
SEW	**Seward**	**2.87**	**268**	P		P	**Pn**	**13 02 03.2**	**-1.9**
GHO	**Glory Hole Cre**	**2.91**	**302**	P		P	**Pn**	**13 02 04.7**	**-0.8**
PMR	**Palmer**	**2.92**	**298**	P		P	**Pn**	**13 02 04.1**	**-1.6**
RC01	**Rabbit Creek A**	**3.05**	**287**	P		P	**Pn**	**13 02 05.4**	**-2.1**
HYT	**Haines Junctio**	**3.10**	**78**	Pn		**Pn**	**Pn**	**13 02 09.0**	**+0.8**
HYT				Pg		**Pg**	**Pg**	**13 02 12.7**	**-6.1**
HYT				Sn		**Sn**	**Sn**	**13 02 43.6**	**-1.8**
HYT				Sg		**Sg**	**Sg**	**13 02 52.1**	**-6.9**
HYT				Trac				13 02 55.0	
	comp=Z,261nm,0.6s								
SLKM	**Skilak Lake**	**3.23**	**276**	*e*P		**Pn**	**Pn**	**13 02 10.2**	**+0.2**
DOT	**Dot Lake**	**3.31**	**357**	P		**Pn**	**Pn**	**13 02 09.7**	**-1.5**
PLBC	**Pleasant Camp**	**3.81**	**100**	Pn		**Pn**	**Pn**	**13 02 18.1**	**+0.1**
PLBC				Pg		**Pg**	**Pg**	**13 02 27.6**	**-4.7**
PLBC				Sn		**Sn**	**Sn**	**13 02 59.7**	**-3.2**
PLBC				Sg		**Sg**	**Sg**	**13 03 15.0**	**-6.6**
MCK	**McKinley**	**4.19**	**326**	P		**Pn**	**Pn**	**13 02 22.1**	**-1.1**
DAWY	**Dawson**	**4.24**	**27**	Pn		**Pn**	**Pn**	**13 02 25.4**	**+1.5**
DAWY				Pg		**Pg**	**Pg**	**13 02 36.2**	**-4.3**
DAWY				Sn		**Sn**	**Sn**	**13 03 12.3**	**-1.2**
DAWY				Sg		**Sg**	**Sg**	**13 03 29.8**	**-5.7**
DAWY				Trac				13 03 40.6	
	comp=Z,61nm,0.6s								
DAWY	**Dawson**	**4.24**	**27**	*e*P		**Pn**	**Pn**	**13 02 25.2**	**+1.3**
SKAG	**Skagway**	**4.32**	**98**	*e*P		**Pn**	**Pn**	**13 02 25.6**	**+0.7**
WHY	**Whitehorse**	**4.38**	**82**	Pn		**Pn**	**Pn**	**13 02 25.7**	**-0.2**
WHY				Pg		**Pg**	**Pg**	**13 02 36.9**	**-6.3**
WHY				Sn		**Sn**	**Sn**	**13 03 13.4**	**-3.5**
WHY				Sg		**Sg**	**Sg**	**13 03 32.0**	**-7.9**
WHY				Trac				13 03 35.1	
	comp=Z,119nm,0.6s								
EGAK	**Eagle**	**4.60**	**14**	*e*P		**Pn**	**Pn**	**13 02 30.3**	**+1.5**
COLA	**College**	**4.92**	**339**	P		**Pn**	**Pn**	**13 02 30.9**	**-2.4**
KDAK	**Kodiak Island**	**5.25**	**244**	Pn		**Pn**	**Pn**	**13 02 37.0**	**-0.8**
	2.9nm,0.3s,baz=23,slow=5.9,SNR=19								
KDAK				Sn		**Sn**	**Sn**	**13 03 36.0**	**-2.4**
	1.0nm,0.3s,baz=282,slow=20,SNR=3.4								
KDAK	**Kodiak Island**	**5.25**	**244**	Pn		**Pn**	**Pn**	**13 02 37.0**	**-0.8**
KDAK				Sn		**Sn**	**Sn**	**13 03 36.0**	**-2.4**
TTA	**Tatalina**	**6.40**	**299**	*e*P		**Pn**	**Pn**	**13 02 55.9**	**+2.3**
	27nm,0.9s								
DLBC	**Dease Lake**	**7.25**	**99**	Pn		**Pn**	**Pn**	**13 03 05.6**	**+0.4**
	1.0nm,0.3s,baz=305,slow=13,SNR=17								
DLBC				Sn		**Sn**	**Sn**	**13 04 25.9**	**-1.7**
	1.1nm,0.3s,baz=4.1,slow=13,SNR=3.4								
DLBC				Lg				13 05 01.9	
	1.1nm,0.3s,baz=23,slow=21,SNR=3.8								
DLBC				LR		LR	LR	13 05 50.7	
	comp=Z,299nm,19.6s,baz=274,slow=38								
DLBC	**Dease Lake**	**7.25**	**99**	Pn		**Pn**	**Pn**	**13 03 05.4**	**+0.2**
DLBC				Sn		**Sn**	**Sn**	**13 04 21.4**	**-6.2**
DLBC				Sg		**Sg**	**Sg**	**13 05 00.2**	**-12**
DLBC				Trac				13 05 05.9	
	comp=Z,21nm,0.8s								
IMA2	**Indian Mountai**	**7.29**	**326**	*e*P		**Pn**	**Pn**	**13 03 06.5**	**+0.7**
NDB	**Naden**	**8.68**	**133**	Pn		**Pn**	**Pn**	**13 03 26.5**	**+1.7**
INK	**Inuvik**	**9.11**	**25**	Pn		**Pn**	**Pn**	**13 03 32.3**	**+1.5**
	0.5nm,0.3s,baz=214,slow=14,SNR=15								
INK				Sn			**Sn**	**13 05 11.9**	**-1.6**
	0.3nm,0.3s,baz=229,slow=23,SNR=3.7								
INK				Lg				13 06 05.8	
	0.1nm,0.3s,baz=232,slow=19,SNR=2.7								
INK	**Inuvik**	**9.11**	**25**	Pn		**Pn**	**Pn**	**13 03 32.5**	**+1.7**
INK				Sn		**Sn**	**Sn**	**13 05 05.5**	**-7.9**
INK				Sg		Sn		13 06 00.8	+47
INK				Trac				13 06 25.7	
	comp=Z,8.0nm,0.8s								
MOBC	**Moresby Island**	**9.66**	**133**	P		**Pn**	**Pn**	**13 03 42.0**	**+3.8**
MOBC				Sn		**Sn**	**Sn**	**13 05 19.2**	**-7.5**
MOBC				Trac				13 05 30.2	
	comp=Z,15nm,1.1s								
BNAB	**Bonilla**	**9.90**	**128**	P		**Pn**	**Pn**	**13 03 42.2**	**+0.6**
FNBB	**Fort Nelson**	**10.58**	**89**	P		**Pn**	**Pn**	**13 03 52.2**	**+1.3**
FNBB				Sg		Sn		13 06 40.6	+51
FNBB				Trac				13 07 02.4	
	comp=Z,7.0nm,0.9s								
BBB	**Bella Bella**	**11.90**	**127**	Pn		**Pn**	**Pn**	**13 04 08.2**	**-0.7**
	0.1nm,0.3s,baz=335,slow=19,SNR=2.5								
BBB				Sn			**Sn**	**13 06 19.2**	**-2.5**
	0.1nm,0.3s,baz=87,slow=19,SNR=2.5								
NEW	**Newport**	**19.51**	**116**	P		**Pn**	**Pn**	**13 05 47.9**	**0.0**
	0.1nm,0.3s,baz=341,slow=12,SNR=4.5								
BMO	**Blue Mountains**	**22.09**	**123**	*e*P		**P**	**P**	**13 06 15.2**	**+0.7**
	3.5nm,1.1s,mb3.7								
IMW	**Indian Meadow**	**25.62**	**115**	*e*P		**P**	**P**	**13 06 51.0**	**+2.2**
	9.4nm,1.0s,mb4.3								
PDAR	**Pinedale Array**	**27.13**	**115**	P		**P**	**P**	**13 07 03.5**	**+1.0**
	0.4nm,0.6s,mb3.1,baz=287,slow=6.0,SNR=4.1								
ULM	**Lac du Bonnet**	**28.42**	**89**	LR		LR	LR	13 19 55.2	
	comp=Z,92nm,18.4s,MS3.4,baz=69,slow=39								
ARCES	**ARCESS Array B**	**50.18**	**5**	P		**P**	**P**	**13 10 17.0**	**+2.0**
	1.3nm,0.7s,mb4.0,baz=10,slow=7.5,SNR=3.6								
ARCES	**ARCESS Array B**	**50.18**	**5**	P		**P**	**P**	**13 10 17.0**	**+2.0**
MDJ	**Mudanjiang**	**51.11**	**294**	P		**P**	**P**	**13 10 20.8**	**-1.3**
MDJ				AMB	AMB				
	comp=Z,3.0nm,0.7s,mb4.3								
MDJ				AMB	AMB				
	comp=Z,51nm,7.8s								
MDJ				LR	LR				
	comp=N,36nm,20.1s,MS3.5								
MDJ				LR	LR				
	comp=E,29nm,18.8s,MS3.5								
MDJ				LR	LR				
	comp=Z,34nm,17.6s,MS3.4								
CN2	**Changchun**	**53.62**	**296**	*e*P		**P**	**P**	**13 10 42.4**	**+1.7**
NOA	**NORSAR Array B**	**57.40**	**14**	P		**P**	**P**	**13 11 08.2**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=348,slow=6.9,SNR=4.2								
SONM	**Songino Array**	**58.19**	**312**	P		**P**	**P**	**13 11 15.5**	**+2.1**
	comp=Z,3.7nm,0.8s,mb4.5,baz=37,slow=8.9,SNR=25								
FINES	**FINESS Array B**	**58.28**	**6**	P		**P**	**P**	**13 11 13.9**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=353,slow=9.6,SNR=9.0								
ZAL	**Zalesovo**	**59.67**	**329**	P		**P**	**P**	**13 11 25.2**	**+1.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=342,slow=5.6,SNR=4.5								
ZAL	**Zalesovo**	**59.67**	**329**	P		**P**	**P**	**13 11 25.2**	**+1.4**
CHKZ	**Chkalovo**	**63.06**	**338**	*e*P		**P**	**P**	**13 11 45.9**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.5								
ZRNK	**Zerenda**	**64.05**	**339**	*e*P		**P**	**P**	**13 11 53.9**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.6								
MKAR	**Makanchi Array**	**66.85**	**327**	P		**P**	**P**	**13 12 11.2**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=46,slow=6.9,SNR=5.2								
GTA	**Gaotai**	**67.86**	**312**	*e*P		**P**	**P**	**13 12 19.8**	**+2.1**
GTA				AMB	AMB				
	comp=Z,6.0nm,1.0s,mb4.6								
WMQ	**Urumqi**	**68.03**	**322**	*e*P		**P**	**P**	**13 12 21.0**	**+2.2**
AKASG	**Malin Array Be**	**69.16**	**5**	P		**P**	**P**	**13 12 26.1**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=355,slow=6.1,SNR=5.4								
AAK	**Ala-Archa**	**72.71**	**331**	*e*P		**P**	**P**	**13 12 48.1**	**+0.6**
	comp=Z,3.7nm,1.0s,mb4.3								
ESDC	**Sonseca Array**	**75.00**	**31**	P

CPD	**Cerro la Pandu**	**5.20**	**199**⇑	*e*P		Pn	13 50 25.1	+1.4
CPD				*e*S		Sn	13 51 25.6	+2.0
SJG	**San Juan**	**5.20**	**201**⇑	*e*P		Pn	13 50 25.1	+1.4
SJG				*e*S		Sn	13 51 26.1	+2.5
AOPR	**Arecibo Observ**	**5.22**	**208**⇑	*e*P		Pn	13 50 25.3	+1.3
AOPR				*e*S		Sn	13 51 27.1	+2.9
CDVI	**St. Croix**	**5.25**	**186**⇑	*e*P		Pn	13 50 26.3	+2.0
CDVI				*e*S		Sn	13 51 27.3	+2.7
AGPR	**Aguadilla, PR**	**5.28**	**212**⇑	*e*P		Pn	13 50 26.5	+1.8
AGPR				*e*S		Sn	13 51 27.6	+2.0
CELP	**Cerrillos**	**5.39**	**205**⇑	*e*P		Pn	13 50 27.7	+1.5
CELP				*e*S		Sn	13 51 31.2	+3.1
OBIP	**Obispado Ponce**	**5.43**	**205**⇑	*e*P		Pn	13 50 28.3	+1.7
LSP	**Las Mesas**	**5.52**	**210**⇑	*e*P		Pn	13 50 30.0	+2.2
LSP				*e*S		Sn	13 51 34.5	+3.3
ICM	**Isla Caja Muer**	**5.54**	**204**⇑	*e*P		Pn	13 50 30.1	+2.1
ICM				*e*S		Sn	13 51 34.4	+2.9
GBPR	**Guanica, Bosqu**	**5.61**	**208**⇑	*e*P		Pn	13 50 31.5	+2.5
GBPR	**Guanica, Bosqu**	**5.61**	**208**	*e*S		Sn	13 51 35.3	+2.1
CRPR	**Cabo Rojo, PR**	**5.68**	**210**⇑	*e*P		Pn	13 50 31.8	+1.9
CRPR				*e*S		Sn	13 51 38.2	+3.3
SEG	**Port Louis**	**7.01**	**159**	*e*P		Pn	13 50 46.6	-0.8
LZG	**Guadaloupe-1**	**7.18**	**161**	*e*P		Pn	13 50 48.5	-1.0
LZG				*e*S		Sn	13 51 52.3	-18
TBG	**Guadaloupe-3**	**7.49**	**161**	*e*P		Pn	13 50 52.5	-1.2
CCCC	**Cccc**	**12.74**	**265**	*e*P		Pn	13 51 56.1	-6.1
HHC	**Hu-ho-hao-te**	**116.36**	**4**	*e*PKP	PKPdf		14 07 29.6	-0.1
HHC				PP	PP			
	comp=Z,50nm,5.2s							
LZH	**Lanzhou**	**120.16**	**11**	*e*PKP	PKPdf		14 07 34.5	-2.5
LZH				XPKP			14 08 39.3	
LZH				*e*SKS	SKSdf		14 14 27.5	-4.8
LZH				SKKS	SKKSac		14 15 39.3	-7.3
LZH				*e*SS	SS		14 25 14.3	-3.2
LZH				PP	PP			
	comp=Z,74nm,7.9s							
LZH				LR	LR			
	comp=E,145nm,18.2s							
LZH				LR	LR			
	comp=Z,249nm,20.3s							
NJ2	**Nanjing**	**125.19**	**357**	*e*PKP	PKPdf		14 07 48.5	+1.8
NJ2				XPKP			14 08 47.6	
NJ2				PP	PP		14 09 45.0	+6.5
NJ2				SKS	SKSdf		14 14 44.0	+2.2
NJ2				SKKS	SKKSac		14 16 19.0	-0.1
NJ2				SS	SS		14 26 26.0	+4.7
NJ2				PP	PP			
	comp=Z,190nm,10.6s							
NJ2				LR	LR			
	comp=N,250nm,25.6s							
NJ2				LR	LR			
	comp=E,370nm,25.3s							
NJ2				LR	LR			
	comp=Z,240nm,30.0s							
KMI	**Kunming**	**130.51**	**16**	PKP	PKPdf		14 07 57.8	+1.0

NIED ***22*** *13:52:00,42.70N×142.20E,h135km,Mw4.1 Best double couple: M0 1.69000×10^15 NP1:φs228.00000°,δ70.00000°, λ-122.00000°. NP2:φs109.00000°,δ38.00000°, λ-35.00000°.*

ISCJB ***22*** *13:52:26.9±0.3, 4263N±003×142.15E±004, h133km±2km, mb4.1/21, Error ellipse: s-maj=5.3km s-min=3.9km az=73.5*

MOS ***22*** *13:52:27.0±1.1, 4268N×14205E, h135km, mb4.5/6, Error ellipse: s-maj=13.7km s-min=7.0km az=101.2*

JMA ***22*** *13:52:28.2±0.1, 4268N×142.16E, h130km±2km, M4.0 Broadband fault plane solution: P waves. NP1: φs141.00000°,δ43.00000°,λ-33.00000°. NP2: φs256.00000°,δ69.00000°,λ-128.00000°. Principal axes: T Plg15.0000°, Azm13.0000°; N Plg35.0000°, Azm272.0000°; P Plg51.0000°, Azm123.0000°;*

JMA Felt I J1.

NEIC ***22*** *13:52:28.4±0.5, 4266N×142.09E, h127km±5km, mb4.6/8, MW4.1(NIED) Error ellipse: s-maj=8.7km s-min=5.6km az=97.0*

NEIC Recorded [1 JMA] in south-central Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

IDC ***22*** *13:52:28.3±0.9, 4264N×142.12E, h125km±8km, mb3.8/12, mb1 3.9/13, mb1mx3.8/22, mbtmp4.2/13, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=17.8km s-min=11.0km az=98.0*

BJI ***22*** *13:52:28.7, 4302N×142.36E, h156km, mB4.9, mb4.5*

ISC 22 13:52:28.0±0.3, 4263N±003×14216E±004, h128km±2km, n68, σ0 93/89, mb4.2/21, 11C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JBT2	**Biratori 2**	**0.21**	**46**	⇓P	**Pn**	**13 52 46.2**	**+0.6**
JBT2				*e*S	**Sn**	**13 52 59.3**	**+0.5**
JEW	**Eniwo**	**0.56**	**292**	⇓P	**Pn**	**13 52 47.2**	**0.0**
JEW				*e*S	**Sn**	**13 53 15.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.57**	**128**	⇑P	**Pn**	**13 52 48.1**	**+0.9**
JNBK				*e*S	**Sn**	**13 53 03.1**	**+1.4**
JFR	**Furan**	**0.62**	**31**	⇓P	**Pn**	**13 52 47.5**	**-0.1**
JFR				*e*S	**Sn**	**13 53 01.5**	**-0.9**
JCH	**Churui**	**0.89**	**91**	⇓P	**Pn**	**13 52 49.6**	**-0.1**
JCH				*e*S	**Sn**	**13 53 04.6**	**-1.5**
ERM	**Erimo**	**0.97**	**129**	*e*PN	**Pn**	**13 52 51.1**	**+0.7**
JKB	**Kayabe**	**1.12**	**229**	P	**Pn**	**13 52 51.9**	**+0.1**
JKB				*e*S	**Sn**	**13 53 08.9**	**-1.0**
JHR	**Hokuryu**	**1.15**	**344**	⇓P	**Pn**	**13 52 52.8**	**+0.6**
JHR				*e*S	**Sn**	**13 53 11.3**	**+0.7**
JKK2	**Kamakawa 2**	**1.31**	**19**	⇓P	**Pn**	**13 52 54.5**	**+0.6**
JKK2				*e*S	**Sn**	**13 53 13.4**	**-0.1**
JAR	**Ashorobuto**	**1.36**	**60**	⇑P	**Pn**	**13 52 54.4**	**0.0**
JAR				*e*S	**Sn**	**13 53 13.4**	**-1.0**
JSK	**Shakotan**	**1.43**	**301**	⇓P	**Pn**	**13 52 55.6**	**+0.5**
JSK				*e*S	**Sn**	**13 53 15.8**	**0.0**
JOT	**Ohata**	**1.50**	**214**	⇑P	**Pn**	**13 52 55.8**	**-0.1**
JOT				*e*S	**Sn**	**13 53 15.8**	**-1.4**
ASAJ	**Asahikawa**	**1.52**	**12**	P	**Pn**	**13 52 56.5**	**+0.4**
	36nm,0.3s,baz=225,slow=11,SNR=262						
ASAJ				S	**Sn**	**13 53 17.4**	**-0.2**
	76nm,0.3s,baz=14,slow=19,SNR=40						
ASAJ	**Asahikawa**	**1.52**	**12**	PN	**Pn**	**13 52 56.6**	**+0.5**
ASAJ				S	**Sn**	**13 53 17.4**	**-0.2**
ASAJ				pmax	pmax		
	comp=Z,36nm,0.3s						
ASAJ				smax			
	comp=N,76nm,0.3s						
JTKR	**Abashiri--Toko**	**1.85**	**43**	⇑P	**Pn**	**13 53 00.8**	**+0.8**
JTKR				*e*S	**Sn**	**13 53 24.5**	**0.0**
JYG	**Yagishiri**	**1.87**	**344**	P	**Pn**	**13 53 00.9**	**+0.6**
JYG				*e*S	**Sn**	**13 53 25.4**	**+0.5**
JAK	**Akkeshi**	**1.91**	**78**	⇑P	**Pn**	**13 53 00.3**	**-0.4**
JAK				*e*S	**Sn**	**13 53 23.9**	**-1.8**
JOSM	**Okushiri--Mats**	**2.06**	**255**	⇓P	**Pn**	**13 53 03.0**	**+0.4**
JOSM				*e*S	**Sn**	**13 53 29.2**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**3.04**	**61**	*e*PN	**Pn**	**13 53 15.7**	**+0.6**
YUK				*i* S	**Sn**	**13 53 52.1**	**+0.6**
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,770nm,0.5s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,3μm,1.8s						
YSS	**Yuzh-Sakhalins**	**4.34**	**5**	⇑*i*PN	**Pn**	**13 53 33.2**	**+0.9**
YSS				*e*S	**Sn**	**13 54 23.0**	**+0.9**
YSS				pmax	pmax		
	comp=Z,220nm,0.9s						
YSS				smax			
	comp=N,50nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.34**	**5**	*e*P	**Pn**	**13 53 33.0**	**+0.8**
MAJO	**Matsushiro**	**6.80**	**208**	*e*PN	**Pn**	**13 54 05.5**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,31nm,0.5s						
MAJO	**Matsushiro**	**6.80**	**208**	*e*P	**Pn**	**13 54 05.5**	**+0.2**
	comp=Z,31nm,0.5s						
MAT	**Matsushiro**	**6.80**	**208**	P	**Pn**	**13 54 05.2**	**-0.1**
MAT				S	**Sn**	**13 55 21.1**	**-0.2**
MJAR	**Matsushiro Arr**	**6.80**	**208**	P	**Pn**	**13 54 05.9**	**+0.6**
	comp=Z,7.0nm,0.3s,baz=26,slow=13,SNR=60						
HABR	**Khabarovsk**	**7.68**	**322**	⇑*i*PN	**Pn**	**13 54 17.0**	**-0.1**
HABR				*e*		13 55 38.5	
HABR				pmax	pmax		
	comp=Z,57nm,2.2s						
JHJ	**Hachijo jima 2**	**9.68**	**192**	P	**Pn**	**13 54 40.8**	**-3.3**
	comp=Z,28nm,0.3s,baz=43,slow=14,SNR=12						
JHJ				S	**Sn**	**13 56 23.4**	**-7.6**
	comp=Z,22nm,0.3s,baz=73,slow=19,SNR=4.7						
KLR	**Kul'dur**	**9.80**	**316**	*e*PN	**Pn**	**13 54 41.9**	**-3.7**
HIA	**Hailar**	**16.91**	**301**	*e*P	**Pn**	**13 56 15.9**	**-1.0**
HIA				pmax	pmax		
	comp=Z,11nm,0.7s						
HIA	**Hailar**	**16.91**	**301**	*e*P	**Pn**	**13 56 15.9**	**-1.0**
	comp=Z,11nm,0.7s						
MA2	**Magadan**	**17.78**	**14**	P	**Pn**	**13 56 26.1**	**-1.3**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MA2	**Magadan**	**17.78**	**14**	*e*P	**Pn**	**13 56 26.3**	**-1.1**
	comp=Z,34nm,1.4s						
CLNS	**Chul'man**	**17.99**	**328**	*e*P	**Pn**	**13 56 28.4**	**-1.5**
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
SSE	**Sheshan**	**20.29**	**242**	P	**P**	**13 56 57.3**	**+3.7**
SSE				AMB	AMB		
	comp=Z,24nm,0.7s						
SSE				AMB	AMB		
	comp=Z,58nm,3.7s						
YAK	**Yakutsk**	**20.80**	**343**⇑	*e*P	**P**	**13 56 56.7**	**-2.4**
YAK				pmax	pmax		
	comp=Z,20nm,0.6s						
YAK	**Yakutsk**	**20.80**	**343**	*e*P	**P**	**13 56 57.5**	**-1.6**
	comp=Z,24nm,0.6s						
SEY	**Seymchan**	**21.20**	**13**⇑	*e*P	**P**	**13 57 01.7**	**-1.7**
NJ2	**Nanjing**	**21.26**	**248**	*e*P	**P**	**13 57 07.6**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
BOD	**Bodaibo**	**23.32**	**320**	*e*P	**P**	**13 57 21.0**	**-3.6**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.7						
SONM	**Songino Array**	**25.56**	**294**	P	**P**	**13 57 45.6**	**+0.7**
	comp=Z,2.9nm,0.6s,mb3.9,baz=92,slow=8.8,SNR=15						
SONM				LR	LR	14 07 11.1	
	comp=Z,37nm,18.1s,baz=62,slow=35						
ZAK	**Zakamensk**	**27.60**	**300**	*e*P	**P**	**13 58 00.8**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.5						
MKAR	**Makanchi Array**	**41.85**	**297**	P	**P**	**14 00 05.8**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.2,baz=82,slow=9.2,SNR=20						
MKAR	**Makanchi Array**	**41.85**	**297**⇑	*e*P	**P**	**14 00 06.0**	**+0.7**
MKAR	**Makanchi Array**	**41.85**	**297**	P	**P**	**14 00 05.8**	**+0.5**
KDAK	**Kodiak Island**	**42.67**	**46**	P	**P**	**14 00 12.2**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.4,baz=304,slow=15,SNR=3.5						
BRVK	**Borovoye**	**47.42**	**309**	*e*P	**P**	**14 00 50.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**47.42**	**309**	*e*P	**P**	**14 00 50.0**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.4						
ZRNK	**Zerenda**	**48.19**	**309**	*e*P	**P**	**14 00 56.1**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
ZRNK	**Zerenda**	**48.19**	**309**	*e*P	**P**	**14 00 56.1**	**+0.7**
	comp=Z,16nm,0.6s,mb5.0						
INK	**Inuvik**	**49.19**	**29**	P	**P**	**14 01 03.9**	**+0.8**
	comp=Z,1.3nm,0.3s,mb4.3,baz=336,slow=4.8,SNR=10.0						
SVE	**Sverdlovsk**	**51.42**	**316**	*e*P	**P**	**14 01 23.0**	**+3.1**
ARU	**Arti**	**52.64**	**316**⇓	*i*P	**P**	**14 01 27.9**	**-1.0**
ARU				*e*		14 02 34.8	
ARU				*e*		14 03 25.7	
ARU				*e*PPP		14 04 34.2	
ARU				*e*S	**S**	**14 08 40.9**	**-5.5**
ARU				*e*SS	SS	14 12 16.9	-9.4
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	**Arti**	**52.64**	**316**	*e*P	**P**	**14 01 28.1**	**-0.8**
	comp=Z,6.2nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**58.98**	**338**	P	**P**	**14 02 13.9**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=47,slow=8.8,SNR=9.8						
JOF	**Joensuu**	**61.33**	**331**	*e*p	**P**	**14 02 29.3**	**-0.8**
	comp=Z,4.9nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**62.32**	**198**	P	**P**	**14 02 37.9**	**+1.2**
	comp=Z,1.3nm,0.9s,mb4.0,baz=317,slow=19,SNR=3.5						
CTA	**Charters Tower**	**62.52**	**176**	P	**P**	**14 02 38.3**	**+0.3**
	comp=Z,3.7nm,1.1s,mb4.2,baz=79,slow=5.2,SNR=3.2						
WRA	**Warramunga Arr**	**62.68**	**188**	P	**P**	**14 02 39.0**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=8.2,slow=6.9,SNR=18						
WRA				pP	pP	14 03 11.2	+1.3
	comp=Z,0.5nm,0.7s,baz=6.1,slow=7.0,SNR=2.3						
KAF	**Kangasniemi**	**63.62**	**332**	*e*p	**P**	**14 02 44.1**	**-1.2**
	comp=Z,3.2nm,0.5s,mb4.4,baz=46,slow=6.3						
KAF	**Kangasniemi**	**63.62**	**332**	*e*P	**P**	**14 02 44.1**	**-1.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
FIA1	**FINESS Array S**	**64.16**	**331**	*e*P	**P**	**14 02 48.5**	**-0.3**
FINES	**FINESS Array B**	**64.16**	**331**	P	**P**	**14 02 48.6**	**-0.2**
	comp=Z,4.3nm,0.5s,mb4.5,baz=54,slow=7.5,SNR=43						
ASAR	**Alice Springs**	**66.40**	**188**	P	**P**	**14 03 04.1**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.5,baz=357,slow=6.1,SNR=8.4						
ASAR				pP	pP	14 03 36.6	+2.2
	comp=Z,0.5nm,0.8s,baz=6.7,slow=4.9,SNR=2.9						
KIV	**Kislovodsk**	**67.72**	**310**⇓	*e*P	**P**	**14 03 13.1**	**+1.5**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	**69.26**	**337**	P	**P**	**14 03 21.0**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.1,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**69.26**	**337**	P	**P**	**14 03 20.7**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.2,baz=37,slow=6.2,SNR=12						
PDAR	**Pinedale Array**	**73.38**	**47**	P	**P**	**14 03 47.1**	**+1.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=314,slow=2.0,SNR=4.8						
SIV	**San Ignacio**	**146.82**	**44**	PKPbc	PKPbc	14 11 55.4	+0.3
	comp=Z,1.2nm,0.5s,baz=277,slow=5.6,SNR=7.7						

ISCJB ***22*** *13:58:08.2±0.6, 1058N±004×6253W±003, h85km±7km, Error ellipse: s-maj=7.1km s-min=4.3km az=173.7*

FUNV ***22*** *13:58:08.9, 1063N×6241W, h78km, MW3.7*

NEIC ***22*** *13:58:11.9, 1083N×6240W, h27km, MD3.6(TRN), After TRN.*

TRN ***22*** *13:58:11.9, 1083N×6240W, h28km, MD3.6*

ISC 22 13:58:09.3±0.6, 1059N±004×6253W±003, h78km±7km, n20, σ0 96/35, 4C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.30**	**80**⇑	*i*P	**Pn**	**13 58 20.9**	**-0.4**
GUIV				*e*S	**Sn**	**13 58 28.8**	**-1.4**
GUNV	**Guanoco**	**0.59**	**224**⇑	*i*P	**Pn**	**13 58 24.8**	**+1.1**
GUNV				*e*S	**Sn**	**13 58 36.1**	**+1.8**
CRUV	**Carupano**	**0.70**	**277**⇑	*i*P	**Pn**	**13 58 25.0**	**+0.2**
CRUV				*e*S	**Sn**	**13 58 36.0**	**-0.2**
ITEV	**Isla Los Testi**	**0.96**	**322**⇓	*i*P	**Pn**	**13 58 27.0**	**-0.7**
ITEV				*e*S	**Sn**	**13 58 40.4**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.09**	**104**	*e*P	**Pn**	**13 58 30.8**	**+1.5**
TPP				*e*S	**Sn**	**13 58 45.8**	**+1.5**
TRN	**Trinidad (W)**	**1.11**	**87**⇑	*i*P	**Pn**	**13 58 30.2**	**+0.7**
TRN				*e*S	**Sn**	**13 58 43.5**	**-1.1**
TBH	**Brigand Hill**	**1.44**	**94**	*e*P	**Pn**	**13 58 34.6**	**+0.9**
TBH				*e*S	**Sn**	**13 58 52.6**	**+0.5**
GRW	**Mount Saint Ca**	**1.77**	**29**	*e*P	**Pn**	**13 58 38.6**	**+0.5**
GRW				*e*S	**Sn**	**13 58 55.2**	**-4.8**
TPR	**Prospect**	**1.82**	**71**	*e*P	**Pn**	**13 58 39.1**	**+0.5**
TPR				*e*S	**Sn**	**13 58 59.4**	**-1.6**
PCRV	**Puerto La Cruz**	**2.12**	**259**	*e*P	**Pn**	**13 58 42.2**	**-0.4**
PCRV				*e*S	**Sn**	**13 59 07.9**	**-0.2**
IBAV	**Isla La Blanqu**	**2.35**	**301**	*e*P	**Pn**	**13 58 46.5**	**+0.7**
IBAV				*e*S	**Sn**	**13 59 13.7**	**-0.1**
PRGV	**PARIAGUAN**	**2.77**	**229**	*e*P	**Pn**	**13 58 51.8**	**+0.3**
PRGV				*e*S	**Sn**	**13 59 23.9**	**0.0**
GURV	**El Guri**	**2.87**	**191**	*e*P	**Pn**	**13 58 52.3**	**-0.5**
GURV				*e*S	**Sn**	**13 59 23.7**	**-2.6**
CUPV	**Cœpira**	**3.25**	**261**	*e*P	**Pn**	**13 58 59.1**	**+1.1**
CUPV				*e*S	**Sn**	**13 59 35.7**	**+0.1**
BIRV	**Birongo**	**3.68**	**269**	*e*P	**Pn**	**13 59 04.8**	**+1.0**
MERV	**Las Mercedes**	**3.95**	**251**	*e*P	**Pn**	**13 59 07.5**	**+0.1**
LUEV	**Luepa**	**4.84**	**167**	*e*P	**Pn**	**13 59 17.8**	**-1.7**
CAOV	**Caicara del Or**	**4.96**	**229**	*e*P	**Pn**	**13 59 20.1**	**-1.1**
TURV	**Turiamo**	**5.23**	**269**	*e*P	**Pn**	**13 59 24.9**	**0.0**
BAUV	**El Baul**	**5.68**	**254**	*e*P	**Pn**	**13 59 30.6**	**-0.5**
BAUV				*e*S	**Sn**	**14 00 30.9**	**-3.9**

ISCJB ***22*** *14:00:25.8±0.5, 3565N±008×135.19E±008, h382km±5km, mb3.3/5, Error ellipse: s-maj=13.6km s-min=9.0km az=109.7*

NEIC ***22*** *14:00:26.5±0.7, 3560N×135.14E, h372km±10km, mb3.9/2, Error ellipse: s-maj=20.6km s-min=15.2km az=83.0*

NEIC Recorded [1 JMA] in Aomori Prefecture. Also recorded [1 JMA] in south-central and southwestern Hokkaido.

IDC ***22*** *14:00:26.8±1.3, 3560N×13528E, h375km±16km, mb3.0/4, mb1 3.1/7, mb1mx3.0/21, mbtmp3.9/7, Error ellipse: s-maj=25.6km s-min=17.1km az=77.0*

JMA ***22*** *14:00:27.2±0.1, 3567N×135.19E, h373km±1km, M2.9*

ISC 22 14:00:26.9±0.5, 3566N±008×13516E±008, h375km±5km, n28, σ0 71/33, mb3.3/5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKY	**Yasaka**	**0.06**	**235**	P	**Pn**	**14 01 13.8**	**+0.4**
JWT	**Wachi**	**0.43**	**153**	P	**Pn**	**14 01 13.8**	**0.0**
JWT				S	**S**	**14 01 50.5**	**-1.0**
JKG	**Kaga**	**1.13**	**57**	P	**Pn**	**14 01 15.9**	**+0.1**
JGM	**Miyama**	**1.27**	**88**	P	**Pn**	**14 01 16.5**	**+0.1**
JGM				S	**S**	**14 01 55.3**	**-0.9**
JWY	**Kouya**	**1.48**	**166**	P	**Pn**	**14 01 17.8**	**+0.4**
JWY				S	**S**	**14 01 57.3**	**-0.8**
JIE	**Ise**	**1.79**	**135**	P	**Pn**	**14 01 19.6**	**+0.5**
JHS	**Saijyo**	**1.80**	**249**	P	**Pn**	**14 01 19.4**	**+0.2**
JWZ	**Kozaga**	**2.18**	**168**	P	**Pn**	**14 01 21.7**	**+0.1**
JMN	**Monobe**	**2.20**	**209**	P	**Pn**	**14 01 22.8**	**+1.0**
JGT	**Gotsu**	**2.40**	**256**	P	**Pn**	**14 01 23.4**	**+0.1**
JGT				S	**S**	**14 02 08.4**	**-0.3**
JHT	**Toyohira**	**2.46**	**247**	P	**Pn**	**14 01 24.1**	**+0.4**
JSZ	**Suzu**	**2.51**	**44**	P	**Pn**	**14 01 24.5**	**+0.4**
JHG	**Hegura jima**	**2.60**	**32**	P	**Pn**	**14 01 25.5**	**+0.7**
MAJO	**Matsushiro**	**2.62**	**70**	*e*Pn	**Pn**	**14 01 25.1**	**+0.2**
MAT	**Matsushiro**	**2.62**	**70**	P	**Pn**	**14 01 24.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.62**	**70**	P	**Pn**	**14 01 24.7**	**-0.2**
	5.9nm,0.3s,baz=272,slow=10,SNR=64						
MJAR				S	**S**	**14 02 07.6**	**-4.1**
	baz=234,slow=19,SNR=1.6						
JRY	**Ryogami san**	**3.06**	**82**	P	**Pn**	**14 01 28.9**	**+0.3**
JOD2	**Odawara 2**	**3.23**	**96**	P	**Pn**	**14 01 30.7**	**+0.6**
JTO	**Tosashimizu**	**3.41**	**216**	P	**Pn**	**14 01 32.5**	**+0.8**
MDJ	**Mudanjiang**	**9.90**	**336**	*e*P	**Pn**	**14 02 42.8**	**-0.8**
	7.9nm,0.7s						
ASAJ	**Asahikawa**	**10.19**	**32**	P	**Pn**	**14 02 46.5**	**-0.5**
	3.5nm,0.3s,baz=222,slow=11,SNR=33						
ASAJ				S	**S**	**14 04 33.1**	**-9.0**
	0.5nm,0.3s,baz=336,slow=20,SNR=6.0						
JOW	**Kunigami**	**10.59**	**216**	P	**Pn**	**14 02 50.5**	**-1.2**
	0.8nm,0.3s,baz=92,slow=18,SNR=3.9						
SONM	**Songino Array**	**24.52**	**309**	P	**P**	**14 05 16.3**	**+2.5**
	0.7nm,0.5s,mb3.2,baz=124,slow=9.8,SNR=5.2						
MKAR	**Makanchi Array**	**40.59**	**303**	P	**P**	**14 07 31.7**	**+0.2**
	0.7nm,0.5s,mb3.1,baz=90,slow=10,SNR=5.1						
ZRNK	**Zerenda**	**48.60**	**312**	*e*P	**P**	**14 08 32.9**	**-1.2**
	0.9nm,0.3s,mb3.5						
WRA	**Warrangua Arr**	**55.30**	**181**	P	**P**	**14 09 22.5**	**-0.4**
	0.3nm,0.4s,mb3.0,baz=0.4,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**67.60**	**331**	P	**P**	**14 10 43.5**	**-0.8**
	0.6nm,0.4s,mb3.6,baz=77,slow=4.1,SNR=6.1						
LPAZ	**La Paz**	**151.65**	**53**	PKPbc	PKPbc	14 19 38.6	+1.3
	1.0nm,0.3s,baz=243,slow=13,SNR=6.0						

IDC 22 14:10:20.9±7.0, 1524S×17392W, h63km±103km, mb4.0/5, mb1 4.1/6, mb1mx3.8/14, mbtmp4.2/6, ML1.0/1, Error ellipse: s-maj=182.0km s-min=56.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.46**	**58**	P	Pn	14 11 00.5	+1.8
	1.8nm,0.3s,baz=325,slow=18,SNR=2.6						
AFI				S	Sn	14 11 28.1	+0.5
	2.0nm,0.3s,baz=252,slow=20,SNR=3.2						
CTA	**Charters Tower**	**38.19**	**257**	P	P	14 17 33.9	-0.5
	1.3nm,0.7s,baz=62,slow=17,SNR=2.9						
STKA	**Stephens Creek**	**43.68**	**240**	P	P	14 18 19.2	-0.3
	2.3nm,0.3s,baz=86,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**49.39**	**257**	P	P	14 19 04.1	-0.1
	0.8nm,0.3s,baz=85,slow=7.9,SNR=54						
ASAR	**Alice Springs**	**49.69**	**252**	P	P	14 19 06.2	-0.1
	8.5nm,0.4s,baz=89,slow=7.8,SNR=317						
FITZ	**Fitzroy Crossi**	**57.75**	**258**	P	P	14 20 07.4	+2.0
	0.8nm,0.4s,baz=92,slow=7.2,SNR=12						

NEIC ***22*** *14:27:16.3, 19.11N×6896W, h189km, MD3.7(RSPR), After RSPR.*

**RSPR 22 14:27:16.3, 1911N×6896W, h189km±2km

comp=Z,36nm,0.8s
TKM2 ⇓S **Sn** **15 12 05.5 -2.8**
comp=Z,6.3nm,0.5s
TKM2 Tokmak 2 4.87 17 PN **Pn** **15 11 14.0 +1.1**
TKM2 pmax pmax
comp=Z,68nm,0.3s
USP Ospenovka 5.03 7 P **Pn** **15 11 16.4 +1.3**
SNR=49
KK31 Karatay Array 5.38 335 ⇓P **Pn** **15 11 19.3 -0.6**
comp=Z,86nm,0.3s,baz=140,slow=12,SNR=1564
KK31 Karatay Array 5.38 335 *i* PN **Pn** **15 11 19.0 -0.9**
KK31 pmax pmax
comp=Z,193nm,0.3s
KKAR Karatay Array 5.38 335 PN **Pn** **15 11 19.0 -0.9**
KKAR S **Sn** **15 12 14.9 -5.9**
KKAR pmax pmax
comp=Z,58nm,0.3s
KKAR smax
comp=Z,475nm,0.5s
KNDC Almaty 5.54 26 ⇓P **Pn** **15 11 23.5 +1.6**
comp=Z,58nm,0.5s
KNDC ⇑S **Sn** **15 12 21.6 -2.9**
comp=Z,524nm,1.2s
AAA Alma-Ata 5.58 25 *i* PN **Pn** **15 11 23.4 +0.9**
AAA MLR MLR
comp=Z,850nm,2.3s
THW Thamme Wali 5.69 197 ⇑P **Pn** **15 11 24.4 +0.5**
THW S **Sn** **15 12 20.0 -8.0**
DLH Dalhousie 6.02 161 *eP* **Pn** **15 11 29.0 +0.6**
DLH *ex* x 15 12 38.0
THN Thein Dam 6.06 163 *eP* **Pn** **15 11 30.5 +1.5**
THN *ex* x 15 12 36.7
SARP Sargodha 6.39 188 ⇓P **Pn** **15 11 33.4 0.0**
SBDP Sheikh Budin 6.40 202 ⇑P **Pn** **15 11 33.5 0.0**
DRP Derazinda 7.11 205 ⇓P **Pn** **15 11 43.6 +0.5**
BHK Bhakra 7.21 161 *eP* **Pn** **15 11 50.0 +5.6**
BHK *eS* **Sn** **15 13 05.6 +0.9**
SDNR Sundarnagar 7.28 157 *eP* **Pn** **15 11 45.0 -0.5**
SDNR *ex* x 15 13 10.0
SMLA Simla 7.69 157 *eP* **Pn** **15 11 50.4 -0.5**
SMLA *eS* **Sn** **15 13 10.6 -5.8**
KLP Kalpa 7.71 149 *eP* **Pn** **15 11 51.5 +0.4**
KLP *eS* **Sn** **15 13 14.2 -2.6**
KLP AML AML 15 13 19.3
comp=E,902nm,0.5s
KLP AML AML 15 13 20.8
comp=N,638nm,0.4s
DDI Dehra Dun 8.72 154 *ex* x 15 12 18.0
DDI *ex* x 15 13 27.0
NDI New Delhi 10.01 162 *eP* **Pn** **15 12 20.0 -2.2**
comp=N,17nm,0.6s
NDI *ex* x 15 14 03.0
BISR Bishrakh 10.18 161 *eP* **Pn** **15 12 24.4 0.0**
BISR *eS* **Sn** **15 14 08.6 -8.0**
AYAN Aya Nagar 10.19 162 *eP* **Pn** **15 12 24.4 -0.1**
AYAN AMb AMB 15 12 26.4
comp=Z,75nm,0.9s
AYAN *eS* **Sn** **15 14 10.5 -6.3**
PTH Pithoragarh 10.26 146 *eS* **Sn** **15 14 11.3 -7.4**
KHET Khetri 10.33 169 *eP* **Pn** **15 12 23.5 -2.9**
KHET AMb AMB 15 12 25.1
comp=Z,66nm,0.9s
KHET *eS* **Sn** **15 14 08.9 -11**
SONA Sohna 10.40 163 *eP* **Pn** **15 12 25.9 -1.4**
SONA AMb AMB 15 12 27.7
comp=Z,38nm,0.5s
SONA *eS* **Sn** **15 14 14.5 -7.5**
MK02 Makanchi Array 10.61 34 ⇑P **Pn** **15 12 30.8 +0.5**
comp=Z,14nm,0.6s
MK31 Makanchi Array 10.62 34 P **Pn** **15 12 30.4 0.0**
MK31 pmax pmax
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 10.62 34 P **Pn** **15 12 31.1 +0.7**
comp=Z,4.4nm,0.3s,baz=213,slow=14,SNR=181
MKAR Makanchi Array 10.62 34 *i* P **Pn** **15 12 31.2 +0.8**
MKAR pmax pmax
comp=Z,21nm,0.6s
JASL Jaisalmer 11.55 192 *eP* **Pn** **15 12 41.1 -1.5**
AJM Ajmer 11.79 176 *eP* **Pn** **15 12 44.0 -1.8**
AJM AMb AMB 15 12 44.8
comp=Z,53nm,0.8s
AJM ⇓*eS* **Sn** **15 14 45.4 -10**
WMQ Urumqi 11.95 58 ⇓*i* P **Pn** **15 12 47.8 -0.1**
WMQ AMB AMB
comp=Z,20nm,0.7s
WMQ AMB AMB
comp=Z,126nm,3.5s
KOLN Koldanda 13.38 139 *eP* **Pn** **15 13 05.6 -0.9**
comp=Z,83nm,0.4s
GKN Gorkha 13.75 135 *eP* **Pn** **15 13 10.0 -1.3**
comp=Z,156nm,0.5s
KKN Kakani 14.28 134 *eP* **Pn** **15 13 16.5 -1.5**
comp=Z,132nm,0.5s
KKN *eS* **Sn** **15 15 46.1 -10**
DMN Daman 14.32 135 *eP* **Pn** **15 13 17.4 -1.1**
comp=Z,43nm,0.4s
DMN *eS* **Sn** **15 15 48.1 -8.6**
PKI Pulchoki 14.52 134 *eP* **Pn** **15 13 19.7 -1.4**
comp=Z,39nm,0.3s
GUN Gumba 14.53 132 *eP* **Pn** **15 13 19.6 -1.6**
comp=Z,48nm,0.4s
VOSK Vostochnaya 14.57 354 ⇑P **Pn** **15 13 18.6 -3.1**
comp=Z,20nm,1.8s
VOSK Vostochnaya 14.57 354 P **Pn** **15 13 18.5 -3.2**
VOSK pmax pmax
comp=Z,36nm,1.8s
AB31 Akbulak array 14.76 322 ⇑P **Pn** **15 13 20.9 -3.2**
comp=Z,5.3nm,0.3s,baz=134,slow=13,SNR=165
AB31 ⇓S **Sn** **15 15 54.8 -13**
comp=Z,26nm,0.5s
AB31 Akbulak array 14.76 322 *i* P **Pn** **15 13 21.7 -2.4**
AB31 S **Sn** **15 15 51.3 -16**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
AB31 smax
comp=Z,2.0nm,0.3s
JIRN Jiri 14.90 132 *eP* **Pn** **15 13 25.5 -0.4**
comp=Z,104nm,0.5s
JIRN *eS* **Sn** **15 16 00.9 -10**
BVA0 Borovoye Array 14.93 352 P **Pn** **15 13 23.6 -2.6**
comp=Z,1.7nm,0.7s,baz=161,slow=12,SNR=38
BVA0 Borovoye Array 14.93 352 *i* P **Pn** **15 13 23.5 -2.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 14.93 352 P **Pn** **15 13 24.0 -2.2**
comp=Z,3.1nm,0.3s,baz=151,slow=13,SNR=32
BRVK Borovoye 14.97 352 ⇓P **Pn** **15 13 24.2 -2.5**
SNR=6.2
BRVK Borovoye 14.97 352 *eP* **Pn** **15 13 24.1 -2.6**
BRVK pmax pmax
comp=Z,8.0nm,0.6s
BRVK Borovoye 14.97 352 *ePn* **Pn** **15 13 24.1 -2.6**
comp=Z,7.9nm,0.6s
ZRNK Zerenda 15.03 349 ⇓P **Pn** **15 13 25.1 -2.4**
comp=Z,22nm,1.2s
ZRNK Zerenda 15.03 349 *eP* **Pn** **15 13 25.1 -2.4**
ZRNK pmax pmax
comp=Z,12nm,0.6s
ZRNK Zerenda 15.03 349 *ePn* **Pn** **15 13 25.1 -2.4**
comp=Z,12nm,0.6s
BHPL Bhopal 15.33 167 *eP* **Pn** **15 13 30.7 -0.5**
BHPL AMb AMB 15 13 34.2
comp=Z,13nm,0.5s
BHPL *ex* x 15 16 10.9
CHKZ Chkalovo 15.55 353 ⇓P **Pn** **15 13 31.6 -2.3**
comp=Z,5.9nm,0.5s
CHKZ Chkalovo 15.55 353 *eP* **Pn** **15 13 31.5 -2.4**
CHKZ pmax pmax
comp=Z,11nm,0.5s
CHKZ Chkalovo 15.55 353 *ePn* **Pn** **15 13 31.5 -2.4**
comp=Z,11nm,0.5s
JBP Jabalpur 16.00 158 ⇑*i*P **Pn** **15 13 39.4 -0.2**
JBP *ex* x 15 13 44.0
comp=Z,47nm,0.9s
JBP *i* x x 15 16 23.8
AKTK Aktyubinsk 16.48 323 P **Pn** **15 13 43.7 -1.7**
AKTK S **S** **15 16 33.6 -16**
AKTO Aktyubinsk 16.48 323 ⇑P **Pn** **15 13 43.5 -1.9**
comp=Z,0.5nm,0.8s
AKTO ⇑S **S** **15 16 37.6 -12**
comp=Z,1.3nm,0.9s
AKTO Aktyubinsk 16.48 323 P **Pn** **15 13 43.7 -1.7**
comp=Z,4.2nm,0.3s,baz=122,slow=12,SNR=48
AKTO S **S** **15 16 33.6 -16**
comp=Z,0.9nm,0.3s,baz=171,slow=18,SNR=4.1

LSA Lhasa 16.82 115 P **Pn** **15 13 53.0 +3.5**
LSA Lhasa 16.82 115 *eP* **Pn** **15 13 53.0 +3.5**
LSA pmax pmax
comp=Z,11nm,0.7s
LSA Lhasa 16.82 115 *ePn* **Pn** **15 13 53.0 +3.5**
comp=Z,11nm,0.7s
ZAL Zalesovo 17.43 22 P **Pn** **15 13 55.9 -1.0**
comp=Z,14nm,0.3s,baz=257,slow=8.3,SNR=135
ZAL sP sP 15 14 38.4 +3.7
comp=Z,0.6nm,0.3s,baz=261,slow=9.4,SNR=2.4
ZAL S **S** **15 17 04.5 -6.5**
comp=Z,0.4nm,0.3s,baz=188,slow=19,SNR=3.5
NGP Nagpur 17.69 163 ⇑*ex* x 15 13 55.1
NGP *ex* x 15 17 03.6
AKL Akola 17.75 170 *ex* x 15 17 05.5
NVS Novosibirsk 17.80 18 ⇓*iP* **Pn** **15 13 59.4 -2.0**
NVS *eS* **S** **15 17 05.7 -13**
NVS pmax pmax
comp=N,47nm,1.2s
NVS pmax pmax
comp=Z,50nm,1.2s
NVS pmax pmax
comp=E,13nm,0.8s
NVS smax
comp=N,34nm,2.1s
NVS smax
comp=E,40nm,2.1s
BOK Bokaro 17.81 141 *eP* **Pn** **15 14 00.9 -0.5**
BOK *ex* x 15 17 08.8
POO Poona 19.67 179 *ex* x 15 14 22.0
SHL Shillong 19.95 124 *iP* **P** **15 14 26.0 +2.3**
SHL *ix* x 15 17 55.0
ASHO Ashiyiah 20.18 233 ⇑P **P** **15 14 26.2 0.0**
SNR=8.7
SMDO Samad 20.21 226 ⇑P **P** **15 14 27.2 +0.7**
SNR=5.3
GTA Gaotai 20.38 79 *eP* **P** **15 14 31.5 +3.1**
GTA AMB AMB
comp=Z,8.0nm,0.9s
SVE Sverdlovsk 20.47 339 *eP* **P** **15 14 32.8 +3.4**
ARU Arti 20.76 336 ⇓*iP* **P** **15 14 31.3 -1.2**
ARU *eS* **S** **15 18 13.3 -3.8**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 20.76 336 *ePn* **P** **15 14 31.8 -0.6**
comp=Z,15nm,0.9s
HYB Hyderabad 21.22 167 *iP* **P** **15 14 39.0 +1.7**
HYB Hyderabad 21.22 167 *eP* **P** **15 14 39.0 +1.7**
KRAR Krasnoyarsk 21.91 30 *eP* **P** **15 14 43.8 -0.8**
KRAR pmax pmax
comp=Z,12nm,1.3s,mb4.1
GNI Garni 22.45 284 P **P** **15 14 52.0 +1.7**
comp=Z,21nm,0.7s,mb4.6,baz=41,slow=1.5,SNR=8.2
GNI Garni 22.45 284 *diP* **P** **15 14 51.6 +1.3**
GNI pmax pmax
comp=Z,66nm,1.5s
GNI Garni 22.45 284 *ePn* **P** **15 14 51.8 +1.5**
comp=Z,92nm,1.1s,mb5.0
ZEI Tsey 23.00 291 *eP* **P** **15 14 55.1 -0.4**
ZEI pmax pmax
comp=Z,18nm,0.8s,mb4.5
UMR Umm Al-Rimmam 23.17 256 *eP* **P** **15 14 57.5 +0.5**
UMR AMb AMB 15 15 00.2
comp=Z,70nm,0.8s,mb5.1
MIB Mutribah 23.33 257 *eP* **P** **15 14 59.5 +1.0**
MIB AMb AMB 15 15 01.1
comp=Z,90nm,0.6s,mb5.3
MOY Mondy 23.35 46 *eP* **P** **15 15 00.9 +2.2**
KBD Kabd 23.37 255 *eP* **P** **15 14 59.8 +1.0**
KBD AMb AMB 15 15 00.5
comp=Z,141nm,0.8s,mb5.4
RDF Al-Radifah 23.60 255 *eP* **P** **15 15 01.8 +0.9**
RDF AMb AMB 15 15 03.7
comp=Z,95nm,0.9s,mb5.1
NAY Al-Naaiem 23.67 256 *eP* **P** **15 15 02.6 +0.9**
NAY AMb AMB 15 15 04.3
comp=Z,90nm,0.7s,mb5.2
RST Umm Al-Ruwaisa 23.74 256 *eP* **P** **15 15 02.9 +0.6**
RST AMb AMB 15 15 03.7
comp=Z,186nm,0.6s
KIV Kislovodsk 23.93 294 *ceP* **P** **15 15 04.1 +0.1**
KIV *e* 15 15 37.4
KIV pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
KIV Kislovodsk 23.93 294 *ePn* **P** **15 15 04.4 +0.4**
comp=Z,26nm,0.8s,mb4.6
ZAK Zakamensk 24.23 50 *eP* **P** **15 15 08.5 +1.8**
ZAK *e* 15 15 40.8
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.7
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 24.88 48 *eP* **P** **15 15 15.9 +3.3**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
SONM Songino Array 25.59 58 P **P** **15 15 21.4 +2.4**
comp=Z,4.4nm,0.7s,mb4.0,baz=255,slow=10,SNR=43
SONM pP pP 15 15 51.4 +5.5
comp=Z,4.3nm,0.7s,baz=258,slow=9.7,SNR=5.6
SONM sP sP 15 16 08.1 +7.5
comp=Z,12nm,0.9s,baz=259,slow=9.8,SNR=8.8
CD2 Chengdu 25.76 97 *eP* **P** **15 15 22.0 +1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
MDRS Chennai 25.78 165 *ex* x 15 12 06.4
MDRS *ex* x 15 20 10.0
VRSR Storozhevoye 27.42 309 *eP* **P** **15 15 34.3 -1.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.7s
MALT Malatya 27.55 281 *eP* **P** **15 15 37.7 +1.1**
MALT pmax pmax
comp=Z,12nm,1.0s,mb4.4
MALT Malatya 27.55 281 *eP* **P** **15 15 37.7 +1.1**
comp=Z,12nm,1.0s,mb4.4
ANN Anapa 27.73 295 *eP* **P** **15 15 32.3 -5.8**
ANN *eS* **S** **15 19 56.9 -14**
ANN pmax pmax
comp=Z,63nm,1.3s,mb5.0
KMI Kunming 27.87 110 P **P** **15 15 42.1 +2.7**
KMI AMB AMB
comp=Z,5.0nm,0.5s,mb4.3
OBN Obninsk 30.05 316 ⇓*eP* **P** **15 15 58.5 -0.2**
OBN pmax pmax
comp=Z,39nm,2.8s,mb4.5
OBN Obninsk 30.05 316 P **P** **15 15 57.8 -0.9**
BR131 Keskin Array S 30.96 285 *eP* **P** **15 16 07.3 +0.6**
comp=Z,14nm,0.8s,mb4.7
BRTR Keskin Array B 30.96 285 P **P** **15 16 07.5 +0.7**
comp=Z,12nm,0.8s,mb4.7,baz=95,slow=7.7,SNR=49
BOD Bodaibo 32.63 40 *eP* **P** **15 16 20.6 -0.8**
BOD *e* 15 16 54.5
BOD *e* 15 17 08.7
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
EIL Elat 33.04 267 *eP* **P** **15 16 25.8 +0.8**
comp=Z,140nm,0.9s
AKASG Malin Array Be 33.55 306 P **P** **15 16 28.5 -0.8**
comp=Z,5.2nm,0.4s,mb4.8,baz=80,slow=8.5,SNR=29
AKASG PcP PcP 15 19 06.5 -0.6
comp=Z,0.6nm,0.4s,baz=79,slow=3.3,SNR=4.3
AKASG Malin Array Be 33.55 306 P **P** **15 16 28.5 -0.8**
AKASG PcP PcP 15 19 06.5 -0.6
AKBB Malin Array Si 33.55 306 *eP* **P** **15 16 28.4 -1.0**
VRI Vrincioaia 35.23 298 ⇑*iP* **P** **15 16 45.4 +1.5**
PLOR Plostina 35.29 298 ⇑*iP* **P** **15 16 45.7 +1.3**
JOF Joensuu 35.44 328 *ep* **P** **15 16 44.7 -1.0**
comp=Z,17nm,0.4s,mb5.2
MLR Muntele Rosu 35.81 297 ⇑*iP* **P** **15 16 50.5 +1.7**
SNX Sinaia 36.13 297 ⇑*iP* **P** **15 16 55.4 +3.9**
BURAR Bucovina Array 36.15 301 ⇑*iP* **P** **15 16 52.0 +0.3**
VOIR 36.45 297 ⇓*iP* **P** **15 16 55.0 +0.8**
LVV L'vov 36.85 305 *eP* **P** **15 16 57.3 -0.4**
NJ2 Nanjing 37.18 86 *eP* **P** **15 17 04.9 +4.5**
NJ2 PP PP 15 18 37.5 +10
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,320nm,5.7s
NJ2 LR LR
comp=N,280nm,20.7s
NJ2 LR LR
comp=E,240nm,23.1s
NJ2 LR LR
comp=Z,200nm,25.0s
FINES FINESS Array B 37.24 324 P **P** **15 17 00.7 -0.3**
comp=Z,15nm,0.6s,mb5.1,baz=110,slow=10,SNR=124
KAF Kangasniemi 37.33 325 *ep* **P** **15 17 01.1 -0.6**
comp=Z,9.0nm,0.6s,mb4.9
KAF Kangasniemi 37.33 325 *eP* **P** **15 17 01.1 -0.6**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KOLS Kolonicke sedl 38.04 303 *eP* **P** **15 17 07.8 +0.1**
STHS Stebnicka Huta 38.68 304 *eP* **P** **15 17 12.7 -0.3**
STHS pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
STHS Stebnicka Huta 38.68 304 *eP* **P** **15 17 12.7 -0.3**
comp=Z,3.7nm,0.6s,mb4.4
BZS Buzias 38.82 298 ⇑*iP* **P** **15 17 15.1 +0.9**
NIE Niedzica 39.29 304 *eP* **P** **15 17 18.8 +0.7**
SSE Sheshan 39.38 86 P **P** **15 17 21.5 +2.6**
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,46nm,4.0s
OJC Ojcow 39.56 305 *eP* **P** **15 17 19.0 -1.4**
GVD Gavdhos 39.59 281 *eP* **P** **15 17 20.0 -0.6**
comp=Z,44nm,0.9s,mb5.3
PSZ Piszkesteto 39.70 302 *eP* **P** **15 17 15.6 -5.9**
PSZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
PSZ Piszkesteto 39.70 302 *eP* **P** **15 17 15.6 -6.0**
comp=Z,6.3nm,0.9s,mb4.5
KEV Kevo 39.98 337 P **P** **15 17 19.6 -4.2**
KEV pmax pmax
comp=Z,24nm,1.2s,mb4.9
KEV Kevo 39.98 337 P **P** **15 17 19.6 -4.2**
comp=Z,24nm,1.2s,mb4.9
VYHS Vyhne 40.34 303 *eP* **P** **15 17 26.8 0.0**
ARCES ARCESS Array B 40.35 336 P **P** **15 17 26.8 -0.1**
comp=Z,8.7nm,0.5s,mb4.9,baz=110,slow=8.0,SNR=103
ARE0 ARCESS Array S 40.35 336 *eP* **P** **15 17 26.6 -0.3**
KTK1 Kautokeino 40.88 335 *eP* **P** **15 17 30.5 -0.7**
KTK1 AMb AMB 15 17 39.4
comp=Z,32nm,1.9s,mb4.8
KTK1 Kautokeino 40.88 335 *eP* **P** **15 17 30.5 -0.7**
comp=Z,32nm,1.9s,mb4.8
MORC Moravsky Berou 41.05 305 *eP* **P** **15 17 32.6 0.0**
MORC pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
MORC Moravsky Berou 41.05 305 *eP* **P** **15 17 32.6 0.0**
comp=Z,9.7nm,1.1s,mb4.5
YAK Yakutsk 41.29 36 *eP* **P** **15 17 34.8 +0.2**
YAK *e*PP pP 15 18 07.3 +4.4
YAK *e*SP sP 15 18 23.0 +5.8
YAK pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
YAK Yakutsk 41.29 36 *eP* **P** **15 17 34.8 +0.2**
comp=Z,5.2nm,0.6s,mb4.5
YAK *ep*P pP 15 18 07.3 +4.4
YAK *es*P sP 15 18 23.0 +5.8
DPC Dobruska-Polom 41.78 306 *eP* **P** **15 17 39.0 +0.5**
UPC Upice 41.96 306 *eP* **P** **15 17 39.7 -0.3**
CONA Conrad Observa 42.39 302 ⇑*iP* **P** **15 17 44.0 +0.5**
comp=Z,12nm,1.0s,mb4.6
TRO Tromso 42.53 335 *eP* **P** **15 17 43.5 -1.2**
TRO Tromso 42.53 335 *eP* **P** **15 17 43.3 -1.3**
PRU Pruhonice 42.95 306 *eP* **P** **15 17 48.3 +0.2**
BRG Berggiesshubel 43.22 307 *eP* **P** **15 17 50.6 +0.4**
comp=Z,11nm,0.7s,mb4.7
BRG Berggiesshubel 43.22 307 ⇑*iP* **P** **15 17 50.5 +0.3**
comp=Z,6.6nm,0.7s,mb4.5
BRG Berggiesshubel 43.22 307 ⇑*iP* **P** **15 17 50.5 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MOR8 Moi Rana 43.34 329 ⇑*iP* **P** **15 17 50.0 -1.2**
MOR8 AMb AMB 15 17 50.7
comp=Z,36nm,0.8s,mb5.1
MOR8 Moi Rana 43.34 329 ⇑*iP* **P** **15 17 50.0 -1.2**
comp=Z,36nm,0.8s,mb5.2
MOA Molln 43.46 303 ⇑*iP* **P** **15 17 52.0 -0.1**
comp=Z,10nm,1.1s,mb4.5
GEC2 GERESS Array S 43.67 304 *eP* **P** **15 17 54.0 +0.2**
comp=Z,8.0nm,1.0s,mb4.4
GEC2 GERESS Array S 43.67 304 *eP* **P** **15 17 54.0 +0.2**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GERES GERESS Array B 43.67 304 P **P** **15 17 54.0 +0.2**
comp=Z,2.6nm,0.6s,mb4.1,baz=69,slow=7.3,SNR=18
GERES PcP PcP 15 19 38.9 +0.1
comp=Z,0.4nm,0.5s,baz=96,slow=5.4,SNR=3.7
KHC Kasperske Hory 43.70 305 *eP* **P** **15 17 54.4 +0.3**
KHC Kasperske Hory 43.70 305 ⇑*eP* **P** **15 17 54.5 +0.4**
CLL Collm 43.76 308 *eP* **P** **15 17 54.4 -0.1**
comp=Z,14nm,0.8s,mb4.7
CLL Collm 43.76 308 *iP* **P** **15 17 54.3 -0.2**
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.7
CLL Collm 43.76 308 *iP* **P** **15 17 54.3 -0.2**
comp=Z,14nm,0.8s,mb4.7
CLL *i* 15 17 58.4
CLL *i* 15 18 05.0
LOF Lofoten 44.04 332 *eP* **P** **15 17 57.8 +1.0**
CADS Cadrg 44.13 300 *iP* **P** **15 17 57.5 +0.1**
NSS Namsos 44.15 327 *eP* **P** **15 17 57.3 -0.3**
WET Wettzell 44.15 305 *eP* **P** **15 17 58.0 +0.3**
comp=Z,6.0nm,0.8s,mb4.4
WET Wettzell 44.15 305 *eP* **P** **15 17 58.0 +0.3**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
TANN Tannenbergstha 44.22 306 *eP* **P** **15 17 58.4 +0.2**
comp=Z,11nm,1.3s,mb4.4
NB2 NORSAR Subarra 44.27 322 P **P** **15 17 57.8 -0.8**
comp=Z,17nm,0.5s,mb5.0,baz=92,slow=7.9
NOA NORSAR Array B 44.27 322 P **P** **15 17 57.6 -1.0**
comp=Z,22nm,0.6s,mb5.0,baz=92,slow=7.7,SNR=92
NAO01 NORSAR Array S 44.43 322 *eP* **P** **15 17 58.7 -1.1**
comp=Z,13nm,0.7s,mb4.8
ROTZ Rotzenmuhle 44.48 306 *eP* **P** **15 18 01.0 +0.7**
comp=Z,8.0nm,1.2s,mb4.3
MOX Moxa 44.72 307 *eP* **P** **15 18 02.4 +0.2**
comp=Z,8.0nm,0.9s,mb4.5
MOX Moxa 44.72 307 *eP* **P** **15 18 02.1 -0.1**
BSEG Bad Segeberg 45.07 312 *eP* **P** **15 18 03.8 -1.1**
comp=Z,14nm,0.8s,mb4.7
BSEG Bad Segeberg 45.07 312 *eP* **P** **15 18 03.8 -1.1**
BSEG pmax pmax
comp=Z,14nm,0.8s,mb4.7
KONO Kongsberg 45.07 320 ⇑*eP* **P** **15 18 05.2 +0.2**
GRA1 Grafenberg Arr 45.12 306 *eP* **P** **15 18 05.8 +0.4**
comp=Z,28nm,1.4s,mb4.8
GRF Grafenberg Arr 45.12 306 *eP* **P** **15 18 05.8 +0.4**
comp=Z,28nm,1.4s,mb4.8
GRF Grafenberg Arr 45.12 306 *eP* **P** **15 18 05.8 +0.4**
GRF pmax pmax
comp=Z,28nm,1.4s,mb4.8
GRF Grafenberg Arr 45.12 306 *eP* **P** **15 18 05.8 +0.4**
GRF pmax pmax
comp=Z,28nm,1.4s,mb4.8
CLZ Clausthal 45.31 309 *eP* **P** **15 18 06.9 +0.1**
comp=Z,7.0nm,0.7s,mb4.5
CLZ Clausthal 45.31 309 *eP* **P** **15 18 06.9 +0.1**
CLZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
WTTA Wattenberg 45.32 302 ⇑*iP* **P** **15 18 06.6 -0.3**
comp=Z,6.8nm,0.7s,mb4.5
WTTA Wattenberg 45.32 302 ⇑*iP* **P** **15 18 06.6 -0.3**
WTTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
NRDL Niedersach Rie 45.38 310 *eP* **P** **15 18 07.7 +0.3**
comp=Z,16nm,0.9s,mb4.8
SQTA Sankt Quirin 45.62 302 ⇑*iP* **P** **15 18 08.8 -0.5**
comp=Z,4.2nm,1.1s,mb4.1
SQTA Sankt Quirin 45.62 302 ⇑*iP* **P** **15 18 08.8 -0.5**
SQTA pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
UBBA Unterbreizbach 45.70 307 *eP* **P** **15 18 09.8 -0.1**
comp=Z,4.0nm,0.8s,mb4.2
DAVA Damuels 46.48 303 ⇑*iP* **P** **15 18 15.9 -0.1**
comp=Z,24nm,0.6s,mb5.1
TNS Taunus Mts 46.79 307 *eP* **P** **15 18 18.7 +0.3**
comp=Z,6.0nm,0.7s,mb4.4
TNS Taunus Mts 46.79 307 *eP* **P** **15 18 18.7 +0.3**
TNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
BFO Black Forest 47.26 304 *eP* **P** **15 18 22.6 +0.5**

comp=Z,14nm,1.3s,mb4.5
BFO Black Forest 47.26 304 *e*P **P 15 18 22.6 +0.5**
BFO pmax pmax
comp=Z,14nm,1.3s,mb4.5
CDF Champ du Feu 47.93 305 *e*P **P 15 18 27.2 0.0**
comp=Z,10nm,0.8s,mb4.4
CDF Champ du Feu 47.93 305 *e*P **P 15 18 27.2 0.0**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CDF Champ du Feu 47.93 305 *e*P **P 15 18 27.2 0.0**
comp=Z,5.1nm,0.8s,mb4.4
MEM Membach 48.23 308 P **P 15 18 30.4 +0.8**
HINF Hinteralfeld 48.35 304 *e*P **P 15 18 30.2 -0.3**
WLF Walferdange 48.35 307 P **P 15 18 31.5 +0.9**
PGF Pioggiola 48.36 297⇑*i*P **P 15 18 30.4 -0.1**
comp=Z,22nm,0.8s,mb4.8
PGF Pioggiola 48.36 297⇑*i*P **P 15 18 30.4 -0.1**
PGF pmax pmax
comp=Z,11nm,0.8s,mb4.7
PGF Pioggiola 48.36 297⇑*i*P **P 15 18 30.4 -0.1**
comp=Z,11nm,0.8s,mb4.8
HAU Haudompre 48.63 304⇑*i*P **P 15 18 32.4 -0.2**
comp=Z,17nm,0.7s,mb4.8
HAU Haudompre 48.63 304⇑*i*P **P 15 18 32.4 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HAU Haudompre 48.63 304⇑*i*P **P 15 18 32.4 -0.2**
comp=Z,8.4nm,0.7s,mb4.8
SAOF Saorge 48.93 299 *e*P **P 15 18 35.2 +0.3**
AUTN L'Aution 49.01 299 *e*P **P 15 18 36.7 +1.2**
LPG La Plagne 49.04 301 *e*P **P 15 18 36.4 +0.7**
comp=Z,28nm,0.9s,mb4.9
LPG La Plagne 49.04 301 *e*P **P 15 18 36.4 +0.7**
LPG pmax pmax
comp=Z,14nm,0.9s,mb4.9
LPG La Plagne 49.04 301 *e*P **P 15 18 36.4 +0.7**
comp=Z,14nm,0.9s,mb4.9
LPL La Plagne 49.04 301⇑*i*P **P 15 18 36.0 +0.2**
comp=Z,28nm,0.8s,mb5.0
LPL La Plagne 49.04 301⇑*i*P **P 15 18 36.0 +0.2**
LPL pmax pmax
comp=Z,14nm,0.8s,mb4.9
LPL La Plagne 49.04 301⇑*i*P **P 15 18 36.0 +0.2**
comp=Z,14nm,0.8s,mb5.0
SBF Sospel 49.05 299⇑*i*P **P 15 18 36.1 +0.3**
comp=Z,73nm,1.0s,mb5.3
SBF Sospel 49.05 299⇑*i*P **P 15 18 36.1 +0.3**
SBF pmax pmax
comp=Z,37nm,1.0s,mb5.3
SBF Sospel 49.05 299⇑*i*P **P 15 18 36.1 +0.3**
comp=Z,37nm,1.0s,mb5.3
RSL Roselend 49.07 301 *e*P **P 15 18 36.1 +0.1**
GIVF Givet 49.09 307 *e*P **P 15 18 36.5 +0.4**
TOUF Mont Tournerai 49.13 299 *e*P **P 15 18 36.9 +0.5**
CABF La Chapelle 49.17 303 *e*P **P 15 18 36.6 -0.1**
comp=Z,10nm,0.6s,mb4.7
CABF La Chapelle 49.17 303 *e*P **P 15 18 36.6 -0.1**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CABF La Chapelle 49.17 303 *e*P **P 15 18 36.6 -0.1**
comp=Z,5.2nm,0.6s,mb4.6
BNI Bardonecchia 49.21 300 *e*P **P 15 18 36.7 -0.4**
BNI pmax pmax
comp=Z,14nm,1.1s,mb4.8
BNI Bardonecchia 49.21 300 *e*P **P 15 18 36.7 -0.3**
comp=Z,14nm,1.1s,mb4.8
DOU Dourbes 49.23 307 P **P 15 18 37.7 +0.5**
MBDF Montbardon 49.24 300⇑*i*P **P 15 18 37.0 -0.3**
comp=Z,21nm,1.0s,mb4.7
MBDF Montbardon 49.24 300⇑*i*P **P 15 18 37.0 -0.3**
MBDF pmax pmax
comp=Z,11nm,1.0s,mb4.7
MBDF Montbardon 49.24 300⇑*i*P **P 15 18 37.0 -0.3**
comp=Z,11nm,1.0s,mb4.7
MEZF Maizieres J'vi 49.34 305⇑*i*P **P 15 18 38.3 +0.3**
comp=Z,33nm,0.8s,mb5.0
MEZF Maizieres J'vi 49.34 305⇑*i*P **P 15 18 38.3 +0.3**
comp=Z,33nm,0.8s,mb5.3
BAIF Baives 49.48 307⇑*i*P **P 15 18 39.5 +0.4**
FRF La Foret Royal 49.68 299⇑*i*P **P 15 18 40.5 -0.1**
comp=Z,26nm,0.8s,mb4.9
FRF La Foret Royal 49.68 299⇑*i*P **P 15 18 40.5 -0.1**
FRF pmax pmax
comp=Z,13nm,0.8s,mb4.9
FRF La Foret Royal 49.68 299⇑*i*P **P 15 18 40.5 -0.1**
comp=Z,13nm,0.8s,mb4.9
ORIF Oris-en-Rattie 49.79 301 *e*P **P 15 18 41.7 +0.2**
comp=Z,14nm,0.9s,mb4.6
ORIF Oris-en-Rattie 49.79 301 *e*P **P 15 18 41.7 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 49.79 301 *e*P **P 15 18 41.7 +0.2**
comp=Z,6.8nm,0.9s,mb4.6
LMR La Mourre 49.85 298 *e*P **P 15 18 42.2 +0.3**
SMRF Simiane la Rot 50.29 299 *e*P **P 15 18 45.4 +0.2**
comp=Z,34nm,1.0s,mb4.9
SMRF Simiane la Rot 50.29 299 *e*P **P 15 18 45.4 +0.2**
comp=Z,34nm,1.0s,mb5.2
MJAR Matsushiro Arr 50.35 71 pP pP 15 19 19.7 +4.8
comp=Z,1.0nm,0.6s,baz=287,slow=9.5,SNR=3.3
MJAR sP sP 15 19 36.8 +7.8
comp=Z,2.8nm,0.9s,baz=288,slow=9.9,SNR=4.6
LOR Lormes 50.45 304⇑*i*P **P 15 18 45.7 -0.7**
comp=Z,18nm,0.9s,mb4.7
LOR Lormes 50.45 304⇑*i*P **P 15 18 45.7 -0.7**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LOR Lormes 50.45 304⇑*i*P **P 15 18 45.7 -0.7**
comp=Z,8.8nm,0.9s,mb4.7
KEST Kesra 50.49 288 P **P 15 18 47.5 +0.8**
comp=Z,4.1nm,0.6s,mb4.5,baz=90,slow=0.1,SNR=16
VIVF Saint-Julien-l 50.63 301 *e*P **P 15 18 47.8 0.0**
comp=Z,8.9nm,0.7s,mb4.6
VIVF Saint-Julien-l 50.63 301 *e*P **P 15 18 47.8 0.0**
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
VIVF Saint-Julien-l 50.63 301 *e*P **P 15 18 47.8 0.0**
comp=Z,4.4nm,0.7s,mb4.6
SMF Signal de Mont 50.64 303⇑*i*P **P 15 18 47.4 -0.5**
comp=Z,27nm,0.8s,mb5.0
SMF Signal de Mont 50.64 303⇑*i*P **P 15 18 47.4 -0.5**
SMF pmax pmax
comp=Z,13nm,0.8s,mb5.0
SMF Signal de Mont 50.64 303⇑*i*P **P 15 18 47.4 -0.5**
comp=Z,13nm,0.8s,mb5.0
SSF Saint Saulge 50.74 304⇑*i*P **P 15 18 48.1 -0.5**
comp=Z,17nm,0.9s,mb4.8
SSF Saint Saulge 50.74 304⇑*i*P **P 15 18 48.1 -0.5**
SSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SSF Saint Saulge 50.74 304⇑*i*P **P 15 18 48.1 -0.5**
comp=Z,8.4nm,0.9s,mb4.8
AVF Avril sur Loir 50.92 304⇑*i*P **P 15 18 49.6 -0.4**
comp=Z,34nm,0.7s,mb5.2
AVF Avril sur Loir 50.92 304⇑*i*P **P 15 18 49.6 -0.4**
AVF pmax pmax
comp=Z,17nm,0.7s,mb5.2
AVF Avril sur Loir 50.92 304⇑*i*P **P 15 18 49.6 -0.4**
comp=Z,17nm,0.7s,mb5.2
PLDF La Plantade 50.99 302 *e*P **P 15 18 50.4 -0.1**
HYF Humbligny 51.24 304 *e*P **P 15 18 52.5 +0.1**
BGF Bois d'Agland 51.32 303 *e*P **P 15 18 52.5 -0.5**
LASF Ste Croix 51.43 300 *e*P **P 15 18 54.1 +0.3**
comp=Z,30nm,1.0s,mb5.0
KMBO Kilima Mbogo 51.59 229 LR LR 15 44 06.8
comp=Z,87nm,19.2s,baz=92,slow=40
TCF Toulx Ste Croi 51.83 303⇑*i*P **P 15 18 56.7 0.0**
comp=Z,16nm,0.7s,mb4.9
TCF Toulx Ste Croi 51.83 303⇑*i*P **P 15 18 56.7 0.0**
TCF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
TCF Toulx Ste Croi 51.83 303⇑*i*P **P 15 18 56.7 0.0**
comp=Z,8.1nm,0.6s,mb4.9
CAF Calviac 52.36 302⇑*i*P **P 15 19 01.0 +0.3**
comp=Z,13nm,0.9s,mb4.7
CAF Calviac 52.36 302⇑*i*P **P 15 19 01.0 +0.3**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CAF Calviac 52.36 302⇑*i*P **P 15 19 01.0 +0.3**
comp=Z,6.5nm,0.9s,mb4.7
RJF Les Rejaudoux 52.60 302 *e*P **P 15 19 02.9 +0.5**
LDF La Druitiere 52.61 307⇑*i*P **P 15 19 01.9 -0.6**
comp=Z,21nm,0.4s,mb5.2
LDF La Druitiere 52.61 307⇑*i*P **P 15 19 01.9 -0.6**
LDF pmax pmax
comp=Z,11nm,0.4s,mb5.2
LDF La Druitiere 52.61 307⇑*i*P **P 15 19 01.9 -0.6**
comp=Z,10nm,0.4s,mb5.2
FLN La Foliniere 52.79 307 *e*P **P 15 19 03.0 -0.8**
MTLF Montolieu 52.80 300 *e*P **P 15 19 03.9 0.0**
comp=Z,12nm,0.8s,mb4.7
MTLF Montolieu 52.80 300 *e*P **P 15 19 03.9 0.0**
MTLF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MTLF Montolieu 52.80 300 *e*P **P 15 19 03.9 0.0**
comp=Z,5.8nm,0.8s,mb4.7
GRR Gorron 53.14 307⇑*i*P **P 15 19 05.7 -0.7**
comp=Z,28nm,0.6s,mb5.1
GRR Gorron 53.14 307⇑*i*P **P 15 19 05.7 -0.7**
GRR pmax pmax
comp=Z,14nm,0.6s,mb5.2
GRR Gorron 53.14 307⇑*i*P **P 15 19 05.7 -0.7**
comp=Z,14nm,0.6s,mb5.2
LFF La Frestale 53.24 302 *e*P **P 15 19 07.4 +0.3**
MFF Saint Martin d 53.27 304⇑*i*P **P 15 19 06.6 -0.7**
comp=Z,17nm,0.8s,mb4.8
MFF Saint Martin d 53.27 304⇑*i*P **P 15 19 06.6 -0.7**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 53.27 304⇑*i*P **P 15 19 06.6 -0.7**
comp=Z,8.6nm,0.8s,mb4.8
ETOS Mallorca 53.70 295 P **P 15 19 11.2 +0.7**
EPF Esparros 54.19 300 *e*P **P 15 19 13.0 -1.1**
SGMF Saint Gilles 54.26 307⇑*i*P **P 15 19 14.2 -0.3**
comp=Z,17nm,0.5s,mb5.0
SGMF Saint Gilles 54.26 307⇑*i*P **P 15 19 14.2 -0.3**
SGMF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
SGMF Saint Gilles 54.26 307⇑*i*P **P 15 19 14.2 -0.3**
comp=Z,8.6nm,0.5s,mb5.0
ROSF Rostrenen 54.68 307⇑*i*P **P 15 19 17.1 -0.5**
comp=Z,18nm,0.6s,mb5.0
ROSF Rostrenen 54.68 307⇑*i*P **P 15 19 17.1 -0.5**
ROSF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ROSF Rostrenen 54.68 307⇑*i*P **P 15 19 17.1 -0.5**
comp=Z,9.3nm,0.6s,mb5.0
QUIF Quistinic 54.76 307⇑*i*P **P 15 19 17.5 -0.6**
comp=Z,21nm,0.6s,mb5.1
QUIF Quistinic 54.76 307⇑*i*P **P 15 19 17.5 -0.6**
QUIF pmax pmax
comp=Z,11nm,0.6s,mb5.1
QUIF Quistinic 54.76 307⇑*i*P **P 15 19 17.5 -0.6**
comp=Z,10nm,0.6s,mb5.0
ETSF Etsaut 54.85 300⇑*i*P **P 15 19 19.0 +0.2**
comp=Z,13nm,0.7s,mb4.8
ETSF Etsaut 54.85 300⇑*i*P **P 15 19 19.0 +0.2**
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ETSF Etsaut 54.85 300⇑*i*P **P 15 19 19.0 +0.2**
comp=Z,6.6nm,0.7s,mb4.8
SJPF Ste Jean 55.23 301 *e*P **P 15 19 21.7 +0.2**
ELIZ Elizondo 55.41 301 P **P 15 19 22.7 -0.1**
ELIZ pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ELIZ Elizondo 55.41 301 P **P 15 19 22.7 -0.1**
comp=Z,2.4nm,0.4s,mb4.6
EMOS Mosqueruela 55.78 297 P **P 15 19 26.1 +0.6**
comp=Z,17nm,0.9s,mb5.1
BILL Bilibino 56.08 27⇓*e*P **P 15 19 29.8 +2.2**
BILL 15 20 26.0
BILL *e* 15 21 36.8
BILL pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BILL MLR MLR
comp=Z,100nm,16.0s
ELAN Lanestosa 56.67 301 P **P 15 19 31.9 +0.1**
comp=Z,13nm,0.6s,mb5.1
EARI Arriondas 57.83 302 P **P 15 19 39.6 -0.3**
comp=Z,5.3nm,0.9s,mb4.6
EVIA Vianos 57.93 296 P **P 15 19 40.8 +0.2**
EVIA pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
EVIA Vianos 57.93 296 P **P 15 19 40.8 +0.2**
comp=Z,6.8nm,0.5s,mb4.9
ENIJ Nijar 58.45 294 P **P 15 19 44.9 +0.7**
ENIJ pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
ENIJ Nijar 58.45 294 P **P 15 19 44.9 +0.6**
comp=Z,4.6nm,0.3s,mb5.0
ESDC Sonseca Array 58.51 298 P **P 15 19 44.3 -0.3**
comp=Z,3.2nm,0.5s,mb4.6,baz=59,slow=7.2,SNR=12
ESDC Sonseca Array 58.51 298 P **P 15 19 44.5 -0.1**
comp=Z,4.5nm,0.7s,mb4.6
ESLA Sonseca Array 58.51 298 *e*P **P 15 19 44.1 -0.5**
comp=Z,0.6nm,0.6s,mb3.8
EQES Quesada 58.70 296 P **P 15 19 46.2 +0.2**
comp=Z,4.1nm,0.4s,mb4.8
EBAN Banos Encina 59.04 296 P **P 15 19 48.2 -0.1**
EBAN pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
EBAN Banos Encina 59.04 296 P **P 15 19 48.2 -0.1**
comp=Z,9.7nm,0.5s,mb5.1
EPON Pontenova 59.10 303 P **P 15 19 49.9 +1.2**
comp=Z,14nm,0.9s,mb5.0
ERON Agron 59.57 295 P **P 15 19 50.9 -1.0**
comp=Z,7.8nm,0.5s,mb5.0
EADA Adamuz 59.60 297 P **P 15 19 52.1 -0.1**
comp=Z,7.6nm,0.7s,mb4.8
ELUQ Luque 59.65 296 P **P 15 19 52.0 -0.5**
ELUQ pmax pmax
comp=Z,17nm,0.4s,mb5.4
ELUQ Luque 59.65 296 P **P 15 19 52.0 -0.5**
comp=Z,17nm,0.4s,mb5.4
EMIJ Mijas 60.47 295 P **P 15 19 56.1 -2.0**
comp=Z,14nm,0.6s,mb5.2
EBAD Badajoz 61.03 298 P **P 15 20 02.0 +0.1**
comp=Z,26nm,0.7s,mb5.4
ESPR Espera 61.10 296 P **P 15 20 02.6 +0.2**
comp=Z,4.6nm,0.5s,mb4.8
EMIN Mina Concepcio 61.25 297 P **P 15 20 03.4 0.0**
comp=Z,7.2nm,0.5s,mb5.0
TOA0 Torodi Ar. Sit 67.87 269⇑*i*P **P 15 20 45.6 -0.7**
TORD Torodi Ar. Bea 67.87 269 P **P 15 20 45.8 -0.6**
comp=Z,14nm,0.4s,mb5.1,baz=48,slow=5.8,SNR=268
INK Inuvik 71.80 10 *e*P **P 15 21 10.4 0.0**
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 71.80 10 *e*P **P 15 21 10.3 -0.1**
comp=Z,11nm,1.0s,mb4.7
DBIC Dimbokro 76.89 268 P **P 15 21 40.0 +0.1**
comp=Z,6.0nm,0.6s,mb4.5,baz=23,slow=6.0,SNR=12
DBIC Dimbokro 76.89 268 P **P 15 21 40.0 +0.1**
DBIC pmax pmax
comp=Z,6.0nm,0.6s
DBIC Dimbokro 76.89 268 *e*P **P 15 21 39.9 -0.1**
comp=Z,11nm,0.8s,mb4.6
LIC Lamto 77.30 268⇑*i*P **P 15 21 42.1 -0.1**
comp=Z,23nm,0.6s,mb4.8
LIC Lamto 77.30 268⇑*i*P **P 15 21 42.1 -0.1**
comp=Z,11nm,0.6s,mb4.8
BOSA Boshof 80.47 222 P **P 15 21 58.6 -0.9**
comp=Z,4.0nm,0.9s,mb4.2,baz=57,slow=3.8,SNR=3.9
WRA Warramunga Arr 81.17 124 P **P 15 22 03.6 +0.3**
comp=Z,2.0nm,0.7s,mb4.1,baz=327,slow=5.2,SNR=29
WRA pP pP 15 22 38.7 +3.7
comp=Z,2.1nm,0.8s,baz=326,slow=5.3,SNR=6.5
WRAB Tennant Creek 81.17 124 *e*P **P 15 22 03.5 +0.3**
WRAB Tennant Creek 81.17 124 *e*P **P 15 22 03.4 +0.1**
comp=Z,4.6nm,0.7s,mb4.4
SCHQ Schefferville 81.27 338 P **P 15 22 03.0 -0.8**
comp=Z,4.1nm,0.8s,mb4.3,baz=198,slow=20,SNR=3.4
ASAR Alice Springs 83.57 127 P **P 15 22 15.9 +0.2**
comp=Z,0.8nm,0.7s,baz=314,slow=4.7,SNR=12
ASAR pP pP 15 22 50.9 +3.1
comp=Z,0.8nm,0.9s,baz=312,slow=5.2,SNR=4.2
ASAR sP sP 15 23 06.5 +5.4
comp=Z,0.6nm,0.6s,baz=315,slow=5.4,SNR=3.1
FFC Flin Flon 87.30 357 *e*P **P 15 22 34.2 0.0**
FFC pmax pmax
comp=Z,11nm,1.1s,mb4.7
FFC Flin Flon 87.30 357 *e*P **P 15 22 34.2 +0.1**
comp=Z,11nm,1.1s,mb4.7
EDM Edmonton 88.67 4 *e*P **P 15 22 41.2 +0.5**
CPUP Villa Florida 137.34 271 PKP PKPdf 15 29 09.8 -0.4
comp=Z,0.7nm,0.5s,baz=52,slow=2.5,SNR=6.0
CPUP Villa Florida 137.34 271 PKP PKPdf 15 29 09.8 -0.4
TRQA Tornquist 145.38 256 *e*PKPdf PKPdf 15 29 24.5 -0.1
PLCA Paso Flores 152.39 254 PKPbc PKPbc 15 29 43.7 +0.9
comp=Z,4.2nm,0.6s,baz=69,slow=2.8,SNR=17
PLCA Paso Flores 152.39 254 PKPbc PKPbc 15 29 43.7 +0.9

CSEM ***22*** *15:15:00.6, 3649N×2744E, h39km, MD3.0/4, After ATH*
NEIC ***22*** *15:15:00.6, 3649N×2744E, h39km, MD3.0(ATH), After ATH.*

ATH 22 15:15:00.6, 3649N×2744E, h39km±7km, MD3.0/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.62**	**116**	*e*PN	P	**n**	15 15 14.0	+1.1
ARG				*e*SN	S	**n**	15 15 23.0	+1.4
KARP	**Karpathos**	**0.97**	**194**	*e*PN	P	**n**	15 15 19.1	+1.4
KARP				*e*SN	S	**n**	15 15 33.0	+2.8
NPS	**Neapolis**	**1.92**	**231**	*e*PN	P	**n**	15 15 32.1	+1.3
XRY	**Khrisi**	**2.15**	**222**	*e*PN	P	**n**	15 15 35.5	+1.6

ISCJB ***22*** *15:18:23.8±1.9, 7.1S±0.1×155.41E±0.07, h54km±18km, mb4.1/13, Error ellipse: s-maj=19.4km s-min=11.7km az=4.8*
NEIC ***22*** *15:18:25.6±1.3, 7.18S×155.47E, h60km±11km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=10.4km az=175.0*
IDC ***22*** *15:18:26.9±2.6, 7.21S×155.43E, h67km±25km, mb3.9/9, mb1 3.9/11, mb1mx3.8/16, mbtmp4.2/11, MS3.5/2, Ms1 3.5/2, ms1mx2.9/16, Error ellipse: s-maj=22.7km s-min=16.0km az=2.0*

ISC 22 15:18:26.5±1.5, 7.2S±0.1×155.42E±0.07, h65km±15km, n23, σ0.97/19, mb4.0/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HNR	**Honiara**	**5.01**	**117**	P	P	**n**	**15 19 37.7**	**-1.5**
	20nm,0.3s,baz=97,slow=1.9,SNR=5.2							
HNR				S	S	**n**	15 20 37.0	+1.2
	4.5nm,0.3s,baz=270,slow=20,SNR=3.1							
HNR				LR	LR		15 21 20.1	
	comp=Z,367nm,18.9s,baz=357,slow=35							
PMG	**Port Moresby**	**8.48**	**254**	P	P	**n**	**15 20 27.1**	**+0.5**
	0.4nm,0.3s,baz=0.0,slow=6.1,SNR=2.6							
PMG	**Port Moresby**	**8.48**	**254**	Pn	Pn	**n**	**15 20 25.9**	**-0.7**
CTA	**Charters Tower**	**15.63**	**214**	LR	LR		15 27 13.8	
	comp=Z,213nm,19.4s,baz=320,slow=34							
WRAB	**Tennant Creek**	**24.07**	**236**	*e*P	P	**n**	**15 23 35.6**	**0.0**
	4.7nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**24.08**	**236**	P	P	**n**	**15 23 35.5**	**-0.3**
	1.9nm,0.8s,mb3.5,baz=63,slow=9.6,SNR=9.4							
ASAR	**Alice Springs**	**26.39**	**229**	P	P	**n**	**15 23 56.1**	**-0.7**
	0.2nm,0.6s,mb2.7,baz=309,slow=4.7,SNR=5.6							
ASAR				PcP	PcP		15 27 21.9	+1.0
	0.4nm,0.8s,baz=66,slow=2.5,SNR=4.4							
STKA	**Stephens Creek**	**27.77**	**206**	P	P	**n**	**15 24 10.0**	**+0.8**
	2.5nm,0.9s,mb3.8,baz=15,slow=12,SNR=3.2							
STKA	**Stephens Creek**	**27.77**	**206**	P	P	**n**	**15 24 10.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**30.98**	**247**	P	P	**n**	**15 24 39.2**	**+1.6**
	2.2nm,0.8s,mb4.0,baz=139,slow=3.5,SNR=3.8							
HIA	**Hailar**	**64.25**	**335**	P	P	**n**	**15 28 55.0**	**+0.3**
	3.1nm,0.6s,mb4.3							
SONM	**Songino Array**	**69.70**	**327**	P	P	**n**	**15 29 30.9**	**+1.5**
	2.7nm,0.7s,mb4.2,baz=143,slow=6.6,SNR=23							
QSPA	**South Pole Qui**	**82.82**	**180**	*e*P	P	**n**	**15 30 42.7**	**-1.1**
	2.0nm,0.8s,mb4.0							
MKAR	**Makanchi Array**	**83.80**	**319**	P	P	**n**	**15 30 49.9**	**+1.1**
	2.7nm,0.7s,mb4.2,baz=99,slow=5.3,SNR=20							
MAW	**Mawson**	**84.42**	**203**	P	P	**n**	**15 30 51.5**	**-0.3**
	1.5nm,0.6s,mb4.0,baz=58,slow=7.7,SNR=4.3							
MAW	**Mawson**	**84.42**	**203**	*e*P	P	**n**	**15 30 51.8**	**-0.1**
	2.3nm,0.7s,mb4.1							
ZAL	**Zalesovo**	**84.56**	**326**	P	P	**n**	**15 30 52.4**	**-0.2**
	1.2nm,0.4s,mb4.1,baz=278,slow=3.6,SNR=3.8							
BVAR	**Borovoye Array**	**92.68**	**323**	P	P	**n**	**15 31 30.3**	**-1.0**
	1.3nm,0.7s,mb4.4,baz=100,slow=6.2,SNR=8.1							
BRVK	**Borovoye**	**92.75**	**323**	*e*P	P	**n**	**15 31 30.2**	**-1.4**
	1.7nm,0.9s,mb4.4							
NOA	**NORSAR Array B**	**119.99**	**341**	PKP	PKPdf		15 37 09.5	-0.1
	0.8nm,0.9s,baz=55,slow=2.2,SNR=2.7							
LPAZ	**La Paz**	**131.01**	**119**	PKP	PKPdf		15 37 31.9	+1.2
	0.5nm,0.5s,baz=272,slow=6.1,SNR=4.0							
LPAZ	**La Paz**	**131.01**	**119**	PKP	PKPdf		15 37 31.9	+1.2
BDFB	**Brasilia**	**147.57**	**134**	PKPbc	PKPbc		15 38 03.9	+0.5
	3.8nm,0.4s,baz=180,slow=4.1,SNR=5.7							

NIED ***22*** *15:33:00, 32.70N×132.30E, h38km, Mw3.6 Best double couple: M0 3.07000×10^14 NP1:φ=195.00000°, δ82.00000°, λ-82.00000°. NP2:φ=332.00000°, δ11.00000°, λ-132.00000°.*

JMA 22 15:33:38.2, 32.68N×132.31E, h40km±1km, M3.5, 5C, Shikoku

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JTO	**Tosashimizu**	**0.45**	**66**	⇑P	P	**n**	15 33 48.1	-0.2
JTO				S	S	**n**	15 33 55.0	-0.4
UWA2	**Uwa jima 2**	**0.59**	**26**	⇑P	P	**n**	15 33 50.0	-0.2
UWA2				S	S	**n**	15 33 58.4	-0.3
JUS	**Usuki**	**0.61**	**309**	⇑P	P	**n**	15 33 52.3	-0.1
JUS				S	S	**n**	15 33 58.9	-0.1
JTSN	**Tsuno**	**0.81**	**238**	⇑P	P	**n**	15 33 52.8	-0.3
JTSN				S	S	**n**	15 34 03.9	0.0
JNA	**Nagahama**	**0.89**	**9**	P	P	**n**	15 33 54.2	0.0
JNA				S	S	**n**	15 34 05.5	-0.3
JKU	**Kubokawa**	**0.89**	**45**	⇑P	P	**n**	15 33 54.4	+0.2
JKU				S	S	**n**	15 34 05.8	-0.1

ISCJB ***22*** *15:38:05.8±1.1, 67.75N±0.05×34.0E±0.2, h0km, Error ellipse: s-maj=9.0km s-min=6.7km az=0.8*
HEL ***22*** *15:38:07.2±0.4, 67.73N×34.10E, h0km, ML2.6, ML2.3(BER), ML2.7(NAO), Explosion*
CSEM ***22*** *15:38:07.9±0.3, 67.66N×34.72E, h10km, ML2.7, Error ellipse: s-maj=12.8km s-min=7.7km az=39.0*
IDC ***22*** *15:38:12.0±2.5, 67.65N×33.21E, h0km, mb1 3.3/4, mb1mx3.1/21, mbtmp3.3/4, ML2.9/4, Error ellipse: s-maj=25.9km s-min=10.0km az=77.0*
NAO ***22*** *15:38:11.9±2.6, 67.57N×33.04E, ML2.7*

ISC 22 15:38:07.0±1.0, 6774N±005×340E±02, h0km, n16, σ0.93/28, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KU4	**Liikasenvaara**	**2.21**	**234**	*e*P	P	**n**	**15 38 45.8**	**+0.8**
KU4				*e*S	S	**n**	**15 39 13.2**	**+0.2**
MSF	**Maaselka**	**2.69**	**229**	*e*P	P	**n**	**15 38 51.7**	**+0.3**
MSF				*e*S	S	**n**	**15 39 24.6**	**-0.1**
SGF	**Sodankyl**	**2.88**	**268**	*e*P	P	**n**	**15 38 54.0**	**-0.2**
SGF				*e*S	S	**n**	**15 39 29.3**	**-0.2**
ARA0	**ARCESS Array S**	**3.60**	**304**	Pn	Pn	**n**	**15 39 05.0**	**+1.0**
	baz=122,slow=16							
ARA0				Sn	Sn	**n**	**15 39 46.5**	**-0.7**
	baz=121,slow=28							
ARA0				Lg			15 39 59.1	
	baz=121,slow=37							
ARA0	**ARCESS Array S**	**3.60**	**304**	*e*P	P	**n**	**15 39 05.0**	**+1.0**
ARA0				*e*S	S	**n**	**15 39 46.5**	**-0.7**
ARA0				*e*SG			15 39 59.1	
ARA0	**ARCESS Array S**	**3.60**	**304**	Pn	Pn	**n**	**15 39 05.0**	**+1.0**
	SNR=338							
ARA0				Sn	Sn	**n**	**15 39 46.5**	**-0.7**
	SNR=9.0							
ARCES	**ARCESS Array B**	**3.60**	**304**	Pn	Pn	**n**	**15 39 05.0**	**+1.0**
	4.8nm,0.3s,baz=123,slow=15,SNR=150							
ARCES				Sn	Sn	**n**	**15 39 46.7**	**-0.5**
	6.1nm,0.3s,baz=118,slow=25,SNR=21							
ARCES				Lg			15 39 58.8	
	13nm,0.3s,baz=117,slow=36,SNR=13							
KTK1	**Kautokeino**	**4.19**	**293**	*e*P	P	**n**	**15 39 12.5**	**+0.5**
KTK1				AML	AML		15 40 30.3	
	comp=Z,15nm,0.2s							
OUL	**Oulu**	**4.21**	**235**	*e*P	Pn	**n**	**15 39 13.3**	**+0.9**
OUL				*e*S	S	**n**	**15 40 01.8**	**-0.4**
OUL				*e*SB	Sb		**15 40 14.3**	**+1.1**
OUL				MSG			15 40 18.5	
	comp=Z,12nm,0.3s							
FIA0	**FINESS Array S**	**7.17**	**212**	Pn	Pn	**n**	**15 39 52.3**	**-0.8**
	baz=15,slow=14							
FIA0				Sn	Sn	**n**	**15 41 07.9**	**-7.4**
	baz=20,slow=18							
FIA0				Lg			15 41 42.4	
	baz=27,slow=28							
FIA0	**FINESS Array S**	**7.17**	**212**	*e*P	Pn	**n**	**15 39 52.3**	**-0.8**
FIA0				*e*			15 41 07.9	

FIA0				*e*			15 41 42.4	
FIA0	**FINESS Array S**	**7.17**	**212**	Pn		**Pn**	**15 39 52.3**	**-0.8**
	SNR=5.0							
FIA0				Sn		**Sn**	**15 41 07.9**	**-7.4**
FINES	**FINESS Array B**	**7.17**	**212**	Pn		**Pn**	**15 39 52.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=3.5							
FINES				Sn		**Sn**	**15 41 08.6**	**-6.7**
	comp=Z,0.3nm,0.3s,baz=17,slow=16,SNR=3.7							
FINES				Lg			15 41 43.9	
	comp=Z,1.0nm,0.3s,baz=25,slow=23,SNR=9.3							
HFS	**Hagfors**	**11.68**	**239**	Pn		**Pn**	**15 40 51.9**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=36,slow=16,SNR=3.0							
HFS				Lg			15 44 05.1	
	comp=Z,0.2nm,0.3s,baz=60,slow=30,SNR=3.2							
NOA	**NORSAR Array B**	**11.86**	**247**	Pn		**Pn**	**15 40 54.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=40,slow=10,SNR=2.5							
ANR	**Andizhan**	**34.08**	**123**	*e*P		**P**	**15 44 53.0**	**-0.1**

*ISCJB **22** 15:40:51.8±0.6, 3664N±002×5771E±002, h10km±4km, mb3.9/6, Error ellipse: s-maj=4.0km s-min=3.2km az=3.9*
*THR **22** 15:40:51.2±0.3, 3656N×5783E, h18km±9km, ML3.3*
*CSEM **22** 15:40:52.4±0.1, 3662N×5774E, h16km, ML3.9, Error ellipse: s-maj=1.7km s-min=1.1km az=153.0*
*IDC **22** 15:40:52.3±1.7, 3668N×5767E, h0km, mb3.9/6, mb1 4.2/8, mb1mx3.8/22, mbtmp4.1/8, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/25, Error ellipse: s-maj=31.8km s-min=20.0km az=139.0*
*NEIC **22** 15:40:53.4±0.7, 3671N×5766E, h10km, mb3.8/4, ML3.8(THR), Error ellipse: s-maj=14.9km s-min=6.7km az=146.0*
*NNC **22** 15:40:55.0±4.1, 3696N×5736E, h11km±49km, mb3.6, Error ellipse: s-maj=59.2km s-min=15.4km az=51.0*
*TEH **22** 15:40:54.1, 3668N×5773E, h12km, Mn3.9*
*MOS **22** 15:41:04.0±0.8, 3752N×5759E, h52km, mb4.0/3, Error ellipse: s-maj=16.3km s-min=9.2km az=82.1*

ISC 22 15:40:53.1±0.6, 3665N±002×5773E±002, h9km±4km, n84, σ1§07/105, mb3.9/6, 6C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ISFR	**Esferayen**	**0.45**	**29**	*e*Pg		**Pg**	**15 41 02.2**	**+0.3**
IQHU	**Quchan**	**0.77**	**57**	*e*Pg		**Pg**	**15 41 08.0**	**0.0**
ISHV	**Shirvan**	**0.88**	**358**	*e*Pg		**Pg**	**15 41 09.9**	**-0.2**
ISHV				*e*Sg		**Sg**	**15 41 20.4**	**-1.2**
IPAY	**Payeh**	**1.04**	**101**	*e*Pg		**Pg**	**15 41 11.6**	**-1.5**
IPAY				*e*Sg		**Sg**	**15 41 26.7**	**+0.1**
IEMG	**Emamqoli**	**1.06**	**44**	*e*Pg		**Pg**	**15 41 13.2**	**-0.2**
IEMG				*e*Sg		**Sg**	**15 41 27.1**	**-0.1**
VAN	**Vannovskaya**	**1.33**	**13**	P		**Pn**	**15 41 18.2**	**+0.4**
VAN				*e*S		**Sb**	**15 41 38.1**	**+2.8**
ASH	**Ashkhabad**	**1.39**	**21**	P		**Pn**	**15 41 20.0**	**+1.4**
IMOG	**Moghan**	**1.41**	**112**	*e*Pn		**Pn**	**15 41 18.4**	**-0.5**
IMOG				*e*Sn		**Sn**	**15 41 38.2**	**+0.7**
MRVT	**Maraveh tapeh**	**1.65**	**308**	*e*PG		**Pg**	**15 41 23.6**	**-1.2**
MRVT				*e*SG		**Sg**	**15 41 47.2**	**+1.0**
IMYA	**Miamay**	**1.94**	**98**	*e*Pn		**Pn**	**15 41 27.1**	**+0.9**
IMYA				*e*Sn		**Sn**	**15 41 51.0**	**+0.4**
IKIA	**Kiasar**	**3.29**	**263**	*e*Pn		**Pn**	**15 41 45.7**	**+0.9**
IKIA				*e*Sn		**Sn**	**15 42 23.5**	**-0.5**
IANJ	**Anjiloo**	**3.31**	**250**	*e*Pn		**Pn**	**15 41 45.6**	**+0.6**
IANJ				*e*Sn		**Sn**	**15 42 24.2**	**-0.2**
ISHM	**Shahmirzad**	**3.69**	**258**	*e*Pn		**Pn**	**15 41 51.0**	**+0.8**
IMON		**3.80**	**155**	*e*Sn		**Sn**	**15 42 36.1**	**-0.5**
ITEG		**3.84**	**167**	*e*Pn		**Pn**	**15 41 53.2**	**+0.9**
ITEG				*e*Sn		**Sn**	**15 42 37.2**	**-0.3**
ILAS	**Lasjerd**	**4.07**	**253**	*e*Pn		**Pn**	**15 41 55.7**	**+0.2**
IFIR	**Firoozkooh**	**4.15**	**257**	*e*Pn		**Pn**	**15 41 57.4**	**+0.8**
IDAH		**4.28**	**155**	*e*Pn		**Pn**	**15 41 59.6**	**+1.2**
IDAH				*e*Sn		**Sn**	**15 42 46.8**	**-1.7**
IKOO		**4.35**	**166**	*e*Pn		**Pn**	**15 41 59.6**	**+0.3**
IKOO				*e*Sn		**Sn**	**15 42 49.2**	**-0.8**
IDMV	**Damavand**	**4.74**	**259**	*e*Pn		**Pn**	**15 42 05.0**	**+0.4**
DAMV	**Damavand**	**4.77**	**259**	*e*PN		**Pn**	**15 42 05.5**	**+0.4**
DAMV					AML	AML	15 43 22.6	
	comp=N,22nm,0.1s							
DAMV	**Damavand**	**4.77**	**259**	Pn		**Pn**	**15 42 05.0**	**-0.1**
DAMV				Sg		**Sg**	**15 43 21.0**	**-5.3**
IAFJ	**Afjeh**	**4.93**	**263**	*e*Pn		**Pn**	**15 42 09.1**	**+1.8**
ISFB	**Sefidab**	**5.03**	**245**	*e*Pn		**Pn**	**15 42 08.8**	**+0.1**
IVRN	**Varamin**	**5.15**	**253**	*e*Pn		**Pn**	**15 42 10.1**	**-0.2**
IVRN				*e*Sn		**Sn**	**15 43 07.8**	**-2.0**
ICHK	**Chekchek**	**5.18**	**213**	*e*Pn		**Pn**	**15 42 10.8**	**0.0**
TEH	**Tehran**	**5.21**	**262**	*e*Pn		**Pn**	**15 42 13.0**	**+1.8**
IBAF	**Bafgh**	**5.36**	**200**	*e*Pn		**Pn**	**15 42 13.0**	**-0.2**
NASN	**Na'in**	**5.58**	**228**	*e*PN		**Pn**	**15 42 16.1**	**-0.2**
NASN					AML	AML	15 44 12.2	
	comp=N,15nm,0.7s							
NASN					AML	AML	15 44 21.8	
	comp=E,15nm,0.7s							
NASN	**Na'in**	**5.58**	**228**	Pn		**Pn**	**15 42 16.0**	**-0.3**
ISAD	**Sadrabad**	**5.79**	**216**	*e*Pn		**Pn**	**15 42 19.7**	**+0.6**
ISAD				*e*Sn		**Sn**	**15 43 23.4**	**-2.2**
IMHD	**Mahdasht**	**5.79**	**263**	*e*Pn		**Pn**	**15 42 18.7**	**-0.5**
IZEF	**Zefreh**	**5.81**	**231**	*e*Pn		**Pn**	**15 42 19.4**	**0.0**
IMEH	**Mehriz**	**5.85**	**207**	*e*Pn		**Pn**	**15 42 20.4**	**+0.4**
IKLH	**Kalahroud**	**6.04**	**238**	*e*Pn		**Pn**	**15 42 22.7**	**+0.1**
IKLH				*e*Sn		**Sn**	**15 43 28.7**	**-3.2**
IGAR	**Garneh**	**6.34**	**228**	*e*Pn		**Pn**	**15 42 26.4**	**-0.3**
ASAO	**Ashtian**	**6.62**	**254**	*e*PN		**Pn**	**15 42 30.8**	**+0.3**
ASAO	**Ashtian**	**6.62**	**254**	Pn		**Pn**	**15 42 30.0**	**-0.5**
IPIR	**Pirpir**	**6.88**	**237**	*e*Pn		**Pn**	**15 42 35.0**	**+0.9**
IPIR				*e*Sn		**Sn**	**15 43 47.8**	**-4.8**
GRMI	**Germi**	**8.09**	**288**	*e*PN		**Pn**	**15 42 51.6**	**+0.9**
GRMI	**Germi**	**8.09**	**288**	Pn		**Pn**	**15 42 51.0**	**+0.4**
ZEI	**Tsey**	**12.27**	**304**	*e*P		**Pn**	**15 43 41.7**	**-6.3**
AB31	**Akbulak array**	**12.70**	**7**	P		**Pn**	**15 43 51.2**	**-2.6**
	comp=E,2.6nm,0.7s,baz=191,slow=12,SNR=7.4							
AB31				⇑S		**Sn**	**15 46 10.7**	**-4.7**
	comp=E,6.3nm,0.8s,baz=190,slow=25							
KIV	**Kislovodsk**	**13.59**	**307**	P		**Pn**	**15 44 08.0**	**+2.0**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KIV	**Kislovodsk**	**13.59**	**307**	Pn		**Pn**	**15 44 04.8**	**-1.2**
KIV	**Kislovodsk**	**13.59**	**307**	Pn		**Pn**	**15 44 04.8**	**-1.2**
KIV	**Kislovodsk**	**13.59**	**307**	P		**Pn**	**15 44 08.0**	**+2.0**
	comp=Z,5.0nm,0.7s							
AKTK	**Aktyubinsk**	**13.78**	**1**	Pn		**Pn**	**15 44 06.4**	**-2.2**
AKTK				Sn		**Sn**	**15 46 37.5**	**-4.3**
AKTK				LR		LR	15 50 30.0	
AKTK	**Aktyubinsk**	**13.78**	**1**	Pn		**Pn**	**15 44 06.4**	**-2.2**
AKTO	**Aktyubinsk**	**13.78**	**1**	⇑P		**Pn**	**15 44 05.9**	**-2.7**
	comp=Z,0.1nm,0.8s							
AKTO				⇓S		**Sn**	**15 46 37.6**	**-4.1**
	comp=Z,0.4nm,1.2s							
AKTO	**Aktyubinsk**	**13.78**	**1**	Pn		**Pn**	**15 44 06.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=193,slow=11,SNR=19							
AKTO				Sn		**Sn**	**15 46 37.5**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=331,slow=19,SNR=5.2							
AKTO				LR		LR	15 50 30.0	
	comp=Z,63nm,18.5s,baz=254,slow=42							
AKTO	**Aktyubinsk**	**13.78**	**1**	P		**Pn**	**15 44 06.4**	**-2.2**
AKTO							15 46 37.5	
AAK	**Ala-Archa**	**14.22**	**60**	*e*P		**Pn**	**15 44 15.4**	**+0.8**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
AAK	**Ala-Archa**	**14.22**	**60**	*e*Pn		**Pn**	**15 44 15.4**	**+0.7**
	comp=Z,4.1nm,0.6s							
AAK	**Ala-Archa**	**14.22**	**60**	*e*P		**Pn**	**15 44 15.4**	**+0.8**
	comp=Z,4.0nm,0.6s							
ZRNK	**Zerenda**	**18.12**	**22**	⇓P		**Pn**	**15 45 04.7**	**-0.2**
	comp=Z,4.3nm,1.0s							
ZRNK	**Zerenda**	**18.12**	**22**	*e*P		**Pn**	**15 45 02.2**	**-2.7**
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.6s							
ZRNK	**Zerenda**	**18.12**	**22**	*e*Pn		**Pn**	**15 45 02.2**	**-2.7**
	comp=Z,2.5nm,0.6s							
VOSK	**Vostochnaya**	**18.58**	**26**	⇑P		**Pn**	**15 45 09.6**	**-0.9**
	comp=Z,3.9nm,0.8s							
BRVK	**Borovoye**	**18.62**	**24**	*e*P		**Pn**	**15 45 09.7**	**-1.3**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**18.62**	**24**	*e*P		**Pn**	**15 45 09.7**	**-1.3**
	comp=Z,5.0nm,0.8s							
BVA0	**Borovoye Array**	**18.62**	**24**	P		**Pn**	**15 45 11.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=203,slow=11,SNR=44							
BVAR	**Borovoye Array**	**18.62**	**24**	P		**Pn**	**15 45 11.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=203,slow=11,SNR=52							
BVAR				LR		LR	15 53 18.7	
	comp=Z,74nm,20.8s,baz=137,slow=40							
BVAR	**Borovoye Array**	**18.62**	**24**	P		**Pn**	**15 45 11.3**	**+0.2**
	comp=Z,1.2nm,0.7s,SNR=44							
CHKZ	**Chkalovo**	**19.24**	**24**	⇑P		**Pn**	**15 45 17.9**	**-0.7**
	comp=Z,8.5nm,1.4s							
CHKZ	**Chkalovo**	**19.24**	**24**	*e*P		**Pn**	**15 45 17.7**	**-0.9**
CHKZ				pmax		pmax		
	comp=Z,4.0nm,0.7s							
CHKZ	**Chkalovo**	**19.24**	**24**	*e*P		**Pn**	**15 45 17.7**	**-0.9**
	comp=Z,3.8nm,0.7s							
CHKZ	**Chkalovo**	**19.24**	**24**	*e*P		**Pn**	**15 45 17.7**	**-0.9**
	comp=Z,3.8nm,0.7s							
ARU	**Arti**	**19.79**	**1**	⇑*i*P		**Pn**	**15 45 24.2**	**-1.0**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ARU	**Arti**	**19.79**	**1**	*e*P		**Pn**	**15 45 23.7**	**-1.4**
	comp=Z,4.5nm,0.8s							
ARU	**Arti**	**19.79**	**1**	*e*P		**Pn**	**15 45 23.7**	**-1.5**
	comp=Z,4.5nm,0.8s							
MKAR	**Makanchi Array**	**20.87**	**53**	P		**P**	**15 45 36.7**	**+1.4**
	comp=Z,3.6nm,0.8s,baz=254,slow=8.7,SNR=26							
MK02	**Makanchi Array**	**20.87**	**53**	⇑P		**P**	**15 45 37.4**	**+2.0**
	comp=Z,5.8nm,0.8s							
OBN	**Obninsk**	**23.46**	**329**	P		**P**	**15 46 02.0**	**-0.9**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb3.9							
AKASG	**Malin Array Be**	**24.75**	**314**	P		**P**	**15 46 14.8**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.0,baz=113,slow=8.1,SNR=12							
AKASG	**Malin Array Be**	**24.75**	**314**	*i* P		**P**	**15 46 15.5**	**+0.6**
AKASG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**24.75**	**314**	P		**P**	**15 46 14.8**	**-0.1**
AKBB	**Malin Array Si**	**24.75**	**314**	*e*P		**P**	**15 46 14.9**	**0.0**
MLR	**Muntele Rosu**	**25.40**	**300**	P		**P**	**15 46 22.8**	**+2.0**
	comp=Z,4.6nm,1.0s,mb4.0,baz=126,slow=14,SNR=2.9							
ZAL	**Zalesovo**	**25.48**	**39**	P		**P**	**15 46 22.0**	**+0.5**
	comp=Z,1.4nm,0.7s,mb3.6,baz=253,slow=7.3,SNR=6.1							
ZAL	**Zalesovo**	**25.48**	**39**	*i* P		**P**	**15 46 24.0**	**+2.5**
ZAL				pmax		pmax		
	comp=Z,1.0nm,0.7s							
FINES	**FINESS Array B**	**31.77**	**331**	P		**P**	**15 47 18.3**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=122,slow=15,SNR=3.0							
TOA0	**Torodi Ar. Sit**	**55.11**	**260**	P		**P**	**15 50 26.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**55.11**	**260**	P		**P**	**15 50 25.2**	**-0.3**
	comp=Z,1.4nm,0.9s,mb4.0,baz=50,slow=6.4,SNR=8.1							

PRE 22 16:24:36.8±1.5, 2094S×3312E, h5km, ML4.4, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSNA	**Messina**	**3.20**	**244**	*e*P		Pn	16 25 29.2	+1.4
MSNA				*e*S		Sn	16 26 06.9	+0.6
MSNA					AML	AML	16 26 27.0	
	comp=Z,246nm,0.5s							
SLR	**Silverton**	**6.52**	**222**	*e*S		Sn	16 27 26.1	-2.0
SLR					AML	AML	16 28 02.1	
	comp=Z,89nm,0.5s							
POGA	**Pongola**	**6.54**	**192**	*e*P		Pn	16 26 14.8	+1.1
POGA				*e*S		Sn	16 27 24.5	-4.2
POGA					AML	AML	16 28 14.3	
	comp=Z,46nm,0.6s							
ERPM	**east rand prop**	**6.92**	**219**	*e*S		Sn	16 27 35.7	-2.2
ERPM					AML	AML	16 28 20.4	
	comp=Z,40nm,0.6s							
KSR	**Koster**	**7.52**	**228**	*e*P		Pn	16 26 28.2	+1.1
KSR				*e*S		Sn	16 27 50.1	-2.7
KSR					AML	AML	16 28 02.8	
	comp=Z,13nm,0.5s							
LBTB	**Lobatse**	**8.03**	**238**	*e*P		Pn	16 26 34.6	+0.5
LBTB				*e*S		Sn	16 28 01.1	-4.2
LBTB					AML	AML	16 28 55.9	
	comp=Z,42nm,0.5s							
SEK	**Senekal**	**8.89**	**213**	*e*P		Pn	16 26 46.7	+0.9
SEK				*e*S		Sn	16 28 23.0	-3.4
SEK					AML	AML	16 29 18.4	
	comp=Z,39nm,0.6s							
BOSA	**Boshof**	**10.46**	**222**	*e*P		Pn	16 27 09.1	+1.8
BOSA				*e*S		Sn	16 28 59.2	-5.6
BOSA					AML	AML	16 30 12.8	
	comp=Z,22nm,0.6s							
UPI	**Upington**	**13.07**	**233**	*e*P		Pn	16 27 45.6	+2.5
UPI				*e*S		Sn	16 30 03.2	-5.7
UPI					AML	AML	16 30 23.2	
	comp=Z,3.7nm,0.5s							
GRM	**Grahamstown**	**13.65**	**204**	*e*S		Sn	16 30 15.6	-7.4
GRM					AML	AML	16 31 17.8	
	comp=Z,2.2nm,0.2s							

*IDC **22** 16:24:43.5±0.8, 2259S×176.10W, h0km, mb4.3/8, mb1 4.6/11, mb1mx4.4/16, mbtmp4.5/11, ML4.3/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=26.9km s-min=19.5km az=133.0*
*NEIC **22** 16:24:44.1±4.4, 2258S×17609W, h4km±28km, mb4.7/11, Error ellipse: s-maj=11.8km s-min=9.6km az=136.0*
*BJI **22** 16:24:44.1, 2260S×176.10W, h4km, mB5.3, mb5.0, Ms5.1, Msz4.6*
*ISCJB **22** 16:24:46.4±0.5, 2275S±006×17602W±008, h33km, mb4.6/19, MS3.8/3, Error ellipse: s-maj=11.4km s-min=8.4km az=29.9*

ISC 22 16:24:48.5±0.5, 2274S±006×17598W±008, h35km, n54, σ1§20/55, mb4.6/19, MS3.8/3, 3C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**6.72**	**195**	Pn		**Pn**	**16 26 21.8**	**-2.8**
	107nm,0.3s,baz=46,slow=22,SNR=5.2							
RAO				Sn		**Sn**	**16 27 40.1**	**+0.2**
	72nm,0.3s,baz=80,slow=22,SNR=15							
RAO	**Raoul Island**	**6.72**	**195**	*e*Pn		**Pn**	**16 26 21.2**	**-3.4**
	295nm,0.4s							
RAO				*e*			16 26 28.8	
RAO				*e*Sn		**Sn**	**16 27 41.3**	**+1.4**
AFI	**Afiamalu**	**9.64**	**25**	Pn		**Pn**	**16 27 03.8**	**-0.8**
	23nm,0.3s,baz=176,slow=6.1,SNR=20							
AFI				Sn		**Sn**	**16 28 41.4**	**-10**
	9.1nm,0.3s,baz=174,slow=22,SNR=4.8							
AFI	**Afiamalu**	**9.64**	**25**	*e*Pn		**Pn**	**16 27 03.5**	**-1.2**
	71nm,0.6s							
AFI				*e*Sn		**Sn**	**16 28 44.7**	**-7.1**
RAR	**Rarotonga**	**15.11**	**87**	Pn		**Pn**	**16 28 18.2**	**-1.0**
	7.8nm,0.3s,baz=253,slow=11,SNR=13							
RAR				Sn		**Sn**	**16 30 49.4**	**-16**
	1.0nm,0.3s,baz=29,slow=17,SNR=3.7							
RAR				T			16 43 40.4	
	24nm,0.3s,baz=52,slow=6.9,SNR=6.0							
RAR	**Rarotonga**	**15.11**	**87**	Pn		**Pn**	**16 28 18.2**	**-1.0**
RAR				Sn		**Sn**	**16 30 49.4**	**-16**
PUZ	**Puketiti**	**16.07**	**197**	SN		**Sn**	**16 31 12.2**	**-17**
DZM	**Mont Dzumac**	**16.27**	**269**	Pn		**Pn**	**16 28 41.6**	**+7.3**
	0.7nm,0.3s,baz=75,slow=17,SNR=10.0							
MWZ	**Matawai**	**16.52**	**198**	SN		**Sn**	**16 31 24.6**	**-15**
URZ	**Urewera**	**16.57**	**199**	Pn		**Pn**	**16 28 38.5**	**+0.4**
	1.4nm,0.3s,baz=55,slow=2.1,SNR=8.3							
URZ				Sn		**Sn**	**16 31 26.6**	**-14**
	5.8nm,0.3s,baz=146,slow=23,SNR=8.6							
PXZ	**Pawanui**	**18.28**	**198**	SN		**Sn**	**16 32 01.6**	**-21**
MRZ	**Mangatainoka R**	**19.24**	**200**	SN		Sx	16 32 22.7	
TCW	**Tory Channel**	**20.17**	**202**	SN		**S**	**16 32 44.7**	**-20**
NNZ	**Nelson**	**20.49**	**203**	*e*PN		**P**	**16 29 29.6**	**+6.3**
NNZ				SN		**S**	**16 32 54.4**	**-16**
THZ	**Tophouse**	**21.14**	**204**	*e*PN		**P**	**16 29 29.2**	**-1.2**
THZ				SN		**S**	**16 33 07.4**	**-16**
KHZ	**Kahutara**	**21.49**	**202**	SN		**S**	**16 33 14.7**	**-16**
MQZ	**McQueen's Vall**	**22.93**	**202**	SN		**S**	**16 33 42.7**	**-14**
RPZ	**Rata Peaks**	**23.51**	**204**	P		**P**	**16 29 56.2**	**+0.8**
	2.3nm,0.3s,mb4.0,baz=332,slow=22,SNR=5.8							
RPZ				S		**S**	**16 33 56.6**	**-10**
	5.4nm,0.6s,baz=21,slow=22,SNR=5.5							
PPT	**Papeete**	**25.29**	**83**	*e*LR		LR	16 36 25.1	
	224nm,29.0s							
PPT	**Papeete**	**25.29**	**83**	LR		LR	16 38 14.0	
	comp=Z,21nm,19.3s,MS2.7,baz=266,slow=32							
PPT				T			16 56 18.0	
	24nm,0.3s,baz=74,slow=16,SNR=2.3							
CTA	**Charters Tower**	**35.20**	**267**	*e*P		**P**	**16 31 40.2**	**+1.0**
	15nm,0.4s,mb5.3							
PMG	**Port Moresby**	**37.70**	**285**	P		**P**	**16 32 00.6**	**+0.1**
	28nm,0.9s,mb5.0,baz=123,slow=12,SNR=4.4							
PMG				LR		LR	16 43 03.3	
	comp=Z,408nm,19.9s,MS4.2,baz=209,slow=29							
PMG	**Port Moresby**	**37.70**	**285**	*e*P		**P**	**16 32 00.7**	**+0.2**
	42nm,1.0s,mb5.1							
STKA	**Stephens Creek**	**38.58**	**247**	⇑*i*P		**P**	**16 32 08.7**	**+0.7**
	2.6nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**38.58**	**247**	P		**P**	**16 32 08.6**	**+0.6**
	3.8nm,0.6s,mb4.3,baz=100,slow=9.8,SNR=12							
AS31	**Alice Springs**	**45.88**	**259**	*e*P		**P**	**16 33 06.7**	**-0.7**
ASAR	**Alice Springs**	**45.88**	**259**	P		**P**	**16 33 06.9**	**-0.5**
	4.2nm,0.6s,mb4.5,baz=97,slow=7.4,SNR=65							
ASAR				ScP		ScP	16 38 36.5	+2.0
	0.4nm,0.6s,baz=104,slow=4.5,SNR=5.0							
ASAR				S		**S**	**16 39 41.6**	**-7.7**
	0.9nm,1.1s,baz=198,slow=28,SNR=6.0							
WB2	**Warramunga Arr**	**46.18**	**264**	⇑*i*P		**P**	**16 33 09.0**	**-0.8**
WRAB	**Tennant Creek**	**46.19**	**264**	*e*P		**P**	**16 33 08.5**	**-1.3**
	10nm,0.7s,mb4.9							
WRA	**Warramunga Arr**	**46.19**	**264**	P		**P**	**16 33 09.1**	**-0.8**
	2.6nm,0.3s,mb4.6,baz=90,slow=5.8,SNR=164							
WRA				S		**S**	**16 39 46.2**	**-7.5**
	0.7nm,0.9s,baz=107,slow=15,SNR=4.0							
FITZ	**Fitzroy Crossi**	**54.62**	**263**	*e*P		**P**	**16 34 13.7**	**+0.1**
	6.2nm,0.6s,mb4.8							
SBA	**Scott Base**	**55.78**	**184**	*e*P		**P**	**16 34 24.5**	**+2.5**
	3.8nm,0.9s,mb4.4							
VNDA	**Vanda**	**55.87**	**186**	P		**P**	**16 34 24.1**	**+1.5**
	0.7nm,1.0s,mb3.7,baz=355,slow=8.3,SNR=4.4							
VNDA	**Vanda**	**55.87**	**186**	P		**P**	**16 34 24.4**	**+1.9**
	3.6nm,1.4s,mb4.2							
MBWA	**Marble Bar**	**59.22**	**258**	*e*P		**P**	**16 34 46.1**	**0.0**
	6.1nm,0.6s,mb4.8							
CASY	**Casey**	**62.77**	**206**	*e*P		**P**	**16 35 11.5**	**+1.2**
	7.7nm,1.0s,mb4.8							
QSPA	**South Pole Qui**	**67.34**	**180**	*e*P		**P**	**16 35 41.1**	**+1.2**
	3.4nm,1.1s,mb4.3							
KKM	**Kota Kinabalu**	**72.15**	**285**	P		**P**	**16 36 10.1**	**+0.6**
KSM	**Kuching**	**75.58**	**278**	P		**P**	**16 36 27.8**	**-1.8**
MAW	**Mawson**	**80.10**	**199**	P		**P**	**16 36 55.5**	**+0.8**
	1.6nm,0.7s,mb4.1,baz=153,slow=2.3,SNR=3.2							
NVAR	**Mina Array Bea**	**81.38**	**42**	P		**P**	**16 37 02.6**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=227,slow=12,SNR=4.9							
SYO	**Syowa Base**	**84.96**	**192**	⇑*e*P		**P**	**16 37 19.6**	**-0.4**
SNAA	**Sanae**	**85.73**	**178**	P		**P**	**16 37 23.6**	**-0.3**
	1.7nm,0.9s,mb4.3							
KMI	**Kunming**	**92.03**	**296**	P		**P**	**16 37 54.8**	**+1.0**
KMI				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.6							
HHC	**Hu-ho-hao-te**	**92.25**	**314**	*e*P		**P**	**16 37 56.3**	**+1.5**
HHC				AP		pP	16 38 00.6	-5.3
HHC				XP		sP	16 38 03.4	-6.5
HHC				PP		PP	16 41 39.3	+4.0
HHC				SKS			16 48 27.3	
HHC				S		S	16 48 56.1	+0.9
HHC				AMB		AMB		
	comp=Z,12nm,0.3s,mb5.7							
HHC				AMB		AMB		
	comp=Z,101nm,4.9s							
HHC				LR		LR		
	comp=N,138nm,7.4s							
HHC				LR		LR		
	comp=E,94nm,4.7s							
HHC				LR		LR		
	comp=Z,40nm,4.9s							
CD2	**Chengdu**	**93.57**	**302**	*e*P		**P**	**16 38 00.8**	**-0.1**
CD2				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb5.1							
WMQ	**Urumqi**	**109.80**	**310**	*e*PKP		PKiKP	16 43 13.5	-2.3
WMQ				PP		PP	16 43 52.0	+4.0
WMQ				LR		LR		
	comp=N,151nm,23.0s,MS4.6							
WMQ				LR		LR		
	comp=E,94nm,25.2s,MS4.6							
WMQ				LR		LR		
	comp=Z,132nm,22.0s,MS4.5							

s-min=7.7km az=140.5

ISC 22 16:53:01.9±1.7, 309L007×1299E±01, h44km±17km, n36, σ1§15/36, mb4.3/19, MS4.0/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 7.0nm,0.4s	**9.89**	**165**	*e*P	**Pn**	**16 55 22.9**	**+1.5**
FITZ	**Fitzroy Crossi** 10nm,0.7s	**15.49**	**195**	*e*P	**Pn**	**16 56 37.3**	**+0.1**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=31,slow=12,SNR=6.4	**15.49**	**195**	Pn	**Pn**	**16 56 37.1**	**-0.1**
FITZ	0.1nm,0.3s,baz=89,slow=20,SNR=1.7			Sn	Sn	16 59 04.9	-23
FITZ	comp=Z,97nm,20.6s,baz=250,slow=38			LR	LR	17 02 47.5	
WRAB	**Tennant Creek** 11nm,0.8s	**17.30**	**166**	*e*Pn	**Pn**	**16 56 59.3**	**-0.8**
WRAB				*e*Sn	**Sn**	**17 00 09.2**	**-2.4**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=354,slow=12,SNR=28	**17.31**	**166**	P	**Pn**	**16 56 59.2**	**-1.0**
WRA	baz=194,slow=27,SNR=2.6			S	S	16 59 56.3	-23
WB2	**Warramunga Arr**	**17.31**	**166**	*e*P	**Pn**	**16 56 59.7**	**-0.5**
KSM	**Kuching**	**20.08**	**283**	*e*P	**P**	**16 57 30.4**	**-1.1**
MBWA	**Marble Bar** 14nm,0.8s	**20.50**	**208**	*e*P	**P**	**16 57 37.0**	**+0.9**
AS31	**Alice Springs**	**20.82**	**170**	*e*P	**P**	**16 57 41.2**	**+1.6**
AS31				*e*S	**S**	**17 01 30.1**	**+0.6**
ASAR	**Alice Springs** 28nm,0.8s,baz=350,slow=11,SNR=235	**20.82**	**170**	P	**P**	**16 57 41.2**	**+1.6**
ASAR	0.5nm,1.0s,baz=245,slow=16,SNR=2.9			S	**S**	**17 01 24.7**	**-4.8**
ASAR	1.2nm,0.8s,baz=357,slow=2.1,SNR=6.9			PcP	PcP	17 01 48.0	+0.9
CTA	**Charters Tower** 6.5nm,0.8s,mb4.1,baz=323,slow=12,SNR=3.9	**23.25**	**138**	P	**P**	**16 58 08.2**	**+2.7**
KULM	**Kulim**	**30.36**	**286**	*e*P	**P**	**16 59 09.9**	**+0.5**
STKA	**Stephens Creek** 2.7nm,0.8s,mb4.2,baz=261,slow=22,SNR=2.9	**30.69**	**160**	P	**P**	**16 59 11.7**	**-0.7**
CHTO	**Chiang Mai** 10.0nm,1.0s,mb4.6	**37.42**	**307**	*e*P	**P**	**17 00 10.5**	**-0.2**
MJAR	**Matsushiro Arr** 1.0nm,0.7s,mb3.7,baz=187,slow=8.4,SNR=4.8	**40.19**	**10**	P	**P**	**17 00 32.2**	**-1.6**
CD2	**Chengdu**	**41.99**	**326**	*e*P	**P**	**17 00 49.5**	**+0.8**
CD2	comp=Z,10.0nm,0.9s,mb4.5			AMB	AMB		
HHC	**Hu-ho-hao-te**	**46.82**	**341**	*e*P	**P**	**17 01 29.9**	**+2.6**
HHC				AP	pP	17 01 35.6	-3.8
HHC				XP	sP	17 01 38.8	-5.8
HHC				PCP	PcP	17 03 03.3	+3.5
HHC				PP	PP	17 03 20.3	+2.5
HHC				SCP	ScP	17 06 54.3	+4.4
HHC				PCS	PcS	17 06 56.8	+2.1
HHC				S	**S**	**17 08 17.9**	**+3.4**
HHC				XS	sS	17 08 29.0	-5.8
HHC				SCS	ScS	17 11 20.8	+2.7
HHC				SS	SS	17 11 38.5	-2.9
HHC	comp=Z,15nm,0.4s,mb5.3			AMB	AMB		
HHC	comp=Z,102nm,4.6s			AMB	AMB		
HHC	comp=N,68nm,5.5s			LR	LR		
HHC	comp=E,85nm,5.5s			LR	LR		
HHC	comp=Z,61nm,5.4s			LR	LR		
SONM	**Songino Array** comp=Z,0.4nm,0.7s,mb3.6,baz=152,slow=8.3,SNR=2.8	**54.72**	**341**	P	**P**	**17 02 26.7**	**0.0**
SONM				PcP	PcP	17 03 28.8	-0.2
WMQ	**Urumqi** comp=Z,0.6nm,0.6s,baz=158,slow=3.9,SNR=3.7	**60.09**	**326**	*e*P	**P**	**17 03 07.0**	**+2.5**
WMQ	comp=Z,13nm,0.7s,mb5.1			AMB	AMB		
WMQ	comp=Z,84nm,16.8s,MS4.0			LR	LR		
MKAR	**Makanchi Array** comp=Z,1.0nm,0.7s,mb4.0,baz=106,slow=8.9,SNR=7.8	**64.92**	**326**	P	**P**	**17 03 36.5**	**-0.3**
MKAR	**Makanchi Array**	**64.92**	**326**	P	**P**	**17 03 36.5**	**-0.3**
YAK	**Yakutsk** comp=Z,8.2nm,0.7s,mb4.9	**64.94**	**360**	*e*P	**P**	**17 03 36.8**	**-0.1**
ZAL	**Zalesovo** comp=Z,1.8nm,0.7s,mb4.2,baz=6.3,slow=5.8,SNR=11	**68.05**	**333**	P	**P**	**17 03 55.9**	**-0.9**
BVAR	**Borovoye Array** comp=Z,3.1nm,1.0s,mb4.2,baz=131,slow=6.7,SNR=11	**74.72**	**327**	P	**P**	**17 04 36.6**	**-0.4**
BRVK	**Borovoye** comp=Z,2.0nm,0.9s,mb4.0	**74.79**	**327**	*e*P	**P**	**17 04 36.8**	**-0.6**
CHKZ	**Chkalovo** comp=Z,3.1nm,0.9s,mb4.2	**74.89**	**328**	*e*P	**P**	**17 04 37.1**	**-0.9**
ZRNK	**Zerenda** comp=Z,3.7nm,1.0s,mb4.3	**75.43**	**327**	*e*P	**P**	**17 04 40.3**	**-0.8**
VNDA	**Vanda** comp=Z,0.9nm,0.8s,mb3.7,baz=315,slow=5.1,SNR=5.2	**76.32**	**173**	P	**P**	**17 04 46.6**	**+0.4**
VNDA	**Vanda** comp=Z,1.3nm,0.9s,mb3.9	**76.32**	**173**	*e*P	**P**	**17 04 46.1**	**-0.1**
MAW	**Mawson** comp=Z,0.8nm,0.6s,mb3.9,baz=44,slow=11,SNR=4.0	**78.53**	**201**	P	**P**	**17 04 59.1**	**+0.6**
ARU	**Arti** comp=Z,5.2nm,1.0s,mb4.4	**82.34**	**328**	*e*P	**P**	**17 05 18.6**	**-0.4**
QSPA	**South Pole Qui** comp=Z,4.9nm,1.1s,mb4.7	**86.86**	**180**	*e*P	**P**	**17 05 40.9**	**-0.9**
ACCN	**Adirondack Com**	**134.75**	**24**	*e*PKPdf	PKPdf	17 12 22.2	+6.5
JTS	**JuntasAbangare**	**144.70**	**77**	*e*PKPdf	PKPdf	17 12 35.3	+1.6
CPUP	**Villa Florida** comp=Z,1.7nm,0.6s,baz=190,slow=0.8,SNR=11	**149.94**	**167**	PKPbc	PKPbc	17 12 50.3	+3.0
CPUP	**Villa Florida**	**149.94**	**167**	*e*PKPbc	PKPbc	17 12 49.6	+2.3

*NEIC **22** 17:18:44.3, 1777N×9899W, h68km, MD3.9(MEX), After MEX.*

MEX 22 17:18:44.3±1.2, 1776N×9896W, h63km±17km, MD4.0, 2C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.65**	**285**	*e*P	Pn	17 18 57.5	-0.6
MEIG				*i* S	Sn	17 19 07.4	-0.9
PLIG	**Platanillo**	**0.81**	**320**	*i* P	Pn	17 18 59.2	-0.8
PLIG				*i* S	Sn	17 19 10.3	-1.4
YAIG	**Yautepec**	**1.10**	**355**	*i* P	Pn	17 19 02.6	-1.1
YAIG				*i* S	Sn	17 19 15.8	-2.4
YAIG	**Yautepec**	**1.10**	**355**	⇑*i* P	Pn	17 19 02.5	-1.2
YAIG				*i* S	Sn	17 19 15.8	-2.4
UTMO	**Huajuapan**	**1.10**	**86**	*i* P	Pn	17 19 03.4	-0.4
UTMO				*i* P		17 19 03.5	
UTMO				*i* S	Sn	17 19 17.1	-1.1
ACX	**Acapulco**	**1.28**	**226**	*i* P	Pn	17 19 04.0	-2.1
ACX				*i* S	Sn	17 19 20.0	-2.4
PPM	**Popocatepetl**	**1.33**	**14**	*i* P	Pn	17 19 05.5	-1.3
PPM				*i* S	Sn	17 19 22.0	-1.7
PPM	**Popocatepetl**	**1.33**	**14**	*e*P	Pn	17 19 05.5	-1.3
CAIG	**El Cayaco**	**1.44**	**241**	⇑*i* P	Pn	17 19 07.3	-0.9
CAIG				*i* S	Sn	17 19 23.3	-2.9
UNM	**Universidad Na**	**1.57**	**352**	*i* P	Pn	17 19 10.0	0.0
UNM				*i* P		17 19 10.1	
UNM				*i* S	Sn	17 19 27.0	-2.4
UNM				*i* S	Sn	17 19 28.9	-0.5
UNM	**Universidad Na**	**1.57**	**352**	*e*P	Pn	17 19 10.0	0.0
UNM				*i* S	Sn	17 19 27.0	-2.4
PNIG	**Pinotepa**	**1.58**	**150**	*e*P	Pn	17 19 09.8	-0.3
PNIG				*i* S	Sn	17 19 28.9	-0.6
PNIG	**Pinotepa**	**1.58**	**150**	*e*P	Pn	17 19 10.1	0.0
PNIG				*i* S	Sn	17 19 28.9	-0.6
TPIG	**Tehuac#an**	**1.65**	**66**	*e*P	Pn	17 19 10.6	-0.5
TPIG				*i* S	Sn	17 19 31.2	-0.1
VHO	**Vista Hermosa**	**2.23**	**108**	*i* P	Pn	17 19 17.2	-1.7
VHO				*i* S	Sn	17 19 46.0	+0.6
OXX	**Oaxaca**	**2.24**	**107**	*i* P	Pn	17 19 16.0	-3.0
MOIG	**Morelia**	**2.85**	**312**	*i* P	Pn	17 19 26.2	-1.1
MOIG				*i* S	Sn	17 19 59.2	-1.2
LVIG	**Laguna Verde**	**3.10**	**51**	*i* P	Pn	17 19 32.6	+1.9
LVIG				*i* S	Sn	17 20 02.1	-4.4
CMIG	**Matias Romero**	**3.95**	**99**	*e*P	Pn	17 19 41.1	-1.3
CMIG				*i* S	Sn	17 20 25.9	-1.4
SFJM	**Santa Fe**	**4.71**	**306**	*e*P	Pn	17 20 05.0	+12

*NEIC **22** 17:23:22.8, 4176S×17383E, h19km, ML3.9(WEL), After WEL.*

WEL 22 17:23:22.2±0.1, 4176S×17378E, h17km, ML3.9/40, 2C-2D, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.09**	**57**	P*	Pg	17 23 25.0	-0.7
BSWZ				*S**	Sg	17 23 27.6	-0.4
BSWZ				*S**	Sg	17 23 27.6	-0.4
CMWZ	**Cape Campbell**	**0.33**	**88**	P	Pg	17 23 29.7	+0.5
CMWZ				S	Sg	17 23 35.2	+1.3
CMWZ	**Cape Campbell**	**0.33**	**88**	⇓P*	Pg	17 23 29.7	+0.6
CMWZ				*S**	Sg	17 23 35.2	+1.4
CMWZ				*S**	Sg	17 23 35.3	+1.5
TUWZ	**Tuamarina**	**0.35**	**21**	⇑P*	Pg	17 23 29.6	0.0
TUWZ				*S**	Sg	17 23 35.3	+0.7
NNZ	**Nelson**	**0.62**	**331**	P	Pg	17 23 34.1	-0.4
NNZ	**Nelson**	**0.62**	**331**	⇓P*	Pb	17 23 34.1	-0.5
NNZ				*S**	Sb	17 23 42.7	-0.3
THZ	**Tophouse**	**0.65**	**270**	P	Pg	17 23 34.5	-0.6
THZ	**Tophouse**	**0.65**	**270**	P*	Pb	17 23 34.5	-0.6
TCW	**Tory Channel**	**0.67**	**34**	P	Pg	17 23 34.7	-0.6
TCW				S	Sg	17 23 43.5	-0.7
TCW	**Tory Channel**	**0.67**	**34**	⇑P*	Pb	17 23 34.7	-0.6
TCW				*S**	Sb	17 23 43.5	-0.8
KHZ	**Kahutara**	**0.68**	**195**	P	Pg	17 23 35.2	-0.4
KHZ				S	Sg	17 23 45.2	+0.6
KHZ	**Kahutara**	**0.68**	**195**	P*	Pb	17 23 35.2	-0.4
KHZ				*S**	Sb	17 23 45.2	+0.5
SNZO	**South Karori**	**0.83**	**57**	P	Pb	17 23 38.2	0.0
SNZO	**South Karori**	**0.83**	**57**	P*	Pb	17 23 38.2	0.0
SNZO				P*	Pb	17 23 38.3	+0.1
MRW	**Makara Radio**	**0.87**	**53**	P	Pb	17 23 38.6	-0.3
MRW	**Makara Radio**	**0.87**	**53**	P*	Pb	17 23 38.6	-0.3
WEL	**Wellington**	**0.88**	**58**	P	Pb	17 23 39.1	0.0
WEL	**Wellington**	**0.88**	**58**	P*	Pb	17 23 39.1	0.0
BHW	**Baring Head**	**0.89**	**67**	P	Pb	17 23 39.7	+0.4
BHW	**Baring Head**	**0.89**	**67**	P*	Pb	17 23 39.7	+0.5
DUWZ	**D'Urville Isla**	**0.96**	**7**	P*	Pb	17 23 40.1	-0.4
MSWZ	**Moikau Station**	**1.16**	**73**	P	Pn	17 23 43.3	-0.3
MSWZ	**Moikau Station**	**1.16**	**73**	P*	Pb	17 23 43.3	-0.4
CAW	**Cannon Point**	**1.17**	**56**	P	Pn	17 23 43.5	-0.3
CAW	**Cannon Point**	**1.17**	**56**	P*	Pb	17 23 43.5	-0.5
KIW	**Kapiti Island**	**1.24**	**44**	P	Pn	17 23 44.4	-0.3
KIW	**Kapiti Island**	**1.24**	**44**	P*	Pb	17 23 44.4	-0.8
PAWZ	**Paruwai Farm**	**1.29**	**73**	P	Pn	17 23 44.8	-0.7
PAWZ	**Paruwai Farm**	**1.29**	**73**	P*	Pb	17 23 44.8	-1.2
QRZ	**Quartz Range**	**1.33**	**314**	PN	Pn	17 23 46.3	+0.4
MTW	**Mount Morrison**	**1.43**	**66**	P	Pn	17 23 46.5	-0.9
MTW	**Mount Morrison**	**1.43**	**66**	P*	Pb	17 23 46.5	-1.9
DSZ	**Denniston Nort**	**1.48**	**270**	P	Pn	17 23 49.0	+1.0
DSZ	**Denniston Nort**	**1.48**	**270**	PN	Pn	17 23 49.0	+1.0
TRWZ	**Traveller**	**1.48**	**76**	PN	Pn	17 23 47.1	-0.9
LTZ	**Lake Taylor**	**1.51**	**227**	P	Pn	17 23 49.0	+0.5
LTZ	**Lake Taylor**	**1.51**	**227**	PN	Pn	17 23 49.0	+0.5
MRZ	**Mangatainoka R**	**1.75**	**52**	P	Pn	17 23 51.6	-0.1
MRZ	**Mangatainoka R**	**1.75**	**52**	PN	Pn	17 23 51.6	-0.2
CRLZ	**Canterbury Las**	**2.00**	**205**	P	Pn	17 23 54.0	-1.2
CRLZ	**Canterbury Las**	**2.00**	**205**	PN	Pn	17 23 53.8	-1.5
MQZ	**McQueen's Vall**	**2.11**	**203**	P	Pn	17 23 55.1	-1.6
MQZ	**McQueen's Vall**	**2.11**	**203**	PN	Pn	17 23 55.1	-1.6
WAZ	**Wanganui**	**2.21**	**25**	*e*P	Pn	17 23 59.9	+1.9
TSZ	**Takapari Road**	**2.37**	**45**	PN	Pn	17 23 59.9	-0.4
PKE	**Pukeiti**	**2.57**	**4**	P	Pn	17 24 05.6	+2.6
WVZ	**Waitaha Valley**	**2.61**	**239**	PN	Pn	17 24 04.6	+1.1
PKVZ	**Pokaka**	**2.74**	**26**	PN	Pn	17 24 07.5	+2.1
MOVZ	**Moawhango**	**2.79**	**33**	*e*P	Pn	17 24 06.8	+0.7
MOVZ	**Moawhango**	**2.79**	**33**	*e*PN	Pn	17 24 06.8	+0.8
RPZ	**Rata Peaks**	**2.80**	**225**	*e*P	Pn	17 24 06.0	-0.2
WNVZ	**Wahianoa**	**2.80**	**30**	P	Pn	17 24 11.3	+5.1
DRZ	**Dome Shelter**	**2.83**	**29**	P	Pn	17 24 09.7	+3.1
FWVZ	**Far West T-bar**	**2.85**	**29**	P	Pn	17 24 08.5	+1.7
TUVZ	**Tukino**	**2.87**	**30**	P	Pn	17 24 09.0	+1.8
TUVZ	**Tukino**	**2.87**	**30**	*e*PN	Pn	17 24 08.5	+1.3
WPVZ	**Whakapapa**	**2.89**	**28**	P	Pn	17 24 13.8	+6.4
PXZ	**Pawanui**	**2.91**	**55**	PN	Pn	17 24 05.1	-2.6
NGZ	**Ngauruhoe**	**2.93**	**29**	P	Pn	17 24 09.7	+1.7
NGZ	**Ngauruhoe**	**2.93**	**29**	*e*PN	Pn	17 24 09.6	+1.5
TWVZ	**Taurewa**	**2.97**	**26**	P	Pn	17 24 10.2	+1.6
WTVZ	**West Tongariro**	**2.98**	**28**	P	Pn	17 24 14.2	+5.5
RITZ	**Rihia Road**	**3.20**	**30**	P	Pn	17 24 18.0	+6.3
RATZ	**Rangitukua**	**3.27**	**28**	P	Pn	17 24 19.4	+6.8
BKZ	**Black Stump Fm**	**3.32**	**40**	*e*P	Pn	17 24 12.4	-0.9
BKZ	**Black Stump Fm**	**3.32**	**40**	PN	Pn	17 24 12.4	-1.0
HIZ	**Hauiti**	**3.35**	**15**	P	Pn	17 24 15.7	+2.0
HIZ	**Hauiti**	**3.35**	**15**	PN	Pn	17 24 15.3	+1.6
WATZ	**Wairara**	**3.40**	**27**	P	Pn	17 24 18.2	+3.8
FOZ	**Fox Glacier**	**3.51**	**238**	*e*P	Pn	17 24 15.6	-0.4
ODZ	**Otahua Downs**	**4.00**	**214**	*e*P	Pn	17 24 23.1	-1.4
JCZ	**Jackson Bay**	**4.35**	**236**	P	Pn	17 24 28.2	+0.7
MWZ	**Matawai**	**4.47**	**41**	*e*P	Pn	17 24 26.5	-2.7
MWZ	**Matawai**	**4.47**	**41**	*e*PN	Pn	17 24 26.3	-2.9
EAZ	**Earnscleugh**	**4.75**	**222**	*e*P	Pn	17 24 32.9	-0.1
OTAZ	**Otara**	**4.89**	**11**	P	Pn	17 24 37.7	+2.8
WCZ	**Waipu Caves**	**5.83**	**5**	*e*P	Pn	17 24 50.2	+2.4

*IDC **22** 17:30:01.1±0.6, 088N×10021E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.1/12, ML4.2/1, MS3.9/6, Ms1 3.9/6, ms1mx3.5/27, Error ellipse: s-maj=28.1km s-min=15.0km az=63.0*

*NEIC **22** 17:30:02.7±0.4, 079N×10009E, h10km, mb4.5/9, Error ellipse: s-maj=16.7km s-min=8.6km az=77.0*

*ISCJB **22** 17:30:03.5±2.5, 076N×007×100.1E±0.1, h28km±18km, mb4.2/18, MS4.0/6, Error ellipse: s-maj=19.6km s-min=8.9km az=137.2*

ISC 22 17:30:04.1±3.7, 073N×006×1001E±01, h19km±24km, n34, σ1§06/28, mb4.2/18, MS4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang** 0.0nm,0.0s	**1.22**	**165**	P	**Pn**	**17 30 25.9**	**-0.2**
PSI	**Prapat** 66nm,0.3s,baz=187,slow=2.6,SNR=82	**2.36**	**331**	Pn	**Pn**	**17 30 38.9**	**-3.0**
PSI	245nm,0.3s,baz=213,slow=17,SNR=22			Sn	**Sn**	**17 31 11.2**	**+0.9**
KGM	**Kluang**	**3.48**	**68**	P	**Pn**	**17 31 05.8**	**+8.6**
IPM	**Ipoh**	**3.85**	**14**	P	**Pn**	**17 31 04.5**	**+2.3**
KULM	**Kulim**	**4.57**	**7**	*e*Pn	**Pn**	**17 31 11.8**	**-0.4**
BSI	**Banda Aceh** 0.0nm,0.0s	**6.73**	**315**	P	**Pn**	**17 31 41.7**	**-0.1**
CHTO	**Chiang Mai** 6.0nm,1.0s	**18.01**	**357**	*e*Pn	**Pn**	**17 34 14.2**	**+0.9**
LSA	**Lhasa** 5.6nm,0.9s,mb4.3	**30.04**	**344**	P	**P**	**17 36 12.3**	**+0.5**
WRA	**Warramunga Arr** 0.5nm,0.6s,mb3.4,baz=303,slow=9.1,SNR=9.3	**39.35**	**123**	P	**P**	**17 37 32.1**	**-0.1**
WRA	0.3nm,0.4s,baz=315,slow=2.6,SNR=9.7			PcP	PcP	17 39 40.0	-0.4
ASAR	**Alice Springs** 0.3nm,0.8s,mb3.0,baz=307,slow=7.7,SNR=4.3	**40.83**	**129**	P	**P**	**17 37 44.4**	**0.0**
ASAR	0.7nm,0.6s,baz=312,slow=2.5,SNR=7.9			PcP	PcP	17 39 45.5	+0.4
SONM	**Songino Array** 2.3nm,0.6s,mb4.3,baz=190,slow=9.9,SNR=13	**47.24**	**6**	P	**P**	**17 38 36.0**	**+0.2**
AAK	**Ala-Archa** 5.9nm,0.9s,mb4.6	**47.62**	**334**	*e*P	**P**	**17 38 39.3**	**+0.5**
MKAR	**Makanchi Array** 5.1nm,0.7s,mb4.7,baz=148,slow=7.1,SNR=34	**48.45**	**344**	P	**P**	**17 38 44.0**	**-1.2**
ZAL	**Zalesovo** 4.9nm,0.5s,mb4.8,baz=314,slow=5.2,SNR=17	**54.52**	**349**	P	**P**	**17 39 29.8**	**-0.8**
ZAL	comp=Z,91nm,19.3s,MS3.9,baz=42,slow=39			LR	LR	18 05 22.5	
BRVK	**Borovoye** 4.9nm,1.1s,mb4.5	**57.74**	**339**	P	**P**	**17 39 51.0**	**-2.7**
ZRNK	**Zerenda** 2.9nm,0.7s,mb4.4	**58.12**	**338**	*e*P	**P**	**17 39 55.1**	**-1.2**
CHKZ	**Chkalovo** 4.5nm,0.8s,mb4.5	**58.12**	**340**	*e*P	**P**	**17 39 56.0**	**-0.4**
KMBO	**Kilima Mbogo** 2.7nm,0.6s,mb4.0,baz=52,slow=23,SNR=3.4	**62.85**	**268**	P	**P**	**17 40 30.7**	**+2.0**
KMBO	**Kilima Mbogo**	**62.85**	**268**	P	**P**	**17 40 30.7**	**+2.0**
ARU	**Arti** 9.4nm,1.3s,mb4.7	**64.76**	**336**	P	**P**	**17 40 42.8**	**+1.6**
BR131	**Keskin Array S** 2.2nm,0.6s,mb4.3	**71.56**	**312**	*e*P	**P**	**17 41 23.7**	**-0.2**
BRTR	**Keskin Array B** 2.7nm,0.6s,mb4.3,baz=127,slow=7.2,SNR=18	**71.56**	**312**	P	**P**	**17 41 24.0**	**+0.1**
BRTR	comp=Z,47nm,19.3s,MS3.8,baz=311,slow=38			LR	LR	18 15 23.3	
MAW	**Mawson** 1.6nm,0.7s,mb4.1,baz=37,slow=5.1,SNR=5.0	**72.93**	**194**	P	**P**	**17 41 32.9**	**+0.8**
BOSA	**Boshof** 11nm,1.4s,mb4.6	**77.05**	**241**	P	**P**	**17 41 56.0**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be** comp=Z,38nm,18.8s,MS3.7,baz=285,slow=40	**77.39**	**322**	LR	LR	18 22 01.5	
FINES	**FINESS Array B** 0.4nm,0.4s,mb3.7,baz=96,slow=6.6,SNR=5.9	**81.75**	**332**	P	**P**	**17 42 20.5**	**-1.0**
ARCES	**ARCESS Array B** 4.9nm,1.0s,mb4.6,baz=93,slow=6.1,SNR=7.6	**83.95**	**340**	P	**P**	**17 42 32.0**	**-0.9**
ARCES	comp=Z,181nm,18.5s,MS4.5,baz=11,slow=38			LR	LR	18 22 37.0	
VNDA	**Vanda** 0.6nm,0.7s,mb3.8,baz=315,slow=7.1,SNR=3.1	**84.80**	**169**	P	**P**	**17 42 37.5**	**+0.3**
GERES	**GERESS Array B** comp=Z,50nm,19.1s,MS3.9,baz=293,slow=39	**87.07**	**319**	LR	LR	18 27 09.1	
NOA	**NORSAR Array B** 2.0nm,0.6s,baz=298,slow=4.0,SNR=3.8	**88.82**	**331**	LR	LR	18 27 47.7	
BDFB	**Brasilia** 1.5nm,0.6s,baz=172,slow=0.9,SNR=8.3	**145.21**	**243**	PKPbc	PKPbc	17 49 42.5	+2.5
CPUP	**Villa Florida** 1.5nm,0.6s,baz=172,slow=0.9,SNR=8.3	**146.52**	**219**	PKPbc	PKPbc	17 49 45.9	+1.9
CFAA	**Coronel Fontan** 0.2nm,0.5s,baz=182,slow=7.8,SNR=2.9	**147.36**	**199**	PKPbc	PKPbc	17 49 48.7	+2.3
LPAZ	**La Paz** 1.3nm,1.0s,baz=62,slow=11,SNR=4.1	**160.66**	**216**	PKPab	PKPab	17 50 46.3	+1.9

*ISCJB **22** 17:45:03.5±1.6, 2949N±008×562E±0.1, h73km±30km, Error ellipse: s-maj=22.8km s-min=8.3km az=120.8*

*CSEM **22** 17:45:03.4, 2927N×5642E, h14km, ML3.5, After THR*

*KISR **22** 17:45:03.5±1.0, 2892N×5600E, h34km, ML3.6*

*THR **22** 17:45:03.4±0.6, 2927N×5642E, h14km±8km, ML3.5*

ISC 22 17:45:04.9±1.7, 2947N±008×563E±01, h67km±32km, n10, σ1§05/17, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.65**	**37**	*e*Pg	**Pn**	**17 45 18.1**	**-0.9**
KRBR				*e*Sg	**Sn**	**17 45 29.5**	**+0.1**
BNDS	**Bandar-Abbas**	**2.06**	**183**	*e*Pn	**Pn**	**17 45 37.1**	**-0.2**
BNDS				*e*Sg	**Sn**	**17 46 02.8**	**+0.8**
BNDS	comp=E,340nm,0.5s			AML	AML	17 46 03.7	
BNDS	comp=N,403nm,0.6s			AML	AML	17 46 05.3	
BNDS	**Bandar-Abbas** SNR=52	**2.06**	**183**	*e*Pn	**Pn**	**17 45 37.1**	**-0.2**
BNDS	comp=N,403nm,0.6s,SNR=90			*e*Sg	**Sn**	**17 46 02.8**	**+0.8**
GHIR	**Ghir-Karzin**	**3.15**	**249**	*e*Pn	**Pn**	**17 45 54.9**	**+2.9**
GHIR	comp=E,184nm,0.3s			AML	AML	17 46 37.6	
HATD	**Hatta, Dubai** SNR=6.6	**4.63**	**182**	⇓P	**Pn**	**17 46 11.5**	**-0.8**
ASHO	**Ashiyiah** SNR=47	**4.77**	**183**	⇑P	**Pn**	**17 46 12.9**	**-1.3**
UMR	**Umm Al-Rimmam**	**7.49**	**273**	*e*P	**Pn**	**17 46 52.5**	**+1.0**
UMR				*e*S	**Sn**	**17 48 14.2**	**-0.7**
UMR	comp=Z,13nm,0.2s			AML	AML	17 48 16.5	
MIB	**Mutribah**	**7.82**	**275**	*e*P	**Pn**	**17 46 57.9**	**+2.0**
MIB				*e*S	**Sn**	**17 48 22.2**	**-0.7**
MIB	comp=Z,5.5nm,0.2s			AML	AML	17 48 27.6	
NAY	**Al-Naaiem**	**7.92**	**271**	*e*P	**Pn**	**17 46 58.0**	**+0.7**
NAY				*e*S	**Sn**	**17 48 24.3**	**-1.1**
NAY	comp=Z,4.2nm,0.3s			AML	AML	17 48 25.9	
RST	**Umm Al-Ruwaisa**	**8.12**	**273**	*e*P	**Pn**	**17 47 00.6**	**+0.6**
RST				*e*S	**Sn**	**17 48 29.6**	**-0.7**
RST	comp=Z,6.6nm,0.3s			AML	AML	17 48 31.5	

*BJI **22** 17:48:11.2, 492S×15301E, h32km, mB5.1, mb4.8, Ms4.7, Msz4.4*

*ISCJB **22** 17:48:13.5±1.7, 520S×006×15269E±008, h51km±14km, mb4.7/43, MS4.2/12, Error ellipse: s-maj=12.8km s-min=9.4km az=11.9*

*NEIC **22** 17:48:13.2±0.4, 5.16S×15271E, h35km, mb4.8/18, Error ellipse: s-maj=12.0km s-min=7.2km az=104.0*

*IDC **22** 17:48:15.1±2.3, 521S×15265E, h50km±20km, mb4.1/12, mb1 4.3/14, mb1mx4.2/17, mbtmp4.4/14, ML3.4/2, MS4.1/7, Ms1 4.1/7, ms1mx3.9/14, Error ellipse: s-maj=18.7km s-min=11.9km az=114.0*

*MOS **22** 17:48:15.2±1.1, 5.12S×15251E, h60km, mb4.9/19, Error ellipse: s-maj=15.0km s-min=9.8km az=83.6*

ISC 22 17:48:16.2±1.4, 524S±005×15273E±007, h61km±12km, h42km±7.1km: pP-P, n91, σ1§13/86, mb4.7/43, 4C-1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.9nm,0.3s,baz=58,slow=8.2,SNR=16	**6.90**	**233**	P	**Pn**	**17 49 55.0**	**+0.4**
PMG	5.0nm,0.3s,baz=23,slow=18,SNR=4.6			S	**Sn**	**17 51 11.1**	**-

MJAR				LR	LR	18 11 57.7	
	comp=Z,230nm,19.0s,baz=210,slow=33						
MJAR	**Matsushiro Arr**	**43.73**	**343**	P	**P**	**17 56 13.2**	**-2.1**
MJAR						17 58 02.0	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,230nm,19.0s						
MAJO	**Matsushiro**	**43.73**	**343**	P	**P**	**17 56 14.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**43.73**	**343**	P	**P**	**17 56 14.6**	**-0.8**
	comp=Z,7.9nm,0.9s,mb4.4						
SSE	**Sheshan**	**47.04**	**322**	P	**P**	**17 56 39.6**	**-2.0**
SSE				PP	PP	17 58 30.5	-2.2
SSE				S	**S**	**18 03 27.1**	**-1.8**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,82nm,3.7s						
SSE				LR	LR		
	comp=N,56nm,24.6s						
SSE				LR	LR		
	comp=E,77nm,25.1s						
SSE				LR	LR		
	comp=Z,90nm,26.3s						
NJ2	**Nanjing**	**49.14**	**321**	*e*P	**P**	**17 56 57.5**	**-0.2**
NJ2				AP	pP	17 57 10.0	-3.5
NJ2				XP	sP	17 57 15.3	-5.1
NJ2				PP	PP	17 58 51.8	0.0
NJ2				S	**S**	**18 03 58.0**	**-0.6**
NJ2				XS	sS	18 04 20.0	-5.2
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,370nm,6.2s						
NJ2				LR	LR		
	comp=N,350nm,24.4s						
NJ2				LR	LR		
	comp=E,460nm,29.5s						
NJ2				LR	LR		
	comp=Z,380nm,21.6s						
MDJ	**Mudanjiang**	**53.81**	**340**	P	**P**	**17 57 31.2**	**-1.4**
	comp=Z,18nm,1.2s,mb4.9						
KMI	**Kunming**	**57.17**	**304**	P	**P**	**17 57 58.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.4						
KLR	**Kul'dur**	**57.24**	**344**	*e*P	**P**	**17 57 53.7**	**-3.6**
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.4						
PPT	**Papeete**	**57.66**	**107**	*e*LR	LR	18 15 06.9	
	comp=Z,95nm,23.0s						
CD2	**Chengdu**	**58.97**	**311**	*e*P	**P**	**17 58 10.8**	**+1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
HHC	**Hu-ho-hao-te**	**59.36**	**325**	*e*P	**P**	**17 58 14.3**	**+2.3**
HHC				PCP	PcP	17 59 01.1	+1.7
HHC				PP	PP	18 00 27.9	+4.3
HHC				SCP	ScP	18 02 53.6	-1.3
HHC				PCS	PcS	18 03 01.8	+0.3
HHC				S	**S**	**18 06 15.6**	**-0.6**
HHC				PS		18 06 41.8	
HHC				SCS	ScS	18 07 53.5	-3.3
HHC				SS	SS	18 10 13.0	+1.3
HHC				AMB	AMB		
	comp=Z,16nm,0.3s,mb5.5						
HHC				AMB	AMB		
	comp=Z,183nm,4.6s						
HHC				LR	LR		
	comp=N,170nm,5.1s						
HHC				LR	LR		
	comp=E,60nm,4.3s						
HHC				LR	LR		
	comp=Z,188nm,7.4s						
LZH	**Lanzhou**	**61.50**	**316**	*e*P	**P**	**17 58 27.5**	**+0.9**
LZH				AP	pP	17 58 37.0	-5.8
LZH				XP	sP	17 58 41.6	-8.0
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,98nm,4.5s						
LZH				LR	LR		
	comp=E,215nm,12.5s						
LZH				LR	LR		
	comp=Z,297nm,16.7s						
MA2	**Magadan**	**64.63**	**359**	*e*P	**P**	**17 58 46.7**	**-0.7**
MA2				*e*		17 59 08.6	
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
MA2	**Magadan**	**64.63**	**359**	*e*P	**P**	**17 58 46.6**	**-0.8**
	comp=Z,15nm,0.8s,mb5.1						
GTA	**Gaotai**	**65.93**	**317**	*e*P	**P**	**17 58 57.4**	**+1.6**
GTA				AP	pP	17 59 03.5	-8.7
GTA				XP	sP	17 59 06.9	-12
GTA				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.4						
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**17 59 01.3**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.1,baz=146,slow=5.7,SNR=14						
SONM				LR	LR	18 25 57.4	
	comp=Z,125nm,20.6s,baz=134,slow=34						
SONM	**Songino Array**	**66.66**	**328**	P	**P**	**17 59 01.3**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,125nm,20.6s						
SEY	**Seymchan**	**67.98**	**360**	*d i*P	**P**	**17 59 08.5**	**-0.3**
LSA	**Lhasa**	**68.43**	**305**	*e*P	**P**	**17 59 13.8**	**+2.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
LSA	**Lhasa**	**68.43**	**305**	*e*P	**P**	**17 59 13.8**	**+2.2**
	comp=Z,9.9nm,1.1s,mb4.8						
YAK	**Yakutsk**	**69.39**	**349**⇑	*e*P	**P**	**17 59 16.9**	**-0.6**
YAK				pmax	pmax		
	comp=Z,33nm,1.9s,mb4.9						
YAK	**Yakutsk**	**69.39**	**349**	*e*P	**P**	**17 59 16.9**	**-0.6**
	comp=Z,11nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**69.83**	**329**	*e*P	**P**	**17 59 20.8**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
RKT	**Rikitea**	**71.69**	**113**	*e*LR	LR	18 21 20.4	
	comp=Z,139nm,31.2s						
GUN	**Gumba**	**72.29**	**301**	*e*P	**P**	**17 59 36.8**	**+1.7**
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**17 59 34.9**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=321,slow=6.6,SNR=7.4						
VNDA	**Vanda**	**72.39**	**178**	*e*P	**P**	**17 59 35.3**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**72.39**	**178**	*e*P	**P**	**17 59 35.3**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.1						
KKN	**Kakani**	**72.77**	**301**	*e*P	**P**	**17 59 39.6**	**+1.6**
	comp=Z,9.6nm,0.7s,mb4.8						
DMN	**Daman**	**72.87**	**301**	*e*P	**P**	**17 59 40.4**	**+1.8**
	comp=Z,48nm,1.1s,mb5.3						
SBA	**Scott Base**	**72.94**	**177**	*e*P	**P**	**17 59 39.6**	**+0.6**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SBA	**Scott Base**	**72.94**	**177**	*e*P	**P**	**17 59 39.6**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.2						
GKN	**Gorkha**	**73.37**	**301**	*e*P	**P**	**17 59 43.2**	**+1.6**
	comp=Z,55nm,1.3s,mb5.3						
BILL	**Bilibino**	**73.73**	**5**⇗	*e*P	**P**	**17 59 43.3**	**-0.4**
BILL					pP	17 59 58.0	-2.3
BILL				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.4						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	**Bilibino**	**73.73**	**5**	*e*P	**P**	**17 59 43.5**	**-0.2**
	comp=Z,40nm,0.8s,mb5.4						
KOLN	**Koldanda**	**74.20**	**301**	*e*P	**P**	**17 59 47.2**	**+0.8**
	comp=Z,40nm,1.3s,mb5.2						
WMQ	**Urumqi**	**76.02**	**317**	P	**P**	**17 59 57.5**	**+0.7**
WMQ				PCP	PcP	18 00 10.0	+1.1
WMQ				PP	PP	18 02 51.0	+3.0
WMQ				PPP		18 04 38.0	
WMQ				S	S	18 09 33.0	-2.4
WMQ				SKS		18 09 56.0	
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,132nm,5.6s						
WMQ				LR	LR		
	comp=N,130nm,22.8s						
WMQ				LR	LR		
	comp=E,137nm,20.0s						
WMQ				LR	LR		
	comp=Z,182nm,20.1s						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**18 00 22.4**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=97,slow=6.2,SNR=18						
MKAR	**Makanchi Array**	**80.61**	**319**	P	**P**	**18 00 22.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZAL	**Zalesovo**	**81.49**	**326**	P	**P**	**18 00 25.4**	**-1.4**
	comp=Z,3.4nm,0.8s,mb4.3,baz=352,slow=4.9,SNR=23						
ZAL	**Zalesovo**	**81.49**	**326**	P	**P**	**18 00 25.5**	**-1.4**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NVS	**Novosibirsk**	**82.66**	**327**	*e*P	**P**	**18 00 32.6**	**-0.4**
NVS				pmax	pmax		
	comp=N,11nm,1.8s						
NVS				pmax	pmax		
	comp=E,19nm,1.8s						
NVS				pmax	pmax		
	comp=Z,30nm,1.8s,mb5.0						
QSPA	**South Pole Qui**	**84.72**	**180**	*e*P	**P**	**18 00 43.3**	**-0.3**
	comp=Z,3.4nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**84.92**	**314**⇑	*e*P	**P**	**18 00 44.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,22nm,2.8s,mb4.8						
AAK	**Ala-Archa**	**84.92**	**314**	*e*P	**P**	**18 00 44.7**	**+0.2**
	comp=Z,5.6nm,0.9s,mb4.7						
MAW	**Mawson**	**85.14**	**203**	LR	LR	18 33 30.4	
	comp=Z,216nm,18.1s,baz=66,slow=32						
MAW	**Mawson**	**85.14**	**203**	*e*P	**P**	**18 00 45.3**	**-0.3**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MAW	**Mawson**	**85.14**	**203**	*e*P	**P**	**18 00 45.3**	**-0.4**
	comp=Z,9.6nm,1.3s,mb4.8						
CHKZ	**Chkalovo**	**89.52**	**324**	*e*P	**P**	**18 01 05.3**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**89.52**	**324**	*e*P	**P**	**18 01 05.3**	**-1.4**
	comp=Z,2.4nm,0.7s,mb4.6						
BRVK	**Borovoye**	**89.62**	**323**	*e*P	**P**	**18 01 06.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
BRVK	**Borovoye**	**89.62**	**323**	*e*P	**P**	**18 01 06.7**	**-0.5**
	comp=Z,4.1nm,1.0s,mb4.7						
ZRNK	**Zerenda**	**90.37**	**323**	*e*P	**P**	**18 01 09.7**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**90.37**	**323**	*e*P	**P**	**18 01 09.7**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.7						
NVAR	**Mina Array Bea**	**92.41**	**52**	P	**P**	**18 01 19.9**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.9,baz=246,slow=8.8,SNR=3.9						
ARU	**Arti**	**96.64**	**326**	P	**P**	**18 01 37.4**	**-2.2**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
ARU	**Arti**	**96.64**	**326**	P	**P**	**18 01 37.4**	**-2.2**
	comp=Z,5.5nm,1.0s,mb4.9						
PDAR	**Pinedale Array**	**99.19**	**48**	LR	LR	18 42 24.0	
	comp=Z,201nm,19.0s,baz=72,slow=33						
GERES	**GERESS Array B**	**124.39**	**328**	PKP	PKPdf	18 07 09.2	+1.0
	comp=Z,0.7nm,0.6s,baz=70,slow=1.1,SNR=7.6						
GERES	**GERESS Array B**	**124.39**	**328**	PKIKP	PKPdf	18 07 09.2	+1.0
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CFAA	**Coronel Fontan**	**126.46**	**136**	PKP	PKPdf	18 07 13.8	+1.6
	comp=Z,0.2nm,0.5s,baz=227,slow=8.8,SNR=4.5						
LPAZ	**La Paz**	**134.27**	**119**	PKP	PKPdf	18 07 30.4	+3.4
	comp=Z,1.1nm,0.6s,baz=215,slow=2.9,SNR=5.0						
LPAZ	**La Paz**	**134.27**	**119**	PKIKP	PKPdf	18 07 30.4	+3.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CPUP	**Villa Florida**	**137.18**	**139**	PKP	PKPdf	18 07 35.0	+2.5
	comp=Z,0.3nm,0.4s,baz=290,slow=4.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.38**	**287**	PKPbc	PKPbc	18 08 01.9	+1.2
	comp=Z,5.0nm,0.8s,baz=62,slow=1.9,SNR=6.1						
BDFB	**Brasilia**	**150.80**	**136**	PKPbc	PKPbc	18 08 03.2	+1.6
	comp=Z,6.8nm,0.8s,baz=192,slow=3.9,SNR=8.2						
BDFB	**Brasilia**	**150.80**	**136**	PKIKP	PKPbc	18 08 03.2	+1.6
BDFB				pmax	pmax		
	comp=Z,7.0nm,0.8s						

IDC 22 17:49:03.2±12.0, 1764S×17868W, h625km±166km, mb3.2/6, mb1 3.4/6, mb1mx3.1/14, mbtmp4.3/6, Error ellipse: s-maj=110.4km s-min=58.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.23**	**260**	P	P	17 54 51.3	+0.4
	2.4nm,0.4s,baz=90,slow=8.5,SNR=6.0						
STKA	**Stephens Creek**	**38.53**	**241**	P	P	17 55 34.4	+0.1
	2.2nm,0.7s,baz=86,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**44.42**	**259**	P	P	17 56 20.7	+0.2
	2.6nm,0.5s,baz=95,slow=7.3,SNR=28						
ASAR	**Alice Springs**	**44.61**	**254**	P	P	17 56 22.3	+0.4
	13nm,0.5s,baz=87,slow=8.8,SNR=84						
FITZ	**Fitzroy Crossi**	**52.81**	**260**	P	P	17 57 22.6	+0.5
	1.3nm,0.6s,baz=111,slow=8.6,SNR=7.5						
PDAR	**Pinedale Array**	**87.34**	**44**	P	P	18 00 45.5	+0.4
	0.3nm,0.6s,baz=224,slow=4.1,SNR=3.4						

IDC 22 18:01:23.4±5.8, 2433S×17992E, h482km±39km, mb3.6/5, mb1 3.7/5, mb1mx3.4/12, mbtmp4.5/5, 3D, Error ellipse: s-maj=90.9km s-min=45.0km az=139.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.41**	**271**⇓	*i*P	P	18 07 05.1	+1.3
	8.2nm,0.4s						
CTA	**Charters Tower**	**31.41**	**271**	P	P	18 07 05.3	+1.5
	9.4nm,0.4s,baz=97,slow=11,SNR=26						
STKA	**Stephens Creek**	**34.49**	**249**⇓	*i*P	P	18 07 29.7	-0.3
	1.7nm,0.3s						
STKA	**Stephens Creek**	**34.49**	**249**	P	P	18 07 29.9	-0.1
	2.0nm,0.4s,baz=105,slow=11,SNR=20						
ASAR	**Alice Springs**	**41.89**	**261**	P	P	18 08 30.3	-0.1
	1.2nm,0.3s,baz=92,slow=6.7,SNR=101						
WB2	**Warramunga Arr**	**42.30**	**267**⇓	*i*P	P	18 08 33.2	-0.4
WRA	**Warramunga Arr**	**42.31**	**267**	P	P	18 08 33.4	-0.3
	3.7nm,0.3s,baz=100,slow=7.2,SNR=193						
WRA				ScP	ScP	18 13 21.1	+0.5
	0.9nm,0.8s,baz=97,slow=3.9,SNR=7.8						
FITZ	**Fitzroy Crossi**	**50.72**	**266**	P	P	18 09 37.8	+0.1
	3.0nm,0.6s,baz=129,slow=8.9,SNR=13						
AKASG	**Malin Array Be**	**145.29**	**327**	PKPbc	PKPbc	18 20 05.5	-0.9
	0.6nm,0.4s,baz=43,slow=4.1,SNR=6.3						

PRE 22 18:16:44.1±1.5, 2102S×3314E, h5km, ML4.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.18**	**245**	*e*P	Pn	18 17 36.8	+2.0
MSNA				*e*S	Sn	18 18 14.6	+1.5
MSNA				AML	AML	18 18 24.0	
	comp=Z,234nm,0.6s						
POGA	**Pongola**	**6.47**	**192**	*e*P	Pn	18 18 20.8	+0.9
POGA				*e*S	Sn	18 19 30.2	-4.0
POGA				AML	AML	18 20 12.5	
	comp=Z,37nm,0.4s						
LBTB	**Lobatse**	**8.00**	**239**	*e*P	Pn	18 18 41.9	+0.9
LBTB				*e*S	Sn	18 20 08.0	-3.9
LBTB				AML	AML	18 21 04.2	
	comp=Z,26nm,0.7s						
SEK	**Senekal**	**8.83**	**214**	*e*P	Pn	18 18 53.6	+1.3
SEK				*e*S	Sn	18 20 29.1	-3.0
SEK				AML	AML	18 21 30.1	
	comp=Z,18nm,0.5s						
BOSA	**Boshof**	**10.41**	**222**	*e*P	Pn	18 19 15.0	+1.0
BOSA				*e*S	Sn	18 21 05.6	-5.3
BOSA				AML	AML	18 22 13.7	
	comp=Z,10nm,0.8s						
UPI	**Upington**	**13.04**	**234**	*e*P	Pn	18 19 51.2	+1.3
UPI				*e*S	Sn	18 22 08.4	-6.9
UPI				AML	AML	18 22 09.8	
	comp=Z,3.0nm,0.9s						

IDC 22 18:29:46.0±1.0, 520S×131.10E, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.1/13, mbtmp4.3/7, ML4.3/2, Error ellipse: s-maj=50.9km s-min=18.3km az=73.0
NEIC 22 18:29:55.2±2.2, 2.534S×131.00E, h78km±24km, mb3.8/1, Error ellipse: s-maj=15.7km s-min=13.0km az=86.0
ISCJB 22 18:29:57.9±1.8, 571S±006×1309E±01, h129km±19km, mb4.2/6, Error ellipse: s-maj=17.0km s-min=9.3km az=152.6

ISC 22 18:30:00.9±1.6, 591S±007×1310E±01, h148km±17km, n23, σ1♀02/30, mb4.2/6, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.92**	**168**⇑	*i*P	Pn	**18 31 41.0**	**+1.2**
	48nm,0.2s						
KAKA				*e*S	Sn	**18 33 02.0**	**+4.7**
FITZ	**Fitzroy Crossi**	**13.18**	**203**	*e*P	Pn	**18 33 03.8**	**+1.4**
	2.0nm,0.2s						
FITZ				*e*S	Sn	**18 35 27.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**13.18**	**203**	Pn	Pn	**18 33 03.4**	**+1.0**
	0.4nm,0.3s,baz=31,slow=12,SNR=46						
FITZ				Sn	Sn	**18 35 23.2**	**-5.0**
	0.6nm,0.3s,baz=42,slow=16,SNR=3.2						
WRAB	**Tennant Creek**	**14.33**	**167**	*e*P	Pn	**18 33 16.9**	**-0.1**
	9.1nm,0.5s						
WRAB				*e*S	Sn	**18 35 51.3**	**-4.4**
WRA	**Warramunga Arr**	**14.34**	**167**	Pn	Pn	**18 33 16.6**	**-0.4**
	2.0nm,0.3s,baz=355,slow=13,SNR=80						
WRA				Sn	Sn	**18 35 54.2**	**-1.7**
	3.0nm,0.3s,baz=351,slow=23,SNR=11						
WB2	**Warramunga Arr**	**14.34**	**167**	*e*P	Pn	**18 33 16.6**	**-0.4**
WB2				*e*S	Sn	**18 35 54.6**	**-1.3**
PMG	**Port Moresby**	**16.43**	**103**	Pn	Pn	**18 33 43.3**	**+0.4**
	0.4nm,0.3s,baz=146,slow=16,SNR=2.1						
AS31	**Alice Springs**	**17.88**	**171**	*e*P	Pn	**18 34 04.5**	**+4.2**
ASAR	**Alice Springs**	**17.88**	**171**	P	Pn	**18 34 04.5**	**+4.1**
	3.3nm,0.3s,baz=347,slow=9.7,SNR=211						
ASAR				S	S	**18 37 17.6**	**+0.9**
	0.3nm,0.3s,baz=353,slow=28,SNR=5.3						
MBWA	**Marble Bar**	**18.66**	**215**	*e*P	P	**18 34 12.4**	**+5.0**
CTA	**Charters Tower**	**20.49**	**135**	*e*P	P	**18 34 30.8**	**+3.6**
	2.7nm,0.5s						
CTA	**Charters Tower**	**20.49**	**135**	P	P	**18 34 31.3**	**+4.1**
	4.0nm,0.6s,baz=320,slow=13,SNR=8.6						
STKA	**Stephens Creek**	**27.69**	**160**	P	P	**18 35 40.7**	**+5.7**
	3.4nm,1.1s,mb4.0,baz=354,slow=8.1,SNR=7.6						
MJAR	**Matsushiro Arr**	**42.77**	**9**	P	P	**18 37 38.5**	**-5.2**
	0.7nm,0.5s,mb3.6,baz=191,slow=7.6,SNR=5.2						
LSA	**Lhasa**	**52.08**	**315**	*e*P	P	**18 38 56.0**	**+0.5**
KKN	**Kakani**	**55.36**	**310**	*e*P	P	**18 39 19.4**	**0.0**
DMN	**Daman**	**55.40**	**309**	*e*P	P	**18 39 19.0**	**-0.7**
GKN	**Gorkha**	**55.96**	**309**	*e*P	P	**18 39 23.6**	**-0.1**
	6.5nm,0.5s,mb4.7						
KOLN	**Koldanda**	**56.64**	**309**	*e*P	P	**18 39 29.3**	**+0.8**
	9.1nm,0.5s,mb4.9						
SONM	**Songino Array**	**57.72**	**341**	P	P	**18 39 34.8**	**-1.2**
	0.5nm,0.5s,mb3.6,baz=154,slow=8.3,SNR=4.6						
MKAR	**Makanchi Array**	**67.84**	**326**	P	P	**18 40 43.3**	**+0.3**
	5.2nm,0.4s,mb4.6,baz=114,slow=8.0,SNR=82						
CHKZ	**Chkalovo**	**77.83**	**328**	*e*P	P	**18 41 41.4**	**-0.6**
ZRNK	**Zerenda**	**78.36**	**327**	*e*P	P	**18 41 44.4**	**-0.4**

IDC 22 18:37:55.3±1.7, 051N×9958E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=65.5km s-min=22.0km az=57.0
ISCJB 22 18:37:58.9±1.2, 08N±01×1000E±02, h33km, mb3.8/7, Error ellipse: s-maj=34.1km s-min=12.2km az=112.9
NEIC 22 18:37:59.8±1.1, 055N×9962E, h30km, mb3.9/2, Error ellipse: s-maj=44.9km s-min=14.7km az=55.0

ISC 22 18:38:01.5±1.1, 08N±02×1000E±02, h35km, n11, σ1♀06/13, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.25**	**331**	Pn	Pn	**18 38 35.6**	**-0.7**
	12nm,0.3s,baz=180,slow=6.9,SNR=35						
PSI				Sn	Sn	**18 39 04.5**	**+1.6**
	65nm,0.3s,baz=220,slow=13,SNR=18						
PSI	**Prapat**	**2.25**	**331**	Pn	Pn	**18 38 35.6**	**-0.7**
PSI				Sn	Sn	**18 39 04.5**	**+1.6**
KULM	**Kulim**	**4.50**	**8**	*e*P	Pn	**18 39 05.7**	**-1.4**
WRA	**Warramunga Arr**	**39.46**	**123**	P	P	**18 45 29.5**	**+1.2**
	0.4nm,0.8s,mb3.2,baz=301,slow=9.1,SNR=3.6						
SONM	**Songino Array**	**47.17**	**6**	P	P	**18 46 32.5**	**+2.0**
	0.7nm,0.6s,mb3.8,baz=187,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**48.35**	**344**	P	P	**18 46 39.1**	**-0.5**
	1.1nm,0.6s,mb4.1,baz=146,slow=6.7,SNR=13						
ZAL	**Zalesovo**	**54.42**	**349**	P	P	**18 47 24.9**	**-0.2**
	0.9nm,0.5s,mb4.0,baz=357,slow=4.4,SNR=4.3						
BRVK	**Borovoye**	**57.63**	**339**	P	P	**18 47 47.3**	**-0.7**
	1.3nm,0.9s,mb4.0						
CHKZ	**Chkalovo**	**58.02**	**340**	*e*P	P	**18 47 50.3**	**-0.5**
	0.7nm,0.7s,mb3.8						
BRTR	**Keskin Array B**	**71.45**	**312**	P	P	**18 49 17.8**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=130,slow=8.7,SNR=4.4						
BRTR	**Keskin Array B**	**71.45**	**312**	P	P	**18 49 17.8**	**-0.5**

PRE 22 18:41:02.2±1.2, 2074S×3343E, h5km, ML5.0, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.55**	**243**	*e*P	Pn	18 41 59.9	+2.0
MSNA				*e*S	Sn	18 42 40.7	+0.5
MSNA				AML	AML	18 42 48.1	
	comp=Z,533nm,0.4s						
POGA	**Pongola**	**6.80**	**194**	*e*P	Pn	18 42 42.8	+0.1
POGA				*e*S	Sn	18 43 56.4	-4.1
POGA				AML	AML	18 44 45.9	
	comp=Z,86nm,1.1s						
SLR	**Silverton**	**6.86**	**223**	*e*P	Pn	18 42 44.5	+1.1
SLR				*e*S	Sn	18 43 59.7	-2.2
SLR				AML	AML	18 44 32.1	
	comp=Z,200nm,0.5s						
ERPM	**east rand prop**	**7.25**	**220**	*e*S	Sn	18 44 09.1	-2.4
ERPM				AML	AML	18 44 50.3	
	comp=Z,88nm,0.4s						
LBTB	**Lobatse**	**8.38**	**238**	*e*P	Pn	18 43 05.6	+1.4
LBTB				*e*S	Sn	18 44 35.3	-3.9
LBTB				AML	AML	18 45 27.9	
	comp=Z,100nm,0.7s						
SEK	**Senekal**	**9.21**	**214**	*e*P	Pn	18 43 16.8	+1.1
SEK				*e*S	Sn	18 44 55.6	-4.0
SEK				AML	AML	18 45 51.5	
	comp=Z,64nm,0.6s						
BOSA	**Boshof**	**10.79**	**222**	*e*P	Pn	18 43 39.3	+2.0
BOSA				*e*S	Sn	18 45 33.1	-5.4
BOSA				AML	AML	18 46 42.3	
	comp=Z,28nm,0.7s		

IPIL	**Ipil**	**1.91**	**173**	*eP*	Pn	18 58 47.2 +0.5
BUSP	**Coron**	**3.11**	**318**	*eP*	Pn	18 59 04.0 +0.9

*IDC **22** 20:17:56.0±26.0, 5358N×16334E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.6/20, mbtmp4.0/4, Error ellipse: s-maj=596.8km s-min=77.5km az=149.0*
*MOS **22** 20:18:05.8±1.6, 5446N×16299E, h50km, mb4.4/1, Error ellipse: s-maj=19.3km s-min=11.8km az=87.1*
*ISCJB **22** 20:18:07.5±0.9, 5449N±003×1628E±01, h57km±8km, mb4.1/6, Error ellipse: s-maj=10.5km s-min=4.2km az=35.6*
*KRSC **22** 20:18:08, 5453N×16253E, h20km, ML4.1*
*NEIC **22** 20:18:10.3±5.5, 5475N×16224E, h45km, mb4.3/1, Error ellipse: s-maj=140.0km s-min=20.4km az=120.0*

ISC 22 20:18:08.4±0.9, 5450N±003×1628E±01, h50km±9km, n26, σ0≤86/43, mb4.1/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.60**	**276**	*eP*	**Pn**	**20 18 18.6**	**-2.4**
MKZ				*i* S	**Sn**	**20 18 25.5**	**-4.5**
KBTR	**Krutoberegovo**	**1.71**	**1**	*eP*	**Pn**	**20 18 35.8**	**-0.1**
KBTR				*i* S	**Sn**	**20 18 55.4**	**-1.2**
KMNR	**Kamenistaya**	**1.92**	**312**	*eP*	**Pn**	**20 18 39.0**	**+0.3**
KMNR				*i* S	**Sn**	**20 19 01.5**	**-0.2**
KII	**Karymskiy**	**2.00**	**258**	*eP*	**Pn**	**20 18 39.9**	**+0.2**
KII				*i* S	**Sn**	**20 19 03.3**	**-0.2**
KPT	**Kopyto**	**2.07**	**316**	*eP*	**Pn**	**20 18 41.0**	**+0.3**
KPT				*i* S	**Sn**	**20 19 05.0**	**-0.3**
KRSR	**Krestovskiy**	**2.13**	**325**	*eP*	**Pn**	**20 18 41.5**	**-0.1**
KRSR				*i* S	**Sn**	**20 19 05.4**	**-1.4**
SPN	**Mys Shipunski**	**2.15**	**230**	*eP*	**Pn**	**20 18 41.6**	**-0.2**
SPN				*i* S	**Sn**	**20 19 05.7**	**-1.5**
KLY	**Klyuchi**	**2.18**	**327**	*eP*	**Pn**	**20 18 42.0**	**-0.2**
KLY				*i* S	**Sn**	**20 19 07.1**	**-0.9**
BDR	**Baidarnaya**	**2.25**	**338**	*eP*	**Pn**	**20 18 44.2**	**+0.9**
BDR				*i* S	**Sn**	**20 19 09.7**	**-0.2**
KOZR	**Kozyr**	**2.27**	**315**	PN	**Pn**	**20 18 44.6**	**+1.1**
KOZR				S	**Sn**	**20 19 11.4**	**+1.2**
KOZ	**Kozyrevsk**	**2.27**	**315**	*eP*	**Pn**	**20 18 44.6**	**+1.1**
KOZ				*i* S	**Sn**	**20 19 11.4**	**+1.1**
NLC	**Nalytchevo**	**2.42**	**238**	*eP*	**Pn**	**20 18 45.6**	**+0.1**
NLC				*i* S	**Sn**	**20 19 13.2**	**-0.8**
AVH	**Avacha**	**2.68**	**244**	*eP*	**Pn**	**20 18 50.1**	**+1.0**
AVH				*i* S	**Sn**	**20 19 20.7**	**+0.3**
PET	**Petropavlovsk**	**2.85**	**240**	*eP*	**Pn**	**20 18 51.5**	**+0.1**
PET	**Petropavlovsk**	**2.85**	**240**	*eP*	**Pn**	**20 18 52.5**	**+1.1**
PET				*i* S	**Sn**	**20 19 24.4**	**-0.1**
GNL	**Ganaly**	**2.95**	**256**	*eP*	**Pn**	**20 18 54.0**	**+1.2**
GNL				*i* S	**Sn**	**20 19 27.7**	**+0.8**
RUS	**Russkaya**	**3.27**	**233**	*eP*	**Pn**	**20 18 57.7**	**+0.5**
RUS				*i* S	**Sn**	**20 19 33.7**	**-1.2**
GRL	**Gorelyy**	**3.41**	**237**	*eP*	**Pn**	**20 19 00.0**	**+0.9**
GRL				*i* S	**Sn**	**20 19 38.1**	**-0.2**
MKAR	**Makanchi Array**	**48.97**	**296**	P	**P**	**20 26 49.3**	**-0.5**
	0.2nm,0.2s,mb3.7,baz=57,slow=8.8,SNR=4.2						
JOF	**Joensuu**	**56.95**	**336**	*ep*	**P**	**20 27 47.7**	**-0.8**
	1.1nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**58.80**	**338**	*ep*	**P**	**20 27 58.3**	**-3.2**
	1.0nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**58.80**	**338**	*eP*	**P**	**20 27 58.3**	**-3.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**59.44**	**337**	P	**P**	**20 28 06.5**	**+0.5**
	comp=Z,1.6nm,0.5s,mb4.3,baz=38,slow=8.1,SNR=22						
NB2	**NORSAR Subarra**	**62.62**	**345**	P	**P**	**20 28 27.8**	**+0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**62.62**	**345**	P	**P**	**20 28 28.1**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.1,baz=18,slow=6.8,SNR=5.5						
AKASG	**Malin Array Be**	**68.20**	**330**	P	**P**	**20 29 03.6**	**+0.1**
	comp=Z,0.7nm,0.4s,mb4.1,baz=28,slow=5.8,SNR=5.6						

MEX 22 20:22:45.9±0.5, 1698N×10049W, h3km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.23**	**72**	*i* P	Pg	20 22 50.0	-0.3
CAIG				*i* S	Sg	20 22 53.3	+0.1
ACX	**Acapulco**	**0.56**	**101**	*eP*	Pg	20 22 56.0	-0.7
ACX				*i* S	Sg	20 23 04.5	+0.6
MEIG	**Mezcala**	**1.26**	**41**	*i* P	Pg	20 23 06.9	-3.1
MEIG				*i* S	Sg	20 23 22.5	-3.8

*IDC **22** 20:41:09.5±1.2, 8501N×608E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, ML3.4/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/31, Error ellipse: s-maj=39.1km s-min=20.3km az=61.0*
*ISCJB **22** 20:41:11.0±0.9, 8444N±007×±, h10km, mb3.8/10, MS3.2/5, Error ellipse: s-maj=14.7km s-min=9.7km az=157.1*
*NEIC **22** 20:41:11.1±0.9, 8474N×469E, h10km, mb4.1/2, Error ellipse: s-maj=17.3km s-min=14.3km az=48.0*
*NAO **22** 20:41:18.0±8.9, 8435N×281E, h30km±72km, ML3.0*

ISC 22 20:41:15.5±1.1, 8444N±006×10E±, h10km, n26, σ0≤86/29, mb3.9/10, MS3.2/5, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**5.56**	**177**	Pn	**Pn**	**20 42 38.0**	**-0.3**
KBS				Sn	**Sn**	**20 43 42.1**	**0.0**
KBS	**Kingsbay**	**5.56**	**177**	*eP*	**Pn**	**20 42 37.9**	**-0.3**
KBS				*eS*	**Sn**	**20 43 41.9**	**-0.2**
KBS				AML	AML	20 43 46.9	
	comp=Z,5.8nm,0.4s						
KBS	**Kingsbay**	**5.56**	**177**	*eP*	**Pn**	**20 42 37.6**	**-0.6**
	comp=Z,19nm,0.9s						
SPB4	**Spitsbergen Ar**	**6.36**	**169**	*eP*	**Pn**	**20 42 49.9**	**+0.6**
SPA0	**Spitsbergen Ar**	**6.36**	**169**	Pn	**Pn**	**20 42 49.6**	**+0.3**
	baz=8.7,slow=12						
SPA0				Sn	**Sn**	**20 44 02.6**	**+0.6**
	baz=14,slow=16						
HOPEN	**Hopen**	**8.28**	**156**	*eP*	**Pn**	**20 43 16.9**	**+1.2**
HOPEN				*eS*	**Sn**	**20 44 47.0**	**-2.3**
SUMG	**Summit**	**14.46**	**245**	*eP*	**Pn**	**20 44 30.0**	**-10**
	comp=Z,12nm,1.0s						
ARA0	**ARCESS Array S**	**15.26**	**160**	Pn	**Pn**	**20 44 51.3**	**+0.3**
	baz=0.2,slow=11						
ARA0				Sn	**Sn**	**20 47 31.1**	**-8.9**
	slow=22						
ARCES	**ARCESS Array B**	**15.26**	**160**	Pn	**Pn**	**20 44 50.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=357,slow=9.4,SNR=14						
ARCES				Sn	**Sn**	**20 47 39.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=359,slow=20,SNR=5.0						
ARCES				LR	LR	20 51 06.8	
	comp=Z,71nm,18.2s,baz=7.7,slow=38						
JOF	**Joensuu**	**22.10**	**154**	*ep*	**P**	**20 46 06.8**	**-4.0**
	comp=Z,5.5nm,0.7s,mb4.1						
FIA0	**FINESS Array S**	**23.38**	**161**	P	**P**	**20 46 25.4**	**+0.9**
	baz=353,slow=12						
FINES	**FINESS Array B**	**23.38**	**161**	P	**P**	**20 46 25.0**	**+0.6**
	comp=Z,6.0nm,1.0s,mb4.0,baz=4.6,slow=9.6,SNR=12						
NB2	**NORSAR Subarra**	**23.53**	**179**	P	**P**	**20 46 25.2**	**-0.8**
	baz=347,slow=9.3						
NB2	**NORSAR Subarra**	**23.53**	**179**	P	**P**	**20 46 26.2**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.4,baz=359,slow=6.9						
NOA	**NORSAR Array B**	**23.53**	**179**	P	**P**	**20 46 27.0**	**+1.0**
	comp=Z,1.9nm,0.7s,mb3.6,baz=359,slow=9.8,SNR=5.8						
NOA				LR	LR	20 56 27.2	
	comp=Z,47nm,18.6s,MS3.0,baz=335,slow=38						
HFS	**Hagfors**	**24.45**	**176**	LR	LR	20 58 03.4	
	comp=Z,52nm,18.5s,MS3.0,baz=357,slow=40						
INK	**Inuvik**	**26.54**	**331**	P	**P**	**20 46 42.4**	**-11**
	comp=Z,2.5nm,1.0s,mb3.7,baz=21,slow=10,SNR=3.4						
CHKZ	**Chkalovo**	**34.03**	**113**	*eP*	**P**	**20 47 59.7**	**+0.1**
	comp=Z,2.6nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**34.61**	**115**	*eP*	**P**	**20 48 04.9**	**+0.2**
	comp=Z,1.3nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**34.66**	**113**	P	**P**	**20 48 05.5**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=344,slow=7.5,SNR=7.4						
GERES	**GERESS Array B**	**35.76**	**176**	P	**P**	**20 48 15.2**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=11,slow=8.2,SNR=6.1						
GERES				LR	LR	21 01 45.3	
	comp=Z,45nm,19.6s,MS3.2,baz=53,slow=34						
AKTK	**Aktyubinsk**	**36.19**	**127**	P	**P**	**20 48 17.7**	**-0.5**
AKTO	**Aktyubinsk**	**36.19**	**127**	P	**P**	**20 48 17.7**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0,baz=354,slow=10,SNR=4.5						
KEST	**Kesra**	**48.86**	**181**	LR	LR	21 09 46.7	
	comp=Z,20nm,19.8s,MS3.1,baz=179,slow=35						
PDAR	**Pinedale Array**	**50.39**	**304**	LR	LR	21 10 25.2	
	comp=Z,65nm,19.3s,MS3.6,baz=189,slow=35						
TORD	**Torodi Ar. Bea**	**71.41**	**189**	P	**P**	**20 52 33.5**	**-2.4**
	comp=Z,0.5nm,0.7s,mb3.5,baz=356,slow=5.3,SNR=4.2						

IDC 22 20:43:13.3±4.2, 131N×9727E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx3.0/26, Error ellipse: s-maj=166.3km s-min=28.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	20 51 06.8	+0.3
	0.4nm,0.8s,baz=302,slow=9.0,SNR=5.7						
WRA				LR	LR	21 09 29.6	
	comp=Z,95nm,19.7s,baz=245,slow=38						
SONM	**Songino Array**	**47.02**	**8**	P	P	20 51 47.4	+1.1
	0.3nm,0.5s,baz=181,slow=8.6,SNR=4.2						
MKAR	**Makanchi Array**	**47.16**	**346**	P	P	20 51 47.8	+0.3
	0.7nm,0.7s,baz=143,slow=7.0,SNR=5.8						
ZAL	**Zalesovo**	**53.46**	**351**	P	P	20 52 34.1	-1.0
	0.9nm,0.5s,baz=195,slow=6.1,SNR=3.0						

*IDC **22** 21:14:05.3±2.0, 5023N×1879E, h0km, mb1 3.4/3, mb1mx3.1/17, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=36.8km s-min=9.8km az=135.0*
*PRU **22** 21:14:05.1, 5033N×1876E, h0km*

WAR 22 21:14:04.9, 5026N×1887E, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.47**	**248**	*ePg*	Pg	21 14 14.4	+0.5
RAC				*eSg*	Sg	21 14 21.1	+1.0
OJC	**Ojcow**	**0.59**	**94**	*ePg*	Pg	21 14 16.5	+0.2
OJC				*eSg*	Sg	21 14 25.1	+1.1
OKC	**Ostrava-Krasne**	**0.63**	**228**	*ePG*	Pg	21 14 17.0	0.0
OKC				*eSG*	Sg	21 14 25.9	+0.7
	40nm,0.8s						
NIE	**Niedzica**	**1.26**	**132**	*ePg*	Pg	21 14 28.7	-0.3
NIE				*eSg*	Sg	21 14 46.5	+1.2
DPC	**Dobruska-Polom**	**1.64**	**274**	*ePG*	Pg	21 14 33.6	-2.7
DPC				*eSG*	Sg	21 14 55.6	-2.0
	21nm,0.4s						
KSP	**Ksiaz**	**1.75**	**290**	*ePg*	Pg	21 14 37.3	-1.1
KSP				*eSg*	Sg	21 15 00.6	-0.4
STHS	**Stebnicka Huta**	**1.75**	**118**	*ePN*	Pn	21 14 37.6	+1.1
STHS				*eSN*	Sn	21 15 04.8	+5.3
VRAC	**Vranov**	**1.76**	**238**	Pg	Pg	21 14 36.3	-2.3
	3.5nm,0.3s,baz=50,slow=15,SNR=12						
VRAC				Lg		21 15 00.2	
	4.7nm,0.3s,baz=126,slow=19,SNR=15						
VYHS	**Vyhne**	**1.77**	**181**	*ePN*	Pn	21 14 35.7	-1.0
VYHS				*eSN*	Sn	21 15 02.0	+2.1
UPC	**Upice**	**1.85**	**279**	*ePG*	Pg	21 14 37.1	-3.2
UPC				*eSG*	Sg	21 15 02.0	-2.3
KECS	**Kecovo**	**2.07**	**149**	*ePN*	Pn	21 14 43.5	+2.6
KECS				*eSN*	Sn	21 15 09.5	+2.2
KWP	**Kalwaria**	**2.56**	**103**	*ePn*	Pn	21 14 48.8	+1.2
KWP				*ePg*	Pg	21 14 55.2	+1.3
PRU	**Pruhonice**	**2.80**	**266**	*ePN*	Pn	21 14 48.6	-2.3
PRU				*ePG*	Pg	21 14 54.2	-4.4
PRU				*eSG*	Sg	21 15 30.5	-4.4
	7.7nm,0.6s						
KHC	**Kasperske Hory**	**3.62**	**254**	*ePN*	Pn	21 15 01.0	-1.2
KHC				*ePG*	Pg	21 15 08.1	-6.2
KHC				*eSG*	Sg	21 15 58.4	-2.8
GERES	**GERESS Array B**	**3.65**	**249**	Pn	Pn	21 15 02.7	0.0
	0.2nm,0.3s,baz=62,slow=13,SNR=4.7						
GERES				Pg	Pg	21 15 11.3	-3.7
	0.6nm,0.3s,baz=66,slow=18,SNR=13						
GERES				Sn	Sn	21 15 45.1	-1.4
	0.4nm,0.3s,baz=62,slow=19,SNR=3.3						
GERES				Lg		21 15 59.2	
	2.2nm,0.3s,baz=64,slow=28,SNR=11						
CLL	**Collm**	**3.87**	**288**	*eSg*	Sg	21 16 09.0	-0.3
BSD	**Bornholm Skovb**	**5.42**	**335**	*iP*	Pn	21 15 24.9	-2.1
FINES	**FINESS Array B**	**11.91**	**17**	Pn	Pn	21 16 51.6	-4.3
	0.1nm,0.3s,baz=194,slow=11,SNR=6.3						
ARCES	**ARCESS Array B**	**19.60**	**7**	P	Pn	21 18 33.6	-2.2
	0.1nm,0.3s,baz=188,slow=12,SNR=3.3						

*ISCJB **22** 21:32:08.6±0.8, 4385N±006×12795W±009, h10km, mb4.2/6, MS4.1/17, Error ellipse: s-maj=11.5km s-min=5.8km az=96.4*
*NEIC **22** 21:32:08.4, 4356N×12858W, h10km, mb4.5/6, After SEA.*
*IDC **22** 21:32:13.0±3.3, 4381N×12794W, h39km±28km, mb3.7/3, mb1 3.9/10, mb1mx3.7/27, mbtmp3.8/10, ML3.7/7, MS4.0/21, Ms1 4.0/21, ms1mx3.8/39, Error ellipse: s-maj=37.5km s-min=16.8km az=59.0*

ISC 22 21:32:09.7±0.8, 4379N±006×12801W±009, h10km, n54, σ1≤27/41, mb4.2/6, MS4.1/17, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.84**	**108**	P	**Pn**	**21 32 52.6**	**-2.5**
RNO	**Roman Nose**	**3.09**	**86**	P	**Pn**	**21 32 57.5**	**-1.0**
MPOR	**Mary's Peak**	**3.29**	**76**	P	**Pn**	**21 32 60.0**	**-1.3**
HEBO	**Mount Hebo**	**3.36**	**64**	P	**Pn**	**21 33 01.8**	**-0.4**
COR	**Corvallis**	**3.48**	**75**	P	**Pn**	**21 33 03.8**	**0.0**
KMOR	**Kings Mountain**	**3.71**	**59**	P	**Pn**	**21 33 06.6**	**-0.5**
BMW	**Boistfort Moun**	**4.32**	**50**	P	**Pn**	**21 33 15.2**	**-0.2**
YBH	**Yreka Blue Hor**	**4.41**	**116**	Pn	**Pn**	**21 33 16.7**	**0.0**
	1.6nm,0.3s,baz=309,slow=11,SNR=14						
YBH				Sn	**Sn**	**21 34 08.0**	**-0.1**
	0.3nm,0.3s,baz=102,slow=18,SNR=3.1						
PGC	**Sidney**	**5.80**	**31**	*eP*	**Pn**	**21 33 35.1**	**-0.5**
	83nm,0.9s						
HAWA	**Hanford**	**6.54**	**64**	*eP*	**Pn**	**21 33 45.8**	**-0.1**
	1.1nm,0.7s						
WVOR	**Wild Horse Val**	**7.00**	**98**	*eP*	**Pn**	**21 33 51.4**	**-0.7**
	3.3nm,0.6s						
PAHR	**Pah Rah Range**	**7.63**	**119**	*eP*	**Pn**	**21 34 05.0**	**+4.1**
	41nm,1.4s						
BMO	**Blue Mountains**	**7.75**	**78**	*eP*	**Pn**	**21 34 01.2**	**-1.3**
	4.3nm,0.8s						
CMB	**Columbia Colle**	**8.15**	**132**	*eP*	**Pn**	**21 34 09.8**	**+1.8**
	53nm,1.6s						
BBB	**Bella Bella**	**8.40**	**360**	Pn	**Pn**	**21 34 12.3**	**+0.9**
	0.4nm,0.3s,baz=213,slow=13,SNR=8.3						
BBB				LR	LR	21 36 28.4	
	comp=Z,333nm,21.1s,baz=181,slow=30						
SAO	**San Andreas Ge**	**8.63**	**142**	*eP*	**Pn**	**21 34 11.8**	**-2.8**
	14nm,0.4s						
NEW	**Newport**	**8.79**	**56**	Pn	**Pn**	**21 34 17.4**	**+0.5**
	1.9nm,0.3s,baz=244,slow=10,SNR=10						
NEW				LR	LR	21 37 42.7	
	comp=Z,2μm,20.3s,baz=232,slow=38						
NVAR	**Mina Array Bea**	**9.07**	**123**	Pn	**Pn**	**21 34 23.6**	**+2.9**
	0.1nm,0.8s,baz=296,slow=13,SNR=9.2						
WALA	**Waterton Lakes**	**11.06**	**57**	*eP*	**Pn**	**21 34 48.5**	**+0.6**
	40nm,1.6s						
QLMT	**Earthquake Lak**	**11.93**	**79**	P	**Pn**	**21 34 58.0**	**-1.8**
MSU	**Marysvale**	**13.04**	**108**	*eP*	**Pn**	**21 35 19.1**	**+4.1**
PDAR	**Pinedale Array**	**13.49**	**88**	Pn	**Pn**	**21 35 23.8**	**+2.7**
	0.1nm,0.3s,baz=271,slow=11,SNR=5.3						
PDAR				LR	LR	21 40 53.3	
	comp=Z,1μm,19.5s,baz=290,slow=39						
SRU	**San Rafael**	**13.92**	**104**	P	**Pn**	**21 35 28.5**	**+1.5**
	12nm,0.9s						
DLBC	**Dease Lake**	**14.72**	**356**	Pn	**Pn**	**21 35 40.4**	**+2.5**
	0.1nm,0.3s,baz=182,slow=12,SNR=4.5						
DGMT	**Dagmar**	**17.13**	**66**	*eP*	**Pn**	**21 36 10.7**	**+1.5**
	28nm,1.1s						
SDCO	**Great Sand Dun**	**18.07**	**102**	*eP*	**Pn**	**21 36 22.2**	**+1.4**
	14nm,1.3s						
LAZ	**Ladron**	**18.68**	**113**	P	**Pn**	**21 36 28.1**	**-0.1**
ANMO	**Albuquerque**	**18.82**	**111**	P	**Pn**	**21 36 30.6**	**+0.7**
	0.1nm,0.3s,baz=297,slow=11,SNR=2.3						
ANMO				LR	LR	21 44 15.6	
	comp=Z,251nm,18.9s,baz=126,slow=38						
LPM	**Los Pinos Moun**	**19.07**	**113**	*eP*	**Pn**	**21 36 29.4**	**-3.6**
FFC	**Flin Flon**	**20.08**	**48**	*eP*	**P**	**21 36 44.1**	**+0.9**
	23nm,1.1s						
KDAK	**Kodiak Island**	**20.75**	**321**	LR	LR	21 42 42.2	
	comp=Z,615nm,21.1s,MS4.0,baz=119,slow=30						
DAWY	**Dawson**	**21.32**	**346**	*eP*	**P**	**21 36 57.3**	**+0.7**
ECSD	**EROS,Sioux Fal**	**22.61**	**79**	*eP*	**P**	**21 37 08.3**	**-2.2**
ULM	**Lac du Bonnet**	**22.72**	**62**	P	**P**	**21 37 12.1**	**+0.5**
	13nm,1.0s,mb4.3,baz=272,slow=9.3,SNR=6.3						
ULM				LR	LR	21 46 18.5	
	comp=Z,748nm,18.5s,MS4.2,baz=274,slow=37						
ULM	**Lac du Bonnet**	**22.72**	**62**	P	**P**	**21 37 12.1**	**+0.5**
ULM				LR	LR	21 46 18.5	
WMOK	**Wichita Mounta**	**24.27**	**102**	*eP*	**P**	**21 37 28.2**	**+1.2**
	14nm,1.1s,mb4.3						
LPIG	**La Paz**	**24.43**	**138**	LR	LR	21 46 02.7	
	comp=Z,369nm,20.4s,MS3.9,baz=337,slow=34						
INK	**Inuvik**	**24.74**	**355**	LR	LR	21 46 37.5	
	comp=Z,385nm,21.3s,MS3.9,baz=297,slow=35						
TTA	**Tatalina**	**25.07**	**330**	*eP*	**P**	**21 37 33.9**	**-0.3**
	34nm,1.3s,mb4.7						
IMA2	**Indian Mountai**	**26.38**	**337**	*eP*	**P**	**21 37 45.5**	**-0.6**
PLAL	**Pickwick Lake**	**31.84**	**92**	*eP*	**P**	**21 38 34.5**	**-0.2**
	17nm,1.3s,mb4.7						
SADO	**Sadowa**	**34.58**	**71**	LR	LR	21 53 21.9	
	comp=Z,639nm,21.9s,MS4.3,baz=153,slow=37						
TKL	**Tuckaleechee C**	**34.64**	**88**	LR	LR	21 53 52.8	
	comp=Z,984nm,18.5s,MS4.6,baz=298,slow=38						
SCHQ	**Schefferville**	**40.14**	**52**	LR	LR	21 55 35.1	
	comp=Z,198nm,19.4s,MS4.0,baz=278,slow=35						
ARCES	**ARCESS Array B**	**65.32**	**10**	LR	LR	22 11 00.9	
	comp=Z,76nm,19.9s,MS3.9,baz=16,slow=36						
NOA	**NORSAR Array B**	**70.40**	**20**	LR	LR	22 13 33.7	
	comp=Z,35nm,21.4s,MS3.6,baz=350,slow=35						
SONM	**Songino Array**	**76.96**	**326**	P	**P**	**21 44 00.8**	**-1.7**
	0.2nm,0.3s,mb3.5,baz=32,slow=8.5,SNR=4.0						
SONM				LR	LR	22 16 34.3	
	comp=Z,146nm,21.8s,MS4.3,baz=246,slow=35						
ZAL	**Zalesovo**	**78.68**	**341**	LR	LR	22 20 32.8	
	comp=Z,95nm,18.6s,MS4.2,baz=82,slow=37						
GERES	**GERESS Array B**	**81.82**	**24**	P	**P**	**21 44 27.3**	**-1.6**
	0.7nm,1.0s,mb3.6,baz=331,slow=4.7,SNR=3.7						
GERES				LR	LR	22 25 05.5	
	comp=Z,58nm,19.0s,MS4.0,baz=302,slow=39						
AKASG	**Malin Array Be**	**83.83**	**14**	LR	LR	22 21 17.3	
	comp=Z,60nm,18.3s,MS4.0,baz=40,slow=35						
AKTO	**Aktyubinsk**	**86.01**	**356**	LR	LR	22 29 24.0	
	comp=Z,70nm,18.5s,MS4.1,baz=231,slow=40						
BDFB	**Brasilia**	**93.65**	**108**	LR	LR	22 31 01.6	
	comp=Z,98nm,20.1s,MS4.3,baz=13,slow=38						
BRTR	**Keskin Array B**	**95.23**	**14**	LR	LR	22 27 32.4	
	comp=Z,61nm,18.8s,MS4.1,baz=147,slow=35						
GNI	**Garni**	**96.19**	**6**	LR	LR	22 33 00.1	
	comp=Z,55nm,18.7s,MS4.1,baz=118,slow=38						

*NIED **22** 21:33:00, 3640N×14150E, h23km, Mw4.1 Best double couple: M0 1.37000×10^15 NP1:φ±25.00000°, δ70.00000°, λ87.00000°. NP2:φ±212.00000°, δ20.00000°, λ97.00000°.*
*IDC **22** 21:33:24.2±1.1, 3646N×14169E, h0km, mb4.0/12, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, ML3.6/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=29.7km s-min=18.1km az=78.0*
*MOS **22** 21:33:26.7±0.9, 3644N×14167E, h31km, mb4.4/7, Error ellipse: s-maj=18.2km s-min=10.2km az=124.4*
*ISCJB **22** 21:33:27.6±0.8, 3640N±004×14164E±007, h37km±7km, mb4.0/18, MS3.6/3, Error ellipse: s-maj=9.1km s-min=6.6km az=30.6*
*JMA **22** 21:33:28.4±0.1, 3635N×14149E, h53km±3km, M3.8*
JMA Felt I J1.
*NEIC **22** 21:33:30.1±6.6, 3644N×14154E, h37km±48km, mb4.3/2, Error ellipse: s-maj=72.2km s-min=15.3km az=72.0*

ISC 22 21:33:26.4±1.1, 3638N±004×14162E±006, h14km±6km, n42, σ0≤88/48, mb4.0/18, MS3.6/3, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.88**	**285**	↓P	**Pg**	**21 33 43.3**	**-0.1**
JHO				S	**Sg**	**21 33 54.6**	**-0.3**
CHOJ	**Chosi**	**0.92**	**222**	↓P	**Pb**	**21 33 44.0**	**-0.1**
CHOJ				S	**Sg**	**21 33 55.7**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.97**	**318**	↓P	**Pb**	**21 33 45.1**	**+0.1**
JFK	**Kawauchi**	**1.15**	**329**	↓P	**Pb**	**21 33 47.8**	**-0.2**
JFT	**Otama**	**1.53**	**318**	↓P	**Pn**	**21 33 54.2**	**+0.9**
JMM	**Marumori**	**1.62**	**336**	↓P	**Pn**	**21 33 54.9**	**+0.4**
JAG	**Ashikaga**	**1.75**	**272**	↓P	**Pn**	**21 33 55.6**	**-0.7**
JAG				S	**Sn**	**21 34 15.7**	**-2.7**
BSO1	**Boso 1**	**1.80**	**197**	P	**Pn**	**21 33 57.7**	**+0.6**
BSO3	**Boso 3**	**1.82**	**210**	P	**Pn**	**21 33 57.0**	**-0.3**
JFY	**Yanaizu**	**1.84**	**304**	↓

BRTR pmax pmax
comp=Z,1.0nm,0.8s
MLR Muntele Rosu 79.99 320 LR LR 22 24 39.1
comp=Z,116nm,18.1s,MS4.3,baz=208,slow=38
CLL Collm 81.74 330 *eP* **P 21 45 45.0 +0.4**
CLL *i* pP pP 21 45 58.2 +9.0
GERES GERESS Array B 83.35 328 P **P 21 45 51.3 -1.7**
comp=Z,0.5nm,0.8s,mb3.6,baz=17,slow=7.2,SNR=3.2

---

*ISCJB **22** 21:36:31.8±0.7, 4279N±004×7637E±005, h10km, Error ellipse: s-maj=6.1km s-min=4.6km az=139.9*
*NNC **22** 21:36:31.2±1.1, 4277N×7633E, h0km, mb3.1, mpv2.3, Error ellipse: s-maj=11.7km s-min=1.7km az=166.0*
*KNET **22** 21:36:32.2±0.9, 4277N×7624E, h2km±5km, ml1.9, Error ellipse: s-maj=6.9km s-min=2.7km az=49.0*

ISC 22 21:36:32.1±0.7, 4279N±004×7634E±005, h10km, n11, σ0§90/20, 15C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.55**	**188**	⇓	P		**Pg**	**21 36 42.5**	**-0.4**
	29nm,0.2s,SNR=8.0								
ULHL				⇑	S		**Sg**	**21 36 49.8**	**-0.3**
	31nm,0.1s								
TKM2	**Tokmak 2**	**0.56**	**284**	⇓	P		**Pg**	**21 36 42.3**	**-0.8**
	12nm,0.2s,SNR=67								
TKM2				⇑	S		**Sg**	**21 36 49.7**	**-0.7**
	76nm,0.1s								
TKM2	**Tokmak 2**	**0.56**	**284**	⇑	P		**Pg**	**21 36 42.3**	**-0.8**
	0.5nm,0.5s								
TKM2				⇓	S		**Sg**	**21 36 50.2**	**-0.2**
	5.5nm,0.6s								
KNDC	**Almaty**	**0.63**	**47**	⇑	P		**Pg**	**21 36 43.9**	**-0.4**
	13nm,0.5s								
KNDC				⇑	S		**Sg**	**21 36 52.8**	**+0.3**
	36nm,0.3s								
KBK	**Karagaybulak**	**1.03**	**263**	⇑	P		**Pg**	**21 36 51.5**	**-0.6**
	7.8nm,0.1s,SNR=8.7								
KBK				⇑	S		**Sg**	**21 37 06.1**	**+0.6**
	21nm,0.1s								
CHMS	**Chumysh**	**1.19**	**281**	⇑	P		**Pb**	**21 36 53.4**	**-1.3**
	3.7nm,0.1s,SNR=8.9								
CHMS				⇑	S		**Sb**	**21 37 09.3**	**-0.8**
	17nm,0.2s								
AAK	**Ala-Archa**	**1.37**	**264**	⇑	P		**Pn**	**21 36 57.3**	**0.0**
	4.1nm,0.2s,SNR=8.1								
AAK				⇑	S		**Sb**	**21 37 15.6**	**+0.2**
	6.1nm,0.2s								
USP	**Ospenovka**	**1.43**	**290**	⇓	P		**Pn**	**21 36 57.6**	**-0.6**
	4.3nm,0.1s,SNR=11								
USP				⇑	S		**Sn**	**21 37 17.3**	**+0.3**
	23nm,0.2s								
EKS2	**Erkin-Say**	**1.89**	**267**	⇓	P		**Pn**	**21 37 06.8**	**+2.3**
	2.7nm,0.1s,SNR=14								
EKS2				⇑	S		**Sn**	**21 37 32.5**	**+4.1**
	9.3nm,0.2s								
AML	**Almayashu**	**2.06**	**252**	⇑	P		**Pb**	**21 37 10.1**	**+0.4**
	5.6nm,0.2s,SNR=7.6								
KK31	**Karatay Array**	**4.29**	**276**	⇓	Pg		**Pb**	**21 37 49.8**	**+2.2**
	1.0nm,0.7s,baz=95,slow=15,SNR=14								
KK31				⇑	Lg			21 38 47.3	
	2.5nm,0.6s,baz=100,slow=25								

---

*SZGRF **22** 22:14:50.9, 3673N×7347E, h33km, mb4.7, Northwestern Kashmir*
*BJI **22** 22:15:09.9, 3771N×7206E, h136km, mB4.8, mb4.7*
*NEIC **22** 22:15:09.9±1.1, 3760N×7220E, h116km±10km, mb4.6/58, Error ellipse: s-maj=7.9km s-min=4.4km az=207.0*
*ISCJB **22** 22:15:09.0±0.3, 3750N±002×72.18E±003, h125km±4km, mb4.5/98, Error ellipse: s-maj=4.1km s-min=3.1km az=155.4*
*IDC **22** 22:15:09.5±3.4, 3751N×72.19E, h112km±31km, mb4.2/21, mb1 4.3/24, mb1mx4.2/30, mbtmp4.6/24, MS3.2/3, Ms1 3.2/3, ms1mx2.8/38, Error ellipse: s-maj=12.6km s-min=9.7km az=7.0*
*MOS **22** 22:15:09.1±1.0, 3759N×72.11E, h121km, mb4.4/52, Error ellipse: s-maj=6.7km s-min=3.7km az=120.1*
*NNC **22** 22:15:18.8±3.5, 3826N×7198E, h199km±32km, mb3.5, mpv4.3, Error ellipse: s-maj=35.2km s-min=16.6km az=18.0*

ISC 22 22:15:10.0±0.3, 3753N±002×7218E±003, h118km±3km, n320, σ1§14/354, mb4.5/97, 23C-40D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.58**	**55**		P		**Pn**	**22 16 07.6**	**+3.7**
KSH					S		**Sn**	**22 16 48.3**	**+2.7**
KSH					Smax				
	comp=N,2μm,0.9s								
KSH					Smax				
	comp=E,2μm,0.6s								
CEP	**Cherat**	**3.70**	**183**	⇑	P		**Pn**	**22 16 07.6**	**+2.1**
CHCP	**Chirah Chowk**	**3.96**	**167**		P		**Pn**	**22 16 12.2**	**+3.2**
THW	**Thamme Wali**	**4.74**	**184**	⇑	P		**Pn**	**22 16 20.8**	**+1.4**
AML	**Almayashu**	**4.74**	**14**		P		**Pn**	**22 16 20.6**	**+1.1**
	SNR=379								
UCH	**Uchtor**	**5.03**	**20**		P		**Pn**	**22 16 24.6**	**+1.3**
	SNR=144								
KZA	**Kyzart**	**5.12**	**27**		P		**Pn**	**22 16 25.8**	**+1.2**
	SNR=23								
EKS2	**Erkin-Say**	**5.27**	**13**		P		**Pn**	**22 16 27.8**	**+1.2**
	SNR=213								
SBDP	**Sheikh Budin**	**5.33**	**193**		P		**Pn**	**22 16 27.1**	**-0.3**
AAK	**Ala-Archa**	**5.40**	**18**		P		**Pn**	**22 16 29.9**	**+1.6**
	SNR=39								
AAK	**Ala-Archa**	**5.40**	**18**	⇑	*i*PN		**Pn**	**22 16 28.8**	**+0.5**
AAK					pmax	pmax			
	comp=Z,171nm,0.8s								
AAK	**Ala-Archa**	**5.40**	**18**	⇑	*i*Pn		**Pn**	**22 16 28.8**	**+0.4**
	comp=Z,171nm,0.8s								
AAK					*e*Sn		**Sn**	**22 17 25.8**	**-3.5**
KBK	**Karagaybulak**	**5.55**	**22**		P		**Pn**	**22 16 31.8**	**+1.5**
	SNR=46								
SARP	**Sargodha**	**5.61**	**176**		P		**Pn**	**22 16 32.1**	**+1.0**
SARP					S		**Sn**	**22 17 32.0**	**-2.3**
FRU	**Bishkek**	**5.62**	**19**		ePN		**Pn**	**22 16 33.0**	**+1.7**
FRU					*i*			22 17 36.0	
FRU					pmax	pmax			
	comp=Z,80nm,1.0s								
FRU					pmax	pmax			
	comp=E,1μm,2.0s								
ULHL	**Ulahol**	**5.66**	**32**		P		**Pn**	**22 16 32.9**	**+1.1**
	SNR=65								
KK31	**Karatay Array**	**5.71**	**348**	⇓	P		**Pn**	**22 16 32.3**	**-0.2**
	comp=E,122nm,0.6s,baz=155,slow=12,SNR=1382								
KK31				⇑	S		**Sn**	**22 17 32.4**	**-4.5**
	comp=E,193nm,0.3s,baz=146,slow=30,SNR=27								
KK31	**Karatay Array**	**5.71**	**348**	*i*	PN		**Pn**	**22 16 32.1**	**-0.4**
KK31					pmax	pmax			
	comp=Z,133nm,0.3s								
KKAR	**Karatay Array**	**5.71**	**348**		PN		**Pn**	**22 16 32.1**	**-0.4**
KKAR					pmax	pmax			
	comp=Z,40nm,0.3s								
CHMS	**Chumysh**	**5.81**	**19**		P		**Pn**	**22 16 35.0**	**+1.2**
	SNR=71								
THN	**Thein Dam**	**5.85**	**149**		eP		**Pn**	**22 16 36.0**	**+1.6**
THN					eS		**Sn**	**22 17 39.8**	**-0.4**
DLH	**Dalhousie**	**5.87**	**147**		eP		**Pn**	**22 16 35.0**	**+0.4**
DLH					eS		**Sn**	**22 17 40.0**	**-0.5**
TKM2	**Tokmak 2**	**5.99**	**25**	⇓	P		**Pn**	**22 16 37.8**	**+1.5**
	comp=Z,1.8nm,0.5s								
TKM2				⇑	S		**Sn**	**22 17 41.8**	**-1.7**
	comp=Z,4.7nm,0.5s								
TKM2	**Tokmak 2**	**5.99**	**25**		PN		**Pn**	**22 16 37.7**	**+1.4**
TKM2					pmax	pmax			
	comp=Z,12nm,0.5s								
DRP	**Derazinda**	**5.99**	**196**		P		**Pn**	**22 16 37.6**	**+1.3**
USP	**Ospenovka**	**6.00**	**16**		P		**Pn**	**22 16 36.9**	**+0.5**
	SNR=29								
KNDC	**Almaty**	**6.76**	**31**	⇓	P		**Pn**	**22 16 49.2**	**+2.6**
	comp=Z,35nm,0.6s								
BHK	**Bhakra**	**7.03**	**149**		*ex*		x	22 16 55.0	
BHK					*ex*		x	22 18 01.8	
SDNR	**Sundarnagar**	**7.20**	**145**		*eP*		**Pn**	**22 16 53.0**	**+0.4**
SDNR					*eS*		**Sn**	**22 18 08.0**	**-4.8**
SMLA	**Simla**	**7.60**	**146**		*eP*		**Pn**	**22 16 58.6**	**+0.6**
SMLA					*eS*		**Sn**	**22 18 18.1**	**-4.4**
KLP	**Kalpa**	**7.80**	**138**		*eP*		**Pn**	**22 17 02.1**	**+1.3**
KLP					*eS*		**Sn**	**22 18 25.1**	**-2.3**
DDI	**Dehra Dun**	**8.69**	**144**		*eP*		**Pn**	**22 17 12.7**	**-0.1**
DDI					*ex*		x	22 18 57.0	

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**9.78**	**153**		*eP*		**Pn**	**22 17 26.0**	**-1.5**
	comp=Z,7.0nm,0.5s								
NDI					*eS*		**Sn**	**22 19 10.0**	**-5.4**
KHET	**Khetri**	**9.91**	**161**		*eP*		**Pn**	**22 17 26.5**	**-2.8**
KHET					*eS*		**Sn**	**22 19 10.4**	**-8.1**
AYAN	**Aya Nagar**	**9.93**	**154**		*eP*		**Pn**	**22 17 28.5**	**-1.1**
SONA	**Sohna**	**10.13**	**155**		*eP*		**Pn**	**22 17 31.0**	**-1.2**
SONA					AMb		AMB	22 17 31.7	
	comp=Z,25nm,0.6s								
SONA					*eS*		**Sn**	**22 19 16.7**	**-7.2**
PTH	**Pithoragarh**	**10.40**	**138**		*eS*		**Sn**	**22 19 24.9**	**-5.6**
VAN	**Vannovskaya**	**11.15**	**276**		*eP*		**Pn**	**22 17 40.9**	**-5.0**
VAN					*eS*		**Sn**	**22 19 39.2**	**-9.4**
AJM	**Ajmer**	**11.21**	**169**		*eP*		**Pn**	**22 17 44.5**	**-2.2**
AJM					*eS*		**Sn**	**22 19 42.3**	**-7.8**
MK02	**Makanchi Array**	**11.90**	**36**	⇓	P		**Pn**	**22 17 55.6**	**-0.2**
	comp=Z,14nm,1.0s								
MK31	**Makanchi Array**	**11.91**	**36**		P		**Pn**	**22 17 55.5**	**-0.4**
MK31					pmax	pmax			
	comp=Z,3.0nm,0.5s								
MKAR	**Makanchi Array**	**11.91**	**36**		P		**Pn**	**22 17 55.5**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=222,slow=13,SNR=26								
WMQ	**Urumqi**	**13.34**	**57**		*eP*		**Pn**	**22 18 14.0**	**-0.7**
WMQ					S		**Sn**	**22 20 40.5**	**-1.2**
WMQ					AMB		AMB		
	comp=Z,24nm,0.7s								
WMQ					AMB		AMB		
	comp=Z,200nm,4.8s								
WMQ					LR		LR		
	comp=N,366nm,15.8s								
WMQ					LR		LR		
	comp=E,420nm,13.2s								
WMQ					LR		LR		
	comp=Z,438nm,16.0s								
KOLN	**Koldanda**	**13.67**	**132**		*eP*		**Pn**	**22 18 16.9**	**-2.1**
	comp=Z,90nm,0.5s								
KOLN					*eS*		**Sn**	**22 20 40.6**	**-9.1**
GKN	**Gorkha**	**14.13**	**129**		*eP*		**Pn**	**22 18 21.9**	**-2.9**
	comp=Z,103nm,0.3s								
GKN					*eS*		**Sn**	**22 20 50.9**	**-10**
KKN	**Kakani**	**14.69**	**128**		*eP*		**Pn**	**22 18 28.0**	**-3.9**
	comp=Z,86nm,0.5s								
KKN					*eS*		**Sn**	**22 21 03.1**	**-11**
AB31	**Akbulak array**	**14.69**	**327**	⇓	P		**Pn**	**22 18 28.0**	**-3.9**
	comp=Z,51nm,0.8s,baz=141,slow=12,SNR=374								
AB31				⇓	S		**Sn**	**22 20 59.8**	**-14**
	comp=Z,75nm,0.5s								
AB31	**Akbulak array**	**14.69**	**327**	*i*	P		**Pn**	**22 18 28.4**	**-3.5**
AB31					S		**Sn**	**22 20 59.8**	**-14**
AB31					pmax	pmax			
	comp=Z,11nm,0.4s								
AB31					smax				
	comp=Z,61nm,0.5s								
DMN	**Daman**	**14.70**	**129**		*eP*		**Pn**	**22 18 29.9**	**-2.2**
	comp=Z,108nm,0.6s								
DMN					*eS*		**Sn**	**22 21 03.9**	**-11**
PKI	**Pulchoki**	**14.92**	**128**		*eP*		**Pn**	**22 18 32.0**	**-2.8**
	comp=Z,51nm,0.4s								
PKI					*eS*		**Sn**	**22 21 08.8**	**-11**
BHPL	**Bhopal**	**14.94**	**161**		*eP*		**Pn**	**22 18 38.2**	**+3.2**
BHPL					*ex*		x	22 21 08.5	
GUN	**Gumba**	**14.98**	**126**		*eP*		**Pn**	**22 18 33.1**	**-2.5**
	comp=Z,97nm,0.4s								
GUN					*eS*		**Sn**	**22 21 10.3**	**-11**
VOSK	**Vostochnaya**	**15.22**	**357**	⇑	P		**Pn**	**22 18 36.1**	**-2.5**
	comp=Z,13nm,0.7s								
VOSK	**Vostochnaya**	**15.22**	**357**		P		**Pn**	**22 18 36.1**	**-2.5**
VOSK					pmax	pmax			
	comp=Z,16nm,0.9s								
JIRN	**Jiri**	**15.36**	**126**		*eP*		**Pn**	**22 18 38.5**	**-1.8**
	comp=Z,162nm,0.4s								
JIRN					*eS*		**S**	**22 21 19.6**	**-19**
BVA0	**Borovoye Array**	**15.55**	**356**	*i*	P		**Pn**	**22 18 39.9**	**-2.8**
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.5s								
BVAR	**Borovoye Array**	**15.55**	**356**		P		**Pn**	**22 18 40.1**	**-2.5**
	comp=Z,2.2nm,0.3s,baz=165,slow=13,SNR=54								
BVAR					S		**S**	**22 21 25.2**	**-17**
	comp=Z,3.0nm,0.3s,baz=168,slow=23,SNR=11								
BVAR					LR		LR	22 26 05.6	
	comp=Z,73nm,20.1s,baz=222,slow=42								
BVAR	**Borovoye Array**	**15.55**	**356**		P		**Pn**	**22 18 40.1**	**-2.6**
BVAR					S		**S**	**22 21 25.2**	**-17**
ZRNK	**Zerenda**	**15.58**	**353**	⇓	P		**Pn**	**22 18 40.4**	**-2.7**
	comp=Z,53nm,1.1s								
ZRNK	**Zerenda**	**15.58**	**353**		*eP*		**Pn**	**22 18 40.5**	**-2.6**
ZRNK					*e*			22 21 23.6	
ZRNK					pmax	pmax			
	comp=Z,55nm,1.0s								
ZRNK	**Zerenda**	**15.58**	**353**		*ePn*		**Pn**	**22 18 40.5**	**-2.6**
	comp=Z,56nm,1.0s								
ZRNK					*eSn*		**Sn**	**22 21 23.6**	**-12**
BRVK	**Borovoye**	**15.59**	**356**	⇓	P		**Pn**	**22 18 40.7**	**-2.5**
	SNR=17								
BRVK	**Borovoye**	**15.59**	**356**		*eP*		**Pn**	**22 18 40.6**	**-2.6**
BRVK					*e*			22 21 24.7	
BRVK					pmax	pmax			
	comp=Z,29nm,0.8s								
BRVK	**Borovoye**	**15.59**	**356**		*ePn*		**Pn**	**22 18 40.6**	**-2.5**
	comp=Z,28nm,0.8s								
BRVK					*eSn*		**Sn**	**22 21 24.7**	**-11**
JBP	**Jabalpur**	**15.81**	**153**	⇓	*i*x		x	22 18 44.8	
JBP					*i* x		x	22 21 27.6	
CHKZ	**Chkalovo**	**16.19**	**357**	⇓	P		**Pn**	**22 18 48.1**	**-2.5**
	comp=Z,13nm,0.6s								
CHKZ	**Chkalovo**	**16.19**	**357**		*eP*		**Pn**	**22 18 47.9**	**-2.7**
CHKZ					*e*			22 21 41.1	
CHKZ					pmax	pmax			
	comp=Z,19nm,0.6s								
CHKZ	**Chkalovo**	**16.19**	**357**		*ePn*		**Pn**	**22 18 47.9**	**-2.6**
	comp=Z,19nm,0.6s								
CHKZ					*eSn*		**Sn**	**22 21 41.0**	**-9.2**
AKTK	**Aktyubinsk**	**16.40**	**326**		P		**Pn**	**22 18 51.4**	**-1.8**
AKTK					S		**S**	**22 21 43.9**	**-12**
AKTO	**Aktyubinsk**	**16.40**	**326**	⇓	P		**Pn**	**22 18 51.3**	**-2.0**
	comp=Z,0.5nm,0.5s								
AKTO				⇓	S		**S**	**22 21 42.5**	**-14**
	comp=Z,2.7nm,1.2s								
AKTO	**Aktyubinsk**	**16.40**	**326**		P		**Pn**	**22 18 51.4**	**-1.8**
	comp=Z,11nm,0.3s,baz=136,slow=13,SNR=79								
AKTO					S		**S**	**22 21 43.9**	**-12**
	comp=Z,6.4nm,0.3s,baz=196,slow=23,SNR=13								
AKL	**Akola**	**17.29**	**165**		*eP*		**Pn**	**22 19 06.2**	**+2.2**
AKL					AMb		AMB	22 19 07.5	
	comp=Z,72nm,0.6s								
NGP	**Nagpur**	**17.38**	**158**	⇓	*ex*		x	22 19 03.5	
NGP					*ex*		x	22 19 06.3	
	comp=Z,32nm,1.2s								
NGP					*ex*		x	22 22 04.6	
LSA	**Lhasa**	**17.61**	**111**		*eP*		**Pn**	**22 19 09.2**	**+1.3**
LSA					pmax	pmax			
	comp=Z,35nm,0.6s								
LSA	**Lhasa**	**17.61**	**111**		*eP*		**Pn**	**22 19 09.2**	**+1.4**
	comp=Z,35nm,0.6s								
BOK	**Bokaro**	**18.04**	**135**		*eP*		**P**	**22 19 17.5**	**+5.6**
BOK					*ex*		x	22 22 19.3	
ZAL	**Zalesovo**	**18.58**	**24**		P		**P**	**22 19 17.4**	**-0.4**
	comp=Z,5.5nm,0.3s,baz=256,slow=9.2,SNR=46								
ZAL					S		**S**	**22 22 44.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=132,slow=21,SNR=2.5								
ASHO	**Ashiyiah**	**18.79**	**232**	⇓	P		**P**	**22 19 20.4**	**+0.3**
	SNR=5.9								
NVS	**Novosibirsk**	**18.89**	**20**		*eP*		**P**	**22 19 18.8**	**-2.4**
NVS					*eS*		**S**	**22 22 45.9**	**-3.8**
NVS					pmax	pmax			
	comp=N,8.0nm,0.6s								
NVS					pmax	pmax			
	comp=E,3.0nm,0.6s								
NVS					pmax	pmax			
	comp=Z,10.0nm,0.6s								
NVS					smax				
	comp=N,28nm,1.8s								
NVS					smax				
	comp=E,14nm,1.8s								
POO	**Poona**	**18.98**	**175**	⇑	*i*x		x	22 19 22.0	
	comp=E,80nm,1.0s								
KAD	**Karad**	**20.22**	**174**		*eP*		**P**	**22 19 37.1**	**+1.5**
KAD					AMb		AMB	22 19 40.1	
	comp=Z,43nm,0.8s								
KAD					*ex*		x	22 21 44.9	
SHL	**Shillong**	**20.55**	**120**		*eP*		**P**	**22 19 44.5**	**+5.3**
SHL					*i* x		x	22 23 17.0	
SVE	**Sverdlovsk**	**20.79**	**342**	⇓	*eP*		**P**	**22 19 42.0**	**+0.3**
SVE					*e*			22 20 10.0	
SVE					pmax	pmax			

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
	comp=Z,60nm,1.6s								
HYB	**Hyderabad**	**20.80**	**163**		*i* P		**P**	**22 19 42.0**	**+0.1**
HYB					*e*			22 20 26.0	
HYB					*eS*		**S**	**22 23 28.5**	**+1.1**
HYB	**Hyderabad**	**20.80**	**163**		*eP*		**P**	**22 19 42.0**	**+0.1**
ARU	**Arti**	**21.00**	**339**	⇓	*i*P		**P**	**22 19 42.9**	**-1.0**
ARU					*eS*		**S**	**22 23 25.8**	**-5.3**
ARU					*e*SS			22 23 48.2	
ARU					pmax	pmax			
	comp=Z,44nm,0.8s								
ARU	**Arti**	**21.00**	**339**		*eP*		**P**	**22 19 43.1**	**-0.8**
	comp=Z,68nm,1.1s								
ARU					*eS*		**S**	**22 23 28.8**	**-2.3**
DGRG	**David-gareji**	**21.02**	**289**		P		**P**	**22 19 45.0**	**+0.9**
MTA	**Mtatsminda**	**21.46**	**290**		P		**P**	**22 19 48.8**	**-0.1**
GNI	**Garni**	**21.50**	**286**		P		**P**	**22 19 51.5**	**+2.2**
	comp=Z,47nm,0.8s,mb4.9,baz=353,slow=8.5,SNR=30								
GNI	**Garni**	**21.50**	**286**	⇓	P		**P**	**22 19 51.0**	**+1.8**
	SNR=20								
TBLG	**Delisi**	**21.51**	**290**		P		**P**	**22 19 50.4**	**+1.1**
DUS	**Dusheti**	**21.55**	**291**		P		**P**	**22 19 53.5**	**+3.7**
GTA	**Gaotai**	**21.69**	**76**		P		**P**	**22 19 54.8**	**+3.5**
GTA					AP			22 20 21.1	
GTA					XP		sP	22 20 36.9	+8.8
GTA					AMB		AMB		
	comp=Z,27nm,0.8s,mb4.6								
UMR	**Umm Al-Rimmam**	**21.84**	**256**		*eP*		**P**	**22 19 53.2**	**+0.3**
UMR					AMb		AMB	22 19 58.9	
	comp=Z,40nm,0.6s,mb5.0								
GOR	**Gori**	**21.99**	**290**		P		**P**	**22 19 55.6**	**+1.2**
MIB	**Mutribah**	**22.02**	**257**		*eP*		**P**	**22 19 54.5**	**-0.2**
MIB					AMb		AMB	22 19 57.6	
	comp=Z,16nm,1.0s,mb4.3								
VIS	**Vishakhapatnam**	**22.03**	**151**		*eP*		**P**	**22 19 57.0**	**+2.1**
VIS					AMb		AMB	22 19 59.0	
	comp=Z,63nm,1.4s,mb4.8								
ZEI	**Tsey**	**22.19**	**293**		*eP*		**P**	**22 19 56.4**	**-0.1**
ZEI					pmax	pmax			
	comp=Z,24nm,1.0s,mb4.5								
NAY	**Al-Naaiem**	**22.35**	**256**		*eP*		**P**	**22 19 58.0**	**-0.3**
NAY					AMb		AMB	22 19 59.8	
	comp=Z,4.1nm,0.6s,mb4.0								
RST	**Umm Al-Ruwaisa**	**22.42**	**257**		*eP*		**P**	**22 19 58.2**	**-0.8**
RST					AMb		AMB	22 19 59.1	
	comp=Z,8.7nm,0.8s,mb4.1								
ONI	**Oni**	**22.50**	**292**		P		**P**	**22 20 01.8**	**+1.9**
KRAR	**Krasnoyarsk**	**23.14**	**30**		*eP*		**P**	**22 20 06.7**	**+0.9**
KRAR					pmax	pmax			
	comp=Z,11nm,0.4s,mb4.5								
KIV	**Kislovodsk**	**23.17**	**295**	κ	*eP*		**P**	**22 20 06.2**	**+0.1**
KIV					*e*			22 20 42.2	
KIV					pmax	pmax			
	comp=Z,14nm,0.7s,mb4.4								
KIV	**Kislovodsk**	**23.17**	**295**		*eP*		**P**	**22 20 05.9**	**-0.2**
	comp=Z,37nm,0.7s,mb4.8								
WHFO	**Wadi Hawf**	**25.35**	**225**	⇓	P		**P**	**22 20 25.8**	**-0.1**
RBK	**Rabkut**	**25.45**	**223**	⇓	P		**P**	**22 20 26.7**	**-0.1**
ZAK	**Zakamensk**	**25.61**	**50**		*eP*		**P**	**22 20 27.8**	**-0.5**
ZAK					*e*		pP	22 20 57.2	+3.5
ZAK					pmax	pmax			
	comp=Z,1.0nm,1.0s								
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.6								
MALT	**Malatya**	**26.55**	**282**		*eP*		**P**	**22 20 38.7**	**+1.9**
MALT					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.3								
MALT	**Malatya**	**26.55**	**282**		*eP*		**P**	**22 20 38.7**	**+1.9**
	comp=Z,10nm,1.1s,mb4.3								
CD2	**Chengdu**	**26.85**	**95**		*eP*		**P**	**22 20 39.8**	**+0.3**
CD2					AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.5								
CD2					AMB		AMB		
	comp=Z,30nm,4.2s								
SONM	**Songino Array**	**26.98**	**57**		P		**P**	**22 20 41.4**	**+0.8**
	comp=Z,0.9nm,0.6s,mb3.5,baz=272,slow=10,SNR=5.9								
ANN	**Anapa**	**26.99**	**297**		*eP*		**P**	**22 20 39.9**	**-0.8**
ANN					*e**PP		pP	22 21 09.2	+3.0
ANN					*eS*		**S**	**22 25 04.3**	**-5.1**
ANN					pmax	pmax			
	comp=Z,36nm,1.1s,mb4.8								
VRSR	**Storozhevoye**	**27.00**	**311**		*eP*		**P**	**22 20 40.3**	**-0.5**
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.3								
VRSR					pmax	pmax			
	comp=N,7.0nm,0.8s								
VRSR					pmax	pmax			
	comp=E,30nm,0.9s								
KMI	**Kunming**	**28.76**	**107**		P		**P**	**22 20 58.3**	**+1.9**
KMI					AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.2								
OBN	**Obninsk**	**29.79**	**318**	κ	*i*P		**P**	**22 21 05.0**	**-0.6**
OBN								22 22 01.0	
OBN					pmax	pmax			
	comp=Z,28nm,0.6s,mb5.1								
OBN	**Obninsk**	**29.79**	**318**	⇓	*eP*		**P**	**22 21 04.9**	**-0.6**
	comp=Z,28nm,0.5s,mb5.2								
OBN					*e*PP

comp=Z,3.0nm,0.8s,mb4.2
PSZ Piszkesteto 39.10 302 *e*P **P 22 22 26.4 +0.7**
comp=Z,2.6nm,0.8s,mb4.1
VYHS Vyhne 39.77 303 *e*P **P 22 22 31.3 +0.1**
VYHS *e*PP PP 22 24 00.4 -4.4
PKSM Moragy 40.13 300 ⇓*i*P **P 22 22 34.8 +0.6**
MORC Moravsky Berou 40.52 306 ⇓*i*P **P 22 22 38.7 +1.3**
MORC Moravsky Berou 40.52 306 *e*P **P 22 22 38.0 +0.6**
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
MORC Moravsky Berou 40.52 306 *e*P **P 22 22 38.0 +0.5**
comp=Z,3.4nm,1.0s,mb4.1
ARCES ARCESS Array B 40.56 337 P **P 22 22 37.4 -0.3**
comp=Z,8.7nm,0.6s,mb4.8,baz=111,slow=8.1,SNR=57
ARCES LR LR 22 40 24.1
comp=Z,50nm,18.2s,baz=3.4,slow=37
ARCES ARCESS Array B 40.56 337 P **P 22 22 37.4 -0.3**
ARCES LR LR 22 40 24.1
GKP Gorka Klasztor 40.60 311 *e*P **P 22 22 38.1 0.0**
SSE Sheshan 40.62 84 P **P 22 22 41.1 +2.9**
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,72nm,4.7s
VRAC Vranov 41.17 305 P **P 22 22 43.3 +0.5**
comp=Z,12nm,0.8s,mb4.8,baz=91,slow=7.2,SNR=13
VRAC Vranov 41.17 305 ⇓*i*P **P 22 22 43.8 +1.0**
DPC Dobruska-Polom 41.27 307 *e*P **P 22 22 44.1 +0.6**
UPC Upice 41.45 307 *e*P **P 22 22 45.4 +0.3**
CONA Conrad Observa 41.80 303 ⇓*i*P **P 22 22 48.6 +0.7**
comp=Z,12nm,0.8s,mb4.6
ARSA Arzberg 42.12 302 ⇑*i*P **P 22 22 50.3 -0.2**
comp=Z,5.2nm,0.7s,mb4.4
DOBS Dobrina 42.32 300 *e*P **P 22 22 52.4 +0.3**
PSI Prapat 42.39 138 P **P 22 22 52.4 -0.3**
comp=Z,3.0nm,0.5s,mb4.3,baz=295,slow=9.3,SNR=4.8
PRU Pruhonice 42.44 306 *e*P **P 22 22 53.2 +0.1**
BRG Berggiesshubel 42.74 307 *e*P **P 22 22 55.8 +0.3**
comp=Z,9.0nm,0.6s,mb4.7
BRG Berggiesshubel 42.74 307 ⇓*i*P **P 22 22 56.0 +0.5**
comp=Z,5.2nm,0.6s,mb4.4
BRG *e* 22 23 43.7
comp=Z,3.7nm,1.0s
BRG Berggiesshubel 42.74 307 ⇓*i*P **P 22 22 56.0 +0.5**
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BRG pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
HFS Hagfors 42.85 321 P **P 22 22 55.7 -0.7**
comp=Z,22nm,0.5s,mb5.2,baz=98,slow=11,SNR=121
MOA Molln 42.88 303 ⇓*i*P **P 22 22 56.7 +0.1**
comp=Z,8.3nm,1.0s,mb4.4
GEC2 GERESS Array S 43.12 305 *e*P **P 22 22 58.3 -0.2**
comp=Z,2.0nm,0.7s,mb4.0
GEC2 GERESS Array S 43.12 305 *e*P **P 22 22 58.3 -0.2**
GEC2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
GERES GERESS Array B 43.12 305 P **P 22 22 59.0 +0.5**
comp=Z,0.9nm,0.5s,mb3.8,baz=80,slow=7.0,SNR=12
GERES PP PP 22 24 36.5 -4.4
comp=Z,0.7nm,0.7s,baz=60,slow=7.9,SNR=3.6
KHC Kasperske Hory 43.16 305 *e*P **P 22 22 59.5 +0.6**
CLL Collm 43.29 308 *e*P **P 22 22 59.4 -0.5**
comp=Z,5.0nm,0.8s,mb4.3
CLL Collm 43.29 308 *i* P **P 22 22 59.4 -0.5**
comp=Z,5.0nm,0.8s,mb4.3
CLL *ex* x 22 24 56.0
CLL Collm 43.29 308 *i* P **P 22 22 59.4 -0.5**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KBA Koelnbreinsper 43.61 302 ⇓*i*P **P 22 23 02.7 +0.2**
comp=Z,4.6nm,0.8s,mb4.2
KBA Koelnbreinsper 43.61 302 ⇓*i*P **P 22 23 02.7 +0.2**
KBA pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ROTZ Rotzenmuhle 43.97 306 *e*P **P 22 23 06.1 +0.8**
comp=Z,7.0nm,1.2s,mb4.3
MANZ Manzenberg 44.00 306 *e*P **P 22 23 06.4 +0.8**
comp=Z,6.0nm,1.1s,mb4.2
NB2 NORSAR Subarra 44.14 322 P **P 22 23 05.6 -1.1**
comp=Z,9.6nm,0.6s,mb4.7,baz=92,slow=7.9
NOA NORSAR Array B 44.14 322 P **P 22 23 05.9 -0.8**
comp=Z,8.4nm,0.6s,mb4.7,baz=93,slow=7.6,SNR=45
NOA PP PP 22 24 45.2 -6.5
comp=Z,3.8nm,1.0s,baz=94,slow=9.3,SNR=4.4
NOA LR LR 22 44 30.6
comp=Z,20nm,19.1s,baz=80,slow=40
NOA NORSAR Array B 44.14 322 P **P 22 23 05.9 -0.8**
NOA 22 24 45.3
MOX Moxa 44.23 307 *e*P **P 22 23 07.5 +0.1**
comp=Z,10.0nm,1.1s,mb4.5
MOX Moxa 44.23 307 *e*P **P 22 23 07.7 +0.3**
comp=Z,23nm,1.8s,mb4.6
MOX Moxa 44.23 307 *e*P **P 22 23 07.7 +0.3**
MOX pmax pmax
comp=Z,23nm,1.8s,mb4.6
TIXI Tiksi 44.47 22 *e*P **P 22 23 09.2 -0.1**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRA1 Grafenberg Arr 44.61 306 *e*P **P 22 23 11.4 +1.0**
comp=Z,16nm,1.2s,mb4.6
GRF Grafenberg Arr 44.61 306 *e*P **P 22 23 11.4 +1.0**
comp=Z,16nm,1.2s,mb4.6
GRF Grafenberg Arr 44.61 306 *e*P **P 22 23 11.4 +1.0**
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.6
GRF Grafenberg Arr 44.61 306 *e*P **P 22 23 11.4 +1.0**
GRF pmax pmax
comp=Z,16nm,1.2s,mb4.6
BSEG Bad Segeberg 44.69 312 *e*P **P 22 23 11.5 +0.4**
comp=Z,11nm,0.7s,mb4.7
BSEG Bad Segeberg 44.69 312 *e*P **P 22 23 11.5 +0.4**
BSEG pmax pmax
comp=Z,11nm,0.7s,mb4.7
WTTA Wattenberg 44.73 303 ⇓*i*P **P 22 23 11.0 -0.4**
comp=Z,5.8nm,0.6s,mb4.5
WTTA Wattenberg 44.73 303 ⇓*i*P **P 22 23 11.0 -0.4**
WTTA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
FUR Furstenfeldbru 44.81 304 *e*P **P 22 23 12.3 +0.2**
comp=Z,23nm,1.1s,mb4.8
FUR Furstenfeldbru 44.81 304 *e*P **P 22 23 12.3 +0.2**
FUR pmax pmax
comp=Z,23nm,1.1s,mb4.8
CLZ Clausthal 44.87 309 *e*P **P 22 23 12.6 +0.1**
comp=Z,7.0nm,0.8s,mb4.4
CLZ Clausthal 44.87 309 *e*P **P 22 23 12.6 +0.1**
CLZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
NRDL Niedersach Rie 44.95 310 *e*P **P 22 23 13.1 -0.1**
comp=Z,10.0nm,1.1s,mb4.5
SQTA Sankt Quirin 45.02 303 ⇑*i*P **P 22 23 13.3 -0.4**
comp=Z,10nm,1.3s,mb4.4
SQTA Sankt Quirin 45.02 303 ⇑*i*P **P 22 23 13.3 -0.4**
SQTA pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
MOTA Moosalm 45.07 303 ⇑*i*P **P 22 23 13.5 -0.6**
comp=Z,5.0nm,0.9s,mb4.2
MOTA Moosalm 45.07 303 ⇑*i*P **P 22 23 13.5 -0.6**
MOTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
UBBA Unterbreizbach 45.23 308 *e*P **P 22 23 15.4 +0.1**
comp=Z,2.0nm,0.6s,mb4.0
DAVA Damuels 45.90 303 ⇓*i*P **P 22 23 20.5 -0.2**
comp=Z,24nm,0.5s,mb5.2
HABR Khabarovsk 46.05 55 *e*P **P 22 23 24.4 +2.5**
HABR *e*S **S 22 29 58.8 +0.5**
BFO Black Forest 46.72 305 *e*P **P 22 23 26.6 -0.4**
comp=Z,10.0nm,1.4s,mb4.3
BFO Black Forest 46.72 305 *e*P **P 22 23 26.6 -0.4**
BFO pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
CDF Champ du Feu 47.39 305 *e*P **P 22 23 32.5 +0.3**
PGF Pioggiola 47.64 297 *e*P **P 22 23 33.6 -0.6**
comp=Z,17nm,0.8s,mb4.6
PGF Pioggiola 47.64 297 *e*P **P 22 23 33.6 -0.6**
PGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
PGF Pioggiola 47.64 297 *e*P **P 22 23 33.6 -0.6**
comp=Z,8.6nm,0.8s,mb4.6
HINF Hinteralfeld 47.79 304 *e*P **P 22 23 34.8 -0.6**
comp=Z,8.8nm,0.6s,mb4.5
HINF Hinteralfeld 47.79 304 *e*P **P 22 23 34.8 -0.6**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
HINF Hinteralfeld 47.79 304 *e*P **P 22 23 34.8 -0.6**
comp=Z,4.4nm,0.6s,mb4.5
WLF Walferdange 47.86 307 *e*P **P 22 23 35.8 -0.1**
comp=Z,52nm,1.8s,mb5.1
WLF Walferdange 47.86 307 *e*P **P 22 23 33.8 -2.1**
WLF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
WLF Walferdange 47.86 307 *e*P **P 22 23 33.8 -2.0**
comp=Z,6.1nm,0.6s,mb4.6
JOW Kunigami 48.04 86 P **P 22 23 38.1 +0.9**
comp=Z,17nm,0.5s,mb5.2,baz=300,slow=7.9,SNR=11
HAU Haudompre 48.08 305 *e*P **P 22 23 37.0 -0.6**
comp=Z,13nm,0.7s,mb4.6
HAU Haudompre 48.08 305 *e*P **P 22 23 37.0 -0.6**
HAU pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
HAU Haudompre 48.08 305 *e*P **P 22 23 37.0 -0.6**
comp=Z,6.5nm,0.7s,mb4.6
SBF Sospel 48.38 299 *e*P **P 22 23 39.8 -0.1**
comp=Z,46nm,1.0s,mb5.0
SBF Sospel 48.38 299 *e*P **P 22 23 39.8 -0.1**
SBF pmax pmax
comp=Z,23nm,1.0s,mb5.0
SBF Sospel 48.38 299 *e*P **P 22 23 39.8 -0.1**
comp=Z,23nm,1.0s,mb5.0
LPG La Plagne 48.41 301 *e*P **P 22 23 40.2 +0.1**
comp=Z,9.9nm,0.6s,mb4.5
LPG La Plagne 48.41 301 *e*P **P 22 23 40.2 +0.1**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LPG La Plagne 48.41 301 *e*P **P 22 23 40.2 +0.1**
comp=Z,4.9nm,0.6s,mb4.5
LPL La Plagne 48.42 301 *e*P **P 22 23 40.2 0.0**
comp=Z,13nm,0.5s,mb4.7
LPL La Plagne 48.42 301 *e*P **P 22 23 40.2 0.0**
LPL pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LPL La Plagne 48.42 301 *e*P **P 22 23 40.2 0.0**
comp=Z,6.6nm,0.5s,mb4.7
CABF La Chapelle 48.58 303 *e*P **P 22 23 40.7 -0.7**
comp=Z,15nm,0.6s,mb4.8
CABF La Chapelle 48.58 303 *e*P **P 22 23 40.7 -0.7**
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CABF La Chapelle 48.58 303 *e*P **P 22 23 40.7 -0.7**
comp=Z,7.3nm,0.6s,mb4.8
MBDF Montbardon 48.60 300 *e*P **P 22 23 41.0 -0.6**
comp=Z,10nm,0.7s,mb4.6
MBDF Montbardon 48.60 300 *e*P **P 22 23 41.0 -0.6**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 48.60 300 *e*P **P 22 23 41.0 -0.6**
comp=Z,5.1nm,0.7s,mb4.6
MEZF Maizieres J'vi 48.81 305 *e*P **P 22 23 43.2 0.0**
comp=Z,14nm,0.8s,mb4.7
MEZF Maizieres J'vi 48.81 305 *e*P **P 22 23 43.2 0.0**
comp=Z,14nm,0.8s,mb5.0
BAIF Baives 49.01 308 *e*P **P 22 23 44.7 0.0**
comp=Z,8.4nm,0.6s,mb4.5
BAIF Baives 49.01 308 *e*P **P 22 23 44.7 0.0**
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BAIF Baives 49.01 308 *e*P **P 22 23 44.7 0.0**
comp=Z,4.2nm,0.6s,mb4.5
FRF La Foret Royal 49.01 299 *e*P **P 22 23 44.2 -0.5**
comp=Z,13nm,0.6s,mb4.7
FRF La Foret Royal 49.01 299 *e*P **P 22 23 44.2 -0.5**
FRF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
FRF La Foret Royal 49.01 299 *e*P **P 22 23 44.2 -0.5**
comp=Z,6.7nm,0.6s,mb4.8
ORIF Oris-en-Rattie 49.16 301 *e*P **P 22 23 45.3 -0.5**
LMR La Mourre 49.17 299 *e*P **P 22 23 45.4 -0.5**
KEST Kesra 49.61 288 P **P 22 23 49.9 +0.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=290,slow=2.2,SNR=9.8
SMRF Simiane la Rot 49.64 300 *e*P **P 22 23 49.9 +0.5**
comp=Z,24nm,1.1s,mb4.8
SMRF Simiane la Rot 49.64 300 *e*P **P 22 23 49.9 +0.5**
comp=Z,24nm,1.1s,mb5.0
LOR Lormes 49.89 304 *e*P **P 22 23 50.3 -1.1**
comp=Z,7.9nm,0.8s,mb4.4
LOR Lormes 49.89 304 *e*P **P 22 23 50.3 -1.1**
LOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LOR Lormes 49.89 304 *e*P **P 22 23 50.3 -1.1**
comp=Z,4.0nm,0.8s,mb4.4
VIVF Saint-Julien-l 50.00 301 *e*P **P 22 23 51.9 -0.3**
comp=Z,11nm,0.7s,mb4.6
VIVF Saint-Julien-l 50.00 301 *e*P **P 22 23 51.9 -0.3**
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VIVF Saint-Julien-l 50.00 301 *e*P **P 22 23 51.9 -0.3**
comp=Z,5.4nm,0.7s,mb4.6
SMF Signal de Mont 50.07 303 *e*P **P 22 23 52.0 -0.7**
comp=Z,17nm,0.8s,mb4.8
SMF Signal de Mont 50.07 303 *e*P **P 22 23 52.0 -0.7**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SMF Signal de Mont 50.07 303 *e*P **P 22 23 52.0 -0.7**
comp=Z,8.5nm,0.8s,mb4.7
SSF Saint Saulge 50.18 304 *e*P **P 22 23 52.7 -0.9**
comp=Z,10nm,0.7s,mb4.5
SSF Saint Saulge 50.18 304 *e*P **P 22 23 52.7 -0.9**
SSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SSF Saint Saulge 50.18 304 *e*P **P 22 23 52.7 -0.9**
comp=Z,5.1nm,0.7s,mb4.6
KMBO Kilima Mbogo 50.22 228 P **P 22 23 54.3 +0.4**
comp=Z,0.7nm,0.6s,mb3.7,baz=23,slow=7.1,SNR=5.8
KMBO Kilima Mbogo 50.22 228 *i* P **P 22 23 55.5 +1.7**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
AVF Avril sur Loir 50.35 304 *e*P **P 22 23 54.2 -0.7**
comp=Z,28nm,0.8s,mb4.9
AVF Avril sur Loir 50.35 304 *e*P **P 22 23 54.2 -0.7**
AVF pmax pmax
comp=Z,14nm,0.8s,mb4.9
AVF Avril sur Loir 50.35 304 *e*P **P 22 23 54.2 -0.7**
comp=Z,14nm,0.8s,mb4.9
BGF Bois d'Agland 50.75 304 *e*P **P 22 23 57.0 -0.9**
LASF Ste Croix 50.79 300 *e*P **P 22 23 58.1 0.0**
comp=Z,16nm,0.9s,mb4.8
TCF Toulx Ste Croi 51.25 303 *e*P **P 22 24 01.4 -0.2**
comp=Z,21nm,1.0s,mb4.8
TCF Toulx Ste Croi 51.25 303 *e*P **P 22 24 01.4 -0.2**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.8
TCF Toulx Ste Croi 51.25 303 *e*P **P 22 24 01.4 -0.2**
comp=Z,11nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 51.47 56⇑ *e*P **P 22 24 05.1 +1.9**
YSS pmax pmax
comp=Z,22nm,1.2s,mb5.1
MAJO Matsushiro 51.71 70 *e*P **P 22 24 05.2 +0.2**
MAJO pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
MAJO Matsushiro 51.71 70 *e*P **P 22 24 05.2 +0.2**
comp=Z,4.9nm,0.6s,mb4.7
MJAR Matsushiro Arr 51.71 70 P **P 22 24 05.7 +0.7**
comp=Z,2.6nm,0.7s,mb4.4,baz=287,slow=10,SNR=7.4
MJAR Matsushiro Arr 51.71 70 P **P 22 24 05.7 +0.7**
CAF Calviac 51.76 302 *e*P **P 22 24 05.2 -0.1**
comp=Z,15nm,0.9s,mb4.7
CAF Calviac 51.76 302 *e*P **P 22 24 05.2 -0.1**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CAF Calviac 51.76 302 *e*P **P 22 24 05.2 -0.1**
comp=Z,7.4nm,0.9s,mb4.7
RJF Les Rejaudoux 52.01 302 *e*P **P 22 24 07.2 0.0**
comp=Z,16nm,0.9s,mb4.8
RJF Les Rejaudoux 52.01 302 *e*P **P 22 24 07.2 0.0**
RJF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
RJF Les Rejaudoux 52.01 302 *e*P **P 22 24 07.2 0.0**
comp=Z,8.9nm,0.9s,mb4.8
LDF La Druitiere 52.11 307 *e*P **P 22 24 07.5 -0.5**
MTLF Montolieu 52.15 300 *e*P **P 22 24 08.1 -0.2**
comp=Z,14nm,0.9s,mb4.7
MTLF Montolieu 52.15 300 *e*P **P 22 24 08.1 -0.2**
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
MTLF Montolieu 52.15 300 *e*P **P 22 24 08.1 -0.2**
comp=Z,7.2nm,0.9s,mb4.7
EKA Eskdalemuir Ar 52.21 316 P **P 22 24 07.8 -0.9**
comp=Z,2.8nm,0.8s,mb4.4,baz=87,slow=7.8,SNR=12
FLN La Foliniere 52.30 307 *e*P **P 22 24 08.2 -1.1**
GRR Gorron 52.64 307 *e*P **P 22 24 10.8 -1.1**
comp=Z,19nm,0.8s,mb4.9
GRR Gorron 52.64 307 *e*P **P 22 24 10.8 -1.1**
GRR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
GRR Gorron 52.64 307 *e*P **P 22 24 10.8 -1.1**
comp=Z,9.6nm,0.8s,mb4.9
LFF La Frestale 52.64 302 *e*P **P 22 24 11.8 -0.1**
MA2 Magadan 52.98 39 *e*P **P 22 24 16.9 +2.5**
MA2 pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
SEY Seymchan 53.04 34 *e*P **P 22 24 16.8 +2.0**
EPF Esparros 53.55 300 *e*P **P 22 24 18.4 -0.1**
SGMF Saint Gilles 53.76 307 *e*P **P 22 24 19.4 -0.7**
DAG Danmarks Havn 54.01 343⇑ *i*P **P 22 24 21.6 -0.3**
comp=Z,3.7nm,0.8s,mb4.5
DAG Danmarks Havn 54.01 343⇑ *i*P **P 22 24 21.6 -0.3**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ROSF Rostrenen 54.19 307 *e*P **P 22 24 22.3 -0.9**
ETSF Etsaut 54.21 300 *e*P **P 22 24 23.2 -0.2**
comp=Z,7.7nm,0.6s,mb4.6
ETSF Etsaut 54.21 300 *e*P **P 22 24 23.2 -0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ETSF Etsaut 54.21 300 *e*P **P 22 24 23.2 -0.2**
comp=Z,3.8nm,0.6s,mb4.6
QUIF Quistinic 54.26 307 *e*P **P 22 24 22.7 -1.0**
BILL Bilibino 57.27 26 P **P 22 24 44.0 -1.2**
BILL pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
ESDC Sonseca Array 57.81 298 P **P 22 24 49.0 0.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=59,slow=7.6,SNR=9.3
SUMG Summit 60.40 341 *e*P **P 22 25 07.3 +0.5**
comp=Z,25nm,1.3s,mb5.1
TORD Torodi Ar. Bea 66.68 269 P **P 22 25 47.0 -1.1**
comp=Z,1.6nm,0.5s,mb4.1,baz=50,slow=5.6,SNR=28
FITZ Fitzroy Crossi 74.76 128 P **P 22 26 37.9 +0.9**
comp=Z,3.3nm,1.1s,mb4.0,baz=270,slow=8.1,SNR=3.4
WRA Warramunga Arr 81.74 123 P **P 22 27 15.0 -0.5**
comp=Z,2.1nm,0.6s,mb4.1,baz=326,slow=5.1,SNR=27
WRAB Tennant Creek 81.74 123 *e*P **P 22 27 14.7 -0.8**
WRAB pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
WRAB Tennant Creek 81.74 123 *e*P **P 22 27 14.7 -0.8**
comp=Z,3.5nm,0.6s,mb4.4
CPUP Villa Florida 136.18 270 PKP PKPdf 22 34 16.3 -1.1
comp=Z,0.3nm,0.4s,baz=290,slow=4.0,SNR=3.3
PLCA Paso Flores 151.05 252 PKPbc PKPbc 22 34 50.4 +1.4
comp=Z,1.2nm,0.8s,baz=39,slow=6.5,SNR=3.6
PLCA Paso Flores 151.05 252 PKIKP PKPbc 22 34 50.4 +1.4
PLCA pmax pmax
comp=Z,1.0nm,0.8s

BJI 22 22:17:32.3, 3862N×9729E, h11km, mb4.2, ML2.9, Ms3.5, Msz3.3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.12**	**67**	Pg	Pg	22 18 10.6	-2.3
GTA				SG	Sg	22 18 41.6	+1.2
GTA				Smax			
	comp=N,46nm,0.8s						
GTA				Smax			
	comp=E,24nm,1.0s						
NJ2	**Nanjing**	**18.75**	**104**	*e*P	Pn	22 21 57.4	+5.8

IDC 22 22:34:58.1±4.7, 2433N×9570E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=477.4km s-min=28.4km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.67**	**290**	*e*PN	Pn	22 35 47.0	-9.1
SHL				*i* SN	Sn	22 36 16.0	-24
MKAR	**Makanchi Array**	**24.86**	**338**	P	P	22 40 22.3	+0.1
	0.3nm,0.6s,baz=134,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**57.90**	**136**	P	P	22 44 52.0	+0.2
	0.3nm,0.5s,baz=323,slow=7.4,SNR=5.2						
ASAR	**Alice Springs**	**60.41**	**139**	P	P	22 45 09.6	+0.4
	0.4nm,0.5s,baz=321,slow=6.9,SNR=9.9						

ISCJB ***22*** *22:38:17.8±0.2, 4937N×001×686E±002, h0km, Error ellipse: s-maj=2.3km s-min=1.7km az=37.2*
PRU ***22*** *22:38:18.7, 4963N×709E, h0km*
STR ***22*** *22:38:19.4±0.2, 4937N×688E, h1km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
BGR ***22*** *22:38:19.6±0.2, 4938N×689E, h1km, ML2.2/4, Error ellipse: s-maj=2.2km s-min=2.2km az=116.0*
LDG ***22*** *22:38:20.2±0.1, 4937N×692E, h1km, Md2.8/1, Ml3.0/15, Error ellipse: s-maj=1.7km s-min=1.4km az=140.0, Suspected Mining induced.*
CSEM ***22*** *22:38:20.2±0.0, 4937N×693E, h1km, ML3.0/14, Error ellipse: s-maj=0.8km s-min=0.6km az=138.0*
NEIC ***22*** *22:38:20.2, 4937N×692E, h1km, ML2.6(STR), ML3.0(LDG), After LDG.*
BNS ***22*** *22:38:21.3±0.7, 4941N×685E, h1km, ML1.9*

ISC 22 22:38:18.8±0.2, 4937N±001×687E±002, h0km, n96, σ0s89/164, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUP	**Ruppelstein**	**0.35**	**21**	*e*Pg	**Pg**	**22 38 26.6**	**+1.1**
	SNR=18						
RUP	**Ruppelstein**	**0.35**	**21**	Pg	**Pg**	**22 38 26.5**	**+1.0**
RUP				Sg	**Sg**	**22 38 30.8**	**+0.7**
RUP	**Ruppelstein**	**0.35**	**21**	Pg	**Pg**	**22 38 26.6**	**+1.1**
	SNR=18						
RUP				Sg	**Sg**	**22 38 30.8**	**+0.7**
WLF	**Walferdange**	**0.55**	**302**	*e*Pg	**Pg**	**22 38 30.9**	**+1.6**
	SNR=10.0						
WLF				*e*Sg	**Sg**	**22 38 36.9**	**+0.5**
	SNR=3.4						
WLF	**Walferdange**	**0.55**	**302**	P	**Pg**	**22 38 30.9**	**+1.6**
WLF	**Walferdange**	**0.55**	**302**	*e*Pg	**Pg**	**22 38 30.6**	**+1.3**
WLF				*e*Sg	**Sg**	**22 38 39.2**	**+2.7**
WLF	**Walferdange**	**0.55**	**302**	Pg	**Pg**	**22 38 30.9**	**+1.6**
	SNR=10.0						
WLF				*e*Sg	**Sg**	**22 38 39.2**	**+2.8**
ABH	**Alteburg**	**0.67**	**41**	*e*Pg	**Pg**	**22 38 32.4**	**+0.6**
	SNR=4.4						
ABH	**Alteburg**	**0.67**	**41**	Pg	**Pg**	**22 38 32.3**	**+0.6**
ABH				Sg	**Sg**	**22 38 40.8**	**+0.3**
ABH	**Alteburg**	**0.67**	**41**	Pg	**Pg**	**22 38 32.4**	**+0.7**
	SNR=4.4						
ABH				Sg	**Sg**	**22 38 40.8**	**+0.3**
LANF	**Langenberg**	**0.73**	**122**	*e*Pg	**Pg**	**22 38 33.6**	**+0.8**
	SNR=22						
LANF	**Langenberg**	**0.73**	**122**	Pg	**Pg**	**22 38 33.5**	**+0.7**
LANF				Sg	**Sg**	**22 38 42.6**	**+0.3**
KTD	**Kalmit**	**0.80**	**93**	*e*Pg	**Pg**	**22 38 34.8**	**+0.7**
	SNR=12						
KTD	**Kalmit**	**0.80**	**93**	Pg	**Pg**	**22 38 34.7**	**+0.6**
BGG	**Burgeitz**	**0.89**	**20**	*e*Pg	**Pg**	**22 38 37.3**	**+1.5**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**22 38 39.6**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 38 51.6**	**+0.7**
	44nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pg	**Pg**	**22 38 38.5**	**+0.5**
CDF				*e*Pn	**Pn**	**22 38 39.6**	**-0.5**
CDF				*e*Sg	**Sg**	**22 38 51.6**	**+0.7**
CDF	**Champ du Feu**	**1.00**	**164**	*e*Pn	**Pn**	**22 38 39.6**	**-0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**22 38 51.6**	**+0.7**
	22nm,0.3s,SNR=1.0						
WLS	**Welschbruch**	**1.01**	**161**	*e*Pg	**Pg**	**22 38 38.9**	**+0.6**
	SNR=21						
ECH	**Echery**	**1.18**	**170**	*e*Pg	**Pg**	**22 38 41.9**	**+0.6**
	SNR=13						
ECH	**Echery**	**1.18**	**170**	Pg	**Pg**	**22 38 41.8**	**+0.5**
ECH				Sg	**Sg**	**22 38 57.5**	**+0.9**
ECH	**Echery**	**1.18**	**170**	Pg	**Pg**	**22 38 41.9**	**+0.6**
	SNR=13						
ECH				Sg	**Sg**	**22 38 57.5**	**+0.9**
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**22 38 43.1**	**+1.6**
	baz=45						
RFYF				*e*Sg	**Sg**	**22 38 58.7**	**+1.9**
	43nm,0.2s						
RFYF	**Reffroy**	**1.18**	**231**	*e*Pg	**Pg**	**22 38 43.1**	**+1.6**
RFYF				*e*Sg	**Sg**	**22 38 58.7**	**+1.9**
	22nm,0.2s						
STB	**Steinbach**	**1.22**	**359**	*e*Pg	**Pg**	**22 38 43.2**	**+1.0**
STB				*e*Sg	**Sg**	**22 38 59.4**	**+1.4**
STB	**Steinbach**	**1.22**	**359**	Pg	**Pg**	**22 38 43.2**	**+1.0**

STB				Sg	Sg	22 38 59.4	+1.4		
TOD	**Tromm**	**1.28**	**79**	*e*Pg	Pg	22 38 42.9	-0.6		
	SNR=13								
TOD	**Tromm**	**1.28**	**79**	Pg	Pg	22 38 43.7	+0.3		
THEF	**They Montfort**	**1.29**	**207**	*e*Pg	Pg	22 38 43.7	+0.3		
	SNR=28								
THEF	**They Montfort**	**1.29**	**207**	Pg	Pg	22 38 43.7	+0.2		
THEF				Sg	Sg	22 39 00.8	+0.6		
LIBD	**Limburg**	**1.32**	**158**	*e*Pg	Pg	22 38 44.9	+0.8		
	SNR=3.4								
KLL	**Kalltalsperre**	**1.32**	**345**	*e*Pg	Pg	22 38 44.8	+0.6		
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	Pg	22 38 43.5	-0.8		
	SNR=8.0								
TNS				*e*Sg	Sg	22 39 01.7	+0.1		
	SNR=5.2								
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	Pg	22 38 43.6	-0.7		
TNS				*e*Sg	Sg	22 39 02.9	+1.3		
TNS	**Taunus Mts**	**1.33**	**50**	*e*Pg	Pg	22 38 43.6	-0.7		
TNS				Sg	Sg	22 39 01.7	+0.1		
	SNR=5.2								
DREG	**Dreilaegerbach**	**1.35**	**343**	*e*Pg	Pg	22 38 44.5	-0.3		
MEM	**Membach**	**1.35**	**336**	P	Pg	22 38 44.6	-0.1		
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	Pg	22 38 46.6	+0.7		
HAU				*e*Sg	Sg	22 39 05.0	+0.8		
	54nm,0.2s								
HAU	**Haudompre**	**1.41**	**194**	*e*Pn	Pn	22 38 45.6	-0.1		
HAU				*e*Pg	Pg	22 38 46.6	+0.7		
HAU				*e*Sg	Sg	22 39 05.0	+0.8		
HAU	**Haudompre**	**1.41**	**194**	*e*Pg	Pg	22 38 46.6	+0.7		
HAU				*e*Sg	Sg	22 39 05.0	+0.8		
	27nm,0.2s								
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	Pg	22 38 45.5	-0.6		
	SNR=12								
BFO				*e*Sg	Sg	22 39 04.1	-0.4		
	SNR=3.4								
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	Pg	22 38 46.7	+0.6		
BFO				*e*Sg	Sg	22 39 05.0	+0.5		
BFO	**Black Forest**	**1.42**	**137**	*e*Pg	Pg	22 38 46.7	+0.6		
BFO				Sg	Sg	22 39 04.1	-0.4		
	SNR=3.4								
BCLA	**Clavier**	**1.46**	**317**	P	Pn	22 38 46.1	-0.2		
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	Pg	22 38 48.1	+0.9		
	baz=50,SNR=1.0								
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pn	Pn	22 38 47.1	+0.4		
MEZF				*e*Pg	Pg	22 38 48.1	+0.9		
MEZF				*e*Sn	Sn	22 39 05.6	-1.1		
MEZF	**Maizieres J'vi**	**1.48**	**235**	*e*Pg	Pg	22 38 48.1	+0.9		
	SNR=1.0								
MEZF				*e*Sn	Sn	22 39 05.6	-1.1		
	9.5nm,0.3s,SNR=1.0								
GIVF	**Givet**	**1.51**	**300**	*e*Pn	Pn	22 38 47.2	+0.1		
	SNR=1.0								
GIVF				*e*Sn	Sn	22 39 06.7	-0.8		
	41nm,0.5s,SNR=1.0								
GIVF	**Givet**	**1.51**	**300**	*e*Pn	Pn	22 38 47.2	+0.1		
	SNR=1.0								
GIVF				*e*Sn	Sn	22 39 06.7	-0.8		
	20nm,0.5s,SNR=1.0								
HGN	**Heimansgroeve**	**1.52**	**337**	*e*Pg	Pg	22 38 47.6	-0.3		
	baz=160								
HGN				*e*Sg	Sg	22 39 07.0	-0.5		
MOF	**Molkenrain**	**1.53**	**173**	*e*Pg	Pg	22 38 48.8	+0.6		
	SNR=21								
MOF	**Molkenrain**	**1.53**	**173**	Pg	Pg	22 38 48.2	0.0		
MOF	**Molkenrain**	**1.53**	**173**	Pg	Pg	22 38 48.8	+0.6		
	SNR=21								
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	Pg	22 38 49.2	+0.5		
	SNR=1.0								
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pn	Pn	22 38 47.1	-0.7		
HINF				*e*Pg	Pg	22 38 49.2	+0.5		
HINF				*e*Sg	Sg	22 39 09.3	+0.4		
HINF	**Hinteralfeld**	**1.56**	**180**	*e*Pg	Pg	22 38 49.2	+0.5		
	SNR=1.0								
HINF				*e*Sg	Sg	22 39 09.3	+0.4		
	43nm,0.3s								
HOBG	**Hohbusch**	**1.64**	**10**	*e*Pg	Pg	22 38 50.2	-0.1		
DOU	**Dourbes**	**1.64**	**297**	P	Pn	22 38 49.1	+0.2		
FELD	**Feldberg im Sc**	**1.68**	**153**	*e*Pg	Pg	22 38 50.8	-0.1		
	SNR=12								
FELD	**Feldberg im Sc**	**1.68**	**153**	Pg	Pg	22 38 51.1	+0.1		
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	Pn	22 38 49.4	-0.1		
	baz=54								
SFTF				*e*Sg	Sg	22 39 13.8	+0.9		
	21nm,0.2s								
SFTF	**Sexfontaines**	**1.68**	**227**	*e*Pn	Pn	22 38 49.4	-0.1		
SFTF				*e*Sg	Sg	22 39 13.8	+0.9		
	10nm,0.2s								
SPAK	**Spaichingen-Ko**	**1.80**	**134**	*e*Pg	Pg	22 38 53.6	+0.3		
	SNR=3.9								
BAIF	**Baives**	**1.86**	**293**	*e*Pn	Pn	22 38 52.1	+0.2		
	SNR=1.0								
BAIF				*e*Sn	Sn	22 39 15.0	-1.0		
	6.4nm,0.2s,SNR=1.0								
BAIF	**Baives**	**1.86**	**293**	*e*Pn	Pn	22 38 52.1	+0.2		
	SNR=1.0								
BAIF				*e*Sn	Sn	22 39 15.0	-1.0		
	3.2nm,0.2s,SNR=1.0								
LOMF	**Lomont**	**2.02**	**181**	*e*Pn	Pn	22 38 54.1	-0.1		
	SNR=1.8								
BUG	**Bochum--Univer**	**2.08**	**7**	*e*Sg	Sg	22 39 25.0	-0.8		
	SNR=2.1								
CABF	**La Chapelle**	**2.81**	**191**	*e*Pg	Pg	22 39 14.2	+1.5		
	SNR=1.0								
CABF				*e*Sg	Sg	22 39 49.1	-0.1		
	11nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	Pn	22 39 04.8	-0.2		
CABF				*e*Pg	Pg	22 39 14.2	+1.5		
CABF				*e*Sg	Sg	22 39 49.1	-0.1		
CABF	**La Chapelle**	**2.81**	**191**	*e*Pg	Pg	22 39 14.2	+1.5		
	SNR=1.0								
CABF				*e*Sg	Sg	22 39 49.1	-0.1		
	5.5nm,0.5s,SNR=1.0								
GRA1	**Grafenberg Arr**	**2.85**	**82**	Pg	Pg	22 39 13.4	-0.1		
	SNR=4.0								
GRA1				Sg	Sg	22 39 49.4	-1.1		
	SNR=1.7								
GRF	**Grafenberg Arr**	**2.85**	**82**	*e*Pg	Pg	22 39 13.4	-0.2		
	SNR=4.0								
GRF				*e*Sg	Sg	22 39 49.4	-1.2		
	SNR=1.7								
LOR	**Lormes**	**2.91**	**225**	*e*Pn	Pn	22 39 05.5	-0.8		
	baz=50,SNR=1.0								
LOR				*e*Sn	Sn	22 39 39.3	-2.7		
	SNR=1.0								
LOR				*e*Sg	Sg	22 39 52.4	+0.1		
	15nm,0.4s								
LOR	**Lormes**	**2.91**	**225**	*e*Pn	Pn	22 39 05.5	-0.8		
	SNR=1.0								
LOR				*e*Sn	Sn	22 39 39.3	-2.7		
	SNR=1.0								
LOR				*e*Sg	Sg	22 39 52.4	+0.1		
	7.5nm,0.4s								
SSF	**Saint Saulge**	**3.23**	**225**	*e*Pn	Pn	22 39 09.6	-1.1		
	SNR=1.0								
SSF				*e*Sn	Sn	22 39 47.3	-2.5		
	SNR=1.0								
SSF				*e*Sg	Sg	22 40 02.0	-0.4		
	5.2nm,0.3s								
SSF	**Saint Saulge**	**3.23**	**225**	*e*Pn	Pn	22 39 09.6	-1.1		
	SNR=1.0								
SSF				*e*Sn	Sn	22 39 47.3	-2.5		
	SNR=1.0								
SSF				*e*Sg	Sg	22 40 02.0	-0.4		
	2.6nm,0.3s								
MOX	**Moxa**	**3.32**	**66**	*e*Sg	Sg	22 40 05.4	+0.1		
	SNR=2.1								
MOX	**Moxa**	**3.32**	**66**	Sg	Sg	22 40 05.4	0.0		
	SNR=2.1								
CLZ	**Clausthal**	**3.33**	**41**	*e*Sg	Sg	22 40 05.1	-0.7		
	SNR=1.5								
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	Pn	22 39 12.7	-0.4		
	SNR=1.0								
SMF				*e*Sn	Sn	22 39 52.3	-1.9		
	SNR=1.0								
SMF				*e*Sg	Sg	22 40 08.0	-0.1		
	7.0nm,0.3s,SNR=1.0								
SMF	**Signal de Mont**	**3.40**	**218**	*e*Pn	Pn	22 39 12.7	-0.4		
	SNR=1.0								
SMF				*e*Sn	Sn	22 39 52.3	-1.9		
	SNR=1.0								
SMF				*e*Sg	Sg	22 40 08.0	-0.1		
	3.5nm,0.3s,SNR=1.0								
AVF	**Avril sur Loir**	**3.50**	**224**	*e*Pn	Pn	22 39 13.1	-1.3		
	SNR=1.0								
AVF				*e*Sn	Sn	22 39 55.3	-1.2		
	4.0nm,0.4s,SNR=1.0								

AVF	**Avril sur Loir**	**3.50**	**224**	*e*Pn	Pn	22 39 13.1	-1.3		
	SNR=1.0								
AVF				*e*Sn	Sn	22 39 55.3	-1.2		
	2.0nm,0.4s,SNR=1.0								
NEUB	**Neuenburg**	**3.64**	**58**	*e*Pn	Pn	22 39 15.5	-0.9		
	SNR=1.5								
GUNZ	**Gunzen**	**3.67**	**72**	*e*Pg	Pg	22 39 28.4	-0.7		
	SNR=1.5								
GUNZ				*e*Sg	Sg	22 40 16.4	-0.3		
	SNR=1.9								
NKC	**Novy Kostel**	**3.72**	**75**	*e*PN	Pn	22 39 12.8	-4.6		
TANN	**Tannenbergstha**	**3.77**	**72**	*e*Sg	Sg	22 40 18.0	-1.8		
	SNR=2.9								
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Pn	Pn	22 39 19.2	-0.8		
	SNR=1.0								
BGF				*e*Sn	Sn	22 40 03.9	-2.6		
	SNR=1.0								
BGF				*e*Sg	Sg	22 40 23.4	-0.8		
	27nm,0.4s								
BGF	**Bois d'Agland**	**3.90**	**225**	*e*Pn	Pn	22 39 19.2	-0.8		
	SNR=1.0								
BGF				*e*Sn	Sn	22 40 03.9	-2.6		
	SNR=1.0								
BGF				*e*Sg	Sg	22 40 23.4	-0.8		
	13nm,0.4s								
WET	**Wettzell**	**3.94**	**91**	*e*Pn	Pn	22 39 21.0	+0.4		
	SNR=2.7								
WET				*e*Sg	Sg	22 40 23.9	-1.6		
	SNR=1.9								
KHC	**Kasperske Hory**	**4.40**	**91**	*e*PN	Pn	22 39 26.5	-0.4		
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	Pn	22 39 28.8	+0.3		
	SNR=14								
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	Pn	22 39 29.2	+0.7		
GEC2	**GERESS Array S**	**4.52**	**94**	*e*Pn	Pn	22 39 29.2	+0.7		
LDF	**La Druitiere**	**4.67**	**263**	*e*Pn	Pn	22 39 30.4	-0.1		
FLN	**La Foliniere**	**4.87**	**266**	*e*Pn	Pn	22 39 33.4	+0.1		
	baz=84								

*ISCJB **22** 22:45:58.9±1.0, 347S±0.1×147W±0.2, h10km, mb4.6/4, Error ellipse: s-maj=20.4km s-min=12.6km az=119.8*
*NEIC **22** 22:46:00.4±1.3, 3473S×1476W, h10km, mb4.6/4, Error ellipse: s-maj=31.1km s-min=21.5km az=99.0*
*GCMT **22** 22:46:08.0±0.4, 3475S×1486W, h14km±1km, MW4.9/57, Moment Tensor Solution. s14,c14; s57,c76; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-3.02±.25; Mθθ0.99±.18; Mφφ2.03±.16; Mrθ0.10±.47; Mrφ0.99±.11; Mθφ~0.33±.34; Best double couple: M0 2.84400×10^{16} NP1:ϕ215.00000°, δ43.00000°, λ-84.00000°. NP2: ϕ27.00000°, δ47.00000°, λ-96.00000°. Principal axes: T 2.6390, Plg2.0000°, Azm121.0000°; N 0.4140, Plg4.0000°, Azm31.0000°; P -3.0490, Plg85.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 22:46:00.7±1.0, 348S±01×147W±02, h10km, n8, σ0°96/9, mb4.6/4, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**3.02**	**140**	*e*Pn	Pn	**22 46 47.2**	**-1.4**
TRIS				*e*Sn	Sn	**22 47 24.6**	**-0.2**
VNA3	**Neumayer Olymp**	**36.63**	**177**	*e*	P	**22 53 07.9**	**+0.6**
VNA3				*e*		22 53 13.1	
SNAA	**Sanae**	**37.49**	**174**	*e*	P	**22 53 14.8**	**+0.2**
SNAA				*e*	pP	22 53 18.2	+0.5
PMSA	**Palmer Station**	**42.02**	**209**	P	P	**22 53 51.2**	**-1.0**
	17nm,1.5s,mb4.5						
LSZ	**Lusaka**	**43.08**	**74**	*e*P	P	**22 54 02.0**	**+1.1**
	9.5nm,1.2s,mb4.4						
TOA0	**Torodi Ar. Sit**	**50.14**	**21**	*e*P	P	**22 54 55.0**	**-1.2**
MAW	**Mawson**	**53.70**	**152**	*e*P	P	**22 55 24.2**	**+1.5**
	12nm,1.3s,mb4.7						
QSPA	**South Pole Qui**	**55.48**	**180**	*e*P	P	**22 55 36.0**	**+0.3**
	8.8nm,1.0s,mb4.7						

*NEIC **22** 22:55:29.6, 18.15N×6873W, h161km, MD4.0(RSPR), After RSPR.*

RSPR 22 22:55:29.6, 1815N×6873W, h161km±4km, MD4.0/6, MD4.0/6, 6C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.55**	**95⇑**	*e*P	Pn	22 55 59.6	-0.8
CRPR				*e*S	Sn	22 56 24.0	-0.1
LSP	**Las Mesas**	**1.56**	**89⇑**	*e*P	Pn	22 56 01.4	+0.8
LSP				*e*S	Sn	22 56 24.9	+0.4
AGPR	**Aguadilla, PR**	**1.57**	**78⇓**	*e*P	Pn	22 56 00.5	-0.2
AGPR				*e*S	Sn	22 56 25.4	+0.8
AOPR	**Arecibo Observ**	**1.89**	**84⇑**	*e*P	Pn	22 56 03.9	-0.2
AOPR				*e*S	Sn	22 56 30.8	+0.2
CELP	**Cerrillos**	**2.05**	**92**	*e*S	Sn	22 56 35.2	+1.4
CPD	**Cerro la Pandu**	**2.68**	**92**	*e*S	Sn	22 56 48.8	+1.5
CPD	**Cerro la Pandu**	**2.68**	**92**	*e*Pn	Pn	22 56 15.0	+1.6
CPD				*e*Sn	Sn	22 56 48.8	+1.5
CBYP	**Canovanas**	**2.73**	**87⇑**	*e*P	Pn	22 56 14.7	+0.6
CBYP				*e*S	Sn	22 56 48.7	+0.3
HUMP	**Col San Antoni**	**2.74**	**90⇑**	*e*P	Pn	22 56 15.1	+0.9
HUMP				*e*S	Sn	22 56 49.2	+0.6
MTP	**Monte Pirata**	**3.02**	**90⇑**	*e*P	Pn	22 56 17.7	+0.1
MTP				*e*S	Sn	22 56 55.7	+0.8

*UPP **22** 23:16:57.4, 6783N×2020E, h0km, ML3.0, Mining explosion.*

CSEM 22 23:16:57.4, 6783N×2020E, h0km, ML3.0, Mining explosion. After UPP, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.42**	**271**	P		23 17 05.9	
LANU	**Lannavaara**	**0.72**	**74**	P		23 17 10.8	
SALU	**Saltoluokta**	**0.79**	**233**	P		23 17 12.3	
MASU	**Masugnsbyn**	**0.82**	**119**	P		23 17 12.1	
PAJU	**Pajala**	**1.42**	**125**	P		23 17 22.8	

*UPP **22** 23:17:09.5, 6784N×2019E, h0km, ML3.2, Mining explosion.*
*CSEM **22** 23:17:09.5, 6784N×2019E, h0km, ML3.2, Mining explosion. After UPP*
*ISCJB **22** 23:17:09.2±0.3, 6782N±002×2023E±006, h0km, Error ellipse: s-maj=3.3km s-min=3.0km az=102.7*
*HEL **22** 23:17:10.4±0.2, 6786N×2015E, h0km, ML2.2, ML3.2(UPP), ML2.0(BER), Explosion*
*NAO **22** 23:17:11.4±1.6, 6790N×2027E, ML2.3*
*BER **22** 23:17:13.8±4.7, 6790N×2020E, h0km, ML2.0, ML2.3(NAO), Suspected explosion*
*IDC **22** 23:17:13.0±1.0, 6792N×2036E, h0km, mb1 2.9/4, mb1mx2.8/21, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=17.1km s-min=6.7km az=120.0*

ISC 22 23:17:10.3±0.3, 6783N±002×2029E±006, h0km, n39, σ1°38/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**9**	*i* P	Pg	**23 17 12.2**	**-0.6**
NIKU	**Nikkaluokta**	**0.48**	**275**	*i* P	Pg	**23 17 17.9**	**-1.5**
LANU	**Lannavaara**	**0.68**	**70**	*i* P	Pg	**23 17 23.2**	**-0.2**
MASU	**Masugnsbyn**	**0.76**	**119**	*i* P	Pg	**23 17 24.3**	**-0.6**
SALU	**Saltoluokta**	**0.82**	**237**	*i* P	Pg	**23 17 24.4**	**-1.6**
KIF	**Kilpisjarvi**	**1.20**	**9**	*e*P	Pg	**23 17 32.5**	**-1.0**
KIF				*e*S	Sg	**23 17 47.3**	**-1.2**
PAJU	**Pajala**	**1.36**	**125**	*e*P	Pg	**23 17 34.7**	**-1.7**
ERTU	**Ertsjaerv**	**1.48**	**149**	*e*P	Pn	**23 17 37.7**	**-0.5**
KTK1	**Kautokeino**	**1.61**	**41**	*e*P	Pn	**23 17 39.1**	**-0.9**
KTK1				*e*SN	Sn	**23 18 04.2**	**+2.6**
KTK1				AML	AML	23 18 08.3	
	comp=Z,19nm,0.3s						
HARU	**Harads**	**1.70**	**170**	P	Pn	**23 17 40.2**	**-1.0**
TRO	**Tromso**	**1.88**	**345**	*e*P	Pn	**23 17 42.4**	**-1.3**
TRO				*e*Sg	Sg	**23 18 11.3**	**+0.6**
TRO				AML	AML	23 18 14.2	
	comp=Z,23nm,0.5s						
KALU	**Kalix**	**2.32**	**147**	P	Pn	**23 17 50.1**	**+0.3**
SJUU	**Sjulsmark**	**2.39**	**167**	*e*P	Pn	**23 17 50.8**	**+0.1**
SGF	**Sodankyl**	**2.42**	**96**	*e*P	Pn	**23 17 51.1**	**0.0**
SGF				*e*SG	Sg	**23 18 28.5**	**+0.5**
SGF				MSG		23 18 29.5	
	comp=Z,9.6nm,0.2s						

LOF	**Lofoten**	**2.56**	**280**	*e*	Sg	**23 18 33.6**	**+1.0**		
LOF				AML	AML	23 18 36.3			
	comp=Z,16nm,0.4s								
LOF	**Lofoten**	**2.56**	**280**	*e*Sg	Sg	**23 18 33.6**	**+1.0**		
LOF				AML	AML	23 18 36.3			
	comp=Z,16nm,0.4s								
ARA0	**ARCESS Array S**	**2.56**	**46**	Pn	Pn	**23 17 53.8**	**+0.6**		
	baz=226,slow=16								
ARA0				Sn	Sn	**23 18 25.3**	**+0.3**		
	baz=236,slow=22								
ARA0				Lg		23 18 31.1			
	baz=225,slow=28								
ARA0	**ARCESS Array S**	**2.56**	**46**	*e*P	Pn	**23 17 53.8**	**+0.6**		
ARA0				*e*S	Sn	**23 18 25.3**	**+0.3**		
ARA0				*e*SG		23 18 31.1			
ARCES	**ARCESS Array B**	**2.56**	**46**	Pn	Pn	**23 17 53.5**	**+0.4**		
	comp=Z,0.9nm,0.3s,baz=228,slow=14,SNR=18								
ARCES				Pg	Pg	**23 17 57.5**	**-1.9**		
	comp=Z,1.0nm,0.3s,baz=226,slow=15,SNR=24								
ARCES				Sn	Sn	**23 18 28.1**	**+3.1**		
	comp=Z,2.7nm,0.3s,baz=233,slow=22,SNR=9.7								
MOR8	**Moi Rana**	**2.83**	**237**	*e*SG	Sn	**23 18 33.4**	**+1.7**		
MOR8				AML	AML	23 18 41.8			
	comp=Z,19nm,0.6s								
KEV	**Kevo**	**3.12**	**49**	*e*P	Pn	**23 18 00.2**	**-0.5**		
KEV				*e*S	Sn	**23 18 34.4**	**-4.3**		
STOK	**Stokkvaagen**	**3.22**	**246**	*e*	Sg	**23 18 55.3**	**+1.6**		
STOK	**Stokkvaagen**	**3.22**	**246**	*e*Sg	Sg	**23 18 55.3**	**+1.6**		
OUL	**Oulu**	**3.56**	**138**	*e*P	Pn	**23 18 06.0**	**-0.8**		
OUL				*e*S	Sn	**23 18 47.3**	**-2.2**		
KU4	**Liikasenvaara**	**3.92**	**108**	*e*P	Pn	**23 18 14.0**	**+2.2**		
KU4				*e*S	Sn	**23 18 60.0**	**+1.5**		
MSF	**Maaselka**	**3.95**	**115**	*e*P	Pn	**23 18 16.6**	**+4.4**		
MSF				*e*S	Sn	**23 19 00.8**	**+1.5**		
NSS	**Namsos**	**4.73**	**229**	*e*Sg	Sg	**23 19 40.5**	**-1.6**		
SUF	**Sumiainen**	**5.69**	**152**	*e*S	Sn	**23 19 39.9**	**-2.2**		
KEF	**Keuruu**	**6.01**	**159**	*e*P	Pn	**23 18 42.0**	**+1.5**		
KEF				*e*S	Sn	**23 19 47.5**	**-2.5**		
JOF	**Joensuu**	**6.74**	**132**	*e*P	Pn	**23 18 50.8**	**+0.3**		
JOF				*e*S	Sn	**23 20 03.2**	**-4.8**		
FIA0	**FINESS Array S**	**6.87**	**156**	Pn	Pn	**23 18 54.2**	**+1.8**		
	baz=349,slow=12								
FIA0				Sn	Sn	**23 20 13.3**	**+2.0**		
	baz=349,slow=28								
FIA0				Lg		23 20 46.9			
	baz=341,slow=28								
FIA0	**FINESS Array S**	**6.87**	**156**	*e*P	Pn	**23 18 54.2**	**+1.8**		
FIA0				*e*		23 20 13.3			
FIA0				*e*SG		23 20 46.9			
FINES	**FINESS Array B**	**6.87**	**156**	Pn	Pn	**23 18 56.1**	**+3.7**		
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=6.8								
FINES				Pg	Pg	**23 19 13.7**	**-8.4**		
	comp=Z,0.1nm,0.3s,baz=345,slow=15,SNR=3.5								
FINES				Sn	Sn	**23 20 14.5**	**+3.2**		
	comp=Z,0.2nm,0.3s,baz=348,slow=26,SNR=6.1								
FINES				Lg		23 20 48.9			
	comp=Z,0.3nm,0.3s,baz=343,slow=26,SNR=6.6								
NB2	**NORSAR Subarra**	**7.86**	**214**	Pn	Pn	**23 19 08.1**	**+2.2**		
	baz=24,slow=12								
NB2				Lg		23 21 16.8			
NB2	**NORSAR Subarra**	**7.86**	**214**	*e*P	Pn	**23 19 08.1**	**+2.2**		
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	Pn	**23 19 08.2**	**+2.4**		
	comp=Z,0.1nm,0.3s,baz=13,slow=12,SNR=3.3								
NOA				Sn	Sn	**23 20 35.6**	**+0.2**		
	comp=Z,0.1nm,0.3s,baz=21,slow=6.7,SNR=2.7								
NOA				Lg		23 21 20.4			
	comp=Z,0.4nm,0.3s,baz=307,slow=22,SNR=3.7								
HFS	**Hagfors**	**8.25**	**204**	*e*S	Sn	**23 20 44.1**	**-0.9**		
HFS				*e*		23 21 31.3			
HFS	**Hagfors**	**8.25**	**204**	Pn	Pn	**23 19 13.5**	**+2.3**		
	comp=Z,0.1nm,0.3s,baz=327,slow=16,SNR=3.9								
HFS				Lg		23 21 33.1			
	comp=Z,0.3nm,0.3s,baz=37,slow=29,SNR=3.8								
HFS	**Hagfors**	**8.25**	**204**	Sn	Sn	**23 20 44.1**	**-0.9**		
	baz=38,slow=22								
HFS				Lg		23 21 31.3			
	baz=35,slow=37								

JSN 22 23:38:40.9±1.1, 1749N×7884W, h0km±17km, MD4.2, 4C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**1.18**	**68⇑**	*i*P	Pg	23 39 02.5	-1.0
MCJ				*e*S	Sg	23 39 17.9	-0.9
CVJ	**Coleyville**	**1.44**	**59⇑**	*e*P	Pn	23 39 06.5	-1.7
PCJ	**Portland Cotta**	**1.62**	**81⇑**	*i*P	Pn	23 39 09.4	-1.3
PCJ				*e*S	Sn	23 39 30.1	-2.2
STH	**Stony Hill**	**2.02**	**73⇑**	*e*P	Pn	23 39 14.0	-2.1
STH				*e*S	Sn	23 39 40.7	-1.5

IDC 23 00:42:54.3±7.6, 1832S×17642W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/12, mbtmp3.8/2, MS4.3/1, Ms1 4.3/1, ms1mx3.3/16, Error ellipse: s-maj=320.7km s-min=120.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**36.39**	**279**	LR	LR	01 00 24.7	
	comp=Z,424nm,20.6s,baz=205,slow=29						
WRA	**Warramunga Arr**	**46.42**	**260**	P	P	00 51 23.2	+0.5
	0.5nm,0.3s,baz=96,slow=7.4,SNR=14						
ASAR	**Alice Springs**

BNI	**Bardonecchia**	**0.52**	**348**	Pg	**Pg**	**01 41 43.2**	**-0.4**
BNI				*e*Pg	**Pg**	**01 41 43.4**	**-0.2**
BNI				*e*Sg	**Sg**	**01 41 50.6**	**+0.2**
BNI	**Bardonecchia**	**0.52**	**348**	*e*Pg	**Pg**	**01 41 43.3**	**-0.3**
BNI				Sg	**Sg**	**01 41 50.7**	**+0.3**
	37nm,0.4s						
OG25	**Le Caire**	**0.57**	**252**	Pg	**Pg**	**01 41 44.4**	**-0.1**
OG25				Sg	**Sg**	**01 41 51.8**	**-0.2**
TOUF	**Mont Tournerai**	**0.61**	**150**	Pg	**Pg**	**01 41 45.3**	**-0.1**
TOUF				Sg	**Sg**	**01 41 54.2**	**+0.7**
RSP	**Reno Superiore**	**0.68**	**27**	Pg	**Pg**	**01 41 46.4**	**-0.2**
RSP				Sg	**Sg**	**01 41 57.0**	**+1.4**
MVIF	**Mont Vial**	**0.69**	**160**	Pg	**Pg**	**01 41 47.0**	**+0.1**
AUTN	**L'Aution**	**0.70**	**142**	Pg	**Pg**	**01 41 47.1**	**0.0**
AUTN				Sg	**Sg**	**01 41 56.1**	**-0.2**
LUCF	**Luceram**	**0.75**	**150**	Pg	**Pg**	**01 41 48.1**	**0.0**
LUCF				Sg	**Sg**	**01 41 58.2**	**+0.3**
SAOF	**Saorge**	**0.77**	**137**	Pg	**Pg**	**01 41 48.2**	**-0.1**
SAOF				Sg	**Sg**	**01 41 57.8**	**-0.6**
ORIF	**Oris-en-Rattie**	**0.77**	**299**	*e*Pg	**Pg**	**01 41 47.6**	**-0.7**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 42 00.1**	**+1.7**
	62nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.77**	**299**	*e*Pg	**Pg**	**01 41 47.6**	**-0.7**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**01 42 00.1**	**+1.7**
	31nm,0.3s						
SBF	**Sospel**	**0.81**	**147**	*e*Pg	**Pg**	**01 41 49.1**	**-0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**01 41 59.7**	**-0.1**
	168nm,0.2s,SNR=1.0						
SBF	**Sospel**	**0.81**	**147**	*e*Pg	**Pg**	**01 41 49.1**	**-0.1**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**01 41 59.7**	**-0.1**
	84nm,0.2s,SNR=1.0						
GDM	**Grand'Maison**	**0.83**	**323**	Pg	**Pg**	**01 41 48.8**	**-0.6**
REVF	**Revere**	**0.90**	**154**	Pg	**Pg**	**01 41 51.2**	**+0.4**
REVF				Sg	**Sg**	**01 42 03.3**	**+0.8**
LSD	**Ceresole Reale**	**0.94**	**14**	P	**Pg**	**01 41 50.9**	**-0.7**
MONC	**Moncucco Torin**	**0.95**	**56**	Pg	**Pg**	**01 41 52.0**	**+0.3**
MONC				Sg	**Sg**	**01 42 05.3**	**+1.3**
	58nm,0.3s						
LPG	**La Plagne**	**0.95**	**357**	*e*Pg	**Pg**	**01 41 51.3**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 42 06.0**	**+1.8**
	32nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**0.95**	**357**	*e*Pg	**Pg**	**01 41 51.3**	**-0.5**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 42 06.0**	**+1.8**
	16nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**0.97**	**356**	*e*Pg	**Pg**	**01 41 51.7**	**-0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**01 42 05.9**	**+1.0**
	23nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.97**	**356**	*e*Pg	**Pg**	**01 41 51.7**	**-0.5**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**01 42 05.9**	**+1.0**
	12nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**0.99**	**187**	*e*Pn	**Pn**	**01 41 53.5**	**+0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**01 42 04.8**	**-0.8**
	101nm,0.2s,SNR=1.0						
FRF				*e*Sn	**Sn**	**01 42 06.8**	**-0.3**
	SNR=1.0						
FRF	**La Foret Royal**	**0.99**	**187**	*e*Pg	**Pg**	**01 41 52.1**	**-0.5**
FRF				*e*Pn	**Pn**	**01 41 53.5**	**+0.3**
FRF				*e*Sg	**Sg**	**01 42 04.8**	**-0.8**
FRF				*e*Sn	**Sn**	**01 42 06.8**	**-0.3**
FRF	**La Foret Royal**	**0.99**	**187**	*e*Pn	**Pn**	**01 41 53.5**	**+0.3**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**01 42 04.8**	**-0.8**
	51nm,0.2s,SNR=1.0						
FRF				*e*Sn	**Sn**	**01 42 06.8**	**-0.3**
	SNR=1.0						
GRN	**Grenoble**	**1.03**	**313**	Pg	**Pg**	**01 41 52.9**	**-0.5**
FIN	**Finale Ligure**	**1.05**	**108**	Pg	**Pg**	**01 41 52.9**	**-0.7**
FIN				Sg	**Sg**	**01 42 08.1**	**+0.8**
	58nm,0.2s						
FIN	**Finale Ligure**	**1.05**	**108**	P	**Pb**	**01 41 52.6**	**-0.9**
FIN	**Finale Ligure**	**1.05**	**108**	Pg	**Pg**	**01 41 52.9**	**-0.7**
FIN				Sg	**Sg**	**01 42 08.1**	**+0.8**
	58nm,0.2s						
VILF	**Villemus**	**1.06**	**229**	Pg	**Pg**	**01 41 54.8**	**+1.0**
VILF				Sg	**Sg**	**01 42 09.2**	**+1.6**
SMRF	**Simiane la Rot**	**1.06**	**238**	*e*Pg	**Pg**	**01 41 54.1**	**+0.2**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**01 42 09.0**	**+0.2**
	171nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.06**	**238**	*e*Pg	**Pg**	**01 41 54.1**	**+0.2**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**01 42 09.0**	**+0.2**
	85nm,0.3s,SNR=1.0						
TAVF	**Tavernes**	**1.08**	**211**	Pg	**Pg**	**01 41 55.0**	**+0.7**
OCF	**Saint Nazaire**	**1.09**	**272**	Pg	**Pg**	**01 41 54.9**	**+0.5**
OG26	**St.-Nazaire-De**	**1.09**	**272**	Pg	**Pg**	**01 41 54.9**	**+0.5**
PCP	**Pian Castagno**	**1.23**	**90**	P	**Pn**	**01 41 55.6**	**-0.8**
LMR	**La Mourre**	**1.23**	**191**	*e*Pg	**Pg**	**01 41 56.8**	**-0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**01 42 12.6**	**-0.6**
	91nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.23**	**191**	*e*Pn	**Pn**	**01 41 56.2**	**-0.3**
LMR				*e*Pg	**Pg**	**01 41 56.8**	**-0.4**
LMR				*e*Sg	**Sg**	**01 42 12.6**	**-0.6**
LMR	**La Mourre**	**1.23**	**191**	*e*Pg	**Pg**	**01 41 56.8**	**-0.4**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**01 42 12.6**	**-0.6**
	45nm,0.2s,SNR=1.0						
PUYF	**Puyloubier**	**1.30**	**219**	Pg	**Pg**	**01 41 58.6**	**+0.2**
PUYF				Sg	**Sg**	**01 42 16.0**	**+0.7**
ORO	**Oropa**	**1.36**	**37**	Pg	**Pg**	**01 41 58.2**	**-1.3**
	11nm,0.3s						
ORX	**Oropa**	**1.36**	**37**	P	**Pn**	**01 41 57.1**	**-1.1**
TREF	**Trevaresse**	**1.39**	**229**	Pg	**Pg**	**01 42 00.5**	**+0.4**
PRAF	**Pradon**	**1.40**	**239**	Pg	**Pg**	**01 42 00.9**	**+0.5**
BERF	**Bertagne**	**1.48**	**214**	Pg	**Pg**	**01 42 01.3**	**-0.6**
GELF	**Grande-Etoile**	**1.54**	**221**	Pg	**Pg**	**01 42 03.0**	**0.0**
GELF				Sg	**Sg**	**01 42 23.4**	**+0.4**
VIVF	**Saint-Julien-l**	**1.56**	**282**	*e*Pg	**Pg**	**01 42 03.6**	**+0.1**
VIVF				*e*Sn	**Sn**	**01 42 21.3**	**+0.1**
	19nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**1.56**	**282**	*e*Pn	**Pn**	**01 42 01.7**	**+0.7**
VIVF				*e*Pg	**Pg**	**01 42 03.6**	**+0.1**
VIVF				*e*Sn	**Sn**	**01 42 21.3**	**+0.1**
VIVF	**Saint-Julien-l**	**1.56**	**282**	*e*Pg	**Pg**	**01 42 03.6**	**+0.1**
VIVF				*e*Sn	**Sn**	**01 42 21.3**	**+0.1**
	9.4nm,0.2s,SNR=1.0						
SC2M	**Scurtabr**	**1.94**	**93**	P	**Pn**	**01 42 05.7**	**-0.6**
CABF	**La Chapelle**	**2.13**	**346**	*e*Pg	**Pg**	**01 42 14.6**	**+0.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**01 42 42.6**	**+0.7**
	9.8nm,0.4s						
CABF	**La Chapelle**	**2.13**	**346**	*e*Pn	**Pn**	**01 42 09.7**	**+0.9**
CABF				*e*Pg	**Pg**	**01 42 14.6**	**+0.3**
CABF				*e*Sg	**Sg**	**01 42 42.6**	**+0.7**
CABF	**La Chapelle**	**2.13**	**346**	*e*Pg	**Pg**	**01 42 14.6**	**+0.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**01 42 42.6**	**+0.7**
	4.9nm,0.4s						
CODM		**2.17**	**93**	P	**Pn**	**01 42 08.9**	**-0.5**
LASF	**Ste Croix**	**2.18**	**259**	*e*Pn	**Pn**	**01 42 09.9**	**+0.4**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**01 42 36.2**	**-0.2**
	9.7nm,0.2s,SNR=1.0						
LASF	**Ste Croix**	**2.18**	**259**	*e*Pn	**Pn**	**01 42 09.9**	**+0.4**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**01 42 36.2**	**-0.2**
	4.8nm,0.2s,SNR=1.0						
GRAM		**2.32**	**90**	P	**Pn**	**01 42 11.0**	**-0.4**
PGF	**Pioggiola**	**2.55**	**141**	*e*Pn	**Pn**	**01 42 15.1**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**01 42 45.4**	**-0.1**
	21nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.55**	**141**	*e*Pn	**Pn**	**01 42 15.1**	**+0.6**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**01 42 45.4**	**-0.1**
	11nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.96**	**316**	*e*Pg	**Pg**	**01 42 28.5**	**-1.8**
	SNR=1.0						
SMF	**Signal de Mont**	**2.96**	**316**	*e*Pn	**Pn**	**01 42 20.9**	**+0.6**
SMF				*e*Pg	**Pg**	**01 42 28.5**	**-1.8**
SMF	**Signal de Mont**	**2.96**	**316**	*e*Pg	**Pg**	**01 42 28.5**	**-1.8**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.31**	**314**	*e*Pn	**Pn**	**01 42 25.0**	**0.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 43 18.2**	**-1.6**
	6.4nm,0.5s,SNR=1.0						
AVF	**Avril sur Loir**	**3.31**	**314**	*e*Pn	**Pn**	**01 42 25.0**	**0.0**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 43 18.2**	**-1.6**
	3.2nm,0.5s,SNR=1.0						
CAF	**Calviac**	**3.41**	**278**	*e*Pn	**Pn**	**01 42 27.4**	**+1.0**
	SNR=1.0						
LOR	**Lormes**	**3.42**	**324**	*e*Pn	**Pn**	**01 42 27.5**	**+1.0**
	baz=147,SNR=1.0						
LOR	**Lormes**	**3.42**	**324**	*e*Pn	**Pn**	**01 42 27.5**	**+1.0**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**01 43 06.1**	**-0.9**
	3.0nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.42**	**318**	*e*Pg	**Pg**	**01 42 36.5**	**-2.5**
	SNR=1.0						
SSF	**Saint Saulge**	**3.42**	**318**	*e*Pn	**Pn**	**01 42 27.5**	**+0.9**
SSF				*e*Pg	**Pg**	**01 42 36.5**	**-2.5**
SSF				*e*Sn	**Sn**	**01 43 06.6**	**-0.4**
SSF	**Saint Saulge**	**3.42**	**318**	*e*Pg	**Pg**	**01 42 36.5**	**-2.5**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**01 43 06.6**	**-0.4**
	3.1nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.44**	**307**	*e*Pg	**Pg**	**01 42 38.5**	**-0.9**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**01 43 07.4**	**-0.2**
	18nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**3.44**	**307**	*e*Pn	**Pn**	**01 42 28.0**	**+1.1**
BGF				*e*Pg	**Pg**	**01 42 38.5**	**-0.9**
BGF				*e*Sn	**Sn**	**01 43 07.4**	**-0.2**
BGF	**Bois d'Agland**	**3.44**	**307**	*e*Pg	**Pg**	**01 42 38.5**	**-0.9**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**01 43 07.4**	**-0.2**
	8.9nm,0.5s,SNR=1.0						
HAU	**Haudompre**	**3.48**	**355**	*e*Pg	**Pg**	**01 42 39.2**	**-0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**01 43 08.1**	**-0.3**
	5.1nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.48**	**355**	*e*Pn	**Pn**	**01 42 28.5**	**+1.2**
HAU				*e*Pg	**Pg**	**01 42 39.2**	**-0.8**
HAU				*e*Sn	**Sn**	**01 43 08.1**	**-0.3**
HAU	**Haudompre**	**3.48**	**355**	*e*Pg	**Pg**	**01 42 39.2**	**-0.8**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**01 43 08.1**	**-0.3**
	2.5nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.54**	**252**	*e*Pn	**Pn**	**01 42 28.0**	**-0.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**01 43 08.1**	**-1.8**
	3.7nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.54**	**252**	*e*Pn	**Pn**	**01 42 28.0**	**-0.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**01 43 08.1**	**-1.8**
	1.9nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.69**	**300**	*e*Pn	**Pn**	**01 42 31.5**	**+1.3**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.84**	**283**	*e*Pg	**Pg**	**01 42 46.1**	**-1.0**
	SNR=1.0						
CDF	**Champ du Feu**	**3.88**	**4**	*e*Pn	**Pn**	**01 42 33.6**	**+0.7**
	SNR=1.0						

ISCJB ***23*** *01:54:03.5±0.8, 1038N±004×6252W±003, h5km±5km, Error ellipse: s-maj=6.5km s-min=3.8km az=137.9*
FUNV ***23*** *01:54:04.0, 1040N×6243W, h6km, MW3.0*
TRN ***23*** *01:54:10.1, 1052N×6206W, h13km*
NEIC ***23*** *01:54:17.6, 1062N×6160W, h20km, MD3.3(TRN), After TRN.*

ISC 23 01:54:03.8±0.7, 1036N±004×6250W±003, h3km±5km, n16, σ1°08/31, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.39**	**44**	*e*P	**Pg**	**Pg**	**01 54 10.7**	**-0.6**
GUIV				*e*S	**Sg**	**Sg**	**01 54 15.7**	**-0.7**
GUNV	**Guanoco**	**0.48**	**245**	*e*P	**Pg**	**Pg**	**01 54 14.0**	**+1.0**
GUNV				*e*S	**Sg**	**Sg**	**01 54 23.2**	**+3.9**
CRUV	**Carupano**	**0.79**	**293**	*e*P	**Pg**	**Pg**	**01 54 19.3**	**+0.4**
CRUV				*e*S	**Sg**	**Sg**	**01 54 29.6**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.03**	**92**	*e*P	**Pg**	**Pg**	**01 54 23.0**	**-0.6**
TPP				*e*S	**Sg**	**Sg**	**01 54 41.2**	**+4.3**
TPP	**Pointe-a-Pierr**	**1.03**	**92**	*e*P	**Pg**	**Pg**	**01 54 25.3**	**+1.8**
TPP				*e*S	**Sg**	**Sg**	**01 54 41.2**	**+4.3**
TRN	**Trinidad (W)**	**1.11**	**75**	*e*P	**Pg**	**Pg**	**01 54 22.6**	**-2.5**
TRN				*e*S	**Sg**	**Sg**	**01 54 33.0**	**-6.5**
ITEV	**Isla Los Testi**	**1.17**	**328**	*e*P	**Pg**	**Pg**	**01 54 25.0**	**-1.2**
ITEV				*e*S	**Sg**	**Sg**	**01 54 40.7**	**-0.5**
TBH	**Brigand Hill**	**1.41**	**85**	*e*P	**Pn**	**Pn**	**01 54 29.3**	**-1.1**
TBH				*e*S	**Sb**	**Sb**	**01 54 49.7**	**+0.5**
ORIV	**Oritupano**	**1.57**	**215**	*e*P	**Pn**	**Pn**	**01 54 32.5**	**0.0**
ORIV				*e*S	**Sn**	**Sn**	**01 54 54.2**	**+0.8**
TPR	**Prospect**	**1.88**	**64**	*e*P	**Pn**	**Pn**	**01 54 35.6**	**-1.2**
TPR				*e*S	**Sn**	**Sn**	**01 55 01.2**	**+0.2**
GRW	**Mount Saint Ca**	**1.96**	**25**	*e*P	**Pn**	**Pn**	**01 54 39.8**	**+1.8**
GRW				*e*S	**Sn**	**Sn**	**01 55 04.8**	**+1.6**
GRW	**Mount Saint Ca**	**1.96**	**25**	*e*P	**Pg**	**Pg**	**01 54 43.0**	**+1.5**
GRW				*e*S	**Sn**	**Sn**	**01 55 04.8**	**+1.6**
PRGV	**PARIAGUAN**	**2.65**	**233**	*e*P	**Pn**	**Pn**	**01 54 47.2**	**-0.2**
PRGV				*e*S	**Sn**	**Sn**	**01 55 19.4**	**-0.7**
BIRV	**Birongo**	**3.71**	**272**	*e*P	**Pn**	**Pn**	**01 55 02.0**	**0.0**
BIRV				*e*S	**Sn**	**Sn**	**01 55 45.3**	**-0.9**
CAOV	**Caicara del Or**	**4.84**	**232**	*e*S	**Sn**	**Sn**	**01 56 09.8**	**-4.2**
BAUV	**El Baul**	**5.64**	**256**	*e*P	**Pn**	**Pn**	**01 55 28.4**	**-0.2**
BAUV				*e*S	**Sn**	**Sn**	**01 56 30.2**	**-3.7**

IDC ***23*** *01:55:51.8±3.9, 987S×16078E, h143km±14km, mb3.8/4, mb1 4.0/4, mb1mx3.6/12, mbtmp4.2/4, Error ellipse: s-maj=71.5km s-min=27.2km az=115.0*
ISCJB ***23*** *01:55:53.2±2.7, 975S×1024E±04, h157km±7km, mb4.2/7, Error ellipse: s-maj=73.1km s-min=22.4km az=45.2*
NEIC ***23*** *01:55:54.5±2.6, 962S×16041E, h151km±8km, mb4.5/3, Error ellipse: s-maj=68.5km s-min=18.2km az=112.0*

ISC 23 01:55:53.9±3.1, 975S×1606E±04, h151km±9km, n12, σ0°73/13, mb4.2/7, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.67**	**294**	P		**Pn**	**01 56 15.7**	**-0.6**
	171nm,0.3s,baz=119,slow=3.3,SNR=26							
HNR				S		**Sn**	**01 56 33.6**	**+0.3**
	516nm,0.3s,baz=85,slow=15,SNR=42							
CTA	**Charters Tower**	**17.24**	**232**	P		**Pn**	**01 59 46.6**	**+1.1**
	0.2nm,0.3s,baz=46,slow=9.1,SNR=3.6							
WRAB	**Tennant Creek**	**27.27**	**245**	*e*P		**P**	**02 01 24.1**	**+0.1**
	4.4nm,0.8s,mb4.1							
WB2	**Warramunga Arr**	**27.27**	**245**	↑*i*P		**P**	**02 01 22.7**	**-1.3**
WRA	**Warramunga Arr**	**27.28**	**245**	P		**P**	**02 01 24.6**	**+0.5**
	4.9nm,0.5s,mb4.4,baz=75,slow=8.9,SNR=43							
STKA	**Stephens Creek**	**28.21**	**216**	P		**P**	**02 01 33.1**	**+0.8**
AS31	**Alice Springs**	**28.99**	**238**	P		**P**	**02 01 38.3**	**-1.0**
ASAR	**Alice Springs**	**29.00**	**238**	P		**P**	**02 01 38.8**	**-0.6**
	0.7nm,0.5s,mb3.6,baz=64,slow=10,SNR=8.8							
MBWA	**Marble Bar**	**40.86**	**249**	*e*P		**P**	**02 03 20.7**	**-0.1**
	4.4nm,0.4s,mb4.4							
CM31	**Chiang Mai Arr**	**66.92**	**295**	*e*P		**P**	**02 06 30.6**	**+0.7**
	16nm,0.6s,mb5.0							
SONM	**Songino Array**	**74.63**	**325**	P		**P**	**02 07 17.3**	**+0.9**
	2.3nm,0.7s,mb3.9,baz=138,slow=5.2,SNR=9.3							
SONM				pP		pP	02 07 47.1	-6.3
	0.6nm,0.3s,baz=134,slow=6.4,SNR=4.2							
MKAR	**Makanchi Array**	**89.08**	**318**	P		**P**	**02 08 31.2**	**-0.7**
	0.4nm,0.5s,mb3.6,baz=91,slow=6.1,SNR=4.9							

LDG ***23*** *02:11:46.0±0.1, 4249N×121E, h10km, Md2.5/1, Ml2.1/8, Error ellipse: s-maj=0.9km s-min=0.8km az=12.0*
STR ***23*** *02:11:46.3±0.2, 4252N×123E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 23 02:11:46.3±0.2, 4250N×121E, h10km, mbLg1.7/13, 1D, Error ellipse: s-maj=2.1km s-min=2.0km az=67.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.14**	**205**	P	Pg	Pg	02 11 49.4	-0.1
CSOR				Lg			02 11 51.9	
	196nm,0.1s							
PAND	**Andorre**	**0.25**	**85**	P		Pg	02 11 51.4	-0.1
PAND				S		Sg	02 11 54.8	-0.1
SALF	**Salau**	**0.26**	**356**	Pg		Pg	02 11 51.7	+0.1
SALF				Sg		Sg	02 11 55.0	-0.2
SALF	**Salau**	**0.26**	**356**	P		Pg	02 11 51.7	+0.1
SALF				S		Sg	02 11 55.3	+0.1
CORG	**Organya**	**0.28**	**164**	Pg		Pg	02 11 51.6	-0.4
CORG				Lg			02 11 55.9	
	17nm,0.1s							
MLS	**Moulis**	**0.47**	**349**	Pg		Pg	02 11 55.2	-0.2
MLS	**Moulis**	**0.47**	**349**	P		Pg	02 11 55.2	-0.2
MLS				S		Sg	02 12 01.4	-0.2
MELF	**Melles**	**0.50**	**318**	Pg		Pg	02 11 55.8	-0.3
MELF				Sg		Sg	02 12 02.1	-0.6
MELF	**Melles**	**0.50**	**318**	P		Pg	02 11 55.9	-0.2
MELF				S		Sg	02 12 02.1	-0.6
CLLI	**Llivia**	**0.56**	**92**	P		Pg	02 11 56.5	-0.8
CLLI				S		Sg	02 12 04.1	-0.6
VALF	**Valcebollere**	**0.60**	**99**	Pg		Pg	02 11 57.6	-0.4
VALF				Sg		Sg	02 12 06.1	+0.1
VALF	**Valcebollere**	**0.60**	**99**	P		Pg	02 11 57.5	-0.5
VALF				S		Sg	02 12 05.3	-0.7
CARF	**Carcanieres**	**0.69**	**72**	Pg		Pg	02 11 59.3	-0.4
CARF				Sg		Sg	02 12 08.4	-0.4
CARF	**Carcanieres**	**0.69**	**72**	P		Pg	02 11 59.3	-0.4
CARF				S		Sg	02 12 08.3	-0.5
CAVN	**Les Avellanes**	**0.71**	**209**	Pg		Pg	02 11 59.7	-0.3
CAVN				Lg			02 12 07.9	
	11nm,0.1s							
CBRU	**Bruguera**	**0.75**	**106**	P		Pg	02 12 00.2	-0.6
CBRU				S		Sg	02 12 10.4	-0.2
EBIE	**Bielsa**	**0.81**	**284**	Pg		Pg	02 12 01.5	-0.5
	0.8nm,0.1s,SNR=18							
EBIE				Lg			02 12 12.1	
	3.9nm,0.1s,SNR=7.9							
EPF	**Esparros**	**0.83**	**310**	*e*Pg		Pg	02 12 01.7	-0.7
EPF				*e*Sg		Sg	02 12 12.3	-1.0
	7.8nm,0.2s							
EPF	**Esparros**	**0.83**	**310**	Pg		Pg	02 12 01.7	-0.7
EPF				Lg			02 12 12.3	
	3.9nm,0.2s							
MTLF	**Montolieu**	**1.12**	**41**	*e*Pg		Pg	02 12 07.3	-0.5
MTLF				*e*Sg		Sg	02 12 22.1	-0.3
	17nm,0.4s							
MTLF	**Montolieu**	**1.12**	**41**	Pg		Pg	02 12 07.3	-0.5
MTLF				Lg			02 12 22.1	
	8.7nm,0.4s							
EPOB	**Poblet**	**1.15**	**185**	↓Pg		Pg	02 12 07.7	-0.8
	2.7nm,0.1s,SNR=18							
EPOB				Lg			02 12 22.5	
	6.8nm,0.1s,SNR=7.9							
EJON	**La Jonquera**	**1.24**	**92**	Pg		Pg	02 12 09.7	-0.5
	0.5nm,0.1s,SNR=5.7							
EJON				Lg			02 12 26.5	
	5.3nm,0.1s,SNR=9.1							
ETSF	**Etsaut**	**1.36**	**288**	*e*Pg		Pg	02 12 11.4	-1.1
ETSF				*e*Sg		Sg	02 12 29.3	-1.0
	4.1nm,0.3s							
ETSF	**Etsaut**	**1.36**	**288**	Pg		Pg	02 12 11.4	-1.1
ETSF				Lg			02 12 29.3	
	2.0nm,0.3s							
ESAC	**San Caprasio**	**1.47**	**239**	Pg		Pg	02 12 13.0	-1.6
	6.5nm,0.1s,SNR=11							
ESAC				Lg			02 12 32.7	
	2.9nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**1.68**	**203**	Pg		Pg	02 12 16.8	-1.7
	0.6nm,0.1s,SNR=14							
ERTA				Sn		Sn	02 12 36.9	-0.3
	0.8nm,0.2s,SNR=7.9							
ERTA				Lg			02 12 39.6	
	3.2nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**1.90**	**290**	*e*Pn		Pn	02 12 16.9	-1.8
SJPF				*e*Sg		Sg	02 12 45.5	-1.8
	3.0nm,0.3s							
SJPF	**Ste Jean**	**1.90**	**290**	Pn		Pn	02 12 16.9	-1.8
SJPF				Lg			02 12 45.5	
	1.5nm,0.3s							
ELIZ	**Elizondo**	**2.12**	**289**	Pg		Pg	02 12 26.3	-0.7
	1.4nm,0.3s,SNR=7.9							
ELIZ				Lg			02 12 54.6	
	1.5nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**2.46**	**352**	*e*Pn		Pn	02 12 24.8	-1.7
LFF				*e*Sg		Sg	02 13 03.7	-1.8
	1.6nm,0.2s							
LFF	**La Frestale**	**2.46**	**352**	Pn		Pn	02 12 24.8	-1.7
LFF				Lg			02 13 03.7	
	0.8nm,0.2s							
EMOS	**Mosqueruela**	**2.48**	**211**	Pg

JOW	**Kunigami**	**3.36**	**49**	P		**Pn**	**02 15 42.8**	**-0.7**
NACB	**Ninganchiao**	**3.54**	**263**	*e*Pn		**Pn**	**02 15 45.3**	**-0.6**
YHNB	**Yeheng**	**3.71**	**272**	*e*Pn		**Pn**	**02 15 49.5**	**+1.3**
JTK	**Tokunoshima**	**4.45**	**44**	P		**Pn**	**02 15 57.6**	**-0.8**
JMZ	**Minamidaito 2**	**5.36**	**76**	P		**Pn**	**02 16 08.3**	**-2.6**
JMZ				*e*S		**Sn**	**02 17 06.4**	**-6.3**
MJAR	**Matsushiro Arr**	**16.16**	**40**	Pn		**Pn**	**02 18 40.5**	**+2.4**
	0.3nm,0.3s,baz=227,slow=9.0,SNR=4.7							
MKAR	**Makanchi Array**	**40.78**	**314**	P		**P**	**02 22 30.2**	**-2.0**
	0.9nm,0.6s,mb3.6,baz=93,slow=13,SNR=7.5							
WRAB	**Tennant Creek**	**45.13**	**168**	*e*P		**P**	**02 23 08.4**	**+0.9**
	2.5nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**45.14**	**168**	P		**P**	**02 23 07.9**	**+0.3**
	4.1nm,1.0s,mb4.2,baz=349,slow=8.5,SNR=7.4							
ASAR	**Alice Springs**	**48.70**	**170**	P		**P**	**02 23 36.9**	**+1.5**
	0.5nm,0.6s,mb3.7,baz=358,slow=14,SNR=8.4							
MALT	**Malatya**	**72.96**	**305**	*e*P		**P**	**02 26 21.4**	**+0.9**
	1.8nm,0.8s,mb4.0							
FINES	**FINESS Array B**	**73.01**	**330**	P		**P**	**02 26 19.7**	**-1.1**
	0.6nm,0.6s,mb3.7,baz=69,slow=11,SNR=6.0							
AKASG	**Malin Array Be**	**75.11**	**319**	P		**P**	**02 26 32.2**	**-0.9**
	0.1nm,0.3s,mb3.3,baz=58,slow=4.2,SNR=4.2							
AKASG	**Malin Array Be**	**75.11**	**319**	P		**P**	**02 26 32.2**	**-0.9**
BR131	**Keskin Array S**	**76.02**	**307**	*e*P		**P**	**02 26 38.1**	**-0.2**
	0.7nm,0.6s,mb3.8							
BRTR	**Keskin Array B**	**76.02**	**307**	P		**P**	**02 26 38.3**	**0.0**
	2.5nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=11							
NOA	**NORSAR Array B**	**79.62**	**333**	P		**P**	**02 26 57.9**	**-0.5**
	1.1nm,0.9s,mb3.8,baz=53,slow=5.1,SNR=3.4							
GERES	**GERESS Array B**	**84.93**	**322**	P		**P**	**02 27 25.4**	**-0.8**
	0.2nm,0.6s,mb3.5,baz=72,slow=3.2,SNR=3.6							

*LDG **23** 02:19:22.7±0.1,4250N×121E,h10km,Md2.2/1,Ml1.8/3, Error ellipse: s-maj=1.2km s-min=1.1km az=179.0*

MDD 23 02:19:23.4±0.4,4250N×121E,h9km±5km,mbLg1.3/9, Error ellipse: s-maj=2.6km s-min=2.5km az=126.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.14**	**206**	Pg	Pg	02 19 26.1	-0.3
CSOR				Lg		02 19 28.7	
	51nm,0.1s						
PAND	**Andorre**	**0.25**	**84**	P	Pg	02 19 28.1	-0.3
PAND				S	Sg	02 19 31.4	-0.3
SALF	**Salau**	**0.26**	**356**	P	Pg	02 19 28.4	-0.3
SALF				S	Sg	02 19 31.9	-0.2
CORG	**Organya**	**0.28**	**164**	Pg	Pg	02 19 28.3	-0.6
CORG				Lg		02 19 32.6	
	5.8nm,0.1s						
CLLI	**Llivia**	**0.56**	**92**	Pg	Pg	02 19 33.4	-0.9
CLLI				Lg		02 19 40.8	
	0.9nm,0.1s						
CAVN	**Les Avellanes**	**0.70**	**209**	P	Pg	02 19 36.4	-0.6
CBRU	**Bruguera**	**0.75**	**106**	P	Pg	02 19 37.0	-0.8
CBRU				S	Sg	02 19 46.9	-0.6
EBIE	**Bielsa**	**0.81**	**284**	Pg	Pg	02 19 38.4	-0.7
	0.2nm,0.1s,SNR=7.9						
EBIE				Lg		02 19 48.5	
	1.5nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.83**	**310**	*e*Pg	Pg	02 19 38.5	-1.0
EPF				*e*Sg	Sg	02 19 49.0	-1.3
	2.1nm,0.2s						
EPF	**Esparros**	**0.83**	**310**	Pg	Pg	02 19 38.5	-1.0
EPF				Lg		02 19 49.0	
	1.1nm,0.2s						
MTLF	**Montolieu**	**1.12**	**41**	*e*Pg	Pg	02 19 43.9	-1.0
MTLF				*e*Sg	Sg	02 19 58.8	-0.6
	2.4nm,0.2s						
MTLF	**Montolieu**	**1.12**	**41**	Pg	Pg	02 19 43.9	-1.0
MTLF				Lg		02 19 58.8	
	1.2nm,0.2s						
EPOB	**Poblet**	**1.15**	**185**	Pg	Pg	02 19 44.3	-1.1
	0.6nm,0.1s,SNR=7.9						
EPOB				Lg		02 19 59.1	
	1.6nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.17**	**129**	Lg		02 20 00.3	
	2.7nm,0.2s						
EJON	**La Jonquera**	**1.24**	**92**	Pg	Pg	02 19 46.7	-0.5
	0.3nm,0.1s,SNR=7.9						
EJON				Lg		02 20 03.4	
	0.8nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.37**	**288**	*e*Pg	Pg	02 19 48.0	-1.6
ETSF				*e*Sg	Sg	02 20 05.9	-1.5
	1.6nm,0.2s						
ETSF	**Etsaut**	**1.37**	**288**	Pg	Pg	02 19 48.0	-1.6
ETSF				Lg		02 20 05.9	
	0.8nm,0.2s						
ESAC	**San Caprasio**	**1.47**	**239**	Pg	Pg	02 19 51.0	-0.7
	0.4nm,0.1s,SNR=7.9						
ESAC				Lg		02 20 10.8	
	3.6nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**1.68**	**203**	Pg	Pg	02 19 53.7	-1.9
	0.3nm,0.1s,SNR=7.9						
ERTA				Lg		02 20 15.9	
	1.4nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.49**	**50**	*e*Pg	Pg	02 20 09.2	-1.9
LASF				*e*Sg	Sg	02 20 41.3	-2.1
	0.5nm,0.2s						
LASF	**Ste Croix**	**2.49**	**50**	Pg	Pg	02 20 09.2	-1.9
LASF				Lg		02 20 41.3	
	0.2nm,0.2s						

*LDG **23** 02:20:52.4±0.1,4250N×121E,h10km,Md2.4/1,Ml2.1/8, Error ellipse: s-maj=1.0km s-min=0.9km az=40.0*
*STR **23** 02:20:52.7±0.2,4253N×125E,h5km±1km,Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 23 02:20:53.0±0.2,4251N×122E,h0km,mbLg1.7/13,Error ellipse: s-maj=2.0km s-min=1.9km az=66.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSOR	**Sort**	**0.15**	**205**	Pg	Pg	02 20 55.8	0.0
CSOR				Lg		02 20 58.4	
	129nm,0.2s						
PAND	**Andorre**	**0.24**	**87**	P	Pg	02 20 57.8	+0.1
PAND				S	Sg	02 21 01.1	+0.3
SALF	**Salau**	**0.25**	**355**	Pg	Pg	02 20 58.0	+0.2
SALF				Sg	Sg	02 21 01.3	+0.2
SALF	**Salau**	**0.25**	**355**	P	Pg	02 20 58.1	+0.2
SALF				S	Sg	02 21 01.7	+0.6
CORG	**Organya**	**0.29**	**165**	Pg	Pg	02 20 58.0	-0.5
CORG				Lg		02 21 02.2	
	28nm,0.2s						
GRBF	**Gourbit**	**0.41**	**35**	P	Pg	02 21 00.9	+0.1
MLS	**Moulis**	**0.46**	**349**	Pg	Pg	02 21 01.7	-0.1
MLS				Sg	Sg	02 21 07.4	-0.3
MLS	**Moulis**	**0.46**	**349**	P	Pg	02 21 01.7	-0.1
MLS				S	Sg	02 21 07.4	-0.3
MELF	**Melles**	**0.50**	**317**	Pg	Pg	02 21 02.2	-0.3
MELF				Sg	Sg	02 21 08.8	-0.2
MELF	**Melles**	**0.50**	**317**	P	Pg	02 21 02.3	-0.3
MELF				S	Sg	02 21 08.6	-0.4
CLLI	**Llivia**	**0.56**	**93**	P	Pg	02 21 02.9	-0.9
CLLI				S	Sg	02 21 10.6	-0.4
VALF	**Valcebollere**	**0.60**	**100**	Pg	Pg	02 21 03.9	-0.7
VALF				Sg	Sg	02 21 11.8	-0.5
VALF	**Valcebollere**	**0.60**	**100**	P	Pg	02 21 04.0	-0.6
VALF				S	Sg	02 21 11.7	-0.7
CAVN	**Les Avellanes**	**0.71**	**209**	P	Pg	02 21 06.1	-0.6
CBRU	**Bruguera**	**0.75**	**107**	P	Pg	02 21 06.7	-0.6
CBRU				S	Sg	02 21 16.8	-0.2
EBIE	**Bielsa**	**0.81**	**283**	Pg	Pg	02 21 08.0	-0.6
	0.8nm,0.1s,SNR=15						
EBIE				Lg		02 21 18.4	
	6.3nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.83**	**309**	*e*Pg	Pg	02 21 08.0	-0.9
EPF				*e*Sg	Sg	02 21 18.6	-1.1
	11nm,0.2s						
EPF	**Esparros**	**0.83**	**309**	Pg	Pg	02 21 08.0	-0.9
EPF				Lg		02 21 18.6	
	5.6nm,0.2s						
MTLF	**Montolieu**	**1.11**	**41**	*e*Pg	Pg	02 21 13.6	-0.7
MTLF				*e*Sg	Sg	02 21 28.6	-0.1
	9.4nm,0.3s						
MTLF	**Montolieu**	**1.11**	**41**	Pg	Pg	02 21 13.6	-0.7
MTLF				Lg		02 21 28.6	
	4.7nm,0.3s						
EPOB	**Poblet**	**1.16**	**185**	Pg	Pg	02 21 14.1	-1.2
	0.6nm,0.1s,SNR=9.2						
EPOB				Lg		02 21 28.7	
	8.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**1.24**	**92**	Pg	Pg	02 21 16.2	-0.5
	0.5nm,0.1s,SNR=8.4						
EJON				Lg		02 21 33.1	
	6.2nm,0.1s,SNR=7.9						
ETSF	**Etsaut**	**1.37**	**287**	*e*Pg	Pg	02 21 17.7	-1.5
ETSF				*e*Sg	Sg	02 21 35.7	-1.2
	4.3nm,0.2s						
ETSF	**Etsaut**	**1.37**	**287**	Pg	Pg	02 21 17.7	-1.5
ETSF				Lg		02 21 35.7	
	2.2nm,0.2s						
ESAC	**San Caprasio**	**1.48**	**238**	Pn	Pn	02 21 19.4	-1.5
	1.0nm,0.1s,SNR=6.7						
ESAC				Pg	Pg	02 21 20.9	-0.5
	6.1nm,0.1s,SNR=7.9						
ESAC				Lg		02 21 39.1	
	11nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.69**	**203**	Pg	Pg	02 21 24.2	-1.2
	0.4nm,0.1s,SNR=6.5						
ERTA				Lg		02 21 45.6	
	3.8nm,0.1s,SNR=8.7						
SJPF	**Ste Jean**	**1.90**	**289**	*e*Sg	Sg	02 21 51.8	-2.2
	2.2nm,0.3s						
SJPF	**Ste Jean**	**1.90**	**289**	Lg		02 21 51.8	
	1.1nm,0.3s						
ELIZ	**Elizondo**	**2.12**	**289**	Pg	Pg	02 21 32.7	-1.1
	0.8nm,0.2s,SNR=7.9						
ELIZ				Lg		02 22 01.1	
	1.9nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.45**	**352**	*e*Sg	Sg	02 22 10.0	-1.9
	1.5nm,0.2s						
LFF	**La Frestale**	**2.45**	**352**	Lg		02 22 10.0	
	0.8nm,0.2s						
LASF	**Ste Croix**	**2.48**	**50**	*e*Pn	Pn	02 21 31.4	-3.3
LASF	**Ste Croix**	**2.48**	**50**	*e*Pg	Pg	02 21 38.9	-1.7
LASF				*e*Sg	Sg	02 22 11.1	-1.7
	0.9nm,0.2s						
LASF	**Ste Croix**	**2.48**	**50**	Pn	Pn	02 21 31.4	-3.3
LASF				Pg	Pg	02 21 38.9	-1.7
LASF				Lg		02 22 11.1	
	0.4nm,0.2s						
EMOS	**Mosqueruela**	**2.49**	**211**	Pg	Pg	02 21 38.9	-1.9
	0.2nm,0.2s,SNR=7.9						
EMOS				Lg		02 22 11.6	
	0.3nm,0.1s,SNR=7.9						
CAF	**Calviac**	**2.49**	**14**	*e*Pn	Pn	02 21 31.9	-2.9
CAF				*e*Sg	Sg	02 22 11.4	-1.7
	2.9nm,0.3s						
CAF	**Calviac**	**2.49**	**14**	Pn	Pn	02 21 31.9	-2.9
CAF				Lg		02 22 11.4	
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.80**	**4**	*e*Pn	Pn	02 21 35.9	-3.2
RJF				*e*Sg	Sg	02 22 20.8	-2.3
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.80**	**4**	Pn	Pn	02 21 35.9	-3.2
RJF				Lg		02 22 20.8	
	0.6nm,0.2s						
ETOR	**Torete**	**2.98**	**237**	Pn	Pn	02 21 41.5	0.0
	1.7nm,0.1s,SNR=7.9						
ETOR				Pg	Pg	02 21 49.5	-0.6
	3.7nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	02 22 16.4	-1.4
	1.8nm,0.1s,SNR=7.9						
ETOR				Lg		02 22 28.2	
	0.9nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	**3.43**	**46**	*e*Pg	Pg	02 21 56.2	-2.6
VIVF				*e*Sg	Sg	02 22 41.1	-2.2
	0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**3.43**	**46**	Pg	Pg	02 21 56.2	-2.6
VIVF				Lg		02 22 41.1	
	0.2nm,0.2s						

CASC 23 02:33:19.7±2.4,1277N×8822W,h71km±43km,MD3.6, 3C-1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.62**	**37**	*e*P	x	02 33 33.7	
CNCH			⇑	*e*P	x	02 33 40.9	
CNCH				*e*S	x	02 33 52.8	
VSM	**San Miguel**	**0.65**	**355**	*e*P	x	02 33 34.6	
BLLM	**Bellamira**	**0.67**	**358**	*e*P	x	02 33 41.5	
BLLM				*e*S	x	02 33 53.3	
SNVI	**San Vicente**	**1.03**	**324**	*e*P	x	02 33 38.6	
SNVI				*e*P	x	02 33 45.8	
SNVI				*e*S	x	02 34 00.8	
CRIN	**San Cristobal**	**1.14**	**94**	*e*P	Pn	02 33 40.6	+0.6
LCBS	**La Ceiba**	**1.15**	**320**	*e*P	x	02 33 47.5	
LCBS				*e*S	x	02 34 02.5	
LFRS	**El Faro**	**1.18**	**316**	⇓*e*P	x	02 33 47.7	
LFRS				*e*S	x	02 34 03.5	
LBRS	**Las Brisas**	**1.25**	**320**	*e*P	x	02 33 49.2	
LBRS				*e*S	x	02 34 04.1	
LFU	**La Fuente**	**1.31**	**318**	⇑*e*P	x	02 33 50.0	
LFU				*e*S	x	02 34 07.8	
LEON	**Leon**	**1.34**	**105**	*e*P	Pn	02 33 42.3	-0.3
BOQS	**Boqueron**	**1.41**	**313**	*e*P	x	02 33 44.3	
BOQS				*e*P	x	02 33 51.3	
BOQS				*e*S	x	02 34 10.1	
MIRN	**Miramar**	**1.50**	**103**	*e*P	Pn	02 33 44.9	+0.1
CNGN	**Cerro Negro**	**1.51**	**100**	*e*P	Pn	02 33 45.5	+0.8
MOMJ	**Momotombo**	**1.68**	**102**	*e*P	Pn	02 33 47.4	+0.4
COPN	**Copaltepe**	**1.69**	**110**	*e*P	Pn	02 33 47.4	+0.2
SBLS	**San Blas**	**1.73**	**308**	*e*P	x	02 33 48.8	
SBLS			⇑	*e*P	x	02 33 55.9	
SBLS				*e*S	x	02 34 18.6	
SNJE	**San Jose**	**1.74**	**309**	*e*P	x	02 33 55.4	
SNJE				*e*S	x	02 34 18.3	
MGAN	**Managua**	**2.02**	**108**	*e*S	Sn	02 34 15.3	-0.7
TICN	**Ticuantepe**	**2.07**	**111**	*e*P	Pn	02 33 53.1	+0.8
BOA	**Boaco**	**2.46**	**96**	*e*P	Pn	02 33 57.5	0.0

IGQ 23 03:05:03.0,346S×7714W,h44km±18km,Mb4.3,Ms4.1, 11C-3D,Error ellipse: s-maj=13.2km s-min=7.1km az=74.5,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**2.33**	**326**	P	Pn	03 05 40.8	+2.0
PATA				S	Sn	03 06 07.0	+0.8
ARRY	**Arrayan**	**2.34**	**326**	⇑P	Pn	03 05 40.7	+1.7
ARRY				S	Sn	03 06 07.1	+0.6
ULBA	**Ulba**	**2.37**	**328**	⇑P	Pn	03 05 41.3	+2.0
ULBA				S	Sn	03 06 09.0	+1.9
RETU	**Refugio**	**2.38**	**327**	⇑P	Pn	03 05 41.6	+2.1
RETU				S	Sn	03 06 10.2	+2.6
RUN5	**Runtun**	**2.40**	**328**	⇑P	Pn	03 05 41.7	+1.9
RUN5				S	Sn	03 06 08.9	+0.9
JUIV	**Juive**	**2.42**	**327**	⇑P	Pn	03 05 41.8	+1.8
JUIV				S	Sn	03 06 10.1	+1.8
IGUA	**Igualata**	**2.46**	**323**	P	Pn	03 05 43.4	+2.8
TAMB	**Tambo**	**3.01**	**336**	P	Pn	03 05 48.9	+0.8
VC1	**Cotopaxi 1**	**3.07**	**336**	⇑P	Pn	03 05 51.6	+2.7
VC1				S	Sn	03 06 26.2	+1.8
CAMI	**Rancho Maria**	**3.08**	**334**	⇓P	Pn	03 05 52.2	+3.1
NAS1	**Nasa**	**3.11**	**335**	P	Pn	03 05 53.0	+3.6
ANTI	**Antisana**	**3.16**	**341**	⇑P	Pn	03 05 51.8	+1.6
LAV3	**Lava3-Reventad**	**3.38**	**352**	⇑P	Pn	03 05 55.1	+2.0
CONE	**Cono NE Rev Vo**	**3.41**	**352**	⇑P	Pn	03 05 55.5	+1.9
CONE				S	Sn	03 06 35.0	+2.4
CAYR	**Refugio Cayamb**	**3.56**	**346**	⇑P	Pn	03 05 58.5	+2.8
GGP	**Refugio Guagua**	**3.57**	**336**	⇓P	Pn	03 05 60.0	+4.1
TERV	**Terraza Guagua**	**3.58**	**336**	P	Pn	03 06 03.1	+7.2
PINO	**Pino**	**3.59**	**336**	⇑P	Pn	03 06 01.1	+5.0
PINO				S	Sn	03 06 22.4	-15
CAYA	**Cayambe**	**3.61**	**346**	⇓P	Pn	03 05 59.1	+2.7

*IDC **23** 03:09:13.1±1.2,3816N×7281E,h0km,mb3.9/8, mb1 4.0/12,mb1mx3.8/24,mbtmp3.8/12,ML3.4/4,MS2.9/3, Ms1 3.0/3,ms1mx2.7/35,Error ellipse: s-maj=22.3km s-min=18.5km az=12.0*
*ISCJB **23** 03:09:16.1±0.4,3823N±003×7270E±006,h33km, mb3.9/13,MS3.1/2,Error ellipse: s-maj=6.8km s-min=4.1km az=126.2*
*BJI **23** 03:09:16.0,3807N×7277E,h35km,mB4.6,mb4.5,ML3.8*
*MOS **23** 03:09:17.2±1.2,3839N×7266E,h33km,mb4.1/4,Error ellipse: s-maj=16.4km s-min=7.4km az=97.8*
*NEIC **23** 03:09:19.2±0.9,3840N×7274E,h35km,mb4.2/2,Error ellipse: s-maj=14.6km s-min=11.1km az=141.0*

*NNC **23** 03:09:24.0±3.6,3862N×7205E,h34km±28km,mb3.7, mpv3.4,Error ellipse: s-maj=29.2km s-min=25.6km az=46.0*

ISC 23 03:09:18.5±0.4,3828N±003×7270E±006,h35km,n52, σ1°19/61,mb3.9/13,MS3.1/2,5C-4D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.84**	**63**	*e*P	**Pn**	**03 10 01.1**	**-0.2**
KSH				*e*S	**Sn**	**03 10 33.6**	**-0.7**
KSH				Smax			
	comp=N,455nm,1.0s						
KSH				Smax			
	comp=E,434nm,1.0s						
AML	**Almayashu**	**3.92**	**11**	P	**Pn**	**03 10 17.7**	**+1.5**
	SNR=26						
UCH	**Uchtor**	**4.18**	**19**	P	**Pn**	**03 10 21.2**	**+1.4**
	SNR=11						
AAK	**Ala-Archa**	**4.56**	**17**	P	**Pn**	**03 10 26.7**	**+1.7**
	SNR=10.0						
AAK	**Ala-Archa**	**4.56**	**17**	*e*Pn	**Pn**	**03 10 25.1**	**+0.1**
KK31	**Karatay Array**	**5.10**	**342**	⇑Pn	**Pn**	**03 10 34.1**	**+1.7**
	comp=E,4.0nm,0.3s,baz=158,slow=12,SNR=79						
KK31				⇑Sn	**Sn**	**03 11 29.8**	**-0.2**
	comp=E,33nm,0.6s,baz=155,slow=19,SNR=4.6						
KK31				⇑Lg		03 11 52.8	
	comp=E,62nm,0.9s						
KKAR	**Karatay Array**	**5.10**	**342**	PN	**Pn**	**03 10 34.0**	**+1.6**
KKAR				S	**Sn**	**03 11 35.5**	**+5.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KKAR				smax			
	comp=Z,20nm,0.6s						
TKM2	**Tokmak 2**	**5.14**	**25**	P	**Pn**	**03 10 40.1**	**+7.2**
	SNR=7.3						
TKM2	**Tokmak 2**	**5.14**	**25**	⇓Pn	**Pn**	**03 10 38.0**	**+5.1**
	comp=Z,2.5nm,0.8s						
TKM2				⇓Lg		03 12 04.2	
	comp=Z,22nm,1.8s						
TKM2	**Tokmak 2**	**5.14**	**25**	PN	**Pn**	**03 10 39.6**	**+6.7**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
USP	**Ospenovka**	**5.17**	**15**	P	**Pn**	**03 10 37.7**	**+4.4**
	SNR=5.6						
THN	**Thein Dam**	**6.33**	**156**	*e*P	**Pn**	**03 10 49.5**	**+0.2**
THN				*ex*	x	03 12 06.6	
SDNR	**Sundarnagar**	**7.62**	**151**	*e*P	**Pn**	**03 11 07.5**	**+0.5**
SDNR				*e*S	**Sn**	**03 12 32.3**	**+0.3**
KLP	**Kalpa**	**8.12**	**144**	*e*P	**Pn**	**03 11 13.8**	**-0.1**
KLP				*e*S	**Sn**	**03 12 43.4**	**-1.1**
KLP				AML	AML	03 13 01.5	
	comp=N,99nm,1.0s						
KLP				AML	AML	03 13 11.0	
	comp=E,95nm,0.5s						
NDI	**New Delhi**	**10.28**	**157**	*ex*	x	03 11 50.5	
KHET	**Khetri**	**10.50**	**165**	*e*S	**Sn**	**03 13 35.9**	**-7.0**
SONA	**Sohna**	**10.65**	**159**	*e*P	**Pn**	**03 11 47.0**	**-1.5**
SONA				*e*S	**Sn**	**03 13 41.1**	**-5.4**
MKAR	**Makanchi Array**	**11.06**	**37**	Pn	**Pn**	**03 11 53.8**	**-0.4**
	comp=E,0.2nm,0.3s,baz=210,slow=12,SNR=3.0						
WMQ	**Urumqi**	**12.60**	**59**	*e*P	**Pn**	**03 12 16.0**	**+0.8**
WMQ				PCP	PcP	03 17 55.0	+3.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s						
WMQ				AMB	AMB		
	comp=Z,64nm,5.8s						
AB31	**Akbulak array**	**14.31**	**324**	⇓Pn	**Pn**	**03 12 33.7**	**-4.8**
	comp=Z,1.7nm,0.6s						
AB31				⇑Sn	**Sn**	**03 15 06.9**	**-9.0**
	comp=Z,3.1nm,0.7s,baz=130,slow=22,SNR=3.6						
AB31	**Akbulak array**	**14.31**	**324**	P	**Pn**	**03 12 35.9**	**-2.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**14.84**	**355**	Pn	**Pn**	**03 12 42.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=17,SNR=5.3						
BVAR				LR	LR	03 19 34.1	
	comp=Z,16nm,18.3s,baz=316,slow=42						
BRVK	**Borovoye**	**14.88**	**354**	*e*P	**Pn**	**03 12 45.3**	**-0.9**
ZRNK	**Zerenda**	**14.90**	**351**	*e*P	**Pn**	**03 12 43.7**	**-2.8**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZRNK	**Zerenda**	**14.90**	**351**	*e*Pn	**Pn**	**03 12 43.7**	**-2.8**
	comp=Z,3.0nm,0.8s						
CHKZ	**Chkalovo**	**15.47**	**355**	*e*P	**Pn**	**03 12 53.6**	**-0.4**
AKTK	**Aktyubinsk**	**16.02**	**324**	Pn	**Pn**	**03 12 58.7**	**-2.5**
AKTK				Sn	**Sn**	**03 15 54.6**	**-3.1**
AKTO	**Aktyubinsk**	**16.02**	**324**	⇑Pn	**Pn**	**03 13 03.1**	**+1.9**
	comp=Z,0.2nm,0.8s						
AKTO				⇓Sn	**Sn**	**03 15 51.9**	**-5.8**
	comp=Z,0.6nm,1.9s						
AKTO	**Aktyubinsk**	**16.02**	**324**	Pn	**Pn**	**03 12 58.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=125,slow=16,SNR=5.9						
AKTO				Sn	**Sn**	**03 15 54.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=259,slow=16,SNR=2.8						
ZAL	**Zalesovo**	**17.73**	**24**	P	**Pn**	**03 13 21.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=316,slow=12,SNR=2.7						
GTA	**Gaotai**	**21.13**	**78**	*e*P	**P**	**03 14 01.8**	**+1.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb3.8						
GNI	**Garni**	**21.71**	**284**	P	**P**	**03 14 12.0**	**+5.5**
	comp=Z,10nm,0.9s,mb4.3,baz=352,slow=7.9,SNR=7.3						
GNI	**Garni**	**21.71**	**284**	P	**P**	**03 14 12.0**	**+5.5**
GNI				pmax	pmax		
	comp=Z,11nm,0.9s						
GNI	**Garni**	**21.71**	**284**	*e*P	**P**	**03 14 14.0**	**+7.6**
	comp=Z,20nm,1.1s,mb4.5						
KIV	**Kislovodsk**	**23.23**	**294**	*e*P	**P**	**03 14 32.0**	**+9.3**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ZAK	**Zakamensk**	**24.81**	**51**	*e*P	**P**	**03 14 36.9**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
SONM	**Songino Array**	**26.23**	**58**	P	**P**	**03 14 50.8**	**+0.7**
	comp=Z,1.6nm,0.9s,mb3.6,baz=261,slow=8.4,SNR=7.6						
HHC	**Hu-ho-hao-te**	**29.91**	**73**	*e*P	**P**	**03 15 22.3**	**-0.7**
HHC				PP	PP	03 16 21.0	-10
HHC				PCP	PcP	03 18 27.1	+1.9
HHC				PCS	PcS	03 22 08.8	+0.3
HHC				AMB	AMB		
	comp=Z,15n

VHO				*i* S	Sn	03 13 23.1	-0.1
HUIG	**Huatulco**	**2.10 219**		*i* P	Pn	03 12 55.7	-2.7
HUIG				*i* S	Sn	03 13 24.8	-1.5
TPIG	**Tehuac#an**	**2.71 292**		*i* P	Pn	03 13 04.6	-1.2
TPIG				*i* S	Sn	03 13 36.7	-2.8
CCIG	**Comitan**	**2.72 114**		*i* P	Pn	03 13 05.5	-0.4
CCIG				*i* S	Sn	03 13 38.8	-0.9
UTMO	**Huajuapan**	**2.97 279**		*i* P	Pn	03 13 07.8	-1.2
UTMO				*i* S	Sn	03 13 42.1	-3.3
PPM	**Popocatepetl**	**4.06 295**		*i* P	Pn	03 13 23.3	+0.2
PPM				*e*P		03 13 24.0	
PPM				*i* S	Sn	03 14 09.0	-1.6

CASC 23 03:25:31.0±3.0, 1451N×8955W, h9km±19km, MD3.6, 4C-5D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJE	**San Jose**	**0.64**	**185**	⇓*i*P	x	03 25 51.1	
SNJE				*e*S	x	03 26 02.8	
SBLS	**San Blas**	**0.67**	**186**	⇓*e*P	x	03 25 50.8	
SBLS				*e*S	x	03 26 02.1	
BOQS	**Boqueron**	**0.81**	**161**	⇑*e*P	x	03 25 53.3	
BOQS				*e*S	x	03 26 05.2	
LFU	**La Fuente**	**0.87**	**151**	*e*P	x	03 25 54.9	
LFU				*e*S	x	03 26 08.0	
LBRS	**Las Brisas**	**0.91**	**147**	*e*P	x	03 25 56.2	
LBRS				*e*S	x	03 26 09.3	
LFRS	**El Faro**	**1.00**	**152**	⇓*e*P	x	03 25 55.2	
LFRS				*e*S	x	03 26 08.1	
LCBS	**La Ceiba**	**1.01**	**147**	⇑*e*P	x	03 25 56.7	
LCBS				*e*S	x	03 26 10.7	
TER	**Terranova**	**1.12**	**260**	⇓*e*P	Pg	03 25 51.2	-1.2
TER				*e*S	Sg	03 26 06.1	-0.9
SNVI	**San Vicente**	**1.13**	**142**	⇑*e*P	x	03 25 57.9	
SNVI				*e*S	x	03 26 13.9	
FUG	**Fuego 3**	**1.25**	**267**	⇓*e*P	Pn	03 25 54.1	-0.6
FUG				*e*S	Sb	03 26 11.4	+0.3
TP2	**Tecpan 2**	**1.45**	**281**	⇑*e*P	Pn	03 25 59.3	+1.8
TP2				*e*S	Sn	03 26 19.4	+2.8
VSM	**San Miguel**	**1.64**	**131**	*e*P	x	03 26 04.1	
VSM				*e*S	x	03 26 27.7	
JAT	**Jato**	**2.03**	**265**	*e*P	Pn	03 26 02.5	-3.0

*ISCJB **23** 03:32:54.7±0.3, 3674N×003×2802E×006, h97km±5km, Error ellipse: s-maj=7.8km s-min=4.2km az=158.5*
*HLW **23** 03:32:54.7, 3674N×2803E, h33km, Mb3.5*
*CSEM **23** 03:32:54.4±0.1, 3667N×2798E, h80km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.3km az=63.0*
*ATH **23** 03:32:57.7, 3684N×2796E, h59km±14km, MD3.2/3*
*ISK **23** 03:32:57.4, 3690N×2803E, h70km, MD3.3*
ISC 23 03:32:56.1±0.4, 3677N±002×2804E±005, h86km±5km, n46, σ0§86/57, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.37**	**264**	*i* PG	**Pn**	**03 33 09.6**	**+0.2**
DAT				*i* SG	**Sn**	**03 33 18.5**	**-0.8**
YER	**Yerkesik**	**0.41**	**28**	*i* PG	**Pn**	**03 33 09.3**	**-0.4**
YER				*i* SG	**Sn**	**03 33 17.5**	**-2.3**
DALT	**Dalyan (Mudla)**	**0.48**	**90**	*i* PG	**Pn**	**03 33 11.5**	**+1.3**
ARG	**Arkhangelos**	**0.56**	**173**	*e*P	**Pn**	**03 33 12.2**	**+1.3**
ARG				*e*S	**Sn**	**03 33 22.2**	**+0.4**
BDRM	**Kayabasi**	**0.56**	**302**	*i* P	**Pn**	**03 33 10.9**	**+0.1**
BDRM				*i* S	**Sn**	**03 33 20.9**	**-0.9**
BDRM	**Kayabasi**	**0.56**	**302**	*i* P	**Pn**	**03 33 10.9**	**0.0**
MLSB	**Milas**	**0.56**	**338**	*i* PG	**Pn**	**03 33 10.7**	**-0.2**
BODT	**Bodrum**	**0.65**	**297**	PG	**Pn**	**03 33 12.0**	**+0.3**
FETY	**Fethiye**	**0.85**	**99**	PG	**Pn**	**03 33 14.8**	**+1.0**
AYDN	**Tasoluk**	**0.90**	**352**	*i* P	**Pn**	**03 33 14.8**	**+0.5**
AYDN				*i* S	**Sn**	**03 33 27.1**	**-0.8**
DENT	**Denizli**	**1.26**	**39**	PN	**Pn**	**03 33 18.8**	**+0.2**
SMG	**Samos**	**1.34**	**315**	*e*P	**Pn**	**03 33 19.8**	**+0.2**
KARP	**Karpathos**	**1.41**	**210**	*e*P	**Pn**	**03 33 22.1**	**+1.6**
KARP				*e*S	**Sn**	**03 33 41.1**	**+2.2**
ELL	**Elmali**	**1.50**	**90**	PN	**Pn**	**03 33 23.5**	**+1.9**
IZM	**Izmir**	**1.74**	**340**	PN	**Pn**	**03 33 24.6**	**-0.1**
KDAG	**Bornova**	**1.74**	**340**	*i* P	**Pn**	**03 33 25.0**	**+0.3**
KDAG				*i* S	**Sn**	**03 33 44.8**	**-1.7**
BLCB	**Balcova**	**1.79**	**334**	PN	**Pn**	**03 33 25.8**	**+0.4**
URLA	**Izmir**	**1.96**	**325**	*i* P	**Pn**	**03 33 28.0**	**+0.5**
URLA				*i* S	**Sn**	**03 33 50.9**	**-0.6**
APE	**Apeiranthos**	**2.03**	**279**	*e*P	**Pn**	**03 33 30.2**	**+1.7**
AKHS	**Akhisar**	**2.11**	**355**	*i* P	**Pn**	**03 33 30.0**	**+0.5**
AKHS				*i* S	**Sn**	**03 33 54.9**	**-0.3**
AKS	**Akhisar**	**2.11**	**355**	PN	**Pn**	**03 33 29.9**	**+0.3**
GDZ	**Gediz**	**2.58**	**26**	*i* P	**Pn**	**03 33 36.9**	**+1.0**
GDZ				*i* S	**Sn**	**03 34 06.1**	**-0.3**
CANB	**Canakkale**	**3.33**	**347**	*e*PN	**Pn**	**03 33 46.3**	**+0.4**
HDMB	**Hadim**	**3.57**	**86**	*e*PN	**Pn**	**03 33 52.0**	**+2.8**
HMYD	**Mayadein**	**7.33**	**161**	P	**Pn**	**03 34 39.7**	**-0.7**
HNAT	**Natroun**	**7.44**	**162**	P	**Pn**	**03 34 41.1**	**-0.8**
AMAG	**Maghara**	**7.48**	**143**	P	**Pn**	**03 34 41.7**	**-0.7**
KOT	**Kottamia**	**7.53**	**154**	P	**Pn**	**03 34 42.6**	**-0.5**
HHAG	**Hagoal**	**7.60**	**152**	P	**Pn**	**03 34 43.4**	**-0.6**
HHAG				S	**Sn**	**03 36 03.0**	**-5.6**
HSAF	**As Saff**	**7.72**	**157**	P	**Pn**	**03 34 45.8**	**+0.2**
SWA1		**7.74**	**195**	P	**Pn**	**03 34 45.1**	**-0.8**
GLL	**Jalalah**	**7.80**	**156**	P	**Pn**	**03 34 46.3**	**-0.6**
SWA2		**7.81**	**197**	P	**Pn**	**03 34 46.2**	**-0.8**
SUZ		**7.99**	**148**	P	**Pn**	**03 34 48.9**	**-0.5**
ZAF		**8.37**	**152**	P	**Pn**	**03 34 54.0**	**-0.6**
ZNM		**8.42**	**150**	⇓P	**Pn**	**03 34 54.7**	**-0.5**
ZNM		**8.42**	**150**	P	**Pn**	**03 34 54.8**	**-0.4**
ZNM		**8.42**	**150**	P	**Pn**	**03 34 54.8**	**-0.4**
HNKL	**Nakhl**	**8.44**	**142**	P	**Pn**	**03 34 54.8**	**-0.7**
AWBH		**8.46**	**175**	P	**Pn**	**03 34 54.9**	**-0.9**
HBST	**Basata**	**9.40**	**141**	⇓P	**Pn**	**03 35 08.4**	**-0.2**
HFRF	**Wahat Farafira**	**9.60**	**179**	P	**Pn**	**03 35 11.1**	**-0.2**
HKAT	**Jabal Katrina**	**9.63**	**147**	P	**Pn**	**03 35 11.8**	**0.0**
TR2		**9.64**	**149**	P	**Pn**	**03 35 11.5**	**-0.3**
ASUT		**9.81**	**161**	P	**Pn**	**03 35 14.0**	**-0.2**
TR1		**10.06**	**149**	P	**Pn**	**03 35 17.6**	**-0.1**

*ISCJB **23** 03:38:09.8±2.5, 52S±02×1507E±02, h161km±17km, mb4.0/6, Error ellipse: s-maj=39.3km s-min=21.4km az=44.5*
*IDC **23** 03:38:10.5±1.4, 532S×15080E, h156km±7km, mb3.7/5, mb1 3.9/7, mb1mx3.6/14, mbtmp4.2/7, Error ellipse: s-maj=40.9km s-min=13.5km az=117.0*
*NEIC **23** 03:38:12.5±2.9, 530S×15071E, h174km±20km, mb4.2/4, Error ellipse: s-maj=33.1km s-min=20.6km az=88.0*
ISC 23 03:38:11.8±2.1, 53S±01×1508E±02, h162km±13km, n14, σ0§71/16, mb4.0/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.42**	**221**	P	**Pn**	**03 39 31.2**	**+0.3**
	21nm,0.3s,baz=55,slow=8.0,SNR=40						
PMG				S	**Sn**	**03 40 32.8**	**-0.1**
	42nm,0.3s,baz=171,slow=22,SNR=20						
CTA	**Charters Tower**	**15.34**	**196**	*e*P	**Pn**	**03 41 40.6**	**+0.8**
	7.3nm,0.9s						
CTA	**Charters Tower**	**15.34**	**196**	P	**Pn**	**03 41 40.8**	**+1.0**
	0.3nm,0.3s,baz=22,slow=11,SNR=6.7						
KAKA	**Kakadu**	**19.52**	**247**	*e*P	**P**	**03 42 26.5**	**-0.1**
	24nm,1.6s						
WRAB	**Tennant Creek**	**21.60**	**226**	*e*P	**P**	**03 42 48.1**	**-0.7**
	3.4nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**21.60**	**226**	*e*P	**P**	**03 42 48.4**	**-0.4**
WRA	**Warramunga Arr**	**21.61**	**226**	P	**P**	**03 42 48.7**	**-0.2**
	2.8nm,0.5s,mb3.9,baz=50,slow=10.0,SNR=27						
WRA				S	**S**	**03 46 39.5**	**+1.6**
	1.8nm,0.7s,baz=54,slow=19,SNR=6.6						
AS31	**Alice Springs**	**24.44**	**220**	*e*P	**P**	**03 43 16.4**	**+1.0**
ASAR	**Alice Springs**	**24.44**	**220**	P	**P**	**03 43 16.1**	**+0.6**
	4.3nm,0.7s,mb4.1,baz=54,slow=9.2,SNR=39						
ASAR				S	**S**	**03 47 22.8**	**-0.7**
	0.3nm,0.7s,baz=37,slow=17,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.64**	**240**	*e*P	**P**	**03 43 43.4**	**-0.8**
	7.2nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.64**	**240**	P	**P**	**03 43 43.9**	**-0.3**
	1.4nm,0.4s,mb4.1,baz=61,slow=13,SNR=22						
FITZ				pP	pP	03 44 14.8	-3.0
	5.0nm,0.8s,baz=96,slow=9.0,SNR=5.6						
STKA	**Stephens Creek**	**27.80**	**197**	P	**P**	**03 43 44.3**	**-1.4**
	2.9nm,0.6s,mb4.2,baz=20,slow=12,SNR=3.6						
SONM	**Songino Array**	**65.67**	**329**	P	**P**	**03 48 39.1**	**+0.4**
	0.4nm,0.5s,mb3.5,baz=150,slow=7.6,SNR=3.4						
SONM				pP	pP	03 49 16.8	-0.3
	1.8nm,1.0s,baz=144,slow=7.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**148.51**	**287**	PKPbc	PKPbc	03 57 38.8	-0.5
	0.4nm,0.7s,baz=89,slow=2.5,SNR=5.7						
TORD				pPKPbc	pPKPbc	03 58 19.3	-2.3
	0.6nm,1.0s,baz=100,slow=1.7,SNR=2.1						

*CSEM **23** 03:47:06.6, 3484N×4.12W, h6km, MD2.9, After CNRM*
*CNRM **23** 03:47:06.6, 3484N×4.12W, h6km, MD2.9*
MDD 23 03:47:05.9±0.6, 3486N×418W, h0km, mb2.1/2, Error ellipse: s-maj=7.5km s-min=4.2km az=127.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.36**	**73**	*i* P	Pg	03 47 13.0	+0.1
TOU				*i* S	Sg	03 47 17.0	-0.6
TZK	**Tazeka**	**0.77**	**180**	*i* P	Pg	03 47 20.0	-0.6
TZK				*i* S	Sg	03 47 31.0	+0.4
MIF	**Mishlifen**	**1.69**	**211**	*e*P	Pn	03 47 36.0	-0.7
MIF				*i* S	Sn	03 47 56.0	-3.0
EMIJ	**Mijas**	**1.77**	**344**	P	Pn	03 47 37.0	-0.8
	0.2nm,0.3s,SNR=7.9						
EMIJ				S	Sn	03 47 57.6	-3.4
	2.4nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**1.96**	**202**	*e*P	Pn	03 47 39.0	-1.4
CZD				*e*S	Sn	03 48 03.0	-2.6
EQES	**Quesada**	**3.07**	**17**	P	Pn	03 47 54.9	-0.8
	0.3nm,0.4s,SNR=7.9						
EQES				S	Sn	03 48 30.6	-2.5
	0.6nm,0.5s,SNR=7.9						

*IDC **23** 03:47:18.7±4.0, 5475S×16028E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/11, mbtmp4.0/4, MS4.1/1, Ms1 4.1/1, ms1mx3.0/21, Error ellipse: s-maj=192.1km s-min=25.2km az=71.0*
*ISCJB **23** 03:47:21.3±1.0, 5508S±009×1584E±02, h10km, mb3.9/6, MS4.1/1, Error ellipse: s-maj=18.4km s-min=9.3km az=64.7*
*NEIC **23** 03:47:22.7±1.2, 5506S×15858E, h10km, mb3.8/3, Error ellipse: s-maj=23.7km s-min=14.5km az=106.0*
ISC 23 03:47:20.0±5.9, 548S±02×1601E±06, h12km±31km, n11, σ0§99/11, mb3.9/6, MS4.1/1, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**0.73**	**294**	*e*P	**Pg**	**03 47 34.3**	**+0.1**
MCQ				*e*S	**Sg**	**03 47 43.8**	**+0.1**
TAU	**Tasmania Unive**	**14.54**	**320**	*e*Pn	**Pn**	**03 50 42.5**	**-3.0**
	24nm,0.6s						
VNDA	**Vanda**	**22.82**	**179**	P	**P**	**03 52 23.1**	**+0.4**
	1.6nm,0.9s,mb3.5,baz=349,slow=11,SNR=8.4						
VNDA	**Vanda**	**22.82**	**179**	*e*P	**P**	**03 52 26.9**	**+4.2**
	4.1nm,1.2s,mb3.7						
STKA	**Stephens Creek**	**26.41**	**323**	P	**P**	**03 52 58.3**	**+1.9**
	2.7nm,0.9s,mb3.8,baz=148,slow=15,SNR=3.8						
ASAR	**Alice Springs**	**36.70**	**317**	P	**P**	**03 54 27.2**	**+0.5**
	2.4nm,0.8s,mb4.1,baz=156,slow=8.2,SNR=20						
ASAR				PcP	PcP	03 56 50.4	+1.1
	0.2nm,0.6s,baz=156,slow=3.7,SNR=4.3						
AS31	**Alice Springs**	**36.70**	**317**	*e*P	**P**	**03 54 26.9**	**+0.2**
WRA	**Warramunga Arr**	**39.91**	**320**	P	**P**	**03 54 53.5**	**-0.3**
	2.7nm,0.8s,mb4.0,baz=156,slow=7.2,SNR=22						
WRAB	**Tennant Creek**	**39.92**	**320**	*e*P	**P**	**03 54 53.2**	**-0.6**
	4.7nm,0.8s,mb4.3						
SNAA	**Sanae**	**53.25**	**187**	*e*P	**P**	**03 56 37.8**	**-0.6**
	0.5nm,0.6s,mb3.6						
PPT	**Papeete**	**53.33**	**66**	LR	LR	04 16 44.4	
	comp=Z,167nm,18.4s,MS4.1,baz=274,slow=33						

*MOS **23** 03:52:40.1±2.0, 5537N×11046E, h9km, mb4.2/1, Error ellipse: s-maj=35.8km s-min=12.1km az=49.4*
BYKL 23 03:52:39.6±0.3, 5541N×11042E, h4km±11km, 4C-9D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIZ	**Nizh Angarsk**	**0.62**	**307**	⇑*i*Pg	Pg	03 52 50.6	-0.9
NIZ				*e*Sg	Sg	03 53 00.0	+0.5
NIZ				Pmax			
	22nm,0.2s						
NIZ				Smax			
	281nm,1.2s						
KMO	**Kumora**	**0.65**	**42**	⇓*i*Pg	Pg	03 52 50.4	-1.7
KMO				⇓*i*Pb	Pb	03 52 51.8	-1.7
KMO				*e*Sg	Sg	03 53 00.8	+0.2
KMO				*e*Sb	Sg	03 53 06.9	+6.3
KMO				Pmax			
	253nm,0.4s						
KMO				max			
	1μm,1.4s						
KMO	**Kumora**	**0.65**	**42**	*e*PG	Pg	03 52 50.3	-1.8
KMO				*e*		03 53 00.6	
KMO				pmax	pmax		
	comp=Z,252nm,0.3s						
KMO				smax			
	comp=N,1μm,1.4s						
YLYR	**Ulyunkhan**	**0.68**	**141**	⇓*i*Pg	Pg	03 52 51.0	-1.7
	comp=N,12nm,0.3s						
YLYR				⇑*i*Pg	Pg	03 52 51.0	-1.7
	comp=N,6.0nm,0.3s						
YLYR				⇑*i*Pg	Pg	03 52 51.0	-1.7
	comp=N,12nm,0.3s						
YLYR				*e*Sg	Sg	03 53 00.5	-1.1
YLYR				*e*Sb	Sb	03 53 07.3	+3.4
YLYR				Pmax			
	comp=N,87nm,0.6s						
YLYR				max			
	comp=N,361nm,1.7s						
YOA	**Uoyan**	**1.03**	**45**	*e*Pg	Pg	03 52 57.7	-1.7
YOA				*e*Sg	Sg	03 53 13.1	+0.3
YOA				Pmax			
	comp=N,304nm,0.4s						
YOA				Smax			
	comp=N,1μm,0.9s						
YOA	**Uoyan**	**1.03**	**45**	*e*PG	Pg	03 52 57.4	-2.0
YOA				*e*		03 53 13.7	
YOA				pmax	pmax		
	comp=Z,306nm,0.3s						
YOA				smax			
	comp=E,1μm,0.7s						
SYVR	**Suvo**	**1.77**	**188**	⇓*i*Pg	Pg	03 53 11.3	-2.3
SYVR				*e*		03 53 15.2	
SYVR				*e*Sg	Sg	03 53 35.8	-0.8
SYVR				Pmax			
	comp=E,42nm,0.8s						
SYVR				Smax			
	comp=E,308nm,1.5s						
UKT	**Uakit**	**1.83**	**86**	⇑*i*Pg	Pg	03 53 11.5	-3.2
UKT				⇓*i*		03 53 12.9	
UKT				*e*Sg	Sg	03 53 36.1	-2.3
UKT				*e*		03 53 40.4	
UKT				max			
	comp=E,90nm,0.9s						
UKT				max			
	comp=E,298nm,0.4s						
UKT	**Uakit**	**1.83**	**86**	*e*PN	Pn	03 53 11.4	-0.4
UKT				*e*		03 53 36.4	
UKT				pmax	pmax		
	comp=Z,89nm,0.3s						
UKT				smax			
	comp=N,298nm,0.3s						
SVKR	**Severomuysk**	**1.91**	**67**	*e*Pn	Pn	03 53 13.3	+0.4
SVKR				*e*Pg	Pg	03 53 15.0	-1.2
SVKR				*e*Sg	Sg	03 53 40.4	-0.6
SVKR				Pmax			
	comp=N,128nm,0.4s						
SVKR				Smax			
	comp=N,829nm,0.7s						
SVKR	**Severomuysk**	**1.91**	**67**	*e*PN	Pn	03 53 13.3	+0.4
SVKR				*e*		03 53 16.1	
SVKR				*e*		03 53 38.7	
SVKR				pmax	pmax		
	comp=Z,120nm,0.4s						
SVKR				smax			
	comp=N,819nm,0.7s						
MXMB	**Maximikha**	**2.36**	**205**	*e*Pn	Pn	03 53 19.6	+0.4
MXMB				*e*Pg	Pg	03 53 23.0	-1.9
MXMB				*e*		03 53 50.8	
MXMB				*e*Sg	Sg	03 53 54.9	-0.7
MXMB				Pmax			
	comp=N,59nm,0.6s						
MXMB				Smax			
	comp=N,543nm,0.9s						
OGRR	**Ongureny**	**2.42**	**224**	*e*Pn	Pn	03 53 19.9	0.0
OGRR				*e*Pg	Pg	03 53 22.1	-3.8
OGRR				*e*Sg	Sg	03 53 54.3	-3.0
OGRR				Pmax			
	comp=N,23nm,0.4s						
OGRR				Smax			
	comp=N,125nm,0.6s						
OGRR	**Ongureny**	**2.42**	**224**	*e*PN	Pn	03 53 19.0	-0.9
OGRR				*e*		03 53 22.8	
OGRR				*e*		03 53 55.1	
OGRR				pmax	pmax		
	comp=Z,33nm,0.3s						
OGRR				smax			
	comp=E,123nm,0.7s						
BOD	**Bodaibo**	**3.12**	**38**	⇓*i*Pn	Pn	03 53 29.3	-0.3
BOD				*e*Pg	Pg	03 53 34.4	-5.1
BOD				*e*Sg	Sg	03 54 16.0	-3.9
BOD				Pmax			
	comp=E,21nm,0.6s						
BOD				Smax			
	comp=E,77nm,1.3s						
NLYR	**Nelyaty**	**3.16**	**68**	⇓*i*Pn	Pn	03 53 30.0	-0.1
NLYR				*e*Pg	Pg	03 53 35.0	-5.2
NLYR				*e*Sg	Sg	03 54 18.0	-3.2
TRG	**Tyrgan**	**3.58**	**224**	⇓*i*Pn	Pn	03 53 36.5	+0.7
TRG				*e*Pg	Pg	03 53 42.8	-5.4
TRG				*e*Sn	Sn	03 54 17.6	-0.9
TRG				*e*Sg	Sg	03 54 29.4	-5.1
TRG				Pmax			
	comp=E,7.0nm,0.5s						
TRG				Smax			
	comp=E,44nm,0.6s						
TRTB	**Turuntaevo**	**3.59**	**209**	*e*Pn	Pn	03 53 36.3	+0.3
TRTB				*e*Pg	Pg	03 53 43.4	-5.0
TRTB				*e*		03 53 47.4	
TRTB				*e*Sn	Sn	03 54 18.0	-0.8
TRTB				*e*Sg	Sg	03 54 31.0	-3.9
TRTB				max			
	comp=E,14nm,1.3s						
TRTB				Smax			
	comp=E,59nm,1.4s						
HRMR	**Khuramsha**	**4.32**	**210**	*e*Pn	Pn	03 53 47.2	+1.2
HRMR				*e*Pg	Pg	03 53 57.4	-4.9
HRMR				*e*Sg	Sg	03 54 52.6	-5.6
HRMR				Pmax			
	comp=E,31nm,1.0s						
HRMR				Smax			
	comp=E,211nm,0.8s						
CRS	**Chara**	**4.64**	**68**	*e*Pg	Pg	03 54 03.8	-4.6
CRS				*e*		03 54 10.2	
CRS				*e*Sg	Sg	03 55 03.3	-5.2
CRS				max			
	comp=E,25nm,0.9s						
CRS				Smax			
	comp=E,68nm,2.3s						
CRS	**Chara**	**4.64**	**68**	*e*PN	Pg	03 54 03.4	-5.0
CRS				*e*		03 55 03.6	
CRS				pmax	pmax		
	comp=Z,24nm,0.9s						
CRS				smax			
	comp=N,52nm,1.1s						
IRK	**Irkutsk**	**4.83**	**231**	*e*PN	Pb	03 54 05.6	+0.8
IRK				*e*		03 55 08.2	
IRK				pmax	pmax		
	comp=Z,165nm,0.1s						
IRK				smax			
	comp=N,185nm,0.4s						
LSTR	**Listvyanka**	**4.86**	**225**	*e*Pg	Pg	03 54 08.1	-4.7
LSTR				*e*Sn	Sn	03 54 47.9	-2.3
LSTR				*e*Sg	Sg	03 55 10.7	-5.1
LSTR				Smax			
	comp=N,57nm,1.5s						
TLY	**Talaya**	**5.50**	**230**	*e*Pg	Pg	03 54 20.0	-5.0
TLY				*e*		03 55 06.1	
TLY				*e*Sg	Sg	03 55 29.4	-6.9
TLY				Pmax			
	comp=N,11nm,0.5s						
TLY				Smax			
	comp=N,15nm,0.6s						
TLY	**Talaya**	**5.50**	**230**	⇓*i*PN	Pg	03 54 19.9	-5.1
TLY				*e*		03 55 29.5	
TLY				pmax	pmax		
	comp=Z,12nm,0.6s						
TLY				smax			
	comp=E,26nm,0.8s						
TUP	**Tupik**	**5.59**	**96**	*e*Pn	Pn	03 54 03.1	-0.4
TUP				*e*Pg	Pg	03 54 19.2	-7.4
TUP				*e*Sn	Sn	03 55 04.4	-3.7
TUP				*e*Sg	Sg	03 55 33.3	-5.7
TUP				Pmax			
	comp=E,5.0nm,0.6s						
TUP				Smax			
	comp=E,81nm,1.0s						
TUP	**Tupik**	**5.59**	**96**	*e*PN	Pn	03 54 03.0	-0.5
TUP				*e*		03 54 20.1	
TUP				*e*S	Sn	03 55 05.2	-2.9
TUP				*e*		03 55 33.2	
TUP				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TUP				smax			
	comp=N,81nm,1.0s						
KPC	**Khapcheranga**	**5.84**	**167**	*e*Pn	Pn	03 54 06.9	0.0
KPC				*e*Pg	Pg	03 54 26.0	-5.5
KPC				*e*Sn	Sn	03 55 12.6	-1.7
KPC				*e*Sg	Sg	03 55 41.0	-6.1
KPC				Pmax			
	comp=N,3.0nm,1.0s						
KPC				Smax			
	comp=N,32nm,1.1s						
ZAK	**Zakamensk**	**6.63**	**224**	*e*Sg	Sg	03 56 03.8	-8.8
ZAK				Smax			
	comp=N,29nm,1.5s						
MOY	**Mondy**	**6.75**	**240**	*i* Pn	Pn	03 54 21.2	+1.7
MOY				*e*		03 55 35.1	
MOY				*e*Sg	Sg	03 56 10.4	-6.0
MOY				max			
	comp=N,11nm,1.0s						
MOY				Smax			
	comp=N,56nm,1.5s						
MOY	**Mondy**	**6.75**	**240**	*e*PN	Pn	03 54 21.6	+2.1
MOY				*e*		03 54 42.5	
ORL	**Orlik**	**6.89**	**250**	*i* Pn	Pn	03 54 22.4	+1.1
ORL				*e*		03 55 38.9	
ORL				*e*Sg	Sg	03 56 13.0	-7.7
ORL				max			
	comp=N,9.0nm,1.3s						
ORL				Smax			
	comp=N,60nm,1.8s						
ORL	**Orlik**	**6.89**	**250**	*e*PN	Pn	03 54 22.4	+1.1
ORL				*e*S	Sg	03 56 14.7	-6.0
ORL				smax			
	comp=N,31nm,1.0s						

*MOS **23** 03:53:35.7±1.1, 896S×119.18E, h99km, mb4.8/35, Error ellipse: s-maj=12.9km s-min=7.1km az=113.9*
*ISCJB **23** 03:53:35.7±0.2, 903S±003×119.11E±003, h100km, mb4.9/85, Error ellipse: s-maj=5.2km s-min=3.8km az=111.8*
*IDC **23** 03:53:37.8±0.4, 903S×119.13E, h101km±3km, mb4.6/19, mb1 4.7/20, mb1mx4.7/22, mbtmp4.9/20, MS3.9/13, Ms1 3.9/13, ms1m

Azm77.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
BJI ***23*** *03:53:37.6, 900S×119.10E, h100km, mB5.1, mb5.1*
ISC 23 03:53:37.6○0.2,**908S**○003×**11908E**○003,**h101**km,
h101km±1.4km:**pP-P, n232,** σ1s**24**/201,**mb4.9**/84,**16C-6D,**
Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
WSI	**Waingapu**	**1.33**	**116**	P	**Pn**	**03 54 01.3**	**-0.6**
	22μm,0.7s						
DNP	**Denpasar**	**3.85**	**276**	P	**Pn**	**03 54 34.1**	**-0.6**
	6μm,0.9s						
NBBI	**Negara**	**4.47**	**279**	P	**Pn**	**03 54 40.6**	**-2.5**
	4μm,0.8s						
KMMI	**Kalianget**	**5.45**	**291**	P	**Pn**	**03 54 58.3**	**+1.9**
	457nm,0.9s						
KRKI	**Karangkates**	**6.62**	**277**	P	**Pn**	**03 55 09.6**	**-2.6**
	2μm,0.8s						
BJII	**Banjamegara**	**9.44**	**280**	P	**Pn**	**03 55 50.3**	**-0.3**
	280nm,0.9s						
AAI	**Ambon**	**10.52**	**60**	P	**Pn**	**03 56 08.8**	**+3.5**
	810nm,1.4s						
FITZ	**Fitzroy Crossi**	**11.00**	**145**	⇑*i*P	**Pn**	**03 56 08.1**	**-3.6**
	348nm,0.6s						
FITZ				*e*S	**Sn**	**03 58 03.1**	**-10**
FITZ	**Fitzroy Crossi**	**11.00**	**145**	P	**Pn**	**03 56 09.1**	**-2.6**
	18nm,0.3s,baz=336,slow=7.7,SNR=510						
FITZ				S	**Sn**	**03 58 03.4**	**-9.3**
	42nm,0.3s,baz=188,slow=20,SNR=5.1						
FITZ				LR	LR	04 01 22.2	
	comp=Z,322nm,18.6s,baz=322,slow=42						
JCJI	**Jatiwangi**	**11.02**	**283**	P	**Pn**	**03 56 11.5**	**-0.5**
	374nm,1.0s						
LEM	**Lembang**	**11.57**	**280**	P	**Pn**	**03 56 17.5**	**-2.0**
	210nm,0.8s						
MBWA	**Marble Bar**	**12.02**	**177**	*e*Pn	**Pn**	**03 56 21.1**	**-4.4**
MBWA				*e*Sn	**Sn**	**03 58 23.4**	**-14**
CBJI	**Citeko**	**12.40**	**281**	P	**Pn**	**03 56 25.6**	**-4.9**
	681nm,0.8s						
TSM	**Tawau**	**13.34**	**355**	P	**Pn**	**03 56 49.9**	**+7.1**
KAKA	**Kakadu**	**13.60**	**107**	*e*P	**Pn**	**03 56 43.1**	**-3.1**
	663nm,0.6s						
KAKA				*e*S	**Sn**	**03 59 03.8**	**-12**
KSM	**Kuching**	**13.65**	**320**	*e*Pn	**Pn**	**03 56 54.1**	**+7.2**
SWI	**Sorong**	**14.62**	**57**	P	**Pn**	**03 56 58.6**	**-0.7**
	85nm,0.9s						
KLI	**Kotabumi**	**14.73**	**286**	P	**Pn**	**03 57 00.4**	**-0.3**
	288nm,0.8s						
KKM	**Kota Kinabalu**	**15.30**	**349**	P	**Pn**	**03 57 13.6**	**+5.7**
KKM	**Kota Kinabalu**	**15.30**	**349**	*e*P	**Pn**	**03 57 12.7**	**+4.8**
BUKP	**Musuan**	**17.87**	**20**	*e*P	**Pn**	**03 57 43.1**	**+3.5**
WRA	**Warramunga Arr**	**18.28**	**128**	P	**P**	**03 57 43.1**	**-0.2**
	3.2nm,0.3s,baz=302,slow=12,SNR=111						
WRA				S	**S**	**04 00 54.0**	**-13**
	7.5nm,0.3s,baz=303,slow=24,SNR=4.7						
WRA				LR	LR	04 05 35.7	
	comp=Z,348nm,18.7s,baz=290,slow=39						
WRA	**Warramunga Arr**	**18.28**	**128**	P	**P**	**03 57 43.1**	**-0.2**
WRA				S	**S**	**04 00 54.0**	**-13**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=N,8.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,348nm,18.7s						
WRAB	**Tennant Creek**	**18.28**	**128**	P	**P**	**03 57 43.0**	**-0.3**
	comp=Z,428nm,0.8s,SNR=35						
WRAB	**Tennant Creek**	**18.28**	**128**	*i*P	**P**	**03 57 42.0**	**-1.3**
WRAB	**Tennant Creek**	**18.28**	**128**	*e*P	**P**	**03 57 43.2**	**-0.2**
	comp=Z,91nm,0.6s						
WRAB				*e*S	**S**	**04 00 52.8**	**-14**
WB2	**Warramunga Arr**	**18.29**	**128**	⇓*i*P	**P**	**03 57 42.8**	**-0.6**
WB2				*e*S	**S**	**04 00 53.0**	**-14**
BAKI	**Biak**	**18.67**	**66**	P	**P**	**03 57 47.6**	**0.0**
	comp=Z,1μm,1.2s						
KGM	**Kluang**	**19.19**	**304**	P	**P**	**03 58 00.8**	**+7.6**
AS31	**Alice Springs**	**20.28**	**137**	*e*P	**P**	**03 58 05.6**	**+0.5**
AS31				*e*S	**S**	**04 01 44.3**	**-2.5**
ASAR	**Alice Springs**	**20.28**	**137**	P	**P**	**03 58 05.8**	**+0.7**
	comp=Z,113nm,0.6s,baz=319,slow=10,SNR=1289						
ASAR				S	**S**	**04 01 47.5**	**+0.7**
	comp=Z,110nm,0.8s,baz=316,slow=26,SNR=10						
ASAR				LR	LR	04 06 20.1	
	comp=Z,583nm,21.1s,baz=317,slow=38						
ASAR	**Alice Springs**	**20.28**	**137**	P	**P**	**03 58 05.8**	**+0.7**
ASAR				S	**S**	**04 01 47.6**	**+0.7**
ASAR				pmax	pmax		
	comp=Z,113nm,0.6s						
ASAR				smax			
	comp=N,110nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,583nm,21.1s						
MMPI	**Meraukе**	**21.06**	**90**	P	**P**	**03 58 16.8**	**+3.3**
	comp=Z,2μm,0.7s						
KLBR	**Kellerberrin**	**22.43**	**183**	*e*P	**P**	**03 58 26.7**	**-1.3**
	comp=Z,268nm,0.9s,mb5.6						
KLBR				*e*S	**S**	**04 02 24.9**	**-2.0**
IPM	**Ipoh**	**22.48**	**306**	P	**P**	**03 58 33.6**	**+5.1**
MUN	**Mundaring**	**22.94**	**186**	⇑*i*P	**P**	**03 58 31.7**	**-1.4**
MUN				*e*S	**S**	**04 02 39.3**	**+4.1**
TGY	**Tagaytay City**	**23.11**	**5**	P	**P**	**03 58 36.8**	**+2.1**
	comp=Z,526nm,0.8s,baz=184,slow=3.5,SNR=13						
TGY	**Tagaytay City**	**23.11**	**5**	P	**P**	**03 58 36.8**	**+2.2**
TGY				pmax	pmax		
	comp=Z,526nm,0.9s						
FORT	**Forrest**	**23.15**	**160**	⇑*i*P	**P**	**03 58 34.3**	**-0.8**
	comp=Z,142nm,0.7s,mb5.4						
FORT				*e*S	**S**	**04 02 48.7**	**+10**
PSI	**Prapat**	**23.30**	**300**	P	**P**	**03 58 35.9**	**-0.5**
	comp=Z,23nm,0.7s,mb4.6,baz=152,slow=8.0,SNR=24						
PSI	**Prapat**	**23.30**	**300**	P	**P**	**03 58 35.9**	**-0.5**
PSI				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**23.79**	**184**	P	**P**	**03 58 40.9**	**0.0**
	comp=Z,352nm,0.8s,mb5.7						
NWAO				S	**S**	**04 02 59.4**	**+10**
NWAO	**Narrogin (SRO)**	**23.79**	**184**	P	**P**	**03 58 40.9**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,352nm,0.9s						
TSI	**Tuntungan**	**23.97**	**301**	P	**P**	**03 58 45.8**	**+3.3**
	comp=Z,170nm,0.8s,mb5.4						
PMG	**Port Moresby**	**27.71**	**93**	P	**P**	**03 59 17.1**	**+0.9**
	comp=Z,8.1nm,0.5s,mb4.5,baz=247,slow=11,SNR=3.1						
PMG				LR	LR	04 12 22.3	
	comp=Z,156nm,20.1s,baz=238,slow=41						
PMG	**Port Moresby**	**27.71**	**93**	P	**P**	**03 59 17.1**	**+0.8**
PMG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PMG				MLR	MLR		
	comp=Z,156nm,20.1s						
PMG	**Port Moresby**	**27.71**	**93**	*e*P	**P**	**03 59 15.9**	**-0.4**
	comp=Z,21nm,0.8s,mb4.7						
PMG				*e*pP	pP	03 59 35.2	-3.5
CTA	**Charters Tower**	**28.43**	**116**	*e*P	**P**	**03 59 23.9**	**+1.2**
	comp=Z,11nm,0.8s,mb4.5						
CTA	**Charters Tower**	**28.43**	**116**	P	**P**	**03 59 23.7**	**+1.0**
	comp=Z,13nm,0.9s,mb4.5,baz=289,slow=13,SNR=11						
CTA				LR	LR	04 12 03.1	
	comp=Z,185nm,20.4s,baz=103,slow=39						
CTA	**Charters Tower**	**28.43**	**116**	P	**P**	**03 59 23.7**	**+1.0**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTA				MLR	MLR		
	comp=Z,185nm,20.5s						
QIZ	**Qiongzhong**	**29.38**	**342**	P	**P**	**03 59 34.3**	**+3.2**
QIZ				S	**S**	**04 04 21.9**	**+4.5**
QIZ				AMB	AMB		
	comp=Z,36nm,1.5s,mb4.8						
QIZ				LR	LR		
	comp=Z,354nm,35.7s						
STKA	**Stephens Creek**	**30.84**	**141**	⇑*i*P	**P**	**03 59 44.8**	**+0.9**
	comp=Z,17nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**30.84**	**141**	P	**P**	**03 59 44.8**	**+0.9**
	comp=Z,21nm,0.5s,mb5.1,baz=313,slow=8.9,SNR=56						
STKA				LR	LR	04 12 32.9	
	comp=Z,418nm,20.8s,baz=173,slow=37						
YHNB	**Yeheng**	**33.62**	**4**	*e*P	**P**	**04 00 08.3**	**+0.1**
GUMO	**Guam**	**34.10**	**49**	P	**P**	**04 00 12.3**	**-0.1**
	comp=Z,17nm,0.4s,mb5.2,baz=53,slow=21,SNR=4.4						
GUMO	**Guam**	**34.10**	**49**	P	**P**	**04 00 12.3**	**-0.1**
GUMO				pmax	pmax		
	comp=Z,17nm,0.4s,mb5.2						
GUMO	**Guam**	**34.10**	**49**	P	**P**	**04 00 12.3**	**-0.1**
CHTO	**Chiang Mai**	**34.10**	**324**	*e*P	**P**	**04 00 13.1**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.4						
JOW	**Kunigami**	**36.80**	**14**	P	**P**	**04 00 36.3**	**+0.8**
	comp=Z,18nm,0.8s,mb5.1,baz=212,slow=21,SNR=2.8						
ARMA	**Armidale**	**37.05**	**130**	⇓*i*P	**P**	**04 00 40.0**	**+2.4**
GYA	**Guiyang**	**37.33**	**341**	P	**P**	**04 00 41.8**	**+1.8**
GYA				AP	pP	04 01 04.3	+1.2
GYA				XP	sP	04 01 15.9	+1.1
GYA				PP	PP	04 02 13.1	+6.0
GYA				PCP	PcP	04 02 58.6	+1.4
GYA				S	**S**	**04 06 20.8**	**+0.6**
GYA				XS	sS	04 07 01.3	+1.1
GYA				SCS	ScS	04 10 43.8	+0.5
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,3.7s						
GYA				LR	LR		
	comp=N,420nm,17.9s						
GYA				LR	LR		
	comp=E,480nm,17.6s						
GYA				LR	LR		
	comp=Z,430nm,17.9s						
KMI	**Kunming**	**37.55**	**335**	P	**P**	**04 00 45.3**	**+3.5**
KMI				AP	pP	04 01 08.6	+3.6
KMI				XP	sP	04 01 19.0	+2.4
KMI				PP	PP	04 02 15.6	+6.2
KMI				PPP		04 02 39.9	
KMI				S	**S**	**04 06 29.6**	**+6.1**
KMI				XS	sS	04 07 07.0	+3.5
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,123nm,4.4s						
KMI				LR	LR		
	comp=N,185nm,15.2s						
KMI				LR	LR		
	comp=E,293nm,16.8s						
KMI				LR	LR		
	comp=Z,184nm,25.2s						
WHN	**Wuhan**	**39.66**	**354**	⇓P	**P**	**04 01 00.8**	**+1.3**
WHN				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
SSE	**Sheshan**	**40.00**	**3**	P	**P**	**04 01 03.3**	**+1.0**
SSE				AP	pP	04 01 26.3	+0.6
SSE				XP	sP	04 01 37.9	+0.7
SSE				S	**S**	**04 07 01.3**	**+0.9**
SSE				XS	sS	04 07 41.9	+1.3
SSE				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,70nm,5.9s						
SSE				LR	LR		
	comp=N,154nm,21.1s						
SSE				LR	LR		
	comp=E,90nm,21.2s						
SSE				LR	LR		
	comp=Z,224nm,20.9s						
NJ2	**Nanjing**	**40.90**	**360**	*e*P	**P**	**04 01 11.4**	**+1.6**
NJ2				AP	pP	04 01 34.1	+0.9
NJ2				XP	sP	04 01 45.8	+1.1
NJ2				S	**S**	**04 07 15.0**	**+1.2**
NJ2				XS	sS	04 07 56.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,90nm,9.9s						
NJ2				LR	LR		
	comp=N,240nm,22.2s						
NJ2				LR	LR		
	comp=E,200nm,20.7s						
NJ2				LR	LR		
	comp=Z,280nm,20.2s						
CD2	**Chengdu**	**42.40**	**340**	P	**P**	**04 01 23.5**	**+1.6**
CD2				AP	pP	04 01 46.8	+1.3
CD2				XP	sP	04 01 58.3	+1.3
CD2				PP	PP	04 03 07.8	+5.8
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,70nm,5.5s						
CD2				LR	LR		
	comp=N,240nm,7.2s						
CD2				LR	LR		
	comp=Z,150nm,7.8s						
XAN	**Xi'an**	**43.96**	**348**	P	**P**	**04 01 34.5**	**0.0**
XAN				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
LSA	**Lhasa**	**47.01**	**326**	*e*P	**P**	**04 01 59.1**	**+0.5**
	comp=Z,23nm,0.8s,mb5.0						
KS15	**Wonju Array Si**	**47.01**	**10**	*e*P	**P**	**04 01 59.7**	**+1.1**
LZH	**Lanzhou**	**47.16**	**343**	⇓P	**P**	**04 02 01.3**	**+1.5**
LZH				AP	pP	04 02 23.5	-0.2
LZH				XP	sP	04 02 36.3	+1.2
LZH				PCP	PcP	04 03 30.9	+1.1
LZH				PP	PP	04 03 53.4	+1.9
LZH				SCP	ScP	04 07 15.3	+0.9
LZH				PCS	PcS	04 07 25.4	+0.3
LZH				*e*S	**S**	**04 08 46.3**	**+1.6**
LZH				XS	sS	04 09 26.3	+0.4
LZH				SCS	ScS	04 11 42.5	-1.2
LZH				SS	SS	04 12 07.6	-5.5
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,126nm,6.7s						
LZH				LR	LR		
	comp=N,713nm,14.2s						
LZH				LR	LR		
	comp=Z,987nm,17.6s						
DZM	**Mont Dzumac**	**47.22**	**112**	P	**P**	**04 02 01.8**	**+1.5**
	comp=Z,7.5nm,1.0s,mb4.4,baz=325,slow=18,SNR=3.6						
DL2	**Dalian**	**47.80**	**3**	P	**P**	**04 02 04.8**	**+0.1**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
JIRN	**Jiri**	**48.46**	**320**	*e*P	**P**	**04 02 10.8**	**+1.0**
MAJO	**Matsushiro**	**48.82**	**21**	*e*P	**P**	**04 02 10.6**	**-1.9**
	comp=Z,50nm,1.3s,mb5.3						
MAT	**Matsushiro**	**48.82**	**21**	P	**P**	**04 02 10.6**	**-1.9**
MJAR	**Matsushiro Arr**	**48.82**	**21**	P	**P**	**04 02 11.1**	**-1.5**
	comp=Z,29nm,0.9s,mb5.2,baz=193,slow=7.2,SNR=51						
MJAR				pP	pP	04 02 35.6	-1.0
	comp=Z,7.1nm,0.9s,baz=189,slow=8.0,SNR=3.1						
MJAR	**Matsushiro Arr**	**48.82**	**21**	P	**P**	**04 02 11.1**	**-1.4**
MJAR				*PP	pP	04 02 35.6	-1.0
MJAR				pmax	pmax		
	comp=Z,29nm,0.9s						
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GUN	**Gumba**	**48.83**	**320**	*e*P	**P**	**04 02 13.2**	**+0.6**
	comp=Z,78nm,0.8s,mb5.7						
PKI	**Pulchoki**	**48.90**	**319**	*e*P	**P**	**04 02 13.3**	**+0.2**
BJT	**Baijiatuau**	**48.93**	**357**	*e*P	**P**	**04 02 13.6**	**+0.2**
	comp=Z,87nm,1.0s,mb5.6						
BJI	**Beijing**	**48.95**	**357**	P	**P**	**04 02 13.3**	**-0.2**
BJI				AP	pP	04 02 36.9	-0.7
BJI				XP	sP	04 02 48.8	-0.2
BJI				PCP	PcP	04 03 35.0	-1.2
BJI				S	**S**	**04 09 07.3**	**-2.6**
BJI				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.4						
BJI				AMB	AMB		
	comp=Z,113nm,3.9s						
DMN	**Daman**	**49.12**	**319**	*e*P	**P**	**04 02 14.9**	**+0.1**
	comp=Z,45nm,0.8s,mb5.5						
KKN	**Kakani**	**49.13**	**319**	*e*P	**P**	**04 02 14.4**	**-0.5**
GKN	**Gorkha**	**49.69**	**319**	*e*P	**P**	**04 02 19.1**	**-0.1**
	comp=Z,26nm,0.4s,mb5.5						
BTO	**Baotou**	**50.14**	**351**	*e*P	**P**	**04 02 21.3**	**-1.3**
HHC	**Hu-ho-hao-te**	**50.16**	**353**	*e*P	**P**	**04 02 23.4**	**+0.7**
HHC				AP	pP	04 02 46.8	-0.1
HHC				XP	sP	04 02 57.8	-0.5
HHC				PCP	PcP	04 03 41.3	+0.6
HHC				PP	PP	04 04 21.8	+3.0
HHC				SCP	ScP	04 07 26.4	-0.7
HHC				PCS	PcS	04 07 36.8	-1.0
HHC				S	**S**	**04 09 27.1**	**+0.3**
HHC				PS		04 09 51.8	
HHC				XS	sS	04 10 07.5	-0.9
HHC				SCS	ScS	04 12 01.8	-2.1
HHC				SS	SS	04 12 58.8	-2.5
HHC				AMB	AMB		
	comp=Z,22nm,0.4s,mb5.4						
HHC				AMB	AMB		
	comp=Z,154nm,3.8s						
HHC				LR	LR		
	comp=N,159nm,7.1s						
HHC				LR	LR		
	comp=E,130nm,5.1s						
HHC				LR	LR		
	comp=Z,144nm,9.6s						
KOLN	**Koldanda**	**50.21**	**318**	*e*P	**P**	**04 02 22.3**	**-0.8**
	comp=Z,37nm,0.7s,mb5.4						
GTA	**Gaotai**	**51.46**	**341**	P	**P**	**04 02 33.9**	**+1.5**
GTA				AP	pP	04 02 58.5	+1.8
GTA				XP	sP	04 03 11.3	+3.3
GTA				PP	PP	04 04 32.8	+2.3
GTA				SCP	ScP	04 07 33.5	+0.8
GTA				S	**S**	**04 09 40.0**	**-4.7**
GTA				XS	sS	04 10 25.6	-0.8
GTA				SCS	ScS	04 12 11.0	-1.8
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,72nm,6.5s						
GTA				LR	LR		
	comp=N,163nm,17.9s						
GTA				LR	LR		
	comp=E,183nm,20.9s						
GTA				LR	LR		
	comp=Z,131nm,18.6s						
CN2	**Changchun**	**52.95**	**6**	*e*P	**P**	**04 02 42.3**	**-1.2**
CN2				*e*AP	pP	04 03 06.0	-1.9
CN2				PP	PP	04 04 45.0	+1.0
CN2				*e*S	**S**	**04 10 03.0**	**-2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
VLA	**Vladivostok**	**53.25**	**12**	*i*P	**P**	**04 02 44.9**	**-0.8**
VLA				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.2						
MDJ	**Mudanjiang**	**54.29**	**9**	P	**P**	**04 02 52.6**	**-0.6**
MDJ				AP	pP	04 03 16.4	-1.3
MDJ				PP	PP	04 04 58.6	+2.6
MDJ				S	**S**	**04 10 22.8**	**-0.3**
MDJ				XS	sS	04 11 01.4	-3.8
MDJ				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,124nm,4.5s						
MDJ				LR	LR		
	comp=E,234nm,25.3s						
MDJ				LR	LR		
	comp=Z,189nm,28.3s						
MDJ	**Mudanjiang**	**54.29**	**9**	*e*P	**P**	**04 02 52.9**	**-0.4**
	comp=Z,30nm,0.9s,mb5.3						
MDJ				*e*pP	pP	04 03 18.5	+0.7
CASY	**Casey**	**57.41**	**184**	*e*P	**P**	**04 03 15.1**	**-0.5**
SONM	**Songino Array**	**57.77**	**350**	P	**P**	**04 03 18.7**	**+0.7**
	comp=Z,34nm,0.8s,mb5.4,baz=165,slow=8.9,SNR=141						
SONM				LR	LR	04 32 58.0	
	comp=Z,75nm,18.5s,baz=67,slow=41						
SONM	**Songino Array**	**57.77**	**350**	P	**P**	**04 03 18.7**	**+0.6**
SONM				pmax	pmax		
	comp=Z,34nm,0.8s						
SONM				MLR	MLR		
	comp=Z,75nm,18.5s						
HABR	**Khabarovsk**	**59.02**	**12**	⇑*e*P	**P**	**04 03 26.8**	**+0.1**
HABR				*e*S	**S**	**04 11 30.9**	**+5.4**
HABR				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
YSS	**Yuzh-Sakhalins**	**59.65**	**19**	⇑*i*P	**P**	**04 03 30.3**	**-0.7**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**59.65**	**19**	*e*P	**P**	**04 03 30.4**	**-0.7**
	comp=Z,21nm,0.9s,mb5.2						
ZAK	**Zakamensk**	**60.80**	**348**	*e*P	**P**	**04 03 38.5**	**-0.4**
ZAK				*e*	pP	04 04 04.0	+0.1
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
TLY	**Talaya**	**61.97**	**349**	*e*P	**P**	**04 03 47.1**	**+0.3**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KSH	**Kashi**	**62.72**	**324**	*e*P	**P**	**04 03 52.0**	**+0.2**
KSH				*e*AP	pP	04 04 16.0	-0.9
KSH				*e*XP	sP	04 04 27.0	-1.0
KSH				*e*PP	PP	04 06 12.1	+1.3
KSH				*e*PPP		04 07 43.1	
KSH				*e*SCP	ScP	04 08 21.3	-1.0
KSH				*e*PCS	PcS	04 08 31.1	-1.9
KSH				*e*S	**S**	**04 12 07.8**	**-4.7**
KSH				*e*PS		04 12 42.3	
KSH				*e*SCS	ScS	04 13 31.1	-3.7
KSH				*e*SS	SS	04 16 18.1	-0.7
KSH				AMB	AMB		
	comp=Z,156nm,2.4s,mb5.5						
KSH				LR	LR		
	comp=N,376nm,4.6s						
KSH				LR	LR		
	comp=E,410nm,5.5s						
KSH				LR	LR		
	comp=Z,336nm,5.2s						
MK31	**Makanchi Array**	**64.57**	**333**	P	**P**	**04 04 03.4**	**-0.5**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**64.57**	**333**	P	**P**	**04 04 03.8**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.7,baz=153,slow=7.2,SNR=42						
MKAR				pP	pP	04 04 29.6	+0.5
	comp=Z,8.2nm,0.6s,baz=141,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**64.57**	**333**	P	**P**	**04 04 03.8**	**-0.1**
MKAR				*PP	pP	04 04 29.6	+0.5
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	**Ala-Archa**	**65.59**	**325**	P	**P**	**04 04 09.7**	**-0.9**
	comp=Z,110nm,0.8s,mb5.7,SNR=5.8						
AAK	**Ala-Archa**	**65.59**	**325**	⇑*i*P	**P**	**04 04 08.8**	**-1.8**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**65.59**	**325**	*e*P	**P**	**04 04 09.8**	**-0.8**
	comp=Z,18nm,0.9s,mb4.9						
BOD	**Bodaibo**	**66.80**	**357**	⇑*i*P	**P**	**04 04 16.9**	**-1.4**
BOD				*e*	pP	04 04 42.3	-1.3
BOD				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
BOD				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
KK31	**Karatay Array**	**68.17**	**324**	*i*P	**P**	**04 04 26.8**	**-0.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
KKAR	**Karatay Array**	**68.17**	**324**	*i*P	**P**	**04 04 26.8**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
KURK	**Kurchatov**	**69.11**	**334**	P	**P**	**04 04 31.7**	**-1.0**
	comp=Z,85nm,1.0s,mb5.5,SNR=8.1						
ZAL	**Zalesovo**	**69.14**	**339**	P	**P**	**04 04 31.8**	**-1.2**
	comp=Z,5.5nm,0.4s,mb4.7,baz=335,slow=4.2,SNR=17						
ZAL				pP	pP	04 04 58.3	-0.1
	comp=Z,6.0nm,0.5s,baz=327,slow=6.7,SNR=3.6						
ZAL	**Zalesovo**	**69.14**	**339**	P	**P**	**04 04 31.8**	**-1.2**
ZAL				*PP	pP	04 04 58.3	-0.2
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZAL				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAW	**Mawson**	**69.18**	**200**	⇑*i*P	**P**	**04 04 34.0**	**+0.8**
	comp=Z,14nm,0.8s,mb4.8						
MAW	**Mawson**	**69

YAK pmax pmax
comp=Z,50nm,0.8s,mb5.4
YAK Yakutsk 71.38 5 *eP* **P 04 04 45.3 -1.3**
comp=Z,43nm,0.6s,mb5.5
VNDA Vanda 71.89 171 P **P 04 04 50.2 +0.6**
comp=Z,12nm,1.0s,mb4.7,baz=316,slow=5.5,SNR=44
VNDA Vanda 71.89 171 P **P 04 04 50.3 +0.7**
VNDA pmax pmax
comp=Z,12nm,1.0s
SBA Scott Base 72.89 171 *eP* **P 04 04 57.3 +1.7**
MA2 Magadan 72.98 16 *eP* **P 04 04 55.9 -0.2**
MA2 *eS* S 04 14 11.9 -2.9
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.2
MA2 Magadan 72.98 16 *eP* **P 04 04 56.0 -0.1**
comp=Z,15nm,0.7s,mb4.9
VOSK Vostochnaya 73.94 332 P **P 04 04 59.8 -1.9**
VOSK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
BVA0 Borovoye Array 74.41 332 *i* P **P 04 05 03.4 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.7s,mb3.9
BRVK Borovoye 74.48 332 *eP* **P 04 05 03.6 -1.2**
comp=Z,9.1nm,1.3s,mb4.3
CHKZ Chkalovo 74.72 333 P **P 04 05 05.1 -1.2**
CHKZ pmax pmax
comp=Z,19nm,1.3s,mb4.7
CHKZ Chkalovo 74.72 333 *eP* **P 04 05 04.9 -1.3**
comp=Z,7.5nm,0.6s,mb4.6
ZRNK Zerenda 75.01 331 P **P 04 05 06.9 -1.0**
ZRNK pmax pmax
comp=Z,29nm,1.8s,mb4.7
ZRNK Zerenda 75.01 331 *eP* **P 04 05 06.5 -1.4**
comp=Z,11nm,0.7s,mb4.7
ZRNK *ep*P pP 04 05 33.8 0.0
SEY Seymchan 76.22 15⇑ *iP* **P 04 05 14.1 -0.7**
AB31 Akbulak array 77.67 325 *i* P **P 04 05 22.0 -1.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SYO Syowa Base 77.81 201⇓ *eP* **P 04 05 23.4 -0.3**
QRN Al-Qurain 78.17 302 *eP* **P 04 05 25.3 -0.5**
QRN AMb AMB 04 05 28.6
comp=Z,47nm,0.6s,mb5.4
UMR Umm Al-Rimmam 78.58 303 *eP* **P 04 05 26.6 -1.4**
UMR AMb AMB 04 05 30.9
comp=Z,25nm,0.7s,mb5.2
NAY Al-Naaiem 78.89 302 *eP* **P 04 05 27.9 -1.7**
NAY AMb AMB 04 05 32.4
comp=Z,12nm,0.6s,mb4.9
MIB Mutribah 78.97 303 *eP* **P 04 05 29.3 -0.8**
MIB AMb AMB 04 05 34.1
comp=Z,25nm,0.9s,mb5.0
AKTO Aktyubinsk 79.34 325 P **P 04 05 30.8 -1.3**
AKTO pmax pmax
comp=Z,9.0nm,1.9s,mb4.3
TIXI Tiksi 80.82 3⇑ *eP* **P 04 05 38.3 -1.8**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.8
QSPA South Pole Qui 80.91 180 *eP* **P 04 05 40.0 -0.6**
comp=Z,16nm,0.8s,mb4.9
SVE Sverdlovsk 81.19 332 *eP* **P 04 05 42.0 -0.1**
SVE *e* pP 04 06 08.0 -0.3
KMBO Kilima Mbogo 81.75 270 P **P 04 05 46.8 +1.8**
comp=Z,4.1nm,0.9s,mb4.3,baz=51,slow=7.6,SNR=9.9
KMBO pP pP 04 06 12.7 +1.5
comp=Z,18nm,1.0s,baz=42,slow=5.8,SNR=12
KMBO LR LR 04 39 02.4
comp=Z,113nm,19.0s,baz=96,slow=33
KMBO Kilima Mbogo 81.75 270 P **P 04 05 46.8 +1.8**
KMBO *PP pP 04 06 12.7 +1.4
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO pmax pmax
comp=Z,18nm,1.0s
ARU Arti 81.97 331⇑ *eP* **P 04 05 44.7 -1.5**
ARU pmax pmax
comp=Z,10.0nm,1.6s,mb4.4
BILL Bilibino 83.85 16 *eP* **P 04 05 56.5 +0.6**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
DGRG David-gareji 83.98 313 P **P 04 05 59.7 +3.1**
DGRG S pP 04 06 37.9 +15
GNI Garni 84.05 312 LR LR 04 50 36.5
comp=Z,45nm,21.2s,baz=331,slow=41
GNI Garni 84.05 312 *i* P **P 04 05 55.5 -1.4**
GNI pmax pmax
comp=Z,5.0nm,0.9s
MTA Mtatsminda 84.47 314 P **P 04 06 00.4 +1.4**
MTA S pP 04 06 28.8 +3.4
TBLG Delisi 84.52 314 P **P 04 06 01.6 +2.3**
TBLG S pP 04 06 31.3 +5.7
ZEI Tsey 85.42 314 *eP* **P 04 06 03.6 -0.2**
ZEI pmax pmax
comp=Z,18nm,1.2s,mb4.9
KIV Kislovodsk 86.60 315 P **P 04 06 09.5 -0.1**
KIV *e* 04 09 31.3
KIV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
NVL N'lazarevskaya 87.08 198 *eP* **P 04 06 12.2 +0.3**
NVL pmax pmax
comp=Z,32nm,1.5s,mb5.0
MAIT Maitri 87.11 198 *eP* **P 04 06 14.2 +2.2**
MALT Malatya 88.32 309 *eP* **P 04 06 19.0 +1.2**
comp=Z,3.2nm,1.0s,mb4.3
MALT *ep*P pP 04 06 45.9 +1.6
LSZ Lusaka 88.50 255 *eP* **P 04 06 19.6 +0.9**
LSZ *ep*P pP 04 06 45.8 +0.6
BOSA Boshof 89.04 241 P **P 04 06 23.1 +1.9**
comp=Z,9.8nm,0.8s,mb4.9,baz=95,slow=3.8,SNR=15
BOSA pP pP 04 06 49.5 +1.8
comp=Z,12nm,0.9s,baz=107,slow=5.9,SNR=5.5
BOSA LR LR 04 37 17.5
comp=Z,116nm,21.4s,baz=95,slow=29
BOSA Boshof 89.04 241 P **P 04 06 23.1 +1.9**
BOSA *PP pP 04 06 49.6 +1.8
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BOSA pmax pmax
comp=Z,12nm,0.9s,mb4.9
BOSA Boshof 89.04 241 *eP* **P 04 06 23.2 +2.0**
comp=Z,24nm,1.2s,mb5.1
BOSA *ep*P pP 04 06 51.6 +3.8
LBTB Lobatse 89.34 245 *eP* **P 04 06 25.2 +2.6**
comp=Z,22nm,1.0s,mb5.1
LBTB *ep*P pP 04 06 50.0 +0.8
EIL Elat 89.39 300 *eP* **P 04 06 24.5 +1.7**
comp=Z,66nm,0.8s,mb5.7
EIL *ep*P pP 04 06 49.3 -0.2
SNAA Sanae 90.94 196⇑ *iP* **P 04 06 30.9 +0.8**
SNAA *e* 04 06 31.3
SNAA *e* 04 06 37.9
SNAA *e* pP 04 06 57.7 +1.0
SNAA *e* pP 04 07 01.0 +4.3
SNAA *e* 04 07 06.9
SNAA Sanae 90.94 196 *eP* **P 04 06 30.8 +0.7**
comp=Z,15nm,0.8s,mb5.2
SNAA *ep*P pP 04 06 56.7 0.0
SUR Sutherland 92.10 237 *eP* **P 04 06 37.9 +2.5**
comp=Z,15nm,1.0s,mb5.2
BR131 Keskin Array S 92.25 310 *eP* **P 04 06 38.7 +2.6**
BRTR Keskin Array B 92.25 310 P **P 04 06 38.2 +2.1**
comp=Z,1.6nm,0.9s,mb4.3,baz=127,slow=4.9,SNR=8.2
BRTR pP pP 04 07 02.1 -0.7
comp=Z,1.4nm,0.8s,baz=131,slow=4.6,SNR=3.4
BRTR Keskin Array B 92.25 310 P **P 04 06 38.3 +2.2**
BRTR *PP pP 04 07 02.1 -0.7
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
VNA3 Neumayer Olymp 92.96 195⇑ *iP* **P 04 06 40.1 +0.7**
VNA3 *e* 04 06 40.6
VNA3 *e* 04 06 47.1
VNA3 *e* pP 04 07 05.7 -0.3
VNA3 *e* pP 04 07 09.5 +3.5
VNA1 Neumayer--Stat 92.97 195⇑ *iP* **P 04 06 40.3 +0.9**
VNA1 *e* 04 06 41.1
VNA1 *e* 04 06 46.4
VNA1 *e* pP 04 07 06.3 +0.2
VNA1 *e* pP 04 07 10.4 +4.3
VNA1 *e* 04 07 15.4
OBN Obninsk 93.12 325 *eP* **P 04 06 39.2 -0.9**
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
AKASG Malin Array Be 96.86 320 pP pP 04 07 22.5 -1.4
comp=Z,0.3nm,0.3s,baz=320,slow=7.0,SNR=2.2
TSUM Tsumeb 97.74 249 LR LR 04 47 46.3
comp=Z,80nm,21.6s,baz=320,slow=33
MCK McKinley 98.96 27 *eP* **P 04 07 05.9 -0.7**
comp=Z,9.0nm,1.3s,mb5.1
FINES FINESS Array B 99.35 331 P 04 07 06.3
comp=Z,1.0nm,0.9s,baz=134,slow=5.5,SNR=3.5
FINES pP pP 04 07 34.8 -0.3
comp=Z,2.0nm,0.7s,baz=92,slow=6.3,SNR=4.2
FINES LR LR 04 56 43.3
comp=Z,54nm,20.1s,baz=89,slow=38
FINES FINESS Array B 99.35 331 P 04 07 06.3
FINES *PP pP 04 07 34.8 -0.3
FINES pmax pmax
comp=Z,1.0nm,0.9s
FINES pmax pmax
comp=Z,2.0nm,0.7s
SSF Saint Saulge 113.95 318 *e*PKIKP PKiKP 04 12 10.0 +5.4
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 118.55 280 PKP PKPdf 04 12 14.2 +0.7
comp=Z,1.6nm,0.6s,baz=56,slow=1.8,SNR=34
TORD pPKP pPKPdf 04 12 41.8 +0.5
comp=Z,3.8nm,0.6s,baz=56,slow=1.9,SNR=8.1
WVOR Wild Horse Val 119.73 46 *e*PKPdf PKPdf 04 12 16.8 +1.1
NVAR Mina Array Bea 121.01 51 PKP PKPdf 04 12 20.1 +1.9
comp=Z,1.4nm,0.7s,baz=248,slow=1.0,SNR=11
NVAR pPKP pPKPdf 04 12 46.8 +0.8
comp=Z,0.9nm,0.6s,baz=237,slow=0.9,SNR=3.1
NVAR PP PP 04 13 47.8 -0.9
comp=Z,3.2nm,1.1s,baz=272,slow=10,SNR=9.3
NVAR PKKPbc PKKPbc 04 22 24.8 +3.7
comp=Z,0.7nm,0.7s,baz=134,slow=3.9,SNR=5.3
ESDC Sonseca Array 121.02 311 pPKP pPKPdf 04 12 46.3 +0.3
comp=Z,2.1nm,0.8s,baz=19,slow=3.9,SNR=5.6
CHMT Chamberlain Mo 121.86 40 *e*PKPdf PKPdf 04 12 19.8 0.0
HLID Hailey 122.33 44 *e*PKPdf PKPdf 04 12 22.1 +1.3
HLID *ep*PKPdf pPKPdf 04 12 49.0 +0.6
BOZ Bozeman (W) 123.40 41 *e*PKPdf PKPdf 04 12 24.1 +1.4
BOZ *e*PKPdf PKPdf 04 12 24.3 +1.5
BOZ *ep*PKPdf pPKPdf 04 12 50.4 -0.1
FFC Flin Flon 124.04 27 *e*PKPdf PKPdf 04 12 24.0 0.0
DBIC Dimbokro 124.46 272 PKP PKPdf 04 12 25.5 +0.7
comp=Z,3.6nm,1.0s,baz=127,slow=7.4,SNR=4.0
DBIC pPKP pPKPdf 04 12 54.9 +2.3
comp=Z,4.9nm,0.6s,baz=109,slow=5.3,SNR=4.2
DBIC Dimbokro 124.46 272 PKIKP PKPdf 04 12 25.5 +0.7
DBIC 04 12 54.9
DBIC pmax pmax
comp=Z,4.0nm,1.0s
DBIC pmax pmax
comp=Z,5.0nm,0.6s
DBIC Dimbokro 124.46 272 *e*PKPdf PKPdf 04 12 25.7 +0.9
DUG Dugway 124.59 47 *e*PKPdf PKPdf 04 12 25.8 +0.8
DUG *ep*PKPdf pPKPdf 04 12 53.6 +0.8
TPAW Teton Pass 124.70 43 *e*PKPdf PKPdf 04 12 26.6 +1.3
TPAW *ep*PKPdf pPKPdf 04 12 54.5 +1.5
REDW Red Top Meadow 124.82 43 *e*PKPdf PKPdf 04 12 26.6 +1.1
REDW *ep*PKPdf pPKPdf 04 12 54.5 +1.3
SNOW Snow King Moun 124.84 43 *e*PKPdf PKPdf 04 12 27.3 +1.8
LOHW Long Hollow 124.89 42 *e*PKPdf PKPdf 04 12 26.5 +0.9
LOHW *ep*PKPdf pPKPdf 04 12 54.1 +0.7
HWUT Hardware Ranch 124.99 45 *e*PKPdf PKPdf 04 12 26.3 +0.5
HWUT *ep*PKPdf pPKPdf 04 12 53.8 +0.2
MSU Marysvale 125.60 49 *e*PKPdf PKPdf 04 12 28.6 +1.7
BW06 Boulder Array 125.92 43 *e*PKPdf PKPdf 04 12 27.8 +0.2
PDAR Pinedale Array 125.92 43 PKP PKPdf 04 12 28.4 +0.8
comp=Z,1.0nm,0.8s,baz=127,slow=0.7,SNR=8.7
PDAR pPKP pPKPdf 04 12 56.2 +0.8
comp=Z,0.9nm,0.9s,baz=255,slow=4.5,SNR=3.1
PV10 Paradox Valley 127.97 48 *e*PKPdf PKPdf 04 12 33.5 +2.0
PV01 Paradox Valley 128.40 48 *e*PKPdf PKPdf 04 12 33.8 +1.5
TUC Tucson 128.50 56 *e*PKPdf PKPdf 04 12 34.1 +1.6
ULM Lac du Bonnet 129.79 29 PKP PKPdf 04 12 35.2 +0.2
comp=Z,1.0nm,0.6s,baz=154,slow=11,SNR=3.1
ULM Lac du Bonnet 129.79 29 *e*PKPdf PKPdf 04 12 35.2 +0.2
SDCO Great Sand Dun 130.79 47 *e*PKPdf PKPdf 04 12 38.5 +1.6
MNTX Cornudas Mount 133.07 55 *e*PKPdf PKPdf 04 12 43.5 +2.3
MNTX *ep*PKPdf pPKPdf 04 13 11.9 +2.9
SCHQ Schefferville 134.13 5 PKP PKPdf 04 12 43.4 +0.2
comp=Z,4.9nm,0.9s,baz=239,slow=5.9,SNR=2.9
SCHQ pPKP pPKPdf 04 13 11.2 +0.3
comp=Z,3.7nm,0.7s,baz=307,slow=8.8,SNR=2.6
JCT Junction City 137.98 54 *e*PKPdf PKPdf 04 12 51.3 +1.0
WVT Waverly 143.61 38 *e*PKPdf PKPdf 04 12 57.8 -2.7
WVT *ep*PKPdf pPKPdf 04 13 24.5 -3.7
PLAL Pickwick Lake 144.20 40 *e*PKPpre 04 12 58.7
BINY Binghamton 144.45 19 *e*PKPdf PKPdf 04 13 00.3 -1.6
BINY *ep*PKPdf pPKPdf 04 13 30.1 +0.3
FFD Franklin Falls 144.49 13 *e*PKPdf PKPdf 04 13 01.3 -0.7
CPUP Villa Florida 144.63 186 PKP PKPdf 04 13 03.2 +1.0
comp=Z,20nm,0.8s,baz=145,slow=3.1,SNR=61
CPUP pPKP pPKPdf 04 13 31.7 +1.7
comp=Z,6.3nm,0.5s,baz=140,slow=1.4,SNR=4.4
CPUP Villa Florida 144.63 186 PKIKP PKPdf 04 13 03.2 +1.0
CPUP 04 13 31.7
CPUP pmax pmax
comp=Z,20nm,0.8s
CPUP pmax pmax
comp=Z,6.0nm,0.5s
CPUP Villa Florida 144.63 186 *e*PKPdf PKPdf 04 13 02.6 +0.3
CPUP *ep*PKPdf pPKPdf 04 13 31.8 +1.8
SSPA Standing Stone 145.15 23 *e*PKPbc PKPbc 04 13 02.7 -0.2
SWET Sewanee 145.37 38 *e*PKPbc PKPbc 04 13 02.8 -0.8
HRV Harvard--Oak R 145.42 14 *e*PKPbc PKPbc 04 13 04.1 +0.3
HRV *ep*PKPdf pPKPdf 04 13 31.1 -0.3
QUA2 Belchertown 145.44 15 *e*PKPbc PKPbc 04 13 04.0 +0.2
TZTN Tazewell 145.80 33 *e*PKPdf PKPdf 04 13 05.1 +0.8
TZTN *ep*PKPdf pPKPdf 04 13 32.1 0.0
PAL Palisades 146.19 18 *e*PKPbc PKPbc 04 13 06.4 +0.3
PAL *ep*PKPdf pPKPdf 04 13 33.6 +0.8
MVL Millersville 146.28 22 *e*PKPbc PKPbc 04 13 06.0 -0.3
MVL *ep*PKPdf pPKPdf 04 13 33.8 +0.9
FWV Forest Hill 146.42 29 *e*PKPdf PKPdf 04 13 06.7 +1.4
ELN Prospectdale 146.72 30 *e*PKPbc PKPbc 04 13 07.1 -0.6
ELN *ep*PKPdf pPKPdf 04 13 34.6 +1.0
BLA Blacksburg 146.90 29 *e*PKPbc PKPbc 04 13 07.5 -0.6
LVC Limon Verde 147.54 166 *e*PKPbc PKPbc 04 13 13.6 +3.6
BDFB Brasilia 152.31 208 PKP PKPdf 04 13 16.4 +1.8
comp=Z,1.9nm,0.6s,baz=355,slow=4.5,SNR=3.2
BDFB PKPbc PKPbc 04 13 22.6 +1.1
comp=Z,6.1nm,0.9s,baz=180,slow=4.3,SNR=8.2
BDFB pPKPbc pPKPbc 04 13 50.7 +1.5
comp=Z,12nm,1.0s,baz=110,slow=3.8,SNR=4.8
BDFB Brasilia 152.31 208 PKIKP PKPdf 04 13 16.4 +1.7
BDFB 04 13 50.7
BDFB pmax pmax
comp=Z,2.0nm,0.6s
BDFB pmax pmax
comp=Z,6.0nm,0.9s
BDFB pmax pmax
comp=Z,12nm,1.0s
LPAZ La Paz 153.80 164 PKPbc PKPbc 04 13 27.9 +3.1
comp=Z,2.3nm,0.7s,baz=261,slow=4.1,SNR=6.9
LPAZ PKPab PKPab 04 13 38.4 +0.2
comp=Z,2.7nm,0.8s,baz=94,slow=6.5,SNR=8.4
LPAZ La Paz 153.80 164 PKIKP PKPbc 04 13 27.9 +3.1
LPAZ 04 13 38.4
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 153.80 164 *e*PKPbc PKPbc 04 13 27.7 +2.9
LPAZ *e*PKPab PKPab 04 13 39.9 +1.8
SAML Samuel 161.94 173 *e*PKPdf PKPdf 04 13 28.7 +1.9
SAML *ep*PKPdf pPKPdf 04 13 55.8 +1.1
SAML *e*PKPab PKPab 04 14 15.1 +1.7

*CSEM **23** 04:06:55.7, 7053N×7.10W, h0km, ML2.8, After NEIC*
*NEIC **23** 04:06:55.7, 7053N×7.10W, h0km, ML2.8(BER), After BER.*
BER 23 04:06:54.8±0.6, 7056N×686W, h10km, MD4.2, ML3.1, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.64**	**313**	*eP*	Pg	04 07 06.3	-0.9
JMIC	**Jan Mayen**	**0.70**	**309**	*eP*	Pg	04 07 07.1	-1.2
JMIC				*eS*	Sg	04 07 15.8	-1.5
JMIC				AML	AML	04 07 20.9	
	comp=Z,2μm,0.3s						
JMIC	**Jan Mayen**	**0.70**	**309**	*eP*	Pg	04 07 07.1	-1.2
JMIC				*eS*	Sg	04 07 15.8	-1.5
JMIC	**Jan Mayen**	**0.70**	**309**	*eP*	Pg	04 07 07.1	-1.2
JMIC				*eS*	Sg	04 07 15.9	-1.5
JNW	**Jan Mayen West**	**0.70**	**313**	*eP*	Pg	04 07 06.9	-1.4
JNW				AML	AML	04 07 19.7	
	comp=Z,6μm,0.4s						
LOF	**Lofoten**	**7.60**	**99**	*eSn*	Sn	04 10 07.4	-4.3
LOF				AML	AML	04 10 15.2	
	comp=Z,5.4nm,0.6s						
STOK	**Stokkvaagen**	**8.43**	**111**	*eP*	Pn	04 08 57.0	+0.1
STOK				*eS*	Sn	04 10 25.4	-6.7
STOK				AML	AML	04 10 33.3	
	comp=Z,7.7nm,0.7s						
STOK	**Stokkvaagen**	**8.43**	**111**	*eP*	Pn	04 08 57.0	+0.1
STOK				*eS*	Sn	04 10 25.4	-6.7
STOK	**Stokkvaagen**	**8.43**	**111**	*eP*	Pn	04 08 57.0	+0.1
STOK				*eS*	Sn	04 10 25.4	-6.7
MOR8	**Moi Rana**	**8.98**	**109**	*ePn*	Pn	04 09 06.2	+1.7
MOR8				*eSn*	Sn	04 10 40.8	-4.9
MOR8				AML	AML	04 10 45.9	
	comp=Z,8.9nm,0.6s						
MOR8	**Moi Rana**	**8.98**	**109**	*ePn*	Pn	04 09 06.2	+1.7
MOR8				*eSn*	Sn	04 10 40.8	-4.9
MOR8	**Moi Rana**	**8.98**	**109**	*ePn*	Pn	04 09 06.2	+1.7
MOR8				*eSn*	Sn	04 10 40.8	-4.9
NSS	**Namsos**	**9.37**	**121**	*ePn*	Pn	04 09 10.6	+0.8
NSS				*eSn*	Sn	04 10 49.6	-5.6
NSS				AML	AML	04 10 55.7	
	comp=Z,14nm,0.6s						
NSS	**Namsos**	**9.37**	**121**	*ePn*	Pn	04 09 10.6	+0.8
NSS				*eSn*	Sn	04 10 49.6	-5.6
NSS	**Namsos**	**9.37**	**121**	*ePn*	Pn	04 09 10.6	+0.8
NSS				*eSn*	Sn	04 10 49.6	-5.6
KAF	**Kangasniemi**	**15.55**	**106**	*ep*	Pn	04 10 35.7	+1.7

*NEIC **23** 04:26:45.6, 7051N×7.12W, h13km, ML3.3(BER), After BER.*
BER 23 04:26:44.7±0.5, 7116N×639W, h10km, MD3.5, ML3.3, 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.65**	**255**	*eP*	Pg	04 26 56.1	-1.1
JNE				*eS*	Sg	04 27 04.5	-1.1
JNE				AML	AML	04 27 07.3	
	comp=Z,1μm,0.3s						
JNE	**Jan Mayen East**	**0.65**	**255**	*eP*	Pg	04 26 56.1	-1.1
JNE				*eS*	Sg	04 27 04.5	-1.1
JNE	**Jan Mayen East**	**0.65**	**255**	*eP*	Pg	04 26 56.1	-1.1
JNE				*eS*	Sg	04 27 04.5	-1.2
JNW	**Jan Mayen West**	**0.68**	**260**	*eP*	Pg	04 26 56.8	-1.1
JNW				*eS*	Sg	04 27 05.5	-1.2
JNW				AML	AML	04 27 06.1	
	comp=Z,2μm,0.5s						
JNW	**Jan Mayen West**	**0.68**	**260**	*eP*	Pg	04 26 56.8	-1.1
JNW				*eS*	Sg	04 27 05.5	-1.2
JNW	**Jan Mayen West**	**0.68**	**260**	*eP*	Pg	04 26 56.8	-1.0
JNW				*eS*	Sg	04 27 05.5	-1.2
JMIC	**Jan Mayen**	**0.71**	**257**⇓	*iP*	Pg	04 26 56.9	-1.6
JMIC				*eS*	Sg	04 27 06.0	-1.9
JMI	**Jan Mayen**	**0.80**	**254**	*eP*	Pg	04 26 58.6	-1.6
LOF	**Lofoten**	**7.56**	**104**	*ePn*	Pn	04 28 36.4	+1.4
NSS	**Namsos**	**9.57**	**125**	*ePn*	Pn	04 28 59.3	-3.1

*IDC **23** 04:29:25.9±1.3, 932S×10878E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, ML3.6/1, Error ellipse: s-maj=77.7km s-min=18.3km az=48.0*
*NEIC **23** 04:29:27.3±0.9, 935S×10876E, h10km, mb4.4/2, Error ellipse: s-maj=49.4km s-min=9.4km az=46.0*
*ISCJB **23** 04:29:29.3±1.3, 92S±03×1090E±03, h33km, mb4.0/8, Error ellipse: s-maj=67.4km s-min=12.7km az=91.7*
ISC 23 04:29:31.4±1.3, 93S±03×1089E±04, h35km, n10, σ0s28/10, mb4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.50**	**120**	P	**Pn**	**04 33 45.0**	**+0.1**
	0.1nm,0.3s,baz=321,slow=8.9,SNR=4.0						
WRA	**Warramunga Arr**	**26.80**	**116**	P	**P**	**04 35 08.0**	**-0.2**
	1.2nm,0.7s,mb3.6,baz=288,slow=12,SNR=12						
WRA				PcP	PcP	04 38 31.2	+0.8
	0.1nm,0.5s,baz=298,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**27.89**	**124**	P	**P**	**04 35 17.9**	**-0.1**
	0.3nm,0.6s,mb3.1,baz=300,slow=8.7,SNR=5.5						
ASAR				PcP	PcP	04 38 33.5	+0.4
	0.5nm,0.7s,baz=301,slow=2.4,SNR=7.2						
STKA	**Stephens Creek**	**37.77**	**131**	P	**P**	**04 36 44.4**	**+0.3**
	3.9nm,0.7s,mb4.3,baz=307,slow=10,SNR=8.1						
STKA	**Stephens Creek**	**37.77**	**131**	*eP*	**P**	**04 36 44.0**	**0.0**
SONM	**Songino Array**	**56.89**	**358**	P	**P**	**04 39 13.1**	**+0.4**
	0.6nm,0.3s,mb4.0,baz=176,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**60.64**	**339**	P	**P**	**04 39 38.9**	**+0.1**
	2.1nm,0.5s,mb4.5,baz=146,slow=7.5,SNR=21						
CHKZ	**Chkalovo**	**70.57**	**337**	*eP*	**P**	**04 40 42.7**	**-0.2**
	3.5nm,0.8s,mb4.3						
ZRNK	**Zerenda**	**70.66**	**336**	*eP*	**P**	**04 40 42.9**	**-0.5**
	1.3nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**84.70**	**312**	P	**P**	**04 42 02.0**	**+0.3**
	0.7nm,0.6s,mb4.0,baz=108,slow=5.6,SNR=4.9						

*ISCJB **23** 04:37:47.1±0.6, 7086N±0.10×64W±0.1, h10km, Error ellipse: s-maj=14.3km s-min=4.5km az=15.9*
*NEIC **23** 04:37:48.4, 7140N×665W, h10km, ML3.4(BER), After BER.*
*BER **23** 04:37:49.4±0.6, 7093N×640W, h10km, MD2.9, ML3.3*
*CSEM **23** 04:37:49.3±0.3, 7068N×702W, h10km, ML3.4, Error ellipse: s-maj=38.4km s-min=5.7km az=26.0*
*NAO **23** 04:37:49.2±5.7, 7089N×661W*
ISC 23 04:37:49.1±2.7, 708N±01×66W±05, h8km±36km, n19, σ0s58/32, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.59**	**287**	*eP*	**Pg**	**04 38 00.6**	**+0.1**
JNE				*eS*	**Sg**	**04 38 08.7**	**+0.6**
JNE				AML	AML	04 38 11.7	
	comp=Z,4μm,0.2s						
JNE	**Jan Mayen East**	**0.59**	**287**	*eP*	**Pg**	**04 38 00.6**	**+0.1**
JNE				*eS*	**Sg**	**04 38 08.7**	**+0.6**
JNE	**Jan Mayen East**	**0.59**	**287**	*eP*	**Pg**	**04 38 00.6**	**+0.2**
JNE				*eS*	**Sg**	**04 38 08.7**	**+0.6**
JNW	**Jan Mayen West**	**0.64**	**290**	*eP*	**Pg**	**04 38 01.2**	**-0.3**
JNW				*eS*	**Sg**	**04 38 09.8**	**0.0**
JNW				AML	AML	04 38 10.4	
	comp=Z,7μm,0.3s						
JNW	**Jan Mayen West**	**0.64**	**290**	*eP*	**Pg**	**04 38 01.2**	**-0.3**
JNW				*eS*	**Sg**	**04 38 09.8**	**0.0**
JNW	**Jan Mayen West**	**0.64**	**290**	*eP*	**Pg**	**04 38 01.2**	**-0.2**
JNW				*eS*	**Sg**	**04 38 09.8**	**0.0**
JMIC	**Jan Mayen**	**0.66**	**286**	Pg	**Pg**	**04 38 01.4**	**-0.4**
JMIC				Lg		04 38 10.3	
JMIC	**Jan Mayen**	**0.66**	**286**	*eP*	**Pg**	**04 38 01.3**	**-0.4**
JMIC				*eS*	**Sg**	**04 38 10.4**	**+0.1**
JMIC				AML	AML	04 38 10.7	
	comp=Z,1μm,0.2s						
JMI	**Jan Mayen**	**0.72**	**280**	*eP*	**Pg**	**04 38 02.8**	**0.0**
JMI				*eS*	**Sg**	**04 38 12.0**	**-0.1**
JMI				AML	AML	04 38 14.3	
	comp=Z,1μm,0.3s						
JMI	**Jan Mayen**	**0.72**	**280**	*eP*	**Pg**	**04 38 02.8**	**0.0**
JMI				*eS*	**Sg**	**04 38 12.0**	**-0.1**
JMI	**Jan Mayen**	**0.72**	**280**	*eP*	**Pg**	**04 38 02.8**	**-0.1**
JMI				*eS*	**Sg**	**04 38 12.0**	**-0.2**
LOF	**Lofoten**	**7.55**	**101**	*ePn*	**Pn**	**04 39 40.6**	**+1.2**
STOK	**Stokkvaagen**	**8.44**	**113**	*eP*	**Pn**	**04 39 51.5**	**-0.1**
STOK				*eS*	**Sn**	**04 41 18.9**	**-8.2**
STOK				AML	AML	04 41 27.4	
	comp=Z,5.8nm,0.8s						
STOK	**Stokkvaagen**	**8.44**	**113**	*eP*	**Pn**	**04 39 51.5**	**-0.1**
STOK				*eS*	**Sn**	**04 41 18.9**	**-8.2**
STOK	**Stokkvaagen**	**8.44**	**113**	*eP*	**Pn**	**04 39 51.5**	**-0.1**
STOK				*eS*	**Sn**	**04 41 18.9**	**-8.2**
TRO	**Tromso**	**8.70**	**86**	*ePn*	**Pn**	**04 39 51.2**	**-3.9**
KBS	**Kingsbay**	**9.39**	**22**	Pn	**Pn**	**04 40 03.8**	**-0.9**
NSS	**Namsos**	**9.43**	**123**	*ePn*	**Pn**	**04 40 04.7**	**-0.5**
SPA0	**Spitsbergen Ar**	**9.50**	**29**	Pn	**Pn**	**04 40 06.8**	**+0.6**
	baz=226,slow=14						

IDC 23 04:43:42.9±37.0, 844S×11042E, h0km, mb3.7/3,

mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=613.7km s-min=126.1km az=126.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.81**	**119**	P	P	04 49 16.1	+0.4
	1.1nm,0.7s,baz=292,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**27.11**	**127**	P	P	04 49 27.9	+0.4
	0.4nm,0.6s,baz=302,slow=8.0,SNR=6.8						
STKA	**Stephens Creek**	**37.18**	**133**	P	P	04 50 55.8	+0.1
	1.4nm,0.4s,baz=317,slow=10,SNR=5.1						

LDG ***23*** *05:25:19.0±0.0, 4302N×0.16E, h14km, Md1.7/2, Ml1.4/2, Error ellipse: s-maj=0.8km s-min=0.3km az=169.0*
STR ***23*** *05:25:19.4±0.0, 4306N×009W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 23 05:25:20.6±0.3, 4300N×016E, h0km, mbLg1.0/4, Error ellipse: s-maj=2.4km s-min=2.4km az=173.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**308**	Pg	Pg	05 25 22.0	0.0
LABF				Sg	Sg	05 25 23.9	+0.9
LABF	**Labassere**	**0.07**	**308**	P	Pg	05 25 22.0	0.0
LABF				S	Sg	05 25 24.0	+1.0
EPF	**Esparros**	**0.14**	**78**	*e*Pg	Pg	05 25 22.7	-0.5
EPF				*e*Sg	Sg	05 25 25.2	+0.2
	4.2nm,0.2s						
EPF	**Esparros**	**0.14**	**78**	Pg	Pg	05 25 22.7	-0.5
EPF				Lg		05 25 25.2	
	2.1nm,0.2s						
VIEF	**Viey**	**0.15**	**219**	Pg	Pg	05 25 23.3	-0.2
VIEF				Sg	Sg	05 25 26.2	+0.8
VIEF	**Viey**	**0.15**	**219**	P	Pg	05 25 23.4	-0.1
VIEF				S	Sg	05 25 26.3	+0.8
EBIE	**Bielsa**	**0.32**	**182**	Pg	Pg	05 25 26.2	-0.4
	0.4nm,0.1s,SNR=7.9						
EBIE				Lg		05 25 30.9	
	4.3nm,0.1s,SNR=12						
ETSF	**Etsaut**	**0.53**	**259**	*e*Pg	Pg	05 25 29.6	-1.2
ETSF				*e*Sg	Sg	05 25 36.8	-0.9
	4.5nm,0.2s						
ETSF	**Etsaut**	**0.53**	**259**	Pg	Pg	05 25 29.6	-1.2
ETSF				Lg		05 25 36.8	
	2.2nm,0.2s						
SJPF	**Ste Jean**	**1.02**	**277**	*e*Sg	Sg	05 25 51.6	-1.7
	0.9nm,0.2s						
SJPF	**Ste Jean**	**1.02**	**277**	Lg		05 25 51.6	
	0.4nm,0.2s						
ESAC	**San Caprasio**	**1.36**	**200**	Lg		05 26 04.9	
	1.7nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.55**	**77**	*e*Sg	Sg	05 26 07.7	-2.6
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.55**	**77**	Lg		05 26 07.7	
	0.2nm,0.2s						

PGC 23 05:30:07.2, 6477N×14077W, h5km, ML3.7/4, 102km northwest of Dawson, Yt Northwest of Dawson, Yukon Territory - Alaska border., Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**0.93**	**139**	⇑P	Pg	05 30 23.9	-1.0
DAWY				S	Sg	05 30 35.8	-1.2
DAWY				Trac		05 30 40.4	
	comp=Z,575nm,0.1s						
HYT	**Haines Junctio**	**4.23**	**158**	Pn	Pn	05 31 12.4	0.0
HYT				Pg	Pg	05 31 23.5	-4.8
HYT				Sg	Sg	05 32 18.6	-4.6
HYT				Trac		05 32 22.1	
	comp=Z,117nm,0.3s						
INK	**Inuvik**	**4.58**	**36**	Pn	Pn	05 31 16.1	-1.0
INK				Sn	Sn	05 32 07.3	-3.4
INK				Sg	Sg	05 32 29.5	-4.9
INK				Trac		05 32 37.8	
	comp=Z,32nm,0.5s						
WHY	**Whitehorse**	**4.93**	**144**	Pn	Pn	05 31 19.9	-2.1
WHY				Pg	Pg	05 31 36.1	-5.6
WHY				Sg	Sg	05 32 40.1	-5.5
WHY				Trac		05 32 44.3	
	comp=Z,28nm,0.5s						
PLBC	**Pleasant Camp**	**5.72**	**157**	Pg	Pg	05 31 51.4	-5.4
PLBC				Sg	Sg	05 33 04.7	-6.1
DLBC	**Dease Lake**	**8.15**	**136**	Trac		05 34 31.6	
	comp=Z,11nm,0.6s						
DLBC	**Dease Lake**	**8.15**	**136**	Sg	Sg	05 34 21.9	-6.8
FNBB	**Fort Nelson**	**10.23**	**117**	Trac		05 35 44.6	
	comp=Z,3.0nm,0.7s						
YKW3	**Yellowknife Ar**	**11.78**	**89**	Pn	Pn	05 32 53.4	-2.5

ISCJB ***23*** *05:36:58.7±2.6, 83S±0.1×1565E±0.1, h47km±27km, mb4.1/11, MS3.7/3, Error ellipse: s-maj=24.7km s-min=18.4km az=91.5*
NEIC ***23*** *05:36:59.9±2.0, 830S×156 43E, h44km±21km, mb4.3/5, Error ellipse: s-maj=17.6km s-min=13.2km az=136.0*
IDC ***23*** *05:37:00.2±3.8, 834S×156 44E, h45km±42km, mb3.9/8, mb1 4.1/9, mb1mx4.0/14, mbtmp4.2/9, ML3.7/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/20, Error ellipse: s-maj=33.5km s-min=21.0km az=115.0*

ISC 23 05:37:00.6±2.4, 83S±0.1×1565E±0.1, h48km±27km, n19, σ0§71/16, mb4.1/11, MS3.7/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.60**	**108**	P	**Pn**	**05 37 53.9**	**0.0**
	6.6nm,0.3s,baz=257,slow=6.5,SNR=2.4						
PMG	**Port Moresby**	**9.26**	**263**	LR	LR	05 42 39.7	
	comp=Z,294nm,19.0s,baz=78,slow=37						
CTA	**Charters Tower**	**15.30**	**219**	*e*P	**Pn**	**05 40 40.1**	**+6.7**
	7.3nm,1.2s						
CTA	**Charters Tower**	**15.30**	**219**	P	**Pn**	**05 40 37.2**	**+3.9**
	0.3nm,0.3s,baz=27,slow=14,SNR=2.9						
CTA				LR	LR	05 44 25.0	
	comp=Z,77nm,19.7s,baz=42,slow=29						
DZM	**Mont Dzumac**	**16.69**	**146**	LR	LR	05 45 18.8	
	comp=Z,153nm,18.4s,baz=13,slow=30						
KAKA	**Kakadu**	**24.02**	**258**	*e*P	**P**	**05 42 11.5**	**+0.6**
	7.0nm,1.4s,mb3.9						
WRAB	**Tennant Creek**	**24.31**	**239**	*e*P	**P**	**05 42 14.1**	**+0.5**
	9.5nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**24.32**	**239**	*e*P	**P**	**05 42 12.8**	**-0.8**
WRA	**Warramunga Arr**	**24.33**	**239**	P	**P**	**05 42 14.6**	**+0.9**
	11nm,1.0s,mb4.2,baz=64,slow=10.0,SNR=20						
WRA				LR	LR	05 50 54.3	
	comp=Z,160nm,19.1s,MS3.5,baz=250,slow=34						
ASAR	**Alice Springs**	**26.45**	**232**	P	**P**	**05 42 32.8**	**-0.1**
	0.9nm,1.0s,mb3.3,baz=60,slow=9.7,SNR=4.8						
ASAR				LR	LR	05 51 50.5	
	comp=Z,151nm,18.7s,MS3.6,baz=234,slow=34						
STKA	**Stephens Creek**	**27.20**	**209**	P	**P**	**05 42 39.0**	**-0.8**
	4.3nm,1.0s,mb3.9,baz=163,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**31.50**	**249**	P	**P**	**05 43 16.7**	**-1.0**
	4.0nm,1.1s,mb4.2,baz=90,slow=7.1,SNR=5.1						
MJAR	**Matsushiro Arr**	**47.83**	**340**	P	**P**	**05 45 32.4**	**-1.0**
	2.0nm,0.7s,mb4.2,baz=157,slow=7.8,SNR=5.0						
VNDA	**Vanda**	**69.21**	**179**	P	**P**	**05 48 02.2**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=328,slow=7.7,SNR=4.1						
VNDA	**Vanda**	**69.21**	**179**	*e*P	**P**	**05 48 02.9**	**+0.7**
	6.8nm,1.6s,mb4.3						
SONM	**Songino Array**	**71.25**	**327**	P	**P**	**05 48 15.3**	**+0.6**
	4.1nm,1.0s,mb4.3,baz=135,slow=5.5,SNR=13						
SONM				LR	LR	06 17 33.0	
	comp=Z,80nm,18.5s,MS4.0,baz=243,slow=34						
QSPA	**South Pole Qui**	**81.64**	**180**	*e*P	**P**	**05 49 13.5**	**-0.1**
	5.4nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**85.37**	**318**	P	**P**	**05 49 33.2**	**+0.6**
	2.7nm,0.8s,mb4.4,baz=100,slow=5.6,SNR=16						
MDT	**Midelt**	**150.00**	**327**	PKPbc	PKPbc	05 56 44.9	-0.8
	2.1nm,0.9s,baz=346,slow=3.5,SNR=4.6						

IDC ***23*** *05:42:46.5±1.4, 8.19S×155 90E, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.1/6, ML3.7/1, Error ellipse: s-maj=35.8km s-min=26.2km az=136.0*
ISCJB ***23*** *05:42:49.9±0.9, 82S±0.2×1560E±0.1, h33km, mb4.0/7, Error ellipse: s-maj=26.1km s-min=14.5km az=171.8*
NEIC ***23*** *05:42:51.6±0.8, 823S×156 00E, h35km, mb4.1/2, Error ellipse: s-maj=23.0km s-min=13.0km az=176.0*

ISC 23 05:42:51.9±0.9, 82S±0.2×1560E±0.1, h35km, n9, σ0§82/9, mb4.0/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.07**	**108**	Pn	**Pn**	**05 43 51.8**	**+0.2**
	4.1nm,0.3s,baz=284,slow=5.2,SNR=3.8						
KAKA	**Kakadu**	**23.60**	**257**	*e*P	**P**	**05 48 01.0**	**+1.4**
	6.4nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**23.99**	**239**	*e*P	**P**	**05 48 03.5**	**+0.5**
	4.0nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**23.99**	**239**	*e*P	**P**	**05 48 03.4**	**+0.3**
WRA	**Warramunga Arr**	**24.00**	**239**	P	**P**	**05 48 03.4**	**+0.2**
	5.4nm,0.6s,mb4.1,baz=64,slow=9.7,SNR=45						
ASAR	**Alice Springs**	**26.16**	**232**	P	**P**	**05 48 21.2**	**-1.7**
	0.5nm,0.8s,mb3.1,baz=60,slow=8.7,SNR=6.4						
FITZ	**Fitzroy Crossi**	**31.12**	**249**	P	**P**	**05 49 06.6**	**-0.4**
	0.9nm,0.5s,mb3.8,baz=120,slow=22,SNR=6.4						
SONM	**Songino Array**	**70.91**	**327**	P	**P**	**05 54 05.7**	**+0.3**
	2.4nm,0.7s,mb4.2,baz=135,slow=6.4,SNR=9.4						
MKAR	**Makanchi Array**	**84.98**	**319**	P	**P**	**05 55 22.6**	**-0.9**
	2.3nm,0.7s,mb4.4,baz=107,slow=5.0,SNR=13						

NAO ***23*** *05:43:39.0, 4320N×2544E, h33km, mb3.9*
BJI ***23*** *05:44:05.3, 4560N×2640E, h120km, mB5.0, mb4.3*
ISCJB ***23*** *05:44:07.0±0.1, 4554N±001×2639E±002, h129km±1km, mb4.1/25, Error ellipse: s-maj=2.5km s-min=2.3km az=108.5*
CSEM ***23*** *05:44:06.7±0.0, 4554N×2635E, h128km, mb4.2/10, Error ellipse: s-maj=1.5km s-min=1.3km az=70.0*
IDC ***23*** *05:44:07.7±0.4, 4552N×2624E, h122km±2km, mb3.7/12, mb1 3.7/17, mb1mx3.7/25, mbtmp4.1/17, MS2.6/1, Ms1 2.6/1, ms1mx2.1/27, Error ellipse: s-maj=14.9km s-min=10.9km az=147.0*
BUC ***23*** *05:44:07.2±0.5, 4554N×2637E, h133km±5km, MD4.7/5, Error ellipse: s-maj=3.5km s-min=3.3km az=322.0*
MOS ***23*** *05:44:07.0±0.8, 4556N×2634E, h126km, mb4.3/10, Error ellipse: s-maj=5.6km s-min=3.8km az=102.0*
MOS Felt (III) at Cahul; (II) at Kishinev.
NEIC ***23*** *05:44:08.3, 4559N×2641E, h120km, mb4.2/15, MD3.7(SOF), After BUC.*
NEIC Felt [III] at Cahul and [II] at Chisinau, Moldova.
SOF ***23*** *05:44:08.6, 4546N×2630E, h117km, MD3.7*

ISC 23 05:44:08.0±0.1, 4554N±001×2639E±002, h124km±1km, n245, σ0§97/304, mb4.2/25, 39C-24D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.32**	**261**	P	**Pn**	**05 44 25.7**	**+0.2**
	855nm,0.3s,baz=333,slow=2.3,SNR=8716						
MLR				S	**Sn**	**05 44 38.9**	**+0.3**
	741nm,0.3s,baz=308,slow=16,SNR=26						
MLR	**Muntele Rosu**	**0.32**	**261**	⇑*i*P	**Pn**	**05 44 26.2**	**+0.7**
MLR				*i* S	**Sn**	**05 44 39.8**	**+1.1**
MLR	**Muntele Rosu**	**0.32**	**261**	S	**Sn**	**05 44 39.8**	**+1.1**
MLR	**Muntele Rosu**	**0.32**	**261**	P	**Pn**	**05 44 25.7**	**+0.2**
MLR				S	**Sn**	**05 44 38.9**	**+0.2**
MLR				pmax	pmax		
	comp=Z,855nm,0.3s						
MLR				smax			
	comp=N,741nm,0.3s						
MLR	**Muntele Rosu**	**0.32**	**261**	P	**Pn**	**05 44 26.1**	**+0.7**
PLOR	**Plostina**	**0.36**	**31**	⇑P	**Pn**	**05 44 26.1**	**+0.5**
PLOR				S	**Sn**	**05 44 39.5**	**+0.5**
PLOR	**Plostina**	**0.36**	**31**	⇑*i*P	**Pn**	**05 44 26.1**	**+0.5**
VRI	**Vrincioaia**	**0.40**	**36**	⇑*i*P	**Pn**	**05 44 26.5**	**+0.7**
VRI				*i* S	**Sn**	**05 44 39.8**	**+0.5**
VRI	**Vrincioaia**	**0.40**	**36**	⇑P	**Pn**	**05 44 26.5**	**+0.6**
VRI				S	**Sn**	**05 44 39.8**	**+0.5**
ISR	**Istrita**	**0.44**	**166**	⇓*i*P	**Pn**	**05 44 26.9**	**+0.9**
ISR				*i* S	**Sn**	**05 44 40.2**	**+0.5**
ISR	**Istrita**	**0.44**	**166**	⇓P	**Pn**	**05 44 26.9**	**+0.8**
ISR				S	**Sn**	**05 44 40.2**	**+0.5**
SECR		**0.56**	**204**	⇑*i*P	**Pn**	**05 44 27.7**	**+1.0**
SECR				*i* S	**Sn**	**05 44 42.4**	**+1.5**
PETR		**0.62**	**73**	⇑*i*P	**Pn**	**05 44 28.2**	**+1.1**
PETR				S	**Sn**	**05 44 42.8**	**+1.2**
SNX	**Sinaia**	**0.64**	**253**	⇑*i*P	**Pn**	**05 44 28.2**	**+0.9**
SNX	**Sinaia**	**0.64**	**253**	⇑P	**Pn**	**05 44 28.2**	**+0.8**
FULR		**0.66**	**177**	⇑*i*P	**Pn**	**05 44 28.4**	**+1.0**
FULR				*i* S	**Sn**	**05 44 43.3**	**+1.2**
OZUR		**0.69**	**323**	⇑*i*P	**Pn**	**05 44 27.8**	**+0.1**
OZUR				*i* S	**Sn**	**05 44 42.0**	**-0.6**
DOPR	**Dopca**	**0.82**	**302**	⇑*i*P	**Pn**	**05 44 28.8**	**+0.1**
DOPR				*i* S	**Sn**	**05 44 43.8**	**-0.6**
SULR		**0.87**	**186**	⇑*i*P	**Pn**	**05 44 30.0**	**+0.8**
SULR				*i* S	**Sn**	**05 44 46.5**	**+1.3**
GHRR		**0.88**	**54**	⇑*i*P	**Pn**	**05 44 30.1**	**+0.8**
GHRR				*i* S	**Sn**	**05 44 46.0**	**+0.6**
TUDR		**0.90**	**86**	⇑*i*P	**Pn**	**05 44 29.6**	**+0.2**
TUDR				*i* S	**Sn**	**05 44 45.8**	**+0.1**
VOIR		**0.95**	**264**	⇑*i*P	**Pn**	**05 44 30.0**	**+0.1**
VOIR				*i* S	**Sn**	**05 44 46.0**	**-0.4**
VOIR		**0.95**	**264**	⇑P	**Pn**	**05 44 30.1**	**+0.2**
VOIR				S	**Sn**	**05 44 45.7**	**-0.6**
MTUR	**Matau**	**0.99**	**252**	⇑*i*P	**Pn**	**05 44 30.8**	**+0.6**
MTUR				*i* S	**Sn**	**05 44 47.4**	**+0.3**
MTUR	**Matau**	**0.99**	**252**	⇑P	**Pn**	**05 44 30.8**	**+0.5**
MTUR				S	**Sn**	**05 44 48.6**	**+1.5**
TESR		**0.99**	**11**	⇑*i*P	**Pn**	**05 44 30.4**	**+0.2**
TESR				*i* S	**Sn**	**05 44 46.2**	**-0.9**
VARR		**1.08**	**71**	⇑*i*P	**Pn**	**05 44 31.9**	**+0.7**
VARR				*i* S	**Sn**	**05 44 48.8**	**0.0**
CNCR	**Cernica**	**1.10**	**185**	⇑*i*P	**Pn**	**05 44 31.9**	**+0.5**
CNCR				*i* S	**Sn**	**05 44 48.7**	**-0.4**
ONCR	**Oncesti**	**1.11**	**33**	⇑*i*P	**Pn**	**05 44 31.6**	**+0.2**
ONCR				*i* S	**Sn**	**05 44 48.6**	**-0.6**
BSTR	**Bucharest-Scie**	**1.12**	**191**	⇑*i*P	**Pn**	**05 44 31.9**	**+0.4**
BSTR				*i* S	**Sn**	**05 44 49.6**	**+0.2**
AMRR		**1.15**	**144**	⇓*i*P	**Pn**	**05 44 32.5**	**+0.7**
AMRR				*i* S	**Sn**	**05 44 50.2**	**+0.3**
BUC1	**Bucharest**	**1.22**	**192**	P	**Pn**	**05 44 33.1**	**+0.6**
BUC1	**Bucharest**	**1.22**	**192**	P	**Pn**	**05 44 33.2**	**+0.6**
CFR	**Carcaliu**	**1.28**	**106**	⇑*i*P	**Pn**	**05 44 33.4**	**+0.1**
CFR				*i* S	**Sn**	**05 44 51.3**	**-1.2**
CFR	**Carcaliu**	**1.28**	**106**	P	**Pn**	**05 44 33.3**	**0.0**
CFR	**Carcaliu**	**1.28**	**106**	P	**Pn**	**05 44 33.5**	**+0.2**
KGL	**Cahul**	**1.32**	**73**	*i* P	**Pn**	**05 44 33.4**	**-0.3**
KGL				*i* S	**Sn**	**05 44 52.6**	**-0.6**
KGL	**Cahul**	**1.32**	**73**	*i* P	**Pn**	**05 44 33.4**	**-0.3**
	comp=N,1µm,0.4s						
HARR	**Harsova**	**1.39**	**127**	⇓*i*P	**Pn**	**05 44 34.7**	**+0.3**
HARR				*i* S	**Sn**	**05 44 53.7**	**-0.8**
HARR	**Harsova**	**1.39**	**127**	P	**Pn**	**05 44 34.8**	**+0.4**
LEOM	**Leova**	**1.59**	**54**	*i* P	**Pn**	**05 44 37.4**	**+0.6**
LEOM				*i* S	**Sn**	**05 44 58.1**	**-0.6**
CVD	**Cernavoda**	**1.69**	**136**	⇓*i*P	**Pn**	**05 44 38.3**	**+0.4**
CVD				*i* S	**Sn**	**05 45 00.4**	**-0.4**
CVD	**Cernavoda**	**1.69**	**136**	⇓P	**Pn**	**05 44 38.3**	**+0.3**
CVD				S	**Sn**	**05 45 00.4**	**-0.4**
CVD	**Cernavoda**	**1.69**	**136**	P	**Pn**	**05 44 38.2**	**+0.3**
TIRR	**Tirgusor**	**1.80**	**126**	⇓*i*P	**Pn**	**05 44 39.5**	**+0.3**
TIRR				*i* S	**Sn**	**05 45 02.0**	**-1.0**
TIRR	**Tirgusor**	**1.80**	**126**	⇓P	**Pn**	**05 44 39.5**	**+0.3**
TIRR				S	**Sn**	**05 45 01.8**	**-1.2**
TIRR	**Tirgusor**	**1.80**	**126**	*e*Pn	**Pn**	**05 44 38.9**	**-0.3**
TIRR				*e*Sn	**Sn**	**05 44 59.9**	**-3.1**
TIRR	**Tirgusor**	**1.80**	**126**	*e*Pn	**Pn**	**05 44 38.9**	**-0.3**
TIRR	**Tirgusor**	**1.80**	**126**	⇓*i*P	**Pn**	**05 44 39.5**	**+0.3**
IAS	**Iasi**	**1.84**	**26**	⇑*i*P	**Pn**	**05 44 39.8**	**+0.1**
IAS				*i* S	**Sn**	**05 45 02.5**	**-1.4**
IAS	**Iasi**	**1.84**	**26**	⇑P	**Pn**	**05 44 39.8**	**+0.1**
IAS				S	**Sn**	**05 45 02.7**	**-1.2**
ZIMR		**2.02**	**202**	⇑*i*P	**Pn**	**05 44 41.9**	**0.0**
ZIMR				*i* S	**Sn**	**05 45 06.5**	**-1.4**
ZIMR		**2.02**	**202**	⇑P	**Pn**	**05 44 42.0**	**+0.1**
ZIMR				S	**Sn**	**05 45 06.6**	**-1.2**
CRAR	**CRAIOVA**	**2.21**	**237**	⇓*i*P	**Pn**	**05 44 44.2**	**0.0**
CRAR				*i* S	**Sn**	**05 45 10.5**	**-1.4**
CRAR	**CRAIOVA**	**2.21**	**237**	⇑P	**Pn**	**05 44 44.2**	**0.0**
CRAR				S	**Sn**	**05 45 10.6**	**-1.3**
BURAR	**Bucovina Array**	**2.23**	**339**	⇓*i*P	**Pn**	**05 44 46.1**	**+1.7**
BURAR				*i* S	**Sn**	**05 45 13.6**	**+1.2**
BURAR	**Bucovina Array**	**2.23**	**339**	⇓P	**Pn**	**05 44 45.9**	**+1.5**
BURAR				S	**Sn**	**05 45 13.8**	**+1.4**
BURAR	**Bucovina Array**	**2.23**	**339**	P	**Pn**	**05 44 46.1**	**+1.6**
KIS	**Kishinev**	**2.23**	**48**	*e*P	**Pn**	**05 44 43.0**	**-1.5**
KIS				*i* S	**Sn**	**05 45 09.0**	**-3.4**
KIS				pmax	pmax		
	comp=Z,1µm,0.5s						
KIS				smax			
	comp=E,9µm,0.5s						
KIS	**Kishinev**	**2.23**	**48**	⇑*i*P	**Pn**	**05 44 43.0**	**-1.5**
	comp=E,1µm,0.5s						
PSN	**Preselentsi**	**2.26**	**145**	P	**Pn**	**05 44 45.5**	**+0.6**
PSN				S	**Sn**	**05 45 12.8**	**-0.3**
SZH	**Strazhica**	**2.30**	**188**	*i* P	**Pn**	**05 44 45.2**	**-0.2**
SZH				*i* S	**Sn**	**05 45 12.7**	**-1.3**
PVL	**Pavlikeni**	**2.44**	**198**	*i* P	**Pn**	**05 44 48.4**	**+1.2**
PVL				*i* S	**Sn**	**05 45 17.8**	**+0.4**
PRD	**Provadia**	**2.45**	**162**	*i* P	**Pn**	**05 44 48.0**	**+0.7**
PRD				*i* S	**Sn**	**05 45 17.7**	**+0.2**
GZR	**Gura Zlata**	**2.55**	**268**	⇓*i*P	**Pn**	**05 44 48.7**	**+0.2**
GZR				*i* S	**Sn**	**05 45 19.7**	**0.0**
GZR	**Gura Zlata**	**2.55**	**268**	P	**Pn**	**05 44 48.7**	**+0.2**
DRGR		**2.84**	**297**	⇓*i*P	**Pn**	**05 44 51.9**	**-0.5**
DRGR		**2.84**	**297**	P	**Pn**	**05 44 51.9**	**-0.4**
DRGR		**2.84**	**297**	P	**Pn**	**05 44 52.0**	**-0.4**
DJES	**Djerdap**	**2.88**	**253**	*e*Pn	**Pn**	**05 44 51.4**	**-1.4**
DJES				*e*Sn	**Sn**	**05 45 23.2**	**-4.2**
JMB	**Yambol**	**3.08**	**177**	*i* P	**Pn**	**05 44 54.8**	**-0.6**
BZS	**Buzias**	**3.35**	**273**	⇓*i*P	**Pn**	**05 44 58.6**	**-0.4**
BZS	**Buzias**	**3.35**	**273**	P	**Pn**	**05 44 58.6**	**-0.4**
BZS	**Buzias**	**3.35**	**273**	P	**Pn**	**05 44 58.5**	**-0.5**
PGB	**Panagyurishte**	**3.39**	**209**	*i* P	**Pn**	**05 45 00.0**	**+0.5**
PGB				*i* S	**Sn**	**05 45 37.8**	**-1.6**
DIM	**Dimitrovgrad**	**3.55**	**190**	*i* P	**Pn**	**05 45 02.5**	**+0.9**
EDRB	**Edirne**	**3.70**	**176**	*e*P	**Pn**	**05 45 03.7**	**0.0**
VTS	**Vitosha**	**3.74**	**219**	⇑*i*P	**Pn**	**05 45 03.7**	**-0.4**
VTS	**Vitosha**	**3.74**	**219**	*i* P	**Pn**	**05 45 03.5**	**-0.6**
VTS				*i* S	**Sn**	**05 45 37.0**	**-10**
KDZ	**Kurdzhali**	**3.96**	**191**	*i* P	**Pn**	**05 45 07.0**	**0.0**
RZN	**Rozhen**	**4.04**	**198**	*i* P	**Pn**	**05 45 08.0**	**-0.1**
UZH	**Uzhgorod**	**4.17**	**319**	⇓*e*P	**Pn**	**05 45 07.6**	**-2.2**
UZH				*e*S	**Sn**	**05 45 56.0**	**-1.8**
UZH				pmax	pmax		
	comp=Z,340nm,1.0s						
UZH	**Uzhgorod**	**4.17**	**319**	*e*P	**Pn**	**05 45 07.6**	**-2.2**
	comp=Z,340nm,1.0s						
KKB	**Krupnik**	**4.39**	**214**	*i* P	**Pn**	**05 45 13.8**	**+1.1**
MMB	**Musomiste**	**4.40**	**207**	*i* P	**Pn**	**05 45 13.0**	**+0.1**
KOLS	**Kolonicke sedl**	**4.40**	**322**	*i* PN	**Pn**	**05 45 13.7**	**+0.8**
RDO	**Rodhopi**	**4.44**	**188**	*e*P	**Pn**	**05 45 13.0**	**-0.4**
LVV	**L'vov**	**4.56**	**340**	*e*P	**Pn**	**05 45 15.6**	**+0.5**
LVV				*e*S	**Sn**	**05 46 08.4**	**+1.1**
NVR	**Nevrokopi**	**4.58**	**205**	*e*P	**Pn**	**05 45 15.0**	**-0.3**
ALN	**Alexandroupoli**	**4.65**	**183**	*e*P	**Pn**	**05 45 15.7**	**-0.6**
DIVS	**Divcibare**	**4.78**	**255**	*i* Pn	**Pn**	**05 45 17.5**	**-0.4**
KWP	**Kalwaria**	**4.79**	**330**	*e*Pn	**Pn**	**05 45 19.7**	**+1.6**
RKY	**Sarkoy-Tekirda**	**4.89**	**173**	*e*P	**Pn**	**05 45 18.9**	**-0.5**
KECS	**Kecovo**	**5.00**	**308**	*e*PN	**Pn**	**05 45 20.4**	**-0.5**
VAY	**Valandovo**	**5.05**	**215**	*e*Pn	**Pn**	**05 45 23.1**	**+1.4**
VAY				*e*Sn	**Sn**	**05 46 03.2**	**-16**
VAY	**Valandovo**	**5.05**	**215**	*e*Pn	**Pn**	**05 45 23.0**	**+1.3**
PSZ	**Piszkesteto**	**5.06**	**300**	⇑*e*Pn	**Pn**	**05 45 21.6**	**-0.1**
PSZ	**Piszkesteto**	**5.06**	**300**	⇓*i*P	**Pn**	**05 45 20.8**	**-0.9**
PSZ	**Piszkesteto**	**5.06**	**300**	P	**Pn**	**05 45 21.9**	**+0.2**
PSZ	**Piszkesteto**	**5.06**	**300**	*e*Pn	**Pn**	**05 45 20.5**	**-1.2**
	comp=Z,13nm,0.7s						
PSZ	**Piszkesteto**	**5.06**	**300**	*e*Pn	**Pn**	**05 45 20.5**	**-1.2**
	comp=Z,13nm,0.7s						
STHS	**Stebnicka Huta**	**5.21**	**320**	*i* PN	**Pn**	**05 45 24.2**	**+0.4**
SOH	**Sokhos**	**5.21**	**206**	*e*P	**Pn**	**05 45 23.9**	**0.0**
BBLS	**Bajina Basta -**	**5.25**	**254**	*e*Pn	**Pn**	**05 45 24.5**	**+0.2**
SEV	**Sevastopol'**	**5.25**	**98**	P	**Pn**	**05 45 23.0**	**-1.4**
HRT	**Hereke**	**5.29**	**152**	*e*P	**Pn**	**05 45 24.5**	**-0.4**
EDC	**Edincik**	**5.30**	**168**	*e*P	**Pn**	**05 45 20.6**	**-4.4**
GRG	**Griva**	**5.43**	**214**	*e*P	**Pn**	**05 45 28.0**	**+1.3**
PKSM	**Moragy**	**5.45**	**280**	⇓*i*P	**Pn**	**05 45 26.1**	**-0.9**
PKSM	**Moragy**	**5.45**	**280**

PRU	Pruhonice	9.13	303	*eP*		Pn	05 46 16.2	-0.5
KBA	Koelnbreinsper	9.16	284	⇑*iP*		Pn	05 46 18.9	+1.8
	comp=E,16nm,1.0s							
KBA	Koelnbreinsper	9.16	284	*iP*		Pn	05 46 18.9	+1.8
KBA				pmax	pmax			
	comp=Z,16nm,1.0s							
GERES	GERESS Array B	9.25	295	P		Pn	05 46 19.8	+1.5
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=12							
GERES				LR	LR		05 50 05.9	
	comp=Z,38nm,19.6s,baz=103,slow=39							
KHC	Kasperske Hory	9.41	297	*eP*		Pn	05 46 21.1	+0.7
SVSK	Karacayir	9.62	122	*eP*		Pn	05 46 22.8	-0.4
VRSR	Storozhevoye	10.23	52	*eP*		Pn	05 46 31.2	-0.2
VRSR				*eS*		Sn	05 48 17.6	-6.6
VRSR				pmax	pmax			
	comp=Z,3.0nm,1.9s							
VRSR				pmax	pmax			
	comp=N,4.0nm,0.9s							
VRSR				pmax	pmax			
	comp=E,4.0nm,0.8s							
VRSR				smax				
	comp=N,40nm,1.2s							
VRSR				smax				
	comp=Z,10.0nm,0.8s							
VRSR				smax				
	comp=E,30nm,0.9s							
VRSR	Storozhevoye	10.23	52	*eP*		Pn	05 46 31.2	-0.2
	comp=E,4.0nm,0.9s							
CLL	Collm	10.60	308	*i* x		x	05 46 43.7	
KIV	Kislovodsk	11.70	92	*iP*		Pn	05 46 53.6	+2.6
KIV				*eS*		Sn	05 49 01.6	+1.8
KIV				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KIV	Kislovodsk	11.70	92	*iP*		Pn	05 46 53.6	+2.6
	comp=Z,10.0nm,1.0s							
GOF	Gofitskoye	11.74	86	*eP*		Pn	05 46 46.0	-5.5
GNI	Garni	14.49	105	*eP*		Pn	05 47 29.9	+2.8
GNI				pmax	pmax			
	comp=Z,14nm,1.2s							
GNI	Garni	14.49	105	*eP*		Pn	05 47 29.9	+2.8
	comp=Z,14nm,1.2s							
FINES	FINESS Array B	15.93	359	P		Pn	05 47 39.0	-6.1
	comp=Z,0.3nm,0.3s,baz=173,slow=13,SNR=11							
FINES	FINESS Array B	15.93	359	*iP*		Pn	05 47 41.0	-4.1
FINES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	FINESS Array B	15.93	359	P		Pn	05 47 39.0	-6.1
HFS	Hagfors	16.46	337	P		Pn	05 47 51.7	+0.2
	comp=Z,0.6nm,0.3s,baz=156,slow=16,SNR=18							
KAF	Kangasniemi	16.60	360	*ep*		Pn	05 47 52.1	-1.2
	comp=Z,2.5nm,0.3s,baz=174,slow=13							
KAF	Kangasniemi	16.60	360	*eP*		Pn	05 47 52.1	-1.2
KAF				pmax	pmax			
	comp=Z,3.0nm,0.3s							
JOF	Joensuu	17.64	7	*ep*		Pn	05 48 03.4	-2.4
	comp=Z,5.1nm,0.4s							
NAO01	NORSAR Array S	17.84	335	*eP*		Pn	05 48 07.2	-1.1
	comp=Z,7.3nm,0.7s							
NB2	NORSAR Subarra	17.90	336	P		Pn	05 48 06.2	-2.8
	comp=Z,4.6nm,0.6s,baz=148,slow=12							
NB2	NORSAR Subarra	17.90	336	P		Pn	05 48 06.2	-2.8
NB2				pmax	pmax			
	comp=Z,5.0nm,0.6s							
NOA	NORSAR Array B	17.90	336	P		Pn	05 48 07.1	-1.9
	comp=Z,0.7nm,0.3s,baz=145,slow=9.7,SNR=14							
EKA	Eskdalemuir Ar	21.07	308	P		P	05 48 41.8	-0.3
	comp=Z,0.9nm,0.7s,mb3.2,baz=103,slow=9.5,SNR=4.6							
AKTK	Aktyubinsk	21.63	65	P		P	05 48 48.6	+0.5
AKTO	Aktyubinsk	21.63	65	P		P	05 48 48.6	+0.5
	comp=Z,2.3nm,0.5s,mb3.8,baz=264,slow=9.6,SNR=12							
AKTO	Aktyubinsk	21.63	65	P		P	05 48 49.0	+0.9
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.2							
ARU	Arti	22.78	50	⇓*eP*		P	05 48 59.9	0.0
ARU				pmax	pmax			
	comp=Z,3.0nm,0.3s,mb4.1							
ARU	Arti	22.78	50	*eP*		P	05 48 59.9	0.0
	comp=Z,3.0nm,0.3s,mb4.1							
AB31	Akbulak array	22.90	69	P		P	05 49 01.6	+0.6
AB31				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.6							
ESDC	Sonseca Array	23.01	266	P		P	05 49 00.7	-1.3
	comp=Z,0.9nm,0.5s,mb3.4,baz=62,slow=9.9,SNR=7.0							
ARCES	ARCESS Array B	24.06	359	P		P	05 49 11.2	-0.4
	comp=Z,3.0nm,0.9s,mb3.6,baz=188,slow=9.3,SNR=12							
KEV	Kevo	24.28	1	*ep*		P	05 49 12.4	-1.2
BRVK	Borovoye	29.20	59	*eP*		P	05 49 58.6	+0.9
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.0							
BRVK	Borovoye	29.20	59	*eP*		P	05 49 58.6	+0.9
	comp=Z,2.0nm,0.5s,mb4.0							
BVAR	Borovoye Array	29.27	59	P		P	05 49 59.6	+1.3
	comp=Z,1.2nm,0.6s,mb3.7,baz=273,slow=7.7,SNR=7.1							
CHKZ	Chkalovo	29.38	58	*eP*		P	05 50 00.0	+0.7
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.5							
CHKZ	Chkalovo	29.38	58	*eP*		P	05 49 60.0	+0.7
	comp=Z,1.5nm,0.8s,mb3.7							
CHKZ	Chkalovo	29.38	58	*eP*		P	05 50 00.0	+0.7
	comp=Z,1.0nm,0.8s,mb3.5							
KK31	Karatay Array	31.37	78	*iP*		P	05 50 18.4	+1.6
KK31				pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.3							
KK31	Karatay Array	31.37	78	*iP*		P	05 50 18.4	+1.6
	comp=Z,2.0nm,0.3s,mb4.3							
KKAR	Karatay Array	31.37	78	P		P	05 50 18.4	+1.6
KKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.9							
AAK	Ala-Archa	34.27	77	*eP*		P	05 50 43.4	+1.3
AAK				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.3							
AAK	Ala-Archa	34.27	77	*eP*		P	05 50 43.1	+1.0
	comp=Z,2.0nm,0.4s,mb4.3							
AAK	Ala-Archa	34.27	77	*eP*		P	05 50 43.4	+1.3
	comp=Z,6.0nm,1.1s,mb4.3							
ZAL	Zalesovo	37.68	55	P		P	05 51 11.7	+0.5
	comp=Z,4.2nm,0.6s,mb4.5,baz=189,slow=7.9,SNR=14							
MKAR	Makanchi Array	38.04	67	P		P	05 51 15.1	+0.9
	comp=Z,1.8nm,0.6s,mb4.1,baz=275,slow=8.1,SNR=19							
MKAR	Makanchi Array	38.04	67	P		P	05 51 15.1	+0.9
TORD	Torodi Ar. Bea	38.48	221	P		P	05 51 17.9	+0.1
	comp=Z,3.7nm,0.6s,mb4.4,baz=28,slow=8.7,SNR=59							
TORD				PcP	PcP		05 53 27.6	-0.7
	comp=Z,0.9nm,0.6s,baz=18,slow=2.4,SNR=5.8							
TORD	Torodi Ar. Bea	38.48	221	P		P	05 51 17.9	0.0
TORD				PcP	PcP		05 53 27.6	-0.7
WMQ	Urumqi	42.69	69	*eP*		P	05 51 54.5	+2.1
WMQ				AMB	AMB			
	comp=Z,7.0nm,0.7s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,89nm,4.1s							
DBIC	Dimbokro	47.24	225	P		P	05 52 27.6	-0.8
	comp=Z,3.7nm,0.3s,mb4.5,baz=18,slow=8.9,SNR=28							
DBIC	Dimbokro	47.24	225	P		P	05 52 27.6	-0.8
DBIC				pmax	pmax			
	comp=Z,4.0nm,0.4s							
DBIC	Dimbokro	47.24	225	*eP*		P	05 52 27.2	-1.2
	comp=Z,4.0nm,0.4s,mb4.5							
KOLN	Koldanda	48.17	91	*eP*		P	05 52 37.4	+1.8
GKN	Gorkha	48.76	90	*eP*		P	05 52 41.2	+1.1
	comp=Z,33nm,0.8s							
TLY	Talaya	49.22	53	*iP*		P	05 52 44.6	+1.0
DMN	Daman	49.32	90	*eP*		P	05 52 46.0	+1.6
	comp=Z,7.1nm,0.4s,mb5.0							
KKN	Kakani	49.34	90	*eP*		P	05 52 45.5	+1.0
	comp=Z,20nm,0.6s,mb5.2							
GUN	Gumba	49.68	89	*eP*		P	05 52 48.6	+1.5
SONM	Songino Array	52.56	57	P		P	05 53 09.8	+1.2
	comp=Z,2.1nm,0.5s,mb4.5,baz=288,slow=8.1,SNR=11							
HHC	Hu-ho-hao-te	59.45	61	*eP*		P	05 53 58.3	+0.7
HHC				AP	pP		05 54 28.8	+1.4
HHC				XP	sP		05 54 42.5	+1.5
HHC				PCP	PcP		05 54 44.8	+0.8
HHC				PP	PP		05 56 12.5	+2.3
HHC				SCP	ScP		05 58 32.4	-0.7
HHC				PCS	PcS		05 58 45.5	-0.7
HHC				S	**S**		**06 01 54.8**	**-2.3**
HHC				XS	sS		06 02 46.6	-1.7
HHC				SCS	ScS		06 03 32.3	-3.4
HHC				SS	SS		06 05 51.1	-2.9
HHC				AMB	AMB			
	comp=Z,14nm,0.5s,mb5.2							
HHC				AMB	AMB			
	comp=Z,188nm,7.4s							
HHC				LR	LR			
	comp=N,103nm,7.3s							
HHC				LR	LR			
	comp=E,108nm,4.3s							
HHC				LR	LR			
	comp=Z,97nm,6.3s							
CHTO	Chiang Mai	64.68	89	*eP*		P	05 54 33.0	+0.4
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.5							
CHTO	Chiang Mai	64.68	89	*eP*		P	05 54 33.0	+0.4
	comp=Z,5.7nm,0.7s,mb4.5							
CHTO	Chiang Mai	64.68	89	*eP*		P	05 54 33.0	+0.4
	comp=Z,5.7nm,0.7s,mb4.5							
INK	Inuvik	65.48	352	P		P	05 54 36.6	-1.1
	comp=Z,1.5nm,0.3s,mb4.2,baz=17,slow=4.0,SNR=15							
INK	Inuvik	65.48	352	P		P	05 54 36.6	-1.1
INK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
INK	Inuvik	65.48	352	*eP*		P	05 54 36.2	-1.5
	comp=Z,1.9nm,0.5s,mb4.2							
LBTB	Lobatse	70.22	181	*eP*		P	05 55 07.5	+0.1
LBTB				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.3							
LBTB	Lobatse	70.22	181	*eP*		P	05 55 07.5	+0.1
	comp=Z,4.8nm,1.0s,mb4.3							
LBTB	Lobatse	70.22	181	*eP*		P	05 55 07.5	+0.1
	comp=Z,4.8nm,1.0s,mb4.3							
PDAR	Pinedale Array	83.72	329	P		P	05 56 22.3	-0.7
	comp=Z,0.6nm,0.6s,mb3.6,baz=63,slow=5.2,SNR=5.7							
ASAR	Alice Springs	118.55	96	PKP	PKPdf		06 02 40.1	-0.9
	comp=Z,0.8nm,0.5s,baz=320,slow=1.6,SNR=15							
PLCA	Paso Flores	121.80	243	PKP	PKPdf		06 02 45.5	-1.7
	comp=Z,0.6nm,0.4s,baz=328,slow=15,SNR=3.1							
STKA	Stephens Creek	128.94	98	PKP	PKPdf		06 02 60.0	-1.0
	comp=Z,1.2nm,0.4s,baz=234,slow=19,SNR=6.2							

*NEIC **23** 05:44:59.7±0.7, 42.99N×126.59W, h10km, mb4.1/8, Error ellipse: s-maj=9.1km s-min=5.8km az=64.0*
*ISCJB **23** 05:45:00.1±0.7, 43.1N×004×126.44W±0.08, h10km, mb4.2/5, MS3.8/6, Error ellipse: s-maj=8.8km s-min=4.9km az=147.5*
*IDC **23** 05:45:00.3±1.6, 43.10N×126.28W, h0km, mb3.9/3, mb1 4.0/8, mb1mx3.8/26, mbtmp3.9/8, ML3.7/5, MS3.7/11, Ms1 3.7/11, ms1mx3.4/35, Error ellipse: s-maj=35.4km s-min=12.8km az=42.0*

ISC 23 05:45:00.9±0.8, 4308N×004×12656W×009, h10km, n98, σ1°39/93, mb4.2/5, MS3.8/6, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	1.64	97	*ePn*	Pn	05 45 26.9	-3.0
KBO	Bosley Butte	1.93	116	*ePn*	Pn	05 45 31.4	-2.3
RNO	Roman Nose	2.21	67	P	Pn	05 45 35.8	-1.9
DBO	Dodson Butte	2.43	88	P	Pn	05 45 38.4	-2.2
KRMB	Red Mountain	2.51	128	*ePn*	Pn	05 45 38.5	-3.2
HSO	Harness Mounta	2.57	79	P	Pn	05 45 40.6	-2.0
MPOR	Mary's Peak	2.60	56	P	Pn	05 45 41.2	-1.8
COR	Corvallis	2.79	56	*ePn*	Pn	05 45 44.4	-1.2
BBOR	Butler Butte	2.85	93	P	Pn	05 45 45.0	-1.4
KHMM	Horse Mountain	3.05	135	*ePn*	Pn	05 45 48.0	-1.2
YBH	Yreka Blue Hor	3.15	114	Pn	Pn	05 45 49.5	-1.1
	10nm,0.3s,baz=299,slow=11,SNR=108						
YBH				Sn	Sn	05 46 25.0	-3.3
	1.4nm,0.3s,baz=108,slow=19,SNR=5.3						
YBH				LR	LR	05 46 34.4	
	comp=Z,225nm,19.9s,baz=294,slow=32						
YBH	Yreka Blue Hor	3.15	114	*ePn*	Pn	05 45 49.0	-1.5
HBO	Huckleberry Mo	3.18	75	P	Pn	05 45 49.9	-1.0
BROR	Big Rock Looko	3.20	67	P	Pn	05 45 50.1	-1.2
IRO	Indian Ridge	3.26	72	P	Pn	05 45 51.2	-0.9
SSOR	Sweet Springs	3.45	58	P	Pn	05 45 54.1	-0.6
HUOR	Husband	3.57	72	P	Pn	05 45 55.9	-0.5
WIFE	Three Sisters-	3.58	73	P	Pn	05 45 55.8	-0.7
BKCOR	Black Crater	3.73	69	P	Pn	05 45 57.9	-0.6
WDC	Whiskeytown Da	3.91	128	*ePn*	Pn	05 46 03.0	+2.0
VLMM	Larch Mountain	4.07	51	P	Pn	05 46 03.2	0.0
TDH	Tom, Dick, Har	4.08	56	P	Pn	05 46 03.1	-0.2
HOOD	Mount Hood Mea	4.17	56	*ePn*	Pn	05 46 04.4	-0.2
LVP	Lakeview Peak	4.21	43	P	Pn	05 46 05.0	-0.1
MTMW	Mount Mitchell	4.28	45	P	Pn	05 46 05.6	-0.4
FL2	Flat Top 2	4.32	43	P	Pn	05 46 06.9	+0.2
MOD	Modoc	4.77	102	*ePn*	Pn	05 46 12.5	-0.3
LON	Longmire	4.98	41	*ePn*	Pn	05 46 16.1	+0.3
GNW	Green Mountain	5.20	29	*ePn*	Pn	05 46 18.7	0.0
OHCM	Honcut	5.35	133	*ePn*	Pn	05 46 21.8	+1.0
WVOR	Wild Horse Val	5.87	94	*ePn*	Pn	05 46 25.9	-2.0
	9.4nm,0.6s						
PGC	Sidney	5.97	20	*ePn*	Pn	05 46 28.9	-0.5
HAWA	Hanford	6.00	54	*ePn*	Pn	05 46 29.2	-0.5
PAHR	Pah Rah Range	6.36	120	*ePn*	Pn	05 46 40.9	+6.2
CMB	Columbia Colle	6.89	135	*ePn*	Pn	05 46 43.9	+1.9
BMO	Blue Mountains	6.90	72	*ePn*	Pn	05 46 41.0	-1.1
NVAR	Mina Array Bea	7.80	124	Pn	Pn	05 46 55.5	+1.1
	0.3nm,0.3s,baz=305,slow=13,SNR=5.8						
NEW	Newport	8.39	49	Pn	Pn	05 47 00.2	-2.4
	0.1nm,0.3s,baz=248,slow=15,SNR=2.6						
NEW				LR	LR	05 50 19.3	
	comp=Z,746nm,21.9s,baz=226,slow=39						
NEW	Newport	8.39	49	*ePn*	Pn	05 47 02.8	+0.2
HLID	Hailey	8.87	83	*ePn*	Pn	05 47 09.4	+0.3
BBB	Bella Bella	9.17	354	Pn	Pn	05 47 15.5	+2.3
	0.8nm,0.3s,baz=191,slow=12,SNR=11						
BBB				LR	LR	05 50 06.9	
	comp=Z,445nm,18.7s,baz=205,slow=33						
BSMT	Bassoo Peak	9.54	56	*ePn*	Pn	05 47 19.3	+1.0
ISA	Isabella	9.69	137	*ePn*	Pn	05 47 23.9	+3.5
MSO	Missoula	9.69	63	*ePn*	Pn	05 47 20.4	-0.1
MCMT	McKenzie Canyo	10.04	75	*ePn*	Pn	05 47 25.3	+0.2
CHMT	Chamberlain Mo	10.17	63	*ePn*	Pn	05 47 26.6	-0.4
DLMT	Dillon	10.28	72	*ePn*	Pn	05 47 28.5	+0.1
LRM	Limekiln Ridge	10.45	70	*ePn*	Pn	05 47 31.1	+0.3
WALA	Waterton Lakes	10.62	51	*ePn*	Pn	05 47 34.1	+1.1
DUG	Dugway	10.68	101	*ePn*	Pn	05 47 33.9	0.0
BOZ	Bozeman (W)	10.99	71	*ePn*	Pn	05 47 38.5	+0.3
QLMT	Earthquake Lak	11.04	76	*ePn*	Pn	05 47 40.8	+1.8
RRI2	Red Ridge	11.13	83	*ePn*	Pn	05 47 42.1	+2.1
	40nm,1.4s						
HWUT	Hardware Ranch	11.20	92	*ePn*	Pn	05 47 43.1	+2.1
ARUT	Antelope Range	11.30	113	*ePn*	Pn	05 47 40.1	-2.4
AHID	Auburn Hatcher	11.34	86	*ePn*	Pn	05 47 45.7	+2.7
IMW	Indian Meadow	11.38	81	*ePn*	Pn	05 47 45.9	+2.4
TPAW	Teton Pass	11.38	83	*ePn*	Pn	05 47 45.9	+2.3
REDW	Red Top Meadow	11.46	83	*ePn*	Pn	05 47 46.9	+2.2
SNOW	Snow King Moun	11.53	83	*ePn*	Pn	05 47 48.1	+2.5
FLWY	Flagg Ranch	11.55	80	*ePn*	Pn	05 47 49.3	+3.5
YNR	Norris Junctio	11.57	76	*ePn*	Pn	05 47 48.5	+2.4
LOHW	Long Hollow	11.63	82	*ePn*	Pn	05 47 48.6	+1.6
LKWY	Lake	11.77	77	*ePn*	Pn	05 47 53.2	+4.4
MSU	Marysvale	11.81	108	*ePn*	Pn	05 47 52.1	+2.6
TMUT	Trail Mountain	12.16	103	*ePn*	Pn	05 47 59.0	+4.8
GCMT	Greycliff	12.37	72	*ePn*	Pn	05 47 58.5	+1.4
BW06	Boulder Array	12.47	86	*ePn*	Pn	05 48 00.4	+2.0
PDAR	Pinedale Array	12.47	86	Pn	Pn	05 47 59.7	+1.3
	0.0nm,0.3s,baz=287,slow=12,SNR=13						
PDAR				LR	LR	05 53 09.6	
	comp=Z,532nm,19.8s,baz=287,slow=40						
SRU	San Rafael	12.73	103	*ePn*	Pn	05 48 06.4	+4.5
EGMT	Eagleton	12.76	61	*ePn*	Pn	05 48 14.2	+12
WUAZ	Wupatki	13.96	118	*ePn*	Pn	05 48 17.2	-1.6
PV01	Paradox Valley	14.52	104	*ePn*	Pn	05 48 26.7	+0.3
DLBC	Dease Lake	15.53	353	Pn	Pn	05 48 47.0	+7.2
	0.1nm,0.3s,baz=171,slow=12,SNR=9.6						
DLBC				LR	LR	05 53 58.1	
	comp=Z,170nm,18.6s,baz=259,slow=35						
ISCO	Idaho Springs	16.04	95	*ePn*	Pn	05 48 45.2	-1.3
	6.9nm,1.0s						
TUC	Tucson	16.45	126	*ePn*	Pn	05 48 51.2	-0.6
	5.1nm,1.1s						
DGMT	Dagmar	16.48	63	*ePn*	Pn	05 48 56.7	+4.5
	48nm,1.4s						
SDCO	Great Sand Dun	16.88	101	*ePn*	Pn	05 48 57.4	+0.1
ANMO	Albuquerque	17.57	111	P	Pn	05 49 06.5	+0.6
	0.1nm,0.3s,baz=308,slow=12,SNR=18						
ANMO	Albuquerque	17.57	111	*ePn*	Pn	05 49 07.3	+1.4
	8.9nm,1.0s						
LENM	Lemitar	17.67	114	*ePn*	Pn	05 49 05.7	-1.4
FFC	Flin Flon	19.80	45	*eP*	Pn	05 49 33.4	+0.4
	8.3nm,0.8s						
GDL2	Guadalupe Moun	20.60	114	*ePn*	P	05 49 43.7	+3.5
AGMN	Agassiz Refuge	21.98	66	*eP*	P	05 49 55.1	+0.1
ULM	Lac du Bonnet	22.13	60	P	P	05 49 56.5	-0.1
	7.7nm,1.1s,mb4.0,baz=263,slow=12,SNR=6.2						
ULM				LR	LR	05 58 49.1	
	comp=Z,202nm,20.0s,MS3.5,baz=330,slow=38						
ULM	Lac du Bonnet	22.13	60	*eP*	P	05 49 56.6	0.0
	33nm,1.6s,mb4.5						
DAWY	Dawson	22.27	345	*eP*	P	05 49 55.2	-3.0
KSU1	Kansas State U	22.86	90	*eP*	P	05 50 03.9	-0.5
WMOK	Wichita Mounta	23.08	102	*eP*	P	05 50 04.3	-2.5
	9.8nm,1.1s,mb4.2						
LPIG	La Paz	23.20	140	LR	LR	05 58 40.3	
	comp=Z,212nm,20.6s,MS3.6,baz=198,slow=36						
INK	Inuvik	25.55	354	LR	LR	06 00 22.4	
	comp=Z,290nm,18.3s,MS3.8,baz=317,slow=36						
SCHQ	Schefferville	39.75	51	LR	LR	06 08 32.1	
	comp=Z,146nm,19.4s,MS3.8,baz=305,slow=36						
SONM	Songino Array	78.14	327	P	P	05 57 00.2	-0.1
	0.6nm,0.4s,mb3.9,baz=35,slow=5.3,SNR=3.2						
ZAL	Zalesovo	79.69	342	LR	LR	06 33 26.7	
	comp=Z,66nm,18.1s,MS4.0,baz=202,slow=36						
BVAR	Borovoye Array	83.16	350	P	P	05 57 28.0	+0.8
	4.7nm,1.2s,mb4.4,baz=27,slow=3.5,SNR=3.9						
ZRNK	Zerenda	83.41	351	*eP*	P	05 57 27.4	-1.1
	1.2nm,0.6s,mb4.1						
KEST	Kesra	91.86	35	LR	LR	06 37 11.5	
	comp=Z,35nm,18.5s,MS3.8,baz=247,slow=34						
KULM	Kulim	115.68	306	*eP*	PKPdf	06 03 40.4	-3.1

*NNC **23** 05:53:56.4±7.7, 41.95N×79.38E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=97.6km s-min=42.2km az=172.0*

BJI 23 05:53:43.2, 4071N×7926E, h15km, ML2.9, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	2.79	246	*eP*	Pn	05 54 29.0	+1.7
KSH				*eS*	Sn	05 55 03.1	+2.5
KSH				Smax			
	comp=N,51nm,0.3s						
KSH				Smax			
	comp=E,72nm,0.4s						
TKM2	Tokmak 2	3.52	310	⇓Pn	Pn	05 54 34.5	-2.8
	comp=E,0.3nm,0.4s						
TKM2				⇓Sn	Sn	05 55 21.6	+2.9
	comp=E,4.1nm,0.6s						
MK02	Makanchi Array	6.45	19	⇑Pn	Pn	05 55 15.8	-1.8
	comp=E,3.3nm,0.8s,baz=202,slow=12						
MK02				⇓Lg		05 56 46.1	
	comp=E,2.0nm,0.6s,baz=201,slow=27						
KK31	Karatay Array	6.95	293	Pn	Pn	05 55 39.3	+15
	comp=E,1.3nm,0.7s,baz=99,slow=16,SNR=11						
KK31				⇑Lg		05 57 15.7	
	comp=E,1.3nm,0.5s,baz=112,slow=25,SNR=7.8						

IDC 23 07:00:51.4±4.2, 1484S×17794W, h382km±73km, mb3.3/3, mb1 3.6/4, mb1mx3.3/13, mbtmp4.1/4, Error ellipse: s-maj=230.1km s-min=17.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	6.04	82	P	Pn	07 02 22.9	-0.8
	5.4nm,0.3s,baz=257,slow=6.0,SNR=6.7						
AFI				S	S	07 03 40.4	+1.6
	2.3nm,0.3s,baz=200,slow=21,SNR=2.1						
WRA	Warramunga Arr	45.71	257	P	P	07 08 36.2	+0.3
	0.5nm,0.4s,baz=91,slow=6.3,SNR=23						
ASAR	Alice Springs	46.13	251	P	P	07 08 39.5	+0.4
	8.3nm,0.6s,baz=85,slow=7.7,SNR=160						
NVAR	Mina Array Bea	76.91	44	P	P	07 12 03.3	+0.7
	0.6nm,0.6s,baz=230,slow=9.3,SNR=6.4						
BRTR	Keskin Array B	142.88	318	PKP	PKPdf	07 19 39.2	-0.8
	3.1nm,0.9s,baz=95,slow=1.8,SNR=12						

*IDC **23** 07:20:00.7±0.5, 7091N×691W, h0km, mb4.2/20, mb1 4.2/23, mb1mx4.2/29, mbtmp4.1/23, ML3.5/3, MS3.8/21, Ms1 3.8/21, ms1mx3.6/36, Error ellipse: s-maj=15.8km s-min=9.6km az=24.0*
*ISCJB **23** 07:20:01.4±0.1, 7089N×002×661W×006, h10km, mb4.5/112, MS3.8/30, Error ellipse: s-maj=3.4km s-min=2.2km az=63.7*
*BER **23** 07:20:01.6±0.8, 7122N×649W, h10km, ML4.2, MW4.5, ML3.3(NAO)*
*MOS **23** 07:20:02.8±1.1, 7092N×635W, h18km, mb4.8/56, Error ellipse: s-maj=15.4km s-min=3.6km az=98.4*
*CSEM **23** 07:20:02.0±0.1, 7075N×698W, h17km, mb4.6/24, Ms3.5, Error ellipse: s-maj=2.8km s-min=1.5km az=46.0*
*NAO **23** 07:20:04.7, 7091N×522W

KBS **Kingsbay** 9.35 22*c iP* **Pn** **07 22 15.9 -1.5**
KBS **Kingsbay** 9.35 22 *e*Pn **Pn** **07 22 15.7 -1.7**
NSS **Namsos** 9.46 123 *e*Pn **Pn** **07 22 15.9 -2.9**
NSS *e*Sn **Sn** **07 23 55.8 -9.4**
SPB4 **Spitsbergen Ar** 9.46 29 *e*Pn **Pn** **07 22 17.9 -1.0**
SPB4 **Spitsbergen Ar** 9.46 29 *e*Pn **Pn** **07 22 17.9 -1.0**
SPA0 **Spitsbergen Ar** 9.46 29 Pn **Pn** **07 22 19.4 +0.4**
baz=230,slow=16
SUMG **Summit** 10.07 295 *e*Pn **Pn** **07 22 29.7 +2.3**
comp=Z,26nm,1.1s
KTK1 **Kautokeino** 10.35 86 *e*Pn **Pn** **07 22 28.8 -2.3**
FOO **Floro** 10.40 148 *e*Pn **Pn** **07 22 27.4 -4.4**
SUE **Sulen** 10.86 149 *e*Pn **Pn** **07 22 35.5 -2.5**
ARA0 **ARCESS Array S** 10.89 82 Pn **Pn** **07 22 36.4 -2.0**
baz=293,slow=12
ARA0 Sn **Sn** **07 24 32.9 -7.4**
ARCES **ARCESS Array B** 10.89 82 Pn **Pn** **07 22 36.1 -2.3**
comp=Z,0.3nm,0.3s,baz=294,slow=12,SNR=12
ARCES LR LR 07 26 10.2
comp=Z,286nm,18.8s,baz=283,slow=34
ARE0 **ARCESS Array S** 10.89 82 *e*Pn **Pn** **07 22 36.3 -2.1**
ARE0 **ARCESS Array S** 10.89 82 *e*Pn **Pn** **07 22 36.3 -2.1**
HYA **Hoyanger** 11.01 146 *e*Pn **Pn** **07 22 37.8 -2.3**
HYA *e*Sn **Sn** **07 24 34.9 -8.3**
KEV **Kevo** 11.29 80 *e*p **Pn** **07 22 34.7 -9.3**
NB2 **NORSAR Subarra** 12.18 135 Pn **Pn** **07 22 54.5 -1.6**
comp=Z,15nm,1.2s,baz=333,slow=14
NB2 **NORSAR Subarra** 12.18 135 Pn **Pn** **07 22 57.2 +1.1**
baz=338,slow=14
NOA **NORSAR Array B** 12.18 135 Pn **Pn** **07 22 51.6 -4.5**
comp=Z,0.3nm,0.3s,baz=322,slow=13,SNR=8.4
NOA LR LR 07 27 30.9
comp=Z,384nm,20.2s,baz=330,slow=37
NAO01 **NORSAR Array S** 12.27 136 *e*Pn **Pn** **07 22 59.2 +1.8**
KONO **Kongsberg** 13.07 141 *e*Pn **Pn** **07 23 07.8 -0.6**
HFS **Hagfors** 13.56 132 Pn **Pn** **07 23 14.4 -0.6**
comp=Z,1.0nm,0.3s,baz=347,slow=12,SNR=27
HFS LR LR 07 28 24.3
comp=Z,690nm,19.2s,baz=312,slow=37
HFS **Hagfors** 13.56 132 Pn **Pn** **07 23 13.5 -1.5**
baz=350,slow=12
HFS Sn **Sn** **07 25 38.0 -7.8**
baz=340,slow=28
HFS **Hagfors** 13.56 132 P **Pn** **07 23 14.4 -0.7**
APA **Apatity** 14.37 84↑ *iP* **Pn** **07 23 32.8 +6.8**
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,600nm,12.0s
KAF **Kangasniemi** 15.55 108 *e*p **Pn** **07 23 40.1 -1.8**
comp=Z,2.3nm,0.4s
KAF **Kangasniemi** 15.55 108 *e*P **Pn** **07 23 40.1 -1.8**
KAF pmax pmax
comp=Z,2.0nm,0.4s
EKA **Eskdalemuir Ar** 15.67 173 Pn **Pn** **07 23 42.1 -1.3**
comp=Z,0.1nm,0.3s,baz=357,slow=13,SNR=3.1
ESK **Eskdalemuir** 15.69 173 *e*P **Pn** **07 23 45.5 +1.9**
ESK pmax pmax
comp=Z,23nm,1.0s
ESK **Eskdalemuir** 15.69 173 *e*Pn **Pn** **07 23 45.5 +1.8**
comp=Z,23nm,1.0s
ESK **Eskdalemuir** 15.69 173 *e*Pn **Pn** **07 23 45.5 +1.9**
comp=Z,23nm,1.0s
FIA0 **FINESS Array S** 15.99 110 P **Pn** **07 23 46.2 -1.3**
baz=325,slow=16
FIA1 **FINESS Array S** 15.99 110 *e*Pn **Pn** **07 23 47.8 +0.2**
FIA1 **FINESS Array S** 15.99 110 *e*Pn **Pn** **07 23 47.8 +0.2**
FINES **FINESS Array B** 15.99 110 Pn **Pn** **07 23 45.9 -1.6**
comp=Z,0.4nm,0.3s,baz=307,slow=14,SNR=14
FINES LR LR 07 29 15.0
comp=Z,437nm,21.4s,baz=322,slow=34
FINES **FINESS Array B** 15.99 110 Pn **Pn** **07 23 45.9 -1.6**
FINES LR LR 07 29 15.0
SFJD **Kangerlussuaq** 16.00 278 LR LR 07 30 15.8
comp=Z,204nm,20.3s,baz=266,slow=39
JOF **Joensuu** 16.57 100 *e*p **Pn** **07 23 50.2 -4.8**
comp=Z,1.3nm,0.4s
BSEG **Bad Segeberg** 18.58 147 *e*P **Pn** **07 24 20.3 +0.3**
comp=Z,53nm,1.2s
BSEG **Bad Segeberg** 18.58 147 *e*P **Pn** **07 24 20.3 +0.3**
BSEG pmax pmax
comp=Z,53nm,1.2s
WTSB **Winterswijk** 19.93 155 *e*P **Pn** **07 24 33.4 -2.7**
HGN **Heimansgroeve** 20.99 157 *e*P **P** **07 24 45.5 -0.5**
comp=Z,23nm,1.4s
HGN *ex* x 07 25 09.6
HGN *e*S **S** **07 28 46.1 +6.4**
MEM **Membach** 21.15 157 P **P** **07 24 48.4 +0.6**
BCLA **Clavier** 21.25 159 P **P** **07 24 52.1 +3.3**
BCLA **Clavier** 21.25 159 P **P** **07 24 52.1 +3.3**
SUW **Suwalki** 21.41 127 *e*P **P** **07 24 52.4 +1.9**
SUW pmax pmax
comp=Z,72nm,1.3s,mb4.8
SUW **Suwalki** 21.41 127 *e*P **P** **07 24 52.4 +1.9**
comp=Z,72nm,1.3s,mb4.8
SUW **Suwalki** 21.41 127 *e*P **P** **07 24 52.4 +1.9**
comp=Z,72nm,1.3s,mb4.8
BAIF **Baives** 21.48 161 *e*P **P** **07 24 54.1 +2.8**
comp=Z,13nm,0.8s,mb4.0
BAIF **Baives** 21.48 161 *e*P **P** **07 24 54.1 +2.8**
BAIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
BAIF **Baives** 21.48 161 *e*P **P** **07 24 54.1 +2.8**
comp=Z,6.7nm,0.8s,mb4.0
DOU **Dourbes** 21.48 160 P **P** **07 24 54.0 +2.6**
DOU **Dourbes** 21.48 160 P **P** **07 24 53.9 +2.5**
GIVF **Givet** 21.50 160 *e*P **P** **07 24 54.2 +2.6**
comp=Z,53nm,1.1s,mb4.6
GIVF **Givet** 21.50 160 *e*P **P** **07 24 54.2 +2.6**
GIVF pmax pmax
comp=Z,27nm,1.1s,mb4.6
GIVF **Givet** 21.50 160 *e*P **P** **07 24 54.2 +2.6**
comp=Z,27nm,1.1s,mb4.6
UBBA **Unterbreizbach** 21.52 150 *e*P **P** **07 24 52.8 +1.0**
comp=Z,42nm,1.8s,mb4.6
CLL **Collm** 21.58 145 *e*P **P** **07 24 52.6 +0.2**
comp=Z,45nm,1.7s,mb4.6
CLL **Collm** 21.58 145 *i* P **P** **07 24 53.2 +0.8**
comp=Z,7.0nm,0.9s,mb4.1
CLL *i* pP 07 24 55.8
comp=Z,44nm,1.7s
CLL *i* x x 07 25 02.6
CLL *e*PPP 07 25 22.0
CLL *e*S **S** **07 28 57.0 +5.6**
CLL **Collm** 21.58 145 *i* P **P** **07 24 53.2 +0.8**
CLL *i* *PP 07 24 55.8
CLL *e*S **S** **07 28 57.0 +5.6**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
CLL MLR MLR
comp=Z,300nm,12.7s,MS3.9
CLL **Collm** 21.58 145 *i* P **P** **07 24 53.2 +0.8**
comp=Z,7.0nm,0.9s,mb4.1
CLL *i* pP 07 24 55.8
CLL *e*S **S** **07 28 57.0 +5.6**
CLL LR LR
comp=Z,300nm,12.7s,MS3.9
CLL **Collm** 21.58 145 *i* P **P** **07 24 53.2 +0.8**
comp=Z,7.0nm,0.9s,mb4.1
CLL *i* pP 07 24 55.8
NE53 **Naroch'** 21.61 120 *e*P **P** **07 24 52.0 -0.7**
TNS **Taunus Mts** 21.86 153 *e*P **P** **07 24 56.6 +1.2**
comp=Z,22nm,1.3s,mb4.4
TNS **Taunus Mts** 21.86 153 *e*P **P** **07 24 56.6 +1.2**
TNS pmax pmax
comp=Z,22nm,1.3s,mb4.4
MOX **Moxa** 21.96 148 *e*P **P** **07 24 56.9 +0.4**
comp=Z,11nm,1.1s,mb4.2
MOX **Moxa** 21.96 148 *e*P **P** **07 24 57.8 +1.3**
BRG **Berggiesshubel** 22.18 144 *e*P **P** **07 24 59.5 +0.7**
comp=Z,16nm,1.4s,mb4.3
BRG **Berggiesshubel** 22.18 144 *i* P **P** **07 25 00.1 +1.3**
comp=Z,9.8nm,1.4s,mb4.0
BRG *e* 07 25 05.8
comp=Z,23nm,1.8s
BRG **Berggiesshubel** 22.18 144 *i* P **P** **07 25 00.1 +1.3**
BRG *e* 07 25 05.8
BRG pmax pmax
comp=Z,2.0nm,1.4s
BRG pmax pmax
comp=Z,10.0nm,1.8s,mb3.9
BRG **Berggiesshubel** 22.18 144 *i* P **P** **07 25 00.1 +1.3**
comp=Z,9.8nm,1.4s,mb4.0
BRG *e* 07 25 05.8
MNK **Minsk** 22.26 119 *e*P **P** **07 24 55.0 -4.7**

TANN **Tannenbergstha** 22.34 147 *e*P **P** **07 24 59.9 -0.6**
comp=Z,26nm,1.3s,mb4.5
FLN **La Foliniere** 22.37 169 *e*P **P** **07 25 00.9 +0.1**
comp=Z,161nm,1.5s,mb4.9
FLN *e*R
comp=Z,271nm,21.8s
FLN **La Foliniere** 22.37 169 *e*P **P** **07 25 00.9 +0.1**
FLN pmax pmax
comp=Z,81nm,1.5s,mb4.9
FLN MLR MLR
comp=Z,270nm,21.8s,MS3.6
FLN **La Foliniere** 22.37 169 *e*P **P** **07 25 00.9 +0.1**
comp=Z,81nm,1.5s,mb4.9
FLN LR LR
comp=Z,270nm,21.8s,MS3.6
NKC **Novy Kostel** 22.51 147 *e*P **P** **07 25 02.0 -0.3**
NKC *ex* x 07 25 15.7
LDF **La Druitiere** 22.56 169 *e*P **P** **07 25 02.6 -0.2**
comp=Z,59nm,1.1s,mb4.6
LDF **La Druitiere** 22.56 169 *e*P **P** **07 25 02.6 -0.2**
LDF pmax pmax
comp=Z,26nm,1.1s,mb4.6
LDF **La Druitiere** 22.56 169 *e*P **P** **07 25 02.6 -0.2**
comp=Z,26nm,1.1s,mb4.6
PVCC **Panska Ves** 22.63 143 *e*P **P** **07 25 04.4 +0.8**
PVCC *ex* x 07 25 17.8
ROSF **Rostrenen** 22.66 174 *e*P **P** **07 25 01.4 -2.5**
KSP **Ksiaz** 22.68 140 *e*P **P** **07 25 03.5 -0.6**
KSP *e*PP 07 25 09.7
KSP *e*S **S** **07 29 11.0 -1.8**
MANZ **Manzenberg** 22.69 148 *e*P **P** **07 25 04.6 +0.4**
comp=Z,13nm,1.3s,mb4.2
GRR **Gorron** 22.72 170 *e*P **P** **07 25 03.3 -1.2**
GRA1 **Grafenberg Arr** 22.82 149 *e*P **P** **07 25 07.3 +1.7**
GRF **Grafenberg Arr** 22.82 149 *e*P **P** **07 25 07.3 +1.7**
ROTZ **Rotzenmuhle** 22.91 148 *e*P **P** **07 25 07.7 +1.1**
comp=Z,18nm,1.1s,mb4.4
UPC **Upice** 22.94 141 *e*P **P** **07 25 07.1 +0.2**
MEZF **Maizieres J'vi** 23.11 160 *e*P **P** **07 25 09.8 +1.1**
comp=Z,150nm,1.5s,mb4.9
MEZF **Maizieres J'vi** 23.11 160 *e*P **P** **07 25 09.8 +1.1**
comp=Z,150nm,1.5s,mb5.2
PRU **Pruhonice** 23.14 144 *e*P **P** **07 25 09.9 +0.9**
DPC **Dobruska-Polom** 23.15 141 *e*P **P** **07 25 08.4 -0.7**
STU **Stuttgart** 23.39 153 *e*P **P** **07 25 12.7 +1.1**
STU **Stuttgart** 23.39 153 *e*P **P** **07 25 12.6 +1.0**
STU pmax pmax
comp=Z,6.0nm,0.4s,mb4.4
STU **Stuttgart** 23.39 153 *e*P **P** **07 25 12.6 +1.0**
comp=Z,5.9nm,0.4s,mb4.4
STU **Stuttgart** 23.39 153 *e*P **P** **07 25 12.6 +1.0**
comp=Z,5.9nm,0.4s,mb4.4
CDF **Champ du Feu** 23.47 156 *e*P **P** **07 25 13.1 +0.6**
comp=Z,21nm,1.0s,mb4.2
CDF **Champ du Feu** 23.47 156 *e*P **P** **07 25 13.1 +0.6**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
CDF **Champ du Feu** 23.47 156 *e*P **P** **07 25 13.1 +0.6**
comp=Z,10nm,1.0s,mb4.2
WET **Wettzell** 23.63 147 *e*P **P** **07 25 15.0 +0.9**
comp=Z,14nm,1.1s,mb4.3
WET **Wettzell** 23.63 147 *e*P **P** **07 25 15.0 +0.9**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.3
BFO **Black Forest** 23.69 155 *e*P **P** **07 25 15.3 +0.7**
comp=Z,17nm,1.4s,mb4.3
BFO **Black Forest** 23.69 155 *e*P **P** **07 25 15.3 +0.7**
BFO pmax pmax
comp=Z,17nm,1.4s,mb4.3
HAU **Haudompre** 23.75 158 *e*P **P** **07 25 15.7 +0.6**
HAU *e*R
comp=Z,252nm,20.0s
HAU **Haudompre** 23.75 158 *e*P **P** **07 25 15.7 +0.6**
HAU LR LR
comp=Z,250nm,20.0s,MS3.7
KHC **Kasperske Hory** 23.77 146 *e*P **P** **07 25 16.5 +1.2**
MORC **Moravsky Berou** 23.95 139 *e*P **P** **07 25 17.7 +0.7**
MORC *e* 07 25 26.2
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
MORC **Moravsky Berou** 23.95 139 *e*P **P** **07 25 17.6 +0.7**
comp=Z,1.9nm,0.6s,mb3.7
MORC *e* 07 25 26.2
MORC **Moravsky Berou** 23.95 139 *e*P **P** **07 25 17.6 +0.6**
TREC **Trest** 23.98 143 *e*P **P** **07 25 17.8 +0.5**
HINF **Hinteralfeld** 24.00 157 *e*P **P** **07 25 18.1 +0.7**
OJC **Ojcow** 24.04 136 *e*P **P** **07 25 24.0 +6.2**
GEC2 **GERESS Array S** 24.07 146 *e*P **P** **07 25 18.8 +0.7**
comp=Z,14nm,1.3s,mb4.2
GEC2 **GERESS Array S** 24.07 146 *e*P **P** **07 25 18.8 +0.7**
GEC2 pmax pmax
comp=Z,14nm,1.3s,mb4.2
GERES **GERESS Array B** 24.07 146 P **P** **07 25 18.2 +0.1**
comp=Z,4.9nm,1.0s,mb3.9,baz=351,slow=7.4,SNR=19
GERES LR LR 07 33 44.8
comp=Z,90nm,20.9s,MS3.2,baz=189,slow=34
MOS **Moscow** 24.18 106 *e*P **P** **07 25 20.8 +1.7**
MOS *e* 07 25 52.9
MOS pmax pmax
comp=Z,52nm,1.0s,mb4.9
VRAC **Vranov** 24.20 141 P **P** **07 25 18.3 -0.9**
comp=Z,1.8nm,0.5s,mb3.8,baz=200,slow=23,SNR=2.1
VRAC LR LR 07 34 46.7
comp=Z,127nm,19.1s,MS3.4,baz=350,slow=36
LOR **Lormes** 24.20 162 *e*P **P** **07 25 19.1 -0.1**
comp=Z,59nm,1.3s,mb4.6
LOR *e*R
comp=Z,250nm,23.0s
LOR **Lormes** 24.20 162 *e*P **P** **07 25 19.1 -0.1**
LOR pmax pmax
comp=Z,30nm,1.3s,mb4.6
LOR MLR MLR
comp=Z,250nm,23.0s,MS3.6
LOR **Lormes** 24.20 162 *e*P **P** **07 25 19.1 -0.1**
comp=Z,30nm,1.3s,mb4.6
LOR LR LR
comp=Z,250nm,23.0s,MS3.6
OBN **Obninsk** 24.37 108↓ *e*P **P** **07 25 20.2 -0.6**
OBN *e* 07 25 51.4
OBN *e*SS 07 30 23.3
OBN pmax pmax
comp=Z,31nm,1.3s,mb4.6
OBN MLR MLR
comp=Z,300nm,21.0s,MS3.8
SSF **Saint Saulge** 24.37 163 *e*P **P** **07 25 20.6 -0.2**
comp=Z,16nm,0.8s,mb4.2
SSF **Saint Saulge** 24.37 163 *e*P **P** **07 25 20.6 -0.2**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
SSF **Saint Saulge** 24.37 163 *e*P **P** **07 25 20.6 -0.2**
comp=Z,8.1nm,0.8s,mb4.2
MFF **Saint Martin d** 24.54 169 *e*P **P** **07 25 21.0 -1.3**
comp=Z,29nm,1.1s,mb4.4
MFF **Saint Martin d** 24.54 169 *e*P **P** **07 25 21.0 -1.3**
MFF pmax pmax
comp=Z,14nm,1.0s,mb4.5
MFF **Saint Martin d** 24.54 169 *e*P **P** **07 25 21.0 -1.3**
comp=Z,14nm,1.0s,mb4.5
AVF **Avril sur Loir** 24.62 163 *e*P **P** **07 25 22.9 -0.2**
BGF **Bois d'Agland** 24.81 164 *e*P **P** **07 25 24.7 -0.1**
comp=Z,36nm,1.0s,mb4.5
BGF **Bois d'Agland** 24.81 164 *e*P **P** **07 25 24.7 -0.1**
BGF pmax pmax
comp=Z,18nm,1.0s,mb4.6
BGF **Bois d'Agland** 24.81 164 *e*P **P** **07 25 24.7 -0.1**
comp=Z,18nm,1.0s,mb4.6
SMF **Signal de Mont** 24.82 163 *e*P **P** **07 25 25.1 +0.3**
comp=Z,24nm,1.0s,mb4.4
SMF **Signal de Mont** 24.82 163 *e*P **P** **07 25 25.1 +0.3**
SMF pmax pmax
comp=Z,12nm,1.0s,mb4.4
SMF **Signal de Mont** 24.82 163 *e*P **P** **07 25 25.1 +0.3**
comp=Z,12nm,1.0s,mb4.4
NIE **Niedzica** 24.91 135 *e*P **P** **07 25 26.0 +0.3**
TCF **Toulx Ste Croi** 25.02 165 *e*P **P** **07 25 26.3 -0.4**
comp=Z,53nm,1.1s,mb4.7
TCF **Toulx Ste Croi** 25.02 165 *e*P **P** **07 25 26.3 -0.4**
TCF pmax pmax
comp=Z,27nm,1.1s,mb4.7
TCF **Toulx Ste Croi** 25.02 165 *e*P **P** **07 25 26.3 -0.4**
comp=Z,27nm,1.1s,mb4.7
CABF **La Chapelle** 25.09 159 *e*P **P** **07 25 27.7 +0.3**
comp=Z,112nm,1.6s,mb4.8
CABF **La Chapelle** 25.09 159 *e*P **P** **07 25 27.7 +0.3**
CABF pmax pmax
comp=Z,56nm,1.6s,mb4.8

CABF **La Chapelle** 25.09 159 *e*P **P** **07 25 27.7 +0.3**
comp=Z,56nm,1.6s,mb4.8
LVV **L'vov** 25.44 130 *e*P **P** **07 25 30.7 +0.2**
VYHS **Vyhne** 25.45 138 *e*P **P** **07 25 30.1 -0.5**
KOLS **Kolonicke sedl** 25.83 133 *e*P **P** **07 25 34.4 +0.4**
KECS **Kecovo** 25.83 136 *e*P **P** **07 25 33.2 -0.8**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
KECS **Kecovo** 25.83 136 *e*P **P** **07 25 33.2 -0.8**
comp=Z,4.0nm,0.9s,mb4.0
RJF **Les Rejaudoux** 25.95 167 *e*P **P** **07 25 35.0 -0.1**
comp=Z,42nm,1.0s,mb4.6
RJF *e*R
comp=Z,276nm,21.2s
RJF **Les Rejaudoux** 25.95 167 *e*P **P** **07 25 35.0 -0.1**
RJF pmax pmax
comp=Z,21nm,1.0s,mb4.6
RJF MLR MLR
comp=Z,280nm,21.3s,MS3.8
RJF **Les Rejaudoux** 25.95 167 *e*P **P** **07 25 35.0 -0.1**
comp=Z,21nm,1.0s,mb4.6
RJF LR LR
comp=Z,280nm,21.3s,MS3.8
AKASG **Malin Array Be** 26.02 122 P **P** **07 25 34.6 -1.2**
comp=Z,2.9nm,0.7s,mb3.9,baz=331,slow=9.8,SNR=18
AKBB **Malin Array Si** 26.02 122 *e*P **P** **07 25 34.5 -1.3**
UZH **Uzhgorod** 26.11 133 *e* **P** **07 25 37.6 +1.0**
UZH pmax pmax
comp=Z,47nm,1.3s,mb4.9
PSZ **Piszkesteto** 26.23 137 *e*P **P** **07 25 38.2 +0.6**
PSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
PSZ **Piszkesteto** 26.23 137 *e*P **P** **07 25 38.2 +0.6**
comp=Z,4.9nm,1.0s,mb4.0
PSZ **Piszkesteto** 26.23 137 *e*P **P** **07 25 38.2 +0.6**
comp=Z,4.9nm,1.0s,mb4.0
LPL **La Plagne** 26.25 159 *e*P **P** **07 25 38.8 +1.0**
comp=Z,17nm,0.8s,mb4.3
LPL **La Plagne** 26.25 159 *e*P **P** **07 25 38.8 +1.0**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
LPL **La Plagne** 26.25 159 *e*P **P** **07 25 38.8 +1.0**
comp=Z,8.3nm,0.8s,mb4.3
LFF **La Frestale** 26.25 168 *e*P **P** **07 25 36.9 -1.0**
LPG **La Plagne** 26.27 158 *e*P **P** **07 25 39.2 +1.2**
comp=Z,45nm,1.3s,mb4.5
LPG **La Plagne** 26.27 158 *e*P **P** **07 25 39.2 +1.2**
LPG pmax pmax
comp=Z,23nm,1.3s,mb4.5
LPG **La Plagne** 26.27 158 *e*P **P** **07 25 39.2 +1.2**
comp=Z,22nm,1.3s,mb4.5
CAF **Calviac** 26.36 166 *e*P **P** **07 25 38.9 0.0**
comp=Z,34nm,1.1s,mb4.5
CAF **Calviac** 26.36 166 *e*P **P** **07 25 38.9 0.0**
CAF pmax pmax
comp=Z,17nm,1.1s,mb4.5
CAF **Calviac** 26.36 166 *e*P **P** **07 25 38.9 0.0**
comp=Z,17nm,1.1s,mb4.5
VIVF **Saint-Julien-l** 26.67 162 *e*P **P** **07 25 42.0 +0.3**
comp=Z,42nm,1.1s,mb4.6
VIVF **Saint-Julien-l** 26.67 162 *e*P **P** **07 25 42.0 +0.3**
VIVF pmax pmax
comp=Z,21nm,1.1s,mb4.6
VIVF **Saint-Julien-l** 26.67 162 *e*P **P** **07 25 42.0 +0.3**
comp=Z,21nm,1.1s,mb4.6
BNI **Bardonecchia** 26.70 159 *e*P **P** **07 25 43.2 +1.3**
BNI *e* 07 25 49.2
BNI pmax pmax
comp=Z,11nm,1.0s,mb4.3
BNI **Bardonecchia** 26.70 159 *e*P **P** **07 25 43.2 +1.3**
comp=Z,11nm,1.0s,mb4.3
BNI *e* 07 25 49.2
BNI **Bardonecchia** 26.70 159 *e*P **P** **07 25 43.2 +1.3**
ORIF **Oris-en-Rattie** 26.74 160 *e*P **P** **07 25 42.8 +0.5**
comp=Z,38nm,1.2s,mb4.5
ORIF *e*R
comp=Z,238nm,20.8s
ORIF **Oris-en-Rattie** 26.74 160 *e*P **P** **07 25 42.8 +0.5**
ORIF pmax pmax
comp=Z,19nm,1.2s,mb4.5
ORIF **Oris-en-Rattie** 26.74 160 *e*P **P** **07 25 42.8 +0.5**
comp=Z,19nm,1.2s,mb4.5
MBDF **Montbardon** 27.03 159 *e*P **P** **07 25 46.2 +1.3**
comp=Z,43nm,1.2s,mb4.6
MBDF **Montbardon** 27.03 159 *e*P **P** **07 25 46.2 +1.3**
MBDF pmax pmax
comp=Z,21nm,1.2s,mb4.5
MBDF **Montbardon** 27.03 159 *e*P **P** **07 25 46.2 +1.3**
comp=Z,21nm,1.2s,mb4.5
LASF **Ste Croix** 27.36 163 *e*P **P** **07 25 48.2 +0.3**
SMRF **Simiane la Rot** 27.64 161 *e*P **P** **07 25 50.9 +0.6**
comp=Z,40nm,1.2s,mb4.6
SMRF **Simiane la Rot** 27.64 161 *e*P **P** **07 25 50.9 +0.6**
comp=Z,40nm,1.2s,mb4.9
MTLF **Montolieu** 27.95 166 *e*P **P** **07 25 53.8 +0.6**
comp=Z,28nm,1.2s,mb4.5
MTLF **Montolieu** 27.95 166 *e*P **P** **07 25 53.8 +0.6**
MTLF pmax pmax
comp=Z,14nm,1.2s,mb4.5
MTLF **Montolieu** 27.95 166 *e*P **P** **07 25 53.8 +0.6**
comp=Z,14nm,1.2s,mb4.5
SJPF **Ste Jean** 27.96 172 *e*P **P** **07 25 52.0 -1.2**
SBF **Sospel** 27.96 158 *e*P **P** **07 25 54.4 +1.1**
comp=Z,70nm,1.2s,mb4.9
SBF **Sospel** 27.96 158 *e*P **P** **07 25 54.4 +1.1**
SBF pmax pmax
comp=Z,35nm,1.2s,mb4.9
SBF **Sospel** 27.96 158 *e*P **P** **07 25 54.4 +1.1**
comp=Z,35nm,1.2s,mb4.9
EPF **Esparros** 28.13 169 *e*P **P** **07 25 54.7 0.0**
comp=Z,31nm,1.0s,mb4.6
EPF **Esparros** 28.13 169 *e*P **P** **07 25 54.7 0.0**
EPF pmax pmax
comp=Z,15nm,1.0s,mb4.6
EPF **Esparros** 28.13 169 *e*P **P** **07 25 54.7 0.0**
comp=Z,15nm,1.0s,mb4.6
FRF **La Foret Royal** 28.16 159 *e*P **P** **07 25 56.1 +1.0**
comp=Z,19nm,1.1s,mb4.3
FRF **La Foret Royal** 28.16 159 *e*P **P** **07 25 56.1 +1.0**
FRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
FRF **La Foret Royal** 28.16 159 *e*P **P** **07 25 56.1 +1.0**
comp=Z,9.4nm,1.0s,mb4.4
ETSF **Etsaut** 28.21 171 *e*P **P** **07 25 54.3 -1.1**
VRSR **Storozhevoye** 28.53 109 *e*P **P** **07 25 57.4 -0.9**
VRSR *e**PP pP 07 26 03.4 +2.1
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR MLR MLR
comp=Z,300nm,18.0s,MS3.9
VRSR MLR MLR
comp=N,170nm,16.0s,MS3.8
VRSR MLR MLR
comp=E,70nm,16.0s,MS3.8
PGF **Pioggiola** 29.46 156 *e*P **P** **07 26 07.4 +0.9**
comp=E,20nm,1.2s,mb4.4
PGF **Pioggiola** 29.46 156 *e*P **P** **07 26 07.4 +0.9**
PGF pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
PGF **Pioggiola** 29.46 156 *e*P **P** **07 26 07.4 +0.9**
comp=Z,10nm,1.2s,mb4.4
MLR **Muntele Rosu** 29.94 131 LR LR 07 39 08.7
comp=Z,1µm,18.1s,MS4.5,baz=68,slow=38
SCHQ **Schefferville** 30.15 270 LR LR 07 37 16.2
comp=Z,199nm,19.0s,MS3.8,baz=48,slow=34
SCHQ **Schefferville** 30.15 270 P **P** **07 26 12.1 -0.6**
comp=Z,8.3nm,1.0s,mb4.4
SCHQ **Schefferville** 30.15 270 P **P** **07 26 12.1 -0.6**
comp=Z,8.3nm,1.0s,mb4.4
ARU **Arti** 30.46 84 *e*P **P** **07 26 15.0 -0.4**
ARU *e*PPP 07 27 19.1
ARU *e* 07 29 14.5
ARU *e*S **S** **07 31 13.9 -2.6**
ARU *e*SS SS 07 32 51.5 -35
ARU MLR MLR
comp=N,200nm,18.0s
ARU MLR MLR
comp=Z,200nm,18.0s,MS3.8
ARU **Arti** 30.46 84 *e*P **P** **07 26 15.0 -0.5**
comp=Z,18nm,1.0s,mb4.8
ARU **Arti** 30.46 84 *e*P **P** **07 26 15.0 -0.4**
comp=Z,18nm,1.0s,mb4.8

SVE	**Sverdlovsk**	**30.82**	**82**	*e*P	**P**	**07 26 20.0**	**+1.4**
SVE				*e*		07 26 25.8	
SVE				*e*		07 27 20.2	
ESDC	**Sonseca Array**	**31.30**	**176**	P	**P**	**07 26 22.9**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=10,slow=9.0,SNR=4.7						
ESDC				LR	LR	07 37 14.1	
	comp=Z,106nm,20.0s,MS3.5,baz=335,slow=33						
EVO	**Evora**	**32.41**	**182**	*e*P	**P**	**07 26 30.3**	**-2.3**
	comp=Z,164nm,1.9s,mb5.2						
EVO				*e*R			
	comp=Z,112nm,18.5s						
TIXI	**Tiksi**	**34.81**	**23**	*e*P	**P**	**07 26 52.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.0						
AKTK	**Aktyubinsk**	**35.29**	**91**	P	**P**	**07 26 56.8**	**-0.9**
AKTK				LR	LR	07 40 31.6	
AKTK	**Aktyubinsk**	**35.29**	**91**	P	**P**	**07 26 56.8**	**-0.8**
AKTO	**Aktyubinsk**	**35.29**	**91**	P	**P**	**07 26 56.8**	**-0.9**
	comp=Z,5.1nm,0.9s,mb4.4,baz=331,slow=9.6,SNR=13						
AKTO				LR	LR	07 40 31.6	
	comp=Z,124nm,21.2s,MS3.6,baz=170,slow=35						
AKTO	**Aktyubinsk**	**35.29**	**91**	P	**P**	**07 26 56.9**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,64nm,2.9s,mb5.0						
KIV	**Kislovodsk**	**36.07**	**112**‖	*e*P	**P**	**07 27 05.2**	**+0.9**
KIV				*e*		07 28 26.5	
KIV				*e*		07 29 29.3	
KIV				*e*S	**S**	**07 32 44.2**	**+0.8**
KIV				*e*SS	SS	07 35 08.8	-12
KIV				pmax	pmax		
	comp=Z,32nm,1.6s,mb5.0						
KIV				MLR	MLR		
	comp=Z,200nm,22.0s,MS3.8						
KEST	**Kesra**	**36.21**	**158**	P	**P**	**07 27 06.1**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.1,baz=334,slow=2.0,SNR=6.9						
KEST				LR	LR	07 39 50.9	
	comp=Z,54nm,21.5s,MS3.3,baz=295,slow=33						
INK	**Inuvik**	**36.60**	**330**	*e*P	**P**	**07 27 09.1**	**+0.2**
CHKZ	**Chkalovo**	**36.65**	**76**	*e*P	**P**	**07 27 09.3**	**0.0**
CHKZ				*e*		07 27 15.4	
CHKZ				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.1						
CHKZ	**Chkalovo**	**36.65**	**76**	*e*P	**P**	**07 27 09.3**	**0.0**
	comp=Z,38nm,1.2s,mb5.1						
CHKZ				*e*		07 27 15.4	
ZRNK	**Zerenda**	**36.75**	**78**	*e*P	**P**	**07 27 09.7**	**-0.4**
ZRNK				*e*		07 27 15.9	
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
ZRNK	**Zerenda**	**36.75**	**78**	*e*P	**P**	**07 27 09.7**	**-0.4**
	comp=Z,9.3nm,0.8s,mb4.7						
ZRNK				*e*		07 27 15.9	
ZRNK	**Zerenda**	**36.75**	**78**	*e*P	**P**	**07 27 09.7**	**-0.4**
AB31	**Akbulak array**	**36.94**	**90**	*i* P	**P**	**07 27 10.9**	**-0.9**
AB31				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
BRVK	**Borovoye**	**37.07**	**77**	*e*P	**P**	**07 27 13.4**	**+0.6**
BVAR	**Borovoye Array**	**37.13**	**77**	P	**P**	**07 27 13.8**	**+0.5**
	comp=Z,4.4nm,0.8s,mb4.3,baz=319,slow=7.9,SNR=22						
BRTR	**Keskin Array B**	**37.34**	**125**	P	**P**	**07 27 16.1**	**+1.0**
	comp=Z,1.4nm,0.9s,mb3.8,baz=341,slow=7.1,SNR=4.7						
BRTR				LR	LR	07 43 08.1	
	comp=Z,116nm,21.3s,MS3.6,baz=151,slow=37						
ZEI	**Tsey**	**37.51**	**111**	*e*P	**P**	**07 27 13.6**	**-3.0**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.6						
VOSK	**Vostochnaya**	**37.58**	**77**	P	**P**	**07 27 17.0**	**-0.2**
VOSK				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
MDT	**Midelt**	**38.12**	**177**	P	**P**	**07 27 22.6**	**+0.8**
	comp=Z,1.4nm,0.9s,mb3.7,baz=333,slow=11,SNR=2.4						
NVS	**Novosibirsk**	**39.58**	**65**	*i* P	**P**	**07 27 35.1**	**+1.1**
MALT	**Malatya**	**39.99**	**120**	*e*P	**P**	**07 27 39.4**	**+2.0**
GNI	**Garni**	**40.16**	**112**	P	**P**	**07 27 40.6**	**+1.7**
	comp=Z,5.2nm,0.5s,mb4.5,baz=346,slow=20,SNR=4.9						
GNI				LR	LR	07 44 37.8	
	comp=Z,136nm,20.8s,MS3.8,baz=331,slow=37						
GNI	**Garni**	**40.16**	**112**	*e*P	**P**	**07 27 40.7**	**+1.9**
GNI				pmax	pmax		
	comp=Z,65nm,1.6s						
GNI	**Garni**	**40.16**	**112**	*e*P	**P**	**07 27 40.7**	**+1.9**
	comp=Z,65nm,1.6s,mb5.1						
GNI	**Garni**	**40.16**	**112**	*e*P	**P**	**07 27 40.7**	**+1.9**
	comp=Z,65nm,1.6s,mb5.1						
ZAL	**Zalesovo**	**40.83**	**65**	LR	LR	07 47 45.7	
	comp=Z,67nm,18.5s,MS3.5,baz=134,slow=41						
BILL	**Bilibino**	**41.26**	**4**‖	*e*P	**P**	**07 27 48.2**	**+0.3**
BILL				*e*		07 29 45.3	
BILL				*e*S	**S**	**07 34 01.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.6						
FFC	**Flin Flon**	**41.32**	**299**	*e*P	**P**	**07 27 49.2**	**+0.8**
FFC				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.6						
FFC	**Flin Flon**	**41.32**	**299**	*e*P	**P**	**07 27 49.2**	**+0.8**
	comp=Z,23nm,1.4s,mb4.6						
FFC	**Flin Flon**	**41.32**	**299**	*e*P	**P**	**07 27 49.2**	**+0.8**
	comp=Z,23nm,1.4s,mb4.6						
DAWY	**Dawson**	**41.46**	**331**	*e*P	**P**	**07 27 50.0**	**+0.5**
DAWY	**Dawson**	**41.46**	**331**	*e*P	**P**	**07 27 50.0**	**+0.5**
COLA	**College**	**41.93**	**336**	*e*P	**P**	**07 27 53.8**	**+0.4**
COLA				*e*		07 28 00.5	
COLA				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.8						
COLA	**College**	**41.93**	**336**	*e*P	**P**	**07 27 53.8**	**+0.4**
	comp=Z,11nm,0.4s,mb4.8						
COLA				*e*		07 28 00.5	
MCK	**McKinley**	**43.17**	**337**	*e*P	**P**	**07 28 04.0**	**+0.5**
ULM	**Lac du Bonnet**	**43.41**	**291**	P	**P**	**07 28 03.6**	**-1.8**
	comp=Z,3.6nm,0.9s,mb4.1,baz=16,slow=18,SNR=2.1						
ULM				LR	LR	07 46 20.8	
	comp=Z,125nm,18.6s,MS3.9,baz=80,slow=36						
YAK	**Yakutsk**	**43.92**	**28**	*e*P	**P**	**07 28 09.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
BOD	**Bodaibo**	**44.95**	**41**	*e*P	**P**	**07 28 14.7**	**-3.1**
BOD				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.6						
ASF	**Jabal al Asfar**	**45.32**	**125**	P	**P**	**07 28 20.9**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.2,baz=218,slow=4.5,SNR=4.4						
ASF				LR	LR	07 48 08.4	
	comp=Z,113nm,20.9s,MS3.8,baz=171,slow=37						
SEY	**Seymchan**	**45.67**	**13**‖	*e*P	**P**	**07 28 23.9**	**+0.4**
EDM	**Edmonton**	**45.80**	**307**	*e*P	**P**	**07 28 24.7**	**+0.2**
EDM				*e*pP	pP	07 28 30.8	+3.2
KK31	**Karatay Array**	**45.84**	**84**	*i* P	**P**	**07 28 25.3**	**+0.5**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
KKAR	**Karatay Array**	**45.84**	**84**	*i* P	**P**	**07 28 25.3**	**+0.5**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**46.34**	**72**	P	**P**	**07 28 27.6**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=8.9,slow=8.6,SNR=8.3						
MKAR	**Makanchi Array**	**46.34**	**72**	*i* P	**P**	**07 28 28.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	**Ala-Archa**	**47.56**	**81**	*e*P	**P**	**07 28 38.8**	**+0.5**
IRK	**Irkutsk**	**47.75**	**51**	*e*P	**P**	**07 28 38.9**	**-0.9**
IRK				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.5						
CLNS	**Chul'man**	**48.03**	**34**	*e*P	**P**	**07 28 47.0**	**+5.0**
CLNS				*e*S	**S**	**07 35 41.0**	**+0.9**
CLNS				*e*		08 38 26.0	
CLNS				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
TLY	**Talaya**	**48.10**	**52**	*e*P	**P**	**07 28 42.5**	**0.0**
TLY				*e*		07 40 14.8	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,75nm,15.0s,MS3.8						
MA2	**Magadan**	**48.87**	**15**	*e*P	**P**	**07 28 48.1**	**-0.3**
MA2				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
ZAK	**Zakamensk**	**49.19**	**53**	*e*P	**P**	**07 28 48.6**	**-2.3**
EGMT	**Eagleton**	**49.51**	**301**	*e*P	**P**	**07 28 53.7**	**+0.4**
EGMT	**Eagleton**	**49.51**	**301**	*e*P	**P**	**07 28 53.7**	**+0.4**
WMQ	**Urumqi**	**50.69**	**69**	*e*P	**P**	**07 29 05.3**	**+3.1**
WMQ				AP	pP	07 29 11.0	+5.6
WMQ				XP	sP	07 29 15.0	+8.4
WMQ				PCP	PcP	07 30 24.0	+4.5
WMQ				*e*S	**S**	**07 36 17.0**	**-0.3**
WMQ				XS	sS	07 36 27.0	+4.5
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,168nm,5.8s						
WMQ				LR	LR		
	comp=Z,142nm,22.4s,MS3.9						
BSMT	**Bassoo Peak**	**51.06**	**305**	*e*P	**P**	**07 29 06.0**	**+0.9**
BSMT	**Bassoo Peak**	**51.06**	**305**	*e*P	**P**	**07 29 06.0**	**+0.9**
CHMT	**Chamberlain Mo**	**51.50**	**303**	*e*P	**P**	**07 29 08.1**	**-0.2**
CHMT	**Chamberlain Mo**	**51.50**	**303**	*e*P	**P**	**07 29 08.1**	**-0.2**
GCMT	**Greycliff**	**51.52**	**299**	*e*P	**P**	**07 29 08.4**	**-0.1**
GCMT				*e*		07 29 15.4	
GCMT	**Greycliff**	**51.52**	**299**	*e*P	**P**	**07 29 08.4**	**-0.1**
MSO	**Missoula**	**51.77**	**303**	*e*P	**P**	**07 29 10.4**	**+0.1**
	comp=Z,12nm,1.2s,mb4.7						
BOZ	**Bozeman (W)**	**52.21**	**301**	*e*P	**P**	**07 29 14.2**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
BOZ	**Bozeman (W)**	**52.21**	**301**	*e*P	**P**	**07 29 14.2**	**+0.6**
	comp=Z,9.9nm,1.4s,mb4.5						
BOZ	**Bozeman (W)**	**52.21**	**301**	*e*P	**P**	**07 29 14.2**	**+0.6**
	comp=Z,9.9nm,1.4s,mb4.5						
SONM	**Songino Array**	**52.34**	**52**	P	**P**	**07 29 14.1**	**-0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=337,slow=7.0,SNR=11						
YFT	**Old Faithful**	**53.08**	**300**	*e*P	**P**	**07 29 22.9**	**+2.9**
MYNC	**Murphy**	**53.24**	**272**	*e*P	**P**	**07 29 24.2**	**+2.9**
MYNC				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
MYNC	**Murphy**	**53.24**	**272**	*e*P	**P**	**07 29 24.1**	**+2.9**
	comp=Z,14nm,1.1s,mb4.8						
MYNC	**Murphy**	**53.24**	**272**	*e*P	**P**	**07 29 24.1**	**+2.8**
	comp=Z,14nm,1.1s,mb4.8						
MCMT	**McKenzie Canyo**	**53.30**	**302**	*e*P	**P**	**07 29 22.2**	**+0.5**
MCMT				*e*		07 29 28.8	
MCMT	**McKenzie Canyo**	**53.30**	**302**	*e*P	**P**	**07 29 22.2**	**+0.5**
IMW	**Indian Meadow**	**53.61**	**300**	*e*P	**P**	**07 29 25.4**	**+1.4**
	comp=Z,12nm,1.2s,mb4.7						
IMW	**Indian Meadow**	**53.61**	**300**	*e*P	**P**	**07 29 25.4**	**+1.4**
	comp=Z,12nm,1.2s,mb4.7						
DCID1	**Drake Creek**	**53.96**	**300**	*e*P	**P**	**07 29 24.6**	**-1.9**
REDW	**Red Top Meadow**	**54.08**	**299**	*e*P	**P**	**07 29 29.1**	**+1.7**
REDW	**Red Top Meadow**	**54.08**	**299**	*e*P	**P**	**07 29 29.1**	**+1.7**
BW06	**Boulder Array**	**54.25**	**298**	*e*P	**P**	**07 29 28.5**	**-0.2**
	comp=Z,8.2nm,1.2s,mb4.5						
BW06	**Boulder Array**	**54.25**	**298**	*e*P	**P**	**07 29 28.5**	**-0.2**
PDAR	**Pinedale Array**	**54.25**	**298**	P	**P**	**07 29 28.4**	**-0.3**
	comp=Z,2.1nm,1.0s,mb4.0,baz=38,slow=7.5,SNR=13						
PDAR				LR	LR	07 52 30.3	
	comp=Z,237nm,19.0s,MS4.3,baz=48,slow=36						
BMO	**Blue Mountains**	**54.51**	**305**	*e*P	**P**	**07 29 30.0**	**-0.5**
	comp=Z,11nm,1.2s,mb4.8						
BMO	**Blue Mountains**	**54.51**	**305**	*e*P	**P**	**07 29 30.0**	**-0.5**
	comp=Z,11nm,1.2s,mb4.8						
HLID	**Hailey**	**54.90**	**302**	*e*P	**P**	**07 29 33.6**	**+0.2**
	comp=Z,10nm,1.2s,mb4.7						
HLID	**Hailey**	**54.90**	**302**	*e*P	**P**	**07 29 33.6**	**+0.2**
	comp=Z,10nm,1.2s,mb4.7						
ISCO	**Idaho Springs**	**55.80**	**293**	*e*P	**P**	**07 29 40.8**	**+0.9**
HWUT	**Hardware Ranch**	**55.90**	**299**	*e*P	**P**	**07 29 40.7**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.7						
HWUT	**Hardware Ranch**	**55.90**	**299**	*e*P	**P**	**07 29 40.7**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.7						
KLR	**Kul'dur**	**56.53**	**31**	*e*P	**P**	**07 29 48.3**	**+3.2**
DUG	**Dugway**	**57.56**	**299**	*e*P	**P**	**07 29 53.5**	**+1.1**
DUG				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
DUG	**Dugway**	**57.56**	**299**	*e*P	**P**	**07 29 53.5**	**+1.1**
	comp=Z,9.0nm,1.0s,mb4.8						
DUG	**Dugway**	**57.56**	**299**	*e*P	**P**	**07 29 53.5**	**+1.1**
	comp=Z,9.0nm,1.0s,mb4.8						
NLU	**North Lily Min**	**57.57**	**299**	*e*P	**P**	**07 29 54.5**	**+2.0**
NLU	**North Lily Min**	**57.57**	**299**	*e*P	**P**	**07 29 54.5**	**+2.0**
SDCO	**Great Sand Dun**	**57.66**	**292**	*e*P	**P**	**07 29 53.9**	**+0.9**
SRU	**San Rafael**	**57.90**	**297**	*e*P	**P**	**07 29 55.8**	**+1.0**
TOA0	**Torodi Ar. Sit**	**57.91**	**170**	*e*P	**P**	**07 29 54.9**	**0.0**
TOA0				*e*pP	pP	07 30 01.5	+3.5
TOA0	**Torodi Ar. Sit**	**57.91**	**170**	*e*P	**P**	**07 29 54.8**	**-0.1**
TOA0				*e*pP	pP	07 30 01.5	+3.4
TORD	**Torodi Ar. Bea**	**57.91**	**170**	P	**P**	**07 29 54.7**	**-0.2**
	comp=Z,10nm,1.0s,mb4.8,baz=353,slow=7.0,SNR=41						
TORD				LR	LR	07 53 40.6	
	comp=Z,110nm,18.4s,MS4.0,baz=160,slow=35						
TORD	**Torodi Ar. Bea**	**57.91**	**170**	P	**P**	**07 29 54.7**	**-0.2**
TORD				LR	LR	07 53 40.6	
PV01	**Paradox Valley**	**58.23**	**295**	*e*P	**P**	**07 29 57.7**	**+0.7**
PV01				*e*pP	pP	07 30 03.0	+2.7
PV01	**Paradox Valley**	**58.23**	**295**	*e*P	**P**	**07 29 57.7**	**+0.7**
PV01				*e*pP	pP	07 30 03.0	+2.7
WMOK	**Wichita Mounta**	**58.32**	**285**	*e*P	**P**	**07 29 58.6**	**+0.9**
WMOK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
WMOK	**Wichita Mounta**	**58.32**	**285**	*e*P	**P**	**07 29 58.6**	**+0.9**
	comp=Z,7.1nm,1.1s,mb4.6						
WMOK	**Wichita Mounta**	**58.32**	**285**	*e*P	**P**	**07 29 58.6**	**+0.9**
	comp=Z,7.1nm,1.1s,mb4.6						
GTA	**Gaotai**	**58.34**	**61**	*e*P	**P**	**07 29 58.5**	**+0.6**
GTA				AP	pP	07 30 04.5	+3.4
GTA				XP	sP	07 30 07.4	+5.1
GTA				PP	PP	07 32 08.1	+1.2
GTA				S	**S**	**07 37 57.9**	**-2.5**
GTA				SS	SS	07 41 50.6	-1.7
GTA				AMB	AMB		
	comp=Z,7.0nm,1.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,188nm,5.3s						
GTA				LR	LR		
	comp=N,164nm,14.4s,MS4.3						
GTA				LR	LR		
	comp=E,93nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=Z,113nm,15.6s,MS4.1						
YBH	**Yreka Blue Hor**	**58.84**	**308**	P	**P**	**07 30 00.3**	**-1.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=78,slow=9.3,SNR=2.5						
MSU	**Marysvale**	**58.94**	**298**	*e*P	**P**	**07 30 03.6**	**+1.6**
MSU				*e*PP	pP	07 30 10.0	+4.8
PAHR	**Pah Rah Range**	**59.85**	**305**	*e*P	**P**	**07 30 10.0**	**+1.7**
PAHR	**Pah Rah Range**	**59.85**	**305**	*e*P	**P**	**07 30 10.0**	**+1.7**
TRCR	**Troy Canyon**	**60.07**	**301**	*e*P	**P**	**07 30 10.7**	**+0.9**
TRCR				*e*		07 30 17.0	
TRCR	**Troy Canyon**	**60.07**	**301**	*e*P	**P**	**07 30 10.7**	**+0.9**
HHC	**Hu-ho-hao-te**	**60.19**	**50**	*e*P	**P**	**07 30 11.3**	**+0.6**
HHC				AP	pP	07 30 17.5	+3.6
HHC				XP	sP	07 30 20.1	+5.0
HHC				PCP	PcP	07 30 57.4	+1.2
HHC				PP	PP	07 32 25.3	+2.0
HHC				SCP	ScP	07 34 56.0	-1.9
HHC				PCS	PcS	07 34 58.5	0.0
HHC				S	**S**	**07 38 19.8**	**-4.5**
HHC				SCS	ScS	07 39 56.8	-4.6
HHC				SS	SS	07 42 17.1	-4.3
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,161nm,5.6s						
HHC				LR	LR		
	comp=N,149nm,5.9s						
HHC				LR	LR		
	comp=E,114nm,6.1s						
HHC				LR	LR		
	comp=Z,111nm,5.3s						
ANMO	**Albuquerque**	**60.53**	**292**	*e*P	**P**	**07 30 13.6**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ANMO	**Albuquerque**	**60.53**	**292**	*e*P	**P**	**07 30 13.6**	**+0.7**
	comp=Z,5.4nm,1.0s,mb4.6						
ANMO	**Albuquerque**	**60.53**	**292**	*e*P	**P**	**07 30 13.6**	**+0.6**
	comp=Z,5.4nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**60.60**	**35**	P	**P**	**07 30 12.9**	**-0.5**
MDJ				S	**S**	**07 38 26.8**	**-2.7**
MDJ				SS	SS	07 42 24.9	-2.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,34nm,3.3s						
MDJ				LR	LR		
	comp=N,56nm,20.4s,MS3.9						
MDJ				LR	LR		
	comp=E,71nm,21.5s,MS3.9						
MDJ				LR	LR		
	comp=Z,69nm,18.3s,MS3.8						
NVAR	**Mina Array Bea**	**60.75**	**303**	P	**P**	**07 30 14.4**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.8,baz=347,slow=4.3,SNR=5.6						
OHCM	**Honcut**	**60.77**	**306**	*e*P	**P**	**07 30 14.8**	**+0.2**
LAZ	**Ladron**	**61.25**	**292**	*e*P	**P**	**07 30 18.6**	**+0.8**
LAZ				*e*		07 30 24.7	
WUAZ	**Wupatki**	**61.49**	**296**	*e*P	**P**	**07 30 20.1**	**+0.6**
CMB	**Columbia Colle**	**61.69**	**305**	*e*P	**P**	**07 30 22.4**	**+1.5**
CMB				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.8						
CMB	**Columbia Colle**	**61.69**	**305**	*e*P	**P**	**07 30 22.4**	**+1.5**
	comp=Z,10nm,1.3s,mb4.8						
MTUM	**Tungsten Hills**	**61.83**	**303**	*e*P	**P**	**07 30 23.1**	**+1.3**
MTUM				*e*		07 30 29.1	
BJI	**Beijing**	**62.10**	**47**	P	**P**	**07 30 23.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.7						
BJI				LR	LR		
	comp=Z,78nm,19.5s,MS3.9						
JCT	**Junction City**	**62.58**	**284**	*e*P	**P**	**07 30 27.7**	**+0.9**
JCT				*e*PP	pP	07 30 33.6	+3.6
JCT				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
JCT	**Junction City**	**62.58**	**284**	*e*P	**P**	**07 30 27.7**	**+0.9**
	comp=Z,7.8nm,1.0s,mb4.8						
JCT				*e*pP	pP	07 30 33.6	+3.5
LZH	**Lanzhou**	**62.59**	**59**	‖P	**P**	**07 30 34.5**	**+7.6**
LZH				AP	pP	07 30 40.6	+11
LZH				XP	sP	07 30 43.8	+12
LZH				PP	PP	07 32 53.6	+9.1
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,67nm,7.6s						
LZH				LR	LR		
	comp=E,307nm,15.2s						
LZH				LR	LR		
	comp=Z,375nm,18.3s,MS4.6						
MNTX	**Cornudas Mount**	**63.21**	**289**	*e*P	**P**	**07 30 30.8**	**-0.2**
CD2	**Chengdu**	**67.42**	**61**	*e*P	**P**	**07 30 57.6**	**-0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MJAR	**Matsushiro Arr**	**69.96**	**30**	P	**P**	**07 31 13.8**	**-0.3**
	comp=Z,3.9nm,1.0s,mb4.3,baz=349,slow=7.4,SNR=5.9						
WHN	**Wuhan**	**70.66**	**52**	*e*P	**P**	**07 31 17.0**	**-1.4**
SSE	**Sheshan**	**71.82**	**46**	P	**P**	**07 31 25.5**	**0.0**
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,227nm,8.9s						
GYA	**Guiyang**	**72.44**	**60**	P	**P**	**07 31 29.3**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KMI	**Kunming**	**72.56**	**64**	P	**P**	**07 31 29.4**	**-0.5**
KMI				AP	pP	07 31 36.6	+3.4
KMI				XP	sP	07 31 40.3	+5.9
KMI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
CHTO	**Chiang Mai**	**77.35**	**69**	*e*P	**P**	**07 31 57.4**	**-0.2**
CHTO				*e*		07 32 04.2	
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CHTO	**Chiang Mai**	**77.35**	**69**	*e*P	**P**	**07 31 57.4**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.4						
CHTO				*e*		07 32 04.2	
ROSC	**El Rosal**	**78.24**	**250**	P	**P**	**07 32 03.2**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.4,baz=264,slow=22,SNR=4.0						
BDFB	**Brasilia**	**90.85**	**220**	LR	LR	08 05 33.9	
	comp=Z,73nm,18.4s,MS4.2,baz=320,slow=30						
WRA	**Warramunga Arr**	**124.12**	**46**	PKP	PKPdf	07 39 00.1	-1.2
	comp=Z,0.3nm,0.9s,baz=270,slow=2.4,SNR=2.9						
ASAR	**Alice Springs**	**127.59**	**47**	PKP	PKPdf	07 39 06.3	-1.7
	comp=Z,0.5nm,0.8s,baz=21,slow=3.1,SNR=4.1						
ASAR	**Alice Springs**	**127.59**	**47**	PKIKP	PKPdf	07 39 06.3	-1.7
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**145.86**	**140**	PKPbc	PKPbc	07 39 40.3	-1.9
	comp=Z,5.1nm,1.1s,baz=5.1,slow=5.6,SNR=6.3						
MAW	**Mawson**	**145.86**	**140**	PKP2	PKPbc	07 39 40.3	-1.8
MAW				pmax	pmax		
	comp=Z,5.0nm,1.2s						

*ISCJB **23** 07:23:44.7±0.5, 1386N±004×12046E±006, h112km±5km, mb3.5/4, Error ellipse: s-maj=10.5km s-min=6.0km az=156.2*
*IDC **23** 07:23:44.0±4.1, 1364N×12029E, h87km±48km, mb3.2/4, mb1 3.4/4, mb1mx3.2/19, mbtmp3.5/4, Error ellipse: s-maj=105.9km s-min=19.5km az=64.0*
*MAN **23** 07:23:45.5, 1387N×12046E, h96km, mb3.4, ML4.6, MS3.6*
ISC 23 07:23:45.8±0.5, 1386N±004×12047E±006, h106km±5km, n16, σ0°70/24, mb3.5/4, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.25**	**239**	*e*P	**Pn**	**07 24 00.5**	**-0.3**
LUBP				*e*S	**Sn**	**07 24 11.5**	**-0.6**
TGY	**Tagaytay City**	**0.52**	**62**‖	*e*P	**Pn**	**07 24 05.0**	**+2.7**
TGY				*e*S	**Sn**	**07 24 19.8**	**+5.2**
TGY	**Tagaytay City

WB2 Warramunga Arr 44.50 192 *e*P P 07 44 59.4 +0.6
WRA Warramunga Arr 44.50 192 P P 07 44 59.4 +0.6
0.6nm,0.3s,baz=11,slow=8.5,SNR=31
FITZ Fitzroy Crossi 45.23 204 P P 07 45 04.0 -0.6
1.9nm,0.8s,baz=12,slow=12,SNR=4.0
MKAR Makanchi Array 53.32 311 P P 07 46 07.2 +0.7
0.6nm,0.4s,baz=91,slow=9.5,SNR=5.3
ARCES ARCESS Array B 76.85 341 P P 07 48 39.1 -0.3
1.7nm,0.8s,baz=46,slow=7.7,SNR=3.5
FINES FINESS Array B 81.23 334 P P 07 49 02.8 -0.6
0.3nm,0.3s,baz=72,slow=4.5,SNR=5.1

MAN ***23*** *07:49:49.0, 1386N× 125.74E, h23km, mb4.9, ML5.6*
IDC ***23*** *07:49:54.4± 0.6, 1353N× 125.30E, h0km, mb4.5/14, mb1 4.6/16,mb1mx4.5/21,mbtmp4.6/16,ML4.3/2,MS3.8/11, Ms1 3.8/11,ms1mx3.5/33,Error ellipse: s-maj=26.0km s-min=14.1km az=72.0*
BJI ***23*** *07:49:57.5, 1328N× 125.26E, h44km, mb4.7, mB4.9, Ms4.3, Msz4.0*
ISCJB ***23*** *07:49:57.8± 0.3, 1354N± 003× 125.22E± 004, h33km, mb4.8/65, MS4.0/16, Error ellipse: s-maj=5.1km s-min=4.3km az=37.6*
MOS ***23*** *07:49:57.8± 0.9, 1358N× 125.23E, h33km, mb5.0/37, Error ellipse: s-maj=11.8km s-min=6.8km az=112.7*
NEIC ***23*** *07:49:59.1± 0.3, 1353N× 125.22E, mb5.0/22, Error ellipse: s-maj=9.1km s-min=5.8km az=80.0*

ISC 23 07:49:59.9± 0.3, 1350N± 003× 125.20E± 004, h34km, h34km± 2.0km: pP-P, n161, σ1§12/162, mb4.8/65, MS4.0/16, 9C-7D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res	ISC
PVCP	**Virac**	**1.02**	**275**	⇓*i*P		**07 50 15.2**	**-2.7**	
PVCP				*i* S		**07 50 30.5**	**-0.5**	
PVCP	**Virac**	**1.02**	**275**	*e*P		**07 50 15.2**	**-2.6**	
PVCP				*e*S		**07 50 30.7**	**-0.3**	
MMPH	**Masbate**	**1.91**	**234**	*e*P		**07 50 31.9**	**+1.8**	
PLP	**Palo**	**2.33**	**185**	*e*P		**07 50 40.8**	**+4.9**	
AUQP	**San Andres**	**2.47**	**266**	*e*P		**07 50 38.3**	**+0.6**	
OCLP	**Ormoc**	**2.50**	**193**	*e*P		**07 50 34.2**	**-4.0**	
GQP	**Guinayangan**	**2.71**	**279**	⇓*e*P		**07 50 39.4**	**-1.6**	
GQP				*e*S		**07 51 19.9**	**+7.3**	
RCP	**Roxas**	**3.08**	**231**	⇓*e*P		**07 50 46.1**	**-0.1**	
BOAC	**Boac**	**3.27**	**270**	*e*P		**07 50 47.1**	**-1.6**	
OTRP	**Odiongan**	**3.30**	**250**	*e*P		**07 50 48.6**	**-0.6**	
MSLP	**Maasin**	**3.37**	**186**	*e*P		**07 50 51.8**	**+1.7**	
LLP	**Lapu-Lapu**	**3.39**	**201**	*e*P		**07 50 50.9**	**+0.5**	
SCPH	**Surigao**	**3.71**	**176**	*e*P		**07 50 50.9**	**-3.9**	
GUIM	**Jordan**	**3.83**	**222**	*e*P		**07 50 57.0**	**+0.5**	
TBP	**Tagbilaran**	**4.01**	**199**	*e*P		**07 51 07.8**	**+8.9**	
BALP	**Baler**	**4.16**	**303**	*e*P		**07 50 57.5**	**-3.5**	
BALP				*e*S		**07 51 44.0**	**-4.3**	
TGY	**Tagaytay City**	**4.19**	**279**	Pn		**Pn**		**07 51 02.1 +0.8**
	34nm,0.3s,baz=129,slow=7.0,SNR=5.4							
TGY	**Tagaytay City**	**4.19**	**279**	P		**Pn**		**07 51 02.1 +0.8**
TGY				pmax		pmax		
	comp=Z,34nm,0.3s							
PCPH	**Palayan**	**4.47**	**298**	⇓*e*P		**Pn**		**07 51 01.0 -4.2**
LUBP	**Lubang**	**4.82**	**273**	*e*P		**Pn**		**07 51 08.8 -1.3**
BUSP	**Coron**	**5.10**	**254**	*e*P		**Pn**		**07 51 13.9 0.0**
CVP	**Callao Caves**	**5.30**	**322**	*e*P		**Pn**		**07 51 16.0 -0.6**
PAGZ	**Pagadian**	**5.90**	**198**	*e*P		**Pn**		**07 51 26.6 +1.8**
NACB	**Ninganchiao**	**11.15**	**343**	*e*P		**Pn**		**07 52 36.2 -0.6**
YHNB	**Yeheng**	**11.68**	**343**	*e*Pn		**Pn**		**07 52 42.5 -1.7**
JOW	**Kunigami**	**13.57**	**12**	Pn		**Pn**		**07 53 08.8 -1.1**
	comp=Z,2.1nm,0.3s,baz=178,slow=17,SNR=5.0							
JOW				LR		LR		07 57 53.8
	comp=Z,206nm,21.1s,baz=152,slow=35							
QIZ	**Qiongzhong**	**15.73**	**292**	P		**Pn**		**07 53 36.6 -2.3**
QIZ				S		**Sn**		**07 56 32.8 +0.7**
QIZ				AMB		AMB		
	comp=Z,49nm,1.8s							
QIZ				LR		LR		
	comp=Z,494nm,21.6s							
SSE	**Sheshan**	**17.90**	**349**	P		**Pn**		**07 54 06.3 +0.2**
SSE				AP		pP		07 54 14.5 -0.9
SSE				XP		sP		07 54 18.6 -1.2
SSE				S		**Sn**		**07 57 27.4 +2.9**
SSE				AMB		AMB		
	comp=Z,38nm,0.8s							
SSE				AMB		AMB		
	comp=Z,311nm,5.5s							
SSE				LR		LR		
	comp=N,34nm,14.3s							
SSE				LR		LR		
	comp=E,196nm,14.3s							
SSE				LR		LR		
	comp=Z,110nm,14.5s							
NJ2	**Nanjing**	**19.36**	**344**	*e*P		**Pn**		**07 54 25.1 +1.3**
NJ2				AP		pP		07 54 33.6 +2.1
NJ2				XP		sP		07 54 38.1 +2.2
NJ2				PP				07 54 44.0
NJ2				S		**Sn**		**07 58 02.0 +2.1**
NJ2				AMB		AMB		
	comp=Z,40nm,1.1s							
NJ2				AMB		AMB		
	comp=Z,360nm,7.3s							
NJ2				LR		LR		
	comp=N,570nm,17.8s							
NJ2				LR		LR		
	comp=E,470nm,10.5s							
NJ2				LR		LR		
	comp=Z,420nm,19.6s							
WHN	**Wuhan**	**19.70**	**331**	⇑P		**Pn**		**07 54 29.0 +1.2**
WHN				AMB		AMB		
	comp=Z,50nm,2.0s							
GYA	**Guiyang**	**21.63**	**309**	P		**P**		**07 54 47.5 +0.3**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.7s,mb4.0							
KMI	**Kunming**	**24.10**	**302**	P		**P**		**07 55 12.8 +0.5**
KMI				AP				07 55 20.6
KMI				PP				07 55 46.8
KMI				PPP				07 55 56.8
KMI				S		**S**		**07 59 24.8 -2.9**
KMI				AMB		AMB		
	comp=Z,19nm,0.8s,mb4.6							
KMI				AMB		AMB		
	comp=Z,160nm,4.8s							
KMI				LR		LR		
	comp=N,323nm,12.1s,MS4.1							
KMI				LR		LR		
	comp=E,210nm,13.7s,MS4.1							
KMI				LR		LR		
	comp=Z,228nm,14.9s,MS3.8							
XAN	**Xi'an**	**25.23**	**327**	P		**P**		**07 55 22.3 -0.2**
XAN				AP		pP		07 55 34.9 +2.6
XAN				AMB		AMB		
	comp=Z,57nm,0.9s,mb5.1							
DL2	**Dalian**	**25.50**	**354**	P		**P**		**07 55 27.3 +2.3**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5							
MJAR	**Matsushiro Arr**	**25.74**	**25**	P		**P**		**07 55 25.2 -1.9**
	comp=Z,1.5nm,0.8s,baz=297,slow=6.9,SNR=4.4							
MJAR				LR		LR		08 03 25.4
	comp=Z,252nm,20.4s,MS3.7,baz=190,slow=32							
CD2	**Chengdu**	**26.27**	**315**	⇑*i*P		**P**		**07 55 31.8 -0.1**
CD2				AP		pP		07 55 41.0 -0.7
CD2				XP		sP		07 55 45.1 -0.8
CD2				PP				07 56 14.1
CD2				S		**S**		**07 59 59.3 -2.8**
CD2				SS				08 01 08.1
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.3							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
CD2				LR		LR		
	comp=E,310nm,13.2s							
CD2				LR		LR		
	comp=Z,150nm,15.6s,MS3.6							
BJI	**Beijing**	**27.60**	**345**	P		**P**		**07 55 43.4 -0.6**
BJI				AMB		AMB		
	comp=Z,16nm,1.1s,mb4.6							
PSI	**Prapat**	**28.06**	**250**	P		**P**		**07 55 49.9 +1.8**
	comp=Z,3.0nm,0.6s,mb4.1,baz=107,slow=4.5,SNR=4.0							
PSI	**Prapat**	**28.06**	**250**	P		**P**		**07 55 49.9 +1.8**
PSI				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.1							
LZH	**Lanzhou**	**29.56**	**323**	⇑P		**P**		**07 56 02.5 +1.1**
LZH				AP		pP		07 56 10.3 -0.9
LZH				AMB		AMB		
	comp=Z,26nm,1.3s,mb4.8							
LZH				AMB		AMB		
	comp=Z,61nm,6.5s							
LZH				LR		LR		
	comp=N,214nm,12.7s							
LZH				LR		LR		
	comp=Z,343nm,14.8s,MS4.1							
HHC	**Hu-ho-hao-te**	**29.74**	**339**	*e*P		**P**		**07 56 04.6 +1.6**
HHC				AP		pP		07 56 14.3 +1.4
HHC				XP		sP		07 56 18.3 +1.3
HHC				PP		PP		07 57 02.1 -8.3
HHC				PCP		PcP		07 59 07.9 +1.6
HHC				S		**S**		**08 00 57.9 +1.0**
HHC				XS		sS		08 01 13.8 +0.6
HHC				SS		SS		08 02 33.8 -30
HHC				SCP		ScP		08 02 45.8 +0.2
HHC				PCS		PcS		08 02 49.9 +0.4
HHC				SCS		ScS		08 06 39.6 -1.0
HHC				AMB		AMB		
	comp=Z,19nm,0.4s,mb5.2							
HHC				AMB		AMB		
	comp=Z,118nm,3.0s							
HHC				LR		LR		
	comp=N,241nm,5.7s							
HHC				LR		LR		
	comp=E,126nm,6.1s							
HHC				LR		LR		
	comp=Z,110nm,6.7s							
CN2	**Changchun**	**30.19**	**0**	*e*P		**P**		**07 56 08.9 +1.9**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.7							
MDJ	**Mudanjiang**	**31.23**	**6**	P		**P**		**07 56 16.8 +0.6**
MDJ				AMB		AMB		
	comp=Z,9.0nm,0.9s,mb4.6							
MDJ				AMB		AMB		
	comp=Z,125nm,4.1s							
MDJ	**Mudanjiang**	**31.23**	**6**	*e*P		**P**		**07 56 16.0 -0.2**
	comp=Z,8.2nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**31.41**	**179**	*e*P		**P**		**07 56 12.9 -4.8**
	comp=Z,29nm,0.6s,mb5.3							
PMG	**Port Moresby**	**31.51**	**135**	LR		LR		08 09 17.7
	comp=Z,149nm,18.0s,MS3.7,baz=331,slow=37							
GTA	**Gaotai**	**34.16**	**324**	*e*P		**P**		**07 56 42.0 +0.3**
GTA				AP		pP		07 56 54.4 +2.7
GTA				XP		sP		07 56 59.5 +3.7
GTA				PP		PP		07 57 56.0 -3.4
GTA				PCP		PcP		07 59 20.0 +1.7
GTA				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.6							
GTA				AMB		AMB		
	comp=Z,92nm,5.7s							
GTA				LR		LR		
	comp=N,189nm,16.4s,MS4.0							
GTA				LR		LR		
	comp=E,159nm,14.4s,MS4.0							
GTA				LR		LR		
	comp=Z,213nm,16.0s,MS4.0							
WRAB	**Tennant Creek**	**34.42**	**165**	*e*P		**P**		**07 56 34.5 -10**
	comp=Z,20nm,0.6s,mb5.2							
WRA	**Warramunga Arr**	**34.43**	**165**	LR		LR		08 09 21.4
	comp=Z,213nm,21.6s,MS3.8,baz=315,slow=34							
MBWA	**Marble Bar**	**34.86**	**189**	P		**P**		**07 56 43.6 -4.2**
	comp=Z,8.6nm,0.7s,mb4.8							
LSA	**Lhasa**	**35.36**	**303**	P		**P**		**07 56 53.3 +1.2**
LSA	**Lhasa**	**35.36**	**303**	*e*P		**P**		**07 56 52.3 +0.2**
LSA				*e**PP		pP		07 57 01.2 -0.8
LSA				pmax		pmax		
	comp=Z,16nm,0.8s,mb5.0							
LSA	**Lhasa**	**35.36**	**303**	*e*P		**P**		**07 56 52.3 +0.2**
	comp=Z,16nm,0.8s,mb5.0							
LSA				*e*pP		pP		07 57 01.1 -0.9
HABR	**Khabarovsk**	**35.81**	**11**	*e*P		**P**		**07 56 52.9 -3.1**
HABR				*e*S		**S**		**08 02 31.9 +0.8**
KLR	**Kul'dur**	**36.03**	**7**	*e*P		**P**		**07 56 54.9 -3.0**
KLR				pmax		pmax		
	comp=Z,40nm,1.8s,mb5.0							
SONM	**Songino Array**	**37.64**	**339**	P		**P**		**07 57 12.2 +0.6**
	comp=Z,19nm,0.9s,mb4.8,baz=155,slow=8.9,SNR=80							
SONM	**Songino Array**	**37.64**	**339**	P		**P**		**07 57 12.2 +0.6**
SONM				pmax		pmax		
	comp=Z,19nm,0.9s							
AS31	**Alice Springs**	**37.91**	**167**	*e*P		**P**		**07 57 14.2 +0.4**
AS31				*e*pP		pP		07 57 23.8 0.0
ASAR	**Alice Springs**	**37.91**	**167**	S		**S**		**08 03 05.7 +2.6**
	comp=Z,2.1nm,0.7s,baz=335,slow=13,SNR=6.3							
CTA	**Charters Tower**	**39.28**	**148**	*e*P		**P**		**07 57 26.2 +0.8**
	comp=Z,5.2nm,0.6s,mb4.4							
CTA	**Charters Tower**	**39.28**	**148**	P		**P**		**07 57 25.6 +0.3**
	comp=Z,7.0nm,0.7s,mb4.5,baz=330,slow=12,SNR=8.5							
CTA				LR		LR		08 13 32.1
	comp=Z,197nm,21.5s,MS3.9,baz=234,slow=36							
CTA	**Charters Tower**	**39.28**	**148**	P		**P**		**07 57 25.6 +0.2**
CTA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CTA				MLR		MLR		
	comp=Z,197nm,21.5s							
GUN	**Gumba**	**39.29**	**298**	*e*P		**P**		**07 57 25.7 +0.3**
	comp=Z,130nm,1.2s,mb5.5							
PKI	**Pulchoki**	**39.62**	**297**	*e*P		**P**		**07 57 27.6 -0.6**
	comp=Z,28nm,0.8s,mb5.0							
KKN	**Kakani**	**39.78**	**297**	*e*P		**P**		**07 57 29.2 -0.3**
	comp=Z,56nm,1.1s,mb5.2							
DMN	**Daman**	**39.89**	**297**	*e*P		**P**		**07 57 30.3 -0.1**
GKN	**Gorkha**	**40.38**	**297**	*e*P		**P**		**07 57 34.1 -0.4**
ZAK	**Zakamensk**	**40.89**	**339**	*e*P		**P**		**07 57 38.1 -0.6**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb3.9							
KOLN	**Koldanda**	**41.23**	**297**	*e*P		**P**		**07 57 41.1 -0.4**
	comp=Z,45nm,0.9s,mb5.1							
TLY	**Talaya**	**41.86**	**340**	*i* P		**P**		**07 57 44.8 -1.8**
WMQ	**Urumqi**	**44.06**	**321**	P		**P**		**07 58 05.8 +1.3**
WMQ				AP		pP		07 58 15.5 +0.9
WMQ				XP		sP		07 58 20.0 +1.3
WMQ				PP		PP		07 59 50.0 +2.6
WMQ				PPP				08 00 28.0
WMQ				S		**S**		**08 04 35.0 +0.5**
WMQ				XS		sS		08 04 51.5 +0.3
WMQ				SS		SS		08 07 44.0 -8.4
WMQ				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.4							
WMQ				AMB		AMB		
	comp=Z,146nm,6.6s							
WMQ				LR		LR		
	comp=N,504nm,14.6s,MS4.7							
WMQ				LR		LR		
	comp=E,515nm,14.0s,MS4.7							
WMQ				LR		LR		
	comp=Z,469nm,17.0s,MS4.5							
FORT	**Forrest**	**44.11**	**176**	*e*P		**P**		**07 58 04.4 -0.5**
	comp=Z,43nm,0.7s,mb5.3							
BOD	**Bodaibo**	**45.04**	**352**	*e*P		**P**		**07 58 11.4 -0.9**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.4s,mb4.4							
HYB	**Hyderabad**	**45.05**	**281**	*i* P		**P**		**07 58 12.5 +0.2**
HYB	**Hyderabad**	**45.05**	**281**	*e*P		**P**		**07 58 12.5 +0.2**
KLBR	**Kellerberrin**	**45.40**	**189**	*e*P		**P**		**07 58 13.0 -2.1**
	comp=Z,61nm,1.5s,mb5.2							
NWAO	**Narrogin (SRO)**	**46.79**	**189**	P		**P**		**07 58 25.2 -0.9**
	comp=Z,10nm,0.5s,mb5.0,baz=22,slow=6.8,SNR=11							
NWAO	**Narrogin (SRO)**	**46.79**	**189**	P		**P**		**07 58 25.2 -0.9**
NWAO				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PET	**Petropavlovsk**	**47.53**	**27**	*e*P		**P**		**07 58 31.0 -0.9**
PET				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0							
PET	**Petropavlovsk**	**47.53**	**27**	*e*P		**P**		**07 58 31.0 -0.9**
	comp=Z,13nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**47.78**	**161**	*e*P		**P**		**07 58 34.0 +0.2**
	comp=Z,16nm,0.8s,mb5.1							
STKA	**Stephens Creek**	**47.78**	**161**	P		**P**		**07 58 33.0 -0.7**
	comp=Z,22nm,0.8s,mb5.2,baz=329,slow=6.4,SNR=19							
YAK	**Yakutsk**	**48.56**	**3**	*e*P		**P**		**07 58 38.2 -1.6**
YAK				pmax		pmax		
	comp=Z,15nm,0.9s,mb5.0							
MK31	**Makanchi Array**	**48.85**	**322**	P		**P**		**07 58 42.6 +0.6**
MK31				pmax		pmax		
	comp=Z,24nm,0.9s,mb5.2							
MKAR	**Makanchi Array**	**48.85**	**322**	P		**P**		**07 58 43.0 +0.9**
	comp=Z,17nm,0.8s,mb5.2,baz=113,slow=9.3,SNR=109							
MKAR	**Makanchi Array**	**48.85**	**322**	P		**P**		**07 58 43.0 +1.0**
MKAR				pmax		pmax		
	comp=Z,17nm,0.8s							
MA2	**Magadan**	**49.74**	**17**	⇑*e*P		**P**		**07 58 48.7 -0.1**
MA2				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.8							
MA2	**Magadan**	**49.74**	**17**	P		**P**		**07 58 48.0 -0.8**
	comp=Z,6.1nm,0.8s,mb4.7							
ULHL	**Ulahol**	**50.98**	**314**	P		**P**		**07 58 59.6 +1.4**
	SNR=13							
ZAL	**Zalesovo**	**51.31**	**331**	P		**P**		**07 59 00.3 -0.4**
	comp=Z,4.7nm,0.8s,mb4.4,baz=352,slow=5.7,SNR=16							
ZAL	**Zalesovo**	**51.31**	**331**	*i* P		**P**		**07 59 00.6 -0.1**
ZAL				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TKM2	**Tokmak 2**	**51.65**	**314**	P		**P**		**07 59 04.2 +0.9**
	SNR=6.2							
UCH	**Uchtor**	**52.19**	**313**	P		**P**		**07 59 09.4 +2.2**
	SNR=19							
AAK	**Ala-Archa**	**52.33**	**314**	*e*P		**P**		**07 59 06.1 -2.2**
AAK				*e**PP		pP		07 59 17.1 -1.5
AAK				pmax		pmax		
	comp=Z,14nm,1.5s,mb4.7							
AAK	**Ala-Archa**	**52.33**	**314**	*e*P		**P**		**07 59 06.1 -2.2**
	comp=Z,14nm,1.5s,mb4.7							
AAK				*e*pP		pP		07 59 17.1 -1.4
USP	**Ospenovka**	**52.52**	**315**	P		**P**		**07 59 10.6 +0.9**
	SNR=5.9							
KURK	**Kurchatov**	**52.84**	**325**	P		**P**		**07 59 12.1 +0.1**
	comp=Z,429nm,0.8s,SNR=59							
EKS2	**Erkin-Say**	**52.84**	**314**	P		**P**		**07 59 13.3 +1.2**
	SNR=8.4							
SEY	**Seymchan**	**52.98**	**15**	⇓*e*P		**P**		**07 59 14.1 +1.0**
KK31	**Karatay Array**	**55.27**	**313**	*i* P		**P**		**07 59 30.4 +0.6**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.8							
KKAR	**Karatay Array**	**55.27**	**313**	*i* P		**P**		**07 59 30.4 +0.6**
KKAR				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
VOSK	**Vostochnaya**	**57.99**	**324**	P		**P**		**07 59 49.1 0.0**
VOSK				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.9							
TIXI	**Tiksi**	**58.16**	**1**	*i* P		**P**		**07 59 49.5 -0.8**
TIXI				pmax		pmax		
	comp=Z,31nm,2.0s,mb5.0							
TIXI				MLR		MLR		
	comp=Z,1μm,28.0s,MS4.8							
BVA0	**Borovoye Array**	**58.43**	**325**	*i* P		**P**		**07 59 51.9 -0.3**
BVA0				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
BRVK	**Borovoye**	**58.51**	**325**	*e*P		**P**		**07 59 53.3 +0.6**
BRVK				*e**PP		pP		08 00 00.5 -2.6
BRVK				pmax		pmax		
	comp=Z,23nm,0.8s,mb5.3							
BRVK	**Borovoye**	**58.51**	**325**	*e*P		**P**		**07 59 53.3 +0.6**
	comp=Z,23nm,0.8s,mb5.3							
BRVK				*e*pP		pP		08 00 00.5 -2.7
CHKZ	**Chkalovo**	**58.55**	**325**	*e*P		**P**		**07 59 53.0 0.0**
CHKZ				*e**PP		pP		08 00 03.2 -0.2
CHKZ				pmax		pmax		
	comp=Z,47nm,1.4s,mb5.3							
CHKZ	**Chkalovo**	**58.55**	**325**	*e*P		**P**		**07 59 53.0 0.0**
	comp=Z,47nm,1.4s,mb5.3							
CHKZ				*e*pP		pP		08 00 03.2 -0.3
ZRNK	**Zerenda**	**59.19**	**324**	P		**P**		**07 59 57.6 +0.1**
ZRNK				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1							
ZRNK	**Zerenda**	**59.19**	**324**	*e*P		**P**		**07 59 56.7 -0.8**
	comp=Z,31nm,0.8s,mb5.4							
BILL	**Bilibino**	**60.61**	**16**	*i* P		**P**		**08 00 07.5 +0.3**
BILL				*e*S		**S**		**08 08 25.2 +4.2**
BILL				*e*SS		SS		08 12 25.3 +5.7
BILL				pmax		pmax		
	comp=Z,6.0nm,0.5s,mb5.0							
AB31	**Akbulak array**	**63.77**	**318**	P		**P**		**08 00 28.4 0.0**
AB31				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
SVE	**Sverdlovsk**	**64.95**	**327**	*e*P		**P**		**08 00 36.8 +0.7**
SVE				*e*		pP		08 00 48.8 +2.2
AKTO	**Aktyubinsk**	**65.19**	**320**	LR		LR		08 31 47.9
	comp=Z,69nm,18.8s,MS3.9,baz=265,slow=38							
ARU	**Arti**	**65.97**	**326**	*i* P		**P**		**08 00 42.2 -0.5**
ARU				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.9							
ARU	**Arti**	**65.97**	**326**	*e*P		**P**		**08 00 41.9 -0.8**
	comp=Z,6.8nm,0.7s,mb4.8							
IMA2	**Indian Mountai**	**74.15**	**25**	*e*P		**P**		**08 01 33.0 +0.1**
GNI	**Garni**	**74.18**	**308**	LR		LR		08 37 45.6
	comp=Z,38nm,20.3s,MS3.7,baz=123,slow=39							
GNI	**Garni**	**74.18**	**308**	⇑*e*P		**P**		**08 01 30.5 -2.6**
ZEI	**Tsey**	**74.62**	**311**	*e*P		**P**		**08 01 35.8 +0.2**
ZEI				*e**PP		pP		08 01 43.2 -3.1
ZEI				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.7							
KIV	**Kislovodsk**	**75.41**	**312**	⇓*e*P		**P**		**08 01 41.0 +0.9**
KIV				*e*S		S		08 11 23.3 +5.6
KIV				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.0							
KIV	**Kislovodsk**	**75.41**	**312**	*e*P		**P**		**08 01 41.1 +1.0**
	comp=Z,11nm,0.8s,mb4.8							
MCK	**McKinley**	**76.17**	**27**	*e*P		**P**		**08 01 44.8 +0.3**
MCK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
MCK	**McKinley**	**76.17**	**27**	*e*P		**P**		**08 01 44.8 +0.3**
	comp=Z,5.2nm,0.9s,mb4.5							
COLA	**College**	**76.59**	**26**	⇑*e*P		**P**		**08 01 47.2 +0.3**
COLA	**College**	**76.59**	**26**	*e*P		**P**		**08 01 46.7 -0.2**
	comp=Z,3.1nm,0.9s,mb4.2							
VRSR	**Storozhevoye**	**77.12**	**320**	*e*P		**P**		**08 01 49.3 -0.6**
VRSR				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
VRSR				pmax		pmax		
	comp=N,9.0nm,1.0s							
VRSR				pmax		pmax		
	comp=E,6.0nm,0.9s							
OBN	**Obninsk**	**78.28**	**324**	*i* P		**P**		**08 01 56.0 -0.3**
OBN				pmax		pmax		
	comp=Z,15nm,0.8s,mb5.0							
ANN	**Anapa**	**79.05**	**314**	*e*P		**P**		**08 01 53.6 -7.0**
ANN				*e*		pP		08 02 01.8 -10
ANN				*i* *PP		pP		08 02 04.4 -7.0
ANN				*e*S		S		08 11 49.1 -8.2
ANN				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.8							
JOF	**Joensuu**	**79.86**	**332**	*e*p		**P**		**08 02 03.2 -1.8**
	comp=Z,5.9nm,0.7s,mb4.6							
ARCES	**ARCESS Array B**	**80.82**	**339**	P		**P**		**08 02 10.2 0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=96,

NOA	**NORSAR Array B**	**89.42**	**334**	P	**P**	**08 02 52.1**	**-1.1**
	comp=Z,1.6nm,0.8s,mb4.4,baz=62,slow=4.6,SNR=6.5						
NOA				LR	LR	08 50 14.3	
	comp=Z,32nm,18.2s,MS3.8,baz=50,slow=40						
VNDA	**Vanda**	**93.25**	**173**	P	**P**	**08 03 10.4**	**-0.5**
	comp=Z,2.5nm,0.8s,mb4.7,baz=319,slow=5.2,SNR=14						
VNDA	**Vanda**	**93.25**	**173**	P	**P**	**08 03 10.4**	**-0.5**
VNDA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**93.52**	**322**	LR	LR	08 45 30.5	
	comp=Z,49nm,18.9s,MS4.0,baz=89,slow=36						
NVAR	**Mina Array Bea**	**101.37**	**46**	P	Pdif	08 03 49.1	+1.5
	comp=Z,0.7nm,0.8s,baz=282,slow=5.9,SNR=5.6						
ANMO	**Albuquerque**	**111.31**	**44**	*i*PKIKP	PKiKP	08 08 36.8	+6.6
JCT	**Junction City**	**118.47**	**44**	*e*PKIKP	PKPdf	08 08 43.5	-0.4
CPD	**Cerro la Pandu**	**146.80**	**20**	*e*PKPbc	PKPbc	08 09 40.0	+1.6
PLCA	**Paso Flores**	**149.57**	**156**	PKPbc	PKPbc	08 09 46.8	+1.1
	comp=Z,2.8nm,0.8s,baz=204,slow=2.4,SNR=6.0						
SDV	**Santo Domingo**	**152.76**	**36**	*e*PKPdf	PKPdf	08 09 46.7	+0.7
SDV				*e*PKPbc	PKPbc	08 09 55.0	+1.9

*IDC **23** 07:52:31.2±0.7, 301S×12966E, h0km, mb4.4/10, mb1 4.6/12, mb1mx4.5/18, mbtmp4.5/12, ML4.4/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=32.4km s-min=13.1km az=72.0*
*NEIC **23** 07:52:32.7±0.5, 298S×12971E, h10km, mb4.7/2, Error ellipse: s-maj=22.8km s-min=8.4km az=66.0*
*BJI **23** 07:52:32.7, 300S×12970E, h10km, mb4.8*
*ISCJB **23** 07:52:34.3±0.4, 296S±004×12973E±007, h33km, mb4.5/16, MS3.5/2, Error ellipse: s-maj=9.9km s-min=5.9km az=144.0*
*MOS **23** 07:52:34.1±1.3, 302S×12968E, h33km, mb4.6/12, Error ellipse: s-maj=27.6km s-min=11.5km az=112.2*

ISC 23 07:52:36.5±1.0, 302S±005×12978E±008, h36km±11km, n48, σ0 99/48, mb4.5/16, MS3.5/2, 1C-3D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.72**	**247**	P		**P**	**Pn**	**07 53 04.1**	**+0.2**
	0.0nm,0.0s								
SWI	**Sorong**	**2.60**	**35**	P		**P**	**Pn**	**07 53 14.4**	**-1.6**
	0.0nm,0.0s								
BAKI	**Biak**	**6.58**	**74**	P		**P**	**Pn**	**07 54 13.1**	**+2.4**
	0.0nm,0.0s								
KAKA	**Kakadu**	**9.98**	**165**	↓*i*P		**P**	**Pn**	**07 54 58.3**	**+0.9**
	22nm,0.6s								
FITZ	**Fitzroy Crossi**	**15.53**	**195**	Pn		**P**	**Pn**	**07 56 13.0**	**+0.3**
	1.4nm,0.3s,baz=21,slow=7.6,SNR=29								
FITZ				LR		LR	LR	08 02 55.4	
	comp=Z,122nm,19.5s,baz=26,slow=40								
WRAB	**Tennant Creek**	**17.39**	**165**	↓*e*P		**P**	**Pn**	**07 56 36.9**	**+0.6**
WRA	**Warramunga Arr**	**17.40**	**166**	P		**P**	**Pn**	**07 56 35.2**	**-1.2**
	1.0nm,0.3s,baz=349,slow=12,SNR=42								
WRA				S		**S**	**S**	**07 59 50.8**	**-5.6**
	0.4nm,0.3s,baz=334,slow=22,SNR=3.5								
WRA	**Warramunga Arr**	**17.40**	**166**	P		**P**	**Pn**	**07 56 35.2**	**-1.2**
WRA				S		**S**	**S**	**07 59 50.8**	**-5.6**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.3s								
WB2	**Warramunga Arr**	**17.41**	**165**	*e*P		**P**	**Pn**	**07 56 35.1**	**-1.3**
ASAR	**Alice Springs**	**20.91**	**169**	P		**P**	**P**	**07 57 14.1**	**-1.7**
	comp=Z,62nm,0.8s,baz=346,slow=10,SNR=205								
ASAR				S		**S**	**S**	**08 01 06.8**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=349,slow=20,SNR=6.3								
ASAR				PcP		PcP	PcP	08 01 24.4	+1.7
	comp=Z,1.6nm,0.5s,baz=349,slow=0.9,SNR=6.1								
ASAR				LR		LR	LR	08 06 21.0	
	comp=Z,221nm,19.3s,MS3.5,baz=353,slow=40								
ASAR	**Alice Springs**	**20.91**	**169**	P		**P**	**P**	**07 57 14.1**	**-1.7**
ASAR				S		**S**	**S**	**08 01 06.8**	**-0.1**
ASAR								08 01 24.4	
ASAR				pmax		pmax			
	comp=Z,62nm,0.8s								
ASAR				smax					
	comp=N,5.0nm,0.9s								
ASAR				pmax		pmax			
	comp=Z,2.0nm,0.5s								
ASAR				MLR		MLR			
	comp=Z,221nm,19.3s								
CTA	**Charters Tower**	**23.37**	**138**	P		**P**	**P**	**07 57 43.8**	**+1.8**
	comp=Z,11nm,0.7s,mb4.4,baz=319,slow=13,SNR=7.1								
CTA	**Charters Tower**	**23.37**	**138**	P		**P**	**P**	**07 57 43.8**	**+1.8**
CTA				pmax		pmax			
	comp=Z,11nm,0.7s								
JOW	**Kunigami**	**29.71**	**357**	LR		LR		08 10 47.8	
	comp=Z,90nm,18.3s,MS3.4,baz=35,slow=37								
PSI	**Prapat**	**31.38**	**280**	P		**P**	**P**	**07 58 52.6**	**-1.2**
	comp=Z,7.8nm,0.8s,mb4.6,baz=157,slow=5.5,SNR=7.1								
PSI	**Prapat**	**31.38**	**280**	P		**P**	**P**	**07 58 52.6**	**-1.2**
PSI				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
NANT	**Nan**	**35.90**	**308**	↓P		**P**		**07 59 35.0**	**+1.9**
	comp=Z,150nm,0.5s								
CHG	**Chiang Mai**	**37.30**	**307**	↑P		**P**		**07 59 46.0**	**+1.0**
	comp=Z,22nm,1.0s,mb4.9								
CHTO	**Chiang Mai**	**37.30**	**307**	*e*P		**P**		**07 59 45.7**	**+0.7**
CHTO				pmax		pmax			
	comp=Z,23nm,1.0s,mb5.0								
CHTO	**Chiang Mai**	**37.30**	**307**	*e*P		**P**		**07 59 45.7**	**+0.7**
	comp=Z,23nm,1.0s,mb5.0								
MJAR	**Matsushiro Arr**	**40.13**	**11**	P		**P**		**08 00 07.6**	**-1.2**
	comp=Z,2.7nm,0.5s,mb4.2,baz=182,slow=8.6,SNR=7.1								
MJAR	**Matsushiro Arr**	**40.13**	**11**	P		**P**		**08 00 07.6**	**-1.2**
MJAR				pmax		pmax			
	comp=Z,3.0nm,0.5s								
GTA	**Gaotai**	**50.42**	**330**	*e*P		**P**		**08 01 30.6**	**+0.3**
GTA				AP		pP		08 01 36.9	-4.1
GTA				XP		sP		08 01 39.3	-6.0
GTA				AMB		AMB			
	comp=Z,5.0nm,1.0s,mb4.5								
KLR	**Kul'dur**	**52.06**	**2**	*e*P		**P**		**08 01 31.8**	**-11**
GUN	**Gumba**	**52.23**	**309**	*e*P		**P**		**08 01 43.9**	**0.0**
	comp=Z,32nm,0.7s,mb5.4								
PKI	**Pulchoki**	**52.44**	**308**	*e*P		**P**		**08 01 45.3**	**-0.1**
KKN	**Kakani**	**52.64**	**309**	*e*P		**P**		**08 01 46.7**	**-0.2**
DMN	**Daman**	**52.69**	**308**	*e*P		**P**		**08 01 47.4**	**+0.1**
GKN	**Gorkha**	**53.24**	**309**	*e*P		**P**		**08 01 50.3**	**-1.1**
	comp=Z,24nm,0.9s,mb5.1								
KOLN	**Koldanda**	**53.95**	**308**	*e*P		**P**		**08 01 56.6**	**0.0**
	comp=Z,24nm,0.9s,mb5.2								
SONM	**Songino Array**	**54.62**	**341**	P		**P**		**08 02 01.7**	**+0.3**
	comp=Z,0.7nm,0.4s,mb4.1,baz=156,slow=8.0,SNR=5.7								
SONM				PcP		PcP		08 03 05.2	+1.1
	comp=Z,1.3nm,0.6s,baz=162,slow=4.1,SNR=5.8								
SONM	**Songino Array**	**54.62**	**341**	P		**P**		**08 02 01.7**	**+0.3**
SONM								08 03 05.2	
SONM				pmax		pmax			
	comp=Z,1.0nm,0.4s								
SONM				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ZAK	**Zakamensk**	**57.86**	**340**	*e*P		**P**		**08 02 25.0**	**+0.5**
ZAK				*e*				08 03 17.2	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.3s,mb4.0								
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s,mb4.0								
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**		**08 03 11.4**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=114,slow=8.5,SNR=7.9								
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**		**08 03 11.5**	**0.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ZAL	**Zalesovo**	**67.94**	**333**	P		**P**		**08 03 30.9**	**-0.6**
	comp=Z,5.2nm,1.0s,mb4.5,baz=354,slow=5.4,SNR=14								
ZAL	**Zalesovo**	**67.94**	**333**	P		**P**		**08 03 31.0**	**-0.6**
ZAL				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ZRNK	**Zerenda**	**75.32**	**327**	*e*P		**P**		**08 04 15.9**	**-0.1**
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**75.32**	**327**	*e*P		**P**		**08 04 15.9**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.4								
VNDA	**Vanda**	**76.40**	**173**	P		**P**		**08 04 21.8**	**-0.3**
	comp=Z,3.1nm,1.2s,mb4.1,baz=312,slow=8.2,SNR=5.1								
VNDA	**Vanda**	**76.40**	**173**	P		**P**		**08 04 21.8**	**-0.3**
VNDA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
MAW	**Mawson**	**78.56**	**201**	P		**P**		**08 04 34.1**	**0.0**
	comp=Z,4.9nm,1.0s,mb4.4,baz=78,slow=7.2,SNR=6.9								
MAW	**Mawson**	**78.56**	**201**	P		**P**		**08 04 34.1**	**-0.1**
MAW				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KMBO	**Kilima Mbogo**	**92.47**	**269**	P		**P**		**08 05 45.6**	**+2.0**
	comp=Z,3.3nm,1.0s,mb4.6,baz=45,slow=3.6,SNR=5.1								
KMBO	**Kilima Mbogo**	**92.47**	**269**	P		**P**		**08 05 45.6**	**+2.0**
KMBO				pmax		pmax			
	comp=Z,3.0nm,1.0s								
TORD	**Torodi Ar. Bea**	**127.73**	**284**	PKP		PKPdf		08 11 38.8	+0.8
	comp=Z,1.8nm,1.0s,baz=48,slow=1.3,SNR=6.1								
CPUP	**Villa Florida**	**150.03**	**167**	PKPbc		PKPbc		08 12 25.6	+2.4
	comp=Z,7.2nm,0.7s,baz=136,slow=2.2,SNR=15								
CPUP	**Villa Florida**	**150.03**	**167**	PKIKP		PKPbc		08 12 25.6	+2.5
CPUP				pmax		pmax			
	comp=Z,7.0nm,0.7s								

*IDC **23** 07:54:21.4±19.0, 23.16S×174.92W, h0km, mb4.3/5, mb1 4.5/5, mb1mx4.1/14, mbtmp4.3/5, Error ellipse: s-maj=347.8km s-min=142.9km az=81.0*
*ISCJB **23** 07:54:27.7±6.2, 235S±09×175.3W±0.7, h33km, mb4.4/7, Error ellipse: s-maj=162.4km s-min=33.2km az=70.4*
*NEIC **23** 07:54:30.6±4.6, 23.62S×175.41W, h35km, mb4.5/2, Error ellipse: s-maj=122.0km s-min=25.3km az=216.0*

ISC 23 07:54:31.0±6.1, 237S±09×175.4W±0.7, h35km, n8, σ0 9/45/8, mb4.4/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.69**	**268**	P		P	**P**	**08 01 26.6**	**+0.7**
	5.8nm,0.3s,mb4.9,baz=97,slow=10,SNR=10								
STKA	**Stephens Creek**	**38.70**	**248**	P		P	**P**	**08 01 51.7**	**+0.2**
	1.3nm,0.3s,mb4.1,baz=114,slow=12,SNR=4.5								
ASAR	**Alice Springs**	**46.22**	**259**	P		P	**P**	**08 02 52.1**	**-0.4**
	0.6nm,0.3s,mb4.0,baz=91,slow=6.9,SNR=8.3								
WB2	**Warramunga Arr**	**46.61**	**264**	*e*P		P	**P**	**08 02 55.1**	**-0.5**
WRAB	**Tennant Creek**	**46.61**	**264**	*e*P		P	**P**	**08 02 55.3**	**-0.3**
	3.3nm,0.4s,mb4.6								
WRA	**Warramunga Arr**	**46.62**	**264**	P		P	**P**	**08 02 55.3**	**-0.4**
	1.9nm,0.3s,mb4.5,baz=101,slow=8.2,SNR=28								
FITZ	**Fitzroy Crossi**	**55.04**	**264**	P		P	**P**	**08 03 59.7**	**+0.7**
	2.8nm,0.9s,mb4.3,baz=65,slow=14.3,SNR=3.2								
QSPA	**South Pole Qui**	**66.39**	**180**	*e*P		P	**P**	**08 05 16.4**	**0.0**
	2.5nm,0.9s,mb4.2								
QSPA				*e*P				08 05 17.3	

*NEIC **23** 08:31:00.0, 1336N×8974W, h47km, MD3.8(SNET), After SNET.*
NEIC Felt [II] at Sonsonate.

CASC 23 08:31:41.0±3.0, 1325N×8982W, h27km±12km, MD4.0, ML3.6, 5C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.66**	**15**	↓*e*P		x		08 32 03.5	
RTR				*e*S		x		08 32 16.1	
BOQS	**Boqueron**	**0.71**	**48**	↑*e*P		x		08 32 03.6	
BOQS				*e*S		x		08 32 14.4	
SNET	**Serv Nac Est T**	**0.72**	**53**	↓*e*P		x		08 32 03.2	
SNET				*e*S		x		08 32 14.5	
LFRS	**El Faro**	**0.83**	**63**	↓*i*P		x		08 32 04.9	
LFRS				*e*S		x		08 32 18.1	
LFU	**La Fuente**	**0.85**	**54**	↑*e*P		x		08 32 05.4	
LFU				*e*S		x		08 32 15.8	
RBDL	**Robledal**	**0.87**	**9**	↓*i*P		x		08 32 06.2	
RBDL				*e*S		x		08 32 17.7	
LCBS	**La Ceiba**	**0.92**	**64**	↓*e*P		x		08 32 05.8	
LCBS				*e*S		x		08 32 19.0	
SNVI	**San Vicente**	**1.02**	**69**	↓*e*P		x		08 32 07.7	
SNVI				*e*S		x		08 32 21.4	
MTO2	**Montecristo 2**	**1.23**	**21**	↓*e*P		x		08 32 10.7	
MTO2				*e*S		x		08 32 29.5	
VSM	**San Miguel**	**1.52**	**83**	↑*e*P		x		08 32 15.1	
VSM				*e*S		x		08 32 34.8	
BLLM	**Bellamira**	**1.56**	**83**	↑*e*P		x		08 32 15.4	
BLLM				*e*S		x		08 32 35.1	
TP2	**Tecpan 2**	**1.92**	**323**	↓*e*P		Pn		08 32 12.3	+0.5
TP2				*e*S		Sn		08 32 37.3	+2.3
CNCH	**Conchagua**	**1.94**	**89**	*e*P		x		08 32 20.6	
CNCH				*e*S		x		08 32 44.5	
CRIN	**San Cristobal**	**2.76**	**101**	*e*P		Pn		08 32 23.5	+0.1
LEON	**Leon**	**2.98**	**106**	*e*P		Pn		08 32 26.6	+0.2
CNGN	**Cerro Negro**	**3.14**	**103**	*e*P		Pn		08 32 29.2	+0.5
MIRN	**Miramar**	**3.14**	**105**	*e*P		Pn		08 32 28.3	-0.3
MIRN				*e*S		Sn		08 33 04.3	-1.0
MOMJ	**Momotombo**	**3.31**	**104**	*e*P		Pn		08 32 31.7	+0.7
COPN	**Copaltepe**	**3.33**	**108**	*e*P		Pn		08 32 31.4	+0.2
XAVN	**Gruta Xavier**	**3.58**	**107**	↑*e*P		Pn		08 32 36.3	+1.6
TISN	**Laguna Tiscapa**	**3.64**	**107**	*e*P		Pn		08 32 36.9	+1.4
MGAN	**Managua**	**3.66**	**107**	*e*P		Pn		08 32 35.7	-0.1
MGAN				*i*				08 33 15.7	
	comp=N,96nm,0.5s								

WEL 23 08:37:29.6±0.7, 4110S×17933W, h33km, ML3.5/13, Error ellipse: s-maj=6.6km s-min=4.0km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**3.09**	**289**	PN		Pn		08 38 16.0	-0.2
PXZ				SN		Sn		08 38 49.9	-2.1
TIWZ	**Tintock**	**3.64**	**274**	SN		Sn		08 39 04.8	-0.7
MWZ	**Matawai**	**3.68**	**318**	PN		Pn		08 38 22.9	-1.2
MWZ				SN		Sn		08 39 02.9	-3.5
TSZ	**Takapari Road**	**3.74**	**285**	PN		Pn		08 38 24.5	-0.5
TSZ				SN		Sn		08 39 04.9	-2.9
BKZ	**Black Stump Fm**	**3.74**	**300**	PN		Pn		08 38 25.2	+0.1
MRZ	**Mangatainoka R**	**3.89**	**275**	PN		Pn		08 38 26.1	-0.9
MTW	**Mount Morrison**	**3.91**	**267**	PN		Pn		08 38 25.3	-2.0
MTW				SN		Sn		08 39 08.1	-3.9
URZ	**Urewera**	**3.95**	**315**	PN		Pn		08 38 26.7	-1.2
URZ				SN		Sn		08 39 10.9	-2.2
CAW	**Cannon Point**	**4.24**	**268**	PN		Pn		08 38 30.2	-1.6
CAW				SN		Sn		08 39 17.3	-2.8
KIW	**Kapiti Island**	**4.37**	**271**	PN		Pn		08 38 32.9	-0.7
MRW	**Makara Radio**	**4.51**	**266**	PN		Pn		08 38 34.2	-1.4
TCW	**Tory Channel**	**4.83**	**267**	PN		Pn		08 38 38.8	-1.3
KHZ	**Kahutara**	**5.50**	**254**	*e*PN		Pn		08 38 46.5	-2.7
NNZ	**Nelson**	**5.51**	**266**	*e*PN		Pn		08 38 47.8	-1.5
QRZ	**Quartz Range**	**6.17**	**270**	PN		Pn		08 38 58.4	0.0
MQZ	**McQueen's Vall**	**6.48**	**244**	SN		Sn		08 40 10.8	-4.7

CASC 23 08:39:58.3±3.7, 1325N×8978W, h36km±718km, MD3.9, ML3.2, 9C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.61**	**14**	↓*i*P		x		08 40 20.0	
SBLS				*e*S		x		08 40 32.3	
SNJE	**San Jose**	**0.64**	**15**	↓*i*P		x		08 40 20.3	
SNJE				*e*S		x		08 40 32.0	
BOQS	**Boqueron**	**0.69**	**45**	↑*e*P		x		08 40 20.9	
BOQS				*e*S		x		08 40 31.7	
RBDL	**Robledal**	**0.86**	**6**	↓*e*P		x		08 40 23.5	
RBDL				*e*S		x		08 40 35.7	
LBRS	**Las Brisas**	**0.87**	**56**	↓*e*P		x		08 40 23.5	
LBRS				*e*S		x		08 40 35.8	
SNVI	**San Vicente**	**0.98**	**68**	*e*P		x		08 40 25.2	
SNVI				*e*S		x		08 40 38.7	
MTO2	**Montecristo 2**	**1.22**	**19**	↓*e*P		x		08 40 28.1	
MTO2				*e*S		x		08 40 44.3	
TER	**Terranova**	**1.37**	**320**	↑*e*P		Pn		08 40 21.4	+0.5
TER				*e*S		Sn		08 40 37.3	-0.5
VSM	**San Miguel**	**1.48**	**83**	↓*e*P		x		08 40 32.4	
VSM				*e*S		x		08 40 52.4	
BLLM	**Bellamira**	**1.51**	**82**	↑*e*P		x		08 40 32.9	
BLLM				*e*S		x		08 40 52.8	
FUG	**Fuego 3**	**1.58**	**319**	↑*e*P		Pn		08 40 24.6	+0.8
FUG				*e*S		Sn		08 40 42.8	-0.1
CNCH	**Conchagua**	**1.89**	**89**	*e*P		x		08 40 38.0	
CNCH				*e*S		x		08 41 01.2	
TP2	**Tecpan 2**	**1.95**	**322**	↑*e*P		Pn		08 40 29.7	+0.9
TP2				*e*S		Sn		08 40 54.8	+2.8
JAT	**Jato**	**2.10**	**301**	↓*e*P		Pn		08 40 32.4	+1.5
JAT				*e*S		Sn		08 40 56.2	+0.5
LEON	**Leon**	**2.93**	**106**	↑*e*P		Pn		08 40 44.4	+2.0
LEON				*e*S		Sn		08 41 15.3	-1.0
TELN	**Telica**	**2.94**	**102**	*e*P		Pn		08 40 42.8	+0.2
TELN				*e*S		Sn		08 41 17.6	+1.0
CNGN	**Cerro Negro**	**3.09**	**104**	*e*P		Pn		08 40 46.8	+2.2
CNGN				*e*S		Sn		08 41 23.0	+2.7
MIRN	**Miramar**	**3.10**	**105**	↑*e*P		Pn		08 40 45.7	+1.1
MIRN				*e*S		Sn		08 41 24.2	+3.8
COPN	**Copaltepe**	**3.29**	**108**	↑*e*P		Pn		08 40 49.5	+2.3
COPN				*e*S		Sn		08 41 24.0	-1.1
XAVN	**Gruta Xavier**	**3.54**	**108**	↑*e*P		Pn		08 40 51.7	+1.0
MGAN	**Managua**	**3.62**	**107**	*e*S		Sn		08 41 32.1	-1.1
MGAN				*i*				08 41 33.1	
	comp=N,96nm,0.4s								
TICN	**Ticuantepe**	**3.67**	**109**	*e*P		Pn		08 40 51.6	-0.9
TICN				*e*S		Sn		08 41 35.3	+0.9

*FUNV **23** 08:42:26.0, 1052N×6176W, h8km, MW3.2*
*ISCJB **23** 08:42:27.5±0.6, 1039N±003×6192W±002, h7km±4km, Error ellipse: s-maj=5.2km s-min=3.5km az=141.3*
*NEIC **23** 08:42:29.7, 1039N×6181W, h16km, MD3.7(TRN), After TRN.*
*TRN **23** 08:42:29.7, 1039N×6181W, h17km, MD3.7*

ISC 23 08:42:28.0±0.6, 1040N±003×6192W±002, h8km±4km, n18, σ0 8/82/33, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.34**	**28**	*e*P		P	**Sg**	**08 42 39.2**	**+0.1**
GUIV	**Guiria**	**0.39**	**309**	*e*P		P	**Pg**	**08 42 35.5**	**-0.1**
GUIV				*e*S		S	**Sg**	**08 42 40.9**	**+0.2**
TPP	**Pointe-a-Pierr**	**0.46**	**100**	*e*P		P	**Pg**	**08 42 37.6**	**+0.6**
TPP				*e*S		S	**Sg**	**08 42 42.8**	**-0.2**
TRN	**Trinidad (W)**	**0.56**	**64**	↑*i*P		P	**Pg**	**08 42 38.1**	**-0.7**
TRN				*e*S		S	**Sg**	**08 42 46.5**	**+0.3**
TBH	**Brigand Hill**	**0.84**	**84**	↓*i*P		P	**Pg**	**08 42 44.7**	**+0.6**
TBH				*e*S		S	**Sg**	**08 42 55.1**	**+0.1**
GUNV	**Guanoco**	**1.04**	**257**	*e*P		P	**Pg**	**08 42 47.5**	**-0.5**
GUNV				*e*S		S	**Sg**	**08 43 05.2**	**+3.8**
CRUV	**Carupano**	**1.33**	**282**	*e*P		P	**Pg**	**08 42 52.0**	**-0.9**
CRUV				*e*S		S	**Sb**	**08 43 11.0**	**+0.6**
TPR	**Prospect**	**1.37**	**55**	*e*P		P	**Pn**	**08 42 52.6**	**-0.8**
TPR				*e*S		S	**Sb**	**08 43 10.2**	**-1.3**
BOT	**Bacolet**	**1.40**	**57**	*e*P		P	**Pn**	**08 42 52.9**	**-1.0**
ITEV	**Isla Los Testi**	**1.53**	**309**	*e*P		P	**Pn**	**08 42 53.8**	**-1.8**
ITEV				*e*S		S	**Sn**	**08 43 14.2**	**-1.4**
GRW	**Mount Saint Ca**	**1.77**	**8**	*e*P		P	**Pn**	**08 42 58.2**	**-0.8**
GRW				*e*S		S	**Sn**	**08 43 21.6**	**0.0**
GRHS	**Sauteurs**	**1.83**	**8**	*e*P		P	**Pn**	**08 43 00.8**	**+1.0**
GRHS				*e*S		S	**Sn**	**08 43 23.8**	**+0.6**
GRIC	**Isle de Caille**	**1.90**	**10**	*e*P		P	**Pn**	**08 43 02.7**	**+1.9**
GRIC				*e*S		S	**Sn**	**08 43 24.8**	**-0.2**
GRSS	**Sisters**	**1.91**	**9**	*e*P		P	**Pn**	**08 43 01.6**	**+0.7**
GRSS				*e*S		S	**Sn**	**08 43 26.0**	**+0.8**
ORIV	**Oritupano**	**1.98**	**228**	*e*P		P	**Pn**	**08 43 02.0**	**+0.2**
ORIV				*e*S		S	**Sn**	**08 43 27.9**	**+1.2**
GRCU	**Cariacou**	**2.11**	**12**	*e*P		P	**Pn**	**08 43 04.6**	**+1.0**
GRCU				*e*S		S	**Sn**	**08 43 30.3**	**+0.3**
PRGV	**PARIAGUAN**	**3.15**	**239**	*e*P		P	**Pn**	**08 43 17.4**	**-0.4**
PRGV				*e*S		S	**Sn**	**08 43 55.9**	**+0.3**
CUPV	**Cœpira**	**3.83**	**265**	*e*P		P	**Pn**	**08 43 26.4**	**-0.8**

*IDC **23** 08:47:28.6±3.9, 1060N×12704E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=293.1km s-min=27.4km az=66.0*
*ISCJB **23** 08:47:36.9±1.6, 1017N±004×12618E±008, h22km±10km, mb3.6/3, Error ellipse: s-maj=12.5km s-min=6.9km az=172.2*
*MAN **23** 08:47:38.9, 1016N×12598E, h16km, mb3.4, ML4.6, MS2.3*

ISC 23 08:47:35.8±1.5, 1016N±004×12622E±006, h13km±8km, n15, σ1 9/14/24, mb3.6/3, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**243**	*e*P		P	**Pg**	**08 47 51.0**	**-0.5**
SCPH				*e*S		S	**Sg**	**08 48 02.3**	**+0.1**
BUTP	**Butuan**	**1.32**	**207**	*e*P		P	**Pn**	**08 48 00.2**	**+0.2**
BUTP				*e*S		S	**Sb**	**08 48 18.3**	**+0.9**
MSLP	**Maasin**	**1.34**	**269**	*e*P		P	**Pn**	**08 47 59.0**	**-1.2**
MSLP				*e*S		S	**Sb**	**08 48 17.0**	**-0.9**
PLP	**Palo**	**1.58**	**309**	*e*P		P	**Pn**	**08 48 06.6**	**+3.1**
PLP				*e*S		S	**Sn**	**08 48

ANTU	**Antumapu**	**1.81 125**	*i* P	Pn	08 50 50.0	+0.9
ANTU			*i* S	Sn	08 51 12.9	+2.1
FCH	**Farellones**	**1.95 115** ⇓	*i* P	Pn	08 50 52.6	+1.8
FCH			*i* S	Sn	08 51 16.6	+2.5
CACH	**El Canelo**	**2.19 137**	*i* P	Pn	08 50 56.0	+1.8
LMEL	**Las Melosas**	**2.27 126**	*e*P	Pn	08 50 57.2	+1.9
LMEL			*i* S	Sn	08 51 24.1	+2.1
LMEL	comp=N,124nm,0.4s		AML	AML	08 51 27.5	
LMEL	**Las Melosas**	**2.27 126**	*e*P	Pn	08 50 57.2	+1.9
LMEL			*i* S	Sn	08 51 24.1	+2.1
SFDO	**San Fernando**	**2.38 151**	*i* P	Pn	08 50 57.7	+0.9
CICH	**Cipreses**	**2.44 138**	*e*P	Pn	08 50 59.0	+1.3

*ISCJB **23** 09:07:30.0±0.8, 3554S±009×179.1E±02, h361km±8km, mb3.9/5, Error ellipse: s-maj=23.4km s-min=12.1km az=51.7*
*IDC **23** 09:07:30.0±1.5, 3523S×17874E, h315km±26km, mb3.8/5, mb1 4.0/7, mb1mx3.6/16, mbtmp4.6/7, Error ellipse: s-maj=48.2km s-min=20.1km az=148.0*
*NEIC **23** 09:07:29.5, 3499S×17860E, h311km, MG4.9(WEL), After WEL.*
*WEL **23** 09:07:29.1±0.6, 3499S×17862E, h310km±5km, ML4.8/17, Error ellipse: s-maj=4.7km s-min=4.7km az=90.0*

ISC 23 09:07:31.4±0.8, 3560S±009×1790E±02, h358km±8km, n119, σ0§85/123, mb3.9/5, 1C-2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**196**	P		**Pn**		**09 08 22.1**	**-1.6**
MXZ	**Matakaoa Point**	**2.04**	**196**	PN		**Pn**		**09 08 22.1**	**-1.6**
PUZ	**Puketiti**	**2.54**	**194**	P		**Pn**		**09 08 27.0**	**-0.5**
PUZ	**Puketiti**	**2.54**	**194**	PN		**Pn**		**09 08 27.0**	**-0.5**
KUZ	**Kuaotunu**	**2.90**	**246**	P		**Pn**		**09 08 25.3**	**-5.2**
KUZ	**Kuaotunu**	**2.90**	**246**	⇑PN		**Pn**		**09 08 25.3**	**-5.2**
MWZ	**Matawai**	**2.98**	**203**	P		**Pn**		**09 08 30.8**	**-0.4**
MWZ	**Matawai**	**2.98**	**203**	PN		**Pn**		**09 08 29.2**	**-1.9**
URZ	**Urewera**	**3.06**	**209**	P		**Pn**		**09 08 30.9**	**-1.0**
	160nm,0.3s,baz=310,slow=2.4,SNR=835								
URZ				S		**S**		**09 09 17.1**	**-3.5**
	72nm,0.3s,baz=247,slow=22,SNR=11								
URZ	**Urewera**	**3.06**	**209**	P		**Pn**		**09 08 30.9**	**-1.0**
URZ	**Urewera**	**3.06**	**209**	PN		**Pn**		**09 08 30.9**	**-1.0**
URZ				SN		**S**		**09 09 17.0**	**-3.6**
TAZ	**Tarawera**	**3.31**	**217**	P		**Pn**		**09 08 34.2**	**+0.1**
TAZ	**Tarawera**	**3.31**	**217**	PN		**Pn**		**09 08 34.2**	**+0.1**
PATZ	**Paeroa**	**3.55**	**218**	P		**Pn**		**09 08 36.7**	**+0.3**
PATZ	**Paeroa**	**3.55**	**218**	PN		**Pn**		**09 08 36.3**	**-0.1**
KNZ	**Kokohu**	**3.58**	**197**	P		**Pn**		**09 08 37.4**	**+0.7**
KNZ				S		**S**		**09 09 30.4**	**+1.1**
KNZ	**Kokohu**	**3.58**	**197**	PN		**Pn**		**09 08 37.4**	**+0.7**
KNZ				SN		**S**		**09 09 30.4**	**+1.1**
HATZ	**Hinemaiaia**	**4.03**	**215**	P		**Pn**		**09 08 40.8**	**-0.4**
HATZ	**Hinemaiaia**	**4.03**	**215**	PN		**Pn**		**09 08 40.8**	**-0.4**
WATZ	**Wairara**	**4.06**	**219**	PN		**Pn**		**09 08 41.8**	**+0.3**
BKZ	**Black Stump Fm**	**4.09**	**209**	P		**Pn**		**09 08 41.5**	**-0.3**
BKZ				S		**S**		**09 09 38.7**	**+0.2**
BKZ	**Black Stump Fm**	**4.09**	**209**	PN		**Pn**		**09 08 41.3**	**-0.4**
BKZ				SN		**S**		**09 09 38.7**	**+0.2**
RATZ	**Rangitukua**	**4.17**	**217**	P		**Pn**		**09 08 42.6**	**+0.1**
RATZ	**Rangitukua**	**4.17**	**217**	PN		**Pn**		**09 08 42.4**	**-0.1**
RITZ	**Rihia Road**	**4.21**	**216**	P		**Pn**		**09 08 43.4**	**+0.4**
RITZ	**Rihia Road**	**4.21**	**216**	PN		**Pn**		**09 08 43.1**	**+0.1**
KATZ	**Kakaramea**	**4.29**	**217**	P		**Pn**		**09 08 43.9**	**+0.1**
HIZ	**Hauiti**	**4.42**	**228**	P		**Pn**		**09 08 45.9**	**+0.7**
HIZ	**Hauiti**	**4.42**	**228**	⇓PN		**Pn**		**09 08 45.9**	**+0.7**
WTVZ	**West Tongariro**	**4.45**	**217**	P		**Pn**		**09 08 45.4**	**-0.1**
WTVZ	**West Tongariro**	**4.45**	**217**	PN		**Pn**		**09 08 45.4**	**-0.1**
OTVZ	**Oturere**	**4.45**	**216**	PN		**Pn**		**09 08 45.6**	**+0.1**
NGZ	**Ngauruhoe**	**4.49**	**216**	P		**Pn**		**09 08 45.9**	**0.0**
NGZ	**Ngauruhoe**	**4.49**	**216**	PN		**Pn**		**09 08 45.8**	**-0.1**
TUVZ	**Tukino**	**4.54**	**215**	P		**Pn**		**09 08 46.4**	**0.0**
TUVZ	**Tukino**	**4.54**	**215**	PN		**Pn**		**09 08 46.3**	**-0.1**
WPVZ	**Whakapapa**	**4.54**	**216**	P		**Pn**		**09 08 46.4**	**0.0**
WPVZ	**Whakapapa**	**4.54**	**216**	*e*PN		**Pn**		**09 08 46.8**	**+0.4**
FWVZ	**Far West T-bar**	**4.57**	**216**	P		**Pn**		**09 08 46.8**	**0.0**
FWVZ	**Far West T-bar**	**4.57**	**216**	PN		**Pn**		**09 08 46.5**	**-0.3**
DRZ	**Dome Shelter**	**4.58**	**216**	P		**Pn**		**09 08 47.2**	**+0.3**
DRZ	**Dome Shelter**	**4.58**	**216**	PN		**Pn**		**09 08 46.9**	**0.0**
MOVZ	**Moawhango**	**4.60**	**213**	P		**Pn**		**09 08 46.6**	**-0.5**
MOVZ	**Moawhango**	**4.60**	**213**	PN		**Pn**		**09 08 46.4**	**-0.7**
WNVZ	**Wahianoa**	**4.61**	**215**	P		**Pn**		**09 08 47.1**	**-0.1**
WNVZ	**Wahianoa**	**4.61**	**215**	PN		**Pn**		**09 08 47.1**	**-0.1**
PKVZ	**Pokaka**	**4.70**	**217**	PN		**Pn**		**09 08 47.8**	**-0.3**
PXZ	**Pawanui**	**4.74**	**200**	PN		**Pn**		**09 08 49.4**	**+0.9**
VRZ	**Vera Road**	**4.89**	**223**	P		**Pn**		**09 08 50.7**	**+0.6**
VRZ	**Vera Road**	**4.89**	**223**	PN		**Pn**		**09 08 50.6**	**+0.4**
TSZ	**Takapari Road**	**5.07**	**208**	P		**Pn**		**09 08 52.0**	**-0.1**
TSZ	**Takapari Road**	**5.07**	**208**	PN		**Pn**		**09 08 52.0**	**-0.1**
RAEZ	**Rainy Point**	**5.20**	**224**	P		**Pn**		**09 08 54.7**	**+1.1**
RAEZ	**Rainy Point**	**5.20**	**224**	PN		**Pn**		**09 08 54.5**	**+0.9**
WAZ	**Wanganui**	**5.24**	**216**	P		**Pn**		**09 08 53.9**	**-0.1**
WAZ	**Wanganui**	**5.24**	**216**	PN		**Pn**		**09 08 53.5**	**-0.5**
NEZ	**North Egmont**	**5.36**	**225**	P		**Pn**		**09 08 56.9**	**+1.6**
NEZ	**North Egmont**	**5.36**	**225**	PN		**Pn**		**09 08 56.8**	**+1.4**
PKE	**Pukeiti**	**5.38**	**227**	P		**Pn**		**09 08 56.9**	**+1.4**
PKE	**Pukeiti**	**5.38**	**227**	PN		**Pn**		**09 08 56.8**	**+1.3**
NWEZ	**Newall Road**	**5.50**	**227**	P		**Pn**		**09 08 58.5**	**+1.7**
NRZ	**Ngariki Road**	**5.50**	**226**	P		**Pn**		**09 08 58.3**	**+1.4**
TIWZ	**Tintock**	**5.73**	**205**	PN		**Pn**		**09 09 00.2**	**+0.9**
MRZ	**Mangatainoka R**	**5.74**	**207**	PN		**Pn**		**09 08 59.4**	**-0.1**
KIW	**Kapiti Island**	**6.17**	**210**	P		**Pn**		**09 09 04.3**	**-0.1**
KIW	**Kapiti Island**	**6.17**	**210**	PN		**Pn**		**09 09 04.0**	**-0.4**
MTW	**Mount Morrison**	**6.20**	**205**	P		**Pn**		**09 09 05.0**	**+0.3**
MTW	**Mount Morrison**	**6.20**	**205**	PN		**Pn**		**09 09 04.8**	**0.0**
CAW	**Cannon Point**	**6.31**	**208**	P		**Pn**		**09 09 05.5**	**-0.1**
CAW	**Cannon Point**	**6.31**	**208**	PN		**Pn**		**09 09 05.5**	**-0.5**
TRWZ	**Traveller**	**6.35**	**203**	PN		**Pn**		**09 09 07.4**	**+0.9**
PAWZ	**Paruwai Farm**	**6.42**	**205**	P		**Pn**		**09 09 07.5**	**+0.2**
PAWZ	**Paruwai Farm**	**6.42**	**205**	PN		**Pn**		**09 09 07.3**	**+0.1**
MSWZ	**Moikau Station**	**6.51**	**206**	P		**Pn**		**09 09 08.5**	**+0.2**
MSWZ	**Moikau Station**	**6.51**	**206**	PN		**Pn**		**09 09 08.4**	**+0.1**
DUWZ	**D'Urville Isla**	**6.56**	**216**	PN		**Pn**		**09 09 08.2**	**-0.7**
MRW	**Makara Radio**	**6.56**	**210**	P		**Pn**		**09 09 09.0**	**+0.1**
MRW	**Makara Radio**	**6.56**	**210**	PN		**Pn**		**09 09 08.4**	**-0.5**
WEL	**Wellington**	**6.58**	**209**	PN		**Pn**		**09 09 09.3**	**+0.2**
SNZO	**South Karori**	**6.63**	**209**	P		**Pn**		**09 09 09.5**	**-0.2**
SNZO	**South Karori**	**6.63**	**209**	PN		**Pn**		**09 09 09.3**	**-0.3**
BHW	**Baring Head**	**6.65**	**208**	P		**Pn**		**09 09 09.4**	**-0.4**
BHW	**Baring Head**	**6.65**	**208**	PN		**Pn**		**09 09 09.4**	**-0.5**
TCW	**Tory Channel**	**6.73**	**212**	P		**Pn**		**09 09 10.1**	**-0.7**
TCW	**Tory Channel**	**6.73**	**212**	PN		**Pn**		**09 09 09.7**	**-1.1**
TUMZ	**Tuamarina**	**7.05**	**213**	PN		**Pn**		**09 09 13.9**	**-0.6**
NNZ	**Nelson**	**7.14**	**217**	P		**Pn**		**09 09 14.2**	**-1.4**
NNZ	**Nelson**	**7.14**	**217**	PN		**Pn**		**09 09 14.1**	**-1.5**
QRZ	**Quartz Range**	**7.30**	**222**	*e*P		**Pn**		**09 09 15.7**	**-1.7**
QRZ	**Quartz Range**	**7.30**	**222**	PN		**Pn**		**09 09 15.6**	**-1.8**
THZ	**Tophouse**	**7.79**	**216**	*e*P		**Pn**		**09 09 22.6**	**-0.6**
THZ	**Tophouse**	**7.79**	**216**	PN		**Pn**		**09 09 22.1**	**-1.1**
KHZ	**Kahutara**	**8.03**	**210**	*e*P		**Pn**		**09 09 26.6**	**+0.6**
KHZ	**Kahutara**	**8.03**	**210**	PN		**Pn**		**09 09 26.2**	**+0.2**
LTZ	**Lake Taylor**	**8.88**	**214**	P		**Pn**		**09 09 36.4**	**+0.4**
LTZ	**Lake Taylor**	**8.88**	**214**	PN		**Pn**		**09 09 36.2**	**+0.2**
CRLZ	**Canterbury Las**	**9.37**	**210**	*e*P		**Pn**		**09 09 42.5**	**+0.7**
CRLZ	**Canterbury Las**	**9.37**	**210**	PN		**Pn**		**09 09 42.1**	**+0.3**
MQZ	**McQueen's Vall**	**9.46**	**209**	*e*P		**Pn**		**09 09 44.0**	**+1.0**
MQZ	**McQueen's Vall**	**9.46**	**209**	PN		**Pn**		**09 09 43.6**	**+0.6**
WVZ	**Waitaha Valley**	**9.84**	**218**	PN		**Pn**		**09 09 46.8**	**-0.6**
RPZ	**Rata Peaks**	**10.16**	**215**	P		**Pn**		**09 09 51.4**	**+0.1**
	7.8nm,0.3s,baz=59,slow=5.0,SNR=14								
RPZ				S		**S**		**09 11 43.9**	**-2.2**
	4.5nm,0.3s,baz=122,slow=21,SNR=8.2								
FOZ	**Fox Glacier**	**10.72**	**219**	*e*P		**Pn**		**09 09 56.3**	**-1.6**
FOZ	**Fox Glacier**	**10.72**	**219**	*e*PN		**Pn**		**09 09 56.2**	**-1.7**
ODZ	**Otahua Downs**	**11.39**	**212**	*e*P		**Pn**		**09 10 08.4**	**+2.6**
ODZ	**Otahua Downs**	**11.39**	**212**	*e*PN		**Pn**		**09 10 07.7**	**+1.9**
TUZ	**Tuapeka**	**12.54**	**212**	*e*P		**P**		**09 10 23.2**	**+4.5**
TUZ	**Tuapeka**	**12.54**	**212**	*e*PN		**Pn**		**09 10 23.0**	**+3.5**
DZM	**Mont Dzumac**	**17.38**	**317**	P		**P**		**09 11 02.9**	**-8.5**
	0.3nm,0.3s,baz=80,slow=19,SNR=4.2								
AFI	**Afiamalu**	**23.13**	**23**	P		**P**		**09 12 07.1**	**-0.1**
	14nm,0.5s,mb4.5,baz=271,slow=19,SNR=5.9								
CTA	**Charters Tower**	**32.65**	**289**	P		**P**		**09 13 29.9**	**-1.3**
	2.4nm,0.4s,mb3.7,baz=112,slow=11,SNR=4.7								
ASAR	**Alice Springs**	**40.66**	**274**	P		**P**		**09 14 38.6**	**+0.5**
	5.7nm,0.6s,mb4.0,baz=116,slow=7.7,SNR=96								
WB2	**Warramunga Arr**	**42.12**	**280**	⇓*i* P		**P**		**09 14 49.4**	**-0.4**
WRA	**Warramunga Arr**	**42.13**	**280**	P		**P**		**09 14 49.5**	**-0.4**
	4.5nm,0.6s,mb3.8,baz=119,slow=7.6,SNR=68								
FITZ	**Fitzroy Crossi**	**50.11**	**276**	*e*P		**P**		**09 15 52.8**	**+1.4**
	3.1nm,0.8s,mb3.6								
FITZ	**Fitzroy Crossi**	**50.11**	**276**	P		**P**		**09 15 52.5**	**+1.1**
	1.7nm,0.6s,mb3.4,baz=137,slow=7.1,SNR=5.8								
JOF	**Joensuu**	**146.16**	**334**	*e*p	PKPdf			09 26 29.9	+1.5
	2.3nm,0.5s								
FINES	**FINESS Array B**	**148.98**	**335**	PKPbc	PKPbc			09 26 37.9	+0.4
	0.6nm,0.4s,baz=50,slow=6.0,SNR=5.6								
FINES	**FINESS Array B**	**148.98**	**335**	PKPbc	PKPbc			09 26 37.9	+0.4

*NIED **23** 09:08:00, 4480N×14960E, h23km, Mw3.8 Best double couple: M₀4.78000×10¹⁴ NP1:φs349.00000°, δ63.00000°, λ61.00000°. NP2:φs220.00000°, δ39.00000°, λ134.00000°.*
*JMA **23** 09:08:23.8±0.5, 4481N×14960E, h30km, M4.3*
*ISCJB **23** 09:08:27.0±1.2, 4394N±007×1495E±0.1, h106km±10km, mb3.5/4, Error ellipse: s-maj=15.0km s-min=8.6km az=80.1*
*IDC **23** 09:08:26.7±1.6, 4597N×14898E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/33, Error ellipse: s-maj=46.4km s-min=25.8km az=75.0*
*MOS **23** 09:08:30.0±2.1, 4581N×14859E, h33km, mb4.1/4, Error ellipse: s-maj=32.1km s-min=23.1km az=54.6*

ISC 23 09:08:28.0±1.1, 4400N±007×1496E±01, h99km±10km, n37, σ1§00/49, mb3.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.66**	**272**	*e*PN		**Pn**		**09 09 07.9**	**-1.2**
YUK				*e*S		**Sn**		**09 09 40.0**	**-0.8**
YUK	comp=E,90nm,0.4s			pmax	pmax				
YUK	comp=Z,230nm,0.4s			pmax	pmax				
YUK	comp=E,360nm,0.5s			smax					
YUK	comp=N,570nm,0.3s			smax					
YUK	comp=E,1μm,0.8s			smax					
NEM2	**Nemuro 2**	**2.83**	**258**	P		**Pn**		**09 09 09.8**	**-1.6**
NEM2				*e*S		**Sn**		**09 09 44.3**	**-0.6**
JRA	**Rausu**	**3.20**	**270**	P		**Pn**		**09 09 14.8**	**-1.5**
JRA				*e*S		**Sn**		**09 09 52.5**	**-1.1**
JNK	**Nakash**	**3.52**	**265**	P		**Pn**		**09 09 19.9**	**-0.7**
JNK				*e*S		**Sn**		**09 10 01.3**	**-0.1**
JAK	**Akkeshi**	**3.67**	**256**	P		**Pn**		**09 09 22.0**	**-0.6**
JAK				*e*S		**Sn**		**09 10 05.3**	**+0.3**
JTKR	**Abashiri--Toko**	**4.07**	**272**	P		**Pn**		**09 09 27.7**	**-0.4**
JAR	**Ashorobuto**	**4.25**	**262**	P		**Pn**		**09 09 30.5**	**0.0**
JAR				*e*S		**Sn**		**09 10 20.2**	**+1.2**
JOB	**Onbets**	**4.30**	**257**	P		**Pn**		**09 09 31.5**	**+0.3**
JOB				*e*S		**Sn**		**09 10 22.7**	**+2.5**
JMP	**Maruseppu**	**4.46**	**272**	P		**Pn**		**09 09 33.3**	**-0.1**
JCH	**Churui**	**4.72**	**255**	P		**Pn**		**09 09 37.0**	**+0.1**
JCH				*e*S		**Sn**		**09 10 32.4**	**+2.0**
JKK2	**Kamakawa 2**	**4.91**	**271**	P		**Pn**		**09 09 40.2**	**+0.7**
ASAJ	**Asahikawa**	**5.01**	**274**	Pn		**Pn**		**09 09 40.0**	**-0.8**
ASAJ	comp=E,1.8nm,0.3s,baz=72,slow=20,SNR=12			LR		LR		09 11 46.5	
ASAJ	comp=E,120nm,20.6s,baz=332,slow=41			MLR		MLR			
ASAJ	**Asahikawa**	**5.01**	**274**	PN		**Pn**		**09 09 40.0**	**-0.8**
ASAJ	comp=Z,2.0nm,0.3s			pmax	pmax				
ASAJ	comp=Z,120nm,20.7s			MLR		MLR			
JEM	**Erimo**	**5.09**	**249**	P		**Pn**		**09 09 44.0**	**+2.2**
JNBK	**Urakawa-nobuka**	**5.26**	**253**	P		**Pn**		**09 09 44.3**	**+0.1**
JBT2	**Biratori 2**	**5.38**	**259**	P		**Pn**		**09 09 46.4**	**+0.7**
JBT2				*e*S		**Sn**		**09 10 51.0**	**+4.7**
JEW	**Eniwo**	**6.01**	**262**	P		**Pn**		**09 09 55.7**	**+1.3**
JNB	**Noboribetsu**	**6.40**	**259**	P		**Pn**		**09 10 00.2**	**+0.5**
JNB				*e*S		**Sn**		**09 11 12.3**	**+1.0**
JKB	**Kayabe**	**6.60**	**254**	P		**Pn**		**09 10 02.5**	**+0.2**
JKB				*e*S		**Sn**		**09 11 15.2**	**-0.8**
JANG	**Nango**	**6.98**	**241**	P		**Pn**		**09 10 07.5**	**0.0**
JANG				*e*S		**Sn**		**09 11 23.6**	**-1.7**
JYM2	**Yakumo 2**	**6.98**	**258**	P		**Pn**		**09 10 08.2**	**+0.7**
JTH	**Tanohata**	**7.02**	**237**	P		**Pn**		**09 10 07.8**	**-0.2**
JTH				*e*S		**Sn**		**09 11 24.5**	**-1.8**
JTM	**Tenmabayashi**	**7.05**	**246**	P		**Pn**		**09 10 09.5**	**+1.0**
JTM				*e*S		**Sn**		**09 11 26.6**	**-0.5**
JOSM	**Okushiri--Mats**	**7.62**	**259**	P		**Pn**		**09 10 16.5**	**+0.2**
OFUJ	**Ofunato**	**7.69**	**233**	*e*S		**Sn**		**09 11 42.2**	**-0.3**
JRG	**Rokugo**	**8.10**	**238**	P		**Pn**		**09 10 23.8**	**+1.0**
JRG				*e*S		**Sn**		**09 11 52.6**	**0.0**
JIO	**Ouri**	**8.30**	**231**	P		**Pn**		**09 10 26.7**	**+1.3**
JIO				*e*S		**Sn**		**09 11 56.4**	**-1.0**
SONM	**Songino Array**	**29.97**	**293**	P		**P**		**09 14 28.0**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=91,slow=9.3,SNR=2.6								
MKAR	**Makanchi Array**	**46.00**	**298**	P		**P**		**09 16 41.7**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=77,slow=8.5,SNR=6.0								
MKAR	**Makanchi Array**	**46.00**	**298**	P		**P**		**09 16 41.7**	**+0.4**
MKAR	comp=E,1.0nm,0.5s			pmax	pmax				
WRA	**Warramunga Arr**	**65.14**	**196**	P		pP		09 19 20.3	-2.7
	comp=Z,0.9nm,0.7s,baz=14,slow=6.6,SNR=5.8								
WRA	**Warramunga Arr**	**65.14**	**196**	P		pP		09 19 20.3	-2.7
WRA	comp=Z,1.0nm,0.7s			pmax	pmax				
ASAR	**Alice Springs**	**68.84**	**195**	P		pP		09 19 44.7	-2.0
	comp=Z,0.7nm,0.8s,baz=21,slow=7.7,SNR=5.9								
ASAR	**Alice Springs**	**68.84**	**195**	P		pP		09 19 44.7	-2.0
ASAR	comp=Z,1.0nm,0.8s			pmax	pmax				
NOA	**NORSAR Array B**	**69.98**	**340**	P		**P**		**09 19 26.6**	**-2.2**
	comp=Z,0.3nm,0.5s,mb3.4,baz=29,slow=6.5,SNR=2.5								
AKASG	**Malin Array Be**	**72.39**	**325**	P		**P**		**09 19 43.0**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.7,baz=38,slow=5.7,SNR=4.3								
AKASG	**Malin Array Be**	**72.39**	**325**	P		**P**		**09 19 43.0**	**-0.3**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax				

*NEIC **23** 09:22:16.7, 2733N×5247E, h6km, mb3.7/1, ML3.8(THR), After THR.*
*THR **23** 09:22:17.1±0.4, 2734N×5246E, h9km±4km, ML3.8*
*IDC **23** 09:22:18.7±1.8, 2756N×5254E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.7/23, mbtmp3.9/9, ML3.9/2, MS3.6/8, Ms1 3.6/8, ms1mx3.2/34, Error ellipse: s-maj=43.1km s-min=22.1km az=148.0*
*ISCJB **23** 09:22:18.3±0.6, 2740N±005×5253E±003, h10km, mb3.8/7, MS3.7/6, Error ellipse: s-maj=7.5km s-min=3.9km az=170.1*
*CSEM **23** 09:22:20.6±0.2, 2742N×5254E, h30km, ML3.8, Error ellipse: s-maj=4.1km s-min=3.3km az=167.0*
*TEH **23** 09:22:24.3, 2758N×5251E, h18km, Mn3.8*

ISC 23 09:22:21.8±1.3, 2746N±005×5260E±003, h20km±7km, n45, σ1§13/53, mb3.8/7, MS3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.89**	**23**	*e*PG		**Pg**		**09 22 37.5**	**-1.7**
GHIR				*e*SG		**Sg**		**09 22 52.2**	**+1.1**
GHIR	comp=E,5μm,0.3s			AML	AML			09 22 57.5	
GHIR	comp=N,2μm,0.5s			AML	AML			09 23 00.7	
GHIR	**Ghir-Karzin**	**0.89**	**23**	*e*Pg		**Pg**		**09 22 36.0**	**-3.2**
GHIR				*e*Sg		**Sg**		**09 22 52.0**	**+1.0**
GHIR	**Ghir-Karzin**	**0.89**	**23**	*e*Pg		**Pg**		**09 22 37.5**	**-1.7**
SNR=92									
GHIR				*e*Sg		**Sg**		**09 22 52.0**	**+1.0**
IMOK	**Mook**	**1.58**	**4**	*e*Pn		**Pn**		**09 22 49.7**	**+0.9**
ISRV	**Sarvestan**	**1.97**	**13**	*e*Pn		**Pn**		**09 22 54.9**	**+0.9**
BNDS	**Bandar-Abbas**	**3.18**	**90**	*e*PN		**Pn**		**09 23 10.9**	**+0.2**
BNDS				SN		**Sn**		**09 23 50.5**	**+2.5**
BNDS	comp=N,158nm,0.8s			AML	AML			09 24 16.2	
BNDS	**Bandar-Abbas**	**3.18**	**90**	*e*Pn		**Pn**		**09 23 10.0**	**-0.7**
BNDS				Sn		**Sn**		**09 23 50.0**	**+2.0**
BNDS	**Bandar-Abbas**	**3.18**	**90**	*e*Pn		**Pn**		**09 23 10.9**	**+0.2**
SNR=47									
BNDS				Sn		**Sn**		**09 23 50.0**	**+2.0**
IMEH	**Mehriz**	**4.29**	**24**	*e*Pn		**Pn**		**09 23 27.5**	**+1.5**
KRBR	**Kerman**	**4.44**	**55**	*e*PN		**Pn**		**09 23 29.4**	**+1.4**
KRBR	comp=N,42nm,0.7s			AML	AML			09 24 44.6	
KRBR	**Kerman**	**4.44**	**55**	*e*Pn		**Pn**		**09 23 29.0**	**+1.0**
RDF	**Al-Radifah**	**4.69**	**289**	*e*P		**Pn**		**09 23 31.0**	**-0.4**
RDF				*e*S		**Sn**		**09 24 26.8**	**+1.6**
RDF	comp=Z,56nm,0.6s			AML	AML			09 24 29.1	
UMR	**Umm Al-Rimmam**	**4.77**	**297**	*e*P		**Pn**		**09 23 31.8**	**-0.8**
UMR				*e*S		**Sn**		**09 24 28.0**	**+0.7**
UMR	comp=Z,39nm,0.6s			AML	AML			09 24 34.9	
IGAR	**Garneh**	**4.78**	**356**	*e*Sn		**Sn**		**09 24 28.0**	**+0.5**
IBAF	**Bafgh**	**4.86**	**31**	*e*Pn		**Pn**		**09 23 35.0**	**+1.2**
IBAF				*e*Sn		**Sn**		**09 24 28.0**	**-1.5**
ICHK	**Chekchek**	**5.02**	**18**	*e*Pn		**Pn**		**09 23 36.7**	**+0.7**
ICHK				*e*Sn		**Sn**		**09 24 31.2**	**-2.2**
NAY	**Al-Naaiem**	**5.04**	**292**	*e*P		**Pn**		**09 23 36.0**	**-0.3**
NAY				*e*S		**Sn**		**09 24 34.8**	**+0.8**
NAY	comp=Z,14nm,0.5s			AML	AML			09 24 41.9	
MIB	**Mutribah**	**5.18**	**298**	*e*P		**Pn**		**09 23 37.8**	**-0.4**
MIB				*e*S		**Sn**		**09 24 37.8**	**+0.5**
MIB	comp=Z,38nm,0.5s			AML	AML			09 24 42.2	
NASN	**Na'in**	**5.32**	**2**	*e*PN		**Pn**		**09 23 41.0**	**+0.9**
RST	**Umm Al-Ruwaisa**	**5.33**	**294**	*e*P		**Pn**		**09 23 40.8**	**+0.5**
RST				*e*S		**Sn**		**09 24 41.9**	**+0.9**
RST	comp=Z,36nm,0.5s			AML	AML			09 24 44.3	
IZEF	**Zefreh**	**5.42**	**358**	*e*Pn		**Pn**		**09 23 41.8**	**+0.3**
IZEF				*e*Sn		**Sn**		**09 24 39.4**	**-3.9**
IKLH	**Kalahroud**	**5.90**	**352**	*e*Pn		**Pn**		**09 23 49.4**	**+1.2**
ASAO	**Ashtian**	**7.40**	**343**	*e*Pn		**Pn**		**09 24 08.8**	**+0.1**
ASAO	**Ashtian**	**7.40**	**343**	*e*Pn		**Pn**		**09 24 09.0**	**+0.3**
SNGE	**Sanandaj**	**8.83**	**331**	*e*PN		**Pn**		**09 24 28.2**	**-0.1**
SNGE	**Sanandaj**	**8.83**	**331**	*e*Pn		**Pn**		**09 24 28.0**	**-0.3**
BHD	**Baghdad**	**9.16**	**311**	*ex*		x		09 25 02.5	
BHD				*ex*		x		09 27 13.0	
MSL	**Mosul**	**11.94**	**320**	*ex*		x		09 25 08.5	
MSL				*ex*		x		09 27 26.0	
GNI	**Garni**	**14.23**	**335**	LR		LR		09 32 32.1	
	comp=Z,50nm,21.3s,baz=309,slow=43								
ASF	**Jabal al Asfar**	**14.41**	**293**	Pn		**Pn**		**09 25 42.1**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=86,slow=9.2,SNR=6.6								
ATD	**Arta Tunnel**	**18.30**	**212**	LR		LR		09 34

BOSA	**Boshof**	**50.05**	**128**	P	**P**	**10 08 33.5**	**+0.5**
GERES	**GERESS Array B**	**55.98**	**25**	P	**P**	**10 09 16.0**	**-0.7**
	0.8nm,0.7s,mb3.9,baz=217,slow=9.7,SNR=4.0						
BRTR	**Keskin Array B**	**61.54**	**43**	P	**P**	**10 09 56.2**	**+0.7**
	0.6nm,0.6s,mb3.9,baz=244,slow=8.5,SNR=3.9						
BRTR				LR	LR	10 41 34.6	
	comp=Z,23nm,18.3s,MS3.4,baz=40,slow=41						
AKASG	**Malin Array Be**	**64.58**	**31**	P	**P**	**10 10 14.3**	**-1.3**
	1.3nm,0.7s,mb4.1,baz=236,slow=7.5,SNR=9.2						
AKASG	**Malin Array Be**	**64.58**	**31**	P	**P**	**10 10 14.3**	**-1.3**
NOA	**NORSAR Array B**	**65.05**	**15**	LR	LR	10 36 35.2	
	comp=Z,24nm,19.4s,MS3.4,baz=225,slow=34						
FINES	**FINESS Array B**	**69.99**	**21**	P	**P**	**10 10 48.6**	**-1.3**
	1.5nm,0.8s,mb4.0,baz=193,slow=5.7,SNR=3.7						
FINES				LR	LR	10 43 03.8	
	comp=Z,36nm,19.5s,MS3.6,baz=327,slow=37						
ASAR	**Alice Springs**	**143.84**	**133**	PKhKP		10 19 10.7	
	0.7nm,0.9s,baz=233,slow=2.5,SNR=4.4						
WRA	**Warramunga Arr**	**146.30**	**128**	PKPbc	PKPbc	10 19 20.5	+1.4
	0.4nm,0.7s,baz=248,slow=2.9,SNR=3.9						

*ISCJB **23** 10:07:46.5±0.4,6783N×003×20.16E×008,h0km, Error ellipse: s-maj=4.4km s-min=3.6km az=163.5*
*CSEM **23** 10:07:46.1±0.3,6792N×2024E,h2km,ML2.8, Error ellipse: s-maj=11.4km s-min=7.4km az=4.0, Suspected Mining explosion.*
*UPP **23** 10:07:47.4,6783N×2021E,h1km,ML2.8, Suspected Mining explosion.*
*HEL **23** 10:07:48.0±0.1,6785N×20.17E,h0km,ML2.0,ML2.8(UPP), ML1.8(BER), Explosion*
*NAO **23** 10:07:48.4±2.5,6783N×2078E,ML2.1*
*BER **23** 10:07:48.8±4.5,6790N×2022E,h0km,ML1.8, ML2.1(NAO), Suspected explosion*

ISC 23 10:07:47.0±0.4,6782N±002×2018E±007,h0km,n30, σ0§88/35,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**24**	*i* P	**Pg**	**10 07 50.1**	**+0.2**
KUA				*i* S	**Sg**	**10 07 51.8**	**0.0**
NIKU	**Nikkaluokta**	**0.44**	**277**	*i* P	**Pg**	**10 07 55.8**	**+0.4**
DUNU	**Dundret**	**0.72**	**168**	*i* P	**Pg**	**10 08 00.9**	**+0.1**
LANU	**Lannavaara**	**0.72**	**70**	*i* P	**Pg**	**10 08 00.6**	**-0.3**
SALU	**Saltoluokta**	**0.78**	**236**	*i* P	**Pg**	**10 08 02.2**	**+0.3**
MASU	**Masugnsbyn**	**0.79**	**117**	*i* P	**Pg**	**10 08 02.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	**Pg**	**10 08 10.2**	**-0.1**
KIF				*e*S	**Sg**	**10 08 25.7**	**-0.4**
PAJU	**Pajala**	**1.39**	**124**	*e*P	**Pg**	**10 08 12.7**	**-0.9**
ERTU	**Ertsjaerv**	**1.49**	**147**	*e*P	**Pn**	**10 08 15.6**	**+0.5**
KTK1	**Kautokeino**	**1.65**	**42**	*e*P	**Pn**	**10 08 16.9**	**-0.4**
KTK1				*e*SG	**Sg**	**10 08 38.6**	**-1.4**
KTK1				AML	AML	10 08 42.4	
	comp=Z,14nm,0.6s						
HARU	**Harads**	**1.69**	**169**	P	**Pn**	**10 08 18.2**	**+0.4**
TRO	**Tromso**	**1.88**	**347**	*e*P	**Pn**	**10 08 20.1**	**-0.3**
TRO				*e*SN	**Sn**	**10 08 44.9**	**+0.1**
TRO				AML	AML	10 08 47.3	
	comp=Z,13nm,0.4s						
KALU	**Kalix**	**2.33**	**146**	P	**Pn**	**10 08 28.0**	**+1.3**
SGF	**Sodankyl**	**2.46**	**96**	*e*P	**Pn**	**10 08 29.2**	**+0.9**
SGF				*e*S	**Sn**	**10 09 00.2**	**+1.1**
LOF	**Lofoten**	**2.52**	**280**	*e*SG	**Sg**	**10 09 07.8**	**-0.3**
LOF				AML	AML	10 09 18.4	
	comp=Z,12nm,0.7s						
ARA0	**ARCESS Array S**	**2.60**	**46**	*e*P	**Pn**	**10 08 30.6**	**+0.3**
ARA0				*e*SB		10 09 04.0	
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn	**Pn**	**10 08 30.6**	**+0.3**
	baz=235,slow=14						
ARA0				Lg		10 09 04.0	
	baz=226,slow=28						
ARA0	**ARCESS Array S**	**2.60**	**46**	Pn	**Pn**	**10 08 30.6**	**+0.3**
	SNR=2.3						
MOR8	**Moi Rana**	**2.79**	**236**	*e*SG	**Sg**	**10 09 10.7**	**-6.1**
MOR8				AML	AML	10 09 13.3	
	comp=Z,12nm,0.4s						
KEV	**Kevo**	**3.15**	**49**	*e*P	**Pn**	**10 08 39.3**	**+1.3**
KEV				*e*S	**Sn**	**10 09 16.2**	**0.0**
KEV				MSG		10 09 23.5	
	comp=Z,3.7nm,0.2s						
OUL	**Oulu**	**3.58**	**137**	*e*PG	**Pg**	**10 08 52.8**	**-2.8**
OUL				*e*SB	**Sb**	**10 09 35.0**	**-0.1**
OUL				MSG		10 09 43.8	
	comp=Z,3.6nm,0.3s						
KU4	**Liikasenvaara**	**3.96**	**107**	*e*P	**Pn**	**10 08 49.4**	**+0.5**
KU4				*e*SG	**Sg**	**10 09 50.7**	**-3.4**
MSF	**Maaselka**	**3.99**	**115**	MSG		10 09 54.7	
	comp=Z,3.5nm,0.3s						
NSS	**Namsos**	**4.69**	**229**	*e*SG	**Sg**	**10 10 16.4**	**-1.2**
NSS				AML	AML	10 10 18.4	
	comp=Z,5.5nm,0.5s						
KJN	**Kajaani**	**4.85**	**137**	*e*P	**Pn**	**10 09 03.5**	**+2.3**
KJN				*e*S	**Sn**	**10 09 57.5**	**-0.7**
FIA0	**FINESS Array S**	**6.88**	**156**	*e*S	**Sn**	**10 10 47.4**	**-0.8**
FIA0				*e*SG		10 11 20.5	
FIA0	**FINESS Array S**	**6.88**	**156**	Sn	**Sn**	**10 10 47.4**	**-0.8**
	baz=323,slow=28						
FIA0				Lg		10 11 20.5	
	baz=342,slow=37						
HFS	**Hagfors**	**8.22**	**203**	Lg		10 12 06.3	
	baz=11,slow=37						
HFS	**Hagfors**	**8.22**	**203**	*e*		10 12 06.3	
HFS	**Hagfors**	**8.22**	**203**	Lg		10 12 06.3	
	baz=11,slow=37						

*NEIC **23** 10:14:47.7,4098S×17483E,h31km,ML3.8(WEL), After WEL.*
NEIC Felt widely in the Wellington area.

WEL 23 10:14:47.5±0.1,4096S×17482E,h32km,ML3.9/44,Error ellipse: s-maj=0.8km s-min=0.6km az=90.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.12**	**34**	P	Pb	10 14 53.2	0.0
KIW				S	Sb	10 14 57.5	+0.3
KIW	**Kapiti Island**	**0.12**	**34**	P*	Pb	10 14 53.2	0.0
KIW				S*	Sb	10 14 57.5	+0.3
CAW	**Cannon Point**	**0.24**	**128**	P	Pb	10 14 54.4	0.0
CAW				S	Sb	10 14 59.7	+0.7
CAW	**Cannon Point**	**0.24**	**128**	P*	Pb	10 14 54.4	0.0
CAW				S*	Sb	10 14 59.7	+0.7
MRW	**Makara Radio**	**0.28**	**199**	P	Pb	10 14 54.8	-0.1
MRW	**Makara Radio**	**0.28**	**199**	P*	Pb	10 14 54.8	-0.1
WEL	**Wellington**	**0.32**	**187**	P	Pb	10 14 55.3	-0.1
WEL				S	Sb	10 14 59.4	-1.5
WEL	**Wellington**	**0.32**	**187**	P*	Pb	10 14 55.3	-0.1
WEL				S*	Sb	10 15 01.3	+0.4
SNZO	**South Karori**	**0.36**	**194**	P	Pb	10 14 55.6	-0.3
SNZO	**South Karori**	**0.36**	**194**	P*	Pb	10 14 55.6	-0.3
SNZO				P*	Pb	10 14 55.7	-0.2
BHW	**Baring Head**	**0.45**	**175**	P	Pb	10 14 56.9	-0.3
BHW				S	Sb	10 15 03.2	-0.6
BHW	**Baring Head**	**0.45**	**175**	P*	Pb	10 14 56.9	-0.3
TCW	**Tory Channel**	**0.48**	**239**	P	Pb	10 14 57.2	-0.5
TCW	**Tory Channel**	**0.48**	**239**	P*	Pb	10 14 57.2	-0.5
MTW	**Mount Morrison**	**0.55**	**111**	P*	Pb	10 14 58.8	0.0
MSWZ	**Moikau Station**	**0.56**	**144**	P	Pb	10 14 58.9	0.0
MSWZ	**Moikau Station**	**0.56**	**144**	P*	Pb	10 14 58.9	0.0
PAWZ	**Paruwai Farm**	**0.62**	**133**	P	Pb	10 14 59.7	-0.3
PAWZ	**Paruwai Farm**	**0.62**	**133**	P*	Pb	10 14 59.7	-0.3
MRZ	**Mangatainoka R**	**0.65**	**63**	P	Pn	10 15 00.0	-0.4
MRZ	**Mangatainoka R**	**0.65**	**63**	P*	Pb	10 15 00.0	-0.4
DUWZ	**D'Urville Isla**	**0.70**	**283**	P*	Pb	10 15 00.7	-0.6
TRWZ	**Traveller**	**0.79**	**124**	P*	Pb	10 15 01.7	-1.0
TUWZ	**Tuamarina**	**0.81**	**235**	P*	Pb	10 15 02.0	-1.1
TIWZ	**Tintock**	**0.83**	**77**	P*	Pb	10 15 02.7	-0.7
CMWZ	**Cape Campbell**	**0.91**	**210**	P	Pn	10 15 05.1	+1.1
CMWZ	**Cape Campbell**	**0.91**	**210**	P*	Pb	10 15 04.9	+0.1
BSWZ	**Blackbirch Sta**	**1.03**	**223**	P	Pn	10 15 05.7	0.0
BSWZ	**Blackbirch Sta**	**1.03**	**223**	*e*P*	Pb	10 15 05.6	-1.2
BFZ	**Birch Farm**	**1.12**	**76**	P	Pn	10 15 06.6	-0.3
NNZ	**Nelson**	**1.12**	**256**	P	Pn	10 15 06.7	-0.2
NNZ	**Nelson**	**1.12**	**256**	PN	Pn	10 15 06.5	-0.4
WAZ	**Wanganui**	**1.21**	**6**	P	Pn	10 15 09.1	+0.9
TSZ	**Takapari Road**	**1.25**	**44**	P	Pn	10 15 08.4	-0.3
TSZ	**Takapari Road**	**1.25**	**44**	P*	Pb	10 15 08.3	-2.2
THZ	**Tophouse**	**1.65**	**240**	P	Pn	10 15 13.8	-0.4
THZ	**Tophouse**	**1.65**	**240**	PN	Pn	10 15 13.8	-0.4
RAEZ	**Rainy Point**	**1.71**	**349**	PN	Pn	10 15 16.3	+1.4
MOVZ	**Moawhango**	**1.71**	**25**	P	Pn	10 15 15.1	+0.1
MOVZ	**Moawhango**	**1.71**	**25**	PN	Pn	10 15 15.1	+0.1
PKVZ	**Pokaka**	**1.72**	**14**	PN	Pn	10 15 15.9	+0.8
WNVZ	**Wahianoa**	**1.74**	**20**	P	Pn	10 15 16.3	+0.9
KHZ	**Kahutara**	**1.74**	**213**	*e*P	Pn	10 15 14.9	-0.5
KHZ	**Kahutara**	**1.74**	**213**	PN	Pn	10 15 14.9	-0.6
QRZ	**Quartz Range**	**1.74**	**274**	*e*P	Pn	10 15 15.6	+0.2
QRZ	**Quartz Range**	**1.74**	**274**	PN	Pn	10 15 15.5	+0.1
NRZ	**Ngariki Road**	**1.76**	**337**	P	Pn	10 15 16.8	+1.1
DRZ	**Dome Shelter**	**1.78**	**19**	P	Pn	10 15 17.3	+1.3
NEZ	**North Egmont**	**1.78**	**342**	P	Pn	10 15 17.5	+1.6
FWVZ	**Far West T-bar**	**1.79**	**18**	P	Pn	10 15 17.2	+1.0
TUVZ	**Tukino**	**1.81**	**21**	P	Pn	10 15 17.3	+0.9
VRZ	**Vera Road**	**1.84**	**359**	P	Pn	10 15 17.7	+1.0
NWEZ	**Newall Road**	**1.84**	**336**	P	Pn	10 15 17.8	+1.0
WPVZ	**Whakapapa**	**1.84**	**18**	P	Pn	10 15 18.0	+1.2
PKE	**Pukeiti**	**1.88**	**340**	P	Pn	10 15 18.6	+1.3
NGZ	**Ngauruhoe**	**1.88**	**19**	P	Pn	10 15 18.5	+1.1
WTVZ	**West Tongariro**	**1.94**	**18**	P	Pn	10 15 19.2	+1.1
KATZ	**Kakaramea**	**2.10**	**19**	P	Pn	10 15 23.0	+2.7
BKZ	**Black Stump Fm**	**2.21**	**36**	*e*P	Pn	10 15 19.3	-2.5
RATZ	**Rangitukua**	**2.22**	**20**	P	Pn	10 15 25.1	+3.1
WATZ	**Wairara**	**2.36**	**18**	P	Pn	10 15 26.9	+3.0
DSZ	**Denniston Nort**	**2.40**	**250**	P	Pn	10 15 24.3	-0.2
DSZ	**Denniston Nort**	**2.40**	**250**	PN	Pn	10 15 24.2	-0.4
HIZ	**Hauiti**	**2.45**	**1**	P	Pn	10 15 26.2	+1.1
LTZ	**Lake Taylor**	**2.63**	**226**	*e*P	Pn	10 15 26.6	-1.1
MQZ	**McQueen's Vall**	**3.18**	**210**	*e*P	Pn	10 15 32.8	-2.4
MWZ	**Matawai**	**3.35**	**39**	*e*P	Pn	10 15 36.7	-0.9
LBZ	**Lake Benmore**	**4.83**	**223**	*e*P	Pn	10 15 56.6	-1.4
ODZ	**Otahua Downs**	**5.10**	**216**	*e*P	Pn	10 15 58.8	-2.8

*NEIC **23** 10:27:04.7,2736N×5239E,h6km,mb3.3/1,ML3.5(THR), MN3.6(TEH),After THR.*
*THR **23** 10:27:05.5±0.6,2735N×5239E,h14km±8km,ML3.5*
*IDC **23** 10:27:07.0±2.2,2740N×5240E,h0km,mb3.7/8,mb1 3.8/9, mb1mx3.7/23,mbtmp3.7/9,MS2.8/2,Ms1 2.8/2, ms1mx2.5/33,Error ellipse: s-maj=47.9km s-min=24.3km az=160.0*
*ISCJB **23** 10:27:06.2±0.8,2731N±007×5249E±009,h10km,mb3.7/8, Error ellipse: s-maj=13.4km s-min=7.6km az=65.5*
*CSEM **23** 10:27:08.5±0.2,2735N×5257E,h30km,ML3.5,Error ellipse: s-maj=4.7km s-min=3.2km az=136.0*
*TEH **23** 10:27:15.0,2755N×5254E,h18km,Mn3.6*

ISC 23 10:27:07.3±1.7,2742N±006×5236E±009,h1km±10km,n33, σ1§23/37,mb3.8/8,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.02**	**33**	*e*PG	**Pg**	**10 27 25.2**	**-1.7**
GHIR				*e*SG	**Sg**	**10 27 40.3**	**+0.1**
GHIR				AML	AML	10 27 48.2	
	comp=N,1μm,0.5s						
GHIR	**Ghir-Karzin**	**1.02**	**33**	Pg	**Pg**	**10 27 25.0**	**-1.9**
GHIR	**Ghir-Karzin**	**1.02**	**33**	*e*Pg	**Pg**	**10 27 25.2**	**-1.7**
	SNR=92						
GHIR				*e*Sg	**Sg**	**10 27 40.3**	**+0.1**
	SNR=92						
IMOK	**Mook**	**1.65**	**11**	*e*Pn	**Pn**	**10 27 38.4**	**+1.0**
IMOK				*e*Sn	**Sn**	**10 28 00.3**	**+1.1**
ISRV	**Sarvestan**	**2.06**	**19**	*e*Pn	**Pn**	**10 27 46.3**	**+3.2**
ISRV				*e*Sn	**Sn**	**10 28 09.7**	**+0.3**
KRBR	**Kerman**	**4.63**	**56**	*e*PN	**Pn**	**10 28 17.8**	**-0.6**
KRBR				AML	AML	10 29 15.7	
	comp=N,27nm,0.6s						
KRBR	**Kerman**	**4.63**	**56**	Pn	**Pn**	**10 28 17.0**	**-1.4**
IBAF	**Bafgh**	**5.00**	**33**	Pn	**Pn**	**10 28 23.2**	**-0.4**
ICHK	**Chekchek**	**5.12**	**20**	*e*Pn	**Pn**	**10 28 26.5**	**+1.3**
NASN	**Na'in**	**5.37**	**4**	*e*PN	**Pn**	**10 28 28.7**	**+0.1**
NASN	**Na'in**	**5.37**	**4**	Pn	**Pn**	**10 28 28.0**	**-0.6**
IPIR	**Pirpir**	**5.40**	**347**	*e*Pn	**Pn**	**10 28 32.5**	**+3.6**
IPIR				*e*Sn	**Sn**	**10 29 30.3**	**-1.4**
IZEF	**Zefreh**	**5.45**	**360**	*e*Pn	**Pn**	**10 28 32.8**	**+3.1**
IZEF				*e*Sn	**Sn**	**10 29 31.0**	**-2.1**
IKLH	**Kalahroud**	**5.92**	**354**	*e*Pn	**Pn**	**10 28 39.0**	**+2.9**
ASAO	**Ashtian**	**7.38**	**345**	*e*Pn	**Pn**	**10 28 56.5**	**+0.4**
ASF	**Jabal al Asfar**	**14.23**	**293**	LR	LR	10 36 28.5	
	comp=N,41nm,21.9s,baz=246,slow=39						
ATD	**Arta Tunnel**	**18.16**	**211**	LR	LR	10 38 38.5	
	comp=N,36nm,21.5s,baz=42,slow=38						
BR131	**Keskin Array S**	**19.80**	**313**	*e*P	**Pn**	**10 31 39.4**	**-1.2**
	comp=N,0.8nm,0.5s						
BR131				*e*pP	pP	10 31 46.7	+7.3
BR131	**Keskin Array S**	**19.80**	**313**	*e*P	**Pn**	**10 31 39.4**	**-1.2**
	comp=N,0.8nm,0.5s						
BR131				*e*pP	pP	10 31 46.7	+7.3
BRTR	**Keskin Array B**	**19.80**	**313**	P	**Pn**	**10 31 41.0**	**+0.4**
	comp=N,0.1nm,0.3s,baz=138,slow=15,SNR=3.0						
POO	**Poona**	**21.65**	**110**	*e*P	**P**	**10 31 53.0**	**-6.1**
AKTK	**Aktyubinsk**	**23.38**	**9**	P	**P**	**10 32 17.5**	**-0.1**
AKTK	**Aktyubinsk**	**23.38**	**9**	P	**P**	**10 32 17.5**	**-0.1**
AKTO	**Aktyubinsk**	**23.38**	**9**	P	**P**	**10 32 17.5**	**-0.1**
	comp=N,1.3nm,0.7s,mb3.5,baz=205,slow=15,SNR=3.6						
MKAR	**Makanchi Array**	**30.44**	**43**	P	**P**	**10 33 21.2**	**-0.1**
	comp=N,0.4nm,0.6s,mb3.4,baz=215,slow=6.5,SNR=2.9						
ZAL	**Zalesovo**	**35.61**	**33**	P	**P**	**10 34 05.5**	**-1.0**
	comp=N,1.6nm,0.9s,mb3.8,baz=234,slow=10,SNR=5.1						
ZAL	**Zalesovo**	**35.61**	**33**	P	**P**	**10 34 05.4**	**-1.1**
FINES	**FINESS Array B**	**38.30**	**340**	P	**P**	**10 34 30.4**	**+0.9**
	comp=N,3.9nm,1.0s,mb4.1,baz=147,slow=11,SNR=4.3						
HFS	**Hagfors**	**41.93**	**332**	P	**P**	**10 34 58.5**	**-1.1**
	comp=N,1.7nm,0.7s,mb3.9,baz=111,slow=11,SNR=3.7						
NOA	**NORSAR Array B**	**43.45**	**332**	P	**P**	**10 35 10.3**	**-1.6**
	comp=N,0.9nm,0.8s,mb3.6,baz=120,slow=8.1,SNR=3.6						
NOA	**NORSAR Array B**	**43.45**	**332**	P	**P**	**10 35 10.3**	**-1.6**
SONM	**Songino Array**	**46.35**	**49**	P	**P**	**10 35 35.4**	**+0.4**
	comp=N,0.2nm,0.3s,mb3.6,baz=278,slow=9.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**49.28**	**264**	P	**P**	**10 35 58.1**	**+0.4**
	comp=N,1.3nm,0.7s,mb4.0,baz=60,slow=7.1,SNR=9.4						

IGQ 23 10:53:55.8,193S×7720W,h12km±10km,Mb4.2,Ms4.0, 6C-3D,Error ellipse: s-maj=7.0km s-min=4.0km az=97.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**1.30**	**292**	⇓P	Pn	10 54 20.3	+0.6
PATA	**Patacocha**	**1.30**	**289**	⇑P	Pn	10 54 20.3	+0.5
ARRY	**Arrayan**	**1.32**	**289**	⇑P	Pn	10 54 20.2	+0.1
ARRY				S	Sb	10 54 41.0	+3.6
RUN5	**Runtun**	**1.33**	**293**	P	Pn	10 54 20.5	+0.4
RETU	**Refugio**	**1.33**	**291**	⇑P	Pn	10 54 20.7	+0.5
JUIV	**Juive**	**1.36**	**292**	P	Pn	10 54 20.9	+0.3
BILB	**Tungurahua vol**	**1.39**	**291**	⇓P	Pn	10 54 21.6	+0.7
PISA	**Pisayambo**	**1.47**	**306**	⇑P	Pn	10 54 23.8	+1.7
IGUA	**Igualata**	**1.50**	**287**	P	Pn	10 54 23.6	+1.1
IGUA				S	Sn	10 54 44.8	+2.7
TAMB	**Tambo**	**1.69**	**316**	P	Pn	10 54 27.8	+2.6
TAMB				S	Sn	10 55 02.2	+3.5
VC1	**Cotopaxi 1**	**1.76**	**317**	⇑P	Pn	10 54 28.9	+2.9
VC1				S	Sn	10 54 52.3	+4.0
ANTI	**Antisana**	**1.76**	**327**	P	Pn	10 54 28.0	+2.0
ANTI				S	Sn	10 54 51.8	+3.4
CAMI	**Rancho Maria**	**1.80**	**314**	⇑P	Pn	10 54 29.6	+2.9
CAMI				S	Sn	10 54 53.5	+4.0
NAS1	**Nasa**	**1.81**	**315**	P	Pn	10 54 30.1	+3.3
CONE	**Cono NE Rev Vo**	**1.90**	**347**	P	Pn	10 54 31.5	+3.5
CAYA	**Cayambe**	**2.14**	**338**	⇓P	Pn	10 54 34.2	+2.9
GGP	**Refugio Guagua**	**2.23**	**321**	P	Pn	10 54 37.3	+4.8
TERV	**Terraza Guagua**	**2.24**	**321**	P	Pn	10 54 38.7	+6.1
PINO	**Pino**	**2.25**	**321**	P	Pn	10 54 34.3	+1.5

*ISCJB **23** 11:16:19.0±1.5,1911S±0.10×17304W±02,h33km,mb4.2/7, Error ellipse: s-maj=29.4km s-min=13.0km az=160.9*
*IDC **23** 11:16:20.5±27.0,1911S×17400W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.8/14,mbtmp4.1/4, Error ellipse: s-maj=504.0km s-min=160.9km az=74.0*
*NEIC **23** 11:16:34.0±6.8,1862S×17432W,h106km±51km,mb4.4/3, Error ellipse: s-maj=59.5km s-min=16.0km az=131.0*

ISC 23 11:16:21.0±1.6,192S±01×1733W±02,h35km,n9,σ0§96/10, mb4.2/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**12.81**	**324**	*e*Pn	**Pn**	**11 19 19.4**	**-1.2**
FUNA				*e*Sn	**Sn**	**11 21 42.8**	**+0.9**
CTA	**Charters Tower**	**38.03**	**262**	P	**P**	**11 23 36.1**	**+0.3**
	2.7nm,0.4s,mb4.3,baz=94,slow=12,SNR=5.8						
STKA	**Stephens Creek**	**42.34**	**243**	P	**P**	**11 24 11.4**	**-0.1**
	2.0nm,0.8s,mb3.8,baz=95,slow=13,SNR=3.5						
MIDW	**Midway**	**47.25**	**355**	*e*P	**P**	**11 24 51.7**	**+1.1**
	40nm,0.5s						
ASAR	**Alice Springs**	**49.12**	**255**	P	**P**	**11 25 05.5**	**+0.4**
	1.3nm,0.6s,mb4.1,baz=98,slow=7.3,SNR=19						
WRAB	**Tennant Creek**	**49.16**	**260**	*e*P	**P**	**11 25 05.4**	**+0.1**
	1.4nm,0.6s,mb4.2						
WRAB				*e*PcP	PcP	11 26 27.7	-0.6
WRA	**Warramunga Arr**	**49.17**	**260**	P	**P**	**11 25 05.4**	**0.0**
	0.5nm,0.3s,mb4.0,baz=96,slow=7.5,SNR=42						
YSS	**Yuzh-Sakhalins**	**76.77**	**331**	*e*P	**P**	**11 28 07.7**	**-1.1**
	2.9nm,0.4s,mb4.6						
AHID	**Auburn Hatcher**	**84.03**	**41**	*e*P	**P**	**11 28 54.6**	**+6.8**
	2.2nm,0.4s,mb4.6						

*ISCJB **23** 11:19:49.7±1.1,2982N±005×3620E±007,h10km,Error ellipse: s-maj=9.5km s-min=7.4km az=30.6*
*HLW **23** 11:19:49.0,2983N×3645E,h15km,Mb2.8*
*GII **23** 11:19:50.1±0.6,2992N×3615E,h0km±11km,ML2.3/4*

ISC 23 11:19:50.0±1.1,2982N±005×3623E±007,h10km,n24, σ0§87/28,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQBJ	**Aqaba**	**1.03**	**265**	Pg	**Pg**	**11 20 09.7**	**0.0**
HRFI	**Mount Harif**	**1.05**	**282**	Pg	**Pg**	**11 20 09.1**	**-1.2**
EIL	**Elat**	**1.12**	**263**	Pg	**Pg**	**11 20 11.2**	**-0.3**
EIL	**Elat**	**1.12**	**263**	Pg	**Pg**	**11 20 11.6**	**0.0**
MBH	**Mount Berech**	**1.14**	**269**	Pg	**Pg**	**11 20 11.2**	**-0.7**
ZFRI	**Zfri**	**1.16**	**309**	Pg	**Pg**	**11 20 10.2**	**-2.2**
PRNI	**Paran**	**1.18**	**297**	Pg	**Pg**	**11 20 11.0**	**-1.8**
PRNI				Sg	**Sg**	**11 20 28.1**	**-0.1**
KMTI	**Karmit**	**1.33**	**283**	Pg	**Pg**	**11 20 14.2**	**-1.4**
HBST	**Basata**	**1.43**	**246**	P	**Pn**	**11 20 16.1**	**0.0**
MZDA	**Masada**	**1.66**	**334**	Pn	**Pn**	**11 20 18.8**	**-0.4**
MASH	**Mash'abbe Sade**	**1.71**	**314**	Pn	**Pn**	**11 20 19.7**	**-0.1**
SVTA	**Shivta**	**1.77**	**309**	Pn	**Pn**	**11 20 20.8**	**0.0**
SVTA				Sn	**Sn**	**11 20 44.8**	**+1.5**
HDHB	**Dhahab**	**1.78**	**232**	P	**Pn**	**11 20 21.1**	**+0.2**
RTMI	**Retamim**	**1.81**	**313**	Pn	**Pn**	**11 20 21.6**	**+0.3**
YTIR	**Yattir**	**1.81**	**328**	Pn	**Pn**	**11 20 20.9**	**-0.4**
DRGI	**Dragot**	**1.91**	**338**	Pn	**Pn**	**11 20 21.9**	**-0.6**
DRGI	**Dragot**	**1.91**	**338**	Pn	**Pn**	**11 20 21.9**	**-0.7**
KZIT	**Kziot**	**1.91**	**305**	Pn	**Pn**	**11 20 23.4**	**+0.7**
KZIT				Sn	**Sn**	**11 20 48.1**	**+1.2**
HNKL	**Nakhl**	**1.95**	**274**	P	**Pn**	**11 20 23.9**	**+0.7**
HNKL				S	**Sn**	**11 20 49.1**	**+1.4**
AMAZ	**Amatzia**	**2.04**	**327**	Pn	**Pn**	**11 20 25.0**	**+0.5**
HKAT	**Jabal Katrina**	**2.34**	**237**	P	**Pn**	**11 20 28.8**	**+0.2**
HMDT	**Nahal Hemdat**	**2.50**	**346**	Pn	**Pn**	**11 20 31.6**	**+0.8**
AMAG	**Maghara**	**2.74**	**288**	P	**Pn**	**11 20 34.3**	**+0.3**
SUZ		**2.95**	**271**	P	**Pn**	**11 20 37.5**	**+0.6**

IDC 23 11:52:33.3±1.9,1616S×17837W,h0km,mb4.3/3, mb1 4.4/4,mb1mx4.0/13,mbtmp4.3/4,ML2.4/1,Error ellipse: s-maj=161.5km s-min=31.2km az=161.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.75**	**72**	Pn	Pn	11 54 13.9	+0.3
	4.7nm,0.3s,baz=339,slow=15,SNR=7.5						
AFI				Sn	Sn	11 55 13.0	-18
	0.1nm,0.3s,baz=92,slow=22,SNR=1.5						
STKA	**Stephens Creek**	**39.53**	**239**	P	P	12 00 06.0	+0.3
	1.7nm,0.6s,baz=85,slow=12,SNR=4.3						
WRA	**Warramunga Arr

NNZ	Nelson	4.65	220	*e*P	Pn	12	18	05.9 -1.4
NNZ	Nelson	4.65	220	PN	Pn	12	18	05.9 -1.4
QRZ	Quartz Range	4.86	229	PN	Pn	12	18	08.1 -1.9
THZ	Tophouse	5.30	219	*e*P	Pn	12	18	14.2 -1.4
THZ	Tophouse	5.30	219	PN	Pn	12	18	14.2 -1.5
KHZ	Kahutara	5.53	211	*e*P	Pn	12	18	17.5 -1.1
KHZ	Kahutara	5.53	211	PN	Pn	12	18	17.5 -1.2
MQZ	McQueen's Vall	6.96	209	*e*P	Pn	12	18	35.2 -2.3
MQZ	McQueen's Vall	6.96	209	PN	Pn	12	18	35.2 -2.3
ODZ	Otahua Downs	8.88	213	*e*P	Pn	12	19	00.8 -2.0
ODZ	Otahua Downs	8.88	213	*e*PN	Pn	12	19	00.5 -2.3
ASAR	Alice Springs	39.57	278	P	P	12	24	12.6 +0.5
	0.4nm,0.5s,mb3.3,baz=122,slow=8.0,SNR=8.0							
WB2	Warramunga Arr	41.24	283	*e*P	P	12	24	26.2 +0.5
WRA	Warramunga Arr	41.25	283	P	P	12	24	26.3 +0.5
	0.6nm,0.6s,mb3.4,baz=120,slow=8.9,SNR=13							
KAKA	Kakadu	47.08	290	*e*P	P	12	25	17.9 +5.8
	3.2nm,0.6s,mb4.1							
FINES	FINESS Array B	150.29	332	PKPbc	PKPbc	12	36	33.5 +5.2
	1.2nm,0.9s,baz=72,slow=6.2,SNR=5.4							

*ISCJB **23** 12:29:00.9±0.3,3620S±005×5266E±007,h10km, mb4.7/45,MS4.0/25,Error ellipse: s-maj=8.7km s-min=6.6km az=132.4*

*MOS **23** 12:29:01.3±0.8,3609S×5261E,h10km,mb4.9/14,Error ellipse: s-maj=19.8km s-min=14.6km az=106.0*

*IDC **23** 12:29:01.2±0.5,3609S×5262E,h0km,mb4.5/19, mb1 4.6/19,mb1mx4.5/25,mbtmp4.4/19,MS4.0/23, Ms1 4.0/23,ms1mx3.9/33,Error ellipse: s-maj=20.4km s-min=14.5km az=25.0*

*NEIC **23** 12:29:02.6±0.2,3620S×5259E,h10km,mb4.7/18,Error ellipse: s-maj=8.3km s-min=6.2km az=218.0*

*GCMT **23** 12:29:02.7±0.5,3616S×5293E,h12km,MW5.0/54, Moment Tensor Solution. s17,c18; s54,c74; Duration: 0 Moment tensor: Scale 10^16Nm; Mr=-3.01±.14; Mθθ=3.14±.12; Mφφ=-0.13±.14; Mrθ=-0.28±.45; Mφθ=0.34±.12; Mrφ=-1.34±.58; Best double couple: Mo3.37300×10^16 NP1:φs=284.0000°,δ45.0000°,λ=-59.0000°. NP2: φs=64.0000°,δ53.0000°,λ=-117.00000°. Principal axes: T 3.2060, Plg4.0000°, Azm172.0000°; N 0.3300, Plg21.0000°, Azm81.0000°; P -3.5400, Plg69.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **23** 12:29:02.3,3673S×5226E,h35km,mB5.3,mb4.7,Ms5.2, Msz4.8*

ISC 23 12:29:02.5±0.3,3614S±005×5264E±007,h10km, (h18km±2.8km:pP-P),n119,σ1s06/92,mb4.7/45,MS4.0/25, 4C-5D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.15**	**343**	P		**Pn**	**12 33 17.1**	**+2.5**
	1.4nm,0.3s,baz=177,slow=9.5,SNR=15							
OPO				S		**Sn**	**12 36 36.7**	**-0.4**
	0.2nm,0.3s,baz=258,slow=18,SNR=1.7							
BOSA	**Boshof**	**24.26**	**280**	P		**P**	**12 34 19.4**	**-0.2**
	27nm,0.8s,mb4.7,baz=117,slow=10,SNR=33							
BOSA				LR	LR		12 42 14.6	
	comp=Z,81nm,21.2s,MS3.2,baz=354,slow=33							
BOSA	**Boshof**	**24.26**	**280**	P		**P**	**12 34 19.4**	**-0.3**
BOSA				pmax	pmax			
	comp=Z,27nm,0.8s,mb4.7							
BOSA				MLR	MLR			
	comp=Z,81nm,21.2s,MS3.2							
BOSA	**Boshof**	**24.26**	**280**	*e*P		**P**	**12 34 19.7**	**0.0**
	comp=Z,33nm,0.9s,mb4.8							
BOSA				*e*			12 34 27.5	
LBTB	**Lobatse**	**25.70**	**288**	P		**P**	**12 34 32.4**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.2,baz=141,slow=8.3,SNR=9.5							
LBTB				PcP	PcP		12 38 04.0	+1.1
	comp=Z,5.5nm,0.7s,baz=354,slow=2.1,SNR=8.1							
LBTB				LR	LR		12 42 60.0	
	comp=Z,299nm,20.6s,MS3.8,baz=133,slow=33							
LBTB	**Lobatse**	**25.70**	**288**	P		**P**	**12 34 32.4**	**-0.4**
LBTB							12 38 04.0	
LBTB				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.2							
LBTB				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.2							
LBTB				MLR	MLR			
	comp=Z,299nm,20.6s,MS3.8							
LBTB	**Lobatse**	**25.70**	**288**	*e*P		**P**	**12 34 32.0**	**-0.8**
	comp=Z,6.3nm,0.7s,mb4.2							
LBTB				*e*PcP	PcP		12 38 04.2	+1.2
MATP	**Matopo**	**26.30**	**300**	P		**P**	**12 34 37.7**	**-0.5**
	comp=Z,1.7nm,0.5s,mb3.8,baz=139,slow=10,SNR=11							
MATP				LR	LR		12 43 23.6	
	comp=Z,334nm,21.9s,MS3.8,baz=131,slow=33							
MATP	**Matopo**	**26.30**	**300**	P		**P**	**12 34 37.7**	**-0.5**
MATP				LR	LR		12 43 23.6	
SUR	**Sutherland**	**26.51**	**269**	LR	LR		12 42 27.6	
	comp=Z,100nm,19.7s,MS3.4,baz=27,slow=30							
LSZ	**Lusaka**	**30.13**	**307**	*e*P		**P**	**12 35 13.1**	**+0.8**
	comp=Z,8.8nm,1.0s,mb4.4							
MAW	**Mawson**	**32.05**	**173**	P		**P**	**12 35 29.2**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.8,baz=359,slow=13,SNR=3.8							
MAW				PcP	PcP		12 38 19.2	+0.3
	comp=Z,1.6nm,0.8s,baz=306,slow=9.2,SNR=4.2							
MAW				LR	LR		12 45 05.7	
	comp=Z,625nm,19.2s,MS4.3,baz=60,slow=30							
MAW	**Mawson**	**32.05**	**173**	P		**P**	**12 35 29.2**	**-0.2**
MAW							12 38 19.2	
MAW				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MAW				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SYO	**Syowa Base**	**33.71**	**188**	*e*P		**P**	**12 35 42.0**	**-1.9**
TSUM	**Tsumeb**	**35.10**	**289**	*e*P		**P**	**12 35 54.8**	**-1.1**
	comp=Z,4.6nm,0.8s,mb4.5							
KMBO	**Kilima Mbogo**	**37.65**	**334**	LR	LR		12 49 11.9	
	comp=Z,458nm,21.9s,MS4.2,baz=274,slow=32							
MIR	**Mirnyy**	**38.30**	**155**	*e*P		**P**	**12 36 26.0**	**+2.9**
MIR				pmax	pmax			
	comp=Z,110nm,1.0s,mb5.5							
MAIT	**Maitri**	**40.83**	**199**	*e*P		**P**	**12 36 44.6**	**+0.3**
CASY	**Casey**	**44.69**	**151**	P		**P**	**12 37 14.3**	**-1.2**
	comp=Z,6.2nm,1.1s,mb4.3							
SNAA	**Sanae**	**45.40**	**201**	P		**P**	**12 37 21.9**	**+0.6**
	comp=Z,3.4nm,0.8s,mb4.2,baz=86,slow=6.9,SNR=25							
SNAA				LR	LR		12 51 14.8	
	comp=Z,110nm,19.8s,MS3.8,baz=46,slow=29							
SNAA	**Sanae**	**45.40**	**201**	*e*P		**P**	**12 37 20.2**	**-1.1**
SNAA				*e*	pP		12 37 23.0	-1.4
SNAA				*e*			12 37 30.6	
SNAA				*e*			12 37 34.8	
SNAA				*e*			12 37 42.7	
SNAA				*e*			12 39 00.3	
SNAA				*e*			12 39 07.8	
SNAA	**Sanae**	**45.40**	**201**	⇓*e*P		**P**	**12 37 22.1**	**+0.8**
SNAA	**Sanae**	**45.40**	**201**	*e*P		**P**	**12 37 21.6**	**+0.3**
	comp=Z,12nm,1.0s,mb4.7							
VNA1	**Neumayer--Stab**	**46.78**	**204**	*e*P		**P**	**12 37 31.8**	**-0.3**
VNA1				*e*			12 37 41.7	
VNA1				*e*			12 37 46.0	
VNA1				*e*			12 39 05.2	
VNA1				*e*			12 39 13.2	
VNA1				*e*			12 39 23.8	
VNA3	**Neumayer Olymp**	**47.37**	**203**	*e*P		**P**	**12 37 29.4**	**-7.3**
VNA3				*e*	pP		12 37 33.3	-6.6
VNA3				*e*			12 37 40.2	
VNA3				*e*			12 37 44.6	
VNA3				*e*			12 37 48.2	
VNA3				*e*			12 39 07.4	
VNA3				*e*			12 39 14.7	
VNA3				*e*			12 39 28.0	
PALK	**Pallekele**	**50.59**	**37**	P		**P**	**12 38 01.7**	**+0.2**
	comp=Z,15nm,1.1s,mb4.8							
QSPA	**South Pole Qui**	**54.05**	**180**	*e*P		**P**	**12 38 26.5**	**-0.6**
	comp=Z,7.3nm,0.9s,mb4.6							
QSPA				*e*PcP	PcP		12 39 31.3	-0.7
PSI	**Prapat**	**57.98**	**58**	P		**P**	**12 38 56.1**	**+1.0**
	comp=Z,6.6nm,1.0s,mb4.6,baz=189,slow=12,SNR=4.1							
PSI	**Prapat**	**57.98**	**58**	P		**P**	**12 38 56.2**	**+1.0**
PSI				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7							
VNDA	**Vanda**	**59.00**	**166**	LR	LR		13 04 16.7	
	comp=Z,122nm,20.6s,MS4.0,baz=304,slow=36							
KSM	**Kuching**	**65.31**	**68**	*e*P		**P**	**12 39 45.5**	**+0.8**
EIL	**Elat**	**67.54**	**343**	*e*P		**P**	**12 39 59.4**	**+0.4**
	comp=Z,77nm,1.0s,mb5.7							

DBIC	**Dimbokro**	**68.63**	**296**	P		**P**	**12 40 06.8**	**+1.0**
	comp=Z,2.9nm,0.7s,mb4.3,baz=114,slow=11,SNR=3.8							
DBIC				LR	LR		13 06 50.6	
	comp=Z,122nm,21.7s,MS4.1,baz=119,slow=33							
TOA0	**Torodi Ar. Sit**	**68.64**	**306**	*e*P		**P**	**12 40 06.7**	**+0.8**
TORD	**Torodi Ar. Bea**	**68.64**	**306**	P		**P**	**12 40 07.2**	**+1.3**
	comp=Z,3.3nm,0.9s,mb4.2,baz=117,slow=5.2,SNR=12							
TORD				LR	LR		13 11 10.0	
	comp=Z,160nm,19.9s,MS4.2,baz=135,slow=37							
ASAR	**Alice Springs**	**69.69**	**105**	P		**P**	**12 40 12.9**	**+0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=229,slow=5.9,SNR=203							
ASAR	**Alice Springs**	**69.69**	**105**	P		**P**	**12 40 13.0**	**+0.6**
ASAR				pmax	pmax			
	comp=Z,12nm,0.6s							
AS31	**Alice Springs**	**69.69**	**105**	*e*P		**P**	**12 40 12.7**	**+0.3**
KOLN	**Koldanda**	**69.94**	**29**	*e*P		**P**	**12 40 12.2**	**-1.7**
	comp=Z,46nm,1.3s,mb5.2							
DMN	**Daman**	**70.40**	**30**	*e*P		**P**	**12 40 14.2**	**-2.5**
	comp=Z,19nm,0.8s,mb5.1							
PKI	**Pulchoki**	**70.49**	**31**	*e*P		**P**	**12 40 14.6**	**-2.7**
GKN	**Gorkha**	**70.56**	**30**	*e*P		**P**	**12 40 16.5**	**-1.2**
KKN	**Kakani**	**70.63**	**30**	*e*P		**P**	**12 40 16.1**	**-2.1**
JIRN	**Jiri**	**70.89**	**31**	*e*P		**P**	**12 40 17.3**	**-2.5**
GUN	**Gumba**	**70.99**	**31**	*e*P		**P**	**12 40 18.2**	**-2.1**
STKA	**Stephens Creek**	**71.27**	**116**	*e*P		**P**	**12 40 22.0**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**71.27**	**116**	P		**P**	**12 40 22.3**	**+0.3**
	comp=Z,5.8nm,0.8s,mb4.6,baz=8.8,slow=2.5,SNR=5.2							
STKA				LR	LR		13 04 35.8	
	comp=Z,199nm,21.0s,MS4.3,baz=203,slow=30							
STKA	**Stephens Creek**	**71.27**	**116**	*e*P		**P**	**12 40 22.5**	**+0.5**
STKA				*e*			12 40 29.6	
WRA	**Warramunga Arr**	**72.00**	**102**	P		**P**	**12 40 27.0**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0,baz=233,slow=5.4,SNR=169							
WRA	**Warramunga Arr**	**72.00**	**102**	P		**P**	**12 40 27.0**	**+0.6**
WRA				pmax	pmax			
	comp=Z,15nm,0.8s							
WB2	**Warramunga Arr**	**72.01**	**102**	*e*P		**P**	**12 40 27.0**	**+0.5**
WRAB	**Tennant Creek**	**72.02**	**102**	*d*iP		**P**	**12 40 27.1**	**+0.6**
WRAB	**Tennant Creek**	**72.02**	**102**	*e*P		**P**	**12 40 26.9**	**+0.4**
	comp=Z,29nm,0.7s,mb5.3							
KAKA	**Kakadu**	**74.44**	**94**	*e*P		**P**	**12 40 40.9**	**+0.1**
	comp=Z,13nm,1.0s,mb4.8							
LSA	**Lhasa**	**74.83**	**34**	*e*P		**P**	**12 40 44.4**	**+1.3**
	comp=Z,10nm,0.8s,mb4.8							
MALT	**Malatya**	**75.23**	**348**	*e*P		**P**	**12 40 46.7**	**+1.3**
	comp=Z,6.1nm,0.9s,mb4.5							
GNI	**Garni**	**76.26**	**354**	P		**P**	**12 40 51.3**	**0.0**
KMI	**Kunming**	**77.13**	**46**	P		**P**	**12 41 02.5**	**+6.3**
KMI				AMB	AMB			
	comp=Z,4.0nm,1.0s,mb4.3							
BRTR	**Keskin Array B**	**77.49**	**345**	P		**P**	**12 40 57.8**	**-0.5**
	comp=Z,2.2nm,1.0s,mb4.1,baz=170,slow=7.5,SNR=6.0							
BRTR				LR	LR		13 13 06.7	
	comp=Z,54nm,18.4s,MS3.9,baz=160,slow=34							
BR131	**Keskin Array S**	**77.49**	**345**	*e*P		**P**	**12 40 57.3**	**-0.9**
	comp=Z,2.3nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**80.89**	**16**	*d*iP		**P**	**12 41 17.3**	**+0.5**
AAK				pmax	pmax			
	comp=Z,12nm,1.3s,mb4.7							
AAK				MLR	MLR			
	comp=Z,100nm,26.0s,MS4.0							
AAK	**Ala-Archa**	**80.89**	**16**	*e*P		**P**	**12 41 17.0**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.5							
CTA	**Charters Tower**	**81.23**	**108**	*e*P		**P**	**12 41 18.8**	**+0.2**
	comp=Z,8.3nm,0.9s,mb4.7							
KEST	**Kesra**	**82.06**	**326**	P		**P**	**12 41 24.1**	**+1.1**
	comp=Z,1.6nm,0.9s,mb3.9,baz=323,slow=11,SNR=3.8							
KEST				LR	LR		13 19 29.8	
	comp=Z,81nm,19.6s,MS4.1,baz=200,slow=37							
CD2	**Chengdu**	**82.15**	**42**	*e*P		**P**	**12 41 25.3**	**+1.8**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB	AMB			
	comp=Z,30nm,5.8s							
MLR	**Muntele Rosu**	**84.75**	**341**	⇑*i*P		**P**	**12 41 36.9**	**0.0**
VRI	**Vrincioaia**	**84.91**	**342**	⇑*i*P		**P**	**12 41 37.1**	**-0.6**
PLOR	**Plostina**	**84.91**	**342**	⇑*i*P		**P**	**12 41 37.8**	**+0.1**
VOIR		**84.94**	**341**	⇓*i*P		**P**	**12 41 44.2**	**+6.4**
WMQ	**Urumqi**	**85.72**	**25**	*e*P		**P**	**12 41 42.0**	**+0.3**
WMQ				PP	PP		12 45 03.0	+2.2
WMQ				*e*S	S		12 52 13.0	-1.4
WMQ				PS			12 53 15.0	
WMQ				AMB	AMB			
	comp=Z,7.0nm,1.0s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,172nm,6.0s							
WMQ				LR	LR			
	comp=N,164nm,26.4s,MS4.5							
WMQ				LR	LR			
	comp=E,177nm,24.2s,MS4.5							
WMQ				LR	LR			
	comp=Z,209nm,26.4s,MS4.4							
LZH	**Lanzhou**	**86.19**	**39**	*e*P		**P**	**12 41 49.9**	**+5.9**
LZH				AP	pP		12 41 57.6	+10
LZH				XP	sP		12 42 01.3	+13
LZH				AMB	AMB			
	comp=Z,22nm,1.3s,mb5.2							
MKAR	**Makanchi Array**	**86.75**	**20**	P		**P**	**12 41 46.7**	**-0.1**
	comp=Z,0.4nm,0.4s,mb4.0,baz=226,slow=4.5,SNR=5.6							
MKAR	**Makanchi Array**	**86.75**	**20**	P		**P**	**12 41 46.7**	**-0.1**
GTA	**Gaotai**	**86.84**	**35**	*e*P		**P**	**12 41 47.9**	**+0.6**
GTA				AP	pP		12 41 55.0	+4.4
GTA				XP	sP		12 41 58.5	+6.7
GTA				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb4.7							
PLCA	**Paso Flores**	**87.43**	**220**	LR	LR		13 11 38.3	
	comp=Z,91nm,21.9s,MS4.1,baz=140,slow=29							
VRSR	**Storozhevoye**	**87.78**	**352**	*e*P		**P**	**12 41 52.0**	**+0.2**
VRSR				pmax	pmax			
	comp=Z,20nm,3.3s							
VRSR				pmax	pmax			
	comp=E,6.0nm,0.8s							
AKASG	**Malin Array Be**	**88.89**	**345**	P		**P**	**12 41 55.7**	**-1.3**
	comp=E,2.3nm,0.6s,mb4.7,baz=171,slow=4.4,SNR=12							
AKASG				LR	LR		13 23 09.0	
	comp=E,41nm,18.9s,MS3.9,baz=70,slow=37							
AKASG	**Malin Array Be**	**88.89**	**345**	P		**P**	**12 41 55.7**	**-1.4**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG				MLR	MLR			
	comp=Z,41nm,18.9s							
AKASG	**Malin Array Be**	**88.89**	**345**	P		**P**	**12 41 55.7**	**-1.3**
AKASG				LR	LR		13 23 09.0	
BDFB	**Brasilia**	**89.25**	**251**	P		**P**	**12 41 59.2**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.6,baz=195,slow=6.5,SNR=4.5							
BDFB	**Brasilia**	**89.25**	**251**	P		**P**	**12 41 59.2**	**+0.5**
BDFB				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CPUP	**Villa Florida**	**89.38**	**238**	P		**P**	**12 41 59.4**	**0.0**
	comp=Z,1.1nm,0.5s,mb4.4,baz=135,slow=6.0,SNR=4.7							
CPUP				LR	LR		13 15 31.7	
	comp=Z,54nm,19.3s,MS4.0,baz=290,slow=31							
ZRNK	**Zerenda**	**89.85**	**10**	P		**P**	**12 42 02.5**	**+1.0**
	comp=Z,3.6nm,1.1s,mb4.6							
URZ	**Urewera**	**89.92**	**140**	LR	LR		13 14 45.5	
	comp=Z,83nm,19.9s,MS4.2,baz=62,slow=30							
GERES	**GERESS Array B**	**91.42**	**335**	P		**P**	**12 42 07.6**	**-1.2**
	comp=Z,0.3nm,0.3s,mb4.1,baz=138,slow=7.0,SNR=3.4							
GERES				LR	LR		13 22 18.6	
	comp=Z,89nm,21.9s,MS4.2,baz=108,slow=35							
ESDC	**Sonseca Array**	**91.69**	**320**	LR	LR		13 25 36.8	
	comp=Z,65nm,21.2s,MS4.0,baz=230,slow=37							
NJ2	**Nanjing**	**91.88**	**51**	*e*P		**P**	**12 42 10.3**	**-0.7**
NJ2				AMB	AMB			
	comp=Z,30nm,0.7s,mb5.7							
OBN	**Obninsk**	**91.93**	**351**	*e*P		**P**	**12 42 10.6**	**-0.6**
OBN				*e*			12 45 47.9	
OBN				*e*S	SKSac		12 52 39.3	-4.9
OBN				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.6							
SSE	**Sheshan**	**92.74**	**53**	P		**P**	**12 42 14.8**	**-0.1**
SSE				AMB	AMB			
	comp=Z,158nm,9.1s							
BRG	**Berggiesshubel**	**93.09**	**337**	*e*(P)		**P**	**12 42 17.1**	**+0.6**
	comp=Z,3.7nm,1.1s,mb4.7							
BRG	**Berggiesshubel**	**93.09**	**337**	*e*P		**P**	**12 42 17.1**	**+0.5**
BRG				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.6							
BRG	**Berggiesshubel**	**93.09**	**337**	P		**P**	**12 42 17.1**	**+0.6**
	comp=Z,3.7nm,1.1s,mb4.7							
HHC	**Hu-ho-hao-te**	**93.76**	**41**	*e*P		**P**	**12 42 22.3**	**+2.7**
HHC				AP	pP		12 42 27.0	+4.0
HHC				PP	PP		12 46 11.5	+6.7
HHC				SKS			12 52 55.4	
HHC				S	S		12 53 29.3	+0.2
HHC				AMB	AMB			
	comp=Z,15nm,0.5s,mb5.7							
HHC				LR	LR			
	comp=N,131nm,6.9s							
HHC				LR	LR			
	comp=E,131nm,5.1s							
HHC				LR	LR			
	comp=Z,107nm,5.7s							
CLL	**Collm**	**93.77**	**336**	*i* P		**P**	**12 42 20.5**	**+0.8**
	comp=Z,9.0nm,1.1s,mb5.1							
CLL	**Collm**	**93.77**	**336**	*i* P		**P**	**12 42 20.5**	**+0.8**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb5.1							
ZAL	**Zalesovo**	**93.92**	**18**	P		**P**	**12 42 19.1**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.5,baz=273,slow=3.1,SNR=3.7							
ZAL				LR	LR		13 21 38.8	
	comp=Z,95nm,18.4s,MS4.3,baz=271,slow=34							
NVS	**Novosibirsk**	**94.35**	**17**	*e*P		**P**	**12 42 22.3**	**-0.1**
SONM	**Songino Array**	**96.39**	**33**	LR	LR		13 23 14.2	
	comp=Z,118nm,19.1s,MS4.4,baz=231,slow=34							
RAO	**Raoul Island**	**99.44**	**137**	LR	LR		13 18 26.6	
	comp=Z,129nm,21.1s,MS4.4,baz=158,slow=30							
FINES	**FINESS Array B**	**99.61**	**347**	LR	LR		13 27 09.4	
	comp=Z,42nm,19.5s,MS4.0,baz=74,slow=35							
TBI	**Tubuai**	**117.26**	**157**	*e*LR	LR		13 23 26.3	
	comp=Z,133nm,26.5s							
PPT	**Papeete**	**122.60**	**155**	*e*LR	LR		13 25 54.3	
	comp=Z,70nm,25.5s							
IMA2	**Indian Mountai**	**146.31**	**19**	*e*PKPbc	PKPbc		12 48 43.1	-0.2
SWET	**Sewanee**	**146.51**	**281**	*e*PKPdf	PKPdf		12 48 42.5	-0.1
INK	**Inuvik**	**147.59**	**4**	PKPbc	PKPbc		12 48 46.7	-0.3
	comp=Z,12nm,0.9s,baz=28,slow=2.3,SNR=12							
INK	**Inuvik**	**147.59**	**4**	PKP2	PKPab		12 48 46.7	-2.5
INK				pmax	pmax			
	comp=Z,12nm,0.9s							
INK	**Inuvik**	**147.59**	**4**	*e*PKPbc	PKPbc		12 48 46.5	-0.5
WVT	**Waverly**	**148.22**	**282**	*e*PKPdf	PKPdf		12 48 45.1	-0.3
WVT				*e*PKPbc	PKPbc		12 48 48.2	-0.5
COLA	**College**	**148.72**	**17**	⇑*i*PKP2	PKPbc		12 48 49.4	-0.6
SVW2	**Sparrevohn**	**149.28**	**27**	*e*PKPbc	PKPbc		12 48 51.6	+0.2
MCK	**McKinley**	**149.40**	**19**	*e*PKPbc	PKPbc		12 48 51.8	+0.1
EGAK	**Eagle**	**150.15**	**12**	*e*PKPdf	PKPdf		12 48 49.8	+1.3
EGAK				*e*PKPbc	PKPbc		12 48 53.2	-0.3
JFWS	**Jewell Farm**	**150.76**	**295**	*e*PKPbc	PKPbc		12 48 55.1	+0.1
ULM	**Lac du Bonnet**	**153.29**	**312**	PKPbc	PKPbc		12 49 00.0	-0.7
	comp=Z,6.6nm,1.0s,baz=129,slow=1.0,SNR=3.8							
PDAR	**Pinedale Array**	**164.75**	**301**	PKP	PKPdf		12 49 06.2	-0.4
	comp=Z,2.0nm,0.8s,baz=115,slow=3.2,SNR=16							
NEW	**Newport**	**165.72**	**331**	PKP	PKPdf		12 49 06.0	-1.4
	comp=Z,2.8nm,0.9s,baz=36,slow=2.8							
NEW	**Newport**	**165.72**	**331**	PKIKP	PKPdf		12 49 06.1	-1.4
NEW				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MSU	**Marysvale**	**167.68**	**286**	*e*PKPdf	PKPdf		12 49 11.0	+2.0
NVAR	**Mina Array Bea**	**172.43**	**290**	PKP	PKPdf		12 49 13.2	+1.6
	comp=Z,2.0nm,0.9s,baz=239,slow=3.5,SNR=11							

*ISCJB **23** 12:47:59.8±1.6,5148N±004×16858W±008,h13km±10km, mb4.2/25,MS4.0/1,Error ellipse: s-maj=9.1km s-min=6.4km az=65.4*

*IDC **23** 12:48:00.3±0.9,5161N×16851W,h0km,mb4.0/14, mb1 4.2/14,mb1mx4.1/23,mbtmp4.0/14,Error ellipse: s-maj=26.4km s-min=19.2km az=171.0*

*BJI **23** 12:48:03.3,5179N×16906W,h20km,mB5.0,mb4.8,Ms4.7, Msz4.3*

*NEIC **23** 12:48:05.0±0.8,5162N×16855W,h35km,mb4.5/7, ML3.8(AEIC),Error ellipse: s-maj=16.4km s-min=7.5km az=162.0*

ISC 23 12:48:00.6±1.9,5151N±005×16861W±008,h7km±12km, n49,σ1s18/56,mb4.2/25,MS4.0/1,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.47**	**354**	P		**Pn**	**12 48 27.2**	**-0.3**
NIKO				S		**Sn**	**12 48 46.1**	**-0.8**
OKCE	**Okmok Cone E**	**1.94**	**8**	P		**Pn**	**12 48 34.6**	**+0.7**
OKCE				S		**Sn**	**12 48 58.1**	**-0.3**
OKCD	**Okmok Cone D**	**1.95**	**9**	P		**Pn**	**12 48 34.5**	**+0.5**
OKCD				S		**Sn**	**12 49 00.0**	**+1.4**
AKLV	**Akutan Long Va**	**3.10**	**30**	P		**Pn**	**12 48 50.9**	**+0.9**
AKUT	**Akutan**	**3.14**	**32**	*e*Pn		**Pn**	**12 48 47.4**	**-3.1**
ATKA	**Atka Island**	**3.53**	**283**	P		**Pn**	**12 48 55.7**	**-0.1**
SPIA	**Saint Paul Isl**	**5.76**	**351**	*e*Pn		**Pn**	**12 49 28.3**	**+1.9**
SPIA				*e*Sn		**Sn**	**12 50 33.5**	**+0.9**
SDPT	**Sand Point**	**6.20**	**48**	P		**Pn**	**12 49 32.8**	**+0.4**
AMKA	**Amchitka**	**

WMQ				AMB	AMB	
	comp=Z,7.0nm,0.7s,mb4.8					
WMQ				AMB	AMB	
	comp=Z,85nm,5.4s					
WMQ				LR	LR	
	comp=N,62nm,18.9s,MS4.0					
WMQ				LR	LR	
	comp=E,68nm,19.8s,MS4.0					
WMQ				LR	LR	
	comp=Z,99nm,17.0s,MS4.1					
BVAR	**Borovoye Array**	**64.68**	**325**	P	**P**	**12 58 39.5 +0.5**
	comp=Z,4.0nm,0.5s,mb4.7,baz=53,slow=7.0,SNR=22					
BRVK	**Borovoye**	**64.69**	**325**	P	**P**	**12 58 39.5 +0.3**
	comp=Z,2.1nm,0.7s,mb4.3					
MKAR	**Makanchi Array**	**64.74**	**314**	P	**P**	**12 58 39.0 -0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=46,slow=5.2,SNR=7.6					
CD2	**Chengdu**	**65.09**	**289**	*e*P	**P**	**12 58 40.9 -0.8**
CD2				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.9					
ZRNK	**Zerenda**	**65.23**	**326**	*e*P	**P**	**12 58 42.9 +0.2**
	comp=Z,4.4nm,0.7s,mb4.6					
FINES	**FINESS Array B**	**66.79**	**352**	P	**P**	**12 58 53.0 +0.3**
	comp=Z,2.6nm,0.9s,mb4.3,baz=356,slow=7.8,SNR=5.0					
NOA	**NORSAR Array B**	**67.80**	**0**	P	**P**	**12 58 59.6 +0.5**
	comp=Z,1.2nm,0.8s,mb4.0,baz=1.5,slow=6.3,SNR=3.8					
AAK	**Ala-Archa**	**71.45**	**316**	*e*P	**P**	**12 59 20.7 -0.9**
	comp=Z,3.6nm,0.7s,mb4.4					
GERES	**GERESS Array B**	**80.00**	**358**	P	**P**	**13 00 10.8 +0.3**
	comp=Z,0.9nm,0.9s,mb3.7,baz=56,slow=5.0,SNR=4.6					
WRA	**Warramunga Arr**	**86.84**	**232**	P	**P**	**13 00 45.7 -0.1**
	comp=Z,0.4nm,0.9s,mb3.6,baz=32,slow=6.2,SNR=3.9					
ASAR	**Alice Springs**	**90.21**	**231**	P	**P**	**13 01 03.5 +1.8**
	comp=Z,1.0nm,0.7s,mb4.2,baz=44,slow=3.8,SNR=11					
MATP	**Matopo**	**146.20**	**330**	PKPbc	PKPbc	13 07 42.0 +0.4
	comp=Z,0.8nm,0.6s,baz=151,slow=13,SNR=4.7					

*NEIC **23** 12:52:56.9, 3857S×17580E, h186km, MG4.3(WEL), After WEL.*

WEL 23 12:52:58.2±0.3, 3858S×17579E, h174km±2km, ML4.3/21, Error ellipse: s-maj=2.1km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.14**	**199**	P	Pn	12 53 21.4	+0.2
WATZ	**Wairara**	**0.14**	**199**	PN	Pn	12 53 21.4	+0.2
RATZ	**Rangitukua**	**0.29**	**183**	P	Pn	12 53 21.5	0.0
RATZ	**Rangitukua**	**0.29**	**183**	PN	Pn	12 53 21.4	-0.1
HATZ	**Hinemaiaia**	**0.39**	**143**	P	Pn	12 53 21.7	-0.1
HATZ				S	Sn	12 53 38.8	-1.2
HATZ	**Hinemaiaia**	**0.39**	**143**	PN	Pn	12 53 21.7	-0.1
HATZ				SN	Sn	12 53 38.8	-1.2
RITZ	**Rihia Road**	**0.40**	**173**	P	Pn	12 53 22.2	+0.4
RITZ	**Rihia Road**	**0.40**	**173**	PN	Pn	12 53 22.2	+0.4
KATZ	**Kakaramea**	**0.41**	**191**	P	Pn	12 53 22.1	+0.2
KATZ	**Kakaramea**	**0.41**	**191**	PN	Pn	12 53 22.1	+0.2
WTVZ	**West Tongariro**	**0.56**	**196**	P	Pn	12 53 22.7	+0.2
WTVZ	**West Tongariro**	**0.56**	**196**	PN	Pn	12 53 22.7	+0.2
WTVZ				SN	Sn	12 53 41.2	0.0
TWVZ	**Taurewa**	**0.57**	**209**	P	Pn	12 53 22.6	+0.1
TWVZ	**Taurewa**	**0.57**	**209**	PN	Pn	12 53 22.6	+0.1
OTVZ	**Oturere**	**0.59**	**189**	PN	Pn	12 53 22.8	+0.2
NGZ	**Ngauruhoe**	**0.62**	**194**	PN	Pn	12 53 22.8	0.0
WPVZ	**Whakapapa**	**0.66**	**197**	P	Pn	12 53 23.0	0.0
WPVZ	**Whakapapa**	**0.66**	**197**	PN	Pn	12 53 23.0	0.0
TUVZ	**Tukino**	**0.70**	**189**	P	Pn	12 53 23.4	+0.2
TUVZ	**Tukino**	**0.70**	**189**	PN	Pn	12 53 23.4	+0.2
FWVZ	**Far West T-bar**	**0.70**	**195**	P	Pn	12 53 23.4	+0.2
FWVZ	**Far West T-bar**	**0.70**	**195**	PN	Pn	12 53 23.4	+0.1
DRZ	**Dome Shelter**	**0.72**	**194**	P	Pn	12 53 23.8	+0.5
HIZ	**Hauiti**	**0.74**	**275**	P	Pn	12 53 23.4	0.0
HIZ	**Hauiti**	**0.74**	**275**	PN	Pn	12 53 23.4	-0.1
TRVZ	**Turoa**	**0.75**	**195**	PN	Pn	12 53 24.0	+0.5
WNVZ	**Wahianoa**	**0.77**	**191**	P	Pn	12 53 23.9	+0.3
WNVZ	**Wahianoa**	**0.77**	**191**	PN	Pn	12 53 23.9	+0.3
PKVZ	**Pokaka**	**0.79**	**206**	PN	Pn	12 53 23.8	+0.1
BKZ	**Black Stump Fm**	**0.80**	**137**	P	Pn	12 53 24.0	+0.1
BKZ	**Black Stump Fm**	**0.80**	**137**	PN	Pn	12 53 24.0	+0.1
MOVZ	**Moawhango**	**0.83**	**182**	P	Pn	12 53 23.9	-0.1
MOVZ	**Moawhango**	**0.83**	**182**	PN	Pn	12 53 23.9	-0.1
VRZ	**Vera Road**	**0.97**	**236**	P	Pn	12 53 25.0	0.0
VRZ	**Vera Road**	**0.97**	**236**	PN	Pn	12 53 25.0	-0.1
URZ	**Urewera**	**1.08**	**73**	P	Pn	12 53 25.3	-0.6
URZ	**Urewera**	**1.08**	**73**	PN	Pn	12 53 25.3	-0.6
RAEZ	**Rainy Point**	**1.30**	**237**	P	Pn	12 53 27.8	+0.1
RAEZ	**Rainy Point**	**1.30**	**237**	PN	Pn	12 53 27.8	+0.1
WAZ	**Wanganui**	**1.33**	**208**	P	Pn	12 53 27.9	-0.1
WAZ	**Wanganui**	**1.33**	**208**	PN	Pn	12 53 27.9	-0.2
MWZ	**Matawai**	**1.39**	**80**	P	Pn	12 53 28.2	-0.3
MWZ	**Matawai**	**1.39**	**80**	PN	Pn	12 53 28.2	-0.3
TSZ	**Takapari Road**	**1.49**	**175**	P	Pn	12 53 29.3	-0.2
TSZ	**Takapari Road**	**1.49**	**175**	PN	Pn	12 53 29.3	-0.1
NEZ	**North Egmont**	**1.49**	**242**	P	Pn	12 53 29.7	+0.2
NEZ	**North Egmont**	**1.49**	**242**	PN	Pn	12 53 29.7	+0.2
DFE	**Dawson Falls**	**1.51**	**240**	P	Pn	12 53 34.0	+4.3
KNZ	**Kokohu**	**1.54**	**107**	P	Pn	12 53 30.1	+0.2
KNZ	**Kokohu**	**1.54**	**107**	PN	Pn	12 53 30.1	+0.1
PKE	**Pukeiti**	**1.54**	**246**	P	Pn	12 53 29.8	-0.1
PKE	**Pukeiti**	**1.54**	**246**	PN	Pn	12 53 29.8	-0.1
NRZ	**Ngariki Road**	**1.64**	**242**	P	Pn	12 53 30.6	-0.3
NRZ	**Ngariki Road**	**1.64**	**242**	PN	Pn	12 53 30.6	-0.3
NWEZ	**Newall Road**	**1.65**	**245**	P	Pn	12 53 30.9	-0.2
NWEZ	**Newall Road**	**1.65**	**245**	PN	Pn	12 53 30.9	-0.2
PXZ	**Pawanui**	**1.67**	**151**	PN	Pn	12 53 31.3	0.0
PUZ	**Puketiti**	**2.00**	**76**	P	Pn	12 53 34.1	-0.7
PUZ	**Puketiti**	**2.00**	**76**	PN	Pn	12 53 34.1	-0.7
MRZ	**Mangatainoka R**	**2.09**	**184**	PN	Pn	12 53 34.8	-1.0
BFZ	**Birch Farm**	**2.13**	**171**	P	Pn	12 53 35.4	-0.8
MXZ	**Matakaoa Point**	**2.23**	**64**	P	Pn	12 53 36.8	-0.5
MXZ	**Matakaoa Point**	**2.23**	**64**	PN	Pn	12 53 36.8	-0.5
KIW	**Kapiti Island**	**2.38**	**196**	P	Pn	12 53 37.6	-1.5
KIW	**Kapiti Island**	**2.38**	**196**	PN	Pn	12 53 37.6	-1.5
CAW	**Cannon Point**	**2.59**	**192**	PN	Pn	12 53 40.0	-1.5
MTW	**Mount Morrison**	**2.59**	**185**	P	Pn	12 53 39.7	-1.8
MTW	**Mount Morrison**	**2.59**	**185**	PN	Pn	12 53 39.7	-1.8
DUWZ	**D'Urville Isla**	**2.65**	**212**	PN	Pn	12 53 40.5	-1.7
MRW	**Makara Radio**	**2.78**	**197**	P	Pn	12 53 42.1	-1.7
MRW	**Makara Radio**	**2.78**	**197**	PN	Pn	12 53 42.1	-1.7
PAWZ	**Paruwai Farm**	**2.81**	**196**	P	Pn	12 53 41.2	-3.0
WEL	**Wellington**	**2.82**	**196**	P	Pn	12 53 42.5	-1.8
WEL	**Wellington**	**2.82**	**196**	PN	Pn	12 53 42.5	-1.7
TRWZ	**Traveller**	**2.82**	**182**	PN	Pn	12 53 42.5	-1.8
SNZO	**South Karori**	**2.85**	**197**	P	Pn	12 53 42.6	-2.1
SNZO	**South Karori**	**2.85**	**197**	PN	Pn	12 53 42.6	-2.1
MSWZ	**Moikau Station**	**2.87**	**188**	P	Pn	12 53 42.8	-2.0
MSWZ	**Moikau Station**	**2.87**	**188**	PN	Pn	12 53 42.8	-2.1
TCW	**Tory Channel**	**2.88**	**203**	P	Pn	12 53 43.2	-1.8
TCW	**Tory Channel**	**2.88**	**203**	PN	Pn	12 53 43.2	-1.8
BHW	**Baring Head**	**2.92**	**194**	P	Pn	12 53 43.3	-2.1
BHW	**Baring Head**	**2.92**	**194**	PN	Pn	12 53 43.3	-2.1
TUWZ	**Tuamarina**	**3.18**	**206**	PN	Pn	12 53 46.6	-2.1
NNZ	**Nelson**	**3.22**	**214**	*e*P	Pn	12 53 46.9	-2.4
NNZ	**Nelson**	**3.22**	**214**	PN	Pn	12 53 46.9	-2.3
QRZ	**Quartz Range**	**3.37**	**227**	*e*P	Pn	12 53 48.7	-2.4
BSWZ	**Blackbirch Sta**	**3.46**	**204**	P	Pn	12 53 50.0	-2.2
BSWZ	**Blackbirch Sta**	**3.46**	**204**	PN	Pn	12 53 50.0	-2.2
THZ	**Tophouse**	**3.88**	**214**	*e*P	Pn	12 53 55.0	-2.4
THZ	**Tophouse**	**3.88**	**214**	PN	Pn	12 53 55.0	-2.4
KHZ	**Kahutara**	**4.20**	**203**	P	Pn	12 53 59.3	-2.3
KHZ	**Kahutara**	**4.20**	**203**	PN	Pn	12 53 59.3	-2.4
DSZ	**Denniston Nort**	**4.40**	**223**	*e*P	Pn	12 54 01.3	-2.9
LTZ	**Lake Taylor**	**4.98**	**211**	*e*P	Pn	12 54 08.6	-3.1
MQZ	**McQueen's Vall**	**5.65**	**204**	*e*P	Pn	12 54 15.9	-4.5
MQZ	**McQueen's Vall**	**5.65**	**204**	PN	Pn	12 54 15.9	-4.5
FOZ	**Fox Glacier**	**6.79**	**221**	*e*P	Pn	12 54 30.4	-5.0
LBZ	**Lake Benmore**	**7.17**	**214**	*e*P	Pn	12 54 34.7	-5.7
ODZ	**Otahua Downs**	**7.52**	**209**	*e*P	Pn	12 54 41.5	-3.5
ODZ	**Otahua Downs**	**7.52**	**209**	PN	Pn	12 54 41.5	-3.5

*IDC **23** 13:10:59.5±1.0, 587S×154.40E, h48km±8km, mb3.9/7, mb1 4.1/9, mb1mx4.0/15, mbtmp4.3/9, ML4.4/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/19, Error ellipse: s-maj=20.3km s-min=16.5km az=108.0*

*ISCJB **23** 13:11:02.1±1.8, 600S±009×154.30E±005, h81km±17km, mb4.3/18, Error ellipse: s-maj=15.7km s-min=8.2km az=6.5*

*NEIC **23** 13:11:03.5±1.3, 602S×154.29E, h84km±12km, mb4.4/7, Error ellipse: s-maj=11.6km s-min=8.8km az=186.0*

*BJI **23** 13:11:03.5, 506S×154.12E, h53km, mB4.7, mb4.8*

ISC 23 13:11:04.3±1.5, 609S±009×15436E±006, h86km±14km, h43km±4.6km: pP-P, n33, σ1°07/33, mb4.3/18, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.46**	**121**	P	**Pn**	**13 12 37.7**	**+1.0**
	7.0nm,0.3s,baz=255,slow=3.2,SNR=8.0						
HNR				S	**Sn**	**13 13 53.1**	**+4.1**
	3.9nm,0.3s,baz=93,slow=15,SNR=4.3						
HNR				LR	LR	13 14 10.4	
	comp=Z,48nm,21.2s,baz=359,slow=29						
PMG	**Port Moresby**	**7.86**	**245**	P	**Pn**	**13 12 54.6**	**-1.2**
	24nm,0.3s,baz=75,slow=2.2,SNR=34						
PMG				S	**Sn**	**13 14 23.8**	**+0.8**
	8.7nm,0.3s,baz=352,slow=23,SNR=12						
CTA	**Charters Tower**	**15.99**	**209**	*e*P	**Pn**	**13 14 36.2**	**-7.8**
	4.0nm,0.8s						
CTA	**Charters Tower**	**15.99**	**209**	LR	LR	13 19 46.5	
	comp=Z,139nm,21.0s,baz=55,slow=32						
DZM	**Mont Dzumac**	**19.72**	**145**	P	**Pn**	**13 15 27.2**	**-2.0**
	1.5nm,0.3s,baz=332,slow=14,SNR=13						
KAKA	**Kakadu**	**22.59**	**251**	*e*P	**P**	**13 15 56.4**	**-1.2**
	7.8nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**23.82**	**233**	*e*P	**P**	**13 16 07.5**	**-1.8**
	9.2nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**23.82**	**233**	*e*P	**P**	**13 16 09.9**	**+0.6**
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**13 16 10.0**	**+0.6**
	1.1nm,0.4s,mb3.6,baz=55,slow=9.7,SNR=22						
WRA				pP		13 16 22.9	
	3.9nm,0.5s,baz=56,slow=9.8,SNR=12						
WRA				PcP	PcP	13 19 50.7	+0.4
	0.8nm,0.5s,baz=55,slow=2.6,SNR=5.3						
WRA				pPcP		13 20 02.4	
	0.6nm,0.4s,baz=56,slow=2.4,SNR=6.1						
ASAR	**Alice Springs**	**26.32**	**226**	P	**P**	**13 16 32.4**	**+0.5**
	1.4nm,0.8s,mb3.4,baz=56,slow=8.5,SNR=8.1						
ASAR				pP	pP	13 16 45.0	-6.4
	3.6nm,0.9s,baz=55,slow=9.0,SNR=10						
ASAR				PcP	PcP	13 19 56.6	+0.7
	2.3nm,0.5s,baz=65,slow=2.3,SNR=18						
ASAR				pPcP		13 20 08.3	
	0.7nm,0.5s,baz=70,slow=2.4,SNR=4.8						
STKA	**Stephens Creek**	**28.30**	**203**	*e*P	**P**	**13 16 49.6**	**0.0**
	5.0nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**28.30**	**203**	P	**P**	**13 16 49.7**	**+0.1**
	2.7nm,0.8s,mb3.8,baz=339,slow=8.4,SNR=3.1						
STKA				LR	LR	13 27 58.6	
	comp=Z,156nm,21.8s,baz=23,slow=36						
STKA	**Stephens Creek**	**28.30**	**203**	P	**P**	**13 16 48.8**	**-0.8**
URZ	**Urewera**	**38.10**	**150**	P	**P**	**13 18 14.8**	**0.0**
	4.3nm,0.5s,mb4.5,baz=66,slow=11,SNR=8.4						
KKM	**Kota Kinabalu**	**39.93**	**287**	P	**P**	**13 18 32.3**	**+2.3**
KSM	**Kuching**	**44.62**	**278**	*e*P	**P**	**13 19 08.3**	**+0.3**
KSM				*e*		13 19 21.3	
KULM	**Kulim**	**54.79**	**281**	P	**P**	**13 20 24.6**	**-0.7**
HIA	**Hailar**	**62.84**	**335**	P	**P**	**13 21 19.4**	**-1.5**
	10nm,1.1s,mb4.7						
MA2	**Magadan**	**65.52**	**358**	P	**P**	**13 21 36.4**	**-2.1**
	2.6nm,0.8s,mb4.1						
GTA	**Gaotai**	**67.65**	**317**	*e*P	**P**	**13 21 52.3**	**+0.3**
GTA				AP	pP	13 22 02.4	-12
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
SONM	**Songino Array**	**68.23**	**327**	P	**P**	**13 21 54.6**	**-1.1**
	comp=Z,1.3nm,0.4s,mb4.1,baz=142,slow=5.5,SNR=8.8						
SONM				pP	pP	13 22 07.5	-10
	comp=Z,1.5nm,0.5s,baz=142,slow=5.3,SNR=7.9						
SONM				LR	LR	13 47 34.1	
	comp=Z,65nm,21.4s,baz=39,slow=32						
LSA	**Lhasa**	**70.24**	**304**	*e*P	**P**	**13 22 09.3**	**+1.2**
	comp=Z,8.2nm,0.8s,mb4.6						
JIRN	**Jiri**	**73.78**	**301**	*e*P	**P**	**13 22 30.2**	**+1.0**
	comp=Z,14nm,0.7s,mb4.8						
GUN	**Gumba**	**74.11**	**301**	*e*P	**P**	**13 22 31.8**	**+0.6**
PKI	**Pulchoki**	**74.42**	**301**	*e*P	**P**	**13 22 33.3**	**+0.3**
KKN	**Kakani**	**74.59**	**301**	*e*P	**P**	**13 22 34.3**	**+0.4**
DMN	**Daman**	**74.69**	**301**	*e*P	**P**	**13 22 35.3**	**+0.8**
	comp=Z,38nm,0.8s,mb5.2						
GKN	**Gorkha**	**75.19**	**301**	*e*P	**P**	**13 22 37.8**	**+0.4**
	comp=Z,39nm,0.9s,mb5.1						
KOLN	**Koldanda**	**76.02**	**300**	*e*P	**P**	**13 22 42.4**	**+0.3**
	comp=Z,24nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**82.31**	**319**	P	**P**	**13 23 15.0**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.7,baz=108,slow=6.0,SNR=6.1						
QSPA	**South Pole Qui**	**83.88**	**180**	*e*P	**P**	**13 23 24.5**	**0.0**
	comp=Z,7.7nm,0.7s,mb4.6						
NVAR	**Mina Array Bea**	**91.66**	**52**	P	**P**	**13 24 03.1**	**+1.2**
	comp=Z,0.8nm,0.8s,mb4.0,baz=252,slow=8.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**152.17**	**287**	PKPbc	PKPbc	13 30 49.9	+0.1
	comp=Z,0.9nm,0.5s,baz=98,slow=1.8,SNR=8.7						
TORD				PKPab	PKPab	13 31 00.1	+0.3
	comp=Z,1.4nm,0.6s,baz=76,slow=4.0,SNR=6.9						

*NEIC **23** 13:11:31.2, 3121S×6857W, h150km, MG3.5(GUC), After GUC.*

GUC 23 13:11:31.2±0.7, 3121S×6857W, h150km, ML3.5, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**2.08**	**270**	*i*P	Pn	13 12 07.7	+0.4
CMCH				*i* S	Sn	13 12 35.6	+0.6
CMCH				AML	AML	13 12 37.8	
	comp=E,402nm,0.6s						
CMCH	**Combarbala**	**2.08**	**270**	*i*P	Pn	13 12 07.7	+0.4
CMCH				*i* S	Sn	13 12 35.6	+0.6
TLL	**Tololo Astrono**	**2.19**	**298**	*e*P	Pn	13 12 09.6	+1.2
TLL				*i* S	Sn	13 12 38.7	+1.5
TLL				AML	AML	13 12 40.8	
	comp=N,250nm,0.4s						
TLL	**Tololo Astrono**	**2.19**	**298**	*e*P	Pn	13 12 09.6	+1.2
TLL				*i* S	Sn	13 12 38.7	+1.5
PTCH	**Petorca**	**2.27**	**242**	*i*P	Pn	13 12 09.9	+0.4
PTCH				*i* S	Sn	13 12 39.6	+0.6
PTCH				AML	AML	13 12 42.4	
	comp=E,291nm,0.2s						
PTCH	**Petorca**	**2.27**	**242**	*i*P	Pn	13 12 09.9	+0.4
PTCH				*i* S	Sn	13 12 39.6	+0.6
FCH	**Farellones**	**2.57**	**214**	*e*P	Pn	13 12 14.7	+1.5
FCH				*i* S	Sn	13 12 47.7	+2.2
FCH				AML	AML	13 12 54.4	
	comp=E,77nm,0.3s						
PEL	**Peldehue**	**2.64**	**222**	*i* S	Sn	13 12 47.6	+0.6
PEL				AML	AML	13 12 49.5	
	comp=E,180nm,0.2s						
RCDM	**Rinconada Maip**	**2.96**	**219**	*e*P	Pn	13 12 18.5	+0.5
RCDM				*i* S	Sn	13 12 54.7	+0.5
RCDM				AML	AML	13 12 55.9	
	comp=E,128nm,0.2s						
RCDM	**Rinconada Maip**	**2.96**	**219**	*e*P	Pn	13 12 18.5	+0.5
RCDM				*i* S	Sn	13 12 54.7	+0.5
LMEL	**Las Melosas**	**2.98**	**207**	*e*P	Pn	13 12 19.2	+1.0
LMEL				AML	AML	13 13 09.6	
	comp=N,43nm,0.2s						

*ISCJB **23** 14:00:56.1±0.5, 1306N±008×5741E±009, h10km, mb4.1/23, MS3.5/3, Error ellipse: s-maj=13.7km s-min=10.3km az=59.7*

*IDC **23** 14:00:56.0±0.7, 1295N×5763E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, MS3.6/4, Ms1 3.6/4, ms1mx3.2/22, Error ellipse: s-maj=22.0km s-min=15.6km az=124.0*

*CSEM **23** 14:00:57.5, 1303N×5746E, h10km, mb4.4/8, After NEIC*

*NEIC **23** 14:00:57.5±0.5, 1303N×5746E, h10km, mb4.5/10, Error ellipse: s-maj=14.4km s-min=11.4km az=118.0*

ISC 23 14:00:58.1±0.5, 1305N±008×5745E±009, h10km, n48, σ1°15/45, mb4.1/23, MS3.5/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**14.35**	**266**	LR	LR	14 08 30.9	
	comp=Z,137nm,18.5s,baz=229,slow=31						
KMBO	**Kilima Mbogo**	**24.49**	**236**	P	**P**	**14 06 16.8**	**-0.6**
	2.6nm,0.7s,mb3.8,baz=54,slow=19,SNR=3.3						
KMBO				LR	LR	14 15 55.4	
	comp=Z,115nm,19.0s,MS3.4,baz=96,slow=37						
KMBO	**Kilima Mbogo**	**24.49**	**236**	P	**P**	**14 06 16.8**	**-0.6**
KMBO				LR	LR	14 15 55.4	
GNI	**Garni**	**29.22**	**340**	LR	LR	14 20 24.7	
	comp=Z,59nm,18.6s,MS3.2,baz=1.7,slow=40						
AAK	**Ala-Archa**	**32.97**	**23**	*e*P	**P**	**14 07 35.1**	**+2.2**
	17nm,1.1s,mb4.9						
AAK	**Ala-Archa**	**32.97**	**23**	*e*P	**P**	**14 07 35.1**	**+2.2**
	17nm,1.1s,mb4.9						
BRTR	**Keskin Array B**	**33.86**	**326**	P	**P**	**14 07 41.5**	**+0.8**
	0.5nm,0.8s,mb3.5,baz=125,slow=14,SNR=2.8						
AKTK	**Aktyubinsk**	**37.28**	**1**	P	**P**	**14 08 10.1**	**0.0**
AKTK	**Aktyubinsk**	**37.28**	**1**	P	**P**	**14 08 10.1**	**0.0**
AKTO	**Aktyubinsk**	**37.28**	**1**	P	**P**	**14 08 10.1**	**0.0**
	2.2nm,0.7s,mb4.1,baz=162,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**39.59**	**27**	P	**P**	**14 08 30.4**	**+0.9**
	1.8nm,0.8s,mb3.9,baz=212,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**39.59**	**27**	P	**P**	**14 08 30.4**	**+0.9**
LSZ	**Lusaka**	**40.38**	**227**	P	**P**	**14 08 37.4**	**+1.2**
	1.4nm,0.5s,mb4.0,baz=48,slow=9.8,SNR=4.5						
ZRNK	**Zerenda**	**40.85**	**11**	*e*P	**P**	**14 08 40.7**	**+0.7**
	15nm,1.4s,mb4.4						
ZRNK	**Zerenda**	**40.85**	**11**	*e*P	**P**	**14 08 40.7**	**+0.7**
	15nm,1.4s,mb4.4						
BVAR	**Borovoye Array**	**41.19**	**12**	P	**P**	**14 08 42.9**	**+0.1**
	2.2nm,1.0s,mb3.8,baz=188,slow=4.5,SNR=9.4						
BRVK	**Borovoye**	**41.20**	**12**	P	**P**	**14 08 44.9**	**+2.0**
	2.0nm,1.0s,mb3.7						
BRVK	**Borovoye**	**41.20**	**12**	P	**P**	**14 08 44.9**	**+2.0**
	2.0nm,1.0s,mb3.7						
CHKZ	**Chkalovo**	**41.85**	**12**	*e*P	**P**	**14 08 48.8**	**+0.6**
	12nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**41.85**	**12**	*e*P	**P**	**14 08 48.8**	**+0.6**
	12nm,0.9s,mb4.5						
ARU	**Arti**	**43.29**	**1**	*e*P	**P**	**14 09 08.6**	**+8.6**
ARU	**Arti**	**43.29**	**1**	*e*P	**P**	**14 09 08.6**	**+8.7**
MATP	**Matopo**	**43.79**	**221**	P	**P**	**14 09 05.2**	**+1.3**
	1.4nm,0.5s,mb4.0,baz=61,slow=6.9,SNR=6.1						
MATP	**Matopo**	**43.79**	**221**	P	**P**	**14 09 05.2**	**+1.3**
LBTB	**Lobatse**	**48.96**	**219**	P	**P**	**14 09 46.2**	**+1.7**
	2.6nm,0.6s,mb4.4,baz=312,slow=4.2,SNR=4.2						
LBTB	**Lobatse**	**48.96**	**219**	P	**P**	**14 09 46.2**	**+1.7**
MORC	**Moravsky Berou**	**49.05**	**327**	P	**P**	**14 09 50.2**	**+5.0**
	4.6nm,1.0s,mb4.5						
MORC	**Moravsky Berou**	**49.05**	**327**	P	**P**	**14 09 50.2**	**+5.0**
	4.6nm,1.0s,mb4.5						
BOSA	**Boshof**	**51.82**	**217**	LR	LR	14 30 04.4	
	comp=Z,142nm,18.9s,MS4.0,baz=60,slow=34						
MBDF	**Montbardon**	**53.30**	**317**	*e*P	**P**	**14 10 16.3**	**-0.9**
SONM	**Songino Array**	**53.34**	**39**	P	**P**	**14 10 17.5**	**0.0**
	0.2nm,0.3s,mb3.5,baz=251,slow=4.5,SNR=4.3						
LPG	**La Plagne**	**53.58**	**317**	*e*P	**P**	**14 10 18.1**	**-1.2**
	13nm,1.1s,mb4.5						
LPG	**La Plagne**	**53.58**	**317**	*e*P	**P**	**14 10 18.1**	**-1.2**
	6.7nm,1.1s,mb4.5						
LPL	**La Plagne**	**53.60**	**317**	*e*P	**P**	**14 10 18.2**	**-1.2**
	4.3nm,0.6s,mb4.3						
LPL	**La Plagne**	**53.60**	**317**	*e*P	**P**	**14 10 18.2**	**-1.2**
	2.2nm,0.6s,mb4.3						
ORIF	**Oris-en-Rattie**	**53.97**	**317**	*e*P	**P**	**14 10 21.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**54.20**	**277**	P	**P**	**14 10 25.5**	**+1.7**
	0.4nm,0.5s,mb3.6,baz=85,slow=7.8,SNR=4.1						
CABF	**La Chapelle**	**54.41**	**319**	*e*P	**P**	**14 10 25.8**	**+0.5**
SMF	**Signal de Mont**	**55.88**	**318**	*e*P	**P**	**14 10 33.6**	**-2.3**
LOR	**Lormes**	**56.07**	**319**	*e*P	**P**	**14 10

HHC			SKS		14 44 18.0		
HHC			S	S	14 44 41.8	+22	
HHC			PS	PS	14 46 02.0	-11	
HHC			AMB	AMB			
	comp=Z,13nm,0.4s,mb5.2						
HHC			AMB	AMB			
	comp=Z,136nm,6.0s						
HHC			LR	LR			
	comp=N,90nm,4.7s						
HHC			LR	LR			
	comp=E,132nm,4.5s						
HHC			LR	LR			
	comp=Z,147nm,5.7s						
MKAR	**Makanchi Array**	**112.42 313**	PKiKP	PKiKP	14 39 25.0	-0.4	
	comp=Z,0.4nm,0.5s,baz=116,slow=0.9,SNR=5.6						
ARCES	**ARCESS Array B**	**129.78 350**	PKP	PKPdf	14 39 58.4	-0.2	
	comp=Z,2.4nm,0.6s,baz=357,slow=1.9,SNR=16						
AKASG	**Malin Array Be**	**144.11 331**	PKP	PKPdf	14 40 22.4	-2.5	
	comp=Z,1.3nm,0.4s,baz=42,slow=4.3,SNR=12						
BSEG	**Bad Segeberg**	**146.85 352**	*e*PKPbc	PKPbc	14 40 32.3	+0.3	
BRTR	**Keskin Array B**	**148.07 312**	PKPbc	PKPbc	14 40 35.5	+0.3	
	comp=Z,0.8nm,0.5s,baz=122,slow=3.2,SNR=5.0						
NRDL	**Niedersach Rie**	**148.29 352**	*e*PKPbc	PKPbc	14 40 36.3	+0.5	
CLZ	**Clausthal**	**148.89 351**	*e*PKPbc	PKPbc	14 40 37.5	+0.2	
CLL	**Collm**	**148.96 348**	*e*PKPbc	PKPbc	14 40 37.8	+0.3	
CLL	**Collm**	**148.96 348**	⇓*i*PKPbc	PKPbc	14 40 37.7	+0.2	
	comp=Z,10.0nm,0.8s						
BRG	**Berggiesshubel**	**149.18 347**	*e*PKPbc	PKPbc	14 40 38.4	+0.4	
BRG	**Berggiesshubel**	**149.18 347**	*i* P	PKPbc	14 40 38.6	+0.6	
	comp=Z,3.7nm,0.9s						
MOX	**Moxa**	**149.85 349**	*e*PKPbc	PKPbc	14 40 40.2	+0.6	
PRU	**Pruhonice**	**149.87 345**	*e*PKPbc	PKPbc	14 40 40.6	+0.9	
TANN	**Tannenbergstha**	**149.92 348**	*e*PKPbc	PKPbc	14 40 40.3	+0.5	
MANZ	**Manzenberg**	**150.39 348**	*e*PKPbc	PKPbc	14 40 41.6	+0.7	
MEM	**Membach**	**150.55 356**	PKPbc	PKPbc	14 40 41.9	+0.6	
TNS	**Taunus Mts**	**150.72 353**	*e*PKPbc	PKPbc	14 40 42.4	+0.7	
GRA1	**Grafenberg Arr**	**150.84 349**	*e*PKPbc	PKPbc	14 40 42.3	+0.3	
GRF	**Grafenberg Arr**	**150.84 349**	*e*PKPbc	PKPbc	14 40 42.3	+0.3	
KHC	**Kasperske Hory**	**150.90 346**	*e*PKPbc	PKPbc	14 40 43.0	+0.9	
GIVF	**Givet**	**151.12 358**	*e*PKP1	PKPbc	14 40 42.7	+0.1	
	comp=Z,27nm,0.7s						
DOU	**Dourbes**	**151.13 358**	PKPbc	PKPbc	14 40 43.4	+0.8	
GEC2	**GERESS Array S**	**151.13 345**	*e*PKPbc	PKPbc	14 40 43.1	+0.5	
GEC2	**GERESS Array S**	**151.13 345**	*e*PKPbc	PKPbc	14 40 43.3	+0.6	
GERES	**GERESS Array B**	**151.13 345**	PKPbc	PKPbc	14 40 43.0	+0.4	
	comp=Z,2.8nm,0.8s,baz=54,slow=3.4,SNR=13						
BAIF	**Baives**	**151.18 359**	*e*PKP1	PKPbc	14 40 42.9	+0.2	
	comp=Z,33nm,1.0s						
WLF	**Walferdange**	**151.48 356**	*e*PKPbc	PKPbc	14 40 43.8	+0.4	
WLF	**Walferdange**	**151.48 356**	PKPbc	PKPbc	14 40 44.1	+0.7	
FLN	**La Foliniere**	**152.34 5**	*e*PKP1	PKPbc	14 40 45.0	-0.4	
ROSF	**Rostrenen**	**152.44 9**	*e*PKP1	PKPbc	14 40 45.1	-0.5	
LDF	**La Druitiere**	**152.54 5**	*e*PKP1	PKPbc	14 40 45.4	-0.4	
	comp=Z,6.5nm,0.5s						
SGMF	**Saint Gilles**	**152.62 8**	*e*PKP1	PKPbc	14 40 45.6	-0.4	
	comp=Z,19nm,0.7s						
CDF	**Champ du Feu**	**152.63 354**	*e*PKP1	PKPbc	14 40 45.2	-0.8	
	comp=Z,5.0nm,0.6s						
GRR	**Gorron**	**152.68 6**	*e*PKP1	PKPbc	14 40 46.0	-0.1	
	comp=Z,10nm,0.4s						
HINF	**Hinteralfeld**	**153.26 354**	*e*PKP1	PKPbc	14 40 45.7	-1.7	
LOR	**Lormes**	**153.98 359**	*e*PKP1	PKPbc	14 40 49.0	+0.1	
SSF	**Saint Saulge**	**154.19 359**	*e*PKP1	PKPbc	14 40 49.4	0.0	
TCF	**Toulx Ste Croi**	**154.96 1**	*e*PKP1	PKPbc	14 40 50.8	-0.2	
	comp=Z,8.6nm,0.8s						

ISCJB ***23*** *15:07:35.3±1.4,3464N±007×2423E±0.10,h5km±14km, Error ellipse: s-maj=15.2km s-min=8.6km az=105.9*
CSEM ***23*** *15:07:36.3±0.1,3449N×2403E,h8km, MD3.5, Error ellipse: s-maj=3.4km s-min=2.3km az=71.0*
ATH ***23*** *15:07:37.9,3479N×2418E,h14km±1km, MD3.5/7*
NEIC ***23*** *15:07:38.2,3484N×2420E,h12km, MD3.5(ATH), After ATH.*
HLW ***23*** *15:07:40.3,3459N×2430E,h33km,Mb2.9*
ISC 23 15:07:36.9±1.0,3470N±006×2425E±008,h10km±9km,n12,
σ1º05/15,3C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.19**	**316**	⇑*i*	PG		**Pg**	**15 07 41.0**	**+0.1**
VAM	**Vamos**	**0.70**	**357**	⇑*i*	PB		**Pg**	**15 07 49.3**	**-1.1**
VAM				*e*	SB		**Sg**	**15 07 58.8**	**-0.8**
VAM	**Vamos**	**0.70**	**357**	⇑*i*	Pb		**Pg**	**15 07 49.2**	**-1.2**
XRY	**Khrisi**	**1.20**	**81**	*e*	PG		**Pg**	**15 08 01.3**	**+1.4**
NPS	**Neapolis**	**1.25**	**63**	*e*	PG		**Pg**	**15 08 01.7**	**+0.8**
KYTH	**Kithira**	**1.86**	**328**	*e*	PN		**Pn**	**15 08 10.0**	**+1.2**
SANT	**Santorini**	**1.94**	**30**	*e*	Pn		**Pn**	**15 08 05.2**	**-4.6**
VLI	**Veliai**	**2.28**	**332**	*e*	PN		**Pn**	**15 08 15.9**	**+1.4**
KARP	**Karpathos**	**2.53**	**70**	*e*	PN		**Pb**	**15 08 21.4**	**-1.0**
HMAT	**Matruh**	**4.32**	**146**	⇓	P		**Pn**	**15 08 42.2**	**-0.4**
HMAT					S		**Sn**	**15 09 27.4**	**-5.7**
SWA2		**5.54**	**169**		P		**Pn**	**15 08 59.0**	**-0.4**
SWA1		**5.56**	**167**		P		**Pn**	**15 08 59.1**	**-0.6**
SWA1					S		**Sn**	**15 09 57.1**	**-6.6**

IDC ***23*** *15:11:06.9±5.8,3130N×14307E,h0km, mb3.5/5, mb1 3.6/6,mb1mx3.5/19,mbtmp3.5/6,ML3.9/1, Error ellipse: s-maj=217.3km s-min=22.4km az=69.0*
ISCJB ***23*** *15:11:11.6±1.5,3172N±0.10×1430E±0.2,h60km±17km, mb3.6/5, Error ellipse: s-maj=25.6km s-min=12.5km az=121.1*
JMA ***23*** *15:11:12.9±0.8,3169N×14285E,h83km,M3.8*
ISC 23 15:11:12.2±1.4,316N±01×1431E±02,h42km±17km,n18,
σ0º94/23,mb3.6/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.50**	**331**		P		**Pn**	**15 12 04.3**	**+0.3**
BSO3	**Boso 3**	**3.83**	**327**		P		**Pn**	**15 12 08.9**	**+0.4**
BSO4	**Boso 4**	**4.06**	**327**		P		**Pn**	**15 12 12.4**	**+0.6**
JOD2	**Odawara 2**	**4.92**	**319**		P		**Pn**	**15 12 23.0**	**-0.6**
JYT	**Yasato**	**5.18**	**333**		P		**Pn**	**15 12 27.9**	**+0.8**
JHU	**Hanno**	**5.27**	**324**		P		**Pn**	**15 12 28.2**	**-0.1**
JHU					eS		**Sn**	**15 13 25.7**	**-2.0**
JHO	**Hitachi**	**5.39**	**338**		P		**Pn**	**15 12 30.2**	**+0.2**
JRY	**Ryogami san**	**5.59**	**323**		P		**Pn**	**15 12 32.4**	**-0.3**
JRY					eS		**Sn**	**15 13 35.5**	**-0.1**
JAG	**Ashikaga**	**5.65**	**329**		P		**Pn**	**15 12 33.7**	**+0.1**
JFK	**Kawauchi**	**6.01**	**343**		P		**Pn**	**15 12 38.9**	**+0.3**
MJAR	**Matsushiro Arr**	**6.35**	**322**		Pn		**Pn**	**15 12 43.7**	**+0.6**
	2.4nm,0.3s,baz=144,slow=11,SNR=42								
MJAR					Sn		**Sn**	**15 13 53.8**	**-0.6**
	1.1nm,0.3s,baz=183,slow=23,SNR=5.1								
MAT	**Matsushiro**	**6.35**	**322**		P		**Pn**	**15 12 43.7**	**+0.5**
MAT					S		**Sn**	**15 13 55.0**	**+0.6**
JMK	**Ichinoseki**	**7.47**	**349**		P		**Pn**	**15 12 58.7**	**+0.1**
JMK					eS		**Sn**	**15 14 20.4**	**-1.6**
SONM	**Songino Array**	**32.16**	**311**		P		**P**	**15 17 39.6**	**+3.9**
	0.5nm,0.5s,mb3.6,baz=120,slow=9.0,SNR=6.2								
MKAR	**Makanchi Array**	**48.29**	**307**		P		**P**	**15 19 50.9**	**+1.8**
	1.2nm,0.7s,mb4.0,baz=86,slow=8.9,SNR=8.5								
WRA	**Warramunga Arr**	**51.94**	**190**		P		**P**	**15 20 15.4**	**-1.3**
	0.3nm,0.5s,mb3.5,baz=12,slow=7.6,SNR=8.4								
BVAR	**Borovoye Array**	**55.30**	**315**		P		**P**	**15 20 42.9**	**+1.5**
	0.3nm,0.5s,mb3.6,baz=88,slow=13,SNR=2.8								
ASAR	**Alice Springs**	**55.66**	**190**		P		**P**	**15 20 42.3**	**-1.7**
	0.3nm,0.9s,mb3.3,baz=5.8,slow=6.7,SNR=3.1								

SZGRF ***23*** *15:48:11.7, 1842S×17958W,h33km, Fiji Islands region*
MOS ***23*** *15:49:06.8±1.1, 1768S×17859W,h511km,mb4.4/12, Error ellipse: s-maj=13.6km s-min=11.8km az=10.7*
BJI ***23*** *15:49:07.5, 1739S×178.10W,h531km,mB4.6, mb4.4*
ISCJB ***23*** *15:49:08.0±0.8, 1773S±007×17856W±006,h532km±10km, mb4.4/38, Error ellipse: s-maj=11.0km s-min=7.6km az=113.5*
NEIC ***23*** *15:49:08.7±0.8, 1772S×17853W,h530km±8km,mb4.4/25, Error ellipse: s-maj=10.4km s-min=7.2km az=46.0*
IDC ***23*** *15:49:08.2±1.3, 1776S×17852W,h522km±15km,mb3.9/13, mb1 3.9/15,mb1mx3.9/16,mbtmp4.7/15, Error ellipse: s-maj=13.3km s-min=11.7km az=137.0*
ISC 23 15:49:09.0±0.8,1773S±007×17850W±006,h532km±9km,
n141,σ0º90/91,mb4.4/38,5C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.50**	**61**		P		**P**	**15 51 01.1**	**-0.1**
	16nm,0.3s,baz=62,slow=7.9,SNR=15								
AFI					S		**S**	**15 52 27.5**	**-5.7**
	baz=78,slow=20,SNR=2.4								
AFI	**Afiamalu**	**7.50**	**61**	*e*	P		**P**	**15 51 00.5**	**-0.7**
AFI				*e*				15 52 31.6	
AFI					pmax	pmax			
	comp=Z,73nm,0.6s								
AFI	**Afiamalu**	**7.50**	**61**	*e*	Pn		**P**	**15 51 00.5**	**-0.7**
	comp=Z,73nm,0.6s								
AFI				*e*	Sn		**S**	**15 52 31.6**	**-1.5**
FUNA	**Funafuti**	**9.42**	**346**	*e*	P		**P**	**15 51 21.5**	**+0.9**
DZM	**Mont Dzumac**	**14.80**	**251**		P		**P**	**15 52 17.2**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=84,slow=16,SNR=11								
URZ	**Urewera**	**20.81**	**190**		P		**P**	**15 53 10.7**	**-2.5**
	comp=Z,11nm,0.5s,baz=86,slow=2.2,SNR=14								
HNR	**Honiara**	**22.50**	**289**		P		**P**	**15 53 29.1**	**+0.8**
	comp=Z,30nm,0.6s,mb5.1,baz=111,slow=1.5,SNR=5.3								
HNR	**Honiara**	**22.50**	**289**		P		**P**	**15 53 29.1**	**+0.7**
HNR					pmax	pmax			
	comp=Z,30nm,0.6s,mb5.1								
HNR	**Honiara**	**22.50**	**289**	*e*	P		**P**	**15 53 29.5**	**+1.1**
	comp=Z,50nm,1.0s,mb5.1								
PPT	**Papeete**	**27.55**	**94**		P		**P**	**15 54 12.7**	**-0.3**
	comp=Z,18nm,0.7s,mb4.8,baz=212,slow=15,SNR=3.2								
PPT	**Papeete**	**27.55**	**94**		P		**P**	**15 54 12.7**	**-0.4**
PPT					pmax	pmax			
	comp=Z,18nm,0.7s								
ARMA	**Armidale**	**29.95**	**240**	*e*	P		**P**	**15 54 35.1**	**+1.1**
CTA	**Charters Tower**	**33.39**	**260**	*e*	P		**P**	**15 55 03.1**	**-0.2**
	comp=Z,13nm,0.8s,mb4.5								
CTA	**Charters Tower**	**33.39**	**260**	*e*	P		**P**	**15 55 03.1**	**-0.2**
CTA					pmax	pmax			
	comp=Z,13nm,0.8s								
CNB	**Canberra Magne**	**33.47**	**232**	⇓*i*	P		**P**	**15 55 04.9**	**+1.0**
	comp=Z,26nm,0.7s,mb4.9								
PMG	**Port Moresby**	**34.35**	**279**	*e*	P		**P**	**15 55 12.3**	**+1.0**
PMG					pmax	pmax			
	comp=Z,73nm,0.9s								
PMG	**Port Moresby**	**34.35**	**279**	*e*	P		**P**	**15 55 12.3**	**+1.0**
	comp=Z,73nm,0.9s,mb5.2								
TOO	**Toolangi**	**37.21**	**231**	*e*	P		**P**	**15 55 36.3**	**+1.2**
	comp=Z,16nm,0.8s,mb4.6								
TOO	**Toolangi**	**37.21**	**231**	*e*	P		**P**	**15 55 36.3**	**+1.2**
TOO					pmax	pmax			
	comp=Z,16nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**38.64**	**241**	*e*	P		**P**	**15 55 47.5**	**+0.8**
	comp=Z,12nm,0.6s,mb4.6								
STKA	**Stephens Creek**	**38.64**	**241**		P		**P**	**15 55 47.4**	**+0.8**
	comp=Z,14nm,0.6s,mb4.7,baz=89,slow=8.4,SNR=36								
WB2	**Warramunga Arr**	**44.57**	**259**	*e*	P		**P**	**15 56 32.6**	**-0.9**
WRAB	**Tennant Creek**	**44.57**	**259**	*d*	P		**P**	**15 56 32.7**	**-0.8**
WRAB	**Tennant Creek**	**44.57**	**259**	*e*	P		**P**	**15 56 32.5**	**-1.0**
	comp=Z,17nm,0.7s,mb4.7								
WRA	**Warramunga Arr**	**44.58**	**259**		P		**P**	**15 56 32.7**	**-0.9**
	comp=Z,12nm,0.7s,mb4.5,baz=92,slow=6.9,SNR=221								
WRA					ScP	ScP		16 01 07.1	+0.7
	comp=Z,1.5nm,1.0s,baz=89,slow=4.4,SNR=4.7								
WRA					S		**S**	**16 02 24.4**	**-6.1**
	comp=Z,0.9nm,0.9s,baz=93,slow=14,SNR=4.4								
WRA	**Warramunga Arr**	**44.58**	**259**		P		**P**	**15 56 32.7**	**-0.9**
WRA					S		**S**	**16 02 24.4**	**-6.1**
WRA					pmax	pmax			
	comp=Z,12nm,0.7s								
WRA					pmax	pmax			
	comp=N,2.0nm,1.0s								
WRA					smax				
	comp=N,1.0nm,0.9s								
AS31	**Alice Springs**	**44.76**	**254**	*e*	P		**P**	**15 56 34.8**	**-0.2**
ASAR	**Alice Springs**	**44.76**	**254**		P		**P**	**15 56 34.9**	**-0.1**
	comp=N,89nm,0.6s,baz=88,slow=8.2,SNR=1025								
ASAR					ScP	ScP		16 01 08.1	+0.9
	comp=N,1.4nm,0.8s,baz=100,slow=4.2,SNR=6.7								
ASAR					S		**S**	**16 02 29.9**	**-3.1**
	comp=N,2.5nm,1.0s,baz=87,slow=17,SNR=11								
ASAR	**Alice Springs**	**44.76**	**254**		P		**P**	**15 56 34.9**	**-0.1**
ASAR					S		**S**	**16 02 29.9**	**-3.1**
ASAR					pmax	pmax			
	comp=Z,89nm,0.6s								
ASAR					pmax	pmax			
	comp=N,1.0nm,0.9s								
ASAR					smax				
	comp=N,3.0nm,1.0s								
KAKA	**Kakadu**	**47.50**	**269**	⇓*i*	P		**P**	**15 56 55.3**	**-0.5**
	comp=N,24nm,0.6s,mb4.9								
GUMO	**Guam**	**47.70**	**308**		P		**P**	**15 56 56.9**	**-0.4**
	comp=N,76nm,0.7s,mb5.4,baz=177,slow=8.6,SNR=11								
GUMO	**Guam**	**47.70**	**308**		P		**P**	**15 56 56.9**	**-0.4**
GUMO					pmax	pmax			
	comp=Z,76nm,0.7s,mb5.3								
FORT	**Forrest**	**50.01**	**244**	*e*	P		**P**	**15 57 13.9**	**-0.5**
	comp=Z,34nm,0.6s,mb5.0								
MBWA	**Marble Bar**	**59.03**	**256**	*e*	P		**P**	**15 58 10.3**	**-0.7**
	comp=Z,12nm,0.7s,mb4.2								
KLBR	**Kellerberrin**	**58.83**	**243**	*e*	P		**P**	**15 58 15.6**	**-0.7**
	comp=Z,13nm,0.7s,mb4.3								
SBA	**Scott Base**	**60.59**	**184**	*e*	P		**P**	**15 58 28.9**	**+0.9**
SBA					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.6								
SBA	**Scott Base**	**60.59**	**184**	*e*	P		**P**	**15 58 28.9**	**+0.9**
	comp=Z,2.2nm,0.7s,mb3.6								
VNDA	**Vanda**	**60.61**	**185**		P		**P**	**15 58 29.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=357,slow=4.8,SNR=6.7								
VNDA	**Vanda**	**60.61**	**185**		P		**P**	**15 58 29.1**	**+0.9**
VNDA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
VNDA	**Vanda**	**60.61**	**185**	*e*	P		**P**	**15 58 28.7**	**+0.5**
	comp=Z,0.8nm,0.8s								
MJAR	**Matsushiro Arr**	**67.72**	**323**		P		**P**	**15 59 12.5**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.3,baz=151,slow=5.7,SNR=20								
MJAR	**Matsushiro Arr**	**67.72**	**323**		P		**P**	**15 59 12.5**	**-0.8**
MJAR					pmax	pmax			
	comp=Z,8.0nm,0.8s								
MAJO	**Matsushiro**	**67.72**	**323**	*e*	P		**P**	**15 59 12.4**	**-0.9**
MAJO					pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.3								
MAJO	**Matsushiro**	**67.72**	**323**	*e*	P		**P**	**15 59 12.4**	**-1.0**
	comp=Z,9.3nm,0.8s,mb4.4								
MAT	**Matsushiro**	**67.72**	**323**		P		**P**	**15 59 12.6**	**-0.7**
KKM	**Kota Kinabalu**	**68.62**	**284**	*e*	P		**P**	**15 59 18.4**	**-0.3**
ASAJ	**Asahikawa**	**71.08**	**331**		P		**P**	**15 59 34.3**	**+0.8**
	comp=Z,8.1nm,0.7s,mb4.4								
ASAJ	**Asahikawa**	**71.08**	**331**		P		**P**	**15 59 34.3**	**+0.8**
ASAJ					pmax	pmax			
	comp=Z,8.0nm,0.7s								
QSPA	**South Pole Qui**	**72.32**	**180**	*e*	P		**P**	**15 59 41.4**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.0								
KSM	**Kuching**	**72.58**	**277**	*e*	P		**P**	**15 59 42.6**	**+0.5**
PET	**Petropavlovsk**	**73.18**	**346**	⇑*e*	P		**P**	**15 59 45.8**	**+0.2**
SSE	**Sheshan**	**75.56**	**310**		P		**P**	**15 59 59.6**	**+0.6**
SSE					AMB	AMB			
	comp=Z,34nm,0.7s,mb4.9								
SSE					AMB	AMB			
	comp=Z,82nm,5.0s								
NJ2	**Nanjing**	**77.76**	**309**	*e*	P		**P**	**16 00 11.3**	**+0.2**
NJ2					AMB	AMB			
	comp=Z,30nm,0.8s,mb4.7								
NJ2					AMB	AMB			
	comp=Z,530nm,8.4s								
CMB	**Columbia Colle**	**77.77**	**43**	*e*	P		**P**	**16 00 11.1**	**0.0**
CMB					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.0								
CMB	**Columbia Colle**	**77.77**	**43**	*e*	P		**P**	**16 00 11.1**	**-0.1**
	comp=Z,7.6nm,1.0s,mb4.0								
HABR	**Khabarovsk**	**77.82**	**330**	*e*	P		**P**	**16 00 11.5**	**+0.1**
HABR					eS		S	16 09 26.0	+5.3
MDJ	**Mudanjiang**	**77.99**	**325**	*e*	P		**P**	**16 00 12.3**	**0.0**
	comp=Z,10nm,0.9s,mb4.2								
NVAR	**Mina Array Bea**	**79.36**	**44**		P		**P**	**16 00 20.6**	**+1.0**
	comp=Z,3.5nm,0.8s,mb3.8,baz=232,slow=11,SNR=23								
CN2	**Changchun**	**79.83**	**322**	*e*	P		**P**	**16 00 22.3**	**+0.2**
CN2					AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.0								
WVOR	**Wild Horse Val**	**81.33**	**40**	*e*	P		**P**	**16 00 30.3**	**+0.4**
WVOR					pmax	pmax			
	comp=Z,13nm,1.1s,mb4.3								
WVOR	**Wild Horse Val**	**81.33**	**40**	*e*	P		**P**	**16 00 30.3**	**+0.4**
	comp=Z,13nm,1.1s,mb4.3								
TUC	**Tucson**	**81.66**	**52**	*e*	P		**P**	**16 00 32.5**	**+0.9**
TUC					pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.0								
TUC	**Tucson**	**81.66**	**52**	*e*	P		**P**	**16 00 32.5**	**+0.9**
	comp=Z,6.0nm,1.0s,mb4.0								
WUAZ	**Wupatki**	**82.69**	**49**	*e*	P		**P**	**16 00 37.8**	**+0.9**
	comp=Z,16nm,1.1s,mb4.5								
KULM	**Kulim**	**82.92**	**278**		P		**P**	**16 00 36.1**	**-1.8**
SEY	**Seymchan**	**83.59**	**347**	⇑*e*	P		**P**	**16 00 40.2**	**-1.1**
BJT	**Baijiatuan**	**83.59**	**315**		P		**P**	**16 00 41.2**	**-0.1**
MAW	**Mawson**	**84.00**	**200**		P		**P**	**16 00 43.6**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.5,baz=74,slow=8.2,SNR=4.2								
MAW	**Mawson**	**84.00**	**200**		P		**P**	**16 00 43.6**	**+0.3**
MAW					pmax	pmax			
	comp=Z,1.0nm,0.7s								
MAW	**Mawson**	**84.00**	**200**		P		**P**	**16 00 43.4**	**+0.1**
	comp=Z,2.3nm,0.8s,mb3.8								
ANMO	**Albuquerque**	**86.05**	**52**	⇓*e*	P		**P**	**16 00 54.6**	**+1.3**
ANMO	**Albuquerque**	**86.05**	**52**	*e*	P		**P**	**16 00 53.9**	**+0.7**
	comp=Z,3.9nm,1.3s,mb3.9								
BILL	**Bilibino**	**86.25**	**354**	*e*	P		**P**	**16 00 52.8**	**-1.4**
BILL					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.9								
RRI2	**Red Ridge**	**86.41**	**42**	*e*	P		**P**	**16 00 55.8**	**+0.8**
	comp=Z,8.8nm,0.9s,mb4.4								
HHC	**Hu-ho-hao-te**	**87.09**	**314**	*e*	P		**P**	**16 00 58.6**	**+0.4**
HHC					AP	pP		16 02 57.4	+2.7
HHC					XP	sP		16 03 51.0	+2.4
HHC					PP	PP		16 04 35.3	+4.0
HHC					SKS			16 10 33.8	
HHC					S	S		16 10 52.0	-0.7
HHC					XS	sS		16 14 21.9	+1.5
HHC					SS	SS		16 16 55.5	+3.8
HHC					AMB	AMB			
	comp=Z,16nm,0.3s,mb5.1								
HHC					AMB	AMB			
	comp=Z,52nm,3.7s								
PDAR	**Pinedale Array**	**87.28**	**43**		P		**P**	**16 00 59.5**	**+0.5**
	comp=Z,1.7nm,0.6s,mb3.8,baz=218,slow=3.1,SNR=14								
KMI	**Kunming**	**87.67**	**297**		P		**P**	**16 01 02.9**	**+2.0**
KMI					AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.4								
KMI					LR	LR			
	comp=Z,92nm,18.1s								
SDCO	**Great Sand Dun**	**87.91**	**49**		P		**P**	**16 00 59.9**	**-2.1**
	comp=Z,2.7nm,1.0s,mb3.9								
SNAA	**Sanae**	**90.78**	**179**		P		**P**	**16 01 14.5**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=209,slow=6.1,SNR=12								
SNAA	**Sanae**	**90.78**	**179**	*e*	P		**P**	**16 01 14.4**	**-0.9**
SNAA				*e*				16 01 15.0	
SNAA	**Sanae**	**90.78**	**179**	*e*	P		**P**	**16 01 13.9**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.0								
VNA3	**Neumayer Olymp**	**90.92**	**176**	*e*	P		**P**	**16 01 15.6**	**-0.4**
VNA3				*e*				16 01 16.6	
SONM	**Songino Array**	**93.36**	**319**		P		**P**	**16 01 26.0**	**-1.2**
	comp=Z,0.9nm,0.9s,mb3.8,baz=94,slow=2.1,SNR=4.2								
SONM	**Songino Array**	**93.36**	**319**		P		**P**	**16 01 26.0**	**-1.2**
SONM					pmax	pmax			
	comp=Z,1.0nm,1.0s								
TIXI	**Tiksi**	**95.97**	**345**	⇑*e*	P		**P**	**16 01 39.8**	**+0.8**
MDRS	**Chennai**	**104.44**	**279**	*ex*			x	16 02 42.0	
MDRS				*ex*			x	16 04 11.0	
MKAR	**Makanchi Array**	**108.95**	**314**	PKiKP		PKiKP		16 06 35.9	-2.0
	comp=Z,0.4nm,0.4s,baz=246,slow=0.4,SNR=3.9								
MKAR	**Makanchi Array**	**108.95**	**314**	PKPdf		PKiKP		16 06 35.9	-2.0
FINES	**FINESS Array B**	**133.00**	**344**	SKPbc		SKPbc		16 10 00.9	-0.9
	comp=Z,0.9nm,0.8s,baz=25,slow=6.3,SNR=5.3								
OBN	**Obninsk**	**134.10**	**333**	*e*	PKIKP	PKPdf		16 07 22.5	-3.4
OBN				*e*				16 10 04.8	
OBN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
AKASG	**Malin Array Be**	**140.37**	**332**		S

ANTU	**Antumapu**	**1.22**	**70**	*e*P		Pn	16 06 48.7	+0.9
ANTU				*i* S		Sn	16 07 05.1	+2.1
ANTU				AML		AML	16 07 07.5	
	comp=N,305nm,0.6s							
ANTU	**Antumapu**	**1.22**	**70**	*e*P		Pn	16 06 48.7	+0.9
ANTU				*i* S		Sn	16 07 05.1	+2.1
ROCH	**El Roble**	**1.32**	**40**	*e*P		Pn	16 06 50.5	+1.4
CICH	**Cipreses**	**1.36**	**104**	⇑*i*P		Pn	16 06 51.1	+1.4
CICH				*i* S		Sn	16 07 09.3	+2.9
CLCH	**Cerro Calan**	**1.36**	**65**	*e*P		Pn	16 06 51.5	+1.7
CLCH				*i* S		Sn	16 07 09.3	+2.8
CLCH				AML		AML	16 07 11.5	
	comp=E,233nm,0.5s							
PEL	**Peldehue**	**1.39**	**53**	⇑*i*P		Pn	16 06 52.6	+2.5
PEL				*i* S		Sn	16 07 10.6	+3.3
PEL				AML		AML	16 07 12.7	
	comp=E,369nm,0.3s							
PEL	**Peldehue**	**1.39**	**53**	⇑*i*P		Pn	16 06 52.6	+2.5
PEL				*i* S		Sn	16 07 10.6	+3.3
LMEL	**Las Melosas**	**1.51**	**85**	⇑*i*P		Pn	16 06 53.6	+1.9
LMEL				*i* S		Sn	16 07 13.3	+3.1
LMEL				AML		AML	16 07 17.1	
	comp=N,189nm,0.1s							
LMEL	**Las Melosas**	**1.51**	**85**	⇑*i*P		Pn	16 06 53.6	+1.9
LMEL				*i* S		Sn	16 07 13.3	+3.1
FCH	**Farellones**	**1.58**	**66**	⇑*i*P		Pn	16 06 54.8	+2.1
FCH				*i* S		Sn	16 07 15.8	+3.9
FCH				AML		AML	16 07 21.3	
	comp=N,158nm,0.2s							

MAN 23 16:06:57.1, 1869N×12079E, h7km, mb4.0, ML5.0, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.04**	**184**	*e*P	Pg	16 07 16.3	-0.8
ABRA				*e*S	Sg	16 07 33.0	+2.3
SGCP	**Mt. Cagua**	**1.28**	**110**	*e*P	Pn	16 07 20.1	-1.2
SGCP				*e*S	Sb	16 07 36.7	-1.4
CVP	**Callao Caves**	**1.39**	**135**	⇓*i*P	Pn	16 07 22.0	-0.9
CVP				*i* S	Sb	16 07 36.0	-5.4
CAUP	**Cauayan**	**2.00**	**150**	*e*P	Pn	16 07 32.7	+1.4
PALP	**Palanan**	**2.25**	**136**	⇑*e*P	Pn	16 07 35.7	+1.0
PALP				*e*S	Sn	16 08 05.4	+2.7
PALP	**Palanan**	**2.25**	**136**	*e*P	Pn	16 07 35.6	+0.8
PALP				*e*S	Sn	16 08 05.8	+3.1
BCPH	**Baguio City Da**	**2.31**	**185**	⇑*i*P	Pg	16 07 54.7	+13
BCPH				*i* S	Sn	16 08 03.8	-0.4
BOLP	**Bolinao**	**2.45**	**200**	*e*P	Pn	16 07 37.6	+0.1
BOLP				*e*S	Sn	16 08 13.7	+6.1
SCZP	**Santa Cruz**	**3.02**	**196**	*e*P	Pn	16 07 47.3	+2.0
SCZP				*e*S	Sn	16 08 28.0	+6.2
BALP	**Baler**	**3.03**	**165**	*e*P	Pn	16 07 48.0	+2.5

MAN 23 16:34:12.0, 879N×12215E, h33km, mb3.6, ML4.8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.07**	**157**	⇑*i*P	Pn	16 34 30.9	+0.1
IPIL				*i* S	Sn	16 34 44.0	-0.6
IPIL	**Ipil**	**1.07**	**157**	*e*P	Pn	16 34 30.8	0.0
IPIL				*e*S	Sn	16 34 44.3	-0.2
DCPH	**Dipolog City**	**1.20**	**100**	⇑*i*P	Pn	16 34 31.9	-0.6
PAGZ	**Pagadian**	**1.53**	**127**	*e*P	Pn	16 34 37.8	+0.7
PAGZ				*e*S	Sn	16 34 57.6	+1.8
GUIM	**Jordan**	**1.88**	**13**	*e*P	Pn	16 34 43.0	+1.2
GUIM				*e*S	Sn	16 35 06.7	+2.4
CUYO	**Cuyo Island**	**2.33**	**332**	*e*P	Pn	16 34 49.3	+1.2
CUYO				*e*S	Sn	16 35 15.8	+0.1
ENPP	**El Nido**	**3.60**	**312**	*e*P	Pn	16 35 07.0	+1.5

*NEIC **23** 16:55:44.9, 2878S×6973W, h85km, MG4.4(GUC), After GUC.*

GUC 23 16:55:44.9±0.8, 2878S×6973W, h85km±27km, ML4.4, 2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.92**	**282**	⇓*i*P	Pn	16 56 09.0	+5.6
VACH				*i* S	Sn	16 56 23.4	+6.2
VACH				AML	AML	16 56 23.6	
	comp=N,33μm,0.1s						
VACH	**Vallenar**	**0.92**	**282**	⇓*i*P	Pn	16 56 09.0	+5.6
VACH				*i* S	Sn	16 56 23.4	+6.2
CPCH	**Copiapo**	**1.52**	**339**	*e*P	Pn	16 56 11.2	+0.6
CPCH				*i* S	Sn	16 56 30.6	+0.5
CPCH				AML	AML	16 56 33.0	
	comp=E,7μm,0.1s						
CPCH	**Copiapo**	**1.52**	**339**	*e*P	Pn	16 56 11.2	+0.6
CPCH				*i* S	Sn	16 56 30.6	+0.5
TLL	**Tololo Astrono**	**1.67**	**214**	*e*P	Pn	16 56 14.8	+2.2
CDCH	**Caldera**	**1.96**	**330**	*e*P	Pn	16 56 16.5	+0.1
CDCH				*i* S	Sn	16 56 38.6	-1.6
OVCH	**Ovalle**	**2.23**	**215**	*e*P	Pn	16 56 20.7	+0.8
OVCH				*i* S	Sn	16 56 46.9	+0.2
CMCH	**Combarbala**	**2.63**	**204**	*i* P	Pn	16 56 25.9	+0.6
CMCH				*i* S	Sn	16 56 57.0	+0.7
CMCH				AML	AML	16 56 59.3	
	comp=N,1μm,0.6s						
CMCH	**Combarbala**	**2.63**	**204**	*i* P	Pn	16 56 25.9	+0.6
CMCH				*i* S	Sn	16 56 57.0	+0.7
CHNG	**Los Chungos**	**3.45**	**206**	*i* S	Sn	16 57 16.3	+0.1
PTCH	**Petorca**	**3.62**	**196**	*i* S	Sn	16 57 20.4	0.0
PTCH				AML	AML	16 57 22.1	
	comp=E,275nm,0.3s						
PEL	**Peldehue**	**4.43**	**190**	*e*P	Pn	16 56 50.1	+0.5
FCH	**Farellones**	**4.56**	**186**	*e*P	Pn	16 56 53.1	+1.7
LVC	**Limon Verde**	**6.18**	**7**	*e*Pn	Pn	16 57 12.5	-1.1

*NIED **23** 17:21:00, 4440N×14150E, h270km, Mw4.2 Best double couple: M0 2.46000×10^15 NP1:φs=280.00000°, δ=80.00000°, λ=-116.00000°. NP2:φs=170.00000°, δ=27.00000°, λ=-22.00000°.*

*BJI **23** 17:21:54.5, 4467N×14149E, h259km, mB4.4, mb4.0*

*ISCJB **23** 17:21:55.5±0.2, 4440N±003×14146E±005, h258km±2km, mb4.0/36, Error ellipse: s-maj=6.3km s-min=4.8km az=27.6*

*MOS **23** 17:21:55.0±1.0, 4445N×14138E, h252km, mb4.1/12, Error ellipse: s-maj=13.9km s-min=6.9km az=96.7*

*JMA **23** 17:21:56.3±0.2, 4441N×14146E, h258km±2km, M4.3*

*IDC **23** 17:21:56.4±0.3, 4445N×14143E, h249km±3km, mb3.7/18, mb1 3.8/19, mb1mx3.7/24, mbtmp4.3/19, Error ellipse: s-maj=11.8km s-min=9.5km az=97.0*

*NEIC **23** 17:21:56.0±0.4, 4444N×14143E, h248km±4km, mb4.2/15, Error ellipse: s-maj=6.6km s-min=4.7km az=108.0*

ISC 23 17:21:56.3±0.2, 4443N±003×14144E±006, h253km±2km, n105, σ0§98/125, mb4.0/36, 14C-12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.01**	**279**	⇓P	**Pn**	**17 22 29.3**	**+0.6**
JYG				*e*S	**S**	**17 22 54.8**	**+0.5**
JSS	**Shosan**	**0.29**	**95**	⇓P	**Pn**	**17 22 30.0**	**+1.0**
JSS				*e*S	**S**	**17 22 56.1**	**+1.4**
JHR	**Hokuryu**	**0.71**	**163**	⇑P	**Pn**	**17 22 31.3**	**+1.1**
JHR				*e*S	**S**	**17 22 58.3**	**+1.4**
JRR	**Rishiri**	**0.72**	**352**	⇓P	**Pn**	**17 22 31.2**	**+1.0**
ASAJ	**Asahikawa**	**0.88**	**110**	P	**Pn**	**17 22 31.4**	**+0.4**
	44nm,0.3s,baz=275,slow=7.4,SNR=607						
ASAJ				S	**S**	**17 22 58.2**	**-0.1**
	8.1nm,0.3s,baz=24,slow=31,SNR=24						
ASAJ	**Asahikawa**	**0.88**	**110**	PN	**Pn**	**17 22 31.4**	**+0.4**
ASAJ				S	**S**	**17 22 58.3**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,44nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
JWK2	**Keihoku**	**0.95**	**20**	⇓P	**Pn**	**17 22 31.8**	**+0.5**
JWK2				*e*S	**S**	**17 22 58.8**	**-0.1**
JSE	**Soyaes**	**0.97**	**56**	⇓P	**Pn**	**17 22 31.6**	**+0.2**
JSE				*e*S	**S**	**17 22 58.4**	**-0.7**
JKK2	**Kamakawa 2**	**1.09**	**120**	⇓P	**Pn**	**17 22 32.8**	**+0.7**
JKK2				*e*S	**S**	**17 23 00.4**	**+0.1**
JSK	**Shakotan**	**1.28**	**213**	⇑P	**Pn**	**17 22 33.8**	**+0.5**
JSK				*e*S	**S**	**17 23 02.1**	**-0.3**
JFR	**Furan**	**1.51**	**146**	⇑P	**Pn**	**17 22 34.9**	**0.0**
JFR				*e*S	**S**	**17 23 06.2**	**+0.8**
JEW	**Eniwo**	**1.58**	**180**	⇑P	**Pn**	**17 22 36.1**	**+0.6**
JEW				*e*S	**S**	**17 23 06.9**	**+0.5**
JTKR	**Abashiri--Toko**	**1.83**	**104**	⇓P	**Pn**	**17 22 38.4**	**+0.9**
JTKR				*e*S	**S**	**17 23 10.6**	**+0.6**
JAR	**Ashorobuto**	**2.02**	**123**	⇑P	**Pn**	**17 22 39.9**	**+0.7**
JAR				*e*S	**S**	**17 23 13.5**	**+0.5**
JCH	**Churui**	**2.29**	**142**	⇑P	**Pn**	**17 22 40.4**	**-1.2**
JCH				*e*S	**S**	**17 23 14.2**	**-3.2**
JNBK	**Urakawa-nobuka**	**2.35**	**156**	⇑P	**Pn**	**17 22 42.3**	**+0.1**
JKB	**Kayabe**	**2.55**	**187**	⇑P	**Pn**	**17 22 43.9**	**-0.3**
JKB				*e*S	**S**	**17 23 19.8**	**-2.4**
YSS	**Yuzh-Sakhalins**	**2.69**	**19**	⇓*i*PN	**Pn**	**17 22 45.9**	**+0.3**
YSS				*i* S	**S**	**17 23 22.1**	**-2.6**
YSS				pmax	pmax		
	comp=Z,230nm,0.4s						
YSS				pmax	pmax		
	comp=N,180nm,0.6s						
YSS				pmax	pmax		
	comp=E,100nm,0.4s						
YSS				smax			
	comp=N,1μm,2.0s						
YSS				smax			
	comp=E,1μm,2.0s						
YSS				smax			
	comp=N,740nm,1.2s						
YSS				smax			
	comp=E,590nm,0.8s						
YSS	**Yuzh-Sakhalins**	**2.69**	**19**	*e*Pn	**Pn**	**17 22 45.7**	**+0.1**
YSS				*e*S	**S**	**17 23 23.8**	**-0.9**
ERM	**Erimo**	**2.71**	**152**	*d i*PN	**Pn**	**17 22 45.5**	**-0.4**
ERM	**Erimo**	**2.71**	**152**	*e*Pn	**Pn**	**17 22 45.8**	**-0.1**
JOSM	**Okushiri--Mats**	**2.75**	**212**	⇑P	**Pn**	**17 22 46.1**	**-0.1**
JAK	**Akkeshi**	**2.76**	**120**	⇑P	**Pn**	**17 22 45.3**	**-1.0**
JAK				*e*S	**S**	**17 23 23.9**	**-2.0**
JOT	**Ohata**	**3.06**	**186**	⇑P	**Pn**	**17 22 48.8**	**-0.7**
JOT				*e*S	**S**	**17 23 29.3**	**-2.4**
HABR	**Khabarovsk**	**5.99**	**315**	*e*PN	**Pn**	**17 23 23.6**	**-0.7**
HABR				*e*		17 24 34.5	
HABR				pmax	pmax		
	comp=Z,39nm,0.9s						
KLR	**Kul'dur**	**8.20**	**309**	*e*PN	**Pn**	**17 23 49.0**	**-3.0**
MAJO	**Matsushiro**	**8.25**	**198**	*e*PN	**Pn**	**17 23 51.1**	**-1.6**
MAJO				*e*S	**S**	**17 25 19.7**	**-6.9**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**8.25**	**198**	*e*Pn	**Pn**	**17 23 51.1**	**-1.6**
	comp=Z,9.6nm,0.4s						
MAJO				*e*S	**S**	**17 25 19.7**	**-6.9**
MAT	**Matsushiro**	**8.25**	**198**	P	**Pn**	**17 23 50.9**	**-1.8**
MJAR	**Matsushiro Arr**	**8.25**	**198**	P	**Pn**	**17 23 51.6**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=62,slow=26,SNR=36						
MDJ	**Mudanjiang**	**8.47**	**275**	P	**Pn**	**17 23 55.6**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,60nm,3.5s						
MDJ	**Mudanjiang**	**8.47**	**275**	*e*Pn	**Pn**	**17 23 55.8**	**+0.3**
SKR	**Severo-Kuril's**	**11.71**	**53**	*e*PN	**Pn**	**17 24 32.0**	**-4.2**
SKR				pmax	pmax		
	comp=N,60nm,0.6s						
SKR				pmax	pmax		
	comp=Z,140nm,0.6s						
PET	**Petropavlovsk**	**14.22**	**47**	*e*P	**Pn**	**17 25 07.3**	**+0.5**
	comp=Z,21nm,1.1s						
MA2	**Magadan**	**16.20**	**17**	*c i*P	**P**	**17 25 28.5**	**-0.5**
MA2				pmax	pmax		
	comp=N,10.0nm,0.5s						
MA2				pmax	pmax		
	comp=Z,20nm,0.5s						
MA2	**Magadan**	**16.20**	**17**	*e*P	**P**	**17 25 28.6**	**-0.4**
	comp=Z,23nm,0.6s						
YAK	**Yakutsk**	**18.93**	**343**	*c*P	**P**	**17 25 56.5**	**-2.2**
YAK				*i* S	**S**	**17 29 18.8**	**-1.2**
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				smax			
	comp=N,40nm,1.3s						
YAK				smax			
	comp=E,15nm,1.1s						
YAK				smax			
	comp=Z,16nm,1.1s						
YAK	**Yakutsk**	**18.93**	**343**	*e*P	**P**	**17 25 56.4**	**-2.3**
	comp=Z,24nm,0.8s						
YAK				*e*S	**S**	**17 29 19.1**	**-0.8**
SEY	**Seymchan**	**19.59**	**15**	*d i*P	**P**	**17 26 04.6**	**-1.0**
JOW	**Kunigami**	**20.51**	**216**	P	**P**	**17 26 16.1**	**+0.7**
	comp=Z,8.2nm,0.3s,baz=99,slow=18,SNR=5.5						
HHC	**Hu-ho-hao-te**	**22.21**	**271**	*e*P	**P**	**17 26 31.0**	**-0.8**
HHC				XP	sP	17 27 47.4	+0.8
HHC				S	**S**	**17 30 13.3**	**-4.1**
HHC				PCP	PcP	17 30 20.4	+1.6
HHC				SCP	ScP	17 33 32.3	+0.5
HHC				PCS	PcS	17 33 58.1	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,0.3s,mb4.9						
HHC				AMB	AMB		
	comp=Z,90nm,6.8s						
SONM	**Songino Array**	**24.40**	**291**	P	**P**	**17 26 53.1**	**+1.4**
	comp=Z,1.8nm,0.7s,mb3.8,baz=84,slow=7.9,SNR=12						
BILL	**Bilibino**	**27.01**	**20**	*e*P	**P**	**17 27 14.8**	**-0.3**
BILL				*e*	pP	17 28 08.3	+3.9
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
KMI	**Kunming**	**36.73**	**251**	P	**P**	**17 28 39.9**	**+0.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**37.30**	**305**	P	**P**	**17 28 44.0**	**-0.2**
	comp=Z,1.2nm,0.4s,mb3.7,baz=68,slow=1.7,SNR=4.7						
ZAL				ScP	ScP	17 34 21.6	+1.2
	comp=Z,0.7nm,0.3s,baz=59,slow=1.0,SNR=3.4						
WMQ	**Urumqi**	**38.00**	**289**	*e*P	**P**	**17 28 51.8**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,182nm,4.5s						
IMA2	**Indian Mountai**	**40.45**	**35**	*e*P	**P**	**17 29 09.2**	**-1.1**
MKAR	**Makanchi Array**	**40.60**	**295**	P	**P**	**17 29 11.8**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.3,baz=91,slow=9.5,SNR=6.2						
MKAR				ScP	ScP	17 34 33.4	+0.2
	comp=Z,0.2nm,0.3s,baz=59,slow=3.1,SNR=3.7						
KDAK	**Kodiak Island**	**41.81**	**47**	P	**P**	**17 29 21.4**	**+0.1**
	comp=Z,10nm,0.7s,mb4.4,baz=325,slow=4.7,SNR=9.7						
MCK	**McKinley**	**42.63**	**38**	*e*P	**P**	**17 29 28.2**	**+0.3**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
MCK	**McKinley**	**42.63**	**38**	*e*P	**P**	**17 29 28.1**	**+0.2**
	comp=Z,2.5nm,0.8s,mb3.7						
COLA	**College**	**42.96**	**36**	⇑*e*P	**P**	**17 29 30.5**	**0.0**
COLA	**College**	**42.96**	**36**	P	**P**	**17 29 30.4**	**-0.1**
CHKZ	**Chkalovo**	**45.52**	**308**	*e*P	**P**	**17 29 50.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**45.52**	**308**	*e*P	**P**	**17 29 50.5**	**-0.3**
	comp=Z,6.8nm,0.7s,mb4.1						
EGAK	**Eagle**	**45.79**	**36**	*e*P	**P**	**17 29 52.1**	**-0.7**
BVAR	**Borovoye Array**	**45.86**	**307**	P	**P**	**17 29 54.0**	**+0.6**
	comp=Z,4.0nm,0.5s,mb4.0,baz=73,slow=8.6,SNR=37						
BRVK	**Borovoye**	**45.91**	**307**	*e*P	**P**	**17 29 53.5**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
BRVK	**Borovoye**	**45.91**	**307**	*e*P	**P**	**17 29 53.5**	**-0.3**
	comp=Z,1.6nm,0.8s,mb3.4						
ZRNK	**Zerenda**	**46.67**	**308**	*e*P	**P**	**17 30 00.0**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.1						
ZRNK	**Zerenda**	**46.67**	**308**	*e*P	**P**	**17 30 00.0**	**+0.3**
	comp=Z,9.5nm,0.9s,mb4.1						
INK	**Inuvik**	**47.89**	**30**	P	**P**	**17 30 08.8**	**-0.3**
	comp=Z,3.9nm,0.4s,mb4.1,baz=296,slow=8.2,SNR=32						
INK	**Inuvik**	**47.89**	**30**	P	**P**	**17 30 08.8**	**-0.3**
KSM	**Kuching**	**50.88**	**222**	*e*P	**P**	**17 30 33.0**	**+1.4**
ARU	**Arti**	**51.00**	**315**	⇓*i*P	**P**	**17 30 32.1**	**-0.4**
ARU				*e*		17 32 27.0	
ARU				*e*S	**S**	**17 37 30.6**	**+1.0**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ARU	**Arti**	**51.00**	**315**	*e*P	**P**	**17 30 32.1**	**-0.4**
	comp=Z,4.9nm,0.7s,mb4.0						
RES	**Resolute Bay**	**55.46**	**16**	P	**P**	**17 31 03.7**	**-1.2**
RES				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
RES	**Resolute Bay**	**55.46**	**16**	P	**P**	**17 31 03.6**	**-1.2**
	comp=Z,12nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**57.13**	**338**	P	**P**	**17 31 15.4**	**-1.2**
	comp=Z,2.2nm,0.8s,mb3.8,baz=40,slow=7.9,SNR=8.1						
KAKA	**Kakadu**	**57.45**	**190**	*e*P	**P**	**17 31 19.4**	**+0.6**
	comp=Z,7.0nm,0.6s,mb4.5						
JOF	**Joensuu**	**59.51**	**330**	*e*p	**P**	**17 31 31.5**	**-1.5**
	comp=Z,3.0nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**61.80**	**331**	*e*p	**P**	**17 31 46.9**	**-1.5**
	comp=Z,1.1nm,0.4s,mb3.8,baz=44,slow=6.3						
KAF	**Kangasniemi**	**61.80**	**331**	*e*P	**P**	**17 31 46.9**	**-1.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
OBN	**Obninsk**	**62.27**	**321**	*i* P	**P**	**17 31 50.9**	**-0.6**
OBN				*e*		17 32 29.2	
OBN				*e**PP	pP	17 32 47.7	-0.7
OBN				*e*		17 34 08.5	
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
FINES	**FINESS Array B**	**62.34**	**331**	P	**P**	**17 31 51.2**	**-0.8**
	comp=Z,3.2nm,0.7s,mb4.1,baz=55,slow=7.7,SNR=22						
WRAB	**Tennant Creek**	**64.37**	**187**	*e*P	**P**	**17 32 05.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**64.37**	**187**	*e*P	**P**	**17 32 05.2**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**64.38**	**187**	*e*P	**P**	**17 32 05.6**	**+0.3**
WRA	**Warramunga Arr**	**64.38**	**187**	P	**P**	**17 32 05.4**	**+0.1**
	comp=Z,0.9nm,0.3s,mb3.9,baz=3.7,slow=7.0,SNR=29						
WRA				PcP	PcP	17 32 37.6	+0.1
	comp=Z,0.6nm,0.6s,baz=0.0,slow=4.5,SNR=7.8						
KIV	**Kislovodsk**	**66.19**	**309**	*e*P	**P**	**17 32 18.8**	**+1.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
NB2	**NORSAR Subarra**	**67.41**	**336**	P	**P**	**17 32 24.0**	**-0.6**
	comp=Z,2.2nm,0.6s,mb4.0,baz=35,slow=6.5						
NOA	**NORSAR Array B**	**67.41**	**336**	P	**P**	**17 32 24.1**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.1,baz=36,slow=6.3,SNR=15						
FFC	**Flin Flon**	**67.53**	**34**	*e*P	**P**	**17 32 25.4**	**+0.1**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
FFC	**Flin Flon**	**67.53**	**34**	*e*P	**P**	**17 32 25.4**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.2						
AS31	**Alice Springs**	**68.11**	**187**	*e*P	**P**	**17 32 30.0**	**+1.1**
ASAR	**Alice Springs**	**68.11**	**187**	P	**P**	**17 32 30.1**	**+1.1**
	comp=Z,4.6nm,0.8s,mb4.2,baz=5.5,slow=5.6,SNR=43						
MBWA	**Marble Bar**	**68.22**	**202**	P	**P**	**17 32 26.7**	**-2.9**
AKASG	**Marble Bar Be**	**68.53**	**321**	P	**P**	**17 32 31.4**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.0,baz=40,slow=6.0,SNR=17						
NVAR	**Mina Array Bea**	**70.63**	**55**	P	**P**	**17 32 45.1**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.4,baz=305,slow=4.1,SNR=4.3						
PDAR	**Pinedale Array**	**72.53**	**47**	P	**P**	**17 32 56.8**	**+1.2**
	comp=Z,2.6nm,0.6s,mb4.0,baz=307,slow=2.3,SNR=28						
OJC	**Ojcow**	**72.96**	**325**	*e*P	**P**	**17 32 59.4**	**+1.3**
ULM	**Lac du Bonnet**	**73.36**	**34**	P	**P**	**17 33 00.6**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.2,baz=316,slow=7.3,SNR=9.4						
MORC	**Moravsky Berou**	**74.22**	**326**	*e*P	**P**	**17 33 06.1**	**+0.7**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
MORC	**Moravsky Berou**	**74.22**	**326**	*e*P	**P**	**17 33 06.1**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.0						
CLL	**Collm**	**74.73**	**329**	*i* P	**P**	**17 33 09.4**	**+1.0**
	comp=Z,7.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**75.94**	**180**	P	**P**	**17 33 16.3**	**+1.1**
	comp=Z,2.7nm,0.8s,mb3.9,baz=56,slow=8.5,SNR=5.5						
STKA	**Stephens Creek**	**75.94**	**180**	*e*P	**P**	**17 33 16.3**	**+1.0**
KHC	**Kasperske Hory**	**76.29**	**328**	*i* P	**P**	**17 33 18.1**	**+0.9**
GERES	**GERESS Array B**	**76.47**	**328**	P	**P**	**17 33 19.0**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.4,baz=50,slow=7.8,SNR=3.5						
ANMO	**Albuquerque**	**79.84**	**51**	⇓*e*P	**P**	**17 33 37.3**	**+0.6**
VNDA	**Vanda**	**122.33**	**175**	PKP	PKPdf	17 40 19.7	-1.4
	comp=Z,0.4nm,0.6s,baz=183,slow=1.9,SNR=5.5						
SNAA	**Sanae**	**147.76**	**200**	PKPbc	PKPbc	17 41 09.8	-1.3
	comp=Z,0.7nm,0.6s,baz=120,slow=1.2,SNR=12						
SNAA	**Sanae**	**147.76**	**200**	*e*	PKPdf	17 41 09.9	+2.0
SNAA				*e*		17 41 11.7	
SNAA				*e*		17 41 13.8	
SNAA	**Sanae**	**147.76**	**200**	PKP2	PKPab	17 41 09.8	-4.4
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**147.76**	**200**	*e*PKPbc	PKPbc	17 41 09.2	-1.9

*ISCJB **23** 17:26:18.6±3.6, 78N±01×7807W±007, h8km±25km, mb3.6/5, MS3.5/2, Error ellipse: s-maj=19.5km s-min=10.7km az=21.3*

*IDC **23** 17:26:19.5±1.1, 776N×7803W, h0km, mb3.6/2, mb1 4.1/7, mb1mx3.8/23, mbtmp4.1/7, ML4.1/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/29, Error ellipse: s-maj=35.7km s-min=18.1km az=25.0*

*NEIC **23** 17:26:19.2±5.1, 772N×7811W, h1km±34km, mb3.8/3, Error ellipse: s-maj=18.2km s-min=11.6km az=203.0*

ISC 23 17:26:19.8±4.1, 78N±01×7810W±006, h0km±28km, n17, σ1§01/13, mb3.7/5, MS3.5/2, Panama

| Code | Station Name | Δ° | AZ

HORT				*e*Sg		**Sg**	**17 26 53.1**	**+0.5**
OUR	**Ouranopolis**	**0.50**	**151**	*e*Pg		**Pg**	**17 26 47.5**	**+0.3**
THE	**Thessaloniki**	**0.55**	**255**	*e*Pg		**Pg**	**17 26 48.1**	**-0.1**
THE				*e*Sg		**Sg**	**17 26 55.8**	**+0.4**
KNT	**Kendrikon**	**0.70**	**304**	*e*Pg		**Pg**	**17 26 50.5**	**-0.5**
KNT				*e*Sg		**Sg**	**17 27 00.1**	**0.0**
MMB	**Musomiste**	**0.82**	**3**	*e*Pg		**Pg**	**17 26 53.2**	**-0.1**
MMB				*e*Sg		**Sg**	**17 27 03.1**	**-0.8**
MMB	**Musomiste**	**0.82**	**3**	*i* Pg		**Pg**	**17 26 52.0**	**-1.3**
MMB				*i* Sg		**Sg**	**17 27 02.0**	**-1.9**
GRG	**Griva**	**0.98**	**281**	*e*Pg		**Pg**	**17 26 55.9**	**-0.5**
GRG				*e*Sg		**Sg**	**17 27 10.2**	**+1.2**
VAY	**Valandovo**	**0.99**	**304**	*e*Pg		**Pg**	**17 26 55.9**	**-0.8**
VAY				*e*Sg		**Sg**	**17 27 10.4**	**+0.9**
VAY	**Valandovo**	**0.99**	**304**	*e*Pg		**Pg**	**17 26 56.1**	**-0.5**
VAY				*e*Sg		**Sg**	**17 27 10.3**	**+0.8**
LIT	**Litokhoron**	**1.12**	**234**	*e*Pg		**Pg**	**17 26 58.7**	**-0.4**
LIT				*e*Sg		**Sg**	**17 27 14.7**	**+1.0**
KKB	**Krupnik**	**1.18**	**338**	*i* P		**Pg**	**17 26 59.0**	**-1.2**
KKB				*i* Sg		**Sg**	**17 27 14.3**	**-1.2**
RZN	**Rozhen**	**1.21**	**41**	*i* P		**Pg**	**17 27 01.0**	**+0.2**
RZN				*i* S		**Sg**	**17 27 18.0**	**+1.5**
STIP	**Stip**	**1.45**	**310**	*e*Pg		**Pg**	**17 27 04.9**	**-0.5**
STIP				*e*Sg		**Sg**	**17 27 25.5**	**+1.3**
STIP	**Stip**	**1.45**	**310**	*e*Pn		**Pn**	**17 27 04.8**	**-0.2**
STIP				*e*Sg		**Sg**	**17 27 25.6**	**+1.4**
XOR	**Xorichti**	**1.45**	**195**	*e*Pg		**Pg**	**17 27 04.9**	**-0.5**
PLD	**Plovdiv**	**1.54**	**30**	*i* S		**Sg**	**17 27 29.6**	**+2.4**
FNA	**Florina**	**1.74**	**271**	*e*Pb		**Pb**	**17 27 08.5**	**-1.9**
ALN	**Alexandroupoli**	**1.81**	**85**	*e*Pb		**Pb**	**17 27 10.3**	**-1.3**
ALN				*e*Sb		**Sb**	**17 27 35.3**	**+0.5**
PGB	**Panagyurishte**	**1.81**	**12**	*i* S		**Sg**	**17 27 35.9**	**0.0**
VTS	**Vitosha**	**1.85**	**349**	*e*Pb		**Pb**	**17 27 11.0**	**-1.3**
VTS				*e*Sb		**Sb**	**17 27 35.4**	**-0.5**
VTS	**Vitosha**	**1.85**	**349**	*i* P		**Pn**	**17 27 11.0**	**+0.5**
VTS				*i* S		**Sn**	**17 27 36.0**	**+1.4**
DIM	**Dimitrovgrad**	**1.90**	**47**	*i* P		**Pb**	**17 27 13.6**	**+0.5**

IDC 23 17:28:10.8±10.0, 1800S×17788W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/12, mbtmp4.2/4, Error ellipse: s-maj=272.4km s-min=43.4km az=115.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.02**	**241**	P	P	17 35 39.7	+0.6
	1.3nm,0.3s,baz=73,slow=10,SNR=8.0						
WRA	**Warramunga Arr**	**45.11**	**260**	P	P	17 36 29.0	+0.2
	0.8nm,0.5s,baz=96,slow=6.4,SNR=28						
ASAR	**Alice Springs**	**45.25**	**254**	P	P	17 36 30.0	+0.1
	3.2nm,0.4s,baz=89,slow=8.5,SNR=84						
MJAR	**Matsushiro Arr**	**68.28**	**323**	P	P	17 39 13.7	+0.2
	1.4nm,0.9s,baz=140,slow=5.6,SNR=5.0						

PRE 23 17:46:43.7±1.0, 2176S×3353E, h5km, ML4.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**3.30**	**259**	*e*P	Pn	17 47 36.8	+0.8
MSNA				*e*S	Sn	17 48 15.8	+0.3
MSNA				AML	AML	17 48 29.1	
	comp=Z,160nm,0.4s						
POGA	**Pongola**	**5.85**	**197**	*e*P	Pn	17 48 10.9	-0.1
POGA				*e*S	Sn	17 49 15.2	-3.2
POGA				AML	AML	17 50 25.9	
	comp=Z,34nm,0.6s						
LBTB	**Lobatse**	**7.97**	**245**	*e*P	Pn	17 48 41.0	+0.8
LBTB				*e*S	Sn	17 50 06.8	-3.8
LBTB				AML	AML	17 50 56.9	
	comp=Z,22nm,0.6s						
SEK	**Senekal**	**8.44**	**218**	*e*P	Pn	17 48 48.5	+1.9
SEK				*e*S	Sn	17 50 17.9	-4.3
SEK				AML	AML	17 50 53.8	
	comp=Z,7.9nm,0.7s						
BOSA	**Boshof**	**10.12**	**226**	*e*P	Pn	17 49 11.5	+1.8
BOSA				*e*S	Sn	17 50 59.1	-4.5
BOSA				AML	AML	17 52 18.0	
	comp=Z,8.0nm,0.8s						
UPI	**Upington**	**12.91**	**237**	*e*P	Pn	17 49 49.8	+1.9
UPI				*e*S	Sn	17 52 06.1	-5.8
UPI				AML	AML	17 53 37.4	
	comp=Z,6.5nm,0.6s						

FUNV ***23*** *18:16:27.8, 1097N×6228W, h94km, MW2.6*
ISCJB ***23*** *18:16:29.9±1.1, 1097N±007×6238W±004, h77km±12km, Error ellipse: s-maj=11.8km s-min=6.5km az=11.1*
NEIC ***23*** *18:16:33.8, 11.10N×62.10W, h62km, MD2.7(TRN), After TRN.*
TRN ***23*** *18:16:33.8, 11.10N×62.10W, h63km, MD2.7*
ISC 23 18:16:30.3±1.1, 1100N±006×6237W±004, h74km±12km, n10, σ0§94/18, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.38**	**157**	*e*P	**Pn**	**18 16 41.9**	**-0.5**
GUIV				*e*S	**Sn**	**18 16 51.5**	**+0.3**
TCE	**Chacachacare**	**0.68**	**116**	*e*P	**Pn**	**18 16 46.3**	**+1.1**
TCE				*e*S	**Sn**	**18 16 56.2**	**0.0**
ITEV	**Isla Los Testi**	**0.83**	**296**	*e*P	**Pn**	**18 16 46.7**	**-0.2**
ITEV				*e*S	**Sn**	**18 17 00.2**	**+1.0**
CRUV	**Carupano**	**0.91**	**250**	*e*P	**Pn**	**18 16 46.7**	**-1.1**
CRUV				*e*S	**Sn**	**18 17 01.4**	**+0.6**
GUNV	**Guanoco**	**1.00**	**214**	*e*P	**Pn**	**18 16 47.6**	**-1.3**
GUNV				*e*S	**Sn**	**18 17 02.9**	**0.0**
TRN	**Trinidad (W)**	**1.01**	**110**	*e*P	**Pn**	**18 16 49.5**	**+0.4**
TRN				*e*S	**Sn**	**18 17 01.4**	**-1.8**
GRW	**Mount Saint Ca**	**1.35**	**31**	*e*P	**Pn**	**18 16 54.6**	**+1.1**
GRW				*e*S	**Sn**	**18 17 08.3**	**-2.6**
TBH	**Brigand Hill**	**1.38**	**111**	*e*P	**Pn**	**18 16 54.0**	**+0.2**
TBH				*e*S	**Sn**	**18 17 12.6**	**+1.1**
TPR	**Prospect**	**1.58**	**83**	*e*P	**Pn**	**18 16 56.9**	**+0.5**
BOT	**Bacolet**	**1.63**	**84**	*e*P	**Pn**	**18 16 57.4**	**+0.3**

ISCJB ***23*** *18:19:54.0±0.7, 22.16S±006×672W±0.1, h155km±11km, mb4.1/4, Error ellipse: s-maj=17.0km s-min=8.6km az=46.5*
IDC ***23*** *18:19:56.4±0.9, 2204S×6750W, h163km±18km, mb3.2/1, mb1 3.4/5, mb1mx3.2/17, mbtmp3.8/5, Error ellipse: s-maj=30.2km s-min=13.8km az=105.0*
NEIC ***23*** *18:19:56.8±0.9, 2201S×6743W, h166km±13km, mb4.1/4, Error ellipse: s-maj=17.5km s-min=13.3km az=98.0*
ISC 23 18:19:56.0±0.8, 2209S±007×672W±01, h145km±10km, n13, σ1§31/17, mb4.1/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.65**	**251**	P	**Pn**	**18 20 27.3**	**+0.5**
	18nm,0.3s,baz=43,slow=9.3,SNR=3.6						
LVC				S	**Sn**	**18 20 49.5**	**-0.9**
	31nm,0.3s,baz=258,slow=22,SNR=10						
LPAZ	**La Paz**	**5.83**	**351**	P	**Pn**	**18 21 22.2**	**+1.9**
	1.8nm,0.3s,baz=163,slow=7.2,SNR=32						
LPAZ				S	**Sn**	**18 22 26.8**	**+0.5**
	0.4nm,0.3s,baz=286,slow=23,SNR=7.0						
LPAZ	**La Paz**	**5.83**	**351**	P	**Pn**	**18 21 22.2**	**+1.9**
LPAZ				S	**Sn**	**18 22 26.8**	**+0.5**
SIV	**San Ignacio**	**8.40**	**45**	P	**Pn**	**18 21 55.5**	**+0.8**
	4.1nm,0.3s,baz=254,slow=9.8,SNR=68						
SIV				S	**Sn**	**18 23 26.7**	**-1.3**
	2.4nm,0.3s,baz=137,slow=20,SNR=8.2						
CFAA	**Coronel Fontan**	**9.53**	**185**	P	**Pn**	**18 22 06.2**	**-3.5**
	0.1nm,0.3s,baz=164,slow=21,SNR=15						
CFAA	**Coronel Fontan**	**9.53**	**185**	P	**Pn**	**18 22 06.2**	**-3.5**
CPUP	**Villa Florida**	**9.97**	**117**	P	**Pn**	**18 22 20.3**	**+4.7**
	0.4nm,0.3s,baz=281,slow=11,SNR=3.7						
SAML	**Samuel**	**13.63**	**17**	P	**Pn**	**18 23 01.9**	**-1.4**
	2.0nm,0.9s						
PLCA	**Paso Flores**	**18.80**	**188**	P	**P**	**18 24 03.6**	**-0.6**
	0.1nm,0.3s,baz=356,slow=9.3,SNR=3.9						
JTS	**JuntasAbangare**	**36.57**	**330**	P	**P**	**18 26 46.4**	**-1.4**
	5.3nm,0.9s,mb4.2						
PMSA	**Palmer Station**	**42.73**	**178**	*e*P	**P**	**18 27 41.0**	**+2.4**
	2.2nm,0.5s,mb4.0						
BBSR	**BB Station**	**54.20**	**3**	P	**P**	**18 29 01.0**	**-5.4**
	39nm,1.2s,mb5.0						
TORD	**Torodi Ar. Bea**	**76.08**	**69**	P	**P**	**18 31 27.6**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=256,slow=5.8,SNR=6.9						

NEIC ***23*** *18:36:01.0±2.5, 4266N×14556E, h58km±31km, mb3.7/1, Error ellipse: s-maj=36.0km s-min=23.5km az=171.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
MOS ***23*** *18:36:00.3±1.2, 4264N×14540E, h69km, mb4.0/1, Error ellipse: s-maj=20.4km s-min=12.3km az=72.6*
NIED ***23*** *18:36:00, 4280N×145.10E, h50km, Mw3.7 Best double couple: M₀4.29000×10¹⁴ NP1:φs248.00000°, δ74.00000°, λ-142.00000°. NP2:φs146.00000°, δ54.00000°, λ-20.00000°.*
ISCJB ***23*** *18:36:01.0±0.7, 4276N±005×145.16E±006, h56km±6km, mb3.5/4, Error ellipse: s-maj=9.9km s-min=4.9km az=103.2*
IDC ***23*** *18:36:01.1±5.3, 4280N×14544E, h49km±40km, mb3.4/4, mb1 3.5/6, mb1mx3.3/20, mbtmp3.6/6, ML3.8/2, Error ellipse: s-maj=60.7km s-min=26.1km az=68.0*
JMA ***23*** *18:36:03.3±0.1, 4284N×14505E, h50km±1km, M3.8*
JMA Felt I J1.
ISC 23 18:36:02.6±0.7, 4280N±005×14512E±006, h50km±6km, n23, σ0§88/36, mb3.5/4, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.36**	**302**	P	**Pn**	**18 36 12.4**	**+0.1**
JAK				*e*S	**Sn**	**18 36 18.9**	**-0.3**
NEM2	**Nemuro 2**	**0.73**	**39**	P	**Pn**	**18 36 17.0**	**+0.4**
NEM2				*e*S	**Sn**	**18 36 26.8**	**0.0**
JNK	**Nakash**	**0.83**	**340**	P	**Pn**	**18 36 18.0**	**0.0**
JNK				*e*S	**Sn**	**18 36 28.3**	**-1.0**
JOB	**Onbets**	**0.95**	**277**	P	**Pn**	**18 36 19.5**	**0.0**
JOB				*e*S	**Sn**	**18 36 32.1**	**+0.1**
JAR	**Ashorobuto**	**1.10**	**297**	P	**Pn**	**18 36 21.7**	**+0.1**
JAR				*e*S	**Sn**	**18 36 35.2**	**-0.6**
JRA	**Rausu**	**1.14**	**0**	P	**Pn**	**18 36 22.4**	**+0.3**
JRA				*e*S	**Sn**	**18 36 36.2**	**-0.3**
JCH	**Churui**	**1.30**	**262**	P	**Pn**	**18 36 24.2**	**-0.2**
JCH				*e*S	**Sn**	**18 36 40.1**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.35**	**24**	⇑*i*PN	**Pn**	**18 36 25.1**	**+0.2**
YUK				*i* S	**Sn**	**18 36 41.5**	**-0.2**
YUK				pmax	pmax		
	comp=Z,600nm,0.4s						
YUK				pmax	pmax		
	comp=E,180nm,0.5s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,1μm,0.4s						
YUK				smax			
	comp=N,5μm,0.8s						
JTKR	**Abashiri--Toko**	**1.46**	**323**	P	**Pn**	**18 36 27.2**	**+0.7**
JTKR				*e*S	**Sn**	**18 36 45.1**	**+0.6**
ERM	**Erimo**	**1.65**	**242**	*e*Pn	**Pn**	**18 36 30.9**	**+1.8**
ERM				*e*Sn	**Sn**	**18 36 47.6**	**-1.5**
ASAJ	**Asahikawa**	**2.25**	**306**	P	**Pn**	**18 36 39.0**	**+1.6**
	comp=N,24nm,0.3s,baz=134,slow=13,SNR=136						
ASAJ				S	**Sn**	**18 37 07.9**	**+3.9**
	comp=N,29nm,0.3s,baz=332,slow=33,SNR=17						
ASAJ	**Asahikawa**	**2.25**	**306**	PN	**Pn**	**18 36 39.0**	**+1.6**
ASAJ				S	**Sn**	**18 37 07.9**	**+3.9**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.3s						
ASAJ				smax			
	comp=N,29nm,0.3s						
KUR	**Kuril'sk**	**3.14**	**38**	*e*PN	**Pn**	**18 36 48.0**	**-1.5**
KUR				*e*S	**Sn**	**18 37 25.8**	**+0.1**
KUR				pmax	pmax		
	comp=N,90nm,0.4s						
KUR				pmax	pmax		
	comp=Z,130nm,0.4s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,150nm,0.6s						
MAJO	**Matsushiro**	**8.21**	**223**	*e*PN	**Pn**	**18 37 59.1**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAJO	**Matsushiro**	**8.21**	**223**	*e*Pn	**Pn**	**18 37 59.1**	**+0.1**
	comp=Z,5.9nm,0.8s						
MJAR	**Matsushiro Arr**	**8.21**	**223**	P	**Pn**	**18 37 59.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=13						
MA2	**Magadan**	**17.15**	**10**	P	**Pn**	**18 40 00.3**	**+1.7**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MA2	**Magadan**	**17.15**	**10**	P	**Pn**	**18 40 00.2**	**+1.6**
	comp=Z,6.1nm,1.1s						
SONM	**Songino Array**	**27.48**	**294**	P	**P**	**18 41 45.4**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.2,baz=80,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**43.71**	**299**	P	**P**	**18 44 02.4**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.2,baz=81,slow=9.6,SNR=4.5						
DAWY	**Dawson**	**46.44**	**36**	P	**P**	**18 44 20.9**	**-3.4**
FINES	**FINESS Array B**	**65.03**	**332**	P	**P**	**18 46 36.1**	**-1.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=50,slow=7.3,SNR=9.6						
NOA	**NORSAR Array B**	**69.94**	**338**	P	**P**	**18 47 07.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=33,slow=6.4,SNR=3.0						

IDC 23 18:58:17.1±2.5, 3445S×12956E, h0km, mb4.4/2, mb1 4.4/3, mb1mx3.8/15, mbtmp4.2/3, ML4.2/1, Error ellipse: s-maj=162.6km s-min=28.6km az=79.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.64**	**163**	*e*P	Pn	19 00 39.9	+2.8
	4.9nm,0.4s						
WRA	**Warramunga Arr**	**17.05**	**165**	Pn	Pn	19 02 16.6	-0.3
	0.8nm,0.3s,baz=351,slow=12,SNR=35						
WRA				Sn	Sn	19 05 26.8	-0.3
	0.1nm,0.3s,baz=339,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**20.54**	**169**	P	P	19 02 58.6	+1.5
	12nm,0.6s,baz=348,slow=11,SNR=200						
ASAR				S	S	19 06 49.1	+1.4
	0.9nm,0.9s,baz=352,slow=20,SNR=3.9						
ASAR				PcP	PcP	19 07 08.1	-0.5
	0.4nm,0.5s,baz=351,slow=1.6,SNR=5.6						
STKA	**Stephens Creek**	**30.47**	**160**	P	P	19 04 32.5	+0.9
	5.1nm,1.0s,baz=342,slow=6.3,SNR=3.8						

NIED ***23*** *19:29:00, 3980N×14180E, h47km, Mw3.6 Best double couple: M₀2.80000×10¹⁴ NP1:φs149.00000°, δ89.00000°, λ-36.00000°. NP2:φs240.00000°, δ54.00000°, λ-179.00000°.*
JMA 23 19:29:40.7±0.1, 3976N×14185E, h57km±1km, M3.5, 4C-7D Broadband fault plane solution: P waves. NP1: φs215.00000°, δ20.00000°, λ100.00000°. **NP2:** φs24.00000°, δ70.00000°, λ86.00000°. **Principal axes:** T Plg65.0000°, Azm288.0000°; N Plg3.0000°, Azm25.0000°; P Plg25.0000°, Azm117.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.18**	**3**	⇑P	Pn	19 29 49.9	+0.2
JTH				S	Sn	19 29 56.3	+0.2
MIYJ	**Miyakonagasawa**	**0.18**	**187**	⇑P	Pn	19 29 49.9	+0.2
MIYJ				S	Sn	19 29 56.3	+0.1
JKZ	**Kuzumaki**	**0.46**	**299**	⇓P	Pn	19 29 52.3	+0.3
JKZ				S	Sn	19 30 00.2	+0.1
JOM	**Ohasama**	**0.52**	**237**	⇓P	Pn	19 29 52.5	-0.1
JOM				S	Sn	19 30 01.1	-0.1
JANG	**Nango**	**0.66**	**337**	⇓P	Pn	19 29 54.1	-0.2
OFUJ	**Ofunato**	**0.69**	**192**	⇑P	Pn	19 29 54.6	-0.1
OFUJ				S	Sn	19 30 04.3	-0.6
JMK	**Ichinoseki**	**0.94**	**211**	⇓P	Pn	19 29 57.7	-0.2
JMK				*e*S	Sn	19 30 10.5	0.0
JAH	**Hinai**	**1.03**	**295**	⇓P	Pn	19 29 59.0	0.0
JAH				*e*S	Sn	19 30 12.8	+0.3
JTM	**Tenmabayashi**	**1.19**	**330**	⇓P	Pn	19 30 01.0	-0.1
JTM				*e*S	Sn	19 30 16.2	-0.1
JIO	**Ouri**	**1.36**	**197**	⇑P	Pn	19 30 03.2	-0.2
JIO				S	Sn	19 30 19.6	-0.8
JYK	**Kaneyama**	**1.43**	**234**	⇓P	Pn	19 30 04.3	-0.1

IDC ***23*** *19:29:43.8±1.7, 3105S×17801W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/13, mbtmp3.9/4, ML3.0/1 Error ellipse: s-maj=42.5km s-min=23.3km az=113.0*
NEIC ***23*** *19:29:46.3±6.8, 3097S×17819W, h1¹km±45km, mb4.3/3, Error ellipse: s-maj=32.0km s-min=16.1km az=106.0*
ISCJB ***23*** *19:29:47.6±1.2, 3103S±008×1782W±0.2, h33km, mb4.1/6, Error ellipse: s-maj=29.0km s-min=7.2km az=35.6*

ISC 23 19:29:47.5±4.9, 3097S±008×1782W±02, h18km±32km, n12, σ0§96/13, mb4.1/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.73**	**8**	Pn	**Pn**	**19 30 16.8**	**+0.1**
	88nm,0.3s,baz=87,slow=19,SNR=8.6						
RAO				Sn	**Sn**	**19 30 37.3**	**-1.0**
	198nm,0.3s,baz=222,slow=22,SNR=9.2						
RAO	**Raoul Island**	**1.73**	**8**	Pn	**Pn**	**19 30 16.8**	**+0.1**
RAO				Sn	**Sn**	**19 30 37.3**	**-1.0**
URZ	**Urewera**	**8.24**	**207**	Pn	**Pn**	**19 31 44.5**	**-1.6**
	0.2nm,0.3s,baz=19,slow=1.3,SNR=5.7						
URZ				Sn	**Sn**	**19 33 17.9**	**-0.8**
	1.6nm,0.3s,baz=176,slow=23,SNR=12						
STKA	**Stephens Creek**	**34.20**	**258**	P	**P**	**19 36 33.8**	**+1.9**
	1.4nm,0.6s,mb4.0,baz=90,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**42.93**	**268**	P	**P**	**19 37 45.2**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=106,slow=7.1,SNR=26						
WB2	**Warramunga Arr**	**43.96**	**273**	*e*P	**P**	**19 37 53.6**	**+0.1**
WRAB	**Tennant Creek**	**43.96**	**273**	*e*P	**P**	**19 37 53.5**	**0.0**
	2.7nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**19 37 53.4**	**-0.1**
	1.0nm,0.4s,mb3.9,baz=111,slow=8.1,SNR=43						
CASY	**Casey**	**54.56**	**208**	*e*P	**P**	**19 39 23.0**	**+8.5**
	4.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**59.14**	**180**	*e*P	**P**	**19 39 48.5**	**+1.5**
	2.0nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**145.63**	**340**	PKPbc	PKPbc	19 49 22.1	-2.9
	1.5nm,0.4s,baz=60,slow=4.0,SNR=18						
TORD	**Torodi Ar. Bea**	**162.26**	**180**	PKPab	PKPab	19 50 34.6	-0.4
	0.1nm,0.6s,baz=169,slow=4.9,SNR=4.1						

WEL 23 19:47:54.6±0.3, 3768S×17601E, h268km±3km, ML3.6/6, Error ellipse: s-maj=6.2km s-min=5.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.05**	**124**	PN	Pn	19 48 31.5	-0.2
URZ				SN	S	19 49 00.8	-0.3
MWZ	**Matawai**	**1.37**	**119**	PN	Pn	19 48 33.9	+0.2
MWZ				SN	S	19 49 04.4	-0.1
BKZ	**Black Stump Fm**	**1.54**	**166**	PN	Pn	19 48 35.3	+0.5
BKZ				SN	S	19 49 06.0	-0.6
PUZ	**Puketiti**	**1.82**	**103**	PN	Pn	19 48 37.0	0.0
PUZ				SN	S	19 49 09.6	-1.0
KNZ	**Kokohu**	**1.87**	**136**	PN	Pn	19 48 37.5	+0.1
TSZ	**Takapari Road**	**2.38**	**181**	PN	Pn	19 48 41.6	-0.3
KIW	**Kapiti Island**	**3.29**	**195**	PN	Pn	19 48 50.0	-1.3
TCW	**Tory Channel**	**3.78**	**200**	PN	Pn	19 48 55.1	-1.5
TUWZ	**Tuamarina**	**4.08**	**202**	PN	Pn	19 48 58.5	-1.5
NNZ	**Nelson**	**4.08**	**209**	PN	Pn	19 48 58.1	-2.0
QRZ	**Quartz Range**	**4.15**	**220**	PN	Pn	19 48 58.2	-2.6
THZ	**Tophouse**	**4.73**	**209**	*e*PN	Pn	19 49 05.8	-1.9
MQZ	**McQueen's Vall**	**6.54**	**202**	SN	S	19 50 39.4	-6.8

ISCJB ***23*** *19:59:14.7±0.6, 5147N±003×1603E±004, h0km, Error ellipse: s-maj=4.4km s-min=3.2km az=27.1*
IDC ***23*** *19:59:17.2±0.8, 5149N×1591E, h0km, mb1 3.4/6, mb1mx3.2/21, mbtmp3.2/6, ML2.5/6, Error ellipse: s-maj=19.8km s-min=7.0km az=101.0*
PRU ***23*** *19:59:18.3, 5140N×1603E, h0km*
VIE ***23*** *19:59:19.0±0.4, 5130N×1613E, h0km, mb2.0/2, ML2.4/4, Error ellipse: s-maj=3.2km s-min=2.7km az=95.0 65 km WNW of Breslau Suspected Mining induced.*
ISC 23 19:59:15.7±0.5, 5151N±003×1606E±004, h0km, n22, σ1§04/42, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**167**	*i* Pgd	**Pg**	**19 59 29.8**	**+0.9**
KSP				*e*Sg	**Sg**	**19 59 37.4**	**-0.4**
UPC	**Upice**	**1.01**	**182**	*e*PG	**Pg**	**19 59 35.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*PG	**Pg**	**19 59 38.4**	**+0.1**
DPC				*e*SG	**Sg**	**19 59 52.8**	**-0.7**
	17nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**224**	*e*PG	**Pg**	**19 59 42.3**	**+0.5**
BRG	**Berggiesshubel**	**1.48**	**245**	PN	**Pn**	**19 59 44.0**	**+0.5**
BRG				PG	**Pg**	**19 59 44.7**	**+0.7**
BRG				SG	**Sg**	**20 00 04.5**	**+1.3**
	13nm,0.4s						
PRU	**Pruhonice**	**1.81**	**213**	*e*PN	**Pn**	**19 59 47.9**	**-0.2**
PRU				*e*PG	**Pg**	**19 59 49.7**	**-0.6**
PRU				*e*SG	**Sg**	**20 00 13.4**	**-0.3**
	5.9nm,0.2s						
CLL	**Collm**	**1.92**	**265**	*i* Pg	**Pg**	**19 59 52.2**	**-0.4**
CLL				*i* Sg	**Sg**	**20 00 18.0**	**+0.5**
	comp=Z,9.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.14**	**141**	*e*PG	**Pg**	**19 59 56.4**	**-0.4**
OKC				*e*SG	**Sg**	**20 00 22.6**	**-1.9**
VRAC	**Vranov**	**2.23**	**171**	Pn	**Pn**	**19 59 55.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=333,slow=16,SNR=2.7						
VRAC				Lg		20 00 27.2	
	comp=Z,1.5nm,0.3s,baz=56,slow=20,SNR=4.2						
NKC	**Novy Kostel**	**2.62**	**242**	*e*PN	**Pn**	**20 00 00.3**	**+1.0**
NKC				*e*PG	**Pg**	**20 00 05.8**	**-0.2**
NKC				*e*SG	**Sg**	**20 00 41.0**	**+1.1**
	comp=Z,17nm,0.3s						
OJC	**Ojcow**	**2.70**	**117**	*e*Pg	**Pg**	**20 00 09.0**	**+1.5**
OJC				*e*Sg	**Sg**	**20 00 44.0**	**+1.5**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**20 00 03.1**	**+0.5**
KHC		

WRAB	**Tennant Creek**	**44.06**	**273**	*e*P		**P**	**20 18 21.8**	**-0.6**
	9.6nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**44.07**	**273**	P		**P**	**20 18 22.6**	**+0.1**
	2.4nm,0.4s,mb4.2,baz=111,slow=8.1,SNR=62							
SBA	**Scott Base**	**47.47**	**184**	P		**P**	**20 18 48.2**	**-1.2**
	4.2nm,0.8s,mb4.4							
CASY	**Casey**	**54.62**	**208**	*e*P		**P**	**20 19 42.5**	**-0.5**
	1.3nm,0.6s,mb4.1							
QSPA	**South Pole Qui**	**59.15**	**180**	*e*P		**P**	**20 20 16.8**	**+1.6**
	2.5nm,0.5s,mb4.5							
SNAA	**Sanae**	**77.59**	**178**	*e*P		**P**	**20 22 11.3**	**+0.7**
	0.6nm,0.3s,mb4.0							
VNA3	**Neumayer Olymp**	**77.75**	**176**	*e*		**P**	**20 22 11.9**	**+0.4**
VNA3				*e*		pP	20 22 17.6	+0.9
VNA3				*e*		pP	20 22 17.7	+1.0
VNA3				*e*			20 22 30.6	
VNA3				*e*			20 22 35.4	
ARCES	**ARCESS Array B**	**139.13**	**348**	PKP		PKPdf	20 29 38.7	-2.6
	3.6nm,1.0s,baz=358,slow=3.6,SNR=5.0							
ARCES	**ARCESS Array B**	**139.13**	**348**	PKP		PKPdf	20 29 38.7	-2.6
KAF	**Kangasniemi**	**145.06**	**340**	*e*pkp		PKPdf	20 29 46.4	-5.5
FINES	**FINESS Array B**	**145.66**	**340**	PKPbc		PKPbc	20 29 51.1	-2.1
	2.6nm,0.4s,baz=58,slow=4.2,SNR=40							
NB2	**NORSAR Subarra**	**149.30**	**351**	PKPa		PKPbc	20 30 01.3	-2.0
	comp=Z,0.7nm,0.5s,baz=14,slow=4.3							
NOA	**NORSAR Array B**	**149.30**	**351**	PKPbc		PKPbc	20 30 01.7	-1.6
	comp=Z,0.9nm,0.6s,baz=16,slow=4.1,SNR=4.6							
AKASG	**Malin Array Be**	**151.72**	**322**	PKPbc		PKPbc	20 30 07.6	-1.4
	comp=Z,0.7nm,0.5s,baz=49,slow=2.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**162.26**	**179**	PKPab		PKPab	20 31 04.0	+0.8
	comp=Z,0.6nm,0.8s,baz=174,slow=3.4,SNR=5.6							

ISCJB ***23*** *20:10:44.4±0.5, 5025N×004×1904E×003, h0km, Error ellipse: s-maj=5.8km s-min=2.5km az=28.5*
CSEM ***23*** *20:10:45.9±0.5, 5032N×1904E, h2km, ML2.7/4, Error ellipse: s-maj=14.9km s-min=5.1km az=6.0*
IPEC ***23*** *20:10:45.2±0.2, 5028N×1908E, h0km±1km, ML2.0/3, Error ellipse: s-maj=2.5km s-min=0.8km az=171.0*
WAR ***23*** *20:10:46.4, 5020N×1914E, ML2.4, Mining Induced*
PRU ***23*** *20:10:46.0, 5025N×1905E, h0km*
VIE ***23*** *20:10:47.6±1.4, 5002N×1902E, h0km, mb2.0/3, ML2.1/3, Error ellipse: s-maj=16.9km s-min=7.8km az=153.0 26 km S of Kattowitz Suspected Mining induced.*

ISC 23 20:10:45.2±0.5, 5025N±004×1906E±003, h0km, n22, σ1§15/39, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.47**	**93**	*e*Pg	**Pg**	**20 10 54.5**	**+0.2**
OJC				*e*Sg	**Sg**	**20 11 00.8**	**+0.3**
OJC	**Ojcow**	**0.47**	**93**	*e*Pg	**Pg**	**20 10 54.2**	**-0.1**
OJC				*e*Sg	**Sg**	**20 10 59.6**	**-0.9**
OKC	**Ostrava-Krasne**	**0.72**	**235**	*e*PG	**Pg**	**20 10 59.7**	**+0.7**
OKC	**Ostrava-Krasne**	**0.72**	**235**	*e*Pg	**Pg**	**20 11 00.0**	**+1.0**
OKC				*e*Sg	**Sg**	**20 11 08.6**	**+0.2**
MORC	**Moravsky Berou**	**1.09**	**245**	*e*Pg	**Pg**	**20 11 06.1**	**0.0**
MORC				*e*Sg	**Sg**	**20 11 20.3**	**+0.1**
	20nm,0.3s						
NIE	**Niedzica**	**1.16**	**135**	*e*Pg	**Pg**	**20 11 07.7**	**+0.2**
NIE				*e*Sg	**Sg**	**20 11 22.5**	**0.0**
STHS	**Stebnicka Huta**	**1.64**	**120**	*e*PN	**Pn**	**20 11 16.3**	**+1.0**
STHS				*e*SN	**Sn**	**20 11 38.5**	**+1.4**
DPC	**Dobruska-Polom**	**1.76**	**274**	*e*PG	**Pg**	**20 11 17.2**	**-1.8**
DPC				*e*SG	**Sg**	**20 11 41.8**	**0.0**
	12nm,0.5s						
DPC	**Dobruska-Polom**	**1.76**	**274**	*e*Pg	**Pg**	**20 11 17.2**	**-1.8**
DPC				*e*Sg	**Sg**	**20 11 40.8**	**-1.0**
VYHS	**Vyhne**	**1.76**	**185**	*e*PN	**Pn**	**20 11 16.0**	**-1.0**
VYHS				*e*SN	**Sn**	**20 11 38.5**	**-1.6**
VYHS	**Vyhne**	**1.76**	**185**	*e*Pn	**Pn**	**20 11 16.1**	**-0.9**
VRAC	**Vranov**	**1.86**	**240**	*e*Pn	**Pn**	**20 11 18.7**	**+0.4**
VRAC				*e*Sn	**Sn**	**20 11 44.1**	**+1.6**
	7.3nm,0.5s						
KSP	**Ksiaz**	**1.86**	**290**	*e*Pg	**Pg**	**20 11 22.7**	**+1.7**
KSP				*e*Sg	**Sg**	**20 11 46.4**	**+1.2**
UPC	**Upice**	**1.97**	**279**	*e*PG	**Pg**	**20 11 20.4**	**-2.6**
UPC				*e*SG	**Sg**	**20 11 48.7**	**+0.1**
KECS	**Kecovo**	**2.00**	**152**	*e*SN	**Sn**	**20 11 45.8**	**-0.1**
KRUC	**Moravsky**	**2.10**	**237**	*e*Pn	**Pn**	**20 11 21.6**	**-0.1**
KRUC				*e*Sn	**Sn**	**20 11 50.3**	**+1.8**
	7.7nm,0.6s						
KOLS	**Kolonicke sedl**	**2.47**	**121**	*e*SN	**Sn**	**20 11 56.8**	**-0.8**
PRU	**Pruhonice**	**2.92**	**267**	*e*PN	**Pn**	**20 11 32.2**	**-0.7**
PRU				*e*PG	**Pg**	**20 11 38.7**	**-2.5**
PRU				*e*SG	**Sg**	**20 12 16.7**	**-2.4**
	4.3nm,0.5s						
BRG	**Berggiesshubel**	**3.32**	**283**	SG	**Sg**	**20 12 33.4**	**+1.3**
	1.8nm,0.5s						
KHC	**Kasperske Hory**	**3.73**	**255**	*e*PN	**Pn**	**20 11 44.0**	**-0.1**
KHC				*e*PG	**Pg**	**20 11 51.0**	**-5.8**
KHC				*ex*	x	20 12 17.0	
KHC				*e*SG	**Sg**	**20 12 44.0**	**-1.2**
	6.9nm,1.0s						
MOA	**Molln**	**3.96**	**235**	⇑ *i*Sg	**Sg**	**20 12 53.8**	**+1.2**
	comp=Z,1.5nm,0.4s						
CLL	**Collm**	**3.99**	**288**	*e*Sg	**Sg**	**20 12 58.0**	**+4.6**

ISCJB ***23*** *20:13:01.0±0.7, 2427S×005×6703W×009, h163km±8km, mb3.8/9, Error ellipse: s-maj=13.7km s-min=8.0km az=170.2*
IDC ***23*** *20:13:01.7±0.9, 2431S×67.13W, h158km±8km, mb3.7/8, mb1 3.9/14, mb1mx3.8/21, mbtmp4.3/14, MS3.3/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=14.7km s-min=10.3km az=74.0*
NEIC ***23*** *20:13:02.1±0.6, 2427S×6702W, h162km±6km, mb4.5/3, Error ellipse: s-maj=9.7km s-min=6.5km az=94.0*

ISC 23 20:13:02.0±0.7, 2428S±005×6704W±009, h158km±8km, n27, σ0§78/28, mb3.8/9, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.39**	**314**	P	**Pn**	**20 13 43.5**	**+1.4**
	51nm,0.3s,baz=143,slow=5.2,SNR=534						
LVC				S	**Sn**	**20 14 12.9**	**-0.2**
	123nm,0.3s,baz=3.0,slow=20,SNR=109						
CFAA	**Coronel Fontan**	**7.38**	**188**	P	**Pn**	**20 14 46.5**	**-0.5**
	0.2nm,0.3s,baz=3.5,slow=12,SNR=20						
CFAA				S	**Sn**	**20 16 05.2**	**-4.4**
	0.3nm,0.3s,baz=224,slow=18,SNR=12						
CFAA	**Coronel Fontan**	**7.38**	**188**	P	**Pn**	**20 14 46.5**	**-0.5**
CFAA				S	**Sn**	**20 16 05.2**	**-4.4**
LPAZ	**La Paz**	**8.01**	**352**	P	**Pn**	**20 14 56.4**	**+0.9**
	6.4nm,0.3s,baz=156,slow=6.4,SNR=139						
LPAZ				S	**Sn**	**20 16 24.0**	**-0.9**
	0.2nm,0.3s,baz=73,slow=18,SNR=3.2						
ARE	**Arequipa**	**8.82**	**331**	*e*S	**Sn**	**20 16 38.0**	**-6.3**
CPUP	**Villa Florida**	**9.02**	**105**	P	**Pn**	**20 15 10.4**	**+1.5**
	0.5nm,0.3s,baz=266,slow=13,SNR=11						
SIV	**San Ignacio**	**9.97**	**35**	P	**Pn**	**20 15 20.5**	**-0.8**
	2.3nm,0.3s,baz=218,slow=13,SNR=80						
SIV				S	**Sn**	**20 17 01.4**	**-10**
	baz=232,slow=17,SNR=6.6						
TRQA	**Tornquist**	**14.40**	**164**	*e*Pn	**Pn**	**20 16 17.7**	**-0.8**
	28nm,1.0s						
SAML	**Samuel**	**15.68**	**14**	⇓ *e*P	**Pn**	**20 16 33.8**	**-0.6**
	5.2nm,0.6s						
PLCA	**Paso Flores**	**16.67**	**189**	P	**Pn**	**20 16 46.0**	**-0.4**
	0.5nm,0.3s,baz=4.5,slow=12,SNR=18						
BDFB	**Brasilia**	**19.82**	**68**	P	**P**	**20 17 20.8**	**+0.5**
	5.1nm,0.3s,baz=250,slow=10,SNR=89						
BAO	**Brasilia Array**	**19.85**	**68**	P	**P**	**20 17 19.0**	**-1.6**
SNAA	**Sanae**	**59.10**	**161**	P	**P**	**20 22 45.5**	**-0.3**
	0.7nm,0.6s,mb3.7,baz=286,slow=8.1,SNR=13						
SNAA				LR	LR	20 45 08.9	
	comp=Z,27nm,21.6s,baz=237,slow=33						
QSPA	**South Pole Qui**	**65.93**	**180**	*e*P	**P**	**20 23 31.3**	**+0.3**
	4.8nm,0.6s,mb4.5						
TOA0	**Torodi Ar. Sit**	**76.70**	**69**	*e*P	**P**	**20 24 35.6**	**0.0**
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**20 24 35.9**	**+0.3**
	7.9nm,0.8s,mb4.4,baz=259,slow=6.1,SNR=81						
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**20 24 35.9**	**+0.3**
PDAR	**Pinedale Array**	**77.36**	**329**	P	**P**	**20 24 39.0**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=149,slow=6.9,SNR=3.7						
ULM	**Lac du Bonnet**	**78.48**	**342**	P	**P**	**20 24 45.3**	**-0.2**
	0.7nm,0.3s,mb3.7,baz=194,slow=8.3,SNR=3.1						
BOSA	**Boshof**	**80.64**	**117**	P	**P**	**20 24 57.6**	**+0.5**
	8.9nm,1.2s,mb4.3,baz=241,slow=10,SNR=5.5						
MAW	**Mawson**	**81.18**	**163**	P	**P**	**20 24 59.8**	**-0.2**
	2.1nm,0.6s,mb3.9,baz=208,slow=7.7,SNR=8.9						
MDT	**Midelt**	**82.23**	**49**	P	**P**	**20 25 06.8**	**+1.3**
	1.5nm,1.0s,mb3.6,baz=244,slow=8.1,SNR=4.0						
ESDC	**Sonseca Array**	**86.62**	**44**	P	**P**	**20 25 27.9**	**+0.3**
	0.2nm,0.4s,mb3.3,baz=244,slow=3.7,SNR=3.6						
ASAR	**Alice Springs**	**128.19**	**205**	PKP	PKPdf	20 31 49.4	0.0
	1.1nm,0.7s,baz=143,slow=1.7,SNR=13						
WRA	**Warramunga Arr**	**131.36**	**207**	PKP	PKPdf	20 31 55.9	+0.4
	0.8nm,0.5s,baz=163,slow=1.7,SNR=21						
WRA					SKPbc	SKPbc	20 35 03.6	-2.2
	0.7nm,0.6s,baz=154,slow=3.8,SNR=12							
ZAL	**Zalesovo**	**143.65**	**28**	PKP	PKPdf	20 32 15.8	-2.2
	0.6nm,0.3s,baz=187,slow=6.9,SNR=4.0							
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	PKPbc	20 32 25.1	-0.3
	1.8nm,0.6s,baz=294,slow=3.3,SNR=18							

IDC 23 20:19:16.8±3.3, 5637S×14136W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, MS4.3/10, Ms1 4.3/10, ms1mx3.9/24, Error ellipse: s-maj=116.5km s-min=34.5km az=39.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**37.67**	**331**	LR	LR	20 39 02.4	
	comp=Z,664nm,20.4s,baz=343,slow=32						
PLCA	**Paso Flores**	**47.23**	**102**	LR	LR	20 43 28.3	
	comp=Z,1µm,19.6s,baz=291,slow=31						
VNA3	**Neumayer Olymp**	**48.21**	**161**	*e*	P	20 27 58.3	-0.7
VNA3				*e*		20 27 59.6	
VNA3				*e*		20 28 03.2	
SNAA	**Sanae**	**48.98**	**164**	P	P	20 28 04.3	-0.7
	0.8nm,0.5s,baz=216,slow=8.2,SNR=42						
SNAA	**Sanae**	**48.98**	**164**	*e*	P	20 28 04.1	-0.9
SNAA				*e*		20 28 05.5	
SNAA				*e*		20 28 06.9	
SNAA				*e*		20 28 08.4	
CFAA	**Coronel Fontan**	**55.17**	**96**	LR	LR	20 46 05.0	
	comp=Z,87nm,19.6s,baz=247,slow=29						
CPUP	**Villa Florida**	**65.26**	**101**	LR	LR	20 52 50.6	
	comp=Z,327nm,19.8s,baz=213,slow=31						
NNA	**Nana**	**66.06**	**75**	LR	LR	20 50 52.4	
	comp=Z,107nm,19.1s,baz=163,slow=29						
LPAZ	**La Paz**	**67.31**	**85**	LR	LR	20 51 34.6	
	comp=Z,170nm,19.5s,baz=236,slow=29						
ASAR	**Alice Springs**	**67.77**	**261**	P	P	20 30 16.2	0.0
	1.2nm,0.7s,baz=142,slow=6.6,SNR=20						
WRA	**Warramunga Arr**	**70.51**	**263**	P	P	20 30 33.3	0.0
	0.9nm,0.6s,baz=145,slow=5.6,SNR=19						
BDFB	**Brasilia**	**78.97**	**102**	LR	LR	21 01 51.8	
	comp=Z,437nm,18.1s,baz=63,slow=32						
ROSC	**El Rosal**	**81.57**	**68**	LR	LR	21 02 44.5	
	comp=Z,89nm,18.1s,baz=46,slow=32						
PCRV	**Puerto La Cruz**	**91.15**	**73**	LR	LR	21 08 27.6	
	comp=Z,118nm,18.8s,baz=115,slow=32						
SJG	**San Juan**	**96.98**	**68**	LR	LR	21 11 38.2	
	comp=Z,93nm,18.4s,baz=270,slow=32						
MKAR	**Makanchi Array**	**151.69**	**269**	PKPbc	PKPbc	20 39 11.9	-1.2
	1.9nm,0.9s,baz=108,slow=4.0,SNR=9.0						

CSEM ***23*** *20:36:05.7±0.1, 3504N×376W, h10km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.6km az=74.0*
ISCJB ***23*** *20:36:06.4±0.6, 3505N±002×385W±004, h13km±4km, Error ellipse: s-maj=5.3km s-min=3.6km az=35.1*
MDD ***23*** *20:36:06.9±0.4, 3506N×383W, h0km, mbLg2.0/7, Error ellipse: s-maj=4.4km s-min=3.2km az=87.0, PRXIMO*
CNRM ***23*** *20:36:07.7, 3503N×380W, h2km, MD3.3*

ISC 23 20:36:06.6±0.5, 3505N±002×383W±004, h11km±4km, n30, σ1§05/44, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.11**	**146**	P	**Pg**	**20 36 09.0**	**-0.5**
TOU				S	**Sg**	**20 36 11.0**	**-0.5**
TOU	**Touzarine**	**0.11**	**146**	*i* P	**Pg**	**20 36 09.0**	**-0.5**
MPAL	**Palemas**	**0.20**	**332**	*i* P	**Pg**	**20 36 11.5**	**+0.6**
EMEL	**Melilla**	**0.76**	**71**	P	**Pg**	**20 36 20.3**	**-0.9**
	130nm,0.2s,SNR=11						
EMEL				S	**Sg**	**20 36 32.3**	**+1.2**
	288nm,0.2s,SNR=5.9						
EMLI	**Melilla**	**0.76**	**71**	P	**Pg**	**20 36 20.3**	**-1.0**
	130nm,0.2s,SNR=11						
ZAI	**Zaio**	**0.89**	**95**	P	**Pg**	**20 36 23.0**	**-0.8**
ZAI				S	**Sg**	**20 36 36.0**	**+0.6**
ZAI	**Zaio**	**0.89**	**95**	*i* P	**Pg**	**20 36 23.0**	**-0.8**
TZK	**Tazeka**	**1.00**	**197**	P	**Pg**	**20 36 25.0**	**-0.9**
TZK				S	**Sg**	**20 36 39.5**	**+0.5**
TZK	**Tazeka**	**1.00**	**197**	*i* P	**Pg**	**20 36 25.0**	**-0.9**
EALB	**Alboran**	**1.10**	**36**	P	**Pb**	**20 36 26.4**	**-1.2**
	3.2nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**20 36 41.5**	**-0.4**
	30nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.10**	**36**	P	**Pb**	**20 36 26.4**	**-1.2**
	3.2nm,0.1s,SNR=4.0						
EMIJ	**Mijas**	**1.69**	**333**	P	**Pn**	**20 36 36.4**	**+0.4**
	1.3nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**20 36 58.1**	**+0.3**
	3.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.99**	**22**	P	**Pn**	**20 36 40.4**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**20 37 04.0**	**-1.1**
	4.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.99**	**22**	P	**Pn**	**20 36 40.4**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.01**	**216**	P	**Pn**	**20 36 42.0**	**+1.6**
MIF				S	**Sn**	**20 37 05.0**	**-0.4**
MIF	**Mishlifen**	**2.01**	**216**	*i* P	**Pn**	**20 36 42.0**	**+1.6**
EQUE	**Quentar**	**2.17**	**8**	P	**Pn**	**20 36 42.7**	**0.0**
	0.4nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**20 37 08.7**	**-0.8**
	1.9nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.25**	**207**	P	**Pn**	**20 36 45.0**	**+1.3**
CZD				S	**Sn**	**20 37 11.0**	**-0.4**
CZD	**Col de Zad**	**2.25**	**207**	*i* P	**Pn**	**20 36 45.0**	**+1.3**
EQUES	**Quesada**	**2.81**	**12**	P	**Pn**	**20 36 52.2**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**20 37 26.1**	**+0.8**
	1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.81**	**12**	P	**Pn**	**20 36 52.2**	**+0.8**
	1.0nm,0.2s,SNR=7.9						
ZFT	**Errachidia**	**3.04**	**188**	P	**Pn**	**20 36 55.0**	**+0.4**
ZFT				S	**Sn**	**20 37 30.0**	**-0.9**
ZFT	**Errachidia**	**3.04**	**188**	*e*P	**Pn**	**20 36 55.0**	**+0.4**
EADA	**Adamuz**	**3.17**	**349**	S	**Sn**	**20 37 36.4**	**+2.3**
	0.3nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.55**	**321**	P	**Pn**	**20 37 03.3**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**20 37 41.8**	**-1.7**
	0.2nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.55**	**321**	P	**Pn**	**20 37 03.3**	**+1.7**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**311**	P	**Pn**	**20 37 07.3**	**+1.5**
	0.8nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**20 37 49.1**	**-1.9**
	1.4nm,0.2s,SNR=4.0						
EGRO	**El Granado**	**3.85**	**311**	P	**Pn**	**20 37 07.3**	**+1.5**
	0.8nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.03**	**26**	P	**Pn**	**20 37 09.3**	**+1.2**
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.49**	**326**	S	**Sn**	**20 38 05.1**	**-1.7**
	0.1nm,0.2s,SNR=7.9						

NEIC ***23*** *20:45:39.4, 3797S×7039W, h150km, MD3.6(GUC), After GUC.*

GUC 23 20:45:39.4±0.8, 3797S×7039W, h150km, MD3.6, 1C-4D, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**2.66**	**313**	*e*P	Pn	20 46 23.0	+0.6
COCH				*i* S	Sn	20 46 55.8	+0.2
PLCA	**Paso Flores**	**2.76**	**183**	*e*Pn	Pn	20 46 23.1	-0.6
SFDO	**San Fernando**	**3.39**	**351**	⇑ *i*P	Pn	20 46 32.3	+0.7
SFDO				*i* S	Sn	20 47 12.5	+0.4
CICH	**Cipreses**	**3.64**	**360**	*e*P	Pn	20 46 36.2	+1.3
CICH				*i* S	Sn	20 47 20.0	+2.0
CACH	**El Canelo**	**3.85**	**357**	⇓ *i*P	Pn	20 46 38.2	+0.6
LMEL	**Las Melosas**	**4.12**	**2**	⇓ *i*P	Pn	20 46 42.2	+1.1
LMEL				*i* S	Sn	20 47 30.5	+1.4
TACH	**Talagante**	**4.33**	**354**	*i* P	Pn	20 46 43.0	-1.0
TACH				*i* S	Sn	20 47 31.6	-2.5
RCDM	**Rinconada Maip**	**4.48**	**356**	⇓ *e*P	Pn	20 46 45.0	-0.9
RCDM				*i* S	Sn	20 47 35.5	-2.2
FCH	**Farellones**	**4.63**	**1**	⇓ *i*P	Pn	20 46 48.2	+0.3
FCH				*i* S	Sn	20 47 40.9	-0.4
PEL	**Peldehue**	**4.82**	**357**	*e*P	Pn	20 46 49.1	-1.3
PEL				*i* S	Sn	20 47 43.5	-2.2

ISK ***23*** *20:58:12.4, 3522N×2691E, h28km, MD3.5*
NEIC ***23*** *20:58:14.8, 3536N×2696E, h32km, MD3.3(ATH), After ATH.*
ATH ***23*** *20:58:14.8, 3536N×2696E, h32km, MD3.3/7*
ISCJB ***23*** *20:58:15.3±1.0, 3533N±008×2700E±008, h30km±6km, Error ellipse: s-maj=16.0km s-min=6.5km az=109.3*

ISC 23 20:58:15.7±1.0, 3532N±008×2701E±008, h27km±6km, n15, σ0§73/19, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.26**	**28**	⇑ *i*PB	**Pb**	**20 58 21.8**	**-0.4**
KARP				*e*SB	**Sb**	**20 58 27.3**	**+0.6**
NPS	**Neapolis**	**1.15**	**267**	*e*PN	**Pn**	**20 58 36.0**	**+0.1**
XRY	**Khrisi**	**1.17**	**248**	*e*PN	**Pn**	**20 58 36.2**	**0.0**
ARG	**Arkhangelos**	**1.27**	**45**	*e*PN	**Pn**	**20 58 38.4**	**+0.8**
ARG				*e*SN	**Sn**	**20 58 55.6**	**+1.9**
DAT	**Datca**	**1.48**	**18**	PN	**Pn**	**20 58 39.3**	**-1.1**
DAT				SN	**Sn**	**20 58 59.5**	**+0.7**
BODT	**Bodrum**	**1.75**	**8**	*e*PN	**Pn**	**20 58 43.4**	**-0.8**
BODT				*e*SN	**Sn**	**20 59 05.0**	**-0.6**
DALT	**Dalyan (Mudla)**	**1.95**	**42**	*e*PN	**Pn**	**20 58 47.1**	**+0.1**
MLSB	**Milas**	**2.06**	**17**	*e*PN	**Pn**	**20 58 48.0**	**-0.5**
YER	**Yerkesik**	**2.08**	**29**	*e*PN	**Pn**	**20 58 49.0**	**+0.3**
APE	**Apeiranthos**	**2.12**	**326**	*e*PN	**Pn**	**20 58 48.8**	**-0.4**
FETY	**Fethiye**	**2.13**	**51**	*e*PN	**Pn**	**20 58 48.5**	**-0.9**
VAM	**Vamos**	**2.30**	**273**	*e*PN	**Pn**	**20 58 52.5**	**+0.7**
GVD	**Gavdhos**	**2.45**	**259**	*e*PN	**Pn**	**20 58 54.0**	**+0.2**
ELL	**Elmali**	**2.74**	**58**	*e*PN	**Pn**	**20 58 57.0**	**-0.9**
VLI	**Veliai**	**3.58**	**294**	*e*PN	**Pn**	**20 59 10.0**	**+0.6**

WEL 23 21:00:04.3±0.2, 3764S×17586E, h268km±2km, ML3.8/9, Error ellipse: s-maj=5.7km s-min=4.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.17**	**123**	PN	Pn	21 00 42.1	0.0
URZ				SN	S	21 01 11.6	-0.4
MWZ	**Matawai**	**1.49**	**118**	PN	Pn	21 00 44.6	+0.4
MWZ				SN	S	21 01 15.7	-0.2
BKZ	**Black Stump Fm**	**1.61**	**162**	PN	Pn	21 00 45.4	+0.3
MOVZ	**Moawhango**	**1.77**	**183**	PN	Pn	21 00 46.5	+0.2
MXZ	**Matakaoa Point**	**1.94**	**89**	PN	Pn	21 00 47.8	0.0
PUZ	**Puketiti**	**1.94**	**104**	PN	Pn	21 00 47.7	-0.1
PUZ				SN	S	21 01 20.4	-1.8
KNZ	**Kokohu**	**1.98**	**135**	PN	Pn	21 00 47.8	-0.3
TSZ	**Takapari Road**	**2.42**	**178**	PN	Pn	21 00 51.5	-0.5
KIW	**Kapiti Island**	**3.31**	**193**	PN	Pn	21 00 59.5	-1.7
TCW	**Tory Channel**	**3.78**	**198**	PN	Pn	21 01 04.1	-2.3
NNZ	**Nelson**	**4.06**	**207**	PN	Pn	21 01 07.0	-2.5
TUWZ	**Tuamarina**	**4.07**	**201**	PN	Pn	21 01 07.4	-2.2
QRZ	**Quartz Range**	**4.11**	**218**	PN	Pn	21 01 07.5	-2.6
THZ	**Tophouse**	**4.71**	**208**	PN	Pn	21 01 14.4	-2.8
KHZ	**Kahutara**	**5.10**	**200**	PN	Pn	21 01 19.1	-2.6

IDC 23 21:19:10.1±59.0, 4005×11310E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=1025.0km s-min=294.6km az=153.0, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.07**	**129**	P	P	21 24 45.9	+0.7
	0.2nm,0.4s,baz=309,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**28.03**	**136**	P	P	21 25 03.0	+0.1
	0.4nm,0.4s,baz=312,slow=7.9,SNR=15						
STKA	**Stephens Creek**	**38.53**	**139**	P	P	21 26 34.5	+0.3
	4.9nm,0.9s,baz=320,slow=16,SNR=4.0						

ISCJB ***23*** *21:25:43.7±0.6, 4109N±004×140.11E±009, h170km±4km, mb3.2/2, Error ellipse: s-maj=

LVC				*e*Sn	**Sn**	21 31 09.7	**+0.7**	
CFAA	**Coronel Fontan**	**7.40**	**188**	P	**Pn**	21 31 41.9	**-0.8**	
	0.2nm,0.3s,baz=358,slow=12,SNR=30							
CFAA				S	**Sn**	21 33 00.9	**-4.6**	
	0.9nm,0.3s,baz=182,slow=16,SNR=7.6							
LPAZ	**La Paz**	**8.01**	**352**	P	**Pn**	21 31 52.7	**+1.9**	
	2.2nm,0.3s,baz=156,slow=8.3,SNR=30							
LPAZ				S	**Sn**	21 33 18.5	**-1.6**	
	0.4nm,0.3s,baz=327,slow=17,SNR=2.6							
LPAZ	**La Paz**	**8.01**	**352**	*e*Pn	**Pn**	21 31 52.6	**+1.8**	
ARE	**Arequipa**	**8.84**	**331**	P	**Pn**	21 32 08.0	**+6.1**	
ARE				*e*S	**Sn**	21 33 33.0	**-7.1**	
CPUP	**Villa Florida**	**8.97**	**105**	P	**Pn**	21 32 05.1	**+1.5**	
	1.9nm,0.3s,baz=268,slow=11,SNR=55							
CPUP	**Villa Florida**	**8.97**	**105**	*e*Pn	**Pn**	21 32 04.2	**+0.7**	
SIV	**San Ignacio**	**9.92**	**35**	P	**Pn**	21 32 16.0	**-0.1**	
	3.7nm,0.3s,baz=219,slow=14,SNR=141							
SIV				S	**Sn**	21 33 57.9	**-8.2**	
	0.8nm,0.3s,baz=228,slow=15,SNR=6.5							
TRQA	**Tornquist**	**14.40**	**164**	*e*Pn	**Pn**	21 33 12.4	**-1.6**	
SAML	**Samuel**	**15.65**	**14**	*e*P	**Pn**	21 33 29.5	**0.0**	
PLCA	**Paso Flores**	**16.70**	**189**	P	**Pn**	21 33 41.3	**-0.9**	
	0.8nm,0.3s,baz=10.0,slow=14,SNR=20							
PLCA				PcP	PcP	21 38 21.4	-0.3	
	0.2nm,0.3s,baz=64,slow=0.8,SNR=4.6							
PLCA				ScP	ScP	21 41 40.4	-1.3	
	0.1nm,0.3s,baz=20,slow=3.4,SNR=8.5							
PLCA	**Paso Flores**	**16.70**	**189**	*e*Pn	**Pn**	21 33 41.4	**-0.9**	
	34nm,0.6s							
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	21 34 16.2	**+1.0**	
	18nm,0.3s,baz=248,slow=10,SNR=178							
BDFB	**Brasilia**	**19.76**	**68**	*e*P	**P**	21 34 15.9	**+0.6**	
	399nm,1.0s							
ATAH	**Atahualpa**	**20.36**	**326**	P	**P**	21 34 21.6	**0.0**	
	4.8nm,0.5s,baz=156,slow=12,SNR=4.4							
SDV	**Santo Domingo**	**33.14**	**353**	*e*P	**P**	21 36 17.1	**-1.6**	
	3.1nm,0.3s,mb4.5							
JTS	**JuntasAbangare**	**38.57**	**331**	*e*P	**P**	21 37 04.1	**-0.9**	
	5.9nm,0.7s,mb4.3							
PMSA	**Palmer Station**	**40.55**	**178**	P	**P**	21 37 19.8	**-1.6**	
	7.1nm,0.7s,mb4.4,baz=17,slow=6.8,SNR=13							
SJG	**San Juan**	**42.12**	**1**	*e*P	**P**	21 37 31.8	**-2.4**	
	4.6nm,0.4s,mb4.5							
VNA3	**Neumayer Olymp**	**56.90**	**161**	*e*P	**P**	21 39 25.8	**-0.2**	
VNA3				*e*		21 39 30.4		
VNA3				*e*		21 39 46.0		
VNA3				*e*		21 40 26.9		
VNA1	**Neumayer--Stat**	**57.10**	**160**	*e*P	**P**	21 39 27.4	**0.0**	
VNA1				*e*		21 39 29.5		
VNA1				*e*		21 39 31.9		
VNA1				*e*		21 39 48.3		
SNAA	**Sanae**	**59.10**	**161**	*e*P	**P**	21 39 40.6	**-0.7**	
SNAA				*e*		21 39 42.0		
SNAA				*e*		21 39 44.9		
SNAA				*e*		21 40 24.1		
SNAA				*e*		21 40 27.9		
SNAA	**Sanae**	**59.10**	**161**	*e*P	**P**	21 39 40.6	**-0.6**	
	4.2nm,0.6s,mb4.5							
SWET	**Sewanee**	**61.82**	**342**	*e*P	**P**	21 39 58.5	**-1.3**	
ELN	**Prospectdale**	**62.52**	**348**	*e*P	**P**	21 40 04.1	**-0.3**	
JCT	**Junction City**	**62.88**	**328**	*e*P	**P**	21 40 06.3	**-0.4**	
	19nm,0.8s,mb5.0							
WVT	**Waverly**	**63.22**	**341**	*e*P	**P**	21 40 06.9	**-2.1**	
	18nm,0.9s,mb4.9							
MAIT	**Maitri**	**63.59**	**159**	*e*P	**P**	21 40 12.3	**+0.8**	
MIAR	**Mount Ida**	**63.70**	**336**	*e*P	**P**	21 40 11.1	**-1.1**	
	15nm,0.8s,mb4.9							
ACSO	**Alum Creek Sta**	**65.87**	**347**	*e*P	**P**	21 40 24.7	**-1.5**	
	9.5nm,0.8s,mb4.7							
WMOK	**Wichita Mounta**	**65.98**	**332**	*e*P	**P**	21 40 25.6	**-1.3**	
GDL2	**Guadalupe Moun**	**66.54**	**326**	*e*P	**P**	21 40 30.6	**+0.1**	
MNTX	**Cornudas Mount**	**66.67**	**325**	*e*P	**P**	21 40 29.8	**-1.5**	
DBIC	**Dimbokro**	**67.86**	**71**	P	**P**	21 40 38.9	**+0.1**	
	7.3nm,0.6s,mb4.6,baz=221,slow=7.2,SNR=23							
DBIC	**Dimbokro**	**67.86**	**71**	P	**P**	21 40 38.9	**+0.1**	
LPM	**Los Pinos Moun**	**69.37**	**326**	*e*P	**P**	21 40 48.8	**+0.6**	
ANMO	**Albuquerque**	**69.78**	**326**	*e*P	**P**	21 40 51.0	**+0.3**	
	12nm,0.9s,mb4.6							
TUC	**Tucson**	**70.10**	**321**	*e*P	**P**	21 40 52.4	**-0.2**	
	10nm,1.2s,mb4.4							
SDCO	**Great Sand Dun**	**71.52**	**329**	*e*P	**P**	21 41 01.7	**+0.5**	
	12nm,0.9s,mb4.6							
WUAZ	**Wupatki**	**72.80**	**323**	*e*P	**P**	21 41 09.9	**+1.1**	
ECSD	**EROS,Sioux Fal**	**72.93**	**338**	*e*P	**P**	21 41 08.2	**-1.4**	
GLA	**Glamis**	**72.99**	**319**	*e*P	**P**	21 41 10.3	**+0.4**	
ISCO	**Idaho Springs**	**73.22**	**330**	*e*P	**P**	21 41 11.9	**+0.7**	
	9.6nm,0.9s,mb4.5							
SYO	**Syowa Base**	**73.30**	**159**⇑	*e*P	**P**	21 41 10.8	**-0.9**	
SYO	**Syowa Base**	**73.30**	**159**⇑	*e*P	**P**	21 41 15.1	**+3.4**	
PV01	**Paradox Valley**	**73.32**	**327**	*e*P	**P**	21 41 11.7	**-0.1**	
PV01				*e*PcP	PcP	21 41 26.6	-0.8	
BAR	**Barrett**	**73.84**	**318**	*e*P	**P**	21 41 15.4	**+0.5**	
PFO	**Pinyon Flat Ob**	**74.35**	**319**	*e*P	**P**	21 41 18.9	**+1.0**	
	9.4nm,0.9s,mb4.5							
PHWY	**Pilot Hill**	**74.36**	**331**	*e*P	**P**	21 41 18.1	**+0.2**	
VNDA	**Vanda**	**74.45**	**190**	P	**P**	21 41 18.6	**+0.2**	
	5.8nm,0.9s,mb4.3,baz=120,slow=5.0,SNR=28							
SRU	**San Rafael**	**75.05**	**326**	*e*P	**P**	21 41 22.1	**+0.2**	
CCUT	**Cedar City**	**75.38**	**324**	*e*P	**P**	21 41 24.9	**+1.1**	
MSU	**Marysvale**	**75.45**	**325**	*e*P	**P**	21 41 24.9	**+0.7**	
RWWY	**Rawlins**	**75.45**	**330**	*e*P	**P**	21 41 24.9	**+0.7**	
VAH	**Vaihoa**	**75.53**	**260**	*e*P	**P**	21 41 25.9	**+1.2**	
	51nm,1.0s,mb5.1							
TMUT	**Trail Mountain**	**75.54**	**326**	*e*P	**P**	21 41 25.4	**+0.8**	
ARUT	**Antelope Range**	**75.59**	**324**	*e*P	**P**	21 41 26.1	**+1.1**	
SHPR	**Sheep Range**	**75.62**	**322**	*e*P	**P**	21 41 25.8	**+0.6**	
GSC	**Goldstone**	**75.73**	**320**	*e*P	**P**	21 41 26.6	**+0.8**	
PMOR	**Pomariorio Ree**	**75.86**	**260**	*e*P	**P**	21 41 27.8	**+1.3**	
	52nm,0.9s,mb5.2							
RSSD	**Black Hills**	**76.05**	**333**	*e*P	**P**	21 41 27.4	**-0.2**	
TOA0	**Torodi Ar. Sit**	**76.64**	**69**	*e*P	**P**	21 41 30.7	**-0.2**	
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	21 41 30.8	**-0.1**	
	15nm,0.8s,mb4.7,baz=256,slow=5.6,SNR=131							
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	21 41 30.8	**-0.1**	
DAC	**Darwin (Calif)**	**76.87**	**320**	*e*P	**P**	21 41 32.6	**+0.4**	
	10nm,1.0s,mb4.4							
DUG	**Dugway**	**77.03**	**326**	*e*P	**P**	21 41 33.8	**+0.7**	
	12nm,1.1s,mb4.4							
BW06	**Boulder Array**	**77.38**	**329**	*e*P	**P**	21 41 34.5	**-0.5**	
PDAR	**Pinedale Array**	**77.38**	**329**	P	**P**	21 41 34.5	**-0.5**	
	1.8nm,0.6s,mb3.9,baz=130,slow=7.3,SNR=16							
HWUT	**Hardware Ranch**	**77.46**	**327**	*e*P	**P**	21 41 35.4	**0.0**	
	7.7nm,0.6s,mb4.5							
TSUM	**Tsumeb**	**77.56**	**106**	*e*P	**P**	21 41 36.3	**+0.2**	
	5.3nm,0.7s,mb4.3							
SPUT	**South Promonto**	**77.67**	**327**	*e*P	**P**	21 41 36.0	**-0.7**	
MTUM	**Tungsten Hills**	**78.17**	**320**	*e*P	**P**	21 41 39.5	**+0.1**	
HVU	**Hansel Valley**	**78.19**	**327**	*e*P	**P**	21 41 39.7	**+0.2**	
REDW	**Red Top Meadow**	**78.45**	**329**	*e*P	**P**	21 41 41.3	**+0.4**	
	12nm,0.9s,mb4.5							
ULM	**Lac du Bonnet**	**78.48**	**342**	P	**P**	21 41 39.6	**-1.5**	
	8.7nm,0.8s,mb4.4,baz=148,slow=7.4,SNR=9.6							
LOHW	**Long Hollow**	**78.52**	**329**	*e*P	**P**	21 41 41.4	**+0.1**	
	8.6nm,0.8s,mb4.4							
TPAW	**Teton Pass**	**78.59**	**329**	*e*P	**P**	21 41 42.2	**+0.5**	
RRI2	**Red Ridge**	**78.66**	**329**	*e*P	**P**	21 41 42.3	**+0.2**	
MOOW	**Moose Ponds**	**78.69**	**329**	*e*P	**P**	21 41 42.3	**0.0**	
NVAR	**Mina Array Bea**	**78.75**	**321**	P	**P**	21 41 42.4	**-0.2**	
	2.2nm,0.7s,mb3.9,baz=180,slow=6.2,SNR=17							
IMW	**Indian Meadow**	**78.89**	**329**	*e*P	**P**	21 41 43.6	**+0.2**	
	14nm,0.9s,mb4.6							
LRV	**Little Rabbit**	**79.01**	**318**	*e*P	**P**	21 41 44.4	**+0.4**	
LAO	**LASA Array**	**79.03**	**334**	*e*P	**P**	21 41 44.0	**-0.1**	
RLMT	**Red Lodge**	**79.08**	**331**	*e*P	**P**	21 41 44.2	**-0.2**	
WAKR	**Walker**	**79.46**	**321**	*e*P	**P**	21 41 47.5	**+1.1**	
DGMT	**Dagmar**	**79.70**	**336**	*e*P	**P**	21 41 48.0	**+0.3**	
QLMT	**Earthquake Lak**	**79.83**	**330**	*e*P	**P**	21 41 49.2	**+0.7**	
PAHR	**Pah Rah Range**	**80.24**	**322**	*e*P	**P**	21 41 51.5	**+0.8**	
HLID	**Hailey**	**80.32**	**327**	*e*P	**P**	21 41 51.5	**+0.5**	
MCMT	**McKenzie Canyo**	**80.50**	**329**	*e*P	**P**	21 41 51.5	**-0.5**	
BOZ	**Bozeman (W)**	**80.55**	**330**	*e*P	**P**	21 41 51.9	**-0.4**	
	9.9nm,1.3s,mb4.3							
BOSA	**Boshof**	**80.59**	**117**	P	**P**	21 41 52.8	**+0.3**	
	7.3nm,0.6s,mb4.5,baz=230,slow=4.5,SNR=26							
DLMT	**Dillon**	**80.78**	**329**	*e*P	**P**	21 41 54.0	**+0.5**	
LRM	**Limekiln Ridge**	**81.06**	**330**	*e*P	**P**	21 41 55.4	**+0.4**	
MAW	**Mawson**	**81.18**	**163**	P	**P**	21 41 55.6	**0.0**	
	6.7nm,0.6s,mb4.5,baz=201,slow=5.8,SNR=29							
HRY	**Holter Researc**	**81.45**	**331**	*e*P	**P**	21 41 57.3	**+0.3**	
EGMT	**Eagleton**	**81.56**	**333**	*e*P	**P**	21 41 57.0	**-0.6**	
	14nm,1.1s,mb4.5							
LBTB	**Lobatse**	**82.26**	**114**	*e*P	**P**	21 42 01.8	**+0.5**	
	4.6nm,0.5s,mb4.4							
WDC	**Whiskeytown Da**	**82.63**	**321**	*e*P	**P**	21 42 01.6	**-1.6**	
	5.0nm,0.7s,mb4.3							
BMO	**Blue Mountains**	**82.69**	**326**	*e*P	**P**	21 42 03.4	**-0.1**	
YBH	**Yreka Blue Hor**	**83.47**	**321**	P	**P**	21 42 06.0	**-1.5**	
	baz=86,slow=7.6							
BSMT	**Bassoo Peak**	**83.64**	**330**	*e*P	**P**	21 42 08.0	**-0.3**	
WALA	**Waterton Lakes**	**84.14**	**331**	*e*P	**P**	21 42 10.2	**-0.7**	
	6.9nm,0.9s,mb4.4							
HAWA	**Hanford**	**84.89**	**327**	*e*P	**P**	21 42 14.5	**-0.2**	
ESDC	**Sonseca Array**	**86.57**	**44**	P	**P**	21 42 24.4	**+1.4**	
	1.6nm,0.7s,mb4.0,baz=236,slow=4.0,SNR=9.5							
LSZ	**Lusaka**	**88.41**	**106**	*e*P	**P**	21 42 33.9	**+2.1**	
	26nm,1.4s,mb4.9							
FINES	**FINESS Array B**	**112.44**	**31**	PKKPbc	PKKPbc	21 59 03.4	-1.3	
	1.3nm,0.8s,baz=169,slow=3.9,SNR=4.5							
BRTR	**Keskin Array B**	**112.94**	**55**	PKKPbc	PKKPbc	21 59 07.1	+4.1	
	0.8nm,0.7s,baz=104,slow=4.6,SNR=6.2							
ARCES	**ARCESS Array B**	**113.35**	**23**	PKKPbc	PKKPbc	21 58 59.9	-1.7	
	2.1nm,0.8s,baz=57,slow=4.5,SNR=5.8							
ASAR	**Alice Springs**	**128.23**	**205**	PKP	PKPdf	21 48 44.8	-0.4	
	5.0nm,0.7s,baz=145,slow=2.0,SNR=29							
AKTK	**Aktyubinsk**	**130.45**	**44**	PKP	PKPdf	21 48 49.7	+0.3	
AKTK				SKPbc	SKPbc	21 51 57.2	-1.1	
AKTO	**Aktyubinsk**	**130.45**	**44**	PKP	PKPdf	21 48 49.7	+0.3	
	0.8nm,0.5s,baz=318,slow=3.7,SNR=4.4							
AKTO				SKPbc	SKPbc	21 51 57.2	-1.1	
	2.1nm,0.8s,baz=304,slow=2.4,SNR=8.5							
WRA	**Warramunga Arr**	**131.41**	**207**	PKP	PKPdf	21 48 50.9	-0.3	
	4.1nm,0.6s,baz=162,slow=1.6,SNR=36							
WRA				SKPbc	SKPbc	21 51 59.3	-2.6	
	2.1nm,0.5s,baz=153,slow=3.7,SNR=29							
ZRNK	**Zerenda**	**136.26**	**37**	*e*PKPdf	PKPdf	21 49 00.2	-0.1	
ZRNK				*e*SKPdf	SKPdf	21 52 17.0	-3.6	
BVAR	**Borovoye Array**	**136.99**	**37**	PKP	PKPdf	21 49 01.4	-0.2	
	1.0nm,0.6s,baz=270,slow=3.0,SNR=6.9							
ZAL	**Zalesovo**	**143.61**	**28**	PKP	PKPdf	21 49 11.2	-2.4	
	2.9nm,0.7s,baz=181,slow=3.5,SNR=11							
ZAL				SKPbc	SKPbc	21 52 36.0	-1.6	
	1.0nm,0.7s,baz=181,slow=3.4,SNR=6.3							
MKAR	**Makanchi Array**	**146.71**	**40**	PKP	PKPdf	21 49 18.8	-0.2	
	7.0nm,0.6s,baz=269,slow=1.8,SNR=28							
MKAR				PKPbc	PKPbc	21 49 20.6	-0.2	
	7.3nm,0.6s,baz=275,slow=2.1,SNR=34							
HYB	**Hyderabad**	**147.13**	**95**	*i* PKP	PKPbc	21 49 26.0	+4.0	
GUMO	**Guam**	**148.14**	**256**	PKPbc	PKPbc	21 49 23.7	-1.0	
	68nm,0.8s,baz=209,slow=13,SNR=5.9							
WMQ	**Urumqi**	**151.53**	**41**	*e*PKP	PKPdf	21 49 23.0	-3.6	
MJAR	**Matsushiro Arr**	**155.15**	**305**	PKPab	PKPab	21 49 56.9	-0.4	
	6.8nm,0.9s,baz=72,slow=2.7,SNR=14							
MAT	**Matsushiro**	**155.15**	**305**	PKP2	PKPab	21 49 56.5	-0.8	
SONM	**Songino Array**	**155.89**	**11**	PKP	PKPdf	21 49 31.8	-1.0	
	0.6nm,0.7s,baz=271,slow=1.6,SNR=4.8							
SONM				PKPbc	PKPdf	21 49 42.0	+9.2	
	1.1nm,0.7s,baz=264,slow=1.4,SNR=6.3							
SONM				PKPab	PKPab	21 50 00.8	+0.3	
	1.2nm,0.7s,baz=317,slow=3.2,SNR=6.1							
HHC	**Hu-ho-hao-te**	**163.41**	**4**	*e*PKP	PKPdf	21 49 39.8	-1.6	
HHC				APKP		21 50 22.5		
HHC				PKP2	PKPab	21 50 33.3	+0.1	
HHC				XPKP		21 50 39.1		
HHC				PKS		21 53 11.8		
HHC				PP	PP	21 54 19.9	+1.2	
HHC				SKS	SKSdf	21 56 26.6	-4.7	
HHC				SKKS	SKKSac	22 00 49.4	-2.3	
HHC				SS	SS	22 14 29.1	-3.1	
HHC				PP	PP			
	comp=Z,62nm,6.1s							
HHC				LR	LR			
	comp=N,107nm,5.7s							
HHC				LR	LR			
	comp=E,121nm,5.5s							
HHC				LR	LR			
	comp=Z,95nm,6.5s							
LZH	**Lanzhou**	**165.80**	**32**	*e*PKP	PKPdf	21 49 43.3	-0.1	
LZH				APKP		21 50 24.3		
LZH				XPKP		21 50 41.8		
LZH				LR	LR			
	comp=N,138nm,18.2s							
LZH				LR	LR			
	comp=Z,203nm,20.5s							
CD2	**Chengdu**	**169.45**	**49**	*e*PKP	PKPdf	21 49 44.3	-1.7	
KMI	**Kunming**	**170.61**	**83**	PKP	PKPdf	21 49 46.3	-0.4	

IDC 23 21:39:34.9±1.6, 095N×9713E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.7/22, mbtmp3.8/7, ML2.9/1, Error ellipse: s-maj=49.5km s-min=21.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PSI	**Prapat**	**2.57**	**44**	Pn		Pn	21 40 17.1	-0.7
	2.7nm,0.3s,baz=220,slow=6.8,SNR=13							
WRA	**Warramunga Arr**	**41.96**	**122**	P		P	21 47 27.6	+0.1
	0.8nm,0.7s,baz=300,slow=9.1,SNR=5.5							
ASAR	**Alice Springs**	**43.30**	**127**	P		P	21 47 39.0	+0.6
	0.6nm,0.7s,baz=296,slow=7.7,SNR=5.8							
SONM	**Songino Array**	**47.39**	**8**	P		P	21 48 10.9	+0.1
	2.1nm,0.6s,baz=191,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**47.47**	**346**	P		P	21 48 11.8	+0.4
	1.6nm,0.7s,baz=163,slow=8.2,SNR=17							
ZAL	**Zalesovo**	**53.79**	**351**	P		P	21 48 58.9	-0.2
	1.7nm,0.5s,baz=275,slow=5.1,SNR=8.4							
BVAR	**Borovoye Array**	**56.46**	**341**	P		P	21 49 17.8	-0.6
	0.6nm,0.7s,baz=150,slow=15,SNR=3.6							

*ISCJB **23** 21:44:41.4±0.3, 4760N±002×776E±002, h10km, Error ellipse: s-maj=2.8km s-min=2.0km az=173.6*
*ZUR **23** 21:44:42.4, 4757N×779E, h14km±1km, ML1.8/10*
*LEDBW **23** 21:44:42.5±0.6, 4756N±003×780E±003, h5km±3km, ML1.7, Error ellipse: s-maj=12.0km s-min=4.0km az=51.0*
*STR **23** 21:44:42.5±0.3, 4759N×778E, h10km±1km, Ml1.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 21:44:42.2±0.1, 4757N×779E, h15km, Md2.2/2, Ml2.1/7, Error ellipse: s-maj=0.9km s-min=0.8km az=164.0*
ISC 23 21:44:42.1±0.3, 4759N±002×777E±002, h10km, n35, σ0s89/53, 7C-1D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SULZ	**Sulz-Cheisache**	**0.24**	**104**	*e*Sg		**Pg**	**21 44 47.6**	**+0.6**
	219nm,0.2s							
SULZ	**Sulz-Cheisache**	**0.24**	**104**⇑	*i*Pg		**Sg**	**21 44 51.4**	**+1.1**
	219nm,0.2s							
BALST	**Balsthal**	**0.26**	**192**	*i* Sg		**Pg**	**21 44 47.9**	**+0.6**
	518nm,0.1s							
BALST	**Balsthal**	**0.26**	**192**⇑	*i*Pg		**Sg**	**21 44 51.4**	**+0.6**
	518nm,0.1s							
KIZ	**Kirchzarten**	**0.38**	**15**⇑	*i*P*		**Pg**	**21 44 50.4**	**+0.7**
KIZ				*i* S*		**Sg**	**21 44 55.9**	**+1.1**
KIZ	**Kirchzarten**	**0.38**	**15**⇑	*i*Pg		**Pg**	**21 44 50.4**	**+0.7**
KIZ				*i* Sg		**Sg**	**21 44 55.9**	**+1.1**
BOURR	**Bourrignon**	**0.41**	**243**⇑	*i*Pg		**Pg**	**21 44 50.9**	**+0.7**
	112nm,0.5s							
BOURR				*i* Sg		**Sg**	**21 44 57.8**	**+2.1**
	112nm,0.5s							
MOF	**Molkenrain**	**0.51**	**302**	Pg		**Pg**	**21 44 53.0**	**+1.0**
MOF				Sg		**Sg**	**21 44 59.9**	**+1.3**
SLE	**Schleitheim**	**0.52**	**69**	*i* Sg		**Pg**	**21 44 52.4**	**+0.2**
	120nm,0.3s							
SLE	**Schleitheim**	**0.52**	**69**⇑	*i*Pg		**Sg**	**21 44 59.4**	**+0.3**
	120nm,0.3s							
HINF	**Hinteralfeld**	**0.66**	**291**	*e*Pg		**Pg**	**21 44 55.1**	**+0.2**
HINF				*e*Sg		**Sg**	**21 45 04.0**	**+0.4**
	11nm,0.2s							
LOMF	**Lomont**	**0.68**	**250**	Pg		**Pg**	**21 44 55.7**	**+0.4**
LOMF				Sg		**Sg**	**21 45 05.0**	**+0.8**
ECH	**Echery**	**0.75**	**327**	Pg		**Pg**	**21 44 57.4**	**+0.8**
ECH				Sg		**Sg**	**21 45 07.1**	**+0.6**
WILA	**Wila**	**0.79**	**102**	*e*S		**Pg**	**21 44 57.2**	**-0.1**
	178nm,0.3s							
WILA	**Wila**	**0.79**	**102**⇓	*i*P		**Sg**	**21 45 07.8**	**+0.2**
	178nm,0.3s							
SISB	**Singen-Schiene**	**0.81**	**82**⇑	*i*P*		**Pg**	**21 44 57.7**	**-0.1**
SISB				S*		**Sg**	**21 45 09.0**	**+0.6**
SISB	**Singen-Schiene**	**0.81**	**82**⇑	*i*Pg		**Pg**	**21 44 57.7**	**-0.1**
SISB				Sg		**Sg**	**21 45 09.0**	**+0.6**
WEIN	**Weingarten**	**0.82**	**93**	*e*P		**Pg**	**21 44 58.0**	**0.0**
	51nm,0.2s							
BFO	**Black Forest**	**0.83**	**27**	*e*Pg		**Pg**	**21 44 57.9**	**-0.3**
	SNR=3.4							
BFO				*e*Sg		**Sg**	**21 45 07.4**	**-1.6**
	SNR=7.5							
BNALP	**Bannalp**	**0.84**	**148**	*i* P		**Pg**	**21 44 58.3**	**0.0**
	18nm,0.3s							
CDF	**Champ du Feu**	**0.89**	**338**	*e*Pn		**Pn**	**21 44 59.0**	**-1.7**
CDF	**Champ du Feu**	**0.89**	**338**	*e*Pg		**Pg**	**21 44 59.8**	**+0.5**
CDF				*e*Sg		**Sg**	**21 45 11.6**	**+0.7**
	2.8nm,0.3s							
TORNY	**Torny**	**0.98**	**215**⇑	*i*Pg		**Pg**	**21 45 00.9**	**-0.1**
	49nm,1.1s							
GUT	**Gutenstein**	**1.03**	**61**	*i* P		**Pg**	**21 45 01.5**	**-0.4**
GUT				PmP			21 45 01.6	
GUT				S		**Sg**	**21 45 15.0**	**-0.2**
GUT	**Gutenstein**	**1.03**	**61**	PmP			21 45 01.6	
HAU	**Haudompre**	**1.05**	**294**	*e*Pn		**Pn**	**21 45 01.3**	**-1.5**
HAU	**Haudompre**	**1.05**	**294**	*e*Pg		**Pg**	**21 45 02.3**	**+0.1**
HAU				*e*Sn		**Sn**	**21 45 14.9**	**-2.6**
HAU				*e*Sg		**Sg**	**21 45 16.3**	**+0.4**
	22nm,0.3s							
LBG	**Lerchenberg**	**1.28**	**32**	Pg		**Pg**	**21 45 06.0**	**-0.6**
LBG				Sg		**Sg**	**21 45 23.3**	**0.0**
THEF	**They Montfort**	**1.36**	**299**	Pg		**Pg**	**21 45 08.8**	**+0.6**
CABF	**La Chapelle**	**1.51**	**230**	*e*Pn		**Pn**	**21 45 07.4**	**-1.8**
CABF	**La Chapelle**	**1.51**	**230**	*e*Pg		**Pg**	**21 45 10.6**	**-0.4**
CABF				*e*Sn		**Sn**	**21 45 25.5**	**-3.3**
CABF				*e*Sg		**Sg**	**21 45 29.9**	**-0.7**
	1.1nm,0.2s							
UBR	**Ueberruh**	**1.58**	**86**	Sg		**Sg**	**21 45 32.1**	**-0.9**
SFTF	**Sexfontaines**	**1.94**	**290**	*e*Pg		**Pg**	**21 45 18.7**	**-0.6**
SFTF				*e*Sg		**Sg**	**21 45 44.2**	**-0.3**
	1.4nm,0.2s							
MEZF	**Maizieres J'vi**	**2.04**	**298**	*e*Pg		**Pg**	**21 45 20.5**	**-0.8**
MEZF				*e*Sg		**Sg**	**21 45 47.4**	**-0.3**
	1.4nm,0.3s							
LOR	**Lormes**	**2.67**	**265**	*e*Sg		**Sg**	**21 46 06.4**	**-1.6**
	1.5nm,0.2s							

*ISCJB **23** 21:47:41.3±2.3, 1375S±009×1666E±02, h78km±19km, mb4.2/6, Error ellipse: s-maj=27.1km s-min=9.6km az=124.6*
*IDC **23** 21:47:41.6±3.7, 1367S×16674E, h70km±21km, mb4.1/4, mb1 4.2/6, mb1mx3.8/14, mbtmp4.5/6, MS3.3/3, Ms1 3.3/3, ms1mx3.0/19, Error ellipse: s-maj=43.4km s-min=18.5km az=64.0*
*NEIC **23** 21:47:42.5±1.5, 1371S×16673E, h82km±12km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=13.2km az=66.0*
ISC 23 21:47:43.0±2.0, 1371S±009×1667E±01, h78km±15km, n14, σ0s49/13, mb4.3/6, Vanuatu Islands

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

JNK	**Nakash**	**0.95**	**304**		P		**Pn**	**22 19 12.2**	**-0.2**
JNK					*e*S		**Sn**	**22 19 25.4**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**0.98**	**3**	⇓	*i*P		**Pn**	**22 19 12.0**	**-0.8**
YUK						AMB	AMB	22 19 13.0	
	1μm,0.4s								
YUK						AMB	AMB	22 19 13.0	
	780nm,0.4s								
YUK						AMB	AMB	22 19 13.0	
	6μm,0.4s								
YUK						AMB	AMB	22 19 16.5	
	6μm,1.0s								
YUK					*i* S		**Sn**	**22 19 25.0**	**-1.4**
YUK						A		22 19 26.7	
	44μm,1.0s								
YUK						A		22 19 26.7	
	66μm,1.0s								
YUK						A		22 19 33.0	
	17μm,0.5s								
YUK						A		22 19 33.0	
	22μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**0.98**	**3**	⇓	*i*PN		**Pn**	**22 19 12.0**	**-0.8**
YUK					*i* S		**Sn**	**22 19 25.0**	**-1.4**
YUK						pmax	pmax		
	comp=N,1μm,0.4s								
YUK						pmax	pmax		
	comp=Z,6μm,0.4s								
YUK						pmax	pmax		
	comp=E,780nm,0.5s								
YUK						pmax	pmax		
	comp=Z,6μm,1.2s								
YUK						smax			
	comp=N,44μm,0.7s								
YUK						smax			
	comp=E,66μm,0.7s								
YUK						smax			
	comp=N,17μm,0.4s								
YUK						smax			
	comp=E,22μm,0.5s								
JRA	**Rausu**	**1.01**	**331**	⇓	P		**Pn**	**22 19 13.4**	**+0.2**
JRA					*e*S		**Sn**	**22 19 27.7**	**+0.6**
JOB	**Onbets**	**1.45**	**265**	⇓	P		**Pn**	**22 19 18.9**	**+0.1**
JOB					*e*S		**Sn**	**22 19 37.1**	**0.0**
JAR	**Ashorobuto**	**1.50**	**280**	⇓	P		**Pn**	**22 19 19.9**	**+0.4**
JAR					*e*S		**Sn**	**22 19 39.2**	**+0.8**
JTKR	**Abashiri--Toko**	**1.65**	**304**	⇓	P		**Pn**	**22 19 22.4**	**+0.9**
JTKR					*e*S		**Sn**	**22 19 43.4**	**+1.5**
JCH	**Churui**	**1.84**	**257**	⇓	P		**Pn**	**22 19 23.8**	**-0.3**
JCH					*e*S		**Sn**	**22 19 45.9**	**-0.7**
ERM	**Erimo**	**2.21**	**243**		*e*Pn		**Pn**	**22 19 30.4**	**+1.3**
ERM					*e*Sn		**Sn**	**22 19 53.4**	**-2.0**
ASAJ	**Asahikawa**	**2.56**	**296**		P		**Pn**	**22 19 35.6**	**+1.9**
	comp=E,97nm,0.3s,baz=112,slow=12,SNR=711								
ASAJ					S		**Sn**	**22 20 06.0**	**+2.3**
	comp=E,59nm,0.3s,baz=123,slow=25,SNR=9.4								
ASAJ	**Asahikawa**	**2.56**	**296**		PN		**Pn**	**22 19 35.6**	**+1.9**
ASAJ					S		**Sn**	**22 20 06.0**	**+2.3**
ASAJ						pmax	pmax		
	comp=Z,97nm,0.3s								
ASAJ						smax			
	comp=N,59nm,0.3s								
YSS	**Yuzh-Sakhalins**	**4.46**	**332**	⇓	*i*P		**Pn**	**22 20 01.0**	**+1.5**
YSS						AMB	AMB	22 20 02.0	
	comp=N,70nm,0.8s								
YSS						AMB	AMB	22 20 02.0	
	comp=N,80nm,0.8s								
YSS						AMB	AMB	22 20 02.0	
	comp=N,120nm,0.8s								
YSS					*e*S		**Sn**	**22 20 49.3**	**-0.8**
YSS					A			22 20 53.0	
	comp=N,310nm,1.0s								
YSS					A			22 20 53.0	
	comp=N,440nm,1.3s								
YSS						AMS	AMS	22 21 53.0	
	comp=N,1μm,15.0s								
YSS						AMS	AMS	22 21 53.0	
	comp=N,800nm,15.0s								
YSS	**Yuzh-Sakhalins**	**4.46**	**332**	⇓	*i*PN		**Pn**	**22 20 01.0**	**+1.5**
YSS					*e*S		**Sn**	**22 20 49.3**	**-0.8**
YSS						pmax	pmax		
	comp=N,70nm,0.8s								
YSS						pmax	pmax		
	comp=E,80nm,0.8s								
YSS						pmax	pmax		
	comp=Z,120nm,0.8s								
YSS						smax			
	comp=N,310nm,1.0s								
YSS						smax			
	comp=E,440nm,1.3s								
YSS						MLR	MLR		
	comp=N,1μm,15.0s								
YSS						MLR	MLR		
	comp=Z,800nm,15.0s								
YSS	**Yuzh-Sakhalins**	**4.46**	**332**		*e*Pn		**Pn**	**22 20 00.8**	**+1.3**
YSS					*e*Sn		**Sn**	**22 20 52.3**	**+2.2**
UGL	**Uglegorsk**	**6.56**	**338**		*e*P		**Pn**	**22 20 30.5**	**+2.2**
UGL						AMB	AMB	22 20 31.5	
	comp=Z,180nm,0.8s								
TYV	**Tymovskoe**	**8.10**	**346**		*e*P		**Pn**	**22 20 52.0**	**+2.6**
TYV						AMB	AMB	22 20 56.0	
	comp=Z,13nm,0.8s								
TYV						AMB	AMB	22 20 56.0	
	comp=Z,29nm,0.8s								
MAJO	**Matsushiro**	**8.74**	**224**		*e*PN		**Pn**	**22 20 57.1**	**-1.0**
MAT	**Matsushiro**	**8.74**	**224**		P		**Pn**	**22 20 56.8**	**-1.3**
MAT					*e*S		**Sn**	**22 22 38.6**	**+3.6**
MJAR	**Matsushiro Arr**	**8.74**	**224**		P		**Pn**	**22 20 57.0**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=27,slow=14,SNR=17								
MJAR						LR	LR	22 24 51.3	
	comp=Z,366nm,18.7s,baz=35,slow=41								
VLA	**Vladivostok**	**10.18**	**275**		*i* PN		**Pn**	**22 21 20.2**	**+2.5**
VLA						pmax	pmax		
	comp=Z,17nm,0.5s								
SKR	**Severo-Kuril's**	**10.39**	**39**		*e*P		**Pn**	**22 21 20.0**	**-0.6**
JHJ	**Hachijo jima 2**	**10.99**	**207**		LR		LR	22 25 10.1	
	comp=Z,325nm,20.1s,baz=280,slow=34								
KLR	**Kul'dur**	**11.53**	**307**		*e*PN		**Pn**	**22 21 37.8**	**+1.7**
KLR					*e*			22 23 56.0	
KLR						MLR	MLR		
	comp=E,500nm,13.0s								
KLR						MLR	MLR		
	comp=Z,600nm,13.0s								
MDJ	**Mudanjiang**	**11.81**	**283**		P		**Pn**	**22 21 39.8**	**-0.2**
MDJ					S		**Sn**	**22 23 49.4**	**-0.6**
MDJ					SCP		ScP	22 30 50.8	+1.7
MDJ					PCS		PcS	22 30 58.0	+1.4
MDJ					AMB		AMB		
	comp=Z,25nm,0.8s								
MDJ						AMB	AMB		
	comp=Z,93nm,3.9s								
MDJ						LR	LR		
	comp=Z,301nm,20.9s								
MDJ	**Mudanjiang**	**11.81**	**283**		*e*Pn		**Pn**	**22 21 40.1**	**+0.1**
	comp=Z,22nm,0.9s								
PET	**Petropavlovsk**	**13.15**	**36**		*e*PN		**Pn**	**22 22 08.9**	**+11**
PET						MLR	MLR		
	comp=Z,100nm,21.0s								
EKMR	**Ekimchan**	**13.18**	**324**		*e*P		**Pn**	**22 21 55.3**	**-3.2**
EKMR						AMB	AMB	22 22 02.8	
	comp=Z,21nm,1.0s								
CN2	**Changchun**	**14.81**	**280**		*e*P		**Pn**	**22 22 18.8**	**-1.1**
CN2					*e*AP		pP	22 22 29.0	-9.5
CN2					*e*PP			22 22 32.5	
CN2					*e*S		**Sn**	**22 25 01.5**	**-1.3**
CN2						AMB	AMB		
	comp=Z,50nm,0.7s								
CN2						LR	LR		
	comp=N,200nm,14.0s								
CN2						LR	LR		
	comp=E,200nm,14.0s								
YASR	**Yasnyy**	**15.64**	**317**		*e*P		**Pn**	**22 22 26.5**	**-4.1**
YASR						AMB	AMB	22 22 31.6	
	comp=E,9.0nm,1.0s								
YASR						AMB	AMB	22 22 31.6	
	comp=E,16nm,1.0s								
YASR						AMB	AMB	22 22 31.6	
	comp=E,30nm,1.0s								
BMKR	**Bomnak**	**16.09**	**322**		*e*P		**Pn**	**22 22 33.3**	**-2.9**
BMKR						AMB	AMB	22 22 37.4	
	comp=E,7.0nm,0.6s								
SNY	**Shenyang**	**16.45**	**273**	⇓	P		**Pn**	**22 22 43.9**	**+3.2**
SNY						AMB	AMB		
	comp=Z,21nm,0.6s								
SNY						LR	LR		
	comp=N,211nm,5.4s								
SNY						LR	LR		
	comp=E,254nm,5.7s								
SNY						LR	LR		
	comp=Z,215nm,6.0s								
KROS	**Kirovskiy**	**16.78**	**319**		*e*P		**Pn**	**22 22 41.7**	**-3.2**
KROS						AMB	AMB	22 22 44.5	
	comp=Z,6.0nm,0.5s								
KROS						AMB	AMB	22 22 44.5	
	comp=Z,10.0nm,0.5s								
MA2	**Magadan**	**16.82**	**9**		*e*P		**Pn**	**22 22 44.0**	**-1.4**
MA2						pmax	pmax		
	comp=Z,10.0nm,0.9s								
MA2	**Magadan**	**16.82**	**9**		*e*Pn		**Pn**	**22 22 44.5**	**-0.9**
	comp=Z,5.2nm,0.3s								
DL2	**Dalian**	**18.69**	**265**		P		**Pn**	**22 23 06.8**	**-1.3**
DL2						AMB	AMB		
	comp=Z,20nm,0.8s								
HIA	**Hailar**	**19.03**	**298**		*e*P		**Pn**	**22 23 09.2**	**-3.0**
HIA						pmax	pmax		
	comp=Z,32nm,0.8s								
HIA	**Hailar**	**19.03**	**298**		*e*P		**Pn**	**22 23 09.2**	**-3.0**
	comp=Z,32nm,0.8s								
SEY	**Seymchan**	**20.28**	**9**	⇓	*e*P		**P**	**22 23 21.3**	**-3.0**
YAK	**Yakutsk**	**21.27**	**339**		*i* P		**P**	**22 23 32.1**	**-2.8**
BJI	**Beijing**	**22.32**	**272**		P		**P**	**22 23 45.3**	**-0.8**
BJI						AMB	AMB		
	comp=Z,39nm,1.2s,mb4.6								
BJI						AMB	AMB		
	comp=Z,273nm,5.2s								
BJI						LR	LR		
	comp=Z,134nm,25.9s								
BJT	**Baijiatuau**	**22.33**	**272**		*e*P		**P**	**22 23 45.3**	**-0.9**
BJT						pmax	pmax		
	comp=Z,34nm,0.9s								
BJT	**Baijiatuau**	**22.33**	**272**		*e*P		**P**	**22 23 45.3**	**-0.9**
	comp=Z,34nm,0.9s,mb4.7								
SSE	**Sheshan**	**22.89**	**247**		P		**P**	**22 23 50.9**	**-1.2**
SSE						AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5								
SSE						AMB	AMB		
	comp=Z,170nm,7.1s								
TIA	**Tai'an**	**23.05**	**262**		*e*P		**P**	**22 23 53.0**	**-0.7**
CIT	**Chita**	**23.38**	**304**		*e*P		**P**	**22 23 55.4**	**-1.4**
CIT					*e*			22 24 13.8	
CIT						pmax	pmax		
	comp=Z,59nm,1.3s,mb4.8								
NJ2	**Nanjing**	**23.92**	**252**		*e*P		**P**	**22 24 03.3**	**+1.6**
NJ2						AP		22 24 17.8	
NJ2						XP	sP	22 24 25.1	-1.8
NJ2						PP		22 24 38.9	
NJ2						S	**S**	**22 28 11.0**	**-2.0**
NJ2						XS	sS	22 28 36.0	-5.7
NJ2						AMB	AMB		
	comp=Z,80nm,0.9s,mb5.0								
NJ2						AMB	AMB		
	comp=Z,390nm,5.6s								
NJ2						LR	LR		
	comp=N,380nm,24.2s								
NJ2						LR	LR		
	comp=E,550nm,21.9s								
NJ2						LR	LR		
	comp=Z,420nm,20.8s								
BOD	**Bodaibo**	**24.76**	**318**		*e*P		**P**	**22 24 04.7**	**-4.7**
BOD						pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2								
HHC	**Hu-ho-hao-te**	**25.45**	**277**		*e*P		**P**	**22 24 16.4**	**+0.7**
HHC						AP	pP	22 24 32.0	-0.5
HHC						XP	sP	22 24 40.5	-0.4
HHC						PP		22 24 57.5	
HHC						PCP	PcP	22 27 48.4	+2.5
HHC						S	**S**	**22 28 34.9**	**-2.6**
HHC						XS	sS	22 29 02.8	-3.7
HHC						SS		22 29 41.9	
HHC						SCP	ScP	22 31 20.3	+1.4
HHC						PCS	PcS	22 31 28.3	+1.8
HHC						AMB	AMB		
	comp=Z,18nm,0.5s,mb4.8								
HHC						AMB	AMB		
	comp=Z,144nm,4.8s								
HHC						LR	LR		
	comp=N,132nm,4.6s								
HHC						LR	LR		
	comp=E,151nm,4.9s								
HHC						LR	LR		
	comp=Z,129nm,5.9s								
SONM	**Songino Array**	**27.84**	**294**		P		**P**	**22 24 37.9**	**+0.8**
	comp=Z,74nm,0.8s,mb5.2,baz=83,slow=8.5,SNR=512								
SONM						LR	LR	22 36 43.9	
	comp=Z,225nm,18.4s,baz=99,slow=38								
WHN	**Wuhan**	**27.94**	**254**	⇑	P		**P**	**22 24 38.8**	**+0.8**
IRK	**Irkutsk**	**29.09**	**303**		*e*P		**P**	**22 24 45.8**	**-2.4**
IRK					*e*			22 25 56.0	
IRK						pmax	pmax		
	comp=Z,40nm,2.5s,mb4.6								
GUMO	**Guam**	**29.37**	**182**		LR		LR	22 34 52.7	
	comp=Z,11nm,20.1s,baz=47,slow=33								
TLY	**Talaya**	**29.47**	**302**		*e*P		**P**	**22 24 52.0**	**+0.4**
TLY						pmax	pmax		
	comp=Z,15nm,1.5s,mb4.4								
TLY						MLR	MLR		
	comp=Z,135nm,16.0s								
TLY	**Talaya**	**29.47**	**302**		*e*P		**P**	**22 24 51.7**	**+0.1**
	comp=Z,7.8nm,1.0s,mb4.3								
ZAK	**Zakamensk**	**29.72**	**299**	⇓	*i*P		**P**	**22 24 54.1**	**+0.3**
ZAK						pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8								
XAN	**Xi'an**	**30.01**	**265**		P		**P**	**22 24 56.3**	**-0.1**
XAN						AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6								
MOY	**Mondy**	**31.12**	**302**		*e*P		**P**	**22 25 06.5**	**+0.3**
LZH	**Lanzhou**	**32.81**	**272**		*e*P		**P**	**22 25 21.9**	**+0.9**
LZH						AP	pP	22 25 37.5	-0.6
LZH						XP	sP	22 25 44.9	-1.5
LZH					*e*	PP	PP	22 26 33.5	-2.8
LZH					*e*S		**S**	**22 30 32.8**	**-0.2**
LZH						XS	sS	22 30 57.8	-4.4
LZH					*e*	SS	SS	22 32 33.3	-23
LZH						AMB	AMB		
	comp=Z,32nm,1.3s,mb5.0								
LZH						AMB	AMB		
	comp=Z,107nm,5.2s								
LZH						LR	LR		
	comp=E,638nm,13.5s								
LZH						LR	LR		
	comp=Z,1μm,17.6s								
GTA	**Gaotai**	**34.44**	**280**		*e*P		**P**	**22 25 35.9**	**+0.7**
GTA						AP	pP	22 25 50.9	-1.4
GTA						XP	sP	22 25 58.3	-2.3
GTA						PP	PP	22 26 51.5	-2.9
GTA						PCP	PcP	22 28 10.6	+1.5
GTA						S	**S**	**22 30 56.8**	**-1.4**
GTA						XS	sS	22 31 23.0	-4.5
GTA						SS	SS	22 33 09.4	-21
GTA						AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6								
GTA						AMB	AMB		
	comp=Z,70nm,6.8s								
GTA						LR	LR		
	comp=N,129nm,14.5s								
GTA						LR	LR		
	comp=E,129nm,17.9s								
GTA						LR	LR		
	comp=Z,129nm,14.8s								
CD2	**Chengdu**	**35.35**	**264**	⇑	*i*P		**P**	**22 25 44.6**	**+1.6**
CD2						XP	sP	22 26 09.5	+1.0
CD2						PP	PP	22 27 05.5	+1.1
CD2						S	**S**	**22 31 11.0**	**-1.2**
CD2						XS	sS	22 31 39.5	-2.1
CD2						SS	SS	22 33 32.0	-16
CD2						AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1								
CD2						AMB	AMB		
	comp=Z,40nm,5.6s								
CD2						LR	LR		
	comp=E,100nm,13.2s								
CD2						LR	LR		
	comp=Z,60nm,10.8s								
GYA	**Guiyang**	**35.79**	**255**		P		**P**	**22 25 47.3**	**+0.5**
GYA						AP	pP	22 26 05.5	+1.5
GYA						XP	sP	22 26 14.8	+2.5
GYA						PP	PP	22 27 10.4	+1.1
GYA						PCP	PcP	22 28 13.8	+0.7
GYA						S	**S**	**22 31 18.6**	**-0.4**
GYA						SCP	ScP	22 31 51.9	-0.9
GYA						SCS	ScS	22 35 55.8	-2.3
GYA						AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1								
GYA						AMB	AMB		
	comp=Z,100nm,3.5s								
GYA						LR	LR		
	comp=N,380nm,16.5s								
GYA						LR	LR		
	comp=E,270nm,16.0s								
GYA						LR	LR		
	comp=Z,290nm,16.4s								
KRAR	**Krasnoyarsk**	**35.81**	**310**		*i* P		**P**	**22 25 46.7**	**-0.2**
KMI	**Kunming**	**39.40**	**257**		P		**P**	**22 26 17.0**	**-0.3**
KMI						AP	pP	22 26 35.0	+0.3
KMI						XP	sP	22 26 42.9	0.0
KMI						PP	PP	22 27 51.8	+2.9
KMI						S	**S**	**22 32 14.5**	**+0.9**
KMI						XS	sS	22 32 44.8	+1.5
KMI						SS	SS	22 35 02.5	-7.6
KMI						AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6								
KMI						AMB	AMB		
	comp=Z,96nm,3.5s								
KMI						LR	LR		
	comp=N,211nm,16.6s								
KMI						LR	LR		
	comp=E,257nm,15.9s								
KMI						LR	LR		
	comp=Z,176nm,14.3s								
IMA2	**Indian Mountai**	**39.80**	**34**		*e*P		**P**	**22 26 20.6**	**0.0**
KDAK	**Kodiak Island**	**40.44**	**47**		P		**P**	**22 26 25.3**	**-0.6**
	comp=Z,10nm,0.8s,mb4.7,baz=319,slow=4.1,SNR=6.2								
NVS	**Novosibirsk**	**41.39**	**309**		*e*P		**P**	**22 26 33.0**	**-0.6**
NVS						pmax	pmax		
	comp=Z,41nm,1.5s,mb5.0								
NVS						pmax	pmax		
	comp=N,9.0nm,1.0s								
NVS						pmax	pmax		
	comp=E,25nm,1.0s								
WMQ	**Urumqi**	**41.44**	**292**	⇑	*i*P		**P**	**22 26 34.8**	**+0.8**
WMQ						AP	pP	22 26 51.0	-0.6
WMQ						XP	sP	22 27 00.5	+0.7
WMQ						PP	PP	22 28 14.0	+3.1
WMQ						PPP		22 28 45.0	
WMQ						S	**S**	**22 32 44.5**	**+0.6**
WMQ						XS	sS	22 33 13.0	-0.8
WMQ						AMB	AMB		
	comp=Z,23nm,1.0s,mb5.0								
WMQ						AMB	AMB		
	comp=Z,127nm,4.6s								
WMQ						LR	LR		
	comp=N,276nm,27.4s								
WMQ						LR	LR		
	comp=E,285nm,26.6s								
WMQ						LR	LR		
	comp=Z,392nm,20.2s								
MCK	**McKinley**	**41.78**	**37**		*e*P		**P**	**22 26 37.1**	**+0.2**
COLA	**College**	**42.21**	**36**		*e*P		**P**	**22 26 40.7**	**+0.3**
COLA					*e**PP		pP	22 26 58.8	+0.9
COLA						pmax	pmax		
	comp=Z,33nm,0.9s,mb5.1								
COLA	**College**	**42.21**	**36**		*e*P		**P**	**22 26 40.6**	**+0.3**
	comp=Z,33nm,0.9s,mb5.1								
COLA					*e*pP		pP	22 26 58.8	+0.8
MK31	**Makanchi Array**	**44.04**	**298**		P		**P**	**22 26 55.0**	**-0.1**
MK31						pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8								
MKAR	**Makanchi Array**	**44.04**	**298**		P		**P**	**22 26 54.6**	**-0.4**
	comp=Z,19nm,0.7s,mb5.0,baz=66,slow=8.0,SNR=190								
MKAR	**Makanchi Array**	**44.04**	**298**		*i* P		**P**	**22 26 55.2**	**+0.1**
MKAR						pmax	pmax		
	comp=Z,19nm,0.7s								
EGAK	**Eagle**	**45.07**	**35**		*e*P		**P**	**22 27 02.6**	**-0.7**
LSA	**Lhasa**	**45.23**	**272**		P		**P**	**22 27 06.3**	**+1.8**
INK	**Inuvik**	**47.50**	**30**		P		**P**	**22 27 20.8**	**-1.6**
	comp=Z,5.8nm,0.5s,mb4.6,baz=282,slow=6.6,SNR=21								
CHKZ	**Chkalovo**	**48.83**	**310**		*e*P		**P**	**22 27 32.0**	**-0.6**
CHKZ						pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1								
CHKZ	**Chkalovo**	**48.83**	**310**		*e*P		**P**	**22 27 31.9**	**-0.7**
	comp=Z,22nm,0.8s,mb5.1								
VOSK	**Vostochnaya**	**48.95**	**309**		P		**P**	**22 27 33.2**	**-0.3**
VOSK						pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1								
BVA0	**Borovoye Array**	**49.18**	**309**		*i* P		**P**	**22 27 35.1**	**-0.2**
BVA0						pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9								
BVAR	**Borovoye Array**	**49.18**	**309**		LR		LR	22 49 58.3	
	comp=Z,85nm,20.0s,baz=317,slow=38								
BRVK	**Borovoye**	**49.23**	**309**		*e*P		**P**	**22 27 35.7**	**0.0**
BRVK						pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0								
BRVK	**Borovoye**	**49.23**	**309**		*e*P		**P**	**22 27 35.7**	**+0.1**
	comp=Z,17nm,0.9s,mb5.0								
ULHL	**Ulahol**	**49.78**	**294**		P		**P**	**22 27 40.6**	**+0.8**
	SNR=10								
TKM2	**Tokmak 2**	**49.91**	**295**		P		**P**	**22 27 41.9**	**+1.1**
	SNR=35								
JIRN	**Jiri**	**49.98**	**272**		*e*P		**P**	**22 27 42.3**	**+0.9**
ZRNK	**Zerenda**	**49.99**	**310**	⇑	*i*P		**P**	**22 27 41.5**	**+0.1**
ZRNK						pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3								
ZRNK	**Zerenda**	**49.99**	**310**	⇑	*i*P		**P**	**22 27 41.5**	**0.0**
	comp=Z,38nm,0.9s,mb5.3								
GUN	**Gumba**	**50.07**	**273**		*e*P		**P**	**22 27 42.9**	**+0.9**
	comp=Z,35nm,0.6s,mb5.5								
KBK	**Karagaybulak**	**50.46**	**295**		P		**P**	**22 27 45.9**	**+0.9**
	SNR=32								
USP	**Ospenovka**	**50.49**	**296**		P		**P**	**22 27 45.8**	**+0.6**
	SNR=26								
KKN	**Kakani**	**50.57**	**273**		*e*P		**P**	**22 27 46.6**	**+0.7**
	comp=Z,31nm,0.9s,mb5.3								
FRU	**Bishkek**	**50.60**	**296**		*e*P		**P**	**22 27 46.8**	**+0.8**
PKI	**Pulchoki**	**50.60**	**273**		*e*P		**P**	**22 27 46.7**	**+0.6**
AAK	**Ala-Archa**	**50.77**	**296**		P		**P**	**22 27 48.0**	**+0.7**
	SNR=8.3								
AAK	**Ala-Archa**	**50.77**	**296**	*c*	*i*P		**P**	**22 27 46.8**	**-0.5**
AAK						pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9								
AAK	**Ala-Archa**	**50.77**	**296**		*e*P		**P**	**22 27 46.6**	**-0.7**
DMN	**Daman**	**50.80**	**273**		*e*P		**P**	**22 27 48.4**	**+0.8**
GKN	**Gorkha**	**50.92**	**274**		*e*P		**P**	**22 27 48.9**	**+0.4**
	comp=Z,20nm,0.6s,mb5.3								
KSH	**Kashi**	**51.20**	**291**		*e*P		**P**	**22 27 51.6**	**+1.1**
KSH					*e*AP		pP	22 28 07.1	-1.5
KSH					*e*XP		sP	22 28 14.3	-2.4
KSH					*e*PCP		PcP	22 29 06.1	+1.1
KSH					*e*PP		PP	22 29 49.0	+1.1
KSH					*e*PPP			22 30 49.0	
KSH					*e*SCP		ScP	22 32 56.5	+1.5
KSH					*e*PCS		PcS	22 33 03.0	+0.3
KSH					*e*S		**S**	**22 35 02.0**	**-1.5**
KSH					*e*PS			22 35 20.3	
KSH					*e*XS		sS	22 35 29.3	-4.9
KSH					*e*SCS		ScS	22 37 32.3	-2.0
KSH					*e*SS		SS	22 38 35.3	-4.3
KSH						AMB	AMB		
	comp=Z,169nm,1.3s								
EKS2	**Erkin-Say**	**51.23**	**296**		P		**P**	**22 27 51.4**	**+0.6**
	SNR=22								
WRAK	**Wrangell Islan**	**51.45**	**45**		*e*P		**P**	**22 27 53.7**	**+1.3**
AML	**Almayashu**	**51.52**	**295**		P		**P**	**22 27 54

comp=Z,6.7nm,0.4s,mb5.0
KEV Kevo 59.01 339 *e*P P **22 28 45.4 -1.4**
KEV pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
TMCR Tamitsa 59.10 331 *e*P P **22 28 46.8 -0.6**
TMCR pmax pmax
comp=Z,100nm,1.4s,mb5.7
ARCES ARCESS Array B 59.55 339 P P **22 28 49.6 -0.9**
comp=Z,16nm,0.8s,mb5.1,baz=32,slow=7.6,SNR=42
ARCES LR LR 23 01 07.7
comp=Z,50nm,18.1s,baz=64,slow=42
ARE0 ARCESS Array S 59.55 339 *e*P P **22 28 50.2 -0.3**
DAG Danmarks Havn 60.04 356⇓*i*P P **22 28 52.8 -1.1**
comp=Z,8.4nm,0.9s,mb4.8
DAG Danmarks Havn 60.04 356⇓*i*P P **22 28 52.8 -1.1**
DAG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KTK1 Kautokeino 60.50 340 *e*P P **22 28 56.4 -0.7**
TRO Tromso 61.10 341 *e*P P **22 28 59.2 -2.0**
TRO AMb AMB 22 29 01.1
comp=Z,50nm,1.0s,mb5.5
TRO *e*pP pP 22 29 11.9 -7.7
TRO Tromso 61.10 341 *e*P P **22 28 59.2 -1.9**
TRO pmax pmax
comp=Z,50nm,1.0s,mb5.5
TRO Tromso 61.10 341 *e*P P **22 28 59.2 -2.0**
comp=Z,50nm,1.0s,mb5.5
JOF Joensuu 62.24 332 *e*p P **22 29 06.9 -1.9**
comp=Z,15nm,0.4s,mb5.4
NEW Newport 63.53 48 *e*P P **22 29 16.9 -0.4**
NEW *e**PP pP 22 29 34.6 -1.4
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 63.53 48 *e*P P **22 29 16.9 -0.4**
comp=Z,4.4nm,1.0s,mb4.2
NEW *e*pP pP 22 29 34.6 -1.4
WRAB Tennant Creek 63.55 192 *e*P P **22 29 17.6 +0.1**
WRAB pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
WRAB Tennant Creek 63.55 192 *e*P P **22 29 17.6 +0.1**
comp=Z,10nm,1.0s,mb4.6
WB2 Warramunga Arr 63.56 192 *e*P P **22 29 16.3 -1.3**
WB2 *e*pP pP 22 29 36.5 +0.4
WRA Warramunga Arr 63.56 192 P P **22 29 16.3 -1.3**
comp=Z,2.3nm,0.7s,mb4.1,baz=11,slow=6.8,SNR=11
WRA pP pP 22 29 37.0 +0.8
comp=Z,4.9nm,0.9s,baz=9.9,slow=6.9,SNR=11
MOS Moscow 64.42 323 *e*P P **22 29 22.3 -0.9**
MOS pmax pmax
comp=Z,73nm,1.4s,mb5.3
KAF Kangasniemi 64.49 333 *e*p P **22 29 21.7 -1.9**
comp=Z,13nm,0.5s,mb5.0,baz=44,slow=6.2
KAF Kangasniemi 64.49 333 *e*P P **22 29 21.7 -1.9**
KAF pmax pmax
comp=Z,13nm,0.5s,mb5.0
SUMG Summit 64.63 1 *e*P P **22 29 24.6 0.0**
comp=Z,55nm,1.0s,mb5.3
MOR8 Moi Rana 64.86 340 *e*P P **22 29 23.9 -2.1**
MOR8 AMb AMB 22 29 25.8
comp=Z,72nm,1.2s,mb5.4
MOR8 *e*pP pP 22 29 42.6 -2.1
MOR8 Moi Rana 64.86 340 *e*P P **22 29 23.9 -2.1**
comp=Z,72nm,1.3s,mb5.3
FIA1 FINESS Array S 65.04 333 *e*P P **22 29 26.3 -0.9**
FINES FINESS Array B 65.04 333 P P **22 29 26.5 -0.7**
comp=Z,50nm,0.7s,mb5.5,baz=51,slow=7.6,SNR=374
FINES LR LR 23 00 12.0
comp=Z,67nm,18.4s,baz=38,slow=38
OBN Obninsk 65.29 323*c i*P P **22 29 28.1 -0.7**
OBN *e**PP pP 22 29 49.6 +2.1
OBN *e**SP sP 22 29 59.8 +4.4
OBN pmax pmax
comp=Z,35nm,1.0s,mb5.1
OBN Obninsk 65.29 323 *e*P P **22 29 27.5 -1.3**
comp=Z,30nm,0.8s,mb5.2
MSO Missoula 66.11 48 *e*P P **22 29 34.9 +0.7**
comp=Z,6.4nm,1.2s,mb4.3
MSO *e*pP pP 22 29 52.3 -0.6
VRSR Storozhevoye 66.61 319 *e*P P **22 29 36.9 -0.3**
VRSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,30nm,0.9s
NSS Namsos 66.81 340 *e*P P **22 29 37.7 -0.9**
ASAR Alice Springs 67.29 192 P P **22 29 41.5 0.0**
comp=E,1.6nm,0.8s,mb3.9,baz=8.5,slow=5.5,SNR=5.5
ASAR pP pP 22 30 01.1 +0.7
comp=E,6.8nm,1.0s,baz=11,slow=5.6,SNR=12
DZM Mont Dzumac 67.53 159 LR LR 22 55 45.6
comp=E,107nm,19.3s,baz=345,slow=33
LRM Limekiln Ridge 67.55 48 *e*P P **22 29 44.0 +0.8**
LRM *e*pP pP 22 30 01.8 -0.2
CMB Columbia Colle 67.74 58 *e*P P **22 29 44.7 +0.3**
CMB pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
CMB Columbia Colle 67.74 58 *e*P P **22 29 44.7 +0.3**
comp=Z,1.7nm,0.6s,mb4.0
HLID Hailey 67.88 51 *e*pP pP 22 30 04.0 -0.1
GOF Gofitskoye 68.59 312⇑*i*P P **22 29 56.0 +6.3**
GOF pmax pmax
comp=Z,60nm,1.0s,mb5.4
NVAR Mina Array Bea 68.78 57 P P **22 29 52.3 +1.3**
comp=Z,2.0nm,0.6s,mb4.1,baz=284,slow=8.0,SNR=18
NVAR pP pP 22 30 10.0 +0.1
comp=Z,2.1nm,0.7s,baz=287,slow=8.6,SNR=4.4
KIV Kislovodsk 69.49 311⇓*e*P P **22 29 56.7 +1.4**
KIV *e* 22 32 28.4
KIV pmax pmax
comp=Z,32nm,0.7s,mb5.3
KIV Kislovodsk 69.49 311 *e*P P **22 29 56.3 +1.0**
ZEI Tsey 69.58 310 *e*P P **22 29 55.9 0.0**
ZEI *e**PP pP 22 30 12.2 -2.6
ZEI pmax pmax
comp=Z,18nm,1.0s,mb4.9
IMW Indian Meadow 69.61 49 *e*P P **22 29 58.1 +2.0**
comp=Z,4.1nm,0.2s,mb4.9
RRI2 Red Ridge 69.75 49 *e*P P **22 29 58.8 +1.8**
MTA Mtatsminda 69.76 308 P P **22 29 57.8 +0.9**
TBLG Delisi 69.77 308 P P **22 29 58.4 +1.3**
TPAW Teton Pass 69.87 49 *e*P P **22 29 59.5 +1.9**
comp=Z,12nm,1.2s,mb4.6
TPAW *e*pP pP 22 30 09.7 -6.8
NB2 NORSAR Subarra 69.89 338 P P **22 29 57.1 -0.7**
comp=Z,28nm,0.8s,mb5.1,baz=34,slow=6.2
NOA NORSAR Array B 69.89 338 P P **22 29 57.1 -0.6**
comp=Z,25nm,0.8s,mb5.1,baz=34,slow=6.1,SNR=105
NOA LR LR 23 04 41.9
comp=Z,42nm,18.7s,baz=35,slow=39
ONI Oni 69.95 310 P P **22 29 59.1 +0.9**
HWUT Hardware Ranch 70.75 51 *e*P P **22 30 03.6 +0.6**
comp=Z,4.9nm,1.1s,mb4.2
HWUT *e*pP pP 22 30 21.3 -0.6
GNI Garni 70.78 307 *i*P P **22 30 05.1 +1.9**
GNI Garni 70.78 307 *e*P P **22 30 10.3 +7.1**
comp=Z,10nm,0.8s,mb4.7
DUG Dugway 70.95 53 *e*P P **22 30 05.2 +1.0**
DUG *PP pP 22 30 22.8 -0.4
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
DUG Dugway 70.95 53 *e*P P **22 30 05.2 +1.0**
comp=Z,2.7nm,0.8s,mb4.1
DUG pP pP 22 30 22.8 -0.4
BW06 Boulder Array 71.11 49 *e*P P **22 30 05.9 +0.7**
PDAR Pinedale Array 71.11 49 P P **22 30 05.3 +0.1**
comp=Z,1.6nm,0.6s,mb4.0,baz=288,slow=2.0,SNR=17
PDAR pP pP 22 30 23.1 -1.1
comp=Z,3.2nm,1.1s,baz=337,slow=3.4,SNR=5.3
AKASG Malin Array Be 71.55 323 P P **22 30 07.3 -0.5**
comp=Z,11nm,0.7s,mb4.8,baz=40,slow=5.9,SNR=51
SUW Suwalki 71.58 328 *e*P P **22 30 08.0 -0.1**
ANN Anapa 71.74 315 *e*P P **22 30 08.4 -0.6**
ANN *i**PP pP 22 30 29.6 +1.6
ANN *e*S S 22 39 22.1 -1.4
ANN pmax pmax
comp=Z,59nm,1.3s,mb5.3
ASK Askoy 71.91 341 *e*P P **22 30 10.1 +0.1**
ASK AMb AMB 22 30 12.9
comp=Z,109nm,1.7s,mb5.4
ASK Askoy 71.91 341 *e*P P **22 30 10.1 +0.1**
comp=Z,109nm,1.7s,mb5.4
BER Bergen 71.96 341 *e*P P **22 30 10.9 +0.6**
BER AMb AMB 22 30 11.6
comp=Z,79nm,1.0s,mb5.5
BER Bergen 71.96 341 *e*P P **22 30 10.9 +0.6**
comp=Z,79nm,1.0s,mb5.5
EGD Espegrend 72.09 341 *e*P P **22 30 11.7 +0.6**
EGD AMb AMB 22 30 24.2
comp=Z,164nm,1.8s,mb5.6
SRU San Rafael 72.99 52 *e*P P **22 30 17.2 +0.8**
SRU *e**PP pP 22 30 34.4 -1.1
KWP Kalwaria 75.13 326 *e*P P **22 30 29.8 +0.9**
BURAR Bucovina Array 75.61 323⇑*i*P P **22 30 31.7 +0.1**
BURAR Bucovina Array 75.61 323⇑*i*P P **22 30 31.7 +0.1**
MALT Malatya 75.65 309⇑*i*P P **22 30 33.2 +1.3**
MALT Malatya 75.65 309⇑*i*P P **22 30 33.2 +1.3**
OJC Ojcow 75.84 328 *e*P P **22 30 33.1 +0.1**
KOLS Kolonicke sedl 75.85 325 *e*P P **22 30 33.2 +0.1**
STHS Stebnicka Huta 75.90 326 *e*P P **22 30 33.7 +0.4**
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
STHS Stebnicka Huta 75.90 326 *e*P P **22 30 33.7 +0.4**
comp=Z,7.6nm,0.9s,mb4.4
MIB Mutribah 75.96 298 *e*P P **22 30 33.3 -0.3**
MIB AMb AMB 22 30 35.0
comp=Z,20nm,0.9s,mb4.9
CFR Carcaliu 76.10 320⇓*i*P P **22 30 34.3 -0.2**
CFR Carcaliu 76.10 320⇓*i*P P **22 30 34.3 -0.2**
BSEG Bad Segeberg 76.14 335 *e*P P **22 30 34.6 -0.1**
comp=Z,16nm,1.0s,mb4.7
BSEG Bad Segeberg 76.14 335 *e*P P **22 30 34.6 -0.1**
BSEG pmax pmax
comp=Z,16nm,1.0s,mb4.7
VRI Vrincioaia 76.25 321⇓*i*P P **22 30 35.5 +0.2**
VRI Vrincioaia 76.25 321⇓*i*P P **22 30 35.5 +0.3**
NIE Niedzica 76.27 327 *e*P P **22 30 36.2 +0.8**
QRN Al-Qurain 76.28 296 *e*P P **22 30 35.4 0.0**
QRN AMb AMB 22 30 36.0
comp=Z,48nm,0.3s,mb5.7
RST Umm Al-Ruwaisa 76.38 298 *e*P P **22 30 35.5 -0.5**
RST AMb AMB 22 30 37.1
comp=Z,23nm,0.8s,mb5.0
NAY Al-Naaiem 76.39 297 *e*P P **22 30 35.8 -0.3**
NAY AMb AMB 22 30 36.5
comp=Z,10nm,0.8s,mb4.6
RDF Al-Radifah 76.40 297 *e*P P **22 30 36.2 0.0**
RDF AMb AMB 22 30 37.6
comp=Z,21nm,0.5s,mb5.1
OKC Ostrava-Krasne 76.79 328 *e*P P **22 30 37.9 -0.5**
MLR Muntele Rosu 76.89 321 P P **22 30 39.0 +0.1**
comp=Z,4.6nm,0.8s,mb4.3,baz=150,slow=7.2,SNR=8.0
MLR LR LR 23 06 53.5
comp=Z,82nm,20.0s,baz=312,slow=37
MLR Muntele Rosu 76.89 321⇓*i*P P **22 30 39.0 +0.1**
KECS Kecovo 76.94 326 *e*P P **22 30 39.1 -0.1**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KECS Kecovo 76.94 326 *e*P P **22 30 39.1 -0.1**
comp=Z,2.9nm,0.9s,mb4.0
UPC Upice 77.06 330 *e*P P **22 30 40.3 +0.5**
UPC *e*pP pP 22 30 55.1 -4.0
DPC Dobruska-Polom 77.07 330 *e*P P **22 30 40.4 +0.5**
DPC *e*pP pP 22 31 02.5 +3.4
MORC Moravsky Berou 77.07 329⇓*i*P P **22 30 39.7 -0.2**
BR131 Keskin Array S 77.30 313⇑*i*P P **22 30 41.6 +0.4**
comp=Z,2.9nm,0.6s,mb4.2
BRTR Keskin Array B 77.30 313 P P **22 30 41.7 +0.5**
comp=Z,3.3nm,0.7s,mb4.2,baz=86,slow=3.7,SNR=29
DRGR 77.33 324⇑*i*P P **22 30 41.8 +0.4**
VOIR 77.34 322⇓*i*P P **22 30 42.2 +0.8**
VOIR 77.34 322⇓*i*P P **22 30 42.2 +0.8**
NRDL Niedersach Rie 77.43 334 *e*P P **22 30 41.8 -0.2**
comp=Z,7.0nm,0.8s,mb4.4
CLL Collm 77.47 332 *e*P P **22 30 41.6 -0.6**
comp=Z,12nm,0.6s,mb4.8
CLL Collm 77.47 332 *i*P P **22 30 41.7 -0.5**
comp=Z,14nm,1.0s,mb4.7
CLL Collm 77.47 332 *i*P P **22 30 41.7 -0.5**
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.7
BRG Berggiesshubel 77.50 331 *e*P P **22 30 42.0 -0.3**
comp=Z,7.0nm,1.1s,mb4.3
BRG Berggiesshubel 77.50 331 *e*P P **22 30 42.1 -0.2**
comp=Z,2.5nm,1.0s,mb3.9
BRG Berggiesshubel 77.50 331 *e*P P **22 30 42.1 -0.2**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
PVCC Panska Ves 77.56 331 *e*P P **22 30 43.1 +0.4**
PVCC *ex* x 22 31 10.5
VYHS Vyhne 77.60 327 *e*P P **22 30 43.4 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
VYHS Vyhne 77.60 327 *e*P P **22 30 43.4 +0.5**
comp=Z,6.5nm,1.4s,mb4.2
PSZ Piskesteto 77.63 326⇑*i*P P **22 30 43.9 +0.8**
PSZ Piszkesteto 77.63 326⇑*i*P P **22 30 43.9 +0.8**
ANTO Ankara 77.65 314 *e*P P **22 30 44.0 +0.8**
ANTO pmax pmax
comp=Z,15nm,0.8s,mb4.8
ANTO Ankara 77.65 314 *e*P P **22 30 44.0 +0.9**
comp=Z,15nm,0.8s,mb4.8
VRAC Vranov 77.82 329 P P **22 30 44.5 +0.4**
comp=Z,5.3nm,0.7s,mb4.4,baz=37,slow=7.6,SNR=8.1
VRAC LR LR 23 06 38.3
comp=Z,104nm,20.9s,baz=47,slow=37
VRAC Vranov 77.82 329⇑*i*P P **22 30 43.8 -0.3**
VRAC Vranov 77.82 329⇑*i*P P **22 30 43.8 -0.3**
CLZ Clausthal 77.90 334 *e*P P **22 30 44.8 +0.2**
comp=Z,15nm,1.3s,mb4.6
CLZ Clausthal 77.90 334 *e*P P **22 30 44.8 +0.2**
CLZ pmax pmax
comp=Z,15nm,1.3s,mb4.6
PRU Pruhonice 78.02 330 *e*P P **22 30 44.8 -0.4**
IBBN Ibbenburen 78.33 335 *e*P P **22 30 46.7 -0.2**
comp=Z,11nm,0.9s,mb4.6
GZR Gura Zlata 78.39 323⇓*i*P P **22 30 47.8 +0.5**
GZR Gura Zlata 78.39 323⇓*i*P P **22 30 47.8 +0.5**
MOX Moxa 78.50 332 *e*P P **22 30 47.7 -0.2**
comp=Z,5.0nm,1.0s,mb4.3
MOX Moxa 78.50 332 *e*P P **22 30 48.6 +0.7**
ZST Bratislava 78.53 328 *e*P P **22 30 49.1 +1.1**
ZST pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ZST Bratislava 78.53 328 *e*P P **22 30 49.1 +1.1**
comp=Z,4.2nm,0.7s,mb4.4
SCHQ Schefferville 78.60 19 P P **22 30 47.5 -1.0**
comp=Z,3.5nm,0.8s,mb4.3,baz=1.5,slow=8.5,SNR=4.4
SCHQ Schefferville 78.60 19 *e*P P **22 30 47.3 -1.1**
comp=Z,2.2nm,0.7s,mb4.1
BZS Buzias 78.72 324⇑*i*P P **22 30 49.0 -0.1**
BZS Buzias 78.72 324⇑*i*P P **22 30 49.0 -0.1**
KHC Kasperske Hory 79.08 330 *e*P P **22 30 51.0 -0.1**
KHC *e*pP pP 22 31 09.3 -1.0
CONA Conrad Observa 79.22 328⇑*i*P P **22 30 52.6 +0.8**
comp=Z,5.1nm,1.0s,mb4.3
GEC2 GERESS Array S 79.28 330 *e*P P **22 30 51.6 -0.5**
comp=Z,3.0nm,0.9s,mb4.1
GEC2 GERESS Array S 79.28 330 *e*P P **22 30 51.6 -0.5**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
GERES GERESS Array B 79.28 330 P P **22 30 51.6 -0.5**
comp=Z,1.2nm,0.7s,mb3.9,baz=38,slow=6.8,SNR=13
GERES LR LR 23 09 05.4
comp=Z,71nm,20.3s,baz=98,slow=38
WET Wettzell 79.33 331 *e*P P **22 30 52.6 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
WET Wettzell 79.33 331 *e*P P **22 30 52.6 +0.2**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GRA1 Grafenberg Arr 79.45 332 *e*P P **22 30 53.2 +0.2**
comp=Z,9.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.45 332 *e*P P **22 30 53.2 +0.2**
comp=Z,9.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.45 332 *e*P P **22 30 53.2 +0.2**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
GRF Grafenberg Arr 79.45 332 *e*P P **22 30 53.2 +0.2**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
PKSM Moragy 79.51 326⇑*i*P P **22 30 53.2 -0.2**
VTS Vitosha 80.38 321⇓*i*P P **22 30 58.7 +0.6**
VTS Vitosha 80.38 321⇓*i*P P **22 30 58.7 +0.6**
GROS Grobnik 80.57 328 *i*P P **22 30 59.1 0.0**
PERS Pernice 80.58 328 *i*P P **22 30 59.3 +0.2**
FUR Furstenfeldbru 80.72 331 *e*P P **22 30 59.6 -0.3**
comp=Z,14nm,0.9s,mb4.8
FUR Furstenfeldbru 80.72 331 *e*P P **22 30 59.6 -0.3**
FUR pmax pmax
comp=Z,14nm,0.9s,mb4.8
JFWS Jewell Farm 80.75 38 *e*P P **22 31 04.7 +4.6**
ASF Jabal al Asfar 80.85 306 P P **22 31 01.5 +0.9**
comp=Z,3.4nm,0.8s,mb4.2,baz=265,slow=3.2,SNR=7.7
KBA Koelnbreinsper 80.88 329⇓*i*P P **22 31 01.8 +1.0**
comp=Z,14nm,1.0s,mb4.8
KBA Koelnbreinsper 80.88 329⇓*i*P P **22 31 01.8 +1.0**
KBA pmax pmax
comp=Z,14nm,1.0s,mb4.8
GOLS Golise 80.89 327 *i*P P **22 31 00.7 -0.1**
STU Stuttgart 80.92 333 *e*P P **22 31 01.1 +0.1**
PDKS Podkum 81.10 328 *e*P P **22 31 00.5 -1.5**
GIVF Givet 81.16 336 *e*P P **22 31 01.9 -0.3**
BAIF Baives 81.38 336 *e*P P **22 31 03.5 +0.1**
MOTA Moosalm 81.48 331⇑*i*P P **22 31 04.1 +0.1**
comp=Z,7.6nm,1.0s,mb4.5
MOTA Moosalm 81.48 331⇑*i*P P **22 31 04.1 +0.2**
MOTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
VAY Valandovo 81.67 320 *e*P P **22 31 05.2 +0.3**
CDF Champ du Feu 81.87 334 *e*P P **22 31 05.9 -0.1**
comp=Z,12nm,1.0s,mb4.4
CDF Champ du Feu 81.87 334 *e*P P **22 31 05.9 -0.1**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
CDF Champ du Feu 81.87 334 *e*P P **22 31 05.9 -0.1**
comp=Z,6.1nm,1.0s,mb4.4
MEZF Maizieres J'vi 82.50 335 *e*P P **22 31 09.3 0.0**
HINF Hinteralfeld 82.53 333 *e*P P **22 31 09.6 +0.2**
PMOR Pomariorio Ree 83.71 117 *e*T 00 02 27.9
comp=Z,22nm,0.2s
EIL Elat 83.80 305 *e*P P **22 31 15.5 -0.5**
comp=Z,439nm,1.4s
EIL *e*pP pP 22 31 34.5 -1.0
CABF La Chapelle 83.84 333 *e*P P **22 31 16.1 -0.1**
FLN La Foliniere 83.88 338 *e*P P **22 31 16.0 -0.4**
FLN *e*R
comp=Z,62nm,18.8s
FLN La Foliniere 83.88 338 *e*P P **22 31 16.0 -0.4**
FLN LR LR
comp=Z,60nm,18.8s
LDF La Druitiere 83.94 338 *e*P P **22 31 16.9 +0.2**
LOR Lormes 83.97 335 *e*P P **22 31 16.6 -0.2**
comp=Z,14nm,1.0s,mb4.4
LOR *e*R
comp=Z,55nm,19.5s
LOR Lormes 83.97 335 *e*P P **22 31 16.6 -0.2**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,50nm,19.5s
LOR Lormes 83.97 335 *e*P P **22 31 16.6 -0.2**
comp=Z,7.3nm,1.0s,mb4.5
LOR LR LR
comp=Z,50nm,19.5s
SSF Saint Saulge 84.26 335 *e*P P **22 31 18.0 -0.3**
GRR Gorron 84.32 338 *e*P P **22 31 18.1 -0.5**
comp=Z,7.7nm,0.7s,mb4.3
GRR Gorron 84.32 338 *e*P P **22 31 18.1 -0.5**
GRR pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
GRR Gorron 84.32 338 *e*P P **22 31 18.1 -0.5**
comp=Z,3.8nm,0.7s,mb4.3
PPT Papeete 84.52 120 *e*LR LR 22 57 13.0
comp=Z,251nm,32.8s
SMF Signal de Mont 84.53 335 *e*P P **22 31 18.8 -0.9**
comp=Z,17nm,1.0s,mb4.6
SMF Signal de Mont 84.53 335 *e*P P **22 31 18.8 -0.9**
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SMF Signal de Mont 84.53 335 *e*P P **22 31 18.8 -0.9**
comp=Z,8.4nm,1.0s,mb4.6
AVF Avril sur Loir 84.55 335 *e*P P **22 31 19.0 -0.8**
comp=Z,5.8nm,0.7s,mb4.3
AVF Avril sur Loir 84.55 335 *e*P P **22 31 19.0 -0.8**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 84.55 335 *e*P P **22 31 19.0 -0.8**
comp=Z,2.9nm,0.7s,mb4.3
LPL La Plagne 84.58 332 *e*P P **22 31 19.7 -0.3**
comp=Z,18nm,1.1s,mb4.6
LPL La Plagne 84.58 332 *e*P P **22 31 19.7 -0.3**
LPL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LPL La Plagne 84.58 332 *e*P P **22 31 19.7 -0.3**
comp=Z,8.8nm,1.1s,mb4.6
LPG La Plagne 84.59 332 *e*P P **22 31 19.9 -0.1**
comp=Z,10.0nm,0.8s,mb4.5
LPG La Plagne 84.59 332 *e*P P **22 31 19.9 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 84.59 332 *e*P P **22 31 19.9 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BGF Bois d'Agland 84.92 335 *e*P P **22 31 21.4 -0.2**
ROSF Rostrenen 85.00 340 *e*P P **22 31 21.8 -0.3**
comp=Z,28nm,0.9s,mb4.9
ROSF Rostrenen 85.00 340 *e*P P **22 31 21.8 -0.3**
ROSF pmax pmax
comp=Z,14nm,0.9s,mb4.9
ROSF Rostrenen 85.00 340 *e*P P **22 31 21.8 -0.3**
comp=Z,14nm,0.9s,mb4.9
MBDF Montbardon 85.26 332 *e*P P **22 31 23.9 +0.5**
TCF Toulx Ste Croi 85.35 336 *e*P P **22 31 24.0 +0.2**
ORIF Oris-en-Rattie 85.40 333 *e*P P **22 31 23.7 -0.3**
comp=Z,17nm,1.0s,mb4.6
ORIF *e*R
comp=Z,87nm,20.2s
ORIF Oris-en-Rattie 85.40 333 *e*P P **22 31 23.7 -0.3**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ORIF Oris-en-Rattie 85.40 333 *e*P P **22 31 23.7 -0.3**
comp=Z,8.4nm,1.0s,mb4.6
MFF Saint Martin d 85.76 337 *e*P P **22 31 25.4 -0.4**
SBF Sospel 85.79 331 *e*P P **22 31 25.5 -0.5**
comp=Z,55nm,1.0s,mb5.1
SBF Sospel 85.79 331 *e*P P **22 31 25.5 -0.5**
SBF pmax pmax
comp=Z,27nm,1.0s,mb5.1
SBF Sospel 85.79 331 *e*P P **22 31 25.5 -0.5**
comp=Z,27nm,1.0s,mb5.1
VIVF Saint-Julien-l 85.85 333 *e*P P **22 31 25.9 -0.4**
comp=Z,12nm,1.0s,mb4.5
VIVF Saint-Julien-l 85.85 333 *e*P P **22 31 25.9 -0.4**
VIVF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
VIVF Saint-Julien-l 85.85 333 *e*P P **22 31 25.9 -0.4**
comp=Z,6.1nm,1.0s,mb4.5
SMRF Simiane la Rot 86.33 332 *e*P P **22 31 28.7 0.0**
PGF Pioggiola 86.36 330 *e*P P **22 31 29.0 +0.2**
comp=Z,27nm,1.0s,mb4.8
PGF Pioggiola 86.36 330 *e*P P **22 31 29.0 +0.2**
PGF pmax pmax
comp=Z,13nm,1.0s,mb4.8
PGF Pioggiola 86.36 330 *e*P P **22 31 29.0 +0.2**
comp=Z,13nm,1.0s,mb4.8
RJF Les Rejaudoux 86.45 336 *e*P P **22 31 28.8 -0.4**
comp=Z,39nm,1.4s,mb4.8
RJF *e*R
comp=Z,80nm,18.5s
RJF Les Rejaudoux 86.45 336 *e*P P **22 31 28.8 -0.4**
RJF pmax pmax
comp=Z,20nm,1.4s,mb4.8
RJF MLR MLR
comp=Z,80nm,18.5s
RJF Les Rejaudoux 86.45 336 *e*P P **22 31 28.8 -0.4**
comp=Z,20nm,1.4s,mb4.8
RJF LR LR
comp=Z,80nm,18.5s
LMR La Mourre 86.58 332 *e*P P **22 31 28.9 -0.9**
comp=Z,20nm,0.9s,mb4.8
LMR La Mourre 86.58 332 *e*P P **22 31 28.9 -0.9**
LMR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LMR La Mourre 86.58 332 *e*P P **22 31 28.9 -0.9**
comp=Z,9.9nm,0.9s,mb4.7
CAF Calviac 86.62 335 *e*P P **22 31 30.2 +0.1**
comp=Z,20nm,0.9s,mb4.8
CAF Calviac 86.62 335 *e*P P **22 31 30.2 +0.1**
CAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CAF Calviac 86.62 335 *e*P P **22 31 30.2 +0.1**
comp=Z,10nm,0.9s,mb4.8
LASF Ste Croix 86.81 334 *e*P P **22 31 30.8 -0.2**
comp=Z,54nm,1.4s,mb5.0
LFF La Frestale 87.01 336 *e*P P **22 31 31.8 -0.2**
MTLF Montolieu 88.00 334 *e*P P **22 31 36.6 -0.1**
comp=Z,25nm,1.2s,mb4.8

MTLF	**Montolieu**	**88.00**	**334**	*e*P	**P**	**22 31 36.6**	**-0.1**
MTLF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
MTLF	**Montolieu**	**88.00**	**334**	*e*P	**P**	**22 31 36.6**	**-0.1**
	comp=Z,13nm,1.2s,mb4.8						
EPF	**Esparros**	**88.87**	**335**	*e*P	**P**	**22 31 41.3**	**+0.5**
TBI	**Tubuai**	**88.89**	**124**	*e*T		00 09 00.6	
	comp=Z,8.8nm,0.4s						
KEST	**Kesra**	**92.11**	**326**	P	**P**	**22 31 55.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.2,baz=28,slow=8.5,SNR=4.1						
ESDC	**Sonseca Array**	**93.22**	**337**	P	**P**	**22 32 00.2**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.5,baz=15,slow=4.3,SNR=9.0						
TORD	**Torodi Ar. Bea**	**115.13**	**321**	PKP	PKiKP	22 37 26.1	-1.3
	comp=Z,0.2nm,0.7s,baz=18,slow=3.0,SNR=8.0						
TORD				PP	PP	22 38 19.9	-8.3
	comp=Z,0.4nm,0.6s,baz=27,slow=6.4,SNR=4.9						
SNAA	**Sanae**	**147.49**	**198**	PKPbc	PKPbc	22 38 29.1	-1.3
	comp=Z,0.9nm,0.9s,baz=174,slow=3.5,SNR=7.4						
SNAA				pPKPbc	pPKPbc	22 38 48.9	-1.7
	comp=Z,2.2nm,0.9s,baz=171,slow=1.5,SNR=8.1						
SNAA	**Sanae**	**147.49**	**198**	*e*PKPdf	PKPdf	22 38 26.9	-0.8
SNAA				*e*		22 38 29.1	
SNAA				*e*		22 38 31.9	
SNAA				*e*		22 38 45.8	
SNAA				*e*		22 38 49.2	
SNAA				*e*		22 38 50.5	
SNAA				*e*		22 38 51.9	
SNAA				*e*		22 38 53.4	
SNAA				*e*		22 38 56.3	
SNAA				*e*		22 38 58.1	
SNAA	**Sanae**	**147.49**	**198**	PKP2	PKPab	22 38 29.1	-3.4
SNAA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SNAA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
VNA3	**Neumayer Olymp**	**149.25**	**195**	*e*PKPdf	PKPdf	22 38 30.3	-0.3
VNA3				*e*		22 38 33.8	
VNA3				*e*		22 38 39.0	
VNA3				*e*		22 38 50.2	
VNA3				*e*		22 38 53.7	
VNA3				*e*		22 38 55.1	
VNA3				*e*		22 38 56.7	
VNA3				*e*		22 38 58.6	
VNA3				*e*		22 39 01.0	
VNA1	**Neumayer--Stat**	**149.44**	**197**	*e*PKPdf	PKPdf	22 38 29.8	-1.1
VNA1				*e*		22 38 34.2	
VNA1				*e*		22 38 39.1	
VNA1				*e*		22 38 54.3	
VNA1				*e*		22 38 57.2	
VNA1				*e*		22 38 58.9	
VNA1				*e*		22 39 01.5	
BDFB	**Brasilia**	**150.23**	**28**	PKPbc	PKPbc	22 38 37.3	0.0
	comp=Z,2.0nm,0.7s,baz=286,slow=7.4,SNR=4.0						
BDFB	**Brasilia**	**150.23**	**28**	PKIKP	PKPbc	22 38 37.3	0.0
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*CSEM **23** 22:29:47.0, 67.19N×2068E, h2km, ML2.7, Mining explosion. After UPP*
*UPP **23** 22:29:47.0, 67.19N×2068E, h2km, ML2.7, Mining explosion.*

HEL 23 22:29:47.6±0.1, 6719N×2067E, h0km, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.08**	**210**	*i* P		Pg	22 29 48.7	-0.4
DUNU	**Dundret**	**0.08**	**210**	P		Pg	22 29 48.7	-0.4
	baz=298							
KUA	**Kurravaara**	**0.78**	**351**	*i* P		Pg	22 30 01.4	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i* P		Pg	22 30 03.2	-0.9
SALU	**Saltoluokta**	**0.86**	**284**	P		Pg	22 30 03.2	-0.9
	baz=108							
ERTU	**Ertsjaerv**	**0.88**	**136**	*i* P		Pg	22 30 03.8	-0.6
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P		Pg	22 30 04.2	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P		Pg	22 30 04.7	-1.5
LANU	**Lannavaara**	**1.00**	**30**	*e*P		Pg	22 30 05.3	-1.5
HARU	**Harads**	**1.04**	**173**	P		Pg	22 30 05.8	-1.7
KALU	**Kalix**	**1.71**	**140**	P		Pn	22 30 17.8	-0.9
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P		Pn	22 30 18.1	-0.9
SJUU	**Sjulsmark**	**1.73**	**167**	P		Pn	22 30 18.0	-0.9
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P		Pn	22 30 20.9	+0.7
KIF				*e*S		Sn	22 30 45.0	+1.0
LILU	**Lilltraesk**	**1.94**	**190**	*e*P		Pn	22 30 21.6	-0.2
SGF	**Sodankyl**	**2.29**	**81**	*e*P		Pn	22 30 26.4	-0.1
SGF				*e*S		Sn	22 30 54.7	-0.7
BURU	**Burvik**	**2.63**	**173**	*e*P		Pn	22 30 31.4	+0.1

*IDC **23** 22:50:24.8±2.4, 27.20N×52.54E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.6/5, Error ellipse: s-maj=59.4km s-min=27.0km az=151.0*
*ISCJB **23** 22:50:25.6±0.9, 27.39N±0.008×52.47E±0.005, h10km, mb3.5/4, Error ellipse: s-maj=11.0km s-min=6.6km az=169.7*
*THR **23** 22:50:25.2±0.3, 27.42N×52.40E, h15km±8km, ML3.4*
*NEIC **23** 22:50:26.3, 27.47N×52.49E, h14km, mb3.2/1, ML3.4(THR), After THR.*
*CSEM **23** 22:50:26.6±0.2, 27.42N×52.49E, h20km, mb3.2/1, Error ellipse: s-maj=4.5km s-min=3.0km az=176.0*
*TEH **23** 22:50:27.5, 27.32N×52.58E, h13km, Mn3.5*
*KISR **23** 22:50:29.7±0.5, 26.35N×51.46E, h34km, ML3.0*

ISC 23 22:50:27.7±0.9, 2742N±0.008×5252E±0.005, h10km, n30, σ0.9s96/32, mb3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GHIR	**Ghir-Karzin**	**0.96**	**25**	*e*PG		**Pg**	**22 50 44.2**	**-1.9**
GHIR				AML		AML	22 51 03.3	
	comp=N,663nm,0.6s							
GHIR				AML		AML	22 51 03.5	
	comp=E,2μm,0.6s							
GHIR	**Ghir-Karzin**	**0.96**	**25**	*e*Pg		**Pg**	**22 50 43.0**	**-3.1**
IMOK	**Mook**	**1.63**	**6**	*e*Pn		**Pn**	**22 50 56.4**	**-0.1**
IMOK				*e*Sn		**Sn**	**22 51 18.2**	**+0.7**
ISRV	**Sarvestan**	**2.02**	**15**	*e*Pn		**Pn**	**22 51 01.9**	**0.0**
BNDS	**Bandar-Abbas**	**3.24**	**90**	*e*PN		**Pn**	**22 51 19.3**	**+0.6**
BNDS				AML		AML	22 52 19.2	
	comp=N,98nm,0.5s							
BNDS				AML		AML	22 52 26.7	
	comp=E,84nm,0.4s							
BNDS	**Bandar-Abbas**	**3.24**	**90**	*e*Pn		**Pn**	**22 51 19.0**	**+0.3**
IMEH	**Mehriz**	**4.36**	**24**	*e*Pn		**Pn**	**22 51 34.4**	**+0.4**
KRBR	**Kerman**	**4.51**	**55**	*e*PN		**Pn**	**22 51 36.7**	**+0.6**
KRBR				AML		AML	22 52 32.3	
	comp=N,32nm,0.5s							
KRBR	**Kerman**	**4.51**	**55**	*e*Pn		**Pn**	**22 51 36.0**	**-0.1**
IBAF	**Bafgh**	**4.93**	**32**	*e*Pn		**Pn**	**22 51 41.5**	**-0.4**
NAY	**Al-Naaiem**	**5.00**	**293**	*e*P		**Pn**	**22 51 42.4**	**-0.4**
NAY				AML		AML	22 52 43.9	
	comp=Z,7.6nm,0.6s							
MIB	**Mutribah**	**5.14**	**299**	*e*P		**Pn**	**22 51 46.6**	**+1.9**
MIB				*e*S		**Sn**	**22 52 44.4**	**+0.3**
MIB				AML		AML	22 52 47.9	
	comp=Z,9.3nm,0.5s							
RST	**Umm Al-Ruwaisa**	**5.29**	**294**	*e*P		**Pn**	**22 51 47.4**	**+0.6**
RST				AML		AML	22 52 48.9	
	comp=Z,11nm,0.6s							
NASN	**Na'in**	**5.37**	**3**	*e*Pn		**Pn**	**22 51 47.5**	**-0.4**
NASN	**Na'in**	**5.37**	**3**	*e*P		**Pn**	**22 51 47.0**	**-0.9**
NASN	**Na'in**	**5.37**	**3**	*e*Pn		**Pn**	**22 51 47.5**	**-0.4**
	SNR=52							
IZEF	**Zefreh**	**5.46**	**358**	*e*Pn		**Pn**	**22 51 49.2**	**+0.1**
ASAO	**Ashtian**	**7.42**	**344**	*e*Pn		**Pn**	**22 52 15.1**	**-1.0**
IKOM	**Komasi**	**7.99**	**329**	*e*Pn		**Pn**	**22 52 23.8**	**-0.1**
IGHG	**Ghaleghazi**	**8.58**	**325**	*e*Pn		**Pn**	**22 52 31.6**	**-0.3**
IDHR	**Dehrash**	**8.96**	**326**	*e*Pn		**Pn**	**22 52 36.9**	**-0.3**
BR131	**Keskin Array S**	**19.91**	**313**	*e*P		**Pn**	**22 54 59.6**	**-1.4**
	comp=Z,1.1nm,0.8s							
BR131	**Keskin Array S**	**19.91**	**313**	*e*P		**Pn**	**22 54 59.6**	**-1.4**
	comp=Z,1.1nm,0.8s							
BRTR	**Keskin Array B**	**19.91**	**313**	P		**Pn**	**22 54 59.5**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=134,slow=11,SNR=11							
BRTR	**Keskin Array B**	**19.91**	**313**	P		**Pn**	**22 54 59.5**	**-1.5**
AKTK	**Aktyubinsk**	**23.36**	**9**	P		**P**	**22 55 38.4**	**+1.9**
AKTO	**Aktyubinsk**	**23.36**	**9**	P		**P**	**22 55 38.4**	**+2.0**
	comp=Z,0.9nm,0.7s,mb3.3,baz=192,slow=7.4,SNR=4.8							
BVAR	**Borovoye Array**	**28.82**	**23**	P		**P**	**22 56 24.8**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.5,baz=206,slow=6.4,SNR=5.9							
SONM	**Songino Array**	**46.24**	**49**	P		**P**	**22 58 53.3**	**+0.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=237,slow=5.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**49.42**	**264**	P		**P**	**22 59 16.7**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=60,slow=7.0,SNR=9.5							

IDC 23 22:54:47.4±7.5, 3089S×17965W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/10, mbtmp3.8/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/18, Error ellipse: s-maj=309.3km s-min=58.7km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**7.82**	**199**	Sn		Sn	22 58 02.3	-9.3
	0.3nm,0.3s,baz=309,slow=6.5,SNR=1.5							
ASAR	**Alice Springs**	**41.66**	**268**	P		P	23 02 37.5	-0.1
	0.6nm,0.6s,baz=105,slow=7.5,SNR=6.3							
WRA	**Warramunga Arr**	**42.70**	**274**	P		P	23 02 46.4	+0.3
	0.6nm,0.3s,baz=111,slow=8.0,SNR=17							
GUMO	**Guam**	**55.85**	**317**	LR		LR	23 23 39.9	
	comp=Z,30nm,20.2s,baz=266,slow=31							
FINES	**FINESS Array B**	**145.10**	**339**	PKPbc		PKPbc	23 14 24.8	-1.4
	3.3nm,1.1s,baz=45,slow=3.3,SNR=5.4							

*ISCJB **23** 23:00:04.8±0.8, 3840N±0.003×9.11W±0.007, h4km, Error ellipse: s-maj=8.5km s-min=3.8km az=137.6*
*CSEM **23** 23:00:04.9±0.3, 38.36N×9.04W, h2km, ML1.3, Error ellipse: s-maj=10.2km s-min=3.6km az=64.0*
*MDD **23** 23:00:06.3±0.8, 3843N×9.06W, h0km, mbLg1.5/6, Error ellipse: s-maj=8.9km s-min=4.0km az=66.0, PRXIMO*
*INMG **23** 23:00:06.1±0.9, 3841N×9.13W, h4km±5km, ML1.3, Error ellipse: s-maj=8.1km s-min=1.7km az=75.0*

ISC 23 23:00:05.6±0.8, 3841N±0.003×909W±0.008, h9km±7km, n15, σ0.8s82/24, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLOU	**Loures**	**0.47**	**354**	*e*Pg		**Pg**	**23 00 15.0**	**+0.2**
PLOU				*e*Sg		**Sg**	**23 00 21.1**	**+0.1**
PLOU								
	17nm,0.2s							
PLOU	**Loures**	**0.47**	**354**	*e*Pg		**Pg**	**23 00 15.0**	**+0.2**
PLOU				*e*Sg		**Sg**	**23 00 21.1**	**+0.1**
	17nm,0.2s							
PMAFR	**Mafra**	**0.56**	**345**	*e*Pg		**Pg**	**23 00 16.6**	**+0.2**
PMAFR				*e*Sg		**Sg**	**23 00 23.8**	**0.0**
PTEO	**Sao Teotonio**	**0.92**	**161**	*e*P		**Pg**	**23 00 22.6**	**-0.6**
PTEO				*e*S		**Sg**	**23 00 35.5**	**+0.4**
PTEO								
	8.0nm,0.3s							
PBEJ	**Beja**	**1.04**	**111**	*e*P		**Pg**	**23 00 25.6**	**0.0**
PBEJ				*e*S		**Sg**	**23 00 40.1**	**+1.0**
PBEJ								
	5.8nm,0.1s							
PESTR	**Estremoz**	**1.26**	**69**	*e*P		**Pn**	**23 00 29.4**	**0.0**
PESTR				*e*S		**Sb**	**23 00 46.6**	**+0.8**
PESTR								
	4.0nm,0.2s							
PTOM	**Tomar**	**1.31**	**24**	*e*P		**Pn**	**23 00 29.9**	**-0.2**
PTOM				*e*S		**Sb**	**23 00 47.4**	**0.0**
PTOM								
	4.1nm,0.2s							
EGRO	**El Granado**	**1.55**	**124**	Pg		**Pg**	**23 00 34.0**	**-1.2**
	0.0nm,0.1s,SNR=7.1							
EGRO				Lg			23 00 55.4	
	1.8nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**1.55**	**124**	P		**Pn**	**23 00 34.0**	**+0.7**
	SNR=7.1							
EBAD	**Badajoz**	**1.67**	**78**	Pg		**Pg**	**23 00 34.2**	**-3.3**
	0.2nm,0.1s,SNR=4.9							
EBAD				Lg			23 00 58.7	
	3.4nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**1.67**	**78**	P		**Pn**	**23 00 34.2**	**-0.7**
	0.2nm,0.1s,SNR=4.9							
EMIN	**Mina Concepcio**	**2.02**	**108**	Pn		**Pn**	**23 00 41.3**	**+1.5**
	0.0nm,0.2s,SNR=7.9							
EMIN				Lg			23 01 09.5	
	0.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**2.02**	**108**	P		**Pn**	**23 00 41.3**	**+1.5**
	SNR=7.9							
EADA	**Adamuz**	**3.56**	**93**	Pn		**Pn**	**23 01 00.8**	**-0.2**
	0.2nm,0.1s,SNR=7.9							
EADA				Sn		**Sn**	**23 01 40.8**	**-2.5**
	0.3nm,0.2s,SNR=7.9							
EADA				Lg			23 01 58.8	
	0.2nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**3.56**	**93**	P		**Pn**	**23 01 00.8**	**-0.2**
	SNR=7.9							
EADA				Sn		**Sn**	**23 01 42.8**	**-0.4**
	SNR=7.9							

*IDC **23** 23:01:07.5±0.9, 3565N×8898E, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, ML3.3/2, MS3.7/12, Ms1 3.8/12, ms1mx3.6/24, Error ellipse: s-maj=29.5km s-min=17.8km az=48.0*
*ISCJB **23** 23:01:14.9±0.7, 360N±0.1×8853E±005, h33km, mb4.1/25, MS3.7/15, Error ellipse: s-maj=15.5km s-min=5.9km az=9.2*
*MOS **23** 23:01:16.9±1.0, 3639N×8868E, h33km, mb4.3/7, Error ellipse: s-maj=16.5km s-min=7.3km az=119.4*
*BJI **23** 23:01:17.0, 3606N×8839E, h39km, mB4.8, mb4.2, Ms4.3, Msz3.9*
*NEIC **23** 23:01:18.6±0.8, 3636N×8864E, h35km, mb4.3/7, Error ellipse: s-maj=19.0km s-min=13.0km az=60.0*

ISC 23 23:01:20.6±0.9, 3631N±007×8867E±005, h64km±8km, n57, σ1.1s01/58, mb4.1/25, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**6.91**	**162**	*e*P		**Pn**	**23 02 59.9**	**+0.7**
LSA				pmax		pmax		
	comp=Z,29nm,1.0s							
LSA	**Lhasa**	**6.91**	**162**	*e*Pn		**Pn**	**23 02 59.9**	**+0.7**
	comp=Z,29nm,1.0s							
GTA	**Gaotai**	**9.34**	**67**	*e*P		**Pn**	**23 03 39.6**	**+7.2**
GTA				AP			23 03 43.1	
GTA				XP			23 03 46.0	
GTA				S		**Sn**	**23 05 23.9**	**+8.0**
GTA				LG1			23 06 08.4	
GTA				LG2			23 06 21.8	
GTA				AMB	AMB			
	comp=Z,3.0nm,1.1s							
GTA				AMB	AMB			
	comp=Z,100nm,4.2s							
GTA				LR	LR			
	comp=N,3μm,14.8s							
GTA				LR	LR			
	comp=E,723nm,11.4s							
GTA				LR	LR			
	comp=Z,823nm,13.7s							
KSH	**Kashi**	**10.53**	**292**	*e*P		**Pn**	**23 03 49.1**	**+0.4**
KSH				*e*AP			23 03 56.1	
KSH				*e*XP			23 04 00.0	
KSH				*e*S		**Sn**	**23 05 46.3**	**+1.2**
KSH				*e*XS			23 05 58.1	
KSH				*e*SS			23 06 01.1	
KSH				AMB	AMB			
	comp=Z,373nm,2.6s							
KSH				LR	LR			
	comp=N,2μm,7.3s							
KSH				LR	LR			
	comp=E,3μm,7.8s							
KSH				LR	LR			
	comp=Z,1μm,6.0s							
MKAR	**Makanchi Array**	**11.51**	**338**	Pn		**Pn**	**23 04 00.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=15							
MKAR				Lg			23 07 38.7	
	comp=Z,0.0nm,0.3s,baz=144,slow=25,SNR=1.9							
AAK	**Ala-Archa**	**12.64**	**304**	*i* P		**Pn**	**23 04 16.5**	**-1.0**
AAK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
AAK				MLR		MLR		
	comp=Z,200nm,11.0s							
AAK	**Ala-Archa**	**12.64**	**304**	*e*Pn		**Pn**	**23 04 16.0**	**-1.5**
	comp=Z,5.0nm,0.8s							
FRU	**Bishkek**	**12.65**	**305**	*e*P		**Pn**	**23 04 18.5**	**+1.0**
SONM	**Songino Array**	**17.44**	**43**	P		**Pn**	**23 05 18.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=231,slow=13,SNR=18							
SONM				Lg			23 10 29.0	
	comp=Z,0.2nm,0.3s,baz=238,slow=30,SNR=3.0							
SONM				LR		LR	23 12 18.4	
	comp=Z,205nm,18.6s,baz=229,slow=38							
ZAK	**Zakamensk**	**17.58**	**32**	*e*P		**Pn**	**23 05 20.7**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.8s							
HHC	**Hu-ho-hao-te**	**18.45**	**69**	*e*P		**Pn**	**23 05 39.1**	**+7.3**
HHC				AP		pP	23 05 46.9	+2.5
HHC				XP		sP	23 05 51.6	-0.8
HHC				PP			23 05 54.5	
HHC				S		**S**	**23 08 58.4**	**+0.4**
HHC				XS		sS	23 09 11.8	-8.2
HHC				SS			23 09 23.3	
HHC				AMB	AMB			
	comp=Z,13nm,0.4s							
HHC				AMB	AMB			
	comp=Z,118nm,4.8s							
HHC				LR	LR			
	comp=N,2μm,17.3s							
HHC				LR	LR			
	comp=E,463nm,19.6s							
HHC				LR	LR			
	comp=Z,425nm,15.8s							
VOSK	**Vostochnaya**	**20.61**	**328**	P		**P**	**23 05 54.9**	**+0.4**
VOSK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
BVA0	**Borovoye Array**	**21.08**	**328**	P		**P**	**23 06 00.4**	**+0.8**
BVA0				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb3.4							
BVAR	**Borovoye Array**	**21.08**	**328**	P		**P**	**23 06 00.5**	**+1.0**
	comp=Z,3.5nm,0.7s,mb3.8,baz=134,slow=12,SNR=14							
BVAR				LR		LR	23 15 01.5	
	comp=Z,237nm,20.9s,baz=320,slow=38							
BRVK	**Borovoye**	**21.15**	**328**	*e*P		**P**	**23 06 01.0**	**+0.7**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb3.9							
BRVK	**Borovoye**	**21.15**	**328**	*e*P		**P**	**23 06 01.0**	**+0.7**
	comp=Z,5.5nm,0.8s,mb3.9							
CHKZ	**Chkalovo**	**21.45**	**330**	*e*P		**P**	**23 06 03.9**	**+0.3**
CHKZ				*e*S		**S**	**23 10 00.5**	**+2.6**
CHKZ				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.1							
CHKZ	**Chkalovo**	**21.45**	**330**	*e*P		**P**	**23 06 03.9**	**+0.4**
	comp=Z,8.7nm,0.9s,mb4.1							
CHKZ				*e*S		**S**	**23 10 00.5**	**+2.6**
ZRNK	**Zerenda**	**21.63**	**326**	*e*P		**P**	**23 06 05.5**	**0.0**
ZRNK				pmax		pmax		
	comp=Z,13nm,1.1s,mb4.3							
ZRNK	**Zerenda**	**21.63**	**326**	*e*P		**P**	**23 06 05.5**	**0.0**
	comp=Z,13nm,1.1s,mb4.3							
AB31	**Akbulak array**	**24.57**	**311**	*i* P		**P**	**23 06 35.1**	**+0.6**
NJ2	**Nanjing**	**25.27**	**91**	*e*P		**P**	**23 06 41.4**	**+0.5**
NJ2				AP		pP	23 06 50.4	-5.8
NJ2				XP		sP	23 06 54.3	-9.4
NJ2				PP			23 07 19.8	
NJ2				AMB	AMB			
	comp=Z,30nm,0.6s,mb5.0							
NJ2				AMB	AMB			
	comp=Z,270nm,9.7s							
NJ2				LR	LR			
	comp=N,750nm,15.0s							
NJ2				LR	LR			
	comp=E,620nm,14.4s							
NJ2				LR	LR			
	comp=Z,620nm,20.3s							
AKTK	**Aktyubinsk**	**26.16**	**312**	P		**P**	**23 06 49.1**	**+0.2**
AKTK				LR		LR	23 17 01.1	
AKTO	**Aktyubinsk**	**26.16**	**312**	P		**P**	**23 06 49.1**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.4,baz=89,slow=5.4,SNR=5.2							
AKTO				LR		LR	23 17 01.1	
	comp=Z,76nm,18.1s,baz=273,slow=36							
SSE	**Sheshan**	**27.47**	**91**	P		**P**	**23 07 01.9**	**+1.3**
SSE				AP		pP	23 07 10.8	-5.2
SSE				XP		sP	23 07 14.5	-9.0
SSE				S		**S**	**23 11 38.3**	**+1.6**
SSE				AMB	AMB			
	comp=Z,31nm,0.7s,mb5.0							
SSE				AMB	AMB			
	comp=Z,140nm,3.2s							
SSE				LR	LR			
	comp=N,143nm,14.5s							
SSE				LR	LR			
	comp=E,103nm,14.5s							
SSE				LR	LR			
	comp=Z,55nm,17.6s							
ARU	**Arti**	**28.55**	**324**	*e*P		**P**	**23 07 10.0**	**-0.3**
ARU				*e*			23 07 59.6	
ARU				*e*			23 10 18.0	
ARU				*e*S		**S**	**23 11 56.4**	**+2.6**
ARU				MLR	MLR			
	comp=Z,100nm,20.0s							
ARU				MLR	MLR			
	comp=N,100nm,17.0s							
ARU				MLR	MLR			
	comp=E,100nm,17.0s							
JOW	**Kunigami**	**34.84**	**94**	LR		LR	23 22 35.7	
	comp=E,122nm,18.3s,baz=135,slow=37							
KIV	**Kislovodsk**	**35.60**	**297**	*e*P		**P**	**23 08 12.1**	**+0.1**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
KIV	**Kislovodsk**	**35.60**	**297**	*e*P		**P**	**23 08 11.6**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.5							
MJAR	**Matsushiro Arr**	**39.50**	**74**	LR		LR	23 25 28.1	
	comp=Z,186nm,21.2s,baz=255,slow=37							
OBN	**Obninsk**	**39.87**	**315**	*e*P		**P**	**23 08 48.2**	**+0.2**
OBN				*e*			23 10 21.7	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
BR131	**Keskin Array S**	**42.92**	**292**	*e*P		**P**	**23 09 12.9**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.7							
BRTR	**Keskin Array B**	**42.92**	**292**	P		**P**	**23 09 12.6**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=91,slow=8.9,SNR=11							
AKASG	**Malin Array Be**	**44.27**	**308**	P		**P**	**23 09 23.8**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.2,baz=75,slow=7.2,SNR=5.1							
AKASG	**Malin Array Be**	**44.27**	**308**	*i* P		**P**	**23 09 26.2**	**+2.4**
MA2	**Magadan**	**45.59**	**39**	*i* P		**P**	**23 09 34.5**	**+0.2**
MA2				pmax		pmax		
	comp=Z,30nm,1.9s,mb4.9							
MA2				MLR	MLR			
	comp=Z,100nm,26.0s							
FINES	**FINESS Array B**	**45.92**	**324**	P		**P**	**23 09 35.5**	**-1.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=114,slow=13,SNR=4.1							
FINES				LR		LR	23 30 41.8	
	comp=Z,75nm,18.5s,baz=163,slow=38							
FINES	**FINESS Array B**	**45.92**	**324**	*i* P		**P**	**23 09 36.4**	**-0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**47.15**	**335**	LR		LR	23 31 07.0	
	comp=Z,144nm,20.4s,baz=282,slow=38							
**M

*CSEM **23** 23:31:21.0, 6782N×2021E, h0km, ML2.7, Mining explosion. After UPP*
*UPP **23** 23:31:21.0, 6782N×2021E, h0km, ML2.7, Mining explosion.*

HEL 23 23:31:21.9±0.1, 6783N×2016E, h0km, ML1.8, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**29**	*i* P	Pg	23 31 23.9	-0.6
NIKU	**Nikkaluokta**	**0.43**	**275**	*i* P	Pg	23 31 29.6	-0.5
LANU	**Lannavaara**	**0.72**	**72**	*i* P	Pg	23 31 34.4	-1.4
DUNU	**Dundret**	**0.73**	**167**	*i* P	Pg	23 31 34.4	-1.5
SALU	**Saltoluokta**	**0.78**	**235**	*i* P	Pg	23 31 35.9	-0.9
SALU	**Saltoluokta** baz=66	**0.78**	**235**	P	Pg	23 31 35.9	-0.9
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 31 44.3	-0.6
KIF				*e*S	Sg	23 32 00.3	-0.1
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pn	23 31 46.4	-2.3
PAJU	**Pajala**	**1.40**	**124**	P	Pn	23 31 46.3	-2.4
ERTU	**Ertsjaerv**	**1.51**	**147**	*e*P	Pn	23 31 49.2	-1.0
HARU	**Harads**	**1.71**	**169**	P	Pn	23 31 51.9	-1.0
KALU	**Kalix**	**2.35**	**146**	P	Pn	23 32 01.6	-0.2
SJUU	**Sjulsmark**	**2.41**	**165**	*e*P	Pn	23 32 02.6	+0.1
SGF	**Sodankyl**	**2.47**	**96**	*e*P	Pn	23 32 03.5	+0.1
SGF				*e*S	Sn	23 32 34.3	+0.1
KEV	**Kevo**	**3.15**	**49**	*e*P	Pn	23 32 13.2	+0.5
KEV				*e*S	Sn	23 32 50.6	-0.5
KEV				*e*SG	Sg	23 32 58.8	-4.3
KEV				MSG		23 32 59.5	
OUL	**Oulu**	**3.59**	**137**	*e*P	Pn	23 32 19.4	+0.5
OUL				*e*S	Sn	23 33 00.8	-1.2
OUL				MSG		23 33 13.3	
	comp=Z,1.7nm,0.2s						
KU4	**Liikasenvaara**	**3.97**	**107**	*e*P	Pn	23 32 24.2	+0.3
KU4				*e*S	Sn	23 33 09.4	-1.8
KU4				MSG		23 33 29.4	
	comp=Z,1.5nm,0.3s						

*ISCJB **23** 23:54:56.4±0.9, 2396S±007×17991W±006, h508km±11km, mb4.5/34, Error ellipse: s-maj=10.9km s-min=7.7km az=124.4*
*IDC **23** 23:54:57.1±1.0, 2390S×17987W, h508km±9km, mb4.2/13, mb1 4.3/14, mb1mx4.3/15, mbtmp5.1/14, Error ellipse: s-maj=12.0km s-min=11.0km az=7.0*
*NEIC **23** 23:54:57.6±0.9, 2392S×17987W, h514km±10km, mb4.5/18, Error ellipse: s-maj=9.6km s-min=6.5km az=156.0*
*BJI **23** 23:54:57.6, 2390S×17990W, h514km, mB4.7, mb4.8*
*MOS **23** 23:54:58.9±3.3, 2376S×17995E, h508km, mb4.5/8, Error ellipse: s-maj=15.4km s-min=14.3km az=78.3*

ISC 23 23:54:57.5±0.8, 2406S±007×17982W±006, h514km±10km, n155, σ0≤93/99, mb4.5/33, 12C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.44**	**162**	P	**P**	**23 56 30.3**	**+1.2**
	295nm,0.3s,baz=279,slow=1.9,SNR=16						
RAO				S	**S**	**23 57 43.3**	**-0.8**
	113nm,0.3s,baz=84,slow=21,SNR=6.0						
AFI	**Afiamalu**	**12.64**	**38**	P	**P**	**23 57 36.4**	**-6.3**
	9.7nm,0.3s,baz=237,slow=8.6,SNR=12						
AFI				S	**S**	**23 59 49.2**	**-10**
	15nm,0.3s,baz=222,slow=23,SNR=4.2						
DZM	**Mont Dzumac**	**12.80**	**276**	P	**P**	**23 57 46.9**	**+2.6**
	1.4nm,0.3s,baz=94,slow=16,SNR=14						
PUZ	**Puketiti**	**14.06**	**186**	*e*PN	**P**	**23 57 54.3**	**-3.3**
URZ	**Urewera**	**14.39**	**190**	P	**P**	**23 57 58.1**	**-3.0**
	9.5nm,0.3s,baz=332,slow=2.7,SNR=13						
URZ				S	**S**	**00 00 31.3**	**-1.1**
	13nm,0.3s,baz=194,slow=22,SNR=15						
SNZO	**South Karori**	**17.80**	**194**	*e*Pn	**P**	**23 58 34.7**	**-0.5**
	93nm,1.0s						
QRZ	**Quartz Range**	**17.91**	**199**	PN	**P**	**23 58 36.3**	**+0.1**
THZ	**Tophouse**	**18.66**	**197**	PN	**P**	**23 58 42.5**	**-0.7**
RPZ	**Rata Peaks**	**20.99**	**199**	P	**P**	**23 59 04.8**	**+0.6**
	34nm,0.5s,baz=219,slow=0.2,SNR=28						
ARMA	**Armidale**	**26.12**	**250**	*e*P	**P**	**23 59 52.6**	**+2.6**
TBI	**Tubuai**	**27.79**	**95**	*e*LR	LR	00 06 30.0	
	156nm,34.0s						
PPT	**Papeete**	**28.96**	**83**	*e*LR	LR	00 06 59.5	
	364nm,26.2s						
CTA	**Charters Tower**	**31.64**	**270**	P	**P**	**00 00 39.1**	**+1.1**
	130nm,0.7s,baz=97,slow=11,SNR=167						
PMG	**Port Moresby**	**34.70**	**289**	P	**P**	**00 01 04.1**	**+0.2**
	130nm,0.8s,mb5.5,baz=103,slow=5.9,SNR=33						
PMG	**Port Moresby**	**34.70**	**289**	P	**P**	**00 01 04.1**	**+0.2**
PMG				pmax	pmax		
	comp=Z,130nm,0.8s						
PMG	**Port Moresby**	**34.70**	**289**	*e*P	**P**	**00 01 04.1**	**+0.2**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**00 01 06.2**	**+1.3**
	comp=Z,7.3nm,0.3s,mb4.7,baz=81,slow=8.8,SNR=41						
AS31	**Alice Springs**	**42.17**	**261**	*e*P	**P**	**00 02 05.0**	**+0.4**
ASAR	**Alice Springs**	**42.17**	**261**	P	**P**	**00 02 04.8**	**+0.2**
	comp=Z,43nm,0.8s,mb5.0,baz=99,slow=7.4,SNR=273						
ASAR				PP	PP	00 03 47.8	-7.1
	comp=Z,3.6nm,0.6s,baz=85,slow=8.0,SNR=4.1						
ASAR				ScP	ScP	00 06 51.4	+2.8
	comp=Z,4.0nm,0.9s,baz=103,slow=3.7,SNR=12						
ASAR				S	**S**	**00 07 46.5**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=99,slow=16,SNR=8.4						
ASAR	**Alice Springs**	**42.17**	**261**	P	**P**	**00 02 04.8**	**+0.2**
ASAR						00 03 47.8	
ASAR				S	**S**	**00 07 46.5**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,43nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAR				pmax	pmax		
	comp=N,4.0nm,0.9s						
ASAR				smax			
	comp=N,3.0nm,1.0s						
WB2	**Warramunga Arr**	**42.55**	**266**	*e*P	**P**	**00 02 07.0**	**-0.6**
WRAB	**Tennant Creek**	**42.55**	**266**	*d*P	**P**	**00 02 07.4**	**-0.2**
WRAB	**Tennant Creek**	**42.55**	**266**	*e*P	**P**	**00 02 07.2**	**-0.4**
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**00 02 07.5**	**-0.2**
	comp=N,102nm,0.9s,mb5.4,baz=103,slow=8.1,SNR=407						
WRA				ScP	ScP	00 06 53.7	+3.6
	comp=N,9.3nm,1.1s,baz=95,slow=4.2,SNR=9.8						
WRA				S	**S**	**00 07 50.3**	**-2.3**
	comp=N,1.3nm,0.6s,baz=98,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**42.56**	**266**	P	**P**	**00 02 07.5**	**-0.2**
WRA				S	**S**	**00 07 50.3**	**-2.3**
WRA				pmax	pmax		
	comp=Z,103nm,0.9s						
WRA				pmax	pmax		
	comp=N,9.0nm,1.1s						
WRA				smax			
	comp=N,1.0nm,0.6s						
GUMO	**Guam**	**50.90**	**314**	P	**P**	**00 03 09.8**	**-1.0**
	comp=N,28nm,0.4s,mb5.0,baz=172,slow=12,SNR=5.1						
GUMO	**Guam**	**50.90**	**314**	P	**P**	**00 03 09.8**	**-1.0**
GUMO				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.0						
GUMO	**Guam**	**50.90**	**314**	P	**P**	**00 03 09.8**	**-1.0**
MIDW	**Midway**	**52.03**	**3**	*e*P	**P**	**00 03 16.1**	**-2.8**
	comp=Z,57nm,0.6s,mb5.1						
SBA	**Scott Base**	**54.23**	**183**	*e*P	**P**	**00 03 36.5**	**+1.9**
SBA				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb3.9						
SBA	**Scott Base**	**54.23**	**183**	*e*P	**P**	**00 03 36.5**	**+1.9**
	comp=Z,7.7nm,1.2s,mb3.9						
VNDA	**Vanda**	**54.23**	**185**	P	**P**	**00 03 36.5**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=354,slow=7.3,SNR=13						
VNDA				ScP	ScP	00 07 40.1	+0.4
	comp=Z,0.8nm,0.9s,baz=349,slow=2.7,SNR=4.3						
VNDA	**Vanda**	**54.23**	**185**	P	**P**	**00 03 36.6**	**+2.0**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VNDA				pmax	pmax		
	comp=N,1.0nm,1.0s						
VNDA	**Vanda**	**54.23**	**185**	*e*P	**P**	**00 03 36.5**	**+1.9**
	comp=N,1.4nm,0.8s						
VNDA				ScP	ScP	00 07 40.1	+0.4
MBWA	**Marble Bar**	**55.50**	**260**	*e*P	**P**	**00 03 44.0**	**+0.4**
CASY	**Casey**	**60.04**	**206**	*e*P	**P**	**00 04 14.0**	**-0.4**
	comp=N,3.0nm,0.5s,mb3.9						
MJAR	**Matsushiro Arr**	**72.12**	**326**	P	**P**	**00 05 28.5**	**-1.2**
	comp=N,2.3nm,0.6s,mb3.8,baz=147,slow=5.1,SNR=7.9						
MJAR	**Matsushiro Arr**	**72.12**	**326**	P	**P**	**00 05 28.5**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAT	**Matsushiro**	**72.12**	**326**	P	**P**	**00 05 28.6**	**-1.0**
ASAJ	**Asahikawa**	**76.08**	**333**	P	**P**	**00 05 52.7**	**+0.6**
	comp=Z,10nm,0.9s,mb4.3,baz=323,slow=28,SNR=4.1						
ASAJ	**Asahikawa**	**76.08**	**333**	P	**P**	**00 05 52.7**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**77.66**	**200**	P	**P**	**00 06 01.2**	**+0.5**
	comp=Z,1.4nm,0.3s,mb3.7,baz=117,slow=4.9,SNR=6.5						
MAW	**Mawson**	**77.66**	**200**	P	**P**	**00 06 01.2**	**+0.5**
MAW				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**78.35**	**335**	*e*P	**P**	**00 06 05.3**	**+0.9**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.3s,mb4.6						
YSS	**Yuzh-Sakhalins**	**78.35**	**335**	*e*P	**P**	**00 06 05.3**	**+0.9**
	comp=Z,8.6nm,0.3s,mb4.6						
NJ2	**Nanjing**	**80.89**	**311**	*e*P	**P**	**00 06 17.8**	**0.0**
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.9						
ISA	**Isabella**	**83.02**	**46**	*e*P	**P**	**00 06 24.4**	**-4.2**
PSI	**Prapat**	**83.16**	**276**	P	**P**	**00 06 28.1**	**-1.2**
	comp=Z,6.9nm,0.7s,mb4.3,baz=124,slow=4.0,SNR=6.1						
PSI	**Prapat**	**83.16**	**276**	P	**P**	**00 06 28.1**	**-1.2**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
CMB	**Columbia Colle**	**83.21**	**43**	*e*P	**P**	**00 06 29.3**	**-0.3**
CMB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
CMB	**Columbia Colle**	**83.21**	**43**	*e*P	**P**	**00 06 29.3**	**-0.3**
	comp=Z,12nm,1.0s,mb4.4						
WDC	**Whiskeytown Da**	**83.48**	**40**	*e*P	**P**	**00 06 31.2**	**+0.3**
WDC				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
WDC	**Whiskeytown Da**	**83.48**	**40**	*e*P	**P**	**00 06 31.2**	**+0.3**
	comp=Z,14nm,1.1s,mb4.4						
GSC	**Goldstone**	**83.92**	**47**	*e*P	**P**	**00 06 32.4**	**-0.7**
MTUM	**Tungsten Hills**	**83.95**	**45**	*e*P	**P**	**00 06 33.8**	**+0.5**
DAC	**Darwin (Calif)**	**83.95**	**46**	*e*P	**P**	**00 06 33.5**	**+0.2**
GLA	**Glamis**	**84.01**	**50**	*e*P	**P**	**00 06 34.7**	**+1.2**
WAKR	**Walker**	**84.09**	**43**	*e*P	**P**	**00 06 33.3**	**-0.6**
CN2	**Changchun**	**84.11**	**324**	*e*P	**P**	**00 06 33.9**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
SNAA	**Sanae**	**84.50**	**179**	*i* P	**P**	**00 06 41.4**	**+5.4**
SNAA	**Sanae**	**84.50**	**179**	*e*P	**P**	**00 06 35.5**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.6						
NVAR	**Mina Aray Bea**	**84.76**	**44**	P	**P**	**00 06 36.9**	**-0.3**
	comp=Z,1.9nm,0.8s,mb3.7,baz=232,slow=9.2,SNR=13						
PAHR	**Pah Rah Range**	**84.84**	**42**	*e*P	**P**	**00 06 37.9**	**+0.2**
	comp=Z,12nm,1.4s,mb4.2						
MOD	**Modoc**	**85.62**	**40**	*e*P	**P**	**00 06 41.5**	**+0.1**
MA2	**Magadan**	**86.77**	**346**	*e*P	**P**	**00 06 45.3**	**-1.6**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
MA2	**Magadan**	**86.77**	**346**	*e*P	**P**	**00 06 45.3**	**-1.6**
	comp=Z,8.3nm,0.9s,mb4.4						
WUAZ	**Wupatki**	**87.74**	**49**	*e*P	**P**	**00 06 52.8**	**+1.3**
	comp=Z,11nm,1.3s,mb4.4						
GNW	**Green Mountain**	**87.77**	**35**	*e*P	**P**	**00 06 51.8**	**+0.2**
PGC	**Sidney**	**88.15**	**34**	*e*P	**P**	**00 06 53.4**	**0.0**
MSU	**Marysvale**	**88.78**	**47**	*e*P	**P**	**00 06 57.4**	**+1.1**
HAWA	**Hanford**	**88.80**	**37**	*e*P	**P**	**00 06 56.5**	**+0.1**
BMO	**Blue Mountains**	**89.14**	**39**	*e*P	**P**	**00 06 57.6**	**-0.3**
BMO				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.5						
BMO	**Blue Mountains**	**89.14**	**39**	*e*P	**P**	**00 06 57.5**	**-0.4**
	comp=Z,12nm,1.4s,mb4.5						
SEY	**Seymchan**	**89.46**	**348**	*e*P	**P**	**00 06 58.1**	**-1.3**
TMUT	**Trail Mountain**	**89.83**	**46**	*e*P	**P**	**00 07 02.2**	**+1.1**
SPUT	**South Promonto**	**90.10**	**44**	*e*P	**P**	**00 07 01.6**	**-0.7**
HLID	**Hailey**	**90.11**	**41**	*e*P	**P**	**00 07 02.5**	**+0.1**
	comp=Z,6.3nm,1.0s,mb4.4						
HVU	**Hansel Valley**	**90.14**	**44**	*e*P	**P**	**00 07 02.8**	**+0.2**
MNTX	**Cornudas Mount**	**90.17**	**55**	*e*P	**P**	**00 07 03.3**	**+0.6**
	comp=Z,4.8nm,1.1s,mb4.2						
SRU	**San Rafael**	**90.19**	**47**	*e*P	**P**	**00 07 03.1**	**+0.3**
HHC	**Hu-ho-hao-te**	**90.65**	**315**	*e*P	**P**	**00 07 05.9**	**+1.0**
HHC				PP	PP	00 10 50.9	+1.8
HHC				SKS		00 16 51.1	
HHC				S	S	00 17 18.4	+1.6
HHC				SS	SS	00 23 36.9	+3.3
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,129nm,4.8s						
HWUT	**Hardware Ranch**	**90.82**	**44**	*e*P	**P**	**00 07 05.5**	**-0.2**
	comp=Z,7.4nm,1.1s,mb4.5						
ANMO	**Albuquerque**	**90.93**	**52**	*i* P	**P**	**00 07 06.8**	**+0.6**
ANMO	**Albuquerque**	**90.93**	**52**	*e*P	**P**	**00 07 06.6**	**+0.3**
	comp=Z,4.9nm,1.1s,mb4.3						
PV01	**Paradox Valley**	**91.01**	**48**	P	**P**	**00 07 05.7**	**-0.9**
CD2	**Chengdu**	**91.30**	**303**	*e*P	**P**	**00 07 08.1**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
RRI2	**Red Ridge**	**91.89**	**43**	*e*P	**P**	**00 07 10.5**	**-0.1**
REDW	**Red Top Meadow**	**92.19**	**43**	*e*P	**P**	**00 07 12.0**	**0.0**
	comp=Z,7.3nm,1.2s,mb4.6						
TPAW	**Teton Pass**	**92.19**	**43**	*e*P	**P**	**00 07 12.3**	**+0.3**
BW06	**Boulder Array**	**92.69**	**44**	*e*P	**P**	**00 07 14.4**	**+0.1**
PDAR	**Pinedale Array**	**92.69**	**44**	P	**P**	**00 07 13.7**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.1,baz=220,slow=3.9,SNR=10						
PDAR				PP	PP	00 11 00.8	-4.2
	comp=Z,0.3nm,0.4s,baz=305,slow=5.2,SNR=3.9						
SDCO	**Great Sand Dun**	**92.94**	**50**	*e*P	**P**	**00 07 15.6**	**+0.1**
	comp=Z,7.0nm,1.4s,mb4.5						
DAWY	**Dawson**	**93.33**	**17**	*e*P	**P**	**00 07 16.0**	**-1.2**
LZH	**Lanzhou**	**93.60**	**308**	⇓P	**P**	**00 07 18.5**	**0.0**
LZH				PP	PP	00 11 14.8	+2.9
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,45nm,9.2s						
SONM	**Songino Array**	**97.33**	**319**	PP	PP	00 11 33.9	-6.5
	comp=Z,0.9nm,1.0s,baz=113,slow=7.1,SNR=3.8						
CHKZ	**Chkalovo**	**120.53**	**319**	*e*PKIKP	PKPdf	00 12 48.4	-2.1
BVAR	**Borovoye Array**	**120.67**	**319**	PKP	PKPdf	00 12 49.4	-1.4
	comp=Z,1.0nm,0.5s,baz=115,slow=1.2,SNR=11						
BVAR	**Borovoye Array**	**120.67**	**319**	PKIKP	PKPdf	00 12 49.4	-1.4
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZRNK	**Zerenda**	**121.51**	**319**	*e*PKIKP	PKPdf	00 12 50.6	-1.8
ARU	**Arti**	**127.11**	**324**	*e*PKIKP	PKPdf	00 13 02.1	-1.0
ARU	**Arti**	**127.11**	**324**	*e*PKPdf	PKPdf	00 13 02.0	-1.0
AKTO	**Aktyubinsk**	**128.53**	**316**	PKP	PKPdf	00 13 05.0	-0.8
	comp=Z,1.0nm,0.6s,baz=55,slow=4.0,SNR=5.1						
AKTO	**Aktyubinsk**	**128.53**	**316**	PKIKP	PKPdf	00 13 05.0	-0.8
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**132.08**	**348**	PKP	PKPdf	00 13 10.7	-1.8
	comp=Z,2.0nm,0.7s,baz=47,slow=2.1,SNR=6.7						
ARCES				SKPbc	SKPbc	00 15 49.6	-1.1
	comp=Z,5.2nm,0.8s,baz=35,slow=4.4,SNR=7.8						
ARCES	**ARCESS Array B**	**132.08**	**348**	PKIKP	PKPdf	00 13 10.7	-1.8
ARCES						00 15 49.6	
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES				pmax	pmax		
	comp=N,5.0nm,0.8s						
FINES	**FINESS Array B**	**138.65**	**341**	PKhKP		00 13 13.0	
	comp=N,1.4nm,0.8s,baz=338,slow=2.1,SNR=5.0						
FINES				PKP	PKPdf	00 13 24.1	-0.6
	comp=N,1.0nm,0.6s,baz=110,slow=4.5,SNR=5.9						
FINES				SKPbc	SKPbc	00 16 10.5	-0.4
	comp=N,3.6nm,0.6s,baz=59,slow=2.9,SNR=24						
FINES	**FINESS Array B**	**138.65**	**341**	PKHKP		00 13 13.0	
FINES						00 13 24.1	
FINES						00 16 10.5	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES				pmax	pmax		
	comp=N,4.0nm,0.6s						
NB2	**NORSAR Subarra**	**142.27**	**351**	PKPa	PKPdf	00 13 25.6	-5.6
	comp=Z,1.3nm,0.8s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**142.27**	**351**	PKhKP		00 13 26.1	
	comp=Z,2.2nm,0.9s,baz=16,slow=4.7,SNR=6.1						
NOA	**NORSAR Array B**	**142.27**	**351**	PKHKP		00 13 26.1	
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ELZG	**Elazig**	**144.12**	**303**	*i* P	PKPdf	00 13 35.2	+0.7
MALT	**Malatya**	**144.59**	**303**	⇑*i* P	PKPdf	00 13 36.2	+0.9
MALT	**Malatya**	**144.59**	**303**	⇑P	PKPdf	00 13 36.2	+1.0
AKASG	**Malin Array Be**	**145.19**	**327**	PKPbc	PKPbc	00 13 35.5	-1.7
	comp=Z,2.0nm,0.4s,baz=44,slow=4.2,SNR=25						
AKASG				SKPbc	SKPbc	00 16 27.5	+0.3
	comp=Z,2.3nm,0.5s,baz=44,slow=3.0,SNR=12						
AKASG	**Malin Array Be**	**145.19**	**327**	PKHKP		00 13 35.5	
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG				pmax	pmax		
	comp=N,2.0nm,0.5s						
GZT	**Gaziantep**	**145.46**	**301**	*i* P	PKPdf	00 13 38.6	+1.8
CTKT	**Corum**	**146.68**	**308**	*i* P	PKPdf	00 13 41.3	+2.5
ELDT	**Eldivan**	**147.70**	**308**	*i* P	PKPbc	00 13 44.0	-0.1
BR131	**Keskin Array S**	**147.81**	**307**	*e*PKPbc	PKPbc	00 13 43.8	-0.6
BR131				*e*PKPab	PKPab	00 13 48.9	+0.3
BRTR	**Keskin Array B**	**147.81**	**307**	PKPbc	PKPbc	00 13 43.9	-0.5
	comp=N,1.6nm,0.6s,baz=144,slow=4.9,SNR=13						
BRTR				PKPab	PKPab	00 13 48.6	0.0
	comp=N,3.0nm,0.6s,baz=93,slow=3.2,SNR=18						
BRTR				PP	PP	00 17 13.7	-3.1
	comp=N,0.9nm,1.0s,baz=69,slow=8.1,SNR=4.0						
BRTR	**Keskin Array B**	**147.81**	**307**	PKIKP	PKPbc	00 13 43.9	-0.5
BRTR						00 13 48.6	
BRTR						00 17 13.7	
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MEST	**Erdemli**	**148.30**	**301**	*i* P	PKPbc	00 13 45.8	+0.1
ANTO	**Ankara**	**148.37**	**308**	⇑*i* P	PKPbc	00 13 45.1	-0.7
EIL	**Elat**	**148.56**	**288**	*e*PKPbc	PKPbc	00 13 46.7	+0.5
EIL				*e*PKPab	PKPab	00 13 53.3	+1.5
KWP	**Kalwaria**	**148.99**	**331**	*e*PKHKP	PKPbc	00 13 46.7	-0.6
BURAR	**Bucovina Array**	**149.19**	**326**	⇓*i* P	PKPbc	00 13 47.7	-0.1
ERMK	**Ermenek**	**149.25**	**302**	*i* P	PKPbc	00 13 48.7	+0.8
CSS	**Prodhromos**	**149.30**	**298**	*e*PKPbc	PKPbc	00 13 47.9	-0.2
CSS				*e*PKPab	PKPab	00 13 54.8	0.0
OJC	**Ojcow**	**149.75**	**335**	*e*PKP	PKPbc	00 13 48.2	-0.9
STHS	**Stebnicka Huta**	**149.78**	**332**	*e*PKHKP	PKPbc	00 13 49.2	0.0
MLR	**Muntele Rosu**	**150.14**	**322**	⇓*i* P	PKPbc	00 13 50.0	-0.1
NIE	**Niedzica**	**150.17**	**333**	*e*PKP	PKPbc	00 13 50.4	+0.3
MORC	**Moravsky Berou**	**150.96**	**337**	⇑*i* P	PKPbc	00 13 51.6	-0.4
DRGR		**151.01**	**327**	⇑*i* P	PKPbc	00 13 51.5	-0.6
CLL	**Collm**	**151.06**	**343**	⇓*i* PKPbc	PKPbc	00 13 51.2	-1.0
	comp=Z,9.0nm,0.7s						
CLL				*i* PKPab	PKPab	00 14 00.8	-1.3
	comp=Z,5.0nm,1.0s						
CLL	**Collm**	**151.06**	**343**	⇓*i* PKIKP	PKPbc	00 13 51.2	-1.0
CLL				*i*		00 14 00.8	
CLL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CLL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRG	**Berggiesshubel**	**151.19**	**342**	*i* PKP	PKPbc	00 13 51.9	-0.6
	comp=Z,3.3nm,0.6s						
BRG	**Berggiesshubel**	**151.19**	**342**	*i* PKIKP	PKPbc	00 13 51.9	-0.6
BRG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
VRAC	**Vranov**	**151.70**	**337**	⇑*i* P	PKPab	00 14 04.7	-0.1
BZS	**Buzias**	**152.37**	**326**	⇑*i* P	PKPbc	00 13 54.3	-0.8
BZS	**Buzias**	**152.37**	**326**	⇑PKIKP	PKPbc	00 13 54.4	-0.7
KHC	**Kasperske Hory**	**152.85**	**341**	*e*PKP	PKPdf	00 13 52.0	+3.6
GRF	**Grafenberg Arr**	**153.00**	**344**	*e*PKP	PKPab	00 14 10.2	-0.2
GRF	**Grafenberg Arr**	**153.00**	**344**	*e*PKP2	PKPab	00 14 10.2	-0.2
GERES	**GERESS Array B**	**153.06**	**340**	PKPbc	PKPbc	00 13 55.2	-1.4
	comp=Z,0.6nm,0.6s,baz=42,slow=2.2,SNR=6.2						
GERES	**GERESS Array B**	**153.06**	**340**	PKIKP	PKPbc	00 13 55.2	-1.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PKSM	**Moragy**	**153.36**	**331**	⇑*i* P	PKPbc	00 13 56.3	-0.9
PKSM	**Moragy**	**153.36**	**331**	⇑PKIKP	PKPbc	00 13 56.4	-0.8
VTS	**Vitosha**	**153.46**	**320**	⇑*i* P	PKPab	00 14 13.2	+0.9
CDF	**Champ du Feu**	**155.06**	**349**	*e*PKP2	PKPab	00 14 16.4	-2.8
	comp=Z,2.8nm,0.7s						
SSF	**Saint Saulge**	**156.90**	**354**	*e*PKP2	PKPab	00 14 21.2	-5.9

JOW					S		Sn	00 28 36.8	-0.5
	1.9nm,0.3s,baz=97,slow=23,SNR=3.3								
MAJO	**Matsushiro**		**7.27**	**47**	P		**Pn**	00 28 00.6	+6.2
MJAR	**Matsushiro Arr**		**7.27**	**47**	P		**Pn**	00 27 55.4	+1.0
	0.4nm,0.3s,baz=248,slow=14,SNR=6.0								
TATO	**Taipei**		**11.17**	**235**	*e*Pn		**Pn**	00 28 41.4	-6.5
MDJ	**Mudanjiang**		**12.92**	**354**	*e*Pn		**Pn**	00 29 16.1	+4.3
	12nm,0.9s								
BJT	**Baijiatuau**		**14.95**	**308**	*e*P		**Pn**	00 29 42.5	+3.3
BJT					pmax	pmax			
	comp=Z,15nm,0.9s								
BJT	**Baijiatuau**		**14.95**	**308**	*e*Pn		**Pn**	00 29 42.5	+3.2
	comp=Z,15nm,0.9s								
KLR	**Kul'dur**		**17.44**	**0**	*e*P		**Pn**	00 30 10.0	-1.0
HIA	**Hailar**		**19.62**	**336**	*e*P		**Pn**	00 30 36.9	-0.4
HIA					pmax	pmax			
	comp=Z,7.0nm,0.4s								
HIA	**Hailar**		**19.62**	**336**	*e*P		**Pn**	00 30 36.9	-0.4
	comp=Z,6.6nm,0.4s								
SONM	**Songino Array**		**24.98**	**317**	P		**P**	00 31 31.0	+0.4
	comp=Z,9.7nm,0.8s,mb4.4,baz=133,slow=9.7,SNR=40								
SONM					LR	LR		00 42 18.7	
	comp=Z,150nm,18.8s,MS3.5,baz=320,slow=39								
GTA	**Gaotai**		**26.84**	**295**	*e*P		**P**	00 31 48.5	+1.1
GTA					AP	pP		00 31 55.1	-3.2
GTA					XP	sP		00 31 57.9	-5.3
GTA					AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.2								
MKAR	**Makanchi Array**		**40.33**	**306**	P		**P**	00 33 44.1	-0.2
	comp=Z,4.0nm,0.6s,mb4.3,baz=84,slow=11,SNR=37								
CHKZ	**Chkalovo**		**48.16**	**316**	*e*P		**P**	00 34 45.8	-1.2
CHKZ					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.2								
CHKZ	**Chkalovo**		**48.16**	**316**	*e*P		**P**	00 34 45.8	-1.1
	comp=Z,1.2nm,0.4s,mb4.3								
BRVK	**Borovoye**		**48.34**	**315**	*e*P		**P**	00 34 47.9	-0.5
BRVK					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
BRVK	**Borovoye**		**48.34**	**315**	*e*P		**P**	00 34 47.9	-0.5
	comp=Z,3.6nm,0.7s,mb4.5								
ZRNK	**Zerenda**		**49.12**	**315**	*e*P		**P**	00 34 53.7	-0.7
ZRNK					*e**PP	pP		00 35 03.7	-2.1
ZRNK					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
ZRNK	**Zerenda**		**49.12**	**315**	*e*P		**P**	00 34 53.7	-0.6
	comp=Z,4.4nm,1.0s,mb4.4								
ZRNK					*e*pP	pP		00 35 03.7	-2.2
WRAB	**Tennant Creek**		**51.48**	**177**	P		**P**	00 35 12.9	+0.7
WRAB					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9								
WRAB	**Tennant Creek**		**51.48**	**177**	P		**P**	00 35 12.9	+0.7
	comp=Z,0.7nm,0.7s,mb3.7								
WRA	**Warramunga Arr**		**51.48**	**177**	P		**P**	00 35 12.5	+0.2
	comp=Z,0.9nm,0.9s,mb3.7,baz=353,slow=8.1,SNR=7.6								
WB2	**Warramunga Arr**		**51.49**	**177**	*e*P		**P**	00 35 12.2	-0.1
ASAR	**Alice Springs**		**55.17**	**177**	P		**P**	00 35 40.4	+1.0
	comp=Z,1.2nm,1.0s,mb3.9,baz=12,slow=10.0,SNR=5.7								
FINES	**FINESS Array B**		**69.51**	**330**	P		**P**	00 37 14.1	-1.1
	comp=Z,0.8nm,0.4s,mb4.0,baz=74,slow=5.7,SNR=16								
FINES	**FINESS Array B**		**69.51**	**330**	P		**P**	00 37 14.1	-1.1
MIB	**Mutribah**		**70.53**	**293**	*e*P		**P**	00 37 21.9	+0.4
MIB					AMb	AMB		00 37 22.5	
	comp=Z,8.7nm,0.8s,mb4.7								
NAY	**Al-Naaiem**		**70.85**	**293**	*e*P		**P**	00 37 23.8	+0.4
NAY					AMb	AMB		00 37 24.5	
	comp=Z,6.9nm,0.9s,mb4.6								
RST	**Umm Al-Ruwaisa**		**70.93**	**293**	*e*P		**P**	00 37 23.8	-0.1
RST					AMb	AMB		00 37 24.6	
	comp=Z,8.4nm,0.7s,mb4.8								
AKASG	**Malin Array Be**		**73.23**	**320**	P		**P**	00 37 36.8	-0.9
	comp=Z,2.3nm,0.6s,mb4.3,baz=54,slow=6.1,SNR=14								
NOA	**NORSAR Array B**		**75.63**	**334**	P		**P**	00 37 50.8	-0.9
	comp=Z,0.4nm,0.6s,mb3.5,baz=47,slow=5.8,SNR=3.3								
BRTR	**Keskin Array B**		**75.95**	**308**	P		**P**	00 37 53.5	0.0
	comp=Z,1.2nm,0.8s,mb3.9,baz=101,slow=3.9,SNR=7.6								
GERES	**GERESS Array B**		**82.52**	**324**	P		**P**	00 38 27.8	-1.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=39,slow=6.8,SNR=4.4								
NVAR	**Mina Array Bea**		**84.59**	**48**	P		**P**	00 38 41.7	+1.7
	comp=Z,0.3nm,0.5s,mb3.7,baz=319,slow=4.7,SNR=4.2								
NVAR	**Mina Array Bea**		**84.59**	**48**	P		**P**	00 38 41.7	+1.7

*ISCJB **24** 00:29:34.3±0.2, 5074N±002×9.19E±002, h5km±3km, Error ellipse: s-maj=2.5km s-min=2.0km az=169.8*
*NEIC **24** 00:29:35.5±0.5, 5083N×9.15E, h11km±4km, ML2.3(SZGRF),ML2.6(LDG), Error ellipse: s-maj=7.2km s-min=3.5km az=165.0*
*CSEM **24** 00:29:36.8±0.1, 5078N×922E, h10km, ML2.8/15, Error ellipse: s-maj=1.6km s-min=0.8km az=150.0*
*BNS **24** 00:29:36.3±0.4, 5063N×950E, h13km±4km, ML2.2*
*LDG **24** 00:29:37.3±0.1, 5078N×9.17E, h10km, Ml2.6/13, Error ellipse: s-maj=2.4km s-min=1.9km az=156.0*
*BGR **24** 00:29:37.2±0.2, 5076N×928E, h10km, ML2.4/18, Error ellipse: s-maj=2.2km s-min=2.2km az=173.0*
*STR **24** 00:29:38.9±1.1, 5069N×9.13E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*PRU **24** 00:29:40.3, 5077N×950E, h0km*

ISC 24 00:29:35.8±0.2, 5075N±001×921E±002, h11km±2km, n98, σ1§32/199, 1C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UBBA	**Unterbreizbach**	**0.51**	**82**	*e*Pg		**Pg**	**00 29 47.1**	**+1.5**
UBBA				*e*Sg		**Sg**	**00 29 53.1**	**+0.8**
WBG	**Bieber**	**0.58**	**172**	Pn		**Pg**	**00 29 49.6**	**+2.4**
HROE	**Hohe Rhon--Fla**	**0.64**	**109**	*i*Pg		**Pg**	**00 29 49.8**	**+1.6**
HROE				*e*Sg		**Sg**	**00 29 57.6**	**+1.0**
TNS	**Taunus Mts**	**0.72**	**223**	*e*Pg		**Pg**	**00 29 51.8**	**+2.0**
TNS				*e*Sg		**Sg**	**00 30 01.7**	**+2.6**
TNS	**Taunus Mts**	**0.72**	**223**	*e*Pg		**Pg**	**00 29 51.6**	**+1.9**
TNS				*e*Sg		**Sg**	**00 30 01.5**	**+2.4**
WBB	**Darmstadt**	**0.97**	**201**	Pn		**Pn**	**00 29 56.5**	**+1.0**
WBD	**Lorch/Rhein**	**1.09**	**233**	Pn		**Pn**	**00 29 58.8**	**+1.7**
WBA	**Furth**	**1.12**	**193**	Pn		**Pn**	**00 29 59.1**	**+1.5**
TOD	**Tromm**	**1.17**	**193**	Pg		**Pg**	**00 29 59.5**	**+1.1**
TOD				Sg		**Sg**	**00 30 14.9**	**+1.2**
HOBG	**Hohbusch**	**1.21**	**282**	*e*Pg		**Pg**	**00 30 00.5**	**+1.3**
SWS	**Schriesheim-Wi**	**1.31**	**195**	P		**Pn**	**00 30 00.5**	**+0.4**
SWS				Pg		**Pg**	**00 30 02.1**	**+1.2**
SWS				Sg		**Sg**	**00 30 18.4**	**+0.5**
SWS	**Schriesheim-Wi**	**1.31**	**195**	P		**Pn**	**00 30 00.5**	**+0.4**
SWS				Sg		**Sg**	**00 30 18.4**	**+0.4**
BNS	**Bensberg**	**1.31**	**280**	*e*Pg		**Pg**	**00 30 02.1**	**+1.1**
CLZ	**Clausthal**	**1.31**	**33**	*e*Pn		**Pn**	**00 30 00.1**	**0.0**
CLZ				*e*Pg		**Pg**	**00 30 01.2**	**+0.1**
CLZ				*e*Sg		**Sg**	**00 30 18.1**	**0.0**
CLZ	**Clausthal**	**1.31**	**33**	*e*Pg		**Pg**	**00 30 01.1**	**0.0**
CLZ				*e*Sg		**Sg**	**00 30 18.7**	**+0.6**
BGG	**Burgeitz**	**1.32**	**246**	*e*Pg		**Pg**	**00 30 00.9**	**-0.2**
BGG				*e*Sg		**Sg**	**00 30 19.4**	**+1.3**
	32nm,0.2s							
ABH	**Alteburg**	**1.38**	**232**	Pg		**Pg**	**00 30 03.6**	**+1.3**
ABH				Sg		**Sg**	**00 30 22.1**	**+2.0**
BUG	**Bochum--Univer**	**1.41**	**300**	*e*Pg		**Pg**	**00 30 04.7**	**+1.8**
BUG				*e*Sg		**Sg**	**00 30 21.5**	**+0.4**
SIND	**Sindeldorf**	**1.43**	**170**	*i*P		**Pn**	**00 30 02.3**	**+0.6**
SIND				Sg		**Sg**	**00 30 22.9**	**+1.3**
STB	**Steinbach**	**1.52**	**265**	*e*Pg		**Pg**	**00 30 04.0**	**-0.9**
STB				*e*Sg		**Sg**	**00 30 25.4**	**+0.7**
	16nm,0.4s							
MOX	**Moxa**	**1.53**	**93**	*e*Pg		**Pg**	**00 30 05.1**	**-0.1**
MOX				*e*Sg		**Sg**	**00 30 24.5**	**-0.6**
MOX	**Moxa**	**1.53**	**93**	*e*PG		**Pg**	**00 30 05.5**	**+0.3**
MOX				*e*SG		**Sg**	**00 30 24.7**	**-0.4**
MOX	**Moxa**	**1.53**	**93**	*e*Pg		**Pg**	**00 30 05.5**	**+0.3**
MOX				*e*Sg		**Sg**	**00 30 24.7**	**-0.4**
LAUG	**Laupendahl**	**1.55**	**294**	*e*Pg		**Pg**	**00 30 04.4**	**-1.2**
GRF	**Grafenberg Arr**	**1.67**	**129**	*e*Sg		**Sg**	**00 30 29.4**	**-0.1**
NEUB	**Neuenburg**	**1.68**	**73**	*e*Pg		**Pg**	**00 30 08.2**	**+0.1**
NEUB				*e*Sg		**Sg**	**00 30 29.6**	**-0.4**
RUP	**Ruppelstein**	**1.74**	**234**	Pg		**Pg**	**00 30 09.8**	**+0.7**
RUP				Sg		**Sg**	**00 30 32.1**	**+0.5**
IBBN	**Ibbenburen**	**1.81**	**330**	*e*Pg		**Pg**	**00 30 11.7**	**+1.2**
IBBN				*e*Sg		**Sg**	**00 30 34.5**	**+0.6**
NRDL	**Niedersach Rie**	**1.83**	**17**	*e*Sg		**Sg**	**00 30 36.7**	**+1.8**
KLL	**Kalltalsperre**	**1.85**	**268**	*e*Pg		**Pn**	**00 30 09.2**	**+1.7**
DREG	**Dreilaegerbach**	**1.90**	**269**	*e*Pg		**Pg**	**00 30 10.6**	**-1.6**
DREG				*e*Sg		**Sg**	**00 30 34.9**	**-1.9**
	14nm,0.2s							
WTSB	**Winterswijk**	**1.94**	**310**	*e*Pg		**Pg**	**00 30 14.0**	**+1.0**
WTSB				*e*Sg		**Sg**	**00 30 38.1**	**-0.2**
WTSB	**Winterswijk**	**1.94**	**310**	*e*Pg		**Pg**	**00 30 14.0**	**+0.9**
WTSB				*e*Sg		**Sg**	**00 30 38.1**	**-0.2**
STU	**Stuttgart**	**1.98**	**180**	*e*Pg		**Pg**	**00 30 16.6**	**+2.8**
STU				*e*Sg		**Sg**	**00 30 39.7**	**+0.3**
STU	**Stuttgart**	**1.98**	**180**	*e*Pn		**Pg**	**00 30 14.5**	**+0.7**
STU	**Stuttgart**	**1.98**	**180**	*e*Pn		**Pg**	**00 30 14.5**	**+0.7**
WERD	**Werda**	**1.99**	**98**	*e*Pg		**Pg**	**00 30 14.5**	**+0.5**
WERD				*e*Sg		**Sg**	**00 30 38.9**	**-1.0**
GUNZ	**Gunzen**	**2.03**	**100**	*e*Pg		**Pg**	**00 30 14.7**	**+0.1**
GUNZ				*e*Sg		**Sg**	**00 30 40.1**	**-0.8**
MEM	**Membach**	**2.04**	**267**	P		**Pn**	**00 30 10.9**	**+0.7**
HGN	**Heimansgroeve**	**2.08**	**272**	*e*Pg		**Pg**	**00 30 15.3**	**-0.4**
	1.8nm,0.1s							
HGN				*e*Sg		**Sg**	**00 30 41.8**	**-1.0**
TANN	**Tannenbergstha**	**2.10**	**98**	*e*Pn		**Pn**	**00 30 12.7**	**+1.7**
TANN				*e*Pg		**Pg**	**00 30 16.3**	**+0.2**
TANN				*e*Sg		**Sg**	**00 30 41.7**	**-1.6**
LBG	**Lerchenberg**	**2.10**	**188**	P		**Pn**	**00 30 11.4**	**+0.3**
LBG				Pg		**Pg**	**00 30 17.3**	**+1.2**
LBG				S		**Sn**	**00 30 35.5**	**-1.7**
LBG				Sg		**Sg**	**00 30 44.6**	**+1.1**
LBG	**Lerchenberg**	**2.10**	**188**	P		**Pn**	**00 30 11.4**	**+0.4**
LBG				Pg		**Pg**	**00 30 17.3**	**+1.1**
LBG				Sg		**Sg**	**00 30 44.6**	**+1.1**
NKC	**Novy Kostel**	**2.13**	**103**	*e*PG		**Pg**	**00 30 16.8**	**+0.1**
NKC				*e*SG		**Sg**	**00 30 42.1**	**-2.2**
	22nm,0.3s							
WLF	**Walferdange**	**2.25**	**242**	*e*Pg		**Pg**	**00 30 18.9**	**0.0**
WLF	**Walferdange**	**2.25**	**242**	P		**Pn**	**00 30 16.2**	**+3.3**
WLF	**Walferdange**	**2.25**	**242**	*e*Pn		**Pg**	**00 30 17.7**	**-1.2**
WLF				*e*Sn		**Sn**	**00 30 43.1**	**+2.4**
WLF	**Walferdange**	**2.25**	**242**	*e*Pn		**Pg**	**00 30 17.7**	**-1.2**
WLF				*e*Sn		**Sn**	**00 30 43.1**	**+2.4**
HDH	**Heidenheim-Cha**	**2.26**	**163**	P		**Pn**	**00 30 14.1**	**+0.9**
HDH				Pg		**Pg**	**00 30 21.1**	**+2.0**
HDH				S		**Sn**	**00 30 42.8**	**+1.7**
HDH	**Heidenheim-Cha**	**2.26**	**163**	P		**Pn**	**00 30 14.1**	**+0.9**
HDH				Pg		**Pg**	**00 30 21.2**	**+2.0**
HDH				S		**Sn**	**00 30 42.8**	**+1.7**
CLL	**Collm**	**2.46**	**75**	*e*Pg		**Pg**	**00 30 22.1**	**-0.8**
CLL				*e*Sg		**Sg**	**00 30 52.1**	**-2.6**
CLL	**Collm**	**2.46**	**75**	*e*Pg		**Pg**	**00 30 23.0**	**+0.1**
CLL				*e*Sg		**Sg**	**00 30 52.0**	**-2.8**
	comp=Z,9.0nm,0.4s							
BFO	**Black Forest**	**2.49**	**194**	*e*Pn		**Pn**	**00 30 16.9**	**+0.6**
BFO				*e*Pg		**Pg**	**00 30 24.4**	**+0.9**
BFO				*e*Sg		**Sg**	**00 30 56.2**	**+0.4**
BCLA	**Clavier**	**2.51**	**264**	P		**Pg**	**00 30 22.6**	**-1.5**
BCLA	**Clavier**	**2.51**	**264**	P		**Pg**	**00 30 22.5**	**-1.5**
CDF	**Champ du Feu**	**2.66**	**209**	*e*Pg		**Pg**	**00 30 27.0**	**+0.2**
CDF				*e*Sn		**Sn**	**00 30 49.2**	**-1.7**
CDF				*e*Sg		**Sg**	**00 31 00.3**	**-0.9**
	comp=Z,7.5nm,0.4s							
CDF	**Champ du Feu**	**2.66**	**209**	*e*Pn		**Pn**	**00 30 19.1**	**+0.5**
CDF				*e*Pg		**Pg**	**00 30 27.0**	**+0.2**
CDF				*e*Sn		**Sn**	**00 30 49.2**	**-1.7**
CDF				*e*Sg		**Sg**	**00 31 00.3**	**-0.9**
CDF	**Champ du Feu**	**2.66**	**209**	*e*Pg		**Pg**	**00 30 27.0**	**+0.2**
CDF				*e*Sn		**Sn**	**00 30 49.2**	**-1.7**
CDF				*e*Sg		**Sg**	**00 31 00.3**	**-0.9**
	comp=Z,3.8nm,0.4s							
GUT	**Gutenstein**	**2.68**	**181**	P		**Pn**	**00 30 19.1**	**+0.1**
GUT				S		**Sn**	**00 30 51.5**	**0.0**
GUT	**Gutenstein**	**2.68**	**181**	P		**Pn**	**00 30 19.1**	**+0.1**
GUT				S		**Sn**	**00 30 51.5**	**0.0**
WET	**Wettzell**	**2.86**	**123**	*e*Pg		**Pg**	**00 30 31.4**	**+0.8**
GIVF	**Givet**	**2.88**	**259**	*e*Pg		**Pg**	**00 30 30.1**	**-0.9**
GIVF				*e*Sn		**Sn**	**00 30 52.4**	**-4.0**
GIVF				*e*Sg		**Sg**	**00 31 05.8**	**-2.6**
	comp=Z,7.2nm,0.2s							
GIVF	**Givet**	**2.88**	**259**	*e*Pg		**Pg**	**00 30 30.1**	**-0.9**
GIVF				*e*Sn		**Sn**	**00 30 52.4**	**-4.0**
GIVF				*e*Sg		**Sg**	**00 31 05.8**	**-2.6**
	comp=Z,3.6nm,0.2s							
BRG	**Berggiesshubel**	**3.00**	**86**	PG		**Pg**	**00 30 31.9**	**-1.5**
BRG				SG		**Sg**	**00 31 10.4**	**-1.9**
	comp=Z,2.2nm,0.5s							
DOU	**Dourbes**	**3.02**	**259**	P		**Pn**	**00 30 28.0**	**+4.3**
SISB	**Singen-Schiene**	**3.07**	**183**	P		**Pn**	**00 30 24.4**	**0.0**
UBR	**Ueberruh**	**3.13**	**169**	P		**Pn**	**00 30 25.9**	**+0.8**
UBR				Pg		**Pg**	**00 30 39.0**	**+3.3**
RFYF	**Reffroy**	**3.22**	**230**	*e*Pg		**Pg**	**00 30 36.9**	**-0.7**
	baz=56							
KHC	**Kasperske Hory**	**3.25**	**118**	*e*PN		**Pn**	**00 30 30.2**	**+3.4**
KHC				*e*PG		**Pg**	**00 30 37.6**	**-0.5**
KHC				*e*SG		**Sg**	**00 31 17.3**	**-3.0**
	comp=Z,6.9nm,0.4s							
BAIF	**Baives**	**3.28**	**260**	*e*Pg		**Pg**	**00 30 37.1**	**-1.5**
BAIF				*e*Sg		**Sg**	**00 31 18.1**	**-2.9**
	comp=Z,4.0nm,0.3s							
BAIF	**Baives**	**3.28**	**260**	*e*Pg		**Pg**	**00 30 37.1**	**-1.5**
BAIF				*e*Sg		**Sg**	**00 31 18.1**	**-2.9**
	comp=Z,2.0nm,0.3s							
HINF	**Hinteralfeld**	**3.32**	**209**	*e*Pn		**Pn**	**00 30 27.6**	**-0.1**
HINF				*e*Sn		**Sn**	**00 31 04.5**	**-2.6**
HINF				*e*Sg		**Sg**	**00 31 21.1**	**-1.3**
	comp=Z,3.2nm,0.2s							
HINF	**Hinteralfeld**	**3.32**	**209**	*e*Pn		**Pn**	**00 30 27.6**	**-0.1**
HINF				*e*Sn		**Sn**	**00 31 04.5**	**-2.6**
HINF				*e*Sg		**Sg**	**00 31 21.1**	**-1.3**
	comp=Z,1.6nm,0.2s							
HAU	**Haudompre**	**3.32**	**215**	*e*Pg		**Pg**	**00 30 38.6**	**-0.9**
HAU				*e*Sn		**Sn**	**00 31 03.8**	**-3.5**
HAU				*e*Sg		**Sg**	**00 31 20.6**	**-2.0**
	comp=Z,6.9nm,0.4s							
HAU	**Haudompre**	**3.32**	**215**	*e*Pn		**Pn**	**00 30 27.1**	**-0.7**
HAU				*e*Pg		**Pg**	**00 30 38.6**	**-0.9**
HAU				*e*Sn		**Sn**	**00 31 03.8**	**-3.5**
HAU				*e*Sg		**Sg**	**00 31 20.6**	**-2.0**
HAU	**Haudompre**	**3.32**	**215**	*e*Pg		**Pg**	**00 30 38.6**	**-0.9**
HAU				*e*Sn		**Sn**	**00 31 03.8**	**-3.5**
HAU				*e*Sg		**Sg**	**00 31 20.6**	**-2.0**
	comp=Z,3.5nm,0.4s							
GEC2	**GERESS Array S**	**3.48**	**122**	*e*Sg		**Sg**	**00 31 24.7**	**-2.8**
GEC2	**GERESS Array S**	**3.48**	**122**	*e*Pn		**Pg**	**00 30 43.0**	**+0.5**
GEC2				*e*Sn		**Sg**	**00 31 24.9**	**-2.6**
PRU	**Pruhonice**	**3.50**	**101**	*e*SG		**Sg**	**00 31 26.1**	**-2.0**
	comp=Z,4.0nm,0.3s							
MEZF	**Maizieres J'vi**	**3.52**	**232**	*e*Pg		**Pg**	**00 30 42.1**	**-1.1**
	baz=49							
MEZF				*e*Sg		**Sg**	**00 31 26.1**	**-2.7**
	comp=Z,5.8nm,0.4s							
MEZF	**Maizieres J'vi**	**3.52**	**232**	*e*Pn		**Pn**	**00 30 30.0**	**-0.5**
MEZF				*e*Pg		**Pg**	**00 30 42.1**	**-1.1**
MEZF				*e*Sg		**Sg**	**00 31 26.1**	**-2.7**
MEZF	**Maizieres J'vi**	**3.52**	**232**	*e*Pg		**Pg**	**00 30 42.1**	**-1.1**
MEZF				*e*Sg		**Sg**	**00 31 26.1**	**-2.7**
	comp=Z,2.9nm,0.4s							
SFTF	**Sexfontaines**	**3.73**	**229**	*e*Pg		**Pg**	**00 30 46.2**	**-1.0**
SFTF				*e*Sg		**Sg**	**00 31 32.6**	**-2.9**
	comp=Z,5.2nm,0.4s							
SFTF	**Sexfontaines**	**3.73**	**229**	*e*Pg		**Pg**	**00 30 46.2**	**-1.0**
SFTF				*e*Sg		**Sg**	**00 31 32.6**	**-2.9**
	comp=Z,2.6nm,0.4s							
DPC	**Dobruska-Polom**	**4.55**	**92**	*e*SG		**Sg**	**00 32 00.0**	**-2.0**
CABF	**La Chapelle**	**4.63**	**208**	*e*Pn		**Pn**	**00 30 46.2**	**+0.5**
LOR	**Lormes**	**4.95**	**227**	*e*Pn		**Pn**	**00 30 51.8**	**+1.6**
	baz=49							
LOR				*e*Sn		**Sn**	**00 31 44.0**	**-3.5**
LOR				*e*Sg		**Sg**	**00 32 10.9**	**-4.0**
	comp=Z,2.3nm,0.4s							
LOR	**Lormes**	**4.95**	**227**	*e*Pn		**Pn**	**00 30 51.8**	**+1.6**
LOR				*e*Sn		**Sn**	**00 31 44.0**	**-3.5**
LOR				*e*Sg		**Sg**	**00 32 10.9**	**-4.0**
	comp=Z,1.1nm,0.4s							
SSF	**Saint Saulge**	**5.27**	**228**	*e*Pn		**Pn**	**00 30 54.7**	**+0.2**
SSF				*e*Sn		**Sn**	**00 31 50.9**	**-4.4**
SSF				*e*Sg		**Sg**	**00 32 21.1**	**-3.9**
	comp=Z,1.1nm,0.4s							
SSF	**Saint Saulge**	**5.27**	**228**	*e*Pn		**Pn**	**00 30 54.7**	**+0.2**
SSF				*e*Sn		**Sn**	**00 31 50.9**	**-4.4**
SSF				*e*Sg		**Sg**	**00 32 21.1**	**-3.9**
	comp=Z,0.6nm,0.4s							
SMF	**Signal de Mont**	**5.43**	**223**	*e*Sn		**Sn**	**00 31 55.1**	**-4.2**
SMF				*e*Sg		**Sg**	**00 32 26.4**	**-3.8**
	comp=Z,1.6nm,0.4s							
SMF	**Signal de Mont**	**5.43**	**223**	*e*Sn		**Sn**	**00 31 55.1**	**-4.2**
SMF				*e*Sg		**Sg**	**00 32 26.4**	**-3.8**
	comp=Z,0.8nm,0.4s							
AVF	**Avril sur Loir**	**5.54**	**227**	*e*Pg		**Pg**	**00 31 19.7**	**-2.2**
AVF				*e*Sn		**Sn**	**00 31 57.6**	**-4.4**
AVF				*e*Sg		**Sg**	**00 32 28.8**	**-4.9**
	comp=Z,0.2nm,0.2s							
AVF	**Avril sur Loir**	**5.54**	**227**	*e*Pn		**Pn**	**00 30 57.9**	**-0.4**
AVF				*e*Pg		**Pg**	**00 31 19.7**	**-2.2**
AVF				*e*Sn		**Sn**	**00 31 57.6**	**-4.4**
AVF	**Avril sur Loir**	**5.54**	**227**	*e*Pg		**Pg**	**00 31 19.7**	**-2.2**
AVF				*e*Sn		**Sn**	**00 31 57.6**	**-4.4**
AVF				*e*Sg		**Sg**	**00 32 28.8**	**-4.9**
	comp=Z,0.1nm,0.2s							
LDF	**La Druitiere**	**6.43**	**254**	*e*Pn		**Pn**	**00 31 09.9**	**-0.6**
FLN	**La Foliniere**	**6.59**	**256**	*e*Pn		**Pn**	**00 31 11.5**	**-1.2**
GRR	**Gorron**	**6.96**	**254**	*e*Pn		**Pn**	**00 31 16.8**	**-1.0**

IDC 24 00:32:32.8±9.0, 2239S×6651W, h291km±64km, mb2.8/1, mb1 2.9/3, mb1mx2.8/15, mbtmp3.6/3, Error ellipse: s-maj=115.0km s-min=47.8km az=29.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**6.26**	**346**	P		Pn	00 34 05.7	+0.8
	0.4nm,0.3s,baz=171,slow=6.2,SNR=10							
LPAZ				S		S	00 35 20.9	+1.7
	baz=255,slow=20,SNR=3.2							
BDFB	**Brasilia**	**18.72**	**72**	P		P	00 36 30.9	+0.4
	0.2nm,0.3s,baz=235,slow=9.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**75.57**	**69**	P		P	00 43 46.3	+0.6
	0.2nm,0.4s,baz=253,slow=5.0,SNR=6.9							

IDC 24 00:42:10.2±1.2, 2202N×14313E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=46.2km s-min=23.3km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**39.06**	**320**	P		P	00 49 39.2	+0.4
	0.3nm,0.6s,baz=128,slow=6.2,SNR=4.1							
WRA	**Warramunga Arr**	**42.58**	**192**	P		P	00 50 08.8	+0.9
	0.7nm,1.0s,baz=15,slow=8.6,SNR=5.0							
ASAR	**Alice Springs**	**46.29**	**192**	P		P	00 50 37.0	-0.6
	0.5nm,0.6s,baz=18,slow=10,SNR=5.8							
MKAR	**Makanchi Array**	**54.44**	**312**	P		P	00 51 39.1	-0.2
	0.6nm,0.8s,baz=81,slow=9.2,SNR=2.8							
BVAR	**Borovoye Array**	**62.39**	**319**	P		P	00 52 34.7	-0.1
	1.1nm,0.6s,baz=79,slow=7.7,SNR=6.2							
NVAR	**Mina Array Bea**	**82.99**	**51**	P		P	00 54 38.0	+0.8
	0.5nm,0.6s,baz=270,slow=6.3,SNR=4.4							

*ISCJB **24** 00:43:09.5±0.4, 4790N±004×14577E±008, h466km±4km, mb3.7/26,

CN2	**Changchun**	**14.78**	**261**	*e*P		**P**	**00 46 18.4**	**-0.3**
CN2					AMB	AMB		
	comp=Z,20nm,0.7s							
SEY	**Seymchan**	**15.46**	**11**	*e*P		**P**	**00 46 26.8**	**+1.0**
CLNS	**Chul'man**	**15.52**	**313**	*e*P		**P**	**00 46 26.0**	**-0.5**
CLNS					pmax	pmax		
	comp=Z,22nm,0.8s							
CLNS					pmax	pmax		
	comp=N,12nm,0.6s							
CLNS					pmax	pmax		
	comp=E,14nm,1.0s							
YAK	**Yakutsk**	**16.80**	**333**	*e*P		**P**	**00 46 38.9**	**-1.1**
YAK	**Yakutsk**	**16.80**	**333**	*d*iP		**P**	**00 46 38.9**	**-1.1**
YAK	**Yakutsk**	**16.80**	**333**	*e*P		**P**	**00 46 37.8**	**-2.2**
	comp=E,35nm,0.7s							
BOD	**Bodaibo**	**21.40**	**309**	*e*P		**P**	**00 47 23.2**	**-0.4**
BOD					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9							
BILL	**Bilibino**	**22.65**	**20**⇓	*e*P		**P**	**00 47 35.6**	**+0.7**
BILL				*e*S		**S**	**00 51 00.5**	**-8.6**
BILL					pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.4							
SONM	**Songino Array**	**26.25**	**285**	P		**P**	**00 48 08.8**	**+1.9**
	comp=Z,1.3nm,0.5s,mb3.6,baz=78,slow=7.1,SNR=5.7							
ZAK	**Zakamensk**	**27.65**	**291**	*e*P		**P**	**00 48 19.2**	**-0.1**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4							
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4							
KDAK	**Kodiak Island**	**37.21**	**51**	P		**P**	**00 49 40.4**	**-0.5**
	comp=Z,2.3nm,0.5s,mb3.9,baz=129,slow=17,SNR=4.7							
COLA	**College**	**38.31**	**39**	*i*P		**P**	**00 49 49.5**	**-0.4**
MKAR	**Makanchi Array**	**41.95**	**293**	P		**P**	**00 50 20.1**	**+0.8**
	comp=Z,2.3nm,0.6s,mb3.8,baz=46,slow=4.1,SNR=19							
MKAR	**Makanchi Array**	**41.95**	**293**	*i*P		**P**	**00 50 20.1**	**+0.8**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**43.30**	**32**	P		**P**	**00 50 29.0**	**-0.9**
	comp=Z,3.4nm,0.3s,mb4.2,baz=273,slow=4.7,SNR=13							
CHKZ	**Chkalovo**	**45.80**	**307**	*i*P		**P**	**00 50 48.9**	**-0.4**
CHKZ					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7							
VOSK	**Vostochnaya**	**46.02**	**305**	P		**P**	**00 50 50.8**	**-0.1**
VOSK					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4							
BVA0	**Borovoye Array**	**46.21**	**306**	*i*P		**P**	**00 50 53.0**	**+0.6**
BVAR	**Borovoye Array**	**46.21**	**306**	P		**P**	**00 50 53.1**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.5,baz=44,slow=7.7,SNR=9.7							
ZRNK	**Zerenda**	**46.99**	**306**	*i*P		**P**	**00 50 58.5**	**+0.1**
ZRNK					pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6							
ZRNK	**Zerenda**	**46.99**	**306**	*e*P		**P**	**00 50 58.0**	**-0.3**
	comp=Z,1.9nm,0.4s,mb3.9							
AAK	**Ala-Archa**	**48.83**	**292**	*i*P		**P**	**00 51 12.4**	**+0.2**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5							
ARU	**Arti**	**50.70**	**314**⇓	*i*P		**P**	**00 51 25.4**	**-0.6**
ARU				*e*			00 52 32.7	
ARU				*e*			00 53 27.9	
ARU				*e*S		**S**	**00 58 04.4**	**-1.6**
ARU					pmax	pmax		
	comp=Z,4.0nm,0.6s,mb3.9							
AB31	**Akbulak array**	**53.78**	**306**	*i*P		**P**	**00 51 48.5**	**+0.2**
AB31					pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6							
KEV	**Kevo**	**54.47**	**338**	*e*p		**P**	**00 51 52.3**	**-0.8**
ARCES	**ARCESS Array B**	**55.00**	**338**	P		**P**	**00 51 56.3**	**-0.5**
	comp=Z,2.3nm,0.8s,mb3.6,baz=45,slow=7.7,SNR=9.0							
JOF	**Joensuu**	**57.96**	**331**	*e*p		**P**	**00 52 16.7**	**-0.7**
KAF	**Kangasniemi**	**60.16**	**332**	*e*p		**P**	**00 52 31.3**	**-0.9**
	comp=Z,0.7nm,0.3s,mb3.6,baz=42,slow=6.2							
KAF	**Kangasniemi**	**60.16**	**332**	*e*P		**P**	**00 52 31.3**	**-0.9**
KAF					pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7							
FINES	**FINESS Array B**	**60.73**	**331**	P		**P**	**00 52 35.4**	**-0.6**
	comp=Z,2.4nm,0.5s,mb3.9,baz=48,slow=7.2,SNR=46							
FINES	**FINESS Array B**	**60.73**	**331**	*e*P		**P**	**00 52 35.4**	**-0.6**
BOZ	**Bozeman (W)**	**64.84**	**49**	*e*P		**P**	**00 53 03.3**	**+0.7**
BOZ					pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7							
BOZ	**Bozeman (W)**	**64.84**	**49**	*e*P		**P**	**00 53 03.3**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.7							
NB2	**NORSAR Subarra**	**65.36**	**338**	P		**P**	**00 53 05.4**	**-0.5**
	comp=Z,0.9nm,0.4s,mb3.8,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**65.36**	**338**	P		**P**	**00 53 05.7**	**-0.2**
	comp=Z,1.3nm,0.5s,mb3.8,baz=30,slow=6.6,SNR=5.0							
NVAR	**Mina Array Bea**	**66.16**	**59**	P		**P**	**00 53 12.7**	**+1.8**
	comp=Z,0.6nm,0.6s,mb3.4,baz=295,slow=8.2,SNR=5.6							
RLMT	**Red Lodge**	**66.40**	**48**	P		**P**	**00 53 12.1**	**-0.3**
RLMT				*e*PcP		PcP	00 53 35.5	-2.5
AKASG	**Malin Array Be**	**67.67**	**322**	P		**P**	**00 53 19.9**	**-0.4**
	comp=Z,1.3nm,0.4s,mb3.9,baz=37,slow=6.2,SNR=7.9							
AKASG	**Malin Array Be**	**67.67**	**322**	*e*P		**P**	**00 53 20.0**	**-0.3**
PDAR	**Pinedale Array**	**67.92**	**50**	P		**P**	**00 53 22.4**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.8,baz=5.3,slow=0.5,SNR=8.2							
WRA	**Warramunga Arr**	**68.36**	**192**	P		**P**	**00 53 25.3**	**+0.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=7.1,slow=6.5,SNR=28							
ASAR	**Alice Springs**	**72.08**	**191**	P		**P**	**00 53 48.2**	**+1.5**
	comp=Z,1.1nm,0.7s,mb3.5,baz=1.9,slow=5.2,SNR=15							
BRTR	**Keskin Array B**	**74.01**	**312**	P		**P**	**00 53 59.0**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.3,baz=121,slow=4.8,SNR=5.5							
BRTR	**Keskin Array B**	**74.01**	**312**	*i*P		**P**	**00 53 59.0**	**+1.2**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**75.06**	**330**	P		**P**	**00 54 04.0**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.0,baz=18,slow=1.7,SNR=4.1							
SWET	**Sewanee**	**85.17**	**40**	*e*P		**P**	**00 54 56.3**	**-0.5**
PLCA	**Paso Flores**	**153.19**	**88**	*e*PKIKP		PKPdf	01 02 05.8	-1.3

*ISCJB **24** 00:50:18.7±0.2,1079N±002×6249W±002,h92km±3km, mb3.9/11,Error ellipse: s-maj=4.5km s-min=3.1km az=117.0*
*NEIC **24** 00:50:20.5, 1087N×6240W, h28km, mb4.3/4, MD4.0(TRN), After TRN.*
*TRN **24** 00:50:20.6, 1086N×6249W, h29km, MD4.0*
*FUNV **24** 00:50:20.0, 1084N×6239W, h78km, MW4.1*
*IDC **24** 00:50:21.0±1.2, 1098N×6259W, h100km±11km, mb3.6/9, mb1 3.8/12, mb1mx3.6/24, mbtmp4.0/12, Error ellipse: s-maj=22.1km s-min=7.2km az=133.0*

ISC 24 00:50:19.8±0.2,1080N±002×6248W±002,h85km±3km,n54, σ0ˢ93/81,mb3.9/11,5C-5D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.30**	**121**⇑	*i*P		**Pn**	**00 50 31.6**	**-0.9**
GUIV				*e*S		**Sn**	**00 50 40.4**	**-1.6**
TCE	**Chacachacare**	**0.72**	**98**⇓	*i*P		**Pn**	**00 50 35.9**	**-0.2**
TCE				*e*S		**Sn**	**00 50 46.4**	**-1.8**
CRUV	**Carupano**	**0.75**	**261**⇓	*i*P		**Pn**	**00 50 36.9**	**+0.5**
CRUV				*e*S		**Sn**	**00 50 49.0**	**+0.4**
GUNV	**Guanoco**	**0.78**	**215**	*e*P		**Pn**	**00 50 37.5**	**+0.8**
GUNV				*e*S		**Sn**	**00 50 49.4**	**+0.3**
ITEV	**Isla Los Testi**	**0.84**	**311**⇓	*i*P		**Pn**	**00 50 36.8**	**-0.5**
ITEV				*e*S		**Sn**	**00 50 49.6**	**-0.8**
ALNG	**Atlantic LNG**	**0.99**	**128**	*e*P		**Pn**	**00 50 41.1**	**+2.1**
ALNG				*e*S		**Sn**	**00 50 55.1**	**+1.7**
BUAY	**Buenos Aires**	**1.04**	**131**	*e*P		**Pn**	**00 50 41.1**	**+1.5**
BUAY				*e*S		**Sn**	**00 50 54.5**	**+0.1**
BUAY				*e*S		**Sn**	**00 50 55.2**	**+0.8**
TRN	**Trinidad (W)**	**1.07**	**98**	*e*P		**Pn**	**00 50 39.9**	**-0.1**
TRN				*e*S		**Sn**	**00 50 53.4**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.12**	**115**⇑	*i*P		**Pn**	**00 50 41.1**	**+0.6**
TPP				*e*S		**Sn**	**00 50 55.5**	**-0.6**
TBH	**Brigand Hill**	**1.43**	**103**	*e*P		**Pn**	**00 50 44.7**	**+0.3**
GRW	**Mount Saint Ca**	**1.57**	**31**⇑	*i*P		**Pn**	**00 50 46.2**	**0.0**
GRW				*e*S		**Sn**	**00 51 05.5**	**-0.8**
GRHS	**Sauteurs**	**1.64**	**30**	*e*P		**Pn**	**00 50 47.4**	**+0.3**
GRHS				*e*S		**Sn**	**00 51 06.5**	**-1.2**
GRSS	**Sisters**	**1.72**	**30**⇓	*i*P		**Pn**	**00 50 48.3**	**+0.3**
GRSS				*e*S		**Sn**	**00 51 09.9**	**+0.3**
GRIC	**Isle de Caille**	**1.72**	**31**	*e*P		**Pn**	**00 50 48.1**	**0.0**
GRIC				*e*S		**Sn**	**00 51 09.1**	**-0.5**
TPR	**Prospect**	**1.72**	**77**⇑	*i*P		**Pn**	**00 50 48.3**	**+0.2**
TPR				*e*S		**Sn**	**00 51 08.9**	**-0.7**
TPR	**Prospect**	**1.72**	**77**⇑	*i*P		**Pn**	**00 50 48.3**	**+0.2**
TPR				*e*S		**Sn**	**00 51 08.9**	**-0.7**
BOT	**Bacolet**	**1.77**	**78**	*e*P		**Pn**	**00 50 48.7**	**-0.1**
GRCU	**Cariacou**	**1.94**	**31**	*e*P		**Pn**	**00 50 50.9**	**-0.1**
GRCU				*e*S		**Sn**	**00 51 14.2**	**-0.7**
PCRV	**Puerto La Cruz**	**2.21**	**254**	P		**Pn**	**00 50 56.4**	**+1.9**
	14nm,0.3s,baz=54,slow=4.7,SNR=157							
PCRV				S		**Sn**	**00 51 22.5**	**+1.4**
	17nm,0.3s,baz=242,slow=21,SNR=21							
PCRV	**Puerto La Cruz**	**2.21**	**254**	*e*P		**Pn**	**00 50 55.1**	**+0.6**
PCRV				*e*S		**Sn**	**00 51 20.4**	**-0.7**
IBAV	**Isla La Blanqu**	**2.29**	**297**⇓	*i*P		**Pn**	**00 50 56.1**	**+0.5**
IBAV				*e*S		**Sn**	**00 51 23.1**	**0.0**
FCV	**Fort Charlotte**	**2.64**	**27**	*e*P		**Pn**	**00 51 01.2**	**+0.9**
FCV				*e*S		**Sn**	**00 51 33.1**	**+1.7**
SVB	**Belmont**	**2.74**	**26**	*e*P		**Pn**	**00 51 03.1**	**+1.4**
SVB				*e*S		**Sn**	**00 51 39.1**	**+5.3**
SSV	**Crater Summit**	**2.81**	**27**	*e*P		**Pn**	**00 51 04.5**	**+1.9**
SSV				*e*S		**Sn**	**00 51 42.8**	**+7.2**
PRGV	**PARIAGUAN**	**2.94**	**227**	*e*P		**Pn**	**00 51 05.4**	**+1.1**
PRGV				*e*S		**Sn**	**00 51 38.7**	**0.0**
GURV	**El Guri**	**3.08**	**191**	*e*P		**Pn**	**00 51 05.7**	**-0.5**
CUPV	**Cœpira**	**3.33**	**258**	*e*P		**Pn**	**00 51 10.1**	**+0.4**
CUPV				*e*S		**Sn**	**00 51 47.1**	**-1.1**
BIRV	**Birongo**	**3.73**	**265**	*e*P		**Pn**	**00 51 16.1**	**+0.9**
ORCV	**Isla La Orchil**	**3.78**	**286**	*e*P		**Pn**	**00 51 16.2**	**+0.5**
MERV	**Las Mercedes**	**4.06**	**248**	*e*P		**Pn**	**00 51 19.7**	**+0.2**
MERV				*e*S		**Sn**	**00 52 04.4**	**-1.4**
CAOV	**Caicara del Or**	**5.13**	**228**	*e*P		**Pn**	**00 51 33.4**	**-0.6**
LZG	**Guadaloupe-1**	**5.35**	**7**	*e*P		**Pn**	**00 51 38.0**	**+0.9**
LZG				*e*S		**Sn**	**00 52 35.9**	**-1.5**
SEG	**Port Louis**	**5.65**	**10**	*e*P		**Pn**	**00 51 41.9**	**+0.8**
DEG	**La Desirade**	**5.65**	**14**	*e*P		**Pn**	**00 51 42.1**	**+0.9**
BAUV	**El Baul**	**5.78**	**252**	*e*P		**Pn**	**00 51 42.8**	**-0.1**
SDV	**Santo Domingo**	**8.25**	**257**	P		**Pn**	**00 52 16.6**	**-0.1**
	1.8nm,0.3s,baz=233,slow=23,SNR=5.0							
SDV				S		**Sn**	**00 53 45.7**	**-2.5**
	4.7nm,0.3s,baz=232,slow=23,SNR=7.9							
ROSC	**El Rosal**	**13.13**	**244**	P		**Pn**	**00 53 23.4**	**+0.6**
	0.4nm,0.3s,baz=85,slow=23,SNR=3.2							
SAML	**Samuel**	**19.63**	**182**	*e*P		**Pn**	**00 54 41.8**	**-1.8**
	10nm,1.4s							
JTS	**JuntasAbangare**	**22.09**	**271**	*e*P		**P**	**00 55 08.9**	**+1.0**
	22nm,1.4s,mb4.3							
CPUP	**Villa Florida**	**37.24**	**172**	P		**P**	**00 57 22.9**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=0.0,slow=10,SNR=3.1							
CPUP	**Villa Florida**	**37.24**	**172**	P		**P**	**00 57 22.9**	**-0.2**
SCHQ	**Schefferville**	**44.06**	**356**	P		**P**	**00 58 18.3**	**-0.8**
	1.9nm,0.7s,mb3.9,baz=214,slow=11,SNR=4.3							
TRQA	**Tornquist**	**48.60**	**179**	*e*P		**P**	**00 58 54.1**	**-0.6**
	6.6nm,1.0s,mb4.5							
PV01	**Paradox Valley**	**49.32**	**311**	*e*P		**P**	**00 59 00.4**	**+0.1**
PDAR	**Pinedale Array**	**51.78**	**317**	P		**P**	**00 59 17.3**	**-1.4**
	2.0nm,0.5s,mb4.4,baz=113,slow=9.7,SNR=14							
ESDC	**Sonseca Array**	**59.05**	**50**	P		**P**	**01 00 10.9**	**+0.1**
	0.1nm,0.3s,mb3.3,baz=260,slow=6.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**62.68**	**81**	P		**P**	**01 00 36.2**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=290,slow=6.2,SNR=10							
NB2	**NORSAR Subarra**	**72.73**	**29**	P		**P**	**01 01 38.4**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.7,baz=260,slow=6.2							
NOA	**NORSAR Array B**	**72.73**	**29**	P		**P**	**01 01 38.3**	**-0.4**
	comp=Z,1.4nm,0.7s,mb3.9,baz=262,slow=5.9,SNR=5.9							
GERES	**GERESS Array B**	**72.86**	**42**	P		**P**	**01 01 39.2**	**-0.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=218,slow=6.3,SNR=3.9							
FINES	**FINESS Array B**	**79.92**	**29**	P		**P**	**01 02 18.1**	**-1.2**
	comp=Z,0.8nm,0.4s,mb3.9,baz=257,slow=2.1,SNR=16							
BR131	**Keskin Array S**	**87.84**	**50**	*e*P		**P**	**01 02 59.7**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8							
BRTR	**Keskin Array B**	**87.84**	**50**	P		**P**	**01 02 60.0**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=257,slow=4.3,SNR=10							
WRA	**Warramunga Arr**	**161.42**	**239**	PKPab		PKPab	01 10 54.1	-1.1
	comp=Z,0.5nm,1.1s,baz=104,slow=4.4,SNR=4.7							

IDC 24 00:50:49.6±2.9,1744N×14421E,h319km±30km,mb3.0/5, mb1 3.1/6,mb1mx3.0/17,mbtmp3.8/6,Error ellipse: s-maj=191.1km s-min=17.1km az=80.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**3.88**	**170**	P		Pn	00 51 55.6	+0.1
	7.2nm,0.3s,baz=0.0,slow=20,SNR=4.3							
GUMO				S		S	00 52 49.0	+0.6
	8.3nm,0.3s,baz=17,slow=20,SNR=2.5							
WRA	**Warramunga Arr**	**38.39**	**195**	P		P	00 57 41.0	+0.1
	0.6nm,0.8s,baz=12,slow=8.4,SNR=9.9							
ASAR	**Alice Springs**	**42.07**	**194**	P		P	00 58 11.2	+0.4
	0.2nm,0.6s,baz=19,slow=6.8,SNR=3.9							
SONM	**Songino Array**	**43.27**	**323**	P		P	00 58 20.9	+0.5
	0.7nm,0.6s,baz=140,slow=9.7,SNR=6.9							
MKAR	**Makanchi Array**	**58.32**	**315**	P		P	01 00 12.4	+0.7
	0.8nm,0.4s,baz=86,slow=7.9,SNR=10.0							
BVAR	**Borovoye Array**	**66.55**	**321**	P		P	01 01 04.9	-0.9
	1.3nm,0.5s,baz=101,slow=7.5,SNR=15							

*ISCJB **24** 00:51:43.9±2.0, 1956N±007×7279W±004, h30km±16km, mb3.8/13, MS3.3/1, Error ellipse: s-maj=11.6km s-min=5.5km az=43.6*
*SSNC **24** 00:51:44.3, 1927N×7277W, h50km, MD3.8, ML3.3*
*IDC **24** 00:51:47.2±2.5, 1952N×7280W, h44km±26km, mb3.6/11, mb1 3.9/16, mb1mx3.7/26, mbtmp4.0/16, ML3.9/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/32, Error ellipse: s-maj=22.8km s-min=16.1km az=13.0*
*NEIC **24** 00:51:47.2±0.8, 1956N×7279W, h44km±9km, mb3.8/3, Error ellipse: s-maj=8.8km s-min=6.4km az=220.0*

ISC 24 00:51:45.5±2.1,1960N±007×7283W±004,h25km±17km, n33,σ0ˢ85/37,mb3.8/13,MS3.3/1,Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MASC	**Masc**	**1.44**	**294**	*e*PG		**Pn**	**00 52 09.0**	**-0.9**
	baz=102							
MASC				*i* SG		**Sn**	**00 52 28.2**	**+0.2**
	comp=N,34nm,0.1s							
MASC				*e*				
	comp=E,38nm,0.1s							
MOAC	**Moa**	**2.26**	**298**	*e*PG		**Pn**	**00 52 22.3**	**+1.0**
	baz=138							
MOAC				*e*SG		**Sn**	**00 52 50.6**	**+2.2**
	comp=N,15nm,0.5s							
MOAC				*e*				
	comp=E,10nm,0.3s							
RCC	**Rio Carpintero**	**2.72**	**279**	*e*PG		**Pn**	**00 52 26.1**	**-1.6**
	baz=94							
RCC				*e*SG		**Sn**	**00 52 57.8**	**-2.0**
	comp=N,418nm,0.6s							
RCC				*e*				
	comp=E,531nm,0.7s							
HLGC	**Holguin**	**3.29**	**294**	*e*P		**Pn**	**00 52 36.3**	**+0.8**
LMGC	**Las Mercedes**	**3.96**	**277**	*e*PG		**Pn**	**00 52 44.2**	**-0.4**
	baz=92							
LMGC				*e*SG		**Sn**	**00 53 24.9**	**-5.2**
	comp=N,458nm,0.2s							
LMGC				*e*				
	comp=E,365nm,0.1s							
CCCC	**Cccc**	**4.89**	**290**	*e*P		**Pn**	**00 52 51.6**	**-5.9**
SJG	**San Juan**	**6.50**	**102**	P		**Pn**	**00 53 19.6**	**0.0**
	comp=E,6.7nm,0.3s,baz=300,slow=13,SNR=8.5							
SJG				S		**Sn**	**00 54 26.4**	**-6.4**
	comp=E,2.6nm,0.3s,baz=276,slow=14,SNR=2.3							
SJG	**San Juan**	**6.50**	**102**	*e*Pn		**Pn**	**00 53 19.4**	**-0.1**
	comp=E,38nm,0.6s							
CPD	**Cerro la Pandu**	**6.73**	**102**	*e*Pn		**Pn**	**00 53 23.2**	**+0.4**
MTP	**Monte Pirata**	**7.05**	**101**	*e*Pn		**Pn**	**00 53 26.9**	**-0.2**
PCRV	**Puerto La Cruz**	**12.26**	**139**	P		**Pn**	**00 54 38.7**	**+0.2**
	comp=E,1.4nm,0.3s,baz=44,slow=22,SNR=2.6							
PCRV				LR		LR	00 59 29.7	
	comp=E,54nm,21.4s,baz=110,slow=38							
ROSC	**El Rosal**	**14.72**	**186**	P		**Pn**	**00 55 13.5**	**+1.4**
	comp=E,0.2nm,0.3s,baz=281,slow=22,SNR=1.8							
JTS	**JuntasAbangare**	**14.91**	**233**	P		**Pn**	**00 55 14.8**	**+0.1**
	comp=E,0.6nm,0.3s,baz=238,slow=22,SNR=3.3							
JTS				LR		LR	01 01 17.3	
	comp=E,53nm,19.8s,baz=358,slow=38							
TKL	**Tuckaleechee C**	**18.68**	**331**	P		**Pn**	**00 56 01.1**	**-1.1**
	comp=E,0.2nm,0.3s,baz=140,slow=14,SNR=4.3							
TKL				S		**Sn**	**00 59 16.6**	**-14**
	comp=E,0.3nm,0.3s,baz=261,slow=23,SNR=4.5							
BLA	**Blacksburg**	**18.76**	**341**	*e*P		**Pn**	**00 56 03.2**	**0.0**
	comp=E,0.7nm,0.6s							
FWV	**Forest Hill**	**19.23**	**340**	*e*P		**Pn**	**00 56 08.4**	**-0.4**
CMIG	**Matias Romero**	**21.08**	**267**	P		**P**	**00 56 27.8**	**-0.1**
	comp=E,1.3nm,0.6s,mb3.5,baz=114,slow=10,SNR=3.9							
CMIG	**Matias Romero**	**21.08**	**267**	P		**P**	**00 56 27.8**	**-0.1**
WVT	**Waverly**	**21.10**	**324**	*e*P		**P**	**00 56 28.1**	**+0.1**
	comp=E,9.7nm,0.9s,mb4.1							
SADO	**Sadowa**	**25.65**	**350**	P		**P**	**00 57 12.8**	**-0.4**
	comp=E,1.8nm,0.5s,mb3.9,baz=209,slow=5.8,SNR=4.9							
SAML	**Samuel**	**29.91**	**161**	*e*P		**P**	**00 57 50.3**	**-1.0**
	comp=E,1.8nm,0.8s,mb3.9							
SCHQ	**Schefferville**	**35.47**	**6**	P		**P**	**00 58 40.2**	**+0.3**
	comp=E,3.9nm,0.6s,mb4.5,baz=187,slow=6.7,SNR=9.4							
PDAR	**Pinedale Array**	**38.55**	**315**	P		**P**	**00 59 06.8**	**+0.7**
	comp=E,1.0nm,0.7s,mb3.7,baz=123,slow=10.0,SNR=6.0							
MCMT	**McKenzie Canyo**	**41.58**	**316**	*e*P		**P**	**00 59 32.0**	**+0.8**
NVAR	**Mina Array Bea**	**43.48**	**306**	P		**P**	**00 59 48.0**	**+1.4**
	comp=E,0.2nm,0.6s,mb3.1,baz=91,slow=9.0,SNR=3.9							
CFAA	**Coronel Fontan**	**51.10**	**175**	LR		LR	01 21 31.6	
	comp=E,34nm,21.2s,MS3.3,baz=287,slow=35							
ESDC	**Sonseca Array**	**61.69**	**55**	P		**P**	**01 02 01.5**	**+0.1**
	comp=E,0.8nm,0.8s,mb3.9,baz=280,slow=7.2,SNR=5.0							
DBIC	**Dimbokro**	**67.07**	**91**	P		**P**	**01 02 36.2**	**-0.4**
	comp=E,2.1nm,0.9s,mb4.2,baz=270,slow=11,SNR=2.4							
TORD	**Torodi Ar. Bea**	**71.32**	**82**	P		**P**	**01 03 02.5**	**-0.4**
	comp=E,0.6nm,0.9s,mb3.5,baz=262,slow=6.7,SNR=6.0							
KEST	**Kesra**	**72.65**	**58**	P		**P**	**01 03 11.3**	**+0.4**
	comp=E,1.4nm,0.9s,mb3.9,baz=233,slow=2.5,SNR=4.6							
GERES	**GERESS Array B**	**73.27**	**44**	P		**P**	**01 03 14.6**	**0.0**
	comp=E,0.4nm,0.8s,mb3.4,baz=304,slow=7.0,SNR=3.3							
ARCES	**ARCESS Array B**	**74.69**	**21**	P		**P**	**01 03 21.9**	**-1.1**
	comp=E,3.3nm,0.9s,mb4.2,baz=276,slow=3.4,SNR=11							
WRA	**Warramunga Arr**	**154.44**	**265**	PKPbc		PKPbc	01 11 42.4	-1.3
	comp=E,0.4nm,0.6s,baz=86,slow=2.9,SNR=12							
WRA				PKPab		PKPab	01 11 58.7	+0.6
	comp=E,0.7nm,0.9s,baz=82,slow=2.8,SNR=5.2							

*IDC **24** 01:03:13.9±1.0, 1588N×9622W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/23, mbtmp4.0/8, MS3.1/3, Ms1 3.1/3, ms1mx2.8/30, Error ellipse: s-maj=29.0km s-min=17.2km az=69.0*
*ISCJB **24** 01:03:15.4±0.8, 1580N±004×9655W±003, h27km±6km, mb3.9/15, MS3.0/1, Error ellipse: s-maj=7.2km s-min=4.2km az=44.5*
*MEX **24** 01:03:16.3±1.1, 1567N×9658W, h14km±12km, MD4.6*
*NEIC **24** 01:03:17.0, 1568N×9662W, h20km, mb4.2/13, MD4.5(MEX), After MEX.*

ISC 24 01:03:16.2±0.9,1584N±004×9653W±003,h17km±6km,n54, σ1ᵍ34/71,mb3.9/15,MS3.0/1,1D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.41**	**100**	*i*P		**Pg**	**01 03 24.9**	**+0.4**
HUIG				*i* S		**Sg**	**01 03 30.7**	**+0.6**
VHO	**Vista Hermosa**	**1.24**	**351**⇓	*i*P		**Pn**	**01 03 38.4**	**-0.4**
VHO				*i* S		**Sb**	**01 03 54.6**	**-0.3**
OXX	**Oaxaca**	**1.25**	**351**	*i*P		**Pn**	**01 03 38.5**	**-0.4**
PNIG	**Pinotepa**	**1.63**	**290**	*e*P		**Pn**	**01 03 41.3**	**-2.9**
PNIG				*i* S		**Sn**	**01 04 01.0**	**-3.8**
CMIG	**Matias Romero**	**2.01**	**51**	Pn		**Pn**	**01 03 47.2**	**-2.1**
	50nm,0.3s,baz

PMG S Sn 01 12 04.6 +7.0
2.3nm,0.3s,baz=86,slow=16,SNR=5.1
KAKA Kakadu 21.00 246 *e*P P 01 13 34.6 +0.7
4.5nm,0.2s
WRAB Tennant Creek 23.09 227 *e*P P 01 13 55.4 +0.4
14nm,0.6s
WB2 Warramunga Arr 23.10 227 ||*i*P P 01 13 55.4 +0.4
WRA Warramunga Arr 23.11 227 P P 01 13 55.6 +0.6
7.9nm,0.5s,baz=52,slow=9.5,SNR=101
AS31 Alice Springs 25.90 221 *e*P P 01 14 20.6 +0.2
ASAR Alice Springs 25.90 221 P P 01 14 20.4 +0.1
2.2nm,0.5s,baz=54,slow=9.1,SNR=19
MBWA Marble Bar 35.47 239 *e*P P 01 15 44.9 +0.5
5.8nm,0.6s
SANT Santorini 121.61 310 *e*PKPdf PKPdf 01 27 40.8 +2.3
TORD Torodi Ar. Bea 149.42 288 PKPbc PKPbc 01 28 33.5 -0.4
1.4nm,0.5s,baz=72,slow=2.2,SNR=12

---

*BJI **24** 01:12:23.4, 1120S×7470W, h62km, mB5.4, Ms5.3, Msz5.0*
*GCMT **24** 01:12:23.5±0.2, 1119S×7480W, h123km±1km, MW5.2/69, Moment Tensor Solution. s52,c74; s69,c107; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-4.88±.17; Mθθ3.75±.19; Mϕϕ1.13±.23; Mrθ1.74±.13; Mrϕ-4.54±.19; Mθϕ~3.81±.15; Best double couple: Mo7.48900×10^16 NP1:ϕs102.00000°, δ35.00000°, λ-131.00000°. NP2: ϕs328.00000°, δ64.00000°, λ-66.00000°. Principal axes: T 8.2300, Plg16.0000°, Azm40.0000°; N -1.4810, Plg22.0000°, Azm137.0000°; P -6.7490, Plg63.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **24** 01:12:26.7±1.0, 1114S×7476W, h102km, mb5.2/34 Error ellipse: s-maj=9.5km s-min=5.4km az=111.0*
*ISCJB **24** 01:12:27.2±0.2, 1123S±003×7482W±004, h111km, mb5.0/88, Error ellipse: s-maj=5.7km s-min=3.5km az=107.3*
*IDC **24** 01:12:28.8±0.4, 1131S×7494W, h112km±3km, mb4.6/26, mb1 4.7/31, mb1mx4.7/32, mbtmp5.0/31, MS3.9/7, Ms1 3.9/7, ms1mx3.5/28, Error ellipse: s-maj=8.0km s-min=6.8km az=171.0*
*NEIC **24** 01:12:28.5±0.6, 1125S×7474W, h108km±5km, mb5.2/62, Error ellipse: s-maj=5.3km s-min=3.2km az=50.0*
NEIC Felt [III] at Satipo.
ISC 24 01:12:29.4±0.2, 1123S±003×7469W±004, h113km, h113km±1.3km: pP-P, n385, e0s85/311, mb5.0/88, 6C-8D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.24**	**250**	Pn	**Pn**	**01 13 00.7**	**-4.8**
	44μm,0.5s						
NNA	**Nana**	**2.24**	**250**	P	**Pn**	**01 13 00.5**	**-5.0**
	1μm,0.3s,baz=60,slow=9.7,SNR=1822						
NNA				S	**Sn**	**01 13 26.5**	**-6.6**
	5μm,0.3s,baz=325,slow=21,SNR=35						
NNA	**Nana**	**2.24**	**250**	*e*Pn	**Pn**	**01 13 00.9**	**-4.6**
ATAH	**Atahualpa**	**5.57**	**319**	P	**Pn**	**01 13 46.1**	**-3.8**
	38nm,0.3s,baz=139,slow=8.6,SNR=201						
ARE	**Arequipa**	**6.06**	**149**	*e*P	**Pn**	**01 13 56.0**	**-0.5**
ARE				*e*S	**Sn**	**01 15 04.0**	**-0.5**
LPAZ	**La Paz**	**8.12**	**129**	P	**Pn**	**01 14 25.9**	**+1.5**
	2.8nm,0.3s,baz=322,slow=12,SNR=76						
LPAZ	**La Paz**	**8.12**	**129**	*e*Pn	**Pn**	**01 14 25.6**	**+1.2**
SAML	**Samuel**	**11.56**	**80**	*e*Pn	**Pn**	**01 15 08.7**	**-2.0**
LVC	**Limon Verde**	**12.60**	**155**	P	**Pn**	**01 15 23.6**	**-0.9**
	0.4nm,0.3s,baz=330,slow=12,SNR=6.8						
LVC				S	**Sn**	**01 17 35.6**	**-7.4**
	4.3nm,0.3s,baz=129,slow=18,SNR=9.9						
LVC				LR	LR	01 20 33.7	
	comp=Z,316nm,21.3s,baz=311,slow=38						
LVC	**Limon Verde**	**12.60**	**155**	*e*Pn	**Pn**	**01 15 26.0**	**+1.6**
SIV	**San Ignacio**	**14.06**	**111**	P	**Pn**	**01 15 44.8**	**+1.4**
	5.7nm,0.3s,baz=298,slow=12,SNR=75						
SIV				S	**Sn**	**01 18 15.0**	**-3.4**
	4.1nm,0.3s,baz=321,slow=19,SNR=3.5						
ROSC	**El Rosal**	**15.98**	**1**	P	**Pn**	**01 16 08.6**	**+0.9**
	14nm,0.3s,baz=94,slow=5.0,SNR=23						
SDV	**Santo Domingo**	**20.39**	**12**	P	**P**	**01 16 58.1**	**+1.0**
	222nm,0.3s,baz=230,slow=8.5,SNR=192						
SDV	**Santo Domingo**	**20.39**	**12**	*e*Pn	**P**	**01 16 58.2**	**+1.1**
CFAA	**Coronel Fontan**	**21.14**	**165**	P	**P**	**01 17 05.5**	**+0.4**
	10nm,0.9s,mb4.2,baz=335,slow=10,SNR=52						
MDZ	**Mendoza**	**22.21**	**167**	*e*P	**P**	**01 17 16.9**	**+0.4**
MDZ				*e*		01 17 54.7	
CPUP	**Villa Florida**	**22.23**	**135**	P	**P**	**01 17 16.8**	**+0.1**
	12nm,0.6s,mb4.4,baz=306,slow=9.8,SNR=42						
CPUP	**Villa Florida**	**22.23**	**135**	*e*P	**P**	**01 17 16.5**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,189nm,0.9s						
CPUP	**Villa Florida**	**22.23**	**135**	*e*P	**P**	**01 17 16.5**	**-0.2**
	comp=Z,190nm,0.9s,mb5.4						
PCRV	**Puerto La Cruz**	**23.50**	**26**	P	**P**	**01 17 30.1**	**+1.2**
	comp=Z,107nm,0.7s,mb5.3,baz=198,slow=3.3,SNR=30						
JTS	**JuntasAbangare**	**23.69**	**334**	P	**P**	**01 17 30.4**	**-0.2**
	comp=Z,12nm,1.0s,mb4.2,baz=82,slow=2.8,SNR=7.6						
JTS	**JuntasAbangare**	**23.69**	**334**	P	**P**	**01 17 30.4**	**-0.2**
JTS				pmax	pmax		
	comp=Z,13nm,1.0s						
JTS	**JuntasAbangare**	**23.69**	**334**	*e*P	**P**	**01 17 31.4**	**+0.7**
BDFB	**Brasilia**	**26.31**	**103**	P	**P**	**01 17 55.9**	**+1.5**
	comp=Z,12nm,0.7s,mb4.5,baz=278,slow=11,SNR=19						
BDFB				LR	LR	01 29 24.7	
	comp=Z,401nm,19.0s,baz=273,slow=38						
BDFB	**Brasilia**	**26.31**	**103**	*e*P	**P**	**01 17 55.4**	**+1.0**
BDFB				LR	LR	01 29 24.7	
TRQA	**Tornquist**	**29.04**	**159**	*e*P	**P**	**01 18 17.9**	**-0.8**
PLCA	**Paso Flores**	**29.61**	**174**	P	**P**	**01 18 23.1**	**-0.7**
	comp=Z,34nm,0.8s,mb5.0,baz=344,slow=9.7,SNR=50						
PLCA				PcP	PcP	01 21 25.9	+0.2
	comp=Z,7.9nm,1.0s,baz=14,slow=2.6,SNR=3.3						
PLCA	**Paso Flores**	**29.61**	**174**	P	**P**	**01 18 23.1**	**-0.7**
PLCA						01 21 25.9	
PLCA				pmax	pmax		
	comp=Z,34nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PLCA	**Paso Flores**	**29.61**	**174**	*e*P	**P**	**01 18 23.1**	**-0.7**
MPR	**Mayaguez**	**30.19**	**14**	*e*P	**P**	**01 18 29.5**	**+0.6**
CPD	**Cerro la Pandu**	**30.34**	**17**	*e*P	**P**	**01 18 30.5**	**+0.2**
SJG	**San Juan**	**30.35**	**16**	P	**P**	**01 18 30.7**	**+0.4**
	comp=Z,75nm,0.8s,mb5.4,baz=195,slow=3.9,SNR=34						
SJG	**San Juan**	**30.35**	**16**	P	**P**	**01 18 30.7**	**+0.4**
SJG				pmax	pmax		
	comp=Z,75nm,0.8s						
SJG	**San Juan**	**30.35**	**16**	*e*P	**P**	**01 18 30.7**	**+0.4**
	comp=Z,67nm,0.8s,mb5.3						
HUMP	**Col San Antoni**	**30.46**	**17**	*e*P	**P**	**01 18 31.6**	**+0.3**
MTP	**Monte Pirata**	**30.51**	**17**	*e*P	**P**	**01 18 31.9**	**+0.3**
CBYP	**Canovanas**	**30.58**	**17**	*e*P	**P**	**01 18 32.6**	**+0.2**
CMIG	**Matias Romero**	**34.50**	**324**	P	**P**	**01 19 06.9**	**+0.4**
	comp=Z,17nm,0.8s,mb4.9,baz=125,slow=5.1,SNR=40						
BBSR	**BB Station**	**44.40**	**12**	*e*P	**P**	**01 20 29.7**	**+1.1**
	comp=Z,48nm,1.0s,mb5.2						
KVTX	**Kingsville**	**44.63**	**330**	*e*P	**P**	**01 20 31.7**	**+1.2**
	comp=Z,162nm,0.8s,mb5.8						
JSC	**Jenkinsville**	**45.69**	**352**	*e*P	**P**	**01 20 49.8**	**+11**
JSC				*e*		01 22 10.0	
HKT	**Hockley**	**45.73**	**334**	*e*P	**P**	**01 20 39.6**	**+0.5**
NATX	**Nacogdoches**	**46.83**	**336**	*e*P	**P**	**01 20 49.0**	**+1.2**
SWET	**Sewanee**	**47.40**	**347**	*e*P	**P**	**01 20 51.3**	**-0.9**
TKL	**Tuckaleechee C**	**47.42**	**350**	P	**P**	**01 20 52.0**	**-0.3**
	comp=Z,6.9nm,0.9s,mb4.4,baz=156,slow=5.9,SNR=7.1						
TKL	**Tuckaleechee C**	**47.42**	**350**	P	**P**	**01 20 52.0**	**-0.3**
TKL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
TKL	**Tuckaleechee C**	**47.42**	**350**	P	**P**	**01 20 52.0**	**-0.3**
OXF	**Oxford**	**47.59**	**343**	*e*P	**P**	**01 20 53.4**	**-0.2**
OXF				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.3						
OXF	**Oxford**	**47.59**	**343**	*e*P	**P**	**01 20 53.4**	**-0.2**
	comp=Z,47nm,0.9s,mb5.3						
OXF				*e*pP	pP	01 21 09.5	-10
PLAL	**Pickwick Lake**	**47.68**	**345**	*e*P	**P**	**01 20 52.3**	**-2.0**
PLAL				*e*pP	pP	01 21 08.6	-12
JCT	**Junction City**	**47.99**	**330**	*e*P	**P**	**01 20 56.9**	**+0.2**
JCT				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.1						
JCT	**Junction City**	**47.99**	**330**	*e*P	**P**	**01 20 56.9**	**+0.1**
	comp=Z,40nm,1.4s,mb5.0						
BLA	**Blacksburg**	**48.48**	**354**	*e*P	**P**	**01 21 00.7**	**+0.2**
BLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BLA	**Blacksburg**	**48.48**	**354**	*e*P	**P**	**01 21 00.7**	**+0.2**
	comp=Z,49nm,0.9s,mb5.3						
BLA				*e*pP	pP	01 21 13.1	-14
ELN	**Prospectdale**	**48.53**	**354**	*e*P	**P**	**01 21 01.3**	**+0.4**
ELN				*e*pP	pP	01 21 13.6	-14
WVT	**Waverly**	**48.71**	**346**	*e*P	**P**	**01 20 59.6**	**-2.6**
WVT				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.4						
WVT	**Waverly**	**48.71**	**346**	*e*P	**P**	**01 20 59.5**	**-2.7**
	comp=Z,38nm,0.8s,mb5.4						
WVT				*e*pP	pP	01 21 15.8	-13
UALR	**University of**	**48.72**	**341**	*e*P	**P**	**01 21 01.5**	**-0.8**
	comp=Z,35nm,0.9s,mb5.3						
UALR				*e*pP	pP	01 21 19.7	-9.1
FWV	**Forest Hill**	**48.89**	**354**	P	**P**	**01 21 03.9**	**+0.2**
FWV				*e*pP	pP	01 21 16.6	-14
MIAR	**Mount Ida**	**48.92**	**339**	*e*P	**P**	**01 21 03.4**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
MIAR	**Mount Ida**	**48.92**	**339**	*e*P	**P**	**01 21 03.4**	**-0.5**
	comp=Z,43nm,0.8s,mb5.4						
CBN	**Corbin**	**49.24**	**357**	*e*P	**P**	**01 20 59.0**	**-7.3**
	comp=Z,23nm,0.4s,mb5.5						
CBN				*e*pP	pP	01 21 16.9	-16
PARMO	**Parma**	**49.70**	**344**	*e*P	**P**	**01 21 08.2**	**-1.6**
PARMO				*e*pP	pP	01 21 25.3	-11
USIN	**University of**	**50.42**	**347**	*e*P	**P**	**01 21 14.0**	**-1.3**
USIN				*e*pP	pP	01 21 29.1	-13
SIUC	**Southern Illin**	**50.55**	**345**	*e*P	**P**	**01 21 14.8**	**-1.5**
MVL	**Millersville**	**50.99**	**358**	*e*P	**P**	**01 21 20.9**	**+1.4**
WMOK	**Wichita Mounta**	**51.11**	**334**	*e*P	**P**	**01 21 19.3**	**-1.1**
BLO	**Bloomington**	**51.34**	**348**	*e*P	**P**	**01 21 20.7**	**-1.4**
GDL2	**Guadalupe Moun**	**51.68**	**328**	*e*P	**P**	**01 21 24.9**	**+0.3**
ACSO	**Alum Creek Sta**	**51.77**	**352**	*e*P	**P**	**01 21 24.5**	**-0.8**
	comp=Z,60nm,0.9s,mb5.6						
ACSO				*e*pP	pP	01 21 37.1	-15
MNTX	**Cornudas Mount**	**51.83**	**326**	*e*P	**P**	**01 21 24.8**	**-1.0**
	comp=Z,56nm,1.5s,mb5.4						
PAL	**Palisades**	**51.98**	**1**	*e*P	**P**	**01 21 36.5**	**+10**
ALLY	**Alegheny Colle**	**52.85**	**355**	*e*P	**P**	**01 21 33.5**	**+0.1**
ALLY				*e*pP	pP	01 21 43.6	-17
BINY	**Binghamton**	**53.18**	**359**	*e*P	**P**	**01 21 36.8**	**+1.1**
	comp=Z,37nm,0.8s,mb5.5						
PMSA	**Palmer Station**	**53.98**	**174**	*e*P	**P**	**01 21 41.1**	**-0.5**
	comp=Z,35nm,0.8s,mb5.4						
KSU1	**Kansas State U**	**54.08**	**339**	*e*P	**P**	**01 21 41.2**	**-1.1**
	comp=Z,111nm,0.8s,mb5.9						
KSU1				*e*pP	pP	01 22 00.1	-9.1
FFD	**Franklin Falls**	**54.51**	**3**	*e*P	**P**	**01 21 44.7**	**-0.6**
	comp=Z,27nm,0.8s,mb5.3						
LPM	**Los Pinos Moun**	**54.51**	**327**	*e*P	**P**	**01 21 45.8**	**+0.4**
LENM	**Lemitar**	**54.58**	**327**	*e*P	**P**	**01 21 46.4**	**+0.5**
LAZ	**Ladron**	**54.85**	**327**	*e*P	**P**	**01 21 48.0**	**+0.2**
ANMO	**Albuquerque**	**54.91**	**328**	P	**P**	**01 21 48.1**	**-0.2**
	comp=Z,17nm,0.9s,mb5.0,baz=145,slow=9.2,SNR=42						
ANMO				pP	pP	01 22 15.7	+0.3
	comp=Z,6.0nm,0.9s,baz=146,slow=8.9,SNR=3.9						
ANMO	**Albuquerque**	**54.91**	**328**	P	**P**	**01 21 48.1**	**-0.2**
ANMO				*PP	pP	01 22 15.7	+0.4
ANMO				pmax	pmax		
	comp=Z,17nm,1.0s						
ANMO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ANMO	**Albuquerque**	**54.91**	**328**	*e*P	**P**	**01 21 48.1**	**-0.1**
	comp=Z,25nm,1.1s,mb5.2						
NCB	**Newcomb**	**54.94**	**0**	*e*P	**P**	**01 21 49.6**	**+1.1**
NCB				*e*pP	pP	01 21 58.1	-17
LBNH	**Lisbon**	**55.26**	**2**	*e*P	**P**	**01 21 59.3**	**+8.5**
TUC	**Tucson**	**55.36**	**323**	*e*P	**P**	**01 21 51.2**	**-0.3**
SCIA	**State Center**	**55.55**	**343**	*e*P	**P**	**01 21 51.5**	**-1.4**
	comp=Z,136nm,0.4s						
SCIA				*e*pP	pP	01 22 08.2	-12
LONY	**Lake Ozonia**	**55.58**	**0**	*e*P	**P**	**01 21 53.2**	**+0.1**
	comp=Z,16nm,0.8s,mb5.1						
JFWS	**Jewell Farm**	**55.73**	**346**	*e*P	**P**	**01 21 52.3**	**-1.8**
JFWS				*e*pP	pP	01 22 08.0	-13
FRNY	**Flat Rock**	**55.81**	**1**	*e*P	**P**	**01 21 55.7**	**+1.0**
MSNY	**Massena**	**55.96**	**360**	*e*P	**P**	**01 21 56.2**	**+0.4**
SDCO	**Great Sand Dun**	**56.63**	**331**	*e*P	**P**	**01 22 00.8**	**+0.2**
WUAZ	**Wupatki**	**58.00**	**325**	*e*P	**P**	**01 22 10.6**	**+0.4**
ECSD	**EROS,Sioux Fal**	**58.23**	**341**	*e*P	**P**	**01 22 10.3**	**-1.5**
	comp=Z,13nm,0.4s,mb5.3						
ECSD				*e*pP	pP	01 22 28.3	-11
ISCO	**Idaho Springs**	**58.33**	**332**	*e*P	**P**	**01 22 12.4**	**-0.1**
ISCO				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
ISCO	**Idaho Springs**	**58.33**	**332**	*e*P	**P**	**01 22 12.4**	**-0.1**
	comp=Z,26nm,1.0s,mb5.2						
GLA	**Glamis**	**58.34**	**321**	*e*P	**P**	**01 22 12.9**	**+0.4**
PV01	**Paradox Valley**	**58.44**	**329**	*e*P	**P**	**01 22 13.3**	**+0.1**
PV10	**Paradox Valley**	**58.87**	**329**	*e*P	**P**	**01 22 15.8**	**-0.4**
BAR	**Barrett**	**59.26**	**319**	*e*P	**P**	**01 22 19.9**	**+0.9**
PHWY	**Pilot Hill**	**59.47**	**333**	*e*P	**P**	**01 22 20.6**	**+0.3**
PFO	**Pinyon Flat Ob**	**59.73**	**320**	*e*P	**P**	**01 22 22.8**	**+0.7**
PFO				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
PFO	**Pinyon Flat Ob**	**59.73**	**320**	*e*P	**P**	**01 22 22.8**	**+0.7**
	comp=Z,21nm,1.2s,mb5.0						
SRU	**San Rafael**	**60.18**	**328**	*e*P	**P**	**01 22 25.1**	**-0.1**
RWWY	**Rawlins**	**60.56**	**332**	*e*P	**P**	**01 22 28.0**	**+0.2**
CCUT	**Cedar City**	**60.57**	**325**	*e*P	**P**	**01 22 28.6**	**+0.8**
MSU	**Marysvale**	**60.61**	**327**	*e*P	**P**	**01 22 28.5**	**+0.4**
TMUT	**Trail Mountain**	**60.67**	**328**	*e*P	**P**	**01 22 28.6**	**+0.1**
ARUT	**Antelope Range**	**60.78**	**325**	*e*P	**P**	**01 22 29.8**	**+0.5**
SHPR	**Sheep Range**	**60.87**	**323**	*e*P	**P**	**01 22 30.2**	**+0.3**
GSC	**Goldstone**	**61.05**	**321**	*e*P	**P**	**01 22 31.5**	**+0.4**
MWC	**Mount Wilson**	**61.14**	**319**	*e*P	**P**	**01 22 32.5**	**+0.8**
RSSD	**Black Hills**	**61.20**	**336**	*e*P	**P**	**01 22 32.1**	**0.0**
RSSD				pmax	pmax		
	comp=Z,45nm,1.3s,mb5.3						
RSSD	**Black Hills**	**61.20**	**336**	*e*P	**P**	**01 22 32.1**	**0.0**
	comp=Z,40nm,1.3s,mb5.3						
MPU	**Maple Canyon**	**61.42**	**328**	*e*P	**P**	**01 22 34.1**	**+0.5**
NLU	**North Lily Min**	**61.61**	**328**	*e*P	**P**	**01 22 35.2**	**+0.3**
CTU	**Camp Tracy**	**61.99**	**329**	*e*P	**P**	**01 22 37.8**	**+0.4**
TCUT	**Toone Canyon**	**62.13**	**329**	*e*P	**P**	**01 22 38.7**	**+0.4**
NOQ	**North Oquirrh**	**62.15**	**328**	*e*P	**P**	**01 22 38.8**	**+0.3**
AGMN	**Agassiz Refuge**	**62.17**	**344**	*e*P	**P**	**01 22 37.5**	**-1.1**
	comp=Z,52nm,0.8s,mb5.6						
AGMN				*e*pP	pP	01 22 54.5	-12
DUG	**Dugway**	**62.17**	**328**	*e*P	**P**	**01 22 39.0**	**+0.4**
DAC	**Darwin (Calif)**	**62.17**	**322**	*e*P	**P**	**01 22 38.7**	**0.0**
ISA	**Isabella**	**62.32**	**320**	*e*P	**P**	**01 22 40.3**	**+0.7**
	comp=Z,21nm,1.0s,mb5.1						
TRCR	**Troy Canyon**	**62.38**	**324**	*e*P	**P**	**01 22 40.6**	**+0.5**
PDAR	**Pinedale Array**	**62.49**	**332**	P	**P**	**01 22 40.0**	**-0.8**
	comp=Z,6.9nm,0.5s,mb4.9,baz=142,slow=7.4,SNR=64						
PDAR				pP	pP	01 23 08.0	-0.5
	comp=Z,4.2nm,0.6s,baz=126,slow=10,SNR=3.7						
PDAR				LR	LR	01 51 24.3	
	comp=Z,43nm,18.7s,baz=343,slow=37						
BW06	**Boulder Array**	**62.49**	**332**	*e*P	**P**	**01 22 40.0**	**-0.8**
	comp=Z,32nm,1.1s,mb5.3						
HWUT	**Hardware Ranch**	**62.57**	**330**	*e*P	**P**	**01 22 40.9**	**-0.4**
SPUT	**South Promonto**	**62.80**	**329**	*e*P	**P**	**01 22 41.9**	**-0.9**
BGU	**Big Grassy Mou**	**62.81**	**328**	*e*P	**P**	**01 22 42.3**	**-0.6**
BGU				pP	pP	01 22 57.8	-13
TPH	**Tonopah**	**63.14**	**323**	*e*P	**P**	**01 22 45.4**	**+0.3**
TPH				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
TPH	**Tonopah**	**63.14**	**323**	*e*P	**P**	**01 22 45.4**	**+0.3**
	comp=Z,27nm,1.0s,mb5.1						
HVU	**Hansel Valley**	**63.31**	**329**	*e*P	**P**	**01 22 46.2**	**0.0**
MTUM	**Tungsten Hills**	**63.47**	**322**	*e*P	**P**	**01 22 47.6**	**+0.4**
REDW	**Red Top Meadow**	**63.55**	**331**	*e*P	**P**	**01 22 47.6**	**-0.2**
	comp=Z,44nm,1.3s,mb5.1						
SNOW	**Snow King Moun**	**63.59**	**331**	*e*P	**P**	**01 22 48.1**	**+0.1**
	comp=Z,40nm,1.0s,mb5.2						
LOHW	**Long Hollow**	**63.63**	**332**	*e*P	**P**	**01 22 47.9**	**-0.4**
	comp=Z,21nm,0.8s,mb5.0						
TPAW	**Teton Pass**	**63.70**	**331**	*e*P	**P**	**01 22 48.5**	**-0.2**
RRI2	**Red Ridge**	**63.77**	**331**	*e*P	**P**	**01 22 49.2**	**0.0**
MOOW	**Moose Ponds**	**63.80**	**332**	*e*P	**P**	**01 22 49.0**	**-0.4**
ELK	**Elko**	**63.85**	**327**	*e*P	**P**	**01 22 49.6**	**-0.2**
ULM	**Lac du Bonnet**	**63.96**	**345**	P	**P**	**01 22 49.4**	**-1.1**
	comp=Z,39nm,0.8s,mb5.3,baz=157,slow=6.3,SNR=21						
ULM	**Lac du Bonnet**	**63.96**	**345**	P	**P**	**01 22 49.4**	**-1.1**
IMW	**Indian Meadow**	**64.00**	**332**	*e*P	**P**	**01 22 50.8**	**0.0**
	comp=Z,70nm,1.3s,mb5.3						
NVAR	**Mina Array Bea**	**64.01**	**323**	P	**P**	**01 22 51.1**	**+0.3**
	comp=Z,7.4nm,0.8s,mb4.6,baz=127,slow=8.7,SNR=71						
FLWY	**Flagg Ranch**	**64.03**	**332**	*e*P	**P**	**01 22 51.2**	**+0.3**
LAO	**LASA Array**	**64.19**	**336**	*e*P	**P**	**01 22 51.1**	**-0.9**
	comp=Z,46nm,1.3s,mb5.2						
LAO				*e*pP	pP	01 23 13.0	-6.8
RLMT	**Red Lodge**	**64.20**	**333**	||*e*P	**P**	**01 22 51.6**	**-0.4**
	comp=Z,34nm,1.2s,mb5.0						
LKWY	**Lake**	**64.27**	**332**	*e*P	**P**	**01 22 53.6**	**+1.1**
LKWY				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.1						
LKWY	**Lake**	**64.27**	**332**	*e*P	**P**	**01 22 53.6**	**+1.1**
	comp=Z,24nm,0.9s,mb5.0						
YFT	**Old Faithful**	**64.38**	**332**	*e*P	**P**	**01 22 55.0**	**+1.8**
LRV	**Little Rabbit**	**64.40**	**320**	*e*P	**P**	**01 22 54.0**	**+0.7**
YNR	**Norris Junctio**	**64.51**	**332**	*e*P	**P**	**01 22 55.1**	**+1.0**
YMR	**Madison River**	**64.61**	**332**	||*i*P	**P**	**01 22 55.3**	**+0.6**
	comp=Z,53nm,1.0s,mb5.3						
BMN	**Battle Mountai**	**64.73**	**325**	*e*P	**P**	**01 22 56.0**	**+0.5**
WAKR	**Walker**	**64.74**	**322**	*e*P	**P**	**01 22 56.2**	**+0.7**
GCMT	**Greycliff**	**64.90**	**334**	*e*P	**P**	**01 22 56.3**	**-0.2**
GCMT				*e*	pP	01 23 19.8	-4.6
DGMT	**Dagmar**	**64.92**	**339**	*e*P	**P**	**01 22 57.2**	**+0.5**
DGMT				*e*pP	pP	01 23 17.2	-7.3
QLMT	**Earthquake Lak**	**64.94**	**332**	*e*P	**P**	**01 22 57.7**	**+0.9**
CMB	**Columbia Colle**	**65.01**	**321**	*e*P	**P**	**01 22 57.5**	**+0.2**
HLID	**Hailey**	**65.44**	**329**	*e*P	**P**	**01 23 00.4**	**+0.3**
	comp=Z,24nm,0.9s,mb5.0						
PAHR	**Pah Rah Range**	**65.48**	**323**	*e*P	**P**	**01 23 01.0**	**+0.7**
MCMT	**McKenzie Canyo**	**65.60**	**331**	P	**P**	**01 23 01.6**	**+0.4**
BOZ	**Bozeman (W)**	**65.66**	**332**	*e*P	**P**	**01 23 03.3**	**+1.8**
DLMT	**Dillon**	**65.89**	**332**	*e*P	**P**	**01 23 02.9**	**-0.1**
	comp=Z,31nm,1.0s,mb5.1						
SCHQ	**Schefferville**	**66.14**	**5**	P	**P**	**01 23 04.3**	**-0.3**
	comp=Z,7.7nm,0.9s,mb4.5,baz=219,slow=4.2,SNR=5.0						
LRM	**Limekiln Ridge**	**66.17**	**332**	*e*P	**P**	**01 23 04.6**	**-0.1**
OHCM	**Honcut**	**66.50**	**322**	*e*P	**P**	**01 23 07.1**	**+0.2**
HRY	**Holter Researc**	**66.56**	**333**	*e*P	**P**	**01 23 07.3**	**+0.1**
WVOR	**Wild Horse Val**	**66.86**	**326**	*e*P	**P**	**01 23 08.8**	**-0.4**
WVOR				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.0						
WVOR	**Wild Horse Val**	**66.86**	**326**	*e*P	**P**	**01 23 08.8**	**-0.4**
	comp=Z,33nm,1.3s,mb5.0						
CHMT	**Chamberlain Mo**	**67.35**	**332**	*e*P	**P**	**01 23 12.2**	**0.0**
MOD	**Modoc**	**67.44**	**325**	*e*P	**P**	**01 23 12.9**	**+0.1**
	comp=Z,55nm,1.0s,mb5.3						
MSO	**Missoula**	**67.60**	**332**	*e*P	**P**	**01 23 14.1**	**+0.3**
	comp=Z,50nm,1.1s,mb5.3						
LTIM	**Timbered Crate**	**67.66**	**323**	P	**P**	**01 23 14.2**	**0.0**
BMO	**Blue Mountains**	**67.82**	**329**	*e*P	**P**	**01 23 14.5**	**-0.7**
WDC	**Whiskeytown Da**	**67.91**	**322**	*e*P	**P**	**01 23 14.0**	**-1.7**
HOG	**Hogback Mounta**	**68.46**	**324**	P	**P**	**01 23 19.6**	**+0.4**
VSP	**Spence Mountai**	**68.66**	**324**	P	**P**	**01 23 20.9**	**+0.4**
YBH	**Yreka Blue Hor**	**68.72**	**323**	P	**P**	**01 23 19.5**	**-1.3**
	comp=Z,16nm,0.9s,mb4.8,baz=104,slow=3.9,SNR=38						
YBH	**Yreka Blue Hor**	**68.72**	**323**	P	**P**	**01 23 19.5**	**-1.3**
YBH				pmax	pmax		
	comp=Z,16nm,0.9s						
YBH	**Yreka Blue Hor**	**68.72**	**323**	*e*P	**P**	**01 23 19.7**	**-1.1**
BSMT	**Bassoo Peak**	**68.75**	**332**	*e*P	**P**	**01 23 21.4**	**+0.5**
**K

EMIJ Mijas 81.00 50 P **P 01 24 36.8 +5.3**
EMIJ Mijas 81.00 50 P **P 01 24 36.7 +5.2**
comp=Z,17nm,0.9s,mb4.9,SNR=7.9
ELOJ Sierra Loja 81.67 50 P **P 01 24 38.7 +3.7**
comp=Z,4.0nm,0.7s,mb4.4,SNR=7.9
EPON Pontenova 81.88 43 P **P 01 24 37.5 +1.4**
EPON Pontenova 81.88 43 P **P 01 24 37.5 +1.4**
comp=Z,104nm,1.8s,mb5.4,SNR=7.9
ERON Agron 81.89 50 P **P 01 24 43.9 +7.8**
ERON Agron 81.89 50 P **P 01 24 43.9 +7.7**
SNR=7.9
ECOG Cogollos-Vega 82.16 50 P **P 01 24 40.0 +2.4**
EBAN Banos Encina 82.31 49 P **P 01 24 43.3 +5.0**
EBAN Banos Encina 82.31 49 P **P 01 24 43.2 +4.9**
comp=Z,5.2nm,0.7s,mb4.5,SNR=7.9
EQES Quesada 82.71 49 P **P 01 24 43.6 +3.2**
ESDC Sonseca Array 82.71 47 P **P 01 24 42.4 +2.0**
comp=Z,4.5nm,0.9s,mb4.3,baz=261,slow=4.7,SNR=19
ESDC pP pP 01 25 10.7 +1.2
comp=Z,7.9nm,0.9s,baz=244,slow=5.9,SNR=9.3
ESDC Sonseca Array 82.71 47 P **P 01 24 42.3 +1.8**
ESDC Sonseca Array 82.71 47 P **P 01 24 42.3 +1.8**
comp=Z,3.3nm,0.8s,mb4.2,baz=262,SNR=17
ESLA Sonseca Array 82.71 47 *eP* **P 01 24 40.3 -0.1**
comp=Z,2.7nm,1.1s,mb4.0
GUD Guadarrama 82.92 46 P **P 01 24 44.7 +3.2**
comp=Z,2.0nm,0.6s,mb4.1,SNR=5.8
EVIA Vianos 83.42 49 P **P 01 24 46.4 +2.3**
ETOR Torete 84.48 47 P **P 01 24 54.6 +5.1**
SBA Scott Base 84.85 191 *eP* **P 01 24 51.1 -0.2**
SBA pmax pmax
comp=Z,27nm,1.3s,mb5.0
SBA Scott Base 84.85 191 *eP* **P 01 24 51.1 -0.2**
comp=Z,27nm,1.3s,mb5.0
SJPF Ste Jean 85.83 45 *eP* **P 01 24 56.2 0.0**
SJPF *epP* pP 01 25 25.7 +0.3
VNDA Vanda 85.92 190 P **P 01 24 56.4 -0.2**
comp=Z,10.0nm,0.8s,mb4.8,baz=180,slow=24,SNR=75
VNDA LR LR 01 57 59.0
comp=Z,107nm,19.5s,baz=0.2,slow=32
VNDA Vanda 85.92 190 *eP* **P 01 24 56.4 -0.3**
comp=Z,15nm,0.9s,mb4.9
EPF Esparros 86.89 45 *eP* **P 01 25 01.2 -0.2**
SUMG Summit 86.91 10 *eP* **P 01 25 01.6 +0.1**
comp=Z,45nm,1.0s,mb5.3
MFF Saint Martin d 87.70 42 *eP* **P 01 25 04.5 -0.8**
LFF La Frestale 87.76 43 *eP* **P 01 25 04.8 -0.8**
LFF *epP* pP 01 25 34.4 -0.5
GRR Gorron 87.83 40 *eP* **P 01 25 05.0 -0.9**
comp=Z,6.7nm,0.7s,mb4.5
GRR Gorron 87.83 40 *eP* **P 01 25 05.0 -0.9**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
GRR Gorron 87.83 40 *eP* **P 01 25 05.0 -0.9**
comp=Z,3.3nm,0.6s,mb4.5
SYO Syowa Base 87.99 161⇑ *eP* **P 01 25 05.6 -1.0**
SYO Syowa Base 87.99 161⇓ *i* PcP PcP 01 25 06.5 -1.8
SYO Syowa Base 87.99 161⇑ *eP* pP 01 25 35.4 -0.6
FLN La Foliniere 88.19 40 *eP* **P 01 25 06.8 -0.8**
FLN *eR*
comp=Z,68nm,21.5s
FLN La Foliniere 88.19 40 *eP* **P 01 25 06.8 -0.8**
FLN LR LR
comp=Z,70nm,21.5s
MTLF Montolieu 88.29 45 *eP* **P 01 25 07.1 -1.0**
LDF La Druitiere 88.36 40 *eP* **P 01 25 07.6 -0.8**
LDF *epP* pP 01 25 37.0 -0.8
RJF Les Rejaudoux 88.40 43 *eP* **P 01 25 07.6 -1.0**
comp=Z,16nm,0.9s,mb4.7
RJF *eR*
comp=Z,78nm,18.0s
RJF Les Rejaudoux 88.40 43 *eP* **P 01 25 07.6 -1.0**
RJF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,80nm,18.0s
RJF Les Rejaudoux 88.40 43 *eP* **P 01 25 07.6 -1.0**
comp=Z,8.1nm,0.9s,mb4.8
RJF LR LR
comp=Z,80nm,18.0s
TSUM Tsumeb 88.49 109 *eP* **P 01 25 10.3 +1.3**
comp=Z,17nm,0.8s,mb5.1
CAF Calviac 88.66 44 *eP* **P 01 25 09.0 -0.8**
CAF *epP* pP 01 25 38.7 -0.4
TCF Toulx Ste Croi 89.16 42 *eP* **P 01 25 11.1 -1.0**
comp=Z,43nm,1.4s,mb5.0
TCF *epP* pP 01 25 40.7 -0.8
TCF Toulx Ste Croi 89.16 42 *eP* **P 01 25 11.1 -1.0**
TCF *e*PP pP 01 25 40.7 -0.8
TCF pmax pmax
comp=Z,21nm,1.4s,mb5.0
TCF Toulx Ste Croi 89.16 42 *eP* **P 01 25 11.1 -1.0**
comp=Z,21nm,1.4s,mb5.0
TCF *epP* pP 01 25 40.7 -0.8
DAWY Dawson 89.39 337 *eP* **P 01 25 12.2 -1.0**
DAWY *epP* pP 01 25 34.3 -8.3
INK Inuvik 89.47 341 *eP* **P 01 25 13.1 -0.6**
INK *epP* pP 01 25 31.4 -12
BGF Bois d'Agland 89.65 42 *eP* **P 01 25 13.7 -0.8**
BGF *epP* pP 01 25 43.2 -0.7
HYF Humbligny 89.72 42 *eP* **P 01 25 14.1 -0.7**
AVF Avril sur Loir 90.06 42 *eP* **P 01 25 15.2 -1.1**
comp=Z,14nm,1.0s,mb4.7
AVF *epP* pP 01 25 44.8 -0.9
AVF Avril sur Loir 90.06 42 *eP* **P 01 25 15.2 -1.1**
AVF *e*PP pP 01 25 44.8 -0.9
AVF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
AVF Avril sur Loir 90.06 42 *eP* **P 01 25 15.2 -1.1**
comp=Z,7.1nm,1.0s,mb4.8
AVF *epP* pP 01 25 44.8 -0.9
SSF Saint Saulge 90.23 42 *eP* **P 01 25 15.9 -1.3**
comp=Z,22nm,1.3s,mb4.8
SSF Saint Saulge 90.23 42 *eP* **P 01 25 15.9 -1.3**
SSF pmax pmax
comp=Z,11nm,1.3s,mb4.8
SSF Saint Saulge 90.23 42 *eP* **P 01 25 15.9 -1.3**
comp=Z,11nm,1.3s,mb4.8
SMF Signal de Mont 90.34 42 *eP* **P 01 25 16.8 -0.9**
comp=Z,10.0nm,1.0s,mb4.6
SMF Signal de Mont 90.34 42 *eP* **P 01 25 16.8 -0.9**
SMF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
SMF Signal de Mont 90.34 42 *eP* **P 01 25 16.8 -0.9**
comp=Z,5.0nm,1.0s,mb4.6
EGAK Eagle 90.40 337 *eP* **P 01 25 16.7 -1.2**
comp=Z,12nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.42 44 *eP* **P 01 25 17.4 -0.6**
VIVF *epP* pP 01 25 47.3 -0.1
LOR Lormes 90.52 42 *eP* **P 01 25 17.4 -1.1**
LOR *epP* pP 01 25 46.9 -1.0
LOR *eR*
comp=Z,59nm,22.8s
LOR Lormes 90.52 42 *eP* **P 01 25 17.4 -1.1**
LOR *epP* pP 01 25 46.9 -1.0
LOR LR LR
comp=Z,60nm,22.8s
ORIF Oris-en-Rattie 91.26 45 *eP* **P 01 25 21.9 0.0**
ORIF *epP* pP 01 25 51.6 +0.3
ORIF *eR*
comp=Z,56nm,21.0s
LMR La Mourre 91.31 46 *eP* **P 01 25 21.7 -0.5**
FRF La Foret Royal 91.46 46 *eP* **P 01 25 22.4 -0.5**
FRF *epP* pP 01 25 52.0 -0.3
MEZF Maizieres J'vi 91.62 41 *eP* **P 01 25 23.0 -0.6**
SNF Seneffe 91.67 39 AP pP 01 25 44.7 -8.6
KEST Kesra 91.70 54 P **P 01 25 28.7 +4.8**
comp=Z,2.3nm,1.0s,mb4.3,baz=270,slow=4.0,SNR=3.6
KEST pP pP 01 25 53.5 +0.2
comp=Z,3.5nm,0.9s,baz=268,slow=9.8,SNR=5.7
DOU Dourbes 91.75 39 XP pP 01 25 53.1 -0.5
CABF La Chapelle 91.82 43 *eP* **P 01 25 23.8 -0.7**
MBDF Montbardon 91.83 45 *eP* **P 01 25 24.6 0.0**
GIVF Givet 91.90 39 *eP* **P 01 25 24.2 -0.7**
GIVF *epP* pP 01 25 53.8 -0.5
LPL La Plagne 91.99 44 *eP* **P 01 25 25.7 +0.4**
comp=Z,21nm,1.1s,mb5.0
LPL *epP* pP 01 25 55.2 +0.5
LPL La Plagne 91.99 44 *eP* **P 01 25 25.7 +0.4**
LPL *e*PP pP 01 25 55.2 +0.5
LPL pmax pmax
comp=Z,11nm,1.1s,mb5.0
LPL La Plagne 91.99 44 *eP* **P 01 25 25.7 +0.4**
comp=Z,11nm,1.1s,mb5.0
LPL *epP* pP 01 25 55.2 +0.5

LPG La Plagne 92.00 44 *eP* **P 01 25 25.8 +0.4**
HAU Haudompre 92.34 42 *eP* **P 01 25 26.1 -0.8**
HAU *eR*
comp=Z,61nm,21.2s
HAU Haudompre 92.34 42 *eP* **P 01 25 26.1 -0.8**
HAU LR LR
comp=Z,60nm,21.3s
WLF Walferdange 92.62 40 XP pP 01 25 55.7 -2.0
HINF Hinteralfeld 92.62 42 *eP* **P 01 25 27.3 -0.9**
HGN Heimansgroeve 92.75 39 *eP* pP 01 25 58.4 +0.1
comp=Z,11nm,1.6s
CDF Champ du Feu 93.04 41 *eP* **P 01 25 29.5 -0.6**
CDF *epP* pP 01 25 59.0 -0.6
COLA College 93.07 336 *eP* **P 01 25 28.6 -1.7**
COLA pmax pmax
comp=Z,12nm,1.0s,mb5.2
COLA College 93.07 336 *eP* **P 01 25 28.6 -1.7**
comp=Z,12nm,1.0s,mb5.2
BOSA Boshof 93.26 120 P **P 01 25 31.9 +0.7**
comp=Z,4.5nm,1.2s,mb4.7,baz=121,slow=2.4,SNR=6.0
BOSA pP pP 01 26 00.6 0.0
comp=Z,9.8nm,1.1s,baz=288,slow=3.2,SNR=4.0
BOSA PKKP PKKPbc 01 42 38.4 +0.2
comp=Z,6.3nm,1.1s,baz=222,slow=5.4,SNR=3.9
BOSA Boshof 93.26 120 P **P 01 25 31.9 +0.7**
BOSA *PP pP 01 26 00.6 0.0
BOSA pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BOSA pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
BOSA pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
WTSB Winterswijk 93.57 38 *eP* pP 01 26 01.5 -0.5
comp=Z,17nm,1.5s
LBTB Lobatse 94.45 116 *eP* **P 01 25 37.2 +0.6**
LBTB pmax pmax
comp=Z,32nm,1.8s,mb5.3
LBTB Lobatse 94.45 116 *eP* **P 01 25 37.2 +0.5**
comp=Z,32nm,1.8s,mb5.4
MAW Mawson 95.67 165 P **P 01 25 41.6 -0.6**
comp=Z,12nm,0.9s,mb5.3,baz=219,slow=6.8,SNR=21
MAW pP pP 01 26 10.4 -1.2
comp=Z,3.8nm,0.8s,baz=235,slow=8.2,SNR=3.2
MAW LR LR 02 06 09.6
comp=Z,86nm,18.8s,baz=58,slow=34
MAW Mawson 95.67 165 P **P 01 25 41.6 -0.6**
MAW *PP pP 01 26 10.4 -1.3
MAW pmax pmax
comp=Z,12nm,0.9s
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 95.67 165 *eP* **P 01 25 41.5 -0.7**
comp=Z,35nm,1.7s,mb5.5
MAW LR LR 02 06 09.6
GRF Grafenberg Arr 95.84 41 *e*Pdiff pP 01 26 12.6 +0.2
NKC Novy Kostel 96.71 40 *eP* pP 01 26 16.2 -0.2
CLL Collm 97.23 39 *eP* **P 01 25 50.0 +0.7**
CLL *i* pP pP 01 26 19.0 +0.2
comp=Z,23nm,1.6s
KHC Kasperske Hory 97.27 41 *eP* pP 01 26 18.9 0.0
KHC Kasperske Hory 97.27 41 *i P* **P 01 25 54.9 +5.5**
KHC Kasperske Hory 97.27 41 *eP* pP 01 26 19.8 +0.9
GERES GERESS Array B 97.30 42 P **P 01 25 49.9 +0.3**
comp=Z,0.6nm,0.8s,mb4.1,baz=218,slow=1.5,SNR=4.7
GERES pP pP 01 26 18.2 -0.9
comp=Z,3.9nm,0.9s,baz=248,slow=3.6,SNR=11
GERES GERESS Array B 97.30 42 P **P 01 25 49.9 +0.3**
GERES *PP pP 01 26 18.2 -0.9
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 97.75 40 *i* P pP 01 26 21.6 +0.5
comp=Z,5.4nm,1.3s
NB2 NORSAR Subarra 97.76 29 P pP 01 26 20.8 -0.3
comp=Z,13nm,1.1s,baz=261,slow=4.6
NOA NORSAR Array B 97.76 29 P **P 01 25 52.2 +0.5**
comp=Z,1.6nm,1.0s,mb4.5,baz=259,slow=4.7,SNR=2.7
NOA pP pP 01 26 21.4 +0.2
comp=Z,3.8nm,0.9s,baz=258,slow=4.5,SNR=7.8
NOA LR LR 02 05 05.2
comp=Z,38nm,19.7s,baz=275,slow=32
NOA NORSAR Array B 97.76 29 P **P 01 25 52.2 +0.6**
NOA *PP pP 01 26 21.4 +0.3
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA pmax pmax
comp=Z,4.0nm,1.0s
PRU Pruhonice 98.01 41 *eP* pP 01 26 22.5 +0.2
PVCC Panska Ves 98.10 40 *eP* pP 01 26 22.5 -0.2
TREC Trest 98.53 41 *eP* pP 01 26 25.0 +0.4
UPC Upice 99.01 40 *eP* pP 01 26 26.3 -0.5
DPC Dobruska-Polom 99.19 40 *eP* pP 01 26 28.1 +0.5
LSZ Lusaka 99.23 108 *eP* **P 01 26 00.6 +2.4**
LSZ pmax pmax
comp=Z,4.0nm,1.2s,mb4.8
LSZ Lusaka 99.23 108 *eP* **P 01 26 00.6 +2.4**
comp=Z,4.4nm,1.2s,mb4.9
BILL Bilibino 111.00 339⇓ *e*PKIKP PKiKP 01 30 47.5 -1.8
BILL pmax pmax
comp=Z,12nm,0.5s
BRTR Keskin Array B 111.17 52⇑ *i*PKIKP PKiKP 01 30 50.5 +0.9
OBN Obninsk 111.27 35⇓ *i*PKIKP PKiKP 01 30 50.0 +0.2
OBN pmax pmax
comp=Z,6.0nm,0.7s
SEY Seymchan 118.54 338⇑ *i*PKIKP PKPdf 01 31 03.6 -0.2
ARU Arti 122.30 29 *i* PKIKP PKPdf 01 31 09.9 -1.1
ARU *e* 01 32 45.3
ARU *e*PPP 01 35 21.3
ARU *e* 01 38 02.3
ARU *e*SS SS 01 49 21.1 +2.2
ARU Arti 122.30 29 *e*PKPdf PKPdf 01 31 11.1 +0.1
RST Umm Al-Ruwaisa 122.96 62 *eP* PKPdf 01 31 13.1 +0.8
RST AMb AMB 01 31 13.9
comp=Z,12nm,0.9s
NAY Al-Naaiem 123.20 62 *eP* PKPdf 01 31 13.3 +0.6
NAY AMb AMB 01 31 14.4
comp=Z,4.8nm,1.0s
MIB Mutribah 123.23 62 *eP* PKPdf 01 31 13.7 +1.0
MIB AMb AMB 01 31 14.6
comp=Z,14nm,0.9s
YAK Yakutsk 126.30 346 *e*PKIKP PKPdf 01 31 15.1 -3.5
YAK pmax pmax
comp=Z,21nm,1.1s
ZRNK Zerenda 129.23 28 *e*PKIKP PKPdf 01 31 24.6 +0.4
CHKZ Chkalovo 129.45 26 *e*PKIKP PKPdf 01 31 24.8 +0.1
BRVK Borovoye 129.73 27 *e*PKIKP PKPdf 01 31 26.0 +0.8
BOD Bodaibo 133.04 354 *e*PKIKP PKPdf 01 31 30.4 -1.0
BOD pmax pmax
comp=Z,6.0nm,1.6s
ASAJ Asahikawa 134.14 323 PKP PKPdf 01 31 33.8 +0.3
comp=Z,10nm,0.8s,baz=76,slow=8.3,SNR=4.1
ASAJ Asahikawa 134.14 323 PKIKP PKPdf 01 31 33.8 +0.3
ASAJ pmax pmax
comp=Z,10.0nm,0.8s
ASAR Alice Springs 135.45 219 PKhKP 01 31 22.9
comp=Z,1.3nm,0.8s,baz=131,slow=3.3,SNR=10
ASAR PKP PKPdf 01 31 36.1 +0.2
comp=Z,7.8nm,0.8s,baz=130,slow=1.9,SNR=26
ASAR pPKP pPKPdf 01 32 07.4 +0.7
comp=Z,4.6nm,0.8s,baz=130,slow=2.2,SNR=5.7
ASAR Alice Springs 135.45 219 PKIKP PKPdf 01 31 36.2 +0.2
ASAR 01 32 07.4
KLR Kul'dur 136.22 335 *e*PKIKP PKPdf 01 31 34.1 -3.3
WB2 Warramunga Arr 137.84 223 *e*PKP PKPdf 01 31 39.7 -0.7
WB2 *ep*PKP pPKPdf 01 32 11.3 +0.2
WRA Warramunga Arr 137.85 223 PKhKP 01 31 27.3
comp=Z,1.4nm,0.7s,baz=141,slow=2.5,SNR=19
WRA PKP PKPdf 01 31 40.1 -0.3
comp=Z,11nm,0.8s,baz=132,slow=2.0,SNR=34
WRA pPKP pPKPdf 01 32 11.9 +0.7
comp=Z,14nm,1.0s,baz=143,slow=1.4,SNR=8.8
WRA Warramunga Arr 137.85 223 PKIKP PKPdf 01 31 40.1 -0.3
WRA 01 32 11.9
WRAB Tennant Creek 137.85 223 *i* PKIKP PKPdf 01 31 40.4 0.0
WRAB Tennant Creek 137.85 223 *e*PKPdf PKPdf 01 31 40.0 -0.4
EKS2 Erkin-Say 138.38 36 P PKPdf 01 31 43.1 +1.7
SNR=7.7
USP Ospenovka 138.39 34 P PKPdf 01 31 43.2 +1.8
SNR=5.2
AAK Ala-Archa 138.80 35 *e*PKIKP PKPdf 01 31 39.3 -2.8
UCH Uchtor 139.07 35 P PKPdf 01 31 45.2 +2.6
SNR=11
TKM2 Tokmak 2 139.22 34 P PKPdf 01 31 44.5 +1.6
SNR=6.2

MKAR Makanchi Array 139.55 24 PKP PKPdf 01 31 43.0 -0.6
comp=Z,3.6nm,0.7s,baz=343,slow=2.5,SNR=17
MKAR pPKP pPKPdf 01 32 14.7 +0.5
comp=Z,1.9nm,0.7s,baz=352,slow=2.7,SNR=2.5
MKAR Makanchi Array 139.55 24 PKIKP PKPdf 01 31 43.0 -0.5
MKAR 01 32 14.7
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ULHL Ulahol 140.03 34 P PKPdf 01 31 46.8 +2.5
SNR=6.5
MDJ Mudanjiang 140.73 332 PKP PKPdf 01 31 45.5 -0.1
MDJ PP PP
comp=Z,62nm,5.5s
ZAK Zakamensk 140.93 2 *e*PKIKP PKPdf 01 31 41.9 -4.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,3.0nm,1.4s
MJAR Matsushiro Arr 141.09 316 PKhKP 01 31 39.5
comp=Z,8.0nm,0.9s,baz=81,slow=1.7,SNR=20
MJAR PKP PKPdf 01 31 46.2 -0.1
comp=Z,4.0nm,0.7s,baz=91,slow=1.9,SNR=7.8
MJAR Matsushiro Arr 141.09 316 PKHKP 01 31 39.5
MJAR 01 31 46.2
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MAJO Matsushiro 141.09 316 *e*PKHKP 01 31 39.4
MAT Matsushiro 141.09 316 *e*PKP PKPdf 01 31 39.1 -7.2
CN2 Changchun 143.17 335 *e*PKP PKPdf 01 31 49.3 -0.7
CN2 PP PP 01 35 03.8 +2.5
CN2 SS SS 01 53 37.0 +5.3
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,200nm,21.0s
CN2 LR LR
comp=Z,100nm,21.0s
SONM Songino Array 143.50 359 PKP PKPdf 01 31 48.2 -2.4
comp=Z,5.2nm,0.8s,baz=346,slow=2.2,SNR=22
SONM pPKP pPKPdf 01 32 21.5 +0.1
comp=Z,4.8nm,0.8s,baz=332,slow=1.4,SNR=4.3
SONM Songino Array 143.50 359 PKIKP PKPdf 01 31 48.2 -2.4
SONM 01 32 21.5
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM pmax pmax
comp=Z,5.0nm,0.8s
KAKA Kakadu 144.07 229 *e*PKP PKPdf 01 31 49.2 -2.4
comp=Z,30nm,0.9s
WMQ Urumqi 144.13 22 PKP PKPdf 01 31 51.3 -0.4
WMQ APKP 01 32 14.0
WMQ PP PP 01 35 10.5 +3.4
WMQ PPP 01 38 26.0
WMQ SKKS SKKSac 01 41 52.0 +3.1
WMQ PP PP
comp=Z,128nm,5.2s
WMQ LR LR
comp=N,276nm,19.8s
WMQ LR LR
comp=E,154nm,19.4s
WMQ LR LR
comp=Z,228nm,23.0s
MBWA Marble Bar 144.83 204 *e*PKPdf PKPdf 01 31 51.8 -1.1
KS15 Wonju Array Si 146.95 326 *e*PKPdf PKPdf 01 31 57.3 +0.8
DL2 Dalian 148.83 335 PKP PKPdf 01 32 03.0 +3.4
BJI Beijing 149.73 343 PKP PKPdf 01 32 05.6 +4.5
BJI LR LR
comp=N,46nm,26.7s
BJI LR LR
comp=E,58nm,31.4s
BJI LR LR
comp=Z,207nm,35.5s
BJT Baijiatuau 149.76 343 *e*PKP2 PKPab 01 32 05.4 -6.2
HHC Hu-ho-hao-te 149.99 350 *e*PKP PKPdf 01 32 02.8 +1.3
HHC PKP2 PKPab 01 32 15.4 +2.9
HHC APKP 01 32 20.3
HHC XPKP 01 32 25.3
HHC PKS 01 35 36.0
HHC SKS SKSdf 01 39 02.8 +3.9
HHC SKKS SKKSac 01 42 27.4 +5.6
HHC PP PP
comp=Z,113nm,4.7s
HHC LR LR
comp=N,92nm,5.4s
HHC LR LR
comp=E,101nm,4.3s
HHC LR LR
comp=Z,144nm,4.5s
BTO Baotou 150.45 353 *e*PKP PKPdf 01 32 07.4 +5.2
GTA Gaotai 151.51 9 PKP PKPdf 01 32 05.0 +1.2
GTA PKP2 PKPab 01 32 21.6 +2.7
GTA APKP 01 32 25.1
GTA XPKP 01 32 34.3
GTA PP PP 01 35 52.8 +2.6
GTA SKKS SKKSac 01 42 37.3 +7.1
GTA SS SS 01 55 07.3 +1.6
GTA PP PP
comp=Z,74nm,4.9s
GTA LR LR
comp=N,124nm,15.2s
GTA LR LR
comp=E,102nm,14.1s
GTA LR LR
comp=Z,144nm,14.5s
LZH Lanzhou 155.22 3⇑ PKP PKPdf 01 32 10.0 +0.9
LZH APKP 01 32 26.6
LZH XPKP 01 32 32.9
LZH PKS 01 35 42.8
LZH PP PP 01 36 14.5 +3.4
LZH SKS SKSdf 01 39 09.3 +4.1
LZH SKKS SKKSac 01 42 56.1 +5.9
LZH *e*SS SS 01 55 52.5 +6.3
LZH PP PP
comp=Z,209nm,8.9s
LZH LR LR
comp=E,293nm,18.4s
LZH LR LR
comp=Z,349nm,20.1s
LZH Lanzhou 155.22 3⇑ PKP PKPdf 01 32 10.0 +0.9
LZH pPKP pPKPdf 01 32 26.6 -13
LZH sPKP 01 32 32.9
LZH PKP PKPab 01 32 37.5 +2.9
LZH PKS 01 35 42.8
LZH PP PP 01 36 14.5 +3.4
LZH SKS SKSdf 01 39 09.2 +4.0
LZH SKKS SKKSac 01 42 56.1 +5.9
LZH *e*SS SS 01 55 52.5 +6.3
LZH LR LR
comp=Z,350nm,20.1s
NJ2 Nanjing 155.80 331 *e*PKP PKPdf 01 32 13.1 +3.2
NJ2 APKP 01 32 23.8
NJ2 PKP2 PKPab 01 32 42.3 +5.2
NJ2 PKS 01 35 46.0
NJ2 PP PP 01 36 22.0 +7.6
NJ2 PP PP
comp=Z,430nm,8.3s
NJ2 LR LR
comp=N,450nm,30.0s
NJ2 LR LR
comp=E,790nm,28.0s
NJ2 LR LR
comp=Z,320nm,29.2s
XAN Xi'an 157.06 352 PKP PKPdf 01 32 12.1 +0.6
WHN Wuhan 159.03 338 *e*PKP PKPdf 01 32 13.0 -0.9
CD2 Chengdu 160.36 4 *e*PKP PKPdf 01 32 16.6 +1.1
CD2 APKP 01 32 31.6
CD2 XPKP 01 32 36.8
CD2 SKS SKSdf 01 39 15.3 +5.0
CD2 PP PP
comp=Z,100nm,8.8s
CD2 LR LR
comp=E,200nm,14.4s
GYA Guiyang 164.80 355 *e*PKP PKPdf 01 32 21.3 +1.5
GYA PKP2 PKPab 01 33 12.6 -3.7
GYA PKS 01 35 53.3
GYA SKKS SKKSac 01 43 40.9 +1.0
GYA PP PP
comp=Z,160nm,8.0s

GYA					LR	LR		
	comp=N,180nm,20.9s							
GYA					LR	LR		
	comp=E,200nm,21.4s							
GYA					LR	LR		
	comp=Z,170nm,20.8s							
KMI	**Kunming**	**165.97**	**10**		PKP	PKPdf	01 32 21.9	+1.1
KMI					sPKP		01 32 42.2	
KMI					PP	PP	01 37 12.2	+3.3
KMI					SS	SS	01 57 47.9	+9.1
KMI					LR	LR		
	comp=Z,50nm,39.5s							

*ISCJB **24** 01:24:23.6±0.4, 36°94N×002°×2799E±003, h10km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=137.8*
*ATH **24** 01:24:23.4, 36°93N-2795E, h22km±2km, MD3.1/3*
*CSEM **24** 01:24:23.3±0.1, 3696N×2799E, h10km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.6km az=13.0*
*ISK **24** 01:24:23.5, 3696N-2800E, h12km, MD3.2*

ISC 24 01:24:24.2±0.4, **3694N**±002×**2798E**±003, **h11**km±4km, **n22, σ0°78/32, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.31**	**51**	*i* PG	**Pg**	**01 24 29.9**	**-0.6**
YER				*i* SG	**Sg**	**01 24 34.5**	**-0.2**
DAT	**Datca**	**0.39**	**237**	PG	**Pg**	**01 24 32.0**	**+0.2**
MLSB	**Milas**	**0.39**	**335**	PG	**Pg**	**01 24 31.5**	**-0.4**
MLSB				SG	**Sg**	**01 24 37.8**	**+0.6**
BDRM	**Kayabasi**	**0.45**	**287**	*i* P	**Pg**	**01 24 32.8**	**-0.2**
BDRM				*i* S	**Sg**	**01 24 40.7**	**+1.8**
BODT	**Bodrum**	**0.55**	**283**	PG	**Pg**	**01 24 34.8**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.55**	**108**	PG	**Pg**	**01 24 34.7**	**-0.3**
AYDN	**Tasoluk**	**0.73**	**354**	*i* P	**Pg**	**01 24 37.6**	**-0.6**
AYDN				*i* S	**Sg**	**01 24 47.4**	**-0.3**
ARG	**Arkhangelos**	**0.73**	**171**	*e*PN	**Pg**	**01 24 37.5**	**-0.8**
ARG				*e*SN	**Sg**	**01 24 48.2**	**+0.3**
ARG	**Arkhangelos**	**0.73**	**171**	*e*P	**Pg**	**01 24 37.7**	**-0.6**
FETY	**Fethiye**	**0.94**	**109**	PG	**Pg**	**01 24 41.8**	**-0.4**
DENT	**Denizli**	**1.17**	**46**	PN	**Pn**	**01 24 46.3**	**-0.2**
SMG	**Samos**	**1.19**	**310**	*e*PN	**Pn**	**01 24 46.1**	**-0.7**
SMG				*e*SN	**Sn**	**01 25 02.0**	**-1.0**
SMG	**Samos**	**1.19**	**310**	*e*P	**Pn**	**01 24 46.3**	**-0.5**
KARP	**Karpathos**	**1.54**	**206**	*e*PN	**Pn**	**01 24 51.6**	**+0.1**
KARP				*e*SN	**Sn**	**01 25 11.4**	**-0.1**
KARP	**Karpathos**	**1.54**	**206**	*e*P	**Pn**	**01 24 51.5**	**0.0**
ELL	**Elmali**	**1.56**	**96**	*e*PN	**Pn**	**01 24 52.3**	**+0.5**
KDAG	**Bornova**	**1.57**	**339**	*i* P	**Pg**	**01 24 54.2**	**-0.1**
KDAG				*i* S	**Sg**	**01 25 17.0**	**+2.3**
BLCB	**Balcova**	**1.62**	**333**	*e*PN	**Pn**	**01 24 52.0**	**-0.7**
AKHS	**Akhisar**	**1.94**	**356**	*i* P	**Pn**	**01 24 56.6**	**-0.4**
AKHS				*i* S	**Sg**	**01 25 25.6**	**-1.0**
AKS	**Akhisar**	**1.94**	**356**	*e*PN	**Pn**	**01 24 56.7**	**-0.4**
TKTP	**Tekketepe**	**2.16**	**59**	*i* P	**Pg**	**01 25 05.9**	**+0.3**
TKTP				*i* S	**Sn**	**01 25 28.7**	**+1.8**
HDMB	**Hadim**	**3.61**	**88**	*e*PN	**Pn**	**01 25 21.3**	**+1.3**

*SZGRF **24** 01:41:01.3, 2103S×46°45E, h33km, mb4.5, Madagascar*
*IDC **24** 01:41:25.2±0.7, 1778S×4183E, h0km, mb4.2/14, mb1 4.3/18, mb1mx4.1/28, mbtmp4.2/18, ML4.1/4, MS3.8/13, Ms1 3.7/13, ms1mx3.5/33, Error ellipse: s-maj=18.9km s-min=16.8km az=150.0*
*ISCJB **24** 01:41:25.5±0.4, 1773S±007°×4176E±007, h10km, mb4.4/28, MS3.9/10, Error ellipse: s-maj=10.2km s-min=9.0km az=143.7*
*LDG **24** 01:41:26.3±1.9, 1745S×4201E, h10km, Mb4.7/11, Ms3.7/2, Error ellipse: s-maj=105.2km s-min=12.2km az=6.0*
*BJI **24** 01:41:27.2, 1780S×4170E, h10km, mB5.2, mb5.0, Ms5.1, Msz4.6*
*NEIC **24** 01:41:27.3±0.3, 1777S×4172E, h10km, mb4.5/15, Error ellipse: s-maj=8.7km s-min=7.4km az=158.0*

ISC 24 01:41:27.1±0.4, **1784S**±006×**4171E**±005, **h10**km, **n95, σ1°07/79, mb4.4/28, MS3.9/10, 8C-7D, Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.26**	**99**	Pn	**Pn**	**01 42 43.6**	**-2.1**
	54nm,0.3s,baz=272,slow=14,SNR=386						
OPO				Sn	**Sn**	**01 43 38.7**	**-7.7**
	36nm,0.3s,baz=192,slow=17,SNR=3.6						
MATP	**Matopo**	**12.74**	**256**	Pn	**Pn**	**01 44 26.7**	**-1.6**
	0.4nm,0.3s,baz=78,slow=12,SNR=13						
MATP				Sn	**Sn**	**01 46 48.1**	**-2.0**
	1.3nm,0.3s,baz=185,slow=22,SNR=2.7						
MATP				LR	LR	01 50 01.9	
	comp=Z,334nm,20.6s,baz=81,slow=40						
LSZ	**Lusaka**	**13.21**	**279**	Pn	**Pn**	**01 44 32.9**	**-1.7**
	1.2nm,0.3s,baz=122,slow=14,SNR=20						
LSZ				LR	LR	01 49 37.7	
	comp=Z,399nm,19.4s,baz=276,slow=37						
LSZ	**Lusaka**	**13.21**	**279**	*e*Pn	**Pn**	**01 44 33.0**	**-1.7**
	17nm,0.7s						
LBTB	**Lobatse**	**16.60**	**242**	Pn	**Pn**	**01 45 20.1**	**+0.2**
	0.3nm,0.3s,baz=58,slow=9.9,SNR=5.7						
LBTB				LR	LR	01 52 27.2	
	comp=Z,94nm,19.8s,baz=75,slow=40						
LBTB	**Lobatse**	**16.60**	**242**	*e*Pn	**Pn**	**01 45 20.2**	**+0.3**
	12nm,0.8s						
KMBO	**Kilima Mbogo**	**17.18**	**345**	Pn	**Pn**	**01 45 27.8**	**+0.7**
	0.1nm,0.3s,baz=149,slow=11,SNR=4.2						
KMBO				Sn	**Sn**	**01 48 40.0**	**+1.9**
	0.1nm,0.3s,baz=237,slow=23,SNR=2.1						
BOSA	**Boshof**	**18.51**	**232**	P	**Pn**	**01 45 44.3**	**+0.7**
	0.4nm,0.3s,baz=63,slow=12,SNR=14						
BOSA				LR	LR	01 53 03.3	
	comp=Z,239nm,20.6s,baz=66,slow=37						
BOSA	**Boshof**	**18.51**	**232**	*e*P	**Pn**	**01 45 45.2**	**+1.7**
	18nm,1.1s						
TSUM	**Tsumeb**	**22.91**	**263**	P	**P**	**01 46 32.5**	**+1.5**
	11nm,1.0s,mb4.3,baz=62,slow=6.0,SNR=12						
TSUM				LR	LR	01 55 54.1	
	comp=Z,154nm,18.3s,MS3.5,baz=112,slow=38						
TSUM	**Tsumeb**	**22.91**	**263**	*e*P	**P**	**01 46 34.6**	**+3.6**
	26nm,1.3s,mb4.5						
SUR	**Sutherland**	**23.76**	**229**	P	**P**	**01 46 40.8**	**+1.2**
	25nm,0.7s,mb4.8,baz=53,slow=9.1,SNR=22						
SUR				LR	LR	01 57 31.2	
	comp=Z,158nm,19.9s,MS3.5,baz=60,slow=40						
ATD	**Arta Tunnel**	**29.21**	**2**	LR	LR	01 59 02.1	
	comp=Z,49nm,19.4s,MS3.1,baz=206,slow=36						
EIL	**Elat**	**47.68**	**352**	P	**P**	**01 50 03.2**	**-0.4**
	81nm,1.0s						
ASF	**Jabal al Asfar**	**49.94**	**355**	P	**P**	**01 50 21.0**	**0.0**
	1.3nm,0.5s,mb4.2,baz=315,slow=4.8,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**50.07**	**305**	*e*P	**P**	**01 50 22.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**50.07**	**305**	P	**P**	**01 50 22.7**	**+0.7**
	2.9nm,0.8s,mb4.4,baz=129,slow=7.2,SNR=35						
TORD				PcP	PcP	01 51 41.0	-0.7
	0.6nm,0.7s,baz=120,slow=5.8,SNR=2.1						
TORD				LR	LR	02 12 12.6	
	comp=Z,210nm,19.4s,MS4.2,baz=130,slow=37						
SYO	**Syowa Base**	**51.17**	**181**	*e*X	**P**	**01 50 35.0**	**+4.7**
DBIC	**Dimbokro**	**52.02**	**294**	P	**P**	**01 50 38.2**	**+1.5**
	3.0nm,0.6s,mb4.4,baz=109,slow=7.1,SNR=12						
DBIC				LR	LR	02 12 27.0	
	comp=Z,129nm,20.4s,MS4.0,baz=116,slow=36						
DBIC	**Dimbokro**	**52.02**	**294**	*e*P	**P**	**01 50 37.7**	**+1.1**
	2.6nm,0.4s,mb4.5						
DBIC				LR	LR	02 12 27.0	
MALT	**Malatya**	**55.94**	**357**	‖ *i* P	**P**	**01 51 05.1**	**-0.2**
MALT	**Malatya**	**55.94**	**357**	*e*P	**P**	**01 51 05.8**	**+0.5**
	5.5nm,1.0s,mb4.5						
BRTR	**Keskin Array B**	**57.76**	**353**	P	**P**	**01 51 18.2**	**0.0**
	1.5nm,0.7s,mb4.2,baz=167,slow=9.6,SNR=8.0						
VOIR		**64.77**	**347**	‖ *i* P	**P**	**01 52 04.9**	**-0.8**
VOIR		**64.77**	**347**	‖ P	**P**	**01 52 04.9**	**-0.8**
GZR	**Gura Zlata**	**65.24**	**345**	⇑ *i* P	**P**	**01 52 14.6**	**+5.8**
BZS	**Buzias**	**65.74**	**345**	‖ *i* P	**P**	**01 52 12.4**	**+0.4**
BZS	**Buzias**	**65.74**	**345**	‖ P	**P**	**01 52 12.4**	**+0.5**
DRGR		**66.57**	**346**	⇑ *i* P	**P**	**01 52 20.6**	**+3.2**
DRGR		**66.57**	**346**	⇑ P	**P**	**01 52 20.6**	**+3.3**
BURAR	**Bucovina Array**	**66.81**	**348**	⇑ *i* P	**P**	**01 52 19.8**	**+0.9**
BURAR	**Bucovina Array**	**66.81**	**348**	⇑ P	**P**	**01 52 19.8**	**+0.9**
PKSM	**Moragy**	**67.08**	**343**	⇑ *i* P	**P**	**01 52 19.6**	**-1.0**
PKSM	**Moragy**	**67.08**	**343**	⇑ P	**P**	**01 52 19.6**	**-0.9**
PGF	**Pioggiola**	**67.22**	**334**	*e*P	**P**	**01 52 21.3**	**-0.2**
	20nm,0.9s,mb4.9						
PGF	**Pioggiola**	**67.22**	**334**	*e*P	**P**	**01 52 21.3**	**-0.2**
	9.9nm,0.9s,mb4.8						

AKASG	**Malin Array Be**	**69.12**	**352**		P	**P**	**01 52 31.4**	**-2.0**
	0.7nm,0.7s,mb3.7,baz=186,slow=6.1,SNR=5.2							
AKASG	**Malin Array Be**	**69.12**	**352**		P	**P**	**01 52 31.4**	**-2.0**
AKTK	**Aktyubinsk**	**69.48**	**11**		P	**P**	**01 52 33.9**	**-1.7**
AKTO	**Aktyubinsk**	**69.48**	**11**		P	**P**	**01 52 33.9**	**-1.7**
	2.0nm,0.7s,mb4.1,baz=210,slow=4.1,SNR=6.3							
MBDF	**Montbardon**	**69.94**	**334**	*e*P		**P**	**01 52 39.2**	**+0.8**
	7.9nm,0.7s,mb4.4							
MBDF	**Montbardon**	**69.94**	**334**	*e*P		**P**	**01 52 39.2**	**+0.8**
	4.0nm,0.7s,mb4.5							
OJC	**Ojcow**	**70.47**	**345**	*e*P		**P**	**01 52 40.6**	**-1.1**
LPG	**La Plagne**	**70.57**	**335**	*e*P		**P**	**01 52 42.0**	**-0.3**
	10nm,0.8s,mb4.5							
LPG	**La Plagne**	**70.57**	**335**	*e*P		**P**	**01 52 42.0**	**-0.3**
	5.1nm,0.8s,mb4.5							
LPL	**La Plagne**	**70.59**	**335**	*e*P		**P**	**01 52 42.9**	**+0.4**
MORC	**Moravsky Berou**	**70.64**	**344**	‖ *i* P		**P**	**01 52 42.2**	**-0.5**
MORC	**Moravsky Berou**	**70.64**	**344**	‖ P		**P**	**01 52 42.2**	**-0.5**
GERES	**GERESS Array B**	**70.92**	**341**	P		**P**	**01 52 43.8**	**-0.7**
	1.4nm,0.7s,mb4.0,baz=145,slow=4.9,SNR=15							
VIVF	**Saint-Julien-l**	**70.93**	**333**	*e*P		**P**	**01 52 45.1**	**+0.6**
ESDC	**Sonseca Array**	**71.33**	**324**	P		**P**	**01 52 47.4**	**+0.5**
	1.1nm,0.8s,mb3.9,baz=140,slow=5.8,SNR=7.0							
CABF	**La Chapelle**	**71.75**	**335**	*e*P		**P**	**01 52 49.5**	**+0.1**
	21nm,1.0s,mb4.7							
CABF	**La Chapelle**	**71.75**	**335**	*e*P		**P**	**01 52 49.5**	**+0.1**
	10nm,1.0s,mb4.7							
GRA1	**Grafenberg Arr**	**72.45**	**340**	*e*P		**P**	**01 52 53.0**	**-0.7**
	3.0nm,0.9s,mb4.2							
GRF	**Grafenberg Arr**	**72.45**	**340**	*e*P		**P**	**01 52 53.0**	**-0.7**
	comp=Z,3.0nm,0.9s,mb4.2							
SMF	**Signal de Mont**	**72.70**	**334**	*e*P		**P**	**01 52 54.9**	**-0.3**
	comp=Z,11nm,1.0s,mb4.5							
SMF	**Signal de Mont**	**72.70**	**334**	*e*P		**P**	**01 52 54.9**	**-0.3**
	comp=Z,5.7nm,1.0s,mb4.5							
CDF	**Champ du Feu**	**72.76**	**337**	*e*P		**P**	**01 52 54.7**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.1							
CDF	**Champ du Feu**	**72.76**	**337**	*e*P		**P**	**01 52 54.7**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.1							
HAU	**Haudompre**	**72.78**	**336**	*e*P		**P**	**01 52 55.1**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.3							
HAU	**Haudompre**	**72.78**	**336**	*e*P		**P**	**01 52 55.1**	**-0.5**
	comp=Z,3.3nm,0.8s,mb4.3							
AVF	**Avril sur Loir**	**73.02**	**334**	*e*P		**P**	**01 52 56.9**	**-0.2**
TCF	**Toulx Ste Croi**	**73.12**	**333**	*e*P		**P**	**01 52 58.2**	**+0.5**
	comp=Z,20nm,1.1s,mb4.7							
TCF	**Toulx Ste Croi**	**73.12**	**333**	*e*P		**P**	**01 52 58.2**	**+0.5**
	comp=Z,10nm,1.1s,mb4.7							
KMI	**Kunming**	**73.17**	**56**	P		**P**	**01 52 59.6**	**+1.7**
KMI					AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7							
LOR	**Lormes**	**73.19**	**334**	*e*P		**P**	**01 52 57.7**	**-0.3**
MEZF	**Maizieres J'vi**	**73.69**	**336**	*e*P		**P**	**01 53 00.9**	**-0.1**
MKAR	**Makanchi Array**	**73.99**	**28**	P		**P**	**01 53 01.9**	**-0.9**
	comp=Z,1.4nm,0.6s,mb4.0,baz=216,slow=6.3,SNR=11							
WMQ	**Urumqi**	**74.40**	**33**	*e*P		**P**	**01 53 04.5**	**-0.6**
WMQ					XP	sP	01 53 11.5	+1.9
WMQ					PCP	PcP	01 53 21.0	+1.2
WMQ				*e*S		S	02 02 32.5	-7.2
WMQ					AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6							
WMQ					AMB	AMB		
	comp=Z,133nm,5.0s							
WMQ					LR	LR		
	comp=N,102nm,20.4s,MS4.2							
WMQ					LR	LR		
	comp=E,98nm,19.8s,MS4.2							
WMQ					LR	LR		
	comp=Z,122nm,22.0s,MS4.2							
GIVF	**Givet**	**75.07**	**336**	*e*P		**P**	**01 53 08.6**	**-0.4**
CD2	**Chengdu**	**76.82**	**51**	*e*P		**P**	**01 53 18.6**	**-0.4**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
CD2					AMB	AMB		
	comp=Z,30nm,5.8s							
FINES	**FINESS Array B**	**80.00**	**352**	P		**P**	**01 53 37.2**	**+0.6**
	comp=Z,3.1nm,1.1s,mb4.1,baz=168,slow=7.9,SNR=3.0							
ZAL	**Zalesovo**	**80.46**	**24**	LR		LR	02 28 28.1	
	comp=Z,64nm,19.6s,MS4.0,baz=26,slow=35							
ASAR	**Alice Springs**	**84.95**	**113**	P		**P**	**01 54 03.0**	**+0.6**
	comp=Z,2.0nm,0.7s,mb4.3,baz=261,slow=4.6,SNR=28							
ASAR				LR		LR	02 24 34.9	
	comp=Z,140nm,21.4s,MS4.3,baz=179,slow=30							
AS31	**Alice Springs**	**84.95**	**113**	*e*P		**P**	**01 54 05.3**	**+2.9**
BDFB	**Brasilia**	**85.06**	**255**	LR		LR	02 26 11.1	
	comp=Z,61nm,20.2s,MS4.0,baz=102,slow=32							
WRA	**Warramunga Arr**	**86.44**	**110**	P		**P**	**01 54 09.8**	**-0.1**
	comp=Z,0.6nm,0.7s,mb4.0,baz=253,slow=3.5,SNR=6.3							
WB2	**Warramunga Arr**	**86.45**	**110**	*e*P		**P**	**01 54 11.8**	**+1.9**
HHC	**Hu-ho-hao-te**	**87.11**	**45**	*e*P		**P**	**01 54 14.4**	**+1.3**
HHC					AP	pP	01 54 19.1	+2.7
HHC					XP	sP	01 54 21.5	+3.9
HHC					PP	PP	01 57 37.6	+1.1
HHC					SKS		02 04 37.4	
HHC					S	S	02 04 48.1	-4.3
HHC					AMB	AMB		
	comp=Z,3.0nm,0.3s,mb5.0							
HHC					AMB	AMB		
	comp=Z,148nm,4.6s							
HHC					LR	LR		
	comp=N,101nm,4.7s							
HHC					LR	LR		
	comp=E,129nm,4.3s							
HHC					LR	LR		
	comp=Z,109nm,6.0s							
CPUP	**Villa Florida**	**89.99**	**242**	LR		LR	02 29 05.5	
	comp=Z,53nm,20.3s,MS4.0,baz=284,slow=32							
MDJ	**Mudanjiang**	**100.84**	**47**	P		Pdif	01 55 16.1	-0.1
MDJ					AMB	AMB		
	comp=Z,5.0nm,2.0s							
MDJ					AMB	AMB		
	comp=Z,74nm,5.2s							
YFT	**Old Faithful**	**144.87**	**325**	*e*P		PKPdf	02 01 05.8	+1.5
PDAR	**Pinedale Array**	**145.19**	**322**	PKPbc		PKPbc	02 01 04.3	-0.1
	comp=Z,1.9nm,0.8s,baz=72,slow=6.6,SNR=16							
DLMT	**Dillon**	**145.19**	**328**	*e*P		PKPbc	02 01 06.0	+1.5
DLMT				*e*			02 01 12.4	
IMW	**Indian Meadow**	**145.28**	**324**	*e*P		PKPbc	02 01 05.9	+1.1
TPAW	**Teton Pass**	**145.55**	**324**	*e*P		PKPdf	02 01 06.1	+0.6
MCMT	**McKenzie Canyo**	**145.69**	**327**	*e*P		PKPdf	02 01 07.8	+2.1
MCMT				*e*			02 01 14.3	
RRI2	**Red Ridge**	**145.85**	**324**	*e*P		PKPdf	02 01 07.5	+1.5
HWUT	**Hardware Ranch**	**147.08**	**322**	*e*P		PKPdf	02 01 10.2	+2.1
TCUT	**Toone Canyon**	**147.28**	**321**	*e*P		PKPdf	02 01 09.4	+1.0
SRU	**San Rafael**	**147.89**	**317**	*e*P		PKPdf	02 01 10.5	+1.1
NLU	**North Lily Min**	**148.39**	**320**	*e*P		PKPbc	02 01 16.7	+3.0
MSU	**Marysvale**	**149.29**	**317**	*e*P		PKPbc	02 01 17.4	+1.4
WUAZ	**Wupatki**	**150.34**	**312**	*e*P		PKPbc	02 01 18.1	-0.5
NVAR	**Mina Array Bea**	**153.06**	**324**	PKP		PKPdf	02 01 19.0	+1.6
	comp=Z,0.3nm,0.5s,baz=73,slow=1.9,SNR=4.3							
NVAR					PKPbc	PKPbc	02 01 25.9	+1.0
	comp=Z,0.9nm,0.7s,baz=98,slow=6.1,SNR=7.7							
NVAR					PKPab	PKPab	02 01 34.5	-1.7
	comp=Z,1.0nm,0.7s,baz=86,slow=2.8,SNR=6.2							

*IDC **24** 01:46:25.1±4.8, 2736N×5260E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=96.8km s-min=35.9km az=127.0*
*CSEM **24** 01:46:26.5±0.2, 2738N×5251E, h18km, mb3.5/1, Error ellipse: s-maj=5.4km s-min=3.7km az=163.0*
*THR **24** 01:46:26.1±0.6, 2737N×5251E, h18km±9km, ML3.3*
*KISR **24** 01:46:26.3±0.8, 2758N×5248E, h13km±999km, ML3.2*
*ISCJB **24** 01:46:27.3±2.2, 2740N±0.1×5253E±006, h22km±15km, mb3.6/4, Error ellipse: s-maj=18.2km s-min=8.0km az=12.2*
*NEIC **24** 01:46:28.7, 2742N×5244E, h10km, mb3.5/1, MN3.4(TEH), After TEH.*

ISC 24 01:46:27.5±2.5, **2740N**±01×**5256E**±006, **h9**km±14km, **n19, σ0°78/24, mb3.6/4, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHIR	**Ghir-Karzin**	**0.96**	**23**	*e*PG	**Pg**	**01 46 45.1**	**-0.9**
GHIR				*e*Sg	**Sg**	**01 46 58.8**	**+0.3**
GHIR				AML	AML	01 47 04.7	
	comp=E,2μm,0.4s						
GHIR				AML	AML	01 47 05.0	
	comp=N,678nm,0.5s						
GHIR	**Ghir-Karzin**	**0.96**	**23**	*e*Pg	**Pg**	**01 46 45.1**	**-0.8**
	SNR=93						
GHIR				*e*Sg	**Sg**	**01 46 58.8**	**+0.4**
	SNR=93						
BNDS	**Bandar-Abbas**	**3.21**	**89**	*e*PN	**Pn**	**01 47 18.4**	**+0.4**

KRBR	**Kerman**	**4.50**	**54**	*e*PN		**Pn**	**01 47 37.0**	**+1.2**
KRBR					AML	AML	01 48 33.2	
	comp=N,17nm,0.9s							
RDF	**Al-Radifah**	**4.68**	**290**	*e*P		**Pn**	**01 47 39.1**	**+0.9**
RDF				*e*S		**Sn**	**01 48 32.8**	**+0.1**
RDF					AML	AML	01 48 42.3	
	comp=Z,20nm,0.5s							
NAY	**Al-Naaiem**	**5.04**	**293**	*e*P		**Pn**	**01 47 43.6**	**+0.4**
NAY				*e*S		**Sn**	**01 48 42.1**	**+0.6**
NAY					AML	AML	01 48 50.6	
	comp=Z,11nm,0.7s							
MIB	**Mutribah**	**5.18**	**299**	*e*P		**Pn**	**01 47 45.3**	**+0.2**
MIB				*e*S		**Sn**	**01 48 45.1**	**+0.1**
MIB					AML	AML	01 48 45.9	
	comp=Z,20nm,0.6s							
NASN	**Na'in**	**5.39**	**2**	*e*Pn		**Pn**	**01 47 48.4**	**+0.5**
BR131	**Keskin Array S**	**19.95**	**313**	*e*P		**Pn**	**01 50 60.0**	**-1.4**
	comp=Z,2.3nm,0.8s							
BR131	**Keskin Array S**	**19.95**	**313**	*e*P		**Pn**	**01 51 00.0**	**-1.4**
	comp=Z,2.3nm,0.8s							
BRTR	**Keskin Array B**	**19.95**	**313**	P		**Pn**	**01 51 00.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=12							
BRTR	**Keskin Array B**	**19.95**	**313**	P		**Pn**	**01 51 00.3**	**-1.1**
AKTK	**Aktyubinsk**	**23.38**	**9**	P		**P**	**01 51 36.5**	**0.0**
AKTK	**Aktyubinsk**	**23.38**	**9**	P		**P**	**01 51 36.5**	**0.0**
AKTO	**Aktyubinsk**	**23.38**	**9**	P		**P**	**01 51 36.5**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.3,baz=172,slow=7.1,SNR=4.1							
FINES	**FINESS Array B**	**38.39**	**340**	P		**P**	**01 53 48.3**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.7,baz=132,slow=9.5,SNR=3.9							
NOA	**NORSAR Array B**	**43.55**	**332**	P		**P**	**01 54 29.2**	**-2.4**
	comp=Z,1.1nm,0.8s,mb3.6,baz=120,slow=8.2,SNR=3.3							
NOA	**NORSAR Array B**	**43.55**	**332**	P		**P**	**01 54 29.2**	**-2.4**
TORD	**Torodi Ar. Bea**	**49.45**	**264**	P		**P**	**01 55 17.7**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=65,slow=7.2,SNR=8.1							

*IGIL **24** 01:56:29.5, 3740N×1610W, h10km, ML2.7*
*NEIC **24** 01:56:30.9, 3773N×1590W, h0km, MN3.2(MDD), After MDD.*
*MDD **24** 01:56:31.3±2.6, 3765N×1583W, h0km, mb4.3/2, Error ellipse: s-maj=23.7km s-min=21.5km az=40.0, PRXIMO*

INMG 24 01:56:33.5±1.8, **3748N×1618W, h10km, ML2.5, Error ellipse: s-maj=10.8km s-min=9.0km az=148.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**5.63**	**73**	*e*Pn	Pn	01 57 51.6	-5.6
PMAFR				*e*Sn	Sn	01 58 49.1	-13
PLOU	**Loures**	**5.71**	**74**	*e*Pn	Pn	01 57 52.4	-5.9
PLOU				*e*Sn	Sn	01 58 51.5	-12
PLOU							
	7.8nm,0.2s						
PTEO	**Sao Teotonio**	**5.92**	**87**	*e*Pn	Pn	01 57 54.5	-6.8
PTEO				*e*Sn	Sn	01 58 54.5	-15
PTEO							
	3.3nm,0.2s						
MORF	**Marmelete**	**5.99**	**89**	*e*P	Pn	01 57 55.3	-6.9
MORF				*e*S	Sn	01 58 57.7	-13
MORF				*e*S	Sn	01 58 57.9	-13
MORF				AML	AML	01 59 03.5	
	comp=N,7.6nm,0.3s						
MORF	**Marmelete**	**5.99**	**89**	*e*P	Pn	01 57 55.3	-6.9
MORF				*e*S	Sn	01 58 57.9	-13
PTOM	**Tomar**	**6.45**	**68**	*e*Pn	Pn	01 58 02.5	-6.0
PTOM				*e*Sn	Sn	01 59 08.6	-14
PTOM							
	comp=N,7.5nm,0.1s						
PBEJ	**Beja**	**6.61**	**83**	*e*Pn	Pn	01 58 04.8	-5.9
PBEJ				*e*Sn	Sn	01 59 12.3	-14
PBEJ							
	comp=N,1.7nm,0.1s						
PESTR	**Estremoz**	**6.91**	**76**	*e*Pn	Pn	01 58 08.5	-6.2
PESTR				*e*Sn	Sn	01 59 19.4	-14
PESTR							
	comp=N,1.1nm,0.2s						
EGRO	**El Granado**	**6.91**	**87**	P	Pn	01 58 08.2	-6.6
	comp=N,0.8nm,0.1s,SNR=7.1						
EGRO	

h43km±2.3km**:pP-P,n16,**σ1§**37**/15**,mb4.2**/7**,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.10**	**341**	**P**	**Pn**	**02 06 59.4**	**-2.4**
	105nm,0.3s,baz=114,slow=19,SNR=8.8						
RAO				S	**Sn**	**02 07 15.0**	**-0.8**
	347nm,0.3s,baz=94,slow=20,SNR=7.4						
URZ	**Urewera**	**9.10**	**208**	P	**Pn**	**02 08 49.2**	**-2.5**
	0.3nm,0.3s,baz=72,slow=9.6,SNR=4.7						
URZ				S	**Sn**	**02 10 31.5**	**-1.3**
	1.3nm,0.3s,baz=321,slow=23,SNR=5.3						
DZM	**Mont Dzumac**	**16.55**	**296**	LR	LR	02 15 49.9	
	comp=Z,202nm,18.2s,baz=215,slow=33						
RAR	**Rarotonga**	**18.34**	**65**	LR	LR	02 15 35.1	
	comp=Z,82nm,21.8s,baz=240,slow=30						
CTA	**Charters Tower**	**34.20**	**279**	P	**P**	**02 13 26.8**	**+2.5**
	3.2nm,0.8s,mb4.3,baz=66,slow=10.0,SNR=3.1						
CTA				pP	pP	02 13 37.9	+2.1
	5.1nm,0.7s,baz=87,slow=7.9,SNR=3.3						
CTA	**Charters Tower**	**34.20**	**279**	P	**P**	**02 13 26.8**	**+2.5**
CTA				pP	pP	02 13 37.9	+2.1
CTAO	**Charters Tower**	**34.20**	**279**	*e*P	**P**	**02 13 25.3**	**+1.1**
	5.9nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**34.91**	**257**	P	**P**	**02 13 32.7**	**+2.2**
	4.5nm,0.7s,mb4.5,baz=107,slow=11,SNR=3.6						
STKA				pP	pP	02 13 43.9	+1.9
	4.3nm,0.8s,baz=90,slow=6.1,SNR=2.7						
STKA	**Stephens Creek**	**34.91**	**257**	P	**P**	**02 13 32.7**	**+2.2**
STKA				pP	pP	02 13 43.9	+1.9
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**02 14 42.5**	**+0.1**
	1.0nm,0.8s,mb3.6,baz=107,slow=7.4,SNR=11						
ASAR				pP	pP	02 14 55.1	+0.9
	1.8nm,0.8s,baz=102,slow=8.2,SNR=7.9						
WRAB	**Tennant Creek**	**44.51**	**272**	*e*P	**P**	**02 14 51.3**	**+1.1**
	6.2nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**02 14 50.6**	**+0.4**
	2.2nm,0.6s,mb4.1,baz=111,slow=7.9,SNR=25						
WRA				pP	pP	02 15 03.6	+1.5
	2.5nm,0.7s,baz=110,slow=8.0,SNR=6.2						
CASY	**Casey**	**55.43**	**208**	*e*P	**P**	**02 16 12.7**	**-0.3**
	2.6nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**59.81**	**180**	*e*P	**P**	**02 16 44.9**	**+1.0**
QSPA				*e*pP	pP	02 16 56.0	-0.1
SNAA	**Sanae**	**78.25**	**178**	*e*P	**P**	**02 18 38.1**	**-0.1**
	3.7nm,1.3s,mb4.2						
SNAA				*e*pP	pP	02 18 48.5	-2.4
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc	PKPbc	02 26 13.4	-2.1
	2.0nm,0.6s,baz=50,slow=4.3,SNR=15						
FINES				pPKPbc	pPKPbc	02 26 24.9	-3.8
	2.7nm,0.7s,baz=79,slow=4.1,SNR=3.9						

*NEIC **24** 02:26:28.2, 1967N×6320W, h96km, MD3.9(RSPR), After RSPR.*

RSPR 24 02:26:28.2, 1967N×6320W, h96km±19km**, MD3.9/5, MD3.9/5,6,CE, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**2.72**	**235**§	*e*P	Pn	02 27 09.9	-0.2
MTP				*e*S	Sn	02 27 41.8	-0.5
CBYP	**Canovanas**	**2.87**	**241**§	*e*P	Pn	02 27 11.6	-0.5
CBYP				*e*S	Sn	02 27 46.5	+0.5
HUMP	**Col San Antoni**	**2.93**	**239**§	*e*P	Pn	02 27 12.8	-0.1
HUMP				*e*S	Sn	02 27 47.9	+0.5
CPD	**Cerro la Pandu**	**3.04**	**238**	*e*Pn	Pn	02 27 14.0	-0.4
CPD				*e*Sn	Sn	02 27 45.7	-4.3
ICM	**Isla Caja Muer**	**3.61**	**241**§	*e*P	Pn	02 27 22.8	+0.8
ICM				*e*S	Sn	02 28 04.2	+0.6
AOPR	**Arecibo Observ**	**3.61**	**249**§	*e*P	Pn	02 27 21.9	-0.1
AOPR				*e*S	Sn	02 28 04.1	+0.5
CRPR	**Cabo Rojo, PR**	**4.06**	**246**§	*e*P	Pn	02 27 28.1	+0.1
CRPR				*e*S	Sn	02 28 14.9	+0.4

*ISCJB **24** 02:40:59.2±0.4, 5552S×007×275W±0.1, h10km, mb4.3/15, MS3.9/10, Error ellipse: s-maj=12.7km s-min=9.6km az=108.4*
*IDC **24** 02:40:59.4±0.6, 5550S×2746W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.3/11, ML4.2/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/23, Error ellipse: s-maj=20.4km s-min=17.1km az=29.0*
*NEIC **24** 02:41:04.7±2.6, 5554S×2746W, h37km±24km, mb4.5/7, Error ellipse: s-maj=10.3km s-min=7.3km az=218.0*

ISC 24 02:41:00.9±0.4**, 5555S**±007×**274W**±01**, h10**km**, n35,** σ0§**82**/22**, mb4.3**/15**, MS3.9**/10**, 1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.51**	**161**	*e*	**Pn**	**02 45 07.1**	**+2.0**
VNA3				*e*		02 45 09.0	
VNA3				*e*		02 45 12.2	
VNA3				*e*		02 45 14.1	
VNA3				*e*		02 45 20.5	
VNA3				*e*		02 45 30.4	
VNA3				*e*		02 45 39.3	
SNAA	**Sanae**	**19.25**	**156**	P	**Pn**	**02 45 25.0**	**-1.4**
	0.7nm,0.3s,baz=311,slow=9.9,SNR=137						
SNAA	**Sanae**	**19.25**	**156**§§	*i*	**Pn**	**02 45 24.7**	**-1.7**
SNAA				*e*		02 45 26.7	
SNAA				*e*		02 45 29.6	
SNAA				*e*		02 45 32.3	
SNAA				*e*		02 45 40.9	
SNAA				*e*		02 45 49.2	
SNAA				*e*		02 46 00.5	
PMSA	**Palmer Station**	**20.13**	**228**	P	**P**	**02 45 35.8**	**+0.8**
	10.0nm,0.9s,baz=86,slow=8.7,SNR=9.6						
PMSA				LR	LR	02 51 55.4	
	comp=Z,231nm,20.5s,MS3.5,baz=187,slow=32						
TRQA	**Tornquist**	**29.00**	**293**	*e*P	**P**	**02 47 00.3**	**-0.4**
	3.5nm,0.6s,mb4.3						
PLCA	**Paso Flores**	**31.78**	**280**	LR	LR	02 58 31.6	
	comp=Z,54nm,18.9s,MS3.2,baz=14,slow=33						
QSPA	**South Pole Qui**	**34.70**	**180**	*e*P	**P**	**02 47 50.5**	**-0.4**
	15nm,0.6s,mb5.1						
CPUP	**Villa Florida**	**36.38**	**311**	P	**P**	**02 48 04.5**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=124,slow=15,SNR=2.5						
CFAA	**Coronel Fontan**	**37.24**	**293**	P	**P**	**02 48 11.2**	**-1.3**
	0.9nm,0.7s,mb3.7,baz=147,slow=8.3,SNR=18						
MAW	**Mawson**	**40.63**	**144**	P	**P**	**02 48 41.0**	**0.0**
	0.9nm,0.4s,mb3.8,baz=262,slow=5.6,SNR=3.0						
SUR	**Sutherland**	**40.64**	**76**	LR	LR	03 02 28.2	
	comp=Z,343nm,19.3s,MS4.2,baz=352,slow=32						
BDFB	**Brasilia**	**42.86**	**330**	LR	LR	03 04 14.9	
	comp=Z,104nm,18.6s,MS3.8,baz=167,slow=33						
LVC	**Limon Verde**	**44.93**	**300**	*e*P	**P**	**02 49 16.3**	**+0.4**
	5.1nm,0.8s,mb4.4						
BOSA	**Boshof**	**45.98**	**77**	P	**P**	**02 49 24.4**	**+0.3**
	10nm,0.9s,mb4.7,baz=212,slow=7.8,SNR=12						
BOSA				LR	LR	03 03 39.0	
	comp=Z,126nm,19.1s,MS3.9,baz=159,slow=30						
VNDA	**Vanda**	**47.07**	**183**	P	**P**	**02 49 32.7**	**0.0**
	6.5nm,0.6s,mb4.7,baz=188,slow=8.2,SNR=55						
VNDA				LR	LR	03 07 47.2	
	comp=Z,74nm,21.9s,MS3.6,baz=71,slow=34						
LBTB	**Lobatse**	**48.99**	**74**	P	**P**	**02 49 47.6**	**0.0**
	6.4nm,0.8s,mb4.7,baz=222,slow=10,SNR=8.5						
LBTB	**Lobatse**	**48.99**	**74**	*e*P	**P**	**02 49 47.7**	**+0.1**
	5.4nm,0.8s,mb4.6						
TSUM	**Tsumeb**	**49.56**	**61**	*e*P	**P**	**02 49 52.1**	**+0.2**
	5.0nm,1.2s,mb4.4						
LPAZ	**La Paz**	**49.98**	**305**	P	**P**	**02 49 56.2**	**+1.1**
	3.0nm,0.5s,mb4.5,baz=164,slow=7.4,SNR=17						
CASY	**Casey**	**54.43**	**161**	*e*P	**P**	**02 50 27.9**	**-0.3**
	8.2nm,1.3s,mb4.5						
DBIC	**Dimbokro**	**64.77**	**25**	LR	LR	03 14 52.7	
	comp=Z,94nm,18.9s,MS4.0,baz=117,slow=31						
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	*e*P	**P**	**02 52 28.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**02 52 28.9**	**0.0**
	2.5nm,0.8s,mb4.2,baz=198,slow=6.4,SNR=16						
TORD				LR	LR	03 17 30.0	
	comp=Z,105nm,19.5s,MS4.1,baz=170,slow=30						
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**02 52 28.9**	**0.0**
TORD				LR	LR	03 17 30.0	
SDV	**Santo Domingo**	**73.56**	**315**	*e*P	**P**	**02 52 35.1**	**+1.1**
	3.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**92.42**	**171**	LR	LR	03 33 26.9	
	comp=Z,124nm,18.7s,MS4.4,baz=25,slow=34						
ESDC	**Sonseca Array**	**96.94**	**18**	LR	LR	03 31 53.1	
	comp=Z,73nm,18.1s,MS4.2,baz=125,slow=32						
ASAR	**Alice Springs**	**99.51**	**163**	P	**P**	**02 54 43.1**	**-0.9**
	0.5nm,0.7s,mb4.1,baz=174,slow=3.1,SNR=7.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	02 59 58.0	-1.4
	2.1nm,0.8s,baz=248,slow=3.1,SNR=7.8						
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	02 59 58.0	-1.4
INK	**Inuvik**	**145.33**	**321**	PKPbc	PKPbc	03 00 36.0	-2.8
	3.1nm,0.5s,baz=124,slow=2.7,SNR=3.5						
INK	**Inuvik**	**145.33**	**321**	*e*PKPbc	PKPbc	03 00 36.4	-2.3
DAWY	**Dawson**	**146.35**	**313**	*e*PKPbc	PKPbc	03 00 39.0	-2.9
MCK	**McKinley**	**150.35**	**310**	*e*PKPbc	PKPbc	03 00 50.1	-2.3
SONM	**Songino Array**	**150.83**	**86**	PKPbc	PKPbc	03 00 52.2	-1.3
	1.9nm,0.8s,baz=233,slow=3.1,SNR=6.6						
SONM				PKPab	PKPab	03 00 60.0	-0.7
	2.8nm,0.8s,baz=225,slow=3.4,SNR=9.5						

IDC 24 03:09:39.0±2.5**, 2215S**×**14801E, h0**km**, mb1 3.5**/3**, mb1mx3.4**/10**, mbtmp3.3**/3**, ML3.1**/3**, Error ellipse: s-maj=32.9km s-min=21.4km az=60.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.62**	**321**	Pn	Pn	03 10 23.4	+0.7
	1.2nm,0.3s,baz=123,slow=14,SNR=52						
CTA				Pg	Pg	03 10 27.5	-1.8
	4.4nm,0.3s,baz=143,slow=19,SNR=34						
CTA				Lg		03 11 02.8	
	14nm,0.3s,baz=67,slow=19,SNR=17						
WRA	**Warramunga Arr**	**12.95**	**277**	Pn	Pn	03 12 43.1	-1.1
	0.2nm,0.3s,baz=96,slow=13,SNR=6.6						
WRA				Lg		03 16 29.5	
	0.2nm,0.3s,baz=109,slow=28,SNR=7.4						
ASAR	**Alice Springs**	**13.09**	**261**	Pn	Pn	03 12 47.4	+1.3
	0.1nm,0.3s,baz=84,slow=13,SNR=5.0						
ASAR				Sn	Sn	03 15 12.5	+0.1
	0.1nm,0.3s,baz=83,slow=25,SNR=5.8						
ASAR				Lg		03 16 33.8	
	0.1nm,0.3s,baz=85,slow=30,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.74**	**260**	PKPbc	PKPbc	03 29 22.7	-0.2
	1.3nm,0.9s,baz=103,slow=4.0,SNR=9.6						

*NAO **24** 03:15:11.2±1.8, 6766N×3333E, ML2.7*
*CSEM **24** 03:15:11.2, 6766N×3333E, h0km, ML2.7, After NAO*

HEL 24 03:15:08.8±0.3**, 6774N×3395E, h0**km**, ML2.5, ML2.6**(BER)**, ML2.7**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU4	**Liikasenvaara**	**2.20**	**233**	*e*P	Pn	03 15 46.6	0.0
KU4				*e*S	Sn	03 16 14.2	-0.3
MSF	**Maaselka**	**2.67**	**229**	*e*P	Pn	03 15 53.5	+0.5
MSF				*e*SB	Sb	03 16 29.3	-1.5
SGF	**Sodankyl**	**2.86**	**267**	*e*P	Pn	03 15 54.6	-1.0
SGF				*e*S	Sn	03 16 29.6	-1.2
SGF				MSG		03 16 43.3	
	comp=Z,22nm,0.3s						
KEV	**Kevo**	**3.24**	**312**	*e*P	Pn	03 16 01.8	+0.9
KEV				*e*S	Sn	03 16 39.5	-0.7
ARA0	**ARCESS Array S**	**3.58**	**304**	Pn	Pn	03 16 05.7	+0.2
	baz=122,slow=16						
ARA0				Sn	Sn	03 16 46.8	-1.7
	baz=119,slow=28						
ARA0				Lg		03 16 58.5	
	baz=117,slow=37						
ARA0	**ARCESS Array S**	**3.58**	**304**	*e*P	Pn	03 16 05.7	+0.2
ARA0				*e*S	Sn	03 16 46.8	-1.7
ARA0				*e*SG		03 16 58.5	
ARA0	**ARCESS Array S**	**3.58**	**304**	Pn	Pn	03 16 05.7	+0.2
	baz=122,slow=15,SNR=385						
ARA0				Sn	Sn	03 16 46.8	-1.7
	baz=119,slow=26,SNR=3.6						
ARA0				Lg		03 16 58.5	
	baz=117,slow=28,SNR=2.8						
KTK1	**Kautokeino**	**4.17**	**293**	*e*P	Pn	03 16 13.8	+0.2
KTK1				AML	AML	03 17 22.1	
	comp=Z,32nm,0.3s						
OUL	**Oulu**	**4.19**	**234**	*e*P	Pn	03 16 14.2	+0.3
OUL				*e*SG	Sg	03 17 18.8	-4.6
OUL				MSG		03 17 21.6	
	comp=Z,8.7nm,0.3s						
KJN	**Kajaani**	**4.47**	**218**	*e*P	Pn	03 16 17.6	-0.2
KJN				*e*S	Sn	03 17 07.7	-2.7
KJN				MSG		03 17 28.1	
	comp=Z,6.1nm,0.3s						
KIF	**Kilpisjarvi**	**5.03**	**291**	*e*P	Pn	03 16 24.8	-0.6
KIF				*e*S	Sn	03 17 21.0	-3.2
TRO	**Tromso**	**5.79**	**296**	*e*P	Pn	03 16 36.0	0.0
SUF	**Sumiainen**	**6.01**	**217**	*e*P	Pn	03 16 38.3	-0.6
SUF				*e*S	Sn	03 17 44.5	-3.8
VAF	**Ylistaro**	**6.65**	**230**	*e*SG	Sg	03 18 34.6	-7.9
FIA0	**FINESS Array S**	**7.16**	**212**	Pn	Pn	03 16 53.3	-1.5
	baz=31,slow=12						
FIA0				Sn	Sn	03 18 10.5	-6.4
	baz=37,slow=22						
FIA0				Lg		03 18 44.1	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**7.16**	**212**	*e*P	Pn	03 16 53.3	-1.5
FIA0				*e*S	Sn	03 18 10.5	-6.4
FIA0				*e*		03 18 44.1	
FIA0	**FINESS Array S**	**7.16**	**212**	Pn	Pn	03 16 53.3	-1.5
	baz=31,slow=12						
FIA0				Sn	Sn	03 18 10.5	-6.3
	baz=37,slow=21						
FIA0				Lg		03 18 44.1	
	baz=27,slow=25,SNR=4.8						
SPA0	**Spitsbergen Ar**	**11.60**	**342**	Pn	Pn	03 17 53.7	-1.8
	baz=144,slow=16						
SPA0	**Spitsbergen Ar**	**11.60**	**342**	*e*P	Pn	03 17 53.7	-1.8
SPA0	**Spitsbergen Ar**	**11.60**	**342**	Pn	Pn	03 17 53.7	-1.8
	baz=144,slow=15,SNR=0.2						

*IDC **24** 03:22:20.2±1.1, 1117N×9205E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/22, mbtmp3.7/9, Error ellipse: s-maj=51.6km s-min=18.8km az=53.0*
*ISCJB **24** 03:22:23.2±0.8, 112N×02×921E±0.2, h33km, mb3.8/11, Error ellipse: s-maj=39.5km s-min=13.3km az=105.4*
*NEIC **24** 03:22:24.7±0.6, 1119N×9209E, mb4.2/2, Error ellipse: s-maj=29.4km s-min=10.2km az=53.0*

ISC 24 03:22:25.8±0.8**, 112N**±02×**921E**±02**, h35**km**, n13,** σ0§**55**/12**, mb3.8**/11**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.75**	**56**	*e*P	x	03 23 43.7	
PBA				*e*S	x	03 23 54.4	
PBA				*ex*	x	03 23 56.1	
	comp=E,3μm,0.3s						
PBA				*ex*	x	03 23 56.1	
	comp=N,4μm,0.4s						
MKAR	**Makanchi Array**	**36.40**	**349**	P	**P**	**03 29 27.2**	**+0.4**
	comp=N,1.7nm,0.8s,mb4.0,baz=163,slow=8.7,SNR=8.2						
SONM	**Songino Array**	**38.40**	**16**	P	**P**	**03 29 44.1**	**+0.3**
	comp=N,0.2nm,0.5s,mb3.1,baz=232,slow=8.3,SNR=3.5						
ZAL	**Zalesovo**	**42.98**	**354**	P	**P**	**03 30 21.2**	**-0.4**
	comp=N,0.9nm,0.3s,mb4.0,baz=357,slow=24,SNR=3.0						
CHKZ	**Chkalovo**	**45.67**	**342**	*e*P	**P**	**03 30 43.0**	**-0.1**
	comp=N,2.5nm,0.9s,mb4.1						
CHKZ				*e*pP	pP	03 30 52.7	-0.7
AKTK	**Aktyubinsk**	**48.05**	**331**	P	**P**	**03 31 01.9**	**+0.3**
AKTO	**Aktyubinsk**	**48.05**	**331**	P	**P**	**03 31 01.9**	**+0.3**
	comp=N,0.6nm,0.4s,mb4.0,baz=117,slow=6.8,SNR=2.7						
WRA	**Warramunga Arr**	**51.85**	**126**	P	**P**	**03 31 30.5**	**0.0**
	comp=N,0.9nm,0.6s,mb3.9,baz=305,slow=8.4,SNR=9.9						
WRAB	**Tennant Creek**	**51.85**	**126**	*e*P	**P**	**03 31 30.4**	**-0.2**
	comp=N,1.9nm,0.6s,mb4.2						
WRAB				*e*pP	pP	03 31 38.5	-2.5
ASAR	**Alice Springs**	**53.61**	**131**	P	**P**	**03 31 43.8**	**+0.2**
	comp=N,0.7nm,0.8s,mb3.7,baz=306,slow=6.4,SNR=9.2						
BRTR	**Keskin Array B**	**58.74**	**310**	P	**P**	**03 32 20.1**	**-0.1**
	comp=N,0.3nm,0.5s,mb3.5,baz=126,slow=6.1,SNR=4.3						
FINES	**FINESS Array B**	**68.82**	**332**	P	**P**	**03 33 25.0**	**-1.5**
	comp=N,2.1nm,0.9s,mb4.1,baz=115,slow=13,SNR=3.5						
GERES	**GERESS Array B**	**74.00**	**318**	P	**P**	**03 33 58.7**	**+0.9**
	comp=N,0.2nm,0.6s,mb3.3,baz=66,slow=4.5,SNR=4.2						

*ISCJB **24** 03:45:33.3±0.3, 4004S×002×175.15E×005, h74km±5km, mb3.4/2, Error ellipse: s-maj=6.1km s-min=3.2km az=35.5*
*WEL **24** 03:45:34.4±0.1, 4004S×175.13E, h65km±2km, ML3.9/20, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0*
WEL Felt from Wanganui to Manawatu, maximum reported intensity MM 4.

*NEIC **24** 03:45:34.6, 4004S×175.12E, h62km, ML4.0(WEL), After WEL.*
NEIC Felt at Wanganui.
*IDC **24** 03:45:35.4±6.7, 3988S×17521E, h80km±69km, mb3.0/2, mb1 3.3/3, mb1mx3.3/12, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=68.1km s-min=29.3km az=9.0*

ISC 24 03:45:34.0±0.3**, 4004S**±002×**17514E**±005**, h69**km±5km**, n86,** σ0§**68**/99**, mb3.4**/2**, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.31**	**337**	P	**Pn**	**03 45 44.5**	**-0.6**
WAZ				S	**Sn**	**03 45 52.5**	**-0.8**
WAZ	**Wanganui**	**0.31**	**337**	PN	**Pn**	**03 45 44.5**	**-0.6**
WAZ				SN	**Sn**	**03 45 52.5**	**-0.7**
TSZ	**Takapari Road**	**0.63**	**92**	P	**Pn**	**03 45 48.4**	**+0.4**
TSZ				S	**Sn**	**03 45 59.1**	**+0.8**
TSZ	**Takapari Road**	**0.63**	**92**	PN	**Pn**	**03 45 48.4**	**+0.4**
TSZ				SN	**Sn**	**03 45 58.5**	**+0.2**
MRZ	**Mangatainoka R**	**0.70**	**152**	P	**Pn**	**03 45 49.1**	**+0.3**
MRZ				S	**Sn**	**03 46 00.3**	**+0.5**
MRZ	**Mangatainoka R**	**0.70**	**152**	PN	**Pn**	**03 45 49.1**	**+0.2**
MRZ				SN	**Sn**	**03 46 00.3**	**+0.5**
PKVZ	**Pokaka**	**0.77**	**12**	PN	**Pn**	**03 45 49.2**	**-0.4**
PKVZ				SN	**Sn**	**03 45 60.0**	**-1.1**
MOVZ	**Moawhango**	**0.79**	**37**	P	**Pn**	**03 45 49.5**	**-0.4**
MOVZ	**Moawhango**	**0.79**	**37**	PN	**Pn**	**03 45 49.5**	**-0.4**
MOVZ				SN	**Sn**	**03 46 01.7**	**+0.1**
WNVZ	**Wahianoa**	**0.80**	**26**	P	**Pn**	**03 45 50.0**	**+0.1**
WNVZ	**Wahianoa**	**0.80**	**26**	PN	**Pn**	**03 45 50.0**	**+0.1**
WNVZ				SN	**Sn**	**03 46 01.9**	**+0.2**
TRVZ	**Turoa**	**0.81**	**23**	PN	**Pn**	**03 45 50.1**	**+0.1**
TRVZ				SN	**Sn**	**03 46 02.0**	**+0.1**
DRZ	**Dome Shelter**	**0.83**	**23**	P	**Pn**	**03 45 50.6**	**+0.2**
DRZ	**Dome Shelter**	**0.83**	**23**	PN	**Pn**	**03 45 50.6**	**+0.3**
KIW	**Kapiti Island**	**0.84**	**192**	PN	**Pn**	**03 45 50.7**	**+0.3**
KIW				SN	**Sn**	**03 46 03.0**	**+0.4**
FWVZ	**Far West T-bar**	**0.85**	**22**	P	**Pn**	**03 45 50.7**	**+0.2**
FWVZ	**Far West T-bar**	**0.85**	**22**	PN	**Pn**	**03 45 50.7**	**+0.2**
TUVZ	**Tukino**	**0.87**	**27**	PN	**Pn**	**03 45 51.2**	**+0.5**
WPVZ	**Whakapapa**	**0.89**	**21**	P	**Pn**	**03 45 51.0**	**-0.1**
WPVZ	**Whakapapa**	**0.89**	**21**	PN	**Pn**	**03 45 51.0**	**-0.1**
TIWZ	**Tintock**	**0.93**	**142**	PN	**Pn**	**03 45 51.7**	**+0.2**
NGZ	**Ngauruhoe**	**0.94**	**22**	P	**Pn**	**03 45 51.6**	**0.0**
NGZ	**Ngauruhoe**	**0.94**	**22**	PN	**Pn**	**03 45 51.6**	**0.0**
RAEZ	**Rainy Point**	**0.95**	**322**	P	**Pn**	**03 45 51.9**	**+0.1**
RAEZ	**Rainy Point**	**0.95**	**322**	PN	**Pn**	**03 45 51.9**	**+0.1**
VRZ	**Vera Road**	**0.96**	**342**	P	**Pn**	**03 45 51.4**	**-0.6**
VRZ	**Vera Road**	**0.96**	**342**	PN	**Pn**	**03 45 51.4**	**-0.5**
OTVZ	**Oturere**	**0.97**	**25**	PN	**Pn**	**03 45 52.4**	**+0.4**
WTVZ	**West Tongariro**	**0.99**	**21**	P	**Pn**	**03 45 52.2**	**-0.1**
WTVZ	**West Tongariro**	**0.99**	**21**	PN	**Pn**	**03 45 52.2**	**-0.1**
TWVZ	**Taurewa**	**1.00**	**13**	P	**Pn**	**03 45 51.8**	**-0.6**
TWVZ	**Taurewa**	**1.00**	**13**	PN	**Pn**	**03 45 51.8**	**-0.6**
KRVZ	**Karewarewa**	**1.02**	**22**	PN	**Pn**	**03 45 52.9**	**+0.2**
BFZ	**Birch Farm**	**1.06**	**127**	P	**Pn**	**03 45 53.2**	**+0.1**
BFZ	**Birch Farm**	**1.06**	**127**	PN	**Pn**	**03 45 53.2**	**+0.1**
CAW	**Cannon Point**	**1.06**	**183**	P	**Pn**	**03 45 53.6**	**+0.4**
CAW	**Cannon Point**	**1.06**	**183**	PN	**Pn**	**03 45 53.6**	**+0.3**
NEZ	**North Egmont**	**1.12**	**313**	P	**Pn**	**03 45 54.3**	**+0.4**
NEZ	**North Egmont**	**1.12**	**313**	PN	**Pn**	**03 45 54.3**	**+0.4**
MTW	**Mount Morrison**	**1.15**	**166**	P	**Pn**	**03 45 54.7**	**+0.4**
KATZ	**Kakaramea**	**1.15**	**22**	P	**Pn**	**03 45 54.8**	**+0.5**
KATZ				S	**Sn**	**03 46 09.6**	**+0.1**
NRZ	**Ngariki Road**	**1.17**	**307**	PN	**Pn**	**03 45 54.8**	**+0.2**
RITZ	**Rihia Road**	**1.20**	**28**	P	**Pn**	**03 45 56.3**	**+1.3**
DUWZ	**D'Urville Isla**	**1.20**	**230**	PN	**Pn**	**03 45 54.7**	**-0.3**
PKE	**Pukeiti**	**1.23**	**313**	P	**Pn**	**03 45 55.6**	**+0.2**
PKE	**Pukeiti**	**1.23**	**313**	PN	**Pn**	**03 45 55.6**	**+0.3**
MRW	**Makara Radio**	**1.23**	**196**	P	**Pn**	**03 45 55.6**	**+0.2**
NWEZ	**Newall Road**	**1.25**	**308**	P	**Pn**	**03 45 56.2**	**+0.6**
RATZ	**Rangitukua**	**1.27**	**23**	P	**Pn**	**03 45 56.9**	**+1.0**
WEL	**Wellington**	**1.27**	**193**	P	**Pn**	**03 45 56.0**	**+0.1**
WEL	**Wellington**	**1.27**	**193**	PN	**Pn**	**03 45 56.0**	**+0.1**
SNZO	**South Karori**	**1.31**	**195**	P	**Pn**	**03 45 56.4**	**0.0**
TCW	**Tory Channel**	**1.34**	**209**	P	**Pn**	**03 45 57.0**	**+0.2**
TCW	**Tory Channel**	**1.34**	**209**	PN	**Pn**	**03 45 57.0**	**+0

*IDC **24** 03:57:24.4±1.8, 361S×10177E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=85.8km s-min=21.6km az=55.0*

*ISCJB **24** 03:57:26.7±2.4, 37S±05×1017E±06, h33km, mb4.1/8, Error ellipse: s-maj=111.2km s-min=14.9km az=103.5*

*NEIC **24** 03:57:28.8±0.7, 359S×10183E, h30km, mb4.2/3, Error ellipse: s-maj=35.4km s-min=11.1km az=54.0*

ISC 24 03:57:29.3±2.4, 37S±05×1017E±06, h35km, n11, σ0§51/8, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**35.70**	**120**	P		**P**	**04 04 24.5**	**+0.1**
	1.4nm,0.4s,mb4.3,baz=301,slow=9.2,SNR=6.8							
WRAB	**Tennant Creek**	**35.70**	**120**	*e*P		**P**	**04 04 23.8**	**-0.6**
	2.0nm,0.5s,mb4.3							
ASAR	**Alice Springs**	**36.91**	**126**	P		**P**	**04 04 35.2**	**+0.5**
	0.8nm,0.4s,mb3.9,baz=296,slow=7.7,SNR=8.3							
SONM	**Songino Array**	**51.44**	**4**	P		**P**	**04 06 31.1**	**+0.1**
	0.7nm,0.5s,mb3.8,baz=183,slow=10.0,SNR=5.6							
MKAR	**Makanchi Array**	**53.08**	**343**	P		**P**	**04 06 44.1**	**+1.0**
	0.5nm,0.4s,mb3.8,baz=150,slow=9.0,SNR=10.0							
ZAL	**Zalesovo**	**59.10**	**348**	P		**P**	**04 07 25.6**	**-0.5**
	1.7nm,0.3s,mb4.5,baz=316,slow=3.9,SNR=3.6							
ZRNK	**Zerenda**	**62.76**	**338**	*e*P		**P**	**04 07 50.6**	**-0.4**
	1.1nm,0.5s,mb4.2							
CHKZ	**Chkalovo**	**62.77**	**340**	*e*P		**P**	**04 07 51.0**	**-0.1**
	1.2nm,0.7s,mb4.1							
CFAA	**Coronel Fontan**	**143.65**	**195**	PKP		PKPdf	04 17 01.9	+1.4
	0.3nm,0.5s,baz=166,slow=3.2,SNR=6.0							
CPUP	**Villa Florida**	**143.93**	**213**	PKP		PKPdf	04 17 02.6	+1.6
	0.8nm,0.4s,baz=127,slow=5.1,SNR=5.4							
TKL	**Tuckaleechee C**	**147.76**	**8**	PKPbc		PKPbc	04 17 09.7	-0.7
	2.8nm,1.0s,baz=253,slow=6.1,SNR=3.5							

*ISCJB **24** 04:01:38.8±0.8, 65N±0.1×734W±0.1, h140km±10km, mb3.7/3, Error ellipse: s-maj=23.6km s-min=9.4km az=85.0*

*IDC **24** 04:01:39.2±0.8, 650N×7338W, h131km±11km, mb3.6/3, mb1 3.8/5, mb1mx3.4/21, mbtmp4.1/5, Error ellipse: s-maj=35.0km s-min=7.8km az=132.0*

*NEIC **24** 04:01:39.6±0.8, 649N×7343W, h135km±9km, mb3.5/1, Error ellipse: s-maj=16.7km s-min=11.0km az=127.0*

ISC 24 04:01:39.9±0.8, 65N±01×734W±01, h133km±10km, n10, σ0§40/11, mb3.7/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ROSC	**El Rosal**	**1.90**	**209**	P		**Pn**	**04 02 12.7**	**0.0**
	84nm,0.3s,baz=100,slow=22,SNR=135							
ROSC				S		**Sn**	**04 02 37.9**	**0.0**
	55nm,0.3s,baz=84,slow=21,SNR=10							
SDV	**Santo Domingo**	**3.61**	**49**	P		**Pn**	**04 02 34.8**	**+0.3**
	57nm,0.3s,baz=225,slow=22,SNR=106							
SDV				S		**Sn**	**04 03 16.4**	**-0.4**
	43nm,0.3s,baz=71,slow=21,SNR=23							
PCRV	**Puerto La Cruz**	**9.40**	**67**	P		**Pn**	**04 03 52.4**	**+0.3**
	2.1nm,0.3s,baz=253,slow=5.8,SNR=9.1							
PCRV				S		**Sn**	**04 05 30.3**	**-5.7**
	0.5nm,0.3s,baz=351,slow=4.8,SNR=3.0							
SAML	**Samuel**	**18.44**	**146**	*e*P		**P**	**04 05 44.9**	**-0.2**
	1.1nm,0.4s							
ULM	**Lac du Bonnet**	**47.47**	**341**	P		**P**	**04 10 01.9**	**+0.7**
	1.7nm,0.8s,mb3.7,baz=327,slow=9.6,SNR=2.7							
ULM	**Lac du Bonnet**	**47.47**	**341**	P		**P**	**04 10 01.9**	**+0.7**
PDAR	**Pinedale Array**	**48.15**	**324**	P		**P**	**04 10 05.7**	**-0.8**
	0.3nm,0.7s,mb3.0,baz=105,slow=6.6,SNR=2.9							
ARCES	**ARCESS Array B**	**87.04**	**20**	P		**P**	**04 14 10.4**	**0.0**
	7.7nm,1.1s,mb4.4,baz=282,slow=4.4,SNR=4.2							
ASAR	**Alice Springs**	**148.71**	**234**	PKPbc		PKPbc	04 21 11.5	0.0
	0.5nm,0.5s,baz=122,slow=3.9,SNR=6.5							
WRA	**Warramunga Arr**	**149.95**	**241**	PKPbc		PKPbc	04 21 14.2	-0.3
	0.5nm,0.5s,baz=106,slow=2.5,SNR=8.3							
WRA				pPKPbc		pPKPbc	04 21 47.2	-2.6
	0.6nm,0.6s,baz=109,slow=2.3,SNR=3.3							

*ISCJB **24** 04:02:30.7±1.2, 2073S±008×696W±02, h100km, mb3.7/1, Error ellipse: s-maj=25.1km s-min=10.1km az=158.9*

*NEIC **24** 04:02:34.2±1.4, 2090S×6920W, h95km±11km, Error ellipse: s-maj=34.5km s-min=13.5km az=101.0*

*IDC **24** 04:02:34.5±2.5, 2085S×6922W, h94km±18km, mb3.7/1, mb1 3.7/3, mb1mx3.3/16, mbtmp4.0/3, Error ellipse: s-maj=56.2km s-min=16.6km az=96.0*

ISC 24 04:02:31.9±1.2, 2079S±008×696W±02, h100km, n7, σ1§27/8, mb3.7/1, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.93**	**160**	P		**Pn**	**04 03 03.3**	**-0.1**
	15nm,0.3s,baz=344,slow=10,SNR=156							
LVC				S		**Sn**	**04 03 27.4**	**-0.2**
	33nm,0.3s,baz=188,slow=19,SNR=46							
ARE	**Arequipa**	**4.66**	**337**	*e*P		**Pn**	**04 03 39.0**	**-1.0**
ARE				*e*S		**Sn**	**04 04 27.0**	**-5.9**
LPAZ	**La Paz**	**4.70**	**18**	P		**Pn**	**04 03 43.5**	**+3.1**
	1.7nm,0.3s,baz=193,slow=8.5,SNR=53							
LPAZ	**La Paz**	**4.70**	**18**	*e*Pn		**Pn**	**04 03 43.3**	**+2.8**
SIV	**San Ignacio**	**9.41**	**61**	P		**Pn**	**04 04 43.1**	**-1.3**
	2.7nm,0.3s,baz=257,slow=12,SNR=58							
TORD	**Torodi Ar. Bea**	**77.74**	**71**	P		**P**	**04 14 19.5**	**+1.7**
	1.1nm,0.7s,mb3.7,baz=252,slow=5.1,SNR=9.3							
MKAR	**Makanchi Array**	**145.44**	**35**	PKPbc		PKPbc	04 22 01.0	+2.7
	0.8nm,0.6s,baz=326,slow=4.2,SNR=6.5							

IDC 24 04:08:37.3±36.0, 1938S×17821W, h650km±353km, mb3.0/3, mb1 3.2/3, mb1mx2.8/13, mbtmp4.2/3, Error ellipse: s-maj=346.9km s-min=132.6km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**33.42**	**263**	P		P	04 14 25.9	+0.7
	1.7nm,0.3s,baz=85,slow=11,SNR=5.7							
WRA	**Warramunga Arr**	**44.57**	**261**	P		P	04 15 54.4	+0.3
	0.7nm,0.3s,baz=98,slow=7.4,SNR=64							
ASAR	**Alice Springs**	**44.59**	**256**	P		P	04 15 54.7	+0.4
	1.5nm,0.4s,baz=87,slow=8.2,SNR=41							
GERES	**GERESS Array B**	**149.08**	**345**	PKPbc		PKPbc	04 27 13.8	-0.2
	0.4nm,0.6s,baz=48,slow=1.5,SNR=4.7							

IDC 24 04:28:19.6±1.3, 3168S×6751W, h149km±11km, mb1 3.0/4, mb1mx2.9/18, mbtmp3.4/4, Error ellipse: s-maj=42.9km s-min=26.6km az=121.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CFAA	**Coronel Fontan**	**0.63**	**276**	P		Pn	04 28 42.1	+0.6
	3.6nm,0.3s,baz=90,slow=5.9,SNR=918							
CFAA				S		Sn	04 28 59.5	+1.2
	12nm,0.3s,baz=118,slow=11,SNR=118							
LVC	**Limon Verde**	**9.12**	**352**	P		Pn	04 30 28.1	+0.3
	0.5nm,0.3s,baz=172,slow=8.5,SNR=10							
CPUP	**Villa Florida**	**10.38**	**62**	P		Pn	04 30 45.1	+0.6
	0.2nm,0.3s,baz=226,slow=15,SNR=2.6							
LPAZ	**La Paz**	**15.33**	**358**	P		Pn	04 31 50.3	+2.2
	0.1nm,0.3s,baz=179,slow=9.6,SNR=3.7							
SIV	**San Ignacio**	**16.68**	**22**	P		Pn	04 32 02.8	-1.7
	0.1nm,0.3s,baz=191,slow=12,SNR=4.0							
WRA	**Warramunga Arr**	**124.56**	**205**	PKP		PKPdf	04 47 01.6	+0.4
	0.9nm,1.1s,baz=176,slow=1.6,SNR=6.5							

*CSEM **24** 04:43:17.3, 2899N×5251E, h10km, ML3.6, After TEH*

*IDC **24** 04:44:02.7±6.7, 2880N×5245E, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.2/21, mbtmp3.5/3, MS3.1/1, Ms1 3.2/1, ms1mx2.5/21, Error ellipse: s-maj=132.6km s-min=51.4km az=113.0*

*KISR **24** 04:44:03.9±0.9, 2912N×5249E, h34km, ML3.0*

*ISCJB **24** 04:44:05.4±1.3, 2883N±0.1×5243E±008, h24km±12km, mb3.7/2, MS3.1/1, Error ellipse: s-maj=18.9km s-min=7.1km az=119.8*

*TEH **24** 04:44:09.4, 2899N×5251E, h10km, Mn3.6*

ISC 24 04:44:05.9±1.3, 2885N±009×5245E±007, h13km±7km, n16, σ1§18/20, mb3.7/2, MS3.1/1, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMOK	**Mook**	**0.30**	**49**	*e*Pg		**Pg**	**04 44 10.6**	**-1.5**
ISRV	**Sarvestan**	**0.78**	**47**	*e*Pg		**Pg**	**04 44 20.7**	**-0.4**
IKAZ	**Kazeroon**	**1.07**	**330**	*e*Pg		**Pg**	**04 44 27.0**	**+0.4**
IMEH	**Mehriz**	**3.15**	**36**	*e*Pn		**Pn**	**04 44 57.2**	**+2.1**
IGAR	**Garneh**	**3.39**	**356**	*e*Pn		**Pn**	**04 45 02.7**	**+4.2**
ICHK	**Chekchek**	**3.78**	**26**	*e*Pn		**Pn**	**04 45 06.1**	**+2.3**
ICHK				*e*Sn		**Sn**	**04 45 46.8**	**-1.3**
IZEF	**Zefreh**	**4.04**	**359**	*e*Pn		**Pn**	**04 45 08.4**	**+1.1**
IZEF				*e*Sn		**Sn**	**04 45 53.0**	**-1.4**
IPIR	**Pirpir**	**4.05**	**341**	*e*Pn		**Pn**	**04 45 09.5**	**+1.9**
IKLH	**Kalahroud**	**4.52**	**351**	*e*Pn		**Pn**	**04 45 15.4**	**+1.4**
MIB	**Mutribah**	**4.57**	**283**	*e*P		**Pn**	**04 45 14.4**	**-0.2**
MIB				*e*S		**Sn**	**04 46 07.2**	**-0.3**
MIB				AML	AML		04 46 14.8	
	comp=Z,14nm,0.5s							
NAY	**Al-Naaiem**	**4.58**	**276**	*e*P		**Pn**	**04 45 15.1**	**+0.3**
NAY				*e*S		**Sn**	**04 46 08.6**	**+0.7**
NAY				AML	AML		04 46 12.8	
	comp=Z,12nm,0.6s							
RST	**Umm Al-Ruwaisa**	**4.82**	**279**	*e*P		**Pn**	**04 45 17.7**	**-0.3**
RST				*e*S		**Sn**	**04 46 13.2**	**-0.5**
RST				AML	AML		04 46 14.0	
	comp=Z,15nm,0.6s							
BRTR	**Keskin Array B**	**18.92**	**310**	P		**Pn**	**04 48 25.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=114,slow=13,SNR=4.4							
FINES	**FINESS Array B**	**37.00**	**339**	P		**P**	**04 51 14.1**	**-1.0**
	comp=Z,1.3nm,0.9s,mb3.8,baz=140,slow=9.2,SNR=4.8							
ARCES	**ARCESS Array B**	**43.58**	**347**	LR		LR	05 11 39.9	
	comp=Z,23nm,18.1s,MS3.1,baz=137,slow=38							
TORD	**Torodi Ar. Bea**	**49.53**	**263**	P		**P**	**04 52 55.3**	**-0.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=57,slow=7.5,SNR=4.3							

*ISCJB **24** 05:31:27.4±0.4, 5907S±007×237W±02, h10km, mb4.1/14, MS3.7/5, Error ellipse: s-maj=13.1km s-min=8.2km az=118.1*

*IDC **24** 05:31:27.9±0.7, 5900S×2378W, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML4.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/25, Error ellipse: s-maj=21.3km s-min=16.9km az=33.0*

*NEIC **24** 05:31:29.8±0.3, 5890S×2381W, h10km, mb4.3/8, Error ellipse: s-maj=10.5km s-min=9.3km az=46.0*

*BJI **24** 05:31:29.7, 5890S×2380W, h10km*

ISC 24 05:31:29.1±0.4, 5908S±007×238W±02, h10km, n37, σ1§05/27, mb4.1/14, MS3.7/5, 3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VNA1	**Neumayer--Stat**	**13.28**	**157**	⇓*i*		**Pn**	**05 34 37.2**	**-0.5**
VNA1				*e*			05 34 38.3	
VNA1				*e*			05 34 40.9	
VNA3	**Neumayer Olymp**	**13.51**	**160**	⇓*i*		**Pn**	**05 34 39.8**	**-1.0**
VNA3				*e*			05 34 41.0	
VNA3				*e*			05 34 42.7	
VNA3				*e*			05 34 48.3	
VNA3				*e*			05 34 57.7	
SNAA	**Sanae**	**15.21**	**154**	Pn		**Pn**	**05 35 02.6**	**-1.3**
	2.9nm,0.3s,baz=335,slow=13,SNR=614							
SNAA				LR		LR	05 39 56.8	
	comp=Z,35nm,18.5s,baz=72,slow=33							
SNAA	**Sanae**	**15.21**	**154**	⇓*i*		**Pn**	**05 35 02.3**	**-1.6**
SNAA				*e*			05 35 04.4	
SNAA				*e*			05 35 06.1	
SNAA				*e*			05 35 10.7	
SNAA				*e*			05 35 15.2	
SNAA				*e*			05 35 17.8	
SNAA	**Sanae**	**15.21**	**154**	*e*Pn		**Pn**	**05 35 02.4**	**-1.5**
	45nm,0.6s							
MAIT	**Maitri**	**18.69**	**143**	*e*P		**Pn**	**05 35 47.3**	**-0.5**
PMSA	**Palmer Station**	**19.52**	**236**	P		**Pn**	**05 35 57.6**	**-0.2**
	0.2nm,0.3s,baz=33,slow=11,SNR=2.6							
QSPA	**South Pole Qui**	**31.16**	**180**	*e*P		**P**	**05 37 50.5**	**+2.4**
	9.1nm,1.2s,mb4.5							
PLCA	**Paso Flores**	**34.38**	**281**	P		**P**	**05 38 15.5**	**-0.8**
	5.9nm,0.8s,mb4.6,baz=152,slow=8.0,SNR=16							
PLCA				LR		LR	05 51 19.6	
	comp=Z,46nm,19.1s,MS3.2,baz=183,slow=35							
PLCA	**Paso Flores**	**34.38**	**281**	*e*P		**P**	**05 38 15.4**	**-0.9**
	13nm,1.5s,mb4.7							
MAW	**Mawson**	**36.62**	**140**	P		**P**	**05 38 35.2**	**-0.4**
	6.1nm,1.3s,mb4.3,baz=253,slow=11,SNR=3.6							
MAW				LR		LR	05 51 19.3	
	comp=Z,78nm,19.5s,MS3.5,baz=76,slow=32							
MAW	**Mawson**	**36.62**	**140**	*e*P		**P**	**05 38 37.3**	**+1.8**
	4.2nm,0.9s,mb4.3							
SUR	**Sutherland**	**39.86**	**68**	LR		LR	05 50 28.0	
	comp=Z,645nm,20.5s,MS4.5,baz=335,slow=29							
CPUP	**Villa Florida**	**40.19**	**310**	P		**P**	**05 39 04.0**	**-1.5**
	1.2nm,0.8s,mb3.7,baz=145,slow=12,SNR=2.9							
CPUP				LR		LR	05 52 50.1	
	comp=Z,61nm,19.6s,MS3.5,baz=123,slow=32							
CFAA	**Coronel Fontan**	**40.45**	**293**	P		**P**	**05 39 06.5**	**-1.3**
	0.5nm,0.5s,mb3.2,baz=143,slow=5.3,SNR=8.5							
CFAA	**Coronel Fontan**	**40.45**	**293**	P		**P**	**05 39 06.5**	**-1.3**
VNDA	**Vanda**	**43.61**	**182**	P		**P**	**05 39 34.8**	**+1.2**
	1.9nm,1.0s,mb3.8,baz=182,slow=6.2,SNR=8.7							
VNDA	**Vanda**	**43.61**	**182**	*e*P		**P**	**05 39 35.3**	**+1.8**
	3.2nm,1.1s,mb4.0							
BOSA	**Boshof**	**45.11**	**70**	P		**P**	**05 39 45.0**	**-0.6**
	1.9nm,0.7s,mb4.0,baz=186,slow=8.9,SNR=5.0							
BDFB	**Brasilia**	**46.92**	**327**	P		**P**	**05 40 00.8**	**+1.0**
	2.6nm,0.7s,mb4.3,baz=159,slow=13,SNR=5.1							
BDFB				LR		LR	05 58 31.7	
	comp=Z,70nm,18.7s,MS3.6,baz=216,slow=35							
CASY	**Casey**	**50.41**	**158**	*e*P		**P**	**05 40 28.2**	**+1.6**
	4.9nm,1.0s,mb4.5							
SIV	**San Ignacio**	**50.99**	**311**	P		**P**	**05 40 31.2**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=155,slow=19							
LPAZ	**La Paz**	**53.62**	**303**	P		**P**	**05 40 51.7**	**+1.1**
	0.6nm,0.6s,mb3.7,baz=136,slow=1.6,SNR=5.1							
LPAZ	**La Paz**	**53.62**	**303**	*e*P		**P**	**05 40 51.5**	**+0.9**
	1.2nm,0.8s,mb3.9							
LSZ	**Lusaka**	**57.90**	**64**	*e*P		**P**	**05 41 20.9**	**-0.4**
	1.4nm,0.7s,mb4.1							
DBIC	**Dimbokro**	**67.27**	**20**	P		**P**	**05 42 23.5**	**-0.3**
	4.2nm,0.8s,mb4.5,baz=158,slow=6.2,SNR=4.3							
TOA0	**Torodi Ar. Sit**	**74.89**	**26**	*e*P		**P**	**05 43 10.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**74.89**	**26**	P		**P**	**05 43 10.6**	**+0.5**
	10nm,0.7s,mb4.9,baz=201,slow=6.4,SNR=145							
FINES	**FINESS Array B**	**126.23**	**27**	PKP		PKPdf	05 50 28.8	-3.1
	1.8nm,0.9s,baz=165,slow=7.9,SNR=4.6							
FINES	**FINESS Array B**	**126.23**	**27**	PKP		PKPdf	05 50 28.8	-3.1
BVAR	**Borovoye Array**	**134.83**	**58**	PKP		PKPdf	05 50 47.7	-0.5
	0.8nm,0.7s,baz=222,slow=1.7,SNR=5.1							
WMQ	**Urumqi**	**136.68**	**79**	*e*PKP		PKPdf	05 50 49.0	-2.6
HHC	**Hu-ho-hao-te**	**146.77**	**103**	*e*PKP		PKPdf	05 51 10.1	+0.5
SONM	**Songino Array**	**149.00**	**89**	PKPbc		PKPbc	05 51 16.7	-0.7
	3.5nm,0.8s,baz=267,slow=1.6,SNR=10.0							
INK	**Inuvik**	**149.30**	**317**	*e*PKPbc		PKPbc	05 51 16.0	-2.1
DAWY	**Dawson**	**150.15**	**307**	*e*PKPbc		PKPbc	05 51 18.8	-1.4
COLA	**College**	**153.89**	**307**	*e*PKPab		PKPab	05 51 41.1	-0.7

*ISCJB **24** 05:43:51.3±1.0, 2357S±007×667W±02, h194km±20km, mb3.1/2, Error ellipse: s-maj=27.3km s-min=11.6km az=15.7*

*IDC **24** 05:43:52.4±1.3, 2350S×6671W, h191km±23km, mb2.9/2, mb1 3.2/7, mb1mx3.1/18, mbtmp3.6/7, Error ellipse: s-maj=29.9km s-min=15.4km az=110.0*

*NEIC **24** 05:43:52.2±0.9, 2357S×6661W, h185km±18km, mb3.9/1, Error ellipse: s-maj=24.9km s-min=11.0km az=105.0*

ISC 24 05:43:52.4±1.0, 2356S±008×667W±02, h186km±20km, n8, σ0§71/11, mb3.2/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**2.29**	**294**	P		**Pn**	**05 44 33.9**	**+0.9**
	20nm,0.3s,baz=117,slow=10,SNR=60							
LVC				S		**Sn**	**05 45 04.4**	**-0.2**
	26nm,0.3s,baz=65,slow=17,SNR=11							
LPAZ	**La Paz**	**7.37**	**349**	P		**Pn**	**05 45 38.4**	**+1.0**
	0.6nm,0.3s,baz=157,slow=10,SNR=19							
LPAZ				S		**Sn**	**05 46 59.6**	**-0.8**
	0.1nm,0.3s,baz=322,slow=22,SNR=3.6							
CFAA	**Coronel Fontan**	**8.14**	**190**	P		**Pn**	**05 45 46.5**	**-0.9**
	0.1nm,0.3s,baz=24,slow=12,SNR=16							
CFAA				S		**Sn**	**05 47 12.3**	**-6.4**
	0.4nm,0.3s,baz=238,slow=15,SNR=19							
SIV	**San Ignacio**	**9.18**	**36**	P		**Pn**	**05 46 00.6**	**-0.5**
	1.2nm,0.3s,baz=221,slow=12,SNR=36							
SAML	**Samuel**	**14.90**	**13**	*e*P		**Pn**	**05 47 13.7**	**-0.3**
	3.1nm,0.5s							
BDFB	**Brasilia**	**19.23**	**69**	P		**P**	**05 48 03.4**	**+1.0**
	0.5nm,0.3s,baz=255,slow=11,SNR=12							
SNAA	**Sanae**	**59.66**	**161**	P		**P**	**05 53 37.4**	**+0.3**
	0.2nm,0.7s,mb3.0,baz=270,slow=11,SNR=4.0							
TORD	**Torodi Ar. Bea**	**76.11**	**69**	P		**P**	**05 55 19.1**	**-0.6**
	0.3nm,0.3s,mb3.4,baz=235,slow=5.1,SNR=12							

*KISR **24** 05:45:21.8±0.7, 2906N×5249E, h34km, ML3.2*

*THR **24** 05:45:21.6±0.3, 2870N×5214E, h23km±5km, ML3.5*

*IDC **24** 05:45:21.3±4.0, 2880N×5221E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=89.0km s-min=27.2km az=120.0*

*ISCJB **24** 05:45:22.4±0.9, 2884N±005×5236E±004, h10km±6km, mb3.7/5, Error ellipse: s-maj=8.3km s-min=5.3km az=142.2*

*CSEM **24** 05:45:23.0±0.2, 2873N×5227E, h26km±1km, ML3.5, Error ellipse: s-maj=3.8km s-min=2.3km az=56.0*

*TEH **24** 05:45:24.2, 2876N×5231E, h10km, Mn3.5*

*NEIC **24** 05:45:24.2, 2876N×5231E, h10km, ML3.5(THR), MN3.5(TEH), After TEH.*

ISC 24 05:45:23.2±1.0, 2883N±005×5238E±004, h4km±7km, n39, σ1§17/47, mb3.7/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IMOK	**Mook**	**0.36**	**54**	Pg		**Pg**	**05 45 28.7**	**-1.5**
GHIR	**Ghir-Karzin**	**0.76**	**135**	*e*PG		**Pg**	**05 45 37.7**	**-0.2**
GHIR				AML	AML		05 45 59.8	
	comp=E,2μm,0.4s							
GHIR				AML	AML		05 46 05.0	
	comp=N,1μm,0.5s							
GHIR	**Ghir-Karzin**	**0.76**	**135**	Pg		**Pg**	**05 45 36.0**	**-1.9**
IKAZ	**Kazeroon**	**1.05**	**334**	Pg		**Pg**	**05 45 44.0**	**+0.5**
IKAZ	**Kazeroon**	**1.05**	**334**	*e*Pg		**Pg**	**05 45 44.1**	**+0.6**
IMEH	**Mehriz**	**3.20**	**37**	*e*Pn		**Pn**	**05 46 15.9**	**+1.6**
IGAR	**Garneh**	**3.41**	**357**	*e*Pn		**Pn**	**05 46 19.9**	**+2.8**
BNDS	**Bandar-Abbas**	**3.64**	**112**	*e*Pn		**Pn**	**05 46 21.0**	**+0.7**
BNDS				AML	AML		05 47 46.1	
	comp=N,57nm,0.6s							
ICHK	**Chekchek**	**3.83**	**27**	Pn		**Pn**	**05 46 23.9**	**+1.0**
ICHK	**Chekchek**	**3.83**	**27**	*e*Pn		**Pn**	**05 46 24.0**	**+1.1**
IBAF	**Bafgh**	**3.90**	**44**	Pn		**Pn**	**05 46 24.9**	**+1.1**
IBAF				Sn		**Sn**	**05 47 09.3**	**-0.7**
IBAF	**Bafgh**	**3.90**	**44**	*e*Pn		**Pn**	**05 46 25.0**	**+1.2**
IBAF				*e*Sn		**Sn**	**05 47 09.4**	**-0.6**
NASN	**Na'in**	**3.97**	**5**	*e*PN		**Pn**	**05 46 25.9**	**+1.1**
NASN	**Na'in**	**3.97**	**5**	Pn		**Pn**	**05 46 25.0**	**+0.1**
KRBR	**Kerman**	**3.99**	**72**	*e*PN		**Pn**	**05 46 27.2**	**+2.0**
KRBR				AML	AML		05 47 39.8	
	comp=N,60nm,0.6s							
KRBR	**Kerman**	**3.99**	**72**	Pn		**Pn**	**05 46 27.0**	**+1.9**
IPIR	**Pirpir**	**4.05**	**342**	Pn		**Pn**	**05 46 25.4**	**-0.5**
IPIR				Sn		**Sn**	**05 47 12.4**	**-1.3**
IPIR	**Pirpir**	**4.05**	**342**	*e*Pn		**Pn**	**05 46 25.5**	**-0.4**
IPIR				*e*Sn		**Sn**	**05 47 12.5**	**-1.2**
IZEF	**Zefreh**	**4.05**	**359**	*e*Pn		**Pn**	**05 46 26.7**	**+0.7**
IZEF				*e*Sn		**Sn**	**05 47 13.2**	**-0.6**
UMR	**Umm Al-Rimmam**	**4.14**	**281**	*e*P		**Pn**	**05 46 27.6**	**+0.4**
UMR				*e*S		**Sn**	**05 47 16.4**	**+0.4**
UMR				AML	AML		05 47 19.4	
	comp=Z,28nm,0.4s							
RDF	**Al-Radifah**	**4.24**	**272**	*e*P		**Pn**	**05 46 29.1**	**+0.5**
RDF				*e*S		**Sn**	**05 47 19.4**	**+1.1**
RDF				AML	AML		05 47 22.1	
	comp=Z,29nm,0.4s							
MIB	**Mutribah**	**4.51**	**284**	*e*P		**Pn**	**05 46 32.2**	**0.0**
MIB				*e*S		**Sn**	**05 47 24.9**	**-0.1**
MIB				AML	AML		05 47 28.4	
	comp=Z,26nm,0.7s							
NAY	**Al-Naaiem**	**4.52**	**277**	*e*P		**Pn**	**05 46 32.7**	**+0.3**
NAY				*e*S		**Sn**	**05 47 26.6**	**+1.3**
NAY				AML	AML		05 47 30.9	
	comp=Z,21nm,0.5s							
IKLH	**Kalahroud**	**4.53**	**351**	*e*Pn		**Pn**	**05 46 33.1**	**+0.6**
ASAO	**Ashtian**	**6.04**	**341**	*e*PN		**Pn**	**05 46 52.9**	**-0.4**
ASAO	**Ashtian**	**6.04**	**341**	Pn		**Pn**	**05 46 52.0**	**-1.3**
SNGE	**Sanandaj**	**7.56**	**327**	*e*PN		**Pn**	**05 47 13.2**	**-1.0**
SNGE	**Sanandaj**	**7.56**	**327**	Pn		**Pn**

comp=Z,187nm,21.6s,baz=82,slow=39
MATP Matopo 12.86 256 Pn **Pn** 06 02 39.1 -4.9
MATP Sn **Sn** 06 04 51.2 -16
MATP LR LR 06 07 57.7
LSZ Lusaka 13.29 279 Pn **Pn** 06 02 45.2 -4.6
0.8nm,0.3s,baz=117,slow=14,SNR=8.4
LSZ Sn **Sn** 06 05 08.6 -9.0
0.6nm,0.3s,baz=58,slow=15,SNR=2.6
LSZ LR LR 06 07 13.4
comp=Z,140nm,19.5s,baz=88,slow=34
LSZ Lusaka 13.29 279 *e*Pn **Pn** 06 02 48.4 -1.4
6.1nm,0.7s
LSZ Sn **Sn** 06 05 08.6 -9.0
LSZ LR LR 06 07 13.4
LBTB Lobatse 16.74 242 Pn **Pn** 06 03 34.9 -0.8
0.4nm,0.3s,baz=56,slow=15,SNR=6.1
LBTB Sn **Sn** 06 06 26.1 -15
0.2nm,0.3s,baz=44,slow=16,SNR=2.5
LBTB LR LR 06 09 46.9
comp=Z,176nm,21.2s,baz=90,slow=36
LBTB Lobatse 16.74 242 *e*Pn **Pn** 06 03 34.1 -1.5
KMBO Kilima Mbogo 17.10 344 P **Pn** 06 03 40.1 -0.1
0.1nm,0.3s,baz=204,slow=23,SNR=2.4
KMBO S **Sn** 06 06 50.2 -0.1
0.1nm,0.3s,baz=77,slow=23,SNR=2.0
BOSA Boshof 18.65 232 P **Pn** 06 03 58.4 -1.0
0.5nm,0.3s,baz=59,slow=10,SNR=9.0
BOSA LR LR 06 11 00.5
comp=Z,136nm,21.8s,baz=77,slow=36
BOSA Boshof 18.65 232 *e*P **Pn** 06 04 00.8 +1.3
7.8nm,0.9s
TSUM Tsumeb 23.02 263 P **P** 06 04 46.7 +0.4
5.6nm,0.9s,mb4.0,baz=64,slow=11,SNR=6.6
TSUM LR LR 06 13 29.7
comp=Z,120nm,20.8s,MS3.3,baz=132,slow=36
TSUM Tsumeb 23.02 263 *e*P **P** 06 04 47.0 +0.8
12nm,1.1s,mb4.2
SUR Sutherland 23.90 228 P **P** 06 04 55.5 +0.5
20nm,0.8s,mb4.6,baz=60,slow=9.1,SNR=15
SUR LR LR 06 15 20.5
comp=Z,166nm,21.8s,MS3.5,baz=35,slow=39
SUR Sutherland 23.90 228 *e*P **P** 06 04 55.9 +0.8
19nm,0.8s,mb4.6
TORD Torodi Ar. Bea 50.09 305 P **P** 06 08 36.9 +0.7
0.7nm,0.5s,mb4.0,baz=128,slow=7.1,SNR=19
TORD PcP PcP 06 09 56.8 +1.0
0.5nm,0.6s,baz=118,slow=4.4,SNR=4.6
TORD LR LR 06 30 05.9
comp=Z,66nm,18.5s,MS3.7,baz=115,slow=36
TORD Torodi Ar. Bea 50.09 305 P **P** 06 08 36.9 +0.7
TORD PcP PcP 06 09 56.8 +1.0
TORD LR LR 06 30 05.9
MAW Mawson 51.65 170 P **P** 06 08 49.0 +1.0
2.2nm,0.7s,mb4.2,baz=334,slow=6.2,SNR=5.0
DBIC Dimbokro 52.06 294 P **P** 06 08 51.6 +0.5
2.0nm,0.6s,mb4.2,baz=146,slow=12,SNR=5.9
DBIC LR LR 06 29 02.3
comp=Z,77nm,19.1s,MS3.8,baz=100,slow=34
DBIC Dimbokro 52.06 294 *e*P **P** 06 08 52.1 +1.0
6.7nm,0.9s,mb4.6
BR131 Keskin Array S 57.66 353 *e*P **P** 06 09 32.2 +0.6
1.0nm,0.5s,mb4.1
BRTR Keskin Array B 57.66 353 P **P** 06 09 32.5 +0.9
1.3nm,0.5s,mb4.2,baz=165,slow=9.4,SNR=12
SNAA Sanae 59.89 195 P **P** 06 09 47.3 +0.2
0.5nm,1.0s,mb3.5,baz=39,slow=13,SNR=6.0
CASY Casey 65.37 155 *e*P **P** 06 10 21.6 -2.1
2.4nm,0.9s,mb4.2
KOLS Kolonicke sedl 68.61 346 *e*pP pP 06 10 47.1 -0.5
AKASG Malin Array Be 69.03 351 P **P** 06 10 45.4 -1.6
0.1nm,0.2s,mb3.3,baz=175,slow=5.2,SNR=4.6
VYHS Vyhne 69.04 344 *e*P **P** 06 10 47.4 +0.4
GERES GERESS Array B 70.84 341 P **P** 06 10 58.1 0.0
1.1nm,0.5s,mb4.0,baz=145,slow=4.7,SNR=14
MKAR Makanchi Array 73.85 28 P **P** 06 11 16.0 0.0
1.3nm,0.6s,mb4.0,baz=218,slow=6.6,SNR=14
MKAR Makanchi Array 73.85 28 P **P** 06 11 16.0 0.0
BVAR Borovoye Array 74.67 17 P **P** 06 11 21.1 +0.2
1.2nm,0.5s,mb4.1,baz=197,slow=4.5,SNR=8.0
ZAL Zalesovo 80.33 24 P **P** 06 11 52.0 -0.4
1.4nm,0.3s,mb4.3,baz=224,slow=5.6,SNR=5.7
ASAR Alice Springs 84.90 113 P **P** 06 12 17.5 +1.2
2.5nm,0.7s,mb4.4,baz=258,slow=4.5,SNR=18
WRA Warramunga Arr 86.39 110 P **P** 06 12 23.5 -0.2
0.5nm,0.7s,mb3.9,baz=257,slow=3.3,SNR=7.8
NEW Newport 145.03 335 *e*PKPbc PKPbc 06 19 17.7 -0.3
SDCO Great Sand Dun 145.12 312 *e*PKPbc PKPbc 06 19 19.6 +1.3
DLMT Dillon 145.15 328 *e*PKPbc PKPbc 06 19 19.6 +1.2
PDAR Pinedale Array 145.16 322 PKPbc PKPbc 06 19 18.6 +0.1
2.3nm,0.9s,baz=72,slow=5.3,SNR=17
BW06 Boulder Array 145.17 322 *e*PKPbc PKPbc 06 19 18.3 -0.2
IMW Indian Meadow 145.25 324 *e*PKPbc PKPbc 06 19 19.9 +1.2
MCMT McKenzie Canyo 145.65 327 *e*PKPbc PKPbc 06 19 21.1 +1.0
RRI2 Red Ridge 145.82 324 *e*PKPbc PKPbc 06 19 21.5 +0.9
ANMO Albuquerque 146.98 308 *e*PKPbc PKPbc 06 19 24.9 +0.9
HWUT Hardware Ranch 147.06 322 *e*PKPbc PKPbc 06 19 24.8 +0.6
PV01 Paradox Valley 147.09 314 *e*PKPbc PKPbc 06 19 25.2 +1.0
MNTX Cornudas Mount 147.25 301 *e*PKPbc PKPbc 06 19 25.2 +0.4
TCUT Toone Canyon 147.26 321 *e*PKPbc PKPbc 06 19 25.7 +1.0
PV10 Paradox Valley 147.28 315 *e*PKPbc PKPbc 06 19 26.2 +1.4
HLID Hailey 147.34 327 *e*PKPbc PKPbc 06 19 26.8 +1.8
BMO Blue Mountains 147.79 332 *e*PKPbc PKPbc 06 19 26.4 +0.1
SRU San Rafael 147.88 317 *e*PKPbc PKPbc 06 19 26.6 +0.1
DUG Dugway 148.67 321 *e*PKPdf PKPdf 06 19 24.7 -0.1
DUG *e*PKPbc PKPbc 06 19 28.9 +0.4
MSU Marysvale 149.28 318 *e*PKPbc PKPbc 06 19 31.4 +1.3
WVOR Wild Horse Val 150.27 330 *e*PKPbc PKPbc 06 19 33.3 +0.8
TUC Tucson 151.34 306 *e*PKPbc PKPbc 06 19 36.3 +1.3

*THR **24** 06:43:18.6±0.3,2870N×5214E,h14km±12km,ML3.5*
*CSEM **24** 06:43:18.9±0.2,2870N×5219E,h10km,ML3.5,Error ellipse: s-maj=5.0km s-min=2.4km az=37.0*
*IDC **24** 06:43:20.0±5.7,2883N×5224E,h0km,mb3.8/4,mb1 3.8/5, mb1mx3.4/22,mbtmp3.7/5,ML3.3/1,Error ellipse: s-maj=117.6km s-min=41.8km az=119.0*
*ISCJB **24** 06:43:20.1±0.7,2875N±006×5225E±004,h10km,mb3.7/4, Error ellipse: s-maj=8.5km s-min=5.3km az=168.7*
*NEIC **24** 06:43:24.7,2879N×5242E,h18km,ML3.5(THR), MN3.3(TEH),After TEH.*
*KISR **24** 06:43:24.0±1.0,2821N×5195E,h34km,ML3.1*
ISC 24 06:43:23.2±1.4,2871N±007×5234E±005,h28km±15km, n24,σ1§16/29,mb3.7/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.71**	**127**	*e*PG	**Pb**	**06 43 35.2**	**-1.8**
GHIR	comp=E,2μm,0.6s			AML	AML	06 43 56.5	
GHIR	comp=N,1μm,0.6s			AML	AML	06 44 09.9	
GHIR	**Ghir-Karzin**	**0.71**	**127**	Pg	**Pb**	**06 43 35.0**	**-2.0**
IMEH	**Mehriz**	**3.32**	**36**	Pn	**Pn**	**06 44 14.4**	**+1.2**
ICHK	**Chekchek**	**3.95**	**26**	Pn	**Pn**	**06 44 22.7**	**+0.8**
IBAF	**Bafgh**	**4.00**	**43**	Pn	**Pn**	**06 44 23.1**	**+0.5**
IBAF				Sn	**Sn**	**06 45 06.7**	**-1.9**
KRBR	**Kerman**	**4.06**	**71**	*e*PN	**Pn**	**06 44 25.5**	**+2.1**
KRBR	comp=N,63nm,0.9s			AML	AML	06 45 40.7	
KRBR	**Kerman**	**4.06**	**71**	Pn	**Pn**	**06 44 25.0**	**+1.6**
NASN	**Na'in**	**4.09**	**5**	*e*PN	**Pn**	**06 44 24.1**	**+0.2**
NASN	**Na'in** SNR=47	**4.09**	**5**	*e*Pn	**Pn**	**06 44 24.0**	**+0.1**
IPIR	**Pirpir**	**4.15**	**343**	Pn	**Pn**	**06 44 25.7**	**+1.0**
IPIR				Sn	**Sn**	**06 45 11.7**	**-0.6**
IZEF	**Zefreh**	**4.17**	**360**	Pn	**Pn**	**06 44 25.9**	**+0.9**
RDF	**Al-Radifah**	**4.21**	**274**	*e*P	**Pn**	**06 44 25.9**	**+0.4**
RDF				*e*S	**Sn**	**06 45 11.5**	**-2.3**
RDF	comp=Z,23nm,0.4s			AML	AML	06 45 19.1	
NAY	**Al-Naaiem**	**4.50**	**278**	*e*P	**Pn**	**06 44 30.8**	**+1.3**
NAY				*e*S	**Sn**	**06 45 20.6**	**-0.3**
NAY	comp=Z,22nm,0.7s			AML	AML	06 45 29.3	
MIB	**Mutribah**	**4.51**	**285**	*e*P	**Pn**	**06 44 31.0**	**+1.4**
MIB				*e*S	**Sn**	**06 45 22.1**	**+1.1**
MIB	comp=Z,22nm,0.6s			AML	AML	06 45 24.4	
IKLH	**Kalahroud**	**4.64**	**352**	Pn	**Pn**	**06 44 31.9**	**+0.5**
ASAO	**Ashtian**	**6.15**	**342**	*e*PN	**Pn**	**06 44 51.1**	**-0.9**
ASAO	**Ashtian**	**6.15**	**342**	Pn	**Pn**	**06 44 51.0**	**-1.1**
SNGE	**Sanandaj**	**7.65**	**328**	*e*PN	**Pn**	**06 45 11.6**	**-1.2**
SNGE	**Sanandaj**	**7.65**	**328**	Pn	**Pn**	**06 45 11.0**	**-1.7**
BRTR	**Keskin Array B**	**18.93**	**310**	P	**Pn**	**06 47 41.3**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=120,slow=8.5,SNR=3.4						
FINES	**FINESS Array B**	**37.10**	**339**	P	**P**	**06 50 30.3**	**-0.7**
	comp=Z,1.1nm,0.7s,mb3.8,baz=141,slow=9.0,SNR=7.5						
HFS	**Hagfors**	**40.79**	**331**	P	**P**	**06 51 00.4**	**-1.6**
	comp=Z,0.9nm,0.6s,mb3.6,baz=111,slow=16,SNR=2.9						
ARCES	**ARCESS Array B**	**43.69**	**347**	P	**P**	**06 51 26.1**	**+0.5**
	comp=Z,1.9nm,0.9s,mb3.8,baz=131,slow=9.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**49.41**	**263**	P	**P**	**06 52 11.2**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.8,baz=53,slow=8.6,SNR=5.7						

IDC 24 06:54:41.9±0.8,1026S×10840E,h0km,mb4.3/7, mb1 4.4/7,mb1mx4.1/17,mbtmp4.3/7,MS3.5/3,Ms1 3.5/3, ms1mx2.9/28,Error ellipse: s-maj=47.5km s-min=17.2km az=51.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**23.98**	**161**	LR	LR	07 08 34.3	
	comp=Z,90nm,19.7s,baz=273,slow=35						
WRA	**Warramunga Arr**	**26.79**	**114**	P	P	07 00 23.5	0.0
	3.3nm,0.6s,baz=286,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.73**	**122**	P	P	07 00 32.4	+0.4
	1.9nm,0.7s,baz=298,slow=9.6,SNR=24						
ASAR				PcP	PcP	07 03 49.3	+0.5
	0.9nm,0.7s,baz=314,slow=2.0,SNR=4.6						
ASAR				LR	LR	07 10 46.3	
	comp=Z,84nm,20.9s,baz=68,slow=35						
STKA	**Stephens Creek**	**37.46**	**130**	P	P	07 01 57.1	+0.2
	6.8nm,0.8s,baz=302,slow=11,SNR=4.0						
STKA				LR	LR	07 17 09.2	
	comp=Z,97nm,18.7s,baz=207,slow=36						
SONM	**Songino Array**	**57.87**	**358**	P	P	07 04 36.0	+0.6
	1.5nm,0.5s,baz=179,slow=8.3,SNR=8.2						
MKAR	**Makanchi Array**	**61.41**	**340**	P	P	07 04 59.8	0.0
	2.4nm,0.7s,baz=146,slow=6.2,SNR=25						
BVAR	**Borovoye Array**	**70.89**	**337**	P	P	07 06 00.6	-0.1
	3.1nm,0.7s,baz=141,slow=9.6,SNR=16						
BRTR	**Keskin Array B**	**85.02**	**312**	P	P	07 07 19.1	-0.2
	1.4nm,0.8s,baz=140,slow=7.8,SNR=6.5						
LPAZ	**La Paz**	**153.40**	**187**	PKPbc	PKPbc	07 14 44.7	+2.7
	0.3nm,0.5s,baz=180,slow=7.1,SNR=2.8						
LPAZ				PKPab	PKPab	07 14 55.3	+1.1
	0.6nm,0.6s,baz=153,slow=6.8,SNR=4.9						

ISC 24 07:22:42.1±0.7,4517N±003×1482E±007,h10km,n8, σ0§54/13,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.46**	**42**	*i* Pg	**Pg**	**07 22 50.9**	**-0.1**
BOJS				*i* Sg	**Sg**	**07 22 57.6**	**+0.5**
BOJS	comp=Z,32nm,0.1s						
KNDS	**Knezji Dol**	**0.47**	**320**	*i* Pg	**Pg**	**07 22 50.7**	**-0.6**
KNDS				*i* Sg	**Sg**	**07 22 57.6**	**0.0**
KNDS	comp=Z,9.0nm,0.1s						
NVLJ	**Novalja**	**0.60**	**176**	*i* Pg	**Pg**	**07 22 53.2**	**-0.7**
NVLJ				*i* Sg	**Sg**	**07 23 02.6**	**+0.9**
CEY	**Cerknica**	**0.64**	**335**	*i* Pg	**Pg**	**07 22 53.5**	**-0.9**
CEY				*i* Sg	**Sg**	**07 23 03.3**	**+0.6**
CEY	comp=Z,10.0nm,0.1s						
VISS	**Visnje**	**0.64**	**2**	*i* Pg	**Pg**	**07 22 53.9**	**-0.5**
VISS				*i* Sg	**Sg**	**07 23 02.9**	**+0.1**
VISS	comp=Z,2.0nm,0.1s						
JAVS	**Javornik**	**0.90**	**324**	*i* Sg	**Sg**	**07 23 11.4**	**+0.3**
PDKS	**Podkum**	**0.90**	**8**	*i* Pg	**Pg**	**07 22 59.4**	**-0.1**
PDKS	comp=Z,3.0nm,0.1s						
VOJS	**Vojsko**	**1.08**	**323**	*i* Sg	**Sg**	**07 23 17.6**	**+0.5**

*NIED **24** 07:32:00,4370N×14750E,h11km,Mw3.7 Best double couple: M0=4.14000×10^14 NP1:φs=47.00000°,δ=79.00000°, λ=90.00000°. NP2:φs=229.00000°,δ=11.00000°,λ=92.00000°.*
*MOS **24** 07:32:53.1±1.0,4380N×148.10E,h39km,mb4.3/4,Error ellipse: s-maj=25.6km s-min=15.4km az=126.8*
*ISCJB **24** 07:32:54.7±0.8,4388N±007×14784E±009,h33km, mb3.8/7,Error ellipse: s-maj=12.5km s-min=5.4km az=102.0*
*IDC **24** 07:32:55.1±2.9,4469N×14778E,h0km,mb3.8/7, mb1 3.9/8,mb1mx3.7/21,mbtmp3.8/8,ML3.5/1,Error ellipse: s-maj=80.2km s-min=22.0km az=167.0*
*JMA **24** 07:32:55.5±0.3,4365N×14753E,h6km,M4.0*
ISC 24 07:32:56.4±0.9,4393N±008×14780E±009,h35km,n28, σ1§20/34,mb3.8/7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.30**	**2**	*e*PN	**Pn**	**07 33 17.0**	**-1.1**
KUR				*i* S	**Sn**	**07 33 33.5**	**-0.8**
KUR	comp=Z,270nm,0.4s			pmax	pmax		
KUR	comp=N,650nm,0.5s			smax			
KUR	comp=E,530nm,0.5s			smax			
YUK	**Yuzh-Kuril'sk**	**1.40**	**275**	*e*PN	**Pn**	**07 33 18.8**	**-0.7**
YUK				*i* S	**Sn**	**07 33 35.8**	**-0.9**
YUK	comp=Z,780nm,0.4s			pmax	pmax		
YUK	comp=N,330nm,0.2s			pmax	pmax		
YUK	comp=E,250nm,0.5s			pmax	pmax		
YUK	comp=N,3μm,0.5s			smax			
YUK	comp=E,1μm,0.4s			smax			
YUK	comp=N,3μm,0.7s			smax			
YUK	comp=E,2μm,1.0s			smax			
NEM2	**Nemuro 2**	**1.60**	**250**	P	**Pn**	**07 33 20.4**	**-1.7**
NEM2				*e*S	**Sn**	**07 33 38.6**	**-2.9**
JRA	**Rausu**	**1.93**	**271**	P	**Pn**	**07 33 26.9**	**+0.1**
JNK	**Nakash**	**2.26**	**262**	P	**Pn**	**07 33 30.7**	**-0.5**
JAK	**Akkeshi**	**2.44**	**249**	P	**Pn**	**07 33 32.5**	**-1.3**
JTKR	**Abashiri--Toko**	**2.81**	**272**	P	**Pn**	**07 33 39.9**	**+1.1**
JAR	**Ashorobuto**	**2.99**	**259**	P	**Pn**	**07 33 41.7**	**+0.4**
JAR				*e*S	**Sn**	**07 34 15.6**	**-0.4**
JOB	**Onbets**	**3.06**	**252**	P	**Pn**	**07 33 42.0**	**-0.3**
JMP	**Maruseppu**	**3.21**	**273**	P	**Pn**	**07 33 45.7**	**+1.4**
JCH	**Churui**	**3.50**	**249**	P	**Pn**	**07 33 48.1**	**-0.1**
JCH				*e*S	**Sn**	**07 34 27.7**	**-0.7**
JKK2	**Kamakawa 2**	**3.65**	**271**	P	**Pn**	**07 33 52.5**	**+2.1**
ASAJ	**Asahikawa**	**3.76**	**275**	Pn	**Pn**	**07 33 54.5**	**+2.7**
	comp=E,2.9nm,0.3s,baz=89,slow=15,SNR=17						
ASAJ				Sn	**Sn**	**07 34 41.7**	**+6.9**
	comp=E,0.5nm,0.3s,baz=72,slow=20,SNR=1.9						
ASAJ	**Asahikawa**	**3.76**	**275**	PN	**Pn**	**07 33 54.5**	**+2.7**
ASAJ						07 34 41.7	
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=N,1.0nm,0.3s			smax			
JFR	**Furan**	**3.86**	**260**	P	**Pn**	**07 33 54.7**	**+1.4**
JNBK	**Urakawa-nobuka**	**4.05**	**248**	P	**Pn**	**07 33 56.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.66**	**312**	*e*PN	**Pn**	**07 34 07.0**	**+2.7**
SONM	**Songino Array**	**28.84**	**292**	P	**P**	**07 38 52.4**	**+1.1**
	comp=N,0.4nm,0.5s,mb3.4,baz=86,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**44.92**	**298**	P	**P**	**07 41 07.9**	**+0.2**
	comp=N,0.4nm,0.5s,mb3.5,baz=81,slow=7.7,SNR=4.5						
INK	**Inuvik**	**46.01**	**30**	P	**P**	**07 41 14.6**	**-1.7**
	comp=N,2.1nm,0.8s,mb4.1,baz=284,slow=4.9,SNR=9.9						
INK	**Inuvik**	**46.01**	**30**	P	**P**	**07 41 14.6**	**-1.7**
INK	comp=Z,2.0nm,0.8s			pmax	pmax		
FINES	**FINESS Array B**	**64.93**	**333**	P	**P**	**07 43 31.4**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.1,baz=64,slow=6.3,SNR=7.1						
FINES	**FINESS Array B**	**64.93**	**333**	P	**P**	**07 43 31.5**	**-0.8**
FINES	comp=Z,1.0nm,0.7s			pmax	pmax		
NVAR	**Mina Array Bea**	**67.09**	**58**	P	**P**	**07 43 48.0**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.5,baz=300,slow=8.6,SNR=4.1						
NOA	**NORSAR Array B**	**69.61**	**339**	P	**P**	**07 44 01.4**	**-0.6**
	comp=Z,0.5nm,0.3s,mb3.9,baz=31,slow=6.3,SNR=2.9						
NOA	**NORSAR Array B**	**69.61**	**339**	P	**P**	**07 44 01.4**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.71**	**324**	P	**P**	**07 44 14.8**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=39,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**71.71**	**324**	P	**P**	**07 44 14.8**	**0.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

*IDC **24** 08:00:55.5±3.7,722N×9262E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,Error ellipse: s-maj=142.7km s-min=24.7km az=63.0*
*ISCJB **24** 08:01:08.6±1.5,79N±003×948E±004,h33km,mb4.0/7,Error ellipse: s-maj=73.0km s-min=13.2km az=107.8*
ISC 24 08:01:11.3±1.6,80N±003×949E±004,h35km,n12,σ0§40/11, mb4.0/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**4.20**	**330**	*ex*	x	08 02 31.2	
PBA				*ex*	x	08 02 40.7	
PBA	comp=N,184nm,0.1s			*ex*	x	08 02 48.9	
PBA	comp=E,166nm,0.4s			*ex*	x	08 02 49.2	
JIRN	**Jiri**	**21.21**	**338**	*e*P	**P**	**08 05 54.2**	**+0.3**
PKI	**Pulchoki**	**21.43**	**336**	*e*P	**P**	**08 05 56.2**	**0.0**
	comp=E,34nm,0.9s,mb4.7						
GUN	**Gumba**	**21.56**	**338**	*e*P	**P**	**08 05 57.6**	**0.0**
DMN	**Daman**	**21.59**	**336**	*e*P	**P**	**08 05 57.8**	**-0.1**
	comp=E,18nm,0.7s,mb4.6						
KKN	**Kakani**	**21.68**	**336**	*e*P	**P**	**08 05 58.2**	**-0.7**
GKN	**Gorkha**	**22.13**	**335**	*e*P	**P**	**08 06 03.4**	**-0.3**
KOLN	**Koldanda**	**22.37**	**333**	*e*P	**P**	**08 06 06.9**	**+0.6**
	comp=E,14nm,0.5s,mb4.6						
MKAR	**Makanchi Array**	**40.14**	**347**	P	**P**	**08 08 35.1**	**-8.6**
	comp=E,0.9nm,0.5s,mb3.8,baz=170,slow=8.7,SNR=12						
SONM	**Songino Array**	**40.90**	**12**	P	**P**	**08 08 50.1**	**+0.1**
	comp=E,0.2nm,0.3s,mb3.2,baz=194,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**47.75**	**126**	P	**P**	**08 09 44.2**	**-0.5**
	comp=E,0.4nm,0.7s,mb3.6,baz=304,slow=8.8,SNR=7.1						
ASAR	**Alice Springs**	**49.45**	**131**	P	**P**	**08 09 58.3**	**+0.5**
	comp=E,0.2nm,0.9s,mb3.2,baz=303,slow=8.0,SNR=3.7						

IDC 24 08:45:08.2±3.9,2981S×17752W,h62km±29km,mb3.8/3, mb1 4.0/3,mb1mx3.6/11,mbtmp4.1/3,Error ellipse: s-maj=63.2km s-min=41.5km az=165.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**327**	P	Pn	08 45 22.7	+0.7
	363nm,0.3s,baz=143,slow=20,SNR=32						
RAO				S	Sn	08 45 33.9	+1.7
	702nm,0.3s,baz=211,slow=22,SNR=21						
STKA	**Stephens Creek**	**35.02**	**256**	P	P	08 51 55.1	+0.3
	2.4nm,0.9s,baz=97,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**43.56**	**266**	P	P	08 53 06.0	0.0
	0.6nm,0.3s,baz=106,slow=7.3,SNR=23						
WRA	**Warramunga Arr**	**44.50**	**271**	P	P	08 53 13.6	+0.1
	1.9nm,0.3s,baz=110,slow=8.1,SNR=114						
FINES	**FINESS Array B**	**144.73**	**341**	PKP	PKPdf	09 04 37.0	-0.9
	1.3nm,0.4s,baz=60,slow=3.4,SNR=25						

*ISCJB **24** 08:45:18.4±0.7,2260N±006×9428E±006,h107km±7km, mb4.4/20,Error ellipse: s-maj=12.9km s-min=5.6km az=82.1*
*BJI **24** 08:45:19.4,2278N×9473E,h103km,mb4.1*
*NEIC **24** 08:45:20.9±0.7,2273N×9466E,h119km±7km,mb4.4/6, Error ellipse: s-maj=17.6km s-min=4.8km az=57.0*
*IDC **24** 08:45:21.8±3.2,2271N×9467E,h127km±29km,mb3.8/13, mb1 3.9/13,mb1mx3.7/23,mbtmp4.2/13,Error ellipse: s-maj=38.0km s-min=11.4km az=57.0*
ISC 24 08:45:19.7±0.6,2261N±006×9430E±006,h99km±6km,n43, σ1§31/51,mb4.4/20,1C,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.19**	**351**	*e*PN	**Pn**	**08 45 56.0**	**+1.4**
IMP				*e*SG	**Sn**	**08 46 22.0**	**+0.6**
AGT	**Agartala**	**3.08**	**295**	*ex*	x	08 46 44.0	
CHTO	**Chiang Mai** 3.4nm,0.4s	**5.76**	**130**	*e*Pn	**Pn**	**08 46 41.4**	**-1.2**
CM31	**Chiang Mai Arr**	**6.00**	**133**	*e*Pn	**Pn**	**08 46 46.3**	**+0.4**
LSA	**Lhasa**	**7.61**	**339**	P	**Pn**	**08 47 08.8**	**+1.1**
LSA				S	**Sn**	**08 48 31.0**	**-1.3**
LSA	comp=N,70nm,0.9s			Smax			
LSA	comp=E,120nm,0.6s			Smax			
LSA	**Lhasa** comp=E,38nm,0.5s	**7.61**	**339**	*e*Pn	**Pn**	**08 47 08.9**	**+1.2**
LSA				*e*Sn	**Sn**	**08 48 32.7**	**+0.4**
BOK	**Bokaro**	**7.83**	**280**	*i* x	x	08 47 14.6	
JIRN	**Jiri**	**8.90**	**306**	*e*Pn	**Pn**	**08 47 26.6**	**+1.2**
JIRN	comp=E,241nm,0.4s			*e*Sn	**Sn**	**08 49 03.4**	**-0.5**
GUN	**Gumba**	**9.27**	**306**	*e*Pn	**Pn**	**08 47 31.3**	**+1.0**
GUN	comp=E,597nm,0.7s			*e*Sn	**Sn**	**08 49 11.4**	**-1.4**
PKI	**Pulchoki**	**9.45**	**303**	*e*Pn	**Pn**	**08 47 33.8**	**+1.0**
PKI				*e*Sn	**Sn**	**08 49 14.4**	**-2.8**
KKN	**Kakani**	**9.66**	**304**	*e*Pn	**Pn**	**08 47 36.2**	**+0.6**
KKN	comp=E,196nm,0.7s			*e*Sn	**Sn**	**08 49 20.2**	**-2.1**
DMN	**Daman**	**9.71**	**303**	*e*Pn	**Pn**	**08 47 37.1**	**+0.8**
DMN	comp=E,196nm,0.6s			*e*Sn	**Sn**	**08 49 21.8**	**-1.6**
GKN	**Gorkha**	**10.26**	**304**	*e*Pn	**Pn**	**08 47 43.0**	**-0.8**
GKN	comp=E,207nm,0.3s			*e*Sn	**Sn**	**08 49 34.5**	**-2.3**
KOLN	**Koldanda**	**10.97**	**300**	*e*Pn	**Pn**	**08 47 53.6**	**+0.2**
KOLN	comp=E,232nm,0.4s			*e*Sn	**Sn**	**08 49 49.9**	**-4.1**
PSI	**Prapat** comp=E,5.9nm,0.7s,baz=328,slow=15,SNR=4.3	**20.20**	**167**	P	**P**	**08 49 48.6**	**+2.2**
WMQ	**Urumqi**	**21.85**	**347**	*e*P	**P**	**08 50 04.5**	**+0.4**
AAK	**Ala-Archa** comp=E,3.8nm,0.8s,mb3.9	**25.90**	**325**	*e*P	**P**	**08 50 43.3**	**+1.0**
MKAR	**Makanchi Array** comp=E,2.0nm,0.4s,mb3.9,baz=148,slow=11,SNR=27	**26.01**	**341**	P	**P**	**08 50 43.7**	**+0.5**
MKAR				ScP	ScP	08 57 35.8	-3.7
	comp=E,0.4nm,0.6s,baz=157,slow=3.3,SNR=3.6						
MKAR	**Makanchi Array**	**26.01**	**341**	P	**P**	**08 50 43.7**	**+0.5**
MKAR				ScP	ScP	08 57 35.8	-3.6
BVAR	**Borovoye Array** comp=E,1.3nm,0.5s,mb4.0,baz=125,slow=9.4,SNR=6.4	**35.42**	**335**	P	**P**	**08 52 05.1**	**-0.9**
BVAR				PcP	PcP	08 54 32.2	-1.6
	comp=E,0.5nm,0.3s,baz=132,slow=6.4,SNR=3.5						
ZRNK	**Zerenda** comp=E,3.1nm,0.5s,mb4.5	**35.92**	**334**	*e*P	**P**	**

comp=Z,0.4nm,0.5s,mb3.5,baz=85,slow=6.2,SNR=4.1
GERES GERESS Array B 67.25 315 P **P** **08 56 03.6 +0.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=69,slow=7.3,SNR=3.8
STKA Stephens Creek 70.59 138 P **P** **08 56 22.3 -1.8**
comp=Z,1.1nm,0.4s,mb4.1,baz=314,slow=18,SNR=5.2
STKA Stephens Creek 70.59 138 *eP* **P** **08 56 22.3 -1.8**
LSZ Lusaka 74.87 246 *eP* **P** **08 56 50.8 +1.4**
comp=Z,2.2nm,0.4s,mb4.2
BOSA Boshof 83.78 236 P **P** **08 57 38.6 +0.9**
comp=Z,1.6nm,0.5s,mb4.1,baz=313,slow=1.9,SNR=5.8
TORD Torodi Ar. Bea 87.39 283 P **P** **08 57 57.4 +1.7**
comp=Z,0.5nm,0.9s,mb3.5,baz=70,slow=4.5,SNR=5.8
TORD Torodi Ar. Bea 87.39 283 P **P** **08 57 57.4 +1.7**

IDC 24 08:52:13.6±4.1, 2195S×17959W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.1/3, Error ellipse: s-maj=172.3km s-min=51.5km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.84**	**246**	P		P	08 59 13.9	-0.9
	1.8nm,0.7s,baz=102,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**42.76**	**258**	P		P	09 00 12.9	+0.3
	1.4nm,0.6s,baz=96,slow=7.4,SNR=13							
WRA	**Warramunga Arr**	**42.95**	**264**	P		P	09 00 15.3	+1.0
	1.4nm,0.4s,baz=96,slow=8.4,SNR=63							
AKASG	**Malin Array Be**	**143.52**	**329**	PKP		PKPdf	09 11 48.7	-1.5
	0.4nm,0.3s,baz=44,slow=4.0,SNR=4.6							
BRTR	**Keskin Array B**	**146.66**	**310**	PKPbc		PKPbc	09 11 57.1	-0.1
	0.5nm,0.5s,baz=67,slow=4.8,SNR=3.3							

---

*IDC **24** 09:03:20.6±1.9, 3095×12925E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML4.1/1, Error ellipse: s-maj=153.9km s-min=24.1km az=67.0*
*NEIC **24** 09:03:21.0±1.3, 2915×12981E, h10km, mb3.9/3, Error ellipse: s-maj=46.5km s-min=15.9km az=71.0*
*ISCJB **24** 09:03:22.6±1.4, 30S±01×1299E±03, h33km, mb3.9/2, Error ellipse: s-maj=48.6km s-min=15.4km az=142.7*
ISC 24 09:03:25.4±1.4, 30S±01×1298E±03, h35km, n9, σ1§04/11, mb3.9/2, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**9.98**	**165**	*eP*		**Pn**	**09 05 46.4**	**+0.1**
	2.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**15.52**	**195**	*eP*		**Pn**	**09 07 01.9**	**+0.4**
	5.2nm,0.8s							
WRAB	**Tennant Creek**	**17.39**	**165**	*eP*		**Pn**	**09 07 24.3**	**-0.9**
	4.9nm,0.6s							
WRA	**Warramunga Arr**	**17.40**	**165**	P		**Pn**	**09 07 24.5**	**-0.8**
	0.8nm,0.3s,baz=347,slow=12,SNR=34							
WRA				S		**S**	**09 10 32.4**	**-13**
	0.1nm,0.3s,baz=334,slow=23,SNR=2.6							
WB2	**Warramunga Arr**	**17.40**	**165**	*eP*		**Pn**	**09 07 24.3**	**-1.0**
AS31	**Alice Springs**	**20.91**	**169**	*eP*		**P**	**09 08 06.0**	**+1.3**
ASAR	**Alice Springs**	**20.91**	**169**	P		**P**	**09 08 05.6**	**+0.9**
	6.9nm,0.6s,baz=346,slow=9.8,SNR=110							
ASAR				S		**S**	**09 11 54.3**	**-1.5**
	0.5nm,0.6s,baz=350,slow=21,SNR=3.5							
STKA	**Stephens Creek**	**30.78**	**160**	P		**P**	**09 09 39.4**	**+1.8**
	1.7nm,0.8s,mb3.9,baz=325,slow=12,SNR=2.7							
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**	**09 13 59.8**	**-0.8**
	1.2nm,0.9s,mb3.9,baz=125,slow=8.0,SNR=8.1							

---

*IDC **24** 09:04:33.4±0.6, 3392S×7236W, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.4/19, mbtmp4.4/15, ML4.2/3, MS4.0/11, Ms1 4.0/11, ms1mx3.8/25, Error ellipse: s-maj=21.0km s-min=13.3km az=103.0*
*GUC **24** 09:04:36.2±1.0, 3389S×7244W, h44km±4km, MD4.4, ML4.4*
*BJI **24** 09:04:36.2, 3390S×7240W, h44km, mB5.0, Ms4.9, Msz4.6*
*ISCJB **24** 09:04:36.0±0.2, 3392S±002×7242W±003, h27km, mb4.5/38, MS4.2/8, Error ellipse: s-maj=3.3km s-min=2.7km az=57.1*
*NEIC **24** 09:04:36.2, 3389S×7244W, h44km, mb4.6/32, MD4.4(GUC), After GUC.*
*MOS **24** 09:04:37.3±1.2, 3391S×7243W, h36km, mb4.9/18, Error ellipse: s-maj=12.5km s-min=8.2km az=78.8*
ISC 24 09:04:37.7±0.2, 3394S±002×7235W±003, h29km, h29km±.6km:pP-P,n157,σ0§98/155, mb4.5/38, MS4.2/8, 13C-14D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNV	**Longovilo**	**0.78**	**91**	⇓*iP*		**Pb**	**09 04 51.8**	**-1.0**
LCCH	**Las Cruces**	**0.80**	**55**	⇑*iP*		**Pn**	**09 04 51.5**	**-1.6**
TACH	**Talagante**	**1.21**	**77**	⇓*iP*		**Pn**	**09 04 57.8**	**-0.9**
RCDM	**Rinconada Maip**	**1.36**	**71**	⇑*iP*		**Pn**	**09 04 59.9**	**-1.0**
RCDM				*i* S		**Sn**	**09 05 17.8**	**-0.1**
RCDM				AML		AML	09 05 22.1	
	comp=E,6μm,0.3s							
RCDM	**Rinconada Maip**	**1.36**	**71**	⇑*iP*		**Pn**	**09 04 59.9**	**-1.0**
RCDM				*i* S		**Sn**	**09 05 17.8**	**-0.1**
CTCH	**Constitucion**	**1.39**	**182**	*iP*		**Pn**	**09 05 00.7**	**-0.5**
CTCH				*i* S		**Sn**	**09 05 18.7**	**+0.2**
NICH	**Los Niches**	**1.41**	**139**	*eP*		**Pn**	**09 05 01.2**	**-0.2**
CHCH	**Chadas Angostu**	**1.41**	**90**	*eP*		**Pn**	**09 05 01.4**	**-0.1**
CACH	**El Canelo**	**1.47**	**97**	⇓*iP*		**Pn**	**09 05 03.0**	**+0.7**
ANTU	**Antumapu**	**1.48**	**76**	*eP*		**Pn**	**09 05 02.2**	**-0.2**
ANTU				*i* S		**Sn**	**09 05 21.8**	**+1.0**
ANTU				AML		AML	09 05 28.3	
	comp=E,11μm,0.5s							
ANTU	**Antumapu**	**1.48**	**76**	*eP*		**Pn**	**09 05 02.2**	**-0.2**
ANTU				*i* S		**Sn**	**09 05 21.8**	**+1.0**
ROCH	**El Roble**	**1.48**	**50**	⇓*iP*		**Pn**	**09 05 01.9**	**-0.6**
ROCH				*i* S		**Sn**	**09 05 21.1**	**+0.3**
SAN	**Santiago**	**1.49**	**71**	⇓*iP*		**Pn**	**09 05 02.4**	**-0.2**
SAN				*i* S		**Sn**	**09 05 21.7**	**+0.6**
SAN				AML		AML	09 05 27.3	
	comp=N,8μm,0.4s							
SAN	**Santiago**	**1.49**	**71**	⇓*iP*		**Pn**	**09 05 02.4**	**-0.2**
SAN				*i* S		**Sn**	**09 05 21.7**	**+0.6**
STL	**Santa Lucia**	**1.51**	**71**	⇑*iP*		**Pn**	**09 05 02.1**	**-0.7**
STL				*i* S		**Sn**	**09 05 21.6**	**0.0**
PCH	**Pirque**	**1.56**	**79**	⇑*iP*		**Pn**	**09 05 03.3**	**-0.3**
TALC	**Talca**	**1.57**	**158**	*eP*		**Pn**	**09 05 00.4**	**-3.3**
TALC				*i* S		**Sn**	**09 05 21.0**	**-2.0**
DSCH	**Colegio Aleman**	**1.58**	**70**	⇓*iP*		**Pn**	**09 05 03.3**	**-0.5**
FSR	**Penalolen**	**1.59**	**74**	*eP*		**Pn**	**09 05 04.0**	**0.0**
FSR				AML		AML	09 05 42.2	
	comp=E,5μm,0.9s							
PACH	**Papudo**	**1.60**	**29**	⇓*iP*		**Pn**	**09 05 02.9**	**-1.2**
PACH				*i* S		**Sn**	**09 05 22.3**	**-1.4**
PEL	**Peldehue**	**1.60**	**61**	⇓*iP*		**Pn**	**09 05 04.2**	**+0.1**
PEL				*i* S		**Sn**	**09 05 24.4**	**+0.5**
PEL				AML		AML	09 05 38.6	
	comp=N,13μm,0.6s							
PEL	**Peldehue**	**1.60**	**61**	⇓*iP*		**Pn**	**09 05 04.2**	**+0.1**
PEL				*i* S		**Sn**	**09 05 24.4**	**+0.5**
CLCH	**Cerro Calan**	**1.61**	**71**	⇑*iP*		**Pn**	**09 05 04.2**	**0.0**
CLCH				*i* S		**Sn**	**09 05 24.7**	**+0.7**
CLCH				AML		AML	09 05 41.6	
	comp=E,7μm,0.9s							
CLCH				AML		AML	09 05 42.2	
	comp=E,8μm,0.9s							
CICH	**Cipreses**	**1.65**	**104**	⇑*iP*		**Pn**	**09 05 05.3**	**+0.6**
SJCH	**San Jose de Ma**	**1.69**	**80**	⇓*iP*		**Pn**	**09 05 05.0**	**-0.3**
SJCH				*i* S		**Sn**	**09 05 27.0**	**+1.0**
SJCH				AML		AML	09 05 35.7	
	comp=N,6μm,0.3s							
SJCH	**San Jose de Ma**	**1.69**	**80**	⇓*iP*		**Pn**	**09 05 05.0**	**-0.3**
SJCH				*i* S		**Sn**	**09 05 27.0**	**+1.0**
CNCO	**Chanco**	**1.79**	**185**	⇓*iP*		**Pn**	**09 05 05.5**	**-1.2**
CNCO				*i* S		**Sn**	**09 05 26.2**	**-2.4**
FCH	**Farellones**	**1.82**	**71**	⇑*iP*		**Pn**	**09 05 07.4**	**+0.2**
FCH				*i* S		**Sn**	**09 05 31.0**	**+1.7**
FCH				AML		AML	09 05 38.5	
	comp=N,5μm,0.2s							
JACH	**Jahuel**	**1.94**	**50**	*i* P		**Pn**	**09 05 08.2**	**-0.5**
LNCH	**Linares**	**2.00**	**162**	⇑*iP*		**Pn**	**09 05 09.8**	**+0.2**
LNCH				*i* S		**Sn**	**09 05 34.0**	**+0.4**
PTCH	**Petorca**	**2.06**	**36**	⇑*iP*		**Pn**	**09 05 09.2**	**-1.2**
CHNG	**Los Chungos**	**2.17**	**19**	⇑*iP*		**Pn**	**09 05 10.0**	**-2.0**
CHNG				*i* S		**Sn**	**09 05 35.7**	**-2.2**
COCH	**Cobquecura**	**2.21**	**189**	*i* P		**Pn**	**09 05 11.3**	**-1.3**
MDZ	**Mendoza**	**3.11**	**71**	⇓*iP*		**Pn**	**09 05 29.5**	**+4.6**
MDZ				*e*S		**Sn**	**09 06 14.5**	**+13**

TLL Tololo Astrono 3.99 20 ⇑*iP* **Pn** **09 05 35.9 -1.0**
CFAA Coronel Fontan 4.18 57 Pn **Pn** **09 05 40.4 +0.9**
comp=N,0.8nm,0.3s,baz=233,slow=12,SNR=93
CFAA Lg 09 06 46.5
comp=N,4.6nm,0.3s,baz=94,slow=8.7,SNR=4.3
VACH Vallenar 5.52 15 *eP* **Pn** **09 06 00.2 +2.2**
VACH *i* S **Sn** **09 07 00.6 +0.1**
PLCA Paso Flores 6.93 169 Pn **Pn** **09 06 17.8 +0.4**
comp=N,0.8nm,0.3s,baz=330,slow=13,SNR=13
PLCA Sn **Sn** **09 07 32.9 -2.2**
baz=3.5,slow=12,SNR=2.9
PLCA Lg 09 08 14.4
comp=N,0.5nm,0.3s,baz=59,slow=19,SNR=2.3
PLCA LR LR 09 08 54.1
comp=N,429nm,18.9s,baz=348,slow=38
PLCA Paso Flores 6.93 169 *ePn* **Pn** **09 06 17.0 -0.4**
comp=N,32nm,0.9s
PLCA *eSn* **Sn** **09 07 39.3 +4.1**
TRQA Tornquist 9.35 119 *ePn* **Pn** **09 06 52.0 +1.4**
comp=N,24nm,0.9s
LVC Limon Verde 11.69 16 Pn **Pn** **09 07 17.9 -4.6**
comp=N,0.5nm,0.3s,baz=189,slow=6.9,SNR=6.8
LVC Lg 09 10 35.1
comp=N,1.3nm,0.3s,baz=312,slow=12,SNR=6.4
LVC LR LR 09 12 04.8
comp=N,397nm,21.2s,baz=45,slow=39
LVC Limon Verde 11.69 16 *ePn* **Pn** **09 07 20.4 -2.1**
LVC Sn **Sn** **09 09 38.7 +6.8**
CPUP Villa Florida 15.04 64 Pn **Pn** **09 08 09.2 +1.0**
comp=N,0.4nm,0.3s,baz=225,slow=12,SNR=5.8
CPUP LR LR 09 14 44.2
comp=N,507nm,20.3s,baz=224,slow=41
CPUP Villa Florida 15.04 64 *ePn* **Pn** **09 08 05.8 -2.4**
CPUP LR LR 09 14 44.2
ARE Arequipa 17.42 3 *eP* **Pn** **09 08 40.0 +1.4**
LPAZ La Paz 17.98 13 P **Pn** **09 08 46.3 +0.7**
comp=N,0.4nm,0.3s,baz=187,slow=7.6,SNR=50
LPAZ La Paz 17.98 13 *eP* **Pn** **09 08 45.8 +0.2**
LPAZ pmax pmax 09 14 31.2
comp=Z,16nm,0.9s
LPAZ La Paz 17.98 13 *eP* **Pn** **09 08 45.8 +0.2**
comp=Z,16nm,0.9s
SIV San Ignacio 20.56 32 P **P** **09 09 13.2 -0.9**
comp=Z,15nm,0.8s,baz=220,slow=11,SNR=53
NNA Nana 22.23 348 P **P** **09 09 32.0 0.0**
comp=Z,11nm,0.8s,mb4.4,baz=190,slow=11,SNR=5.5
NNA Nana 22.23 348 *eP* **P** **09 09 31.4 -0.7**
comp=Z,24nm,0.9s,mb4.6
BDFB Brasilia 28.52 56 P **P** **09 10 29.9 -0.8**
comp=Z,8.3nm,0.8s,mb4.5,baz=237,slow=8.5,SNR=13
BDFB LR LR 09 22 56.3
comp=Z,635nm,19.0s,MS4.2,baz=234,slow=39
BDFB Brasilia 28.52 56 *eP* **P** **09 10 29.5 -1.2**
BDFB *epP* pP 09 10 37.5 -1.6
PMSA Palmer Station 31.28 173 P **P** **09 10 55.1 0.0**
comp=Z,5.0nm,1.0s,mb4.3,baz=356,slow=8.7,SNR=5.0
PMSA Palmer Station 31.28 173 *eP* **P** **09 10 56.4 +1.3**
comp=Z,7.9nm,1.2s,mb4.4
SDV Santo Domingo 42.62 3 *eP* **P** **09 12 31.9 +0.4**
comp=Z,2.6nm,0.6s,mb4.1
JTS JuntasAbangare 45.59 343 *eP* **P** **09 12 53.7 -1.5**
VNA3 Neumayer Olymp 49.51 158 *eP* **P** **09 13 26.3 +0.6**
VNA3 *e* 09 13 29.4
VNA3 *e* pP 09 13 34.0 -0.4
VNA3 *e* pP 09 13 35.9 +1.5
VNA3 *e* 09 13 39.9
VNA3 *e* 09 13 47.5
VNA3 *e* 09 13 59.3
VNA1 Neumayer--Stat 49.83 157 *eP* **P** **09 13 28.4 +0.3**
VNA1 *e* 09 13 31.8
VNA1 *e* pP 09 13 36.3 -0.5
VNA1 *e* pP 09 13 38.3 +1.5
VNA1 *e* 09 13 40.3
VNA1 *e* 09 13 42.3
VNA1 *e* 09 13 49.3
VNA1 *e* 09 14 01.9
SNAA Sanae 51.74 158 *eP* **P** **09 13 42.8 +0.3**
SNAA *e* 09 13 47.1
SNAA *e* pP 09 13 52.9 +1.7
SNAA *e* 09 13 55.1
SNAA *e* 09 13 56.9
SNAA *e* 09 14 07.2
SNAA Sanae 51.74 158 *eP* **P** **09 13 43.0 +0.5**
SNAA *e**PP pP 09 13 51.3 +0.1
SNAA pmax pmax 09 14 31.2
comp=Z,22nm,1.2s
SNAA Sanae 51.74 158 *eP* **P** **09 13 43.0 +0.5**
comp=Z,22nm,1.2s,mb5.0
SNAA *epP* pP 09 13 51.3 +0.1
SJG San Juan 52.10 7 P **P** **09 13 44.0 -1.2**
comp=Z,14nm,0.9s,mb4.9,baz=204,slow=5.9,SNR=4.6
SJG San Juan 52.10 7 *eP* **P** **09 13 43.9 -1.2**
SJG *e**PP pP 09 13 53.4 -0.5
SJG pmax pmax 09 14 31.2
comp=Z,13nm,0.9s
SJG San Juan 52.10 7 *eP* **P** **09 13 43.9 -1.2**
comp=Z,13nm,0.9s,mb4.8
SJG *epP* pP 09 13 53.4 -0.5
QSPA South Pole Qui 56.30 180 *eP* **P** **09 14 16.6 +0.9**
comp=Z,9.2nm,1.0s,mb4.8
MAIT Maitri 56.44 157 *eP* **P** **09 14 17.8 +1.0**
VNDA Vanda 64.11 191 P **P** **09 15 09.7 +0.5**
comp=Z,0.8nm,0.9s,mb3.7,baz=127,slow=5.1,SNR=2.8
VNDA Vanda 64.11 191 P **P** **09 15 09.7 +0.5**
VNDA pmax pmax 09 15 50.0 -0.2
comp=Z,1.0nm,0.9s
VNDA Vanda 64.11 191 *eP* **P** **09 15 09.4 +0.2**
comp=Z,2.9nm,1.2s,mb4.2
SYO Syowa Base 66.02 159 ⇑*eP* **P** **09 15 21.4 -0.2**
TBI Tubuai 67.08 257 *eLR* LR 09 35 44.5
comp=Z,156nm,28.5s,baz=120
JCT Junction City 69.12 335 *eP* **P** **09 15 42.0 +0.8**
JCT *e**PP pP 09 15 50.0 -0.2
JCT pmax pmax 09 15 50.0 -0.2
comp=Z,5.0nm,0.3s,mb4.9
JCT Junction City 69.12 335 *eP* **P** **09 15 42.0 +0.8**
comp=Z,5.1nm,0.3s,mb4.9
JCT *epP* pP 09 15 50.0 -0.2
OXF Oxford 69.95 345 *eP* **P** **09 15 44.7 -1.6**
OXF *e**PP pP 09 15 54.2 -1.1
OXF *e* 09 16 11.3
OXF pmax pmax 09 15 50.0 -0.2
comp=Z,13nm,0.7s,mb5.0
OXF Oxford 69.95 345 *eP* **P** **09 15 44.7 -1.6**
comp=Z,13nm,0.7s,mb5.0
OXF *epP* pP 09 15 54.1 -1.2
OXF *ePcP* PcP 09 16 11.3 +2.8
SWET Sewanee 69.96 348 *eP* **P** **09 15 46.5 +0.1**
PPT Papeete 70.00 262 *eS* S 09 24 59.2 +4.1
comp=Z,54nm,23.0s
PPT *eLR* LR 09 37 07.6
comp=Z,123nm,28.2s
PPT Papeete 70.00 262 LR LR 09 39 32.1
comp=Z,120nm,21.1s,MS4.1,baz=135,slow=30
PLAL Pickwick Lake 70.13 346 *eP* **P** **09 15 47.0 -0.4**
comp=Z,7.8nm,0.6s,mb4.8
PLAL *epP* pP 09 15 55.0 -1.5
MIAR Mount Ida 70.97 342 *eP* **P** **09 15 51.6 -1.0**
MIAR pmax pmax 09 15 50.0 -0.2
comp=Z,16nm,1.7s,mb4.7
MIAR Mount Ida 70.97 342 *eP* **P** **09 15 51.6 -1.0**
comp=Z,16nm,1.7s,mb4.7
WVT Waverly 71.19 347 *eP* **P** **09 15 53.6 -0.3**
WVT *e**PP pP 09 16 01.9 -1.0
WVT pmax pmax 09 15 50.0 -0.2
comp=Z,20nm,0.7s,mb5.2
WVT Waverly 71.19 347 *eP* **P** **09 15 53.5 -0.4**
comp=Z,20nm,0.7s,mb5.2
WVT *epP* pP 09 16 01.9 -1.1
MNTX Cornudas Mount 72.33 331 *eP* **P** **09 16 00.4 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
MNTX *epP* pP 09 16 08.1 -1.7
WMOK Wichita Mounta 72.67 337 *eP* **P** **09 16 02.2 -0.6**
WMOK *e**PP pP 09 16 12.6 +0.8
WMOK pmax pmax 09 15 50.0 -0.2
comp=Z,2.0nm,0.9s,mb4.0
WMOK Wichita Mounta 72.67 337 *eP* **P** **09 16 02.2 -0.5**
comp=Z,2.4nm,0.9s,mb4.1
WMOK *epP* pP 09 16 12.6 +0.7
MAW Mawson 73.31 164 P **P** **09 16 06.8 +0.3**
comp=Z,6.8nm,0.9s,mb4.6,baz=208,slow=7.5,SNR=8.6
MAW Mawson 73.31 164 *eP* **P** **09 16 07.1 +0.5**
MAW pmax pmax 09 15 50.0 -0.2
comp=Z,9.0nm,1.0s
MAW Mawson 73.31 164 *eP* **P** **09 16 07.1 +0.5**
comp=Z,9.5nm,1.0s,mb4.7
ACSO Alum Creek Sta 74.45 352 *eP* **P** **09 16 13.0 -0.3**
ACSO *epP* pP 09 16 20.8 -1.5
SUR Sutherland 75.08 119 *eP* **P** **09 16 18.9 +2.0**
comp=Z,16nm,1.0s,mb4.9
DBIC Dimbokro 75.41 71 P **P** **09 16 19.5 +0.8**
comp=Z,7.7nm,0.8s,mb4.7,baz=229,slow=8.1,SNR=8.5
DBIC LR LR 09 48 25.0
comp=Z,75nm,18.5s,MS4.0,baz=118,slow=35
DBIC Dimbokro 75.41 71 *eP* **P** **09 16 19.2 +0.4**
DBIC *e**PP pP 09 16 27.0 -0.8
DBIC pmax pmax 09 16 19.2 +0.5
comp=Z,7.0nm,0.7s
DBIC Dimbokro 75.41 71 *eP* **P** **09 16 19.2 +0.5**
comp=Z,7.1nm,0.7s,mb4.7
DBIC *epP* pP 09 16 27.0 -0.9
ANMO Albuquerque 75.61 332 *eP* **P** **09 16 20.9 +1.0**
ANMO *e**PP pP 09 16 29.6 +0.6
ANMO pmax pmax 09 16 20.9 +1.0
comp=Z,4.0nm,1.0s
ANMO Albuquerque 75.61 332 *eP* **P** **09 16 20.9 +1.0**
comp=Z,4.1nm,1.0s,mb4.3
ANMO *epP* pP 09 16 29.6 +0.6
KSU1 Kansas State U 76.07 341 *eP* **P** **09 16 23.1 +0.5**
SDCO Great Sand Dun 77.70 334 *eP* **P** **09 16 32.8 +1.0**
comp=Z,2.4nm,0.7s,mb4.2
SDCO *epP* pP 09 16 40.9 0.0
WUAZ Wupatki 78.14 328 *eP* **P** **09 16 36.0 +1.8**
comp=Z,7.7nm,1.0s,mb4.6
WUAZ *epP* pP 09 16 44.3 +1.0
PV01 Paradox Valley 79.21 332 *eP* **P** **09 16 39.5 -0.6**
TSUM Tsumeb 79.48 106 LR LR 09 46 11.1
comp=Z,138nm,18.7s,MS4.3,baz=138,slow=31
TSUM Tsumeb 79.48 106 *eP* **P** **09 16 41.7 +0.2**
comp=Z,7.8nm,1.2s,mb4.5
ISCO Idaho Springs 79.56 335 *eP* **P** **09 16 42.8 +0.8**
ISCO pmax pmax 09 16 42.8 +0.8
comp=Z,3.0nm,0.8s,mb4.3
ISCO Idaho Springs 79.56 335 *eP* **P** **09 16 42.8 +0.8**
comp=Z,3.0nm,0.8s,mb4.3
PV10 Paradox Valley 79.61 331 *eP* **P** **09 16 42.8 +0.5**
PV10 *e* pP 09 16 51.2 -0.1
CASY Casey 80.08 181 *eP* **P** **09 16 45.1 +0.4**
comp=Z,10nm,1.4s,mb4.6
BOSA Boshof 80.33 118 P **P** **09 16 46.3 +0.2**
comp=Z,3.6nm,0.9s,mb4.3,baz=266,slow=9.3,SNR=4.3
BOSA LR LR 09 48 18.0
comp=Z,77nm,18.5s,MS4.1,baz=70,slow=33
ECSD EROS,Sioux Fal 80.41 342 *eP* **P** **09 16 46.2 -0.4**
ECSD *e* pP 09 16 54.2 -1.5
CCUT Cedar City 80.72 328 *eP* **P** **09 16 50.1 +1.9**
CCUT *e* pP 09 16 58.2 +0.8
SRU San Rafael 80.83 331 *eP* **P** **09 16 49.7 +0.9**
SRU *e* pP 09 16 57.4 -0.6
SRU pmax pmax 09 16 49.7 +0.9
comp=Z,4.0nm,0.8s,mb4.4
SRU San Rafael 80.83 331 *eP* **P** **09 16 49.7 +0.9**
comp=Z,3.6nm,0.8s,mb4.3
SRU *e* pP 09 16 57.4 -0.6
ARUT Antelope Range 80.95 328 *eP* **P** **09 16 50.9 +1.4**
ARUT *e* pP 09 16 59.5 +0.9
LBTB Lobatse 82.56 115 LR LR 09 51 29.0
comp=Z,86nm,19.6s,MS4.1,baz=112,slow=34
LBTB Lobatse 82.56 115 *eP* **P** **09 16 58.5 +0.5**
LBTB *e**PP pP 09 17 07.3 +0.2
LBTB *e**SP sP 09 17 12.2 +1.7
LBTB pmax pmax 09 16 58.5 +0.5
comp=Z,6.0nm,0.8s,mb4.7
LBTB Lobatse 82.56 115 *eP* **P** **09 16 58.5 +0.5**
comp=Z,5.6nm,0.8s,mb4.7
LBTB *epP* pP 09 17 07.3 +0.2
LBTB *esP* sP 09 17 12.2 +1.7
RSSD Black Hills 82.88 338 *eP* **P** **09 16 59.3 -0.3**
RSSD *e**PP pP 09 17 07.9 -0.9
RSSD pmax pmax 09 16 59.3 -0.3
comp=Z,2.0nm,0.7s,mb4.3
RSSD Black Hills 82.88 338 *eP* **P** **09 16 59.3 -0.3**
comp=Z,2.2nm,0.7s,mb4.3
RSSD *epP* pP 09 17 07.9 -0.8
HWUT Hardware Ranch 83.37 331 *eP* **P** **09 17 02.3 +0.1**
comp=Z,2.8nm,0.7s,mb4.4
HWUT *epP* pP 09 17 10.6 -0.7
SPUT South Promonto 83.48 331 *eP* **P** **09 17 00.5 -2.1**
SPUT *epP* pP 09 17 10.1 -1.8
PDAR Pinedale Array 83.59 333 P **P** **09 17 03.5 +0.2**
comp=Z,0.4nm,0.7s,mb3.7,baz=120,slow=13,SNR=3.5
NVAR Mina Array Bea 83.69 325 P **P** **09 17 04.9 +1.1**
comp=Z,0.7nm,0.7s,mb3.9,baz=178,slow=5.7,SNR=6.6
CMB Columbia Colle 84.38 324 *eP* **P** **09 17 08.0 +0.7**
CMB *e**PP pP 09 17 16.7 +0.2
CMB pmax pmax 09 17 08.0 +0.7
comp=Z,1.0nm,0.9s,mb4.0
CMB Columbia Colle 84.38 324 *eP* **P** **09 17 08.0 +0.7**
comp=Z,1.2nm,0.9s,mb4.0
CMB *epP* pP 09 17 16.7 +0.2
TOA0 Torodi Ar. Sit 84.43 70 *eP* **P** **09 17 07.9 +0.3**
TOA0 *epP* pP 09 17 16.8 +0.1
TORD Torodi Ar. Bea 84.43 70 P **P** **09 17 07.9 +0.4**
comp=Z,7.1nm,0.8s,mb4.9,baz=257,slow=4.2,SNR=39
AGMN Agassiz Refuge 84.53 344 P **P** **09 17 06.5 -1.5**
AGMN *epP* pP 09 17 15.7 -1.6
FLWY Flagg Ranch 85.15 333 *eP* **P** **09 17 11.8 +0.6**
comp=Z,4.9nm,0.6s,mb4.8
FLWY *epP* pP 09 17 19.9 -0.4
HLID Hailey 86.16 331 *eP* **P** **09 17 16.8 +0.6**
comp=Z,1.5nm,0.8s,mb4.3
HLID *epP* pP 09 17 25.1 -0.2
ULM Lac du Bonnet 86.37 345 P **P** **09 17 19.2 +2.0**
comp=Z,2.1nm,0.8s,mb4.4,baz=164,slow=3.7,SNR=3.2
MCMT McKenzie Canyo 86.59 332 *eP* **P** **09 17 19.5 +1.2**
WDC Whiskeytown Da 87.40 324 *eP* **P** **09 17 22.1 -0.2**
WDC *e**PP pP 09 17 30.4 -1.1
WDC pmax pmax 09 17 22.1 -0.2
comp=Z,4.0nm,0.7s,mb4.8
WDC Whiskeytown Da 87.40 324 *eP* **P** **09 17 22.1 -0.2**
comp=Z,4.1nm,0.7s,mb4.8
WDC *epP* pP 09 17 30.4 -1.1
LSZ Lusaka 90.07 108 LR LR 09 53 54.9
comp=Z,132nm,21.9s,MS4.3,baz=183,slow=33
NEW Newport 91.09 332 *eP* **P** **09 17 39.4 -0.2**
NEW pmax pmax 09 17 39.4 -0.2
comp=Z,2.0nm,0.4s
NEW Newport 91.09 332 *eP* **P** **09 17 39.4 -0.2**
comp=Z,1.6nm,0.4s,mb4.7
MDT Midelt 91.98 51 LR LR 09 58 40.1
comp=Z,94nm,19.5s,MS4.2,baz=240,slow=35
WRA Warramunga Arr 120.69 209 PKP PKPdf 09 23 26.5 -0.4
comp=Z,0.5nm,0.7s,baz=172,slow=1.7,SNR=8.6
WRA Warramunga Arr 120.69 209 PKIKP PKPdf 09 23 26.5 -0.3
WRA pmax pmax 09 23 26.5 -0.3
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 122.03 61 PKP PKPdf 09 23 29.6 +0.2
comp=Z,1.0nm,0.7s,baz=202,slow=1.3,SNR=6.5
BRTR Keskin Array B 122.03 61 PKIKP PKPdf 09 23 29.6 +0.2
BRTR pmax pmax 09 23 29.6 +0.2
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 122.34 48 PKP PKPdf 09 23 28.6 -1.4
comp=Z,1.6nm,0.8s,baz=264,slow=2.6,SNR=8.5
AKASG Malin Array Be 122.34 48 PKIKP PKPdf 09 23 28.7 -1.3
AKASG pmax pmax 09 23 28.7 -1.3
comp=Z,2.0nm,0.8s
ZRNK Zerenda 146.65 43 *ePKPdf* PKPdf 09 24 14.1 -0.8
ZRNK *ePKPbc* PKPbc 09 24 17.1 +0.5
PSI Prapat 147.97 163 PKPbc PKPbc 09 24 20.4 +0.1
comp=Z,6.7nm,0.8s,baz=208,slow=22,SNR=4.8
AAK Ala-Archa 152.71 62 *ePKPbc* PKPbc 09 24 32.0 +0.3
AAK *ePKPab* PKPab 09 24 41.8 -0.7
MKAR Makanchi Array 156.92 49 PKP PKPdf 09 24 29.2 -1.2
comp=Z,0.3nm,0.6s,baz=281,slow=0.6,SNR=3.8
MKAR PKPab PKPab 09 25 00.3 -0.1
comp=Z,1.6nm,0.7s,baz=298,slow=4.3,SNR=10
MKAR Makanchi Array 156.92 49 PKP PKPdf 09 24 29.2 -1.1
MKAR PKPab PKPab 09 25 00.3 -0.1
MDJ Mudanjiang 160.01 309 PKP PKPdf 09 24 34.8 +0.7
MDJ PP PP
comp=Z,53nm,4.8s
WMQ Urumqi 161.64 52 *ePKP* PKPdf 09 24 33.0 -2.8
CN2 Changchun 163.03 311 *ePKP* PKPdf 09 24 36.5 -0.7
SONM Songino Array 166.09 4 PKPab PKPab 09

HHC			PKP2	PKPab	09 26 08.8	+0.2	
HHC			PKS		09 28 13.0		
HHC			PP	PP	09 30 01.0	+1.2	
HHC			SKS	SKSdf	09 31 40.6	-4.4	
HHC			SKKS	SKKSac	09 36 42.5	-2.0	
HHC			SS	SS	09 51 06.0	-3.0	
HHC			PP	PP			
	comp=Z,93nm,5.3s						
HHC			LR	LR			
	comp=N,86nm,4.5s						
HHC			LR	LR			
	comp=E,92nm,4.0s						
HHC			LR	LR			
	comp=Z,45nm,3.6s						
CD2	**Chengdu**	**175.53 132**	*e*PKP	PKPdf	09 24 43.1	-1.8	
LZH	**Lanzhou**	**176.21 55**	*e*PKP	PKPdf	09 24 42.1	-3.0	
LZH			APKP		09 24 50.9		
LZH			XPKP		09 24 56.3		
LZH			LR	LR			
	comp=N,159nm,18.5s						
LZH			LR	LR			
	comp=Z,205nm,20.3s						

IDC 24 09:07:29.6±2.0, 612N×7230W, h158km±15km, mb1 3.3/2, mb1mx2.9/22, mbtmp3.8/2, Error ellipse: s-maj=83.6km s-min=8.5km az=134.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.38**	**238**	P	Pn	09 08 11.4	+1.8
ROSC	11nm,0.3s,baz=275,slow=19,SNR=50			S	Sn	09 08 41.4	+0.9
SDV	**Santo Domingo**	**3.21**	**31**	P	Pn	09 08 21.2	+1.4
SDV	10.0nm,0.3s,baz=232,slow=17,SNR=20			S	Sn	09 08 59.1	+0.3
ASAR	**Alice Springs**	**149.35**	**233**	PKPbc	PKPbc	09 27 00.5	+0.7
	0.5nm,0.6s,baz=123,slow=3.6,SNR=7.1						
WRA	**Warramunga Arr**	**150.70**	**240**	PKPbc	PKPbc	09 27 03.6	+0.6
	0.2nm,0.4s,baz=109,slow=2.6,SNR=10						

*ISCJB **24** 09:09:12.6±0.4, 4180N×002×2021E±003, h10km, Error ellipse: s-maj=4.5km s-min=2.4km az=91.7*
*CSEM **24** 09:09:12.7±0.2, 4181N×2023E, h2km, ML2.8, Error ellipse: s-maj=6.6km s-min=3.3km az=45.0*
*THE **24** 09:09:13.7, 4182N×2029E, h2km, ML2.8*
*PDG **24** 09:09:13.0±0.1, 4181N×2016E, h11km*
*SKO **24** 09:09:14.8, 4082N×1984E, h0km*

ISC 24 09:09:13.5±0.4, 4179N±002×2021E±003, h10km, n21, σ1§31/40, 5C-6D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.52**	**210**	*e*Pg	**Pg**	**09 09 23.9**	**+0.4**
TIR				*e*Sg	**Sg**	**09 09 32.4**	**+2.1**
ULC	**Ulcinj**	**0.73**	**284**	⇓*i*Pg	**Pg**	**09 09 26.0**	**-1.8**
ULC				*e*Sg	**Sg**	**09 09 37.0**	**-0.4**
OHR	**Ohrid**	**0.81**	**147**	*e*Pg	**Pg**	**09 09 27.9**	**-1.3**
OHR				*e*Sg	**Sg**	**09 09 40.3**	**+0.5**
OHR	**Ohrid**	**0.81**	**147**	*e*Pg	**Pg**	**09 09 28.1**	**-1.2**
OHR				*e*Sg	**Sg**	**09 09 39.0**	**-0.8**
PVY	**Plav**	**0.82**	**348**	⇑*i*Pg	**Pg**	**09 09 27.8**	**-1.6**
PVY				*e*Sg	**Sg**	**09 09 40.3**	**+0.3**
SKO	**Skopje**	**0.94**	**79**	*e*Pg	**Pg**	**09 09 31.9**	**+0.3**
SKO				*e*Sg	**Sg**	**09 09 44.2**	**+0.4**
TTG	**Podgorica**	**0.95**	**312**	⇓*i*Pg	**Pg**	**09 09 29.8**	**-2.0**
TTG				*e*Sg	**Sg**	**09 09 44.3**	**+0.1**
BUM	**Brajici-Budva**	**1.10**	**298**	⇑*i*Pg	**Pg**	**09 09 32.8**	**-1.8**
BUM				*e*Sg	**Sg**	**09 09 49.5**	**+0.6**
IVA	**Berane**	**1.10**	**348**	⇑*i*Pg	**Pg**	**09 09 32.7**	**-2.0**
IVA				*e*Sg	**Sg**	**09 09 50.0**	**+0.9**
BIA	**Bitola**	**1.14**	**132**	*e*Pg	**Pg**	**09 09 35.2**	**-0.3**
BIA				*e*Sg	**Sg**	**09 09 51.4**	**+1.1**
BIA	**Bitola**	**1.14**	**132**	*e*Pg	**Pg**	**09 09 35.4**	**-0.1**
BIA				*e*Sg	**Sg**	**09 09 51.7**	**+1.4**
BIA	**Bitola**	**1.14**	**132**	*e*Pg	**Pg**	**09 09 35.2**	**-0.3**
BIA				*e*Sg	**Sg**	**09 09 51.7**	**+1.4**
FNA	**Florina**	**1.34**	**139**	*e*Pg	**Pg**	**09 09 37.5**	**-1.8**
FNA				*e*Sg	**Sg**	**09 09 56.6**	**-0.1**
NKY	**Niksic**	**1.36**	**319**	⇓*i*Pg	**Pg**	**09 09 37.5**	**-2.0**
NKY				*e*Sg	**Sg**	**09 09 58.5**	**+1.2**
NKY	**Niksic**	**1.36**	**319**	⇓*i*Pg	**Pg**	**09 09 37.5**	**-2.1**
NKY				*e*Sg	**Sg**	**09 09 58.5**	**+1.3**
HCY	**Herceg Novi**	**1.43**	**298**	⇑*i*Pg	**Pg**	**09 09 38.4**	**-2.5**
HCY				*e*Sg	**Sg**	**09 10 00.2**	**+0.6**
PLE	**Pljevlja**	**1.65**	**339**	⇑*i*Pn	**Pn**	**09 09 42.8**	**+0.3**
PLE				*e*Sn	**Sn**	**09 10 05.9**	**+2.2**
BRY	**Bratogost**	**1.66**	**312**	⇓*i*Pn	**Pn**	**09 09 42.5**	**-0.1**
BRY				*e*Sn	**Sn**	**09 10 06.1**	**+2.2**
UPM	**Unac-Piva**	**1.70**	**326**	⇓*i*Pn	**Pn**	**09 09 43.1**	**-0.2**
UPM				*e*Sn	**Sn**	**09 10 07.3**	**+2.1**
GRG	**Griva**	**1.85**	**116**	*e*Pn	**Pn**	**09 09 45.9**	**+0.6**
IGT	**Igoumenitsa**	**2.26**	**178**	*e*Pn	**Pn**	**09 09 52.6**	**+1.6**

*IDC **24** 09:34:60.0±6.3, 2722N×5643E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/21, Error ellipse: s-maj=122.1km s-min=51.2km az=112.0*
*NEIC **24** 09:35:03.0, 2735N×5631E, h8km, ML3.6(THR), MN3.5(TEH), After THR.*
*THR **24** 09:35:03.0±0.3, 2735N×5631E, h8km±1km, ML3.6*
*ISCJB **24** 09:35:03.4±0.8, 2750N±007×5630E±006, h7km±8km, mb3.5/3, MS3.1/1, Error ellipse: s-maj=12.4km s-min=8.1km az=135.7*
*CSEM **24** 09:35:03.0±0.1, 2753N×5625E, h2km, ML3.5, Error ellipse: s-maj=3.2km s-min=2.3km az=87.0*
*TEH **24** 09:35:03.3, 2723N×5652E, h26km, Mn3.5*

ISC 24 09:35:04.2±0.8, 2745N±007×5631E±005, h6km±7km, n22, σ1§04/30, mb3.5/3, MS3.1/1, 1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.13**	**246**	*e*PG	**Pg**	**09 35 06.3**	**-0.6**
BNDS				*e*SG	**Sg**	**09 35 08.5**	**-0.1**
BNDS				AML	AML	09 35 09.1	
	comp=E,46μm,0.3s						
BNDS				AML	AML	09 35 09.1	
	comp=N,35μm,0.3s						
BNDS	**Bandar-Abbas**	**0.13**	**246**	Pg	**Pg**	**09 35 06.0**	**-0.9**
BNDS				Sg	**Sg**	**09 35 08.0**	**-0.7**
BNDS	**Bandar-Abbas**	**0.13**	**246**	*e*Pg	**Pg**	**09 35 06.3**	**-0.6**
	SNR=114						
BNDS				*e*Sg	**Sg**	**09 35 08.5**	**-0.2**
	SNR=114						
IBND		**0.21**	**91**	*e*Pg	**Pg**	**09 35 09.0**	**+0.7**
KRBR	**Kerman**	**2.55**	**9**	*e*PN	**Pn**	**09 35 48.5**	**+2.3**
KRBR				AML	AML	09 36 35.9	
	comp=N,167nm,0.4s						
KRBR	**Kerman**	**2.55**	**9**	Pn	**Pn**	**09 35 48.0**	**+1.9**
ASHO	**Ashiyiah**	**2.77**	**185**	⇓P	**Pn**	**09 35 49.6**	**+0.5**
	SNR=9.6						
GHIR	**Ghir-Karzin**	**3.05**	**287**	*e*PN	**Pn**	**09 35 54.2**	**+1.2**
GHIR				SN	**Sn**	**09 36 31.6**	**+1.8**
GHIR				AML	AML	09 36 53.6	
	comp=E,65nm,0.5s						
GHIR	**Ghir-Karzin**	**3.05**	**287**	Pn	**Pn**	**09 35 54.0**	**+1.0**
GHIR				Sn	**Sn**	**09 36 31.0**	**+1.2**
GHIR	**Ghir-Karzin**	**3.05**	**287**	*e*Pn	**Pn**	**09 35 54.2**	**+1.2**
	SNR=47						
GHIR				Sn	**Sn**	**09 36 31.6**	**+1.8**
	SNR=47						
ISRV	**Sarvestan**	**3.41**	**305**	*e*Pn	**Pn**	**09 35 58.3**	**+0.4**
ISRV				*e*Sn	**Sn**	**09 36 39.1**	**+0.5**
IMOK	**Mook**	**3.54**	**297**	*e*Pn	**Pn**	**09 35 59.6**	**-0.1**
IBAF	**Bafgh**	**4.17**	**351**	Pn	**Pn**	**09 36 08.2**	**-0.2**
IBAF				Sn	**Sn**	**09 36 56.1**	**-1.4**
IBAF	**Bafgh**	**4.17**	**351**	*e*Pn	**Pn**	**09 36 08.3**	**-0.1**
IBAF				*e*Sn	**Sn**	**09 36 56.1**	**-1.4**
IMEH	**Mehriz**	**4.19**	**340**	Pn	**Pn**	**09 36 08.9**	**+0.2**
IMEH	**Mehriz**	**4.19**	**340**	*e*Pn	**Pn**	**09 36 09.0**	**+0.3**
ICHK	**Chekchek**	**5.05**	**341**	Pn	**Pn**	**09 36 20.2**	**-0.3**
ICHK	**Chekchek**	**5.05**	**341**	*e*Pn	**Pn**	**09 36 20.3**	**-0.2**
BRTR	**Keskin Array B**	**22.43**	**309**	P	**P**	**09 40 03.1**	**-0.6**
	comp=E,0.7nm,0.8s,mb3.1,baz=121,slow=15,SNR=3.2						
ZAL	**Zalesovo**	**33.74**	**31**	LR	LR	09 55 43.5	
	comp=E,35nm,18.0s,MS3.1,baz=275,slow=37						
FINES	**FINESS Array B**	**39.55**	**338**	P	**P**	**09 42 34.4**	**-1.6**
	comp=E,1.8nm,0.9s,mb3.8,baz=148,slow=11,SNR=5.9						
TORD	**Torodi Ar. Bea**	**52.77**	**266**	P	**P**	**09 44 17.8**	**-2.2**
	comp=E,0.2nm,0.4s,mb3.4,baz=65,slow=7.7,SNR=7.3						

IDC 24 09:37:39.5±13.0, 569S×12823E, h363km±108km, mb3.7/1, mb1 3.5/4, mb1mx3.1/14, mbtmp4.3/4, Error ellipse: s-maj=157.2km s-min=69.0km az=134.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.59**	**191**	P	P	09 40 26.7	-0.3
FITZ	0.1nm,0.3s,baz=25,slow=15,SNR=3.8			S	S	09 42 45.7	-0.1
	0.1nm,0.3s,baz=12,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**15.37**	**158**	P	P	09 40 56.8	-0.6
	1.0nm,0.3s,baz=333,slow=13,SNR=70						
ASAR	**Alice Springs**	**18.69**	**164**	P	P	09 41 33.9	+0.9
	1.0nm,0.3s,baz=346,slow=12,SNR=81						
STKA	**Stephens Creek**	**28.90**	**156**	P	P	09 43 06.0	-0.2
	6.7nm,1.0s,baz=333,slow=16,SNR=3.3						

NEIC 24 09:40:28.6, 6203N×14998W, h46km, ML3.6(AEIC), **ML3.9**(PMR), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GHO	**Glory Hole Cre**	**0.56**	**116**	P	Pn	09 40 39.8	-0.6
GHO				S	Sn	09 40 49.3	+0.5
PMR	**Palmer**	**0.59**	**137**	P	Pn	09 40 39.7	-1.1
PMR				S	Sn	09 40 49.0	-0.5
FIB	**Fire Island**	**0.87**	**186**	P	Pn	09 40 44.3	-0.1
FIB				S	Sn	09 40 58.5	+2.5
RC01	**Rabbit Creek A**	**0.95**	**173**	P	Pn	09 40 44.4	-1.1
RC01				S	Sn	09 40 59.2	+1.3
TRF	**Thorofare Moun**	**1.44**	**355**	P	Pn	09 40 51.7	-0.5
SLKM	**Skilak Lake**	**1.53**	**184**	P	Pn	09 40 52.7	-0.7
KTH	**Kantishna Hill**	**1.59**	**345**	P	Pn	09 40 54.0	-0.3
MCK	**McKinley**	**1.78**	**15**	P	Pn	09 40 56.6	-0.2
SEW	**Seward**	**1.95**	**172**	P	Pn	09 40 59.3	+0.1
EYAK	**Cordova Ski Ar**	**2.52**	**124**	P	Pn	09 41 06.1	-1.0
BMRM	**Bremner River**	**2.79**	**110**	P	Pn	09 41 09.6	-1.1
SVW2	**Sparrevohn**	**2.84**	**253**	P	Pn	09 41 10.7	-0.7
TTA	**Tatalina**	**2.94**	**291**	*e*P	Pn	09 41 11.5	-1.3
COLA	**College**	**3.02**	**18**	P	Pn	09 41 13.2	-0.7
MENT	**Mentasta**	**3.05**	**70**	*e*P	Pn	09 41 13.9	-0.4
DOT	**Dot Lake**	**3.17**	**56**	P	Pn	09 41 15.8	-0.1
IMA2	**Indian Mountai**	**4.37**	**340**	*e*P	Pn	09 41 31.6	-0.9
KDAK	**Kodiak Island**	**4.45**	**198**	*e*Pn	Pn	09 41 32.3	-1.3
EGAK	**Eagle**	**4.83**	**51**	*e*Pn	Pn	09 41 37.9	-0.8
COLD	**Coldfoot**	**5.22**	**359**	P	Pn	09 41 43.9	-0.3
DAWY	**Dawson**	**5.24**	**62**	P	Pn	09 41 43.8	-0.5
CHGN	**Chignik**	**7.19**	**221**	*e*P	Pn	09 42 13.4	+2.3
SKAG	**Skagway**	**7.63**	**103**	P	Pn	09 42 15.2	-1.9
INK	**Inuvik**	**9.34**	**41**	*e*Pn	Pn	09 42 40.5	0.0
	9.5nm,0.7s						

*SZGRF **24** 10:02:32.8, 1953S×17840W, h33km, Fiji Islands region*
*NEIC **24** 10:03:28.1±4.7, 1771S×17836W, h468km±48km, mb3.9/4, Error ellipse: s-maj=28.0km s-min=18.4km az=51.0*
*ISCJB **24** 10:03:32.7±3.3, 1795±01×1785W±0.1, h530km±39km, mb3.8/10, Error ellipse: s-maj=22.7km s-min=20.7km az=144.5*
*IDC **24** 10:03:34.9±2.9, 1789S×17852W, h543km±35km, mb3.3/8, mb1 3.5/8, mb1mx3.4/13, mbtmp4.2/8, Error ellipse: s-maj=22.9km s-min=15.8km az=144.0*

ISC 24 10:03:34.2±3.3, 1795±01×1785W±01, h536km±39km, n46, σ0§70/17, mb3.8/10, 5C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.65**	**190**	P	**P**	**10 07 35.1**	**-1.7**
	2.5nm,0.5s,baz=29,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**38.59**	**241**	*e*P	**P**	**10 10 12.7**	**+1.5**
	3.6nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**10 10 12.0**	**+0.8**
	4.7nm,0.9s,mb4.0,baz=159,slow=5.3,SNR=5.7						
WB2	**Warramunga Arr**	**44.57**	**260**	*e*P	**P**	**10 10 58.4**	**-0.1**
WRA	**Warramunga Arr**	**44.58**	**260**	P	**P**	**10 10 58.6**	**+0.1**
	1.7nm,0.7s,mb3.7,baz=92,slow=7.0,SNR=30						
AS31	**Alice Springs**	**44.74**	**254**	*e*P	**P**	**10 10 59.8**	**0.0**
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**10 11 00.3**	**+0.5**
	16nm,0.7s,mb4.7,baz=88,slow=8.3,SNR=307						
ASAR				S	**S**	**10 16 56.7**	**-0.8**
	0.4nm,0.8s,baz=89,slow=16,SNR=3.1						
ASAR	**Alice Springs**	**44.74**	**254**	P	**P**	**10 11 00.3**	**+0.5**
ASAR				S	**S**	**10 16 56.7**	**-0.8**
KAKA	**Kakadu**	**47.53**	**269**	*e*P	**P**	**10 11 21.2**	**+0.2**
	3.5nm,0.6s,mb4.1						
VNDA	**Vanda**	**60.45**	**185**	P	**P**	**10 12 52.6**	**+0.6**
	0.8nm,1.0s,mb3.0,baz=343,slow=8.1,SNR=4.9						
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**10 13 38.4**	**-0.7**
	4.0nm,0.8s,mb4.0,baz=156,slow=5.6,SNR=10						
QSPA	**South Pole Qui**	**72.15**	**180**	*e*P	**P**	**10 14 05.0**	**+0.4**
	2.4nm,0.8s,mb3.7						
NVAR	**Mina Array Bea**	**79.45**	**44**	P	**P**	**10 14 45.3**	**+0.3**
	0.6nm,0.7s,mb3.0,baz=214,slow=6.3,SNR=5.8						
BJT	**Baijiatuau**	**83.74**	**315**	*e*P	**P**	**10 15 06.1**	**-0.8**
	8.4nm,0.6s,mb4.5						
SONM	**Songino Array**	**93.51**	**319**	P	**P**	**10 15 53.1**	**+0.4**
	0.2nm,0.5s,mb3.5,baz=127,slow=5.8,SNR=3.3						
BSEG	**Bad Segeberg**	**143.40**	**351**	*e*PKPbc	PKPdf	10 22 05.6	-2.1
BURAR	**Bucovina Array**	**144.58**	**332**	⇑*i*P	PKPdf	10 22 09.9	+0.2
BR131	**Keskin Array S**	**144.74**	**315**	*e*P	PKPdf	10 22 10.3	+0.3
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	PKPdf	10 22 10.3	+0.3
	3.7nm,0.9s,baz=114,slow=1.5,SNR=16						
STHS	**Stebnicka Huta**	**144.76**	**338**	*e*PKP	PKPdf	10 22 10.4	+0.4
KOLS	**Kolonicke sedl**	**144.78**	**336**	*e*PKP	PKPdf	10 22 10.3	+0.3
NRDL	**Niedersach Rie**	**144.83**	**351**	*e*PKPbc	PKPdf	10 22 09.6	-0.5
NIE	**Niedzica**	**145.10**	**338**	*e*P	PKPdf	10 22 11.4	+0.8
CLZ	**Clausthal**	**145.42**	**350**	*e*PKPbc	PKPbc	10 22 11.8	-0.6
CLL	**Collm**	**145.45**	**347**	*e*PKPbc	PKPbc	10 22 11.5	-1.0
CLL	**Collm**	**145.45**	**347**	⇑*i*PKPbc	PKPbc	10 22 11.7	-0.8
	comp=Z,12nm,0.9s						
CLL	**Collm**	**145.45**	**347**	⇑*i*P	PKPdf	10 22 11.7	+0.5
CLL				*e*		10 24 28.0	
UPC	**Upice**	**145.47**	**344**	*e*PKP	PKPbc	10 22 13.8	+1.3
DPC	**Dobruska-Polom**	**145.53**	**343**	*e*PKP	PKPdf	10 22 12.6	+1.3
BRG	**Berggiesshubel**	**145.65**	**346**	*e*PKPbc	PKPbc	10 22 12.2	-0.8
BRG	**Berggiesshubel**	**145.65**	**346**	*i* P	PKPdf	10 22 12.2	+0.6
	comp=Z,3.0nm,0.8s						
MORC	**Moravsky Berou**	**145.69**	**342**	⇑*i*P	PKPdf	10 22 12.6	+1.0
KECS	**Kecovo**	**145.82**	**337**	*e*PKP	PKPdf	10 22 12.0	+0.2
DRGR		**146.31**	**333**	⇑*i*P	PKPbc	10 22 13.9	-1.0
PRU	**Pruhonice**	**146.33**	**345**	*e*PKP	PKPbc	10 22 14.4	-0.5
VYHS	**Vyhne**	**146.39**	**339**	*e*PKP	PKPbc	10 22 14.6	-0.5
TANN	**Tannenbergstna**	**146.40**	**347**	*e*PKPbc	PKPbc	10 22 14.5	-0.7
UBBA	**Unterbreizbach**	**146.47**	**350**	*e*PKPbc	PKPbc	10 22 14.5	-0.8
ROTZ	**Rotzenmuhle**	**147.07**	**347**	*e*PKPbc	PKPbc	10 22 16.5	-0.5
TNS	**Taunus Mts**	**147.28**	**352**	*e*PKPbc	PKPbc	10 22 16.5	-1.0
KHC	**Kasperske Hory**	**147.36**	**345**	*e*PKP	PKPbc	10 22 17.5	-0.2
GEC2	**GERESS Array S**	**147.59**	**345**	*e*PKPbc	PKPbc	10 22 17.7	-0.6
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc	10 22 17.9	-0.5
	comp=Z,2.3nm,0.6s,baz=25,slow=2.7,SNR=23						
WLF	**Walferdange**	**148.10**	**354**	*e*PKPbc	PKPbc	10 22 19.4	-0.2
PKSM	**Moragy**	**148.41**	**337**	⇓*i*P	PKPbc	10 22 19.1	-1.3
BFO	**Black Forest**	**149.15**	**351**	*e*PKPbc	PKPbc	10 22 21.7	-0.5

*ISCJB **24** 10:09:50.0±0.8, 1735±01×6945W±006, h175km±8km, mb3.5/1, Error ellipse: s-maj=17.5km s-min=8.9km az=23.8*
*IDC **24** 10:09:50.1±1.4, 1729S×6951W, h158km±12km, mb3.4/2, mb1 3.6/5, mb1mx3.3/19, mbtmp4.2/5, Error ellipse: s-maj=22.9km s-min=16.5km az=3.0*
*NEIC **24** 10:09:50.6±0.7, 1734S×6947W, h167km±11km, Error ellipse: s-maj=15.7km s-min=11.1km az=195.0*

ISC 24 10:09:50.9±0.7, 1743S±008×6943W±007, h161km±9km, n8, σ1§07/14, mb3.5/1, 1C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.68**	**48**	P	**Pn**	**10 10 23.9**	**+0.8**
	152nm,0.3s,baz=235,slow=7.4,SNR=5553						
LPAZ				S	**Sn**	**10 10 47.3**	**-0.6**
	baz=11,slow=17,SNR=1.6						
LPAZ	**La Paz**	**1.68**	**48**	P	**Pn**	**10 10 23.9**	**+0.8**
LPAZ				S	**Sn**	**10 10 47.3**	**-0.6**
ARE	**Arequipa**	**2.20**	**296**	⇑*i*P	**Pn**	**10 10 29.3**	**+0.4**
ARE				*i* S	**Sn**	**10 10 59.0**	**+0.7**

LVC	**Limon Verde**	**5.18**	**175**	P	**Pn**	**10 11 07.9**	**+1.2**
	3.6nm,0.3s,baz=347,slow=10.0,SNR=83						
LVC				S	**Sn**	**10 12 03.9**	**-2.1**
	21nm,0.3s,baz=220,slow=23,SNR=23						
SIV	**San Ignacio**	**8.13**	**81**	P	**Pn**	**10 11 45.6**	**-0.3**
	2.5nm,0.3s,baz=277,slow=13,SNR=53						
SIV				S	**Sn**	**10 13 10.8**	**-5.8**
	0.8nm,0.3s,baz=9.2,slow=17,SNR=8.9						
NNA	**Nana**	**8.99**	**306**	P	**Pn**	**10 11 55.1**	**-2.1**
	5.8nm,0.3s,baz=135,slow=12,SNR=15						
NNA				S	**Sn**	**10 13 32.3**	**-4.9**
	1.3nm,0.3s,baz=228,slow=18,SNR=2.6						
BDFB	**Brasilia**	**20.60**	**88**	P	**P**	**10 14 17.4**	**+0.1**
	2.0nm,0.5s,baz=269,slow=9.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.49**	**71**	P	**P**	**10 21 23.6**	**+0.7**
	0.7nm,0.6s,mb3.5,baz=256,slow=5.2,SNR=6.2						

*ISCJB **24** 10:13:26.0±0.4, 4575N±002×1397E±002, h13km±3km, Error ellipse: s-maj=3.8km s-min=2.3km az=33.5*
*LJU **24** 10:13:26.6, 4578N×1400E, h14km, ML2.2*
*CSEM **24** 10:13:26.4±0.1, 4577N×1400E, h20km, ML3.0/5, Error ellipse: s-maj=1.7km s-min=0.9km az=17.0*
*VIE **24** 10:13:26.2±0.2, 4576N×1398E, h11km±1km, mb1.8/3, ML2.5/7, Error ellipse: s-maj=1.8km s-min=0.9km az=10.0*
27 km S of Idrija

ISC 24 10:13:26.9±0.4, 4575N±002×1399E±002, h13km±3km, n48, σ0§78/92, 25C-22D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAVS	**Javornik**	**0.15**	**19**	⇑*i*Pg	**Pg**	**10 13 30.1**	**-0.4**
JAVS				*i* Sg	**Sg**	**10 13 32.6**	**-0.5**
JAVS							
	comp=Z,240nm,0.1s						
JAVS	**Javornik**	**0.15**	**19**	⇑*i*Pg	**Pg**	**10 13 30.1**	**-0.5**
JAVS				*i* Sg	**Sg**	**10 13 32.6**	**-0.6**
	comp=Z,240nm,0.1s						
VOY	**Vojsko**	**0.29**	**346**	*e*Pg	**Pg**	**10 13 32.2**	**-0.7**
VOY				*e*Sg	**Sg**	**10 13 36.2**	**-0.7**
CEY	**Cerknica**	**0.30**	**92**	⇑*i*Pg	**Pg**	**10 13 32.9**	**-0.3**
CEY				*i* Sg	**Sg**	**10 13 37.8**	**+0.4**
CEY							
	comp=Z,89nm,0.1s						
CEY	**Cerknica**	**0.30**	**92**	⇑*i*Pg	**Pg**	**10 13 32.9**	**-0.2**
CEY				*i* Sg	**Sg**	**10 13 37.8**	**+0.5**
	comp=Z,89nm,0.1s						
KNDS	**Knezji Dol**	**0.35**	**129**	⇑*i*Pg	**Pg**	**10 13 34.0**	**0.0**
KNDS				*i* Sg	**Sg**	**10 13 40.2**	**+1.5**
KNDS							
	comp=Z,123nm,0.1s						
KNDS	**Knezji Dol**	**0.35**	**129**	⇑*i*Pg	**Pg**	**10 13 34.0**	**0.0**
KNDS				*i* Sg	**Sg**	**10 13 40.2**	**+1.5**
	comp=Z,123nm,0.1s						
LJU	**Ljubljana**	**0.48**	**52**	⇑*i*Pg	**Pg**	**10 13 36.3**	**0.0**
LJU				*i* Sg	**Sg**	**10 13 43.0**	**+0.3**
LJU							
	comp=Z,48nm,0.1s						
LJU	**Ljubljana**	**0.48**	**52**	⇑*i*Pg	**Pg**	**10 13 36.3**	**0.0**
LJU				*i* Sg	**Sg**	**10 13 43.0**	**+0.4**
	comp=Z,48nm,0.1s						
DRE	**Drenchia**	**0.49**	**330**	*e*Pg	**Pg**	**10 13 35.5**	**-0.9**
DRE				*e*Sg	**Sg**	**10 13 42.4**	**-0.6**
DRE	**Drenchia**	**0.49**	**330**	*e*Pg	**Pg**	**10 13 35.5**	**-1.0**
DRE				*e*Sg	**Sg**	**10 13 42.4**	**-0.6**
CADS	**Cadrg**	**0.51**	**340**	*i* Pg	**Pg**	**10 13 35.9**	**-1.0**
GORS	**Gorjuse**	**0.57**	**0**	*i* Pg	**Pg**	**10 13 37.3**	**-0.7**
COLI	**Coloredo**	**0.57**	**312**	⇓*i*Pg	**Pg**	**10 13 37.3**	**-0.9**
COLI				*i* Sg	**Sg**	**10 13 46.0**	**+0.3**
VISS	**Visnje**	**0.60**	**85**	⇑*i*Pg	**Pg**	**10 13 38.2**	**-0.3**
VISS				*i* Sg	**Sg**	**10 13 46.8**	**+0.4**
VISS							
	comp=Z,23nm,0.1s						
VISS	**Visnje**	**0.60**	**85**	⇑*i*Pg	**Pg**	**10 13 38.2**	**-0.3**
VISS				*i* Sg	**Sg**	**10 13 46.8**	**+0.4**
	comp=Z,23nm,0.1s						
TLI	**Talmassons**	**0.65**	**286**	⇑*i*Pg	**Pg**	**10 13 38.7**	**-0.8**
BAD	**Bernadia**	**0.71**	**313**	⇓*e*Pg	**Pg**	**10 13 40.7**	**0.0**
BAD				*e*Sg	**Sg**	**10 13 50.7**	**+0.5**
BUA	**Buia**	**0.77**	**308**	⇓*e*Pg	**Pg**	**10 13 42.0**	**+0.3**
BUA				*e*Sg	**Sg**	**10 13 52.4**	**+0.6**
PDKS	**Podkum**	**

*ISCJB **24** 10:30:08.5±0.3,3369N×5685E±003,h10km, mb3.7/10,Error ellipse: s-maj=4.4km s-min=3.6km az=179.2*

*THR **24** 10:30:08.0±0.8,3371N×5692E,h15km,ML4.3*

*CSEM **24** 10:30:09.9±0.0,3372N×5687E,h30km,ML4.3,Error ellipse: s-maj=1.4km s-min=1.1km az=163.0*

*MOS **24** 10:30:11.6±2.0,3362N×5679E,h33km,mb4.2/2,Error ellipse: s-maj=15.3km s-min=10.6km az=98.8*

*NEIC **24** 10:30:11.0,3369N×5689E,h18km,MN4.3(TEH),After TEH.*

*TEH **24** 10:30:11.0,3369N×5689E,h18km,Mn4.3*

ISC 24 10:30:09.8±0.3,3368N±003×5688E±003,h10km,n78, σ0§98/81,mb3.7/10,2C,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITEG		**1.75**	**116**	*e*Pn	**Pn**	**10 30 40.2**	**+0.1**
ITEG				*e*Sn	**Sn**	**10 31 02.1**	**-0.4**
IKOO		**2.18**	**125**	*e*Pn	**Pn**	**10 30 46.1**	**0.0**
IBAF	**Bafgh**	**2.36**	**208**	*e*Pn	**Pn**	**10 30 48.4**	**-0.2**
IMON		**2.38**	**101**	*e*Pn	**Pn**	**10 30 49.5**	**+0.7**
ICHK	**Chekchek**	**2.53**	**236**	*e*Pn	**Pn**	**10 30 51.0**	**+0.2**
ICHK	**Chekchek**	**2.53**	**236**	Pn	**Pn**	**10 30 50.9**	**+0.1**
IDAH		**2.67**	**110**	*e*Pn	**Pn**	**10 30 53.3**	**+0.4**
IMEH	**Mehriz**	**2.98**	**221**	*e*Pn	**Pn**	**10 30 57.4**	**+0.3**
IMEH	**Mehriz**	**2.98**	**221**	Pn	**Pn**	**10 30 57.3**	**+0.2**
IANJ	**Anjiloo**	**3.03**	**307**	*e*Pn	**Pn**	**10 30 56.8**	**-0.9**
IANJ	**Anjiloo**	**3.03**	**307**	Pn	**Pn**	**10 30 56.7**	**-1.0**
IMOG	**Moghan**	**3.15**	**39**	*e*Pn	**Pn**	**10 30 59.1**	**-0.3**
ISAD	**Sadrabad**	**3.22**	**238**	*e*Sn	**Sn**	**10 31 37.3**	**-1.4**
IPAY	**Payeh**	**3.26**	**32**	*e*Pn	**Pn**	**10 31 00.6**	**-0.3**
IKRD	**Kardeh**	**3.36**	**23**	*e*Pn	**Pn**	**10 31 07.8**	**+5.5**
MHI	**Mashhad**	**3.38**	**38**	*e*Pn	**Pn**	**10 31 02.4**	**-0.1**
ISFR	**Esferayen**	**3.48**	**15**	*e*Pn	**Pn**	**10 31 04.1**	**+0.2**
ISFR	**Esferayen**	**3.48**	**15**	Pn	**Pn**	**10 31 04.0**	**+0.1**
NASN	**Na'in**	**3.52**	**257**	*e*Pn	**Pn**	**10 31 05.0**	**+0.5**
ISHM	**Shahmirzad**	**3.64**	**307**	*e*Pn	**Pn**	**10 31 05.9**	**-0.2**
ISHM	**Shahmirzad**	**3.64**	**307**	Pn	**Pn**	**10 31 05.8**	**-0.3**
ILAS	**Lasjerd**	**3.66**	**299**	*e*Pn	**Pn**	**10 31 07.6**	**+1.2**
KRBR	**Kerman**	**3.69**	**182**	*e*PN	**Pn**	**10 31 08.0**	**+1.1**
KRBR				AML	AML	10 32 13.8	
	comp=N,708nm,0.5s						
KRBR	**Kerman** SNR=52	**3.69**	**182**	*e*Pn	**Pn**	**10 31 07.9**	**+1.1**
IMYA	**Miamay**	**3.75**	**44**	*e*Pn	**Pn**	**10 31 07.5**	**-0.1**
IMYA	**Miamay**	**3.75**	**44**	Pn	**Pn**	**10 31 07.4**	**-0.2**
IZEF	**Zefreh**	**3.89**	**260**	*e*Pn	**Pn**	**10 31 09.6**	**0.0**
ISHV	**Shirvan**	**3.90**	**10**	*e*Pn	**Pn**	**10 31 09.6**	**-0.1**
ISHV	**Shirvan**	**3.90**	**10**	Pn	**Pn**	**10 31 09.5**	**-0.2**
ISFB	**Sefidab**	**3.92**	**281**	*e*Pn	**Pn**	**10 31 09.7**	**-0.2**
ISFB	**Sefidab**	**3.92**	**281**	Pn	**Pn**	**10 31 09.6**	**-0.3**
IFIR	**Firoozkooh**	**3.92**	**301**	*e*Pn	**Pn**	**10 31 09.8**	**-0.2**
IEMG	**Emamqoli**	**3.99**	**21**	*e*Pn	**Pn**	**10 31 10.8**	**-0.2**
IEMG	**Emamqoli**	**3.99**	**21**	Pn	**Pn**	**10 31 10.7**	**-0.3**
MRVT	**Maraveh tapeh**	**4.02**	**351**	*e*PN	**Pn**	**10 31 11.0**	**-0.4**
IGAR	**Garneh**	**4.19**	**251**	*e*Pn	**Pn**	**10 31 14.6**	**+0.9**
IDMV	**Damavand**	**4.42**	**297**	*e*Pn	**Pn**	**10 31 16.7**	**-0.2**
IDMV	**Damavand**	**4.42**	**297**	Pn	**Pn**	**10 31 16.6**	**-0.3**
IKLH	**Kalahroud**	**4.45**	**267**	*e*Pn	**Pn**	**10 31 17.4**	**+0.2**
IKLH	**Kalahroud**	**4.45**	**267**	Pn	**Pn**	**10 31 17.3**	**+0.1**
IVRN	**Varamin**	**4.46**	**289**	*e*Pn	**Pn**	**10 31 17.2**	**-0.2**
IVRN				*e*Sn	**Sn**	**10 32 06.4**	**-3.0**
DAMV	**Damavand**	**4.49**	**297**	*e*PN	**Pn**	**10 31 17.9**	**+0.1**
TEH	**Tehran**	**4.97**	**296**	*e*Pn	**Pn**	**10 31 16.0**	**-8.5**
IPIR	**Pirpir**	**5.12**	**260**	*e*Pn	**Pn**	**10 31 27.3**	**+0.8**
IPIR	**Pirpir**	**5.12**	**260**	Pn	**Pn**	**10 31 27.2**	**+0.7**
CHTH	**Charan**	**5.23**	**297**	*e*PN	**Pn**	**10 31 28.5**	**+0.5**
ZHSF	**Zahedan**	**5.24**	**140**	*e*Pn	**Pn**	**10 31 27.6**	**-0.6**
ISRV	**Sarvestan**	**5.36**	**218**	*e*Pn	**Pb**	**10 31 47.6**	**+4.1**
THKV	**Tehran--Karaj**	**5.42**	**296**	*e*PN	**Pn**	**10 31 31.1**	**+0.5**
THKV				AML	AML	10 33 19.7	
	comp=N,126nm,0.6s						
ASAO	**Ashtian**	**5.75**	**281**	*e*PN	**Pn**	**10 31 35.4**	**+0.2**
IRAZ	**Razeghan**	**5.99**	**289**	*e*Pn	**Pn**	**10 31 38.2**	**-0.2**
IGZV	**Gazvin**	**6.09**	**298**	*e*Pn	**Pn**	**10 31 39.4**	**-0.5**
BNDS	**Bandar-Abbas**	**6.29**	**186**	*e*PN	**Pn**	**10 31 43.2**	**+0.7**
GHIR	**Ghir-Karzin**	**6.33**	**213**	*e*PN	**Pn**	**10 31 42.9**	**-0.3**
SNGE	**Sanandaj**	**8.01**	**283**	*e*Pn	**Pn**	**10 32 06.8**	**+0.6**
GNI	**Garni**	**11.66**	**307**	*e*P	**Pn**	**10 32 58.1**	**+1.9**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KIV	**Kislovodsk**	**15.07**	**317**	*e*P	**Pn**	**10 33 45.2**	**+2.5**
KIV				pmax	pmax		
	comp=Z,12nm,1.7s						
AAK	**Ala-Archa**	**16.46**	**52**	*e*P	**Pn**	**10 34 05.0**	**+4.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK	**Ala-Archa** comp=Z,6.0nm,0.8s	**16.46**	**52**	*e*Pn	**Pn**	**10 33 57.8**	**-3.0**
AAK	**Ala-Archa** comp=Z,6.0nm,0.8s	**16.46**	**52**	*e*Pn	**Pn**	**10 33 57.8**	**-3.0**
AKTK	**Aktyubinsk**	**16.76**	**3**	P	**Pn**	**10 34 06.2**	**+1.7**
AKTK	**Aktyubinsk**	**16.76**	**3**	P	**Pn**	**10 34 06.2**	**+1.6**
AKTO	**Aktyubinsk** comp=Z,0.3nm,0.3s,baz=185,slow=12,SNR=11	**16.76**	**3**	P	**Pn**	**10 34 06.2**	**+1.7**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=104,slow=10,SNR=7.6	**19.56**	**295**	P	**Pn**	**10 34 37.8**	**-1.2**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.5s	**19.56**	**295**	*i* P pmax	**Pn** pmax	**10 34 38.0**	**-1.0**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.5s	**19.56**	**295**	*i* P	**Pn**	**10 34 38.0**	**-1.0**
BVAR	**Borovoye Array** comp=Z,3.2nm,0.7s,mb3.9,baz=208,slow=11,SNR=11	**21.62**	**23**	P	**P**	**10 34 59.4**	**-0.5**
ARU	**Arti**	**22.78**	**2‖**	*e*P	**P**	**10 35 15.9**	**+3.6**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb3.8						
MKAR	**Makanchi Array** comp=Z,1.1nm,0.7s,mb3.4,baz=234,slow=12,SNR=12	**23.28**	**48**	P	**P**	**10 35 17.6**	**0.0**
OBN	**Obninsk**	**25.70**	**333‖**	*e*P	**P**	**10 35 38.8**	**-1.2**
OBN				*e*S	**S**	**10 40 06.8**	**-1.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,mb3.3,baz=121,slow=8.6,SNR=5.0	**26.41**	**318**	P	**P**	**10 35 46.5**	**+0.1**
MLR	**Muntele Rosu** comp=Z,2.6nm,0.8s,mb3.8,baz=283,slow=4.5,SNR=4.9	**26.43**	**306**	P	**P**	**10 35 49.4**	**+2.7**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,mb3.4,baz=284,slow=6.0,SNR=4.8	**39.41**	**54**	P	**P**	**10 37 40.0**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,0.1nm,0.7s,mb2.6,baz=109,slow=9.3	**40.02**	**327**	P	**P**	**10 37 42.7**	**-2.1**
NOA	**NORSAR Array B** comp=Z,1.3nm,0.8s,mb3.7,baz=114,slow=8.0,SNR=4.4	**40.02**	**327**	P	**P**	**10 37 43.0**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,2.7nm,0.9s,mb4.2,baz=58,slow=7.3,SNR=15	**53.95**	**262**	P	**P**	**10 39 31.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**53.95**	**262**	P	**P**	**10 39 31.9**	**-1.7**
ASAR	**Alice Springs** comp=Z,0.2nm,0.7s,mb3.7,baz=295,slow=5.0,SNR=4.2	**92.79**	**117**	P	**P**	**10 43 19.6**	**-2.8**

WEL 24 10:38:59.6±0.3,3813S×17634E,h154km±3km,ML3.7/21, Error ellipse: s-maj=3.5km s-min=3.0km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.62**	**102**	PN	Pn	10 39 21.9	-0.1
URZ				SN	Sn	10 39 38.7	-0.3
MWZ	**Matawai**	**0.96**	**103**	PN	Pn	10 39 24.8	+0.4
MWZ				SN	Sn	10 39 43.2	-0.1
BKZ	**Black Stump Fm**	**1.04**	**173**	PN	Pn	10 39 25.2	+0.1
BKZ				SN	Sn	10 39 44.3	-0.2
BKZ				SN	Sn	10 39 44.5	0.0
WPVZ	**Whakapapa**	**1.24**	**210**	PN	Pn	10 39 27.1	+0.3
TUVZ	**Tukino**	**1.25**	**205**	PN	Pn	10 39 27.3	+0.3
TUVZ				SN	Sn	10 39 49.7	+1.8
FWVZ	**Far West T-bar**	**1.28**	**208**	PN	Pn	10 39 27.5	+0.3
WNVZ	**Wahianoa**	**1.33**	**206**	PN	Pn	10 39 27.8	+0.2
MOVZ	**Moawhango**	**1.35**	**199**	PN	Pn	10 39 27.6	-0.3
MOVZ				SN	Sn	10 39 49.2	-0.4
KNZ	**Kokohu**	**1.38**	**131**	PN	Pn	10 39 28.4	+0.2
PUZ	**Puketiti**	**1.52**	**88**	PN	Pn	10 39 29.4	-0.2
VRZ	**Vera Road**	**1.58**	**231**	PN	Pn	10 39 30.5	+0.2
MXZ	**Matakaoa Point**	**1.66**	**71**	PN	Pn	10 39 31.2	+0.1
WAZ	**Wanganui**	**1.93**	**213**	PN	Pn	10 39 33.8	-0.3
PXZ	**Pawanui**	**1.94**	**168**	PN	Pn	10 39 34.1	-0.2
TSZ	**Takapari Road**	**1.95**	**188**	PN	Pn	10 39 33.6	-0.7
BFZ	**Birch Farm**	**2.55**	**182**	PN	Pn	10 39 40.1	-1.3
MRZ	**Mangatainoka R**	**2.59**	**193**	PN	Pn	10 39 40.3	-1.7
TIWZ	**Tintock**	**2.67**	**187**	PN	Pn	10 39 41.4	-1.5
KIW	**Kapiti Island**	**2.94**	**202**	PN	Pn	10 39 44.1	-2.3
MTW	**Mount Morrison**	**3.09**	**192**	PN	Pn	10 39 45.6	-2.6
CAW	**Cannon Point**	**3.13**	**198**	PN	Pn	10 39 46.3	-2.4
DUWZ	**D'Urville Isla**	**3.26**	**214**	PN	Pn	10 39 49.6	-0.7
TRWZ	**Traveller**	**3.30**	**188**	PN	Pn	10 39 48.3	-2.6

JMA 24 10:40:33.6±0.2,3182N×14133E,h0km,M3.9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.81**	**316**	P	Pn	10 41 06.5	+0.4
JHJ2				S	Sn	10 41 30.3	+0.5
BSO1	**Boso 1**	**2.84**	**354**	P	Pn	10 41 21.9	+1.7
JOD2	**Odawara 2**	**3.91**	**332**	P	Pn	10 41 36.9	+2.0
JOD2				*e*S	Sn	10 42 22.0	+0.5
JHU	**Hanno**	**4.37**	**338**	P	Pn	10 41 43.5	+2.3
JHU				*e*S	Sn	10 42 33.6	+0.8
JYT	**Yasato**	**4.50**	**348**	P	Pn	10 41 45.1	+2.1
JRY	**Ryogami san**	**4.65**	**335**	P	Pn	10 41 47.6	+2.6
JRY				*e*S	Sn	10 42 42.3	+2.6
JHO	**Hitachi**	**4.82**	**353**	P	Pn	10 41 48.3	+0.9
JHO				S	Sn	10 42 44.3	+0.4
JAG	**Ashikaga**	**4.85**	**342**	P	Pn	10 41 49.5	+1.7

*NEIC **24** 11:14:55.2,1672N×9967W,h8km,MD4.3(MEX),After MEX.*

MEX 24 11:14:55.5±0.7,1674N×9967W,h7km±4km,MD4.4,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.27**	**298**	*i* P	Pg	11 15 00.0	-0.7
ACX				*i* S	Sg	11 15 05.0	+0.7
CAIG	**El Cayaco**	**0.65**	**298**	*e*P	Pg	11 15 06.3	-1.1
CAIG				*e*S	Sg	11 15 15.8	-0.6
MEIG	**Mezcala**	**1.18**	**2**	*i* P	Pg	11 15 14.6	-3.5
MEIG				*i* S	Sg	11 15 29.3	-4.1
PNIG	**Pinotepa**	**1.52**	**103**	*i* P	Pn	11 15 20.0	-3.1
PNIG				*i* S	Sn	11 15 38.3	-4.8
PLIG	**Platanillo**	**1.65**	**6**	*i* P	Pn	11 15 22.0	-2.9
PLIG				*i* S	Sn	11 15 41.8	-4.5
ZIIG	**Zihuatanejo**	**1.92**	**297**	*e*P	Pn	11 15 26.1	-2.5
ZIIG				*i* S	Sn	11 15 50.0	-2.9
UTMO	**Huajuapan**	**2.09**	**58**	*e*P	Pn	11 15 27.6	-3.3
UTMO				*i* S	Sn	11 15 54.2	-2.8
YAIG	**Yautepec**	**2.19**	**15**	*i* P	Pn	11 15 29.1	-3.2
YAIG				*i* S	Sn	11 15 55.3	-4.2
PPM	**Popocatepetl**	**2.52**	**23**	*i* P	Pn	11 15 33.0	-3.8
PPM				*i* P		11 15 33.7	
PPM				*i* S	Sn	11 16 05.5	-2.1
UNM	**Universidad Na**	**2.62**	**10**	*e*P	Pn	11 15 36.0	-2.1
UNM				*e*P		11 15 36.5	
UNM				*e*S	Sn	11 16 07.3	-2.8
UNM	**Universidad Na**	**2.62**	**10**	*e*P	Pn	11 15 36.0	-2.1
UNM				*e*P		11 15 40.0	
UNM				*e*S	Sn	11 16 07.3	-2.8
TPIG	**Tehuac#an**	**2.76**	**53**	*i* P	Pn	11 15 36.0	-4.2
TPIG				*e*S	Sn	11 16 11.0	-2.8
VHO	**Vista Hermosa**	**2.83**	**83**	*i* P	Pn	11 15 38.7	-2.4
VHO				*e*S	Sn	11 16 10.7	-4.8
OXX	**Oaxaca**	**2.84**	**83**	*i* P	Pn	11 15 38.0	-3.3
MOIG	**Morelia**	**3.26**	**334**	*e*P	Pn	11 15 44.6	-2.4
MOIG				*i* S	Sn	11 16 23.2	-2.8
MRX	**Morelia**	**3.28**	**334**	*e*P	Pn	11 15 46.0	-1.3
MRX	**Morelia**	**3.28**	**334**	*e*P	Pn	11 15 50.0	+2.7
CMIG	**Matias Romero**	**4.59**	**85**	*e*P	Pn	11 16 03.4	-2.0
CMIG				*e*S	Sn	11 16 56.5	-2.5
SFJM	**Santa Fe**	**4.91**	**320**	*i* P	Pn	11 16 08.0	-1.6
SFJM	**Santa Fe**	**4.91**	**320**	*i* P	Pn	11 16 12.0	+2.4

*IDC **24** 11:36:39.0±5.0,3372S×17987E,h162km±38km,mb3.4/5, mb1 3.6/6,mb1mx3.5/14,mbtmp3.9/6,Error ellipse: s-maj=42.9km s-min=21.4km az=50.0*

*ISCJB **24** 11:36:41.7±1.3,3395S±009×1794E±02,h175km±12km, mb3.8/6,Error ellipse: s-maj=24.7km s-min=12.5km az=38.9*

*NEIC **24** 11:36:51.9±3.0,3459S×17859E,h207km±15km,mb4.0/2, Error ellipse: s-maj=46.0km s-min=19.0km az=51.0*

ISC 24 11:36:43.1±1.5,3405S±01×1794E±02,h172km±14km,n34, σ1§39/51,mb3.8/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.67**	**194**	*e*P	**Pn**	**11 37 41.2**	**+1.5**
MXZ				S	**Sn**	**11 38 29.4**	**+5.5**
MXZ	**Matakaoa Point**	**3.67**	**194**	*e*PN	**Pn**	**11 37 41.2**	**+1.5**
MXZ				SN	**Sn**	**11 38 28.5**	**+4.6**
MXZ				SN	**Sn**	**11 38 29.4**	**+5.6**
PUZ	**Puketiti**	**4.17**	**193**	*e*P	**Pn**	**11 37 46.7**	**+0.5**
PUZ				S	**Sn**	**11 38 40.1**	**+4.7**
PUZ	**Puketiti**	**4.17**	**193**	PN	**Pn**	**11 37 59.5**	**-0.1**
PUZ				SN	**Sn**	**11 38 40.1**	**+4.7**
PUZ				SN	**Sn**	**11 38 40.2**	**+4.8**
MWZ	**Matawai**	**4.59**	**199**	P	**Pn**	**11 37 52.8**	**+1.2**
MWZ				S	**Sn**	**11 38 50.3**	**+5.2**
MWZ	**Matawai**	**4.59**	**199**	PN	**Pn**	**11 37 52.8**	**+1.3**
MWZ				SN	**Sn**	**11 38 50.3**	**+5.2**
URZ	**Urewera** 1.1nm,0.3s,baz=243,slow=14,SNR=11	**4.65**	**203**	P	**Pn**	**11 37 54.5**	**+2.2**
URZ				S	**Sn**	**11 38 51.3**	**+4.9**
	7.4nm,0.3s,baz=86,slow=22,SNR=12						
URZ	**Urewera**	**4.65**	**203**	*e*P	**Pn**	**11 37 52.8**	**+0.5**
URZ	**Urewera**	**4.65**	**203**	PN	**Pn**	**11 37 51.8**	**-0.5**
URZ				SN	**Sn**	**11 38 51.1**	**+4.6**
URZ				SN	**Sn**	**11 38 51.8**	**+5.0**
KNZ	**Kokohu**	**5.21**	**195**	PN	**Pn**	**11 37 59.5**	**-0.1**
PXZ	**Pawanui**	**6.36**	**198**	SN	**Sn**	**11 39 28.3**	**+1.5**
TSZ	**Takapari Road**	**6.66**	**204**	*e*P	**Pn**	**11 38 17.3**	**-1.3**
TSZ				S	**Sn**	**11 39 31.9**	**-1.9**
TSZ	**Takapari Road**	**6.66**	**204**	*e*PN	**Pn**	**11 38 17.3**	**-1.3**
TSZ				SN	**Sn**	**11 39 31.9**	**-1.8**
MRZ	**Mangatainoka R**	**7.32**	**204**	*e*P	**Pn**	**11 38 25.1**	**-2.3**
MRZ				S	**Sn**	**11 39 48.5**	**-1.2**
MRZ	**Mangatainoka R**	**7.32**	**204**	*e*PN	**Pn**	**11 38 25.1**	**-2.3**
MRZ				SN	**Sn**	**11 39 48.5**	**-1.2**
KIW	**Kapiti Island**	**7.74**	**206**	*e*P	**Pn**	**11 38 31.9**	**-1.0**
KIW				*e*S	**Sn**	**11 40 00.2**	**+0.6**
KIW	**Kapiti Island**	**7.74**	**206**	*e*PN	**Pn**	**11 38 31.9**	**-1.0**
KIW				*e*SN	**Sn**	**11 40 00.2**	**+0.6**
CAW	**Cannon Point**	**7.90**	**205**	*e*P	**Pn**	**11 38 32.3**	**-2.7**
CAW				S	**Sn**	**11 40 05.1**	**+1.7**
CAW	**Cannon Point**	**7.90**	**205**	*e*PN	**Pn**	**11 38 32.3**	**-2.7**
CAW				SN	**Sn**	**11 40 05.1**	**+1.7**
SNZO	**South Karori**	**8.20**	**206**	*e*P	**Pn**	**11 38 36.6**	**-2.4**
SNZO				S	**Sn**	**11 40 10.6**	**-0.1**
SNZO	**South Karori**	**8.20**	**206**	*e*PN	**Pn**	**11 38 36.6**	**-2.4**
SNZO				SN	**Sn**	**11 40 10.6**	**-0.1**
THZ	**Tophouse**	**9.31**	**212**	SN	**Sn**	**11 40 38.0**	**+0.7**
ASAR	**Alice Springs** 1.3nm,0.7s,mb3.7,baz=112,slow=7.1,SNR=23	**40.91**	**272**	P	**P**	**11 44 08.4**	**-0.1**
WB2	**Warramunga Arr**	**42.23**	**278**	*e*P	**P**	**11 44 20.5**	**+1.3**
WRA	**Warramunga Arr** 1.1nm,0.4s,mb3.8,baz=117,slow=7.7,SNR=39	**42.24**	**278**	P	**P**	**11 44 18.4**	**-0.9**
VNDA	**Vanda** 0.2nm,0.4s,mb3.1,baz=18,slow=6.4,SNR=4.0	**44.31**	**185**	P	**P**	**11 44 33.5**	**-2.3**
FITZ	**Fitzroy Crossi** 3.3nm,0.7s,mb4.1	**50.32**	**274**	*e*P	**P**	**11 45 23.8**	**+1.6**
FITZ	**Fitzroy Crossi** 1.3nm,0.5s,mb3.8,baz=233,slow=18,SNR=5.4	**50.32**	**274**	P	**P**	**11 45 22.4**	**+0.2**
QSPA	**South Pole Qui** 4.0nm,0.9s,mb4.2	**56.12**	**180**	*e*P	**P**	**11 46 06.9**	**+2.4**
MAW	**Mawson** 1.4nm,0.6s,mb3.8,baz=157,slow=7.7,SNR=3.9	**68.18**	**202**	P	**P**	**11 47 24.9**	**+0.1**
FINES	**FINESS Array B** 2.7nm,0.9s,baz=42,slow=3.1,SNR=9.0	**147.67**	**336**	PKPbc	PKPdf	11 56 02.5	-1.9
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,baz=17,slow=2.6	**151.90**	**348**	PKPa	PKPdf	11 56 12.8	+1.8
NOA	**NORSAR Array B** comp=Z,1.4nm,0.7s,baz=14,slow=4.1,SNR=7.1	**151.90**	**348**	PKPbc	PKPdf	11 56 13.1	+2.2
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=164,slow=3.8,SNR=4.4	**159.14**	**186**	PKPab	PKPab	11 56 57.7	-0.7

*NEIC **24** 11:46:45.6±1.4,2.95S×12996E,h10km,mb3.7/1,Error ellipse: s-maj=49.2km s-min=16.4km az=73.0*

*ISCJB **24** 11:46:46.6±1.5,2.9S±02×1300E±04,h33km,mb3.3/1, Error ellipse: s-maj=54.3km s-min=13.8km az=143.2*

*IDC **24** 11:46:48.8±4.5,2.91S×13044E,h43km±39km,mb3.4/2, mb1 3.8/4,mb1mx3.5/16,mbtmp3.8/4,ML3.7/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/13,Error ellipse: s-maj=117.5km s-min=15.6km az=74.0*

ISC 24 11:46:49.4±1.6,30S±02×1300E±04,h35km,n7,σ0§81/9, mb3.3/1,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 2.9nm,0.6s	**15.59**	**195**	*e*P	**Pn**	**11 50 26.1**	**-0.3**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=24,slow=13,SNR=5.1	**15.59**	**195**	P	**Pn**	**11 50 26.6**	**+0.1**
FITZ				LR	LR	11 57 28.8	
	comp=Z,64nm,19.0s,baz=194,slow=40						
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=351,slow=12,SNR=26	**17.37**	**166**	P	**Pn**	**11 50 48.0**	**-1.0**
WRA				S	**S**	**11 53 59.8**	**-9.1**
	0.1nm,0.3s,baz=351,slow=22,SNR=2.4						
WB2	**Warramunga Arr**	**17.38**	**166**	*e*P	**Pn**	**11 50 48.4**	**-0.6**
AS31	**Alice Springs**	**20.90**	**170**	*e*P	**P**	**11 51 29.7**	**+1.1**
ASAR	**Alice Springs** 4.5nm,0.7s,baz=349,slow=11,SNR=92	**20.90**	**170**	P	**P**	**11 51 29.8**	**+1.2**
ASAR				S	**S**	**11 55 19.2**	**-0.4**
	0.5nm,0.9s,baz=353,slow=21,SNR=4.3						
MKAR	**Makanchi Array** 0.1nm,0.3s,mb3.3,baz=107,slow=7.2,SNR=2.7	**64.89**	**326**	P	**P**	**11 57 24.8**	**-0.3**

*TIF **24** 11:53:57.0,4324N×4671E,h8km±11km*

*ISCJB **24** 11:53:58.6±0.6,4321N±004×4660E±003,h10km,Error ellipse: s-maj=6.0km s-min=3.2km az=31.0*

*MOS **24** 11:53:58.6±2.8,4311N×4659E,h7km,mb4.1/1,Error ellipse: s-maj=16.9km s-min=6.9km az=15.3*

*CSEM **24** 11:54:00.5±0.2,4329N×4666E,h10km,mb4.1,Error ellipse: s-maj=8.5km s-min=4.0km az=179.0*

ISC 24 11:53:58.7±0.5,4326N±004×4665E±003,h10km,n30, σ1§23/46,1C-3D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.27**	**151**	*i* PG	**Pg**	**11 53 59.5**	**-4.7**
BUJR	**Buynaksk**	**0.55**	**142**	*e*PG	**Pg**	**11 54 05.0**	**-4.3**
BUJR				pmax	pmax		
	comp=Z,138nm,0.1s						
BUJR	**Buynaksk** comp=Z,138nm,0.1s	**0.55**	**142**	*e*Pg	**Pg**	**11 54 05.0**	**-4.3**
MAK	**Makhachkala**	**0.69**	**115**	*e*PG	**Sg**	**11 54 20.1**	**-1.0**
MAK				pmax	pmax		
	comp=Z,173nm,0.2s						
MAK	**Makhachkala** comp=Z,173nm,0.2s	**0.69**	**115**	*e*Pg	**Sg**	**11 54 20.1**	**-1.0**
MNSR	**Manas**	**0.96**	**125**	PG	**Pg**	**11 54 18.0**	**+0.8**
MNSR				*e*S	**Sg**	**11 54 29.0**	**-0.7**
SNJR	**Sundja**	**1.36**	**263**	*e*Pg	**Pg**	**11 54 24.1**	**-0.7**
SNJR				*e*Sg	**Sg**	**11 54 43.9**	**+1.4**
VLKR	**Vladikavkaz**	**1.46**	**262**	*e*Pg	**Pg**	**11 54 25.7**	**-1.1**
VLKR				*e*Sg	**Sg**	**11 54 46.7**	**+1.0**
TRKR	**Terskaya**	**1.47**	**289**	*e*Pg	**Pg**	**11 54 26.1**	**-0.9**
TRKR				*e*Sg	**Sg**	**11 54 47.6**	**+1.5**
KMSR	**Komsomolskaya**	**1.73**	**275**	*e*Pn	**Pn**	**11 54 29.6**	**+0.8**
KMSR				*e*Sg	**Sg**	**11 54 53.5**	**-0.7**
ARNR	**Ardon**	**1.74**	**269**	*e*Pn	**Pn**	**11 54 29.7**	**+0.8**
ARNR				*e*Sg	**Sg**	**11 54 53.7**	**-0.9**
LACR	**Lac**	**1.78**	**257**	*e*Pn	**Pn**	**11 54 30.1**	**+0.6**
LACR				*e*Sg	**Sg**	**11 54 54.4**	**-1.6**
PRTR	**Priterechnaya**	**1.79**	**287**	*e*PN	**Pn**	**11 54 30.6**	**+0.9**
PRTR				*e*S	**Sg**	**11 54 55.3**	**-1.1**
PRTR	**Priterechnaya**	**1.79**	**287**	*e*Sg	**Sg**	**11 54 55.3**	**-1.1**
DUS	**Dusheti**	**1.85**	**232**	P	**Pn**	**11 54 32.8**	**+2.3**
DUS				S	**Sg**	**11 54 57.4

STL *i* S **Sn** **12 17 32.4 -0.1**
TALC Talca **1.59 157** *e*P **Pn** **12 17 10.6 -2.5**
TALC *i* S **Sn** **12 17 31.2 -2.4**
PACH Papudo **1.61 30** *e*P **Pn** **12 17 12.3 -1.0**
DSCH Colegio Aleman **1.61 71**⇑ *i*P **Pn** **12 17 13.1 -0.3**
DSCH *i* S **Sn** **12 17 34.4 +0.2**
PEL Peldehue **1.63 62**⇓ *i*P **Pn** **12 17 14.0 +0.4**
PEL *i* S **Sn** **12 17 35.2 +0.6**
PEL AML AML 12 17 46.8
comp=N,9μm,0.5s
PEL Peldehue **1.63 62**⇓ *i*P **Pn** **12 17 14.0 +0.4**
PEL *i* S **Sn** **12 17 35.2 +0.6**
CLCH Cerro Calan **1.64 71**⇑ *i*P **Pn** **12 17 14.0 +0.2**
CLCH *i* S **Sn** **12 17 35.4 +0.5**
CLCH AML AML 12 17 47.6
comp=E,8μm,0.9s
CLCH AML AML 12 17 48.5
comp=N,7μm,0.8s
CICH Cipreses **1.69 104**⇑ *i*P **Pn** **12 17 15.0 +0.6**
SJCH San Jose de Ma **1.73 81**⇑ *i*P **Pn** **12 17 15.0 +0.1**
SJCH *i* S **Sn** **12 17 37.4 +0.5**
SJCH AML AML 12 17 48.4
comp=N,5μm,2.1s
SJCH San Jose de Ma **1.73 81**⇑ *i*P **Pn** **12 17 15.0 +0.1**
SJCH *i* S **Sn** **12 17 37.4 +0.5**
CNCO Chanco **1.80 184** *e*P **Pn** **12 17 15.7 -0.3**
CNCO *i* S **Sn** **12 17 36.0 -2.8**
CNCO AML AML 12 17 48.3
comp=E,8μm,0.8s
CNCO Chanco **1.80 184** *e*P **Pn** **12 17 15.7 -0.3**
CNCO S **Sn** **12 17 36.0 -2.8**
FCH Farellones **1.86 72**⇑ *i*P **Pn** **12 17 17.1 +0.4**
FCH *i* S **Sn** **12 17 41.5 +1.4**
FCH AML AML 12 17 53.0
comp=N,4μm,0.3s
JACH Jahuel **1.96 51** *e*P **Pn** **12 17 17.9 -0.2**
LNCH Linares **2.02 161** *e*P **Pn** **12 17 19.3 +0.3**
LNCH *i* S **Sn** **12 17 45.0 +0.9**
LNCH AML AML 12 17 59.4
comp=N,19μm,0.7s
LNCH Linares **2.02 161** *e*P **Pn** **12 17 19.3 +0.3**
LNCH *i* S **Sn** **12 17 45.0 +0.9**
PTCH Petorca **2.07 37**⇑ *i*P **Pn** **12 17 18.9 -0.8**
PTCH *i* S **Sn** **12 17 44.5 -0.9**
PTCH AML AML 12 17 58.4
comp=E,5μm,0.4s
PTCH Petorca **2.07 37**⇑ *i*P **Pn** **12 17 18.9 -0.8**
PTCH *i* S **Sn** **12 17 44.5 -0.9**
COCH Cobquecura **2.22 188** *e*P **Pn** **12 17 21.1 -0.6**
COCH *i* S **Sn** **12 17 46.0 -3.0**
CMCH Combarbala **2.99 24**⇓ *i*P **Pn** **12 17 31.5 -0.9**
CMCH *i* S **Sn** **12 18 06.2 -2.0**
CMCH AML AML 12 18 09.3
comp=E,12μm,0.6s
CMCH Combarbala **2.99 24**⇓ *i*P **Pn** **12 17 31.5 -0.9**
CMCH *i* S **Sn** **12 18 06.2 -2.0**
MDZ Mendoza **3.15 72** *e*P **Pn** **12 17 38.9 +4.4**
MDZ *e*S **Sn** **12 18 16.0 +4.1**
TLL Tololo Astrono **3.99 20**⇑ *i*P **Pn** **12 17 45.7 -0.4**
CFAA Coronel Fontan **4.20 58** Pn **Pn** **12 17 49.0 0.0**
comp=E,0.5nm,0.3s,baz=230,slow=12,SNR=53
CFAA Lg 12 18 53.1
comp=E,5.6nm,0.3s,baz=35,slow=9.0,SNR=6.9
PLCA Paso Flores **6.95 168** Pn **Pn** **12 18 27.7 +1.0**
comp=E,1.0nm,0.3s,baz=326,slow=13,SNR=16
PLCA Sn **Sn** **12 19 41.6 -4.0**
comp=E,0.4nm,0.3s,baz=312,slow=16,SNR=1.6
PLCA Lg 12 20 23.0
comp=E,0.2nm,0.3s,baz=246,slow=20,SNR=2.4
PLCA LR LR 12 21 03.7
comp=E,360nm,18.2s,baz=348,slow=37
PLCA Paso Flores **6.95 168** *e*Pn **Pn** **12 18 27.4 +0.8**
comp=E,41nm,0.9s
TRQA Tornquist **9.39 119** *e*Pn **Pn** **12 19 01.7 +1.5**
comp=E,29nm,0.9s
LVC Limon Verde **11.69 16** Pn **Pn** **12 19 27.2 -4.4**
comp=E,0.5nm,0.3s,baz=158,slow=9.3,SNR=7.0
LVC Limon Verde **11.69 16** *e*Pn **Pn** **12 19 26.2 -5.4**
comp=E,9.3nm,0.8s
CPUP Villa Florida **15.07 64** Pn **Pn** **12 20 17.2 -0.6**
comp=E,0.3nm,0.3s,baz=172,slow=11,SNR=2.3
CPUP LR LR 12 26 53.9
comp=E,399nm,20.2s,baz=225,slow=41
CPUP Villa Florida **15.07 64** Pn **Pn** **12 20 16.9 -0.9**
comp=E,20nm,0.7s
ARE Arequipa **17.42 3** *e*P **Pn** **12 20 50.0 +2.1**
LPAZ La Paz **17.98 13** P **Pn** **12 20 56.1 +1.2**
comp=E,0.5nm,0.3s,baz=189,slow=7.3,SNR=44
LPAZ La Paz **17.98 13** P **Pn** **12 20 56.2 +1.3**
LPAZ pmax pmax
comp=E,1.0nm,0.3s
LPAZ La Paz **17.98 13** *e*P **Pn** **12 20 56.2 +1.3**
comp=Z,17nm,0.8s
EFI East Falkland **20.55 154** *e*P **P** **12 21 23.0 -0.5**
EFI pmax pmax
comp=Z,20nm,0.5s
EFI East Falkland **20.55 154** *e*P **P** **12 21 23.0 -0.5**
comp=Z,20nm,0.5s
SIV San Ignacio **20.57 33** P **P** **12 21 23.1 -0.7**
comp=Z,12nm,0.8s,baz=222,slow=11,SNR=45
NNA Nana **22.22 348** P **P** **12 21 41.2 -0.2**
comp=Z,10nm,0.8s,mb4.3,baz=149,slow=12,SNR=4.3
BDFB Brasilia **28.54 56** P **P** **12 22 39.5 -1.1**
comp=Z,6.8nm,0.7s,mb4.5,baz=240,slow=9.8,SNR=11
BDFB LR LR 12 35 06.1
comp=Z,556nm,18.9s,MS4.2,baz=230,slow=39
BDFB Brasilia **28.54 56** P **P** **12 22 39.5 -1.1**
BDFB pmax pmax
comp=Z,7.0nm,0.7s
BDFB MLR MLR
comp=Z,556nm,18.9s
BDFB Brasilia **28.54 56** *e*P **P** **12 22 39.3 -1.4**
comp=Z,10nm,0.7s,mb4.7
PMSA Palmer Station **31.29 173** P **P** **12 23 05.7 +0.7**
comp=Z,2.7nm,0.8s,mb4.1,baz=288,slow=9.0,SNR=3.9
PMSA Palmer Station **31.29 173** *e*P **P** **12 23 05.3 +0.4**
comp=Z,3.4nm,0.8s,mb4.2
SDV Santo Domingo **42.61 3** P **P** **12 24 39.8 -1.3**
comp=Z,7.0nm,1.0s,mb4.3
PCRV Puerto La Cruz **44.48 11** LR LR 12 44 40.2
comp=Z,180nm,19.5s,MS4.0,baz=326,slow=38
VNA3 Neumayer Olymp **49.53 158**⇑ *i*P **P** **12 25 36.0 +0.3**
VNA3 *e* 12 25 43.4
VNA3 *e* 12 25 46.3
VNA3 *e* 12 26 56.6
VNA1 Neumayer--Stat **49.85 157**⇑ *i*P **P** **12 25 38.6 +0.5**
VNA1 *e* 12 25 46.0
VNA1 *e* 12 25 49.8
SNAA Sanae **51.76 158** P **P** **12 25 52.7 +0.2**
comp=Z,3.1nm,0.6s,mb4.4,baz=280,slow=7.1,SNR=76
SNAA LR LR 12 48 21.8
comp=Z,25nm,20.2s,MS3.2,baz=34,slow=37
SNAA Sanae **51.76 158**⇑ *i*P **P** **12 25 52.6 +0.1**
SNAA *e* 12 26 00.7
SNAA *e* 12 26 03.3
SNAA *e* 12 27 15.0
SNAA Sanae **51.76 158** P **P** **12 25 52.7 +0.2**
SNAA pmax pmax
comp=Z,3.0nm,0.6s
SNAA MLR MLR
comp=Z,25nm,20.2s
SNAA Sanae **51.76 158** *e*P **P** **12 25 52.3 -0.2**
comp=Z,38nm,1.4s,mb5.1
SJG San Juan **52.09 8** P **P** **12 25 54.5 -0.4**
comp=Z,3.4nm,0.3s,mb4.7,baz=158,slow=3.5,SNR=3.7
SJG San Juan **52.09 8** P **P** **12 25 54.5 -0.5**
SJG pmax pmax
comp=Z,3.0nm,0.4s
QSPA South Pole Qui **56.30 180** *e*P **P** **12 26 26.6 +0.9**
comp=Z,9.2nm,1.1s,mb4.7
VNDA Vanda **64.11 191** P **P** **12 27 20.6 +1.4**
comp=Z,1.0nm,0.9s,mb3.8,baz=103,slow=3.3,SNR=5.6
VNDA Vanda **64.11 191** P **P** **12 27 20.6 +1.5**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
SYO Syowa Base **66.04 159**⇓ *e*P **P** **12 27 30.2 -1.5**
SYO Syowa Base **66.04 159**⇑ *e*pP pP 12 27 35.8 +0.3
TBI Tubuai **67.04 257** *e*S S 12 36 45.4 +14
comp=Z,60nm,27.8s
TBI *e*LR LR 12 47 53.1
comp=Z,120nm,29.2s
JCT Junction City **69.10 335** *e*P **P** **12 27 51.9 +0.9**
JCT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JCT Junction City **69.10 335** *e*P **P** **12 27 51.9 +0.9**
comp=Z,9.2nm,0.8s,mb4.8
OXF Oxford **69.93 345** *e*P **P** **12 27 55.9 -0.2**
OXF pmax pmax
comp=Z,19nm,0.9s,mb5.0
OXF Oxford **69.93 345** *e*P **P** **12 27 55.9 -0.2**
comp=Z,19nm,0.9s,mb5.0
SWET Sewanee **69.95 348** *e*P **P** **12 27 55.9 -0.4**
PPT Papeete **69.96 262** *e*S S 12 37 20.1 +14
comp=Z,52nm,23.2s
PPT *e*LR LR 12 49 18.3
comp=Z,106nm,28.0s
PPT Papeete **69.96 262** LR LR 12 50 35.3
comp=Z,88nm,19.6s,MS4.0,baz=117,slow=29
TKL Tuckaleechee C **70.04 350** P **P** **12 27 55.8 -1.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=135,slow=11,SNR=4.9
TKL Tuckaleechee C **70.04 350** P **P** **12 27 55.8 -1.0**
TKL pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PLAL Pickwick Lake **70.11 346** *e*P **P** **12 27 57.0 -0.3**
comp=Z,6.3nm,0.7s,mb4.7
WVT Waverly **71.18 347** *e*P **P** **12 28 03.2 -0.5**
WVT pmax pmax
comp=Z,21nm,0.8s,mb5.1
WVT Waverly **71.18 347** *e*P **P** **12 28 03.1 -0.6**
comp=Z,21nm,0.8s,mb5.1
MNTX Cornudas Mount **72.31 331** *e*P **P** **12 28 09.4 -1.2**
comp=Z,5.1nm,0.7s,mb4.6
MNTX *e*pP pP 12 28 18.2 +3.8
MAW Mawson **73.33 164** P **P** **12 28 16.4 -0.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=210,slow=7.2,SNR=12
MAW LR LR 13 02 46.3
comp=Z,103nm,18.7s,MS4.1,baz=64,slow=38
MAW Mawson **73.33 164** P **P** **12 28 16.4 -0.2**
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW MLR MLR
comp=Z,103nm,18.7s
SUR Sutherland **75.12 119** P **P** **12 28 28.9 +1.8**
comp=Z,3.9nm,0.7s,mb4.4,baz=290,slow=6.1,SNR=5.2
LAZ Ladron **75.38 331** *e*P **P** **12 28 30.5 +2.0**
DBIC Dimbokro **75.44 72** P **P** **12 28 29.3 +0.4**
comp=Z,5.5nm,0.6s,mb4.6,baz=207,slow=4.7,SNR=12
DBIC LR LR 13 02 25.5
comp=Z,69nm,18.7s,MS4.0,baz=265,slow=36
DBIC Dimbokro **75.44 72** P **P** **12 28 29.3 +0.4**
DBIC pmax pmax
comp=Z,6.0nm,0.6s
DBIC MLR MLR
comp=Z,69nm,18.7s
DBIC Dimbokro **75.44 72** *e*P **P** **12 28 28.7 -0.2**
comp=Z,6.5nm,0.7s,mb4.7
ANMO Albuquerque **75.58 332** *e*P **P** **12 28 31.2 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque **75.58 332** *e*P **P** **12 28 31.2 +1.5**
comp=Z,3.0nm,1.0s,mb4.2
SDCO Great Sand Dun **77.68 334** *e*P **P** **12 28 42.4 +0.8**
comp=Z,3.5nm,0.9s,mb4.3
TSUM Tsumeb **79.52 106** P **P** **12 28 52.3 +0.5**
comp=Z,1.9nm,0.9s,mb4.0,baz=190,slow=4.0,SNR=5.1
CASY Casey **80.08 181** *e*P **P** **12 28 54.8 +0.1**
comp=Z,3.2nm,0.9s,mb4.2
BOSA Boshof **80.37 118** P **P** **12 28 56.7 +0.4**
comp=Z,5.6nm,1.0s,mb4.5,baz=236,slow=7.9,SNR=7.1
BOSA Boshof **80.37 118** P **P** **12 28 56.7 +0.4**
BOSA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
BOSA Boshof **80.37 118** *e*P **P** **12 28 56.7 +0.4**
comp=Z,7.8nm,1.0s,mb4.6
ECSD EROS,Sioux Fal **80.39 342** *e*P **P** **12 28 55.9 -0.5**
ECSD *e*pP pP 12 29 04.0 +3.6
CCUT Cedar City **80.69 328** *e*P **P** **12 29 00.3 +2.2**
ARUT Antelope Range **80.92 328** P **P** **12 29 00.6 +1.3**
LBTB Lobatse **82.60 115** *e*P **P** **12 29 08.0 -0.1**
LBTB pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LBTB Lobatse **82.60 115** *e*P **P** **12 29 08.0 -0.1**
comp=Z,4.5nm,0.6s,mb4.7
DUG Dugway **82.66 330** P **P** **12 29 08.1 -0.4**
DUG pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
DUG Dugway **82.66 330** P **P** **12 29 08.1 -0.4**
comp=Z,7.4nm,1.3s,mb4.6
TOA0 Torodi Ar. Sit **84.47 70** *e*P **P** **12 29 18.0 +0.2**
TOA0 *e*pP pP 12 29 25.9 +4.3
TORD Torodi Ar. Bea **84.47 70** P **P** **12 29 17.5 -0.3**
comp=Z,6.9nm,0.7s,mb4.9,baz=261,slow=4.3,SNR=36
MCMT McKenzie Canyo **86.57 332** *e*P **P** **12 29 29.5 +1.3**
DGMT Dagmar **86.81 339** *e*P **P** **12 29 29.7 +0.3**
WRA Warramunga Arr **120.67 209** PKP PKPdf 12 35 36.9 0.0
comp=Z,1.1nm,1.1s,baz=162,slow=1.8,SNR=11
WRA Warramunga Arr **120.67 209** PKIKP PKPdf 12 35 36.9 0.0
WRA pmax pmax
comp=Z,1.0nm,1.2s
BRTR Keskin Array B **122.06 61** PKP PKPdf 12 35 39.4 -0.2
comp=Z,1.1nm,0.7s,baz=184,slow=2.8,SNR=7.2
BRTR Keskin Array B **122.06 61** PKIKP PKPdf 12 35 39.4 -0.2
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be **122.36 48** PKP PKPdf 12 35 38.5 -1.6
comp=Z,0.4nm,0.4s,baz=259,slow=2.6,SNR=4.7
KIV Kislovodsk **129.71 58** *i* PKIKP PKPdf 12 35 50.6 -3.6
KIV pmax pmax
comp=Z,10.0nm,1.2s
KIV MLR MLR
comp=Z,36nm,17.0s,MS4.1
ZRNK Zerenda **146.67 43** *e*PKPdf PKPdf 12 36 25.4 +0.3
ZRNK *e*PKPbc PKPbc 12 36 27.0 +0.3
BRVK Borovoye **147.36 43** *e*PKP2 PKPab 12 36 28.5 -2.1
YAK Yakutsk **148.57 340** *e*PKP2 PKPbc 12 36 31.3 -0.6
YAK pmax pmax
comp=Z,11nm,0.9s
AAK Ala-Archa **152.74 62** *e*PKIKP PKPbc 12 36 41.2 -0.6
AAK *e* 12 36 49.8
NVS Novosibirsk **153.04 32** *e*PKIKP PKPbc 12 36 41.4 -1.1
ZAL Zalesovo **154.33 32** PKPbc PKPbc 12 36 43.6 -1.6
comp=Z,2.9nm,0.6s,baz=144,slow=3.3,SNR=9.2
ZAL Zalesovo **154.33 32** PKIKP PKPbc 12 36 43.7 -1.6
ZAL pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array **156.94 49** PKP PKPdf 12 36 39.9 -0.6
comp=Z,0.2nm,0.5s,baz=350,slow=1.2,SNR=4.3
MKAR PKPab PKPab 12 37 10.1 -0.5
comp=Z,2.4nm,0.8s,baz=295,slow=4.8,SNR=12
MDJ Mudanjiang **159.97 309** PKP PKPdf 12 36 45.0 +0.9
MDJ PP PP
comp=Z,58nm,4.2s
WMQ Urumqi **161.66 52** *e*PKP PKPdf 12 36 44.0 -2.0
CN2 Changchun **163.00 311** *e*PKP PKPdf 12 36 46.5 -0.8
SONM Songino Array **166.08 3** PKPab PKPab 12 37 51.2 +0.7
comp=Z,0.9nm,0.7s,baz=338,slow=4.5,SNR=8.1
KMI Kunming **170.25 153** PKP PKPdf 12 36 54.6 +1.8
NJ2 Nanjing **170.37 262** *e*PKP PKPdf 12 36 52.3 -0.6
BJI Beijing **170.83 314** PKP PKPdf 12 36 52.3 -0.9
HHC Hu-ho-hao-te **172.41 337** *e*PKP PKPdf 12 36 52.3 -1.6
HHC APKP 12 37 02.9
HHC XPKP 12 37 06.8
HHC PKP2 PKPab 12 38 18.8 +0.3
HHC PKS 12 40 23.1
HHC PP PP 12 42 10.9 +1.2
HHC SKS SKSdf 12 43 50.3 -6.7
HHC SKKS SKKSac 12 48 52.9 -3.4
HHC SS SS 13 03 16.0 -4.5
HHC PP PP
comp=Z,73nm,4.7s
HHC LR LR
comp=N,123nm,3.9s
HHC LR LR
comp=E,176nm,4.1s
HHC LR LR
comp=Z,106nm,4.1s
CD2 Chengdu **175.57 132** *e*PKP PKPdf 12 36 52.3 -2.7
LZH Lanzhou **176.24 54** *e*PKP PKPdf 12 36 54.1 -1.1
LZH APKP 12 37 03.3
LZH XPKP 12 37 05.9
LZH LR LR
comp=N,167nm,18.1s
LZH LR LR
comp=Z,254nm,20.3s

*ISCJB **24** 12:19:08.5±0.7, 185N±0.1×464W±0.1, h10km, mb4.0/11, MS3.6/6, Error ellipse: s-maj=19.6km s-min=15.2km az=70.2*
*IDC **24** 12:19:08.7±0.9, 1855N×4638W, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.8/24, mbtmp3.9/10, MS3.6/7, Ms1 3.6/7, ms1mx3.2/32, Error ellipse: s-maj=29.3km s-min=20.0km az=134.0*
*NEIC **24** 12:19:10.3±0.6, 1852N×4636W, h10km, mb4.3/3, Error ellipse: s-maj=18.6km s-min=14.3km az=124.0*

ISC 24 12:19:10.8±0.7, 185N±01×464W±01, h10km, n18, σ0s86/14, mb4.0/11, MS3.6/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.80**	**272**	LR		LR	LR	12 28 24.2	
	comp=Z,88nm,18.3s,baz=90,slow=30								
TKL	**Tuckaleechee C**	**37.16**	**305**	LR		LR	LR	12 38 03.4	
	comp=Z,95nm,20.7s,MS3.6,baz=107,slow=31								
SIV	**San Ignacio**	**37.23**	**204**	P		P	**P**	**12 26 22.9**	**+0.5**
	1.7nm,0.8s,mb3.9,baz=46,slow=12,SNR=3.6								
JTS	**JuntasAbangare**	**38.21**	**263**	LR		LR	LR	12 40 43.3	
	comp=Z,37nm,18.2s,MS3.2,baz=71,slow=34								
MDT	**Midelt**	**39.96**	**61**	LR		LR	LR	12 39 06.0	
	comp=Z,48nm,20.4s,MS3.3,baz=290,slow=30								
LPAZ	**La Paz**	**40.70**	**213**	P		P	**P**	**12 26 53.0**	**+1.6**
	2.0nm,0.9s,mb3.8,baz=22,slow=6.5,SNR=5.6								
LPAZ	**La Paz**	**40.70**	**213**	*e*P		P	**P**	**12 26 52.8**	**+1.4**
	1.8nm,0.8s,mb3.8								
DBIC	**Dimbokro**	**42.06**	**101**	P		P	**P**	**12 27 02.6**	**0.0**
	3.0nm,0.8s,mb4.0,baz=294,slow=9.7,SNR=3.4								
DBIC				LR		LR	LR	12 40 44.3	
	comp=Z,113nm,19.5s,MS3.8,baz=236,slow=31								
DBIC	**Dimbokro**	**42.06**	**101**	*e*P		P	**P**	**12 27 02.9**	**+0.3**
DBIC				LR		LR	LR	12 40 44.3	
CPUP	**Villa Florida**	**45.84**	**194**	P		P	**P**	**12 27 33.3**	**+0.3**
	2.6nm,0.7s,mb4.2,baz=2.6,slow=11,SNR=3.3								
CPUP	**Villa Florida**	**45.84**	**194**	*e*P		P	**P**	**12 27 33.2**	**+0.2**
	14nm,0.7s,mb5.0								
TORD	**Torodi Ar. Bea**	**46.43**	**89**	P		P	**P**	**12 27 36.7**	**-0.9**
	1.4nm,0.9s,mb3.9,baz=283,slow=6.2,SNR=4.2								
TORD				LR		LR	LR	12 45 20.8	
	comp=Z,102nm,18.9s,MS3.8,baz=285,slow=34								
LVC	**Limon Verde**	**46.45**	**209**	P		P	**P**	**12 27 37.1**	**-0.6**
	5.3nm,0.8s,mb4.5,baz=32,slow=7.1,SNR=4.8								
CFAA	**Coronel Fontan**	**54.09**	**203**	P		P	**P**	**12 28 35.1**	**-0.5**
	0.6nm,1.1s,mb3.5,baz=7.2,slow=6.4,SNR=4.0								
BW06	**Boulder Array**	**58.09**	**309**	*e*P		P	**P**	**12 29 04.7**	**+0.4**
	2.8nm,1.1s,mb4.2								
PDAR	**Pinedale Array**	**58.09**	**309**	P		P	**P**	**12 29 02.9**	**-1.3**
	0.7nm,0.9s,mb3.7,baz=94,slow=8.9,SNR=5.6								
PDAR				LR		LR	LR	12 51 07.6	
	comp=Z,95nm,19.9s,MS3.9,baz=81,slow=33								
NOA	**NORSAR Array B**	**58.43**	**29**	P		P	**P**	**12 29 07.9**	**+1.3**
	0.9nm,0.8s,mb3.8,baz=249,slow=7.0,SNR=3.0								
PLCA	**Paso Flores**	**63.10**	**200**	P		P	**P**	**12 29 37.7**	**-0.7**
	1.4nm,0.8s,mb4.1,baz=0.0,slow=5.1,SNR=3.3								

*NEIC **24** 12:20:32.9, 3220S×7052W, h9km, ML2.7(GUC), After GUC.*

GUC 24 12:20:32.9±0.7, 3220S×7052W, h9km±2km, MD3.6, ML2.7, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.35**	**259**⇑	*i*P		Pg	Pg	12 20 40.3	+0.4
PTCH				*i* S		Sg	Sg	12 20 46.1	+1.6
PTCH				AML		AML	AML	12 20 46.6	
	comp=N,1μm,0.2s								
PTCH	**Petorca**	**0.35**	**259**⇑	*i*P		Pg	Pg	12 20 40.3	+0.4
PTCH				*i* S		Sg	Sg	12 20 46.1	+1.6
JACH	**Jahuel**	**0.49**	**187**⇑	*i*P		Pg	Pg	12 20 43.0	+0.7
JACH				*i* S		Sg	Sg	12 20 50.5	+1.7
PACH	**Papudo**	**0.85**	**246**	*e*P		Pg	Pg	12 20 49.1	-0.1
PACH				*i* S		Sg	Sg	12 21 01.0	+0.8
CHNG	**Los Chungos**	**0.89**	**290**⇓	*i*P		Pg	Pg	12 20 49.3	-0.7
CHNG				*i* S		Sg	Sg	12 21 01.8	+0.2
PEL	**Peldehue**	**0.95**	**188**	*e*P		Pg	Pg	12 20 51.0	-0.2
PEL				*i* S		Sg	Sg	12 21 04.4	+0.8
PEL				AML		AML	AML	12 21 06.4	
	comp=N,290nm,0.3s								
PEL	**Peldehue**	**0.95**	**188**	*e*P		Pg	Pg	12 20 51.0	-0.2
PEL				*i* S		Sg	Sg	12 21 04.4	+0.8
FCH	**Farellones**	**1.14**	**170**⇑	*i*P		Pb	Pg	12 20 54.3	-0.5
FCH				*i* S		Sg	Sg	12 21 10.3	+0.6
FCH				AML		AML	AML	12 21 10.9	
	comp=E,216nm,0.1s								
RCDM	**Rinconada Maip**	**1.31**	**191**	*e*P		Pn	Pg	12 20 57.0	-0.4
RCDM				*i* S		Sb	Sg	12 21 14.2	-0.4
RCDM				AML		AML	AML	12 21 16.4	
	comp=E,528nm,0.1s								
RCDM	**Rinconada Maip**	**1.31**	**191**	*e*P		Pn	Pg	12 20 57.0	-0.4
RCDM				*i* S		Sb	Sg	12 21 14.2	-0.4

*LJU **24** 12:45:19.8, 4546N×1596E, h14km, ML2.3*
*ISCJB **24** 12:45:20.1±0.6, 4549N±0.003×1592E±0.004, h12km±4km, Error ellipse: s-maj=4.8km s-min=4.4km az=125.6*
*CSEM **24** 12:45:20.2±0.1, 4549N×1595E, h20km, ML3.3/3, Error ellipse: s-maj=1.7km s-min=1.5km az=174.0*
*VIE **24** 12:45:20.1±0.4, 4549N×1596E, h11km±1km, mb2.0/2, ML2.6/2, Error ellipse: s-maj=2.4km s-min=1.6km az=141.0 32 km E of Karlovac*

ISC 24 12:45:20.8±0.6, 4547N±003×1594E±004, h13km±4km, n23, σ0s89/44, 11C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SISC	**Sisak**	**0.30**	**89**	*e*Pg		**Pg**	**Pg**	**12 45 26.9**	**0.0**
SISC				Sg		**Sg**	**Sg**	**12 45 32.3**	**+1.2**
GCIS	**Gornji Cirnik**	**0.46**	**331**	*i*Pg		**Pg**	**Pg**	**12 45 28.9**	**-0.9**
GCIS				*i* Sg		**Sg**	**Sg**	**12 45 36.4**	**-0.2**
BOJS	**Bojanci**	**0.49**	**275**⇑	*i*Pg		**Pg**	**Pg**	**12 45 30.2**	**-0.2**
BOJS				*i* Sg		**Sg**	**Sg**	**12 45 37.4**	**+0.5**
BOJS									
	comp=Z,50nm,0.1s								
BOJS	**Bojanci**	**0.49**	**275**⇑	*i*Pg		**Pg**	**Pg**	**12 45 30.2**	**-0.2**
BOJS				*i* Sg		**Sg**	**Sg**	**12 45 37.4**	**+0.5**
	comp=Z,50nm,0.1s								
DOBS	**Dobrina**	**0.76**	**334**	*i* Pg		**Pg**	**Pg**	**12 45 34.8**	**-0.7**
DOBS									
	comp=Z,63nm,0.1s								
DOBS	**Dobrina**	**0.76**	**334**	*i* Pg		**Pg**	**Pg**	**12 45 34.8**	**-0.7**
	comp=Z,63nm,0.1s								
VISS	**Visnje**	**0.85**	**294**	*i* Pg		**Pg**	**Pg**	**12 45 36.6**	**-0.5**
VISS									
	comp=Z,49nm,0.1s								
VISS	**Visnje**	**0.85**	**294**	*i* Pg		**Pg**	**Pg**	**12 45 36.6**	**-0.5**
	comp=Z,49nm,0.1s								
PDKS	**Podkum**	**0.89**	**312**	*i* Pg		**Pg**	**Pg**	**12 45 37.5**	**-0.5**
PDKS									
	comp=Z,53nm,0.2s								
KOGS	**Kog**	**1.01**	**12**	*i* Pg		**Pg**	**Pg**	**12 45 39.2**	**-1.0**
KOGS				*i* Sg		**Sg**	**Sg**	**12 45 54.5**	**+1.2**
	comp=Z,97nm,0.2s								
LJU	**Ljubljana**	**1.15**	**301**	*e*Pg		**Pg**	**Pg**	**12 45 42.1**	**-0.8**
LJU				*e*Sg		**Sg**	**Sg**	**12 45 59.0**	**+1.2**
NVLJ	**Novalja**	**1.18**	**221**	*i* Pg		**Pg**	**Pg**	**12 45 43.8**	**+0.3**
NVLJ				*i* Sg		**Sg**	**Sg**	**12 45 59.7**	**+0.8**
NVLJ	**Novalja**	**1.18**	**221**	*i* Pg		**Pg**	**Pg**	**12 45 43.7**	**+0.2**
NVLJ				*i* Sg		**Sg**	**Sg**	**12 45 59.6**	**+0.8**
OBKA	**Obir**	**1.43**	**318**⇑	*e*Pg		**Pg**	**Pg**	**12 45 47.1**	**-1.1**
	SNR=7.6								
OBKA				⇓ *i*Sg		**Sg**	**Sg**	**12 46 06.8**	**+0.1**
	comp=Z,77nm,0.5s								
OBKA	**Obir**	**1.43**	**318**	Pg		**Pg**	**Pg**	**12 45 47.1**	**-1.1**
	comp=Z,7.0nm,6.0s								
OBKA				Sg		**Sg**	**Sg**	**12 46 06.8**	**+0.1**
	comp=Z,77nm,0.5s								
VOY	**Vojsko**	**1.54**	**292**	*e*Pn		**Pn**	**Pn**	**12 45 48.8**	**+0.8**
VOY				*e*				12 45 49.3	
VOY				*e*Sn		**Sn**	**Sn**	**12 46 10.7**	**+2.8**
DRE	**Drenchia**	**1.76**	**295**⇓	*i*Pg		**Pg**	**Pg**	**12 45 52.7**	**-1.8**
DRE				*i* Sg		**Sg**	**Sg**	**12 46 17.4**	**0.0**
DRE	**Drenchia**	**1.76**	**295**	*i* Pg		**Pg**	**Pg**	**12 45 52.7**	**-1.8**
DRE				*i* Sg		**Sg**	**Sg**	**12 46 17.3**	**0.0**
ARSA	**Arzberg**	**1.81**	**351**⇑	*i*Pn		**Pn**	**Pn**	**12 45 51.0**	**-0.6**
ARSA				⇓ *i*Pg		**Pg**	**Pg**	**12 45 54.3**	**-1.2**
ARSA	**Arzberg**	**1.81**	**351**⇑	*i*Pn		**Pn**	**Pg**	**12 45 51.0**	**-0.6**
ARSA				⇓ *i*Pg		**Pg**	**Pg**	**12 45 54.3**	**-1.2**
ARSA				⇑ *i*Sn		**Sn**	**Sn**	**12 46 14.5**	**0.0**
ARSA				⇓ *i*Sg		**Sg**	**Sg**	**12 46 19.2**	**

CONA				⇑*i*Sg		**Sg**	**12 46 41.8**	**+1.9**
	comp=Z,4.2nm,0.6s								
MOA	**Molln**	**2.65**	**335**	⇑*i*Pn		**Pn**	**12 46 02.8**	**-0.5**
MOA				⇑*i*Sn		**Sn**	**12 46 34.7**	**-0.5**

MAN 24 13:01:08.9, 1702N×12101E, h21km, mb2.6, ML4.1, MS0.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.69**	**336**	*e*P	Pb	13 01 22.7	+0.4
BCPH	**Baguio City Da**	**0.75**	**213**	⇑*i*P	Pb	13 01 22.8	-0.5
BCPH				*i* S	Sb	13 01 26.3	-6.9
CAUP	**Cauayan**	**0.79**	**95**	*e*P	Pb	13 01 24.1	+0.1
BOLP	**Bolinao**	**1.22**	**239**	*e*P	Pn	13 01 30.2	-0.6
BOLP				*e*S	Sn	13 01 39.9	-6.8
BOLP	**Bolinao**	**1.22**	**239**	*e*P	Pn	13 01 30.2	-0.6
BOLP				*e*S	Sn	13 01 39.9	-6.8
BALP	**Baler**	**1.38**	**157**	*e*P	Pn	13 01 39.2	+6.2
BALP				*e*S	Sn	13 01 56.9	+6.3

*SZGRF **24** 13:42:32.0, 1951S×17833W, h33km, Fiji Islands region*
*ISCJB **24** 13:43:29.9±0.8, 1783S±006×17850W±006, h508km±9km, mb4.3/37, Error ellipse: s-maj=11.4km s-min=7.5km az=97.6*
*BJI **24** 13:43:30.9, 1761S×17861W, h511km, mB4.7, mb4.5*
*MOS **24** 13:43:30.2±1.6, 1768S×17870W, h498km, mb4.3/11, Error ellipse: s-maj=15.6km s-min=13.3km az=48.3*
*IDC **24** 13:43:30.5±1.1, 1783S×17841W, h508km±12km, mb3.8/14, mb1 3.9/16, mb1mx3.9/19, mbtmp4.6/16, Error ellipse: s-maj=14.2km s-min=10.6km az=137.0*
*NEIC **24** 13:43:32.1±1.1, 1784S×17852W, h522km±11km, mb4.2/20, Error ellipse: s-maj=11.7km s-min=7.5km az=122.0*

ISC 24 13:43:31.0±0.8, 1786S±006×17842W±006, h511km±9km, n148, σ0.99/81, mb4.3/37, 14C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.50**	**59**	P	**P**	**13 45 22.8**	**+0.3**
	7.4nm,0.3s,baz=142,slow=6.6,SNR=6.6						
AFI				S	**S**	**13 46 51.5**	**-2.4**
	3.4nm,0.3s,baz=245,slow=17,SNR=2.5						
AFI	**Afiamalu**	**7.50**	**59**	*e*P	**P**	**13 45 22.4**	**-0.1**
AFI				S	**S**	**13 46 52.2**	**-1.8**
FUNA	**Funafuti**	**9.56**	**346**	*e*P	**P**	**13 45 45.5**	**+1.8**
DZM	**Mont Dzumac**	**14.83**	**251**	P	**P**	**13 46 39.9**	**+0.7**
	0.3nm,0.3s,baz=86,slow=19,SNR=3.6						
URZ	**Urewera**	**20.70**	**190**	P	**P**	**13 47 33.4**	**-1.9**
	27nm,0.5s,baz=12,slow=2.7,SNR=24						
RPZ	**Rata Peaks**	**27.27**	**197**	P	**P**	**13 48 32.5**	**-1.2**
	11nm,0.6s,mb4.7,baz=271,slow=1.9,SNR=14						
ARMA	**Armidale**	**29.95**	**240**	*e*P	**P**	**13 48 58.8**	**+1.6**
CTA	**Charters Tower**	**33.44**	**260**	*e*P	**P**	**13 49 27.0**	**0.0**
	7.2nm,0.8s,mb4.2						
CTA	**Charters Tower**	**33.44**	**260**	P	**P**	**13 49 27.0**	**0.0**
	8.8nm,0.7s,mb4.4,baz=92,slow=12,SNR=13						
CTA	**Charters Tower**	**33.44**	**260**	P	**P**	**13 49 27.0**	**0.0**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PMG	**Port Moresby**	**34.44**	**280**	P	**P**	**13 49 36.1**	**+0.8**
	comp=Z,24nm,0.8s,mb4.8,baz=78,slow=6.0,SNR=5.7						
PMG	**Port Moresby**	**34.44**	**280**	*e*P	**P**	**13 49 32.6**	**-2.8**
PMG	**Port Moresby**	**34.44**	**280**	*e*P	**P**	**13 49 36.5**	**+1.1**
	comp=Z,20nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**38.64**	**241**	*e*P	**P**	**13 50 10.4**	**+0.3**
	comp=Z,8.4nm,1.5s,mb4.0						
STKA	**Stephens Creek**	**38.64**	**241**	P	**P**	**13 50 11.4**	**+1.3**
	comp=Z,1.8nm,0.3s,mb4.0,baz=97,slow=8.3,SNR=17						
WB2	**Warramunga Arr**	**44.62**	**259**	*e*P	**P**	**13 50 56.5**	**-0.8**
WRAB	**Tennant Creek**	**44.62**	**259**	*e*P	**P**	**13 50 57.0**	**-0.4**
WRAB	**Tennant Creek**	**44.62**	**259**	*e*P	**P**	**13 50 56.5**	**-0.8**
	comp=Z,9.5nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**13 50 56.9**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.1,baz=95,slow=6.9,SNR=88						
WRA				S	**S**	**13 56 50.9**	**-5.0**
	comp=Z,0.5nm,0.7s,baz=95,slow=14,SNR=2.7						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**13 50 56.9**	**-0.5**
WRA				S	**S**	**13 56 50.9**	**-5.0**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA				smax			
	comp=N,1.0nm,0.7s						
AS31	**Alice Springs**	**44.79**	**254**	*e*P	**P**	**13 50 58.7**	**0.0**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**13 50 58.9**	**+0.2**
	comp=N,34nm,0.7s,mb5.0,baz=88,slow=8.2,SNR=598						
ASAR				S	**S**	**13 56 54.9**	**-3.3**
	comp=N,1.6nm,0.9s,baz=94,slow=16,SNR=10.0						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**13 50 58.9**	**+0.2**
ASAR				S	**S**	**13 56 54.9**	**-3.3**
ASAR				pmax	pmax		
	comp=Z,34nm,0.7s						
ASAR				smax			
	comp=N,2.0nm,0.9s						
KAKA	**Kakadu**	**47.57**	**269**	*e*P	**P**	**13 51 19.7**	**-0.1**
	comp=N,9.3nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.02**	**261**	P	**P**	**13 52 00.2**	**+0.4**
	comp=N,2.1nm,0.7s,mb3.5,baz=71,slow=7.3,SNR=9.8						
SBA	**Scott Base**	**60.47**	**184**	*e*P	**P**	**13 52 52.5**	**+1.6**
SBA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
SBA	**Scott Base**	**60.47**	**184**	*e*P	**P**	**13 52 52.5**	**+1.6**
	comp=Z,4.9nm,0.8s,mb3.9						
VNDA	**Vanda**	**60.49**	**185**	P	**P**	**13 52 52.0**	**+1.0**
	comp=Z,3.1nm,0.6s,mb3.8,baz=351,slow=7.1,SNR=49						
VNDA	**Vanda**	**60.49**	**185**	*e*P	**P**	**13 52 51.9**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
VNDA	**Vanda**	**60.49**	**185**	*e*P	**P**	**13 52 51.9**	**+0.9**
	comp=Z,5.3nm,1.0s,mb3.8						
CASY	**Casey**	**66.18**	**205**	*e*P	**P**	**13 53 27.2**	**-0.3**
	comp=Z,12nm,0.9s,mb4.4						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**13 53 37.2**	**-0.8**
	comp=Z,13nm,0.6s,mb4.6,baz=150,slow=5.5,SNR=45						
MJAR	**Matsushiro Arr**	**67.86**	**323**	P	**P**	**13 53 37.2**	**-0.7**
MJAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MAT	**Matsushiro**	**67.86**	**323**	P	**P**	**13 53 36.8**	**-1.1**
QSPA	**South Pole Qui**	**72.20**	**180**	*e*P	**P**	**13 54 04.4**	**+0.7**
	comp=Z,23nm,0.9s,mb4.6						
MIR	**Mirnyy**	**73.21**	**205**	*e*P	**P**	**13 54 11.0**	**+1.4**
MIR				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.3						
SSE	**Sheshan**	**75.70**	**310**	P	**P**	**13 54 23.6**	**0.0**
SSE				AMB	AMB		
	comp=Z,43nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,162nm,3.9s						
NJ2	**Nanjing**	**77.90**	**309**	*e*P	**P**	**13 54 35.6**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb4.9						
HABR	**Khabarovsk**	**77.96**	**330**	*e*P	**P**	**13 54 35.9**	**-0.1**
HABR				S	S	14 04 03.8	+16
MDJ	**Mudanjiang**	**78.14**	**325**	P	**P**	**13 54 36.8**	**-0.1**
MDJ				AP	pP	13 56 31.3	+4.7
MDJ				PP	PP	13 57 42.4	-0.1
MDJ				S	S	14 03 46.8	-2.5
MDJ				SCS	ScS	14 04 06.1	-3.5
MDJ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,72nm,5.9s						
KDAK	**Kodiak Island**	**78.36**	**14**	*e*P	**P**	**13 54 37.4**	**-0.7**
	comp=Z,9.0nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	**P**	**13 54 44.5**	**+0.9**
	comp=Z,2.0nm,0.7s,mb3.6,baz=212,slow=6.5,SNR=19						
CN2	**Changchun**	**79.97**	**322**	*e*P	**P**	**13 54 47.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.4						
KLR	**Kul'dur**	**80.06**	**329**	*e*P	**P**	**13 54 43.7**	**-3.5**
WVOR	**Wild Horse Val**	**81.38**	**40**	*e*P	**P**	**13 54 54.6**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.0						
WVOR	**Wild Horse Val**	**81.38**	**40**	*e*P	**P**	**13 54 54.6**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.0						
TTA	**Tatalina**	**82.42**	**10**	*e*P	**P**	**13 54 58.5**	**-0.8**
TTA				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.5						
TTA	**Tatalina**	**82.42**	**10**	*e*P	**P**	**13 54 58.5**	**-0.8**
	comp=Z,25nm,1.4s,mb4.4						
BMO	**Blue Mountains**	**83.51**	**39**	*e*P	**P**	**13 55 04.9**	**+0.1**
BMO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
BMO	**Blue Mountains**	**83.51**	**39**	*e*P	**P**	**13 55 04.9**	**+0.1**
	comp=Z,1.8nm,1.0s,mb3.6						
MSU	**Marysvale**	**83.57**	**46**	P	**P**	**13 55 06.6**	**+1.5**
MAW	**Mawson**	**83.90**	**200**	P	**P**	**13 55 06.6**	**-0.1**
	comp=Z,4.9nm,0.7s,mb4.1,baz=122,slow=5.8,SNR=9.9						
MAW	**Mawson**	**83.90**	**200**	P	**P**	**13 55 06.6**	**-0.1**
MAW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**84.49**	**13**	*e*P	**P**	**13 55 07.9**	**-1.7**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
MCK	**McKinley**	**84.49**	**13**	*e*P	**P**	**13 55 07.9**	**-1.7**
	comp=Z,5.4nm,0.9s,mb4.1						
HLID	**Hailey**	**84.60**	**41**	*e*P	**P**	**13 55 11.0**	**+0.9**
	comp=Z,1.9nm,0.8s,mb3.7						
MNTX	**Cornudas Mount**	**85.56**	**55**	*e*P	**P**	**13 55 15.7**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.4						
PV10	**Paradox Valley**	**85.69**	**48**	*e*P	**P**	**13 55 15.8**	**+0.3**
COLA	**College**	**85.73**	**13**	*e*P	**P**	**13 55 13.4**	**-2.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
COLA	**College**	**85.73**	**13**	*e*P	**P**	**13 55 13.4**	**-2.2**
	comp=Z,3.8nm,0.6s,mb4.2						
MCMT	**McKenzie Canyo**	**86.21**	**40**	*e*P	**P**	**13 55 18.8**	**+0.9**
BILL	**Bilibino**	**86.38**	**354**	*e*P	**P**	**13 55 18.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
RRI2	**Red Ridge**	**86.45**	**42**	*e*P	**P**	**13 55 19.9**	**+0.8**
	comp=Z,3.7nm,0.7s,mb4.1						
IMW	**Indian Meadow**	**86.96**	**42**	*e*P	**P**	**13 55 22.6**	**+1.1**
	comp=Z,3.7nm,0.8s,mb4.1						
HHC	**Hu-ho-hao-te**	**87.23**	**314**	*e*P	**P**	**13 55 23.0**	**+0.3**
HHC				PP	PP	13 58 59.0	+3.2
HHC				SKS		14 04 58.4	
HHC				S	S	14 05 16.1	-3.4
HHC				SS	SS	14 11 19.3	+1.0
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,160nm,4.4s						
PDAR	**Pinedale Array**	**87.32**	**43**	P	**P**	**13 55 23.5**	**+0.3**
	comp=Z,1.7nm,0.6s,mb3.9,baz=231,slow=2.4,SNR=13						
KMI	**Kunming**	**87.80**	**297**	P	**P**	**13 55 25.9**	**+0.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
SYO	**Syowa Base**	**89.20**	**193**	⇑*e*P	**P**	**13 55 30.5**	**-1.4**
SNAA	**Sanae**	**90.65**	**179**	⇑*i*P	**P**	**13 55 37.4**	**-1.2**
SNAA				*e*		13 55 38.4	
SNAA	**Sanae**	**90.65**	**179**	*e*P	**P**	**13 55 37.6**	**-1.0**
SNAA	**Sanae**	**90.65**	**179**	*e*P	**P**	**13 55 37.5**	**-1.2**
	comp=Z,4.1nm,0.8s,mb4.4						
VNA3	**Neumayer Olymp**	**90.79**	**176**	⇑*i*P	**P**	**13 55 38.7**	**-0.6**
VNA3				*e*		13 55 39.5	
VNA1	**Neumayer--Stat**	**91.46**	**177**	⇑*i*P	**P**	**13 55 42.4**	**0.0**
VNA1				*e*		13 55 43.0	
SONM	**Songino Array**	**93.50**	**319**	P	**P**	**13 55 51.2**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.9,baz=140,slow=5.4,SNR=7.6						
SONM				PP	PP	13 59 38.7	-6.1
	comp=Z,0.8nm,1.1s,baz=101,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**93.50**	**319**	P	**P**	**13 55 51.2**	**-0.6**
SONM						13 59 38.7	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**109.09**	**314**	PKiKP	PKiKP	14 01 00.1	-2.2
	comp=Z,0.1nm,0.4s,baz=215,slow=1.0,SNR=4.1						
FINES	**FINESS Array B**	**133.14**	**344**	PKhKP		14 01 38.6	
	comp=Z,3.0nm,1.1s,baz=201,slow=10.0,SNR=3.7						
FINES				PKP	PKPdf	14 01 46.7	-1.6
	comp=Z,0.4nm,0.5s,baz=22,slow=2.1,SNR=5.1						
FINES				SKPbc	SKPbc	14 04 26.1	-2.1
	comp=Z,4.1nm,1.0s,baz=27,slow=0.9,SNR=5.1						
FINES	**FINESS Array B**	**133.14**	**344**	PKHKP		14 01 38.6	
FINES						14 01 46.7	
FINES						14 04 26.1	
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES				pmax	pmax		
	comp=N,4.0nm,1.0s						
NOA	**NORSAR Array B**	**136.32**	**353**	SKPbc	SKPbc	14 04 37.0	-1.2
	comp=N,1.2nm,0.8s,baz=315,slow=4.5,SNR=4.7						
AKASG	**Malin Array Be**	**140.51**	**332**	PKhKP		14 01 53.8	
	comp=N,0.6nm,0.3s,baz=42,slow=3.8,SNR=5.5						
AKASG				SKPbc	SKPbc	14 04 47.1	-2.7
	comp=N,0.2nm,0.3s,baz=34,slow=1.5,SNR=5.3						
BSEG	**Bad Segeberg**	**143.36**	**351**	*e*PKPbc	PKPdf	14 02 04.2	-2.7
KWP	**Kalwaria**	**144.02**	**336**	*e*PKP	PKPdf	14 02 06.9	-1.1
OJC	**Ojcow**	**144.56**	**340**	*e*PKP	PKPdf	14 02 04.0	-4.9
BURAR	**Bucovina Array**	**144.56**	**332**	⇑*i*P	PKPdf	14 02 09.5	+0.5
BR131	**Keskin Array S**	**144.74**	**315**	*e*PKP	PKPdf	14 02 09.2	0.0
BRTR	**Keskin Array B**	**144.74**	**315**	PKP	PKPdf	14 02 09.2	-0.1
	comp=N,4.7nm,0.9s,baz=132,slow=3.0,SNR=23						
BRTR				SKPbc	SKPbc	14 04 59.4	-0.7
	comp=N,0.5nm,0.8s,baz=132,slow=1.8,SNR=3.7						
BRTR	**Keskin Array B**	**144.74**	**315**	PKIKP	PKPdf	14 02 09.2	-0.1
BRTR						14 04 59.4	
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BRTR				pmax	pmax		
	comp=N,1.0nm,0.8s						
STHS	**Stebnicka Huta**	**144.74**	**338**	*e*PKP	PKPdf	14 02 09.5	+0.2
KOLS	**Kolonicke sedl**	**144.75**	**336**	*e*PKP	PKPdf	14 02 08.9	-0.4
NRDL	**Niedersach Rie**	**144.79**	**351**	*e*PKPbc	PKPdf	14 02 08.6	-0.7
UZH	**Uzhgorod**	**144.99**	**336**	⇓*i*PKIKP	PKPdf	14 02 10.2	+0.5
UZH				pmax	pmax		
	comp=Z,28nm,0.8s						
KSP	**Ksiaz**	**145.06**	**344**	*e*PKP	PKPdf	14 02 10.5	+0.7
KSP	**Ksiaz**	**145.06**	**344**	*e*PKP	PKPdf	14 02 10.4	+0.6
NIE	**Niedzica**	**145.07**	**339**	*e*PKP	PKPdf	14 02 10.5	+0.7
IBBN	**Ibbenburen**	**145.28**	**353**	*e*PKPbc	PKPbc	14 02 10.8	-0.4
CLZ	**Clausthal**	**145.38**	**350**	*e*PKPbc	PKPbc	14 02 10.4	-1.1
CLL	**Collm**	**145.41**	**347**	*e*PKPbc	PKPbc	14 02 10.8	-0.8
CLL	**Collm**	**145.41**	**347**	⇓*i*PKPbc	PKPbc	14 02 10.9	-0.7
	comp=Z,17nm,0.7s						
CLL				*e*SKPbc	SKPbc	14 05 00.0	-1.6
UPC	**Upice**	**145.44**	**344**	⇑*e*PKPB	PKPdf	14 02 11.3	+0.9
UPC				*e*PKPAB	PKPab	14 02 12.9	0.0
DPC	**Dobruska-Polom**	**145.50**	**343**	⇑*e*PKPB	PKPdf	14 02 11.9	+1.4
DPC				*e*PKPAB	PKPab	14 02 13.4	+0.3
BRG	**Berggiesshubel**	**145.62**	**346**	*e*PKPbc	PKPbc	14 02 11.5	-0.7
BRG	**Berggiesshubel**	**145.62**	**346**	*i* PKP	PKPdf	14 02 11.7	+1.0
	comp=Z,4.4nm,0.8s						
MORC	**Moravsky Berou**	**145.66**	**342**	⇑*i*P	PKPdf	14 02 09.2	-1.6
MORC	**Moravsky Berou**	**145.66**	**342**	*e*PKPbc	PKPbc	14 02 11.1	-1.2
MLR	**Muntele Rosu**	**145.78**	**329**	⇓*i*P	PKPbc	14 02 13.1	+0.5
PVCC	**Panska Ves**	**145.79**	**345**	⇑*e*PKPB	PKPbc	14 02 12.6	-0.1
PVCC				*e*PKPAB	PKPab	14 02 14.1	-0.1
KECS	**Kecovo**	**145.79**	**337**	*e*PKP	PKPdf	14 02 12.4	+1.3
VOIR		**146.26**	**330**	⇓*i*P	PKPbc	14 02 14.0	0.0
DRGR		**146.29**	**333**	⇓*i*P	PKPbc	14 02 13.8	-0.3
PRU	**Pruhonice**	**146.29**	**345**	⇑*e*PKPB	PKPbc	14 02 13.9	-0.2
PRU				*e*PKPAB	PKPab	14 02 15.9	-0.4
MOX	**Moxa**	**146.32**	**348**	*e*PKPbc	PKPbc	14 02 13.2	-0.9
VRAC	**Vranov**	**146.36**	**342**	⇑*i*P	PKPdf	14 02 12.4	+0.4
VRAC	**Vranov**	**146.36**	**342**	⇑PKIKP	PKPdf	14 02 12.5	+0.5
VYHS	**Vyhne**	**146.37**	**339**	*e*PKP	PKPbc	14 02 13.8	-0.5
TANN	**Tannenbergstha**	**146.37**	**347**	*e*PKPbc	PKPbc	14 02 13.9	-0.4
UBBA	**Unterbreizbach**	**146.44**	**350**	*e*PKPbc	PKPbc	14 02 14.5	0.0
MANZ	**Manzenberg**	**146.85**	**348**	*e*PKPbc	PKPbc	14 02 15.2	-0.4
ROTZ	**Rotzenmuhle**	**147.04**	**347**	*e*PKPbc	PKPbc	14 02 15.8	-0.3
TNS	**Taunus Mts**	**147.25**	**352**	*e*PKPbc	PKPbc	14 02 15.9	-0.7
TNS				*e*PKPab	PKPab	14 02 19.4	-0.7
GRA1	**Grafenberg Arr**	**147.31**	**348**	*e*PKPbc	PKPbc	14 02 16.2	-0.6
GRF	**Grafenberg Arr**	**147.31**	**348**	*e*PKPbc	PKPbc	14 02 16.2	-0.6
KHC	**Kasperske Hory**	**147.32**	**345**	⇑*e*PKPB	PKPbc	14 02 16.6	-0.2
KHC				*e*PKPAB	PKPab	14 02 20.2	-0.2
SNF	**Seneffe**	**147.35**	**357**	PKPbc	PKPbc	14 02 17.7	+0.8
WET	**Wettzell**	**147.48**	**346**	*e*PKPab	PKPab	14 02 20.4	-0.6
GEC2	**GERESS Array S**	**147.56**	**345**	*e*PKPbc	PKPbc	14 02 16.9	-0.6
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	PKPbc	14 02 17.1	-0.3
	comp=Z,3.5nm,0.5s,baz=21,slow=3.0,SNR=35						
GERES	**GERESS Array B**	**147.56**	**345**	PKIKP	PKPbc	14 02 17.1	-0.4
GERES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BZS	**Buzias**	**147.68**	**333**	⇑*i*P	PKPbc	14 02 17.3	-0.5
GIVF	**Givet**	**147.73**	**356**	*e*PKP1	PKPbc	14 02 17.2	-0.7
	comp=Z,14nm,0.6s						
BAIF	**Baives**	**147.81**	**357**	*e*PKP1	PKPbc	14 02 17.6	-0.5
	comp=Z,16nm,0.7s						
WLF	**Walferdange**	**148.06**	**354**	*e*PKPbc	PKPbc	14 02 19.1	+0.4
WLF				*e*PKPab	PKPab	14 02 22.6	-0.8
WLF	**Walferdange**	**148.06**	**354**	PKPbc	PKPbc	14 02 19.1	+0.4
FUR	**Furstenfeldbru**	**148.75**	**347**	*e*PKPbc	PKPbc	14 02 19.7	-0.7
BFO	**Black Forest**	**149.11**	**351**	*e*PKPbc	PKPbc	14 02 20.9	-0.4
BFO				*e*PKPab	PKPab	14 02 26.4	-1.3
BFO	**Black Forest**	**149.11**	**351**	*e*PKPbc	PKPbc	14 02 20.8	-0.5
BFO				*e*PKPab	PKPab	14 02 26.4	-1.3
FLN	**La Foliniere**	**149.13**	**3**	*e*PKP1	PKPbc	14 02 20.4	-1.0
CDF	**Champ du Feu**	**149.17**	**353**	*e*PKP1	PKPbc	14 02 20.9	-0.6
	comp=Z,5.4nm,0.5s						
LDF	**La Druitiere**	**149.31**	**2**	*e*PKP1	PKPbc	14 02 20.7	-1.1
GRR	**Gorron**	**149.48**	**3**	*e*PKP1	PKPbc	14 02 21.5	-0.7
	comp=Z,8.3nm,0.5s						
SGMF	**Saint Gilles**	**149.50**	**5**	*e*PKP1	PKPbc	14 02 21.2	-1.0
HAU	**Haudompre**	**149.68**	**354**	*e*PKP1	PKPbc	14 02 22.0	-0.7
LOR	**Lormes**	**150.61**	**357**	*e*PKP1	PKPbc	14 02 24.3	-0.6
	comp=Z,8.3nm,0.5s						
AVF	**Avril sur Loir**	**151.11**	**357**	*e*PKP1	PKPbc	14 02 25.1	-0.9
MFF	**Saint Martin d**	**151.30**	**2**	*e*PKP1	PKPbc	14 02 25.6	-0.8
	comp=Z,5.2nm,0.5s						
BGF	**Bois d'Agland**	**151.36**	**358**	*e*PKP1	PKPbc	14 02 25.8	-0.8
TCF	**Toulx Ste Croi**	**151.65**	**359**	*e*PKP1	PKPbc	14 02 26.5	-0.7
ORIF	**Oris-en-Rattie**	**152.78**	**353**	*e*PKP1	PKPbc	14 02 29.4	-0.3
	comp=Z,4.9nm,0.7s						
MBDF	**Montbardon**	**152.86**	**352**	*e*PKP1	PKPbc	14 02 29.6	-0.3
	comp=Z,5.3nm,0.7s						

*IDC **24** 14:31:49.2±2.1, 986S×10864E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=99.8km s-min=20.5km az=51.0*
*NEIC **24** 14:31:50.8±0.8, 983S×10871E, h10km, mb4.1/2, Error ellipse: s-maj=30.7km s-min=12.8km az=49.0*
*ISCJB **24** 14:31:52.0±1.1, 985S±02×1087E±02, h33km, mb3.8/7, Error ellipse: s-maj=35.4km s-min=15.4km az=98.4*

ISC 24 14:31:54.6±1.1, 995S±02×1087E±02, h35km, n12, σ0.972/12, mb3.8/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**15.45**	**138**	*e*P	**Pn**	**14 35 22.7**	**-7.1**
MBWA				*e*S	S	14 37 59.1	-36
FITZ	**Fitzroy Crossi**	**18.35**	**118**	P	**Pn**	**14 36 06.0**	**-0.2**
	0.3nm,0.3s,baz=292,slow=12,SNR=24						
FITZ				S	**S**	**14 39 12.0**	**-22**
	0.1nm,0.3s,baz=345,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**26.68**	**115**	P	**P**	**14 37 29.8**	**-0.5**
	0.5nm,0.8s,mb3.1,baz=286,slow=11,SNR=4.7						
WRAB	**Tennant Creek**	**26.69**	**115**	*e*P	**P**	**14 37 29.8**	**-0.5**
	1.5nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**26.69**	**115**	*e*P	**P**	**14 37 30.4**	**0.0**
ASAR	**Alice Springs**	**27.69**	**123**	P	**P**	**14 37 41.5**	**+2.2**
	0.5nm,0.5s,mb3.4,baz=298,slow=9.5,SNR=13						
ASAR				PcP	PcP	14 40 56.1	+0.4
	0.3nm,0.5s,baz=286,slow=2.2,SNR=5.4						
STKA	**Stephens Creek**	**37.49**	**131**	P	**P**	**14 39 04.2**	**-0.7**
	2.7nm,0.7s,mb4.2,baz=303,slow=8.0,SNR=3.8						
STKA	**Stephens Creek**	**37.49**	**131**	*e*P	**P**	**14 39 04.7**	**-0.2**
CASY	**Casey**	**56.35**	**179**	*e*P	**P**	**14 41 32.1**	**-0.1**
	3.3nm,0.7s,mb4.5						
SONM	**Songino Array**	**57.48**	**358**	P	**P**	**14 41 40.3**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=180,slow=7.1,SNR=5.1						
MKAR	**Makanchi Array**	**61.14**	**340**	P	**

VFP	**Flag Point**	**5.91**	**79**	P		Pn	14 58 11.5	+0.7
PGC	**Sidney**	**6.00**	**44**	*e*P		Pn	14 58 11.2	-0.8
	18nm,0.8s							
HTW	**Haystack Looko**	**6.44**	**56**	P		Pn	14 58 18.1	+0.1
JCW	**Jim Creek**	**6.54**	**53**	P		Pn	14 58 19.6	+0.3
RPW	**Rockport**	**6.91**	**52**	P		Pn	14 58 24.9	+0.5
VDB	**Vedder Mountai**	**6.93**	**46**	P		Pn	14 58 25.1	+0.5
HAWA	**Hanford**	**7.41**	**71**	*e*P		Pn	14 58 31.5	+0.2
	0.2nm,0.7s							
BMO	**Blue Mountains**	**8.85**	**83**	*e*P		Pn	14 58 50.9	-0.1
	1.6nm,0.4s							
MSO	**Missoula**	**11.29**	**72**	*e*P		Pn	14 59 24.5	+0.2

MAN 24 15:00:05.8, 991N×12220E, h5km, mb2.6, ML4.1, MS4.0, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.81**	**28**	*e*P	Pg	15 00 21.5	+0.2
GUIM				*e*S	Sg	15 00 31.2	-0.8
CUYO	**Cuyo Island**	**1.49**	**309**	*e*P	Pn	15 00 33.3	+0.2
CUYO				*e*S	Sn	15 00 51.4	-1.6
IPIL	**Ipil**	**2.14**	**170**	*e*P	Pn	15 00 44.2	+2.2
IPIL				*e*S	Sn	15 01 09.1	+0.1
MSLP	**Maasin**	**2.63**	**85**	*e*P	Pn	15 00 49.5	+0.6
BUSP	**Coron**	**2.86**	**317**	*e*P	Pn	15 00 51.9	-0.1
BUSP				*e*S	Sn	15 01 23.6	-3.3
ENPP	**El Nido**	**3.02**	**296**	*e*P	Pn	15 00 54.7	+0.6
ENPP				*e*S	Sn	15 01 28.0	-2.6

*IDC **24** 15:12:24.7±1.3, 782N×9184E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/21, mbtmp3.5/6, MS3.3/2, Ms1 3.3/2, ms1mx2.6/29, Error ellipse: s-maj=56.1km s-min=22.2km az=51.0*
*ISCJB **24** 15:12:27.8±1.0, 78N±02×919E±02, h33km, mb3.5/7, MS3.4/2, Error ellipse: s-maj=37.3km s-min=15.3km az=90.9*
*NEIC **24** 15:12:29.4±0.8, 791N×9199E, h30km, mb3.9/1, Error ellipse: s-maj=30.5km s-min=12.3km az=46.0*
ISC 24 15:12:30.6±1.0, 79N±02×920E±02, h35km, n11, σ0§48/9, mb3.5/7, MS3.4/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**24.11**	**93**	P	**P**	**15 17 41.9**	**-1.0**
MKAR	**Makanchi Array**	**39.60**	**350**	P	**P**	**15 19 58.4**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=171,slow=9.0,SNR=5.9						
MKAR	**Makanchi Array**	**39.60**	**350**	P	**P**	**15 19 58.4**	**-0.1**
SONM	**Songino Array**	**41.60**	**15**	P	**P**	**15 20 15.8**	**+0.7**
	0.3nm,0.6s,mb3.1,baz=190,slow=7.5,SNR=4.9						
ZAL	**Zalesovo**	**46.23**	**354**	LR	LR	15 42 06.4	
	comp=Z,20nm,18.8s,MS3.1,baz=269,slow=38						
WRA	**Warramunga Arr**	**50.04**	**124**	P	**P**	**15 21 21.8**	**+0.2**
	0.7nm,0.8s,mb3.7,baz=305,slow=8.9,SNR=6.7						
WRAB	**Tennant Creek**	**50.04**	**124**	*e*P	**P**	**15 21 22.1**	**+0.5**
	0.7nm,0.5s,mb4.0						
ASAR	**Alice Springs**	**51.60**	**129**	P	**P**	**15 21 33.5**	**+0.1**
	0.4nm,0.8s,mb3.4,baz=312,slow=6.9,SNR=5.8						
BRTR	**Keskin Array B**	**60.78**	**311**	P	**P**	**15 22 38.5**	**-0.4**
	0.4nm,0.7s,mb3.7,baz=116,slow=6.6,SNR=3.6						
GERES	**GERESS Array B**	**76.36**	**318**	P	**P**	**15 24 16.0**	**-0.1**
	0.6nm,0.8s,mb3.6,baz=94,slow=4.0,SNR=5.1						
MAW	**Mawson**	**78.18**	**191**	LR	LR	15 52 37.5	
	comp=Z,34nm,21.8s,MS3.6,baz=124,slow=31						

IDC 24 15:34:32.3±3.6, 2029S×17608W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/11, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/19, Error ellipse: s-maj=246.7km s-min=73.4km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.86**	**197**	LR	LR	15 44 56.8	
	comp=Z,133nm,21.1s,baz=312,slow=33						
ASAR	**Alice Springs**	**46.32**	**256**	P	P	15 43 00.8	+1.0
	0.7nm,0.5s,baz=93,slow=7.8,SNR=24						
ASAR				PcP	PcP	15 44 34.9	-0.3
	0.3nm,0.7s,baz=109,slow=4.5,SNR=6.1						
WRA	**Warramunga Arr**	**46.41**	**261**	P	P	15 43 00.4	-0.1
	0.3nm,0.3s,baz=99,slow=8.1,SNR=8.8						
AKASG	**Malin Array Be**	**143.67**	**333**	PKP	PKPdf	15 54 09.7	+0.5
	0.8nm,0.5s,baz=43,slow=4.6,SNR=5.8						

IDC 24 15:36:36.5±66.0, 1707S×17746W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/11, mbtmp4.3/3, Error ellipse: s-maj=1219.0km s-min=171.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.83**	**241**	P	P	15 44 11.7	+0.3
	11nm,1.3s,baz=78,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**45.68**	**259**	P	P	15 44 59.3	+0.3
	0.4nm,0.5s,baz=93,slow=8.1,SNR=5.1						
ASAR	**Alice Springs**	**45.89**	**253**	P	P	15 45 01.1	+0.4
	5.1nm,0.4s,baz=90,slow=8.4,SNR=207						

*NEIC **24** 15:36:38.6, 1686N×9976W, h14km, MD3.8(MEX), After MEX.*
MEX 24 15:36:38.7±1.2, 1686N×9976W, h14±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.15**	**274**	*i* P	Pg	15 36 41.0	-1.4
ACX				*i* S	Sg	15 36 45.0	0.0
CAIG	**El Cayaco**	**0.52**	**292**	*i* P	Pg	15 36 48.5	-0.5
CAIG				*i* S	Sg	15 36 53.9	-2.0
MEIG	**Mezcala**	**1.07**	**7**	*i* P	Pb	15 36 55.9	-3.2
MEIG				*i* S	Sb	15 37 07.9	-5.0
PLIG	**Platanillo**	**1.55**	**9**	*i* P	Pn	15 37 02.8	-3.0
PLIG				*i* S	Sn	15 37 21.4	-4.3
PNIG	**Pinotepa**	**1.64**	**106**	*i* P	Pn	15 37 03.8	-3.3
PNIG				*i* S	Sn	15 37 22.4	-5.4
UTMO	**Huajuapan**	**2.11**	**62**	*e*P	Pn	15 37 08.9	-4.6
UTMO				*i* S	Sn	15 37 36.1	-3.4
PPM	**Popocatepetl**	**2.45**	**26**	*e*P	Pn	15 37 13.8	-4.4
PPM				*e*P		15 37 17.0	
PPM				*i* S	Sn	15 37 46.0	-2.0
PPM	**Popocatepetl**	**2.45**	**26**	*e*P	Pn	15 37 20.0	+1.7
PPM				*i* S	Sn	15 37 46.0	-2.0
VHO	**Vista Hermosa**	**2.91**	**85**	*i* P	Pn	15 37 23.7	-0.8
VHO				*i* S	Sn	15 37 55.5	-3.8
OXX	**Oaxaca**	**2.92**	**85**	*e*P	Pn	15 37 24.0	-0.7

MAN 24 15:46:09.3, 1548N×12130E, h2km, mb2.5, ML4.0, MS1.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.22**	**293**	⇓*e*P	Pg	15 46 13.9	+0.4
PCPH				*e*S	Sg	15 46 17.5	+1.2
BALP	**Baler**	**0.37**	**45**	*e*P	Pg	15 46 17.0	+0.6
BALP				*e*S	Sg	15 46 23.3	+2.0
POLP	**Polilio Island**	**0.96**	**140**	*e*P	Pg	15 46 28.4	+0.6
POLP				*e*S	Sg	15 46 41.3	+1.1
CAUP	**Cauayan**	**1.54**	**19**	*e*P	Pn	15 46 36.6	-1.2
CAUP				*e*S	Sn	15 47 00.4	+2.0

IDC 24 16:27:46.3±2.1, 1571S×17481W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, ML2.0/1, Error ellipse: s-maj=134.9km s-min=27.4km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.43**	**59**	Pn	Pn	16 28 41.4	+0.4
	8.9nm,0.3s,baz=143,slow=18,SNR=16						
AFI				Sn	Sn	16 29 17.1	-5.3
	31nm,0.3s,baz=59,slow=22,SNR=10						
STKA	**Stephens Creek**	**42.71**	**240**	P	P	16 35 45.1	+0.2
	2.7nm,1.0s,baz=108,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**48.45**	**257**	P	P	16 36 31.0	+0.6
	0.2nm,0.3s,baz=93,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**48.73**	**252**	P	P	16 36 32.9	+0.3
	3.1nm,0.6s,baz=88,slow=8.1,SNR=144						
BRTR	**Keskin Array B**	**145.52**	**320**	PKPbc	PKPbc	16 47 25.9	-0.5

0.8nm,0.8s,baz=43,slow=2.8,SNR=4.4

*IDC **24** 17:17:04.7±0.9, 1588N×12161E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=44.8km s-min=14.6km az=76.0*
*MAN **24** 17:17:08.9, 1571N×12106E, h11km, mb4.5, ML5.3, MS1.2*
*ISCJB **24** 17:17:09.2±0.5, 1574N±003×12106E±0.04, h28km±3km, mb4.1/12, MS3.3/1, Error ellipse: s-maj=6.0km s-min=3.9km az=126.5*
*NEIC **24** 17:17:10.2±1.8, 1579N×12142E, h37km±18km, mb4.5/3, Error ellipse: s-maj=21.1km s-min=8.4km az=68.0*
NEIC Felt [II PIVS] at Baguio and [I PIVS] at Palayan City.
ISC 24 17:17:09.8±0.5, 1576N±003×12109E±003, h21km±4km, n46, σ1§30/70, mb4.1/12, MS3.3/1, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCPH	**Palayan**	**0.20**	**179**	⇑*i* P	**Pb**	**17 17 13.9**	**-1.1**
PCPH				*i* S	**Sb**	**17 17 17.6**	**-0.9**
BALP	**Baler**	**0.46**	**92**	*e*P	**Pb**	**17 17 18.6**	**-0.7**
BALP				*e*S	**Sb**	**17 17 26.4**	**+0.7**
BCPH	**Baguio City Da**	**0.79**	**321**	⇓*i* P	**Pb**	**17 17 24.5**	**-0.3**
BCPH				*i* S	**Sb**	**17 17 35.6**	**+0.6**
SCZP	**Santa Cruz**	**1.14**	**271**	*e*P	**Pn**	**17 17 29.0**	**-1.4**
SCZP				*e*S	**Sb**	**17 17 47.6**	**+2.5**
BOLP	**Bolinao**	**1.29**	**299**	*e*P	**Pn**	**17 17 32.2**	**-0.3**
BOLP				*e*S	**Sn**	**17 17 50.8**	**+1.5**
POLP	**Polilio Island**	**1.31**	**141**	*e*P	**Pn**	**17 17 32.0**	**-0.8**
POLP				*e*S	**Sn**	**17 17 50.0**	**+0.3**
POLP	**Polilio Island**	**1.31**	**141**	*e*P	**Pn**	**17 17 32.0**	**-0.8**
POLP				*e*S	**Sn**	**17 17 50.0**	**+0.3**
CAUP	**Cauayan**	**1.37**	**31**	*e*P	**Pn**	**17 17 34.1**	**+0.5**
CAUP				*e*S	**Sn**	**17 17 56.1**	**+5.0**
TGY	**Tagaytay City**	**1.66**	**185**	Pn	**Pn**	**17 17 37.9**	**+0.3**
	338nm,0.3s,baz=327,slow=2.8,SNR=14						
TGY				Sn	**Sn**	**17 18 04.2**	**+5.9**
	746nm,0.3s,baz=248,slow=23,SNR=8.2						
LQP	**Lukban**	**1.70**	**165**	⇓*e*P	**Pn**	**17 17 39.9**	**+1.8**
PALP	**Palanan**	**1.82**	**44**	⇑*i* P	**Pn**	**17 17 42.3**	**+2.5**
PALP				*i* S	**Sn**	**17 18 10.0**	**+7.8**
PALP	**Palanan**	**1.82**	**44**	*e*P	**Pn**	**17 17 41.0**	**+1.1**
PALP				*e*S	**Sn**	**17 18 09.8**	**+7.6**
PALP	**Palanan**	**1.82**	**44**	*e*P	**Pn**	**17 17 41.0**	**+1.1**
PALP				*e*S	**Sn**	**17 18 09.8**	**+7.6**
ABRA	**Dolores**	**1.91**	**349**	*e*P	**Pn**	**17 17 42.0**	**+0.9**
ABRA				*e*S	**Sn**	**17 18 11.5**	**+7.0**
CVP	**Callao Caves**	**2.05**	**20**	*i* S	**Sn**	**17 18 09.0**	**+1.0**
LUBP	**Lubang**	**2.18**	**202**	*e*P	**Pn**	**17 17 42.4**	**-2.3**
LUBP				*e*S	**Sn**	**17 18 13.5**	**+2.5**
GQP	**Guinayangan**	**2.26**	**145**	⇓*e*P	**Pn**	**17 17 46.1**	**+0.2**
GQP				*e*S	**Sn**	**17 18 14.2**	**+1.0**
BOAC	**Boac**	**2.40**	**162**	*e*P	**Pn**	**17 17 47.3**	**-0.6**
BOAC				*e*S	**Sn**	**17 18 21.4**	**+4.6**
SGCP	**Mt. Cagua**	**2.63**	**20**	*e*P	**Pn**	**17 17 52.8**	**+1.9**
SGCP				*e*S	**Sn**	**17 18 27.9**	**+5.7**
SGCP	**Mt. Cagua**	**2.63**	**20**	*e*P	**Pn**	**17 17 52.8**	**+1.9**
SGCP				*e*S	**Sn**	**17 18 27.9**	**+5.7**
AUQP	**San Andres**	**2.87**	**148**	*e*P	**Pn**	**17 17 55.7**	**+1.4**
AUQP				*e*S	**Sn**	**17 18 32.5**	**+4.4**
OTRP	**Odiongan**	**3.50**	**165**	*e*P	**Pn**	**17 18 04.6**	**+1.7**
OTRP	**Odiongan**	**3.50**	**165**	*e*P	**Pn**	**17 18 04.6**	**+1.7**
PVCP	**Virac**	**3.66**	**126**	⇑*i* P	**Pn**	**17 18 04.6**	**-0.6**
PVCP				*i* S	**Sn**	**17 18 49.1**	**+1.4**
PVCP	**Virac**	**3.66**	**126**	*e*P	**Pn**	**17 18 04.2**	**-0.9**
PVCP				*e*S	**Sn**	**17 18 49.1**	**+1.4**
PVCP	**Virac**	**3.66**	**126**	*e*P	**Pn**	**17 18 04.2**	**-0.9**
PVCP				*e*S	**Sn**	**17 18 49.1**	**+1.4**
BUSP	**Coron**	**3.84**	**193**	*e*P	**Pn**	**17 18 06.6**	**-1.0**
BUSP				*e*S	**Sn**	**17 18 54.5**	**+2.5**
BUSP	**Coron**	**3.84**	**193**	*e*P	**Pn**	**17 18 06.6**	**-1.0**
BUSP				*e*S	**Sn**	**17 18 54.5**	**+2.5**
ENPP	**El Nido**	**4.81**	**200**	*e*P	**Pn**	**17 18 21.4**	**+0.4**
ENPP	**El Nido**	**4.81**	**200**	*e*P	**Pn**	**17 18 21.4**	**+0.4**
MAJO	**Matsushiro**	**25.69**	**33**	P	**P**	**17 22 35.2**	**-3.1**
	3.1nm,0.4s,mb4.2						
SONM	**Songino Array**	**34.21**	**342**	P	**P**	**17 23 53.0**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=162,slow=8.8,SNR=3.7						
SONM				LR	LR	17 38 16.6	
	comp=Z,59nm,19.6s,MS3.3,baz=155,slow=37						
WRAB	**Tennant Creek**	**37.79**	**159**	*e*P	**P**	**17 24 22.6**	**-1.9**
	10nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**37.79**	**159**	P	**P**	**17 24 22.1**	**-2.4**
	5.8nm,0.8s,mb4.3,baz=338,slow=9.5,SNR=28						
WB2	**Warramunga Arr**	**37.80**	**159**	*e*P	**P**	**17 24 22.6**	**-1.9**
ASAR	**Alice Springs**	**41.14**	**162**	P	**P**	**17 24 50.8**	**-1.6**
	1.4nm,0.7s,mb3.7,baz=340,slow=7.0,SNR=29						
MKAR	**Makanchi Array**	**44.63**	**322**	P	**P**	**17 25 20.8**	**+0.1**
	1.5nm,1.0s,mb3.8,baz=134,slow=6.9,SNR=9.4						
MKAR				PcP	PcP	17 27 02.4	-0.8
	0.4nm,0.6s,baz=102,slow=3.4,SNR=4.1						
MKAR	**Makanchi Array**	**44.63**	**322**	P	**P**	**17 25 20.8**	**+0.1**
MKAR				PcP	PcP	17 27 02.4	-0.8
BVAR	**Borovoye Array**	**54.30**	**325**	P	**P**	**17 26 34.4**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=95,slow=11,SNR=5.9						
ZRNK	**Zerenda**	**55.05**	**324**	*e*P	**P**	**17 26 39.1**	**-0.8**
	6.0nm,1.1s,mb4.5						
AKTK	**Aktyubinsk**	**60.90**	**319**	P	**P**	**17 27 20.9**	**-0.1**
AKTO	**Aktyubinsk**	**60.90**	**319**	P	**P**	**17 27 20.9**	**-0.1**
	2.7nm,0.5s,mb4.7,baz=101,slow=9.0,SNR=14						
ARCES	**ARCESS Array B**	**77.31**	**339**	P	**P**	**17 29 01.8**	**-0.9**
	4.4nm,0.9s,mb4.4,baz=94,slow=11,SNR=4.0						
FINES	**FINESS Array B**	**78.68**	**331**	P	**P**	**17 29 09.0**	**-1.4**
	0.5nm,0.5s,mb3.7,baz=77,slow=12,SNR=3.7						
NB2	**NORSAR Subarra**	**85.61**	**333**	P	**P**	**17 29 44.4**	**-2.3**
	comp=Z,0.4nm,0.6s,mb3.8,baz=65,slow=5.1						
NOA	**NORSAR Array B**	**85.61**	**333**	P	**P**	**17 29 44.1**	**-2.6**
	comp=Z,1.4nm,0.9s,mb4.2,baz=65,slow=4.9,SNR=4.1						

*ISCJB **24** 17:17:51.1±1.8, 177S±04×177.1W±0.3, h313km±24km, mb3.8/7, Error ellipse: s-maj=77.4km s-min=18.4km az=110.9*
*IDC **24** 17:17:51.8±2.4, 1766S×17709W, h305km±26km, mb3.6/6, mb1 3.8/7, mb1mx3.5/14, mbtmp4.3/7, Error ellipse: s-maj=57.2km s-min=14.3km az=144.0*
*NEIC **24** 17:17:52.3±1.2, 1777S×17705W, h315km±15km, mb3.7/2, Error ellipse: s-maj=46.8km s-min=10.9km az=146.0*
ISC 24 17:17:52.4±1.8, 177S±04×1771W±0.3, h310km±24km, n14, σ0§39/12, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.33**	**55**	P	**Pn**	**17 19 25.3**	**-0.6**
	10.0nm,0.3s,baz=26,slow=2.3,SNR=9.9						
AFI	**Afiamalu**	**6.33**	**55**	*e*P	**Pn**	**17 19 26.4**	**+0.5**
CTA	**Charters Tower**	**34.73**	**260**	*e*P	**P**	**17 24 14.4**	**+0.7**
	4.1nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**39.85**	**241**	*e*P	**P**	**17 24 56.4**	**0.0**
	1.7nm,0.5s,mb3.6						
STKA	**Stephens Creek**	**39.85**	**241**	P	**P**	**17 24 57.0**	**+0.6**
	1.6nm,0.4s,mb3.7,baz=61,slow=14,SNR=16						
WB2	**Warramunga Arr**	**45.90**	**259**	*e*P	**P**	**17 25 44.4**	**-0.3**
WRAB	**Tennant Creek**	**45.90**	**259**	*e*P	**P**	**17 25 44.3**	**-0.4**
WRA	**Warramunga Arr**	**45.91**	**259**	P	**P**	**17 25 44.2**	**-0.5**
	1.1nm,0.5s,mb3.5,baz=97,slow=6.7,SNR=10.0						
ASAR	**Alice Springs**	**46.07**	**254**	P	**P**	**17 25 46.0**	**+0.1**
	7.4nm,0.5s,mb4.3,baz=90,slow=8.6,SNR=166						
MJAR	**Matsushiro Arr**	**68.48**	**322**	P	**P**	**17 28 21.8**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=155,slow=5.8,SNR=4.5						
KDAK	**Kodiak Island**	**77.88**	**13**	P	**P**	**17 29 15.9**	**-0.2**
	1.0nm,0.4s,mb3.9,baz=243,slow=4.5,SNR=5.8						
NVAR	**Mina Array Bea**	**78.39**	**43**	P	**P**	**17 29 19.1**	**+0.2**
	0.8nm,0.7s,mb3.6,baz=225,slow=8.8,SNR=4.9						
CLL	**Collm**	**145.50**	**349**	*i* PKPbc	PKPbc	17 36 53.8	-0.5
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**147.69**	**347**	PKPbc	PKPbc	17 36 59.9	-0.6
	comp=Z,0.8nm,0.6s,baz=45,slow=2.1,SNR=9.7						

IDC 24 17:54:18.9±1.5, 2953S×7723E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=48.3km s-min=30.2km az=65.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**50.60**	**97**	P	P	18 03 18.9	-0.5
	0.6nm,0.8s,baz=251,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**52.30**	**93**	P	P	18 03 33.5	+1.3
	0.5nm,0.8s,baz=248,slow=7.6,SNR=2.3						
VNDA	**Vanda**	**60.24**	**166**	P	P	18 04 28.3	-0.6
	0.9nm,0.8s,baz=263,slow=4.1,SNR=7.2						
MKAR	**Makanchi Array**	**76.10**	**4**	P	P	18 06 07.6	-0.8
	0.4nm,0.7s,baz=189,slow=6.9,SNR=4.5						
BVAR	**Borovoye Array**	**82.42**	**356**	P	P	18 06 43.2	+0.2
	0.4nm,0.5s,baz=193,slow=5.9,SNR=4.2						

*CSEM **24** 18:31:00.9±0.1, 6478N×1722W, h10km, ML4.1, Error ellipse: s-maj=1.6km s-min=0.9km az=131.0*
*NAO **24** 18:31:00.2, 6480N×1730W, h10km, mb3.3*
*ISCJB **24** 18:31:01.5±0.4, 6478N±002×1725W±004, h8km±3km, Error ellipse: s-maj=3.4km s-min=2.1km az=68.9*
*REY **24** 18:31:03.0, 6477N×1726W, h6km, ML3.3, ML4.1*
ISC 24 18:31:01.9±0.3, 6479N±002×1726W±005, h8km±3km, n42, σ0§74/78, Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRF	**Grimsfjall**	**0.38**	**180**	P	**Pg**	**18 31 10.0**	**+0.6**
IBRU	**Bruarjokull**	**0.50**	**85**	P	**Pg**	**18 31 12.1**	**+0.4**
IBRU				S	**Sg**	**18 31 19.3**	**+1.0**
ISKR	**Skrokkalda**	**0.53**	**245**	P	**Pg**	**18 31 12.3**	**+0.1**
ISKR				S	**Sg**	**18 31 20.1**	**+0.9**
ISVA	**Svartarkot**	**0.55**	**0**	P	**Pg**	**18 31 13.3**	**+0.7**
ISVA				S	**Sg**	**18 31 21.4**	**+1.6**
IHVA	**Hvannstoosfjol**	**0.62**	**74**	P	**Pg**	**18 31 14.0**	**+0.2**
IHVA				S	**Sg**	**18 31 22.7**	**+0.8**
IVSH	**V-Sauoahnukur**	**0.66**	**87**	P	**Pg**	**18 31 14.6**	**0.0**
IVSH				S	**Sg**	**18 31 23.7**	**+0.6**
IADA	**Aoalbol**	**0.76**	**71**	P	**Pg**	**18 31 16.3**	**-0.2**
IADA				S	**Sg**	**18 31 26.8**	**+0.5**
IKAL	**Kalfafell**	**0.86**	**193**	P	**Pg**	**18 31 17.6**	**-0.9**
IKAL				S	**Sg**	**18 31 29.8**	**+0.1**
IREN	**Reynihlio**	**0.88**	**10**	P	**Pg**	**18 31 18.6**	**-0.2**
IREN				S	**Sg**	**18 31 31.1**	**+0.9**
IVAT	**Vatnsfell**	**0.94**	**231**	P	**Pg**	**18 31 19.3**	**-0.6**
IVAT				S	**Sg**	**18 31 32.3**	**+0.2**
IKVO	**Krokottuvotn**	**0.94**	**10**	P	**Pg**	**18 31 19.8**	**-0.3**
IKVO				S	**Sg**	**18 31 32.7**	**+0.4**
IGLU	**Glumsstadir**	**0.95**	**77**	P	**Pg**	**18 31 19.5**	**-0.6**
IGLU				S	**Sg**	**18 31 32.2**	**-0.3**
IFAG	**Fagurholsmyri**	**0.95**	**164**	P	**Pg**	**18 31 18.9**	**-1.3**
IFAG				S	**Sg**	**18 31 32.0**	**-0.6**
IGRS	**Grimsstaoir**	**0.98**	**29**	P	**Pg**	**18 31 20.5**	**-0.2**
IGRS				S	**Sg**	**18 31 34.2**	**+0.7**
IGRA	**Granastaoir**	**1.14**	**353**	P	**Pg**	**18 31 22.9**	**-1.0**
IGRA				S	**Sg**	**18 31 38.7**	**0.0**
IHLA	**Hella**	**1.25**	**338**	P	**Pn**	**18 31 24.8**	**-0.9**
IHLA				S	**Sb**	**18 31 41.5**	**-0.6**
IHED	**Heoinshofoi**	**1.30**	**359**	P	**Pn**	**18 31 25.4**	**-0.9**
IHED				S	**Sb**	**18 31 43.0**	**-0.4**
IGIL	**Gilhagi**	**1.35**	**16**	P	**Pn**	**18 31 26.3**	**-0.7**
IGIL				S	**Sb**	**18 31 44.2**	**-0.7**
IBRE	**Brettingsstaoi**	**1.37**	**349**	P	**Pn**	**18 31 26.5**	**-0.8**
IBRE				S	**Sb**	**18 31 45.0**	**-0.4**
IGYG	**Gygjarholskot**	**1.37**	**250**	P	**Pn**	**18 31 26.3**	**-1.1**
IGYG				S	**Sb**	**18 31 45.0**	**-0.5**
IFLA	**Flatey**	**1.40**	**350**	P	**Pn**	**18 31 27.2**	**-0.5**
IFLA				S	**Sb**	**18 31 46.4**	**+0.1**
ISIG	**Siglufjorour**	**1.52**	**334**	P	**Pn**	**18 31 28.9**	**-0.4**
ISIG				S	**Sn**	**18 31 48.7**	**-0.6**
IESK	**Eystri-Skogar**	**1.59**	**218**	P	**Pn**	**18 31 30.0**	**-0.3**
IESK				S	**Sn**	**18 31 50.8**	**-0.2**
IMID	**Miomork**	**1.61**	**227**	P	**Pn**	**18 31 30.4**	**-0.2**
IMID				S	**Sn**	**18 31 52.0**	**+0.4**
ILEI	**Leirhofn**	**1.66**	**11**	P	**Pn**	**18 31 31.1**	**-0.2**
ILEI				S	**Sn**	**18 31 54.1**	**+1.4**
IASB	**`sbjarnarst**	**1.74**	**271**	P	**Pn**	**18 31 31.8**	**-0.6**
IASB				S	**Sn**	**18 31 55.5**	**+0.7**
IHRN	**Hraun**	**1.79**	**319**	P	**Pn**	**18 31 32.9**	**-0.1**
IHRN				S	**Sn**	**18 31 56.3**	**+0.4**
IGRI	**Grimsey**	**1.79**	**350**	P	**Pn**	**18 31 32.5**	**-0.6**
IGRI				S	**Sn**	**18 31 55.9**	**-0.1**
IKRO	**Krokur**	**1.81**	**249**	P	**Pn**	**18 31 32.7**	**-0.7**
IKRO				S	**Sn**	**18 31 56.3**	**-0.2**
IHEI	**Heioarbar**	**1.82**	**253**	P	**Pn**	**18 31 33.0**	**-0.5**
IHEI				S	**Sn**	**18 31 57.0**	**+0.3**
ISOL	**Solvholt**	**1.82**	**243**	P	**Pn**	**18 31 32.8**	**-0.7**
ISOL				S	**Sn**	**18 31 57.2**	**+0.5**
IVES	**Vestmannaeyjar**	**1.89**	**226**	P	**Pn**	**18 31

CMCH			*i* S		Sn	19 15 13.8	+2.0
CMCH			AML		AML	19 15 26.1	
	comp=E,3μm,0.5s						
CMCH	**Combarbala**	**2.71**	**165**	⇓*i* P	Pn	19 14 41.4	+1.1
CMCH				*i* S	Sn	19 15 13.8	+2.0

IDC ***24*** *19:55:20.3±1.2, 8.18N×9209E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=48.5km s-min=19.7km az=55.0*

ISCJB ***24*** *19:55:22.6±0.7, 8.16N±0.08×9206E±0.09, h30km, mb4.1/12, Error ellipse: s-maj=13.8km s-min=10.9km az=107.3*

BJI ***24*** *19:55:22.4, 7.77N×92.13E, h55km, mB4.8, mb4.4*

NEIC ***24*** *19:55:24.8±0.5, 8.20N×9209E, h30km, mb4.3/3, Error ellipse: s-maj=10.6km s-min=9.3km az=224.0*

ISC 24 19:55:23.2±6.1, 817N±009×9210E±009, h15km±39km, n23, σ0≋71/24, mb4.1/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.53**	**10**	*eP*	x	19 56 07.2	
PBA				*eS*	x	19 56 39.2	
PBA				*ex*	x	19 56 51.4	
	comp=E,159nm,0.9s						
PBA				*ex*	x	19 56 52.6	
	comp=N,115nm,0.9s						
PALK	**Pallekele**	**11.33**	**266**	*eP*	**Pn**	**19 58 04.0**	**-0.4**
CHTO	**Chiang Mai**	**12.50**	**31**	*eP*	**Pn**	**19 58 19.7**	**-0.7**
KMI	**Kunming**	**19.68**	**30**	P	**Pn**	**19 59 53.8**	**+0.7**
KMI				PP		20 00 11.0	
KMI				S	**Sn**	**20 03 21.3**	**-13**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s						
KMI				AMB	AMB		
	comp=Z,126nm,4.5s						
KMI	**Kunming**	**19.68**	**30**	P	**Pn**	**19 59 53.7**	**+0.6**
KMI				pP	pP	20 00 00.1	+4.1
KMI				sP	sP	20 00 03.7	+5.8
KMI				PP		20 00 11.0	
KMI				PPP		20 00 21.8	
KMI				S	**Sn**	**20 03 21.2**	**-13**
KMI				SS		20 03 45.3	
PKI	**Pulchoki**	**20.31**	**343**	*eP*	**P**	**20 00 00.1**	**+1.6**
DMN	**Daman**	**20.44**	**342**	*eP*	**P**	**20 00 01.3**	**+1.4**
	comp=Z,27nm,0.9s						
GUN	**Gumba**	**20.50**	**344**	*eP*	**P**	**19 59 59.9**	**-0.7**
	comp=Z,21nm,0.6s						
KKN	**Kakani**	**20.56**	**343**	*eP*	**P**	**20 00 01.6**	**+0.4**
	comp=Z,5.2nm,0.4s						
GKN	**Gorkha**	**20.95**	**341**	*eP*	**P**	**20 00 04.8**	**-0.7**
KOLN	**Koldanda**	**21.09**	**339**	*eP*	**P**	**20 00 07.6**	**+0.6**
	comp=Z,17nm,0.9s,mb4.4						
LSA	**Lhasa**	**21.44**	**358**	P	**P**	**20 00 09.0**	**-1.7**
LSA	**Lhasa**	**21.44**	**358**	*eP*	**P**	**20 00 10.7**	**0.0**
	comp=Z,13nm,0.8s,mb4.3						
GTA	**Gaotai**	**31.87**	**11**	*eP*	**P**	**20 01 47.6**	**0.0**
GTA				AP	pP	20 01 57.8	+5.5
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**37.67**	**339**	*eP*	**P**	**20 02 38.1**	**+0.5**
	comp=Z,2.8nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**39.40**	**349**	P	**P**	**20 02 52.0**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.3,baz=166,slow=8.7,SNR=45						
SONM	**Songino Array**	**41.36**	**15**	P	**P**	**20 03 07.6**	**-0.9**
	comp=Z,3.4nm,0.8s,mb4.0,baz=197,slow=8.0,SNR=31						
ZAL	**Zalesovo**	**46.02**	**354**	P	**P**	**20 03 45.3**	**-0.6**
	comp=Z,2.5nm,1.0s,mb4.1,baz=301,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**50.08**	**124**	P	**P**	**20 04 17.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb4.0,baz=306,slow=8.7,SNR=6.4						
WRAB	**Tennant Creek**	**50.09**	**124**	*eP*	**P**	**20 04 17.8**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**51.66**	**129**	P	**P**	**20 04 29.4**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=302,slow=6.9,SNR=18						
BRTR	**Keskin Array B**	**60.71**	**311**	P	**P**	**20 05 33.4**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.7,baz=139,slow=7.2,SNR=3.8						
GERES	**GERESS Array B**	**76.27**	**318**	P	**P**	**20 07 11.1**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.7,baz=90,slow=6.7,SNR=8.2						

ISCJB ***24*** *20:33:48.1±0.6, 3277N±005×499E±0.1, h10km, Error ellipse: s-maj=14.5km s-min=4.2km az=49.2*

CSEM ***24*** *20:33:48.1, 3270N×5008E, h14km, ML3.1, After THR*

THR ***24*** *20:33:48.1±0.4, 3270N×5008E, h14km±4km, ML3.1*

KISR ***24*** *20:33:50.2±0.9, 3236N×5030E, h34km, ML2.7*

ISC 24 20:33:49.3±0.6, 3275N±005×500E±01, h10km, n10, σ0≋91/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAO	**Ashtian**	**1.80**	**2**	*e*PG	**Pg**	**20 34 22.0**	**-1.8**
ASAO				*e*SG	**Sg**	**20 34 46.8**	**-0.4**
ASAO				AML	AML	20 34 51.4	
	comp=N,250nm,0.5s						
ASAO				AML	AML	20 34 53.4	
	comp=E,146nm,0.5s						
ASAO	**Ashtian**	**1.80**	**2**	*e*Pg	**Pg**	**20 34 22.0**	**-1.8**
	SNR=90						
ASAO				*e*Sg	**Sg**	**20 34 46.8**	**-0.3**
	comp=E,146nm,0.5s,SNR=90						
NASN	**Na'in**	**2.40**	**88**	*e*Pn	**Pn**	**20 34 27.9**	**-0.7**
NASN				*e*SG	**Sg**	**20 35 00.7**	**-5.6**
THKV	**Tehran--Karaj**	**3.25**	**13**	*e*PN	**Pn**	**20 34 41.2**	**+0.8**
THKV				AML	AML	20 35 37.1	
	comp=E,31nm,0.6s						
THKV				AML	AML	20 35 46.5	
	comp=N,33nm,0.6s						
CHTH	**Charan**	**3.30**	**17**	*e*PN	**Pn**	**20 34 42.1**	**+1.1**
DAMV	**Damavand**	**3.32**	**29**	*e*PN	**Pn**	**20 34 41.9**	**+0.5**
DAMV				AML	AML	20 35 35.8	
	comp=N,38nm,0.8s						
DAMV				AML	AML	20 35 36.4	
	comp=E,52nm,0.6s						
MIB	**Mutribah**	**3.69**	**218**	*eP*	**Pn**	**20 34 47.1**	**+0.6**
MIB				*eS*	**Sn**	**20 35 29.7**	**-0.3**
MIB				AML	AML	20 35 33.3	
	comp=Z,13nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.72**	**212**	*eP*	**Pn**	**20 34 47.1**	**+0.3**
UMR				AML	AML	20 35 48.0	
	comp=Z,24nm,0.3s						
RST	**Umm Al-Ruwaisa**	**4.11**	**219**	*eP*	**Pn**	**20 34 52.5**	**+0.3**
RST				*eS*	**Sn**	**20 35 40.6**	**+0.3**
RST				AML	AML	20 35 47.1	
	comp=Z,14nm,0.6s						
NAY	**Al-Naaiem**	**4.20**	**215**	*eP*	**Pn**	**20 34 53.8**	**+0.5**
NAY				*eS*	**Sn**	**20 35 41.0**	**-1.4**
NAY				AML	AML	20 35 44.8	
	comp=Z,5.3nm,0.3s						

MOS ***24*** *21:08:39.6±0.9, 3166S×6703W, h123km, mb5.6/25, Error ellipse: s-maj=9.4km s-min=5.9km az=95.4*

ISCJB ***24*** *21:08:40.7±0.1, 3174S±002×6704W±003, h137km, mb5.3/84, Error ellipse: s-maj=3.5km s-min=3.3km az=174.2*

IDC ***24*** *21:08:41.3±0.3, 3173S×6700W, h132km±2km, mb5.1/26, mb1 5.2/31, mb1mx5.2/32, mbtmp5.5/31, MS4.5/12, Ms1 4.5/12, ms1mx4.2/27, Error ellipse: s-maj=7.6km s-min=6.7km az=10.0*

BJI ***24*** *21:08:44.5, 3220S×6770W, h141km, mB5.5*

NEIC ***24*** *21:08:49.5, 3223S×6769W, h141km, mb5.5/49, MW5.7, Moment Tensor Solution. s45 Moment tensor: Scale 10^17Nm; Mrr~2.70; Mθθ1.20; Mϕϕ1.49; Mrθ-0.90; Mθϕ-3.20; Mϕr~2.46; Best double couple: M0.4.80000×10^17 NP1: ϕs349.00000°, δ65.00000°, λ-48.00000°. NP2: ϕs104.00000°, δ48.00000°, λ-145.00000°. Principal axes: T 4.7500, Plg10.0000°, Azm50.0000°; N 0.0000, Plg38.0000°, Azm148.0000°; P -4.7500, Plg51.0000°, Azm308.0000°; After GUC.*

NEIC Felt [IV] at Chepes, Mendoza and San Juan; [III] at Cordoba; [II] at San Luis. Also felt at Concepcion and Teno, Chile.

GUC ***24*** *21:08:49.5±1.0, 3223S×6769W, h141km, ML5.7*

GCMT ***24*** *21:08:49.5±0.1, 3189S×6718W, h152km, MW5.6/95, Moment Tensor Solution. s95,c178; s92,c202; Duration: 1s6 Moment tensor: Scale 10^17Nm; Mrr~3.00±.04; Mθθ1.68±.05; Mϕϕ1.32±.06; Mrθ-0.96±.04; Mθϕ-0.93±.05; Mϕr-2.55±.04; Best double couple: M0.3.58700×10^17 NP1:ϕs122.00000°, δ34.00000°, λ-131.00000°. NP2:ϕs348.00000°, δ65.00000°, λ-66.00000°. Principal axes: T 2.7330, Plg17.0000°, Azm61.0000°; N 1.7080, Plg21.0000°, Azm158.0000°; P -4.4410, Plg62.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 24 21:08:42.3±0.1, 3176S±002×6709W±003, h139km, h139km±.8km; pP-P, n560, σ0≋90/356, mb5.3/84, 36C-49D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.99**	**279**	P	**Pn**	**21 09 05.1**	**-0.8**
	2μm,0.3s,baz=98,slow=6.9						
CFAA				LR	LR	21 09 14.1	
	comp=Z,1μm,19.2s,baz=170,slow=31						
CFAA				S	**Sn**	**21 09 22.6**	**-1.3**
	3μm,0.3s,baz=92,slow=14,SNR=64						
CFAA	**Coronel Fontan**	**0.99**	**279**	P	**Pn**	**21 09 05.1**	**-0.8**
CFAA				LR	LR	21 09 14.1	
CFAA				S	**Sn**	**21 09 22.6**	**-1.3**
ZON	**Zonda**	**1.37**	**279**	⇑*i* P	**Pn**	**21 09 09.3**	**-0.3**
ZON				*e*S	**Sn**	**21 09 28.8**	**-1.7**
MDZ	**Mendoza**	**1.86**	**233**	⇓*i* P	**Pn**	**21 09 17.0**	**+1.9**
MDZ				*i*		21 09 42.8	
MDZ	**Mendoza**	**1.86**	**233**	⇓*i* P	**Pn**	**21 09 17.0**	**+1.9**
MDZ				*i*		21 09 42.8	
MDZ				*i* S	**Sn**	**21 09 56.2**	**+16**
JACH	**Jahuel**	**3.11**	**252**	*i* P	**Pn**	**21 09 30.7**	**+0.1**
FCH	**Farellones**	**3.12**	**239**	⇑*i* P	**Pn**	**21 09 31.0**	**+0.2**
FCH				*i* S	**Sn**	**21 10 02.5**	**-5.7**
FCH				AML	AML	21 10 37.6	
	comp=E,11μm,0.6s						
PTCH	**Petorca**	**3.30**	**260**	⇓*i* P	**Pn**	**21 09 32.5**	**-0.6**
PTCH				AML	AML	21 10 14.2	
	comp=N,43μm,0.4s						
CLCH	**Cerro Calan**	**3.34**	**240**	*eP*	**Pn**	**21 09 32.6**	**-0.9**
CLCH				*i* S	**Sn**	**21 10 05.9**	**-7.3**
CLCH				AML	AML	21 10 18.5	
	comp=N,22μm,0.6s						
CLCH				AML	AML	21 10 19.4	
	comp=N,25μm,0.8s						
PEL	**Peldehue**	**3.34**	**245**	⇑*i* P	**Pn**	**21 09 32.8**	**-0.7**
PEL				*i* S	**Sn**	**21 10 06.2**	**-7.0**
PEL				AML	AML	21 10 17.0	
	comp=N,16μm,0.4s						
PEL	**Peldehue**	**3.34**	**245**	⇑*i* P	**Pn**	**21 09 32.8**	**-0.7**
PEL				*i* S	**Sn**	**21 10 06.2**	**-7.0**
LMEL	**Las Melosas**	**3.35**	**231**	⇑*i* P	**Pn**	**21 09 33.9**	**+0.2**
LMEL				*i* S	**Sn**	**21 10 06.5**	**-6.9**
LMEL				AML	AML	21 10 16.1	
	comp=N,6μm,0.6s						
LMEL	**Las Melosas**	**3.35**	**231**	⇑*i* P	**Pn**	**21 09 33.9**	**+0.2**
LMEL				*i* S	**Sn**	**21 10 06.5**	**-6.9**
DSCH	**Colegio Aleman**	**3.36**	**240**	*eP*	**Pn**	**21 09 33.1**	**-0.8**
CMCH	**Combarbala**	**3.39**	**279**	⇓*i* P	**Pn**	**21 09 34.0**	**-0.2**
SAN	**Santiago**	**3.45**	**240**	*eP*	**Pn**	**21 09 34.6**	**-0.5**
SAN				*i* S	**Sn**	**21 10 08.5**	**-7.5**
SAN				AML	AML	21 10 19.0	
	comp=N,15μm,0.7s						
SAN	**Santiago**	**3.45**	**240**	*eP*	**Pn**	**21 09 34.6**	**-0.5**
SAN				*i* S	**Sn**	**21 10 08.5**	**-7.5**
ANTU	**Antumapu**	**3.49**	**238**	*eP*	**Pn**	**21 09 35.0**	**-0.5**
TLL	**Tololo Astrono**	**3.57**	**296**	⇑*i* P	**Pn**	**21 09 36.9**	**+0.4**
TLL				*i* S	**Sn**	**21 10 16.9**	**-1.7**
TLL				AML	AML	21 10 24.6	
	comp=N,41μm,0.2s						
TLL	**Tololo Astrono**	**3.57**	**296**	⇑*i* P	**Pn**	**21 09 36.9**	**+0.4**
TLL				*i* S	**Sn**	**21 10 16.9**	**-1.7**
RCDM	**Rinconada Maip**	**3.58**	**240**	*eP*	**Pn**	**21 09 36.0**	**-0.7**
RCDM				AML	AML	21 10 23.2	
	comp=E,11μm,0.8s						
CHCH	**Chadas Angostu**	**3.70**	**233**	*eP*	**Pn**	**21 09 37.5**	**-0.7**
OVCH	**Ovalle**	**3.71**	**287**	⇑*i* P	**Pn**	**21 09 37.5**	**-0.9**
OVCH				*i* S	**Sn**	**21 10 18.3**	**-3.5**
OVCH				AML	AML	21 10 25.2	
	comp=E,24μm,0.5s						
OVCH	**Ovalle**	**3.71**	**287**	⇑*i* P	**Pn**	**21 09 37.5**	**-0.9**
OVCH				*i* S	**Sn**	**21 10 18.3**	**-3.5**
TACH	**Talagante**	**3.75**	**239**	⇓*i* P	**Pn**	**21 09 37.9**	**-1.1**
CACH	**El Canelo**	**3.77**	**231**	⇑*i* P	**Pn**	**21 09 39.1**	**-0.1**
SFDO	**San Fernando**	**4.35**	**228**	⇓*i* P	**Pn**	**21 09 45.5**	**-1.3**
VACH	**Vallenar**	**4.49**	**314**	⇑*i* P	**Pn**	**21 09 51.5**	**+2.8**
VACH				*i* S	**Sn**	**21 10 42.4**	**+1.9**
TRQA	**Tornquist**	**7.55**	**148**	*e*Pn	**Pn**	**21 10 28.1**	**-1.5**
TRQA				*e*Sn	**Sn**	**21 11 54.3**	**+0.6**
LPA	**La Plata**	**8.28**	**115**	*de*P	**Pn**	**21 10 38.0**	**-1.4**
	comp=E,597nm,0.8s						
LPA				*es*P		21 11 11.0	
LPA				*es*P		21 11 30.0	
LPA				*es*P		21 11 39.0	
LPA				*e*S	**Sn**	**21 12 07.0**	**-4.3**
LVC	**Limon Verde**	**9.26**	**349**	P	**Pn**	**21 10 50.8**	**-1.7**
	comp=E,57nm,0.3s,baz=195,slow=8.8,SNR=233						
LVC				S	**Sn**	**21 12 28.7**	**-6.2**
	comp=E,26nm,0.3s,baz=243,slow=19,SNR=3.5						
LVC	**Limon Verde**	**9.26**	**349**	*e*Pn	**Pn**	**21 10 50.9**	**-1.6**
LVC				*e*Sn	**Sn**	**21 12 35.1**	**+0.2**
PLCA	**Paso Flores**	**9.38**	**196**	P	**Pn**	**21 10 52.0**	**-2.1**
	comp=E,10.0nm,0.3s,baz=5.5,slow=12,SNR=156						
PLCA	**Paso Flores**	**9.38**	**196**	P	**Pn**	**21 10 52.0**	**-2.1**
PLCA				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PLCA	**Paso Flores**	**9.38**	**196**	*e*Pn	**Pn**	**21 10 51.9**	**-2.2**
CPUP	**Villa Florida**	**10.11**	**60**	P	**Pn**	**21 11 00.3**	**-3.5**
	comp=Z,62nm,0.3s,baz=221,slow=12,SNR=722						
CPUP				LR	LR	21 15 01.3	
	comp=Z,2μm,19.9s,baz=280,slow=38						
CPUP	**Villa Florida**	**10.11**	**60**	*e*Pn	**Pn**	**21 11 00.5**	**-3.4**
LPAZ	**La Paz**	**15.44**	**356**	P	**Pn**	**21 12 11.4**	**-1.1**
	comp=Z,7.0nm,0.3s,baz=166,slow=10.0,SNR=140						
LPAZ				S	**S**	**21 15 04.9**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=235,slow=23,SNR=1.4						
LPAZ				LR	LR	21 18 13.9	
	comp=Z,2μm,20.2s,baz=179,slow=37						
LPAZ	**La Paz**	**15.44**	**356**	P	**Pn**	**21 12 11.4**	**-1.1**
LPAZ				S	**S**	**21 15 04.9**	**-4.6**
LPAZ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,2μm,20.3s						
LPAZ	**La Paz**	**15.44**	**356**	*e*Pn	**Pn**	**21 12 13.2**	**+0.7**
ARE	**Arequipa**	**15.75**	**344**	*e*P	**Pn**	**21 12 15.0**	**-1.4**
ARE				*e*		21 12 18.0	
SIV	**San Ignacio**	**16.63**	**21**	P	**Pn**	**21 12 26.0**	**-1.1**
	comp=Z,62nm,0.3s,baz=210,slow=13,SNR=1165						
EFI	**East Falkland**	**20.98**	**164**	P	**P**	**21 13 12.0**	**-2.3**
	comp=Z,3μm,0.6s,SNR=69						
EFI	**East Falkland**	**20.98**	**164**	*e*P	**P**	**21 13 12.3**	**-2.1**
NNA	**Nana**	**21.64**	**333**	P	**P**	**21 13 21.5**	**+0.1**
	comp=Z,512nm,1.3s,mb5.8,SNR=5.2						
NNA	**Nana**	**21.64**	**333**	P	**P**	**21 13 20.2**	**-1.1**
	comp=Z,50nm,1.0s,mb4.9,baz=187,slow=10,SNR=16						
NNA				PcP	PcP	21 17 17.6	+0.3
	comp=Z,18nm,0.7s,baz=135,slow=1.4,SNR=5.4						
NNA	**Nana**	**21.64**	**333**	*e*P	**P**	**21 13 20.3**	**-1.1**
SAML	**Samuel**	**22.99**	**10**	*e*P	**P**	**21 13 34.9**	**+0.1**
BDFB	**Brasilia**	**23.66**	**52**	P	**P**	**21 13 39.7**	**-1.2**
	comp=Z,860nm,0.9s,mb6.3,baz=233,slow=7.5,SNR=599						
BDFB				S	**S**	**21 17 41.3**	**-4.0**
	comp=Z,38nm,0.9s,baz=139,slow=20,SNR=1.4						
BDFB	**Brasilia**	**23.66**	**52**	⇑*i* P	**P**	**21 13 39.7**	**-1.2**
BDFB				*e*PP		21 14 08.2	
BDFB				S	**S**	**21 17 41.3**	**-4.0**
BDFB	**Brasilia**	**23.66**	**52**	⇑*i* P	**P**	**21 13 39.7**	**-1.1**
BDFB				*e*pP		21 14 08.2	
BDFB				*e*SP	sP	21 14 27.1	+1.6
BDFB				S	**S**	**21 17 41.3**	**-4.0**
ATAH	**Atahualpa**	**26.80**	**334**	P	**P**	**21 14 10.2**	**+0.9**
	comp=Z,23nm,0.8s,mb4.9,baz=160,slow=6.6,SNR=29						
ATAH				PcP	PcP	21 17 30.7	+2.2
	comp=Z,21nm,0.6s,baz=198,slow=2.3,SNR=6.0						
PMSA	**Palmer Station**	**33.09**	**178**	P	**P**	**21 15 04.1**	**-0.6**
	comp=Z,44nm,0.8s,mb5.2,baz=356,slow=6.9,SNR=35						
PMSA				S	**S**	**21 20 12.3**	**-1.1**
	comp=Z,4.5nm,1.1s,baz=97,slow=12,SNR=1.6						
ROSC	**El Rosal**	**37.06**	**348**	P	**P**	**21 15 40.2**	**+1.4**
	comp=Z,9.1nm,0.5s,mb4.7,baz=181,slow=3.5,SNR=11						
ROSC				PcP	PcP	21 17 57.6	+1.2
	comp=Z,14nm,0.5s,baz=84,slow=18,SNR=3.0						
PAYG	**Puerto Ayora**	**37.91**	**320**	*eP*	**P**	**21 15 48.0**	**+2.1**
SDV	**Santo Domingo**	**40.56**	**355**	*eP*	**P**	**21 16 06.8**	**-1.1**
JTS	**JuntasAbangare**	**45.18**	**335**	P	**P**	**21 16 45.1**	**0.0**
	comp=Z,89nm,0.9s,mb5.4,baz=174,slow=3.6,SNR=65						
JTS	**JuntasAbangare**	**45.18**	**335**	*eP*	**P**	**21 16 45.6**	**+0.5**
JTS				pmax	pmax		
	comp=Z,180nm,1.0s						
JTS	**JuntasAbangare**	**45.18**	**335**	*eP*	**P**	**21 16 45.6**	**+0.5**
	comp=Z,180nm,1.0s,mb5.7						
FDF	**Fort de France**	**46.58**	**8**	*eP*	**P**	**21 16 55.0**	**-1.0**
LZG	**Guadaloupe-1**	**47.90**	**7**	*eP*	**P**	**21 17 11.0**	**+4.7**
DEG	**La Desirade**	**48.15**	**8**	*eP*	**P**	**21 17 12.5**	**+4.3**
SEG	**Port Louis**	**48.19**	**7**	*eP*	**P**	**21 17 13.0**	**+4.5**
CPD	**Cerro la Pandu**	**49.53**	**1**	*eP*	**P**	**21 17 18.5**	**-0.2**
MTP	**Monte Pirata**	**49.59**	**2**	*eP*	**P**	**21 17 19.8**	**+0.6**
SJG	**San Juan**	**49.60**	**1**	*eP*	**P**	**21 17 18.3**	**-0.9**
HUMP	**Col San Antoni**	**49.63**	**2**	*eP*	**P**	**21 17 20.2**	**+0.7**
MPR	**Mayaguez**	**49.69**	**360**	*eP*	**P**	**21 17 19.1**	**-0.8**
CBYP	**Canovanas**	**49.76**	**2**	*eP*	**P**	**21 17 19.7**	**-0.8**
VNA3	**Neumayer Olymp**	**49.91**	**159**	⇑*i* P	**P**	**21 17 21.6**	**0.0**
VNA3				*e*		21 17 23.7	
VNA3				*e*		21 17 28.5	
VNA3				*e*	pP	21 17 53.8	+0.3
VNA3				*e*		21 18 09.8	
VNA3				*e*		21 18 39.4	
VNA3				*e*		21 18 51.5	
VNA3				*e*		21 19 03.9	
VNA3				*e*		21 19 16.7	
VNA3				*e*S	**S**	**21 24 23.1**	**+2.1**
VNA1	**Neumayer--Stat**	**50.14**	**158**	⇑*i* P	**P**	**21 17 23.8**	**+0.4**
VNA1				*e*		21 17 25.4	
VNA1				*e*		21 17 26.7	
VNA1				*e*		21 17 32.6	
VNA1				*e*	pP	21 17 55.7	+0.4
VNA1				*e*		21 18 11.7	
VNA1				*e*		21 18 40.7	
VNA1				*e*		21 19 18.4	
VNA1				*e*S	**S**	**21 24 23.5**	**-0.8**
SNAA	**Sanae**	**52.12**	**159**	P	**P**	**21 17 37.4**	**-0.7**
	comp=Z,64nm,1.0s,mb5.2,baz=289,slow=6.0,SNR=612						
SNAA				PcP	PcP	21 18 47.3	-0.8
	comp=Z,13nm,0.8s,baz=350,slow=11,SNR=3.1						
SNAA				S	**S**	**21 24 41.2**	**-10**
	comp=Z,0.4nm,0.8s,baz=213,slow=11,SNR=1.4						
SNAA	**Sanae**	**52.12**	**159**	⇑*i* P	**P**	**21 17 37.8**	**-0.3**
SNAA				*e*		21 17 39.6	
SNAA				*e*		21 17 40.9	
SNAA				*e*		21 17 44.4	
SNAA				*e*	pP	21 18 11.4	+1.1
SNAA				*e*		21 18 26.0	
SNAA				*e*		21 18 46.8	
SNAA				*e*		21 19 34.3	
SNAA				*e*S	**S**	**21 24 51.2**	**-0.3**
SNAA				*e*		21 24 57.0	
SNAA	**Sanae**	**52.12**	**159**	P	**P**	**21 17 37.4**	**-0.7**
SNAA						21 18 47.3	
SNAA				pmax	pmax		
	comp=Z,64nm,1.0s						
SNAA				pmax	pmax		
	comp=Z,13nm,0.8s						
SNAA	**Sanae**	**52.12**	**159**	*eP*	**P**	**21 17 38.0**	**-0.1**
CMIG	**Matias Romero**	**55.41**	**327**	P	**P**	**21 18 01.8**	**-0.3**
	comp=Z,28nm,0.8s,mb5.1,baz=144,slow=5.2,SNR=75						
CMIG				PcP	PcP	21 19 01.1	+0.5
	comp=Z,12nm,0.7s,baz=282,slow=4.7,SNR=3.8						
VHO	**Vista Hermosa**	**56.27**	**325**	*i* P	**P**	**21 18 09.5**	**+1.3**
OXX	**Oaxaca**	**56.27**	**325**	*eP*	**P**	**21 18 10.0**	**+1.8**
NVL	**N'lazarevskaya**	**56.74**	**157**	*e* P	**P**	**21 18 11.1**	**-0.4**
NVL				*i* *PP	pP	21 18 43.7	-0.4
NVL				*i* *SP	sP	21 18 58.2	-1.2
NVL				*i*		21 19 05.6	
NVL				*i* S	**S**	**21 25 53.8**	**+0.4**
NVL				*e*		21 27 41.2	
NVL				pmax	pmax		
	comp=Z,269nm,1.4s,mb5.9						
ACX	**Acapulco**	**57.70**	**322**	*eP*	**P**	**21 18 18.0**	**-0.2**
QSPA	**South Pole Qui**	**58.47**	**180**	⇓*i* P	**P**	**21 18 24.2**	**+0.6**
	comp=Z,151nm,0.5s,mb6.1						
QSPA				*ep*P	pP	21 19 11.1	+15
QSPA				*eP*P	PP	21 20 36.0	+1.5
PPM	**Popocatepetl**	**58.90**	**325**	*eP*	**P**	**21 18 28.0**	**+1.5**
PPM				*i* P		21 18 28.6	
MOIG	**Morelia**	**60.70**	**323**	*i* P	**P**	**21 18 40.1**	**+1.3**
DWPF	**Disney**	**61.09**	**346**	*eP*	**P**	**21 18 41.5**	**0.0**
	comp=Z,58nm,0.8s,mb5.5						
SFJM	**Santa Fe**	**62.34**	**322**	*eP*	**P**	**21 18 51.0**	**+1.1**
BBSR	**BB Station**	**63.83**	**2**	*eP*	**P**	**21 18 59.7**	**0.0**
BBSR				*ep*P	pP	21 19 34.5	+1.4
SBA	**Scott Base**	**66.08**	**191**	*eP*	**P**	**21 19 15.6**	**+1.4**
SYO	**Syowa Base**	**66.39**	**158**	‖*eP*	**P**	**21 19 15.0**	**-1.2**
SYO	**Syowa Base**	**66.39**	**158**	⇑*i* P	**P**	**21 19 15.5**	**-0.7**
SYO	**Syowa Base**	**66.39**	**158**	‖*i* P	pP	21 19 48.3	-1.5
VNDA	**Vanda**	**67.07**	**190**	P	**P**	**21 19 21.1**	**+0.5**
	comp=Z,27nm,0.8s,mb5.1,baz=136,slow=5.7,SNR=94						
VNDA				PKPPKP		21 47 38.5	
	comp=Z,2.2nm,0.8s,baz=287,slow=5.5,SNR=7.1						
VNDA				LR	LR	21 49 15.4	
	comp=Z,221nm,19.1s,baz=137,slow=36						
VNDA	**Vanda**	**67.07**	**190**	P	**P**	**21 19 21.1**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,27nm,0.8s						
VNDA				pmax	pmax		
	comp=Z

comp=Z,68nm,0.7s
DBIC pmax pmax
comp=Z,46nm,0.8s
DBIC MLR MLR
comp=Z,461nm,21.2s
DBIC Dimbokro 70.50 69 *e*P **P 21 19 42.4 +0.7**
MIAR Mount Ida 70.51 337 *e*P **P 21 19 41.1 -0.7**
MIAR pmax pmax
comp=Z,83nm,1.2s,mb5.3
MIAR Mount Ida 70.51 337 *e*P **P 21 19 41.1 -0.7**
comp=Z,83nm,1.2s,mb5.3
HBAR Harrisburg 70.53 340 *e*P **P 21 19 41.7 -0.2**
HBAR *e*PcP PcP 21 20 00.8 -1.4
HBAR *e*pP pP 21 20 15.6 -0.3
HBAR *e*sP sP 21 20 27.0 -3.8
HBAR *e*PP PP 21 22 20.6 +0.7
GNAR Gosnell 70.72 340 *e*P PcP 21 20 02.3 -0.8
UTMT University of 70.75 342 *e*P **P 21 19 43.1 -0.1**
UTMT *e*pP pP 21 20 17.1 -0.2
GLAT Glass 70.80 341 *e*P **P 21 19 43.8 +0.2**
PARMO Parma 71.30 341⇓*i*P **P 21 19 46.0 -0.5**
PARMO *e*pP pP 21 20 20.9 +0.2
PARMO *e*sP sP 21 20 35.2 -0.3
MVL Millersville 71.91 353 *e*P **P 21 19 50.6 +0.3**
TBI Tubuai 71.92 253 *e*S S 21 29 00.3 +0.3
comp=Z,647nm,26.3s
TBI *e*LR LR 21 41 36.3
comp=Z,1µm,25.8s
TBI Tubuai 71.92 253 *e*P **P 21 19 51.8 +1.5**
comp=Z,309nm,0.9s,mb6.0
TBI *e*S S 21 29 00.3 +0.3
USIN University of 71.98 343 *e*P **P 21 19 49.5 -1.1**
comp=Z,93nm,0.9s,mb5.5
MCWV Mont Chateau 72.04 350 *e*P **P 21 19 50.6 -0.4**
comp=Z,150nm,1.4s,mb5.5
SIUC Southern Illin 72.14 342 *e*P **P 21 19 50.3 -1.3**
comp=Z,82nm,0.6s,mb5.6
SUR Sutherland 72.21 117 *e*P **P 21 19 53.6 +1.6**
comp=Z,73nm,0.8s,mb5.5
SUR *e*pP pP 21 20 26.9 +0.8
BRNJ Basking Ridge 72.41 354 *e*P **P 21 19 53.3 +0.1**
WMOK Wichita Mounta 72.56 333 *e*P **P 21 19 52.9 -1.2**
PAL Palisades 72.68 355 *e*P **P 21 19 54.7 -0.1**
PAL *e* 21 20 11.5
PAL pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
PAL Palisades 72.68 355 *e*P **P 21 19 54.7 -0.1**
comp=Z,6.8nm,0.5s,mb4.6
PAL *e*PcP PcP 21 20 11.5 +0.1
SSPA Standing Stone 72.72 351 *e*P **P 21 19 54.8 -0.3**
MNTX Cornudas Mount 72.78 326 *e*P **P 21 19 54.4 -1.0**
comp=Z,56nm,0.8s,mb5.3
BLO Bloomington 72.85 344 *e*P **P 21 19 54.4 -1.4**
CCM Cathedral Cave 73.02 340 *e*P **P 21 19 54.5 -2.3**
SLM Saint Louis 73.28 341 *e*P **P 21 19 57.7 -0.6**
SLM pmax pmax
comp=Z,77nm,0.8s,mb5.5
SLM Saint Louis 73.28 341 *e*P **P 21 19 57.7 -0.7**
comp=Z,76nm,0.8s,mb5.5
HRV Harvard--Oak R 74.02 357 *e*P **P 21 20 03.3 +0.7**
HRV pmax pmax
comp=Z,76nm,1.1s,mb5.3
HRV Harvard--Oak R 74.02 357 *e*P **P 21 20 03.3 +0.7**
comp=Z,76nm,1.1s,mb5.3
BINY Binghamton 74.05 353 *e*P **P 21 20 03.1 +0.3**
comp=Z,103nm,1.2s,mb5.4
BINY *e*pP pP 21 20 39.5 +2.4
MAW Mawson 74.08 162⇓*i*P **P 21 20 02.8 -0.2**
comp=Z,97nm,0.6s,mb5.7
MAW *e*pP pP 21 20 36.7 -0.6
MAW Mawson 74.08 162 P **P 21 20 03.1 +0.1**
comp=Z,107nm,0.6s,mb5.7,baz=212,slow=6.6,SNR=251
MAW pP pP 21 20 35.5 -1.8
comp=Z,48nm,0.8s,baz=229,slow=8.1,SNR=4.2
MAW LR LR 21 52 36.3
comp=Z,241nm,18.4s,baz=224,slow=36
MAW Mawson 74.08 162⇓*i*P **P 21 20 03.1 +0.1**
MAW *e**PP pP 21 20 36.5 -0.8
MAW *e**SP sP 21 20 50.5 -1.7
MAW *e* 21 22 47.4
MAW pmax pmax
comp=Z,97nm,0.5s
MAW Mawson 74.08 162⇓*i*P **P 21 20 03.0 0.0**
comp=Z,97nm,0.5s,mb5.8
MAW *e*pP pP 21 20 36.5 -0.8
MAW *e*sP sP 21 20 50.5 -1.7
MAW *e*PP PP 21 22 47.4 -2.7
VAH Vaihoa 74.22 262 *e*P **P 21 20 05.2 +1.4**
comp=Z,161nm,1.2s,mb5.6
TVO Taravao 74.36 259 *e*P **P 21 20 06.4 +1.8**
comp=Z,256nm,1.1s,mb5.9
TVO Taravao 74.36 259 *e*P **P 21 20 06.4 +1.8**
TVO pmax pmax
comp=Z,256nm,1.0s,mb5.9
PMOR Pomariorio Ree 74.56 262 *e*P **P 21 20 07.3 +1.5**
comp=Z,69nm,1.1s,mb5.2
PAE Paea 74.69 259 *e*P **P 21 20 08.2 +1.7**
PPT Papeete 74.73 259 *e*P **P 21 20 08.7 +2.0**
comp=Z,153nm,1.0s,mb5.6
PPT *e*pP pP 21 20 41.2 +0.1
comp=Z,61nm,1.2s
PPT Papeete 74.73 259 *e*S S 21 29 31.9 +0.2
comp=Z,530nm,24.0s
PPT *e*LR LR 21 42 58.7
comp=Z,844nm,30.2s
PPT Papeete 74.73 259 P **P 21 20 08.3 +1.5**
comp=Z,122nm,0.8s,mb5.6,baz=119,slow=3.8,SNR=14
PPT LR LR 21 44 44.9
comp=Z,320nm,18.2s,baz=99,slow=29
FFD Franklin Falls 74.98 357 *e*P **P 21 20 08.8 +0.6**
comp=Z,114nm,1.3s,mb5.3
FFD *e*pP pP 21 20 44.6 +2.1
ACCN Adirondack Com 75.02 355 *e*P **P 21 20 09.0 +0.5**
ACCN *e*pP pP 21 20 44.7 +1.9
HNH Hanover 75.25 356 *e*P **P 21 20 11.0 +1.2**
LPM Los Pinos Moun 75.53 327 *e*pP pP 21 20 47.3 +1.5
LENM Lemitar 75.57 327 *e*pP pP 21 20 48.7 +2.7
NCB Newcomb 75.65 355 *e*P **P 21 20 12.0 0.0**
KSU1 Kansas State U 75.66 337⇓*i*P **P 21 20 10.7 -1.4**
KSU1 *e*PcP PcP 21 20 24.8 +0.6
KSU1 *e*pP pP 21 20 47.0 +0.5
KSU1 *e*sP sP 21 21 00.4 -0.9
TSUM Tsumeb 75.76 104 *e*P **P 21 20 13.0 +0.4**
TUC Tucson 75.94 323 *e*P **P 21 20 14.1 +0.4**
ANMO Albuquerque 75.98 328 P **P 21 20 14.5 +0.6**
comp=Z,29nm,0.6s,mb5.1,baz=145,slow=6.5,SNR=125
ANMO Albuquerque 75.98 328 *e*P **P 21 20 14.5 +0.6**
WVL Waterville 76.00 358 *e*P **P 21 20 14.8 +0.8**
comp=Z,122nm,1.4s,mb5.3
EMMW East Machias 76.11 360 *e*pP pP 21 20 50.4 +1.3
LONY Lake Ozonia 76.32 354 *e*pP pP 21 20 51.8 +1.6
FRNY Flat Rock 76.46 355 *e*P **P 21 20 16.4 -0.2**
CCAN Las Canadas 76.59 44 P **P 21 20 17.9 +0.6**
SCIA State Center 77.16 340⇓*i*P **P 21 20 19.6 -1.0**
SCIA *e*PcP PcP 21 20 31.6 +0.9
SCIA *e*pP pP 21 20 53.9 -1.1
SCIA *e*sP sP 21 21 09.2 -0.6
SCIA *e*PP PP 21 23 18.8 +2.7
JFWS Jewell Farm 77.29 343 *e*P **P 21 20 20.7 -0.6**
BOSA Boshof 77.35 116 P **P 21 20 21.7 +0.1**
comp=Z,61nm,0.8s,mb5.3,baz=244,slow=4.6,SNR=104
BOSA pP pP 21 20 55.0 -1.1
comp=Z,94nm,0.8s,baz=240,slow=5.3,SNR=16
BOSA LR LR 21 51 14.9
comp=Z,214nm,20.5s,baz=234,slow=33
BOSA Boshof 77.35 116 *e*P **P 21 20 21.7 +0.1**
BOSA pmax pmax
comp=Z,92nm,0.8s,mb5.5
BOSA Boshof 77.35 116 *e*P **P 21 20 21.7 +0.1**
comp=Z,92nm,0.8s,mb5.5
SDCO Great Sand Dun 77.89 330 *e*P **P 21 20 24.9 +0.3**
comp=Z,51nm,0.7s,mb5.3
GLA Glamis 78.65 321 *e*P **P 21 20 29.3 +0.5**
WUAZ Wupatki 78.78 324 *e*P **P 21 20 30.4 +0.9**
comp=Z,129nm,1.1s,mb5.5
BAR Barrett 79.38 319 *e*P **P 21 20 33.8 +1.1**
LBTB Lobatse 79.39 113 *e*P **P 21 20 33.2 +0.4**
LBTB pmax pmax
comp=Z,87nm,0.7s,mb5.5
TOA0 Torodi Ar. Sit 79.52 67⇓*e*P **P 21 20 34.1 +0.6**
TOA0 *e*pP pP 21 21 06.1 -2.1
TOA0 *e*sP sP 21 21 23.2 +0.2
TOA0 *e*PP PP 21 23 28.6 -7.1
TORD Torodi Ar. Bea 79.52 67 P **P 21 20 33.9 +0.4**
comp=Z,22nm,0.6s,mb5.0,baz=284,slow=7.3,SNR=398
TORD pP pP 21 21 07.1 -1.1
comp=Z,68nm,0.7s,baz=253,slow=5.0,SNR=13
TORD S S 21 30 21.0 -2.5
comp=Z,2.6nm,0.9s,baz=239,slow=7.9,SNR=7.8
TORD PKKPbc PKKPbc 21 39 21.7 +1.0
comp=Z,1.7nm,0.7s,baz=74,slow=1.8,SNR=20
TORD LR LR 21 54 50.6
comp=Z,392nm,19.0s,baz=250,slow=35
TORD Torodi Ar. Bea 79.52 67 P **P 21 20 33.9 +0.4**
TORD pP pP 21 21 07.1 -1.1
TORD S S 21 30 21.0 -2.5
TORD PKKPbc PKKPbc 21 39 21.7 +1.0
TORD LR LR 21 54 50.6
PV01 Paradox Valley 79.56 328 *e*P **P 21 20 34.6 +0.8**
PV01 *e*pP pP 21 21 11.0 +2.6
PV01 *e*sP sP 21 21 24.6 +1.3
ISCO Idaho Springs 79.66 331 *e*P **P 21 20 34.8 +0.5**
ISCO pmax pmax
comp=Z,75nm,0.9s,mb5.3
ISCO Idaho Springs 79.66 331 *e*P **P 21 20 34.8 +0.5**
comp=Z,75nm,0.9s,mb5.3
SMCO Snowmass 79.72 330 *e*P **P 21 20 35.6 +1.1**
DRV Dumont d'Urvil 79.72 191 P **P 21 20 43.0 +8.4**
DRV S S 21 30 38.0 +12
ECSD EROS,Sioux Fal 79.84 339⇓*i*P **P 21 20 34.1 -1.1**
ECSD *e*pP pP 21 21 08.5 -1.4
PFO Pinyon Flat Ob 79.96 320 *e*P **P 21 20 36.8 +0.9**
PFO *e**PP pP 21 21 11.9 +1.3
PFO pmax pmax
comp=Z,85nm,1.1s,mb5.3
PFO Pinyon Flat Ob 79.96 320 *e*P **P 21 20 36.8 +0.9**
comp=Z,85nm,1.1s,mb5.3
PFO *e*pP pP 21 21 11.9 +1.3
PV10 Paradox Valley 79.97 328 *e*P **P 21 20 36.2 +0.2**
PV10 *e*pP pP 21 21 11.1 +0.5
PV10 *e*sP sP 21 21 26.4 +0.9
MIR Mirnyy 80.82 172⇓*i*P **P 21 20 41.0 +0.5**
MIR *i* pP 21 21 16.0 +0.7
MIR pmax pmax
comp=Z,350nm,1.5s,mb5.8
PHWY Pilot Hill 80.86 332 *e*P **P 21 20 41.1 +0.4**
SRU San Rafael 81.25 327 *e*P **P 21 20 42.9 +0.2**
RAR Rarotonga 81.30 251 P **P 21 20 43.9 +0.9**
comp=Z,25nm,0.8s,mb4.9,baz=203,slow=6.9,SNR=3.6
RAR LR LR 21 50 28.5
comp=Z,126nm,18.5s,baz=106,slow=31
CCUT Cedar City 81.37 324⇓*i*P **P 21 20 44.5 +1.2**
CCUT *e*pP pP 21 21 21.4 +3.2
CCUT *e*sP sP 21 21 32.0 -1.0
CCUT *e*PP PP 21 23 52.2 +1.2
SNCC San Nicolas Is 81.41 318 *e*P **P 21 20 44.7 +1.1**
comp=Z,115nm,1.0s,mb5.5
GSC Goldstone 81.42 321 *e*P **P 21 20 44.2 +0.5**
SHPR Sheep Range 81.47 323 *e*P **P 21 20 44.6 +0.7**
MSU Marysvale 81.55 326 *e*P **P 21 20 45.0 +0.7**
ARUT Antelope Range 81.59 325 *e*P **P 21 20 45.4 +0.9**
ARUT *e**PP pP 21 21 21.2 +1.8
TMUT Trail Mountain 81.72 327 *e*P **P 21 20 45.6 +0.5**
RWWY Rawlins 81.91 331 *e*P **P 21 20 46.6 +0.5**
CASY Casey 82.26 179 *e*P **P 21 20 48.1 +0.1**
CASY *e*pP pP 21 21 22.4 -0.5
EYMN Ely 82.31 344 *e*P **P 21 20 47.5 -0.8**
EYMN *e*pP pP 21 21 22.9 -0.3
MPU Maple Canyon 82.49 327 *e*P **P 21 20 50.1 +0.9**
DAC Darwin (Calif) 82.58 321 *e*P **P 21 20 50.2 +0.5**
DAC pmax pmax
comp=Z,65nm,0.8s,mb5.4
DAC Darwin (Calif) 82.58 321 *e*P **P 21 20 50.2 +0.5**
comp=Z,65nm,0.8s,mb5.4
ISA Isabella 82.60 320 *e*P **P 21 20 50.6 +0.8**
comp=Z,0.2nm,1.4s
NLU North Lily Min 82.64 327 *e*P **P 21 20 46.7 -3.3**
RSSD Black Hills 82.71 334 *e*P **P 21 20 50.2 -0.2**
RSSD *e**PP pP 21 21 25.8 +0.5
CTU Camp Tracy 83.08 327 *e*P **P 21 20 52.7 +0.4**
TRCR Troy Canyon 83.10 324⇓*i*P **P 21 20 52.9 +0.5**
TRCR *e*pP pP 21 21 28.4 +1.0
TRCR *e*sP sP 21 21 43.0 +0.9
DUG Dugway 83.18 326 *e*P **P 21 20 52.9 +0.1**
TCUT Toone Canyon 83.26 328 *e*P **P 21 20 53.8 +0.5**
HWUT Hardware Ranch 83.73 328 *e*P **P 21 20 54.9 -0.7**
comp=Z,62nm,0.7s,mb5.5
AGMN Agassiz Refuge 83.76 341⇓*i*P **P 21 20 54.9 -0.9**
AGMN *e*pP pP 21 21 29.6 -1.2
AGMN *e*sP sP 21 21 46.0 +0.5
BW06 Boulder Array 83.78 330 *e*P **P 21 20 55.2 -0.6**
comp=Z,87nm,1.3s,mb5.3
PDAR Pinedale Array 83.78 330 P **P 21 20 55.4 -0.5**
comp=Z,22nm,0.7s,mb5.0,baz=132,slow=6.6,SNR=99
PDAR pP pP 21 21 29.2 -1.6
comp=Z,12nm,1.0s,baz=131,slow=6.1,SNR=3.2
PDAR PKKPbc PKKPbc 21 39 10.9 -0.2
comp=Z,1.1nm,0.5s,baz=150,slow=0.1,SNR=7.6
PDAR PKPPKP 21 47 14.9
comp=Z,1.0nm,1.0s,baz=0.0,slow=1.5,SNR=6.1
BGU Big Grassy Mou 83.86 327⇓*i*P **P 21 20 55.8 -0.4**
BGU *e*pP pP 21 21 28.2 -3.1
BGU *e*sP sP 21 21 46.0 +0.1
BGU *e*PP PP 21 24 12.2 +0.7
SPUT South Promonto 83.89 327 *e*P **P 21 20 55.1 -1.3**
MTUM Tungsten Hills 83.90 321 *e*P **P 21 20 56.8 +0.4**
HVU Hansel Valley 84.41 327 *e*P **P 21 20 58.8 -0.2**
AHID Auburn Hatcher 84.45 329 *e*P **P 21 20 59.0 -0.2**
LRV Little Rabbit 84.56 319 *e*P **P 21 21 01.2 +1.5**
NVAR Mina Array Bea 84.56 322 P **P 21 21 00.2 +0.4**
comp=Z,16nm,0.8s,mb4.8,baz=184,slow=6.7,SNR=101
NVAR pP pP 21 21 34.4 -0.5
comp=Z,6.5nm,0.8s,baz=182,slow=7.9,SNR=3.7
NVAR PKKPbc PKKPbc 21 39 10.9 +1.6
comp=Z,2.1nm,0.7s,baz=7.2,slow=1.4,SNR=14
NVAR PKPPKP 21 47 18.3
comp=Z,0.2nm,0.3s,baz=270,slow=5.3,SNR=3.7
NVAR Mina Array Bea 84.56 322 P **P 21 21 00.2 +0.4**
NVAR pP pP 21 21 34.4 -0.5
NVAR PKKPbc PKKPbc 21 39 10.9 +1.6
NVAR P'P' 21 47 18.3
ELK Elko 84.77 325 *e*P **P 21 21 01.1 +0.3**
ELK *e**PP pP 21 21 36.6 +0.7
ELK pmax pmax
comp=Z,70nm,0.8s
ELK Elko 84.77 325 *e*P **P 21 21 01.1 +0.3**
comp=Z,70nm,0.8s,mb5.4
ELK *e*pP pP 21 21 36.6 +0.7
SNOW Snow King Moun 84.86 330 *e*P **P 21 21 01.3 0.0**
LOHW Long Hollow 84.92 330 *e*P **P 21 21 01.3 -0.2**
TPAW Teton Pass 84.97 330 *e*P **P 21 21 01.8 0.0**
comp=Z,94nm,1.3s,mb5.4
RRI2 Red Ridge 85.01 329 *e*P **P 21 21 01.9 -0.1**
RRI2 *e*PKKPbc PKKPbc 21 39 09.3 +1.1
SAO San Andreas Ge 85.04 319 *e*P **P 21 21 03.1 +0.9**
SAO pmax pmax
comp=Z,107nm,1.6s,mb5.3
SAO San Andreas Ge 85.04 319 *e*P **P 21 21 03.1 +0.9**
comp=Z,107nm,1.6s,mb5.3
MOOW Moose Ponds 85.08 330 *e*P **P 21 21 02.2 -0.2**
DCID1 Drake Creek 85.15 330 *e*P **P 21 21 03.5 +0.7**
WAKR Walker 85.21 321 *e*P **P 21 21 03.9 +0.9**
FLWY Flagg Ranch 85.34 330 *e*P **P 21 21 04.0 +0.3**
CMB Columbia Colle 85.38 321 *e*P **P 21 21 03.8 -0.1**
BMN Battle Mountai 85.50 324 *e*P **P 21 21 04.3 -0.2**
ULM Lac du Bonnet 85.55 342 P **P 21 21 03.4 -1.3**
comp=Z,52nm,0.8s,mb5.3,baz=160,slow=5.1,SNR=48
ULM pP pP 21 21 36.8 -3.1
comp=Z,28nm,0.9s,baz=151,slow=2.6,SNR=4.4
ULM PKKPbc PKKPbc 21 39 06.3 -0.6
comp=Z,7.7nm,0.7s,baz=338,slow=2.5,SNR=12
ULM Lac du Bonnet 85.55 342 P **P 21 21 03.4 -1.3**
ULM pP pP 21 21 36.8 -3.1
ULM PKKPbc PKKPbc 21 39 06.3 -0.6
LKWY Lake 85.60 331 *e*P **P 21 21 06.6 +1.6**
YFT Old Faithful 85.69 330 *e*P **P 21 21 07.3 +1.9**
LAO LASA Array 85.70 334 *e*P **P 21 21 04.7 -0.8**
comp=Z,129nm,1.2s,mb5.5
YNR Norris Junctio 85.84 330 *e*P **P 21 21 08.1 +1.9**
YMR Madison River 85.92 330⇓*i*P **P 21 21 06.9 +0.3**
comp=Z,371nm,1.4s,mb5.9
YMR *e*PcP PcP 21 21 09.8 +0.8
YMR *e*pP pP 21 21 42.0 +0.3
YMR *e*sP sP 21 21 57.3 +0.9
PAHR Pah Rah Range 86.07 322 *e*P **P 21 21 07.9 +0.7**
SAC San Andreas 86.17 319 *e*P **P 21 21 08.8 +1.0**
SCHQ Schefferville 86.24 0 P **P 21 21 06.8 -1.3**
comp=Z,42nm,1.1s,mb5.1,baz=186,slow=4.5,SNR=25
SCHQ PKKPbc PKKPbc 21 39 05.0 -0.3
comp=Z,1.8nm,0.8s,baz=278,slow=7.1,SNR=4.7
QLMT Earthquake Lak 86.25 330 *e*P **P 21 21 08.9 +0.7**
QLMT *e*pP pP 21 21 45.3 +2.0
LSZ Lusaka 86.47 106 *e*P **P 21 21 11.5 +2.2**
LSZ pmax pmax
comp=Z,115nm,1.4s,mb5.4
LSZ Lusaka 86.47 106 *e*P **P 21 21 11.5 +2.2**
comp=Z,115nm,1.4s,mb5.4
HLID Hailey 86.56 328 *e*P **P 21 21 10.1 +0.4**
comp=Z,98nm,1.0s,mb5.6
HLID *e*PKKPbc PKKPbc 21 39 05.7 +1.1
MCCM Marconi Confer 86.82 319⇓*e*P **P 21 21 11.2 +0.2**
OHCM Honcut 86.91 321 *e*P **P 21 21 11.4 +0.1**
OHCM *e*pP pP 21 21 48.6 +1.9
BOZ Bozeman (W) 86.99 330 *e*P **P 21 21 11.2 -0.5**
BOZ *e*PKKPbc PKKPbc 21 39 03.5 0.0
DLMT Dillon 87.17 330 *e*P **P 21 21 12.8 +0.2**
DLMT *e*PKKPbc PKKPbc 21 39 04.2 +1.1
LRM Limekiln Ridge 87.47 330 *e*P **P 21 21 14.2 +0.1**
HOPS Hopland 87.53 320 *e*P **P 21 21 15.5 +1.1**
comp=Z,99nm,1.5s,mb5.4
SNZO South Karori 87.64 222 *e*P **P 21 21 16.6 +1.8**
WVOR Wild Horse Val 87.71 325 P **P 21 21 15.2 0.0**
PTEO Sao Teotonio 87.86 43 *e*P **P 21 21 16.8 +0.9**
PTEO *e*pP pP 21 21 50.8 -0.5
HRY Holter Researc 87.92 331 *e*P **P 21 21 16.6 +0.4**
RPZ Rata Peaks 88.01 218 P **P 21 21 16.7 +0.1**
comp=Z,110nm,0.9s,mb5.7,baz=189,slow=2.1,SNR=24
RPZ LR LR 21 51 28.5
comp=Z,148nm,19.1s,baz=259,slow=29
MOD Modoc 88.15 323 *e*P **P 21 21 17.5 +0.2**
comp=Z,49nm,0.8s,mb5.4
EGMT Eagleton 88.15 333 *e*P **P 21 21 17.0 -0.3**
EGMT *e*PKKPbc PKKPbc 21 39 00.9 +0.2
URZ Urewera 88.21 225 P **P 21 21 18.4 +0.8**
comp=Z,27nm,0.9s,mb5.1,baz=122,slow=2.1,SNR=15
LTIM Timbered Crate 88.24 322 P **P 21 21 17.7 0.0**
KIPM Iron Peak 88.33 320 *e*P **P 21 21 18.6 +0.4**
KIPM *e*pP pP 21 21 52.4 -1.2
KIPM *e*sP sP 21 22 08.5 +0.4
WDC Whiskeytown Da 88.37 321 *e*P **P 21 21 17.0 -1.3**
WDC pmax pmax
comp=Z,81nm,1.2s,mb5.4
WDC Whiskeytown Da 88.37 321 *e*P **P 21 21 17.0 -1.3**
comp=Z,81nm,1.2s,mb5.4
EGRO El Granado 88.58 43 P **P 21 21 19.4 +0.1**
EGRO pP pP 21 21 50.7 -4.0
CHMT Chamberlain Mo 88.68 330 *e*P **P 21 21 19.7 0.0**
PBEJ Beja 88.69 43 *e*P **P 21 21 19.2 -0.6**
comp=Z,23nm,1.7s,mb4.8
PBEJ *e*pP pP 21 21 54.9 -0.3
BMO Blue Mountains 88.88 327 *e*P **P 21 21 20.3 -0.4**
MSO Missoula 88.90 330 *e*P **P 21 21 20.9 0.0**
MSO *e*PKKPbc PKKPbc 21 38 58.6 -0.3
EVO Evora 88.95 42 *e*P **P 21 21 20.2 -0.8**
comp=Z,12nm,0.7s,mb4.7
EVO *e*R
comp=Z,339nm,21.2s
EJIF Jimena Fronter 89.05 45 P **P 21 21 22.0 +0.5**
EJIF *PP pP 21 21 56.2 -0.7
EJIF pmax pmax
comp=Z,13nm,1.6s,mb4.6
EJIF Jimena Fronter 89.05 45 P **P 21 21 22.0 +0.5**
comp=Z,13nm,1.6s,mb4.6
EJIF pP pP 21 21 56.2 -0.7
ESPR Espera 89.09 45 P **P 21 21 24.2 +2.5**
comp=Z,28nm,1.0s,mb5.2
ESPR pP pP 21 21 56.6 -0.5
EMIN Mina Concepcio 89.21 44 P **P 21 21 22.1 -0.2**
EMIN pP pP 21 21 55.3 -2.4
YBH Yreka Blue Hor 89.28 322 P **P 21 21 21.6 -1.0**
comp=Z,20nm,0.7s,mb5.2,baz=124,slow=3.1,SNR=97
YBH pP pP 21 21 56.7 -1.3
comp=Z,7.7nm,0.9s,baz=110,slow=4.4,SNR=2.3
YBH Yreka Blue Hor 89.28 322 *e*P **P 21 21 21.6 -1.0**
PESTR Estremoz 89.42 42 *e*P **P 21 21 23.9 +0.7**
comp=Z,27nm,1.4s,mb5.0
PESTR *e*pP pP 21 21 58.8 +0.1
PTOM Tomar 89.47 41 *e*pP pP 21 21 58.2 -0.7
EBAD Badajoz 89.67 43 P **P 21 21 24.2 -0.2**
EBAD pP pP 21 21 59.9 0.0
KRMB Red Mountain 89.77 321 *e*P **P 21 21 25.5 +0.7**
KRMB *e*pP pP 21 22 02.6 +2.3
KRMB *e*sP sP 21 22 15.6 +0.7
BSMT Bassoo Peak 90.06 330 *e*P **P 21 21 25.9 -0.4**
BSMT *e*PKKPbc PKKPbc 21 38 56.4 +0.4
PCBR Castelo Branco 90.14 42 *e*pP pP 21 22 01.9 -0.2
ELOJ Sierra Loja 90.30 45 P **P 21 21 26.2 -1.2**
ELOJ *PP pP 21 22 01.8 -1.0
ERON Agron 90.43 46 P **P 21 21 28.0 +0.1**
ERON pP pP 21 22 02.9 -0.5
EGUA Guajares 90.46 46 P **P 21 21 27.4 -0.7**
ELUQ Luque 90.50 45 P **P 21 21 28.4 +0.1**
ELUQ *PP pP 21 22 03.4 -0.3
PVIS Viseu 90.50 41 *e*P **P 21 21 27.3 -1.0**
comp=Z,56nm,1.7s,mb5.3
WALA Waterton Lakes 90.64 331 *e*P **P 21 21 28.5 -0.4**
EADA Adamuz 90.71 44 P **P 21 21 36.5 +7.2**
comp=Z,2.2nm,0.9s,mb4.2
EADA pP pP 21 22 04.7 0.0
ECOG Cogollos-Vega 90.74 46 P **P 21 21 29.1 -0.3**
ECOG *PP pP 21 22 03.9 -1.0
BROR Big Rock Looko 90.95 324 P **P 21 21 30.0 -0.4**
REDWA Red Mountain 90.96 327 P **P 21 21 30.9 +0.4**
PVRL Vila Real 90.98 40 *e*pP pP 21 22 05.1 -0.9
HAWA Hanford 91.07 327 *e*P **P 21 21 30.6 -0.3**
HAWA *e*PKKPbc PKKPbc 21 38 54.1 +0.6
EBAN Banos Encina 91.19 45 P **P 21 21 31.6 +0.1**
EBAN *PP pP 21 22 06.9 0.0
EBAN pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
EBAN Banos Encina 91.19 45 P **P 21 21 31.6 +0.2**
comp=Z,7.0nm,0.6s,mb4.9
EBAN pP pP 21 22 06.9 0.0
FFC Flin Flon 91.22 341 *e*P **P 21 21 30.0 -1.6**
FFC *e**PP pP 21 22 05.8 -1.3
FFC pmax pmax
comp=Z,59nm,1.2s,mb5.5
FFC Flin Flon 91.22 341 *e*P **P 21 21 30.0 -1.6**
comp=Z,59nm,1.2s,mb5.5
FFC *e*pP pP 21 22 05.8 -1.3
HOOD Mount Hood Mea 91.31 325 *e*P **P 21 21 32.1 +0.1**
EQES Quesada 91.38 45 P **P 21 21 30.6 -1.7**
EQES pP pP 21 22 06.0 -1.8
NEW Newport 91.38 329 P **P 21 21 31.2 -1.2**
comp=Z,9.8nm,0.6s,mb5.0,baz=133,slow=4.6,SNR=19
NEW Newport 91.38 329 P **P 21 21 31.2 -1.2**
NEW pmax pmax
comp=Z,10.0nm,0.6s
NEW Newport 91.38 329 *e*P **P 21 21 30.8 -1.6**
OD2 Odessa Site #2 91.43 328 P **P 21 21 32.2 -0.4**
MXC Moxie City 91.56 326 P **P 21 21 33.7 +0.4**
COR Corvallis 91.60 324 *e*P **P 21 21 33.7 +0.3**
PBRG Braganca 91.88 41 *e*pP pP 21 22 10.0 -0.1
EBG Ellensburg 91.94 327 P **P 21 21 35.1 +0.1**
ESDC Sonseca Array 92.06 44 P **P 21 21 35.5 0.0**
comp=Z,1.6nm,0.5s,mb4.3,baz=244,slow=4.6,SNR=14
ESDC pP pP 21 22 09.6 -1.4
comp=Z,7.7nm,0.9s,baz=240,slow=4.1,SNR=8.4
ESDC Sonseca Array 92.06 44 P **P 21 21 33.7 -1.8**
ESDC pP pP 21 22 10.9 -0.1
TBM Table Mountain 92.14 327 P **P 21 21 36.0 +0.1**
LON Longmire 92.41 326 *e*P **P 21 21 36.7 -0.4**
GUD Guadarrama 92.58 43 P **P 21 21 37.7 -0.2**
GUD *PP pP 21 22 12.9 -0.5
ETOB Tobarra 92.84 46 P **P 21 21 39.7 +0.5**
comp=Z,17nm,1.1s,mb5.1
ETOB pP pP 21 22 14.6 0.0
FCC Fort Churchill 92.95 346 *e*P **P 21 21 39.3 -0.3**
FCC *e**PP pP 21 22 14.6 -0.5
GNW Green Mountain 93.48 326 *e*P **P 21 21 41.7 -0.3**
EDM Edmonton 93.69 334 *e*P **P 21 21 40.9 -2.1**
EDM *e**PP pP 21 22 17.4 -1.1
ETOR Torete 93.91 44 P **P 21 21 44.6 +0.6**
ETOR *PP pP 21 22 19.4 -0.1
ETOR pmax pmax
comp=Z,17nm,1.4s,mb5.0
ETOR Torete 93.91 44 P **P 21 21 44.6 +0.6**
comp=Z,17nm,1.4s,mb5.0
ETOR pP pP 21 22 19.4 -0.2
PGC Sidney 94.54 326 *e*P **P 21 21 46.8 -0.1**

AFI Afiamalu 94.85 251 LR LR 21 56 17.8
comp=Z,225nm,18.4s,baz=234,slow=30
SJPF Ste Jean 95.83 42 *e*P **P 21 21 52.1 -0.7**
comp=Z,22nm,1.0s,mb5.2
KEST Kesra 98.16 53 LR LR 22 09 31.9
comp=Z,304nm,18.5s,baz=199,slow=37
MFF Saint Martin d 98.59 40 *e*P **P 21 22 04.8 -0.4**
MFF *e*pP pP 21 22 40.6 -0.2
RJF Les Rejaudoux 98.73 42 *e*P **P 21 22 05.1 -0.8**
comp=Z,6.9nm,0.7s,mb4.9
RJF *e*R
comp=Z,518nm,20.0s
CAF Calviac 98.82 42 *e*P **P 21 22 06.0 -0.3**
comp=Z,6.5nm,0.7s,mb4.9
GRR Gorron 99.30 38 *e*P Pdif 21 22 07.2 -1.2
LDF La Druitiere 99.81 38 *e*P Pdif 21 22 09.8 -0.9
LDF *e*pP pP 21 22 45.6 -0.7
AVF Avril sur Loir 100.64 41 *e*P Pdif 21 22 13.7 -0.7
comp=Z,7.6nm,0.6s
SMF Signal de Mont 100.83 42 *e*P Pdif 21 22 14.9 -0.3
comp=Z,9.4nm,0.8s
SMF *e*pP 21 22 50.8
LOR Lormes 101.20 41 *e*P Pdif 21 22 16.0 -0.8
comp=Z,23nm,1.3s
LOR *e*pP 21 22 51.9
LOR *e*R
comp=Z,350nm,22.2s
LOR Lormes 101.20 41 *e*P Pdif 21 22 16.0 -0.8
LOR *e*pP 21 22 51.9
LOR LR LR
comp=Z,350nm,22.3s
SBF Sospel 101.38 45 *e*P Pdif 21 22 17.5 -0.1
MEZF Maizieres J'vi 102.56 40 *e*P Pdif 21 22 22.3 -0.6
MEZF *e*pP 21 22 58.2
HINF Hinteralfeld 103.19 42 *e*P Pdif 21 22 24.7 -1.0
CDF Champ du Feu 103.75 41 *e*P Pdif 21 22 27.7 -0.5
AQU L'Aquila 104.32 49⇓*i*P PP 21 27 04.1 +13
TIP Timpagrande 104.99 53 *e*PKKPbc PKKPbc 21 38 20.7 +5.7
MOTA Moosalm 105.40 44⇓*i*P PKKPbc 21 38 14.4 +0.6
comp=Z,3.6nm,1.0s
MOTA Moosalm 105.40 44⇓*i* PKKPab 21 38 31.8 +0.2
comp=Z,7.1nm,1.1s
SQTA Sankt Quirin 105.40 44⇑*i*P PKKPbc 21 38 14.8 +1.0
comp=Z,5.9nm,1.2s
SQTA Sankt Quirin 105.40 44⇓*i* PKKPab 21 38 32.0 +0.4
comp=Z,8.7nm,1.1s
WTTA Wattenberg 105.67 44⇑*i*P PKKPbc 21 38 13.9 +0.9
comp=Z,4.3nm,0.7s
WTTA Wattenberg 105.67 44⇑*i* PKKPab 21 38 30.4 0.0
comp=Z,15nm,0.8s
GRF Grafenberg Arr 106.63 42 *e*P PKKPab 21 38 26.8 +0.7
comp=Z,8.0nm,1.0s
MOA Mollin 107.51 44⇑*i*P PKKPbc 21 38 08.3 +1.0
comp=Z,4.2nm,1.1s
MOA Mollin 107.51 44⇑*i* PKKPab 21 38 22.5 +0.3
comp=Z,13nm,1.7s
NKC Novy Kostel 107.59 41 *e*PKKP PKKPbc 21 37 37.8 -29
GERES GERESS Array B 107.65 43 PKiKP PKiKP 21 26 51.5 -1.3
comp=Z,1.1nm,0.6s,baz=180,slow=1.4,SNR=9.2
GERES PKKPbc PKKPbc 21 38 07.5 +0.6
comp=Z,1.9nm,0.8s,baz=48,slow=2.0,SNR=15
KHC Kasperske Hory 107.71 43 *e*PKKP PKKPbc 21 38 07.9 +1.2
KHC *ex* x 21 38 22.0
CLL Collm 108.41 41 *i* PP PP 21 27 31.0 +10
comp=Z,9.0nm,1.3s
CLL *e*SKSac SKSac 21 33 18.0 +2.5
CLL *e*SKKSac SKKSac 21 34 06.0 -4.4
CLL *e*SP SP 21 36 30.0 -0.8
CLL *e*PS PS 21 37 18.0 +30
CLL *e*PPS 21 38 06.0
CLL *e*PKKPbc PKKPbc 21 38 18.0 +13
CONA Conrad Observa 108.50 45 P PKKPbc 21 38 05.7 +1.5
comp=Z,5.8nm,1.2s
CONA Conrad Observa 108.50 45 P PKKPab 21 38 18.8 +1.0
comp=Z,11nm,1.4s
PRU Pruhonice 108.67 42 *e*PKKP PKKPbc 21 38 02.5 -1.2
PRU *ex* x 21 38 17.4
BRG Berggiesshubel 108.73 41 *e*(P) PP 21 27 18.9 -4.1
comp=Z,5.5nm,1.4s
BRG Berggiesshubel 108.73 41 *e*(P) PKKPbc 21 38 04.8 +1.3
comp=Z,4.7nm,1.4s
BRG *i* 21 38 17.1
comp=Z,3.4nm,1.0s
PVCC Panska Ves 108.93 42 *e*PKKP PKKPbc 21 38 16.1 +13
PKSM Moragy 109.44 47⇑*i*P PKiKP 21 26 55.9 -0.2
DPC Dobruska-Polom 109.85 43 *e*PKKP PKKPbc 21 38 02.0 +2.1
DPC *ex* x 21 38 11.5
APE Apeiranthos 110.22 58⇓*i*P PP 21 27 22.5 -11
MORC Moravsky Berou 110.31 43⇓*i*P PKiKP 21 26 57.7 0.0
MORC Moravsky Berou 110.31 43 *e*PKKPab PKKPab 21 38 10.6 +0.8
VYHS Vyhne 110.54 45 *e* PKiKP 21 26 57.0 -1.2
VYHS *e* 21 27 30.4
VYHS Vyhne 110.54 45 *i* P PKKPab 21 38 10.0 +1.2
OKC Ostrava-Krasne 110.69 44 *e*PKKP PKKPbc 21 37 57.2 0.0
OKC *ex* x 21 38 09.2
DAWY Dawson 110.89 333 *e*PKiKP PKiKP 21 26 57.6 -1.2
DAWY *e*PP PP 21 27 36.2 -2.4
BZS Buzias 111.08 49⇑*i*P PKiKP 21 26 59.2 0.0
INK Inuvik 111.08 339 *e*PKKPab PKKPab 21 38 05.2 -1.1
STKA Stephens Creek 111.13 206 *e*PKP PKiKP 21 26 58.4 -0.9
comp=Z,5.2nm,1.1s
STKA Stephens Creek 111.13 206 PKiKP PKiKP 21 26 58.6 -0.7
comp=Z,2.5nm,0.6s,baz=237,slow=21,SNR=6.1
STKA Stephens Creek 111.13 206 *e*PKP PKiKP 21 26 58.4 -0.9
STKA PKPdf PKiKP 21 26 58.6 -0.7
KECS Kecovo 111.54 46 *e*P PKKPbc 21 38 04.5 +10
NAO01 NORSAR Array S 111.70 31 *e*PKKPab PKKPab 21 38 02.5 -1.1
EGAK Eagle 111.91 334 *e*PKiKP PKiKP 21 26 59.7 -1.0
NB2 NORSAR Subarra 111.94 31 PKiK 21 26 59.2
comp=Z,2.2nm,0.8s,baz=244,slow=1.9
NOA NORSAR Array B 111.94 31 PKiKP PKiKP 21 26 59.1 -1.7
comp=Z,1.1nm,0.6s,baz=249,slow=2.1,SNR=5.3
NOA PKKPab PKKPab 21 38 00.4 -2.2
comp=Z,5.5nm,0.7s,baz=65,slow=4.5,SNR=14
DRGR 112.24 48⇓*i*P PKiKP 21 27 01.0 -0.4
DAG Danmarks Havn 112.31 11⇑*i*P PKKPbc 21 37 51.0 -0.9
comp=Z,3.7nm,0.8s
KWP Kalwaria 113.33 45 *e*PKP PKiKP 21 27 03.2 -0.3
KWP *e* 21 27 40.3
KWP Kalwaria 113.33 45 *e*PKiKP PKiKP 21 27 03.1 -0.4
KWP *e* 21 27 40.3
MLR Muntele Rosu 113.83 50⇓*i*P PKiKP 21 27 04.4 0.0
KDAK Kodiak Island 113.98 324 PKP PKiKP 21 27 03.2 -1.5
comp=Z,3.0nm,0.5s,baz=32,slow=2.3,SNR=5.3
KDAK PKKPbc PKKPbc 21 37 47.1 +0.8
comp=Z,6.5nm,0.7s,baz=82,slow=3.5,SNR=6.9
KDAK Kodiak Island 113.98 324 PKP PKiKP 21 27 03.2 -1.5
KDAK PKKPbc PKKPbc 21 37 47.1 +0.9
KDAK *e*PKKPbc PKKPbc 21 37 47.3 +1.1
KDAK *e*PKKPab PKKPab 21 37 53.9 +0.4
BURAR Bucovina Array 114.14 48⇑*i*P PKiKP 21 27 05.2 +0.2
PLOR Plostina 114.42 50⇓*i*P PKiKP 21 27 04.9 -0.6
COLA College 114.54 332*d i*PKIKP PKiKP 21 27 04.0 -1.8
COLA College 114.54 332 *i* PKPr PKiKP 21 27 04.0 -1.8
MCK McKinley 114.54 331 PKIKP PKiKP 21 27 05.4 -0.4
MCK McKinley 114.54 331 *e*PKiKP PKiKP 21 27 05.1 -0.6
TIRR Tirgusor 115.09 52⇓*i*P PKiKP 21 27 06.0 -0.8
SUW Suwalki 115.17 41 *e*PKP PKPdf 21 27 06.1 -0.9
SUW *e* 21 27 44.5
SUW Suwalki 115.17 41 *e*PKPdf PKPdf 21 27 05.8 -1.1
SUW *e* 21 27 44.1
NWAO Narrogin (SRO) 115.53 184 PKP PKPdf 21 27 06.8 -0.9
comp=Z,5.6nm,0.7s,baz=134,slow=4.2,SNR=6.1
FORT Forrest 116.16 195 *e*PKP PKPdf 21 27 07.8 -1.1
comp=Z,17nm,0.5s
MUN Mundaring 116.53 183 *e*PKP PKPdf 21 27 08.1 -1.5
ANTO Ankara 116.55 58⇓*i*P PKPdf 21 27 09.9 +0.3
KLBR Kellerberrin 116.82 185 *e*PKP PKPdf 21 27 07.8 -2.4
comp=Z,10nm,0.6s
BR131 Keskin Array S 117.11 58 *e*PKPdf PKPdf 21 27 10.8 +0.1
BR131 *e*PKKPab PKKPab 21 37 38.4 -1.4
BRTR Keskin Array B 117.11 58 PKP PKPdf 21 27 09.8 -1.0
comp=Z,2.8nm,0.7s,baz=191,slow=3.1,SNR=18
BRTR pPKP pPKPdf 21 27 46.2 -1.6
comp=Z,3.7nm,1.0s,baz=191,slow=3.8,SNR=6.8
BRTR PKKPbc PKKPbc 21 37 36.6 +1.1
comp=Z,1.8nm,0.6s,baz=122,slow=4.6,SNR=4.2
BRTR Keskin Array B 117.11 58 PKIKP PKPdf 21 27 09.8 -0.9
BRTR 21 27 46.2
IMA2 Indian Mountai 117.24 333 *e*PKPdf PKPdf 21 27 09.6 -1.4
TTA Tatalina 117.29 329 *e*PKIKP PKPdf 21 27 11.1 0.0
AKASG Malin Array Be 117.64 46 PKP PKPdf 21 27 09.8 -1.9
comp=Z,5.7nm,0.5s,baz=259,slow=2.7,SNR=51
AKASG pPKP pPKPdf 21 27 46.1 -2.7
comp=Z,4.6nm,0.7s,baz=268,slow=2.5,SNR=6.3
AKASG PKKPbc PKKPbc 21 37 33.8 +0.1
comp=Z,2.5nm,0.6s,baz=59,slow=4.0,SNR=14
AKASG Malin Array Be 117.64 46 PKIKP PKPdf 21 27 09.9 -1.8
AKASG 21 27 46.1
AKBB Malin Array Si 117.64 46 *e*PKPdf PKPdf 21 27 10.2 -1.5
AKBB *ep*PKPdf pPKPdf 21 27 48.3 -0.5
FINES FINESS Array B 118.82 33 PKP PKPdf 21 27 12.7 -1.3
comp=Z,2.5nm,0.5s,baz=142,slow=0.8,SNR=40
FINES pPKP pPKPdf 21 27 48.6 -2.5
comp=Z,3.5nm,0.8s,baz=156,slow=1.3,SNR=3.3
FINES PKKPbc PKKPbc 21 37 28.2 -1.1
comp=Z,2.7nm,0.5s,baz=91,slow=3.9,SNR=13
FINES FINESS Array B 118.82 33 PKIKP PKPdf 21 27 12.7 -1.3
FINES 21 27 48.6
FIA1 FINESS Array S 118.82 33 *e*PKPdf PKPdf 21 27 13.1 -0.9
FIA1 *ep*PKPdf pPKPdf 21 27 50.2 -0.8
KAF Kangasniemi 119.08 32 *ep* PKPdf 21 27 12.6 -1.9
comp=Z,8.4nm,0.5s
KAF Kangasniemi 119.08 32 *ep* PKKPbc 21 37 29.3 +0.9
comp=Z,4.1nm,0.5s,baz=73,slow=4.1
KAF Kangasniemi 119.08 32 *e*PKIKP PKPdf 21 27 12.6 -1.9
KAF pmax pmax
comp=Z,8.0nm,0.5s
SIM Simferopol' 119.10 53*d i*PKIKP PKPdf 21 27 15.0 +0.4
SIM *e*PS PS 21 38 19.0 -6.7
SIM *e*SS SS 21 44 39.0 -7.0
SIM pmax pmax
comp=Z,13nm,0.8s
SIM pmax pmax
comp=Z,100nm,18.3s
CTA Charters Tower 119.34 216 *e*PKP PKPdf 21 27 15.3 +0.3
comp=Z,7.1nm,0.6s
CTA Charters Tower 119.34 216 PKP PKPdf 21 27 15.3 +0.3
comp=Z,9.0nm,0.6s,baz=142,slow=1.7,SNR=12
MALT Malatya 120.18 61⇓*i*P PKPdf 21 27 17.5 +0.9
MALT Malatya 120.18 61 *e*PKPdf PKPdf 21 27 17.1 +0.5
ARCES ARCESS Array B 120.26 24 PKP PKPdf 21 27 15.6 -1.2
comp=Z,2.9nm,0.6s,baz=249,slow=4.1,SNR=14
ARCES PKKPbc PKKPbc 21 37 23.9 -0.1
comp=Z,8.3nm,0.7s,baz=82,slow=4.7,SNR=24
ARCES ARCESS Array B 120.26 24 PKP PKPdf 21 27 15.6 -1.2
ARCES PKKPbc PKKPbc 21 37 23.9 -0.1
ANN Anapa 121.33 54 *i* PKIKP PKPdf 21 27 17.9 -0.9
ANN *e**PP 21 27 53.5
ANN *e* 21 28 55.5
ANN pmax pmax
comp=Z,35nm,1.3s
AS31 Alice Springs 121.34 203 *e*PKPdf PKPdf 21 27 18.2 -0.7
AS31 *ep*PKPdf pPKPdf 21 27 56.3 +0.4
AS31 *es*PKPdf 21 28 08.2
AS31 *e*SKPdf SKPdf 21 30 40.8 -0.4
ASAR Alice Springs 121.34 203 PKP PKPdf 21 27 18.1 -0.7
comp=Z,22nm,0.5s,baz=137,slow=1.7,SNR=152
ASAR pPKP pPKPdf 21 27 54.5 -1.4
comp=Z,5.2nm,0.7s,baz=131,slow=1.1,SNR=2.7
ASAR SKP 21 30 40.0
comp=Z,3.3nm,0.8s,baz=159,slow=2.6,SNR=5.8
ASAR PKKPbc PKKPbc 21 37 20.1 0.0
comp=Z,1.5nm,0.6s,baz=341,slow=3.5,SNR=15
ASAR Alice Springs 121.34 203 PKIKP PKPdf 21 27 18.1 -0.7
ASAR 21 27 54.6
JOF Joensuu 121.51 32 *ep* PKPdf 21 27 17.5 -1.7
JOF Joensuu 121.51 32 *ep* PKKPbc 21 37 18.4 -1.0
APA Apatity 122.91 27⇑*i*PKIKP PKPdf 21 27 21.6 -0.3
APA *i* 21 27 58.8
APA pmax pmax
comp=Z,22nm,0.8s
OBN Obninsk 122.98 42⇓*i*PKIKP PKPdf 21 27 20.8 -1.2
OBN *e* 21 28 58.9
OBN pmax pmax
comp=Z,53nm,1.2s
OBN Obninsk 122.98 42 *e*PKPdf PKPdf 21 27 21.0 -1.0
SPIA Saint Paul Isl 123.02 321 *e*PKPdf PKPdf 21 27 21.8 -0.3
SPIA *ep*PKPdf pPKPdf 21 28 00.8 +1.7
SPIA *es*PKPdf 21 28 11.8
MOS Moscow 123.67 41 *e*PKIKP PKPdf 21 27 22.5 -0.8
MOS *i* 21 27 58.0
MOS *e* 21 29 07.1
MOS pmax pmax
comp=Z,66nm,1.4s
VRSR Storozhevoye 123.88 47 *i* PKIKP PKPdf 21 27 22.6 -1.1
VRSR pmax pmax
comp=Z,20nm,1.0s
VRSR pmax pmax
comp=N,7.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.0s
RST Umm Al-Ruwaisa 124.03 74 *e*P PKPdf 21 27 24.3 +0.3
RST AMb AMB 21 27 25.2
comp=Z,79nm,0.6s
NAY Al-Naaiem 124.15 74 *e*P PKPdf 21 27 24.2 0.0
NAY AMb AMB 21 27 25.4
comp=Z,10nm,0.8s
MIB Mutribah 124.42 74 *e*P PKPdf 21 27 25.0 +0.2
MIB AMb AMB 21 27 26.0
comp=Z,32nm,0.6s
WB2 Warramunga Arr 124.63 205 *e*PKP PKPdf 21 27 24.8 -0.4
WB2 *ep*PKP pPKPdf 21 28 03.0 +0.8
WB2 *e*SKP 21 30 46.3
WRA Warramunga Arr 124.64 205 PKP PKPdf 21 27 23.5 -1.7
comp=Z,69nm,0.5s,baz=168,slow=1.6,SNR=551
WRA pPKP pPKPdf 21 28 01.2 -1.0
comp=Z,7.0nm,0.5s,baz=158,slow=1.8,SNR=2.8
WRA SKP 21 30 47.0
comp=Z,3.0nm,0.7s,baz=166,slow=1.5,SNR=5.3
WRA PKKPbc 21 37 06.6
comp=Z,1.8nm,1.0s,baz=340,slow=4.6,SNR=9.6
UMR Umm Al-Rimmam 124.64 74 *e*P PKPdf 21 27 25.5 +0.4
UMR AMb AMB 21 27 26.5
comp=Z,62nm,0.5s
WRAB Tennant Creek 124.64 205*d i*PKIKP PKPdf 21 27 25.3 +0.1
WRAB Tennant Creek 124.64 205 *e*PKPdf PKPdf 21 27 25.0 -0.2
KIV Kislovodsk 124.78 56 *i* PKIKP PKPdf 21 27 25.2 -0.3
KIV pmax pmax
comp=Z,39nm,1.2s
KIV MLR MLR
comp=Z,61nm,17.0s
KIV Kislovodsk 124.78 56 *e*PKPdf PKPdf 21 27 25.4 -0.1
ZEI Tsey 125.39 57 *e*PKIKP PKPdf 21 27 26.9 +0.3
ZEI *i* 21 28 03.5
ZEI *e* 21 29 18.8
GNI Garni 125.40 61 P PKPdf 21 27 27.7 +1.1
SNR=7.5
GNI Garni 125.40 61 *e*PKPdf PKPdf 21 27 27.6 +1.0
PMG Port Moresby 127.57 224 PKP PKPdf 21 27 31.0 +0.2
comp=Z,31nm,0.9s,baz=36,slow=3.7,SNR=5.1
AMKA Amchitka 128.46 313 *e*PKPdf PKPdf 21 27 31.4 -1.1
AMKA *ep*PKPdf pPKPdf 21 28 09.8 +0.2
AMKA *es*PKPdf 21 28 23.4
AMKA *e*SKPdf SKPdf 21 30 54.7 -0.1
FITZ Fitzroy Crossi 128.94 196 *e*PKP PKPdf 21 27 33.3 -0.1
comp=Z,70nm,0.8s
FITZ *e*SKP 21 30 41.1
FITZ Fitzroy Crossi 128.94 196 PKP PKPdf 21 27 33.9 +0.5
comp=Z,29nm,0.6s,baz=287,slow=1.2,SNR=87
SMDO Samad 130.96 86⇓P PKPdf 21 27 37.6 +0.4
SNR=6.2
SMY Shemya 131.72 314 *e*PKIKP PKPdf 21 27 38.3 -0.4
KAKA Kakadu 131.98 206 *e*PKP PKPdf 21 27 39.2 0.0
comp=Z,26nm,0.5s
KAKA *ep*PKP pPKPdf 21 28 20.4 +4.2
KAKA *e*SKP 21 30 51.8
BILL Bilibino 132.58 336 *i* PKIKP PKPdf 21 27 39.0 -1.3
BILL Bilibino 132.58 336 *i* PKPr PKPdf 21 27 39.0 -1.3
ARU Arti 135.35 40 *i* PKIKP PKPdf 21 27 45.0 -0.5
ARU *e* 21 28 18.8
ARU Arti 135.35 40 *e*PKPdf PKPdf 21 27 45.8 +0.3
SVE Sverdlovsk 136.40 39⇓*e*PKIKP PKPdf 21 27 48.0 +0.6
SVE pmax pmax
comp=Z,75nm,2.5s
TRD Trivandrum 139.38 117 AMS AMS 23 20 13.3
comp=Z,2µm,22.3s
SEY Seymchan 140.05 333*c i*PKIKP PKPdf 21 27 53.6 -0.5
PET Petropavlovsk 140.95 317⇑*i*PKIKP PKPdf 21 27 53.2 -2.6
PALK Pallekele 141.34 122 *e*PKPdf PKPdf 21 27 54.1 -2.3
ZRNK Zerenda 142.04 43 *e*PKPdf PKPdf 21 27 52.5 -5.2
ZRNK *ep*PKPdf pPKPdf 21 28 32.7 -2.1
ZRNK *e*SKPdf SKPdf 21 31 19.2 -0.1
ZRNK *e*SKPbc SKPbc 21 31 21.7 -0.5
KAD Karad 142.16 103 *e*P PKPdf 21 27 59.1 +1.2
KAD AMS AMS 23 23 09.1
comp=Z,527nm,16.3s
POO Poona 142.47 101⇓*ix* PKPdf 21 27 57.0 -1.5
comp=Z,67nm,0.9s
POO AMS AMS 23 24 49.2
comp=Z,502nm,9.3s
MA2 Magadan 142.49 329*c i*PKHKP 21 27 53.4
MA2 *e* 21 31 09.3
MA2 *e*SS SS 21 49 28.6 -3.1
MA2 pmax pmax
comp=Z,40nm,0.8s
MA2 Magadan 142.49 329 *e*PKPdf PKPdf 21 27 53.4 -5.1
BRVK Borovoye 142.75 42 P PKPdf 21 28 00.1 +1.2
SNR=9.3
BRVK Borovoye 142.75 42 *e*PKIP PKPdf 21 27 59.4 +0.4
BRVK Borovoye 142.75 42⇑*e*PKP PKPdf 21 27 59.3 +0.3
SKR Severo-Kuril's 143.05 314 *e*PKHKP 21 27 51.5
SKR *e* 21 27 56.5
SKR *e* 21 28 38.0
SKR pmax pmax
comp=E,50nm,0.5s
SKR pmax pmax
comp=Z,150nm,0.5s
SKR pmax pmax
comp=Z,2µm,4.0s
LATR Latur 144.67 103 *ex* x 21 28 02.3
MDRS Chennai 144.73 114 *e*P PKPdf 21 28 03.4 +0.9
GUMO Guam 145.59 246 *e*PKP2 PKPab 21 28 06.4 +1.6
HYB Hyderabad 145.81 106 *i* PKP PKPdf 21 28 06.0 +1.7
HYB *e* 21 28 41.0
HYB Hyderabad 145.81 106 *e*P PKPdf 21 28 06.0 +1.7
AKL Akola 146.11 100 *i* P PKPdf 21 28 06.6 +1.8
AJM Ajmer 146.28 89 *e*P PKPdf 21 28 06.9 +1.8
AML Almayashu 147.25 60 P PKPdf 21 28 08.7 +1.9
SNR=12
EKS2 Erkin-Say 147.25 59 P PKPdf 21 28 08.5 +1.7
SNR=54
BHPL Bhopal 147.51 96 *e*P PKPbc 21 28 10.5 +0.5
BHPL AMb AMB 21 28 11.4
comp=Z,70nm,0.6s
BHPL *i* x x 21 28 47.8
BHPL AMS AMS 23 26 50.2
comp=Z,379nm,14.0s
USP Ospenovka 147.71 58 P PKPdf 21 28 08.3 +0.9
SNR=61
AAK Ala-Archa 147.78 59 P PKPdf 21 28 09.3 +1.7
SNR=62
AAK Ala-Archa 147.78 59 *e*PKPdf PKPdf 21 28 08.0 +0.4
YAK Yakutsk 147.83 345 *e*PKIKP PKPdf 21 28 07.0 -0.7
YAK *e* 21 28 45.3
YAK pmax pmax
comp=Z,299nm,1.3s
YAK pmax pmax
comp=Z,106nm,1.4s
UCH Uchtor 147.84 60 P PKPdf 21 28 09.4 +1.7
SNR=90
FRU Bishkek 147.85 59 *i* PKIKP PKPdf 21 28 09.0 +1.3
FRU pmax pmax
comp=Z,320nm,2.0s
CHMS Chumysh 147.92 59 P PKPbc 21 28 11.6 +0.6
SNR=49
KBK Karagaybulak 148.11 59 P PKPbc 21 28 12.6 +1.1
SNR=6.8
KZA Kyzart 148.40 60 P PKPbc 21 28 13.9 +1.6
SNR=9.0
TKM2 Tokmak 2 148.55 59 P PKPdf 21 28 10.0 +1.2
SNR=63
THN Thein Dam 148.58 79 *ex* PKPdf 21 28 09.9 +1.0
NVS Novosibirsk 148.81 34 *e*PKIKP PKPdf 21 28 08.8 -0.5
NVS *i* 21 28 47.2
NVS pmax pmax
comp=Z,317nm,1.4s
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,78nm,1.4s
BHK Bhakra 149.00 81 *ex* PKPbc 21 28 16.2 +2.4
KGM Kluang 149.06 161 P PKPbc 21 28 14.9 +0.9
NDI New Delhi 149.09 86 *ex* PKPdf 21 28 09.5 -0.2
ULHL Ulahol 149.12 60 P PKPbc 21 28 15.1 +1.0
SNR=25
KSH Kashi 149.16 65 *i* PKP PKPdf 21 28 12.0 +2.2
KSH *e*XPKP 21 29 10.1
KSH PP PP
comp=Z,421nm,4.1s
KSH LR LR
comp=N,466nm,4.5s
KSH LR LR
comp=E,483nm,4.8s
KSH LR LR
comp=Z,268nm,8.2s
SDNR Sundarnagar 149.48 81 *e*P PKPdf 21 28 12.0 +1.6
SMLA Simla 149.58 82 *e*P PKPbc 21 28 15.6 +0.4
KSM Kuching 149.77 175 *e*PKPdf PKPdf 21 28 11.7 +0.9
KSM *e*PKPbc PKPbc 21 28 16.5 +0.8
KSM *e*PKPab PKPab 21 28 22.9 +1.4
KSM *ep*PKPdf pPKPdf 21 28 48.7 +0.7
VIS Vishakhapatnam 149.83 111 *e*P PKPbc 21 28 17.0 +1.1
VIS *i* x x 21 28 48.4
ZAL Zalesovo 150.08 34 PKP PKPdf 21 28 10.7 -0.6
comp=Z,39nm,1.2s,baz=224,slow=2.6,SNR=18
ZAL PKPbc PKPbc 21 28 15.6 -0.8
comp=Z,73nm,0.6s,baz=192,slow=3.1,SNR=148
ZAL pPKPbc pPKPbc 21 28 50.8 -2.5
comp=Z,60nm,0.9s,baz=221,slow=1.7,SNR=6.1
IPM Ipoh 150.66 155 P PKPbc 21 28 18.7 +0.9
KULM Kulim 151.27 154 *e*PKPdf PKPdf 21 28 13.7 +0.6
KULM *e*PKPbc PKPbc 21 28 20.0 +0.8
KULM *ep*PKPdf pPKPdf 21 28 56.7 +6.3
LGTI Lohaghat 151.85 86 *i* P PKPbc 21 28 21.5 +1.0
MKAR Makanchi Array 152.16 49 PKP PKPdf 21 28 14.3 -0.1
comp=Z,6.6nm,0.9s,baz=318,slow=1.6,SNR=46
MKAR PKPbc PKPbc 21 28 21.2 -0.1
comp=Z,62nm,0.6s,baz=262,slow=2.0,SNR=256
MKAR pPKPbc pPKPbc 21 28 55.8 -2.4
comp=Z,88nm,0.9s,baz=316,slow=3.3,SNR=9.5
MKAR Makanchi Array 152.16 49 PKP PKPdf 21 28 14.3 -0.2
MKAR PKPbc PKPbc 21 28 21.2 -0.1
MKAR pPKPbc pPKPbc 21 28 55.8 -2.4
TSM Tawau 152.28 191 P PKPbc 21 28 22.6 +1.1
YSS Yuzh-Sakhalins 152.59 312 *e*PKIKP PKPbc 21 28 21.5 -0.7
YSS *e* 21 28 31.5
YSS *e* 21 28 58.0
YSS *e* 21 29 10.5
YSS pmax pmax
comp=E,160nm,1.0s
YSS pmax pmax
comp=Z,230nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 152.59 312 *e*PKPdf PKPbc 21 28 21.3 -0.9
SNG Songkhla 152.98 152 P PKPbc 21 28 23.0 -0.1
comp=Z,92nm,0.8s
CLNS Chul'man 153.59 345 *e*PKIKP PKPbc 21 28 23.2 -1.2
CLNS pmax pmax
comp=Z,67nm,0.7s
CLNS pmax pmax
comp=N,25nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.9s
ASAJ Asahikawa 153.69 306 PKP PKPdf 21 28 15.9 -0.8
comp=E,12nm,0.7s,baz=239,slow=9.2,SNR=4.9
ASAJ PKPbc PKPbc 21 28 24.6 0.0
comp=E,58nm,0.8s,baz=222,slow=5.8,SNR=35
ASAJ Asahikawa 153.69 306 PKIKP PKPdf 21 28 15.9 -0.8
ASAJ pmax pmax
comp=Z,12nm,0.7s
ASAJ pmax pmax
comp=Z,58nm,0.8s
BOD Bodaibo 153.94 359 *e*PKIKP PKPdf 21 28 15.7 -1.3
BOD *e* 21 28 38.1
BOD pmax pmax
comp=Z,28nm,1.2s
BOD pmax pmax
comp=Z,28nm,0.9s
BOD pmax pmax
comp=Z,50nm,0.8s
KOLN Koldanda 154.28 91 *e*P PKPdf 21 28 16.4 -1.1
BOK Bokaro 154.85 102 *e*P PKPbc 21 28 27.7 +0.6
GKN Gorkha 155.23 91 *e*P PKPdf 21 28 19.0 +0.2
DMN Daman 155.52 93 *e*P PKPdf 21 28 18.1 -1.1
KKN Kakani 155.72 92 *e*P PKPdf 21 28 19.8 +0.3
PKI Pulchoki 155.77 93 *e*P PKPdf 21 28 18.5 -1.1
GUN Gumba 156.26 92 *e*P PKPdf 21 28 20.8 +0.6
HABR Khabarovsk 156.36 321 *e*PKIKP PKPdf 21 28 19.3 -1.0
HABR *e* 21 28 48.9
HABR *e* 21 35 15.4
WMQ Urumqi 156.82 52 PKP PKPdf 21 28 20.9 0.0

WMQ					PP	PP				
	comp=Z,222nm,4.5s									
WMQ					LR	LR				
	comp=N,286nm,27.7s									
WMQ					LR	LR				
	comp=E,353nm,29.2s									
WMQ					LR	LR				
	comp=Z,312nm,26.8s									
KLR	**Kul'dur**	**157.53**	**326**	*e*	PKIKP	PKPdf	21 28 16.3	-5.5		
KLR				*e*			21 28 49.9			
KLR					pmax	pmax				
	comp=Z,140nm,2.6s									
MOY	**Mondy**	**158.27**	**20**	*e*	PKP2	PKPab	21 28 58.4	+0.8		
MOY					pmax	pmax				
	comp=Z,110nm,2.2s									
MJAR	**Matsushiro Arr**	**158.55**	**290**		PKP	PKPdf	21 28 22.4	-0.7		
	comp=Z,6.5nm,0.9s,baz=203,slow=0.9,SNR=15									
MJAR					PKPab	PKPab	21 28 59.4	+0.6		
	comp=Z,35nm,0.7s,baz=97,slow=2.5,SNR=40									
MJAR					pPKPab	pPKPab	21 29 33.5	-1.0		
	comp=Z,6.9nm,0.8s,baz=105,slow=1.8,SNR=2.2									
MJAR	**Matsushiro Arr**	**158.55**	**290**		PKIKP	PKPdf	21 28 22.4	-0.7		
MJAR							21 28 59.4			
MAJO	**Matsushiro**	**158.55**	**290**	*e*	PKIKP	PKPdf	21 28 22.6	-0.5		
MAJO				*e*			21 28 59.0			
MAT	**Matsushiro**	**158.55**	**290**		PKP	PKPdf	21 28 22.4	-0.7		
IRK	**Irkutsk**	**158.58**	**15**	*e*	PKIKP	PKPdf	21 28 22.1	-1.0		
IRK				*e*			21 28 57.8			
IRK					pmax	pmax				
	comp=Z,75nm,2.2s									
TLY	**Talaya**	**158.96**	**16**	*e*	PKIKP	PKPdf	21 28 23.9	+0.3		
TLY				*e*			21 29 00.2			
TLY				*e*			21 32 43.4			
TLY				*e*			21 45 43.5			
TLY					pmax	pmax				
	comp=Z,28nm,1.5s									
TLY	**Talaya**	**158.96**	**16**	*e*	PKPdf	PKPdf	21 28 24.2	+0.6		
TLY				*e*	PKPab	PKPab	21 29 01.2	+0.6		
ZAK	**Zakamensk**	**160.06**	**18**	⇑*i*	PKIKP	PKPdf	21 28 24.0	-0.8		
ZAK					pmax	pmax				
	comp=Z,6.0nm,1.3s									
ZAK					pmax	pmax				
	comp=Z,7.0nm,1.7s									
ZAK					pmax	pmax				
	comp=Z,9.0nm,1.9s									
ZAK					pmax	pmax				
	comp=Z,4.0nm,1.7s									
NST	**Nakhon Sawan**	**160.20**	**141**		P	PKPab	21 29 06.2	+0.3		
HIA	**Hailar**	**161.78**	**346**		PKPdf	PKPdf	21 28 25.1	-1.6		
HIA					PKPab	PKPab	21 29 11.9	-1.0		
HIA					pPKPab	pPKPab	21 29 48.9	+0.4		
CHG	**Chiang Mai**	**161.98**	**132**	⇓	P	PKPdf	21 28 27.5	+0.6		
	comp=Z,20nm,1.0s									
CHTO	**Chiang Mai**	**161.98**	**132**	*e*	PKIKP	PKPdf	21 28 27.3	+0.4		
CHTO				*e*			21 29 05.0			
CHTO				*e*			21 29 13.6			
CHTO	**Chiang Mai**	**161.98**	**132**	*e*	PKPdf	PKPdf	21 28 27.3	+0.5		
CHTO				*ep*	PKPdf	pPKPdf	21 29 05.0	+0.9		
CHTO				*e*	PKPab	PKPab	21 29 13.6	-0.1		
CHTO				*e*			21 29 48.9			
NANT	**Nan**	**163.03**	**137**	⇑	P	PKPab	21 29 19.0	+0.6		
	comp=Z,200nm,0.4s									
SONM	**Songino Array**	**163.20**	**15**		PKP	PKPdf	21 28 28.1	+0.1		
	comp=Z,3.9nm,1.0s,baz=216,slow=0.9,SNR=27									
SONM					PKPab	PKPab	21 29 19.4	+0.4		
	comp=Z,8.3nm,0.7s,baz=326,slow=4.2,SNR=15									
SONM					pPKPab	pPKPab	21 29 53.3	-1.4		
	comp=Z,6.6nm,1.0s,baz=330,slow=3.3,SNR=4.1									
SONM	**Songino Array**	**163.20**	**15**		PKIKP	PKPdf	21 28 28.1	0.0		
SONM							21 29 19.4			
CN2	**Changchun**	**164.45**	**324**	*e*	PKP	PKPdf	21 28 27.8	-1.4		
CN2					PP	PP	21 33 13.0	+2.1		
CN2					SS	SS	21 53 28.3	-2.7		
CN2					PP	PP				
	comp=Z,200nm,6.0s									
GTA	**Gaotai**	**166.90**	**51**	*e*	PKP	PKPdf	21 28 31.4	+0.2		
GTA					SKS	SKSdf	21 35 23.0	+0.8		
GTA					PP	PP				
	comp=Z,178nm,7.6s									
GTA					LR	LR				
	comp=N,134nm,20.1s									
GTA					LR	LR				
	comp=E,173nm,17.5s									
GTA					LR	LR				
	comp=Z,189nm,17.5s									
KMI	**Kunming**	**168.88**	**124**		PKP	PKPdf	21 28 33.3	+0.7		
BTO	**Baotou**	**170.87**	**14**	*e*	PKP	PKPdf	21 28 33.3	-0.4		
GYA	**Guiyang**	**172.40**	**132**	*i*	PKP	PKPdf	21 28 35.1	+0.6		
GYA					PP	PP				
	comp=Z,1μm,8.9s									
GYA					LR	LR				
	comp=N,2μm,21.4s									
GYA					LR	LR				
	comp=E,2μm,20.8s									
GYA					LR	LR				
	comp=Z,1μm,20.6s									
NJ2	**Nanjing**	**174.94**	**275**	*e*	PKP	PKPdf	21 28 32.8	-2.6		
NJ2					PP	PP				
	comp=Z,670nm,11.1s									
NJ2					LR	LR				
	comp=N,800nm,38.6s									
NJ2					LR	LR				
	comp=E,800nm,38.6s									
NJ2					LR	LR				
	comp=Z,970nm,28.6s									
XAN	**Xi'an**	**175.95**	**55**		PKP	PKPdf	21 28 35.3	-0.3		
XAN					APKP		21 29 13.8			
WHN	**Wuhan**	**178.27**	**226**	⇑	PKP	PKPdf	21 28 36.8	+0.8		
WHN					PP	PP	21 34 24.5	+5.2		

ISCJB ***24*** *21:40:05.6±0.8, 1031N±005×6167W±004, h45km±9km, Error ellipse: s-maj=8.6km s-min=5.5km az=121.1*
FUNV ***24*** *21:40:05.5, 1059N×6149W, h29km, MW3.5*
NEIC ***24*** *21:40:08.7, 1050N×6150W, h23km, MD3.3(TRN), After TRN.*
TRN ***24*** *21:40:08.7, 1050N×6150W, h24km, MD3.3*

ISC 24 21:40:06.9±0.6, 1035N±004×6165W±003, h34km±4km, n16, σ0s98/27, 3D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**0.20**	**99**	*e*P		**Pb**	**21 40 14.6**	**+1.0**
TPP				*e*S		**Sb**	**21 40 17.5**	**-0.7**
TCE	**Chacachacare**	**0.36**	**344**	⇓*i*P		**Pb**	**21 40 15.6**	**0.0**
TCE				*e*S		**Sb**	**21 40 21.8**	**+0.4**
TRN	**Trinidad (W)**	**0.39**	**39**	*e*P		**Pb**	**21 40 14.4**	**-1.5**
TRN				*e*S		**Sb**	**21 40 17.3**	**-4.8**
TBH	**Brigand Hill**	**0.59**	**77**	⇓*e*P		**Pn**	**21 40 18.2**	**-0.7**
TBH				*e*S		**Sn**	**21 40 27.8**	**+0.4**
GUIV	**Guiria**	**0.64**	**298**	⇓*i*P		**Pn**	**21 40 19.6**	**+0.1**
GUIV				*e*S		**Sn**	**21 40 29.0**	**+0.6**
TPR	**Prospect**	**1.20**	**46**	*e*S		**Sn**	**21 40 40.7**	**-1.6**
GUNV	**Guanoco**	**1.28**	**262**	*e*P		**Pn**	**21 40 30.0**	**+1.5**
ITEV	**Isla Los Testi**	**1.77**	**305**	*e*P		**Pn**	**21 40 33.7**	**-1.3**
ITEV				*i*S		**Sn**	**21 40 54.7**	**-1.6**
GRW	**Mount Saint Ca**	**1.80**	**360**	*e*P		**Pn**	**21 40 35.6**	**+0.1**
GRW				*e*S		**Sn**	**21 40 57.6**	**+0.5**
GRHS	**Sauteurs**	**1.86**	**0**	*e*P		**Pn**	**21 40 38.5**	**+2.1**
GRHS				*e*S		**Sn**	**21 40 57.5**	**-1.2**
GRIC	**Isle de Caille**	**1.93**	**2**	*e*P		**Pn**	**21 40 38.2**	**+1.0**
GRSS	**Sisters**	**1.94**	**1**	*e*P		**Pn**	**21 40 39.0**	**+1.6**
GRCU	**Cariacou**	**2.12**	**5**	*e*P		**Pn**	**21 40 40.3**	**+0.4**
GRCU				*e*S		**Sn**	**21 41 05.2**	**+0.2**
CUPV	**Cœpira**	**4.08**	**266**	*e*P		**Pn**	**21 41 07.7**	**+0.8**
CUPV				*e*S		**Sn**	**21 41 53.0**	**-0.5**
MERV	**Las Mercedes**	**4.71**	**257**	*e*P		**Pn**	**21 41 15.8**	**+0.3**
MERV				*e*S		**Sn**	**21 42 08.0**	**-0.9**
BAUV	**El Baul**	**6.45**	**258**	*e*P		**Pn**	**21 41 38.6**	**-0.8**

ISCJB ***24*** *21:54:54.3±1.3, 656S±006×7493W±006, h50km±17km, mb4.3/4, Error ellipse: s-maj=11.3km s-min=8.6km az=73.3*
IDC ***24*** *21:54:56.0±2.3, 655S×7499W, h53km±23km, mb3.3/3, mb1 3.8/8, mb1mx3.6/22, mbtmp3.8/8, ML4.0/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/23, Error ellipse: s-maj=19.3km s-min=13.5km az=31.0*
NEIC ***24*** *21:54:57.2±1.2, 653S×7484W, h59km±15km, mb3.8/2, Error ellipse: s-maj=16.1km s-min=9.9km az=67.0*

ISC 24 21:54:56.2±0.9, 654S±006×7492W±005, h46km±13km, n21, σ1s15/19, mb4.3/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.48**	**262**	P		**Pn**	**21 55 47.0**	**-0.8**
	12nm,0.3s,baz=76,slow=8.6,SNR=61							
ATAH				S		**Sn**	**21 56 27.0**	**-0.7**
	35nm,0.3s,baz=31,slow=19,SNR=12							
NNA	**Nana**	**5.74**	**199**	P		**Pn**	**21 56 19.4**	**+0.7**
	10nm,0.3s,baz=27,slow=10,SNR=38							
NNA				S		**Sn**	**21 57 22.6**	**-0.7**
	43nm,0.3s,baz=189,slow=18,SNR=9.8							
ROSC	**El Rosal**	**11.33**	**3**	P		**Pn**	**21 57 37.4**	**+1.9**
	0.9nm,0.3s,baz=100,slow=21,SNR=2.9							
ROSC				LR		LR	22 02 16.4	
	comp=Z,32nm,19.9s,baz=23,slow=39							
LPAZ	**La Paz**	**11.75**	**146**	P		**Pn**	**21 57 42.7**	**+1.6**
	0.2nm,0.3s,baz=304,slow=13,SNR=5.9							
LPAZ	**La Paz**	**11.75**	**146**	P		**Pn**	**21 57 42.7**	**+1.6**
SAML	**Samuel**	**11.87**	**102**	*e*Pn		**Pn**	**21 57 41.6**	**-1.1**
	9.9nm,1.4s							
SAML				*e*Sn		**Sn**	**21 59 52.1**	**-1.7**
SDV	**Santo Domingo**	**15.91**	**16**	*e*Pn		**Pn**	**21 58 32.0**	**-4.8**
	2.9nm,0.4s							
SIV	**San Ignacio**	**16.50**	**126**	P		**Pn**	**21 58 43.8**	**-0.5**
	0.5nm,0.3s,baz=325,slow=13,SNR=10							
LVC	**Limon Verde**	**17.00**	**161**	*e*P		**Pn**	**21 58 52.4**	**+1.9**
JTS	**JuntasAbangare**	**19.48**	**329**	*e*P		**Pn**	**21 59 20.1**	**-0.5**
	3.9nm,0.6s							
PCRV	**Puerto La Cruz**	**19.51**	**32**	LR		LR	22 07 42.8	
	comp=Z,147nm,18.8s,baz=269,slow=39							
CPUP	**Villa Florida**	**25.86**	**142**	P		**P**	**22 00 24.6**	**+1.2**
	0.3nm,0.3s,mb3.3,baz=315,slow=5.7,SNR=2.4							
CPUP	**Villa Florida**	**25.86**	**142**	P		**P**	**22 00 24.6**	**+1.2**
	64nm,0.6s,mb5.3							
SJG	**San Juan**	**25.98**	**19**	P		**P**	**22 00 25.4**	**+0.9**
LPIG	**La Paz**	**46.03**	**313**	P		**P**	**22 03 15.7**	**+0.5**
	22nm,0.4s,mb5.5,baz=114,slow=3.4,SNR=4.3							
NVAR	**Mina Array Bea**	**60.19**	**322**	P		**P**	**22 04 58.4**	**-0.9**
	0.5nm,0.6s,mb3.7,baz=120,slow=6.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**78.55**	**75**	P		**P**	**22 06 51.3**	**-1.4**
	0.3nm,0.4s,mb3.6,baz=272,slow=5.7,SNR=20							
MKAR	**Makanchi Array**	**135.36**	**22**	PKP		PKPdf	22 14 10.0	-0.9
	0.5nm,0.8s,baz=294,slow=1.4,SNR=3.7							
ASAR	**Alice Springs**	**138.85**	**222**	PKhKP			22 14 10.9	
	0.4nm,0.8s,baz=130,slow=3.3,SNR=3.4							
ASAR				PKP		PKPdf	22 14 17.6	+0.3
	0.3nm,0.5s,baz=117,slow=1.7,SNR=4.4							
WRA	**Warramunga Arr**	**141.00**	**227**	PKhKP			22 14 16.8	
	0.4nm,0.6s,baz=122,slow=2.6,SNR=7.3							
WRA				PKP		PKPdf	22 14 21.1	-0.1
	0.6nm,0.5s,baz=119,slow=2.1,SNR=8.1							
FITZ	**Fitzroy Crossi**	**148.20**	**219**	PKPbc		PKPbc	22 14 37.1	+0.1
	baz=222,slow=3.2							

IDC 24 21:56:21.7±2.2, 462N×9387E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=107.8km s-min=22.2km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.35**	**110**	Pn		Pn	21 57 43.7	+0.9
	1.2nm,0.3s,baz=307,slow=15,SNR=8.2							
MKAR	**Makanchi Array**	**43.20**	**348**	P		P	22 04 24.5	+0.2
	0.4nm,0.5s,baz=163,slow=8.6,SNR=6.4							
WRA	**Warramunga Arr**	**46.66**	**123**	P		P	22 04 52.2	+0.3
	1.5nm,0.6s,baz=302,slow=9.1,SNR=13							
ASAR	**Alice Springs**	**48.09**	**128**	P		P	22 05 03.6	+0.5
	0.5nm,0.5s,baz=298,slow=7.8,SNR=8.7							
FINES	**FINESS Array B**	**75.46**	**333**	P		P	22 08 07.2	-0.3
	1.4nm,0.9s,baz=116,slow=6.3,SNR=4.5							

ISCJB ***24*** *21:57:00.3±0.2, 3571S±002×7212W±004, h44km, mb4.8/36, MS3.7/3, Error ellipse: s-maj=5.2km s-min=2.8km az=53.9*
NEIC ***24*** *21:57:01.0, 3573S×7208W, h44km, mb4.9/25, After GUC.*
NEIC Felt [V] at Curico and Talca; [IV] at Cauquenes, Constitucion and Linares; [III] at Parral.
IDC ***24*** *21:57:01.9±0.6, 3568S×7201W, h49km±5km, mb4.3/12, mb1 4.4/17, mb1mx4.3/21, mbtmp4.5/17, MS3.7/7, Ms1 3.7/7, ms1mx3.5/25, Error ellipse: s-maj=17.9km s-min=12.0km az=91.0*
MOS ***24*** *21:57:01.4±1.1, 3563S×7205W, h54km, mb5.1/12, Error ellipse: s-maj=21.6km s-min=7.9km az=91.6*
GUC ***24*** *21:57:01.7±1.5, 3573S×7208W, h44km±4km, ML5.4*

ISC 24 21:57:01.8±0.2, 3569S±002×7214W±004, h46km, h46km±1.4km: pP-P, n192, σ0s99/163, mb4.8/36, MS3.7/3, 16C-14D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCO	**Chanco**	**0.32**	**263**	⇑*i*P		**Pn**	**21 57 11.0**	**+0.2**
CNCO				*i*S		**Sn**	**21 57 18.1**	**+1.0**
CNCO				AML	AML		21 57 20.1	
	comp=N,527μm,0.2s							
CNCO	**Chanco**	**0.32**	**263**	⇑*i*P		**Pn**	**21 57 11.0**	**+0.2**
CNCO				*i*S		**Sn**	**21 57 18.1**	**+1.0**
CTCH	**Constitucion**	**0.42**	**329**	⇑*i*P		**Pn**	**21 57 12.6**	**+0.7**
CTCH				*i*S		**Sn**	**21 57 20.8**	**+1.8**
TALC	**Talca**	**0.51**	**55**	⇓*i*P		**Pn**	**21 57 11.1**	**-1.8**
TALC				*i*S		**Sn**	**21 57 20.4**	**-0.4**
TALC				AML	AML		21 57 24.6	
	comp=E,238μm,0.5s							
TALC	**Talca**	**0.51**	**55**	P		**Pn**	**21 57 11.1**	**-1.8**
TALC				*i*S		**Sn**	**21 57 20.4**	**-0.4**
COCH	**Cobquecura**	**0.68**	**230**	⇑*i*P		**Pn**	**21 57 14.8**	**-0.4**
COCH				*i*S		**Sn**	**21 57 24.7**	**0.0**
NICH	**Los Niches**	**1.02**	**47**	⇓*i*P		**Pn**	**21 57 20.7**	**+1.1**
NICH				*i*S		**Sn**	**21 57 33.4**	**+0.6**
SFDO	**San Fernando**	**1.42**	**41**	⇑*i*P		**Pn**	**21 57 25.6**	**+0.5**
LNV	**Longovilo**	**1.83**	**19**	⇓*i*P		**Pn**	**21 57 30.6**	**-0.2**
CICH	**Cipreses**	**1.97**	**46**	⇑*i*P		**Pn**	**21 57 33.7**	**+1.0**
CACH	**El Canelo**	**2.02**	**39**	⇓*i*P		**Pn**	**21 57 33.8**	**+0.4**
CHCH	**Chadas Angostu**	**2.14**	**35**	⇑*i*P		**Pn**	**21 57 35.4**	**+0.4**
LCCH	**Las Cruces**	**2.26**	**12**	⇑*i*P		**Pn**	**21 57 35.4**	**-1.3**
TACH	**Talagante**	**2.27**	**26**	⇑*i*P		**Pn**	**21 57 36.6**	**-0.1**
ANTU	**Antumapu**	**2.46**	**31**	*e*P		**Pn**	**21 57 40.0**	**+0.6**
ANTU				*i*S		**Sn**	**21 58 09.3**	**+1.1**
ANTU				AML	AML		21 58 26.8	
	comp=N,42μm,0.5s							
ANTU	**Antumapu**	**2.46**	**31**	*e*P		**Pn**	**21 57 40.0**	**+0.6**
ANTU				*i*S		**Sn**	**21 58 09.3**	**+1.1**
RCDM	**Rinconada Maip**	**2.46**	**27**	*e*P		**Pn**	**21 57 39.1**	**-0.4**
RCDM				*i*S		**Sn**	**21 58 08.7**	**+0.4**
RCDM				AML	AML		21 58 21.8	
	comp=E,18μm,0.8s							
RCDM	**Rinconada Maip**	**2.46**	**27**	*e*P		**Pn**	**21 57 39.1**	**-0.4**
RCDM				*i*S		**Sn**	**21 58 08.7**	**+0.4**
SJCH	**San Jose de Ma**	**2.52**	**36**	⇓*e*P		**Pn**	**21 57 40.8**	**+0.5**
SJCH				AML	AML		21 58 27.1	
	comp=E,17μm,0.6s							
SAN	**Santiago**	**2.55**	**29**	*e*P		**Pn**	**21 57 40.7**	**+0.1**
STL	**Santa Lucia**	**2.57**	**29**	*e*P		**Pn**	**21 57 40.6**	**-0.3**
DSCH	**Colegio Aleman**	**2.63**	**30**	*e*P		**Pn**	**21 57 41.2**	**-0.6**
CLCH	**Cerro Calan**	**2.65**	**30**	⇓*i*P		**Pn**	**21 57 42.3**	**+0.3**
CLCH				*i*S		**Sn**	**21 58 13.3**	**+0.4**
IHA	**Instituto Hidr**	**2.69**	**9**	⇓*i*P		**Pn**	**21 57 41.7**	**-0.9**
FCH	**Farellones**	**2.81**	**33**	⇓*i*P		**Pn**	**21 57 44.8**	**+0.5**
FCH				*i*S		**Sn**	**21 58 17.8**	**+0.9**
FCH				AML	AML		21 58 29.7	
	comp=N,16μm,0.4s							
PEL	**Peldehue**	**2.81**	**26**	⇑*i*P		**Pn**	**21 57 44.5**	**+0.2**
PEL				*i*S		**Sn**	**21 58 15.1**	**-1.9**
PEL				AML	AML		21 58 30.3	
	comp=E,31μm,0.5s							
PEL	**Peldehue**	**2.81**	**26**	P		**Pn**	**21 57 44.5**	**+0.2**
PEL				S		**Sn**	**21 58 15.1**	**-1.9**
ROCH	**El Roble**	**2.87**	**19**	⇑*i*P		**Pn**	**21 57 45.2**	**+0.2**
TMU	**Temuco**	**3.06**	**187**	⇑*i*P		**Pn**	**21 57 48.0**	**+0.4**
TMU				*i*S		**Sn**	**21 58 22.8**	**-0.1**
JACH	**Jahuel**	**3.27**	**24**	*e*P		**Pn**	**21 57 50.1**	**-0.4**
PTCH	**Petorca**	**3.57**	**17**	⇓*i*P		**Pn**	**21 57 53.9**	**-0.7**
CHNG	**Los Chungos**	**3.84**	**8**	⇓*i*P		**Pn**	**21 57 56.9**	**-1.5**
VLCH	**Valdivia**	**4.20**	**192**	*i*P		**Pn**	**21 57 56.8**	**-6.5**
CMCH	**Combarbala**	**4.61**	**12**	⇓*i*P		**Pn**	**21 58 07.5**	**-1.4**
OVCH	**Ovalle**	**5.13**	**9**	*e*P		**Pn**	**21 58 15.1**	**-1.0**
PLCA	**Paso Flores**	**5.18**	**166**	P		**Pn**	**21 58 18.6**	**+1.7**
	comp=E,15nm,0.3s,baz=331,slow=13,SNR=268							
PLCA				LR		LR	22 00 28.3	
	comp=E,737nm,19.6s,baz=345,slow=40							
PLCA	**Paso Flores**	**5.18**	**166**	P		**Pn**	**21 58 18.6**	**+1.8**
PLCA				pmax	pmax			
	comp=Z,15nm,0.3s							
PLCA				MLR	MLR			
	comp=Z,737nm,19.6s							
PLCA	**Paso Flores**	**5.18**	**166**	*e*Pn		**Pn**	**21 58 18.6**	**+1.8**
CFAA	**Coronel Fontan**	**5.22**	**40**	P		**Pn**	**21 58 17.7**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=215,slow=13,SNR=66							
CFAA				S		**Sn**	**21 59 15.9**	**-0.2**
	comp=Z,4.7nm,0.3s,baz=125,slow=10,SNR=3.5							
CFAA				LR	LR		22 00 27.0	
	comp=Z,133nm,19.8s,baz=226,slow=40							
CFAA	**Coronel Fontan**	**5.22**	**40**	P		**Pn**	**21 58 17.7**	**+0.4**
CFAA				S		**Sn**	**21 59 15.9**	**-0.2**
CFAA				LR	LR		22 00 27.0	
TLL	**Tololo Astrono**	**5.62**	**12**	⇓*i*P		**Pn**	**21 58 22.0**	**-0.9**
PMCH	**Puerto Montt**	**5.82**	**186**	*e*P		**Pn**	**21 58 23.3**	**-2.2**
VACH	**Vallenar**	**7.19**	**10**	*e*P		**Pn**	**21 58 46.1**	**+1.7**
TRQA	**Tornquist**	**8.48**	**109**	⇓*i*Pn		**Pn**	**21 59 04.3**	**+2.4**
	comp=Z,129nm,0.6s							
TRQA				*e*Sn		**Sn**	**22 00 31.3**	**-5.0**
LVC	**Limon Verde**	**13.34**	**13**	P		**Pn**	**22 00 08.4**	**0.0**
	comp=Z,3.1nm,0.3s,baz=196,slow=9.4,SNR=38							
LVC				LR		LR	22 05 20.6	
	comp=Z,665nm,20.8s,baz=65,slow=38							
CPUP	**Villa Florida**	**15.74**	**58**	P		**Pn**	**22 00 39.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=281,slow=13,SNR=3.2							
CPUP				LR		LR	22 07 05.2	
	comp=Z,670nm,18.2s,baz=220,slow=39							
CPUP	**Villa Florida**	**15.74**	**58**	*e*P		**Pn**	**22 00 44.4**	**+4.1**
EFI	**East Falkland**	**18.89**	**152**	P		**Pn**	**22 01 20.6**	**+1.3**
ARE	**Arequipa**	**19.16**	**2**	*e*P		**Pn**	**22 01 23.0**	**+0.4**
LPAZ	**La Paz**	**19.66**	**12**	P		**Pn**	**22 01 28.3**	**-0.1**
	comp=Z,1.9nm,0.3s,baz=178,slow=11,SNR=17							
LPAZ	**La Paz**	**19.66**	**12**	P		**Pn**	**22 01 28.3**	**-0.2**
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
SIV	**San Ignacio**	**21.97**	**30**	P		**P**	**22 01 50.7**	**-1.0**
	comp=Z,35nm,0.8s,mb4.8,baz=220,slow=12,SNR=27							
SIV				pP			22 02 01.9	
	comp=Z,83nm,0.9s,baz=224,slow=11,SNR=23							
NNA	**Nana**	**23.98**	**349**	P		**P**	**22 02 10.4**	**-1.5**
	comp=Z,13nm,0.8s,mb4.4,baz=184,slow=10,SNR=5.0							
NNA				pP			22 02 23.7	
	comp=Z,17nm,0.8s,baz=160,slow=11,SNR=4.8							
NNA	**Nana**	**23.98**	**349**	*e*P		**P**	**22 02 11.7**	**-0.3**
	comp=Z,32nm,0.6s,mb4.9							
NNA				pP			22 02 23.7	
SAML	**Samuel**	**27.85**	**19**	P		**P**	**22 02 47.3**	**+0.4**
ATAH	**Atahualpa**	**29.13**	**347**	LR		LR	22 12 09.7	
	comp=Z,126nm,18.5s,MS3.6,baz=17,slow=31							
BDFB	**Brasilia**	**29.38**	**53**	P		**P**	**22 02 57.1**	**-3.4**
	comp=Z,3.3nm,0.8s,mb4.1,baz=207,slow=7.8,SNR=4.4							
BDFB				LR		LR	22 14 58.3	
	comp=Z,202nm,19.4s,MS3.8,baz=232,slow=37							
BDFB	**Brasilia**	**29.38**	**53**	P		**P**	**22 02 57.1**	**-3.5**
BDFB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BDFB				MLR	MLR			
	comp=Z,202nm,19.4s							
PMSA	**Palmer Station**	**29.52**	**173**	LR		LR	22 13 39.8	
	comp=Z,206nm,20.3s,MS3.8,baz=80,slow=34							
PMSA	**Palmer Station**	**29.52**	**173**	P		**P**	**22 02 59.4**	**-2.4**
ROSC	**El Rosal**	**40.39**	**357**	P		**P**	**22 04 36.6**	**+1.4**
	comp=Z,4.0nm,0.5s,mb4.4,baz=278,slow=24,SNR=4.6							
SDV	**Santo Domingo**	**44.36**	**2**	*e*P		pP	22 05 20.9	+0.8
JTS	**JuntasAbangare**	**47.31**	**343**	*e*P		**P**	**22 05 30.0**	**-0.8**
JTS				*e**PP		pP	22 05 42.5	-0.9
VNA3	**Neumayer Olymp**	**47.83**	**157**	⇑*i*P		**P**	**22 05 34.4**	**-0.4**
VNA3				*e*			22 05 41.0	
VNA3				*e*		pP	22 05 45.4	-2.1
VNA1	**Neumayer--Stat**	**48.16**	**156**	⇑*i*P		**P**	**22 05 37.4**	**0.0**
VNA1				*e*			22 05 43.7	
VNA1				*e*		pP	22 05 46.6	-3.4
SNAA	**Sanae**	**50.06**	**157**	P		**P**	**22 05 51.1**	**-0.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=286,slow=6.7,SNR=18							
SNAA	**Sanae**	**50.06

TUC	**Tucson**	**76.74**	**327**	*e*P	**P**	**22 08 48.6**	**+0.3**
TUC				*e**PP	pP	22 09 01.5	-0.2
TUC				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
TUC	**Tucson**	**76.74**	**327**	*e*P	**P**	**22 08 48.6**	**+0.3**
	comp=Z,7.1nm,1.1s,mb4.5						
TUC				*e*pP	pP	22 09 01.5	-0.2
LAZ	**Ladron**	**77.02**	**331**	P	**P**	**22 08 50.0**	**+0.2**
LAZ				*e*PcP	PcP	22 08 59.6	-1.0
LAZ				*e*pP	pP	22 09 02.7	-0.5
ANMO	**Albuquerque**	**77.23**	**332**	*e*P	**P**	**22 08 51.5**	**+0.5**
ANMO				*e**PP	pP	22 09 05.9	+1.5
ANMO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ANMO	**Albuquerque**	**77.23**	**332**	*e*P	**P**	**22 08 51.5**	**+0.5**
	comp=Z,9.2nm,1.0s,mb4.7						
ANMO				*e*pP	pP	22 09 05.9	+1.4
TSUM	**Tsumeb**	**78.84**	**106**	*e*P	**P**	**22 09 00.4**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.4						
GLA	**Glamis**	**79.21**	**325**	P	**P**	**22 08 57.5**	**-4.5**
GLA				*e**PP	pP	22 09 23.6	+8.2
NCB	**Newcomb**	**79.31**	**358**	*e*P	**P**	**22 09 02.2**	**-0.3**
SDCO	**Great Sand Dun**	**79.34**	**334**	*e*P	**P**	**22 09 03.0**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.5						
SDCO				*e*pP	pP	22 09 16.6	+0.4
BOSA	**Boshof**	**79.36**	**117**	P	**P**	**22 09 01.9**	**-0.9**
	comp=Z,24nm,0.8s,mb5.2,baz=223,slow=6.6,SNR=31						
BOSA	**Boshof**	**79.36**	**117**	P	**P**	**22 09 01.9**	**-0.9**
BOSA				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
WUAZ	**Wupatki**	**79.72**	**328**	*e*P	**P**	**22 09 03.7**	**-1.1**
	comp=Z,9.5nm,0.8s,mb4.8						
WUAZ				*e*pP	pP	22 09 19.6	+1.4
JFWS	**Jewell Farm**	**79.96**	**347**	*e*pP	pP	22 09 25.0	+5.5
LONY	**Lake Ozonia**	**79.97**	**358**	P	**P**	**22 09 07.6**	**+1.5**
FRNY	**Flat Rock**	**80.16**	**359**	P	**P**	**22 09 08.1**	**+0.9**
FRNY				*e*pP	pP	22 09 20.9	+0.3
PV01	**Paradox Valley**	**80.83**	**332**	*e*P	**P**	**22 09 10.3**	**-0.5**
PV01				*e*PcP	PcP	22 09 15.9	-1.3
PV01				*e*pP	pP	22 09 25.0	+0.8
SMCO	**Snowmass**	**81.15**	**333**	*e*P	**P**	**22 09 13.6**	**+1.2**
	comp=Z,18nm,1.0s,mb5.0						
SMCO				*e*PcP	PcP	22 09 19.0	+0.4
SMCO				*e*pP	pP	22 09 27.4	+1.5
ISCO	**Idaho Springs**	**81.21**	**335**	*e*P	pP	22 09 27.5	+1.3
PV10	**Paradox Valley**	**81.23**	**331**	*e*P	**P**	**22 09 15.8**	**+2.9**
PV10				*e*pP	pP	22 09 26.1	-0.2
LBTB	**Lobatse**	**81.67**	**115**	*e*P	**P**	**22 09 15.2**	**0.0**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
LBTB	**Lobatse**	**81.67**	**115**	*e*P	**P**	**22 09 15.2**	**0.0**
	comp=Z,10nm,0.6s,mb4.9						
ECSD	**EROS,Sioux Fal**	**82.13**	**342**	*e*P	**P**	**22 09 16.4**	**-1.2**
ECSD				*e*pP	pP	22 09 29.8	-1.3
SHPR	**Sheep Range**	**82.21**	**326**	*e*P	pP	22 09 33.0	+1.5
CCUT	**Cedar City**	**82.29**	**328**	*e*P	**P**	**22 09 14.9**	**-3.5**
CCUT				*e*PcP	PcP	22 09 23.6	0.0
SRU	**San Rafael**	**82.44**	**331**	*e*P	**P**	**22 09 17.4**	**-1.8**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SRU	**San Rafael**	**82.44**	**331**	*e*P	**P**	**22 09 17.4**	**-1.8**
	comp=Z,7.3nm,0.8s,mb4.7						
SRU				*e*PcP	PcP	22 09 23.2	-1.1
PHWY	**Pilot Hill**	**82.50**	**335**	*e*P	pP	22 09 33.6	+0.6
ARUT	**Antelope Range**	**82.53**	**328**	*e*P	**P**	**22 09 20.5**	**+0.8**
ARUT				*e**PP	pP	22 09 35.1	+1.9
MSU	**Marysvale**	**82.60**	**329**	*e*P	**P**	**22 09 25.4**	**+5.3**
DAC	**Darwin (Calif)**	**83.15**	**325**	P	**P**	**22 09 24.1**	**+1.2**
DAC				*e**PP	pP	22 09 38.4	+2.0
DAC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
DAC	**Darwin (Calif)**	**83.15**	**325**	P	**P**	**22 09 24.1**	**+1.1**
	comp=Z,2.1nm,0.8s,mb4.2						
DAC				*e*pP	pP	22 09 38.4	+1.9
RWWY	**Rawlins**	**83.45**	**334**	*e*P	pP	22 09 38.7	+0.8
DUG	**Dugway**	**84.29**	**330**	*e*P	**P**	**22 09 28.7**	**0.0**
DUG				*e**PP	pP	22 09 42.8	+0.5
DUG				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
DUG	**Dugway**	**84.29**	**330**	*e*P	**P**	**22 09 28.7**	**0.0**
	comp=Z,12nm,1.1s,mb4.9						
DUG				*e*pP	pP	22 09 42.8	+0.6
RSSD	**Black Hills**	**84.56**	**338**	*e*P	pP	22 09 44.0	+0.4
TOA0	**Torodi Ar. Sit**	**84.87**	**70**	*e*P	**P**	**22 09 31.2**	**-0.4**
TOA0				*e*pP	pP	22 09 45.9	+0.6
TORD	**Torodi Ar. Bea**	**84.87**	**70**	P	**P**	**22 09 30.6**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.6,baz=254,slow=4.3,SNR=21						
TORD				pP	pP	22 09 46.0	+0.8
	comp=Z,4.5nm,0.7s,baz=296,slow=6.6,SNR=6.3						
HWUT	**Hardware Ranch**	**84.99**	**331**	*e*P	**P**	**22 09 31.9**	**-0.4**
	comp=Z,16nm,0.9s,mb5.2						
HWUT				*e*pP	pP	22 09 46.0	+0.2
SPUT	**South Promonto**	**85.08**	**331**	*e*P	pP	22 09 46.0	-0.3
NVAR	**Mina Array Bea**	**85.22**	**325**	P	**P**	**22 09 34.3**	**+0.8**
	comp=Z,1.1nm,0.8s,mb4.1,baz=141,slow=6.8,SNR=8.7						
NVAR				pP	pP	22 09 48.2	+1.2
	comp=Z,2.0nm,0.9s,baz=178,slow=5.1,SNR=5.7						
BW06	**Boulder Array**	**85.23**	**333**	*e*P	**P**	**22 09 34.9**	**+1.4**
	comp=Z,3.7nm,0.8s,mb4.6						
BW06				*e*pP	pP	22 09 46.9	-0.2
PDAR	**Pinedale Array**	**85.23**	**333**	P	**P**	**22 09 33.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=155,slow=6.7,SNR=3.5						
PDAR				pP	pP	22 09 46.9	-0.2
	comp=Z,1.4nm,0.8s,baz=107,slow=5.0,SNR=6.7						
HVU	**Hansel Valley**	**85.61**	**331**	*e*P	**P**	**22 09 37.1**	**+1.7**
HVU				*e**PP	pP	22 09 49.1	+0.1
HVU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
HVU	**Hansel Valley**	**85.61**	**331**	*e*P	**P**	**22 09 37.0**	**+1.7**
	comp=Z,6.5nm,0.7s,mb5.0						
HVU				*e*pP	pP	22 09 49.1	+0.1
WAKR	**Walker**	**85.81**	**325**	*e*P	pP	22 09 52.0	+2.1
CMB	**Columbia Colle**	**85.89**	**324**	*e*P	pP	22 09 51.5	+1.2
REDW	**Red Top Meadow**	**86.22**	**333**	*e*P	pP	22 09 52.4	+0.4
AGMN	**Agassiz Refuge**	**86.26**	**344**	P	**P**	**22 09 38.4**	**-0.2**
AGMN				*e*pP	pP	22 09 52.0	-0.1
SNOW	**Snow King Moun**	**86.27**	**333**	P	**P**	**22 09 37.9**	**-0.7**
	comp=Z,8.9nm,0.9s,mb5.0						
LOHW	**Long Hollow**	**86.35**	**333**	*e*P	pP	22 09 53.0	+0.4
TPAW	**Teton Pass**	**86.37**	**333**	*e*P	**P**	**22 09 44.3**	**+5.2**
	comp=Z,8.0nm,0.8s,mb5.0						
RRI2	**Red Ridge**	**86.39**	**332**	*e*P	pP	22 09 53.9	+1.1
MOOW	**Moose Ponds**	**86.52**	**333**	P	**P**	**22 09 39.0**	**-0.9**
IMW	**Indian Meadow**	**86.72**	**333**	*e*P	pP	22 09 55.1	+0.7
PAHR	**Pah Rah Range**	**86.75**	**325**	*e*P	pP	22 09 56.8	+2.2
FLWY	**Flagg Ranch**	**86.79**	**333**	*e*P	pP	22 09 55.5	+0.8
RLMT	**Red Lodge**	**87.18**	**335**	*e*P	**P**	**22 09 46.4**	**+3.3**
RLMT				*e*pP	pP	22 09 56.7	0.0
LAO	**LASA Array**	**87.55**	**337**	P	**P**	**22 09 40.9**	**-4.0**
	comp=Z,21nm,1.1s,mb5.3						
LAO				*e*pP	pP	22 09 57.3	-1.1
QLMT	**Earthquake Lak**	**87.70**	**333**	*e*P	pP	22 10 01.0	+1.8
HLID	**Hailey**	**87.77**	**331**	*e*P	**P**	**22 09 51.6**	**+5.7**
ULM	**Lac du Bonnet**	**88.11**	**345**	P	**P**	**22 09 46.9**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.5,baz=159,slow=14,SNR=1.8						
ULM				pP	pP	22 10 00.2	-0.9
	comp=Z,8.0nm,0.8s,baz=198,slow=4.9,SNR=6.0						
DLMT	**Dillon**	**88.58**	**333**	*e*P	**P**	**22 09 49.0**	**-0.7**
	comp=Z,7.7nm,1.1s,mb5.0						
DLMT				*e*pP	pP	22 10 04.5	+1.1
DLMT				*e*pP	pP	22 10 08.8	+5.4
LRM	**Limekiln Ridge**	**88.92**	**333**	*e*P	**P**	**22 09 57.2**	**+5.9**
MOD	**Modoc**	**88.92**	**326**	*e*P	**P**	**22 09 57.5**	**+6.2**
	comp=Z,5.8nm,0.6s,mb5.1						
WDC	**Whiskeytown Da**	**88.92**	**324**	*e*P	pP	22 10 05.5	+0.5
WDC				*e*pP	sP	22 10 11.1	+1.0
LSZ	**Lusaka**	**89.36**	**108**	*e*P	**P**	**22 09 54.9**	**+1.5**
LSZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
LSZ	**Lusaka**	**89.36**	**108**	*e*P	**P**	**22 09 54.9**	**+1.5**
	comp=Z,5.2nm,1.0s,mb4.8						
LSZ				*e*pP	pP	22 10 05.2	-1.8
LON	**Longmire**	**93.41**	**328**	*e*pP	pP	22 10 32.8	+7.0
FCC	**Fort Churchill**	**95.87**	**349**	P	**P**	**22 10 24.1**	**+0.7**
COLA	**College**	**116.07**	**333**	*e*PKIKP	PKPdf	22 15 49.2	+9.5
WRA	**Warramunga Arr**	**119.24**	**209**	PKP	PKPdf	22 15 46.5	+0.6
	comp=Z,0.3nm,0.4s,baz=132,slow=1.4,SNR=5.2						
BRTR	**Keskin Array B**	**122.72**	**62**	PKP	PKPdf	22 15 51.0	-1.6
	comp=Z,0.7nm,0.8s,baz=163,slow=4.8,SNR=3.6						
BRTR	**Keskin Array B**	**122.72**	**62**	PKIKP	PKPdf	22 15 51.0	-1.5
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**123.39**	**48**	PKP	PKPdf	22 15 50.6	-3.2
	comp=Z,0.2nm,0.4s,baz=260,slow=3.1,SNR=5.7						
MALT	**Malatya**	**125.70**	**65**	*e*PKIKP	PKPdf	22 15 58.5	+0.3
ARU	**Arti**	**141.07**	**42**	*i* PKHKP		22 16 18.5	
ZRNK	**Zerenda**	**147.78**	**45**	*e*PKIKP	PKPdf	22 16 37.4	-1.2
ZRNK				*e*		22 16 41.0	
HYB	**Hyderabad**	**148.27**	**117**	*i* P	PKPbc	22 16 43.0	+0.2
HYB	**Hyderabad**	**148.27**	**117**	*e*P	PKPbc	22 16 43.0	+0.2
BVAR	**Borovoye Array**	**148.56**	**45**	PKPbc	PKPbc	22 16 42.6	-1.0
	comp=Z,3.3nm,0.6s,baz=286,slow=4.4,SNR=18						
BVAR	**Borovoye Array**	**148.56**	**45**	PKP2	PKPbc	22 16 42.6	-1.0
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AAK	**Ala-Archa**	**153.34**	**65**	*e*PKIKP	PKPbc	22 16 53.8	-1.0
NVS	**Novosibirsk**	**154.40**	**34**	*e*PKIKP	PKPbc	22 16 54.8	-2.3
ZAL	**Zalesovo**	**155.68**	**34**	PKP	PKPdf	22 16 51.0	+0.5
	comp=Z,1.2nm,0.8s,baz=201,slow=9.7,SNR=3.2						
ZAL	**Zalesovo**	**155.68**	**34**	PKIKP	PKPdf	22 16 51.0	+0.5
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**157.91**	**52**	PKPab	PKPab	22 17 24.0	-2.5
	comp=Z,2.8nm,0.9s,baz=311,slow=2.4,SNR=6.9						
SONM	**Songino Array**	**167.82**	**5**	PKPab	PKPab	22 18 11.0	+1.0
	comp=Z,0.6nm,0.9s,baz=46,slow=4.2,SNR=3.3						

CSEM ***24*** *22:12:44.4, 67.18N×2063E, h7km, ML2.7, Mining explosion. After UPP*
UPP ***24*** *22:12:44.4, 67.18N×2063E, h7km, ML2.7, Mining explosion.*
HEL 24 22:12:44.8±0.0, 6717N×2065E, h0km, ML2.7(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**212**	*i* P	Pg	22 12 45.7	-0.3
DUNU				*i* S	Sg	22 12 46.7	0.0
MASU	**Masugnsbyn**	**0.60**	**61**	*i* P	Pg	22 12 55.5	-0.7
MASU	**Masugnsbyn**	**0.60**	**61**	P	Pg	22 12 55.5	-0.8
KUA	**Kurravaara**	**0.80**	**352**	*i* P	Pg	22 12 58.9	-1.1
SALU	**Saltoluokta**	**0.86**	**285**	*i* P	Pg	22 13 00.2	-1.0
SALU	**Saltoluokta**	**0.86**	**285**	P	Pg	22 13 00.2	-1.0
	baz=116						
ERTU	**Ertsjaerv**	**0.87**	**135**	*i* P	Pg	22 13 01.1	-0.4
ERTU	**Ertsjaerv**	**0.87**	**135**	P	Pg	22 13 01.0	-0.5
NIKU	**Nikkaluokta**	**0.94**	**319**	*e*P	Pg	22 13 01.4	-1.3
PAJU	**Pajala**	**0.98**	**98**	*e*P	Pg	22 13 02.2	-1.3
HARU	**Harads**	**1.02**	**173**	P	Pg	22 13 03.0	-1.4
LANU	**Lannavaara**	**1.02**	**30**	*e*P	Pg	22 13 02.9	-1.5
SJUU	**Sjulsmark**	**1.71**	**167**	*e*P	Pn	22 13 15.1	-0.8
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	22 13 18.1	+0.4
KIF				*e*S	Sn	22 13 42.2	+0.5
SGF	**Sodankyl**	**2.30**	**80**	*e*P	Pn	22 13 24.0	+0.1
SGF				*e*SG	Sg	22 13 55.1	-3.5

CSEM ***24*** *22:25:59.7, 6720N×2065E, h4km, ML2.8, Mining explosion. After UPP*
UPP ***24*** *22:25:59.7, 6720N×2065E, h4km, ML2.8, Mining explosion.*
HEL 24 22:26:00.1±0.1, 6719N×2065E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.07**	**206**	*i* P	Pg	22 26 01.3	-0.2
MASU	**Masugnsbyn**	**0.59**	**62**	*i* P	Pg	22 26 10.6	-0.7
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 26 14.0	-1.1
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	Pg	22 26 15.6	-0.8
ERTU	**Ertsjaerv**	**0.88**	**136**	*i* P	Pg	22 26 16.0	-0.4
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	22 26 16.7	-1.1
PAJU	**Pajala**	**0.98**	**99**	*e*P	Pg	22 26 17.4	-1.4
LANU	**Lannavaara**	**1.01**	**30**	*e*P	Pg	22 26 18.0	-1.4
HARU	**Harads**	**1.04**	**173**	P	Pg	22 26 18.5	-1.5
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 26 30.8	-0.7
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	Pn	22 26 26.2	-6.5
KIF				*e*S	Sn	22 26 57.3	+0.7
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 26 33.9	-0.4
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	22 26 37.3	-1.8
SGF				*e*SB	Sb	22 27 09.7	-1.5

MAN 24 22:37:29.5, 1304N×12477E, h46km, mb3.4, ML4.6, MS5.4, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.82**	**312**	*e*P	Pn	22 37 45.7	+1.1
PVCP				*e*S	Sn	22 37 59.9	+4.3
MMPH	**Masbate**	**1.31**	**239**	*i* P	Pn	22 37 52.9	+1.5
MMPH				*i* S	Sn	22 38 08.2	+0.6
BESP	**Borongan**	**1.57**	**156**	*e*P	Pn	22 37 56.1	+1.2
BESP				*e*S	Sn	22 38 16.1	+2.0
PLP	**Palo**	**1.88**	**174**	*i* P	Pn	22 37 58.2	-0.9
PLP				*e*S	Sn	22 38 18.1	-3.4
RCP	**Roxas**	**2.47**	**234**	*e*P	Pn	22 38 08.8	+1.6
RCP				*e*S	Sn	22 38 30.0	+1.9
GUIM	**Jordan**	**3.21**	**222**	*e*P	Pn	22 38 19.0	+1.5
GUIM				*e*S	Sn	22 38 56.7	+2.2
SCPH	**Surigao**	**3.31**	**168**	*e*P	Pn	22 38 19.5	+0.7

ISCJB ***24*** *22:39:00.1±0.6, 4235N×003×038E±005, h0km, Error ellipse: s-maj=5.0km s-min=4.4km az=165.4*
MDD ***24*** *22:39:02.4±0.5, 4239N×036E, h0km, mbLg1.5/12, Error ellipse: s-maj=4.9km s-min=3.0km az=83.0, PRXIMO*
LDG ***24*** *22:39:02.8±0.1, 4241N×037E, h2km, Md2.0/2, Ml2.2/2, Error ellipse: s-maj=2.0km s-min=0.8km az=175.0*
ISC 24 22:39:01.3±0.6, 4235N±003×037E±005, h3km±12km, n17, σ0=53/23, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBIE	**Bielsa**	**0.38**	**333**	Pg	**Pg**	**22 39 08.4**	**-0.1**
	0.9nm,0.1s,SNR=9.7						
EBIE				Lg		22 39 12.5	
	2.9nm,0.2s,SNR=5.0						
EPF	**Esparros**	**0.68**	**358**	*e*Pg	**Pg**	**22 39 14.7**	**+0.4**
EPF				*e*Sg	**Sg**	**22 39 22.8**	**-0.3**
	6.9nm,0.3s						
EPF	**Esparros**	**0.68**	**358**	Pg	**Pg**	**22 39 14.7**	**+0.4**
EPF				Lg		22 39 22.8	
	3.5nm,0.3s						
ETSF	**Etsaut**	**0.88**	**309**	*e*Pg	**Pg**	**22 39 18.6**	**+0.5**
ETSF	**Etsaut**	**0.88**	**309**	*e*Pn	**Pn**	**22 39 20.2**	**-0.3**
ETSF				*e*Sg	**Sg**	**22 39 29.7**	**+0.2**
	6.2nm,0.4s						
ETSF	**Etsaut**	**0.88**	**309**	Pg	**Pg**	**22 39 18.6**	**+0.5**
ETSF				Pn	**Pn**	**22 39 20.2**	**-0.3**
ETSF				Lg		22 39 29.7	
	3.1nm,0.4s						
ESAC	**San Caprasio**	**0.89**	**225**	Pg	**Pg**	**22 39 18.8**	**+0.5**
	3.8nm,0.1s,SNR=7.6						
ESAC				Lg		22 39 31.5	
	21nm,0.3s,SNR=9.4						
EPOB	**Poblet**	**1.13**	**152**	Pg	**Pg**	**22 39 23.8**	**+0.9**
	1.3nm,0.1s,SNR=6.8						
EPOB				Lg		22 39 40.0	
	4.9nm,0.2s,SNR=5.0						
ERTA	**Horta de San J**	**1.40**	**181**	Pg	**Pg**	**22 39 28.1**	**+0.1**
	1.2nm,0.2s,SNR=9.4						
ERTA				Lg		22 39 47.0	
	20nm,0.4s,SNR=15						
SJPF	**Ste Jean**	**1.40**	**303**	*e*Pg	**Pg**	**22 39 28.5**	**+0.4**
SJPF				*e*Sg	**Sg**	**22 39 46.3**	**0.0**
	9.0nm,0.3s						
SJPF	**Ste Jean**	**1.40**	**303**	Pg	**Pg**	**22 39 28.5**	**+0.4**
SJPF				Lg		22 39 46.3	
	4.5nm,0.3s						
ELIZ	**Elizondo**	**1.62**	**301**	Pg	**Pg**	**22 39 31.8**	**-0.4**
	1.9nm,0.3s,SNR=14						
ELIZ				Lg		22 39 53.9	
	1.7nm,0.2s,SNR=7.6						
EALK	**Alkurruntz**	**1.63**	**303**	Pg	**Pg**	**22 39 32.3**	**-0.3**
	4.9nm,0.4s,SNR=8.1						
EALK				Lg		22 39 54.0	
	9.1nm,0.3s,SNR=12						
MTLF	**Montolieu**	**1.68**	**53**	*e*Pg	**Pg**	**22 39 33.5**	**+0.1**
MTLF				*e*Sg	**Sg**	**22 39 54.9**	**-0.3**
	2.2nm,0.3s						
MTLF	**Montolieu**	**1.68**	**53**	Pg	**Pg**	**22 39 33.5**	**+0.1**
MTLF				Lg		22 39 54.9	
	1.1nm,0.3s						
EMOS	**Mosqueruela**	**2.09**	**198**	Pg	**Pg**	**22 39 39.5**	**-1.7**
	0.6nm,0.3s,SNR=7.9						
EMOS				Lg		22 40 06.7	
	1.2nm,0.3s,SNR=7.9						
ETOR	**Torete**	**2.38**	**231**	Pn	**Pn**	**22 39 41.4**	**+0.3**
	1.1nm,0.3s,SNR=4.0						
ETOR				Pg	**Pg**	**22 39 46.8**	**-0.1**
	3.5nm,0.3s,SNR=7.9						
ETOR				Lg		22 40 19.0	
	2.2nm,0.2s,SNR=7.9						

IDC ***24*** *22:45:26.9±2.5, 2244S×13060E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=134.0km s-min=25.3km az=75.0*
ISCJB ***24*** *22:45:33.1±4.2, 26S±02×1305E±02, h61km±40km, mb3.9/3, Error ellipse: s-maj=45.2km s-min=14.3km az=115.3*
NEIC ***24*** *22:45:33.3±1.1, 265S×13044E, h35km, mb3.8/2, Error ellipse: s-maj=31.8km s-min=10.3km az=66.0*
ISC 24 22:45:34.2±3.9, 26S±02×1305E±02, h50km±39km, n12, σ0=81/12, mb3.9/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.11**	**197**	Pn	**Pn**	**22 49 16.1**	**-1.1**
	0.2nm,0.3s,baz=30,slow=14,SNR=3.3						
FITZ				LR	LR	22 56 12.2	
	comp=Z,55nm,18.4s,baz=150,slow=40						
KKM	**Kota Kinabalu**	**16.66**	**301**	*e*Pn	**Pn**	**22 49 24.9**	**+0.8**
WRAB	**Tennant Creek**	**17.62**	**168**	*e*Pn	**Pn**	**22 49 35.7**	**-0.2**
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**17.62**	**168**	P	**Pn**	**22 49 35.9**	**-0.2**
	0.4nm,0.3s,baz=352,slow=12,SNR=5.9						
WB2	**Warramunga Arr**	**17.63**	**168**	*e*Pn	**Pn**	**22 49 35.7**	**-0.4**
AS31	**Alice Springs**	**21.18**	**171**	*e*P	**P**	**22 50 16.2**	**+0.9**
ASAR	**Alice Springs**	**21.18**	**171**	P	**P**	**22 50 15.9**	**+0.6**
	4.7nm,0.5s,mb4.1,baz=349,slow=10.0,SNR=51						
MBWA	**Marble Bar**	**21.20**	**209**	P	**P**	**22 50 16.4**	**+0.9**
KULM	**Kulim**	**30.83**	**285**	*e*P	**P**	**22 51 44.4**	**-0.9**
MKAR	**Makanchi Array**	**64.88**	**326**	P	**P**	**22 56 07.6**	**-0.5**
	0.7nm,0.9s,mb3.7,baz=119,slow=5.1,SNR=4.1						
BRVK	**Borovoye**	**74.73**	**327**	P	**P**	**22 57 08.2**	**-0.4**
ZRNK	**Zerenda**	**75.38**	**327**	*e*P	**P**	**22 57 16.1**	**+3.7**
	0.6nm,0.5s,mb3.8						

LDG ***24*** *22:56:19.9±0.9, 1768S×4197E, h10km, Mb5.6/43, Ms5.0/10, Error ellipse: s-maj=50.5km s-min=9.8km az=8.0*
BJI ***24*** *22:56:19.7, 1745S×4191E, h2km, mB5.9, mb5.4, Ms5.4, Msz5.1*
IDC ***24*** *22:56:19.9±0.4, 1772S×4176E, h0km, mb5.0/28, mb1 5.1/32, mb1mx5.1/32, mbtmp5.0/32, ML5.1/3, MS5.1/26, Ms1 5.1/26, ms1mx5.0/30, Error ellipse: s-maj=12.4km s-min=9.3km az=130.0*
GCMT ***24*** *22:56:21.7±0.1, 1759S×4178E, h12km, MW5.6/93, Moment Tensor Solution. s72,c122; s93,c254; Duration: 1!5 Moment tensor: Scale 10^17Nm; Mrr=2.59±.03; Mθθ 0.01±.03; Mϕϕ 2.59±.03; Mrθ-0.05±.07; Mθϕ-0.45±.02; Mϕr 0.43±.07; Best double couple: Mo2.66400×10^17 NP1:ϕs350.00000°, δ40.00000°, λ-91.00000°. NP2:ϕs171.00000°, δ50.00000°, λ-89.00000°. Principal axes: T 2.7010, Plg5.0000°, Azm260.0000°; N -0.0690, Plg0.0000°, Azm350.0000°; P -2.6260, Plg85.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***24*** *22:56:21.6±1.9, 1774S×4181E, h10km, mb5.4, MS5.0*
ISCJB ***24*** *22:56:21.2±0.2, 1770S±003×4181E±003, h17km, mb5.5/249, MS5.2/113, Error ellipse: s-maj=4.2km s-min=3.9km az=119.4*
MOS ***24*** *22:56:21.6±0.9, 1757S×4181E, h17km, mb5.7/107, MS4.9/36, Error ellipse: s-maj=9.5km s-min=3.3km az=105.0*
NEIC ***24*** *22:56:21.1±0.1, 1774S×4181E, h6km, mb5.6/125, ME5.4, MS5.4/58, MW5.7, Error ellipse: s-maj=5.6km s-min=3.8km az=62.0, Moment Tensor Solution. s18 Moment tensor: Scale 10^17Nm; Mrr-3.84; Mθθ 2.20; Mϕϕ 1.64; Mrθ 0.52; Mθϕ-1.93; Mϕr 0.81; Best double couple: Mo4.00000×10^17 NP1:ϕs144.00000°, δ47.00000°, λ-72.00000°. NP2: ϕs298.00000°, δ46.00000°, λ-109.00000°. Principal axes: T 3.8800, Plg1.0000°, Azm221.0000°; N 0.1900, Plg13.0000°, Azm311.0000°; P -4.0700, Plg77.0000°, Azm127.0000°; Broadband

DESE **Dese** 28.78 356 *i* PN **P** 23 02 21.6 +1.7
ATD **Arta Tunnel** 29.14 2 P **P** 23 02 22.8 -0.2
comp=Z,31nm,1.2s,mb4.9,baz=258,slow=4.9,SNR=16
ATD LR LR 23 17 20.7
comp=Z,2µm,18.1s,MS4.8,baz=292,slow=43
DGAR **Diego Garcia** 31.63 75 *e*P **P** 23 02 46.9 +1.9
DGAR pmax pmax
comp=Z,83nm,0.4s,mb5.9
DGAR MLR MLR
comp=Z,1µm,22.0s,MS4.6
DGAR **Diego Garcia** 31.63 75 *e*P **P** 23 02 46.9 +1.8
comp=Z,83nm,0.4s,mb5.9
DGAR LR LR
comp=Z,1µm,22.0s,MS4.6
WBK **Wadi Bani Khal** 43.53 23 P **P** 23 04 26.5 +0.9
SNR=9.8
BIDO **Bidbid** 44.05 22 P **P** 23 04 30.3 +0.5
SNR=12
ASHO **Ashiyiah** 44.45 19 ⇑P **P** 23 04 34.5 +1.6
SNR=8.0
HATD **Hatta, Dubai** 44.60 19 P **P** 23 04 34.7 +0.5
SNR=12
MNGI **Mangalore** 44.69 49 *e*P **P** 23 04 34.9 0.0
MNGI AMb AMB 23 04 39.9
comp=Z,106nm,1.5s,mb5.5
PALK **Pallekele** 45.82 60 *e*P **P** 23 04 44.5 +0.7
comp=Z,9.9nm,0.8s,mb4.8
PALK LR LR
comp=Z,680nm,22.0s,MS4.5
SALM **Salem** 46.37 54 *e*P **P** 23 04 49.0 +0.8
QRN **Al-Qurain** 46.63 7 *e*P **P** 23 04 50.8 +0.6
QRN AMb AMB 23 04 56.7
comp=Z,202nm,1.8s,mb5.8
RDF **Al-Radifah** 46.76 7 *e*P **P** 23 04 51.7 +0.4
RDF AMb AMB 23 04 55.6
comp=Z,145nm,1.1s,mb5.8
KBD **Kabd** 47.02 7 *e*P **P** 23 04 53.9 +0.6
KBD AMb AMB 23 04 56.4
comp=Z,549nm,1.2s,mb6.3
NAY **Al-Naaiem** 47.05 7 *e*P **P** 23 04 53.6 +0.1
NAY AMb AMB 23 04 57.7
comp=Z,85nm,1.4s,mb5.5
KAD **Karad** 47.27 44 *e*P **P** 23 04 55.0 -0.3
KAD *i* P 23 04 55.6
KAD AMb AMB 23 05 14.1
comp=Z,46nm,1.6s,mb5.2
RST **Umm Al-Ruwaisa** 47.27 6 *e*P **P** 23 04 55.8 +0.5
RST AMb AMB 23 04 58.5
comp=Z,232nm,1.0s,mb6.1
UMR **Umm Al-Rimmam** 47.40 7 *e*P **P** 23 04 56.8 +0.5
UMR AMb AMB 23 04 58.4
comp=Z,174nm,1.0s,mb5.9
MIB **Mutribah** 47.60 7 *e*P **P** 23 04 58.2 +0.3
MIB AMb AMB 23 04 60.0
comp=Z,218nm,0.9s,mb6.2
EIL **Elat** 47.62 352 *e*PcP PcP 23 06 25.7 -1.8
EIL *e*PP PP 23 06 54.2 +4.7
POO **Poona** 47.93 43 ⇓*i* x x 23 04 57.5
comp=Z,60nm,1.0s
MDRS **Chennai** 48.81 54 *e*x x 23 04 26.9
MDRS *e*x x 23 05 31.4
MDRS AMb AMB 23 05 36.2
comp=Z,71nm,1.1s,mb5.6
TORD **Torodi Ar. Bea** 50.06 305 P **P** 23 05 16.3 -0.5
comp=Z,4.7nm,0.4s,mb4.8,baz=129,slow=6.9,SNR=90
TORD LR LR 23 27 08.5
comp=Z,9µm,18.6s,MS5.8,baz=130,slow=37
HYB **Hyderabad** 50.35 48 *i* P **P** 23 05 19.0 +0.1
comp=Z,80nm,1.0s,mb5.7
HYB *e*S **S** 23 12 32.0 +1.0
HYB **Hyderabad** 50.35 48 *e*P **P** 23 05 19.0 +0.1
HYB *e*S **S** 23 12 34.0 +3.0
HYB pmax pmax
comp=Z,80nm,1.0s,mb5.7
HYB **Hyderabad** 50.35 48 *e*P **P** 23 05 19.0 +0.1
comp=Z,80nm,1.0s,mb5.7
HYB *e*S **S** 23 12 34.0 +3.0
BHD **Baghdad** 50.82 3 *e*x x 23 05 18.0
BHD *e*x x 23 12 43.0
TRIS **Tristan da Cun** 50.99 236 P **P** 23 05 22.9 -0.9
SYO **Syowa Base** 51.23 181⇑*e*P **P** 23 05 25.6 0.0
MAW **Mawson** 51.62 170 *e*P **P** 23 05 29.1 +0.6
comp=Z,16nm,0.8s,mb5.0
MAW **Mawson** 51.62 170 P **P** 23 05 29.0 +0.5
comp=Z,12nm,0.8s,mb4.9,baz=352,slow=10,SNR=19
MAW LR LR 23 24 25.3
comp=Z,309nm,18.9s,MS4.4,baz=329,slow=33
MAW **Mawson** 51.62 170 *e*P **P** 23 05 29.1 +0.6
MAW pmax pmax
comp=Z,16nm,0.8s
BHL **Bhannes** 51.72 354 *e*P **P** 23 05 30.2 +1.1
LIC **Lamto** 51.97 293 *e*P **P** 23 05 30.5 -0.6
comp=Z,99nm,0.9s,mb5.4
LIC *e*R
comp=Z,10µm,21.5s
LIC **Lamto** 51.97 293 *e*P **P** 23 05 30.5 -0.6
comp=Z,50nm,0.9s,mb5.4
LIC LR LR
comp=Z,5µm,21.5s,MS5.5
DBIC **Dimbokro** 52.03 294 P **P** 23 05 31.5 0.0
comp=Z,61nm,0.9s,mb5.5,baz=104,slow=9.3,SNR=54
DBIC LR LR 23 27 32.1
comp=Z,6µm,18.6s,MS5.7,baz=106,slow=36
DBIC **Dimbokro** 52.03 294 P **P** 23 05 31.5 0.0
DBIC pmax pmax
comp=Z,61nm,0.9s
DBIC MLR MLR
comp=Z,6µm,18.6s
DBIC **Dimbokro** 52.03 294 *e*PcP PcP 23 06 42.0 -1.6
DBIC *e*PP PP 23 07 27.4 -2.3
DBIC LR LR
comp=Z,6µm,20.0s,MS5.6
CSS **Prodhromos** 53.05 351 *e*P **P** 23 05 38.8 -0.3
NGP **Nagpur** 53.22 45 *e*P **P** 23 05 38.5 -1.9
NGP AMb AMB 23 05 42.0
comp=Z,91nm,1.8s,mb5.4
BHPL **Bhopal** 53.63 42 *e*P **P** 23 05 43.8 +0.4
BHPL AMb AMB 23 05 48.6
comp=Z,149nm,1.8s,mb5.6
MSL **Mosul** 53.78 1 *i* x x 23 05 55.0
MSL *e*x x 23 06 10.5
MSL *e*x x 23 06 59.0
MSL *e*x x 23 07 54.0
MSL *e*x x 23 13 26.0
MSL *e*x x 23 13 41.0
HTY **Hatay** 53.86 354 *e*P **P** 23 05 46.1 +1.1
VIS **Vishakhapatnam** 54.01 51 *e*P **P** 23 05 46.2 0.0
VIS AMb AMB 23 05 50.0
comp=Z,56nm,1.2s,mb5.4
IKL **Isikli** 54.26 352 P **P** 23 05 47.1 -0.8
AJM **Ajmer** 54.37 37 *e*P **P** 23 05 48.2 -0.5
AJM AMb AMB 23 05 54.1
comp=Z,157nm,1.7s,mb5.7
KRTS **Karatas** 54.38 354 P **P** 23 05 50.2 +1.3
XRY **Khrisi** 54.53 344 *e*P **P** 23 05 51.0 +1.1
MEST **Erdemli** 54.54 352 *i* P **P** 23 05 50.1 +0.1
ZKR **Zakros** 54.63 344 *e*P **P** 23 05 51.1 +0.5
CUKT **Cukurca** 54.75 2 P **P** 23 05 51.9 +0.4
ERMK **Ermenek** 54.76 351 *i* P **P** 23 05 52.5 +0.9
CEYT **Ceyhan** 54.78 354 P **P** 23 05 53.0 +1.3
MARD **Mardin** 54.80 359 *i* P **P** 23 05 52.4 +0.6
GAZ **Gaziantep** 54.82 356 *e*P **P** 23 05 53.3 +1.3
LAST **Lasithi** 54.86 344 *e*P **P** 23 05 53.2 +0.8
SEMD **Semdilli** 54.88 3 P **P** 23 05 53.3 +0.8
SIVA **Sivas** 54.91 343 *e*P **P** 23 05 52.9 +0.2
NPS **Neapolis** 54.92 344 *e*P **P** 23 05 54.5 +1.7
GVD **Gavdhos** 54.95 342 *e*P **P** 23 05 53.1 +0.1
GZT **Gaziantep** 54.97 356 *i* P **P** 23 05 54.2 +1.1
SIRT **Sirnak** 54.98 1 *e*P **P** 23 05 54.3 +1.1
URFA **Urfa** 54.99 357 P **P** 23 05 54.3 +1.1
ATAB **Bozova** 55.04 357 *i* P **P** 23 05 54.7 +1.1
HKR **Hakkari** 55.09 2 *e*P **P** 23 05 53.2 -0.8
KARA **Karaisali** 55.10 353 P **P** 23 05 54.6 +0.6
HDMB **Hadim** 55.14 351 *e*P **P** 23 05 55.5 +1.2
KMRS **Kahramanmaras** 55.17 355 P **P** 23 05 55.4 +0.8
ARG **Arkhangelos** 55.22 347 *e*P **P** 23 05 56.0 +1.1
KOZT **Kozan** 55.24 354 P **P** 23 05 55.4 +0.3
ELL **Elmali** 55.37 348 P **P** 23 05 57.6 +1.6
ANTB **Antalya** 55.38 349 *e*P **P** 23 05 56.7 +0.7
DIY **Diyarbakir** 55.39 359 *e*P **P** 23 05 56.8 +0.6
VAM **Vamos** 55.45 343 *e*P **P** 23 05 55.5 -1.0
KARN **Karanos** 55.52 342 *e*P **P** 23 05 57.4 +0.3
DALT **Dalyan (Mudla)** 55.64 347 *e*P **P** 23 05 59.1 +1.2
BTMT **Batman** 55.67 360 *e*P **P** 23 05 59.1 +1.0

DAT **Datca** 55.84 346 P **P** 23 05 58.8 -0.5
MALT **Malatya** 55.88 357 ⇓*i* P **P** 23 06 01.1 +1.5
MALT **Malatya** 55.88 357 *e*P **P** 23 06 00.8 +1.2
MALT pmax pmax
comp=Z,87nm,1.3s,mb5.6
MYA **Malataya** 55.89 357 *e*P **P** 23 06 01.2 +1.5
NVL **N'lazarevskaya** 55.95 192 *d i*P **P** 23 06 00.7 +0.6
NVL *i* 23 06 56.6
NVL *i* 23 15 46.6
NVL pmax pmax
comp=Z,72nm,1.0s,mb5.7
NVL MLR MLR
comp=Z,1µm,16.5s,MS5.0
MAIT **Maitri** 55.97 192 *e*P **P** 23 06 01.9 +1.6
SANT **Santorini** 56.01 344 *e*P **P** 23 05 59.8 -0.8
SANT **Santorini** 56.01 344 ⇓*i* P **P** 23 05 60.0 -0.6
comp=Z,120nm,1.1s,mb5.8
SANT *e*PcP PcP 23 07 01.0 +2.2
TVAN **Van** 56.02 2 *i* P **P** 23 06 02.2 +1.5
ELZG **Elazig** 56.03 357 *i* P **P** 23 06 02.3 +1.5
YER **Yerkesik** 56.07 347 P **P** 23 06 01.1 +0.1
VANB **Van** 56.09 2 P **P** 23 06 01.4 +0.3
KONT **Konya--Tatoy** 56.12 351 P **P** 23 06 01.9 +0.5
BODT **Bodrum** 56.22 346 *e*P **P** 23 06 01.6 -0.4
MLSB **Milas** 56.33 347 P **P** 23 06 03.0 +0.1
BINT **Bingol** 56.36 359 *e*P **P** 23 06 03.6 +0.5
PTK **Pertek** 56.41 358 P **P** 23 06 04.3 +0.9
BNGL **BINGOL** 56.43 359 *i* P **P** 23 06 04.9 +1.4
DENT **Denizli** 56.51 348 *e*P **P** 23 06 05.5 +1.4
TKTP **Tekketepe** 56.55 349 *i* P **P** 23 06 04.7 +0.3
BNN **Bunyan** 56.60 354 P **P** 23 06 05.2 +0.4
APE **Apeiranthos** 56.65 344 *e*P **P** 23 06 04.1 -1.0
APE **Apeiranthos** 56.65 344 *e*P **P** 23 06 06.0 +0.8
APE **Apeiranthos** 56.65 344 ⇓*i* P **P** 23 06 05.8 +0.6
KDHN **Kadinhani** 56.72 351 *i* P **P** 23 06 05.6 -0.1
SMG **Samos** 56.94 346 *e*P **P** 23 06 09.0 +1.8
VLI **Veliai** 57.03 342 *e*P **P** 23 06 08.5 +0.6
EZC **Erzincan** 57.25 358 *e*P **P** 23 06 09.5 +0.1
KAMT **Kaman** 57.34 353 P **P** 23 06 10.0 0.0
ERZM **Erzurum** 57.38 360 *i* P **P** 23 06 11.8 +1.5
EZM **Erzurum** 57.38 360 P **P** 23 06 12.0 +1.7
ABKT **Ailbek** 57.51 15 P **P** 23 06 10.5 -0.7
comp=Z,182nm,0.9s,mb6.1,SNR=12
ABKT **Ailbek** 57.51 15 P **P** 23 06 10.8 -0.4
CDAG **Cicekdag** 57.51 353 *i* P **P** 23 06 11.4 +0.1
NDI **New Delhi** 57.52 37 *e*P **P** 23 06 09.0 -2.3
BLCB **Balcova** 57.54 346 P **P** 23 06 12.3 +0.8
BLCB **Balcova** 57.54 346 *e*P **P** 23 06 11.7 +0.3
SVSK **Karacayir** 57.56 356 P **P** 23 06 11.2 -0.4
ALT **Altintas** 57.57 349 P **P** 23 06 11.9 +0.3
URLA **Izmir** 57.62 346 *i* P **P** 23 06 12.4 +0.4
KELT **Kelkit** 57.67 358 *i* P **P** 23 06 13.1 +0.7
GNI **Garni** 57.69 3 P **P** 23 06 11.7 -0.8
GNI **Garni** 57.69 3 P **P** 23 06 13.4 +0.9
SNR=20
GNI **Garni** 57.69 3 *e*P **P** 23 06 13.2 +0.7
GNI pmax pmax
comp=Z,190nm,1.8s
BRTR **Keskin Array B** 57.70 353 P **P** 23 06 12.3 -0.2
comp=Z,20nm,0.7s,mb5.3,baz=168,slow=9.2,SNR=138
BRTR LR LR 23 32 28.6
comp=Z,672nm,18.4s,MS4.8,baz=33,slow=38
BRTR **Keskin Array B** 57.70 353⇑*e*P **P** 23 06 12.3 -0.2
GDZ **Gediz** 57.72 349 *i* P **P** 23 06 13.2 +0.5
ITM **Ithomi** 57.77 341 *e*P **P** 23 06 14.0 +1.0
AKHS **Akhisar** 57.85 347 *i* P **P** 23 06 14.7 +1.1
AKS **Akhisar** 57.85 347 *e*P **P** 23 06 14.9 +1.3
NAIG **Nisos Aigina** 57.85 343 *e*P **P** 23 06 13.5 -0.1
ESKT **Eskisehir** 57.90 350 *e*P **P** 23 06 13.9 -0.1
ANTO **Ankara** 57.95 352 P **P** 23 06 13.3 -1.0
ANTO **Ankara** 57.95 352⇑*i* P **P** 23 06 14.7 +0.4
ANTO **Ankara** 57.95 352 P **P** 23 06 15.3 +1.0
SNR=9.1
ANTO **Ankara** 57.95 352 ⇓*i* P **P** 23 06 14.0 -0.3
ANTO *e* 23 07 09.0
ANTO pmax pmax
comp=Z,11nm,0.8s,mb4.9
ANTO MLR MLR
comp=Z,638nm,19.0s,MS4.8
ANTO **Ankara** 57.95 352 ⇓*i* P **P** 23 06 14.0 -0.3
comp=Z,11nm,0.8s,mb4.9
ANTO *e*PcP PcP 23 07 09.0 +2.6
ANTO LR LR
comp=Z,638nm,19.0s,MS4.8
ATH **Athens Observa** 57.98 343 *e*P **P** 23 06 14.5 -0.1
TOKT **Tokat** 57.99 355 *e*P **P** 23 06 19.9 +5.3
PTL **Penteli** 58.01 343 *e*P **P** 23 06 05.5 -9.3
CORM **Corum** 58.03 354 *e*P **P** 23 06 14.6 -0.3
MGER **Gerania Oros** 58.12 343 *e*P **P** 23 06 16.0 +0.5
BORA **Eskisehir** 58.31 350 *i* P **P** 23 06 17.2 +0.4
MACK **Trabzon** 58.44 358 *i* P **P** 23 06 18.2 +0.4
CTKT **Corum** 58.45 354 *i* P **P** 23 06 17.1 -0.7
GRSN **GIRESUNGRSN** 58.48 357 *i* P **P** 23 06 17.8 -0.3
KTUT **Trabzon** 58.49 358 P **P** 23 06 18.1 +0.5
PRK **Paraskevi** 58.54 346 *e*P **P** 23 06 20.0 +1.6
CANT **Cankiri** 58.57 353 *e*P **P** 23 06 18.8 +0.1
BTOK **Tokmak** 58.65 348 *i* P **P** 23 06 20.1 +0.9
SGKT **Sivrigoynuk** 58.74 351 *i* P **P** 23 06 19.8 0.0
KVT **Kavak** 58.79 355 P **P** 23 06 19.9 -0.3
MIR **Mirnyy** 58.89 159 ⇓*i* P **P** 23 06 23.0 +2.1
MIR pmax pmax
comp=Z,650nm,2.0s,mb6.3
MIR pmax pmax
comp=Z,1µm,2.0s,mb6.5
BCA **Borcka** 58.92 360 P **P** 23 06 20.9 -0.1
ADVT **Abdulvahap** 58.98 349 P **P** 23 06 21.4 0.0
DGRG **David-gareji** 59.02 3 P **P** 23 06 22.4 +0.7
AOS **Aionnisos** 59.04 344 *e*P **P** 23 06 22.5 +0.4
GEMT **Gemlik** 59.08 349 *e*P **P** 23 06 21.8 -0.4
VLS **Valsamata** 59.10 341 *e*P **P** 23 06 22.0 -0.3
CANB **Canakkale** 59.10 347 P **P** 23 06 22.9 +0.5
YLV **Yalova** 59.17 349 P **P** 23 06 21.9 -0.9
MTA **Mtatsminda** 59.23 3 P **P** 23 06 21.1 -2.1
TBLG **Delisi** 59.27 3 P **P** 23 06 24.5 +1.0
SAFT **Safranbolu** 59.31 352 P **P** 23 06 22.5 -1.3
SMLA **Simla** 59.35 35 *e*P **P** 23 06 23.6 -0.5
SMLA AMb AMB 23 06 30.2
comp=Z,333nm,2.0s,mb6.0
AGG **Agios Georgios** 59.35 342 *e*P **P** 23 06 24.1 0.0
HRT **Hereke** 59.37 349 *e*P **P** 23 06 24.6 +0.4
EVR **Evrytania** 59.41 342 *e*P **P** 23 06 26.0 +1.6
DIKM **Dikmen** 59.42 354 P **P** 23 06 22.6 -1.9
BALT **Daday** 59.51 353 *i* P **P** 23 06 24.9 -0.3
MRMT **Marmara Adasi** 59.55 348 *e*P **P** 23 06 25.5 0.0
KDZE **Karadeniz Ereo** 59.56 351 *e*P **P** 23 06 24.0 -1.5
LKD **Levkas** 59.56 341 *e*P **P** 23 06 25.4 -0.2
BOK **Bokaro** 59.69 48 *e*P **P** 23 06 26.6 +0.1
BOK AMb AMB 23 06 30.2
comp=Z,148nm,1.1s,mb5.9
ISK **Istanbul-Kandi** 59.71 349 *e*P **P** 23 06 26.4 -0.2
ISK **Istanbul-Kandi** 59.71 349 *e*P **P** 23 06 26.0 -0.5
RKY **Sarkoy-Tekirda** 59.72 347 *e*P **P** 23 06 25.7 -0.9
MFT **Murefte** 59.79 347 *e*P **P** 23 06 27.0 -0.1
SNAA **Sanae** 59.83 195 ⇓*i* P **P** 23 06 27.7 +0.3
SNAA *e* 23 06 31.0
SNAA *e* pP 23 06 32.2 -1.1
SNAA *e* 23 08 39.7
SNAA **Sanae** 59.83 195⇑*e*P **P** 23 06 28.4 +1.0
BZK **Bozkurt** 59.86 353 *e*P **P** 23 06 25.1 -2.5
KLYT **Kilyos** 59.90 349 *e*P **P** 23 06 27.8 0.0
PSI **Prapat** 59.92 76 P **P** 23 06 28.8 +0.8
comp=Z,8.0nm,1.1s,mb4.7,baz=218,slow=8.3,SNR=7.2
PSI **Prapat** 59.92 76 P **P** 23 06 28.8 +0.8
ONI **Oni** 60.07 1 P **P** 23 06 28.6 -0.4
ALN **Alexandroupoli** 60.16 346 *e*P **P** 23 06 29.7 0.0
ZEI **Tsey** 60.27 2 *e*P **P** 23 06 30.7 +0.3
ZEI *e**PP pP 23 06 37.6 +1.3
ZEI *e* 23 07 10.4
ZEI *e* 23 08 40.0
ZEI pmax pmax
comp=Z,71nm,1.2s,mb5.6
LIT **Litokhoron** 60.31 343 *e*P **P** 23 06 30.1 -0.6
JAN **Janina** 60.37 342 *e*P **P** 23 06 33.0 +1.9
IGT **Igoumenitsa** 60.42 341 *e*P **P** 23 06 32.0 +0.6
HORT **Hortiatis** 60.61 344 *e*P **P** 23 06 32.3 -0.4
VNA1 **Neumayer--Stat** 60.65 197 ⇓*i* P **P** 23 06 34.2 +1.2
VNA1 *e* 23 06 36.7
VNA1 *e* pP 23 06 37.9 -1.0
VNA1 *e* 23 08 48.7
MAK **Makhachkala** 60.66 5 *i* P **P** 23 06 35.4 +2.3
MAK *i* 23 07 18.9

MAK *i* 23 08 52.4
MAK *e*PPP 23 10 17.5
MAK *i* S **S** 23 14 51.9 +3.2
MAK *e* 23 16 24.3
MAK *e*SS SS 23 18 47.9 +0.7
MAK pmax pmax
comp=Z,212nm,1.4s,mb6.1
CAL **Calcutta** 60.67 50 *e*P **P** 23 06 33.1 0.0
THE **Thessaloniki** 60.67 344 *e*P **P** 23 06 33.0 -0.2
KZN **Kozani** 60.70 343 *e*P **P** 23 06 34.0 +0.6
KEK **Kerkira** 60.75 341 *e*P **P** 23 06 35.0 +1.3
SOH **Sokhos** 60.75 344 *e*P **P** 23 06 33.2 -0.5
KOLN **Koldanda** 60.77 43 ⇓*i* P **P** 23 06 33.2 -0.6
comp=Z,224nm,1.3s,mb6.1
CEL **Celeste** 60.79 337 P **P** 23 06 34.9 +0.9
EDRB **Edirne** 60.92 347 *e*P **P** 23 06 34.3 -0.5
GRG **Griva** 61.13 343 *e*P **P** 23 06 36.4 +0.1
KNT **Kendrikon** 61.19 344 *e*P **P** 23 06 36.7 0.0
CSLB **Castelbuono** 61.23 335 P **P** 23 06 38.7 +1.8
comp=Z,63nm,0.8s,mb5.8
FNA **Florina** 61.26 342 *e*P **P** 23 06 36.9 -0.2
VNA3 **Neumayer Olymp** 61.36 197 ⇓*i* P **P** 23 06 38.3 +0.5
VNA3 *e* 23 06 40.7
VNA3 *e* pP 23 06 42.5 -1.2
VNA3 *e* 23 08 53.2
MMB **Musomiste** 61.37 345 *e*P **P** 23 06 36.9 -1.1
VAY **Valandovo** 61.42 344 *e*P **P** 23 06 38.0 -0.3
VAY **Valandovo** 61.42 344 ⇓*i* P **P** 23 06 38.2 -0.1
KIV **Kislovodsk** 61.43 1 P **P** 23 06 38.0 -0.3
comp=Z,154nm,0.9s,mb6.1,SNR=15
KIV **Kislovodsk** 61.43 1 P **P** 23 06 38.6 +0.3
SNR=16
KIV **Kislovodsk** 61.43 1 *e*P **P** 23 06 38.1 -0.2
KIV *e* 23 07 20.4
KIV *e*PPP 23 10 22.2
KIV *e*S **S** 23 14 56.6 -1.9
KIV *e*SS SS 23 19 00.9 +1.6
KIV pmax pmax
comp=Z,12nm,0.5s,mb5.3
KIV MLR MLR
comp=Z,955nm,16.0s,MS5.0
KEST **Kesra** 61.43 330 P **P** 23 06 39.6 +1.3
comp=Z,13nm,0.9s,mb5.0,baz=120,slow=2.7,SNR=22
KEST LR LR 23 37 27.8
comp=Z,909nm,18.6s,MS5.0,baz=271,slow=40
BIA **Bitola** 61.49 343 *e*P **P** 23 06 37.8 -0.9
BIA **Bitola** 61.49 343 *e*P **P** 23 06 38.2 -0.5
JMB **Yambol** 61.55 347 *e*P **P** 23 06 38.4 -0.7
GKN **Gorkha** 61.60 43 ⇓*i* P **P** 23 06 38.6 -0.8
comp=Z,225nm,1.0s,mb6.3
DMN **Daman** 61.64 44 ⇓*i* P **P** 23 06 39.4 -0.3
comp=Z,245nm,1.2s,mb6.2
OHR **Ohrid** 61.73 342 *e*P **P** 23 06 40.1 -0.2
PKI **Pulchoki** 61.82 44 ⇓*i* P **P** 23 06 40.1 -0.8
comp=Z,203nm,1.1s,mb6.2
LCI **Lecce** 61.86 340 P **P** 23 06 42.5 +1.3
LCI pmax pmax
comp=Z,98nm,1.5s,mb5.7
LCI **Lecce** 61.86 340 P **P** 23 06 42.5 +1.3
comp=Z,98nm,1.5s,mb5.7
STIP **Stip** 61.88 343 *e*P **P** 23 06 41.5 +0.2
KKN **Kakani** 61.88 44 ⇓*i* P **P** 23 06 40.5 -0.8
comp=Z,325nm,1.4s,mb6.3
ERC **Erice** 61.91 334 P **P** 23 06 42.1 +0.6
comp=Z,631nm,1.0s
TIR **Tirane** 62.22 342 *e*P **P** 23 06 44.4 +0.7
SKO **Skopje** 62.34 343 *e*P **P** 23 06 44.6 +0.2
SKO **Skopje** 62.34 343 ⇓*i* P **P** 23 06 45.1 +0.7
GUN **Gumba** 62.36 44 ⇓*i* P **P** 23 06 44.3 -0.2
comp=Z,717nm,1.5s
ANN **Anapa** 62.39 357 *d i*P **P** 23 06 43.9 -0.9
ANN *e* 23 07 29.1
ANN *e*PPP 23 10 37.0
ANN *i* S **S** 23 15 10.5 -0.2
ANN *e*SS SS 23 19 15.6 +1.3
ANN pmax pmax
comp=Z,844nm,8.1s
VTS **Vitosha** 62.45 345 *e*P **P** 23 06 44.5 -0.7
VTS **Vitosha** 62.45 345⇑*i* P **P** 23 06 45.9 +0.8
KULM **Kulim** 62.46 74 *e*P **P** 23 06 43.6 -1.7
KULM *e*PcP PcP 23 07 25.9 +1.4
SIM **Simferopol'** 62.80 354 *d i*P **P** 23 06 48.0 +0.5
SIM *e*S **S** 23 15 21.0 +5.2
SIM pmax pmax
comp=Z,19nm,1.0s,mb5.2
SIM MLR MLR
comp=Z,400nm,18.6s,MS4.6
ZIMR 62.95 347⇑*i* P **P** 23 06 49.1 +0.6
ZIMR 62.95 347 P **P** 23 06 49.1 +0.6
TIRR **Tirgusor** 63.12 349 ⇓*i* P **P** 23 06 49.8 +0.2
TIRR **Tirgusor** 63.12 349 P **P** 23 06 49.5 -0.1
BUC1 **Bucharest** 63.47 347⇑*i* P **P** 23 06 53.0 +1.1
BUC1 **Bucharest** 63.47 347 P **P** 23 06 53.0 +1.1
FG5 **Orsara di Pugl** 63.68 338 P **P** 23 06 54.0 +0.7
FG5 pmax pmax
comp=Z,648nm,2.7s,mb6.2
FG5 **Orsara di Pugl** 63.68 338 P **P** 23 06 54.0 +0.7
comp=Z,648nm,2.7s,mb6.2
RGNG **Rignano Grg** 63.91 338 P **P** 23 06 55.2 +0.4
RFI **Roccamonfina** 64.16 337 P **P** 23 06 58.3 +1.8
comp=Z,24nm,1.2s,mb5.1
MIDA **Miranda** 64.36 337 P **P** 23 06 58.4 +0.6
MLR **Muntele Rosu** 64.58 348⇑*i* P **P** 23 07 00.3 +1.1
MLR **Muntele Rosu** 64.58 348 P **P** 23 06 59.5 +0.3
DIVS **Divcibare** 64.71 343 *e*P **P** 23 07 00.6 +0.5
PLOR **Plostina** 64.78 348⇑*i* P **P** 23 07 01.4 +0.8
VRI **Vrincioaia** 64.78 348⇑*i* P **P** 23 07 01.1 +0.5
VRI **Vrincioaia** 64.78 348 P **P** 23 07 00.6 0.0
SHL **Shillong** 65.08 50 *i* P **P** 23 07 03.0 +0.6
SHL AMb AMB 23 07 04.6
comp=Z,1µm,1.6s
SHL *i* x x 23 15 40.0
CERT **Cerreto** 65.10 337 P **P** 23 07 02.8 +0.2
GZR **Gura Zlata** 65.19 345 ⇓*i* P **P** 23 07 04.2 +1.0
GZR **Gura Zlata** 65.19 345 P **P** 23 07 03.3 +0.1
AQU **L'Aquila** 65.29 337⇑*i* P **P** 23 07 04.8 +0.9
AQU **L'Aquila** 65.29 337 *e*P **P** 23 07 04.7 +0.8
AQU pmax pmax
comp=Z,53nm,0.9s,mb5.6
KSH **Kashi** 65.34 29 *i* PR **P** 23 07 04.1 -0.1
KSH *e*AP pP 23 07 08.0 -2.1
KSH *e*XP sP 23 07 11.3 -1.0
KSH *e*PCP PcP 23 07 36.1 -0.2
KSH *e*PP PP 23 09 29.1 +1.1
KSH *e*PPP 23 11 03.0
KSH *e*SCP 23 11 37.0
KSH *e*PCS 23 11 39.0
KSH *e*S S 23 15 43.6 -3.7
KSH *e*XS sS 23 15 51.3 -5.7
KSH *e*PS 23 16 05.1
KSH *e*SCS ScS 23 16 54.3 -4.4
KSH *e*SS SS 23 19 57.1 -3.3
KSH AMB AMB
comp=Z,55nm,0.7s,mb5.7
KSH AMB AMB
comp=Z,2µm,3.4s
KSH LR LR
comp=N,606nm,6.0s
KSH LR LR
comp=E,798nm,6.6s
KSH LR LR
comp=Z,1µm,16.7s,MS5.1
CASY **Casey** 65.36 155 *e*P **P** 23 07 04.6 +0.3
KIS **Kishinev** 65.51 350 *d i*P **P** 23 07 02.0 -3.3
KIS *e* 23 09 36.0
KIS *e*S S 23 15 45.0 -4.4
KIS *e*PS 23 17 00.0
KIS pmax pmax
comp=Z,2µm,4.0s
TOLF **Tolfa** 65.57 336 P **P** 23 07 06.5 +0.8
BZS **Buzias** 65.68 345⇑*i* P **P** 23 07 06.6 +0.2
BZS **Buzias** 65.68 345 P **P** 23 07 06.6 +0.2
IAS **Iasi** 65.91 349⇑*i* P **P** 23 07 07.2 -0.7
IAS **Iasi** 65.91 349 P **P** 23 07 07.2 -0.7
KK31 **Karatay Array** 66.10 23 *i* P **P** 23 07 09.0 0.0
KK31 pmax pmax
comp=Z,57nm,0.6s,mb5.8
SNTG **Esanatoglia** 66.24 337 P **P** 23 07 08.8 -1.2
comp=Z,17nm,1.1s,mb5.0
MURB **Monte Urbino** 66.40 337 P **P** 23 07 10.3 -0.7
NST **Nakhon Sawan** 66.44 63 P **P** 23 07 12.0 +0.8
AML **Almayashu** 66.50 25 P **P** 23 07 11.8 +0.2
SNR=16

DRGR		66.52	346⇑	iP	P	23 07 12.7	+1.0
DRGR		66.52	346	P	P	23 07 12.2	+0.4
NVLJ	Novalja	66.71	339⇓	iP	P	23 07 12.4	-0.6
BURAR	Bucovina Array	66.76	348⇑	iP	P	23 07 14.4	+1.1
GRFL	Gerfalco	66.89	336	P	P	23 07 15.1	+1.0
	comp=Z,58nm,1.2s,mb5.5						
UCH	Uchtor	66.92	26	P	P	23 07 14.8	+0.5
	SNR=24						
CHG	Chiang Mai	66.94	60	⇑P	P	23 07 13.3	-1.1
	comp=Z,58nm,1.1s,mb5.5						
CHTO	Chiang Mai	66.94	60	P	P	23 07 14.2	-0.2
	SNR=19						
CHTO	Chiang Mai	66.94	60	P	P	23 07 13.6	-0.8
CHTO				pmax	pmax		
	comp=Z,320nm,1.9s,mb6.0						
CHTO	Chiang Mai	66.94	60⇓	iP	P	23 07 14.1	-0.3
	comp=Z,321nm,1.9s,mb6.0						
CHTO				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
EKS2	Erkin-Say	66.98	25	P	P	23 07 14.7	0.0
	SNR=23						
PKSM	Moragy	67.03	343⇓	iP	P	23 07 15.0	0.0
PKSM	Moragy	67.03	343	P	P	23 07 15.1	+0.1
PKSM	Moragy	67.03	343⇓	eP	P	23 07 14.9	-0.1
SISC	Sisak	67.03	341	iP	P	23 07 15.2	+0.2
LSA	Lhasa	67.05	46	P	P	23 07 15.0	-0.1
KZA	Kyzart	67.11	26	P	P	23 07 16.2	+0.7
	SNR=6.5						
PGF	Pioggiola	67.18	334	eP	P	23 07 16.3	+0.3
	comp=Z,96nm,1.2s,mb5.4						
PGF	Pioggiola	67.18	334	eP	P	23 07 16.3	+0.3
PGF				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.4						
PGF	Pioggiola	67.18	334	eP	P	23 07 16.3	+0.3
	comp=Z,48nm,1.2s,mb5.4						
AAK	Ala-Archa	67.25	26	P	P	23 07 16.8	+0.4
	SNR=16						
AAK	Ala-Archa	67.25	26	P	P	23 07 15.0	-1.4
	comp=Z,232nm,1.0s,mb6.2,SNR=18						
AAK	Ala-Archa	67.25	26⇑	eP	P	23 07 15.8	-0.6
AAK				pmax	pmax		
	comp=Z,87nm,2.3s,mb5.4						
AAK				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.6						
BOJS	Bojanci	67.42	340	eP	P	23 07 17.2	-0.2
KBK	Karagaybulak	67.46	26	P	P	23 07 18.3	+0.6
	SNR=35						
FRU	Bishkek	67.47	26	iP	P	23 07 18.0	+0.2
FRU				pmax	pmax		
	comp=Z,180nm,2.2s,mb5.7						
PII	Pisa	67.55	336	P	P	23 07 18.1	-0.2
PII				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.5						
PII	Pisa	67.55	336	P	P	23 07 18.1	-0.2
	comp=Z,44nm,1.0s,mb5.5						
CHMS	Chumysh	67.66	26	P	P	23 07 18.7	-0.3
	SNR=23						
ULHL	Ulahol	67.67	27	P	P	23 07 19.3	+0.2
	SNR=6.2						
FNVD	Fontana Vidola	67.70	337	P	P	23 07 19.5	+0.2
USP	Ospenovka	67.78	25	P	P	23 07 19.3	-0.5
	SNR=35						
MUN	Mundaring	67.86	118	eP	P	23 07 20.3	0.0
TKM2	Tokmak 2	67.95	26	P	P	23 07 20.9	0.0
	SNR=69						
TKM2	Tokmak 2	67.95	26	iP	P	23 07 19.3	-1.5
TKM2				pmax	pmax		
	comp=Z,117nm,1.5s,mb5.7						
GSCL	Gusciola	68.06	336	P	P	23 07 21.5	0.0
	comp=Z,16nm,0.7s,mb5.2						
BUD	Budapest	68.09	344⇓	ePcP	P	23 07 21.6	-0.1
LJU	Ljubljana	68.13	340	eP	P	23 07 21.6	-0.4
EALB	Alboran	68.19	322	P	P	23 07 22.6	+0.3
	comp=Z,749nm,2.3s,mb6.3						
RAVA	Ravarino	68.20	337	P	P	23 07 22.9	+0.5
PSZ	Piszkesteto	68.26	344⇓	ePcP	P	23 07 22.3	-0.5
PSZ	Piszkesteto	68.26	344⇑	iP	P	23 07 22.6	-0.2
PSZ	Piszkesteto	68.26	344	eP	P	23 07 22.1	-0.7
PSZ				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.7						
VOY	Vojsko	68.33	339	eP	P	23 07 23.0	-0.2
VOY				e		23 07 39.7	
UZH	Uzhgorod	68.34	346⇓	iP	P	23 07 21.4	-1.9
UZH				i		23 09 58.0	
UZH				eS	S	23 16 19.0	-4.6
UZH				e		23 20 40.0	
UZH				pmax	pmax		
	comp=Z,127nm,1.7s,mb5.7						
ENIJ	Nijar	68.43	323	P	P	23 07 24.2	+0.4
ENIJ				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
ENIJ	Nijar	68.43	323	P	P	23 07 24.2	+0.4
	comp=Z,27nm,1.2s,mb5.2						
PERS	Pernice	68.47	341	iP	P	23 07 23.9	-0.1
VORD	Divnogorie	68.47	358	eP	P	23 07 22.8	-1.3
VORD				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
VORD				pmax	pmax		
	comp=N,80nm,2.2s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
EMUR	La Murta	68.50	325	P	P	23 07 25.5	+1.2
	comp=E,733nm,3.0s						
OBKA	Obir	68.53	340	iP	P	23 07 24.7	+0.2
	comp=E,547nm,3.0s,SNR=41						
OBKA	Obir	68.53	340	iP	P	23 07 24.7	+0.2
	comp=E,547nm,3.0s						
EBEN	Beniarda	68.57	326	P	P	23 07 27.2	+2.5
	comp=E,356nm,2.0s,mb6.0						
NWAO	Narrogin (SRO)	68.59	119	P	P	23 07 25.2	+0.3
	comp=E,20nm,1.0s,mb5.0,baz=265,slow=8.6,SNR=7.2						
NWAO	Narrogin (SRO)	68.59	119	P	P	23 07 25.2	+0.3
KOLS	Kolonicke sedl	68.63	346	eP	P	23 07 24.8	-0.3
KOLS	Kolonicke sedl	68.63	346	eP	P	23 07 24.9	-0.2
KECS	Kecovo	68.63	345	iP	P	23 07 24.5	-0.6
KECS				e	pP	23 07 31.5	+0.5
KECS				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
KECS	Kecovo	68.63	345	iP	P	23 07 24.5	-0.6
	comp=Z,24nm,1.0s,mb5.1						
KECS				e	pP	23 07 31.5	+0.5
ROBS	Robic	68.64	339	iP	P	23 07 24.7	-0.5
AB31	Akbulak array	68.66	13	iP	P	23 07 23.5	-1.8
VRSR	Storozhevoye	68.72	358	diP	P	23 07 24.6	-1.1
VRSR				e*PP	pP	23 07 33.5	+1.9
VRSR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
VRSR				pmax	pmax		
	comp=N,40nm,1.0s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.9s						
VRSR				MLR	MLR		
	comp=Z,440nm,18.0s,MS4.7						
VRSR				MLR	MLR		
	comp=N,230nm,17.0s,MS4.7						
VRSR				MLR	MLR		
	comp=E,330nm,17.0s,MS4.7						
GMNA	Gemona	68.76	339	P	P	23 07 25.6	-0.3
	comp=E,218nm,1.0s,mb6.0						
EBER	Berja	68.77	323	P	P	23 07 25.6	-0.4
	comp=E,547nm,2.6s,mb6.0						
PTCC	Patocco-Chiusa	68.84	339	P	P	23 07 26.3	-0.1
	comp=E,31nm,0.7s,mb5.3						
REVF	Revere	68.84	334	eP	P	23 07 26.8	+0.4
BOB	Bobbio (Coli)	68.85	336	P	P	23 07 26.9	+0.4
BOB				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.5						
BOB	Bobbio (Coli)	68.85	336	P	P	23 07 26.9	+0.4
	comp=Z,60nm,0.9s,mb5.5						
LMR	La Mourre	68.88	333	eP	P	23 07 27.0	+0.4
	comp=Z,202nm,1.7s,mb5.5						
LMR	La Mourre	68.88	333	eP	P	23 07 27.0	+0.4
LMR				pmax	pmax		
	comp=Z,101nm,1.7s,mb5.5						
LMR	La Mourre	68.88	333	eP	P	23 07 27.0	+0.4
	comp=Z,101nm,1.7s,mb5.5						
FIN	Finale Ligure	68.88	335	P	P	23 07 27.2	+0.6
FIN				pmax	pmax		
	comp=Z,245nm,1.5s,mb5.9						
FIN	Finale Ligure	68.88	335	P	P	23 07 27.2	+0.6
	comp=Z,245nm,1.5s,mb5.9						
ARSA	Arzberg	68.89	341	iP	P	23 07 26.6	-0.1
	comp=Z,488nm,3.2s,SNR=20						
SBF	Sospel	68.91	334	eP	P	23 07 27.3	+0.4
	comp=Z,96nm,0.9s,mb5.4						
SBF	Sospel	68.91	334	eP	P	23 07 27.3	+0.4
SBF				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.4						
SBF	Sospel	68.91	334	eP	P	23 07 27.3	+0.4
	comp=Z,48nm,0.9s,mb5.4						
SOP	Sopron	68.96	342⇓	ePcP	P	23 07 26.9	-0.3
SAOF	Saorge	68.96	334	eP	P	23 07 26.8	-0.4
FRF	La Foret Royal	69.00	333	eP	P	23 07 27.7	+0.3
	comp=Z,126nm,1.3s,mb5.4						
FRF	La Foret Royal	69.00	333	eP	P	23 07 27.7	+0.3
FRF				pmax	pmax		
	comp=Z,63nm,1.3s,mb5.4						
FRF	La Foret Royal	69.00	333	eP	P	23 07 27.7	+0.3
	comp=Z,63nm,1.3s,mb5.4						
AUTN	L'Aution	69.03	334	eP	P	23 07 28.7	+1.2
AKASG	Malin Array Be	69.06	352	P	P	23 07 26.1	-1.7
	comp=Z,12nm,0.8s,mb4.9,baz=175,slow=5.7,SNR=57						
AKASG				LR	LR	23 42 44.6	
	comp=Z,340nm,19.6s,MS4.6,baz=140,slow=40						
AKASG	Malin Array Be	69.06	352	iP	P	23 07 26.1	-1.7
AKASG				pmax	pmax		
	comp=Z,13nm,0.8s						
AKBB	Malin Array Si	69.06	352⇓	eP	P	23 07 26.1	-1.7
AKBB				e		23 07 34.2	
AKBB				e		23 07 51.7	
VYHS	Vyhne	69.07	344	iP	P	23 07 26.4	-1.4
VYHS				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1						
VYHS	Vyhne	69.07	344	iP	P	23 07 26.4	-1.4
	comp=Z,40nm,1.5s,mb5.1						
LVV	L'vov	69.10	348	eP	P	23 07 31.4	+3.4
LVV				eS	S	23 16 48.2	+16
LVV				ePS		23 17 19.4	
LVV				MLR	MLR		
	comp=Z,5μm,0.3s						
LVV				MLR	MLR		
	comp=N,200nm,17.0s,MS4.6						
LVV				MLR	MLR		
	comp=E,200nm,18.0s,MS4.6						
TOUF	Mont Tournerai	69.11	334	eP	P	23 07 29.1	+1.0
CTI	Castel Tesino	69.12	338	P	P	23 07 28.6	+0.5
CTI				pmax	pmax		
	comp=Z,227nm,1.7s,mb5.8						
CTI	Castel Tesino	69.12	338	P	P	23 07 28.6	+0.5
	comp=Z,227nm,1.7s,mb5.8						
KWP	Kalwaria	69.20	347	ePd	P	23 07 28.0	-0.6
	comp=Z,0.7nm,2.7s						
KWP				epP	pP	23 07 38.3	+3.8
KWP				eS	S	23 16 55.9	+22
KWP				L		23 42 32.8	
	comp=Z,0.5nm,20.5s						
KWP	Kalwaria	69.20	347⇓	eP	P	23 07 28.0	-0.6
KWP				e*PP	pP	23 07 38.3	+3.8
KWP				eS	S	23 16 55.9	+22
KWP				pmax	pmax		
	comp=Z,700nm,2.7s,mb6.1						
KWP				MLR	MLR		
	comp=Z,500nm,20.5s,MS4.7						
KLBR	Kellerberrin	69.22	118	eP	P	23 07 27.8	-1.0
	comp=Z,88nm,1.3s,mb5.5						
VOR	Voronezh	69.24	358	eP	P	23 07 28.5	-0.4
VOR				pmax	pmax		
	comp=N,80nm,2.0s						
VOR				pmax	pmax		
	comp=E,70nm,2.0s						
VOR				pmax	pmax		
	comp=Z,130nm,2.0s,mb5.5						
ZST	Bratislava	69.27	343	eP	P	23 07 28.5	-0.6
ZST				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
ZST	Bratislava	69.27	343	eP	P	23 07 28.5	-0.6
	comp=Z,27nm,0.9s,mb5.2						
STHS	Stebnicka Huta	69.32	346	eP	P	23 07 29.3	-0.1
STHS				e		23 07 36.9	
STHS				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
STHS	Stebnicka Huta	69.32	346	eP	P	23 07 29.3	-0.1
	comp=Z,16nm,0.9s,mb4.9						
STHS				e		23 07 36.9	
ERON	Agron	69.38	322	P	P	23 07 31.3	+1.5
	comp=Z,57nm,1.1s,mb5.4						
CONA	Conrad Observa	69.39	342	iP	P	23 07 29.3	-0.5
	comp=Z,42nm,1.0s,mb5.3,SNR=42						
AKTK	Aktyubinsk	69.41	11	P	P	23 07 28.6	-1.3
AKTO	Aktyubinsk	69.41	11	P	P	23 07 28.6	-1.3
	comp=Z,29nm,0.9s,mb5.2,baz=186,slow=6.7,SNR=88						
AKTO	Aktyubinsk	69.41	11	iP	P	23 07 28.4	-1.5
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ECOG	Cogollos-Vega	69.42	323	P	P	23 07 31.1	+1.1
ECOG				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
ECOG	Cogollos-Vega	69.42	323	P	P	23 07 31.1	+1.1
	comp=Z,34nm,0.8s,mb5.3						
KBA	Koelnbreinsper	69.43	340	iP	P	23 07 29.7	-0.3
	comp=Z,261nm,3.4s,SNR=13						
KBA	Koelnbreinsper	69.43	340	iP	P	23 07 29.7	-0.4
KBA				pmax	pmax		
	comp=Z,261nm,3.4s						
SMOL	Smolenice	69.47	343	eP	P	23 07 29.7	-0.6
EQES	Quesada	69.50	323	P	P	23 07 30.3	-0.2
	comp=Z,673nm,3.0s						
MABI	Malga Bissina	69.53	337	P	P	23 07 31.6	+0.9
NIE	Niedzica	69.55	345	eP	P	23 07 30.6	-0.2
EMIJ	Mijas	69.64	321	P	P	23 07 28.3	-3.1
	comp=Z,383nm,3.3s						
ELOJ	Sierra Loja	69.67	322	P	P	23 07 32.1	+0.6
ELOJ				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.3						
ELOJ	Sierra Loja	69.67	322	P	P	23 07 32.1	+0.6
	comp=Z,56nm,1.3s,mb5.3						
SURF	Saint Ours	69.68	334	eP	P	23 07 33.0	+1.4
EVIA	Vianos	69.77	324	P	P	23 07 32.6	+0.5
EVIA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
EVIA	Vianos	69.77	324	P	P	23 07 32.6	+0.5
	comp=Z,13nm,0.8s,mb4.9						
SMRF	Simiane la Rot	69.79	333	eP	P	23 07 33.6	+1.3
	comp=Z,108nm,1.4s,mb5.3						
SMRF	Simiane la Rot	69.79	333	eP	P	23 07 33.6	+1.3
	comp=Z,108nm,1.4s,mb5.6						
MOA	Molln	69.81	341	iP	P	23 07 31.9	-0.5
	comp=Z,682nm,3.8s,SNR=68						
EPOB	Poblet	69.85	328	P	P	23 07 32.5	-0.2
	comp=Z,675nm,2.7s,mb6.1						
MBDF	Montbardon	69.89	334	eP	P	23 07 34.0	+1.1
	comp=Z,192nm,0.9s,mb5.7						
MBDF	Montbardon	69.89	334	eP	P	23 07 34.0	+1.1
MBDF				pmax	pmax		
	comp=Z,96nm,0.9s,mb5.7						
MBDF	Montbardon	69.89	334	eP	P	23 07 34.0	+1.1
	comp=Z,96nm,0.9s,mb5.7						
EMOS	Mosqueruela	69.91	327	P	P	23 07 32.9	-0.1
	comp=Z,910nm,3.0s						
ERTA	Horta de San J	69.93	328	P	P	23 07 32.5	-0.7
	comp=Z,630nm,2.7s,mb6.1						
BRMO	Bormio	69.94	337	P	P	23 07 33.3	+0.1
MUGIO	Muggio	69.97	336⇓	iP	P	23 07 32.8	-0.6
	comp=Z,854nm,4.3s						
EJIF	Jimena Fronter	69.98	321	P	P	23 07 31.9	-1.6
EJIF				pmax	pmax		
	comp=Z,76nm,1.8s,mb5.3						
EJIF	Jimena Fronter	69.98	321	P	P	23 07 31.9	-1.5
	comp=Z,76nm,1.8s,mb5.3						
BERNI	Berninapass	70.02	337⇓	iP	P	23 07 34.2	+0.5
	comp=Z,153nm,2.2s,mb5.5						
ELUQ	Luque	70.02	323	P	P	23 07 33.6	-0.1
ELUQ				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ELUQ	Luque	70.02	323	P	P	23 07 33.6	-0.1
	comp=Z,4.6nm,1.2s						
EBAN	Banos Encina	70.16	323	P	P	23 07 33.1	-1.4
EBAN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
EBAN	Banos Encina	70.16	323	P	P	23 07 33.1	-1.4
	comp=Z,10.0nm,1.1s,mb4.7						
WTTA	Wattenberg	70.17	339⇓	iP	P	23 07 34.4	-0.2
	comp=Z,452nm,3.0s,SNR=9.0						
WTTA	Wattenberg	70.17	339⇓	iP	P	23 07 34.4	-0.2
WTTA				pmax	pmax		
	comp=Z,452nm,3.0s						
BNI	Bardonecchia	70.20	334	eP	P	23 07 35.5	+0.7
BNI				pmax	pmax		
	comp=Z,85nm,1.2s,mb5.5						
WATA	Walderalm	70.25	339⇓	iP	P	23 07 34.5	-0.6
	comp=Z,47nm,1.6s,mb5.2,SNR=6.5						
WATA	Walderalm	70.25	339⇓	iP	P	23 07 34.5	-0.6
WATA				pmax	pmax		
	comp=Z,47nm,1.6s,mb5.2						
SQTA	Sankt Quirin	70.28	338	iP	P	23 07 35.1	-0.2
	comp=Z,66nm,1.6s,mb5.3,SNR=18						
SQTA	Sankt Quirin	70.28	338	iP	P	23 07 35.1	-0.2
SQTA				pmax	pmax		
	comp=Z,66nm,1.6s,mb5.3						
TUE	Stuetta	70.32	337	P	P	23 07 35.3	-0.2
DAVOX	Davos	70.38	337⇓	eP	P	23 07 35.3	-0.6
	comp=Z,143nm,2.1s,mb5.5						
OJC	Ojcow	70.41	345	eP	P	23 07 35.2	-0.9
VRAC	Vranov	70.42	343⇓	iP	P	23 07 36.1	0.0
VRAC	Vranov	70.42	343	P	P	23 07 35.5	-0.6
ORIF	Oris-en-Rattie	70.42	334	eP	P	23 07 36.8	+0.7
	comp=Z,97nm,1.2s,mb5.3						
ORIF				eR			
	comp=Z,2μm,17.5s						
ORIF	Oris-en-Rattie	70.42	334	eP	P	23 07 36.8	+0.7
ORIF				pmax	pmax		
	comp=Z,49nm,1.2s,mb5.3						
ORIF	Oris-en-Rattie	70.42	334	eP	P	23 07 36.8	+0.7
	comp=Z,48nm,1.2s,mb5.3						
MOTA	Moosalm	70.42	338⇓	iP	P	23 07 35.6	-0.6
	comp=Z,58nm,1.5s,mb5.3,SNR=23						
MOTA	Moosalm	70.42	338⇓	iP	P	23 07 35.6	-0.6
MOTA				pmax	pmax		
	comp=Z,58nm,1.5s,mb5.3						
SFS	San Fernando	70.43	321	P	P	23 07 34.4	-1.8
OKC	Ostrava-Krasne	70.48	344⇓	iP	P	23 07 35.7	-0.8
OKC				ePP	PP	23 10 13.8	+1.2
OKC				eS	S	23 16 53.2	+4.5
OKC				AMS	AMS	23 46 20.0	
	comp=Z,700nm,15.0s						
OKC	Ostrava-Krasne	70.48	344⇓	iP	P	23 07 35.7	-0.8
OKC				ePP	PP	23 10 13.8	+1.2
OKC				eS	S	23 16 53.2	+4.5
ESPR	Espera	70.49	321	P	P	23 07 36.2	-0.4
	comp=Z,804nm,3.0s						
LPG	La Plagne	70.53	335	eP	P	23 07 36.7	-0.1
	comp=Z,61nm,0.8s,mb5.3						
LPG	La Plagne	70.53	335	eP	P	23 07 36.7	-0.1
LPG				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.3						
LPG	La Plagne	70.53	335	eP	P	23 07 36.7	-0.1
	comp=Z,31nm,0.8s,mb5.3						
GDM	Grand'Maison	70.55	334	eP	P	23 07 38.3	+1.3
LPL	La Plagne	70.55	335	eP	P	23 07 36.8	-0.2
	comp=Z,65nm,0.7s,mb5.3						
LPL	La Plagne	70.55	335	eP	P	23 07 36.8	-0.2
LPL				pmax	pmax		
	comp=Z,32nm,0.7s,mb5.4						
LPL	La Plagne	70.55	335	eP	P	23 07 36.8	-0.2
	comp=Z,32nm,0.7s,mb5.4						
FUSIO	Fusio	70.56	336⇓	iP	P	23 07 35.6	-1.4
	comp=Z,32nm,0.8s,mb5.3						
MORC	Moravsky Berou	70.58	344⇓	iP	P	23 07 36.5	-0.6
MORC	Moravsky Berou	70.58	344	eP	P	23 07 36.5	-0.6
MORC				pmax	pmax		
	comp=Z,96nm,1.2s,mb5.6						
EADA	Adamuz	70.61	323	P	P	23 07 34.6	-2.7
	comp=Z,195nm,2.0s,mb5.7						
LASF	Ste Croix	70.63	332	eP	P	23 07 38.3	+0.9
RAC	Raciborz	70.69	344	eP	P	23 07 37.5	-0.3
RAC				MLR	MLR		
	comp=Z,1μm,15.8s,MS5.2						
GRN	Grenoble	70.74	334	eP	P	23 07 39.1	+1.0
LLS	Linth-Limmern	70.76	337⇓	eP	P	23 07 37.6	-0.6
	comp=Z,209nm,2.4s,mb5.6						
PLONS	Plons	70.79	337⇓	eP	P	23 07 37.6	-0.8
	comp=Z,198nm,1.8s,mb5.7						
MTLF	Montolieu	70.81	331	eP	P	23 07 39.0	+0.5
	comp=Z,106nm,1.4s,mb5.3						
MTLF	Montolieu	70.81	331	eP	P	23 07 39.0	+0.5
MTLF				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
MTLF	Montolieu	70.81	331	eP	P	23 07 39.0	+0.5
	comp=Z,53nm,1.4s,mb5.3						
DAVA	Damuels	70.81	338⇑	iP	P	23 07 37.9	-0.7
	comp=Z,460nm,3.1s,SNR=19						
GEC2	GERESS Array S	70.87	341⇓	iP	P	23 07 37.6	-1.3
GEC2				e		23 10 20.4	
GERES	GERESS Array B	70.87	341	P	P	23 07 37.9	-1.0
	comp=Z,20nm,0.7s,mb5.2,baz=148,slow=5.0,SNR=170						
VIVF	Saint-Julien-l	70.89	333	eP	P	23 07 39.8	+0.8
	comp=Z,266nm,1.6s,mb5.6						
VIVF	Saint-Julien-l	70.89	333	eP	P	23 07 39.8	+0.8
VIVF				pmax	pmax		
	comp=Z,133nm,1.6s,mb5.6						
VIVF	Saint-Julien-l	70.89	333	eP	P	23 07 39.8	+0.8
	comp=Z,133nm,1.6s,mb5.6						
ESAC	San Caprasio	70.91	328	P	P	23 07 39.1	0.0
	comp=Z,837nm,3.0s						
EMV	Vieux Emosson	70.93	335⇓	iP	P	23 07 38.8	-0.5
	comp=Z,161nm,2.2s,mb5.6						
SALAN	Lac Salanfe	70.97	335⇓	iP	P	23 07 39.1	-0.4
	comp=Z,117nm,1.7s,mb5.5						
GRYON	Gryon	71.00	335⇓	iP	P	23 07 39.2	-0.5
	comp=Z,72nm,1.1s,mb5.5						
HASLI	Hasliberg	71.01	336⇓	iP	P	23 07 39.4	-0.3
	comp=Z,167nm,1.2s,mb5.8						
SENIN	Lac Senin	71.02	336⇓	iP	P	23 07 39.3	-0.5
	comp=Z,100nm,1.7s,mb5.5						
FUR	Furstenfeldbru	71.07	339	eP	P	23 07 39.8	-0.3
	comp=Z,166nm,1.6s,mb5.7						
FUR	Furstenfeldbru	71.07	339	eP	P	23 07 39.8	-0.3
FUR				pmax	pmax		
	comp=Z,166nm,1.6s,mb5.7						
ETOR	Torete	71.07	326	P	P	23 07 39.8	-0.3
ETOR				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
ETOR	Torete	71.07	326	P	P	23 07 39.8	-0.3
	comp=Z,37nm,1.1s,mb5.2						
AIGLE	Aigle	71.14	335⇓	iP	P	23 07 39.8	-0.7
	comp=Z,113nm,1.1s,mb5.7						
KHC	Kasperske Hory	71.16	341⇓	iP	P	23 07 39.1	-1.5
KHC				ePP	PP	23 10 19.0	+0.6
KHC				eS	S	23 16 55.3	-1.3
KHC				AMS	AMS	23 45 00.0	
	comp=Z,800nm,16.1s						
ESDC	Sonseca Array	71.30	324	P	P	23 07 42.3	+0.8
	comp=Z,12nm,0.8s,mb4.9,baz=135,slow=5.7,SNR=57						
ESDC				LR	LR	23 40 24.0	
	comp=Z,2μm,19.3s,MS5.4,baz=145,slow=37						
ESDC	Sonseca Array	71.30	324	P	P	23 07 40.0	-1.5
	comp=Z,64nm,1.7s,mb5.3						
EBIE	Bielsa	71.31	329	P	P	23 07 38.7	-2.9
	comp=Z,423nm,3.3s						
WET	Wettzell	71.39	340	eP	P	23 07 40.8	-1.2
	comp=Z,16nm,1.1s,mb4.9						
WET	Wettzell	71.39	340	eP	P	23 07 40.8	-1.2
WET				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
DPC	Dobruska-Polom	71.44	343⇓	iP	P	23 07 41.6	-0.7
DPC				ex	x	23 10 01.8	
DPC				eS	S	23 17 01.0	+1.2
DPC				AMS	AMS	23 45 00.0	
DPC	Dobruska-Polom	71.44	343⇓	iP	P	23 07 41.6	-0.7
DPC				ePP	PP	23 10 01.8	-19
DPC				eS	S	23 17 01.0	+1.2
EPF	Esparros	71.47	329	eP	P	23 07 43.3	+0.8
	comp=Z,167nm,1.5s,mb5.5						
EPF	Esparros	71.47	329	eP	P	23 07 43.3	+0.8
EPF				pmax	pmax		
	comp=Z,84nm,1.5s,mb5.5						
EPF	Esparros	71.47	329	eP	P	23 07 43.3	+0.8
	comp=Z,84nm,1.5s,mb5.5						
TORNY	Torny	71.49	336⇓	eP	P	23 07 42.5	-0.1
	comp=Z,403nm,2.1s,mb6.0						
EMIN	Mina Concepcio	71.57	321	P	P	23 07 41.3	-1.9
	comp=Z,362nm,2.7s,mb5.8						
LABF	Labassere	71.62	329	eP	P	23 07 44.7	+1.3
PRU	Pruhonice	71.62	342⇓	iP	P	23 07 42.0	-1.4
PRU				ePP	PP	23 10 22.4	0.0
PRU				eS	S	23 17 11.7	+10
PRU				AMS	AMS	23 47 00.0	
	comp=Z,600nm,17.2s						
PRU	Pruhonice	71.62	342⇓	iP	P	23 07 42.0	-1.4
PRU				e		23 10 22.4	
PRU				MLR	MLR		
	comp=Z,600nm,17.2s,MS4.9						
BALST	Balsthal	71.67	336⇓	iP	P	23 07 43.7	0.0
	comp=Z,474nm,2.1s,mb6.1						
SULZ	Sulz-Cheisache	71.67	337⇓	iP	P	23 07 43.8	+0.1
	comp=Z,215nm,0.9s,mb6.1						
CABF	La Chapelle	71.70	335	eP	P	23 07 44.2	+0.3
	comp=Z,132nm,0.8s,mb5.6						

CABF La Chapelle 71.70 335 *e*P **P** **23 07 44.2 +0.3**
CABF pmax pmax
comp=Z,66nm,0.8s,mb5.6
CABF La Chapelle 71.70 335 *e*P **P** **23 07 44.2 +0.3**
comp=Z,66nm,0.8s,mb5.6
SLE Schleitheim 71.72 337‖ *i*P **P** **23 07 43.8 -0.2**
comp=Z,160nm,1.2s,mb5.8
EOSO Osorio 71.77 308 P **P** **23 07 43.8 -0.6**
comp=Z,1µm,2.9s,mb6.3
ETSF Etsaut 71.82 329 *e*P **P** **23 07 45.3 +0.7**
comp=Z,128nm,1.3s,mb5.4
ETSF Etsaut 71.82 329 *e*P **P** **23 07 45.3 +0.7**
ETSF pmax pmax
comp=Z,64nm,1.3s,mb5.4
ETSF Etsaut 71.82 329 *e*P **P** **23 07 45.3 +0.7**
comp=Z,64nm,1.3s,mb5.4
KSP Ksiaz 71.89 343 *e*Pd **P** **23 07 44.9 -0.1**
comp=Z,0.7nm,2.9s
KSP *e*S S 23 17 07.3 +2.2
KSP *e*SKS 23 17 51.6
KSP L 23 44 40.1
comp=Z,1.0nm,19.3s
KSP Ksiaz 71.89 343‖ *e*P **P** **23 07 44.5 -0.5**
KSP *e*S S 23 17 07.0 +1.9
KSP LR LR
comp=Z,1µm,19.3s,MS5.2
BOURR Bourrignon 71.89 336‖ *i*P **P** **23 07 45.3 +0.2**
comp=Z,218nm,1.2s,mb6.0
SPAK Spaichingen-Ko 71.90 337 *e*P **P** **23 07 44.9 -0.2**
EGRO El Granado 71.91 321 P **P** **23 07 41.4 -3.8**
comp=Z,341nm,4.0s
FELD Feldberg im Sc 72.00 337‖ *e*P **P** **23 07 45.7 0.0**
LOMF Lomont 72.01 336 *e*P **P** **23 07 46.2 +0.4**
WAR Warsaw 72.02 347 *e*P **P** **23 07 45.4 -0.4**
WAR *e*pP pP 23 07 54.6 +2.8
WAR L 23 46 11.3
comp=Z,0.5nm,17.5s
ATE Arette 72.03 329 *e*P **P** **23 07 46.7 +0.8**
GUD Guadarrama 72.08 325 P **P** **23 07 46.1 -0.1**
GUD pmax pmax
comp=Z,38nm,1.5s,mb5.1
GUD Guadarrama 72.08 325 P **P** **23 07 46.1 -0.1**
comp=Z,38nm,1.5s,mb5.1
PVCC Panska Ves 72.09 342‖ *e*P **P** **23 07 45.1 -1.2**
PVCC AMS AMS 23 46 30.0
comp=Z,600nm,13.9s
CAF Calviac 72.10 332 *e*P **P** **23 07 47.1 +0.8**
comp=Z,143nm,1.5s,mb5.4
CAF Calviac 72.10 332 *e*P **P** **23 07 47.1 +0.8**
CAF pmax pmax
comp=Z,71nm,1.5s,mb5.4
CAF Calviac 72.10 332 *e*P **P** **23 07 47.1 +0.8**
comp=Z,71nm,1.5s,mb5.4
ROTZ Rotzenmuhle 72.15 340 *e*P **P** **23 07 45.9 -0.7**
comp=Z,70nm,1.6s,mb5.3
BFO Black Forest 72.25 337 P **P** **23 07 46.5 -0.7**
comp=Z,142nm,0.9s,mb5.9,SNR=9.5
BFO Black Forest 72.25 337 *e*P **P** **23 07 47.1 -0.1**
comp=Z,56nm,1.4s,mb5.3
BFO Black Forest 72.25 337 *e*P **P** **23 07 47.1 -0.1**
BFO pmax pmax
comp=Z,56nm,1.4s,mb5.3
SJPF Ste Jean 72.31 328 *e*P **P** **23 07 48.3 +0.8**
comp=Z,50nm,0.9s,mb5.1
SJPF Ste Jean 72.31 328 *e*P **P** **23 07 48.3 +0.8**
SJPF pmax pmax
comp=Z,25nm,0.9s,mb5.1
SJPF Ste Jean 72.31 328 *e*P **P** **23 07 48.3 +0.8**
comp=Z,25nm,0.9s,mb5.1
MOF Molkenrain 72.31 336 *e*P **P** **23 07 47.5 0.0**
STU Stuttgart 72.31 338 *e*P **P** **23 07 47.5 -0.1**
comp=Z,90nm,1.5s,mb5.5
STU Stuttgart 72.31 338 *e*P **P** **23 07 47.5 -0.1**
STU pmax pmax
comp=Z,55nm,1.2s,mb5.4
QSPA South Pole Qui 72.36 180‖ *e*P **P** **23 07 48.2 +0.4**
MANZ Manzenberg 72.37 340 *e*P **P** **23 07 47.3 -0.6**
comp=Z,38nm,1.4s,mb5.1
LIBD Limburg 72.38 337 *e*P **P** **23 07 47.7 -0.3**
HINF Hinteralfeld 72.39 336 *e*P **P** **23 07 47.5 -0.5**
comp=Z,63nm,1.0s,mb5.2
HINF Hinteralfeld 72.39 336 *e*P **P** **23 07 47.5 -0.5**
HINF pmax pmax
comp=Z,31nm,1.0s,mb5.2
HINF Hinteralfeld 72.39 336 *e*P **P** **23 07 47.5 -0.5**
comp=Z,32nm,1.0s,mb5.2
GRA1 Grafenberg Arr 72.40 340 *e*P **P** **23 07 47.7 -0.4**
comp=Z,71nm,0.8s,mb5.7
GRA1 *e*PP PP 23 10 26.5 -2.6
GRA1 *e*PPP 23 12 16.8
GRA1 *e*S S 23 17 08.4 -2.5
GRA1 *e*SS SS 23 21 55.4 +6.1
GRA1 LR LR
comp=Z,700nm,18.6s,MS5.0
GRF Grafenberg Arr 72.40 340 *e*P **P** **23 07 47.7 -0.4**
comp=Z,71nm,0.8s,mb5.7
GRF *e*PP PP 23 10 26.5 -2.6
GRF *e*PPP 23 12 16.8
GRF *e*S S 23 17 08.4 -2.5
GRF *e*SS SS 23 21 55.4 +6.1
GRF *e*L 23 48 11.4
comp=Z,730nm,18.6s
GRF Grafenberg Arr 72.40 340 *e*P **P** **23 07 47.7 -0.4**
GRF *e* 23 10 26.5
GRF *e*PPP 23 12 16.8
GRF *e*S S 23 17 08.4 -2.5
GRF *e*SS SS 23 21 55.4 +6.1
GRF pmax pmax
comp=Z,71nm,0.8s,mb5.7
GRF MLR MLR
comp=Z,700nm,18.6s,MS5.0
EBAD Badajoz 72.42 322 P **P** **23 07 45.2 -3.1**
comp=Z,370nm,2.8s,mb5.8
PBEJ Beja 72.45 321 *e*P **P** **23 07 49.2 +0.8**
comp=Z,34nm,2.1s,mb4.9
MORF Marmelete 72.47 320 *e*P **P** **23 07 48.2 -0.3**
NKC Novy Kostel 72.48 341‖ *i*P **P** **23 07 47.7 -0.9**
NKC AMS AMS 23 46 20.0
comp=Z,700nm,13.9s
ELIZ Elizondo 72.50 328 P **P** **23 07 49.6 +0.9**
ELIZ pmax pmax
comp=Z,21nm,1.1s,mb5.0
ELIZ Elizondo 72.50 328 P **P** **23 07 49.6 +0.9**
comp=Z,21nm,1.1s,mb5.0
EALK Alkurruntz 72.53 328 P **P** **23 07 47.2 -1.6**
comp=Z,615nm,3.1s
BRG Berggiesshubel 72.58 342 *e*P **P** **23 07 48.3 -0.9**
comp=Z,46nm,1.4s,mb5.2
BRG Berggiesshubel 72.58 342‖ *i*P **P** **23 07 48.4 -0.9**
comp=Z,27nm,1.4s,mb5.0
BRG *e* pP 23 07 54.8 -0.3
comp=Z,29nm,1.4s
BRG
comp=Z,494nm,16.4s
BRG
comp=N,320nm,14.3s
BRG
comp=E,390nm,14.3s
BRG Berggiesshubel 72.58 342‖ *i*P **P** **23 07 48.4 -0.8**
BRG *e* pP 23 07 54.8 -0.4
BRG pmax pmax
comp=Z,27nm,1.4s,mb5.0
BRG MLR MLR
comp=Z,490nm,16.4s,MS4.9
BRG Berggiesshubel 72.58 342‖ *i*P **P** **23 07 48.4 -0.9**
comp=Z,27nm,1.4s,mb5.0
BRG *e* pP 23 07 54.8 -0.3
BRG LR LR
comp=Z,490nm,16.4s,MS4.9
ECH Echery 72.60 337 *e*P **P** **23 07 49.0 -0.3**
TANN Tannenbergstha 72.63 341 *e*P **P** **23 07 49.1 -0.4**
comp=Z,98nm,1.5s,mb5.5
RJF Les Rejaudoux 72.64 331 *e*P **P** **23 07 50.1 +0.6**
comp=Z,125nm,1.4s,mb5.3
RJF *e*R
comp=Z,2µm,17.8s
RJF Les Rejaudoux 72.64 331 *e*P **P** **23 07 50.1 +0.6**
RJF pmax pmax
comp=Z,62nm,1.4s,mb5.3
RJF MLR MLR
comp=Z,2µm,17.8s,MS5.3
RJF Les Rejaudoux 72.64 331 *e*P **P** **23 07 50.1 +0.6**
comp=Z,62nm,1.4s,mb5.3
RJF LR LR
comp=Z,2µm,17.8s,MS5.3
SMF Signal de Mont 72.66 334 *e*P **P** **23 07 49.6 0.0**
comp=Z,94nm,0.9s,mb5.4
SMF Signal de Mont 72.66 334 *e*P **P** **23 07 49.6 0.0**
SMF pmax pmax
comp=Z,47nm,0.9s,mb5.4
SMF Signal de Mont 72.66 334 *e*P **P** **23 07 49.6 0.0**
comp=Z,47nm,0.9s,mb5.4
PTEO Sao Teotonio 72.67 320 *e*P **P** **23 07 51.7 +2.0**
comp=Z,111nm,1.3s,mb5.6
WLS Welschbruch 72.69 337 *e*P **P** **23 07 49.3 -0.5**
CDF Champ du Feu 72.72 337 *e*P **P** **23 07 49.4 -0.6**
comp=Z,70nm,1.1s,mb5.2
CDF Champ du Feu 72.72 337 *e*P **P** **23 07 49.4 -0.6**
CDF pmax pmax
comp=Z,35nm,1.1s,mb5.2
CDF Champ du Feu 72.72 337 *e*P **P** **23 07 49.4 -0.6**
comp=Z,35nm,1.1s,mb5.2
LFF La Frestale 72.72 331 *e*P **P** **23 07 50.6 +0.6**
comp=Z,97nm,1.1s,mb5.4
LFF La Frestale 72.72 331 *e*P **P** **23 07 50.6 +0.6**
LFF pmax pmax
comp=Z,49nm,1.1s,mb5.3
LFF La Frestale 72.72 331 *e*P **P** **23 07 50.6 +0.6**
comp=Z,49nm,1.1s,mb5.3
OBN Obninsk 72.73 357‖ *e*P **P** **23 07 48.6 -1.5**
OBN *e* 23 10 35.9
OBN *i*S S 23 17 14.4 -0.3
OBN pmax pmax
comp=Z,104nm,2.1s,mb5.4
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.8
HAU Haudompre 72.74 336 *e*P **P** **23 07 49.8 -0.3**
comp=Z,118nm,0.9s,mb5.5
HAU *e*R
comp=Z,549nm,19.2s
HAU Haudompre 72.74 336 *e*P **P** **23 07 49.8 -0.3**
HAU pmax pmax
comp=Z,59nm,0.9s,mb5.5
HAU MLR MLR
comp=Z,550nm,19.3s,MS4.8
HAU Haudompre 72.74 336 *e*P **P** **23 07 49.8 -0.3**
comp=Z,59nm,0.9s,mb5.5
HAU LR LR
comp=Z,550nm,19.3s,MS4.8
PESTR Estremoz 72.84 322 *e*P **P** **23 07 50.8 +0.1**
comp=Z,68nm,1.9s,mb5.2
PESTR Estremoz 72.84 322 *e*P **P** **23 07 51.4 +0.7**
comp=Z,68nm,1.9s,mb5.2
PESTR *e*S S 23 17 18.9 +3.0
PESTR Estremoz 72.84 322 *e*LQ 23 30 05.0
PESTR *e*LR LR 23 32 12.1
EVO Evora 72.87 321 *e*P **P** **23 07 51.5 +0.6**
comp=Z,180nm,1.8s,mb5.4
EVO *e*R
comp=Z,1µm,20.8s
MNK Minsk 72.96 352 *e*P **P** **23 07 44.0 -7.4**
MNK pmax pmax
comp=Z,270nm,0.8s,mb6.2
AVF Avril sur Loir 72.98 333 *e*P **P** **23 07 51.6 0.0**
comp=Z,132nm,1.0s,mb5.5
AVF Avril sur Loir 72.98 333 *e*P **P** **23 07 51.6 0.0**
AVF pmax pmax
comp=Z,66nm,1.0s,mb5.5
AVF Avril sur Loir 72.98 333 *e*P **P** **23 07 51.6 0.0**
comp=Z,66nm,1.0s,mb5.5
LANF Langenberg 72.99 337 *e*P **P** **23 07 51.2 -0.4**
BGF Bois d'Agland 73.02 333 *e*P **P** **23 07 52.0 +0.2**
comp=Z,65nm,0.9s,mb5.3
BGF Bois d'Agland 73.02 333 *e*P **P** **23 07 52.0 +0.2**
BGF pmax pmax
comp=Z,32nm,0.9s,mb5.2
BGF Bois d'Agland 73.02 333 *e*P **P** **23 07 52.0 +0.2**
comp=Z,32nm,0.9s,mb5.3
THEF They Montfort 73.06 336 *e*P **P** **23 07 52.1 +0.1**
TCF Toulx Ste Croi 73.08 333 *e*P **P** **23 07 52.9 +0.7**
comp=Z,154nm,1.0s,mb5.6
TCF Toulx Ste Croi 73.08 333 *e*P **P** **23 07 52.9 +0.7**
TCF pmax pmax
comp=Z,77nm,1.0s,mb5.6
TCF Toulx Ste Croi 73.08 333 *e*P **P** **23 07 52.9 +0.7**
comp=Z,77nm,1.0s,mb5.6
KMI Kunming 73.10 56 P **P** **23 07 51.9 -0.3**
KMI AP pP 23 08 01.8 +3.6
KMI PP PP 23 10 37.9 +2.9
KMI PPP 23 12 22.3
KMI S S 23 17 19.5 +0.6
KMI SS SS 23 22 04.4 +4.5
KMI SSS 23 25 17.3
KMI AMB AMB
comp=Z,35nm,1.7s,mb5.0
KMI AMB AMB
comp=Z,573nm,4.6s
KMI LR LR
comp=N,762nm,15.4s,MS5.3
KMI LR LR
comp=E,1µm,15.4s,MS5.3
KMI LR LR
comp=Z,1µm,38.5s
KMI Kunming 73.10 56 P **P** **23 07 51.9 -0.3**
KMI *PP pP 23 08 01.8 +3.6
KMI *SP sP 23 08 07.9 +7.5
KMI 23 10 37.9
KMI PPP 23 12 22.2
KMI S S 23 17 19.5 +0.6
KMI SS SS 23 22 04.4 +4.5
KMI Kunming 73.10 56 P **P** **23 07 51.9 -0.3**
comp=Z,35nm,1.7s,mb5.0
KMI pP pP 23 08 01.8 +3.6
KMI sP sP 23 08 07.9 +7.5
KMI PP PP 23 10 37.9 +2.9
KMI PPP 23 12 22.2
KMI S S 23 17 19.5 +0.6
KMI sS sS 23 17 36.3 +7.6
KMI SS SS 23 22 04.4 +4.5
KMI SSS 23 25 17.3
KMI LR LR
comp=Z,1µm,38.5s,MS4.9
MOX Moxa 73.10 340 *e*P **P** **23 07 51.7 -0.6**
MOX pmax pmax
comp=Z,85nm,2.0s,mb5.3
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.8
MOX Moxa 73.10 340 *e*P **P** **23 07 51.7 -0.6**
comp=Z,85nm,2.0s,mb5.3
MOX *e*PPP 23 12 20.0
MOX *e*S S 23 17 30.0 +11
MOX LR LR
comp=Z,500nm,19.0s,MS4.8
LOR Lormes 73.14 334 *e*P **P** **23 07 52.6 +0.1**
comp=Z,131nm,1.0s,mb5.5
LOR *e*R
comp=Z,1µm,18.2s
LOR Lormes 73.14 334 *e*P **P** **23 07 52.6 +0.1**
LOR pmax pmax
comp=Z,65nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,1µm,18.3s,MS5.2
LOR Lormes 73.14 334 *e*P **P** **23 07 52.6 +0.1**
comp=Z,65nm,1.0s,mb5.5
LOR LR LR
comp=Z,1µm,18.3s,MS5.2
TOD Tromm 73.15 338 *e*P **P** **23 07 52.5 -0.1**
KTD Kalmit 73.17 338 *e*P **P** **23 07 52.5 -0.2**
CLL Collm 73.25 342 *e*P **P** **23 07 52.5 -0.6**
comp=Z,68nm,1.4s,mb5.4
CLL Collm 73.25 342‖ *i*P **P** **23 07 52.3 -0.8**
comp=Z,70nm,1.4s,mb5.4
CLL *i* x x 23 07 58.3
CLL *ex* x 23 10 20.0
CLL *e*PP PP 23 10 41.0 +4.7
CLL *e*PPP 23 12 27.0
CLL *e*(PPPP) 23 13 42.0
CLL *e*S S 23 17 22.0 +1.4
CLL *e*SS SS 23 22 12.0 +10
CLL Collm 73.25 342‖ *i*P **P** **23 07 52.3 -0.8**
CLL *i* pP 23 07 58.3 -0.8
CLL *e*S S 23 17 22.0 +1.4
CLL pmax pmax
comp=Z,70nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,1µm,13.8s,MS5.4
CLL Collm 73.25 342‖ *i*P **P** **23 07 52.3 -0.8**
comp=Z,70nm,1.4s,mb5.4
CLL *i* pP 23 07 58.3 -0.8
CLL *e*S S 23 17 22.0 +1.4
CLL LR LR
comp=Z,1µm,13.8s,MS5.4
SUW Suwalki 73.25 349 *e*Pd **P** **23 07 52.2 -0.9**
comp=Z,1.0nm,2.8s
SUW *e*pP pP 23 08 04.1 +5.0
SUW L 23 44 19.2
comp=Z,0.6nm,18.3s
MOS Moscow 73.30 358 *e*P **P** **23 07 52.0 -1.5**
MOS *e* 23 08 11.4
MOS pmax pmax
comp=Z,1µm,3.2s
MOS pmax pmax
comp=Z,167nm,2.2s,mb5.6
ELAN Lanestosa 73.51 327 P **P** **23 07 52.7 -2.0**
comp=Z,277nm,2.3s,mb5.8
MEZF Maizieres J'vi 73.65 336 *e*P **P** **23 07 55.7 +0.2**
comp=Z,245nm,1.5s,mb5.6
MEZF Maizieres J'vi 73.65 336 *e*P **P** **23 07 55.7 +0.2**
comp=Z,245nm,1.5s,mb5.9
HYF Humbligny 73.66 333 *e*P **P** **23 07 55.8 +0.2**
LIS Lisbon 73.67 321 *e*P **P** **23 07 55.5 -0.1**
TNS Taunus Mts 73.80 338 *e*P **P** **23 07 56.2 -0.2**
comp=Z,60nm,1.3s,mb5.4
TNS Taunus Mts 73.80 338 *e*P **P** **23 07 56.2 -0.2**
TNS pmax pmax
comp=Z,60nm,1.3s,mb5.4
PTOM Tomar 73.81 322 *e*P **P** **23 07 57.2 +0.8**
comp=Z,62nm,1.5s,mb5.3
MTE Manteigas 73.82 323 *e*P **P** **23 07 57.6 +1.1**
comp=Z,48nm,1.1s,mb5.3
MTE *e*S S 23 17 29.5 +2.5
MTE Manteigas 73.82 323 *e*LQ 23 30 28.6
MTE *e*LR LR 23 36 46.6
comp=Z,2µm,13.4s
MTE Manteigas 73.82 323 P **P** **23 07 57.2 +0.7**
PECR Pechory 73.83 1 *i*P **P** **23 07 54.6 -1.9**
PECR *e* 23 10 43.3
PECR pmax pmax
comp=Z,170nm,2.0s,mb5.6
PECR pmax pmax
comp=Z,1µm,10.0s
PECR MLR MLR
comp=Z,700nm,18.0s,MS5.0
ABH Alteburg 73.83 338 *e*P **P** **23 07 56.4 -0.2**
GKP Gorka Klasztor 73.85 345 *e*Pd **P** **23 07 56.5 -0.2**
comp=Z,1.2nm,2.7s
GKP *e*pP pP 23 08 04.1 +1.5
GKP *e*S S 23 17 32.8 +5.4
GKP *e*SKS 23 18 02.5
GKP Gorka Klasztor 73.85 345‖ *e*P **P** **23 07 56.5 -0.2**
GKP *e**PP pP 23 08 04.1 +1.5
GKP *e*S S 23 17 32.8 +5.4
GKP *e* 23 18 02.5
GKP pmax pmax
comp=Z,1µm,2.7s,mb6.3
RUP Ruppelstein 73.86 337 *e*P **P** **23 07 56.6 -0.1**
PMAFR Mafra 73.90 321 *e*S S 23 17 31.6 +3.6
PMAFR Mafra 73.90 321 *e*LQ 23 33 22.5
PMAFR *e*LR LR 23 35 48.3
MKAR Makanchi Array 73.91 28 P **P** **23 07 56.1 -0.9**
comp=Z,17nm,0.7s,mb5.1,baz=219,slow=5.7,SNR=106
RUE Ruedersdorf 74.06 343 *e*P **P** **23 07 57.8 -0.1**
comp=Z,94nm,1.0s,mb5.7
WLF Walferdange 74.17 337 *e*P **P** **23 07 58.4 -0.1**
comp=Z,58nm,1.4s,mb5.3
WLF Walferdange 74.17 337 P **P** **23 07 58.4 -0.1**
WLF Walferdange 74.17 337 *e*P **P** **23 07 58.2 -0.3**
PVIS Viseu 74.22 323 *e*P **P** **23 07 59.8 +0.9**
comp=Z,40nm,1.5s,mb5.1
ZRNK Zerenda 74.28 17‖ *i*P **P** **23 07 57.9 -1.3**
ZRNK *e* 23 08 14.0
ZRNK *e* 23 10 45.6
ZRNK pmax pmax
comp=Z,48nm,1.3s,mb5.3
ZRNK Zerenda 74.28 17‖ *i*P **P** **23 07 57.9 -1.3**
comp=Z,48nm,1.3s,mb5.3
ZRNK *e*PcP PcP 23 08 14.0 +0.1
ZRNK *e*PP PP 23 10 45.6 +0.5
WMQ Urumqi 74.32 33‖ *i*P **P** **23 07 59.4 0.0**
WMQ AP pP 23 08 04.0 -1.4
WMQ XP sP 23 08 06.3 -1.3
WMQ PCP PcP 23 08 16.1 +1.9
WMQ PP PP 23 10 47.0 +1.6
WMQ PPP 23 12 32.0
WMQ S S 23 17 33.9 +1.2
WMQ PS 23 18 07.0
WMQ SS SS 23 22 22.0 +3.4
WMQ AMB AMB
comp=Z,65nm,1.3s,mb5.4
WMQ AMB AMB
comp=Z,1µm,5.2s
WMQ LR LR
comp=N,1µm,15.3s,MS5.4
WMQ LR LR
comp=E,1µm,16.9s,MS5.4
WMQ LR LR
comp=Z,1µm,22.0s
MFF Saint Martin d 74.38 331 *e*P **P** **23 08 00.0 +0.2**
comp=Z,117nm,1.4s,mb5.3
MFF Saint Martin d 74.38 331 *e*P **P** **23 08 00.0 +0.2**
MFF pmax pmax
comp=Z,59nm,1.4s,mb5.3
MFF Saint Martin d 74.38 331 *e*P **P** **23 08 00.0 +0.2**
comp=Z,59nm,1.4s,mb5.3
ECAL Calabor 74.39 325 P **P** **23 07 59.3 -0.5**
comp=Z,276nm,2.2s,mb5.8
PVRL Vila Real 74.49 324 *e*P **P** **23 08 00.4 0.0**
CLZ Clausthal 74.53 340 *e*P **P** **23 08 00.6 0.0**
comp=Z,76nm,1.4s,mb5.4
CLZ Clausthal 74.53 340 *e*P **P** **23 08 00.6 0.0**
CLZ pmax pmax
comp=Z,76nm,1.4s,mb5.4
BRVK Borovoye 74.73 17 P **P** **23 08 01.7 -0.1**
comp=Z,159nm,0.8s,mb6.0,SNR=14
BRVK Borovoye 74.73 17 *e*P **P** **23 08 01.0 -0.8**
BVAR Borovoye Array 74.73 17 P **P** **23 08 00.3 -1.5**
comp=Z,27nm,0.8s,mb5.2,baz=208,slow=5.9,SNR=95
BVAR PP PP 23 10 47.1 -1.8
comp=Z,7.3nm,1.0s,baz=206,slow=9.7,SNR=4.4
BVAR LR LR 23 42 52.7
comp=Z,636nm,19.1s,MS4.9,baz=139,slow=37
BVAR Borovoye Array 74.73 17 P **P** **23 08 00.3 -1.5**
BVAR 23 10 47.1
MEM Membach 74.99 337 P **P** **23 08 03.6 +0.3**
GIVF Givet 75.02 336 *e*P **P** **23 08 03.4 -0.1**
BCLA Clavier 75.10 337 P **P** **23 08 04.2 +0.3**
DOU Dourbes 75.11 336 P **P** **23 08 03.8 -0.2**
NRDL Niedersach Rie 75.17 341 *e*P **P** **23 08 04.6 +0.2**
comp=Z,64nm,1.6s,mb5.3
BAIF Baives 75.23 336 *e*P **P** **23 08 04.6 -0.1**
comp=Z,215nm,1.7s,mb5.5
BAIF Baives 75.23 336 *e*P **P** **23 08 04.6 -0.1**
BAIF pmax pmax
comp=Z,107nm,1.7s,mb5.5
BAIF Baives 75.23 336 *e*P **P** **23 08 04.6 -0.1**
comp=Z,107nm,1.7s,mb5.5
BUG Bochum--Univer 75.23 339 *e*P **P** **23 08 04.9 +0.2**
comp=Z,102nm,1.5s,mb5.5
ARU Arti 75.26 10 P **P** **23 08 03.3 -1.6**
comp=Z,218nm,0.9s,mb6.1,SNR=8.4
ARU Arti 75.26 10 *de*P **P** **23 08 03.6 -1.3**
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.3
ARU MLR MLR
comp=Z,800nm,22.0s,MS5.0
BEBN Eben Emael 75.27 337 P **P** **23 08 05.1 +0.2**
KURK Kurchatov 75.50 23 P **P** **23 08 05.4 -0.8**
comp=Z,294nm,1.0s,mb6.2,SNR=23
EPON Pontenova 75.54 325 P **P** **23 08 00.7 -5.8**
comp=Z,338nm,2.2s,mb5.9
SNF Seneffe 75.56 336 P **P** **23 08 06.8 +0.2**
UCC Uccle 75.76 337 P **P** **23 08 07.8 0.0**
IBBN Ibbenburen 75.78 339 *e*P **P** **23 08 08.0 +0.1**
comp=Z,105nm,1.5s,mb5.5
LDF La Druitiere 75.87 333 *e*P **P** **23 08 08.2 -0.1**
comp=Z,69nm,1.0s,mb5.2
LDF La Druitiere 75.87 333 *e*P **P** **23 08 08.2 -0.1**
LDF pmax pmax
comp=Z,34nm,1.0s,mb5.2
LDF La Druitiere 75.87 333 *e*P **P** **23 08 08.2 -0.1**
comp=Z,34nm,1.0s,mb5.2
SVE Sverdlovsk 75.98 11‖ *e*P **P** **23 08 09.8 +0.8**
SVE *e* 23 11 00.0
SVE *e*PS 23 12 53.0
SVE *e*S ScS 23 18 38.0 +15
SVE pmax pmax

comp=Z,175nm,2.3s,mb5.6
SVE MLR MLR
comp=N,400nm,17.0s,MS4.8
SVE MLR MLR
comp=E,200nm,17.0s,MS4.8
SVE MLR MLR
comp=Z,700nm,17.0s,MS5.0
RGN Rugen 76.02 343 P **P** **23 08 09.5 +0.3**
STS Santiago 76.02 324 P **P** **23 08 09.1 -0.1**
STS pmax pmax
comp=Z,55nm,1.2s,mb5.4
STS Santiago 76.02 324 P **P** **23 08 09.1 -0.1**
comp=Z,55nm,1.2s,mb5.4
GRR Gorron 76.04 332 *eP* **P** **23 08 09.0 -0.3**
comp=Z,78nm,1.2s,mb5.2
GRR Gorron 76.04 332 *eP* **P** **23 08 09.0 -0.3**
GRR pmax pmax
comp=Z,39nm,1.2s,mb5.2
GRR Gorron 76.04 332 *eP* **P** **23 08 09.0 -0.3**
comp=Z,39nm,1.2s,mb5.2
BSD Bornholm Skovb 76.10 345⇓*iP* **P** **23 08 08.6 -1.1**
comp=Z,79nm,1.0s,mb5.6
BSD *i* 23 10 56.2
BSD
comp=Z,420nm,19.0s
BSD Bornholm Skovb 76.10 345⇓*iP* **P** **23 08 08.6 -1.1**
BSD *i* 23 10 56.2
BSD pmax pmax
comp=Z,79nm,1.0s,mb5.6
BSD MLR MLR
comp=Z,420nm,19.0s,MS4.8
BSD Bornholm Skovb 76.10 345⇓*iP* **P** **23 08 08.6 -1.1**
comp=Z,79nm,1.0s,mb5.6
BSD *i* 23 10 56.2
FLN La Foliniere 76.15 333 *eP* **P** **23 08 09.7 -0.3**
comp=Z,79nm,1.1s,mb5.3
FLN *eR*
comp=Z,1μm,19.8s
FLN La Foliniere 76.15 333 *eP* **P** **23 08 09.7 -0.3**
FLN pmax pmax
comp=Z,40nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,2μm,19.8s,MS5.3
FLN La Foliniere 76.15 333 *eP* **P** **23 08 09.7 -0.3**
comp=Z,40nm,1.1s,mb5.3
FLN LR LR
comp=Z,2μm,19.8s,MS5.3
QIZ Qiongzhong 76.23 65 P **P** **23 08 10.0 -0.4**
QIZ S S 23 17 54.8 +0.9
QIZ AMB AMB
comp=Z,84nm,2.9s,mb5.2
QIZ LR LR
comp=Z,2μm,19.6s,MS5.5
BSEG Bad Segeberg 76.35 341 *eP* **P** **23 08 10.7 -0.4**
comp=Z,82nm,1.4s,mb5.5
BSEG Bad Segeberg 76.35 341 *eP* **P** **23 08 10.7 -0.4**
BSEG pmax pmax
comp=Z,82nm,1.4s,mb5.5
MENF Mencas 76.43 335 *eP* **P** **23 08 11.8 +0.3**
WIT Witteveen 76.57 339⇓*eP* **P** **23 08 13.1 +0.7**
comp=Z,176nm,2.8s,mb5.5
SGMF Saint Gilles 76.70 331 *eP* **P** **23 08 12.8 -0.3**
comp=Z,236nm,1.7s,mb5.5
SGMF Saint Gilles 76.70 331 *eP* **P** **23 08 12.8 -0.3**
SGMF pmax pmax
comp=Z,118nm,1.7s,mb5.5
SGMF Saint Gilles 76.70 331 *eP* **P** **23 08 12.8 -0.3**
comp=Z,118nm,1.7s,mb5.5
QUIF Quistinic 76.74 331 *eP* **P** **23 08 13.4 +0.1**
comp=Z,79nm,1.1s,mb5.2
QUIF Quistinic 76.74 331 *eP* **P** **23 08 13.4 +0.1**
QUIF pmax pmax
comp=Z,40nm,1.1s,mb5.3
QUIF Quistinic 76.74 331 *eP* **P** **23 08 13.4 +0.1**
comp=Z,40nm,1.1s,mb5.3
CD2 Chengdu 76.75 51 P **P** **23 08 14.0 +0.7**
CD2 AP pP 23 08 17.3 -2.0
CD2 XP sP 23 08 20.6 -0.9
CD2 PP PP 23 11 08.8 +2.9
CD2 S S 23 17 59.9 +0.4
CD2 XS sS 23 19 09.6 +0.2
CD2 SS SS 23 22 59.9 +4.5
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
CD2 AMB AMB
comp=Z,170nm,5.4s
CD2 LR LR
comp=N,740nm,18.6s
CD2 LR LR
comp=Z,650nm,24.0s
GYA Guiyang 76.84 56⇑*iP* **P** **23 08 13.4 -0.5**
GYA AP pP 23 08 17.1 -2.8
GYA XP sP 23 08 20.4 -1.6
GYA PP PP 23 11 06.8 +0.1
GYA S S 23 17 57.9 -2.6
GYA SKS 23 18 19.1
GYA SS SS 23 22 54.3 -2.5
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.4
GYA AMB AMB
comp=Z,1μm,4.9s
GYA LR LR
comp=N,690nm,18.4s,MS5.2
GYA LR LR
comp=E,970nm,18.0s,MS5.2
GYA LR LR
comp=Z,840nm,17.9s,MS5.1
VSU Vasula 76.96 352 *eP* **P** **23 08 14.0 -0.5**
VSU Vasula 76.96 352 *eP* **P** **23 08 14.1 -0.4**
DRV Dumont d'Urvil 77.07 156 S S 23 18 05.0 +1.9
ROSF Rostrenen 77.09 331 *eP* **P** **23 08 14.8 -0.5**
comp=Z,70nm,1.2s,mb5.2
ROSF Rostrenen 77.09 331 *eP* **P** **23 08 14.8 -0.5**
ROSF pmax pmax
comp=Z,35nm,1.2s,mb5.2
ROSF Rostrenen 77.09 331 *eP* **P** **23 08 14.8 -0.5**
comp=Z,35nm,1.2s,mb5.2
COP Copenhagen 77.26 343 *i* P **P** **23 08 17.2 +1.0**
comp=Z,33nm,0.8s,mb5.3
COP *i* S S 23 18 12.1 +6.9
COP
comp=Z,210nm,17.0s
COP Copenhagen 77.26 343 *eP* **P** **23 08 17.2 +1.0**
COP *i* S S 23 18 12.1 +6.9
COP pmax pmax
comp=Z,33nm,0.8s,mb5.3
COP MLR MLR
comp=Z,210nm,17.0s,MS4.5
COP Copenhagen 77.26 343 *eP* **P** **23 08 17.2 +1.0**
comp=Z,33nm,0.8s,mb5.3
COP *i* S S 23 18 12.1 +6.9
COP LR LR
comp=Z,210nm,17.0s,MS4.5
PUL Pulkovo 77.82 354 *deP* **P** **23 08 17.3 -2.1**
FORT Forrest 78.04 119 *eP* **P** **23 08 21.7 +1.1**
comp=Z,47nm,0.7s,mb5.5
SKP1 Kophill 78.52 335 *eP* **P** **23 08 24.0 +0.8**
SKP1 Kophill 78.52 335 *eP* **P** **23 08 24.0 +0.8**
GTA Gaotai 78.54 42 ⇓*iP* **P** **23 08 23.3 -0.1**
GTA AP pP 23 08 27.1 -2.3
GTA XP sP 23 08 29.8 -1.7
GTA PP PP 23 11 21.8 +0.8
GTA S S 23 18 16.6 -2.4
GTA XS sS 23 18 23.1 -5.8
GTA SKS 23 18 32.6
GTA PS 23 18 58.5
GTA SS SS 23 23 19.8 -2.7
GTA AMB AMB
comp=Z,50nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,739nm,6.9s
GTA LR LR
comp=N,892nm,17.1s,MS5.4
GTA LR LR
comp=E,1μm,16.7s,MS5.4
GTA LR LR
comp=Z,2μm,17.1s,MS5.4
SWK Warminster 78.69 334 *eP* **P** **23 08 24.7 +0.5**
SWK Warminster 78.69 334 *eP* **P** **23 08 24.7 +0.5**
MUD Monsted U'grnd 78.85 342⇓*iP* **P** **23 08 25.0 0.0**
comp=Z,47nm,1.1s,mb5.3
MUD *i* 23 11 28.9
MUD *i* 23 15 50.0
MUD *eS* S 23 18 26.5 +4.3
MUD *i* 23 27 51.6
MUD
comp=Z,400nm,18.0s
MUD Monsted U'grnd 78.85 342⇓*iP* **P** **23 08 25.0 0.0**
MUD *i* 23 11 28.9
MUD *eS* S 23 18 26.5 +4.3
MUD pmax pmax
comp=Z,47nm,1.1s,mb5.3
MUD MLR MLR
comp=Z,410nm,18.0s,MS4.8
MUD Monsted U'grnd 78.85 342⇓*iP* **P** **23 08 25.0 0.0**
comp=Z,47nm,1.1s,mb5.3
MUD *i* 23 11 28.9
MUD *i* 23 15 50.0
MUD *eS* S 23 18 26.5 +4.3
MUD *i* 23 27 51.6
DYA Yadsworthy 78.90 332 *eP* **P** **23 08 25.0 -0.3**
DYA Yadsworthy 78.90 332 *eP* **P** **23 08 25.0 -0.3**
VNDA Vanda 78.92 169 P **P** **23 08 25.7 +0.3**
comp=Z,6.8nm,1.0s,mb4.5,baz=253,slow=6.9,SNR=19
VNDA LR LR 23 41 43.1
comp=Z,741nm,18.0s,MS5.1,baz=248,slow=34
VNDA Vanda 78.92 169 P **P** **23 08 25.7 +0.3**
VNDA pmax pmax
comp=Z,7.0nm,1.0s
VNDA MLR MLR
comp=Z,741nm,18.0s
FITZ Fitzroy Crossi 79.04 106 *eP* **P** **23 08 26.4 +0.3**
comp=Z,46nm,0.7s,mb5.5
HEX Exmoor 79.30 333 *eP* **P** **23 08 26.8 -0.7**
HEX Exmoor 79.30 333 *eP* **P** **23 08 26.8 -0.7**
LZH Lanzhou 79.44 47 ⇓P **P** **23 08 29.3 +1.0**
LZH AP pP 23 08 31.5 -2.8
LZH XP sP 23 08 33.9 -2.6
LZH PP PP 23 11 31.6 +3.1
LZH PPP 23 13 22.3
LZH S S 23 18 29.5 +1.0
LZH XS sS 23 18 37.3 -1.1
LZH SKS 23 18 40.3
LZH AMB AMB
comp=Z,139nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,716nm,8.7s
LZH LR LR
comp=N,1μm,15.3s
LZH LR LR
comp=Z,2μm,18.2s,MS5.4
LZH Lanzhou 79.44 47 ⇓P **P** **23 08 29.2 +0.9**
LZH *PP pP 23 08 31.5 -2.8
LZH *SP sP 23 08 33.9 -2.6
LZH 23 11 31.6
LZH PPP 23 13 22.3
LZH S S 23 18 29.5 +1.0
LZH *SS sS 23 18 37.2 -1.2
LZH 23 18 40.3
LZH PS 23 19 15.2
LZH SS SS 23 23 41.6 +5.7
LZH Lanzhou 79.44 47 ⇓P **P** **23 08 29.2 +0.9**
comp=Z,139nm,1.5s,mb5.7
LZH pP pP 23 08 31.5 -2.8
LZH sP sP 23 08 33.9 -2.6
LZH PP PP 23 11 31.6 +3.1
LZH PPP 23 13 22.3
LZH S S 23 18 29.5 +1.0
LZH sS sS 23 18 37.2 -1.2
LZH SKS 23 18 40.3
LZH PS 23 19 15.2
LZH SS SS 23 23 41.6 +5.7
LZH LR LR
comp=Z,2μm,18.2s,MS5.4
SBA Scott Base 79.59 170 *eP* **P** **23 08 30.8 +1.7**
SBA pmax pmax
comp=Z,210nm,1.8s,mb5.8
MCH1 Michaelchurch 79.63 334 P **P** **23 08 29.2 -0.1**
MCH1 AMb AMB 23 08 30.9
comp=Z,63nm,1.1s,mb5.5
MCH1 Michaelchurch 79.63 334 *eP* **P** **23 08 29.2 -0.1**
MCH1 *eP* 23 08 29.2
MCH1 AMb AMB 23 08 30.9
comp=Z,63nm,1.1s,mb5.5
MCH1 AMS AMS 23 46 42.6
comp=Z,419nm,18.4s,MS4.8
MCH1 Michaelchurch 79.63 334 *eP* **P** **23 08 29.2 -0.1**
MCH1 *eP* 23 08 29.2
MCH1 AMb AMB 23 08 30.9
comp=Z,63nm,1.1s,mb5.5
MCH1 AMS AMS 23 46 42.6
comp=Z,419nm,18.4s,MS4.8
HTR Trewern Hill 79.81 334 *eP* **P** **23 08 29.8 -0.4**
HTR Trewern Hill 79.81 334 *eP* **P** **23 08 29.8 -0.4**
KWE Weaver Farm 79.91 335 *eP* **P** **23 08 30.1 -0.7**
KWE Weaver Farm 79.91 335 *eP* **P** **23 08 30.1 -0.7**
FINES FINESS Array B 79.94 352 P **P** **23 08 29.6 -1.4**
comp=Z,6.1nm,0.9s,mb4.5,baz=152,slow=8.6,SNR=22
FINES FINESS Array B 79.94 352 *iP* **P** **23 08 30.2 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.9s
KBI1 Birley Grange 79.96 335 *eP* **P** **23 08 30.5 -0.6**
KBI1 Birley Grange 79.96 335 *eP* **P** **23 08 30.5 -0.6**
HLM1 Long Mynd 79.97 334 *eP* **P** **23 08 30.4 -0.7**
HLM1 Long Mynd 79.97 334 *eP* **P** **23 08 30.4 -0.7**
ZAL Zalesovo 80.39 24 P **P** **23 08 31.7 -1.7**
comp=Z,16nm,0.9s,mb4.9,baz=241,slow=6.4,SNR=67
ZAL LR LR 23 42 35.1
comp=Z,363nm,21.9s,MS4.7,baz=255,slow=34
ZAL Zalesovo 80.39 24 P **P** **23 08 31.7 -1.7**
ZAL LR LR 23 42 35.1
SBD1 Bryn Du 80.41 334 *eP* **P** **23 08 33.3 -0.2**
SBD1 Bryn Du 80.41 334 *eP* **P** **23 08 33.3 -0.2**
NVS Novosibirsk 80.48 23⇓*iP* **P** **23 08 33.4 -0.5**
NVS pmax pmax
comp=Z,302nm,2.1s,mb5.9
NVS pmax pmax
comp=N,190nm,2.2s
KAF Kangasniemi 80.56 353 *ep* **P** **23 08 32.9 -1.4**
comp=N,16nm,0.6s,mb5.1,baz=164,slow=5.1
KAF Kangasniemi 80.56 353 *eP* **P** **23 08 32.9 -1.4**
KAF pmax pmax
comp=Z,16nm,0.6s,mb5.1
PMSA Palmer Station 80.62 205 P **P** **23 08 33.8 -0.9**
comp=Z,14nm,1.6s,mb4.6
JOF Joensuu 80.84 355 *ep* **P** **23 08 34.6 -1.2**
WPM1 Penmaenmawr 80.93 334 *eP* **P** **23 08 36.1 -0.2**
WPM1 Penmaenmawr 80.93 334 *eP* **P** **23 08 36.1 -0.2**
YRE Yr Eifl 80.95 334 *eP* **P** **23 08 35.9 -0.5**
YRE Yr Eifl 80.95 334 *eP* **P** **23 08 35.9 -0.5**
XAL Allendale 81.43 336 *eP* **P** **23 08 39.5 +0.5**
XAL Allendale 81.43 336 *eP* **P** **23 08 39.5 +0.5**
KONO Kongsberg 81.47 344 *eP* **P** **23 08 38.7 -0.5**
KONO pmax pmax
comp=Z,86nm,1.4s,mb5.5
TMCR Tamitsa 81.72 358 *eP* **P** **23 08 39.3 -1.2**
TMCR pmax pmax
comp=Z,80nm,1.9s,mb5.3
BHH Howats Hill 81.99 336 *eP* **P** **23 08 41.8 -0.2**
BHH Howats Hill 81.99 336 *eP* **P** **23 08 41.8 -0.2**
ECK Cauldkaine Hil 82.02 336 *eP* **P** **23 08 42.9 +0.8**
ECK Cauldkaine Hil 82.02 336 *eP* **P** **23 08 42.9 +0.8**
DLF Lyons Farm 82.07 333⇓*iP* **P** **23 08 42.5 +0.2**
XAN Xi'an 82.07 51 P **P** **23 08 42.1 -0.3**
XAN AP pP 23 08 48.3 -0.1
XAN AMB AMB
comp=Z,50nm,1.7s,mb5.2
GCD Castle Douglas 82.11 335 *eP* **P** **23 08 42.9 +0.3**
GCD Castle Douglas 82.11 335 *eP* **P** **23 08 42.9 +0.3**
ESK Eskdalemuir 82.15 336 P **P** **23 08 43.2 +0.4**
ESK AMb AMB 23 08 46.8
comp=Z,44nm,2.1s,mb5.0
ESK Eskdalemuir 82.15 336 *eP* **P** **23 08 43.2 +0.4**
ESK AMb AMB 23 08 46.8
comp=Z,44nm,2.1s,mb5.0
ESK AMS AMS 23 46 20.6
comp=Z,740nm,17.5s,MS5.1
ESK Eskdalemuir 82.15 336 *eP* **P** **23 08 43.2 +0.4**
ESK AMb AMB 23 08 46.8
comp=Z,44nm,2.1s,mb5.0
ESK AMS AMS 23 46 20.6
comp=Z,740nm,17.5s,MS5.1
ESK Eskdalemuir 82.15 336 *eP* **P** **23 08 43.3 +0.5**
ESK pmax pmax
comp=Z,27nm,1.4s,mb5.0
ESK Eskdalemuir 82.15 336 *eP* **P** **23 08 43.3 +0.6**
comp=Z,27nm,1.4s,mb5.0
EFI East Falkland 82.17 218 P **P** **23 08 42.9 +0.1**
NAO01 NORSAR Array S 82.18 345 *eP* **P** **23 08 42.0 -0.9**
comp=Z,20nm,0.8s,mb5.1
BWH Wardlaw 82.23 336 *eP* **P** **23 08 42.9 -0.3**
BWH Wardlaw 82.23 336 *eP* **P** **23 08 42.9 -0.3**
NB2 NORSAR Subarra 82.28 346 P **P** **23 08 42.4 -1.0**
comp=Z,88nm,1.4s,mb5.5,baz=154,slow=5.1
NB2 NORSAR Subarra 82.28 346 P **P** **23 08 42.4 -1.0**
NB2 pmax pmax
comp=Z,88nm,1.4s,mb5.5
NOA NORSAR Array B 82.28 346 P **P** **23 08 42.1 -1.3**
comp=Z,16nm,0.9s,mb4.9,baz=142,slow=5.1,SNR=26
NOA LR LR 23 48 13.5
comp=Z,231nm,18.6s,MS4.6,baz=190,slow=38
ESY Stoneypath 82.37 337 *eP* **P** **23 08 43.6 -0.3**
ESY Stoneypath 82.37 337 *eP* **P** **23 08 43.6 -0.3**
GAL1 Galloway 82.42 335 P **P** **23 08 43.9 -0.3**
GAL1 AMb AMB 23 08 49.3
comp=Z,57nm,1.8s,mb5.2
GAL1 Galloway 82.42 335 *eP* **P** **23 08 43.9 -0.3**
GAL1 *eP* 23 08 43.9
GAL1 AMb AMB 23 08 49.3
comp=Z,57nm,1.8s,mb5.2
GAL1 AMS AMS 23 49 45.5
comp=Z,710nm,18.1s,MS5.1
GAL1 Galloway 82.42 335 *eP* **P** **23 08 43.9 -0.3**
GAL1 *eP* 23 08 43.9
GAL1 AMb AMB 23 08 49.3
comp=Z,57nm,1.8s,mb5.2
GAL1 AMS AMS 23 49 45.5
comp=Z,710nm,18.1s,MS5.1
DCN Croghan 82.42 333⇓*iP* **P** **23 08 44.5 +0.3**
EBL Broad Law 82.43 336 *eP* **P** **23 08 43.7 -0.5**
EBL Broad Law 82.43 336 *eP* **P** **23 08 43.7 -0.5**
GMM Mts of Mourne 82.48 334 *eP* **P** **23 08 44.3 -0.2**
GMM Mts of Mourne 82.48 334 *eP* **P** **23 08 44.3 -0.2**
EDI Edinburgh 82.59 336 P **P** **23 08 43.7 -1.4**
EDI AMb AMB 23 08 51.0
comp=Z,77nm,1.8s,mb5.4
EDI Edinburgh 82.59 336 AMS AMS 23 51 32.5
comp=Z,750nm,16.7s
EDI Edinburgh 82.59 336 *eP* **P** **23 08 43.7 -1.4**
EDI AMb AMB 23 08 51.0
comp=Z,77nm,1.8s,mb5.4
EDI AMS AMS 23 51 32.5
comp=Z,750nm,16.7s,MS5.1
EDI Edinburgh 82.59 336 *eP* **P** **23 08 43.7 -1.4**
EDI AMb AMB 23 08 51.0
comp=Z,77nm,1.8s,mb5.4
EDI AMS AMS 23 51 32.5
comp=Z,750nm,16.7s,MS5.1
EAU Auchinoon 82.64 336 *eP* **P** **23 08 46.1 +0.8**
EAU Auchinoon 82.64 336 *eP* **P** **23 08 46.1 +0.8**
EAB Aberfoyle 83.23 336 *eP* **P** **23 08 48.8 +0.4**
EAB Aberfoyle 83.23 336 *eP* **P** **23 08 48.8 +0.4**
MCD Coleburn Disti 83.84 337 *eP* **P** **23 08 51.6 +0.1**
MCD Coleburn Disti 83.84 337 *eP* **P** **23 08 51.6 +0.1**
CMLA Cha da Macela 83.87 313 PFAKE 23 09 00.0 +8.3
CMLA LR LR
comp=Z,1μm,19.0s,MS5.2
KAR1 Arisaig 84.33 336 *eP* **P** **23 08 53.4 -0.6**
KAR1 Arisaig 84.33 336 *eP* **P** **23 08 53.4 -0.6**
KPL Plockton 84.56 336 P **P** **23 08 55.3 +0.1**
KPL AMb AMB 23 09 07.8
comp=Z,99nm,1.3s,mb5.8
KPL Plockton 84.56 336 *eP* **P** **23 08 55.3 +0.1**
KPL AMb AMB 23 09 07.8
comp=Z,99nm,1.3s,mb5.8
KPL AMS AMS 23 49 16.3
comp=Z,638nm,17.9s,MS5.0
KPL Plockton 84.56 336 *eP* **P** **23 08 55.3 +0.1**
KPL AMb AMB 23 09 07.8
comp=Z,99nm,1.3s,mb5.8
KPL AMS AMS 23 49 16.3
comp=Z,638nm,17.9s,MS5.0
WHN Wuhan 84.70 56⇑P **P** **23 08 56.5 +0.6**
WHN PP PP 23 12 11.0 -0.8
WHN S S 23 19 24.5 +1.9
WHN SS SS 23 24 57.0 +2.8
WHN AMB AMB
comp=Z,2μm,5.4s
WHN LR LR
comp=Z,2μm,19.2s,MS5.6
ASAR Alice Springs 84.94 113 P **P** **23 08 56.9 -0.2**
comp=Z,29nm,0.8s,mb5.5,baz=259,slow=4.4,SNR=149
ASAR PKKPbc PKKPbc 23 27 03.5 -1.1
comp=Z,0.5nm,0.7s,baz=64,slow=2.1,SNR=6.0
ASAR LR LR 23 41 28.7
comp=Z,3μm,22.0s,MS5.6,baz=275,slow=32
AS31 Alice Springs 84.94 113⇓*eP* **P** **23 08 57.2 +0.1**
RRR Rubha Reidh 84.99 337 *eP* **P** **23 08 56.5 -0.8**
RRR Rubha Reidh 84.99 337 *eP* **P** **23 08 56.5 -0.8**
RSC Scourie 85.10 337 *eP* **P** **23 08 56.8 -1.1**
RSC Scourie 85.10 337 *eP* **P** **23 08 56.8 -1.1**
BDFB Brasilia 85.12 255 P **P** **23 08 59.9 +1.9**
comp=Z,11nm,0.7s,mb5.1,baz=72,slow=2.2,SNR=15
BDFB LR LR 23 44 59.5
comp=Z,3μm,18.1s,MS5.7,baz=119,slow=34
LVZ Lovozero 85.58 357*deP* **P** **23 08 58.1 -2.2**
LVZ *e* 23 19 27.8
BTO Baotou 85.88 45 *eP* **P** **23 09 01.4 -0.4**
QZH Quanzhou 86.01 62 P **P** **23 09 01.3 -1.1**
QZH S S 23 19 38.3 +2.8
QZH PS 23 20 38.4
QZH LR LR
comp=Z,3μm,21.8s,MS5.6
WRA Warramunga Arr 86.42 110 P **P** **23 09 04.3 -0.2**
comp=Z,18nm,1.1s,mb5.2,baz=255,slow=3.5,SNR=23
WRA PKKPbc PKKPbc 23 27 01.3 +0.2
comp=Z,1.1nm,0.7s,baz=72,slow=2.6,SNR=5.7
WRA LR LR 23 44 53.0
comp=Z,2μm,18.4s,MS5.5,baz=280,slow=34
WB2 Warramunga Arr 86.44 110⇓*iP* **P** **23 09 04.0 -0.5**
WB2 Warramunga Arr 86.44 110 *eP* **P** **23 09 04.2 -0.3**
WB2 *eP* 23 09 05.0
WRAB Tennant Creek 86.44 110 P **P** **23 09 05.0 +0.5**
comp=Z,159nm,1.1s,mb6.2,SNR=9.1
WRAB Tennant Creek 86.44 110 *eP* **P** **23 09 04.2 -0.3**
WRAB pmax pmax
comp=Z,130nm,1.5s,mb5.9
ZAK Zakamensk 86.69 34⇓*iP* **P** **23 09 06.0 +0.2**
ZAK pmax pmax
comp=Z,12nm,2.2s,mb4.7
KAKA Kakadu 86.84 102 *eP* **P** **23 09 06.1 -0.4**
comp=Z,22nm,0.8s,mb5.4
HHC Hu-ho-hao-te 87.03 45 *eP* **P** **23 09 08.5 +1.1**
HHC AP pP 23 09 13.3 -0.2
HHC XP sP 23 09 15.8 +0.1
HHC PP PP 23 12 34.3 +3.6
HHC SKS 23 19 32.6
HHC S S 23 19 45.6 +0.1
HHC XS sS 23 19 54.0 -1.5
HHC PS 23 20 49.4
HHC SS SS 23 25 32.1 +3.6
HHC AMB AMB
comp=Z,48nm,0.4s,mb6.1
HHC AMB AMB
comp=Z,814nm,3.8s
HHC LR LR
comp=N,578nm,19.1s,MS5.2
HHC LR LR
comp=E,580nm,18.6s,MS5.2
HHC LR LR
comp=Z,701nm,26.0s
SONM Songino Array 87.09 38 P **P** **23 09 07.1 -0.6**
comp=Z,4.6nm,0.9s,mb4.7,baz=234,slow=3.6,SNR=22
SONM LR LR 23 48 01.5
comp=Z,239nm,18.3s,MS4.6,baz=225,slow=36
TLY Talaya 87.59 33 P **P** **23 09 11.2 +1.1**
comp=Z,35nm,1.4s,mb5.4,SNR=8.9
TLY Talaya 87.59 33 *eP* **P** **23 09 09.9 -0.2**
TLY *e* 23 12 37.9
TLY *eS* S 23 19 41.7 -9.1
TLY pmax pmax
comp=Z,33nm,2.5s,mb5.1
TLY Talaya 87.59 33 *i* Pr **P** **23 09 09.1 -1.0**
ARCES ARCESS Array B 87.84 354 P **P** **23 09 10.4 -0.9**
comp=Z,11nm,0.7s,mb5.2,baz=160,slow=3.9,SNR=24
ARCES LR LR 23 51 26.3
comp=Z,688nm,18.4s,MS5.1,baz=181,slow=38
ARE0 ARCESS Array S 87.84 354 *eP* **P** **23 09 10.9 -0.4**
IRK Irkutsk 88.22 33 *eP* **P** **23 09 12.0 -1.1**
IRK pmax pmax
comp=Z,84nm,2.7s,mb5.5
STKA Stephens Creek 88.81 123 *eP* **P** **23 09 16.7 +0.8**
comp=Z,5.1nm,0.8s,mb4.9
STKA Stephens Creek 88.81 123 P **P** **23 09 16.5 +0.6**

comp=Z,3.1nm,0.6s,mb4.8,baz=275,slow=3.7,SNR=8.9
STKA LR LR 23 43 13.3
comp=Z,2μm,20.8s,MS5.4,baz=232,slow=32
NJ2 Nanjing 88.83 56 *e*P **P** **23 09 16.5 +0.5**
NJ2 AP pP 23 09 21.4 -0.7
NJ2 XP sP 23 09 23.6 -0.7
NJ2 PP PP 23 12 48.0 +2.8
NJ2 SKS 23 19 43.0
NJ2 S S 23 20 01.0 -1.7
NJ2 XS sS 23 20 11.0 -1.7
NJ2 SS SS 23 25 57.0 +2.3
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.6
NJ2 AMB AMB
comp=Z,400nm,10.0s
NJ2 LR LR
comp=N,1μm,19.8s,MS5.6
NJ2 LR LR
comp=E,2μm,20.2s,MS5.6
NJ2 LR LR
comp=Z,2μm,23.9s,MS5.3
TRQA Tornquist 89.56 230 *e*P **P** **23 09 21.0 +1.6**
comp=Z,39nm,1.0s,mb5.7
TRQA *e*PP PP 23 12 51.2 +0.3
BJI Beijing 89.89 48 P **P** **23 09 21.3 +0.3**
BJI S S 23 20 18.0 +5.5
BJI AMB AMB
comp=Z,10.0nm,1.5s,mb4.9
BJI LR LR
comp=N,674nm,17.9s,MS5.2
BJI LR LR
comp=E,560nm,18.9s,MS5.2
BJI LR LR
comp=Z,625nm,28.2s
BJI Beijing 89.89 48 P **P** **23 09 21.2 +0.2**
comp=Z,10.0nm,1.5s,mb4.9
BJI S S 23 20 18.0 +5.5
BJI LR LR
comp=Z,630nm,28.2s,MS4.9
CPUP Villa Florida 90.06 242 P **P** **23 09 23.9 +2.2**
comp=Z,3.8nm,0.8s,mb4.8,baz=88,slow=5.6,SNR=10.0
CPUP LR LR 23 47 30.1
comp=Z,1μm,18.1s,MS5.5,baz=100,slow=34
SSE Sheshan 90.35 57 P **P** **23 09 23.3 +0.2**
SSE AP pP 23 09 26.8 -2.4
SSE S S 23 20 18.3 +1.5
SSE XS sS 23 20 23.9 -2.9
SSE SS SS 23 26 18.9 +2.2
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,284nm,5.1s
SSE LR LR
comp=N,320nm,19.9s,MS5.0
SSE LR LR
comp=E,484nm,19.9s,MS5.0
SSE LR LR
comp=Z,649nm,18.8s,MS5.1
SSE Sheshan 90.35 57 P **P** **23 09 23.3 +0.2**
comp=Z,22nm,0.7s,mb5.6
SSE pP pP 23 09 26.7 -2.5
SSE S S 23 20 18.3 +1.5
SSE sS sS 23 20 23.9 -2.9
SSE SS SS 23 26 18.9 +2.2
SSE LR LR
comp=Z,650nm,18.8s,MS5.1
DL2 Dalian 93.39 50 P **P** **23 09 36.8 -0.4**
DL2 *e*S S 23 20 46.8 +2.6
DL2 PS PS 23 22 01.8 +2.7
DL2 AMB AMB
comp=Z,20nm,1.3s,mb5.4
DL2 AMB AMB
comp=Z,130nm,4.6s
DL2 LR LR
comp=N,430nm,16.4s,MS5.0
DL2 LR LR
comp=E,190nm,15.7s,MS5.0
DL2 LR LR
comp=Z,450nm,16.8s,MS5.0
PLCA Paso Flores 94.45 225 P **P** **23 09 43.0 +1.0**
comp=Z,3.8nm,1.1s,mb4.8,baz=79,slow=4.8,SNR=4.0
PLCA LR LR 23 47 14.5
comp=Z,1μm,20.9s,MS5.3,baz=120,slow=32
PLCA Paso Flores 94.45 225 P **P** **23 09 42.6 +0.5**
HIA Hailar 95.70 40 *e*P **P** **23 09 46.3 -1.5**
HIA pmax pmax
comp=Z,21nm,1.0s
HIA Hailar 95.70 40 *e*P **P** **23 09 46.3 -1.5**
comp=Z,21nm,1.0s,mb5.5
SNY Shenyang 95.76 48 *e*P **P** **23 09 46.1 -2.0**
SNY SKS 23 20 21.0
SNY S S 23 20 53.4 -11
SNY AMB AMB
comp=Z,13nm,2.2s,mb5.0
SNY AMB AMB
comp=Z,363nm,6.4s
SNY LR LR
comp=N,584nm,20.1s,MS5.1
SNY LR LR
comp=E,296nm,23.5s,MS5.1
SNY LR LR
comp=Z,579nm,18.6s,MS5.1
BOD Bodaibo 95.79 31 *e*P **P** **23 09 46.6 -1.6**
INCN Inchon 96.68 53 PFAKE 23 10 00.0 +7.8
INCN LR LR
comp=Z,873nm,22.0s,MS5.2
KBS Kingsbay 97.92 354 PFAKE 23 10 10.0 +12
KBS LR LR
comp=Z,438nm,19.0s,MS5.0
MDJ Mudanjiang 100.76 47 P Pdif 23 10 11.0 +0.5
MDJ XP 23 10 22.3
MDJ PP PP 23 14 17.8 -0.2
MDJ S Sdif 23 21 48.3 +1.0
MDJ AMB AMB
comp=Z,14nm,1.9s
MDJ AMB AMB
comp=Z,37nm,3.3s
MDJ LR LR
comp=N,198nm,26.4s,MS4.7
MDJ LR LR
comp=E,235nm,26.4s,MS4.7
MDJ LR LR
comp=Z,330nm,28.1s,MS4.7
LVC Limon Verde 101.22 242 Pdif Pdif 23 10 13.7 +1.1
SAML Samuel 101.28 257 *e*Pdif Pdif 23 10 10.4 -2.5
comp=Z,5.3nm,1.4s
PMG Port Moresby 101.57 104 P Pdif 23 10 15.4 +1.3
LPAZ La Paz 103.10 248 *e*P Pdif 23 10 21.5 +0.6
YAK Yakutsk 104.56 29 P Pdif 23 10 27.2 -0.2
YAK Yakutsk 104.56 29 Pdif Pdif 23 10 27.3 -0.1
ERM Erimo 110.05 51 PFAKE 23 15 00.0 +6.5
ERM LR LR
comp=Z,266nm,20.0s,MS4.8
YSS Yuzh-Sakhalins 110.22 46 PKIKP PKiKP 23 14 54.2 +0.4
SJG San Juan 111.86 283 PKIKP PKiKP 23 14 57.9 +1.0
NNA Nana 112.56 248 *e*PKiKP PKiKP 23 14 58.0 -0.3
BBSR BB Station 112.95 298 PFAKE 23 15 10.0 +11
BBSR LR LR
comp=Z,1μm,20.0s,MS5.4
HNR Honiara 113.26 109 PFAKE 23 15 10.0 +10
HNR LR LR
comp=Z,720nm,20.0s,MS5.3
SDV Santo Domingo 113.90 272 *e*PKiKP PKiKP 23 15 01.0 +0.1
MA2 Magadan 114.78 32 PKIKP PKiKP 23 15 02.4 -0.1
SEY Seymchan 115.05 28⇑ *i*PKIKP PKiKP 23 15 03.3 +0.3
SEY Seymchan 115.05 28⇑ *e*PKP PKiKP 23 15 03.4 +0.4
ROSC El Rosal 116.29 267 PKP PKPdf 23 15 06.9 +1.5
comp=Z,3.1nm,0.4s,baz=92,slow=17,SNR=4.0
RES Resolute Bay 118.47 348 PKIKP PKPdf 23 15 09.0 -0.6
HRV Harvard--Oak R 118.88 309 PFAKE 23 15 20.0 +10
HRV LR LR
comp=Z,2μm,22.0s,MS5.7
BILL Bilibino 118.96 21 *i*PKIKP PKPdf 23 15 09.6 -1.0
LBNH Lisbon 119.08 311 PFAKE 23 15 20.0 +9.2
LBNH LR LR
comp=Z,1μm,22.0s,MS5.5
LONY Lake Ozonia 120.94 312 *e*PKPdf PKPdf 23 15 14.0 -0.4
BRNJ Basking Ridge 121.22 307 PKPdf PKPdf 23 15 17.9 +3.0
BINY Binghamton 122.18 309 PFAKE 23 15 30.0 +13
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
CBN Corbin 123.52 304 PFAKE 23 15 30.0 +11
CBN LR LR
comp=Z,1μm,21.0s,MS5.5
BLA Blacksburg 126.00 303 *e*PKIKP PKPdf 23 15 23.7 -0.3
BLA MLR MLR
comp=Z,60nm,20.0s,MS4.3
ELN Prospectdale 126.26 303 *e*PKPdf PKPdf 23 15 24.1 -0.4
ELN *e* 23 15 31.1
DWPF Disney 127.08 292 PFAKE 23 15 40.0 +14
DWPF LR LR
comp=Z,841nm,21.0s,MS5.4
ACSO Alum Creek Sta 127.65 307 *e*PKPdf PKPdf 23 15 26.9 -0.3
JTS JuntasAbangare 127.90 269 *e*PKIKP PKPdf 23 15 28.1 +0.4
JTS MLR MLR
comp=Z,350nm,21.0s
FCC Fort Churchill 127.96 333 *e*PKIKP PKPdf 23 15 27.3 -0.5
INK Inuvik 129.40 358 PKP PKPdf 23 15 29.9 -0.7
comp=Z,8.6nm,1.1s,baz=335,slow=2.0,SNR=7.0
INK Inuvik 129.40 358 *e*PKPdf PKPdf 23 15 29.7 -0.8
INK *e*PKPdf PKPdf 23 15 29.9 -0.6
SWET Sewanee 130.62 301 *e*PKPdf PKPdf 23 15 33.4 +0.6
IMA2 Indian Mountai 130.67 8 *e*PKPdf PKPdf 23 15 32.4 -0.5
EYMN Ely 131.57 319 PFAKE 23 15 40.0 +5.4
EYMN LR LR
comp=Z,3μm,20.0s,MS6.0
USIN University of 131.61 305 *e*PKPdf PKPdf 23 15 35.2 +0.5
WVT Waverly 132.04 303 PKIKP PKPdf 23 15 34.3 -1.2
WVT Waverly 132.04 303 *e*PKPdf PKPdf 23 15 34.8 -0.7
JFWS Jewell Farm 132.39 312 PFAKE 23 15 50.0 +14
JFWS LR LR
comp=Z,1μm,20.0s,MS5.6
PLAL Pickwick Lake 132.40 301 *e*PKPdf PKPdf 23 15 35.0 -1.2
SIUC Southern Illin 132.86 305 *e*Pdif Pdif 23 12 33.2 -0.1
EGAK Eagle 132.99 2 *e*PKPdf PKPdf 23 15 37.4 0.0
TTA Tatalina 133.23 11 *e*PKIKP PKPdf 23 15 37.5 -0.3
TTA *e* 23 18 04.3
OXF Oxford 133.55 301 *e*PKIKP PKPdf 23 15 32.1 -6.3
DAWY Dawson 133.74 1 *e*PKPdf PKPdf 23 15 37.9 -0.8
DAWY *e*PP PP 23 18 13.2 +5.4
FFC Flin Flon 133.85 332 PFAKE 23 15 50.0 +11
FFC LR LR
comp=Z,371nm,21.0s,MS5.1
AGMN Agassiz Refuge 134.09 321 *e*PKPdf PKPdf 23 15 39.5 +0.1
CCM Cathedral Cave 134.36 306 *e*PKIKP PKPdf 23 15 38.5 -1.4
CCM MLR MLR
comp=Z,1μm,21.0s,MS5.6
SVW2 Sparrevohn 135.00 12 *e*PKPdf PKPdf 23 15 41.8 +0.7
UALR University of 135.89 302 *e*PKPdf PKPdf 23 15 43.4 +0.7
ECSD EROS,Sioux Fal 136.49 316 *e*PKPdf PKPdf 23 15 43.6 -0.3
ECSD *e* 23 15 49.8
MIAR Mount Ida 136.93 302 PKIKP PKPdf 23 15 45.7 +1.0
MIAR Mount Ida 136.93 302 *e*PKPdf PKPdf 23 15 45.8 +1.1
TBI Tubuai 137.69 165 *e*SS SS 23 36 45.3 +4.6
comp=Z,452nm,35.8s
TBI *e*LR LR 00 00 29.2
comp=Z,455nm,25.2s
KSU1 Kansas State U 138.13 309 *e*PKPdf PKPdf 23 15 47.3 +0.4
KDAK Kodiak Island 138.66 12 *e*PKPdf PKPdf 23 15 48.1 +0.2
KDAK LR LR
comp=Z,144nm,21.0s,MS4.7
DGMT Dagmar 138.75 326 PFAKE 23 16 00.0 +12
DGMT LR LR
comp=Z,2μm,19.0s,MS5.9
HKT Hockley 139.57 295 PFAKE 23 16 00.0 +10
HKT LR LR
comp=Z,771nm,20.0s,MS5.5
EDM Edmonton 139.65 337 *e*PKIKP PKPdf 23 15 49.6 -0.1
LAO LASA Array 140.91 325 *e*PKPdf PKPdf 23 15 53.7 +1.7
LAO LR LR
comp=Z,2μm,19.0s,MS5.9
WMOK Wichita Mounta 141.07 304 *e*PKHKP 23 15 46.8
RSSD Black Hills 141.08 320 *e*PKIKP PKPdf 23 15 48.3 -4.0
EGMT Eagleton 141.91 329 *e*PKPdf PKPdf 23 15 55.3 +1.6
EGMT LR LR
comp=Z,1μm,19.0s,MS5.8
JCT Junction City 142.88 297 *e*PKIKP PKPdf 23 15 51.8 -3.7
JCT MLR MLR
comp=Z,839nm,21.0s,MS5.5
WALA Waterton Lakes 143.09 333 *e*PKPdf PKPdf 23 15 52.5 -3.4
PPT Papeete 143.16 162 *e*SS SS 23 37 49.7 +5.0
comp=Z,466nm,26.5s
PPT *e*LR LR 00 03 01.4
comp=Z,374nm,24.5s
GCMT Greycliff 143.34 326 *e*PKPdf PKPdf 23 15 53.9 -2.5
PHWY Pilot Hill 143.42 317 *e*PKPdf PKPdf 23 15 53.4 -3.1
RLMT Red Lodge 143.55 325 *e*PKPdf PKPdf 23 15 54.1 -2.5
ISCO Idaho Springs 144.25 315 *e*PKIKP PKPdf 23 15 56.4 -1.5
ISCO MLR MLR
comp=Z,2μm,22.0s,MS5.9
RWWY Rawlins 144.34 319 *e*PKPdf PKPdf 23 15 56.5 -1.6
CHMT Chamberlain Mo 144.38 330 *e*PKPdf PKPdf 23 15 56.3 -1.9
BSMT Bassoo Peak 144.39 333 *e*PKPdf PKPdf 23 15 56.9 -1.2
LCCM Lewis and Clar 144.47 328 P PKPdf 23 15 57.4 -0.9
BOZ Bozeman (W) 144.47 327 *e*PKIKP PKPdf 23 15 57.2 -1.1
BOZ MLR MLR
comp=Z,1μm,19.0s,MS5.7
LKWY Lake 144.53 325 *e*PKIKP PKPdf 23 15 59.3 +0.9
LKWY MLR MLR
comp=Z,2μm,20.0s,MS5.9
YNR Norris Junctio 144.58 325 *e*PKPdf PKPdf 23 16 00.4 +2.0
LRM Limekiln Ridge 144.76 328 *e*PKPdf PKPdf 23 15 58.1 -0.7
MSO Missoula 144.77 331 *e*PKPdf PKPdf 23 15 57.5 -1.3
YMR Madison River 144.77 325 *e*PKPdf PKPdf 23 15 59.8 +1.0
YMR LR LR
comp=Z,887nm,21.0s,MS5.5
YFT Old Faithful 144.84 325 *e*PKPdf PKPdf 23 16 01.0 +2.1
MOIG Morelia 144.89 279 *i* P PKPdf 23 15 59.1 0.0
QLMT Earthquake Lak 144.91 326 *e*PKPdf PKPdf 23 15 59.5 +0.5
FLWY Flagg Ranch 145.00 324 *e*PKPdf PKPdf 23 15 59.8 +0.6
NEW Newport 145.05 335 *e*PKIKP PKPdf 23 15 58.3 -1.0
SDCO Great Sand Dun 145.11 311 *e*PKPdf PKPdf 23 15 59.8 +0.4
DLMT Dillon 145.16 328 *e*PKPab PKPab 23 15 59.8 +0.7
BW06 Boulder Array 145.16 322 *e*PKPab PKPab 23 15 58.5 -0.6
PDAR Pinedale Array 145.16 322 PKPbc PKPbc 23 15 58.5 -0.6
comp=Z,25nm,0.7s,baz=72,slow=4.8,SNR=123
MOOW Moose Ponds 145.24 324 *e*PKPab PKPab 23 15 60.0 +0.6
LOHW Long Hollow 145.25 324 *e*PKPab PKPab 23 15 59.3 -0.1
IMW Indian Meadow 145.25 324 *e*PKPab PKPab 23 16 00.1 +0.6
SNOW Snow King Moun 145.43 324 *e*PKPab PKPab 23 16 00.4 +0.4
SMCO Snowmass 145.47 315 *e*PKPab PKPab 23 16 01.0 +0.7
TPAW Teton Pass 145.52 324 *e*PKPdf PKPdf 23 16 00.7 +0.6
REDW Red Top Meadow 145.54 324 *e*PKPdf PKPdf 23 16 00.4 +0.3
DCID1 Drake Creek 145.58 324 *e*PKPdf PKPdf 23 16 01.6 +1.4
MCMT McKenzie Canyo 145.66 327 P PKPdf 23 16 01.7 +1.4
RRI2 Red Ridge 145.82 324 *e*PKPdf PKPdf 23 16 01.8 +1.2
VAH Vaihoa 145.92 164 *e*PKiKP PKiKP 23 16 03.8 -1.1
comp=Z,503nm,1.9s
AHID Auburn Hatcher 146.06 323 *e*PKPdf PKPdf 23 16 02.0 +1.0
AHID LR LR
comp=Z,1μm,22.0s,MS5.7
PMOR Pomariorio Ree 146.07 163 *e*PKiKP PKiKP 23 16 04.2 -1.0
comp=Z,385nm,2.3s
VDB Vedder Mountai 146.19 341 P PKPdf 23 16 01.6 +0.4
GDL2 Guadalupe Moun 146.25 302 *e*PKPdf PKPdf 23 16 02.4 +1.0
NLW Nelson Butte 146.42 338 P PKPdf 23 16 03.0 +1.4
SFJM Santa Fe 146.66 280 *i* P PKPdf 23 16 04.0 +2.0
PGC Sidney 146.93 342 *e*PKPdf PKPdf 23 16 05.1 +2.6
ANMO Albuquerque 146.96 307⇑ *i*PKP2 PKPab 23 16 04.8 -1.2
ANMO Albuquerque 146.96 307 *e*PKPdf PKPdf 23 16 04.8 +2.2
ANMO LR LR
comp=Z,1μm,22.0s,MS5.7
HWUT Hardware Ranch 147.05 322 *e*PKPdf PKPdf 23 16 03.4 +0.7
HWUT LR LR
comp=Z,1μm,19.0s,MS5.7
PV01 Paradox Valley 147.08 314 *e*PKP PKPdf 23 16 04.5 +1.8
MNTX Cornudas Mount 147.23 301 *e*PKPdf PKPdf 23 16 03.9 +0.9
TCUT Toone Canyon 147.26 321 *e*PKPdf PKPdf 23 16 04.8 +1.8
PV10 Paradox Valley 147.27 315 *e*PKP PKPdf 23 16 04.7 +1.7
TBM Table Mountain 147.28 337 P PKPdf 23 16 04.2 +1.1
LPM Los Pinos Moun 147.34 306 *e*PKPdf PKPdf 23 16 05.2 +2.0
HLID Hailey 147.34 327 *e*PKPdf PKPdf 23 16 04.3 +1.1
HAWA Hanford 147.52 336 *e*PKPdf PKPdf 23 16 04.9 +1.5
HAWA LR LR
comp=Z,1μm,20.0s,MS5.7
HVU Hansel Valley 147.65 323 PKP2 PKPab 23 16 05.2 -3.5
HVU Hansel Valley 147.65 323 *e*PKPbc PKPbc 23 16 07.4 +0.9
LENM Lemitar 147.66 306 *e*PKPdf PKPdf 23 16 05.5 +1.8
LAZ Ladron 147.69 307 *e*PKPdf PKPdf 23 16 05.4 +1.7
GNW Green Mountain 147.70 340 *e*PKPdf PKPdf 23 16 05.6 +1.8
CTU Camp Tracy 147.72 321 *e*PKPdf PKPdf 23 16 05.3 +1.5
SPUT South Promonto 147.76 322 *e*PKPdf PKPdf 23 16 04.2 +0.3
BMO Blue Mountains 147.81 331 *e*PKIKP PKPdf 23 16 04.4 +0.5
BMO MLR MLR
comp=Z,1μm,20.0s,MS5.8
SRU San Rafael 147.87 317 *e*PKP2 PKPab 23 16 05.4 -4.1
NOQ North Oquirrh 147.97 321 *e*PKPdf PKPdf 23 16 06.4 +2.2
MPU Maple Canyon 148.06 319 *e*PKPdf PKPdf 23 16 06.1 +1.8
MPU LR LR
comp=Z,2μm,22.0s,MS5.9
LON Longmire 148.07 338 *e*PKIKP PKPdf 23 16 05.0 +0.6
TMUT Trail Mountain 148.20 318 *e*PKPdf PKPdf 23 16 07.3 +2.7
BGU Big Grassy Mou 148.34 322 *e*PKPdf PKPdf 23 16 05.9 +1.1
BGU *e*PKPbc PKPbc 23 16 08.9 +0.6
NLU North Lily Min 148.36 320 *e*PKPdf PKPdf 23 16 06.8 +1.9
DUG Dugway 148.67 321 *e*PKIKP PKPdf 23 16 06.7 +1.3
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.6
HOOD Mount Hood Mea 149.23 337 *e*PKPdf PKPbc 23 16 11.0 +0.5
MSU Marysvale 149.27 318 *e*PKIKP PKPdf 23 16 06.6 +0.3
WVOR Wild Horse Val 150.28 330 *e*PKIKP PKPdf 23 16 08.6 +0.7
WVOR *e* 23 16 14.0
WUAZ Wupatki 150.32 312 *e*PKPdf PKPdf 23 16 10.3 +2.3
COR Corvallis 150.47 338 *e*PKIKP PKPbc 23 16 14.8 +1.2
COR MLR MLR
comp=Z,2μm,21.0s,MS5.8
ARUT Antelope Range 150.50 318 *e*PKPdf PKPdf 23 16 10.6 +2.3
CCUT Cedar City 150.59 317 *e*PKPdf PKPdf 23 16 10.5 +2.1
BMN Battle Mountai 151.03 326 *e*PKIKP PKPdf 23 16 10.9 +1.8
BMN MLR MLR
comp=Z,921nm,20.0s,MS5.6
TUC Tucson 151.32 306 *e*PKIKP PKPdf 23 16 06.6 -2.9
MOD Modoc 151.47 331 *e*PKPdf PKPdf 23 16 11.6 +1.8
TRCR Troy Canyon 151.50 321 *e*PKPdf PKPdf 23 16 11.5 +1.7
TRCR *e*PKPbc PKPbc 23 16 16.5 +0.5
KEBM Edson Butte 152.33 338 *e*PKPdf PKPbc 23 16 19.4 +1.5
SHPR Sheep Range 152.37 317 *e*PKPdf PKPdf 23 16 14.0 +2.9
LTIM Timbered Crate 152.59 332 P PKPdf 23 16 12.8 +1.4
TPH Tonopah 152.66 322 *e*PKIKP PKPbc 23 16 20.1 +1.5
YBH Yreka Blue Hor 152.66 334 PKIKP PKPbc 23 16 15.5 -3.1
YBH Yreka Blue Hor 152.66 334 *e*PKPdf PKPbc 23 16 17.1 -1.5
PAHR Pah Rah Range 152.70 327 *e*PKPdf PKPdf 23 16 13.6 +2.0
KBO Bosley Butte 152.86 337 *e*PKPdf PKPbc 23 16 19.4 +0.4
NVAR Mina Array Bea 153.03 324 PKP PKPdf 23 16 13.3 +1.2
comp=Z,3.3nm,0.8s,baz=231,slow=2.2,SNR=27
NVAR PKPbc PKPbc 23 16 20.3 +0.9
comp=Z,17nm,0.8s,baz=82,slow=1.9,SNR=46
NVAR Mina Array Bea 153.03 324 PKP PKPdf 23 16 13.3 +1.2
NVAR PKPbc PKPbc 23 16 20.3 +0.9
KRMB Red Mountain 153.33 336 *e*PKPbc PKPbc 23 16 20.6 +0.6
TAOE Nuku Hiva Isla 153.47 176 *e*LR LR 00 07 31.2
comp=Z,1μm,23.6s
WDC Whiskeytown Da 153.54 332 *e*PKIKP PKPdf 23 16 13.7 +0.9
WAKR Walker 153.61 325 *e*PKPdf PKPdf 23 16 15.7 +2.8
KHMM Horse Mountain 153.80 334 *e*PKPdf PKPbc 23 16 22.5 +1.5
MTUM Tungsten Hills 153.93 322 *e*PKPdf PKPdf 23 16 16.2 +2.9
GLA Glamis 154.03 310 *e*PKPdf PKPbc 23 16 21.5 -0.1
OHCM Honcut 154.04 329 *e*PKPdf PKPdf 23 16 14.3 +0.8
DAC Darwin (Calif) 154.05 319 *e*PKIKP PKPdf 23 16 15.5 +2.0
DAC MLR MLR
comp=Z,762nm,20.0s,MS5.5
GSC Goldstone 154.16 317 *e*PKIKP PKPdf 23 16 16.1 +2.4
CMB Columbia Colle 154.46 326 PKIKP PKPdf 23 16 15.6 +1.5
CMB *e* 23 16 22.3
CMB Columbia Colle 154.46 326 *e*PKPdf PKPdf 23 16 15.8 +1.7
CMB LR LR
comp=Z,1μm,22.0s,MS5.6
PFO Pinyon Flat Ob 154.89 313 *e*PKIKP PKPbc 23 16 24.7 +1.3
PFO MLR MLR
comp=Z,223nm,19.0s,MS5.0
ISA Isabella 154.99 319 *e*PKIKP pPKPdf 23 16 21.2 +0.1
ISA MLR MLR
comp=Z,235nm,20.0s,MS5.0
HOPS Hopland 155.06 331 PFAKE 23 16 30.0 +15
HOPS LR LR
comp=Z,1μm,20.0s,MS5.7
SAO San Andreas Ge 155.97 325 *e*PKP2 PKPab 23 16 45.3 +2.0

IDC ***24*** *22:58:40.1±2.4, 479N×9248E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, ML3.2/1, Error ellipse: s-maj=85.8km s-min=19.5km az=55.0*
NEIC ***24*** *22:58:46.0±1.1, 504N×9289E, h30km, mb4.4/1, Error ellipse: s-maj=30.8km s-min=11.8km az=223.0*
ISCJB ***24*** *22:58:46.6±3.8, 53N±0.1×93.1E±0.2, h46km±32km, mb4.2/12, Error ellipse: s-maj=33.6km s-min=12.4km az=92.0*
ISC 24 22:58:47.8±3.0,**53N**±01×**930E**±02,**h38**km±26km,**n18,**
σ1§**21**/19,**mb4.2**/12,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.39**	**112**	Pn		**Pn**	**23 00 21.9**	**+2.5**
	0.4nm,0.3s,baz=299,slow=10,SNR=3.8							
KULM	**Kulim**	**7.60**	**90**	*e*Pn		**Pn**	**23 00 34.8**	**-1.3**
KULM				*e*Sn		**Sn**	**23 02 00.2**	**-0.7**
KKM	**Kota Kinabalu**	**23.10**	**87**	P		**P**	**23 03 53.3**	**+3.0**
PKI	**Pulchoki**	**23.32**	**343**	*e*P		**P**	**23 03 52.5**	**-0.1**
	17nm,0.6s,mb4.7							
DMN	**Daman**	**23.45**	**342**	*e*P		**P**	**23 03 54.0**	**+0.2**
	19nm,0.7s,mb4.7							
GUN	**Gumba**	**23.50**	**344**	*e*P		**P**	**23 03 50.6**	**-3.8**
KKN	**Kakani**	**23.56**	**343**	*e*P		**P**	**23 03 53.6**	**-1.3**
	13nm,0.6s,mb4.5							
GKN	**Gorkha**	**23.96**	**341**	*e*P		**P**	**23 03 56.4**	**-2.1**
	26nm,0.6s,mb4.8							
KOLN	**Koldanda**	**24.09**	**339**	*e*P		**P**	**23 03 59.9**	**+0.2**
	16nm,0.6s,mb4.6							
MKAR	**Makanchi Array**	**42.38**	**349**	P		**P**	**23 06 38.6**	**+0.2**
	0.6nm,0.5s,mb3.5,baz=166,slow=8.5,SNR=9.8							
SONM	**Songino Array**	**43.92**	**13**	P		**P**	**23 06 53.4**	**+2.5**
	1.0nm,0.7s,mb3.6,baz=196,slow=7.7,SNR=7.7							
WRA	**Warramunga Arr**	**47.73**	**123**	P		**P**	**23 07 20.4**	**-0.6**
	1.8nm,0.7s,mb4.2,baz=302,slow=9.0,SNR=9.3							
WRAB	**Tennant Creek**	**47.74**	**123**	*e*P		**P**	**23 07 20.6**	**-0.4**
	2.2nm,0.5s,mb4.4							
ZAL	**Zalesovo**	**48.97**	**354**	P		**P**	**23 07 31.6**	**+1.1**
	1.2nm,0.6s,mb4.1,baz=268,slow=6.4,SNR=6.3							
ASAR	**Alice Springs**	**49.17**	**128**	P		**P**	**23 07 31.1**	**-0.9**
	0.5nm,0.6s,mb3.7,baz=302,slow=7.9,SNR=6.8							
BVAR	**Borovoye Array**	**51.09**	**343**	P		**P**	**23 07 47.3**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=128,slow=8.3,SNR=5.2							
BRVK	**Borovoye**	**51.15**	**343**	P		**P**	**23 07 47.1**	**+0.1**
ZRNK	**Zerenda**	**51.45**	**342**	P		**P**	**23 07 49.2**	**0.0**

ISCJB ***24*** *23:38:26.3±0.5, 1762S±0.10×4185E±007, h10km, mb4.0/14, Error ellipse: s-maj=14.1km s-min=9.3km az=141.5*
IDC ***24*** *23:38:26.2±0.9, 1766S×4181E, h0km, mb3.9/9, mb1 4.0/13, mb1mx3.8/27, mbtmp3.9/13, ML3.7/4, Error ellipse: s-maj=28.2km s-min=18.4km az=171.0*
NEIC ***24*** *23:38:28.0±0.5, 1769S×4190E, h10km, mb4.1/7, Error ellipse: s-maj=12.6km s-min=8.2km az=160.0*
ISC 24 23:38:26.7±6.2,**177S**±01×**4186E**±007,**h0**km±41km,**n28,**
σ0§**95**/28,**mb4.0**/14,**Mozambique Channel**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.15**	**101**	Pn		**Pn**	**23 39 44.9**	**-0.1**
	15nm,0.3s,baz=275,slow=15,SNR=157							
OPO				Sn		**Sn**	**23 40 39.7**	**-5.4**
	13nm,0.3s,baz=194,slow=17,SNR=6.1							
LSZ	**Lusaka**	**13.32**	**278**	Pn		**Pn**	**23 41 36.2**	**-0.9**
	0.3nm,0.3s,baz=106,slow=9.7,SNR=4.8							
LSZ	**Lusaka**	**13.32**	**278**	*e*Pn		**Pn**	**23 41 39.9**	**+2.9**
LBTB	**Lobatse**	**16.82**	**241**	Pn		**Pn**	**23 42 22.9**	**-0.6**
	0.2nm,0.3s,baz=70,slow=12,SNR=3.7							
BOSA	**Boshof**	**18.74**	**231**	P		**Pn**	**23 42 45.4**	**-1.9**
	0.1nm,0.3s,baz=54,slow=9.1,SNR=4.9							
BOSA	**Boshof**	**18.74**	**231**	*e*P		**Pn**	**23 42 47.0**	**-0.3**
	1.8nm,0.7s							
TSUM	**Tsumeb**	**23.08**	**262**	P		**P**	**23 43 33.7**	**-0.2**
	2.6nm,1.0s,mb3.7,baz=70,slow=12,SNR=5.4							
TSUM	**Tsumeb**	**23.08**	**262**	*e*P		**P**	**23 43 34.9**	**+1.0**
SUR	**Sutherland**	**23.99**	**228**	*e*P		**P**	**23 43 44.2**	**+1.3**
	7.9nm,0.8s,mb4.3							
DGAR	**Diego Garcia**	**31.50**	**75**	P		**P**	**23 44 50.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**50.08**	**305**	P		**P**	**23 47 23.5**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=126,slow=7.0,SNR=16							
DBIC	**Dimbokro**	**52.08**	**294**	P		**P**	**23 47 37.5**	**-0.8**
	4.5nm,1.1s,mb4.3,baz=118,slow=17,SNR=2.6							
DBIC	**Dimbokro**	**52.08**	**294**	P		**P**	**23 47 38.5**	**+0.2**
CSS	**Prodhromos**	**52.95**	**351**	*e*P		**P**	**23 47 44.7**	**0.0**
	2.8nm,0.3s,mb4.7							
MALT	**Malatya**	**55.76**	**357**	*e*P		**P**	**23 48 08.1**	**+2.8**
	0.8nm,0.5s,mb4.0							
GNI	**Garni**	**57.57**	**3**	P		**P**	**23 48 18.8**	**+0.7**

BRTR	**Keskin Array B**	**57.59**	**352**	P	**P**	**23 48 17.9**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=168,slow=8.9,SNR=5.3						
BR131	**Keskin Array S**	**57.59**	**352**	*e*P	**P**	**23 48 18.8**	**+0.6**
	0.2nm,0.3s,mb3.6						
SNAA	**Sanae**	**59.97**	**195**	*e*P	**P**	**23 48 39.0**	**+4.2**
CART	**Cartagena**	**68.15**	**324**	*e*P	**P**	**23 49 27.1**	**-1.5**
	19nm,0.6s						
PSZ	**Piszkesteto**	**68.17**	**344**	*e*P	**P**	**23 49 28.9**	**+0.2**
	1.7nm,0.6s,mb4.5						
GERES	**GERESS Array B**	**70.79**	**341**	P	**P**	**23 49 44.2**	**-0.7**
	0.6nm,0.7s,mb3.8,baz=134,slow=5.8,SNR=6.7						
MKAR	**Makanchi Array**	**73.76**	**28**	P	**P**	**23 50 01.6**	**-1.1**
	0.7nm,0.7s,mb3.8,baz=223,slow=5.0,SNR=6.8						
ZRNK	**Zerenda**	**74.13**	**17**	*e*P	**P**	**23 50 04.5**	**-0.4**
	0.6nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**74.59**	**17**	P	**P**	**23 50 07.2**	**-0.3**
	0.5nm,0.4s,mb3.9,baz=190,slow=7.4,SNR=3.8						
ZAL	**Zalesovo**	**80.23**	**24**	P	**P**	**23 50 39.3**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=344,slow=2.4,SNR=3.9						
ASAR	**Alice Springs**	**84.89**	**113**	P	**P**	**23 51 04.2**	**+0.8**
	0.9nm,0.7s,mb4.1,baz=263,slow=4.6,SNR=11						
PDAR	**Pinedale Array**	**145.14**	**322**	PKPbc	PKPbc	23 58 05.0	-0.6
	0.7nm,0.8s,baz=57,slow=5.5,SNR=4.6						

*IDC **24** 23:42:02.3±3.0, 3575N×7075E, h0km, mb3.7/3, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, ML3.5/3, Error ellipse: s-maj=69.7km s-min=27.2km az=135.0*
*ISCJB **24** 23:42:15.6±0.5, 3622N±003×7095E±007, h125km±9km, mb3.6/2, Error ellipse: s-maj=9.7km s-min=4.6km az=154.8*
*NEIC **24** 23:42:17.7±3.7, 3622N×7122E, h142km±34km, mb3.7/2, Error ellipse: s-maj=39.4km s-min=25.4km az=153.0*
*MOS **24** 23:42:20.0±0.9, 3658N×7083E, h130km, mb3.7/1, Error ellipse: s-maj=31.9km s-min=14.3km az=86.5*
*NNC **24** 23:42:25.9±7.7, 3698N×7068E, h207km±80km, mb2.3, mpv3.2, Error ellipse: s-maj=72.8km s-min=49.6km az=36.0*

ISC 24 23:42:16.9±0.5, 3622N±003×7096E±007, h123km±8km, n41, σ1§17/50, mb3.6/2, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.52**	**162**	⇓P	**Pn**	**23 42 57.3**	**+0.4**
CEP				S	**Sn**	**23 43 29.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.18**	**143**	P	**Pn**	**23 43 08.2**	**+2.6**
THW	**Thamme Wali**	**3.48**	**169**	⇑P	**Pn**	**23 43 09.3**	**-0.2**
SBDP	**Sheikh Budin**	**3.91**	**182**	P	**Pn**	**23 43 13.6**	**-1.7**
SARP	**Sargodha**	**4.52**	**161**	P	**Pn**	**23 43 22.3**	**-1.0**
SARP				S	**Sn**	**23 44 13.0**	**-2.0**
THN	**Thein Dam**	**5.46**	**132**	*e*PG	**Pn**	**23 43 38.2**	**+2.3**
THN				*ex*	x	23 44 41.1	
DLH	**Dalhousie**	**5.53**	**130**	*e*SG	**Sn**	**23 44 39.0**	**-0.4**
DLH				*ex*	x	23 45 22.0	
AML	**Almayashu**	**6.27**	**19**	P	**Pn**	**23 43 47.5**	**+0.5**
	SNR=47						
UCH	**Uchtor**	**6.60**	**24**	P	**Pn**	**23 43 52.3**	**+0.9**
	SNR=9.9						
EKS2	**Erkin-Say**	**6.79**	**18**	P	**Pn**	**23 43 54.5**	**+0.5**
	SNR=10						
KK31	**Karatay Array**	**6.88**	**357**	P	**Pn**	**23 43 53.5**	**-1.7**
	2.5nm,0.2s,baz=184,slow=13,SNR=156						
KK31				⇑S	**Sn**	**23 45 06.7**	**-5.3**
	6.5nm,0.4s,baz=186,slow=24,SNR=9.3						
AAK	**Ala-Archa**	**6.96**	**22**	P	**Pn**	**23 43 57.2**	**+0.9**
	SNR=8.6						
AAK	**Ala-Archa**	**6.96**	**22**	*e*PN	**Pn**	**23 43 56.2**	**-0.1**
AAK				*e*		23 45 13.8	
AAK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
AAK	**Ala-Archa**	**6.96**	**22**	*e*Pn	**Pn**	**23 43 56.2**	**-0.1**
	comp=Z,6.6nm,0.4s						
AAK				*e*Sn	**Sn**	**23 45 13.8**	**-0.3**
SMLA	**Simla**	**7.25**	**133**	*e*PG	**Pn**	**23 44 01.6**	**+1.5**
SMLA				*e*SG	**Sn**	**23 45 20.2**	**-0.7**
	comp=Z,220nm,0.3s						
CHMS	**Chumysh**	**7.38**	**22**	P	**Pn**	**23 44 02.5**	**+0.7**
	SNR=11						
USP	**Ospennovka**	**7.55**	**20**	P	**Pn**	**23 44 04.6**	**+0.4**
	SNR=5.1						
TKM2	**Tokmak 2**	**7.59**	**27**	P	**Pn**	**23 44 05.8**	**+1.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.59**	**27**	⇑P	**Pn**	**23 44 05.6**	**+0.9**
	comp=Z,0.2nm,0.5s						
TKM2				⇓S	**Sn**	**23 45 27.3**	**-1.8**
	comp=Z,0.6nm,0.7s						
KLP	**Kalpa**	**7.66**	**126**	*e*PG	**Pn**	**23 44 07.1**	**+1.5**
KLP				*e*SG	**Sn**	**23 45 28.1**	**-2.7**
KHET	**Khetri**	**9.10**	**152**	*ex*	x	23 43 33.1	
KHET				*e*S	**Sn**	**23 45 58.1**	**-7.7**
KHET				AML	AML	23 46 00.2	
	comp=N,11nm,0.4s						
KHET				AML	AML	23 46 01.1	
	comp=E,17nm,0.4s						
SONA	**Sohna**	**9.49**	**145**	*e*S	**Sn**	**23 46 09.6**	**-5.5**
MKAR	**Makanchi Array**	**13.54**	**35**	Pn	**Pn**	**23 45 22.9**	**-1.0**
	comp=E,0.1nm,0.3s,baz=217,slow=15,SNR=2.6						
KOLN	**Koldanda**	**13.63**	**125**	*e*P	**Pn**	**23 45 25.0**	**-0.1**
	comp=E,3.5nm,0.3s						
GKN	**Gorkha**	**14.19**	**121**	*e*P	**Pn**	**23 45 31.4**	**-0.7**
	comp=E,6.2nm,0.3s						
GKN				*e*S	**Sn**	**23 48 00.7**	**-8.0**
DMN	**Daman**	**14.76**	**122**	*e*P	**Pn**	**23 45 39.4**	**0.0**
	comp=E,12nm,0.6s						
KKN	**Kakani**	**14.76**	**121**	*e*P	**Pn**	**23 45 39.1**	**-0.4**
	comp=E,4.4nm,0.2s						
PKI	**Pulchoki**	**14.99**	**121**	*e*P	**Pn**	**23 45 42.7**	**+0.4**
	comp=E,3.4nm,0.2s						
AB31	**Akbulak array**	**15.31**	**332**	P	**Pn**	**23 45 43.3**	**-3.0**
	comp=E,1.9nm,0.4s,baz=161,slow=12,SNR=55						
AB31				⇓S	S	23 48 18.8	-25
	comp=E,1.5nm,0.5s,baz=153,slow=24,SNR=7.8						
JIRN	**Jiri**	**15.48**	**119**	*e*P	**Pn**	**23 45 48.7**	**+0.3**
ZRNK	**Zerenda**	**16.79**	**356**	*e*P	**Pn**	**23 46 04.0**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZRNK	**Zerenda**	**16.79**	**356**	*e*Pn	**Pn**	**23 46 04.0**	**-0.5**
	comp=Z,1.3nm,0.4s						
BVAR	**Borovoye Array**	**16.81**	**359**	P	**Pn**	**23 46 04.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=185,slow=8.0,SNR=3.3						
AKTK	**Aktyubinsk**	**17.01**	**331**	P	**Pn**	**23 46 06.6**	**-0.6**
AKTO	**Aktyubinsk**	**17.01**	**331**	⇑P	**Pn**	**23 46 06.6**	**-0.6**
	comp=Z,0.1nm,0.8s						
AKTO				⇑S	**S**	**23 49 00.3**	**-16**
	comp=Z,0.4nm,1.9s						
AKTO	**Aktyubinsk**	**17.01**	**331**	P	**Pn**	**23 46 06.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=149,slow=13,SNR=11						
ZAL	**Zalesovo**	**20.17**	**24**	P	**P**	**23 46 43.7**	**+2.2**
	comp=Z,1.7nm,0.4s,baz=243,slow=9.0,SNR=4.6						
GNI	**Garni**	**20.95**	**289**	*e*P	**P**	**23 46 52.7**	**+2.8**
GNI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
GNI	**Garni**	**20.95**	**289**	*e*P	**P**	**23 46 52.7**	**+2.8**
	comp=Z,2.2nm,0.5s						
NOA	**NORSAR Array B**	**44.58**	**323**	P	**P**	**23 50 17.2**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.6,baz=97,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**65.68**	**269**	P	**P**	**23 52 47.8**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=50,slow=5.9,SNR=25						

NEIC 24 23:56:29.3, 5980N×15331W, h125km, MG3.2 (AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLKM	**Skilak Lake**	**1.70**	**64**	P	Pn	23 56 58.3	-1.1
SVW2	**Sparrevohn**	**1.72**	**320**	P	Pn	23 56 58.4	-1.3
SEW	**Seward**	**1.97**	**79**	P	Pn	23 57 01.3	-1.3
KDAK	**Kodiak Island**	**2.06**	**169**	*e*Pn	Pn	23 57 01.5	-2.2
KDAK				*e*Sn	Sn	23 57 27.2	-2.8
FIB	**Fire Island**	**2.08**	**47**	P	Pn	23 57 03.8	-0.1
RC01	**Rabbit Creek A**	**2.20**	**52**	P	Pn	23 57 04.1	-1.4
PMR	**Palmer**	**2.73**	**47**	P	Pn	23 57 10.4	-1.9
GHO	**Glory Hole Cre**	**2.93**	**45**	P	Pn	23 57 13.1	-1.7
TTA	**Tatalina**	**3.40**	**339**	*e*Pn	Pn	23 57 18.9	-2.1
TTA				*e*Sn	Sn	23 57 56.5	-4.5
EYAK	**Cordova Ski Ar**	**3.85**	**75**	P	Pn	23 57 25.6	-1.4
KTH	**Kantishna Hill**	**3.94**	**16**	P	Pn	23 57 27.0	-1.1
TRF	**Thorofare Moun**	**3.94**	**20**	P	Pn	23 57 26.4	-1.7
CHGN	**Chignik**	**4.43**	**220**	*e*P	Pn	23 57 33.0	-1.7
MCK	**McKinley**	**4.46**	**26**	P	Pn	23 57 33.5	-1.6
BMRM	**Bremner River**	**4.48**	**71**	P	Pn	23 57 34.0	-1.4
COLA	**College**	**5.70**	**24**	P	Pn	23 57 49.2	-2.4
IMA2	**Indian Mountai**	**6.30**	**359**	*e*P	Pn	23 57 59.3	-0.5
PNL	**Peninsula**	**7.04**	**85**	P	Pn	23 58 07.8	-2.0
INK	**Inuvik**	**12.10**	**37**	Pn	Pn	23 59 17.2	-0.3

*IDC **25** 00:27:40.5±0.9, 2836N×9648E, h0km, mb3.7/10, mb1 3.9/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=41.5km s-min=18.8km az=55.0*
*MOS **25** 00:27:43.2±1.0, 2841N×9659E, h33km, mb4.0/6, Error ellipse: s-maj=21.4km s-min=10.2km az=127.5*
*BJI **25** 00:27:43.0, 2806N×9635E, h37km, mB4.6, mb4.5, ML4.0, Ms3.4, Msz3.4*
*NEIC **25** 00:27:45.8±0.4, 2839N×9652E, h35km, mb4.0/6, Error ellipse: s-maj=14.1km s-min=8.1km az=224.0*
*ISCJB **25** 00:27:47.5±0.9, 2834N±007×9621E±004, h63km±10km, mb4.0/19, Error ellipse: s-maj=11.2km s-min=5.6km az=160.0*

ISC 25 00:27:47.7±0.9, 2844N±006×9635E±005, h45km±9km, n50, σ1§07/61, mb4.0/18, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**4.24**	**211**	*i* PN	**Pn**	**00 28 50.0**	**+0.3**
IMP				*i* SN	**Sn**	**00 29 40.0**	**+2.1**
LSA	**Lhasa**	**4.72**	**287**	P	**Pn**	**00 29 00.0**	**+3.7**
LSA				S	**Sn**	**00 29 57.0**	**+7.2**
LSA				Smax			
	comp=N,70nm,0.6s						
LSA				Smax			
	comp=E,100nm,0.6s						
LSA	**Lhasa**	**4.72**	**287**	*e*Pn	**Pn**	**00 28 56.7**	**+0.4**
LSA				Sn	**Sn**	**00 29 50.1**	**+0.3**
SHL	**Shillong**	**4.91**	**235**	*i* PN	**Pn**	**00 29 00.0**	**+1.1**
SHL				*e*SN		00 29 15.0	
CD2	**Chengdu**	**6.90**	**67**	*e*P	**Pn**	**00 29 31.4**	**+5.3**
CD2				LR	LR		
	comp=N,250nm,8.4s						
CD2				LR	LR		
	comp=Z,250nm,9.6s						
JIRN	**Jiri**	**9.01**	**267**	*e*Pn	**Pn**	**00 29 55.9**	**+0.8**
JIRN				*e*Sn	**Sn**	**00 31 35.1**	**-0.1**
GUN	**Gumba**	**9.26**	**269**	*e*Pn	**Pn**	**00 29 59.1**	**+0.6**
GUN				*e*Sn	**Sn**	**00 31 40.3**	**-1.0**
	comp=Z,92nm,0.4s						
GYA	**Guiyang**	**9.37**	**100**	P	**Pn**	**00 29 57.1**	**-3.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
PKI	**Pulchoki**	**9.71**	**267**	*e*Pn	**Pn**	**00 30 04.8**	**+0.1**
PKI				*e*Sn	**Sn**	**00 31 51.6**	**-0.8**
	comp=Z,105nm,0.5s						
KKN	**Kakani**	**9.80**	**269**	*e*Pn	**Pn**	**00 30 06.4**	**+0.5**
KKN				*e*Sn	**Sn**	**00 31 53.6**	**-0.9**
	comp=Z,86nm,0.3s						
DMN	**Daman**	**9.97**	**268**	*e*Pn	**Pn**	**00 30 08.6**	**+0.3**
DMN				*e*Sn	**Sn**	**00 31 58.5**	**-0.3**
	comp=Z,84nm,0.5s						
GKN	**Gorkha**	**10.34**	**270**	*e*Pn	**Pn**	**00 30 12.3**	**-1.0**
GKN				*e*Sn	**Sn**	**00 32 05.3**	**-2.6**
	comp=Z,72nm,0.3s						
KOLN	**Koldanda**	**11.28**	**270**	*e*Pn	**Pn**	**00 30 24.8**	**-1.4**
KOLN					**Sn**	**00 32 26.5**	**-4.3**
	comp=Z,51nm,0.4s						
HHC	**Hu-ho-hao-te**	**17.57**	**41**	*e*P	**Pn**	**00 31 51.3**	**+2.2**
HHC				AP	pP	00 31 59.3	-1.1
HHC				XP	sP	00 32 03.8	-2.3
HHC				PP		00 32 05.9	
HHC				S	**S**	**00 35 04.4**	**-5.4**
HHC				XS	sS	00 35 17.5	-9.3
HHC				SS		00 35 27.3	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.3s						
HHC				AMB	AMB		
	comp=Z,115nm,4.3s						
HHC				LR	LR		
	comp=N,193nm,5.1s						
HHC				LR	LR		
	comp=E,182nm,5.9s						
HHC				LR	LR		
	comp=Z,92nm,5.5s						
NJ2	**Nanjing**	**19.76**	**74**	*e*P	**Pn**	**00 32 15.8**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
SONM	**Songino Array**	**20.88**	**19**	P	**P**	**00 32 25.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=203,slow=12,SNR=7.7						
SONM	**Songino Array**	**20.88**	**19**	P	**P**	**00 32 25.6**	**-0.3**
MKAR	**Makanchi Array**	**21.38**	**333**	P	**P**	**00 32 30.8**	**-0.5**
	comp=Z,1.6nm,0.5s,mb3.6,baz=134,slow=13,SNR=18						
MKAR	**Makanchi Array**	**21.38**	**333**	P	**P**	**00 32 30.8**	**-0.5**
ZAK	**Zakamensk**	**22.53**	**12**	*e*P	**P**	**00 32 48.2**	**+4.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
AAK	**Ala-Archa**	**22.65**	**314**	*e*P	**P**	**00 32 45.7**	**+0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
AAK	**Ala-Archa**	**22.65**	**314**	*e*P	**P**	**00 32 45.7**	**+0.9**
	comp=Z,1.8nm,0.7s,mb3.6						
ZAL	**Zalesovo**	**26.84**	**345**	P	**P**	**00 33 22.9**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.5,baz=317,slow=10,SNR=4.4						
ZAL	**Zalesovo**	**26.84**	**345**	P	**P**	**00 33 22.9**	**-0.9**
BRVK	**Borovoye**	**31.21**	**329**	*e*P	**P**	**00 34 03.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
BRVK	**Borovoye**	**31.21**	**329**	*e*P	**P**	**00 34 03.0**	**+0.4**
	comp=Z,1.3nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**31.73**	**328**	*e*P	**P**	**00 34 07.9**	**+0.7**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ZRNK	**Zerenda**	**31.73**	**328**	*e*P	**P**	**00 34 07.9**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.8						
KLR	**Kul'dur**	**34.07**	**43**	*e*P	**P**	**00 34 25.7**	**-1.9**
MIB	**Mutribah**	**42.58**	**284**	*e*P	**P**	**00 35 39.9**	**+0.8**
MIB				AMb	AMB	00 35 41.0	
	comp=Z,33nm,0.5s						
NAY	**Al-Naaiem**	**42.77**	**283**	*e*P	**P**	**00 35 41.2**	**+0.6**
NAY				AMb	AMB	00 35 43.2	
	comp=Z,17nm,0.9s,mb4.8						
RST	**Umm Al-Ruwaisa**	**42.93**	**284**	*e*P	**P**	**00 35 42.2**	**+0.3**
RST				AMb	AMB	00 35 43.2	
	comp=Z,25nm,0.5s,mb5.2						
GNI	**Garni**	**43.66**	**300**	P	**P**	**00 35 48.6**	**+0.8**
KIV	**Kislovodsk**	**45.21**	**305**	P	**P**	**00 36 01.1**	**+0.9**
KIV	**Kislovodsk**	**45.21**	**305**	P	**P**	**00 36 01.1**	**+0.9**
MALT	**Malatya**	**48.67**	**297**	*e*P	**P**	**00 36 29.1**	**+1.9**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MALT	**Malatya**	**48.67**	**297**	*e*P	**P**	**00 36 29.1**	**+1.9**
	comp=Z,0.5nm,0.4s,mb3.9						
BRTR	**Keskin Array B**	**52.20**	**300**	P	**P**	**00 36 54.5**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=133,slow=7.1,SNR=6.4						
FINES	**FINESS Array B**	**56.06**	**327**	P	**P**	**00 37 21.4**	**-0.6**
	comp=Z,1.5nm,1.0s,mb4.0,baz=72,slow=8.9,SNR=4.1						
FINES	**FINESS Array B**	**56.06**	**327**	P	**P**	**00 37 21.4**	**-0.6**
WRAB	**Tennant Creek**	**60.51**	**138**	*e*P	**P**	**00 37 51.4**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**60.51**	**138**	*e*P	**P**	**00 37 51.4**	**-1.6**
	comp=Z,5.3nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**60.51**	**138**	P	**P**	**00 37 51.1**	**-2.0**
	comp=Z,1.2nm,0.5s,mb4.3,baz=327,slow=7.5,SNR=6.5						
PSZ	**Piszkesteto**	**60.70**	**311**	*e*P	**P**	**00 37 54.0**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
PSZ	**Piszkesteto**	**60.70**	**311**	*e*P	**P**	**00 37 54.0**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**63.19**	**141**	P	**P**	**00 38 10.2**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.9,baz=324,slow=6.5,SNR=4.8						
NB2	**NORSAR Subarra**	**63.24**	**327**	P	**P**	**00 38 10.4**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.8,baz=80,slow=6.9						
NOA	**NORSAR Array B**	**63.24**	**327**	P	**P**	**00 38 10.4**	**-1.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=81,slow=6.6,SNR=3.7						
GERES	**GERESS Array B**	**64.52**	**313**	P	**P**	**00 38 20.5**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.5,baz=68,slow=8.8,SNR=3.9						
KEST	**Kesra**	**71.77**	**301**	P	**P**	**00 39 06.2**	**+1.0**
	comp=Z,2.8nm,1.1s,mb4.1,baz=297,slow=4.5,SNR=4.5						

*NEIC **25** 00:58:30.3, 3748S×17839E, h42km, ML4.1(WEL), After WEL.*

WEL 25 00:58:31.0±0.4, 3752S×17835E, h42km±4km, ML4.1/6, 1C-2D, Error ellipse: s-maj=2.9km s-min=1.9km az=90.0, Off east coast of North Island

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

MXZ	**Matakaoa Point**	**0.06**	**219**	P	Pn	00 58 37.2	-0.5
MXZ				S	Sn	00 58 42.1	-0.2
MXZ	**Matakaoa Point**	**0.06**	**219**	⇓PN	Pn	00 58 37.1	-0.5
MXZ				SN	Sn	00 58 42.1	-0.2
PUZ	**Puketiti**	**0.56**	**188**	P	Pn	00 58 42.4	-0.1
PUZ				S	Sn	00 58 51.4	+0.7
PUZ	**Puketiti**	**0.56**	**188**	⇑PN	Pn	00 58 42.4	-0.1
PUZ				SN	Sn	00 58 51.4	+0.7
WIZ	**White Island**	**0.92**	**269**	P	Pn	00 58 47.4	-0.1
WIZ	**White Island**	**0.92**	**269**	PN	Pn	00 58 47.2	-0.3
MWZ	**Matawai**	**1.04**	**218**	P	Pn	00 58 49.1	0.0
MWZ	**Matawai**	**1.04**	**218**	PN	Pn	00 58 49.1	0.0
MWZ				SN	Sn	00 59 02.6	+0.1
URZ	**Urewera**	**1.23**	**233**	P	Pn	00 58 51.2	-0.5
URZ	**Urewera**	**1.23**	**233**	⇓PN	Pn	00 58 51.2	-0.4
URZ				SN	Sn	00 59 05.8	-1.2
EDRZ	**Edgecumbe**	**1.41**	**245**	PN	Pn	00 58 54.0	-0.1
EDRZ				SN	Sn	00 59 11.0	-0.4
KNZ	**Kokohu**	**1.59**	**199**	P	Pn	00 58 55.1	-1.5
KNZ	**Kokohu**	**1.59**	**199**	PN	Pn	00 58 55.0	-1.7
KNZ				SN	Sn	00 59 14.7	-1.2
TAZ	**Tarawera**	**1.62**	**243**	P	Pn	00 58 57.4	+0.3
TAZ	**Tarawera**	**1.62**	**243**	PN	Pn	00 58 57.3	+0.3
PATZ	**Paeroa**	**1.86**	**242**	P	Pn	00 59 00.4	0.0
PATZ	**Paeroa**	**1.86**	**242**	PN	Pn	00 59 00.4	0.0
BKZ	**Black Stump Fm**	**2.20**	**221**	P	Pn	00 59 04.4	-0.6
BKZ	**Black Stump Fm**	**2.20**	**221**	PN	Pn	00 59 04.2	-0.8
BKZ				SN	Sn	00 59 30.3	-0.7
KUZ	**Kuaotunu**	**2.24**	**289**	P	Pn	00 59 05.0	-0.5
KUZ	**Kuaotunu**	**2.24**	**289**	PN	Pn	00 59 04.9	-0.6
KUZ				SN	Sn	00 59 29.7	-2.2
KATZ	**Kakaramea**	**2.55**	**234**	P	Pn	00 59 10.1	+0.3
KATZ	**Kakaramea**	**2.55**	**234**	PN	Pn	00 59 10.0	+0.2
KRVZ	**Karewarewa**	**2.65**	**233**	PN	Pn	00 59 11.2	0.0
KRVZ				SN	Sn	00 59 41.5	-0.5
TUVZ	**Tukino**	**2.75**	**230**	P	Pn	00 59 12.2	-0.3
TUVZ	**Tukino**	**2.75**	**230**	PN	Pn	00 59 12.2	-0.3
MOVZ	**Moawhango**	**2.78**	**226**	P	Pn	00 59 12.0	-0.9
WNVZ	**Wahianoa**	**2.82**	**229**	P	Pn	00 59 13.0	-0.5
TSZ	**Takapari Road**	**3.15**	**216**	P	Pn	00 59 14.9	-3.1
WAZ	**Wanganui**	**3.46**	**229**	P	Pn	00 59 21.9	-0.3
WCZ	**Waipu Caves**	**3.58**	**295**	*e*P	Pn	00 59 25.3	+1.3
MRZ	**Mangatainoka R**	**3.81**	**214**	P	Pn	00 59 23.4	-3.7
MRZ				S	Sn	01 00 05.7	-4.9
MRZ	**Mangatainoka R**	**3.81**	**214**	PN	Pn	00 59 23.4	-3.7
MRZ				SN	Sn	01 00 05.7	-4.9
PKE	**Pukeiti**	**3.82**	**243**	P	Pn	00 59 29.3	+2.1
MTW	**Mount Morrison**	**4.25**	**210**	PN	Pn	00 59 28.9	-4.3
KIW	**Kapiti Island**	**4.28**	**218**	PN	Pn	00 59 29.9	-3.6
CAW	**Cannon Point**	**4.40**	**214**	PN	Pn	00 59 30.7	-4.5
TCW	**Tory Channel**	**4.86**	**219**	PN	Pn	00 59 36.9	-4.6
THZ	**Tophouse**	**5.97**	**223**	PN	Pn	00 59 51.8	-5.0

*ISCJB **25** 01:21:12.9±0.5, 4468N±002×999E±004, h6km±5km, Error ellipse: s-maj=5.3km s-min=3.8km az=30.1*
*VIE **25** 01:21:12.8±0.3, 4464N×992E, h8km, mb2.1/2, ML2.2/4, Error ellipse: s-maj=5.1km s-min=1.2km az=75.0 82 km ENE of Genua*
*ROM **25** 01:21:12.5±0.3, 4471N×1012E, h7km±4km, Md2.3/9, Ml2.1/3, Error ellipse: s-maj=3.3km s-min=1.9km az=62.0*
*LDG **25** 01:21:13.8±0.6, 4486N×1020E, h10km, Ml2.3/4, Error ellipse: s-maj=14.2km s-min=4.7km az=110.0*

ISC 25 01:21:13.8±0.5, 4466N±002×1002E±004, h8km±5km, n24, σ1§13/39, 3C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERBM	**Eremo**	**0.37**	**131**	Pg	**Pg**	**01 21 21.0**	**0.0**
	96nm,0.9s						
BOB	**Bobbio (Coli)**	**0.42**	**285**	Pg	**Pg**	**01 21 23.1**	**+1.2**
BOB				Sg	**Sg**	**01 21 31.2**	**+3.7**
	38nm,0.2s						
GSCL	**Gusciola**	**0.51**	**127**	Pg	**Pg**	**01 21 23.6**	**-0.1**
GSCL				Sg	**Sg**	**01 21 32.2**	**+1.8**
	38nm,0.7s						
VLC	**Villacollemand**	**0.57**	**152**	Pg	**Pg**	**01 21 24.3**	**-0.4**
VLC				Sg	**Sg**	**01 21 33.8**	**+1.7**
BDI	**Bagni Di Lucca**	**0.73**	**145**	Pg	**Pg**	**01 21 26.9**	**-0.9**
PII	**Pisa**	**1.01**	**159**	Pg	**Pg**	**01 21 33.1**	**0.0**
PII				Sg	**Sg**	**01 21 50.4**	**+4.2**
	11nm,0.2s						
**M

TUP	**Tupik**	**3.45**	**37**	*e*Pn	Pn	01 47 14.4	+0.5	
TUP				*e*Pg	Pn	01 47 22.7	+8.8	
TUP				*e*		01 47 27.8		
TUP				max		01 47 28.2		
	comp=N,97nm,0.4s							
TUP				*e*Sn	Sn	01 47 53.1	-0.9	
TUP				*e*Sg	Sn	01 48 06.8	+13	
TUP				Smax		01 48 10.3		
	comp=N,506nm,0.4s							
TUP				*e*		01 48 22.8		
TUP	**Tupik**	**3.45**	**37**	*e*PN	Pn	01 47 22.4	+8.5	
TUP				*e*		01 48 06.5		
TUP				pmax	pmax			
	comp=Z,92nm,0.4s							
TUP				smax				
	comp=E,504nm,0.4s							
UKT	**Uakit**	**4.12**	**337**⇑	*i*Pn	Pn	01 47 23.1	-0.1	
UKT				⇓*i*		01 47 24.8		
UKT				⇑*i*		01 47 38.5		
UKT				max		01 47 38.7		
	comp=E,35nm,0.7s							
UKT				*e*Sn	Sn	01 48 10.1	-0.5	
UKT				*e*Sg	Sn	01 48 27.8	+17	
UKT				Smax		01 48 33.0		
	comp=E,126nm,0.9s							
SYVR	**Suvo**	**4.36**	**299**⇑	*i*Pn	Pn	01 47 27.2	+0.8	
SYVR				*e*		01 47 29.3		
SYVR				⇑*i*Pg	Pn	01 47 39.1	+13	
SYVR				*e*		01 47 42.0		
SYVR				max		01 47 42.2		
	comp=E,34nm,0.5s							
SYVR				*e*Sn	Sn	01 48 15.9	-0.5	
SYVR				*e*Sg	Sn	01 48 35.9	+20	
SYVR				Smax		01 48 38.6		
	comp=E,352nm,1.2s							
SYVR	**Suvo**	**4.36**	**299**	*e*PN	Pn	01 47 38.9	+13	
SYVR				*e*		01 48 34.9		
SYVR				pmax	pmax			
	comp=Z,33nm,0.3s							
SYVR				smax				
	comp=N,244nm,1.0s							
YLYR	**Ulyunkhan**	**4.46**	**317**	*e*Pn	Pn	01 47 28.6	+0.8	
YLYR				*e*Pg	Pn	01 47 40.6	+13	
YLYR				*e*		01 47 43.7		
YLYR				max		01 47 44.2		
	comp=N,30nm,0.8s							
YLYR				*e*Sn	Sn	01 48 19.6	+0.7	
YLYR				*e*Sg	Sn	01 48 38.8	+20	
YLYR				Smax		01 48 41.1		
	comp=N,266nm,1.1s							
YLYR	**Ulyunkhan**	**4.46**	**317**	*e*PN	Pn	01 47 28.2	+0.4	
YLYR				*e*S	Sn	01 48 18.7	-0.2	
SVKR	**Severomuysk**	**4.72**	**340**	*e*Sg	Sn	01 48 50.1	+25	
SVKR				Smax		01 49 00.1		
	comp=N,409nm,0.9s							
NLYR	**Nelyaty**	**4.80**	**355**	*e*Pn	Pn	01 47 32.3	-0.1	
NLYR				*e*Sg	Sn	01 48 51.9	+25	
MXMB	**Maximikha**	**4.93**	**291**	*e*Pg	Pn	01 47 50.5	+16	
MXMB				Pmax		01 47 53.9		
	comp=N,43nm,0.8s							
MXMB				*e*Sn	Sn	01 48 33.0	+2.4	
MXMB				*e*Sg	Sn	01 48 54.0	+23	
MXMB				Smax		01 49 01.2		
	comp=N,738nm,1.1s							
KMO	**Kumora**	**5.19**	**326**	*i* Pn	Pn	01 47 40.9	+3.1	
KMO				max		01 47 58.9		
	comp=N,13nm,0.5s							
KMO				*e*Sn	Sn	01 48 36.5	-0.4	
KMO				*e*Sg	Sn	01 49 00.8	+24	
KMO				Smax		01 49 20.1		
	comp=N,196nm,1.4s							
YOA	**Uoyan**	**5.22**	**330**	*e*Sg	Sn	01 49 04.1	+27	
YOA				Smax		01 49 08.9		
	comp=N,711nm,1.3s							
CRS	**Chara**	**5.30**	**11**	*e*Pn	Pn	01 47 40.6	+1.2	
CRS				*e*Pg	Pn	01 47 57.5	+18	
CRS				Pmax		01 48 03.8		
	comp=N,29nm,1.3s							
CRS				*e*Sg	Sn	01 49 07.0	+27	
CRS				Smax		01 49 18.0		
	comp=N,259nm,1.4s							
CRS	**Chara**	**5.30**	**11**	*e*PN	Pn	01 47 41.9	+2.5	
CRS				*e*		01 47 57.2		
CRS				*e*		01 49 05.4		
CRS				pmax	pmax			
	comp=Z,28nm,1.3s							
CRS				smax				
	comp=E,262nm,1.6s							
TRTB	**Turuntaevo**	**5.45**	**279**	*e*Pn	Pn	01 47 41.0	-0.4	
TRTB				max		01 48 04.8		
	comp=E,24nm,0.8s							
TRTB				*e*Sn	Sn	01 48 43.4	0.0	
TRTB				*e*Sg	Sn	01 49 09.2	+26	
TRTB				Smax		01 49 15.4		
	comp=E,348nm,1.0s							
KHNR	**Khani**	**5.61**	**20**	*e*Pn	Pn	01 47 43.5	-0.1	
KHNR				*e*Pg	Pn	01 48 03.2	+20	
KHNR				*e*Sn	Sn	01 48 49.3	+1.9	
KHNR				*e*Sg	Sn	01 49 15.8	+28	
OGRR	**Ongureny**	**5.70**	**293**	*e*Pn	Pn	01 47 44.4	-0.4	
OGRR				*e*Pg	Pn	01 48 03.9	+19	
OGRR				Pmax		01 48 06.1		
	comp=E,8.0nm,0.5s							
OGRR				*e*Sn	Sn	01 48 49.8	+0.4	
OGRR				*e*Sg	Sn	01 49 17.1	+28	
OGRR				Smax		01 49 23.8		
	comp=E,118nm,1.2s							
OGRR	**Ongureny**	**5.70**	**293**	*e*PN	Pn	01 47 43.9	-0.9	
OGRR				*e*		01 48 01.9		
OGRR				*e*		01 49 18.4		
OGRR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
OGRR				smax				
	comp=N,119nm,1.3s							
NIZ	**Nizh Angarsk**	**5.75**	**318**	*e*Pn	Pn	01 47 50.0	+4.4	
NIZ				*e*Pg	Pn	01 48 06.0	+20	
NIZ				Pmax		01 48 11.5		
	comp=N,10.0nm,0.8s							
NIZ				*e*Sn	Sn	01 48 52.4	+1.6	
NIZ				*e*Sg	Sn	01 49 19.9	+29	
NIZ				Smax		01 49 34.2		
	comp=N,80nm,1.4s							
ZRHB	**Zarechye**	**5.76**	**282**	*e*Pn	Pn	01 47 48.7	+3.0	
ZRHB				*e*Pg	Pn	01 48 05.9	+20	
ZRHB				Pmax		01 48 10.9		
	comp=N,82nm,1.0s							
ZRHB				*e*Sn	Sn	01 48 54.1	+3.1	
ZRHB				*e*Sg	Sn	01 49 20.5	+29	
ZRHB				Smax		01 49 43.0		
	comp=N,944nm,1.0s							
HRMR	**Khuramsha**	**5.88**	**273**	*e*Pn	Pn	01 47 47.5	+0.1	
HRMR				*e*Pg	Pn	01 48 06.8	+19	
HRMR				Pmax		01 48 14.3		
	comp=N,45nm,0.6s							
HRMR				*e*Sn	Sn	01 48 54.3	+0.3	
HRMR				*e*Sg	Sn	01 49 23.4	+29	
HRMR				Smax		01 49 29.3		
	comp=N,828nm,1.0s							
BOD	**Bodaibo**	**6.27**	**348**	*e*Sg	Sn	01 49 34.6	+31	
BOD				Smax		01 49 36.3		
	comp=N,83nm,1.6s							
BOD	**Bodaibo**	**6.27**	**348**	*e*PN	Pn	01 47 52.3	-0.3	
BOD				*e*		01 48 14.0		
BOD				*e*		01 49 35.0		
BOD				pmax	pmax			
	comp=Z,12nm,0.3s							
BOD				smax				
	comp=E,83nm,1.4s							
TRG	**Tyrgan**	**6.27**	**284**	*e*Pn	Pn	01 47 52.5	-0.1	
TRG				*e*Pg	Pn	01 48 15.6	+23	
TRG				Pmax		01 48 19.2		
	comp=E,6.0nm,0.4s							
TRG				*e*Sn	Sn	01 49 04.4	+0.9	
TRG				*e*Sg	Sn	01 49 36.6	+33	
TRG				Smax		01 49 41.2		
	comp=E,87nm,0.9s							
TRG	**Tyrgan**	**6.27**	**284**	*e*PN	Pn	01 48 12.2	+20	
TRG				*e*S	Sn	01 49 04.5	+1.0	
TRG				*e*		01 49 36.2		
TRG				pmax	pmax			
	comp=Z,9.0nm,0.3s							
TRG				smax				
	comp=N,76nm,0.6s							
IENR	**Iengra**	**6.73**	**45**	*e*	Pn	01 48 25.5	+27	
IENR				*e*Sg	Sn	01 49 49.0	+34	
TLY	**Talaya**	**7.94**	**275**	*e*Sg	Sn	01 50 27.3	+43	
TLY				Smax		01 50 39.2		
	comp=N,19nm,0.6s							
TLY	**Talaya**	**7.94**	**275**	*e*PG	Pn	01 48 44.9	+29	
ZAK	**Zakamensk**	**8.38**	**266**	*e*Pg	Pn	01 48 53.0	+31	
ZAK				Pmax		01 48 56.5		
	comp=N,4.0nm,0.5s							
ZAK				*e*Sn	Sn	01 49 55.4	-0.1	
ZAK				*e*Sg	Sn	01 50 41.3	+46	
ZAK				Smax		01 50 59.5		
	comp=N,184nm,2.0s							
ZAK	**Zakamensk**	**8.38**	**266**	*e*PN	Pn	01 48 21.5	-0.2	
ZAK				*e*		01 48 50.3		
ZAK				*e*		01 49 51.8		
ZAK				*e*		01 50 40.8		
ZAK				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ZAK				smax				
	comp=N,179nm,1.8s							
MOY	**Mondy**	**9.58**	**276**	*e*	Pn	01 49 32.7	+55	
MOY				*e*Sg	Sn	01 51 19.5	+55	
MOY				Smax		01 51 31.3		
	comp=N,75nm,1.4s							
ORL	**Orlik**	**10.24**	**281**	*e*Sn	Sn	01 50 39.3	-1.9	
ORL				*e*Sg	Sn	01 51 39.5	+58	
ORL				Smax		01 52 01.7		
	comp=N,68nm,1.4s							

ISCJB ***25*** *01:52:34.3±0.5, 556S±0.1×1249W±0.1, h10km, mb4.4/9, MS4.0/9, Error ellipse: s-maj=15.7km s-min=11.1km az=36.3*

IDC ***25*** *01:52:34.4±1.2, 5581S×12492W, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.3/5, MS4.0/9, Ms1 4.0/9, ms1mx3.8/19, Error ellipse: s-maj=42.7km s-min=24.2km az=3.0*

NEIC ***25*** *01:52:36.9±0.6, 5593S×12478W, h10km, mb4.6/6, Error ellipse: s-maj=24.4km s-min=11.4km az=173.0*

GCMT ***25*** *01:52:36.9±0.3, 5559S×12477W, h15km, MW5.1/65, Moment Tensor Solution. s37,c47; s65,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.77±.18; Mθθ3.16±.17; Mϕϕ-2.39±.16; Mrθ1.68±.51; Mϕθ4.15±.13; Mrϕ0.60±.49; Best double couple: M₀5.23800×10¹⁶ NP1:ϕs16.00000°, δ76.00000°, λ172.00000°. NP2: ϕs108.00000°, δ83.00000°, λ14.00000°. Principal axes: T 5.8480, Plg15.0000°, Azm332.0000°; N -1.2230, Plg74.0000°, Azm136.0000°; P -4.6270, Plg4.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 01:52:36.6±0.6, 558S±01×1248W±02, h10km, (h11km±2.8km:pP-P), n44, σ0°90°/30, mb4.4/9, MS4.0/9, 1C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.23**	**132**			LR	LR	02 07 31.0	
	comp=Z,263nm,20.2s,MS3.9,baz=73,slow=30								
PMSA	**Palmer Station**	**30.23**	**132**	*e*	P		**P**	**01 58 47.1**	**-0.3**
QSPA	**South Pole Qui**	**34.35**	**180**	*e*	P		**P**	**01 59 28.1**	**+4.7**
	5.6nm,1.1s,mb4.4								
TBI	**Tubuai**	**37.18**	**321**	*e*	S		**S**	**02 05 27.8**	**-6.6**
	147nm,32.2s								
TBI					eLQ			02 08 07.1	
	284nm,28.2s								
TBI					eLR	LR		02 09 30.7	
	858nm,29.5s,baz=163								
PLCA	**Paso Flores**	**38.10**	**90**	LR		LR		02 11 34.1	
	comp=Z,231nm,19.7s,MS4.0,baz=226,slow=30								
EFI	**East Falkland**	**38.32**	**113**	P			**P**	**01 59 56.8**	**-0.5**
PPT	**Papeete**	**42.56**	**324**	*e*	S		**S**	**02 06 48.8**	**-6.2**
	162nm,26.0s								
PPT					eLQ			02 10 07.3	
	1μm,27.5s								
PPT					eLR	LR		02 12 13.7	
	905nm,26.0s,baz=164								
PPT	**Papeete**	**42.56**	**324**	LR		LR		02 13 39.2	
	comp=Z,295nm,18.8s,MS4.2,baz=159,slow=30								
TRQA	**Tornquist**	**44.76**	**94**	P			**P**	**02 00 51.1**	**+0.9**
VNA3	**Neumayer Olymp**	**45.28**	**156**	*e*			**P**	**02 00 53.8**	**-0.5**
VNA3				*e*			pP	02 00 56.8	-0.7
VNA3				*e*			pP	02 00 58.6	+1.1
CFAA	**Coronel Fontan**	**45.92**	**83**	P			**P**	**02 00 59.3**	**-0.1**
	0.2nm,0.8s,baz=205,slow=5.2,SNR=2.8								
VNA1	**Neumayer--Stat**	**46.03**	**156**	*e*			**P**	**02 01 00.9**	**+0.6**
VNA1				*e*			pP	02 01 03.5	+0.1
VNA1				*e*			pP	02 01 05.3	+1.9
SNAA	**Sanae**	**46.48**	**158**	P			**P**	**02 01 04.2**	**+0.4**
	2.2nm,0.9s,mb4.1,baz=213,slow=6.7,SNR=29								
SNAA					LR	LR		02 19 12.8	
	comp=Z,69nm,20.4s,MS3.6,baz=217,slow=34								
SNAA	**Sanae**	**46.48**	**158**	*e*			**P**	**02 01 03.4**	**-0.4**
SNAA				*e*			pP	02 01 05.8	-1.1
SNAA	**Sanae**	**46.48**	**158**	*e*	P		**P**	**02 01 02.9**	**-0.9**
	5.4nm,0.8s,mb4.5								
TAOE	**Nuku Hiva Isla**	**48.39**	**340**	*e*	S		**S**	**02 08 10.6**	**-8.5**
	479nm,26.3s								
TAOE					eLR	LR		02 14 49.9	
	2μm,27.8s,baz=175								
CASY	**Casey**	**51.29**	**205**	P			**P**	**02 01 35.8**	**-5.0**
LVC	**Limon Verde**	**52.57**	**75**	*e*	P		**P**	**02 01 50.2**	**0.0**
TAU	**Tasmania Unive**	**54.85**	**244**	P			**P**	**02 02 11.8**	**+4.9**
SYO	**Syowa Base**	**54.95**	**173**⇑	*e*	P		**P**	**02 02 09.6**	**+1.9**
CPUP	**Villa Florida**	**56.09**	**88**	LR		LR		02 22 52.7	
	comp=Z,168nm,18.8s,MS4.2,baz=211,slow=32								
MAW	**Mawson**	**56.75**	**184**	P			**P**	**02 02 18.4**	**-2.1**
	4.1nm,0.9s,mb4.4,baz=204,slow=10.0,SNR=2.5								
MAW					LR	LR		02 24 31.7	
	comp=Z,239nm,20.7s,MS4.3,baz=350,slow=34								
MAW	**Mawson**	**56.75**	**184**	*e*	P		**P**	**02 02 17.8**	**-2.7**
	12nm,1.2s,mb4.8								
LPAZ	**La Paz**	**58.16**	**71**	LR		LR		02 21 32.8	
	comp=Z,62nm,20.6s,MS3.7,baz=237,slow=30								
STKA	**Stephens Creek**	**66.17**	**248**	*e*	P		**P**	**02 03 23.3**	**-1.0**
	2.4nm,0.7s,mb4.3								
STKA	**Stephens Creek**	**66.17**	**248**	P			**P**	**02 03 23.1**	**-1.2**
	2.9nm,0.7s,mb4.4,baz=166,slow=10.0,SNR=2.7								
STKA	**Stephens Creek**	**66.17**	**248**	P			**P**	**02 03 26.6**	**+2.3**
SAML	**Samuel**	**66.90**	**71**	*e*	P		**P**	**02 03 28.7**	**-0.3**
	1.4nm,0.8s,mb4.0								
BDFB	**Brasilia**	**69.81**	**88**	LR		LR		02 31 17.7	
	comp=Z,253nm,19.6s,MS4.5,baz=216,slow=33								
ROSC	**El Rosal**	**73.25**	**53**	LR		LR		02 29 26.4	
	comp=Z,117nm,18.9s,MS4.2,baz=28,slow=30								
ASAR	**Alice Springs**	**76.79**	**247**	P			**P**	**02 04 27.8**	**-0.6**
	1.9nm,0.8s,mb4.1,baz=142,slow=5.3,SNR=15								
WB2	**Warramunga Arr**	**79.61**	**250**	*e*	P		**P**	**02 04 44.1**	**+0.1**
WB2	**Warramunga Arr**	**79.61**	**250**	*e*	P		**P**	**02 04 44.1**	**+0.1**
WRA	**Warramunga Arr**	**79.62**	**250**	P			**P**	**02 04 43.3**	**-0.8**
	4.6nm,0.9s,mb4.4,baz=145,slow=5.0,SNR=22								
WRAB	**Tennant Creek**	**79.62**	**250**	*e*	P		**P**	**02 04 44.1**	**+0.1**
	6.3nm,0.8s,mb4.6								
FITZ	**Fitzroy Crossi**	**85.67**	**244**	*e*	P		**P**	**02 05 16.1**	**+0.6**
	4.3nm,0.6s,mb4.9								
MBWA	**Marble Bar**	**85.98**	**238**	*e*	P		**P**	**02 05 18.0**	**+0.9**
PKI	**Pulchoki**	**144.37**	**230**	*e*	P	PKPdf		02 12 11.9	-1.1
	12nm,0.7s								
DMN	**Daman**	**144.54**	**230**	*e*	P	PKPdf		02 12 12.8	-0.4
	14nm,0.5s								
KKN	**Kakani**	**144.62**	**230**	*e*	P	PKPdf		02 12 12.8	-0.6
	50nm,1.2s								
GKN	**Gorkha**	**145.08**	**229**	*e*	P	PKPbc		02 12 13.8	+0.2
KOLN	**Koldanda**	**145.32**	**228**	*e*	P	PKPbc		02 12 14.6	+0.2
	24nm,1.0s								
BRTR	**Keskin Array B**	**158.49**	**129**	PKPab		PKPab		02 13 05.8	-3.2
	0.5nm,0.8s,baz=142,slow=6.3,SNR=4.6								
MKAR	**Makanchi Array**	**160.89**	**253**	PKPab		PKPab		02 13 18.9	-0.6
	0.6nm,0.6s,baz=116,slow=5.5,SNR=4.3								

ISCJB ***25*** *02:06:58.8±0.6, 177S±0.1×4177E±008, h10km, mb3.7/9, Error ellipse: s-maj=15.8km s-min=10.7km az=155.6*

IDC ***25*** *02:06:59.3±0.8, 1776S×4180E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.7/28, mbtmp3.8/13, ML3.9/4, MS3.2/2, Ms1 3.2/2, ms1mx2.7/42, Error ellipse: s-maj=21.3km s-min=18.8km az=158.0*

NEIC ***25*** *02:07:00.3±0.9, 1777S×4180E, h10km, mb3.6/1, Error ellipse: s-maj=23.6km s-min=12.5km az=181.0*

ISC 25 02:07:00.8±0.6, 178S±01×4177E±008, h10km, n19, σ1°04°/22, mb3.7/9, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.21**	**99**	Pn		Pn	**Pn**	**02 08 17.7**	**-1.1**
	9.0nm,0.3s,baz=274,slow=14,SNR=58								
OPO						Sn	**Sn**	**02 09 12.2**	**-6.8**
	53nm,0.3s,baz=256,slow=11,SNR=14								
MATP	**Matopo**	**12.81**	**256**	Pn		Pn	**Pn**	**02 09 59.6**	**-3.3**
	0.3nm,0.3s,baz=106,slow=11,SNR=7.0								
MATP						Sn	**Sn**	**02 12 11.8**	**-14**
	0.7nm,0.3s,baz=354,slow=22,SNR=6.2								
MATP						LR	LR	02 14 41.3	
	comp=Z,106nm,18.3s,baz=128,slow=36								
LSZ	**Lusaka**	**13.26**	**279**	Pn		Pn	**Pn**	**02 10 07.6**	**-1.4**
	0.4nm,0.3s,baz=114,slow=14,SNR=6.3								
LSZ						Sn	**Sn**	**02 12 26.4**	**-10**
	0.3nm,0.3s,baz=86,slow=6.6,SNR=3.0								
LSZ						LR	LR	02 14 46.0	
	comp=Z,80nm,20.9s,baz=18,slow=35								
LSZ	**Lusaka**	**13.26**	**279**	Pn		Pn	**Pn**	**02 10 07.6**	**-1.4**
LSZ						Sn	**Sn**	**02 12 26.4**	**-10**
LSZ						LR	LR	02 14 46.0	
LBTB	**Lobatse**	**16.68**	**242**	Pn		Pn	**Pn**	**02 10 54.0**	**-0.5**
	0.3nm,0.3s,baz=62,slow=11,SNR=5.1								
LBTB						Sn	**Sn**	**02 13 46.1**	**-14**
	0.3nm,0.3s,baz=66,slow=17,SNR=3.4								
BOSA	**Boshof**	**18.59**	**232**	P		P	**Pn**	**02 11 19.3**	**+1.0**
	0.3nm,0.3s,baz=61,slow=13,SNR=7.0								
TSUM	**Tsumeb**	**22.97**	**263**	P		P	**P**	**02 12 06.4**	**+1.0**
	1.8nm,0.8s,mb3.6,baz=80,slow=6.1,SNR=4.0								
TSUM	**Tsumeb**	**22.97**	**263**	*e*P		P	**P**	**02 12 06.8**	**+1.4**
	1.5nm,0.7s,mb3.5								
SUR	**Sutherland**	**23.84**	**228**	P		P	**P**	**02 12 14.2**	**0.0**
	8.2nm,0.8s,mb4.2,baz=43,slow=7.6,SNR=5.9								
TORD	**Torodi Ar. Bea**	**50.08**	**305**	P		P	**P**	**02 15 56.6**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=126,slow=7.2,SNR=16								
TORD						PcP	PcP	02 17 16.0	+0.6
	0.3nm,0.6s,baz=107,slow=4.9,SNR=4.5								
TORD	**Torodi Ar. Bea**	**50.08**	**305**	P		P	**P**	**02 15 56.6**	**+0.8**
TORD						PcP	PcP	02 17 16.0	+0.6
DBIC	**Dimbokro**	**52.05**	**294**	P		P	**P**	**02 16 11.7**	**+1.1**
	1.4nm,0.7s,mb4.0,baz=99,slow=13,SNR=2.7								
BRTR	**Keskin Array B**	**57.71**	**353**	P		P	**P**	**02 16 51.9**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=169,slow=8.7,SNR=4.3								
SNAA	**Sanae**	**59.83**	**195**	P		P	**P**	**02 17 06.5**	**+0.2**
	0.1nm,0.7s,mb3.0,baz=63,slow=14,SNR=3.3								
GERES	**GERESS Array B**	**70.88**	**341**	P		P	**P**	**02 18 17.5**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=141,slow=5.1,SNR=8.2								
MKAR	**Makanchi Array**	**73.92**	**28**	P		P	**P**	**02 18 35.8**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=216,slow=6.0,SNR=3.9								
ASAR	**Alice Springs**	**84.92**	**113**	P		P	**P**	**02 19 36.9**	**+0.9**
	1.1nm,0.7s,mb4.1,baz=262,slow=4.4,SNR=16								
PDAR	**Pinedale Array**	**145.18**	**322**	PKPbc		PKPbc		02 26 38.1	0.0
	1.1nm,0.6s,baz=67,slow=5.0,SNR=7.4								
NVAR	**Mina Array Bea**	**153.05**	**324**	PKPbc		PKPbc		02 26 60.0	+1.4
	0.3nm,0.6s,baz=104,slow=3.3,SNR=4.3								

NEIC ***25*** *02:35:09.4±1.3, 885S×127.10E, h35km, Error ellipse: s-maj=33.8km s-min=12.0km az=58.0*

ISCJB ***25*** *02:35:10.4±3.1, 9.1S±0.1×1269E±0.1, h68km±34km, mb3.4/1, Error ellipse: s-maj=25.2km s-min=13.2km az=107.1*

IDC ***25*** *02:35:15.0±8.7, 922S×12684E, h99km±99km, mb3.3/1, mb1 3.3/4, mb1mx3.2/14, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=64.1km s-min=43.6km az=25.0*

ISC 25 02:35:12.2±2.9, 91S±01×1270E±01, h66km±35km, n7, σ1°01/11, mb3.4/1, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.06**	**188**	P		P	**Pn**	**02 37 20.9**	**+0.6**
	0.4nm,0.3s,baz=20,slow=14,SNR=26								
FITZ						S	**Sn**	**02 39 00.1**	**-0.6**
	1.7nm,0.3s,baz=283,slow=22,SNR=8.2								
WRAB	**Tennant Creek**	**12.94**	**147**	*e*	Sn		**Sn**	**02 40 35.9**	**+0.6**
	5.3nm,0.7s								
WRA	**Warramunga Arr**	**12.94**	**147**	P		P	**Pn**	**02 38 13.1**	**0.0**
	0.3nm,0.3s,baz=318,slow=13,SNR=4.9								
WRA						S	**Sn**	**02 40 35.9**	**+0.6**
	0.5nm,0.3s,baz=334,slow=22,SNR=5.6								
WB2	**Warramunga Arr**	**12.95**	**147**	*e*	Pn		**Pn**	**02 38 12.3**	**-0.9**
WB2				*e*	Sn		**Sn**	**02 40 33.8**	**-1.7**
ASAR	**Alice Springs**	**15.95**	**156**	P		P	**Pn**	**02 38 54.7**	**+2.2**
	0.2nm,0.3s,baz=320,slow=11,SNR=9.4								
ASAR						S	**S**	**02 41 48.9**	**-10**
	0.2nm,0.3s,baz=316,slow=22,SNR=5.0								
MKAR	**Makanchi Array**	**68.37**	**329**	P		P	**P**	**02 46 06.2**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=132,slow=6.1,SNR=4.0								
MKAR	**Makanchi Array**	**68.37**	**329**	P		P	**P**	**02 46 06.2**	**-0.5**

BJI ***25*** *02:43:28.3, 098S×12523E, h35km, mB5.5, mb5.3, Ms5.2, Msz5.0*

ISCJB ***25*** *02:43:35.2±0.1, 0.22S±002×12488E±003, h33km, mb5.5/128, MS5.1/51, Error ellipse: s-maj=5.0km s-min=3.0km az=137.6*

MOS ***25*** *02:43:36.3±1.2, 0.10S×12484E, h39km, mb5.7/41, MS5.0/17, Error ellipse: s-maj=9.6km s-min=4.9km az=113.8*

IDC ***25*** *02:43:36.0±1.9, 007S×12486E, h25km±12km, mb5.3/29, mb1 5.2/30, mb1mx5.2/31, mbtmp5.4/30, ML5.1/1, MS5.0/17, Ms1 5.0/17, ms1mx4.8/25, Error ellipse: s-maj=14.6km s-min=8.4km az=66.0*

NEIC ***25*** *02:43:37.2±0.1, 0.18S×12483E, h35km, mb5.5/44, MS5.0/5, MW5.6, Error ellipse: s-maj=6.6km s-min=3.8km az=72.0, Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁷Nm; Mrr2.87; Mθθ0.41; Mϕϕ-3.28; Mrθ0.90; Mθϕ-1.48; Mrϕ0.84; Best double couple: M₀3.60000×10¹⁷ NP1:ϕs32.00000°, δ56.00000°, λ107.00000°. NP2: ϕs185.00000°, δ38.00000°, λ67.00000°. Principal axes: T 3.1900, Plg74.0000°, Azm347.0000°; N 0.7900, Plg14.0000°, Azm203.0000°; P -3.9800, Plg9.0000°,

346nm,0.6s
KSM Kuching 14.70 276 *e*Pn **Pn 02 47 08.0 +5.3**
TGY Tagaytay City 14.73 345 Pn **Pn 02 47 07.3 +4.2**
36nm,0.3s,baz=301,slow=12,SNR=3.8
TGY LR LR 02 53 47.8
comp=Z,36nm,18.2s,baz=358,slow=42
KRKI Karangkates 14.73 237 P **Pn 02 47 11.4 +8.2**
0.0nm,0.0s
JAY Jayapura 15.95 98 P **Pn 02 47 25.5 +6.4**
126nm,1.1s
BALP Baler 16.16 348 *e*P **Pn 02 47 25.6 +3.8**
SCZP Santa Cruz 16.61 343 *e*P **Pn 02 47 29.5 +2.1**
BJII Banjamegara 16.75 245 P **Pn 02 47 33.4 +4.2**
586nm,1.6s
BCPH Baguio City Da 17.01 346⇑ *i*P **Pn 02 47 36.6 +4.1**
BOLP Bolinao 17.18 344 *e*P **Pn 02 47 36.1 +1.5**
MMPI Merauke 17.47 118 P **Pn 02 47 41.7 +3.5**
2μm,1.5s
JCJI Jatiwangi 17.75 249 P **Pn 02 47 46.3 +4.6**
679nm,1.1s
FITZ Fitzroy Crossi 17.82 178 *e*P **Pn 02 47 41.2 -1.3**
138nm,0.6s
FITZ *e*S **S 02 51 01.7 -4.2**
FITZ Fitzroy Crossi 17.82 178 P **Pn 02 47 41.9 -0.6**
5.0nm,0.3s,baz=14,slow=9.5,SNR=147
FITZ S **S 02 50 57.5 -8.4**
0.2nm,0.3s,baz=315,slow=20,SNR=1.5
FITZ LR LR 02 55 27.7
comp=Z,3μm,18.2s,baz=3.2,slow=40
CVP Callao Caves 18.03 350⇓ *e*P **Pn 02 47 47.0 +1.9**
LEM Lembang 18.48 249 P **Pn 02 47 52.9 +2.4**
383nm,1.2s
CBJI Citeko 19.06 251 P **Pn 02 47 59.1 +1.5**
949nm,1.0s
SBJI Serang 19.66 252 P **Pn 02 48 09.7 +5.0**
404nm,1.3s
MBWA Marble Bar 21.45 193 *e*P **P 02 48 23.5 +1.0**
912nm,1.8s,mb5.8
WRAB Tennant Creek 21.69 155 *e*P **P 02 48 24.4 -0.7**
WRAB Tennant Creek 21.69 155 *e*P **P 02 48 23.6 -1.5**
427nm,1.0s,mb5.8
WRA Warramunga Arr 21.70 155 P **P 02 48 24.8 -0.4**
79nm,0.8s,mb5.2,baz=335,slow=11,SNR=176
WRA S **S 02 52 23.7 +0.4**
30nm,1.1s,baz=336,slow=17,SNR=4.8
WB2 Warramunga Arr 21.70 155 *e*P **P 02 48 23.5 -1.7**
WB2 *e*S **S 02 52 16.0 -7.4**
PMG Port Moresby 23.96 113 P **P 02 48 47.9 -0.5**
60nm,0.8s,mb5.1,baz=325,slow=7.9,SNR=30
PMG Port Moresby 23.96 113 *e*P **P 02 48 48.7 +0.4**
PMG pmax pmax
comp=Z,528nm,1.5s
PMG Port Moresby 23.96 113 *e*P **P 02 48 48.7 +0.3**
comp=Z,528nm,1.5s,mb5.8
GUMO Guam 24.04 55 P **P 02 48 49.6 +0.5**
comp=Z,174nm,0.9s,mb5.5,baz=203,slow=13,SNR=9.9
GUMO Guam 24.04 55 *e*P **P 02 48 51.0 +1.9**
GUMO pmax pmax
comp=Z,204nm,0.9s,mb5.6
GUMO Guam 24.04 55 *e*P **P 02 48 51.0 +1.9**
comp=Z,204nm,0.9s,mb5.6
QIZ Qiongzhong 24.16 323 P **P 02 48 51.0 +0.9**
QIZ S **S 02 53 07.3 +1.4**
QIZ LR LR
comp=N,3μm,17.3s
QIZ LR LR
comp=Z,5μm,17.4s,MS5.0
PPI Padang Panjang 24.52 269 P **P 02 48 53.6 +0.1**
comp=Z,164nm,1.0s,mb5.5
HKC Hong Kong 24.68 336 P **P 02 48 58.0 +3.1**
KULM Kulim 24.84 283 *e*P **P 02 48 56.4 +0.1**
AS31 Alice Springs 24.92 160 *e*P **P 02 48 57.6 +0.5**
AS31 *e*S **S 02 53 12.7 -5.4**
ASAR Alice Springs 24.92 160 P **P 02 48 57.6 +0.6**
comp=Z,57nm,0.8s,mb5.2,baz=334,slow=7.8,SNR=354
ASAR PcP PcP 02 52 33.0 +0.9
comp=Z,13nm,0.7s,baz=348,slow=2.1,SNR=6.3
ASAR S **S 02 53 22.6 +4.5**
comp=Z,20nm,1.1s,baz=349,slow=24,SNR=5.7
ASAR ScP ScP 02 56 08.4 +0.2
comp=Z,6.9nm,1.0s,baz=333,slow=1.9,SNR=5.5
ASAR LR LR 02 59 58.6
comp=Z,2μm,19.8s,MS4.6,baz=293,slow=39
ASAR Alice Springs 24.92 160 P **P 02 48 57.6 +0.5**
ASAR 02 52 33.0
ASAR S **S 02 53 22.6 +4.5**
ASPA Alice Springs 24.92 160 *e*P **P 02 48 57.6 +0.5**
ASPA *e*S **S 02 53 12.7 -5.4**
YHNB Yeheng 24.94 352 *e*P **P 02 48 55.6 -1.7**
TATO Taipei 25.23 353 *e*P **P 02 49 00.8 +0.9**
comp=Z,146nm,1.0s,mb5.5
SNG Songkhla 25.32 287 P **P 02 49 02.0 +1.3**
comp=Z,238nm,0.9s,mb5.7
QZH Quanzhou 25.72 347 P **P 02 49 03.3 -1.1**
QZH S **S 02 53 25.0 -5.8**
QZH LR LR
comp=Z,7μm,21.6s,MS5.2
GZH Guangzhou 25.73 335 P **P 02 49 09.3 +4.9**
GZH S **S 02 53 38.8 +7.9**
GZH LR LR
comp=N,5μm,15.6s,MS5.2
GZH LR LR
comp=E,3μm,15.6s,MS5.2
GZH LR LR
comp=Z,7μm,16.7s,MS5.3
PSI Prapat 26.15 277 P **P 02 49 07.8 -0.4**
comp=Z,26nm,1.0s,mb4.7,baz=243,slow=5.8,SNR=6.7
JOW Kunigami 27.05 7 P **P 02 49 17.2 +0.8**
comp=Z,444nm,0.9s,mb6.0,baz=180,slow=8.1,SNR=38
JOW LR LR 02 59 11.1
comp=Z,4μm,21.5s,MS5.0,baz=129,slow=35
NNT Nongplab 28.02 298 P **P 02 49 26.5 +1.4**
CTA Charters Tower 28.77 135 *e*P **P 02 49 32.3 +0.6**
comp=Z,30nm,0.9s,mb5.0
CTA *e*S **S 02 54 17.6 -1.3**
CTA Charters Tower 28.77 135 P **P 02 49 33.3 +1.6**
comp=Z,34nm,0.8s,mb5.1,baz=319,slow=11,SNR=17
CTA Charters Tower 28.77 135 *e*P **P 02 49 32.3 +0.6**
CTA *e*S **S 02 54 17.6 -1.3**
CTA pmax pmax
comp=Z,30nm,0.9s
CTAO Charters Tower 28.77 135 *e*P **P 02 49 32.8 +1.1**
NST Nakhon Sawan 29.11 304 P **P 02 49 31.8 -2.9**
comp=Z,37nm,0.8s,mb5.2
BSI Banda Aceh 30.11 281 P **P 02 49 45.6 +2.0**
comp=Z,51nm,1.1s,mb5.2
FORT Forrest 30.57 175 *e*P **P 02 49 47.1 -0.6**
comp=Z,232nm,0.7s,mb6.1
SSE Sheshan 31.31 354 P **P 02 49 57.9 +3.7**
SSE S **S 02 55 00.1 +1.4**
SSE AMB AMB
comp=Z,49nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,551nm,8.2s
SSE LR LR
comp=N,2μm,25.5s,MS4.7
SSE LR LR
comp=E,810nm,25.5s,MS4.7
SSE LR LR
comp=Z,3μm,23.6s,MS4.9
CHG Chiang Mai 31.73 308⇑ P **P 02 49 58.7 +0.8**
comp=Z,38nm,1.2s,mb5.1
CHTO Chiang Mai 31.73 308⇓ *i*P **P 02 49 59.2 +1.3**
SNR=8.2
CHTO Chiang Mai 31.73 308 *e*P **P 02 49 57.9 0.0**
CHTO *e* 02 52 50.5
CHTO pmax pmax
comp=Z,67nm,1.1s,mb5.4
CHTO Chiang Mai 31.73 308 *e*P **P 02 49 57.9 0.0**
comp=Z,67nm,1.1s,mb5.4
CHTO *e*PcP PcP 02 52 50.5 +1.6
GYA Guiyang 31.80 328⇑ *i*P **P 02 49 58.8 +0.3**
GYA PP PP 02 51 11.8 +1.2
GYA PPP 02 51 29.4
GYA S **S 02 55 07.3 +1.0**
GYA SS SS 02 57 12.1 -11
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.3
GYA AMB AMB
comp=Z,680nm,5.7s
GYA LR LR
comp=N,3μm,20.1s,MS5.0
GYA LR LR
comp=E,940nm,16.7s,MS5.0
GYA LR LR
comp=Z,3μm,15.9s,MS5.0

CBIJ Chichi jima 31.80 30 P **P 02 49 58.1 -0.4**
comp=Z,338nm,0.8s,mb6.2,baz=225,slow=5.4,SNR=9.3
KLBR Kellerberrin 31.96 192 *e*P **P 02 49 59.7 -0.2**
comp=Z,41nm,0.7s,mb5.4
KLBR *e*PCP PcP 02 52 50.1 +0.6
WHN Wuhan 32.17 343 P **P 02 50 02.5 +0.8**
WHN LR LR
comp=Z,6μm,22.3s,MS5.2
NJ2 Nanjing 32.57 350 *e*P **P 02 50 06.3 +1.0**
NJ2 PP PP 02 51 17.6 -1.6
NJ2 S **S 02 55 14.0 -4.4**
NJ2 AMB AMB
comp=Z,150nm,0.8s,mb6.0
NJ2 AMB AMB
comp=Z,1μm,8.1s
NJ2 LR LR
comp=N,5μm,21.7s,MS5.2
NJ2 LR LR
comp=E,3μm,22.1s,MS5.2
NJ2 LR LR
comp=Z,3μm,29.1s
MUN Mundaring 32.68 194 *e*P **P 02 50 06.3 +0.1**
MUN *e*S **S 02 55 17.8 -2.2**
KMI Kunming 33.06 321 P **P 02 50 12.9 +3.3**
KMI PP PP 02 51 27.8 +3.2
KMI S **S 02 55 26.3 +0.2**
KMI SS SS 02 57 33.3 -16
KMI SCS ScS 03 00 28.8 -5.5
KMI AMB AMB
comp=Z,15nm,1.2s,mb4.8
KMI AMB AMB
comp=Z,371nm,3.3s
KMI LR LR
comp=N,2μm,15.7s,MS5.1
KMI LR LR
comp=E,2μm,18.4s,MS5.1
KMI LR LR
comp=Z,2μm,19.4s,MS4.9
KMI Kunming 33.06 321 P **P 02 50 12.9 +3.3**
KMI pP pP 02 50 34.0 +14
KMI sP sP 02 50 44.6 +21
KMI PP PP 02 51 27.7 +3.1
KMI PPP 02 51 45.6
KMI PcP PcP 02 52 54.4 +1.9
KMI S **S 02 55 26.3 +0.2**
KMI sS sS 02 56 01.7 +19
KMI SS SS 02 57 33.3 -16
KMI SSS 02 58 00.4
KMI ScS ScS 03 00 28.8 -5.5
NWAO Narrogin (SRO) 33.36 192 P **P 02 50 13.4 +1.2**
comp=Z,26nm,0.6s,mb5.3,baz=16,slow=9.2,SNR=30
STKA Stephens Creek 35.25 155 *e*P **P 02 50 28.9 +0.4**
comp=Z,120nm,0.6s,mb6.0
STKA *e*S **S 02 55 57.7 -2.1**
STKA Stephens Creek 35.25 155 P **P 02 50 28.9 +0.4**
comp=Z,167nm,0.7s,mb6.1,baz=325,slow=8.8,SNR=264
JHJ Hachijo jima 2 35.97 22 LR LR 03 02 18.7
comp=Z,2μm,21.7s,MS4.8,baz=171,slow=31
HNR Honiara 36.05 106 P **P 02 50 35.6 +0.2**
comp=Z,43nm,0.3s,mb5.8,baz=252,slow=3.9,SNR=6.0
CD2 Chengdu 36.88 329 P **P 02 50 44.8 +2.3**
CD2 PP PP 02 52 13.3 +6.5
CD2 S **S 02 56 22.8 -2.0**
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,60nm,5.8s
TIA Tai'an 36.93 349 *e*P **P 02 50 42.1 -0.8**
TIA S **S 02 56 21.0 -4.5**
TIA LR LR
comp=N,659nm,17.0s
XAN Xi'an 37.21 338 P **P 02 50 44.0 -1.2**
XAN AP pP 02 50 52.8 -2.6
XAN PP PP 02 52 11.4 +1.0
XAN PCS PcS 02 56 48.8 -4.1
XAN SS SS 02 59 10.1 -3.4
XAN AMB AMB
comp=Z,29nm,1.0s,mb5.1
XAN AMB AMB
comp=Z,304nm,6.4s
XAN LR LR
comp=N,1μm,16.6s,MS5.1
XAN LR LR
comp=E,2μm,17.0s,MS5.1
XAN LR LR
comp=Z,4μm,17.4s,MS5.3
INCN Inchon 37.51 2 *e*P **P 02 50 49.6 +1.8**
comp=Z,129nm,1.2s,mb5.5
MAJO Matsushiro 38.57 17 *e*P **P 02 50 55.8 -0.9**
MAJO pmax pmax
comp=Z,109nm,1.1s,mb5.5
MAJO Matsushiro 38.57 17 *e*P **P 02 50 55.8 -0.9**
comp=Z,109nm,1.1s,mb5.5
MAT Matsushiro 38.57 17 P **P 02 50 55.4 -1.3**
MAT S **S 02 56 45.0 -5.4**
MJAR Matsushiro Arr 38.57 17 P **P 02 50 55.8 -0.9**
comp=Z,60nm,1.0s,mb5.3,baz=193,slow=8.9,SNR=56
MJAR ScP ScP 02 56 54.2 +0.1
comp=Z,4.4nm,0.8s,baz=181,slow=4.6,SNR=5.4
MJAR LR LR 03 05 28.3
comp=Z,961nm,21.1s,MS4.6,baz=195,slow=34
MJAR Matsushiro Arr 38.57 17 P **P 02 50 55.8 -0.9**
MJAR 02 56 54.2
MJAR Matsushiro Arr 38.57 17 P **P 02 50 55.8 -0.9**
MJAR ScP ScP 02 56 54.2 +0.1
MJAR LR LR 03 05 28.3
DL2 Dalian 39.02 356⇑ P **P 02 50 59.3 -1.2**
DL2 PP PP 02 52 34.3 +4.0
DL2 S **S 02 56 53.4 -3.7**
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
DL2 AMB AMB
comp=Z,300nm,6.2s
DL2 LR LR
comp=N,1μm,22.1s,MS4.7
DL2 LR LR
comp=E,770nm,21.6s,MS4.7
DL2 LR LR
comp=Z,2μm,23.8s,MS4.8
ARMA Armidale 39.35 142 *e*P **P 02 51 05.0 +1.7**
BJT Baijiatuan 40.80 350 *e*P **P 02 51 15.3 0.0**
comp=Z,87nm,1.0s,mb5.3
BJI Beijing 40.82 350 P **P 02 51 14.8 -0.7**
BJI AMB AMB
comp=Z,65nm,0.9s,mb5.3
BJI AMB AMB
comp=Z,476nm,5.5s
BJI LR LR
comp=N,2μm,28.8s,MS4.9
BJI LR LR
comp=E,1μm,25.9s,MS4.9
BJI LR LR
comp=Z,5μm,30.8s,MS5.2
SHL Shillong 40.90 311 *e*P **P 02 51 14.6 -1.6**
SHL *ex* x 02 57 03.0
LZH Lanzhou 41.07 334 *e*P **P 02 51 18.5 +1.0**
LZH PP PP 02 52 59.3 +6.7
LZH SCP ScP 02 57 04.0 +0.2
LZH *e*S **S 02 57 28.0 +0.2**
LZH SCS ScS 03 01 10.3 -8.9
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,333nm,4.2s
LZH LR LR
comp=N,3μm,14.6s
LZH LR LR
comp=Z,5μm,15.8s,MS5.5
LZH Lanzhou 41.07 334 *e*P **P 02 51 18.5 +1.0**
LZH *PP pP 02 51 38.0 +10
LZH 02 52 59.2
LZH 02 53 19.8
LZH PPP 02 53 31.5
LZH *e*S **S 02 57 28.0 +0.2**
LZH SS SS 03 00 23.3 -7.5
LZH 03 01 10.3
LZH Lanzhou 41.07 334 *e*P **P 02 51 18.5 +1.0**
LZH pP pP 02 51 38.0 +10
LZH sP sP 02 51 48.5 +17
LZH PP PP 02 52 59.2 +6.6
LZH PcP PcP 02 53 19.8 +3.0
LZH PPP 02 53 31.5
LZH ScP ScP 02 57 04.0 +0.2
LZH *e*S **S 02 57 28.0 +0.2**

LZH sS sS 02 58 01.0 +16
LZH SS SS 03 00 23.3 -7.5
LZH ScS ScS 03 01 10.3 -8.9
CNB Canberra Magne 41.73 149 *e*P **P 02 51 24.6 +1.7**
comp=Z,65nm,0.8s,mb5.3
SNY Shenyang 41.84 358⇓ P **P 02 51 24.3 +0.5**
SNY PP PP 02 53 06.8 +5.9
SNY AMB AMB
comp=Z,47nm,0.9s,mb5.1
SNY AMB AMB
comp=Z,739nm,6.4s
SNY LR LR
comp=N,2μm,23.9s
SNY LR LR
comp=Z,4μm,26.3s,MS5.1
HHC Hu-ho-hao-te 42.61 345 *e*P **P 02 51 31.8 +1.7**
HHC PP PP 02 53 14.8 +5.6
HHC PCP PcP 02 53 22.1 +0.2
HHC SCP ScP 02 57 04.1 -5.9
HHC PCS PcS 02 57 13.3 -0.6
HHC S **S 02 57 48.9 -1.7**
HHC SCS ScS 03 01 21.8 -6.9
HHC AMB AMB
comp=Z,21nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,547nm,5.5s
HHC LR LR
comp=N,1μm,19.1s,MS4.9
HHC LR LR
comp=E,1μm,20.1s,MS4.9
HHC LR LR
comp=Z,2μm,27.0s
BTO Baotou 42.80 343 *e*P **P 02 51 29.1 -2.6**
VLA Vladivostok 43.56 7 *e*P **P 02 51 39.1 +1.3**
CN2 Changchun 43.80 1 *e*P **P 02 51 39.0 -0.7**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,500nm,6.0s
CN2 LR LR
comp=N,1μm,21.0s,MS5.0
CN2 LR LR
comp=E,1μm,21.0s,MS5.0
CN2 LR LR
comp=Z,1μm,21.0s,MS4.8
LSA Lhasa 43.80 316 P **P 02 51 35.3 -4.5**
LSA Lhasa 43.80 316 *e*P **P 02 51 41.6 +1.8**
LSA pmax pmax
comp=Z,28nm,0.5s,mb5.2
LSA Lhasa 43.80 316 *e*P **P 02 51 41.6 +1.9**
comp=Z,28nm,0.5s,mb5.2
VIS Vishakhapatnam 44.61 296 *e*P **P 02 51 46.2 0.0**
VIS AMb AMB 02 51 49.2
comp=Z,34nm,1.2s,mb5.0
BOK Bokaro 44.74 305 *e*P **P 02 51 47.2 0.0**
BOK AMb AMB 02 51 56.8
comp=Z,15nm,0.9s,mb4.8
MDJ Mudanjiang 44.80 5 P **P 02 51 47.6 -0.1**
MDJ PP PP 02 53 31.5 -1.2
MDJ PCS PcS 02 57 22.3 -0.6
MDJ S **S 02 58 18.0 -4.6**
MDJ AMB AMB
comp=Z,75nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,520nm,8.1s
MDJ LR LR
comp=N,1μm,31.6s,MS4.7
MDJ LR LR
comp=E,419nm,31.6s,MS4.7
MDJ LR LR
comp=Z,2μm,29.0s,MS4.9
MDJ Mudanjiang 44.80 5 *e*P **P 02 51 47.7 0.0**
comp=Z,88nm,0.8s,mb5.6
GTA Gaotai 45.61 333 *e*P **P 02 51 54.0 -0.2**
GTA AP pP 02 52 06.3 +1.8
GTA XP sP 02 52 11.6 +2.9
GTA PP PP 02 53 40.8 -0.5
GTA SCP ScP 02 57 22.5 +0.3
GTA SCS ScS 03 01 45.3 -2.3
GTA AMB AMB
comp=Z,59nm,1.3s,mb5.4
GTA AMB AMB
comp=Z,380nm,6.5s
GTA LR LR
comp=N,2μm,20.9s,MS5.0
GTA LR LR
comp=E,1μm,20.9s,MS5.0
GTA LR LR
comp=Z,2μm,25.5s,MS5.0
DZM Mont Dzumac 45.92 121 *e*P **P 02 51 57.8 +1.2**
DZM Mont Dzumac 45.92 121 P **P 02 51 57.7 +1.1**
comp=Z,25nm,0.9s,mb5.2,baz=302,slow=7.3,SNR=8.6
MDRS Chennai 46.19 288 *e*P **P 02 51 58.9 +0.2**
JIRN Jiri 46.33 310 *e*P **P 02 52 00.9 +1.1**
GUN Gumba 46.69 310 *e*P **P 02 52 02.9 +0.2**
comp=Z,298nm,0.8s,mb6.2
PKI Pulchoki 46.89 309 *e*P **P 02 52 04.3 +0.1**
TAU Tasmania Unive 47.04 158 *e*P **P 02 52 08.0 +2.6**
TAU pmax pmax
comp=Z,54nm,0.9s,mb5.5
TAU Tasmania Unive 47.04 158 *e*P **P 02 52 08.0 +2.5**
comp=Z,54nm,0.9s,mb5.5
KKN Kakani 47.10 310 *e*P **P 02 52 05.5 -0.3**
comp=Z,80nm,0.8s,mb5.7
DMN Daman 47.14 309 *e*P **P 02 52 06.7 +0.5**
comp=Z,184nm,1.0s,mb6.0
GKN Gorkha 47.70 309 *e*P **P 02 52 10.1 -0.4**
comp=Z,191nm,1.0s,mb6.1
KOLN Koldanda 48.39 309 *e*P **P 02 52 15.6 -0.3**
comp=Z,198nm,0.7s,mb6.2
HYB Hyderabad 48.86 293 *i* P **P 02 52 18.0 -1.5**
HYB Hyderabad 48.86 293 *e*P **P 02 52 18.0 -1.5**
HABR Khabarovsk 49.26 9⇑ *e*P **P 02 52 23.3 +0.8**
HABR *e*S **S 02 59 25.6 -0.5**
HABR pmax pmax
comp=Z,91nm,1.2s,mb5.7
HABR MLR MLR
comp=Z,848nm,18.9s,MS4.8
HIA Hailar 49.46 356 *e*P **P 02 52 24.0 -0.1**
HIA pmax pmax
comp=Z,97nm,0.9s
HIA Hailar 49.46 356 *e*P **P 02 52 23.9 -0.1**
comp=Z,97nm,0.9s,mb5.8
YSS Yuzh-Sakhalins 49.48 16 *e*P **P 02 52 24.1 -0.1**
YSS *e* pP 02 52 31.2 -3.4
YSS *e* 02 53 44.0
YSS *e*S **S 02 59 24.0 -5.2**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 49.48 16 *e*P **P 02 52 24.8 +0.7**
comp=Z,42nm,0.8s,mb5.5
NGP Nagpur 49.55 298 *e*P **P 02 52 23.9 -0.8**
KLR Kul'dur 49.57 6 *e*P **P 02 52 21.1 -3.8**
KLR *e* 02 54 14.0
KLR *e*S **S 02 59 26.0 -4.6**
KLR pmax pmax
comp=Z,48nm,1.0s,mb5.5
KLR pmax pmax
comp=Z,900nm,5.5s
KLR MLR MLR
comp=E,2μm,20.0s
SONM Songino Array 50.47 344 P **P 02 52 31.0 -0.7**
comp=E,45nm,0.8s,mb5.5,baz=161,slow=8.3,SNR=74
SONM LR LR 03 14 47.3
comp=E,2μm,18.9s,MS5.0,baz=161,slow=37
AKL Akola 51.21 297 *e*P **P 02 52 38.4 +1.1**
AKL AMb AMB 02 52 39.4
comp=Z,80nm,1.3s,mb5.5
BHPL Bhopal 51.67 300 *e*P **P 02 52 40.0 -0.7**
BHPL AMb AMB 02 52 41.1
comp=Z,20nm,0.8s,mb5.1
JOSI Joshimath 52.81 310 *ex* x 02 52 26.0
KAD Karad 52.87 292 *e*P **P 02 52 49.5 -0.1**
KAD *i* PCP PcP 02 53 59.3 +0.8
CIT Chita 52.89 351 *e*P **P 02 52 52.4 +2.6**
CIT pmax pmax
comp=Z,84nm,2.0s,mb5.3
POO Poona 53.47 293 *ex* **P 02 52 50.0 -4.1**
ZAK Zakamensk 53.66 343 *e*P **P 02 52 54.3 -1.1**
ZAK *e* 02 54 00.3
ZAK pmax pmax
comp=Z,16nm,1.0s,mb4.9
ZAK pmax pmax
comp=Z,14nm,1.3s,mb4.7
ZAK pmax pmax

comp=Z,3.0nm,1.1s
SONA Sohna 53.79 306 *e*P **P 02 52 55.6 -0.8**
SONA AMb AMB 02 52 57.2
comp=Z,39nm,0.6s,mb5.5
SONA *i* PCP PcP 02 54 02.2 +0.3
AYAN Aya Nagar 53.85 306 *e*P **P 02 52 55.8 -1.0**
AYAN AMb AMB 02 53 04.7
comp=Z,45nm,0.6s,mb5.6
NDI New Delhi 53.86 306 *ex* **P 02 52 52.0 -4.9**
KLP Kalpa 54.25 310 *e*P **P 02 52 59.8 +0.1**
KLP AMb AMB 02 53 04.8
comp=Z,68nm,0.5s,mb5.9
TLY Talaya 54.71 344 ⇑P **P 02 53 05.3 +2.2**
SNR=10
TLY Talaya 54.71 344 *e*P **P 02 53 04.4 +1.3**
TLY *e* 02 54 12.0
TLY *e* 02 55 07.9
TLY *e*S **S 03 00 36.8 -4.2**
TLY *e*PS 03 00 51.6
TLY pmax pmax
comp=Z,43nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,1µm,24.0s,MS5.0
TLY Talaya 54.71 344 *e*P **P 02 53 05.0 +1.8**
KHET Khetri 54.77 305 *e*P **P 02 53 01.1 -2.4**
SMLA Simla 54.91 309 *e*P **P 02 53 04.0 -0.5**
SMLA AMb AMB 02 53 10.6
comp=Z,244nm,0.8s,mb6.3
WMQ Urumqi 54.96 328 P **P 02 53 05.3 +0.4**
WMQ PCP PcP 02 54 06.0 -0.4
WMQ PCS PcS 02 58 04.0 -2.3
WMQ S **S 03 00 39.0 -5.3**
WMQ SCS ScS 03 02 43.0 -8.4
WMQ AMB AMB
comp=Z,69nm,1.3s,mb5.5
WMQ AMB AMB
comp=Z,421nm,7.0s
WMQ LR LR
comp=N,3µm,17.7s,MS5.7
WMQ LR LR
comp=E,4µm,18.2s,MS5.7
WMQ LR LR
comp=Z,7µm,27.8s
IRK Irkutsk 55.05 345 *e*P **P 02 53 06.0 +0.5**
IRK *e* 02 54 04.4
IRK pmax pmax
comp=Z,36nm,1.1s,mb5.3
AJM Ajmer 55.15 303 *e*P **P 02 53 06.0 -0.3**
MOY Mondy 55.47 342 *e*P **P 02 53 08.3 -0.3**
MOY pmax pmax
comp=Z,79nm,1.4s,mb5.5
DLH Dalhousie 56.43 310 *e*P **P 02 53 13.0 -2.4**
DLH *ex* x 02 53 23.0
THN Thein Dam 56.58 310 *e*P **P 02 53 14.7 -1.8**
CLNS Chul'man 56.84 360 *e*P **P 02 53 18.5 +0.1**
CLNS *e* 02 54 12.4
CLNS *e*S **S 03 01 10.9 +1.5**
CLNS *e*SS SS 03 04 59.7 +1.9
CLNS pmax pmax
comp=Z,54nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,65nm,0.8s
CLNS pmax pmax
comp=E,38nm,0.7s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,24nm,1.0s
CLNS smax
comp=E,13nm,0.9s
CLNS smax
comp=Z,9.0nm,0.8s
CLNS smax
comp=N,11nm,0.9s
CLNS MLR MLR
comp=Z,600nm,17.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.7
CLNS MLR MLR
comp=E,400nm,15.0s,MS4.7
SKR Severo-Kuril's 57.20 23 *e*P **P 02 53 22.0 +1.1**
SKR MLR MLR
comp=Z,3µm,20.0s,MS5.4
JASL Jaisalmer 58.45 302 *e*P **P 02 53 28.4 -1.4**
BOD Bodaibo 58.48 353 *e*P **P 02 53 29.4 -0.5**
BOD pmax pmax
comp=Z,79nm,1.4s,mb5.5
KSH Kashi 59.60 317 ⇑*i*P **P 02 53 39.0 +1.4**
KSH *e*PCP PcP 02 54 25.3 +0.7
KSH *e*PP PP 02 55 54.1 +4.7
KSH *e*PPP 02 57 21.3
KSH *e*SCP ScP 02 58 15.0 -7.8
KSH *e*PCS PcS 02 58 26.1 -0.7
KSH *e*S **S 03 01 37.8 -7.6**
KSH AMB AMB
comp=Z,90nm,1.0s,mb5.8
KSH LR LR
comp=N,612nm,5.8s
KSH LR LR
comp=E,1µm,12.6s
KSH LR LR
comp=Z,2µm,18.0s
MKAR Makanchi Array 59.79 327 P **P 02 53 37.7 -1.2**
comp=Z,36nm,0.4s,mb5.8,baz=121,slow=8.6,SNR=156
MKAR ScP ScP 02 58 23.4 -0.3
comp=Z,6.0nm,0.8s,baz=126,slow=5.2,SNR=5.0
MKAR S **S 03 01 41.5 -6.2**
comp=Z,0.2nm,0.5s,baz=108,slow=18,SNR=2.1
MKAR PKP2bc 03 23 13.6
comp=Z,1.1nm,0.8s,baz=242,slow=2.6,SNR=3.6
MKAR PKP2ab 03 23 26.4
comp=Z,1.0nm,0.8s,baz=298,slow=2.6,SNR=4.3
MKAR Makanchi Array 59.79 327 ⇑*e*P **P 02 53 37.7 -1.2**
MKAR Makanchi Array 59.79 327 P **P 02 53 37.7 -1.2**
MKAR ScP ScP 02 58 23.4 -0.3
MKAR S **S 03 01 41.5 -6.2**
MKAR ⇑*e* 03 23 13.6
MKAR P'P'ab 03 23 26.4
PET Petropavlovsk 60.01 23 *α i*P **P 02 53 42.0 +1.5**
PET *e* 02 54 27.6
PET *e*S **S 03 01 50.5 -0.2**
PET pmax pmax
comp=N,400nm,3.4s
PET pmax pmax
comp=Z,700nm,6.1s
PET pmax pmax
comp=E,400nm,5.3s
PET pmax pmax
comp=N,300nm,12.2s
PET pmax pmax
comp=Z,600nm,15.5s
PET pmax pmax
comp=Z,83nm,1.4s,mb5.6
PET pmax pmax
comp=E,200nm,14.3s
PET pmax pmax
comp=Z,37nm,1.8s,mb5.1
PET smax
comp=N,400nm,4.0s
PET smax
comp=N,200nm,11.3s
PET Petropavlovsk 60.01 23 *e*P **P 02 53 41.4 +0.9**
SNZO South Karori 60.76 139 *e*P **P 02 53 45.6 0.0**
ULHL Ulahol 60.78 320 P **P 02 53 48.4 +2.6**
SNR=8.8
KZA Kyzart 61.34 320 P **P 02 53 52.4 +2.9**
SNR=9.7
TKM2 Tokmak 2 61.53 321 P **P 02 53 53.3 +2.5**
SNR=9.2
KBK Karagaybulak 61.81 320 P **P 02 53 54.8 +2.1**
SNR=16
UCH Uchtor 61.88 320 P **P 02 53 56.1 +2.9**
SNR=39
AAK Ala-Archa 62.09 320 P **P 02 53 57.0 +2.4**
SNR=19
AAK Ala-Archa 62.09 320 ⇑*e*P **P 02 53 54.4 -0.2**
AAK pmax pmax
comp=Z,22nm,0.7s,mb5.4
AAK Ala-Archa 62.09 320 *e*P **P 02 53 53.3 -1.3**
CHMS Chumysh 62.11 320 P **P 02 53 56.0 +1.3**
SNR=11
FRU Bishkek 62.12 320 *e*P **P 02 53 58.0 +3.3**
FRU *i* 02 54 36.0
FRU *e* 03 02 19.5
FRU pmax pmax
comp=Z,80nm,2.1s,mb5.5
FRU MLR MLR
comp=Z,1µm,23.0s,MS5.0
YAK Yakutsk 62.16 3 *c i*P **P 02 53 55.5 +0.5**
YAK *e* 02 54 32.3
YAK *e* 02 56 12.1
YAK *e*PPP 02 57 43.4
YAK *e*S **S 03 02 16.1 -1.9**
YAK *e* 03 03 37.3
YAK *e*SS SS 03 06 25.2 +4.0
YAK pmax pmax
comp=Z,209nm,1.1s,mb6.2
YAK pmax pmax
comp=N,71nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=Z,21nm,0.9s,mb5.3
YAK pmax pmax
comp=E,20nm,1.5s
YAK smax
comp=E,31nm,1.4s
YAK smax
comp=Z,23nm,1.1s
YAK smax
comp=N,76nm,1.3s
YAK Yakutsk 62.16 3 *e*P **P 02 53 54.9 -0.2**
AML Almayashu 62.37 319 P **P 02 53 58.0 +1.5**
SNR=20
EKS2 Erkin-Say 62.57 320 P **P 02 54 00.2 +2.4**
SNR=32
MA2 Magadan 62.92 14 *c i*P **P 02 54 00.8 +0.7**
MA2 *e* 02 54 16.7
MA2 *e*S **S 03 02 26.4 -1.1**
MA2 *e* 03 02 55.0
MA2 *e* 03 03 43.7
MA2 pmax pmax
comp=Z,160nm,1.0s,mb6.1
MA2 Magadan 62.92 14 *e*P **P 02 54 00.7 +0.6**
ZAL Zalesovo 63.28 335 P **P 02 54 00.4 -2.1**
comp=Z,12nm,0.8s,mb5.1,baz=354,slow=7.0,SNR=30
ZAL S **S 03 02 23.6 -8.5**
comp=Z,2.1nm,0.4s,baz=216,slow=18,SNR=8.5
ZAL LR LR 03 22 48.6
comp=Z,2µm,19.4s,MS5.2,baz=336,slow=37
ZAL PKP2bc 03 23 08.8
comp=Z,1.4nm,0.5s,baz=144,slow=9.3,SNR=4.5
ZAL Zalesovo 63.28 335 P **P 02 54 00.4 -2.1**
ZAL S **S 03 02 23.6 -8.5**
ZAL Zalesovo 63.28 335 P **P 02 54 00.4 -2.1**
ZAL S **S 03 02 23.6 -8.5**
ZAL LR LR 03 22 48.6
ZAL ⇑*e* 03 23 08.8
KURK Kurchatov 64.10 329 P **P 02 54 06.4 -1.5**
comp=Z,840nm,0.4s,SNR=18
NVS Novosibirsk 64.57 335 *e*P **P 02 54 08.4 -2.6**
NVS *e*S **S 03 02 44.0 -4.0**
NVS pmax pmax
comp=N,20nm,0.8s
NVS pmax pmax
comp=E,29nm,0.8s
NVS pmax pmax
comp=Z,37nm,0.8s,mb5.5
NVS smax
comp=N,37nm,1.7s
NVS smax
comp=E,36nm,1.7s
KK31 Karatay Array 64.91 319 *i* P **P 02 54 10.5 -2.7**
KK31 pmax pmax
comp=Z,27nm,0.7s,mb5.4
SEY Seymchan 66.23 13 ⇑*e*P **P 02 54 22.4 +0.7**
SMY Shemya 66.73 30 *e*P **P 02 54 26.1 +1.2**
SMY pmax pmax
comp=Z,288nm,1.8s,mb6.0
SMY MLR MLR
comp=Z,600nm,19.0s,MS4.8
SMY Shemya 66.73 30 *e*P **P 02 54 26.1 +1.2**
comp=Z,288nm,1.8s,mb6.0
SMY LR LR
comp=Z,600nm,19.0s,MS4.8
CASY Casey 66.75 186 *e*P **P 02 54 25.3 +0.3**
DRV Dumont d'Urvil 67.20 174 P **P 02 54 26.0 -1.9**
DRV S S 03 03 16.0 -4.0
DRV SS SS 03 07 37.0 -2.7
BVAR Borovoye Array 69.64 328 P **P 02 54 41.6 -1.5**
comp=Z,13nm,0.4s,mb5.2,baz=131,slow=6.1,SNR=71
BVAR LR LR 03 29 01.6
comp=Z,636nm,19.6s,MS4.9,baz=334,slow=39
BRVK Borovoye 69.71 328 *e*P **P 02 54 42.2 -1.4**
BRVK pmax pmax
comp=Z,57nm,1.1s,mb5.4
BRVK Borovoye 69.71 328 *e*P **P 02 54 42.2 -1.3**
comp=Z,57nm,1.1s,mb5.4
MIR Mirnyy 69.96 193 ⇑*i*P **P 02 54 47.0 +1.9**
MIR *i* 02 55 09.0
MIR pmax pmax
comp=Z,320nm,1.0s,mb6.2
ZRNK Zerenda 70.33 328 *e*P **P 02 54 45.8 -1.6**
ZRNK pmax pmax
comp=Z,62nm,0.7s,mb5.7
ZRNK Zerenda 70.33 328 *e*P **P 02 54 45.8 -1.6**
comp=Z,62nm,0.7s,mb5.7
BILL Bilibino 73.78 15 P **P 02 55 08.8 +0.8**
BILL *e* 02 55 22.7
BILL pmax pmax
comp=Z,19nm,0.5s,mb5.3
AKTK Aktyubinsk 75.62 323 P **P 02 55 17.5 -1.2**
AKTO Aktyubinsk 75.62 323 P **P 02 55 17.5 -1.2**
comp=Z,81nm,0.8s,mb5.7,baz=109,slow=5.4,SNR=72
SVE Sverdlovsk 76.36 329 *e*P **P 02 55 24.0 +1.1**
SVE pmax pmax
comp=Z,120nm,1.2s,mb5.7
SPIA Saint Paul Isl 76.77 30 *e*P **P 02 55 26.2 +1.0**
ARU Arti 77.28 329 P **P 02 55 26.5 -1.6**
comp=Z,446nm,0.8s,mb6.5,SNR=6.4
ARU Arti 77.28 329 *e*P **P 02 55 25.6 -2.5**
ARU *e* pP 02 55 36.0 -3.1
ARU *e* 02 58 20.7
ARU *e*S S 03 05 09.0 -6.5
ARU MLR MLR
comp=N,400nm,19.0s
ARU MLR MLR
comp=Z,600nm,19.0s,MS4.9
ARU Arti 77.28 329 *e*P **P 02 55 26.4 -1.7**
comp=Z,76nm,0.9s,mb5.6
AKUT Akutan 78.15 34 *e*P **P 02 55 33.6 +0.6**
comp=Z,570nm,1.5s,mb6.3
AKUT LR LR
comp=Z,600nm,23.0s,MS4.9
MIB Mutribah 79.32 300 *e*P **P 02 55 38.1 -1.3**
MIB AMb AMB 02 55 41.4
comp=Z,39nm,0.8s,mb5.4
NAY Al-Naaiem 79.34 300 *e*P **P 02 55 38.6 -0.9**
NAY AMb AMB 02 55 40.8
comp=Z,15nm,0.9s,mb4.9
MAW Mawson 79.48 200 *e*P **P 02 55 41.2 +0.9**
comp=Z,10nm,0.9s,mb4.8
MAW *e*S S 03 05 36.8 -2.3
MAW Mawson 79.48 200 P **P 02 55 40.6 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=24,slow=3.0,SNR=12
MAW LR LR 03 25 06.4
comp=Z,996nm,22.0s,MS5.1,baz=58,slow=31
MAW Mawson 79.48 200 *e*P **P 02 55 41.2 +0.9**
MAW *e*S S 03 05 36.8 -2.3
MAW pmax pmax
comp=Z,10.0nm,0.9s
RST Umm Al-Ruwaisa 79.58 300 *e*P **P 02 55 39.0 -1.8**
RST AMb AMB 02 55 43.7
comp=Z,74nm,0.6s,mb5.8
VNDA Vanda 79.80 172 P **P 02 55 42.0 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=310,slow=5.9,SNR=36
VNDA LR LR 03 31 12.3
comp=Z,1µm,20.7s,MS5.2,baz=335,slow=36
VNDA Vanda 79.80 172 *e*P **P 02 55 42.1 0.0**
SBA Scott Base 80.74 172 *e*P **P 02 55 48.0 +1.0**
MAK Makhachkala 80.92 313 *c i*P **P 02 55 43.9 -4.1**
MAK *i* pP 02 55 56.5 -2.5
MAK *i* S S 03 05 46.3 -7.9
MAK pmax pmax
comp=Z,149nm,1.4s,mb5.7
SDPT Sand Point 81.43 34 *e*P **P 02 55 51.1 +0.4**
comp=Z,288nm,1.0s,mb6.2
SDPT LR LR
comp=Z,500nm,23.0s,MS4.8
BHD Baghdad 82.19 303 *ex* x 02 55 51.0
ATD Arta Tunnel 82.27 282 LR LR 03 31 17.8
comp=Z,453nm,20.7s,MS4.8,baz=64,slow=35
DGRG David-gareji 82.28 312 P **P 02 55 55.7 +0.5**
GNI Garni 82.60 310 P **P 02 55 57.8 +0.9**
comp=Z,2.4nm,0.3s,mb4.7,baz=321,slow=13,SNR=7.4
GNI Garni 82.60 310 ⇑*e*P **P 02 55 57.2 +0.3**
GNI pmax pmax
comp=Z,16nm,1.3s
GNI Garni 82.60 310 *e*P **P 02 55 58.0 +1.2**
MTA Mtatsminda 82.74 312 P **P 02 55 57.4 -0.2**
CHGN Chignik 82.77 33 *e*P **P 02 55 57.9 +0.2**
TBLG Delisi 82.79 312 P **P 02 55 59.5 +1.6**
DUS Dusheti 82.86 312 P **P 02 56 01.2 +3.1**
MSL Mosul 83.51 306 *ex* x 02 56 09.5
MSL *ex* x 03 06 06.5
MSL *ex* x 03 06 26.5
ZEI Tsey 83.52 313 *e*P **P 02 56 02.1 +0.5**
ZEI pmax pmax
comp=Z,64nm,0.9s,mb5.8
ONI Oni 83.83 313 P **P 02 56 03.4 +0.2**
KIV Kislovodsk 84.53 314 ⇑P **P 02 56 06.0 -0.7**
SNR=11
KIV Kislovodsk 84.53 314 *e*P **P 02 56 05.5 -1.2**
KIV *e* 02 59 22.4
KIV *e* 03 06 20.6
KIV pmax pmax
comp=Z,46nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,499nm,19.0s,MS4.9
KIV Kislovodsk 84.53 314 *e*P **P 02 56 07.4 +0.7**
comp=Z,40nm,0.8s,mb5.6
SVW2 Sparrevohn 85.08 29 *e*P **P 02 56 10.1 +0.6**
ERZM Erzurum 85.16 310 *i* P **P 02 56 08.1 -1.9**
TTA Tatalina 85.19 27 *e*P **P 02 56 10.2 +0.1**
TTA 02 56 23.8
TTA Tatalina 85.19 27 *e*P **P 02 56 10.7 +0.6**
BNGL BINGOL 85.26 309 *i* P **P 02 56 11.9 +1.5**
MARD Mardin 85.44 307 *i* P **P 02 56 10.9 -0.4**
PPT Papeete 85.66 107 *e*PP PP 02 59 32.0 +0.5
comp=Z,119nm,25.0s
PPT Papeete 85.66 107 *e*S S 03 06 43.5 +1.3
comp=Z,2µm,26.8s
PPT *e*SS SS 03 12 06.0 -13
comp=Z,573nm,25.2s
PPT *e*LR LR 03 23 19.3
comp=Z,2µm,26.2s
TBI Tubuai 85.90 113 *e*PP PP 02 59 36.2 +2.7
comp=Z,113nm,26.2s
TBI Tubuai 85.90 113 *e*S S 03 06 45.0 +0.4
comp=Z,2µm,28.8s
TBI *e*SS SS 03 12 01.9 -20
comp=Z,553nm,30.8s
TBI *e*LR LR 03 23 22.3
comp=Z,787nm,27.5s
KDAK Kodiak Island 86.14 32 *e*P **P 02 56 15.1 +0.3**
IMA2 Indian Mountai 86.67 24 *e*P **P 02 56 17.4 0.0**
KELT Kelkit 86.79 310 *i* P **P 02 56 13.8 -4.2**
ELZG Elazig 86.92 308 *i* P **P 02 56 17.6 -1.0**
MALT Malatya 87.35 308 ⇓*i*P **P 02 56 21.6 +0.9**
MALT Malatya 87.35 308 *e*P **P 02 56 20.8 +0.1**
ATAB Bozova 87.42 307 *i* P **P 02 56 13.8 -7.3**
SLKM Skilak Lake 87.62 30 P **P 02 56 21.4 -0.6**
SLKM Skilak Lake 87.62 30 *e*P **P 02 56 20.9 -1.1**
KMBO Kilima Mbogo 87.66 269 P **P 02 56 24.6 +2.4**
comp=Z,42nm,1.0s,mb5.6,baz=66,slow=5.9,SNR=84
KMBO LR LR 03 34 18.4
comp=Z,1µm,20.1s,MS5.3,baz=90,slow=35
KMBO Kilima Mbogo 87.66 269 *i* P **P 02 56 24.7 +2.5**
KMBO pmax pmax
comp=Z,42nm,1.0s
PMR Palmer 88.23 29 *e*P **P 02 56 24.1 -0.8**
PMR pmax pmax
comp=Z,20nm,1.6s,mb5.1
PMR MLR MLR
comp=Z,500nm,22.0s,MS4.9
PMR Palmer 88.23 29 *e*P **P 02 56 24.1 -0.8**
comp=Z,20nm,1.6s,mb5.1
PMR LR LR
comp=Z,500nm,22.0s,MS4.9
ANN Anapa 88.34 315 *c i*P **P 02 56 23.9 -1.5**
ANN *e* pP 02 56 31.8 -4.7
ANN pmax pmax
comp=Z,124nm,1.0s,mb6.1
ASF Jabal al Asfar 88.42 302 P **P 02 56 27.0 +1.2**
comp=Z,26nm,0.9s,mb5.4,baz=329,slow=4.6,SNR=25
MCK McKinley 88.45 26 *e*P **P 02 56 25.1 -0.9**
MOS Moscow 88.62 326 *e*P **P 02 56 24.5 -2.3**
MOS *i* pP 02 56 37.0 -0.9
MOS *e* 03 00 04.1
MOS pmax pmax
comp=Z,125nm,1.1s,mb6.2
TMCR Tamitsa 88.80 334 *e*P **P 02 56 26.0 -1.6**
TMCR pmax pmax
comp=Z,72nm,1.1s,mb5.9
COLA College 88.98 25 P **P 02 56 27.7 -0.8**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
COLA College 88.98 25 *e*P **P 02 56 27.3 -1.2**
comp=Z,7.6nm,0.9s,mb5.0
OBN Obninsk 89.20 325 ⇑*i*P **P 02 56 28.4 -1.1**
OBN *i* 03 06 58.1
OBN *i* S S 03 07 13.5 -2.7
OBN pmax pmax
comp=Z,116nm,1.1s,mb6.1
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.2
OBN Obninsk 89.20 325 *e*P **P 02 56 28.3 -1.2**
QSPA South Pole Qui 89.75 180 *e*P **P 02 56 32.3 +0.3**
comp=Z,36nm,1.0s,mb5.7
EYAK Cordova Ski Ar 89.83 30 *e*P **P 02 56 32.1 -0.3**
EIL Elat 90.06 300 *e*P **P 02 56 33.2 -0.3**
comp=Z,490nm,1.4s,mb6.6
BOYT Boyabat 90.13 311 *i* P **P 02 56 30.1 -3.7**
LVZ Lovozero 90.27 338 *e*P **P 02 56 33.4 -1.1**
LVZ *e* 03 07 24.2
CDAG Cicekdag 90.54 309 *i* P **P 02 56 28.2 -7.5**
SIM Simferopol' 90.70 315 *e*P **P 02 56 37.1 +0.6**
SIM pmax pmax
comp=Z,40nm,0.8s,mb5.8
MEST Erdemli 90.73 306 *i* P **P 02 56 33.0 -3.7**
APA Apatity 90.75 337 ⇑*e*P **P 02 56 35.2 -1.5**
APA *e*S S 03 07 30.0 -0.5
APA pmax pmax
comp=Z,36nm,1.2s,mb5.6
MENT Mentasta 90.79 27 *e*P **P 02 56 37.3 +0.4**
BR131 Keskin Array S 91.10 310 *e*P **P 02 56 37.3 -1.0**
comp=Z,5.6nm,0.7s,mb5.0
BRTR Keskin Array B 91.10 310 P **P 02 56 37.8 -0.6**
comp=Z,4.4nm,0.6s,mb4.9,baz=123,slow=4.6,SNR=25
BRTR PP PP 03 00 19.6 +4.5
comp=Z,1.0nm,0.8s,baz=54,slow=7.8,SNR=3.0
BRTR LR LR 03 45 20.6
comp=Z,426nm,20.7s,MS4.9,baz=284,slow=41
BRTR Keskin Array B 91.10 310 P **P 02 56 37.8 -0.6**
BRTR 03 00 19.6
ANTO Ankara 91.75 310 ⇓*i*P **P 02 56 41.2 -0.2**
JOF Joensuu 91.81 333 *ep* **P 02 56 38.8 -2.8**
comp=Z,16nm,0.6s,mb5.5
JOF Joensuu 91.81 333 *e*P **P 02 56 38.8 -2.8**
JOF pmax pmax
comp=Z,16nm,0.6s,mb5.5
EGAK Eagle 91.85 25 *e*P **P 02 56 40.8 -1.0**
SGKT Sivrigoynuk 92.30 310 *i* P **P 02 56 40.6 -3.2**
KDHN Kadinhani 92.31 308 *i* P **P 02 56 37.8 -6.2**
PUL Pulkovo 92.48 330 *e*P **P 02 56 42.0 -2.7**
DAWY Dawson 92.67 26 *e*P **P 02 56 45.9 +0.3**
KEV Kevo 92.92 340 *ep* **P 02 56 42.0 -4.7**
comp=Z,5.5nm,0.7s,mb5.1
KEV Kevo 92.92 340 *e*P **P 02 56 42.0 -4.7**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
ESKT Eskisehir 93.26 309 *i* P **P 02 56 44.5 -3.9**
ARCES ARCESS Array B 93.47 340 P **P 02 56 48.0 -1.3**
comp=Z,27nm,1.0s,mb5.6,baz=82,slow=6.3,SNR=23
ARCES LR LR 03 44 34.2
comp=Z,1µm,19.6s,MS5.3,baz=284,slow=39
ARCES ARCESS Array B 93.47 340 P **P 02 56 48.0 -1.3**
ARCES LR LR 03 44 34.2
AKASG Malin Array Be 93.76 321 P **P 02 56 48.9 -1.7**
comp=Z,2.4nm,0.4s,mb5.0,baz=72,slow=4.2,SNR=35

AKASG LR LR 03 45 31.3
comp=Z,458nm,19.5s,MS4.9,baz=45,slow=40
AKBB Malin Array Si 93.76 321 P **P** **02 56 49.4 -1.2**
AKBB Malin Array Si 93.76 321 *eP* **P** **02 56 49.2 -1.4**
KAF Kangasniemi 94.20 332 *ep* **P** **02 56 49.2 -3.4**
comp=Z,7.8nm,0.4s,mb5.5,baz=78,slow=4.2
KAF Kangasniemi 94.20 332 *eP* **P** **02 56 49.2 -3.4**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.5
MNK Minsk 94.28 325 *eP* **P** **02 56 47.0 -6.0**
MNK pmax pmax
comp=Z,200nm,1.0s,mb6.5
KIS Kishinev 94.31 317 *eP* **P** **02 56 45.0 -8.1**
KIS *e* 03 00 42.0
KIS *e* 03 08 04.0
FINES FINESS Array B 94.40 332 P **P** **02 56 51.6 -2.0**
comp=Z,4.1nm,0.6s,mb5.0,baz=55,slow=3.6,SNR=19
FINES LR LR 03 42 33.9
comp=Z,742nm,20.4s,MS5.1,baz=78,slow=38
TIRR Tirgusor 94.78 314⇑ *iP* **P** **02 56 55.0 -0.3**
TAOE Nuku Hiva Isla 94.85 99 *eS* S 03 08 05.9 -1.0
comp=Z,2μm,28.6s
TAOE *e*LR LR 03 27 37.8
comp=Z,3μm,22.9s
SKAG Skagway 95.12 30 *eP* **P** **02 56 57.3 +0.4**
VRI Vrincioaia 95.84 316⇑ *iP* **P** **02 57 00.5 +0.3**
VRI Vrincioaia 95.84 316 P **P** **02 57 00.1 -0.1**
PLOR Plostina 95.90 316⇑ *iP* **P** **02 57 00.3 -0.1**
MLR Muntele Rosu 96.43 316 P **P** **02 57 02.0 -0.9**
comp=Z,11nm,0.9s,mb5.3,baz=79,slow=2.9,SNR=16
MLR Muntele Rosu 96.43 316⇓ *iP* **P** **02 57 02.7 -0.1**
MLR Muntele Rosu 96.43 316 P **P** **02 57 02.5 -0.3**
LSZ Lusaka 96.44 255 *eP* **P** **02 57 03.6 +0.7**
LSZ *e* 03 00 56.2
LSZ pmax pmax
comp=Z,13nm,0.8s,mb5.4
LSZ Lusaka 96.44 255 *eP* **P** **02 57 03.6 +0.7**
comp=Z,13nm,0.8s,mb5.4
LSZ *e*pP pP 02 57 10.6 -3.5
LSZ *e*PP PP 03 00 56.2 -0.7
BURAR Bucovina Array 96.68 318⇑ *iP* **P** **02 57 04.3 +0.3**
SUW Suwalki 97.05 324 *eP* **P** **02 57 04.6 -1.0**
SUW Suwalki 97.05 324 P **P** **02 57 04.7 -0.9**
SUW pmax pmax
comp=Z,94nm,1.0s,mb6.2
VOIR 97.06 316⇑ *iP* **P** **02 57 07.0 +1.3**
LVV L'vov 97.17 320 *eP* **P** **02 57 05.8 -0.4**
LVV *e* pP 02 57 16.6 -0.7
LVV *e* 03 01 02.4
LVV *e* 03 07 38.4
LVV *e*S S 03 08 19.8 -7.2
LVV *e*PS PS 03 09 53.8 +1.0
LVV *e*SS SS 03 15 17.2 +13
KWP Kalwaria 98.05 320 *eP* **P** **02 57 09.8 -0.3**
KWP Kalwaria 98.05 320 P **P** **02 57 10.0 -0.1**
KWP pmax pmax
comp=Z,48nm,1.0s,mb6.0
BOSA Boshof 98.40 241 P **P** **02 57 12.3 +0.6**
comp=Z,5.1nm,0.9s,mb5.0,baz=130,slow=7.8,SNR=4.4
BOSA LR LR 03 36 40.1
comp=Z,2μm,21.7s,MS5.5,baz=86,slow=32
BOSA Boshof 98.40 241 P **P** **02 57 12.3 +0.6**
BOSA LR LR 03 36 40.1
KOLS Kolonicke sedl 98.44 319 *eP* **P** **02 57 11.4 -0.5**
KOLS pmax pmax
comp=Z,12nm,1.1s,mb5.3
KOLS Kolonicke sedl 98.44 319 *eP* **P** **02 57 11.4 -0.5**
comp=Z,12nm,1.1s,mb5.3
KOLS *e*PP PP 03 00 42.4 -30
UZH Uzhgorod 98.48 319⇑ *iP* **P** **02 57 12.0 -0.1**
UZH *i* 02 57 27.8
UZH *e*S S 03 08 35.0 -3.1
UZH *e* 03 10 08.0
UZH *e* 03 15 33.0
UZH pmax pmax
comp=Z,85nm,1.0s,mb6.2
DRGR 98.49 317⇑ *iP* **P** **02 57 11.3 -0.8**
DRGR 98.49 317 P **P** **02 57 12.0 -0.1**
GZR Gura Zlata 98.65 316⇑ *iP* **P** **02 57 12.7 -0.1**
GZR Gura Zlata 98.65 316⇓ *iP* **P** **02 57 13.5 +0.7**
GZR Gura Zlata 98.65 316 P **P** **02 57 12.7 -0.2**
VTS Vitosha 98.75 313⇓ *iP* **P** **02 57 12.9 -0.4**
VTS Vitosha 98.75 313 P **P** **02 57 12.7 -0.6**
STHS Stebnicka Huta 99.02 320 *eP* **P** **02 57 15.1 +0.6**
STHS *e* 03 00 54.2
STHS Stebnicka Huta 99.02 320 *eP* **P** **02 57 15.1 +0.6**
STHS pmax pmax
comp=Z,10.0nm,0.9s,mb5.3
STHS Stebnicka Huta 99.02 320 *eP* **P** **02 57 15.1 +0.6**
comp=Z,9.6nm,0.9s,mb5.3
STHS *e*PP PP 03 00 54.3 -22
BZS Buzias 99.42 316⇓ *iP* **P** **02 57 15.9 -0.4**
NIE Niedzica 99.62 320 *eP* Pdif 02 57 17.5 +0.3
KECS Kecovo 99.68 319 *eP* Pdif 02 57 16.8 -0.6
KECS pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
KECS Kecovo 99.68 319 *eP* Pdif 02 57 16.8 -0.6
comp=Z,7.0nm,1.1s
OJC Ojcow 99.79 321 *eP* Pdif 02 57 18.3 +0.4
PSZ Piszkesteto 100.18 319⇓ *eP* Pdif 02 57 19.3 -0.3
PSZ Piszkesteto 100.18 319⇑ *iP* Pdif 02 57 18.5 -1.1
PSZ Piszkesteto 100.18 319 P Pdif 02 57 18.0 -1.6
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ Piszkesteto 100.18 319 *ePdif* Pdif 02 57 17.8 -1.9
comp=Z,9.6nm,1.0s
HFS Hagfors 100.60 332 P Pdif 02 57 19.0 -2.5
comp=Z,5.6nm,0.7s,baz=96,slow=4.5,SNR=28
VYHS Vyhne 100.76 319 *eP* Pdif 02 57 21.2 -1.0
OKC Ostrava-Krasne 100.91 321 *ePDIF* Pdif 02 57 22.0 -0.9
OKC AMS AMS 03 49 40.0
comp=Z,600nm,19.3s
MORC Moravsky Berou 101.31 321⇑ *iP* Pdif 02 57 25.3 +0.7
MORC Moravsky Berou 101.31 321 P Pdif 02 57 24.2 -0.4
MORC pmax pmax
comp=Z,9.0nm,1.3s
MORC Moravsky Berou 101.31 321 P Pdif 02 57 25.6 +0.9
PKSM Moragy 101.36 317⇑ *iP* Pdif 02 57 24.9 0.0
PKSM Moragy 101.36 317⇓ *eP* Pdif 02 57 25.0 +0.1
NB2 NORSAR Subarra101.45 333 P Pdif 02 57 23.1 -2.2
comp=Z,12nm,1.0s,baz=71,slow=4.4
NB2 NORSAR Subarra101.45 333 P Pdif 02 57 23.1 -2.2
NB2 pmax pmax
comp=Z,12nm,1.0s
NOA NORSAR Array B101.45 333 P Pdif 02 57 23.3 -2.0
comp=Z,7.1nm,0.9s,baz=68,slow=4.5,SNR=13
NOA PP PP 03 01 30.6 -4.5
comp=Z,3.2nm,1.0s,baz=73,slow=8.2,SNR=3.3
NOA NORSAR Array B101.45 333 P Pdif 02 57 23.3 -2.0
NOA PP PP 03 01 30.6 -4.5
KSP Ksiaz 101.83 322 *eP* Pdif 02 57 26.8 -0.2
KSP Ksiaz 101.83 322 *eP* Pdif 02 57 26.7 -0.3
KSP *e* 03 01 46.0
KSP MLR MLR
comp=Z,2μm,24.8s,MS5.5
KSP Ksiaz 101.83 322 *ePdif* Pdif 02 57 26.7 -0.3
KSP *ePP* PP 03 01 46.0 +8.0
KSP *eSP* SP 03 10 50.0 +11
KSP LR LR
comp=Z,2μm,24.8s,MS5.5
DPC Dobruska-Polom 101.93 322 *ePDIF* Pdif 02 57 27.0 -0.4
DPC AMS AMS 03 45 10.0
comp=Z,1μm,22.6s
ZST Bratislava 101.95 319 *eP* Pdif 02 57 26.4 -1.1
ZST LR LR
comp=Z,400nm,19.5s,MS5.0
VRAC Vranov 102.02 321 P Pdif 02 57 27.2 -0.6
comp=Z,3.5nm,0.9s,baz=264,slow=18,SNR=4.7
PVCC Panska Ves 102.97 322 *ePDIF* Pdif 02 57 32.3 +0.3
PVCC AMS AMS 03 45 50.0
comp=Z,900nm,24.4s
PRU Pruhonice 103.13 322 *ePDIF* Pdif 02 57 32.5 -0.3
PRU AMS AMS 03 46 10.0
comp=Z,1μm,25.5s
ARSA Arzberg 103.21 319⇑ *iP* Pdif 02 57 33.4 +0.3
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 103.25 323 *ePdiff* Pdif 02 57 33.1 -0.2
BRG Berggiesshubel 103.25 323 *i* P Pdif 02 57 33.4 +0.1
comp=Z,6.2nm,1.1s
BRG *e* 02 58 13.2
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 103.25 323 *i* P Pdif 02 57 33.4 +0.1
BRG *e* 03 11 54.0
BRG pmax pmax
comp=Z,2.0nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG MLR MLR
comp=Z,3μm,19.2s,MS5.8
BRG MLR MLR
comp=N,493nm,21.7s,MS5.0
BRG MLR MLR
comp=E,225nm,21.7s,MS5.0
BRG Berggiesshubel 103.25 323 *i* P Pdif 02 57 33.4 +0.1
comp=E,6.2nm,1.1s
BRG *e* 02 58 13.2
BRG *e* 03 11 54.0
BRG LR LR
comp=Z,490nm,19.2s,MS5.0
CLL Collm 103.70 323 *ePdiff* Pdif 02 57 34.5 -0.8
CLL Collm 103.70 323 *i* Pdif Pdif 02 57 34.7 -0.6
comp=Z,6.0nm,1.0s
CLL *ex* x 02 57 53.0
CLL *ePP* PP 03 01 50.0 -2.0
CLL *e*(SP) 03 10 50.0
CLL *ePPS* 03 12 03.0
CLL *eSSS* 03 20 51.0
CLL *ex* x 03 25 22.0
CLL Collm 103.70 323 *i* P Pdif 02 57 34.7 -0.6
comp=Z,6.0nm,1.0s
CLL pmax pmax
comp=Z,700nm,17.0s,MS5.3
CLL MLR MLR
comp=Z,700nm,17.0s,MS5.3
CLL Collm 103.70 323 *i* Pdif Pdif 02 57 34.7 -0.6
comp=Z,6.0nm,1.0s
CLL *e* 02 57 53.0
CLL LR LR
comp=Z,700nm,17.0s,MS5.3
YKA Yellowknife Ar 103.79 24 PKiKP PKiKP 03 01 53.8 +0.3
comp=Z,1.2nm,0.6s,baz=298,slow=1.6,SNR=5.0
BOJS Bojanci 103.82 317 *eP* Pdif 02 57 35.7 -0.2
PDKS Podkum 103.86 318 *i* P Pdif 02 57 36.6 +0.6
KHC Kasperske Hory 103.97 321 *e*PDIF Pdif 02 57 35.8 -0.7
KHC AMS AMS 03 46 40.0
comp=Z,900nm,18.8s
GEC2 GERESS Array S 103.97 321 *ePdiff* Pdif 02 57 35.9 -0.6
GEC2 GERESS Array S 103.97 321 P Pdif 02 57 37.2 +0.7
GERES GERESS Array B 103.97 321 Pdiff Pdif 02 57 36.2 -0.3
comp=Z,2.0nm,0.9s,baz=86,slow=4.4,SNR=12
GERES PKiKP PKiKP 03 01 55.2 +1.3
comp=Z,2.3nm,1.0s,baz=76,slow=4.1,SNR=4.5
TANN Tannenbergstha 104.29 322 *ePdiff* Pdif 02 57 37.1 -0.8
BSEG Bad Segeberg 104.40 326 *ePdiff* Pdif 02 57 37.5 -0.9
WET Wettzell 104.41 321 *ePdiff* Pdif 02 57 38.4 0.0
MANZ Manzenberg 104.64 322 *ePdiff* Pdif 02 57 38.7 -0.8
ROTZ Rotzenmuhle 104.64 322 *ePdiff* Pdif 02 57 39.0 -0.5
MOX Moxa 104.73 323 *ePdiff* Pdif 02 57 39.4 -0.5
MOX Moxa 104.73 323 *eP* Pdif 02 57 40.5 +0.6
comp=Z,9.0nm,1.2s
MOX
comp=Z,400nm,20.0s
MOX Moxa 104.73 323 *eP* Pdif 02 57 40.5 +0.6
MOX pmax pmax
comp=Z,4.0nm,1.2s
MOX MLR MLR
comp=Z,9μm,20.0s,MS6.3
NRDL Niedersach Rie 105.02 325 *ePdiff* Pdif 02 57 40.9 -0.2
CLZ Clausthal 105.08 324 *ePdiff* Pdif 02 57 41.3 -0.1
GRA1 Grafenberg Arr 105.27 322 *ePdif* Pdif 02 57 41.3 -1.0
GRA1 *eP* PP 03 02 12.1 +8.4
GRF Grafenberg Arr 105.27 322 *ePdiff* PKP 02 57 41.3 -1.0
GRF *eP* PP 03 02 12.1 +8.4
MOTA Moosalm 106.08 320⇑ *iP* Pdif 02 57 45.0 -0.9
comp=Z,7.4nm,1.4s
MOTA Moosalm 106.08 320⇑ *iP* Pdif 02 57 45.0 -0.9
MOTA pmax pmax
comp=Z,7.0nm,1.4s
EDM Edmonton 108.59 33 *e*PKPdf PKiKP 03 02 02.9 +0.5
HAU Haudompre 108.88 321 *e*PKIKP PKiKP 03 02 02.7 -0.2
BAIF Baives 109.37 324 *e*PKIKP PKiKP 03 02 03.1 -0.8
LOR Lormes 110.71 321 *e*PKIKP PKiKP 03 02 06.2 -0.2
EKA Eskdalemuir Ar 110.80 331 PKKPbc PKKPbc 03 13 06.2 +1.6
comp=Z,0.9nm,0.6s,baz=243,slow=3.1,SNR=7.9
EKA PKKPab PKKPab 03 13 13.5 -1.5
comp=Z,0.5nm,0.7s,baz=270,slow=2.9,SNR=3.9
NVAR Mina Array Bea 110.84 49 Pdiff Pdif 02 58 09.7 +2.6
comp=Z,0.1nm,0.4s,baz=242,slow=1.9,SNR=3.1
NVAR PKiKP PKiKP 03 02 08.5 +1.8
comp=Z,2.1nm,0.7s,baz=14,slow=3.1,SNR=3.8
NVAR PP PP 03 02 44.7 +0.4
comp=Z,0.8nm,0.8s,baz=263,slow=4.5,SNR=2.3
NVAR PKKPab PKKPab 03 13 17.1 +2.3
comp=Z,0.4nm,0.6s,baz=128,slow=6.8,SNR=4.7
MSO Missoula 110.94 39 *e*PKPdf PKiKP 03 02 07.2 +0.4
BGF Bois d'Agland 111.64 321 *e*PKIKP PKiKP 03 02 08.3 +0.1
comp=Z,13nm,0.8s
TCF Toulx Ste Croi 112.15 321 *e*PKIKP PKiKP 03 02 09.2 +0.1
comp=Z,37nm,1.4s
FLN La Foliniere 112.69 324 *e*PKIKP PKiKP 03 02 09.7 -0.4
comp=Z,161nm,1.8s
MFF Saint Martin d 113.48 322 *e*PKIKP PKiKP 03 02 11.4 -0.3
comp=Z,22nm,1.1s
PDAR Pinedale Array 115.47 42 PKP PKPdf 03 02 16.6 +1.1
comp=Z,0.9nm,0.5s,baz=203,slow=2.8,SNR=7.3
PDAR PKKPbc PKKPbc 03 12 50.0 +1.2
comp=Z,0.6nm,0.6s,baz=105,slow=4.1,SNR=4.8
PDAR PKKPab PKKPab 03 12 54.7 +0.4
comp=Z,1.7nm,0.8s,baz=103,slow=6.2,SNR=11
ESDC Sonseca Array 119.11 317 PP PP 03 03 47.0 +4.4
comp=Z,0.2nm,0.2s,baz=60,slow=6.5,SNR=4.2
ULM Lac du Bonnet 119.24 29 PKP PKPdf 03 02 22.3 -0.4
comp=Z,7.7nm,1.1s,baz=354,slow=2.1,SNR=5.3
ULM PKKPbc PKKPbc 03 12 35.8 +0.4
comp=Z,3.0nm,0.9s,baz=214,slow=3.3,SNR=3.0
TORD Torodi Ar. Bea 122.31 285 PKP PKPdf 03 02 29.3 +0.7
comp=Z,11nm,0.9s,baz=49,slow=1.5,SNR=32
TORD PKKPab PKKPab 03 12 27.9 +3.5
comp=Z,1.8nm,0.8s,baz=276,slow=3.6,SNR=9.1
TORD Torodi Ar. Bea 122.31 285 PKP PKPdf 03 02 29.3 +0.6
TORD PKKPab PKKPab 03 12 27.9 +3.5
EVO Evora 122.42 317 *e*PKIKP PKPdf 03 02 28.9 +0.1
comp=Z,54nm,1.4s
SCHQ Schefferville 124.69 8 PKP PKPdf 03 02 33.4 +0.2
comp=Z,9.6nm,0.8s,baz=63,slow=3.8,SNR=14
SCHQ Schefferville 124.69 8 PKP PKPdf 03 02 33.4 +0.2
DBIC Dimbokro 129.48 278 PKP PKPdf 03 02 44.2 +1.9
comp=Z,8.7nm,0.9s,baz=301,slow=5.9,SNR=5.5
MDV Middlebury 133.49 18 Pdif Pdif 02 59 47.0 -0.7
PLCA Paso Flores 136.91 163 PKP PKPdf 03 02 58.0 +1.6
comp=Z,5.9nm,0.8s,baz=198,slow=3.6,SNR=16
PLCA SKPbc SKPbc 03 06 27.9 +1.4
comp=Z,4.0nm,1.0s,baz=212,slow=4.0,SNR=4.5
MDZ Mendoza 144.64 160 *e*PKIKP PKPdf 03 03 11.2 +1.0
CMCH Combarbala 145.35 156⇓ *eP* PKPbc 03 03 12.4 +1.1
TLL Tololo Astrono 146.31 155 *eP* PKPdf 03 03 14.7 +1.6
CCCC Cccc 149.55 45 *eP* PKPbc 03 03 21.7 -1.3
CPUP Villa Florida 153.55 175 PKP PKPdf 03 03 26.8 +2.3
comp=Z,1.7nm,0.6s,baz=237,slow=0.9,SNR=7.2
CPUP PKPbc PKPbc 03 03 34.5 +2.4
comp=Z,6.2nm,0.6s,baz=212,slow=1.7,SNR=22
CPUP PKPab PKPab 03 03 46.5 +1.8
comp=Z,18nm,0.8s,baz=161,slow=3.5,SNR=9.5
CPUP Villa Florida 153.55 175 PKIKP PKPdf 03 03 26.8 +2.3
CPUP 03 03 34.6
ARE Arequipa 156.86 136 PKIKP PKPdf 03 03 35.0 +6.0
LPAZ La Paz 159.18 142 PKP PKPdf 03 03 34.5 +2.7
comp=Z,4.0nm,1.0s,baz=314,slow=1.5,SNR=9.4
LPAZ PKPab PKPab 03 04 12.8 +3.9
comp=Z,6.5nm,0.7s,baz=188,slow=11,SNR=12
LPAZ La Paz 159.18 142 PKP PKPdf 03 03 34.5 +2.7
LPAZ PKPab PKPab 03 04 12.8 +3.9
ROSC El Rosal 160.22 76 PKP PKPdf 03 03 35.2 +2.2
comp=Z,1.8nm,0.3s,baz=94,slow=19,SNR=6.0
ROSC PKPab PKPab 03 04 17.1 +3.7
comp=Z,8.3nm,0.8s,baz=87,slow=9.4,SNR=7.6
BDFB Brasilia 162.79 204 PKP PKPdf 03 03 36.9 +1.2
comp=Z,4.4nm,1.0s,baz=51,slow=11,SNR=4.1
BDFB PKPab PKPab 03 04 26.6 +1.9
comp=Z,5.1nm,0.7s,baz=105,slow=3.4,SNR=6.7

MEX 25 02:55:50.3±1.0, 1763N×9436W, h201km±12km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.74**	**223**	*i* P		Pn		02 56 17.2	-1.3
CMIG				*i* S		Sn		02 56 37.5	-2.9
OXX	**Oaxaca**	**2.33**	**257**	*i* P		Pn		02 56 31.5	-0.8
OXX				*i* S		Sn		02 57 05.0	0.0
VHO	**Vista Hermosa**	**2.34**	**257**	*i* P		Pn		02 56 31.6	-0.8
VHO				*i* S		Sn		02 57 05.0	-0.3
HUIG	**Huatulco**	**2.50**	**222**	*i* P		Pn		02 56 31.6	-2.6
HUIG				*i* S		Sn		02 57 06.5	-2.0
CCIG	**Comitan**	**2.51**	**122**	*i* P		Pn		02 56 33.5	-0.8
CCIG				*i* S		Sn		02 57 07.5	-1.2
TPIG	**Tehuac#an**	**2.97**	**286**	*i* P		Pn		02 56 38.9	-0.6
TPIG				*i* S		Sn		02 57 16.0	-2.1
UTMO	**Huajuapan**	**3.29**	**274**	*i* P		Pn		02 56 40.9	-2.5
UTMO				*i* S		Sn		02 57 21.9	-3.2
PLIG	**Platanillo**	**4.96**	**280**	*i* P		Pn		02 57 04.6	+0.5
PLIG				*i* S		Sn		02 58 00.4	-1.9
MEIG	**Mezcala**	**5.03**	**274**	*eP*		Pn		02 57 04.7	-0.3
MEIG				*i* S		Sn		02 58 02.2	-1.7

*ISCJB **25** 03:07:47.1±1.5, 73S±0.1×1462E±0.1, h159km±14km, mb3.9/8, Error ellipse: s-maj=20.4km s-min=17.7km az=82.0*
*IDC **25** 03:07:47.2±1.6, 722S×14633E, h146km±18km, mb3.7/8, mb1 3.7/10, mb1mx3.7/14, mbtmp4.1/10, Error ellipse: s-maj=30.5km s-min=12.4km az=104.0*
*NEIC **25** 03:07:48.4±1.3, 735S×14621E, h159km±11km, mb4.3/4, Error ellipse: s-maj=16.1km s-min=12.9km az=113.0*

ISC 25 03:07:48.2±1.4, 73S±01×1462E±01, h156km±14km, n21, σ0s76/20, mb3.9/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.27**	**156**	P		P	**Pn**	**03 08 27.0**	**+0.3**
	30nm,0.3s,baz=15,slow=4.9,SNR=49								
PMG				S			**Sn**	**03 08 56.2**	**-0.2**
	24nm,0.3s,baz=278,slow=20,SNR=12								
KAKA	**Kakadu**	**14.59**	**247**	*eP*		P	**Pn**	**03 11 06.7**	**-0.5**
	25nm,0.4s								
WB2	**Warramunga Arr**	**17.03**	**221**	*eP*		P	**Pn**	**03 11 36.3**	**-0.7**
WRA	**Warramunga Arr**	**17.04**	**221**	P		P	**Pn**	**03 11 36.7**	**-0.4**
	0.5nm,0.3s,baz=47,slow=12,SNR=10								
AS31	**Alice Springs**	**20.10**	**215**	*eP*		P	**S**	**03 12 10.5**	**+0.8**
ASAR	**Alice Springs**	**20.10**	**215**	P		P	**S**	**03 12 10.7**	**+1.0**
	1.3nm,0.5s,baz=39,slow=9.5,SNR=18								
ASAR				S			**S**	**03 15 52.4**	**+5.6**
	2.8nm,0.9s,baz=28,slow=23,SNR=11								
ASPA	**Alice Springs**	**20.10**	**215**	*eP*		P	**S**	**03 12 10.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**22.73**	**240**	*eP*		P	**S**	**03 12 36.1**	**-0.7**
	6.3nm,0.4s,mb4.4								
FITZ	**Fitzroy Crossi**	**22.73**	**240**	P		P	**S**	**03 12 36.6**	**-0.2**
	2.9nm,0.4s,mb4.1,baz=19,slow=23,SNR=32								
STKA	**Stephens Creek**	**24.81**	**189**	*eP*		P	**S**	**03 12 53.9**	**-1.8**
	3.0nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**24.81**	**189**	P		P	**S**	**03 12 56.9**	**+1.2**
	3.8nm,0.6s,mb4.1,baz=355,slow=9.5,SNR=9.1								
SONM	**Songino Array**	**65.19**	**332**	P		P	**S**	**03 18 13.8**	**+1.2**
	1.4nm,0.7s,mb3.9,baz=160,slow=5.8,SNR=11								
VNDA	**Vanda**	**70.65**	**176**	P		P	**S**	**03 18 46.5**	**-0.2**
	0.2nm,0.6s,mb3.0,baz=324,slow=8.1,SNR=5.2								
VNDA	**Vanda**	**70.65**	**176**	P		P	**S**	**03 18 46.5**	**-0.2**
MKAR	**Makanchi Array**	**78.03**	**321**	P		P	**S**	**03 19 29.9**	**+0.5**
	2.1nm,0.6s,mb3.9,baz=101,slow=7.1,SNR=21								
ZAL	**Zalesovo**	**79.72**	**328**	P		P	**S**	**03 19 37.8**	**-0.8**
	1.3nm,0.4s,mb3.9,baz=352,slow=11,SNR=4.7								
QSPA	**South Pole Qui**	**82.65**	**180**	*eP*		P	**S**	**03 19 53.6**	**-0.5**
	3.5nm,0.7s,mb4.2								
BVAR	**Borovoye Array**	**87.38**	**324**	P		P	**S**	**03 20 16.9**	**-0.7**
	0.8nm,0.5s,mb3.8,baz=127,slow=3.9,SNR=5.3								
TORD	**Torodi Ar. Bea**	**144.65**	**282**	PKP		PKPdf		03 27 06.4	+0.3
	9.0nm,0.7s,baz=82,slow=3.1,SNR=102								
TORD				pPKP		pPKPdf		03 27 49.9	+2.5
	1.1nm,0.7s,baz=80,slow=3.2,SNR=2.6								
DBIC	**Dimbokro**	**151.29**	**271**	PKPbc		PKPbc		03 27 24.4	+1.3
	7.2nm,0.5s,baz=70,slow=2.0,SNR=19								
DBIC	**Dimbokro**	**151.29**	**271**	*e*PKPbc		PKPbc		03 27 24.5	+1.3

*IDC **25** 03:11:56.7±1.2, 583N×12552E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=61.9km s-min=19.9km az=80.0*
*NEIC **25** 03:12:01.9±0.6, 583N×12555E, h35km, mb4.5/3, Error ellipse: s-maj=34.1km s-min=9.9km az=83.0*
*ISCJB **25** 03:12:05.6±0.9, 575N±008×1257E±02, h86km±11km, mb4.1/7, Error ellipse: s-maj=26.9km s-min=11.8km az=147.7*
*MAN **25** 03:12:06.9, 591N×12567E, h9km, mb3.5, ML4.7*

ISC 25 03:12:06.5±0.9, 574N±008×1257E±02, h75km±12km, n19, σ0s99/21, mb4.1/7, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.31**	**24**	*eP*		P	**Pn**	**03 12 28.2**	**-0.9**
DAV	**Davao City (W)**	**1.33**	**354**	*eP*		P	**Pn**	**03 12 29.0**	**-0.4**
DMPH	**Davao City--Mi**	**1.35**	**351**	*eS*		S	**Sn**	**03 12 49.6**	**+2.6**
DMPH	**Davao City--Mi**	**1.35**	**351**	*i* P		P	**Sn**	**03 12 49.1**	**+2.1**
KCP	**Kidapawan**	**1.41**	**333**	*i* P		P	**Pn**	**03 12 29.0**	**-1.4**
KCP				*i* S		S	**Sn**	**03 12 47.5**	**-0.9**
BUKP	**Musuan**	**2.22**	**343**	*eP*		P	**Pn**	**03 12 41.1**	**-0.1**
CGP	**Cagayan de Oro**	**2.88**	**339**	*i* P		P	**Pn**	**03 12 51.4**	**+1.2**
CGP				*i* S		S	**Sn**	**03 13 24.3**	**+0.6**
SCPH	**Surigao**	**4.02**	**357**	*eP*		P	**Pn**	**03 13 09.2**	**+3.6**
KAKA	**Kakadu**	**19.51**	**160**	*eP*		P	**Pn**	**03 16 28.5**	**-1.1**
	11nm,0.6s								
FITZ	**Fitzroy Crossi**	**23.69**	**180**	*eP*		P	**S**	**03 17 11.8**	**+0.5**
	5.7nm,0.4s,mb4.2								
FITZ	**Fitzroy Crossi**	**23.69**	**180**	P		P	**S**	**03 17 11.6**	**+0.3**
	3.5nm,0.5s,mb4.0,baz=9.5,slow=7.6,SNR=22								
WRA	**Warramunga Arr**	**26.89**	**162**	P		P	**S**	**03 17 40.1**	**-0.2**
	2.1nm,0.6s,mb3.8,baz=339,slow=10,SNR=10								
WB2	**Warramunga Arr**	**26.90**	**162**	*eP*		P	**S**	**03 17 40.2**	**-0.1**
ASAR	**Alice Springs**	**30.30**	**165**	P		P	**S**	**03 18 11.2**	**+0.7**
	1.3nm,0.5s,mb3.8,baz=344,slow=7.3,SNR=21								
MJAR	**Matsushiro Arr**	**32.72**	**19**	P		P	**S**	**03 18 30.9**	**-0.9**
	1.6nm,0.8s,mb3.9,baz=204,slow=8.6,SNR=5.1								
FORT	**Forrest**	**36.38**	**177**	*eP*		P	**S**	**03 19 03.9**	**+0.5**
	8.4nm,0.7s,mb4.8								
STKA	**Stephens Creek**	**40.35**	**159**	P		P	**S**	**03 19 38.0**	**+1.3**
	3.0nm,0.8s,mb4.2,baz=334,slow=9.6,SNR=5.1								
MKAR	**Makanchi Array**	**55.34**	**325**	P		P	**S**	**03 21 31.1**	**-1.4**
	0.6nm,0.6s,mb3.8,baz=111,slow=8.6,SNR=4.2								
IMA2	**Indian Mountai**	**80.96**	**24**	*eP*		P	**S**	**03 24 13.0**	**+0.3**
IMA2				*e*pP		pP		03 24 35.4	+2.4

*IDC **25** 03:20:32.1±0.7, 029S×12493E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, Error ellipse: s-maj=52.9km s-min=14.1km az=71.0*
*NEIC **25** 03:20:36.5±0.3, 030S×12504E, h30km, mb4.5/5, Error ellipse: s-maj=24.4km s-min=5.8km az=71.0*
*ISCJB **25** 03:20:38.7±2.6, 03S±01×1252E±02, h69km±25km, mb4.1/13, Error ellipse: s-maj=29.4km s-min=10.1km az=119.3*

ISC 25 03:20:40.5±2.1, 03S±01×1252E±02, h67km±22km, n23, σ0s75/23, mb4.1/13, 1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.48**	**139**	P		P	**Pn**	**03 21 52.9**	**+7.1**
	0.0nm,0.0s								
PCI	**Palu**	**5.42**	**264**	P		P	**Pn**	**03 21 59.4**	**+0.6**
	0.0nm,0.0s								
KAKA	**Kakadu**	**14.25**	**150**	*eP*		P	**Pn**	**03 23 57.7**	**-1.1**
	9.5nm,0.6s								
FITZ	**Fitzroy Crossi**	**17.69**	**179**	*eP*		P	**Pn**	**03 24 42.0**	**-0.2**
	10nm,0.7s								
FITZ	**Fitzroy Crossi**	**17.69**	**179**	P		P	**Pn**	**03 24 41.8**	**-0.4**
	0.3nm,0.3s,baz=14,slow=8.9,SNR=21								
WRAB	**Tennant Creek**	**21.46**	**156**	*eP*		P	**S**	**03 25 22.7**	**-0.5**
	15nm,1.0s,mb4.3								
WRA	**Warramunga Arr**	**21.46**	**156**	P		P	**S**	**03 25 22.9**	**-0.3**
	3.3nm,0.6s,mb3.9,baz=333,slow=11,SNR=13								
WB2	**Warramunga Arr**	**21.46**	**156**	*eP*		P	**S**	**03 25 22.

SONM	**Songino Array**	**50.67**	**344**	P		**P**	**03 29 33.0**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=159,slow=8.7,SNR=7.5							
MKAR	**Makanchi Array**	**60.06**	**327**	P		**P**	**03 30 39.4**	**-1.0**
	0.7nm,0.4s,mb4.1,baz=130,slow=8.3,SNR=8.7							
ZAL	**Zalesovo**	**63.52**	**335**	P		**P**	**03 31 03.9**	**+0.2**
	1.3nm,0.2s,mb4.3,baz=340,slow=12,SNR=2.1							
BVAR	**Borovoye Array**	**69.90**	**328**	P		**P**	**03 31 44.4**	**+0.1**
	0.4nm,0.3s,mb3.7,baz=113,slow=11,SNR=3.6							
ZRNK	**Zerenda**	**70.60**	**328**	*e*P		**P**	**03 31 47.9**	**-0.7**
	1.5nm,0.5s,mb4.1							
AKTK	**Aktyubinsk**	**75.90**	**323**	P		**P**	**03 32 19.1**	**-0.7**
AKTO	**Aktyubinsk**	**75.90**	**323**	P		**P**	**03 32 19.1**	**-0.7**
	1.8nm,0.7s,mb3.9,baz=88,slow=9.0,SNR=6.5							
VNDA	**Vanda**	**79.65**	**172**	P		**P**	**03 32 40.7**	**+0.1**
	0.9nm,0.8s,mb3.7,baz=308,slow=2.9,SNR=7.0							

IDC ***25*** *03:33:51.9±0.5,306S×12958E,h0km,mb4.5/15, mb1 4.6/18,mb1mx4.5/21,mbtmp4.5/18,ML4.2/3,MS4.1/4, Ms1 4.1/4,ms1mx3.6/20,Error ellipse: s-maj=26.1km s-min=11.2km az=70.0*

ISCJB ***25*** *03:33:52.9±2.0,307S±004×12962E±006,h19km±14km, mb4.8/43,MS4.2/4,Error ellipse: s-maj=11.1km s-min=4.9km az=134.3*

NEIC ***25*** *03:33:53.3±0.3,302S×12961E,h10km,mb4.7/13,Error ellipse: s-maj=10.1km s-min=5.3km az=70.0*

BJI ***25*** *03:33:53.3,300S×12960E,h10km,mB5.2,mb4.7,Ms5.0, Msz4.5*

MOS ***25*** *03:33:54.9±1.1,310S×12956E,h33km,mb4.8/24,Error ellipse: s-maj=14.4km s-min=7.0km az=110.1*

ISC 25 03:33:56.8±2.1,305S±004×12971E±006,h32km±15km, n107,σ1§07/104,mb4.8/43,MS4.2/4,7C-4D,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.63**	**247**	P	**Pn**	**03 34 24.7**	**+1.3**
	5µm,0.7s						
KAKA	**Kakadu**	**9.97**	**164**	*e*P	**Pn**	**03 36 18.2**	**+0.4**
	23nm,0.4s						
KAKA				*e*S	**Sn**	**03 38 11.4**	**+2.8**
PCI	**Palu**	**10.09**	**282**	P	**Pn**	**03 36 20.6**	**+1.1**
	67nm,1.2s						
TSM	**Tawau**	**13.89**	**302**	P	**Pn**	**03 37 10.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**15.48**	**195**	*e*P	**Pn**	**03 37 31.8**	**-0.9**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.48**	**195**	Pn	**Pn**	**03 37 32.0**	**-0.7**
	0.8nm,0.3s,baz=41,slow=11,SNR=29						
FITZ				LR	LR	03 43 36.0	
	comp=Z,364nm,18.8s,baz=24,slow=38						
WRAB	**Tennant Creek**	**17.38**	**165**	*e*P	**Pn**	**03 37 55.9**	**-0.9**
WRAB				*e*		03 41 05.0	
WRAB				pmax	pmax		
	comp=Z,29nm,0.6s						
WRAB	**Tennant Creek**	**17.38**	**165**	*e*Pn	**Pn**	**03 37 55.9**	**-1.0**
	comp=Z,29nm,0.6s						
WRAB				*e*Sn	**Sn**	**03 41 05.0**	**-4.2**
WRA	**Warramunga Arr**	**17.39**	**165**	P	**Pn**	**03 37 55.9**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=347,slow=12,SNR=37						
WRA				S	**Sn**	**03 41 07.1**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=354,slow=24,SNR=3.8						
WRA	**Warramunga Arr**	**17.39**	**165**	P	**Pn**	**03 37 55.9**	**-1.0**
WRA				S	**Sn**	**03 41 07.1**	**-2.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				smax			
	comp=N,1.0nm,0.3s						
WB2	**Warramunga Arr**	**17.39**	**165**	*e*P	**Pn**	**03 37 55.7**	**-1.3**
PMG	**Port Moresby**	**18.45**	**111**	P	**Pn**	**03 38 09.6**	**-0.5**
	comp=N,0.4nm,0.3s,baz=221,slow=20,SNR=1.9						
KSM	**Kuching**	**19.91**	**283**	*e*P	**Pn**	**03 38 23.8**	**-3.6**
BJII	**Banjamegara**	**20.36**	**257**	P	**P**	**03 38 32.7**	**+2.1**
	comp=N,91nm,1.6s						
MBWA	**Marble Bar**	**20.45**	**208**	*e*P	**P**	**03 38 30.6**	**-1.0**
	comp=N,53nm,1.3s						
AS31	**Alice Springs**	**20.89**	**169⇑**	*i*P	**P**	**03 38 37.4**	**+1.1**
ASAR	**Alice Springs**	**20.89**	**169**	P	**P**	**03 38 37.5**	**+1.2**
	comp=N,31nm,0.4s,baz=348,slow=11,SNR=410						
ASAR	**Alice Springs**	**20.89**	**169**	P	**P**	**03 38 37.6**	**+1.3**
ASAR				pmax	pmax		
	comp=Z,31nm,0.4s						
ASPA	**Alice Springs**	**20.89**	**169⇑**	*i*P	**P**	**03 38 37.4**	**+1.1**
CTA	**Charters Tower**	**23.40**	**138**	*e*P	**P**	**03 39 04.5**	**+1.5**
	comp=Z,5.7nm,0.5s,mb4.3						
CTA	**Charters Tower**	**23.40**	**138**	P	**P**	**03 39 03.8**	**+0.8**
	comp=Z,5.1nm,0.5s,mb4.2,baz=322,slow=12,SNR=9.2						
CTA	**Charters Tower**	**23.40**	**138**	P	**P**	**03 39 03.8**	**+0.8**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
CTAO	**Charters Tower**	**23.40**	**138**	*e*P	**P**	**03 39 01.6**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
CTAO	**Charters Tower**	**23.40**	**138**	*e*P	**P**	**03 39 01.6**	**-1.4**
	comp=Z,6.8nm,0.6s,mb4.2						
FORT	**Forrest**	**27.62**	**183**	*e*P	**P**	**03 39 42.4**	**+1.1**
	comp=Z,14nm,0.6s,mb4.8						
IPM	**Ipoh**	**29.62**	**285**	P	**P**	**03 40 00.7**	**+1.6**
JOW	**Kunigami**	**29.74**	**357**	LR	LR	03 49 51.8	
	comp=Z,433nm,19.6s,MS4.1,baz=123,slow=32						
STKA	**Stephens Creek**	**30.78**	**160**	*e*P	**P**	**03 40 10.6**	**+1.2**
	comp=Z,2.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**30.78**	**160**	P	**P**	**03 40 09.6**	**+0.3**
	comp=Z,1.8nm,0.4s,mb4.2,baz=344,slow=11,SNR=11						
PSI	**Prapat**	**31.31**	**280**	P	**P**	**03 40 11.4**	**-2.6**
	comp=Z,6.9nm,0.8s,mb4.5,baz=141,slow=4.7,SNR=5.5						
PSI	**Prapat**	**31.31**	**280**	P	**P**	**03 40 11.5**	**-2.6**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**31.93**	**200**	P	**P**	**03 40 18.1**	**-1.4**
	comp=Z,3.4nm,0.5s,mb4.4,baz=17,slow=14,SNR=3.9						
NWAO	**Narrogin (SRO)**	**31.93**	**200**	P	**P**	**03 40 18.1**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NANT	**Nan**	**35.87**	**308**	⇓P	**P**	**03 40 55.0**	**+1.3**
	comp=Z,175nm,0.6s,mb6.2						
NJ2	**Nanjing**	**36.40**	**344**	*e*P	**P**	**03 40 58.8**	**+0.5**
NJ2				PP	PP	03 42 23.8	+2.5
NJ2				S	**S**	**03 46 36.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,790nm,5.8s						
NJ2				LR	LR		
	comp=N,690nm,18.7s,MS4.5						
NJ2				LR	LR		
	comp=E,490nm,21.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,440nm,17.4s,MS4.3						
CHG	**Chiang Mai**	**37.26**	**307**	⇑P	**P**	**03 41 06.3**	**+0.7**
	comp=Z,38nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	**37.26**	**307**	⇓P	**P**	**03 41 06.9**	**+1.3**
	SNR=7.1						
CHTO	**Chiang Mai**	**37.26**	**307**	*e*P	**P**	**03 41 05.6**	**0.0**
CHTO				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.3						
CHTO	**Chiang Mai**	**37.26**	**307**	*e*P	**P**	**03 41 05.6**	**0.0**
	comp=Z,59nm,1.3s,mb5.3						
MJAR	**Matsushiro Arr**	**40.18**	**11**	P	**P**	**03 41 28.6**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.0,baz=186,slow=8.8,SNR=8.3						
MJAR				LR	LR	03 57 01.5	
	comp=Z,274nm,18.2s,MS4.1,baz=225,slow=35						
LZH	**Lanzhou**	**45.83**	**330**	*e*P	**P**	**03 42 16.5**	**+0.8**
LZH				AP	pP	03 42 23.0	-2.3
LZH				XP	sP	03 42 27.0	-2.1
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,172nm,4.3s						
GTA	**Gaotai**	**50.41**	**330**	*e*P	**P**	**03 42 50.8**	**-0.3**
GTA				AP	pP	03 42 57.3	-3.5
GTA				XP	sP	03 43 00.5	-4.1
GTA				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.7						
YSS	**Yuzh-Sakhalins**	**51.11**	**11**	*e*P	**P**	**03 42 59.4**	**+3.0**
YSS				pmax	pmax		
	comp=Z,37nm,1.7s,mb5.0						
HABR	**Khabarovsk**	**51.53**	**5**	P	**P**	**03 42 59.4**	**-0.1**
HABR				*e*S	**S**	**03 50 19.0**	**+1.2**
GUN	**Gumba**	**52.20**	**309**	*e*P	**P**	**03 43 04.4**	**-0.1**
	comp=Z,31nm,0.8s,mb5.3						
PKI	**Pulchoki**	**52.40**	**309**	*e*P	**P**	**03 43 05.8**	**-0.2**
KKN	**Kakani**	**52.61**	**309**	*e*P	**P**	**03 43 07.1**	**-0.5**
DMN	**Daman**	**52.66**	**308**	*e*P	**P**	**03 43 07.6**	**-0.3**
	comp=Z,80nm,1.5s,mb5.4						
GKN	**Gorkha**	**53.21**	**309**	*e*P	**P**	**03 43 11.5**	**-0.5**
KOLN	**Koldanda**	**53.91**	**308**	*e*P	**P**	**03 43 17.1**	**-0.1**
	comp=Z,320nm,0.9s,mb5.2						
SONM	**Songino Array**	**54.63**	**341**	P	**P**	**03 43 22.4**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2,baz=156,slow=8.2,SNR=18						
SONM				PcP	PcP	03 44 24.9	-0.2
	comp=Z,1.0nm,0.7s,baz=153,slow=3.5,SNR=3.9						
SONM	**Songino Array**	**54.63**	**341**	P	**P**	**03 43 22.4**	**0.0**
SONM						03 44 24.9	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CIT	**Chita**	**56.56**	**348**	*e*P	**P**	**03 43 36.9**	**+0.7**
ZAK	**Zakamensk**	**57.87**	**340**	*e*P	**P**	**03 43 44.9**	**-0.6**
ZAK				*e*		03 44 38.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
TLY	**Talaya**	**58.86**	**341**	*e*P	**P**	**03 43 52.2**	**-0.2**
TLY				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
WMQ	**Urumqi**	**59.96**	**326**	*e*P	**P**	**03 43 58.5**	**-1.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
PET	**Petropavlovsk**	**60.94**	**20⇑**	*e*P	**P**	**03 44 07.5**	**+0.8**
PET				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0						
BOD	**Bodaibo**	**61.98**	**351**	*e*P	**P**	**03 44 13.5**	**-0.2**
BOD				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.6						
MA2	**Magadan**	**64.61**	**12⇑**	*e*P	**P**	**03 44 32.1**	**+1.0**
MA2				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**03 44 32.2**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.6,baz=119,slow=8.0,SNR=30						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**03 44 32.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	**Yakutsk**	**64.90**	**360**	*e*P	**P**	**03 44 32.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
TKM2	**Tokmak 2**	**66.79**	**320**	*i*P	**P**	**03 44 45.3**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.8						
AAK	**Ala-Archa**	**67.37**	**319**	⇓P	**P**	**03 44 48.8**	**-0.1**
	SNR=5.1						
AAK	**Ala-Archa**	**67.37**	**319**	*e*P	**P**	**03 44 47.8**	**-1.1**
AAK				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
AAK	**Ala-Archa**	**67.37**	**319**	*e*P	**P**	**03 44 47.8**	**-1.1**
	comp=Z,19nm,1.6s,mb4.9						
ZAL	**Zalesovo**	**67.94**	**333**	P	**P**	**03 44 51.9**	**-0.6**
	comp=Z,8.6nm,1.1s,mb4.7,baz=352,slow=6.4,SNR=26						
ZAL	**Zalesovo**	**67.94**	**333**	P	**P**	**03 44 51.9**	**-0.6**
ZAL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ZAL	**Zalesovo**	**67.94**	**333**	P	**P**	**03 44 51.9**	**-0.6**
SEY	**Seymchan**	**68.01**	**11⇑**	*e*P	**P**	**03 44 53.4**	**+0.5**
NVS	**Novosibirsk**	**69.23**	**333**	*e*P	**P**	**03 44 57.7**	**-2.8**
NVS				pmax	pmax		
	comp=N,37nm,1.6s						
NVS				pmax	pmax		
	comp=E,46nm,1.6s						
NVS				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
VOSK	**Vostochnaya**	**74.14**	**327**	*i*P	**P**	**03 45 29.1**	**-0.9**
VOSK				pmax	pmax		
	comp=Z,15nm,1.8s,mb4.6						
BRVK	**Borovoye**	**74.67**	**327**	⇓P	**P**	**03 45 33.5**	**+0.4**
	SNR=5.1						
BRVK	**Borovoye**	**74.67**	**327**	*e*P	**P**	**03 45 33.2**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,15nm,2.1s,mb4.5						
ZRNK	**Zerenda**	**75.31**	**327**	*e*P	**P**	**03 45 36.1**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.9						
ZRNK	**Zerenda**	**75.31**	**327**	*e*P	**P**	**03 45 36.1**	**-0.7**
	comp=Z,23nm,1.5s,mb4.9						
BILL	**Bilibino**	**75.36**	**13**	*e*P	**P**	**03 45 39.5**	**+2.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
VNDA	**Vanda**	**76.38**	**173**	P	**P**	**03 45 43.0**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=304,slow=9.8,SNR=11						
VNDA	**Vanda**	**76.38**	**173**	P	**P**	**03 45 43.1**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	**78.50**	**201**	P	**P**	**03 45 54.6**	**-0.1**
	comp=Z,1.7nm,0.4s,mb4.3,baz=76,slow=7.3,SNR=4.2						
MAW				LR	LR	04 19 14.3	
	comp=Z,129nm,18.9s,MS4.3,baz=250,slow=35						
AKTK	**Aktyubinsk**	**80.80**	**322**	P	**P**	**03 46 06.7**	**-0.6**
AKTO	**Aktyubinsk**	**80.80**	**322**	P	**P**	**03 46 06.7**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.6,baz=90,slow=6.4,SNR=9.5						
AKTO	**Aktyubinsk**	**80.80**	**322**	P	**P**	**03 46 06.7**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SVE	**Sverdlovsk**	**81.26**	**329**	*e*P	**P**	**03 46 12.7**	**+3.0**
SVE				pmax	pmax		
	comp=Z,40nm,1.6s,mb5.1						
ARU	**Arti**	**82.22**	**328⇑**	*e*P	**P**	**03 46 14.3**	**-0.5**
ARU				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
TTA	**Tatalina**	**85.60**	**26**	*e*P	**P**	**03 46 32.9**	**+0.9**
TTA				pmax	pmax		
	comp=Z,39nm,1.8s,mb5.3						
TTA	**Tatalina**	**85.60**	**26**	*e*P	**P**	**03 46 32.9**	**+0.9**
	comp=Z,39nm,1.8s,mb5.3						
QSPA	**South Pole Qui**	**86.90**	**180**	*e*P	**P**	**03 46 38.4**	**0.0**
	comp=Z,12nm,1.4s,mb4.9						
SLKM	**Skilak Lake**	**87.75**	**29**	*e*P	**P**	**03 46 42.0**	**-0.6**
GNI	**Garni**	**88.10**	**310**	*e*P	**P**	**03 46 44.3**	**+0.1**
GNI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
COLA	**College**	**89.53**	**25**	P	**P**	**03 46 50.1**	**-0.8**
COLA				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.5						
COLA	**College**	**89.53**	**25**	P	**P**	**03 46 50.1**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.4						
KMBO	**Kilima Mbogo**	**92.39**	**269**	P	**P**	**03 47 05.9**	**+1.7**
	comp=Z,0.7nm,0.5s,mb4.3,baz=37,slow=20,SNR=3.2						
KMBO	**Kilima Mbogo**	**92.39**	**269**	P	**P**	**03 47 05.9**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
DAWY	**Dawson**	**93.12**	**26**	*e*P	**P**	**03 47 08.2**	**+0.6**
BRTR	**Keskin Array B**	**96.61**	**309**	P	**P**	**03 47 23.9**	**+0.4**
	comp=Z,0.5nm,0.8s,mb4.0,baz=95,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**96.61**	**309**	P	**P**	**03 47 23.9**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**97.80**	**340**	P	**P**	**03 47 28.5**	**-0.4**
	comp=Z,6.9nm,1.1s,mb5.1,baz=54,slow=4.6,SNR=2.6						
ARCES	**ARCESS Array B**	**97.80**	**340**	P	**P**	**03 47 28.5**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**127.66**	**284**	PKP	PKPdf	03 53 00.2	+1.5
	comp=Z,0.6nm,0.7s,baz=111,slow=2.8,SNR=6.0						
PLCA	**Paso Flores**	**132.65**	**159**	PKP	PKPdf	03 53 11.2	+2.9
	comp=Z,1.9nm,0.8s,baz=289,slow=5.0,SNR=3.6						
PLCA	**Paso Flores**	**132.65**	**159**	PKIKP	PKPdf	03 53 11.2	+2.9
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
JTS	**JuntasAbangare**	**144.86**	**76**	*e*PKIKP	PKPdf	03 53 31.0	+0.5
CPUP	**Villa Florida**	**150.01**	**167**	PKPbc	PKPbc	03 53 46.1	+2.1
	comp=Z,3.9nm,0.6s,baz=166,slow=1.5,SNR=20						
CPUP				PKPab	PKPab	03 53 52.0	+2.2
	comp=Z,3.1nm,0.6s,baz=154,slow=1.7,SNR=9.4						
CPUP	**Villa Florida**	**150.01**	**167**	*e*PKPbc	PKPbc	03 53 45.8	+1.8
CPUP				PKPab	PKPab	03 53 52.0	+2.2
LPAZ	**La Paz**	**153.92**	**138**	PKPbc	PKPbc	03 53 55.9	+3.0
	comp=Z,0.2nm,0.4s,baz=191,slow=10,SNR=3.2						
LPAZ				PKPab	PKPab	03 54 06.7	+0.5
	comp=Z,0.5nm,0.3s,baz=225,slow=6.5,SNR=14						
LPAZ	**La Paz**	**153.92**	**138**	*e*PKPdf	PKPdf	03 53 47.2	+2.3
LPAZ				PKPbc	PKPbc	03 53 55.9	+3.0
LPAZ				PKPab	PKPab	03 54 06.7	+0.5

IDC 25 03:40:59.7±2.4,328S×12892E,h0km,mb3.7/2,Error ellipse: s-maj=169.3km s-min=28.5km az=68.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.39**	**163**	P	Pn	03 45 02.5	-1.2
	baz=345,slow=13						
ASAR	**Alice Springs**	**20.83**	**167**	P	P	03 45 44.0	+1.2
	2.1nm,0.5s,baz=348,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**64.54**	**326**	P	P	03 51 38.6	+0.1
	0.5nm,0.7s,baz=126,slow=8.2,SNR=4.8						

JMA 25 03:54:18.9±0.1,3752N×14268E,h25km±4km,M3.7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.41**	**312**	P	Pn	03 54 43.4	+0.5
JIO				S	Sn	03 55 01.2	+0.6
JFK	**Kawauchi**	**1.45**	**264**	P	Pn	03 54 44.0	+0.6
JFK				S	Sn	03 55 02.4	+0.8
JMM	**Marumori**	**1.54**	**284**	P	Pn	03 54 45.0	+0.3
JMM				S	Sn	03 55 04.4	+0.6
ONAJ	**Iwakimizuishiy**	**1.56**	**255**	P	Pn	03 54 46.0	+1.0
ONAJ				S	Sn	03 55 05.3	+0.9
JOU	**Okura**	**1.80**	**299**	P	Pn	03 54 49.8	+1.4
JMK	**Ichinoseki**	**1.83**	**322**	P	Pn	03 54 50.2	+1.4
JFT	**Otama**	**1.86**	**271**	P	Pn	03 54 50.8	+1.6
JFT				S	Sn	03 55 14.1	+2.2
JYS	**Shirataka**	**2.18**	**289**	P	Pn	03 54 55.3	+1.7
JOM	**Ohasama**	**2.23**	**331**	P	Pn	03 54 55.6	+1.3
JOM				S	Sn	03 55 22.2	+1.2
JYK	**Kaneyama**	**2.30**	**308**	P	Pn	03 54 57.0	+1.8
JYK				S	Sn	03 55 23.9	+1.2
JAG	**Ashikaga**	**2.81**	**248**	P	Pn	03 55 04.1	+1.9
JANG	**Nango**	**2.99**	**343**	P	Pn	03 55 05.9	+1.2
JANG				S	Sn	03 55 41.6	+1.9
BSO1	**Boso 1**	**3.17**	**206**	P	Pn	03 55 08.7	+1.5
MAT	**Matsushiro**	**3.71**	**256**	P	Pn	03 55 18.0	+3.4
MAT				S	Sn	03 56 03.0	+5.5

NEIC ***25*** *04:30:27.7,3925S×17493E,h153km,MG3.7(WEL),After WEL.*

WEL 25 04:30:29.1±0.2,3932S×17492E,h141km±1km,ML3.6/5, 5C-9D,Error ellipse: s-maj=1.2km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.33**	**85**	⇓PN	Pn	04 30 48.5	-0.2
PKVZ				SN	Sn	04 31 03.4	-0.1
RAEZ	**Rainy Point**	**0.41**	**274**	P	Pn	04 30 48.2	-0.8
RAEZ	**Rainy Point**	**0.41**	**274**	PN	Pn	04 30 47.9	-1.0
WAZ	**Wanganui**	**0.44**	**174**	P	Pn	04 30 49.6	+0.5
WAZ	**Wanganui**	**0.44**	**174**	PN	Pn	04 30 49.6	+0.5
WAZ				SN	Sn	04 31 04.4	+0.1
TWVZ	**Taurewa**	**0.47**	**59**	⇓PN	Pn	04 30 48.8	-0.4
TWVZ				SN	Sn	04 31 03.7	-0.9
TRVZ	**Turoa**	**0.48**	**88**	PN	Pn	04 30 49.4	+0.1
TRVZ				SN	Sn	04 31 04.1	-0.6
FWVZ	**Far West T-bar**	**0.49**	**83**	P	Pn	04 30 49.4	0.0
FWVZ				S	Sn	04 31 04.5	-0.3
FWVZ	**Far West T-bar**	**0.49**	**83**	PN	Pn	04 30 49.4	0.0
FWVZ				SN	Sn	04 31 04.5	-0.3
WPVZ	**Whakapapa**	**0.50**	**77**	⇓PN	Pn	04 30 49.3	-0.1
WPVZ				SN	Sn	04 31 04.1	-0.7
DRZ	**Dome Shelter**	**0.50**	**85**	P	Pn	04 30 49.9	+0.5
DRZ	**Dome Shelter**	**0.50**	**85**	PN	Pn	04 30 49.7	+0.3
WNVZ	**Wahianoa**	**0.52**	**91**	P	Pn	04 30 49.7	+0.2
WNVZ				S	Sn	04 31 04.8	-0.3
WNVZ	**Wahianoa**	**0.52**	**91**	⇓PN	Pn	04 30 49.7	+0.1
WNVZ				SN	Sn	04 31 04.8	-0.2
NGZ	**Ngauruhoe**	**0.55**	**75**	P	Pn	04 30 49.6	-0.1
NGZ	**Ngauruhoe**	**0.55**	**75**	⇓PN	Pn	04 30 49.5	-0.1
WTVZ	**West Tongariro**	**0.56**	**69**	P	Pn	04 30 49.5	-0.2
WTVZ	**West Tongariro**	**0.56**	**69**	⇓PN	Pn	04 30 49.5	-0.2
WTVZ				SN	Sn	04 31 04.8	-0.5
TUVZ	**Tukino**	**0.57**	**85**	P	Pn	04 30 50.0	+0.2
TUVZ	**Tukino**	**0.57**	**85**	PN	Pn	04 30 50.0	+0.2
TUVZ				SN	Sn	04 31 05.2	-0.3
OTVZ	**Oturere**	**0.60**	**75**	⇓PN	Pn	04 30 50.0	+0.1
OTVZ				SN	Sn	04 31 06.2	+0.4
KRVZ	**Karewarewa**	**0.60**	**69**	⇓PN	Pn	04 30 49.8	-0.2
KRVZ				SN	Sn	04 31 04.7	-1.2
NEZ	**North Egmont**	**0.64**	**274**	P	Pn	04 30 50.4	+0.1
NEZ	**North Egmont**	**0.64**	**274**	PN	Pn	04 30 50.4	+0.1
MOVZ	**Moawhango**	**0.65**	**98**	⇓PN	Pn	04 30 50.0	-0.3
MOVZ				SN	Sn	04 31 05.0	-1.4
KATZ	**Kakaramea**	**0.69**	**61**	PN	Pn	04 30 50.3	-0.3
KATZ				SN	Sn	04 31 06.5	-0.4
PKE	**Pukeiti**	**0.74**	**279**	P	Pn	04 30 50.5	-0.4
PKE	**Pukeiti**	**0.74**	**279**	PN	Pn	04 30 50.5	-0.4
NRZ	**Ngariki Road**	**0.77**	**268**	P	Pn	04 30 50.9	-0.2
NRZ	**Ngariki Road**

ASAO					AML	AML	04 50 22.5	
	comp=N,43nm,0.6s							
ASAO					AML	AML	04 50 23.9	
	comp=E,54nm,0.5s							
ASAO	**Ashtian**	**2.94**	**15**	*e*Pn	**Pn**		**04 49 25.5**	**+1.7**
	SNR=52							
ASAO				*e*Sg	**Sg**		**04 50 10.5**	**-0.9**
	comp=E,54nm,0.5s,SNR=90							
RDF	**Al-Radifah**	**3.08**	**206**	*e*P	**Pg**		**04 49 34.7**	**-1.5**
RDF				*e*S	**Sg**		**04 50 14.1**	**-2.1**
RDF				AML	AML		04 50 14.8	
	comp=Z,27nm,0.3s							
QRN	**Al-Qurain**	**3.13**	**200**	*e*P	**Pg**		**04 49 34.1**	**-2.9**
QRN				AMb	AMB		04 49 34.8	
	comp=Z,26nm,0.3s							
QRN				*e*S	**Sg**		**04 50 12.7**	**-4.9**
NASN	**Na'in**	**3.31**	**70**	*e*Pn	**Pn**		**04 49 29.9**	**+1.0**
SNGE	**Sanandaj**	**3.69**	**337**	*e*PN	**Pn**		**04 49 34.5**	**+0.4**
SNGE				AML	AML		04 50 49.8	
	comp=N,15nm,0.8s							

CSEM ***25*** *04:56:49.7±0.1, 4583N×1189E, h15km, ML2.8/10, Error ellipse: s-maj=2.7km s-min=1.3km az=21.0*
ISCJB ***25*** *04:56:51.0±0.5, 4592N±003×1190E±003, h10km±3km, Error ellipse: s-maj=4.9km s-min=3.0km az=17.8*
VIE ***25*** *04:56:50.4±0.3, 4589N×1190E, h10km±1km, mb1.8/2, ML2.4/6, Error ellipse: s-maj=2.0km s-min=1.0km az=13.0*
37 km SW of Belluno
ROM ***25*** *04:56:51.7±0.3, 4593N×1190E, h5km, Md2.6/6, Ml1.9/4, Error ellipse: s-maj=4.7km s-min=2.0km az=176.0*

ISC 25 04:56:51.2±0.5, 4587N±003×1190E±003, h12km±3km, n26, σ0°68/51, 10C-15D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGRP	**Cima Grappa**	**0.07**	**277**	⇑*i*Pg	**Pg**	**04 56 53.4**	**-0.3**
CGRP				*i* Sg	**Sg**	**04 56 55.5**	**0.0**
MTLO	**Montello**	**0.15**	**113**	⇓*i*Pg	**Pg**	**04 56 54.4**	**-0.4**
CTI	**Castel Tesino**	**0.25**	**316**	Pg	**Pg**	**04 56 56.3**	**-0.1**
CTI				Sg	**Sg**	**04 57 00.2**	**+0.3**
	81nm,0.3s						
FAU	**Forcella Aurin**	**0.36**	**9**	⇓*i*Pg	**Pg**	**04 56 57.6**	**-0.8**
CAE	**Caneva**	**0.40**	**70**	⇑*i*Pg	**Pg**	**04 56 58.7**	**-0.4**
CAE				*i* Sg	**Sg**	**04 57 04.7**	**+0.2**
MLNI	**Malnisio**	**0.57**	**60**	⇓*e*Pg	**Pg**	**04 57 02.8**	**+0.5**
MLNI				*e*Sg	**Sg**	**04 57 11.2**	**+1.4**
APPI	**Appiano**	**0.77**	**323**	Pg	**Pg**	**04 57 05.9**	**-0.1**
	65nm,0.3s						
MAGA	**Magasa**	**0.89**	**264**	Pg	**Pg**	**04 57 09.2**	**+0.8**
MAGA				Sg	**Sg**	**04 57 22.4**	**+2.3**
	50nm,0.5s						
FVI	**Forni Avoltri**	**0.95**	**40**	Pg	**Pg**	**04 57 09.3**	**-0.2**
	18nm,0.2s						
PLRO	**Paularo**	**1.10**	**52**	⇑*i*Pg	**Pg**	**04 57 12.2**	**-0.2**
PLRO				*i* Sg	**Sg**	**04 57 27.0**	**+0.2**
PTCC	**Patocco-Chiusa**	**1.14**	**62**	Pg	**Pg**	**04 57 12.6**	**-0.6**
PTCC				Sg	**Sg**	**04 57 29.9**	**+1.8**
	7.0nm,0.2s						
ROBS	**Robic**	**1.18**	**71**	*i* Pn	**Pn**	**04 57 13.3**	**-0.2**
ROBS				*i* Sn	**Sn**	**04 57 29.7**	**+0.2**
ROBS							
	comp=Z,4.0nm,0.1s						
ROBS	**Robic**	**1.18**	**71**	*i* Pn	**Pn**	**04 57 13.3**	**-0.2**
ROBS				*i* Sn	**Sn**	**04 57 29.7**	**+0.2**
	comp=Z,4.0nm,0.1s						
BRMO	**Bormio**	**1.22**	**300**	Pg	**Pg**	**04 57 14.8**	**+0.2**
	comp=Z,13nm,0.4s						
DRE	**Drenchia**	**1.25**	**75**	⇑*i*Pg	**Pg**	**04 57 14.2**	**-1.1**
DRE				*i* Sg	**Sg**	**04 57 32.0**	**+0.5**
CADS	**Cadrg**	**1.33**	**74**	*i* Pn	**Pn**	**04 57 15.2**	**-0.3**
CADS				*i* Sn	**Sn**	**04 57 33.8**	**+0.7**
CADS							
	comp=Z,6.0nm,0.1s						
CADS	**Cadrg**	**1.33**	**74**	*i* Pn	**Pn**	**04 57 15.2**	**-0.3**
CADS				*i* Sn	**Sn**	**04 57 33.8**	**+0.7**
	comp=Z,6.0nm,0.1s						
VOY	**Vojsko**	**1.40**	**83**	*e*Pn	**Pn**	**04 57 16.4**	**-0.1**
VOY				*e*Sn	**Sn**	**04 57 35.3**	**+0.4**
WTTA	**Wattenberg**	**1.41**	**353**	⇑*i*Pn	**Pn**	**04 57 16.1**	**-0.4**
WTTA				⇑*i*Pg	**Pg**	**04 57 17.1**	**-1.1**
WTTA				⇓*i*Sg	**Sg**	**04 57 36.6**	**+0.1**
	comp=Z,16nm,0.3s						
SQTA	**Sankt Quirin**	**1.43**	**341**	⇓*i*Sn	**Sn**	**04 57 36.2**	**+0.6**
SQTA	**Sankt Quirin**	**1.43**	**341**	⇓*i*Pn	**Pn**	**04 57 16.7**	**-0.2**
SQTA				⇓*i*Pg	**Pg**	**04 57 17.9**	**-0.8**
SQTA				⇓*i*Sn	**Sn**	**04 57 36.2**	**+0.6**
SQTA				⇑*i*Sg	**Sg**	**04 57 37.6**	**+0.4**
	comp=Z,9.2nm,0.2s						
WATA	**Walderalm**	**1.48**	**352**	⇓*i*Pn	**Pn**	**04 57 17.0**	**-0.6**
WATA				⇑*i*Pg	**Pg**	**04 57 18.6**	**-1.0**
WATA				⇓*i*Sg	**Sg**	**04 57 39.3**	**+0.5**
	comp=Z,6.0nm,0.3s						
KBA	**Koelnbreinsper**	**1.57**	**39**	⇓*i*Pg	**Pg**	**04 57 20.3**	**-0.9**
KBA				⇓*i*Sg	**Sg**	**04 57 41.6**	**0.0**
	comp=Z,15nm,0.4s						
MOTA	**Moosalm**	**1.57**	**340**	⇓*i*Pn	**Pn**	**04 57 18.4**	**-0.5**
MOTA				⇓*i*Pg	**Pg**	**04 57 20.7**	**-0.6**
MOTA				⇑*i*Sg	**Sg**	**04 57 42.3**	**+0.6**
	comp=Z,12nm,0.4s						
DAVA	**Damuels**	**1.98**	**316**	⇑*e*Pg	**Pg**	**04 57 28.7**	**-0.6**
DAVA				⇓*i*Sg	**Sg**	**04 57 55.6**	**+0.7**
	comp=Z,2.1nm,0.2s						
DAVA	**Damuels**	**1.98**	**316**	Pg	**Pg**	**04 57 28.7**	**-0.5**
DAVA				Sg	**Sg**	**04 57 55.6**	**+0.6**
	comp=Z,2.1nm,0.2s						

NEIC 25 05:44:25.1±2.3, 3475N×7988W, h5km, mb3.7/4, Error ellipse: s-maj=34.0km s-min=9.5km az=134.0, South Carolina

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSC	**Jenkinsville**	**1.23**	**248**	*e*P	Pg	05 44 47.9	-0.9
COW	**Cow Castle Cre**	**1.52**	**207**	*e*P	Pn	05 44 48.0	-4.9
BLA	**Blacksburg**	**2.50**	**350**	*e*Pn	Pn	05 45 06.7	+0.3
ELN	**Prospectdale**	**2.58**	**344**	*e*Pn	Pn	05 45 07.8	+0.4
FWV	**Forest Hill**	**2.93**	**345**	*e*Pn	Pn	05 45 12.2	-0.1
FWV				*e*Sg	Sg	05 45 51.6	-7.6
TZTN	**Tazewell**	**3.49**	**302**	*e*Pn	Pn	05 45 19.6	-0.3
TZTN				Sn	Sn	05 45 58.9	-2.7
TZTN				*e*Sg	Sg	05 46 10.9	-6.2
CBN	**Corbin**	**4.00**	**30**	*e*Pn	Pn	05 45 26.2	-0.8
CBN				*e*Sn	Sn	05 46 13.3	-0.9
MCWV	**Mont Chateau**	**4.90**	**0**	*e*Pn	Pn	05 45 38.8	-0.7
MCWV				*e*Sg	Sg	05 46 52.5	-10
MVL	**Millersville**	**5.95**	**27**	Pn	Pn	05 45 51.3	-2.5
ACSO	**Alum Creek Sta**	**6.01**	**337**	Pn	Pn	05 45 54.1	-0.5
ACSO				*e*Pg	Pg	05 46 08.1	-12
ACSO				*e*Sn	Sn	05 47 01.1	-2.7
ACSO				*e*Sg	Sg	05 47 25.6	-12
SSPA	**Standing Stone**	**6.09**	**14**	*e*Pn	Pn	05 45 55.1	-0.6
WVT	**Waverly**	**6.64**	**284**	*e*Pn	Pn	05 46 03.1	-0.2
PLAL	**Pickwick Lake**	**6.75**	**274**	*e*Pn	Pn	05 46 04.3	-0.4
PLAL				*e*Sg	Sg	05 47 50.5	-11
DWPF	**Disney**	**6.75**	**192**	*e*Pn	Pn	05 46 01.3	-3.4
	121nm,0.7s						
DWPF				*e*Sn	Sn	05 47 17.0	-5.0
ALLY	**Alegheny Colle**	**6.89**	**358**	*e*Sn	Sn	05 47 27.5	+1.9
BLO	**Bloomington**	**6.91**	**312**	*e*Pn	Pn	05 46 06.0	-1.1
USIN	**University of**	**7.06**	**299**	*e*Pn	Pn	05 46 10.3	+1.2
USIN				*e*Pb	Pb	05 46 34.0	+5.9
USIN				*e*Sb	Sb	05 48 04.2	+12
BRNJ	**Basking Ridge**	**7.27**	**34**	*e*Sg	Sg	05 48 09.4	-9.0
UTMT	**University of**	**7.50**	**285**	*e*Pn	Pn	05 46 16.2	+1.1
UTMT				*e*Sb	Sb	05 48 13.8	+8.4
CPNY	**Central Park**	**7.64**	**36**	Pn	Pn	05 46 20.4	+3.5
CPNY				*e*Sb	Sb	05 48 20.0	+11
GLAT	**Glass**	**7.82**	**284**	*e*Sn	Sn	05 47 54.4	+5.9
PAL	**Palisades**	**7.83**	**35**	*e*Pn	Pn	05 46 18.9	-0.7
	71nm,0.6s						
PAL				*e*Sn	Sn	05 47 43.9	-4.7
OXF	**Oxford**	**7.86**	**271**	*e*Pn	Pn	05 46 19.4	-0.6
BINY	**Binghamton**	**8.04**	**21**	*e*Pn	Pn	05 46 22.0	-0.5
SIUC	**Southern Illin**	**8.11**	**294**	*e*Pn	Pn	05 46 23.3	-0.2
PARMO	**Parma**	**8.26**	**286**	*e*Pg	Pg	05 46 59.5	-3.7
PARMO				*e*Sg	Sg	05 48 43.8	-6.4
MET	**Memphis--Engin**	**8.27**	**275**	*e*Pg	Pg	05 47 02.5	-0.9
SLM	**Saint Louis**	**9.18**	**298**	Sn	Sn	05 48 15.0	-6.9
	101nm,0.7s						
QUA2	**Belchertown**	**9.55**	**36**	*e*Sn	Sn	05 48 26.0	-4.9
	31nm,0.5s						
CCM	**Cathedral Cave**	**9.74**	**293**	*e*Pn	Pn	05 46 44.0	-1.9
ACCN	**Adirondack Com**	**9.88**	**27**	*e*Pn	Pn	05 46 47.0	-0.8
ACCN				*e*Sn	Sn	05 48 35.1	-3.9
NCB	**Newcomb**	**10.20**	**24**	*e*Pn	Pn	05 46 51.7	-0.4
	77nm,0.9s						
NCB				*e*Sn	Sn	05 48 43.8	-3.0
UALR	**University of**	**10.26**	**274**	*e*Sn	Sn	05 48 42.1	-6.2
	330nm,0.8s						
LONY	**Lake Ozonia**	**10.67**	**21**	*e*Pn	Pn	05 46 56.0	-2.5
LONY				*e*Sn	Sn	05 48 50.4	-7.9
FFD	**Franklin Falls**	**10.80**	**34**	*e*Pn	Pn	05 46 58.9	-1.4
	110nm,0.6s						
FFD				*e*Sn	Sn	05 49 00.7	-0.8
MSNY	**Massena**	**10.94**	**19**	*e*Sn	Sn	05 49 00.2	-4.7
FRNY	**Flat Rock**	**11.17**	**24**	*e*Pn	Pn	05 47 03.8	-1.6
FRNY				Sn	Sn	05 49 06.3	-4.3
MIAR	**Mount Ida**	**11.29**	**273**	*e*Pn	Pn	05 47 05.1	-1.9
	3.1nm,0.4s						
MIAR				*e*Sn	Sn	05 49 09.7	-3.8
LBNH	**Lisbon**	**11.29**	**31**	*e*Sn	Sn	05 49 03.6	-10
	51nm,0.8s						
JFWS	**Jewell Farm**	**11.48**	**318**	*e*Pn	Pn	05 47 08.2	-1.5
	38nm,0.6s						
BBSR	**BB Station**	**12.88**	**96**	*e*Pn	Pn	05 47 27.2	-1.6
BBSR				*e*Sn	Sn	05 49 38.5	-14
WMOK	**Wichita Mounta**	**15.55**	**275**	*e*Pn	Pn	05 48 02.0	-2.9
	4.2nm,0.7s						
WMOK				*e*Sn	Sn	05 50 56.0	-1.5
ECSD	**EROS,Sioux Fal**	**15.75**	**310**	*e*Sn	Sn	05 50 50.3	-12
SDCO	**Great Sand Dun**	**20.86**	**286**	*e*P	P	05 49 10.0	+2.1
	2.2nm,0.6s						
PHWY	**Pilot Hill**	**21.15**	**296**	*e*P	P	05 49 10.4	-0.5
MNTX	**Cornudas Mount**	**21.54**	**269**	*e*P	P	05 49 16.0	+0.9
	1.2nm,0.8s						
SMCO	**Snowmass**	**22.07**	**290**	*e*P	P	05 49 22.1	+1.3
	3.5nm,0.9s						
PV01	**Paradox Valley**	**23.29**	**287**	*e*P	P	05 49 35.4	+1.7
PV10	**Paradox Valley**	**23.66**	**287**	*e*P	P	05 49 38.3	+0.8
RLMT	**Red Lodge**	**24.68**	**304**	*e*P	P	05 49 47.9	+1.0

MOS 25 05:54:37.5±2.4, 4318N×4669E, h12km, mb3.7/1, 1C-3D, Error ellipse: s-maj=13.7km s-min=13.1km az=65.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.12**	**202**	⇓*i*PG	Pg	05 54 41.0	+0.4
DLMR				pmax	pmax		
	comp=Z,1μm,0.2s						
DBC	**Dubki**	**0.19**	**147**	*i* PG	Pg	05 54 42.0	+0.3
DBC				*i* S	Sg	05 54 46.0	+1.4
DBC				pmax	pmax		
	comp=Z,124nm,0.1s						
KRNR	**Karanay**	**0.39**	**156**	*e*PG	Pg	05 54 45.5	+0.3
KRNR				*e*S	Sg	05 54 51.2	+0.8
UNCR	**Uncukul**	**0.47**	**171**	*e*PG	Pg	05 54 47.4	+0.6
UNCR				*i* S	Sg	05 54 55.0	+1.9
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
BTLR	**Botlikh**	**0.62**	**214**	*e*PG	Pg	05 54 50.0	+0.4
BTLR				*i* S	Sg	05 55 00.0	+2.3
BTLR				pmax	pmax		
	comp=Z,29nm,0.2s						
SNJR	**Sundja**	**1.38**	**266**	*e*PG	Pg	05 55 12.8	+8.8
SNJR				*e*S	Sn	05 55 30.5	+10
VLKR	**Vladikavkaz**	**1.48**	**266**	⇓*e*PG	Pg	05 55 13.4	+7.5
VLKR				*e*S	Sn	05 55 31.4	+8.2
KMSR	**Komsomolskaya**	**1.76**	**277**	*e*PN	Pn	05 55 20.1	+12
KMSR				*e*S	Sn	05 55 43.0	+13
ARNR	**Ardon**	**1.76**	**271**	*e*PN	Pn	05 55 18.1	+10
ARNR				*e*S	Sn	05 55 39.6	+9.4
LACR	**Lac**	**1.79**	**259**	⇑*e*PN	Pn	05 55 13.7	+5.5
KORR	**Kora**	**1.92**	**268**	⇓*e*PN	Pn	05 55 18.7	+8.7
KORR				*e*S	Sn	05 55 40.5	+6.4
ZEI	**Tsey**	**2.09**	**260**	*e*PN	Pn	05 55 17.2	+4.9

ISK ***25*** *06:12:00.2, 4050N×2516E, h29km, ML3.0*
ISCJB ***25*** *06:12:02.0±0.6, 4065N±004×2544E±004, h8km, Error ellipse: s-maj=5.4km s-min=4.6km az=37.7*
NEIC ***25*** *06:12:01.1, 4063N×2558E, h28km, MD3.2(ATH), After ATH.*
ATH ***25*** *06:12:01.1, 4063N×2558E, h28km±3km, MD3.2/3*
CSEM ***25*** *06:12:01.9±0.1, 4066N×2549E, h8km, MD3.2, Error ellipse: s-maj=2.8km s-min=2.3km az=167.0*

ISC 25 06:12:02.2±0.8, 4066N±004×2545E±004, h6km±5km, n13, σ0°82/21, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDO	**Rodhopi**	**0.49**	**8**	⇑*i*PN	**Pg**	**06 12 12.0**	**+0.4**
GADA	**Gvkgeada**	**0.58**	**144**	PG	**Pg**	**06 12 13.1**	**-0.3**
LIA	**Limnos Island**	**0.79**	**195**	*e*PN	**Pg**	**06 12 16.9**	**-0.5**
LIA				*e*SN	**Sg**	**06 12 28.1**	**+0.5**
BOZC	**Bozcaada**	**0.94**	**151**	*i* P	**Pg**	**06 12 20.0**	**-0.2**
BOZC				*i* S	**Sg**	**06 12 32.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.31**	**88**	*e*PN	**Pn**	**06 12 26.9**	**-0.1**
RKY				*e*SN	**Sn**	**06 12 45.2**	**+0.3**
SART	**Tekirdag**	**1.31**	**88**	*i* P	**Pn**	**06 12 26.3**	**-0.7**
SART				*i* S	**Sg**	**06 12 45.5**	**+1.1**
NVR	**Nevrokopi**	**1.39**	**300**	*e*PN	**Pn**	**06 12 28.0**	**0.0**
NVR				*e*SN	**Sn**	**06 12 47.5**	**+0.8**
CANB	**Canakkale**	**1.39**	**117**	PN	**Pn**	**06 12 26.6**	**-1.5**
CANB				SN	**Sn**	**06 12 45.4**	**-1.4**
MFT	**Murefte**	**1.40**	**84**	*e*PN	**Pn**	**06 12 27.5**	**-0.7**
EDRB	**Edirne**	**1.53**	**39**	*e*PN	**Pn**	**06 12 30.2**	**+0.1**
PLG	**Polygyros**	**1.56**	**260**	*e*PB	**Pn**	**06 12 29.4**	**+1.0**
AYVA	**Ayvalik**	**1.65**	**144**	*i* P	**Pn**	**06 12 33.3**	**+1.5**
AYVA				*i* S	**Sn**	**06 12 55.1**	**+1.8**
BTOK	**Tokmak**	**2.17**	**114**	*i* P	**Pg**	**06 12 43.6**	**-0.1**
BTOK				*i* S	**Sn**	**06 13 06.0**	**0.0**

KRSC 25 06:24:08, 5262N×15988E, h23km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.49**	**10**	*e*P	Pb	06 24 18.7	+0.8
SPN				*i* S	Sb	06 24 25.9	+1.3
NLC	**Nalytchevo**	**0.64**	**330**	*i* P	Pb	06 24 21.9	+1.4
NLC				*i* S	Sb	06 24 31.7	+2.7
PET	**Petropavlovsk**	**0.85**	**299**	*e*P	Pb	06 24 24.8	+0.8
PET				*i* S	Sb	06 24 36.7	+1.7
RUS	**Russkaya**	**0.86**	**258**	*e*P	Pb	06 24 24.9	+0.7
RUS				*i* S	Sb	06 24 36.6	+1.4
AVH	**Avacha**	**0.95**	**314**	*e*P	Pb	06 24 26.9	+1.2
AVH				*i* S	Sb	06 24 40.1	+2.3
GRL	**Gorelyy**	**1.10**	**267**	*e*P	Pn	06 24 29.4	+1.4
GRL				*i* S	Sb	06 24 44.5	+2.1
KII	**Karymskiy**	**1.44**	**350**	*e*P	Pn	06 24 33.7	+1.0
KII				*i* S	Sn	06 24 51.6	+0.7
GNL	**Ganaly**	**1.59**	**313**	*e*P	Pn	06 24 36.8	+2.1
GNL				*i* S	Sn	06 24 57.2	+2.7
MIPR	**Malaya Ipel'ka**	**1.94**	**261**	*e*P	Pn	06 24 42.4	+2.8
MIPR				*i* S	Sn	06 25 07.3	+4.1
TUMR	**Tumrok**	**2.67**	**3**	*e*P	Pn	06 24 51.8	+2.2
TUMR				*i* S	Sn	06 25 22.4	+1.1
KMNR	**Kamenistaya**	**3.15**	**4**	*e*P	Pn	06 24 59.2	+3.0
ZLN	**Zelenaya**	**3.45**	**9**	*e*P	Pn	06 25 03.7	+3.4
ZLN				*i* S	Sn	06 25 43.7	+3.3
CIRR	**Tsirk**	**3.54**	**8**	*e*P	Pn	06 25 03.8	+2.3
SRDR	**Sredinnyy**	**3.71**	**359**	*e*P	Pn	06 25 06.7	+2.9
KBTR	**Krutoberegovo**	**3.98**	**24**	*e*P	Pn	06 25 09.6	+2.0
BDR	**Baidarnaya**	**4.03**	**11**	*e*P	Pn	06 25 11.1	+2.8
SMKR	**Semkarok**	**4.08**	**12**	*e*P	Pn	06 25 12.6	+3.7
SMKR				*i* S	Sn	06 25 58.5	+2.6
SRKR	**Sorokina**	**4.11**	**10**	*e*P	Pn	06 25 13.7	+4.3
SRKR				*i* S	Sn	06 26 00.6	+3.8

NIED ***25*** *06:45:00, 4460N×15000E, h11km, Mw3.9 Best double couple: M0 7.98000×10^14 NP1:φs43.00000°, δ61.00000°, λ94.00000°. NP2:φs216.00000°, δ29.00000°, λ84.00000°.*
JMA ***25*** *06:45:17.1±0.6, 4457N×15002E, h30km, M4.4*
ISCJB ***25*** *06:45:20.6±1.4, 4378N±009×1498E±0.1, h92km±11km, mb3.9/9, Error ellipse: s-maj=18.5km s-min=9.5km az=96.5*

IDC ***25*** *06:45:24.7±4.6, 4452N×14960E, h78km±39km, mb3.7/9, mb1 3.8/10, mb1mx3.6/20, mbtmp4.0/10, ML4.1/1, MS3.1/2, Ms1 3.1/2, ms1mx2.8/31, Error ellipse: s-maj=31.8km s-min=25.9km az=119.0*

ISC 25 06:45:21.7±1.3, 4386N±009×1498E±01, h87km±11km, n32, σ0°96/39, mb3.9/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.01**	**262**	P	**Pn**	**06 46 05.9**	**-1.3**
NEM2				*e*S	**Sn**	**06 46 41.5**	**-0.8**
JRA	**Rausu**	**3.40**	**273**	P	**Pn**	**06 46 12.2**	**-0.4**
JNK	**Nakash**	**3.71**	**268**	P	**Pn**	**06 46 15.6**	**-1.2**
JAK	**Akkeshi**	**3.84**	**259**	P	**Pn**	**06 46 17.7**	**-0.7**
JAK				*e*S	**Sn**	**06 47 02.3**	**-0.1**
JAR	**Ashorobuto**	**4.44**	**265**	P	**Pn**	**06 46 26.9**	**+0.3**
JAR				*e*S	**Sn**	**06 47 17.3**	**+0.3**
JOB	**Onbets**	**4.47**	**260**	P	**Pn**	**06 46 27.5**	**+0.4**
JOB				*e*S	**Sn**	**06 47 19.6**	**+1.7**
JMP	**Maruseppu**	**4.68**	**274**	P	**Pn**	**06 46 29.7**	**-0.1**
JCH	**Churui**	**4.88**	**258**	P	**Pn**	**06 46 32.7**	**0.0**
JCH				*e*S	**Sn**	**06 47 29.0**	**+1.1**
JKK2	**Kamakawa 2**	**5.12**	**273**	P	**Pn**	**06 46 36.4**	**+0.5**
ASAJ	**Asahikawa**	**5.23**	**275**	P	**Pn**	**06 46 37.2**	**-0.1**
	5.5nm,0.3s,baz=104,slow=10.0,SNR=11						
ASAJ				LR	LR	06 48 52.4	
	comp=Z,176nm,18.2s,baz=145,slow=41						
ASAJ	**Asahikawa**	**5.23**	**275**	P	**Pn**	**06 46 37.6**	**+0.3**
JEM	**Erimo**	**5.23**	**252**	P	**Pn**	**06 46 39.2**	**+1.8**
JNBK	**Urakawa-nobuka**	**5.42**	**256**	P	**Pn**	**06 46 40.4**	**+0.5**
JNB	**Noboribetsu**	**6.58**	**261**	P	**Pn**	**06 46 55.9**	**+0.2**
JKB	**Kayabe**	**6.76**	**256**	P	**Pn**	**06 46 58.4**	**+0.2**
JKB				*e*S	**Sn**	**06 48 12.6**	**-1.0**
JANG	**Nango**	**7.09**	**243**	P	**Pn**	**06 47 02.3**	**-0.5**
JTM	**Tenmabayashi**	**7.18**	**248**	P	**Pn**	**06 47 04.2**	**+0.3**
JTM				*e*S	**Sn**	**06 48 21.9**	**-2.0**
OFUJ	**Ofunato**	**7.76**	**235**	P	**Pn**	**06 47 12.5**	**+0.6**
OFUJ				*e*S	**Sn**	**06 48 38.3**	**+0.1**
JOSM	**Okushiri--Mats**	**7.80**	**260**	P	**Pn**	**06 47 12.7**	**+0.3**
JRG	**Rokugo**	**8.20**	**240**	*e*S	**Sn**	**06 48 49.4**	**+0.5**
JIO	**Ouri**	**8.37**	**233**	*e*S	**Sn**	**06 48 52.0**	**-0.9**
SONM	**Songino Array**	**30.22**	**293**	P	**P**	**06 51 25.0**	**+1.1**
	0.7nm,0.3s,mb3.7,baz=85,slow=7.8,SNR=8.6						
INK	**Inuvik**	**45.33**	**31**	P	**P**	**06 53 31.6**	**+0.6**
	1.3nm,0.6s,mb3.9,baz=325,slow=2.5,SNR=11						
MKAR	**Makanchi Array**	**46.25**	**298**	P	**P**	**06 53 39.0**	**+0.8**
	4.0nm,0.7s,mb4.2,baz=73,slow=8.5,SNR=25						
AKTO	**Aktyubinsk**	**58.93**	**312**	LR	LR	07 20 43.7	
	comp=Z,14nm,18.4s,baz=308,slow=36						
ARCES	**ARCESS Array B**	**59.81**	**340**	P	**P**	**06 55 14.6**	**-3.3**
	6.2nm,0.9s,mb4.6,baz=34,slow=7.3,SNR=3.8						
FINES	**FINESS Array B**	**65.65**	**334**	P	**P**	**06 55 54.8**	**-1.8**
	1.0nm,0.5s,mb3.9,baz=57,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**68.76**	**196**	P	**P**	**06 56 23.5**	**+7.2**
	0.4nm,0.8s,mb3.3,baz=0.9,slow=4.0,SNR=4.8						
NB2	**NORSAR Subarra**	**70.19**	**340**	P	**P**	**06 56 23.3**	**-1.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**70.19**	**340**	P	**P**	**06 56 23.4**	**-1.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=28,slow=6.4,SNR=3.8						
AKASG	**Malin Array Be**	**72.63**	**325**	P	**P**	**06 56 39.6**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.1,baz=38,slow=6.6,SNR=9.5						
BRTR	**Keskin Array B**	**78.86**	**315**	P	**P**	**06 57 17.1**	**+1.9**
	comp=Z,1.0nm,0.8s,mb3.7,baz=120,slow=1.7,SNR=5.0						

IDC 25 06:49:55.1±2.2, 2828S×7419E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, MS3.5/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=57.8km s-min=39.6km az=84.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**49.86**	**318**	LR	LR	07 18 02.0	
	comp=Z,36nm,18.8s,baz=305,slow=34						
ASAR	**Alice Springs**	**53.42**	**100**	P	P	06 59 17.0	+0.3
	0.9nm,0.6s,baz=250,slow=6.8,SNR=18						
ASAR				LR	LR	07 19 12.1	
	comp=Z,62nm,18.4s,baz=173,slow=33						

NEIC ***25*** *07:12:10.2±0.8, 5.40N×94.17E, h30km, mb4.1/3, Error ellipse: s-maj=26.7km s-min=8.6km az=47.0*

ISCJB ***25*** *07:12:15.8±2.6, 5.7N±0.1×94.7E±0.1, h86km±23km, mb4.0/10, Error ellipse: s-maj=28.5km s-min=13.2km az=108.5*

IDC ***25*** *07:12:15.4±5.3, 5.50N×94.41E, h72km±45km, mb3.7/7, mb1 3.8/8, mb1mx3.6/22, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=72.2km s-min=17.1km az=57.0*

ISC 25 07:12:16.7±2.5, 57N±01×947E±02, h76km±21km, n16, σ0s77/18, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.12**	**124**	P	**Pn**	**07 13 32.0**	**+1.2**
	4.9nm,0.3s,baz=312,slow=10,SNR=17						
PSI				S	**Sn**	**07 14 26.2**	**-2.3**
	5.8nm,0.3s,baz=140,slow=12,SNR=6.8						
KULM	**Kulim**	**5.96**	**94**	*e*Pn	**Pn**	**07 13 42.9**	**+0.5**
KULM				*e*Sn	**Sn**	**07 14 48.9**	**-0.2**
MKAR	**Makanchi Array**	**42.32**	**347**	P	**P**	**07 20 03.4**	**+0.4**
	2.9nm,0.6s,mb4.2,baz=167,slow=7.8,SNR=29						
SONM	**Songino Array**	**43.17**	**12**	P	**P**	**07 20 10.4**	**+0.5**
	0.3nm,0.4s,mb3.4,baz=194,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**46.58**	**124**	P	**P**	**07 20 37.4**	**+0.4**
	0.9nm,0.4s,mb3.8,baz=303,slow=9.9,SNR=22						
WRAB	**Tennant Creek**	**46.59**	**124**	*e*P	**P**	**07 20 37.2**	**+0.2**
	2.2nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**46.59**	**124**	*e*P	**P**	**07 20 37.9**	**+0.9**
WB2	**Warramunga Arr**	**46.59**	**124**	*e*P	**P**	**07 20 37.2**	**+0.2**
AS31	**Alice Springs**	**48.13**	**129**	*e*P	**P**	**07 20 49.0**	**+0.1**
ASAR	**Alice Springs**	**48.13**	**129**	P	**P**	**07 20 49.2**	**+0.3**
	0.5nm,0.4s,mb3.7,baz=298,slow=7.9,SNR=19						
ZAL	**Zalesovo**	**48.77**	**352**	P	**P**	**07 20 54.2**	**+0.4**
	1.7nm,0.3s,mb4.5,baz=292,slow=3.4,SNR=5.2						
ZAL	**Zalesovo**	**48.77**	**352**	P	**P**	**07 20 54.2**	**+0.4**
BVAR	**Borovoye Array**	**51.22**	**341**	P	**P**	**07 21 12.2**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=134,slow=12,SNR=8.2						
BRVK	**Borovoye**	**51.28**	**341**	*e*P	**P**	**07 21 12.0**	**-0.8**
	1.1nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**51.60**	**340**	*e*P	**P**	**07 21 14.6**	**-0.7**
	1.1nm,0.4s,mb4.2						
GERES	**GERESS Array B**	**79.80**	**318**	P	**P**	**07 24 15.5**	**-1.1**
	0.7nm,0.6s,mb3.7,baz=101,slow=4.8,SNR=5.0						

IDC 25 07:26:03.1±7.9, 1858S×17591W, h326km±145km, mb3.1/4, mb1 3.2/4, mb1mx3.1/13, mbtmp3.8/4, Error ellipse: s-maj=348.6km s-min=25.9km az=63.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.53**	**196**	P	P	07 30 17.4	-0.2
	4.2nm,0.6s,baz=63,slow=0.8,SNR=9.1						
URZ				S	S	07 33 47.0	+1.0
	2.5nm,0.7s,baz=73,slow=20,SNR=4.6						
STKA	**Stephens Creek**	**40.41**	**242**	P	P	07 33 10.4	+0.1
	0.9nm,0.4s,baz=62,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**46.85**	**260**	P	P	07 34 01.1	-0.1
	0.1nm,0.2s,baz=97,slow=7.2,SNR=5.9						
ASAR	**Alice Springs**	**46.90**	**255**	P	P	07 34 02.2	+0.6
	1.0nm,0.5s,baz=91,slow=8.7,SNR=28						

IDC 25 07:30:44.7±2.5, 103N×10041E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=90.6km s-min=22.4km az=47.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.30**	**320**	Pn	Pn	07 31 23.0	-0.9
	19nm,0.3s,baz=177,slow=7.8,SNR=59						
PSI				Sn	Sn	07 31 52.4	-0.5
	37nm,0.3s,baz=146,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**39.25**	**124**	P	P	07 38 15.2	+0.4
	0.5nm,0.7s,baz=304,slow=9.5,SNR=5.0						
ASAR	**Alice Springs**	**40.76**	**129**	PcP	PcP	07 40 28.2	-0.6
	0.4nm,0.7s,baz=316,slow=2.5,SNR=5.4						
SONM	**Songino Array**	**46.91**	**6**	P	P	07 39 17.7	+0.9
	0.7nm,0.5s,baz=188,slow=9.6,SNR=6.7						
MKAR	**Makanchi Array**	**48.25**	**343**	P	P	07 39 28.1	+0.8
	1.6nm,0.8s,baz=148,slow=8.1,SNR=8.8						
ZAL	**Zalesovo**	**54.28**	**349**	P	P	07 40 10.6	-2.0
	1.7nm,0.4s,baz=338,slow=9.3,SNR=4.0						

MOS ***25*** *07:46:26.9±1.0, 6.07S×154.36E, h37km, mb5.5/49, MS4.7/13, Error ellipse: s-maj=7.7km s-min=6.4km az=70.0*

IDC ***25*** *07:46:27.8±1.4, 6.10S×154.40E, h36km±10km, mb4.9/18, mb1 5.0/21, mb1mx5.0/21, mbtmp5.1/21, ML5.0/3, MS4.8/22, Ms1 4.8/22, ms1mx4.8/25, Error ellipse: s-maj=12.1km s-min=10.0km az=69.0*

BJI ***25*** *07:46:28.8, 5.90S×154.90E, h69km, mB5.4, mb5.5, Ms5.1, Msz4.8*

ISCJB ***25*** *07:46:29.5±0.1, 6.18S±0.03×154.35E±0.02, h62km, mb5.4/122, Error ellipse: s-maj=3.9km s-min=3.3km az=35.8*

NEIC ***25*** *07:46:30.7±0.1, 6.15S×154.36E, mb5.3/74, Error ellipse: s-maj=4.2km s-min=3.2km az=137.0*

GCMT ***25*** *07:46:30.7±0.1, 6.40S×154.44E, h45km, MW5.4/102, Moment Tensor Solution. s102,c185; s85,c148; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr2.02±.03; Mθθ-1.32±.02; Mϕϕ-0.69±.02; Mrθ0.13±.01; Mθϕ0.20±.01; Mϕr-0.53±.02; Best double couple: M=1.76000×10^17 NP1:ϕ=279.00000°, δ41.00000°, λ76.00000°. NP2:ϕ=118.00000°, δ51.00000°, λ102.00000°. Principal axes: T 2.1220, Plg79.0000°, Azm82.0000°; N -0.7180, Plg9.0000°, Azm290.0000°; P -1.3990, Plg5.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 07:46:31.6±0.1, 615S±002×15440E±002, h64km, h64km±1.3km: pP-P, n431, σ1s01/370, mb5.4/122, 27C-9D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.39**	**121**	Pn	**Pn**	**07 48 03.4**	**+0.3**
	14nm,0.3s,baz=264,slow=5.7,SNR=6.4						
HNR				Sn	**Sn**	**07 49 16.1**	**+1.4**
	14nm,0.3s,baz=83,slow=13,SNR=2.5						
HNR				LR	LR	07 49 50.0	
	comp=Z,3μm,21.2s,baz=352,slow=32						
HNR	**Honiara**	**6.39**	**121**	P	**Pn**	**07 48 03.4**	**+0.3**
HNR						07 49 16.1	
HNR				pmax	pmax		
	comp=Z,14nm,0.3s						
HNR				smax			
	comp=N,14nm,0.3s						
HNR				MLR	MLR		
	comp=Z,3μm,21.3s						
HNR	**Honiara**	**6.39**	**121**	*e*Pn	**Pn**	**07 48 04.3**	**+1.2**
	comp=Z,2μm,0.9s						
PMG	**Port Moresby**	**7.87**	**245**	Pn	**Pn**	**07 48 21.2**	**-2.1**
	comp=Z,156nm,0.3s,baz=51,slow=9.3,SNR=180						
PMG				Sn	**Sn**	**07 49 52.6**	**+1.7**
	comp=Z,97nm,0.3s,baz=123,slow=22,SNR=12						
PMG	**Port Moresby**	**7.87**	**245**	*e*Pn	**Pn**	**07 48 23.0**	**-0.3**
PMG				*e*Sn	**Sn**	**07 49 49.5**	**-1.4**
CTA	**Charters Tower**	**15.96**	**209**	*e*P	**Pn**	**07 50 10.8**	**-1.2**
	comp=Z,73nm,0.9s						
CTA				*e*pP	pP	07 50 31.9	+4.1
CTA				*e*S	**S**	**07 53 20.7**	**+2.2**
CTA	**Charters Tower**	**15.96**	**209**	Pn	**Pn**	**07 50 10.9**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=35,slow=14,SNR=40						
CTA				Sn	**Sn**	**07 53 18.4**	**+10**
	comp=Z,0.3nm,0.3s,baz=4.3,slow=13,SNR=1.9						
CTAO	**Charters Tower**	**15.96**	**209**	*e*P	**Pn**	**07 50 10.7**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,230nm,1.0s						
CTAO	**Charters Tower**	**15.96**	**209**	*e*Pn	**Pn**	**07 50 10.7**	**-1.3**
	comp=Z,230nm,1.0s						
DZM	**Mont Dzumac**	**19.65**	**145**	*e*P	**Pn**	**07 50 54.9**	**-2.1**
DZM	**Mont Dzumac**	**19.65**	**145**	P	**Pn**	**07 50 55.1**	**-1.9**
	comp=Z,8.4nm,0.3s,baz=338,slow=8.9,SNR=35						
DZM				S	**S**	**07 54 35.5**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=70,slow=18,SNR=1.5						
GUMO	**Guam**	**21.77**	**334**	P	**P**	**07 51 18.0**	**+0.1**
	comp=Z,28nm,0.3s,mb5.2,baz=186,slow=18,SNR=3.2						
GUMO				LR	LR	07 58 48.2	
	comp=Z,809nm,21.6s,baz=143,slow=34						
GUMO	**Guam**	**21.77**	**334**	P	pmax	**07 51 18.0**	**+0.1**
GUMO							
	comp=Z,28nm,0.3s,mb5.2						
GUMO				MLR	MLR		
	comp=Z,809nm,21.6s						
GUMO	**Guam**	**21.77**	**334**	*e*P	**P**	**07 51 17.5**	**-0.4**
	comp=Z,320nm,1.1s,mb5.7						
KAKA	**Kakadu**	**22.61**	**252**	⇑*i*P	**P**	**07 51 25.8**	**-1.0**
	comp=Z,50nm,0.6s,mb5.1						
KAKA				*e*		07 51 33.5	
KAKA				*e*PCP	PcP	07 55 18.1	+0.4
WRAB	**Tennant Creek**	**23.81**	**233**	P	**P**	**07 51 38.0**	**-0.5**
	comp=Z,350nm,0.7s,mb5.9,SNR=36						
WRAB	**Tennant Creek**	**23.81**	**233**	*e*P	**P**	**07 51 38.1**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,285nm,1.0s,mb5.7						
WRAB	**Tennant Creek**	**23.81**	**233**	*e*P	**P**	**07 51 38.1**	**-0.4**
	comp=Z,285nm,1.0s,mb5.7						
WB2	**Warramunga Arr**	**23.82**	**233**	⇓*i*P	**P**	**07 51 38.1**	**-0.5**
WB2				*e*pP		07 51 55.0	
WB2				*e*PCP	PcP	07 55 21.1	+0.8
WB2				*e*S	**S**	**07 55 50.8**	**+1.1**
WB2				*e*PCS	PcS	07 59 00.3	+0.5
WB2				*e*SCS	ScS	08 02 43.7	+3.9
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**07 51 38.0**	**-0.6**
	comp=Z,20nm,0.6s,mb4.7,baz=59,slow=9.8,SNR=80						
WRA				PcP	PcP	07 55 21.1	+0.8
	comp=Z,28nm,0.6s,baz=58,slow=2.4,SNR=25						
WRA				S	**S**	**07 55 52.2**	**+2.4**
	comp=Z,5.9nm,1.1s,baz=54,slow=14,SNR=3.6						
WRA				ScP	ScP	07 58 56.4	+3.4
	comp=Z,9.4nm,1.2s,baz=41,slow=2.6,SNR=8.5						
WRA				LR	LR	08 00 33.3	
	comp=Z,3μm,21.9s,baz=60,slow=35						
WRA				PKiKP	PKiKP	08 03 02.2	-1.1
	comp=Z,0.8nm,0.7s,baz=340,slow=0.8,SNR=7.7						
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**07 51 38.0**	**-0.6**
WRA						07 55 21.1	
WRA				S	**S**	**07 55 52.2**	**+2.4**
WRA				pmax	pmax		
	comp=Z,20nm,0.6s						
WRA				pmax	pmax		
	comp=Z,28nm,0.6s						
WRA				smax			
	comp=N,6.0nm,1.1s						
WRA				pmax	pmax		
	comp=N,9.0nm,1.2s						
WRA				MLR	MLR		
	comp=Z,3μm,21.9s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**23.83**	**233**	P	**P**	**07 51 38.0**	**-0.6**
WRA				PcP	PcP	07 55 21.1	+0.8
WRA				S	**S**	**07 55 52.2**	**+2.4**
WRA				ScP	ScP	07 58 56.4	+3.4
WRA				LR	LR	08 00 33.3	
ARMA	**Armidale**	**24.28**	**186**	⇑*i*P	**P**	**07 51 43.0**	**+0.2**
AS31	**Alice Springs**	**26.30**	**226**	*e*P	**P**	**07 52 00.4**	**-0.7**
AS31				*e*pP	pP	07 52 13.3	-3.3
AS31				*e*PcP	PcP	07 55 26.1	+0.3
AS31				*e*ScS	ScS	08 02 52.5	+2.4
AS31				*e*		08 03 18.5	
ASAR	**Alice Springs**	**26.30**	**226**	P	**P**	**07 52 00.7**	**-0.4**
	comp=Z,12nm,0.6s,mb4.6,baz=59,slow=8.7,SNR=258						
ASAR				PcP	PcP	07 55 26.5	+0.7
	comp=Z,25nm,0.9s,baz=51,slow=2.4,SNR=12						
ASAR				LR	LR	08 01 49.9	
	comp=Z,4μm,21.6s,baz=147,slow=35						
ASAR	**Alice Springs**	**26.30**	**226**	P	**P**	**07 52 00.7**	**-0.4**
ASAR						07 55 26.5	
ASAR				pmax	pmax		
	comp=Z,13nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,25nm,0.9s						
ASAR				MLR	MLR		
	comp=Z,4μm,21.6s						
ASPA	**Alice Springs**	**26.31**	**226**	*e*P	**P**	**07 52 00.4**	**-0.8**
ASPA				*e*pP	pP	07 52 13.3	-3.3
ASPA				*e*PCP	PcP	07 55 26.1	+0.3
ASPA				*e*SCS	ScS	08 02 52.5	+2.4
ASPA				*e*		08 03 18.5	
STKA	**Stephens Creek**	**28.26**	**203**	⇑*i*P	**P**	**07 52 17.3**	**-1.3**
	comp=Z,15nm,0.6s,mb4.8						
STKA				*e*PCP	PcP	07 55 30.7	+0.2
STKA	**Stephens Creek**	**28.26**	**203**	P	**P**	**07 52 17.3**	**-1.3**
	comp=Z,5.2nm,0.5s,mb4.4,baz=20,slow=9.1,SNR=17						
STKA				PcP	PcP	07 55 30.9	+0.4
	comp=Z,36nm,0.9s,baz=52,slow=4.1,SNR=6.6						
STKA				ScP	ScP	07 59 09.8	+3.9
	comp=Z,7.7nm,0.9s,baz=22,slow=8.0,SNR=3.7						
STKA				LR	LR	08 03 33.6	
	comp=Z,3μm,20.4s,baz=22,slow=36						
CNB	**Canberra Magne**	**29.39**	**188**	*e*P	**P**	**07 52 28.7**	**0.0**
	comp=Z,17nm,0.9s,mb4.8						
CNB				*e*pP	pP	07 52 38.9	-5.4
FITZ	**Fitzroy Crossi**	**30.47**	**244**	*e*P	**P**	**07 52 37.5**	**-0.7**
	comp=Z,42nm,0.5s,mb5.4						
FITZ				*e*pP	pP	07 52 55.4	+1.6
FITZ				*e*PCP	PcP	07 55 37.5	+1.4
FITZ	**Fitzroy Crossi**	**30.47**	**244**	P	**P**	**07 52 36.9**	**-1.3**
	comp=Z,8.4nm,0.5s,mb4.7,baz=72,slow=7.6,SNR=57						
FITZ				PcP	PcP	07 55 37.5	+1.4
	comp=Z,35nm,0.9s,baz=102,slow=2.2,SNR=5.4						
FITZ				ScP	ScP	07 59 15.9	+2.9
	comp=Z,15nm,1.2s,baz=200,slow=0.7,SNR=3.4						
FITZ				LR	LR	08 05 07.7	
	comp=Z,2μm,20.8s,baz=355,slow=37						
AFI	**Afiamalu**	**34.16**	**106**	P	**P**	**07 53 09.3**	**-1.1**
	comp=Z,118nm,0.9s,mb5.8,baz=84,slow=7.3,SNR=8.9						
AFI				LR	LR	08 05 09.1	
	comp=Z,2μm,19.6s,baz=288,slow=33						
RAO	**Raoul Island**	**34.80**	**135**	P	**P**	**07 53 14.5**	**-1.5**
	comp=Z,163nm,0.6s,mb6.2,baz=104,slow=22,SNR=3.7						
RAO				LR	LR	08 05 06.0	
	comp=Z,2μm,20.8s,baz=226,slow=32						
RAO	**Raoul Island**	**34.80**	**135**	*e*P	**P**	**07 53 15.2**	**-0.8**
RAO				pmax	pmax		
	comp=Z,372nm,0.8s,mb6.4						
RAO	**Raoul Island**	**34.80**	**135**	*e*P	**P**	**07 53 15.2**	**-0.8**
	comp=Z,372nm,0.8s,mb6.4						
FORT	**Forrest**	**34.80**	**222**	*e*P	**P**	**07 53 15.5**	**-0.6**
	comp=Z,25nm,0.7s,mb5.2						
FORT				*e*pP	pP	07 53 27.0	-4.9
MBWA	**Marble Bar**	**36.72**	**243**	*e*P	**P**	**07 53 32.3**	**-0.2**
	comp=Z,51nm,1.1s,mb5.3						
MBWA				*e*pP	pP	07 53 48.5	+0.1
MBWA				*e*PcP	PcP	07 55 53.8	0.0
OTRP	**Odiongan**	**37.07**	**300**	*e*P	**P**	**07 53 36.6**	**+1.2**
TAU	**Tasmania Unive**	**37.14**	**189**	*e*P	**P**	**07 53 36.4**	**+0.4**
TAU				pmax	pmax		
	comp=Z,166nm,1.3s,mb5.7						
TAU	**Tasmania Unive**	**37.14**	**189**	*e*P	**P**	**07 53 36.4**	**+0.3**
	comp=Z,166nm,1.3s,mb5.7						
CUYO	**Cuyo Island**	**37.27**	**297**	*e*P	**P**	**07 53 38.9**	**+1.8**
URZ	**Urewera**	**38.03**	**150**	P	**P**	**07 53 43.1**	**-0.4**
	comp=Z,97nm,1.0s,mb5.5,baz=30,slow=3.1,SNR=25						
URZ				LR	LR	08 06 32.5	
	comp=Z,861nm,21.0s,baz=216,slow=32						
URZ	**Urewera**	**38.03**	**150**	PN	**P**	**07 53 42.9**	**-0.7**
MWZ	**Matawai**	**38.30**	**150**	PN	**P**	**07 53 46.0**	**+0.2**
BKZ	**Black Stump Fm**	**38.45**	**152**	PN	**P**	**07 53 46.2**	**-0.9**
PUZ	**Puketiti**	**38.46**	**149**	PN	**P**	**07 53 46.7**	**-0.4**
KNZ	**Kokohu**	**38.90**	**151**	PN	**P**	**07 53 50.1**	**-0.7**
TSZ	**Takapari Road**	**38.93**	**153**	PN	**P**	**07 53 50.3**	**-0.8**
THZ	**Tophouse**	**39.10**	**158**	PN	**P**	**07 53 50.9**	**-1.7**
BALP	**Baler**	**39.11**	**304**	*e*P	**P**	**07 53 53.0**	**+0.5**
LUBP	**Lubang**	**39.24**	**300**	*e*P	**P**	**07 53 52.5**	**-1.2**
BATP	**Bataraza**	**39.39**	**292**	*e*P	**P**	**07 53 56.1**	**+1.2**
KHZ	**Kahutara**	**39.91**	**158**	PN	**P**	**07 53 56.8**	**-2.4**
CVP	**Callao Caves**	**39.95**	**307**	⇓*e*P	**P**	**07 54 00.0**	**+0.4**
KKM	**Kota Kinabalu**	**39.99**	**287**	P	**P**	**07 54 01.5**	**+1.6**
KKM	**Kota Kinabalu**	**39.99**	**287**	*e*P	**P**	**07 54 00.7**	**+0.8**
KKM				*e*PcP	PcP	07 56 01.9	-2.1
RPZ	**Rata Peaks**	**40.18**	**161**	P	**P**	**07 54 01.3**	**-0.2**
	comp=Z,55nm,0.8s,mb5.3,baz=359,slow=3.2,SNR=11						
RPZ				LR	LR	08 08 13.8	
	comp=Z,2μm,20.6s,baz=309,slow=32						
KLBR	**Kellerberrin**	**42.58**	**229**	*e*P	**P**	**07 54 20.0**	**-1.2**
	comp=Z,56nm,1.1s,mb5.2						
KLBR				*e*	pP	07 54 37.8	+0.4
NWAO	**Narrogin (SRO)**	**43.62**	**227**	P	**P**	**07 54 29.9**	**+0.3**
	comp=Z,10nm,0.9s,mb4.5,baz=55,slow=8.6,SNR=3.0						
NWAO				LR	LR	08 12 21.2	
	comp=Z,3μm,21.0s,baz=228,slow=36						
NWAO	**Narrogin (SRO)**	**43.62**	**227**	*e*P	**P**	**07 54 29.3**	**-0.2**
NWAO				*e*pP	pP	07 54 45.7	0.0
NWAO				pmax	pmax		
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.62**	**227**	*e*P	**P**	**07 54 29.3**	**-0.2**
	comp=Z,20nm,0.9s,mb4.8						
NWAO				*e*pP	pP	07 54 45.7	0.0
MUN	**Mundaring**	**43.93**	**229**	*e*P	**P**	**07 54 32.0**	**0.0**
NACB	**Ninganchiao**	**43.94**	**315**	*e*P	**P**	**07 54 32.9**	**+0.8**
YHNB	**Yeheng**	**44.41**	**315**	*e*P	**P**	**07 54 37.1**	**+1.3**
TATO	**Taipei**	**44.52**	**315**	*e*P	**P**	**07 54 37.8**	**+1.1**
	comp=Z,69nm,0.6s,mb5.7						
KSM	**Kuching**	**44.66**	**278**	*e*P	**P**	**07 54 38.6**	**+0.7**
KSM				*e*PcP	PcP	07 56 20.1	+0.6
MJAR	**Matsushiro Arr**	**45.09**	**342**	P	**P**	**07 54 39.5**	**-1.8**
	comp=Z,2.9nm,0.5s,mb4.4,baz=172,slow=8.7,SNR=10						
MJAR				PcP	PcP	07 56 20.3	-0.7
	comp=Z,4.6nm,0.4s,baz=205,slow=1.1,SNR=7.1						
MJAR				LR	LR	08 13 37.3	
	comp=Z,330nm,18.3s,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**45.09**	**342**	P	**P**	**07 54 39.5**	**-1.8**
MJAR						07 56 20.3	
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MJAR				MLR	MLR		
	comp=Z,330nm,18.3s						
MAJO	**Matsushiro**	**45.09**	**342**	*e*P	**P**	**07 54 39.8**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**45.09**	**342**	*e*P	**P**	**07 54 39.8**	**-1.5**
	comp=Z,9.7nm,0.6s,mb4.8						
MAT	**Matsushiro**	**45.09**	**342**	P	**P**	**07 54 38.4**	**-2.9**
MAT				*e*S	**S**	**08 01 11.0**	**-4.8**
QZH	**Quanzhou**	**46.57**	**313**	⇑*i*P	**P**	**07 54 54.5**	**+1.6**
QZH				AMB	AMB		
	comp=Z,630nm,1.1s,mb6.5						
SSE	**Sheshan**	**48.78**	**321**	P	**P**	**07 55 10.5**	**+0.5**
SSE				AP	pP	07 55 28.0	+1.5
SSE				PP	PP	07 57 04.3	+0.7
SSE				S	**S**	**08 02 09.0**	**+0.8**
SSE				XS	sS	08 02 39.5	+3.3
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,270nm,5.7s						
SSE				LR	LR		
	comp=N,447nm,25.8s						
SSE				LR	LR		
	comp=E,498nm,25.8s						
SSE				LR	LR		
	comp=Z,848nm,23.8s						
SSE	**Sheshan**	**48.78**	**321**	P	**P**	**07 55 10.4**	**+0.4**
SSE				pP	pP	07 55 28.0	+1.5
SSE				PP	PP	07 57 04.3	+0.7
SSE				S	**S**	**08 02 09.0**	**+0.8**
SSE				sS	sS	08 02 39.5	+3.3
GZH	**Guangzhou**	**49.53**	**307**	P	**P**	**07 55 17.3**	**+1.5**
GZH				S	**S**	**08 02 24.8**	**+6.0**
GZH				LR	LR		
	comp=N,831nm,15.9s						
GZH				LR	LR		
	comp=E,2μm,20.8s						
GZH				LR	LR		
	comp=Z,2μm,21.5s						
KS15	**Wonju Array Si**	**49.92**	**332**	*e*P	**P**	**07 55 18.7**	**0.0**
QIZ	**Qiongzhong**	**50.52**	**301**	P	**P**	**07 55 23.0**	**-0.3**
QIZ				AP	pP	07 55 38.5	-1.3
QIZ				XP	sP	07 55 47.3	+0.1
QIZ				S	**S**	**08 02 29.5**	**-3.0**
QIZ				AMB	AMB		
	comp=Z,104nm,2.9s,mb5.2						
QIZ				LR	LR		
	comp=Z,2μm,21.2s						
INCN	**Inchon**	**50.55**	**331**	⇑P	**P**	**07 55 23.5**	**0.0**
	SNR=7.7						
INCN	**Inchon**	**50.55**	**331**	*e*P	**P**	**07 55 23.6**	**+0.1**
	comp=Z,58nm,0.7s,mb5.6						
NJ2	**Nanjing**	**50.89**	**320**	*e*P	**P**	**07 55 27.0**	**+1.0**
NJ2				AP	pP	07 55 43.0	+0.4
NJ2				XP	sP	07 55 50.0	+0.1
NJ2				PP	PP	07 57 25.0	+2.2
NJ2				S	**S**	**08 02 39.0**	**+1.4**
NJ2				XS	sS	08 03 07.0	+1.3
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,480nm,8.3s						
NJ2				LR	LR		
	comp=N,2μm,21.0s						
NJ2				LR	LR		
	comp=E,2μm,25.6s						
NJ2				LR	LR		
	comp=Z,3μm,23.3s						
KGM	**Kluang**	**51.64**	**277**	P	**P**	**07 55 33.2**	**+1.5**
WHN	**Wuhan**	**52.92**	**316**	⇑P	**P**	**07 55 42.0**	**+0.8**
WHN				AMB	AMB		
	comp=Z,83nm,1.0s,mb5.6						
YSS	**Yuzh-Sakhalins**	**53.87**	**350**	*e*P	**P**	**07 55 47.1**	**-1.0**
YSS				*e*		08 03 42.0	
YSS				MLR	MLR		
	comp=Z,600nm,18.0s						
DL2	**Dalian**	**54.14**	**329**	P	**P**	**07 55 49.3**	**-0.8**
DL2				AP	pP	07 56 07.5	+0.7
DL2				*e*S	**S**	**08 03 20.5**	**-1.5**
DL2				PS		08 03 40.0	
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
DL2				LR	LR		
	comp=N,210nm,22.1s						
DL2				LR	LR		
	comp=E,270nm,21.9s						
DL2				LR	LR		
	comp=Z,420nm,21.7s						
IPM	**Ipoh**	**54.32**	**280**	P	**P**	**07 55 52.5**	**+1.1**
TIA	**Tai'an**	**54.74**	**323**	⇑

CN2				*e*S	**S**	**08 03 48.3**	**-1.0**		
CN2				AMB	AMB				
	comp=Z,40nm,1.1s,mb5.4								
CN2				AMB	AMB				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=N,600nm,21.0s								
CN2				LR	LR				
	comp=E,500nm,21.0s								
CN2				LR	LR				
	comp=Z,600nm,21.0s								
GYA	**Guiyang**	**56.47 307**	⇑	*i*P	**P**	**07 56 07.3**	**+0.5**		
GYA				AP	pP	07 56 23.0	-0.7		
GYA				XP	sP	07 56 30.0	-0.9		
GYA				PP	PP	07 58 14.8	+1.8		
GYA				S	**S**	**08 03 50.5**	**-2.6**		
GYA				SS	SS	08 07 37.8	-3.3		
GYA				AMB	AMB				
	comp=Z,70nm,1.2s,mb5.6								
GYA				AMB	AMB				
	comp=Z,180nm,4.8s								
GYA				LR	LR				
	comp=N,840nm,17.9s								
GYA				LR	LR				
	comp=E,870nm,18.0s								
GYA				LR	LR				
	comp=Z,940nm,18.2s								
TBI	**Tubuai**	**56.56 114**		*e*S	**S**	**08 04 05.4**	**+11**		
	comp=Z,548nm,30.2s								
TBI				*e*LR	LR	08 12 59.0			
	comp=Z,4μm,29.0s,baz=286								
HABR	**Khabarovsk**	**56.98 345**	⇑	*i*P	**P**	**07 56 09.9**	**-0.5**		
HABR				*e*		07 57 11.7			
HABR				*e*S	**S**	**08 03 59.7**	**-0.2**		
HABR				pmax	pmax				
	comp=Z,93nm,1.9s,mb5.5								
HABR				MLR	MLR				
	comp=Z,372nm,19.8s								
PMOR	**Pomariorio Ree**	**57.27 104**		*e*P	**P**	**07 56 12.5**	**0.0**		
	comp=Z,172nm,1.0s,mb6.0								
VAH	**Vaihoa**	**57.54 104**		*e*P	**P**	**07 56 14.1**	**-0.3**		
	comp=Z,98nm,0.9s,mb5.8								
BJT	**Baijiatuau**	**57.88 326**		*e*P	**P**	**07 56 16.2**	**-0.6**		
BJT				*e**PP	pP	07 56 33.2	-0.5		
BJT				pmax	pmax				
	comp=Z,8.0nm,0.4s								
BJT	**Baijiatuau**	**57.88 326**		*e*P	**P**	**07 56 16.2**	**-0.6**		
	comp=Z,8.4nm,0.4s,mb5.1								
BJT				*e*pP	pP	07 56 33.2	-0.5		
BJI	**Beijing**	**57.89 326**		P	**P**	**07 56 12.3**	**-4.5**		
BJI				AP	pP	07 56 32.3	-1.4		
BJI				S	**S**	**08 04 17.0**	**+5.2**		
BJI				AMB	AMB				
	comp=Z,21nm,1.1s,mb5.1								
BJI				AMB	AMB				
	comp=Z,368nm,4.2s								
BJI				LR	LR				
	comp=N,473nm,23.9s								
BJI				LR	LR				
	comp=E,816nm,23.1s								
BJI				LR	LR				
	comp=Z,1μm,24.2s								
BJI	**Beijing**	**57.89 326**		P	**P**	**07 56 12.2**	**-4.6**		
BJI				*PP	pP	07 56 32.2	-1.5		
BJI	**Beijing**	**57.89 326**		P	**P**	**07 56 12.2**	**-4.6**		
BJI				pP	pP	07 56 32.2	-1.5		
BJI				PcP	PcP	07 57 01.3	-7.3		
NST	**Nakhon Sawan**	**57.94 293**		P	**P**	**07 56 18.2**	**+1.0**		
	comp=Z,33nm,0.7s,mb5.5								
NANT	**Nan**	**58.43 296**		P	**P**	**07 56 21.5**	**+0.9**		
KLR	**Kul'dur**	**58.59 343**	⇓	*i*P	**P**	**07 56 18.2**	**-3.5**		
KLR				*e*S	S	08 04 48.0	+27		
KLR				pmax	pmax				
	comp=E,30nm,1.2s								
KLR				pmax	pmax				
	comp=Z,68nm,1.2s,mb5.5								
KLR				MLR	MLR				
	comp=E,600nm,20.0s								
XAN	**Xi'an**	**58.69 316**		P	**P**	**07 56 22.8**	**+0.4**		
XAN				S	**S**	**08 04 21.5**	**-0.7**		
XAN				AMB	AMB				
	comp=Z,56nm,1.3s,mb5.4								
XAN				AMB	AMB				
	comp=Z,239nm,7.0s								
XAN				LR	LR				
	comp=N,622nm,20.0s								
XAN				LR	LR				
	comp=E,412nm,22.7s								
XAN				LR	LR				
	comp=Z,1μm,21.8s								
KMI	**Kunming**	**59.05 304**	⇑	P	**P**	**07 56 27.3**	**+2.4**		
KMI				AP	pP	07 56 44.5	+2.6		
KMI				XP	sP	07 56 51.3	+2.2		
KMI				PCP	PcP	07 57 14.3	+1.1		
KMI				PP	PP	07 58 39.5	+3.5		
KMI				PPP		08 00 04.0			
KMI				SCP	ScP	08 01 07.8	-0.3		
KMI				PCS	PcS	08 01 14.8	-0.3		
KMI				S	**S**	**08 04 25.8**	**-1.1**		
KMI				PS		08 04 50.0			
KMI				XS	sS	08 04 56.5	+0.9		
KMI				SCS	ScS	08 06 06.5	-2.6		
KMI				SS	SS	08 08 22.5	+0.8		
KMI				SSS		08 10 50.8			
KMI				AMB	AMB				
	comp=Z,143nm,1.2s,mb5.9								
KMI				AMB	AMB				
	comp=Z,418nm,3.1s								
KMI				LR	LR				
	comp=N,652nm,16.3s								
KMI				LR	LR				
	comp=E,969nm,23.7s								
KMI				LR	LR				
	comp=Z,1μm,21.9s								
KMI	**Kunming**	**59.05 304**	⇑	P	**P**	**07 56 27.2**	**+2.3**		
KMI				*PP	pP	07 56 44.5	+2.6		
KMI						07 57 14.3			
KMI						07 58 39.6			
KMI				PPP		08 00 03.9			
KMI				S	**S**	**08 04 25.7**	**-1.2**		
KMI				PS		08 04 49.9			
KMI						08 06 06.5			
KMI				SS	SS	08 08 22.6	+0.9		
KMI				SSS		08 10 50.8			
KMI	**Kunming**	**59.05 304**	⇑	P	**P**	**07 56 27.2**	**+2.3**		
KMI				pP	pP	07 56 44.5	+2.6		
KMI				sP	sP	07 56 51.3	+2.2		
KMI				PcP	PcP	07 57 14.3	+1.1		
KMI				PP	PP	07 58 39.6	+3.6		
KMI				PPP		08 00 03.9			
KMI				ScP	ScP	08 01 07.7	-0.4		
KMI				PcS	PcS	08 01 14.8	-0.3		
KMI				S	**S**	**08 04 25.7**	**-1.2**		
KMI				PS		08 04 49.9			
KMI				sS	sS	08 04 56.4	+0.8		
KMI				ScS	ScS	08 06 06.5	-2.6		
KMI				SS	SS	08 08 22.6	+0.9		
KMI				SSS		08 10 50.8			
PET	**Petropavlovsk**	**59.06**	**3**α	*i*P	pP	07 56 41.3	-0.6		
PET				*e*S	**S**	**08 04 38.4**	**+11**		
PET				pmax	pmax				
	comp=Z,87nm,1.0s,mb5.7								
PET				pmax	pmax				
	comp=Z,300nm,9.4s								
PET				pmax	pmax				
	comp=Z,200nm,23.8s								
PET				smax					
	comp=N,300nm,10.4s								
PET				smax					
	comp=N,400nm,10.3s								
CHG	**Chiang Mai**	**60.00 296**	⇑	P	**P**	**07 56 32.7**	**+1.2**		
	comp=N,42nm,1.3s,mb5.3								
CHTO	**Chiang Mai**	**60.00 296**	⇓	P	**P**	**07 56 33.3**	**+1.8**		
	SNR=11								
CHTO	**Chiang Mai**	**60.00 296**		*e*P	**P**	**07 56 32.6**	**+1.1**		
CHTO				pmax	pmax				
	comp=Z,70nm,1.4s,mb5.5								
CHTO	**Chiang Mai**	**60.00 296**		*e*P	**P**	**07 56 32.6**	**+1.2**		
	comp=Z,70nm,1.4s,mb5.5								
CD2	**Chengdu**	**60.81 310**		*i*P	**P**	**07 56 39.3**	**+2.3**		
CD2				AP	pP	07 56 55.8	+1.8		
CD2				XP	sP	07 57 03.3	+2.0		
CD2				PCP	PcP	07 57 22.3	+2.1		
CD2				PP	PP	07 58 55.0	+3.5		
CD2				PCS	PcS	08 01 23.5	+0.6		
CD2				S	**S**	**08 04 47.5**	**-2.1**		
CD2				SCS	ScS	08 06 20.8	-1.4		
CD2				SS	SS	08 08 47.0	-2.3		
CD2				AMB	AMB				
	comp=Z,130nm,0.9s,mb6.1								
CD2				AMB	AMB				
	comp=Z,160nm,4.6s								
CD2				LR	LR				
	comp=E,650nm,19.8s								
CD2				LR	LR				
	comp=Z,870nm,22.2s								
HHC	**Hu-ho-hao-te**	**61.06 324**		*e*P	**P**	**07 56 39.0**	**+0.3**		
HHC				AP	pP	07 56 55.3	-0.4		
HHC				XP	sP	07 57 02.0	-1.0		
HHC				PCP	PcP	07 57 21.5	+0.3		
HHC				PP	PP	07 58 56.0	+2.3		
HHC				SCP	ScP	08 01 16.3	-0.7		
HHC				PCS	PcS	08 01 22.8	-1.2		
HHC				S	**S**	**08 04 52.0**	**-0.7**		
HHC				PS		08 05 16.5			
HHC				XS	sS	08 05 19.5	-2.0		
HHC				SCS	ScS	08 06 21.5	-2.6		
HHC				SS	SS	08 08 54.0	+0.8		
HHC				AMB	AMB				
	comp=Z,25nm,0.4s,mb5.7								
HHC				AMB	AMB				
	comp=Z,193nm,3.8s								
HHC				LR	LR				
	comp=N,579nm,19.2s								
HHC				LR	LR				
	comp=E,637nm,18.8s								
HHC				LR	LR				
	comp=Z,785nm,23.0s								
DRV	**Dumont d'Urvil**	**61.23 186**		P	**P**	**07 56 40.0**	**+0.2**		
DRV	**Dumont d'Urvil**	**61.23 186**		PP	PP	07 58 54.0	-1.2		
DRV				S	**S**	**08 04 57.0**	**+2.1**		
DRV				L		08 12 00.0			
DRV				R		08 16 00.0			
BTO	**Baotou**	**61.83 323**		*e*P	**P**	**07 56 43.8**	**0.0**		
HIA	**Hailar**	**62.91 335**		*e*P	**P**	**07 56 50.7**	**-0.4**		
HIA				pmax	pmax				
	comp=Z,24nm,0.5s								
HIA	**Hailar**	**62.91 335**		*e*P	**P**	**07 56 50.7**	**-0.4**		
	comp=Z,24nm,0.5s,mb5.6								
LZH	**Lanzhou**	**63.30 316**		*e*P	**P**	**07 56 55.0**	**+1.3**		
LZH				AP	pP	07 57 11.5	+0.7		
LZH				XP	sP	07 57 17.0	-1.0		
LZH				PCP	PcP	07 57 25.8	-4.5		
LZH				PP	PP	07 59 16.5	+3.1		
LZH				*e*S	**S**	**08 05 25.3**	**+4.5**		
LZH				XS	sS	08 05 48.3	-1.5		
LZH				SS	SS	08 09 30.0	+1.8		
LZH				AMB	AMB				
	comp=Z,74nm,1.5s,mb5.6								
LZH				AMB	AMB				
	comp=Z,402nm,6.7s								
LZH				LR	LR				
	comp=E,2μm,14.0s								
LZH				LR	LR				
	comp=Z,2μm,15.9s								
LZH	**Lanzhou**	**63.30 316**		*e*P	**P**	**07 56 55.0**	**+1.3**		
LZH				*PP	pP	07 57 11.5	+0.7		
LZH						07 57 25.8			
LZH						07 59 16.5			
LZH				*e*S	**S**	**08 05 25.2**	**+4.4**		
LZH				*SS	sS	08 05 48.3	-1.5		
LZH				SS	SS	08 09 30.0	+1.8		
LZH	**Lanzhou**	**63.30 316**		*e*P	**P**	**07 56 55.0**	**+1.3**		
LZH				pP	pP	07 57 11.5	+0.7		
LZH				sP	sP	07 57 17.0	-1.0		
LZH				PcP	PcP	07 57 25.8	-4.5		
LZH				PP	PP	07 59 16.5	+3.1		
LZH				*e*S	**S**	**08 05 25.2**	**+4.4**		
LZH				sS	sS	08 05 48.3	-1.5		
LZH				SS	SS	08 09 30.0	+1.8		
TAOE	**Nuku Hiva Isla**	**64.88 97**		*e*P	**P**	**07 57 02.8**	**-1.2**		
	comp=Z,805nm,1.1s								
MA2	**Magadan**	**65.58 358**		*e*P	**P**	**07 57 07.0**	**-1.5**		
MA2				*e*	pP	07 57 25.8	+0.1		
MA2				*e*S	S	08 06 03.8	+15		
MA2				*e*		08 07 02.4			
MA2				pmax	pmax				
	comp=Z,30nm,0.9s,mb5.3								
MA2	**Magadan**	**65.58 358**		*e*P	**P**	**07 57 07.4**	**-1.1**		
	comp=Z,36nm,0.8s,mb5.5								
MA2				*e*pP	pP	07 57 24.7	-1.0		
IMP	**Imphal**	**66.35 300**		*e*P	**P**	**07 57 14.0**	**+0.5**		
IMP				*ex*	x	07 57 35.0			
CASY	**Casey**	**67.21 198**		*e*P	**P**	**07 57 17.9**	**-1.1**		
CLNS	**Chul'man**	**67.25 343**		*e*P	**P**	**07 57 19.2**	**0.0**		
CLNS				pmax	pmax				
	comp=Z,37nm,0.9s,mb5.4								
CLNS				pmax	pmax				
	comp=N,16nm,0.8s								
CLNS				pmax	pmax				
	comp=E,12nm,0.9s								
CIT	**Chita**	**67.59 334**		*e*P	**P**	**07 57 21.2**	**-0.2**		
CIT				pmax	pmax				
	comp=Z,93nm,1.8s,mb5.5								
GTA	**Gaotai**	**67.72 317**	⇑	*i*P	**P**	**07 57 23.5**	**+1.3**		
GTA				AP	pP	07 57 41.5	+2.0		
GTA				XP	sP	07 57 48.5	+1.9		
GTA				PP	PP	07 59 55.8	+3.7		
GTA				S	S	08 06 16.0	+1.2		
GTA				XS	sS	08 06 42.3	-1.8		
GTA				PS		08 06 50.0			
GTA				SS	SS	08 10 39.5	+2.6		
GTA				AMB	AMB				
	comp=Z,54nm,1.3s,mb5.4								
GTA				AMB	AMB				
	comp=Z,400nm,4.7s								
GTA				LR	LR				
	comp=N,441nm,21.3s								
GTA				LR	LR				
	comp=E,521nm,25.1s								
GTA				LR	LR				
	comp=Z,862nm,26.6s								
SONM	**Songino Array**	**68.31 327**		P	**P**	**07 57 26.3**	**+0.4**		
	comp=Z,9.4nm,0.7s,mb4.9,baz=139,slow=5.5,SNR=52								
SONM				LR	LR	08 27 16.1			
	comp=Z,350nm,19.8s,baz=122,slow=36								
SONM	**Songino Array**	**68.31 327**		P	**P**	**07 57 26.3**	**+0.4**		
SONM				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SONM				MLR	MLR				
	comp=Z,350nm,19.8s								
SHL	**Shillong**	**68.36 300**		*i* P	**P**	**07 57 27.0**	**+0.8**		
SHL				*e*S	S	08 06 26.0	+3.6		
SEY	**Seymchan**	**68.90 359**		*de*P	**P**	**07 57 28.7**	**-0.9**		
LSA	**Lhasa**	**70.31 304**		P	**P**	**07 57 40.5**	**+2.3**		
LSA	**Lhasa**	**70.31 304**		*e*P	**P**	**07 57 40.5**	**+2.3**		
LSA				pmax	pmax				
	comp=Z,98nm,0.6s,mb5.9								
LSA	**Lhasa**	**70.31 304**		*e*P	**P**	**07 57 40.5**	**+2.3**		
	comp=Z,98nm,0.6s,mb5.9								
YAK	**Yakutsk**	**70.61 348**		*e*P	**P**	**07 57 39.3**	**-0.7**		
YAK				*e*S	S	08 06 52.5	+3.6		
YAK				pmax	pmax				
	comp=Z,64nm,1.1s,mb5.5								
YAK				pmax	pmax				
	comp=N,30nm,1.5s								
YAK				pmax	pmax				
	comp=E,14nm,1.7s								
VNDA	**Vanda**	**71.44 178**		P	**P**	**07 57 44.4**	**-0.7**		
	comp=E,25nm,1.1s,mb5.1,baz=338,slow=7.1,SNR=69								
VNDA				LR	LR	08 24 25.4			
	comp=E,279nm,18.7s,baz=348,slow=32								
VNDA	**Vanda**	**71.44 178**		*e*P	**P**	**07 57 44.3**	**-0.7**		
	comp=E,47nm,1.2s,mb5.3								
ZAK	**Zakamensk**	**71.47 328**		*e*P	**P**	**07 57 44.7**	**-0.5**		
ZAK				pmax	pmax				
	comp=Z,17nm,1.1s,mb4.9								
BOD	**Bodaibo**	**71.61 339**		*e*P	**P**	**07 57 42.8**	**-3.3**		
BOD				pmax	pmax				
	comp=Z,14nm,1.2s,mb4.8								
SDPT	**Sand Point**	**71.74 25**		*e*P	**P**	**07 57 45.7**	**-1.1**		
SBA	**Scott Base**	**71.96 177**		*e*P	**P**	**07 57 48.5**	**+0.3**		
SBA				pmax	pmax				
	comp=Z,78nm,1.4s,mb5.5								
SBA	**Scott Base**	**71.96 177**		*e*P	**P**	**07 57 48.5**	**+0.3**		
	comp=Z,78nm,1.4s,mb5.5								
TLY	**Talaya**	**72.04 330**		*e*P	**P**	**07 57 48.4**	**-0.3**		
TLY				*e*		08 00 24.2			
TLY				*e*S	S	08 06 56.6	-8.8		
TLY				*e*PS		08 07 37.6			
TLY				*e*		08 07 51.4			
TLY				*e*SS	SS	08 11 40.5	-2.8		
TLY				pmax	pmax				
	comp=Z,10.0nm,1.4s,mb4.5								
TLY				MLR	MLR				
	comp=Z,452nm,20.0s								
TLY	**Talaya**	**72.04 330**		*e*P	**P**	**07 57 46.8**	**-1.9**		
	comp=Z,8.7nm,0.9s,mb4.7								
IRK	**Irkutsk**	**72.06 330**		*e*P	**P**	**07 57 45.8**	**-3.0**		
IRK				*e*	pP	07 58 05.1	-1.1		
IRK				pmax	pmax				
	comp=Z,46nm,1.7s,mb5.1								
BOK	**Bokaro**	**73.08 297**		*e*P	**P**	**07 57 54.7**	**-0.2**		
BOK				*i* x	x	07 58 16.9			
CHGN	**Chignik**	**73.24 25**		*e*P	**P**	**07 57 53.9**	**-1.9**		
MIR	**Mirnyy**	**73.26 202**	⇑	*i*P	**P**	**07 57 57.0**	**+1.1**		
MIR				*i*	pP	07 58 15.0	+1.6		
MIR				pmax	pmax				
	comp=Z,900nm,1.5s,mb6.5								
MIR				pmax	pmax				
	comp=Z,500nm,2.0s,mb6.1								
JIRN	**Jiri**	**73.84 301**		*e*P	**P**	**07 58 00.9**	**+1.6**		
VIS	**Vishakhapatnam**	**74.02 290**		*e*P	**P**	**07 58 00.8**	**+0.4**		
VIS				AMb	AMB	07 58 03.9			
	comp=Z,120nm,1.5s,mb5.6								
GUN	**Gumba**	**74.17 301**		*e*P	**P**	**07 58 02.9**	**+1.6**		
	comp=Z,892nm,1.1s								
PKI	**Pulchoki**	**74.48 301**		*e*P	**P**	**07 58 04.2**	**+1.1**		
	comp=Z,769nm,1.2s,mb6.5								
KKN	**Kakani**	**74.65 301**		*e*P	**P**	**07 58 05.3**	**+1.3**		
	comp=Z,284nm,0.7s,mb6.3								
PALK	**Pallekele**	**74.72 279**		*e*P	**P**	**07 58 05.3**	**+0.9**		
	comp=Z,36nm,1.0s,mb5.3								
DMN	**Daman**	**74.75 301**		*e*P	**P**	**07 58 06.2**	**+1.6**		
	comp=Z,1μm,1.0s								
GKN	**Gorkha**	**75.26 301**		*e*P	**P**	**07 58 08.6**	**+1.1**		
	comp=Z,1μm,1.1s								
KOLN	**Koldanda**	**76.08 300**		*e*P	**P**	**07 58 13.3**	**+1.0**		
	comp=Z,620nm,0.9s,mb6.5								
KDAK	**Kodiak Island**	**76.67 26**		P	**P**	**07 58 15.0**	**-0.6**		
	comp=Z,202nm,1.0s,mb6.0,SNR=6.0								
KDAK	**Kodiak Island**	**76.67 26**		P	**P**	**07 58 14.8**	**-0.7**		
	comp=Z,30nm,1.0s,mb5.2,baz=171,slow=1.4,SNR=18								
KDAK	**Kodiak Island**	**76.67 26**		*e*P	**P**	**07 58 15.2**	**-0.3**		
	comp=Z,40nm,1.0s,mb5.3								
KDAK				*e*pP	pP	07 58 32.2	-1.0		
ALBI	**Allahabad**	**77.05 298**		*e*P	**P**	**07 58 15.5**	**-2.2**		
SVW2	**Sparrevohn**	**77.44 22**		*e*P	**P**	**07 58 19.7**	**-0.2**		
WMQ	**Urumqi**	**77.80 317**		P	**P**	**07 58 21.8**	**-0.1**		
WMQ				PCP	PcP	07 58 32.0	+0.3		
WMQ				AP	pP	07 58 40.0	+0.4		
WMQ				XP	sP	07 58 46.0	-0.6		
WMQ				PP	PP	08 01 19.0	+0.9		
WMQ				PPP		08 03 07.0			
WMQ				S	S	08 08 08.0	-1.5		
WMQ				SS	SS	08 13 09.0	-1.9		
WMQ				AMB	AMB				
	comp=Z,25nm,1.2s,mb5.0								
WMQ				AMB	AMB				
	comp=Z,413nm,4.6s								
WMQ				LR	LR				
	comp=N,850nm,17.7s								
WMQ				LR	LR				
	comp=E,680nm,20.0s								
WMQ				LR	LR				
	comp=Z,1μm,27.2s								
KOD	**Kodaikanal**	**78.31 282**		*e*P	**P**	**07 58 25.0**	**+0.3**		
HYB	**Hyderabad**	**78.43 289**		*i* P	**P**	**07 58 25.0**	**-0.4**		
	comp=Z,79nm,0.8s,mb5.7								
HYB				*e*		07 58 37.0			
HYB				*e*pP	pP	07 58 41.0	-2.1		
HYB				*e*sP	sP	07 58 47.0	-3.1		
HYB	**Hyderabad**	**78.43 289**		*e*P	**P**	**07 58 25.0**	**-0.4**		
HYB				pmax	pmax				
	comp=Z,79nm,0.8s,mb5.7								
HYB	**Hyderabad**	**78.43 289**		*e*P	**P**	**07 58 25.0**	**-0.4**		
	comp=Z,79nm,0.8s,mb5.7								
TTA	**Tatalina**	**78.45 21**		*e*P	**P**	**07 58 24.8**	**-0.7**		
NGP	**Nagpur**	**78.66 293**		*e*P	**P**	**07 58 25.1**	**-1.6**		
SLKM	**Skilak Lake**	**79.22 24**		*e*P	**P**	**07 58 28.5**	**-1.2**		
SLKM				*e*		07 58 35.6			
SLKM				*e**PP	pP	07 58 46.2	-1.2		
PMR	**Palmer**	**80.26 24**		*e*P	**P**	**07 58 34.0**	**-1.3**		
PMR				pmax	pmax				
	comp=Z,68nm,1.9s,mb5.2								
PMR				MLR	MLR				
	comp=Z,2μm,23.0s								
PMR	**Palmer**	**80.26 24**		*e*P	**P**	**07 58 34.0**	**-1.3**		
	comp=Z,68nm,1.9s,mb5.2								
PMR				LR	LR				
	comp=Z,2μm,23.0s								
AKL	**Akola**	**80.45 292**		*e*P	**P**	**07 58 36.5**	**+0.1**		
BHPL	**Bhopal**	**80.54 295**		*e*P	**P**	**07 58 37.0**	**+0.2**		
AGRA	**Agra**	**80.85 299**		*e*P	**P**	**07 58 38.2**	**-0.3**		
IMA2	**Indian Mountai**	**81.20 19**		*e*P	**P**	**07 58 39.2**	**-1.2**		
KLP	**Kalpa**	**81.49 303**		*e*P	**P**	**07 58 42.3**	**+0.4**		
KLP				*e*S	S	08 08 50.4	+2.0		
MCK	**McKinley**	**81.50 22**		*e*P	**P**	**07 58 40.2**	**-1.7**		
MCK				pmax	pmax				
	comp=Z,28nm,1.0s,mb5.2								
MCK	**McKinley**	**81.50 22**		*e*P	**P**	**07 58 40.2**	**-1.8**		
	comp=Z,28nm,1.0s,mb5.2								
NDI	**New Delhi**	**81.78 300**		*e*P	**P**	**07 58 42.0**	**-1.4**		
SONA	**Sohna**	**81.80 300**		*e*P	**P**	**07 58 43.2**	**-0.4**		
SONA				AMb	AMB	07 58 44.4			
	comp=Z,148nm,1.3s,mb5.8								
AYAN	**Aya Nagar**	**81.81 300**	⇑	*i*P	**P**	**07 58 43.3**	**-0.3**		
SMLA	**Simla**	**82.31 302**		*e*P	**P**	**07 58 46.7**	**+0.5**		
MKAR	**Makanchi Array**	**82.38 319**		P	**P**	**07 58 46.2**	**-0.3**		
	comp=Z,3.7nm,0.5s,mb4.6,baz=104,slow=5.1,SNR=35								
MKAR				PKKPbc	PKKPbc	08 17 12.1	-0.7		
	comp=Z,0.8nm,0.8s,baz=232,slow=2.4,SNR=5.0								
MKAR	**Makanchi Array**	**82.38 319**		P	**P**	**07 58 46.3**	**-0.3**		
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.5s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR	**Makanchi Array**	**82.38 319**		P	**P**	**07 58 46.2**	**-0.3**		
MKAR				PKKPbc	PKKPbc	08 17 12.1	-0.7		
COLA	**College**	**82.51 21**		*e*P	**P**	**07 58 45.0**	**-2.3**		
COLA				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.3								
COLA	**College**	**82.51 21**		*e*P	**P**	**07 58 45.0**	**-2.2**		
	comp=Z,30nm,1.0s,mb5.3								
KAD	**Karad**	**82.53 288**		*e*P	**P**	**07 58 47.4**	**+0.1**		
KHET	**Khetri**	**82.88 299**		*e*P	**P**	**07 58 48.0**	**-1.1**		
POO	**Poona**	**83.03 289**	⇑	*i*P	**P**	**07 58 48.0**	**-1.9**		
ZAL	**Zalesovo**	**83.16 326**		P	**P**	**07 58 49.0**	**-1.6**		
	comp=Z,3.7nm,0.6s,mb4.6,baz=354,slow=7.1,SNR=16								
ZAL				LR	LR	08 36 49.1			
	comp=Z,400nm,21.0s,baz=24,slow=36								
ZAL	**Zalesovo**	**83.16 326**		P	**P**	**07 58 49.0**	**-1.6**		
ZAL				pmax	pm

KSH eS S 08 09 21.5 -2.5
KSH ePS 08 10 27.0
KSH eSS SS 08 15 00.3 +2.1
KSH AMB AMB
comp=Z,1μm,2.2s
KSH LR LR
comp=N,322nm,5.3s
KSH LR LR
comp=E,476nm,5.8s
KSH LR LR
comp=Z,485nm,4.8s
DAWY Dawson 85.36 24 eP **P 07 59 01.4 -0.4**
SKAG Skagway 85.42 29 eP **P 07 59 02.4 +0.4**
SKAG epP pP 07 59 19.5 -0.4
KURK Kurchatov 85.80 322 P **P 07 59 02.3 -1.7**
comp=Z,103nm,1.2s,mb5.9,SNR=11
TKM2 Tokmak 2 86.00 314 P **P 07 59 04.8 -0.2**
SNR=12
KZA Kyzart 86.08 313 P **P 07 59 09.2 +3.9**
SNR=12
CHMS Chumysh 86.63 314 P **P 07 59 07.7 -0.3**
SNR=5.6
UCH Uchtor 86.65 313 P **P 07 59 11.6 +3.5**
SNR=24
FRU Bishkek 86.69 314 eP **P 07 59 09.0 +0.7**
FRU e 08 09 43.0
FRU pmax pmax
comp=Z,110nm,2.2s,mb5.7
FRU MLR MLR
comp=E,500nm,21.0s
FRU MLR MLR
comp=Z,500nm,21.0s
AAK Ala-Archa 86.74 313 P **P 07 59 08.8 +0.3**
SNR=6.9
AAK Ala-Archa 86.74 313 P **P 07 59 07.8 -0.8**
comp=Z,14nm,0.2s,mb5.8,SNR=7.2
AAK Ala-Archa 86.74 313 eP **P 07 59 07.8 -0.8**
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
AAK Ala-Archa 86.74 313 eP **P 07 59 07.8 -0.8**
comp=Z,9.9nm,0.8s,mb5.1
AML Almayashu 87.23 313 P **P 07 59 11.7 +0.8**
SNR=17
EKS2 Erkin-Say 87.27 313 P **P 07 59 11.3 +0.2**
SNR=7.3
KBO Bosley Butte 87.73 47 eP **P 07 59 14.1 +0.8**
KRMB Red Mountain 87.85 48 eP **P 07 59 14.8 +0.9**
KHMM Horse Mountain 87.86 49 eP **P 07 59 14.3 +0.3**
HOPS Hopland 88.05 51 eP **P 07 59 15.6 +0.7**
comp=Z,31nm,1.1s,mb5.4
MPOR Mary's Peak 88.62 45 P **P 07 59 18.2 +0.6**
WDC Whiskeytown Da 88.71 49 eP **P 07 59 18.2 +0.2**
WDC pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
WDC Whiskeytown Da 88.71 49 eP **P 07 59 18.2 +0.2**
comp=Z,5.3nm,0.9s,mb4.9
YBH Yreka Blue Hor 88.77 48 eP **P 07 59 18.9 +0.7**
YBH pmax pmax
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 88.77 48 eP **P 07 59 18.9 +0.6**
comp=Z,21nm,1.0s,mb5.4
OBC Olympics--Boni 88.88 42 P **P 07 59 19.0 +0.2**
SAO San Andreas Ge 88.97 53 eP **P 07 59 19.7 +0.5**
SAO pmax pmax
comp=Z,25nm,1.3s,mb5.4
SAO San Andreas Ge 88.97 53 eP **P 07 59 19.7 +0.5**
comp=Z,25nm,1.3s,mb5.4
LHEM Herd Peak 89.11 48 P **P 07 59 20.4 +0.5**
INK Inuvik 89.14 21 PKKP PKKPbc 08 16 56.0 -0.8
comp=Z,5.1nm,1.0s,baz=94,slow=3.3,SNR=5.8
INK LR LR 08 39 52.5
comp=Z,1μm,19.6s,baz=264,slow=36
INK Inuvik 89.14 21 eP **P 07 59 18.4 -1.6**
INK pmax pmax
comp=Z,18nm,1.1s
INK Inuvik 89.14 21 eP **P 07 59 18.4 -1.6**
comp=Z,18nm,1.1s,mb5.3
INK ePKKPdf PKKPdf 08 16 55.0 +3.2
LRV Little Rabbit 89.27 53 eP **P 07 59 21.6 +1.0**
OHCM Honcut 89.32 50 eP **P 07 59 21.1 +0.3**
PGC Sidney 89.40 41 eP **P 07 59 20.5 -0.7**
comp=Z,24nm,1.1s,mb5.4
PGC epP pP 07 59 38.0 -1.2
GNW Green Mountain 89.63 42 eP **P 07 59 22.1 -0.2**
KK31 Karatay Array 89.71 313 i P **P 07 59 21.8 -0.8**
KK31 pmax pmax
comp=Z,15nm,1.2s,mb5.2
PTRM Twissleman Ran 89.81 54 eP **P 07 59 24.7 +1.6**
CMB Columbia Colle 89.99 52 eP **P 07 59 24.2 +0.2**
CMB e pP 07 59 42.5 +0.5
CMB pmax pmax
comp=Z,20nm,1.1s,mb5.4
CMB Columbia Colle 89.99 52 eP **P 07 59 24.2 +0.2**
comp=Z,20nm,1.1s,mb5.4
CMB e pP 07 59 42.5 +0.5
HOOD Mount Hood Mea 90.08 45 eP **P 07 59 25.0 +0.6**
LON Longmire 90.19 43 eP **P 07 59 24.3 -0.6**
MOD Modoc 90.57 48 eP **P 07 59 26.7 0.0**
comp=Z,14nm,1.1s,mb5.2
MOD e pP 07 59 45.3 +0.6
WAKR Walker 90.79 52 eP **P 07 59 28.5 +0.8**
TWW Teanaway 90.89 43 P **P 07 59 28.3 +0.2**
PAHR Pah Rah Range 90.98 50 eP **P 07 59 28.9 +0.3**
comp=Z,36nm,1.1s,mb5.6
PAHR e pP 07 59 46.6 0.0
TBM Table Mountain 91.07 43 P **P 07 59 28.7 -0.3**
ISA Isabella 91.21 54 eP **P 07 59 30.2 +0.5**
ISA e*PP pP 07 59 47.7 0.0
BVAR Borovoye Array 91.27 323 LR LR 08 39 47.5
comp=Z,503nm,21.8s,baz=319,slow=35
MTUM Tungsten Hills 91.34 53 eP **P 07 59 31.5 +1.2**
MWC Mount Wilson 91.39 56 eP **P 07 59 33.2 +2.7**
MDW Midway 91.57 43 P **P 07 59 31.1 -0.2**
PRW Prosser 91.57 44 P **P 07 59 31.5 +0.2**
HAWA Hanford 91.70 44 eP **P 07 59 31.5 -0.4**
comp=Z,2.3nm,1.1s,mb4.4
EPH Ephrata 91.77 43 P **P 07 59 31.7 -0.5**
H2OWA Water 91.77 44 P **P 07 59 32.2 0.0**
WVOR Wild Horse Val 91.87 48 eP **P 07 59 32.5 -0.2**
WVOR pmax pmax
comp=Z,12nm,1.0s,mb5.2
WVOR Wild Horse Val 91.87 48 eP **P 07 59 32.5 -0.1**
comp=Z,12nm,1.0s,mb5.2
DAC Darwin (Calif) 91.99 54 eP **P 07 59 34.1 +0.8**
DAC pmax pmax
comp=Z,48nm,1.0s,mb5.8
DAC Darwin (Calif) 91.99 54 eP **P 07 59 34.1 +0.8**
comp=Z,48nm,1.0s,mb5.8
ZRNK Zerenda 92.08 323 eP **P 07 59 31.1 -2.6**
ZRNK e pP 07 59 49.7 -2.0
ZRNK pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
ZRNK Zerenda 92.08 323 eP **P 07 59 31.1 -2.6**
comp=Z,4.9nm,0.8s,mb4.9
ZRNK e pP 07 59 49.7 -2.0
OD2 Odessa Site #2 92.37 43 P **P 07 59 34.5 -0.5**
BAR Barrett 92.38 58 eP **P 07 59 36.7 +1.6**
TPH Tonopah 92.47 52 eP **P 07 59 36.7 +1.2**
TPH pmax pmax
comp=Z,51nm,1.1s,mb5.8
TPH Tonopah 92.47 52 eP **P 07 59 36.7 +1.2**
comp=Z,51nm,1.1s,mb5.8
GSC Goldstone 92.53 55 eP **P 07 59 36.7 +1.0**
PFO Pinyon Flat Ob 92.65 57 P **P 07 59 37.0 +0.7**
comp=Z,338nm,0.9s,SNR=12
PFO Pinyon Flat Ob 92.65 57 P **P 07 59 37.6 +1.3**
PFO Pinyon Flat Ob 92.65 57 eP **P 07 59 37.4 +1.1**
comp=Z,48nm,0.9s,mb5.9
BMN Battle Mountai 92.71 50 eP **P 07 59 37.3 +0.7**
BMN e*PP pP 07 59 54.7 +0.1
BMN pmax pmax
comp=Z,15nm,0.8s,mb5.5
BMN Battle Mountai 92.71 50 eP **P 07 59 37.3 +0.7**
comp=Z,15nm,0.8s,mb5.5
BMN epP pP 07 59 54.7 +0.1
SYO Syowa Base 92.93 199⇓eP **P 07 59 35.7 -1.9**
BMO Blue Mountains 93.08 45 eP **P 07 59 37.6 -0.7**
BMO pmax pmax
comp=Z,25nm,1.3s,mb5.5
BMO Blue Mountains 93.08 45 eP **P 07 59 37.6 -0.7**
comp=Z,25nm,1.3s,mb5.5
NEW Newport 93.53 42 LR LR 08 35 23.4
comp=Z,3μm,20.6s,baz=323,slow=31
NEW Newport 93.53 42 eP **P 07 59 39.4 -0.9**
NEW pmax pmax
comp=Z,19nm,1.1s
NEW Newport 93.53 42 eP **P 07 59 39.4 -0.9**
comp=Z,19nm,1.1s,mb5.4
TRCR Troy Canyon 93.78 52 eP **P 07 59 41.9 +0.4**
TRCR epP pP 07 59 57.3 -2.2
GLA Glamis 93.96 57 eP **P 07 59 44.5 +2.2**
SHPR Sheep Range 93.97 54 eP **P 07 59 43.6 +1.2**
ELK Elko 94.24 50 eP **P 07 59 44.5 +0.9**
ELK pmax pmax
comp=Z,20nm,1.1s
ELK Elko 94.24 50 eP **P 07 59 44.5 +0.9**
comp=Z,20nm,1.1s,mb5.5
HLID Hailey 95.05 47 eP **P 07 59 47.2 -0.1**
comp=Z,5.0nm,0.8s,mb5.0
ARUT Antelope Range 95.43 53 eP **P 07 59 50.3 +1.2**
CCUT Cedar City 95.48 53 eP **P 07 59 50.4 +1.2**
CCUT epP pP 08 00 06.4 -0.9
WALA Waterton Lakes 95.71 41 eP **P 07 59 50.5 +0.2**
comp=Z,18nm,1.0s,mb5.5
YKA Yellowknife Ar 95.87 28 P **P 07 59 49.4 -1.6**
comp=Z,8.0nm,1.0s,mb5.1,baz=268,slow=4.6,SNR=11
YKA PKKPbc PKKPbc 08 16 37.9 -1.6
comp=Z,3.0nm,0.9s,baz=100,slow=1.9,SNR=4.8
YKA LR LR 08 39 43.6
comp=Z,505nm,21.3s,baz=210,slow=33
YKA Yellowknife Ar 95.87 28 P **P 07 59 49.4 -1.7**
YKA pmax pmax
comp=Z,8.0nm,1.0s
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 95.87 28 P **P 07 59 49.4 -1.6**
YKA PKKPbc PKKPbc 08 16 37.9 -1.6
YKA LR LR 08 39 43.6
BGU Big Grassy Mou 95.93 50 eP **P 07 59 51.1 -0.3**
CHMT Chamberlain Mo 96.05 44 eP **P 07 59 50.9 -1.0**
DUG Dugway 96.05 50 eP **P 07 59 51.8 -0.1**
DUG pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
DUG Dugway 96.05 50 eP **P 07 59 51.8 -0.1**
comp=Z,3.3nm,0.7s,mb4.9
HVU Hansel Valley 96.16 49 eP **P 07 59 52.5 +0.1**
HVU pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
HVU Hansel Valley 96.16 49 eP **P 07 59 52.5 +0.1**
comp=Z,9.3nm,0.8s,mb5.3
MCMT McKenzie Canyo 96.24 46 eP **P 07 59 52.7 -0.1**
SPUT South Promonto 96.38 49 eP **P 07 59 52.0 -1.4**
DLMT Dillon 96.44 45 eP **P 07 59 53.2 -0.5**
comp=Z,12nm,1.0s,mb5.3
MSU Marysvale 96.46 52 eP **P 07 59 55.3 +1.5**
LRM Limekiln Ridge 96.56 45 eP **P 07 59 53.5 -0.7**
NLU North Lily Min 96.61 51 eP **P 07 59 54.6 +0.2**
NLU epP pP 08 00 17.4 +4.9
CTU Camp Tracy 96.89 50 eP **P 07 59 55.3 -0.4**
MPU Maple Canyon 96.95 51 eP **P 07 59 56.7 +0.7**
WUAZ Wupatki 96.97 55 eP **P 07 59 57.6 +1.5**
comp=Z,18nm,1.0s,mb5.5
HWUT Hardware Ranch 97.06 49 eP **P 07 59 56.0 -0.4**
comp=Z,6.1nm,0.8s,mb5.1
BOZ Bozeman (W) 97.13 45 eP **P 07 59 56.2 -0.6**
BOZ pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BOZ Bozeman (W) 97.13 45 eP **P 07 59 56.2 -0.6**
comp=Z,6.6nm,1.0s,mb5.0
QLMT Earthquake Lak 97.25 46 eP **P 07 59 57.6 +0.3**
TMUT Trail Mountain 97.25 51 eP **P 07 59 58.4 +1.1**
RRI2 Red Ridge 97.29 47 eP **P 07 59 57.9 +0.4**
comp=Z,11nm,0.9s,mb5.3
TUC Tucson 97.31 58 eP **P 07 59 59.2 +1.6**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
TUC Tucson 97.31 58 eP **P 07 59 59.2 +1.6**
comp=Z,3.0nm,0.8s,mb4.8
WBK Wadi Bani Khal 97.33 292⇓P **P 07 59 57.7 +0.1**
SNR=5.2
DCID1 Drake Creek 97.40 47 eP **P 07 59 58.4 +0.4**
TPAW Teton Pass 97.56 47 eP **P 07 59 58.5 -0.2**
comp=Z,6.8nm,1.0s,mb5.1
IMW Indian Meadow 97.58 47 eP **P 07 59 59.1 +0.3**
comp=Z,11nm,1.1s,mb5.3
REDW Red Top Meadow 97.63 47 eP **P 07 59 59.1 +0.1**
comp=Z,12nm,1.2s,mb5.3
YFT Old Faithful 97.67 46 eP **P 08 00 01.0 +1.8**
SNOW Snow King Moun 97.71 47 eP **P 07 59 59.5 +0.2**
comp=Z,11nm,1.2s,mb5.2
MOOW Moose Ponds 97.72 47 eP **P 07 59 59.1 -0.3**
comp=Z,7.9nm,1.2s,mb5.1
FLWY Flagg Ranch 97.76 46 eP **P 07 59 59.6 0.0**
comp=Z,9.3nm,1.1s,mb5.2
SRU San Rafael 97.78 51 eP **P 08 00 00.3 +0.6**
YNR Norris Junctio 97.78 46 eP **P 08 00 01.8 +2.0**
LOHW Long Hollow 97.82 47 eP **P 07 59 59.8 -0.1**
EGMT Eagleton 98.44 42 eP **P 08 00 02.2 -0.5**
comp=Z,8.8nm,1.0s,mb5.2
GCMT Greycliff 98.51 45 eP **P 08 00 03.0 0.0**
GCMT epP pP 08 00 19.5 -1.5
BW06 Boulder Array 98.57 48 eP **P 08 00 02.4 -0.9**
comp=Z,7.3nm,0.9s,mb5.2
PDAR Pinedale Array 98.57 48 P **P 08 00 02.6 -0.6**
comp=Z,5.7nm,0.8s,mb5.1,baz=258,slow=2.7,SNR=34
PDAR PP PP 08 04 03.9 -0.6
comp=Z,1.9nm,1.1s,baz=284,slow=6.0,SNR=5.0
PDAR LR LR 08 37 55.3
comp=Z,855nm,21.7s,baz=271,slow=31
RLMT Red Lodge 98.79 45 eP **P 08 00 04.1 -0.1**
PV10 Paradox Valley 98.92 52 eP **P 08 00 05.4 +0.6**
PV01 Paradox Valley 99.29 52 eP **P 08 00 06.8 +0.4**
ARQ Araqi 99.62 293⇓P Pdif 08 00 08.3 +0.4
SNR=6.1
RWWY Rawlins 100.32 49 ePdif Pdif 08 00 10.8 -0.3
LAZ Ladron 100.42 56 ePdif Pdif 08 00 13.2 +1.7
SMCO Snowmass 100.54 51 ePdif Pdif 08 00 12.9 +0.9
LAO LASA Array 100.88 44 ePdif Pdif 08 00 12.9 -0.6
SNAA Sanae 100.90 187 P Pdif 08 00 11.8 -1.8
comp=Z,1.3nm,1.0s,baz=179,slow=3.2,SNR=8.6
SNAA PP PP 08 04 19.2 -3.0
comp=Z,0.9nm,1.0s,baz=159,slow=9.6,SNR=3.7
SNAA Sanae 100.90 187⇑i Pdiff Pdif 08 00 11.6 -2.0
SNAA e 08 00 18.3
SNAA e 08 00 30.7
SNAA e 08 00 37.9
SNAA e 08 00 44.4
SNAA e 08 03 35.6
SNAA e 08 04 06.0
SNAA e 08 04 19.8
SNAA e 08 04 26.0
SNAA e 08 04 39.2
SNAA Sanae 100.90 187 P Pdif 08 00 11.8 -1.8
SNAA 08 04 19.2
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA pmax pmax
comp=Z,1.0nm,1.0s
SNAA Sanae 100.90 187 ePdif Pdif 08 00 11.6 -2.0
ANMO Albuquerque 100.98 56 eP Pdif 08 00 15.5 +1.5
ISCO Idaho Springs 101.58 51 eP Pdif 08 00 17.7 +1.1
MNTX Cornudas Mount 101.89 59 ePdif Pdif 08 00 19.9 +1.9
VNA3 Neumayer Olymp 102.04 185⇑i Pdiff Pdif 08 00 17.1 -1.6
VNA3 e 08 00 23.5
VNA3 e 08 00 35.8
VNA3 e 08 00 43.2
VNA3 e 08 00 47.3
VNA3 e 08 00 50.6
VNA3 e 08 00 53.6
VNA3 e 08 03 11.7
VNA3 e 08 03 24.4
VNA3 e 08 03 41.1
VNA3 e 08 03 55.7
VNA3 e 08 04 07.6
VNA3 e 08 04 19.3
VNA3 e 08 04 29.4
VNA3 e 08 04 39.4
VNA3 e 08 04 49.2
VNA3 e 08 04 58.5
RSSD Black Hills 102.56 46 eP Pdif 08 00 19.8 -1.2
ARCES ARCESS Array B 108.61 343 PKiKP PKiKP 08 04 51.8 -1.2
comp=Z,5.2nm,0.9s,baz=12,slow=4.6,SNR=4.9
FINES FINESS Array B 112.93 336 PKKPbc PKKPbc 08 15 46.0 -2.1
comp=Z,0.5nm,0.4s,baz=174,slow=1.9,SNR=5.7
AKASG Malin Array Be 116.51 324 PKP PKPdf 08 05 07.3 -0.8
comp=Z,0.2nm,0.3s,baz=58,slow=2.1,SNR=7.4
AKASG PP PP 08 06 11.4 -4.2
comp=Z,0.1nm,0.3s,baz=55,slow=4.6,SNR=4.2
AKASG PKKPbc PKKPbc 08 15 34.8 -1.1
comp=Z,0.8nm,0.4s,baz=259,slow=3.8,SNR=6.3
KMBO Kilima Mbogo 116.84 266 PKP PKPdf 08 05 10.8 +2.1
comp=Z,6.0nm,1.0s,baz=81,slow=23,SNR=8.7
KMBO PKKPbc PKKPbc 08 15 37.5 +2.7
comp=Z,2.3nm,0.6s,baz=288,slow=2.5,SNR=6.3
KMBO Kilima Mbogo 116.84 266 PKIKP PKPdf 08 05 10.8 +2.1
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 117.38 312 PKP PKPdf 08 05 09.3 -0.4
comp=Z,0.9nm,0.6s,baz=119,slow=4.8,SNR=6.2
BRTR PP PP 08 06 19.4 -2.3
comp=Z,2.0nm,0.8s,baz=92,slow=6.3,SNR=5.4
BRTR PKKPbc PKKPbc 08 15 32.6 -0.2
comp=Z,1.0nm,0.9s,baz=242,slow=2.7,SNR=4.0
BRTR Keskin Array B 117.38 312 PKIKP PKPdf 08 05 09.4 -0.4
BRTR 08 06 19.4
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
PLCA Paso Flores 117.75 143 PKP PKPdf 08 05 10.2 -0.3
comp=Z,1.3nm,0.4s,baz=207,slow=2.2,SNR=9.3
PLCA PP PP 08 06 21.0 -3.3
comp=Z,5.7nm,1.1s,baz=232,slow=6.7,SNR=5.5
PLCA Paso Flores 117.75 143 PKIKP PKPdf 08 05 10.2 -0.3
PLCA 08 06 21.0
PLCA pmax pmax
comp=Z,1.0nm,0.4s
PLCA pmax pmax
comp=Z,6.0nm,1.1s
NOA NORSAR Array B 118.71 341 PKP PKPdf 08 05 10.6 -1.7
comp=Z,1.6nm,0.8s,baz=42,slow=1.8,SNR=4.3
NOA NORSAR Array B 118.71 341 PKIKP PKPdf 08 05 10.6 -1.7
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 118.71 341 PKP PKPdf 08 05 10.6 -1.8
BOSA Boshof 120.08 232 PKP PKPdf 08 05 15.6 +0.6
comp=Z,12nm,0.5s,baz=122,slow=1.4,SNR=53
BOSA Boshof 120.08 232 ePKPdf PKPdf 08 05 15.4 +0.4
BOSA ePKPdf PKPdf 08 05 15.6 +0.6
MATP Matopo 120.66 242 PKP PKPdf 08 05 16.6 +0.5
comp=Z,23nm,0.5s,baz=118,slow=1.6,SNR=96
LBTB Lobatse 121.37 236 PKP PKPdf 08 05 18.2 +0.7
comp=Z,8.8nm,0.4s,baz=131,slow=3.7,SNR=32
LBTB Lobatse 121.37 236 ePKPdf PKPdf 08 05 17.9 +0.4
LBTB ePKPdf PKPdf 08 05 18.2 +0.8
RGN Rugen 122.49 334 ePKPdf PKPdf 08 05 11.3 -8.3
LSZ Lusaka 122.62 248 PKP PKPdf 08 05 21.4 +1.6
comp=Z,15nm,0.5s,baz=91,slow=2.6,SNR=20
LSZ Lusaka 122.62 248 PKIKP PKPdf 08 05 21.4 +1.6
LSZ pmax pmax
comp=Z,15nm,0.5s
LSZ Lusaka 122.62 248 ePKPdf PKPdf 08 05 21.2 +1.4
MORC Moravsky Berou 123.46 328 ePKIKP PKPdf 08 05 20.8 -0.6
BSEG Bad Segeberg 124.19 335 ePKPdf PKPdf 08 05 22.3 -0.5
BRG Berggiesshubel 124.62 331 ePKPdf PKPdf 08 05 23.3 -0.4
BRG Berggiesshubel 124.62 331 i PKP PKPdf 08 05 23.3 -0.4
comp=Z,8.9nm,1.4s
CLL Collm 124.79 332 ePKPdf PKPdf 08 05 22.9 -1.1
CLL Collm 124.79 332 ePKPdf PKPdf 08 05 23.0 -1.0
comp=Z,14nm,1.6s
CLL LmV 09 02 00.0
comp=Z,600nm,20.6s
CLL Collm 124.79 332 ePKP PKPdf 08 05 23.0 -1.0
CLL e 08 05 29.0
CLL LR LR
comp=Z,600nm,20.6s
NRDL Niedersach Rie 125.30 334 ePKPdf PKPdf 08 05 23.9 -1.1
TANN Tannenbergstha 125.63 331 ePKPdf PKPdf 08 05 25.2 -0.4
CLZ Clausthal 125.64 333 ePKPdf PKPdf 08 05 25.0 -0.6
ATAH Atahualpa 125.73 103 PKP PKPdf 08 05 27.8 +2.0
comp=Z,14nm,0.9s,baz=248,slow=1.6,SNR=12
MOX Moxa 125.89 332 ePKIKP PKPdf 08 05 24.0 -2.1
MOX MLR MLR
comp=Z,300nm,21.0s
KHC Kasperske Hory 125.91 329⇓i PKIKP PKPdf 08 05 26.0 -0.1
GEC2 GERESS Array S 126.03 329 ePKPdf PKPdf 08 05 25.6 -0.8
GERES GERESS Array B 126.03 329 PKP PKPdf 08 05 25.7 -0.6
comp=Z,2.2nm,0.8s,baz=16,slow=1.9,SNR=11
GERES GERESS Array B 126.03 329 PKIKP PKPdf 08 05 25.7 -0.7
GERES pmax pmax
comp=Z,2.0nm,0.8s
MANZ Manzenberg 126.09 331 ePKPdf PKPdf 08 05 25.8 -0.7
ROTZ Rotzenmuhle 126.18 330 ePKPdf PKPdf 08 05 25.8 -0.9
WET Wettzell 126.25 330 ePKPdf PKPdf 08 05 26.3 -0.5
IBBN Ibbenburen 126.43 335 ePKPdf PKPdf 08 05 27.2 +0.1
UBBA Unterbreizbach 126.52 333 ePKPdf PKPdf 08 05 26.9 -0.4
GRA1 Grafenberg Arr 126.71 331 ePKPdf PKPdf 08 05 26.9 -0.8
GRA1 ePP PP 08 07 28.0 +3.0
GRA1 LR LR
comp=Z,300nm,20.8s
GRF Grafenberg Arr 126.71 331 ePKPdf PKPdf 08 05 26.9 -0.8
GRF ePP PP 08 07 28.0 +3.0
GRF eL 09 06 53.3
comp=Z,306nm,20.8s
WTTA Wattenberg 128.10 328⇑i P PKPdf 08 05 29.8 -0.6
comp=Z,19nm,1.2s
STU Stuttgart 128.31 331 ePKPdf PKPdf 08 05 30.9 +0.2
LVC Limon Verde 128.90 125 PKP PKPdf 08 05 33.0 +1.2
comp=Z,6.8nm,0.8s,baz=264,slow=2.3,SNR=9.9
BFO Black Forest 129.03 331 ePKPdf PKPdf 08 05 31.0 -1.1
DOU Dourbes 129.41 335 PKP PKPdf 08 05 31.7 -1.1
TSUM Tsumeb 130.57 238 PKP PKPdf 08 05 36.2 +1.2
comp=Z,19nm,0.9s,baz=127,slow=3.3,SNR=17
TSUM SKPbc SKPbc 08 08 56.1 +3.0
comp=Z,8.7nm,1.1s,baz=106,slow=3.7,SNR=3.5
TSUM Tsumeb 130.57 238 ePKPdf PKPdf 08 05 35.9 +0.9
ROSC El Rosal 131.49 89 PKP PKPdf 08 05 38.2 +1.4
comp=Z,9.0nm,0.5s,baz=352,slow=3.2,SNR=11
ROSC SKPbc SKPbc 08 09 01.1 +4.7
comp=Z,18nm,1.0s,baz=103,slow=19,SNR=13
ROSC El Rosal 131.49 89 ePKPdf PKPdf 08 05 37.9 +1.1
ROSC eSKPbc SKPbc 08 09 00.9 +4.5
LPAZ La Paz 132.38 118 PKP PKPdf 08 05 40.0 +1.5
comp=Z,39nm,1.3s,baz=351,slow=1.6,SNR=37
LPAZ SKPbc SKPbc 08 09 02.4 +2.8
comp=Z,5.6nm,1.0s,baz=270,slow=3.9,SNR=5.2
LPAZ La Paz 132.38 118 PKIKP PKPdf 08 05 40.0 +1.6
LPAZ pmax pmax
comp=Z,39nm,1.3s
LPAZ pmax pmax
comp=N,6.0nm,1.0s
LPAZ La Paz 132.38 118 ePKPdf PKPdf 08 05 39.7 +1.3
LPAZ eSKPbc SKPbc 08 09 02.4 +2.8
SDV Santo Domingo 135.29 84 ePKPpre 08 05 29.9
SDV ePKPdf PKPdf 08 05 44.2 +0.3
SDV eSKPbc SKPbc 08 09 11.7 +2.4
CPUP Villa Florida 135.40 138 PKP PKPdf 08 05 44.2 +0.1
comp=N,3.8nm,0.8s,baz=314,slow=2.0,SNR=3.6
CPUP Villa Florida 135.40 138 ePKPdf PKPdf 08 05 43.8 -0.3
CPUP ePP PP 08 08 25.9 +4.7
CPD Cerro la Pandu 138.95 70 ePKIKP PKPdf 08 05 55.8 +5.1
TPP Pointe-a-Pierr 144.30 81 eP PKPdf 08 05 56.4 -3.8
TRN Trinidad (W) 144.32 80 eP PKPdf 08 05 58.2 -2.1
PBEJ Beja 144.41 336 ePKPdf PKPdf 08 05 59.4 -1.0
TBH Brigand Hill 144.66 81 eP PKPdf 08 05 58.2 -2.7
TPR Prospect 144.89 79 eP PKPdf 08 06 00.3 -0.9
BOT Bacolet 144.95 79 eP PKPdf 08 06 01.0 -0.4
PTEO Sao Teotonio 145.17 336 ePKPdf PKPdf 08 06 01.5 -0.2
BBGH Gun Hill 145.84 76 ePKPbc PKPbc 08 06 06.1 +2.6
BDFB Brasilia 148.99 135 PKP PKPdf 08 06 09.1 +1.0
comp=N,20nm,0.6s,baz=311,slow=0.9,SNR=34
BDFB PKPbc PKPbc 08 06 12.5 +0.3
comp=N,20nm,0.6s,baz=213,slow=1.7,SNR=33
BDFB Brasilia 148.99 135 PKIKP PKPdf 08 06 09.1 +1.0
BDFB pmax pmax
comp=Z,20nm,0.6s
BDFB pmax pmax
comp=Z,20nm,0.6s
TOA0 Torodi Ar. Sit 152.22 287 ePKPbc PKPbc 08 06 19.7 -0.2
TOA0 ePKPab PKPab 08 06 30.7 +0.8
TORD Torodi Ar. Bea 152.22 287 PKP PKPdf 08 06 13.1 -0.1
comp=Z,2.8nm,1.0s,baz=58,slow=1.7,SNR=8.9
TORD PKPbc PKPbc 08 06 19.9 +0.1
comp=Z,38nm,0.9s,baz=37,slow=2.0,SNR=248
TORD PKPab PKPab 08 06 30.9 +1.0
comp=Z,8.3nm,0.7s,baz=71,slow=2.9,SNR=4.7
TORD PP PP 08 09 59.8 -2.2
comp=Z,7.0nm,1.2s,baz=57,slow=3.5,SNR=4.4
DBIC Dimbokro 159.38 273 PKPab PKPab 08 07 01.4 +0.9
comp=Z,24nm,1.1s,baz=80,slow=4.6,SNR=10

DBIC	**Dimbokro**	**159.38**	**273**	PKP2	PKPab	08 07 01.4	+0.9
DBIC				pmax	pmax		
	comp=Z,24nm,1.1s						
DBIC	**Dimbokro**	**159.38**	**273**	*e*PKPab	PKPab	08 07 01.2	+0.7

*NEIC **25** 08:04:08.2, 1708N×6925W, h152km, MD3.7(RSPR), After RSPR.*

RSPR 25 08:04:08.2, 1708N×6925W, h152km±3km, MD3.7/4, MD3.7/4, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**2.24**	**65**↑	*e*P	Pn	08 04 46.2	+0.1
CRPR				*e*S	Sn	08 05 16.1	+0.6
LSP	**Las Mesas**	**2.33**	**62**↑	*e*P	Pn	08 04 47.0	-0.3
LSP				*e*S	Sn	08 05 18.1	+0.6
AOPR	**Arecibo Observ**	**2.69**	**62**↑	*e*P	Pn	08 04 51.9	+0.3
AOPR				*e*S	Sn	08 05 26.1	+0.8
MTP	**Monte Pirata**	**3.67**	**73**↓	*e*P	Pn	08 05 04.8	+0.7
MTP				*e*S	Sn	08 05 48.8	+1.3

*NEIC **25** 08:14:25.2, 28.17S×71.10W, h47km, MD3.9(GUC), After GUC.*

GUC 25 08:14:25.2±0.9, 2817S×7110W, h47km±8km, MD3.9, ML3.3, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.51**	**143**	*i*P	Pn	08 14 40.0	+3.7
VACH				*i* S	Sn	08 14 48.3	+4.0
VACH				AML	AML	08 14 49.7	
	comp=N,3μm,0.2s						
VACH	**Vallenar**	**0.51**	**143**↑	*i*P	Pn	08 14 40.0	+3.7
VACH				*i* S	Sn	08 14 48.3	+4.0
CPCH	**Copiapo**	**1.04**	**40**	*e*P	Pn	08 14 44.3	+0.9
CPCH				*i* S	Sn	08 14 58.4	+1.5
CPCH				AML	AML	08 15 02.5	
	comp=N,3μm,0.1s						
CPCH	**Copiapo**	**1.04**	**40**	*e*P	Pn	08 14 44.3	+0.9
CPCH				*i* S	Sn	08 14 58.4	+1.5
CDCH	**Caldera**	**1.11**	**13**↓	*i*P	Pn	08 14 44.8	+0.4
CDCH				*i* S	Sn	08 14 59.4	+0.8
TLL	**Tololo Astrono**	**2.01**	**173**↓	*e*P	Pn	08 14 58.1	+1.4
TLL				*i* S	Sn	08 15 22.5	+1.9
TLL				AML	AML	08 15 38.7	
	comp=E,134nm,0.5s						
TLL	**Tololo Astrono**	**2.01**	**173**↓	*e*P	Pn	08 14 58.1	+1.4
TLL				*i* S	Sn	08 15 22.5	+1.9
CMCH	**Combarbala**	**3.00**	**178**	*e*P	Pn	08 15 09.5	-0.7
CMCH				*i* S	Sn	08 15 44.2	-0.7

IGQ 25 08:22:37.4, 308S×7876W, h22km±3km, Mb4.1, Ms3.9, 5C-4D, Error ellipse: s-maj=12.1km s-min=2.5km az=14.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**1.58**	**4**	P	Pn	08 23 07.1	+3.1
ARRY	**Arrayan**	**1.59**	**11**	↑P	Pn	08 23 06.7	+2.5
ARRY				S	Sn	08 23 26.9	+2.8
PATA	**Patacocha**	**1.60**	**12**	↑P	Pn	08 23 07.3	+3.0
PATA				S	Sn	08 23 29.5	+5.2
RETU	**Refugio**	**1.65**	**11**	P	Pn	08 23 08.2	+3.3
ULBA	**Ulba**	**1.66**	**12**	↓P	Pn	08 23 08.2	+3.2
ULBA				S	Sn	08 23 29.7	+4.1
JUIV	**Juive**	**1.67**	**10**	↑P	Pn	08 23 08.3	+3.0
JUIV				S	Sn	08 23 30.0	+4.0
RUN5	**Runtun**	**1.69**	**11**	↓P	Pn	08 23 08.3	+2.8
PISA	**Pisayambo**	**2.04**	**11**	P	Pn	08 23 13.6	+3.3
CAMI	**Rancho Maria**	**2.40**	**6**	↑P	Pn	08 23 18.7	+3.4
CAMI				S	Sn	08 23 57.3	+13
TAMB	**Tambo**	**2.40**	**9**	P	Pn	08 23 18.7	+3.3
TAMB				S	Sn	08 23 57.1	+13
NAS1	**Nasa**	**2.45**	**7**	P	Pn	08 23 19.4	+3.5
VC1	**Cotopaxi 1**	**2.45**	**8**	P	Pn	08 23 19.6	+3.7
ANTI	**Antisana**	**2.68**	**13**	↓P	Pn	08 23 22.0	+2.8
JUA2	**San Juan 2**	**2.85**	**3**	↓P	Pn	08 23 28.2	+6.7
JUA2				S	Sn	08 24 05.1	+10
TERV	**Terraza Guagua**	**2.89**	**3**	P	Pn	08 23 25.6	+3.6
GGP	**Refugio Guagua**	**2.89**	**3**	P	Pn	08 23 25.6	+3.5
PINO	**Pino**	**2.91**	**3**	↑P	Pn	08 23 25.0	+2.8
CONE	**Cono NE Rev Vo**	**3.19**	**21**	P	Pn	08 23 28.6	+2.4
CAYA	**Cayambe**	**3.22**	**14**	P	Pn	08 23 30.1	+3.5

*KRSC **25** 08:28:40, 60.73N×163.25E, h19km, ML4.3*
*MOS **25** 08:28:49.9±0.7, 5999N×16190E, h14km, mb4.3/3, Error ellipse: s-maj=27.8km s-min=12.2km az=100.3*
*IDC **25** 08:28:50.4±0.9, 5977N×16165E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.8/8, Error ellipse: s-maj=28.4km s-min=23.1km az=175.0*
*ISCJB **25** 08:28:51.2±3.0, 5996N±006×16171E±010, h12km±20km, mb4.0/13, Error ellipse: s-maj=9.6km s-min=8.0km az=169.8*
*NEIC **25** 08:28:52.8±4.9, 5982N×16166E, h14km±30km, mb4.2/6, Error ellipse: s-maj=14.6km s-min=6.8km az=166.0*

ISC 25 08:28:53.2±3.5, 5994N±006×16172E±010, h15km±23km, n45, σ1s00/46, mb4.0/13, 1C-2D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRKR	**Sorokina**	**3.31**	**185**	*e*P	**Pn**	**08 29 43.8**	**-0.6**
SMKR	**Semkarok**	**3.38**	**182**	*e*P	**Pn**	**08 29 44.5**	**-0.8**
BDR	**Baidarnaya**	**3.40**	**185**	*e*P	**Pn**	**08 29 44.9**	**-0.7**
KLY	**Klyuchi**	**3.69**	**189**	P	**Pn**	**08 29 49.5**	**0.0**
KLY				*i* S	**Sn**	**08 30 38.7**	**+6.0**
SRDR	**Sredinnyy**	**3.79**	**197**	*e*P	**Pn**	**08 29 53.7**	**+2.7**
KBTR	**Krutoberegovo**	**3.79**	**171**	*e*P	**Pn**	**08 29 50.1**	**-0.9**
CIRR	**Tsirk**	**3.88**	**188**	*e*P	**Pn**	**08 29 52.8**	**+0.7**
ZLN	**Zelenaya**	**3.97**	**187**	*e*P	**Pn**	**08 29 53.6**	**+0.2**
KPT	**Kopyto**	**4.07**	**192**	*e*P	**Pn**	**08 29 56.9**	**+2.1**
KMNR	**Kamenistaya**	**4.27**	**191**	*e*P	**Pn**	**08 29 58.5**	**+0.9**
SEY	**Seymchan**	**5.39**	**308**	*d i*PN	**Pn**	**08 30 13.4**	**+0.4**
MKZ	**Mys Kozlova**	**5.40**	**180**	P	**Pn**	**08 30 12.7**	**-0.5**
MA2	**Magadan**	**5.55**	**271**	*e*PN	**Pn**	**08 30 14.1**	**-1.0**
MA2				pmax	pmax		
	comp=Z,70nm,0.3s						
MA2	**Magadan**	**5.55**	**271**	*e*Pn	**Pn**	**08 30 14.4**	**-0.7**
	comp=Z,29nm,0.6s						
MA2				*e*Sn	**Sn**	**08 31 21.1**	**+2.4**
MA2	**Magadan**	**5.55**	**271**	*e*P	**Pn**	**08 30 14.6**	**-0.5**
MA2				*i* S	**Sn**	**08 31 20.8**	**+2.2**
GNL	**Ganaly**	**6.60**	**200**	*e*P	**Pn**	**08 30 36.0**	**+6.4**
AVH	**Avacha**	**6.89**	**195**	*e*P	**Pn**	**08 30 39.3**	**+5.7**
YAK	**Yakutsk**	**15.59**	**292**	*i* P	**Pn**	**08 32 31.6**	**-0.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.4s						
YAK				MLR	MLR		
	comp=Z,300nm,18.0s						
YAK	**Yakutsk**	**15.59**	**292**	*e*P	**Pn**	**08 32 36.7**	**+4.3**
	comp=Z,64nm,0.7s						
TTA	**Tatalina**	**20.16**	**63**	*e*P	**P**	**08 33 26.6**	**-0.2**
	comp=Z,6.0nm,0.9s						
KLR	**Kul'dur**	**20.22**	**251**	*e*P	**P**	**08 33 23.7**	**-3.8**
MCK	**McKinley**	**23.11**	**59**	P	**P**	**08 33 59.0**	**+0.5**
	comp=Z,5.9nm,1.3s,mb3.9						
BOD	**Bodaibo**	**24.33**	**286**	*e*P	**P**	**08 34 08.9**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**33.75**	**274**	PcP	PcP	08 38 12.8	-0.5
	comp=Z,0.6nm,0.6s,baz=29,slow=1.8,SNR=4.5						
YHNB	**Yeheng**	**44.95**	**236**	*e*P	**P**	**08 37 07.5**	**0.0**
NEW	**Newport**	**46.01**	**67**	P	**P**	**08 37 15.4**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=293,slow=8.2,SNR=1.8						
MKAR	**Makanchi Array**	**46.27**	**291**	P	**P**	**08 37 17.2**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.9,baz=45,slow=5.9,SNR=15						
MKAR	**Makanchi Array**	**46.27**	**291**↑	*e*P	**P**	**08 37 17.2**	**-0.7**
MKAR	**Makanchi Array**	**46.27**	**291**	P	**P**	**08 37 17.2**	**-0.7**
BVAR	**Borovoye Array**	**47.03**	**304**	P	**P**	**08 37 23.7**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=41,slow=9.9,SNR=4.5						
ARCES	**ARCESS Array B**	**47.07**	**341**	P	**P**	**08 37 25.1**	**+0.9**
	comp=Z,6.9nm,1.1s,mb4.5,baz=45,slow=8.7,SNR=3.8						
AAK	**Ala-Archa**	**53.05**	**293**	↓*e*P	**P**	**08 38 09.4**	**-0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**53.05**	**293**	*e*P	**P**	**08 38 09.4**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.0						
BW06	**Boulder Array**	**53.64**	**66**	*e*P	**P**	**08 38 14.8**	**+0.9**
	comp=Z,4.2nm,1.3s,mb4.2						

PDAR	**Pinedale Array**	**53.64**	**66**	P	**P**	**08 38 14.6**	**+0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=351,slow=2.7,SNR=9.5						
NB2	**NORSAR Subarra**	**57.21**	**343**	P	**P**	**08 38 38.3**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**57.21**	**343**	P	**P**	**08 38 38.8**	**-0.8**
	comp=Z,1.4nm,0.8s,mb4.0,baz=18,slow=7.0,SNR=4.5						
OBN	**Obninsk**	**57.27**	**326**	*e*P	**P**	**08 38 35.2**	**-4.8**
PV10	**Paradox Valley**	**57.35**	**69**	*e*P	**P**	**08 38 41.3**	**+0.7**
PV01	**Paradox Valley**	**57.77**	**69**	*e*P	**P**	**08 38 44.5**	**+1.0**
WMOK	**Wichita Mounta**	**65.06**	**64**	*e*P	**P**	**08 39 32.9**	**0.0**
	comp=Z,4.4nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**82.67**	**206**	P	**P**	**08 41 14.9**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=15,slow=5.5,SNR=8.4						
WRA	**Warramunga Arr**	**82.67**	**206**	*i* P	**P**	**08 41 14.3**	**-1.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**86.37**	**205**	P	**P**	**08 41 32.8**	**-1.9**
	comp=Z,0.5nm,0.9s,mb3.7,baz=14,slow=5.7,SNR=4.7						
QSPA	**South Pole Qui**	**149.71**	**180**	*e*PKPbc	PKPbc	08 48 39.5	-2.8

*ISCJB **25** 08:55:40.2±0.7, 4194N±003×2291E±005, h1km±12km, Error ellipse: s-maj=6.6km s-min=5.1km az=41.1*
*SKO **25** 08:55:40.1, 4194N×2287E, h23km, M1.7, ML1.9*
*CSEM **25** 08:55:40.1±0.2, 4197N×2289E, h15km, ML1.9, Error ellipse: s-maj=4.9km s-min=3.6km az=113.0*
*THE **25** 08:55:41.0, 4194N×2290E, h1km, ML2.7*

ISC 25 08:55:40.7±0.8, 4195N±003×2290E±005, h11km±11km, n11, σ0s65/22, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STIP	**Stip**	**0.59**	**245**	*e*Pg	**Pg**	**08 55 51.7**	**-0.5**
STIP				*e*Sg	**Sg**	**08 56 00.5**	**+0.6**
STIP	**Stip**	**0.59**	**245**	*e*Pg	**Pg**	**08 55 52.0**	**-0.1**
STIP				*e*Lg		08 56 00.2	
	comp=N,35nm,0.3s						
STIP				*e*Sg	**Sg**	**08 56 00.3**	**+0.4**
STIP				*e*Lg		08 56 00.5	
	comp=E,37nm,0.2s						
STIP	**Stip**	**0.59**	**245**	*e*Pg	**Pg**	**08 55 51.7**	**-0.5**
STIP				*e*Lg		08 56 00.5	
	comp=E,37nm,0.2s						
STIP				*e*Sg	**Sg**	**08 56 00.5**	**+0.6**
VAY	**Valandovo**	**0.67**	**202**	*e*Pg	**Pg**	**08 55 53.8**	**+0.1**
VAY				*e*Sg	**Sg**	**08 56 02.8**	**+0.2**
VAY	**Valandovo**	**0.67**	**202**	*e*Pg	**Pg**	**08 55 53.6**	**-0.2**
VAY				*e*Sg	**Sg**	**08 56 02.7**	**+0.1**
VAY				*e*Lg		08 56 02.8	
	comp=N,41nm,0.2s						
VAY				*e*Lg		08 56 03.0	
	comp=E,54nm,0.3s						
VAY	**Valandovo**	**0.67**	**202**	*e*Pg	**Pg**	**08 55 53.5**	**-0.2**
VAY				*e*Lg		08 56 02.7	
	comp=E,41nm,0.2s						
VAY				*e*Sg	**Sg**	**08 56 02.8**	**+0.3**
VTS	**Vitosha**	**0.69**	**20**	*e*Pg	**Pg**	**08 55 54.1**	**+0.1**
VTS				*e*Sg	**Sg**	**08 56 03.5**	**+0.4**
MMB	**Musomiste**	**0.72**	**120**	*e*Pg	**Pg**	**08 55 54.3**	**-0.3**
MMB				*e*Sg	**Sg**	**08 56 04.0**	**0.0**
KNT	**Kendrikon**	**0.78**	**180**	*e*Pg	**Pg**	**08 55 55.6**	**-0.3**
KNT				*e*Sg	**Sg**	**08 56 05.7**	**-0.4**
SOH	**Sokhos**	**1.18**	**163**	*e*Pg	**Pg**	**08 56 10.1**	**-0.2**
SOH				*e*Sg	**Sg**	**08 56 19.3**	**+0.7**
OUR	**Ouranopolis**	**1.81**	**153**	*e*Pb	**Pb**	**08 56 12.0**	**-1.8**
OUR				*e*Sb	**Sb**	**08 56 37.7**	**+1.3**

*NEIC **25** 09:07:13.5, 3388S×7252W, h35km, ML3.4(GUC), After GUC.*

GUC 25 09:07:13.5±0.8, 3388S×7252W, h35km±2km, MD4.0, ML3.4, 11C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.89**	**63**↑	*i*P	Pn	09 07 30.0	+0.5
LCCH				*i* S	Sn	09 07 42.2	+1.1
LNV	**Longovilo**	**0.92**	**95**↓	*i*P	Pn	09 07 30.4	+0.4
IHA	**Instituto Hidr**	**1.12**	**41**	*e*P	Pn	09 07 33.8	+1.0
IHA				*i* S	Sn	09 07 48.7	+1.8
TACH	**Talagante**	**1.34**	**81**↓	*i*P	Pn	09 07 36.4	+0.7
TACH				*i* S	Sn	09 07 54.4	+2.3
SFDO	**San Fernando**	**1.45**	**121**	*e*P	Pn	09 07 38.2	+1.0
SFDO				*i* S	Sn	09 07 57.3	+2.4
RCDM	**Rinconada Maip**	**1.48**	**75**	*e*P	Pn	09 07 38.5	+0.9
RCDM				*i* S	Sn	09 07 57.9	+2.1
RCDM				AML	AML	09 08 00.6	
	comp=N,673nm,0.7s						
RCDM	**Rinconada Maip**	**1.48**	**75**	*e*P	Pn	09 07 38.5	+0.9
RCDM				*i* S	Sn	09 07 57.9	+2.1
NICH	**Los Niches**	**1.55**	**137**	*e*P	Pn	09 07 40.0	+1.5
NICH				*i* S	Sn	09 08 00.3	+2.9
ROCH	**El Roble**	**1.55**	**55**↑	*i*P	Pn	09 07 40.5	+1.9
CHCH	**Chadas Angostu**	**1.55**	**93**↑	*i*P	Pn	09 07 40.1	+1.4
CHCH				*i* S	Sn	09 08 00.7	+3.2
ANTU	**Antumapu**	**1.60**	**79**	*e*P	Pn	09 07 40.9	+1.6
ANTU				*i* S	Sn	09 08 01.3	+2.6
ANTU				AML	AML	09 08 06.2	
	comp=E,547nm,0.5s						
ANTU	**Antumapu**	**1.60**	**79**	*e*P	Pn	09 07 40.9	+1.6
ANTU				*i* S	Sn	09 08 01.3	+2.6
SAN	**Santiago**	**1.60**	**75**	*e*S	Sn	09 08 02.5	+3.6
SAN				AML	AML	09 08 05.4	
	comp=N,511nm,0.6s						
CACH	**El Canelo**	**1.61**	**99**↑	*i*P	Pn	09 07 41.6	+2.2
CACH				*i* S	Sn	09 08 03.4	+4.4
PACH	**Papudo**	**1.62**	**34**	*e*P	Pn	09 07 41.3	+1.8
PACH				*i* S	Sn	09 08 01.6	+2.5
STL	**Santa Lucia**	**1.63**	**75**↓	*i*P	Pn	09 07 40.7	+1.1
STL				*i* S	Sn	09 08 02.2	+2.8
TALC	**Talca**	**1.68**	**155**↑	*i*P	Pn	09 07 40.1	-0.3
TALC				*i* S	Sn	09 08 01.6	+0.9
TALC				AML	AML	09 08 08.0	
	comp=N,1μm,0.6s						
TALC	**Talca**	**1.68**	**155**↑	*i*P	Pn	09 07 40.1	-0.3
TALC				*i* S	Sn	09 08 01.6	+0.9
PEL	**Peldehue**	**1.70**	**65**	*e*P	Pn	09 07 42.5	+1.9
PEL				*i* S	Sn	09 08 04.6	+3.5
PEL				AML	AML	09 08 10.6	
	comp=N,703nm,0.6s						
PEL	**Peldehue**	**1.70**	**65**	*e*P	Pn	09 07 42.5	+1.9
PEL				*i* S	Sn	09 08 04.6	+3.5
FSR	**Penalolen**	**1.71**	**77**	*e*P	Pn	09 07 42.3	+1.5
FSR				*i* S	Sn	09 08 04.5	+3.1
FSR				AML	AML	09 08 14.4	
	comp=E,513nm,0.7s						
FSR	**Penalolen**	**1.71**	**77**	*e*P	Pn	09 07 42.3	+1.5
FSR				*i* S	Sn	09 08 04.5	+3.1
CLCH	**Cerro Calan**	**1.72**	**74**↑	*i*P	Pn	09 07 42.7	+1.8
CLCH				*i* S	Sn	09 08 04.6	+2.9
CLCH				AML	AML	09 08 20.4	
	comp=N,441nm,0.7s						
CICH	**Cipreses**	**1.79**	**105**↓	*i*P	Pn	09 07 44.0	+2.0
SJCH	**San Jose de Ma**	**1.82**	**83**	*e*P	Pn	09 07 43.8	+1.5
SJCH				AML	AML	09 08 11.3	
	comp=N,352nm,0.7s						
CNCO	**Chanco**	**1.85**	**180**↑	*i*P	Pn	09 07 44.1	+1.4
CNCO				*i* S	Sn	09 08 04.5	-0.4
CNCO				AML	AML	09 08 26.2	
	comp=E,290nm,0.6s						
CNCO	**Chanco**	**1.85**	**180**↑	*i*P	Pn	09 07 44.1	+1.4
CNCO				S	Sn	09 08 04.5	-0.4
LMEL	**Las Melosas**	**1.93**	**90**↑	*i*P	Pn	09 07 45.7	+2.0
LMEL				AML	AML	09 08 18.5	
	comp=N,536nm,0.3s						
FCH	**Farellones**	**1.94**	**74**↑	*i*P	Pn	09 07 45.9	+2.0
FCH				*i* S	Sn	09 08 10.8	+3.7
FCH				AML	AML	09 08 15.2	
	comp=N,392nm,0.3s						
PTCH	**Petorca**	**2.09**	**40**	*e*P	Pn	09 07 47.7	+1.6
PTCH				*i* S	Sn	09 08 13.0	+2.2
PTCH				AML	AML	09 08 27.0	
	comp=E,372nm,0.5s						
PTCH	**Petorca**	**2.09**	**40**	*e*P	Pn	09 07 47.7	+1.6
PTCH				*i* S	Sn	09 08 13.0	+2.2
CHNG	**Los Chungos**	**2.17**	**24**↓	*i*P	Pn	09 07 48.4	+1.3
CHNG				*i* S	Sn	09 08 13.0	+0.3
COCH	**Cobquecura**	**2.26**	**186**	*e*P	Pn	09 07 49.8	+1.5
CMCH	**Combarbala**	**2.99**	**26**	*e*P	Pn	09 07 60.0	+1.6
CMCH				*i* S	Sn	09 08 35.2	+2.3
CMCH				AML	AML	09 09 00.1	
	comp=E,767nm,0.6s						

CMCH	**Combarbala**	**2.99**	**26**	*e*P	Pn	09 07 60.0	+1.6
CMCH				*i* S	Sn	09 08 35.2	+2.3
TLL	**Tololo Astrono**	**3.98**	**22**	*e*P	Pn	09 08 14.3	+2.4
TLL				*i* S	Sn	09 08 59.4	+2.0

IDC 25 09:14:26.3±1.4, 5238S×12107W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=73.0km s-min=31.7km az=148.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**36.78**	**201**	P	P	09 21 34.9	-0.7
	0.7nm,0.7s,baz=82,slow=6.5,SNR=4.9						
LPAZ	**La Paz**	**54.90**	**70**	P	P	09 23 59.3	+0.6
	0.7nm,0.9s,baz=184,slow=4.5,SNR=4.3						
ASAR	**Alice Springs**	**80.23**	**244**	P	P	09 26 38.7	0.0
	0.5nm,0.9s,baz=144,slow=6.5,SNR=4.3						
WRA	**Warramunga Arr**	**82.96**	**247**	P	P	09 26 53.3	+0.2
	1.7nm,0.8s,baz=145,slow=4.7,SNR=14						

IDC 25 09:14:57.3±1.4, 1514S×17334W, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.6/14, mbtmp3.6/3, Error ellipse: s-maj=54.9km s-min=24.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.95**	**51**	Pn	Pn	09 15 31.1	-0.5
	134nm,0.3s,baz=180,slow=1.6,SNR=374						
AFI				Sn	Sn	09 15 49.8	-6.9
	162nm,0.3s,baz=182,slow=18,SNR=9.3						
URZ	**Urewera**	**24.53**	**198**	P	P	09 20 18.9	+0.4
	3.1nm,0.5s,baz=150,slow=1.4,SNR=5.9						
WRA	**Warramunga Arr**	**49.96**	**257**	P	P	09 23 53.4	+0.4
	0.2nm,0.8s,baz=95,slow=6.6,SNR=4.9						
ASAR	**Alice Springs**	**50.25**	**252**	P	P	09 23 54.9	-0.3
	0.5nm,0.6s,baz=84,slow=8.7,SNR=8.1						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	PKPbc	09 34 39.9	+0.9
	0.5nm,0.5s,baz=0.0,slow=0.6,SNR=3.6						

*IDC **25** 09:15:54.5±1.3, 065N×99.96E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=66.4km s-min=16.1km az=55.0*
*ISCJB **25** 09:15:57.6±1.0, 07N±01×100.1E±02, h33km, mb3.8/7, Error ellipse: s-maj=34.1km s-min=9.1km az=113.6*
*NEIC **25** 09:15:58.9±0.9, 073N×10006E, h30km, mb4.5/1, Error ellipse: s-maj=33.5km s-min=11.5km az=59.0*

ISC 25 09:15:59.9±1.0, 08N±01×1001E±02, h35km, n11, σ1s02/11, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.34**	**330**	Pn	**Pn**	**09 16 34.3**	**-1.6**
	12nm,0.3s,baz=142,slow=14,SNR=37						
PSI				Sn	**Sn**	**09 17 04.5**	**+1.0**
	40nm,0.3s,baz=228,slow=17,SNR=17						
KULM	**Kulim**	**4.55**	**7**	*e*Pn	**Pn**	**09 17 05.7**	**-0.5**
WRA	**Warramunga Arr**	**39.37**	**123**	P	**P**	**09 23 27.3**	**+1.3**
	0.3nm,0.6s,mb3.2,baz=301,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**40.85**	**129**	P	**P**	**09 23 36.8**	**-1.5**
	0.2nm,0.7s,mb2.9,baz=305,slow=8.5,SNR=3.8						
ASAR				PcP	PcP	09 25 40.8	+2.1
	0.3nm,0.8s,baz=297,slow=3.0,SNR=5.4						
SONM	**Songino Array**	**47.22**	**6**	P	**P**	**09 24 29.2**	**-0.1**
	0.6nm,0.6s,mb3.7,baz=189,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**48.42**	**344**	P	**P**	**09 24 40.1**	**+1.5**
	1.2nm,0.6s,mb4.1,baz=148,slow=7.3,SNR=12						
MAJO	**Matsushiro**	**50.12**	**40**	*e*P	pP	09 25 00.6	-1.5
	4.0nm,0.9s						
STKA	**Stephens Creek**	**50.94**	**133**	P	**P**	**09 24 58.5**	**+0.7**
	3.7nm,1.1s,mb4.2,baz=318,slow=12,SNR=2.4						
ZAL	**Zalesovo**	**54.49**	**349**	P	**P**	**09 25 23.5**	**-0.5**
	2.2nm,0.4s,mb4.4,baz=53,slow=3.7,SNR=3.9						
ZAL	**Zalesovo**	**54.49**	**349**	P	**P**	**09 25 23.5**	**-0.5**
BRTR	**Keskin Array B**	**71.55**	**312**	P	**P**	**09 27 16.9**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=137,slow=7.1,SNR=6.0						

IDC 25 09:24:19.9±28.0, 2015S×17460W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/13, mbtmp4.0/4, Error ellipse: s-maj=509.8km s-min=150.8km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.70**	**263**	P	P	09 31 30.1	+1.6
	1.1nm,0.3s,baz=99,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**40.82**	**244**	P	P	09 32 02.5	-0.6
	1.3nm,0.6s,baz=78,slow=10,SNR=5.2						
ASAR	**Alice Springs**	**47.71**	**256**	P	P	09 32 58.3	0.0
	1.6nm,0.7s,baz=98,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**47.81**	**261**	P	P	09 32 59.4	+0.3
	0.5nm,0.3s,baz=96,sl

Code	Station	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,8μm,0.2s						
TALC	**Talca**	**0.56**	**262**	⇑iP	Pn	10 11 42.2	-2.4
TALC				iS	Sn	10 11 55.3	-2.5
SFDO	**San Fernando**	**0.70**	**356**	⇓iP	Pn	10 11 45.7	+0.1
LNCH	**Linares**	**0.75**	**225**	⇑iP	Pn	10 11 46.1	+0.1
LNCH				iS	Sn	10 12 00.9	+0.6
LNCH				AML	AML	10 12 05.3	
	comp=E,1μm,0.5s						
LNCH	**Linares**	**0.75**	**225**	⇑iP	Pn	10 11 46.1	+0.1
LNCH				iS	Sn	10 12 00.9	+0.6
CICH	**Cipreses**	**1.09**	**24**	⇓iP	Pn	10 11 49.5	+0.2
CICH				iS	Sn	10 12 07.0	+0.7
CACH	**El Canelo**	**1.23**	**14**	⇑iP	Pn	10 11 51.2	+0.4
CACH				iS	Sn	10 12 09.8	+0.8
CNCO	**Chanco**	**1.35**	**252**	iP	Pn	10 11 54.6	+2.3
CNCO				iS	Sn	10 12 13.3	+1.9
CNCO				AML	AML	10 12 20.4	
	comp=N,1μm,0.3s						
CNCO	**Chanco**	**1.35**	**252**	iP	Pn	10 11 54.6	+2.3
CNCO				iS	Sn	10 12 13.3	+1.9
CHCH	**Chadas Angostu**	**1.40**	**10**	⇓iP	Pn	10 11 53.3	+0.5
CHCH				iS	Sn	10 12 12.9	+0.5
LNV	**Longovilo**	**1.41**	**344**	eP	Pn	10 11 53.2	+0.4
LMEL	**Las Melosas**	**1.59**	**23**	eP	Pn	10 11 55.8	+0.7
LMEL				iS	Sn	10 12 18.0	+1.5
LMEL				AML	AML	10 12 25.4	
	comp=N,1μm,0.1s						
LMEL	**Las Melosas**	**1.59**	**23**	eP	Pn	10 11 55.8	+0.7
LMEL				iS	Sn	10 12 18.0	+1.5
TACH	**Talagante**	**1.66**	**1**	⇑iP	Pn	10 11 56.3	+0.4
TACH				iS	Sn	10 12 18.5	+0.6
COCH	**Cobquecura**	**1.70**	**241**	eP	Pn	10 11 57.9	+1.6
SJCH	**San Jose de Ma**	**1.75**	**17**	eP	Pn	10 11 57.4	+0.5
SJCH				iS	Sn	10 12 20.8	+1.0
SJCH				AML	AML	10 12 25.4	
	comp=N,606nm,0.4s						
SJCH	**San Jose de Ma**	**1.75**	**17**	eP	Pn	10 11 57.4	+0.5
SJCH				iS	Sn	10 12 20.8	+1.0
ANTU	**Antumapu**	**1.76**	**9**	eP	Pn	10 11 58.1	+0.9
ANTU				iS	Sn	10 12 22.0	+1.9
ANTU				AML	AML	10 12 26.6	
	comp=E,585nm,0.3s						
ANTU	**Antumapu**	**1.76**	**9**	eP	Pn	10 11 58.1	+0.9
ANTU				S	Sn	10 12 22.0	+1.9
RCDM	**Rinconada Maip**	**1.83**	**4**	eP	Pn	10 11 58.4	+0.5
RCDM				iS	Sn	10 12 22.2	+0.6
RCDM				AML	AML	10 12 24.9	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**1.83**	**4**	eP	Pn	10 11 58.4	+0.5
RCDM				iS	Sn	10 12 22.2	+0.6
LCCH	**Las Cruces**	**1.91**	**344**	eP	Pn	10 11 59.4	+0.5
LCCH				iS	Sn	10 12 24.4	+1.1
DSCH	**Colegio Aleman**	**1.94**	**10**	eP	Pn	10 11 59.3	0.0
DSCH				iS	Sn	10 12 24.7	+0.6
CLCH	**Cerro Calan**	**1.95**	**10**	⇓iP	Pn	10 12 00.1	+0.7
CLCH				iS	Sn	10 12 25.3	+1.1
CLCH				AML	AML	10 12 28.9	
	comp=E,597nm,1.0s						
CLCH				AML	AML	10 12 29.5	
	comp=E,722nm,0.9s						
FCH	**Farellones**	**2.06**	**16**	⇓iP	Pn	10 12 01.6	+0.8
FCH				iS	Sn	10 12 28.7	+2.0
FCH				AML	AML	10 12 32.9	
	comp=E,508nm,0.3s						
PEL	**Peldehue**	**2.18**	**6**	⇑iP	Pn	10 12 02.8	+0.4
PEL				iS	Sn	10 12 30.0	+0.5
PEL				AML	AML	10 12 36.4	
	comp=E,752nm,0.7s						
PEL	**Peldehue**	**2.18**	**6**	⇑iP	Pn	10 12 02.8	+0.4
PEL				iS	Sn	10 12 30.0	+0.5
ROCH	**El Roble**	**2.34**	**359**	⇓iP	Pn	10 12 05.3	+0.9
ROCH				iS	Sn	10 12 34.7	+1.6
IHA	**Instituto Hidr**	**2.35**	**346**	eP	Pn	10 12 05.3	+0.7
IHA				iS	Sn	10 12 33.5	0.0
JACH	**Jahuel**	**2.65**	**7**	⇑iP	Pn	10 12 09.0	+0.6
JACH				iS	Sn	10 12 41.0	+0.8
PACH	**Papudo**	**2.80**	**352**	⇑iP	Pn	10 12 11.1	+0.7
PACH				iS	Sn	10 12 44.2	+0.3
PTCH	**Petorca**	**3.05**	**0**	⇑iP	Pn	10 12 13.9	+0.2
PTCH				iS	Sn	10 12 49.3	-0.3
PTCH				AML	AML	10 12 52.3	
	comp=N,741nm,0.1s						
PTCH	**Petorca**	**3.05**	**0**	⇑iP	Pn	10 12 13.9	+0.2
PTCH				S	Sn	10 12 49.3	-0.3
CHNG	**Los Chungos**	**3.46**	**352**	iP	Pn	10 12 19.4	+0.4
CHNG				iS	Sn	10 12 59.1	-0.2

BJI ***25*** *10:33:05.3, 10.13S×98.38E, h40km, mB5.1, mb4.8, Ms4.9, Msz4.4*

IDC ***25*** *10:33:06.3±0.5, 9.41S×98.02E, h0km, mb4.4/26, mb1 4.5/27, mb1mx4.5/30, mbtmp4.4/27, ML4.1/1, MS4.2/28, Ms1 4.2/28, ms1mx4.0/36, Error ellipse: s-maj=15.5km s-min=12.1km az=46.0*

NEIC ***25*** *10:33:08.1±0.2, 9.49S×98.02E, h10km, mb4.9/21, Error ellipse: s-maj=6.9km s-min=5.3km az=224.0*

GCMT ***25*** *10:33:08.1±0.3, 9.53S×98.14E, h42km±1km, MW5.1/67, Moment Tensor Solution. s41,c55; s67,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.22; $M_{\theta\theta}$0.06±.15; $M_{\phi\phi}$0.83±.20; $M_{r\theta}$-0.55±.17; $M_{\theta\phi}$-4.73±.13; $M_{\phi r}$-1.43±.18; Best double couple: $M_0$5.02900×10^{16} NP1:ϕ_s94.00000°, δ72.00000°, λ-170.00000°. NP2: ϕ_s1.00000°, δ81.00000°, λ-19.00000°. Principal axes: T 5.2680, Plg7.0000°, Azm48.0000°; N -0.4780, Plg69.0000°, Azm156.0000°; P -4.7900, Plg20.0000°, Azm316.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***25*** *10:33:09.8±1.1, 9.42S×98.09E, h33km, mb5.0/31, MS4.0/10 Error ellipse: s-maj=12.0km s-min=7.2km az=112.3*

ISCJB ***25*** *10:33:09.2±0.2, 9.45S±0.04×98.05E±0.03, h29km, mb4.9/82, MS4.2/40, Error ellipse: s-maj=5.9km s-min=4.6km az=41.9*

ISC 25 10:33:11.7±0.2**, 9.43S**±0.04×**98.03E**±0.03**, h31km, h31km**±1.5km**:pP-P, n195,** σ1.04/179**, mb4.9**/82**, MS4.2**/40**,**
6C-17D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLI	**Kotabumi**	**8.15**	**57**	P	**Pn**	**10 35 09.3**	**+1.4**
	694nm,0.9s						
SBJI	**Serang**	**8.67**	**68**	P	**Pn**	**10 35 14.8**	**-0.3**
	1μm,1.2s						
TNG	**Tangerang**	**9.13**	**70**	P	**Pn**	**10 35 23.3**	**+2.0**
	2μm,0.8s						
PPI	**Padang Panjang**	**9.22**	**15**	P	**Pn**	**10 35 19.3**	**-3.3**
	138nm,0.6s						
CBJI	**Citeko**	**9.23**	**72**	P	**Pn**	**10 35 22.1**	**-0.7**
	6μm,0.8s						
LEM	**Lembang**	**9.84**	**75**	P	**Pn**	**10 35 32.2**	**+1.2**
	3μm,0.7s						
JCJI	**Jatiwangi**	**10.55**	**75**	P	**Pn**	**10 35 42.2**	**+1.4**
	404nm,1.3s						
BJII	**Banjamegara**	**11.74**	**81**	P	**Pn**	**10 35 59.1**	**+2.0**
	117nm,1.2s						
PSI	**Prapat**	**12.19**	**4**	Pn	**Pn**	**10 36 00.7**	**-2.5**
	1.1nm,0.3s,baz=178,slow=12,SNR=5.4						
PSI				Sn	Sn	10 37 54.7	-23
	0.6nm,0.3s,baz=173,slow=11,SNR=3.9						
PSI				LR	LR	10 40 01.9	
	comp=Z,1μm,19.0s,baz=360,slow=34						
PSI	**Prapat**	**12.19**	**4**	Pn	**Pn**	**10 36 00.7**	**-2.5**
PSI				Sn	Sn	10 37 54.7	-23
PSI				LR	LR	10 40 01.9	
IPM	**Ipoh**	**14.14**	**12**	P	**Pn**	**10 36 28.3**	**-1.6**
KRKI	**Karangkates**	**14.31**	**86**	P	**Pn**	**10 36 36.0**	**+3.8**
	492nm,0.8s						
KULM	**Kulim**	**14.86**	**10**	ePn	**Pn**	**10 36 40.0**	**+0.5**
BSI	**Banda Aceh**	**15.08**	**349**	P	**Pn**	**10 36 42.9**	**+0.4**
	136nm,1.1s						
KMMI	**Kalianget**	**15.95**	**83**	P	**Pn**	**10 36 57.3**	**+3.5**
	272nm,0.9s						
KSM	**Kuching**	**16.34**	**49**	eP	**Pn**	**10 36 58.5**	**-0.3**
NNT	**Nongplab**	**21.94**	**4**	P	**P**	**10 38 05.0**	**+2.3**
KKM	**Kota Kinabalu**	**23.77**	**50**	P	**P**	**10 38 22.0**	**+0.5**
KKM	**Kota Kinabalu**	**23.77**	**50**	eP	**P**	**10 38 21.7**	**+0.2**
MBWA	**Marble Bar**	**23.92**	**122**	eP	**P**	**10 38 28.7**	**+5.8**
	22nm,0.5s,mb4.8						
PALK	**Pallekele**	**23.95**	**313**	eP	**P**	**10 38 24.4**	**+1.2**
	24nm,0.8s,mb4.7						
TSM	**Tawau**	**24.02**	**56**	P	**P**	**10 38 24.6**	**+0.8**
NST	**Nakhon Sawan**	**25.03**	**5**	P	**P**	**10 38 34.0**	**+1.0**
	39nm,1.0s,mb4.9						
FITZ	**Fitzroy Crossi**	**28.13**	**111**	eP	**P**	**10 39 00.9**	**-0.1**
	15nm,0.6s,mb4.8						
FITZ				eS	S	10 44 18.4	+34
FITZ	**Fitzroy Crossi**	**28.13**	**111**	P	**P**	**10 39 00.9**	**-0.1**
	3.7nm,0.6s,mb4.2,baz=261,slow=5.7,SNR=14						
FITZ				Sn	S	10 44 21.1	+37
	5.8nm,0.8s,baz=221,slow=20,SNR=4.3						
FITZ				LR	LR	10 47 55.1	
	comp=Z,400nm,20.4s,MS4.0,baz=289,slow=32						
NWAO	**Narrogin (SRO)**	**29.34**	**146**	P	**P**	**10 39 10.7**	**-1.0**
	4.5nm,0.8s,mb4.2,baz=195,slow=22,SNR=1.9						
NWAO				Sn	S	10 44 50.1	+47
	3.5nm,0.3s,baz=43,slow=14,SNR=5.3						
NWAO				LR	LR	10 50 35.5	
	comp=Z,392nm,18.2s,MS4.1,baz=142,slow=36						
QIZ	**Qiongzhong**	**30.59**	**22**	P	**P**	**10 39 20.5**	**-2.2**
QIZ				S	**S**	**10 44 14.8**	**-7.9**
QIZ				AMB	AMB		
	comp=Z,47nm,2.1s,mb5.0						
KAKA	**Kakadu**	**33.91**	**99**	eP	**P**	**10 39 51.8**	**-0.1**
	comp=Z,9.6nm,0.6s,mb4.9						
KMI	**Kunming**	**34.65**	**8**	P	**P**	**10 39 55.0**	**-3.3**
KMI				S	**S**	**10 45 19.0**	**-6.9**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
KMI				AMB	AMB		
	comp=Z,91nm,3.9s						
KMI				LR	LR		
	comp=N,381nm,12.9s,MS4.5						
KMI				LR	LR		
	comp=E,498nm,16.3s,MS4.5						
KMI				LR	LR		
	comp=Z,278nm,14.1s,MS4.2						
KMI	**Kunming**	**34.65**	**8**	P	**P**	**10 39 54.9**	**-3.4**
KMI				pP	pP	10 40 01.3	-6.0
KMI				sP	sP	10 40 07.7	-3.3
KMI				S	**S**	**10 45 18.9**	**-7.0**
FORT	**Forrest**	**35.10**	**132**	eP	**P**	**10 40 03.5**	**+1.3**
	comp=Z,21nm,0.7s,mb5.2						
CAUP	**Cauayan**	**35.22**	**42**	eP	**P**	**10 40 03.9**	**+0.7**
WRA	**Warramunga Arr**	**36.56**	**111**	P	**P**	**10 40 14.3**	**-0.4**
	comp=Z,12nm,0.7s,mb4.8,baz=281,slow=10,SNR=121						
WRA				LR	LR	10 53 01.9	
	comp=Z,244nm,19.2s,MS4.0,baz=280,slow=33						
WRAB	**Tennant Creek**	**36.57**	**111**	eP	**P**	**10 40 14.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.3						
WRAB	**Tennant Creek**	**36.57**	**111**	eP	**P**	**10 40 14.5**	**-0.2**
	comp=Z,43nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**36.58**	**111**	eP	**P**	**10 40 14.3**	**-0.5**
ASPA	**Alice Springs**	**37.05**	**117**	eP	**P**	**10 40 18.8**	**-0.1**
ASAR	**Alice Springs**	**37.06**	**117**	P	**P**	**10 40 18.9**	**0.0**
	comp=Z,2.4nm,0.6s,mb4.2,baz=289,slow=7.9,SNR=52						
ASAR				LR	LR	10 53 52.2	
	comp=Z,812nm,21.3s,MS4.5,baz=292,slow=34						
AS31	**Alice Springs**	**37.06**	**117**	eP	**P**	**10 40 18.8**	**-0.1**
PKI	**Pulchoki**	**38.76**	**342**	eP	**P**	**10 40 34.0**	**+0.7**
	comp=Z,101nm,1.3s,mb5.4						
DMN	**Daman**	**38.89**	**342**	eP	**P**	**10 40 35.1**	**+0.7**
	comp=Z,86nm,1.0s,mb5.4						
GUN	**Gumba**	**38.94**	**343**	eP	**P**	**10 40 36.0**	**+1.2**
	comp=Z,141nm,1.2s,mb5.6						
KKN	**Kakani**	**39.01**	**342**	eP	**P**	**10 40 36.0**	**+0.7**
	comp=Z,138nm,1.1s,mb5.6						
GKN	**Gorkha**	**39.41**	**341**	eP	**P**	**10 40 39.4**	**+0.7**
	comp=Z,164nm,1.1s,mb5.7						
LSA	**Lhasa**	**39.47**	**351**	P	**P**	**10 40 41.3**	**+2.1**
LSA	**Lhasa**	**39.47**	**351**	eP	**P**	**10 40 41.2**	**+2.0**
LSA				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.2						
LSA	**Lhasa**	**39.47**	**351**	eP	**P**	**10 40 41.2**	**+2.0**
	comp=Z,32nm,0.6s,mb5.2						
KOLN	**Koldanda**	**39.53**	**340**	eP	**P**	**10 40 40.1**	**+0.4**
	comp=Z,96nm,1.1s,mb5.5						
CD2	**Chengdu**	**40.49**	**8**	eP	**P**	**10 40 43.8**	**-3.8**
CD2				AP	pP	10 40 53.5	-3.2
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,5.6s						
CD2				LR	LR		
	comp=N,500nm,18.0s						
CD2				LR	LR		
	comp=Z,170nm,15.6s,MS4.0						
NDI	**New Delhi**	**42.90**	**333**	eP	**P**	**10 41 08.0**	**+0.6**
XAN	**Xi'an**	**44.45**	**13**	P	**P**	**10 41 20.5**	**+0.6**
XAN				AP	pP	10 41 27.5	-1.6
XAN				XP	sP	10 41 31.5	-1.2
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=N,475nm,20.5s						
XAN				LR	LR		
	comp=Z,303nm,14.2s						
LZH	**Lanzhou**	**45.60**	**7**	eP	**P**	**10 41 30.0**	**+1.0**
LZH				AP	pP	10 41 37.0	-1.2
LZH				XP	sP	10 41 41.0	-0.9
LZH				PP	PP	10 43 15.5	-0.6
LZH				eS	**S**	**10 48 04.0**	**-5.5**
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,107nm,4.3s						
LZH				LR	LR		
	comp=E,630nm,12.2s						
LZH				LR	LR		
	comp=Z,870nm,14.4s,MS4.8						
LZH	**Lanzhou**	**45.60**	**7**	eP	**P**	**10 41 30.0**	**+1.0**
LZH				pP	pP	10 41 37.0	-1.2
LZH				sP	sP	10 41 41.0	-0.9
LZH				PP	PP	10 43 15.5	-0.6
LZH				eS	**S**	**10 48 04.0**	**-5.5**
LZH				sS	sS	10 48 20.1	-4.5
LZH				SS	SS	10 51 16.0	-18
NJ2	**Nanjing**	**45.80**	**25**	eP	**P**	**10 41 26.3**	**-4.3**
NJ2				AP	pP	10 41 36.0	-3.8
NJ2				XP	sP	10 41 40.3	-3.2
NJ2				PP	PP	10 43 12.0	-6.2
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,360nm,5.1s						
NJ2				LR	LR		
	comp=N,360nm,21.8s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,23.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,440nm,19.7s,MS4.4						
SSE	**Sheshan**	**46.01**	**28**	P	**P**	**10 41 28.3**	**-4.0**
SSE				AP	pP	10 41 37.5	-3.9
SSE				XP	sP	10 41 41.3	-3.8
SSE				S	**S**	**10 48 05.5**	**-10**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,274nm,4.2s						
SSE				LR	LR		
	comp=N,115nm,16.4s,MS4.0						
SSE				LR	LR		
	comp=E,92nm,16.4s,MS4.0						
SSE				LR	LR		
	comp=Z,83nm,18.1s,MS3.7						
STKA	**Stephens Creek**	**46.07**	**125**	eP	pP	10 41 39.1	-2.8
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**46.07**	**125**	P	**P**	**10 41 31.8**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.3,baz=311,slow=5.9,SNR=3.6						
STKA				LR	LR	10 59 25.5	
	comp=Z,829nm,21.5s,MS4.7,baz=110,slow=34						
STKA	**Stephens Creek**	**46.07**	**125**	P	**P**	**10 41 31.8**	**-0.9**
STKA				LR	LR	10 59 25.5	
CTA	**Charters Tower**	**47.67**	**109**	eP	**P**	**10 41 43.8**	**-1.4**
	comp=Z,7.2nm,0.8s,mb4.8						
CTA	**Charters Tower**	**47.67**	**109**	LR	LR	11 00 55.3	
	comp=Z,371nm,18.5s,MS4.4,baz=3.8,slow=35						
CTA	**Charters Tower**	**47.67**	**109**	eP	**P**	**10 41 43.8**	**-1.4**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTAO	**Charters Tower**	**47.67**	**109**	eP	**P**	**10 41 45.7**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**47.67**	**109**	eP	**P**	**10 41 45.7**	**+0.5**
	comp=Z,21nm,1.1s,mb5.1						
PMG	**Port Moresby**	**48.43**	**94**	P	**P**	**10 41 51.5**	**+0.4**
	comp=Z,11nm,0.7s,mb5.0,baz=150,slow=12,SNR=3.6						
PMG				LR	LR	11 02 02.3	
	comp=Z,202nm,20.0s,MS4.1,baz=246,slow=36						
PMG	**Port Moresby**	**48.43**	**94**	P	**P**	**10 41 51.5**	**+0.4**
PMG				pmax	pmax		
	comp=Z,11nm,0.7s						
PMG				MLR	MLR		
	comp=Z,202nm,20.0s						
GTA	**Gaotai**	**48.62**	**2**	⇓P	**P**	**10 41 53.0**	**+0.4**
GTA				AP	pP	10 42 02.5	+0.7
GTA				XP	sP	10 42 06.3	+0.8
GTA				PP	PP	10 43 45.0	-0.6
GTA				S	**S**	**10 48 51.5**	**-1.0**
GTA				SS	SS	10 52 18.0	-4.8
GTA				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.3						
GTA				AMB	AMB		
	comp=Z,94nm,5.3s						
GTA				LR	LR		
	comp=N,178nm,16.7s,MS4.4						
GTA				LR	LR		
	comp=E,263nm,17.9s,MS4.4						
GTA				LR	LR		
	comp=Z,200nm,16.7s,MS4.2						
OPO	**Ambohidratompo**	**50.02**	**254**	P	**P**	**10 42 03.8**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.2,baz=256,slow=21,SNR=2.4						
BSY	**Bisya**	**51.20**	**309**	⇑P	**P**	**10 42 13.3**	**+1.1**
	SNR=6.0						
HHC	**Hu-ho-hao-te**	**51.57**	**13**	eP	**P**	**10 42 12.5**	**-2.4**
HHC				AP	pP	10 42 22.3	-1.9
HHC				XP	sP	10 42 26.3	-1.5
HHC				PCP	PcP	10 43 29.8	+1.2
HHC				PP	PP	10 44 09.8	-2.6
HHC				SCP	ScP	10 47 21.8	-1.2
HHC				PCS	PcS	10 47 26.0	-0.5
HHC				S	**S**	**10 49 24.3**	**-9.2**
HHC				SCS	ScS	10 51 57.8	-5.1
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,101nm,4.2s						
HHC				LR	LR		
	comp=E,296nm,10.8s						
HHC				LR	LR		
	comp=Z,284nm,15.2s,MS4.4						
HOQ	**Hoqain**	**51.59**	**310**	⇓P	**P**	**10 42 16.5**	**+1.4**
	SNR=5.3						
BJI	**Beijing**	**52.01**	**18**	P	**P**	**10 42 19.5**	**+1.3**
BJI				S	**S**	**10 49 39.0**	**-0.7**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
BJI				AMB	AMB		
	comp=Z,59nm,3.6s						
BJI				LR	LR		
	comp=N,277nm,15.2s,MS4.6						
BJI				LR	LR		
	comp=E,426nm,19.7s,MS4.6						
BJI				LR	LR		
	comp=Z,144nm,22.0s,MS4.0						
BJI	**Beijing**	**52.01**	**18**	P	**P**	**10 42 19.4**	**+1.2**
BJI				S	**S**	**10 49 38.9**	**-0.8**
WMQ	**Urumqi**	**53.83**	**351**	⇓iP	**P**	**10 42 31.8**	**+0.2**
WMQ				AP	pP	10 42 42.0	+1.1
WMQ				XP	sP	10 42 45.5	+0.9
WMQ				PP	PP	10 44 33.0	+0.2
WMQ				PPP		10 45 39.0	
WMQ				S	**S**	**10 50 01.0**	**-3.4**
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,131nm,3.9s						
WMQ				LR	LR		
	comp=N,380nm,18.2s,MS4.8						
WMQ				LR	LR		
	comp=E,658nm,21.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,425nm,21.0s,MS4.5						
KZA	**Kyzart**	**55.35**	**339**	P	**P**	**10 42 43.0**	**+0.3**
	SNR=13						
UCH	**Uchtor**	**55.74**	**339**	P	**P**	**10 42 45.9**	**+0.4**
	SNR=8.3						
AML	**Almayashu**	**55.95**	**338**	P	**P**	**10 42 47.2**	**+0.2**
	SNR=11						
KBK	**Karagaybulak**	**55.97**	**340**	P	**P**	**10 42 47.6**	**+0.5**
	SNR=6.5						
TKM2	**Tokmak 2**	**55.98**	**340**	P	**P**	**10 42 47.6**	**+0.4**
	SNR=8.8						
AAK	**Ala-Archa**	**56.10**	**339**	P	**P**	**10 42 48.8**	**+0.7**
	SNR=6.4						
AAK	**Ala-Archa**	**56.10**	**339**	⇓P	**P**	**10 42 47.3**	**-0.8**
	SNR=6.5						
AAK	**Ala-Archa**	**56.10**	**339**	d iP	**P**	**10 42 47.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.9						
AAK	**Ala-Archa**	**56.10**	**339**	eP	**P**	**10 42 47.1**	**-1.0**
	comp=Z,11nm,1.0s,mb4.8						
FRU	**Bishkek**	**56.24**	**339**	eP	**P**	**10 42 49.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.2						
CHMS	**Chumysh**	**56.34**	**340**	P	**P**	**10 42 49.7**	**-0.1**
	SNR=6.9						
EKS2	**Erkin-Say**	**56.38**	**339**	P	**P**	**10 42 50.5**	**+0.4**
	SNR=18						
USP	**Ospenovka**	**56.66**	**340**	P	**P**	**10 42 51.8**	**-0.3**
	SNR=34						
CASY	**Casey**	**57.41**	**174**	eP	**P**	**10 42 53.2**	**-4.2**
	comp=Z,5.7nm,0.6s,mb4.8						
SONM	**Songino Array**	**57.49**	**7**	P	**P**	**10 42 58.0**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=192,slow=7.8,SNR=13						
SONM				LR	LR	11 08 50.1	
	comp=Z,117nm,18.8s,MS4.0,baz=179,slow=37						
MKAR	**Makanchi Array**	**57.71**	**347**	P	**P**	**10 42 58.7**	**-0.8**
	comp=Z,8.6nm,0.7s,mb4.9,baz=152,slow=7.6,SNR=82						
MKAR	**Makanchi Array**	**57.71**	**347**	P	**P**	**10 42 58.7**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**57.71**	**347**	P	**P**	**10 42 58.7**	**-0.8**
KK31	**Karatay Array**	**57.99**	**336**	iP	**P**	**10 43 00.0**	**-1.4**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CN2	**Changchun**	**58.54**	**23**	eP	**P**	**10 43 00.0**	**-5.3**
CN2				eXP	sP	10 43 14.8	-3.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS4.5						
ATD	**Arta Tunnel**	**58.68**	**290**	LR	LR	11 03 01.7	
	comp=Z,308nm,20.5s,MS4.4,baz=136,slow=31						
MAT	**Matsushiro**	**59.30**	**37**	P	**P**	**10 43 08.0**	**-2.5**
MJAR	**Matsushiro Arr**	**59.30**	**37**	P	**P**	**10 43 09.3**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=214,slow=7.3,SNR=7.3						
MJAR				LR	LR	11 09 23.9	
	comp=Z,143nm,20.7s,MS4.1,baz=175,slow=37						
MJAR	**Matsushiro Arr**	**59.30**	**37**	P	**P**	**10 43 09.3**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,143nm,20.7s						
ZAK	**Zakamensk**	**59.74**	**4**	eP	**P**	**10 43 13.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
MDJ	**Mudanjiang**	**60.89**	**25**	P	**P**	**10 43 17.8**	**-3.7**
MDJ				PP	PP	10 45 32.5	-3.2
MDJ				PCS	PcS	10 48 05.3	-2.2
MDJ				S	**S**	**10 51 27.3**	**-10**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,68nm,4.5s						
MDJ				LR	LR		
	comp=N,80nm,30.4s,MS4.0						
MDJ				LR	LR		
	comp=E,137nm,30.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,73nm,28.3s,MS3.7						
KMBO	**Kilima Mbogo**	**61.00**	**274**	P	**P**	**10 43 22.6**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.2,baz=40,slow=19,SNR=3.2						
KMBO				LR	LR	11 04 49.9	
	comp=Z,233nm,19.1s,MS4.3,baz=96,slow=31						
TLY	**Talaya**	**61.06**	**4**	⇑eP	**P**	**10 43 22.8**	**+0.2**

TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
RDF Al-Radifah 61.83 310 *e*P **P** **10 43 27.4 -0.4**
RDF AMb AMB 10 43 28.7
comp=Z,71nm,0.9s,mb5.8
UMR Umm Al-Rimmam 62.02 311 *e*P **P** **10 43 29.1 0.0**
UMR AMb AMB 10 43 30.1
comp=Z,70nm,0.7s,mb5.9
NAY Al-Naaiem 62.23 310 *e*P **P** **10 43 30.0 -0.5**
NAY AMb AMB 10 43 31.2
comp=Z,46nm,0.8s,mb5.7
MIB Mutribah 62.44 311 *e*P **P** **10 43 31.7 -0.1**
MIB AMb AMB 10 43 32.9
comp=Z,47nm,0.7s,mb5.7
MAW Mawson 62.65 194 P **P** **10 43 32.5 -0.8**
comp=Z,3.5nm,0.9s,mb4.5,baz=335,slow=7.7,SNR=5.4
MAW LR LR 11 05 14.4
comp=Z,100nm,21.7s,MS3.9,baz=209,slow=31
ZAL Zalesovo 64.11 351 P **P** **10 43 42.1 -0.9**
comp=Z,14nm,0.9s,mb5.0,baz=317,slow=5.2,SNR=42
ZAL LR LR 11 13 27.1
comp=Z,146nm,19.6s,MS4.2,baz=97,slow=38
ZAL Zalesovo 64.11 351 P **P** **10 43 42.1 -0.9**
ZAL pmax pmax
comp=Z,14nm,0.9s
ZAL MLR MLR
comp=Z,146nm,19.6s
NVS Novosibirsk 65.23 351 ⇓*i*P **P** **10 43 48.8 -1.4**
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,13nm,1.2s
NVS pmax pmax
comp=Z,40nm,1.2s,mb5.3
KLR Kul'dur 65.48 24 *e*P **P** **10 43 48.2 -3.7**
HABR Khabarovsk 66.25 26 *e*P **P** **10 43 56.1 -0.7**
HABR *e*S S 10 52 39.7 -4.3
BVAR Borovoye Array 66.53 342 P **P** **10 43 57.5 -1.1**
comp=Z,8.8nm,0.7s,mb4.9,baz=148,slow=8.7,SNR=39
BVAR LR LR 11 13 08.5
comp=Z,117nm,22.0s,MS4.0,baz=137,slow=36
BVAR Borovoye Array 66.53 342 P **P** **10 43 57.5 -1.1**
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR MLR MLR
comp=Z,117nm,22.0s
BRVK Borovoye 66.59 342 *e*P **P** **10 43 57.9 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BRVK Borovoye 66.59 342 *e*P **P** **10 43 57.9 -1.2**
comp=Z,7.9nm,1.1s,mb4.7
ZRNK Zerenda 66.90 341 *e*P **P** **10 43 59.8 -1.1**
ZRNK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZRNK Zerenda 66.90 341 *e*P **P** **10 43 59.8 -1.1**
comp=Z,10nm,0.9s,mb4.9
MATP Matopo 67.66 252 P **P** **10 44 06.3 +0.5**
comp=Z,2.0nm,0.8s,mb4.2,baz=112,slow=12,SNR=3.0
MATP LR LR 11 10 30.1
comp=Z,212nm,18.0s,MS4.4,baz=92,slow=33
MATP Matopo 67.66 252 P **P** **10 44 06.3 +0.5**
MATP LR LR 11 10 30.1
LSZ Lusaka 68.24 257 P **P** **10 44 09.5 +0.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=73,slow=14,SNR=2.6
LSZ LR LR 11 09 19.1
comp=Z,401nm,19.4s,MS4.7,baz=266,slow=32
BOD Bodaibo 68.28 9 *e*P **P** **10 44 08.3 -1.4**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 68.80 31⇓*e*P **P** **10 44 16.1 +3.2**
YSS pmax pmax
comp=Z,23nm,1.7s,mb4.8
AKTK Aktyubinsk 69.02 334 P **P** **10 44 12.9 -1.4**
AKTO Aktyubinsk 69.02 334 P **P** **10 44 12.9 -1.4**
comp=Z,6.8nm,0.9s,mb4.6,baz=126,slow=5.4,SNR=16
AKTO Aktyubinsk 69.02 334 P **P** **10 44 12.9 -1.4**
AKTO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GNI Garni 69.66 319 ⇓P **P** **10 44 20.3 +2.0**
SNR=5.3
GNI Garni 69.66 319*ce*P **P** **10 44 17.3 -1.0**
GNI pmax pmax
comp=Z,34nm,1.7s
LBTB Lobatse 70.20 247 P **P** **10 44 23.1 +1.5**
comp=Z,1.8nm,0.8s,mb4.1,baz=174,slow=22,SNR=2.4
LBTB LR LR 11 11 22.7
comp=Z,124nm,21.9s,MS4.1,baz=283,slow=33
SYO Syowa Base 70.25 199⇓*e*X 10 44 27.6
BOSA Boshof 70.46 243 P **P** **10 44 22.8 -0.4**
comp=Z,1.6nm,0.6s,mb4.1,baz=335,slow=21,SNR=2.7
BOSA LR LR 11 09 31.8
comp=Z,149nm,19.7s,MS4.2,baz=82,slow=31
ZEI Tsey 71.61 321 *e*P **P** **10 44 31.1 +1.0**
ZEI *e**PP pP 10 44 39.4 -0.3
ZEI pmax pmax
comp=Z,14nm,0.9s,mb4.9
EIL Elat 72.03 305 *e*P **P** **10 44 33.3 +0.6**
SVE Sverdlovsk 72.85 340 *e*P **P** **10 44 39.0 +1.5**
SVE *e* pP 10 44 48.6 +1.4
SVE pmax pmax
comp=Z,48nm,1.8s,mb5.1
KIV Kislovodsk 72.99 322 ⇑P **P** **10 44 39.3 +1.0**
SNR=8.4
KIV Kislovodsk 72.99 322*de*P **P** **10 44 38.5 +0.1**
KIV pmax pmax
comp=Z,51nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 72.99 322 *e*P **P** **10 44 38.8 +0.5**
comp=Z,26nm,0.6s,mb5.3
MALT Malatya 73.01 315 *e*P **P** **10 44 39.4 +0.9**
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.7
MALT Malatya 73.01 315 *e*P **P** **10 44 39.4 +0.9**
comp=Z,12nm,1.1s,mb4.7
VNDA Vanda 75.31 168 P **P** **10 44 50.2 -1.7**
comp=Z,1.6nm,0.9s,mb3.9,baz=289,slow=5.9,SNR=8.9
VNDA LR LR 11 13 54.0
comp=Z,110nm,18.4s,MS4.2,baz=294,slow=32
YAK Yakutsk 75.38 15⇓*e*P **P** **10 44 51.6 -0.7**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SBA Scott Base 76.41 168 *e*P **P** **10 45 05.5 +7.3**
ANN Anapa 76.67 320 *e*P **P** **10 44 59.6 -0.1**
ANN pmax pmax
comp=Z,22nm,0.8s,mb5.1
BR131 Keskin Array S 76.98 314 *e*P **P** **10 45 01.3 -0.1**
comp=Z,4.6nm,0.6s,mb4.6
BRTR Keskin Array B 76.98 314 P **P** **10 45 01.0 -0.4**
comp=Z,8.8nm,0.8s,mb4.8,baz=130,slow=6.5,SNR=39
BRTR LR LR 11 20 02.3
comp=Z,62nm,18.6s,MS4.0,baz=118,slow=37
BRTR Keskin Array B 76.98 314 P **P** **10 45 01.0 -0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
BRTR MLR MLR
comp=Z,62nm,18.6s
TSUM Tsumeb 78.00 252 P **P** **10 45 07.1 0.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=96,slow=7.6,SNR=2.6
TSUM LR LR 11 16 24.6
comp=Z,205nm,18.8s,MS4.5,baz=320,slow=33
VRSR Storozhevoye 78.78 327 *e*P **P** **10 45 10.5 -0.9**
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.9s
SIM Simferopol' 78.85 319 *e*P **P** **10 45 13.4 +1.6**
SIM pmax pmax
comp=Z,22nm,0.7s,mb5.2
MA2 Magadan 80.57 24 P pP 10 45 33.8 +2.9
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
QSPA South Pole Qui 80.58 180 *e*P **P** **10 45 20.2 -1.0**
comp=Z,15nm,1.0s,mb4.9
QSPA *e*P 10 45 27.0
OBN Obninsk 82.09 329 ⇓*i*P **P** **10 45 28.3 -0.9**
OBN pmax pmax
comp=Z,24nm,0.9s,mb5.1
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.2
SEY Seymchan 83.21 22⇓*e*P **P** **10 45 35.4 +0.4**
AKASG Malin Array Be 84.19 323 P **P** **10 45 38.9 -1.2**
comp=Z,4.8nm,0.7s,mb4.7,baz=91,slow=4.5,SNR=18
AKASG LR LR 11 23 42.1
comp=Z,73nm,20.6s,MS4.0,baz=155,slow=36
AKASG Malin Array Be 84.19 323 P **P** **10 45 38.9 -1.1**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG MLR MLR
comp=Z,73nm,20.6s
MLR Muntele Rosu 84.39 318⇓*i*P **P** **10 45 41.2 +0.2**
SNAA Sanae 84.51 198 *e*P pP 10 45 49.6 -1.9
SNAA *e* 10 45 52.4
SNAA *e* 10 45 57.5
SNAA *e* 10 46 00.6
SNAA *e* 10 46 05.8
SNAA *e* 10 51 08.0
SNAA *e* 10 51 12.7
SNAA Sanae 84.51 198*d*iP pP 10 45 49.5 -2.0
SNAA Sanae 84.51 198 *e*P pP 10 45 49.8 -1.7
comp=Z,5.3nm,0.8s
VTS Vitosha 85.36 314⇑*i*P **P** **10 45 45.8 -0.1**
BURAR Bucovina Array 85.56 320⇓*i*P **P** **10 45 48.0 +1.1**
VNA1 Neumayer--Stat 86.49 199 *e*P pP 10 45 59.8 -1.5
VNA1 *e* 10 46 01.2
VNA1 *e* 10 46 09.0
VNA1 *e* 10 46 11.8
VNA1 *e* 10 46 18.2
VNA1 *e* 10 46 25.9
VNA3 Neumayer Olymp 86.73 198 *e*P pP 10 46 00.4 -2.1
VNA3 *e* 10 46 01.9
VNA3 *e* 10 46 09.9
VNA3 *e* 10 46 13.0
VNA3 *e* 10 46 18.5
VNA3 *e* 10 46 24.8
VNA3 *e* 10 46 34.1
VNA3 *e* 10 46 48.4
VNA3 *e* 10 51 12.7
VNA3 *e* 10 51 16.7
BZS Buzias 87.32 317⇑*i*P **P** **10 45 55.4 -0.2**
KWP Kalwaria 87.77 321 *e*P **P** **10 45 57.9 +0.2**
KOLS Kolonicke sedl 87.84 320 *e*P **P** **10 45 58.8 +0.7**
STHS Stebnicka Huta 88.62 321 *e*P **P** **10 46 02.5 +0.7**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
STHS Stebnicka Huta 88.62 321 *e*P **P** **10 46 02.5 +0.7**
comp=Z,5.7nm,0.8s,mb5.0
SUW Suwalki 88.81 325 *e*P **P** **10 46 02.7 +0.1**
KECS Kecovo 88.85 319 *e*P **P** **10 46 03.1 +0.3**
KECS pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
KECS Kecovo 88.85 319 *e*P **P** **10 46 03.1 +0.3**
comp=Z,4.7nm,0.9s,mb4.8
FINES FINESS Array B 89.77 333 P **P** **10 46 05.9 -1.2**
comp=Z,2.0nm,1.0s,mb4.4,baz=109,slow=7.8,SNR=2.7
FINES FINESS Array B 89.77 333 P **P** **10 46 05.9 -1.2**
FINES pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 89.92 319 *e*P **P** **10 46 07.9 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
VYHS Vyhne 89.92 319 *e*P **P** **10 46 07.9 +0.1**
comp=Z,5.4nm,1.3s,mb4.7
VRAC Vranov 91.54 320 LR LR 11 24 18.2
comp=Z,68nm,21.9s,MS4.0,baz=78,slow=34
ARCES ARCESS Array B 92.76 340 LR LR 11 30 42.6
comp=Z,131nm,21.0s,MS4.4,baz=188,slow=37
GERES GERESS Array B 93.31 319 P **P** **10 46 23.3 -0.2**
comp=Z,0.9nm,0.5s,mb4.5,baz=107,slow=3.2,SNR=11
GERES GERESS Array B 93.31 319 P **P** **10 46 23.3 -0.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
KEST Kesra 94.37 305 LR LR 11 29 20.8
comp=Z,34nm,18.4s,MS3.9,baz=240,slow=36
NOA NORSAR Array B 96.64 331 LR LR 11 35 53.9
comp=Z,60nm,18.6s,MS4.1,baz=125,slow=39
TORD Torodi Ar. Bea 98.21 282 P **P** **10 46 46.0 +0.1**
comp=Z,0.9nm,0.7s,mb4.4,baz=91,slow=5.3,SNR=5.8
TORD LR LR 11 26 57.1
comp=Z,81nm,18.5s,MS4.2,baz=120,slow=33
TBI Tubuai 106.44 118 *e*LR LR 11 22 33.2
comp=Z,336nm,25.0s
PPT Papeete 108.04 112 *e*LR LR 11 23 14.9
comp=Z,177nm,23.8s
PDAR Pinedale Array 138.95 31 PKP PKPdf 10 52 35.1 0.0
comp=Z,0.3nm,0.7s,baz=232,slow=2.2,SNR=3.0
LONY Lake Ozonia 144.37 351 *e*PKPdf PKPdf 10 52 42.7 -2.0
TUC Tucson 144.95 45 *e*PKIKP PKPdf 10 52 47.0 +1.2
ACCN Adirondack Com 145.41 349 *e*PKPdf PKPdf 10 52 46.5 -0.1
LVC Limon Verde 145.68 202 *e*PKPdf PKPdf 10 52 49.2 +2.2
LVC *e*PKPbc PKPbc 10 52 58.0 +11
ANMO Albuquerque 146.14 38*d*iPKP2 PKPab 10 52 50.8 +1.3
ANMO Albuquerque 146.14 38 *e*PKPbc PKPbc 10 52 50.6 +1.8
BINY Binghamton 146.94 352 *e*PKPdf PKPdf 10 52 42.6 -6.6
BINY *e*PKPbc PKPbc 10 52 44.5 -6.6
MNTX Cornudas Mount 148.97 41 *e*PKPdf PKPdf 10 52 53.8 +1.3
MNTX *e*PKPbc PKPbc 10 52 57.6 +1.1
MNTX *e*PKPab PKPab 10 53 00.4 -0.3
LPAZ La Paz 151.00 208 PKPbc PKPbc 10 53 03.3 +1.8
comp=Z,0.6nm,0.8s,baz=358,slow=11,SNR=2.8
LPAZ La Paz 151.00 208 *e*PKPdf PKPdf 10 53 02.8 +7.1
LPAZ *e*PKPbc PKPbc 10 53 11.5 +10
LPAZ *e*PKPab PKPab 10 53 16.8 +7.8
MIAR Mount Ida 152.84 21 *e*PKP2 PKPab 10 53 18.6 +1.9

IDC 25 11:00:27.9±4.2, 607S×12861E, h378km±46km, mb2.9/1, mb1 3.2/4, mb1mx3.0/14, mbtmp3.9/4, Error ellipse: s-maj=73.8km s-min=16.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.31**	**193**	P	P	11 03 11.4	-0.3
	0.1nm,0.3s,baz=54,slow=19,SNR=4.2						
FITZ				S	S	11 05 29.0	+1.8
	0.0nm,0.3s,baz=49,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**14.88**	**159**	P	P	11 03 39.5	-0.4
	0.8nm,0.3s,baz=332,slow=12,SNR=53						
ASAR	**Alice Springs**	**18.23**	**164**	P		11 04 16.0	+0.3
	1.2nm,0.3s,baz=345,slow=12,SNR=74						
ASAR				S	S	11 07 25.4	+1.1
	0.1nm,0.3s,baz=325,slow=16,SNR=4.4						
MKAR	**Makanchi Array**	**66.69**	**327**	P	P	11 10 39.4	+0.1
	0.4nm,0.5s,baz=120,slow=8.2,SNR=6.3						

*ISCJB **25** 11:22:19.1±1.6, 3357N±004×3662E±009, h0km, Error ellipse: s-maj=10.5km s-min=6.2km az=19.3*
*GII **25** 11:22:19.3±0.8, 3377N×3643E, h0km±30km, ML1.6/1*
*CSEM **25** 11:22:22.0±0.3, 3372N×3626E, h1km, ML2.6, Error ellipse: s-maj=5.3km s-min=2.3km az=91.0, Mining explosion.*
*GRAL **25** 11:22:22.5±1.9, 3357N×3653E, h0km±513km, MD2.6*

ISC 25 11:22:19.7±1.8, 3356N±005×3664E±010, h0km, n11, σ0s96/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.69**	**264**	*e*Pg	**Pg**	**11 22 33.4**	**+0.5**
RCY				*e*Sg	**Sg**	**11 22 40.7**	**-1.2**
HRI	**Mount Hermon**	**0.81**	**249**	Pg	**Pg**	**11 22 35.3**	**0.0**
HRI				Sg	**Sg**	**11 22 46.3**	**+0.5**
BHL	**Bhannes**	**0.89**	**293**	*e*Pg	**Pg**	**11 22 35.7**	**-1.0**
BHL				*e*Sg	**Sg**	**11 22 47.2**	**-1.0**
KSDI	**Kefar Szold**	**0.90**	**246**	Pg	**Pg**	**11 22 36.8**	**-0.1**
KSDI				Sg	**Sg**	**11 22 49.9**	**+1.4**
KSHT	**Keshet**	**0.90**	**230**	Pg	**Pg**	**11 22 37.7**	**+0.7**
HWQ	**Hawqa**	**0.92**	**321**	*e*Pg	**Pg**	**11 22 38.0**	**+0.7**
HWQ				*e*Sg	**Sg**	**11 22 50.4**	**+1.2**
HWQ	**Hawqa**	**0.92**	**321**	*e*Pg	**Pg**	**11 22 38.0**	**+0.8**
HWQ				*e*Sg	**Sg**	**11 22 50.3**	**+1.2**
MMA0	**Mount Meron ar**	**1.17**	**242**	Pg	**Pg**	**11 22 41.0**	**-1.1**
MMA0				Sg	**Sg**	**11 22 58.1**	**+0.9**
MMA0	**Mount Meron ar**	**1.17**	**242**	Pg	**Pg**	**11 22 41.0**	**-1.1**
MMA0				Sg	**Sg**	**11 22 58.1**	**+0.8**
MMC6	**Mount Meron ar**	**1.18**	**243**	Pg	**Pg**	**11 22 42.5**	**+0.2**
HNTI	**Hanita**	**1.32**	**249**	Pg	**Pg**	**11 22 42.9**	**-2.0**

IDC 25 11:39:41.4±61.0, 1669S×17378W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, Error ellipse: s-maj=1160.0km s-min=192.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.09**	**241**	P	P	11 47 43.4	+0.3
	1.4nm,0.6s,baz=105,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**49.21**	**258**	P	P	11 48 31.5	+0.2
	0.3nm,0.5s,baz=95,slow=7.2,SNR=12						
ASAR	**Alice Springs**	**49.38**	**253**	P	P	11 48 33.1	+0.5
	4.4nm,0.6s,baz=89,slow=8.2,SNR=116						

*ISCJB **25** 11:40:47.7±0.2, 1053N±003×9232E±003, h31km, mb4.7/60, MS4.3/36, Error ellipse: s-maj=4.3km s-min=3.7km az=84.7*
*BJI **25** 11:40:47.8, 1044N×9228E, h40km, mB5.0, mb4.8, Ms4.6, Msz4.3*
*MOS **25** 11:40:49.4±0.9, 1055N×9237E, h45km, mb4.9/30, MS4.2/11, Error ellipse: s-maj=9.4km s-min=6.1km az=97.8*
*NEIC **25** 11:40:49.8±0.2, 1055N×9232E, h30km, mb4.8/23, MS4.2/2, Error ellipse: s-maj=6.3km s-min=4.7km az=59.0*
*SZGRF **25** 11:40:51.3, 1036N×9181E, h33km, mb4.6, Andaman Islands, India, region*
*IDC **25** 11:40:52.7±2.0, 1062N×9246E, h58km±17km, mb4.1/21, mb1 4.2/22, mb1mx4.1/26, mbtmp4.4/22, MS4.2/19, Ms1 4.2/19, ms1mx4.0/29, Error ellipse: s-maj=18.4km s-min=9.1km az=50.0*

ISC 25 11:40:50.3±0.2, 1059N±003×9230E±003, h33km, h33km±.8km:pP-P, n182, σ1s05/192, mb4.7/60, MS4.3/36, 11C-7D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.15**	**22**	*e*P	x	11 40 56.3	
PBA				*e*S	x	11 41 14.4	
PBA				*ex*	x	11 41 19.7	
	comp=N,19μm,0.7s						
PBA				*ex*	x	11 41 21.5	
	comp=E,27μm,0.6s						
NNT	**Nongplab**	**7.55**	**74**	P	**Pn**	**11 42 41.3**	**+3.2**
SNG	**Songkhla**	**8.88**	**112**	P	**Pn**	**11 43 03.0**	**+6.6**
	comp=E,192nm,1.0s						
NST	**Nakhon Sawan**	**9.15**	**56**	P	**Pn**	**11 43 02.0**	**+2.0**
KULM	**Kulim**	**9.80**	**122**	*e*Pn	**Pn**	**11 43 10.1**	**+1.2**
KULM				*e*Sn	**Sn**	**11 44 57.9**	**+0.1**
CM31	**Chiang Mai Arr**	**10.12**	**39**	*e*Pn	**Pn**	**11 43 13.5**	**+0.1**
PSI	**Prapat**	**10.15**	**139**	P	**Pn**	**11 43 14.4**	**+0.8**
	comp=E,0.8nm,0.3s,baz=308,slow=14,SNR=3.6						
PSI	**Prapat**	**10.15**	**139**	P	**Pn**	**11 43 14.5**	**+0.8**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CHG	**Chiang Mai**	**10.40**	**37**	⇓P	**Pn**	**11 43 18.4**	**+1.3**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**10.40**	**37**	*e*P	**Pn**	**11 43 18.8**	**+1.7**
CHTO				*e*		11 45 13.4	
CHTO				pmax	pmax		
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**10.40**	**37**	*e*Pn	**Pn**	**11 43 18.8**	**+1.7**
	comp=Z,15nm,0.9s						
CHTO				*e*Sn	**Sn**	**11 45 13.4**	**+0.9**
VIS	**Vishakhapatnam**	**11.22**	**310**	*e*P	**Pn**	**11 43 26.1**	**-2.3**
VIS				*e*S	**Sn**	**11 45 20.8**	**-12**
NANT	**Nan**	**11.51**	**44**	P	**Pn**	**11 43 35.5**	**+3.1**
PALK	**Pallekele**	**11.92**	**255**	Pn	**Pn**	**11 43 39.4**	**+1.4**
	comp=Z,200nm,0.3s,SNR=6.0						
PALK	**Pallekele**	**11.92**	**255**	*e*Pn	**Pn**	**11 43 39.6**	**+1.6**
PALK				Pn	**Pn**	**11 43 39.7**	**+1.7**
PALK				*e*Sn	**Sn**	**11 45 37.8**	**-12**
MDRS	**Chennai**	**12.06**	**283**	*ex*	x	11 44 21.9	
CAL	**Calcutta**	**12.48**	**343**	*ex*	x	11 44 36.0	
BOK	**Bokaro**	**14.49**	**336**	*e*P	**Pn**	**11 44 12.8**	**-0.2**
BOK				AMb	AMB	11 44 15.3	
	comp=Z,12nm,0.4s						
BOK				*ex*	x	11 46 42.6	
SHL	**Shillong**	**14.91**	**359**	*e*P	**Pn**	**11 44 17.0**	**-1.7**
SHL				*ex*	x	11 46 47.0	
HYB	**Hyderabad**	**14.97**	**299**	*i* P	**Pn**	**11 44 25.0**	**+5.5**
HYB				*e*		11 44 45.0	
HYB				*e*S	**Sn**	**11 47 02.0**	**-2.1**
HYB	**Hyderabad**	**14.97**	**299**	*e*P	**Pn**	**11 44 25.0**	**+5.5**
HYB				*e*		11 47 02.0	
NGP	**Nagpur**	**16.51**	**311**	*e*P	**Pn**	**11 44 38.0**	**-1.4**
NGP				*ex*	x	11 44 49.3	
	comp=Z,84nm,1.4s						
NGP				*ex*	x	11 47 28.1	
KMI	**Kunming**	**17.53**	**33**	P	**Pn**	**11 44 53.5**	**+1.4**
KMI				AP	pP	11 45 00.8	-0.8
KMI				XP	sP	11 45 06.0	+0.3
KMI				PP		11 45 09.3	
KMI				PPP		11 45 17.5	
KMI				S	**Sn**	**11 48 06.0**	**-0.2**
KMI				XS	sS	11 48 17.5	-9.4
KMI				SS		11 48 28.3	
KMI				SSS		11 48 41.5	
KMI				AMB	AMB		
	comp=Z,24nm,1.2s						
KMI				AMB	AMB		
	comp=Z,303nm,3.2s						
KMI				LR	LR		
	comp=N,803nm,15.9s						
KMI				LR	LR		
	comp=E,1μm,13.5s						
KMI				LR	LR		
	comp=Z,887nm,15.6s						
KMI	**Kunming**	**17.53**	**33**	P	**Pn**	**11 44 53.4**	**+1.3**
KMI				S	**Sn**	**11 48 05.9**	**-0.3**
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
KMI	**Kunming**	**17.53**	**33**	P	**Pn**	**11 44 53.4**	**+1.3**
	comp=Z,24nm,1.2s						
KMI				pP	pP	11 45 00.8	-0.8
KMI				sP	sP	11 45 06.0	+0.3
KMI				PP		11 45 09.3	
KMI				PPP		11 45 17.6	
KMI				S	**Sn**	**11 48 05.9**	**-0.3**
KMI				sS	sS	11 48 17.6	-9.3
KMI				SS		11 48 28.3	
KMI				SSS		11 48 41.4	
PKI	**Pulchoki**	**18.10**	**340**	*e*P	**Pn**	**11 44 59.1**	**-0.1**
	comp=Z,11nm,0.4s						
DMN	**Daman**	**18.24**	**339**	*e*P	**Pn**	**11 45 01.7**	**+0.8**
	comp=Z,10nm,0.3s						
GUN	**Gumba**	**18.26**	**342**	*e*P	**Pn**	**11 45 01.8**	**+0.7**
KKN	**Kakani**	**18.35**	**340**	*e*P	**Pn**	**11 45 02.7**	**+0.5**
	comp=Z,2.9nm,0.2s						
GKN	**Gorkha**	**18.77**	**338**	*e*P	**Pn**	**11 45 09.0**	**+1.8**
	comp=Z,41nm,0.4s						
KAD	**Karad**	**18.80**	**293**	*e*P	**Pn**	**11 45 08.1**	**+0.4**
QIZ	**Qiongzhong**	**18.91**	**62**	P	**Pn**	**11 45 11.0**	**+2.0**
QIZ				S	**Sn**	**11 48 36.8**	**-2.8**
QIZ				AMB	AMB		
	comp=Z,69nm,2.7s						
QIZ				LR	LR		
	comp=Z,1μm,17.6s						
KOLN	**Koldanda**	**18.95**	**336**	*e*P	**Pn**	**11 45 12.3**	**+2.8**
BHPL	**Bhopal**	**18.98**	**313**	*e*P	**Pn**	**11 45 09.3**	**-0.5**
BHPL				AMb	AMB	11 45 11.7	
	comp=Z,41nm,1.5s						
BHPL				*ex*	x	11 48 20.6	
LSA	**Lhasa**	**19.05**	**357**	P	**Pn**	**11 45 11.0**	**+0.3**
LSA	**Lhasa**	**19.05**	**357**	*e*P	**Pn**	**11 45 11.2**	**+0.5**
POO	**Poona**	**19.52**	**296**⇑	*i*P	**Pn**	**11 45 14.0**	**-2.3**
	comp=Z,114nm,1.2s						
POO				*i* PP		11 45 29.0	
POO				*i* x	x	11 48 34.0	
POO				*i* x	x	11 48 57.0	
POO				*i* x	x	11 49 10.0	
KSM	**Kuching**	**20.05**	**116**	*e*P	**P**	**11 45 20.1**	**-0.5**
GYA	**Guiyang**	**20.82**	**39**⇑	*i*P	**P**	**11 45 29.5**	**+0.5**
GYA				AP		11 45 38.5	
GYA				XP	sP	11 45 42.8	+1.0
GYA				PP		11 45 51.8	
GYA				S	**S**	**11 49 14.8**	**-4.6**
GYA				SS		11 49 46.8	
GYA				AMB	AMB		
	comp=Z,50nm,1.2s						
GYA				AMB	AMB		
	comp=Z,380nm,4.5s						
GYA				LR	LR		
	comp=N,670nm,15.2s,MS4.3						
GYA				LR	LR		
	comp=E,800nm,13.8s,MS4.3						
GYA				LR	LR		
	comp=Z,1μm,17.4s,MS4.2						
CD2	**Chengdu**	**22.85**	**26**	*e*P	**P**	**11 45 50.8**	**+0.1**
CD2				AP		11 46 00.0	

CD2 XP sP 11 46 03.5 -0.1
CD2 PP 11 46 19.3
CD2 S **S** **11 49 52.5 -5.6**
CD2 XS sS 11 50 06.5 -6.7
CD2 SS 11 50 34.0
CD2 AMB AMB
comp=Z,30nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,100nm,4.9s
CD2 LR LR
comp=E,590nm,16.8s
CD2 LR LR
comp=Z,280nm,13.2s,MS3.9
AJM Ajmer 22.98 316 *i*P **P** **11 45 53.0 +0.9**
LZH Lanzhou 27.46 21 *e*P **P** **11 46 34.0 +0.7**
LZH AP pP 11 46 42.5 -0.2
LZH XP sP 11 46 46.0 -0.7
LZH PP 11 47 23.5
LZH *e*S **S** **11 51 11.3 -0.5**
LZH SS 11 52 26.3
LZH AMB AMB
comp=Z,69nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,101nm,4.6s
LZH LR LR
comp=E,1μm,13.7s
LZH LR LR
comp=Z,2μm,14.2s,MS4.9
LZH Lanzhou 27.46 21 *e*P **P** **11 46 34.1 +0.8**
LZH *SP sP 11 46 46.0 -0.7
LZH 11 47 23.5
LZH *e*S **S** **11 51 11.2 -0.6**
LZH SS 11 52 26.2
LZH pmax pmax
comp=Z,69nm,1.5s,mb5.0
LZH MLR MLR
comp=Z,2μm,14.2s,MS4.9
LZH Lanzhou 27.46 21 *e*P **P** **11 46 34.1 +0.8**
comp=Z,69nm,1.5s,mb5.0
LZH pP pP 11 46 42.5 -0.2
LZH sP sP 11 46 46.0 -0.7
LZH PP 11 47 23.5
LZH *e*S **S** **11 51 11.2 -0.6**
LZH sS sS 11 51 23.0 -4.3
LZH SS 11 52 26.2
LZH LR LR
comp=Z,2μm,14.2s,MS4.9
XAN Xi'an 27.87 31 P **P** **11 46 35.3 -1.7**
XAN AP pP 11 46 43.3 -3.1
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
XAN LR LR
comp=N,428nm,18.3s,MS4.2
XAN LR LR
comp=E,374nm,19.1s,MS4.2
XAN LR LR
comp=Z,655nm,17.5s,MS4.3
WHN Wuhan 28.54 43 *e*P **P** **11 46 42.5 -0.4**
GTA Gaotai 29.48 12 P **P** **11 46 52.3 +1.0**
GTA AP pP 11 47 01.8 +1.1
GTA XP sP 11 47 05.5 +0.9
GTA PP PP 11 47 47.8 -10
GTA S **S** **11 51 42.8 -0.7**
GTA XS sS 11 51 58.5 -0.5
GTA SS SS 11 53 15.5 -34
GTA AMB AMB
comp=Z,18nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,83nm,4.9s
GTA LR LR
comp=N,189nm,20.2s,MS4.0
GTA LR LR
comp=E,269nm,20.2s,MS4.0
GTA LR LR
comp=Z,171nm,16.0s,MS3.8
NJ2 Nanjing 32.52 45 *e*P **P** **11 47 18.8 +0.7**
NJ2 AP pP 11 47 28.3 +0.8
NJ2 XP sP 11 47 32.0 +0.5
NJ2 PP PP 11 48 27.0 -4.8
NJ2 S **S** **11 52 31.0 0.0**
NJ2 XS sS 11 52 47.0 +0.4
NJ2 AMB AMB
comp=Z,130nm,1.1s,mb5.8
NJ2 AMB AMB
comp=Z,240nm,8.1s
NJ2 LR LR
comp=N,650nm,20.4s,MS4.4
NJ2 LR LR
comp=E,580nm,21.3s,MS4.4
NJ2 LR LR
comp=Z,420nm,20.0s,MS4.1
WMQ Urumqi 33.35 354 P **P** **11 47 26.3 +0.9**
WMQ AP pP 11 47 36.0 +1.2
WMQ XP sP 11 47 40.0 +1.2
WMQ PP PP 11 48 38.5 -2.6
WMQ PPP 11 48 55.5
WMQ PCP PcP 11 50 08.0 +1.4
WMQ S **S** **11 52 43.5 -0.5**
WMQ XS sS 11 52 59.5 -0.2
WMQ SS SS 11 54 46.0 -23
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,188nm,4.6s
WMQ LR LR
comp=N,2μm,16.3s,MS4.8
WMQ LR LR
comp=E,1μm,20.8s,MS4.8
WMQ LR LR
comp=Z,1μm,18.0s,MS4.6
SSE Sheshan 33.66 48 P **P** **11 47 27.5 -0.6**
SSE AP pP 11 47 36.0 -1.5
SSE XP sP 11 47 40.3 -1.2
SSE S **S** **11 52 48.5 -0.3**
SSE XS sS 11 53 03.5 -1.0
SSE AMB AMB
comp=Z,26nm,0.6s,mb5.3
SSE AMB AMB
comp=Z,126nm,5.2s
SSE LR LR
comp=N,139nm,19.2s,MS4.0
SSE LR LR
comp=E,286nm,19.2s,MS4.0
SSE LR LR
comp=Z,263nm,18.3s,MS4.0
SSE Sheshan 33.66 48 P **P** **11 47 27.5 -0.6**
comp=Z,26nm,0.6s,mb5.3
SSE pP pP 11 47 36.1 -1.4
SSE sP sP 11 47 40.2 -1.3
SSE S **S** **11 52 48.4 -0.4**
SSE sS sS 11 53 03.5 -1.0
SSE LR LR
comp=Z,260nm,18.3s,MS4.0
BTO Baotou 33.76 25 *e*P **P** **11 47 26.8 -2.1**
HHC Hu-ho-hao-te 34.61 26 *e*P **P** **11 47 37.0 +0.7**
HHC AP pP 11 47 46.5 +0.7
HHC XP sP 11 47 50.5 +0.8
HHC PP PP 11 48 53.5 -1.5
HHC PCP PcP 11 50 11.0 +0.8
HHC S **S** **11 53 03.0 -0.5**
HHC XS sS 11 53 19.0 -0.1
HHC SCP ScP 11 53 52.8 -0.2
HHC PCS PcS 11 53 56.5 -0.2
HHC SS SS 11 55 15.5 -19
HHC SCS ScS 11 57 54.0 -2.0
HHC AMB AMB
comp=Z,32nm,0.4s,mb5.6
HHC AMB AMB
comp=Z,109nm,2.9s,mb5.3
HHC LR LR
comp=N,285nm,12.7s,MS4.5
HHC LR LR
comp=E,446nm,14.2s,MS4.5
HHC LR LR
comp=Z,266nm,17.2s,MS4.0
AAK Ala-Archa 35.52 337 *de*P **P** **11 47 44.9 +0.8**
AAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
AAK Ala-Archa 35.52 337 *e*P **P** **11 47 44.5 +0.5**
comp=Z,12nm,1.4s,mb4.7
FRU Bishkek 35.64 337 *e*P **P** **11 47 45.0 -0.1**
BJT Baijiatuao 36.16 32 *e*P **P** **11 47 50.1 +0.5**
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuao 36.16 32 *e*P **P** **11 47 50.1 +0.5**
comp=Z,11nm,0.6s,mb5.0
BJI Beijing 36.18 32 P **P** **11 47 49.8 +0.1**
BJI S **S** **11 53 26.5 -1.0**
BJI AMB AMB
comp=Z,22nm,1.4s,mb4.9
BJI LR LR
comp=N,893nm,19.1s,MS4.7
BJI LR LR
comp=E,703nm,16.4s,MS4.7
BJI LR LR
comp=Z,765nm,19.6s,MS4.5
BJI Beijing 36.18 32 P **P** **11 47 49.8 +0.1**
comp=Z,22nm,1.4s,mb4.9
BJI S **S** **11 53 26.5 -1.0**
BJI LR LR
comp=Z,770nm,19.6s,MS4.5
MKAR Makanchi Array 37.08 349 P **P** **11 47 57.4 0.0**
comp=Z,5.0nm,0.6s,mb4.5,baz=170,slow=8.0,SNR=45
MKAR PcP PcP 11 50 17.4 -0.2
comp=Z,0.7nm,0.7s,baz=132,slow=4.1,SNR=2.1
MKAR Makanchi Array 37.08 349 P **P** **11 47 57.4 0.0**
MKAR 11 50 17.4
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KK31 Karatay Array 37.54 333 *i*P **P** **11 48 01.7 +0.3**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
SONM Songino Array 38.98 15 P **P** **11 48 13.7 +0.3**
comp=Z,9.7nm,0.9s,mb4.5,baz=198,slow=7.1,SNR=57
SONM LR LR 12 07 59.9
comp=Z,198nm,19.0s,MS4.0,baz=195,slow=42
SONM Songino Array 38.98 15 P **P** **11 48 13.7 +0.2**
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM MLR MLR
comp=Z,199nm,19.0s
ZAK Zakamensk 40.70 11 *e*P **P** **11 48 27.9 +0.2**
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb3.8
SNY Shenyang 41.47 36 ⇑P **P** **11 48 33.8 -0.3**
SNY AP pP 11 48 43.5 -0.2
SNY XP sP 11 48 47.8 +0.2
SNY S **S** **11 54 44.5 -2.7**
SNY AMB AMB
comp=Z,15nm,0.8s,mb4.7
SNY AMB AMB
comp=Z,186nm,4.2s
SNY LR LR
comp=E,658nm,18.6s
SNY LR LR
comp=Z,491nm,17.7s,MS4.4
KS15 Wonju Array Si 41.67 44 *e*P **P** **11 48 35.8 0.0**
TLY Talaya 42.01 11 *e*P **P** **11 48 39.7 +1.2**
TLY pmax pmax
comp=Z,19nm,2.0s,mb4.4
TLY MLR MLR
comp=Z,330nm,27.0s,MS4.1
TLY Talaya 42.01 11 *e*P **P** **11 48 39.4 +0.9**
comp=Z,2.8nm,0.6s,mb4.1
FITZ Fitzroy Crossi 43.54 131 ⇑*i*P **P** **11 48 49.6 -1.3**
comp=Z,70nm,1.0s,mb5.3
FITZ Fitzroy Crossi 43.54 131 P **P** **11 48 50.2 -0.7**
comp=Z,28nm,0.7s,mb5.1,baz=322,slow=6.0,SNR=90
FITZ LR LR 12 08 30.4
comp=Z,195nm,18.2s,MS4.0,baz=305,slow=38
ZAL Zalesovo 43.65 354 P **P** **11 48 51.5 -0.3**
comp=Z,2.8nm,0.7s,mb4.1,baz=294,slow=7.2,SNR=14
ZAL LR LR 12 11 29.8
comp=Z,227nm,18.8s,MS4.1,baz=291,slow=42
ZAL Zalesovo 43.65 354 P **P** **11 48 51.5 -0.3**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
ZAL MLR MLR
comp=Z,227nm,18.8s
CN2 Changchun 43.78 35 *e*P **P** **11 48 52.8 -0.1**
CN2 *eXP sP 11 49 07.3 +0.9
CN2 PCP PcP 11 50 39.5 +0.4
CN2 *eS **S** **11 55 20.5 -0.8**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.5
CN2 LR LR
comp=E,300nm,16.0s,MS4.5
CN2 LR LR
comp=Z,400nm,16.0s,MS4.4
CIT Chita 44.78 19 *e*P **P** **11 48 59.5 -1.4**
CIT pmax pmax
comp=Z,70nm,1.9s,mb5.2
HIA Hailar 44.81 25 *e*P **P** **11 49 01.5 +0.5**
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 44.81 25 *e*P **P** **11 49 01.5 +0.5**
comp=Z,12nm,0.9s,mb4.7
BVAR Borovoye Array 45.86 342 P **P** **11 49 09.3 -0.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=134,slow=11,SNR=6.5
BVAR Borovoye Array 45.86 342 P **P** **11 49 09.3 -0.1**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
KAKA Kakadu 46.08 119 *e*P **P** **11 49 10.2 -1.0**
comp=Z,5.8nm,0.4s,mb4.9
ZRNK Zerenda 46.23 341 *e*P **P** **11 49 12.2 -0.2**
ZRNK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 46.23 341 *e*P **P** **11 49 12.2 -0.1**
comp=Z,4.2nm,0.8s,mb4.4
MDJ Mudanjiang 46.65 37 P **P** **11 49 15.8 +0.2**
MDJ AP pP 11 49 24.8 -0.6
MDJ XP sP 11 49 28.5 -0.8
MDJ XS sS 11 56 18.3 -0.5
MDJ AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,86nm,5.3s
MDJ LR LR
comp=N,343nm,19.2s,MS4.4
MDJ LR LR
comp=E,204nm,21.0s,MS4.4
MDJ LR LR
comp=Z,425nm,18.3s,MS4.4
MUN Mundaring 48.11 152 *e*P **P** **11 49 27.3 +0.3**
ATD Arta Tunnel 48.50 276 P **P** **11 49 31.6 +1.6**
comp=Z,3.1nm,0.3s,mb4.8,baz=78,slow=23,SNR=4.0
KLBR Kellerberrin 48.51 151 *e*P **P** **11 49 30.0 -0.1**
comp=Z,22nm,1.0s,mb5.1
AKTK Aktyubinsk 48.72 331 P **P** **11 49 30.8 -0.9**
AKTO Aktyubinsk 48.72 331 P **P** **11 49 30.8 -0.9**
comp=Z,1.7nm,0.6s,mb4.3,baz=112,slow=10.0,SNR=6.9
AKTO Aktyubinsk 48.72 331 P **P** **11 49 30.8 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MAJO Matsushiro 48.76 50 *e*P **P** **11 49 32.6 +0.6**
MAJO *eP 11 49 32.9
MAT Matsushiro 48.76 50 P **P** **11 49 30.7 -1.3**
MAT *eS **S** **11 56 36.2 +3.5**
MJAR Matsushiro Arr 48.76 50 P **P** **11 49 30.4 -1.6**
comp=Z,3.0nm,0.9s,mb4.3,baz=249,slow=8.2,SNR=9.3
MJAR LR LR 12 12 55.4
comp=Z,352nm,18.8s,MS4.4,baz=260,slow=40
MJAR Matsushiro Arr 48.76 50 P **P** **11 49 30.4 -1.6**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,352nm,18.8s
NWAO Narrogin (SRO) 49.37 152 P **P** **11 49 35.4 -1.3**
comp=Z,17nm,0.8s,mb5.2,baz=311,slow=11,SNR=7.8
NWAO LR LR 12 09 32.2
comp=Z,354nm,20.6s,MS4.3,baz=88,slow=35
BOD Bodaibo 49.98 15 *e*P **P** **11 49 40.9 -0.4**
BOD pmax pmax
comp=Z,19nm,1.6s,mb4.9
KLR Kul'dur 50.54 33 *e*P **P** **11 49 41.9 -3.6**
KLR MLR MLR
comp=E,500nm,15.0s
KLR MLR MLR
comp=Z,900nm,15.0s,MS4.9
GNI Garni 51.26 314 ⇓*i*P **P** **11 49 52.9 +1.9**
comp=Z,3.7nm,0.4s,mb4.7,baz=350,slow=4.4,SNR=3.5
GNI Garni 51.26 314 ⇓*i*P **P** **11 49 53.1 +2.1**
GNI pmax pmax
comp=Z,18nm,1.7s
WRA Warramunga Arr 51.31 126 P **P** **11 49 50.7 -0.6**
comp=Z,16nm,0.4s,mb5.3,baz=300,slow=10.0,SNR=821
WRA S **S** **11 57 05.2 -3.0**
comp=Z,2.6nm,0.9s,baz=296,slow=16,SNR=12
WRA LR LR 12 14 00.4
comp=Z,123nm,18.3s,MS4.0,baz=295,slow=39
WRA Warramunga Arr 51.31 126 P **P** **11 49 50.7 -0.6**
WRA S **S** **11 57 05.2 -2.9**
WRA pmax pmax
comp=Z,16nm,0.4s
WRA smax
comp=N,3.0nm,0.9s
WRA MLR MLR
comp=Z,123nm,18.3s
WRAB Tennant Creek 51.31 126 P **P** **11 49 51.0 -0.3**
comp=Z,306nm,0.5s,SNR=83
WRAB Tennant Creek 51.31 126 *e*P **P** **11 49 51.2 -0.1**
WRAB pmax pmax
comp=Z,35nm,0.5s,mb5.5
WRAB Tennant Creek 51.31 126 *e*P **P** **11 49 51.1 -0.2**
comp=Z,35nm,0.5s,mb5.5
WB2 Warramunga Arr 51.32 126 ⇑*i*P **P** **11 49 51.1 -0.3**
WB2 *eS **S** **11 57 04.8 -3.5**
GUMO Guam 51.41 81 LR LR 12 10 44.9
comp=Z,146nm,18.8s,MS4.0,baz=272,slow=35
HABR Khabarovsk 51.92 35 *e*P **P** **11 49 54.7 -1.2**
HABR *eS **S** **11 57 23.3 +6.7**
HABR pmax pmax
comp=Z,40nm,1.5s,mb5.1
SVE Sverdlovsk 52.23 339 *e*P **P** **11 49 59.0 +0.8**
SVE MLR MLR
comp=N,300nm,13.0s
SVE MLR MLR
comp=Z,400nm,13.0s,MS4.6
ZEI Tsey 52.84 316 *e*P **P** **11 50 03.6 +0.9**
ASPA Alice Springs 53.03 130 *e*P **P** **11 50 03.9 -0.2**
ASPA *eS **S** **11 57 24.9 -6.9**
ASAR Alice Springs 53.04 130 P **P** **11 50 04.0 -0.2**
comp=Z,53nm,0.9s,mb5.5,baz=306,slow=7.2,SNR=397
ASAR ScP ScP 11 55 06.3 -1.1
comp=Z,2.6nm,1.2s,baz=290,slow=4.1,SNR=5.9
ASAR S **S** **11 57 28.4 -3.4**
comp=Z,2.3nm,1.0s,baz=296,slow=14,SNR=16
ASAR LR LR 12 17 35.3
comp=Z,166nm,19.5s,MS4.1,baz=310,slow=42
ASAR Alice Springs 53.04 130 P **P** **11 50 04.0 -0.2**
ASAR S **S** **11 57 28.5 -3.4**
ASAR pmax pmax
comp=Z,53nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,1.2s
ASAR smax
comp=N,2.0nm,1.0s
ASAR MLR MLR
comp=Z,166nm,19.5s
AS31 Alice Springs 53.04 130 *e*P **P** **11 50 03.9 -0.3**
AS31 *eS **S** **11 57 24.9 -7.0**
KIV Kislovodsk 54.11 317 ⇑*e*P **P** **11 50 12.6 +0.6**
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.8
YSS Yuzh-Sakhalins 55.82 40 ⇑*e*P **P** **11 50 25.0 +0.6**
YSS pmax pmax
comp=Z,21nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 55.82 40 *e*P **P** **11 50 23.8 -0.6**
comp=Z,7.3nm,0.6s,mb4.9
KMBO Kilima Mbogo 55.98 261 LR LR 12 13 48.7
comp=Z,420nm,18.4s,MS4.6,baz=92,slow=35
KMBO Kilima Mbogo 55.98 261 ⇑*e*P **P** **11 50 27.7 +2.2**
ANN Anapa 57.93 317 *e*P **P** **11 50 46.5 +7.2**
ANN pmax pmax
comp=Z,23nm,1.0s,mb5.2
YAK Yakutsk 58.04 20 *ce*P **P** **11 50 39.1 -1.0**
YAK pmax pmax
comp=Z,60nm,1.7s,mb5.3
PMG Port Moresby 58.07 108 *e*P **P** **11 50 40.9 +0.5**
PMG *eP 11 50 41.0
BRTR Keskin Array B 59.30 310 P **P** **11 50 48.4 -0.5**
comp=Z,0.4nm,0.5s,mb3.7,baz=132,slow=8.0,SNR=3.6
BRTR LR LR 12 21 14.9
comp=Z,60nm,18.8s,MS3.8,baz=265,slow=41
CTA Charters Tower 61.22 120 *e*P **P** **11 51 02.4 +0.4**
comp=Z,12nm,1.1s,mb4.9
CTA Charters Tower 61.22 120 LR LR 12 18 36.8
comp=Z,182nm,18.9s,MS4.2,baz=57,slow=37
CTA Charters Tower 61.22 120 *e*P **P** **11 51 02.4 +0.4**
CTA pmax pmax
comp=Z,12nm,1.1s
CTAO Charters Tower 61.22 120 *e*P **P** **11 51 03.0 +1.0**
CTAO pmax pmax
comp=Z,28nm,1.2s,mb5.3
CTAO Charters Tower 61.22 120 *e*P **P** **11 51 03.0 +1.0**
comp=Z,28nm,1.2s,mb5.3
MOS Moscow 61.84 328 *e*P **P** **11 51 07.3 +1.1**
OBN Obninsk 62.13 328 ⇓*e*P **P** **11 51 07.9 -0.3**
OBN pmax pmax
comp=Z,32nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
STKA Stephens Creek 63.28 134 ⇑*i*P **P** **11 51 16.3 +0.5**
comp=Z,25nm,1.0s,mb5.3
STKA Stephens Creek 63.28 134 P **P** **11 51 16.3 +0.5**
comp=Z,37nm,0.9s,mb5.5,baz=320,slow=7.0,SNR=35
STKA LR LR 12 23 22.0
comp=Z,175nm,19.4s,MS4.2,baz=211,slow=40
STKA Stephens Creek 63.28 134 *e*P **P** **11 51 15.9 +0.1**
STKA ⇑*i*P 11 51 16.3
AKASG Malin Array Be 64.92 321 P **P** **11 51 24.8 -1.7**
comp=Z,1.4nm,0.5s,mb4.3,baz=88,slow=4.8,SNR=7.8
AKASG Malin Array Be 64.92 321 P **P** **11 51 24.8 -1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MA2 Magadan 65.24 29 ⇓*e*P **P** **11 51 27.8 -0.8**
MA2 pmax pmax
comp=Z,21nm,1.7s,mb4.9
MA2 Magadan 65.24 29 *e*P **P** **11 51 28.0 -0.7**
comp=Z,16nm,1.1s,mb5.0
SEY Seymchan 67.25 25 ⇓*e*P **P** **11 51 40.7 -0.8**
LSZ Lusaka 68.50 249 *e*P pP 11 51 58.7 -0.8
LSZ pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
LSZ Lusaka 68.50 249 *e*P pP 11 51 58.6 -0.9
comp=Z,8.2nm,1.3s
FINES FINESS Array B 69.48 332 P **P** **11 51 55.0 -0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=117,slow=11,SNR=5.5
FINES FINESS Array B 69.48 332 P **P** **11 51 55.0 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
HNR Honiara 70.17 104 P **P** **11 51 57.9 -1.8**
comp=Z,71nm,1.0s,mb5.6,baz=260,slow=6.8,SNR=4.7
HNR Honiara 70.17 104 P **P** **11 51 57.9 -1.8**
HNR pmax pmax
comp=Z,71nm,1.0s,mb5.5
HNR Honiara 70.17 104 P **P** **11 51 57.9 -1.8**
HNR *eP 11 52 00.4
ARCES ARCESS Array B 72.12 340 P **P** **11 52 11.3 -0.2**
comp=Z,7.8nm,0.9s,mb4.7,baz=78,slow=5.6,SNR=12
ARCES LR LR 12 25 50.8
comp=Z,199nm,19.5s,MS4.4,baz=151,slow=37
ARCES ARCESS Array B 72.12 340 P **P** **11 52 11.4 -0.1**
ARCES pmax pmax
comp=Z,8.0nm,0.9s
ARCES MLR MLR
comp=Z,199nm,19.5s
BRG Berggiesshubel 74.52 320 *e*P **P** **11 52 28.6 +2.9**
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 74.52 320 *e*P **P** **11 52 28.6 +2.9**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GERES GERESS Array B 74.61 318 P **P** **11 52 25.9 -0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=76,slow=5.5,SNR=4.1
GERES LR LR 12 26 34.3
comp=Z,72nm,20.2s,MS4.0,baz=292,slow=37
KHC Kasperske Hory 74.70 318 ⇓*e*P **P** **11 52 25.8 -0.9**
BOSA Boshof 75.51 237 P **P** **11 52 32.0 +0.6**
comp=Z,2.4nm,0.7s,mb4.2,baz=25,slow=20,SNR=4.6
BOSA LR LR 12 22 37.7
comp=Z,372nm,18.4s,MS4.7,baz=77,slow=33
GRA1 Grafenberg Arr 76.25 319 *e*P **P** **11 52 35.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.3
GRF Grafenberg Arr 76.25 319 *e*P **P** **11 52 35.8 +0.2**
comp=Z,3.0nm,0.7s,mb4.3
GRF Grafenberg Arr 76.25 319 *e*P **P** **11 52 35.8 +0.2**
GRF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GRF Grafenberg Arr 76.25 319 *e*P **P** **11 52 35.8 +0.2**
GRF pmax pmax

comp=Z,3.0nm,0.7s,mb4.3
NB2 NORSAR Subarra 76.49 330 P **P** 11 52 35.8 **-1.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=96,slow=5.3
NB2 NORSAR Subarra 76.49 330 P **P** 11 52 35.8 **-1.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 76.49 330 P **P** 11 52 36.0 **-0.9**
comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=5.7,SNR=4.3
NOA NORSAR Array B 76.49 330 P **P** 11 52 36.1 **-0.9**
NOA pmax pmax
comp=Z,1.0nm,0.6s
KEST Kesra 78.22 304 P **P** 11 52 46.7 **0.0**
comp=Z,2.0nm,1.0s,mb4.0,baz=200,slow=23,SNR=3.1
MAW Mawson 80.82 191 P **P** 11 53 01.0 **+0.2**
comp=Z,1.8nm,0.9s,mb4.0,baz=315,slow=16,SNR=2.3
MAW LR LR 12 22 50.6
comp=Z,127nm,20.4s,MS4.3,baz=246,slow=31
TORD Torodi Ar. Bea 88.22 283 P **P** 11 53 38.8 **+0.6**
comp=Z,1.6nm,1.1s,mb4.2,baz=100,slow=3.8,SNR=4.2
TORD LR LR 12 34 39.8
comp=Z,121nm,18.4s,MS4.3,baz=60,slow=36
IMA2 Indian Mountai 89.80 22 *e*P **P** 11 53 46.1 **+0.5**
TTA Tatalina 90.22 25 *e*P **P** 11 53 47.7 **+0.1**
MCK McKinley 92.70 23 *e*P **P** 11 53 59.1 **+0.1**
MCK pmax pmax
comp=Z,16nm,1.6s,mb5.2
MCK McKinley 92.70 23 *e*P **P** 11 53 59.1 **0.0**
comp=Z,16nm,1.6s,mb5.2
DBIC Dimbokro 95.78 278 LR LR 12 38 15.3
comp=Z,116nm,19.6s,MS4.4,baz=276,slow=36
VNDA Vanda 95.93 168 LR LR 12 34 45.6
comp=Z,135nm,18.4s,MS4.5,baz=288,slow=34
SNAA Sanae 101.59 199 *i* P Pdif 11 54 38.4 -0.8
PPT Papeete 119.79 104 *e*LR LR 12 36 15.8
comp=Z,85nm,28.0s
TBI Tubuai 119.96 111 *e*LR LR 12 36 20.4
comp=Z,88nm,31.8s
PDAR Pinedale Array 123.26 19 PKP PKPdf 11 59 43.8 0.0
comp=Z,0.5nm,0.7s,baz=336,slow=3.3,SNR=5.9
DAC Darwin (Calif) 125.54 30 *e*PKIKP PKPdf 11 59 49.6 +1.5
MSU Marysvale 126.07 24 *e*PKIKP PKPdf 11 59 51.3 +2.1
ANMO Albuquerque 131.35 21 *e*PKPdf PKPdf 12 00 00.9 +1.7
ANMO *e*SKPbc SKPbc 12 03 25.6 +3.9
TUC Tucson 131.98 27 *e*PKPdf PKPdf 12 00 03.5 +3.1
TUC *e*SKPbc SKPbc 12 03 27.9 +3.9
MNTX Cornudas Mount 134.67 21 *e*SKPbc SKPbc 12 03 36.0 +2.9
MPR Mayaguez 144.92 324 *e*SKPbc SKPbc 12 04 04.1 +3.1
PLCA Paso Flores 146.37 204 PKPbc PKPbc 12 00 27.9 +0.2
comp=Z,2.5nm,0.7s,baz=191,slow=3.0,SNR=8.7
PLCA Paso Flores 146.37 204 PKP2 PKPab 12 00 28.0 -0.6
PLCA pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 147.33 237 PKPbc PKPbc 12 00 30.6 +0.1
comp=Z,0.3nm,0.3s,baz=125,slow=5.4,SNR=3.0
CMIG Matias Romero 151.60 15 PKPbc PKPbc 12 00 41.4 +0.2
comp=Z,1.4nm,0.7s,baz=342,slow=6.4,SNR=3.4

NEIC ***25*** *11:50:50.1, 17.27N×100.80W, h21km, MD3.6(MEX), After MEX.*

MEX 25 11:50:51.5±0.9, 17.26N×100.66W, h10km±7km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.43**	**120**	*i* P		Pg	11 50 59.3	-0.6
CAIG				*i* S		Sg	11 51 06.4	+0.8
ACX	**Acapulco**	**0.81**	**119**	*i* P		Pg	11 51 05.0	-2.1
ACX				*i* S		Sg	11 51 15.0	-2.7
ZIIG	**Zihuatanejo**	**0.84**	**294**	*i* P		Pg	11 51 05.0	-2.7
ZIIG				*i* S		Sg	11 51 17.2	-1.5
PLIG	**Platanillo**	**1.57**	**44**	*i* P		Pn	11 51 15.7	-3.7
PLIG				*i* S		Sn	11 51 35.9	-3.9
MOIG	**Morelia**	**2.46**	**348**	*i* P		Pn	11 51 28.3	-3.3
MOIG				*i* S		Sn	11 51 56.8	-4.8
MOIG	**Morelia**	**2.46**	**348**	*e*P		Pn	11 51 25.2	-6.3
MOIG				*i* S		Sn	11 51 52.9	-8.7
UTMO	**Huajuapan**	**2.78**	**78**	*e*P		Pn	11 51 32.8	-3.2
UTMO				*i* S		Sn	11 52 05.0	-4.7

IDC ***25*** *12:22:16.4±0.7, 34.75N×73.15E, h0km, mb4.1/12, mb1 4.2/15, mb1mx4.0/24, mbtmp4.1/15, ML4.0/3, Error ellipse: s-maj=19.2km s-min=17.5km az=53.0*
ISCJB ***25*** *12:22:17.1±0.3, 34.91N±0.03×73.36E±0.04, h10km, mb4.3/19, Error ellipse: s-maj=5.6km s-min=3.7km az=118.2*
NEIC ***25*** *12:22:18.0±0.4, 34.75N×73.13E, h10km, mb4.2/2, Error ellipse: s-maj=8.4km s-min=6.8km az=83.0*
NDI ***25*** *12:22:21.1±3.8, 34.93N×73.09E, h10km, ML4.1, mb4.2(NEIC)*

ISC 25 12:22:18.9±0.3, 34.90N±0.03×73.25E±0.04, h10km, n57, σ1§23/74, mb4.3/19, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**1.23**	**179**	P		**Pn**	**12 22 41.8**	**-0.4**
CEP	**Cherat**	**1.54**	**226**	⇓P		**Pn**	**12 22 45.7**	**-0.7**
THW	**Thamme Wali**	**2.44**	**211**	P		**Pn**	**12 23 00.7**	**+1.9**
SARP	**Sargodha**	**3.00**	**189**	P		**Pn**	**12 23 08.2**	**+1.6**
SARP				S		**Sn**	**12 23 45.0**	**+2.4**
THN	**Thein Dam**	**3.21**	**139**	*e*P		**Pn**	**12 23 12.5**	**+3.2**
THN				*ex*		x	12 23 54.6	
DLH	**Dalhousie**	**3.27**	**135**	*e*P		**Pn**	**12 23 13.0**	**+2.9**
DLH				*e*S		**Sn**	**12 23 54.0**	**+5.0**
SBDP	**Sheikh Budin**	**3.29**	**219**	P		**Pn**	**12 23 11.6**	**+1.1**
BHK	**Bhakra**	**4.37**	**142**	*ex*		**Pn**	**12 23 32.0**	**+6.6**
BHK				*ex*		x	12 24 39.6	
SDNR	**Sundarnagar**	**4.61**	**136**	*e*P		**Pn**	**12 23 32.0**	**+3.4**
SDNR				*e*S		**Sn**	**12 24 22.5**	**+0.4**
SMLA	**Simla**	**5.00**	**138**	*e*P		**Pn**	**12 23 36.8**	**+2.8**
SMLA				*e*S		**Sn**	**12 24 33.7**	**+2.0**
SMLA					AML	AML	12 24 58.4	
	comp=N,348nm,0.4s							
SMLA					AML	AML	12 25 00.5	
	comp=E,419nm,0.6s							
KLP	**Kalpa**	**5.37**	**127**	*e*P		**Pn**	**12 23 43.6**	**+4.5**
KLP				*e*S		**Sn**	**12 24 43.8**	**+2.8**
KLP					AML	AML	12 24 47.2	
	comp=E,312nm,0.7s							
KLP					AML	AML	12 24 49.0	
	comp=N,290nm,0.6s							
NDI	**New Delhi**	**7.06**	**150**	*ex*		**Pn**	**12 24 00.0**	**-2.2**
NDI				*ex*		**Sn**	**12 25 18.0**	**-4.5**
KHET	**Khetri**	**7.14**	**161**	*e*P		**Pn**	**12 24 03.3**	**-0.1**
KHET				*e*S		**Sn**	**12 25 19.4**	**-5.2**
AYAN	**Aya Nagar**	**7.20**	**152**	*e*P		**Pn**	**12 24 06.5**	**+2.4**
AYAN				*e*S		**Sn**	**12 25 23.6**	**-2.4**
SONA	**Sohna**	**7.39**	**153**	*e*P		**Pn**	**12 24 08.5**	**+1.7**
SONA				*e*S		**Sn**	**12 25 28.2**	**-2.5**
AAK	**Ala-Archa**	**7.79**	**7**	*e*P		**Pn**	**12 24 14.5**	**+2.3**
	comp=N,3.1nm,0.4s							
LGTI	**Lohaghat**	**8.04**	**131**	*ex*		**Pn**	**12 24 20.5**	**+4.7**
LGTI				*e*S		**Sn**	**12 25 45.3**	**-1.4**
JASL	**Jaisalmer**	**8.20**	**195**	*e*P		**Pn**	**12 24 21.4**	**+3.5**
JASL				*e*S		**Sn**	**12 25 46.3**	**-4.3**
KOLN	**Koldanda**	**11.35**	**126**	*e*Pn		**Pn**	**12 25 01.5**	**+0.5**
KOLN				*e*Sn		**Sn**	**12 27 00.9**	**-6.9**
	comp=N,42nm,0.6s							
GKN	**Gorkha**	**11.90**	**122**	*e*Pn		**Pn**	**12 25 07.9**	**-0.8**
GKN				*e*Sn		**Sn**	**12 27 13.3**	**-8.2**
	comp=N,60nm,0.4s							
DMN	**Daman**	**12.47**	**122**	*e*Pn		**Pn**	**12 25 15.4**	**-1.0**
DMN				*e*Sn		**Sn**	**12 27 28.1**	**-7.3**
	comp=N,56nm,0.9s							
KKN	**Kakani**	**12.48**	**121**	*e*Pn		**Pn**	**12 25 16.1**	**-0.5**
KKN				*e*Sn		**Sn**	**12 27 28.0**	**-7.7**
	comp=N,34nm,0.5s							
PKI	**Pulchoki**	**12.71**	**122**	*e*Pn		**Pn**	**12 25 19.4**	**-0.2**
PKI				*e*Sn		**Sn**	**12 27 32.5**	**-8.7**
	comp=N,50nm,0.7s							
GUN	**Gumba**	**12.84**	**119**	*e*Pn		**Pn**	**12 25 20.3**	**-1.1**
GUN				*e*Sn		**Sn**	**12 27 35.9**	**-8.4**
JIRN	**Jiri**	**13.21**	**120**	*e*Pn		**Pn**	**12 25 25.8**	**-0.7**
JIRN				*e*Sn		**Sn**	**12 27 45.3**	**-8.1**
MKAR	**Makanchi Array**	**13.70**	**27**	Pn		**Pn**	**12 25 34.9**	**+1.7**
	comp=N,0.1nm,0.3s,baz=208,slow=15,SNR=5.9							
AKL	**Akola**	**14.53**	**166**	*ex*		x	12 28 17.7	
BVAR	**Borovoye Array**	**18.24**	**354**	P		**Pn**	**12 26 32.8**	**+0.7**
	comp=N,0.8nm,0.3s,baz=170,slow=10,SNR=12							
BRVK	**Borovoye**	**18.28**	**354**	*e*P		**Pn**	**12 26 33.5**	**+0.9**
	comp=N,2.2nm,0.8s							
ZRNK	**Zerenda**	**18.30**	**352**	*e*P		**Pn**	**12 26 33.5**	**+0.6**
	comp=N,3.0nm,0.6s							
AKTK	**Aktyubinsk**	**19.09**	**329**	P		**Pn**	**12 26 42.0**	**-0.4**
AKTO	**Aktyubinsk**	**19.09**	**329**	P		**Pn**	**12 26 42.0**	**-0.4**
	comp=N,2.1nm,0.3s,baz=130,slow=12,SNR=33							
ZAL	**Zalesovo**	**20.70**	**20**	P		**P**	**12 26 58.9**	**-0.3**
	comp=N,3.0nm,0.5s,baz=262,slow=6.4,SNR=9.9							
QRN	**Al-Qurain**	**22.35**	**261**	*e*P		**P**	**12 27 16.9**	**0.0**
QRN					AMb	AMB	12 27 20.1	
	comp=E,36nm,1.2s,mb4.7							
KBD	**Kabd**	**22.37**	**262**	*e*P		**P**	**12 27 17.0**	**-0.1**
KBD					AMb	AMB	12 27 17.4	
	comp=Z,65nm,0.5s,mb5.3							
MIB	**Mutribah**	**22.44**	**264**	*e*P		**P**	**12 27 18.4**	**+0.5**
MIB					AMb	AMB	12 27 19.1	
	comp=Z,31nm,0.7s,mb4.8							
RDF	**Al-Radifah**	**22.58**	**262**	*e*P		**P**	**12 27 19.1**	**-0.3**
RDF					AMb	AMB	12 27 20.4	
	comp=Z,28nm,0.9s,mb4.7							
NAY	**Al-Naaiem**	**22.71**	**263**	*e*P		**P**	**12 27 20.6**	**-0.2**
NAY					AMb	AMB	12 27 21.1	
	comp=Z,8.8nm,0.5s,mb4.4							
RST	**Umm Al-Ruwaisa**	**22.82**	**264**	*e*P		**P**	**12 27 21.4**	**-0.5**
RST					AMb	AMB	12 27 22.5	
	comp=Z,29nm,0.6s,mb4.9							
SONM	**Songino Array**	**27.81**	**52**	P		**P**	**12 28 08.5**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.3,baz=243,slow=9.4,SNR=2.5							
JOF	**Joensuu**	**38.17**	**330**	*ep*		**P**	**12 29 37.9**	**-0.5**
	comp=Z,5.2nm,0.4s,mb4.6							
FINES	**FINESS Array B**	**39.83**	**327**	P		**P**	**12 29 51.9**	**-0.4**
	comp=Z,1.1nm,0.3s,mb4.0,baz=128,slow=11,SNR=9.5							
FINES	**FINESS Array B**	**39.83**	**327**	P		**P**	**12 29 51.9**	**-0.4**
ARCES	**ARCESS Array B**	**43.32**	**338**	P		**P**	**12 30 20.9**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.2,baz=117,slow=8.4,SNR=17							
NB2	**NORSAR Subarra**	**46.76**	**324**	P		**P**	**12 30 47.1**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**46.76**	**324**	P		**P**	**12 30 47.5**	**-0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=95,slow=7.7,SNR=5.0							
MJAR	**Matsushiro Arr**	**51.85**	**68**	P		**P**	**12 31 27.4**	**+0.1**
	comp=Z,1.1nm,0.8s,mb4.1,baz=292,slow=11,SNR=4.7							
TORD	**Torodi Ar. Bea**	**67.53**	**271**	P		**P**	**12 33 13.6**	**-1.8**
	comp=Z,2.0nm,0.6s,mb4.4,baz=46,slow=5.8,SNR=16							
INK	**Inuvik**	**75.18**	**10**	*e*P		**P**	**12 34 01.0**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2							
DBIC	**Dimbokro**	**76.46**	**269**	P		**P**	**12 34 08.3**	**-0.5**
	comp=Z,5.6nm,0.9s,mb4.5,baz=47,slow=5.7,SNR=6.6							
DBIC	**Dimbokro**	**76.46**	**269**	P		**P**	**12 34 08.3**	**-0.5**
BOSA	**Boshof**	**77.74**	**222**	P		**P**	**12 34 14.7**	**-1.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=331,slow=21,SNR=6.1							
WRA	**Warramunga Arr**	**79.59**	**123**	P		**P**	**12 34 25.7**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=323,slow=5.1,SNR=21							
WRAB	**Tennant Creek**	**79.59**	**123**	*e*P		**P**	**12 34 26.2**	**0.0**
ASAR	**Alice Springs**	**81.84**	**126**	P		**P**	**12 34 37.9**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=307,slow=5.1,SNR=15							
YKA	**Yellowknife Ar**	**82.74**	**4**	P		**P**	**12 34 42.0**	**-1.0**
	comp=Z,1.7nm,0.5s,mb4.4,baz=346,slow=5.5,SNR=9.8							
YKA	**Yellowknife Ar**	**82.74**	**4**	P		**P**	**12 34 42.0**	**-1.0**

ISCJB ***25*** *12:39:40.3±0.7, 28.33N±0.007×105.05E±0.1, h10km, mb4.0/4, Error ellipse: s-maj=17.5km s-min=5.4km az=124.6*
IDC ***25*** *12:39:40.7±1.1, 28.29N×105.09E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/20, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=83.4km s-min=21.2km az=63.0*
NEIC ***25*** *12:39:42.2±0.7, 28.26N×105.02E, h10km, mb4.4/1, Error ellipse: s-maj=43.7km s-min=11.2km az=68.0*
BJI ***25*** *12:39:42.7, 28.42N×105.02E, h12km, mb4.6, ML3.6, Ms3.7, Msz3.6*

ISC 25 12:39:42.7±0.7, 28.33N±0.06×105.02E±0.1, h10km, n13, σ1§09/18, mb4.0/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.40**	**141**	P		**Pn**	**12 40 24.0**	**+2.1**
GYA				S		**Sn**	**12 40 55.0**	**+3.7**
GYA				SG		**Sg**	**12 41 01.3**	**+1.6**
GYA				Smax				
	comp=N,530nm,0.8s							
GYA				Smax				
	comp=E,400nm,0.9s							
CD2	**Chengdu**	**2.78**	**338**	P		**Pn**	**12 40 27.8**	**+0.6**
CD2				SG		**Sg**	**12 41 13.5**	**+1.5**
CD2				Smax				
	comp=N,460nm,0.7s							
CD2				Smax				
	comp=E,380nm,0.7s							
KMI	**Kunming**	**3.76**	**212**	PG		**Pg**	**12 40 51.5**	**-3.2**
KMI				LR	LR			
	comp=N,661nm,6.3s							
KMI				LR	LR			
	comp=E,602nm,7.7s							
KMI				LR	LR			
	comp=Z,369nm,5.1s							
XAN	**Xi'an**	**6.62**	**30**	P		**Pn**	**12 41 20.0**	**-0.1**
XAN				S		**Sn**	**12 42 30.5**	**-5.1**
XAN				SG		**Sg**	**12 43 07.8**	**-7.5**
XAN				Smax				
	comp=N,120nm,1.1s							
XAN				Smax				
	comp=E,103nm,1.1s							
NJ2	**Nanjing**	**12.57**	**69**	*e*P		**Pn**	**12 42 40.5**	**-1.1**
NJ2					AMB	AMB		
	comp=Z,10.0nm,0.8s							
SONM	**Songino Array**	**19.51**	**3**	P		**Pn**	**12 44 10.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=182,slow=11,SNR=9.0							
MKAR	**Makanchi Array**	**25.60**	**322**	P		**P**	**12 45 12.3**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.7,baz=124,slow=11,SNR=15							
MKAR	**Makanchi Array**	**25.60**	**322**	P		**P**	**12 45 12.3**	**+0.3**
WRAB	**Tennant Creek**	**55.75**	**146**	*e*P		**P**	**12 49 18.7**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**55.76**	**146**	P		**P**	**12 49 18.8**	**-0.8**
	comp=Z,0.5nm,0.2s,mb4.1,baz=336,slow=8.3,SNR=39							
WB2	**Warramunga Arr**	**55.76**	**146**	*e*P		**P**	**12 49 18.7**	**-0.9**
AS31	**Alice Springs**	**58.73**	**149**	P		**P**	**12 49 40.2**	**-0.4**
ASAR	**Alice Springs**	**58.73**	**149**	P		**P**	**12 49 40.2**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=331,slow=6.8,SNR=22							
ASAR				PcP	PcP		12 50 29.1	-1.3
	comp=Z,0.3nm,0.6s,baz=323,slow=3.1,SNR=4.9							

IDC ***25*** *12:59:11.2±1.5, 29.90N×67.87E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/25, mbtmp3.8/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=41.1km s-min=22.9km az=61.0*
ISCJB ***25*** *12:59:12.8±1.2, 30.1N±0.1×68.2E±0.2, h10km, mb3.7/9, MS2.8/1, Error ellipse: s-maj=27.9km s-min=16.6km az=133.4*
NEIC ***25*** *12:59:13.3±1.2, 29.98N×68.00E, h10km, mb3.9/1, Error ellipse: s-maj=25.8km s-min=16.6km az=69.0*

ISC 25 12:59:13.7±1.2, 30.0N±0.1×68.0E±0.2, h10km, n16, σ1§08/16, mb3.7/9, MS2.8/1, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AJM	**Ajmer**	**6.80**	**119**	*e*P		**Sn**	**13 02 02.0**	**-9.1**
AAK	**Ala-Archa**	**13.63**	**21**	*e*P		**Pn**	**13 02 25.6**	**-1.4**
	2.9nm,0.4s							
MKAR	**Makanchi Array**	**20.09**	**30**	P		**P**	**13 03 46.9**	**-0.4**
	1.8nm,0.5s,baz=206,slow=10,SNR=16							
MKAR	**Makanchi Array**	**20.09**	**30**	P		**P**	**13 03 46.9**	**-0.4**
AKTK	**Aktyubinsk**	**21.75**	**343**	P		**P**	**13 04 06.5**	**+1.1**
AKTO	**Aktyubinsk**	**21.75**	**343**	P		**P**	**13 04 06.5**	**+1.1**
	0.9nm,0.6s,mb3.4,baz=158,slow=13,SNR=5.6							
ZRNK	**Zerenda**	**22.94**	**2**	*e*P		**P**	**13 04 17.8**	**-0.1**
	3.7nm,1.0s,mb3.8							
BVAR	**Borovoye Array**	**23.07**	**4**	P		**P**	**13 04 20.8**	**+1.5**
	1.7nm,0.5s,mb3.7,baz=170,slow=9.0,SNR=12							
BVAR					LR	LR	13 14 54.3	
	comp=Z,38nm,20.8s,MS2.8,baz=248,slow=41							
BRVK	**Borovoye**	**23.09**	**3**	*e*P		**P**	**13 04 20.2**	**+0.6**
ZAL	**Zalesovo**	**26.83**	**22**	P		**P**	**13 04 53.4**	**-0.8**
	1.4nm,0.4s,mb3.9,baz=292,slow=11,SNR=2.1							
ZAL	**Zalesovo**	**26.83**	**22**	P		**P**	**13 04 53.4**	**-0.8**
SONM	**Songino Array**	**34.31**	**48**	P		**P**	**13 06 01.2**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=249,slow=7.6,SNR=2.8							
ARCES	**ARCESS Array B**	**46.32**	**341**	P		**P**	**13 07 38.1**	**-1.6**
	5.8nm,1.0s,mb4.5,baz=113,slow=9.3,SNR=6.0							
NOA	**NORSAR Array B**	**48.27**	**327**	P		**P**	**13 07 52.7**	**-2.1**
	0.9nm,0.7s,mb3.9,baz=109,slow=7.9,SNR=3.3							
WRA	**Warramunga Arr**	**80.83**	**119**	P		**P**	**13 11 27.8**	**0.0**
	0.3nm,0.6s,mb3.4,baz=317,slow=5.2,SNR=5.8							
ASAR	**Alice Springs**	**82.73**	**122**	P		**P**	**13 11 38.0**	**+0.3**
	0.2nm,0.8s,mb3.2,baz=310,slow=5.7,SNR=5.3							

CSEM ***25*** *13:41:42.6±0.2, 36.87N×14.11W, h25km, ML4.1/14, Error ellipse: s-maj=6.5km s-min=4.1km az=119.0*
IGIL ***25*** *13:41:42.9, 37.00N×14.27W, h30km, ML3.7*
MDD ***25*** *13:41:43.5±1.6, 37.12N×13.93W, h0km, mb4.5/16, Error ellipse: s-maj=15.4km s-min=12.3km az=92.0, PRXIMO*
NEIC ***25*** *13:41:43.3, 37.19N×14.03W, h0km, MN3.4(MDD), After MDD.*
ISCJB ***25*** *13:41:45.2±0.7, 37.19N±0.004×13.54W±0.005, h10km, Error ellipse: s-maj=5.7km s-min=5.1km az=144.1*
LDG ***25*** *13:41:45.8±0.4, 37.17N×13.99W, h10km, Ml3.9/3, Error ellipse: s-maj=6.9km s-min=5.6km az=53.0*
INMG ***25*** *13:41:46.1±1.6, 36.97N×14.23W, h10km±16km, Mb4.4, ML3.3, Error ellipse: s-maj=6.9km s-min=6.5km az=132.0*
CNRM ***25*** *13:41:51.4, 36.20N×14.34W, h30km, MD3.9*

ISC 25 13:41:47.7±0.7, 37.24N±0.003×13.56W±0.005, h10km, n82, σ1§05/144, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIS	**Lisbon**	**3.78**	**66**	*e*P		**Pn**	**13 42 46.2**	**+0.2**
LIS				*e*S		**Sn**	**13 43 32.0**	**+1.6**
LIS				*e*S		**Sn**	**13 43 32.0**	**+1.6**
LIS					AML	AML	13 43 36.8	
	comp=E,280nm,0.3s							
LIS	**Lisbon**	**3.78**	**66**	*e*P		**Pn**	**13 42 46.2**	**+0.2**
LIS				*e*S		**Sn**	**13 43 32.0**	**+1.5**
PMAFR	**Mafra**	**3.78**	**62**	*e*Pn		**Pn**	**13 42 46.8**	**+0.8**
PMAFR				*e*Sn		**Sn**	**13 43 32.1**	**+1.6**
INMG	**Instituto de M**	**3.82**	**65**	*e*Pn		**Pn**	**13 42 47.5**	**+1.0**
PLOU	**Loures**	**3.84**	**63**	*e*Pn		**Pn**	**13 42 47.2**	**+0.4**
PLOU				*e*Sn		**Sn**	**13 43 33.5**	**+1.5**
PLOU								
	comp=E,48nm,0.3s							
PLOU	**Loures**	**3.84**	**63**	*e*Pn		**Pn**	**13 42 47.2**	**+0.4**
PLOU				*e*Sn		**Sn**	**13 43 33.5**	**+1.5**
	comp=E,48nm,0.3s							
PTEO	**Sao Teotonio**	**3.86**	**84**	*e*Pn		**Pn**	**13 42 47.3**	**+0.2**
PTEO				*e*Sn		**Sn**	**13 43 32.9**	**+0.5**
PTEO								
	comp=E,36nm,0.3s							
PTEO	**Sao Teotonio**	**3.86**	**84**	*e*Pn		**Pn**	**13 42 47.3**	**+0.2**
PTEO				*e*Sn		**Sn**	**13 43 32.9**	**+0.5**
	comp=E,36nm,0.3s							
PLML	**Palmela**	**3.91**	**69**	*e*Pn		**Pn**	**13 42 48.6**	**+0.9**
MORF	**Marmelete**	**3.91**	**88**	*e*P		**Pn**	**13 42 47.6**	**-0.1**
MORF				*e*S		**Sn**	**13 43 34.7**	**+0.9**
MORF				*e*S		**Sn**	**13 43 34.7**	**+0.9**
MORF					AML	AML	13 43 38.0	
	comp=N,56nm,0.4s							
MORF	**Marmelete**	**3.91**	**88**	*e*P		**Pn**	**13 42 47.6**	**-0.2**
MORF				*e*S		**Sn**	**13 43 34.7**	**+0.9**
ALMR	**Almeirim**	**4.36**	**63**	*e*P		**Pn**	**13 42 54.2**	**+0.2**
ALMR				*e*S		**Sn**	**13 43 46.0**	**+1.2**
ALMR				*e*S		**Sn**	**13 43 46.1**	**+1.2**
ALMR					AML	AML	13 43 49.9	
	comp=E,149nm,0.4s							
ALMR	**Almeirim**	**4.36**	**63**	*e*P		**Pn**	**13 42 54.2**	**+0.2**
ALMR				*e*S		**Sn**	**13 43 46.0**	**+1.2**
EVO	**Evora**	**4.57**	**72**	*e*Pn		**Pn**	**13 42 55.8**	**-1.0**
EVO				*e*Sn		**Sn**	**13 43 48.0**	**-2.0**
	comp=E,65nm,0.4s							
PBEJ	**Beja**	**4.58**	**78**	*e*Pn		**Pn**	**13 42 57.2**	**+0.2**
PBEJ				*e*Sn		**Sn**	**13 43 50.8**	**+0.5**
PBEJ								
	comp=E,24nm,0.3s							
PBEJ	**Beja**	**4.58**	**78**	*e*Pn		**Pn**	**13 42 57.2**	**+0.2**
PBEJ				*e*Sn		**Sn**	**13 43 50.8**	**+0.5**
	comp=E,24nm,0.3s							
PTOM	**Tomar**	**4.68**	**58**	*e*Pn		**Pn**	**13 42 58.9**	**+0.5**
PTOM				*e*Sn		**Sn**	**13 43 53.7**	**+0.9**
PTOM								
	comp=E,42nm,0.3s							
PTOM	**Tomar**	**4.68**	**58**	*e*Pn		**Pn**	**13 42 58.9**	**+0.5**
PTOM				*e*Sn		**Sn**	**13 43 53.7**	**+0.9**
	comp=E,42nm,0.3s							
EGRO	**El Granado**	**4.84**	**85**	P		**Pn**	**13 43 01.4**	**+0.8**
	comp=E,2.4nm,0.1s,SNR=8.3							
EGRO				S		**Sn**	**13 43 56.4**	**-0.3**
	comp=E,24nm,0.2s,SNR=9.6							
EGRO	**El Granado**	**4.84**	**85**	Pn		**Pn**	**13 43 01.4**	**+0.8**
	comp=E,2.4nm,0.1s,SNR=8.3							
EGRO				Sn		**Sn**	**13 43 56.4**	**-0.3**
	comp=E,24nm,0.2s,SNR=9.6							
PESTR	**Estremoz**	**4.98**	**69**	*e*Pn		**Pn**	**13 43 02.9**	**+0.4**
PESTR				*e*Sn		**Sn**	**13 44 00.6**	**+0.5**
PESTR								
	comp=E,22nm,0.3s							
PESTR	**Estremoz**	**4.98**	**69**	*e*Pn		**Pn**	**13 43 02.9**	**+0.4**
PESTR				*e*Sn		**Sn**

EADA	**Adamuz**	**7.18**	**80**	Pn		**Pn**	**13 43 33.1**	**+0.5**
	comp=E,5.1nm,0.3s,SNR=18							
EADA				Sn		**Sn**	**13 44 53.8**	**-0.4**
	comp=E,5.3nm,0.4s,SNR=5.6							
OUK	**Oukaimeden**	**7.64**	**140**	P		**Pn**	**13 43 36.0**	**-3.0**
OUK				S		**Sn**	**13 44 55.0**	**-11**
OUK	**Oukaimeden**	**7.64**	**140**	*i* P		**Pn**	**13 43 36.0**	**-3.0**
TZC	**Tazercounte**	**7.72**	**129**	P		**Pn**	**13 43 41.0**	**+0.9**
TZC				S		**Sn**	**13 45 02.0**	**-5.7**
KIB	**El Ksiba**	**7.73**	**125**	P		**Pn**	**13 43 43.0**	**+2.8**
KIB				S		**Sn**	**13 45 06.0**	**-1.8**
EBAN	**Banos Encina**	**7.80**	**80**	P		**Pn**	**13 43 41.5**	**+0.4**
	comp=E,1.4nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**13 45 08.4**	**-1.1**
	comp=E,13nm,0.5s,SNR=7.9							
EPON	**Pontenova**	**7.80**	**37**	P		**Pn**	**13 43 40.0**	**-1.2**
	comp=E,2.1nm,0.3s,SNR=4.9							
EPON				S		**Sn**	**13 45 04.6**	**-5.0**
	comp=E,5.7nm,0.2s,SNR=5.3							
EPON	**Pontenova**	**7.80**	**37**	Pn		**Pn**	**13 43 40.0**	**-1.2**
	comp=E,2.1nm,0.3s,SNR=4.9							
MIF	**Mishlifen**	**7.80**	**117**	P		**Pn**	**13 43 45.0**	**+3.7**
MIF				S		**Sn**	**13 45 09.0**	**-0.7**
ESDC	**Sonseca Array**	**7.91**	**69**	P		**Pn**	**13 43 42.8**	**+0.1**
	comp=E,4.2nm,0.1s,baz=257,slow=13,SNR=33							
ESDC				S		**Sn**	**13 45 11.6**	**-0.6**
	comp=E,2.3nm,0.2s,baz=256,slow=23,SNR=4.0							
ESDC	**Sonseca Array**	**7.91**	**69**	Pn		**Pn**	**13 43 42.8**	**+0.1**
	comp=E,4.2nm,0.1s,SNR=33							
ESDC				Sn		**Sn**	**13 45 11.6**	**-0.6**
	comp=E,2.3nm,0.2s,SNR=4.0							
ESLA	**Sonseca Array**	**7.91**	**69**	*e*Pn		**Pn**	**13 43 42.8**	**+0.1**
	comp=E,0.9nm,0.4s							
ESLA				Sn		**Sn**	**13 45 00.6**	**-12**
ESLA	**Sonseca Array**	**7.91**	**69**	*e*Pn		**Pn**	**13 43 42.8**	**+0.1**
	comp=E,0.9nm,0.4s							
GUD	**Guadarrama**	**8.07**	**62**	P		**Pn**	**13 43 44.8**	**-0.1**
	comp=E,6.5nm,0.5s,SNR=7.1							
GUD				S		**Sn**	**13 45 16.7**	**+0.5**
	comp=E,2.7nm,0.4s							
GUD	**Guadarrama**	**8.07**	**62**	Pn		**Pn**	**13 43 45.6**	**+0.6**
GUD				Sn		**Sn**	**13 45 16.7**	**+0.5**
GUD	**Guadarrama**	**8.07**	**62**	Pn		**Pn**	**13 43 45.6**	**+0.7**
	comp=E,6.5nm,0.5s,SNR=7.1							
GUD				Sn		**Sn**	**13 45 16.7**	**+0.4**
	comp=E,2.7nm,0.4s							
CZD	**Col de Zad**	**8.14**	**119**	P		**Pn**	**13 43 50.0**	**+4.2**
CZD				S		**Sn**	**13 45 16.0**	**-1.9**
EARI	**Arriondas**	**8.79**	**44**	P		**Pn**	**13 43 55.4**	**+0.7**
	comp=E,0.7nm,0.2s,SNR=6.8							
EARI				S		**Sn**	**13 45 31.0**	**-2.8**
	comp=E,2.4nm,0.6s,SNR=5.3							
EARI	**Arriondas**	**8.79**	**44**	Pn		**Pn**	**13 43 55.4**	**+0.7**
EARI				Sn		**Sn**	**13 45 31.0**	**-2.8**
EARI	**Arriondas**	**8.79**	**44**	Pn		**Pn**	**13 43 55.4**	**+0.6**
	comp=E,0.7nm,0.2s,SNR=6.8							
EVIA	**Vianos**	**8.84**	**78**	P		**Pn**	**13 43 56.3**	**+0.8**
	comp=E,2.3nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**9.59**	**78**	P		**Pn**	**13 44 06.3**	**+0.6**
	comp=E,1.3nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**9.59**	**78**	Pn		**Pn**	**13 44 06.3**	**+0.6**
	comp=E,1.3nm,0.3s,SNR=7.9							
ETOR	**Torete**	**9.63**	**65**	P		**Pn**	**13 44 06.4**	**+0.1**
	comp=E,12nm,0.4s,SNR=7.9							
ETOR				S		**Sn**	**13 45 53.8**	**-0.8**
	SNR=7.9							
EMOS	**Mosqueruela**	**10.68**	**69**	P		**Pn**	**13 44 21.9**	**+1.3**
	comp=E,2.4nm,0.4s,SNR=7.9							
EMOS				S		**Sn**	**13 46 18.1**	**-2.1**
	comp=E,7.5nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**10.68**	**69**	Pn		**Pn**	**13 44 21.9**	**+1.3**
	comp=E,2.4nm,0.4s,SNR=7.9							
SJPF	**Ste Jean**	**11.10**	**54**	*e*Pn		**Pn**	**13 44 27.1**	**+0.7**
SJPF				*e*Sn		**Sn**	**13 46 27.6**	**-3.0**
	comp=E,4.6nm,0.5s							
SJPF	**Ste Jean**	**11.10**	**54**	*e*Pn		**Pn**	**13 44 27.1**	**+0.7**
SJPF				*e*Sn		**Sn**	**13 46 27.6**	**-3.0**
	comp=E,2.3nm,0.5s							
ETSF	**Etsaut**	**11.44**	**56**	*e*Pn		**Pn**	**13 44 30.5**	**-0.6**
ETSF				*e*Sn		**Sn**	**13 46 35.5**	**-3.5**
	comp=E,3.3nm,0.5s							
ETSF	**Etsaut**	**11.44**	**56**	P		**Pn**	**13 44 30.5**	**-0.6**
ETSF				S		**Sn**	**13 46 35.5**	**-3.5**
	comp=E,1.6nm,0.5s							
EPF	**Esparros**	**12.10**	**57**	*e*Pn		**Pn**	**13 44 41.0**	**+0.9**
ROSF	**Rostrenen**	**13.40**	**31**	*e*Pn		**Pn**	**13 44 56.5**	**-1.3**
MFF	**Saint Martin d**	**13.66**	**43**	*e*Pn		**Pn**	**13 45 00.1**	**-1.3**
CAF	**Calviac**	**14.04**	**52**	*e*Pn		**Pn**	**13 45 05.3**	**-1.4**
GRR	**Gorron**	**14.50**	**36**	*e*Pn		**Pn**	**13 45 11.8**	**-1.1**

*NEIC **25** 14:12:56.0±0.5,2171S×17574W,h35km,mb4.8/13,Error ellipse: s-maj=14.1km s-min=11.6km az=151.0*
*BJI **25** 14:12:56.0,2170S×17570W,h35km,mB5.3,mb5.0,Ms5.2,Msz4.6*
*ISCJB **25** 14:13:03.9±2.6,218S±0.1×17589W±009,h114km±22km,mb4.6/19,Error ellipse: s-maj=19.6km s-min=13.4km az=2.4*
*IDC **25** 14:13:07.9±2.6,2183S×17588W,h138km±22km,mb4.0/9,mb1 4.1/10,mb1mx4.0/15,mbtmp4.4/10,MS3.6/11,Ms1 3.5/11,ms1mx3.4/28,Error ellipse: s-maj=24.2km s-min=14.3km az=171.0*

ISC 25 14:13:08.0±2.3,219S±01×17581W±008,h139km±20km, n50,σ0:83/34,mb4.4/19,**1C,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.77**	**27**	LR	LR	14 17 29.0	
	comp=Z,105nm,21.6s,baz=200,slow=30						
RAR	**Rarotonga**	**14.93**	**91**	LR	LR	14 20 45.3	
	comp=Z,119nm,20.9s,baz=252,slow=30						
DZM	**Mont Dzumac**	**16.47**	**266**	P	**Pn**	**14 16 52.0**	**+1.0**
	0.4nm,0.3s,baz=93,slow=18,SNR=4.3						
DZM				LR	LR	14 21 27.6	
	comp=Z,91nm,19.7s,baz=34,slow=30						
URZ	**Urewera**	**17.46**	**199**	P	**Pn**	**14 16 56.9**	**-6.0**
	1.6nm,0.3s,baz=341,slow=5.2,SNR=10						
TBI	**Tubuai**	**24.36**	**99**	*e*LQ		14 22 51.9	
	245nm,28.8s						
TBI				*e*LR	LR	14 23 48.3	
	325nm,31.2s,baz=281						
RPZ	**Rata Peaks**	**24.39**	**204**	LR	LR	14 26 53.4	
	comp=Z,160nm,19.4s,baz=329,slow=34						
PPT	**Papeete**	**25.04**	**85**	*e*LQ		14 22 50.3	
	315nm,25.5s						
PPT				*e*LR	LR	14 24 04.1	
	392nm,28.2s,baz=258						
PPT	**Papeete**	**25.04**	**85**	LR	LR	14 25 09.1	
	comp=Z,186nm,19.2s,baz=278,slow=29						
HNR	**Honiara**	**26.36**	**294**	LR	LR	14 26 21.8	
	comp=Z,54nm,19.3s,baz=179,slow=30						
CTA	**Charters Tower**	**35.42**	**266**	*e*P	**P**	**14 19 51.0**	**+0.4**
	12nm,0.6s,mb4.7						
CTA	**Charters Tower**	**35.42**	**266**	P	**P**	**14 19 50.2**	**-0.4**
	14nm,0.6s,mb4.8,baz=100,slow=10,SNR=25						
CTAO	**Charters Tower**	**35.42**	**266**	*e*P	**P**	**14 19 51.0**	**+0.4**
	16nm,0.7s,mb4.8						
TAOE	**Nuku Hiva Isla**	**36.62**	**75**	*e*LR	LR	14 29 20.1	
	538nm,31.1s						
STKA	**Stephens Creek**	**39.08**	**246**	*e*P	**P**	**14 20 21.0**	**-0.5**
	3.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**39.08**	**246**	P	**P**	**14 20 21.2**	**-0.2**
	4.2nm,0.6s,mb4.3,baz=89,slow=8.1,SNR=16						
STKA				LR	LR	14 33 41.5	
	comp=Z,93nm,18.1s,baz=27,slow=32						
AS31	**Alice Springs**	**46.22**	**258**	*e*P	**P**	**14 21 18.7**	**-0.4**
ASAR	**Alice Springs**	**46.22**	**258**	P	**P**	**14 21 18.6**	**-0.5**
	10nm,0.8s,mb4.5,baz=93,slow=6.8,SNR=47						
ASAR				S	**S**	**14 27 56.1**	**+1.1**
	0.6nm,0.9s,baz=93,slow=14,SNR=4.9						
ASAR				LR	LR	14 37 30.1	
	comp=Z,102nm,20.9s,baz=194,slow=32						
ASPA	**Alice Springs**	**46.22**	**258**	*e*P	**P**	**14 21 18.7**	**-0.4**
WB2	**Warramunga Arr**	**46.44**	**263**	*e*P	**P**	**14 21 20.0**	**-0.8**
WRAB	**Tennant Creek**	**46.45**	**263**	*e*P	**P**	**14 21 20.7**	**-0.2**
	9.5nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**46.46**	**263**	P	**P**	**14 21 19.4**	**-1.5**
	5.3nm,0.8s,mb4.2,baz=97,slow=7.6,SNR=59						
WRA				S	**S**	**14 27 58.2**	**-0.2**
	0.2nm,0.8s,baz=101,slow=13,SNR=2.6						
KAKA	**Kakadu**	**50.05**	**272**	*e*P	**P**	**14 21 49.2**	**+0.7**
	6.4nm,0.6s,mb4.4						
FORT	**Forrest**	**50.66**	**248**	*e*P	**P**	**14 21 51.2**	**-1.8**
	31nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**54.89**	**263**	*e*P	**P**	**14 22 24.5**	**+0.4**
	3.3nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**54.89**	**263**	P	**P**	**14 22 24.5**	**+0.5**
	1.9nm,0.5s,mb4.1,baz=45,slow=7.1,SNR=16						
SBA	**Scott Base**	**56.68**	**184**	*e*P	**P**	**14 22 38.6**	**+1.7**
	2.8nm,0.8s,mb4.1						
VNDA	**Vanda**	**56.77**	**186**	P	**P**	**14 22 37.6**	**+0.1**
	0.9nm,0.9s,mb3.6,baz=4.4,slow=4.5,SNR=6.6						
VNDA	**Vanda**	**56.77**	**186**	*e*P	**P**	**14 22 38.2**	**+0.8**
	1.3nm,0.8s,mb3.8						
MBWA	**Marble Bar**	**59.56**	**258**	*e*P	**P**	**14 22 57.7**	**+0.8**
	5.1nm,0.5s,mb4.6						
QSPA	**South Pole Qui**	**68.23**	**180**	*e*P	**P**	**14 23 54.3**	**+0.7**
	14nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**72.51**	**323**	LR	LR	14 50 25.8	
	comp=Z,65nm,20.1s,baz=40,slow=31						
YBH	**Yreka Blue Hor**	**80.08**	**37**	P	**P**	**14 25 02.5**	**+0.2**
	2.1nm,0.9s,mb3.8,baz=205,slow=1.7,SNR=5.0						
MAW	**Mawson**	**80.99**	**199**	P	**P**	**14 25 06.6**	**-0.5**
	2.6nm,0.8s,mb3.9,baz=101,slow=10,SNR=4.2						
SYO	**Syowa Base**	**85.86**	**192**‖	*e*pP	pP	14 25 45.6	-22
MNTX	**Cornudas Mount**	**85.88**	**54**	*e*P	**P**	**14 25 32.0**	**-0.1**
	6.0nm,1.2s,mb4.2						
SNAA	**Sanae**	**86.61**	**178**	*e*	**P**	**14 25 34.7**	**-1.0**
SNAA				*e*		14 25 37.6	
VNA3	**Neumayer Olymp**	**86.66**	**176**	*e*	**P**	**14 25 35.4**	**-0.6**
VNA3				*e*		14 25 37.6	
PLCA	**Paso Flores**	**86.86**	**133**	P	**P**	**14 25 37.0**	**+0.1**
	2.1nm,1.1s,mb3.9,baz=246,slow=12,SNR=3.5						
PLCA				LR	LR	14 55 32.7	
	comp=Z,55nm,19.6s,baz=3.3,slow=29						
VNA1	**Neumayer--Stat**	**87.34**	**176**	*e*	**P**	**14 25 39.3**	**+0.1**
VNA1				*e*		22 23 03.2	
MCK	**McKinley**	**87.85**	**12**	*e*P	**P**	**14 25 40.8**	**-0.9**
	1.9nm,1.0s,mb3.9						
HHC	**Hu-ho-hao-te**	**91.76**	**314**	*e*P	**P**	**14 26 01.5**	**+1.6**
HHC				AP	pP	14 26 11.8	-23
HHC				PP	PP	14 29 43.0	+2.5
HHC				SKS		14 36 29.8	
HHC				S	S	14 36 57.0	+8.2
HHC				SS	SS	14 43 07.5	+8.1
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,101nm,3.9s						
HHC				LR	LR		
	comp=N,82nm,4.5s						
HHC				LR	LR		
	comp=E,79nm,4.5s						
HHC				LR	LR		
	comp=Z,74nm,5.1s						
CD2	**Chengdu**	**93.24**	**302**	*e*P	**P**	**14 26 07.3**	**+0.6**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.9s						
SONM	**Songino Array**	**98.11**	**318**	LR	LR	15 10 56.8	
	comp=Z,34nm,18.3s,baz=107,slow=35						
WMQ	**Urumqi**	**109.35**	**310**	*e*PKP	PKiKP	14 31 24.5	+2.8
WMQ				LR	LR		
	comp=Z,83nm,22.6s						
ARCES	**ARCESS Array B**	**130.60**	**350**	PKP	PKPdf	14 32 01.2	-1.1
	comp=Z,5.3nm,0.9s,baz=3.4,slow=4.1,SNR=5.7						
AKASG	**Malin Array Be**	**145.17**	**332**	PKPbc	PKPbc	14 32 28.1	-0.8
	comp=Z,0.8nm,0.4s,baz=38,slow=4.0,SNR=5.0						
BRTR	**Keskin Array B**	**149.26**	**312**	PKPbc	PKPbc	14 32 40.5	+0.3
	comp=Z,0.5nm,0.5s,baz=155,slow=5.6,SNR=4.0						
CLL	**Collm**	**149.80**	**349**	*i* PKPbc	PKPbc	14 32 41.9	+0.3
	comp=Z,9.0nm,1.1s						
GERES	**GERESS Array B**	**152.01**	**347**	PKPbc	PKPbc	14 32 46.8	0.0
	comp=Z,0.9nm,0.6s,baz=0.0,slow=1.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**171.03**	**164**	PKPab	PKPab	14 34 19.5	0.0
	comp=Z,1.1nm,0.8s,baz=187,slow=4.6,SNR=5.1						

*IDC **25** 14:15:26.9±1.2,232N×96.11E,h0km,mb4.2/8,mb1 4.3/9,mb1mx4.0/22,mbtmp4.1/9,ML3.7/1,MS3.5/1,Ms1 3.5/1,ms1mx2.6/33,Error ellipse: s-maj=43.4km s-min=18.1km az=46.0*
*BJI **25** 14:15:29.7,240N×9620E,h30km,mB4.7,mb4.6,Ms4.1,Msz3.8*
*NEIC **25** 14:15:31.7±0.5,237N×9622E,h30km,mb4.2/4,Error ellipse: s-maj=13.2km s-min=6.9km az=212.0*
*ISCJB **25** 14:15:34.7±3.1,25N±02×965E±02,h68km±25km, mb4.3/18,Error ellipse: s-maj=37.5km s-min=12.4km az=96.4*

ISC 25 14:15:36.0±3.2,25N±02×964E±02,h60km±25km,n25, σ0:54/25,mb4.3/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.51**	**84**	Pn	**Pn**	**14 16 13.9**	**-0.4**
	12nm,0.3s,baz=293,slow=6.4,SNR=90						
KULM	**Kulim**	**5.03**	**57**	*e*P	**Pn**	**14 16 48.7**	**-0.1**
KKM	**Kota Kinabalu**	**20.04**	**79**	*e*P	**P**	**14 20 04.7**	**+0.7**
PKI	**Pulchoki**	**27.05**	**338**	*e*P	**P**	**14 21 12.8**	**+0.2**
GUN	**Gumba**	**27.18**	**339**	*e*P	**P**	**14 21 14.6**	**+0.8**
	26nm,0.6s,mb4.9						
DMN	**Daman**	**27.20**	**338**	*e*P	**P**	**14 21 14.3**	**+0.4**
KKN	**Kakani**	**27.29**	**338**	*e*P	**P**	**14 21 15.3**	**+0.5**
	16nm,0.7s,mb4.7						
GKN	**Gorkha**	**27.73**	**337**	*e*P	**P**	**14 21 19.3**	**+0.6**
	27nm,0.8s,mb5.0						
KOLN	**Koldanda**	**27.94**	**335**	*e*P	**P**	**14 21 21.1**	**+0.5**
	17nm,0.8s,mb4.7						
XAN	**Xi'an**	**33.45**	**19**	P	**P**	**14 22 08.3**	**-0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**36.84**	**4**	*e*P	**P**	**14 22 38.3**	**0.0**
GTA				AP	pP	14 22 45.8	-7.6
GTA				XP	sP	14 22 49.0	-11
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**43.39**	**123**	P	**P**	**14 23 32.5**	**0.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=8.3						
WRAB	**Tennant Creek**	**43.39**	**123**	*e*P	**P**	**14 23 33.0**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.2						
AAK	**Ala-Archa**	**44.49**	**337**	P	**P**	**14 23 42.1**	**+0.8**
	comp=Z,1.0nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**44.80**	**128**	P	**P**	**14 23 43.9**	**+0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=304,slow=8.0,SNR=4.7						
MKAR	**Makanchi Array**	**45.78**	**346**	P	**P**	**14 23 51.4**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.7,baz=163,slow=7.9,SNR=79						
MKAR	**Makanchi Array**	**45.78**	**346**	P	**P**	**14 23 51.4**	**-0.2**
SONM	**Songino Array**	**45.95**	**9**	P	**P**	**14 23 53.3**	**+0.4**
	comp=Z,1.8nm,0.4s,mb4.3,baz=192,slow=9.1,SNR=19						
ZAL	**Zalesovo**	**52.13**	**351**	P	**P**	**14 24 40.0**	**-0.2**
	comp=Z,4.9nm,0.4s,mb4.8,baz=307,slow=5.2,SNR=12						
ZAL	**Zalesovo**	**52.13**	**351**	*e*P	**P**	**14 24 40.0**	**-0.2**
ZAL				LR	LR	14 49 38.0	
BVAR	**Borovoye Array**	**54.76**	**341**	P	**P**	**14 24 58.8**	**-0.6**
	comp=Z,2.6nm,0.7s,mb4.4,baz=145,slow=9.0,SNR=14						
BRVK	**Borovoye**	**54.82**	**341**	*e*P	**P**	**14 24 59.1**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.3						
ZRNK	**Zerenda**	**55.15**	**340**	*e*P	**P**	**14 25 01.7**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**67.66**	**312**	P	**P**	**14 26 25.7**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.5,baz=69,slow=7.9,SNR=2.8						
ARCES	**ARCESS Array B**	**81.04**	**340**	P	**P**	**14 27 43.8**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=102,slow=8.4,SNR=3.3						

*NEIC **25** 14:32:17.0±1.4,539S×15100E,mb4.1/4,Error ellipse: s-maj=37.0km s-min=21.1km az=139.0*
*IDC **25** 14:32:18.0±1.8,5.10S×150.54E,h36km±7km,mb3.8/3,mb1 4.2/4,mb1mx3.7/12,mbtmp4.2/4,ML4.0/1,MS3.3/2,Ms1 3.3/2,ms1mx2.6/20,Error ellipse: s-maj=75.0km s-min=25.8km az=121.0*
*ISCJB **25** 14:32:21.2±4.9,56S±03×1507E±03,h74km±33km, mb3.8/5,Error ellipse: s-maj=52.9km s-min=37.5km az=95.0*

ISC 25 14:32:21.7±4.8,56S±03×1508E±03,h70km±32km,n16, σ0:29/15,mb3.8/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.27**	**223**	Pn	**Pn**	**14 33 38.0**	**+0.2**
	34nm,0.3s,baz=44,slow=13,SNR=68						
PMG				Sn	**Sn**	**14 34 37.2**	**0.0**
	1.0nm,0.3s,baz=196,slow=20,SNR=2.8						
PMG	**Port Moresby**	**5.27**	**223**	*e*Pn	**Pn**	**14 33 37.9**	**+0.1**
PMG				*e*Sn	**Sn**	**14 34 37.1**	**0.0**
PMG				Sn	**Sn**	**14 34 37.2**	**0.0**
KAKA	**Kakadu**	**19.46**	**247**	*e*P	**Pn**	**14 36 44.2**	**-0.3**
	3.3nm,0.3s						
GUMO	**Guam**	**19.90**	**343**	LR	LR	14 42 23.0	
	comp=Z,62nm,20.1s,baz=297,slow=31						
WRAB	**Tennant Creek**	**21.46**	**227**	*e*P	**P**	**14 37 03.6**	**-0.6**
	7.0nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**21.46**	**227**	*e*P	**P**	**14 37 04.3**	**0.0**
WRA	**Warramunga Arr**	**21.47**	**227**	P	**P**	**14 37 04.5**	**+0.2**
	2.6nm,0.6s,mb3.7,baz=51,slow=10,SNR=31						
WRA				pP		14 37 15.1	
	4.1nm,0.6s,baz=50,slow=10,SNR=8.7						
WRA				PcP	PcP	14 41 04.6	-0.2
	0.1nm,0.7s,baz=52,slow=2.4,SNR=4.7						
DZM	**Mont Dzumac**	**22.34**	**139**	LR	LR	14 43 52.1	
	comp=Z,115nm,18.3s,baz=58,slow=30						
AS31	**Alice Springs**	**24.27**	**220**	*e*P	**P**	**14 37 32.2**	**0.0**
ASAR	**Alice Springs**	**24.27**	**220**	P	**P**	**14 37 32.5**	**+0.2**
	1.0nm,0.4s,mb3.5,baz=52,slow=8.9,SNR=38						
ASAR				pP		14 37 44.0	
	3.5nm,0.7s,baz=52,slow=9.2,SNR=17						
ASAR				ScP	ScP	14 44 49.4	+6.4
	0.4nm,1.1s,baz=57,slow=1.6,SNR=4.3						
ASPA	**Alice Springs**	**24.28**	**220**	*e*P	**P**	**14 37 32.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.56**	**241**	*e*P	**P**	**14 38 02.2**	**+0.3**
	5.5nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.56**	**241**	P	**P**	**14 38 02.7**	**+0.8**
	2.6nm,0.5s,mb4.0,baz=72,slow=8.4,SNR=7.4						
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**14 44 46.3**	**-0.1**
	0.4nm,0.5s,mb3.5						
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc	PKPbc	14 52 01.2	+0.6
	1.3nm,0.4s,baz=95,slow=2.1,SNR=29						
TORD				pPKPbc	pPKPbc	14 52 12.3	-8.4
	1.0nm,0.7s,baz=83,slow=2.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.62**	**286**	PKPbc	PKPbc	14 52 01.2	+0.6
TORD				pPKPbc	pPKPbc	14 52 12.3	-8.4

CASC 25 14:36:56.8±2.2,891N×8301W,h42km±12km,MD3.7,3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.24**	**94**‖	*e*P	Pn	14 37 05.7	+1.0
CTCR				*e*S	Sn	14 37 10.9	+0.8
CNI	**Changuinola**	**0.70**	**44**‖	*i* P	Pn	14 37 12.4	+2.1
CNI				*e*S	Sn	14 37 18.9	-1.0
BUS	**Buena Vista**	**0.98**	**311**	*e*P	Pn	14 37 13.9	-0.2
BUS				*e*S	Sn	14 37 28.4	+1.7
LCR2	**La Lucha 2**	**1.28**	**310**‖	*e*P	Pn	14 37 18.1	-0.1
LCR2				*e*S	Sn	14 37 35.3	+1.1
IRZ2	**Volcan Irazu 2**	**1.37**	**320**	*e*P	Pn	14 37 21.2	+1.8
IRZ2				*e*S	Sn	14 37 39.5	+3.2
PRS1	**Puriscal**	**1.67**	**310**	*e*P	Pn	14 37 23.1	-0.4
PRS1				*e*S	Sn	14 37 44.5	+0.8
CGA2	**Cerro Gallo 2**	**1.81**	**307**	*e*P	Pn	14 37 26.2	+0.8
CGA2				*e*S	Sn	14 37 48.7	+1.5
PTP	**Ponta Puerca**	**19.26**	**59**	*e*P		14 37 09.7	
PTP				*e*S		14 37 21.3	

IDC 25 14:40:04.2±2.5,443N×12377E,h0km,mb3.3/3,mb1 3.5/3, mb1mx3.3/18,mbtmp3.3/3,Error ellipse: s-maj=331.9km s-min=26.5km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.35**	**157**	P	P	14 45 42.4	+0.5
	0.6nm,0.8s,baz=336,slow=9.6,SNR=8.2						
ASAR	**Alice Springs**	**29.62**	**161**	P	P	14 46 11.2	+0.1
	0.2nm,0.8s,baz=339,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**55.32**	**326**	P	P	14 49 39.7	+0.1
	0.2nm,0.3s,baz=127,slow=7.9,SNR=5.7						

CASC 25 14:48:39.2±2.7,874N×8308W,h41km±20km,MD4.1, 2C-5D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.35**	**64**‖	*i* P	Pn	14 48 48.6	+0.5
BRU	**Baru**	**0.52**	**83**‖	*e*P	Pn	14 48 50.9	+0.7
DVD	**David**	**0.69**	**116**‖	*i* P	Pn	14 48 52.6	0.0
DVD				*e*S	Sn	14 49 01.6	-0.6
CNI	**Changuinola**	**0.87**	**40**‖	*i* P	Pn	14 48 55.2	+0.3
CNI				*e*S	Sn	14 49 08.6	+2.2
BUS	**Buena Vista**	**1.05**	**320**	*e*P	Pn	14 48 56.7	-0.7

KHZ	**Kahutara**	**6.67**	**206**	PN	Pn	15 00 13.6 -1.8

*NEIC **25** 15:08:51.7, 4235N×1987E, h11km, ML3.0(PDG), After PDG.*
*PDG **25** 15:08:51.7±0.1, 4235N×1987E, h11km±1km*
*CSEM **25** 15:08:51.4±0.2, 4236N×1989E, h5km, ML3.0, Error ellipse: s-maj=3.8km s-min=3.0km az=33.0*
*ISCJB **25** 15:08:52.8±0.3, 4239N±002×1981E±002, h10km, Error ellipse: s-maj=2.9km s-min=2.5km az=71.9*
*SKO **25** 15:08:52.2, 4244N×1979E, h3km*

ISC 25 15:08:53.3±0.3, 4238N±002×1981E±003, h10km, n29, σ1§35/55, 10C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.24**	**30**	⇓*i* Pg	**Pg**	**15 08 56.6**	**-1.7**
PVY				*e* Sg	**Sg**	**15 09 00.9**	**-0.7**
TTG	**Podgorica**	**0.41**	**277**	⇑*i* Pg	**Pg**	**15 08 59.4**	**-2.0**
TTG				*e* Sg	**Sg**	**15 09 07.5**	**+0.7**
TTG	**Podgorica**	**0.41**	**277**	⇑*i* Pg	**Pg**	**15 08 59.3**	**-2.0**
TTG				*e* Sg	**Sg**	**15 09 07.5**	**+0.7**
IVA	**Berane**	**0.49**	**8**	⇑*i* Pg	**Pg**	**15 09 01.4**	**-1.5**
IVA				*i* Sg	**Sg**	**15 09 09.8**	**+0.3**
ULC	**Ulcinj**	**0.59**	**225**	⇑*i* Pg	**Pg**	**15 09 03.0**	**-1.7**
ULC				*i* Sg	**Sg**	**15 09 12.5**	**0.0**
BUM	**Brajici-Budva**	**0.68**	**263**	⇑*i* Pg	**Pg**	**15 09 05.2**	**-1.3**
BUM				*i* Sg	**Sg**	**15 09 16.4**	**+1.0**
NKY	**Niksic**	**0.74**	**306**	⇑*i* Pg	**Pg**	**15 09 06.4**	**-1.1**
NKY				*i* Sg	**Sg**	**15 09 18.9**	**+1.7**
SJES	**Sjenica**	**0.89**	**6**	Pg	**Pg**	**15 09 08.3**	**-2.2**
SJES				Sg	**Sg**	**15 09 22.5**	**+0.4**
HCY	**Herceg Novi**	**0.97**	**274**	⇑*i* Pg	**Pg**	**15 09 10.5**	**-1.5**
HCY				*e* Sg	**Sg**	**15 09 26.6**	**+1.8**
HCY	**Herceg Novi**	**0.97**	**274**	⇑*i* Pg	**Pg**	**15 09 10.5**	**-1.5**
HCY				*e* Sg	**Sg**	**15 09 26.5**	**+1.8**
PLE	**Pljevlja**	**0.99**	**342**	⇑*i* Pg	**Pg**	**15 09 10.9**	**-1.5**
PLE				*i* Sg	**Sg**	**15 09 27.4**	**+2.0**
UPM	**Unac-Piva**	**1.05**	**321**	⇓*i* Pg	**Pg**	**15 09 12.3**	**-1.3**
UPM				*i* Sg	**Sg**	**15 09 29.7**	**+2.4**
BRY	**Bratogost**	**1.07**	**299**	⇓*i* Pg	**Pg**	**15 09 12.1**	**-1.7**
BRY				*i* Sg	**Sg**	**15 09 29.8**	**+2.0**
TREB	**Trebinje**	**1.13**	**288**	P	**Pb**	**15 09 13.1**	**-1.8**
SKO	**Skopje**	**1.28**	**108**	*e*Pn	**Pn**	**15 09 16.7**	**-0.5**
SKO				*e*Sn	**Sn**	**15 09 35.4**	**+1.0**
SKO	**Skopje**	**1.28**	**108**	*e*Pn	**Pn**	**15 09 16.7**	**-0.5**
SKO				*e*Sn	**Sn**	**15 09 35.3**	**+0.9**
OHR	**Ohrid**	**1.47**	**149**	*e*Pn	**Pn**	**15 09 20.7**	**+0.8**
OHR				*e*Sn	**Sn**	**15 09 40.0**	**+0.9**
OHR	**Ohrid**	**1.47**	**149**	*e*Pn	**Pn**	**15 09 20.6**	**+0.8**
OHR				*e*Sn	**Sn**	**15 09 39.9**	**+0.8**
BBLS	**Bajina Basta -**	**1.51**	**349**	*i* Pn	**Pn**	**15 09 20.8**	**+0.4**
BBLS				Sn	**Sg**	**15 09 44.6**	**+2.6**
GRUS	**Gruza**	**1.65**	**23**	*i* Pn	**Pn**	**15 09 20.1**	**-2.2**
GRUS				Sn	**Sg**	**15 09 47.7**	**+1.5**
DIVS	**Divcibare**	**1.72**	**4**	*i* Pn	**Pn**	**15 09 22.8**	**-0.5**
DIVS				Sn	**Sn**	**15 09 44.7**	**-0.6**
BIA	**Bitola**	**1.77**	**140**	*e*Pn	**Pn**	**15 09 23.9**	**-0.1**
BIA				*e*Sn	**Sn**	**15 09 48.7**	**+2.1**
BIA	**Bitola**	**1.77**	**140**	*e*Pn	**Pn**	**15 09 23.8**	**-0.2**
BIA				*e*Sn	**Sn**	**15 09 48.6**	**+2.0**
STIP	**Stip**	**1.90**	**110**	*e*Pn	**Pn**	**15 09 25.9**	**+0.1**
STIP				*e*Sn	**Sn**	**15 09 51.1**	**+1.4**
STIP	**Stip**	**1.90**	**110**	*e*Pn	**Pn**	**15 09 25.8**	**+0.1**
STIP				*e*Sn	**Sn**	**15 09 51.0**	**+1.3**
VAY	**Valandovo**	**2.32**	**116**	*e*Pn	**Pn**	**15 09 31.8**	**+0.3**
VAY				*e*Sn	**Sn**	**15 10 00.6**	**+0.5**
VTS	**Vitosha**	**2.52**	**84**	⇓*i* P	**Pn**	**15 09 34.0**	**-0.3**
PKSM	**Moragy**	**3.92**	**348**	⇑*i* P	**Pn**	**15 09 53.3**	**-0.2**
VOY	**Vojsko**	**5.60**	**313**	*e*Pn	**Pn**	**15 10 18.8**	**+2.1**
VOY				*e*Sn	**Sn**	**15 11 26.1**	**+5.0**

*ISCJB **25** 15:38:18.1±0.6, 377S±02×781E±0.1, h10km, mb4.1/9, MS3.8/9, Error ellipse: s-maj=26.3km s-min=13.5km az=166.3*
*IDC **25** 15:38:18.5±0.9, 3780S×78.11E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.8/19, mbtmp4.0/8, MS3.7/9, Ms1 3.7/9, ms1mx3.4/26, Error ellipse: s-maj=36.5km s-min=20.3km az=172.0*
*NEIC **25** 15:38:19.9±0.7, 3760S×7805E, h10km, mb4.3/1, Error ellipse: s-maj=25.3km s-min=15.2km az=172.0*

ISC 25 15:38:20.0±0.6, 376S±02×781E±01, h10km, n19, σ1§05/14, mb4.1/9, MS3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**32.17**	**94**	LR	LR	15 54 43.3	
	comp=Z,203nm,21.1s,MS3.8,baz=290,slow=31						
BOSA	**Boshof**	**44.62**	**265**	P	**P**	**15 46 32.9**	**+0.3**
	3.8nm,0.8s,mb4.3,baz=108,slow=15,SNR=6.7						
BOSA				LR	LR	16 00 23.3	
	comp=Z,105nm,19.4s,MS3.8,baz=299,slow=30						
BOSA	**Boshof**	**44.62**	**265**	*e*P	**P**	**15 46 32.9**	**+0.3**
BOSA				LR	LR	16 00 23.3	
PALK	**Pallekele**	**44.71**	**4**	P	**P**	**15 46 31.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**45.80**	**78**	LR	LR	16 03 01.4	
	comp=Z,106nm,21.3s,MS3.8,baz=37,slow=32						
LBTB	**Lobatse**	**46.00**	**270**	*e*P	**P**	**15 46 43.9**	**+0.4**
SUR	**Sutherland**	**46.57**	**258**	P	**P**	**15 46 48.2**	**+0.2**
	9.2nm,0.9s,mb4.7,baz=103,slow=13,SNR=3.4						
SUR	**Sutherland**	**46.57**	**258**	P	**P**	**15 46 47.9**	**0.0**
ASAR	**Alice Springs**	**49.36**	**90**	P	**P**	**15 47 08.7**	**-0.9**
	1.4nm,0.9s,mb4.0,baz=238,slow=6.9,SNR=9.8						
ASAR				LR	LR	16 04 52.9	
	comp=Z,80nm,18.5s,MS3.8,baz=233,slow=32						
WRA	**Warramunga Arr**	**51.63**	**86**	P	**P**	**15 47 26.8**	**+0.1**
	1.7nm,0.8s,mb4.0,baz=237,slow=7.5,SNR=17						
WRA				LR	LR	16 06 06.6	
	comp=Z,73nm,18.8s,MS3.7,baz=200,slow=32						
WRAB	**Tennant Creek**	**51.65**	**86**	*e*P	**P**	**15 47 28.0**	**+1.2**
	3.3nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**51.66**	**104**	P	**P**	**15 47 26.9**	**0.0**
	3.0nm,1.1s,mb4.1,baz=297,slow=9.0,SNR=3.0						
SNAA	**Sanae**	**51.96**	**203**	P	**P**	**15 47 27.9**	**-1.2**
	0.6nm,1.0s,mb3.5,baz=119,slow=19,SNR=2.5						
SNAA				LR	LR	16 06 02.4	
	comp=Z,36nm,18.7s,MS3.4,baz=36,slow=32						
SNAA	**Sanae**	**51.96**	**203**	*e*P	**P**	**15 47 28.3**	**-0.8**
SNAA				LR	LR	16 06 02.4	
VNDA	**Vanda**	**52.28**	**164**	LR	LR	16 06 49.5	
	comp=Z,82nm,20.1s,MS3.8,baz=278,slow=33						
CTA	**Charters Tower**	**61.01**	**94**	LR	LR	16 12 49.6	
	comp=Z,91nm,21.3s,MS3.9,baz=236,slow=34						
PMG	**Port Moresby**	**67.78**	**85**	LR	LR	16 16 31.5	
	comp=Z,69nm,19.7s,MS3.9,baz=103,slow=34						
MKAR	**Makanchi Array**	**84.11**	**3**	P	**P**	**15 50 50.8**	**-0.3**
	1.6nm,0.6s,mb4.3,baz=174,slow=4.9,SNR=11						
SONM	**Songino Array**	**88.74**	**19**	P	**P**	**15 51 16.3**	**+2.5**
	0.6nm,1.1s,mb3.9,baz=183,slow=2.9,SNR=3.2						

*NAO **25** 15:58:56.5, 4321N×1741E, h33km, mb3.3*
*ISCJB **25** 16:00:43.0±0.2, 5154N±002×1605E±002, h0km, mb3.7/4, Error ellipse: s-maj=2.3km s-min=1.6km az=24.7*
*MOS **25** 16:00:43.0±1.1, 5171N×1605E, h10km, mb4.0/1, Error ellipse: s-maj=6.8km s-min=3.7km az=77.9*
*NEIC **25** 16:00:44.7±0.2, 5164N×1609E, h5km, ML3.5(BRA), ML3.6(STR), ML4.0(SZGRF), Error ellipse: s-maj=3.5km s-min=3.1km az=142.0*
*LDG **25** 16:00:44.1±0.2, 5153N×1605E, h1km, Ml4.3/15, Error ellipse: s-maj=4.2km s-min=2.5km az=179.0, Suspected Mining induced.*
*IDC **25** 16:00:45.7±0.6, 5154N×1598E, h0km, mb3.8/4, mb1 3.8/11, mb1mx3.8/22, mbtmp3.8/11, ML3.6/7, Error ellipse: s-maj=10.2km s-min=5.7km az=107.0*
*IPEC **25** 16:00:45.4±0.3, 5155N×1618E, h0km, ML3.4/4, Error ellipse: s-maj=4.2km s-min=2.0km az=81.0*
*BGR **25** 16:00:45.0±0.5, 5158N×1610E, h1km, ML4.0, Error ellipse: s-maj=4.4km s-min=4.4km az=149.0*
*PRU **25** 16:00:46.7, 5150N×1605E, h0km*
*WAR **25** 16:00:46.7, 5154N×1606E, ML3.4, Mining Induced*
*CSEM **25** 16:00:47.2±0.1, 5148N×1604E, h1km, ML4.3/24, Ms3.9, Error ellipse: s-maj=2.0km s-min=1.2km az=3.0*
*VIE **25** 16:00:48.5±0.6, 5128N×1597E, h0km, mb3.4/9, ML3.4/11, Ms3.9/1, Error ellipse: s-maj=3.5km s-min=2.4km az=178.0 75 km WNW of Breslau Suspected Mining induced.*

*STR **25** 16:01:11.5±0.7, 51.16N×1304E, h5km±1km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 25 16:00:44.4±0.2, 5158N±001×1608E±002, h0km, n178, σ1§13/288, mb3.7/4, 19C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.74**	**169**	*i* Pgd	**Pg**	**16 00 59.7**	**+1.0**
KSP				*i* Sg	**Sg**	**16 01 09.2**	**+0.8**
KSP				*e*L		16 01 14.0	
KSP	**Ksiaz**	**0.74**	**169**	⇓*i* P	**Pg**	**16 00 59.7**	**+1.0**
KSP				*i*		16 01 09.2	
KSP	**Ksiaz**	**0.74**	**169**	*e*Pg	**Pg**	**16 00 59.6**	**+0.9**
KSP				*i* Sg	**Sg**	**16 01 09.2**	**+0.8**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG	**Pg**	**16 01 08.3**	**+0.2**
DPC				*e*SG	**Sg**	**16 01 23.8**	**-0.3**
	606nm,0.7s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*P	**Pg**	**16 01 08.3**	**+0.2**
DPC				*e*		16 01 23.8	
DPC				smax			
	comp=N,606nm,0.7s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg	**Pg**	**16 01 08.3**	**+0.2**
DPC				*e*Sg	**Sg**	**16 01 23.5**	**-0.6**
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pg**	**16 01 11.8**	**+0.2**
PVCC				*e*SG	**Sg**	**16 01 30.7**	**+0.8**
	comp=N,1μm,0.4s						
PVCC	**Panska Ves**	**1.42**	**223**	*e*P	**Pg**	**16 01 11.8**	**+0.2**
PVCC				*e*		16 01 30.7	
PVCC				smax			
	comp=N,1μm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	*e*Pn	**Pn**	**16 01 12.7**	**-0.1**
BRG				*e*Sg	**Sg**	**16 01 34.6**	**+1.5**
BRG	**Berggiesshubel**	**1.51**	**243**	PN	**Pn**	**16 01 12.6**	**-0.2**
BRG				PG	**Pg**	**16 01 14.5**	**+1.1**
BRG				SG	**Sg**	**16 01 34.5**	**+1.4**
	comp=N,360nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	P	**Pn**	**16 01 12.6**	**-0.2**
BRG						16 01 34.5	
BRG				smax			
	comp=N,4.0nm,0.4s						
RUE	**Ruedersdorf**	**1.68**	**303**	*e*Pn	**Pn**	**16 01 15.4**	**+0.3**
RUE				*e*Sg	**Sg**	**16 01 36.8**	**-1.8**
RUE	**Ruedersdorf**	**1.68**	**303**	*e*Pn	**Pn**	**16 01 15.4**	**+0.3**
RUE				*e*Sg	**Sg**	**16 01 36.8**	**-1.7**
FBE	**Freiberg**	**1.83**	**250**	*e*Pn	**Pn**	**16 01 17.2**	**+0.1**
FBE				*e*Sg	**Sg**	**16 01 44.0**	**+0.7**
PRA	**Prague**	**1.83**	**215**	PN	**Pn**	**16 01 17.0**	**-0.1**
PRA				PG	**Pg**	**16 01 20.0**	**+0.5**
PRA				SG	**Sg**	**16 01 43.0**	**-0.3**
GKP	**Gorka Klasztor**	**1.84**	**22**	*e*Pn	**Pn**	**16 01 25.7**	**+8.5**
GKP				*e*Sn	**Sn**	**16 01 48.5**	**+7.3**
GKP				*e*Sg	**Sg**	**16 01 52.1**	**+8.5**
GKP	**Gorka Klasztor**	**1.84**	**22**	*e*Pn	**Pn**	**16 01 25.7**	**+8.5**
GKP				*e*Sn	**Sn**	**16 01 48.5**	**+7.3**
PRU	**Pruhonice**	**1.86**	**212**	*e*PN	**Pn**	**16 01 17.7**	**+0.1**
PRU				*e*PG	**Pg**	**16 01 19.7**	**-0.4**
PRU				*e*SG	**Sg**	**16 01 43.5**	**-0.8**
	comp=N,371nm,0.7s						
PRU	**Pruhonice**	**1.86**	**212**	*e*P	**Pn**	**16 01 17.7**	**+0.1**
PRU				*e*		16 01 43.5	
PRU				smax			
	comp=N,371nm,0.7s						
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pn**	**16 01 18.8**	**+0.1**
CLL				*i* Pg	**Pg**	**16 01 22.4**	**+0.7**
CLL				*e*Sg	**Sg**	**16 01 47.7**	**+0.8**
CLL	**Collm**	**1.94**	**263**	*i* Pn	**Pn**	**16 01 18.7**	**+0.1**
CLL				*i* Pg	**Pg**	**16 01 22.4**	**+0.7**
CLL				*i* x	x	16 01 25.7	
CLL				*i* Sg	**Sg**	**16 01 47.6**	**+0.8**
	comp=Z,296nm,0.5s						
CLL	**Collm**	**1.94**	**263**	*i* Pn	**Pn**	**16 01 18.7**	**+0.1**
CLL				*i* Pg	**Pg**	**16 01 22.4**	**+0.7**
CLL				*i* Sg	**Sg**	**16 01 47.6**	**+0.8**
RAC	**Raciborz**	**2.01**	**137**	*e*Pn	**Pn**	**16 01 19.4**	**-0.2**
RAC				*e*Pg	**Pg**	**16 01 23.2**	**+0.3**
RAC				*e*Sg	**Sg**	**16 01 49.4**	**+0.4**
RAC	**Raciborz**	**2.01**	**137**	*e*Pg	**Pg**	**16 01 23.2**	**+0.3**
RAC				*e*Sg	**Sg**	**16 01 49.4**	**+0.4**
MORC	**Moravsky Berou**	**2.03**	**152**	⇓*i* P	**Pn**	**16 01 20.0**	**+0.2**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**16 01 20.0**	**+0.2**
MORC				*e*Sn	**Sn**	**16 01 48.7**	**+2.8**
MORC	**Moravsky Berou**	**2.03**	**152**	*e*Pn	**Pn**	**16 01 20.0**	**+0.2**
MORC				*e*Sg	**Sg**	**16 01 47.3**	**-2.3**
	comp=Z,132nm,0.3s						
MORC				*e*Sn	**Sn**	**16 01 48.7**	**+2.9**
OKC	**Ostrava-Krasne**	**2.18**	**142**	*e*PN	**Pn**	**16 01 21.6**	**-0.3**
OKC				*e*PG	**Pg**	**16 01 26.2**	**0.0**
OKC				*e*SG	**Sg**	**16 01 54.7**	**+0.2**
VRAC	**Vranov**	**2.29**	**172**	Pn	**Pn**	**16 01 24.0**	**+0.5**
	comp=Z,11nm,0.3s,baz=340,slow=13,SNR=29						
VRAC				Lg		16 01 56.8	
	comp=Z,30nm,0.3s,baz=69,slow=18,SNR=5.7						
VRAC	**Vranov**	**2.29**	**172**	⇓*i* P	**Pn**	**16 01 24.0**	**+0.5**
VRAC	**Vranov**	**2.29**	**172**	*e*Pn	**Pn**	**16 01 23.9**	**+0.4**
VRAC				*e*Sg	**Sg**	**16 01 55.5**	**-2.6**
	comp=Z,172nm,0.3s						
TREC	**Trest**	**2.31**	**190**	*e*PN	**Pn**	**16 01 24.6**	**+0.8**
TREC				*e*PG	**Pg**	**16 01 28.1**	**-0.7**
KRUC	**Moravsky**	**2.52**	**175**	*e*Pn	**Pn**	**16 01 27.2**	**+0.6**
KRUC				*e*Sg	**Sg**	**16 02 03.5**	**-2.0**
	comp=Z,224nm,0.7s						
TANN	**Tannenbergstha**	**2.56**	**244**	*e*Pn	**Pn**	**16 01 28.0**	**+0.8**
TANN				*e*Sg	**Sg**	**16 02 07.0**	**+0.3**
WERD	**Werda**	**2.63**	**246**	*e*Pn	**Pn**	**16 01 28.8**	**+0.6**
WERD				*e*Sg	**Sg**	**16 02 08.2**	**-0.9**
GUNZ	**Gunzen**	**2.66**	**244**	*e*Pn	**Pn**	**16 01 29.4**	**+0.9**
GUNZ				*e*Sg	**Sg**	**16 02 10.0**	**+0.2**
GUNZ	**Gunzen**	**2.66**	**244**	Pn	**Pn**	**16 01 29.4**	**+0.9**
GUNZ				Sg	**Sg**	**16 02 10.0**	**+0.1**
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**16 01 29.3**	**+0.8**
NKC				*e*PG	**Pg**	**16 01 35.9**	**+0.5**
NKC				*e*SG	**Sg**	**16 02 11.1**	**+1.2**
	comp=Z,491nm,0.6s						
OJC	**Ojcow**	**2.72**	**118**	*e*Pn	**Pn**	**16 01 28.2**	**-1.1**
OJC				*e*Pg	**Pg**	**16 01 36.2**	**-0.3**
OJC				*e*Sg	**Sg**	**16 02 12.5**	**+0.7**
VIEL	**Selb-Vielitz**	**2.88**	**243**	*e*Pn	**Pn**	**16 01 32.0**	**+0.5**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*Sg	**Sg**	**16 02 17.9**	**+0.1**
	comp=Z,304nm,0.9s						
KHC	**Kasperske Hory**	**2.92**	**214**	*e*PN	**Pn**	**16 01 32.4**	**+0.3**
KHC				*e*PG	**Pg**	**16 01 38.7**	**-1.8**
KHC				*e*SG	**Sg**	**16 02 17.1**	**-1.3**
	comp=Z,163nm,0.7s						
KHC	**Kasperske Hory**	**2.92**	**214**	*e*P	**Pn**	**16 01 32.4**	**+0.3**
KHC				*e*		16 02 17.1	
KHC				smax			
	comp=N,163nm,0.7s						
MGBB	**Grossbuechelbe**	**2.93**	**238**	*e*Pn	**Pn**	**16 01 33.1**	**+0.9**
MOX	**Moxa**	**2.96**	**253**	*e*Pn	**Pn**	**16 01 33.1**	**+0.4**
MOX				*e*Pg	**Pg**	**16 01 41.7**	**+0.5**
MOX				*e*Sg	**Sg**	**16 02 21.1**	**+1.5**
MANZ	**Manzenberg**	**2.98**	**239**	*e*Pn	**Pn**	**16 01 34.1**	**+1.2**
MANZ				*e*Sg	**Sg**	**16 02 20.1**	**-0.1**
ROTZ	**Rotzenmuhle**	**3.06**	**235**	*e*Pn	**Pn**	**16 01 34.8**	**+0.8**
ROTZ				*e*Sg	**Sg**	**16 02 22.1**	**-0.5**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**16 01 36.4**	**+1.4**
GEC2				*e*Sg	**Sg**	**16 02 22.7**	**-2.3**
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**16 01 36.4**	**+1.4**
GEC2				*e*Sg	**Sg**	**16 02 22.7**	**-2.3**
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	**Pn**	**16 01 36.3**	**+1.3**
GEC2				Sg	**Sg**	**16 02 22.7**	**-2.3**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**16 01 35.4**	**+0.4**
	comp=N,12nm,0.3s,baz=30,slow=12,SNR=216						
GERES				Pg	**Pg**	**16 01 42.3**	**-2.1**
	comp=N,22nm,0.3s,baz=31,slow=18,SNR=59						
GERES				Sn	**Sn**	**16 02 12.1**	**-0.9**
	comp=N,12nm,0.3s,baz=29,slow=20,SNR=5.9						
GERES				Lg		16 02 22.2	
	comp=N,28nm,0.3s,baz=28,slow=26,SNR=11						
GERES	**GERESS Array B**	**3.13**	**210**	P	**Pn**	**16 01 35.4**	**+0.4**
GERES						16 02 12.1	
GERES	**GERESS Array B**	**3.13**	**210**	Pg	**Pg**	**16 01 42.3**	**-2.1**
WET	**Wettzell**	**3.18**	**221**	*e*Pn	**Pn**	**16 01 36.6**	**+0.9**
WET	**Wettzell**	**3.18**	**221**	*e*Pn	**Pn**	**16 01 36.6**	**+0.9**
SMOL	**Smolenice**	**3.19**	**164**	*e*PG	**Pg**	**16 01 45.2**	**-0.3**
SMOL				*e*SG	**Sg**	**16 02 27.2**	**+0.4**
SMOL	**Smolenice**	**3.19**	**164**	*e*Pg	**Pg**	**16 01 45.3**	**-0.2**
SMOL				*e*Sg	**Sg**	**16 02 27.2**	**+0.4**
ZST	**Bratislava**	**3.45**	**169**	*e*PN	**Pn**	**16 01 40.9**	**+1.6**
ZST				*e*PG	**Pg**	**16 01 50.3**	**-0.2**
ZST				*e*SG	**Sg**	**16 02 32.9**	**-2.3**
NIE	**Niedzica**	**3.46**	**127**	*e*P	**Pg**	**16 01 50.8**	**+0.1**
NIE				*e*S	**Sg**	**16 02 36.8**	**+1.2**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**16 01 41.2**	**+0.3**
VYHS				*e*PG	**Pg**	**16 01 51.7**	**-1.0**
VYHS				*e*SG	**Sg**	**16 02 40.5**	**+1.7**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**16 01 41.7**	**+0.1**
BSD				*i* S	**Sn**	**16 02 22.4**	**-2.6**
BSD				*i* S	**Sg**	**16 02 41.6**	**+1.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**16 01 41.7**	**+0.1**
BSD				*i* S	**Sn**	**16 02 22.4**	**-2.6**
GRA1	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**16 01 42.8**	**+1.1**
GRA1				*e*Sg	**Sg**	**16 02 40.5**	**-0.2**
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pn	**Pn**	**16 01 42.8**	**+1.1**
GRA1				Sg	**Sg**	**16 02 40.5**	**-0.2**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn	**Pn**	**16 01 42.8**	**+1.1**
GRF				*e*Sg	**Sg**	**16 02 40.5**	**-0.2**
CONA	**Conrad Observa**	**3.65**	**182**	⇑*i* Pn	**Pn**	**16 01 42.8**	**+0.6**
	SNR=21						
CONA				⇑*i* Sg	**Sg**	**16 02 39.6**	**-2.1**
	comp=N,162nm,0.5s						
CONA	**Conrad Observa**	**3.65**	**182**	Pn	**Pn**	**16 01 42.8**	**+0.6**
	SNR=21						
CONA				Sg	**Sg**	**16 02 39.6**	**-2.2**
	comp=N,162nm,0.5s						
GTTG	**Gvttingen**	**3.81**	**272**	*e*Sg	**Sg**	**16 02 48.3**	**+1.4**
HROE	**Hohe Rhon--Fla**	**3.88**	**257**	⇓*i* Pn	**Pn**	**16 01 46.1**	**+0.9**
UBBA	**Unterbreizbach**	**3.90**	**261**	*e*Pn	**Pn**	**16 01 45.9**	**+0.4**
UBBA				*e*Sg	**Sg**	**16 02 49.3**	**-0.3**
SOP	**Sopron**	**3.91**	**175**	⇑*e*PB	**Pb**	**16 01 58.6**	**+4.4**
SOP				*e*SB	**Sb**	**16 02 50.7**	**+8.7**
MOA	**Molln**	**3.91**	**198**	⇑*i* Pn	**Pn**	**16 01 46.4**	**+0.7**
	SNR=66						
MOA				⇑*i* Sg	**Sg**	**16 02 49.0**	**-1.0**
	comp=N,160nm,0.7s						
MOA	**Molln**	**3.91**	**198**	Pn	**Pn**	**16 01 46.4**	**+0.7**
	comp=N,66nm,2.0s						
MOA				Sg	**Sg**	**16 02 49.0**	**-1.0**
	comp=N,160nm,0.7s						
STHS	**Stebnicka Huta**	**3.94**	**121**	*e*PN	**Pn**	**16 01 47.0**	**+0.8**
STHS				*e*PG	**Pg**	**16 02 01.1**	**+1.1**
STHS				*e*SG	**Sg**	**16 02 55.7**	**+4.6**
KECS	**Kecovo**	**4.20**	**136**	*e*PN	**Pn**	**16 01 49.8**	**+0.1**
KECS				*e*PG	**Pg**	**16 02 05.5**	**+0.6**
KECS				*e*SG	**Sg**	**16 02 59.0**	**-0.4**
KECS	**Kecovo**	**4.20**	**136**	*e*Pn	**Pn**	**16 01 49.9**	**+0.2**
KECS				*e*Pg	**Pg**	**16 02 05.5**	**+0.6**
KECS				*e*Sg	**Sg**	**16 02 59.1**	**-0.3**
ARSA	**Arzberg**	**4.34**	**185**	⇓*i* Pn	**Pn**	**16 01 52.7**	**+1.0**
	SNR=15						
ARSA				⇓*i* Sg	**Sg**	**16 03 01.8**	**-2.2**
	comp=N,135nm,0.8s						
ARSA	**Arzberg**	**4.34**	**185**	Pn	**Pn**	**16 01 52.7**	**+1.0**
	comp=N,15nm,4.0s						
ARSA				Sg	**Sg**	**16 03 01.8**	**-2.2**
	comp=N,135nm,0.8s						
PSZ	**Piszkesteto**	**4.42**	**144**	⇑*e*Pn	**Pn**	**16 01 53.9**	**+1.2**
PSZ	**Piszkesteto**	**4.42**	**144**	⇑*i* P	**Pn**	**16 01 54.9**	**+2.2**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*Pn	**Pn**	**16 01 53.6**	**+0.9**
PSZ	**Piszkesteto**	**4.42**	**144**	*e*Pn	**Pn**	**16 01 53.6**	**+0.9**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pg**	**16 02 11.3**	**-2.2**
KWP				*e*Sg	**Sg**	**16 03 24.3**	**+10**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pn**	**16 01 55.9**	**0.0**
KWP				*e*Pg	**Pg**	**16 02 10.9**	**-2.6**
KWP				*e*Sg	**Sg**	**16 03 24.3**	**+10**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pn	**Pn**	**16 01 55.8**	**-0.1**
KWP	**Kalwaria**	**4.65**	**112**	*e*Pg	**Pg**	**16 02 10.9**	**-2.6**
KOLS	**K

DOU	**Dourbes**	**7.42**	**263**	P		**Pn**	**16 02 35.1**	**+1.1**
RFYF	**Reffroy**	**7.43**	**251**	*e*Sg		**Sg**	**16 04 34.6**	**-8.4**
	comp=Z,120nm,1.2s							
BAIF	**Baives**	**7.67**	**263**	*e*Pn		**Pn**	**16 02 33.5**	**-3.9**
BAIF				*e*Sg		**Sg**	**16 04 42.2**	**-8.6**
	comp=Z,62nm,1.3s							
MEZF	**Maizieres J'vi**	**7.74**	**251**	*e*Sg		**Sg**	**16 04 43.6**	**-9.2**
	comp=Z,128nm,1.2s							
SFTF	**Sexfontaines**	**7.89**	**249**	*e*Sg		**Sg**	**16 04 50.4**	**-7.2**
	comp=Z,232nm,1.4s							
SFTF	**Sexfontaines**	**7.89**	**249**	*e*Sg		**Sg**	**16 04 50.4**	**-7.2**
	comp=Z,116nm,1.4s							
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg		**Sg**	**16 05 01.0**	**-7.4**
	comp=Z,151nm,1.2s							
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg		**Sg**	**16 05 01.0**	**-7.4**
	comp=Z,76nm,1.2s							
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**16 02 45.3**	**-0.9**
	comp=Z,4.5nm,0.3s,baz=279,slow=12,SNR=20							
AKASG				Pg		**Pg**	**16 03 21.1**	**-2.7**
	comp=Z,1.1nm,0.3s,baz=282,slow=16,SNR=8.3							
AKASG				Sn		**Sn**	**16 04 15.4**	**-5.5**
	comp=Z,1.9nm,0.3s,baz=268,slow=24,SNR=5.8							
AKASG				Lg			16 05 16.5	
	comp=Z,0.9nm,0.3s,baz=270,slow=26,SNR=5.0							
AKASG	**Malin Array Be**	**8.32**	**91**	P		**Pn**	**16 02 45.3**	**-0.9**
AKASG							16 04 15.4	
AKASG	**Malin Array Be**	**8.32**	**91**	Pn		**Pn**	**16 02 45.3**	**-0.9**
AKASG				Pg		**Pg**	**16 03 21.1**	**-2.7**
AKASG				Sn		**Sn**	**16 04 15.4**	**-5.5**
AKASG				Lg			16 05 16.5	
AKASG	**Malin Array Be**	**8.32**	**91**	Pg		**Pg**	**16 03 21.1**	**-2.6**
AKBB	**Malin Array Si**	**8.32**	**91**	*e*P		**Pn**	**16 02 45.0**	**-1.2**
LPL	**La Plagne**	**8.67**	**229**	*e*Pn		**Pn**	**16 02 48.4**	**-2.6**
LPG	**La Plagne**	**8.67**	**229**	*e*Pn		**Pn**	**16 02 49.4**	**-1.7**
HFS	**Hagfors**	**8.68**	**352**	Pn		**Pn**	**16 02 50.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=163,slow=16,SNR=9.8							
HFS				Sn		**Sn**	**16 04 25.0**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=150,slow=26,SNR=3.7							
HFS				Lg			16 05 25.2	
	comp=Z,0.4nm,0.3s,baz=165,slow=29,SNR=2.5							
HFS	**Hagfors**	**8.68**	**352**	P		**Pn**	**16 02 50.9**	**-0.4**
HFS							16 04 25.0	
LOR	**Lormes**	**9.05**	**246**	*e*Pn		**Pn**	**16 02 55.5**	**-0.8**
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn		**Pn**	**16 02 59.1**	**-1.5**
SSF				*e*Sg		Sn	16 05 35.8	+49
	comp=Z,16nm,0.7s							
SSF	**Saint Saulge**	**9.37**	**246**	*e*Pn		**Pn**	**16 02 59.1**	**-1.5**
SSF				*e*Sg		Sn	16 05 35.8	+49
	comp=Z,8.1nm,0.7s							
SMF	**Signal de Mont**	**9.42**	**243**	*e*Sg		Sx	16 05 38.4	
	comp=Z,37nm,0.8s							
SMF	**Signal de Mont**	**9.42**	**243**	*e*Sg		Sx	16 05 38.4	
	comp=Z,18nm,0.8s							
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn		**Pn**	**16 03 01.4**	**-2.5**
AVF				*e*Sg		Sn	16 05 44.4	+52
	comp=Z,45nm,1.2s							
AVF	**Avril sur Loir**	**9.61**	**245**	*e*Pn		**Pn**	**16 03 01.4**	**-2.5**
AVF				*e*Sg		Sn	16 05 44.4	+52
	comp=Z,22nm,1.2s							
SBF	**Sospel**	**9.66**	**220**	*e*P		**Pn**	**16 03 05.7**	**+1.0**
NB2	**NORSAR Subarra**	**9.86**	**346**	P		**Pn**	**16 03 05.6**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=165,slow=12							
NB2	**NORSAR Subarra**	**9.86**	**346**	P		**Pn**	**16 03 05.6**	**-1.8**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**16 03 05.5**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=158,slow=13,SNR=5.8							
NOA				Sn		**Sn**	**16 04 50.2**	**-8.6**
	comp=Z,0.2nm,0.3s,baz=125,slow=17,SNR=2.3							
NOA				Lg			16 05 58.4	
	comp=Z,0.4nm,0.3s,baz=67,slow=4.6,SNR=4.3							
NOA	**NORSAR Array B**	**9.86**	**346**	P		**Pn**	**16 03 05.5**	**-1.9**
NOA							16 04 50.3	
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**16 03 05.5**	**-1.9**
NOA				Sn		**Sn**	**16 04 50.2**	**-8.6**
NOA				Lg			16 05 58.4	
NOA	**NORSAR Array B**	**9.86**	**346**	Pn		**Pn**	**16 03 05.5**	**-1.9**
NOA				Sn		**Sn**	**16 04 50.2**	**-8.6**
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Sg		Sx	16 05 56.3	
	comp=Z,30nm,0.7s							
BGF	**Bois d'Agland**	**10.03**	**245**	*e*Sg		Sx	16 05 56.3	
	comp=Z,15nm,0.7s							
FINES	**FINESS Array B**	**11.31**	**25**	Pn		**Pn**	**16 03 25.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=208,slow=12,SNR=32							
FINES				Sn		**Sn**	**16 05 26.2**	**-8.2**
	comp=Z,0.4nm,0.3s,baz=202,slow=22,SNR=3.8							
FIA1	**FINESS Array S**	**11.31**	**25**	*e*P		**Pn**	**16 03 25.9**	**-1.4**
KAF	**Kangasniemi**	**11.94**	**24**	*e*p		**Pn**	**16 03 33.4**	**-2.4**
EKA	**Eskdalemuir Ar**	**12.06**	**296**	Pn		**Pn**	**16 03 34.2**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=100,slow=14,SNR=9.9							
JOF	**Joensuu**	**13.99**	**30**	*e*p		**Pn**	**16 04 01.5**	**-2.4**
ARCES	**ARCESS Array B**	**18.56**	**10**	Pn		**Pn**	**16 04 59.9**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=190,slow=13,SNR=12							
AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**16 06 20.8**	**+0.4**
AKTK	**Aktyubinsk**	**26.16**	**76**	P		**P**	**16 06 20.8**	**+0.4**
AKTO	**Aktyubinsk**	**26.16**	**76**	P		**P**	**16 06 20.8**	**+0.4**
	comp=Z,1.7nm,0.6s,mb3.9,baz=289,slow=11,SNR=7.6							
TORD	**Torodi Ar. Bea**	**40.05**	**202**	P		**P**	**16 08 21.7**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.5,baz=348,slow=4.7,SNR=6.7							
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**16 08 39.7**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.4,baz=300,slow=5.2,SNR=4.7							
MKAR	**Makanchi Array**	**42.21**	**69**	P		**P**	**16 08 39.7**	**+0.7**
SONM	**Songino Array**	**54.90**	**55**	P		**P**	**16 10 18.4**	**+1.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=292,slow=9.4,SNR=7.7							

*NEIC **25** 16:03:35.7, 3573S×7220W, h55km, MD3.7(GUC), After GUC.*

GUC 25 16:03:35.7±0.8, 3573S×7220W, h55km±7km, MD3.7, ML3.6, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.27**	**269**	*i*P	Pn	16 03 45.4	+0.3
CNCO				*i* S	Sn	16 03 52.2	+0.4
CNCO				AML	AML	16 03 54.1	
	comp=E,5μm,0.6s						
CNCO	**Chanco**	**0.27**	**269**	*i*P	Pn	16 03 45.4	+0.3
CNCO				*i* S	Sn	16 03 52.2	+0.4
CTCH	**Constitucion**	**0.44**	**336**	*i*P	Pn	16 03 46.8	+0.2
CTCH				*i* S	Sn	16 03 54.8	+0.4
CTCH				AML	AML	16 03 56.0	
	comp=N,13μm,0.7s						
CTCH	**Constitucion**	**0.44**	**336**	*i*P	Pn	16 03 46.8	+0.2
CTCH				*i* S	Sn	16 03 54.8	+0.4
TALC	**Talca**	**0.57**	**54**	*i*P	Pn	16 03 45.2	-2.8
TALC				*i* S	Sn	16 03 54.3	-2.7
TALC				AML	AML	16 03 56.9	
	comp=N,9μm,0.1s						
TALC	**Talca**	**0.57**	**54**	*i*P	Pn	16 03 45.2	-2.8
TALC				*i* S	Sn	16 03 54.3	-2.7
COCH	**Cobquecura**	**0.62**	**230**	*i*P	Pn	16 03 49.0	+0.3
COCH				*i* S	Sn	16 03 58.7	+0.5
NICH	**Los Niches**	**1.07**	**48**	*i*P	Pn	16 03 54.9	+0.3
NICH				*i* S	Sn	16 04 09.2	+0.7
SFDO	**San Fernando**	**1.48**	**41**	*i*P	Pn	16 03 59.7	-0.2
SFDO				*i* S	Sn	16 04 18.6	+0.5
LMEL	**Las Melosas**	**2.50**	**42**	*e*P	Pn	16 04 14.6	+0.7
LMEL				*e*S	Sn	16 04 44.5	+1.4
LMEL				AML	AML	16 04 56.0	
	comp=N,275nm,0.2s						
LMEL	**Las Melosas**	**2.50**	**42**	*e*P	Pn	16 04 14.6	+0.7
LMEL				*e*S	Sn	16 04 44.5	+1.4
RCDM	**Rinconada Maip**	**2.51**	**28**	*e*P	Pn	16 04 13.7	-0.4
RCDM				*i* S	Sn	16 04 43.8	+0.3
RCDM				AML	AML	16 04 53.5	
	comp=E,229nm,0.4s						
RCDM	**Rinconada Maip**	**2.51**	**28**	*e*P	Pn	16 04 13.7	-0.4
RCDM				*i* S	Sn	16 04 43.8	+0.3
CLCH	**Cerro Calan**	**2.70**	**31**	*e*P	Pn	16 04 16.9	+0.2
CLCH				*i* S	Sn	16 04 49.3	+1.2
CLCH				AML	AML	16 05 06.8	
	comp=E,190nm,0.3s						
FCH	**Farellones**	**2.87**	**34**	*i* S	Sn	16 04 54.4	+2.2
FCH				AML	AML	16 05 02.9	
	comp=E,166nm,0.3s						
PEL	**Peldehue**	**2.87**	**26**	*i*P	Pn	16 04 19.4	+0.4
PEL				AML	AML	16 05 13.8	
	comp=N,219nm,0.7s						

MAN 25 16:10:25.8, 1745N×12248E, h33km, mb2.0, ML3.7, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.39**	**187**	*i*P	Pb	16 10 36.4	+1.6
PALP				*i* S	Sb	16 10 45.0	+4.2
PALP	**Palanan**	**0.39**	**187**	*e*P	Pb	16 10 36.1	+1.4
PALP				*e*S	Sb	16 10 43.9	+3.0
CAUP	**Cauayan**	**0.80**	**231**	*e*P	Pn	16 10 41.7	+0.9
CAUP				*e*S	Sn	16 10 51.5	0.0
ABRA	**Dolores**	**1.69**	**277**	*e*P	Pn	16 10 53.4	+0.4

CASC 25 16:17:07.5±3.9, 1296N×9038W, h34km±89km, MD3.6, 5C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.14**	**40**	*e*P	x	16 17 32.7	
SBLS				*e*S	x	16 17 49.4	
SNJE	**San Jose**	**1.17**	**40**	*e*P	x	16 17 33.4	
SNJE				*e*S	x	16 17 49.4	
BOQS	**Boqueron**	**1.32**	**54**	*e*P	x	16 17 33.9	
BOQS				*e*S	x	16 17 51.0	
RBDL	**Robledal**	**1.33**	**30**	*e*P	x	16 17 37.1	
RBDL				*e*S	x	16 17 55.4	
LFRS	**El Faro**	**1.44**	**63**	*e*P	x	16 17 34.2	
LFRS				*e*S	x	16 17 52.2	
LFU	**La Fuente**	**1.46**	**57**	*e*P	x	16 17 35.6	
LFU				*e*S	x	16 17 53.7	
LBRS	**Las Brisas**	**1.51**	**59**	*e*P	x	16 17 36.3	
LBRS				*e*S	x	16 17 54.9	
LCBS	**La Ceiba**	**1.53**	**63**	*e*P	x	16 17 35.6	
LCBS				*e*S	x	16 17 54.9	
SNVI	**San Vicente**	**1.63**	**66**	*e*P	x	16 17 38.4	
SNVI				*e*S	x	16 17 58.0	
MTO2	**Montecristo 2**	**1.74**	**34**	*i*P	x	16 17 42.4	
MTO2				*e*S	x	16 18 04.8	
TP2	**Tecpan 2**	**1.92**	**341**	*e*P	Pn	16 17 41.1	+3.3
TP2				*e*S	Sn	16 18 01.5	+0.8

*KRSC **25** 16:38:35, 6036N×162.18E, h11km, ML4.7*
*IDC **25** 16:38:42.8±0.7, 5981N×16161E, h0km, mb4.2/20, mb1 4.4/20, mb1mx4.3/26, mbtmp4.2/20, MS3.7/15, Ms1 3.7/15, ms1mx3.5/34, Error ellipse: s-maj=19.0km s-min=14.8km az=163.0*
*ISCJB **25** 16:38:43.7±1.4, 5994N±004×16163E±006, h15km±11km, mb4.6/61, MS3.8/23, Error ellipse: s-maj=6.6km s-min=4.8km az=145.1*
*BJI **25** 16:38:45.9, 5985N×161.12E, h16km, mB4.9, mb4.8, Ms4.4, Msz4.3*
*MOS **25** 16:38:46.1±0.9, 5992N×16162E, h34km, mb4.8/22, Error ellipse: s-maj=12.2km s-min=6.2km az=90.6*
*NEIC **25** 16:38:48.6±1.2, 6001N×16157E, h37km±12km, mb4.5/19, Error ellipse: s-maj=10.6km s-min=5.9km az=169.0*

ISC 25 16:38:45.4±1.7, 5993N±003×16166E±006, h17km±11km, h36km±5.4km: pP-P, n142, σ1s 00/149, mb4.6/61, MS3.8/23, 9C-1D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRKR	**Sorokina**	**3.30**	**185**	*e*P	**Pn**	**16 39 35.6**	**-0.7**
SMKR	**Semkarok**	**3.36**	**182**	*e*P	**Pn**	**16 39 36.5**	**-0.7**
BDR	**Baidarnaya**	**3.38**	**184**	*e*P	**Pn**	**16 39 36.5**	**-1.0**
KLY	**Klyuchi**	**3.67**	**189**	P	**Pn**	**16 39 41.2**	**-0.2**
KLY				*i* S	**Sn**	**16 40 30.6**	**+6.3**
SRDR	**Sredinnyy**	**3.77**	**197**	*e*P	**Pn**	**16 39 42.6**	**-0.2**
KRSR	**Krestovskiy**	**3.77**	**189**	*e*P	**Pn**	**16 39 42.3**	**-0.5**
KBTR	**Krutoberegovo**	**3.79**	**170**	*e*P	**Pn**	**16 39 41.8**	**-1.2**
CIRR	**Tsirk**	**3.86**	**188**	*e*P	**Pn**	**16 39 43.8**	**-0.2**
ZLN	**Zelenaya**	**3.96**	**187**	*e*P	**Pn**	**16 39 45.3**	**0.0**
KPT	**Kopyto**	**4.05**	**191**	*e*P	**Pn**	**16 39 47.0**	**+0.4**
KMNR	**Kamenistaya**	**4.26**	**191**	*e*P	**Pn**	**16 39 49.9**	**+0.4**
ESO	**Esso**	**4.32**	**203**	*e*P	**Pn**	**16 39 49.1**	**-1.2**
TUMR	**Tumrok**	**4.74**	**191**	*e*P	**Pn**	**16 39 58.0**	**+2.0**
SEY	**Seymchan**	**5.37**	**308**	*c i*PN	**Pn**	**16 40 05.4**	**+0.6**
MKZ	**Mys Kozlova**	**5.39**	**180**	*e*P	**Pn**	**16 40 04.5**	**-0.6**
MA2	**Magadan**	**5.52**	**271**	*c i*PN	**Pn**	**16 40 06.6**	**-0.2**
MA2				*e*S	**Sn**	**16 41 12.2**	**+2.4**
MA2				pmax	pmax		
	comp=Z,60nm,0.5s						
MA2				pmax	pmax		
	comp=E,40nm,0.5s						
MA2	**Magadan**	**5.52**	**271**	*e*Pn	**Pn**	**16 40 06.5**	**-0.3**
	comp=E,119nm,0.9s						
MA2	**Magadan**	**5.52**	**271**	*e*P	**Pn**	**16 40 06.6**	**-0.2**
MA2				*i* S	**Sn**	**16 41 11.5**	**+1.7**
GNL	**Ganaly**	**6.58**	**200**	*e*P	**Pn**	**16 40 23.0**	**+1.6**
AVH	**Avacha**	**6.88**	**195**	*e*P	**Pn**	**16 40 30.0**	**+4.5**
SPN	**Mys Shipunski**	**6.91**	**188**	*e*P	**Pn**	**16 40 27.9**	**+2.0**
PET	**Petropavlovsk**	**7.12**	**195**	*e*PN	**Pn**	**16 40 33.0**	**+4.2**
PET				pmax	pmax		
	comp=Z,32nm,1.1s						
PET				MLR	MLR		
	comp=Z,500nm,11.0s						
PET				MLR	MLR		
	comp=Z,600nm,6.0s						
PET	**Petropavlovsk**	**7.12**	**195**	*e*P	**Pn**	**16 40 33.2**	**+4.3**
	comp=Z,13nm,0.6s						
PET	**Petropavlovsk**	**7.12**	**195**	*e*P	**Pn**	**16 40 33.3**	**+4.5**
YAK	**Yakutsk**	**15.57**	**292**	*e*P	**Pn**	**16 42 24.1**	**0.0**
YAK				*e*S	**Sn**	**16 45 13.5**	**-2.7**
YAK				pmax	pmax		
	comp=Z,305nm,1.1s						
YAK				pmax	pmax		
	comp=N,36nm,1.2s						
YAK				pmax	pmax		
	comp=E,178nm,1.2s						
YAK				smax			
	comp=N,96nm,2.6s						
YAK				smax			
	comp=E,126nm,2.4s						
YAK	**Yakutsk**	**15.57**	**292**	P	**Pn**	**16 42 23.0**	**-1.0**
	comp=E,238nm,0.8s						
YSS	**Yuzh-Sakhalins**	**17.11**	**229**	*e*P	**Pn**	**16 42 45.1**	**+1.4**
YSS				pmax	pmax		
	comp=Z,29nm,1.3s						
YSS				MLR	MLR		
	comp=Z,200nm,19.0s						
YSS	**Yuzh-Sakhalins**	**17.11**	**229**	*e*P	**Pn**	**16 42 45.2**	**+1.5**
	comp=Z,20nm,1.2s						
HABR	**Khabarovsk**	**19.18**	**245**	*e*P	**Pn**	**16 43 08.3**	**-0.8**
HABR				*e*S	**Sn**	**16 46 44.2**	**+0.6**
HABR				pmax	pmax		
	comp=Z,14nm,1.2s						
HABR				MLR	MLR		
	comp=Z,383nm,15.0s						
CLNS	**Chul'man**	**19.35**	**277**	*e*P	**Pn**	**16 43 11.4**	**+0.2**
CLNS				pmax	pmax		
	comp=Z,36nm,1.1s						
CLNS				pmax	pmax		
	comp=N,17nm,1.0s						
CLNS				pmax	pmax		
	comp=E,38nm,0.9s						
ASAJ	**Asahikawa**	**19.59**	**225**	LR	LR	16 50 23.3	
	comp=E,137nm,21.1s,baz=185,slow=36						
KLR	**Kul'dur**	**20.19**	**251**	*e*P	**P**	**16 43 16.2**	**-3.0**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.4						
TTA	**Tatalina**	**20.19**	**63**	*e*P	**P**	**16 43 20.4**	**+1.2**
TTA				pmax	pmax		
	comp=Z,47nm,1.6s						
TTA	**Tatalina**	**20.19**	**63**	*e*P	**P**	**16 43 20.4**	**+1.2**
	comp=Z,47nm,1.6s						
IMA2	**Indian Mountai**	**20.78**	**54**	*e*P	**P**	**16 43 26.1**	**+0.5**
SVW2	**Sparrevohn**	**20.81**	**68**	*e*P	**P**	**16 43 26.3**	**+0.4**
MCK	**McKinley**	**23.14**	**59**	*e*P	**P**	**16 43 50.1**	**-0.8**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
MCK	**McKinley**	**23.14**	**59**	*e*P	**P**	**16 43 50.1**	**-0.8**
	comp=Z,9.7nm,1.1s,mb4.2						
COLA	**College**	**23.36**	**56**	*e*P	**P**	**16 43 53.0**	**-0.1**
COLA				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.3						
COLA	**College**	**23.36**	**56**	*e*P	**P**	**16 43 53.0**	**-0.1**
	comp=Z,22nm,1.7s,mb4.3						
KDAK	**Kodiak Island**	**23.40**	**75**	P	**P**	**16 43 52.9**	**-0.7**
	comp=Z,4.8nm,0.6s,mb4.1,baz=280,slow=6.6,SNR=10.0						
KDAK				LR	LR	16 53 45.8	
	comp=Z,332nm,18.6s,MS3.8,baz=222,slow=38						
BOD	**Bodaibo**	**24.31**	**286**	*e*P	**P**	**16 44 01.9**	**-0.1**
BOD				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**24.56**	**246**	P	**P**	**16 44 00.8**	**-3.5**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,25nm,4.5s						
MDJ				LR	LR		
	comp=N,226nm,17.0s,MS3.8						
MDJ				LR	LR		
	comp=E,78nm,15.6s,MS3.8						
MDJ				LR	LR		
	comp=Z,160nm,15.2s,MS3.6						
HIA	**Hailar**	**26.07**	**265**	*e*P	**P**	**16 44 17.1**	**-0.9**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HIA	**Hailar**	**26.07**	**265**	*e*P	**P**	**16 44 17.1**	**-0.9**
	comp=Z,4.1nm,0.4s,mb4.3						
EGAK	**Eagle**	**26.16**	**55**	*e*P	**P**	**16 44 16.6**	**-2.2**
CIT	**Chita**	**27.50**	**275**	*e*P	**P**	**16 44 31.7**	**+0.9**
MJAR	**Matsushiro Arr**	**27.85**	**223**	P	**P**	**16 44 33.2**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.7,baz=14,slow=9.4,SNR=4.7						
MJAR	**Matsushiro Arr**	**27.85**	**223**	P	**P**	**16 44 33.2**	**-0.8**
INK	**Inuvik**	**28.15**	**45**	P	**P**	**16 44 37.5**	**+0.8**
	comp=Z,0.8nm,0.4s,mb3.7,baz=194,slow=7.2,SNR=3.7						
INK				LR	LR	16 57 15.9	
	comp=Z,142nm,19.2s,MS3.6,baz=316,slow=39						
INK	**Inuvik**	**28.15**	**45**	P	**P**	**16 44 36.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**28.15**	**45**	P	**P**	**16 44 36.8**	**0.0**
	comp=Z,5.5nm,1.1s,mb4.1						
SNY	**Shenyang**	**29.51**	**249**	P	**P**	**16 44 49.5**	**+0.7**
SNY				AP	pP	16 45 01.5	+7.5
SNY				PP	PP	16 45 42.8	-13
SNY				S	**S**	**16 49 43.8**	**+1.2**
SNY				XS	sS	16 49 53.5	+2.3
SNY				SS	SS	16 51 10.0	-38
SNY				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.8						
SNY				AMB	AMB		
	comp=Z,95nm,5.3s						
SNY				LR	LR		
	comp=N,262nm,13.0s,MS4.2						
SNY				LR	LR		
	comp=E,290nm,14.8s,MS4.2						
SNY				LR	LR		
	comp=Z,426nm,16.1s,MS4.2						
TLY	**Talaya**	**32.63**	**282**	*e*P	**P**	**16 45 16.1**	**-0.2**
TLY				*e*S	**S**	**16 50 20.1**	**-11**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,155nm,12.0s,MS3.9						
ZAK	**Zakamensk**	**33.62**	**280**	*i*P	**P**	**16 45 25.6**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
DLBC	**Dease Lake**	**33.63**	**62**	P	**P**	**16 45 27.1**	**+2.1**
	comp=Z,2.6nm,0.8s,mb4.2,baz=278,slow=14,SNR=3.2						
SONM	**Songino Array**	**33.72**	**274**	P	**P**	**16 45 26.5**	**+0.7**
	comp=Z,2.0nm,1.0s,mb4.0,baz=39,slow=7.3,SNR=11						
SONM				PcP	PcP	16 48 04.0	-1.2
	comp=Z,1.5nm,0.6s,baz=37,slow=1.2,SNR=14						
SONM				LR	LR	16 59 36.9	
	comp=Z,255nm,18.5s,MS4.0,baz=29,slow=37						
SONM	**Songino Array**	**33.72**	**274**	P	**P**	**16 45 26.5**	**+0.7**
SONM						16 48 04.0	
KRAR	**Krasnoyarsk**	**35.20**	**295**	*c i*P	**P**	**16 45 38.4**	**-0.2**
KRAR				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
KRAR				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.0						
HHC	**Hu-ho-hao-te**	**36.10**	**261**	*e*P	**P**	**16 45 47.8**	**+1.5**
HHC				AP	pP	16 45 53.5	+1.9
HHC				XP	sP	16 45 56.5	+2.8
HHC				PP	PP	16 47 09.5	+1.0
HHC				PCP	PcP	16 48 14.3	+2.2
HHC				S	**S**	**16 51 25.0**	**0.0**
HHC				XS	sS	16 51 34.5	+0.9
HHC				SCP	ScP	16 51 58.3	+0.7
HHC				PCS	PcS	16 52 00.5	+0.9
HHC				SS	SS	16 53 47.0	-16
HHC				SCS	ScS	16 56 02.3	-1.0
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
HHC				AMB	AMB		
	comp=Z,121nm,5.3s						
HHC				LR	LR		
	comp=N,245nm,10.6s						
HHC				LR	LR		
	comp=E,243nm,5.1s						
HHC				LR	LR		
	comp=Z,277nm,15.7s						
RES	**Resolute Bay**	**36.70**	**26**	P	**P**	**16 45 51.9**	**+0.5**
YKA	**Yellowknife Ar**	**37.75**	**49**	P	**P**	**16 46 00.3**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=302,slow=9.4,SNR=4.1						
YKA				LR	LR	17 05 22.4	
	comp=Z,60nm,18.4s,MS3.4,baz=50,slow=42						
YKA	**Yellowknife Ar**	**37.75**	**49**	P	**P**	**16 46 00.3**	**0.0**
YKA				LR	LR	17 05 22.4	
SSE	**Sheshan**	**39.41**	**241**	P	**P**	**16 46 12.0**	**-2.3**
SSE				AP	pP	16 46 25.3	+5.7
SSE				PP	PP	16 47 43.0	-1.8
SSE				S	**S**	**16 52 08.8**	**-6.4**
SSE				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.1						
SSE				AMB	AMB		
	comp=Z,194nm,4.1s						
SSE				LR	LR		
	comp=N,30nm,18.0s,MS3.6						
SSE				LR	LR		
	comp=E,67nm,18.0s,MS3.6						
SSE				LR	LR		

ARCES LR LR 17 12 09.5
comp=Z,74nm,19.4s,MS3.7,baz=206,slow=42
ZRNK Zerenda 47.64 305 *e*P **P 16 47 20.4 -0.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZRNK Zerenda 47.64 305 *e*P **P 16 47 20.4 -0.2**
comp=Z,6.0nm,0.9s,mb4.6
CD2 Chengdu 47.81 259 *e*P **P 16 47 22.0 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 49.08 314*ce*P **P 16 47 30.5 -1.2**
ARU pmax pmax
comp=Z,26nm,1.3s,mb5.1
HLID Hailey 50.80 69 *e*P **P 16 47 44.6 -0.2**
comp=Z,5.9nm,1.4s,mb4.3
JOF Joensuu 51.76 334 *e*p **P 16 47 49.8 -2.2**
comp=Z,12nm,0.8s,mb4.9
JOF Joensuu 51.76 334 *e*P **P 16 47 49.8 -2.2**
JOF pmax pmax
comp=Z,12nm,0.8s,mb4.9
RLMT Red Lodge 51.98 64 *e*P **P 16 47 54.2 +0.6**
IMW Indian Meadow 52.16 66 *e*P **P 16 47 56.5 +1.5**
comp=Z,3.0nm,0.9s,mb4.2
TKM2 Tokmak 2 52.29 292 P **P 16 47 56.5 +0.5**
SNR=5.6
USP Ospenovka 52.53 293 P **P 16 47 58.5 +0.8**
SNR=8.6
CHMS Chumysh 52.62 293 P **P 16 47 59.6 +1.2**
SNR=7.7
KBK Karagaybulak 52.80 292 P **P 16 48 00.8 +1.1**
SNR=7.5
AAK Ala-Archa 53.03 293 P **P 16 48 02.4 +1.0**
SNR=9.6
AAK Ala-Archa 53.03 293*c i*P **P 16 48 01.0 -0.4**
AAK pmax pmax
comp=Z,15nm,1.0s,mb4.9
AAK MLR MLR
comp=Z,100nm,14.0s,MS4.0
AAK Ala-Archa 53.03 293 *e*P **P 16 48 00.7 -0.7**
comp=Z,12nm,0.9s,mb4.8
EKS2 Erkin-Say 53.34 293 P **P 16 48 04.6 +0.9**
SNR=9.3
KAF Kangasniemi 53.55 336 *e*p **P 16 48 02.4 -2.9**
baz=25,slow=7.0
BW06 Boulder Array 53.67 66 *e*P **P 16 48 06.2 +0.1**
comp=Z,5.5nm,1.1s,mb4.4
PDAR Pinedale Array 53.67 66 P **P 16 48 06.7 +0.6**
comp=Z,3.5nm,0.9s,mb4.3,baz=333,slow=3.7,SNR=22
PDAR LR LR 17 10 58.9
comp=Z,77nm,21.0s,MS3.7,baz=357,slow=36
AML Almayashu 53.79 293 P **P 16 48 08.6 +1.6**
SNR=5.3
AKTK Aktyubinsk 53.97 310 P **P 16 48 08.7 +0.4**
AKTK LR LR 17 13 23.8
AKTO Aktyubinsk 53.97 310 P **P 16 48 08.7 +0.4**
comp=Z,3.5nm,0.9s,mb4.3,baz=25,slow=7.0,SNR=10
AKTO LR LR 17 13 23.8
comp=Z,98nm,18.5s,MS3.9,baz=242,slow=38
FINES FINESS Array B 54.20 336 P **P 16 48 09.4 -0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=54,slow=9.7,SNR=6.7
FINES LR LR 17 12 56.0
comp=Z,64nm,19.1s,MS3.7,baz=152,slow=38
FINES FINESS Array B 54.20 336 P **P 16 48 09.4 -0.6**
FINES LR LR 17 12 56.0
KK31 Karatay Array 54.49 296 *i*P **P 16 48 12.3 +0.2**
KK31 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
RSSD Black Hills 55.10 61 P **P 16 48 16.8 +0.3**
RSSD pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
RSSD Black Hills 55.10 61 P **P 16 48 16.8 +0.3**
comp=Z,2.7nm,0.3s,mb4.8
LSA Lhasa 55.10 270 *e*P **P 16 48 17.6 +1.0**
LSA pmax pmax
comp=Z,11nm,0.6s,mb5.1
LSA Lhasa 55.10 270 *e*P **P 16 48 17.6 +1.0**
comp=Z,11nm,0.6s,mb5.1
NB2 NORSAR Subarra 57.21 343 P **P 16 48 30.7 -0.9**
comp=Z,11nm,1.1s,mb4.8,baz=18,slow=7.4
NB2 NORSAR Subarra 57.21 343 P **P 16 48 30.7 -0.9**
NB2 pmax pmax
comp=Z,11nm,1.1s,mb4.8
NOA NORSAR Array B 57.21 343 P **P 16 48 31.0 -0.6**
comp=Z,4.7nm,0.9s,mb4.5,baz=17,slow=7.1,SNR=12
NOA LR LR 17 16 06.8
comp=Z,29nm,22.0s,MS3.3,baz=5.0,slow=39
OBN Obninsk 57.26 326 *e*P **P 16 48 31.7 -0.2**
OBN *e* 16 50 38.1
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
HFS Hagfors 57.70 342 P **P 16 48 32.9 -2.2**
comp=Z,2.5nm,0.7s,mb4.3,baz=28,slow=6.7,SNR=4.2
GUN Gumba 59.22 273 *e*P **P 16 48 45.4 -0.2**
comp=Z,69nm,1.0s
SCHQ Schefferville 59.23 30 P **P 16 48 43.0 -2.7**
comp=Z,6.2nm,1.0s,mb4.6,baz=0.0,slow=12,SNR=3.9
SCHQ LR LR 17 17 05.5
comp=Z,49nm,18.8s,MS3.7,baz=232,slow=39
SDCO Great Sand Dun 59.54 67 *e*P **P 16 48 49.0 +1.1**
comp=Z,3.9nm,1.0s,mb4.4
KKN Kakani 59.62 274 *e*P **P 16 48 48.0 -0.4**
comp=Z,9.4nm,0.7s,mb5.0
PKI Pulchoki 59.73 273 *e*P **P 16 48 48.8 -0.4**
GKN Gorkha 59.77 274 *e*P **P 16 48 49.0 -0.4**
comp=Z,55nm,1.1s,mb5.5
DMN Daman 59.85 274 *e*P **P 16 48 49.5 -0.5**
KOLN Koldanda 60.48 275 *e*P **P 16 48 53.6 -0.7**
comp=Z,27nm,1.0s,mb5.2
AKASG Malin Array Be 63.21 328 P **P 16 49 12.0 -0.7**
comp=Z,0.9nm,0.4s,mb4.3,baz=25,slow=6.3,SNR=6.6
AKASG Malin Array Be 63.21 328 P **P 16 49 12.0 -0.7**
EKA Eskdalemuir Ar 64.44 350 P **P 16 49 20.6 -0.3**
comp=Z,2.0nm,0.8s,mb4.2,baz=9.8,slow=5.4,SNR=5.9
KIV Kislovodsk 65.07 316 *e*P **P 16 49 20.7 -4.2**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KIV MLR MLR
comp=Z,89nm,15.0s,MS4.1
WMOK Wichita Mounta 65.09 64 *e*P **P 16 49 24.6 -0.4**
WMOK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
WMOK Wichita Mounta 65.09 64 *e*P **P 16 49 24.6 -0.4**
comp=Z,5.5nm,0.9s,mb4.6
CCM Cathedral Cave 65.58 56 *e*P **P 16 49 29.6 +1.4**
CCM pmax pmax
comp=Z,12nm,0.7s,mb5.0
CCM Cathedral Cave 65.58 56 *e*P **P 16 49 29.6 +1.4**
comp=Z,12nm,0.7s,mb5.0
GERES GERESS Array B 68.49 338 P **P 16 49 46.9 +0.2**
comp=Z,1.7nm,0.8s,mb4.1,baz=56,slow=8.2,SNR=4.7
MLR Muntele Rosu 68.87 328 P **P 16 49 50.9 +1.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=132,slow=8.4,SNR=3.9
BRTR Keskin Array B 71.89 320 P **P 16 50 08.5 +0.9**
comp=Z,2.3nm,1.0s,mb4.1,baz=68,slow=3.3,SNR=10
BRTR LR LR 17 27 40.9
comp=Z,43nm,19.5s,MS3.7,baz=276,slow=41
BRTR Keskin Array B 71.89 320 *i*P **P 16 50 08.5 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
MIB Mutribah 75.70 305 *e*P **P 16 50 29.9 0.0**
MIB AMb AMB 16 50 31.3
comp=Z,35nm,1.0s,mb5.3
RST Umm Al-Ruwaisa 76.11 305 *e*P **P 16 50 32.2 0.0**
RST AMb AMB 16 50 33.4
comp=Z,45nm,0.9s,mb5.4
NAY Al-Naaiem 76.23 305 *e*P **P 16 50 32.7 -0.1**
NAY AMb AMB 16 50 34.2
comp=Z,18nm,1.0s,mb5.0
RDF Al-Radifah 76.38 305 *e*P **P 16 50 34.0 +0.2**
RDF AMb AMB 16 50 35.4
comp=Z,44nm,0.8s,mb5.4
AFI Afiamalu 76.65 153 LR LR 17 22 13.5
comp=Z,29nm,18.0s,MS3.6,baz=200,slow=34
WRAB Tennant Creek 82.64 206⇓*i*P **P 16 51 07.1 -0.7**
WRA Warramunga Arr 82.65 206 P **P 16 51 06.4 -1.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=16,slow=5.5,SNR=22
WRA Warramunga Arr 82.65 206 *i*P **P 16 51 06.4 -1.5**
WRA pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 86.35 205 P **P 16 51 25.3 -1.3**
comp=Z,1.4nm,0.9s,mb4.2,baz=11,slow=4.8,SNR=14
PPT Papeete 86.71 134 LR LR 17 21 50.3
comp=Z,60nm,21.6s,MS4.0,baz=12,slow=30

NEIC ***25*** *16:44:57.8*±*0.4, 5156*N*×16.15*E*, h5*km*, ML3.4(BRA),*
ML3.6(SZGRF), Error ellipse: s-maj=5.0km s-min=4.3km az=52.0
IDC ***25*** *16:44:58.8*±*0.7, 5146*N*×1601E, h0*km*, mb3.9/1, mb1 3.6/9, mb1mx3.5/22, mbtmp3.5/9, ML3.3/8, MS3.0/1, Ms1 3.0/1, ms1mx2.0/35, Error ellipse: s-maj=11.6km s-min=7.0km az=109.0*
MOS ***25*** *16:44:58.2*±*2.2, 5148*N*×16.17E, h10km, mb3.8/1, Error ellipse: s-maj=8.2km s-min=4.6km az=85.6*
ISCJB ***25*** *16:44:58.4*±*0.4, 5136*N*±002×16.12E*±*002, h0km, mb3.6/1, MS2.8/1, Error ellipse: s-maj=3.0km s-min=1.8km az=35.3*
LDG ***25*** *16:44:58.9*±*0.2, 5146*N*×16.13E, h1km, Ml4.1/13, Error ellipse: s-maj=4.1km s-min=2.7km az=179.0, Suspected Mining induced.*
BGR ***25*** *16:44:58.6*±*0.6, 5140*N*×1631E, h1km, ML3.6, Error ellipse: s-maj=6.7km s-min=5.6km az=130.0*
WAR ***25*** *16:44:59.3, 5145*N*×1618E, ML3.2, Mining Induced*
CSEM ***25*** *16:44:59.8*±*0.1, 5141*N*×16.14E, h1km, ML4.0/19, Error ellipse: s-maj=2.2km s-min=1.2km az=176.0*
IPEC ***25*** *16:44:59.3*±*0.3, 5143*N*×1638E, h0km, ML3.1/4, Error ellipse: s-maj=3.4km s-min=1.9km az=91.0*
VIE ***25*** *16:45:00.6*±*0.6, 5129*N*×16.10E, h0km, mb2.9/6, ML3.4/6, Error ellipse: s-maj=3.5km s-min=2.4km az=14.0 67 km WNW of Breslau Suspected Mining induced.*
PRU ***25*** *16:45:01.1, 5137*N*×16.10E, h0km, Felt In Harrachov*
ISC 25 16:44:58.2±0.3,**5149N**±002×**1616E**±002,**h0km**,**n114**,
σ1ᵽ**27**/189,**mb3.6**/**1**,**MS2.8**/**1**,**6C-5D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**172**	*i* Pgd	**Pg**	**16 45 10.5**	**-0.3**
KSP				*e*Sg	**Sg**	**16 45 18.4**	**-0.9**
KSP				*e*L		16 45 24.0	
KSP	**Ksiaz**	**0.66**	**172**	⇓*i*Pg	**Pg**	**16 45 10.5**	**-0.3**
KSP				*e*Sg	**Sg**	**16 45 18.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*PG	**Pg**	**16 45 19.4**	**-0.8**
DPC				*e*SG	**Sg**	**16 45 33.7**	**-1.5**
	286nm,0.6s						
DPC	**Dobruska-Polom**	**1.15**	**175**	*e*P	**Pg**	**16 45 19.4**	**-0.8**
DPC				*e*		16 45 33.7	
DPC				smax			
	comp=N,286nm,0.6s						
PVCC	**Panska Ves**	**1.39**	**227**	*e*PG	**Pg**	**16 45 24.6**	**-0.3**
PVCC				*e*SG	**Sg**	**16 45 43.3**	**+0.3**
BRG	**Berggiesshubel**	**1.52**	**247**	*e*Pn	**Pn**	**16 45 27.3**	**+0.6**
BRG				*e*Sg	**Sg**	**16 45 49.5**	**+2.3**
BRG	**Berggiesshubel**	**1.52**	**247**	PN	**Pn**	**16 45 26.5**	**-0.2**
BRG				PG	**Pg**	**16 45 27.9**	**+0.5**
BRG				SG	**Sg**	**16 45 48.0**	**+0.8**
	comp=N,114nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**247**	P	**Pn**	**16 45 26.5**	**-0.2**
BRG						16 45 48.0	
BRG				smax			
	comp=N,360nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**247**	Pg	**Pg**	**16 45 27.9**	**+0.5**
BRG				Sg	**Sg**	**16 45 49.5**	**+2.3**
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**16 45 29.3**	**-0.8**
RUE				*e*S	**Sn**	**16 45 57.6**	**+4.4**
RUE	**Ruedersdorf**	**1.77**	**305**	*e*Pn	**Pn**	**16 45 29.3**	**-0.8**
RUE				Sg	**Sg**	**16 45 58.5**	**+3.4**
PRA	**Prague**	**1.80**	**218**	PG	**Pg**	**16 45 31.0**	**-1.6**
PRA				SG	**Sg**	**16 45 56.0**	**+0.1**
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**16 45 31.6**	**+0.8**
PRU				*e*PG	**Pg**	**16 45 33.2**	**0.0**
PRU				*e*SG	**Sg**	**16 45 54.8**	**-2.0**
	comp=N,248nm,0.6s						
PRU	**Pruhonice**	**1.82**	**215**	*e*P	**Pn**	**16 45 31.6**	**+0.8**
PRU				*e*		16 45 54.8	
PRU				smax			
	comp=N,248nm,0.6s						
FBE	**Freiberg**	**1.85**	**253**	*e*Pn	**Pn**	**16 45 33.6**	**+2.4**
FBE				*e*Sg	**Sg**	**16 45 58.4**	**+0.6**
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*Pn	**Pn**	**16 45 42.1**	**+10**
GKP				*e*Sn	**Sn**	**16 46 04.6**	**+8.2**
RAC	**Raciborz**	**1.92**	**137**	*e*Pg	**Pg**	**16 45 35.9**	**+1.0**
RAC				*e*Sg	**Sg**	**16 46 01.4**	**+1.7**
MORC	**Moravsky Berou**	**1.93**	**152**	⇓*i*P	**Pn**	**16 45 31.0**	**-1.3**
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**16 45 31.0**	**-1.3**
MORC				*e*S	**Sn**	**16 45 59.4**	**+2.1**
MORC	**Moravsky Berou**	**1.93**	**152**	*e*Pn	**Pn**	**16 45 31.0**	**-1.3**
MORC				*e*Sg	**Sg**	**16 45 56.4**	**-3.9**
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**16 45 33.9**	**+0.9**
CLL				*i* Pg	**Pg**	**16 45 37.8**	**+1.6**
CLL				*e*Sg	**Sg**	**16 46 04.7**	**+2.8**
CLL	**Collm**	**1.98**	**266**	*i* Pn	**Pn**	**16 45 33.8**	**+0.8**
CLL				*i* Pg	**Pg**	**16 45 37.8**	**+1.6**
CLL				*i* Sg	**Sg**	**16 46 04.3**	**+2.3**
	comp=Z,178nm,0.9s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*PG	**Pg**	**16 45 37.5**	**-0.7**
OKC				*e*SG	**Sg**	**16 46 03.1**	**-2.2**
VRAC	**Vranov**	**2.21**	**173**	Pn	**Pn**	**16 45 36.4**	**+0.4**
	comp=Z,5.6nm,0.3s,baz=335,slow=14,SNR=18						
VRAC				Lg		16 46 05.8	
	comp=Z,8.3nm,0.3s,baz=80,slow=18,SNR=5.1						
VRAC	**Vranov**	**2.21**	**173**	⇓*i*P	**Pn**	**16 45 36.5**	**+0.4**
VRAC	**Vranov**	**2.21**	**173**	Pn	**Pn**	**16 45 36.4**	**+0.3**
VRAC				*e*Sg	**Sg**	**16 46 05.6**	**-3.5**
TREC	**Trest**	**2.24**	**191**	*e*PN	**Pn**	**16 45 37.3**	**+0.7**
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn	**Pn**	**16 45 40.5**	**+1.2**
TANN	**Tannenbergstha**	**2.57**	**247**	*e*Pn	**Pn**	**16 45 42.9**	**+1.8**
TANN				*e*Sg	**Sg**	**16 46 23.4**	**+2.5**
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**16 45 48.0**	**-0.2**
OJC				*e*Sg	**Sg**	**16 46 23.1**	**+0.2**
WERD	**Werda**	**2.65**	**248**	*e*Pn	**Pn**	**16 45 43.5**	**+1.3**
WERD				*e*Sg	**Sg**	**16 46 24.1**	**+0.8**
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**16 45 42.4**	**0.0**
NKC				*e*SG	**Sg**	**16 46 23.9**	**0.0**
	comp=Z,154nm,0.8s						
NKC	**Novy Kostel**	**2.67**	**243**	*e*P	**Pn**	**16 45 42.4**	**0.0**
NKC				*e*		16 46 23.9	
NKC				smax			
	comp=N,154nm,0.8s						
GUNZ	**Gunzen**	**2.67**	**246**	*e*Pn	**Pn**	**16 45 44.6**	**+2.2**
GUNZ				*e*Sg	**Sg**	**16 46 26.0**	**+1.9**
JAVC	**Velka Javorina**	**2.81**	**159**	*e*Sg	**Sg**	**16 46 28.7**	**+0.1**
	comp=N,127nm,0.8s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**16 45 45.9**	**+0.5**
KHC				*e*PG	**Pg**	**16 45 51.9**	**-1.6**
KHC				*e*SG	**Sg**	**16 46 28.7**	**-2.2**
	comp=N,131nm,1.0s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*P	**Pn**	**16 45 45.9**	**+0.5**
KHC				*e*		16 46 28.7	
KHC				smax			
	comp=N,131nm,1.0s						
MGBB	**Grossbuechelbe**	**2.93**	**240**	*e*Pn	**Pn**	**16 45 46.1**	**+0.1**
MANZ	**Manzenberg**	**2.98**	**241**	*e*Pn	**Pn**	**16 45 46.9**	**+0.1**
MANZ				*e*Sg	**Sg**	**16 46 34.4**	**+0.3**
MANZ	**Manzenberg**	**2.98**	**241**	Pn	**Pn**	**16 45 46.9**	**+0.2**
MANZ				Sg	**Sg**	**16 46 34.3**	**+0.3**
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**16 45 47.2**	**+0.4**
MOX				*e*Pg	**Pg**	**16 45 55.9**	**+0.4**
MOX				*e*Sg	**Sg**	**16 46 35.1**	**+0.9**
MOX	**Moxa**	**2.99**	**255**	*e*PN	**Pn**	**16 45 47.1**	**+0.3**
MOX				*e*PG	**Pg**	**16 45 55.9**	**+0.4**
MOX				*e*SG	**Sg**	**16 46 36.3**	**+2.1**
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**16 45 47.1**	**+0.3**
MOX				*e*Pg	**Pg**	**16 45 55.9**	**+0.4**
MOX				*e*Sg	**Sg**	**16 46 36.3**	**+2.1**
MOX	**Moxa**	**2.99**	**255**	Pg	**Pg**	**16 45 55.9**	**+0.4**
MOX				Sg	**Sg**	**16 46 35.1**	**+0.9**
ROTZ	**Rotzenmuhle**	**3.05**	**237**	*e*Pn	**Pn**	**16 45 47.8**	**+0.1**
ROTZ				*e*Sg	**Sg**	**16 46 35.8**	**-0.5**
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pn	**Pn**	**16 45 47.5**	**-0.7**
GEC2				*e*Pg	**Pg**	**16 45 56.1**	**-1.2**
GEC2				*e*Sg	**Sg**	**16 46 34.2**	**-3.1**
GEC2	**GERESS Array S**	**3.09**	**212**	*e*Pg	**Pg**	**16 45 56.1**	**-1.2**
GEC2				Sg	**Sg**	**16 46 35.5**	**-1.9**
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**16 45 47.6**	**-0.6**
	comp=N,2.2nm,0.3s,baz=29,slow=13,SNR=45						
GERES				Pg	**Pg**	**16 45 56.3**	**-1.0**
	comp=N,12nm,0.3s,baz=33,slow=17,SNR=71						
GERES				Sn	**Sn**	**16 46 25.1**	**-0.7**
	comp=N,6.1nm,0.3s,baz=31,slow=26,SNR=6.2						
GERES				Lg		16 46 34.0	
	comp=N,18nm,0.3s,baz=36,slow=28,SNR=12						
GERES	**GERESS Array B**	**3.09**	**212**	P	**Pn**	**16 45 47.6**	**-0.6**
GERES						16 46 25.1	
GERES	**GERESS Array B**	**3.09**	**212**	Pg	**Pg**	**16 45 56.3**	**-1.0**
SMOL	**Smolenice**	**3.09**	**164**	*e*PG	**Pg**	**16 45 58.4**	**+0.9**
SMOL				*e*SG	**Sg**	**16 46 38.9**	**+1.3**
WET	**Wettzell**	**3.15**	**223**	*e*Sg	**Sg**	**16 46 38.6**	**-0.9**
ZST	**Bratislava**	**3.36**	**169**	*e*PG	**Pg**	**16 46 04.0**	**+1.4**
ZST				*e*SG	**Sg**	**16 46 45.5**	**-0.6**
ZST	**Bratislava**	**3.36**	**169**	*e*Pg	**Pg**	**16 46 04.0**	**+1.4**
ZST				*e*Sg	**Sg**	**16 46 45.6**	**-0.5**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**16 46 03.4**	**+0.6**
NIE				*e*S	**Sg**	**16 46 48.0**	**+1.4**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**16 45 53.3**	**-0.1**
VYHS				*e*PG	**Pg**	**16 46 05.3**	**+0.7**
VYHS				*e*SG	**Sg**	**16 46 50.0**	**+0.5**
CONA	**Conrad Observa**	**3.58**	**183**	⇓*i*Pn	**Pn**	**16 45 55.1**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**16 46 51.5**	**-1.5**
	comp=N,87nm,0.8s						
GRA1	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**16 45 54.5**	**-1.1**
GRA1				*e*Sg	**Sg**	**16 46 53.9**	**-0.8**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**16 45 54.5**	**-1.1**
GRF				*e*Sg	**Sg**	**16 46 53.9**	**-0.8**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**16 45 55.4**	**-1.2**
BSD				*i* S	**Sn**	**16 46 40.2**	**-0.8**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**16 45 58.6**	**0.0**
	SNR=8.2						
MOA				⇑*i*Sg	**Sg**	**16 47 01.9**	**0.0**
	comp=N,75nm,0.6s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**16 45 58.6**	**-0.1**
	comp=N,8.0nm,2.0s						
MOA				Sg	**Sg**	**16 47 01.9**	**0.0**
	comp=N,75nm,0.6s						
STHS	**Stebnicka Huta**	**3.86**	**121**	*e*PN	**Pn**	**16 46 01.6**	**+2.8**
STHS				*e*PG	**Pg**	**16 46 13.7**	**+1.5**
STHS				*e*SG	**Sg**	**16 47 07.3**	**+5.1**
UBBA	**Unterbreizbach**	**3.93**	**263**	*e*Pn	**Pn**	**16 46 01.4**	**+1.6**
KECS	**Kecovo**	**4.11**	**135**	*e*PG	**Pg**	**16 46 18.2**	**+1.2**
ARSA	**Arzberg**	**4.27**	**186**	⇑*i*Pn	**Pn**	**16 46 04.3**	**-0.1**
ARSA				⇑*i*Sg	**Sg**	**16 47 15.1**	**-0.2**
	comp=N,50nm,0.8s						
ARSA	**Arzberg**	**4.27**	**186**	Pn	**Pn**	**16 46 04.3**	**-0.1**
ARSA				Sg	**Sg**	**16 47 15.1**	**-0.2**
	comp=N,50nm,0.8s						
KWP	**Kalwaria**	**4.57**	**112**	*e*Pn	**Pg**	**16 46 23.8**	**-2.1**
KWP				*e*Sg	**Sg**	**16 47 33.3**	**+8.2**
KWP	**Kalwaria**	**4.57**	**112**	*e*Pn	**Pn**	**16 46 08.8**	**+0.2**
KWP				*e*Pg	**Pg**	**16 46 23.2**	**-2.7**
KWP				*e*Sg	**Sg**	**16 47 33.3**	**+8.2**
KWP	**Kalwaria**	**4.57**	**112**	*e*Pn	**Pn**	**16 46 08.8**	**+0.2**
KWP	**Kalwaria**	**4.57**	**112**	*e*Pg	**Pg**	**16 46 23.2**	**-2.7**
KOLS	**Kolonicke sedl**	**4.69**	**121**	*e*PN	**Pn**	**16 46 11.0**	**+0.8**
KOLS				*e*		16 46 31.0	
KOLS				*e*		16 47 37.3	
KBA	**Koelnbreinsper**	**4.79**	**204**	⇑*i*Pn	**Pn**	**16 46 11.9**	**+0.4**
KBA				⇓*i*Sg	**Sg**	**16 47 31.5**	**-0.5**
	comp=N,40nm,0.5s						
UZH	**Uzhgorod**	**4.88**	**124**	*e*P	**Pn**	**16 46 07.2**	**-5.6**
UZH				*e*S	**Sn**	**16 47 01.8**	**-8.3**
UZH				smax			
	comp=Z,28nm,1.2s						
PDKS	**Podkum**	**5.49**	**188**	*e*Pn	**Pn**	**16 46 23.8**	**+2.5**
CRES	**Cresnjev**	**5.69**	**185**	*i* Pn	**Pn**	**16 46 26.2**	**+2.3**
CRES	**Cresnjev**	**5.69**	**185**	*i* Pn	**Pn**	**16 46 26.2**	**+2.2**
WTSB	**Winterswijk**	**5.83**	**278**	*e*Sn	**Sg**	**16 48 11.2**	**+5.6**
HGN	**Heimansgroeve**	**6.48**	**268**	*e*Sn	**Sg**	**16 48 25.2**	**-1.0**
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn	**Pn**	**16 46 33.0**	**-2.2**
CDF				*e*Sg	**Sg**	**16 48 21.6**	**-5.6**
	comp=Z,96nm,1.1s						
CDF	**Champ du Feu**	**6.51**	**245**	*e*Pn	**Pn**	**16 46 33.0**	**-2.2**
CDF				*e*Sg	**Sg**	**16 48 21.6**	**-5.6**
	comp=Z,48nm,1.1s						
HINF	**Hinteralfeld**	**7.07**	**242**	*e*Pn	**Pn**	**16 46 41.1**	**-1.8**
HINF				*e*Sg	**Sg**	**16 48 39.1**	**-6.2**
	comp=Z,36nm,0.9s						
HINF	**Hinteralfeld**	**7.07**	**242**	*e*Pn	**Pn**	**16 46 41.1**	**-1.8**
HINF				*e*Sg	**Sg**	**16 48 39.1**	**-6.2**
	comp=Z,18nm,0.9s						
HAU	**Haudompre**	**7.25**	**245**	*e*Pn	**Pn**	**16 46 43.4**	**-2.0**
HAU				*e*Sg	**Sg**	**16 48 45.0**	**-6.0**
	comp=Z,52nm,1.1s						
HAU	**Haudompre**	**7.25**	**245**	*e*Pn	**Pn**	**16 46 43.4**	**-2.0**
HAU				*e*Sg	**Sg**	**16 48 45.0**	**-6.0**
	comp=Z,26nm,1.1s						
GIVF	**Givet**	**7.32**	**263**	*e*Sg	**Sg**	**16 48 47.4**	**-5.8**
	comp=Z,73nm,1.2s						
GIVF	**Givet**	**7.32**	**263**	*e*Sg	**Sg**	**16 48 47.4**	**-5.8**
	comp=Z,36nm,1.2s						
RFYF	**Reffroy**	**7.45**	**252**	*e*Sg	**Sg**	**16 48 50.0**	**-7.4**
	comp=Z,34nm,0.9s						
RFYF	**Reffroy**	**7.45**	**252**	*e*Sg	**Sg**	**16 48 50.0**	**-7.4**
	comp=Z,17nm,0.9s						
BAIF	**Baives**	**7.71**	**264**	*e*Sg	**Sg**	**16 48 59.4**	**-6.4**
	comp=Z,63nm,1.2s						
BAIF	**Baives**	**7.71**	**264**	*e*Sg	**Sg**	**16 48 59.4**	**-6.4**
	comp=Z,32nm,1.2s						
MEZF	**Maizieres J'vi**	**7.76**	**252**	*e*Sg	**Sg**	**16 49 00.5**	**-6.8**
	comp=Z,78nm,1.2s						
MEZF	**Maizieres J'vi**	**7.76**	**252**	*e*Sg	**Sg**	**16 49 00.5**	**-6.8**
	comp=Z,39nm,1.2s						
SFTF	**Sexfontaines**	**7.90**	**250**	*e*Sg	**Sg**	**16 49 05.4**	**-6.6**
	comp=Z,84nm,1.2s						
SFTF	**Sexfontaines**	**7.90**	**250**	*e*Sg	**Sg**	**16 49 05.4**	**-6.6**
	comp=Z,42nm,1.2s						
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg	**Sg**	**16 49 13.7**	**-8.4**
	comp=Z,90nm,1.2s						
CABF	**La Chapelle**	**8.22**	**237**	*e*Sg	**Sg**	**16 49 13.7**	**-8.4**
	comp=Z,45nm,1.2s						
AKASG	**Malin Array Be**	**8.27**	**90**	Pn	**Pn**	**16 46 58.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=278,slow=12,SNR=8.3						
AKASG				Pg	**Pg**	**16 47 32.9**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=278,slow=16,SNR=9.8						
AKASG				Sn	**Sn**	**16 48 26.2**	**-7.2**
	comp=Z,0.8nm,0.3s,baz=356,slow=29,SNR=5.8						
AKASG				Lg		16 49 30.4	
	comp=Z,0.1nm,0.3s,baz=320,slow=41,SNR=3.3						
AKASG	**Malin Array Be**	**8.27**	**90**	P	**Pn**	**16 46 58.5**	**-0.8**
AKAS

KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	**Pg**	17 01 13.5	**+1.2**
KSP				*e*Sg	**Sg**	17 01 21.3	**+1.2**
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	**Pg**	17 01 22.3	**+0.6**
DPC				*e*SG	**Sg**	17 01 36.2	**+0.2**
	25nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**229**	*e*PG	**Pg**	17 01 27.8	**+0.9**
BRG	**Berggiesshubel**	**1.52**	**249**	PG	**Pg**	17 01 30.4	**+0.6**
BRG				SG	**Sg**	17 01 50.7	**+1.1**
	27nm,0.6s						
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	**Pg**	17 01 34.5	**-0.5**
PRU				*e*SG	**Sg**	17 01 58.3	**0.0**
	36nm,0.3s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	17 01 34.3	**+0.2**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	17 01 34.3	**+0.3**
MORC				*e*Sg	**Sg**	17 01 58.5	**-2.6**
CLL	**Collm**	**2.00**	**267**	*e*Pg	**Pg**	17 01 38.0	**-0.9**
CLL				*e*Sg	**Sg**	17 02 05.0	**+0.2**
	comp=Z,13nm,0.6s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	**Pg**	17 01 41.0	**+1.3**
OKC				*e*SG	**Sg**	17 02 05.3	**-0.8**
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	**Pn**	17 01 39.3	**+1.5**
VRAC				*e*Sg	**Sg**	17 02 07.6	**-2.3**
TREC	**Trest**	**2.20**	**192**	*e*PG	**Pg**	17 01 42.4	**-0.4**
KRUC	**Moravsky**	**2.39**	**177**	*e*Sg	**Sg**	17 02 15.5	**-1.9**
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	17 01 50.6	**+0.1**
OJC				*e*Sg	**Sg**	17 02 25.3	**+1.1**
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	**Pn**	17 01 45.4	**+0.7**
NKC				*e*SG	**Sg**	17 02 26.2	**+0.1**
	comp=Z,37nm,0.3s						
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN	**Pn**	17 01 48.4	**+1.0**
KHC				*e*PG	**Pg**	17 01 53.8	**-1.6**
KHC				*e*SG	**Sg**	17 02 31.1	**-1.3**
	comp=Z,8.4nm,0.3s						
MOX	**Moxa**	**2.99**	**256**	*e*Pg	**Pg**	17 01 58.8	**+0.8**
MOX				*e*Sg	**Sg**	17 02 37.9	**+1.1**
MOX				*e*SG	**Sg**	17 02 37.9	**+1.1**
MOX	**Moxa**	**2.99**	**256**	*e*PG	**Pg**	17 01 58.8	**+0.8**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pg	**Pg**	17 01 57.6	**-1.7**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*PG	**Pg**	17 01 57.4	**-1.8**
BSD	**Bornholm Skovb**	**3.75**	**349**	*i* P	**Pn**	17 01 58.6	**-1.2**
BSD				*i* S	**Sn**	17 02 42.4	**-2.3**
BSD				*e*S	**Sg**	17 03 01.1	**-0.2**
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*PG	**Pg**	17 02 15.4	**+1.5**
STHS				*e*SG	**Sg**	17 03 10.2	**+6.8**

IDC 25 17:06:30.9±2.5,2643S×17864W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.8/11,mbtmp3.8/4,ML4.9/1,Error ellipse: s-maj=60.3km s-min=33.7km az=65.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.89**	**167**	Pn	Pn	17 07 17.7	-0.4
	160nm,0.3s,baz=79,slow=18,SNR=12						
RAO				Sn	Sn	17 07 43.2	-10
	290nm,0.3s,baz=82,slow=23,SNR=15						
ASAR	**Alice Springs**	**42.90**	**263**	P	P	17 14 32.5	+1.4
	0.3nm,0.5s,baz=94,slow=7.2,SNR=8.8						
WRA	**Warramunga Arr**	**43.52**	**268**	P	P	17 14 35.0	-1.1
	0.6nm,0.7s,baz=105,slow=7.7,SNR=9.5						
MJAR	**Matsushiro Arr**	**74.67**	**325**	P	P	17 18 12.6	+0.4
	1.4nm,0.7s,baz=152,slow=7.0,SNR=4.1						

*BGR **25** 17:15:02.8±0.6,5152N×1615E,h1km,ML3.0,Error ellipse: s-maj=6.7km s-min=5.6km az=163.0*
*ISCJB **25** 17:15:02.1±0.6,5147N±003×1604E±003,h0km,Error ellipse: s-maj=4.3km s-min=2.2km az=23.9*
*NEIC **25** 17:15:02.9±0.6,5156N×1607E,h5km,ML2.7(BRA), ML3.0(SZGRF),Error ellipse: s-maj=7.5km s-min=4.5km az=196.0*
*CSEM **25** 17:15:03.8±0.2,5153N×1607E,h1km,ML3.4/7,Error ellipse: s-maj=3.0km s-min=1.6km az=12.0*
*WAR **25** 17:15:04.1,5154N×1606E,ML2.7,Mining Induced*
*VIE **25** 17:15:04.6±0.5,5138N×1611E,h0km,mb2.2/4,ML2.9/4, Error ellipse: s-maj=3.3km s-min=3.2km az=165.0 71 km WNW of Breslau Suspected Mining induced.*
*PRU **25** 17:15:05.0,5145N×1603E,h0km,Felt In Harrachov*
*IPEC **25** 17:15:05.0±0.3,5144N×1649E,h0km,ML2.3/4,Error ellipse: s-maj=3.5km s-min=2.0km az=87.0*

ISC 25 17:15:02.9±0.5,5154N±003×1606E±003,h0km,n40, σ0§83/76,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**168**	*i* Pgd	Pg	17 15 17.1	
KSP				*i* Sg	**Sg**	17 15 26.6	**+0.8**
KSP	**Ksiaz**	**0.71**	**168**	*e*Pg	**Pg**	17 15 17.1	**+0.6**
KSP				*i* Sg	**Sg**	17 15 26.6	**+0.8**
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG	**Pg**	17 15 25.9	**0.0**
DPC				*e*SG	**Sg**	17 15 41.2	**-0.3**
	66nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**224**	*e*PG	**Pg**	17 15 29.4	**0.0**
PVCC				*e*SG	**Sg**	17 15 48.5	**+1.2**
BRG	**Berggiesshubel**	**1.49**	**244**	*e*Pg	**Pg**	17 15 31.4	**0.0**
BRG				*e*Sg	**Sg**	17 15 51.8	**+1.0**
BRG	**Berggiesshubel**	**1.49**	**244**	PG	**Pg**	17 15 31.5	**0.0**
BRG				SG	**Sg**	17 15 51.8	**+1.0**
	46nm,0.3s						
FBE	**Freiberg**	**1.81**	**251**	*e*Pn	**Pn**	17 15 36.7	**+1.3**
FBE				*e*Sg	**Sg**	17 16 01.7	**+0.6**
PRU	**Pruhonice**	**1.83**	**212**	*e*PG	**Pg**	17 15 37.1	**-0.8**
PRU				*e*SG	**Sg**	17 16 00.8	**-0.8**
	49nm,0.4s						
CLL	**Collm**	**1.93**	**264**	*e*Pn	**Pn**	17 15 36.2	**-0.8**
CLL				*i* Pg	**Pg**	17 15 39.1	**-0.8**
CLL				*e*Sg	**Sg**	17 16 05.7	**+0.8**
CLL	**Collm**	**1.93**	**264**	*i* Pn	**Pn**	17 15 36.2	**-0.8**
CLL				*i* Pg	**Pg**	17 15 39.1	**-0.8**
CLL				*ex*	x	17 15 44.0	
CLL				*i* Sg	**Sg**	17 16 05.3	**+0.4**
	comp=Z,31nm,0.4s						
CLL	**Collm**	**1.93**	**264**	*i* Pn	**Pn**	17 15 36.2	**-0.8**
CLL				*i* Pg	**Pg**	17 15 39.1	**-0.8**
CLL				*i* Sg	**Sg**	17 16 05.3	**+0.4**
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	**Pn**	17 15 37.2	**-0.7**
MORC				*e*S	**Sn**	17 16 03.0	**-0.7**
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PG	**Pg**	17 15 42.7	**-1.6**
OKC				*e*SG	**Sg**	17 16 10.6	**-1.7**
	comp=Z,35nm,0.6s						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	**Pn**	17 15 41.7	**+0.2**
VRAC				*e*Sg	**Sg**	17 16 11.1	**-4.4**
TREC	**Trest**	**2.27**	**190**	*e*PN	**Pn**	17 15 42.7	**+1.0**
TREC				*e*PG	**Pg**	17 15 45.5	**-1.0**
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	**Pn**	17 15 45.1	**+0.5**
TANN	**Tannenbergstha**	**2.54**	**245**	*e*Pn	**Pn**	17 15 45.3	**0.0**
TANN				*e*Sg	**Sg**	17 16 24.1	**-0.4**
WERD	**Werda**	**2.61**	**247**	*e*Sg	**Sg**	17 16 27.0	**+0.2**
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	**Pn**	17 15 47.0	**+0.3**
NKC				*e*SG	**Sg**	17 16 27.6	**0.0**
	comp=Z,62nm,0.3s						
GUNZ	**Gunzen**	**2.64**	**245**	*e*Pn	**Pn**	17 15 46.6	**-0.1**
NEUB	**Neuenburg**	**2.71**	**265**	*e*Sg	**Sg**	17 16 30.5	**+0.6**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	17 15 54.8	**-0.1**
OJC				*e*Sg	**Sg**	17 16 30.5	**+0.5**
JAVC	**Velka Javorina**	**2.87**	**158**	*e*Sg	**Sg**	17 16 35.0	**-0.3**
	comp=Z,8.9nm,0.3s						
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	**Pn**	17 15 49.9	**-0.2**
KHC				*e*PG	**Pg**	17 15 55.8	**-2.5**
KHC				*e*SG	**Sg**	17 16 34.9	**-0.8**
	comp=Z,14nm,0.4s						
MOX	**Moxa**	**2.94**	**254**	*e*Pn	**Pn**	17 15 50.3	**-0.6**
MOX				*e*Pg	**Pg**	17 15 58.8	**-0.5**
MOX				*e*Sg	**Sg**	17 16 39.4	**+1.9**
MOX	**Moxa**	**2.94**	**254**	*e*PN	**Pn**	17 15 50.6	**-0.3**
MOX				*e*PG	**Pg**	17 15 58.8	**-0.5**
MOX				*e*SG	**Sg**	17 16 38.6	**+1.1**
MANZ	**Manzenberg**	**2.95**	**240**	*e*Sg	**Sg**	17 16 37.4	**-0.3**
ROTZ	**Rotzenmuhle**	**3.03**	**236**	*e*Pn	**Pn**	17 15 52.5	**+0.4**
ROTZ				*e*Sg	**Sg**	17 16 39.3	**-0.9**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	17 15 53.5	**+0.6**
GEC2				*e*Sg	**Sg**	17 16 45.5	**-0.8**
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	**Pn**	17 15 53.6	**+0.6**
GEC2				*e*Sg	**Sg**	17 16 41.5	**-0.8**
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	17 15 53.9	**+0.2**
WET				*e*Sg	**Sg**	17 16 43.2	**-0.8**
WET	**Wettzell**	**3.15**	**222**	*e*Pn	**Pn**	17 15 53.9	**+0.2**
WET				*e*Sg	**Sg**	17 16 43.2	**-0.8**
SMOL	**Smolenice**	**3.15**	**163**	*e*SG	**Sg**	17 16 44.8	**+0.6**
VYHS	**Vyhne**	**3.53**	**149**	*e*PG	**Pg**	17 16 10.8	**+0.2**
VYHS				*e*SG	**Sg**	17 17 00.0	**+3.6**
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Sg	**Sg**	17 16 59.1	**+0.7**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn	**Pn**	17 15 59.6	**-0.5**
CONA				⇓*i*Sg	**Sg**	17 16 59.2	**+0.1**
	comp=Z,9.7nm,0.4s						
BSD	**Bornholm Skovb**	**3.65**	**350**	*i* P	**Pn**	17 15 59.0	**-1.6**
BSD				*i* S	**Sn**	17 16 39.5	**-4.8**
MOA	**Molln**	**3.87**	**198**	⇑*i*Pn	**Pn**	17 16 04.4	**+0.7**
MOA				⇑*i*Sg	**Sg**	17 17 08.0	**+0.7**
	comp=Z,14nm,0.5s						
STHS	**Stebnicka Huta**	**3.93**	**121**	*e*PG	**Pg**	17 16 19.9	**+1.6**
STHS				*e*SG	**Sg**	17 17 10.5	**+1.3**
KECS	**Kecovo**	**4.18**	**135**	*e*PG	**Pg**	17 16 23.5	**+0.4**

*ISCJB **25** 17:19:58.5±1.2,4022N±003×1963E±008,h10km,Error ellipse: s-maj=9.1km s-min=3.8km az=24.7*
*NEIC **25** 17:19:59.1,4020N×1965E,h0km,MD2.9(ATH),After THE.*
*THE **25** 17:19:59.1,4020N×1965E,h10km,ML2.3*
*CSEM **25** 17:19:59.1±0.9,4026N×1962E,h8km,ML2.3,Error ellipse: s-maj=17.5km s-min=7.0km az=104.0*
*ATH **25** 17:20:01.2,4000N×1952E,h31km,MD2.9/3*
*SKO **25** 17:20:02.9,4003N×2035E,h49km*

ISC 25 17:19:58.5±1.3,4021N±003×1957E±009,h10km,n16, σ1§20/29,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.47**	**135**	*i* Pg	**Pg**	17 20 06.3	**-1.3**
SRN				*i* Sg	**Sg**	17 20 11.7	**-2.1**
KEK	**Kerkira**	**0.53**	**160**	*e*PB	**Pg**	17 20 09.6	**+0.9**
KEK				*e*SB	**Sg**	17 20 16.2	**+0.6**
IGT	**Igoumenitsa**	**0.90**	**139**	*e*Pg	**Pg**	17 20 15.0	**-0.7**
IGT				*e*Sg	**Sg**	17 20 26.3	**-1.1**
JAN	**Janina**	**1.13**	**119**	*e*PB	**Pb**	17 20 20.6	**+0.5**
OHR	**Ohrid**	**1.30**	**46**	*e*Pg	**Pg**	17 20 22.1	**-1.2**
OHR				*e*Sg	**Sg**	17 20 42.4	**+2.2**
OHR	**Ohrid**	**1.30**	**46**	*e*Pg	**Pg**	17 20 25.4	**+2.0**
OHR				*e*Sg	**Sg**	17 20 38.4	**-1.9**
OHR	**Ohrid**	**1.30**	**46**	*e*Pg	**Pg**	17 20 22.1	**-1.3**
OHR				*e*Sg	**Sg**	17 20 42.4	**+2.1**
MEV	**Metsovon**	**1.34**	**108**	*e*Pg	**Pg**	17 20 22.6	**-1.7**
MEV				*e*Sg	**Sg**	17 20 42.1	**+0.4**
FNA	**Florina**	**1.49**	**67**	*e*Pg	**Pg**	17 20 25.1	**-2.0**
FNA				*e*Sg	**Sg**	17 20 47.0	**+0.5**
BIA	**Bitola**	**1.56**	**58**	*e*Pg	**Pn**	17 20 26.1	**-0.2**
BIA				*e*Sg	**Sg**	17 20 48.8	**+0.1**
BIA	**Bitola**	**1.56**	**58**	*e*Pg	**Pg**	17 20 26.7	**-1.7**
BIA				*e*Sg	**Sg**	17 20 41.5	**-5.1**
LKD	**Levkas**	**1.72**	**150**	*e*Pb	**Pb**	17 20 30.0	**-0.1**
LKD				*e*Sb	**Sb**	17 20 53.1	**+1.4**
THL	**Klokotos Trika**	**1.99**	**108**	*e*PB	**Pb**	17 20 35.4	**+0.7**
GRG	**Griva**	**2.28**	**70**	*e*Pn	**Pn**	17 20 36.4	**+0.3**
GRG				*e*Sn	**Sn**	17 21 06.0	**+1.7**
AGG	**Agios Georgios**	**2.44**	**118**	*e*Pn	**Pn**	17 20 40.1	**+1.8**
AGG				*e*Sn	**Sn**	17 21 09.6	**+1.4**
KNT	**Kendrikon**	**2.71**	**68**	*e*Pn	**Pn**	17 20 41.9	**-0.1**

IDC 25 17:20:21.1±8.1,540S×14541E,h83km±63km,mb3.2/3, mb1 3.3/5,mb1mx3.2/13,mbtmp3.5/5,ML3.1/2,Error ellipse: s-maj=92.2km s-min=46.7km az=43.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**157**	P	Pn	17 21 24.9	+0.3
	4.9nm,0.3s,baz=336,slow=6.8,SNR=32						
PMG				S	Sn	17 22 14.6	+0.6
	7.4nm,0.3s,baz=132,slow=22,SNR=19						
WRA	**Warramunga Arr**	**18.03**	**216**	P	Pn	17 24 26.3	+0.3
	0.1nm,0.3s,baz=38,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**21.28**	**210**	P	P	17 25 00.7	+0.1
	0.3nm,0.6s,baz=37,slow=8.2,SNR=9.2						
FITZ	**Fitzroy Crossi**	**23.08**	**235**	P	P	17 25 19.7	+0.2
	2.9nm,1.1s,baz=51,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**26.58**	**187**	P	P	17 25 51.5	+0.2
	0.7nm,0.4s,baz=356,slow=14,SNR=2.9						

*ISCJB **25** 17:39:17.7±0.5,1346N±005×12062E±008,h143km±5km, mb3.8/7,Error ellipse: s-maj=13.4km s-min=7.8km az=176.7*
*IDC **25** 17:39:19.8±0.7,1350N×12097E,h148km±7km,mb3.3/5, mb1 3.5/5,mb1mx3.3/20,mbtmp3.7/5,Error ellipse: s-maj=22.9km s-min=15.1km az=54.0*
*NEIC **25** 17:39:19.3±0.7,1357N×12107E,h144km±7km,mb4.3/2, Error ellipse: s-maj=16.1km s-min=9.9km az=70.0*
*MAN **25** 17:39:19.9,1359N×12066E,h115km,mb2.6,ML4.1, MS4.3*

ISC 25 17:39:19.3±0.4,1352N±005×12074E±008,h139km±5km, n27,σ1§16/31,mb3.8/7,2C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.21**	**96**	⇓*e*P	**Pn**	17 39 37.5	**-0.8**
LUBP	**Lubang**	**0.52**	**294**	*e*P	**Pn**	17 39 38.0	**-1.5**
LUBP				*e*S	**Sn**	17 39 48.9	**-6.0**
TGY	**Tagaytay City**	**0.61**	**19**	⇑*i*P	**Pn**	17 39 42.7	**+2.6**
TGY				*i* S	**Sn**	17 39 45.8	**-10**
TGY	**Tagaytay City**	**0.61**	**19**	P	**Pn**	17 39 40.2	**+0.1**
	710nm,0.3s,baz=209,slow=1.7,SNR=45						
TGY				S	**Sn**	17 40 01.3	**+5.5**
	247nm,0.3s,baz=174,slow=22,SNR=3.7						
BOAC	**Boac**	**1.08**	**93**	*e*P	**Pn**	17 39 41.7	**-2.1**
BUSP	**Coron**	**1.60**	**199**	*e*P	**Pn**	17 39 49.8	**+0.6**
BUSP				*e*S	**Sn**	17 40 08.2	**-3.8**
POLP	**Polilio Island**	**1.67**	**44**	*e*P	**Pn**	17 39 50.9	**+0.9**
OTRP	**Odiongan**	**1.70**	**133**	*e*P	**Pn**	17 39 50.8	**+0.5**
AUQP	**San Andres**	**1.90**	**96**	*e*P	**Pn**	17 39 54.8	**+2.2**
PCPH	**Palayan**	**2.06**	**10**	⇑*e*P	**Pn**	17 39 54.0	**-0.5**
BALP	**Baler**	**2.35**	**20**	*e*P	**Pn**	17 39 58.5	**+0.4**
SCZP	**Santa Cruz**	**2.38**	**340**	*e*P	**Pn**	17 39 57.5	**-0.9**
ENPP	**El Nido**	**2.63**	**209**	*e*P	**Pn**	17 40 03.2	**+1.6**
BOLP	**Bolinao**	**2.95**	**344**	*e*P	**Pn**	17 40 04.8	**-0.8**
PVCP	**Virac**	**3.32**	**88**	*e*P	**Pn**	17 40 11.9	**+1.5**
CAUP	**Cauayan**	**3.56**	**17**	*e*P	**Pn**	17 40 13.4	**-0.1**
KSM	**Kuching**	**15.81**	**222**	P	**Pn**	17 42 57.8	**+3.7**
PSI	**Prapat**	**24.05**	**246**	P	**P**	17 44 23.9	**+2.5**
	4.7nm,0.6s,mb4.2,baz=62,slow=7.8,SNR=4.6						
MBWA	**Marble Bar**	**34.48**	**182**	*e*P	**P**	17 45 53.8	**0.0**
	4.1nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**35.84**	**158**	*e*P	**P**	17 46 04.4	**-1.1**
	1.6nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**35.85**	**158**	P	**P**	17 46 04.6	**-0.9**
	1.3nm,0.6s,mb3.7,baz=333,slow=9.9,SNR=24						
WB2	**Warramunga Arr**	**35.85**	**158**	*e*P	**P**	17 46 04.4	**-1.2**
SONM	**Songino Array**	**36.24**	**344**	P	**P**	17 46 09.1	**+0.2**
	0.2nm,0.4s,mb3.1,baz=110,slow=10,SNR=2.8						
AS31	**Alice Springs**	**39.14**	**161**	*e*P	**P**	17 46 32.8	**-0.4**
ASPA	**Alice Springs**	**39.14**	**161**	*e*P	**P**	17 46 32.8	**-0.4**
ASAR	**Alice Springs**	**39.14**	**161**	P	**P**	17 46 32.8	**-0.5**
	0.5nm,0.4s,mb3.5,baz=338,slow=7.1,SNR=24						
MKAR	**Makanchi Array**	**46.20**	**324**	P	**P**	17 47 31.0	**+0.9**
	0.3nm,0.3s,mb3.5,baz=118,slow=9.0,SNR=6.2						

IDC 25 18:14:27.1±2.1,369N×13092E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,Error ellipse: s-maj=140.0km s-min=24.4km az=72.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.72**	**172**	P	P	18 19 41.3	+0.4
	0.3nm,0.4s,baz=352,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**27.34**	**174**	P	P	18 20 12.7	-1.1
	0.2nm,0.6s,baz=348,slow=7.4,SNR=8.5						
ASAR				PcP	PcP	18 23 33.6	+0.5
	0.2nm,1.0s,baz=358,slow=1.8,SNR=4.2						
MKAR	**Makanchi Array**	**60.03**	**323**	P	P	18 24 36.7	+1.0
	0.2nm,0.4s,baz=112,slow=7.0,SNR=5.7						

*CSEM **25** 18:25:49.2±0.1,3495N×2674E,h0km,MD3.7,Error ellipse: s-maj=3.5km s-min=1.9km az=53.0*
*HLW **25** 18:25:51.6,3521N×2652E,h26km,Mb3.3*
*NEIC **25** 18:25:51.8,3513N×2657E,h15km,MD3.7(ATH),After ATH.*
*ATH **25** 18:25:51.8,3513N×2657E,h15km±3km,MD3.7/9*
*ISCJB **25** 18:25:52.3±1.3,3492N±004×2654E±006,h31km±14km, Error ellipse: s-maj=8.1km s-min=6.1km az=143.6*

ISC 25 18:25:53.2±1.7,3498N±004×2651E±006,h23km±17km, n19,σ1§10/22,2C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.68**	**261**	*e*PB	**Pb**	18 26 05.5	**-0.8**
NPS	**Neapolis**	**0.79**	**291**	⇑*i*PN	**Pn**	18 26 07.1	**-1.8**
NPS				*e*SN	**Sn**	18 26 17.6	**-2.4**
SANT	**Santorini**	**1.63**	**329**	*e*P	**Pn**	18 26 19.7	**-0.8**
SANT	**Santorini**	**1.63**	**329**	*e*P	**Pn**	18 26 19.7	**-0.8**
ARG	**Arkhangelos**	**1.80**	**46**	*e*PN	**Pn**	18 26 23.1	**+0.3**
ARG				*e*SN	**Sn**	18 26 45.3	**+0.3**
VAM	**Vamos**	**1.94**	**283**	*e*PN	**Pn**	18 26 27.0	**+2.3**
GVD	**Gavdhos**	**2.00**	**267**	*e*PN	**Pn**	18 26 28.3	**+2.8**
APE	**Apeiranthos**	**2.23**	**339**	*e*PN	**Pn**	18 26 28.8	**+0.1**
SMG	**Samos**	**2.73**	**5**	*e*PN	**Pn**	18 26 34.9	**-0.7**
KYTH	**Kithira**	**3.11**	**296**	*e*PN	**Pn**	18 26 42.6	**+1.7**
VLI	**Veliai**	**3.38**	**302**	*e*PN	**Pn**	18 26 45.5	**+0.9**
HMAT	**Matruh**	**3.91**	**173**	P	**Pn**	18 26 52.2	**+0.5**
HMAT	**Matruh**	**3.91**	**173**	P	**Pn**	18 26 52.2	**+0.4**
SWA1		**5.74**	**187**	P	**Pn**	18 27 17.4	**+0.4**
SWA1				S	**Sn**	18 28 21.6	**-0.5**
SWA2		**5.79**	**189**	P	**Pn**	18 27 18.1	**+0.4**
AWBH		**6.95**	**162**	⇑P	**Pn**	18 27 33.6	**+0.1**
GLL	**Jalalah**	**6.96**	**139**	P	**Pn**	18 27 33.0	**-0.7**
AMAG	**Maghara**	**7.10**	**126**	⇓P	**Pn**	18 27 35.0	**-0.7**
HFRF	**Wahat Farafira**	**7.96**	**168**	P	**Pn**	18 27 47.2	**-0.3**

*ISCJB **25** 18:39:51.7±0.7,3857N±003×2124E±005,h61km±9km, Error ellipse: s-maj=6.0km s-min=5.7km az=35.4*
*ATH **25** 18:39:51.2,3855N×2124E,h55km±5km,MD3.2/6*
*CSEM **25** 18:39:51.0±0.2,3857N×2122E,h57km±2km,ML2.6,Error ellipse: s-maj=3.5km s-min=2.4km az=14.0*
*THE **25** 18:39:54.4,3869N×2128E,h21km,ML2.6*

ISC 25 18:39:52.3±0.7,3857N±003×2124E±005,h57km±10km, n20,σ0§63/32,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.48**	**287**	*e*Pg	**Pn**	18 40 03.6	**-0.3**
LKD				*e*Sg	**Sn**	18 40 13.1	**+0.8**
RLS	**Riolos of Patr**	**0.54**	**161**	*e*P	**Pn**	18 40 03.6	**-0.9**
RLS				*e*S	**Sn**	18 40 13.2	**-0.2**
EVR	**Evrytania**	**0.56**	**52**	*e*P	**Pn**	18 40 04.2	**-0.6**
EVR				*e*S	**Sn**	18 40 13.7	**-0.1**
VLS	**Valsamata**	**0.65**	**233**	*e*P	**Pn**	18 40 05.0	**-0.7**
VLS				*e*S	**Sn**	18 40 15.8	**+0.3**
AGG	**Agios Georgios**	**0.96**	**62**	*e*Pg	**Pn**	18 40 09.7	**-0.1**
AGG				*e*Sg	**Sn**	18 40 23.0	**+0.4**
JAN	**Janina**	**1.13**	**344**	*e*P	**Pn**	18 40 13.3	**+1.4**
THL	**Klokotos Trika**	**1.16**	**31**	*e*P	**Pn**	18 40 12.4	**0.0**
THL				*e*S	**Sn**	18 40 27.7	**+0.4**
IGT	**Igoumenitsa**	**1.19**	**324**	*e*Pg	**Pn**	18 40 12.5	**-0.3**
IGT				*e*Sg	**Sn**	18 40 28.0	**-0.1**
MEV	**Metsovon**	**1.21**	**360**	*e*Pg	**Pn**	18 40 13.9	**+0.9**
MEV				*e*Sg	**Sn**	18 40 27.9	**-0.7**
LKR	**Lokris**	**1.38**	**86**	*e*P	**Pn**	18 40 14.8	**-0.5**
ITM	**Ithomi**	**1.49**	**158**	*e*P	**Pn**	18 40 17.2	**+0.4**
KEK	**Kerkira**	**1.60**	**316**	*e*P	**Pn**	18 40 17.2	**+0.5**
SRN	**Sarande**	**1.62**	**324**	*i* Pn	**Pn**	18 40 18.5	**-0.1**
XOR	**Xorichti**	**1.72**	**62**	*e*Pb	**Pn**	18 40 20.1	**+0.3**
XOR				*e*Sb	**Sn**	18 40 41.5	**+0.9**
XOR	**Xorichti**	**1.72**	**62**	*e*Pb	**Pn**	18 40 20.1	**+0.3**
XOR				*e*Sb	**Sn**	18 40 41.5	**+0.8**
LIT	**Litokhoron**	**1.81**	**32**	*e*Pb	**Pn**	18 40 22.1	**+1.0**
LIT				*e*Sb	**Sn**	18 40 41.0	**-1.9**
FNA	**Florina**	**2.21**	**3**	*e*Pn	**Pn**	18 40 26.5	**-0.1**
FNA				*e*Sn	**Sn**	18 40 52.7	**-0.1**
VLI	**Veliai**	**2.29**	**143**	*e*P	**Pn**	18 40 27.9	**+0.3**

MIDA	**Miranda**	**1.36**	**246**	Pg		**Pn**	19 13 37.6	**-0.6**
MIDA				Sg		**Sg**	19 13 56.2	**+0.4**
	575nm,0.4s							
SNAL	**S. Angelo Dei**	**1.38**	**203**	Pg		**Pn**	19 13 37.0	**-1.5**
SNAL				Sg		**Sg**	19 13 57.5	**+1.0**
AMUR	**Altamura**	**1.40**	**158**	Pg		**Pn**	19 13 36.4	**-2.3**
AMUR				Sg		**Sg**	19 13 57.6	**+0.7**
	807nm,0.3s							
RNI2	**Rionero Sannit**	**1.41**	**250**	Pg		**Pg**	19 13 38.2	**-0.8**
RNI2				Sg		**Sg**	19 13 56.8	**-0.4**
	822nm,0.4s							
SG1	**Sgolgore (BA)**	**1.48**	**157**	*e*Sg		**Sg**	19 13 59.9	**+0.3**
MRLC	**Muro Lucano**	**1.48**	**193**	Pg		**Pg**	19 13 39.4	**-1.1**
MRLC				Sg		**Sg**	19 14 00.8	**+1.2**
	576nm,0.5s							
VAGA	**Valle Agricola**	**1.48**	**238**	Pg		**Pg**	19 13 39.8	**-0.7**
INTR	**Introdacqua**	**1.51**	**263**	Pg		**Pg**	19 13 39.2	**-1.8**
INTR				Sg		**Sg**	19 14 01.8	**+1.3**
	895nm,0.3s							
CERA	**Filignano**	**1.54**	**247**	Pg		**Pg**	19 13 42.2	**+0.6**
CERA				Sg		**Sg**	19 14 02.0	**+0.5**
	492nm,0.5s							
MOCO	**Biccari - m.te**	**1.55**	**238**	Pg		**Pg**	19 13 31.3	**-10**
MOCO				Sg		**Pg**	19 13 44.4	**+2.5**
	368nm,0.4s							
NOCI	**Noci**	**1.66**	**148**	Pg		**Pn**	19 13 40.6	**-1.7**
NOCI				Sg		**Sg**	19 14 05.5	**+0.2**
	1μm,0.3s							
RFI	**Roccamonfina**	**1.70**	**239**	Pg		**Pg**	19 13 43.0	**-1.7**
	31nm,0.7s							
FAGN	**Fagnano**	**1.73**	**273**	Pg		**Pg**	19 13 44.7	**-0.6**
	704nm,0.4s							
VVLD	**Villa Vallelon**	**1.74**	**260**	Pg		**Pn**	19 13 43.2	**-0.2**
VVLD				Sg		**Sg**	19 14 08.8	**+0.9**
	401nm,0.4s							
TERO	**Teramo**	**1.76**	**285**	Pg		**Pg**	19 13 45.0	**-0.8**
	236nm,0.4s							
PE1	**Pezze di Greco**	**1.80**	**140**	*e*Pg		**Pn**	19 13 42.7	**-1.6**
PE1				*e*Sg		**Sg**	19 14 11.6	**+1.7**
AQU	**L'Aquila**	**1.87**	**275**	*e*P		**Pn**	19 13 45.7	**+0.5**
AQU				*e*S		**Sg**	19 14 13.6	**+1.5**
AQU	**L'Aquila**	**1.87**	**275**	*e*P		**Pn**	19 13 45.7	**+0.5**
TREB	**Trebinje**	**1.88**	**73**	P		**Pn**	19 13 47.9	**+2.6**
HCY	**Herceg Novi**	**1.93**	**82**	⇓*i*Pn		**Pg**	19 13 49.8	**+0.7**
HCY				*e*Sn		**Sg**	19 14 17.4	**+3.1**
GUAR	**Guarcino**	**1.98**	**259**	Pg		**Pg**	19 13 48.1	**-2.0**
SCHR	**S. Chirico Rap**	**2.01**	**176**	Pg		**Pn**	19 13 45.5	**-1.6**
	104nm,0.5s							
BRY	**Bratogost**	**2.07**	**69**	⇓*i*Pn		**Pg**	19 13 51.3	**-0.3**
BRY				*e*Sn		**Sg**	19 14 19.8	**+1.4**
CUC	**Castrocucco**	**2.21**	**182**	Pg		**Pn**	19 13 49.3	**-0.6**
	187nm,0.5s							
BUM	**Brajici-Budva**	**2.22**	**86**	⇑*i*Pn		**Pg**	19 13 53.6	**-1.0**
BUM				*e*Sn		**Sg**	19 14 24.3	**+0.9**
NKY	**Niksic**	**2.36**	**74**	⇓*i*Pn		**Pg**	19 13 55.5	**-1.8**
NKY				*e*Sn		**Sg**	19 14 27.7	**-0.3**
MNS	**Montasola**	**2.40**	**275**	Pg		**Pg**	19 13 55.2	**-3.0**
UPM	**Unac-Piva**	**2.42**	**65**	*e*Pn		**Pg**	19 13 56.2	**-2.4**
UPM				*e*Sn		**Sg**	19 14 29.2	**-0.8**
NVLJ	**Novalja**	**2.48**	**343**	*i* Pn		**Pn**	19 13 54.1	**+0.5**
NVLJ				*i* Sn		**Sn**	19 14 24.6	**+0.1**
TTG	**Podgorica**	**2.49**	**84**	⇓*i*Pn		**Pg**	19 13 56.8	**-3.1**
TTG				*e*Sn		**Sg**	19 14 31.1	**-1.1**
ULC	**Ulcinj**	**2.50**	**94**	⇓*i*Pn		**Pg**	19 13 57.4	**-2.5**
ULC				*e*Sn		**Sg**	19 14 31.1	**-1.2**
ASS	**Assisi**	**2.56**	**291**	Pg		**Pn**	19 13 55.6	**+0.9**
	1.0nm,0.3s							
BLY	**Banja Luka**	**2.71**	**20**	P		**Pn**	19 13 59.8	**+3.0**
MURB	**Monte Urbino**	**2.71**	**294**	Pg		**Pn**	19 13 58.3	**+1.5**
	122nm,0.5s							
FSSB	**Fossombrone**	**2.74**	**304**	Pg		**Pn**	19 13 57.1	**-0.1**
	150nm,0.5s							
PLE	**Pljevlja**	**2.80**	**65**	⇓*i*Pn		**Pn**	19 14 01.1	**+3.1**
PLE				*e*Sn		**Sn**	19 14 37.3	**+4.8**
IVA	**Berane**	**3.02**	**76**	⇑*i*Pn		**Pn**	19 14 03.8	**+2.7**
IVA				*e*Sn		**Sn**	19 14 42.3	**+4.4**
PVY	**Plav**	**3.03**	**81**	⇓*i*Pn		**Pn**	19 14 04.1	**+2.8**
PVY				*e*Sn		**Sn**	19 14 42.4	**+4.2**
CRE	**Caprese Michel**	**3.24**	**297**	Pg		**Pn**	19 14 04.5	**+0.5**
	9.0nm,0.2s							
BOJS	**Bojanci**	**3.33**	**352**	*e*Pn		**Pn**	19 14 07.5	**+2.1**
BOJS				*e*Sn		**Sn**	19 14 47.3	**+1.6**
SFI	**Santa Sofia**	**3.43**	**301**	Pg		**Pn**	19 14 07.6	**+0.9**
	38nm,1.0s							
DIVS	**Divcibare**	**3.54**	**56**	*i* P		**Pn**	19 14 13.9	**+5.8**
DIVS	**Divcibare**	**3.54**	**56**	P		**Pn**	19 14 13.9	**+5.8**
VISS	**Visnje**	**3.68**	**348**	*e*Pn		**Pn**	19 14 12.8	**+2.6**
VISS				*e*Sn		**Sn**	19 14 54.9	**+0.7**
VISS								
	comp=Z,30nm,0.6s							
VISS	**Visnje**	**3.68**	**348**	*e*Pn		**Pn**	19 14 12.8	**+2.6**
VISS				*e*Sn		**Sn**	19 14 54.9	**+0.7**
	comp=Z,30nm,0.6s							
SRN	**Sarande**	**3.87**	**126**	*e*Pn		**Pn**	19 14 13.8	**+1.1**
VOY	**Vojsko**	**4.09**	**340**	*e*Pn		**Pn**	19 14 16.5	**+0.7**
VOY				*e*Sn		**Sn**	19 15 03.3	**-1.1**
OBKA	**Obir**	**4.42**	**348**	⇑*i*Sn		**Sn**	19 15 07.5	**-4.8**
OBKA	**Obir**	**4.42**	**348**	⇓*i*Pn		**Pn**	19 14 21.9	**+1.6**
OBKA				⇑*i*Sn		**Sn**	19 15 14.2	**+1.9**
OBKA	**Obir**	**4.42**	**348**	⇓*i*Pn		**Pn**	19 14 21.9	**+1.6**
OBKA				*i* Sn		**Sn**	19 15 07.5	**-4.8**
MOA	**Molln**	**5.77**	**349**	⇑*i*Sn		**Sn**	19 15 41.5	**-4.1**
MOA	**Molln**	**5.77**	**349**	⇓*i*Pn		**Pn**	19 14 40.9	**+2.1**
MOA				⇑*i*Sn		**Sn**	19 15 47.2	**+1.6**
MOA	**Molln**	**5.77**	**349**	⇓*i*Pn		**Pn**	19 14 40.9	**+2.1**
MOA				*i* Sn		**Sn**	19 15 41.5	**-4.1**
SBF	**Sospel**	**6.43**	**288**	*e*Pn		**Pn**	19 14 48.1	**+0.2**
FRF	**La Foret Royal**	**6.94**	**284**	*e*Pn		**Pn**	19 14 54.8	**-0.1**
LMR	**La Mourre**	**7.01**	**282**	*e*Pn		**Pn**	19 14 55.6	**-0.3**
MBDF	**Montbardon**	**7.11**	**294**	*e*Pn		**Pn**	19 14 56.8	**-0.5**
LPG	**La Plagne**	**7.39**	**300**	*e*Pn		**Pn**	19 15 00.5	**-0.7**
LPG				*e*Sn		**Sn**	19 16 20.1	**-5.6**
	comp=Z,1.8nm,0.3s							
LPG	**La Plagne**	**7.39**	**300**	*e*Pn		**Pn**	19 15 00.5	**-0.7**
LPG				*e*Sn		**Sn**	19 16 20.1	**-5.6**
	comp=Z,0.9nm,0.3s							
LPL	**La Plagne**	**7.42**	**300**	*e*Pn		**Pn**	19 15 00.6	**-0.8**
LPL				*e*Sn		**Sn**	19 16 21.4	**-4.8**
	comp=Z,5.8nm,0.5s							
LPL	**La Plagne**	**7.42**	**300**	*e*Pn		**Pn**	19 15 00.6	**-0.8**
LPL				*e*Sn		**Sn**	19 16 21.4	**-4.8**
	comp=Z,2.9nm,0.5s							
ORIF	**Oris-en-Rattie**	**7.78**	**294**	*e*Pn		**Pn**	19 15 05.4	**-1.0**
CABF	**La Chapelle**	**8.30**	**305**	*e*Pn		**Pn**	19 15 12.6	**-1.0**
CABF				*e*Sn		**Sn**	19 16 41.8	**-6.1**
	comp=Z,1.0nm,0.3s							
HINF	**Hinteralfeld**	**8.52**	**314**	*e*Pn		**Pn**	19 15 15.5	**-1.1**
HINF				*e*Sn		**Sn**	19 16 48.0	**-5.5**
	comp=Z,5.4nm,0.3s							
CDF	**Champ du Feu**	**8.69**	**319**	*e*Pn		**Pn**	19 15 18.8	**-0.1**
CDF				*e*Sn		**Sn**	19 16 52.7	**-4.9**
	comp=Z,4.9nm,0.5s							
HAU	**Haudompre**	**8.91**	**314**	*e*Pn		**Pn**	19 15 22.1	**+0.2**
HAU				*e*Sn		**Sn**	19 16 57.3	**-5.6**
	comp=Z,17nm,0.4s							
SMF	**Signal de Mont**	**9.71**	**301**	*e*Pn		**Pn**	19 15 30.3	**-2.6**
SMF				*e*Sn		**Sn**	19 17 14.5	**-8.1**
	comp=Z,1.6nm,0.3s							
SMF	**Signal de Mont**	**9.71**	**301**	*e*Pn		**Pn**	19 15 30.3	**-2.6**
SMF				*e*Sn		**Sn**	19 17 14.5	**-8.1**
	comp=Z,0.8nm,0.3s							
LOR	**Lormes**	**9.96**	**305**	*e*Pn		**Pn**	19 15 35.1	**-1.2**
LOR				*e*Sn		**Sn**	19 17 20.9	**-7.8**
	comp=Z,1.6nm,0.2s							
LOR	**Lormes**	**9.96**	**305**	*e*Pn		**Pn**	19 15 35.1	**-1.2**
LOR				*e*Sn		**Sn**	19 17 20.9	**-7.8**
	comp=Z,0.8nm,0.2s							
AVF	**Avril sur Loir**	**10.07**	**301**	*e*Pn		**Pn**	19 15 36.2	**-1.7**

*NEIC **25** 19:19:21.1, 41.21S×172.80E, h183km, MG3.9(WEL), After WEL.*

WEL 25 19:19:22.4±0.2, 41.22S×172.84E, h170km±2km, ML3.9/16, 12C, Error ellipse: s-maj=1.6km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNZ	**Nelson**	**0.41**	**91**	P	Pn	19 19 45.7	0.0
NNZ				S	Sn	19 20 03.5	0.0
NNZ	**Nelson**	**0.41**	**91**	⇑PN	Pn	19 19 45.7	0.0
NNZ				SN	Sn	19 20 03.5	0.0
QRZ	**Quartz Range**	**0.45**	**329**	*e*P	Pn	19 19 45.5	-0.3
QRZ	**Quartz Range**	**0.45**	**329**	⇑PN	Pn	19 19 45.5	-0.3
QRZ				SN	Sn	19 20 02.7	-1.1
THZ	**Tophouse**	**0.55**	**175**	P	Pn	19 19 46.4	+0.1
THZ				S	Sn	19 20 04.4	-0.2
THZ	**Tophouse**	**0.55**	**175**	⇑PN	Pn	19 19 46.4	+0.1
THZ				SN	Sn	19 20 04.4	-0.2
TUWZ	**Tuamarina**	**0.86**	**105**	⇑PN	Pn	19 19 48.4	+0.3
TUWZ				SN	Sn	19 20 08.2	+0.4
DUWZ	**D'Urville Isla**	**0.92**	**64**	⇑PN	Pn	19 19 48.6	+0.1
BSWZ	**Blackbirch Sta**	**0.93**	**123**	P	Pn	19 19 49.0	+0.4
BSWZ	**Blackbirch Sta**	**0.93**	**123**	PN	Pn	19 19 48.8	+0.2
TCW	**Tory Channel**	**1.09**	**90**	P	Pn	19 19 50.0	+0.2
TCW				S	Sn	19 20 10.7	-0.1
TCW	**Tory Channel**	**1.09**	**90**	⇑PN	Pn	19 19 50.0	+0.2
TCW				SN	Sn	19 20 10.7	-0.1
CMWZ	**Cape Campbell**	**1.17**	**118**	P	Pn	19 19 51.0	+0.5
CMWZ	**Cape Campbell**	**1.17**	**118**	PN	Pn	19 19 50.9	+0.5
CMWZ				eSN	Sn	19 20 12.2	+0.2
KHZ	**Kahutara**	**1.31**	**157**	P	Pn	19 19 51.6	-0.2
KHZ	**Kahutara**	**1.31**	**157**	PN	Pn	19 19 51.6	-0.1
KHZ				SN	Sn	19 20 13.3	-1.0
MRW	**Makara Radio**	**1.41**	**91**	⇑PN	Pn	19 19 52.5	-0.1
MRW				SN	Sn	19 20 15.2	-0.7
SNZO	**South Karori**	**1.41**	**94**	P	Pn	19 19 52.5	-0.2
SNZO	**South Karori**	**1.41**	**94**	⇑PN	Pn	19 19 52.5	-0.2
SNZO				SN	Sn	19 20 15.1	-0.8
WEL	**Wellington**	**1.46**	**93**	P	Pn	19 19 53.0	-0.1
WEL	**Wellington**	**1.46**	**93**	PN	Pn	19 19 53.0	-0.1
BHW	**Baring Head**	**1.54**	**98**	P	Pn	19 19 53.7	-0.3
BHW	**Baring Head**	**1.54**	**98**	⇑PN	Pn	19 19 53.7	-0.3
BHW				SN	Sn	19 20 17.2	-1.1
KIW	**Kapiti Island**	**1.61**	**78**	P	Pn	19 19 54.4	-0.2
KIW				S	Sn	19 20 18.8	-0.6
KIW	**Kapiti Island**	**1.61**	**78**	⇑PN	Pn	19 19 54.4	-0.2
KIW				SN	Sn	19 20 18.8	-0.6
LTZ	**Lake Taylor**	**1.62**	**195**	P	Pn	19 19 54.1	-0.7
LTZ	**Lake Taylor**	**1.62**	**195**	PN	Pn	19 19 54.1	-0.6
CAW	**Cannon Point**	**1.69**	**87**	P	Pn	19 19 55.2	-0.2
CAW	**Cannon Point**	**1.69**	**87**	PN	Pn	19 19 55.2	-0.3
CAW				SN	Sn	19 20 20.1	-0.8
MSWZ	**Moikau Station**	**1.83**	**97**	P	Pn	19 19 56.6	-0.3
MSWZ	**Moikau Station**	**1.83**	**97**	PN	Pn	19 19 56.6	-0.3
MSWZ				SN	Sn	19 20 22.1	-1.4
PAWZ	**Paruwai Farm**	**1.96**	**96**	P	Pn	19 19 58.0	-0.3
PAWZ	**Paruwai Farm**	**1.96**	**96**	PN	Pn	19 19 57.9	-0.4
PAWZ				SN	Sn	19 20 24.8	-1.3
MTW	**Mount Morrison**	**2.01**	**89**	P	Pn	19 19 58.5	-0.4
MTW	**Mount Morrison**	**2.01**	**89**	⇑PN	Pn	19 19 58.5	-0.4
MTW				SN	Sn	19 20 25.6	-1.5
NRZ	**Ngariki Road**	**2.06**	**24**	P	Pn	19 19 58.6	-0.8
NRZ	**Ngariki Road**	**2.06**	**24**	PN	Pn	19 19 58.6	-0.8
NWEZ	**Newall Road**	**2.09**	**22**	P	Pn	19 19 59.1	-0.7
NWEZ	**Newall Road**	**2.09**	**22**	PN	Pn	19 19 59.1	-0.7
MRZ	**Mangatainoka R**	**2.15**	**76**	P	Pn	19 19 59.8	-0.7
MRZ	**Mangatainoka R**	**2.15**	**76**	⇑PN	Pn	19 19 59.8	-0.7
MRZ				SN	Sn	19 20 28.6	-1.3
TRWZ	**Traveller**	**2.16**	**96**	PN	Pn	19 20 00.3	-0.2
TRWZ				SN	Sn	19 20 28.8	-1.2
NEZ	**North Egmont**	**2.17**	**27**	P	Pn	19 19 59.7	-1.0
NEZ	**North Egmont**	**2.17**	**27**	PN	Pn	19 19 59.6	-1.1
WAZ	**Wanganui**	**2.19**	**49**	P	Pn	19 20 00.8	-0.2
WAZ	**Wanganui**	**2.19**	**49**	PN	Pn	19 20 00.7	-0.3
WAZ				eSN	Sn	19 20 30.1	-0.7
PKE	**Pukeiti**	**2.20**	**24**	PN	Pn	19 20 00.1	-1.0
PKE				SN	Sn	19 20 30.8	-0.1
RAEZ	**Rainy Point**	**2.26**	**32**	P	Pn	19 20 01.1	-0.7
RAEZ	**Rainy Point**	**2.26**	**32**	PN	Pn	19 20 01.1	-0.6
TIWZ	**Tintock**	**2.35**	**80**	PN	Pn	19 20 02.3	-0.4
TIWZ				SN	Sn	19 20 32.7	-1.2
WVZ	**Waitaha Valley**	**2.43**	**219**	PN	Pn	19 20 01.7	-2.0
WVZ				SN	Sn	19 20 30.5	-5.1
MQZ	**McQueen's Vall**	**2.50**	**183**	*e*P	Pn	19 20 02.3	-2.2
MQZ	**McQueen's Vall**	**2.50**	**183**	PN	Pn	19 20 02.2	-2.3
MQZ				SN	Sn	19 20 32.9	-4.1
VRZ	**Vera Road**	**2.55**	**36**	PN	Pn	19 20 03.4	-1.8
VRZ				SN	Sn	19 20 36.8	-1.5
BFZ	**Birch Farm**	**2.64**	**79**	P	Pn	19 20 05.5	-0.7
BFZ	**Birch Farm**	**2.64**	**79**	PN	Pn	19 20 05.5	-0.6
TSZ	**Takapari Road**	**2.64**	**65**	P	Pn	19 20 05.2	-1.0
TSZ	**Takapari Road**	**2.64**	**65**	PN	Pn	19 20 05.1	-1.1
PKVZ	**Pokaka**	**2.72**	**46**	PN	Pn	19 20 05.9	-1.2
PKVZ				SN	Sn	19 20 41.1	-0.7
WNVZ	**Wahianoa**	**2.83**	**49**	P	Pn	19 20 08.0	-0.5
FWVZ	**Far West T-bar**	**2.85**	**48**	P	Pn	19 20 07.6	-1.2
MQVZ	**Moawhango**	**2.87**	**52**	P	Pn	19 20 07.7	-1.8
WPVZ	**Whakapapa**	**2.89**	**47**	P	Pn	19 20 07.6	-1.6
TUVZ	**Tukino**	**2.90**	**49**	P	Pn	19 20 08.4	-1.0
NGZ	**Ngauruhoe**	**2.94**	**47**	P	Pn	19 20 08.8	-1.0
WTVZ	**West Tongariro**	**2.97**	**46**	P	Pn	19 20 08.4	-1.9

IDC 25 19:43:59.0±4.5, 3838S×7400W, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.4/15, mbtmp3.3/4, ML3.1/2, Error ellipse: s-maj=95.8km s-min=27.8km az=70.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.55**	**133**	Pn	Pn	19 44 56.1	+0.7
	0.6nm,0.3s,baz=307,slow=9.4,SNR=22						
PLCA				Sn	Sn	19 45 41.2	+3.1
	8.0nm,0.3s,baz=234,slow=19,SNR=5.6						
CFAA	**Coronel Fontan**	**8.24**	**37**	Pn	Pn	19 45 58.2	-1.6
	0.1nm,0.3s,baz=220,slow=11,SNR=8.2						
LPAZ	**La Paz**	**22.60**	**15**	P	P	19 49 03.5	+2.4
	0.5nm,0.6s,baz=207,slow=11,SNR=3.1						
VNA3	**Neumayer Olymp**	**45.96**	**156**	*e*	P	19 52 32.5	+8.8
VNA3				*e*		19 52 37.1	
VNA3				*e*		22 23 03.9	
VNA3				*e*		22 23 11.4	
VNA3				*e*		22 23 25.3	
VNA3				*e*		22 23 31.5	
VNA3				*e*		22 23 36.9	
VNA3				*e*		22 23 46.2	
VNA3				*e*		22 25 33.1	
VNA3				*e*		22 25 40.1	
VNA3				*e*		22 25 42.6	
VNA3				*e*		22 25 44.3	
VNA3				*e*		22 26 20.1	
VNA3				*e*		22 26 34.8	
SNAA	**Sanae**	**48.18**	**156**	*e*	P	19 52 56.7	+16
SNAA				*e*		19 53 02.1	
SNAA				*e*		22 22 58.7	
SNAA				*e*		22 23 08.4	
SNAA				*e*		22 23 29.0	
SNAA				*e*		22 25 29.0	
SNAA				*e*		22 25 32.3	
SNAA				*e*		22 25 38.6	
SNAA				*e*		22 26 24.9	
TORD	**Torodi Ar. Bea**	**87.16**	**71**	P	P	19 56 46.4	-0.6
	0.4nm,0.6s,baz=217,slow=5.8,SNR=6.5						

*NEIC **25** 20:35:19.6±0.9, 1308S×17025E, h650km, mb4.4/1, Error ellipse: s-maj=53.7km s-min=13.5km az=147.0*
*IDC **25** 20:35:21.9±2.8, 1314S×17007E, h668km±36km, mb2.9/4, mb1 3.2/4, mb1mx2.9/12, mbtmp4.1/4, Error ellipse: s-maj=77.3km s-min=16.7km az=155.0*
*ISCJB **25** 20:35:22.8±3.0, 1325S±04×170.1E±0.3, h714km±46km, mb3.8/5, Error ellipse: s-maj=73.1km s-min=20.5km az=127.2*

ISC 25 20:35:22.0±2.9, 1315S±04×1702E±03, h683km±48km, n29, σ0.873/12, mb3.8/5, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.19**	**230**	P	**P**	**20 40 57.5**	**-0.8**
	1.3nm,0.9s,mb3.5,baz=64,slow=10,SNR=6.4						
WB2	**Warramunga Arr**	**34.97**	**254**	*e*P	**P**	**20 41 21.1**	**-0.2**
WRAB	**Tennant Creek**	**34.97**	**254**	*e*P	**P**	**20 41 21.0**	**-0.3**
WRA	**Warramunga Arr**	**34.98**	**254**	P	**P**	**20 41 21.2**	**-0.1**
	1.3nm,0.4s,mb3.8,baz=86,slow=8.6,SNR=57						
WRA				PcP	PcP	20 43 34.4	+1.8
	0.5nm,0.8s,baz=80,slow=3.5,SNR=5.6						
WRA				S	**S**	**20 46 07.8**	**-0.6**
	0.1nm,0.4s,baz=84,slow=14,SNR=4.0						
AS31	**Alice Springs**	**35.90**	**248**	*e*P	**P**	**20 41 29.0**	**+0.2**
ASAR	**Alice Springs**	**35.90**	**248**	P	**P**	**20 41 29.2**	**+0.3**
	2.3nm,0.3s,mb4.1,baz=78,slow=9.4,SNR=86						
ASAR				PcP	PcP	20 43 36.9	+1.5
	0.4nm,0.5s,baz=71,slow=3.0,SNR=5.2						
ASAR				S	**S**	**20 46 22.6**	**+0.7**
	0.8nm,0.7s,baz=79,slow=17,SNR=6.2						
ASPA	**Alice Springs**	**35.90**	**248**	*e*P	**P**	**20 41 29.0**	**+0.1**
KAKA	**Kakadu**	**36.78**	**266**	*e*P	**P**	**20 41 36.8**	**+0.8**
	4.9nm,0.4s,mb4.4						
NVAR	**Mina Array Bea**	**84.09**	**48**	P	**P**	**20 46 45.1**	**+1.3**
	0.4nm,0.6s,mb3.1,baz=244,slow=9.3,SNR=3.8						
INK	**Inuvik**	**90.49**	**18**	P	**P**	**20 47 12.2**	**-1.6**
ARCES	**ARCESS Array B**	**119.41**	**347**	PKP	PKPdf	20 52 56.2	-0.1
	4.0nm,0.9s,baz=66,slow=2.4,SNR=17						
CDF	**Champ du Feu**	**142.08**	**341**	*e*PKP1	PKPdf	20 53 36.6	-2.2
MEZF	**Maizieres J'vi**	**142.65**	**344**	*e*PKP1	PKPdf	20 53 40.0	+0.2
	9.6nm,0.7s						
FLN	**La Foliniere**	**143.65**	**350**	*e*PKP1	PKPdf	20 53 41.7	+0.1
	9.5nm,0.7s						
LDF	**La Druitiere**	**143.75**	**349**	*e*PKP1	PKPdf	20 53 42.0	+0.3
CABF	**La Chapelle**	**144.05**	**341**	*e*PKP1	PKPdf	20 53 44.0	+1.7
	6.9nm,0.7s						
GRR	**Gorron**	**144.08**	**350**	*e*PKP1	PKPdf	20 53 43.4	+1.1
LOR	**Lormes**	**144.10**	**344**	*e*PKP1	PKPdf	20 53 43.7	+1.3
	4.3nm,0.5s						
SSF	**Saint Saulge**	**144.38**	**344**	*e*PKP1	PKPdf	20 53 44.6	+1.8
	3.9nm,0.5s						
AVF	**Avril sur Loir**	**144.68**	**344**	*e*PKP1	PKPdf	20 53 44.9	+1.6
LPL	**La Plagne**	**144.81**	**340**	*e*PKP1	PKPdf	20 53 46.4	+2.8
LPG	**La Plagne**	**144.82**	**340**	*e*PKP1	PKPdf	20 53 46.4	+2.8
	3.4nm,0.6s						
TCF	**Toulx Ste Croi**	**145.43**	**345**	*e*PKP1	PKPbc	20 53 47.4	+1.1
MBDF	**Montbardon**	**145.48**	**339**	*e*PKP1	PKPbc	20 53 47.5	+1.1
ORIF	**Oris-en-Rattie**	**145.62**	**340**	*e*PKP1	PKPbc	20 53 48.2	+1.4
MFF	**Saint Martin d**	**145.66**	**348**	*e*PKP1	PKPbc	20 53 48.0	+1.1
	5.3nm,0.5s						
RJF	**Les Rejaudoux**	**146.53**	**345**	*e*PKP1	PKPbc	20 53 50.5	+1.2
	5.1nm,0.7s						
LFF	**La Frestale**	**147.06**	**346**	*e*PKP1	PKPbc	20 53 52.0	+1.3
TORD	**Torodi Ar. Bea**	**168.80**	**271**	PKPab	PKPab	20 55 31.6	+2.7
	0.5nm,1.0s,baz=97,slow=4.5,SNR=4.3						

IDC 25 20:55:33.6±3.6, 512N×9499E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=147.4km s-min=21.6km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.94**	**347**	P	P	21 03 34.4	+0.2
	0.8nm,0.5s,baz=170,slow=8.0,SNR=9.0						
SONM	**Songino Array**	**43.67**	**11**	P	P	21 03 40.2	+0.1
	0.5nm,0.6s,baz=199,slow=7.3,SNR=5.1						
WRA	**Warramunga Arr**	**46.01**	**124**	P	P	21 03 59.1	+0.3
	0.7nm,0.6s,baz=298,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**47.53**	**129**	P	P	21 04 11.1	+0.5
	0.4nm,0.5s,baz=299,slow=7.7,SNR=8.3						
ZAL	**Zalesovo**	**49.37**	**352**	P	P	21 04 24.5	-0.4
	1.0nm,0.4s,baz=188,slow=7.4,SNR=4.4						

IDC 25 21:00:56.0±29.0, 2262S×17419W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=533.4km s-min=149.9km az=78.0, Tonga Islands region

BOJS				*i* Sg	Sg	21 38 56.3	+0.4		
	comp=Z,167nm,0.1s								
KNDS	**Knezji Dol**	**0.45**	**306**	*i* Pg	Pg	21 38 52.9	0.0		
KNDS				*i* Sg	Sg	21 39 00.0	+1.0		
KNDS									
	comp=Z,50nm,0.2s								
KNDS	**Knezji Dol**	**0.45**	**306**	*i* Pg	Pg	21 38 52.9	-0.1		
KNDS				*i* Sg	Sg	21 39 00.0	+0.9		
	comp=Z,50nm,0.2s								
VISS	**Visnje**	**0.54**	**355**	*i* Pg	Pg	21 38 54.6	0.0		
VISS				*i* Sg	Sg	21 39 02.1	+0.3		
VISS									
	comp=Z,23nm,0.1s								
VISS	**Visnje**	**0.54**	**355**	*i* Pg	Pg	21 38 54.6	0.0		
VISS				*i* Sg	Sg	21 39 02.1	+0.3		
	comp=Z,23nm,0.1s								
CEY	**Cerknica**	**0.58**	**325**	⇓*i* Pg	Pg	21 38 55.7	+0.4		
CEY				*i* Sg	Sg	21 39 04.5	+1.4		
CEY									
	comp=Z,85nm,0.2s								
CEY	**Cerknica**	**0.58**	**325**	⇓*i* Pg	Pg	21 38 55.7	+0.4		
CEY				*i* Sg	Sg	21 39 04.5	+1.5		
	comp=Z,85nm,0.2s								
NVLJ	**Novalja**	**0.70**	**182**	*i* Pg	Pg	21 38 57.1	-0.6		
NVLJ				*i* Sg	Sg	21 39 08.2	+1.2		
PDKS	**Podkum**	**0.80**	**5**	*i* Pg	Pg	21 39 00.0	+0.6		
PDKS				*i* Sg	Sg	21 39 11.7	+1.8		
JAVS	**Javornik**	**0.86**	**317**	*i* Pg	Pg	21 39 00.0	-0.6		
VOY	**Vojsko**	**1.04**	**318**	*e*Pg	Pg	21 39 05.4	+1.4		
VOY				*e*Sg	Sg	21 39 19.2	+1.5		
SISC	**Sisak**	**1.06**	**78**	Sg	Sg	21 39 22.1	+3.9		
DRE	**Drenchia**	**1.26**	**316**	⇑*i* Pg	Pg	21 39 08.7	+0.4		
DRE				*i* Sg	Sg	21 39 25.9	+1.1		
OBKA	**Obir**	**1.27**	**349**	⇑*i* Pg	Pg	21 39 08.7	+0.4		
OBKA				⇓*i* Sg	Sg	21 39 26.5	+1.6		
	comp=Z,17nm,0.2s								
OBKA	**Obir**	**1.27**	**349**	⇑*i* Pg	Pg	21 39 08.7	+0.4		
OBKA				⇓*i* Sg	Sg	21 39 26.5	+1.6		
	comp=Z,17nm,0.2s								
COLI	**Coloredo**	**1.37**	**310**	⇓*e*Pg	Pg	21 39 10.3	-0.1		
COLI				*e*Sg	Sg	21 39 29.6	+1.3		
BAD	**Bernadia**	**1.51**	**310**	⇓*i* Pg	Pg	21 39 13.2	+0.2		
BAD				*i* Sg	Sg	21 39 34.9	+2.3		
LSR	**Lussari**	**1.54**	**322**	⇓*i* Pg	Pg	21 39 14.7	+1.1		
LSR				*i* Sg	Sg	21 39 36.1	+2.4		

NIED ***25*** *22:03:00, 33.50N×131.90E, h74km, Mw5.3 Best double couple: M0 8.83000×10^16 NP1:φs307.00000°, δ58.00000°, λ138.00000°. NP2:φs62.00000°, δ55.00000°, λ40.00000°.*

SZGRF ***25*** *22:03:37.0, 34.2N×133.74E, h33km, mb5.4, MS4.8, Shikoku, Japan*

BJI ***25*** *22:03:41.4, 33.17N×132.38E, h72km, mB5.4, mb5.5, Ms4.5, Msz4.3*

MOS ***25*** *22:03:44.9±0.8, 3351N×131.55E, h57km, mb5.6/99, MS4.5/25, Error ellipse: s-maj=6.3km s-min=3.7km az=106.8*

ISCJB ***25*** *22:03:46.4±0.1, 33.47N±0.002×131.73E±0.002, h73km, mb5.3/220, Error ellipse: s-maj=2.5km s-min=1.7km az=148.3*

BGS ***25*** *22:03:47.8±1.3, 3327N×13031E, h70km, mb5.0*

GCMT ***25*** *22:03:47.9±0.1, 3351N×13183E, h76km±1km, MW5.3/94, Moment Tensor Solution. s80,c127; s94,c182; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.56±.02; Mθθ-1.02±.01; Mφφ0.46±.02; Mrθ-0.03±.01; Mθφ0.07±.01; Mφr0.42±.01; Best double couple: M0 0.98100×10^17 NP1:φs59.00000°, δ57.00000°, λ37.00000°. NP2:φs306.00000°, δ60.00000°, λ140.00000°. Principal axes: T 0.9360, Plg48.0000°, Azm271.0000°; N 0.0920, Plg42.0000°, Azm95.0000°; P -1.0250, Plg2.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *22:03:47.9±0.1, 3346N×13151E, mb5.4/119, MW5.2(NIED) Error ellipse: s-maj=3.3km s-min=3.0km az=145.0*

NEIC Felt [IV] at Hiroshima and Iwakuni, Honshu. Felt at Beppu, Kitakyushu, Oita and Saito, Kyushu. Also felt at Higashihiroshima, Hikari, Himeji, Kure and Okayama, Honshu and at Sukumo, Shikoku. Recorded [4 JMA] in Oita, [3 JMA] in Miyazaki, [2 JMA] in Fukuoka, Kagoshima, Kumamoto, Nagasaki and Saga Prefectures, Kyushu. Recorded [4 JMA] in Yamaguchi; [3 JMA] in Hiroshima; [2 JMA] in Okayama, Shimane and Tottori; [1 JMA] in Gifu, Hyogo, Mie and Wakayama Prefectures, Honshu. Recorded [4 JMA] in Ehime, [3 JMA] in Kochi and [2 JMA] in Tokushima and Kagawa Prefectures, Shikoku.

IDC ***25*** *22:03:47.9±0.4, 3348N×13158E, h74km±3km, mb5.0/27, mb1 5.1/31, mb1mx5.1/32, mbtmp5.3/31, MS4.2/26, Ms1 4.2/26, ms1mx4.0/34, Error ellipse: s-maj=11.4km s-min=7.9km az=71.0*

JMA ***25*** *22:03:48.3, 3351N×131.88E, h70km±1km, M5.3 Broadband fault plane solution: P waves. NP1: φs66.00000°, δ57.00000°, λ24.00000°. NP2:φs322.00000°, δ70.00000°, λ145.00000°. Principal axes: T Plg39.0000°, Azm280.0000°; N Plg50.0000°, Azm116.0000°; P Plg8.0000°, Azm16.0000°;*

JMA Felt IV J1.

ISC 25 22:03:48.1±0.1, 3352N±0.002×13173E±0.002, h75km, h75km±.7km: pP-P, n899, σ1s18/882, mb5.3/220, 221C-57D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JKI	**Kunimi**	**0.18**	**310**	⇑P		**Pn**	**22 03 59.5**	**+0.4**
JKI				S		**Sn**	**22 04 07.8**	**+0.6**
OIT2	**Oita 2**	**0.34**	**225**	⇑P		**Pn**	**22 04 00.7**	**+0.7**
JUS	**Usuki**	**0.45**	**178**	⇑P		**Pn**	**22 04 00.8**	**-0.1**
JUS				S		**Sn**	**22 04 09.6**	**-0.7**
JKD	**Kudamatsu**	**0.55**	**12**	P		**Pn**	**22 04 01.7**	**-0.1**
JKD				*e*S		**Sn**	**22 04 11.1**	**-0.8**
JNA	**Nagahama**	**0.62**	**86**	⇑P		**Pn**	**22 04 01.0**	**-1.5**
JNA				*e*S		**Sn**	**22 04 10.8**	**-2.4**
UWA2	**Uwa jima 2**	**0.80**	**112**	⇑P		**Pn**	**22 04 02.7**	**-1.8**
UWA2				S		**Sn**	**22 04 13.0**	**-3.6**
JFA	**Akaike**	**0.81**	**284**	⇑P		**Pn**	**22 04 05.7**	**+1.2**
JFA				S		**Sn**	**22 04 18.9**	**+2.2**
JHM	**Kurahashi**	**0.91**	**47**	⇓P		**Pn**	**22 04 04.8**	**-0.9**
JHM				S		**Sn**	**22 04 17.3**	**-1.5**
JKIT	**Kitakata**	**0.92**	**195**	⇓P		**Pn**	**22 04 05.7**	**-0.1**
JTY	**Toyota**	**0.93**	**323**	⇓P		**Pn**	**22 04 07.3**	**+1.3**
JTY				S		**Sn**	**22 04 21.3**	**+2.0**
JHIK	**Hikimi**	**1.03**	**9**	⇓P		**Pn**	**22 04 07.5**	**+0.4**
JTO	**Tosashimizu**	**1.11**	**126**	⇑P		**Pn**	**22 04 06.4**	**-1.8**
JTO				S		**Sn**	**22 04 19.3**	**-3.9**
JET	**Tanbara**	**1.13**	**76**	⇑P		**Pn**	**22 04 06.8**	**-1.6**
JET				S		**Sn**	**22 04 20.5**	**-3.1**
JFI	**Itaya**	**1.13**	**266**	⇑P		**Pn**	**22 04 10.4**	**+2.0**
JFI				S		**Sn**	**22 04 26.6**	**+3.0**
JKU	**Kubokawa**	**1.13**	**100**	⇑P		**Pn**	**22 04 06.4**	**-2.0**
JKU				S		**Sn**	**22 04 20.3**	**-3.3**
JIU2	**Izumi 2**	**1.24**	**219**	⇓P		**Pn**	**22 04 10.8**	**+1.0**
JIU2				S		**Sn**	**22 04 27.8**	**+1.7**
JHT	**Toyohira**	**1.28**	**26**	⇓P		**Pn**	**22 04 10.2**	**-0.1**
JHT				S		**Sn**	**22 04 26.6**	**-0.4**
JTSN	**Tsuno**	**1.28**	**189**	⇓P		**Pn**	**22 04 11.2**	**+0.9**
JUR	**Ureshino**	**1.55**	**255**	⇓P		**Pn**	**22 04 15.9**	**+2.0**
JGT	**Gotsu**	**1.59**	**18**	⇓P		**Pn**	**22 04 14.4**	**+0.1**
JZO	**Okuchi**	**1.67**	**215**	⇓P		**Pn**	**22 04 16.8**	**+1.3**
JII	**Iki**	**1.69**	**280**	P		**Pn**	**22 04 17.4**	**+1.7**
JII				S		**Sn**	**22 04 40.2**	**+3.5**
JTZ	**Takazaki**	**1.70**	**199**	⇓P		**Pn**	**22 04 16.9**	**+1.1**
JHD	**Hondo**	**1.70**	**232**	⇓P		**Pn**	**22 04 17.6**	**+1.7**
JMN	**Monobe**	**1.80**	**83**	⇑P		**Pn**	**22 04 15.0**	**-2.2**
NGSJ	**Nagasakinomoza**	**1.85**	**242**	⇓P		**Pn**	**22 04 19.4**	**+1.6**
JJS	**Sakaide**	**2.02**	**64**	⇑P		**Pn**	**22 04 18.3**	**-1.7**
MRT2	**Murotomisaki 2**	**2.02**	**93**	⇑P		**Pn**	**22 04 17.1**	**-3.0**
JTU	**Tsushima**	**2.19**	**298**	⇑P		**Pn**	**22 04 23.7**	**+1.4**
JTU				S		**Sn**	**22 04 50.1**	**+1.7**
JSU	**Suzuyama**	**2.28**	**209**	⇓P		**Pn**	**22 04 24.3**	**+0.8**
JSU				S		**Sn**	**22 04 51.1**	**+0.4**
JAI	**Aioi**	**2.28**	**82**	⇑P		**Pn**	**22 04 21.3**	**-2.3**
JTSR	**Tashiro 2**	**2.44**	**197**	⇓P		**Pn**	**22 04 26.2**	**+0.4**
JAD	**Aida**	**2.47**	**54**	⇓P		**Pn**	**22 04 24.8**	**-1.3**
JSJ	**Shimokoshiki**	**2.50**	**223**	⇓P		**Pn**	**22 04 27.5**	**+0.9**
JFU	**Fukue jima 2**	**2.65**	**252**	⇓P		**Pn**	**22 04 30.6**	**+2.0**
JAJ2	**Tsuna**	**2.77**	**70**	P		**Pn**	**22 04 28.2**	**-2.0**
JTN	**Tanegashima 3**	**2.92**	**193**	⇓P		**Pn**	**22 04 32.6**	**+0.3**
JKSM	**Kasumi**	**3.18**	**49**	⇓P		**Pn**	**22 04 35.1**	**-0.7**
JKC	**Kuchinoerabu**	**3.31**	**204**	⇓P		**Pn**	**22 04 38.0**	**+0.4**
JKY	**Yasaka**	**3.49**	**52**	⇓P		**Pn**	**22 04 39.2**	**-0.8**
JKN2	**Miekihoku**	**3.84**	**78**	P		**Pn**	**22 04 42.5**	**-2.3**
JFM	**Mihama**	**4.04**	**59**	⇓P		**Pn**	**22 04 47.2**	**-0.3**
JIE	**Ise**	**4.22**	**77**	⇑P		**Pn**	**22 04 48.1**	**-1.9**
JAA	**Atsumi**	**4.62**	**75**	P		**Pn**	**22 04 54.3**	**-1.2**
JGM	**Miyama**	**4.65**	**61**	⇓P		**Pn**	**22 04 55.7**	**-0.1**
JKG	**Kaga**	**4.67**	**53**	⇓P		**Pn**	**22 04 55.9**	**-0.2**
JAO	**Obara**	**4.89**	**68**	⇓P		**Pn**	**22 04 58.1**	**-1.0**
JGF	**Kuroka**	**5.08**	**64**	P		**Pn**	**22 05 00.8**	**-0.9**
HMMJ	**Hamamatsu 2**	**5.14**	**73**	P		**Pn**	**22 05 01.3**	**-1.2**
JGN	**Niukaw**	**5.32**	**58**	⇓P		**Pn**	**22 05 04.8**	**-0.2**
JJH	**Hakui**	**5.35**	**49**	⇓P		**Pn**	**22 05 05.5**	**+0.1**
JNY	**Yasuok**	**5.39**	**68**	⇓P		**Pn**	**22 05 04.6**	**-1.3**
JTT	**Ttatey**	**5.53**	**55**	P		**Pn**	**22 05 08.4**	**+0.6**
SHZ3	**Shizuoka 3**	**5.58**	**72**	P		**Pn**	**22 05 07.2**	**-1.3**
INCN	**Inchon**	**5.74**	**315**	⇓P		**Pn**	**22 05 12.9**	**+2.2**
	SNR=18							
INCN	**Inchon**	**5.74**	**315**	*e*Pn		**Pn**	**22 05 10.9**	**+0.2**
JYN	**Shimob**	**5.96**	**69**	P		**Pn**	**22 05 13.1**	**-0.6**
JNG	**Nsakai**	**5.97**	**59**	P		**Pn**	**22 05 14.1**	**+0.3**
JSZ	**Suzu**	**6.04**	**48**	P		**Pn**	**22 05 14.8**	**0.0**
JHG	**Hegura jima**	**6.04**	**43**	⇓P		**Pn**	**22 05 15.5**	**+0.7**
MAJO	**Matsushiro**	**6.11**	**59**	*e*P		**Pn**	**22 05 15.9**	**+0.2**
MAT	**Matsushiro**	**6.11**	**59**	P		**Pn**	**22 05 15.7**	**0.0**
MAT				S		**Sn**	**22 06 23.0**	**-1.2**
MJAR	**Matsushiro Arr**	**6.11**	**59**	P		**Pn**	**22 05 16.3**	**+0.6**
	96nm,0.3s,baz=244,slow=13,SNR=876							
MJAR				S		**Sn**	**22 06 23.2**	**-1.0**
	27nm,0.3s,baz=243,slow=28,SNR=6.7							
MJAR	**Matsushiro Arr**	**6.11**	**59**	P		**Pn**	**22 05 16.3**	**+0.6**
MJAR				S		**Sn**	**22 06 23.2**	**-1.0**
JTK	**Tokunoshima**	**6.19**	**204**	P		**Pn**	**22 05 16.7**	**-0.2**
JOD2	**Odawara 2**	**6.33**	**72**	P		**Pn**	**22 05 17.9**	**-0.8**
JJN	**Nakama**	**6.36**	**54**	P		**Pn**	**22 05 20.3**	**+1.2**
JRY	**Ryogami san**	**6.40**	**65**	P		**Pn**	**22 05 19.8**	**0.0**
JGK	**Kuni**	**6.43**	**60**	P		**Pn**	**22 05 20.6**	**+0.5**
JHJ	**Hachijo jima 2**	**6.75**	**91**	P		**Pn**	**22 05 23.1**	**-1.3**
	397nm,0.3s,baz=217,slow=14,SNR=20							
JHJ				S		**Sn**	**22 06 35.1**	**-4.7**
	127nm,0.3s,baz=59,slow=18,SNR=7.0							
JHJ2	**Mitsune**	**6.78**	**91**	P		**Pn**	**22 05 23.0**	**-1.9**
JSD	**Sado**	**6.96**	**48**	⇓P		**Pn**	**22 05 27.6**	**+0.2**
JHK	**Hiroka**	**7.02**	**56**	P		**Pn**	**22 05 28.5**	**+0.4**
JOW	**Kunigami**	**7.30**	**205**	P		**Pn**	**22 05 31.4**	**-0.6**
	16nm,0.3s,baz=86,slow=12,SNR=26							
JOW				S		**Sn**	**22 06 50.0**	**-3.4**
	8.7nm,0.3s,baz=90,slow=20,SNR=3.4							
JNS	**Sasagawa**	**7.52**	**53**	⇓P		**Pn**	**22 05 35.7**	**+0.8**
BSO1	**Boso 1**	**7.75**	**79**	P		**Pn**	**22 05 37.5**	**-0.7**
JYS	**Shirataka**	**8.23**	**53**	P		**Pn**	**22 05 45.7**	**+1.0**
SSE	**Sheshan**	**9.25**	**258**	P		**Pn**	**22 05 57.0**	**-1.6**
SSE				AMB	AMB			
	comp=Z,135nm,1.1s							
SSE				AMB	AMB			
	comp=Z,495nm,6.4s							
SSE				LR	LR			
	comp=N,780nm,25.0s							
SSE				LR	LR			
	comp=E,1μm,25.0s							
SSE				LR	LR			
	comp=Z,2μm,25.0s							
VLA	**Vladivostok**	**9.59**	**1**	*c* *i*P		**Pn**	**22 06 04.8**	**+1.5**
DL2	**Dalian**	**9.78**	**306**	⇑*i*P		**Pn**	**22 06 10.0**	**+4.2**
DL2				XP			22 06 30.0	
DL2				S		**Sn**	**22 08 00.0**	**+6.2**
DL2				LG1			22 08 51.8	
DL2				LG2			22 09 13.8	
DL2				AMB	AMB			
	comp=Z,80nm,1.0s							
DL2				AMB	AMB			
	comp=Z,150nm,4.7s							
DL2				LR	LR			
	comp=N,2μm,11.6s							
DL2				LR	LR			
	comp=E,2μm,12.2s							
DL2				LR	LR			
	comp=Z,1μm,10.1s							
SNY	**Shenyang**	**10.51**	**324**	⇑P		**Pn**	**22 06 20.8**	**+5.0**
SNY				XP			22 06 40.5	
SNY				S		**Sn**	**22 08 21.8**	**+10**
SNY				SS			22 08 36.3	
SNY				SCP	ScP		22 15 41.5	+1.3
SNY				AMB	AMB			
	comp=Z,63nm,1.9s							
SNY				AMB	AMB			
	comp=Z,629nm,5.4s							
SNY				LR	LR			
	comp=E,2μm,17.3s							
SNY				LR	LR			
	comp=Z,3μm,15.9s							
NJ2	**Nanjing**	**10.94**	**266**	*e*P		**Pn**	**22 06 26.0**	**+4.3**
NJ2				XP			22 06 47.8	
NJ2				S		**Sn**	**22 08 22.0**	**-0.3**
NJ2				AMB	AMB			
	comp=Z,770nm,1.0s							
NJ2				AMB	AMB			
	comp=Z,2μm,9.3s							
NJ2				LR	LR			
	comp=N,2μm,23.4s							
NJ2				LR	LR			
	comp=E,3μm,21.1s							
NJ2				LR	LR			
	comp=Z,3μm,21.2s							
CBIJ	**Chichi jima**	**11.06**	**123**	P		**Pn**	**22 06 25.3**	**+2.0**
	comp=Z,7.5nm,0.3s,baz=313,slow=23,SNR=5.1							
CBIJ				S		**Sn**	**22 08 23.6**	**-1.7**
	comp=Z,32nm,0.3s,baz=282,slow=20,SNR=6.7							
CBIJ				LR	LR		22 10 02.9	
	comp=Z,1μm,19.6s,baz=237,slow=34							
MDJ	**Mudanjiang**	**11.21**	**352**	P		**Pn**	**22 06 28.3**	**+3.0**
MDJ				PP			22 06 40.5	
MDJ				XP			22 06 49.8	
MDJ				SS			22 08 51.3	
MDJ				PCS	PcS		22 15 47.3	-1.6
MDJ				AMB	AMB			
	comp=Z,227nm,1.6s							
MDJ				AMB	AMB			
	comp=Z,821nm,6.5s							
MDJ				LR	LR			
	comp=N,2μm,26.2s							
MDJ				LR	LR			
	comp=E,528nm,24.2s							
MDJ				LR	LR			
	comp=Z,2μm,29.3s							
MDJ	**Mudanjiang**	**11.21**	**352**	*e*Pn		**Pn**	**22 06 28.5**	**+3.2**
	comp=Z,302nm,1.2s							
MDJ				*e*Sn		**Sn**	**22 08 39.3**	**+10**
CN2	**Changchun**	**11.38**	**336**	*e*P		**Pn**	**22 06 31.0**	**+3.3**
CN2				*e*S		**Sn**	**22 08 41.3**	**+8.3**
CN2				AMB	AMB			
	comp=Z,160nm,1.0s							
CN2				AMB	AMB			
	comp=Z,700nm,3.0s							
CN2				LR	LR			
	comp=N,2μm,10.0s							
CN2				LR	LR			
	comp=E,2μm,10.0s							
CN2				LR	LR			
	comp=Z,1μm,10.0s							
TIA	**Tai'an**	**12.30**	**287**	⇑P		**Pn**	**22 06 44.0**	**+3.8**
TIA				LR	LR			
	comp=N,710nm,8.0s							
TIA				LR	LR			
	comp=E,354nm,8.0s							
TATO	**Taipei**	**12.34**	**229**	Pn		**Pn**	**22 06 39.9**	**-0.8**
ERM	**Erimo**	**12.39**	**43**	⇑*e*P		**Pn**	**22 06 41.6**	**+0.2**
YHNB	**Yeheng**	**12.63**	**228**	*e*Pn		**Pn**	**22 06 43.8**	**-0.9**
NACB	**Ninganchiao**	**12.86**	**226**	Pn		**Pn**	**22 06 42.9**	**-5.0**
ASAJ	**Asahikawa**	**13.54**	**35**	P		**Pn**	**22 06 56.4**	**-0.4**
	comp=E,3.8nm,0.3s,baz=232,slow=14,SNR=37							
ASAJ				LR	LR		22 12 05.8	
	comp=E,321nm,20.8s,baz=164,slow=36							
ASAJ	**Asahikawa**	**13.54**	**35**	P		**Pn**	**22 06 56.4**	**-0.4**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,321nm,20.8s							
BJT	**Baijiatuau**	**14.06**	**302**	*e*P		**Pn**	**22 07 06.6**	**+3.0**
BJI	**Beijing**	**14.06**	**302**	P		**Pn**	**22 07 06.5**	**+2.9**
BJI				S		**Sn**	**22 09 44.3**	**+6.1**
BJI				AMB	AMB			
	comp=Z,636nm,3.6s							
BJI				LR	LR			
	comp=N,998nm,19.4s							
BJI				LR	LR			
	comp=E,1μm,13.8s							
BJI				LR	LR			
	comp=Z,1μm,31.2s							
WHN	**Wuhan**	**15.04**	**263**	P		**Pn**	**22 07 19.0**	**+2.6**
HABR	**Khabarovsk**	**15.15**	**8**	⇑*i*P		**Pn**	**22 07 23.5**	**+5.8**
HABR				pmax	pmax			
	comp=Z,493nm,1.1s							
YUK	**Yuzh-Kuril'sk**	**15.20**	**42**	P		**Pn**	**22 07 22.5**	**+4.1**
YUK				pmax	pmax			
	comp=Z,2μm,1.8s							
YUK				MLR	MLR			
	comp=Z,1μm,16.0s							
KLR	**Kul'dur**	**15.70**	**0**	⇑*i*P		**Pn**	**22 07 23.7**	**-1.1**
KLR				pmax	pmax			
	comp=E,160nm,1.2s							
KLR				pmax	pmax			
	comp=Z,380nm,1.2s							
KLR				MLR	MLR			
	comp=E,800nm,12.0s							
KLR				MLR	MLR			
	comp=Z,1μm,12.0s							
YSS	**Yuzh-Sakhalins**	**15.82**	**29**	k*e*P		**Pn**	**22 07 25.0**	**-1.2**
YSS				*e*S		**S**	**22 10 21.0**	**-10**
YSS				pmax	pmax			
	comp=Z,330nm,1.2s							
YSS	**Yuzh-Sakhalins**	**15.82**	**29**	*e*Pn		**Pn**	**22 07 25.8**	**-0.5**
HHC	**Hu-ho-hao-te**	**17.64**	**300**	⇑*i*P		**Pn**	**22 07 52.5**	**+3.7**
HHC				AP	pP		22 08 05.3	+1.6
HHC				PP			22 08 09.3	
HHC				XP	sP		22 08 15.8	+2.6
HHC				S	S		**22 11 08.5**	**+0.5**
HHC				AMB	AMB			
	comp=Z,369nm,1.0s							
HHC				LR	LR			
	comp=N,678nm,6.7s							
HHC				LR	LR			
	comp=E,898nm,10.4s							
HHC				LR	LR			
	comp=Z,1μm,13.9s							
HIA	**Hailar**	**18.09**	**334**	*e*P		**Pn**	**22 07 56.3**	**+2.0**
BTO	**Baotou**	**18.69**	**298**	*e*P		**Pn**	**22 08 03.0**	**+1.5**
BTO				AMB	AMB			
	comp=Z,88nm,0.9s							
XAN	**Xi'an**	**18.97**	**278**	P		**Pn**	**22 08 05.0**	**+0.2**
XAN				AMB	AMB			
	comp=Z,67nm,1.2s							
XAN				AMB	AMB			
	comp=Z,676nm,9.9s							
XAN				LR	LR			
	comp=N,241nm,9.5s							
XAN				LR	LR			
	comp=E,439nm,11.8s							
XAN				LR	LR			
	comp=Z,481nm,11.2s							
CIT	**Chita**	**22.70**	**330**	*e*P		**P**	**22 08 44.2**	**+0.8**
CIT				*e*			22 09 01.2	
CIT				*e*			22 09 11.8	
CIT				*e*			22 09 20.6	
CIT				pmax	pmax			
	comp=Z,168nm,1.3s,mb5.2							
GYA	**Guiyang**	**22.79**	**259**	⇑*i*P		**P**	**22 08 43.3**	**-1.1**
GYA				AP			22 09 01.5	
GYA				PP			22 09 18.0	
GYA				S	S		**22 12 47.3**	**-0.5**
GYA				AMB	AMB			
	comp=Z,110nm,0.9s,mb5.2							
GYA				AMB	AMB			
	comp=Z,370nm,4.2s							
GYA				LR	LR			
	comp=N,1μm,13.4s							
GYA				LR	LR			
	comp=E,970nm,11.2s							
GYA				LR	LR			
	comp=Z,870nm,12.4s							
OTRP	**Odiongan**	**22.85**	**205**	*e*P		**P**	**22 08 45.5**	**+0.5**
LZH	**Lanzhou**	**23.02**	**284**	⇑P		**P**	**22 08 47.0**	**+0.2**
LZH				AP			22 09 03.0	
LZH				XP	sP		22 09 12.8	+1.1
LZH				AMB	AMB			
	comp=Z,389nm,1.5s,mb5.5							
LZH				AMB	AMB			
	comp=Z,1μm,4.9s							
LZH				LR	LR			
	comp=N,7μm,12.1s							
LZH	**Lanzhou**	**23.02**	**284**	⇑P		**P**	**22 08 47.0**	**+0.2**
LZH				*PP			22 09 03.0	
LZH							22 09 14.4	
LZH							22 12 40.1	
LZH				*e*S		**S**	**22 12 45.0**	**-6.4**
LZH				*SS	sS		22 13 10.0	-10
LZH				SS			22 13 34.0	
LZH	**Lanzhou**	**23.02**	**284**	⇑P		**P**	**22 08 47.0**	**+0.2**
LZH				pP			22 09 03.0	
LZH				sP	sP		22 09 12.7	+1.0
LZH				PP			22 09 14.4	
LZH				PcP	PcP		22 12 40.1	+6.3
LZH				*eS	S		**22 12 45.0**	**-6.4**
LZH				sS	sS		22 13 10.0	-10
LZH				SS			22 13 34.0	
GUMO	**Guam**	**23.16**	**146**	P		**P**	**22 08 48.9**	**+0.8**
	comp=N,79nm,0.6s,mb5.2,baz=168,slow=22,SNR=5.7							
GUMO	**Guam**	**23.16**	**146**	*e*P		**P**	**22 08 48.8**	**+0.7**
GUMO				*e*PP			22 09 05.0	
GUMO				pmax	pmax			
	comp=Z,64nm,0.6s,mb5.1							
GUMO	**Guam**	**23.16**	**146**	*e*P		**P**	**22 08 48.8**	**+0.7**
	comp=Z,64nm,0.6s,mb5.1							
GUMO				*e*pP			22 09 05.0	
NRGR	**Nerungri**	**23.64**	**350**	*e*P		**P**	**22 08 52.4**	**-0.1**
NRGR				S	S		22 12 40.8	-21
CD2	**Chengdu**	**23.79**	**271**	⇑*i*P		**P**	**22 08 54.0**	**+0.2**
CD2				AP			22 09 12.5	
CD2				XP	sP		22 09 22.3	+2.5
CD2				PP			22 09 34.0	
CD2				PCP	PcP		22 12 37.3	+1.9
CD2				S	S		**22 13 03.3**	**-0.6**
CD2				XS	sS		22 13 38.0	+4.4

SONM ScP ScP 22 16 05.5 -1.7
comp=E,1.2nm,1.0s,baz=341,slow=3.1,SNR=3.7
SONM LR LR 22 19 16.8
comp=E,779nm,20.5s,baz=119,slow=39
GUIM Jordan 24.28 202 *eP* **P 22 08 55.8 -2.5**
QIZ Qiongzhong 24.29 239 P **P 22 09 01.3 +2.9**
QIZ AP 22 09 15.8
QIZ S **S 22 13 14.5 +2.5**
QIZ AMB AMB
comp=Z,65nm,2.1s,mb4.6
QIZ LR LR
comp=E,903nm,25.5s
QIZ LR LR
comp=Z,815nm,34.1s
SKR Severo-Kuril's 24.75 39 *eP* **P 22 08 59.5 -3.1**
SKR *e* 22 09 10.0
SKR *e* 22 13 22.0
SKR pmax pmax
comp=Z,120nm,0.8s,mb5.4
SKR MLR MLR
comp=Z,2µm,16.0s
BUKP Musuan 26.25 195 *eP* **P 22 09 15.5 -0.7**
GTA Gaotai 26.25 292 ⇑P **P 22 09 16.5 +0.3**
GTA AP pP 22 09 33.8 +0.2
GTA XP sP 22 09 42.8 +0.5
GTA PP 22 10 02.8
GTA PCP PcP 22 12 42.0 +1.1
GTA S **S 22 13 41.8 -1.3**
GTA XS sS 22 14 12.0 -1.2
GTA SCP ScP 22 16 13.8 -0.2
GTA AMB AMB
comp=Z,68nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,294nm,8.0s
GTA LR LR
comp=N,638nm,16.7s
GTA LR LR
comp=E,356nm,18.2s
GTA LR LR
comp=Z,580nm,21.3s
KMI Kunming 26.56 259 ⇓P **P 22 09 19.3 +0.3**
KMI AP pP 22 09 35.0 -1.4
KMI XP sP 22 09 45.0 -0.1
KMI PP 22 10 05.8
KMI PPP 22 10 17.5
KMI PCP PcP 22 12 44.0 +2.4
KMI S **S 22 13 45.5 -2.6**
KMI XS sS 22 14 15.0 -3.2
KMI SSS 22 15 18.0
KMI AMB AMB
comp=Z,51nm,1.0s,mb5.0
KMI AMB AMB
comp=Z,295nm,3.1s
KMI LR LR
comp=N,564nm,15.7s
KMI LR LR
comp=E,777nm,11.6s
KMI LR LR
comp=Z,1µm,15.1s
KMI Kunming 26.56 259 ⇓P **P 22 09 19.3 +0.3**
KMI *PP pP 22 09 34.9 -1.5
KMI *SP sP 22 09 45.0 -0.1
KMI 22 10 05.8
KMI PPP 22 10 17.5
KMI 22 12 44.1
KMI S **S 22 13 45.4 -2.7**
KMI SS 22 14 59.1
KMI SSS 22 15 18.1
KMI Kunming 26.56 259 ⇓P **P 22 09 19.3 +0.3**
KMI pP pP 22 09 34.9 -1.5
KMI sP sP 22 09 45.0 -0.1
KMI PP 22 10 05.8
KMI PPP 22 10 17.5
KMI PcP PcP 22 12 44.1 +2.5
KMI S **S 22 13 45.4 -2.7**
KMI sS sS 22 14 15.0 -3.2
KMI SS 22 14 59.1
KMI SSS 22 15 18.1
ZAK Zakamensk 26.82 317 ⇓*iP* **P 22 09 21.5 +0.2**
ZAK *e* pP 22 09 38.4 -0.3
ZAK pmax pmax
comp=Z,73nm,1.1s,mb5.1
ZAK pmax pmax
comp=Z,27nm,1.0s,mb4.7
BOD Bodaibo 27.11 339 *eP* **P 22 09 21.5 -2.4**
BOD pmax pmax
comp=Z,26nm,1.5s,mb4.5
IRK Irkutsk 27.23 322 *eP* **P 22 09 25.7 +0.8**
IRK *e* pP 22 09 46.6 +4.2
IRK pmax pmax
comp=Z,73nm,1.6s,mb5.0
TLY Talaya 27.26 320 P **P 22 09 27.5 +2.3**
comp=Z,184nm,0.6s,mb5.8,SNR=7.2
TLY Talaya 27.26 320 *eP* **P 22 09 26.3 +1.1**
TLY *e* 22 09 48.4
TLY *eS* **S 22 13 50.5 -8.5**
TLY pmax pmax
comp=Z,29nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,641nm,16.0s
TLY Talaya 27.26 320 *eP* **P 22 09 27.0 +1.7**
PET Petropavlovsk 27.38 36 *eP* **P 22 09 27.1 +0.8**
PET *e*PP pP 22 09 43.5 -0.3
PET *e*SP sP 22 09 51.5 -1.0
PET *eS* **S 22 14 03.2 +2.2**
PET pmax pmax
comp=Z,42nm,1.2s,mb4.8
PET pmax pmax
comp=Z,27nm,1.1s,mb4.7
PET pmax pmax
comp=Z,99nm,1.4s,mb5.2
PET MLR MLR
comp=Z,400nm,20.0s
PET Petropavlovsk 27.38 36 *eP* **P 22 09 27.2 +0.9**
comp=Z,135nm,1.3s,mb5.3
BATP Bataraza 27.75 211 *eP* **P 22 09 30.4 +0.7**
YAK Yakutsk 28.56 358*c iP* **P 22 09 35.3 -1.5**
YAK *e*PP pP 22 09 55.5 +1.1
YAK *e* 22 10 29.2
YAK *e* 22 12 45.4
YAK *i* S **S 22 14 15.1 -4.5**
YAK *e* 22 20 08.8
YAK pmax pmax
comp=N,43nm,1.0s
YAK pmax pmax
comp=Z,109nm,1.0s,mb5.4
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,39nm,1.1s,mb5.0
YAK smax
comp=E,216nm,1.5s
YAK smax
comp=N,115nm,1.7s
YAK Yakutsk 28.56 358 *eP* **P 22 09 35.0 -1.9**
comp=N,104nm,0.8s,mb5.5
MOY Mondy 28.70 318 *eP* **P 22 09 39.1 +1.1**
MOY pmax pmax
comp=Z,67nm,1.9s,mb5.0
MA2 Magadan 28.95 20 *eP* **P 22 09 41.4 +1.1**
MA2 *eS* **S 22 14 25.0 -0.7**
MA2 pmax pmax
comp=Z,40nm,1.0s,mb5.0
MA2 Magadan 28.95 20 *eP* **P 22 09 41.1 +0.8**
MA2 *e* pP 22 09 58.0 +0.1
KKM Kota Kinabalu 30.90 211 P **P 22 09 58.2 +0.7**
KKTK Khon Kaen 31.15 244 P **P 22 10 00.0 +0.3**
NANT Nan 31.33 250 ⇑P **P 22 10 02.0 +0.7**
comp=Z,275nm,0.4s,mb6.3
TSM Tawau 31.82 207 P **P 22 10 05.0 -0.5**
SEY Seymchan 32.18 18⇑*eP* **P 22 10 10.1 +1.3**
CHG Chiang Mai 32.71 252 ⇓P **P 22 10 14.1 +0.7**
comp=Z,17nm,0.9s,mb4.9
CHTO Chiang Mai 32.71 252 *eP* **P 22 10 14.4 +1.0**
CHTO *e*PP pP 22 10 35.2 +4.1
CHTO *e* 22 12 57.6
CHTO pmax pmax
comp=Z,18nm,1.0s,mb4.9
CHTO Chiang Mai 32.71 252 *eP* **P 22 10 14.4 +1.0**
comp=Z,18nm,1.0s,mb4.9
CHTO *ep*P pP 22 10 35.2 +4.1
CHTO *e*PcP PcP 22 12 57.6 +0.2
NST Nakhon Sawan 33.59 246 P **P 22 10 21.0 -0.1**
LSA Lhasa 34.62 275 P **P 22 10 31.3 +1.3**
LSA Lhasa 34.62 275 *eP* **P 22 10 31.3 +1.3**
KRAR Krasnoyarsk 34.91 322*de*P **P 22 10 33.5 +1.0**
KRAR pmax pmax
comp=Z,99nm,1.7s,mb5.4
SHL Shillong 35.40 268 *eP* **P 22 10 34.0 -2.6**
SHL AMb AMB 22 10 38.0
comp=Z,389nm,2.3s,mb5.8
WMQ Urumqi 35.52 300⇑*iP* **P 22 10 38.3 +0.6**
WMQ AP pP 22 10 57.0 +1.5
WMQ XP sP 22 11 03.3 -0.9
WMQ PP PP 22 12 02.5 +2.9
WMQ PPP 22 12 20.0
WMQ PCP PcP 22 13 07.0 +1.5
WMQ S **S 22 16 07.0 -0.8**
WMQ PCS PcS 22 16 52.0 -0.7
WMQ SCS ScS 22 20 48.0 -1.5
WMQ AMB AMB
comp=Z,106nm,1.3s,mb5.6
WMQ AMB AMB
comp=Z,423nm,5.7s
WMQ LR LR
comp=N,2µm,18.9s
WMQ LR LR
comp=E,2µm,19.7s
WMQ LR LR
comp=Z,2µm,22.7s
AGT Agartala 36.59 266 *eP* **P 22 10 43.0 -3.9**
KSM Kuching 37.67 217 *eP* **P 22 10 55.9 -0.1**
KSM *e* 22 11 21.6
KSM *e*PcP PcP 22 13 12.6 +0.6
ZAL Zalesovo 38.69 316 P **P 22 11 04.3 -0.3**
comp=Z,22nm,0.9s,mb5.0,baz=8.2,slow=8.5,SNR=120
ZAL PcP PcP 22 13 13.3 -1.8
comp=Z,5.8nm,0.7s,baz=246,slow=8.0,SNR=3.5
ZAL ScP ScP 22 16 54.1 -2.4
comp=Z,1.8nm,0.8s,baz=172,slow=3.9,SNR=3.7
ZAL LR LR 22 28 48.5
comp=Z,729nm,20.3s,baz=7.3,slow=39
ZAL Zalesovo 38.69 316 *i* P **P 22 11 04.3 -0.3**
ZAL pmax pmax
comp=Z,22nm,0.9s
ZAL Zalesovo 38.69 316 P **P 22 11 04.3 -0.3**
ZAL PcP PcP 22 13 13.3 -1.8
ZAL ScP ScP 22 16 54.1 -2.4
ZAL LR LR 22 28 48.5
JIRN Jiri 39.40 274 *eP* **P 22 11 11.7 +1.2**
MKAR Makanchi Array 39.42 305 P **P 22 11 10.7 0.0**
comp=Z,28nm,0.7s,mb5.2,baz=93,slow=10,SNR=269
MKAR pP pP 22 11 28.2 -0.5
comp=Z,11nm,0.6s,baz=96,slow=10,SNR=7.3
MKAR PcP PcP 22 13 16.6 -0.8
comp=Z,12nm,1.0s,baz=87,slow=1.7,SNR=4.9
MKAR ScP ScP 22 16 57.0 -2.3
comp=Z,1.8nm,0.7s,baz=74,slow=5.2,SNR=4.1
MKAR PKiKP PKiKP 22 20 26.7 -2.6
comp=Z,1.3nm,1.0s,baz=54,slow=2.1,SNR=3.7
MKAR Makanchi Array 39.42 305 P **P 22 11 10.7 +0.1**
MKAR *PP pP 22 11 28.2 -0.5
MKAR 22 13 16.6
MKAR Makanchi Array 39.42 305 P **P 22 11 10.7 0.0**
MKAR pP pP 22 11 28.2 -0.5
MKAR PcP PcP 22 13 16.6 -0.8
MKAR ScP ScP 22 16 57.0 -2.3
GUN Gumba 39.57 275 *eP* **P 22 11 12.9 +1.0**
comp=Z,743nm,1.0s,mb6.5
NVS Novosibirsk 39.78 317⇑*iP* **P 22 11 13.4 -0.2**
NVS pmax pmax
comp=N,25nm,1.0s
NVS pmax pmax
comp=E,83nm,1.0s
NVS pmax pmax
comp=Z,95nm,1.0s,mb5.6
BILL Bilibino 39.82 19*c iP* **P 22 11 14.7 +0.7**
BILL pmax pmax
comp=Z,66nm,1.7s,mb5.2
BILL Bilibino 39.82 19⇑*iP* **P 22 11 14.8 +0.8**
PKI Pulchoki 40.08 274 *eP* **P 22 11 16.4 +0.3**
comp=Z,148nm,0.9s,mb5.8
KKN Kakani 40.11 275 *eP* **P 22 11 16.7 +0.3**
comp=Z,245nm,0.9s,mb6.0
KULM Kulim 40.29 233 *eP* **P 22 11 18.2 +0.4**
KULM *e* pP 22 11 41.0 +5.0
KULM *e*PP PP 22 12 51.1 -0.7
KULM *e*PcP PcP 22 13 20.6 +0.4
DMN Daman 40.32 274 *eP* **P 22 11 18.4 +0.3**
comp=Z,218nm,1.1s,mb5.9
GKN Gorkha 40.57 275 *eP* **P 22 11 20.2 0.0**
comp=Z,228nm,1.0s,mb6.0
IPM Ipoh 40.65 231 P **P 22 11 20.6 -0.2**
KGM Kluang 41.10 226 P **P 22 11 24.4 -0.2**
BOK Bokaro 41.10 269 *eP* **P 22 11 23.9 -0.6**
KOLN Koldanda 41.52 275 *eP* **P 22 11 28.4 +0.5**
comp=Z,336nm,1.1s,mb6.0
KURK Kurchatov 42.01 311 P **P 22 11 31.5 -0.5**
comp=Z,771nm,0.8s,mb6.5
ALBI Allahabad 43.91 273 *eP* **P 22 11 44.5 -2.8**
TKM2 Tokmak 2 44.37 299 P **P 22 11 52.3 +1.3**
SNR=72
TKM2 Tokmak 2 44.37 299 *i* P **P 22 11 52.1 +1.1**
TKM2 pmax pmax
comp=Z,44nm,0.8s,mb5.2
TKM2 Tokmak 2 44.37 299 *i* P **P 22 11 52.2 +1.2**
KSH Kashi 44.61 294⇑*iP* **P 22 11 54.0 +1.1**
KSH *e*AP pP 22 12 12.0 +0.7
KSH *e*XP sP 22 12 21.0 +1.2
KSH *e*PCP PcP 22 13 36.0 +1.4
KSH *e*PP PP 22 13 40.3 +2.1
KSH *e*PPP 22 14 21.0
KSH *e*SCP ScP 22 17 20.0 -0.1
KSH *e*PCS PcS 22 17 28.0 -0.1
KSH *eS* **S 22 18 23.0 -0.4**
KSH *e*XS sS 22 18 55.0 +0.3
KSH *e*SCS ScS 22 21 41.5 -1.9
KSH LR LR
comp=N,336nm,4.4s
KSH LR LR
comp=E,483nm,5.7s
KSH LR LR
comp=Z,400nm,5.1s
KZA Kyzart 44.74 298 P **P 22 11 55.8 +1.9**
SNR=9.9
KBK Karagaybulak 44.88 299 P **P 22 11 56.1 +1.1**
SNR=46
CHMS Chumysh 44.97 299 P **P 22 11 56.5 +0.7**
SNR=25
FRU Bishkek 45.09 299⇑*iP* **P 22 11 57.8 +1.1**
FRU *e* 22 13 47.0
FRU pmax pmax
comp=Z,180nm,1.8s,mb5.5
USP Ospenovka 45.12 300 P **P 22 11 57.5 +0.5**
SNR=46
PMG Port Moresby 45.14 158 *eP* **P 22 11 56.7 -0.4**
AAK Ala-Archa 45.21 299 P **P 22 11 58.4 +0.8**
SNR=25
AAK Ala-Archa 45.21 299 P **P 22 11 57.2 -0.5**
comp=Z,263nm,0.8s,mb6.0,SNR=19
AAK Ala-Archa 45.21 299 P **P 22 11 57.6 -0.1**
SNR=13
AAK Ala-Archa 45.21 299*c iP* **P 22 11 57.2 -0.5**
AAK pmax pmax
comp=Z,62nm,1.3s,mb5.2
AAK Ala-Archa 45.21 299 *eP* **P 22 11 57.4 -0.3**
UCH Uchtor 45.26 298 P **P 22 11 59.8 +1.8**
SNR=68
SPIA Saint Paul Isl 45.42 40 *ep*P pP 22 12 19.6 +1.9
SMLA Simla 45.73 283 *eP* **P 22 12 01.5 -0.3**
SMLA AMb AMB 22 12 04.6
comp=Z,70nm,1.0s,mb5.4
EKS2 Erkin-Say 45.73 299 P **P 22 12 02.3 +0.6**
SNR=17
AML Almayashu 45.87 298 P **P 22 12 04.6 +1.7**
SNR=71
KAKA Kakadu 45.97 179 *eP* **P 22 12 02.7 -1.0**
comp=Z,18nm,0.6s,mb5.0
KAKA *ep*P pP 22 12 22.1 0.0
KAKA *e*PCP PcP 22 13 39.2 -0.1
VIS Vishakhapatnam 45.98 262 *eP* **P 22 12 03.2 -0.6**
THN Thein Dam 46.51 285 *eP* **P 22 12 07.2 -0.7**
VOSK Vostochnaya 46.80 313 *i* P **P 22 12 09.9 -0.3**
VOSK pmax pmax
comp=Z,83nm,0.8s,mb5.5
BRVK Borovoye 47.22 314 P **P 22 12 13.1 -0.3**
comp=Z,1µm,0.7s
BRVK Borovoye 47.22 314 *eP* **P 22 12 13.7 +0.2**
TNA Tin City 47.80 29 *eP* **P 22 12 19.2 +1.3**
TNA *ep*P pP 22 12 39.2 +2.7
NGP Nagpur 47.94 269 *eP* **P 22 12 17.1 -1.9**
NGP AMb AMB 22 12 18.0
comp=Z,137nm,1.2s,mb5.7
ZRNK Zerenda 48.00 314⇑*iP* **P 22 12 19.5 +0.1**
ZRNK *e*PP pP 22 12 38.7 +0.7
ZRNK *e* 22 14 13.7
ZRNK pmax pmax
comp=Z,214nm,0.8s,mb6.0
ZRNK Zerenda 48.00 314⇑*iP* **P 22 12 19.5 +0.1**
comp=Z,214nm,0.8s,mb6.0
ZRNK *ep*P pP 22 12 38.7 +0.7
ZRNK *es*P sP 22 12 45.4 -1.1
ZRNK *e*PP PP 22 14 13.7 +1.6
KK31 Karatay Array 48.03 300 *i* P **P 22 12 19.8 +0.1**
KK31 pmax pmax
comp=Z,79nm,0.6s,mb5.7
NIL Nilore 48.13 287 P **P 22 12 21.6 +1.1**
comp=Z,175nm,0.8s,mb5.9,SNR=7.1
BHPL Bhopal 48.40 273 *eP* **P 22 12 20.5 -2.1**
BHPL AMb AMB 22 12 23.0
comp=E,24nm,1.0s
AJM Ajmer 49.42 278 *i* P **P 22 12 30.0 -0.3**
AKL Akola 49.84 270 *eP* **P 22 12 33.2 -0.3**
AKL AMb AMB 22 12 35.4
comp=Z,196nm,1.0s,mb6.0
HYB Hyderabad 50.10 265 *i* P **P 22 12 36.0 +0.5**
HYB *e* pP 22 12 55.0 +0.8
HYB *e* 22 13 05.5
HYB Hyderabad 50.10 265 *eP* **P 22 12 36.0 +0.5**
MDRS Chennai 50.92 259 *ex* x 22 12 34.9
MDRS AMb AMB 22 12 45.6
comp=Z,54nm,0.9s,mb5.6
FITZ Fitzroy Crossi 51.66 187⇑*iP* **P 22 12 47.3 +0.1**
comp=Z,140nm,0.6s,mb6.2
FITZ *ep*P pP 22 13 07.2 +1.3
FITZ *e*PCP PcP 22 14 00.3 +0.4
SVE Sverdlovsk 52.56 319⇑*iP* **P 22 12 54.3 +0.4**
SVE *e* 22 13 20.0
SVE *eS* **S 22 20 15.0 -0.3**
SVE pmax pmax
comp=Z,240nm,1.8s,mb5.9
SVE MLR MLR
comp=N,100nm,14.0s
SVE MLR MLR
comp=Z,400nm,14.0s
TTA Tatalina 52.76 33 *eP* **P 22 12 56.3 +0.9**
TTA *e*PP pP 22 13 13.9 -0.3
TTA Tatalina 52.76 33 *eP* **P 22 12 56.3 +1.0**
SVW2 Sparrevohn 53.05 35 *eP* **P 22 12 59.0 +1.5**
SVW2 *ep*P pP 22 13 17.0 +0.7
SVW2 *es*P sP 22 13 24.4 -0.3
SVW2 *e*PcP PcP 22 14 05.7 +0.6
SVW2 *e*PP PP 22 14 59.9 +2.0
WRAB Tennant Creek 53.21 177 P **P 22 12 58.0 -0.7**
comp=Z,423nm,0.7s,SNR=31
WRAB Tennant Creek 53.21 177 *eP* **P 22 12 58.3 -0.3**
WRA Warramunga Arr 53.22 177 P **P 22 12 57.0 -1.7**
comp=Z,44nm,0.8s,mb5.6,baz=353,slow=8.0,SNR=156
WRA pP pP 22 13 17.6 +0.1
comp=Z,18nm,0.7s,baz=354,slow=8.0,SNR=6.0
WRA PcP PcP 22 14 06.1 +0.4
comp=Z,22nm,0.9s,baz=350,slow=4.4,SNR=7.2
WRA LR LR 22 31 43.3
comp=Z,154nm,21.3s,baz=20,slow=32
WRA PKPPKP 22 43 14.0
comp=Z,1.3nm,0.9s,baz=135,slow=2.1,SNR=7.6
WRA Warramunga Arr 53.22 177 P **P 22 12 57.0 -1.7**
WRA *PP pP 22 13 17.6 0.0
WRA 22 14 06.1
WB2 Warramunga Arr 53.22 177⇑*iP* **P 22 12 58.3 -0.4**
WB2 *ep*P pP 22 13 18.3 +0.7
POO Poona 53.49 269⇓*iP* **P 22 12 59.0 -1.7**
comp=Z,200nm,1.0s,mb6.1
IMA2 Indian Mountai 53.67 29 *eP* **P 22 13 03.0 +0.9**
ARU Arti 53.75 319 P **P 22 13 02.3 -0.3**
comp=Z,810nm,0.9s,SNR=22
ARU Arti 53.75 319⇑*iP* **P 22 13 02.1 -0.5**
ARU *e* pP 22 13 21.0 -0.5
ARU *e* 22 14 03.9
ARU *e* 22 15 04.5
ARU *e*PPP 22 16 16.2
ARU *eS* **S 22 20 33.6 +2.3**
ARU *eSS* SS 22 24 06.8 -6.1
ARU pmax pmax
comp=Z,142nm,0.9s,mb6.0
ARU Arti 53.75 319⇑*iP* **P 22 13 02.2 -0.4**
comp=Z,6.5nm,0.6s,mb4.8
ARU *ep*P pP 22 13 21.1 -0.4
ARU *es*P sP 22 13 28.7 -1.2
KAD Karad 53.79 268 *eP* **P 22 13 02.5 -0.4**
PALK Pallekele 53.82 253 *eP* **P 22 13 04.0 +0.9**
comp=Z,16nm,0.9s,mb5.0
PALK *ep*P pP 22 13 25.0 +3.0
PALK *es*P sP 22 13 29.9 -0.5
PALK *e*PcP PcP 22 14 09.0 +1.0
AB31 Akbulak array 54.11 310⇑*eP* **P 22 13 05.1 -0.2**
KDAK Kodiak Island 54.92 39 P **P 22 13 11.5 +0.4**
comp=Z,137nm,1.0s,mb5.9,SNR=5.6
KDAK Kodiak Island 54.92 39 *eP* **P 22 13 11.4 +0.3**
CTA Charters Tower 55.07 163⇑*iP* **P 22 13 12.4 +0.2**
comp=Z,48nm,1.0s,mb5.5
CTA *ep*P pP 22 13 33.3 +2.1
CTA Charters Tower 55.07 163⇑*iP* **P 22 13 12.4 +0.2**
CTA *e*PP pP 22 13 33.3 +2.1
CTA pmax pmax
comp=Z,48nm,1.0s
CTAO Charters Tower 55.07 163 *eP* **P 22 13 12.6 +0.4**
CTAO pmax pmax
comp=Z,110nm,1.2s,mb5.8
CTAO Charters Tower 55.07 163 *eP* **P 22 13 12.6 +0.3**
comp=Z,115nm,1.2s,mb5.8
AKTO Aktyubinsk 55.09 312 LR LR 22 38 19.3
comp=Z,350nm,19.4s,baz=254,slow=38
MBWA Marble Bar 55.56 194 *eP* **P 22 13 15.2 -0.5**
MBWA *ep*P pP 22 13 35.2 +0.5
MBWA *es*P sP 22 13 41.7 -1.4
MBWA *e*PcP PcP 22 14 14.7 0.0
SLKM Skilak Lake 55.72 36 *eP* **P 22 13 17.0 +0.1**
SLKM *e*PP pP 22 13 35.2 -0.7
SLKM *e* 22 14 14.9
MCK McKinley 55.88 32 *eP* **P 22 13 18.6 +0.6**
MCK *e*PP pP 22 13 37.1 +0.1
MCK pmax pmax
comp=Z,42nm,1.1s,mb5.4
MCK McKinley 55.88 32 *eP* **P 22 13 18.6 +0.6**
comp=Z,42nm,1.1s,mb5.4
PMR Palmer 56.08 34 *eP* **P 22 13 19.5 0.0**
PMR *e*PP pP 22 13 38.2 -0.3
PMR pmax pmax
comp=Z,91nm,1.2s,mb5.7
PMR Palmer 56.08 34 *eP* **P 22 13 19.5 0.0**
comp=Z,91nm,1.2s,mb5.7
COLA College 56.20 30 P **P 22 13 21.3 +1.0**
COLA *e* pP 22 13 39.6 +0.3
COLA pmax pmax
comp=Z,87nm,1.3s,mb5.6
COLA College 56.20 30⇑*iP* **P 22 13 20.0 -0.3**
AS31 Alice Springs 56.90 178 *eP* **P 22 13 25.2 -0.1**
ASAR Alice Springs 56.90 178 P **P 22 13 25.1 -0.2**
comp=Z,24nm,0.7s,mb5.4,baz=358,slow=5.8,SNR=174
ASAR pP pP 22 13 44.4 +0.1
comp=Z,15nm,0.6s,baz=9.5,slow=11,SNR=5.6
ASAR PcP PcP 22 14 20.6 +0.6
comp=Z,15nm,0.9s,baz=358,slow=4.8,SNR=5.1
ASAR LR LR 22 38 05.4
comp=Z,129nm,21.2s,baz=356,slow=36
ASAR PKPPKP 22 43 15.2
comp=Z,1.2nm,0.9s,baz=144,slow=2.9,SNR=6.5
ASAR PKP2bc 22 43 28.1
comp=Z,3.3nm,1.0s,baz=160,slow=3.1,SNR=8.7
ASAR Alice Springs 56.90 178 P **P 22 13 25.1 -0.2**
ASAR *PP pP 22 13 44.4 +0.1
ASAR 22 14 20.6
ASAR Alice Springs 56.90 178 P **P 22 13 25.1 -0.2**
ASAR pP pP 22 13 44.4 +0.1
ASAR PcP PcP 22 14 20.6 +0.6
ASAR LR LR 22 38 05.4
ASAR P'P' 22 43 15.2
ASAR ⇑*e* 22 43 28.1
ASPA Alice Springs 56.90 178 *eP* **P 22 13 25.2 -0.1**
EYAK Cordova Ski Ar 57.89 35 *eP* **P 22 13 32.6 +0.3**
EYAK *ep*P pP 22 13 50.9 -0.4
EYAK *e*PcP PcP 22 14 24.6 +0.7

EYAK *e*PP PP 22 15 42.1 +1.0
ABKT Ailbek 58.48 297 P **P** **22 13 36.7 +0.3**
comp=Z,224nm,1.2s,mb6.1,SNR=18
ABKT Ailbek 58.48 297 P **P** **22 13 36.9 +0.5**
EGAK Eagle 59.03 30 *e*P **P** **22 13 40.2 +0.1**
EGAK *e*pP pP 22 13 58.9 -0.4
EGAK *e*sP sP 22 14 07.3 -0.4
INK Inuvik 61.02 25 P **P** **22 13 54.1 +0.4**
comp=Z,29nm,0.8s,mb5.3,baz=297,slow=6.7,SNR=54
INK pP pP 22 14 12.8 -0.3
comp=Z,11nm,0.6s,baz=270,slow=6.1,SNR=4.3
INK PcP PcP 22 14 36.1 -0.2
comp=Z,14nm,0.8s,baz=235,slow=5.4,SNR=3.9
INK Inuvik 61.02 25 P **P** **22 13 54.2 +0.4**
INK *PP pP 22 14 12.8 -0.2
INK 22 14 36.2
INK pmax pmax
comp=Z,29nm,0.8s
INK pmax pmax
comp=Z,11nm,0.6s
INK pmax pmax
comp=Z,14nm,0.8s
TMCR Tamitsa 61.94 330 *e*P **P** **22 13 59.6 -0.4**
TMCR pmax pmax
comp=Z,106nm,1.0s,mb5.8
LVZ Lovozero 61.98 335⇑ *e*P **P** **22 13 54.0 -6.3**
LVZ *e*S **S** **22 22 12.8 -6.1**
LVZ *e*SSS 22 29 11.1
LVZ pmax pmax
comp=Z,36nm,0.9s,mb5.4
LVZ pmax pmax
comp=E,12nm,1.1s
LVZ smax
comp=N,282nm,3.2s
APA Apatity 62.55 335⇑ *i*P **P** **22 14 03.7 -0.3**
APA *i* pP 22 14 21.0 -2.3
APA *i* 22 14 36.8
APA pmax pmax
comp=Z,59nm,0.9s,mb5.5
KBS Kingsbay 62.68 349 *e*P **P** **22 14 04.7 -0.2**
SKAG Skagway 63.21 35 *e*P **P** **22 14 09.8 +1.3**
SKAG *e*pP pP 22 14 28.1 +0.3
SKAG *e*PP PP 22 16 29.2 +1.1
KEV Kevo 63.81 338 *e*p **P** **22 14 10.5 -1.9**
comp=Z,52nm,0.6s,mb5.5
KEV Kevo 63.81 338 P **P** **22 14 11.8 -0.6**
KEV pmax pmax
comp=Z,93nm,0.7s,mb5.7
WBK Wadi Bani Khal 63.97 281⇑ P **P** **22 14 14.4 +0.9**
SNR=7.6
ALE Alert 64.00 2 P **P** **22 14 13.0 -0.6**
comp=Z,263nm,0.7s,mb6.2,SNR=27
FORT Forrest 64.04 184⇑ *i*P **P** **22 14 13.4 -0.5**
comp=Z,104nm,0.9s,mb5.7
FORT *e*pP pP 22 14 32.6 -0.7
SIT Sitka 64.09 37 *e*P **P** **22 14 16.5 +2.2**
SIT pmax pmax
comp=Z,114nm,1.1s,mb5.6
SIT Sitka 64.09 37 *e*P **P** **22 14 16.5 +2.3**
comp=Z,114nm,1.1s,mb5.6
MAK Makhachkala 64.22 306 *e*P **P** **22 14 12.5 -2.6**
MAK *e* pP 22 14 33.7 -0.8
MAK *e* 22 16 37.2
MAK *e*PPP 22 18 06.5
MAK *e*S **S** **22 22 44.9 -1.9**
MAK pmax pmax
comp=Z,366nm,2.0s,mb5.9
MAK MLR MLR
comp=Z,303nm,17.0s
BIDO Bidbid 64.25 282⇓ P **P** **22 14 16.4 +1.2**
SNR=8.2
ARCES ARCESS Array B 64.38 338 P **P** **22 14 15.2 -0.9**
comp=Z,37nm,0.6s,mb5.4,baz=64,slow=8.6,SNR=94
ARCES LR LR 22 47 05.5
comp=Z,352nm,18.9s,baz=18,slow=40
DZM Mont Dzumac 64.42 144 *e*P **P** **22 14 13.9 -2.4**
DZM Mont Dzumac 64.42 144 P **P** **22 14 17.6 +1.2**
comp=Z,45nm,0.6s,mb5.5,baz=349,slow=5.6,SNR=44
DZM pP pP 22 14 36.0 +0.2
comp=Z,43nm,1.0s,baz=360,slow=8.8,SNR=6.3
SMDO Samad 64.52 282⇑ P **P** **22 14 17.6 +0.6**
SNR=10.0
JMDO Jabal Madar 64.79 281⇓ P **P** **22 14 19.0 +0.2**
SNR=8.2
HOQ Hoqain 64.88 283⇓ P **P** **22 14 19.8 +0.4**
SNR=5.9
JOF Joensuu 65.20 330 *e*p **P** **22 14 19.8 -1.6**
comp=Z,67nm,0.8s,mb5.5
JOF Joensuu 65.20 330 *e*P **P** **22 14 19.8 -1.6**
JOF pmax pmax
comp=Z,67nm,0.8s,mb5.5
MOS Moscow 65.20 322⇓ *i*P **P** **22 14 20.1 -1.4**
MOS *i* pP 22 14 38.3 -2.6
MOS *i* 22 14 46.1
MOS *e* 22 14 53.9
MOS pmax pmax
comp=Z,200nm,1.6s,mb5.7
MOS pmax pmax
comp=Z,121nm,1.4s,mb5.5
HATD Hatta, Dubai 65.28 284⇑ P **P** **22 14 23.0 +1.1**
SNR=8.8
KTK1 Kautokeino 65.34 338 *e*P **P** **22 14 21.5 -0.8**
KTK1 AMb AMB 22 14 22.3
comp=Z,86nm,1.0s,mb5.5
KTK1 *e*pP pP 22 14 41.8 0.0
KTK1 Kautokeino 65.34 338 *e*P **P** **22 14 21.5 -0.8**
comp=Z,86nm,1.0s,mb5.5
BSY Bisya 65.36 282⇓ P **P** **22 14 23.0 +0.5**
SNR=14
ASHO Ashiyiah 65.40 284⇑ P **P** **22 14 23.3 +0.6**
SNR=12
STKA Stephens Creek 65.70 171⇑ *i*P **P** **22 14 25.0 +0.3**
comp=Z,37nm,0.9s,mb5.2
STKA *e*pP pP 22 14 45.6 +1.4
STKA Stephens Creek 65.70 171 P **P** **22 14 25.1 +0.4**
comp=Z,44nm,0.6s,mb5.5,baz=350,slow=6.6,SNR=152
STKA LR LR 22 43 30.2
comp=Z,184nm,21.1s,baz=16,slow=36
WRAK Wrangell Islan 65.86 37 *e*P **P** **22 14 27.5 +1.8**
WRAK *e*pP pP 22 14 46.9 +1.8
VOR Voronezh 65.96 317 *e*P **P** **22 14 25.0 -1.3**
VOR pmax pmax
comp=Z,60nm,1.4s,mb5.2
OBN Obninsk 66.01 321*d* *i*P **P** **22 14 25.1 -1.6**
OBN *e**PP pP 22 14 41.8 -4.3
OBN *e* 22 14 56.2
OBN *e* 22 16 50.1
OBN *e*S S 22 23 10.7 +2.0
OBN pmax pmax
comp=Z,101nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,300nm,17.0s
OBN Obninsk 66.01 321 *e*P **P** **22 14 25.8 -0.9**
comp=Z,61nm,1.0s,mb5.4
KLBR Kellerberrin 66.09 193 *e*P **P** **22 14 25.9 -1.3**
comp=Z,69nm,1.0s,mb5.4
KLBR *e*pP pP 22 14 45.8 -0.8
VRSR Storozhevoye 66.18 317 *e*P **P** **22 14 26.8 -0.9**
VRSR *e**PP pP 22 14 46.9 -0.3
VRSR *e*S S 22 23 09.2 -1.5
VRSR pmax pmax
comp=Z,70nm,0.9s,mb5.5
VRSR pmax pmax
comp=N,60nm,0.7s
VRSR pmax pmax
comp=E,100nm,0.9s
VRSR smax
comp=N,20nm,1.4s
VRSR smax
comp=Z,3.0nm,1.2s
VRSR smax
comp=E,10.0nm,1.0s
VRSR MLR MLR
comp=Z,290nm,17.0s
VRSR MLR MLR
comp=N,330nm,21.0s
VRSR MLR MLR
comp=E,200nm,17.0s
DGRG David-gareji 66.28 305 P **P** **22 14 28.6 +0.2**
ARMA Armidale 66.31 161 *e*P **P** **22 14 29.1 +0.5**
TRO Tromso 66.33 339 *e*P **P** **22 14 27.3 -1.5**
DUS Dusheti 66.47 306 P **P** **22 14 31.9 +2.3**
MTA Mtatsminda 66.57 305 P **P** **22 14 29.9 -0.4**
TBLG Delisi 66.60 305 P **P** **22 14 30.9 +0.5**
ZEI Tsey 66.73 307 *e*P **P** **22 14 30.4 -0.9**

ZEI *e**PP pP 22 14 49.8 -1.0
ZEI *e* 22 14 57.7
ZEI *e* 22 16 59.4
ZEI pmax pmax
comp=Z,60nm,1.2s,mb5.3
MUN Mundaring 66.77 194 *e*P **P** **22 14 29.3 -2.2**
MUN *e*pP pP 22 14 47.3 -3.7
PUL Pulkovo 67.03 327⇑ *e*P **P** **22 14 30.7 -2.4**
KIV Kislovodsk 67.04 308 P **P** **22 14 33.2 0.0**
comp=Z,623nm,1.0s,mb6.4,SNR=24
KIV Kislovodsk 67.04 308 P **P** **22 14 33.6 +0.4**
SNR=22
KIV Kislovodsk 67.04 308*c* *i*P **P** **22 14 33.1 -0.1**
KIV pmax pmax
comp=Z,118nm,1.0s,mb5.7
KIV MLR MLR
comp=Z,400nm,23.0s
KIV Kislovodsk 67.04 308 *e*P **P** **22 14 33.2 0.0**
GNI Garni 67.26 304 LR LR 22 44 36.7
comp=Z,108nm,21.1s,baz=67,slow=36
GNI Garni 67.26 304*c* *i*P **P** **22 14 35.3 +0.7**
GNI pmax pmax
comp=Z,100nm,1.7s
GNI Garni 67.26 304 *e*P **P** **22 14 35.7 +1.1**
comp=Z,47nm,0.9s,mb5.3
NWAO Narrogin (SRO) 67.48 193 LR LR 22 47 25.4
comp=Z,141nm,18.3s,baz=201,slow=39
NWAO Narrogin (SRO) 67.48 193 *e*P **P** **22 14 35.2 -0.8**
NWAO pmax pmax
comp=Z,90nm,1.0s
NWAO Narrogin (SRO) 67.48 193 *e*P **P** **22 14 35.2 -0.9**
comp=Z,90nm,1.0s,mb5.6
NWAO *e*pP pP 22 14 55.3 -0.3
NWAO *e*PcP PcP 22 15 01.2 -1.7
KAF Kangasniemi 67.63 331 *e*p **P** **22 14 34.3 -2.7**
comp=Z,29nm,0.7s,mb5.2,baz=59,slow=5.8
KAF Kangasniemi 67.63 331 *e*P **P** **22 14 34.3 -2.7**
KAF pmax pmax
comp=Z,29nm,0.7s,mb5.2
RES Resolute Bay 67.83 12 *e*P **P** **22 14 38.5 +0.3**
RES pmax pmax
comp=Z,49nm,0.8s,mb5.4
RES Resolute Bay 67.83 12 *e*P **P** **22 14 38.5 +0.3**
comp=Z,49nm,0.8s,mb5.4
FINES FINESS Array B 68.06 330 P **P** **22 14 38.7 -1.0**
comp=Z,20nm,0.6s,mb5.1,baz=74,slow=6.2,SNR=112
FINES LR LR 22 46 24.9
comp=Z,174nm,20.6s,baz=64,slow=38
FINES FINESS Array B 68.06 330 P **P** **22 14 38.7 -1.0**
FINES LR LR 22 46 24.9
DAG Danmarks Havn 68.44 353⇓ *i*P **P** **22 14 41.5 -0.5**
comp=Z,125nm,1.1s,mb5.7
DAG Danmarks Havn 68.44 353⇓ *i*P **P** **22 14 41.5 -0.5**
DAG pmax pmax
comp=Z,130nm,1.1s,mb5.7
VSU Vasula 69.28 327⇑ *e*P **P** **22 14 46.2 -1.0**
MOR8 Moi Rana 69.72 337⇑ *i*P **P** **22 14 47.7 -2.3**
MOR8 AMb AMB 22 14 48.6
comp=Z,68nm,0.8s,mb5.5
MOR8 Moi Rana 69.72 337⇑ *i*P **P** **22 14 47.7 -2.3**
comp=Z,68nm,0.8s,mb5.5
MIB Mutribah 69.96 293 *e*P **P** **22 14 50.6 -0.8**
MIB AMb AMB 22 14 52.6
comp=Z,136nm,0.8s,mb5.8
KBD Kabd 69.98 292 *e*P **P** **22 14 50.9 -0.6**
KBD AMb AMB 22 14 52.9
comp=Z,553nm,0.9s,mb6.4
ANN Anapa 70.04 311 *e*P **P** **22 14 49.1 -2.8**
ANN *e**PP pP 22 15 10.0 -1.6
ANN *e*S S 22 23 59.4 +2.6
ANN pmax pmax
comp=Z,90nm,1.3s,mb5.4
MSL Mosul 70.13 301 *ex* x 22 15 00.5
RDF Al-Radifah 70.20 292 *e*P **P** **22 14 52.1 -0.8**
RDF AMb AMB 22 14 54.3
comp=Z,208nm,1.1s,mb5.9
NAY Al-Naaiem 70.29 292 *e*P **P** **22 14 52.8 -0.6**
NAY AMb AMB 22 14 54.7
comp=Z,132nm,1.0s,mb5.7
RST Umm Al-Ruwaisa 70.36 293 *e*P **P** **22 14 52.8 -1.1**
RST AMb AMB 22 14 54.7
comp=Z,141nm,0.9s,mb5.8
CNB Canberra Magne 70.43 165 *e*P **P** **22 14 54.9 +0.6**
comp=Z,36nm,1.2s,mb5.1
CNB *e*pP pP 22 15 14.9 +0.9
BHD Baghdad 70.59 297 *ex* x 22 14 48.0
YKW3 Yellowknife Ar 70.62 27 *e*P **P** **22 14 56.1 +0.7**
YKA Yellowknife Ar 70.67 27 P **P** **22 14 56.2 +0.5**
comp=Z,26nm,0.8s,mb5.1,baz=304,slow=6.1,SNR=76
YKA pP pP 22 15 15.7 +0.3
comp=Z,17nm,0.9s,baz=301,slow=5.9,SNR=7.0
YKA LR LR 22 49 15.9
comp=Z,83nm,18.3s,baz=20,slow=39
YKA Yellowknife Ar 70.67 27 P **P** **22 14 56.2 +0.5**
YKA *PP pP 22 15 15.7 +0.3
YKA Yellowknife Ar 70.67 27 P **P** **22 14 56.2 +0.5**
YKA pP pP 22 15 15.7 +0.3
YKA LR LR 22 49 15.9
NSS Namsos 71.57 337 *e*P **P** **22 14 59.0 -2.2**
AKASG Malin Array Be 72.00 319 P **P** **22 15 02.6 -1.1**
comp=Z,14nm,0.5s,mb5.0,baz=53,slow=6.3,SNR=102
AKASG pP pP 22 15 22.8 -0.7
comp=Z,9.5nm,0.7s,baz=56,slow=6.1,SNR=3.7
AKASG LR LR 22 48 11.6
comp=Z,144nm,21.2s,baz=130,slow=37
AKASG Malin Array Be 72.00 319 P **P** **22 15 02.6 -1.2**
AKASG *PP pP 22 15 22.8 -0.7
JMIC Jan Mayen 72.02 347 LR LR 22 47 18.4
comp=Z,108nm,21.0s,baz=198,slow=36
SIM Simferopol' 72.04 312*c* *i*P **P** **22 15 04.2 +0.2**
SIM *e* 22 17 39.0
SIM *e*S S 22 24 16.0 -3.9
SIM pmax pmax
comp=Z,26nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,300nm,24.4s
MALT Malatya 72.46 305⇑ *i*P **P** **22 15 07.2 +0.7**
MALT Malatya 72.46 305 *e*P **P** **22 15 07.3 +0.8**
MALT pmax pmax
comp=Z,38nm,0.8s,mb5.3
MALT Malatya 72.46 305 *e*P **P** **22 15 07.2 +0.7**
comp=Z,38nm,0.8s,mb5.3
ATAB Bozova 72.96 304 *i* P **P** **22 15 09.9 +0.4**
BOYT Boyabat 73.29 309 *i* P **P** **22 15 10.7 -0.8**
SUW Suwalki 73.34 324 *e*P **P** **22 15 10.7 -1.0**
SUW *e*PcP PcP 22 15 23.7 -4.0
SUW *e*pP pP 22 15 32.9 +1.4
SUW L 22 51 02.4
comp=Z,0.6nm,17.4s
SUW Suwalki 73.34 324 *e*P **P** **22 15 10.7 -1.0**
SUW *e*PcP PcP 22 15 23.7 -4.0
SUW *e*PP pP 22 15 32.9 +1.4
GZT Gaziantep 73.52 304 *i* P **P** **22 15 13.1 +0.3**
CTKT Corum 73.77 308 *i* P **P** **22 15 12.7 -1.5**
SUMG Summit 73.98 357 *e*P **P** **22 15 16.1 +0.7**
NB2 NORSAR Subarra 74.12 334 P **P** **22 15 14.8 -1.5**
comp=Z,15nm,0.7s,mb4.8,baz=47,slow=5.9
NB2 NORSAR Subarra 74.12 334 P **P** **22 15 14.8 -1.5**
NB2 pmax pmax
comp=Z,15nm,0.7s,mb4.8
NOA NORSAR Array B 74.12 334 P **P** **22 15 15.0 -1.3**
comp=Z,8.2nm,0.6s,mb4.6,baz=48,slow=5.9,SNR=72
NOA pP pP 22 15 34.5 -1.6
comp=Z,14nm,0.9s,baz=50,slow=5.7,SNR=5.3
NOA LR LR 22 50 49.9
comp=Z,189nm,19.1s,baz=30,slow=38
NOA NORSAR Array B 74.12 334 P **P** **22 15 15.0 -1.3**
NOA *PP pP 22 15 34.6 -1.5
BALT Daday 74.22 309 *i* P **P** **22 15 17.0 +0.2**
OBC Olympics--Boni 74.34 43 P **P** **22 15 19.5 +2.0**
PGC Sidney 74.36 42 *e*P **P** **22 15 19.1 +1.5**
STW Striped Peak 74.50 42 P **P** **22 15 20.3 +1.8**
CDAG Cicekdag 74.55 307 *i* P **P** **22 15 16.0 -2.8**
SCO Scoresbysund 74.58 351 *i* P **P** **22 15 18.9 0.0**
comp=Z,16nm,1.0s,mb4.7
SCO Scoresbysund 74.58 351 *i* P **P** **22 15 18.9 0.0**
SCO pmax pmax
comp=Z,16nm,1.0s,mb4.7
ELDT Eldivan 74.73 309 *i* P **P** **22 15 19.3 -0.6**
BRTR Keskin Array B 74.98 308 P **P** **22 15 20.9 -0.4**
comp=Z,32nm,0.9s,mb5.1,baz=96,slow=4.6,SNR=136
BRTR LR LR 22 54 49.9
comp=Z,84nm,22.0s,baz=231,slow=41
LVV L'vov 75.28 320 *e*P **P** **22 15 22.4 -0.6**
LVV *e* pP 22 15 39.8 -3.0

LVV *e* 22 18 08.2
LVV *e*S S 22 24 56.4 +0.1
LVV *e*PS 22 25 22.4
LVV *e*SS SS 22 29 45.0 -2.4
LVV MLR MLR
comp=Z,100nm,16.0s
LVV MLR MLR
comp=N,30nm,13.0s
LVV MLR MLR
comp=E,50nm,16.0s
GNW Green Mountain 75.30 42 *e*P **P** **22 15 25.0 +1.9**
ANTO Ankara 75.47 308⇑ *i*P **P** **22 15 23.9 -0.1**
ANTO Ankara 75.47 308 P **P** **22 15 24.2 +0.2**
SNR=5.8
SGKT Sivrigoynuk 75.58 309 *i* P **P** **22 15 24.3 -0.3**
BURAR Bucovina Array 75.88 318⇑ *i*P **P** **22 15 26.1 -0.3**
BURAR Bucovina Array 75.88 318⇑ P **P** **22 15 26.1 -0.3**
VRI Vrincioaia 76.00 316⇑ *i*P **P** **22 15 26.9 -0.2**
VRI Vrincioaia 76.00 316 P **P** **22 15 27.4 +0.4**
PLOR Plostina 76.05 316⇓ *i*P **P** **22 15 27.6 +0.2**
KWP Kalwaria 76.09 321 *e*P **P** **22 15 27.6 0.0**
comp=Z,0.2nm,1.3s
KWP *e*PcP PcP 22 15 38.7 -0.8
KWP L 22 49 31.8
comp=Z,0.4nm,23.1s
KWP Kalwaria 76.09 321 *e*P **P** **22 15 27.6 0.0**
KWP *e* 22 15 38.7
KWP pmax pmax
comp=Z,200nm,1.3s,mb5.7
KWP MLR MLR
comp=Z,400nm,23.1s
KWP Kalwaria 76.09 321 *e*P **P** **22 15 27.6 0.0**
KWP *e*PcP PcP 22 15 38.7 -0.8
MEST Erdemli 76.27 305 *i* P **P** **22 15 27.8 -0.8**
LON Longmire 76.33 43 *e*P **P** **22 15 30.2 +1.2**
BSD Bornholm Skovb 76.51 328⇑ *i*P **P** **22 15 28.8 -1.2**
comp=Z,32nm,0.9s,mb5.0
BSD
comp=Z,190nm,21.0s
BSD Bornholm Skovb 76.51 328⇑ *i*P **P** **22 15 28.8 -1.2**
BSD pmax pmax
comp=Z,32nm,0.9s,mb5.0
BSD MLR MLR
comp=Z,190nm,21.0s
MPOR Mary's Peak 76.58 45 P **P** **22 15 32.5 +2.1**
ASF Jabal al Asfar 76.62 300 P **P** **22 15 30.7 +0.1**
comp=Z,18nm,0.9s,mb4.8,baz=358,slow=2.9,SNR=27
KDHN Kadinhani 76.62 307 *i* P **P** **22 15 29.0 -1.6**
GKP Gorka Klasztor 76.62 326 *e*P **P** **22 15 30.2 -0.4**
GKP L 22 51 47.9
comp=Z,0.5nm,22.9s
MLR Muntele Rosu 76.66 316 P **P** **22 15 30.4 -0.4**
comp=Z,2.9nm,0.5s,baz=357,slow=2.6,SNR=9.5
MLR Muntele Rosu 76.66 316⇑ *i*P **P** **22 15 30.3 -0.5**
MLR Muntele Rosu 76.66 316 P **P** **22 15 31.4 +0.5**
COR Corvallis 76.68 45 *e*P **P** **22 15 33.1 +2.1**
KOLS Kolonicke sedl 76.73 320 *e*P **P** **22 15 30.9 -0.3**
KOLS *e*PP PP 22 18 25.1 +0.5
TBM Table Mountain 76.77 42 P **P** **22 15 32.7 +1.2**
EDM Edmonton 76.85 34 *e*P **P** **22 15 33.0 +1.1**
EDM *e**PP pP 22 15 52.3 +0.5
EDM Edmonton 76.85 34 *e*P **P** **22 15 33.0 +1.1**
UZH Uzhgorod 76.89 320 *e*P **P** **22 15 32.0 -0.2**
UZH *e*S S 22 25 13.0 -1.1
UZH *e*PS 22 25 55.0
ESKT Eskisehir 76.92 309 *i* P **P** **22 15 30.6 -1.7**
EBG Ellensburg 76.94 42 P **P** **22 15 34.1 +1.7**
BORA Eskisehir 76.98 309 *i* P **P** **22 15 31.3 -1.4**
STHS Stebnicka Huta 76.99 321 *i* P **P** **22 15 32.3 -0.4**
STHS Stebnicka Huta 76.99 321 *i* P **P** **22 15 32.4 -0.3**
STHS pmax pmax
comp=Z,22nm,1.3s,mb4.7
STHS Stebnicka Huta 76.99 321 *i* P **P** **22 15 32.4 -0.3**
comp=Z,22nm,1.3s,mb4.7
KEBM Edson Butte 77.02 47 *e*P **P** **22 15 35.2 +2.4**
ERMK Ermenek 77.08 305 *i* P **P** **22 15 30.4 -2.8**
EPH Ephrata 77.22 41 P **P** **22 15 35.0 +1.0**
HOOD Mount Hood Mea 77.23 44 *e*P **P** **22 15 35.8 +1.8**
OJC Ojcow 77.25 322 *i* Pc **P** **22 15 34.0 -0.1**
OJC *e*S S 22 25 16.0 -2.0
OJC L 22 52 55.6
comp=Z,1.1nm,19.6s
BROR Big Rock Looko 77.37 45 P **P** **22 15 36.2 +1.5**
TAU Tasmania Unive 77.38 168 *e*P **P** **22 15 35.6 +0.7**
TAU *e**PP pP 22 15 55.1 +0.3
TAU pmax pmax
comp=Z,87nm,1.0s,mb5.4
TAU Tasmania Unive 77.38 168 *e*P **P** **22 15 35.5 +0.7**
comp=Z,87nm,1.0s,mb5.4
TAU *e*pP pP 22 15 55.1 +0.2
KBO Bosley Butte 77.45 48 *e*P **P** **22 15 37.2 +1.9**
NIE Niedzica 77.47 321 *e*P **P** **22 15 35.7 +0.3**
CSS Prodhromos 77.69 304 *e*P **P** **22 15 36.2 -0.4**
BKCOR Black Crater 77.79 45 P **P** **22 15 38.8 +1.6**
WRD Warden 77.80 42 P **P** **22 15 38.0 +0.8**
HAWA Hanford 77.82 42⇑ *e*P **P** **22 15 38.5 +1.2**
comp=Z,6.8nm,0.9s,mb4.4
HAWA *e*pP pP 22 15 58.2 +0.9
KECS Kecovo 77.95 321 *i* P **P** **22 15 37.7 -0.3**
KECS pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
KECS Kecovo 77.95 321 *i* P **P** **22 15 37.7 -0.3**
comp=Z,6.8nm,1.0s,mb4.3
KECS *e*PP PP 22 18 35.7 +0.9
NEW Newport 78.02 40⇑ *i*P **P** **22 15 39.5 +1.1**
NEW *e**PP pP 22 15 59.5 +1.1
NEW *e* 22 18 43.2
NEW pmax pmax
comp=Z,67nm,0.9s
NEW Newport 78.02 40⇑ *i*P **P** **22 15 39.5 +1.1**
comp=Z,66nm,0.9s,mb5.4
NEW *e*pP pP 22 15 59.5 +1.0
NEW *e*sP sP 22 16 09.3 +2.8
NEW *e*PP PP 22 18 43.2 +7.7
MUD Monsted U'grnd 78.03 331⇑ *i*P **P** **22 15 37.6 -0.9**
comp=Z,17nm,0.9s,mb4.8
MUD
comp=Z,180nm,19.0s
MUD Monsted U'grnd 78.03 331⇑ *i*P **P** **22 15 37.6 -0.9**
MUD pmax pmax
comp=Z,17nm,0.9s,mb4.8
MUD MLR MLR
comp=Z,190nm,19.0s
KRMB Red Mountain 78.03 48⇑ *e*P **P** **22 15 40.4 +1.9**
KRMB *e*PcP PcP 22 15 50.9 +3.0
KRMB *e*pP pP 22 15 59.6 +1.2
KRMB *e*PP PP 22 18 38.2 +2.7
GDZ Gediz 78.05 309 *i* P **P** **22 15 37.4 -1.2**
TKTP Tekketepe 78.07 308 *i* P **P** **22 15 34.8 -3.9**
RAC Raciborz 78.15 323 *e*P **P** **22 15 39.4 +0.3**
RAC MLR MLR
comp=Z,400nm,17.5s
PVL Pavlikeni 78.31 314 *e*P **P** **22 15 39.9 -0.2**
OKC Ostrava-Krasne 78.33 323⇑ *i*P **P** **22 15 39.7 -0.4**
KHMM Horse Mountain 78.51 49 *e*P **P** **22 15 43.4 +2.3**
GZR Gura Zlata 78.54 317⇑ *i*P **P** **22 15 41.4 +0.1**
GZR Gura Zlata 78.54 317 P **P** **22 15 41.4 +0.1**
PSZ Piszkesteto 78.60 320⇑ *e*P **P** **22 15 41.8 +0.1**
PSZ Piszkesteto 78.60 320⇑ *i*P **P** **22 15 41.7 0.0**
PSZ Piszkesteto 78.60 320 P **P** **22 15 41.9 +0.2**
PSZ Piszkesteto 78.60 320 *e*P **P** **22 15 41.7 +0.1**
BTOK Tokmak 78.61 310 *i* P **P** **22 15 41.0 -0.6**
KSP Ksiaz 78.61 324 *e*P **P** **22 15 41.7 0.0**
comp=Z,0.2nm,1.4s
KSP *e*pP pP 22 15 58.9 -2.8
KSP *e*S S 22 25 27.5 -5.1
KSP L 22 48 54.2
comp=Z,0.6nm,28.9s
KSP Ksiaz 78.61 324⇑ *e*P **P** **22 15 41.6 -0.1**
YBH Yreka Blue Hor 78.65 47 *e*P **P** **22 15 43.8 +1.9**
YBH *e**PP pP 22 16 03.2 +1.3
MORC Moravsky Berou 78.67 323⇑ *i*P **P** **22 15 41.9 -0.1**
MORC Moravsky Berou 78.67 323 P **P** **22 15 42.0 0.0**
MORC Moravsky Berou 78.67 323 *e*P **P** **22 15 41.9 -0.1**
RUE Ruedersdorf 78.74 327 *e*P **P** **22 15 42.7 +0.3**
comp=Z,49nm,0.9s,mb5.3
VYHS Vyhne 78.81 321 *i* P **P** **22 15 42.7 -0.1**
VYHS pmax pmax
comp=Z,21nm,1.1s,mb4.9
VYHS Vyhne 78.81 321 *i* P **P** **22 15 42.7 -0.1**
comp=Z,21nm,1.1s,mb4.9
DPC Dobruska-Polom 78.91 324⇑ *i*P **P** **22 15 43.5 +0.2**
DPC AMS AMS 22 54 10.0

comp=Z,500nm,15.6s
LRW Lerwick 78.98 338 *e*P **P 22 15 43.1 -0.7**
LRW AMb AMB 22 15 43.8
comp=Z,55nm,1.8s,mb5.1
LRW Lerwick 78.98 338 *e*P **P 22 15 43.1 -0.7**
LRW AMb AMB 22 15 43.8
comp=Z,55nm,1.8s,mb5.1
LHEM Herd Peak 79.01 47 P **P 22 15 45.8 +1.9**
BZS Buzias 79.06 318 ⇓*i*P **P 22 15 43.5 -0.6**
BZS Buzias 79.06 318 P **P 22 15 43.9 -0.2**
WALA Waterton Lakes 79.20 38 *e*P **P 22 15 46.4 +1.4**
comp=Z,66nm,0.8s,mb5.5
AKHS Akhisar 79.24 310 *i*P **P 22 15 43.5 -1.6**
KIPM Iron Peak 79.27 49 *e*P **P 22 15 46.8 +1.5**
KIPM *e*pP pP 22 16 05.7 +0.4
KIPM *es*P sP 22 16 14.9 +1.5
BSEG Bad Segeberg 79.30 329 *e*P **P 22 15 44.6 -0.8**
comp=Z,32nm,1.0s,mb5.1
BSEG Bad Segeberg 79.30 329 *e*P **P 22 15 44.6 -0.8**
BSEG pmax pmax
comp=Z,32nm,1.0s,mb5.1
BUD Budapest 79.33 320⇑*e*P **P 22 15 45.9 +0.2**
PLD Plovdiv 79.34 314 *e*P **P 22 15 46.0 +0.3**
EIL Elat 79.35 298 *e*P **P 22 15 45.5 -0.2**
PGB Panagyurishte 79.40 314 *e*P **P 22 15 45.0 -1.0**
WDC Whiskeytown Da 79.42 48 *e*P **P 22 15 47.5 +1.4**
VRAC Vranov 79.44 323 P **P 22 15 46.3 +0.1**
comp=Z,30nm,0.9s,mb5.1,baz=61,slow=5.2,SNR=37
VRAC LR LR 22 55 18.6
comp=Z,315nm,18.4s,baz=45,slow=39
VRAC Vranov 79.44 323⇑*i*P **P 22 15 46.3 +0.1**
VRAC Vranov 79.44 323 P **P 22 15 46.5 +0.2**
BSMT Bassoo Peak 79.51 39 *e*P **P 22 15 48.4 +1.8**
SMOL Smolenice 79.52 322 *i*P **P 22 15 47.1 +0.4**
PVCC Panska Ves 79.65 325⇑*i*P **P 22 15 47.3 -0.1**
PVCC AMS AMS 22 54 00.0
comp=Z,400nm,19.8s
AYVA Ayvalik 79.72 310 *i*P **P 22 15 46.9 -0.8**
BRG Berggiesshubel 79.72 325 *e*P **P 22 15 47.1 -0.7**
comp=Z,20nm,1.0s,mb4.9
BRG Berggiesshubel 79.72 325⇑*i*P **P 22 15 47.4 -0.4**
comp=Z,12nm,1.0s,mb4.7
BRG *e* pP 22 16 03.2 -4.6
comp=Z,6.7nm,1.1s
BRG
comp=Z,345nm,17.0s
BRG
comp=N,164nm,19.3s
BRG
comp=E,168nm,19.3s
BRG Berggiesshubel 79.72 325⇑*i*P **P 22 15 47.4 -0.4**
BRG *e* pP 22 16 03.2 -4.6
BRG pmax pmax
comp=Z,46nm,1.0s,mb5.3
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.6
BRG MLR MLR
comp=Z,7μm,17.0s
BRG MLR MLR
comp=N,345nm,19.3s
BRG MLR MLR
comp=E,164nm,19.3s
BRG Berggiesshubel 79.72 325⇑*i*P **P 22 15 47.4 -0.4**
comp=E,12nm,1.0s,mb4.7
BRG *e* pP 22 16 03.2 -4.6
BRG LR LR
comp=Z,350nm,17.0s
SFJD Kangerlussuaq 79.79 1⇑*i*P **P 22 15 47.7 -0.4**
comp=Z,42nm,0.8s,mb5.3
SFJD *i* pP 22 16 08.8 +0.6
SFJD
comp=Z,180nm,19.0s
SFJD Kangerlussuaq 79.79 1⇑*i*P **P 22 15 47.7 -0.4**
SFJD *i* pP 22 16 08.8 +0.6
SFJD pmax pmax
comp=Z,42nm,0.8s,mb5.3
SFJD MLR MLR
comp=Z,180nm,19.0s
BORG Borgarnes 79.81 349 LR LR 22 51 12.9
comp=Z,112nm,19.7s,baz=337,slow=36
BORG Borgarnes 79.81 349 P **P 22 15 47.2 -1.0**
BOZC Bozcaada 79.81 311 *i*P **P 22 15 46.2 -2.1**
KDAG Bornova 79.86 309 *i*P **P 22 15 47.6 -0.9**
CLL Collm 79.88 326 *e*P **P 22 15 47.7 -0.9**
comp=Z,73nm,1.1s,mb5.4
CLL *e*PP PP 22 18 51.7 +0.8
CLL Collm 79.88 326⇑*i*P **P 22 15 48.0 -0.6**
comp=Z,73nm,1.1s,mb5.4
CLL *i* x x 22 15 59.1
CLL *e*x x 22 16 05.0
CLL *i* x x 22 16 10.5
CLL *e*PP PP 22 18 51.0 +0.1
CLL *es*PP 22 19 14.0
CLL LmV 22 53 00.0
comp=Z,400nm,21.6s
CLL Collm 79.88 326⇑*i*P **P 22 15 48.0 -0.6**
CLL *i* 22 15 59.1
CLL *i* pP 22 16 10.5 +1.9
CLL pmax pmax
comp=Z,73nm,1.1s,mb5.4
CLL MLR MLR
comp=Z,400nm,21.6s
CLL Collm 79.88 326⇑*i*P **P 22 15 48.0 -0.6**
comp=Z,73nm,1.1s,mb5.4
CLL *i* 22 15 59.1
CLL *i* pP 22 16 10.5 +1.9
CLL LR LR
comp=Z,400nm,21.6s
AYDN Tasoluk 79.89 308 *i*P **P 22 15 48.8 +0.1**
ZST Bratislava 79.89 322 *e*P **P 22 15 49.1 +0.4**
comp=Z,17nm,1.0s,mb4.8
ZST LR LR
comp=Z,200nm,19.1s
VTS Vitosha 79.95 315⇑*i*P **P 22 15 49.0 0.0**
VTS Vitosha 79.95 315 *e*P **P 22 15 48.6 -0.4**
VTS Vitosha 79.95 315 ⇑P **P 22 15 49.1 +0.1**
HOPS Hopland 79.99 50 *e*P **P 22 15 50.8 +1.6**
TREC Trest 80.01 323⇑*i*P **P 22 15 49.2 -0.1**
TREC AMS AMS 22 54 50.0
comp=Z,400nm,18.8s
MOD Modoc 80.02 46 *e*P **P 22 15 50.9 +1.6**
PRU Pruhonice 80.02 324⇑*i*P **P 22 15 49.2 -0.2**
PRU LR LR
comp=Z,400nm,21.2s
MMB Musomiste 80.23 314 *e*P **P 22 15 49.8 -0.7**
URLA Izmir 80.32 310 *i*P **P 22 15 48.1 -2.8**
PKSM Moragy 80.33 320 ⇓*i*P **P 22 15 50.4 -0.6**
PKSM Moragy 80.33 320 P **P 22 15 50.6 -0.4**
NRDL Niedersach Rie 80.39 328 *e*P **P 22 15 50.7 -0.6**
comp=Z,19nm,1.1s,mb4.8
KKB Krupnik 80.45 314 *e*P **P 22 15 51.3 -0.4**
FCC Fort Churchill 80.47 22 *e*P **P 22 15 52.3 +0.5**
SOP Sopron 80.50 322⇑*e*P **P 22 15 52.3 +0.3**
BDRM Kayabasi 80.51 308 *i*P **P 22 15 50.4 -1.6**
MSO Missoula 80.60 39 *e*P **P 22 15 53.1 +0.6**
WVOR Wild Horse Val 80.69 45⇑*e*P **P 22 15 54.4 +1.4**
WVOR *e**PP pP 22 16 13.3 +0.2
WVOR pmax pmax
comp=Z,55nm,0.9s,mb5.4
WVOR Wild Horse Val 80.69 45⇑*e*P **P 22 15 54.4 +1.5**
comp=Z,55nm,0.9s,mb5.4
WVOR *e*pP pP 22 16 13.2 +0.2
WVOR *es*P sP 22 16 22.2 +1.0
CONA Conrad Observa 80.70 322 *i*P **P 22 15 53.4 +0.4**
comp=Z,33nm,1.0s,mb5.1,SNR=18
CLZ Clausthal 80.72 328 *e*P **P 22 15 52.8 -0.3**
comp=Z,66nm,1.1s,mb5.4
CLZ Clausthal 80.72 328 *e*P **P 22 15 52.8 -0.3**
CLZ pmax pmax
comp=Z,66nm,1.1s,mb5.4
TANN Tannenbergstha 80.73 326 *e*P **P 22 15 52.7 -0.5**
comp=Z,21nm,1.2s,mb4.8
TANN *e*PP PP 22 19 00.1 +2.1
FFC Flin Flon 80.75 28 P **P 22 15 53.7 +0.5**
comp=Z,1μm,0.8s,SNR=42
FFC Flin Flon 80.75 28⇑*i*P **P 22 15 53.6 +0.3**
FFC *e**PP pP 22 16 12.8 -0.5
FFC pmax pmax
comp=Z,137nm,0.8s,mb5.8
FFC Flin Flon 80.75 28⇑*i*P **P 22 15 53.6 +0.4**
comp=Z,137nm,0.8s,mb5.8
FFC *e*pP pP 22 16 12.8 -0.5
FFC *es*P sP 22 16 22.1 +0.7
OHCM Honcut 80.80 49 *e*P **P 22 15 54.3 +0.7**

NKC Novy Kostel 80.86 325⇓*i*P **P 22 15 53.7 -0.2**
CHMT Chamberlain Mo 80.91 39 *e*P **P 22 15 55.0 +0.9**
MOX Moxa 80.97 326 *e*P **P 22 15 53.9 -0.6**
comp=Z,25nm,1.2s,mb4.9
MOX *e*PP PP 22 19 01.2 +1.2
MOX Moxa 80.97 326 *e*P **P 22 15 53.9 -0.6**
comp=Z,72nm,2.0s,mb5.2
MOX
comp=Z,300nm,22.0s
KHC Kasperske Hory 81.06 324*c i*P **P 22 15 54.5 -0.4**
KHC Kasperske Hory 81.06 324⇑*i*P **P 22 15 54.5 -0.4**
KHC LR LR
comp=Z,500nm,15.2s
VAY Valandovo 81.09 314 *e*P **P 22 15 54.0 -1.0**
STIP Stip 81.09 314 *e*P **P 22 15 54.4 -0.7**
GEC2 GERESS Array S 81.19 324 *e*P **P 22 15 54.9 -0.7**
comp=Z,18nm,1.0s,mb4.9
GEC2 *e*PP PP 22 19 04.0 +2.3
GEC2 GERESS Array S 81.19 324 *e*P **P 22 15 54.9 -0.7**
GEC2 *e* 22 19 04.0
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb4.9
GERES GERESS Array B 81.19 324 P **P 22 15 55.0 -0.6**
comp=Z,10nm,0.8s,mb4.7,baz=44,slow=4.4,SNR=74
GERES PP PP 22 19 00.7 -1.0
comp=Z,3.3nm,1.0s,baz=58,slow=8.0,SNR=7.8
GERES PKKPbc PKKPbc 22 34 29.8 -0.9
comp=Z,2.1nm,0.8s,baz=222,slow=1.8,SNR=18
GERES LR LR 22 56 04.8
comp=Z,436nm,18.9s,baz=316,slow=39
GERES GERESS Array B 81.19 324 P **P 22 15 55.0 -0.6**
GERES 22 19 00.7
MANZ Manzenberg 81.19 325 *e*P **P 22 15 55.3 -0.3**
comp=Z,24nm,1.0s,mb5.0
SAC San Andreas 81.23 51 *e*P **P 22 15 56.6 +0.8**
ROTZ Rotzenmuhle 81.29 325 *e*P **P 22 15 56.2 0.0**
comp=Z,49nm,1.3s,mb5.2
ARSA Arzberg 81.32 322⇓*i*P **P 22 15 56.2 -0.1**
comp=Z,61nm,2.1s,mb5.0,SNR=11
SKO Skopje 81.37 315 *e*P **P 22 15 57.2 +0.6**
WET Wettzell 81.39 324 *e*P **P 22 15 56.3 -0.4**
comp=Z,18nm,1.1s,mb4.8
WET *e*PP PP 22 19 06.2 +2.8
WET Wettzell 81.39 324 *e*P **P 22 15 56.3 -0.4**
WET *e* 22 19 06.2
WET pmax pmax
comp=Z,18nm,1.1s,mb4.8
IBBN Ibbenburen 81.54 329 *e*P **P 22 15 56.6 -0.9**
comp=Z,44nm,1.2s,mb5.2
MOA Molln 81.57 323⇑*i*P **P 22 15 57.6 0.0**
comp=Z,57nm,1.6s,mb5.1,SNR=7.3
UBBA Unterbreizbach 81.60 327 *e*P **P 22 15 57.1 -0.7**
comp=Z,30nm,1.5s,mb4.9
WIT Witteveen 81.64 330⇑*e*P **P 22 15 58.0 0.0**
comp=Z,149nm,1.2s,mb5.7
MCD Coleburn Disti 81.67 337 *e*P **P 22 15 56.6 -1.5**
MCD Coleburn Disti 81.67 337 *e*P **P 22 15 56.6 -1.5**
MVH1 Achvaich 81.69 338 *e*P **P 22 15 57.1 -1.2**
MVH1 Achvaich 81.69 338 *e*P **P 22 15 57.1 -1.2**
APE Apeiranthos 81.76 309⇑*i*P **P 22 15 56.5 -2.1**
APE Apeiranthos 81.76 309 ⇑P **P 22 15 56.5 -2.1**
GRA1 Grafenberg Arr 81.81 326 *e*P **P 22 15 58.9 0.0**
comp=Z,108nm,1.1s,mb5.6
GRA1 *e*PP PP 22 19 08.1 +1.2
GRA1 LR LR
comp=Z,500nm,21.7s
GRF Grafenberg Arr 81.81 326 *e*P **P 22 15 58.9 0.0**
comp=Z,108nm,1.1s,mb5.6
GRF *e*PP PP 22 19 08.1 +1.2
GRF *e*L 22 55 13.6
comp=Z,452nm,21.7s
GRF Grafenberg Arr 81.81 326 *e*P **P 22 15 58.9 0.0**
GRF *e* 22 19 08.1
GRF pmax pmax
comp=Z,108nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,500nm,21.7s
GRF Grafenberg Arr 81.81 326 *e*P **P 22 15 58.9 0.0**
GRF *e* 22 19 08.1
GRF pmax pmax
comp=Z,108nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,500nm,21.7s
PAHR Pah Rah Range 81.89 48 *e*P **P 22 16 00.8 +1.5**
comp=Z,64nm,1.0s,mb5.4
PERS Pernice 81.93 322 *i*P **P 22 15 59.3 -0.2**
EGMT Eagleton 81.97 37 *e*P **P 22 16 00.4 +0.7**
comp=Z,148nm,1.0s,mb5.8
EGMT *e*pP pP 22 16 20.4 +0.5
LRM Limekiln Ridge 82.04 39 *e*P **P 22 16 01.6 +1.5**
GCIS Gornji Cirnik 82.17 321 *e*P **P 22 16 00.2 -0.5**
WTSB Winterswijk 82.20 329⇑*i*P **P 22 15 59.9 -1.1**
comp=Z,29nm,1.5s,mb4.9
CMB Columbia Colle 82.26 49 *e*P **P 22 16 02.6 +1.4**
DLMT Dillon 82.26 40 *e*P **P 22 16 02.7 +1.5**
OHR Ohrid 82.28 315 *e*P **P 22 16 00.7 -0.6**
CRES Cresnjev 82.28 321 *i*P **P 22 16 01.0 -0.4**
OBKA Obir 82.31 322⇓*i*P **P 22 16 01.1 -0.4**
comp=Z,194nm,2.6s,mb5.5
SAO San Andreas Ge 82.33 51 *e*P **P 22 16 02.6 +1.0**
BUG Bochum--Univer 82.37 329 *e*P **P 22 16 00.7 -1.1**
comp=Z,53nm,1.4s,mb5.2
KAC Achnashellach 82.38 338 *e*P **P 22 16 00.8 -1.1**
KAC Achnashellach 82.38 338 *e*P **P 22 16 00.8 -1.1**
HLID Hailey 82.43 42⇑*i*P **P 22 16 03.6 +1.5**
comp=Z,47nm,0.9s,mb5.3
HLID *e*pP pP 22 16 22.9 +0.7
HLID *es*P sP 22 16 32.7 +2.3
HLID *e*PP PP 22 19 17.1 +5.2
MCMT McKenzie Canyo 82.47 40 *e*P **P 22 16 03.4 +1.0**
KBA Koelnbreinsper 82.55 323 *i*P **P 22 16 02.3 -0.4**
comp=Z,103nm,2.2s,mb5.3,SNR=13
KBA Koelnbreinsper 82.55 323 *i*P **P 22 16 02.3 -0.4**
KBA pmax pmax
comp=Z,103nm,2.2s,mb5.3
WAKR Walker 82.58 48 *e*P **P 22 16 04.6 +1.7**
BOZ Bozeman (W) 82.59 39 *e*P **P 22 16 04.5 +1.5**
BOZ pmax pmax
comp=Z,57nm,0.9s,mb5.4
KPL Plockton 82.62 338 *e*P **P 22 16 02.0 -1.1**
KPL AMb AMB 22 16 04.5
comp=Z,70nm,1.5s,mb5.3
KPL Plockton 82.62 338 *e*P **P 22 16 02.0 -1.1**
KPL AMb AMB 22 16 04.5
comp=Z,70nm,1.5s,mb5.3
LJU Ljubljana 82.63 321 *e*P **P 22 16 02.5 -0.7**
TNS Taunus Mts 82.72 327 *e*P **P 22 16 03.0 -0.7**
comp=Z,35nm,1.1s,mb5.1
TNS Taunus Mts 82.72 327 *e*P **P 22 16 03.0 -0.7**
TNS pmax pmax
comp=Z,35nm,1.1s,mb5.1
BMN Battle Mountai 82.76 46 *e*P **P 22 16 05.8 +2.0**
BMN pmax pmax
comp=Z,67nm,0.9s,mb5.5
BMN Battle Mountai 82.76 46 *e*P **P 22 16 05.8 +1.9**
comp=Z,67nm,0.9s,mb5.5
ESY Stoneypath 82.79 336⇑*e*P **P 22 16 02.6 -1.4**
ESY Stoneypath 82.79 336⇑*e*P **P 22 16 02.6 -1.4**
FUR Furstenfeldbru 82.83 324 *e*P **P 22 16 04.1 -0.1**
comp=Z,98nm,1.1s,mb5.5
FUR Furstenfeldbru 82.83 324 *e*P **P 22 16 04.1 -0.1**
FUR pmax pmax
comp=Z,98nm,1.1s,mb5.5
URZ Urewera 82.93 146 P **P 22 16 03.5 -1.2**
comp=Z,16nm,0.6s,mb5.0,baz=324,slow=3.6,SNR=15
JAVS Javornik 82.97 321 *i*P **P 22 16 04.1 -0.8**
TOD Tromm 83.00 327⇑*e*P **P 22 16 04.7 -0.4**
XSO Sourhope Farm 83.01 336⇑*e*P **P 22 16 03.8 -1.3**
XSO Sourhope Farm 83.01 336⇑*e*P **P 22 16 03.8 -1.3**
EBL Broad Law 83.06 336⇑*e*P **P 22 16 03.8 -1.5**
EBL Broad Law 83.06 336⇑*e*P **P 22 16 03.8 -1.5**
EAU Auchinoon 83.13 336⇑*e*P **P 22 16 04.5 -1.3**
EAU Auchinoon 83.13 336⇑*e*P **P 22 16 04.5 -1.3**
EAB Aberfoyle 83.15 337⇑*e*P **P 22 16 04.7 -1.1**
EAB Aberfoyle 83.15 337⇑*e*P **P 22 16 04.7 -1.1**
QLMT Earthquake Lak 83.24 40 *e*P **P 22 16 08.0 +1.7**
WATA Walderalm 83.26 324⇑*i*P **P 22 16 05.8 -0.6**
comp=Z,11nm,1.1s,mb4.6,SNR=6.0
WATA Walderalm 83.26 324⇑*i*P **P 22 16 05.8 -0.6**
WATA pmax pmax
comp=Z,11nm,1.1s,mb4.6
WTTA Wattenberg 83.28 324⇓*i*P **P 22 16 05.7 -0.8**
comp=Z,162nm,3.4s
WTTA Wattenberg 83.28 324⇓*i*P **P 22 16 05.7 -0.8**

WTTA pmax pmax
comp=Z,162nm,3.4s
NVAR Mina Aray Bea 83.33 48 P **P 22 16 08.4 +1.6**
comp=Z,26nm,0.7s,mb5.2,baz=285,slow=7.1,SNR=109
NVAR pP pP 22 16 27.6 +0.7
comp=Z,20nm,0.6s,baz=320,slow=4.5,SNR=14
ABH Alteburg 83.37 327⇑*e*P **P 22 16 06.4 -0.6**
STU Stuttgart 83.41 326 *e*P **P 22 16 06.4 -0.8**
comp=Z,61nm,1.1s,mb5.3
STU Stuttgart 83.41 326 *e*P **P 22 16 07.1 -0.1**
STU pmax pmax
comp=Z,18nm,0.3s,mb5.4
STU Stuttgart 83.41 326 *e*P **P 22 16 07.1 -0.1**
comp=Z,18nm,0.3s,mb5.4
HGN Heimansgroeve 83.45 329⇑*i*P **P 22 16 06.4 -1.0**
comp=Z,36nm,1.2s,mb5.1
EKA Eskdalemuir Ar 83.45 336 PKKPbc PKKPbc 22 34 23.8 -1.8
comp=Z,0.9nm,0.7s,baz=256,slow=2.5,SNR=4.2
ESK Eskdalemuir 83.48 336 *e*P **P 22 16 06.2 -1.4**
ESK AMb AMB 22 16 08.8
comp=Z,48nm,1.6s,mb5.1
ESK Eskdalemuir 83.48 336 *e*P **P 22 16 06.2 -1.4**
ESK AMb AMB 22 16 08.8
comp=Z,48nm,1.6s,mb5.1
ESK Eskdalemuir 83.48 336 *e*P **P 22 16 06.7 -0.8**
MOTA Moosalm 83.48 324⇑*i*P **P 22 16 07.0 -0.6**
comp=Z,10nm,0.9s,mb4.7,SNR=14
MOTA Moosalm 83.48 324⇑*i*P **P 22 16 07.0 -0.6**
MOTA pmax pmax
comp=Z,11nm,0.9s,mb4.7
XAL Allendale 83.50 335 *e*P **P 22 16 06.2 -1.5**
XAL Allendale 83.50 335 *e*P **P 22 16 06.2 -1.5**
PGBU Glenifferbraes 83.50 337 *e*P **P 22 16 06.6 -1.1**
PGBU AMb AMB 22 16 09.1
comp=Z,25nm,1.3s,mb4.9
PGBU Glenifferbraes 83.50 337 *e*P **P 22 16 06.6 -1.1**
PGBU AMb AMB 22 16 09.1
comp=Z,25nm,1.3s,mb4.9
SQTA Sankt Quirin 83.52 324⇑*i*P **P 22 16 07.3 -0.5**
comp=Z,11nm,0.9s,mb4.7
SQTA Sankt Quirin 83.52 324⇑*i*P **P 22 16 07.3 -0.5**
SQTA pmax pmax
comp=Z,11nm,0.9s,mb4.7
GCMT Greycliff 83.52 38 *e*P **P 22 16 09.5 +1.8**
GCMT *e*pP pP 22 16 29.7 +1.7
MEM Membach 83.53 329 P **P 22 16 07.0 -0.8**
BEBN Eben Emael 83.53 329 P **P 22 16 06.8 -1.0**
KTD Kalmit 83.53 327⇑*e*P **P 22 16 07.1 -0.7**
ECK Cauldkaine Hil 83.56 336⇑*e*P **P 22 16 06.6 -1.4**
ECK Cauldkaine Hil 83.56 336⇑*e*P **P 22 16 06.6 -1.4**
YMR Madison River 83.59 40 *e*P **P 22 16 09.6 +1.5**
comp=Z,141nm,1.3s,mb5.6
YMR *e*pP pP 22 16 29.7 +1.4
YMR *es*P sP 22 16 39.0 +2.6
BHH Howats Hill 83.66 336 *e*P **P 22 16 06.6 -1.9**
BHH Howats Hill 83.66 336 *e*P **P 22 16 06.6 -1.9**
YNR Norris Junctio 83.71 39 *e*P **P 22 16 11.7 +2.9**
RUP Ruppelstein 83.72 328⇑*e*P **P 22 16 08.1 -0.7**
ELK Elko 83.74 45 *e*P **P 22 16 11.0 +2.1**
ELK pmax pmax
comp=Z,47nm,0.9s
ELK Elko 83.74 45 *e*P **P 22 16 11.0 +2.1**
comp=Z,47nm,0.9s,mb5.3
YFT Old Faithful 83.81 40 *e*P **P 22 16 13.0 +3.8**
MTUM Tungsten Hills 83.82 49 *e*P **P 22 16 10.9 +1.6**
LANF Langenberg 83.90 327⇑*e*P **P 22 16 09.0 -0.7**
LKWY Lake 83.96 39 *e*P **P 22 16 13.4 +3.4**
BCLA Clavier 83.97 329 P **P 22 16 08.5 -1.5**
GVD Gavdhos 84.02 308 *e*P **P 22 16 09.2 -1.1**
comp=Z,63nm,0.9s,mb5.5
IMW Indian Meadow 84.12 40 *e*P **P 22 16 12.8 +2.0**
comp=Z,86nm,1.3s,mb5.4
DAVA Damuels 84.12 324⇑*i*P **P 22 16 10.3 -0.6**
comp=Z,73nm,1.2s,mb5.4,SNR=18
FLWY Flagg Ranch 84.12 40 P **P 22 16 13.5 +2.7**
BFO Black Forest 84.12 326 P **P 22 16 10.1 -0.7**
comp=Z,230nm,1.1s,mb5.9,SNR=15
BFO Black Forest 84.12 326 *e*P **P 22 16 10.0 -0.8**
comp=Z,74nm,1.3s,mb5.4
BFO Black Forest 84.12 326 *e*P **P 22 16 10.0 -0.8**
BFO pmax pmax
comp=Z,74nm,1.3s,mb5.4
WLF Walferdange 84.15 328 *e*P **P 22 16 10.5 -0.5**
comp=Z,66nm,1.2s,mb5.3
WLF Walferdange 84.15 328 P **P 22 16 10.1 -0.9**
WLF Walferdange 84.15 328 *e*P **P 22 16 10.4 -0.6**
WLF *e* 22 16 22.5
WLF pmax pmax
comp=Z,48nm,1.1s,mb5.2
WLF Walferdange 84.15 328 *e*P **P 22 16 10.4 -0.6**
comp=Z,48nm,1.1s,mb5.2
RLMT Red Lodge 84.18 38⇑*i*P **P 22 16 12.6 +1.5**
RLMT *e*pP pP 22 16 32.0 +0.7
RLMT *es*P sP 22 16 41.2 +1.7
DCID1 Drake Creek 84.19 41 *e*P **P 22 16 14.9 +3.7**
STR Strasbourg 84.20 326⇑*e*P **P 22 16 10.7 -0.6**
TPH Tonopah 84.22 48 *e*P **P 22 16 13.2 +1.9**
TPH *e**PP pP 22 16 32.6 +1.1
TPH Tonopah 84.22 48 *e*P **P 22 16 13.2 +1.9**
MOOW Moose Ponds 84.32 40 *e*P **P 22 16 13.7 +1.8**
comp=Z,68nm,1.4s,mb5.3
DGMT Dagmar 84.33 34⇑*e*P **P 22 16 12.9 +1.0**
comp=Z,122nm,1.2s,mb5.6
DGMT *e*pP pP 22 16 31.6 -0.6
SNF Seneffe 84.34 329 P **P 22 16 10.9 -1.0**
GAL1 Galloway 84.35 336 *e*P **P 22 16 10.5 -1.5**
GAL1 *e*P 22 16 10.5
GAL1 AMb AMB 22 16 13.0
comp=Z,35nm,1.2s,mb5.0
GAL1 Galloway 84.35 336 *e*P **P 22 16 10.5 -1.5**
GAL1 *e*P 22 16 10.5
GAL1 AMb AMB 22 16 13.0
comp=Z,35nm,1.2s,mb5.0
GIVF Givet 84.41 329 *e*P **P 22 16 11.0 -1.3**
comp=Z,36nm,1.1s,mb4.8
GIVF Givet 84.41 329 *e*P **P 22 16 11.0 -1.3**
GIVF pmax pmax
comp=Z,18nm,1.1s,mb4.8
GIVF Givet 84.41 329 *e*P **P 22 16 11.0 -1.3**
comp=Z,18nm,1.1s,mb4.8
LOHW Long Hollow 84.49 40 *e*P **P 22 16 14.5 +1.8**
HVU Hansel Valley 84.50 43 *e*P **P 22 16 14.6 +1.9**
SNOW Snow King Moun 84.51 40 *e*P **P 22 16 14.7 +1.9**
comp=Z,54nm,1.1s,mb5.4
DOU Dourbes 84.52 329 P **P 22 16 11.6 -1.3**
WLS Welschbruch 84.52 326⇑*e*P **P 22 16 12.2 -0.6**
REDW Red Top Meadow 84.52 41 *e*P **P 22 16 14.7 +1.9**
comp=Z,42nm,1.1s,mb5.3
KBI1 Birley Grange 84.53 334⇑*e*P **P 22 16 11.4 -1.5**
KBI1 Birley Grange 84.53 334⇑*e*P **P 22 16 11.4 -1.5**
CDF Champ du Feu 84.56 327⇑*i*P **P 22 16 12.2 -0.8**
comp=Z,94nm,1.2s,mb5.3
CDF Champ du Feu 84.56 327⇑*i*P **P 22 16 12.2 -0.8**
CDF pmax pmax
comp=Z,47nm,1.2s,mb5.3
CDF Champ du Feu 84.56 327⇑*i*P **P 22 16 12.2 -0.8**
comp=Z,47nm,1.2s,mb5.3
LIBD Limburg 84.59 326⇑*e*P **P 22 16 12.7 -0.5**
FELD Feldberg im Sc 84.60 326⇑*e*P **P 22 16 12.3 -1.0**
LAO LASA Array 84.64 36 *e*P **P 22 16 14.4 +1.0**
BAIF Baives 84.71 329⇑*i*P **P 22 16 12.4 -1.4**
comp=Z,23nm,1.2s,mb4.7
BAIF Baives 84.71 329⇑*i*P **P 22 16 12.4 -1.4**
BAIF pmax pmax
comp=Z,12nm,1.2s,mb4.7
BAIF Baives 84.71 329⇑*i*P **P 22 16 12.4 -1.4**
comp=Z,12nm,1.2s,mb4.7
ECH Echery 84.75 326⇑*e*P **P 22 16 12.7 -1.3**
AHID Auburn Hatcher 84.78 41 *e*P **P 22 16 15.7 +1.5**
comp=Z,41nm,1.1s,mb5.3
RPZ Rata Peaks 84.83 153 P **P 22 16 13.6 -0.8**
comp=Z,36nm,0.8s,mb5.4,baz=34,slow=2.6,SNR=8.6
KWE Weaver Farm 84.84 334⇑*e*P **P 22 16 13.0 -1.4**
KWE Weaver Farm 84.84 334⇑*e*P **P 22 16 13.0 -1.4**
BGU Big Grassy Mou 84.91 43⇑*e*P **P 22 16 16.5 +1.7**
BGU *e*pP pP 22 16 35.9 +0.8
ISA Isabella 84.92 50 *e*P **P 22 16 15.0 +0.2**
WIM Isle of Man 84.93 336 *e*P **P 22 16 13.9 -0.9**
WIM Isle of Man 84.93 336 *e*P **P 22 16 13.9 -0.9**
SPUT South Promonto 84.99 43 *e*P **P 22 16 15.7 +0.5**
MOF Molkenrain 85.03 326⇑*e*P **P 22 16 14.4 -1.0**
TRCR Troy Canyon 85.05 47 *e*P **P 22 16 17.1 +1.6**
TRCR *e*pP pP 22 16 36.7 +0.9
DAC Darwin (Calif) 85.10 49 *e*P **P 22 16 17.0 +1.3**

BBS Basel-Blauen 85.13 326⇑ *eP* **P 22 16 14.9 -1.0**
HINF Hinteralfeld 85.18 326⇑ *iP* **P 22 16 14.8 -1.4**
comp=Z,41nm,1.2s,mb4.9
HINF Hinteralfeld 85.18 326 *iP* **P 22 16 14.8 -1.4**
HINF pmax pmax
comp=Z,21nm,1.2s,mb4.9
HINF Hinteralfeld 85.18 326⇑ *iP* **P 22 16 14.8 -1.4**
comp=Z,21nm,1.2s,mb4.9
HAU Haudompre 85.28 327⇑ *iP* **P 22 16 15.4 -1.2**
comp=Z,51nm,1.3s,mb5.0
HAU *eR*
comp=Z,222nm,17.8s
HAU Haudompre 85.28 327⇑ *iP* **P 22 16 15.4 -1.2**
HAU pmax pmax
comp=Z,25nm,1.3s,mb5.0
HAU MLR MLR
comp=Z,220nm,17.8s
HAU Haudompre 85.28 327⇑ *iP* **P 22 16 15.4 -1.2**
comp=Z,25nm,1.3s,mb5.0
HAU LR LR
comp=Z,220nm,17.8s
GMM Mts of Mourne 85.28 337⇑ *eP* **P 22 16 15.2 -1.5**
GMM Mts of Mourne 85.28 337⇑ *eP* **P 22 16 15.2 -1.5**
THEF They Montfort 85.28 327⇑ *eP* **P 22 16 15.4 -1.3**
HWUT Hardware Ranch 85.29 42 *eP* **P 22 16 18.4 +1.7**
comp=Z,70nm,1.1s,mb5.5
SBD1 Bryn Du 85.44 335⇑ *eP* **P 22 16 16.2 -1.3**
SBD1 Bryn Du 85.44 335⇑ *eP* **P 22 16 16.2 -1.3**
SKP1 Kophill 85.47 333 *eP* **P 22 16 15.7 -2.0**
SKP1 Kophill 85.47 333 *eP* **P 22 16 15.7 -2.0**
MEZF Maizieres J'vi 85.50 328⇑ *iP* **P 22 16 16.9 -0.8**
comp=Z,136nm,1.5s,mb5.4
MEZF Maizieres J'vi 85.50 328⇑ *iP* **P 22 16 16.9 -0.8**
comp=Z,136nm,1.5s,mb5.7
DUG Dugway 85.51 44 *eP* **P 22 16 19.7 +1.9**
DUG *e*PP pP 22 16 38.5 +0.4
DUG pmax pmax
comp=Z,84nm,1.3s,mb5.5
DUG Dugway 85.51 44 *eP* **P 22 16 19.7 +1.9**
comp=Z,84nm,1.3s,mb5.5
DUG *ep*P pP 22 16 38.5 +0.5
WCB1 Church Bay 85.51 335 *eP* **P 22 16 16.3 -1.5**
WCB1 Church Bay 85.51 335 *eP* **P 22 16 16.3 -1.5**
LOMF Lomont 85.53 326 *eP* **P 22 16 14.9 -3.0**
NOQ North Oquirrh 85.61 43 *eP* **P 22 16 20.0 +1.7**
NOQ *ep*P pP 22 16 40.1 +1.6
HLM1 Long Mynd 85.61 334⇑ *eP* **P 22 16 16.9 -1.4**
HLM1 Long Mynd 85.61 334⇑ *eP* **P 22 16 16.9 -1.4**
BW06 Boulder Array 85.62 40 *eP* **P 22 16 19.3 +0.9**
comp=Z,36nm,1.0s,mb5.3
PDAR Pinedale Array 85.62 40 P **P 22 16 19.2 +0.9**
comp=Z,21nm,0.8s,mb5.1,baz=296,slow=1.3,SNR=168
PDAR pP pP 22 16 38.7 +0.1
comp=Z,21nm,1.1s,baz=318,slow=2.0,SNR=7.6
PDAR LR LR 22 53 23.4
comp=Z,90nm,21.8s,baz=130,slow=35
YRC Rhoscolyn 85.62 335⇑ *eP* **P 22 16 17.1 -1.3**
YRC Rhoscolyn 85.62 335⇑ *eP* **P 22 16 17.1 -1.3**
AQU L'Aquila 85.70 319⇑ *iP* **P 22 16 19.5 +0.8**
AQU L'Aquila 85.70 319 *eP* **P 22 16 19.1 +0.4**
comp=Z,65nm,0.9s,mb5.6
TCUT Toone Canyon 85.71 43 *eP* **P 22 16 20.8 +2.0**
YRE Yr Eifl 85.79 335⇑ *eP* **P 22 16 17.9 -1.3**
YRE Yr Eifl 85.79 335⇑ *eP* **P 22 16 17.9 -1.3**
CTU Camp Tracy 85.80 43 *eP* **P 22 16 21.1 +1.9**
CTU *ep*P pP 22 16 40.4 +0.9
SWN1 Swindon 86.02 333 *eP* **P 22 16 19.4 -0.9**
SWN1 Swindon 86.02 333 *eP* **P 22 16 19.4 -0.9**
MCH1 Michaelchurch 86.08 334 *eP* **P 22 16 19.3 -1.3**
MCH1 ⇑*eP* 22 16 19.3
MCH1 AMb AMB 22 16 22.2
comp=Z,37nm,1.7s,mb5.0
MCH1 Michaelchurch 86.08 334 *eP* **P 22 16 19.3 -1.3**
MCH1 ⇑*eP* 22 16 19.3
MCH1 AMb AMB 22 16 22.2
comp=Z,37nm,1.7s,mb5.0
NLU North Lily Min 86.09 44 *eP* **P 22 16 22.7 +2.0**
HTR Trewern Hill 86.11 334⇑ *eP* **P 22 16 19.5 -1.3**
HTR Trewern Hill 86.11 334⇑ *eP* **P 22 16 19.5 -1.3**
GSC Goldstone 86.21 50 *eP* **P 22 16 22.5 +1.3**
GSC *ep*P pP 22 16 39.6 -1.9
GSC Goldstone 86.21 50 *eP* **P 22 16 22.5 +1.2**
DSB Dublin 86.25 336 *eP* **P 22 16 19.7 -1.7**
DLF Lyons Farm 86.25 336 *eP* **P 22 16 16.0 -5.5**
HGH Gray Hill 86.30 334 *eP* **P 22 16 20.1 -1.6**
HGH Gray Hill 86.30 334 *eP* **P 22 16 20.1 -1.6**
MPU Maple Canyon 86.31 43 *eP* **P 22 16 23.3 +1.6**
MPU *ep*P pP 22 16 43.1 +1.1
CABF La Chapelle 86.42 326 *eP* **P 22 16 21.2 -1.1**
comp=Z,17nm,0.9s,mb4.7
CABF La Chapelle 86.42 326 *eP* **P 22 16 21.2 -1.1**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CABF La Chapelle 86.42 326 *eP* **P 22 16 21.2 -1.1**
comp=Z,8.3nm,0.9s,mb4.7
DCN Croghan 86.46 337 *eP* **P 22 16 17.2 -5.3**
SWK Warminster 86.48 333 *eP* **P 22 16 21.1 -1.5**
SWK Warminster 86.48 333 *eP* **P 22 16 21.1 -1.5**
SHPR Sheep Range 86.48 48 *eP* **P 22 16 24.3 +1.7**
ULM Lac du Bonnet 86.57 28 P **P 22 16 23.4 +0.3**
comp=Z,90nm,0.9s,mb5.7,baz=324,slow=5.9,SNR=63
ULM pP pP 22 16 42.5 -0.9
comp=Z,56nm,1.0s,baz=338,slow=4.0,SNR=6.4
ARUT Antelope Range 86.71 46 *eP* **P 22 16 25.7 +2.0**
ARUT *e*PP pP 22 16 45.2 +1.2
CCUT Cedar City 86.91 46 *eP* **P 22 16 26.3 +1.6**
CCUT *ep*P pP 22 16 45.9 +0.9
CCUT *es*P sP 22 16 53.2 +0.2
LPL La Plagne 86.91 325⇑ *iP* **P 22 16 23.7 -1.0**
comp=Z,15nm,0.8s,mb4.7
LPL La Plagne 86.91 325⇑ *iP* **P 22 16 23.7 -1.0**
LPL pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPL La Plagne 86.91 325⇑ *iP* **P 22 16 23.7 -1.0**
comp=Z,7.6nm,0.8s,mb4.7
LPG La Plagne 86.92 325⇑ *iP* **P 22 16 23.8 -0.9**
comp=Z,24nm,0.9s,mb4.8
LPG La Plagne 86.92 325⇑ *iP* **P 22 16 23.8 -0.9**
LPG pmax pmax
comp=Z,12nm,0.9s,mb4.8
LPG La Plagne 86.92 325⇑ *iP* **P 22 16 23.8 -0.9**
comp=Z,12nm,0.9s,mb4.8
LOR Lormes 86.95 327⇑ *iP* **P 22 16 23.3 -1.6**
comp=Z,54nm,1.5s,mb5.0
LOR *eR*
comp=Z,318nm,19.0s
LOR Lormes 86.95 327⇑ *iP* **P 22 16 23.3 -1.6**
LOR pmax pmax
comp=Z,27nm,1.5s,mb5.0
LOR MLR MLR
comp=Z,320nm,19.0s
LOR Lormes 86.95 327⇑ *iP* **P 22 16 23.3 -1.6**
comp=Z,27nm,1.5s,mb5.0
LOR LR LR
comp=Z,320nm,19.0s
MSU Marysvale 86.99 45 *eP* **P 22 16 27.4 +2.3**
TMUT Trail Mountain 87.03 44 *eP* **P 22 16 27.1 +1.8**
SSF Saint Saulge 87.27 327 *eP* **P 22 16 24.8 -1.6**
comp=Z,15nm,1.0s,mb4.6
SSF Saint Saulge 87.27 327 *eP* **P 22 16 24.8 -1.6**
SSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SSF Saint Saulge 87.27 327 *eP* **P 22 16 24.8 -1.6**
comp=Z,7.7nm,1.0s,mb4.6
BNI Bardonecchia 87.28 324 *eP*P PP 22 19 53.5 +2.1
SMF Signal de Mont 87.43 327 *eP* **P 22 16 25.6 -1.6**
comp=Z,21nm,1.0s,mb4.7
SMF Signal de Mont 87.43 327 *eP* **P 22 16 25.6 -1.6**
SMF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SMF Signal de Mont 87.43 327 *eP* **P 22 16 25.6 -1.6**
comp=Z,11nm,1.0s,mb4.7
MBDF Montbardon 87.47 324 *eP* **P 22 16 26.5 -0.9**
comp=Z,36nm,1.2s,mb4.9
MBDF Montbardon 87.47 324 *eP* **P 22 16 26.5 -0.9**
MBDF pmax pmax
comp=Z,18nm,1.2s,mb4.9
MBDF Montbardon 87.47 324 *eP* **P 22 16 26.5 -0.9**
comp=Z,18nm,1.2s,mb4.9
PFO Pinyon Flat Ob 87.49 51 *eP* **P 22 16 28.9 +1.4**
PFO *e*PP pP 22 16 48.2 +0.4
PFO Pinyon Flat Ob 87.49 51 *eP* **P 22 16 28.9 +1.4**
AVF Avril sur Loir 87.54 327⇑ *iP* **P 22 16 26.2 -1.5**
comp=Z,27nm,1.1s,mb4.9
AVF Avril sur Loir 87.54 327⇑ *iP* **P 22 16 26.2 -1.5**
AVF pmax pmax
comp=Z,14nm,1.0s,mb5.0
AVF Avril sur Loir 87.54 327⇑ *iP* **P 22 16 26.2 -1.5**
comp=Z,14nm,1.0s,mb4.9
RSSD Black Hills 87.55 37 *eP* **P 22 16 28.8 +1.0**
RSSD pmax pmax
comp=Z,64nm,0.9s,mb5.7
RSSD Black Hills 87.55 37 *eP* **P 22 16 28.8 +1.0**
comp=Z,64nm,0.9s,mb5.7
SRU San Rafael 87.55 44 *eP* **P 22 16 29.3 +1.5**
RWWY Rawlins 87.63 40 *eP* **P 22 16 29.4 +1.2**
LDF La Druitiere 87.66 330⇑ *iP* **P 22 16 26.7 -1.6**
comp=Z,57nm,1.3s,mb5.1
LDF La Druitiere 87.66 330⇑ *iP* **P 22 16 26.7 -1.6**
LDF pmax pmax
comp=Z,29nm,1.3s,mb5.2
LDF La Druitiere 87.66 330⇑ *iP* **P 22 16 26.7 -1.6**
comp=Z,29nm,1.3s,mb5.1
ORIF Oris-en-Rattie 87.76 325 *eP* **P 22 16 27.5 -1.3**
comp=Z,49nm,1.6s,mb5.0
ORIF *eR*
comp=Z,537nm,22.8s
ORIF Oris-en-Rattie 87.76 325 *eP* **P 22 16 27.5 -1.3**
ORIF pmax pmax
comp=Z,25nm,1.6s,mb5.0
ORIF Oris-en-Rattie 87.76 325 *eP* **P 22 16 27.5 -1.3**
comp=Z,25nm,1.6s,mb5.0
SBF Sospel 87.77 323 *eP* **P 22 16 27.8 -1.0**
comp=Z,32nm,0.9s,mb5.1
SBF Sospel 87.77 323 *eP* **P 22 16 27.8 -1.0**
SBF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SBF Sospel 87.77 323 *eP* **P 22 16 27.8 -1.0**
comp=Z,16nm,0.9s,mb5.0
BAR Barrett 87.94 52 *eP* **P 22 16 31.2 +1.6**
PLDF La Plantade 88.04 327 *eP* **P 22 16 29.0 -1.1**
GRR Gorron 88.12 331 *eP* **P 22 16 29.2 -1.3**
comp=Z,55nm,1.2s,mb5.2
GRR Gorron 88.12 331 *eP* **P 22 16 29.2 -1.3**
GRR pmax pmax
comp=Z,28nm,1.2s,mb5.2
GRR Gorron 88.12 331 *eP* **P 22 16 29.2 -1.3**
comp=Z,28nm,1.2s,mb5.2
VIVF Saint-Julien-l 88.38 325⇑ *iP* **P 22 16 30.3 -1.4**
comp=Z,33nm,1.2s,mb5.0
VIVF Saint-Julien-l 88.38 325⇑ *iP* **P 22 16 30.3 -1.4**
VIVF pmax pmax
comp=Z,17nm,1.2s,mb5.0
VIVF Saint-Julien-l 88.38 325⇑ *iP* **P 22 16 30.3 -1.4**
comp=Z,17nm,1.2s,mb4.9
TCF Toulx Ste Croi 88.44 328⇑ *iP* **P 22 16 30.6 -1.4**
comp=Z,9.4nm,0.7s,mb4.6
TCF Toulx Ste Croi 88.44 328⇑ *iP* **P 22 16 30.6 -1.4**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TCF Toulx Ste Croi 88.44 328⇑ *iP* **P 22 16 30.6 -1.4**
comp=Z,4.7nm,0.7s,mb4.6
PYM Petit Puy Mans 88.49 327 *eP* **P 22 16 31.4 -0.8**
GLA Glamis 88.90 50 *eP* **P 22 16 35.9 +1.8**
GLA *ep*P pP 22 16 56.0 +1.5
GLA Glamis 88.90 50 *eP* **P 22 16 35.9 +1.7**
PV10 Paradox Valley 88.90 43 *eP* **P 22 16 36.7 +2.5**
PV10 *ep*P pP 22 16 56.6 +2.1
SGMF Saint Gilles 88.92 331 *eP* **P 22 16 32.5 -1.7**
comp=Z,36nm,1.1s,mb5.0
SGMF Saint Gilles 88.92 331 *eP* **P 22 16 32.5 -1.7**
SGMF pmax pmax
comp=Z,18nm,1.1s,mb5.0
SGMF Saint Gilles 88.92 331 *eP* **P 22 16 32.5 -1.7**
comp=Z,18nm,1.1s,mb5.0
ROSF Rostrenen 89.13 332 *eP* **P 22 16 34.6 -0.6**
comp=Z,23nm,0.8s,mb5.0
ROSF Rostrenen 89.13 332 *eP* **P 22 16 34.6 -0.6**
ROSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
ROSF Rostrenen 89.13 332 *eP* **P 22 16 34.6 -0.6**
comp=Z,12nm,0.8s,mb5.0
PV01 Paradox Valley 89.34 43 *eP* **P 22 16 38.3 +2.1**
PV01 *ep*P pP 22 16 58.1 +1.5
PV01 *es*P sP 22 17 06.2 +1.6
LASF Ste Croix 89.36 325⇑ *iP* **P 22 16 35.1 -1.2**
comp=Z,31nm,1.0s,mb5.0
WUAZ Wupatki 89.45 47 *eP* **P 22 16 38.4 +1.6**
comp=Z,47nm,1.0s,mb5.5
RJF Les Rejaudoux 89.50 327⇑ *iP* **P 22 16 35.9 -1.1**
comp=Z,16nm,0.9s,mb4.9
RJF *eR*
comp=Z,225nm,19.2s
RJF Les Rejaudoux 89.50 327⇑ *iP* **P 22 16 35.9 -1.1**
RJF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,220nm,19.3s
RJF Les Rejaudoux 89.50 327⇑ *iP* **P 22 16 35.9 -1.1**
comp=Z,8.3nm,0.9s,mb4.9
RJF LR LR
comp=Z,220nm,19.3s
SMCO Snowmass 89.51 42 *eP* **P 22 16 39.3 +2.3**
CAF Calviac 89.55 327⇑ *iP* **P 22 16 36.4 -0.8**
comp=Z,16nm,1.0s,mb4.8
CAF Calviac 89.55 327⇑ *iP* **P 22 16 36.4 -0.8**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CAF Calviac 89.55 327⇑ *iP* **P 22 16 36.4 -0.8**
comp=Z,7.8nm,1.0s,mb4.8
ISCO Idaho Springs 89.82 40⇑ *iP* **P 22 16 40.2 +1.7**
ISCO *e*PP pP 22 16 59.5 +0.6
ISCO pmax pmax
comp=Z,23nm,0.8s,mb5.4
ISCO Idaho Springs 89.82 40⇑ *iP* **P 22 16 40.2 +1.8**
comp=Z,23nm,0.8s,mb5.3
ISCO *ep*P pP 22 16 59.5 +0.7
LFF La Frestale 90.13 328⇑ *iP* **P 22 16 39.0 -0.9**
comp=Z,31nm,1.0s,mb5.1
LFF La Frestale 90.13 328⇑ *iP* **P 22 16 39.0 -0.9**
LFF pmax pmax
comp=Z,16nm,1.0s,mb5.1
LFF La Frestale 90.13 328⇑ *iP* **P 22 16 39.0 -0.9**
comp=Z,16nm,1.0s,mb5.1
EYMN Ely 90.14 27 *eP* **P 22 16 40.6 +0.7**
comp=Z,7.3nm,0.8s,mb4.9
EYMN *ep*P pP 22 17 01.3 +1.0
EYMN *es*P sP 22 17 08.3 0.0
PPT Papeete 90.49 111 *eS* S 22 27 38.1 +7.5
comp=Z,87nm,27.0s
PPT *e*LR LR 22 44 55.7
comp=Z,399nm,31.0s
PPT Papeete 90.49 111 LR LR 22 49 30.5
comp=Z,123nm,21.1s,baz=332,slow=30
SCHQ Schefferville 90.57 11 P **P 22 16 41.8 -0.2**
comp=Z,21nm,0.9s,mb5.3,baz=350,slow=4.4,SNR=14
SCHQ pP pP 22 17 02.2 -0.1
comp=Z,9.5nm,0.8s,baz=16,slow=6.6,SNR=3.8
SCHQ LR LR 22 58 00.4
comp=Z,160nm,20.2s,baz=138,slow=36
SCHQ Schefferville 90.57 11 P **P 22 16 41.8 -0.2**
SCHQ pP pP 22 17 02.2 -0.1
SCHQ LR LR 22 58 00.3
SDCO Great Sand Dun 91.34 42 *eP* **P 22 16 47.4 +1.9**
comp=Z,29nm,0.9s,mb5.4
ECSD EROS,Sioux Fal 91.37 33 *eP* **P 22 16 46.3 +0.7**
ECSD *ep*P pP 22 17 06.3 +0.3
TUC Tucson 91.96 49 *eP* **P 22 16 49.9 +1.5**
TUC pmax pmax
comp=Z,21nm,1.0s,mb5.3
TUC Tucson 91.96 49 *eP* **P 22 16 49.9 +1.5**
comp=Z,21nm,0.9s,mb5.4
KEST Kesra 92.56 317 P **P 22 16 50.7 -0.5**
comp=Z,4.1nm,0.9s,mb4.7,baz=322,slow=5.5,SNR=6.1
KEST LR LR 23 04 43.7
comp=Z,66nm,18.1s,baz=352,slow=40
LAZ Ladron 92.75 45 *eP* **P 22 16 53.3 +1.3**
LAZ *ep*P pP 22 17 14.9 +2.4
ANMO Albuquerque 92.77 44 *eP* **P 22 16 54.2 +2.1**
ANMO *e*PP pP 22 17 13.8 +1.3
ANMO pmax pmax
comp=Z,37nm,1.2s
ANMO Albuquerque 92.77 44 *eP* **P 22 16 54.2 +2.1**
comp=Z,37nm,1.3s,mb5.6
LPM Los Pinos Moun 93.11 45 *eP* **P 22 16 54.8 +1.1**
TBI Tubuai 93.87 115 *eLR* LR 22 46 56.8
comp=Z,453nm,33.0s
KMBO Kilima Mbogo 94.36 272 P **P 22 16 59.4 -0.1**
comp=Z,4.9nm,1.0s,mb4.8,baz=27,slow=5.4,SNR=9.0
KMBO LR LR 23 00 09.4
comp=Z,91nm,19.5s,baz=96,slow=36
KMBO Kilima Mbogo 94.36 272⇑ *eP* **P 22 16 59.4 0.0**
JFWS Jewell Farm 94.78 30 *eP* **P 22 17 01.7 +0.3**
JFWS *PP pP 22 17 23.1 +1.3
JFWS pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
JFWS Jewell Farm 94.78 30 *eP* **P 22 17 01.7 +0.3**
comp=Z,8.6nm,0.7s,mb5.3
JFWS pP pP 22 17 23.1 +1.3
JFWS sP sP 22 17 31.2 +1.3
KSU1 Kansas State U 94.98 36 *eP* **P 22 17 03.1 +0.8**
KSU1 *ep*P pP 22 17 23.0 +0.3
MNTX Cornudas Mount 95.70 46 *eP* **P 22 17 06.4 +0.9**
comp=Z,6.2nm,1.0s,mb5.0
MNTX *ep*P pP 22 17 24.4 -1.6
GDL2 Guadalupe Moun 95.95 45 *eP* **P 22 17 08.2 +1.6**
ESDC Sonseca Array 96.43 327 PP PP 22 21 00.6 -2.8
comp=Z,3.2nm,0.9s,baz=36,slow=8.6,SNR=6.4
ESDC PKKPbc PKKPbc 22 33 52.7 -0.5
comp=Z,1.5nm,0.7s,baz=217,slow=3.2,SNR=6.4
ESDC LR LR 23 05 31.9
comp=Z,153nm,21.5s,baz=0.0,slow=38
WMOK Wichita Mounta 97.22 40 *eP* **P 22 17 13.5 +1.0**
WMOK *e*PP pP 22 17 33.5 +0.6
CCM Cathedral Cave 98.35 33 *eP* **P 22 17 16.8 -0.7**
CCM pmax pmax
comp=Z,12nm,1.1s,mb5.3
CCM Cathedral Cave 98.35 33 *eP* **P 22 17 16.8 -0.7**
comp=Z,12nm,1.1s,mb5.3
FRNY Flat Rock 98.69 18 P **P 22 17 19.3 +0.2**
NCB Newcomb 99.33 19 *ePdif* **P 22 17 23.1 +1.2**
MIV Mineville/With 99.42 18 Pdif **P 22 17 22.8 +0.5**
JCT Junction City 99.86 43 *eP* Pdif 22 17 25.3 +1.0
JCT pmax pmax
comp=Z,5.0nm,0.7s,mb5.2
JCT Junction City 99.86 43 *ePdif* Pdif 22 17 25.3 +1.1
comp=Z,4.8nm,0.7s
MIAR Mount Ida 100.07 37 *eP* Pdif 22 17 26.2 +1.0
MIAR pmax pmax
comp=Z,11nm,0.9s
MIAR Mount Ida 100.07 37 *ePdif* Pdif 22 17 26.2 +1.0
comp=Z,11nm,0.9s
HNH Hanover 100.08 17 *ePdif* Pdif 22 17 26.1 +0.8
WCI Wyandotte Cave 100.35 30 P Pdif 22 17 26.7 +0.3
BINY Binghamton 100.47 21 *ePdif* Pdif 22 17 28.7 +1.7
SSPA Standing Stone 101.31 23 *ePdif* Pdif 22 17 30.5 -0.2
HRV Harvard--Oak R 101.39 17 P Pdif 22 17 31.9 +0.8
QUA2 Belchertown 101.40 18 Pdif Pdif 22 17 31.6 +0.5
CPNY Central Park 102.35 20 *ePdif* Pdif 22 17 37.3 +2.0
FWV Forest Hill 103.05 26 *ePdif* Pdif 22 17 39.1 +0.7
CBN Corbin 103.69 23 *ePdif* Pdif 22 17 43.1 +1.8
RKT Rikitea 105.00 108 *eLR* LR 22 51 43.9
comp=Z,216nm,35.0s
VNDA Vanda 112.28 173 PKiKP PKiKP 22 22 13.6 -1.6
comp=Z,2.2nm,0.8s,baz=304,slow=4.2,SNR=14
VNDA PKKPbc PKKPbc 22 33 05.5 -0.1
comp=Z,1.0nm,0.7s,baz=209,slow=3.1,SNR=8.1
VNDA Vanda 112.28 173 PKPdf PKiKP 22 22 13.6 -1.6
VNDA PKKPbc PKKPbc 22 33 05.5 -0.1
SBA Scott Base 113.09 172 *ePKIKP* PKiKP 22 22 15.5 -1.2
SBA *e* 22 23 07.8
MAW Mawson 113.09 203 PKiKP PKiKP 22 22 14.8 -2.0
comp=Z,2.2nm,0.8s,baz=34,slow=1.8,SNR=6.4
MAW PKKPbc PKKPbc 22 33 01.7 -1.1
comp=Z,2.0nm,0.8s,baz=223,slow=7.5,SNR=4.4
TORD Torodi Ar. Bea 113.54 306 PKiKP PKiKP 22 22 16.2 -1.4
comp=Z,2.0nm,0.7s,baz=75,slow=1.3,SNR=23
TORD PP PP 22 23 07.1 -3.0
comp=Z,4.2nm,1.0s,baz=28,slow=5.4,SNR=8.4
TORD PKKPbc PKKPbc 22 33 01.4 +0.1
comp=Z,1.8nm,0.9s,baz=208,slow=2.7,SNR=10
TORD Torodi Ar. Bea 113.54 306 PKPdf PKiKP 22 22 16.2 -1.4
TORD PP PP 22 23 07.1 -3.0
TORD PKKPbc PKKPbc 22 33 01.4 +0.1
BOSA Boshof 118.05 253 PKP PKPdf 22 22 26.2 0.0
comp=Z,6.9nm,1.1s,baz=77,slow=2.3,SNR=3.2
BOSA PKKPbc PKKPbc 22 32 47.4 +1.7
comp=Z,8.9nm,1.1s,baz=282,slow=3.3,SNR=4.5
SYO Syowa Base 121.59 205⇑ *ePKPdf* PKPdf 22 22 31.2 -1.9
DBIC Dimbokro 122.65 306 PKP PKPdf 22 22 34.4 -0.7
comp=Z,10.0nm,0.9s,baz=20,slow=2.6,SNR=9.5
DBIC pPKP pPKPdf 22 22 56.5 +0.2
comp=Z,6.7nm,1.1s,baz=21,slow=1.7,SNR=1.8
DBIC PP PP 22 24 11.9 -1.3
comp=Z,8.0nm,1.1s,baz=0.8,slow=6.8,SNR=3.1
DBIC Dimbokro 122.65 306 PKP PKPdf 22 22 34.4 -0.7
DBIC pPKP pPKPdf 22 22 56.5 +0.2
DBIC PP PP 22 24 11.9 -1.3
LIC Lamto 123.09 306 *ePKIKP* PKPdf 22 22 35.2 -0.8
comp=Z,11nm,0.5s
LIC *eR*
comp=Z,117nm,20.7s
LIC Lamto 123.09 306 *ePKPdf* PKPdf 22 22 35.2 -0.8
LIC LR LR
comp=Z,60nm,20.7s
QSPA South Pole Qui 123.27 180 *eP* PKPdf 22 22 34.2 -2.1
CPD Cerro la Pandu 126.04 21 *ePKPdf* PKPdf 22 22 41.7 +0.1
MTP Monte Pirata 126.09 20 *ePKPdf* PKPdf 22 22 41.5 -0.2
MAIT Maitri 131.06 202 *ePKPdf* PKPdf 22 22 51.4 +0.2
SDV Santo Domingo 132.77 31 PKP PKPdf 22 22 54.8 +0.4
comp=Z,31nm,0.7s,baz=26,slow=0.8,SNR=33
SDV Santo Domingo 132.77 31 *ePKPdf* 22 22 47.8
SDV PKP PKPdf 22 22 54.9 +0.5
ROSC El Rosal 134.56 38 PKP PKPdf 22 22 59.4 +1.7
comp=Z,7.1nm,0.4s,baz=88,slow=13,SNR=5.2
SNAA Sanae 134.98 199 PKhKP 22 22 41.5
comp=Z,0.9nm,1.0s,baz=96,slow=4.0,SNR=7.0
SNAA PKP PKPdf 22 22 56.8 -1.8
comp=Z,3.9nm,1.1s,baz=103,slow=4.4,SNR=9.3
SNAA Sanae 134.98 199⇑ *iPKIKP* PKPdf 22 22 57.3 -1.2
SNAA Sanae 134.98 199 PKP 22 22 41.5
SNAA *e*PKPdf PKPdf 22 22 56.7 -1.8
ATAH Atahualpa 141.61 53 PKP PKPdf 22 23 12.2 +1.5
comp=Z,8.7nm,0.5s,baz=106,slow=7.1,SNR=10
NNA Nana 146.23 57 PKPbc PKPbc 22 23 18.8 -1.2
comp=Z,63nm,0.7s,baz=314,slow=4.5,SNR=32
NNA pPKPbc pPKPbc 22 23 40.6 -0.3
comp=Z,39nm,0.7s,baz=299,slow=4.6,SNR=4.9
NNA Nana 146.23 57 *ePKPdf* PKPdf 22 23 18.5 -0.2
PMSA Palmer Station 147.25 168 PKPbc PKPbc 22 23 21.7 -1.2
comp=Z,8.0nm,0.6s,baz=142,slow=2.0,SNR=10
SAML Samuel 151.95 33 *ePKPdf* PKPdf 22 23 28.4 +0.4
ARE Arequipa 153.06 57 *ePKIKP* PKPbc 22 23 38.0 +1.0
LPAZ La Paz 155.20 51 PKP PKPdf 22 23 33.9 +1.3
comp=Z,5.7nm,1.0s,baz=353,slow=3.8,SNR=16
LPAZ PKPbc PKPdf 22 23 41.9 +9.3
comp=Z,3.5nm,0.6s,baz=267,slow=2.9,SNR=12
LPAZ PKPab PKPab 22 23 58.5 +0.8
comp=Z,7.8nm,0.9s,baz=1.1,slow=12,SNR=6.7
LVC Limon Verde 158.83 64 PKP PKPdf 22 23 37.7 +0.6
comp=Z,2.9nm,0.9s,baz=71,slow=3.3,SNR=3.6
LVC PKPab PKPab 22 24 15.1 +1.7
comp=Z,4.8nm,0.6s,baz=274,slow=5.8,SNR=10
LVC pPKPab pPKPab 22 24 34.4 +0.5
comp=Z,4.7nm,0.7s,baz=301,slow=5.0,SNR=3.0
LVC Limon Verde 158.83 64 *ePKPdf* PKPdf 22 23 38.5 +1.3
LVC *ePKPab* PKPab 22 24 15.5 +2.1
SIV San Ignacio 159.07 37 PKP PKPdf 22 23 38.2 +0.8
comp=Z,9.8nm,0.9s,baz=96,slow=0.5,SNR=53
SIV PKPab PKPab 22 24 15.1 +0.7
comp=Z,36nm,0.9s,baz=321,slow=3.4,SNR=39
SIV pPKPab pPKPab 22 24 34.7 -0.2
comp=Z,12nm,0.7s,baz=340,slow=4.0,SNR=5.1
SIV PP PP 22 27 54.2 -1.2
comp=Z,6.7nm,0.9s,baz=336,slow=3.7,SNR=5.4
PLCA Paso Flores 160.85 119 PKP PKPdf 22 23 39.0 -0.5
comp=Z,3.3nm,0.8s,baz=250,slow=2.7,SNR=4.1
PLCA PKPab PKPab 22 24 22.6 +0.4
comp=Z,11nm,0.8s,baz=236,slow=5.5,SNR=11
PLCA pPKPab pPKPab 22 24 43.3 +0.6
comp=Z,5.0nm,0.7s,baz=190,slow=7.3,SNR=3.3
PLCA Paso Flores 160.85 119 PKIKP PKPdf 22 23 39.0 -0.5
PLCA 22 24 22.6
BDFB Brasilia 162.20 359 PKP PKPdf 22 23 40.9 0.0
comp=Z,19nm,1.0s,baz=324,slow=1.4,SNR=16
BDFB PKPab PKPab 22 24 28.4 +0.2
comp=Z,21nm,0.9s,baz=343,slow=3.1,SNR=12
BDFB PP PP 22 28 11.8 -0.4
comp=Z,4.5nm,0.9s,baz=54,slow=6.7,SNR=3.0
CFAA Coronel Fontan 163.05 89 PKP PKPdf 22 23 41.1 -0.6
comp=Z,1.0nm,1.0s,baz=340,slow=2.5,SNR=7.9
CFAA PKPab PKPab 22 24 32.8 +1.0
comp=Z,2.1nm,0.8s,baz=278,slow=4.2,SNR=22
CFAA pPKPab pPKPab 22 24 52.5 +0.2
comp=Z,1.5nm,0.8s,baz=289,slow=3.9,SNR=5.3

CPUP	**Villa Florida**	**169.37**	**50**	PKP	PKPdf	22 23 46.4	-0.3	
	comp=Z,8.8nm,1.0s,baz=325,slow=0.9,SNR=11							
CPUP				PKPab	PKPab	22 24 59.8	0.0	
	comp=Z,3.3nm,0.6s,baz=293,slow=4.1,SNR=8.0							
CPUP				pPKPab	pPKPab	22 25 19.4	-0.8	
	comp=Z,2.5nm,0.7s,baz=272,slow=6.2,SNR=3.4							
CPUP				PP	PP	22 28 50.0	+0.7	
	comp=Z,6.7nm,1.0s,baz=322,slow=5.6,SNR=6.5							
CPUP	**Villa Florida**	**169.37**	**50**	PKIKP	PKPdf	22 23 46.4	-0.3	
CPUP						22 24 59.8		
CPUP						22 28 50.0		
CPUP	**Villa Florida**	**169.37**	**50**	PKP	PKPdf	22 23 46.4	-0.3	
CPUP				PKPab	PKPab	22 24 59.8	+0.1	
CPUP				pPKPab	pPKPab	22 25 19.4	-0.8	
CPUP				PP	PP	22 28 50.0	+0.7	

CSEM ***25*** *22:09:57.8, 67.19N×2067E, h6km, ML2.7, Mining explosion. After UPP*

UPP ***25*** *22:09:57.8, 67.19N×2067E, h6km, ML2.7, Mining explosion.*

HEL 25 22:09:58.3±0.1, 6719N×2067E, h0km, ML1.4, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**210**	*i* P	Pg	22 09 59.5	-0.3
DUNU				*i* S	Sg	22 10 00.8	0.0
MASU	**Masugnsbyn**	**0.58**	**62**	*i* P	Pg	22 10 08.6	-0.8
MASU	**Masugnsbyn** baz=250	**0.58**	**62**	P	Pg	22 10 08.6	-0.9
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 10 12.1	-1.1
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	22 10 13.9	-0.9
SALU	**Saltoluokta** baz=106	**0.86**	**284**	P	Pg	22 10 13.9	-0.9
ERTU	**Ertsjaerv**	**0.88**	**136**	*i* P	Pg	22 10 14.5	-0.6
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	22 10 15.0	-1.1
PAJU	**Pajala**	**0.97**	**99**	*e*P	Pg	22 10 15.5	-1.4
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	22 10 16.2	-1.3
HARU	**Harads**	**1.04**	**173**	P	Pg	22 10 16.5	-1.7
KALU	**Kalix**	**1.72**	**140**	P	Pn	22 10 28.4	-1.0
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 10 28.8	-0.9
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	Pn	22 10 31.2	+0.3
KIF				*e*S	Sn	22 10 55.7	+1.0
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 10 31.8	-0.7
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pb	22 10 38.1	-2.3
SGF				*e*SG	Sg	22 11 08.2	-3.6
OUL	**Oulu**	**3.00**	**132**	*e*SB	Sb	22 11 28.1	-1.6
OUL				MSG		22 11 32.8	
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**3.48**	**39**	*e*S	Sn	22 11 34.4	-1.2
KEV				*e*SB	Sb	22 11 42.1	-1.4
KEV				MSG		22 11 47.1	
	comp=Z,0.5nm,0.2s						
VAF	**Ylistaro**	**4.25**	**168**	*e*S	Sn	22 11 53.4	-1.2
VAF				*e*SG	Sg	22 12 10.0	-4.9
VAF				MSG		22 12 10.8	
	comp=Z,0.3nm,0.2s						

ISCJB ***25*** *22:29:26.3±0.6, 3264N±007×492E±0.1, h10km, Error ellipse: s-maj=19.4km s-min=3.5km az=57.3*

THR ***25*** *22:29:30.1±1.3, 3258N×4959E, h18km±14km, ML3.0*

CSEM ***25*** *22:29:30.1, 3258N×4959E, h18km, ML3.0, After THR*

KISR ***25*** *22:29:33.8±0.7, 3276N×5003E, h34km, ML2.5*

ISC 25 22:29:28.9±0.6, 3261N±006×494E±01, h10km, n10, σ1§38/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.69**	**224**	*e*Pg	**Pg**	**22 29 45.3**	**+3.1**
ASAO	**Ashtian**	**2.01**	**16**	*e*Pg	**Pg**	**22 30 07.4**	**-0.1**
ASAO				*e*Sg	**Sg**	**22 30 32.8**	**-0.8**
ASAO				AML	AML	22 30 37.0	
	comp=N,135nm,0.5s						
ASAO	**Ashtian** SNR=91	**2.01**	**16**	*e*Pg	**Pg**	**22 30 07.4**	**0.0**
ASAO				*e*Sg	**Sg**	**22 30 32.8**	**-0.7**
	comp=N,135nm,0.5s,SNR=91						
NASN	**Na'im**	**2.91**	**85**	*e*Pn	**Pn**	**22 30 15.0**	**-0.2**
MIB	**Mutribah**	**3.29**	**212**	*e*P	**Pg**	**22 30 33.0**	**+1.1**
MIB				*e*S	**Sg**	**22 31 16.7**	**+2.1**
MIB				AML	AML	22 31 18.6	
	comp=Z,8.6nm,0.2s						
UMR	**Umm Al-Rimmam**	**3.36**	**205**	*e*P	**Pg**	**22 30 33.0**	**-0.2**
UMR				*e*S	**Sg**	**22 31 17.5**	**+0.7**
UMR				AML	AML	22 31 18.6	
	comp=Z,11nm,0.2s						
RST	**Umm Al-Ruwaisa**	**3.71**	**214**	*e*P	**Pg**	**22 30 38.3**	**-1.5**
RST				*e*S	**Sg**	**22 31 27.5**	**-0.4**
RST				AML	AML	22 31 29.6	
	comp=Z,4.6nm,0.2s						
DAMV	**Damavand**	**3.71**	**35**	*e*Pn	**Pn**	**22 30 28.2**	**+2.0**
DAMV				Sn	**Sn**	**22 31 09.8**	**-0.1**
DAMV				AML	AML	22 31 21.4	
	comp=N,17nm,0.8s						
DAMV				AML	AML	22 31 22.1	
	comp=E,28nm,0.5s						
DAMV	**Damavand** SNR=52	**3.71**	**35**	*e*Pn	**Pn**	**22 30 28.2**	**+2.0**
DAMV				Sn	**Sn**	**22 31 09.8**	**-0.2**
	comp=E,28nm,0.5s,SNR=52						
NAY	**Al-Naaiem**	**3.81**	**209**	*e*P	**Pg**	**22 30 39.6**	**-2.3**
NAY				*e*S	**Sg**	**22 31 28.8**	**-2.5**
NAY				AML	AML	22 31 30.5	
	comp=Z,2.9nm,0.3s						

JMA 25 22:54:40.8±0.2, 4400N×14790E, h0km, M4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.69**	**249**	P	Pn	22 55 11.7	+0.2
NEM2				*e*S	Sn	22 55 34.0	+0.1
JRA	**Rausu**	**2.01**	**269**	P	Pn	22 55 16.3	+0.4
JRA				*e*S	Sn	22 55 42.5	+0.8
JNK	**Nakash**	**2.34**	**261**	P	Pn	22 55 21.3	+0.8
JNK				*e*S	Sn	22 55 50.3	+0.3
JAK	**Akkeshi**	**2.54**	**248**	P	Pn	22 55 23.8	+0.6
JAK				*e*S	Sn	22 55 55.4	+0.6
JAR	**Ashorobuto**	**3.08**	**258**	P	Pn	22 55 32.1	+1.4
JAR				*e*S	Sn	22 56 10.3	+2.1
JOB	**Onbets**	**3.16**	**251**	P	Pn	22 55 32.9	+1.2
JOB				*e*S	Sn	22 56 11.0	+0.9
JMP	**Maruseppu**	**3.28**	**272**	P	Pn	22 55 34.9	+1.5
JCH	**Churui**	**3.59**	**249**	P	Pn	22 55 38.4	+0.7
JCH				*e*S	Sn	22 56 21.0	+0.2
JKK2	**Kamakawa 2**	**3.72**	**270**	P	Pn	22 55 41.6	+2.1
JNBK	**Urakawa-nobuka**	**4.14**	**247**	P	Pn	22 55 46.5	+1.2

NEIC ***25*** *22:54:50.1, 1609N×9760W, h16km, MD3.7(MEX), After MEX.*

MEX 25 22:54:50.3±0.3, 1611N×9759W, h16km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.58**	**298**	*i* P	Pg	22 54 59.9	-1.9
PNIG				*i* S	Sg	22 55 07.5	-2.0
PNIG	**Pinotepa**	**0.58**	**298**	*i* P	Pg	22 54 59.6	-2.1
PNIG				*i* S	Sg	22 55 07.1	-2.4
VHO	**Vista Hermosa**	**1.26**	**41**	*i* P	Pn	22 55 09.7	-3.6
VHO				*i* S	Sb	22 55 25.1	-4.6
OXX	**Oaxaca**	**1.27**	**41**	*e*P	Pn	22 55 10.0	-3.4
OXX				*i* S	Sb	22 55 25.0	-5.1
HUIG	**Huatulco**	**1.47**	**103**	*i* P	Pn	22 55 12.8	-3.4
HUIG				*i* S	Sn	22 55 30.7	-4.4
UTMO	**Huajuapan**	**1.72**	**353**	*i* P	Pn	22 55 17.2	-2.3
UTMO				*i* S	Sn	22 55 36.2	-5.0
TPIG	**Tehuac#an**	**2.30**	**5**	*e*P	Pn	22 55 25.4	-2.2
TPIG				*i* S	Sn	22 55 52.2	-3.4
CMIG	**Matias Romero**	**2.77**	**69**	*i* P	Pn	22 55 31.1	-3.0
CMIG				*i* S	Sn	22 56 03.4	-3.8
PLIG	**Platanillo**	**2.91**	**321**	*e*P	Pn	22 55 34.0	-1.9
PLIG				*i* S	Sn	22 56 06.9	-3.7
PPM	**Popocatepetl**	**3.10**	**342**	*e*P	Pn	22 55 40.5	+2.0

CSEM ***25*** *23:18:54.9, 6783N×2020E, h0km, ML2.7, Mining explosion. After UPP*

UPP ***25*** *23:18:54.9, 6783N×2020E, h0km, ML2.7, Mining explosion.*

HEL 25 23:18:55.6±0.1, 6784N×2018E, h0km, ML1.7, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**27**	*i* P	Pg	23 18 57.8	-0.3
KUA				*i* S	Sg	23 18 59.9	+0.1
NIKU	**Nikkaluokta**	**0.43**	**274**	*i* P	Pg	23 19 03.4	-0.6
LANU	**Lannavaara**	**0.72**	**72**	*i* P	Pg	23 19 08.3	-1.0
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	23 19 09.7	-1.0
SALU	**Saltoluokta** baz=72	**0.79**	**235**	P	Pg	23 19 09.7	-1.0
MASU	**Masugnsbyn**	**0.80**	**118**	*i* P	Pg	23 19 09.6	-1.3
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	23 19 18.0	-0.5
KIF				*e*S	Sg	23 19 33.6	-0.4
PAJU	**Pajala**	**1.40**	**124**	*e*P	Pn	23 19 20.2	-2.1
PAJU	**Pajala**	**1.40**	**124**	P	Pn	23 19 20.2	-2.1
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	23 19 23.1	-0.8
HARU	**Harads**	**1.71**	**169**	P	Pn	23 19 25.4	-1.3
KALU	**Kalix**	**2.35**	**146**	P	Pn	23 19 35.5	0.0
SJUU	**Sjulsmark**	**2.41**	**166**	*e*P	Pn	23 19 36.3	+0.1
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 19 36.8	-0.2
SGF				*e*S	Sn	23 20 07.3	-0.4
LILU	**Lilltraesk**	**2.57**	**183**	*e*P	Pn	23 19 38.7	+0.3
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	23 19 46.6	+0.3
KEV				*e*S	Sn	23 20 23.3	-1.2
KEV				MSG		23 20 32.7	
	comp=Z,1.5nm,0.2s						
OUL	**Oulu**	**3.59**	**138**	*e*SB	Sb	23 20 42.6	-1.5
OUL				MSG		23 20 52.2	
	comp=Z,1.9nm,0.2s						
MSF	**Maaselka**	**4.00**	**115**	*e*P	Pn	23 19 58.3	+0.2
MSF				*e*S	Sn	23 20 44.6	-0.9
MSF				*e*SG	Sg	23 20 59.1	-4.9
MSF				MSG		23 20 59.5	
	comp=Z,0.7nm,0.2s						

NIED ***25*** *23:47:00, 3290N×13220E, h50km, Mw3.7 Best double couple: M₀4.73000×10¹⁴ NP1:φ₀26.00000°, δ87.00000°, λ73.00000°. NP2:φ₀286.00000°, δ17.00000°, λ169.00000°.*

JMA 25 23:47:23.0, 3288N×13220E, h35km±1km, M3.7, 2C-4D Broadband fault plane solution: P waves. NP1: $\phi_0$280.00000°, δ18.00000°, λ141.00000°. **NP2:** $\phi_0$48.00000°, δ79.00000°, λ76.00000°. **Principal axes:** T Plg54.0000°, Azm301.0000°; N Plg14.0000°, Azm51.0000°; P Plg32.0000°, Azm150.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUS	**Usuki**	**0.42**	**296**	⇓P	Pn	23 47 32.2	-0.3
JUS				S	Sn	23 47 39.1	0.0
UWA2	**Uwa jima 2**	**0.49**	**47**	⇑P	Pn	23 47 33.1	-0.4
UWA2				S	Sn	23 47 40.7	0.0
JTO	**Tosashimizu**	**0.51**	**92**	⇓P	Pn	23 47 33.4	-0.3
JTO				S	Sn	23 47 41.1	-0.1
JNA	**Nagahama**	**0.71**	**19**	⇑P	Pn	23 47 36.4	-0.2
JNA				S	Sn	23 47 47.2	+0.9
JKU	**Kubokawa**	**0.84**	**59**	⇓P	Pn	23 47 38.2	-0.1
JKU				S	Sn	23 47 49.6	+0.1
JTSN	**Tsuno**	**0.86**	**223**	⇓P	Pn	23 47 38.5	-0.1
JTSN				S	Sn	23 47 50.7	+0.7
JET	**Tanbara**	**1.14**	**38**	P	Pn	23 47 43.7	+1.2

ISCJB ***25*** *23:54:43.4±0.3, 1080S±005×6667E±005, h10km, mb4.4/47, MS4.4/18 Error ellipse: s-maj=7.7km s-min=7.2km az=32.3*

IDC ***25*** *23:54:43.7±0.4, 1077S×6663E, h0km, mb4.2/27, mb1 4.3/27, mb1mx4.3/30, mbtmp4.2/27, MS4.3/18, Ms1 4.3/18, ms1mx4.1/28, Error ellipse: s-maj=14.2km s-min=12.0km az=19.0*

NEIC ***25*** *23:54:45.6±0.2, 1075S×6667E, h10km, mb4.7/22, Error ellipse: s-maj=8.4km s-min=6.7km az=201.0*

GCMT ***25*** *23:54:45.6±0.2, 1083S×6660E, h12km, MW5.0/75, Moment Tensor Solution. s34,c47; s75,c114; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.75±.11; Mθθ-0.22±.11; Mφφ3.97±.10; Mrθ0.81±.36; Mθφ-0.95±.09; Mφr0.56±.31; Best double couple: M₀4.09600×10¹⁶ NP1:φ₀334.00000°, δ44.00000°, λ-111.00000°. NP2: φ₀182.00000°, δ49.00000°, λ-71.00000°. Principal axes: T 4.1930, Plg3.0000°, Azm258.0000°; N -0.1940, Plg14.0000°, Azm349.0000°; P -3.9990, Plg76.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 23:54:44.7±6.1, 1079S±005×6664E±005, h4km±37km, n113, σ0§89/79, mb4.4/47, MS4.4/18, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**6.65**	**60**	*e*Pn	**Pn**	**23 56 21.6**	**-1.5**
OPO	**Ambohidratompo** 2.0nm,0.8s,baz=45,slow=10.0,SNR=3.4	**20.33**	**245**	P	**P**	**23 59 22.7**	**+0.9**
COCO	**West Island** 32nm,0.5s,mb5.3	**29.61**	**96**	*e*P	**P**	**00 00 48.4**	**-2.5**
KMBO	**Kilima Mbogo** 1.7nm,0.8s,mb4.0,baz=96,slow=8.3,SNR=6.6	**30.73**	**286**	P	**P**	**00 01 01.9**	**+1.2**
KMBO				LR	LR	00 12 11.3	
	comp=Z,438nm,18.0s,MS4.2,baz=100,slow=34						
PSI	**Prapat** 1.6nm,0.3s,mb4.5,baz=259,slow=10,SNR=3.7	**34.85**	**69**	P	**P**	**00 01 36.9**	**+0.1**
PSI				LR	LR	00 14 11.7	
	comp=Z,956nm,18.3s,MS4.6,baz=283,slow=34						
LSZ	**Lusaka** 1.0nm,1.0s,mb4.7,baz=87,slow=7.7,SNR=27	**37.69**	**259**	P	**P**	**00 02 01.8**	**+0.8**
LSZ	**Lusaka** 34nm,1.3s,mb4.9	**37.69**	**259**	*e*P	**P**	**00 02 02.4**	**+1.3**
LBTB	**Lobatse** 6.4nm,1.1s,mb4.2,baz=124,slow=10,SNR=3.8	**41.36**	**244**	P	**P**	**00 02 31.7**	**+0.1**
LBTB	**Lobatse** 27nm,1.0s,mb4.8	**41.36**	**244**	P	**P**	**00 02 32.9**	**+1.2**
KOLN	**Koldanda** 27nm,1.0s,mb4.8	**41.71**	**23**	*e*P	**P**	**00 02 35.6**	**+1.1**
DMN	**Daman** 37nm,1.1s,mb4.9	**42.16**	**25**	*e*P	**P**	**00 02 39.8**	**+1.6**
PKI	**Pulchoki**	**42.25**	**25**	*e*P	**P**	**00 02 40.0**	**+1.0**
GKN	**Gorkha** 38nm,1.1s,mb4.9	**42.32**	**24**	*e*P	**P**	**00 02 39.2**	**-0.3**
KKN	**Kakani**	**42.39**	**25**	*e*P	**P**	**00 02 40.6**	**+0.5**
BOSA	**Boshof** 2.5nm,0.8s,mb4.0,baz=141,slow=9.1,SNR=4.4	**42.54**	**239**	P	**P**	**00 02 40.9**	**-0.5**
BOSA				LR	LR	00 18 50.0	
	comp=Z,442nm,18.8s,MS4.4,baz=69,slow=34						
BOSA	**Boshof** 3.9nm,0.8s,mb4.2	**42.54**	**239**	*e*P	**P**	**00 02 41.9**	**+0.5**
GUN	**Gumba** 68nm,1.2s,mb5.2	**42.75**	**25**	*e*P	**P**	**00 02 43.1**	**+0.1**
EIL	**Elat**	**50.51**	**324**	P	**P**	**00 03 44.4**	**+0.6**
NWAO	**Narrogin (SRO)** 10nm,0.9s,mb4.7,baz=255,slow=12,SNR=2.4	**51.30**	**124**	P	**P**	**00 03 49.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**51.30**	**124**	*e*P	**P**	**00 03 50.2**	**+0.4**
GNI	**Garni** 5.5nm,0.8s,mb4.6	**54.60**	**339**	*e*P	**P**	**00 04 13.4**	**-0.8**
MALT	**Malatya** 0.9nm,0.7s,mb3.9	**55.51**	**333**	P	**P**	**00 04 19.9**	**-0.9**
MAW	**Mawson** 7.3nm,1.1s,mb4.6	**56.80**	**182**	*e*P	**P**	**00 04 29.7**	**-0.3**
MAW	**Mawson** 9.5nm,1.0s,mb4.8,baz=2.5,slow=7.3,SNR=10	**56.80**	**182**	P	**P**	**00 04 29.6**	**-0.4**
MAW				LR	LR	00 22 34.6	
	comp=Z,262nm,21.5s,MS4.3,baz=162,slow=29						
MAW	**Mawson** 9.5nm,0.9s,mb4.8	**56.80**	**182**	*e*P	**P**	**00 04 29.9**	**-0.1**
FITZ	**Fitzroy Crossi** 5.0nm,0.8s,mb4.6	**57.40**	**105**	*e*P	**P**	**00 04 34.5**	**+0.3**
FITZ	**Fitzroy Crossi** 3.4nm,0.8s,mb4.4,baz=248,slow=5.8,SNR=6.3	**57.40**	**105**	P	**P**	**00 04 34.6**	**+0.4**
FITZ				LR	LR	00 24 18.0	
	comp=Z,405nm,21.6s,MS4.5,baz=274,slow=31						
LZH	**Lanzhou**	**58.35**	**35**	*e*P	**P**	**00 04 42.0**	**+1.1**
LZH				pP	pP	00 04 46.0	+3.8
LZH				sP	sP	00 04 48.0	+5.3
BRTR	**Keskin Array B** 0.5nm,0.7s,mb3.7,baz=158,slow=13,SNR=3.8	**58.86**	**331**	P	**P**	**00 04 45.1**	**+0.7**
BRTR				LR	LR	00 29 07.4	
	comp=Z,132nm,19.2s,MS4.1,baz=16,slow=35						
MKAR	**Makanchi Array** 0.8nm,0.7s,mb3.9,baz=191,slow=5.8,SNR=7.7	**59.01**	**12**	P	**P**	**00 04 44.2**	**-1.3**
MKAR	**Makanchi Array**	**59.01**	**12**	P	**P**	**00 04 44.2**	**-1.3**
SYO	**Syowa Base**	**60.73**	**191⇑**	*e*P	**P**	**00 04 56.0**	**-1.4**
SYO	**Syowa Base**	**60.73**	**191⇑**	*es*P	sP	00 05 04.2	+5.0
AKTK	**Aktyubinsk**	**61.43**	**354**	P	**P**	**00 05 01.4**	**-0.8**
AKTO	**Aktyubinsk** 1.3nm,0.7s,mb4.2,baz=169,slow=8.5,SNR=5.5	**61.43**	**354**	P	**P**	**00 05 01.4**	**-0.8**
CASY	**Casey** 3.5nm,0.6s,mb4.7	**62.83**	**162**	*e*P	**P**	**00 05 10.2**	**-1.3**
BVAR	**Borovoye Array** 0.6nm,0.8s,mb3.7,baz=205,slow=8.8,SNR=4.3	**63.64**	**3**	P	**P**	**00 05 16.5**	**-0.4**
KAKA	**Kakadu** 11nm,0.8s,mb4.9	**64.30**	**99**	*e*P	**P**	**00 05 21.9**	**+0.7**
ASPA	**Alice Springs**	**65.01**	**111**	*e*P	**P**	**00 05 25.6**	**-0.2**
ASAR	**Alice Springs** 4.9nm,0.8s,mb4.6,baz=276,slow=6.0,SNR=39	**65.01**	**111**	P	**P**	**00 05 26.2**	**+0.4**
ASAR				LR	LR	00 30 45.3	
	comp=Z,249nm,21.5s,MS4.4,baz=273,slow=33						
AS31	**Alice Springs**	**65.01**	**111**	*e*P	**P**	**00 05 26.0**	**+0.2**
WRA	**Warramunga Arr** 7.6nm,0.8s,mb4.8,baz=276,slow=5.9,SNR=30	**65.55**	**107**	P	**P**	**00 05 30.4**	**+1.0**
WRA				LR	LR	00 31 34.9	
	comp=Z,322nm,18.7s,MS4.5,baz=285,slow=34						
WB2	**Warramunga Arr**	**65.56**	**107**	*e*P	**P**	**00 05 30.3**	**+0.9**
WB2	**Warramunga Arr**	**65.56**	**107**	*e*P	**P**	**00 05 29.9**	**+0.5**
WRAB	**Tennant Creek** 13nm,0.8s,mb5.0	**65.56**	**107**	*e*P	**P**	**00 05 30.4**	**+1.0**
WRAB				*e*PcP	PcP	00 06 03.2	+2.2
ZAL	**Zalesovo** 0.8nm,0.3s,mb4.3,baz=261,slow=6.4,SNR=4.1	**66.30**	**12**	P	**P**	**00 05 35.9**	**+1.8**
ZAL				LR	LR	00 35 52.7	
	comp=Z,198nm,18.1s,MS4.4,baz=270,slow=37						
ZAL	**Zalesovo**	**66.30**	**12**	P	**P**	**00 05 35.9**	**+1.8**
ZAL				LR	LR	00 35 52.7	
SONM	**Songino Array** 6.2nm,0.8s,mb4.7,baz=217,slow=5.8,SNR=45	**68.19**	**28**	P	**P**	**00 05 46.9**	**+0.7**
SONM				LR	LR	00 34 43.9	
	comp=Z,514nm,21.5s,MS4.7,baz=214,slow=35						
TORD	**Torodi Ar. Bea** 1.5nm,1.1s,mb3.8,baz=114,slow=5.2,SNR=5.9	**68.70**	**289**	P	**P**	**00 05 49.0**	**-0.3**
TORD				LR	LR	00 36 38.4	
	comp=Z,172nm,18.3s,MS4.3,baz=180,slow=37						
AKASG	**Malin Array Be** 0.5nm,0.5s,mb3.7,baz=137,slow=5.2,SNR=6.2	**69.35**	**336**	P	**P**	**00 05 51.9**	**-1.5**
AKASG	**Malin Array Be**	**69.35**	**336**	P	**P**	**00 05 51.9**	**-1.5**
STKA	**Stephens Creek** 3.8nm,0.9s,mb4.3,baz=300,slow=4.3,SNR=5.3	**71.65**	**120**	P	**P**	**00 06 07.8**	**+0.3**
STKA				LR	LR	00 32 42.4	
	comp=Z,351nm,18.4s,MS4.7,baz=215,slow=32						
STKA	**Stephens Creek**	**71.65**	**120**	*e*P	**P**	**00 06 08.3**	**+0.8**
DBIC	**Dimbokro** 4.7nm,0.8s,mb4.5,baz=77,slow=7.5,SNR=5.1	**73.25**	**280**	P	**P**	**00 06 17.2**	**+0.2**
DBIC				LR	LR	00 36 55.8	
	comp=Z,464nm,19.4s,MS4.8,baz=93,slow=35						
DBIC	**Dimbokro** 9.4nm,1.1s,mb4.6	**73.25**	**280**	*e*P	**P**	**00 06 17.8**	**+0.9**
LIC	**Lamto** 35nm,1.1s,mb4.9	**73.31**	**280**	*e*P	**P**	**00 06 17.7**	**+0.4**
LIC	**Lamto** 18nm,1.1s,mb4.9	**73.31**	**280**	*e*P	**P**	**00 06 17.7**	**+0.4**
SNAA	**Sanae** 1.1nm,1.2s,mb3.7,baz=56,slow=13,SNR=4.3	**73.41**	**198**	P	**P**	**00 06 16.4**	**-1.5**
SNAA				LR	LR	00 31 10.8	
	comp=Z,85nm,18.9s,MS4.0,baz=210,slow=30						
SNAA	**Sanae** 3.4nm,1.1s,mb4.2	**73.41**	**198**	*e*P	**P**	**00 06 17.9**	**0.0**
GERES	**GERESS Array B** 0.5nm,0.7s,mb3.5,baz=120,slow=4.8,SNR=4.7	**75.43**	**327**	P	**P**	**00 06 29.3**	**-0.4**
BRG	**Berggiesshubel** 11nm,1.8s,mb4.5	**76.51**	**329**	*e*P	**P**	**00 06 36.4**	**+0.6**
BRG				*e*		00 06 47.7	
	10nm,2.1s						
CTA	**Charters Tower** 6.7nm,0.8s,mb4.6,baz=264,slow=10.0,SNR=5.4	**76.70**	**108**	P	**P**	**00 06 36.7**	**-0.2**
CTA	**Charters Tower**	**76.70**	**108**	P	**P**	**00 06 36.7**	**-0.2**
GRA1	**Grafenberg Arr** 3.0nm,0.8s,mb4.3	**77.25**	**327**	*e*P	**P**	**00 06 39.9**	**-0.1**
GRF	**Grafenberg Arr** 3.0nm,0.8s,mb4.3	**77.25**	**327**	*e*P	**P**	**00 06 39.9**	**-0.1**
FINES	**FINESS Array B** comp=Z,75nm,19.4s,MS4.0,baz=326,slow=37	**78.73**	**341**	LR	LR	00 43 13.0	
QSPA	**South Pole Qui** 10nm,1.2s,mb4.6	**79.26**	**180**	*e*P	**P**	**00 06 50.1**	**-1.1**
SMF	**Signal de Mont**	**79.95**	**322**	*e*P	**P**	**00 06 53.7**	**-1.2**
LOR	**Lormes** 17nm,1.2s,mb4.5	**80.22**	**322**	*e*P	**P**	**00 06 55.4**	**-1.0**
LOR	**Lormes** 8.4nm,1.2s,mb4.5	**80.22**	**322**	*e*P	**P**	**00 06 55.4**	**-1.0**
SSF	**Saint Saulge** 34nm,1.5s,mb4.8	**80.34**	**322**	*e*P	**P**	**00 06 56.1**	**-0.9**
SSF	**Saint Saulge** 17nm,1.5s,mb4.8	**80.34**	**322**	*e*P	**P**	**00 06 56.1**	**-0.9**
VNDA	**Vanda** 1.5nm,0.9s,mb3.9,baz=282,slow=6.0,SNR=6.4	**80.67**	**167**	P	**P**	**00 06 58.5**	**-0.2**
LFF	**La Frestale** 38nm,1.1s,mb4.9	**81.14**	**319**	*e*P	**P**	**00 07 01.1**	**-0.2**
LFF	**La Frestale** 19nm,1.1s,mb4.9	**81.14**	**319**	*e*P	**P**	**00 07 01.1**	**-0.2**
SBA	**Scott Base** 8.0nm,1.1s,mb4.6	**81.65**	**168**	*e*P	**P**	**00 07 04.9**	**+1.0**
MJAR	**Matsushiro Arr** 2.4nm,0.9s,mb4.1,baz=250,slow=5.4,SNR=4.0	**81.96**	**50**	P	**P**	**00 07 06.0**	**+0.4**
ESDC	**Sonseca Array** 2.3nm,0.7s,mb4.2,baz=105,slow=4.5,SNR=12	**82.33**	**313**	P	**P**	**00 07 07.8**	**+0.3**
ESLA	**Sonseca Array** 0.7nm,0.7s,mb3.7	**82.33**	**313**	*e*P	**P**	**00 07 08.0**	**+0.5**
NOA	**NORSAR Array B** 0.6nm,0.8s,mb3.6,baz=121,slow=4.9,SNR=2.9	**83.75**	**336**	P	**P**	**00 07 12.5**	**-2.4**
EVO	**Evora** 15nm,1.2s,mb4.7	**84.92**	**311**	*e

mb4.1/7, Error ellipse: s-maj=42.6km s-min=22.0km az=26.4

NEIC ***26*** *00:03:05.9±3.3, 537S×151.64E, h66km±24km, mb4.2/5, Error ellipse: s-maj=33.8km s-min=16.6km az=100.0*

ISC 26 00:03:06.0±4.1, 53S±01×1516E±03, h59km±30km, n22, σ0§84/19, mb4.1/7, MS3.4/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**227**	P	**Pn**	**00 04 31.8**	**+0.2**
	1.5nm,0.3s,baz=33,slow=12,SNR=6.1						
PMG				S	**Sn**	**00 05 37.8**	**-0.7**
	5.2nm,0.3s,baz=168,slow=19,SNR=5.0						
CTA	**Charters Tower**	**15.55**	**199**	LR	LR	00 11 35.5	
	comp=Z,72nm,18.8s,baz=228,slow=33						
CTAO	**Charters Tower**	**15.55**	**199**	*eP*	**Pn**	**00 06 36.7**	**-4.7**
	15nm,1.1s						
KAKA	**Kakadu**	**20.26**	**248**	*eP*	**P**	**00 07 36.4**	**-0.1**
	9.0nm,0.6s						
DZM	**Mont Dzumac**	**21.99**	**141**	LR	LR	00 15 34.6	
	comp=Z,149nm,18.1s,MS3.4,baz=226,slow=35						
WRAB	**Tennant Creek**	**22.16**	**228**	*eP*	**P**	**00 07 58.0**	**+1.1**
	4.4nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**22.17**	**228**	*eP*	**P**	**00 07 58.1**	**+1.1**
WRA	**Warramunga Arr**	**22.18**	**228**	P	**P**	**00 07 56.2**	**-0.9**
	3.4nm,0.6s,mb3.9,baz=53,slow=9.8,SNR=14						
AS31	**Alice Springs**	**24.93**	**221**	*eP*	**P**	**00 08 24.4**	**+0.7**
ASAR	**Alice Springs**	**24.94**	**221**	P	**P**	**00 08 22.8**	**-0.9**
	3.8nm,0.7s,mb4.0,baz=61,slow=8.7,SNR=31						
ASPA	**Alice Springs**	**24.94**	**221**	*eP*	**P**	**00 08 24.4**	**+0.7**
STKA	**Stephens Creek**	**28.00**	**198**	P	**P**	**00 08 51.3**	**0.0**
FITZ	**Fitzroy Crossi**	**28.33**	**241**	*eP*	**P**	**00 08 53.7**	**-0.5**
	9.8nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**28.33**	**241**	P	**P**	**00 08 53.9**	**-0.3**
	5.3nm,0.9s,mb4.2,baz=81,slow=4.6,SNR=13						
MBWA	**Marble Bar**	**34.65**	**240**	*eP*	**P**	**00 09 49.3**	**-0.4**
KULM	**Kulim**	**51.94**	**281**	P	**P**	**00 12 10.2**	**+1.3**
SONM	**Songino Array**	**66.14**	**328**	P	**P**	**00 13 48.1**	**+0.9**
	1.0nm,0.7s,mb4.0,baz=147,slow=4.9,SNR=8.3						
BVAR	**Borovoye Array**	**88.94**	**323**	P	**P**	**00 15 52.5**	**-1.6**
	0.9nm,0.7s,mb4.2,baz=110,slow=6.8,SNR=5.8						
BRVK	**Borovoye**	**89.01**	**323**	*eP*	**P**	**00 15 53.4**	**-1.1**
	0.5nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**89.76**	**323**	*eP*	**P**	**00 15 58.2**	**+0.2**
GERES	**GERESS Array B**	**123.87**	**328**	PKP	PKPdf	00 21 56.4	-0.9
	0.5nm,0.6s,baz=64,slow=2.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**149.31**	**287**	PKPbc	PKPbc	00 22 48.2	+0.1
	4.5nm,0.7s,baz=90,slow=2.6,SNR=34						

IDC 26 00:07:14.4±3.0, 1246N×9206E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, Error ellipse: s-maj=123.1km s-min=19.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.04**	**140**	*eP*	x	00 07 28.7	
PBA				*eS*	x	00 07 46.3	
PBA				*ex*	x	00 07 48.3	
	comp=N,2µm,0.5s						
PBA				*ex*	x	00 07 49.0	
	comp=E,2µm,0.7s						
MKAR	**Makanchi Array**	**35.20**	**348**	P	P	00 14 10.8	+0.6
	comp=E,1.3nm,0.8s,baz=160,slow=7.6,SNR=12						
SONM	**Songino Array**	**37.25**	**16**	P	P	00 14 27.5	-0.3
	comp=E,1.0nm,0.7s,baz=202,slow=6.7,SNR=6.1						
ZAL	**Zalesovo**	**41.77**	**354**	P	P	00 15 04.8	-0.7
	comp=E,0.9nm,0.5s,baz=207,slow=9.2,SNR=4.0						
FITZ	**Fitzroy Crossi**	**44.95**	**132**	P	P	00 15 31.7	+0.5
	comp=E,1.3nm,0.7s,baz=326,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**52.61**	**127**	P	P	00 16 30.5	+0.4
	comp=E,0.2nm,0.3s,baz=302,slow=9.6,SNR=2.4						
ASAR	**Alice Springs**	**54.44**	**131**	P	P	00 16 43.8	+0.4
	comp=E,0.2nm,0.5s,baz=310,slow=7.2,SNR=4.1						

IDC ***26*** *00:20:58.6±2.3, 650S×130.44E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.5/13, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=90.6km s-min=28.7km az=78.0*

ISCJB ***26*** *00:21:01.3±0.8, 686S±007×1302E±0.1, h33km, mb3.9/3, Error ellipse: s-maj=17.5km s-min=8.6km az=151.3*

NEIC ***26*** *00:21:03.0±0.7, 656S×130.55E, h35km, mb4.2/2, Error ellipse: s-maj=23.3km s-min=9.0km az=64.0*

ISC 26 00:21:03.9±0.8, 677S±007×1302E±01, h35km, n11, σ0§94/15, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.12**	**201**	Pn	**Pn**	**00 23 58.6**	**+4.6**
	0.2nm,0.3s,baz=27,slow=12,SNR=28						
FITZ				Sn	**Sn**	**00 26 07.1**	**-0.8**
	0.5nm,0.3s,baz=158,slow=17,SNR=7.9						
WRAB	**Tennant Creek**	**13.68**	**163**	*e*Pn	**Pn**	**00 24 15.6**	**+0.2**
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**13.69**	**163**	Pn	**Pn**	**00 24 15.0**	**-0.4**
	0.3nm,0.3s,baz=345,slow=13,SNR=5.4						
WRA				Sn	**Sn**	**00 26 40.0**	**-6.2**
	0.9nm,0.3s,baz=343,slow=22,SNR=5.9						
WB2	**Warramunga Arr**	**13.69**	**163**	*e*Pn	**Pn**	**00 24 15.1**	**-0.4**
WB2				*e*Sn	**Sn**	**00 26 39.4**	**-6.9**
ASAR	**Alice Springs**	**17.17**	**169**	P	**Pn**	**00 25 03.1**	**+2.1**
	0.2nm,0.3s,baz=356,slow=10,SNR=7.9						
ASAR				S	**S**	**00 28 04.2**	**-15**
	0.2nm,0.3s,baz=346,slow=15,SNR=6.8						
CTAO	**Charters Tower**	**20.42**	**132**	P	**P**	**00 25 37.2**	**-0.8**
KULM	**Kulim**	**31.86**	**291**	P	**P**	**00 27 26.6**	**+1.0**
TAU	**Tasmania Unive**	**39.02**	**160**	*e*P	**P**	**00 28 28.0**	**+0.9**
	8.2nm,0.7s,mb4.6						
LSA	**Lhasa**	**52.19**	**316**	P	**P**	**00 30 11.5**	**+0.4**
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**00 32 00.0**	**-0.5**
	0.2nm,0.4s,mb3.5,baz=132,slow=6.0,SNR=5.9						
BRVK	**Borovoye**	**78.06**	**328**	*e*P	**P**	**00 32 57.6**	**-1.4**
	0.5nm,0.6s,mb3.6						

ISCJB ***26*** *00:37:45.3±0.5, 2993S±006×17768W±009, h33km, mb4.5/14, MS4.0/7, Error ellipse: s-maj=11.6km s-min=8.4km az=6.1*

IDC ***26*** *00:37:46.5±2.6, 2983S×177.57W, h34km±17km, mb4.2/7, mb1 4.4/7, mb1mx4.2/12, mbtmp4.4/7, MS4.0/7, Ms1 4.0/7, ms1mx3.5/31, Error ellipse: s-maj=27.9km s-min=20.4km az=120.0*

NEIC ***26*** *00:37:48.4±1.3, 2975S×177.62W, h51km±10km, mb4.7/9, Error ellipse: s-maj=13.6km s-min=9.4km az=140.0*

ISC 26 00:37:46.8±0.4, 3004S±006×17763W±009, h35km, n69, σ1§55/39, mb4.5/14, MS4.0/7, 2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**342**	Pg	**Pn**	**00 37 59.9**	**-1.9**
	2µm,0.3s,baz=147,slow=6.2,SNR=151						
RAO				Lg		00 38 09.2	
	8µm,0.3s,baz=90,slow=20,SNR=39						
RAO	**Raoul Island**	**0.82**	**342**	Pg	**Pn**	**00 37 59.9**	**-1.9**
RAO				*e*S	**Sn**	**00 38 07.9**	**-4.8**
RAO				Lg		00 38 09.2	
PUZ	**Puketiti**	**8.71**	**202**	*e*PN	**Pn**	**00 39 48.3**	**-1.9**
PUZ				*e*SN	**Sn**	**00 41 24.2**	**-3.0**
URZ	**Urewera**	**9.29**	**207**	*e*PN	**Pn**	**00 39 55.1**	**-3.0**
URZ				*e*SN	**Sn**	**00 41 39.0**	**-2.3**
MRZ	**Mangatainoka R**	**11.96**	**206**	*e*PN	**Pn**	**00 40 30.6**	**-4.1**
THZ	**Tophouse**	**13.98**	**211**	*e*PN	**Pn**	**00 40 59.7**	**-2.6**
THZ				*e*SN	**Sn**	**00 43 27.8**	**-8.4**
DZM	**Mont Dzumac**	**16.35**	**295**	*e*P	**Pn**	**00 41 41.5**	**+7.9**
AFI	**Afiamalu**	**16.93**	**20**	Pn	**Pn**	**00 41 38.2**	**-2.8**
TBI	**Tubuai**	**25.99**	**82**	*e*LQ		00 48 21.8	
	278nm,26.2s						
TBI				*e*LR	LR	00 49 37.3	
	231nm,25.0s,baz=254						
PPT	**Papeete**	**28.42**	**70**	*e*LR	LR	00 50 37.2	
	220nm,25.8s						
PPT	**Papeete**	**28.42**	**70**	LR	LR	00 51 43.1	
	comp=Z,140nm,18.9s,MS3.6,baz=280,slow=30						
CTA	**Charters Tower**	**34.06**	**278**	LR	LR	00 55 47.0	
	comp=Z,180nm,18.3s,MS3.8,baz=48,slow=32						
CTAO	**Charters Tower**	**34.06**	**278**	*e*P	**P**	**00 44 30.1**	**+2.5**
	18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**00 44 37.2**	**+2.5**
	5.7nm,0.8s,mb4.6,baz=102,slow=9.5,SNR=8.7						
STKA				LR	LR	00 58 24.6	
	comp=Z,158nm,18.1s,MS3.8,baz=23,slow=35						
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**00 44 37.2**	**+2.5**
STKA				LR	LR	00 58 24.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**38.59**	**90**	*e*LR	LR	00 55 33.2	
	163nm,27.5s						
AS31	**Alice Springs**	**43.45**	**266**	*e*P	**P**	**00 45 47.2**	**+0.9**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**00 45 46.5**	**+0.2**
	4.6nm,0.7s,mb4.3,baz=110,slow=7.5,SNR=30						
ASAR				LR	LR	01 04 04.3	
	comp=Z,164nm,21.8s,MS3.9,baz=178,slow=36						
WB2	**Warramunga Arr**	**44.40**	**272**	*e*P	**P**	**00 45 54.4**	**+0.5**
WRAB	**Tennant Creek**	**44.40**	**272**	*e*P	**P**	**00 45 53.8**	**-0.1**
	18nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**00 45 54.1**	**+0.1**
	8.7nm,0.7s,mb4.6,baz=109,slow=7.9,SNR=35						
SBA	**Scott Base**	**48.42**	**184**	*e*P	**P**	**00 46 26.2**	**+0.7**
VNDA	**Vanda**	**48.49**	**186**	LR	LR	01 01 09.0	
	comp=Z,72nm,21.7s,MS3.6,baz=325,slow=29						
KAKA	**Kakadu**	**49.19**	**279**	*e*P	**P**	**00 46 31.8**	**+0.4**
	3.4nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**52.68**	**269**	*e*P	**P**	**00 46 58.2**	**+0.6**
	9.5nm,0.9s,mb4.7						
CASY	**Casey**	**55.61**	**208**	*e*P	**P**	**00 47 19.5**	**+0.6**
QSPA	**South Pole Qui**	**60.07**	**180**	*e*P	**P**	**00 47 53.1**	**+2.8**
	4.6nm,0.9s,mb4.5						
MAW	**Mawson**	**72.76**	**200**	P	**P**	**00 49 12.7**	**+1.2**
	1.5nm,0.6s,mb4.1,baz=122,slow=7.7,SNR=7.2						
MAW				LR	LR	01 20 12.7	
	comp=Z,74nm,18.4s,MS4.0,baz=67,slow=35						
MAW	**Mawson**	**72.76**	**200**	*e*P	**P**	**00 49 12.8**	**+1.4**
	4.1nm,0.8s,mb4.4						
SYO	**Syowa Base**	**77.54**	**193**	*e*P	**P**	**00 49 41.7**	**+2.7**
SYO	**Syowa Base**	**77.54**	**193**	*e*P	**P**	**00 49 45.5**	**+6.5**
MJAR	**Matsushiro Arr**	**78.13**	**325**	P	**P**	**00 49 39.4**	**-2.8**
	1.3nm,0.4s,mb4.2,baz=151,slow=5.6,SNR=3.3						
SNAA	**Sanae**	**78.51**	**178**	P	**P**	**00 49 44.8**	**+0.5**
	0.8nm,1.0s,mb3.6,baz=191,slow=4.3,SNR=5.3						
SNAA	**Sanae**	**78.51**	**178**	*e*P	**P**	**00 49 44.9**	**+0.6**
	3.2nm,1.0s,mb4.2						
ISA	**Isabella**	**85.81**	**45**	*e*P	**P**	**00 50 22.2**	**-0.4**
CMB	**Columbia Colle**	**86.28**	**42**	*e*P	**P**	**00 50 25.6**	**+0.7**
	5.8nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**87.75**	**43**	P	**P**	**00 50 32.6**	**+0.6**
	1.7nm,0.8s,mb4.3,baz=228,slow=9.8,SNR=15						
TRQA	**Tornquist**	**89.46**	**135**	*e*P	**P**	**00 50 41.4**	**+1.3**
KDAK	**Kodiak Island**	**89.98**	**13**	LR	LR	01 24 42.8	
	comp=Z,1µm,18.9s,MS5.3,baz=253,slow=31						
WUAZ	**Wupatki**	**90.18**	**48**	*e*P	**P**	**00 50 44.9**	**+1.4**
	2.1nm,0.3s,mb5.0						
ANMO	**Albuquerque**	**93.10**	**51**	*e*P	**P**	**00 50 55.2**	**-1.8**
NEW	**Newport**	**94.89**	**36**	P	**P**	**00 51 03.4**	**-1.8**
MKAR	**Makanchi Array**	**117.78**	**310**	PKP	PKPdf	00 56 27.7	-1.6
	0.5nm,0.6s,baz=132,slow=2.1,SNR=5.1						
BVAR	**Borovoye Array**	**126.37**	**316**	PKP	PKPdf	00 56 44.7	-1.1
	1.9nm,0.6s,baz=132,slow=2.2,SNR=9.4						
ZRNK	**Zerenda**	**127.20**	**316**	*e*PKPdf	PKPdf	00 56 46.3	-1.1
AKTK	**Aktyubinsk**	**134.09**	**313**	PKP	PKPdf	00 56 59.7	-0.7
AKTO	**Aktyubinsk**	**134.09**	**313**	PKP	PKPdf	00 56 59.7	-0.7
	1.8nm,0.8s,baz=185,slow=5.3,SNR=5.0						
ARCES	**ARCESS Array B**	**138.30**	**348**	PKhKP		00 57 01.4	
	4.2nm,0.9s,baz=10,slow=7.6,SNR=4.1						
JOF	**Joensuu**	**142.20**	**339**	*e*pkp	PKPdf	00 57 08.8	-6.5
KAF	**Kangasniemi**	**144.31**	**341**	*e*pkp	PKPdf	00 57 14.8	-4.2
FIA1	**FINESS Array S**	**144.91**	**340**	*e*PKPdf	PKPdf	00 57 17.4	-2.6
FIA1				*e*PP	PP	01 00 36.1	-1.8
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	00 57 17.4	-2.7
	26nm,0.7s,baz=67,slow=3.4,SNR=115						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	PKPdf	00 57 17.4	-2.7
OBN	**Obninsk**	**145.06**	**326**	*e*PKPdf	PKPdf	00 57 18.5	-1.8
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	PKPbc	00 57 27.6	-2.0
	5.9nm,0.7s,baz=16,slow=4.4,SNR=23						
NAO01	**NORSAR Array S**	**148.67**	**352**	*e*PKPbc	PKPbc	00 57 28.5	-1.7
NAO01				*e*PKPab	PKPab	00 57 32.4	-1.5
HFS	**Hagfors**	**148.95**	**349**	PKPbc	PKPbc	00 57 29.0	-1.9
	9.7nm,0.7s,baz=78,slow=3.5,SNR=15						
ASF	**Jabal al Asfar**	**150.43**	**283**	PKPbc	PKPbc	00 57 35.6	+1.1
	5.2nm,0.9s,baz=32,slow=2.0,SNR=6.3						
AKASG	**Malin Array Be**	**151.20**	**323**	PKPbc	PKPbc	00 57 34.8	-1.6
	6.0nm,0.6s,baz=47,slow=2.7,SNR=30						
AKBB	**Malin Array Si**	**151.20**	**323**	*e*PKPbc	PKPbc	00 57 35.1	-1.2
SUW	**Suwalki**	**151.70**	**334**	*e*PKPdf	PKPdf	00 57 30.3	-0.9
SUW				*e*PKPbc	PKPbc	00 57 36.8	-0.6
BR131	**Keskin Array S**	**152.71**	**299**	*e*PKPbc	PKPbc	00 57 39.0	-0.7
BRTR	**Keskin Array B**	**152.71**	**299**	PKPbc	PKPbc	00 57 38.5	-1.2
	2.8nm,0.9s,baz=134,slow=4.4,SNR=13						
EKA	**Eskdalemuir Ar**	**154.41**	**7**	PKPab	PKPab	00 57 56.5	-1.2
	2.2nm,0.8s,baz=320,slow=3.2,SNR=6.8						
KWP	**Kalwaria**	**155.10**	**328**	*e*PKPab	PKPab	00 57 59.4	-1.4
CLL	**Collm**	**157.32**	**343**	*i* PKPab	PKPab	00 58 09.1	-1.1
	comp=Z,6.0nm,1.0s						
CLL	**Collm**	**157.32**	**343**	*e*PKPab	PKPab	00 58 09.0	-1.2
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**159.32**	**338**	PKPab	PKPab	00 58 17.7	-1.2
	comp=Z,0.9nm,0.7s,baz=3.8,slow=4.0,SNR=9.4						
TORD	**Torodi Ar. Bea**	**163.18**	**178**	PKPab	PKPab	00 58 36.2	+0.4
	comp=Z,0.9nm,0.9s,baz=207,slow=1.8,SNR=3.6						

CSEM ***26*** *00:41:32.1, 6475N×172.7W, h13km, ML3.5, After REY*

REY 26 00:41:32.1, 6475N×172.7W, h13km, ML3.0, ML3.5, Iceland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRF	**Grimsfjall**	**0.35**	**179**	P	Pg	00 41 38.7	-0.4
IGRF				S	Sg	00 41 47.8	0.0
IKRE	**Kreppuhraun**	**0.38**	**85**	P	Pg	00 41 39.3	-0.5
IKRE				S	Sg	00 41 44.7	-0.2
IMKO	**Mokollar**	**0.46**	**60**	P	Pg	00 41 40.7	-0.5
IMKO				S	Sg	00 41 47.4	+0.1
IBRU	**Bruarjokull**	**0.51**	**81**	P	Pg	00 41 41.5	-0.7
IBRU				S	Sg	00 41 48.8	-0.2
ISKR	**Skrokkalda**	**0.52**	**248**	P	Pg	00 41 41.5	-0.7
ISKR				S	Sg	00 41 49.2	+0.1
ISVA	**Svartarkot**	**0.59**	**1**	P	Pg	00 41 42.7	-0.9
ISVA				S	Sg	00 41 50.9	-0.4
IHVA	**Hvannstoosfjol**	**0.63**	**71**	P	Pg	00 41 43.4	-1.1
IHVA				S	Sg	00 41 52.2	-0.6
IVSH	**V-Sauoahnukur**	**0.67**	**85**	P	Pg	00 41 44.0	-1.0
IVSH				S	Sg	00 41 53.0	-0.8
IADA	**Aoalbol**	**0.77**	**69**	P	Pg	00 41 45.7	-1.4
IADA				S	Sg	00 41 56.1	-1.1
IKAL	**Kalfafell**	**0.83**	**193**	P	Pg	00 41 46.7	-1.4
IKAL				S	Sg	00 41 58.4	-0.6
IVAT	**Vatnsfell**	**0.91**	**232**	P	Pg	00 41 48.3	-1.4
IVAT				S	Sg	00 42 01.1	-0.5
IREN	**Reynihlio**	**0.91**	**10**	P	Pg	00 41 48.1	-1.6
IREN				S	Sg	00 42 00.4	-1.2
IFAG	**Fagurholsmyri**	**0.92**	**163**	P	Pg	00 41 48.1	-1.8
IFAG				S	Sg	00 42 00.9	-1.1
IGLU	**Glumsstadir**	**0.96**	**75**	P	Pb	00 41 48.8	-1.8
IGLU				S	Sg	00 42 01.6	-1.6
IKVO	**Krokottuvotn**	**0.98**	**10**	P	Pb	00 41 49.2	-1.7
IKVO				S	Sb	00 42 02.3	-1.5
IGRS	**Grimsstaoir**	**1.01**	**28**	P	Pb	00 41 50.0	-1.5
IGRS				S	Sb	00 42 03.9	-0.8
IGRA	**Granastaoir**	**1.18**	**354**	P	Pn	00 41 52.2	-2.1
IGRA				S	Sb	00 42 08.2	-1.3
ISNB	**Snabyli**	**1.18**	**211**	P	Pn	00 41 52.6	-1.7
ISNB				S	Sb	00 42 08.8	-0.8
IHLA	**Hella**	**1.28**	**339**	P	Pn	00 41 54.1	-1.6
IHLA				S	Sb	00 42 11.1	-1.4
IHED	**Heoinshofoi**	**1.33**	**359**	P	Pn	00 41 54.7	-1.7
IHED				S	Sb	00 42 12.8	-1.2
IGYG	**Gygjarholskot**	**1.36**	**251**	P	Pn	00 41 55.3	-1.5
IGYG				S	Sn	00 42 14.0	-0.6
IGIL	**Gilhagi**	**1.39**	**16**	P	Pn	00 41 55.7	-1.4
IGIL				S	Sn	00 42 14.2	-1.1
IBRE	**Brettingsstaoi**	**1.40**	**349**	P	Pn	00 41 55.8	-1.6
IBRE				S	Sn	00 42 14.7	-1.0
IHAU	**Haukadalur**	**1.41**	**237**	P	Pn	00 41 56.2	-1.3
IHAU				S	Sn	00 42 15.6	-0.3
IFLA	**Flatey**	**1.44**	**351**	P	Pn	00 41 56.5	-1.3
IFLA				S	Sn	00 42 16.2	-0.3
ISIG	**Siglufjorour**	**1.55**	**334**	P	Pn	00 41 58.0	-1.3
ISIG				S	Sn	00 42 18.3	-1.0
IESK	**Eystri-Skogar**	**1.56**	**219**	P	Pn	00 41 58.9	-0.6
IESK				S	Sn	00 42 20.5	+0.9
IMID	**Miomork**	**1.58**	**227**	P	Pn	00 41 59.1	-0.4
IMID				S	Sn	00 42 21.2	+0.9
ILEI	**Leirhofn**	**1.69**	**11**	P	Pn	00 42 00.5	-0.9
IASM	**Asmuli**	**1.72**	**239**	P	Pn	00 42 01.1	-0.7
IASM				S	Sn	00 42 24.5	+0.8
IASB	**`sbjarnarst**	**1.74**	**272**	P	Pn	00 42 01.0	-1.0
IASB				S	Sn	00 42 24.3	+0.3
IKRO	**Krokur**	**1.79**	**250**	P	Pn	00 42 01.7	-1.1
IKRO				S	Sn	00 42 26.0	+0.6
ISOL	**Solvholt**	**1.80**	**244**	P	Pn	00 42 01.9	-0.9
ISOL				S	Sn	00 42 26.0	+0.5
IHEI	**Heioarbar**	**1.80**	**254**	P	Pn	00 42 02.0	-0.9
IHEI				S	Sn	00 42 26.4	+0.8
IHRN	**Hraun**	**1.81**	**320**	P	Pn	00 42 02.3	-0.7
IHRN				S	Sn	00 42 26.1	+0.3
IGRI	**Grimsey**	**1.82**	**351**	P	Pn	00 42 01.8	-1.4
IGRI				S	Sn	00 42 26.1	0.0
IVES	**Vestmannaeyjar**	**1.86**	**227**	P	Pn	00 42 04.0	+0.3
IVES				S	Sn	00 42 29.2	+2.0
IBJA	**Bjarnastaoir**	**1.93**	**247**	P	Pn	00 42 04.0	-0.6
IBJA				S	Sn	00 42 30.5	+1.7
ISAN	**Sandskeio**	**1.99**	**251**	P	Pn	00 42 04.3	-1.2
ISAN				S	Sn	00 42 32.1	+1.8
IKUD	**Kuludalsa**	**2.04**	**260**	P	Pn	00 42 05.0	-1.1
IKUD				S	Sn	00 42 33.0	+1.6
IKAS	**Kald??rsel**	**2.12**	**252**	P	Pn	00 42 07.2	0.0
IVOS	**Vogsosar**	**2.13**	**247**	S	Sn	00 42 36.6	+2.9
INYL	**Nylenda**	**2.50**	**254**	P	Pn	00 42 12.7	+0.2

IDC ***26*** *00:45:04.7±13.0, 3861N×14.78E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=265.2km s-min=67.4km az=52.0*

CSEM ***26*** *00:45:21.9±0.1, 3907N×1591E, h90km±1km, ML4.3/5, Error ellipse: s-maj=1.6km s-min=1.2km az=123.0*

ISCJB ***26*** *00:45:22.2±0.3, 3915N±002×1593E±003, h100km±3km, mb3.9/5, Error ellipse: s-maj=3.8km s-min=2.5km az=31.8*

ROM ***26*** *00:45:22.4±0.2, 3912N×1589E, h103km±3km, Ml3.5/22, Error ellipse: s-maj=2.9km s-min=2.4km az=83.0*

PDG ***26*** *00:45:22.7±0.7, 3914N×1596E, h100km±3km*

THE ***26*** *00:45:23.3, 3914N×1602E, h90km, ML4.0*

NEIC ***26*** *00:45:23.0, 3916N×1580E, h91km, MD3.7(PDG), After ROM.*

ISC 26 00:45:23.3±0.3, 3915N±002×1590E±003, h95km±3km, n121, σ0§86/159, mb3.9/5, 9C-18D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRI	**Girifalco**	**0.52**	**128**	Pg	**Pn**	**00 45 39.0**	**+0.3**
GRI				Sg	**Sn**	**00 45 50.5**	**+0.3**
	1µm,0.3s						
JOPP	**Joppolo**	**0.54**	**181**	⇓*i*Pg	**Pn**	**00 45 38.9**	**+0.1**
JOPP				Sg	**Sn**	**00 45 50.0**	**-0.4**
	3µm,0.4s						
SERS	**Sersale**	**0.63**	**100**	⇓*i*Pg	**Pn**	**00 45 40.3**	**+0.8**
SERS				Sg	**Sn**	**00 45 53.0**	**+1.3**
	1µm,0.3s						
PLAC	**Placanica**	**0.81**	**149**	⇓*i*Pg	**Pn**	**00 45 41.9**	**+0.6**
PLAC				Sg	**Sn**	**00 45 55.7**	**+0.9**
	963nm,0.4s						
CUC	**Castrocucco**	**0.85**	**356**	⇓*e*Pg	**Pn**	**00 45 41.5**	**-0.2**
CUC				Sg	**Sn**	**00 45 54.6**	**-0.8**
	2µm,0.3s						
CEL	**Celeste**	**0.89**	**180**	⇓*e*Pg	**Pn**	**00 45 41.9**	**-0.2**
CEL				Sg	**Sn**	**00 45 55.9**	**-0.2**
	753nm,0.2s						
SCLL	**Scilla**	**0.90**	**189**	⇓*i*Pg	**Pn**	**00 45 42.0**	**-0.2**
	182nm,0.3s						
MSRU	**Castanea**	**0.93**	**199**	⇓*i*Pg	**Pn**	**00 45 42.3**	**-0.3**
MSRU				Sg	**Sn**	**00 45 55.8**	**-1.2**
	3µm,0.3s						
MSI	**Messina ING**	**0.98**	**196**	⇓*i*Pg	**Pn**	**00 45 42.7**	**-0.3**
ORI	**Oriolo Calabro**	**1.01**	**25**	Pg	**Pn**	**00 45 45.1**	**+1.7**
	1µm,0.4s						
BULG	**Bulgheria - Ca**	**1.01**	**337**	Pg	**Pn**

FNA	**Florina**	**4.52**	**67**	*e*Pn	**Pn**	**00 46 30.1**	**+0.8**
BIA	**Bitola**	**4.56**	**64**	*e*Pn	**Pn**	**00 46 29.9**	**0.0**
BIA	**Bitola**	**4.56**	**64**	*e*Pn	**Pn**	**00 46 30.0**	**+0.1**
BIA				*e*Sg	**Sn**	**00 47 18.9**	**-2.9**
BIA	**Bitola**	**4.56**	**64**	*e*Pn	**Pn**	**00 46 30.0**	**0.0**
BIA				*e*Sg	**Sn**	**00 47 18.8**	**-3.0**
EVR	**Evrytania**	**4.61**	**91**	*e*P	**Pn**	**00 46 32.4**	**+1.8**
PVY	**Plav**	**4.63**	**41** ⇑	*i*Pn	**Pn**	**00 46 31.0**	**+0.2**
PVY				*e*Sn	**Sn**	**00 47 23.0**	**-0.3**
UPM	**Unac-Piva**	**4.65**	**28** ⇓	*i*Pn	**Pn**	**00 46 30.7**	**-0.4**
UPM				*e*Sn	**Sn**	**00 47 23.8**	**0.0**
KZN	**Kozani**	**4.67**	**74**	*e*P	**Pn**	**00 46 32.7**	**+1.2**
THL	**Klokotos Trika**	**4.76**	**83**	*e*P	**Pn**	**00 46 33.8**	**+1.2**
IVA	**Berane**	**4.80**	**38** ⇓	*i*Pn	**Pn**	**00 46 33.4**	**+0.3**
IVA				*e*Sn	**Sn**	**00 47 27.0**	**-0.5**
PLE	**Pljevlja**	**4.94**	**31** ⇓	*i*Pn	**Pn**	**00 46 35.1**	**0.0**
PLE				*e*Sn	**Sn**	**00 47 30.0**	**-1.0**
AGG	**Agios Georgios**	**5.01**	**89**	*e*Pn	**Pn**	**00 46 37.6**	**+1.6**
VSL	**Villasalto**	**5.07**	**276**	Pg	**Pn**	**00 46 36.8**	**0.0**
ITM	**Ithomi**	**5.14**	**111**	*e*P	**Pn**	**00 46 37.9**	**+0.1**
LIT	**Litokhoron**	**5.18**	**77**	*e*Pn	**Pn**	**00 46 39.3**	**+0.9**
GRG	**Griva**	**5.31**	**68**	*e*Pn	**Pn**	**00 46 40.2**	**+0.2**
STIP	**Stip**	**5.43**	**60**	*e*Pn	**Pn**	**00 46 41.5**	**-0.3**
STIP	**Stip**	**5.43**	**60**	*e*Pn	**Pn**	**00 46 41.6**	**-0.2**
VAY	**Valandovo**	**5.55**	**65**	*e*Pn	**Pn**	**00 46 43.1**	**-0.3**
VAY	**Valandovo**	**5.55**	**65**	*e*Pn	**Pn**	**00 46 43.0**	**-0.3**
LKR	**Lokris**	**5.56**	**93**	*e*P	**Pn**	**00 46 44.0**	**+0.5**
THE	**Thessaloniki**	**5.64**	**73**	*e*Pn	**Pn**	**00 46 44.4**	**-0.2**
XOR	**Xorichti**	**5.67**	**85**	*e*Pn	**Pn**	**00 46 45.7**	**+0.8**
NEO	**Neokhori**	**5.69**	**86**	*e*P	**Pn**	**00 46 45.5**	**+0.2**
HORT	**Hortiatis**	**5.73**	**73**	*e*Pn	**Pn**	**00 46 45.7**	**-0.1**
KNT	**Kandrikon**	**5.73**	**67**	*e*Pn	**Pn**	**00 46 46.0**	**+0.2**
DIVS	**Divcibare**	**5.82**	**30**	*i*P	**Pn**	**00 46 46.3**	**-0.7**
DIVS	**Divcibare**	**5.82**	**30**	*e*Pn	**Pn**	**00 46 46.5**	**-0.5**
PLG	**Polygyros**	**5.95**	**76**	*e*P	**Pn**	**00 46 48.5**	**-0.2**
SOH	**Sokhos**	**5.97**	**71**	*e*Pn	**Pn**	**00 46 49.4**	**+0.4**
VLI	**Veliai**	**6.07**	**111**	*e*P	**Pn**	**00 46 51.9**	**+1.5**
KKB	**Krupnik**	**6.11**	**61**	*i*P	**Pn**	**00 46 51.4**	**+0.4**
AOS	**Alonnisos**	**6.21**	**87**	*e*Pn	**Pn**	**00 46 52.2**	**0.0**
AOS	**Alonnisos**	**6.21**	**87**	*e*Pn	**Pn**	**00 46 52.2**	**-0.1**
SRS	**Serrai**	**6.22**	**69**	*e*Pn	**Pn**	**00 46 52.2**	**-0.2**
OUR	**Ouranopolis**	**6.34**	**77**	*e*Pn	**Pn**	**00 46 54.0**	**-0.1**
OUR	**Ouranopolis**	**6.34**	**77**	*e*Pn	**Pn**	**00 46 54.0**	**-0.1**
BOJS	**Bojanci**	**6.37**	**356**	*e*Pn	**Pn**	**00 46 54.0**	**-0.5**
MMB	**Musomiste**	**6.46**	**65**	*e*Pn	**Pn**	**00 46 56.2**	**+0.4**
MMB	**Musomiste**	**6.46**	**65**	*i*P	**Pn**	**00 46 56.2**	**+0.5**
NVR	**Nevrokopi**	**6.48**	**68**	*e*P	**Pn**	**00 46 56.0**	**0.0**
VTS	**Vitosha**	**6.52**	**56**	*e*Pn	**Pn**	**00 46 57.4**	**+0.8**
VTS	**Vitosha**	**6.52**	**56**	*i*P	**Pn**	**00 46 57.0**	**+0.4**
VISS	**Visnje**	**6.70**	**354**	*e*Pn	**Pn**	**00 47 01.4**	**+2.4**
LOS	**Limnos**	**7.14**	**81**	*e*Pn	**Pn**	**00 47 04.9**	**-0.1**
RZN	**Rozhen**	**7.19**	**67**	*i*P	**Pn**	**00 47 06.8**	**+1.1**
KARN	**Karanos**	**7.41**	**118**	*e*Pn	**Pn**	**00 47 08.4**	**-0.2**
VAM	**Vamos**	**7.60**	**117**	*e*P	**Pn**	**00 47 10.7**	**-0.5**
GVD	**Gavdhos** 28nm,0.3s	**7.84**	**121**	*e*Pn	**Pn**	**00 47 13.6**	**-0.9**
GVD				*e*Sn	**Sn**	**00 48 28.0**	**-14**
GVD	**Gavdhos** 28nm,0.3s	**7.84**	**121**	*e*Pn	**Pn**	**00 47 13.6**	**-0.9**
APE	**Apeiranthos**	**7.87**	**102**	*e*Pn	**Pn**	**00 47 14.2**	**-0.8**
ALN	**Alexandroupoli**	**7.98**	**74**	*e*Pn	**Pn**	**00 47 16.2**	**-0.2**
SANT	**Santorini**	**8.06**	**107**	*e*Pn	**Pn**	**00 47 17.6**	**0.0**
NPS	**Neapolis**	**8.67**	**114**	*e*P	**Pn**	**00 47 23.4**	**-2.4**
JMB	**Yambol**	**8.76**	**64**	*e*Pn	**Pn**	**00 47 27.1**	**+0.2**
FINES	**FINESS Array B** 1.2nm,0.5s,mb3.5,baz=191,slow=9.2,SNR=13	**23.20**	**12**	P	**P**	**00 50 19.8**	**-1.9**
BVAR	**Borovoye Array** 0.4nm,0.4s,mb3.6,baz=256,slow=5.8,SNR=4.0	**39.30**	**51**	P	**P**	**00 52 43.8**	**+1.0**
ZAL	**Zalesovo** 2.1nm,0.4s,mb4.3,baz=184,slow=5.0,SNR=5.5	**47.73**	**48**	P	**P**	**00 53 50.1**	**-0.4**
MKAR	**Makanchi Array** 1.8nm,0.5s,mb4.2,baz=284,slow=6.9,SNR=24	**47.87**	**58**	P	**P**	**00 53 52.0**	**+0.4**
SONM	**Songino Array** 0.7nm,0.6s,mb3.8,baz=290,slow=7.3,SNR=5.4	**62.61**	**49**	P	**P**	**00 55 37.6**	**+0.2**

ISCJB ***26*** *00:53:06.8±1.6, 298S±02×1776W±0.3, h55km±15km, mb4.3/10, MS3.4/2, Error ellipse: s-maj=41.6km s-min=20.1km az=113.7*

NEIC ***26*** *00:53:06.9±1.8, 2973S×17741W, h47km±13km, mb4.6/5, Error ellipse: s-maj=17.6km s-min=14.0km az=88.0*

IDC ***26*** *00:53:07.4±2.8, 2976S×17764W, h40km±21km, mb4.1/6, mb1 4.2/6, mb1mx3.9/13, mbtmp4.3/6, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=35.3km s-min=28.7km az=147.0*

ISC 26 00:53:06.4±2.6, 298S±02×1775W±03, h37km±25km, n28, σ0§61/21, mb4.3/10, MS3.4/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 2μm,0.3s,baz=183,slow=20,SNR=150	**0.69**	**326**	P		**Pn**	**00 53 19.8**	**+0.1**
RAO				S		**Sn**	**00 53 29.1**	**-0.1**
	4μm,0.3s,baz=233,slow=20,SNR=25							
RAO	**Raoul Island**	**0.69**	**326**	P		**Pn**	**00 53 19.8**	**+0.1**
RAO				S		**Sn**	**00 53 29.1**	**-0.1**
DZM	**Mont Dzumac** comp=Z,54nm,20.8s,baz=256,slow=33	**16.39**	**294**	LR		LR	01 01 59.3	
HNR	**Honiara**	**29.28**	**309**	P		**P**	**00 59 05.0**	**-0.1**
TAU	**Tasmania Unive** 19nm,0.9s,mb4.9	**30.98**	**235**	*e*P		**P**	**00 59 20.6**	**+0.5**
CTA	**Charters Tower** 5.5nm,0.4s,mb4.8,baz=99,slow=10,SNR=9.9	**34.16**	**278**	P		**P**	**00 59 48.8**	**+0.8**
CTA				LR		LR	01 10 10.2	
	comp=Z,43nm,19.1s,MS3.2,baz=229,slow=30							
CTAO	**Charters Tower** 5.1nm,0.3s,mb4.9	**34.16**	**278**	*e*P		**P**	**00 59 50.1**	**+2.1**
STKA	**Stephens Creek** 1.4nm,0.4s,mb4.2,baz=103,slow=14,SNR=6.4	**35.05**	**256**	P		**P**	**00 59 55.7**	**0.0**
STKA	**Stephens Creek**	**35.05**	**256**	P		**P**	**00 59 55.7**	**0.0**
ASAR	**Alice Springs** 1.9nm,0.6s,mb4.0,baz=109,slow=7.7,SNR=18	**43.60**	**266**	P		**P**	**01 01 06.0**	**-0.9**
WB2	**Warramunga Arr**	**44.52**	**271**	*e*P		**P**	**01 01 13.9**	**-0.4**
WRAB	**Tennant Creek** 3.9nm,0.5s,mb4.5	**44.53**	**271**	*e*P		**P**	**01 01 15.2**	**+0.8**
WRA	**Warramunga Arr** 2.1nm,0.4s,mb4.3,baz=109,slow=7.8,SNR=11	**44.53**	**271**	P		**P**	**01 01 13.4**	**-1.0**
VNDA	**Vanda** 0.2nm,0.6s,mb3.3	**48.71**	**186**	*e*P		**P**	**01 01 47.1**	**0.0**
FITZ	**Fitzroy Crossi** 1.9nm,0.8s,mb4.1,baz=114,slow=10.0,SNR=3.9	**52.82**	**269**	P		**P**	**01 02 17.9**	**-0.2**
CASY	**Casey** 2.4nm,0.4s,mb4.6	**55.85**	**208**	*e*P		**P**	**01 02 39.4**	**-0.7**
GUMO	**Guam**	**56.40**	**315**	P		**P**	**01 02 44.3**	**+0.2**
MAW	**Mawson** 0.7nm,0.5s,mb3.9,baz=93,slow=8.0,SNR=4.1	**73.00**	**200**	P		**P**	**01 04 32.7**	**+0.5**
MAW	**Mawson** 1.8nm,0.8s,mb4.0	**73.00**	**200**	*e*P		**P**	**01 04 32.7**	**+0.4**
SNAA	**Sanae** comp=Z,27nm,18.2s,MS3.6,baz=217,slow=34	**78.71**	**178**	LR		LR	01 37 41.5	
SNAA	**Sanae**	**78.71**	**178**	P		**P**	**01 05 04.8**	**0.0**
KAF	**Kangasniemi**	**144.16**	**341**	*e*pkp	PKPdf		01 12 35.0	-3.2
FINES	**FINESS Array B** 7.2nm,0.4s,baz=64,slow=3.9,SNR=99	**144.76**	**341**	PKP	PKPdf		01 12 37.5	-1.7
FINES	**FINESS Array B**	**144.76**	**341**	PKP	PKPdf		01 12 37.5	-1.7
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.7s,baz=17,slow=2.6	**148.25**	**352**	PKPa	PKPdf		01 12 48.7	+3.6
NOA	**NORSAR Array B** comp=Z,1.1nm,0.5s,baz=16,slow=4.4,SNR=7.8	**148.25**	**352**	PKPbc	PKPbc		01 12 48.3	-0.2
AKASG	**Malin Array Be** comp=Z,0.8nm,0.4s,baz=48,slow=3.1,SNR=5.2	**151.12**	**324**	PKPbc	PKPbc		01 12 55.0	-0.6
BRTR	**Keskin Array B** comp=Z,0.6nm,0.5s,baz=152,slow=6.4,SNR=5.4	**152.72**	**300**	PKPbc	PKPbc		01 12 59.1	-0.1

CASC 26 00:57:33.9±1.8, 1392N×9111W, h80km±67km, MD3.6, 4C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**0.86**	**6** ⇓	*e*P		Pn	00 57 52.2	+1.0
TP2				eS		Sn	00 58 06.1	+1.9
RBDL	**Robledal**	**1.39**	**82**	*e*P		x	00 58 11.3	
RBDL				eS		x	00 58 30.7	
RTR	**El Retiro**	**1.42**	**91**	*e*P		x	00 58 12.3	
RTR				eS		x	00 58 31.9	
SBLS	**San Blas**	**1.44**	**93** ⇑	*e*P		x	00 58 12.1	
SBLS				eS		x	00 58 31.6	
SNJE	**San Jose**	**1.46**	**92**	*e*P		x	00 58 12.3	
SNJE				eS		x	00 58 31.8	
MTO2	**Montecristo 2**	**1.76**	**74**	*e*P		x	00 58 16.1	
MTO2				eS		x	00 58 39.1	
BOQS	**Boqueron**	**1.79**	**96** ⇑	*e*P		x	00 58 16.7	
BOQS				eS		x	00 58 39.9	
LFRS	**El Faro**	**2.01**	**98** ⇑	*e*P		x	00 58 19.9	
LFRS				eS		x	00 58 44.3	
LCBS	**La Ceiba**	**2.08**	**97** ⇑	*e*P		x	00 58 21.4	
LCBS				eS		x	00 58 46.6	

ISCJB ***26*** *00:59:19.5±0.6, 1651S±005×7186W±008, h96km±5km, mb4.3/17, Error ellipse: s-maj=12.7km s-min=7.7km az=139.7*

NEIC ***26*** *00:59:19.8±0.6, 1653S×7187W, h87km±5km, mb4.5/7, Error ellipse: s-maj=9.3km s-min=5.9km az=79.0*

NEIC Felt [IV] at Arequipa, Mollendo and Punta de Bombon.

IDC ***26*** *00:59:19.1±1.9, 1655S×7190W, h81km±18km, mb4.1/11, mb1 4.1/16, mb1mx4.0/25, mbtmp4.4/16, MS3.6/6, Ms1 3.6/6, ms1mx3.1/29, Error ellipse: s-maj=20.8km s-min=13.9km az=83.0*

BJI ***26*** *00:59:19.7, 1650S×7190W, h86km, mB5.0, Ms4.9, Msz5.1*

ISC 26 00:59:20.1±0.6, 1656S±005×7192W±008, h88km±5km, h92km±5.5km: pP-P, n52, σ0§99/50, mb4.3/17, 1C-3D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.43**	**76** ⇓	*i*P		**Pn**	**00 59 35.0**	**+0.9**
ARE				*i* S		**Sn**	**00 59 46.3**	**+1.9**
LPAZ	**La Paz**	**3.65**	**86**	P		**Pn**	**01 00 19.0**	**+4.7**
	55nm,0.3s,baz=267,slow=11,SNR=758							
LPAZ				S		**Sn**	**01 01 03.9**	**+7.5**
	5.4nm,0.3s,baz=39,slow=24,SNR=4.7							
LPAZ	**La Paz**	**3.65**	**86** ⇓	*i*Pn		**Pn**	**01 00 19.0**	**+4.7**
LPAZ				*e*Sn		**Sn**	**01 01 01.6**	**+5.3**
NNA	**Nana**	**6.59**	**313**	P		**Pn**	**01 00 52.7**	**-1.6**
	10nm,0.3s,baz=147,slow=10,SNR=28							
NNA				S		**Sn**	**01 02 12.3**	**+4.4**
	16nm,0.3s,baz=210,slow=18,SNR=7.7							
NNA				LR		LR	01 03 12.2	
	comp=Z,238nm,19.6s,baz=150,slow=35							
NNA	**Nana**	**6.59**	**313**	*e*Pn		**Pn**	**01 00 53.3**	**-1.0**
	130nm,0.6s							
NNA				*e*Sn		**Sn**	**01 02 14.9**	**+7.0**
LVC	**Limon Verde**	**6.65**	**155**	P		**Pn**	**01 00 55.3**	**+0.2**
	73nm,0.3s,baz=333,slow=14,SNR=1328							
LVC				S		**Sn**	**01 02 06.9**	**-2.6**
	38nm,0.3s,baz=140,slow=18,SNR=12							
LVC				LR		LR	01 03 48.1	
	comp=Z,300nm,18.2s,baz=315,slow=40							
LVC	**Limon Verde**	**6.65**	**155**	*e*Pn		**Pn**	**01 00 55.1**	**-0.1**
	206nm,0.5s							
LVC				*e*Sn		**Sn**	**01 02 07.8**	**-1.6**
SIV	**San Ignacio**	**10.44**	**88**	P		**Pn**	**01 01 45.3**	**-1.4**
	2.8nm,0.3s,baz=270,slow=12,SNR=32							
SAML	**Samuel**	**11.40**	**49**	*e*Pn		**Pn**	**01 01 58.1**	**-1.7**
	135nm,1.3s							
ATAH	**Atahualpa**	**11.42**	**326**	P		**Pn**	**01 01 59.1**	**-1.0**
	0.2nm,0.3s,baz=135,slow=16,SNR=1.8							
CFAA	**Coronel Fontan**	**15.35**	**168**	P		**Pn**	**01 02 52.5**	**+0.8**
	0.1nm,0.3s,baz=341,slow=12,SNR=52							
CFAA	**Coronel Fontan**	**15.35**	**168**	P		**Pn**	**01 02 52.5**	**+0.8**
CPUP	**Villa Florida**	**16.69**	**128**	P		**Pn**	**01 03 07.0**	**-1.4**
	1.4nm,0.3s,baz=288,slow=11,SNR=13							
CPUP	**Villa Florida**	**16.69**	**128**	*e*Pn		**Pn**	**01 03 06.7**	**-1.7**
	33nm,0.8s							
ROSC	**El Rosal**	**21.41**	**353**	LR		LR	01 13 22.1	
	comp=Z,208nm,20.7s,baz=207,slow=39							
BDFB	**Brasilia**	**22.99**	**91**	P		**P**	**01 04 17.5**	**+0.2**
	3.1nm,0.5s,mb3.9,baz=264,slow=9.1,SNR=6.7							
BDFB				LR		LR	01 14 51.4	
	comp=Z,123nm,19.3s,baz=263,slow=41							
TRQA	**Tornquist** 19nm,1.1s,mb4.3	**23.13**	**160**	*e*P		**P**	**01 04 19.5**	**+0.9**
PLCA	**Paso Flores**	**24.11**	**177**	P		**P**	**01 04 26.8**	**-0.8**
	16nm,0.9s,mb4.4,baz=348,slow=12,SNR=21							
SDV	**Santo Domingo**	**25.32**	**3**	P		**P**	**01 04 38.5**	**0.0**
	3.9nm,0.8s,mb3.9,baz=224,slow=7.2,SNR=5.1							
PCRV	**Puerto La Cruz**	**27.53**	**16**	P		**P**	**01 04 57.8**	**-0.6**
	8.0nm,0.8s,mb4.3,baz=314,slow=18,SNR=3.2							
PCRV				LR		LR	01 16 07.3	
	comp=Z,108nm,18.9s,baz=21,slow=37							
EFI	**East Falkland** 20nm,0.8s,mb5.1	**36.73**	**166**	*e*P		**P**	**01 06 19.1**	**+0.3**
BBSR	**BB Station**	**49.15**	**8**	P		**P**	**01 07 60.0**	**+1.1**
SWET	**Sewanee**	**53.18**	**346**	P		**P**	**01 08 33.5**	**+4.4**
BRNJ	**Basking Ridge**	**57.00**	**358**	P		**P**	**01 08 56.7**	**+0.1**
SDCO	**Great Sand Dun** 3.1nm,0.9s,mb4.2	**62.57**	**330**	P		**P**	**01 09 34.1**	**-0.6**
VNA3	**Neumayer Olymp**	**65.64**	**162**	*e*		**P**	**01 09 55.8**	**+1.0**
VNA3				*e*			01 09 57.3	
VNA3				*e*		pP	01 10 17.2	0.0
VNA3				*e*		pP	01 10 21.3	+4.1
VNA1	**Neumayer--Stat**	**65.86**	**161**	*e*		**P**	**01 09 57.7**	**+1.4**
VNA1				*e*			01 09 58.7	
VNA1				*e*		pP	01 10 19.2	+0.6
VNA1				*e*		pP	01 10 23.4	+4.8
SNAA	**Sanae** 3.4nm,0.8s,mb4.2,baz=278,slow=6.5,SNR=51	**67.85**	**161**	P		**P**	**01 10 08.7**	**-0.2**
SNAA	**Sanae**	**67.85**	**161** ⇓	*i*		**P**	**01 10 09.2**	**+0.3**
SNAA				*e*			01 10 10.3	
SNAA				*e*		pP	01 10 30.6	-0.7
ISA	**Isabella**	**68.12**	**320**	*e*P		**P**	**01 10 15.7**	**+5.1**
PDAR	**Pinedale Array** comp=Z,150nm,18.4s,baz=226,slow=41	**68.43**	**331**	LR		LR	01 46 18.6	
DBIC	**Dimbokro** 3.6nm,0.5s,mb4.4,baz=253,slow=6.8,SNR=15	**70.22**	**76**	P		**P**	**01 10 23.5**	**0.0**
SCHQ	**Schefferville**	**71.24**	**3**	P		**P**	**01 10 32.5**	**+2.8**
QSPA	**South Pole Qui** 2.3nm,0.5s,mb4.2	**73.60**	**180**	*e*P		**P**	**01 10 44.4**	**+0.6**
TOA0	**Torodi Ar. Sit**	**78.50**	**73**	*e*P		**P**	**01 11 11.3**	**-0.2**
TOA0				*e*pP		pP	01 11 35.9	+1.4
TORD	**Torodi Ar. Bea** 4.6nm,0.6s,mb4.4,baz=263,slow=4.9,SNR=105	**78.50**	**73**	P		**P**	**01 11 11.3**	**-0.3**
TORD	**Torodi Ar. Bea**	**78.50**	**73**	P		**P**	**01 11 11.3**	**-0.3**
MDT	**Midelt** 1.0nm,0.6s,mb3.8,baz=226,slow=7.2,SNR=4.2	**80.87**	**52**	P		**P**	**01 11 25.0**	**+0.6**
VNDA	**Vanda** 1.5nm,1.0s,mb3.8,baz=120,slow=5.1,SNR=6.9	**81.18**	**190**	P		**P**	**01 11 25.3**	**-0.8**
SYO	**Syowa Base**	**82.09**	**160** ⇑	*e*P		**P**	**01 11 30.8**	**-0.1**
ESDC	**Sonseca Array** 1.9nm,0.6s,mb4.1,baz=251,slow=5.6,SNR=13	**84.40**	**46**	P		**P**	**01 11 43.3**	**+0.5**
ESLA	**Sonseca Array** 3.9nm,1.3s,mb4.1	**84.40**	**46**	*e*P		**P**	**01 11 43.4**	**+0.7**
LBTB	**Lobatse**	**89.70**	**116**	*e*P		**P**	**01 12 08.4**	**+0.1**
BORG	**Borgarnes** 20nm,1.1s,mb5.2	**89.70**	**19**	P		**P**	**01 12 07.1**	**-1.2**
MAW	**Mawson** 2.6nm,0.9s,mb4.4,baz=170,slow=5.8,SNR=4.2	**89.84**	**164**	P		**P**	**01 12 09.0**	**-0.1**
AS31	**Alice Springs**	**132.72**	**213**	*e*P		Pdif	01 15 26.7	+5.9
ASPA	**Alice Springs**	**132.72**	**213**	*e*P		Pdif	01 15 26.7	+5.9
TLY	**Talaya**	**144.79**	**5**	*e*PKPdf		PKPdf	01 18 46.9	+0.2
WMQ	**Urumqi**	**147.80**	**28**	*e*PKP		PKPdf	01 18 55.0	+3.2
SONM	**Songino Array** 1.3nm,0.6s,baz=327,slow=2.6,SNR=10	**148.79**	**2**	PKPbc		PKPbc	01 18 56.8	-0.5
HHC	**Hu-ho-hao-te**	**155.61**	**354**	*e*PKP		PKPdf	01 19 05.0	+1.5
HHC				PKP2		PKPab	01 19 34.5	+4.5
HHC				PKS			01 22 37.5	
HHC				PP		PP	01 23 13.0	+6.1
HHC				SKS		SKSdf	01 25 59.8	-2.2
HHC				LR		LR		
	comp=N,85nm,4.9s							
HHC				LR		LR		
	comp=E,129nm,5.1s							
HHC				LR		LR		
	comp=Z,75nm,4.5s							
LZH	**Lanzhou**	**160.19**	**10**	*e*PKP		PKPdf	01 19 11.5	+2.4
LZH				APKP			01 19 35.5	
LZH				XPKP			01 19 47.0	
LZH				LR		LR		
	comp=N,123nm,19.6s							
LZH				LR		LR		
	comp=Z,245nm,20.3s							

NIED ***26*** *01:02:00, 4640N×15340E, h11km, Mw5.0 Best double couple: M0 3.48000×10^16 NP1:φs349.00000°, δ59.00000°, λ41.00000°. NP2:φs235.00000°, δ56.00000°, λ141.00000°.*

SKHL ***26*** *01:02:12.7±2.7, 4610N×15380E, h50km±20km, mb5.6/5, mbh5.8/6, mbv6.0/8, ms5.2/8, msh6.0/3*

BJI ***26*** *01:02:13.3, 4668N×15331E, h14km, mB5.4, mb5.1, Ms5.1, Msz4.9*

IDC ***26*** *01:02:13.4±0.4, 4638N×15307E, h0km, mb4.8/32, mb1 4.9/33, mb1mx4.9/35, mbtmp4.8/33, ML4.2/1, MS4.7/18, Ms1 4.7/18, ms1mx4.4/33, Error ellipse: s-maj=14.0km s-min=11.8km az=151.0*

GCMT ***26*** *01:02:15.2±0.2, 4636N×15352E, h18km, MW5.2/89, Moment Tensor Solution. s58,c97; s89,c170; Duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr0.71±.02, Mθθ-0.36±.01; Mφφ-0.34±.01; Mrθ0.32±.03; Mrφ-0.41±.01; Mθφ0.44±.03; Best double couple: M0 0.91600×10^17 NP1:φs232.00000°, δ27.00000°, λ101.00000°. NP2: φs40.00000°, δ63.00000°, λ84.00000°. Principal axes: T 0.8910, Plg71.0000°, Azm297.0000°; N 0.0510, Plg5.0000°, Azm42.0000°; P -0.9420, Plg18.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *01:02:15.2±0.1, 4640N×15320E, h10km, mb5.3/130, MS5.1/15 Error ellipse: s-maj=4.3km s-min=2.7km az=162.0*

JMA ***26*** *01:02:15.5±1.1, 4640N×15343E, h30km, M5.5*

BGS ***26*** *01:02:15.5±2.1, 4644N×15317E, h10km±999km, mb5.2*

MOS ***26*** *01:02:17.0±0.9, 4646N×15314E, h30km, mb5.4/99, MS5.1/33, Error ellipse: s-maj=6.5km s-min=3.7km az=101.8*

ISCJB ***26*** *01:02:18.0±0.1, 4630N±003×15319E±003, h43km, mb5.2/233, MS4.9/59, Error ellipse: s-maj=4.2km s-min=2.1km az=130.7*

SZGRF ***26*** *01:02:27.3, 4795N×15225E, h33km, mb5.4, MS5.0, Kuril Islands, Russia*

ISC 26 01:02:20.2±0.1, 4644N±003×15315E±003, h45km, h45km±.7km: pP-P, n809, σ0§99/833, mb5.2/233, MS4.9/59, 64C-33D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**254** ⇑	*i*PN		**Pn**	**01 03 14.5**	**-2.8**
KUR				*i* S		**Sn**	**01 04 08.0**	**+6.4**
KUR	**Kuril'sk**	**3.88**	**254**	*e*P		**Pn**	**01 03 14.5**	**-2.8**
SKR	**Severo-Kuril's**	**4.69**	**24**	*e*P		**Pn**	**01 03 23.5**	**-4.9**
SKR				AMB	AMB	AMB	01 03 27.0	
	400nm,1.0s							
SKR				AMB	AMB	AMB	01 03 27.0	
	630nm,1.0s							
SKR				AMB	AMB	AMB	01 03 27.0	
	1μm,1.0s							
SKR				AMB	AMB	AMB	01 03 28.0	
	2μm,2.0s							
SKR				*e*S		**Sn**	**01 04 13.1**	**-8.4**
SKR				A			01 04 23.1	
	12μm,8.0s							
SKR				A			01 04 23.1	
	7μm,8.0s							
SKR				A			01 04 23.1	
	5μm,4.0s							
SKR				A			01 04 23.1	
	5μm,4.0s							
SKR				A			01 04 23.1	
	12μm,8.0s							
SKR				A			01 04 23.1	
	7μm,8.0s							
SKR				A			01 04 23.1	
	2μm,0.8s							
SKR				A			01 04 23.1	
	1μm,0.8s							
SKR				A			01 04 23.1	
	400nm,0.8s							
SKR				AMS	AMS		01 05 22.0	
	5μm,13.0s							
SKR				AMS	AMS		01 05 22.0	
	16μm,13.0s							
SKR				AMS	AMS		01 05 22.0	
	8μm,13.0s							
SKR				AMS	AMS		01 05 22.0	
	5μm,13.0s							
SKR				AMS	AMS		01 05 22.0	
	15μm,13.0s							
SKR				AMS	AMS		01 05 22.0	
	10μm,13.0s							
YUK	**Yuzh-Kuril'sk**	**5.68**	**248**	*e*P		**Pn**	**01 03 41.0**	**-1.0**
YUK				AMB	AMB		01 03 46.0	
	550nm,0.5s							
YUK				AMB	AMB		01 03 58.0	
	3μm,1.5s							
YUK				AMB	AMB		01 03 58.0	
	3μm,1.5s							
YUK				AMB	AMB		01 03 58.0	
	3μm,3.0s							
YUK				*i* S		**Sn**	**01 04 45.2**	**-0.6**
YUK				A			01 04 55.0	
	2μm,0.6s							
YUK				A			01 04 55.0	
	770nm,0.6s							
YUK				A			01 04 58.8	
	14μm,2.8s							
YUK				A			01 04 58.8	
	7μm,2.8s					

PET				pmax	pmax				
	comp=Z,253nm,1.1s								
PET				MLR	MLR				
	comp=Z,4μm,19.0s								
PET	**Petropavlovsk**	**7.50**	**26**	*e*Pn	**Pn**	**01 04 04.0**	**-2.9**		
	comp=Z,194nm,0.9s								
JOB	**Onbets**	**7.52**	**245**	P	**Pn**	**01 04 05.7**	**-1.5**		
JSE	**Soyaes**	**7.54**	**263**	⇓P	**Pn**	**01 04 09.9**	**+2.3**		
JKK2	**Kamakawa 2**	**7.78**	**255**	P	**Pn**	**01 04 11.2**	**+0.3**		
ASAJ	**Asahikawa**	**7.79**	**256**	Pn	**Pn**	**01 04 10.9**	**-0.1**		
	comp=Z,12nm,0.3s,baz=86,slow=19,SNR=47								
ASAJ				LR	LR	01 07 04.2			
	comp=Z,5μm,18.8s,baz=200,slow=38								
ASAJ	**Asahikawa**	**7.79**	**256**	P	**Pn**	**01 04 12.0**	**+1.0**		
ASAJ	**Asahikawa**	**7.79**	**256**	PN	**Pn**	**01 04 10.9**	**-0.1**		
ASAJ				pmax	pmax				
	comp=Z,12nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,5μm,18.8s								
UGL	**Uglegorsk**	**7.92**	**294**	*e*P	**Pn**	**01 04 16.2**	**+3.4**		
UGL				AMB	AMB	01 04 17.7			
	comp=Z,270nm,0.7s								
UGL				*e*S	**Sn**	**01 05 52.0**	**+11**		
UGL				A		01 05 54.0			
	comp=Z,77nm,0.5s								
UGL				A		01 05 54.0			
	comp=Z,100nm,0.5s								
JWK2	**Keihoku**	**7.93**	**266**	P	**Pn**	**01 04 16.4**	**+3.5**		
JCH	**Churui**	**7.96**	**245**	P	**Pn**	**01 04 11.1**	**-2.3**		
JFR	**Furan**	**8.19**	**250**	P	**Pn**	**01 04 17.5**	**+1.1**		
JSS	**Shosan**	**8.20**	**260**	P	**Pn**	**01 04 19.1**	**+2.5**		
TYV	**Tymovskoe**	**8.24**	**306**	*e*P	**Pn**	**01 04 20.0**	**+2.9**		
TYV				AMB	AMB	01 04 28.0			
	comp=Z,2μm,8.0s								
TYV				AMB	AMB	01 04 28.0			
	comp=Z,3μm,8.0s								
TYV				AMB	AMB	01 04 31.0			
	comp=Z,154nm,1.0s								
TYV				AMB	AMB	01 04 31.0			
	comp=Z,308nm,1.0s								
TYV				AMS	AMS	01 07 54.0			
	comp=Z,16μm,16.0s								
TYV				AMS	AMS	01 07 54.0			
	comp=Z,10μm,16.0s								
JAB	**Ashibetsu**	**8.28**	**253**	⇓P	**Pn**	**01 04 18.7**	**+1.0**		
ERM	**Erimo**	**8.42**	**242**	*e*PN	**Pn**	**01 04 18.7**	**-0.9**		
ERM				pmax	pmax				
	comp=Z,179nm,0.5s								
ERM	**Erimo**	**8.42**	**242**	*e*Pn	**Pn**	**01 04 18.6**	**-1.0**		
	comp=Z,179nm,0.5s								
JEM	**Erimo**	**8.42**	**242**	P	**Pn**	**01 04 18.1**	**-1.5**		
JEM				*e*S	**Sn**	**01 05 49.0**	**-4.3**		
JBT2	**Biratori 2**	**8.52**	**248**	P	**Pn**	**01 04 19.8**	**-1.1**		
JHR	**Hokuryu**	**8.52**	**256**	P	**Pn**	**01 04 22.4**	**+1.5**		
JNBK	**Urakawa-nobuka**	**8.53**	**245**	P	**Pn**	**01 04 18.0**	**-3.0**		
JEW	**Eniwo**	**9.08**	**251**	P	**Pn**	**01 04 29.2**	**+0.6**		
JSK	**Shakotan**	**9.51**	**256**	P	**Pn**	**01 04 35.0**	**+0.5**		
JNB	**Noboribetsu**	**9.52**	**250**	P	**Pn**	**01 04 33.1**	**-1.6**		
JNB				*e*S	**Sn**	**01 06 16.5**	**-3.8**		
OKH	**Okha**	**9.69**	**321**	*e*P	**Pn**	**01 04 36.4**	**-0.5**		
OKH				AMB	AMB	01 04 40.0			
	comp=Z,3μm,4.0s								
OKH				AMB	AMB	01 04 40.0			
	comp=Z,3μm,4.0s								
OKH				AMB	AMB	01 04 40.0			
	comp=Z,4μm,8.0s								
OKH				*e*S	**Sn**	**01 06 36.0**	**+12**		
OKH				AMS	AMS	01 09 04.2			
	comp=Z,8μm,14.0s								
OKH				AMS	AMS	01 09 04.2			
	comp=Z,9μm,14.0s								
OKH				AMS	AMS	01 09 04.2			
	comp=Z,7μm,14.0s								
OKH	**Okha**	**9.69**	**321**	*e*PN	**Pn**	**01 04 36.4**	**-0.5**		
OKH				*e*S	**Sn**	**01 06 36.0**	**+12**		
OKH				pmax	pmax				
	comp=Z,4μm,8.0s								
JKB	**Kayabe**	**9.82**	**247**	P	**Pn**	**01 04 35.8**	**-2.9**		
JKB				*e*S	**Sn**	**01 06 19.8**	**-7.8**		
JSH	**Shimam**	**10.09**	**253**	P	**Pn**	**01 04 42.2**	**-0.3**		
JYM2	**Yakumo 2**	**10.13**	**249**	P	**Pn**	**01 04 41.0**	**-2.0**		
JSR	**Shiriuchi**	**10.40**	**246**	P	**Pn**	**01 04 44.1**	**-2.6**		
JANG	**Nango**	**10.40**	**239**	P	**Pn**	**01 04 41.0**	**-5.7**		
JTM	**Tenmabayashi**	**10.41**	**242**	P	**Pn**	**01 04 43.2**	**-3.7**		
JTM				*e*S	**Sn**	**01 06 33.5**	**-8.7**		
NKL	**Nikolayevsk**	**10.48**	**314**	*i* P	**Pn**	**01 04 47.0**	**-0.9**		
NKL				AMB	AMB	01 04 53.0			
	comp=Z,1μm,5.0s								
NKL				AMB	AMB	01 04 53.0			
	comp=Z,3μm,5.0s								
NKL				AMB	AMB	01 04 53.0			
	comp=Z,2μm,5.0s								
NKL				AMB	AMB	01 04 58.7			
	comp=Z,210nm,1.2s								
NKL				AMB	AMB	01 04 58.7			
	comp=Z,90nm,1.2s								
NKL				AMB	AMB	01 04 58.7			
	comp=Z,260nm,1.2s								
NKL				*e*S	**Sn**	**01 06 52.0**	**+8.1**		
NKL				AMS	AMS	01 09 29.0			
	comp=Z,14μm,16.0s								
NKL				AMS	AMS	01 09 29.0			
	comp=Z,5μm,16.0s								
JOSM	**Okushiri--Mats**	**10.72**	**251**	P	**Pn**	**01 04 49.2**	**-2.0**		
OFUJ	**Ofunato**	**11.18**	**233**	P	**Pn**	**01 04 51.4**	**-6.0**		
OFUJ				*e*S	**Sn**	**01 06 48.3**	**-13**		
JRG	**Rokugo**	**11.55**	**237**	P	**Pn**	**01 04 57.0**	**-5.5**		
JRG				*e*S	**Sn**	**01 07 00.2**	**-10**		
TEY	**Ternei**	**11.65**	**269**	*e*P	**Pn**	**01 05 04.0**	**+0.2**		
TEY				AMB	AMB	01 05 09.0			
	comp=Z,3μm,6.0s								
TEY				AMB	AMB	01 05 09.0			
	comp=Z,3μm,6.0s								
TEY				AMS	AMS	01 09 55.0			
	comp=Z,6μm,15.0s								
TEY				AMS	AMS	01 09 55.0			
	comp=Z,4μm,15.0s								
JIO	**Ouri**	**11.80**	**232**	P	**Pn**	**01 05 00.2**	**-5.7**		
JIO				*e*S	**Sn**	**01 07 04.3**	**-12**		
HABR	**Khabarovsk**	**12.42**	**286**	⇑*i* PN	**Pn**	**01 05 17.8**	**+3.5**		
HABR				*e*S	**Sn**	**01 07 37.4**	**+6.2**		
HABR				pmax	pmax				
	comp=Z,123nm,1.7s								
HABR				MLR	MLR				
	comp=Z,7μm,15.0s								
MA2	**Magadan**	**13.24**	**355**	*e*PN	**Pn**	**01 05 26.3**	**+0.8**		
MA2				*e*S	**Sn**	**01 07 57.5**	**+6.3**		
MA2				pmax	pmax				
	comp=Z,60nm,0.8s								
MA2				MLR	MLR				
	comp=Z,17μm,12.7s								
MA2	**Magadan**	**13.24**	**355**	*e*Pn	**Pn**	**01 05 26.5**	**+1.0**		
	comp=Z,36nm,0.6s								
JFY	**Yanaizu**	**13.46**	**233**	P	**Pn**	**01 05 24.1**	**-4.4**		
KLR	**Kul'dur**	**14.63**	**289**	*e*P	**Pn**	**01 05 43.2**	**-1.2**		
KLR				pmax	pmax				
	comp=E,110nm,1.8s								
KLR				pmax	pmax				
	comp=Z,100nm,1.8s								
KLR				pmax	pmax				
	comp=E,2μm,10.0s								
KLR				pmax	pmax				
	comp=Z,2μm,10.0s								
KLR				MLR	MLR				
	comp=E,6μm,15.0s								
KLR				MLR	MLR				
	comp=Z,7μm,15.0s								
MJAR	**Matsushiro Arr**	**14.91**	**234**	Pn	**Pn**	**01 05 45.8**	**-2.2**		
	comp=Z,1.2nm,0.3s,baz=31,slow=12,SNR=19								
MAJO	**Matsushiro**	**14.91**	**234**	*e*P	**Pn**	**01 05 43.6**	**-4.4**		
MAJO				*e*		01 08 33.8			
MAJO				pmax	pmax				
	comp=Z,60nm,0.9s								
MAJO	**Matsushiro**	**14.91**	**234**	*e*Pn	**Pn**	**01 05 43.6**	**-4.4**		
	comp=Z,60nm,0.9s								
MAJO				*e*Sn	**Sn**	**01 08 33.8**	**+1.9**		
MAT	**Matsushiro**	**14.91**	**234**	P	**Pn**	**01 05 46.8**	**-1.2**		
MAT				S	**Sn**	**01 08 27.0**	**-4.9**		
VLA	**Vladivostok**	**15.44**	**265**	⇓*e*P	**Pn**	**01 05 54.2**	**-0.8**		
VLA				pmax	pmax				
	comp=Z,70nm,1.3s								
VLA	**Vladivostok**	**15.44**	**265**	⇓*e*P	**Pn**	**01 05 54.3**	**-0.7**		
SEY	**Seymchan**	**16.54**	**359**	⇑*e*P	**Pn**	**01 06 07.0**	**-1.9**		
SEY	**Seymchan**	**16.54**	**359**	⇑*e*P	**Pn**	**01 06 07.1**	**-1.8**		
MDJ	**Mudanjiang**	**16.59**	**272**	P	**Pn**	**01 06 09.0**	**-0.6**		
MDJ				S	**S**	**01 09 13.3**	**-9.3**		
MDJ				PCP	PcP	01 10 58.3	+0.4		
MDJ				PCS	PcS	01 14 34.3	+0.5		
MDJ				SCS	ScS	01 18 08.8	+0.7		
MDJ				AMB	AMB				
	comp=Z,85nm,1.1s								
MDJ				AMB	AMB				
	comp=Z,546nm,7.5s								
MDJ				LR	LR				
	comp=N,3μm,14.9s								
MDJ				LR	LR				
	comp=E,3μm,17.1s								
MDJ				LR	LR				
	comp=Z,4μm,16.6s								
MDJ	**Mudanjiang**	**16.59**	**272**	⇑*e*Pn	**Pn**	**01 06 09.5**	**-0.1**		
	comp=Z,54nm,0.8s								
MDJ				S	**S**	**01 09 36.9**	**+14**		
CN2	**Changchun**	**19.68**	**272**	*e*P	**Pn**	**01 06 43.5**	**-3.7**		
CN2				*e*XP	sP	01 06 59.8	-2.2		
CN2				*e*S	**S**	**01 10 19.5**	**-5.5**		
CN2				AMB	AMB				
	comp=Z,20nm,0.7s								
CN2				AMB	AMB				
	comp=Z,420nm,6.0s								
CN2				LR	LR				
	comp=N,3μm,18.0s								
CN2				LR	LR				
	comp=E,3μm,18.0s								
CN2				LR	LR				
	comp=Z,3μm,18.0s								
CLNS	**Chul'man**	**20.24**	**311**	*e*P	**P**	**01 06 51.0**	**-0.6**		
CLNS				*e*		01 07 06.5			
CLNS				*e*PPP		01 07 13.3			
CLNS				*e*S	**S**	**01 10 41.8**	**+5.6**		
CLNS				*e*		01 10 56.5			
CLNS				*e*SS		01 11 16.1			
CLNS				pmax	pmax				
	comp=Z,59nm,1.4s								
CLNS				pmax	pmax				
	comp=N,39nm,1.3s								
CLNS				pmax	pmax				
	comp=E,38nm,1.3s								
CLNS				smax					
	comp=Z,14nm,0.9s								
CLNS				smax					
	comp=N,47nm,1.7s								
CLNS				smax					
	comp=E,29nm,1.0s								
CLNS				MLR	MLR				
	comp=Z,8μm,16.0s,MS5.2								
CLNS				MLR	MLR				
	comp=N,4μm,15.0s,MS5.1								
CLNS				MLR	MLR				
	comp=E,6μm,15.0s,MS5.1								
YAK	**Yakutsk**	**20.60**	**328**	*d i* P	**P**	**01 06 55.5**	**+0.1**		
YAK				*e*		01 07 09.9			
YAK				*e*PPP		01 07 21.2			
YAK				*e*S	**S**	**01 10 43.4**	**+0.2**		
YAK				*i* *SS	sS	01 10 50.5	-10		
YAK				*i* SS		01 11 02.2			
YAK				*e*		01 11 09.9			
YAK				*i*		01 18 21.2			
YAK				pmax	pmax				
	comp=Z,68nm,0.9s								
YAK				pmax	pmax				
	comp=N,17nm,1.2s								
YAK				pmax	pmax				
	comp=E,37nm,1.9s								
YAK				smax					
	comp=E,146nm,1.9s								
YAK				smax					
	comp=N,259nm,3.2s								
YAK				MLR	MLR				
	comp=N,2μm,17.0s,MS4.7								
YAK				MLR	MLR				
	comp=Z,2μm,17.0s,MS4.6								
YAK				MLR	MLR				
	comp=E,2μm,16.0s,MS4.7								
YAK	**Yakutsk**	**20.60**	**328**	*e*Pr	**P**	**01 06 54.9**	**-0.5**		
INCN	**Inchon**	**21.57**	**255**	⇓P	**P**	**01 07 07.1**	**+1.2**		
	SNR=9.6								
INCN	**Inchon**	**21.57**	**255**	*e*P	**P**	**01 07 06.5**	**+0.6**		
	comp=E,43nm,0.5s,mb5.1								
HIA	**Hailar**	**22.49**	**289**	*e*P	**P**	**01 07 13.5**	**-2.2**		
HIA				*e*S	**S**	**01 11 20.2**	**+0.3**		
HIA				pmax	pmax				
	comp=Z,12nm,0.4s								
HIA	**Hailar**	**22.49**	**289**	*e*P	**P**	**01 07 13.5**	**-2.2**		
	comp=Z,12nm,0.4s,mb4.7								
HIA				*e*S	**S**	**01 11 20.2**	**+0.3**		
BILL	**Bilibino**	**22.69**	**13**	⇓*e*P	**P**	**01 07 16.8**	**-1.0**		
BILL				*i*		01 07 23.2			
BILL						01 07 44.0			
BILL				*i*		01 07 57.9			
BILL				*e*S	**S**	**01 11 27.2**	**+4.0**		
BILL				pmax	pmax				
	comp=Z,75nm,2.5s,mb4.7								
BILL				MLR	MLR				
	comp=Z,2μm,15.0s,MS4.7								
BILL	**Bilibino**	**22.69**	**13**	*e*P	**P**	**01 07 16.3**	**-1.6**		
	comp=Z,88nm,1.1s,mb5.1								
BILL				*e*S	**S**	**01 11 28.3**	**+5.1**		
DL2	**Dalian**	**24.25**	**263**	⇑*i* P	**P**	**01 07 33.0**	**+0.1**		
DL2				AP		01 07 43.0			
DL2				PP		01 08 09.0			
DL2				S	**S**	**01 11 49.8**	**+1.4**		
DL2				XS	sS	01 12 02.5	-5.8		
DL2				AMB	AMB				
	comp=Z,50nm,1.2s,mb4.8								
DL2				AMB	AMB				
	comp=Z,620nm,5.2s								
DL2				LR	LR				
	comp=N,670nm,16.5s,MS4.3								
DL2				LR	LR				
	comp=E,480nm,17.6s,MS4.3								
DL2				LR	LR				
	comp=Z,580nm,14.5s,MS4.2								
SPIA	**Saint Paul Isl**	**24.75**	**51**	⇓*e*P	**P**	**01 07 37.5**	**0.0**		
SPIA				*e*PcP	PcP	01 11 06.2	-7.1		
SPIA				*e*S	**S**	**01 11 57.2**	**+0.6**		
BOD	**Bodaibo**	**26.21**	**310**	*e*P	**P**	**01 07 48.3**	**-2.4**		
BOD				pmax	pmax				
	comp=Z,7.0nm,1.3s								
CIT	**Chita**	**26.21**	**297**	*e*P	**P**	**01 07 49.3**	**-1.4**		
CIT				pmax	pmax				
	comp=Z,49nm,1.0s,mb5.0								
BJI	**Beijing**	**27.50**	**270**	P	**P**	**01 08 02.3**	**0.0**		
BJI				XP	sP	01 08 17.5	-2.1		
BJI				S	**S**	**01 12 43.5**	**+3.5**		
BJI				AMB	AMB				
	comp=Z,21nm,2.4s,mb4.2								
BJI				AMB	AMB				
	comp=Z,962nm,8.7s								
BJI				LR	LR				
	comp=N,3μm,16.9s,MS5.0								
BJI				LR	LR				
	comp=E,1μm,16.9s,MS5.0								
BJI				LR	LR				
	comp=Z,2μm,16.9s,MS4.8								
BJT	**Baijiatuau**	**27.51**	**270**	P	**P**	**01 08 05.4**	**+3.0**		
BJT				pmax	pmax				
	comp=Z,43nm,0.9s								
BJT	**Baijiatuau**	**27.51**	**270**	⇑*e*P	**P**	**01 08 02.0**	**-0.4**		
	comp=Z,43nm,0.8s,mb5.1								
JOW	**Kunigami**	**27.75**	**234**	P	**P**	**01 08 02.8**	**-1.8**		
	comp=Z,12nm,0.9s,mb4.5,baz=41,slow=8.2,SNR=4.2								
TIA	**Tai'an**	**28.69**	**262**	*e*P	**P**	**01 08 14.0**	**+1.1**		
SSE	**Sheshan**	**29.01**	**249**	*e*P	**P**	**01 08 16.0**	**+0.3**		
SSE				AP	pP	01 08 28.5	+0.8		
SSE				PCP	PcP	01 11 24.5	+1.2		
SSE				S	**S**	**01 13 03.5**	**-0.2**		
SSE				XS	sS	01 13 24.3	+0.4		
SSE				SCS	ScS	01 18 53.0	-2.0		
SSE				AMB	AMB				
	comp=Z,42nm,0.7s,mb5.3								
SSE				AMB	AMB				
	comp=Z,248nm,4.0s								
SSE				LR	LR				
	comp=N,959nm,19.9s,MS4.5								
SSE				LR	LR				
	comp=E,404nm,19.8s,MS4.5								
SSE				LR	LR				
	comp=Z,972nm,23.1s,MS4.3								
SSE	**Sheshan**	**29.01**	**249**	*e*P	**P**	**01 08 16.0**	**+0.3**		
SSE				pP	pP	01 08 28.6	+0.9		
SSE				sP	sP	01 08 33.0	-0.1		
SSE				PP	PP	01 09 21.3	-0.4		
SSE				PcP	PcP	01 11 24.4	+1.1		
SSE				S	**S**	**01 13 03.6**	**-0.1**		
SSE				sS	sS	01 13 24.2	+0.3		
SSE				ScS	ScS	01 18 53.1	-1.9		
NJ2	**Nanjing**	**29.93**	**254**	*e*P	**P**	**01 08 27.5**	**+3.6**		
NJ2				PP	PP	01 09 26.3	-5.6		
NJ2				S	**S**	**01 13 22.0**	**+3.8**		
NJ2				AMB	AMB				
	comp=Z,30nm,0.6s,mb5.2								
NJ2				LR	LR				
	comp=N,3μm,15.6s,MS5.3								
NJ2				LR	LR				
	comp=E,4μm,16.4s,MS5.3								
NJ2				LR	LR				
	comp=Z,4μm,16.4s,MS5.2								
HHC	**Hu-ho-hao-te**	**30.34**	**275**	*e*P	**P**	**01 08 28.5**	**+1.0**		
HHC				AP	pP	01 08 40.3	+0.8		
HHC				PP	PP	01 09 28.8	-7.7		
HHC				PCP	PcP	01 11 28.5	+1.8		
HHC				S	**S**	**01 13 23.8**	**-0.8**		
HHC				XS	sS	01 13 44.3	-0.5		
HHC				SS	SS	01 15 05.0	-30		
HHC				PCS	PcS	01 15 10.5	+0.1		
HHC				SCS	ScS	01 19 00.0	-1.3		
HHC				AMB	AMB				
	comp=Z,74nm,0.7s,mb5.5								
HHC				LR	LR				
	comp=N,2μm,16.7s,MS5.0								
HHC				LR	LR				
	comp=E,2μm,16.7s,MS5.0								
HHC				LR	LR				
	comp=Z,3μm,16.5s,MS5.0								
SONM	**Songino Array**	**31.46**	**290**	P	**P**	**01 08 37.0**	**-0.4**		
	comp=Z,4.7nm,0.8s,mb4.4,baz=70,slow=8.5,SNR=36								
SONM				PcP	PcP	01 11 30.1	+0.3		
	comp=Z,3.0nm,0.9s,baz=154,slow=2.0,SNR=5.0								
SONM				ScP	ScP	01 15 12.1	+3.0		
	comp=Z,0.7nm,1.0s,baz=146,slow=2.9,SNR=4.9								
SONM				LR	LR	01 22 12.9			
	comp=Z,2μm,19.0s,MS4.8,baz=76,slow=38								
SONM	**Songino Array**	**31.46**	**290**	P	**P**	**01 08 37.0**	**-0.4**		
SONM						01 11 30.1			
BTO	**Baotou**	**31.50**	**275**	*e*P	**P**	**01 08 35.5**	**-2.3**		
BTO				LR	LR				
	comp=N,802nm,15.9s,MS4.5								
BTO				LR	LR				
	comp=E,431nm,16.9s,MS4.5								
TLY	**Talaya**	**32.34**	**298**	*e*P	**P**	**01 08 44.3**	**-0.8**		
TLY				*e*		01 10 05.1			
TLY				*e*SS	SS	01 15 59.1	-17		
TLY				pmax	pmax				
	comp=Z,20nm,0.9s,mb5.0								
TLY				MLR	MLR				
	comp=Z,4μm,16.0s,MS5.2								
TLY	**Talaya**	**32.34**	**298**	*e*Pr	**P**	**01 08 44.7**	**-0.4**		
TTA	**Tatalina**	**32.64**	**41**	*e*P	**P**	**01 08 47.3**	**-0.5**		
TTA				*e**PP	pP	01 08 59.8	0.0		
TTA				pmax	pmax				
	comp=Z,32nm,1.3s,mb5.1								
TTA	**Tatalina**	**32.64**	**41**	*e*P	**P**	**01 08 47.3**	**-0.5**		
	comp=Z,32nm,1.3s,mb5.1								
TTA				*e*pP	pP	01 08 59.8	0.0		
SVW2	**Sparrevohn**	**32.70**	**45**	*e*P	**P**	**01 08 48.0**	**-0.3**		
ZAK	**Zakamensk**	**32.83**	**295**	⇑*i* P	**P**	**01 08 48.5**	**-0.9**		
ZAK				*e*		01 11 33.4			
ZAK				pmax	pmax				
	comp=Z,13nm,1.1s,mb4.8								
TATO	**Taipei**	**33.12**	**241**	P	**P**	**01 08 52.2**	**+0.3**		
GUMO	**Guam**	**33.48**	**195**	P	**P**	**01 08 55.6**	**+0.6**		
NACB	**Ninganchiao**	**33.65**	**240**	P	**P**	**01 08 57.4**	**+0.9**		
WHN	**Wuhan**	**33.87**	**256**	*e*P	**P**	**01 08 58.0**	**-0.5**		
WHN				S	**S**	**01 14 16.3**	**-3.4**		
WHN				LR	LR				
	comp=Z,3μm,15.3s,MS5.1								
IMA2	**Indian Mountai**	**34.05**	**36**	*e*P	**P**	**01 08 58.6**	**-1.4**		
IMA2				*e*		01 09 16.8			
IMA2				*e*PcP	PcP	01 11 35.2	-1.7		
KDAK	**Kodiak Island**	**34.28**	**51**	P	**P**	**01 09 02.5**	**+0.4**		
	comp=Z,16nm,0.9s,mb4.9,baz=290,slow=3.5,SNR=5.8								
QZH	**Quanzhou**	**34.91**	**244**	P	**S**	**01 09 08.5**	**+1.0**		
QZH				S	**S**	**01 14 40.0**	**+4.3**		
QZH				AMB	AMB				
	comp=Z,2μm,5.4s								
QZH				LR	LR				
	comp=N,870nm,8.7s								
QZH				LR	LR				
	comp=E,2μm,15.2s								
QZH				LR	LR				
	comp=Z,2μm,19.1s,MS4.8								
XAN	**Xi'an**	**35.51**	**266**	P	**P**	**01 09 12.5**	**-0.1**		
XAN				PP	PP	01 10 36.3	+2.5		
XAN				S	**S**	**01 14 49.3**	**+4.4**		
XAN				AMB	AMB				
	comp=Z,32nm,1.7s,mb5.0								
XAN				AMB	AMB				
	comp=Z,380nm,8.1s								
XAN				LR	LR				
	comp=N,317nm,14.2s,MS4.7								
XAN				LR	LR				
	comp=E,884nm,14.8s,MS4.7								
XAN				LR	LR				
	comp=Z,1μm,16.8s,MS4.8								
PMR	**Palmer**	**35.81**	**44**	*e*P	**P**	**01 09 14.5**	**-0.7**		
PMR				*e**PP	pP	01 09 26.8	-0.6		
PMR				*e*		01 10 37.4			
PMR				pmax	pmax				
	comp=Z,4.0nm,0.4s,mb4.7								
PMR	**Palmer**	**35.81**	**44**	*e*P	**P**	**01 09 14.5**	**-0.7**		
	comp=Z,3.7nm,0.4s,mb4.7								
PMR				*e*pP	pP	01 09 26.8	-0.6		
PMR				*e*sP	sP	01 09 31.6	-1.2		
PMR				*e*		01 09 31.8			
PMR				*e*PP	PP	01 10 37.4	+0.3		
MCK	**McKinley**	**35.88**	**40**	⇓*e*P	**P**	**01 09 15.0**	**-0.8**		
MCK				*e**PP	pP	01 09 30.1	+2.2		
MCK				*e*S	**S**	**01 14 45.0**	**-5.5**		
MCK				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.7								
MCK	**McKinley**	**35.88**	**40**	⇓*e*P	**P**	**01 09 15.0**	**-0.8**		
	comp=Z,11nm,1.0s,mb4.7								
MCK				*e*pP	pP	01 09 30.1	+2.2		
MCK				*e*sP	sP	01 09 32.1	-1.2		
MCK				*e*S	**S**	**01 14 45.0**	**-5.5**		
COLA	**College**	**36.37**	**38**	*e*P	**P**	**01 09 19.2**	**-0.8**		
COLA				*e**PP	pP	01 09 30.9	-1.3		
COLA				pmax	pmax				
	comp=Z,21nm,0.8s,mb5.1								
COLA	**College**	**36.37**	**38**	*e*P	**P**	**01 09 19.2**	**-0.7**		
	comp=Z,21nm,0.8s,mb5.1								
COLA				*e*pP	pP	01 09 30.9	-1.3		
LZH	**Lanzhou**	**37.92**	**272**	*e*P	**P**	**01 09 35.0**	**+1.9**		
LZH				AP	pP	01 09 45.5	+0.1		
LZH				PP	PP	01 11 04.0	+3.7		
LZH

GTA AMB AMB
comp=Z,491nm,6.8s
GTA LR LR
comp=N,1μm,14.1s,MS5.0
GTA LR LR
comp=E,1μm,14.1s,MS5.0
GTA LR LR
comp=Z,1μm,15.2s,MS4.9
DAWY Dawson 40.07 39 *e*P **P** **01 09 50.3 -0.8**
DAWY *ep*P pP 01 10 02.2 -1.2
CD2 Chengdu 40.88 266 *e*P **P** **01 09 59.5 +1.7**
CD2 PP PP 01 11 37.3 +4.7
CD2 PCP PcP 01 12 00.5 +2.7
CD2 S **S** **01 16 06.5 +0.5**
CD2 XS sS 01 16 25.8 -0.7
CD2 SS SS 01 19 04.3 -4.2
CD2 SCS ScS 01 19 58.5 -0.2
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,340nm,5.1s
CD2 LR LR
comp=N,530nm,15.0s
CD2 LR LR
comp=Z,530nm,15.6s,MS4.5
GYA Guiyang 41.67 258⇑ *i*P **P** **01 10 04.5 +0.2**
GYA AP pP 01 10 16.8 +0.2
GYA PP PP 01 11 44.5 +3.4
GYA PCP PcP 01 12 01.5 +1.1
GYA PPP 01 12 15.5
GYA SCP ScP 01 15 46.5 -0.3
GYA S **S** **01 16 15.0 -2.7**
GYA AMB AMB
comp=Z,90nm,0.9s,mb5.4
GYA AMB AMB
comp=Z,140nm,4.6s
GYA LR LR
comp=N,890nm,17.0s,MS4.8
GYA LR LR
comp=E,460nm,14.1s,MS4.8
GYA LR LR
comp=Z,1μm,16.4s,MS4.8
INK Inuvik 41.91 32 P **P** **01 10 06.4 +0.2**
comp=Z,14nm,0.8s,mb4.7,baz=287,slow=7.3,SNR=34
INK Inuvik 41.91 32⇓ *e*P **P** **01 10 06.0 -0.2**
INK *ep*P pP 01 10 19.5 +1.0
INK *e*PP PP 01 11 43.3 -0.5
INK *e*PcP PcP 01 12 00.2 -0.9
ZAL Zalesovo 42.83 306 P **P** **01 10 11.6 -2.2**
comp=Z,4.5nm,0.5s,mb4.4,baz=46,slow=7.9,SNR=22
ZAL PcP PcP 01 12 04.0 -0.3
comp=Z,4.2nm,0.8s,baz=55,slow=2.9,SNR=8.4
ZAL LR LR 01 29 46.5
comp=Z,5μm,18.6s,MS5.4,baz=39,slow=39
ZAL Zalesovo 42.83 306 P **P** **01 10 11.6 -2.1**
ZAL 01 12 04.0
SKAG Skagway 42.87 45 *e*P **P** **01 10 10.8 -3.3**
SKAG *ep*P pP 01 10 25.6 -0.8
SKAG *es*P sP 01 10 31.1 -0.7
SKAG *e*PP PP 01 11 52.5 -1.6
NVS Novosibirsk 43.40 308 *i* P **P** **01 10 16.2 -2.1**
QIZ Qiongzhong 44.75 247 P **P** **01 10 31.0 +1.9**
QIZ AP pP 01 10 41.5 0.0
QIZ XP sP 01 10 44.8 -2.0
QIZ S **S** **01 17 06.5 +3.7**
QIZ XS sS 01 17 21.0 -2.5
QIZ AMB AMB
comp=Z,30nm,2.2s,mb4.7
QIZ LR LR
comp=N,870nm,19.6s
QIZ LR LR
comp=Z,892nm,18.4s,MS4.7
WMQ Urumqi 45.06 292⇑ *i*P **P** **01 10 30.0 -1.6**
WMQ AP pP 01 10 42.5 -1.6
WMQ PP PP 01 12 15.0 -2.5
WMQ PPP 01 12 57.5
WMQ PCS PcS 01 16 01.0 -4.6
WMQ S **S** **01 17 06.5 -0.8**
WMQ XS sS 01 17 26.0 -2.1
WMQ AMB AMB
comp=Z,13nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,246nm,5.2s
WMQ LR LR
comp=N,3μm,17.0s,MS5.4
WMQ LR LR
comp=E,2μm,15.9s,MS5.4
WMQ LR LR
comp=Z,3μm,18.0s,MS5.2
KMI Kunming 45.21 260 ⇑P **P** **01 10 33.8 +1.0**
KMI PCP PcP 01 12 15.3 +3.0
KMI PP PP 01 12 21.8 +2.8
KMI PPP 01 13 04.3
KMI S **S** **01 17 11.5 +2.0**
KMI SS SS 01 20 24.8 -8.3
KMI SCS ScS 01 20 25.5 -0.2
KMI SSS 01 21 25.3
KMI AMB AMB
comp=Z,38nm,1.6s,mb5.0
KMI AMB AMB
comp=Z,579nm,3.9s
KMI LR LR
comp=N,848nm,18.5s,MS4.8
KMI LR LR
comp=E,791nm,18.5s,MS4.8
KMI LR LR
comp=Z,1μm,15.7s,MS4.9
KMI Kunming 45.21 260 ⇑P **P** **01 10 33.8 +1.0**
KMI *PP pP 01 10 47.0 +1.8
KMI 01 12 15.3
KMI 01 12 21.8
KMI PPP 01 13 04.3
KMI S **S** **01 17 11.4 +1.9**
KMI *SS sS 01 17 31.9 +1.7
KMI SS SS 01 20 24.7 -8.4
KMI 01 20 25.6
KMI SSS 01 21 25.2
KMI Kunming 45.21 260 ⇑P **P** **01 10 33.8 +1.0**
KMI pP pP 01 10 47.0 +1.8
KMI sP sP 01 10 52.0 +1.5
KMI PcP PcP 01 12 15.3 +3.0
KMI PP PP 01 12 21.8 +2.8
KMI PPP 01 13 04.3
KMI S **S** **01 17 11.4 +1.9**
KMI sS sS 01 17 31.9 +1.7
KMI SS SS 01 20 24.7 -8.4
KMI ScS ScS 01 20 25.6 -0.1
KMI SSS 01 21 25.2
WRAK Wrangell Islan 45.32 49 P **P** **01 10 36.5 +2.8**
comp=Z,7.2nm,0.9s,mb4.6,baz=291,slow=9.7,SNR=8.0
MKAR Makanchi Array 47.11 298 P **P** **01 10 46.5 -1.1**
comp=Z,28nm,0.9s,mb5.2,baz=60,slow=7.4,SNR=149
MKAR PcP PcP 01 12 18.7 -0.3
comp=Z,3.2nm,0.7s,baz=70,slow=3.5,SNR=3.7
MKAR Makanchi Array 47.11 298 *i* P **P** **01 10 46.5 -1.2**
MKAR pmax pmax
comp=Z,28nm,0.9s
KURK Kurchatov 47.56 304 P **P** **01 10 50.6 -0.6**
comp=Z,320nm,0.8s,SNR=5.1
ALE Alert 50.05 6 P **P** **01 11 08.4 -2.0**
comp=Z,164nm,1.6s,mb5.8,SNR=17
LSA Lhasa 50.31 273 P **P** **01 11 15.5 +3.2**
LSA Lhasa 50.31 273⇑ *e*P **P** **01 11 14.9 +2.6**
LSA 01 12 32.1
LSA pmax pmax
comp=Z,34nm,0.7s,mb5.5
LSA Lhasa 50.31 273⇑ *e*P **P** **01 11 14.9 +2.6**
comp=Z,34nm,0.7s,mb5.5
LSA PcP PcP 01 12 32.1 +1.6
NANT Nan 50.90 255 ⇓P **P** **01 11 18.0 +1.3**
comp=Z,100nm,1.0s,mb5.7
VOSK Vostochnaya 50.90 309 *i* P **P** **01 11 15.3 -1.5**
VOSK pmax pmax
comp=Z,17nm,1.1s,mb4.9
BVAR Borovoye Array 51.08 310 P **P** **01 11 16.3 -1.7**
comp=Z,6.3nm,0.4s,mb4.9,baz=60,slow=8.9,SNR=57
BVAR PcP PcP 01 12 33.5 +0.1
comp=Z,5.5nm,0.7s,baz=67,slow=5.0,SNR=6.1
BVAR LR LR 01 34 50.7
comp=Z,2μm,18.3s,MS5.2,baz=139,slow=38
BVAR Borovoye Array 51.08 310 P **P** **01 11 16.3 -1.8**
BVAR 01 12 33.5
BRVK Borovoye 51.12 310 *e*P **P** **01 11 17.9 -0.5**
BRVK pmax pmax
comp=Z,29nm,1.3s,mb5.0
BRVK Borovoye 51.12 310 *e*P **P** **01 11 17.9 -0.5**
comp=Z,29nm,1.3s,mb5.0
YKA Yellowknife Ar 51.16 37 P **P** **01 11 18.4 -0.3**
comp=Z,10nm,0.8s,mb4.8,baz=297,slow=7.3,SNR=28
ZRNK Zerenda 51.85 310 *i* P **P** **01 11 22.4 -1.4**
ZRNK pmax pmax
comp=Z,16nm,0.8s,mb5.0
ZRNK Zerenda 51.85 310 *e*P **P** **01 11 22.3 -1.5**
comp=Z,19nm,0.7s,mb5.1
CHG Chiang Mai 52.07 257⇑ P **P** **01 11 26.5 +1.0**
comp=Z,28nm,1.2s,mb5.1
CHTO Chiang Mai 52.07 257⇓ P **P** **01 11 27.3 +1.8**
SNR=9.6
CHTO Chiang Mai 52.07 257⇑ *i*P **P** **01 11 26.3 +0.8**
CHTO *e*PP pP 01 11 38.2 +0.1
CHTO *e* 01 13 23.0
CHTO pmax pmax
comp=Z,95nm,1.5s,mb5.5
CHTO Chiang Mai 52.07 257⇑ *i*P **P** **01 11 26.3 +0.9**
comp=Z,95nm,1.5s,mb5.5
CHTO *ep*P pP 01 11 38.2 +0.1
CHTO *e*PP PP 01 13 23.0 -0.9
CM31 Chiang Mai Arr 52.32 257 *e*P **P** **01 11 29.1 +1.8**
CM31 *ep*P pP 01 11 39.4 -0.6
SHL Shillong 52.39 269 *e*P **P** **01 11 27.2 -0.6**
SHL *ex* x 01 19 00.0
ULHL Ulahol 53.12 295 P **P** **01 11 34.8 +1.5**
SNR=6.2
TKM2 Tokmak 2 53.16 296 P **P** **01 11 34.1 +0.6**
SNR=14
CHMS Chumysh 53.64 297 P **P** **01 11 37.5 +0.5**
SNR=7.5
USP Ospenovka 53.65 297 P **P** **01 11 37.3 +0.2**
SNR=35
KBK Karagaybulak 53.70 296 P **P** **01 11 38.3 +0.8**
SNR=14
FRU Bishkek 53.81 297 *e*P **P** **01 11 39.0 +0.7**
FRU MLR MLR
comp=Z,3μm,16.0s,MS5.5
KZA Kyzart 53.83 296 P **P** **01 11 40.2 +1.7**
SNR=9.8
AAK Ala-Archa 53.99 297 P **P** **01 11 40.6 +0.9**
SNR=17
AAK Ala-Archa 53.99 297⇓ P **P** **01 11 39.5 -0.2**
SNR=8.7
AAK Ala-Archa 53.99 297 *ce*P **P** **01 11 38.7 -1.0**
AAK pmax pmax
comp=Z,26nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,2μm,18.0s,MS5.2
AAK Ala-Archa 53.99 297⇑ *e*P **P** **01 11 38.8 -0.9**
SVE Sverdlovsk 54.08 317 *e*P **P** **01 11 39.8 -0.5**
SVE pmax pmax
comp=Z,40nm,1.7s,mb5.1
EKS2 Erkin-Say 54.42 297 P **P** **01 11 43.8 +1.0**
SNR=22
AML Almayashu 54.77 296 P **P** **01 11 46.8 +1.6**
SNR=13
KSH Kashi 54.79 293 P **P** **01 11 47.0 +1.5**
KSH *e*PCP PcP 01 12 49.3 +1.9
KSH *e*PP PP 01 13 51.0 +2.5
KSH *e*PPP 01 15 03.3
KSH *e*SCP ScP 01 16 42.3 +0.1
KSH *e*PCS PcS 01 16 47.0 -0.2
KSH *e*S **S** **01 19 20.8 -2.2**
KSH *e*PS 01 19 39.3
KSH *e*SCS ScS 01 21 28.0 -2.8
KSH *e*SS SS 01 23 04.0 -2.6
KSH AMB AMB
comp=Z,570nm,3.0s
KSH LR LR
comp=N,1μm,10.0s,MS5.6
KSH LR LR
comp=E,3μm,14.9s,MS5.6
KSH LR LR
comp=Z,4μm,16.7s,MS5.5
JIRN Jiri 54.99 275 *e*P **P** **01 11 48.7 +1.8**
comp=Z,21nm,0.2s,mb5.8
GUN Gumba 55.05 275 *e*P **P** **01 11 48.4 +1.1**
comp=Z,46nm,0.6s,mb5.7
ARU Arti 55.26 318 P **P** **01 11 47.1 -1.7**
comp=Z,171nm,0.8s,mb6.1,SNR=7.9
ARU Arti 55.26 318⇑ *i*P **P** **01 11 46.1 -2.7**
ARU *e* 01 12 49.6
ARU *e* 01 13 47.8
ARU *e*S **S** **01 19 27.1 -2.2**
ARU *e* 01 21 26.4
ARU *e*SS SS 01 23 10.3 -3.6
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.3
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.0
ARU MLR MLR
comp=N,800nm,17.0s,MS5.0
ARU MLR MLR
comp=E,900nm,18.0s,MS5.0
ARU Arti 55.26 318⇑ *e*P **P** **01 11 47.4 -1.4**
KKN Kakani 55.54 276 *e*P **P** **01 11 52.1 +1.3**
comp=E,132nm,0.8s,mb6.0
PKI Pulchoki 55.59 275 *e*P **P** **01 11 52.4 +1.2**
comp=E,241nm,1.4s,mb6.0
DMN Daman 55.77 275 *e*P **P** **01 11 53.8 +1.3**
comp=E,139nm,0.8s,mb6.0
PMG Port Moresby 55.84 187 LR LR 01 30 46.9
comp=E,379nm,21.4s,MS4.5,baz=236,slow=31
PMG Port Moresby 55.84 187 P **P** **01 11 53.3 +0.3**
PMG *e*PP pP 01 12 04.3 -1.5
GKN Gorkha 55.85 276 *e*P **P** **01 11 54.3 +1.3**
comp=E,86nm,0.5s,mb6.0
HNR Honiara 55.95 172 LR LR 01 36 21.1
comp=E,324nm,18.2s,MS4.5,baz=358,slow=37
KK31 Karatay Array 56.17 299 *i* P **P** **01 11 54.5 -0.9**
KOLN Koldanda 56.71 277 *e*P **P** **01 12 00.6 +1.4**
comp=E,118nm,0.9s,mb5.9
DAG Dannarks Havn 56.96 358⇓ *i*P **P** **01 11 59.6 -1.4**
comp=E,47nm,1.2s,mb5.4
DAG Dannarks Havn 56.96 358⇓ *e*P **P** **01 11 59.6 -1.4**
DAG pmax pmax
comp=Z,47nm,1.2s,mb5.4
DAG Dannarks Havn 56.96 358⇓ *e*P **P** **01 11 59.6 -1.4**
comp=Z,47nm,1.2s,mb5.4
NEW Newport 57.35 53 P **P** **01 12 03.4 -0.4**
comp=Z,2.6nm,0.5s,mb4.5,baz=338,slow=4.1,SNR=6.4
NEW Newport 57.35 53 P **P** **01 12 03.9 +0.2**
NEW pmax pmax
comp=Z,22nm,1.4s
BOK Bokaro 57.68 271 *e*P **P** **01 12 05.2 -0.9**
BOK AMb AMB 01 12 10.3
comp=Z,58nm,1.5s,mb5.4
ARCES ARCESS Array B 58.16 341 P **P** **01 12 07.3 -2.1**
comp=Z,6.7nm,0.8s,mb4.7,baz=24,slow=6.5,SNR=36
ARCES ARCESS Array B 58.16 341 P **P** **01 12 07.3 -2.1**
ARE0 ARCESS Array S 58.16 341 P **P** **01 12 10.1 +0.7**
WALA Waterton Lakes 58.62 50 *e*P **P** **01 12 11.4 -1.2**
comp=Z,12nm,1.0s,mb4.9
AB31 Akbulak array 58.65 310 *i* P **P** **01 12 11.5 -1.3**
AKTK Aktyubinsk 58.95 312 P **P** **01 12 14.0 -0.9**
AKTO Aktyubinsk 58.95 312 P **P** **01 12 14.0 -0.9**
comp=Z,7.4nm,0.8s,mb4.8,baz=60,slow=6.7,SNR=20
SMLA Simla 58.99 284 *e*P **P** **01 12 16.1 +1.0**
KTK1 Kautokeino 59.08 341 *e*P **P** **01 12 15.0 -0.8**
KTK1 *ep*P pP 01 12 19.0 -10
THN Thein Dam 59.15 286 *e*P **P** **01 12 16.2 -0.1**
MOD Modoc 59.23 60 *e*P **P** **01 12 17.2 +0.4**
comp=Z,7.5nm,1.1s,mb4.6
MOD *ep*P pP 01 12 29.1 -0.6
BMO Blue Mountains 59.23 56 *e*P **P** **01 12 17.0 +0.1**
comp=Z,21nm,1.4s,mb5.0
BMO *ep*P pP 01 12 28.9 -0.8
BMO *es*P sP 01 12 34.7 -0.2
BMO *e*ScP ScP 01 16 58.9 -2.8
TRO Tromso 59.49 343 *e*P **P** **01 12 16.7 -1.9**
WVOR Wild Horse Val 59.90 59 P **P** **01 12 21.8 +0.3**
WVOR pmax pmax
comp=Z,11nm,0.9s,mb4.9
WVOR Wild Horse Val 59.90 59 *e*P **P** **01 12 21.9 +0.5**
comp=Z,11nm,0.9s,mb4.9
MSO Missoula 59.94 52 *e*P **P** **01 12 21.8 0.0**
comp=Z,18nm,1.2s,mb5.0
NIL Nilore 60.03 289 P **P** **01 12 24.5 +2.2**
comp=Z,175nm,0.7s,mb6.2,SNR=9.0
OHCM Honcut 60.05 63 *e*P **P** **01 12 21.7 -0.8**
CHMT Chamberlain Mo 60.26 52 P **P** **01 12 23.6 -0.4**
CHMT *ep*P pP 01 12 35.6 -1.3
CHMT *es*P sP 01 12 41.2 -0.9
NDI New Delhi 60.49 282 *e*P **P** **01 12 25.0 -0.5**
FFC Flin Flon 60.97 40 P **P** **01 12 28.0 -0.7**
comp=Z,169nm,1.3s,mb6.0,SNR=10
FFC Flin Flon 60.97 40 *e*P **P** **01 12 28.7 0.0**
FFC *e* 01 14 42.0
FFC pmax pmax
comp=Z,51nm,1.3s,mb5.5
FFC Flin Flon 60.97 40 *e*P **P** **01 12 28.7 0.0**
comp=Z,51nm,1.3s,mb5.5
FFC *e*PP PP 01 14 42.0 -1.3
FFC *e*ScP ScP 01 17 10.6 +1.2
SUMG Summit 61.01 4 *e*P **P** **01 12 29.3 +0.3**
comp=Z,90nm,0.8s,mb6.0
PAHR Pah Rah Range 61.11 62 *e*P **P** **01 12 29.4 -0.3**
comp=Z,13nm,1.2s,mb5.0
EGMT Eagleton 61.45 49 *e*P **P** **01 12 31.4 -0.6**
EGMT *ep*P pP 01 12 43.8 -1.1
EGMT *es*P sP 01 12 49.9 -0.2
FCC Fort Churchill 61.51 33 P **P** **01 12 32.1 -0.3**
FCC *e*PP pP 01 12 44.8 -0.6
CMB Columbia Colle 61.52 64 *e*P **P** **01 12 32.7 +0.2**
CMB *e* 01 13 10.6
CMB pmax pmax
comp=Z,19nm,1.3s,mb5.1
CMB Columbia Colle 61.52 64 *e*P **P** **01 12 32.7 +0.2**
comp=Z,19nm,1.3s,mb5.1
CMB *e*PcP PcP 01 13 10.6 -3.4
DLMT Dillon 61.57 53 *e*P **P** **01 12 32.6 -0.2**
DLMT *ep*P pP 01 12 45.7 -0.1
DLMT *es*P sP 01 12 50.5 -0.5
JOF Joensuu 61.63 334 *ep* **P** **01 12 31.8 -1.4**
comp=Z,6.5nm,0.5s,mb5.0
HLID Hailey 61.67 56 *e*P **P** **01 12 33.6 +0.1**
HLID *ep*P pP 01 12 45.9 -0.5
LOF Lofoten 61.81 344 *e*P **P** **01 12 35.0 +0.5**
LOF AMb AMB 01 12 37.2
comp=Z,112nm,1.3s,mb5.8
LOF Lofoten 61.81 344 *e*P **P** **01 12 35.0 +0.5**
comp=Z,112nm,1.3s,mb5.8
BOZ Bozeman (W) 61.93 52 *e*P **P** **01 12 35.5 +0.3**
BOZ *e**PP pP 01 12 47.7 -0.5
BOZ Bozeman (W) 61.93 52 *e*P **P** **01 12 35.5 +0.3**
BOZ *ep*P pP 01 12 47.7 -0.5
BOZ *es*P sP 01 12 53.1 -0.3
BMN Battle Mountai 61.97 60 *e*P **P** **01 12 36.1 +0.6**
BMN *e* 01 13 15.2
BMN pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BMN Battle Mountai 61.97 60 *e*P **P** **01 12 36.1 +0.6**
comp=Z,9.7nm,1.0s,mb4.9
BMN *e*PcP PcP 01 13 15.2 -0.6
JMIC Jan Mayen 62.15 353 P **P** **01 12 37.8 +1.1**
comp=Z,53nm,0.8s,mb5.7,baz=105,slow=5.6,SNR=4.4
NVAR Mina Array Bea 62.56 62 P **P** **01 12 39.8 +0.3**
comp=Z,1.8nm,0.7s,mb4.3,baz=281,slow=8.7,SNR=17
ELK Elko 62.95 59 P **P** **01 12 42.8 +0.8**
YFT Old Faithful 63.12 53 *e*P **P** **01 12 44.8 +1.6**
MOR8 Moi Rana 63.33 343 *e*P **P** **01 12 42.4 -2.1**
MOR8 AMb AMB 01 12 44.5
comp=Z,94nm,1.4s,mb5.7
MOR8 Moi Rana 63.33 343 *e*P **P** **01 12 42.4 -2.1**
comp=Z,94nm,1.4s,mb5.7
SCO Scoresbysund 63.34 358 *i* P **P** **01 12 46.0 +1.4**
comp=Z,17nm,1.0s,mb5.1
SCO Scoresbysund 63.34 358 *i* P **P** **01 12 46.0 +1.4**
SCO pmax pmax
comp=Z,17nm,1.0s,mb5.1
IMW Indian Meadow 63.42 54 *e*P **P** **01 12 46.0 +0.9**
IMW *ep*P pP 01 12 58.8 +0.7
IMW *es*P sP 01 13 03.5 +0.2
FLWY Flagg Ranch 63.43 53 *e*P **P** **01 12 46.3 +1.1**
FLWY *ep*P pP 01 13 00.0 +1.8
TPH Tonopah 63.45 62 *e*P **P** **01 12 45.8 +0.5**
TPH *e**PP pP 01 12 58.6 +0.3
VIS Vishakhapatnam 63.52 268 *e*P **P** **01 12 46.7 +0.9**
VIS AMb AMB 01 12 50.1
comp=Z,68nm,1.8s,mb5.4
RLMT Red Lodge 63.55 52 *e*P **P** **01 12 46.3 +0.3**
RLMT *ep*P pP 01 12 58.5 -0.5
RLMT *e*PP PP 01 15 06.0 0.0
RRI2 Red Ridge 63.55 54 *e*P **P** **01 12 46.9 +0.8**
RRI2 *ep*P pP 01 13 00.9 +1.9
MOOW Moose Ponds 63.62 54 *e*P **P** **01 12 47.1 +0.7**
MOOW *e* pP 01 13 04.5 +5.0
AJM Ajmer 63.65 281 *i* P **P** **01 12 48.0 +1.3**
TPAW Teton Pass 63.67 54 *e*P **P** **01 12 47.7 +0.9**
HVU Hansel Valley 63.73 56 *e*P **P** **01 12 47.5 +0.3**
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
HVU Hansel Valley 63.73 56 *e*P **P** **01 12 47.5 +0.3**
comp=Z,6.3nm,0.9s,mb4.7
KAF Kangasniemi 63.74 335 *ep* **P** **01 12 46.0 -1.3**
comp=Z,30nm,0.9s,mb5.3,baz=38,slow=6.2
KAF Kangasniemi 63.74 335 *e*P **P** **01 12 46.0 -1.3**
KAF pmax pmax
comp=Z,30nm,0.9s,mb5.3
LOHW Long Hollow 63.78 54 *e*P **P** **01 12 48.1 +0.6**
SNOW Snow King Moun 63.80 54 *e*P **P** **01 12 48.4 +0.8**
comp=Z,40nm,1.3s,mb5.3
SNOW *ep*P pP 01 12 59.6 -1.0
REDW Red Top Meadow 63.81 54 *e*P **P** **01 12 48.6 +0.9**
REDW *ep*P pP 01 13 00.8 +0.1
REDW *e*PcP PcP 01 13 29.8 +6.5
BHPL Bhopal 63.88 277 *e*P **P** **01 12 49.3 +1.1**
BHPL AMb AMB 01 12 51.6
comp=Z,82nm,1.3s,mb5.6
PSI Prapat 63.96 244 LR LR 01 42 43.2
comp=Z,393nm,18.5s,MS4.6,baz=297,slow=38
DGMT Dagmar 64.01 46 *e*P **P** **01 12 48.8 -0.3**
comp=Z,34nm,1.2s,mb5.2
DGMT *ep*P pP 01 13 01.8 -0.2
DGMT *es*P sP 01 13 06.3 -0.9
LAO LASA Array 64.15 49 *e*P **P** **01 12 49.8 -0.2**
comp=Z,42nm,1.3s,mb5.3
LAO *ep*P pP 01 13 02.0 -0.9
NGP Nagpur 64.15 274 *e*P **P** **01 12 49.2 -0.7**
NGP AMb AMB 01 12 49.7
comp=Z,68nm,1.4s,mb5.5
SPUT South Promonto 64.22 57 *e*P **P** **01 12 49.4 -1.0**
SPUT *ep*P pP 01 13 01.7 -1.7
TRCR Troy Canyon 64.26 61 *e*P **P** **01 12 50.3 -0.4**
TRCR *ep*P pP 01 13 02.9 -0.8
FIA1 FINESS Array S 64.33 335 *e*P **P** **01 12 50.7 -0.5**
FIA1 *ep*P pP 01 13 03.4 -0.8
FIA1 *e*PP PP 01 15 07.0 -6.0
FINES FINESS Array B 64.33 335 P **P** **01 12 49.7 -1.5**
comp=Z,24nm,0.7s,mb5.3,baz=46,slow=8.2,SNR=34
FINES LR LR 01 43 44.2
comp=Z,998nm,19.2s,MS5.0,baz=224,slow=39
DAC Darwin (Calif) 64.36 64 P **P** **01 12 51.8 +0.5**
DAC pmax pmax
comp=Z,14nm,1.4s,mb4.8
HWUT Hardware Ranch 64.53 56 *e*P **P** **01 12 52.7 +0.3**
comp=Z,14nm,1.1s,mb4.9
HWUT *ep*P pP 01 13 04.5 -1.0
MOS Moscow 64.71 326 *e*P **P** **01 12 50.9 -2.7**
MOS *e* 01 13 23.0
MOS *e* 01 15 14.8
MOS *e*PPP 01 16 53.2
MOS pmax pmax
comp=Z,100nm,1.1s,mb5.8
MOS pmax pmax
comp=Z,49nm,0.9s,mb5.5
DUG Dugway 64.72 58 *e*P **P** **01 12 53.6 -0.1**
DUG pmax pmax
comp=Z,13nm,1.1s,mb4.9
DUG Dugway 64.72 58 *e*P **P** **01 12 53.6 -0.1**
comp=Z,13nm,1.1s,mb4.9
NOQ North Oquirrh 64.83 57 P **P** **01 12 52.3 -2.1**
BW06 Boulder Array 64.92 54 *e*P **P** **01 12 54.8 -0.2**
comp=Z,24nm,1.3s,mb5.1
BW06 *ep*P pP 01 13 06.8 -1.2
BW06 PcP PcP 01 13 28.3 +0.5
PDAR Pinedale Array 64.92 54 P P **01 12 54.9 -0.1**
comp=Z,6.0nm,0.9s,mb4.6,baz=318,slow=2.0,SNR=28
TCUT Toone Canyon 64.94 56 *e*P **P** **01 12 55.5 +0.4**
NSS Namsos 65.28 343 *e*P **P** **01 12 56.2 -1.1**
NSS AMb AMB 01 12 59.3
comp=Z,67nm,1.6s,mb5.4
NSS Namsos 65.28 343 *e*P **P** **01 12 56.2 -1.1**
comp=Z,67nm,1.6s,mb5.4
NLU North Lily Min 65.31 57 *e*P **P** **01 12 58.0 +0.4**

NLU *e* pP 01 13 15.5 +4.9
MPU Maple Canyon 65.53 57 *e*P **P 01 12 59.1 +0.1**
comp=Z,32nm,1.3s,mb5.2
MPU *ep*P pP 01 13 11.1 -0.8
MPU *e*PP PP 01 15 25.7 +2.2
OBN Obninsk 65.58 326 *ce*P **P 01 12 57.7 -1.6**
OBN 01 13 32.0
OBN S sS 01 21 56.0 -7.1
OBN *e* 01 22 44.9
OBN pmax pmax
comp=Z,82nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,1µm,15.0s,MS5.2
OBN Obninsk 65.58 326⇑ *e*P **P 01 12 57.8 -1.5**
OBN LR LR
comp=Z,1µm,15.0s,MS5.2
AKL Akola 65.86 275 *e*P **P 01 13 01.2 +0.2**
AKL AMb AMB 01 13 03.4
comp=Z,58nm,1.4s,mb5.4
ARUT Antelope Range 65.92 60 P **P 01 13 02.1 +0.7**
CCUT Cedar City 66.12 60 *e*P **P 01 13 03.0 +0.2**
CCUT *ep*P pP 01 13 15.0 -0.8
CCUT *e*PcP PcP 01 13 33.3 +0.5
MSU Marysvale 66.19 59 P **P 01 13 04.2 +1.0**
MSU Marysvale 66.19 59 *e*P **P 01 13 03.5 +0.3**
MSU *ep*P pP 01 13 16.9 +0.6
MSU *es*P sP 01 13 21.5 +0.1
TMUT Trail Mountain 66.25 58 *e*P **P 01 13 03.8 +0.2**
CTA Charters Tower 66.50 187 LR LR 01 41 41.2
comp=Z,306nm,18.9s,MS4.5,baz=45,slow=36
CTAO Charters Tower 66.50 187 P **P 01 13 05.9 +0.7**
CTAO *e**PP pP 01 13 16.7 -1.5
VSU Vasula 66.50 333⇑ *e*P **P 01 13 05.1 -0.1**
VSU Vasula 66.50 333⇑ *e*P **P 01 13 05.2 0.0**
ULM Lac du Bonnet 66.75 41 P **P 01 13 05.8 -0.9**
comp=Z,7.3nm,1.1s,mb4.6,baz=314,slow=4.0,SNR=5.7
SRU San Rafael 66.77 57 *e*P **P 01 13 06.7 -0.2**
SRU pmax pmax
comp=Z,19nm,1.0s,mb5.1
SRU San Rafael 66.77 57 *e*P **P 01 13 06.7 -0.2**
comp=Z,19nm,1.0s,mb5.1
RWWY Rawlins 66.94 53 *e*P **P 01 13 07.7 -0.2**
comp=Z,28nm,1.2s,mb5.2
VOR Voronezh 66.98 322 P **P 01 13 07.5 -0.7**
VOR *e* 01 13 12.0
VOR pmax pmax
comp=Z,70nm,1.8s,mb5.4
RSSD Black Hills 67.01 50 *e*P **P 01 13 07.9 -0.5**
RSSD *e**PP pP 01 13 20.7 -0.8
RSSD *e* 01 15 40.9
RSSD pmax pmax
comp=Z,32nm,1.3s,mb5.2
RSSD Black Hills 67.01 50 *e*P **P 01 13 07.9 -0.5**
comp=Z,32nm,1.3s,mb5.2
RSSD *ep*P pP 01 13 20.7 -0.8
RSSD *e*PP PP 01 15 40.9 +4.5
HYB Hyderabad 67.03 271 *i* P **P 01 13 09.5 +1.0**
HYB Hyderabad 67.03 271 *e*P **P 01 13 09.5 +1.0**
VRSR Storozhevoye 67.36 321 *e*P **P 01 13 10.1 -0.6**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.6s
VRSR pmax pmax
comp=E,7.0nm,1.5s
VRSR MLR MLR
comp=Z,1µm,18.0s,MS5.1
VRSR MLR MLR
comp=N,700nm,22.0s,MS5.1
VRSR MLR MLR
comp=E,860nm,19.0s,MS5.1
AFI Afiamalu 67.85 143 LR LR 01 36 49.4
comp=E,402nm,19.6s,MS4.7,baz=0.7,slow=31
PV10 Paradox Valley 68.12 57 *e*P **P 01 13 16.0 +0.5**
WRAB Tennant Creek 68.21 199 *e*P **P 01 13 15.2 -0.8**
WRAB pmax pmax
comp=Z,12nm,1.0s,mb4.9
WRAB Tennant Creek 68.21 199 *e*P **P 01 13 15.2 -0.8**
comp=Z,12nm,1.0s,mb4.9
WB2 Warramunga Arr 68.22 199 *e*P **P 01 13 14.9 -1.1**
WB2 *ep*P pP 01 13 28.0 -1.1
WRA Warramunga Arr 68.22 199 P **P 01 13 14.7 -1.4**
comp=Z,2.1nm,0.7s,mb4.3,baz=14,slow=6.5,SNR=12
WRA LR LR 01 38 18.4
comp=Z,188nm,21.3s,MS4.3,baz=340,slow=32
NB2 NORSAR Subarra 68.53 341 P **P 01 13 17.2 -0.8**
comp=Z,47nm,0.8s,mb5.5,baz=30,slow=6.5
NB2 NORSAR Subarra 68.53 341 P **P 01 13 17.2 -0.8**
NB2 pmax pmax
comp=Z,47nm,0.8s,mb5.5
PV01 Paradox Valley 68.56 57 *e*P **P 01 13 18.4 +0.2**
PV01 *ep*P pP 01 13 30.9 -0.4
PV01 *es*P sP 01 13 36.8 +0.3
WUAZ Wupatki 68.66 61 *e*P **P 01 13 19.1 +0.3**
comp=Z,11nm,1.0s,mb4.7
WUAZ *ep*P pP 01 13 31.1 -0.8
SMCO Snowmass 68.77 55 *e*P **P 01 13 19.4 0.0**
comp=Z,22nm,1.2s,mb5.0
SMCO *ep*P pP 01 13 32.3 -0.2
SMCO *es*P sP 01 13 37.6 -0.1
NAO01 NORSAR Array S 68.78 341 *e*P **P 01 13 18.9 -0.6**
comp=Z,11nm,0.7s,mb4.9
NAO01 *ep*P pP 01 13 32.5 -0.1
FITZ Fitzroy Crossi 68.88 208 *e*P **P 01 13 19.7 -0.4**
comp=Z,9.2nm,0.8s,mb4.8
BORG Borgarnes 69.08 357 P **P 01 13 20.2 -1.2**
comp=Z,33nm,0.7s,mb5.4,baz=357,slow=3.4,SNR=15
ISCO Idaho Springs 69.11 54 *e*P **P 01 13 21.9 +0.3**
ISCO *e**PP pP 01 13 34.9 +0.2
ISCO pmax pmax
comp=Z,20nm,1.3s,mb4.9
ISCO Idaho Springs 69.11 54 *e*P **P 01 13 21.9 +0.3**
comp=Z,20nm,1.3s,mb4.9
ISCO *ep*P pP 01 13 34.9 +0.2
DZM Mont Dzumac 69.24 167 LR LR 01 42 03.1
comp=Z,588nm,18.3s,MS4.9,baz=40,slow=34
FOO Floro 69.29 344 *e*P **P 01 13 22.5 -0.2**
FOO AMb AMB 01 13 23.7
comp=Z,46nm,1.0s,mb5.4
FOO Floro 69.29 344 *e*P **P 01 13 22.5 -0.2**
comp=Z,46nm,1.0s,mb5.4
MAK Makhachkala 69.29 311 *i* P **P 01 13 25.7 +3.0**
MAK *i* PPP 01 17 39.0
MAK *i* S S 01 22 31.4 +5.5
MAK *i* 01 23 00.9
MAK pmax pmax
comp=Z,195nm,1.5s,mb5.8
MAK MLR MLR
comp=Z,3µm,16.0s,MS5.6
MNK Minsk 69.30 329 *e*P **P 01 13 18.0 -4.8**
HYA Hoyanger 69.47 344 *e*P **P 01 13 25.4 +1.5**
HYA AMb AMB 01 13 30.0
comp=Z,107nm,1.4s,mb5.6
HYA Hoyanger 69.47 344 *e*P **P 01 13 25.4 +1.5**
comp=Z,107nm,1.4s,mb5.6
POO Poona 69.51 276⇓ *i*P **P 01 13 23.0 -1.1**
comp=Z,50nm,1.0s,mb5.4
KAD Karad 70.12 274 *e*P **P 01 13 28.2 +0.4**
KAD AMb AMB 01 13 33.5
comp=Z,86nm,1.8s,mb5.4
KONO Kongsberg 70.14 341 *e*P **P 01 13 27.8 -0.2**
KONO AMb AMB 01 13 35.4
comp=Z,62nm,2.0s,mb5.2
KONO Kongsberg 70.14 341 *e*P **P 01 13 28.2 +0.3**
KONO pmax pmax
comp=Z,36nm,0.8s,mb5.3
KONO Kongsberg 70.14 341 *e*P **P 01 13 28.1 +0.2**
comp=Z,36nm,0.8s,mb5.3
ASK Askoy 70.29 344 *e*P **P 01 13 29.8 +0.9**
ASK AMb AMB 01 13 31.4
comp=Z,99nm,1.6s,mb5.5
ASK Askoy 70.29 344 *e*P **P 01 13 29.8 +0.9**
comp=Z,99nm,1.6s,mb5.5
RUND Rundenannen 70.32 344 *e*P **P 01 13 30.1 +1.1**
RUND AMb AMB 01 13 31.5
comp=Z,150nm,1.0s,mb5.9
RUND Rundenannen 70.32 344 *e*P **P 01 13 30.1 +1.1**
comp=Z,150nm,1.0s,mb5.9
BER Bergen 70.36 344⇑ *i*P **P 01 13 30.2 +0.9**
BER AMb AMB 01 13 31.2
comp=Z,87nm,0.9s,mb5.7
BER Bergen 70.36 344⇑ *i*P **P 01 13 30.2 +0.9**
comp=Z,87nm,0.9s,mb5.7
EGD Espegrend 70.48 344 *e*P **P 01 13 31.0 +1.0**
SDCO Great Sand Dun 70.59 55 *e*P **P 01 13 30.6 -0.1**
comp=Z,21nm,1.5s,mb4.8
SDCO *ep*P pP 01 13 42.6 -1.2
BLS5 Blasjo 71.02 343 *e*P **P 01 13 35.4 +2.1**
KIV Kislovodsk 71.03 314⇑ P **P 01 13 34.5 +1.1**
SNR=9.7
KIV Kislovodsk 71.03 314 *c i*P **P 01 13 34.1 +0.7**
KIV pmax pmax
comp=Z,76nm,1.7s,mb5.3
KIV Kislovodsk 71.03 314⇑ *i*P **P 01 13 34.2 +0.8**
TUC Tucson 71.20 63 *e*P **P 01 13 34.3 -0.1**
TUC *e**PP pP 01 13 45.8 -1.8
TUC pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
TUC Tucson 71.20 63 *e*P **P 01 13 34.3 -0.1**
comp=Z,8.3nm,1.3s,mb4.5
TUC *ep*P pP 01 13 45.8 -1.7
SUW Suwalki 71.28 331 *e*P **P 01 13 33.7 -1.2**
comp=Z,0.1nm,1.3s
SUW *ep*P pP 01 13 37.8 -10
SUW *e*S S 01 22 53.6 +4.5
ZEI Tsey 71.29 313 *e*P **P 01 13 34.2 -0.7**
ZEI *e**PP pP 01 13 47.2 -0.9
ZEI pmax pmax
comp=Z,16nm,0.9s,mb5.0
KMY Karmoy 71.46 343 *e*P **P 01 13 36.4 +0.5**
KMY AMb AMB 01 13 38.5
comp=Z,54nm,1.1s,mb5.4
KMY Karmoy 71.46 343 *e*P **P 01 13 36.4 +0.5**
comp=Z,54nm,1.1s,mb5.4
DGRG David-gareji 71.48 311 P **P 01 13 37.4 +1.3**
MTA Mtatsminda 71.61 311 P **P 01 13 37.5 +0.6**
TBLG Delisi 71.61 312 P **P 01 13 38.1 +1.2**
AKASG Malin Array Be 71.82 326 P **P 01 13 37.1 -1.0**
comp=Z,38nm,0.6s,mb5.5,baz=34,slow=6.3,SNR=126
AKBB Malin Array Si 71.82 326 *e*P **P 01 13 37.2 -0.9**
AS31 Alice Springs 71.91 199 *e*P **P 01 13 38.6 -0.1**
AS31 *ep*P pP 01 13 49.8 -2.0
AS31 *es*P sP 01 13 56.7 -0.3
ASAR Alice Springs 71.92 199 P **P 01 13 38.4 -0.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=13,slow=5.9,SNR=20
ASAR LR LR 01 44 22.2
comp=Z,254nm,19.4s,MS4.5,baz=12,slow=35
ANMO Albuquerque 71.98 58 *e*P **P 01 13 39.1 0.0**
ANMO *e**PP pP 01 13 51.8 -0.4
ANMO pmax pmax
comp=Z,15nm,1.4s
ANMO Albuquerque 71.98 58 *e*P **P 01 13 39.1 0.0**
comp=Z,15nm,1.4s,mb4.7
ANMO *ep*P pP 01 13 51.8 -0.4
PALK Pallekele 72.67 262 *e*P **P 01 13 43.9 +0.7**
PALK *ep*P pP 01 13 57.1 +0.7
GNI Garni 72.75 310 P **P 01 13 45.1 +1.4**
comp=Z,14nm,0.6s,mb5.0,baz=356,slow=1.9,SNR=16
GNI Garni 72.75 310 *c i*P **P 01 13 45.4 +1.7**
GNI MLR MLR
comp=Z,1µm,16.0s
BSD Bornholm Skovb 72.85 336 *i* P **P 01 13 43.8 -0.5**
comp=Z,29nm,0.8s,mb5.3
BSD *i* pP 01 13 58.1 +0.6
BSD
comp=Z,680nm,20.0s
BSD Bornholm Skovb 72.85 336 *i* P **P 01 13 43.8 -0.5**
comp=Z,29nm,0.8s,mb5.3
BSD *i* pP 01 13 58.1 +0.6
ANN Anapa 72.93 318 *e*P **P 01 13 43.3 -1.4**
ANN *e*S S 01 23 09.1 +1.2
ANN pmax pmax
comp=Z,89nm,1.6s,mb5.5
COP Copenhagen 73.02 338 *i* P **P 01 13 44.9 -0.3**
comp=Z,27nm,0.7s,mb5.3
COP *e* 01 20 21.7
COP
comp=Z,180nm,17.0s
COP Copenhagen 73.02 338 *e*P **P 01 13 44.9 -0.3**
COP pmax pmax
comp=Z,27nm,0.7s,mb5.3
COP MLR MLR
comp=Z,190nm,17.0s,MS4.4
COP Copenhagen 73.02 338 *e*P **P 01 13 44.9 -0.3**
comp=Z,27nm,0.7s,mb5.3
COP *e* 01 20 21.7
COP LR LR
comp=Z,190nm,17.0s,MS4.4
MUD Monsted U'grnd 73.13 340 *i* P **P 01 13 47.0 +1.1**
comp=Z,20nm,0.8s,mb5.1
MUD *e* 01 23 18.5
MUD
comp=Z,630nm,18.0s
MUD Monsted U'grnd 73.13 340 *i* P **P 01 13 47.0 +1.1**
comp=Z,20nm,0.8s,mb5.1
MUD *e* 01 23 18.5
WAR Warsaw 73.48 332 *e*P **P 01 13 49.0 +1.0**
WAR *ep*P pP 01 13 52.3 -8.9
WAR L 01 50 03.6
comp=Z,0.8nm,20.2s
OBR Brabster 73.50 347 *e*P **P 01 13 47.0 -1.1**
OBR Brabster 73.50 347 *e*P **P 01 13 47.0 -1.1**
SCHQ Schefferville 73.59 23 P **P 01 13 47.9 -0.8**
comp=Z,3.8nm,0.8s,mb4.4,baz=276,slow=3.2,SNR=4.2
SCHQ LR LR 01 50 08.4
comp=Z,283nm,18.5s,MS4.6,baz=6.5,slow=39
ORE Reay 73.65 348 *e*P **P 01 13 49.0 -0.1**
ORE Reay 73.65 348 *e*P **P 01 13 49.0 -0.1**
MBWA Marble Bar 73.76 212 P **P 01 13 49.1 -0.6**
GKP Gorka Klasztor 73.79 334 *e*P **P 01 13 49.6 -0.2**
GKP *ep*P pP 01 13 53.5 -10
GKP L 01 50 55.3
comp=Z,1.7nm,18.4s
SCIA State Center 74.12 45 *e*P **P 01 13 51.3 -0.4**
SIM Simferopol' 74.32 320 *ce*P **P 01 13 54.0 +1.1**
SIM PPP 01 18 24.1
SIM pmax pmax
comp=Z,81nm,8.9s
SIM MLR MLR
comp=Z,1µm,19.0s,MS5.2
LVV L'vov 74.47 329 *e*P **P 01 13 52.8 -1.0**
MCD Coleburn Disti 74.50 347 *e*P **P 01 13 52.6 -1.4**
MCD Coleburn Disti 74.50 347 *e*P **P 01 13 52.6 -1.4**
TVAN Van 74.64 310 *i* P **P 01 13 57.5 +2.7**
ERZM Erzurum 74.69 312 *i* P **P 01 13 56.8 +1.8**
MNTX Cornudas Mount 74.91 60 *e*P **P 01 13 56.0 -0.3**
comp=Z,18nm,1.4s,mb4.8
KPL Plockton 75.09 348 *e*P **P 01 13 57.3 -0.1**
KPL AMb AMB 01 13 59.6
comp=Z,42nm,1.2s,mb5.2
KPL Plockton 75.09 348 *e*P **P 01 13 57.3 -0.1**
KPL AMb AMB 01 13 59.6
comp=Z,42nm,1.2s,mb5.2
KWP Kalwaria 75.11 329 *e*P **P 01 13 57.7 +0.3**
comp=Z,0.5nm,1.9s
KWP *ep*P pP 01 14 01.6 -9.1
KWP L 01 50 08.1
comp=Z,1.3nm,18.8s
KWP Kalwaria 75.11 329 *e*P **P 01 13 57.7 +0.3**
KWP pmax pmax
comp=Z,500nm,1.9s,mb6.1
KWP MLR MLR
comp=Z,1µm,18.8s,MS5.2
KWP Kalwaria 75.11 329 *e*P **P 01 13 57.5 0.0**
KWP *e*PP PP 01 16 42.8 -3.1
BSEG Bad Segeberg 75.13 338 *e*P **P 01 13 57.3 -0.3**
comp=Z,28nm,0.9s,mb5.2
KSB Sheil Bridge 75.19 348 *e*P **P 01 13 57.5 -0.4**
KSB Sheil Bridge 75.19 348 *e*P **P 01 13 57.5 -0.4**
IAS Iasi 75.30 325⇑ *i*P **P 01 13 58.7 +0.1**
IAS Iasi 75.30 325 P **P 01 13 59.1 +0.5**
BNGL BINGOL 75.51 312 *i* P **P 01 14 01.4 +1.7**
KAR1 Arisaig 75.53 348 *e*P **P 01 13 59.4 -0.4**
KAR1 Arisaig 75.53 348 *e*P **P 01 13 59.4 -0.4**
KELT Kelkit 75.57 314 *i* P **P 01 14 00.6 +0.5**
OJC Ojcow 75.61 331 *i* Pc **P 01 14 00.0 -0.3**
OJC *e*S S 01 23 35.2 -2.8
OJC L 01 49 33.2
comp=Z,2.8nm,20.8s
STHS Stebnicka Huta 75.80 330 *e*P **P 01 14 02.3 +0.9**
comp=Z,29nm,1.4s,mb5.0
KOLS Kolonicke sedl 75.85 329 *e*P **P 01 14 01.4 -0.3**
BURAR Bucovina Array 75.86 327⇑ *i*P **P 01 14 01.0 -0.8**
BURAR Bucovina Array 75.86 327⇑ P **P 01 14 01.0 -0.8**
ESY Stoneypath 76.00 346 *e*P **P 01 14 02.7 +0.2**
ESY Stoneypath 76.00 346 *e*P **P 01 14 02.7 +0.2**
EAB Aberfoyle 76.01 347 *e*P **P 01 14 02.5 -0.1**
EAB Aberfoyle 76.01 347 *e*P **P 01 14 02.5 -0.1**
UZH Uzhgorod 76.09 329⇑ *i*P **P 01 14 02.4 -0.7**
UZH *i* pP 01 14 16.2 -0.2
UZH *e* 01 16 53.0
UZH *e*S S 01 23 43.0 -0.3
UZH *i* 01 24 22.0
UZH *i* 01 24 30.0
UZH MLR MLR
comp=Z,410nm,14.0s,MS4.9
NIE Niedzica 76.12 330 *e*P **P 01 14 03.4 +0.2**
KSP Ksiaz 76.19 333 *e*P **P 01 14 03.6 -0.1**
comp=Z,0.2nm,2.1s
KSP *ep*P pP 01 14 07.8 -9.1
KSP L 01 51 10.5
comp=Z,2.6nm,18.4s
EAU Auchinoon 76.20 347 *e*P **P 01 14 03.9 +0.1**
EAU Auchinoon 76.20 347 *e*P **P 01 14 03.9 +0.1**
RAC Raciborz 76.25 332 *e*P **P 01 14 04.5 +0.5**
RAC MLR MLR
comp=Z,900nm,20.7s,MS5.1
XSO Sourhope Farm 76.35 346 *e*P **P 01 14 04.0 -0.5**
XSO Sourhope Farm 76.35 346 *e*P **P 01 14 04.0 -0.5**
PGBU Glenifferbraes 76.40 347 *e*P **P 01 14 05.0 +0.2**
PGBU AMb AMB 01 14 09.7
comp=Z,38nm,1.6s,mb5.1
PGBU Glenifferbraes 76.40 347 *e*P **P 01 14 05.0 +0.2**
PGBU AMb AMB 01 14 09.7
comp=Z,38nm,1.6s,mb5.1
MSL Mosul 76.47 309 *ex* x 01 14 14.0
MSL *ex* x 01 23 56.0
OKC Ostrava-Krasne 76.48 332 *e*P **P 01 14 05.8 +0.5**
OKC AMS AMS 01 52 30.0
comp=Z,900nm,15.8s
NRDL Niedersach Rie 76.49 338 *e*P **P 01 14 04.9 -0.4**
comp=Z,25nm,1.0s,mb5.1
WMOK Wichita Mounta 76.53 54 *e*P **P 01 14 04.9 -0.7**
WMOK *e* pP 01 14 16.9 -1.9
WMOK pmax pmax
comp=Z,16nm,1.2s,mb4.8
WMOK Wichita Mounta 76.53 54 *e*P **P 01 14 04.8 -0.7**
comp=Z,16nm,1.2s,mb4.8
WMOK *e*PcP PcP 01 14 16.9 -0.2
DPC Dobruska-Polom 76.62 333 *e*P **P 01 14 06.0 -0.1**
DPC AMS AMS 01 52 10.0
comp=Z,1µm,17.2s
EKA Eskdalemuir Ar 76.65 346 P **P 01 14 06.0 -0.2**
comp=Z,6.2nm,0.9s,mb4.5,baz=26,slow=4.5,SNR=15
ESK Eskdalemuir 76.67 346 *e*P **P 01 14 05.6 -0.8**
ESK AMb AMB 01 14 11.2
comp=Z,29nm,1.8s,mb4.9
ESK Eskdalemuir 76.67 346 *e*P **P 01 14 05.6 -0.8**
ESK AMb AMB 01 14 11.2
comp=Z,29nm,1.8s,mb4.9
BOYT Boyabat 76.71 317 *i* P **P 01 14 08.1 +1.6**
VRI Vrincioaia 76.72 325⇑ *i*P **P 01 14 06.6 0.0**
VRI Vrincioaia 76.72 325 P **P 01 14 07.5 +0.9**
MORC Moravsky Berou 76.73 332⇑ *i*P **P 01 14 06.6 -0.1**
MORC Moravsky Berou 76.73 332 P **P 01 14 07.3 +0.6**
MORC pmax pmax
comp=Z,33nm,1.0s,mb5.2
MORC Moravsky Berou 76.73 332 P **P 01 14 07.5 +0.8**
PLOR Plostina 76.76 325⇑ *i*P **P 01 14 07.3 +0.4**
CLL Collm 76.76 336 *e*P **P 01 14 06.0 -0.9**
comp=Z,46nm,0.8s,mb5.5
CLL Collm 76.76 336 *i* P **P 01 14 06.8 -0.1**
comp=Z,46nm,0.8s,mb5.5
CLL *i* sP 01 14 11.2
CLL LmV 01 54 00.0
comp=Z,900nm,19.7s
CLL Collm 76.76 336 *i* P **P 01 14 06.8 -0.1**
CLL *i* 01 14 11.2
CLL *e*S S 01 23 48.0 -2.6
CLL pmax pmax
comp=Z,46nm,0.8s,mb5.5
CLL MLR MLR
comp=Z,900nm,19.7s,MS5.1
CLL Collm 76.76 336 *i* P **P 01 14 06.8 -0.1**
comp=Z,46nm,0.8s,mb5.5
CLL *i* 01 14 11.2
CLL *e*S S 01 23 48.0 -2.6
CLL LR LR
comp=Z,900nm,19.7s,MS5.1
ECK Cauldkaine Hil 76.79 346 *e*P **P 01 14 06.0 -1.0**
ECK Cauldkaine Hil 76.79 346 *e*P **P 01 14 06.0 -1.0**
KECS Kecovo 76.86 330 *e*P **P 01 14 07.8 +0.4**
KECS pmax pmax
comp=Z,11nm,1.0s,mb4.7
KECS Kecovo 76.86 330 *e*P **P 01 14 07.8 +0.4**
comp=Z,11nm,1.0s,mb4.7
BRG Berggiesshubel 76.88 335 *e*P **P 01 14 06.9 -0.6**
comp=Z,50nm,1.6s,mb5.2
BRG Berggiesshubel 76.88 335 *i* P **P 01 14 06.7 -0.8**
comp=Z,12nm,1.1s,mb4.7
BRG *i* 01 14 11.7
comp=Z,30nm,1.6s
BRG
comp=Z,689nm,17.1s
BRG
comp=N,256nm,18.0s
BRG
comp=E,340nm,18.0s
BRG Berggiesshubel 76.88 335 *i* P **P 01 14 06.7 -0.8**
BRG *i* 01 14 11.7
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRG MLR MLR
comp=Z,690nm,17.1s,MS5.0
BRG Berggiesshubel 76.88 335 *i* P **P 01 14 06.7 -0.8**
comp=Z,12nm,1.1s,mb4.7
BRG *i* 01 14 11.7
BRG LR LR
comp=Z,690nm,17.1s,MS5.0
MARD Mardin 76.93 311 *i* P **P 01 14 08.8 +1.0**
XAL Allendale 76.94 346 *e*P **P 01 14 07.8 -0.1**
XAL Allendale 76.94 346 *e*P **P 01 14 07.8 -0.1**
ELZG Elazig 76.96 313 *i* P **P 01 14 10.4 +2.4**
PVCC Panska Ves 77.00 334 *e*P **P 01 14 07.8 -0.4**
PVCC AMS AMS 01 51 20.0
comp=Z,900nm,17.6s
HATD Hatta, Dubai 77.01 292⇓ P **P 01 14 10.1 +1.8**
SNR=11
CLZ Clausthal 77.01 337 *e*P **P 01 14 08.3 0.0**
comp=Z,44nm,0.9s,mb5.4
CLZ Clausthal 77.01 337 *e*P **P 01 14 08.3 0.0**
CLZ pmax pmax
comp=Z,44nm,0.9s,mb5.4
WIT Witteveen 77.06 340 *e*P **P 01 14 09.5 +1.0**
HOQ Hoqain 77.12 291⇓ P **P 01 14 10.6 +1.7**
SNR=11
ASHO Ashiyiah 77.15 292⇑ P **P 01 14 10.8 +1.8**
SNR=9.1
IBBN Ibbenburen 77.26 339 *e*P **P 01 14 09.4 -0.3**
comp=Z,47nm,0.9s,mb5.4
BALT Daday 77.33 318 *i* P **P 01 14 11.2 +1.1**
MLR Muntele Rosu 77.34 325⇑ *i*P **P 01 14 10.3 +0.2**
MLR Muntele Rosu 77.34 325 P **P 01 14 10.9 +0.8**
GAL1 Galloway 77.35 347 *e*P **P 01 14 09.3 -0.9**
GAL1 *e*P 01 14 09.3
GAL1 AMb AMB 01 14 12.5
comp=Z,39nm,1.4s,mb5.2
GAL1 Galloway 77.35 347 *e*P **P 01 14 09.3 -0.9**
GAL1 *e*P 01 14 09.3
GAL1 AMb AMB 01 14 12.5
comp=Z,39nm,1.4s,mb5.2
CKE Keswick 77.36 346 *e*P **P 01 14 09.8 -0.5**
CKE Keswick 77.36 346 *e*P **P 01 14 09.8 -0.5**
MALT Malatya 77.38 313⇓ *i*P **P 01 14 11.9 +1.5**
MALT Malatya 77.38 313 P **P 01 14 11.8 +1.4**
MALT pmax pmax
comp=Z,64nm,1.4s,mb5.4
MALT Malatya 77.38 313 P **P 01 14 12.4 +2.0**
CTKT Corum 77.39 317 *i* P **P 01 14 11.9 +1.5**
VYHS Vyhne 77.41 331 *e*P **P 01 14 10.7 +0.2**
VYHS pmax pmax
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 77.41 331 *e*P **P 01 14 10.7 +0.2**
comp=Z,18nm,1.1s,mb4.9
VRAC Vranov 77.44 333 P **P 01 14 10.6 -0.1**
comp=Z,18nm,0.9s,mb5.0,baz=31,slow=5.5,SNR=28
VRAC Vranov 77.44 333⇓ *i*P **P 01 14 09.8 -0.9**
VRAC Vranov 77.44 333 P **P 01 14 10.6 -0.1**
VRAC pmax pmax
comp=Z,18nm,0.9s
VRAC Vranov 77.44 333 P **P 01 14 11.7 +1.0**
JMDO Jabal Madar 77.46 289⇑ P **P 01 14 12.6 +1.8**
SNR=6.4
PRU Pruhonice 77.48 334 *e*P **P 01 14 11.2 +0.3**

PRU AMS AMS 01 51 50.0
comp=Z,1µm,17.8s
PSZ Piszkesteto 77.55 330⇑ *eP* **P 01 14 11.8 +0.5**
PSZ Piszkesteto 77.55 330⇑ *iP* **P 01 14 11.2 -0.1**
PSZ Piszkesteto 77.55 330 P **P 01 14 11.6 +0.3**
PSZ pmax pmax
comp=Z,32nm,1.0s,mb5.2
PSZ Piszkesteto 77.55 330 P **P 01 14 11.7 +0.5**
TANN Tannenbergstha 77.71 335 *eP* **P 01 14 12.1 -0.1**
comp=Z,15nm,1.2s,mb4.8
VOIR 77.73 325⇑ *iP* **P 01 14 12.7 +0.4**
VOIR 77.73 325⇑ P **P 01 14 12.7 +0.3**
MOX Moxa 77.75 336 *eP* **P 01 14 12.1 -0.3**
comp=Z,36nm,1.4s,mb5.1
MOX Moxa 77.75 336 *eP* **P 01 14 12.0 -0.4**
comp=Z,46nm,1.4s,mb5.2
MOX
comp=Z,500nm,20.0s
MOX Moxa 77.75 336 *eP* **P 01 14 12.0 -0.4**
MOX pmax pmax
comp=Z,46nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.8
BSY Bisya 77.79 290 ⇓P **P 01 14 14.7 +2.0**
SNR=8.8
TREC Trest 77.80 333 AMS AMS 01 52 50.0
comp=Z,1µm,17.9s
WTSB Winterswijk 77.80 339 *eP* **P 01 14 12.4 -0.4**
comp=Z,26nm,0.8s,mb5.2
ARQ Aragi 77.81 291 ⇓P **P 01 14 14.5 +1.7**
SNR=7.0
SMOL Smolenice 77.86 332 *eP* **P 01 14 13.5 +0.5**
SMOL Smolenice 77.86 332 *eP* **P 01 14 13.6 +0.6**
NKC Novy Kostel 77.88 335 *eP* **P 01 14 13.2 +0.1**
BHD Baghdad 78.00 306 *ex* x 01 14 10.0
CCM Cathedral Cave 78.03 47 *eP* **P 01 14 12.0 -2.0**
CCM *e* pP 01 14 24.3 -3.0
CCM pmax pmax
comp=Z,30nm,1.4s,mb5.0
CCM Cathedral Cave 78.03 47 *eP* **P 01 14 11.9 -2.0**
comp=Z,30nm,1.4s,mb5.0
CCM *e*PcP PcP 01 14 24.3 +0.8
UBBA Unterbreizbach 78.03 337 *eP* **P 01 14 13.6 -0.4**
comp=Z,38nm,1.5s,mb5.1
ATAB Bozova 78.10 312 *i* P **P 01 14 15.9 +1.6**
ELDT Eldivan 78.13 317 *i* P **P 01 14 15.9 +1.4**
BUG Bochum--Univer 78.17 339 *eP* **P 01 14 14.4 -0.4**
comp=Z,29nm,0.9s,mb5.2
MANZ Manzenberg 78.20 336 *eP* **P 01 14 14.9 0.0**
comp=Z,24nm,1.0s,mb5.1
BUD Budapest 78.22 330⇑ *eP* **P 01 14 15.8 +0.8**
ZST Bratislava 78.25 332 *eP* **P 01 14 16.4 +1.2**
ZST pmax pmax
comp=Z,26nm,1.0s,mb5.1
ZST MLR MLR
comp=Z,900nm,19.1s,MS5.1
ZST Bratislava 78.25 332 *eP* **P 01 14 16.4 +1.2**
comp=Z,26nm,1.0s,mb5.1
ZST LR LR
comp=Z,900nm,19.1s,MS5.1
KBI1 Birley Grange 78.36 345 *eP* **P 01 14 15.6 -0.2**
KBI1 Birley Grange 78.36 345 *eP* **P 01 14 15.6 -0.2**
CDAG Cicekdag 78.37 316 *i* P **P 01 14 16.1 +0.3**
ROTZ Rotzenmuhle 78.37 335 *eP* **P 01 14 16.1 +0.3**
comp=Z,27nm,1.1s,mb5.1
KHC Kasperske Hory 78.53 334 *eP* **P 01 14 17.1 +0.4**
KHC AMS AMS 01 52 40.0
comp=Z,1µm,18.1s
GZT Gaziantep 78.56 313 *i* P **P 01 14 18.8 +1.9**
BR131 Keskin Array S 78.64 317 *eP* **P 01 14 18.2 +0.8**
comp=Z,4.8nm,0.7s,mb4.5
BR131 *ep*P pP 01 14 29.6 -1.0
BR131 *es*P sP 01 14 34.6 -1.1
BRTR Keskin Array B 78.64 317 P **P 01 14 17.8 +0.4**
comp=Z,8.5nm,1.1s,mb4.6,baz=82,slow=2.6,SNR=32
STKA Stephens Creek 78.64 190 P **P 01 14 16.9 -0.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=293,slow=15,SNR=3.8
STKA LR LR 01 48 46.7
comp=Z,230nm,19.2s,MS4.5,baz=23,slow=36
KWE Weaver Farm 78.64 345 *eP* **P 01 14 18.1 +0.7**
KWE Weaver Farm 78.64 345 *eP* **P 01 14 18.1 +0.7**
GZR Gura Zlata 78.65 327⇓ *iP* **P 01 14 17.5 +0.1**
GZR Gura Zlata 78.65 327 P **P 01 14 17.9 +0.5**
SGKT Sivrigoynuk 78.70 318 *i* P **P 01 14 19.4 +1.7**
GRA1 Grafenberg Arr 78.72 336 *eP* **P 01 14 18.0 +0.2**
comp=Z,61nm,1.0s,mb5.5
GRA1 LR LR
comp=Z,700nm,19.1s,MS5.0
GRF Grafenberg Arr 78.72 336 *eP* **P 01 14 18.0 +0.2**
comp=Z,61nm,1.0s,mb5.5
GRF *e*L 01 52 31.8
comp=Z,655nm,19.1s
GRF Grafenberg Arr 78.72 336 *eP* **P 01 14 18.0 +0.2**
GRF pmax pmax
comp=Z,61nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,700nm,19.1s,MS5.0
GRF Grafenberg Arr 78.72 336 *eP* **P 01 14 18.0 +0.2**
GRF pmax pmax
comp=Z,61nm,1.0s,mb5.5
GRF MLR MLR
comp=Z,700nm,19.1s,MS5.0
WET Wettzell 78.73 335 *eP* **P 01 14 18.1 +0.3**
comp=Z,30nm,0.9s,mb5.2
WET Wettzell 78.73 335 *eP* **P 01 14 18.1 +0.3**
WET pmax pmax
comp=Z,30nm,0.9s,mb5.2
GEC2 GERESS Array S 78.75 334 *eP* **P 01 14 17.7 -0.2**
comp=Z,16nm,1.0s,mb4.9
GEC2 GERESS Array S 78.75 334 *eP* **P 01 14 17.7 -0.2**
GEC2 pmax pmax
comp=Z,16nm,1.0s,mb4.9
GERES GERESS Array B 78.75 334 P **P 01 14 17.6 -0.4**
comp=Z,7.2nm,0.7s,mb4.7,baz=37,slow=5.0,SNR=50
GERES LR LR 01 52 54.7
comp=Z,1µm,18.3s,MS5.3,baz=253,slow=39
MIB Mutribah 78.85 302 *eP* **P 01 14 19.6 +1.1**
MIB AMb AMB 01 14 21.7
comp=Z,161nm,0.9s,mb6.0
SOP Sopron 78.87 332⇑ *eP* **P 01 14 19.4 +0.8**
CONA Conrad Observa 78.89 332⇑ *iP* **P 01 14 18.2 -0.5**
comp=Z,25nm,1.3s,mb5.0,SNR=21
BZS Buzias 78.89 328⇓ *iP* **P 01 14 17.5 -1.2**
BZS Buzias 78.89 328 P **P 01 14 19.2 +0.5**
ANTO Ankara 78.92 317⇑ *iP* **P 01 14 19.8 +0.9**
ANTO Ankara 78.92 317 P **P 01 14 20.9 +2.0**
SNR=11
ANTO Ankara 78.92 317 P **P 01 14 20.1 +1.2**
ANTO pmax pmax
comp=Z,28nm,1.0s,mb5.2
ANTO Ankara 78.92 317 P **P 01 14 20.7 +1.8**
TNS Taunus Mts 78.99 338 *eP* **P 01 14 19.2 -0.1**
comp=Z,27nm,0.9s,mb5.2
TNS Taunus Mts 78.99 338 *eP* **P 01 14 19.2 -0.1**
TNS pmax pmax
comp=Z,27nm,0.9s,mb5.2
SBD1 Bryn Du 79.00 346 *eP* **P 01 14 19.2 -0.1**
SBD1 Bryn Du 79.00 346 *eP* **P 01 14 19.2 -0.1**
JCT Junction City 79.08 57 *eP* **P 01 14 19.3 -0.5**
JCT pmax pmax
comp=Z,23nm,1.2s,mb5.0
JCT Junction City 79.08 57 *eP* **P 01 14 19.3 -0.4**
comp=Z,23nm,1.2s,mb5.0
ZIMR 79.09 324⇑ *iP* **P 01 14 19.7 -0.1**
ZIMR 79.09 324 P **P 01 14 20.1 +0.4**
HGN Heimansgroeve 79.12 340 *eP* **P 01 14 20.0 0.0**
comp=Z,38nm,1.2s,mb5.2
HGN Heimansgroeve 79.12 340 *eS* SKSac 01 24 32.5 +0.3
DLF Lyons Farm 79.14 348 *eP* **P 01 14 18.3 -1.8**
BEBN Eben Emael 79.16 340 P **P 01 14 20.5 +0.3**
DCN Croghan 79.20 348 *eP* **P 01 14 18.7 -1.7**
MEM Membach 79.25 339 P **P 01 14 20.8 +0.1**
RST Umm Al-Ruwaisa 79.27 302 *eP* **P 01 14 21.5 +0.7**
RST AMb AMB 01 14 23.8
comp=Z,140nm,1.0s,mb5.8
QRN Al-Qurain 79.28 300 *eP* **P 01 14 22.0 +1.1**
QRN AMb AMB 01 14 23.5
comp=Z,76nm,0.6s,mb5.8
HLM1 Long Mynd 79.31 345 *eP* **P 01 14 21.0 0.0**
HLM1 Long Mynd 79.31 345 *eP* **P 01 14 21.0 0.0**
NAY Al-Naaiem 79.31 301 *eP* **P 01 14 21.9 +0.9**
NAY AMb AMB 01 14 24.3
comp=Z,61nm,0.9s,mb5.5
RDF Al-Radifah 79.36 301 *eP* **P 01 14 22.5 +1.2**
RDF AMb AMB 01 14 24.1
comp=Z,112nm,0.7s,mb5.9
PKSM Moragy 79.45 330⇑ *iP* **P 01 14 20.7 -1.1**
PKSM Moragy 79.45 330 P **P 01 14 21.6 -0.2**
TOD Tromm 79.46 337 *eP* **P 01 14 21.3 -0.5**
MOA Molln 79.46 333⇑ *iP* **P 01 14 21.7 -0.1**
comp=Z,169nm,3.1s
UCC Uccle 79.47 340 P **P 01 14 21.8 0.0**
MIAR Mount Ida 79.51 50 *eP* **P 01 14 20.9 -1.2**
MIAR *e**PP pP 01 14 34.0 -1.4
MIAR pmax pmax
comp=Z,22nm,1.2s,mb5.0
MIAR Mount Ida 79.51 50 *eP* **P 01 14 20.9 -1.2**
comp=Z,22nm,1.2s,mb5.0
MIAR *ep*P pP 01 14 34.0 -1.5
ABH Alteburg 79.53 338 *eP* **P 01 14 21.8 -0.4**
JMB Yambol 79.57 323 *eP* **P 01 14 23.0 +0.6**
ARSA Arzberg 79.59 332⇑ *iP* **P 01 14 22.8 +0.3**
comp=Z,178nm,3.2s,SNR=5.3
BCLA Clavier 79.59 340 P **P 01 14 22.7 +0.1**
SKP1 Kophill 79.69 344 *eP* **P 01 14 21.8 -1.2**
SKP1 Kophill 79.69 344 *eP* **P 01 14 21.8 -1.2**
HTR Trewern Hill 79.80 345 *eP* **P 01 14 23.2 -0.4**
HTR Trewern Hill 79.80 345 *eP* **P 01 14 23.2 -0.4**
MCH1 Michaelchurch 79.83 345 *eP* **P 01 14 23.6 -0.2**
MCH1 *e* 01 14 23.6
MCH1 AMb AMB 01 14 26.6
comp=Z,26nm,1.2s,mb5.0
MCH1 Michaelchurch 79.83 345 *eP* **P 01 14 23.6 -0.2**
MCH1 *e* 01 14 23.6
MCH1 AMb AMB 01 14 26.6
comp=Z,26nm,1.2s,mb5.0
PARMO Parma 79.86 47 *eP* **P 01 14 23.5 -0.5**
PARMO *ep*P pP 01 14 36.4 -0.9
GIVF Givet 80.00 340 *eP* **P 01 14 24.2 -0.6**
comp=Z,45nm,1.1s,mb5.0
GIVF Givet 80.00 340 *eP* **P 01 14 24.2 -0.6**
GIVF pmax pmax
comp=Z,23nm,1.1s,mb5.0
GIVF Givet 80.00 340 *eP* **P 01 14 24.2 -0.6**
comp=Z,23nm,1.1s,mb5.0
DOU Dourbes 80.06 340 P **P 01 14 25.3 +0.2**
SWN1 Swindon 80.08 344 *eP* **P 01 14 25.8 +0.6**
SWN1 Swindon 80.08 344 *eP* **P 01 14 25.8 +0.6**
FUR Furstenfeldbru 80.08 335 *eP* **P 01 14 25.4 +0.2**
comp=Z,47nm,1.0s,mb5.4
FUR Furstenfeldbru 80.08 335 *eP* **P 01 14 25.4 +0.2**
FUR pmax pmax
comp=Z,47nm,1.0s,mb5.4
WLF Walferdange 80.09 339 *eP* **P 01 14 25.4 +0.2**
comp=Z,31nm,1.4s,mb5.0
ESKT Eskisehir 80.10 318 *i* P **P 01 14 25.3 0.0**
STU Stuttgart 80.11 337 *eP* **P 01 14 25.4 0.0**
comp=Z,32nm,1.0s,mb5.2
STU Stuttgart 80.11 337 *eP* **P 01 14 25.8 +0.4**
STU pmax pmax
comp=Z,27nm,0.9s,mb5.2
STU Stuttgart 80.11 337 *eP* **P 01 14 25.8 +0.5**
comp=Z,27nm,0.9s,mb5.2
HGH Gray Hill 80.14 345 *eP* **P 01 14 24.4 -1.2**
HGH Gray Hill 80.14 345 *eP* **P 01 14 24.4 -1.2**
BAIF Baives 80.19 340 *eP* **P 01 14 25.3 -0.5**
comp=Z,31nm,1.0s,mb4.9
BAIF Baives 80.19 340 *eP* **P 01 14 25.3 -0.5**
BAIF pmax pmax
comp=Z,16nm,1.0s,mb4.9
BAIF Baives 80.19 340 *eP* **P 01 14 25.3 -0.5**
comp=Z,16nm,1.0s,mb4.9
PERS Pernoe 80.26 332 *i* P **P 01 14 26.6 +0.4**
LANF Langenberg 80.30 338 *eP* **P 01 14 26.0 -0.3**
WCI Wyandotte Cave 80.32 43 *eP* **P 01 14 25.7 -0.8**
WCI *e* 01 14 33.1
WCI *e**PP pP 01 14 38.4 -1.4
WCI pmax pmax
comp=Z,18nm,0.9s,mb5.0
WCI Wyandotte Cave 80.32 43 *eP* **P 01 14 25.7 -0.8**
comp=Z,18nm,0.9s,mb5.0
WCI *ep*PcP PcP 01 14 33.1 -0.4
WCI *ep*P pP 01 14 38.4 -1.5
WCI *ep*P pP 01 14 44.0 +4.2
KBA Koelnbreinsper 80.43 333⇑ *iP* **P 01 14 27.6 +0.5**
comp=Z,138nm,1.4s,mb5.7,SNR=60
KBA Koelnbreinsper 80.43 333⇑ *iP* **P 01 14 27.6 +0.5**
KBA pmax pmax
comp=Z,138nm,1.4s,mb5.7
KBA Koelnbreinsper 80.43 333⇑ *iP* **P 01 14 27.6 +0.5**
comp=Z,138nm,1.4s,mb5.7
DOBS Dobrina 80.58 332 *i* P **P 01 14 27.9 +0.1**
PLD Plovdiv 80.65 324 *eP* **P 01 14 28.0 -0.2**
WATA Walderalm 80.74 335⇓ *iP* **P 01 14 29.3 +0.6**
comp=Z,34nm,1.0s,mb5.2,SNR=11
WATA Walderalm 80.74 335⇓ *iP* **P 01 14 29.3 +0.6**
WATA pmax pmax
comp=Z,34nm,1.0s,mb5.2
WATA Walderalm 80.74 335⇓ *iP* **P 01 14 29.3 +0.6**
comp=Z,34nm,1.0s,mb5.2
BFO Black Forest 80.75 337 P **P 01 14 28.6 -0.2**
comp=Z,129nm,0.9s,mb5.9,SNR=12
BFO Black Forest 80.75 337 *eP* **P 01 14 28.7 -0.1**
comp=Z,29nm,1.1s,mb5.1
BFO Black Forest 80.75 337 *eP* **P 01 14 28.7 -0.1**
BFO pmax pmax
comp=Z,29nm,1.1s,mb5.1
SART Tekirdag 80.78 321 *i* P **P 01 14 28.0 -1.0**
WTTA Wattenberg 80.78 335⇓ *iP* **P 01 14 29.5 +0.5**
comp=Z,216nm,2.3s,mb5.7,SNR=25
WTTA Wattenberg 80.78 335⇓ *iP* **P 01 14 29.5 +0.5**
WTTA pmax pmax
comp=Z,216nm,2.3s,mb5.7
DIVS Divcibare 80.79 328 *i* P **P 01 14 28.3 -0.7**
DIVS Divcibare 80.79 328 *eP* **P 01 14 28.9 -0.1**
VTS Vitosha 80.84 325 *eP* **P 01 14 29.3 +0.1**
VTS Vitosha 80.84 325⇓ *iP* **P 01 14 28.8 -0.5**
VTS Vitosha 80.84 325 *eP* **P 01 14 29.0 -0.3**
MEST Erdemli 80.86 315 *i* P **P 01 14 29.8 +0.4**
MOTA Moosalm 80.87 335⇑ *iP* **P 01 14 29.6 +0.2**
comp=Z,40nm,1.0s,mb5.3,SNR=16
MOTA Moosalm 80.87 335⇑ *iP* **P 01 14 29.6 +0.2**
MOTA pmax pmax
comp=Z,41nm,1.0s,mb5.3
WLS Welschbruch 80.94 338 *eP* **P 01 14 29.1 -0.7**
SQTA Sankt Quirin 80.95 335⇑ *iP* **P 01 14 30.3 +0.4**
comp=Z,25nm,1.0s,mb5.1,SNR=13
SQTA Sankt Quirin 80.95 335⇑ *iP* **P 01 14 30.3 +0.5**
SQTA pmax pmax
comp=Z,25nm,1.0s,mb5.1
CDF Champ du Feu 80.96 338 *eP* **P 01 14 29.6 -0.3**
comp=Z,80nm,1.1s,mb5.2
CDF Champ du Feu 80.96 338 *eP* **P 01 14 29.6 -0.3**
CDF pmax pmax
comp=Z,40nm,1.1s,mb5.3
CDF Champ du Feu 80.96 338 *eP* **P 01 14 29.6 -0.3**
comp=Z,40nm,1.1s,mb5.3
RZN Rozhen 80.99 324 *eP* **P 01 14 30.0 -0.1**
PTCC Patocco-Chiusa 81.03 333 P **P 01 14 29.7 -0.6**
comp=Z,13nm,0.9s,mb4.8
FVI Forni Avoltri 81.04 334 P **P 01 14 31.9 +1.6**
FVI pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FVI Forni Avoltri 81.04 334 P **P 01 14 31.9 +1.6**
comp=Z,4.2nm,0.5s,mb4.6
ALN Alexandroupoli 81.09 322 *eP* **P 01 14 31.2 +0.6**
ROBS Robic 81.12 333 *iP* **P 01 14 35.2 +4.4**
ECH Echery 81.17 338 *eP* **P 01 14 30.3 -0.7**
BOJS Bojanci 81.22 332 *iP* **P 01 14 31.4 +0.1**
WVT Waverly 81.24 46 *eP* **P 01 14 30.2 -1.2**
WVT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
WVT Waverly 81.24 46 *eP* **P 01 14 30.2 -1.1**
comp=Z,5.1nm,0.8s,mb4.5
FELD Feldberg im Sc 81.26 337 *eP* **P 01 14 31.1 -0.4**
DAVA Damuels 81.27 336⇑ *iP* **P 01 14 31.5 -0.1**
comp=Z,74nm,1.9s,mb5.3,SNR=7.7
MEZF Maizieres J'vi 81.44 339 *eP* **P 01 14 32.3 -0.1**
comp=Z,83nm,1.1s,mb5.3
MEZF Maizieres J'vi 81.44 339 *eP* **P 01 14 32.3 -0.1**
comp=Z,83nm,1.1s,mb5.6
THEF They Montfort 81.46 338 *eP* **P 01 14 32.5 -0.1**
MMB Musomiste 81.48 324 *eP* **P 01 14 32.5 -0.1**
DYA Yadsworthy 81.49 345 *eP* **P 01 14 32.9 +0.1**
DYA Yadsworthy 81.49 345 *eP* **P 01 14 32.9 +0.1**
KKB Krupnik 81.50 325 *eP* **P 01 14 33.0 +0.2**
MOF Molkenrain 81.51 338 *eP* **P 01 14 31.6 -1.2**
TKTP Tekketepe 81.54 318 *i* P **P 01 14 32.9 -0.1**
HAU Haudompre 81.57 338 *eP* **P 01 14 32.7 -0.5**
comp=Z,71nm,1.2s,mb5.2
HAU *e*R
comp=Z,884nm,17.5s
HAU Haudompre 81.57 338 *eP* **P 01 14 32.7 -0.5**
HAU pmax pmax
comp=Z,36nm,1.2s,mb5.2
HAU MLR MLR
comp=Z,880nm,17.5s,MS5.2
HAU Haudompre 81.57 338 *eP* **P 01 14 32.7 -0.5**
comp=Z,36nm,1.2s,mb5.2
HAU LR LR
comp=Z,880nm,17.5s,MS5.2
APPI Appiano 81.61 334 P **P 01 14 33.9 +0.5**
HINF Hinteralfeld 81.62 338 *eP* **P 01 14 32.7 -0.7**
comp=Z,43nm,1.2s,mb5.0
HINF Hinteralfeld 81.62 338 *eP* **P 01 14 32.7 -0.7**
HINF pmax pmax
comp=Z,21nm,1.2s,mb4.9
HINF Hinteralfeld 81.62 338 *eP* **P 01 14 32.7 -0.7**
comp=Z,21nm,1.2s,mb5.0
CSA1 St Austell 81.74 346 *eP* **P 01 14 33.4 -0.6**
CSA1 St Austell 81.74 346 *eP* **P 01 14 33.4 -0.6**
BBS Basel-Blauen 81.77 337 *eP* **P 01 14 34.0 -0.2**
BRMO Bormio 81.87 335 P **P 01 14 35.4 +0.7**
comp=Z,12nm,0.8s,mb4.9
SRS Serrai 81.93 324 *eP* **P 01 14 34.5 -0.6**
CCA1 Carnmenellis 81.95 346 *eP* **P 01 14 34.6 -0.5**
CCA1 Carnmenellis 81.95 346 *eP* **P 01 14 34.6 -0.5**
PPT Papeete 81.95 126 *eS* S 01 24 49.8 +4.1
comp=Z,100nm,23.2s
PPT *e*LR LR 01 39 32.3
comp=Z,1µm,24.8s,baz=323
PPT Papeete 81.95 126 LR LR 01 47 00.2
comp=Z,361nm,18.5s,MS4.8,baz=318,slow=33
AKHS Akhisar 81.99 320 *i* P **P 01 14 35.1 -0.3**
STIP Stip 82.00 325 *eP* **P 01 14 34.6 -0.8**
STIP Stip 82.00 325 *eP* **P 01 14 34.5 -1.0**
LOMF Lomont 82.05 338 *eP* **P 01 14 35.6 -0.1**
SKO Skopje 82.06 326 *eP* **P 01 14 36.4 +0.7**
SKO Skopje 82.06 326 *eP* **P 01 14 35.9 +0.2**
TUE Stuetta 82.17 336 P **P 01 14 37.2 +0.9**
VAY Valandovo 82.17 325 *eP* **P 01 14 35.8 -0.5**
VAY Valandovo 82.17 325 *eP* **P 01 14 35.2 -1.1**
KNT Kendrikon 82.17 324 *eP* **P 01 14 36.7 +0.4**
MABI Malga Bissina 82.21 335 P **P 01 14 37.8 +1.3**
LOS Limnos 82.30 322 *eP* **P 01 14 37.5 +0.5**
OUR Ouranopolis 82.43 323 *eP* **P 01 14 37.7 +0.1**
FLN La Foliniere 82.44 343 *eP* **P 01 14 37.1 -0.6**
comp=Z,72nm,1.1s,mb5.2
FLN *e*R
comp=Z,711nm,18.2s
FLN La Foliniere 82.44 343 *eP* **P 01 14 37.1 -0.6**
FLN pmax pmax
comp=Z,36nm,1.1s,mb5.2
FLN MLR MLR
comp=Z,710nm,18.3s,MS5.1
FLN La Foliniere 82.44 343 *eP* **P 01 14 37.1 -0.6**
comp=Z,36nm,1.1s,mb5.2
FLN LR LR
comp=Z,710nm,18.3s,MS5.1
LDF La Druitiere 82.53 342 *eP* **P 01 14 37.6 -0.6**
comp=Z,60nm,1.3s,mb5.2
LDF La Druitiere 82.53 342 *eP* **P 01 14 37.6 -0.6**
LDF pmax pmax
comp=Z,30nm,1.3s,mb5.2
LDF La Druitiere 82.53 342 *eP* **P 01 14 37.6 -0.6**
comp=Z,30nm,1.3s,mb5.2
GRG Griva 82.55 325 *eP* **P 01 14 37.9 -0.4**
CSS Prodhromos 82.55 314 *eP* **P 01 14 38.5 +0.2**
HORT Hortiatis 82.57 324 *eP* **P 01 14 38.3 -0.1**
BLCB Balcova 82.74 320 *eP* **P 01 14 38.3 -1.0**
GRR Gorron 82.88 343 *eP* **P 01 14 39.6 -0.4**
comp=Z,50nm,0.9s,mb5.2
GRR Gorron 82.88 343 *eP* **P 01 14 39.6 -0.4**
GRR pmax pmax
comp=Z,25nm,0.9s,mb5.2
GRR Gorron 82.88 343 *eP* **P 01 14 39.6 -0.4**
comp=Z,25nm,0.9s,mb5.2
LOR Lormes 82.88 339 *eP* **P 01 14 39.6 -0.4**
comp=Z,50nm,1.0s,mb5.2
LOR *e*R
comp=Z,688nm,18.5s
LOR Lormes 82.88 339 *eP* **P 01 14 39.6 -0.4**
LOR pmax pmax
comp=Z,25nm,1.0s,mb5.2
LOR MLR MLR
comp=Z,690nm,18.5s,MS5.1
LOR Lormes 82.88 339 *eP* **P 01 14 39.6 -0.4**
comp=Z,25nm,1.0s,mb5.2
LOR LR LR
comp=Z,690nm,18.5s,MS5.1
SWET Sewanee 82.90 45 *eP* **P 01 14 39.0 -1.1**
SWET *ep*P pP 01 14 52.0 -1.5
ASF Jabal al Asfar 82.92 310 P **P 01 14 40.8 +0.6**
comp=Z,7.7nm,0.9s,mb4.7,baz=311,slow=3.3,SNR=11
BIA Bitola 82.92 325 *eP* **P 01 14 40.2 0.0**
CABF La Chapelle 82.93 338 *eP* **P 01 14 40.3 +0.1**
comp=Z,36nm,1.1s,mb5.0
CABF La Chapelle 82.93 338 *eP* **P 01 14 40.3 +0.1**
CABF pmax pmax
comp=Z,18nm,1.1s,mb5.0
CABF La Chapelle 82.93 338 *eP* **P 01 14 40.3 +0.1**
comp=Z,18nm,1.1s,mb5.0
URLA Izmir 82.96 320 *i* P **P 01 14 40.0 -0.4**
AYDN Tasoluk 82.96 319 *i* P **P 01 14 41.5 +1.1**
TZTN Tazewell 82.97 43 *eP* **P 01 14 39.1 -1.4**
OHR Ohrid 83.05 326 *eP* **P 01 14 42.0 +1.1**
OHR Ohrid 83.05 326 *eP* **P 01 14 40.5 -0.4**
FNA Florina 83.10 325 *eP* **P 01 14 41.3 +0.2**
SSF Saint Saulge 83.16 340 *eP* **P 01 14 41.1 -0.3**
comp=Z,24nm,0.8s,mb5.0
SSF Saint Saulge 83.16 340 *eP* **P 01 14 41.1 -0.3**
SSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SSF Saint Saulge 83.16 340 *eP* **P 01 14 41.1 -0.3**
comp=Z,12nm,0.8s,mb5.0
HYF Humbligny 83.17 340 *eP* **P 01 14 41.5 0.0**
SGMF Saint Gilles 83.34 344 *eP* **P 01 14 42.0 -0.4**
comp=Z,54nm,0.9s,mb5.3
SGMF Saint Gilles 83.34 344 *eP* **P 01 14 42.0 -0.4**
SGMF pmax pmax
comp=Z,27nm,0.9s,mb5.3
SGMF Saint Gilles 83.34 344 *eP* **P 01 14 42.0 -0.4**
comp=Z,27nm,0.9s,mb5.3
ROSF Rostrenen 83.39 344 *eP* **P 01 14 42.3 -0.3**
comp=Z,99nm,1.2s,mb5.4
ROSF Rostrenen 83.39 344 *eP* **P 01 14 42.3 -0.3**
ROSF pmax pmax
comp=Z,49nm,1.2s,mb5.4
ROSF Rostrenen 83.39 344 *eP* **P 01 14 42.3 -0.3**
comp=Z,49nm,1.2s,mb5.4
AVF Avril sur Loir 83.45 340 *eP* **P 01 14 42.8 -0.1**
comp=Z,128nm,1.3s,mb5.5
AVF Avril sur Loir 83.45 340 *eP* **P 01 14 42.8 -0.1**
AVF pmax pmax
comp=Z,64nm,1.3s,mb5.5
AVF Avril sur Loir 83.45 340 *eP* **P 01 14 42.8 -0.1**
comp=Z,64nm,1.3s,mb5.5
SMF Signal de Mont 83.47 339 *eP* **P 01 14 42.9 -0.1**
comp=Z,200nm,1.2s,mb5.7
SMF Signal de Mont 83.47 339 *eP* **P 01 14 42.9 -0.1**
SMF pmax pmax
comp=Z,100nm,1.2s,mb5.7
SMF Signal de Mont 83.47 339 *eP* **P 01 14 42.9 -0.1**
comp=Z,100nm,1.2s,mb5.7
TKL Tuckaleechee C 83.58 43 P **P 01 14 42.9 -0.7**
comp=Z,9.5nm,1.1s,mb4.9,baz=200,slow=1.6,SNR=7.4
FSSB Fossombrone 83.64 332 P **P 01 14 41.0 -2.9**
comp=Z,23nm,0.6s,mb5.5
BOB Bobbio (Coli) 83.69 335 P **P 01 14 42.5 -1.7**
BOB pmax pmax
comp=Z,68nm,1.2s,mb5.7
BOB Bobbio (Coli) 83.69 335 P **P 01 14 42.5 -1.7**
comp=Z,68nm,1.2s,mb5.7
ELN Prospectdale 83.69 40 P **P 01 14 43.5 -0.7**
GSCL Gusciola 83.73 334 P **P 01 14 45.6 +1.2**
comp=Z,15nm,0.8s,mb5.2
SFI Santa Sofia 83.74 333 P **P 01 14 45.7 +1.3**
SFI pmax pmax
comp=Z,45nm,1.0s,mb5.5
SFI Santa Sofia 83.74 333 P **P 01 14 45.7 +1.3**
comp=Z,44nm,1.0s,mb5.5
SEI Scarperia 83.76 333 P **P 01 14 46.1 +1.6**
comp=Z,153nm,0.9s,mb6.1
LPL La Plagne 83.77 337 *eP* **P 01 14 45.3 +0.7**
comp=Z,70nm,1.3s,mb5.3

LPL	**La Plagne**	**83.77**	**337**	*e*P		**P**	**01 14 45.3**	**+0.7**	
LPL					pmax	pmax			
	comp=Z,35nm,1.3s,mb5.3								
LPL	**La Plagne**	**83.77**	**337**	*e*P		**P**	**01 14 45.3**	**+0.7**	
	comp=Z,35nm,1.3s,mb5.3								
LPG	**La Plagne**	**83.78**	**337**	*e*P		**P**	**01 14 45.5**	**+0.9**	
	comp=Z,111nm,1.4s,mb5.5								
LPG	**La Plagne**	**83.78**	**337**	*e*P		**P**	**01 14 45.5**	**+0.9**	
LPG					pmax	pmax			
	comp=Z,56nm,1.4s,mb5.5								
LPG	**La Plagne**	**83.78**	**337**	*e*P		**P**	**01 14 45.5**	**+0.9**	
	comp=Z,56nm,1.4s,mb5.5								
BGF	**Bois d'Agland**	**83.79**	**340**	*e*P		**P**	**01 14 44.5**	**-0.2**	
BLA	**Blacksburg**	**83.86**	**40**	*e*P		**P**	**01 14 44.7**	**-0.3**	
	comp=Z,1.1nm,1.0s								
PLDF	**La Plantade**	**84.15**	**339**	*e*P		**P**	**01 14 47.4**	**+0.9**	
TCF	**Toulx Ste Croi**	**84.19**	**340**	*e*P		**P**	**01 14 46.7**	**0.0**	
	comp=Z,66nm,1.2s,mb5.3								
TCF	**Toulx Ste Croi**	**84.19**	**340**	*e*P		**P**	**01 14 46.7**	**0.0**	
TCF					pmax	pmax			
	comp=Z,33nm,1.2s,mb5.3								
TCF	**Toulx Ste Croi**	**84.19**	**340**	*e*P		**P**	**01 14 46.7**	**0.0**	
	comp=Z,33nm,1.2s,mb5.3								
AGO	**Saint Agoulin**	**84.19**	**340**	*e*P		**P**	**01 14 47.7**	**+1.0**	
BNI	**Bardonecchia**	**84.21**	**337**	*e*P		**P**	**01 14 48.0**	**+1.2**	
BNI				*e**PP		pP	01 15 00.4	+0.1	
BNI					pmax	pmax			
	comp=Z,153nm,2.0s,mb5.8								
BNI	**Bardonecchia**	**84.21**	**337**	*e*P		**P**	**01 14 48.0**	**+1.2**	
	comp=Z,153nm,2.0s,mb5.8								
BNI				*e*pP		pP	01 15 00.4	+0.1	
GDM	**Grand'Maison**	**84.22**	**337**	*e*P		**P**	**01 14 47.6**	**+0.7**	
GRN	**Grenoble**	**84.29**	**338**	*e*P		**P**	**01 14 47.9**	**+0.7**	
MFF	**Saint Martin d**	**84.42**	**342**	*e*P		**P**	**01 14 47.6**	**-0.3**	
	comp=Z,46nm,1.1s,mb5.2								
MFF	**Saint Martin d**	**84.42**	**342**	*e*P		**P**	**01 14 47.6**	**-0.3**	
MFF					pmax	pmax			
	comp=Z,23nm,1.1s,mb5.2								
MFF	**Saint Martin d**	**84.42**	**342**	*e*P		**P**	**01 14 47.6**	**-0.3**	
	comp=Z,23nm,1.1s,mb5.2								
MBDF	**Montbardon**	**84.49**	**337**	*e*P		**P**	**01 14 48.6**	**+0.4**	
ORIF	**Oris-en-Rattie**	**84.55**	**337**	*e*P		**P**	**01 14 49.1**	**+0.6**	
	comp=Z,79nm,1.2s,mb5.4								
ORIF				*e*R					
	comp=Z,609nm,18.0s								
ORIF	**Oris-en-Rattie**	**84.55**	**337**	*e*P		**P**	**01 14 49.1**	**+0.6**	
ORIF					pmax	pmax			
	comp=Z,39nm,1.2s,mb5.4								
ORIF	**Oris-en-Rattie**	**84.55**	**337**	*e*P		**P**	**01 14 49.1**	**+0.6**	
	comp=Z,40nm,1.2s,mb5.4								
IGT	**Igoumenitsa**	**84.58**	**325**	*e*P		**P**	**01 14 48.2**	**-0.5**	
AQU	**L'Aquila**	**84.63**	**331**	P		**P**	**01 14 50.1**	**+1.2**	
AQU				*e**PP		pP	01 15 01.4	-1.0	
AQU					pmax	pmax			
	comp=Z,33nm,0.9s,mb5.5								
AQU	**L'Aquila**	**84.63**	**331**	P		**P**	**01 14 50.1**	**+1.1**	
	comp=Z,33nm,0.9s,mb5.5								
AQU				*e*pP		pP	01 15 01.4	-1.0	
SURF	**Saint Ours**	**84.70**	**337**	*e*P		**P**	**01 14 50.1**	**+0.8**	
VIVF	**Saint-Julien-l**	**84.93**	**338**	*e*P		**P**	**01 14 50.8**	**+0.4**	
	comp=Z,54nm,1.0s,mb5.3								
VIVF	**Saint-Julien-l**	**84.93**	**338**	*e*P		**P**	**01 14 50.8**	**+0.4**	
VIVF					pmax	pmax			
	comp=Z,27nm,1.0s,mb5.3								
VIVF	**Saint-Julien-l**	**84.93**	**338**	*e*P		**P**	**01 14 50.8**	**+0.4**	
	comp=Z,27nm,1.0s,mb5.3								
LBL	**Lubilhac**	**84.94**	**339**	*e*P		**P**	**01 14 51.9**	**+1.4**	
SBF	**Sospel**	**85.10**	**336**	*e*P		**P**	**01 14 50.9**	**-0.4**	
	comp=Z,141nm,1.3s,mb5.6								
SBF	**Sospel**	**85.10**	**336**	*e*P		**P**	**01 14 50.9**	**-0.4**	
SBF					pmax	pmax			
	comp=Z,70nm,1.3s,mb5.6								
SBF	**Sospel**	**85.10**	**336**	*e*P		**P**	**01 14 50.9**	**-0.4**	
	comp=Z,70nm,1.3s,mb5.6								
RJF	**Les Rejaudoux**	**85.28**	**340**	*e*P		**P**	**01 14 51.3**	**-0.9**	
	comp=Z,57nm,1.2s,mb5.3								
RJF				*e*R					
	comp=Z,686nm,19.8s								
RJF	**Les Rejaudoux**	**85.28**	**340**	*e*P		**P**	**01 14 51.3**	**-0.9**	
RJF					pmax	pmax			
	comp=Z,28nm,1.2s,mb5.3								
RJF					MLR	MLR			
	comp=Z,690nm,19.8s,MS5.0								
RJF	**Les Rejaudoux**	**85.28**	**340**	*e*P		**P**	**01 14 51.3**	**-0.9**	
	comp=Z,28nm,1.2s,mb5.3								
RJF					LR	LR			
	comp=Z,690nm,19.8s,MS5.0								
NWAO	**Narrogin (SRO)**	**85.39**	**210**	P		**P**	**01 14 53.1**	**+0.4**	
SMRF	**Simiane la Rot**	**85.51**	**337**	*e*P		**P**	**01 14 53.9**	**+0.6**	
	comp=Z,143nm,1.5s,mb5.7								
SMRF	**Simiane la Rot**	**85.51**	**337**	*e*P		**P**	**01 14 53.9**	**+0.6**	
	comp=Z,143nm,1.5s,mb6.0								
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**	**01 14 53.1**	**-0.2**	
	comp=Z,48nm,1.2s,mb5.3								
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**	**01 14 53.1**	**-0.2**	
CAF					pmax	pmax			
	comp=Z,24nm,1.2s,mb5.3								
CAF	**Calviac**	**85.51**	**340**	*e*P		**P**	**01 14 53.1**	**-0.2**	
	comp=Z,24nm,1.2s,mb5.3								
FRF	**La Foret Royal**	**85.60**	**336**	*e*P		**P**	**01 14 53.5**	**-0.3**	
LFF	**La Frestale**	**85.81**	**341**	*e*P		**P**	**01 14 55.0**	**+0.2**	
	comp=Z,37nm,0.9s,mb5.3								
LFF	**La Frestale**	**85.81**	**341**	*e*P		**P**	**01 14 55.0**	**+0.2**	
LFF					pmax	pmax			
	comp=Z,19nm,0.9s,mb5.3								
LFF	**La Frestale**	**85.81**	**341**	*e*P		**P**	**01 14 55.0**	**+0.2**	
	comp=Z,18nm,0.9s,mb5.3								
ZKR	**Zakros**	**85.82**	**319**	*e*P		**P**	**01 14 54.2**	**-0.7**	
LMR	**La Mourre**	**85.85**	**336**	*e*P		**P**	**01 14 54.9**	**-0.1**	
	comp=Z,273nm,1.7s,mb5.9								
LMR	**La Mourre**	**85.85**	**336**	*e*P		**P**	**01 14 54.9**	**-0.1**	
LMR					pmax	pmax			
	comp=Z,137nm,1.7s,mb5.9								
LMR	**La Mourre**	**85.85**	**336**	*e*P		**P**	**01 14 54.9**	**-0.1**	
	comp=Z,136nm,1.7s,mb5.9								
LASF	**Ste Croix**	**85.86**	**338**	*e*P		**P**	**01 14 54.5**	**-0.6**	
	comp=Z,37nm,1.1s,mb5.2								
EIL	**Elat**	**85.91**	**310**	*e*P		**P**	**01 14 55.9**	**+0.6**	
	comp=Z,675nm,0.9s								
EIL				*e*pP		pP	01 15 08.7	-0.1	
LAST	**Lasithi**	**86.11**	**319**	*e*P		**P**	**01 14 55.1**	**-1.3**	
SIVA	**Sivas**	**86.53**	**320**	*e*P		**P**	**01 14 57.8**	**-0.6**	
KARN	**Karanos**	**86.60**	**321**	*e*P		**P**	**01 14 57.7**	**-1.0**	
TBI	**Tubuai**	**86.68**	**129**	*e*S		S	01 25 36.6	+3.7	
	comp=Z,163nm,29.5s								
TBI				*e*LR		LR	01 41 14.0		
	comp=Z,570nm,35.0s,baz=327								
MTLF	**Montolieu**	**86.97**	**339**	*e*P		**P**	**01 14 59.9**	**-0.6**	
	comp=Z,27nm,1.0s,mb5.1								
MTLF	**Montolieu**	**86.97**	**339**	*e*P		**P**	**01 14 59.9**	**-0.6**	
MTLF					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2								
MTLF	**Montolieu**	**86.97**	**339**	*e*P		**P**	**01 14 59.9**	**-0.6**	
	comp=Z,14nm,1.0s,mb5.1								
EPF	**Esparros**	**87.71**	**340**	*e*P		**P**	**01 15 03.7**	**-0.4**	
	comp=Z,30nm,1.2s,mb5.1								
EPF	**Esparros**	**87.71**	**340**	*e*P		**P**	**01 15 03.7**	**-0.4**	
EPF					pmax	pmax			
	comp=Z,15nm,1.2s,mb5.1								
EPF	**Esparros**	**87.71**	**340**	*e*P		**P**	**01 15 03.7**	**-0.4**	
	comp=Z,15nm,1.2s,mb5.1								
SJPF	**Ste Jean**	**87.98**	**342**	*e*P		**P**	**01 15 05.9**	**+0.5**	
ETSF	**Etsaut**	**88.04**	**341**	*e*P		**P**	**01 15 06.4**	**+0.7**	
TAU	**Tasmania Unive**	**89.11**	**184**	P		**P**	**01 15 10.7**	**0.0**	
ESDC	**Sonseca Array**	**91.86**	**343**	P		**P**	**01 15 22.6**	**-0.9**	
	comp=Z,2.6nm,1.0s,mb4.5,baz=16,slow=4.7,SNR=7.5								
ESDC					LR	LR	02 04 35.9		
	comp=Z,490nm,18.4s,MS5.0,baz=50,slow=41								
KEST	**Kesra**	**91.96**	**331**	P		**P**	**01 15 24.8**	**+0.8**	
	comp=Z,3.4nm,0.8s,mb4.7,baz=316,slow=10,SNR=7.0								
JTS	**JuntasAbangare**	**103.39**	**59**	P		Pdif	01 16 16.5	+1.0	
TORD	**Torodi Ar. Bea**	**115.38**	**329**	PKP		PKPdf	01 20 56.4	-0.5	
	comp=Z,0.7nm,0.6s,baz=19,slow=2.5,SNR=9.6								
DBIC	**Dimbokro**	**123.62**	**333**	PKP		PKPdf	01 21 12.2	-0.5	
	comp=Z,5.6nm,0.8s,baz=27,slow=1.8,SNR=5.4								
VNDA	**Vanda**	**123.80**	**178**	PKP		PKPdf	01 21 11.6	-1.5	
	comp=Z,0.8nm,0.8s,baz=353,slow=4.4,SNR=5.4								
LIC	**Lamto**	**124.09**	**333**	*e*PKIKP		PKPdf	01 21 13.4	-0.2	
	comp=Z,39nm,1.2s								
LIC				*e*R					
	comp=Z,327nm,21.0s								
LIC	**Lamto**	**124.09**	**333**	*e*PKPdf		PKPdf	01 21 13.4	-0.2	
LIC					LR	LR			
	comp=Z,160nm,21.0s,MS4.7								
SBA	**Scott Base**	**124.30**	**177**	PKIKP		PKPdf	01 21 12.2	-1.8	
LPAZ	**La Paz**	**134.47**	**63**	PKP		PKPdf	01 21 34.9	+1.6	
	comp=Z,1.3nm,0.9s,baz=315,slow=2.9,SNR=3.6								
LPAZ	**La Paz**	**134.47**	**63**	*e*PKPdf		PKPdf	01 21 35.2	+1.9	
LPAZ				*ep*PKPdf		pPKPdf	01 21 48.0	+0.6	
BDFB	**Brasilia**	**144.58**	**37**	PKP		PKPdf	01 21 50.4	-1.3	
	comp=Z,14nm,1.1s,baz=339,slow=5.4,SNR=9.2								
PLCA	**Paso Flores**	**148.16**	**96**	PKPbc		PKPbc	01 22 00.5	-0.6	
PLCA	**Paso Flores**	**148.16**	**96**	PKPbc		PKPbc	01 22 00.5	-0.6	
CPUP	**Villa Florida**	**148.60**	**61**	PKPbc		PKPbc	01 22 01.6	-0.6	
	comp=Z,7.8nm,0.7s,baz=323,slow=2.0,SNR=19								
CPUP	**Villa Florida**	**148.60**	**61**	*e*PKPdf		PKPdf	01 21 59.0	+0.5	
CPUP				*e*PKPbc		PKPbc	01 22 01.5	-0.7	
CPUP				*ep*PKPdf		pPKPdf	01 22 13.1	+0.6	
SNAA	**Sanae**	**152.26**	**196**	PKPbc		PKPbc	01 22 08.3	-2.7	
	comp=Z,2.3nm,1.1s,baz=180,slow=1.5,SNR=17								
SNAA	**Sanae**	**152.26**	**196**	*e*PKPdf		PKPdf	01 22 04.4	+0.2	
SNAA				*e*			01 22 08.3		
SNAA				*e*			01 22 11.3		
SNAA				*e*			01 22 16.0		
SNAA				*e*			01 22 21.4		
SNAA				*e*			01 22 28.5		
SNAA				*e*			01 22 33.3		
SNAA				*e*			01 22 40.7		
SNAA				*e*			01 22 48.1		
SNAA	**Sanae**	**152.26**	**196**	||/PKIKP		PKPdf	01 22 08.2	+4.0
VNA3	**Neumayer Olymp**	**153.79**	**192**	*e*PKPdf		PKPdf	01 22 06.7	+0.3	
VNA3				*e*			01 22 14.9		
VNA3				*e*			01 22 19.2		
VNA3				*e*			01 22 23.9		
VNA3				*e*			01 22 26.6		
VNA3				*e*			01 22 28.7		
VNA3				*e*			01 22 31.5		
VNA3				*e*			01 22 35.2		
VNA3				*e*			01 22 39.3		
VNA3				*e*			01 22 44.6		
VNA3				*e*			01 22 50.6		
VNA3				*e*			01 22 58.1		
VNA1	**Neumayer--Stat**	**154.09**	**194**	*e*PKPdf		PKPdf	01 22 06.2	-0.6	
VNA1				*e*			01 22 15.2		
VNA1				*e*			01 22 27.3		
VNA1				*e*			01 22 29.8		
VNA1				*e*			01 22 34.0		
VNA1				*e*			01 22 37.4		
VNA1				*e*			01 22 41.6		
VNA1				*e*			01 22 47.5		

IDC 26 01:08:32.8±2.0, 6098N×16570E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/23, mbtmp3.9/6, Error ellipse: s-maj=88.1km s-min=19.1km az=179.0, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**35.53**	**52**	P		P		01 15 31.1	-0.3
	0.6nm,0.6s,baz=306,slow=8.4,SNR=4.1								
SONM	**Songino Array**	**35.62**	**276**	P		P		01 15 32.7	+0.5
	0.6nm,0.6s,baz=49,slow=6.8,SNR=3.0								
MKAR	**Makanchi Array**	**47.72**	**293**	P		P		01 17 09.7	-1.5
	1.0nm,0.5s,baz=50,slow=8.1,SNR=7.7								
BVAR	**Borovoye Array**	**48.05**	**306**	P		P		01 17 13.3	-0.5
	2.5nm,0.7s,baz=49,slow=8.1,SNR=8.1								
NVAR	**Mina Array Bea**	**50.72**	**80**	P		P		01 17 33.9	-0.4
	0.7nm,0.7s,baz=321,slow=5.8,SNR=5.6								
PDAR	**Pinedale Array**	**51.42**	**70**	P		P		01 17 39.3	-0.2
	2.1nm,0.6s,baz=321,slow=3.9,SNR=11								

*NEIC **26** 01:23:00.7±1.1, 1928N×145.19E, h210km±10km, mb4.3/24, Error ellipse: s-maj=8.5km s-min=5.2km az=88.0*
*ISCJB **26** 01:23:01.2±1.3, 1925N±005×145.18E±007, h226km±12km, mb4.3/50, Error ellipse: s-maj=11.4km s-min=7.8km az=156.6*
*IDC **26** 01:23:01.2±1.9, 1925N×145.28E, h213km±18km, mb4.0/22, mb1 4.1/24, mb1mx4.1/28, mbtmp4.5/24, Error ellipse: s-maj=14.9km s-min=8.2km az=83.0*
*BJI **26** 01:23:03.7, 2008N×145.27E, h210km, mB5.3, mb4.4*

ISC 26 01:23:01.6±1.1, 1927N±005×14523E±007, h216km±11km, n79, σ0 95/70, mb4.3/50, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.66**	**184**	P		**Pn**		**01 24 23.9**	**-0.9**
	17nm,0.3s,baz=8.5,slow=19,SNR=3.7								
GUMO						S		**01 25 31.7**	**+1.0**
	35nm,0.3s,baz=11,slow=23,SNR=4.9								
MJAR	**Matsushiro Arr**	**18.28**	**342**	P		**P**		**01 26 59.0**	**-0.3**
	0.4nm,0.3s,baz=174,slow=10,SNR=5.6								
MAJO	**Matsushiro**	**18.28**	**342**	P		**P**		**01 26 57.5**	**-1.9**
NACB	**Ninganchiao**	**22.48**	**287**	P		**P**		**01 27 42.0**	**-0.8**
TATO	**Taipei**	**22.70**	**289**	P		**P**		**01 27 44.4**	**-0.3**
NJ2	**Nanjing**	**26.88**	**303**	*e*P		**P**		**01 28 24.0**	**+1.5**
NJ2					AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7								
NJ2					LR	LR			
	comp=N,690nm,13.1s								
NJ2					LR	LR			
	comp=E,880nm,15.6s								
NJ2					LR	LR			
	comp=Z,650nm,10.6s								
MDJ	**Mudanjiang**	**28.44**	**336**	P		**P**		**01 28 36.0**	**-0.4**
MDJ					AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.1								
MDJ					AMB	AMB			
	comp=Z,773nm,14.4s								
PMG	**Port Moresby**	**28.56**	**176**	P		**P**		**01 28 35.3**	**-2.1**
	comp=Z,11nm,0.5s,mb4.7,baz=360,slow=8.6,SNR=6.7								
PMG	**Port Moresby**	**28.56**	**176**	*e*P		**P**		**01 28 35.4**	**-2.0**
	comp=Z,22nm,0.8s,mb4.8								
KAKA	**Kakadu**	**34.19**	**203**	*e*P		**P**		**01 29 26.2**	**-0.4**
	comp=Z,20nm,0.6s,mb4.8								
HHC	**Hu-ho-hao-te**	**35.88**	**314**	*e*P		**P**		**01 29 41.8**	**+0.8**
HHC					PP	PP		01 31 04.0	-3.3
HHC					PCP	PcP		01 32 08.3	+5.1
HHC					AMB	AMB			
	comp=Z,16nm,0.4s,mb4.9								
HHC					AMB	AMB			
	comp=Z,366nm,7.1s								
HHC					LR	LR			
	comp=N,234nm,5.7s								
HHC					LR	LR			
	comp=E,200nm,7.2s								
HHC					LR	LR			
	comp=Z,321nm,13.7s								
CD2	**Chengdu**	**39.10**	**296**	*e*P		**P**		**01 30 08.5**	**+0.5**
CD2					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.5								
CTA	**Charters Tower**	**39.13**	**178**	P		**P**		**01 30 07.7**	**-0.6**
	comp=Z,1.7nm,0.3s,mb4.0,baz=358,slow=10,SNR=4.2								
CTAO	**Charters Tower**	**39.13**	**178**	*e*P		**P**		**01 30 07.9**	**-0.3**
	comp=Z,2.0nm,0.8s,mb3.7								
KMI	**Kunming**	**39.65**	**286**	P		**P**		**01 30 16.3**	**+3.8**
KMI					AMB	AMB			
	comp=Z,9.0nm,0.7s,mb4.3								
LZH	**Lanzhou**	**39.96**	**304**	*e*P		**P**		**01 30 17.0**	**+1.9**
LZH					AMB	AMB			
	comp=Z,16nm,1.0s,mb4.4								
WRAB	**Tennant Creek**	**40.39**	**196**	*e*P		**P**		**01 30 18.8**	**+0.2**
	comp=Z,48nm,0.6s,mb5.1								
WB2	**Warramunga Arr**	**40.40**	**196**	*e*P		**P**		**01 30 19.2**	**+0.5**
WRA	**Warramunga Arr**	**40.41**	**196**	P		**P**		**01 30 19.0**	**+0.2**
	comp=Z,22nm,0.5s,mb4.8,baz=17,slow=8.9,SNR=96								
WRA					PcP	PcP		01 32 17.1	-0.2
	comp=Z,1.4nm,0.8s,baz=12,slow=3.4,SNR=6.5								
FITZ	**Fitzroy Crossi**	**41.83**	**209**	*e*P		**P**		**01 30 30.9**	**+0.6**
	comp=Z,35nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**41.83**	**209**	P		**P**		**01 30 31.3**	**+1.1**
	comp=Z,20nm,0.5s,mb4.8,baz=27,slow=9.4,SNR=83								
SONM	**Songino Array**	**42.42**	**321**	P		**P**		**01 30 35.8**	**+0.7**
	comp=Z,1.2nm,0.6s,mb3.5,baz=137,slow=8.5,SNR=4.9								
NST	**Nakhon Sawan**	**43.07**	**273**	P		**P**		**01 30 44.2**	**+3.9**
	comp=Z,51nm,0.6s,mb5.1								
AS31	**Alice Springs**	**44.08**	**195**	*e*P		**P**		**01 30 48.4**	**+0.1**
ASAR	**Alice Springs**	**44.08**	**195**	P		**P**		**01 30 48.5**	**+0.2**
	comp=Z,11nm,0.7s,mb4.3,baz=16,slow=8.1,SNR=117								
ASAR					PcP	PcP		01 32 29.6	0.0
	comp=Z,1.7nm,0.7s,baz=31,slow=3.0,SNR=6.4								
ASPA	**Alice Springs**	**44.08**	**195**	*e*P		**P**		**01 30 48.4**	**0.0**
DZM	**Mont Dzumac**	**46.03**	**152**	*e*P		**P**		**01 31 02.6**	**-1.0**
DZM	**Mont Dzumac**	**46.03**	**152**	P		**P**		**01 31 03.0**	**-0.6**
	comp=Z,30nm,0.9s,mb4.6,baz=352,slow=7.3,SNR=16								
STKA	**Stephens Creek**	**50.97**	**184**	*e*P		**P**		**01 31 40.0**	**-1.3**
	comp=Z,3.2nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**50.97**	**184**	P		**P**		**01 31 39.5**	**-1.8**
	comp=Z,4.0nm,0.6s,mb4.0,baz=2.5,slow=8.2,SNR=9.6								
STKA	**Stephens Creek**	**50.97**	**184**	*e*P		**P**		**01 31 40.1**	**-1.2**
FORT	**Forrest**	**52.43**	**199**	*e*P		**P**		**01 31 52.6**	**+0.6**
	comp=Z,22nm,0.8s,mb4.6								
WMQ	**Urumqi**	**53.60**	**311**	*e*P		**P**		**01 32 04.0**	**+3.4**
WMQ					PCP	PcP		01 33 10.0	+5.8
WMQ					PP	PP		01 34 07.0	+3.4
WMQ					AMB	AMB			
	comp=Z,7.0nm,0.6s,mb4.4								
WMQ					LR	LR			
	comp=N,548nm,15.9s								
WMQ					LR	LR			
	comp=E,372nm,16.2s								
WMQ					LR	LR			
	comp=Z,502nm,18.0s								
KLBR	**Kellerberrin**	**57.03**	**208**	*e*P		**P**		**01 32 25.2**	**+0.2**
	comp=Z,18nm,1.2s,mb4.6								
ZAL	**Zalesovo**	**57.30**	**322**	P		**P**		**01 32 26.9**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.6,baz=10,slow=6.7,SNR=6.5								
MKAR	**Makanchi Array**	**57.75**	**314**	P		**P**		**01 32 30.9**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.5,baz=81,slow=9.8,SNR=7.7								
MKAR					PcP	PcP		01 33 19.9	-0.4
	comp=Z,1.2nm,0.8s,baz=79,slow=2.6,SNR=6.6								
MKAR	**Makanchi Array**	**57.75**	**314**	P		**P**		**01 32 30.9**	**+0.9**
MKAR					PcP	PcP		01 33 19.9	-0.4
NWAO	**Narrogin (SRO)**	**58.39**	**208**	P		**P**		**01 32 35.1**	**+0.6**
	comp=Z,7.5nm,0.6s,mb4.5,baz=68,slow=7.1,SNR=9.1								
KDAK	**Kodiak Island**	**59.13**	**34**	P		**P**		**01 32 39.5**	**-0.1**
	comp=Z,7.5nm,1.0s,mb4.3,baz=241,slow=16,SNR=5.1								
BVAR	**Borovoye Array**	**65.75**	**320**	P		**P**		**01 33 23.7**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.2,baz=92,slow=7.6,SNR=21								
BRVK	**Borovoye**	**65.82**	**320**	*e*P		**P**		**01 33 22.2**	**-1.6**
	comp=Z,2.1nm,0.6s,mb3.9								
ZRNK	**Zerenda**	**66.59**	**320**	*e*P		**P**		**01 33 28.7**	**0.0**
	comp=Z,1.3nm,0.3s,mb4.0								
INK	**Inuvik**	**69.03**	**23**	P		**P**		**01 33 43.5**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.1,baz=273,slow=7.7,SNR=9.2								
INK	**Inuvik**	**69.03**	**23**	*e*P		**P**		**01 33 43.4**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.1								
YKA	**Yellowknife Ar**	**77.69**	**28**	P		**P**		**01 34 33.9**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.2,baz=290,slow=5.5,SNR=16								
MOD	**Modoc**	**80.60**	**49**	*e*P		**P**		**01 34 50.8**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.5								
WVOR	**Wild Horse Val**	**81.62**	**48**	*e*P		**P**		**01 34 55.8**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.0								
CMB	**Columbia Colle**	**81.71**	**53**	*e*P		**P**		**01 34 56.5**	**+0.6**
	comp=Z,8.1nm,1.0s,mb4.3								
BMO	**Blue Mountains**	**81.76**	**45**	*e*P		**P**		**01 34 56.4**	**+0.1**
	comp=Z,4.9nm,1.0s,mb4.1								
ARCES	**ARCESS Array B**	**81.81**	**342**	P		**P**		**01 34 56.1**	**-0.4**
	comp=Z,5.0nm,0.7s,mb4.3,baz=82,slow=7.6,SNR=18								
NVAR	**Mina Array Bea**	**83.14**	**52**	P		**P**		**01 35 04.2**	**+0.8**
	comp=Z,7.0nm,0.7s,mb4.5,baz=267,slow=7.6,SNR=65								
JOF	**Joensuu**	**83.31**	**335**	*e*p		**P**		**01 35 02.6**	**-1.7**
	comp=Z,15nm,0.7s,mb4.8								
BOZ	**Bozeman (W)**	**85.23**	**43**	*e*P		**P**		**01 35 14.4**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.0								
KAF	**Kangasniemi**	**85.72**	**336**	*e*p		**P**		**01 35 13.2**	**-3.1**
	comp=Z,0.8nm,0.4s,mb3.8								
FINES	**FINESS Array B**	**86.18**	**335**	P		**P**		**01 35

KMI	**Kunming**	**27.24**	**1**	P	**P**	**01 32 27.3 +3.6**		
KMI				AMB	AMB			
	comp=Z,11nm,0.6s,mb4.7							
KMI	**Kunming**	**27.24**	**1**	P	**P**	**01 32 27.2 +3.5**		
GYA	**Guiyang**	**28.90**	**9**	P	**P**	**01 32 39.5 +1.0**		
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.6							
CD2	**Chengdu**	**33.03**	**3**	*e*P	**P**	**01 33 16.8 +2.0**		
CD2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**33.46**	**343**	*e*P	**P**	**01 33 18.4 0.0**		
WRA	**Warramunga Arr**	**36.09**	**121**	P	**P**	**01 33 39.8 -1.2**		
	comp=Z,3.5nm,0.4s,mb4.3,baz=298,slow=11,SNR=12							
WRA				PcP	PcP	01 36 02.2 -0.7		
	comp=Z,1.7nm,0.7s,baz=304,slow=2.5,SNR=5.9							
WRA				S	**S**	**01 38 56.8 -10**		
	comp=Z,1.5nm,0.8s,baz=295,slow=16,SNR=7.9							
WRA	**Warramunga Arr**	**36.09**	**121**	P	**P**	**01 33 39.8 -1.2**		
WRA						01 36 02.2		
WRA				pmax	pmax			
	comp=Z,4.0nm,0.4s							
WRA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
WRAB	**Tennant Creek**	**36.09**	**121**	*e*P	**P**	**01 33 40.2 -0.8**		
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.4s,mb4.7							
WRAB	**Tennant Creek**	**36.09**	**121**	*e*P	**P**	**01 33 40.1 -0.8**		
	comp=Z,7.6nm,0.4s,mb4.7							
WB2	**Warramunga Arr**	**36.10**	**121**	*e*P	**P**	**01 33 40.0 -1.0**		
AS31	**Alice Springs**	**37.44**	**127**	*e*P	**P**	**01 33 52.7 +0.3**		
ASAR	**Alice Springs**	**37.44**	**127**	P	**P**	**01 33 51.9 -0.5**		
	comp=Z,5.6nm,0.6s,mb4.4,baz=302,slow=8.0,SNR=28							
ASAR				PcP	PcP	01 36 06.8 -0.2		
	comp=Z,2.8nm,0.5s,baz=304,slow=2.8,SNR=9.4							
ASAR				S	**S**	**01 39 19.6 -7.7**		
	comp=Z,1.1nm,0.6s,baz=300,slow=16,SNR=10							
ASAR	**Alice Springs**	**37.44**	**127**	P	**P**	**01 33 51.9 -0.5**		
ASAR						01 36 06.9		
ASAR				S	**S**	**01 39 19.7 -7.6**		
ASAR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ASAR				pmax	pmax			
	comp=N,3.0nm,0.5s							
ASAR				smax				
	comp=N,1.0nm,0.6s							
NJ2	**Nanjing**	**37.67**	**24**	*e*P	**P**	**01 33 57.8 +3.5**		
NJ2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
SSE	**Sheshan**	**37.85**	**27**	*e*P	**P**	**01 33 52.8 -3.0**		
SSE				AMB	AMB			
	comp=Z,23nm,0.8s,mb4.9							
SSE				AMB	AMB			
	comp=Z,248nm,4.0s							
SSE	**Sheshan**	**37.85**	**27**	*e*P	**P**	**01 33 52.7 -3.1**		
LZH	**Lanzhou**	**38.19**	**2**	*e*P	**P**	**01 34 00.0 +1.3**		
LZH				AP	pP	01 34 39.0 +2.3		
LZH				XP	sP	01 34 58.0 +1.0		
LZH				AMB	AMB			
	comp=Z,17nm,1.0s,mb4.6							
LZH	**Lanzhou**	**38.19**	**2**	*e*P	**P**	**01 34 00.0 +1.3**		
LZH				pP	pP	01 34 39.0 +2.3		
LZH				sP	sP	01 34 58.0 +1.0		
GTA	**Gaotai**	**41.53**	**357**	*e*P	**P**	**01 34 27.0 +0.9**		
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.3							
HHC	**Hu-ho-hao-te**	**43.78**	**10**	*e*P	**P**	**01 34 46.0 +1.7**		
HHC				AP	pP	01 35 25.5 +2.3		
HHC				XP	sP	01 35 46.5 +3.2		
HHC				PCP	PcP	01 36 29.8 +2.2		
HHC				PP	PP	01 36 32.5 +2.6		
HHC				SCP	ScP	01 40 03.5 +1.3		
HHC				PCS	PcS	01 40 21.3 +0.5		
HHC				S	**S**	**01 41 02.5 +1.3**		
HHC				XS	sS	01 42 11.8 +2.5		
HHC				SS	SS	01 44 16.5 -7.5		
HHC				SCS	ScS	01 44 23.8 -0.3		
HHC				AMB	AMB			
	comp=Z,16nm,0.5s,mb4.9							
HHC				AMB	AMB			
	comp=Z,634nm,8.8s							
HHC				LR	LR			
	comp=N,129nm,9.3s							
HHC				LR	LR			
	comp=E,241nm,9.8s							
HHC				LR	LR			
	comp=Z,208nm,12.3s							
STKA	**Stephens Creek**	**47.44**	**133**	P	**P**	**01 35 12.3 -0.7**		
	comp=Z,4.2nm,0.5s,mb4.3,baz=311,slow=8.0,SNR=11							
STKA	**Stephens Creek**	**47.44**	**133**	*e*P	**P**	**01 35 12.7 -0.3**		
WMQ	**Urumqi**	**47.66**	**346**	*e*P	**P**	**01 35 16.0 +1.3**		
WMQ				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.3							
SONM	**Songino Array**	**50.04**	**4**	P	**P**	**01 35 33.1 +0.3**		
	comp=Z,18nm,0.9s,mb4.7,baz=185,slow=9.2,SNR=63							
SONM				PcP	PcP	01 36 49.5 -0.4		
	comp=Z,2.3nm,0.6s,baz=189,slow=4.1,SNR=6.6							
SONM				ScP	ScP	01 40 26.2 -2.3		
	comp=Z,0.5nm,0.7s,baz=162,slow=2.0,SNR=3.8							
SONM	**Songino Array**	**50.04**	**4**	P	**P**	**01 35 33.1 +0.3**		
SONM						01 36 49.5		
SONM				pmax	pmax			
	comp=Z,18nm,0.9s							
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SONM				pmax	pmax			
	comp=N,1.0nm,0.7s							
CN2	**Changchun**	**50.44**	**22**	*e*P	**P**	**01 35 35.3 -0.4**		
CN2				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.7							
MJAR	**Matsushiro Arr**	**51.21**	**38**	P	**P**	**01 35 40.9 -0.6**		
	comp=Z,5.9nm,0.7s,mb4.4,baz=211,slow=7.3,SNR=9.4							
MJAR	**Matsushiro Arr**	**51.21**	**38**	P	**P**	**01 35 40.9 -0.6**		
MJAR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MKAR	**Makanchi Array**	**51.87**	**343**	P	**P**	**01 35 45.8 -0.6**		
	comp=Z,5.2nm,0.7s,mb4.3,baz=138,slow=7.5,SNR=44							
MKAR	**Makanchi Array**	**51.87**	**343**	P	**P**	**01 35 45.8 -0.6**		
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MDJ	**Mudanjiang**	**52.75**	**25**	P	**P**	**01 35 54.0 +1.1**		
MDJ				AMB	AMB			
	comp=Z,9.0nm,1.8s,mb4.2							
MDJ				AMB	AMB			
	comp=Z,303nm,13.5s							
KK31	**Karatay Array**	**53.35**	**331**	*i* P	**P**	**01 35 58.0 +0.7**		
KK31				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.9							
KLR	**Kul'dur**	**57.36**	**23**	*e*P	**P**	**01 36 22.6 -3.3**		
ZAL	**Zalesovo**	**57.83**	**348**	P	**P**	**01 36 28.0 -1.1**		
	comp=Z,5.5nm,0.3s,mb4.8,baz=321,slow=5.7,SNR=18							
ZAL	**Zalesovo**	**57.83**	**348**	P	**P**	**01 36 28.0 -1.1**		
ZAL				pmax	pmax			
	comp=Z,6.0nm,0.3s							
YSS	**Yuzh-Sakhalins**	**60.64**	**31**	*ce*P	**P**	**01 36 48.1 -0.3**		
YSS				pmax	pmax			
	comp=Z,34nm,1.3s,mb5.0							
BVAR	**Borovoye Array**	**61.16**	**339**	P	**P**	**01 36 50.5 -1.4**		
	comp=Z,3.9nm,0.6s,mb4.5,baz=144,slow=9.4,SNR=20							
BVAR	**Borovoye Array**	**61.16**	**339**	P	**P**	**01 36 50.5 -1.4**		
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BRVK	**Borovoye**	**61.23**	**339**	*e*P	**P**	**01 36 50.9 -1.5**		
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.3							
BRVK	**Borovoye**	**61.23**	**339**	*e*P	**P**	**01 36 50.9 -1.5**		
	comp=Z,2.2nm,0.4s,mb4.3							
ZRNK	**Zerenda**	**61.61**	**338**	*e*P	**P**	**01 36 53.2 -1.8**		
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**61.61**	**338**	*e*P	**P**	**01 36 53.2 -1.7**		
	comp=Z,1.9nm,0.6s,mb4.1							
YAK	**Yakutsk**	**67.50**	**14**	*de*P	**P**	**01 37 31.8 -1.3**		
YAK				pmax	pmax			
	comp=Z,25nm,0.7s,mb5.2							
SVE	**Sverdlovsk**	**67.73**	**337**	*e*P	**P**	**01 37 33.0 -1.5**		
ARU	**Arti**	**68.29**	**336**	⇑*i* P	**P**	**01 37 36.6 -1.4**		
ARU				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.4							
ZEI	**Tsey**	**68.81**	**318**	*e*P	**P**	**01 37 40.9 -0.3**		
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.5							
KIV	**Kislovodsk**	**70.10**	**319**	*e*P	**P**	**01 37 49.4 +0.3**		
KIV				pmax	pmax			
	comp=Z,16nm,1.2s,mb4.6							
MALT	**Malatya**	**71.05**	**312**	⇓*i* P	**P**	**01 37 55.4 +0.5**		
MALT	**Malatya**	**71.05**	**312**	⇓P	**P**	**01 37 55.4 +0.5**		
MA2	**Magadan**	**72.44**	**24**	*ce*P	**P**	**01 38 02.9 -0.3**		
MA2				pmax	pmax			
	comp=Z,16nm,1.3s,mb4.6							
PET	**Petropavlovsk**	**72.48**	**32**	*ce*P	**P**	**01 38 02.9 -0.6**		
PET				pmax	pmax			
	comp=Z,42nm,1.7s,mb4.9							
BR131	**Keskin Array S**	**75.03**	**312**	*e*P	**P**	**01 38 18.0 -0.2**		
	comp=Z,9.4nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**75.03**	**312**	P	**P**	**01 38 17.8 -0.5**		
	comp=Z,7.7nm,0.7s,mb4.4,baz=134,slow=7.3,SNR=47							
BRTR	**Keskin Array B**	**75.03**	**312**	P	**P**	**01 38 17.8 -0.4**		
BRTR				pmax	pmax			
	comp=Z,8.0nm,0.7s							
SEY	**Seymchan**	**75.12**	**21**	⇓*e*P	**P**	**01 38 18.6 -0.1**		
VRSR	**Storozhevoye**	**75.17**	**325**	*e*P	**P**	**01 38 18.1 -0.9**		
VRSR				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.3							
VRSR				pmax	pmax			
	comp=N,10.0nm,2.3s							
VRSR				pmax	pmax			
	comp=E,6.0nm,0.8s							
BOSA	**Boshof**	**77.33**	**241**	P	**P**	**01 38 33.4 +2.1**		
	comp=E,1.7nm,0.4s,mb4.0,baz=78,slow=4.1,SNR=16							
BOSA	**Boshof**	**77.33**	**241**	P	**P**	**01 38 33.4 +2.2**		
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.1							
OBN	**Obninsk**	**78.11**	**328**	⇓*e*P	**P**	**01 38 35.1 -0.5**		
OBN				*e*		01 48 11.2		
OBN				pmax	pmax			
	comp=Z,24nm,1.7s,mb4.5							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
TIRR	**Tirgusor**	**79.98**	**316**	⇓*i* P	**P**	**01 38 45.9 +0.2**		
TIRR	**Tirgusor**	**79.98**	**316**	⇓P	**P**	**01 38 45.9 +0.2**		
AKASG	**Malin Array Be**	**80.96**	**322**	P	**P**	**01 38 49.9 -1.1**		
	comp=Z,2.7nm,0.6s,mb4.0,baz=84,slow=5.2,SNR=15							
AKASG	**Malin Array Be**	**80.96**	**322**	P	**P**	**01 38 49.9 -1.0**		
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VRI	**Vrincioaia**	**81.45**	**317**	⇑*i* P	**P**	**01 38 54.2 +0.7**		
VRI	**Vrincioaia**	**81.45**	**317**	⇑P	**P**	**01 38 54.2 +0.7**		
PLOR	**Plostina**	**81.50**	**317**	⇓*i* P	**P**	**01 38 54.5 +0.7**		
VNDA	**Vanda**	**81.50**	**169**	P	**P**	**01 38 53.9 +0.2**		
	comp=Z,0.5nm,0.5s,mb3.4,baz=338,slow=6.5,SNR=7.4							
VNDA	**Vanda**	**81.50**	**169**	*e*P	**P**	**01 38 53.7 -0.1**		
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**81.50**	**169**	*e*P	**P**	**01 38 53.7 -0.1**		
	comp=Z,0.5nm,0.6s,mb3.3							
VNDA				*e*PcP	PcP	01 38 58.6 -0.7		
MLR	**Muntele Rosu**	**81.91**	**316**	⇑*i* P	**P**	**01 38 56.7 +0.8**		
MLR	**Muntele Rosu**	**81.91**	**316**	⇑P	**P**	**01 38 56.7 +0.8**		
VOIR		**82.52**	**316**	⇓*i* P	**P**	**01 38 59.5 +0.4**		
VOIR		**82.52**	**316**	⇓P	**P**	**01 38 59.5 +0.5**		
SBA	**Scott Base**	**82.59**	**169**	P	**P**	**01 39 00.8 +1.4**		
BURAR	**Bucovina Array**	**82.83**	**318**	⇓*i* P	**P**	**01 39 02.0 +1.4**		
BURAR	**Bucovina Array**	**82.83**	**318**	⇓P	**P**	**01 39 02.0 +1.4**		
VTS	**Vitosha**	**83.33**	**313**	⇓*i* P	**P**	**01 39 03.7 +0.5**		
VTS	**Vitosha**	**83.33**	**313**	⇓P	**P**	**01 39 03.7 +0.4**		
DRGR		**84.36**	**317**	⇓*i* P	**P**	**01 39 09.3 +0.9**		
DRGR		**84.36**	**317**	⇓P	**P**	**01 39 09.3 +0.9**		
BZS	**Buzias**	**84.93**	**316**	⇓*i* P	**P**	**01 39 11.7 +0.4**		
BZS	**Buzias**	**84.93**	**316**	⇓P	**P**	**01 39 11.7 +0.4**		
KOLS	**Kolonicke sedl**	**84.99**	**319**	*e*P	**P**	**01 39 12.7 +1.1**		
SUW	**Suwalki**	**85.30**	**324**	*e*P	**P**	**01 39 12.6 -0.5**		
SUW				L		01 48 18.1		
	comp=Z,0.9nm,19.5s							
FINES	**FINESS Array B**	**85.31**	**332**	P	**P**	**01 39 12.6 -0.6**		
	comp=Z,3.1nm,0.9s,mb4.0,baz=108,slow=4.2,SNR=7.7							
FINES	**FINESS Array B**	**85.31**	**332**	P	**P**	**01 39 12.6 -0.6**		
FINES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**85.31**	**332**	P	**P**	**01 39 12.6 -0.6**		
KAF	**Kangasniemi**	**85.36**	**333**	*ep*	**P**	**01 39 12.0 -1.4**		
	comp=Z,4.4nm,0.5s,mb4.4							
KAF	**Kangasniemi**	**85.36**	**333**	*e*P	**P**	**01 39 12.0 -1.4**		
KAF				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.4							
STHS	**Stebnicka Huta**	**85.74**	**320**	*e*P	**P**	**01 39 15.8 +0.5**		
STHS				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.3							
STHS	**Stebnicka Huta**	**85.74**	**320**	*e*P	**P**	**01 39 15.8 +0.5**		
	comp=Z,5.7nm,1.0s,mb4.3							
KECS	**Kecovo**	**86.10**	**319**	*e*P	**P**	**01 39 15.8 -1.3**		
KECS				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb3.9							
KECS	**Kecovo**	**86.10**	**319**	*e*P	**P**	**01 39 15.8 -1.3**		
	comp=Z,2.8nm,1.1s,mb3.9							
PKSM	**Moragy**	**87.06**	**316**	⇓*i* P	**P**	**01 39 22.2 +0.4**		
VYHS	**Vyhne**	**87.19**	**319**	*e*P	**P**	**01 39 22.3 -0.1**		
VYHS				pmax	pmax			
	comp=Z,4.0nm,1.5s,mb4.0							
VYHS	**Vyhne**	**87.19**	**319**	*e*P	**P**	**01 39 22.3 -0.1**		
	comp=Z,4.4nm,1.5s,mb4.1							
ARCES	**ARCESS Array B**	**87.43**	**340**	P	**P**	**01 39 22.4 -1.1**		
	comp=Z,4.4nm,0.9s,mb4.3,baz=94,slow=5.8,SNR=14							
ARCES	**ARCESS Array B**	**87.43**	**340**	P	**P**	**01 39 22.4 -1.1**		
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.9s							
QSPA	**South Pole Qui**	**87.69**	**180**	*e*P	**P**	**01 39 25.4 +0.7**		
MORC	**Moravsky Berou**	**88.17**	**320**	⇓*i* P	**P**	**01 39 27.9 +0.9**		
MORC	**Moravsky Berou**	**88.17**	**320**	⇓P	**P**	**01 39 27.9 +0.9**		
BRG	**Berggiesshubel**	**90.55**	**321**	*e*P	**P**	**01 39 38.3 +0.2**		
	comp=Z,3.0nm,0.9s,mb4.3							
BRG	**Berggiesshubel**	**90.55**	**321**	*i* P	**P**	**01 39 38.5 +0.3**		
	comp=Z,2.0nm,1.0s,mb4.1							
BRG	**Berggiesshubel**	**90.55**	**321**	*i* P	**P**	**01 39 38.5 +0.4**		
BRG				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
GEC2	**GERESS Array S**	**90.61**	**319**	*e*P	**P**	**01 39 38.9 +0.5**		
	comp=Z,14nm,1.6s,mb4.7							
GEC2	**GERESS Array S**	**90.61**	**319**	*e*P	**P**	**01 39 38.9 +0.5**		
GEC2				pmax	pmax			
	comp=Z,14nm,1.6s,mb4.7							
GERES	**GERESS Array B**	**90.61**	**319**	P	**P**	**01 39 38.9 +0.5**		
	comp=Z,2.2nm,0.9s,mb4.2,baz=104,slow=4.5,SNR=15							
GERES	**GERESS Array B**	**90.61**	**319**	P	**P**	**01 39 38.9 +0.5**		
GERES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
FBE	**Freiberg**	**90.93**	**321**	*e*P	**P**	**01 39 39.8 -0.1**		
	comp=Z,3.0nm,0.8s,mb4.4							
WET	**Wettzell**	**91.16**	**319**	*e*P	**P**	**01 39 40.9 -0.1**		
	comp=Z,7.0nm,1.2s,mb4.6							
WET	**Wettzell**	**91.16**	**319**	*e*P	**P**	**01 39 40.9 -0.1**		
WET				pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.6							
GUNZ	**Gunzen**	**91.56**	**320**	*e*P	**P**	**01 39 42.9 +0.1**		
	comp=Z,6.0nm,1.4s,mb4.4							
ROTZ	**Rotzenmuhle**	**91.62**	**320**	*e*P	**P**	**01 39 44.0 +0.9**		
	comp=Z,5.0nm,1.3s,mb4.4							
MANZ	**Manzenberg**	**91.69**	**320**	*e*P	**P**	**01 39 43.8 +0.4**		
	comp=Z,3.0nm,1.0s,mb4.3							
GRA1	**Grafenberg Arr**	**92.26**	**319**	*e*P	**P**	**01 39 45.5 -0.5**		
	comp=Z,38nm,2.0s,mb5.1							
GRF	**Grafenberg Arr**	**92.26**	**319**	*e*P	**P**	**01 39 45.5 -0.5**		
	comp=Z,38nm,2.0s,mb5.1							
GRF	**Grafenberg Arr**	**92.26**	**319**	*e*P	**P**	**01 39 45.5 -0.5**		
GRF				pmax	pmax			
	comp=Z,38nm,2.0s,mb5.1							
GRF	**Grafenberg Arr**	**92.26**	**319**	*e*P	**P**	**01 39 45.5 -0.5**		
GRF				pmax	pmax			
	comp=Z,38nm,2.0s,mb5.1							
NB2	**NORSAR Subarra**	**92.38**	**331**	P	**P**	**01 39 45.8 -0.8**		
	comp=Z,0.8nm,0.7s,mb3.9,baz=91,slow=4.8							
NOA	**NORSAR Array B**	**92.38**	**331**	P	**P**	**01 39 45.6 -1.0**		
	comp=Z,0.7nm,0.7s,mb3.8,baz=121,slow=3.8,SNR=5.3							
NOA	**NORSAR Array B**	**92.38**	**331**	P	**P**	**01 39 45.6 -1.0**		
NOA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SNAA	**Sanae**	**92.52**	**198**	P	**P**	**01 39 52.8 +5.6**		
NVAR	**Mina Array Bea**	**128.49**	**41**	PKP	PKPdf	01 45 43.1 +1.2		
	comp=Z,0.3nm,0.5s,baz=318,slow=2.2,SNR=5.0							
ULM	**Lac du Bonnet**	**129.83**	**15**	PKP	PKPdf	01 45 43.4 -1.0		
	comp=Z,0.6nm,0.3s,baz=331,slow=18,SNR=4.6							
EYMN	**Ely**	**133.02**	**12**	*e*PKPdf	PKPdf	01 45 50.8 +0.4		
MIAR	**Mount Ida**	**144.74**	**23**	*e*PKIKP	PKPdf	01 46 11.0 -0.8		
CFAA	**Coronel Fontan**	**145.07**	**195**	PKPbc	PKPbc	01 46 12.4 +0.2		
	comp=Z,0.5nm,0.3s,baz=3.5,slow=13,SNR=6.5							
WVT	**Waverly**	**145.09**	**14**	*e*PKIKP	PKPdf	01 46 11.5 -0.9		
JCT	**Junction City**	**145.13**	**34**	*e*PKIKP	PKPdf	01 46 12.5 0.0		
CPUP	**Villa Florida**	**145.28**	**214**	PKPbc	PKPbc	01 46 13.9 +1.0		
	comp=Z,0.9nm,0.3s,baz=54,slow=1.9,SNR=9.2							
CPUP	**Villa Florida**	**145.28**	**214**	PKP2	PKPab	01 46 13.9 +0.7		
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BDFB	**Brasilia**	**145.47**	**238**	PKPbc	PKPbc	01 46 14.8 +1.4		
	comp=Z,3.2nm,0.4s,baz=103,slow=4.0,SNR=9.4							
BDFB	**Brasilia**	**145.47**	**238**	PKP2	PKPab	01 46 14.9 +1.0		
BDFB				pmax	pmax			
	comp=Z,3.0nm,0.4s							
TZTN	**Tazewell**	**145.50**	**8**	*e*PKPdf	PKPdf	01 46 12.5 -0.7		
PLAL	**Pickwick Lake**	**146.12**	**15**	*e*PKPdf	PKPdf	01 46 14.2 +0.1		
SWET	**Sewanee**	**146.39**	**12**	*e*PKPdf	PKPdf	01 46 14.9 +0.3		
HKT	**Hockley**	**147.65**	**30**	*e*PKP2	PKPab	01 46 18.6 -3.8		
SIV	**San Ignacio**	**155.36**	**222**	PKP	PKPdf	01 46 29.4 +1.1		
	comp=Z,3.8nm,0.5s,baz=246,slow=14,SNR=6.2							

MEX 26 01:32:41.8±0.7, 1540N×9647W, h23km±42km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.51**	**44**	*i* P		Pb	01 32 50.1	-2.0
HUIG				*i* S		Sb	01 32 57.3	-1.7
VHO	**Vista Hermosa**	**1.68**	**351**	*e*P		Pn	01 33 07.7	-2.1
VHO				*i* S		Sn	01 33 27.0	-3.6
OXX	**Oaxaca**	**1.69**	**352**	*e*P		Pn	01 33 08.0	-1.9
OXX				*i* S		Sn	01 33 27.0	-3.8
CMIG	**Matias Romero**	**2.27**	**42**	*i* P		Pn	01 33 15.3	-2.5
CMIG				*i* S		Sn	01 33 43.2	-1.9
UTMO	**Huajuapan**	**2.73**	**332**	*i* P		Pn	01 33 24.1	-0.1
UTMO				*i* S		Sn	01 33 53.6	-3.0
TPIG	**Tehuac#an**	**3.12**	**344**	*i* S		Sn	01 34 02.0	-4.1

MAN 26 01:41:32.6, 1017N×12207E, h20km, mb2.7, ML4.2, MS2.1, Panay

ISCJB ***26*** *01:43:52.7±0.6, 2277S×009×686W±02, h100km±10km, mb4.2/6, Error ellipse: s-maj=32.4km s-min=10.5km az=38.7*

IDC ***26*** *01:43:53.2±0.5, 2267S×6885W, h100km±6km, mb3.8/5, mb1 3.7/9, mb1mx3.5/19, mbtmp4.0/9, Error ellipse: s-maj=21.8km s-min=16.2km az=90.0*

NEIC ***26*** *01:43:53.8±0.9, 2269S×6868W, h103km±9km, mb4.2/4, Error ellipse: s-maj=20.0km s-min=7.7km az=105.0*

ISC 26 01:43:53.9±0.6, 2276S×009×686W±02, h98km±8km, n23, σ0s56/22, mb4.2/6, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.29**	**299**	P		**Pn**	**01 44 08.1**	**-0.1**
	2μm,0.3s,baz=181,slow=0.6							
LVC				S		**Sn**	**01 44 19.1**	**+0.2**
	2μm,0.3s,baz=321,slow=20,SNR=102							
LPAZ	**La Paz**	**6.45**	**4**	P		**Pn**	**01 45 27.1**	**+0.8**
	0.5nm,0.3s,baz=171,slow=5.2,SNR=15							
ARE	**Arequipa**	**6.81**	**336**	*e*P		**Pn**	**01 45 42.0**	**+11**
ARE				*e*S		**Sn**	**01 47 08.0**	**+21**
CFAA	**Coronel Fontan**	**8.82**	**178**	P		**Pn**	**01 45 59.0**	**+0.4**
	0.1nm,0.3s,baz=346,slow=14,SNR=6.4							
SIV	**San Ignacio**	**9.81**	**48**	P		**Pn**	**01 46 10.7**	**-1.2**
	2.5nm,0.3s,baz=232,slow=13,SNR=33							
SAML	**Samuel**	**14.69**	**22**	*e*P		**Pn**	**01 47 15.8**	**-0.9**
	1.1nm,0.6s							
PLCA	**Paso Flores**	**18.00**	**185**	P		**Pn**	**01 47 57.0**	**-0.6**
	0.1nm,0.3s,baz=5.6,slow=11,SNR=2.3							
PLCA	**Paso Flores**	**18.00**	**185**	*e*P		**Pn**	**01 47 57.3**	**-0.3**
	5.7nm,1.1s							
BDFB	**Brasilia**	**20.71**	**74**	P		**P**	**01 48 27.2**	**+0.9**
	4.0nm,0.5s,baz=244,slow=10,SNR=7.1							
RCBR	**Riachuelo**	**35.77**	**67**	*e*P		**P**	**01 50 44.0**	**+0.5**
	12nm,1.1s,mb4.7							
VNA3	**Neumayer Olymp**	**58.81**	**161**	*e*		**P**	**01 53 42.1**	**+0.1**
VNA3				*e*			01 53 45.1	
VNA1	**Neumayer--Stat**	**59.02**	**160**	*e*		**P**	**01 53 43.4**	**-0.1**
VNA1				*e*			01 53 46.4	
SNAA	**Sanae**	**61.02**	**161**	P		**P**	**01 53 56.5**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=291,slow=6.9,SNR=19							
SNAA				sP			01 54 32.9	+0.7
	0

4.0590, Plg76.0000°, Azm292.0000°; N 0.3730, Plg3.0000°, Azm35.0000°; P -4.4320, Plg14.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS ***26*** *02:25:38.5±1.0, 46.41N×153.20E, h25km, mb5.4/85, MS4.4/41 Error ellipse: s-maj=7.1km s-min=4.1km az=105.3*

ISCJB ***26*** *02:25:40.6±0.2, 46.25N±003×153.23E±003, h46km, mb5.1/184, MS4.4/110, Error ellipse: s-maj=5.2km s-min=2.3km az=130.5*

IDC ***26*** *02:25:41.4±0.4, 46.39N×153.15E, h38km±3km, mb4.5/22, mb1 4.6/23, mb1mx4.6/25, mbtmp4.7/23, ML4.5/1, MS4.4/15, Ms1 4.4/15, ms1mx4.0/31, Error ellipse: s-maj=13.8km s-min=10.7km az=136.0*

BGS ***26*** *02:25:43.1±1.7, 47.28N×152.57E, h10km±999km, mb5.1*

SZGRF ***26*** *02:25:52.2, 47.80N×152.43E, h52km, mb5.2, MS4.5, Kuril Islands, Russia*

ISC 26 02:25:42.9±0.2, 46.40N±003×153.18E±003, h48km, h48km±2.0km:pP-P,n715,σ1s07/688, mb5.1/184, MS4.4/110, 123C-19D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.89**	**254**	⇓*i* P	**Pn**	**02 26 37.5**	**-2.7**
KUR				*i* P		02 26 37.5	
KUR				AMB	AMB	02 26 38.0	
	12μm,1.0s						
KUR				AMB	AMB	02 26 38.0	
	610nm,0.6s						
KUR				AMB	AMB	02 26 38.0	
	300nm,0.6s						
KUR				AMB	AMB	02 26 38.0	
	3μm,0.6s						
KUR				*i* S	**Sn**	**02 27 25.0**	**+0.4**
KUR				A		02 27 32.0	
	9μm,2.0s						
KUR				A		02 27 32.0	
	10μm,2.0s						
KUR				A		02 27 34.0	
	2μm,1.0s						
KUR				A		02 27 34.0	
	3μm,1.0s						
KUR				AMS	AMS	02 28 30.0	
	5μm,16.0s						
KUR				AMS	AMS	02 28 30.0	
	14μm,16.0s						
KUR	**Kuril'sk**	**3.89**	**254**	⇓*i* PN	**Pn**	**02 26 38.0**	**-2.2**
KUR				*i* S	**Sn**	**02 27 35.0**	**+10**
SKR	**Severo-Kuril's**	**4.71**	**23**	*e*P	**Pn**	**02 26 46.0**	**-5.4**
SKR				AMB	AMB	02 26 48.5	
	230nm,0.5s						
SKR				*e*S	**Sn**	**02 27 36.5**	**-8.2**
SKR				A		02 27 44.0	
	6μm,8.0s						
SKR				A		02 27 44.0	
	4μm,8.0s						
SKR				A		02 27 44.0	
	3μm,4.0s						
SKR				A		02 27 44.0	
	5μm,8.0s						
SKR				A		02 27 44.0	
	4μm,8.0s						
SKR				A		02 27 44.0	
	2μm,4.0s						
SKR				A		02 28 04.0	
	1μm,0.9s						
SKR				A		02 28 04.0	
	660nm,0.9s						
SKR				A		02 28 04.0	
	670nm,0.9s						
SKR				AMS	AMS	02 28 44.0	
	8μm,14.0s						
SKR				AMS	AMS	02 28 44.0	
	5μm,14.0s						
SKR				AMS	AMS	02 28 44.0	
	8μm,14.0s						
SKR				AMS	AMS	02 28 44.0	
	5μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**248**	*e*P	**Pn**	**02 27 04.3**	**-0.4**
YUK				AMB	AMB	02 27 15.0	
	1μm,1.2s						
YUK				AMB	AMB	02 27 15.0	
	2μm,1.2s						
YUK				AMB	AMB	02 27 15.0	
	1μm,1.3s						
YUK				AMB	AMB	02 27 19.5	
	460nm,0.5s						
YUK				AMB	AMB	02 27 19.5	
	250nm,0.5s						
YUK				AMB	AMB	02 27 19.5	
	540nm,0.5s						
YUK				*e*S	**Sn**	**02 28 10.5**	**+1.8**
YUK				A		02 28 20.5	
	3μm,0.8s						
YUK				A		02 28 20.5	
	660nm,0.6s						
YUK				A		02 28 23.2	
	6μm,3.0s						
YUK				A		02 28 23.2	
	3μm,3.0s						
YUK				AMS	AMS	02 29 19.0	
	3μm,14.0s						
YUK				AMS	AMS	02 29 19.0	
	4μm,14.0s						
YUK				AMS	AMS	02 29 19.0	
	3μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.68**	**248**	*e*PN	**Pn**	**02 27 04.3**	**-0.4**
YUK				*e*S	**Sn**	**02 28 10.5**	**+1.8**
YUK				pmax	pmax		
	comp=E,1μm,1.2s						
YUK				pmax	pmax		
	comp=Z,2μm,1.2s						
YUK				pmax	pmax		
	comp=N,1μm,1.3s						
YUK				pmax	pmax		
	comp=N,460nm,0.5s						
YUK				pmax	pmax		
	comp=E,250nm,0.5s						
YUK				pmax	pmax		
	comp=Z,540nm,0.5s						
YUK				smax			
	comp=N,3μm,0.8s						
YUK				smax			
	comp=E,660nm,0.6s						
YUK				smax			
	comp=N,6μm,2.5s						
YUK				smax			
	comp=E,3μm,2.0s						
YUK				MLR	MLR		
	comp=Z,3μm,13.0s						
YUK				MLR	MLR		
	comp=N,6μm,15.0s						
YUK				MLR	MLR		
	comp=E,4μm,15.0s						
NEM2	**Nemuro 2**	**6.09**	**243**	P	**Pn**	**02 27 06.8**	**-3.5**
NEM2				*e*S	**Sn**	**02 28 14.4**	**-4.3**
JRA	**Rausu**	**6.20**	**250**	P	**Pn**	**02 27 11.6**	**-0.3**
JNK	**Nakash**	**6.62**	**248**	P	**Pn**	**02 27 17.0**	**-0.7**
JAK	**Akkeshi**	**6.94**	**244**	P	**Pn**	**02 27 18.9**	**-3.0**
JAK				*e*S	**Sn**	**02 28 35.6**	**-3.8**
JTKR	**Abashiri--Toko**	**6.99**	**253**	P	**Pn**	**02 27 22.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**7.19**	**278**	⇑*e*P	**Pn**	**02 27 27.0**	**+1.6**
YSS				AMB	AMB	02 27 31.0	
	comp=E,160nm,1.0s						
YSS				AMB	AMB	02 27 34.0	
	comp=E,500nm,6.0s						
YSS				*e*S	**Sn**	**02 28 52.0**	**+6.2**
YSS				A		02 28 58.0	
	comp=E,70nm,0.9s						
YSS				AMS	AMS	02 30 08.0	
	comp=E,3μm,16.0s						
YSS				AMS	AMS	02 30 08.0	
	comp=E,3μm,16.0s						
YSS				AMS	AMS	02 30 08.0	
	comp=E,4μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.19**	**278**	*ce*PN	**Pn**	**02 27 27.0**	**+1.6**
YSS				*e*S	**Sn**	**02 28 52.0**	**+6.2**
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,6.0s						
YSS				smax			
	comp=N,70nm,0.9s						
YSS				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS				MLR	MLR		
	comp=N,3μm,15.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.19**	**278**	*e*Pn	**Pn**	**02 27 28.1**	**+2.7**
JMP	**Maruseppu**	**7.34**	**254**	P	**Pn**	**02 27 27.7**	**+0.3**
JAR	**Ashorobuto**	**7.37**	**248**	P	**Pn**	**02 27 27.1**	**-0.8**
JAR				*e*S	**Sn**	**02 28 49.4**	**-0.7**
PET	**Petropavlovsk**	**7.52**	**26**	*e*PN	**Pn**	**02 27 25.3**	**-4.6**
PET				pmax	pmax		
	comp=Z,27nm,1.2s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET	**Petropavlovsk**	**7.52**	**26**	*e*Pn	**Pn**	**02 27 27.6**	**-2.3**
JOB	**Onbets**	**7.52**	**246**	P	**Pn**	**02 27 27.7**	**-2.3**
JOB				*e*S	**Sn**	**02 28 51.5**	**-2.4**
JSE	**Soyaes**	**7.56**	**263**	P	**Pn**	**02 27 32.6**	**+2.1**
JKK2	**Kamakawa 2**	**7.79**	**255**	P	**Pn**	**02 27 34.4**	**+0.7**
ASAJ	**Asahikawa**	**7.81**	**257**	Pn	**Pn**	**02 27 33.5**	**-0.3**
	comp=Z,7.6nm,0.3s,baz=92,slow=16,SNR=42						
ASAJ	**Asahikawa**	**7.81**	**257**	P	**Pn**	**02 27 35.1**	**+1.2**
ASAJ	**Asahikawa**	**7.81**	**257**	PN	**Pn**	**02 27 33.6**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
JWK2	**Keihoku**	**7.95**	**266**	P	**Pn**	**02 27 39.5**	**+3.7**
UGL	**Uglegorsk**	**7.96**	**294**	*i* P	**Pn**	**02 27 39.5**	**+3.6**
UGL				AMB	AMB	02 27 41.0	
	comp=Z,160nm,0.6s						
UGL				*e*S	**Sn**	**02 29 10.8**	**+6.3**
JCH	**Churui**	**7.97**	**245**	P	**Pn**	**02 27 33.5**	**-2.6**
JCH				*e*S	**Sn**	**02 28 59.8**	**-5.1**
JFR	**Furan**	**8.19**	**251**	P	**Pn**	**02 27 39.7**	**+0.5**
JSS	**Shosan**	**8.22**	**260**	P	**Pn**	**02 27 41.9**	**+2.4**
TYV	**Tymovskoe**	**8.27**	**306**	*e*P	**Pn**	**02 27 42.8**	**+2.5**
TYV				AMB	AMB	02 27 50.0	
	comp=Z,2μm,7.0s						
TYV				AMB	AMB	02 27 50.0	
	comp=Z,600nm,9.0s						
TYV				AMB	AMB	02 27 53.0	
	comp=Z,79nm,1.0s						
TYV				AMB	AMB	02 27 53.0	
	comp=Z,161nm,1.0s						
TYV				AMS	AMS	02 31 16.0	
	comp=Z,4μm,17.0s						
TYV				AMS	AMS	02 31 16.0	
	comp=Z,4μm,17.0s						
JAB	**Ashibetsu**	**8.29**	**254**	P	**Pn**	**02 27 41.5**	**+1.0**
ERM	**Erimo**	**8.43**	**242**	*e*PN	**Pn**	**02 27 40.4**	**-1.9**
ERM				pmax	pmax		
	comp=Z,117nm,0.6s						
ERM	**Erimo**	**8.43**	**242**	*e*Pn	**Pn**	**02 27 40.4**	**-1.9**
	comp=Z,117nm,0.6s						
ERM				*e*Sn	**Sn**	**02 29 12.7**	**-3.3**
JEM	**Erimo**	**8.43**	**242**	P	**Pn**	**02 27 40.0**	**-2.3**
JEM				*e*S	**Sn**	**02 29 12.5**	**-3.5**
JBT2	**Biratori 2**	**8.52**	**249**	P	**Pn**	**02 27 42.4**	**-1.3**
JNBK	**Urakawa-nobuka**	**8.53**	**245**	P	**Pn**	**02 27 40.8**	**-3.0**
JHR	**Hokuryu**	**8.53**	**256**	P	**Pn**	**02 27 45.3**	**+1.5**
JEW	**Eniwo**	**9.09**	**251**	P	**Pn**	**02 27 51.6**	**+0.2**
JSK	**Shakotan**	**9.52**	**256**	P	**Pn**	**02 27 58.8**	**+1.5**
JNB	**Noboribetsu**	**9.53**	**250**	P	**Pn**	**02 27 56.5**	**-1.0**
JKB	**Kayabe**	**9.82**	**247**	P	**Pn**	**02 27 58.8**	**-2.7**
JKB				*e*S	**Sn**	**02 29 44.5**	**-5.8**
JYM2	**Yakumo 2**	**10.13**	**250**	P	**Pn**	**02 28 04.1**	**-1.6**
JANG	**Nango**	**10.40**	**239**	P	**Pn**	**02 28 04.3**	**-5.1**
JANG				*e*S	**Sn**	**02 29 53.6**	**-11**
JTM	**Tenmabayashi**	**10.42**	**242**	P	**Pn**	**02 28 05.4**	**-4.2**
JTM				*e*S	**Sn**	**02 29 57.0**	**-7.9**
NKL	**Nikolayevsk**	**10.52**	**314**	*i* P	**Pn**	**02 28 10.0**	**-1.1**
NKL				AMB	AMB	02 28 16.0	
	comp=Z,600nm,5.0s						
NKL				AMB	AMB	02 28 16.0	
	comp=Z,1μm,5.0s						
NKL				AMB	AMB	02 28 16.0	
	comp=Z,1μm,5.0s						
NKL				AMB	AMB	02 28 21.5	
	comp=Z,130nm,1.5s						
NKL				AMB	AMB	02 28 21.5	
	comp=Z,260nm,1.5s						
NKL				AMS	AMS	02 32 46.0	
	comp=Z,5μm,15.0s						
NKL				AMS	AMS	02 32 46.0	
	comp=Z,2μm,15.0s						
JOSM	**Okushiri--Mats**	**10.73**	**251**	P	**Pn**	**02 28 12.2**	**-1.7**
OFUJ	**Ofunato**	**11.18**	**233**	P	**Pn**	**02 28 15.0**	**-5.0**
OFUJ				*e*S	**Sn**	**02 30 11.2**	**-12**
JRG	**Rokugo**	**11.55**	**237**	*e*S	**Sn**	**02 30 23.5**	**-9.1**
TEY	**Ternei**	**11.67**	**269**	*e*P	**Pn**	**02 28 26.0**	**-0.7**
TEY				AMB	AMB	02 28 31.0	
	comp=Z,1μm,5.0s						
TEY				AMB	AMB	02 28 31.0	
	comp=Z,1μm,5.0s						
TEY				AMB	AMB	02 28 31.0	
	comp=Z,70nm,1.0s						
TEY				AMS	AMS	02 33 19.0	
	comp=Z,3μm,15.0s						
TEY				AMS	AMS	02 33 19.0	
	comp=Z,2μm,15.0s						
TEY				AMS	AMS	02 33 19.0	
	comp=Z,2μm,15.0s						
JIO	**Ouri**	**11.80**	**232**	*e*S	**Sn**	**02 30 24.2**	**-14**
MA2	**Magadan**	**13.28**	**355**	*e*PN	**Pn**	**02 28 48.5**	**-0.1**
MA2				*e*S	**Sn**	**02 31 23.2**	**+8.5**
MA2				pmax	pmax		
	comp=N,10.0nm,0.5s						
MA2				pmax	pmax		
	comp=Z,20nm,0.5s						
MA2				MLR	MLR		
	comp=Z,2μm,14.5s						
MA2	**Magadan**	**13.28**	**355**	*e*Pn	**Pn**	**02 28 47.8**	**-0.9**
KLR	**Kul'dur**	**14.66**	**289**	*e*P	**Pn**	**02 29 05.9**	**-1.5**
KLR				pmax	pmax		
	comp=E,68nm,1.6s						
KLR				pmax	pmax		
	comp=Z,60nm,1.6s						
KLR				pmax	pmax		
	comp=E,700nm,10.0s						
KLR				pmax	pmax		
	comp=Z,1μm,10.0s						
KLR				MLR	MLR		
	comp=E,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,3μm,15.0s						
MJAR	**Matsushiro Arr**	**14.91**	**234**	Pn	**Pn**	**02 29 06.1**	**-4.4**
	comp=Z,0.9nm,0.3s,baz=29,slow=12,SNR=16						
MAJO	**Matsushiro**	**14.91**	**234**	*e*P	**Pn**	**02 29 05.5**	**-5.0**
MAT	**Matsushiro**	**14.91**	**234**	P	**Pn**	**02 29 09.1**	**-1.4**
VLA	**Vladivostok**	**15.46**	**265**	⇑*e*P	**Pn**	**02 29 17.4**	**-0.4**
VLA				pmax	pmax		
	comp=Z,67nm,1.3s						
VLA				MLR	MLR		
	comp=Z,900nm,16.0s						
JYN	**Shimob**	**15.49**	**231**	P	**Pn**	**02 29 22.0**	**+3.9**
SEY	**Seymchan**	**16.57**	**359**	⇓*e*P	**Pn**	**02 29 29.5**	**-2.4**
MDJ	**Mudanjiang**	**16.62**	**272**	P	**Pn**	**02 29 33.0**	**+0.6**
MDJ				S	**S**	**02 32 37.0**	**-8.4**
MDJ				PCP	PcP	02 34 22.3	+2.0
MDJ				SCS	ScS	02 41 33.0	+2.7
MDJ				AMB	AMB		
	comp=Z,90nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,88nm,5.1s						
MDJ				LR	LR		
	comp=N,1μm,16.3s						
MDJ				LR	LR		
	comp=E,960nm,16.5s						
MDJ				LR	LR		
	comp=Z,1μm,16.3s						
MDJ	**Mudanjiang**	**16.62**	**272**	*e*Pn	**Pn**	**02 29 31.5**	**-0.9**
	comp=Z,65nm,0.9s						
CN2	**Changchun**	**19.71**	**272**	*e*P	**Pn**	**02 30 04.8**	**-5.2**
CN2				*e*XP	sP	02 30 21.3	-4.1
CN2				*e*S	**S**	**02 33 36.5**	**-11**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				AMB	AMB		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,970nm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
CLNS	**Chul'man**	**20.28**	**311**	*e*P	**P**	**02 30 15.3**	**+0.8**
CLNS				*e**PP		02 30 21.2	
CLNS				*e*		02 30 31.3	
CLNS				*e*PPP		02 30 43.3	
CLNS				pmax	pmax		
	comp=Z,61nm,1.4s						
CLNS				pmax	pmax		
	comp=N,42nm,1.3s						
CLNS				pmax	pmax		
	comp=E,36nm,1.3s						
CLNS				pmax	pmax		
	comp=E,26nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,38nm,1.0s						
CLNS				pmax	pmax		
	comp=N,33nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,3μm,16.0s,MS4.7						
CLNS				MLR	MLR		
	comp=N,1μm,14.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s,MS4.7						
YAK	**Yakutsk**	**20.64**	**328**	*i* P	**P**	**02 30 17.4**	**-1.0**
YAK				*e*PP		02 30 36.0	
YAK				*e*S	**S**	**02 34 09.0**	**+2.6**
YAK				*e*SS		02 34 31.0	
YAK				pmax	pmax		
	comp=Z,50nm,1.0s						
YAK	**Yakutsk**	**20.64**	**328**	*e*P	**P**	**02 30 17.1**	**-1.2**
	comp=Z,42nm,0.6s						
YAK				LR	LR		
	comp=Z,663nm,19.0s,MS4.0						
KS15	**Wonju Array Si**	**20.77**	**254**	*e*Pn	**P**	**02 30 21.2**	**+1.4**
INCN	**Inchon**	**21.58**	**255**	*e*P	**P**	**02 30 30.1**	**+1.6**
	comp=Z,29nm,0.4s,mb5.0						
INCN				LR	LR		
	comp=Z,442nm,20.0s,MS3.9						
SNY	**Shenyang**	**21.67**	**269**	⇑P	**P**	**02 30 29.8**	**+0.3**
SNY				AP		02 30 41.0	
SNY				S	**S**	**02 34 32.5**	**+5.9**
SNY				AMB	AMB		
	comp=Z,37nm,1.1s,mb4.7						
SNY				AMB	AMB		
	comp=Z,410nm,5.7s						
SNY				LR	LR		
	comp=E,963nm,15.3s						
SNY				LR	LR		
	comp=Z,1μm,16.2s,MS4.4						
HIA	**Hailar**	**22.52**	**290**	*e*P	**P**	**02 30 36.8**	**-1.7**
HIA				pmax	pmax		
	comp=Z,25nm,0.9s						
HIA				MLR	MLR		
	comp=Z,894nm,19.0s						
HIA	**Hailar**	**22.52**	**290**	*e*P	**P**	**02 30 36.8**	**-1.7**
	comp=Z,25nm,0.9s,mb4.6						
HIA				LR	LR		
	comp=Z,894nm,19.0s,MS4.2						
BILL	**Bilibino**	**22.72**	**13**	P	**P**	**02 30 39.0**	**-1.6**
BILL				*i*		02 30 42.0	
BILL				*i*		02 30 48.3	
BILL						02 31 03.0	
BILL				pmax	pmax		
	comp=Z,54nm,1.2s,mb4.8						
BILL				MLR	MLR		
	comp=Z,800nm,15.0s,MS4.3						
BILL	**Bilibino**	**22.72**	**13**	PFAKE		02 30 50.0	+9.4
BILL				LR	LR		
	comp=Z,743nm,21.0s,MS4.1						
DL2	**Dalian**	**24.26**	**263**	⇑*i* P	**P**	**02 30 56.0**	**+0.5**
DL2				S	**S**	**02 35 14.8**	**+3.8**
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.8						
DL2				AMB	AMB		
	comp=Z,260nm,4.8s						
DL2				LR	LR		
	comp=N,200nm,14.5s,MS3.8						
DL2				LR	LR		
	comp=E,160nm,15.0s,MS3.8						
DL2				LR	LR		
	comp=Z,250nm,13.4s,MS3.9						
SPIA	**Saint Paul Isl**	**24.76**	**51**	*e*P	**P**	**02 31 05.8**	**+5.8**
CIT	**Chita**	**26.24**	**297**	*e*P	**P**	**02 31 12.3**	**-1.1**
CIT				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.9						
BOD	**Bodaibo**	**26.25**	**310**	*e*P	**P**	**02 31 11.3**	**-2.2**
BOD				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
BJI	**Beijing**	**27.52**	**270**	P	**P**	**02 31 24.3**	**-0.6**
BJI				S	**S**	**02 35 58.0**	**-4.6**
BJI				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
BJI				AMB	AMB		
	comp=Z,431nm,7.2s						
BJI				LR	LR		
	comp=N,961nm,16.4s,MS4.5						
BJI				LR	LR		
	comp=E,647nm,16.5s,MS4.5						
BJI				LR	LR		
	comp=Z,738nm,16.0s,MS4.3						
BJT	**Baijiatuau**	**27.53**	**270**	*e*P	**P**	**02 31 24.5**	**-0.5**
BJT				pmax	pmax		
	comp=Z,49nm,0.8s						
BJT				MLR	MLR		
	comp=Z,779nm,20.0s						
BJT	**Baijiatuau**	**27.53**	**270**	*e*P	**P**	**02 31 24.5**	**-0.6**
	comp=Z,49nm,0.8s,mb5.2						
BJT				LR	LR		
	comp=Z,779nm,20.0s,MS4.3						
JOW	**Kunigami**	**27.75**	**234**	P	**P**	**02 31 26.8**	**-0.2**
	comp=Z,17nm,1.1s,mb4.6,baz=51,slow=8.9,SNR=5.3						
TNA	**Tin City**	**28.30**	**33**	PFAKE		02 31 40.0	+8.1
TNA				LR	LR		
	comp=Z,239nm,20.0s,MS3.8						
SSE	**Sheshan**	**29.02**	**250**	*e*P	**P**	**02 31 39.5**	**+1.3**
SSE				PCP	PcP	02 34 46.5	+0.8
SSE				S	**S**	**02 36 28.5**	**+2.4**
SSE				SCS	ScS	02 42 15.0	-2.2
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,102nm,3.5s						
SSE				LR	LR		
	comp=N,262nm,21.3s,MS3.9						
SSE				LR	LR		
	comp=E,106nm,21.2s,MS3.9						
SSE				LR	LR		
	comp=Z,240nm,22.5s,MS3.8						
SSE	**Sheshan**	**29.02**	**250**	*e*P	**P**	**02 31 39.6**	**+1.4**
SSE				pP	pP	02 31 51.3	+0.6
SSE				sP	sP	02 31 56.2	-0.2
SSE				PP	PP	02 32 46.0	+1.7
SSE				PcP	PcP	02 34 46.6	+0.9
SSE				S	**S**	**02 36 28.6**	**+2.5**
SSE				sS	sS	02 36 47.9	+0.8
SSE				ScS	ScS	02 42 15.1	-2.1
NJ2	**Nanjing**	**29.94**	**254**	*e*P	**P**	**02 31 50.8**	**+4.4**
NJ2				PP	PP	02 32 49.0	-5.6
NJ2				S	**S**	**02 36 47.0**	**+6.4**
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,530nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,13.4s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,14.6s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS4.8						
HHC	**Hu-ho-hao-te**	**30.36**	**275**	*e*P	**P**	**02 31 51.3**	**+1.1**
HHC				AP	pP	02 32 02.0	-0.6
HHC				PP	PP	02 32 50.5	-8.8
HHC				PCP	PcP	02 34 51.8	+2.6
HHC				S	**S**	**02 36 46.8**	**-0.5**
HHC				XS	sS	02 37 04.3	-3.9
HHC				SS	SS	02 38 28.5	-29
HHC				PCS	PcS	02 38 33.8	+1.0
HHC				SCS	ScS	02 42 24.3	+0.7
HHC				AMB	AMB		
	comp=Z,98nm,0.6s,mb5.7						
HHC				AMB	AMB		
	comp=Z,218nm,3.9s						
HHC				LR	LR		
	comp=N,866nm,15.7s,MS4.7						
HHC				LR	LR		
	comp=E,900nm,16.5s,MS4.7						
HHC				LR	LR		
	comp=Z,990nm,16.1s,MS4.5						
SONM	**Songino Array**	**31.49**	**290**	P	**P**	**02 31 59.6**	**-0.5**

comp=Z,4.8nm,0.8s,mb4.4,baz=69,slow=8.2,SNR=30
SONM PcP PcP 02 34 52.2 0.0
comp=Z,4.1nm,1.0s,baz=110,slow=2.6,SNR=6.2
SONM pPcP 02 35 04.3
comp=Z,2.2nm,0.7s,baz=125,slow=2.2,SNR=5.3
SONM LR LR 02 45 28.1
comp=Z,580nm,19.1s,MS4.3,baz=70,slow=38
SONM Songino Array 31.49 290 P **P 02 31 59.6 -0.5**
SONM 02 34 52.2
TLY Talaya 32.38 298 *eP* **P 02 32 06.5 -1.4**
TLY *eSS* SS 02 39 18.7 -21
TLY pmax pmax
comp=Z,21nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.8
TLY Talaya 32.38 298 *eP* **P 02 32 07.4 -0.5**
TLY LR LR
comp=Z,195nm,19.0s,MS3.8
TTA Tatalina 32.66 41 *eP* **P 02 32 09.2 -1.1**
SVW2 Sparrevohn 32.71 45 *eP* **P 02 32 10.0 -0.8**
SVW2 *epP* pP 02 32 20.9 -2.4
SVW2 *esP* sP 02 32 26.8 -2.1
ZAK Zakamensk 32.87 296 *eP* **P 02 32 11.3 -0.9**
ZAK *e* 02 34 56.0
ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.7
WHN Wuhan 33.89 256 *eP* **P 02 32 21.3 +0.2**
IMA2 Indian Mountai 34.06 36 *eP* **P 02 32 20.9 -1.7**
KDAK Kodiak Island 34.29 50 P **P 02 32 24.4 -0.2**
comp=Z,7.9nm,0.8s,mb4.7,baz=244,slow=7.9,SNR=4.3
KDAK Kodiak Island 34.29 50 P **P 02 32 24.4 -0.2**
KDAK LR LR
comp=Z,108nm,21.0s,MS3.6
XAN Xi'an 35.53 266 P **P 02 32 35.8 +0.6**
XAN AP pP 02 32 42.5 -5.3
XAN AMB AMB
comp=Z,19nm,0.9s,mb5.0
PMR Palmer 35.82 44 *eP* **P 02 32 36.7 -1.0**
PMR pmax pmax
comp=Z,33nm,1.1s,mb5.2
PMR MLR MLR
comp=Z,338nm,20.0s,MS4.1
PMR Palmer 35.82 44 *eP* **P 02 32 36.7 -1.1**
comp=Z,33nm,1.1s,mb5.2
PMR *epP* pP 02 32 53.1 +2.8
PMR LR LR
comp=Z,338nm,20.0s,MS4.1
MCK McKinley 35.89 40 *eP* **P 02 32 37.2 -1.1**
MCK MLR MLR
comp=Z,194nm,19.0s,MS3.9
COLA College 36.38 38 *eP* **P 02 32 41.4 -1.1**
COLA pmax pmax
comp=Z,25nm,0.9s,mb5.1
COLA MLR MLR
comp=Z,350nm,19.0s,MS4.2
COLA College 36.38 38 *eP* **P 02 32 41.4 -1.2**
comp=Z,25nm,0.9s,mb5.2
COLA LR LR
comp=Z,350nm,19.0s,MS4.2
ENH Enshi 37.35 260 PFAKE 02 33 00.0 +9.3
ENH LR LR
comp=Z,3.0nm,20.0s
DIV Divide 37.47 44 PFAKE 02 33 00.0 +8.3
DIV LR LR
comp=Z,1μm,20.0s,MS4.7
KRAR Krasnoyarsk 37.83 307⇓ *eP* **P 02 32 48.5 -6.3**
KRAR pmax pmax
comp=Z,40nm,0.6s,mb5.3
LZH Lanzhou 37.95 272 ⇑P **P 02 32 57.8 +2.0**
LZH AP pP 02 33 06.0 -2.4
LZH XP sP 02 33 10.0 -4.1
LZH PP PP 02 34 26.5 +3.4
LZH PCP PcP 02 35 14.0 +3.1
LZH *eS* **S 02 38 47.0 +2.8**
LZH XS sS 02 39 01.0 -4.5
LZH SS SS 02 41 23.0 -8.6
LZH AMB AMB
comp=Z,52nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,101nm,4.1s
LZH LR LR
comp=N,875nm,14.0s
LZH LR LR
comp=Z,2μm,15.2s,MS5.0
LZH Lanzhou 37.95 272 ⇑P **P 02 32 57.8 +2.0**
LZH pP pP 02 33 06.0 -2.4
LZH sP sP 02 33 10.0 -4.1
LZH PP PP 02 34 26.4 +3.3
LZH PcP PcP 02 35 14.0 +3.1
LZH *eS* **S 02 38 47.0 +2.8**
LZH sS sS 02 39 01.1 -4.4
LZH SS SS 02 41 23.0 -8.6
GTA Gaotai 39.07 279 ⇑P **P 02 33 06.3 +1.1**
GTA AP pP 02 33 16.3 -1.6
GTA XP sP 02 33 20.0 -3.5
GTA PP PP 02 34 41.8 +6.4
GTA PCP PcP 02 35 15.5 +1.1
GTA S **S 02 39 04.3 +3.1**
GTA XS sS 02 39 20.0 -2.5
GTA SS SS 02 41 50.5 -4.4
GTA AMB AMB
comp=Z,54nm,0.9s,mb5.3
GTA AMB AMB
comp=Z,316nm,5.7s
GTA LR LR
comp=N,416nm,14.1s,MS4.5
GTA LR LR
comp=E,376nm,13.3s,MS4.5
GTA LR LR
comp=Z,492nm,13.7s,MS4.5
EGAK Eagle 39.25 38⇑ *eP* **P 02 33 05.0 -1.7**
DAWY Dawson 40.08 39 *eP* **P 02 33 12.8 -0.8**
CD2 Chengdu 40.90 266 P **P 02 33 22.5 +2.1**
CD2 AP pP 02 33 32.5 -0.6
CD2 PP PP 02 35 03.5 +8.2
CD2 S **S 02 39 29.3 +0.8**
CD2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,180nm,4.3s
CD2 LR LR
comp=N,290nm,13.8s
CD2 LR LR
comp=Z,210nm,13.7s,MS4.2
INK Inuvik 41.92 32 P **P 02 33 28.2 -0.5**
comp=Z,16nm,0.8s,mb4.7,baz=289,slow=5.9,SNR=39
INK Inuvik 41.92 32 *eP* **P 02 33 28.3 -0.5**
INK pmax pmax
comp=Z,16nm,0.8s
INK Inuvik 41.92 32 *eP* **P 02 33 28.3 -0.4**
comp=Z,16nm,0.8s,mb4.7
ZAL Zalesovo 42.87 306 P **P 02 33 34.5 -1.9**
comp=Z,4.0nm,0.8s,mb4.2,baz=52,slow=8.0,SNR=18
ZAL PcP PcP 02 35 26.0 -0.7
comp=Z,5.6nm,0.9s,baz=42,slow=3.6,SNR=9.0
ZAL LR LR 02 53 10.4
comp=Z,2μm,19.1s,MS4.9,baz=44,slow=38
ZAL Zalesovo 42.87 306 P **P 02 33 34.5 -2.0**
ZAL 02 35 26.0
QIZ Qiongzhong 44.75 247 P **P 02 33 52.8 +1.2**
QIZ AP pP 02 34 02.5 -2.0
QIZ XP sP 02 34 06.0 -4.1
QIZ PP PP 02 35 37.5 +0.8
QIZ S **S 02 40 29.5 +4.4**
QIZ AMB AMB
comp=Z,28nm,2.4s,mb4.7
QIZ LR LR
comp=Z,578nm,24.1s,MS4.4
QIZ Qiongzhong 44.75 247 PFAKE 02 34 00.0 +8.4
QIZ LR LR
comp=Z,533nm,19.0s,MS4.5
WMQ Urumqi 45.09 292 *eP* **P 02 33 54.3 0.0**
WMQ PCP PcP 02 35 36.0 +1.7
WMQ PPP 02 36 22.0
WMQ SCP ScP 02 39 25.0 +2.1
WMQ S **S 02 40 30.0 -0.1**
WMQ XS sS 02 40 48.0 -3.7
WMQ SS SS 02 43 45.0 -8.5
WMQ AMB AMB
comp=Z,22nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,157nm,4.9s
WMQ LR LR
comp=N,1μm,14.6s,MS5.0
WMQ LR LR
comp=E,770nm,16.8s,MS5.0
WMQ LR LR
comp=Z,1μm,18.8s,MS4.8
KMI Kunming 45.22 260 ⇑P **P 02 33 56.8 +1.5**
KMI PP PP 02 35 45.8 +4.1
KMI PPP 02 36 25.3
KMI SCP ScP 02 39 25.8 +2.4
KMI PCS PcS 02 39 30.5 +1.9
KMI S **S 02 40 34.0 +2.1**
KMI XS sS 02 40 52.8 -0.7
KMI SS SS 02 43 48.3 -7.4
KMI SSS 02 44 49.3
KMI AMB AMB
comp=Z,40nm,0.9s,mb5.2
KMI AMB AMB
comp=Z,243nm,4.9s
KMI LR LR
comp=N,410nm,17.8s,MS4.6
KMI LR LR
comp=E,394nm,15.8s,MS4.6
KMI LR LR
comp=Z,456nm,17.3s,MS4.5
KMI Kunming 45.22 260 ⇑P **P 02 33 56.7 +1.4**
KMI *PP pP 02 34 08.5 +0.3
KMI 02 35 45.8
KMI PPP 02 36 25.2
KMI S **S 02 40 34.0 +2.1**
KMI *SS sS 02 40 52.7 -0.8
KMI SS SS 02 43 48.3 -7.4
KMI SSS 02 44 49.2
KMI Kunming 45.22 260 ⇑P **P 02 33 56.7 +1.4**
KMI pP pP 02 34 08.5 +0.3
KMI sP sP 02 34 13.4 -0.4
KMI PP PP 02 35 45.8 +4.1
KMI PPP 02 36 25.2
KMI ScP ScP 02 39 25.7 +2.3
KMI PcS PcS 02 39 30.5 +1.9
KMI S **S 02 40 34.0 +2.1**
KMI sS sS 02 40 52.7 -0.8
KMI SS SS 02 43 48.3 -7.4
KMI SSS 02 44 49.2
DLBC Dease Lake 45.81 46 P **P 02 33 59.5 -0.4**
comp=Z,3.7nm,0.9s,mb4.3,baz=287,slow=9.4,SNR=6.4
MKAR Makanchi Array 47.14 298 P **P 02 34 09.2 -1.2**
comp=Z,26nm,0.8s,mb5.2,baz=60,slow=8.5,SNR=124
MKAR PcP PcP 02 35 41.1 -0.4
comp=Z,5.1nm,0.7s,baz=107,slow=0.5,SNR=5.0
KURK Kurchatov 47.59 304 P **P 02 34 12.3 -1.6**
comp=Z,279nm,0.9s,SNR=32
ALE Alert 50.09 6 P **P 02 34 31.0 -2.0**
comp=Z,114nm,0.7s,mb6.0,SNR=12
LSA Lhasa 50.34 273 *eP* **P 02 34 37.2 +2.3**
LSA pmax pmax
comp=Z,20nm,0.6s,mb5.3
LSA MLR MLR
comp=Z,298nm,20.0s,MS4.3
LSA Lhasa 50.34 273 *eP* **P 02 34 37.2 +2.2**
comp=Z,20nm,0.6s,mb5.3
LSA LR LR
comp=Z,298nm,20.0s,MS4.3
NANT Nan 50.91 255⇓ P **P 02 34 40.5 +1.3**
comp=Z,62nm,0.6s,mb5.7
YKW3 Yellowknife Ar 51.14 36 *eP* **P 02 34 40.2 -0.8**
BRVK Borovoye 51.16 310 *eP* **P 02 34 38.9 -2.2**
BRVK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BRVK MLR MLR
comp=Z,135nm,19.0s,MS4.0
BRVK Borovoye 51.16 310 *eP* **P 02 34 38.9 -2.2**
comp=Z,14nm,0.8s,mb5.0
BRVK LR LR
comp=Z,135nm,19.0s,MS4.0
YKA Yellowknife Ar 51.18 37 P **P 02 34 40.2 -1.0**
comp=Z,11nm,0.9s,mb4.8,baz=297,slow=7.2,SNR=27
YKA LR LR 02 57 45.8
comp=Z,114nm,19.3s,MS3.9,baz=330,slow=38
YKA Yellowknife Ar 51.18 37 P **P 02 34 40.2 -1.0**
YKA LR LR 02 57 45.8
ZRNK Zerenda 51.89 310⇑ *iP* **P 02 34 45.2 -1.3**
ZRNK pmax pmax
comp=Z,16nm,0.7s,mb5.1
ZRNK Zerenda 51.89 310 *iP* **P 02 34 45.2 -1.4**
comp=Z,16nm,0.7s,mb5.1
CHG Chiang Mai 52.08 257⇓ P **P 02 34 48.7 +0.7**
comp=Z,33nm,0.7s,mb5.4
CHTO Chiang Mai 52.08 257 *eP* **P 02 34 49.0 +1.0**
CHTO pmax pmax
comp=Z,22nm,0.8s,mb5.1
CHTO MLR MLR
comp=Z,288nm,19.0s,MS4.3
CHTO Chiang Mai 52.08 257 *eP* **P 02 34 49.0 +1.0**
comp=Z,22nm,0.8s,mb5.2
CHTO LR LR
comp=Z,288nm,19.0s,MS4.3
ULHL Ulahol 53.15 295 P **P 02 34 56.7 +0.8**
SNR=8.1
TKM2 Tokmak 2 53.19 296 P **P 02 34 56.7 +0.5**
SNR=13
CHMS Chumysh 53.67 297 P **P 02 35 00.3 +0.5**
SNR=6.0
USP Ospenovka 53.68 297 P **P 02 35 00.1 +0.3**
SNR=30
KBK Karagaybulak 53.74 296 P **P 02 35 00.7 +0.5**
SNR=8.1
FRU Bishkek 53.85 297 *eP* **P 02 35 00.0 -1.0**
FRU MLR MLR
comp=Z,600nm,14.0s,MS4.8
AAK Ala-Archa 54.03 297 P **P 02 35 02.8 +0.4**
SNR=17
AAK Ala-Archa 54.03 297 *c iP* **P 02 35 01.5 -0.8**
AAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,700nm,17.0s,MS4.8
AAK Ala-Archa 54.03 297 *eP* **P 02 35 01.7 -0.7**
AAK LR LR
comp=Z,159nm,19.0s,MS4.1
SVE Sverdlovsk 54.12 317⇑ *eP* **P 02 35 01.4 -1.6**
SVE pmax pmax
comp=Z,40nm,1.7s,mb5.1
SVE MLR MLR
comp=N,500nm,15.0s,MS4.7
SVE MLR MLR
comp=E,200nm,15.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.6
EKS2 Erkin-Say 54.46 297 P **P 02 35 05.5 +0.1**
SNR=20
AML Almayashu 54.80 296 P **P 02 35 08.9 +0.9**
SNR=11
KSH Kashi 54.83 293 *eP* **P 02 35 09.0 +0.9**
KSH *eXP* sP 02 35 17.0 -10
KSH *ePCP* PcP 02 36 13.3 +3.4
KSH *ePP* PP 02 37 12.3 +1.1
KSH *ePPP* 02 38 22.3
KSH *eSCP* ScP 02 40 08.0 +3.5
KSH *ePCS* PcS 02 40 11.5 +1.8
KSH *eS* **S 02 42 42.5 -3.2**
KSH *ePS* 02 42 56.5
KSH *eSCS* ScS 02 44 53.0 -0.2
KSH AMB AMB
comp=Z,225nm,2.2s,mb5.8
KSH LR LR
comp=N,394nm,6.0s
KSH LR LR
comp=E,2μm,15.2s
KSH LR LR
comp=Z,2μm,15.8s,MS5.2
JIRN Jiri 55.02 275 *eP* **P 02 35 11.4 +1.9**
comp=Z,10nm,0.2s,mb5.6
GUN Gumba 55.08 275 *eP* **P 02 35 10.0 +0.1**
comp=Z,147nm,1.0s,mb6.0
ARU Arti 55.30 318⇓ *iP* **P 02 35 10.0 -1.5**
ARU *e* 02 36 05.9
ARU *eS* **S 02 42 52.6 +0.6**
ARU *eSS* SS 02 46 32.7 -4.1
ARU pmax pmax
comp=Z,26nm,1.0s,mb5.2
ARU MLR MLR
comp=N,200nm,18.0s,MS4.6
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.5
ARU MLR MLR
comp=E,400nm,17.0s,MS4.6
ARU Arti 55.30 318 *eP* **P 02 35 09.8 -1.8**
ARU LR LR
comp=Z,110nm,19.0s,MS4.0
KKN Kakani 55.56 276 *eP* **P 02 35 14.8 +1.4**
comp=Z,123nm,0.8s,mb6.0
PKI Pulchoki 55.61 275 *eP* **P 02 35 15.2 +1.4**
comp=Z,84nm,1.0s,mb5.7
DMN Daman 55.80 276 *eP* **P 02 35 16.9 +1.8**
comp=Z,189nm,0.9s,mb6.1
PMG Port Moresby 55.81 187 PFAKE 02 35 30.0 +15
PMG LR LR
comp=Z,196nm,20.0s,MS4.2
GKN Gorkha 55.87 276 *eP* **P 02 35 17.2 +1.5**
comp=Z,131nm,0.7s,mb6.1
KK31 Karatay Array 56.21 299 *i* P **P 02 35 17.3 -0.7**
KK31 pmax pmax
comp=Z,14nm,0.9s,mb5.0
HOOD Mount Hood Mea 56.45 58 *eP* **P 02 35 23.1 +3.3**
HOOD *epP* pP 02 35 32.1 -1.0
EDM Edmonton 56.53 46 *eP* **P 02 35 19.5 -0.8**
EDM *e*PP pP 02 35 31.4 -2.2
KOLN Koldanda 56.73 277 *eP* **P 02 35 23.4 +1.6**
comp=Z,189nm,1.1s,mb6.0
DAG Danmarks Havn 57.00 358⇑ *iP* **P 02 35 22.8 -0.8**
comp=Z,26nm,1.2s,mb5.1
DAG Danmarks Havn 57.00 358⇑ *iP* **P 02 35 22.8 -0.8**
DAG pmax pmax
comp=Z,27nm,1.2s,mb5.2
HAWA Hanford 57.07 55 PFAKE 02 35 40.0 +16
HAWA LR LR
comp=Z,12nm,20.0s
NEW Newport 57.35 53 *eP* **P 02 35 26.2 0.0**
NEW MLR MLR
comp=Z,333nm,20.0s
KEV Kevo 57.69 341 *ep* **P 02 35 25.6 -2.9**
comp=Z,4.7nm,0.6s,mb4.7
KEV Kevo 57.69 341 *eP* **P 02 35 25.6 -2.9**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BOK Bokaro 57.70 272 *eP* **P 02 35 29.2 +0.6**
BOK AMb AMB 02 35 32.9
comp=Z,43nm,1.5s,mb5.3
YBH Yreka Blue Hor 57.87 62 PFAKE 02 35 40.0 +10
YBH LR LR
comp=Z,146nm,19.0s,MS4.1
ARCES ARCESS Array B 58.20 341 P **P 02 35 30.9 -1.2**
comp=Z,4.4nm,0.7s,mb4.6,baz=27,slow=6.8,SNR=14
ARCES LR LR 03 06 10.8
comp=Z,265nm,19.1s,MS4.4,baz=192,slow=42
ARCES ARCESS Array B 58.20 341 P **P 02 35 30.9 -1.2**
ARCES LR LR 03 06 10.8
WALA Waterton Lakes 58.63 50 *eP* **P 02 35 35.2 +0.2**
comp=Z,19nm,1.3s,mb5.0
WDC Whiskeytown Da 58.65 63 *epP* pP 02 35 46.4 -2.2
BSMT Bassoo Peak 58.87 52 *eP* **P 02 35 38.6 +1.9**
AKTO Aktyubinsk 58.99 312 *i* P **P 02 35 35.9 -1.7**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
SMLA Simla 59.02 284 *eP* **P 02 35 37.9 +0.1**
KTK1 Kautokeino 59.12 341 *eP* **P 02 35 37.8 -0.6**
KTK1 AMb AMB 02 35 39.4
comp=Z,72nm,1.7s,mb5.4
KTK1 Kautokeino 59.12 341 *eP* **P 02 35 37.8 -0.6**
comp=Z,72nm,1.7s,mb5.4
THN Thein Dam 59.18 286 *eP* **P 02 35 38.7 -0.2**
MOD Modoc 59.23 60 *eP* **P 02 35 39.5 +0.3**
MOD LR LR
comp=Z,111nm,20.0s,MS4.0
BMO Blue Mountains 59.23 56 *eP* **P 02 35 41.2 +1.9**
BMO LR LR
comp=Z,201nm,20.0s,MS4.2
BHK Bhakra 59.34 285 *ex* x 02 35 44.8
FUNA Funafuti 59.42 150 PFAKE 02 35 50.0 +9.5
FUNA LR LR
comp=Z,10μm,20.0s
TRO Tromso 59.53 343 *eP* **P 02 35 39.5 -1.8**
TRO AMb AMB 02 35 41.2
comp=Z,64nm,1.6s,mb5.4
TRO Tromso 59.53 343 *eP* **P 02 35 39.5 -1.8**
comp=Z,64nm,1.6s,mb5.4
WVOR Wild Horse Val 59.90 59 PFAKE 02 36 00.0 +16
WVOR LR LR
comp=Z,180nm,21.0s,MS4.2
MSO Missoula 59.94 52 *eP* **P 02 35 43.3 -0.8**
comp=Z,12nm,1.1s,mb4.8
MSO LR LR
comp=Z,140nm,22.0s,MS4.0
OHCM Honcut 60.05 63 *eP* **P 02 35 44.0 -0.8**
NIL Nilore 60.06 289 P **P 02 35 46.9 +1.9**
comp=Z,150nm,0.8s,mb6.1,SNR=5.9
FFC Flin Flon 60.98 40 P **P 02 35 50.4 -0.8**
comp=Z,146nm,0.8s,mb6.2,SNR=7.3
FFC Flin Flon 60.98 40 PFAKE 02 36 00.0 +8.8
FFC LR LR
comp=Z,40nm,19.0s,MS3.6
SUMG Summit 61.05 4 *eP* **P 02 35 50.6 -1.1**
LRM Limekiln Ridge 61.37 53 *eP* **P 02 35 54.4 +0.4**
EGMT Eagleton 61.45 49 PFAKE 02 36 10.0 +16
EGMT LR LR
comp=Z,200nm,22.0s,MS4.2
CMB Columbia Colle 61.52 64 *eP* **P 02 35 54.4 -0.5**
CMB pmax pmax
comp=Z,14nm,1.2s,mb5.0
CMB MLR MLR
comp=Z,181nm,22.0s,MS4.2
CMB Columbia Colle 61.52 64 *eP* **P 02 35 54.4 -0.5**
comp=Z,14nm,1.2s,mb5.0
CMB LR LR
comp=Z,181nm,22.0s,MS4.2
DLMT Dillon 61.58 53 *eP* **P 02 35 53.6 -1.7**
comp=Z,21nm,1.5s,mb5.0
DLMT *epP* pP 02 36 11.5 +2.8
JOF Joensuu 61.67 334 *ep* **P 02 35 54.3 -1.6**
comp=Z,4.8nm,0.6s,mb4.8
HLID Hailey 61.67 56 *eP* **P 02 35 58.6 +2.7**
HLID LR LR
comp=Z,202nm,20.0s,MS4.3
KAKA Kakadu 61.72 203 *eP* **P 02 35 54.3 -2.0**
comp=Z,5.2nm,0.8s,mb4.7
WAKR Walker 61.82 63 *eP* **P 02 35 58.3 +1.4**
LOF Lofoten 61.85 344 *eP* **P 02 35 58.0 +0.8**
LOF AMb AMB 02 35 59.8
comp=Z,113nm,1.5s,mb5.8
LOF Lofoten 61.85 344 *eP* **P 02 35 58.0 +0.8**
comp=Z,113nm,1.5s,mb5.8
BOZ Bozeman (W) 61.93 52 *eP* **P 02 35 57.9 +0.2**
BOZ pmax pmax
comp=Z,16nm,1.1s,mb5.1
BOZ MLR MLR
comp=Z,221nm,19.0s,MS4.3
BOZ Bozeman (W) 61.93 52 *eP* **P 02 35 57.9 +0.3**
comp=Z,16nm,1.1s,mb5.1
BOZ LR LR
comp=Z,221nm,19.0s,MS4.3
BMN Battle Mountai 61.97 60 *eP* **P 02 35 58.0 +0.1**
BMN pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BMN MLR MLR
comp=Z,151nm,20.0s,MS4.2
BMN Battle Mountai 61.97 60 *eP* **P 02 35 58.0 +0.1**
comp=Z,5.8nm,0.8s,mb4.8
BMN LR LR
comp=Z,151nm,20.0s,MS4.2
QLMT Earthquake Lak 62.55 53 *eP* **P 02 36 01.8 0.0**
QLMT *epP* pP 02 36 19.1 +3.8
NVAR Mina Array Bea 62.56 62 P **P 02 36 01.6 -0.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=286,slow=8.8,SNR=16
NVAR pP pP 02 36 13.4 -1.9
comp=Z,2.6nm,0.7s,baz=295,slow=5.6,SNR=11
ELK Elko 62.95 59 PFAKE 02 36 20.0 +16
ELK LR LR
comp=Z,175nm,20.0s,MS4.2
YFT Old Faithful 63.12 53 *eP* **P 02 36 08.0 +2.4**
YFT *epP* pP 02 36 24.6 +5.6
LKWY Lake 63.29 53 PFAKE 02 36 20.0 +13
LKWY LR LR
comp=Z,335nm,19.0s,MS4.5
MOR8 Moi Rana 63.37 343 *eP* **P 02 36 05.0 -2.2**
MOR8 AMb AMB 02 36 07.0
comp=Z,78nm,1.4s,mb5.6
MOR8 Moi Rana 63.37 343 *eP* **P 02 36 05.0 -2.2**
comp=Z,78nm,1.4s,mb5.7
IMW Indian Meadow 63.42 54 *eP* **P 02 36 08.3 +0.8**
comp=Z,10nm,1.1s,mb4.9
FLWY Flagg Ranch 63.43 53 *eP* **P 02 36 09.0 +1.3**
comp=Z,9.2nm,0.9s,mb4.9

TPH Tonopah 63.44 62 PFAKE 02 36 20.0 +12
TPH LR LR
comp=Z,140nm,20.0s,MS4.1
DCID1 Drake Creek 63.48 54 *eP* **P 02 36 14.9 +6.9**
VIS Vishakhapatnam 63.54 268 *eP* **P 02 36 08.8 +0.4**
VIS AMb AMB 02 36 23.7
comp=Z,46nm,1.1s,mb5.4
RRI2 Red Ridge 63.56 54 *eP* **P 02 36 09.3 +0.8**
MOOW Moose Ponds 63.62 54 *eP* **P 02 36 09.5 +0.6**
TPAW Teton Pass 63.67 54 *eP* **P 02 36 10.6 +1.4**
AJM Ajmer 63.68 281 *i P* **P 02 36 10.0 +0.7**
KAF Kangasniemi 63.78 335 *ep* **P 02 36 07.2 -2.7**
comp=Z,26nm,0.8s,mb5.3,baz=37,slow=6.2
KAF Kangasniemi 63.78 335 *eP* **P 02 36 07.2 -2.7**
KAF pmax pmax
comp=Z,26nm,0.8s,mb5.3
LOHW Long Hollow 63.79 54 *eP* **P 02 36 11.1 +1.1**
comp=Z,15nm,1.2s,mb4.9
SNOW Snow King Moun 63.80 54 *eP* **P 02 36 11.5 +1.4**
comp=Z,21nm,1.1s,mb5.1
REDW Red Top Meadow 63.81 54 *eP* **P 02 36 11.2 +1.1**
comp=Z,20nm,1.0s,mb5.1
BHPL Bhopal 63.90 277 *eP* **P 02 36 10.8 0.0**
BHPL AMb AMB 02 36 12.8
comp=Z,79nm,1.7s,mb5.5
DGMT Dagmar 64.02 46 *eP* **P 02 36 11.2 -0.3**
AHID Auburn Hatcher 64.05 55 PFAKE 02 36 20.0 +8.3
AHID LR LR
comp=Z,166nm,19.0s,MS4.2
LAO LASA Array 64.16 49 PFAKE 02 36 20.0 +7.6
LAO LR LR
comp=Z,279nm,19.0s,MS4.5
NGP Nagpur 64.18 274 *eP* **P 02 36 11.1 -1.5**
ISA Isabella 64.20 65 *eP* **P 02 36 13.1 +0.4**
SPUT South Promonto 64.22 57 *eP* **P 02 36 13.2 +0.4**
DAC Darwin (Calif) 64.36 64 *eP* **P 02 36 16.6 +2.9**
DAC *e**PP pP 02 36 25.5 -1.7
DAC pmax pmax
comp=Z,15nm,1.5s,mb4.8
DAC MLR MLR
comp=Z,247nm,22.0s,MS4.3
DAC Darwin (Calif) 64.36 64 *eP* **P 02 36 16.6 +2.9**
comp=Z,15nm,1.5s,mb4.8
DAC *ep*P pP 02 36 25.5 -1.7
DAC LR LR
comp=Z,247nm,22.0s,MS4.3
FINES FINESS Array B 64.38 335 P **P 02 36 12.6 -1.3**
comp=Z,23nm,0.7s,mb5.3,baz=37,slow=7.9,SNR=133
FINES LR LR 03 07 07.3
comp=Z,380nm,19.1s,MS4.6,baz=34,slow=39
FINES FINESS Array B 64.38 335 *i P* **P 02 36 12.8 -1.1**
FINES pmax pmax
comp=Z,23nm,0.7s
HWUT Hardware Ranch 64.54 56 *eP* **P 02 36 15.4 +0.5**
comp=Z,9.2nm,1.0s,mb4.8
HWUT LR LR
comp=Z,192nm,20.0s,MS4.3
DUG Dugway 64.72 58 *eP* **P 02 36 17.9 +1.8**
DUG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
DUG MLR MLR
comp=Z,111nm,19.0s,MS4.1
DUG Dugway 64.72 58 *eP* **P 02 36 17.9 +1.8**
comp=Z,7.6nm,0.9s,mb4.7
DUG LR LR
comp=Z,111nm,19.0s,MS4.1
BW06 Boulder Array 64.92 54 *eP* **P 02 36 17.2 -0.2**
comp=Z,8.0nm,0.9s,mb4.8
BW06 LR LR
comp=Z,193nm,19.0s,MS4.3
PDAR Pinedale Array 64.92 54 P **P 02 36 17.1 -0.2**
comp=Z,6.7nm,1.1s,mb4.6,baz=276,slow=2.1,SNR=15
PDAR pP pP 02 36 30.4 -0.5
comp=Z,6.8nm,0.8s,baz=318,slow=2.0,SNR=11
NSS Namsos 65.31 343 *eP* **P 02 36 17.8 -2.2**
GSC Goldstone 65.47 64 *eP* **P 02 36 22.1 +1.1**
GSC *e**PP pP 02 36 32.1 -2.4
OBN Obninsk 65.62 326 *keP* **P 02 36 21.1 -0.9**
OBN 02 38 44.0
OBN pmax pmax
comp=Z,39nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 65.62 326 *eP* **P 02 36 21.2 -0.7**
OBN LR LR
comp=Z,78nm,20.0s,MS3.9
SHPR Sheep Range 65.71 62 *eP* **P 02 36 23.6 +1.1**
AKL Akola 65.88 275 *eP* **P 02 36 25.1 +1.5**
MVU Marysvale 66.18 59 PFAKE 02 36 40.0 +14
MVU LR LR
comp=Z,227nm,19.0s,MS4.4
VSU Vasula 66.55 333 ⇓*i P* **P 02 36 27.1 -0.8**
ULM Lac du Bonnet 66.76 41 P **P 02 36 27.8 -1.5**
comp=Z,4.1nm,0.7s,mb4.5,baz=324,slow=8.0,SNR=8.6
SRU San Rafael 66.77 57 *eP* **P 02 36 29.0 -0.3**
PFO Pinyon Flat Ob 66.80 65 PFAKE 02 36 40.0 +11
PFO LR LR
comp=Z,31nm,19.0s,MS3.5
RWWY Rawlins 66.94 53 *eP* **P 02 36 31.1 +0.7**
comp=Z,14nm,1.0s,mb5.0
RWWY *ep*P pP 02 36 47.1 +3.2
RSSD Black Hills 67.02 50 *eP* **P 02 36 29.9 -1.0**
RSSD pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RSSD Black Hills 67.02 50 *eP* **P 02 36 29.9 -0.9**
comp=Z,8.4nm,0.9s,mb4.8
HYB Hyderabad 67.05 271 *i P* **P 02 36 31.0 -0.1**
HYB Hyderabad 67.05 271 *eP* **P 02 36 31.0 -0.1**
VRSR Storozhevoye 67.40 322 *eP* **P 02 36 33.0 -0.3**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.3s
WRAB Tennant Creek 68.18 199 *eP* **P 02 36 36.8 -1.4**
WRAB pmax pmax
comp=Z,17nm,1.0s,mb5.0
WRAB Tennant Creek 68.18 199 *eP* **P 02 36 36.8 -1.5**
comp=Z,17nm,1.0s,mb5.0
GLA Glamis 68.19 65 *eP* **P 02 36 43.0 +4.7**
WB2 Warramunga Arr 68.19 199 *eP* **P 02 36 36.5 -1.8**
WRA Warramunga Arr 68.20 199 P **P 02 36 36.9 -1.5**
comp=Z,3.2nm,0.8s,mb4.4,baz=19,slow=6.5,SNR=14
WRA pP pP 02 36 48.7 -3.2
comp=Z,3.9nm,0.7s,baz=18,slow=6.8,SNR=7.0
NB2 NORSAR Subarra 68.57 341 P **P 02 36 40.0 -0.7**
comp=Z,24nm,0.7s,mb5.2,baz=28,slow=6.5
NB2 NORSAR Subarra 68.57 341 P **P 02 36 40.0 -0.7**
NB2 pmax pmax
comp=Z,24nm,0.7s,mb5.2
NOA NORSAR Array B 68.57 341 P **P 02 36 40.0 -0.6**
comp=Z,14nm,0.6s,mb5.1,baz=28,slow=6.4,SNR=132
NOA LR LR 03 13 03.9
comp=Z,274nm,18.1s,MS4.5,baz=35,slow=41
WUAZ Wupatki 68.66 61 *eP* **P 02 36 43.7 +2.4**
WUAZ LR LR
comp=Z,183nm,20.0s,MS4.3
FITZ Fitzroy Crossi 68.86 208 *eP* **P 02 36 42.1 -0.3**
comp=Z,9.4nm,0.6s,mb4.9
ISCO Idaho Springs 69.11 54 *eP* **P 02 36 43.8 -0.2**
ISCO MLR MLR
comp=Z,236nm,19.0s,MS4.5
BORG Borgarnes 69.11 357 *eP* **P 02 36 42.1 -1.9**
MNK Minsk 69.34 329 *eP* **P 02 36 41.0 -4.4**
POO Poona 69.54 276 ⇑*i P* **P 02 36 46.0 -0.6**
comp=Z,40nm,1.0s,mb5.3
KAD Karad 70.14 274 *eP* **P 02 36 50.0 -0.3**
KAD AMb AMB 02 36 52.6
comp=Z,49nm,1.5s,mb5.2
KONO Kongsberg 70.18 341 *deP* **P 02 36 50.4 -0.2**
KONO Kongsberg 70.18 341 PFAKE 02 37 00.0 +9.4
KONO LR LR
comp=Z,323nm,19.0s,MS4.6
SDCO Great Sand Dun 70.59 56 *eP* **P 02 36 53.2 +0.1**
comp=Z,36nm,1.9s,mb5.0
SDCO LR LR
comp=Z,165nm,19.0s,MS4.3
KIV Kislovodsk 71.08 314 ⇓P **P 02 36 57.7 +1.6**
SNR=5.4
KIV Kislovodsk 71.08 314 *ceP* **P 02 36 56.7 +0.7**
KIV pmax pmax
comp=Z,57nm,1.7s,mb5.2
KIV Kislovodsk 71.08 314 *eP* **P 02 36 57.5 +1.4**
KIV LR LR
comp=Z,131nm,19.0s,MS4.2
TUC Tucson 71.20 63 *eP* **P 02 37 00.0 +3.2**
TUC LR LR
comp=Z,116nm,19.0s,MS4.2
SUW Suwalki 71.33 331 *eP* **P 02 36 56.5 -1.1**
SUW L 03 11 40.3
comp=Z,0.3nm,19.7s
ZEI Tsey 71.33 313 *eP* **P 02 36 57.1 -0.5**
ZEI pmax pmax
comp=Z,16nm,0.9s,mb5.0
AKASG Malin Array Be 71.86 326 P **P 02 37 00.1 -0.7**
comp=Z,35nm,0.7s,mb5.4,baz=34,slow=6.1,SNR=141
AKASG pP pP 02 37 12.2 -2.3
comp=Z,11nm,0.6s,baz=33,slow=6.1,SNR=6.1
AKASG LR LR 03 12 49.9
comp=Z,231nm,18.1s,MS4.5,baz=25,slow=39
AKASG Malin Array Be 71.86 326 P **P 02 37 00.1 -0.7**
AKASG *PP pP 02 37 12.2 -2.3
AS31 Alice Springs 71.89 199 *eP* **P 02 37 00.4 -0.5**
ASAR Alice Springs 71.89 199 P **P 02 37 00.7 -0.3**
comp=Z,1.9nm,0.5s,mb4.3,baz=11,slow=5.7,SNR=29
ASAR pP pP 02 37 12.9 -1.7
comp=Z,4.0nm,0.6s,baz=10,slow=5.5,SNR=11
ASAR LR LR 03 08 13.3
comp=Z,157nm,18.4s,MS4.3,baz=3.0,slow=36
ASAR Alice Springs 71.89 199 P **P 02 37 00.7 -0.3**
ASAR *PP pP 02 37 13.0 -1.6
ASPA Alice Springs 71.89 199 *eP* **P 02 37 00.4 -0.6**
ANMO Albuquerque 71.98 58 ⇑*i P* **P 02 37 00.3 -1.2**
ANMO Albuquerque 71.98 58 *eP* **P 02 37 02.0 +0.5**
ANMO LR LR
comp=Z,222nm,20.0s,MS4.4
PALK Pallekele 72.69 262 PFAKE 02 37 20.0 +14
PALK LR LR
comp=Z,44nm,20.0s,MS3.7
GNI Garni 72.79 310 ⇓P **P 02 37 09.2 +2.8**
SNR=9.3
GNI Garni 72.79 310 *ceP* **P 02 37 07.3 +1.0**
GNI pmax pmax
comp=Z,49nm,1.3s
GNI MLR MLR
comp=Z,500nm,16.0s
GNI Garni 72.79 310 *eP* **P 02 37 08.7 +2.4**
GNI LR LR
comp=Z,317nm,19.0s,MS4.6
BSD Bornholm Skovb 72.89 336 *i P* **P 02 37 07.2 +0.3**
comp=Z,51nm,1.2s,mb5.3
BSD Bornholm Skovb 72.89 336 *eP* **P 02 37 07.2 +0.3**
BSD pmax pmax
comp=Z,51nm,1.2s,mb5.3
BSD Bornholm Skovb 72.89 336 *eP* **P 02 37 07.2 +0.3**
comp=Z,51nm,1.2s,mb5.3
ANN Anapa 72.97 318 *eP* **P 02 37 05.4 -2.0**
ANN *eS* S 02 46 31.0 +0.4
ANN pmax pmax
comp=Z,74nm,1.4s,mb5.4
COP Copenhagen 73.06 338 *i P* **P 02 37 07.6 -0.3**
comp=Z,23nm,0.8s,mb5.2
COP Copenhagen 73.06 338 *eP* **P 02 37 07.6 -0.3**
COP pmax pmax
comp=Z,23nm,0.8s,mb5.2
COP Copenhagen 73.06 338 *eP* **P 02 37 07.6 -0.3**
comp=Z,23nm,0.8s,mb5.2
MUD Monsted U'grnd 73.17 340 *i P* **P 02 37 08.6 0.0**
comp=Z,17nm,0.7s,mb5.1
MUD
comp=Z,210nm,19.0s
OBR Brabster 73.54 347 *eP* **P 02 37 09.3 -1.4**
OBR Brabster 73.54 347 *eP* **P 02 37 09.3 -1.4**
SCHQ Schefferville 73.61 23 P **P 02 37 08.9 -2.3**
comp=Z,4.9nm,0.9s,mb4.4,baz=274,slow=5.1,SNR=3.9
SCHQ LR LR 03 10 32.7
comp=Z,131nm,20.3s,MS4.2,baz=341,slow=37
ORE Reay 73.69 348 *eP* **P 02 37 10.4 -1.3**
ORE Reay 73.69 348 *eP* **P 02 37 10.4 -1.3**
SIM Simferopol' 74.36 320 *ceP* **P 02 37 16.9 +1.3**
SIM pmax pmax
comp=Z,33nm,0.9s,mb5.3
SIM MLR MLR
comp=Z,510nm,20.0s,MS4.8
MCD Coleburn Disti 74.54 347 *eP* **P 02 37 16.0 -0.6**
MCD Coleburn Disti 74.54 347 *eP* **P 02 37 16.0 -0.6**
TVAN Van 74.68 310 *i P* **P 02 37 20.3 +2.9**
ERZM Erzurum 74.72 312 *i P* **P 02 37 19.2 +1.5**
MNTX Cornudas Mount 74.90 60 *eP* **P 02 37 18.4 -0.3**
comp=Z,18nm,1.4s,mb4.8
KAC Achnashellach 74.93 348 *eP* **P 02 37 18.2 -0.6**
KAC Achnashellach 74.93 348 *eP* **P 02 37 18.2 -0.6**
KPL Plockton 75.13 348 *eP* **P 02 37 19.2 -0.8**
KPL AMb AMB 02 37 23.3
comp=Z,40nm,1.3s,mb5.2
KPL Plockton 75.13 348 *eP* **P 02 37 19.2 -0.8**
KPL AMb AMB 02 37 23.3
comp=Z,40nm,1.3s,mb5.2
KWP Kalwaria 75.15 329 *eP* **P 02 37 20.6 +0.5**
KWP L 03 13 40.0
comp=Z,0.5nm,18.2s
GDL2 Guadalupe Moun 75.15 59 *eP* **P 02 37 19.9 -0.3**
BSEG Bad Segeberg 75.17 338 *eP* **P 02 37 19.9 -0.3**
comp=Z,26nm,1.0s,mb5.1
BSEG *ep*P pP 02 37 34.3 +0.3
KSB Sheil Bridge 75.23 348 *eP* **P 02 37 19.9 -0.6**
KSB Sheil Bridge 75.23 348 *eP* **P 02 37 19.9 -0.6**
IAS Iasi 75.34 325 P **P 02 37 21.2 0.0**
KAR1 Arisaig 75.56 348 *eP* **P 02 37 21.8 -0.7**
KAR1 Arisaig 75.56 348 *eP* **P 02 37 21.8 -0.7**
KELT Kelkit 75.61 314 *i P* **P 02 37 24.2 +1.5**
OJC Ojcow 75.65 331 *eP* **P 02 37 23.0 0.0**
OJC *eS* S 02 47 03.2 +2.6
OJC L 03 19 52.1
comp=Z,1.3nm,18.4s
STHS Stebnicka Huta 75.84 330 *i P* **P 02 37 24.5 +0.4**
STHS pmax pmax
comp=Z,17nm,1.0s,mb4.9
STHS Stebnicka Huta 75.84 330 *i P* **P 02 37 24.5 +0.4**
comp=Z,17nm,1.0s,mb4.9
KOLS Kolonicke sedl 75.89 329 *eP* **P 02 37 24.4 +0.1**
BURAR Bucovina Array 75.91 327 ⇑*i P* **P 02 37 24.5 +0.1**
BURAR Bucovina Array 75.91 327 ⇑⇑P **P 02 37 24.6 +0.1**
ESY Stoneypath 76.04 346 *eP* **P 02 37 24.6 -0.5**
ESY Stoneypath 76.04 346 *eP* **P 02 37 24.6 -0.5**
EAB Aberfoyle 76.05 347 *eP* **P 02 37 24.2 -1.0**
EAB Aberfoyle 76.05 347 *eP* **P 02 37 24.2 -1.0**
UZH Uzhgorod 76.14 329 ⇓*i P* **P 02 37 25.4 -0.3**
UZH *i* pP 02 37 40.2 +0.7
NIE Niedzica 76.16 330 *eP* **P 02 37 26.3 +0.4**
KSP Ksiaz 76.23 334 *eP* **P 02 37 26.4 +0.1**
KSP L 03 14 22.7
comp=Z,0.8nm,19.3s
KSP Ksiaz 76.23 334 *eP* **P 02 37 26.2 -0.1**
KSP LR LR
comp=Z,900nm,19.3s,MS5.1
EAU Auchinoon 76.24 347 *eP* **P 02 37 25.2 -1.2**
EAU Auchinoon 76.24 347 *eP* **P 02 37 25.2 -1.2**
BEST Besiri 76.28 311 *i P* **P 02 37 30.6 +4.0**
XSO Sourhope Farm 76.39 346 *eP* **P 02 37 26.6 -0.5**
XSO Sourhope Farm 76.39 346 *eP* **P 02 37 26.6 -0.5**
PGBU Glenifferbraes 76.44 347 *eP* **P 02 37 27.0 -0.5**
PGBU AMb AMB 02 37 29.9
comp=Z,31nm,1.2s,mb5.1
PGBU Glenifferbraes 76.44 347 *eP* **P 02 37 27.0 -0.5**
PGBU AMb AMB 02 37 29.9
comp=Z,31nm,1.2s,mb5.1
MSL Mosul 76.51 309 *ex* x 02 37 37.0
OKC Ostrava-Krasne 76.52 332 *eP* **P 02 37 27.6 -0.3**
OKC *ex* x 02 37 42.3
OKC AMS AMS 03 16 50.0
comp=Z,400nm,15.8s
OKC Ostrava-Krasne 76.52 332 *eP* **P 02 37 27.6 -0.3**
OKC *e* pP 02 37 42.3 +0.6
NRDL Niedersach Rie 76.53 338 *eP* **P 02 37 27.5 -0.5**
comp=Z,17nm,0.9s,mb5.0
WMOK Wichita Mounta 76.53 54 *eP* **P 02 37 27.1 -0.9**
DPC Dobruska-Polom 76.66 333 *eP* **P 02 37 29.1 +0.4**
DPC AMS AMS 03 15 30.0
comp=Z,500nm,20.5s
ESK Eskdalemuir 76.71 346 *eP* **P 02 37 27.8 -1.3**
ESK AMb AMB 02 37 31.9
comp=Z,26nm,1.5s,mb4.9
ESK Eskdalemuir 76.71 346 *eP* **P 02 37 27.8 -1.3**
ESK AMb AMB 02 37 31.9
comp=Z,26nm,1.5s,mb4.9
ESK Eskdalemuir 76.71 346 *eP* **P 02 37 30.3 +1.3**
ESK pmax pmax
comp=Z,13nm,1.0s,mb4.8
ESK Eskdalemuir 76.71 346 *eP* **P 02 37 30.3 +1.3**
comp=Z,13nm,1.0s,mb4.8
BOYT Boyabat 76.75 317 *i P* **P 02 37 30.9 +1.7**
VRI Vrincioaia 76.76 325 ⇑*i P* **P 02 37 29.8 +0.5**
VRI Vrincioaia 76.76 325 P **P 02 37 30.1 +0.8**
MORC Moravsky Berou 76.77 332 ⇑*i P* **P 02 37 29.5 +0.2**
MORC Moravsky Berou 76.77 332 P **P 02 37 29.6 +0.3**
CLL Collm 76.80 336 *eP* **P 02 37 28.4 -1.1**
comp=Z,34nm,0.7s,mb5.4
CLL *ep*P pP 02 37 43.7 +0.4
CLL Collm 76.80 336 ⇑*i P* **P 02 37 29.0 -0.5**
comp=Z,34nm,0.7s,mb5.4
CLL *e*PcP PcP 02 37 40.0 -0.6
CLL Collm 76.80 336 ⇑*i P* **P 02 37 29.0 -0.5**
CLL pmax pmax
comp=Z,34nm,0.7s,mb5.4
CLL Collm 76.80 336 ⇑*i P* **P 02 37 29.0 -0.5**
comp=Z,34nm,0.7s,mb5.4
ECK Cauldkaine Hil 76.83 346 *eP* **P 02 37 29.1 -0.5**
ECK Cauldkaine Hil 76.83 346 *eP* **P 02 37 29.1 -0.5**
KECS Kecovo 76.90 330 *i P* **P 02 37 29.9 -0.2**
KECS Kecovo 76.90 330 *i P* **P 02 37 30.0 -0.1**
KECS pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KECS Kecovo 76.90 330 *i P* **P 02 37 30.0 -0.1**
comp=Z,9.3nm,1.0s,mb4.7
BRG Berggiesshubel 76.92 335 *eP* **P 02 37 29.1 -1.1**
comp=Z,11nm,1.1s,mb4.7
BRG Berggiesshubel 76.92 335 *i P* **P 02 37 29.7 -0.4**
comp=Z,6.8nm,1.1s,mb4.5
BRG Berggiesshubel 76.92 335 *i P* **P 02 37 29.7 -0.5**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MARD Mardin 76.97 311 *i P* **P 02 37 30.9 +0.4**
XAL Allendale 76.98 346 *eP* **P 02 37 29.9 -0.6**
XAL Allendale 76.98 346 *eP* **P 02 37 29.9 -0.6**
ELZG Elazig 77.00 313 *i P* **P 02 37 32.4 +1.8**
PVCC Panska Ves 77.04 334 *eP* **P 02 37 31.0 +0.2**
PVCC AMS AMS 03 15 00.0
comp=Z,400nm,19.1s
HATD Hatta, Dubai 77.04 292 ⇑P **P 02 37 32.3 +1.5**
SNR=10
CLZ Clausthal 77.05 337 *eP* **P 02 37 30.7 -0.2**
comp=Z,31nm,0.9s,mb5.2
CLZ Clausthal 77.05 337 *eP* **P 02 37 30.7 -0.2**
CLZ pmax pmax
comp=Z,31nm,0.9s,mb5.2
COCO West Island 77.08 237 PFAKE 02 37 40.0 +8.9
COCO LR LR
comp=Z,330nm,20.0s,MS4.7
WIT Witteveen 77.09 340 *eP* **P 02 37 31.8 +0.6**
HOQ Hoqain 77.16 291 ⇓P **P 02 37 33.1 +1.6**
SNR=8.4
ASHO Ashiyiah 77.19 292 ⇑P **P 02 37 33.0 +1.3**
SNR=11
IBBN Ibbenburen 77.30 339 *eP* **P 02 37 32.0 -0.3**
comp=Z,30nm,0.8s,mb5.3
BALT Daday 77.37 318 *i P* **P 02 37 34.7 +2.0**
MLR Muntele Rosu 77.38 325 ⇑*i P* **P 02 37 33.8 +1.1**
MLR Muntele Rosu 77.38 325 P **P 02 37 34.0 +1.3**
CKE Keswick 77.40 346 *eP* **P 02 37 33.0 +0.2**
CKE Keswick 77.40 346 *eP* **P 02 37 33.0 +0.2**
MALT Malatya 77.42 313 ⇑*i P* **P 02 37 34.8 +1.8**
MALT Malatya 77.42 313 *eP* **P 02 37 35.6 +2.6**
CTKT Corum 77.42 317 *i P* **P 02 37 34.3 +1.3**
VYHS Vyhne 77.45 331 *i P* **P 02 37 33.6 +0.4**
VYHS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VYHS Vyhne 77.45 331 *i P* **P 02 37 33.6 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
VRAC Vranov 77.48 333 ⇑*i P* **P 02 37 33.8 +0.5**
VRAC Vranov 77.48 333 P **P 02 37 33.8 +0.5**
JMDO Jabal Madar 77.50 289 ⇑P **P 02 37 35.1 +1.7**
SNR=6.6
PRU Pruhonice 77.52 334 *eP* **P 02 37 33.4 -0.1**
PRU *ex* x 02 37 43.3
PRU AMS AMS 03 15 30.0
comp=Z,600nm,20.8s
PSZ Piszkesteto 77.59 330 ⇑*eP* **P 02 37 34.5 +0.6**
PSZ Piszkesteto 77.59 330 ⇓*i P* **P 02 37 34.3 +0.4**
PSZ Piszkesteto 77.59 330 P **P 02 37 34.5 +0.5**
TANN Tannenbergstha 77.75 336 *eP* **P 02 37 34.4 -0.4**
comp=Z,3.0nm,0.8s,mb4.3
VOIR 77.78 325 ⇑*i P* **P 02 37 35.6 +0.6**
VOIR 77.78 325 ⇑P **P 02 37 35.6 +0.6**
MOX Moxa 77.79 336 *eP* **P 02 37 35.0 0.0**
comp=Z,22nm,1.1s,mb5.0
MOX Moxa 77.79 336 *eP* **P 02 37 34.8 -0.2**
comp=Z,21nm,1.0s,mb5.0
MOX
comp=Z,200nm,21.0s
MOX Moxa 77.79 336 *eP* **P 02 37 34.8 -0.2**
MOX pmax pmax
comp=Z,21nm,1.0s,mb5.0
MOX MLR MLR
comp=Z,200nm,21.0s,MS4.4
BSY Bisya 77.82 290 ⇑P **P 02 37 36.9 +1.7**
SNR=14
ARQ Araqi 77.84 291 ⇓P **P 02 37 38.7 +3.3**
SNR=6.6
TREC Trest 77.84 333 *eP* **P 02 37 35.3 0.0**
WTSB Winterswijk 77.84 339 *eP* **P 02 37 35.1 -0.2**
comp=Z,34nm,1.0s,mb5.2
SMOL Smolenice 77.91 332 *i P* **P 02 37 36.2 +0.5**
NKC Novy Kostel 77.92 335 *eP* **P 02 37 35.6 -0.2**
NKC *ex* x 02 37 51.1
BHD Baghdad 78.03 306 *ex* x 02 37 30.5
CCM Cathedral Cave 78.04 47 *eP* **P 02 37 34.2 -2.2**
CCM pmax pmax
comp=Z,11nm,0.9s,mb4.8
CCM MLR MLR
comp=Z,133nm,19.0s,MS4.3
CCM Cathedral Cave 78.04 47 *eP* **P 02 37 34.2 -2.3**
comp=Z,11nm,0.9s,mb4.8
CCM LR LR
comp=Z,133nm,19.0s,MS4.3
UBBA Unterbreizbach 78.08 337 *eP* **P 02 37 35.8 -0.8**
comp=Z,7.0nm,0.8s,mb4.6
ATAB Bozova 78.14 312 *i P* **P 02 37 38.6 +1.6**
ELDT Eldivan 78.17 317 *i P* **P 02 37 38.8 +1.6**
GMM Mts of Mourne 78.18 348 *eP* **P 02 37 36.5 -0.7**
GMM Mts of Mourne 78.18 348 *eP* **P 02 37 36.5 -0.7**
BUG Bochum--Univer 78.21 339 *eP* **P 02 37 37.1 -0.3**
comp=Z,24nm,0.9s,mb5.1
BUG *ep*P pP 02 37 51.8 +0.6
MANZ Manzenberg 78.24 336 *eP* **P 02 37 37.6 +0.1**
comp=Z,18nm,1.1s,mb4.9
BUD Budapest 78.26 330 ⇑*eP* **P 02 37 38.3 +0.6**
AAM Ann Arbor 78.28 39 PFAKE 02 37 50.0 +12
AAM LR LR
comp=Z,195nm,22.0s,MS4.4
ZST Bratislava 78.29 332 *eP* **P 02 37 38.6 +0.8**
ZST pmax pmax
comp=Z,22nm,1.0s,mb5.0
ZST MLR MLR
comp=Z,300nm,18.9s,MS4.6
ZST Bratislava 78.29 332 *eP* **P 02 37 38.6 +0.8**
comp=Z,22nm,1.0s,mb5.0
ZST LR LR
comp=Z,300nm,18.9s,MS4.6
KBI1 Birley Grange 78.40 345 *eP* **P 02 37 37.3 -1.1**
KBI1 Birley Grange 78.40 345 *eP* **P 02 37 37.3 -1.1**
CDAG Cicekdag 78.41 316 *i P* **P 02 37 38.9 +0.4**
ROTZ Rotzenmuhle 78.41 335 *eP* **P 02 37 38.6 +0.1**
comp=Z,19nm,1.0s,mb5.0
PKSG 78.56 331 *eP* **P 02 37 40.1 +0.8**
KHC Kasperske Hory 78.57 334 *eP* **P 02 37 39.5 +0.1**
KHC *ex* x 02 37 50.5
KHC AMS AMS 03 16 00.0
comp=Z,600nm,17.7s
GZT Gaziantep 78.60 313 *i P* **P 02 37 42.0 +2.5**
STKA Stephens Creek 78.61 190 P **P 02 37 40.7 +1.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=345,slow=6.7,SNR=2.9
STKA LR LR 03 12 47.8
comp=Z,114nm,19.9s,MS4.2,baz=25,slow=36
STKA Stephens Creek 78.61 190 P **P 02 37 40.7 +1.1**
STKA LR LR 03 12 47.8
BR131 Keskin Array S 78.67 317 PFAKE 02 37 50.0 +10
BR131 LR LR
comp=Z,262nm,19.0s,MS4.6
BRTR Keskin Array B 78.67 317 P **P 02 37 40.9 +0.9**
comp=Z,12nm,1.0s,mb4.8,baz=90,slow=3.7,SNR=22
BRTR PP PP 02 40 36.8 -1.6
comp=Z,1.1nm,0.8s,baz=52,slow=8.0,SNR=3.8
BRTR LR LR 03 18 13.7

comp=Z,185nm,19.5s,MS4.4,baz=235,slow=40
BRTR Keskin Array B 78.67 317 P **P 02 37 40.9 +1.0**
BRTR 02 40 36.8
KWE Weaver Farm 78.69 345 *e*P **P 02 37 39.3 -0.7**
KWE Weaver Farm 78.69 345 *e*P **P 02 37 39.3 -0.7**
GZR Gura Zlata 78.69 327⇓*i*P **P 02 37 40.2 +0.2**
GZR Gura Zlata 78.69 327 P **P 02 37 40.5 +0.5**
SGKT Sivrigoynuk 78.74 318 *i* P **P 02 37 41.4 +1.1**
GRA1 Grafenberg Arr 78.76 336 *e*P **P 02 37 40.7 +0.3**
comp=Z,46nm,0.9s,mb5.4
GRA1 *e*pP pP 02 37 55.1 +0.9
GRA1 LR LR
comp=Z,200nm,18.2s,MS4.5
GRF Grafenberg Arr 78.76 336 *e*P **P 02 37 40.7 +0.3**
comp=Z,46nm,0.9s,mb5.4
GRF *e*pP pP 02 37 55.1 +0.9
GRF *e*L 03 15 55.2
comp=Z,232nm,18.2s
GRF Grafenberg Arr 78.76 336 *e*P **P 02 37 40.7 +0.3**
GRF *e**PP pP 02 37 55.1 +0.9
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,18.2s,MS4.5
GRF Grafenberg Arr 78.76 336 *e*P **P 02 37 40.7 +0.3**
GRF *e**PP pP 02 37 55.1 +0.9
GRF pmax pmax
comp=Z,46nm,0.9s,mb5.4
GRF MLR MLR
comp=Z,200nm,18.2s,MS4.5
WET Wettzell 78.77 335 *e*P **P 02 37 40.5 0.0**
comp=Z,23nm,0.9s,mb5.1
WET *e*pP pP 02 37 54.6 +0.3
WET Wettzell 78.77 335 *e*P **P 02 37 40.5 0.0**
WET *e**PP pP 02 37 54.6 +0.3
WET pmax pmax
comp=Z,23nm,0.9s,mb5.1
GEC2 GERESS Array S 78.79 334 *e*P **P 02 37 40.6 0.0**
comp=Z,10.0nm,0.9s,mb4.8
GEC2 *e*pP pP 02 37 54.1 -0.3
GEC2 GERESS Array S 78.79 334 *e*P **P 02 37 40.6 0.0**
GEC2 *e**PP pP 02 37 54.1 -0.3
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array S 78.79 334 P **P 02 37 40.2 -0.3**
comp=Z,7.3nm,0.8s,mb4.7,baz=38,slow=5.0,SNR=32
GERES LR LR 03 16 09.0
comp=Z,388nm,18.2s,MS4.8,baz=243,slow=38
UMR Umm Al-Rimmam 78.84 301 *e*P **P 02 37 41.9 +1.0**
UMR AMb AMB 02 37 43.3
comp=Z,70nm,0.6s,mb5.8
MIB Mutribah 78.88 302 *e*P **P 02 37 42.0 +0.9**
MIB AMb AMB 02 37 44.3
comp=Z,114nm,0.8s,mb5.9
SOP Sopron 78.92 332⇑*e*P **P 02 37 42.0 +0.7**
CONA Conrad Observa 78.93 332⇑*i*P **P 02 37 41.9 +0.6**
comp=Z,21nm,1.3s,mb4.9,SNR=9.3
BZS Buzias 78.93 328⇓*i*P **P 02 37 41.0 -0.4**
BZS Buzias 78.93 328 P **P 02 37 41.4 +0.1**
ANTO Ankara 78.96 317⇑*i*P **P 02 37 42.6 +1.1**
ANTO Ankara 78.96 317 P **P 02 37 43.0 +1.5**
ANTO LR LR
comp=Z,192nm,19.0s,MS4.5
TNS Taunus Mts 79.03 338 *e*P **P 02 37 41.5 -0.4**
comp=Z,25nm,0.8s,mb5.2
TNS *e*pP pP 02 37 56.5 +0.8
TNS Taunus Mts 79.03 338 *e*P **P 02 37 41.5 -0.4**
TNS *e**PP pP 02 37 56.5 +0.8
TNS pmax pmax
comp=Z,25nm,0.8s,mb5.2
SBD1 Bryn Du 79.04 346 *e*P **P 02 37 42.0 +0.1**
SBD1 Bryn Du 79.04 346 *e*P **P 02 37 42.0 +0.1**
JCT Junction City 79.08 57 PFAKE 02 37 50.0 +7.8
JCT LR LR
comp=Z,163nm,19.0s,MS4.4
HGN Heimansgroeve 79.17 340 *e*P **P 02 37 42.4 -0.2**
comp=Z,36nm,1.0s,mb5.3
DLF Lyons Farm 79.18 348⇑*i*P **P 02 37 42.3 -0.4**
BEBN Eben Emael 79.20 340 P **P 02 37 43.1 +0.3**
DCN Croghan 79.24 348⇑*i*P **P 02 37 42.7 -0.3**
MEM Membach 79.29 339 P **P 02 37 43.4 +0.1**
QRN Al-Qurain 79.31 300 *e*P **P 02 37 44.5 +1.1**
QRN AMb AMB 02 37 46.0
comp=Z,67nm,0.6s,mb5.7
HLM1 Long Mynd 79.35 345 *e*P **P 02 37 43.2 -0.4**
HLM1 Long Mynd 79.35 345 *e*P **P 02 37 43.2 -0.4**
RDF Al-Radifah 79.40 301 *e*P **P 02 37 45.1 +1.2**
RDF AMb AMB 02 37 46.6
comp=Z,98nm,1.0s,mb5.7
PKSM Moragy 79.49 330⇑*i*P **P 02 37 43.6 -0.8**
PKSM Moragy 79.49 330 P **P 02 37 43.7 -0.7**
TOD Tromm 79.50 337 *e*P **P 02 37 44.3 -0.1**
MOA Molln 79.50 333⇑*i*P **P 02 37 44.6 +0.1**
comp=Z,24nm,1.4s,mb4.9,SNR=11
ABH Alteburg 79.58 338 *e*P **P 02 37 44.8 -0.1**
ARSA Arzberg 79.63 332⇑*i*P **P 02 37 45.3 +0.2**
comp=Z,32nm,1.4s,mb5.0,SNR=5.8
ARSA Arzberg 79.63 332⇑*i*P **P 02 37 45.3 +0.2**
comp=Z,32nm,1.4s,mb5.1
BCLA Clavier 79.64 340 P **P 02 37 45.0 -0.2**
SSW Stow on the Wo 79.69 345 *e*P **P 02 37 45.4 -0.1**
SSW Stow on the Wo 79.69 345 *e*P **P 02 37 45.4 -0.1**
SNF Seneffe 79.79 340 P **P 02 37 47.6 +1.6**
HTR Trewern Hill 79.84 345 *e*P **P 02 37 46.1 -0.2**
HTR Trewern Hill 79.84 345 *e*P **P 02 37 46.1 -0.2**
MCH1 Michaelchurch 79.87 345 *e*P **P 02 37 45.8 -0.7**
MCH1 *e*P 02 37 45.8
MCH1 AMb AMB 02 37 49.1
comp=Z,24nm,1.3s,mb5.0
MCH1 Michaelchurch 79.87 345 *e*P **P 02 37 45.8 -0.7**
MCH1 *e*P 02 37 45.8
MCH1 AMb AMB 02 37 49.1
comp=Z,24nm,1.3s,mb5.0
GIVF Givet 80.05 340 *e*P **P 02 37 47.2 -0.2**
DOU Dourbes 80.11 340 P **P 02 37 47.7 0.0**
SWN1 Swindon 80.11 344 *e*P **P 02 37 47.8 0.0**
SWN1 Swindon 80.11 344 *e*P **P 02 37 47.8 0.0**
FUR Furstenfeldbru 80.12 335 *e*P **P 02 37 47.9 +0.1**
comp=Z,26nm,0.9s,mb5.2
FUR Furstenfeldbru 80.12 335 *e*P **P 02 37 47.9 +0.1**
FUR pmax pmax
comp=Z,26nm,0.9s,mb5.2
WLF Walferdange 80.13 339 *e*P **P 02 37 48.1 +0.2**
comp=Z,21nm,1.6s,mb4.8
ESKT Eskisehir 80.14 318 *i* P **P 02 37 47.7 -0.2**
STU Stuttgart 80.16 337 *e*P **P 02 37 48.0 0.0**
comp=Z,26nm,0.9s,mb5.2
STU Stuttgart 80.16 337 *e*P **P 02 37 48.4 +0.4**
HGH Gray Hill 80.18 345 *e*P **P 02 37 47.4 -0.7**
HGH Gray Hill 80.18 345 *e*P **P 02 37 47.4 -0.7**
BAIF Baives 80.23 340⇑*i*P **P 02 37 48.3 -0.1**
comp=Z,54nm,1.2s,mb5.0
BAIF Baives 80.23 340⇑*i*P **P 02 37 48.3 -0.1**
BAIF pmax pmax
comp=Z,27nm,1.2s,mb5.0
BAIF Baives 80.23 340⇑*i*P **P 02 37 48.3 -0.1**
comp=Z,27nm,1.2s,mb5.0
ACSO Alum Creek Sta 80.25 40 PFAKE 02 38 00.0 +11
ACSO LR LR
comp=Z,170nm,20.0s,MS4.4
PERS Pernice 80.31 332 *i* P **P 02 37 48.6 -0.2**
PERS *e* pP 02 38 02.9 +0.2
PERS *e* 02 38 22.4
WCI Wyandotte Cave 80.33 43 PFAKE 02 38 00.0 +11
WCI LR LR
comp=Z,228nm,19.0s,MS4.5
LANF Langenberg 80.34 338 *e*P **P 02 37 48.6 -0.4**
KBA Koelnbreinsper 80.47 333⇑*i*P **P 02 37 50.2 +0.5**
comp=Z,53nm,1.0s,mb5.4,SNR=36
KBA Koelnbreinsper 80.47 333⇑*i*P **P 02 37 50.2 +0.5**
KBA pmax pmax
comp=Z,53nm,1.0s,mb5.4
DOBS Dobrina 80.62 332 *e*P **P 02 37 51.0 +0.5**
TAOE Nuku Hiva Isla 80.77 113 *e*LR LR 03 02 20.5
comp=Z,857nm,27.8s
WATA Walderalm 80.78 335⇑*i*P **P 02 37 51.8 +0.5**
comp=Z,27nm,1.0s,mb5.1,SNR=15
WATA Walderalm 80.78 335⇑*i*P **P 02 37 51.8 +0.5**
WATA pmax pmax
comp=Z,27nm,1.0s,mb5.1
BFO Black Forest 80.79 337 *e*P **P 02 37 50.7 -0.7**
comp=Z,24nm,1.1s,mb5.0
BFO *e*pP pP 02 38 06.3 +1.0
BFO Black Forest 80.79 337 *e*P **P 02 37 50.7 -0.7**
BFO pmax pmax
comp=Z,24nm,1.1s,mb5.0
WTTA Wattenberg 80.83 335 *i* P **P 02 37 52.2 +0.7**
comp=Z,56nm,1.2s,mb5.3,SNR=37
WTTA Wattenberg 80.83 335 *i* P **P 02 37 52.2 +0.6**
WTTA pmax pmax
comp=Z,56nm,1.2s,mb5.4
VTS Vitosha 80.88 325 *e*P **P 02 37 52.1 +0.2**
VTS Vitosha 80.88 325⇑*i*P **P 02 37 52.1 +0.2**
VTS Vitosha 80.88 325 *e*P **P 02 37 52.2 +0.3**
VTS Vitosha 80.88 325 P **P 02 37 52.3 +0.4**
HEX Exmoor 80.90 346 *e*P **P 02 37 51.7 -0.3**
HEX Exmoor 80.90 346 *e*P **P 02 37 51.7 -0.3**
MEST Erdemli 80.91 315 *i* P **P 02 37 52.6 +0.6**
MOTA Moosalm 80.91 335⇑*i*P **P 02 37 52.5 +0.5**
comp=Z,30nm,1.0s,mb5.2,SNR=20
MOTA Moosalm 80.91 335⇑*i*P **P 02 37 52.5 +0.5**
MOTA pmax pmax
comp=Z,31nm,1.0s,mb5.2
WLS Welschbruch 80.98 338 *e*P **P 02 37 52.3 -0.1**
SQTA Sankt Quirin 80.99 335⇑*i*P **P 02 37 53.0 +0.5**
comp=Z,21nm,1.0s,mb5.0,SNR=12
SQTA Sankt Quirin 80.99 335⇑*i*P **P 02 37 53.0 +0.5**
SQTA pmax pmax
comp=Z,21nm,1.0s,mb5.0
CDF Champ du Feu 81.00 338⇑*i*P **P 02 37 52.6 +0.1**
comp=Z,90nm,1.2s,mb5.3
CDF Champ du Feu 81.00 338⇑*i*P **P 02 37 52.6 +0.1**
CDF pmax pmax
comp=Z,45nm,1.2s,mb5.3
CDF Champ du Feu 81.00 338⇑*i*P **P 02 37 52.6 +0.1**
comp=Z,45nm,1.2s,mb5.3
RZN Rozhen 81.03 324 *e*P **P 02 37 53.0 +0.3**
NATX Nacogdoches 81.04 53 PFAKE 02 38 00.0 +7.3
NATX LR LR
comp=Z,104nm,19.0s,MS4.2
GDZ Gediz 81.11 319 *i* P **P 02 37 53.4 +0.3**
VISS Visnje 81.13 332 *e*P **P 02 37 53.0 -0.2**
ALN Alexandroupoli 81.14 322 *e*P **P 02 37 53.4 +0.1**
ECH Echery 81.21 338 *e*P **P 02 37 53.7 +0.1**
WVT Waverly 81.25 46 PFAKE 02 38 10.0 +16
WVT LR LR
comp=Z,164nm,19.0s,MS4.4
BOJS Bojanci 81.26 332 *i* P **P 02 37 52.3 -1.6**
FELD Feldberg im Sc 81.30 337 *e*P **P 02 37 53.9 -0.2**
DAVA Damuels 81.31 336⇑*i*P **P 02 37 54.5 +0.3**
comp=Z,44nm,2.2s,mb5.0
MEZF Maizieres J'vi 81.48 339⇑*i*P **P 02 37 55.2 +0.1**
comp=Z,45nm,0.9s,mb5.1
MEZF Maizieres J'vi 81.48 339⇑*i*P **P 02 37 55.2 +0.1**
comp=Z,45nm,0.9s,mb5.4
THEF They Montfort 81.50 339 *e*P **P 02 37 55.0 -0.2**
MMB Musomiste 81.52 324 *e*P **P 02 37 55.4 +0.1**
MMB Musomiste 81.52 324 *e*P **P 02 37 55.7 +0.4**
DYA Yadsworthy 81.53 345 *e*P **P 02 37 54.8 -0.6**
DYA Yadsworthy 81.53 345 *e*P **P 02 37 54.8 -0.6**
KKB Krupnik 81.54 325 *e*P **P 02 37 55.7 +0.3**
MOF Molkemain 81.55 338 *e*P **P 02 37 55.2 -0.2**
BINY Binghamton 81.56 35 PFAKE 02 38 10.0 +15
BINY LR LR
comp=Z,337nm,19.0s,MS4.7
TKTP Tekketepe 81.58 318 *i* P **P 02 37 55.8 +0.2**
HAU Haudompre 81.61 338⇑*i*P **P 02 37 55.6 -0.2**
comp=Z,57nm,1.2s,mb5.1
HAU *e*R
comp=Z,369nm,18.0s
HAU Haudompre 81.61 338⇑*i*P **P 02 37 55.6 -0.2**
HAU pmax pmax
comp=Z,28nm,1.2s,mb5.1
HAU MLR MLR
comp=Z,370nm,18.0s,MS4.8
HAU Haudompre 81.61 338⇑*i*P **P 02 37 55.6 -0.2**
comp=Z,28nm,1.2s,mb5.1
HAU LR LR
comp=Z,370nm,18.0s,MS4.8
HINF Hinteralfeld 81.66 338⇑*i*P **P 02 37 55.8 -0.2**
comp=Z,22nm,1.0s,mb4.7
HINF Hinteralfeld 81.66 338⇑*i*P **P 02 37 55.8 -0.2**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.7
HINF Hinteralfeld 81.66 338⇑*i*P **P 02 37 55.8 -0.2**
comp=Z,11nm,1.0s,mb4.7
OXF Oxford 81.72 48 PFAKE 02 38 10.0 +14
OXF LR LR
comp=Z,172nm,20.0s,MS4.4
PPT Papeete 81.92 126 *e*LR LR 03 02 53.3
comp=Z,420nm,25.0s
PPT Papeete 81.92 126 LR LR 03 05 15.3
comp=Z,229nm,21.9s,MS4.5,baz=310,slow=29
SRS Serrai 81.97 324 *e*P **P 02 37 57.1 -0.5**
PLAL Pickwick Lake 82.03 47 PFAKE 02 38 10.0 +12
PLAL LR LR
comp=Z,206nm,20.0s,MS4.5
AKHS Akhisar 82.03 320 *i* P **P 02 37 57.2 -0.8**
STIP Stip 82.05 325 *e*P **P 02 37 56.5 -1.6**
LOMF Lomont 82.09 338 *e*P **P 02 37 58.1 -0.2**
SKO Skopje 82.10 326 *e*P **P 02 37 58.9 +0.5**
AYVA Ayvalik 82.17 321 *i* P **P 02 37 58.8 +0.1**
VAY Valandovo 82.21 325 *e*P **P 02 37 56.9 -2.0**
VAY Valandovo 82.21 325 *i* P **P 02 37 58.5 -0.4**
KNT Kendrikon 82.21 324 *e*P **P 02 37 59.2 +0.3**
LOS Limnos 82.34 322 *e*P **P 02 37 59.7 +0.1**
OUR Ouranopolis 82.47 323 *e*P **P 02 38 00.1 -0.2**
FLN La Foliniere 82.48 343⇑*i*P **P 02 38 00.0 -0.3**
comp=Z,43nm,1.0s,mb5.0
FLN *e*R
comp=Z,239nm,19.2s
FLN La Foliniere 82.48 343⇑*i*P **P 02 38 00.0 -0.3**
FLN pmax pmax
comp=Z,21nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,240nm,19.3s,MS4.6
FLN La Foliniere 82.48 343⇑*i*P **P 02 38 00.0 -0.3**
comp=Z,21nm,1.0s,mb5.0
FLN LR LR
comp=Z,240nm,19.3s,MS4.6
LDF La Druitiere 82.57 342⇑*i*P **P 02 38 00.5 -0.3**
comp=Z,45nm,1.1s,mb5.1
LDF La Druitiere 82.57 342⇑*i*P **P 02 38 00.5 -0.3**
LDF pmax pmax
comp=Z,22nm,1.1s,mb5.1
LDF La Druitiere 82.57 342⇑*i*P **P 02 38 00.5 -0.3**
comp=Z,22nm,1.1s,mb5.1
GRG Griva 82.59 325 *e*P **P 02 38 00.9 0.0**
HORT Hortiatis 82.61 324 *e*P **P 02 38 00.7 -0.3**
THE Thessaloniki 82.63 324 *e*P **P 02 38 01.1 0.0**
KDAG Bornova 82.67 320 *i* P **P 02 38 01.2 -0.1**
BLCB Balcova 82.78 320 *e*P **P 02 38 02.0 +0.1**
SWET Sewanee 82.91 45 *e*P **P 02 38 01.5 -1.0**
GRR Gorron 82.92 343⇑*i*P **P 02 38 02.5 -0.1**
comp=Z,102nm,1.2s,mb5.4
GRR Gorron 82.92 343⇑*i*P **P 02 38 02.5 -0.1**
GRR pmax pmax
comp=Z,51nm,1.2s,mb5.4
GRR Gorron 82.92 343⇑*i*P **P 02 38 02.5 -0.1**
comp=Z,51nm,1.2s,mb5.4
LOR Lormes 82.92 340⇑*i*P **P 02 38 02.5 -0.1**
comp=Z,114nm,1.3s,mb5.4
LOR *e*R
comp=Z,311nm,21.8s
LOR Lormes 82.92 340⇑*i*P **P 02 38 02.5 -0.1**
LOR pmax pmax
comp=Z,57nm,1.3s,mb5.4
LOR MLR MLR
comp=Z,310nm,21.8s,MS4.6
LOR Lormes 82.92 340⇑*i*P **P 02 38 02.5 -0.1**
comp=Z,57nm,1.3s,mb5.4
LOR LR LR
comp=Z,310nm,21.8s,MS4.6
BIA Bitola 82.96 325 *e*P **P 02 37 59.1 -3.7**
CABF La Chapelle 82.97 338⇑*i*P **P 02 38 03.3 +0.4**
comp=Z,25nm,0.9s,mb4.9
CABF La Chapelle 82.97 338⇑*i*P **P 02 38 03.3 +0.4**
CABF pmax pmax
comp=Z,13nm,0.9s,mb5.0
CABF La Chapelle 82.97 338⇑*i*P **P 02 38 03.3 +0.4**
comp=Z,12nm,0.9s,mb4.9
TZTN Tazewell 82.98 43 *e*P **P 02 38 02.3 -0.7**
URLA Izmir 83.00 321 *i* P **P 02 38 05.6 +2.6**
AYDN Tasoluk 83.00 319 *i* P **P 02 38 04.3 +1.3**
FNA Florina 83.14 325 *e*P **P 02 38 03.5 -0.3**
WES Weston 83.16 32 PFAKE 02 38 20.0 +16
WES LR LR
comp=Z,434nm,20.0s,MS4.8
SSF Saint Saulge 83.20 340⇑*i*P **P 02 38 04.0 0.0**
comp=Z,33nm,1.0s,mb5.0
SSF Saint Saulge 83.20 340⇑*i*P **P 02 38 04.0 0.0**
SSF pmax pmax
comp=Z,17nm,1.0s,mb5.0
SSF Saint Saulge 83.20 340⇑*i*P **P 02 38 04.0 0.0**
comp=Z,17nm,1.0s,mb5.0
HYF Humbligny 83.21 340⇑*i*P **P 02 38 04.5 +0.4**
SGMF Saint Gilles 83.38 344⇑*i*P **P 02 38 04.9 -0.1**
comp=Z,135nm,1.4s,mb5.5
SGMF Saint Gilles 83.38 344⇑*i*P **P 02 38 04.9 -0.1**
SGMF pmax pmax
comp=Z,68nm,1.4s,mb5.5
SGMF Saint Gilles 83.38 344⇑*i*P **P 02 38 04.9 -0.1**
comp=Z,68nm,1.4s,mb5.5
ROSF Rostrenen 83.43 344 *e*P **P 02 38 05.2 -0.1**
comp=Z,62nm,1.0s,mb5.3
ROSF Rostrenen 83.43 344 *e*P **P 02 38 05.2 -0.1**
ROSF pmax pmax
comp=Z,31nm,1.0s,mb5.3
ROSF Rostrenen 83.43 344 *e*P **P 02 38 05.2 -0.1**
comp=Z,31nm,1.0s,mb5.3
AVF Avril sur Loir 83.49 340⇑*i*P **P 02 38 05.7 +0.2**
comp=Z,90nm,1.1s,mb5.4
AVF Avril sur Loir 83.49 340⇑*i*P **P 02 38 05.7 +0.2**
AVF pmax pmax
comp=Z,45nm,1.1s,mb5.4
AVF Avril sur Loir 83.49 340⇑*i*P **P 02 38 05.7 +0.2**
comp=Z,45nm,1.1s,mb5.4
SMF Signal de Mont 83.51 339⇑*i*P **P 02 38 05.8 +0.2**
comp=Z,157nm,1.2s,mb5.7
SMF Signal de Mont 83.51 339⇑*i*P **P 02 38 05.8 +0.2**
SMF pmax pmax
comp=Z,79nm,1.2s,mb5.7
SMF Signal de Mont 83.51 339⇑*i*P **P 02 38 05.8 +0.2**
comp=Z,79nm,1.2s,mb5.7
XOR Xorichti 83.61 323 *e*P **P 02 38 07.5 +1.4**
RSL Roselend 83.68 337 *e*P **P 02 38 07.4 +0.9**
BDRM Kayabasi 83.69 319 *i* P **P 02 38 06.6 0.0**
LPL La Plagne 83.81 337⇑*i*P **P 02 38 08.2 +1.0**
comp=Z,31nm,1.0s,mb5.1
LPL La Plagne 83.81 337⇑*i*P **P 02 38 08.2 +1.0**
LPL pmax pmax
comp=Z,15nm,1.0s,mb5.1
LPL La Plagne 83.81 337⇑*i*P **P 02 38 08.2 +1.0**
comp=Z,15nm,1.0s,mb5.1
QUIF Quistinic 83.82 344 *e*P **P 02 38 06.9 -0.3**
comp=Z,59nm,1.3s,mb5.2
QUIF Quistinic 83.82 344 *e*P **P 02 38 06.9 -0.3**
QUIF pmax pmax
comp=Z,29nm,1.3s,mb5.2
QUIF Quistinic 83.82 344 *e*P **P 02 38 06.9 -0.3**
comp=Z,29nm,1.3s,mb5.2
LPG La Plagne 83.82 337⇑*i*P **P 02 38 08.4 +1.2**
comp=Z,62nm,1.2s,mb5.3
LPG La Plagne 83.82 337⇑*i*P **P 02 38 08.4 +1.2**
LPG pmax pmax
comp=Z,31nm,1.2s,mb5.3
LPG La Plagne 83.82 337⇑*i*P **P 02 38 08.4 +1.2**
comp=Z,31nm,1.2s,mb5.3
BGF Bois d'Agland 83.83 340⇑*i*P **P 02 38 07.4 +0.1**
comp=Z,24nm,0.9s,mb5.0
BGF Bois d'Agland 83.83 340⇑*i*P **P 02 38 07.4 +0.1**
BGF pmax pmax
comp=Z,12nm,0.9s,mb5.0
BGF Bois d'Agland 83.83 340⇑*i*P **P 02 38 07.4 +0.1**
comp=Z,12nm,0.9s,mb5.0
BLA Blacksburg 83.87 40 PFAKE 02 38 20.0 +13
BLA LR LR
comp=Z,11nm,20.0s
PLDF La Plantade 84.19 339 *e*P **P 02 38 10.1 +1.0**
TCF Toulx Ste Croi 84.23 340⇑*i*P **P 02 38 09.6 +0.3**
comp=Z,27nm,0.9s,mb5.1
TCF Toulx Ste Croi 84.23 340⇑*i*P **P 02 38 09.6 +0.3**
TCF pmax pmax
comp=Z,14nm,0.9s,mb5.1
TCF Toulx Ste Croi 84.23 340⇑*i*P **P 02 38 09.6 +0.3**
comp=Z,14nm,0.9s,mb5.1
AGO Saint Agoulin 84.23 340 *e*P **P 02 38 10.4 +1.1**
BNI Bardonecchia 84.25 337 *e*P **P 02 38 12.3 +2.9**
CBN Corbin 84.37 38 PFAKE 02 38 20.0 +10
CBN LR LR
comp=Z,256nm,19.0s,MS4.6
MFF Saint Martin d 84.47 342⇑*i*P **P 02 38 10.6 +0.1**
comp=Z,18nm,0.8s,mb4.9
MFF Saint Martin d 84.47 342⇑*i*P **P 02 38 10.6 +0.1**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MFF Saint Martin d 84.47 342⇑*i*P **P 02 38 10.6 +0.1**
comp=Z,9.1nm,0.8s,mb5.0
MBDF Montbardon 84.53 337 *e*P **P 02 38 11.6 +0.8**
ORIF Oris-en-Rattie 84.59 337⇑*i*P **P 02 38 12.0 +0.8**
comp=Z,36nm,0.9s,mb5.2
ORIF *e*R
comp=Z,211nm,18.2s
ORIF Oris-en-Rattie 84.59 337⇑*i*P **P 02 38 12.0 +0.8**
ORIF pmax pmax
comp=Z,18nm,0.9s,mb5.2
ORIF Oris-en-Rattie 84.59 337⇑*i*P **P 02 38 12.0 +0.8**
comp=Z,18nm,0.9s,mb5.2
VIVF Saint-Julien-l 84.97 338⇑*i*P **P 02 38 13.7 +0.7**
comp=Z,42nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.97 338⇑*i*P **P 02 38 13.7 +0.7**
VIVF pmax pmax
comp=Z,21nm,1.0s,mb5.2
VIVF Saint-Julien-l 84.97 338⇑*i*P **P 02 38 13.7 +0.7**
comp=Z,21nm,1.0s,mb5.2
SBF Sospel 85.14 336 *e*P **P 02 38 13.8 -0.1**
comp=Z,109nm,1.2s,mb5.6
SBF Sospel 85.14 336 *e*P **P 02 38 13.8 -0.1**
SBF pmax pmax
comp=Z,54nm,1.2s,mb5.5
SBF Sospel 85.14 336 *e*P **P 02 38 13.8 -0.1**
comp=Z,54nm,1.2s,mb5.6
SMRF Simiane la Rot 85.55 337 *e*P **P 02 38 16.8 +0.9**
comp=Z,208nm,1.7s,mb5.8
SMRF Simiane la Rot 85.55 337 *e*P **P 02 38 16.8 +0.9**
comp=Z,208nm,1.7s,mb6.1
CAF Calviac 85.55 340 *e*P **P 02 38 16.1 +0.2**
comp=Z,27nm,1.0s,mb5.1
CAF Calviac 85.55 340 *e*P **P 02 38 16.1 +0.2**
CAF pmax pmax
comp=Z,14nm,1.0s,mb5.2
CAF Calviac 85.55 340 *e*P **P 02 38 16.1 +0.2**
comp=Z,14nm,1.0s,mb5.1
FRF La Foret Royal 85.64 336 *e*P **P 02 38 16.5 +0.1**
comp=Z,161nm,1.6s,mb5.7
FRF La Foret Royal 85.64 336 *e*P **P 02 38 16.5 +0.1**
FRF pmax pmax
comp=Z,81nm,1.6s,mb5.7
FRF La Foret Royal 85.64 336 *e*P **P 02 38 16.5 +0.1**
comp=Z,80nm,1.6s,mb5.7
ZKR Zakros 85.86 319 *e*P **P 02 38 17.2 -0.3**
LMR La Mourre 85.89 336 *e*P **P 02 38 17.8 +0.2**
comp=Z,151nm,1.4s,mb5.7
LMR La Mourre 85.89 336 *e*P **P 02 38 17.8 +0.2**
LMR pmax pmax
comp=Z,75nm,1.4s,mb5.7
LMR La Mourre 85.89 336 *e*P **P 02 38 17.8 +0.2**
comp=Z,75nm,1.4s,mb5.7
LASF Ste Croix 85.91 338 *e*P **P 02 38 17.6 -0.1**
LAST Lasithi 86.15 319 *e*P **P 02 38 18.1 -0.8**
SIVA Sivas 86.57 320 *e*P **P 02 38 20.9 -0.1**
TBI Tubuai 86.64 129 *e*LR LR 03 05 04.8
comp=Z,296nm,35.0s
KARN Karanos 86.64 321 *e*P **P 02 38 22.0 +0.6**
MTLF Montolieu 87.01 339 *e*P **P 02 38 22.7 -0.4**
comp=Z,70nm,1.5s,mb5.4
MTLF Montolieu 87.01 339 *e*P **P 02 38 22.7 -0.4**
MTLF pmax pmax
comp=Z,35nm,1.5s,mb5.4
MTLF Montolieu 87.01 339 *e*P **P 02 38 22.7 -0.4**
comp=Z,35nm,1.5s,mb5.4
EPF Esparros 87.75 340 *e*P **P 02 38 27.0 +0.3**
SJPF Ste Jean 88.02 342 *e*P **P 02 38 28.8 +0.8**
ETSF Etsaut 88.08 341 *e*P **P 02 38 29.0 +0.8**
comp=Z,26nm,1.1s,mb5.1
ETSF Etsaut 88.08 341 *e*P **P 02 38 29.0 +0.8**
ETSF pmax pmax
comp=Z,13nm,1.1s,mb5.1
ETSF Etsaut 88.08 341 *e*P **P 02 38 29.0 +0.8**
comp=Z,13nm,1.1s,mb5.1
ESDC Sonseca Array 91.90 343 P **P 02 38 45.2 -0.9**
comp=Z,1.8nm,0.9s,mb4.4,baz=15,slow=4.6,SNR=7.4
ESDC LR LR 03 28 08.1
comp=Z,192nm,18.3s,MS4.6,baz=100,slow=41
ESLA Sonseca Array 91.90 343 PFAKE 02 39 00.0 +14

ESLA				LR	LR				
	comp=Z,2μm,19.0s								
KEST	**Kesra**	**92.00**	**331**	LR	LR	03 24 58.8			
	comp=Z,94nm,18.0s,MS4.3,baz=282,slow=39								
RKT	**Rikitea**	**94.78**	**119**	*e*LR	LR	03 08 50.1			
	comp=Z,304nm,34.0s,baz=322								
JTS	**JuntasAbangare**	**103.39**	**59**	PFAKE		02 39 50.0	+12		
JTS				LR	LR				
	comp=Z,55nm,19.0s,MS4.1								
KMBO	**Kilima Mbogo**	**108.46**	**289**	PFAKE		02 44 20.0	+14		
KMBO				LR	LR				
	comp=Z,192nm,19.0s,MS4.7								
TORD	**Torodi Ar. Bea**	**115.42**	**329**	PKP	PKPdf	02 44 18.8	-0.5		
	comp=Z,0.8nm,0.7s,baz=25,slow=2.1,SNR=10								
TORD				pPKP	pPKPdf	02 44 30.1	-3.9		
	comp=Z,0.6nm,0.6s,baz=7.9,slow=2.4,SNR=3.7								
TORD				PP	PP	02 45 14.8	-6.2		
	comp=Z,1.1nm,0.8s,baz=16,slow=7.5,SNR=4.2								
TORD	**Torodi Ar. Bea**	**115.42**	**329**	PKP	PKPdf	02 44 18.8	-0.5		
TORD				pPKP	pPKPdf	02 44 30.1	-3.9		
TORD				PP	PP	02 45 14.8	-6.2		
CASY	**Casey**	**117.01**	**198**	PFAKE		02 44 30.0	+7.6		
CASY				LR	LR				
	comp=Z,553nm,21.0s,MS5.2								
DBIC	**Dimbokro**	**123.66**	**333**	PKP	PKPdf	02 44 34.9	-0.3		
	comp=Z,6.0nm,1.0s,baz=33,slow=2.9,SNR=3.6								
DBIC				pPKP	pPKPdf	02 44 46.0	-3.7		
	comp=Z,2.1nm,0.6s,baz=358,slow=6.2,SNR=1.9								
DBIC	**Dimbokro**	**123.66**	**333**	PKP	PKPdf	02 44 34.9	-0.3		
DBIC				pPKP	pPKPdf	02 44 46.0	-3.7		
DBIC				LR	LR				
	comp=Z,281nm,22.0s,MS4.9								
VNDA	**Vanda**	**123.76**	**178**	PKP	PKPdf	02 44 33.4	-2.0		
	comp=Z,0.4nm,0.4s,baz=116,slow=19,SNR=4.2								
VNDA	**Vanda**	**123.76**	**178**	PKP	PKPdf	02 44 33.4	-2.0		
VNDA				LR	LR				
	comp=Z,156nm,19.0s,MS4.7								
LSZ	**Lusaka**	**124.89**	**285**	PFAKE		02 44 50.0	+12		
LSZ				LR	LR				
	comp=Z,203nm,20.0s,MS4.8								
LPAZ	**La Paz**	**134.46**	**63**	PKP	PKPdf	02 44 57.1	+1.4		
	comp=Z,1.4nm,0.8s,baz=135,slow=6.2,SNR=4.2								
QSPA	**South Pole Qui**	**136.14**	**180**	*e*P	PKPdf	02 44 59.8	+1.0		
BDFB	**Brasilia**	**144.59**	**37**	PKP	PKPdf	02 45 12.6	-1.5		
	comp=Z,11nm,1.0s,baz=118,slow=1.1,SNR=9.6								
PLCA	**Paso Flores**	**148.13**	**96**	PKPbc	PKPbc	02 45 22.2	-1.2		
	comp=Z,6.7nm,0.8s,baz=275,slow=2.0,SNR=13								
PLCA				pPKPbc	pPKPbc	02 45 33.8	-4.1		
	comp=Z,12nm,1.0s,baz=284,slow=2.1,SNR=6.6								
CPUP	**Villa Florida**	**148.60**	**61**	PKPbc	PKPbc	02 45 23.7	-0.8		
	comp=Z,5.2nm,0.6s,baz=298,slow=2.1,SNR=20								
CPUP				pPKPbc	pPKPbc	02 45 35.4	-3.6		
	comp=Z,9.0nm,0.7s,baz=311,slow=3.3,SNR=8.5								
NVL	**N'lazarevskaya**	**149.33**	**204**	i*P*KIKP	PKPdf	02 45 16.8	-5.2		
NVL				pmax	pmax				
	comp=Z,17nm,1.3s								
NVL				pmax	pmax				
	comp=N,10.0nm,1.1s								
NVL				pmax	pmax				
	comp=E,6.0nm,1.2s								
SNAA	**Sanae**	**152.23**	**196**	PKPbc	PKPbc	02 45 30.5	-2.7		
	comp=E,1.6nm,0.9s,baz=186,slow=4.3,SNR=26								
SNAA				pPKPbc	pPKPbc	02 45 42.0	-5.8		
	comp=E,2.3nm,0.8s,baz=198,slow=5.4,SNR=9.4								
SNAA	**Sanae**	**152.23**	**196**	*e*PKPdf	PKPdf	02 45 30.7	+4.2		
SNAA				*e*		02 45 32.8			
SNAA				*e*		02 45 36.7			
SNAA				*e*		02 45 42.2			
SNAA				*e*		02 45 52.0			
SNAA				*e*		02 46 05.4			
SNAA	**Sanae**	**152.23**	**196**	PKIKP	PKPdf	02 45 30.5	+4.0		
SNAA						02 45 42.0			
SNAA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
PMSA	**Palmer Station**	**152.67**	**146**	PFAKE		02 45 40.0	+13		
PMSA				LR	LR				
	comp=Z,175nm,20.0s,MS4.9								
VNA3	**Neumayer Olymp**	**153.76**	**192**	*e*PKPdf	PKPdf	02 45 34.2	+5.5		
VNA3				*e*		02 45 36.2			
VNA3				*e*		02 45 42.3			
VNA3				*e*		02 45 47.2			
VNA3				*e*		02 45 52.7			
VNA3				*e*		02 45 59.1			
VNA3				*e*		02 46 09.8			
VNA3				*e*		02 46 14.6			
VNA1	**Neumayer--Stat**	**154.06**	**194**	*e*PKPdf	PKPdf	02 45 36.0	+6.8		
VNA1				*e*		02 45 41.3			
VNA1				*e*		02 45 46.4			
VNA1				*e*		02 45 52.4			
VNA1				*e*		02 45 54.8			
VNA1				*e*		02 46 00.9			
VNA1				*e*		02 46 10.3			
VNA1				*e*		02 46 15.2			

INMG ***26*** *02:54:02.8±1.1, 36.35N×768W, h31km±16km, ML1.4, Error ellipse: s-maj=11.3km s-min=5.3km az=30.0*

MDD 26 02:54:02.9±1.9, 3639N×765W, h39km±31km, mbLg1.9/5, Error ellipse: s-maj=20.9km s-min=7.9km az=26.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**1.15**	**7**	P	Pn	02 54 22.1	-0.4
	0.3nm,0.1s,SNR=6.5						
EGRO				S	Sn	02 54 35.1	-1.8
	5.4nm,0.1s,SNR=5.6						
PTEO	**Sao Teotonio**	**1.44**	**324**	*e*P	Pn	02 54 25.3	-1.1
PTEO				*e*S	Sn	02 54 42.4	-1.6
PTEO							
	2.1nm,0.1s						
ESPR	**Espera**	**1.52**	**71**	P	Pn	02 54 27.0	-0.6
	1.5nm,0.1s,SNR=7.9						
ESPR				S	Sn	02 54 44.4	-1.8
	3.9nm,0.2s,SNR=4.7						
EMIN	**Mina Concepcio**	**1.58**	**29**	P	Pn	02 54 27.6	-0.8
	0.0nm,0.0s,SNR=4.0						
EMIN				S	Sn	02 54 45.5	-2.1
	0.8nm,0.1s,SNR=7.2						
PBEJ	**Beja**	**1.64**	**354**	*e*P	Pn	02 54 28.7	-0.5
PBEJ				*e*S	Sn	02 54 47.6	-1.5
PBEJ							
	1.8nm,0.1s						
EBAD	**Badajoz**	**2.41**	**12**	P	Pn	02 54 40.0	+0.2
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	02 55 05.8	-2.3
	1.2nm,0.1s,SNR=5.6						
PESTR	**Estremoz**	**2.47**	**1**	*e*Pn	Pn	02 54 40.0	-0.6
PESTR				*e*Sn	Sn	02 55 08.1	-1.5
PESTR							
	1.6nm,0.1s						
EADA	**Adamuz**	**3.02**	**53**	P	Pn	02 54 48.0	-0.3
	0.2nm,0.1s,SNR=7.9						
EADA				S	Sn	02 55 20.1	-3.2
	1.1nm,0.1s,SNR=6.0						
PTOM	**Tomar**	**3.27**	**350**	*e*Pn	Pn	02 54 51.3	-0.4
PTOM				*e*Sn	Sn	02 55 27.1	-2.3
PCBR	**Castelo Branco**	**3.44**	**2**	*e*Pn	Pn	02 54 53.6	-0.4
PCBR				*e*Sn	Sn	02 55 31.2	-2.4
PCBR							
	1.1nm,0.1s						
EQUE	**Quentar**	**3.48**	**75**	S	Sn	02 55 31.6	-2.7
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.92**	**68**	P	Pn	02 55 00.6	0.0
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	02 55 42.1	-3.3
	0.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**4.00**	**1**	*e*Sn	Sn	02 55 44.7	-2.6
ETOB	**Tobarra**	**5.35**	**63**	S	Sn	02 56 15.7	-4.8
	0.3nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.58**	**7**	S	Sn	02 56 23.6	-2.8
	0.5nm,0.2s,SNR=7.9						

ISCJB ***26*** *03:04:30.4±6.2, 72S±03×1285E±02, h71km±63km, mb4.1/2, Error ellipse: s-maj=42.4km s-min=40.1km az=12.0*

IDC ***26*** *03:04:33.6±5.2, 726S×12877E, h95km±46km, mb4.0/2, mb1 4.0/5, mb1mx3.7/15, mbtmp4.2/5, Error ellipse: s-maj=61.4km s-min=31.3km az=76.0*

NEIC ***26*** *03:04:33.6±3.7, 727S×12861E, h97km±32km, Error ellipse: s-maj=38.2km s-min=25.6km az=222.0*

ISC 26 03:04:32.2±4.2, 72S±02×1286E±02, h69km±41km, n11, σ0°48/9, mb4.1/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.19**	**195**	P	Pn	**03 07 09.3**	**+0.1**
	2.8nm,0.3s,baz=27,slow=10,SNR=15						
FITZ				S	Sx	03 09 06.4	
	3.7nm,0.3s,baz=131,slow=22,SNR=10						
WRAB	**Tennant Creek**	**13.82**	**157**	*e*Pn	Pn	**03 07 45.4**	**+0.5**
	20nm,0.6s						
WRAB				*e*Sn	Sx	03 10 06.8	
WRA	**Warramunga Arr**	**13.83**	**157**	P	Pn	**03 07 43.8**	**-1.0**
	0.8nm,0.3s,baz=336,slow=13,SNR=8.9						
WRA				S	Sx	03 10 06.9	
	2.1nm,0.3s,baz=332,slow=22,SNR=10.0						
WB2	**Warramunga Arr**	**13.83**	**157**	*e*Pn	Pn	**03 07 45.0**	**+0.1**
WB2				*e*Sn	Sx	03 10 06.6	
ASAR	**Alice Springs**	**17.14**	**163**	P	Pn	**03 08 27.5**	**+0.5**
	0.6nm,0.3s,baz=343,slow=11,SNR=17						
ASAR				S	Sx	03 11 29.8	
	0.4nm,0.3s,baz=329,slow=16,SNR=4.2						
NWAO	**Narrogin (SRO)**	**27.67**	**201**	P	P	**03 10 13.3**	**-0.2**
	3.6nm,0.3s,mb4.4,baz=46,slow=10,SNR=4.4						
NWAO	**Narrogin (SRO)**	**27.67**	**201**	P	P	**03 10 13.3**	**-0.2**
MKAR	**Makanchi Array**	**67.64**	**328**	P	P	**03 15 21.8**	**0.0**
	0.9nm,0.7s,mb3.7,baz=127,slow=8.1,SNR=7.6						
MKAR	**Makanchi Array**	**67.64**	**328**	P	P	**03 15 21.8**	**0.0**
TORD	**Torodi Ar. Bea**	**127.47**	**281**	PKP	PKPdf	03 23 27.2	-1.9
	0.4nm,0.6s,baz=69,slow=2.5,SNR=6.0						
CPUP	**Villa Florida**	**146.16**	**170**	PKPbc	PKPbc	03 24 02.6	-1.9
	0.5nm,0.4s,baz=213,slow=12,SNR=3.5						

ISCJB ***26*** *03:23:32.7±1.5, 130S±02×1675E±03, h0km, mb4.0/7, MS3.2/1, Error ellipse: s-maj=37.8km s-min=28.1km az=43.2*

IDC ***26*** *03:23:33.6±1.5, 1291S×16759E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/13, mbtmp3.9/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=63.6km s-min=25.9km az=138.0*

NEIC ***26*** *03:23:39.0±0.6, 1295S×16755E, h35km, mb4.3/1, Error ellipse: s-maj=23.6km s-min=15.3km az=138.0*

ISC 26 03:23:33.8±1.5, 130S±02×1676E±03, h0km, n16, σ0°48/7, mb4.0/7, MS3.2/1, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.41**	**228**	P	P	**03 29 48.6**	**+0.9**
	1.2nm,0.4s,mb4.1,baz=51,slow=9.9,SNR=6.7						
WRA	**Warramunga Arr**	**32.63**	**253**	P	P	**03 30 06.9**	**-0.3**
	0.8nm,0.7s,mb3.7,baz=84,slow=8.9,SNR=3.7						
ASAR	**Alice Springs**	**33.66**	**247**	P	P	**03 30 15.8**	**-0.3**
	0.5nm,0.3s,mb3.9,baz=73,slow=9.6,SNR=15						
GUMO	**Guam**	**34.73**	**319**	LR	LR	03 41 28.1	
	comp=Z,47nm,20.8s,MS3.2,baz=233,slow=31						
FITZ	**Fitzroy Crossi**	**40.72**	**257**	P	P	**03 31 16.0**	**-0.2**
	1.5nm,0.9s,mb3.7,baz=80,slow=11,SNR=3.8						
QSPA	**South Pole Qui**	**77.04**	**180**	*e*P	P	**03 35 28.3**	**-0.3**
	3.5nm,1.0s,mb4.4						
SONM	**Songino Array**	**81.31**	**323**	P	P	**03 35 52.6**	**+0.6**
	0.4nm,0.7s,mb3.6,baz=136,slow=6.6,SNR=3.9						
MKAR	**Makanchi Array**	**96.13**	**316**	P	P	**03 37 03.4**	**-0.3**
	0.8nm,0.6s,mb4.4,baz=87,slow=7.1,SNR=6.1						
ARCES	**ARCESS Array B**	**118.66**	**346**	PKP	PKPdf	03 42 21.8	-2.0
	1.0nm,0.3s,baz=82,slow=2.1,SNR=29						
ARCES	**ARCESS Array B**	**118.66**	**346**	PKP	PKPdf	03 42 21.8	-2.0
NB2	**NORSAR Subarra**	**129.03**	**345**	PKPd	PKPdf	03 42 42.3	-1.3
	comp=Z,3.9nm,1.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.03**	**345**	PKP	PKPdf	03 42 42.9	-0.7
	comp=Z,0.6nm,0.7s,baz=31,slow=1.9,SNR=4.4						
NOA	**NORSAR Array B**	**129.03**	**345**	PKP	PKPdf	03 42 42.9	-0.7
BDFB	**Brasilia**	**134.70**	**128**	PKP	PKPdf	03 42 56.0	+1.7
	comp=Z,0.9nm,0.4s,baz=20,slow=20,SNR=3.0						
KEST	**Kesra**	**150.07**	**323**	PKPbc	PKPbc	03 43 25.8	-0.6
	comp=Z,1.8nm,0.9s,baz=79,slow=5.0,SNR=4.5						
ESDC	**Sonseca Array**	**152.40**	**346**	PKPbc	PKPbc	03 43 31.8	0.0
	comp=Z,0.9nm,0.7s,baz=3.6,slow=4.5,SNR=4.6						

IDC 26 03:35:21.1±3.6, 102N×9755E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=149.4km s-min=23.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.65**	**122**	P	P	03 43 11.2	+0.1
	0.4nm,0.7s,baz=300,slow=9.7,SNR=3.0						
ASAR	**Alice Springs**	**43.01**	**127**	P	P	03 43 22.8	+0.6
	0.3nm,0.5s,baz=300,slow=7.7,SNR=5.7						
SONM	**Songino Array**	**47.26**	**8**	P	P	03 43 56.7	+0.7
	0.4nm,0.5s,baz=197,slow=8.8,SNR=3.5						
MKAR	**Makanchi Array**	**47.50**	**346**	P	P	03 43 57.9	0.0
	0.7nm,0.5s,baz=156,slow=8.9,SNR=8.1						
ZAL	**Zalesovo**	**53.78**	**351**	P	P	03 44 44.6	-0.8
	2.1nm,0.5s,baz=306,slow=8.0,SNR=5.7						

ISCJB ***26*** *03:35:34.6±0.6, 680N×007×7297W±009, h174km±6km, mb3.6/8, Error ellipse: s-maj=16.1km s-min=8.1km az=61.0*

IDC ***26*** *03:35:35.1±0.7, 678N×7296W, h164km±6km, mb3.4/8, mb1 3.6/11, mb1mx3.4/24, mbtmp3.9/11, MS2.8/1, Ms1 2.8/1, ms1mx2.3/22, Error ellipse: s-maj=15.6km s-min=7.4km az=128.0*

NEIC ***26*** *03:35:35.6±0.6, 681N×7298W, h170km±6km, mb4.1/1, Error ellipse: s-maj=10.8km s-min=7.1km az=101.0*

ISC 26 03:35:35.8±0.6, 683N±007×7299W±009, h166km±6km, n23, σ0°57/16, mb3.6/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.37**	**214**	P	Pn	**03 36 16.2**	**+0.1**
	91nm,0.3s,baz=308,slow=4.0,SNR=204						
ROSC				S	Sn	**03 36 46.9**	**-0.3**
	162nm,0.3s,baz=82,slow=19,SNR=9.3						
SDV	**Santo Domingo**	**3.11**	**49**	P	Pn	**03 36 26.0**	**+0.9**
	36nm,0.3s,baz=247,slow=5.4,SNR=132						
SDV				S	Sn	**03 37 03.3**	**0.0**
	77nm,0.3s,baz=71,slow=23,SNR=33						
PCRV	**Puerto La Cruz**	**8.91**	**67**	LR	LR	03 40 27.5	
	comp=Z,54nm,19.6s,baz=276,slow=33						
SJG	**San Juan**	**13.05**	**30**	P	Pn	**03 38 34.4**	**-0.6**
	1.9nm,0.3s,baz=196,slow=21,SNR=5.3						
CPD	**Cerro la Pandu**	**13.11**	**31**	*e*Pn	Pn	**03 38 35.1**	**-0.6**
SAML	**Samuel**	**18.47**	**148**	*e*P	P	**03 39 38.9**	**-0.1**
	2.9nm,0.3s						
LPAZ	**La Paz**	**23.46**	**168**	P	P	**03 40 31.0**	**+0.7**
	1.1nm,0.8s,mb3.3,baz=339,slow=16,SNR=7.3						
SIV	**San Ignacio**	**25.56**	**153**	P	P	**03 40 48.2**	**-1.0**
	1.1nm,0.8s,mb3.5,baz=338,slow=11,SNR=8.5						
BDFB	**Brasilia**	**33.32**	**132**	P	P	**03 41 58.7**	**+0.8**
	2.6nm,0.6s,mb4.2,baz=286,slow=11,SNR=5.1						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	P	**03 43 52.5**	**-0.3**
	1.4nm,0.7s,mb3.7,baz=88,slow=6.8,SNR=4.6						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	P	**03 43 52.5**	**-0.3**
PDAR	**Pinedale Array**	**48.15**	**324**	P	P	**03 43 59.6**	**+0.5**
	0.2nm,0.3s,mb3.2,baz=104,slow=6.6,SNR=3.6						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	P	**03 45 47.4**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=134,slow=6.4,SNR=4.1						
DBIC	**Dimbokro**	**67.61**	**86**	P	P	**03 46 14.5**	**-0.1**
	0.9nm,0.4s,mb3.9,baz=163,slow=16,SNR=7.7						
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	P	**03 46 50.4**	**-0.5**
	0.2nm,0.3s,mb3.3,baz=284,slow=6.4,SNR=9.0						
MKAR	**Makanchi Array**	**122.28**	**20**	PKP	PKPdf	03 54 10.9	-0.1
	0.2nm,0.4s,baz=291,slow=2.7,SNR=4.2						
AS31	**Alice Springs**	**149.22**	**234**	*e*P	PKPbc	03 55 04.8	+0.1
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPbc	03 55 04.6	-0.1
	2.6nm,0.7s,baz=121,slow=3.6,SNR=34						
ASPA	**Alice Springs**	**149.22**	**234**	*e*P	PKPbc	03 55 04.8	+0.1
WB2	**Warramunga Arr**	**150.44**	**241**	*e*P	PKPbc	03 55 07.8	+0.2
WB2	**Warramunga Arr**	**150.44**	**241**	*e*PKPbc	PKPbc	03 55 07.7	+0.1
WB2				*e*PP	PP	03 58 42.6	-2.1
WRAB	**Tennant Creek**	**150.44**	**241**	*e*PKPbc	PKPbc	03 55 07.7	+0.1
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	PKPbc	03 55 07.8	+0.1
	2.0nm,0.5s,baz=109,slow=2.5,SNR=24						

NEIC ***26*** *03:42:44.3, 2761S×6755W, h150km, mb3.7/1, After GUC.*

GUC 26 03:42:44.3±0.7, 2761S×6755W, h150km, ML4.0, 2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDCH	**Caldera**	**2.96**	**280**	i*P*	Pn	03 43 31.6	+0.4
	comp=N,124nm,0.3s						
VACH	**Vallenar**	**2.99**	**251**	*e*P	Pn	03 43 36.2	+4.6
VACH				*i* S	Sn	03 44 12.3	+4.2
VACH				AML	AML	03 44 15.2	
	comp=E,715nm,0.1s						
VACH	**Vallenar**	**2.99**	**251**	*e*P	Pn	03 43 36.2	+4.6
VACH				*i* S	Sn	03 44 12.3	+4.2
TLL	**Tololo Astrono**	**3.83**	**227**	i*P*	Pn	03 43 43.9	+1.7
TLL				*e*S	Sn	03 44 29.3	+2.1
ZON	**Zonda**	**4.04**	**194**	*i* S	Sn	03 44 33.0	+0.7
CMCH	**Combarbala**	**4.66**	**219**	*i* P	Pn	03 43 53.9	+0.7
CMCH				*i* S	Sn	03 44 47.1	+0.4
LVC	**Limon Verde**	**5.13**	**346**	*e*Pn	Pn	03 44 01.9	+2.6
	comp=E,2.0nm,0.4s						
LVC				*e*Sn	Sn	03 44 58.6	+0.7

MOS ***26*** *03:42:56.6±1.6, 5137N×16003E, h41km, mb4.1/1, Error ellipse: s-maj=34.7km s-min=11.7km az=92.8*

KRSC 26 03:42:56, 5137N×16003E, h41km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.42**	**319**	*e*P	Pn	03 43 21.0	+1.7
RUS				*i* S	Sn	03 43 37.7	+0.9
GRL	**Gorelyy**	**1.69**	**315**	*e*P	Pn	03 43 25.7	+2.6
GRL				*i* S	Sn	03 43 47.2	+3.7
SPN	**Mys Shipunski**	**1.73**	**360**	*e*P	Pn	03 43 25.9	+2.3
SPN				*i* S	Sn	03 43 46.8	+2.4
NLC	**Nalytchevo**	**1.85**	**347**	*e*P	Pn	03 43 27.8	+2.6
PET	**Petropavlovsk**	**1.86**	**333**	*e*PN	Pn	03 43 27.7	+2.3
PET				*e*S	Sn	03 43 50.5	+2.9
PET				pmax	pmax		
	comp=Z,254nm,0.6s						
PET				smax			
	comp=E,894nm,0.7s						
PET				smax			
	comp=N,1μm,0.5s						
PET	**Petropavlovsk**	**1.86**	**333**	*e*P	Pn	03 43 27.7	+2.3
PET				*i* S	Sn	03 43 50.6	+3.0
SMAR	**Somma**	**2.04**	**339**	*e*P	Pn	03 43 31.5	+3.7
SMAR				*i* S	Sn	03 43 58.0	+5.9
AVH	**Avacha**	**2.06**	**338**	*e*P	Pn	03 43 32.0	+4.0
MIPR	**Malaya Ipel'ka**	**2.22**	**295**	*e*P	Pn	03 43 33.5	+3.2
MIPR				*i* S	Sn	03 44 00.2	+3.6
SKR	**Severo-Kuril's**	**2.56**	**256**	*e*PN	Pn	03 43 34.5	-0.5
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
GNL	**Ganaly**	**2.66**	**332**	*e*P	Pn	03 43 39.6	+3.3
GNL				*i* S	Sn	03 44 11.5	+4.3
KII	**Karymskiy**	**2.69**	**353**	*e*P	Pn	03 43 41.8	+5.0
MKZ	**Mys Kozlova**	**3.35**	**17**	*e*P	Pn	03 43 48.0	+2.1
MKZ				*i* S	Sn	03 44 24.8	+0.4
KMNR	**Kamenistaya**	**4.40**	**2**	*e*P	Pn	03 44 05.4	+5.2
ZLN	**Zelenaya**	**4.68**	**5**	*e*P	Pn	03 44 08.5	+4.4
ZLN				*i* S	Sn	03 45 02.0	+4.9
KBTR	**Krutoberegovo**	**5.12**	**18**	*e*P	Pn	03 44 13.5	+3.4
KBTR				*i* S	Sn	03 45 10.3	+2.3
BDR	**Baidarnaya**	**5.25**	**7**	P	Pn	03 44 16.0	+4.0
SMKR	**Semkarok**	**5.29**	**9**	*e*P	Pn	03 44 16.8	+4.3

NIED ***26*** *03:54:00, 4540N×15180E, h11km, Mw4.0 Best double couple: M0 1.09000×10^15 NP1:φ=247.00000°, δ84.00000°, λ82.00000°. NP2:φ=123.00000°, δ10.00000°, λ146.00000°.*

ISCJB ***26*** *03:55:00.3±1.6, 445N±0.1×1516E±0.1, h107km±16km, mb3.9/4, Error ellipse: s-maj=26.0km s-min=12.8km az=125.8*

IDC ***26*** *03:55:04.2±9.9, 4670N×15035E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.7/20, mbtmp4.0/5, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/32, Error ellipse: s-maj=222.6km s-min=40.1km az=136.0*

ISC 26 03:55:01.1±1.4, 446N±02×1517E±01, h102km±15km, n20, σ0°78/28, mb3.9/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**4.46**	**257**	P	Pn	**03 56 05.4**	**-1.1**
NEM2				*e*S	Sn	**03 56 56.3**	**-1.0**
JRA	**Rausu**	**4.76**	**265**	P	Pn	**03 56 10.6**	**-0.1**
JNK	**Nakash**	**5.12**	**262**	P	Pn	**03 56 15.6**	**+0.1**
JAK	**Akkeshi**	**5.30**	**255**	P	Pn	**03 56 17.1**	**-0.8**
JAK				*e*S	Sn	**03 57 16.9**	**-0.9**
JAR	**Ashorobuto**	**5.86**	**260**	P	Pn	**03 56 26.1**	**+0.6**
JAR				*e*S	Sn	**03 57 32.8**	**+1.4**
JOB	**Onbets**	**5.93**	**257**	P	Pn	**03 56 26.5**	**0.0**
JOB				*e*S	Sn	**03 57 33.6**	**+0.6**
JCH	**Churui**	**6.36**	**255**	P	Pn	**03 56 31.7**	**-0.5**
JCH				*e*S	Sn	**03 57 43.2**	**-0.2**
ASAJ	**Asahikawa**	**6.54**	**269**	Pn	Pn	**03 56 35.0**	**+0.2**
	1.1nm,0.3s,baz=37,slow=16,SNR=4.5						
ASAJ				LR	LR	03 59 18.6	
	comp=Z,84nm,19.5s,baz=4.3,slow=42						
JEM	**Erimo**	**6.73**	**251**	P	Pn	**03 56 36.9**	**-0.4**
JEM				*e*S	Sn	**03 57 54.2**	**+1.8**
JNBK	**Urakawa-nobuka**

mb4.7(NEIC)
*ISCJB **26** 04:04:24.3±0.3,2975N×003×8051E×002,h52km±3km, mb4.5/35,MS3.7/9,Error ellipse: s-maj=5.2km s-min=2.8km az=48.0*
*IDC **26** 04:04:28.8±9.5,2982N×8060E,h74km±85km,mb4.0/17, mb1 4.1/17,mb1mx4.0/23,mbtmp4.3/17, MS3.7/7, Ms1 3.7/7,ms1mx3.4/28,Error ellipse: s-maj=30.1km s-min=15.3km az=22.0*

ISC 26 04:04:26.0±0.3,2977N±003×8051E±002,h48km±3km, n147,σ1§14/174,mb4.5/35,MS3.7/9,7C-10D,Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LGTI	**Lohaghat**	**0.40**	**216**	*e*P		**Pn**	**04 04 34.5**	**-1.4**
LGTI				*e*SB		**Sn**	**04 04 42.0**	**-0.9**
DDI	**Dehra Dun**	**2.20**	**285**	*e*P		**Pn**	**04 05 03.2**	**+3.1**
DDI				*e*S		**Sn**	**04 05 31.2**	**+5.1**
KLP	**Kalpa**	**2.62**	**313**	*e*P		**Pn**	**04 05 07.3**	**+1.4**
KLP				*e*S		**Sn**	**04 05 37.5**	**+1.0**
KLP				AML		AML	04 05 47.2	
	comp=E,5μm,0.5s							
KLP				AML		AML	04 05 47.9	
	comp=N,4μm,0.3s							
NDI	**New Delhi**	**3.08**	**250**	*e*P		**Pn**	**04 05 13.0**	**+0.9**
NDI				*e*S		**Sn**	**04 05 49.0**	**+1.4**
SMLA	**Simla**	**3.19**	**296**	*e*P		**Pn**	**04 05 15.1**	**+1.5**
SMLA				*e*S		**Sn**	**04 05 51.5**	**+1.1**
SMLA				AML		AML	04 06 05.8	
	comp=N,3μm,0.7s							
SMLA				AML		AML	04 06 08.0	
	comp=E,3μm,0.5s							
KKR	**Kurukshetra**	**3.21**	**274**	*e*P		**Pn**	**04 05 14.6**	**+0.7**
AYAN	**Aya Nagar**	**3.23**	**247**	*e*P		**Pn**	**04 05 15.1**	**+0.9**
KOLN	**Koldanda**	**3.36**	**126**	*e*Pn		**Pn**	**04 05 16.8**	**+0.8**
KOLN	**Koldanda**	**3.36**	**126**	*e*Pg		**Pn**	**04 05 27.8**	**+12**
KOLN				*e*Sn		**Sn**	**04 05 59.8**	**+5.2**
	comp=E,576nm,0.6s							
KOLN	**Koldanda**	**3.36**	**126**	*e*Pn		**Pn**	**04 05 16.4**	**+0.4**
KOLN				*e*Sn		**Sn**	**04 05 57.0**	**+2.4**
	comp=E,576nm,0.6s							
SONA	**Sohna**	**3.37**	**244**	*e*P		**Pn**	**04 05 17.2**	**+1.2**
SONA				AML		AML	04 06 20.1	
	comp=N,829nm,0.4s							
SONA				AML		AML	04 06 20.2	
	comp=E,913nm,0.5s							
SDNR	**Sundarnagar**	**3.51**	**300**	*ex*		**Pn**	**04 05 18.6**	**+0.7**
BHK	**Bhakra**	**3.90**	**296**	*e*P		**Pn**	**04 05 27.0**	**+3.7**
BHK				*ex*		**Sn**	**04 06 14.5**	**+6.8**
GKN	**Gorkha**	**4.02**	**115**	*e*Pn		**Pn**	**04 05 25.2**	**+0.2**
GKN	**Gorkha**	**4.02**	**115**	*e*Pg		**Pn**	**04 05 38.6**	**+14**
GKN				*e*Sn		**Sn**	**04 06 13.3**	**+2.5**
	comp=E,522nm,0.3s							
GKN	**Gorkha**	**4.02**	**115**	*e*Pn		**Pn**	**04 05 24.5**	**-0.5**
GKN				*e*Sn		**Sn**	**04 06 13.2**	**+2.4**
	comp=E,1μm,0.6s							
KHET	**Khetri**	**4.46**	**249**	*e*P		**Pn**	**04 05 30.6**	**-0.4**
KHET				*e*S		**Sn**	**04 06 21.4**	**-0.2**
DMN	**Daman**	**4.57**	**117**	*e*Pn		**Pn**	**04 05 32.6**	**0.0**
DMN				*e*Sn		**Sn**	**04 06 26.5**	**+2.1**
	comp=E,285nm,0.5s							
DMN	**Daman**	**4.57**	**117**	*e*Pn		**Pn**	**04 05 32.4**	**-0.2**
DMN				*e*Sn		**Sn**	**04 06 26.5**	**+2.1**
	comp=E,354nm,0.6s							
ALBI	**Allahabad**	**4.59**	**165**	*ex*		**Pn**	**04 05 29.5**	**-3.3**
ALBI				*ex*		x	04 05 48.5	
KKN	**Kakani**	**4.62**	**114**	*e*Pn		**Pn**	**04 05 32.7**	**-0.6**
KKN				*e*Sn		**Sn**	**04 06 27.0**	**+1.3**
	comp=E,248nm,0.4s							
KKN	**Kakani**	**4.62**	**114**	*e*Pn		**Pn**	**04 05 32.9**	**-0.4**
KKN				*e*Sn		**Sn**	**04 06 27.0**	**+1.3**
	comp=E,248nm,0.4s							
DLH	**Dalhousie**	**4.78**	**306**	*ex*		**Pn**	**04 05 36.0**	**+0.6**
DLH				*ex*		x	04 06 58.0	
PKI	**Pulchoki**	**4.83**	**116**	*e*Pn		**Pn**	**04 05 35.6**	**-0.5**
PKI				*e*Sn		**Sn**	**04 06 33.2**	**+2.5**
	comp=E,161nm,0.4s							
PKI	**Pulchoki**	**4.83**	**116**	*e*Pn		**Pn**	**04 05 35.1**	**-1.0**
PKI				*e*Sn		**Sn**	**04 06 33.1**	**+2.4**
	comp=E,284nm,0.5s							
THN	**Thein Dam**	**4.90**	**304**	*ex*		**Pn**	**04 05 36.2**	**-0.8**
THN				*e*S		**Sn**	**04 06 32.1**	**-0.2**
GUN	**Gumba**	**5.06**	**110**	*e*Pn		**Pn**	**04 05 38.9**	**-0.3**
GUN				*e*Sn		**Sn**	**04 06 37.9**	**+1.5**
GUN	**Gumba**	**5.06**	**110**	*e*Pn		**Pn**	**04 05 38.5**	**-0.7**
JIRN	**Jiri**	**5.41**	**111**	*e*Pn		**Pn**	**04 05 43.0**	**-1.1**
JIRN				*e*Sn		**Sn**	**04 06 45.5**	**+0.5**
JIRN	**Jiri**	**5.41**	**111**	*e*Pn		**Pn**	**04 05 43.9**	**-0.2**
JIRN				*e*Sn		**Sn**	**04 06 45.5**	**+0.5**
	comp=E,210nm,0.3s							
AJM	**Ajmer**	**6.13**	**239**	*e*P		**Pn**	**04 05 54.0**	**0.0**
AJM				*ex*		**Sn**	**04 06 59.8**	**-3.0**
JBP	**Jabalpur**	**6.59**	**184**	⇑P		**Pn**	**04 06 01.4**	**+1.1**
JBP				*i* x		**Sn**	**04 07 14.4**	**+0.2**
BHPL	**Bhopal**	**7.07**	**204**	*e*P		**Pn**	**04 06 05.9**	**-0.9**
BHPL				*e*S		**Sn**	**04 07 22.2**	**-3.6**
BHPL				AML		AML	04 07 27.4	
	comp=E,335nm,0.2s							
BHPL				AML		AML	04 07 27.5	
	comp=N,294nm,0.4s							
SARP	**Sargodha**	**7.08**	**290**	⇑P		**Pn**	**04 06 07.0**	**+0.1**
CHCP	**Chirah Chowk**	**7.29**	**304**	⇑P		**Pn**	**04 06 09.5**	**-0.3**
CHCP				S		**Sn**	**04 07 31.0**	**-0.2**
BOK	**Bokaro**	**7.64**	**140**	*ex*		**Pn**	**04 06 15.0**	**+0.3**
THW	**Thamme Wali**	**8.09**	**294**	⇓P		**Pn**	**04 06 20.3**	**-0.5**
CEP	**Cherat**	**8.36**	**301**	⇑P		**Pn**	**04 06 24.6**	**+0.1**
CEP				S		**Sn**	**04 07 54.0**	**-3.6**
NGP	**Nagpur**	**8.69**	**189**	*ex*		**Pn**	**04 06 26.3**	**-2.7**
NGP				*ex*		**Sn**	**04 08 00.6**	**-4.9**
SBDP	**Sheikh Budin**	**8.70**	**289**	⇓P		**Pn**	**04 06 28.6**	**-0.6**
DRP	**Derazinda**	**9.09**	**285**	P		**Pn**	**04 06 34.1**	**-0.4**
LSA	**Lhasa**	**9.25**	**88**	P		**Pn**	**04 06 37.3**	**+0.6**
LSA	**Lhasa**	**9.25**	**88**	*e*P		**Pn**	**04 06 36.4**	**-0.3**
LSA				*e*			04 08 18.3	
LSA				pmax		pmax		
	comp=E,19nm,0.6s							
LSA	**Lhasa**	**9.25**	**88**	*e*Pn		**Pn**	**04 06 36.4**	**-0.3**
	comp=E,19nm,0.6s							
LSA				*e*Sn		**Sn**	**04 08 18.3**	**-0.9**
AKL	**Akola**	**9.57**	**200**	*e*P		**Pn**	**04 06 39.9**	**-1.1**
AKL				*ex*		**Sn**	**04 08 21.3**	**-5.8**
AKL				AML		AML	04 09 31.4	
	comp=N,125nm,0.5s							
AKL				AML		AML	04 09 34.9	
	comp=E,162nm,0.5s							
CAL	**Calcutta**	**10.05**	**134**	*ex*		**Sn**	**04 08 42.7**	**+3.6**
CAL				*ex*		x	04 09 24.7	
SHL	**Shillong**	**10.91**	**110**	*e*P		**Pn**	**04 06 56.5**	**-2.9**
SHL				*e*S		**Sn**	**04 08 50.5**	**-10**
BHV	**Bhavnagar**	**10.98**	**225**	*i* P		**Pn**	**04 06 58.0**	**-2.4**
LATR	**Latur**	**11.87**	**199**	*ex*		**Pn**	**04 07 05.6**	**-6.8**
LATR				*e*S		**Sn**	**04 09 09.4**	**-14**
HYB	**Hyderabad**	**12.43**	**189**	*i* P		**Pn**	**04 07 16.5**	**-3.6**
HYB				*e*			04 07 28.0	
HYB				*e*			04 07 39.5	
HYB	**Hyderabad**	**12.43**	**189**	*e*P		**Pn**	**04 07 16.5**	**-3.6**
POO	**Poona**	**12.73**	**210**	⇓*i* x		**Pn**	**04 07 19.0**	**-5.3**
POO				*ex*		x	04 07 36.0	
POO				*i* x		x	04 09 35.0	
POO				*ex*		**Sn**	**04 09 49.0**	**+4.5**
POO				*ex*		x	04 10 01.0	
BOM	**Bombay**	**12.90**	**215**	*ex*		**Sn**	**04 09 50.1**	**+1.5**
BOM				*ex*		x	04 10 56.2	
KAD	**Karad**	**13.69**	**206**	*i* P		**Pn**	**04 07 34.1**	**-3.3**
KAD				*i* x		x	04 09 58.1	
AAK	**Ala-Archa**	**13.72**	**341**	*de*P		**Pn**	**04 07 35.2**	**-2.5**
AAK				pmax		pmax		
	comp=E,14nm,1.3s							
AAK	**Ala-Archa**	**13.72**	**341**	*e*Pn		**Pn**	**04 07 35.4**	**-2.3**
	comp=E,12nm,1.0s							
WMQ	**Urumqi**	**15.15**	**20**	⇑*i* P		**Pn**	**04 08 00.5**	**+3.8**
WMQ				AMB		AMB		
	comp=E,64nm,0.8s							
WMQ				AMB		AMB		
	comp=E,126nm,3.8s							
WMQ				LR		LR		
	comp=N,696nm,14.6s							
WMQ				LR		LR		
	comp=E,419nm,12.0s							
WMQ				LR		LR		
	comp=E,648nm,17.3s							
MDRS	**Chennai**	**16.62**	**181**	*ex*		x	04 08 35.0	

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**17.05**	**4**	*i* P		**Pn**	**04 08 16.9**	**-4.0**
	comp=Z,0.9nm,0.3s,baz=185,slow=12,SNR=62							
MKAR	**Makanchi Array**	**17.05**	**4**	*i* P		**Pn**	**04 08 17.5**	**-3.4**
MKAR				pmax		pmax		
	comp=Z,13nm,0.7s							
GTA	**Gaotai**	**18.54**	**54**	*e*P		**Pn**	**04 08 36.0**	**-3.2**
GTA				AP		pP	04 08 41.8	-7.8
GTA				XP		sP	04 08 44.8	-11
GTA				PP			04 08 59.0	
GTA				AMB		AMB		
	comp=Z,2.0nm,1.0s							
GTA				AMB		AMB		
	comp=Z,69nm,4.2s							
GTA				LR		LR		
	comp=N,205nm,11.1s							
GTA				LR		LR		
	comp=E,144nm,16.8s							
GTA				LR		LR		
	comp=Z,130nm,13.4s							
LZH	**Lanzhou**	**20.55**	**66**	*e*P		**P**	**04 09 03.0**	**+2.6**
LZH				AP			04 09 09.0	
LZH				XP		sP	04 09 12.5	-5.2
LZH				AMB		AMB		
	comp=Z,20nm,1.1s							
LZH	**Lanzhou**	**20.55**	**66**	*e*P		**P**	**04 09 03.0**	**+2.6**
LZH				pP			04 09 08.9	
LZH				sP		sP	04 09 12.5	-5.2
ZAL	**Zalesovo**	**24.35**	**6**	P		**P**	**04 09 38.1**	**-1.1**
	comp=Z,7.7nm,0.7s,mb4.3,baz=275,slow=14,SNR=28							
ZAL				LR		LR	04 21 26.9	
	comp=Z,134nm,21.9s,MS3.4,baz=267,slow=42							
BVAR	**Borovoye Array**	**24.39**	**345**	P		**P**	**04 09 38.7**	**-1.0**
	comp=Z,7.9nm,0.6s,mb4.3,baz=155,slow=11,SNR=37							
BRVK	**Borovoye**	**24.45**	**345**	*e*P		**P**	**04 09 39.0**	**-1.2**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.0							
BRVK	**Borovoye**	**24.45**	**345**	*e*P		**P**	**04 09 39.0**	**-1.2**
	comp=Z,4.6nm,0.8s,mb4.0							
ZRNK	**Zerenda**	**24.66**	**343**	⇑*e*P		**P**	**04 09 41.5**	**-0.6**
ZRNK				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.5							
ZRNK	**Zerenda**	**24.66**	**343**	⇑*e*P		**P**	**04 09 41.5**	**-0.6**
	comp=Z,13nm,0.8s,mb4.5							
NVS	**Novosibirsk**	**25.13**	**4**	*i* P		**P**	**04 09 44.6**	**-1.8**
NVS				pmax		pmax		
	comp=N,16nm,1.2s							
NVS				pmax		pmax		
	comp=Z,22nm,1.2s,mb4.6							
NVS				pmax		pmax		
	comp=E,6.0nm,0.9s							
AKTK	**Aktyubinsk**	**26.68**	**327**	P		**P**	**04 10 00.5**	**0.0**
AKTK				LR		LR	04 21 24.1	
AKTO	**Aktyubinsk**	**26.68**	**327**	P		**P**	**04 10 00.5**	**0.0**
	comp=E,8.7nm,0.6s,mb4.5,baz=129,slow=8.9,SNR=29							
AKTO				LR		LR	04 21 24.1	
	comp=E,144nm,18.0s,MS3.6,baz=131,slow=38							
SONM	**Songino Array**	**26.86**	**41**	P		**P**	**04 10 02.9**	**+0.9**
	comp=E,3.9nm,0.7s,mb4.1,baz=234,slow=9.3,SNR=13							
WHN	**Wuhan**	**29.21**	**80**	*e*P		**P**	**04 10 22.0**	**-1.0**
ARU	**Arti**	**30.82**	**336**	⇓*i* P		**P**	**04 10 36.2**	**-1.0**
ARU				*e*			04 11 31.9	
ARU				*e*S		**S**	**04 15 40.0**	**+2.6**
ARU				*e*SS		ScP	04 17 16.0	+3.9
ARU				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
ZEI	**Tsey**	**31.99**	**304**	*e*P		**P**	**04 10 48.5**	**+1.0**
PSI	**Prapat**	**32.01**	**143**	LR		LR	04 26 39.4	
	comp=Z,145nm,20.6s,MS3.6,baz=70,slow=42							
NJ2	**Nanjing**	**32.86**	**76**	*e*P		**P**	**04 10 53.8**	**-1.3**
NJ2				AP		pP	04 10 59.0	-8.7
NJ2				XP		sP	04 11 02.5	-11
NJ2				PP		PP	04 12 02.3	-7.7
NJ2				PPP			04 12 18.0	
NJ2				S		**S**	**04 16 09.0**	**-0.3**
NJ2				XS		sS	04 16 18.0	-12
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.3							
NJ2				LR		LR		
	comp=N,300nm,20.0s,MS4.1							
NJ2				LR		LR		
	comp=E,340nm,23.3s,MS4.1							
NJ2				LR		LR		
	comp=Z,310nm,25.0s,MS3.9							
KIV	**Kislovodsk**	**33.10**	**306**	*de*P		**P**	**04 10 59.4**	**+2.1**
KIV				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.7							
SSE	**Sheshan**	**34.96**	**77**	*e*P		**P**	**04 11 08.0**	**-5.3**
VRSR	**Storozhevoye**	**37.37**	**317**	*e*P		**P**	**04 11 34.5**	**+0.6**
VRSR				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.7							
VRSR				pmax		pmax		
	comp=N,6.0nm,1.8s							
VRSR				pmax		pmax		
	comp=E,20nm,0.7s							
BRTR	**Keskin Array B**	**39.39**	**297**	P		**P**	**04 11 52.1**	**+1.2**
	comp=E,1.3nm,0.8s,mb3.7,baz=107,slow=8.2,SNR=7.9							
OBN	**Obninsk**	**40.18**	**322**	*ic* /*i*P		**P**	**04 11 57.9**	**+0.4**
OBN				*e*		pP	04 12 08.9	-1.4
OBN				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.1							
OBN				MLR		MLR		
	comp=Z,100nm,15.0s,MS3.8							
AKASG	**Malin Array Be**	**43.36**	**314**	P		**P**	**04 12 23.5**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.2,baz=79,slow=7.1,SNR=14							
AKASG	**Malin Array Be**	**43.36**	**314**	P		**P**	**04 12 23.5**	**0.0**
MLR	**Muntele Rosu**	**45.12**	**306**	⇓*i* P		**P**	**04 12 39.7**	**+2.2**
YAK	**Yakutsk**	**45.28**	**30**	*i* P		**P**	**04 12 37.0**	**-1.8**
JOF	**Joensuu**	**45.63**	**331**	*ep*		**P**	**04 12 40.6**	**-1.0**
	comp=Z,11nm,0.5s,mb5.0							
KWP	**Kalwaria**	**47.43**	**312**	*e*P		**P**	**04 12 56.9**	**+1.2**
FINES	**FINESS Array B**	**47.45**	**328**	P		**P**	**04 12 55.9**	**+0.1**
	comp=Z,5.8nm,0.5s,mb4.8,baz=114,slow=8.7,SNR=62							
KAF	**Kangasniemi**	**47.54**	**329**	*ep*		**P**	**04 12 55.6**	**-0.9**
	comp=Z,10nm,0.9s,mb4.8,baz=107,slow=7.7							
KAF	**Kangasniemi**	**47.54**	**329**	*e*P		**P**	**04 12 55.6**	**-0.9**
KAF				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
ARCES	**ARCESS Array B**	**50.37**	**338**	P		**P**	**04 13 18.5**	**+0.3**
	comp=Z,15nm,0.8s,mb5.1,baz=112,slow=6.9,SNR=23							
ARCES				LR		LR	04 36 06.0	
	comp=Z,40nm,21.8s,MS3.4,baz=207,slow=38							
BRG	**Berggiesshubel**	**53.04**	**313**	*i* P		**P**	**04 13 38.6**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3							
BRG	**Berggiesshubel**	**53.04**	**313**	*i* P		**P**	**04 13 38.7**	**+0.6**
BRG				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
GERES	**GERESS Array B**	**53.34**	**311**	P		**P**	**04 13 40.7**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=94,slow=5.8,SNR=6.4							
NB2	**NORSAR Subarra**	**54.47**	**326**	P		**P**	**04 13 47.5**	**-1.1**
	comp=Z,2.8nm,0.9s,mb4.2,baz=89,slow=7.9							
NB2	**NORSAR Subarra**	**54.47**	**326**	P		**P**	**04 13 47.5**	**-1.1**
NB2				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
NOA	**NORSAR Array B**	**54.47**	**326**	P		**P**	**04 13 47.7**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=93,slow=7.2,SNR=10							
NOA				LR		LR	04 38 12.4	
	comp=Z,66nm,18.7s,MS3.7,baz=80,slow=37							
NOA	**NORSAR Array B**	**54.47**	**326**	P		**P**	**04 13 47.7**	**-0.9**
NOA				LR		LR	04 38 12.4	
SEY	**Seymchan**	**55.73**	**32**	⇓*e*P		**P**	**04 13 57.0**	**-0.7**
HINF	**Hinteralfeld**	**58.01**	**310**	*e*P		**P**	**04 14 13.7**	**-0.1**
LPG	**La Plagne**	**58.52**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
	comp=Z,15nm,0.8s,mb4.8							
LPG	**La Plagne**	**58.52**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
LPG				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
LPG	**La Plagne**	**58.52**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
	comp=Z,7.7nm,0.8s,mb4.8							
LPL	**La Plagne**	**58.53**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
	comp=Z,26nm,0.8s,mb5.0							
LPL	**La Plagne**	**58.53**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
LPL				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0							
LPL	**La Plagne**	**58.53**	**308**	*e*P		**P**	**04 14 18.3**	**+0.9**
	comp=Z,13nm,0.8s,mb5.0							
MBDF	**Montbardon**	**58.67**	**307**	*e*P		**P**	**04 14 18.3**	**-0.1**
CABF	**La Chapelle**	**58.75**	**309**	*e*P		**P**	**04 14 19.3**	**+0.3**
KEST	**Kesra**	**58.97**	**296**	P		**P**	**04 14 20.9**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=47,slow=9.7,SNR=4.2							
FRF	**La Foret Royal**	**59.01**	**305**	*e*P		**P**	**04 14 21.0**	**+0.2**
ORIF	**Oris-en-Rattie**	**59.25**	**307**	*e*P		**P**	**04 14 22.7**	**+0.3**
LOR	**Lormes**	**60.10**	**310**	*e*P		**P**	**04 14 27.8**	**-0.5**
SMF	**Signal de Mont**	**60.26**	**309**	*e*P		**P**	**04 14 28.6**	**-0.7**
	comp=Z,8.3nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**60.26**	**309**	*e*P		**P**	**04 14 28.6**	**-0.7**
SMF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
SMF	**Signal de Mont**	**60.26**	**309**	*e*P		**P**	**04 14 28.6**	**-0.7**
	comp=Z,4.2nm,0.9s,mb4.5							
SSF	**Saint Saulge**	**60.39**	**310**	*e*P		**P**	**04 14 29.5**	**-0.7**
	comp=Z,13nm,1.0s,mb4.6							
SSF	**Saint Saulge**	**60.39**	**310**	*e*P		**P**	**04 14 29.5**	**-0.7**
SSF				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
SSF	**Saint Saulge**	**60.39**	**310**	*e*P		**P**	**04 14 29.5**	**-0.7**
	comp=Z,6.3nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	**60.55**	**310**	*e*P		**P**	**04 14 31.1**	**-0.2**
BGF	**Bois d'Agland**	**60.94**	**310**	*e*P		**P**	**04 14 33.8**	**-0.2**
TCF	**Toulx Ste Croi**	**61.44**	**309**	*e*P		**P**	**04 14 37.1**	**-0.2**
	comp=Z,15nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**61.44**	**309**	*e*P		**P**	**04 14 37.1**	**-0.2**
TCF				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.8							
TCF	**Toulx Ste Croi**	**61.44**	**309**	*e*P		**P**	**04 14 37.1**	**-0.2**
	comp=Z,7.6nm,1.0s,mb4.8							
CAF	**Calviac**	**61.88**	**308**	*e*P		**P**	**04 14 40.8**	**+0.5**
LDF	**La Druitiere**	**62.40**	**312**	*e*P		**P**	**04 14 43.4**	**-0.4**
	comp=Z,9.7nm,0.8s,mb4.7							
LDF	**La Druitiere**	**62.40**	**312**	*e*P		**P**	**04 14 43.4**	**-0.4**
LDF				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.7							
LDF	**La Druitiere**	**62.40**	**312**	*e*P		**P**	**04 14 43.4**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.7							
MFF	**Saint Martin d**	**62.93**	**310**	*e*P		**P**	**04 14 47.2**	**-0.1**
SGMF	**Saint Gilles**	**64.05**	**312**	*e*P		**P**	**04 14 54.7**	**-0.1**
ESDC	**Sonseca Array**	**67.75**	**304**	P		**P**	**04 15 19.6**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=68,slow=7.2,SNR=5.0							
WRA	**Warramunga Arr**	**71.62**	**127**	P		**P**	**04 15 42.4**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=319,slow=6.1,SNR=12							
WB2	**Warramunga Arr**	**71.63**	**127**	P		**P**	**04 15 41.6**	**-0.8**
ASAR	**Alice Springs**	**73.84**	**130**	P		**P**	**04 15 55.5**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=324,slow=5.9,SNR=13							
TOA0	**Torodi Ar. Sit**	**73.98**	**276**	*e*P		**P**	**04 15 56.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.98**	**276**	P		**P**	**04 15 57.2**	**+0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=61,slow=4.1,SNR=20							
BOSA	**Boshof**	**78.45**	**228**	LR		LR	04 46 57.5	
	comp=Z,125nm,18.7s,MS4.3,baz=355,slow=32							
INK	**Inuvik**	**79.00**	**12**	*e*P		**P**	**04 16 23.7**	**-1.1**
INK				pmax		pmax		
	comp=Z,10.0nm,1.1s							
INK	**Inuvik**	**79.00**	**12**	*e*P		**P**	**04 16 23.7**	**-1.1**
	comp=Z,9.5nm,1.1s,mb4.6							
CTA	**Charters Tower**	**80.38**	**120**	LR		LR	04 56 47.0	
	comp=Z,48nm,19.4s,MS3.9,baz=50,slow=39							
DBIC	**Dimbokro**	**82.72**	**274**	P		**P**	**04 16 45.9**	**+1.3**
	comp=Z,3.4nm,0.6s,mb4.6,baz=140,slow=9.3,SNR=6.5							
YKA	**Yellowknife Ar**	**87.26**	**7**	P		**P**	**04 17 06.2**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.5,baz=337,slow=5.0,SNR=7.4							
YKA	**Yellowknife Ar**	**87.26**	**7**	P		**P**	**04 17 06.2**	**-1.1**
LPAZ	**La Paz**	**148.29**	**288**	PKPbc		PKPbc	04 24 07.5	+0.7
	comp=Z,0.9nm,0.6s,baz=3.4,slow=7.4,SNR=4.5							
LPAZ	**La Paz**	**148.29**	**288**	PKP2		PKPbc	04 24 07.5	+0.7
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.6s							
CFAA	**Coronel Fontan**	**153.11**	**258**	PKPbc		PKPbc	04 24 17.4	-0.9
	comp=Z,0.1nm,0.3s,baz=128,slow=0.7,SNR=7.8							

*NEIC **26** 05:08:40.8, 7089N×134.81W, h21km, ML3.7(AEIC), After AEIC.*

PGC 26 05:08:39.5, 7136N×13372W, h35km, MLSn3.7/1, 1C-1D, 304km southwest of Sachs Harbour, Nt Beaufort Sea., Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INK	**Inuvik**	**3.06**	**179**	⇓Pn		Pn	05 09 24.4	-1.0
INK				Sn		Sn	05 09 57.8	-3.0
INK				Trac			05 10 00.3	
	comp=Z,98nm,0.1s							
INK	**Inuvik**	**3.06**	**179**	*e*Pn

JRY	**Ryogami san**	**5.25**	**246**	P		**Pn**	**05 25 44.3**	**-0.7**
JRY				S		**Sn**	**05 26 40.2**	**-4.0**
JOD2	**Odawara 2**	**5.51**	**238**	P		**Pn**	**05 25 47.9**	**-0.7**
JOD2				*e*S		**Sn**	**05 26 45.8**	**-4.9**
MJAR	**Matsushiro Arr**	**5.54**	**253**	P		**Pn**	**05 25 49.4**	**+0.3**
	14nm,0.3s,baz=80,slow=15,SNR=61							
MJAR				S		**Sn**	**05 26 51.5**	**0.0**
	6.4nm,0.3s,baz=96,slow=15,SNR=5.1							
MAJO	**Matsushiro**	**5.54**	**253**	*e*P		**Pn**	**05 25 49.8**	**+0.7**
MAJO					pmax	pmax		
	comp=Z,82nm,0.6s							
MAJO	**Matsushiro**	**5.54**	**253**	*e*Pn		**Pn**	**05 25 49.8**	**+0.7**
	comp=Z,82nm,0.6s							
MAT	**Matsushiro**	**5.54**	**253**	P		**Pn**	**05 25 50.0**	**+0.9**
MAT				S		**Sn**	**05 26 51.4**	**-0.1**
JOSM	**Okushiri--Mats**	**5.54**	**314**	P		**Pn**	**05 25 50.6**	**+1.5**
JOSM				*e*S		**Sn**	**05 26 49.6**	**-2.0**
JTKR	**Abashiri--Toko**	**5.68**	**353**	P		**Pn**	**05 25 51.4**	**+0.4**
JTKR				S		**Sn**	**05 26 53.5**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**5.76**	**8**	*e*P		**Pn**	**05 25 50.2**	**-1.9**
YUK				*e*S		**Sn**	**05 26 51.8**	**-5.2**
YUK					pmax	pmax		
	comp=N,390nm,0.3s							
YUK					pmax	pmax		
	comp=E,460nm,0.3s							
YUK					pmax	pmax		
	comp=Z,2μm,0.3s							
YUK					smax			
	comp=E,1μm,0.6s							
YUK					smax			
	comp=E,770nm,0.5s							
YUK					smax			
	comp=N,2μm,0.8s							
YUK					smax			
	comp=E,800nm,0.8s							
JHR	**Hokuryu**	**5.89**	**338**	P		**Pn**	**05 25 56.2**	**+2.3**
JHR				*e*S		**Sn**	**05 27 01.3**	**+1.1**
ASAJ	**Asahikawa**	**6.02**	**345**	P		**Pn**	**05 25 57.6**	**+1.9**
	comp=E,14nm,0.3s,baz=194,slow=12,SNR=20							
ASAJ				S		**Sn**	**05 27 05.4**	**+2.0**
	comp=E,7.5nm,0.3s,baz=87,slow=31,SNR=6.8							
ASAJ				LR		LR	05 28 53.7	
	comp=E,100nm,18.2s,baz=335,slow=40							
ASAJ	**Asahikawa**	**6.02**	**345**	P		**Pn**	**05 25 57.6**	**+1.9**
ASAJ				S		**Sn**	**05 27 05.4**	**+2.0**
ASAJ					pmax	pmax		
	comp=Z,14nm,0.3s							
ASAJ					smax			
	comp=N,8.0nm,0.3s							
ASAJ					MLR	MLR		
	comp=Z,100nm,18.2s							
JHJ	**Hachijo jima 2**	**6.60**	**220**	P		**Pn**	**05 26 01.6**	**-2.1**
	comp=Z,42nm,0.3s,baz=18,slow=20,SNR=3.5							
JHJ				S		**Sn**	**05 27 09.4**	**-8.3**
	comp=Z,70nm,0.3s,baz=250,slow=22,SNR=5.7							
YSS	**Yuzh-Sakhalins**	**8.76**	**351**	*e*P		**Pn**	**05 26 35.0**	**+1.8**
CBIJ	**Chichi jima**	**11.41**	**192**	P		**Pn**	**05 27 03.5**	**-6.0**
	comp=Z,12nm,0.3s,baz=267,slow=21,SNR=5.1							
MDJ	**Mudanjiang**	**13.02**	**304**	P		**Pn**	**05 27 31.8**	**+0.3**
MDJ				AMB		AMB		
	comp=Z,12nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,124nm,5.0s							
SONM	**Songino Array**	**29.36**	**301**	P		**P**	**05 30 33.7**	**+5.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=100,slow=8.9,SNR=4.8							
MKAR	**Makanchi Array**	**45.73**	**302**	P		**P**	**05 32 49.0**	**+2.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=88,slow=8.9,SNR=3.8							
INK	**Inuvik**	**52.01**	**28**	P		**P**	**05 33 34.3**	**-0.7**
INK					pmax	pmax		
	comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**52.01**	**28**	P		**P**	**05 33 34.3**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**58.78**	**192**	P		**P**	**05 34 22.4**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=12,slow=7.3,SNR=16							
ASAR	**Alice Springs**	**62.50**	**191**	P		**P**	**05 34 48.5**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.9,baz=12,slow=7.2,SNR=9.1							
PDAR	**Pinedale Array**	**74.83**	**47**	P		**P**	**05 36 11.5**	**+5.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=299,slow=4.0,SNR=2.7							

*ISCJB **26** 05:29:02.4±0.2,3348N±002×3444E±002,h10km, Error ellipse: s-maj=2.4km s-min=2.3km az=28.8*
*CSEM **26** 05:29:03.2±0.1,3347N×3443E,h20km,Mw3.0, Error ellipse: s-maj=1.8km s-min=1.2km az=113.0*
*NEIC **26** 05:29:03.8±0.8,3349N×3455E,h10km,MD3.5(ISK), ML3.3(NIC), Error ellipse: s-maj=14.6km s-min=9.2km az=73.0*
*HLW **26** 05:29:05.5,3349N×3444E,h21km,Mb3.9*
*GRAL **26** 05:29:06.8±1.3,3358N×3457E,h18km±9km,MD3.5*
*GII **26** 05:29:06.8±0.3,3345N×3460E,h34km±2km,ML3.4/8, Mw3.2/7*
*NSSC **26** 05:29:06.3,3362N×3459E,h16km±4km*
*NIC **26** 05:29:08.1±0.2,3364N×3454E,h25km,ML3.3,MW3.2*
ISC 26 05:29:04.4±0.5,3351N±002×3450E±002,h20km±3km,n87, σ0§92/128,16D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATL	**Matirih**	**0.69**	**92**	*e*P	**Pb**	**05 29 19.1**	**+1.2**
HNTI	**Hanita**	**0.71**	**127**	Pg	**Pg**	**05 29 18.9**	**+0.4**
HNTI				Sg	**Sg**	**05 29 27.9**	**0.0**
MMA0B	**Mount Meron ar**	**0.91**	**123**	Pg	**Pg**	**05 29 21.4**	**-0.7**
MMA0B				Sg	**Sg**	**05 29 33.1**	**-0.9**
OFRI	**'Ofer**	**0.98**	**155**	Pg	**Pg**	**05 29 22.4**	**-1.1**
KSDI	**Kefar Szold**	**1.02**	**108**	Pg	**Pg**	**05 29 23.7**	**-0.6**
BHL	**Bhannes**	**1.04**	**68**	*e*P	**Pb**	**05 29 23.4**	**-0.3**
BHL				*e*S	**Sb**	**05 29 36.5**	**-0.4**
HRI	**Mount Hermon**	**1.06**	**103**	Pg	**Pg**	**05 29 23.7**	**-1.3**
RCY	**Rachaya**	**1.10**	**91**	*e*P	**Pn**	**05 29 25.1**	**+0.3**
RCY				*e*S	**Sb**	**05 29 38.8**	**0.0**
KSHT	**Keshet**	**1.22**	**115**	Pg	**Pg**	**05 29 26.8**	**-1.3**
MMLI	**Mount Malkishu**	**1.32**	**144**	Pg	**Pg**	**05 29 27.7**	**-2.3**
SLTI	**Sal'it**	**1.35**	**160**	Pg	**Pn**	**05 29 27.5**	**-0.6**
SLTI				Sg	**Sn**	**05 29 44.3**	**-1.2**
HWQ	**Hawqa**	**1.43**	**57**	*e*P	**Pn**	**05 29 29.4**	**+0.2**
HWQ				*e*S	**Sn**	**05 29 46.0**	**-1.4**
QASN	**Qassioun**	**1.48**	**89**	⇓P	**Pn**	**05 29 31.2**	**+1.2**
QASN				⇓S	**Sn**	**05 29 48.8**	**0.0**
QASN	**Qassioun**	**1.48**	**89**	⇓*i*P	**Pn**	**05 29 31.2**	**+1.2**
QASN				⇓*i*S	**Sn**	**05 29 48.8**	**0.0**
PHNC	**Paralimni**	**1.54**	**346**	P	**Pn**	**05 29 30.8**	**+0.1**
TOTH	**TOTAH**	**1.62**	**95**	⇑P	**Pn**	**05 29 33.1**	**+1.2**
TOTH				⇑S	**Sn**	**05 29 52.7**	**+0.5**
TOTH	**TOTAH**	**1.62**	**95**	⇑*i*P	**Pn**	**05 29 33.1**	**+1.2**
TOTH				⇑*i*S	**Sn**	**05 29 52.7**	**+0.5**
MAGT	**Magosa**	**1.67**	**342**	Pn	**Pn**	**05 29 33.2**	**+0.7**
MAGT				Sg	**Sn**	**05 29 52.2**	**-1.1**
MAGT	**Magosa**	**1.67**	**342**	Pn	**Pn**	**05 29 33.2**	**+0.7**
MAGT				Sg	**Sn**	**05 29 52.2**	**-1.1**
MARH	**Ras Al Marh**	**1.73**	**72**	⇑P	**Pn**	**05 29 34.1**	**+0.7**
MARH				⇑S	**Sn**	**05 29 54.6**	**-0.3**
MARH	**Ras Al Marh**	**1.73**	**72**	⇑*i*P	**Pn**	**05 29 34.1**	**+0.7**
MARH				⇑*i*S	**Sn**	**05 29 54.6**	**-0.3**
CSS	**Prodhromos**	**1.74**	**327**	P	**Pn**	**05 29 34.2**	**+0.7**
	5.0nm,0.2s						
CSS				S	**Sn**	**05 29 53.9**	**-1.2**
CSS	**Prodhromos**	**1.74**	**327**	*e*Pn	**Pn**	**05 29 34.1**	**+0.6**
CSS				*e*Sn	**Sn**	**05 29 54.0**	**-1.1**
CSS	**Prodhromos**	**1.74**	**327**	*e*Pn	**Pn**	**05 29 34.1**	**+0.6**
CSS				*e*Sn	**Sn**	**05 29 54.0**	**-1.1**
FKH	**Fakeheh**	**1.74**	**65**	*e*P	**Pn**	**05 29 34.5**	**+1.0**
FKH				*e*S	**Sn**	**05 29 54.1**	**-1.0**
SZAC	**Souni-Zanaja**	**1.83**	**313**	P	**Pn**	**05 29 35.9**	**+1.2**
	25nm,0.2s						
SZAC				S	**Sn**	**05 29 57.2**	**0.0**
MAMC	**Mammari**	**1.96**	**328**	P	**Pn**	**05 29 38.2**	**+1.6**
AMAZ	**Amatzia**	**2.01**	**170**	Pn	**Pn**	**05 29 37.9**	**+0.7**
AMAZ	**Amatzia**	**2.01**	**170**	Pn	**Pn**	**05 29 37.8**	**+0.6**
SALA	**Sala**	**2.04**	**112**	⇓P	**Pn**	**05 29 39.4**	**+1.8**
SALA				⇓S	**Sn**	**05 30 04.2**	**+1.7**
SALA	**Sala**	**2.04**	**112**	⇓*i*P	**Pn**	**05 29 39.4**	**+1.8**
SALA				⇓*i*S	**Sn**	**05 30 04.2**	**+1.7**
DRGI	**Dragot**	**2.06**	**158**	Pn	**Pn**	**05 29 38.6**	**+0.7**
DSI	**Dead Sea**	**2.08**	**159**	Pn	**Pn**	**05 29 38.4**	**+0.2**
BIDA	**Albida**	**2.13**	**45**	⇑P	**Pn**	**05 29 39.6**	**+0.8**
BIDA				⇑S	**Sn**	**05 30 03.5**	**-1.2**
BIDA	**Albida**	**2.13**	**45**	⇑*i*P	**Pn**	**05 29 39.6**	**+0.8**
BIDA				⇑*i*S	**Sn**	**05 30 03.5**	**-1.2**
YTIR	**Yattir**	**2.21**	**166**	Pn	**Pn**	**05 29 40.4**	**+0.5**
PPCY	**Paphos**	**2.25**	**308**	P	**Pn**	**05 29 41.2**	**+0.7**
ALFC	**Alevga**	**2.27**	**317**	P	**Pn**	**05 29 41.7**	**+0.9**
	17nm,0.3s						
ALFC				S	**Sn**	**05 30 08.2**	**-0.1**
MZDA	**Masada**	**2.32**	**161**	Pn	**Pn**	**05 29 42.2**	**+0.7**
MZDA				Sn	**Sn**	**05 30 09.1**	**-0.2**
ROOS	**tl_alroos**	**2.41**	**73**	⇑P	**Pn**	**05 29 43.5**	**+0.7**
ROOS				⇑S	**Sn**	**05 30 11.9**	**+0.1**
ROOS	**tl_alroos**	**2.41**	**73**	⇑*i*P	**Pn**	**05 29 43.5**	**+0.7**
ROOS				⇑*i*S	**Sn**	**05 30 11.9**	**+0.2**
ZALF	**Zalf**	**2.45**	**103**	⇓P	**Pn**	**05 29 44.5**	**+1.3**
ZALF	**Zalf**	**2.45**	**103**	⇓*i*P	**Pn**	**05 29 44.5**	**+1.2**
RTMI	**Retamim**	**2.46**	**176**	Pn	**Pn**	**05 29 43.9**	**+0.5**
SLNF	**Slenfeh**	**2.52**	**34**	⇑P	**Pn**	**05 29 44.7**	**+0.5**
SLNF				⇑S	**Sn**	**05 30 12.1**	**-2.2**
SLNF	**Slenfeh**	**2.52**	**34**	⇑*i*P	**Pn**	**05 29 44.7**	**+0.5**
SLNF				⇑*i*S	**Sn**	**05 30 12.1**	**-2.2**
MASH	**Mash'abbe Sade**	**2.52**	**174**	Pn	**Pn**	**05 29 45.0**	**+0.7**
WRDH	**Warideh**	**2.54**	**38**	⇑P	**Pn**	**05 29 45.3**	**+0.8**
WRDH				⇑S	**Sn**	**05 30 13.5**	**-1.4**
WRDH	**Warideh**	**2.54**	**38**	⇑*i*P	**Pn**	**05 29 45.3**	**+0.8**
WRDH				⇑*i*S	**Sn**	**05 30 13.5**	**-1.4**
SVTA	**Shivta**	**2.58**	**178**	Pn	**Pn**	**05 29 45.5**	**+0.5**
KZIT	**Kziot**	**2.60**	**182**	Pn	**Pn**	**05 29 45.9**	**+0.6**
IKL	**Isikli**	**2.80**	**346**	Pn	**Pn**	**05 29 48.9**	**+0.8**
IKL				Sg	**Sn**	**05 30 18.9**	**-2.4**
IKL	**Isikli**	**2.80**	**346**	Pn	**Pn**	**05 29 48.9**	**+0.8**
IKL				Sg	**Sn**	**05 30 18.9**	**-2.4**
HTY	**Hatay**	**2.93**	**27**	Pn	**Pn**	**05 29 51.0**	**+1.1**
HTY	**Hatay**	**2.93**	**27**	Pn	**Pn**	**05 29 51.0**	**+1.1**
BTCH	**Batrach**	**2.99**	**32**	⇓P	**Pn**	**05 29 51.4**	**+0.7**
BTCH				⇓S	**Sn**	**05 30 23.7**	**-2.3**
BTCH	**Batrach**	**2.99**	**32**	⇓*i*P	**Pn**	**05 29 51.4**	**+0.7**
BTCH				⇓*i*S	**Sn**	**05 30 23.7**	**-2.3**
ZFRI	**Zfri**	**3.01**	**169**	Pn	**Pn**	**05 29 51.5**	**+0.6**
AMAG	**Maghara**	**3.06**	**201**	P	**Pn**	**05 29 51.9**	**+0.2**
AMAG				S	**Sn**	**05 30 26.2**	**-1.6**
PRNI	**Paran**	**3.18**	**172**	Pn	**Pn**	**05 29 53.9**	**+0.6**
PRNI				Sn	**Sn**	**05 30 30.7**	**0.0**
HRFI	**Mount Harif**	**3.50**	**172**	Pn	**Pn**	**05 29 58.0**	**+0.4**
HNKL	**Nakhl**	**3.60**	**187**	P	**Pn**	**05 29 59.5**	**+0.4**
HNKL				S	**Sn**	**05 30 39.5**	**-1.5**
MBH	**Mount Berech**	**3.73**	**174**	Pn	**Pn**	**05 30 01.8**	**+0.9**
EIL	**Elat**	**3.85**	**174**	*e*Pn	**Pn**	**05 30 02.6**	**+0.1**
EIL				*e*Sn	**Sn**	**05 30 47.7**	**+0.5**
EIL	**Elat**	**3.85**	**174**	*e*Pn	**Pn**	**05 30 02.6**	**+0.1**
EIL				*e*Sn	**Sn**	**05 30 47.7**	**+0.5**
SUZ		**3.93**	**202**	P	**Pn**	**05 30 03.9**	**+0.3**
KOT	**Kottamia**	**4.24**	**213**	P	**Pn**	**05 30 07.7**	**-0.2**
KOT				S	**Sn**	**05 30 53.8**	**-2.9**
HBST	**Basata**	**4.29**	**177**	⇓P	**Pn**	**05 30 08.8**	**+0.2**
ZNM		**4.35**	**199**	P	**Pn**	**05 30 09.5**	**0.0**
GLL	**Jalalah**	**4.59**	**212**	P	**Pn**	**05 30 12.7**	**-0.1**
HSAF	**As Saff**	**4.62**	**214**	P	**Pn**	**05 30 13.1**	**-0.1**
AYT	**Al 'Ayyat**	**4.75**	**218**	⇓P	**Pn**	**05 30 14.8**	**-0.1**
HDHB	**Dhahab**	**4.78**	**179**	P	**Pn**	**05 30 15.7**	**+0.4**
FYM	**Al Fayyum**	**4.82**	**219**	P	**Pn**	**05 30 15.7**	**-0.2**
HRDS	**Abu Rudays**	**4.90**	**192**	P	**Pn**	**05 30 17.0**	**+0.1**
ELL	**Elmali**	**4.96**	**312**	Pn	**Pn**	**05 30 20.7**	**+2.9**
ELL	**Elmali**	**4.96**	**312**	Pn	**Pn**	**05 30 20.7**	**+3.0**
HKAT	**Jabal Katrina**	**4.99**	**185**	P	**Pn**	**05 30 18.4**	**+0.2**
TR2		**5.16**	**188**	P	**Pn**	**05 30 20.2**	**-0.3**
GRB	**Gharib**	**5.43**	**196**	P	**Pn**	**05 30 24.0**	**-0.2**
SHRM		**5.61**	**183**	P	**Pn**	**05 30 26.6**	**-0.1**
ASUT		**6.60**	**203**	P	**Pn**	**05 30 40.0**	**-0.4**
HMAT	**Matruh**	**6.71**	**251**	P	**Pn**	**05 30 41.2**	**-0.7**
AWBH		**7.06**	**224**	P	**Pn**	**05 30 45.8**	**-0.8**
HFRF	**Wahat Farafira**	**8.29**	**222**	P	**Pn**	**05 31 02.8**	**-0.7**
SWA1		**8.62**	**243**	P	**Pn**	**05 31 07.0**	**-1.1**
SWA2		**8.82**	**244**	P	**Pn**	**05 31 09.8**	**-1.0**

*IDC **26** 05:48:12.8±1.0,133N×123O8E,h0km,mb3.8/6,mb1 4.0/7, mb1mx3.9/18,mbtmp3.8/7,ML4.2/1, Error ellipse: s-maj=114.3km s-min=17.7km az=69.0*
NEIC 26 05:48:17.9±0.6,136N×12321E,h35km, Error ellipse: s-maj=59.3km s-min=10.8km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.48**	**173**	P	Pn	05 52 41.9	-1.2
	0.6nm,0.3s,baz=3.0,slow=7.5,SNR=11						
WRA	**Warramunga Arr**	**23.82**	**153**	P	P	05 53 28.0	+0.4
	1.6nm,0.5s,baz=333,slow=10,SNR=48						
WB2	**Warramunga Arr**	**23.82**	**153**	*e*P	P	05 53 27.3	-0.3
ASAR	**Alice Springs**	**26.96**	**158**	P	P	05 53 56.9	+0.9
	0.3nm,0.5s,baz=339,slow=9.9,SNR=7.7						
STKA	**Stephens Creek**	**37.37**	**154**	P	P	05 55 27.4	+0.4
	1.3nm,0.7s,baz=324,slow=13,SNR=3.2						
SONM	**Songino Array**	**48.53**	**345**	P	P	05 56 57.6	+0.2
	1.9nm,0.8s,baz=164,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**57.58**	**328**	P	P	05 58 04.3	+0.2
	0.3nm,0.5s,baz=127,slow=7.5,SNR=2.4						
VNDA	**Vanda**	**81.55**	**172**	P	P	06 00 31.2	-0.6
	1.1nm,0.7s,baz=334,slow=6.4,SNR=11						

*ISCJB **26** 05:57:17.2±0.6, 1675S±005×6975W±004,h145km±5km, mb4.3/25, Error ellipse: s-maj=8.6km s-min=6.4km az=41.3*
*NEIC **26** 05:57:18.8±0.6, 1685S×6982W,h148km±6km,mb4.5/17, Error ellipse: s-maj=10.3km s-min=7.2km az=219.0*
*IDC **26** 05:57:19.5±1.0, 1703S×6984W,h157km±8km,mb4.3/9, mb1 4.3/14,mb1mx4.1/21,mbtmp4.7/14, Error ellipse: s-maj=13.4km s-min=11.5km az=83.0*
ISC 26 05:57:18.1±0.5,1680S±005×6974W±004,h136km±5km, n56,σ1§05/58,mb4.3/25,1C-3D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.62**	**72**	P	**Pn**	**05 57 54.6**	**+6.6**
	43nm,0.3s,baz=279,slow=5.7,SNR=1416						
LPAZ				S	**Sn**	**05 58 19.9**	**+9.1**
	95nm,0.3s,baz=168,slow=24,SNR=38						
ARE	**Arequipa**	**1.71**	**281**	⇑*i*P	**Pn**	**05 57 50.3**	**+1.3**
ARE				*i*S	**Sn**	**05 58 13.3**	**+0.7**
LVC	**Limon Verde**	**5.83**	**172**	P	**Pn**	**05 58 42.7**	**+0.3**
	120nm,0.3s,baz=357,slow=8.5,SNR=1066						
LVC				S	**Sn**	**05 59 44.3**	**-3.9**
	52nm,0.3s,baz=131,slow=18,SNR=17						
SIV	**San Ignacio**	**8.36**	**86**	P	**Pn**	**05 59 17.4**	**+1.0**
	29nm,0.3s,baz=271,slow=11,SNR=126						
SIV				S	**Sn**	**06 00 48.1**	**-1.0**
	1.9nm,0.3s,baz=327,slow=11,SNR=3.1						
NNA	**Nana**	**8.38**	**304**	P	**Pn**	**05 59 14.8**	**-1.8**
	10nm,0.3s,baz=137,slow=11,SNR=26						
NNA				S	**Sn**	**06 00 42.1**	**-7.5**
	28nm,0.3s,baz=247,slow=10.0,SNR=20						
NNA	**Nana**	**8.38**	**304**	P	**Pn**	**05 59 14.8**	**-1.8**
NNA				S	**Sn**	**06 00 42.1**	**-7.5**
SAML	**Samuel**	**10.08**	**40**	*e*Pn	**Pn**	**05 59 39.9**	**+0.5**
	22nm,0.7s						
SAML				*e*Sn	**Sn**	**06 01 29.7**	**-1.1**
ATAH	**Atahualpa**	**12.90**	**318**	P	**Pn**	**06 00 16.2**	**-0.2**
	0.5nm,0.3s,baz=107,slow=11,SNR=4.6						
CFAA	**Coronel Fontan**	**14.80**	**175**	P	**Pn**	**06 00 38.4**	**-2.2**
	0.7nm,0.3s,baz=354,slow=14,SNR=70						
CPUP	**Villa Florida**	**14.93**	**132**	P	**Pn**	**06 00 42.3**	**+0.1**
	0.8nm,0.3s,baz=292,slow=9.4,SNR=7.9						
BDFB	**Brasilia**	**20.89**	**90**	P	**P**	**06 01 50.1**	**+0.6**
	18nm,0.4s,baz=266,slow=12,SNR=30						
BAO	**Brasilia Array**	**20.91**	**90**	P	**P**	**06 01 51.0**	**+1.2**
PLCA	**Paso Flores**	**23.86**	**182**	P	**P**	**06 02 19.4**	**+0.5**
	2.2nm,0.7s,mb3.8,baz=18,slow=14,SNR=4.4						
CMIG	**Matias Romero**	**41.81**	**322**	P	**P**	**06 04 55.1**	**+0.8**
	5.8nm,0.7s,mb4.3,baz=99,slow=5.3,SNR=7.8						
JCT	**Junction City**	**55.20**	**328**	*e*P	**P**	**06 06 35.9**	**-0.8**
	12nm,0.7s,mb4.7						
WVT	**Waverly**	**55.35**	**342**	*e*P	**P**	**06 06 35.1**	**-2.8**
	2.4nm,0.4s,mb4.3						
CCM	**Cathedral Cave**	**58.18**	**340**	*e*P	**P**	**06 06 54.7**	**-3.1**
	3.7nm,0.4s,mb4.6						
WMOK	**Wichita Mounta**	**58.22**	**332**	*e*P	**P**	**06 06 56.9**	**-1.1**
	3.5nm,0.5s,mb4.5						
MNTX	**Cornudas Mount**	**59.11**	**325**	*e*P	**P**	**06 07 03.3**	**-1.0**
	8.7nm,1.0s,mb4.5						
KSU1	**Kansas State U**	**61.02**	**336**	*e*P	**P**	**06 07 16.1**	**-1.2**
ANMO	**Albuquerque**	**62.17**	**326**	*e*P	**P**	**06 07 24.9**	**-0.1**
	1.8nm,0.5s,mb4.2						
VNA3	**Neumayer Olymp**	**64.76**	**162**	⇓*i*	**P**	**06 07 42.4**	**+0.4**
VNA3				*e*		06 08 04.8	
VNA1	**Neumayer--Stat**	**64.96**	**161**	⇓*i*	**P**	**06 07 44.1**	**+0.9**
VNA1				*e*		06 08 08.2	
ECSD	**EROS,Sioux Fal**	**65.07**	**339**	*e*P	**P**	**06 07 43.0**	**-1.0**
SMCO	**Snowmass**	**65.67**	**329**	*e*P	**P**	**06 07 48.5**	**+0.7**
	10nm,1.0s,mb4.6						
PV01	**Paradox Valley**	**65.68**	**327**	*e*P	**P**	**06 07 48.3**	**+0.4**
SNAA	**Sanae**	**66.96**	**162**	⇓*i*	**P**	**06 07 56.1**	**+0.1**
SNAA				*e*		06 08 16.8	
SNAA	**Sanae**	**66.96**	**162**	*e*P	**P**	**06 07 55.9**	**-0.2**
	16nm,1.4s,mb4.7						
SRU	**San Rafael**	**67.43**	**327**	*e*P	**P**	**06 07 58.9**	**-0.1**
	3.9nm,0.8s,mb4.3						
MSU	**Marysvale**	**67.89**	**325**	*e*P	**P**	**06 08 02.7**	**+0.8**
ARUT	**Antelope Range**	**68.08**	**324**	*e*P	**P**	**06 08 04.2**	**+1.2**
DBIC	**Dimbokro**	**68.24**	**76**	P	**P**	**06 08 04.4**	**+0.3**
	22nm,0.5s,mb5.1,baz=228,slow=6.4,SNR=67						
RSSD	**Black Hills**	**68.25**	**334**	*e*P	**P**	**06 08 04.3**	**+0.2**
	3.0nm,0.4s,mb4.4						
DUG	**Dugway**	**69.43**	**326**	*e*P	**P**	**06 08 11.6**	**+0.1**
	2.8nm,0.8s,mb4.0						
DAC	**Darwin (Calif)**	**69.50**	**320**	*e*P	**P**	**06 08 12.9**	**+1.0**
	5.0nm,1.0s,mb4.2						
ISA	**Isabella**	**69.65**	**319**	*e*P	**P**	**06 08 13.7**	**+0.9**
PDAR	**Pinedale Array**	**69.67**	**330**	P	**P**	**06 08 12.8**	**-0.1**
	2.2nm,0.5s,mb4.2,baz=123,slow=8.4,SNR=25						
HWUT	**Hardware Ranch**	**69.80**	**328**	*e*P	**P**	**06 08 13.1**	**-0.7**
	2.2nm,0.5s,mb4.1						
ULM	**Lac du Bonnet**	**70.62**	**343**	P	**P**	**06 08 17.6**	**-1.1**
	11nm,0.4s,mb5.0,baz=152,slow=6.5,SNR=62						
NVAR	**Mina Array Bea**	**71.33**	**322**	P	**P**	**06 08 23.9**	**+1.0**
	1.8nm,0.8s,mb3.9,baz=167,slow=6.1,SNR=17						
LRV	**Little Rabbit**	**71.73**	**318**	*e*P	**P**	**06 08 26.8**	**+1.4**
PAHR	**Pah Rah Range**	**72.80**	**322**	*e*P	**P**	**06 08 33.0**	**+1.2**
	10nm,0.8s,mb4.6						
MOD	**Modoc**	**74.75**	**323**	*e*P	**P**	**06 08 42.0**	**-1.1**
	4.2nm,1.2s,mb3.9						
BMO	**Blue Mountains**	**75.06**	**327**	*e*P	**P**	**06 08 44.8**	**0.0**
	6.9nm,1.3s,mb4.1						
TOA0	**Torodi Ar. Sit**	**76.58**	**72**	*e*P	**P**	**06 08 53.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.58**	**72**	P	**P**	**06 08 53.5**	**0.0**
	16nm,0.7s,mb4.8,baz=256,slow=5.2,SNR=184						
TORD	**Torodi Ar. Bea**	**76.58**	**72**	P	**P**	**06 08 53.5**	**0.0**
EDM	**Edmonton**	**79.19**	**335**	*e*P	**P**	**06 09 06.6**	**-1.3**
ESDC	**Sonseca Array**	**83.07**	**45**	P	**P**	**06 09 28.7**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=255,slow=6.0,SNR=4.7						
BOSA	**Boshof**	**86.36**	**119**	P	**P**	**06 09 45.7**	**+0.8**
	2.3nm,0.5s,mb4.2,baz=87,slow=8.3,SNR=8.8						
BOSA	**Boshof**	**86.36**	**119**	P	**P**	**06 09 45.7**	**+0.8**
WRA	**Warramunga Arr**	**136.50**	**214**	PKP	PKPdf	06 16 24.1	+0.2
	0.2nm,0.3s,baz=140,slow=1.6,SNR=6.8						
MKAR	**Makanchi Array**	**142.18**	**32**	PKP	PKPdf	06 16 30.7	-3.5
	0.5nm,0.6s,baz=329,slow=4.5,SNR=5.8						
MKAR				SKPbc	SKPbc	06 19 57.6	-1.6
	0.9nm,0.8s,baz=318,slow=1.6,SNR=5.3						
MKAR	**Makanchi Array**	**142.18**	**32**	PKP	PKPdf	06 16 30.7	-3.5
MKAR				SKPbc	SKPbc	06 19 57.6	-1.6
MJAR

comp=Z,8.2nm,0.1s
ESKU Eskilstuna 3.08 262 *e*P Pn 06 37 27.3 +0.4
VIKU Vikbolandet 3.19 248 *e*P Pn 06 37 28.2 -0.1
VAF Ylistaro 3.25 3 *e*P Pn 06 37 30.4 +1.1
FALU Falun 3.33 285 *e*P Pn 06 37 30.1 -0.2
HEMU Hemsoen 3.55 326 *e*P Pn 06 37 34.1 +0.7
HASU Hassela 3.65 313 *e*P Pn 06 37 35.0 +0.3
VSTU Vaestervik 3.71 237 *e*P Pn 06 37 36.2 +0.7
BYXU Byxelkrok 3.76 230 *e*P Pn 06 37 36.9 +0.6
HUSU Husum 3.85 339 *e*P Pn 06 37 37.4 -0.1
HUSU Husum 3.85 339 P Pn 06 37 37.3 -0.1
LNKU Linkoeping 3.87 249 *e*P Pn 06 37 38.2 +0.4
ASKU Askersund 3.95 260 *e*P Pn 06 37 38.5 -0.4
OSKU Oskarshamn 4.19 234 *e*P Pn 06 37 42.1 -0.1
HFS Hagfors 4.36 278 Pn Pn 06 37 44.0 -0.5
baz=104,slow=10
HFS Sn Sn 06 38 29.8 -6.1
baz=96,slow=18
HFS Lg 06 38 47.7
baz=98,slow=37
HFS Hagfors 4.36 278 *e*P Pn 06 37 44.0 -0.5
HFS *e* 06 38 29.8
HFS *e*SB Sb 06 38 47.7 +0.2
HFS Hagfors 4.36 278 Pn Pn 06 37 44.0 -0.4
SNR=2.7
HFS Sn Sn 06 38 29.8 -6.1
UDD Uddeholm 4.40 277 *e*P Pn 06 37 45.6 +0.6
NASU Vaermlandsnaes 4.76 263 P Pn 06 37 49.7 -0.3
VXJU Vaexsjoe 4.85 237 *e*P Pn 06 37 50.9 -0.4
VXJU Vaexsjoe 4.85 237 P Pn 06 37 50.8 -0.4
DEL Delary 5.59 237 *e*P Pn 06 38 00.4 -1.0
NB2 NORSAR Subarra 5.65 287 Pn Pn 06 38 01.2 -1.0
baz=96,slow=14
NB2 NORSAR Subarra 5.65 287 *e*P Pn 06 38 01.2 -1.0
ARA0 ARCESS Array S 9.86 7 Pn Pn 06 38 57.3 -2.7
baz=180,slow=16
ARA0 Sn Sn 06 40 42.4 -9.0
baz=191,slow=28
ARA0 ARCESS Array S 9.86 7 *e*P Pn 06 38 57.3 -2.7
ARA0 *e*S Sn 06 40 42.4 -9.0

NAO ***26*** *06:48:02.0, 3983N×2607E, h33km, mb3.5*
SOF ***26*** *06:48:33.6, 4223N×1974E, h9km, MD3.3*
TIR ***26*** *06:48:34.8, 4238N×1982E, h5km*
MOS ***26*** *06:48:35.6±1.1, 4237N×1977E, h10km, mb3.9/1, Error ellipse: s-maj=6.4km s-min=4.4km az=116.9*
ISCJB ***26*** *06:48:35.3±0.3, 4237N±001×1988E±001, h3km±2km, mb3.8/3, MS3.4/3, Error ellipse: s-maj=2.2km s-min=1.5km az=86.0*
NEIC ***26*** *06:48:35.9, 4239N×1985E, h2km, ML3.8(PDG), After PDG.*
NEIC Felt [IV] at Podgorica, Montenegro.
IDC ***26*** *06:48:35.5±1.2, 4230N×1992E, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.7/22, mbtmp3.6/8, ML3.6/5, MS3.2/5, Ms1 3.2/5, ms1mx2.7/30, Error ellipse: s-maj=21.7km s-min=17.7km az=164.0*
PDG ***26*** *06:48:35.9±0.5, 4239N×1985E, h2km±1km*
PDG Felt at Podgorica III-IV MCS.
LDG ***26*** *06:48:36.4±0.1, 4244N×1985E, h10km, Ml3.8/5, Error ellipse: s-maj=4.2km s-min=2.6km az=21.0*
CSEM ***26*** *06:48:36.0±0.0, 4243N×1985E, h5km, ML3.8, Error ellipse: s-maj=1.1km s-min=0.9km az=43.0*
SKO ***26*** *06:48:36.5, 4240N×1990E, h4km*
THE ***26*** *06:48:38.0, 4227N×2005E, h1km, ML3.8*
PRU ***26*** *06:48:39.4, 4255N×2009E, h0km*

ISC 26 06:48:36.0±0.3, 4235N±001×1988E±002, h0km±2km, n174, σ1§28/251, mb3.8/3, MS3.4/3, 18C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BCI	**Bajram Curri**	**0.14**	**83**	*i* Pg		**Pg**	**06 48 36.8**	**-2.0**
BCI				*i* Sg		**Sg**	**06 48 41.5**	**+0.9**
PVY	**Plav**	**0.26**	**16**	⇑*i*Pg		**Pg**	**06 48 40.1**	**-0.8**
PVY				*e*Sg		**Sg**	**06 48 44.0**	**-0.2**
PUK	**Puka**	**0.31**	**178**	*i* Pg		**Pg**	**06 48 41.6**	**-0.3**
PUK				*i* Sg		**Sg**	**06 48 46.8**	**+0.9**
TTG	**Podgorica**	**0.46**	**280**	⇑*i*Pg		**Pg**	**06 48 43.0**	**-1.9**
TTG				*e*Sg		**Sg**	**06 48 50.1**	**-0.8**
KKS	**Kukesi**	**0.48**	**125**	*i* Pg		**Pg**	**06 48 45.4**	**+0.1**
KKS				*i* Sg		**Sg**	**06 48 54.7**	**+3.2**
IVA	**Berane**	**0.52**	**2**	⇑*i*Pg		**Pg**	**06 48 45.2**	**-0.8**
IVA				*e*Sg		**Sg**	**06 48 52.8**	**0.0**
ULC	**Ulcinj**	**0.61**	**231**	⇑*i*Pg		**Pg**	**06 48 46.7**	**-0.9**
ULC				*e*Sg		**Sg**	**06 48 56.8**	**+1.3**
BUM	**Brajici-Budva**	**0.73**	**266**	⇓*i*Pg		**Pg**	**06 48 48.8**	**-1.2**
BUM				*e*Sg		**Sg**	**06 49 00.3**	**+0.9**
NKY	**Niksic**	**0.80**	**306**	⇑*i*Pg		**Pg**	**06 48 49.5**	**-1.8**
NKY				*e*Sg		**Sg**	**06 49 02.1**	**+0.5**
SJES	**Sjenica**	**0.92**	**3**	Pg		**Pg**	**06 48 52.2**	**-1.5**
SJES				Sg		**Sg**	**06 49 05.9**	**+0.3**
TIR	**Tirane**	**1.00**	**181**	*e*Pg		**Pg**	**06 48 54.6**	**-0.6**
TIR				*e*Sg		**Sg**	**06 49 09.7**	**+1.4**
TIR	**Tirane**	**1.00**	**181**	P		**Pg**	**06 48 55.0**	**-0.2**
TIR				S		**Sg**	**06 49 13.0**	**+4.8**
TIR	**Tirane**	**1.00**	**181**	P		**Pg**	**06 48 55.0**	**-0.2**
TIR				*e*Sg		**Sg**	**06 49 09.7**	**+1.5**
TIR				S		**Sg**	**06 49 13.0**	**+4.8**
HCY	**Herceg Novi**	**1.03**	**276**	⇑*i*Pg		**Pg**	**06 48 54.5**	**-1.2**
HCY				*e*Sg		**Sg**	**06 49 10.2**	**+1.2**
PLE	**Pljevlja**	**1.04**	**340**	⇓*i*Pg		**Pg**	**06 48 54.5**	**-1.5**
PLE				*e*Sg		**Sg**	**06 49 09.8**	**+0.3**
UPM	**Unac-Piva**	**1.11**	**320**	⇑*i*Pg		**Pg**	**06 48 55.9**	**-1.5**
UPM				*e*Sg		**Sg**	**06 49 12.1**	**+0.4**
BRY	**Bratogost**	**1.13**	**300**	⇑*i*Pg		**Pg**	**06 48 55.0**	**-2.7**
BRY				*e*Sg		**Sg**	**06 49 13.1**	**+0.8**
TREB	**Trebinje**	**1.19**	**288**	P		**Pg**	**06 48 57.0**	**-1.8**
TREB				S		**Sg**	**06 49 14.9**	**+0.7**
SKO	**Skopje**	**1.22**	**108**	*e*Pg		**Pg**	**06 48 59.3**	**-0.2**
SKO				*e*Sg		**Sg**	**06 49 16.5**	**+1.2**
SKO	**Skopje**	**1.22**	**108**	*e*Pg		**Pg**	**06 48 58.9**	**-0.6**
SKO				*e*Sg		**Sg**	**06 49 16.0**	**+0.7**
SKO	**Skopje**	**1.22**	**108**	P		**Pg**	**06 48 59.2**	**-0.2**
SKO	**Skopje**	**1.22**	**108**	*e*Pg		**Pg**	**06 48 58.8**	**-0.6**
SKO	**Skopje**	**1.22**	**108**	P		**Pg**	**06 48 59.2**	**-0.2**
SKO				*e*Sg		**Sg**	**06 49 15.9**	**+0.6**
OHR	**Ohrid**	**1.42**	**151**	*e*Pg		**Pn**	**06 49 01.3**	**-1.7**
OHR				*e*Sg		**Sg**	**06 49 21.0**	**-0.6**
OHR	**Ohrid**	**1.42**	**151**	*e*Pn		**Pn**	**06 49 03.2**	**+0.1**
OHR				*e*Sg		**Sg**	**06 49 22.3**	**+0.8**
OHR	**Ohrid**	**1.42**	**151**	P		**Pn**	**06 49 02.0**	**-1.0**
OHR	**Ohrid**	**1.42**	**151**	*e*Pn		**Pn**	**06 49 03.1**	**+0.1**
OHR				*e*Sg		**Sg**	**06 49 21.0**	**-0.6**
BARS	**Barje**	**1.51**	**71**	*i* Pn		**Pn**	**06 49 04.8**	**+0.4**
BARS				Sn		**Sn**	**06 49 26.1**	**+1.3**
BBLS	**Bajina Basta -**	**1.56**	**347**	*i* Pn		**Pn**	**06 49 04.6**	**-0.4**
BBLS				Sn		**Sn**	**06 49 26.9**	**+1.0**
GRUS	**Gruza**	**1.66**	**21**	*i* Pn		**Pn**	**06 49 06.5**	**+0.2**
GRUS				Sn		**Sn**	**06 49 28.3**	**0.0**
BIA	**Bitola**	**1.71**	**140**	*e*Pg		**Pn**	**06 49 05.4**	**-1.7**
BIA				*e*Sg		**Sn**	**06 49 27.9**	**-1.8**
BIA	**Bitola**	**1.71**	**140**	*e*Pn		**Pn**	**06 49 07.1**	**0.0**
BIA				*e*Sg		**Sg**	**06 49 32.4**	**+1.3**
BIA	**Bitola**	**1.71**	**140**	P		**Pn**	**06 49 07.4**	**+0.2**
BIA				S		**Sg**	**06 49 36.0**	**+4.9**
BIA	**Bitola**	**1.71**	**140**	*e*Pn		**Pn**	**06 49 07.1**	**0.0**
BIA	**Bitola**	**1.71**	**140**	P		**Pn**	**06 49 07.4**	**+0.3**
BIA				*e*Sg		**Sn**	**06 49 27.9**	**-1.8**
STIP	**Stip**	**1.84**	**110**	*e*Pb		**Pn**	**06 49 08.2**	**-0.7**
STIP				*e*Sb		**Sn**	**06 49 31.3**	**-1.5**
STIP	**Stip**	**1.84**	**110**	*e*Pn		**Pn**	**06 49 07.8**	**-1.0**
STIP				*e*Sg		**Sg**	**06 49 34.8**	**-0.4**
STIP	**Stip**	**1.84**	**110**	*e*Pn		**Pn**	**06 49 07.8**	**-1.1**
STIP				*e*Sg		**Sg**	**06 49 34.7**	**-0.5**
FNA	**Florina**	**1.93**	**144**	*e*Pb		**Pn**	**06 49 09.5**	**-0.6**
FNA				*e*Sb		**Sn**	**06 49 33.4**	**-1.6**
FNA	**Florina**	**1.93**	**144**	P		**Pn**	**06 49 10.8**	**+0.8**
FNA				S		**Sg**	**06 49 42.6**	**+4.6**
SVIS	**Svilajnac**	**2.18**	**26**	*i* Pn		**Pn**	**06 49 14.9**	**+1.3**
SVIS				Sn		**Sn**	**06 49 40.4**	**-0.8**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn		**Pn**	**06 49 14.1**	**-0.6**
VAY				*e*Sn		**Sn**	**06 49 41.3**	**-1.9**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn		**Pn**	**06 49 15.5**	**+0.9**
VAY				*e*Sg		**Sg**	**06 49 48.0**	**-0.6**
VAY	**Valandovo**	**2.26**	**116**	P		**Pb**	**06 49 17.0**	**-0.7**
VAY	**Valandovo**	**2.26**	**116**	P		**Pb**	**06 49 17.0**	**-0.7**
VAY				*e*Sg		**Sg**	**06 49 48.0**	**-0.6**
LSK	**Leskovik**	**2.27**	**166**	*i* Pn		**Pb**	**06 49 16.8**	**-1.0**
GRG	**Griva**	**2.35**	**126**	*e*Pn		**Pn**	**06 49 15.4**	**-0.4**
GRG				*e*Sn		**Sn**	**06 49 44.6**	**-0.8**
GRG	**Griva**	**2.35**	**126**	P		**Pn**	**06 49 15.9**	**0.0**
GRG				S		**Sg**	**06 49 51.9**	**+0.4**
GRG	**Griva**	**2.35**	**126**	*e*Pn		**Pn**	**06 49 15.4**	**-0.5**
GRG	**Griva**	**2.35**	**126**	P		**Pn**	**06 49 15.9**	**0.0**
GRG				*e*Sn		**Sn**	**06 49 44.6**	**-0.8**
LCI	**Lecce**	**2.41**	**214**	Pn		**Pn**	**06 49 15.9**	**-0.8**
KKB	**Krupnik**	**2.43**	**100**	*e*P		**Pn**	**06 49 15.7**	**-1.3**
SRN	**Sarande**	**2.47**	**178**	*i* Pn		**Pb**	**06 49 19.6**	**-1.7**
VTS	**Vitosha**	**2.48**	**83**	*e*Pn		**Pn**	**06 49 17.4**	**-0.2**
VTS				*e*Sn		**Sn**	**06 49 47.6**	**-0.9**
VTS	**Vitosha**	**2.48**	**83**	*i* P		**Pn**	**06 49 17.2**	**-0.4**
VTS				*i* S		**Sn**	**06 49 51.0**	**+2.5**
VTS	**Vitosha**	**2.48**	**83**	P		**Pn**	**06 49 17.4**	**-0.2**
VTS				S		**Sg**	**06 49 57.4**	**+1.8**
KZN	**Kozani**	**2.49**	**144**	*e*P		**Pb**	**06 49 21.0**	**-0.6**
BEO	**Belgrade**	**2.51**	**9**	*i* Pn		**Pn**	**06 49 17.9**	**-0.1**
BEO				Sn		**Sn**	**06 49 48.2**	**-1.1**
KNT	**Kendrikon**	**2.55**	**117**	*e*Pn		**Pn**	**06 49 18.6**	**-0.1**
KNT				*e*Sn		**Sn**	**06 49 49.4**	**-1.0**
KNT	**Kendrikon**	**2.55**	**117**	*e*Pn		**Pn**	**06 49 18.5**	**-0.2**
KNT				*e*Sn		**Sn**	**06 49 49.4**	**-1.0**
KEK	**Kerkira**	**2.63**	**181**	*e*P		**Pn**	**06 49 20.5**	**+0.7**
MEV	**Metsovon**	**2.76**	**158**	P		**Pn**	**06 49 24.4**	**+2.9**
MEV	**Metsovon**	**2.76**	**158**	P		**Pn**	**06 49 24.4**	**+2.9**
JAN	**Janina**	**2.79**	**164**	*e*P		**Pn**	**06 49 23.0**	**+1.1**
FGSL	**Fruska Gora**	**2.81**	**359**	Pn		**Pn**	**06 49 21.1**	**-1.1**
FGSL				Sn		**Sn**	**06 49 58.2**	**+1.5**
MMB	**Musomiste**	**2.97**	**104**	*e*Pn		**Sn**	**06 49 24.4**	**0.0**
MMB				*e*Sn		**Sn**	**06 49 59.9**	**-0.8**
MMB	**Musomiste**	**2.97**	**104**	*i* P		**Pn**	**06 49 25.0**	**+0.6**
MMB	**Musomiste**	**2.97**	**104**	P		**Pn**	**06 49 25.1**	**+0.7**
MMB	**Musomiste**	**2.97**	**104**	P		**Pn**	**06 49 25.1**	**+0.7**
MMB				*e*Sn		**Sn**	**06 49 59.9**	**-0.8**
DJES	**Djerdap**	**2.99**	**39**	*i* Pn		**Pb**	**06 49 31.7**	**+1.6**
DJES				Sn		**Sg**	**06 50 14.3**	**+2.3**
HORT	**Hortiatis**	**2.99**	**125**	*e*Pn		**Pn**	**06 49 24.9**	**+0.2**
LIT	**Litokhoron**	**2.99**	**138**	*e*Pn		**Pn**	**06 49 24.8**	**+0.1**
LIT				*e*Sn		**Sn**	**06 50 00.4**	**-0.8**
LIT	**Litokhoron**	**2.99**	**138**	P		**Pn**	**06 49 26.2**	**+1.5**
LIT				S		**Sb**	**06 50 06.6**	**-0.6**
LIT	**Litokhoron**	**2.99**	**138**	P		**Pn**	**06 49 26.2**	**+1.5**
LIT				*e*Sn		**Sn**	**06 50 00.4**	**-0.8**
LIT				S		**Sb**	**06 50 06.6**	**-0.6**
FGMS	**Monte Sant'Ang**	**2.99**	**259**	Pn		**Pn**	**06 49 24.3**	**-0.4**
RGNG	**Rignano Gr**	**3.27**	**260**	Pn		**Pn**	**06 49 24.4**	**-1.1**
PLG	**Polygyros**	**3.33**	**125**	*e*P		**Pn**	**06 49 30.0**	**+0.6**
FG4	**Candela**	**3.48**	**251**	Pn		**Pn**	**06 49 31.5**	**0.0**
FG5	**Orsara di Pugl**	**3.61**	**254**	Pn		**Pn**	**06 49 33.3**	**+0.1**
RZN	**Rozhen**	**3.67**	**99**	*i* P		**Pn**	**06 49 35.7**	**+1.7**
GZR	**Gura Zlata**	**3.69**	**34**	⇑*i*P		**Pn**	**06 49 35.4**	**+1.0**
RHK3	**Tenkes**	**3.73**	**342**	⇑*e*P		**Pn**	**06 49 34.0**	**-0.8**
RHK3				*e*S		**Sn**	**06 50 17.7**	**-1.7**
	0.6nm,0.3s							
EVR	**Evrytania**	**3.73**	**156**	*e*P		**Pn**	**06 49 37.5**	**+2.6**
SLCN	**Sala Consilina**	**3.75**	**240**	Pn		**Pn**	**06 49 35.2**	**+0.1**
AGG	**Agios Georgios**	**3.81**	**150**	P		**Pn**	**06 49 37.7**	**+1.7**
AGG				S		**Sn**	**06 50 25.3**	**+3.8**
CUC	**Castrocucco**	**3.87**	**234**	Pn		**Pn**	**06 49 37.5**	**+0.8**
NEO	**Neokhori**	**3.96**	**139**	*e*P		**Pn**	**06 49 40.0**	**+2.0**
PKSM	**Moragy**	**3.96**	**347**	⇑*i*P		**Pn**	**06 49 37.0**	**-1.0**
PKSM	**Moragy**	**3.96**	**347**	⇑*e*P		**Pn**	**06 49 36.7**	**-1.3**
PVL	**Pavlikeni**	**4.11**	**76**	*e*P		**Pn**	**06 49 44.0**	**+4.0**
VLS	**Valsamata**	**4.20**	**172**	*e*P		**Pn**	**06 49 40.0**	**-1.4**
MIDA	**Miranda**	**4.25**	**262**	Pn		**Pn**	**06 49 42.6**	**+0.6**
NVLJ	**Novalja**	**4.26**	**303**	*i* Pn		**Pn**	**06 49 42.6**	**+0.4**
NVLJ				*i* Sn		**Sn**	**06 50 34.7**	**+2.0**
RNI2	**Rionero Sannit**	**4.31**	**263**	Pn		**Pn**	**06 49 45.2**	**+2.3**
PKS9	**Tamasi**	**4.39**	**345**	⇑*i*P		**Pn**	**06 49 43.3**	**-0.6**
RDO	**Rodhopi**	**4.40**	**104**	*e*P		**Pn**	**06 49 44.5**	**+0.4**
INTR	**Introdacqua**	**4.45**	**268**	Pn		**Pn**	**06 49 43.7**	**-1.1**
RFI	**Roccamonfina**	**4.53**	**259**	Pn		**Pn**	**06 49 46.5**	**+0.7**
BOJS	**Bojanci**	**4.59**	**315**	*i* Pn		**Pn**	**06 49 48.6**	**+1.9**
BOJS				*i* Sn		**Sn**	**06 50 41.7**	**+0.9**
VVLD	**Villa Vallelon**	**4.68**	**266**	Pn		**Pn**	**06 49 48.2**	**+0.3**
AQU	**L'Aquila**	**4.80**	**272**	⇑*i*P		**Pn**	**06 49 50.1**	**+0.5**
AQU	**L'Aquila**	**4.80**	**272**	*e*Pn		**Pn**	**06 49 50.5**	**+0.9**
AQU	**L'Aquila**	**4.80**	**272**	*e*Pn		**Pn**	**06 49 50.5**	**+0.9**
ALN	**Alexandroupoli**	**4.84**	**105**	*e*Pn		**Pn**	**06 49 50.4**	**+0.2**
ALN				*e*Sn		**Sn**	**06 50 47.1**	**+0.1**
ALN	**Alexandroupoli**	**4.84**	**105**	P		**Pn**	**06 49 50.4**	**+0.2**
ALN				S		**Sb**	**06 50 57.3**	**-3.3**
VOIR		**4.85**	**49**	⇓*i*P		**Pn**	**06 49 53.3**	**+3.1**
DRGR		**4.88**	**24**	⇑*i*P		**Pn**	**06 49 50.3**	**-0.4**
FIAM	**Fiamignano**	**5.01**	**271**	Pn		**Pn**	**06 49 53.5**	**+1.0**
PKSG		**5.15**	**349**	*e*P		**Pn**	**06 49 53.4**	**-1.0**
PKSG				*e*S		**Sn**	**06 50 54.9**	**+0.4**
	1.0nm,0.6s							
SNTG	**Esanatoglia**	**5.18**	**282**	Pn		**Pn**	**06 49 55.1**	**+0.3**
	22nm,0.4s							
ARV	**Arcevia**	**5.22**	**285**	Pn		**Pn**	**06 49 55.6**	**+0.2**
	30nm,0.8s							
MNS	**Montasola**	**5.33**	**273**	P		**Pn**	**06 49 58.9**	**+2.0**
MNS				pmax	pmax			
	comp=Z,65nm,0.6s							
MNS	**Montasola**	**5.33**	**273**	P		**Pn**	**06 49 58.9**	**+2.0**
	comp=Z,65nm,0.6s							
ASS	**Assisi**	**5.37**	**280**	P		**Pn**	**06 49 58.1**	**+0.7**
ASS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ASS	**Assisi**	**5.37**	**280**	Pn		**Pn**	**06 49 58.1**	**+0.7**
	comp=Z,2.2nm,0.6s							
FSSB	**Fossombrone**	**5.38**	**287**	Pn		**Pn**	**06 49 57.5**	**0.0**
	comp=Z,26nm,0.4s							
MLR	**Muntele Rosu**	**5.39**	**52**	Pn		**Pn**	**06 49 58.6**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=150,slow=16,SNR=8.6							
MLR	**Muntele Rosu**	**5.39**	**52**	⇓*i*P		**Pn**	**06 49 58.5**	**+0.8**
ITM	**Ithomi**	**5.40**	**162**	*e*P		**Pn**	**06 49 58.5**	**+0.7**
PERS	**Pernice**	**5.47**	**323**	*i* Pn		**Pn**	**06 49 59.6**	**+0.8**
PERS				*i* Sn		**Sn**	**06 51 00.2**	**-2.3**
JAVS	**Javornik**	**5.48**	**312**	*i* Pn		**Pn**	**06 50 00.2**	**+1.2**
JAVS				*e*Sn		**Sn**	**06 51 05.3**	**+2.6**
PSZ	**Piszkesteto**	**5.57**	**0**	*e*Pnd			06 49 58.9	
PSZ				*e*Sn		**Sn**	**06 51 02.6**	**-2.2**
PSZ	**Piszkesteto**	**5.57**	**0**	⇑*i*P		**Pn**	**06 49 59.2**	**-0.9**
PSZ	**Piszkesteto**	**5.57**	**0**	*e*P		**Pn**	**06 49 58.7**	**-1.4**
PSZ				pmax	pmax			
	comp=Z,16nm,0.6s							
PSZ	**Piszkesteto**	**5.57**	**0**	*e*Pn		**Pn**	**06 49 58.7**	**-1.4**
	comp=Z,16nm,0.6s							
PSZ	**Piszkesteto**	**5.57**	**0**	*e*Pn		**Pn**	**06 49 58.7**	**-1.4**
	comp=Z,16nm,0.6s							
OBKA	**Obir**	**5.64**	**319**	⇓*i*Pn		**Pn**	**06 50 01.8**	**+0.6**
OBKA				⇑*i*Sn		**Sn**	**06 51 08.8**	**+2.2**
VOY	**Vojsko**	**5.66**	**313**	*e*(Pn)		**Pn**	**06 50 02.7**	**+1.3**
VOY				*e*			06 50 07.1	
VOY				*e*			06 51 08.4	
VOY				*e*(Sn)		**Sn**	**06 51 10.2**	**+3.1**
ARSA	**Arzberg**	**5.80**	**329**	⇓*i*Pn		**Pn**	**06 50 03.6**	**+0.4**
CRE	**Caprese Michel**	**5.95**	**285**	P		**Pn**	**06 50 06.7**	**+1.3**
CRE				pmax	pmax			
	comp=Z,12nm,0.6s							
CRE	**Caprese Michel**	**5.95**	**285**	Pn		**Pn**	**06 50 06.7**	**+1.3**
	comp=Z,12nm,0.6s							
ROBS	**Robic**	**6.00**	**313**	*i* Pn		**Pn**	**06 50 06.7**	**+0.6**
ROBS				*e*Sn		**Sn**	**06 51 17.8**	**+2.3**
VRI	**Vrincioaia**	**6.05**	**52**	⇑*i*P		**Pn**	**06 50 08.0**	**+1.2**
VLI	**Veliai**	**6.10**	**156**	*e*P		**Pn**	**06 50 03.5**	**-3.9**
KECS	**Kecovo**	**6.15**	**4**	*e*PN		**Pn**	**06 50 06.9**	**-1.2**
KECS				*e*SN		**Sn**	**06 51 13.5**	**-5.6**
ZST	**Bratislava**	**6.17**	**342**	*e*SN		**Sn**	**06 51 15.5**	**-4.0**
VYHS	**Vyhne**	**6.19**	**354**	*e*PN		**Pn**	**06 51 09.1**	**+0.5**
VYHS				*e*SN		**Sn**	**06 51 15.6**	**-4.5**
BURAR	**Bucovina Array**	**6.48**	**34**	⇓*i*P		**Pn**	**06 50 16.7**	**+4.0**
UZH	**Uzhgorod**	**6.51**	**14**	*e*P		**Pn**	**06 50 14.0**	**+1.0**
UZH				*e*			06 51 30.8	
UZH				pmax	pmax			
	comp=Z,26nm,0.6s							
UZH	**Uzhgorod**	**6.51**	**14**	*e*P		**Pn**	**06 50 14.0**	**+1.0**
	comp=Z,26nm,0.6s							
UZH				*e*S		**Sn**	**06 51 30.8**	**+2.9**
FVI	**Forni Avoltri**	**6.62**	**312**	P		**Pn**	**06 50 16.5**	**+2.0**
FVI				pmax	pmax			
	comp=Z,12nm,0.4s							
FVI	**Forni Avoltri**	**6.62**	**312**	P		**Pn**	**06 50 16.5**	**+2.0**
	comp=Z,12nm,0.4s							
MOA	**Molln**	**6.78**	**326**	⇓*i*Pn		**Pn**	**06 50 17.0**	**+0.2**
KOLS	**Kolonicke sedl**	**6.79**	**13**	*e*PN		**Pn**	**06 50 17.2**	**+0.2**
APE	**Apeiranthos**	**6.84**	**139**	⇑*i*P		**Pn**	**06 50 21.4**	**+3.8**
STHS	**Stebnicka Huta**	**7.13**	**7**	*e*PN		**Pn**	**06 50 23.7**	**+2.1**
STHS				*e*SN		**Sn**	**06 51 40.2**	**-3.1**
VRAC	**Vranov**	**7.33**	**343**	LR		LR	06 53 13.8	
	comp=Z,82nm,19.8s,baz=37,slow=38							
GEC2	**GERESS Array S**	**7.80**	**328**	*e*P		**Pn**	**06 50 33.5**	**+2.7**
GERES	**GERESS Array B**	**7.80**	**328**	Pn		**Pn**	**06 50 33.1**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=147,slow=16,SNR=6.0							
KHC	**Kasperske Hory**	**8.08**	**329**	*e*PN		**Pn**	**06 50 37.1**	**+2.4**
KHC				*e*SN		**Sn**	**06 52 05.9**	**-0.9**
SBF	**Sospel**	**9.23**	**284**	*e*Pn		**Pn**	**06 50 48.4**	**-2.0**
SBF				*e*Sn		**Sn**	**06 52 23.5**	**-11**
	comp=Z,5.3nm,0.3s							
FRF	**La Foret Royal**	**9.78**	**282**	*e*Pn		**Pn**	**06 50 55.8**	**-2.1**
FRF				*e*Sn		**Sn**	**06 52 37.6**	**-11**
	comp=Z,1.6nm,0.4s							
MBDF	**Montbardon**	**9.81**	**288**	*e*Pn		**Pn**	**06 50 56.3**	**-2.0**
MBDF				*e*Sn		**Sn**	**06 52 38.9**	**-10**
	comp=Z,11nm,0.7s							
LMR	**La Mourre**	**9.87**	**280**	*e*Pn		**Pn**	**06 50 56.4**	**-2.8**
LPG	**La Plagne**	**9.98**	**293**	*e*P		**Pn**	**06 51 02.7**	**+2.0**
LPG				*e*Sn		**Sn**	**06 52 42.9**	**-10**
	comp=Z,9.5nm,0.5s							
LPG	**La Plagne**	**9.98**	**293**	*e*Pn		**Pn**	**06 50 57.1**	**-3.6**
LPG				*e*P			06 51 02.7	
LPG				*e*Sn		**Sn**	**06 52 42.9**	**-10**
LPG	**La Plagne**	**9.98**	**293**	*e*P		**Pn**	**06 51 02.7**	**+2.0**
ORIF	**Oris-en-Rattie**	**10.47**	**289**	*e*Pn		**Pn**	**06 51 03.6**	**-3.8**
ORIF				*e*Sn		**Sn**	**06 52 53.7**	**-12**
	comp=Z,4.3nm,0.5s							
KEST	**Kesra**	**10.52**	**235**	LR		LR	06 54 59.4	
	comp=Z,40nm,18.7s,baz=248,slow=36							
HINF	**Hinteralfeld**	**10.71**	**305**	*e*Pn		**Pn**	**06 51 06.3**	**-4.3**
CDF	**Champ du Feu**	**10.73**	**309**	*e*Pn		**Pn**	**06 51 07.0**	**-4.0**
VIVF	**Saint-Julien-l**	**11.31**	**288**	*e*Pn		**Pn**	**06 51 14.0**	**-3.9**
SMF	**Signal de Mont**	**12.23**	**296**	*e*Pn		**Pn**	**06 51 26.6**	**-4.8**
LOR	**Lormes**	**12.39**	**299**	*e*Pn		**Pn**	**06 51 29.2**	**-4.4**
NB2	**NORSAR Subarra**	**19.44**	**347**	P		**Pn**	**06 53 04.3**	**-0.8**
	comp=Z,1.3nm,0.6s,baz=150,slow=10							
NOA	**NORSAR Array B**	**19.44**	**347**	P		**Pn**	**06 53 02.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=152,slow=10,SNR=3.5							
FINES	**FINESS Array B**	**19.48**	**9**	P		**Pn**	**06 53 04.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=3.7							
EKA	**Eskdalemuir Ar**	**19.84**	**319**	P		**Pn**	**06 53 08.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=11,SNR=7.7							
**

AOPR	**Arecibo Observ**	**4.38**	**248**	⇑*eP*	Pn	07 45 42.3	-1.7
AOPR				*eS*	Sn	07 46 33.0	-1.2
CRPR	**Cabo Rojo, PR**	**4.83**	**246**	⇑*eP*	Pn	07 45 49.3	-0.9
CRPR				*eS*	Sn	07 46 43.8	-1.5

SKHL 26 07:48:04.4±0.8, 4710N×14229E, h5km, mb3.9/1, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.35**	**115**	*i* Pg	Pg	07 48 11.4	+0.2
YSS				AMB	AMB	07 48 12.0	
	100nm,0.4s						
YSS				*i* Sg	Sg	07 48 16.0	+0.3
YSS				A		07 48 16.7	
	3μm,0.4s						
YSS				A		07 48 16.7	
	2μm,0.4s						
YSS				A		07 48 17.0	
	2μm,1.0s						
YSS				A		07 48 17.0	
	1μm,1.0s						
YSS				AMS	AMS	07 48 27.0	
	500nm,3.0s						

KRSC 26 08:02:57, 5457N×16150E, h42km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.14**	**96**	*eP*	Pn	08 03 04.3	+0.3
MKZ				*i* S	Sn	08 03 09.3	+0.4
TUMR	**Tumrok**	**1.06**	**313**	*eP*	Pn	08 03 16.7	+1.3
KII	**Karymskiy**	**1.32**	**247**	*eP*	Pn	08 03 20.8	+1.9
KII				*i* S	Sn	08 03 37.7	+2.5
KMNR	**Kamenistaya**	**1.39**	**329**	*eP*	Pn	08 03 22.0	+2.1
ZLN	**Zelenaya**	**1.50**	**345**	*eP*	Pn	08 03 23.2	+1.7
ZLN				*i* S	Sn	08 03 42.5	+2.7
KPT	**Kopyto**	**1.58**	**333**	*eP*	Pn	08 03 24.6	+2.1
KPT				*i* S	Sn	08 03 44.3	+2.6
SPN	**Mys Shipunski**	**1.71**	**211**	*eP*	Pn	08 03 24.8	+0.4
SPN				*i* S	Sn	08 03 44.5	-0.5
KRSR	**Krestovskiy**	**1.73**	**342**	*eP*	Pn	08 03 26.1	+1.5
KRSR				*i* S	Sn	08 03 47.5	+2.0
KOZ	**Kozyrevsk**	**1.76**	**329**	*eP*	Pn	08 03 27.1	+2.2
KBTR	**Krutoberegovo**	**1.81**	**24**	*eP*	Pn	08 03 26.1	+0.5
KBTR				*i* S	Sn	08 03 47.5	+0.2
KLY	**Klyuchi**	**1.81**	**345**	*eP*	Pn	08 03 27.0	+1.3
KLY				*i* S	Sn	08 03 48.0	+0.6
NLC	**Nalytchevo**	**1.90**	**223**	*eP*	Pn	08 03 28.0	+1.2
NLC				*i* S	Sn	08 03 51.0	+1.5
BDR	**Baidarnaya**	**2.01**	**355**	*eP*	Pn	08 03 30.2	+1.8
BDR				*i* S	Sn	08 03 54.4	+2.1
SMKR	**Semkarok**	**2.02**	**359**	*eP*	Pn	08 03 30.2	+1.7
SMKR				*i* S	Sn	08 03 54.5	+2.0
SRDR	**Sredinnyy**	**2.02**	**331**	*eP*	Pn	08 03 29.6	+1.0
SRDR				*i* S	Sn	08 03 52.5	-0.2
AVH	**Avacha**	**2.09**	**232**	*eP*	Pn	08 03 32.4	+2.9
AVH				*i* S	Sn	08 03 57.9	+3.6
SRKR	**Sorokina**	**2.10**	**355**	*eP*	Pn	08 03 31.4	+1.8
SRKR				*i* S	Sn	08 03 56.4	+1.9
GNL	**Ganaly**	**2.27**	**249**	*eP*	Pn	08 03 34.8	+2.8
PET	**Petropavlovsk**	**2.29**	**229**	*eP*	Pn	08 03 33.4	+1.1
PET				*i* S	Sn	08 03 59.9	+0.7
RUS	**Russkaya**	**2.79**	**221**	*eP*	Pn	08 03 40.7	+1.6
RUS				*i* S	Sn	08 04 12.7	+1.3
GRL	**Gorelyy**	**2.88**	**227**	*eP*	Pn	08 03 43.6	+3.3
GRL				*i* S	Sn	08 04 17.1	+3.5

IDC 26 08:07:51.0±6.1, 2122S×17653E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/12, mbtmp3.5/2, Error ellipse: s-maj=299.7km s-min=53.6km az=153.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**39.37**	**258**	P	P	08 15 21.3	-0.9
	0.4nm,0.6s,baz=96,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**39.43**	**264**	P	P	08 15 23.8	+1.1
	0.3nm,0.3s,baz=96,slow=8.4,SNR=22						
GERES	**GERESS Array B**	**149.20**	**338**	PKPbc	PKPbc	08 27 41.1	-0.4
	0.4nm,0.3s,baz=107,slow=3.4,SNR=4.7						

*ISCJB **26** 08:12:56.0±0.4, 3107N±002×3517E±004, h10km±4km, Error ellipse: s-maj=5.6km s-min=2.6km az=38.1*
*GII **26** 08:12:55.1±0.2, 3108N×3516E, h0km, ML2.6/3*
*HLW **26** 08:12:56.1, 3123N×3528E, h20km, Mb2.7*

ISC 26 08:12:56.6±0.3, 3107N±002×3516E±004, h12km±3km, n29, σ0°85/44, 4C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YTIR	**Yattir**	**0.29**	**353**	Pg	**Pg**	**08 13 01.1**	**-1.4**
YTIR	**Yattir**	**0.29**	**353**	Pg	**Pg**	**08 13 01.1**	**-1.5**
MZDA	**Masada**	**0.30**	**36**	Pg	**Pg**	**08 13 02.1**	**-0.5**
MZDA				Sg	**Sg**	**08 13 07.2**	**+0.6**
MASH	**Mash'abbe Sade**	**0.33**	**257**	Pg	**Pg**	**08 13 02.9**	**-0.3**
MASH				Sg	**Sg**	**08 13 08.0**	**+0.3**
RTMI	**Retamim**	**0.40**	**268**	Pg	**Pg**	**08 13 04.4**	**-0.2**
SVTA	**Shivta**	**0.48**	**253**	Pg	**Pg**	**08 13 05.7**	**-0.4**
AMAZ	**Amatzia**	**0.51**	**336**	Pg	**Pg**	**08 13 06.0**	**-0.6**
AMAZ				Sg	**Sg**	**08 13 15.1**	**+1.9**
ZFRI	**Zfri**	**0.51**	**178**	Pg	**Pg**	**08 13 05.6**	**-1.0**
ZFRI	**Zfri**	**0.51**	**178**	Pg	**Pg**	**08 13 06.6**	**-0.1**
DSI	**Dead Sea**	**0.53**	**21**	Pg	**Pg**	**08 13 06.7**	**-0.3**
DRGI	**Dragot**	**0.56**	**21**	Pg	**Pg**	**08 13 06.8**	**-0.7**
DRGI				Sg	**Sg**	**08 13 15.9**	**+1.1**
DRGI	**Dragot**	**0.56**	**21**	Pg	**Pg**	**08 13 06.8**	**-0.7**
DRGI				Sg	**Sg**	**08 13 15.9**	**+1.0**
RMNI	**Mount Ramon**	**0.58**	**216**	Pg	**Pg**	**08 13 06.8**	**-1.2**
MKRJ	**Makawir**	**0.63**	**40**	Pg	**Pg**	**08 13 09.1**	**+0.2**
KZIT	**Kziot**	**0.68**	**256**	Pg	**Pg**	**08 13 09.2**	**-0.4**
KZIT				Sg	**Sg**	**08 13 19.8**	**+1.3**
PRNI	**Paran**	**0.73**	**191**	Pg	**Pg**	**08 13 10.5**	**-0.2**
PRNI				Sg	**Sg**	**08 13 21.5**	**+1.2**
KMTI	**Karmit**	**1.03**	**201**	Pg	**Pg**	**08 13 15.1**	**-1.4**
KMTI				Sg	**Sg**	**08 13 31.0**	**+1.0**
HRFI	**Mount Harif**	**1.03**	**186**	Pg	**Pg**	**08 13 15.9**	**-0.6**
HRFI				Sg	**Sg**	**08 13 32.0**	**+2.0**
SLTI	**Sal'it**	**1.17**	**355**	Pg	**Pg**	**08 13 18.0**	**-1.1**
SLTI				Sg	**Sg**	**08 13 34.7**	**+0.3**
HMDT	**Nahal Hemdat**	**1.22**	**15**	Pg	**Pg**	**08 13 18.8**	**-1.2**
HMDT				Sg	**Sg**	**08 13 37.2**	**+1.3**
MBH	**Mount Berech**	**1.29**	**189**	Pg	**Pg**	**08 13 20.4**	**-1.0**
MBH				Sg	**Sg**	**08 13 38.9**	**+0.7**
AQBJ	**Aqaba**	**1.34**	**184**	Pn	**Pn**	**08 13 21.5**	**+0.4**
MMLI	**Mount Malkishu**	**1.38**	**9**	Pn	**Pn**	**08 13 21.4**	**-0.3**
MMLI				Sn	**Sn**	**08 13 41.0**	**+1.1**
EIL	**Elat**	**1.41**	**187**	Pn	**Pn**	**08 13 22.2**	**+0.1**
HNKL	**Nakhl**	**1.53**	**222**	⇑P	**Pn**	**08 13 23.6**	**-0.1**
HNKL				S	**Sn**	**08 13 43.8**	**+0.3**
OFRI	**'Ofer**	**1.55**	**355**	Pn	**Pn**	**08 13 24.6**	**+0.6**
AMAG	**Maghara**	**1.73**	**256**	⇑P	**Pn**	**08 13 25.9**	**-0.6**
SUZ		**2.35**	**239**	⇑P	**Pn**	**08 13 34.9**	**-0.2**
SUZ				S	**Sn**	**08 14 03.2**	**-0.7**
TR2		**2.95**	**205**	⇑P	**Pn**	**08 13 43.4**	**+0.1**

IDC 26 08:13:46.7±57.0, 1579S×17225W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.2/3, Error ellipse: s-maj=1101.0km s-min=186.3km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.81**	**241**	P	P	08 22 03.1	+0.8
	3.0nm,1.1s,baz=103,slow=11,SNR=4.2						
WB2	**Warramunga Arr**	**50.83**	**257**	*eP*	P	08 22 49.1	+0.1
WRA	**Warramunga Arr**	**50.84**	**257**	P	P	08 22 49.1	+0.1
	0.7nm,0.5s,baz=96,slow=7.0,SNR=32						
ASAR	**Alice Springs**	**51.05**	**252**	P	P	08 22 51.1	+0.4
	7.1nm,0.6s,baz=88,slow=8.4,SNR=154						
ASPA	**Alice Springs**	**51.05**	**252**	*eP*	P	08 22 51.2	+0.5

*IDC **26** 08:14:37.7±0.8, 3197N×5059E, h0km, mb4.3/15, mb1 4.4/18, mb1mx4.3/26, mbtmp4.3/18, ML4.0/3, MS4.1/21, Ms1 4.1/21, ms1mx3.9/33, Error ellipse: s-maj=18.5km s-min=14.8km az=127.0*
*THR **26** 08:14:37.9±0.5, 3189N×5079E, h14km±9km, ML4.5*
*CSEM **26** 08:14:38.1±0.1, 3184N×5064E, h20km, mb4.5/31, Ms4.0, Mw4.9, Error ellipse: s-maj=2.0km s-min=1.5km az=17.0*
*ISCJB **26** 08:14:38.7±0.7, 3187N±002×5066E±002, h20km±5km, mb4.5/56, MS4.2/36, Error ellipse: s-maj=3.9km s-min=3.1km az=18.1*
*BJI **26** 08:14:40.3, 3181N×5037E, h46km, mB5.0, mb4.8, Ms4.8, Msz4.5*
*MOS **26** 08:14:40.7±1.0, 3192N×5061E, h33km, mb4.7/23, MS4.0/12, Error ellipse: s-maj=9.5km s-min=5.8km az=121.3*
*GCMT **26** 08:14:42.8±0.5, 3201N×5072E, h25km±2km, MW4.9/54, Moment Tensor Solution. s21,c24; s54,c66; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.04±.13; $M_{\theta\theta}$-2.26±.10; $M_{\phi\phi}$2.22±.10; $M_{r\theta}$-0.13±.26; $M_{\theta\phi}$1.09±.11; $M_{\phi r}$-0.75±.24; Best double couple: M_o2.60000×10^{16} NP1:ϕ_p239.00000°,δ78.00000°,λ11.00000°. NP2: ϕ_s147.00000°,δ79.00000°,λ168.00000°. Principal axes: T 2.6890, Plg16.0000°, Azm103.0000°; N -0.1770, Plg74.0000°, Azm287.0000°; P -2.5120, Plg1.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 08:14:42.8, 3191N×5065E, h30km, mb4.5/29, ML4.5(THR), MN4.6(TEH), After TEH.*
*TEH **26** 08:14:42.8, 3191N×5065E, h30km, Mn4.6*

ISC 26 08:14:41.1±0.8, 3191N±002×5067E±002, h23km±6km, h32km±3.4km; pP-P, n286, σ1§22/295, mb4.5/56, MS4.2/36, 14C-13D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**0.79**	**14**	*ePn*	**Pn**	**08 14 49.5**	**-7.3**
IGAR	**Garneh**	**1.34**	**75**	*ePn*	**Pn**	**08 15 00.5**	**-3.8**
IKLH	**Kalahroud**	**1.60**	**28**	*ePn*	**Pn**	**08 15 05.5**	**-2.4**
IKLH	**Kalahroud**	**1.60**	**28**	Pn	**Pn**	**08 15 05.4**	**-2.5**
IZEF	**Zefreh**	**1.71**	**55**	*ePn*	**Pn**	**08 15 08.4**	**-1.1**
IZEF				*eSn*	**Sn**	**08 15 31.3**	**+0.7**
IZEF	**Zefreh**	**1.71**	**55**	Pn	**Pn**	**08 15 08.3**	**-1.2**
IZEF				Sn	**Sn**	**08 15 31.3**	**+0.7**
NASN	**Na'in**	**2.01**	**63**	*ePg*	**Pn**	**08 15 13.2**	**-0.4**
NASN	**Na'in**	**2.01**	**63**	Pn	**Pn**	**08 15 12.0**	**-1.6**
NASN	**Na'in**	**2.01**	**63**	*ePg*	**Pn**	**08 15 13.2**	**-0.4**
	SNR=90						
IKAZ	**Kazeroon**	**2.35**	**154**	*ePn*	**Pn**	**08 15 19.6**	**+1.3**
IKAZ	**Kazeroon**	**2.35**	**154**	Pn	**Pn**	**08 15 19.5**	**+1.2**
ISAD	**Sadrabad**	**2.56**	**89**	*eSn*	**Sn**	**08 15 51.6**	**-0.1**
ASAO	**Ashtian**	**2.69**	**349**	*ePN*	**Pn**	**08 15 23.6**	**+0.8**
ASAO				AML	AML	08 16 13.2	
	comp=N,2μm,0.6s						
ASAO	**Ashtian**	**2.69**	**349**	Pn	**Pn**	**08 15 23.0**	**+0.1**
ASAO	**Ashtian**	**2.69**	**349**	*ePn*	**Pn**	**08 15 23.6**	**+0.7**
	SNR=52						
ISFB	**Sefidab**	**2.77**	**28**	*ePn*	**Pn**	**08 15 25.0**	**+1.0**
ISFB	**Sefidab**	**2.77**	**28**	Pn	**Pn**	**08 15 24.9**	**+0.9**
ICHK	**Chekchek**	**3.19**	**83**	*ePn*	**Pn**	**08 15 30.0**	**+0.2**
IVRN	**Varamin**	**3.20**	**16**	*ePn*	**Pn**	**08 15 30.2**	**+0.2**
IVRN				*eSn*	**Sn**	**08 16 06.3**	**-1.1**
ISRV	**Sarvestan**	**3.28**	**140**	*ePn*	**Pn**	**08 15 31.3**	**+0.2**
ISRV	**Sarvestan**	**3.28**	**140**	Pn	**Pn**	**08 15 31.2**	**+0.1**
IMOK	**Mook**	**3.36**	**148**	*ePn*	**Pn**	**08 15 32.9**	**+0.8**
IMOK	**Mook**	**3.36**	**148**	Pn	**Pn**	**08 15 32.8**	**+0.7**
IMEH	**Mehriz**	**3.40**	**98**	*ePn*	**Pn**	**08 15 34.1**	**+1.4**
IMEH				*eSn*	**Sn**	**08 16 11.5**	**-0.8**
IMEH	**Mehriz**	**3.40**	**98**	Pn	**Pn**	**08 15 34.0**	**+1.3**
IMEH				Sn	**Sn**	**08 16 11.4**	**-0.9**
UMR	**Umm Al-Rimmam**	**3.46**	**228**	*eP*	**Pn**	**08 15 34.7**	**+1.1**
UMR				AML	AML	08 16 22.6	
	comp=Z,238nm,0.4s						
IRAZ	**Razeghan**	**3.54**	**350**	*ePn*	**Pn**	**08 15 35.3**	**+0.7**
IRAZ	**Razeghan**	**3.54**	**350**	Pn	**Pn**	**08 15 35.2**	**+0.6**
MIB	**Mutribah**	**3.55**	**235**	*eP*	**Pn**	**08 15 35.9**	**+1.0**
MIB				AML	AML	08 16 20.1	
	comp=Z,233nm,0.5s						
KBD	**Kabd**	**3.75**	**224**	*eP*	**Pn**	**08 15 38.8**	**+1.3**
KBD				AML	AML	08 16 29.0	
	comp=Z,617nm,0.3s						
IMHD	**Mahdasht**	**3.76**	**360**	*ePn*	**Pn**	**08 15 38.1**	**+0.4**
IDMV	**Damavand**	**3.83**	**17**	*ePn*	**Pn**	**08 15 38.4**	**-0.2**
IDMV	**Damavand**	**3.83**	**17**	Pn	**Pn**	**08 15 38.3**	**-0.3**
DAMV	**Damavand**	**3.86**	**16**	*ePN*	**Pn**	**08 15 39.2**	**+0.2**
DAMV	**Damavand**	**3.86**	**16**	Pn	**Pn**	**08 15 39.0**	**-0.1**
DAMV	**Damavand**	**3.86**	**16**	*ePn*	**Pn**	**08 15 39.2**	**+0.1**
	SNR=52						
ILAS	**Lasjerd**	**3.95**	**28**	*ePn*	**Pn**	**08 15 41.0**	**+0.7**
ILAS				*eSn*	**Sn**	**08 16 24.0**	**-1.9**
ILAS	**Lasjerd**	**3.95**	**28**	Pn	**Pn**	**08 15 41.0**	**+0.7**
ILAS				Sn	**Sn**	**08 16 23.9**	**-2.0**
NAY	**Al-Naaiem**	**3.97**	**229**	*eP*	**Pn**	**08 15 41.9**	**+1.3**
NAY				AML	AML	08 16 33.2	
	comp=Z,146nm,0.6s						
RST	**Umm Al-Ruwaisa**	**3.97**	**234**	*eP*	**Pn**	**08 15 41.2**	**+0.6**
RST				AML	AML	08 16 32.2	
	comp=Z,266nm,0.7s						
THKV	**Tehran--Karaj**	**4.00**	**2**	*ePN*	**Pn**	**08 15 41.0**	**+0.1**
THKV				AML	AML	08 16 59.1	
	comp=E,411nm,0.7s						
THKV	**Tehran--Karaj**	**4.00**	**2**	Pn	**Pn**	**08 15 40.0**	**-0.9**
CHTH	**Charan**	**4.00**	**5**	*ePN*	**Pn**	**08 15 41.1**	**+0.1**
CHTH	**Charan**	**4.00**	**5**	Pn	**Pn**	**08 15 41.0**	**0.0**
RDF	**Al-Radifah**	**4.02**	**223**	*eP*	**Pn**	**08 15 42.7**	**+1.6**
RDF				AML	AML	08 16 36.2	
	comp=Z,310nm,0.5s						
IFIR	**Firoozkooh**	**4.10**	**24**	*ePn*	**Pn**	**08 15 43.0**	**+0.6**
IFIR	**Firoozkooh**	**4.10**	**24**	Pn	**Pn**	**08 15 42.9**	**+0.5**
GHIR	**Ghir-Karzin**	**4.13**	**150**	*ePN*	**Pn**	**08 15 41.6**	**-1.1**
GHIR	**Ghir-Karzin**	**4.13**	**150**	Pn	**Pn**	**08 15 41.0**	**-1.8**
IBAF	**Bafgh**	**4.18**	**93**	*ePn*	**Pn**	**08 15 44.5**	**+1.0**
IBAF	**Bafgh**	**4.18**	**93**	Pn	**Pn**	**08 15 44.4**	**+0.9**
SNGE	**Sanandaj**	**4.22**	**320**	*ePn*	**Pn**	**08 15 45.0**	**+1.1**
ISHM	**Shahmirzad**	**4.46**	**29**	*ePn*	**Pn**	**08 15 48.7**	**+1.5**
ISHM	**Shahmirzad**	**4.46**	**29**	Pn	**Pn**	**08 15 48.6**	**+1.4**
IANJ	**Anjiloo**	**4.46**	**36**	*ePn*	**Pn**	**08 15 47.6**	**+0.3**
IANJ	**Anjiloo**	**4.46**	**36**	Pn	**Pn**	**08 15 47.5**	**+0.2**
IGZV	**Gazvin**	**4.48**	**355**	*ePn*	**Pn**	**08 15 48.5**	**+1.0**
IPRN	**Paran-Amol**	**4.51**	**16**	*ePn*	**Pn**	**08 15 48.5**	**+0.5**
IKIA	**Kiasar**	**4.96**	**29**	*ePn*	**Pn**	**08 15 54.7**	**+0.6**
IKIA	**Kiasar**	**4.96**	**29**	Pn	**Pn**	**08 15 54.6**	**+0.5**
IGLO	**Galoogah**	**4.97**	**27**	*ePn*	**Pn**	**08 16 00.1**	**+5.8**
BHD	**Baghdad**	**5.48**	**286**	*ex*	x	08 16 04.0	
BHD				*ex*	x	08 16 42.0	
KRBR	**Kerman**	**5.57**	**109**	*ePN*	**Pn**	**08 16 01.8**	**-0.8**
KRBR				AML	AML	08 17 40.2	
	comp=E,142nm,0.6s						
KRBR	**Kerman**	**5.57**	**109**	Pn	**Pn**	**08 16 01.0**	**-1.6**
BNDS	**Bandar-Abbas**	**6.56**	**132**	*ePN*	**Pn**	**08 16 15.3**	**-0.9**
BNDS				AML	AML	08 17 40.8	
	comp=E,146nm,0.5s						
BNDS				AML	AML	08 17 49.6	
	comp=N,144nm,0.7s						
BNDS	**Bandar-Abbas**	**6.56**	**132**	Pn	**Pn**	**08 16 15.0**	**-1.2**
ITEG		**6.90**	**80**	*ePn*	**Pn**	**08 16 20.7**	**-0.1**
IKOO		**7.08**	**84**	*ePn*	**Pn**	**08 16 23.5**	**+0.2**
GRMI	**Germi**	**7.25**	**343**	*ePN*	**Pn**	**08 16 26.4**	**+0.8**
GRMI	**Germi**	**7.25**	**343**	Pn	**Pn**	**08 16 26.0**	**+0.4**
SEMD	**Semdilli**	**7.42**	**319**	*eP*	**Pn**	**08 16 27.1**	**-0.9**
MSL	**Mosul**	**7.66**	**307**	*ex*	x	08 17 07.0	
MSL				*ex*	x	08 18 31.5	
MSL				*ex*	x	08 19 07.0	
MSL				*ex*	x	08 19 16.0	
CUKT	**Cukurca**	**7.89**	**314**	*eP*	**Pn**	**08 16 34.8**	**+0.4**
ASHO	**Ashiyiah**	**8.62**	**145**	⇑P	**Pn**	**08 16 42.5**	**-1.9**
	SNR=7.6						
SIRT	**Sirnak**	**8.77**	**312**	*eP*	**Pn**	**08 16 52.9**	**+6.4**
GNI	**Garni**	**9.52**	**331**	Lg		08 19 46.4	
	comp=N,1.3nm,0.3s,baz=90,slow=20,SNR=1.9						
GNI				LR	LR	08 20 19.2	
	comp=N,388nm,19.9s,baz=335,slow=36						
GNI	**Garni**	**9.52**	**331**	*eP*	**Pn**	**08 16 53.6**	**-3.1**
MARD	**Mardin**	**9.77**	**306**	*i* P	**Pn**	**08 16 55.8**	**-4.3**
BIDO	**Bidbid**	**10.65**	**140**	⇓P	**Pn**	**08 17 10.7**	**-1.5**
	SNR=8.6						
JMDO	**Jabal Madar**	**11.57**	**143**	⇑P	**Pn**	**08 17 24.6**	**-0.3**
	SNR=7.8						
ASF	**Jabal al Asfar**	**11.69**	**275**	Pn	**Pn**	**08 17 22.7**	**-3.8**
	comp=N,2.4nm,0.3s,baz=324,slow=7.2,SNR=16						
ASF				Sn	**Sn**	**08 19 32.2**	**-4.0**
	comp=N,0.7nm,0.3s,baz=209,slow=11,SNR=2.6						
ASF				Lg		08 20 59.5	
	comp=N,0.2nm,0.3s,baz=197,slow=19,SNR=1.8						
ASF	**Jabal al Asfar**	**11.69**	**275**	P	**Pn**	**08 17 22.7**	**-3.8**
ASF						08 19 32.2	
ZEI	**Tsey**	**12.10**	**336**	*eP*	**Pn**	**08 17 38.9**	**+6.9**
KIV	**Kislovodsk**	**13.56**	**335**	*eP*	**Pn**	**08 17 49.4**	**-2.7**
KIV				*eS*	**Sn**	**08 20 16.7**	**-5.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KIV				MLR	MLR		
	comp=Z,235nm,9.0s						
KIV	**Kislovodsk**	**13.56**	**335**	*ePn*	**Pn**	**08 17 55.5**	**+3.5**
	comp=Z,8.4nm,0.5s						
EIL	**Elat**	**13.70**	**265**	*ePn*	**Pn**	**08 17 51.5**	**-2.4**
WHFO	**Wadi Hawf**	**14.21**	**168**	⇑P	**Pn**	**08 17 57.9**	**-2.9**
	SNR=19						
AVNT	**Avonos**	**14.61**	**302**	*i* P	**Pn**	**08 18 07.8**	**+1.6**
ABTO	**Aybut**	**14.69**	**170**	⇑P	**Pn**	**08 18 04.1**	**-3.3**
	SNR=15						
RBK	**Rabkut**	**14.70**	**167**	⇑P	**Pn**	**08 18 03.6**	**-3.9**
	SNR=16						
CORM	**Corum**	**15.36**	**307**	*eP*	**Pn**	**08 18 07.7**	**-8.6**
ERMK	**Ermenek**	**15.42**	**293**	*i* P	**Pn**	**08 18 14.7**	**-2.3**
CTKT	**Corum**	**15.46**	**309**	*i* P	**Pn**	**08 18 19.9**	**+2.2**
BR131	**Keskin Array S**	**15.85**	**304**	*eP*	**Pn**	**08 18 25.5**	**+2.8**
	comp=Z,5.7nm,0.6s						
BRTR	**Keskin Array B**	**15.85**	**304**	Pn	**Pn**	**08 18 23.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=126,slow=13,SNR=26						
BRTR				LR	LR	08 24 43.1	
	comp=Z,610nm,18.9s,baz=112,slow=38						
BRTR	**Keskin Array B**	**15.85**	**304**	Pn	**Pn**	**08 18 23.3**	**+0.6**
BRTR				LR		08 24 43.1	
ELDT	**Eldivan**	**16.32**	**306**	*i* P	**Pn**	**08 18 30.4**	**+1.7**
ANTO	**Ankara**	**16.50**	**304**	*eP*	**Pn**	**08 18 29.6**	**-1.4**
ANTO	**Ankara**	**16.50**	**304**	⇑*i* P	**Pn**	**08 18 34.1**	**+3.0**
ANTO	**Ankara**	**16.50**	**304**	*eP*	**Pn**	**08 18 33.7**	**+2.6**
ANTO				pmax	pmax		
	comp=Z,36nm,1.2s						
ANTO	**Ankara**	**16.50**	**304**	*eP*	**Pn**	**08 18 33.7**	**+2.6**
	comp=Z,36nm,1.2s						
KDHN	**Kadinhani**	**16.52**	**299**	*i* P	**Pn**	**08 18 22.2**	**-9.1**
BALT	**Daday**	**16.84**	**310**	*i* P	**Pn**	**08 18 31.7**	**-3.5**
SGKT	**Sivrigoynuk**	**17.30**	**305**	*i* P	**Pn**	**08 18 39.9**	**-1.2**
TKTP	**Tekketepe**	**17.75**	**296**	*i* P	**Pn**	**08 18 45.1**	**-1.5**
ESKT	**Eskisehir**	**17.78**	**301**	*i* P	**Pn**	**08 18 47.4**	**+0.5**
SEYT	**Eskypehyr**	**17.78**	**301**	*i* P	**Pn**	**08 18 47.4**	**+0.4**
SIM	**Simferopol'**	**18.33**	**320**	P	**Pn**	**08 19 02.4**	**+8.7**
SIM				*eS*	**Sn**	**08 22 22.4**	**+4.6**
SIM				pmax	pmax		
	comp=Z,15nm,1.0s						
SIM				MLR	MLR		
	comp=Z,480nm,19.0s						
LBOS		**18.63**	**197**	⇓*eP*	**Pn**	**08 18 54.8**	**-2.7**
GDZ	**Gediz**	**18.66**	**298**	*i* P	**Pn**	**08 18 56.7**	**-1.0**
ADVT	**Abdulvahap**	**18.89**	**303**	*eP*	**Pn**	**08 18 55.4**	**-5.1**
GEMT	**Gemlik**	**19.28**	**302**	*eP*	**Pn**	**08 19 01.5**	**-3.8**
AKTK	**Aktyubinsk**	**19.30**	**14**	P	**Pn**	**08 19 03.2**	**-2.2**
AKTK				LR	LR	08 28 20.5	
AKTK	**Aktyubinsk**	**19.30**	**14**	P	**Pn**	**08 19 03.2**	**-2.2**
AKTO	**Aktyubinsk**	**19.30**	**14**	P	**Pn**	**08 19 03.2**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=199,slow=14,SNR=7.9						
AKTO				LR	LR	08 28 20.5	
	comp=Z,927nm,19.4s,baz=186,slow=43						
TRBA	**At Turbah**	**19.54**	**199**	⇑*eP*	**Pn**	**08 19 08.9**	**+0.5**
AKHS	**Akhisar**	**19.86**	**297**	*i* P	**Pn**	**08 19 10.4**	**-1.8**
SMG	**Samos**	**20.38**	**293**	*eP*	**P**	**08 19 16.5**	**+0.3**
URLA	**Izmir**	**20.68**	**295**	*i* P	**P**	**08 19 19.6**	**+0.2**
XRY	**Khrisi**	**21.05**	**285**	*eP*	**P**	**08 19 26.5**	**+3.1**
VRSR	**Storozhevoye**	**21.07**	**340**	*eP*	**P**	**08 19 28.2**	**+4.6**
VRSR				*eS*	**S**	**08 23 12.7**	**-4.3**
VRSR				*e**SS	sS	08 23 22.9	-4.2
VRSR				smax			
	comp=N,10.0nm,0.8s						
VRSR				smax			
	comp=Z,2.0nm,0.7s						
VRSR				smax	

BRVK Borovoye 25.45 28 *e*P **P 08 20 07.7 +0.5**
comp=Z,3.0nm,0.7s,mb3.9
GZR Gura Zlata 25.46 310 ⇑ *i*P **P 08 20 08.0 +0.7**
BVAR Borovoye Array 25.47 28 P **P 08 20 07.0 -0.3**
comp=Z,3.7nm,0.6s,mb4.1,baz=217,slow=6.9,SNR=17
BVAR LR LR 08 32 00.3
comp=Z,358nm,19.6s,MS3.9,baz=147,slow=41
SVE Sverdlovsk 25.85 13 *e*P **P 08 20 15.0 +4.1**
SVE *e* 08 20 44.7
SVE pmax pmax
comp=Z,40nm,2.0s,mb4.6
SVE MLR MLR
comp=N,300nm,14.0s,MS5.5
SVE MLR MLR
SVE *e*,9μm,14.0s,MS5.5
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.1
DRGR 26.06 313 ⇑ *i*P **P 08 20 13.3 +0.6**
DRGR 26.06 313 ⇑ P **P 08 20 13.3 +0.6**
BZS Buzias 26.30 310 ⇓ *i*P **P 08 20 16.3 +1.4**
UZH Uzhgorod 27.12 316 ⇓ *e*P **P 08 20 25.4 +3.1**
UZH *e* 08 20 41.0
UZH pmax pmax
comp=N,32nm,1.2s
KOLS Kolonicke sedl 27.28 317 *e*P **P 08 20 25.2 +1.5**
KOLS *e* pP 08 20 30.8 +0.3
KOLS *e*pP pP 08 20 33.3 +2.8
KOLS Kolonicke sedl 27.28 317 *e*P **P 08 20 25.2 +1.5**
KOLS *e* pP 08 20 33.3 +2.8
KOLS pmax pmax
comp=Z,11nm,0.9s,mb4.4
KOLS Kolonicke sedl 27.28 317 *e*P **P 08 20 25.2 +1.5**
comp=Z,11nm,0.9s,mb4.4
KOLS *e* pP 08 20 33.3 +2.8
KOLS Kolonicke sedl 27.28 317 *e*P **P 08 20 25.2 +1.5**
comp=Z,11nm,0.9s,mb4.4
KWP Kalwaria 27.37 318 *e*P **P 08 20 25.8 +1.3**
KECS Kecovo 28.14 315 *e*P **P 08 20 31.5 +0.1**
KECS pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
KECS Kecovo 28.14 315 *e*P **P 08 20 31.5 +0.1**
comp=Z,2.9nm,0.7s,mb4.0
MKAR Makanchi Array 28.38 49 P **P 08 20 34.0 +0.5**
comp=Z,2.1nm,0.5s,mb4.0,baz=244,slow=9.2,SNR=21
VYHS Vyhne 29.14 314 *e*P **P 08 20 41.3 +1.0**
VYHS *e* 08 20 54.4
VYHS pmax pmax
comp=Z,11nm,1.9s,mb4.3
VYHS Vyhne 29.14 314 *e*P **P 08 20 41.3 +1.0**
comp=Z,11nm,1.9s,mb4.3
VYHS *e* 08 20 54.4
OJC Ojcow 29.30 318 *e*P **P 08 20 42.0 +0.3**
ZST Bratislava 30.11 312 *e*pP pP 08 21 00.7 +5.0
MORC Moravsky Berou 30.43 316 *e*P **P 08 20 52.1 +0.4**
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MORC Moravsky Berou 30.43 316 *e*P **P 08 20 52.1 +0.4**
comp=Z,5.6nm,0.8s,mb4.3
MORC Moravsky Berou 30.43 316 *e*P **P 08 20 52.1 +0.4**
comp=Z,6.0nm,0.8s,mb4.4
WMQ Urumqi 31.30 57 *e*P **P 08 21 03.0 +3.6**
WMQ AP pP 08 21 12.0 +5.8
WMQ XP sP 08 21 16.0 +6.9
WMQ PP PP 08 22 05.0 -5.2
WMQ PCP PcP 08 23 55.0 +1.7
WMQ S **S** **08 26 06.0 +1.0**
WMQ XS sS 08 26 22.0 +5.8
WMQ SS SS 08 27 54.0 -25
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,147nm,4.7s
WMQ LR LR
comp=N,1μm,17.8s,MS4.7
WMQ LR LR
comp=E,720nm,12.8s,MS4.7
WMQ LR LR
comp=Z,934nm,18.6s
GEC2 GERESS Array S 32.46 312 *e*P **P 08 21 08.9 -0.7**
GERES GERESS Array B 32.46 312 LR LR 08 37 01.9
comp=Z,173nm,19.1s,MS3.8,baz=108,slow=42
ZAL Zalesovo 32.81 38 LR LR 08 37 14.4
comp=Z,349nm,18.7s,MS4.1,baz=56,slow=41
JOF Joensuu 33.39 344 *e*p **P 08 21 09.7 -8.0**
comp=Z,8.5nm,0.8s,mb4.7
FINES FINESS Array B 33.60 339 P **P 08 21 18.2 -1.4**
comp=Z,4.3nm,0.4s,mb4.7,baz=141,slow=11,SNR=40
FINES LR LR 08 36 21.8
comp=Z,231nm,18.2s,MS3.9,baz=156,slow=39
FINES FINESS Array B 33.60 339 P **P 08 21 18.2 -1.4**
FINES LR LR 08 36 21.8
BSD Bornholm Skovb 34.20 323 *i*P **P 08 21 22.7 -2.1**
comp=Z,46nm,1.0s,mb5.4
BSD Bornholm Skovb 34.20 323 *i*P **P 08 21 22.7 -2.1**
BSD pmax pmax
comp=Z,46nm,1.0s,mb5.4
KEST Kesra 34.36 288 LR LR 08 38 32.2
comp=Z,82nm,18.8s,MS3.5,baz=21,slow=42
DAVA Damuels 34.55 308 ⇑ *i*P **P 08 21 27.8 0.0**
comp=Z,5.8nm,0.4s,mb4.9
KMBO Kilima Mbogo 35.23 204 LR LR 08 35 34.2
comp=Z,204nm,18.9s,MS3.9,baz=86,slow=36
MBDF Montbardon 36.32 303 *e*P **P 08 21 41.6 -1.4**
comp=Z,20nm,0.9s,mb4.7
MBDF Montbardon 36.32 303 *e*P **P 08 21 41.6 -1.4**
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MBDF Montbardon 36.32 303 *e*P **P 08 21 41.6 -1.4**
comp=Z,9.9nm,0.9s,mb4.7
LPG La Plagne 36.41 305 *e*P **P 08 21 43.2 -0.6**
LPL La Plagne 36.42 305 *e*P **P 08 21 44.1 +0.2**
CDF Champ du Feu 36.49 310 *e*P **P 08 21 43.8 -0.6**
CABF La Chapelle 37.00 306 *e*P **P 08 21 48.6 -0.2**
comp=Z,36nm,0.9s,mb4.9
CABF La Chapelle 37.00 306 *e*P **P 08 21 48.6 -0.2**
CABF pmax pmax
comp=Z,18nm,0.9s,mb4.9
CABF La Chapelle 37.00 306 *e*P **P 08 21 48.6 -0.2**
comp=Z,18nm,0.9s,mb4.9
MUD Monsted U'grnd 37.71 323 *i*P **P 08 21 55.4 +0.6**
comp=Z,23nm,1.0s,mb4.9
MUD Monsted U'grnd 37.71 323 *e*P **P 08 21 55.4 +0.6**
MUD pmax pmax
comp=Z,23nm,1.0s,mb4.9
MUD Monsted U'grnd 37.71 323 *e*P **P 08 21 55.4 +0.6**
comp=Z,23nm,1.0s,mb4.9
SMF Signal de Mont 38.54 306 *e*P **P 08 22 00.9 -1.0**
comp=Z,6.4nm,0.5s,mb4.3
SMF Signal de Mont 38.54 306 *e*P **P 08 22 00.9 -1.0**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
SMF Signal de Mont 38.54 306 *e*P **P 08 22 00.9 -1.0**
comp=Z,3.2nm,0.5s,mb4.3
LOR Lormes 38.59 307 *e*P **P 08 22 02.0 -0.3**
comp=Z,2.5nm,0.4s,mb4.0
LOR *e*R
comp=Z,390nm,21.0s
LOR Lormes 38.59 307 *e*P **P 08 22 02.0 -0.3**
LOR pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
LOR MLR MLR
comp=Z,390nm,21.0s,MS4.2
LOR Lormes 38.59 307 *e*P **P 08 22 02.0 -0.3**
comp=Z,1.3nm,0.4s,mb4.0
LOR LR LR
comp=Z,390nm,21.0s,MS4.2
SSF Saint Saulge 38.81 307 *e*P **P 08 22 02.8 -1.3**
comp=Z,3.1nm,0.5s,mb4.0
SSF Saint Saulge 38.81 307 *e*P **P 08 22 02.8 -1.3**
SSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
SSF Saint Saulge 38.81 307 *e*P **P 08 22 02.8 -1.3**
comp=Z,1.5nm,0.5s,mb4.0
NB2 NORSAR Subarra 38.82 330 P **P 08 22 02.7 -1.5**
comp=Z,3.6nm,0.5s,mb4.4,baz=121,slow=8.6
NB2 NORSAR Subarra 38.82 330 P **P 08 22 02.7 -1.5**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
NOA NORSAR Array B 38.82 330 P **P 08 22 02.5 -1.7**
comp=Z,5.4nm,0.4s,mb4.6,baz=121,slow=8.3,SNR=47
NOA LR LR 08 40 10.1
comp=Z,136nm,19.9s,MS3.8,baz=120,slow=40
NAO01 NORSAR Array S 38.86 330 *e*P **P 08 22 03.4 -1.1**
comp=Z,4.3nm,0.5s,mb4.4
AVF Avril sur Loir 38.89 306 *e*P **P 08 22 04.2 -0.6**
RJF Les Rejaudoux 40.07 304 *e*P **P 08 22 14.1 -0.5**
comp=Z,12nm,0.9s,mb4.3
RJF *e*R
comp=Z,278nm,22.5s
RJF Les Rejaudoux 40.07 304 *e*P **P 08 22 14.1 -0.5**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
RJF MLR MLR
comp=Z,280nm,22.5s,MS4.1
RJF Les Rejaudoux 40.07 304 *e*P **P 08 22 14.1 -0.5**
comp=Z,5.8nm,0.9s,mb4.3
RJF LR LR
comp=Z,280nm,22.5s,MS4.1
GTA Gaotai 40.21 65 *e*P **P 08 22 17.3 +1.5**
GTA PP PP 08 23 55.3 +6.9
GTA S **S** **08 28 27.5 +6.0**
GTA XS sS 08 28 38.0 +5.1
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,105nm,4.6s
GTA LR LR
comp=N,889nm,21.0s,MS4.6
GTA LR LR
comp=E,368nm,19.5s,MS4.6
GTA LR LR
comp=Z,478nm,21.0s,MS4.3
ARCES ARCESS Array B 40.26 347 P **P 08 22 16.3 +0.1**
comp=Z,2.5nm,0.7s,mb4.0,baz=152,slow=8.1,SNR=13
ARCES LR LR 08 42 16.7
comp=Z,238nm,19.2s,MS4.1,baz=7.4,slow=41
ARCES ARCESS Array B 40.26 347 P **P 08 22 16.3 +0.1**
ARCES LR LR 08 42 16.7
LDF La Druitiere 41.38 309 *e*P **P 08 22 23.8 -1.7**
FLN La Foliniere 41.64 309 *e*P **P 08 22 26.3 -1.2**
FLN *e*R
comp=Z,304nm,21.0s
FLN La Foliniere 41.64 309 *e*P **P 08 22 26.3 -1.2**
FLN LR LR
comp=Z,300nm,21.0s,MS4.1
GRR Gorron 41.86 309 *e*P **P 08 22 28.2 -1.1**
ZAK Zakamensk 42.72 49 *e*P **P 08 22 36.5 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.7
ZAK Zakamensk 42.72 49 *e*P **P 08 22 36.5 +0.2**
comp=Z,2.0nm,1.3s,mb3.7
SGMF Saint Gilles 42.98 308 *e*P **P 08 22 37.6 -0.9**
comp=Z,8.8nm,0.5s,mb4.4
SGMF Saint Gilles 42.98 308 *e*P **P 08 22 37.6 -0.9**
SGMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
SGMF Saint Gilles 42.98 308 *e*P **P 08 22 37.6 -0.9**
comp=Z,4.4nm,0.5s,mb4.4
QUIF Quistinic 43.38 308 *e*P **P 08 22 40.5 -1.2**
ROSF Rostrenen 43.47 308 *e*P **P 08 22 40.0 -2.4**
LZH Lanzhou 43.83 69 *e*P **P 08 22 46.5 +1.2**
LZH AP pP 08 22 54.0 +1.7
LZH PP PP 08 24 28.5 +1.0
LZH PCP PcP 08 24 32.5 +1.0
LZH *e*S **S** **08 29 11.0 -3.9**
LZH SS SS 08 32 23.0 -8.2
LZH AMB AMB
comp=Z,22nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,74nm,5.0s
LZH LR LR
comp=N,554nm,18.2s
LZH LR LR
comp=Z,842nm,14.3s,MS4.8
LZH Lanzhou 43.83 69 *e*P **P 08 22 46.5 +1.2**
LZH pP pP 08 22 54.0 +1.7
LZH sP sP 08 22 57.5 +2.4
LZH PP PP 08 24 28.4 +0.9
LZH PcP PcP 08 24 32.5 +1.0
LZH *e*S **S** **08 29 11.0 -3.9**
LZH sS sS 08 29 24.1 -2.3
LZH SS SS 08 32 23.0 -8.2
ESDC Sonseca Array 44.41 296 P **P 08 22 50.8 +0.8**
comp=Z,0.6nm,0.5s,mb3.6,baz=72,slow=8.1,SNR=4.3
SONM Songino Array 44.65 52 P **P 08 22 52.4 +0.5**
comp=Z,1.0nm,0.6s,mb3.8,baz=261,slow=7.5,SNR=6.3
SONM LR LR 08 41 48.9
comp=Z,208nm,20.4s,MS4.0,baz=270,slow=36
CD2 Chengdu 44.94 77 *e*P **P 08 22 56.3 +2.2**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.2s
KMI Kunming 45.89 85 P **P 08 23 01.0 -0.7**
KMI AP pP 08 23 11.8 +3.1
KMI XP sP 08 23 15.8 +4.3
KMI PP PP 08 24 52.8 +3.4
KMI PPP 08 25 31.3
KMI S **S** **08 29 47.6 +2.8**
KMI SS SS 08 29 59.3 +3.0
KMI SS SS 08 33 00.3 -9.2
KMI SSS 08 34 04.9
KMI AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
KMI AMB AMB
comp=Z,79nm,4.5s
KMI LR LR
comp=N,126nm,15.7s,MS4.3
KMI LR LR
comp=E,269nm,16.3s,MS4.3
KMI LR LR
comp=Z,254nm,18.5s,MS4.2
KMI Kunming 45.89 85 P **P 08 23 01.0 -0.7**
KMI pP pP 08 23 11.7 +3.0
KMI sP sP 08 23 15.7 +4.2
KMI PP PP 08 24 52.8 +3.4
KMI PPP 08 25 31.3
KMI S **S** **08 29 47.6 +2.8**
KMI sS sS 08 29 59.3 +3.0
KMI SS SS 08 33 00.3 -9.2
KMI SSS 08 34 04.9
XAN Xi'an 48.34 71 P **P 08 23 21.0 +0.2**
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
TOA0 Torodi Ar. Sit 48.50 259 *e*P **P 08 23 20.5 -1.5**
TOA0 Torodi Ar. Sit 48.50 259 *e*P **P 08 23 20.5 -1.5**
TORD Torodi Ar. Bea 48.50 259 P **P 08 23 20.9 -1.1**
comp=Z,6.0nm,0.8s,mb4.7,baz=55,slow=7.6,SNR=47
TORD LR LR 08 44 17.7
comp=Z,352nm,20.0s,MS4.3,baz=60,slow=37
HHC Hu-ho-hao-te 48.96 61 *e*P **P 08 23 27.5 +1.9**
HHC AP pP 08 23 37.3 +4.7
HHC XP sP 08 23 41.3 +5.9
HHC PCP PcP 08 24 52.0 +2.5
HHC PP PP 08 25 21.0 +1.9
HHC SCP ScP 08 28 42.8 -0.4
HHC PCS PcS 08 28 46.8 +1.0
HHC S **S** **08 30 28.0 -0.4**
HHC XS sS 08 30 44.5 +4.5
HHC SCS ScS 08 33 14.0 -2.5
HHC SS SS 08 33 54.3 -5.0
HHC AMB AMB
comp=Z,6.0nm,0.3s,mb5.1
HHC AMB AMB
comp=Z,152nm,4.3s
HHC LR LR
comp=N,456nm,11.8s
HHC LR LR
comp=E,278nm,8.0s
HHC LR LR
comp=Z,167nm,14.2s,MS4.2
BOD Bodaibo 49.56 39 *e*P **P 08 23 30.0 -0.2**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
BOD Bodaibo 49.56 39 *e*P **P 08 23 30.0 -0.2**
comp=Z,6.0nm,1.2s,mb4.5
TIXI Tiksi 56.35 22 *e*P **P 08 24 21.5 +1.2**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TIXI Tiksi 56.35 22 *e*P **P 08 24 21.5 +1.2**
comp=Z,3.0nm,0.9s,mb4.3
NJ2 Nanjing 56.89 70 *e*P **P 08 24 24.5 +0.4**
NJ2 PCP PcP 08 25 19.5 0.0
NJ2 S **S** **08 32 17.0 +0.4**
NJ2 AMB AMB
comp=Z,60nm,1.5s,mb5.4
NJ2 AMB AMB
comp=Z,330nm,5.3s
NJ2 LR LR
comp=N,720nm,21.2s,MS4.8
NJ2 LR LR
comp=E,520nm,21.4s,MS4.8
NJ2 LR LR
comp=Z,450nm,14.0s
DBIC Dimbokro 57.40 256 P **P 08 24 27.2 -0.4**
comp=Z,5.9nm,0.8s,mb4.7,baz=48,slow=7.8,SNR=6.5
DBIC LR LR 08 51 49.3
comp=Z,428nm,18.3s,MS4.6,baz=41,slow=39
DBIC Dimbokro 57.40 256 *e*P **P 08 24 28.0 +0.3**
DBIC pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 57.40 256 *e*P **P 08 24 28.0 +0.3**
comp=Z,8.6nm,0.8s,mb4.8
DBIC Dimbokro 57.40 256 *e*P **P 08 24 28.0 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
SNY Shenyang 57.57 58 ⇓ P **P 08 24 30.5 +1.6**
SNY S **S** **08 32 25.8 +0.4**
SNY AMB AMB
comp=Z,17nm,0.3s,mb5.5
SNY AMB AMB
comp=Z,130nm,4.9s
SNY LR LR
comp=E,271nm,12.4s
SNY LR LR
comp=Z,262nm,13.1s,MS4.5
LIC Lamto 57.78 256 *e*P **P 08 24 30.2 -0.2**
comp=Z,29nm,0.9s,mb5.0
LIC *e*R
comp=Z,507nm,20.2s
LIC Lamto 57.78 256 *e*P **P 08 24 30.2 -0.2**
comp=Z,14nm,0.9s,mb5.0
LIC LR LR
comp=Z,250nm,20.3s,MS4.3
LIC Lamto 57.78 256 *e*P **P 08 24 30.2 -0.2**
comp=Z,14nm,0.9s,mb5.0
SSE Sheshan 59.09 70 *e*P **P 08 24 37.5 -2.0**
SSE AMB AMB
comp=Z,31nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,48nm,3.5s
SSE LR LR
comp=N,207nm,19.7s,MS4.3
SSE LR LR
comp=E,123nm,19.7s,MS4.3
SSE LR LR
comp=Z,122nm,21.5s,MS4.0
SSE Sheshan 59.09 70 *e*P **P 08 24 37.6 -1.9**
SUMG Summit 59.63 340 *e*P **P 08 24 43.3 0.0**
comp=Z,17nm,1.0s,mb5.0
SUMG Summit 59.63 340 *e*P **P 08 24 43.3 0.0**
comp=Z,17nm,1.0s,mb5.0
LBTB Lobatse 61.47 206 *e*P **P 08 24 57.3 +1.5**
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LBTB Lobatse 61.47 206 *e*P **P 08 24 57.3 +1.5**
comp=Z,5.2nm,0.6s,mb4.8
LBTB Lobatse 61.47 206 *e*P **P 08 24 57.3 +1.5**
comp=Z,5.0nm,0.6s,mb4.8
BOSA Boshof 64.86 205 P **P 08 25 19.1 +0.8**
comp=Z,4.0nm,0.6s,mb4.6,baz=34,slow=6.4,SNR=9.9
BOSA LR LR 08 55 11.9
comp=Z,189nm,20.9s,MS4.3,baz=203,slow=38
SEY Seymchan 67.12 29 *e*P **P 08 25 33.1 +0.3**
BILL Bilibino 69.56 21 P **P 08 25 50.5 +2.4**
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.5
MJAR Matsushiro Arr 70.05 59 LR LR 09 00 38.0
comp=Z,135nm,18.1s,MS4.2,baz=345,slow=39
JHJ Hachijo jima 2 72.72 61 LR LR 09 03 49.9
comp=Z,214nm,18.1s,MS4.5,baz=44,slow=41
SCHQ Schefferville 78.36 328 P **P 08 26 39.1 -0.5**
comp=Z,3.2nm,0.5s,mb4.5,baz=48,slow=3.1,SNR=9.8
SCHQ Schefferville 78.36 328 *e*P **P 08 26 39.5 -0.1**
comp=Z,25nm,1.4s,mb4.9
SCHQ Schefferville 78.36 328 *e*P **P 08 26 39.5 -0.1**
comp=Z,24nm,1.4s,mb4.9
INK Inuvik 80.04 2 *e*P **P 08 26 47.3 -1.5**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 80.04 2 *e*P **P 08 26 47.3 -1.5**
comp=Z,3.4nm,1.1s,mb4.2
INK Inuvik 80.04 2 *e*P **P 08 26 47.3 -1.5**
comp=Z,3.0nm,1.1s,mb4.1
EGAK Eagle 83.19 5 *e*P **P 08 27 05.0 -0.4**
EGAK Eagle 83.19 5 *e*P **P 08 27 05.0 -0.4**
FITZ Fitzroy Crossi 87.29 113 *e*P **P 08 27 26.3 +0.4**
comp=Z,6.7nm,1.1s,mb4.8
WRA Warramunga Arr 95.17 110 P **P 08 28 02.5 -0.1**
comp=Z,0.5nm,0.6s,mb4.1,baz=314,slow=4.2,SNR=9.1
WRA LR LR 09 11 49.1
comp=Z,66nm,20.2s,MS4.1,baz=75,slow=36
WB2 Warramunga Arr 95.18 110 *e*P **P 08 28 02.7 +0.1**
MAW Mawson 99.63 175 LR LR 09 07 32.2
comp=Z,70nm,21.9s,MS4.1,baz=244,slow=32

---

*ISCJB **26** 08:53:50.6±1.0, 657S±006×155.12E±0.07, h357km±11km, mb4.4/30, Error ellipse: s-maj=12.6km s-min=7.7km az=85.9*
*IDC **26** 08:53:51.7±1.3, 658S×155.07E, h353km±12km, mb4.0/11, mb1 4.2/14, mb1mx4.1/16, mbtmp4.7/14, Error ellipse: s-maj=15.7km s-min=9.9km az=126.0*
*NEIC **26** 08:53:51.7±0.9, 652S×155.14E, h356km±10km, mb4.7/19, Error ellipse: s-maj=10.0km s-min=6.8km az=141.0*
*BJI **26** 08:53:55.2, 581S×154.65E, h355km, mB4.6, mb4.4*
ISC 26 08:53:52.0±0.9, 658S±007×155.20E±007, h359km±10km, n55, σ0.893/57, mb4.4/30, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.49**	**121**	P	**Pn**	**08 55 16.8**	**-0.5**
	45nm,0.3s,baz=251,slow=1.3,SNR=14						
HNR	**Honiara**	**5.49**	**121**	*e*Pn	**Pn**	**08 55 16.3**	**-1.1**
	279nm,1.0s						
PMG	**Port Moresby**	**8.44**	**250**	P	**Pn**	**08 55 51.8**	**+0.4**
	1.9nm,0.3s,baz=37,slow=10,SNR=6.9						
PMG	**Port Moresby**	**8.44**	**250**	*e*Pn	**Pn**	**08 55 52.0**	**+0.6**
	18nm,0.7s						
CTA	**Charters Tower**	**15.99**	**212**	⇓ *i*P	**P**	**08 57 19.1**	**+2.3**
	75nm,0.6s						
CTA	**Charters Tower**	**15.99**	**212**	P	**P**	**08 57 19.1**	**+2.3**
	9.4nm,0.3s,baz=38,slow=12,SNR=136						
CTAO	**Charters Tower**	**15.99**	**212**	*e*P	**P**	**08 57 19.2**	**+2.4**
	99nm,0.7s						
DZM	**Mont Dzumac**	**18.85**	**146**	*e*P	**P**	**08 57 46.8**	**-0.5**
DZM	**Mont Dzumac**	**18.85**	**146**	P	**P**	**08 57 48.6**	**+1.3**
	4.7nm,0.3s,baz=302,slow=11,SNR=49						
KAKA	**Kakadu**	**23.24**	**253**	*e*P	**P**	**08 58 30.3**	**+1.7**
	18nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**24.20**	**235**	*e*P	**P**	**08 58 37.7**	**+0.3**
	37nm,0.6s,mb4.8						
WRAB				*e*S	**S**	**09 02 30.0**	**+1.2**
WB2	**Warramunga Arr**	**24.21**	**235**	*e*P	**P**	**08 58 37.0**	**-0.4**
WRA	**Warramunga Arr**	**24.22**	**235**	P	**P**	**08 58 37.8**	**+0.3**
	18nm,0.5s,mb4.5,baz=58,slow=9.2,SNR=286						
WRA				S	**S**	**09 02 28.3**	**-0.7**
	1.6nm,0.7s,baz=68,slow=13,SNR=6.0						
WRA				ScP	ScP	09 05 13.7	+3.3
	1.3nm,0.8s,baz=66,slow=3.0,SNR=6.1						
AS31	**Alice Springs**	**26.59**	**228**	*e*P	**P**	**08 58 58.2**	**-0.4**
ASAR	**Alice Springs**	**26.59**	**228**	P	**P**	**08 58 58.4**	**-0.3**
	15nm,0.7s,mb4.3,baz=58,slow=9.0,SNR=199						
ASAR				S	**S**	**09 03 04.5**	**-1.9**
	3.1nm,0.7s,baz=56,slow=15,SNR=8.5						
ASAR				ScP	ScP	09 05 20.9	+3.6
	2.0nm,0.7s,baz=44,slow=2.7,SNR=12						
ASPA	**Alice Springs**	**26.60**	**228**	*e*P	**P**	**08 58 58.2**	**-0.5**
STKA	**Stephens Creek**	**28.19**	**205**	*e*P	**P**	**08 59 13.0**	**+0.2**
	4.6nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**28.19**	**205**	P	**P**	**08 59 13.2**	**+0.4**
	7.0nm,0.7s,mb4.0,baz=19,slow=8.3,SNR=22						
FITZ	**Fitzroy Crossi**	**31.00**	**246**	*e*P	**P**	**08 59 36.4**	**-1.0**
	47nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**31.00**	**246**	P	**P**	**08 59 36.5**	**-0.9**
	26nm,0.7s,mb4.6,baz=86,slow=7.3,SNR=68						
FORT	**Forrest**	**35.02**	**223**	*e*P	**P**	**09 00 12.0**	**+0.1**
	46nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**37.24**	**244**	*e*P	**P**	**09 00 29.8**	**-0.7**
	23nm,0.5s,mb4.7						
MBWA				*e*PP	PP	09 02 04.2	-0.2
KKM	**Kota Kinabalu**	**40.87**	**287**	*e*P	**P**	**09 01 00.1**	**-0.1**
KLBR	**Kellerberrin**	**42.90**	**230**	*e*P	**P**	**09 01 15.5**	**-1.0**
	11nm,0.5s,mb4.2						
KSM	**Kuching**	**45.51**	**279**	*e*P	**P**	**09 01 36.0**	**-0.9**
KSM				*e*pP	pP	09 02 28.2	-21
MJAR	**Matsushiro Arr**	**45.76**	**341**	P	**P**	**09 01 37.9**	**-0.9**
	3.0nm,0.7s,mb3.5,baz=163,slow=6.6,SNR=6.7						
MAJO	**Matsushiro**	**45.76**	**341**	*e*P	**P**	**09 01 37.8**	**-1.0**

5.9nm,0.5s,mb4.0
KULM Kulim 55.71 281 *e*P **P 09 02 51.5 -0.8**
KMI Kunming 59.95 304 P **P 09 03 21.3 -0.2**
KMI AMB AMB
comp=Z,8.0nm,0.8s,mb4.2
CD2 Chengdu 61.70 310 *e*P **P 09 03 34.0 +0.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,30nm,6.2s
HHC Hu-ho-hao-te 61.88 324 *e*P **P 09 03 36.8 +2.5**
HHC PCP PcP 09 04 14.0 +2.6
HHC AP pP 09 04 53.0 +1.5
HHC XP sP 09 05 30.5 +0.1
HHC PP PP 09 06 00.8 +5.3
HHC SCP ScP 09 07 40.3 +2.5
HHC PCS PcS 09 08 16.0 +1.1
HHC S **S 09 11 32.3 +3.4**
HHC SCS ScS 09 12 50.3 +0.7
HHC AMB AMB
comp=Z,8.0nm,0.3s,mb4.7
HHC AMB AMB
comp=Z,121nm,4.6s
HHC LR LR
comp=N,100nm,6.5s
HHC LR LR
comp=E,121nm,5.1s
HHC LR LR
comp=Z,106nm,7.1s
LZH Lanzhou 64.16 315 *e*P **P 09 03 45.0 -4.2**
LZH AP pP 09 05 03.5 -3.5
LZH XP sP 09 05 40.0 -5.8
LZH AMB AMB
comp=Z,17nm,1.0s,mb4.6
LZH Lanzhou 64.16 315 *e*P **P 09 03 45.0 -4.2**
LZH pP pP 09 05 03.5 -3.5
LZH sP sP 09 05 40.0 -5.8
MA2 Magadan 66.04 358 *e*P **P 09 04 00.8 -0.4**
comp=Z,11nm,0.7s,mb4.7
MA2 *e*PcP PcP 09 04 29.0 +0.4
SONM Songino Array 69.10 327 P **P 09 04 20.5 +0.4**
comp=Z,0.6nm,0.6s,mb3.5,baz=134,slow=6.4,SNR=4.3
VNDA Vanda 70.99 178 P **P 09 04 31.1 -0.4**
comp=Z,0.5nm,0.9s,mb3.3,baz=329,slow=6.3,SNR=3.3
KDAK Kodiak Island 76.71 26 P **P 09 05 04.2 -0.1**
comp=Z,11nm,0.6s,mb4.7,baz=207,slow=11,SNR=7.8
KDAK Kodiak Island 76.71 26 P **P 09 05 04.2 -0.1**
SVW2 Sparrevohn 77.54 22 *e*P **P 09 05 09.7 +0.8**
TTA Tatalina 78.57 21 *e*P **P 09 05 14.6 +0.1**
comp=Z,36nm,1.4s,mb4.9
WMQ Urumqi 78.66 317 *e*P **P 09 05 16.5 +1.5**
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
WMQ AMB AMB
comp=Z,87nm,5.3s
SLKM Skilak Lake 79.28 24 *e*P **P 09 05 18.2 -0.1**
PMR Palmer 80.33 24 *e*P **P 09 05 23.4 -0.6**
comp=Z,29nm,1.6s,mb4.8
MCK McKinley 81.60 22 *e*P **P 09 05 29.6 -0.9**
comp=Z,11nm,1.0s,mb4.6
COLA College 82.62 21 *e*P **P 09 05 34.5 -1.4**
comp=Z,13nm,0.9s,mb4.8
MKAR Makanchi Array 83.23 319 P **P 09 05 39.3 +0.4**
comp=Z,3.4nm,0.5s,mb4.4,baz=99,slow=6.2,SNR=36
QSPA South Pole Qui 83.39 180 *e*P **P 09 05 39.9 +0.2**
comp=Z,1.8nm,0.6s,mb4.1
ZAL Zalesovo 83.96 326 P **P 09 05 41.5 -1.0**
comp=Z,2.6nm,0.4s,mb4.4,baz=1.5,slow=8.7,SNR=2.0
EGAK Eagle 85.06 23 *e*P **P 09 05 48.1 +0.1**
DAWY Dawson 85.44 24 *e*P **P 09 05 50.8 +0.9**
INK Inuvik 89.26 21 *e*P **P 09 06 07.3 -0.7**
comp=Z,2.2nm,0.9s,mb4.0
NVAR Mina Array Bea 91.31 52 P **P 09 06 19.6 +2.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=256,slow=8.4,SNR=26
PDAR Pinedale Array 98.28 48 P **P 09 06 49.7 +0.5**
comp=Z,0.5nm,0.6s,mb3.9,baz=298,slow=3.2,SNR=5.3
NOA NORSAR Array B 119.38 341 PKP PKPdf 09 11 58.3 -0.7
comp=Z,0.4nm,0.7s,baz=67,slow=5.2,SNR=3.0
TORD Torodi Ar. Bea 153.11 286 PKPbc PKPbc 09 13 08.0 +0.6
comp=Z,0.2nm,0.3s,baz=87,slow=2.3,SNR=8.7
TORD PKPab PKPab 09 13 22.1 +1.5
comp=Z,0.4nm,0.6s,baz=90,slow=3.3,SNR=4.3

NNC 26 09:10:59.2±2.2, 5353N×8703E, h0km, mb3.7, mpv3.4, 1C-4D, Error ellipse: s-maj=20.1km s-min=8.3km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK09	**Makanchi Array**	**7.42**	**206**	⇓Pn	Pn	09 12 48.6	-0.1
	0.8nm,0.3s,baz=28,slow=12						
MK09				⇑Sn	Sn	09 14 15.4	+1.8
	3.6nm,0.9s						
MK09				⇓Lg		09 14 52.8	
	1.5nm,0.6s,baz=39,slow=25						
VOSK	**Vostochnaya**	**9.69**	**272**	⇓Pn	Pn	09 13 20.7	+0.8
	0.5nm,0.3s						
VOSK				⇓Sn	Sn	09 15 10.5	+1.2
	0.2nm,0.2s						
BVA0	**Borovoye Array**	**9.98**	**274**	Sn	Sn	09 15 15.9	-0.8
ZRNK	**Zerenda**	**10.82**	**274**	Sn	Sn	09 15 38.4	+1.2

IDC 26 09:20:01.4±1.5, 028S×12492E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=181.0km s-min=24.4km az=63.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.61**	**155**	P	P	09 24 52.7	-0.1
	0.2nm,0.3s,baz=333,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**24.83**	**160**	P	P	09 25 26.2	+1.0
	0.5nm,0.8s,baz=341,slow=7.6,SNR=5.6						
ASAR				PcP	PcP	09 29 01.1	-0.4
	0.2nm,0.4s,baz=338,slow=1.5,SNR=4.5						
MKAR	**Makanchi Array**	**59.87**	**327**	P	P	09 30 09.1	+0.2
	0.8nm,0.3s,baz=127,slow=8.0,SNR=15						

*NEIC **26** 09:20:52.4, 3641S×7280W, h39km, MD3.9(GUC), After GUC.*
GUC 26 09:20:52.4±1.0, 3641S×7280W, h39km±6km, MD3.9, ML3.4, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.28**	**2**	⇓*i*P	Pn	09 21 00.4	+0.1
COCH				*i* S	Sn	09 21 06.4	+0.6
CNCO	**Chanco**	**0.70**	**18**	⇑*i*P	Pn	09 21 05.6	-0.3
CNCO				*i* S	Sn	09 21 16.0	+0.5
LNCH	**Linares**	**1.12**	**60**	⇑*i*P	Pn	09 21 12.0	+0.4
LNCH				*i* S	Sn	09 21 27.6	+1.8
LNCH				AML	AML	09 21 29.0	
	comp=E,1μm,0.5s						
LNCH	**Linares**	**1.12**	**60**	⇑*i*P	Pn	09 21 12.0	+0.4
LNCH				*i* S	Sn	09 21 27.6	+1.8
TALC	**Talca**	**1.38**	**44**	⇑*i*P	Pn	09 21 13.2	-2.0
TALC				*e*S	Sn	09 21 31.5	-0.7
TALC				AML	AML	09 21 35.3	
	comp=E,2μm,0.4s						
TALC	**Talca**	**1.38**	**44**	⇑*i*P	Pn	09 21 13.2	-2.0
TALC				*e*S	Sn	09 21 31.5	-0.7
NICH	**Los Niches**	**1.90**	**43**	⇓*i*P	Pn	09 21 23.8	+1.6
NICH				AML	AML	09 21 57.0	
	comp=Z,366nm,0.1s						
LNV	**Longovilo**	**2.70**	**25**	*e*P	Pn	09 21 37.4	+4.1
CACH	**El Canelo**	**2.91**	**39**	*e*P	Pn	09 21 36.8	+0.7
CHCH	**Chadas Angostu**	**3.03**	**36**	*i*P	Pn	09 21 41.8	+4.0
CLCH	**Cerro Calan**	**3.53**	**32**	*e*P	Pn	09 21 44.7	0.0
PEL	**Peldehue**	**3.69**	**29**	*e*P	Pn	09 21 46.7	-0.3
FCH	**Farellones**	**3.70**	**35**	*e*P	Pn	09 21 47.6	+0.6

MAN 26 09:25:47.8, 838N×12343E, h32km, mb2.2, ML3.9, MS1.6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.22**	**340**	⇓*i*P	Pb	09 25 55.8	+1.4
DCPH				*i* S	Sb	09 26 01.6	+2.7
PAGZ	**Pagadian**	**0.53**	**185**	*e*P	Pb	09 25 59.6	+0.8
PAGZ				*e*S	Sb	09 26 07.5	+1.3
IPIL	**Ipil**	**1.03**	**235**	*e*P	Pn	09 26 06.5	+0.5
IPIL				*e*S	Sn	09 26 19.7	+0.4

*KRSC **26** 09:28:38, 5166N×15379E, h495km, ML4.3*
*MOS **26** 09:28:39.7±0.7, 5242N×15247E, h423km, mb3.6/4, Error ellipse: s-maj=40.8km s-min=21.1km az=52.2*
*ISCJB **26** 09:28:45.2±1.0, 519N±02×1544E±04, h466km±9km, mb3.4/6, Error ellipse: s-maj=41.9km s-min=13.8km az=63.5*
*IDC **26** 09:28:45.2±15.0, 5240N×15274E, h472km±188km, mb3.0/6, mb1 3.3/6, mb1mx2.9/21, mbtmp3.9/6, Error ellipse: s-maj=36.7km s-min=35.1km az=168.0*
ISC 26 09:28:46.6±0.9, 519N±02×1547E±04, h470km±9km, n22, σ1°07/27, mb3.4/6, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.32**	**71**	*e*P	**P**	**09 29 44.6**	**-1.2**
RUS	**Russkaya**	**2.40**	**75**	*e*P	**P**	**09 29 51.5**	**+0.3**
RUS				*i* S	**S**	**09 30 45.3**	**+1.7**
PET	**Petropavlovsk**	**2.67**	**63**	*e*PN	**P**	**09 29 53.0**	**+0.2**
PET				pmax	pmax		
	comp=Z,43nm,0.4s						
PET	**Petropavlovsk**	**2.67**	**63**	*e*P	**P**	**09 29 53.3**	**+0.5**
GNL	**Ganaly**	**2.68**	**46**	*e*P	**P**	**09 29 51.2**	**-1.7**
AVH	**Avacha**	**2.82**	**59**	*e*P	**P**	**09 29 54.9**	**+1.0**
SPN	**Mys Shipunski**	**3.47**	**67**	*e*P	**P**	**09 29 59.0**	**+0.4**
SPN				*i* S	**S**	**09 30 56.7**	**-0.5**
TUMR	**Tumrok**	**4.71**	**41**	*e*P	**P**	**09 30 10.2**	**+1.0**
MKZ	**Mys Kozlova**	**5.00**	**55**	*e*P	**P**	**09 30 12.1**	**+0.2**
MKZ				*i* S	**S**	**09 31 20.1**	**-1.4**
KMNR	**Kamenistaya**	**5.09**	**38**	*e*P	**P**	**09 30 13.2**	**+0.5**
ZLN	**Zelenaya**	**5.50**	**38**	*e*P	**P**	**09 30 17.7**	**+1.1**
ZLN				*i* S	**S**	**09 31 29.5**	**-0.7**
KBTR	**Krutoberegovo**	**6.45**	**44**	*e*P	**P**	**09 30 26.7**	**+0.5**
KBTR				*i* S	**S**	**09 31 46.0**	**-1.7**
INK	**Inuvik**	**36.83**	**36**	P	**P**	**09 35 13.7**	**+0.1**
	comp=Z,1.0nm,0.3s,mb3.7,baz=300,slow=8.4,SNR=29						
INK	**Inuvik**	**36.83**	**36**	P	**P**	**09 35 13.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YKA	**Yellowknife Ar**	**46.25**	**40**	P	**P**	**09 36 29.1**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.3,baz=304,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**46.25**	**40**	P	**P**	**09 36 29.1**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**53.38**	**340**	P	**P**	**09 37 11.9**	**-9.2**
	comp=Z,2.9nm,0.8s,mb3.6,baz=30,slow=9.9,SNR=6.0						
ARCES	**ARCESS Array B**	**53.38**	**340**	P	**P**	**09 37 11.9**	**-9.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**60.97**	**57**	P	**P**	**09 38 16.4**	**+3.3**
	comp=Z,0.4nm,0.7s,mb3.0,baz=343,slow=1.5,SNR=4.2						
WRA	**Warramunga Arr**	**73.69**	**200**	P	**P**	**09 39 30.1**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.4,baz=13,slow=6.0,SNR=12						
WRA	**Warramunga Arr**	**73.69**	**200**	P	**P**	**09 39 30.1**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**77.39**	**200**	P	**P**	**09 39 51.5**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.2,baz=11,slow=5.0,SNR=11						

*NEIC **26** 09:41:32.8, 1549N×9636W, h13km, MD4.0(MEX), After MEX.*
MEX 26 09:41:31.9±1.4, 1538N×9638W, h20km±59km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.47**	**34**	*i*P	Pb	09 41 38.3	-3.1
HUIG				*i* S	Sb	09 41 47.1	-0.8
VHO	**Vista Hermosa**	**1.72**	**349**	*i*P	Pn	09 41 57.9	-2.8
VHO				*i* S	Sn	09 42 16.9	-5.1
VHO	**Vista Hermosa**	**1.72**	**349**	*i*P	Pn	09 41 58.4	-2.3
VHO				*i* S	Sn	09 42 16.9	-5.1
OXX	**Oaxaca**	**1.73**	**349**	*i*P	Pn	09 41 58.5	-2.3
OXX				*i* S	Sn	09 42 18.0	-4.2
PNIG	**Pinotepa**	**1.96**	**301**	*i*P	Pn	09 42 02.2	-1.9
PNIG				*i* S	Sn	09 42 24.5	-3.6
CMIG	**Matias Romero**	**2.23**	**40**	*i*P	Pn	09 42 06.0	-1.6
CMIG				*i* S	Sn	09 42 31.4	-3.1
UTMO	**Huajuapan**	**2.79**	**331**	*e*P	Pn	09 42 15.0	-0.4
UTMO				*i* S	Sn	09 42 43.7	-4.8
TPIG	**Tehuac#an**	**3.17**	**343**	*i*P	Pn	09 42 18.1	-2.5
TPIG				*i* S	Sn	09 42 53.8	-3.9
CAIG	**El Cayaco**	**4.09**	**294**	*i*P	Pn	09 42 34.5	+1.3
CAIG				*i* S	Sn	09 43 17.6	-2.9
PLIG	**Platanillo**	**4.23**	**315**	*e*P	Pn	09 42 33.9	-1.4
PLIG				*i* S	Sn	09 43 23.1	-1.0
PPM	**Popocatepetl**	**4.25**	**330**	*e*P	Pn	09 42 33.8	-1.6
PPM				*e*P		09 42 35.5	
PPM				*i* S	Sn	09 43 21.8	-2.7
PPM	**Popocatepetl**	**4.25**	**330**	*e*P	Pn	09 42 33.8	-1.6
PPM				*i* S	Sn	09 43 24.2	-0.3

*NEIC **26** 09:43:50.7, 1567N×9647W, h16km, MD4.0(MEX), After MEX.*
MEX 26 09:43:48.7±1.3, 1564N×9649W, h2km±15km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.39**	**70**	*i*P	Pg	09 43 55.1	-1.0
HUIG				*i* S	Sg	09 44 02.3	+1.1
VHO	**Vista Hermosa**	**1.45**	**351**	*i*P	Pn	09 44 12.3	-3.6
VHO				*i* S	Sg	09 44 29.8	-5.4
OXX	**Oaxaca**	**1.46**	**351**	*i*P	Pn	09 44 13.0	-3.0
OXX				*i* S	Sb	09 44 31.5	-4.0
PNIG	**Pinotepa**	**1.75**	**296**	*i*P	Pn	09 44 17.5	-2.6
PNIG				*i* S	Sn	09 44 37.2	-5.7
CMIG	**Matias Romero**	**2.11**	**47**	*i*P	Pn	09 44 21.4	-3.6
CMIG				*i* S	Sn	09 44 47.8	-4.0
TPIG	**Tehuac#an**	**2.89**	**343**	*e*P	Pn	09 44 33.4	-2.3
TPIG				*i* S	Sn	09 45 05.4	-5.7
CAIG	**El Cayaco**	**3.89**	**292**	*e*P	Pn	09 44 47.4	-2.1
CAIG				*i* S	Sn	09 45 32.1	-3.7
PPM	**Popocatepetl**	**3.98**	**329**	*e*P	Pn	09 44 53.6	+2.9
PPM				*e*P		09 44 55.0	
PPM				*i* S	Sn	09 45 34.2	-3.7
PLIG	**Platanillo**	**3.98**	**314**	*e*P	Pn	09 44 48.9	-1.9
PLIG				*i* S	Sn	09 45 34.2	-3.7
LVIG	**Laguna Verde**	**4.07**	**1**	*i* S	Sn	09 45 36.2	-3.8
LVIG	**Laguna Verde**	**4.07**	**1**	*e*P	Pn	09 45 01.9	+10
LVIG				*i* S	Sn	09 45 44.0	+3.9
MOIG	**Morelia**	**6.02**	**313**	*i* S	Sn	09 46 23.5	-4.7
MOIG	**Morelia**	**6.02**	**313**	*i* S	Sn	09 46 31.4	+3.2

*KRSC **26** 09:59:03, 5150N×15409E, h504km, ML4.3*
*ISCJB **26** 09:59:08.9±0.4, 5222N±008×1532E±01, h431km±6km, mb3.8/16, Error ellipse: s-maj=16.2km s-min=8.1km az=81.1*
*MOS **26** 09:59:08.2±1.6, 5228N×15321E, h423km, mb3.6/7, Error ellipse: s-maj=22.2km s-min=11.8km az=66.0*
*IDC **26** 09:59:12.1±3.0, 5227N×15295E, h452km±37km, mb3.2/10, mb1 3.4/12, mb1mx3.2/23, mbtmp4.0/12, Error ellipse: s-maj=18.1km s-min=11.8km az=125.0*
ISC 26 09:59:09.9±0.4, 5223N±008×1533E±01, h428km±7km, n51, σ1°03/66, mb3.8/16, 1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.15**	**87**	*e*P	**P**	**10 00 09.0**	**-0.3**
SKR	**Severo-Kuril's**	**2.37**	**130**	*e*PN	**P**	**10 00 05.1**	**-5.6**
SKR				*e*		10 00 52.5	
SKR				pmax	pmax		
	comp=Z,90nm,0.7s						
GRL	**Gorelyy**	**2.97**	**82**	*e*P	**P**	**10 00 15.4**	**+0.5**
GNL	**Ganaly**	**3.19**	**61**	*e*P	**P**	**10 00 16.6**	**-0.1**
RUS	**Russkaya**	**3.23**	**84**	P	**P**	**10 00 16.5**	**-0.5**
RUS				S	**S**	**10 01 08.1**	**-3.4**
RUS	**Russkaya**	**3.23**	**84**	*e*P	**P**	**10 00 16.5**	**-0.5**
RUS				*i* S	**S**	**10 01 08.3**	**-3.4**
PET	**Petropavlovsk**	**3.38**	**74**	P	**P**	**10 00 18.3**	**0.0**
PET				S	**S**	**10 01 12.1**	**-1.7**
PET	**Petropavlovsk**	**3.38**	**74**	*e*P	**P**	**10 00 18.3**	**0.0**
PET				*i* S	**S**	**10 01 12.1**	**-1.7**
AVH	**Avacha**	**3.48**	**71**	*e*P	**P**	**10 00 19.8**	**+0.7**
AVH				*i* S	**S**	**10 01 14.8**	**-0.6**
KII	**Karymskiy**	**4.14**	**62**	P	**P**	**10 00 26.1**	**+1.2**
KII	**Karymskiy**	**4.14**	**62**	*e*P	**P**	**10 00 26.1**	**+1.2**
SPN	**Mys Shipunski**	**4.21**	**75**	P	**P**	**10 00 24.0**	**-1.5**
SPN				S	**S**	**10 01 21.5**	**-5.6**
SPN	**Mys Shipunski**	**4.21**	**75**	*e*P	**P**	**10 00 24.0**	**-1.5**
SPN				*i* S	**S**	**10 01 21.5**	**-5.6**
TUMR	**Tumrok**	**5.10**	**50**	*e*P	**P**	**10 00 36.1**	**+1.9**
TUMR				*i* S	**S**	**10 01 43.5**	**+0.6**
KPT	**Kopyto**	**5.55**	**45**	P	**P**	**10 00 40.4**	**+1.7**
SRDR	**Sredinnyy**	**5.57**	**40**	*e*P	**P**	**10 00 40.0**	**+1.0**
SRDR				*i* S	**S**	**10 01 51.7**	**+0.1**
MKZ	**Mys Kozlova**	**5.58**	**62**	P	**P**	**10 00 37.7**	**-1.3**
MKZ				S	**S**	**10 01 45.6**	**-6.1**
MKZ	**Mys Kozlova**	**5.58**	**62**	*e*P	**P**	**10 00 37.7**	**-1.3**
MKZ				*i* S	**S**	**10 01 45.6**	**-6.1**
KRSR	**Krestovskiy**	**5.85**	**44**	*e*P	**P**	**10 00 43.4**	**+1.5**
KRSR				*i* S	**S**	**10 01 58.3**	**+1.3**
SMKR	**Semkarok**	**6.47**	**44**	*e*P	**P**	**10 00 49.2**	**+0.8**
SMKR				*i* S	**S**	**10 02 06.6**	**-2.4**
KBTR	**Krutoberegovo**	**6.87**	**51**	P	**P**	**10 00 51.4**	**-1.3**
KBTR				S	**S**	**10 02 11.0**	**-5.8**
KBTR	**Krutoberegovo**	**6.87**	**51**	*e*P	**P**	**10 00 51.4**	**-1.3**
KBTR				*i* S	**S**	**10 02 11.0**	**-5.8**
YSS	**Yuzh-Sakhalins**	**8.63**	**236**	⇓*e*PN	**P**	**10 01 12.9**	**+1.0**
SEY	**Seymchan**	**10.74**	**358**	*i* PN	**P**	**10 01 34.7**	**-0.4**
ASAJ	**Asahikawa**	**10.79**	**225**	P	**P**	**10 01 36.5**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=41,slow=24,SNR=3.3						
MJAR	**Matsushiro Arr**	**18.96**	**220**	P	**P**	**10 03 02.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=20,slow=9.1,SNR=6.3						
INK	**Inuvik**	**37.06**	**36**	P	**P**	**10 05 42.0**	**+0.4**
	comp=Z,2.0nm,0.4s,mb3.8,baz=296,slow=6.9,SNR=42						
INK	**Inuvik**	**37.06**	**36**	P	**P**	**10 05 42.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**44.71**	**293**	P	**P**	**10 06 42.4**	**-0.7**
	comp=Z,0.2nm,0.3s,mb2.9,baz=53,slow=6.7,SNR=5.8						
MKAR	**Makanchi Array**	**44.71**	**293**	*i* P	**P**	**10 06 43.2**	**+0.2**
YKA	**Yellowknife Ar**	**46.55**	**40**	P	**P**	**10 06 57.4**	**+0.3**
	comp=Z,1.6nm,0.5s,mb3.6,baz=301,slow=6.9,SNR=6.4						
YKA	**Yellowknife Ar**	**46.55**	**40**	P	**P**	**10 06 57.4**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**52.72**	**340**	P	**P**	**10 07 41.5**	**-1.5**
	comp=Z,5.1nm,1.1s,mb3.7,baz=36,slow=7.8,SNR=12						
ARCES	**ARCESS Array B**	**52.72**	**340**	P	**P**	**10 07 41.5**	**-1.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GUN	**Gumba**	**54.80**	**271**	*e*P	**P**	**10 07 57.2**	**-0.6**
	comp=Z,10nm,0.5s,mb4.3						
KKN	**Kakani**	**55.25**	**272**	*e*P	**P**	**10 08 01.1**	**+0.1**
	comp=Z,14nm,0.5s,mb4.5						
PKI	**Pulchoki**	**55.33**	**271**	*e*P	**P**	**10 08 01.5**	**0.0**
	comp=Z,15nm,0.8s,mb4.3						
DMN	**Daman**	**55.49**	**272**	*e*P	**P**	**10 08 02.7**	**+0.1**
	comp=Z,18nm,0.6s,mb4.5						
GKN	**Gorkha**	**55.49**	**272**	*e*P	**P**	**10 08 02.5**	**-0.2**
	comp=Z,22nm,0.7s,mb4.5						
KOLN	**Koldanda**	**56.30**	**273**	*e*P	**P**	**10 08 08.0**	**-0.3**
	comp=Z,21nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**59.14**	**334**	P	**P**	**10 08 26.3**	**-1.5**
	comp=Z,1.1nm,0.8s,mb3.2,baz=45,slow=8.1,SNR=4.2						
FINES	**FINESS Array B**	**59.14**	**334**	*i* P	**P**	**10 08 27.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**59.92**	**65**	P	**P**	**10 08 34.8**	**+1.8**
	comp=Z,0.9nm,0.6s,mb3.4,baz=297,slow=8.6,SNR=9.2						
PDAR	**Pinedale Array**	**61.52**	**56**	P	**P**	**10 08 44.6**	**+0.9**
	comp=Z,1.7nm,0.7s,mb3.7,baz=340,slow=2.3,SNR=16						
NB2	**NORSAR Subarra**	**63.08**	**340**	P	**P**	**10 08 52.2**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.4,baz=26,slow=6.9						
NOA	**NORSAR Array B**	**63.08**	**340**	P	**P**	**10 08 52.7**	**-1.1**
	comp=Z,0.9nm,0.6s,mb3.5,baz=25,slow=6.6,SNR=4.5						
NOA	**NORSAR Array B**	**63.08**	**340**	P	**P**	**10 08 52.7**	**-1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**73.74**	**199**	P	**P**	**10 09 58.2**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.5,baz=16,slow=6.1,SNR=9.6						
WRA	**Warramunga Arr**	**73.74**	**199**	P	**P**	**10 09 58.2**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**77.45**	**198**	P	**P**	**10 10 19.6**	**0.0**
	comp=Z,1.0nm,0.9s,mb3.5,baz=11,slow=5.6,SNR=10						
ASAR	**Alice Springs**	**77.45**	**198**	*e*P	**P**	**10 10 19.6**	**0.0**

*NEIC **26** 10:22:22.8, 3301S×7163W, h33km, ML2.7(GUC), After GUC.*
GUC 26 10:22:22.8±0.6, 3301S×7163W, h33km±2km, MD3.7, ML2.7, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.02**	**202**	⇓*i*P	Pb	10 22 28.2	-0.1
IHA				*i* S	Sb	10 22 32.2	+0.1
LCCH	**Las Cruces**	**0.47**	**174**	*e*P	Pb	10 22 32.8	-0.2
LCCH				*i* S	Sb	10 22 40.4	+0.4
ROCH	**El Roble**	**0.52**	**87**	*i*P	Pb	10 22 33.7	0.0
ROCH				*i* S	Sb	10 22 42.3	+1.1
PEL	**Peldehue**	**0.81**	**100**	*e*P	Pn	10 22 37.8	0.0
PEL				*e*S	Sn	10 22 49.2	+0.6
PEL				AML	AML	10 22 51.6	
	comp=E,813nm,0.4s						
PEL	**Peldehue**	**0.81**	**100**	*e*P	Pn	10 22 37.8	0.0
PEL				*e*S	Sn	10 22 49.2	+0.6
RCDM	**Rinconada Maip**	**0.84**	**125**	⇓*e*P	Pn	10 22 38.2	-0.1
RCDM				*i* S	Sn	10 22 49.7	+0.2
RCDM				AML	AML	10 22 51.4	
	comp=E,410nm,0.1s						
RCDM	**Rinconada Maip**	**0.84**	**125**	⇓*e*P	Pn	10 22 38.2	-0.1
RCDM				*i* S	Sn	10 22 49.7	+0.2
TACH	**Talagante**	**0.87**	**138**	*e*P	Pn	10 22 38.9	+0.2
TACH				*i* S	Sn	10 22 50.5	+0.4
JACH	**Jahuel**	**0.93**	**70**	⇑*i*P	Pn	10 22 40.0	+0.5
JACH				*i* S	Sn	10 22 52.6	+1.0
LNV	**Longovilo**	**0.97**	**169**	⇓*i*P	Pn	10 22 39.8	-0.2
LNV				*i* S	Sn	10 22 52.3	-0.3
CLCH	**Cerro Calan**	**1.00**	**113**	⇓*i*P	Pn	10 22 41.2	+0.8
CLCH				*e*S	Sn	10 22 54.6	+1.3
CLCH				AML	AML	10 22 57.7	
	comp=N,225nm,0.2s		

KRSC 26 10:56:05, 5109N×15801E, h45km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.27**	**252**	*e*PN	Pn	10 56 21.5	-4.7
SKR				*e*S	Sn	10 56 36.2	-5.9
SKR	comp=E,80nm,0.4s			pmax	pmax		
SKR	comp=Z,180nm,0.4s			pmax	pmax		
SKR	comp=N,2μm,0.2s			smax			
RUS	**Russkaya**	**1.38**	**13**	*e*P	Pn	10 56 29.8	+2.0
RUS				*i* S	Sn	10 56 46.9	+2.0
MIPR	**Malaya Ipel'ka**	**1.42**	**327**	*e*P	Pn	10 56 30.5	+2.2
MIPR				*i* S	Sn	10 56 48.9	+3.1
GRL	**Gorelyy**	**1.47**	**2**	*e*P	Pn	10 56 31.8	+2.9
GRL				*i* S	Sn	10 56 50.2	+3.3
ALID	**Alaid**	**1.57**	**263**	*e*P	Pn	10 56 30.6	+0.2
ALID				*i* S	Sn	10 56 48.1	-1.4
PET	**Petropavlovsk**	**1.98**	**11**	*e*PN	Pn	10 56 38.3	+2.3
PET				*e*S	Sn	10 57 03.2	+3.7
PET	comp=Z,30nm,0.4s			pmax	pmax		
PET	comp=E,214nm,0.5s			smax			
PET	comp=N,297nm,0.5s			smax			
PET	**Petropavlovsk**	**1.98**	**11**	*e*P	Pn	10 56 38.6	+2.6
PET				*i* S	Sn	10 57 03.3	+3.8
AVH	**Avacha**	**2.22**	**11**	*e*P	Pn	10 56 43.2	+3.8
AVH				*i* S	Sn	10 57 11.4	+5.8
NLC	**Nalytchevo**	**2.24**	**21**	*e*P	Pn	10 56 41.5	+1.9
NLC				*i* S	Sn	10 57 07.9	+1.9
SPN	**Mys Shipunski**	**2.36**	**31**	*e*P	Pn	10 56 44.2	+2.9
SPN				*i* S	Sn	10 57 12.5	+3.5
GNL	**Ganaly**	**2.61**	**359**	*e*P	Pn	10 56 48.0	+3.3
GNL				*i* S	Sn	10 57 19.6	+4.5
MKZ	**Mys Kozlova**	**4.14**	**32**	*e*P	Pn	10 57 08.1	+2.4
MKZ				*i* S	Sn	10 57 55.1	+2.3
TUMR	**Tumrok**	**4.39**	**16**	*e*P	Pn	10 57 12.9	+3.8
KMNR	**Kamenistaya**	**4.86**	**15**	*e*P	Pn	10 57 20.0	+4.4
ZLN	**Zelenaya**	**5.21**	**18**	*e*P	Pn	10 57 24.4	+4.1
KBTR	**Krutoberegovo**	**5.87**	**27**	*e*P	Pn	10 57 33.0	+3.6
SMKR	**Semkarok**	**5.87**	**19**	*e*P	Pn	10 57 33.3	+3.9
SRKR	**Sorokina**	**5.88**	**17**	*e*P	Pn	10 57 32.7	+3.2

IDC 26 11:05:54.8±2.1, 589N×12794E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=116.9km s-min=23.7km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.95**	**185**	P	P	11 11 11.3	+0.7
	0.6nm,0.3s,baz=1.6,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**26.43**	**166**	P	P	11 11 34.2	+1.1
	0.3nm,0.4s,baz=346,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**29.95**	**169**	P	P	11 12 03.8	-0.8
	0.1nm,0.3s,baz=340,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**56.51**	**324**	P	P	11 15 38.8	+0.1
	0.7nm,0.5s,baz=120,slow=8.4,SNR=10						

*ISCJB **26** 11:43:52.1±2.7, 39N±02×1233E±03, h538km±40km, mb4.2/7, Error ellipse: s-maj=53.2km s-min=18.8km az=125.3*
*IDC **26** 11:43:52.5±2.2, 399N×12365E, h520km±24km, mb3.3/5, mb1 3.5/5, mb1mx3.1/19, mbtmp4.3/5, Error ellipse: s-maj=80.5km s-min=12.8km az=65.0*

ISC 26 11:43:52.6±2.7, 39N±02×1233E±03, h521km±39km, n13, σ0§61/15, mb4.2/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**18.82**	**151**	*e*P	**P**	**11 47 39.0**	**-0.2**
	8.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.96**	**174**	*e*P	**P**	**11 48 07.6**	**-0.2**
	6.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**21.96**	**174**	P	**P**	**11 48 07.6**	**-0.2**
	3.8nm,0.6s,mb4.2,baz=15,slow=9.4,SNR=17						
WRA	**Warramunga Arr**	**26.04**	**156**	P	**P**	**11 48 43.6**	**-0.4**
	2.9nm,0.3s,mb4.3,baz=335,slow=9.8,SNR=108						
WRA				S	**S**	**11 52 36.3**	**-1.7**
	0.2nm,0.5s,baz=342,slow=16,SNR=3.7						
WB2	**Warramunga Arr**	**26.04**	**156**	*e*P	**P**	**11 48 43.4**	**-0.6**
ASPA	**Alice Springs**	**29.26**	**160**	*e*P	**P**	**11 49 12.4**	**+0.2**
ASAR	**Alice Springs**	**29.26**	**160**	P	**P**	**11 49 12.5**	**+0.3**
	1.5nm,0.3s,mb4.1,baz=337,slow=7.9,SNR=79						
ASAR				S	**S**	**11 53 29.4**	**+1.1**
	0.3nm,0.5s,baz=334,slow=12,SNR=3.7						
FORT	**Forrest**	**34.76**	**173**	*e*P	**P**	**11 49 59.5**	**+0.4**
	11nm,0.5s,mb4.7						
KLBR	**Kellerberrin**	**35.67**	**188**	*e*P	**P**	**11 50 06.3**	**-0.3**
	36nm,1.3s,mb4.7						
MUN	**Mundaring**	**36.30**	**190**	*e*P	**P**	**11 50 11.8**	**0.0**
STKA	**Stephens Creek**	**39.59**	**155**	*e*P	**P**	**11 50 39.8**	**+1.2**
	2.1nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**39.59**	**155**	P	**P**	**11 50 39.9**	**+1.2**
	3.0nm,0.4s,mb4.2,baz=342,slow=7.4,SNR=16						
MKAR	**Makanchi Array**	**55.52**	**327**	P	**P**	**11 52 38.0**	**-0.2**
	0.8nm,0.5s,mb3.2,baz=115,slow=8.9,SNR=7.1						
MKAR				ScP	ScP	11 56 41.2	+2.1
	0.4nm,0.6s,baz=116,slow=4.7,SNR=3.8						

*SKO **26** 12:03:37.0, 4153N×2383E, h70km*
*CSEM **26** 12:03:37.2±0.1, 4162N×2396E, h5km, ML2.8, Error ellipse: s-maj=1.6km s-min=1.4km az=97.0*
*SOF **26** 12:03:37.1, 4161N×2398E, h13km, MD2.6*
*ATH **26** 12:03:37.1, 4159N×2400E, h3km±1km, MD3.2/3*
*ISCJB **26** 12:03:37.1±0.4, 4157N±002×2395E±003, h6km±5km, Error ellipse: s-maj=3.7km s-min=3.3km az=14.9*
*NEIC **26** 12:03:38.6, 4154N×2392E, h6km, MD2.6(SOF), MD3.2(ATH), After THE.*
*THE **26** 12:03:38.6, 4154N×2392E, h6km, ML2.8*

ISC 26 12:03:37.4±0.4, 4158N±002×2396E±003, h12km±4km, n35, σ0§83/63, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomiste**	**0.17**	**272**	*e*Pg	**Pg**	**12 03 41.1**	**-0.2**
MMB				*e*Sg	**Sg**	**12 03 43.9**	**-0.2**
MMB	**Musomiste**	**0.17**	**272**	*i* P	**Pg**	**12 03 41.4**	**+0.1**
MMB				*i* S	**Sg**	**12 03 44.6**	**+0.6**
MMB	**Musomiste**	**0.17**	**272**	*i* P	**Pg**	**12 03 41.4**	**+0.1**
MMB				*e*Sg	**Sg**	**12 03 43.8**	**-0.2**
NVR	**Nevrokopi**	**0.24**	**197**	*e*PG	**Pg**	**12 03 42.2**	**-0.4**
NVR				*e*SG	**Sg**	**12 03 46.0**	**0.0**
SRS	**Serrai**	**0.54**	**211**	*e*Pg	**Pg**	**12 03 48.1**	**+0.1**
SRS				*e*Sg	**Sg**	**12 03 56.1**	**+0.9**
RZN	**Rozhen**	**0.58**	**79**	*i* P	**Pg**	**12 03 48.7**	**0.0**
RZN				*i* S	**Sg**	**12 03 56.6**	**+0.2**
KKB	**Krupnik**	**0.71**	**294**	*i* P	**Pg**	**12 03 50.4**	**-0.8**
KKB				*i* S	**Sg**	**12 04 00.0**	**-0.6**
PLD	**Plovdiv**	**0.76**	**47**	*i* P	**Pg**	**12 03 52.9**	**+0.7**
SOH	**Sokhos**	**0.89**	**211**	*e*Pg	**Pg**	**12 03 54.2**	**-0.4**
SOH				*e*Sg	**Sg**	**12 04 06.2**	**+0.1**
SOH	**Sokhos**	**0.89**	**211**	*e*Pg	**Pg**	**12 03 54.2**	**-0.4**
SOH				*e*Sg	**Sg**	**12 04 06.2**	**0.0**
KNT	**Kendrikon**	**0.90**	**242**	*e*Pg	**Pg**	**12 03 55.0**	**+0.2**
KNT				*e*Sg	**Sg**	**12 04 07.5**	**+0.9**
VAY	**Valandovo**	**1.07**	**256**	*e*Pg	**Pg**	**12 03 59.2**	**+1.0**
VAY				*e*Sg	**Sg**	**12 04 13.2**	**+1.1**
VAY	**Valandovo**	**1.07**	**256**	*e*Pg	**Pg**	**12 03 57.7**	**-0.4**
VAY				*e*Sg	**Sg**	**12 04 09.3**	**-2.8**
VAY	**Valandovo**	**1.07**	**256**	*e*Pg	**Pg**	**12 03 57.7**	**-0.4**
VAY				*e*Sg	**Sg**	**12 04 13.2**	**+1.1**
KDZ	**Kurdzhali**	**1.10**	**86**	*i* P	**Pb**	**12 03 57.0**	**-1.3**
VTS	**Vitosha**	**1.15**	**331**	*e*Pg	**Pg**	**12 03 59.7**	**+0.1**
VTS				*e*Sg	**Sg**	**12 04 18.5**	**+3.9**
VTS	**Vitosha**	**1.15**	**331**	*i* P	**Pb**	**12 03 59.5**	**+0.3**
VTS				*i* S	**Sb**	**12 04 14.5**	**+0.4**
VTS				*i* S	Sb	12 04 35.0	+21
VTS	**Vitosha**	**1.15**	**331**	*e*Pg	**Pg**	**12 03 59.7**	**+0.1**
HORT	**Hortiatis**	**1.18**	**214**	*e*Pg	**Pg**	**12 03 59.7**	**-0.5**
HORT				*e*Sg	**Sg**	**12 04 15.7**	**+0.2**
OUR	**Ouranopolis**	**1.25**	**179**	*e*Pg	**Pg**	**12 04 00.8**	**-0.7**
OUR				*e*Sg	**Sg**	**12 04 18.7**	**+1.0**
RDO	**Rodhopi**	**1.27**	**110**	*e*PB	**Pb**	**12 04 00.3**	**-1.0**
RDO				*e*SB	**Sb**	**12 04 17.5**	**0.0**
RDO	**Rodhopi**	**1.27**	**110**	*e*Pb	**Pb**	**12 04 00.4**	**-0.9**
RDO				*e*Sb	**Sb**	**12 04 17.7**	**+0.2**
PLG	**Polygyros**	**1.27**	**198**	*e*Pg	**Pg**	**12 04 01.1**	**-0.7**
PLG				*e*Sg	**Sg**	**12 04 19.6**	**+1.2**
PLG	**Polygyros**	**1.27**	**198**	*e*PG	**Pg**	**12 04 01.2**	**-0.7**
PLG	**Polygyros**	**1.27**	**198**	*e*Pb	**Pb**	**12 04 01.1**	**-0.2**
PLG				*e*Sb	**Sb**	**12 04 18.1**	**+0.6**
PLG	**Polygyros**	**1.27**	**198**	*e*Pg	**Pb**	**12 04 01.1**	**-0.2**
PLG				*e*Sb	**Sb**	**12 04 18.1**	**+0.6**
PLG				*e*Sg	**Sg**	**12 04 19.6**	**+1.2**
GRG	**Griva**	**1.33**	**242**	*e*Pg	**Pg**	**12 04 03.0**	**0.0**
STIP	**Stip**	**1.33**	**275**	*e*Pg	**Pg**	**12 04 02.0**	**-1.1**
STIP				*e*Sg	**Sg**	**12 04 20.8**	**+0.5**
STIP	**Stip**	**1.33**	**275**	*e*Pg	**Pg**	**12 04 02.5**	**-0.6**
STIP				*e*Sg	**Sg**	**12 04 16.1**	**-4.2**
STIP	**Stip**	**1.33**	**275**	*e*Pg	**Pg**	**12 04 02.4**	**-0.6**
STIP				*e*Sg	**Sg**	**12 04 16.1**	**-4.2**
PAIG	**Paliouri**	**1.67**	**187**	*e*Pb	**Pb**	**12 04 06.7**	**-1.4**
PAIG				*e*Sb	**Sb**	**12 04 28.6**	**-0.5**
ALN	**Alexandroupoli**	**1.72**	**113**	*e*Pb	**Pb**	**12 04 09.1**	**+0.1**
ALN				*e*Sb	**Sb**	**12 04 32.1**	**+1.7**
LOS	**Limnos**	**1.86**	**152**	*e*Pb	**Pb**	**12 04 08.9**	**-2.4**
PVL	**Pavlikeni**	**1.92**	**32**	*i* P	**Pn**	**12 04 11.8**	**+1.8**
SZH	**Strazhica**	**2.23**	**40**	*i* P	**Pn**	**12 04 21.2**	**+7.0**

WEL 26 12:08:18.5±0.8, 3599S×17847E, h183km±9km, ML3.5/10, Error ellipse: s-maj=23.4km s-min=12.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.58**	**185**	PN	Pn	12 08 51.3	0.0
MXZ				SN	Sn	12 09 16.3	-0.4
PUZ	**Puketiti**	**2.09**	**185**	PN	Pn	12 08 57.2	+0.5
PUZ				SN	Sn	12 09 25.5	-0.8
MWZ	**Matawai**	**2.46**	**197**	PN	Pn	12 09 01.4	+0.6
MWZ				SN	Sn	12 09 34.5	+0.8
URZ	**Urewera**	**2.51**	**205**	PN	Pn	12 09 01.6	+0.2
KNZ	**Kokohu**	**3.09**	**192**	PN	Pn	12 09 08.2	-0.1
BKZ	**Black Stump Fm**	**3.54**	**206**	PN	Pn	12 09 14.1	+0.3
PXZ	**Pawanui**	**4.23**	**197**	PN	Pn	12 09 21.3	-1.2
BFZ	**Birch Farm**	**5.00**	**200**	PN	Pn	12 09 31.1	-1.4
BFZ				eSN	Sn	12 10 28.3	-2.2
MRZ	**Mangatainoka R**	**5.19**	**205**	ePN	Pn	12 09 31.9	-3.0
MRZ				eSN	Sn	12 10 31.4	-3.5
TIWZ	**Tintock**	**5.19**	**202**	ePN	Pn	12 09 32.9	-2.0
KIW	**Kapiti Island**	**5.61**	**209**	PN	Pn	12 09 38.5	-1.8
CAW	**Cannon Point**	**5.76**	**206**	ePN	Pn	12 09 39.8	-2.5

OTT 26 12:15:28.5±1.4, 7493N×7245W, h18km, ML2.8/3, Baffin Bay Seismic Zone. 275km southeast from Craig Harbour, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIFN	**Gifford Fjord,**	**5.68**	**214**	PN	Pn	12 16 52.3	+0.3
RES	**Resolute Bay**	**5.89**	**279**	PN	Pn	12 16 55.3	+0.4
RES				SN	Sn	12 17 57.9	-4.0
RES	comp=Z,6.1nm,0.3s			Trac		12 18 10.4	
EUNU	**Eureka**	**5.95**	**336**	PN	Pn	12 16 55.8	0.0
EUNU				SN	Sn	12 17 58.0	-5.5
EUNU	comp=Z,1.2nm,0.3s			Trac		12 18 03.8	
ILON	**Igloolik, Nuna**	**6.28**	**212**	SN	Sn	12 18 04.3	-7.1
SRLN	**Sarcpa Lake, N**	**7.25**	**213**	PN	Pn	12 17 12.6	-1.0
SRLN				SN	Sn	12 18 28.1	-7.3
SRLN	comp=Z,0.4nm,0.1s			Trac		12 18 34.3	
QILN	**Qililugaq Expl**	**9.46**	**216**	SN	Sn	12 19 18.9	-11
BULN	**Bullion Camp,**	**10.88**	**229**	SN	Sn	12 19 53.4	-11

*CSEM **26** 12:24:22.7±0.1, 3671N×542E, h5km, ML3.7, Error ellipse: s-maj=3.3km s-min=2.1km az=36.0*
*ISCJB **26** 12:24:23.9±0.4, 3687N±003×542E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.6km az=86.5*
*CRAAG **26** 12:24:24.7, 3659N×547E, Ml3.7*
*MDD **26** 12:24:25.1±0.4, 3666N×542E, h0km, mb4.4/15, Error ellipse: s-maj=6.2km s-min=3.9km az=26.0, PRXIMO*
*NEIC **26** 12:24:28.2, 3688N×529E, h0km, MG4.4(MDD), After MDD.*
*LDG **26** 12:24:28.9±0.5, 3682N×541E, h10km, Ml3.4/4, Error ellipse: s-maj=10.8km s-min=5.9km az=131.0*

ISC 26 12:24:24.5±0.8, 3685N±005×549E±004, h1km±9km, n61, σ1§41/80, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.43**	**134**	P	**Pg**	**12 24 32.0**	**-0.8**
SET	**Setif**	**0.65**	**186**	P	**Pg**	**12 24 33.0**	**-3.9**
AKF	**Akfadou**	**0.77**	**254**	P	**Pg**	**12 24 37.8**	**-1.5**
CKHR	**Kef el Ahmar**	**0.83**	**179**	P	**Pg**	**12 24 35.0**	**-5.4**
CASM	**Ain Smara**	**1.00**	**126**	P	**Pg**	**12 24 43.0**	**-0.6**
CTEI	**Djebel Teioual**	**1.08**	**136**	P	**Pg**	**12 24 43.5**	**-1.6**
CKFL	**Kef-Lekhel**	**1.09**	**114**	P	**Pg**	**12 24 45.0**	**-0.3**
CMER	**Merouana**	**1.27**	**165**	P	**Pg**	**12 24 48.0**	**-0.8**
ATAF	**Djebel Tarf**	**1.38**	**226**	P	**Pn**	**12 24 46.5**	**-4.3**
AKET	**Djebel Ketaf**	**1.52**	**239**	P	**Pn**	**12 24 52.3**	**-0.5**
CMAH	**Djebel Manchou**	**1.57**	**98**	P	**Pn**	**12 24 53.0**	**-0.4**
CGMA	**Guelma**	**1.59**	**104**	P	**Pn**	**12 24 56.0**	**+2.2**
ADJB	**Djebel Djouab**	**1.79**	**248**	P	**Pn**	**12 24 57.0**	**+0.5**
ABA	**Alger-Bouzarea**	**1.97**	**269**	P	**Pn**	**12 24 55.0**	**-4.0**
EMHD	**Djebel Mahouad**	**2.14**	**253**	P	**Pn**	**12 25 03.0**	**+1.7**
EBNR	**Beni Rached**	**3.23**	**261**	P	**Pg**	**12 25 26.5**	**0.0**
ETOS	**Mallorca**	**3.60**	**325**	⇓P	**Pn**	**12 25 22.3**	**+1.0**
	45nm,0.3s,SNR=18						
ETOS				S	**Sn**	**12 26 02.6**	**-1.8**
	17nm,0.3s						
ETOS	**Mallorca**	**3.60**	**325**	P	**Pn**	**12 25 22.3**	**+1.0**
	45nm,0.3s,SNR=18						
ETOS				S	**Sn**	**12 26 02.6**	**-1.8**
	17nm,0.3s						
EANR	**'Ain N'Sour**	**3.65**	**257**	P	**Pg**	**12 25 29.0**	**-5.5**
ETRT	**Tiaret**	**3.69**	**248**	P	**Pg**	**12 25 33.0**	**-2.2**
EIBI	**Ibiza**	**3.93**	**305**	P	**Pn**	**12 25 26.1**	**+0.1**
	14nm,0.2s,SNR=7.1						
EIBI				S	**Sn**	**12 26 09.7**	**-3.0**
	6.9nm,0.2s						
EIBI	**Ibiza**	**3.93**	**305**	P	**Pn**	**12 25 26.1**	**+0.1**
	14nm,0.2s,SNR=7.1						
EIBI				S	**Sn**	**12 26 09.7**	**-3.1**
	6.9nm,0.2s						
EBEN	**Beniarda**	**4.89**	**294**	P	**Pn**	**12 25 39.5**	**+0.4**
	6.7nm,0.5s,SNR=9.6						
EBEN				S	**Sn**	**12 26 32.3**	**-4.1**
	5.2nm,0.5s						
EBEN	**Beniarda**	**4.89**	**294**	P	**Pn**	**12 25 39.5**	**+0.4**
	6.7nm,0.5s,SNR=9.6						
EBEN				S	**Sn**	**12 26 32.3**	**-4.1**
	5.2nm,0.5s						
EMUR	**La Murta**	**5.45**	**283**	P	**Pn**	**12 25 47.6**	**+0.8**
	4.2nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**5.45**	**283**	P	**Pn**	**12 25 47.6**	**+0.7**
	4.2nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.66**	**324**	P	**Pn**	**12 25 49.9**	**+0.2**
	2.7nm,0.2s,SNR=6.3						
EPOB				S	**Sn**	**12 26 51.3**	**-3.9**
	3.9nm,0.5s						
EPOB	**Poblet**	**5.66**	**324**	P	**Pn**	**12 25 49.9**	**+0.2**
	2.7nm,0.2s,SNR=6.3						
EMOS	**Mosqueruela**	**5.84**	**309**	P	**Pn**	**12 25 52.9**	**+0.7**
	5.0nm,0.3s,SNR=6.8						
EMOS				S	**Sn**	**12 26 54.6**	**-5.2**
	1.5nm,0.3s						
EMOS	**Mosqueruela**	**5.84**	**309**	P	**Pn**	**12 25 52.9**	**+0.7**
	5.0nm,0.3s,SNR=6.8						
ETOB	**Tobarra**	**5.86**	**290**	P	**Pn**	**12 25 53.3**	**+0.9**
	5.8nm,0.5s,SNR=9.3						
ETOB				S	**Sn**	**12 26 56.7**	**-3.5**
	2.2nm,0.3s						
ETOB	**Tobarra**	**5.86**	**290**	P	**Pn**	**12 25 53.3**	**+0.9**
	5.8nm,0.5s,SNR=9.3						
EJON	**La Jonquera**	**5.94**	**341**	P	**Pn**	**12 25 55.0**	**+1.4**
	2.5nm,0.2s,SNR=7.9						
EJON				S	**Sn**	**12 26 59.6**	**-2.7**
	4.6nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.94**	**341**	P	**Pn**	**12 25 55.0**	**+1.4**
	2.5nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**6.51**	**281**	P	**Pn**	**12 26 01.2**	**-0.2**
	1.3nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.53**	**7**	*e*Pn	**Pn**	**12 26 01.3**	**-0.3**
LMR				*e*Sn	**Sn**	**12 27 13.4**	**-3.3**
	7.1nm,0.5s						
LMR	**La Mourre**	**6.53**	**7**	P	**Pn**	**12 26 01.3**	**-0.3**
LMR				S	**Sn**	**12 27 13.4**	**-3.3**
	3.5nm,0.5s						
EVIA	**Vianos**	**6.58**	**288**	P	**Pn**	**12 26 02.0**	**-0.4**
	3.3nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**6.71**	**318**	P	**Pn**	**12 26 05.0**	**+0.8**
	13nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**6.71**	**318**	P	**Pn**	**12 26 05.0**	**+0.9**
	13nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.72**	**273**	P	**Pn**	**12 26 05.9**	**+1.7**
EBER	**Berja**	**6.72**	**273**	P	**Pn**	**12 26 05.9**	**+1.7**
FRF	**La Foret Royal**	**6.76**	**7**	*e*Pn	**Pn**	**12 26 05.2**	**+0.3**
FRF				*e*Sn	**Sn**	**12 27 20.8**	**-1.7**
	15nm,0.6s						
FRF	**La Foret Royal**	**6.76**	**7**	P	**Pn**	**12 26 05.2**	**+0.3**
FRF				S	**Sn**	**12 27 20.8**	**-1.7**
	7.3nm,0.6s						
EQES	**Quesada**	**6.89**	**281**	P	**Pn**	**12 26 06.8**	**+0.2**
	12nm,0.6s,SNR=14						
EQES				S	**Sn**	**12 27 23.4**	**-2.2**
	3.3nm,0.3s						
EQES	**Quesada**	**6.89**	**281**	P	**Pn**	**12 26 06.8**	**+0.2**
	12nm,0.6s,SNR=14						
MTLF	**Montolieu**	**6.95**	**340**	*e*Pn	**Pn**	**12 26 08.7**	**+1.2**
MTLF				*e*Sn	**Sn**	**12 27 24.3**	**-2.9**
	11nm,0.7s						
MTLF	**Montolieu**	**6.95**	**340**	P	**Pn**	**12 26 08.7**	**+1.2**
MTLF				S	**Sn**	**12 27 24.3**	**-2.9**
	5.3nm,0.7s						
EBIE	**Bielsa**	**7.14**	**326**	P	**Pn**	**12 26 11.8**	**+1.8**
	2.4nm,0.4s,SNR=5.7						
EBIE	**Bielsa**	**7.14**	**326**	P	**Pn**	**12 26 11.8**	**+1.8**
	2.4nm,0.4s,SNR=5.7						
LASF	**Ste Croix**	**7.33**	**351**	*e*Pn	**Pn**	**12 26 12.8**	**+0.2**
LASF				*e*Sn	**Sn**	**12 27 34.5**	**-1.9**
	1.4nm,0.3s						
LASF	**Ste Croix**	**7.33**	**351**	P	**Pn**	**12 26 12.8**	**+0.2**
LASF				S	**Sn**	**12 27 34.5**	**-1.9**
	0.7nm,0.3s						
EPF	**Esparros**	**7.33**	**329**	*e*Pn	**Pn**	**12 26 14.7**	**+2.0**
ETSF	**Etsaut**	**7.62**	**324**	*e*Pn	**Pn**	**12 26 18.3**	**+1.6**
SJPF	**Ste Jean**	**8.11**	**323**	*e*Pn	**Pn**	**12 26 25.4**	**+2.1**
EALK	**Alkurruntz**	**8.32**	**322**	P	**Pn**	**12 26 28.3**	**+2.0**
	3.4nm,0.2s,SNR=8.8						
ELAN	**Lanestosa**	**9.35**	**316**	P	**Pn**	**12 26 41.0**	**+0.7**
	3.5nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**9.35**	**316**	P	**Pn**	**12 26 41.0**	**+0.7**
	3.5nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**10.42**	**311**	P	**Pn**	**12 26 56.4**	**+1.4**
	2.4nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**10.42**	**311**	P	**Pn**	**12 26 56.4**	**+1.3**
	2.4nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**10.74**	**302**	P	**Pn**	**12 26 59.9**	**+0.6**
	2.1nm,0.3s,SNR=5.5						

KRSC 26 12:39:29, 5511N×16667E, h20km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**2.44**	**298**	*e*P	Pn	12 40 07.0	-0.7
KBTR				*i* S	Sn	12 40 34.2	-2.8
MKZ	**Mys Kozlova**	**2.91**	**261**	*e*P	Pn	12 40 16.6	+2.4
MKZ				*i* S	Sn	12 40 50.5	+2.0
BDR	**Baidarnaya**	**3.41**	**298**	*e*P	Pn	12 40 23.5	+2.5
BDR				*i* S	Sn	12 41 03.0	+2.2
ZLN	**Zelenaya**	**3.45**	**288**	*e*P	Pn	12 40 24.0	+2.4
ZLN				*i* S	Sn	12 41 04.3	+2.4
SRKR	**Sorokina**	**3.46**	**299**	*e*P	Pn	12 40 25.7	+3.9
SRKR				*i* S	Sn	12 41 06.7	+4.5
KMNR	**Kamenistaya**	**3.72**	**283**	*e*P	Pn	12 40 28.7	+3.4
KMNR				*i* S	Sn	12 41 11.9	+3.4
TUMR	**Tumrok**	**3.74**	**275**	*e*P	Pn	12 40 29.3	+3.7
TUMR				*i* S	Sn	12 41 12.9	+3.8
KPT	**Kopyto**	**3.76**	**286**	*e*P	Pn	12 40 29.3	+3.4
KPT				*i* S	Sn	12 41 13.3	+3.7
KOZ	**Kozyrevsk**	**3.97**	**287**	*e*P	Pn	12 40 32.6	+3.8
KOZ				*i* S	Sn	12 41 18.5	+3.8
SRDR	**Sredinnyy**	**4.12**	**290**	*e*P	Pn	12 40 33.2	+2.5
SRDR				*i* S	Sn	12 41 19.7	+1.5
SPN	**Mys Shipunski**	**4.40**	**245**	*e*P	Pn	12 40 37.4	+2.8
SPN				*i* S	Sn	12 41 26.7	+1.4
NLC	**Nalytchevo**	**4.72**	**249**	*e*P	Pn	12 40 41.8	+2.7
NLC				*i* S	Sn	12 41 35.4	+2.1
AVH	**Avacha**	**5.01**	**252**	*e*P	Pn	12 40 47.5	+4.5
AVH				*i* S	Sn	12 41 44.3	+3.9
PET	**Petropavlovsk**	**5.16**	**249**	*e*P	Pn	12 40 47.6	+2.5
PET				*i* S	S

THZ	**Tophouse**	**30.10 171**	PN	**P**	**13 09 31.5**	**+0.5**
STKA	**Stephens Creek**	**30.33 225**	P	**P**	**13 09 31.9**	**-1.1**
	comp=Z,8.2nm,0.7s,mb4.5,baz=32,slow=12,SNR=18					
STKA			PcP	PcP	13 12 29.5	+0.6
	comp=Z,2.5nm,0.6s,baz=20,slow=22,SNR=3.5					
STKA			LR	LR	13 20 13.7	
	comp=Z,78nm,19.1s,baz=26,slow=33					
STKA	**Stephens Creek**	**30.33 225**	*eP*	**P**	**13 09 33.1**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.4					
STKA			*eP*		13 09 33.9	
KHZ	**Kahutara**	**30.84 170**	PN	**P**	**13 09 36.8**	**-0.7**
LTZ	**Lake Taylor**	**31.01 172**	PN	**P**	**13 09 39.4**	**+0.4**
	comp=Z,113nm,0.5s					
RPZ	**Rata Peaks**	**31.78 174**	P	**P**	**13 09 46.2**	**+0.5**
	comp=Z,35nm,0.6s,mb5.3,baz=290,slow=0.8,SNR=38					
WB2	**Warramunga Arr**	**31.95 252**	*eP*	**P**	**13 09 46.5**	**-0.7**
WB2			*i*		13 12 34.3	
WRA	**Warramunga Arr**	**31.96 252**	P	**P**	**13 09 46.7**	**-0.6**
	comp=Z,2.9nm,0.6s,mb4.2,baz=84,slow=9.0,SNR=45					
WRA			PcP	PcP	13 12 34.2	+1.0
	comp=Z,6.7nm,0.8s,baz=80,slow=3.2,SNR=24					
WRA			ScP	ScP	13 16 04.8	+4.3
	comp=Z,2.0nm,0.8s,baz=78,slow=3.7,SNR=12					
WRA			PKiKP	PKiKP	13 20 00.6	-0.6
	comp=Z,0.6nm,0.6s,baz=6.4,slow=0.4,SNR=13					
WRA	**Warramunga Arr**	**31.96 252**	P	**P**	**13 09 46.7**	**-0.6**
WRA					13 12 34.2	
WRA			*i*		13 20 00.6	
WRA			pmax	pmax		
	comp=Z,3.0nm,0.6s					
WRA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
WRA			pmax	pmax		
	comp=N,2.0nm,0.8s					
WRA			pmax	pmax		
	comp=Z,1.0nm,0.6s					
WRA	**Warramunga Arr**	**31.96 252**	P	**P**	**13 09 46.7**	**-0.6**
WRA			PcP	PcP	13 12 34.2	+1.0
WRA			ScP	ScP	13 16 04.8	+4.3
AS31	**Alice Springs**	**33.13 245**	*eP*	**P**	**13 09 56.8**	**-0.7**
ASAR	**Alice Springs**	**33.13 245**	P	**P**	**13 09 57.0**	**-0.5**
	comp=Z,7.9nm,0.7s,mb4.6,baz=70,slow=9.6,SNR=13					
ASAR			PcP	PcP	13 12 37.1	+0.6
	comp=Z,7.6nm,0.8s,baz=72,slow=2.4,SNR=24					
ASAR			ScP	ScP	13 16 09.4	+4.9
	comp=Z,3.4nm,0.9s,baz=81,slow=3.2,SNR=18					
ASAR			PKiKP	PKiKP	13 20 01.6	-0.4
	comp=Z,0.2nm,0.6s,baz=82,slow=1.7,SNR=4.8					
ASAR			LR	LR	13 23 30.7	
	comp=Z,149nm,21.2s,baz=77,slow=36					
ASAR	**Alice Springs**	**33.13 245**	P	**P**	**13 09 57.0**	**-0.5**
ASAR					13 12 37.1	
ASAR			*i*		13 20 01.6	
ASAR			pmax	pmax		
	comp=Z,8.0nm,0.7s					
ASAR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
ASAR			pmax	pmax		
	comp=N,3.0nm,0.9s					
ASAR			MLR	MLR		
	comp=Z,149nm,21.2s					
ASAR	**Alice Springs**	**33.13 245**	P	**P**	**13 09 57.0**	**-0.5**
ASAR			PcP	PcP	13 12 37.1	+0.6
ASAR			ScP	ScP	13 16 09.4	+4.9
ASPA	**Alice Springs**	**33.13 245**	*eP*	**P**	**13 09 56.8**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.96 256**	*eP*	**P**	**13 10 55.2**	**-0.1**
	comp=Z,17nm,0.8s,mb4.7					
FITZ			*i*		13 12 58.4	
FITZ	**Fitzroy Crossi**	**39.96 256**	P	**P**	**13 10 55.7**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6,baz=88,slow=7.6,SNR=20					
FITZ			PcP	PcP	13 12 58.3	+1.2
	comp=Z,9.6nm,0.9s,baz=130,slow=4.3,SNR=8.6					
FORT	**Forrest**	**40.19 236**	*eP*	**P**	**13 10 57.3**	**+0.2**
	comp=Z,34nm,0.8s,mb5.0					
PPT	**Papeete**	**42.63 103**	LR	LR	13 25 19.7	
	comp=Z,71nm,20.6s,baz=231,slow=31					
KLBR	**Kellerberrin**	**48.91 239**	*eP*	**P**	**13 12 05.6**	**-0.5**
	comp=Z,59nm,1.6s,mb5.0					
NWAO	**Narrogin (SRO)**	**49.63 237**	P	**P**	**13 12 11.9**	**+0.3**
	comp=Z,12nm,0.7s,mb4.6,baz=27,slow=5.9,SNR=6.9					
NWAO	**Narrogin (SRO)**	**49.63 237**	P	**P**	**13 12 11.9**	**+0.3**
NWAO			pmax	pmax		
	comp=Z,12nm,0.7s					
VNDA	**Vanda**	**65.51 181**	P	**P**	**13 14 02.6**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.5,baz=358,slow=7.0,SNR=58					
VNDA	**Vanda**	**65.51 181**	P	**P**	**13 14 02.6**	**+0.1**
VNDA			pmax	pmax		
	comp=Z,6.0nm,0.7s					
CASY	**Casey**	**65.76 202**	⇑*iP*	**P**	**13 14 03.5**	**-0.6**
SBA	**Scott Base**	**65.80 180**	*eP*	**P**	**13 14 05.4**	**+1.1**
SBA			pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9					
SBA	**Scott Base**	**65.80 180**	*eP*	**P**	**13 14 05.3**	**+1.0**
	comp=Z,17nm,0.8s,mb4.9					
CN2	**Changchun**	**67.04 329**	*eP*	**P**	**13 14 12.5**	**+0.2**
CN2			AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0					
KLR	**Kul'dur**	**68.32 336**	*eP*	**P**	**13 14 17.8**	**-2.4**
PSI	**Prapat**	**68.86 278**	P	**P**	**13 14 23.7**	**+0.1**
	comp=Z,8.7nm,0.8s,mb4.5,baz=10,slow=2.8,SNR=6.6					
PSI	**Prapat**	**68.86 278**	P	**P**	**13 14 23.7**	**+0.1**
PSI			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5					
GYA	**Guiyang**	**69.69 304**	⇑*iP*	**P**	**13 14 29.5**	**+0.8**
GYA			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7					
KMI	**Kunming**	**72.38 301**	P	**P**	**13 14 47.0**	**+2.1**
KMI			AMB	AMB		
	comp=Z,17nm,1.2s,mb4.7					
CHTO	**Chiang Mai**	**73.42 294**	*eP*	**P**	**13 14 51.9**	**+0.9**
CHTO			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0					
CHTO	**Chiang Mai**	**73.42 294**	*eP*	**P**	**13 14 51.9**	**+0.9**
	comp=Z,1.8nm,0.6s,mb4.0					
LZH	**Lanzhou**	**76.07 312**	*eP*	**P**	**13 15 08.0**	**+1.8**
LZH			AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8					
LZH			AMB	AMB		
	comp=Z,105nm,5.1s					
QSPA	**South Pole Qui**	**77.96 180**	*eP*	**P**	**13 15 16.9**	**+0.2**
CIT	**Chita**	**78.46 330**	*eP*	**P**	**13 15 20.2**	**+0.7**
YAK	**Yakutsk**	**79.30 343**	⇓*eP*	**P**	**13 15 22.9**	**-1.2**
BILL	**Bilibino**	**79.88 360**	⇓*eP*	**P**	**13 15 27.0**	**-0.2**
BILL			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3					
SONM	**Songino Array**	**79.98 324**	P	**P**	**13 15 28.3**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.2,baz=140,slow=5.9,SNR=21					
SONM	**Songino Array**	**79.98 324**	P	**P**	**13 15 28.3**	**+0.5**
SONM			pmax	pmax		
	comp=Z,4.0nm,0.7s					
GTA	**Gaotai**	**80.37 314**	*eP*	**P**	**13 15 31.3**	**+1.5**
GTA			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4					
ZAK	**Zakamensk**	**83.02 325**	*eP*	**P**	**13 15 43.3**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0					
TLY	**Talaya**	**83.43 326**	*eP*	**P**	**13 15 45.5**	**-0.3**
TLY			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5					
TLY	**Talaya**	**83.43 326**	*eP*	**P**	**13 15 45.6**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.4					
COLA	**College**	**83.97 18**	*eP*	**P**	**13 15 47.1**	**-1.5**
COLA			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3					
COLA	**College**	**83.97 18**	*eP*	**P**	**13 15 47.1**	**-1.5**
	comp=Z,6.6nm,1.0s,mb4.3					
MAW	**Mawson**	**84.11 202**	⇑*iP*	**P**	**13 15 49.0**	**-0.3**
	comp=Z,8.3nm,0.9s,mb4.5					
MAW	**Mawson**	**84.11 202**	P	**P**	**13 15 49.1**	**-0.2**
	comp=Z,9.4nm,0.8s,mb4.6,baz=101,slow=6.3,SNR=23					
MAW	**Mawson**	**84.11 202**	P	**P**	**13 15 49.1**	**-0.2**
MAW			pmax	pmax		
	comp=Z,9.0nm,0.8s					
NVAR	**Mina Array Bea**	**86.02 50**	P	**P**	**13 15 59.2**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.7,baz=239,slow=9.4,SNR=10.0					
EGAK	**Eagle**	**86.03 20**	*eP*	**P**	**13 15 58.2**	**-0.6**
GUN	**Gumba**	**87.56 299**	*eP*	**P**	**13 16 07.0**	**+0.8**
	comp=Z,15nm,0.5s,mb5.0					
PKI	**Pulchoki**	**87.87 299**	*eP*	**P**	**13 16 08.1**	**+0.4**
	comp=Z,21nm,0.6s,mb5.1					
KKN	**Kakani**	**88.04 299**	*eP*	**P**	**13 16 09.0**	**+0.5**
	comp=Z,19nm,0.6s,mb5.1					
DMN	**Daman**	**88.14 299**	*eP*	**P**	**13 16 08.8**	**-0.1**
	comp=Z,59nm,0.8s					
GKN	**Gorkha**	**88.64 299**	*eP*	**P**	**13 16 11.4**	**+0.1**
	comp=Z,39nm,0.8s,mb5.4					

KOLN	**Koldanda**	**89.48 298**	*eP*	**P**	**13 16 14.9**	**-0.3**
	comp=Z,25nm,1.0s,mb5.1						
MVU	**Marysvale**	**90.62 51**	*eP*	**P**	**13 16 15.5**	**-5.0**
	comp=Z,4.4nm,1.1s,mb4.4						
SYO	**Syowa Base**	**91.07 197**	⇑*eP*	**P**	**13 16 21.5**	**-1.1**
MKAR	**Makanchi Array**	**94.84 317**	P	**P**	**13 16 40.1**	**+0.2**
	comp=Z,11nm,0.6s,mb5.2,baz=91,slow=6.5,SNR=74						
MKAR			PKPbc	PKKPbc	13 33 34.2	-1.1	
	comp=Z,1.0nm,0.6s,baz=275,slow=3.5,SNR=9.8						
MKAR	**Makanchi Array**	**94.84 317**	P	**P**	**13 16 40.2**	**+0.2**	
MKAR			pmax	pmax			
	comp=Z,11nm,0.6s						
MKAR			pmax	pmax			
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**94.84 317**	P	**P**	**13 16 40.1**	**+0.2**	
MKAR			PKKPbc	PKKPbc	13 33 34.2	-1.1	
ZAL	**Zalesovo**	**94.88 324**	P	**P**	**13 16 39.2**	**-0.9**	
	comp=Z,1.4nm,0.6s,mb4.3,baz=5.0,slow=7.0,SNR=7.7						
ZAL	**Zalesovo**	**94.88 324**	P	**P**	**13 16 39.2**	**-1.0**	
ZAL			pmax	pmax			
	comp=Z,1.0nm,0.6s						
ZAL	**Zalesovo**	**94.88 324**	P	**P**	**13 16 39.2**	**-0.9**	
YKA	**Yellowknife Ar**	**95.47 27**	P	**P**	**13 16 40.7**	**-2.1**	
	comp=Z,0.6nm,0.4s,mb4.1,baz=262,slow=4.9,SNR=5.5						
YKA	**Yellowknife Ar**	**95.47 27**	P	**P**	**13 16 40.7**	**-2.1**	
YKA			pmax	pmax			
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**95.47 27**	P	**P**	**13 16 40.7**	**-2.1**	
SNAA	**Sanae**	**96.17 183**	⇓*iP*	**P**	**13 16 43.9**	**-2.1**	
ARCES	**ARCESS Array B**	**117.52 346**	PKP	PKPdf	13 22 02.2	-0.8	
	comp=Z,5.0nm,0.4s,baz=78,slow=2.1,SNR=59						
ARCES	**ARCESS Array B**	**117.52 346**	PKIKP	PKPdf	13 22 02.2	-0.8	
ARCES			pmax	pmax			
	comp=Z,5.0nm,0.4s						
ARCES	**ARCESS Array B**	**117.52 346**	PKP	PKPdf	13 22 02.2	-0.8	
LPAZ	**La Paz**	**118.97 116**	PKP	PKPdf	13 22 06.8	+1.1	
	comp=Z,0.3nm,0.5s,baz=50,slow=18,SNR=3.9						
JOF	**Joensuu**	**120.19 338**	*ep*	PKPdf	13 22 07.2	-0.9	
	comp=Z,9.7nm,0.7s						
OBN	**Obninsk**	**122.11 329**	⇑*i*PKIKP	PKPdf	13 22 11.2	-0.6	
OBN			pmax	pmax			
	comp=Z,7.0nm,0.6s						
KAF	**Kangasniemi**	**122.49 339**	*ep*	PKPdf	13 22 11.5	-1.0	
	comp=Z,7.1nm,0.5s						
CPUP	**Villa Florida**	**122.72 132**	PKP	PKPdf	13 22 13.2	+0.3	
	comp=Z,0.5nm,0.4s,baz=315,slow=1.6,SNR=4.9						
CPUP	**Villa Florida**	**122.72 132**	PKIKP	PKPdf	13 22 13.3	+0.3	
CPUP			pmax	pmax			
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**123.02 339**	PKP	PKPdf	13 22 12.5	-1.1	
	comp=Z,2.9nm,0.6s,baz=61,slow=2.1,SNR=21						
FINES	**FINESS Array B**	**123.02 339**	PKIKP	PKPdf	13 22 12.5	-1.1	
FINES			pmax	pmax			
	comp=Z,3.0nm,0.6s						
BOSA	**Boshof**	**124.96 222**	PKP	PKPdf	13 22 17.9	+0.6	
	comp=Z,2.8nm,0.8s,baz=111,slow=3.7,SNR=3.8						
BOSA	**Boshof**	**124.96 222**	PKIKP	PKPdf	13 22 17.9	+0.6	
BOSA			pmax	pmax			
	comp=Z,3.0nm,0.8s						
BOSA	**Boshof**	**124.96 222**	PKP	PKPdf	13 22 17.9	+0.6	
NB2	**NORSAR Subarra**	**127.89 345**	PKPd	PKPdf	13 22 22.4	-0.5	
	comp=Z,2.1nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**127.89 345**	PKP	PKPdf	13 22 22.8	-0.1	
	comp=Z,2.3nm,0.7s,baz=31,slow=2.0,SNR=13						
NOA	**NORSAR Array B**	**127.89 345**	PKIKP	PKPdf	13 22 22.8	-0.1	
NOA			pmax	pmax			
	comp=Z,2.0nm,0.7s						
KMBO	**Kilima Mbogo**	**128.05 259**	PKP	PKPdf	13 22 24.8	+1.6	
	comp=Z,3.4nm,0.8s,baz=57,slow=22,SNR=8.7						
KMBO	**Kilima Mbogo**	**128.05 259**	PKIKP	PKPdf	13 22 24.8	+1.6	
KMBO			pmax	pmax			
	comp=Z,3.0nm,0.8s						
AKASG	**Malin Array Be**	**128.17 327**	PKP	PKPdf	13 22 22.7	-0.7	
	comp=Z,0.7nm,0.4s,baz=54,slow=1.9,SNR=5.3						
AKASG	**Malin Array Be**	**128.17 327**	PKIKP	PKPdf	13 22 22.7	-0.7	
AKASG			pmax	pmax			
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**130.28 312**	PKP	PKPdf	13 22 27.9	+0.5	
	comp=Z,0.8nm,0.5s,baz=116,slow=4.5,SNR=4.9						
BRTR	**Keskin Array B**	**130.28 312**	PKIKP	PKPdf	13 22 28.0	+0.6	
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.5s						
BSEG	**Bad Segeberg**	**134.19 341**	*e*PKPbc	PKPdf	13 22 36.2	+1.4	
BRG	**Berggiesshubel**	**135.33 336**	*e*PKPbc	PKPdf	13 22 38.7	+1.8	
BRG	**Berggiesshubel**	**135.33 336**	*i* (P)	PKPdf	13 22 39.0	+2.0	
	comp=Z,2.3nm,0.6s						
CLL	**Collm**	**135.37 337**	*e*PKPdf	PKPdf	13 22 38.0	+1.0	
	comp=Z,11nm,1.2s						
FBE	**Freiberg**	**135.53 336**	*e*PKPbc	PKPdf	13 22 39.7	+2.4	
CLZ	**Clausthal**	**135.91 339**	*e*PKPbc	PKPdf	13 22 39.5	+1.5	
BDFB	**Brasilia**	**136.04 128**	PKP	PKPdf	13 22 40.0	+1.8	
	comp=Z,1.2nm,0.4s,baz=171,slow=7.9,SNR=3.9						
BDFB	**Brasilia**	**136.04 128**	PKIKP	PKPdf	13 22 40.1	+1.8	
BDFB			pmax	pmax			
	comp=Z,1.0nm,0.4s						
WERD	**Werda**	**136.32 336**	*e*PKPbc	PKPdf	13 22 41.0	+2.2	
GUNZ	**Gunzen**	**136.37 336**	*e*PKPbc	PKPdf	13 22 41.2	+2.3	
MANZ	**Manzenberg**	**136.76 336**	*e*PKPbc	PKPdf	13 22 41.9	+2.3	
GEC2	**GERESS Array S**	**136.98 334**	*e*PKPbc	PKPdf	13 22 42.2	+2.2	
GERES	**GERESS Array B**	**136.98 334**	PKP	PKPdf	13 22 41.6	+1.6	
	comp=Z,2.1nm,0.7s,baz=90,slow=1.3,SNR=12						
GERES	**GERESS Array B**	**136.98 334**	PKIKP	PKPdf	13 22 41.6	+1.6	
GERES			pmax	pmax			
	comp=Z,2.0nm,0.7s						
WET	**Wettzell**	**137.10 335**	*e*PKPbc	PKPdf	13 22 42.6	+2.4	
GRA1	**Grafenberg Arr**	**137.34 336**	*e*PKPbc	PKPdf	13 22 42.9	+2.2	
GRF	**Grafenberg Arr**	**137.34 336**	*e*PKPbc	PKPdf	13 22 42.9	+2.2	
CDF	**Champ du Feu**	**139.87 339**	*e*PKP1	PKPdf	13 22 43.0	-2.3	
FLN	**La Foliniere**	**141.86 346**	*e*PKP1	PKPdf	13 22 44.2	-4.7	
LDF	**La Druitiere**	**141.94 346**	*e*PKP1	PKPdf	13 22 43.9	-5.1	
	comp=Z,12nm,0.8s						
GRR	**Gorron**	**142.30 346**	*e*PKP1	PKPdf	13 22 45.6	-4.1	
	comp=Z,16nm,0.8s						
SSF	**Saint Saulge**	**142.32 341**	*e*PKP1	PKPdf	13 22 45.4	-4.3	
	comp=Z,7.1nm,0.6s						
LPG	**La Plagne**	**142.51 337**	*e*PKP1	PKPdf	13 22 47.2	-2.8	
SMF	**Signal de Mont**	**142.57 340**	*e*PKP1	PKPdf	13 22 46.8	-3.3	
	comp=Z,14nm,0.9s						
AVF	**Avril sur Loir**	**142.60 341**	*e*PKP1	PKPdf	13 22 45.8	-4.4	
	comp=Z,5.6nm,0.6s						
SGMF	**Saint Gilles**	**142.80 348**	*e*PKP1	PKPdf	13 22 47.3	-3.2	
ROSF	**Rostrenen**	**142.86 349**	*e*PKP1	PKPdf	13 22 47.3	-3.3	
BGF	**Bois d'Agland**	**142.97 341**	*e*PKP1	PKPdf	13 22 47.8	-3.0	
	comp=Z,10nm,0.5s						
QUIF	**Quistinic**	**143.24 349**	*e*PKP1	PKPdf	13 22 47.9	-3.4	
ORIF	**Oris-en-Rattie**	**143.34 337**	*e*PKP1	PKPdf	13 22 48.4	-3.1	
	comp=Z,32nm,0.8s						
SBF	**Sospel**	**143.58 334**	*e*PKP1	PKPdf	13 22 48.5	-3.4	
	comp=Z,67nm,0.9s						
MFF	**Saint Martin d**	**143.79 345**	*e*PKP1	PKPdf	13 22 49.6	-2.7	
	comp=Z,24nm,0.6s						
VIVF	**Saint-Julien-l**	**143.84 338**	*e*PKP1	PKPdf	13 22 50.1	-2.3	
	comp=Z,29nm,0.9s						
FRF	**La Foret Royal**	**144.16 335**	*e*PKP1	PKPdf	13 22 50.6	-2.3	
	comp=Z,59nm,0.8s						
SMRF	**Simiane la Rot**	**144.25 336**	*e*PKP1	PKPdf	13 22 50.1	-3.0	
	comp=Z,36nm,0.9s						
LMR	**La Mourre**	**144.40 335**	*e*PKP1	PKPdf	13 22 51.5	-1.8	
	comp=Z,59nm,0.6s						
RJF	**Les Rejaudoux**	**144.51 342**	*e*PKP1	PKPdf	13 22 52.1	-1.4	
	comp=Z,26nm,0.7s						
CAF	**Calviac**	**144.68 341**	*e*PKP1	PKPdf	13 22 53.0	-0.8	
	comp=Z,34nm,0.9s						
LASF	**Ste Croix**	**144.81 338**	*e*PKP1	PKPdf	13 22 53.4	-0.7	
	comp=Z,45nm,0.8s						
LFF	**La Frestale**	**145.07 342**	*e*PKP1	PKPbc	13 22 53.9	-0.4	
	comp=Z,79nm,1.0s						
MTLF	**Montolieu**	**146.03 339**	*e*PKP1	PKPbc	13 22 53.8	-3.5	
	comp=Z,32nm,0.7s						
EPF	**Esparros**	**146.92 341**	*e*PKP1	PKPbc	13 22 56.6	-3.2	
	comp=Z,19nm,0.9s						
ETSF	**Etsaut**	**147.32 342**	*e*PKP1	PKPbc	13 22 58.5	-2.4	
	comp=Z,31nm,0.9s						
KEST	**Kesra**	**148.73 323**	PKPbc	PKPbc	13 23 05.2	+0.6	
	comp=Z,8.3nm,0.7s,baz=300,slow=1.1,SNR=15						
PVRL	**Vila Real**	**150.47 351**	*e*PKPbc	PKPbc	13 23 09.9	+1.0	
PVIS	**Viseu**	**151.04 351**	*e*PKPbc	PKPbc	13 23 11.3	+1.1	
ESDC	**Sonseca Array**	**151.25 345**	PKPbc	PKPbc	13 23 11.0	+0.3	
	comp=Z,3.9nm,0.6s,baz=15,slow=2.7,SNR=26						
ESDC			PKPab	PKPab	13 23 20.1	+0.8	
	comp=Z,1.6nm,0.5s,baz=12,slow=3.6,SNR=5.9						
ESLA	**Sonseca Array**	**151.25 345**	*e*PKPdf	PKPdf	13 23 06.4	+1.8	
ESLA			*e*PKPbc	PKPbc	13 23 11.6	+0.9	
ESLA			*e*PKPab	PKPab	13 23 16.2	-3.1	
MTE	**Manteigas**	**151.30 351**	*e*PKPbc	PKPbc	13 23 11.8	+1.0	
PCBR	**Castelo Branco**	**151.84 350**	*e*PKPbc	PKPbc	13 23 12.7	+0.7	
PTOM	**Tomar**	**152.20 352**	*e*PKPdf	PKPdf	13 23 06.0	0.0	
PTOM	**Tomar**	**152.20 352**	*e*PKPbc	PKPbc	13 23 13.8	+1.0	
TORD	**Torodi Ar. Bea**	**165.25 276**	PKP	PKPdf	13 23 22.1	+0.7	
	comp=Z,7.5nm,0.9s,baz=11,slow=1.2,SNR=29						
TORD			PKPab	PKPab	13 24 20.3	+0.5	
	comp=Z,1.5nm,0.8s,baz=87,slow=4.6,SNR=4.4						
DBIC	**Dimbokro**	**170.04 238**	PKP	PKPdf	13 23 26.8	+2.1	
	comp=Z,2.9nm,0.9s,baz=93,slow=4.3,SNR=4.3						
DBIC	**Dimbokro**	**170.04 238**	PKIKP	PKPdf	13 23 26.8	+2.1	
DBIC			pmax	pmax			
	comp=Z,3.0nm,0.9s						
DBIC	**Dimbokro**	**170.04 238**	PKP	PKPdf	13 23 26.8	+2.1	

MDD ***26*** *13:23:21.1±1.2,3548N×171W,h0km,mbLg1.9/2,Error ellipse: s-maj=22.2km s-min=5.1km az=43.0,PRXIMO*

ISCJB ***26*** *13:23:22.6±1.0,3558N±007×181W±009,h10km,Error ellipse: s-maj=13.2km s-min=5.8km az=95.0*

CRAAG ***26*** *13:23:26.1,3520N×1.17W,Ml2.5*

ISC 26 13:23:22.2±1.0,3553N±007×177W±009,h10km,n14, σ1ᵑ35/21,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLHC	**Oulhaca**	**0.40**	**135**	P	**Pg**	**13 23 32.0**	**+2.0**
ODZI	**Dziouia**	**0.50**	**118**	P	**Pg**	**13 23 29.0**	**-2.9**
OTSS	**Djebel Tessala**	**0.83**	**107**	P	**Pg**	**13 23 35.0**	**-3.2**
USTO	**Oran**	**1.01**	**78**	P	**Pg**	**13 23 43.0**	**+1.4**
ODJA	**Bouhanifia**	**1.33**	**98**	P	**Pn**	**13 23 55.0**	**+8.2**
ENIJ	**Nijar**	**1.48**	**346**	P	**Pn**	**13 23 49.4**	**+0.5**
	0.6nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**13 24 08.7**	**+0.3**
	SNR=7.9						
EBER	**Berja**	**1.64**	**327**	P	**Pn**	**13 23 51.2**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**13 24 11.3**	**-0.9**
	1.1nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**2.15**	**322**	P	**Pn**	**13 23 57.7**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**13 24 24.8**	**0.0**
	0.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.35**	**10**	P	**Pn**	**13 23 59.2**	**-1.5**
	0.4nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**13 24 22.9**	**-6.8**
	0.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**2.50**	**336**	P	**Pn**	**13 24 02.0**	**-0.9**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**13 24 36.3**	**+2.8**
	0.6nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.65**	**294**	S	**Sn**	**13 24 32.7**	**-4.3**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.12**	**3**	P	**Pn**	**13 24 12.5**	**+1.1**
	0.4nm,0.1s,SNR=6.2						
ETOB				S	**Sn**	**13 24 47.3**	**-1.3**
	1.9nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.16**	**349**	P	**Pn**	**13 24 14.0**	**+2.1**
	0.3nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**13 24 49.8**	**+0.1**
	0.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.47**	**320**	S	**Sn**	**13 24 56.8**	**-0.5**
	0.3nm,0.1s,SNR=7.9						

NIED ***26*** *13:39:00,3400N×134.00E,h38km,Mw3.6 Best double couple: M0 3.18000×10¹⁴ NP1:φs279.00000°,δ81.00000°, λ87.00000°. NP2:φs120.00000°,δ9.00000°,λ111.00000°.*

IDC ***26*** *13:39:20.9±11.0,3353N×13458E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.4/21,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=458.6km s-min=33.9km az=119.0*

ISCJB ***26*** *13:39:22.3±0.5,3405N±003×13400E±004,h51km±5km, mb3.5/2,Error ellipse: s-ma

RAO				Sn	**Sn**	14 15 00.5	**+0.2**		
CTAO	**Charters Tower**	**33.65**	**276**	*e*P	**P**	**14 21 20.5**	**+4.6**		
	3.6nm,0.8s,mb4.3								
STKA	**Stephens Creek**	**35.02**	**254**	P	**P**	**14 21 27.5**	**-0.3**		
	0.7nm,0.6s,mb3.8,baz=34,slow=4.3,SNR=3.9								
AS31	**Alice Springs**	**43.33**	**265**	*e*P	**P**	**14 22 37.0**	**-0.2**		
ASAR	**Alice Springs**	**43.34**	**265**	P	**P**	**14 22 37.1**	**-0.1**		
	0.6nm,0.6s,mb3.5,baz=105,slow=7.4,SNR=18								
WRAB	**Tennant Creek**	**44.15**	**270**	*e*P	**P**	**14 22 44.5**	**+0.7**		
WRA	**Warramunga Arr**	**44.16**	**270**	P	**P**	**14 22 43.7**	**-0.2**		
	0.7nm,0.4s,mb3.7,baz=110,slow=8.0,SNR=20								
SBA	**Scott Base**	**49.84**	**184**	*e*P	**P**	**14 23 26.9**	**-1.2**		
VNDA	**Vanda**	**49.89**	**186**	P	**P**	**14 23 30.2**	**+1.6**		
FINES	**FINESS Array B**	**143.49**	**341**	PKP	PKPdf	14 34 08.2	-1.4		
	2.7nm,0.4s,baz=72,slow=4.5,SNR=30								
NOA	**NORSAR Array B**	**146.99**	**352**	PKPbc	PKPbc	14 34 18.4	+0.8		
	0.6nm,0.6s,baz=17,slow=4.3,SNR=3.9								

MOS 26 14:27:16.3±0.1, 4332N×4538E, h14km, mb3.7/1, Error ellipse: s-maj=29.0km s-min=12.8km az=157.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNJR	**Sundja**	**0.49**	**239**	*e*PG	Pg	14 27 27.3	+1.4
SNJR				*e*S	Sg	14 27 35.7	+3.3
VLKR	**Vladikavkaz**	**0.58**	**242**	*e*PG	Pg	14 27 28.6	+0.9
VLKR				*e*S	Sg	14 27 38.4	+2.9
KMSR	**Komsomolskaya**	**0.79**	**274**	*e*PG	Pg	14 27 32.0	+0.3
KMSR				*e*S	Sg	14 27 44.2	+2.1
ARNR	**Ardon**	**0.81**	**261**	*e*PG	Pg	14 27 32.4	+0.3
ARNR				*i* S	Sg	14 27 44.8	+2.0
PRTR	**Priterechnaya**	**0.91**	**299**	*e*PG	Pg	14 27 33.8	0.0
PRTR				*e*S	Sg	14 27 47.2	+1.5
LACR	**Lac**	**0.94**	**238**	*e*PG	Pg	14 27 34.3	-0.1
LACR				*e*S	Sb	14 27 48.2	+1.6
KORR	**Kora**	**0.99**	**257**	*e*PG	Pg	14 27 35.1	-0.3
KORR				*e*S	Sb	14 27 49.6	+1.6
ZEI	**Tsey**	**1.22**	**244**	*e*PG	Pg	14 27 38.3	-1.4
ZEI				*e*S	Sb	14 27 55.2	+0.5

*NEIC **26** 14:36:19.3, 1551N×9660W, h15km, MD4.0(MEX), After MEX.*

MEX 26 14:36:17.7±0.9, 1543N×9652W, h20km±10km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.52**	**50**	*i* P	Pb	14 36 25.8	-2.3
HUIG				*i* S	Sb	14 36 32.8	-2.3
VHO	**Vista Hermosa**	**1.65**	**353**	*i* P	Pn	14 36 42.9	-2.5
VHO				*i* S	Sn	14 37 01.9	-4.1
OXX	**Oaxaca**	**1.65**	**353**	*i* P	Pn	14 36 43.0	-2.6
OXX				*i* S	Sn	14 37 02.0	-4.2
PNIG	**Pinotepa**	**1.82**	**302**	*e*P	Pn	14 36 45.7	-2.1
PNIG				*i* S	Sn	14 37 05.2	-5.1
PNIG	**Pinotepa**	**1.82**	**302**	*e*P	Pn	14 36 45.7	-2.1
PNIG				*i* S	Sn	14 37 04.2	-6.1
CMIG	**Matias Romero**	**2.28**	**43**	*i* P	Pn	14 36 51.8	-2.4
CMIG				*i* S	Sn	14 37 19.4	-2.2
UTMO	**Huajuapan**	**2.69**	**333**	*e*P	Pn	14 36 57.9	-1.8
UTMO				*i* S	Sn	14 37 28.1	-3.6
TPIG	**Tehuac#an**	**3.08**	**345**	*e*P	Pn	14 37 05.1	0.0
TPIG				*i* S	Sn	14 37 38.2	-3.2
PLIG	**Platanillo**	**4.10**	**316**	*e*P	Pn	14 37 17.4	-1.9
PLIG				*i* S	Sn	14 38 02.0	-4.7
PPM	**Popocatepetl**	**4.14**	**331**	*e*P	Pn	14 37 19.3	-0.4
PPM				*e*P		14 37 20.0	
PPM				*i* S	Sn	14 38 05.3	-2.3
PPM	**Popocatepetl**	**4.14**	**331**	*e*P	Pn	14 37 20.0	+0.3
PPM				*i* S	Sn	14 38 05.3	-2.3

KRSC 26 14:46:30, 5470N×16325E, h22km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.90**	**261**	*i* P	Pb	14 46 48.1	+1.3
MKZ				*i* S	Sb	14 47 00.0	+1.7
KBTR	**Krutoberegovo**	**1.53**	**351**	*e*P	Pn	14 46 56.9	+0.9
KBTR				*i* S	Sn	14 47 15.4	+0.2
TUMR	**Tumrok**	**1.88**	**289**	*e*P	Pn	14 47 02.8	+2.0
TUMR				*i* S	Sn	14 47 26.2	+2.3
ZLN	**Zelenaya**	**1.92**	**314**	*e*P	Pn	14 47 04.1	+2.7
ZLN				*i* S	Sn	14 47 28.7	+3.8
CIRR	**Tsirk**	**2.01**	**316**	*e*P	Pn	14 47 05.2	+2.6
CIRR				*i* S	Sn	14 47 30.4	+3.3
KMNR	**Kamenistaya**	**2.02**	**303**	*e*P	Pn	14 47 05.1	+2.3
KMNR				*i* S	Sn	14 47 30.4	+3.0
SMKR	**Semkarok**	**2.14**	**333**	*e*P	Pn	14 47 06.9	+2.5
SMKR				*i* S	Sn	14 47 33.5	+3.3
KPT	**Kopyto**	**2.15**	**307**	*e*P	Pn	14 47 07.1	+2.7
KPT				*i* S	Sn	14 47 34.5	+4.1
KRSR	**Krestovskiy**	**2.16**	**316**	*e*P	Pn	14 47 06.7	+2.1
KRSR				*i* S	Sn	14 47 33.5	+2.9
KLY	**Klyuchi**	**2.19**	**319**	*e*P	Pn	14 47 06.2	+1.1
KLY				*i* S	Sn	14 47 32.7	+1.2
SRKR	**Sorokina**	**2.29**	**330**	*e*P	Pn	14 47 09.2	+2.8
SRKR				*i* S	Sn	14 47 36.8	+2.9
KII	**Karymskiy**	**2.32**	**255**	*i* P	Pn	14 47 09.8	+2.9
KII				*i* S	Sn	14 47 38.4	+3.7
KOZ	**Kozyrevsk**	**2.36**	**307**	*e*P	Pn	14 47 09.9	+2.5
KOZ				*i* S	Sn	14 47 38.1	+2.4
SPN	**Mys Shipunski**	**2.49**	**231**	*e*P	Pn	14 47 10.7	+1.5
SPN				*i* S	Sn	14 47 38.7	-0.3
SRDR	**Sredinnyy**	**2.58**	**310**	*e*P	Pn	14 47 13.0	+2.6
SRDR				*i* S	Sn	14 47 43.9	+2.8
NLC	**Nalytchevo**	**2.77**	**238**	*e*P	Pn	14 47 14.2	+1.2
NLC				*i* S	Sn	14 47 45.6	-0.2
AVH	**Avacha**	**3.03**	**243**	*e*P	Pn	14 47 20.1	+3.5
PET	**Petropavlovsk**	**3.20**	**240**	*i* P	Pn	14 47 22.7	+3.8
PET				*i* S	Sn	14 47 59.9	+3.5
GNL	**Ganaly**	**3.28**	**254**	*e*P	Pn	14 47 23.2	+3.2
GNL				*i* S	Sn	14 48 01.7	+3.4
GRL	**Gorelyy**	**3.76**	**237**	*e*P	Pn	14 47 30.7	+4.1
GRL				*i* S	Sn	14 48 15.2	+5.0

*NEIC **26** 14:55:00.3, 3290S×7191W, h41km, MD4.1(GUC), After GUC.*

GUC 26 14:55:00.3±0.8, 3290S×7191W, h41km±2km, MD4.1, ML3.3, 8C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.26**	**119**	⇓*i* P	Pn	14 55 08.1	-0.1
IHA				*i* S	Sn	14 55 14.4	+0.6
LCCH	**Las Cruces**	**0.65**	**154**	⇑*i* P	Pn	14 55 12.9	-0.1
LCCH				*i* S	Sn	14 55 22.8	+0.7
ROCH	**El Roble**	**0.76**	**96**	⇑*i* P	Pn	14 55 15.3	+0.7
ROCH				*i* S	Sn	14 55 26.7	+1.8
PEL	**Peldehue**	**1.06**	**104**	⇑*i* P	Pn	14 55 20.2	+1.6
PEL				AML	AML	14 55 37.3	
	comp=E,5μm,0.3s						
CHNG	**Los Chungos**	**1.07**	**19**	*i* P	Pn	14 55 17.0	-1.8
CHNG				*i* S	Sn	14 55 30.3	-2.1
RCDM	**Rinconada Maip**	**1.10**	**123**	*e*P	Pn	14 55 20.2	+1.0
RCDM				*i* S	Sn	14 55 35.0	+1.8
RCDM				AML	AML	14 55 38.5	
	comp=N,785nm,0.5s						
RCDM	**Rinconada Maip**	**1.10**	**123**	*e*P	Pn	14 55 20.2	+1.0
RCDM				*i* S	Sn	14 55 35.0	+1.8
TACH	**Talagante**	**1.11**	**133**	⇑*i* P	Pn	14 55 20.4	+1.0
TACH				*i* S	Sn	14 55 35.0	+1.5
JACH	**Jahuel**	**1.13**	**79**	⇑*i* P	Pn	14 55 20.3	+0.6
JACH				*i* S	Sn	14 55 36.6	+2.6
LNV	**Longovilo**	**1.14**	**158**	⇓*i* P	Pn	14 55 19.5	-0.2
LNV				*i* S	Sn	14 55 34.6	+0.5
STL	**Santa Lucia**	**1.20**	**117**	⇓*i* P	Pn	14 55 21.5	+0.9
STL				*i* S	Sn	14 55 38.8	+3.2
CLCH	**Cerro Calan**	**1.26**	**114**	⇑*e*P	Pn	14 55 22.9	+1.5
CLCH				*i* S	Sn	14 55 39.1	+2.0
CLCH				AML	AML	14 55 44.8	
	comp=E,683nm,0.3s						
ANTU	**Antumapu**	**1.27**	**122**	*e*P	Pn	14 55 23.1	+1.7
ANTU				*i* S	Sn	14 55 40.4	+3.1
ANTU				AML	AML	14 55 42.8	
	comp=N,946nm,0.3s						
ANTU	**Antumapu**	**1.27**	**122**	*e*P	Pn	14 55 23.1	+1.7
ANTU				*i* S	Sn	14 55 40.4	+3.1
FCH	**Farellones**	**1.43**	**108**	⇑*e*P	Pn	14 55 25.6	+1.9
FCH				*i* S	Sn	14 55 45.5	+4.2
FCH				AML	AML	14 55 48.3	
	comp=E,736nm,0.2s						
CHCH	**Chadas Angostu**	**1.48**	**135**	*e*P	Pn	14 55 25.6	+1.2
CACH	**El Canelo**	**1.64**	**138**	*e*P	Pn	14 55 28.4	+1.7
CACH				*i* S	Sn	14 55 50.1	+3.7
LMEL	**Las Melosas**	**1.72**	**124**	⇓*e*P	Pn	14 55 29.9	+2.2
LMEL				*i* S	Sn	14 55 51.6	+3.3
LMEL				AML	AML	14 55 55.3	
	comp=N,650nm,0.2s						
LMEL	**Las Melosas**	**1.72**	**124**	⇓*e*P	Pn	14 55 29.9	+2.2
LMEL				*i* S	Sn	14 55 51.6	+3.3
SFDO	**San Fernando**	**1.87**	**157**	⇑*i* P	Pn	14 55 30.6	+0.8
SFDO				*i* S	Sn	14 55 54.4	+2.3
CICH	**Cipreses**	**1.89**	**139**	*e*P	Pn	14 55 31.4	+1.4
MDZ	**Mendoza**	**2.58**	**91**	*e*P	Pn	14 55 44.1	+4.6
TLL	**Tololo Astrono**	**2.88**	**19**	*e*P	Pn	14 55 42.8	-0.9

NEIC 26 15:02:27.6±1.3, 5259N×16364W, h10km, mb4.1/2, ML3.5(AEIC), Error ellipse: s-maj=21.9km s-min=7.7km az=171.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**2.01**	**321**	P	Pn	15 03 01.7	+0.2
AKUT				S	Sn	15 03 26.5	-0.2
AKLV	**Akutan Long Va**	**2.10**	**320**	P	Pn	15 03 02.7	-0.1
OKCD	**Okmok Cone D**	**2.83**	**289**	P	Pn	15 03 12.7	-0.1
OKCE	**Okmok Cone E**	**2.86**	**289**	P	Pn	15 03 13.3	0.0
NIKO	**Nikolski**	**3.19**	**279**	P	Pn	15 03 17.2	-0.6
NIKO				S	Sn	15 03 51.7	-4.2
SDPT	**Sand Point**	**3.34**	**33**	P	Pn	15 03 20.0	+0.2
CHGN	**Chignik**	**4.81**	**37**	P	Pn	15 03 40.4	+0.4
SPIA	**Saint Paul Isl**	**5.97**	**323**	P	Pn	15 03 57.0	+0.9
SLKM	**Skilak Lake**	**10.84**	**38**	*e*P	Pn	15 05 03.4	+0.7
EGAK	**Eagle**	**16.77**	**35**	P	Pn	15 06 19.9	-2.7
DAWY	**Dawson**	**17.02**	**38**	*e*P	Pn	15 06 31.5	+5.9
INK	**Inuvik**	**21.30**	**31**	*e*P	P	15 07 13.6	-0.7
	4.3nm,0.9s						
NEW	**Newport**	**29.54**	**80**	*e*P	P	15 08 32.9	+0.6
	6.9nm,0.9s						

MAN 26 15:26:01.8, 1375N×12057E, h120km, mb3.2, ML4.5, MS3.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.31**	**267**	*e*P	Pn	15 26 19.9	+1.1
LUBP				*e*S	Sn	15 26 34.1	+2.6
PGP	**Puerto Galera**	**0.45**	**123**	*e*P	Pn	15 26 20.6	+1.3
TGY	**Tagaytay City**	**0.50**	**46**	⇑*e*P	Pn	15 26 22.3	+2.6
TGY				*e*S	Sn	15 26 38.3	+5.1
BOAC	**Boac**	**1.27**	**103**	*e*P	Pn	15 26 26.4	-0.3
BOAC				*e*S	Sn	15 26 48.1	+2.6
POLP	**Polilio Island**	**1.65**	**54**	*e*P	Pn	15 26 31.9	+1.1
BUSP	**Coron**	**1.77**	**192**	*e*P	Pn	15 26 33.2	+0.8
BUSP				*e*S	Sn	15 26 57.1	+1.3
OTRP	**Odiongan**	**1.98**	**134**	*e*P	Pn	15 26 35.1	+0.2
AUQP	**San Andres**	**2.09**	**101**	*e*P	Pn	15 26 38.4	+2.1
BALP	**Baler**	**2.21**	**26**	*e*P	Pn	15 26 38.2	+0.5
ENPP	**El Nido**	**2.76**	**204**	*e*P	Pn	15 26 46.1	+1.2

*NEIC **26** 15:36:48.4, 1548N×9636W, h16km, MD4.1(MEX), After MEX.*

MEX 26 15:36:48.8±1.1, 1546N×9644W, h21km±57km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.45**	**46**	*i* P	Pb	15 36 55.7	-2.2
HUIG				*i* S	Sb	15 37 03.2	-0.9
VHO	**Vista Hermosa**	**1.63**	**350**	*i* P	Pn	15 37 13.0	-3.2
VHO				*i* S	Sn	15 37 32.5	-4.1
OXX	**Oaxaca**	**1.64**	**351**	*i* P	Pn	15 37 13.0	-3.4
OXX				*i* S	Sn	15 37 32.5	-4.3
PNIG	**Pinotepa**	**1.87**	**300**	*i* P	Pn	15 37 17.4	-2.2
PNIG				*i* S	Sn	15 37 40.1	-2.4
CMIG	**Matias Romero**	**2.21**	**42**	*i* P	Pn	15 37 21.9	-2.3
CMIG				*e*S	Sn	15 37 48.6	-2.2
UTMO	**Huajuapan**	**2.70**	**331**	*e*P	Pn	15 37 28.9	-2.0
UTMO				*i* S	Sn	15 37 58.8	-4.1
TPIG	**Tehuac#an**	**3.07**	**343**	*e*P	Pn	15 37 34.1	-2.0
TPIG				*i* S	Sn	15 38 09.2	-3.0
ACX	**Acapulco**	**3.62**	**293**	*e*P	Pn	15 37 42.5	-1.1
PLIG	**Platanillo**	**4.13**	**315**	*e*P	Pn	15 37 49.5	-1.2
PLIG				*i* S	Sn	15 38 35.3	-3.1
PLIG	**Platanillo**	**4.13**	**315**	*e*P	Pn	15 37 49.5	-1.2
PLIG				*i* S	Sn	15 38 32.5	-5.9
PPM	**Popocatepetl**	**4.15**	**330**	*e*P	Pn	15 37 49.6	-1.3
PPM				*e*P		15 37 55.0	
PPM				*i* S	Sn	15 38 36.8	-2.1
YAIG	**Yautepec**	**4.21**	**324**	*e*P	Pn	15 37 56.1	+4.3
YAIG				*i* S	Sn	15 38 38.6	-1.8
LVIG	**Laguna Verde**	**4.24**	**0**	*e*P	Pn	15 38 00.2	+8.0
LVIG				*i* S	Sn	15 38 39.0	-2.0

*IDC **26** 15:47:46.0±1.6, 863S×15457E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.2/12, mbtmp4.3/5, MS3.3/4, Ms1 3.3/4, ms1mx3.0/17, Error ellipse: s-maj=47.8km s-min=28.2km az=98.0*

*NEIC **26** 15:47:51.1±1.0, 871S×15465E, h35km, mb4.4/5, Error ellipse: s-maj=19.9km s-min=16.8km az=178.0*

*ISCJB **26** 15:47:53.4±5.4, 875-02.0×15455E±03.0, h64km±41km, mb4.2/9, Error ellipse: s-maj=42.2km s-min=28.8km az=174.9*

ISC 26 15:47:56.2±4.6, 885-02×1544E±03, h72km±35km, n20, σ0§19/15, mb4.1/9, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.48**	**98**	LR	LR	15 51 01.4	
	comp=Z,126nm,20.6s,baz=0.3,slow=36						
PMG	**Port Moresby**	**7.22**	**264**	Pn	**Pn**	**15 49 39.1**	**+0.1**
	0.4nm,0.3s,baz=54,slow=3.6,SNR=4.1						
DZM	**Mont Dzumac**	**17.57**	**140**	LR	LR	15 57 37.8	
	comp=Z,169nm,19.5s,baz=279,slow=34						
KAKA	**Kakadu**	**21.97**	**258**	*e*P	**P**	**15 52 43.8**	**-0.2**
	8.3nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**22.39**	**238**	*e*P	**P**	**15 52 48.4**	**0.0**
	17nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**22.39**	**238**	*e*P	**P**	**15 52 48.6**	**+0.1**
WRA	**Warramunga Arr**	**22.40**	**238**	P	**P**	**15 52 48.4**	**-0.2**
	11nm,0.8s,mb4.2,baz=63,slow=10,SNR=54						
GUMO	**Guam**	**24.14**	**337**	LR	LR	16 00 22.8	
	comp=Z,72nm,20.4s,baz=194,slow=31						
AS31	**Alice Springs**	**24.62**	**231**	*e*P	**P**	**15 53 10.0**	**+0.2**
ASAR	**Alice Springs**	**24.62**	**231**	P	**P**	**15 53 09.6**	**-0.2**
	7.5nm,0.7s,mb4.2,baz=61,slow=9.0,SNR=72						
ASPA	**Alice Springs**	**24.63**	**231**	*e*P	**P**	**15 53 10.0**	**+0.2**
STKA	**Stephens Creek**	**25.93**	**206**	*e*P	**P**	**15 53 21.2**	**-0.4**
	5.9nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**25.93**	**206**	P	**P**	**15 53 21.8**	**+0.2**
	7.0nm,0.8s,mb4.1,baz=23,slow=11,SNR=13						
FITZ	**Fitzroy Crossi**	**29.48**	**249**	*e*P	**P**	**15 53 53.5**	**+0.2**
	7.3nm,0.7s,mb4.4						
MJAR	**Matsushiro Arr**	**47.56**	**342**	LR	LR	16 13 45.7	
	comp=Z,56nm,20.7s,baz=260,slow=33						
VNDA	**Vanda**	**68.85**	**178**	P	**P**	**15 58 52.9**	**-0.1**
	0.6nm,0.8s,mb3.5,baz=329,slow=6.8,SNR=7.2						
VNDA	**Vanda**	**68.85**	**178**	*e*P	**P**	**15 58 52.7**	**-0.3**
	1.8nm,1.0s,mb3.9						
SONM	**Songino Array**	**70.52**	**328**	P	**P**	**15 59 03.2**	**0.0**
	1.4nm,0.9s,mb3.8,baz=144,slow=5.6,SNR=6.1						
QSPA	**South Pole Qui**	**81.24**	**180**	*e*P	**P**	**16 00 04.5**	**+0.2**
	4.5nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**152.90**	**282**	PKPbc	PKPbc	16 07 45.4	+0.3
	0.9nm,0.8s,baz=17,slow=2.1,SNR=4.5						

JMA 26 15:49:07.7±0.1, 2461N×12548E, h8km±1km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.16**	**336**	P	Pg	15 49 11.3	+0.2
JOGS				*e*S	Sg	15 49 13.9	+0.5
JMJ	**Miyako jima 2**	**0.27**	**320**	P	Pg	15 49 13.2	+0.2
JMJ				*e*S	Sg	15 49 16.9	+0.4
JTJ	**Tarama**	**0.71**	**273**	P	Pg	15 49 21.4	0.0
JTJ				*e*S	Sg	15 49 30.7	+0.1
JIJ	**Ishigaki jima**	**1.24**	**259**	P	Pn	15 49 30.4	-1.0
JKRS	**Kuro-shima**	**1.39**	**255**	P	Pn	15 49 33.4	0.0

*NIED **26** 15:49:00, 2460N×12550E, h8km, Mw3.9 Best double couple: M0 8.28000×10^14 NP1:φs195.00000°, δ71.00000°, λ-38.00000°. NP2:φs299.00000°, δ54.00000°, λ-156.00000°.*

*JMA **26** 15:49:08.8±0.1, 2461N×12548E, h7km±2km, M4.2*

JMA Felt II J1.

*IDC **26** 15:49:08.7±1.4, 2481N×12528E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.7/4, ML2.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/30, Error ellipse: s-maj=41.3km s-min=29.8km az=82.0*

*ISCJB **26** 15:49:09.2±1.1, 2466N±007×12547E±004, h13km±5km, mb3.7/3, MS3.2/2, Error ellipse: s-maj=13.2km s-min=4.6km az=132.4*

*NEIC **26** 15:49:12.5±4.1, 2481N×12537E, h26km±34km, MG4.2(JMA), Error ellipse: s-maj=22.5km s-min=11.2km az=163.0*

ISC 26 15:49:08.7±1.3, 2459N±006×12548E±005, h5km±7km, n23, σ0§73/29, mb3.7/3, MS3.2/2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.18**	**337**	P	**Pg**	**15 49 12.4**	**+0.2**
JOGS				S	**Sg**	**15 49 14.9**	**+0.3**
JMJ	**Miyako jima 2**	**0.28**	**322**	P	**Pg**	**15 49 14.3**	**+0.2**
JMJ				S	**Sg**	**15 49 18.1**	**+0.3**
JTJ	**Tarama**	**0.71**	**274**	P	**Pg**	**15 49 22.6**	**+0.3**
JTJ				S	**Sg**	**15 49 31.7**	**+0.1**
JIJ	**Ishigaki jima**	**1.24**	**260**	P	**Pg**	**15 49 31.6**	**-0.9**
JIJ				*e*S	**Sg**	**15 49 47.7**	**-0.9**
JKRS	**Kuro-shima**	**1.39**	**256**	P	**Pn**	**15 49 35.0**	**+0.2**
JKRS				*e*S	**Sb**	**15 49 52.7**	**-0.5**
IRIF	**Iriomote-Funau**	**1.62**	**261**	P	**Pn**	**15 49 37.6**	**-0.3**
IRIF				*e*S	**Sn**	**15 49 58.6**	**-0.6**
HATJ	**Hateruma jima**	**1.62**	**251**	P	**Pn**	**15 49 39.0**	**+1.1**
JKE	**Kume jima 2**	**2.09**	**34**	P	**Pn**	**15 49 44.4**	**0.0**
JKE				*e*S	**Sn**	**15 50 10.4**	**-0.4**
YOJ	**Yonaguni jima**	**2.26**	**267**	P	**Pn**	**15 49 47.1**	**+0.4**
JAGN	**Aguni-jima**	**2.54**	**38**	P	**Pn**	**15 49 51.0**	**+0.4**
JOW	**Kunigami**	**3.36**	**48**	Pn	**Pn**	**15 50 02.6**	**+0.7**
	2.2nm,0.3s,baz=221,slow=11,SNR=13						
JOW				Sn	**Sn**	**15 50 51.2**	**+9.0**
	8.0nm,0.3s,baz=266,slow=27,SNR=3.2						
JOW	**Kunigami**	**3.36**	**48**	P	**Pn**	**15 50 02.4**	**+0.5**
NACB	**Ninganchiao**	**3.57**	**264**	*e*P	**Pn**	**15 50 05.0**	**+0.3**
TATO	**Taipei**	**3.65**	**277**	*e*P	**Pn**	**15 50 06.3**	**+0.4**
YHNB	**Yeheng**	**3.74**	**272**	*e*P	**Pn**	**15 50 06.8**	**-0.3**
JTK	**Tokunoshima**	**4.45**	**44**	P	**Pn**	**15 50 16.2**	**-0.6**
JAM	**Amami Oshima**	**5.30**	**43**	P	**Pn**	**15 50 27.9**	**-0.6**
JMZ	**Minamidaito 2**	**5.34**	**76**	P	**Pn**	**15 50 27.2**	**-1.8**
ASAJ	**Asahikawa**	**23.97**	**31**	LR	LR	16 04 24.0	
	comp=Z,60nm,18.9s,MS3.1,baz=182,slow=38						
SONM	**Songino Array**	**27.69**	**332**	LR	LR	16 06 57.9	
	comp=Z,74nm,19.3s,MS3.3,baz=341,slow=39						
WRA	**Warramunga Arr**	**45.10**	**168**	P	**P**	**15 57 29.5**	**+3.7**
	1.4nm,0.9s,mb3.6,baz=350,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**48.66**	**170**	P	**P**	**15 57 55.5**	**+1.8**
	0.3nm,0.8s,mb3.4,baz=355,slow=7.2,SNR=5.1						
BRTR	**Keskin Array B**	**76.06**	**307**	P	**P**	**16 00 56.9**	**-0.3**
	1.5nm,0.9s,mb3.9,baz=90,slow=7.2,SNR=6.1						

*ISCJB **26** 15:50:56.1±0.7, 3719N±004×7429E±009, h33km, mb4.0/1, Error ellipse: s-maj=10.4km s-min=5.7km az=143.2*

*BJI **26** 15:51:00.9, 3742N×7499E, h12km, mb3.9, ML3.5, Ms3.4*

*NNC **26** 15:51:02.5±12.0, 3743N×7429E, h97km±172km, mb2.6, mpv3.0, Error ellipse: s-maj=111.2km s-min=87.8km az=22.0*

ISC 26 15:50:58.8±0.8, 3718N±004×7435E±009, h38km±26km, n15, σ1§07/20, mb4.0/1, 1C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.66**	**28**	*e*P	**Pn**	**15 51 39.3**	**+0.2**
KSH				S	**Sn**	**15 52 11.0**	**+1.0**
KSH				Smax			
	comp=N,305nm,0.5s						
KSH				Smax			
	comp=E,529nm,0.6s						
CHCP	**Chirah Chowk**	**3.63**	**195**	P	**Pn**	**15 52 01.0**	**+8.6**
CEP	**Cherat**	**3.90**	**211**	P	**Pn**	**15 51 57.9**	**+1.7**
CEP				S		15 52 57.0	
TKM2	**Tokmak 2**	**5.81**	**9**	⇑Pn	**Pn**	**15 52 22.5**	**+0.1**
	comp=E,0.3nm,0.3s						
TKM2				⇓Sn	**Sn**	**15 53 26.6**	**-1.1**
	comp=E,1.8nm,0.7s						
SDNR	**Sundarnagar**	**6.07**	**158**	*e*P	**Pn**	**15 52 33.0

4.4nm,0.5s
KHC Kasperske Hory 3.71 253 *e*PG Pg 16 11 58.3 -4.5
KHC *e*SG Sg 16 12 48.8 -2.1
7.3nm,0.6s
CLL Collm 3.91 286 *e*Pg Pg 16 12 07.0 +0.4
CLL *e*Sg Sg 16 13 00.0 +2.7
comp=Z,9.0nm,0.9s
NKC Novy Kostel 4.19 271 *e*SG Sg 16 13 02.2 -4.1
comp=Z,7.0nm,0.5s

---

*NEIC **26** 16:15:02.2, 2807S×7113W, h15km, ML4.0(GUC), After GUC.*
GUC 26 16:15:02.2±0.7, 2807S×7113W, h15km, ML4.0, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.60**	**147**	⇑*i*P	Pg	16 15 20.0	+5.9
VACH				*i* S	Sg	16 15 28.4	+6.4
VACH				AML	AML	16 15 30.2	
	comp=N,13μm,0.1s						
VACH	**Vallenar**	**0.60**	**147**	⇑*i*P	Pg	16 15 20.0	+5.9
VACH				*i* S	Sg	16 15 28.4	+6.4
CPCH	**Copiapo**	**0.99**	**45**	*e*P	Pb	16 15 20.0	-0.9
CPCH				*i* S	Sb	16 15 33.0	-0.8
CPCH				AML	AML	16 15 34.7	
	comp=N,12μm,0.1s						
CPCH	**Copiapo**	**0.99**	**45**	*e*P	Pb	16 15 20.0	-0.9
CPCH				*i* S	Sb	16 15 33.0	-0.8
CDCH	**Caldera**	**1.02**	**15**	*e*P	Pb	16 15 20.1	-1.6
CDCH				*i* S	Sb	16 15 33.6	-1.3
TLL	**Tololo Astrono**	**2.11**	**172**	*e*P	Pn	16 15 38.5	+1.5
TLL				*i* S	Sn	16 16 05.2	+2.2

---

*KRSC **26** 16:34:29, 5106N×16020E, h5km, ML4.2*
*ISCJB **26** 16:34:32.3±0.8, 5103N±005×16024E±007, h33km, mb3.9/7, Error ellipse: s-maj=7.6km s-min=5.8km az=91.2*
*IDC **26** 16:34:35.6±2.2, 5151N×15894E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, Error ellipse: s-maj=84.3km s-min=33.8km az=89.0*
*MOS **26** 16:34:36.1±1.5, 5136N×15961E, h31km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=7.9km az=92.1*
*NEIC **26** 16:34:41.3±3.0, 5151N×15884E, h36km±24km, mb4.0/1, Error ellipse: s-maj=38.8km s-min=25.8km az=85.0*
*BJI **26** 16:34:43.3, 5150N×15880E, h35km, mB4.8, mb4.4*
ISC 26 16:34:34.2±0.8, 5104N±005×16016E±008, h35km, n32, σ1§18/44, mb3.9/7, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.73**	**324**	*e*P	**Pn**	**16 34 59.6**	**-2.2**
RUS				*i* S	**Sn**	**16 35 21.3**	**-1.3**
GRL	**Gorelyy**	**1.99**	**320**	*e*P	**Pn**	**16 35 04.6**	**-0.8**
GRL				*i* S	**Sn**	**16 35 30.4**	**+1.3**
SPN	**Mys Shipunski**	**2.06**	**358**	*e*P	**Pn**	**16 35 04.9**	**-1.5**
SPN				*i* S	**Sn**	**16 35 32.0**	**+1.1**
NLC	**Nalytchevo**	**2.19**	**347**	*e*P	**Pn**	**16 35 06.5**	**-1.7**
NLC				*i* S	**Sn**	**16 35 33.8**	**-0.3**
PET	**Petropavlovsk**	**2.19**	**336**	*e*P	**Pn**	**16 35 06.0**	**-2.2**
PET	**Petropavlovsk**	**2.19**	**336**	*e*P	**Pn**	**16 35 06.3**	**-1.9**
PET				*i* S	**Sn**	**16 35 33.1**	**-1.0**
AVH	**Avacha**	**2.39**	**339**	*e*P	**Pn**	**16 35 10.0**	**-0.9**
AVH				*i* S	**Sn**	**16 35 39.5**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.45**	**302**	*e*P	**Pn**	**16 35 12.2**	**+0.5**
MIPR				*i* S	**Sn**	**16 35 42.7**	**+2.2**
SKR	**Severo-Kuril's**	**2.58**	**264**	*e*PN	**Pn**	**16 35 12.6**	**-1.0**
SKR				*e*S	**Sn**	**16 35 44.5**	**+0.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,70nm,0.2s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
GNL	**Ganaly**	**2.99**	**334**	*e*P	**Pn**	**16 35 18.5**	**-0.6**
GNL				*i* S	**Sn**	**16 35 54.1**	**+0.5**
KII	**Karymskiy**	**3.03**	**352**	*e*P	**Pn**	**16 35 20.1**	**+0.4**
MKZ	**Mys Kozlova**	**3.65**	**15**	*e*P	**Pn**	**16 35 27.4**	**-0.8**
TUMR	**Tumrok**	**4.25**	**360**	*e*P	**Pn**	**16 35 36.3**	**-0.2**
TUMR				*i* S	**Sn**	**16 36 26.8**	**+2.0**
KMNR	**Kamenistaya**	**4.73**	**1**	*e*P	**Pn**	**16 35 42.4**	**-0.6**
KMNR				*i* S	**Sn**	**16 36 34.6**	**-1.9**
KPT	**Kopyto**	**4.94**	**0**	*e*P	**Pn**	**16 35 46.1**	**+0.2**
ZLN	**Zelenaya**	**5.00**	**4**	*e*P	**Pn**	**16 35 47.9**	**+1.1**
KOZ	**Kozyrevsk**	**5.03**	**358**	*e*P	**Pn**	**16 35 46.8**	**-0.4**
KOZR	**Kozyr**	**5.04**	**358**	PN	**Pn**	**16 35 46.8**	**-0.5**
KBTR	**Krutoberegovo**	**5.42**	**16**	*e*P	**Pn**	**16 35 53.1**	**+0.7**
KBTR				*i* S	**Sn**	**16 36 54.9**	**+1.4**
SRKR	**Sorokina**	**5.66**	**6**	*e*P	**Pn**	**16 35 56.5**	**+0.7**
YAK	**Yakutsk**	**19.88**	**315**	*e*P	**Pn**	**16 39 00.1**	**-4.1**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YAK	**Yakutsk**	**19.88**	**315**	*e*P	**Pn**	**16 38 59.1**	**-5.0**
	comp=Z,8.4nm,0.8s						
VLA	**Vladivostok**	**20.72**	**259**	*c i*P	**P**	**16 39 23.6**	**+12**
SSE	**Sheshan**	**34.95**	**250**	*e*P	**P**	**16 41 30.3**	**+7.5**
SSE				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
SSE				AMB	AMB		
	comp=Z,138nm,6.3s						
NJ2	**Nanjing**	**35.68**	**254**	*e*P	**P**	**16 41 38.8**	**+10**
NJ2				AP	pP	16 41 48.0	+8.8
NJ2				XP	sP	16 41 52.0	+8.6
NJ2				AMB	AMB		
	comp=Z,260nm,5.8s						
MKAR	**Makanchi Array**	**49.11**	**297**	P	**P**	**16 43 17.2**	**-1.0**
	comp=Z,0.1nm,0.4s,mb3.2,baz=41,slow=9.6,SNR=4.8						
ARCES	**ARCESS Array B**	**55.26**	**342**	P	**P**	**16 44 05.3**	**+1.4**
	comp=Z,9.4nm,0.9s,mb4.8,baz=33,slow=5.4,SNR=3.9						
NB2	**NORSAR Subarra**	**65.53**	**344**	P	**P**	**16 45 15.5**	**+1.4**
	comp=Z,2.0nm,1.0s,mb4.1,baz=22,slow=6.9						
NOA	**NORSAR Array B**	**65.53**	**344**	P	**P**	**16 45 15.5**	**+1.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=21,slow=6.7,SNR=3.0						
AKASG	**Malin Array Be**	**70.40**	**329**	P	**P**	**16 45 45.6**	**+0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=29,slow=6.5,SNR=4.2						
ASAR	**Alice Springs**	**77.90**	**205**	P	**P**	**16 46 35.7**	**+7.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=13,slow=4.6,SNR=4.5						
BRTR	**Keskin Array B**	**78.23**	**321**	P	**P**	**16 46 33.5**	**+3.3**
	comp=Z,0.6nm,0.8s,mb3.6,baz=58,slow=3.6,SNR=3.8						

IDC 26 16:39:14.0±1.0, 2182N×14315E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.7/7, MS3.6/5, Ms1 3.6/5, ms1mx3.1/30, Error ellipse: s-maj=39.5km s-min=21.0km az=74.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**15.29**	**345**	LR	LR	16 48 06.9	
	comp=Z,209nm,18.6s,baz=215,slow=35						
PMG	**Port Moresby**	**31.28**	**172**	LR	LR	16 56 30.7	
	comp=Z,36nm,18.1s,baz=202,slow=33						
SONM	**Songino Array**	**39.23**	**320**	P	P	16 46 44.4	+0.5
	0.8nm,0.6s,baz=140,slow=6.3,SNR=6.2						
WRA	**Warramunga Arr**	**42.38**	**192**	P	P	16 47 10.3	+0.2
	0.3nm,0.8s,baz=336,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**46.09**	**192**	P	P	16 47 39.8	0.0
	0.3nm,0.7s,baz=14,slow=9.8,SNR=5.3						
ZAL	**Zalesovo**	**54.11**	**322**	P	P	16 48 39.0	-1.6
	0.9nm,0.4s,baz=46,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**54.59**	**313**	P	P	16 48 45.0	+0.8
	0.4nm,0.7s,baz=93,slow=8.7,SNR=5.2						
BVAR	**Borovoye Array**	**62.56**	**319**	P	P	16 49 39.9	+0.2
	1.4nm,0.7s,baz=79,slow=7.5,SNR=5.1						
YBH	**Yreka Blue Hor**	**78.77**	**50**	LR	LR	17 20 27.9	
	comp=Z,58nm,19.0s,baz=211,slow=31						
NVAR	**Mina Array Bea**	**83.10**	**51**	P	P	16 51 42.3	+0.7
	0.5nm,0.7s,baz=280,slow=5.4,SNR=5.0						
PDAR	**Pinedale Array**	**87.33**	**45**	LR	LR	17 22 45.8	
	comp=Z,36nm,21.4s,baz=245,slow=30						
VNDA	**Vanda**	**99.74**	**176**	LR	LR	17 34 45.2	
	comp=Z,25nm,18.6s,baz=280,slow=33						
LPAZ	**La Paz**	**149.96**	**85**	PKPbc	PKPbc	16 59 07.8	+1.4
	1.3nm,0.7s,baz=335,slow=2.1,SNR=4.1						

IDC 26 16:46:39.2±17.0, 2174S×17482W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.1/15, mbtmp4.4/5, 2D, Error ellipse: s-maj=323.0km s-min=143.8km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.33**	**265**	P	P	16 53 46.3	+1.6
	8.3nm,0.3s,baz=93,slow=10,SNR=35						
STKA	**Stephens Creek**	**39.96**	**246**	P	P	16 54 14.1	-1.2
	2.6nm,0.8s,baz=106,slow=8.1,SNR=5.4						
ASAR	**Alice Springs**	**47.13**	**257**	P	P	16 55 12.9	-0.2
	2.1nm,0.5s,baz=95,slow=7.4,SNR=60						
ASPA	**Alice Springs**	**47.13**	**257**	⇓*i*P	P	16 55 12.9	-0.3
WB2	**Warramunga Arr**	**47.36**	**262**	⇓*i*P	P	16 55 15.0	+0.1
WRA	**Warramunga Arr**	**47.37**	**262**	P	P	16 55 15.1	+0.1
	2.7nm,0.3s,baz=93,slow=8.5,SNR=159						
FITZ	**Fitzroy Crossi**	**55.80**	**262**	P	P	16 56 19.1	+1.0
	1.1nm,0.5s,baz=73,slow=20,SNR=6.5						

IDC 26 16:51:50.7±4.2, 5904S×15099E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.7/11, mbtmp3.6/3, ML3.5/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=370.8km s-min=29.8km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**18.93**	**173**	P	Pn	16 56 12.6	-1.0
	0.1nm,0.3s,baz=344,slow=13,SNR=8.2						
VNDA				LR	LR	17 03 12.4	
	comp=Z,91nm,21.3s,baz=342,slow=36						
RPZ	**Rata Peaks**	**19.68**	**48**	LR	LR	17 03 02.5	
	comp=Z,123nm,19.9s,baz=0.3,slow=34						
ASAR	**Alice Springs**	**37.36**	**334**	P	P	16 59 05.4	+0.4
	0.5nm,0.5s,baz=161,slow=9.0,SNR=6.1						
DZM	**Mont Dzumac**	**38.55**	**23**	LR	LR	17 11 15.8	
	comp=Z,123nm,18.5s,baz=207,slow=30						
CTA	**Charters Tower**	**39.05**	**353**	LR	LR	17 13 21.3	
	comp=Z,321nm,19.8s,baz=207,slow=33						
WRA	**Warramunga Arr**	**40.87**	**336**	P	P	16 59 33.6	-0.8
	1.3nm,1.0s,baz=166,slow=7.7,SNR=8.6						
HNR	**Honiara**	**49.96**	**12**	LR	LR	17 17 47.6	
	comp=Z,77nm,21.9s,baz=181,slow=31						

---

*ISCJB **26** 17:22:36.7±1.0, 3492N±006×236E±02, h33km, Error ellipse: s-maj=19.5km s-min=7.2km az=149.1*
*HLW **26** 17:22:37.3, 3495N×2332E, h33km, Mb3.7*
*CSEM **26** 17:22:38.0±0.2, 3493N×2383E, h40km, MD3.4, Error ellipse: s-maj=12.1km s-min=4.7km az=75.0*
*ATH **26** 17:22:39.5, 3534N×2360E, h17km±11km, MD3.4/6*
ISC 26 17:22:38.2±1.0, 3497N±006×236E±02, h35km, n9, σ1§39/11, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.39**	**109**	*e*PB	**Pn**	**17 22 51.7**	**+4.4**
VAM	**Vamos**	**0.64**	**46**	*e*PB	**Pn**	**17 22 49.5**	**-1.2**
KYTH	**Kithira**	**1.40**	**340**	*e*PB	**Pn**	**17 22 58.5**	**-2.6**
NPS	**Neapolis**	**1.65**	**79**	*e*PN	**Pn**	**17 23 10.5**	**+5.9**
VLI	**Veliai**	**1.84**	**342**	*e*PN	**Pn**	**17 23 08.5**	**+1.3**
APE	**Apeiranthos**	**2.60**	**36**	*e*PB	**Pn**	**17 23 18.0**	**+0.4**
HMAT	**Matruh**	**4.83**	**142**	⇓P	**Pn**	**17 23 50.1**	**+1.8**
HMAT				S	**Sn**	**17 24 43.1**	**0.0**
SWA2		**5.91**	**164**	⇑P	**Pn**	**17 24 03.4**	**+0.2**
SWA1		**5.95**	**162**	⇑P	**Pn**	**17 24 04.6**	**+0.8**
SWA1				S	**Sn**	**17 25 08.2**	**-2.5**

---

*IDC **26** 17:26:46.6±1.2, 9.74N×12352E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.3/29, Error ellipse: s-maj=153.3km s-min=19.0km az=67.0*
*NEIC **26** 17:26:48.5±0.8, 932N×12252E, h10km, Error ellipse: s-maj=21.3km s-min=14.7km az=63.0*
*ISCJB **26** 17:26:50.4±0.9, 9.13N×003×12228E±003, h23km±8km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=5.4km s-min=4.4km az=58.9*
*MAN **26** 17:26:51.5, 9.17N×12237E, h20km, mb4.0, ML5.0, MS2.3*
ISC 26 17:26:51.2±1.7, 912N±003×12231E±003, h19km±11km, n26, σ1§36/40, mb3.6/5, MS3.0/1, 4C-2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.94**	**76**	⇑*i*P	**Pb**	**17 27 07.5**	**-1.5**
SNPH				*i* S	**Sb**	**17 27 20.5**	**-0.6**
DCPH	**Dipolog City**	**1.16**	**117**	⇑*e*P	**Pn**	**17 27 10.6**	**-1.9**
DCPH				*i* S	**Sb**	**17 27 25.6**	**-1.8**
IPIL	**Ipil**	**1.35**	**169**	⇑*e*P	**Pn**	**17 27 15.2**	**+0.1**
IPIL				*e*S	**Sn**	**17 27 32.1**	**-0.3**
IPIL	**Ipil**	**1.35**	**169**	*e*P	**Pn**	**17 27 14.8**	**-0.2**
IPIL				*e*S	**Sn**	**17 27 31.7**	**-0.7**
GUIM	**Jordan**	**1.52**	**10**	*e*P	**Pn**	**17 27 16.5**	**-0.9**
TBP	**Tagbilaran**	**1.64**	**70**	*e*P	**Pn**	**17 27 18.3**	**-0.7**
TBP				*e*S	**Sn**	**17 27 38.5**	**-1.0**
PAGZ	**Pagadian**	**1.65**	**140**	*e*P	**Pn**	**17 27 20.4**	**+1.2**
PAGZ				*e*S	**Sn**	**17 27 41.0**	**+1.1**
LLP	**Lapu-Lapu**	**2.02**	**54**	⇑*i*P	**Pn**	**17 27 23.6**	**-0.7**
LLP				*i* S	**Sn**	**17 27 47.9**	**-1.1**
CUYO	**Cuyo Island**	**2.14**	**324**	*e*P	**Pn**	**17 27 25.4**	**-0.5**
CUYO				*e*S	**Sn**	**17 27 49.1**	**-2.7**
CGP	**Cagayan de Oro**	**2.45**	**106**	*e*P	**Pn**	**17 27 30.0**	**-0.2**
CGP				*i* S	**Sn**	**17 28 00.6**	**+1.0**
RCP	**Roxas**	**2.46**	**10**	⇓*e*P	**Pn**	**17 27 31.3**	**+1.0**
RCP				*e*S	**Sn**	**17 28 02.2**	**+2.4**
KALP	**Kalibo**	**2.54**	**1**	⇓*e*P	**Pn**	**17 27 34.3**	**+2.9**
MSLP	**Maasin**	**2.71**	**68**	*e*P	**Pn**	**17 27 34.9**	**+1.1**
MSLP				*e*S	**Sn**	**17 28 08.2**	**+2.2**
BUKP	**Musuan**	**2.99**	**114**	*e*P	**Pn**	**17 27 40.7**	**+3.1**
OTRP	**Odiongan**	**3.23**	**355**	*e*P	**Pn**	**17 27 42.3**	**+1.4**
BUTP	**Butuan**	**3.28**	**92**	*e*P	**Pn**	**17 27 42.7**	**+1.1**
ENPP	**El Nido**	**3.51**	**306**	*e*P	**Pn**	**17 27 44.7**	**-0.1**
ENPP				*e*S	**Sn**	**17 28 22.0**	**-3.8**
BUSP	**Coron**	**3.54**	**324**	*e*P	**Pn**	**17 27 44.2**	**-0.9**
BUSP				*e*S	**Sn**	**17 28 22.5**	**-3.9**
BATP	**Bataraza**	**4.46**	**266**	*e*P	**Pn**	**17 28 00.3**	**+2.5**
BATP				*e*S	**Sn**	**17 28 50.0**	**+0.7**
KKM	**Kota Kinabalu**	**6.77**	**244**	*e*P	**Pn**	**17 28 31.7**	**+2.2**
KKM				*e*S	**Sn**	**17 29 43.8**	**-2.2**
GUMO	**Guam**	**22.55**	**77**	LR	LR	17 38 45.4	
	comp=Z,52nm,20.3s,MS3.0,baz=285,slow=34						
WRA	**Warramunga Arr**	**31.22**	**158**	P	**P**	**17 33 09.2**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=341,slow=6.3,SNR=6.0						
ASAR	**Alice Springs**	**34.50**	**161**	P	**P**	**17 33 38.4**	**+0.3**
	0.5nm,0.5s,mb3.7,baz=337,slow=6.9,SNR=17						
SONM	**Songino Array**	**40.87**	**344**	P	**P**	**17 34 28.6**	**-3.3**
	0.3nm,0.5s,mb3.2,baz=153,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**44.75**	**156**	P	**P**	**17 35 02.9**	**-0.5**
	1.9nm,0.8s,mb4.0,baz=323,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**50.65**	**325**	P	**P**	**17 35 48.9**	**-0.3**
	0.9nm,0.8s,mb3.7,baz=128,slow=7.9,SNR=7.7						

---

*HLW **26** 17:39:27.8, 3495N×2336E, h33km, Mb3.3*
*ISCJB **26** 17:39:28.4±1.1, 348N±01×235E±03, h69km±38km, Error ellipse: s-maj=43.7km s-min=11.5km az=121.6*
*CSEM **26** 17:39:28.6±0.1, 3474N×2345E, h30km, ML3.3, Error ellipse: s-maj=3.0km s-min=1.1km az=84.0*
*ATH **26** 17:39:28.2, 3503N×2324E, h5km, MD3.1/4*
ISC 26 17:39:29.7±1.1, 348N±01×235E±03, h59km±43km, n9, σ1§08/11, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.49**	**90**	*e*PB	**Pn**	**17 39 42.0**	**+0.5**
VAM	**Vamos**	**0.81**	**45**	*e*PB	**Pn**	**17 39 45.0**	**-0.3**
KYTH	**Kithira**	**1.48**	**346**	*e*PG	**Pn**	**17 39 51.5**	**-2.7**
VLI	**Veliai**	**1.93**	**347**	*e*PN	**Pn**	**17 40 00.5**	**+0.3**
VLI	**Veliai**	**1.93**	**347**	*e*Pn	**Pn**	**17 40 01.0**	**+0.8**
HMAT	**Matruh**	**4.81**	**140**	⇑P	**Pn**	**17 40 40.1**	**+0.6**
HMAT				S	**Sn**	**17 41 33.1**	**-0.8**
SWA2		**5.82**	**163**	P	**Pn**	**17 40 54.0**	**+0.5**
SWA1		**5.87**	**161**	⇑P	**Pn**	**17 40 54.7**	**+0.6**
SWA1				S	**Sn**	**17 41 58.3**	**-1.7**
HFRF	**Wahat Farafira**	**8.71**	**150**	⇓P	**Pn**	**17 41 34.4**	**+1.4**

---

*ISCJB **26** 17:44:24.5±1.3, 3504N±004×2798E±008, h7km±10km, Error ellipse: s-maj=11.4km s-min=6.0km az=45.3*
*HLW **26** 17:44:24.2, 3545N×2783E, h33km, Mb3.2*
*CSEM **26** 17:44:26.0±0.3, 3504N×2800E, h21km±2km, MD3.5, Error ellipse: s-maj=4.3km s-min=2.3km az=102.0*

---

*ATH **26** 17:44:31.5, 3555N×2758E, h13km±1km, MD3.5/6*
ISC 26 17:44:26.7±1.2, 3510N±004×2791E±008, h13km±9km, n17, σ0§91/20, 3C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.75**	**306**	*e*PB	**Pg**	**17 44 38.6**	**-2.7**
ARG	**Arkhangelos**	**1.13**	**9**	*e*PB	**Pg**	**17 44 46.8**	**-1.6**
DAT	**Datca**	**1.65**	**351**	PN	**Pn**	**17 44 54.7**	**-0.6**
DALT	**Dalyan (Mudla)**	**1.77**	**19**	PN	**Pn**	**17 44 56.9**	**0.0**
DALT				SN	**Sg**	**17 45 24.9**	**+1.4**
XRY	**Khrisi**	**1.83**	**264**	*e*PG	**Pg**	**17 45 03.0**	**+1.2**
NPS	**Neapolis**	**1.89**	**276**	*e*PB	**Pb**	**17 45 01.5**	**+0.6**
BODT	**Bodrum**	**2.01**	**346**	PN	**Pn**	**17 45 01.1**	**+0.8**
YER	**Yerkesik**	**2.05**	**8**	PN	**Pn**	**17 45 01.3**	**+0.5**
MLSB	**Milas**	**2.19**	**357**	*e*PN	**Pn**	**17 45 02.1**	**-0.7**
ELL	**Elmali**	**2.31**	**44**	*e*PN	**Pn**	**17 45 04.0**	**-0.4**
SMG	**Samos**	**2.74**	**342**	*e*PN	**Pn**	**17 45 10.7**	**+0.4**
APE	**Apeiranthos**	**2.75**	**316**	*e*PN	**Pn**	**17 45 10.5**	**+0.1**
HMAT	**Matruh**	**4.05**	**190**	⇑P	**Pn**	**17 45 29.1**	**+0.7**
HMAT				S	**Sn**	**17 46 15.8**	**+0.2**
IKL	**Isikli**	**4.84**	**75**	*e*P	**Pn**	**17 45 38.8**	**-0.4**
SWA1		**6.11**	**198**	⇑P	**Pn**	**17 45 56.7**	**+0.1**
SWA1				S	**Sn**	**17 47 04.7**	**-1.7**
SWA2		**6.20**	**200**	⇑P	**Pn**	**17 45 58.1**	**+0.2**
HFRF	**Wahat Farafira**	**7.94**	**177**	P	**Pn**	**17 46 22.5**	**+0.8**

---

*IDC **26** 17:53:37.9±0.5, 331S×13123E, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/18, mbtmp4.5/15, ML4.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/21, Error ellipse: s-maj=27.2km s-min=12.7km az=67.0*
*ISCJB **26** 17:53:40.7±1.7, 367S±005×131.17E±009, h36km±16km, mb4.6/22, MS3.7/6, Error ellipse: s-maj=16.0km s-min=7.9km az=151.8*
*NEIC **26** 17:53:41.2±3.4, 340S×13120E, h21km±24km, mb4.7/13, Error ellipse: s-maj=10.9km s-min=8.1km az=55.0*
*BJI **26** 17:53:41.1, 340S×13120E, h20km, mB5.0, mb4.6*
ISC 26 17:53:39.9±4.9, 352S±006×13121E±009, h13km±31km, n51, σ1§57/52, mb4.6/22, MS3.7/6, 3C-1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**9.21**	**172**	*e*P	**Pn**	**17 55 53.4**	**+1.0**
	56nm,0.3s						
KAKA				*e*S	**Sn**	**17 57 31.4**	**-4.5**
FITZ	**Fitzroy Crossi**	**15.48**	**200**	*e*P	**Pn**	**17 57 14.1**	**-3.8**
	40nm,0.4s						
FITZ				*e*S	Sn	17 59 58.7	-11
FITZ	**Fitzroy Crossi**	**15.48**	**200**	Pn	**Pn**	**17 57 15.1**	**-2.8**
	3.8nm,0.3s,baz=35,slow=11,SNR=94						
FITZ				Sn	**Sn**	**17 59 58.7**	**-11**
	8.9nm,0.3s,baz=76,slow=23,SNR=5.7						
FITZ				LR	LR	18 03 26.8	
	comp=Z,149nm,22.0s,baz=24,slow=38						
WRAB	**Tennant Creek**	**16.60**	**170**	*e*Pn	**Pn**	**17 57 29.3**	**-3.0**
	48nm,0.6s						
WRAB				*e*Sn	**Sn**	**18 00 14.9**	**-21**
WRA	**Warramunga Arr**	**16.60**	**170**	Pn	**Pn**	**17 57 29.3**	**-3.0**
	2.5nm,0.3s,baz=347,slow=13,SNR=77						
WRA				Sn	**Sn**	**18 00 24.1**	**-12**
	8.7nm,0.3s,baz=348,slow=22,SNR=8.3						
WB2	**Warramunga Arr**	**16.61**	**170**	⇑*i*P	**Pn**	**17 57 29.3**	**-3.1**
WB2				*e*S	Sn	18 00 22.5	-14
WB2	**Warramunga Arr**	**16.61**	**170**	⇑*i*P	**Pn**	**17 57 29.3**	**-3.1**
WB2				*e*Sn	**Sn**	**18 00 25.4**	**-11**
PMG	**Port Moresby**	**16.89**	**111**	Pn	**Pn**	**17 57 36.5**	**+0.6**
	1.9nm,0.3s,baz=292,slow=9.6,SNR=12						
PMG				Sn	**Sn**	**18 00 31.4**	**-12**
	12nm,0.3s,baz=26,slow=22,SNR=15						
AS31	**Alice Springs**	**20.19**	**173**	*e*P	**P**	**17 58 16.9**	**+2.6**
AS31				*e*S	**S**	**18 01 50.5**	**-10**
ASAR	**Alice Springs**	**20.20**	**173**	P	**P**	**17 58 17.1**	**+2.8**
	34nm,0.5s,baz=352,slow=10.0,SNR=453						
ASAR				S	**S**	**18 01 49.6**	**-11**
	14nm,0.7s,baz=354,slow=26,SNR=10						
ASPA	**Alice Springs**	**20.20**	**173**	*e*P	**P**	**17 58 16.9**	**+2.6**
ASPA				*e*S	**S**	**18 01 50.5**	**-10**
MBWA	**Marble Bar**	**20.78**	**212**	*e*P	**P**	**17 58 20.5**	**-0.2**
	88nm,0.8s						
KSM	**Kuching**	**21.47**	**283**	*e*P	**P**	**17 58 30.0**	**+1.9**
GUMO	**Guam**	**21.74**	**38**	LR	LR	18 06 38.1	
	comp=Z,131nm,18.8s,MS3.4,baz=230,slow=36						
CTA	**Charters Tower**	**22.05**	**139**	*e*P	**P**	**17 58 36.2**	**+1.9**
	13nm,0.6s,mb4.5						
CTA	**Charters Tower**	**22.05**	**139**	P	**P**	**17 58 36.5**	**+2.2**
	17nm,0.6s,mb4.6,baz=318,slow=11,SNR=27						
CTAO	**Charters Tower**	**22.05**	**139**	*e*P	**P**	**17 58 36.5**	**+2.2**
	22nm,0.8s,mb4.6						
FORT	**Forrest**	**27.27**	**186**	*e*P	**P

LPAZ	**La Paz**	**152.56 136**	PKPbc	PKPbc	18 13 38.8	+2.8
	comp=Z,1.0nm,0.4s,baz=225,slow=4.4,SNR=4.1					
LPAZ			PKPab	PKPab	18 13 50.4	+3.9
	comp=Z,1.7nm,0.7s,baz=144,slow=3.2,SNR=4.8					
SIV	**San Ignacio**	**157.12 148**	PKPbc	PKPdf	18 13 50.3	+15
	comp=Z,0.3nm,0.6s,baz=236,slow=1.1,SNR=4.4					
SIV			PKPab	PKPab	18 14 08.5	+2.6
	comp=Z,1.8nm,0.9s,baz=233,slow=5.9,SNR=5.9					

*ISCJB **26** 17:58:09.5±1.5, 03S±04×174W±02, h10km, mb3.9/7, MS3.4/3, Error ellipse: s-maj=60.5km s-min=17.1km az=127.3*
*IDC **26** 17:58:10.8±1.2, 001S×1754W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/25, mbtmp4.1/8, ML5.0/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/21, Error ellipse: s-maj=52.3km s-min=22.9km az=140.0*
*NEIC **26** 17:58:11.6±0.9, 020S×1735W, h10km, Error ellipse: s-maj=38.9km s-min=16.0km az=146.0*

ISC 26 17:58:11.5±1.5, 03S±04×173W±02, h10km, n14, σ0§76/11, mb3.9/7, MS3.4/3, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.23**	**61**	Pn		**Pn**		**18 01 32.9**	**-0.2**
	7.3nm,0.3s,baz=232,slow=14,SNR=64								
DBIC				LR		LR		18 05 27.2	
	comp=Z,94nm,20.1s,baz=236,slow=30								
DBIC	**Dimbokro**	**14.23**	**61**	*e*Pn		**Pn**		**18 01 32.2**	**-0.9**
DBIC				LR		LR		18 05 27.2	
TOA0	**Torodi Ar. Sit**	**23.10**	**54**	*e*P		**P**		**18 03 17.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**23.10**	**54**	P		**P**		**18 03 17.2**	**-0.3**
	11nm,0.8s,mb4.3,baz=241,slow=9.1,SNR=48								
TORD				LR		LR		18 10 09.3	
	comp=Z,74nm,21.7s,MS3.1,baz=230,slow=31								
SIV	**San Ignacio**	**45.88**	**248**	P		**P**		**18 06 33.8**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=152,slow=21,SNR=2.8								
CPUP	**Villa Florida**	**46.40**	**233**	LR		LR		18 22 54.3	
	comp=Z,73nm,19.9s,MS3.6,baz=204,slow=32								
GERES	**GERESS Array B**	**55.79**	**24**	P		**P**		**18 07 48.8**	**+0.1**
	1.2nm,0.7s,mb4.0,baz=208,slow=7.3,SNR=10								
BRTR	**Keskin Array B**	**61.15**	**43**	P		**P**		**18 08 28.2**	**+2.1**
	1.0nm,0.7s,mb4.1,baz=213,slow=6.6,SNR=6.4								
BRTR				LR		LR		18 37 57.6	
	comp=Z,22nm,18.7s,MS3.3,baz=20,slow=39								
AKASG	**Malin Array Be**	**64.32**	**31**	P		**P**		**18 08 46.3**	**-0.9**
	0.5nm,0.5s,mb3.8,baz=232,slow=5.9,SNR=6.4								
NB2	**NORSAR Subarra**	**64.97**	**15**	P		**P**		**18 08 51.5**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=208,slow=6.9								
NOA	**NORSAR Array B**	**64.97**	**15**	P		**P**		**18 08 51.1**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.9,baz=207,slow=6.8,SNR=3.9								
FINES	**FINESS Array B**	**69.84**	**21**	P		**P**		**18 09 22.3**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=204,slow=4.2,SNR=6.2								
ASAR	**Alice Springs**	**143.28**	**132**	PKP		PKPdf		18 17 46.0	0.0
	comp=Z,0.6nm,1.0s,baz=223,slow=2.3,SNR=8.5								
WRA	**Warramunga Arr**	**145.72**	**128**	PKPbc		PKPbc		18 17 54.2	+3.6
	comp=Z,0.3nm,0.5s,baz=235,slow=2.4,SNR=8.2								

MEX 26 18:02:06.9±0.8, 1601N×9756W, h16km±999km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**305**	*i* P		Pg		18 02 17.7	-2.2
PNIG				*i* S		Sg		18 02 26.7	-2.9
VHO	**Vista Hermosa**	**1.32**	**37**	*i* P		Pn		18 02 27.0	-3.1
VHO				*i* S		Sn		18 02 42.6	-5.4
OXX	**Oaxaca**	**1.34**	**37**	*e*P		Pn		18 02 27.0	-3.9
UTMO	**Huajuapan**	**1.82**	**353**	*i* P		Pn		18 02 35.3	-2.3
UTMO				*i* S		Sn		18 02 56.4	-3.9
CMIG	**Matias Romero**	**2.79**	**67**	*i* P		Pn		18 02 48.2	-2.6
CMIG				*i* S		Sn		18 03 20.4	-3.7

*JMA **26** 18:04:09.8±0.2, 4707N×14291E, h0km, M3.0*
*SKHL **26** 18:04:10.4±0.3, 4710N×14231E, h5km, mb4.3/1*
*ISCJB **26** 18:04:12.5±2.3, 470N±0.1×1431E±0.1, h10km, Error ellipse: s-maj=22.3km s-min=8.9km az=38.2*

ISC 26 18:04:13.4±2.4, 470N±02×1431E±01, h10km, n6, σ0§78/8, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.21**	**259**	*i* Pg		**Pg**		**18 04 17.0**	**-0.8**
YSS				AMB		AMB		18 04 17.7	
	180nm,0.3s								
YSS				*i* Sg		**Sg**		**18 04 21.6**	**+0.9**
YSS				A				18 04 22.3	
	4µm,0.4s								
YSS				A				18 04 22.3	
	3µm,0.4s								
YSS				A				18 04 23.0	
	3µm,1.0s								
YSS				AMS		AMS		18 04 32.0	
	2µm,3.0s								
YSS				AMS		AMS		18 04 32.0	
	800nm,3.0s								
YSS				AMS		AMS		18 04 32.0	
	1µm,3.0s								
JWK2	**Keihoku**	**1.86**	**206**	P		**Pn**		**18 04 44.0**	**-1.3**
JWK2				*e*S		**Sn**		**18 05 08.7**	**-0.2**
ASAJ	**Asahikawa**	**2.90**	**186**	P		**Pn**		**18 04 59.3**	**-0.3**
JMP	**Maruseppu**	**3.00**	**176**	P		**Pn**		**18 05 00.9**	**-0.1**
JTKR	**Abashiri--Toko**	**3.08**	**168**	P		**Pn**		**18 05 02.7**	**+0.5**
JAR	**Ashorobuto**	**3.73**	**172**	P		**Pn**		**18 05 12.2**	**+1.1**

IDC 26 18:10:08.6±1.1, 2210N×14328E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/17, mbtmp3.7/5, Error ellipse: s-maj=41.9km s-min=27.8km az=64.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.09**	**320**	P		P		18 17 38.3	+0.9
	0.6nm,0.6s,baz=122,slow=7.0,SNR=3.9								
ASAR	**Alice Springs**	**46.39**	**192**	P		P		18 18 37.0	+0.3
	0.4nm,0.7s,baz=14,slow=9.2,SNR=7.6								
ZAL	**Zalesovo**	**53.96**	**321**	P		P		18 19 32.7	-1.4
	1.7nm,0.3s,baz=63,slow=3.4,SNR=3.7								
MKAR	**Makanchi Array**	**54.49**	**312**	P		P		18 19 38.5	+0.4
	0.3nm,0.6s,baz=99,slow=8.2,SNR=4.4								
NVAR	**Mina Array Bea**	**82.83**	**52**	P		P		18 22 36.0	+1.2
	0.7nm,0.8s,baz=269,slow=5.9,SNR=5.1								
LPAZ	**La Paz**	**149.81**	**85**	PKPbc		PKPbc		18 30 01.2	+0.7
	0.7nm,0.5s,baz=223,slow=3.3,SNR=2.5								

*ISCJB **26** 18:13:42.0±0.5, 3699N±004×276E±005, h0km, Error ellipse: s-maj=6.6km s-min=4.0km az=87.8*
*CSEM **26** 18:13:42.8±0.1, 3698N×292E, h5km, ML3.1, Error ellipse: s-maj=3.5km s-min=2.0km az=42.0*
*CRAAG **26** 18:13:42.9, 3683N×286E, Ml3.1*
*MDD **26** 18:13:44.2±0.5, 3689N×286E, h0km, mb4.2/5, Error ellipse: s-maj=8.7km s-min=4.1km az=40.0, PRX!MO*
*NEIC **26** 18:13:47.0, 3708N×272E, h0km, MG4.3(MDD), After MDD.*

ISC 26 18:13:43.5±1.1, 3694N±005×283E±008, h9km±12km, n31, σ1§36/46, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.21**	**129**	P		**Pg**		**18 13 47.2**	**-0.7**
ABMS	**Boumerdes**	**0.55**	**109**	P		**Pg**		**18 13 53.7**	**-0.6**
EMHD	**Djebel Mahouad**	**0.74**	**172**	P		**Pg**		**18 13 56.0**	**-1.8**
ADJB	**Djebel Djouab**	**0.92**	**148**	P		**Pg**		**18 14 00.0**	**-1.2**
AKET	**Djebel Ketaf**	**1.23**	**136**	P		**Pn**		**18 14 06.8**	**-0.1**
EBNR	**Beni Rached**	**1.23**	**239**	P		**Pn**		**18 14 08.0**	**+1.1**
ECHA	**Ech Chlef**	**1.42**	**237**	P		**Pn**		**18 14 14.0**	**+4.5**
ECHF	**Ech Chlef**	**1.43**	**237**	P		**Pn**		**18 14 14.0**	**+4.3**
EANR	**`Ain N'Sour**	**1.71**	**235**	P		**Pn**		**18 14 15.0**	**+1.5**
ETRT	**Tiaret**	**1.98**	**219**	P		**Pn**		**18 14 21.0**	**+3.8**
EIBI	**Ibiza**	**2.39**	**331**	P		**Pn**		**18 14 24.3**	**+1.4**
	5.7nm,0.1s,SNR=20								
EIBI				S		**Sn**		**18 14 51.8**	**-0.6**
	15nm,0.2s								
EIBI	**Ibiza**	**2.39**	**331**	P		**Pn**		**18 14 24.3**	**+1.4**
	5.7nm,0.1s,SNR=20								
EIBI				S		**Sn**		**18 14 51.8**	**-0.6**
	15nm,0.2s								
ETOS	**Mallorca**	**2.83**	**360**	P		**Pn**		**18 14 30.0**	**+1.1**
	13nm,0.3s,SNR=10.0								
ETOS				S		**Sn**		**18 15 01.4**	**-1.7**
	1.8nm,0.1s								
ETOS	**Mallorca**	**2.83**	**360**	P		**Pn**		**18 14 30.0**	**+1.1**
	13nm,0.3s,SNR=10.0								
ETOS				S		**Sn**		**18 15 01.4**	**-1.6**
	1.8nm,0.1s								
EBEN	**Beniarda**	**2.99**	**307**	P		**Pn**		**18 14 32.2**	**+1.0**
	0.7nm,0.2s,SNR=7.9								
EBEN				S		**Sn**		**18 15 06.7**	**-0.4**
	1.1nm,0.2s,SNR=7.9								
EBEN	**Beniarda**	**2.99**	**307**	P		**Pn**		**18 14 32.2**	**+1.0**
EBEN				S		**Sn**		**18 15 04.6**	**-2.5**
EBEN	**Beniarda**	**2.99**	**307**	P		**Pn**		**18 14 32.2**	**+1.0**
	0.7nm,0.2s,SNR=7.9								
EBEN				S		**Sn**		**18 15 04.6**	**-2.6**
	1.1nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**3.37**	**287**	S		**Sn**		**18 15 14.8**	**-1.5**
	2.6nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**3.37**	**287**	S		**Sn**		**18 15 14.8**	**-1.5**
	2.6nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**3.86**	**298**	P		**Pn**		**18 14 45.0**	**+1.9**
	5.3nm,0.2s,SNR=41								
ETOB				S		**Sn**		**18 15 27.6**	**-1.0**
	2.6nm,0.2s								
ETOB	**Tobarra**	**3.86**	**298**	P		**Pn**		**18 14 45.0**	**+1.9**
	5.3nm,0.2s,SNR=41								
ETOB				S		**Sn**		**18 15 27.6**	**-1.0**
	2.6nm,0.2s								
EMOS	**Mosqueruela**	**4.29**	**324**	P		**Pn**		**18 14 50.8**	**+1.9**
	3.5nm,0.1s,SNR=32								
EMOS				S		**Sn**		**18 15 37.8**	**-1.3**
	1.4nm,0.2s								
EMOS	**Mosqueruela**	**4.29**	**324**	P		**Pn**		**18 14 50.8**	**+1.8**
	3.5nm,0.1s,SNR=32								
EMOS				S		**Sn**		**18 15 37.8**	**-1.3**
	1.4nm,0.2s								
ERTA	**Horta de San J**	**4.46**	**335**	S		**Sn**		**18 15 39.3**	**-4.1**
	1.7nm,0.2s,SNR=7.9								
EVIA	**Vianos**	**4.55**	**294**	P		**Pn**		**18 14 52.6**	**+0.1**
EVIA				S		**Sn**		**18 15 44.7**	**-0.9**
EVIA	**Vianos**	**4.55**	**294**	P		**Pn**		**18 14 52.6**	**0.0**
EVIA				S		**Sn**		**18 15 44.7**	**-0.9**
	0.9nm,0.2s,SNR=7.9								
EBER	**Berja**	**4.58**	**271**	S		**Sn**		**18 15 45.0**	**-1.3**
	2.2nm,0.3s,SNR=7.9								
EPOB	**Poblet**	**4.62**	**343**	P		**Pn**		**18 14 55.0**	**+1.6**
	0.3nm,0.2s,SNR=4.0								
EPOB	**Poblet**	**4.62**	**343**	P		**Pn**		**18 14 55.0**	**+1.6**
	0.3nm,0.2s,SNR=4.0								
EQES	**Quesada**	**4.78**	**282**	P		**Pn**		**18 14 58.2**	**+2.5**
	1.0nm,0.1s,SNR=5.8								
EQES				S		**Sn**		**18 15 51.3**	**+0.1**
	4.5nm,0.3s								
EQES	**Quesada**	**4.78**	**282**	P		**Pn**		**18 14 58.2**	**+2.5**
	1.0nm,0.1s,SNR=5.8								
EQES				S		**Sn**		**18 15 51.3**	**+0.1**

*NEIC **26** 18:35:12.9, 2970S×7145W, h38km, MD4.0(GUC), After GUC.*

GUC 26 18:35:12.9±0.9, 2970S×7145W, h38km±12km, MD4.0, ML3.1, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.73**	**130**	↓*i* P		P		18 35 27.7	+1.0
TLL				*i* S		Sn		18 35 38.1	+1.6
TLL				AML		AML		18 35 39.3	
	comp=E,2µm,0.4s								
TLL				AML		AML		18 35 40.1	
	comp=N,2µm,0.7s								
TLL	**Tololo Astrono**	**0.73**	**130**	↓*i* P		Pn		18 35 27.7	+1.0
TLL				*i* S		Sn		18 35 38.1	+1.6
VACH	**Vallenar**	**1.27**	**28**	↓*i* P		Pn		18 35 39.0	+4.8
VACH				*i* S		Sn		18 35 55.2	+5.2
CHNG	**Los Chungos**	**2.17**	**181**	↑*i* P		Pn		18 35 47.8	+1.2
CHNG				*i* S		Sn		18 36 14.2	+2.0
CHNG				AML		AML		18 36 29.3	
	comp=N,123nm,0.7s								
CHNG				AML		AML		18 36 29.4	
	comp=E,142nm,0.7s								
CPCH	**Copiapo**	**2.53**	**23**	*e*P		Pn		18 35 52.5	+1.1
CPCH				*i* S		Sn		18 36 23.2	+2.3
LCCH	**Las Cruces**	**3.76**	**182**	*e*P		Pn		18 36 09.2	+0.8

*NEIC **26** 18:42:06.0, 1965N×6846W, h12km, MD3.5(RSPR), After RSPR.*

RSPR 26 18:42:06.0, 1965N×6846W, h12km±23km, MD3.5/7, MD3.5/7, 10C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.73**	**132**	↑*e*P		Pn		18 42 32.8	-3.0
AGPR				*e*S		Sn		18 42 53.6	-4.2
LSP	**Las Mesas**	**1.96**	**138**	↑*e*P		Pn		18 42 35.9	-3.1
LSP				*e*S		Sn		18 43 00.2	-3.2
AOPR	**Arecibo Observ**	**2.07**	**128**	↑*e*P		Pn		18 42 37.9	-2.6
AOPR				*e*S		Sn		18 43 02.7	-3.4
CRPR	**Cabo Rojo, PR**	**2.07**	**142**	↑*e*P		Pn		18 42 37.2	-3.3
CRPR				*e*S		Sn		18 43 02.4	-3.8
GBPR	**Guanica, Bosqu**	**2.24**	**138**	↑*e*P		Pn		18 42 39.8	-3.0
GBPR	**Guanica, Bosqu**	**2.24**	**138**	*e*S		Sn		18 43 07.0	-3.4
CELP	**Cerrillos**	**2.37**	**131**	↑*e*P		Pn		18 42 41.6	-3.0
CELP				*e*S		Sn		18 43 09.8	-3.8
OBIP	**Obispado Ponce**	**2.37**	**132**	↑*e*P		Pn		18 42 42.2	-2.4
OBIP				*e*S		Sn		18 43 09.9	-3.7
ICM	**Isla Caja Muer**	**2.53**	**133**	↑*e*P		Pn		18 42 44.9	-1.9
ICM				*e*S		Sn		18 43 14.2	-3.4
CBYP	**Canovanas**	**2.82**	**119**	*e*S		Sn		18 43 21.1	-3.5
HUMP	**Col San Antoni**	**2.89**	**121**	*e*S		Sn		18 43 22.3	-4.0
CPD	**Cerro la Pandu**	**2.89**	**123**	↑*e*P		Pn		18 42 49.8	-2.0
CPD				*e*S		Sn		18 43 23.2	-3.2
MTP	**Monte Pirata**	**3.15**	**119**	↑*e*P		Pn		18 42 53.0	-2.4
MTP				*e*S		Sn		18 43 30.0	-2.9

*NIED **26** 18:51:00, 4720N×14280E, h5km, Mw3.6 Best double couple: M○2.85000×10^14 NP1:φs42.00000°, δ88.00000°, λ-153.00000°. NP2:φs311.00000°, δ63.00000°, λ-2.00000°.*
*JMA **26** 18:51:13.1±0.5, 4716N×14283E, h0km, M3.5*
*SKHL **26** 18:51:14.1±0.5, 4707N×14228E, h5km, mb4.3/2*
SKHL Felt (III-IV) at Oshidaevo, (II) at Yushno-Sakhalinsk.
*ISCJB **26** 18:51:16.0±0.7, 4709N±004×1425E±01, h10km, Error ellipse: s-maj=10.1km s-min=4.9km az=157.7*

ISC 26 18:51:16.3±0.7, 4712N±004×1425E±01, h10km, n7, σ0§94/14, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.26**	**131**	*i* Pg		**Pg**		**18 51 21.0**	**-0.5**
YSS				AMB		AMB		18 51 21.3	
	440nm,0.4s								
YSS				AMB		AMB		18 51 21.8	
	370nm,0.4s								
YSS				*i* Sg		**Sg**		**18 51 26.0**	**+0.9**
YSS				*i* Sg		**Sg**		**18 51 26.1**	**+1.0**
YSS				AMS		AMS		18 51 36.0	
	7µm,4.0s								
YSS				AMS		AMS		18 51 36.0	
	4µm,4.0s								
JWK2	**Keihoku**	**1.85**	**193**	P		**Pn**		**18 51 47.8**	**-0.3**
JWK2				*e*S		**Sn**		**18 52 12.6**	**+1.1**
UGL	**Uglegorsk**	**1.97**	**352**	*i* Pb		**Pb**		**18 51 51.5**	**-0.8**
UGL				AMB		AMB		18 51 56.0	
	63nm,0.6s								
UGL				*e*Sb		**Sb**		**18 52 18.5**	**+1.5**
UGL				A				18 52 21.5	
	110nm,0.6s								
UGL				A				18 52 21.5	
	87nm,0.6s								
UGL				A				18 52 21.5	
	58nm,0.6s								
UGL				A				18 52 24.0	
	600nm,2.0s								
UGL				A				18 52 24.0	
	300nm,2.0s								
JSE	**Soyaes**	**2.17**	**178**	P		**Pn**		**18 51 51.9**	**-0.5**
JSE				*e*S		**Sn**		**18 52 20.2**	**+0.9**
ASAJ	**Asahikawa**	**3.01**	**178**	P		**Pn**		**18 52 03.5**	**-0.5**
JTKR	**Abashiri--Toko**	**3.31**	**162**	P		**Pn**		**18 52 06.4**	**-1.7**
JTKR				*e*S		**Sn**		**18 52 47.2**	**-0.4**
JAR	**Ashorobuto**	**3.94**	**166**	P		**Pn**		**18 52 15.9**	**-0.8**
JAR				*e*S		**Sn**		**18 53 04.0**	**+1.0**

*IDC **26** 19:20:32.9±0.8, 1906S×17463W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.4/19, mbtmp4.3/12, ML2.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/28, Error ellipse: s-maj=31.5km s-min=16.5km az=137.0*
*ISCJB **26** 19:20:36.1±0.4, 1912S±008×17465W±009, h33km, mb4.6/28, MS3.5/6, Error ellipse: s-maj=14.1km s-min=8.2km az=87.9*
*BJI **26** 19:20:36.8, 1900S×17470W, h34km, mB5.3, mb4.8, Ms5.0, Msz4.8*
*NEIC **26** 19:20:37.8±3.1, 1904S×17466W, h34km±21km, mb4.7/16, Error ellipse: s-maj=12.0km s-min=6.4km az=134.0*
*SZGRF **26** 19:20:40.9, 1758S×16974W, h33km, Tonga Islands region*

ISC 26 19:20:38.1±0.4, 1910S±008×17459W±009, h35km, (h50km±3.3km: pP-P), n82, σ0§86/53, mb4.6/28, MS3.5/6, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.82**	**28**	Pn		**Pn**		**19 22 01.4**	**-0.5**
	11nm,0.3s,baz=352,slow=11,SNR=4.7								
AFI				Sn		**Sn**		**19 22 59.4**	**-8.0**
	40nm,0.3s,baz=26,slow=18,SNR=7.5								
AFI	**Afiamalu**	**5.82**	**28**	*e*Pn		**Pn**		**19 22 01.4**	**-0.5**
AFI				*e*Sn		**Sn**		**19 22 58.6**	**-8.8**
DZM	**Mont Dzumac**	**18.00**	**257**	P		**Pn**		**19 24 51.4**	**+5.9**
	0.5nm,0.3s,baz=87,slow=20,SNR=5.3								
URZ	**Urewera**	**20.42**	**199**	P		**P**		**19 25 11.8**	**-0.3**
	7.2nm,0.4s,baz=138,slow=0.9,SNR=16								
URZ				S		**S**		**19 28 49.6**	**-9.3**
	3.6nm,0.7s,baz=79,slow=22,SNR=2.5								
PPT	**Papeete**	**23.79**	**90**	*e*LR		LR		19 31 12.3	
	295nm,27.5s								
PPT	**Papeete**	**23.79**	**90**	LR		LR		19 31 53.4	
	comp=Z,165nm,21.2s,MS3.5,baz=322,slow=29								
TBI	**Tubuai**	**23.79**	**105**	*e*LR		LR		19 31 14.9	
	157nm,34.5s								
HNR	**Honiara**	**26.45**	**288**	LR		LR		19 33 50.8	
	comp=Z,43nm,19.7s,MS3.0,baz=359,slow=30								
RPZ	**Rata Peaks**	**27.35**	**203**	LR		LR		19 35 52.1	
	comp=Z,94nm,18.5s,MS3.4,baz=1.9,slow=34								
CTA	**Charters Tower**	**36.85**	**262**	*e*P		**P**		**19 27 43.8**	**+0.9**
	10nm,0.6s,mb4.8								
CTA	**Charters Tower**	**36.85**	**262**	P		**P**		**19 27 44.1**	**+1.2**
	11nm,0.6s,mb4.9,baz=102,slow=13,SNR=16								
CTA				LR		LR		19 41 07.4	
	comp=Z,130nm,20.2s,MS3.7,baz=314,slow=34								
CTAO	**Charters Tower**	**36.85**	**262**	*e*P		**P**		**19 27 43.5**	**+0.5**
	15nm,0.7s,mb4.9								
RKT	**Rikitea**	**37.09**	**103**	*e*LR		LR		19 37 20.4	
	195nm,31.0s								
PMG	**Port Moresby**	**38.23**	**279**	LR		LR		19 41 26.2	
	comp=Z,72nm,20.4s,MS3.5,baz=87,slow=33								
STKA	**Stephens Creek**	**41.29**	**243**	*e*P		**P**		**19 28 22.2**	**+2.2**
	9.3nm,3.5s								
STKA	**Stephens Creek**	**41.29**	**243**	P		**P**		**19 28 19.7**	**-0.3**
	2.2nm,0.9s,mb3.8,baz=17,slow=18,SNR=4.6								
STKA				LR		LR		19 43 59.2	
	comp=Z,88nm,19.2s,MS3.6,baz=26,slow=34								
AS31	**Alice Springs**	**47.98**	**255**	*e*P		**P**		**19 29 14.2**	**+0.8**
ASAR	**Alice Springs**	**47.98**	**255**	P		**P**		**19 29 13.8**	**+0.5**
	7.7nm,0.6s,mb4.9,baz=96,slow=8.0,SNR=57								
ASPA	**Alice Springs**	**47.98**	**255**	*e*P		**P**		**19 29 14.2**	**+0.8**
WB2	**Warramunga Arr**	**47.98**	**260**	*e*P		**P**		**19 29 12.5**	**-0.9**
WRAB	**Tennant Creek**	**47.98**	**260**	*e*P		**P**		**19 29 13.1**	**-0.4**
	6.3nm,0.6s,mb4.8								
WRA	**Warramunga Arr**	**47.99**	**260**	P		**P**		**19 29 12.7**	**-0.8**
	3.4nm,0.5s,mb4.6,baz=97,slow=8.6,SNR=42								
KAKA	**Kakadu**	**51.19**	**269**	*e*P		**P**		**19 29 38.6**	**+0.8**
	6.8nm,0.5s,mb4.8								
FITZ	**Fitzroy Crossi**	**56.41**	**261**	P		**P**		**19 30 15.4**	**-0.7**
	1.4nm,0.9s,mb4.0,baz=115,slow=7.3,SNR=3.7								
SBA	**Scott Base**	**59.50**	**185**	*e*P		**P**		**19 30 36.5**	**-1.2**
	3.1nm,0.8s,mb4.4								
VNDA	**Vanda**	**59.60**	**186**	P		**P**		**19 30 38.8**	**+0.4**
	0.8nm,1.0s,mb3.7,baz=6.8,slow=9.2,SNR=5.3								
VNDA	**Vanda**	**59.60**	**186**	*e*P		**P**		**19 30 38.5**	**+0.1**
	3.6nm,1.3s,mb4.2								
MBWA	**Marble Bar**	**61.30**	**256**	P		**P**		**19 30 49.1**	**-0.9**
CASY	**Casey**	**66.60**	**205**	*e*P		pP		19 31 41.5	+5.9
CASY	**Casey**	**66.60**	**205**	*e*P		**P**		**19 31 25.7**	**+0.9**
	5.2nm,0.8s,mb4.6								
CASY				*e*pP		pP		19 31 40.5	+4.9
QSPA	**South Pole Qui**	**70.97**	**180**	*e*P		**P**		**19 31 51.0**	**-1.0**
	3.8nm,1.0s,mb4.3								
YSS	**Yuzh-Sakhalins**	**76.14**	**331**	P		**P**		**19 32 19.9**	**-2.5**
	22nm,1.2s,mb5.0								
NVAR	**Mina Array Bea**	**77.82**	**42**	P		**P**		**19 32 32.8**	**+0.9**
	2.4nm,0.8s,mb4.2,baz=231,slow=11,SNR=18								
SSE	**Sheshan**	**79.30**	**308**	*e*P		**P**		**19 32 40.5**	**+0.5**
SSE				AMB		AMB			
	comp=Z,17nm,0.9s,mb5.0								
SSE				AMB		AMB			
	comp=Z,52nm,5.1s								
SSE	**Sheshan**	**79.30**	**308**	*e*P		**P**		**19 32 40.4**	**+0.4**
MDJ	**Mudanjiang**	**81.27**	**323**

CD2	**Chengdu**	**92.77**	**302**	*e*P		**P**	**19 33 46.0**	**-0.8**
CD2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb5.2								
CD2				AMB		AMB			
	comp=Z,30nm,6.8s								
LZH	**Lanzhou**	**94.50**	**307**	*e*P		**P**	**19 33 55.5**	**+0.8**
LZH				AP		pP	19 34 08.5	+2.6
LZH				XP		sP	19 34 14.5	+4.6
LZH				AMB		AMB			
	comp=Z,13nm,1.0s,mb5.3								
LZH	**Lanzhou**	**94.50**	**307**	*e*P		**P**	**19 33 55.5**	**+0.8**
LZH				pP		pP	19 34 08.5	+2.6
LZH				sP		sP	19 34 14.5	+4.6
NRDL	**Niedersach Rie**	**146.47**	**355**	*e*PKPbc	PKPbc	PKPbc	19 40 14.0	-1.5
CLZ	**Clausthal**	**147.09**	**354**	*e*PKPbc	PKPbc	PKPbc	19 40 16.2	-1.1
CLL	**Collm**	**147.30**	**351**	*e*PKPbc	PKPbc	PKPbc	19 40 17.0	-0.9
CLL	**Collm**	**147.30**	**351**	*i* PKPbc	PKPbc	PKPbc	19 40 17.8	-0.1
	comp=Z,9.0nm,1.0s								
CLL				*i* (sPKiKP)			19 40 36.4		
BRG	**Berggiesshubel**	**147.58**	**350**	*e*PKPbc	PKPbc	PKPbc	19 40 18.3	-0.3
BUG	**Bochum--Univer**	**147.69**	**358**	*e*PKPbc	PKPbc	PKPbc	19 40 16.4	-2.5
MOX	**Moxa**	**148.14**	**353**	*e*PKPbc	PKPbc	PKPbc	19 40 20.2	+0.1
BR131	**Keskin Array S**	**148.17**	**316**	*e*PKPbc	PKPbc	PKPbc	19 40 20.3	+0.1
BRTR	**Keskin Array B**	**148.17**	**316**	PKPbc	PKPbc	PKPbc	19 40 20.6	+0.4
	comp=Z,1.1nm,0.7s,baz=140,slow=4.9,SNR=7.8								
TANN	**Tannenbergstha**	**148.25**	**351**	*e*PKPbc	PKPbc	PKPbc	19 40 20.4	0.0
MANZ	**Manzenberg**	**148.72**	**352**	*e*PKPbc	PKPbc	PKPbc	19 40 21.9	+0.3
ROTZ	**Rotzenmuhle**	**148.92**	**351**	*e*PKPbc	PKPbc	PKPbc	19 40 22.1	0.0
GRA1	**Grafenberg Arr**	**149.12**	**353**	*e*PKPbc	PKPbc	PKPbc	19 40 21.1	-1.6
GRF	**Grafenberg Arr**	**149.12**	**353**	*e*PKPbc	PKPbc	PKPbc	19 40 21.1	-1.6
GERES	**GERESS Array B**	**149.58**	**349**	PKPbc	PKPbc	PKPbc	19 40 24.1	+0.3
	comp=Z,1.3nm,0.6s,baz=16,slow=3.2,SNR=15								
FLN	**La Foliniere**	**150.02**	**8**	*e*PKP1	PKPbc	PKPbc	19 40 23.8	-1.1
	comp=Z,6.9nm,0.8s								
LDF	**La Druitiere**	**150.24**	**7**	*e*PKP1	PKPbc	PKPbc	19 40 24.9	-0.5
STU	**Stuttgart**	**150.24**	**355**	*e*PKPab	PKPab	PKPab	19 40 28.8	-2.8
GRR	**Gorron**	**150.34**	**8**	*e*PKP1	PKPbc	PKPbc	19 40 25.4	-0.2
	comp=Z,12nm,0.8s								
CDF	**Champ du Feu**	**150.72**	**357**	*e*PKP1	PKPbc	PKPbc	19 40 26.7	+0.2
	comp=Z,9.7nm,0.9s								
BFO	**Black Forest**	**150.74**	**356**	*e*PKPbc	PKPbc	PKPbc	19 40 26.5	-0.1
BFO				*e*PKPab	PKPab	PKPab	19 40 31.4	-2.3
HAU	**Haudompre**	**151.15**	**359**	*e*PKP1	PKPbc	PKPbc	19 40 27.6	+0.1
	comp=Z,5.0nm,0.6s								
SSF	**Saint Saulge**	**152.06**	**3**	*e*PKP1	PKPbc	PKPbc	19 40 29.7	+0.1
	comp=Z,16nm,1.1s								

IDC 26 19:20:57.8±2.0, 588N×12588E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=127.6km s-min=24.3km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**23.83**	**181**	P		P	19 26 14.7		+2.1
	1.5nm,0.9s,baz=8.3,slow=11,SNR=7.3								
WRA	**Warramunga Arr**	**26.98**	**162**	P		P	19 26 41.1		0.0
	0.4nm,0.3s,baz=338,slow=11,SNR=16								
ASAR	**Alice Springs**	**30.39**	**165**	P		P	19 27 10.7		-0.9
	0.2nm,0.3s,baz=339,slow=7.0,SNR=8.4								
MKAR	**Makanchi Array**	**55.32**	**325**	P		P	19 30 33.3		+0.1
	0.3nm,0.4s,baz=117,slow=6.5,SNR=7.0								

*ISCJB **26** 19:34:32.7±0.3, 5191N±002×284W±004, h10km, Error ellipse: s-maj=4.3km s-min=2.4km az=123.0*
*NEIC **26** 19:34:35.4, 5203N×303W, h11km, ML2.7(LDG), After LDG.*
*CSEM **26** 19:34:35.4±0.1, 5203N×309W, h15km, ML2.7/11, Error ellipse: s-maj=3.2km s-min=1.8km az=52.0*
*LDG **26** 19:34:35.4±0.4, 5203N×303W, h11km±1km, Ml2.7/12, Error ellipse: s-maj=4.4km s-min=4.0km az=128.0*
*BGS **26** 19:34:36.6±0.5, 5204N×3.14W, h19km±2km, ML2.1*

ISC 26 19:34:34.0±0.3, 5195N±002×295W±004, h10km, n59, σ1§11/112, 2C-2D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MCH1	**Michaelchurch**	**0.06**	**326**	⇑*i*P		**Pg**	**19 34 40.2**		**+4.1**
MCH1				*e*S		**Sg**	**19 34 42.9**		**+5.4**
MCH1				AML		AML	19 34 43.1		
	comp=E,509nm,0.1s								
MCH1				AML		AML	19 34 43.1		
	comp=N,227nm,0.1s								
MCH1	**Michaelchurch**	**0.06**	**326**	⇑*i*P		**Pg**	**19 34 40.2**		**+4.1**
MCH1				*e*S		**Sg**	**19 34 42.9**		**+5.4**
MCH1				AML		AML	19 34 43.1		
	comp=E,509nm,0.1s								
MCH1				AML		AML	19 34 43.1		
	comp=N,227nm,0.1s								
HTR	**Trewern Hill**	**0.24**	**303**	⇓*i*P		**Pg**	**19 34 40.5**		**+1.6**
HGH	**Gray Hill**	**0.33**	**164**	⇓*i*P		**Pg**	**19 34 45.1**		**+4.7**
HLM1	**Long Mynd**	**0.57**	**4**	*e*P		**Pg**	**19 34 46.1**		**+1.0**
SSW	**Stow on the Wo**	**0.68**	**88**	*e*P		**Pg**	**19 34 51.4**		**+4.2**
SSW	**Stow on the Wo**	**0.68**	**88**	P		**Pg**	**19 34 51.3**		**+4.2**
HSA	**Swansea**	**0.78**	**255**	*e*P		**Pg**	**19 34 49.4**		**+0.4**
SWN1	**Swindon**	**0.84**	**121**	*e*P		**Pg**	**19 34 54.5**		**+4.4**
SWN1				*e*S		**Sg**	**19 35 07.3**		**+6.2**
SWK	**Warminster**	**0.92**	**151**	*e*P		**Pg**	**19 34 55.6**		**+4.0**
SBD1	**Bryn Du**	**0.97**	**349**	*e*P		**Pg**	**19 34 52.5**		**-0.3**
HEX	**Exmoor**	**1.03**	**211**	*e*P		**Pg**	**19 34 55.7**		**+1.8**
KWE	**Weaver Farm**	**1.26**	**32**	*e*P		**Pn**	**19 34 58.5**		**+0.8**
SKP1	**Kophill**	**1.35**	**99**	*e*P		**Pn**	**19 35 01.7**		**+2.8**
HTL	**Hartland**	**1.36**	**226**	*e*P		**Pn**	**19 34 59.6**		**+0.6**
HTL				*e*S		**Sb**	**19 35 16.6**		**-0.4**
HTL				AML		AML	19 35 18.1		
	comp=E,46nm,0.3s								
HTL				AML		AML	19 35 18.5		
	comp=N,49nm,0.3s								
HTL	**Hartland**	**1.36**	**226**	*e*P		**Pn**	**19 34 59.6**		**+0.6**
HTL				*e*S		**Sb**	**19 35 16.6**		**-0.4**
HTL				AML		AML	19 35 18.1		
	comp=E,46nm,0.3s								
HTL				AML		AML	19 35 18.5		
	comp=N,49nm,0.3s								
HTL	**Hartland**	**1.36**	**226**	P		**Pn**	**19 34 59.6**		**+0.6**
HTL				S		**Sb**	**19 35 16.6**		**-0.4**
HTL	**Hartland**	**1.36**	**226**	P		**Pn**	**19 34 59.6**		**+0.6**
HTL				S		**Sb**	**19 35 16.5**		**-0.4**
YRE	**Yr Eifl**	**1.37**	**319**	*e*P		**Pn**	**19 34 58.4**		**-0.8**
WPM1	**Penmaenmawr**	**1.43**	**336**	*e*P		**Pn**	**19 34 59.6**		**-0.5**
KBI1	**Birley Grange**	**1.57**	**33**	*e*P		**Pn**	**19 35 03.0**		**+1.2**
WLF1	**Llynfaes**	**1.61**	**327**	*e*P		**Pn**	**19 35 01.9**		**-0.6**
YRC	**Rhoscolyn**	**1.64**	**323**	*e*P		**Pn**	**19 35 01.8**		**-1.0**
WCB1	**Church Bay**	**1.73**	**326**	P		**Pn**	**19 35 04.2**		**+0.1**
WCB1				S		**Sn**	**19 35 24.6**		**-1.6**
WCB1				AML		AML	19 35 25.4		
	comp=N,19nm,0.2s								
WCB1				AML		AML	19 35 25.7		
	comp=N,22nm,0.2s								
WCB1	**Church Bay**	**1.73**	**326**	*e*P		**Pn**	**19 35 04.2**		**+0.1**
WCB1				*e*S		**Sn**	**19 35 24.6**		**-1.6**
WCB1				AML		AML	19 35 25.4		
	comp=E,19nm,0.2s								
WCB1				AML		AML	19 35 25.7		
	comp=N,22nm,0.2s								
DLF	**Lyons Farm**	**2.57**	**303**	*e*P		**Pn**	**19 35 15.3**		**-0.3**
DLF				*e*S		**Sn**	**19 35 39.7**		**-7.2**
DCN	**Croghan**	**2.98**	**300**	*e*P		**Pn**	**19 35 20.8**		**-0.6**
DCN				*e*S		**Sn**	**19 35 56.9**		**-0.3**
FLN	**La Foliniere**	**3.56**	**153**	*e*Pn		**Pn**	**19 35 30.6**		**+1.3**
	baz=333								
FLN				*e*Sn		**Sn**	**19 36 10.4**		**-1.0**
	baz=328								
FLN				*e*Sg		**Sg**	**19 36 30.5**		**+2.1**
	comp=N,3.8nm,0.3s								
FLN	**La Foliniere**	**3.56**	**153**	*e*Pn		**Pn**	**19 35 30.6**		**+1.3**
FLN				*e*Sn		**Sn**	**19 36 10.4**		**-1.0**
FLN				*e*Sg		**Sg**	**19 36 30.5**		**+2.1**
	comp=N,1.9nm,0.3s								
ROSF	**Rostrenen**	**3.62**	**183**	*e*Pn		**Pn**	**19 35 30.6**		**+0.4**
ROSF				*e*Sn		**Sn**	**19 36 12.0**		**-1.0**
	comp=N,17nm,0.6s								
ROSF	**Rostrenen**	**3.62**	**183**	*e*Pn		**Pn**	**19 35 30.6**		**+0.4**
ROSF				*e*Sn		**Sn**	**19 36 12.0**		**-1.0**
	comp=N,8.5nm,0.6s								
SGMF	**Saint Gilles**	**3.71**	**176**	*e*Pn		**Pn**	**19 35 31.1**		**-0.2**
SGMF				*e*Sn		**Sn**	**19 36 13.2**		**-1.9**
SGMF				*e*Sg		**Sg**	**19 36 33.4**		**+0.3**
	comp=N,2.8nm,0.4s								
SGMF	**Saint Gilles**	**3.71**	**176**	*e*Pn		**Pn**	**19 35 31.1**		**-0.2**
SGMF				*e*Sn		**Sn**	**19 36 13.2**		**-1.9**
SGMF				*e*Sg		**Sg**	**19 36 33.4**		**+0.3**
	comp=N,1.4nm,0.4s								
GRR	**Gorron**	**3.81**	**159**	*e*Pn		**Pn**	**19 35 34.1**		**+1.4**
GRR				*e*Sn		**Sn**	**19 36 16.3**		**-1.3**
GRR				*e*Sg		**Sg**	**19 36 38.3**		**+1.9**
	comp=N,4.7nm,0.4s								
GRR	**Gorron**	**3.81**	**159**	*e*Pn		**Pn**	**19 35 34.1**		**+1.4**
GRR				*e*Sn		**Sn**	**19 36 16.3**		**-1.3**
GRR				*e*Sg		**Sg**	**19 36 38.3**		**+1.9**
	comp=N,2.3nm,0.4s								
LDF	**La Druitiere**	**3.82**	**151**	*e*Pn		**Pn**	**19 35 33.8**		**+1.0**
LDF				*e*Sn		**Sn**	**19 36 16.6**		**-1.2**
LDF				*e*Sg		**Sg**	**19 36 38.3**		**+1.7**
	comp=N,2.4nm,0.3s								
LDF	**La Druitiere**	**3.82**	**151**	*e*Pn		**Pn**	**19 35 33.8**		**+1.0**
LDF				*e*Sn		**Sn**	**19 36 16.6**		**-1.2**
LDF				*e*Sg		**Sg**	**19 36 38.3**		**+1.7**
	comp=N,1.2nm,0.3s								
QUIF	**Quistinic**	**4.04**	**182**	*e*Pn		**Pn**	**19 35 36.3**		**+0.4**
QUIF				*e*Sn		**Sn**	**19 36 21.8**		**-1.5**
	comp=N,12nm,0.4s								
QUIF				*e*Sg		**Sg**	**19 36 43.6**		**-0.2**
QUIF	**Quistinic**	**4.04**	**182**	*e*Pn		**Pn**	**19 35 36.3**		**+0.4**
QUIF				*e*Sn		**Sn**	**19 36 21.8**		**-1.5**
	comp=N,6.1nm,0.4s								
QUIF				*e*Sg		**Sg**	**19 36 43.6**		**-0.2**
BAIF	**Baives**	**4.90**	**110**	*e*Pn		**Pn**	**19 35 47.5**		**-0.2**
BAIF				*e*Sn		**Sn**	**19 36 41.9**		**-2.5**
BAIF				*e*Sg		**Sg**	**19 37 11.5**		**+0.2**
	comp=N,1.0nm,0.2s								
BAIF	**Baives**	**4.90**	**110**	*e*Pn		**Pn**	**19 35 47.5**		**-0.2**
BAIF				*e*Sn		**Sn**	**19 36 41.9**		**-2.5**
BAIF				*e*Sg		**Sg**	**19 37 11.5**		**+0.2**
	comp=N,0.5nm,0.2s								
GIVF	**Givet**	**5.24**	**108**	*e*Pg		**Pg**	**19 36 12.8**		**-1.6**
MFF	**Saint Martin d**	**5.66**	**160**	*e*Pn		**Pn**	**19 35 58.2**		**+0.1**
MEZF	**Maizieres J'vi**	**6.18**	**121**	*e*Pn		**Pn**	**19 36 03.9**		**-1.4**
	baz=306								
LOR	**Lormes**	**6.44**	**134**	*e*Pn		**Pn**	**19 36 10.0**		**+1.1**
	baz=318								
LOR				*e*Sn		**Sn**	**19 37 18.1**		**-4.4**
LOR				*e*Sg		**Sg**	**19 37 59.8**		**-1.0**
	comp=N,3.9nm,0.7s								
LOR	**Lormes**	**6.44**	**134**	*e*Pn		**Pn**	**19 36 10.0**		**+1.1**
LOR				*e*Sn		**Sn**	**19 37 18.1**		**-4.4**
LOR				*e*Sg		**Sg**	**19 37 59.8**		**-1.0**
	comp=N,2.0nm,0.7s								
SSF	**Saint Saulge**	**6.45**	**137**	*e*Pn		**Pn**	**19 36 09.6**		**+0.6**
SSF				*e*Sn		**Sn**	**19 37 19.7**		**-2.9**
SSF				*e*Sg		**Sg**	**19 38 01.0**		**0.0**
	comp=N,0.8nm,0.4s								
SSF	**Saint Saulge**	**6.45**	**137**	*e*Pn		**Pn**	**19 36 09.6**		**+0.6**
SSF				*e*Sn		**Sn**	**19 37 19.7**		**-2.9**
SSF				*e*Sg		**Sg**	**19 38 01.0**		**0.0**
	comp=N,0.4nm,0.4s								
BGF	**Bois d'Agland**	**6.59**	**143**	*e*Pn		**Pn**	**19 36 11.7**		**+0.7**
BGF				*e*Sn		**Sn**	**19 37 22.8**		**-3.4**
BGF				*e*Sg		**Sg**	**19 38 06.0**		**+0.3**
	comp=N,4.0nm,0.5s								
BGF	**Bois d'Agland**	**6.59**	**143**	*e*Pn		**Pn**	**19 36 11.7**		**+0.7**
BGF				*e*Sn		**Sn**	**19 37 22.8**		**-3.4**
BGF				*e*Sg		**Sg**	**19 38 06.0**		**+0.3**
	comp=N,2.0nm,0.5s								
TCF	**Toulx Ste Croi**	**6.60**	**147**	*e*Pn		**Pn**	**19 36 11.8**		**+0.8**
TCF				*e*Sn		**Sn**	**19 37 21.9**		**-4.4**
TCF				*e*Sg		**Sg**	**19 38 04.4**		**-1.4**
	comp=N,0.4nm,0.3s								
TCF	**Toulx Ste Croi**	**6.60**	**147**	*e*Pn		**Pn**	**19 36 11.8**		**+0.8**
TCF				*e*Sn		**Sn**	**19 37 21.9**		**-4.4**
TCF				*e*Sg		**Sg**	**19 38 04.4**		**-1.4**
	comp=N,0.2nm,0.3s								
AVF	**Avril sur Loir**	**6.60**	**139**	*e*Pn		**Pn**	**19 36 11.9**		**+0.8**
SMF	**Signal de Mont**	**6.92**	**137**	*e*Pn		**Pn**	**19 36 14.7**		**-0.7**
RJF	**Les Rejaudoux**	**7.28**	**154**	*e*Pn		**Pn**	**19 36 20.7**		**+0.3**
LFF	**La Frestale**	**7.43**	**159**	*e*Pn		**Pn**	**19 36 23.0**		**+0.5**
CAF	**Calviac**	**7.78**	**153**	*e*Pn		**Pn**	**19 36 27.4**		**+0.2**
EPF	**Esparros**	**9.20**	**165**	*e*Pn		**Pn**	**19 36 46.1**		**-0.6**
MTLF	**Montolieu**	**9.29**	**156**	*e*Pn		**Pn**	**19 36 47.2**		**-0.8**

*ISCJB **26** 19:45:42.5±0.7, 2865±010×1299E±02, h10km, mb4.1/11, Error ellipse: s-maj=37.9km s-min=7.7km az=141.8*
*IDC **26** 19:45:43.5±1.1, 2925×12963E, h0km, mb4.1/7, mb1 4.3/9, mb1mx4.1/16, mbtmp4.1/9, ML3.9/2, Error ellipse: s-maj=86.0km s-min=16.9km az=73.0*
*NEIC **26** 19:45:44.7±0.6, 2905×12982E, h10km, mb4.2/6, Error ellipse: s-maj=33.8km s-min=7.3km az=70.0*

ISC 26 19:45:48.6±1.8, 30S±01×1299E±03, h38km±16km, n20, σ0§94/22, mb4.1/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KAKA	**Kakadu**	**10.02**	**165**	*e*P		**Pn**	**19 48 11.7**		**+1.8**
	3.9nm,0.3s								
KAKA				*e*S		**Sn**	**19 50 00.4**		**-0.6**
FITZ	**Fitzroy Crossi**	**15.60**	**195**	*e*P		**Pn**	**19 49 24.8**		**-0.8**
	11nm,0.9s								
FITZ	**Fitzroy Crossi**	**15.60**	**195**	Pn		**Pn**	**19 49 24.8**		**-0.8**
	0.3nm,0.3s,baz=17,slow=12,SNR=12								
WRAB	**Tennant Creek**	**17.43**	**166**	*e*Pn		**Pn**	**19 49 47.7**		**-1.0**
	8.6nm,0.8s								
WRA	**Warramunga Arr**	**17.43**	**166**	P		**Pn**	**19 49 48.0**		**-0.8**
	0.4nm,0.3s,baz=347,slow=13,SNR=19								
WB2	**Warramunga Arr**	**17.44**	**166**	*e*P		**Pn**	**19 49 47.8**		**-1.0**
WB2				*e*S		**S**	**19 53 08.5**		**-0.5**
AS31	**Alice Springs**	**20.95**	**170**	*e*P		**P**	**19 50 29.0**		**+0.9**
AS31				*e*S		**S**	**19 54 19.8**		**+0.3**
ASAR	**Alice Springs**	**20.95**	**170**	P		**P**	**19 50 29.3**		**+1.1**
	11nm,0.6s,baz=346,slow=10,SNR=160								
ASAR				PcP		PcP	19 54 36.9		+2.2
	0.5nm,0.6s,baz=335,slow=1.9,SNR=4.0								
STKA	**Stephens Creek**	**30.81**	**160**	P		**P**	**19 52 02.1**		**+1.4**
	1.6nm,0.8s,mb3.9,baz=328,slow=12,SNR=2.2								
CHTO	**Chiang Mai**	**37.33**	**307**	*e*P		**P**	**19 52 57.6**		**+0.4**
	9.3nm,1.1s,mb4.5								
LSA	**Lhasa**	**49.25**	**314**	*e*P		**P**	**19 54 35.0**		**+1.6**
	5.8nm,0.6s,mb4.8								
SONM	**Songino Array**	**54.60**	**341**	P		**P**	**19 55 12.2**		**-1.0**
	0.6nm,0.7s,mb3.7,baz=154,slow=7.6,SNR=5.1								
MKAR	**Makanchi Array**	**64.81**	**326**	P		**P**	**19 56 23.4**		**0.0**
	1.1nm,0.6s,mb4.1,baz=114,slow=7.9,SNR=19								
ZAL	**Zalesovo**	**67.93**	**333**	P		**P**	**19 56 43.0**		**-0.5**
	1.4nm,0.4s,mb4.4,baz=302,slow=3.7,SNR=8.0								
ZAL	**Zalesovo**	**67.93**	**333**	P		**P**	**19 56 43.0**		**-0.5**
BRVK	**Borovoye**	**74.67**	**327**	*e*P		**P**	**19 57 22.7**		**-1.4**
	1.2nm,0.8s,mb3.9								
ZRNK	**Zerenda**	**75.32**	**327**	*e*P		**P**	**19 57 27.7**		**-0.2**
	4.4nm,1.4s,mb4.2								
ZRNK				*e*			19 57 34.8		
VNDA	**Vanda**	**76.44**	**173**	P		**P**	**19 57 34.9**		**+0.6**
	0.6nm,0.8s,mb3.6,baz=324,slow=6.9,SNR=4.4								
MAW	**Mawson**	**78.63**	**201**	P		**P**	**19 57 46.6**		**+0.1**
	2.3nm,1.0s,mb4.1,baz=17,slow=5.1,SNR=4.3								
CPUP	**Villa Florida**	**150.06**	**167**	PKPbc		PKPbc	20 05 37.6		+2.5
	1.5nm,0.2s,baz=253,slow=1.1,SNR=4.9								

KRSC 26 20:01:36, 5280N×16275E, h37km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKZ	**Mys Kozlova**	**1.86**	**341**	*e*P	Pn	20 02 06.0		+0.6
MKZ				*i* S	Sn	20 02 26.9		-0.7
NLC	**Nalytchevo**	**2.09**	**282**	*e*P	Pn	20 02 09.7		+1.2
NLC				*i* S	Sn	20 02 33.1		-0.2
AVH	**Avacha**	**2.47**	**282**	*e*P	Pn	20 02 15.7		+2.0
AVH				*i* S	Sn	20 02 44.0		+1.4
PET	**Petropavlovsk**	**2.49**	**277**	*e*P	Pn	20 02 16.0		+2.0
PET				*i* S	Sn	20 02 43.9		+0.7
RUS	**Russkaya**	**2.61**	**264**	*e*P	Pn	20 02 17.3		+1.7
RUS				*i* S	Sn	20 02 45.9		-0.2
GRL	**Gorelyy**	**2.86**	**267**	*e*P	Pn	20 02 20.6		+1.5
GRL				*i* S	Sn	20 02 52.6		+0.4
TUMR	**Tumrok**	**2.92**	**329**	*e*P	Pn	20 02 22.4		+2.4
TUMR				*i* S	Sn	20 02 56.1		+2.3
GNL	**Ganaly**	**3.02**	**289**	*e*P	Pn	20 02 24.5		+3.1
GNL				*i* S	Sn	20 02 59.9		+3.6
KMNR	**Kamenistaya**	**3.31**	**335**	*e*P	Pn	20 02 28.5		+3.3
KMNR				*i* S	Sn	20 03 06.9		+3.6
KBTR	**Krutoberegovo**	**3.42**	**1**	*e*P	Pn	20 02 27.9		+1.2
KBTR				*i* S	Sn	20 03 05.6		-0.4
ZLN	**Zelenaya**	**3.42**	**341**	*e*P	Pn	20 02 29.8		+3.0
ZLN				*i* S	Sn	20 03 08.9		+2.9
KPT	**Kopyto**	**3.50**	**336**	*e*P	Pn	20 02 31.0		+3.1
KPT				*i* S	Sn	20 03 11.1		+3.0
KRSR	**Krestovskiy**	**3.65**	**340**	*e*P	Pn	20 02 32.1		+2.1
KRSR				*i* S	Sn	20 03 13.1		+1.3
KOZ	**Kozyrevsk**	**3.67**	**334**	*e*P	Pn	20 02 31.9		+1.7
SMKR	**Semkarok**	**3.86**	**349**	*e*P	Pn	20 02 35.3		+2.4
SMKR				*i* S	Sn	20 03 19.2		+2.2
BDR	**Baidarnaya**	**3.88**	**347**	*e*P	Pn	20 02 33.9		+0.8
BDR				*i* S	Sn	20 03 16.8		-0.6
SRDR	**Sredinnyy**	**3.94**	**335**	*e*P	Pn	20 02 36.1		+2.1
SRDR				*i* S	Sn	20 03 20.2		+1.3
SRKR	**Sorokina**	**3.97**	**347**	*e*P	Pn	20 02 37.3		+3.0
SRKR				*i* S	Sn	20 03 22.2		+2.6

*SKO **26** 20:05:08.8, 4249N×1979E, h2km*
*ISCJB **26** 20:05:09.7±0.4, 4238N±002×1988E±003, h4km±7km, Error ellipse: s-maj=4.2km s-min=3.2km az=74.3*
*NEIC **26** 20:05:09.6, 4237N×1989E, h6km, ML2.7(PDG), After PDG.*
*PDG **26** 20:05:09.6±0.4, 4237N×1989E, h6km±8km*

ISC 26 20:05:10.6±0.4, 4239N±002×1987E±003, h6km±6km, n19, σ1§26/33, 8C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PVY	**Plav**	**0.22**	**21**	⇓*i*Pg		**Pg**	**20 05 13.9**		**-1.0**
PVY				*e*Sg		**Sg**	**20 05 17.8**		**-0.1**
TTG	**Podgorica**	**0.45**	**275**	⇑*i*Pg		**Pg**	**20 05 16.9**		**-2.4**
TTG				*e*Sg		**Sg**	**20 05 25.0**		**-0.2**
IVA	**Berane**	**0.48**	**3**	⇑*i*Pg		**Pg**	**20 05 19.0**		**-0.9**
IVA				*e*Sg		**Sg**	**20 05 26.5**		**+0.3**
ULC	**Ulcinj**	**0.63**	**227**	⇑*i*Pg		**Pg**	**20 05 21.6**		**-1.1**
ULC				*e*Sg		**Sg**	**20 05 31.4**		**+0.6**
BUM	**Brajici-Budva**	**0.72**	**263**	⇑*i*Pg		**Pg**	**20 05 23.0**		**-1.5**
BUM				*e*Sg		**Sg**	**20 05 34.8**		**+0.9**
NKY	**Niksic**	**0.77**	**304**	⇑*i*Pg		**Pg**	**20 05 23.5**		**-1.8**
NKY				*e*Sg		**Sg**	**20 05 36.9**		**+1.6**
PLE	**Pljevlja**	**1.00**	**340**	⇓*i*Pg		**Pg**	**20 05 29.5**		**-0.3**
PLE				*e*Sg		**Sg**	**20 05 45.5**		**+2.7**
HCY	**Herceg Novi**	**1.01**	**274**	⇑*i*Pg		**Pg**	**20 05 28.2**		**-1.9**
HCY				*e*Sg		**Sg**	**20 05 45.4**		**+2.1**
UPM	**Unac-Piva**	**1.07**	**319**	⇓*i*Pg		**Pg**	**20 05 30.4**		**-0.8**
UPM				*e*Sg		**Sg**	**20 05 47.7**		**+2.6**
BRY	**Bratogost**	**1.10**	**298**	⇑*i*Pg		**Pg**	**20 05 30.1**		**-1.6**
BRY				*e*Sg		**Sg**	**20 05 48.4**		**+2.4**
SKO	**Skopje**	**1.24**	**109**	*e*Pn		**Pn**	**20 05 32.8**		**-1.7**
SKO				*e*Sg		**Sg**	**20 05 51.3**		**+0.8**
OHR	**Ohrid**	**1.46**	**151**	*e*Pn		**Pn**	**20 05 38.9**		**+1.4**
OHR				*e*Sg		**Sg**	**20 05 57.9**		**+0.4**
BIA	**Bitola**	**1.75**	**141**	*e*Pn		**Pn**	**20 05 42.2**		**+0.7**
BIA				*e*

CD2					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.5								
CD2					AMB	AMB			
	comp=Z,20nm,5.2s								
LZH	**Lanzhou**	**45.78**	**330**	*eP*	**P**		**20 24 11.5**	**+4.1**	
LZH					AP	pP	20 24 14.5	+2.2	
LZH					XP	sP	20 24 17.5	+3.2	
LZH					AMB	AMB			
	comp=Z,14nm,1.5s,mb4.7								
LZH	**Lanzhou**	**45.78**	**330**	*eP*	**P**		**20 24 11.5**	**+4.1**	
LZH					pP	pP	20 24 14.5	+2.2	
LZH					sP	sP	20 24 17.5	+3.2	
HHC	**Hu-ho-hao-te**	**46.68**	**341**	*eP*	**P**		**20 24 18.0**	**+3.6**	
HHC					AP	pP	20 24 22.5	+3.1	
HHC					XP	sP	20 24 25.3	+4.0	
HHC					PCP	PcP	20 25 51.3	+3.3	
HHC					PP	PP	20 26 08.0	+3.9	
HHC					SCP	ScP	20 29 43.5	+2.6	
HHC					S	**S**	**20 31 08.5**	**+5.3**	
HHC					XS	sS	20 31 15.3	+3.9	
HHC					SCS	ScS	20 34 09.3	+0.6	
HHC					SS	SS	20 34 27.0	-2.4	
HHC					AMB	AMB			
	comp=Z,13nm,0.4s,mb5.2								
HHC					AMB	AMB			
	comp=Z,141nm,5.4s								
HHC					LR	LR			
	comp=N,123nm,4.9s								
HHC					LR	LR			
	comp=E,104nm,5.1s								
HHC					LR	LR			
	comp=Z,78nm,6.5s								
CN2	**Changchun**	**46.73**	**356**	*eP*	**P**		**20 24 19.8**	**+5.0**	
MDJ	**Mudanjiang**	**47.39**	**360**	P	**P**		**20 24 21.0**	**+1.1**	
MDJ					AMB	AMB			
	comp=Z,2.0nm,0.6s,mb4.2								
MDJ					AMB	AMB			
	comp=Z,84nm,5.1s								
LSA	**Lhasa**	**49.18**	**314**	*eP*	**P**		**20 24 34.6**	**+0.8**	
	comp=Z,6.8nm,0.9s,mb4.7								
GTA	**Gaotai**	**50.37**	**330**	*eP*	**P**		**20 24 48.0**	**+5.1**	
GTA					AP	pP	20 24 51.5	+3.6	
GTA					XP	sP	20 24 54.3	+4.5	
GTA					AMB	AMB			
	comp=Z,4.0nm,1.4s,mb4.3								
GUN	**Gumba**	**52.18**	**309**	*eP*	**P**		**20 24 56.0**	**-0.5**	
PKI	**Pulchoki**	**52.39**	**308**	*eP*	**P**		**20 24 57.5**	**-0.5**	
KKN	**Kakani**	**52.59**	**309**	*eP*	**P**		**20 24 58.6**	**-0.9**	
	comp=Z,21nm,1.1s,mb5.0								
DMN	**Daman**	**52.64**	**308**	*eP*	**P**		**20 25 00.0**	**+0.1**	
GKN	**Gorkha**	**53.19**	**309**	*eP*	**P**		**20 25 03.3**	**-0.6**	
KOLN	**Koldanda**	**53.90**	**308**	*eP*	**P**		**20 25 08.4**	**-0.7**	
	comp=Z,35nm,0.9s,mb5.3								
SONM	**Songino Array**	**54.58**	**341**	P	**P**		**20 25 13.8**	**-0.2**	
	comp=Z,0.4nm,0.5s,mb3.7,baz=160,slow=5.5,SNR=4.6								
SONM					LR	LR	20 48 08.5		
	comp=Z,82nm,18.5s,MS3.8,baz=171,slow=36								
WMQ	**Urumqi**	**59.93**	**326**	*eP*	**P**		**20 25 53.0**	**+1.2**	
WMQ					AP	pP	20 25 58.0	+1.1	
WMQ					XP	sP	20 26 00.5	+1.7	
WMQ					PCP	PcP	20 26 40.0	+2.0	
WMQ				*eS*	**S**		**20 34 03.0**	**-0.3**	
WMQ					XS	sS	20 34 20.0	+8.3	
WMQ					AMB	AMB			
	comp=Z,9.0nm,1.0s,mb4.8								
WMQ					AMB	AMB			
	comp=Z,147nm,4.9s								
WMQ					LR	LR			
	comp=N,131nm,18.1s,MS4.2								
WMQ					LR	LR			
	comp=E,120nm,20.8s,MS4.2								
WMQ					LR	LR			
	comp=Z,95nm,22.6s,MS3.9								
CASY	**Casey**	**64.61**	**188**	*eP*	**P**		**20 26 26.7**	**+3.5**	
	comp=Z,2.7nm,0.8s,mb4.3								
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**		**20 26 23.4**	**-0.7**	
	comp=Z,0.9nm,0.6s,mb4.0,baz=111,slow=7.3,SNR=14								
AAK	**Ala-Archa**	**67.34**	**319**	*eP*	**P**		**20 26 45.4**	**+4.6**	
	comp=Z,4.0nm,1.0s,mb4.4								
ZAL	**Zalesovo**	**67.90**	**333**	P	**P**		**20 26 44.3**	**0.0**	
	comp=Z,1.4nm,0.6s,mb4.2,baz=1.8,slow=8.4,SNR=9.3								
BVAR	**Borovoye Array**	**74.56**	**327**	P	**P**		**20 27 24.1**	**-0.5**	
	comp=Z,0.7nm,0.6s,mb3.8,baz=153,slow=9.7,SNR=4.6								
BRVK	**Borovoye**	**74.63**	**327**	P	**P**		**20 27 25.3**	**+0.3**	
	comp=Z,4.3nm,0.9s,mb4.4								
ZRNK	**Zerenda**	**75.27**	**327**	*eP*	**P**		**20 27 27.3**	**-1.5**	
	comp=Z,7.7nm,1.0s,mb4.6								
VNDA	**Vanda**	**76.44**	**173**	P	**P**		**20 27 35.0**	**-0.4**	
	comp=Z,0.5nm,0.5s,mb3.7,baz=3.0,slow=1.0,SNR=5.9								
VNDA	**Vanda**	**76.44**	**173**	*eP*	**P**		**20 27 34.9**	**-0.5**	
	comp=Z,3.2nm,1.2s,mb4.1								
MAW	**Mawson**	**78.58**	**201**	P	**P**		**20 27 47.3**	**-0.1**	
	comp=Z,2.4nm,0.9s,mb4.1,baz=90,slow=7.9,SNR=4.9								
MAW	**Mawson**	**78.58**	**201**	*eP*	**P**		**20 27 47.5**	**+0.2**	
	comp=Z,8.0nm,1.3s,mb4.5								
AKTK	**Aktyubinsk**	**80.76**	**322**	P	**P**		**20 27 59.4**	**+0.2**	
AKTO	**Aktyubinsk**	**80.76**	**322**	P	**P**		**20 27 59.4**	**+0.2**	
	comp=Z,5.9nm,1.0s,mb4.5,baz=106,slow=6.2,SNR=8.2								
ARU	**Arti**	**82.18**	**328**	*eP*	**P**		**20 28 06.5**	**-0.3**	
	comp=Z,8.2nm,1.3s,mb4.5								
CPUP	**Villa Florida**	**150.07**	**167**	PKPbc	PKPbc		20 35 38.7	+2.3	
	comp=Z,1.8nm,0.6s,baz=142,slow=2.1,SNR=6.5								
CPUP	**Villa Florida**	**150.07**	**167**	*e*PKPbc	PKPbc		20 35 38.4	+2.0	

*MOS **26** 20:26:43.1±2.5, 48.50N×156.17E, h100km, mb4.1/1, Error ellipse: s-maj=99.9km s-min=15.1km az=77.0*

KRSC 26 20:26:43, 48.50N×156.17E, h100km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.19**	**359**	*e*PN	Pn	20 27 13.1	-4.8
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,90nm,0.3s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
MIPR	**Malaya Ipel'ka**	**3.80**	**5**	*e*P	Pn	20 27 41.4	+2.0
MIPR				*i* S	Sn	20 28 24.1	+1.0
RUS	**Russkaya**	**4.21**	**20**	*e*P	Pn	20 27 47.3	+2.3
RUS				*i* S	Sn	20 28 33.8	+0.7
GRL	**Gorelyy**	**4.24**	**16**	*e*P	Pn	20 27 49.0	+3.7
GRL				*i* S	Sn	20 28 36.7	+3.0
PET	**Petropavlovsk**	**4.80**	**18**	*e*PN	Pn	20 27 55.5	+2.6
PET				*e*S	Sn	20 28 52.0	+4.7
PET				smax			
	comp=N,81nm,0.6s						
AVH	**Avacha**	**5.04**	**18**	*e*P	Pn	20 27 59.2	+3.0
AVH				*i* S	Sn	20 28 54.0	+0.8
SPN	**Mys Shipunski**	**5.21**	**26**	*e*P	Pn	20 28 02.2	+3.7
SPN				*i* S	Sn	20 28 59.0	+1.6
GNL	**Ganaly**	**5.32**	**11**	*e*P	Pn	20 28 03.6	+3.6
MKZ	**Mys Kozlova**	**6.98**	**28**	*e*P	Pn	20 28 26.0	+3.4
MKZ				*i* S	Sn	20 29 40.5	0.0
KBTR	**Krutoberegovo**	**8.72**	**25**	*e*P	Pn	20 28 48.1	+1.8

*IDC **26** 20:53:23.8±1.8, 15.10S×168.36E, h0km, mb4.3/6, mb1 4.3/7, mb1mx4.1/13, mbtmp4.2/7, ML3.9/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/19, Error ellipse: s-maj=49.5km s-min=25.9km az=113.0*

*ISCJB **26** 20:53:24.3±5.5, 15.15S±0.08N×168.1E±0.2, h4km±33km, mb4.1/7, MS3.4/3, Error ellipse: s-maj=36.3km s-min=13.6km az=176.0*

*NEIC **26** 20:53:25.5±1.1, 15.06S×168.25E, h10km, mb4.3/1, Error ellipse: s-maj=24.4km s-min=16.8km az=95.0*

ISC 26 20:53:25.7±6.6, 15.08S±0.08N×168.2E±0.2, h6km±40km, n18, σ0§65/11, mb4.2/7, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.15**	**193**	Pn	**Pn**	**20 55 11.0**	**+0.2**
	1.9nm,0.3s,baz=16,slow=23,SNR=11						
DZM				Sn	**Sn**	**20 56 32.5**	**+0.2**
	0.1nm,0.3s,baz=280,slow=20,SNR=3.0						
HNR	**Honiara**	**9.83**	**304**	LR	LR	20 59 07.6	
	comp=Z,145nm,20.8s,baz=177,slow=34						
CTA	**Charters Tower**	**21.50**	**253**	LR	LR	21 05 31.0	
	comp=Z,104nm,21.9s,MS3.2,baz=46,slow=34						
STKA	**Stephens Creek**	**29.47**	**231**	P	**P**	**20 59 30.6**	**+0.4**
	4.5nm,1.0s,mb4.2,baz=102,slow=6.1,SNR=5.1						
STKA				LR	LR	21 10 33.0	

	comp=Z,92nm,18.6s,MS3.4,baz=205,slow=35								
WRAB	**Tennant Creek**	**32.61**	**257**	*e*P	**P**		**20 59 57.4**	**-0.6**	
	2.6nm,0.7s,mb4.3								
WRA	**Warramunga Arr**	**32.62**	**257**	P	**P**		**20 59 58.1**	**0.0**	
	0.6nm,0.6s,mb3.7,baz=82,slow=7.7,SNR=17								
WRA					PcP	PcP	21 02 44.6	+0.4	
	0.5nm,0.7s,baz=88,slow=2.3,SNR=5.8								
AS31	**Alice Springs**	**33.40**	**250**	*e*P	**P**		**21 00 03.3**	**-1.6**	
ASAR	**Alice Springs**	**33.40**	**250**	P	**P**		**21 00 05.2**	**+0.3**	
	1.6nm,0.5s,mb4.2,baz=77,slow=9.2,SNR=42								
GUMO	**Guam**	**36.67**	**320**	LR	LR		21 14 15.5		
	comp=Z,66nm,18.0s,MS3.5,baz=76,slow=34								
FITZ	**Fitzroy Crossi**	**40.84**	**260**	P	**P**		**21 01 09.1**	**+1.0**	
	2.9nm,0.8s,mb4.0,baz=104,slow=5.3,SNR=12								
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**		**21 05 06.9**	**-0.7**	
SONM	**Songino Array**	**83.31**	**323**	P	**P**		**21 05 53.4**	**+0.1**	
	1.6nm,1.0s,mb4.0,baz=114,slow=3.7,SNR=8.9								
MKAR	**Makanchi Array**	**98.08**	**316**	P	**P**		**21 07 03.6**	**+0.5**	
	1.6nm,0.7s,mb4.7,baz=86,slow=6.3,SNR=19								
ARCES	**ARCESS Array B**	**120.81**	**346**	PKP	PKPdf		21 12 15.9	-2.8	
	3.9nm,0.9s,baz=30,slow=5.6,SNR=4.6								
SSF	**Saint Saulge**	**145.66**	**341**	*e*PKP1	PKPbc		21 13 02.7	-2.5	
	6.2nm,0.8s								
LPL	**La Plagne**	**145.88**	**337**	*e*PKP1	PKPbc		21 13 06.4	+0.5	
LPG	**La Plagne**	**145.88**	**336**	*e*PKP1	PKPbc		21 13 06.5	+0.6	
ORIF	**Oris-en-Rattie**	**146.71**	**337**	*e*PKP1	PKPbc		21 13 08.4	+0.1	
	12nm,0.9s								

NEIC 26 20:56:13.4, 3931N×12322W, h12km, MW3.9(BRK), **After NCEDC., Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.34**	**160**	*e*Pg	Pg	20 56 20.5	+0.2
HOPS				*e*Sg	Sg	20 56 25.7	+0.8
KIPM	**Iron Peak**	**0.54**	**338**	*e*Pg	Pg	20 56 24.1	+0.2
MCCM	**Marconi Confer**	**1.20**	**167**	*e*Pg	Pg	20 56 34.0	-2.4
OHCM	**Honcut**	**1.34**	**88**	*e*Pn	Pn	20 56 36.5	-1.4
WDC	**Whiskeytown Da**	**1.37**	**22**	*e*Pn	Pn	20 56 38.3	0.0
KHMM	**Horse Mountain**	**1.61**	**346**	*e*Pn	Pn	20 56 41.0	-0.6
SAC	**San Andreas**	**1.84**	**160**	*e*Pn	Pn	20 56 43.1	-1.6
KRMB	**Red Mountain**	**2.27**	**347**	*e*Pn	Pn	20 56 49.9	-0.8
YBH	**Yreka Blue Hor**	**2.45**	**9**	*e*Pn	Pn	20 56 53.9	+0.7
CMB	**Columbia Colle**	**2.56**	**119**	*e*Pn	Pn	20 56 54.8	+0.1
SAO	**San Andreas Ge**	**2.90**	**151**	*e*Pn	Pn	20 56 58.5	-0.9
PAHR	**Pah Rah Range**	**2.99**	**81**	*e*Pn	Pn	20 57 03.1	+2.5
KBO	**Bosley Butte**	**3.00**	**346**	*e*Pn	Pn	20 56 60.0	-0.7
LRV	**Little Rabbit**	**3.37**	**148**	*e*Pn	Pn	20 57 05.2	-0.6
KEBM	**Edson Butte**	**3.66**	**347**	*e*Pn	Pn	20 57 10.4	+0.7
KEBM				*e*Pg	Pg	20 57 24.2	+0.7
MTUM	**Tungsten Hills**	**4.15**	**117**	*e*Pn	Pn	20 57 20.6	+4.1
WVOR	**Wild Horse Val**	**4.67**	**47**	*e*Pn	Pn	20 57 25.1	+1.4
BMN	**Battle Mountai**	**4.75**	**74**	*e*Pn	Pn	20 57 25.5	+0.7
COR	**Corvallis**	**5.27**	**359**	*e*Pg	Pg	20 57 48.0	-6.3
	93nm,1.4s						
DAC	**Darwin (Calif)**	**5.39**	**122**	*e*Pn	Pn	20 57 38.2	+4.7
	7.8nm,0.9s						
HAWA	**Hanford**	**7.58**	**20**	*e*Pn	Pn	20 58 02.5	-1.1
	1.3nm,1.1s						
HWUT	**Hardware Ranch**	**9.17**	**72**	P	Pn	20 58 34.3	+8.8
	3.4nm,1.0s						
MCMT	**McKenzie Canyo**	**9.47**	**51**	*e*P	Pn	20 58 36.5	+6.9

*ISCJB **26** 21:01:58.2±1.4, 160S±0.1×174.5W±0.1, h121km±14km, mb4.3/16, Error ellipse: s-maj=25.5km s-min=10.6km az=107.1*

*IDC **26** 21:02:00.3±2.4, 16.16S×174.32W, h129km±21km, mb3.9/11, mb1 4.1/13, mb1mx4.0/19, mbtmp4.4/13, Error ellipse: s-maj=35.1km s-min=12.1km az=146.0*

*NEIC **26** 21:02:00.9±0.9, 16.04S×174.41W, h133km±9km, mb4.4/6, Error ellipse: s-maj=14.6km s-min=6.4km az=144.0*

ISC 26 21:02:00.7±1.4, 161S±0.1×174.4W±0.1, h129km±14km, n28, σ0§69/27, mb4.1/16, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.30**	**49**	P	**Pn**	**21 02 51.6**	**+0.4**
	172nm,0.3s,baz=180,slow=1.9,SNR=151						
AFI				S	**Sn**	**21 03 26.0**	**-4.1**
	172nm,0.3s,baz=164,slow=20,SNR=8.6						
DZM	**Mont Dzumac**	**19.09**	**249**	P	**P**	**21 06 13.9**	**+0.6**
	0.3nm,0.3s,baz=83,slow=23,SNR=2.3						
URZ	**Urewera**	**23.34**	**197**	P	**P**	**21 06 55.6**	**-1.7**
	6.2nm,0.7s,mb4.1,baz=2.9,slow=20,SNR=2.7						
SNZO	**South Karori**	**26.86**	**198**	*e*P	**P**	**21 07 30.7**	**+1.5**
	31nm,0.6s,mb5.1						
CTA	**Charters Tower**	**37.60**	**258**	P	**P**	**21 09 02.2**	**-0.4**
	12nm,1.1s,mb4.4,baz=48,slow=12,SNR=2.8						
CTAO	**Charters Tower**	**37.60**	**258**	P	**P**	**21 09 02.1**	**-0.6**
	5.3nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**42.90**	**240**	↓*i*P	**P**	**21 09 46.5**	**+0.1**
	8.3nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**42.90**	**240**	P	**P**	**21 09 46.9**	**+0.5**
	8.3nm,0.6s,mb4.6,baz=90,slow=8.8,SNR=24						
STKA	**Stephens Creek**	**42.90**	**240**	*e*P	**P**	**21 09 46.4**	**+0.1**
WB2	**Warramunga Arr**	**48.78**	**257**	*e*P	**P**	**21 10 31.9**	**-0.6**
WRAB	**Tennant Creek**	**48.79**	**257**	*e*P	**P**	**21 10 32.5**	**0.0**
	3.4nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**48.80**	**257**	P	**P**	**21 10 32.3**	**-0.3**
	1.1nm,0.4s,mb3.9,baz=92,slow=6.7,SNR=72						
WRA					PcP	PcP	21 11 56.1	+0.6	
	0.9nm,0.5s,baz=96,slow=3.4,SNR=13								
AS31	**Alice Springs**	**49.03**	**252**	*e*P	**P**	**21 10 34.1**	**-0.3**
ASAR	**Alice Springs**	**49.03**	**252**	P	**P**	**21 10 34.0**	**-0.4**
	6.5nm,0.5s,mb4.5,baz=87,slow=8.0,SNR=16						
ASAR					PcP	PcP	21 11 56.7	+0.4	
	0.6nm,0.5s,baz=100,slow=3.9,SNR=4.6								
ASPA	**Alice Springs**	**49.03**	**252**	*e*P	**P**	**21 10 34.1**	**-0.3**
KAKA	**Kakadu**	**51.53**	**266**	*i*P	**P**	**21 10 53.9**	**+0.7**
	5.7nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**57.17**	**259**	P	**P**	**21 11 34.8**	**+0.8**
	1.0nm,0.6s,mb3.8,baz=120,slow=8.3,SNR=7.1						
MBWA	**Marble Bar**	**62.29**	**254**	*e*P	**P**	**21 12 09.3**	**+0.3**
CASY	**Casey**	**69.41**	**205**	P	**P**	**21 12 54.5**	**-0.1**
	2.8nm,0.8s,mb4.0						
YBH	**Yreka Blue Hor**	**74.69**	**37**	P	**P**	**21 13 26.7**	**+0.6**
	0.8nm,0.6s,mb3.5,baz=221,slow=9.3,SNR=4.2						
NVAR	**Mina Array Bea**	**75.45**	**42**	P	**P**	**21 13 30.5**	**+0.1**
	1.7nm,0.7s,mb3.8,baz=225,slow=10,SNR=3.3						
PV01	**Paradox Valley**	**81.86**	**47**	P	**P**	**21 14 05.8**	**+0.3**
ANMO	**Albuquerque**	**81.94**	**50**	P	**P**	**21 14 06.4**	**+0.4**
	1.7nm,0.6s,mb3.8,baz=235,slow=4.7,SNR=3.5						
COLA	**College**	**83.20**	**11**	P	**P**	**21 14 11.5**	**-1.0**
	6.8nm,0.9s,mb4.4						
PDAR	**Pinedale Array**	**83.39**	**42**	P	**P**	**21 14 13.2**	**-0.2**
	2.1nm,0.7s,mb4.0,baz=215,slow=2.5,SNR=18						
MAW	**Mawson**	**86.86**	**199**	P	**P**	**21 14 30.5**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=162,slow=7.5,SNR=4.3						
KMBO	**Kilima Mbogo**	**144.41**	**244**	PKP	PKPdf	21 21 22.1	+0.6
	1.2nm,0.5s,baz=54,slow=5.4,SNR=6.2						
BRTR	**Keskin Array B**	**146.09**	**320**	PKPbc	PKPbc	21 21 25.4	-0.1
	1.0nm,0.6s,baz=109,slow=2.5,SNR=6.4						

*NEIC **26** 21:32:36.4, 1972N×6392W, h25km, MD3.8(RSPR), After RSPR.*

RSPR 26 21:32:36.4, 1972N×6392W, h25km±23km, MD3.8/7, MD3.8/7, 9C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**2.23**	**224**	↑*e*P	Pn	21 33 09.7	-2.1
MTP				*e*S	Sn	21 33 36.1	-2.4
CBYP	**Canovanas**	**2.33**	**232**	↑*e*P	Pn	21 33 11.9	-1.2
CBYP				*e*S	Sn	21 33 39.0	-1.9
HUMP	**Col San Antoni**	**2.41**	**230**	↑*e*P	Pn	21 33 12.4	-1.7
HUMP				*e*S	Sn	21 33 40.3	-2.5
CPD	**Cerro la Pandu**	**2.52**	**229**	↑*e*P	Pn	21 33 14.2	-1.5
SJG	**San Juan**	**2.65**	**233**	*e*Pn	Pn	21 33 15.2	-2.3
CELP	**Cerrillos**	**3.00**	**237**	↑*e*P	Pn	21 33 20.5	-1.8
CELP				*e*S	Sn	21 33 55.4	-2.1
AOPR	**Arecibo Observ**	**3.01**	**244**	↑*e*P	Pn	21 33 20.7	-1.7
AOPR				*e*S	Sn	21 33 55.8	-1.9
OBIP	**Obispado Ponce**	**3.04**	**237**	↑*e*P	Pn	21 33 21.2	-1.7
OBIP				*e*S	Sn	21 33 56.7	-1.8
ICM	**Isla Caja Muer**	**3.06**	**234**	↑*e*P	Pn	21 33 21.8	-1.3
LSP	**Las Mesas**	**3.37**	**243**	↓*e*P	Pn	21 33 26.4	-0.9
LSP				*e*S	Sn	21 34 04.4	-2.0
CRPR	**Cabo Rojo, PR**	**3.47**	**241**	↑*e*P	Pn	21 33 27.2	-1.5
CRPR				*e*S	Sn	21 34 08.0	-0.9

*ISCJB **26** 21:39:40.3±0.9, 3586N±006×3097E±006, h10km, Error ellipse: s-maj=9.5km s-min=5.3km az=57.0*

*CSEM **26** 21:39:40.3±0.2, 3591N×3096E, h10km, MD3.5, Error ellipse: s-maj=5.3km s-min=3.0km az=28.0*

*ISK **26** 21:39:42.3, 3589N×3102E, h35km, MD3.5*

ISC 26 21:39:40.1±1.9, 3585N±007×3097E±006, h3km±13km, n13, σ0§62/17, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANTB	**Antalya**	**1.08**	**346**	PG	**Pg**	**21 40 00.5**	**-0.2**
ANTB				SG	**Sg**	**21 40 15.2**	**+0.5**
ELL	**Elmali**	**1.24**	**316**	PN	**Pn**	**21 40 04.8**	**+0.5**
HDMB	**Hadim**	**1.65**	**47**	PN	**Pn**	**21 40 08.0**	**-1.9**
ERMK	**Ermenek**	**1.75**	**63**	*i* P	**Pn**	**21 40 11.9**	**+0.5**
ERMK				*i* S	**Sn**	**21 40 34.6**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.10**	**297**	PN	**Pn**	**21 40 16.0**	**-0.1**
CSS	**Prodhromos**	**2.12**	**114**	PN	**Pn**	**21 40 16.5**	**+0.1**
IKL	**Isikli**	**2.23**	**79**	PN	**Pn**	**21 40 17.1**	**-0.8**
TKTP	**Tekketepe**	**2.25**	**347**	*i* P	**Pb**	**21 40 20.6**	**-0.7**
TKTP				*i* S	**Sb**	**21 40 49.4**	**-0.1**
KONT	**Konya--Tatoy**	**2.37**	**28**	PN	**Pn**	**21 40 19.9**	**+0.1**
MEST	**Erdemli**	**2.67**	**73**	*i* P	**Pn**	**21 40 24.4**	**+0.5**
MEST				*i* S	**Sn**	**21 40 56.5**	**-0.2**
BODT	**Bodrum**	**3.19**	**293**	*e*PN	**Pn**	**21 40 31.2**	**+0.1**
KARA	**Karaisali**	**3.57**	**66**	*e*PN	**Pn**	**21 40 36.9**	**+0.5**
KOZT	**Kozan**	**4.23**	**66**	*e*PN	**Pn**	**21 40 46.1**	**+0.7**

*CSEM **26** 22:08:28.9, 67.19N×2067E, h0km, ML2.8, Mining explosion. After UPP*

*UPP **26** 22:08:28.9, 67.19N×2067E, h0km, ML2.8, Mining explosion.*

HEL 26 22:08:29.4±0.0, 6719N×2067E, h0km, ML2.8(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.08**	**213**	*i* P	Pg	22 08 30.8	-0.1
MASU	**Masugnsbyn**	**0.58**	**61**	*i* P	Pg	22 08 39.9	-0.7
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	22 08 43.4	-1.0
SALU	**Saltoluokta**	**0.86**	**284**	*i* P	Pg	22 08 45.2	-0.8
SALU	**Saltoluokta**	**0.86**	**284**	P	Pg	22 08 45.2	-0.8
	baz=107						
ERTU	**Ertsjaerv**	**0.87**	**136**	*i* P	Pg	22 08 45.8	-0.4
NIKU	**Nikkaluokta**	**0.93**	**318**	*e*P	Pg	22 08 46.2	-1.0
PAJU	**Pajala**	**0.97**	**98**	*e*P	Pg	22 08 46.7	-1.3
LANU	**Lannavaara**	**1.00**	**29**	*e*P	Pg	22 08 47.4	-1.3
HARU	**Harads**	**1.03**	**173**	P	Pg	22 08 47.8	-1.4
SJUU	**Sjulsmark**	**1.73**	**167**	*e*P	Pn	22 08 59.9	-0.7
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*P	Pn	22 09 02.2	+0.2
KIF				*e*S	Sn	22 09 26.1	+0.2

*NEIC **26** 22:13:30.7, 1552N×6076W, h30km, MD2.8(FDF), After FDF.*

TRN 26 22:13:29.1, 1548N×6086W, h52km, MD3.6, M3.1(FDF), **M2.5**(FDF), **3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGG	**Marie-Galante**	**0.62**	**315**	*e*P	Pn	22 13 43.9	+1.9
FDF	**Fort de France**	**0.79**	**201**	↓*i*P	Pn	22 13 45.5	+1.4
FDF				*e*S	Sn	22 13 57.5	+2.4
DEG	**La Desirade**	**0.86**	**347**	*e*P	Pn	22 13 46.2	+1.2
DEG				*e*S	Sn	22 13 59.0	+2.4
MVM	**Montagne Vaucl**	**0.92**	**182**	↓*e*P	Pn	22 13 47.0	+1.2
MVM				*e*S	Sn	22 14 00.6	+2.6
DOG	**Dongo Capester**	**0.92**	**307**	*e*P	Pn	22 13 47.4	+1.5
PHG	**Guadaloupe-2**	**0.93**	**305**	*e*P	Pn	22 13 47.6	+1.6
BCG	**Bois Riant Cap**	**0.95**	**310**	↓*e*P	Pn	22 13 47.8	+1.6
SCG	**Saint Claude**	**0.97**	**305**	*e*P	Pn	22 13 47.6	+1.2
LZG	**Guadaloupe-1**	**1.10**	**307**	*e*P	Pn	22 13 50.1	+1.8
BPA	**Boggy Peak**	**1.83**	**329**

MAT					S		**Sn**	**22 53 48.4**	**-2.0**
MJAR	**Matsushiro Arr**	**6.01**	**58**		P		**Pn**	**22 52 45.1**	**+2.1**
	3.5nm,0.3s,baz=243,slow=14,SNR=32								
MJAR					S		**Sn**	**22 53 51.5**	**+1.1**
	1.5nm,0.3s,baz=245,slow=30,SNR=5.0								
JHJ	**Hachijo jima 2**	**6.62**	**91**		P		**Pn**	**22 52 51.0**	**-0.4**
	38nm,0.3s,baz=218,slow=19,SNR=3.5								
JOW	**Kunigami**	**7.34**	**206**		P		**Pn**	**22 53 02.2**	**+1.0**
	0.9nm,0.3s,baz=348,slow=14,SNR=3.4								
JOW					S		**Sn**	**22 54 19.4**	**-3.6**
	1.2nm,0.3s,baz=108,slow=20,SNR=4.9								
MDJ	**Mudanjiang**	**11.24**	**352**		P		**Pn**	**22 53 54.8**	**+0.4**
MDJ					AMB	AMB			
	comp=Z,4.0nm,0.5s								
MDJ					AMB	AMB			
	comp=Z,146nm,5.5s								
MDJ	**Mudanjiang**	**11.24**	**352**	*e*Pn			**Pn**	**22 53 54.7**	**+0.3**
TATO	**Taipei**	**12.43**	**230**	*e*Pn			**Pn**	**22 54 12.8**	**+2.2**
BJT	**Baijiatuan**	**14.17**	**302**	*e*P			**Pn**	**22 54 41.8**	**+8.0**
BJT					pmax	pmax			
	comp=Z,6.0nm,0.6s								
BJT	**Baijiatuan**	**14.17**	**302**	*e*Pn			**Pn**	**22 54 41.8**	**+7.9**
	comp=Z,5.6nm,0.6s								
BJI	**Beijing**	**14.17**	**302**		P		**Pn**	**22 54 41.8**	**+7.9**
KLR	**Kul'dur**	**15.71**	**360**	*e*P			**Pn**	**22 54 55.2**	**+1.5**
HHC	**Hu-ho-hao-te**	**17.75**	**300**	*e*P			**Pn**	**22 55 19.3**	**+0.3**
HHC					AP	pP		22 55 34.8	+1.4
HHC					PP			22 55 37.3	
HHC					XP	sP		22 55 48.5	+6.1
HHC					S	**S**		**22 58 29.5**	**-10**
HHC					XS	sS		22 58 53.3	-10
HHC					SS			22 58 55.8	
HHC					PCP	PcP		22 59 54.5	+1.5
HHC					SCS	ScS		23 06 58.5	-3.7
HHC					AMB	AMB			
	comp=Z,6.0nm,0.3s								
HHC					AMB	AMB			
	comp=Z,76nm,4.0s								
HHC					LR	LR			
	comp=N,140nm,5.9s								
HHC					LR	LR			
	comp=E,167nm,5.5s								
HHC					LR	LR			
	comp=Z,102nm,6.7s								
HIA	**Hailar**	**18.16**	**334**		P		**Pn**	**22 55 23.9**	**0.0**
GUMO	**Guam**	**23.08**	**146**		P		**P**	**22 56 18.4**	**+2.1**
LZH	**Lanzhou**	**23.14**	**284**	*e*P			**P**	**22 56 16.5**	**-0.3**
LZH					AP			22 56 38.5	
LZH					XP	sP		22 56 49.5	+8.6
LZH					AMB	AMB			
	comp=Z,32nm,1.0s,mb4.6								
LZH	**Lanzhou**	**23.14**	**284**	*e*P			**P**	**22 56 16.5**	**-0.3**
LZH					pP			22 56 38.5	
LZH					sP	sP		22 56 49.5	+8.6
CD2	**Chengdu**	**23.91**	**272**	*e*P			**P**	**22 56 22.5**	**-1.4**
CD2					AP			22 56 43.8	
CD2					XP	sP		22 56 55.5	+6.6
CD2					PP			22 57 00.5	
CD2					S	**S**		**23 00 28.0**	**-7.1**
CD2					XS	sS		23 01 04.5	+0.8
CD2					SS			23 01 25.5	
CD2					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.3								
CD2					AMB	AMB			
	comp=Z,30nm,4.2s								
SONM	**Songino Array**	**23.92**	**314**		P		**P**	**22 56 24.2**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.0,baz=132,slow=9.8,SNR=38								
KMI	**Kunming**	**26.68**	**259**		P		**P**	**22 56 50.0**	**+1.0**
KMI					AP	pP		22 57 13.0	+7.2
KMI					AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.0								
KMI	**Kunming**	**26.68**	**259**		P		**P**	**22 56 49.9**	**+0.9**
KMI					pP	pP		22 57 13.1	+7.3
MA2	**Magadan**	**28.92**	**20**		P		**P**	**22 57 08.5**	**-0.5**
WMQ	**Urumqi**	**35.64**	**300**	*e*P			**P**	**22 58 08.3**	**+0.6**
WMQ					AP	pP		22 58 31.0	+6.2
WMQ					XP	sP		22 58 42.5	+9.4
WMQ					PP	PP		22 59 31.0	+1.2
WMQ					XS	sS		23 04 14.0	+5.9
WMQ					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
WMQ					AMB	AMB			
	comp=Z,102nm,3.9s								
WMQ					LR	LR			
	comp=N,106nm,20.1s								
WMQ					LR	LR			
	comp=E,95nm,18.4s								
WMQ					LR	LR			
	comp=Z,78nm,17.5s								
MKAR	**Makanchi Array**	**39.53**	**305**		P		**P**	**22 58 39.3**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=91,slow=9.4,SNR=9.7								
BRVK	**Borovoye**	**47.32**	**314**	*e*P			**P**	**22 59 42.4**	**-0.8**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.1								
BRVK	**Borovoye**	**47.32**	**314**	*e*P			**P**	**22 59 42.4**	**-0.8**
	comp=Z,2.4nm,0.5s,mb4.2								
ZRNK	**Zerenda**	**48.10**	**314**	*e*P			**P**	**22 59 47.9**	**-1.3**
ZRNK					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5								
ZRNK	**Zerenda**	**48.10**	**314**	*e*P			**P**	**22 59 47.9**	**-1.3**
	comp=Z,5.6nm,0.8s,mb4.5								
WRAB	**Tennant Creek**	**53.19**	**177**	*e*P			**P**	**23 00 28.5**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.8								
WB2	**Warramunga Arr**	**53.20**	**177**	*e*P			**P**	**23 00 28.8**	**+1.2**
WRA	**Warramunga Arr**	**53.20**	**177**		P		**P**	**23 00 27.0**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=353,slow=8.1,SNR=10								
ASAR	**Alice Springs**	**56.88**	**178**		P		**P**	**23 00 54.9**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=10,slow=13,SNR=7.8								
ARCES	**ARCESS Array B**	**64.44**	**338**		P		**P**	**23 01 44.2**	**-1.4**
	comp=Z,3.6nm,0.8s,mb4.3,baz=51,slow=9.6,SNR=7.2								
STKA	**Stephens Creek**	**65.67**	**171**	*e*P			**P**	**23 01 53.8**	**+0.3**
FINES	**FINESS Array B**	**68.14**	**330**		P		**P**	**23 02 07.1**	**-2.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=90,slow=5.7,SNR=6.5								
NB2	**NORSAR Subarra**	**74.19**	**334**		P		**P**	**23 02 43.4**	**-2.3**
	comp=Z,0.1nm,0.5s,mb2.8,baz=53,slow=6.2								
NOA	**NORSAR Array B**	**74.19**	**334**		P		**P**	**23 02 43.4**	**-2.4**
	comp=Z,0.4nm,0.6s,mb3.3,baz=49,slow=5.8,SNR=3.8								
BRTR	**Keskin Array B**	**75.09**	**308**		P		**P**	**23 02 49.4**	**-1.5**
	comp=Z,0.6nm,0.8s,mb3.4,baz=74,slow=6.6,SNR=4.0								
ABMS	**Boumerdes**	**95.14**	**321**		P		**P**	**23 04 37.4**	**+5.3**

IDC 26 23:00:05.4±53.0, **1563S**×**17183W, h0**km, **mb4.4**/3, **mb1 4.6**/3, **mb1mx4.0**/14, **mbtmp4.4**/3, **Error ellipse: s-maj=1043.0km s-min=177.9km az=79.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
STKA	**Stephens Creek**	**45.24**	**240**	P		P	23 08 24.9		+0.5
	1.8nm,0.4s,baz=105,slow=9.3,SNR=7.5								
WB2	**Warramunga Arr**	**51.25**	**257**	*e*P		P	23 09 11.1		+0.2
WRA	**Warramunga Arr**	**51.27**	**257**	P		P	23 09 11.2		+0.2
	1.0nm,0.5s,baz=95,slow=7.0,SNR=25								
ASAR	**Alice Springs**	**51.48**	**252**	P		P	23 09 13.1		+0.5
	8.7nm,0.6s,baz=88,slow=8.4,SNR=112								
ASPA	**Alice Springs**	**51.48**	**252**	*e*P		P	23 09 13.0		+0.4

CSEM ***26*** *23:22:21.1, 6785N×2019E, h0km, ML3.0, Mining explosion. After UPP*
UPP ***26*** *23:22:21.1, 6785N×2019E, h0km, ML3.0, Mining explosion.*

HEL 26 23:22:21.7±0.1, **6785N**×**2020E, h0**km, **ML2.0, ML3.0**(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KUA	**Kurravaara**	**0.11**	**27**	*i* P		Pg	23 22 23.7		-0.2
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P		Pg	23 22 29.6		-0.6
LANU	**Lannavaara**	**0.70**	**73**	*i* P		Pg	23 22 34.5		-0.7
DUNU	**Dundret**	**0.75**	**169**	*i* P		Pg	23 22 35.0		-1.1
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P		Pg	23 22 36.1		-0.8
SALU	**Saltoluokta**	**0.80**	**234**	*i* P		Pg	23 22 36.1		-1.0
SALU	**Saltoluokta**	**0.80**	**234**	P		Pg	23 22 36.1		-1.0
	baz=52								
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	23 22 43.7		-0.5
KIF				*e*S		Sg	23 22 59.4		-0.1
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pn	23 22 46.6		-1.9
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*P		Pn	23 22 49.7		-0.4
HARU	**Harads**	**1.73**	**169**	P		Pn	23 22 52.4		-0.6
	baz=344								
KALU	**Kalix**	**2.36**	**147**	P		Pn	23 23 02.1		+0.4
SJUU	**Sjulsmark**	**2.42**	**166**	*e*P		Pn	23 23 02.8		+0.3
SGF	**Sodankyl**	**2.45**	**97**	*e*P		Pn	23 23 03.1		+0.1
SGF				*e*SB		Sb	23 23 34.8		-2.6
SGF				MSG			23 23 39.7		
	comp=Z,6.2nm,0.3s								
LILU	**Lilltraesk**	**2.58**	**183**	*e*P		Pn	23 23 05.1		+0.4
KEV	**Kevo**	**3.12**	**49**	*e*S		Sn	23 23 48.6		-1.6
KEV				*e*SB		Sb	23 23 54.4		-2.4
OUL	**Oulu**	**3.60**	**138**	*e*SG		Sg	23 24 10.5		-6.8
OUL				MSG			23 24 17.8		
	comp=Z,3.1nm,0.3s								
VAF	**Ylistaro**	**4.94**	**167**	*e*S		Sn	23 24 32.4		-2.6
VAF				*e*SG		Sg	23 24 52.3		-8.1
VAF				MSG			23 25 03.7		
	comp=Z,2.1nm,0.4s								

NEIC ***26*** *23:37:41.2, 4134S×17256E, h193km, MG4.1(WEL), After WEL.*

WEL 26 23:37:41.6±0.3, **4136S**×**17257E, h189**km±2km, **ML4.2**/16, **10C, Error ellipse: s-maj=1.9km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
THZ	**Tophouse**	**0.48**	**148**	P		Pn	23 38 07.6		+0.2
THZ				S		Sn	23 38 27.1		-0.1
THZ	**Tophouse**	**0.48**	**148**	⇑PN		Pn	23 38 07.6		+0.2
THZ				SN		Sn	23 38 27.1		-0.1
QRZ	**Quartz Range**	**0.53**	**357**	P		Pn	23 38 07.4		-0.2
QRZ				S		Sn	23 38 26.6		-1.0
QRZ	**Quartz Range**	**0.53**	**357**	⇑PN		Pn	23 38 07.4		-0.2
QRZ				SN		Sn	23 38 26.6		-1.0
NNZ	**Nelson**	**0.63**	**77**	P		Pn	23 38 07.8		-0.2
NNZ				S		Sn	23 38 28.0		-0.4
NNZ	**Nelson**	**0.63**	**77**	⇑PN		Pn	23 38 07.8		-0.2
NNZ				*e*SN		Sn	23 38 28.0		-0.5
DSZ	**Denniston Nort**	**0.69**	**236**	P		Pn	23 38 08.0		-0.3
DSZ	**Denniston Nort**	**0.69**	**236**	⇑PN		Pn	23 38 08.0		-0.4
TUWZ	**Tuamarina**	**1.04**	**94**	PN		Pn	23 38 10.6		0.0
TUWZ				*e*SN		Sn	23 38 32.3		-0.6
BSWZ	**Blackbirch Sta**	**1.05**	**110**	P		Pn	23 38 10.7		+0.1
BSWZ	**Blackbirch Sta**	**1.05**	**110**	PN		Pn	23 38 10.7		+0.1
DUWZ	**D'Urville Isla**	**1.17**	**62**	PN		Pn	23 38 11.4		-0.1
KHZ	**Kahutara**	**1.28**	**146**	P		Pn	23 38 12.6		+0.2
KHZ	**Kahutara**	**1.28**	**146**	⇑PN		Pn	23 38 12.6		+0.1
KHZ				SN		Sn	23 38 35.8		-0.5
TCW	**Tory Channel**	**1.30**	**84**	P		Pn	23 38 12.6		0.0
TCW				S		Sn	23 38 35.6		-0.9
TCW	**Tory Channel**	**1.30**	**84**	⇑PN		Pn	23 38 12.5		0.0
TCW				SN		Sn	23 38 35.6		-0.9
LTZ	**Lake Taylor**	**1.44**	**189**	P		Pn	23 38 13.7		-0.1
LTZ	**Lake Taylor**	**1.44**	**189**	⇑PN		Pn	23 38 13.7		-0.1
LTZ				SN		Sn	23 38 36.7		-2.0
SNZO	**South Karori**	**1.61**	**89**	P		Pn	23 38 15.0		-0.4
SNZO	**South Karori**	**1.61**	**89**	⇑PN		Pn	23 38 15.0		-0.4
MRW	**Makara Radio**	**1.61**	**86**	P		Pn	23 38 15.1		-0.3
MRW	**Makara Radio**	**1.61**	**86**	PN		Pn	23 38 15.1		-0.4
MRW				SN		Sn	23 38 40.4		-1.2
WEL	**Wellington**	**1.66**	**88**	P		Pn	23 38 15.5		-0.4
WEL	**Wellington**	**1.66**	**88**	PN		Pn	23 38 15.5		-0.3
BHW	**Baring Head**	**1.74**	**92**	P		Pn	23 38 16.2		-0.4
BHW	**Baring Head**	**1.74**	**92**	⇑PN		Pn	23 38 16.2		-0.4
KIW	**Kapiti Island**	**1.84**	**75**	P		Pn	23 38 17.3		-0.4
KIW	**Kapiti Island**	**1.84**	**75**	⇑PN		Pn	23 38 17.3		-0.3
CAW	**Cannon Point**	**1.90**	**83**	P		Pn	23 38 17.9		-0.4
CAW	**Cannon Point**	**1.90**	**83**	PN		Pn	23 38 17.8		-0.5
MSWZ	**Moikau Station**	**2.02**	**92**	P		Pn	23 38 19.2		-0.3
MSWZ	**Moikau Station**	**2.02**	**92**	PN		Pn	23 38 19.1		-0.4
PAWZ	**Paruwai Farm**	**2.15**	**92**	P		Pn	23 38 20.5		-0.5
PAWZ	**Paruwai Farm**	**2.15**	**92**	PN		Pn	23 38 20.5		-0.4
WVZ	**Waitaha Valley**	**2.19**	**218**	PN		Pn	23 38 20.1		-1.2
MTW	**Mount Morrison**	**2.22**	**86**	P		Pn	23 38 21.3		-0.4
MTW	**Mount Morrison**	**2.22**	**86**	PN		Pn	23 38 21.2		-0.5
NRZ	**Ngariki Road**	**2.27**	**28**	P		Pn	23 38 21.6		-0.7
NRZ	**Ngariki Road**	**2.27**	**28**	PN		Pn	23 38 21.8		-0.5
NWEZ	**Newall Road**	**2.31**	**26**	P		Pn	23 38 22.1		-0.6
NWEZ	**Newall Road**	**2.31**	**26**	PN		Pn	23 38 22.1		-0.6
MQZ	**McQueen's Vall**	**2.35**	**178**	P		Pn	23 38 21.8		-1.3
MQZ	**McQueen's Vall**	**2.35**	**178**	PN		Pn	23 38 21.8		-1.3
TRWZ	**Traveller**	**2.35**	**92**	PN		Pn	23 38 22.9		-0.2
MRZ	**Mangatainoka R**	**2.38**	**74**	P		Pn	23 38 22.7		-0.8
MRZ	**Mangatainoka R**	**2.38**	**74**	PN		Pn	23 38 22.7		-0.8
MRZ				SN		Sn	23 38 54.4		-1.7
NEZ	**North Egmont**	**2.39**	**30**	P		Pn	23 38 22.6		-1.0
NEZ	**North Egmont**	**2.39**	**30**	PN		Pn	23 38 22.5		-1.1
PKE	**Pukeiti**	**2.42**	**27**	P		Pn	23 38 23.1		-0.8
WAZ	**Wanganui**	**2.44**	**50**	P		Pn	23 38 23.8		-0.4
RAEZ	**Rainy Point**	**2.50**	**35**	P		Pn	23 38 23.2		-1.6
RPZ	**Rata Peaks**	**2.61**	**205**	P		Pn	23 38 25.0		-1.0
VRZ	**Vera Road**	**2.79**	**38**	*e*P		Pn	23 38 26.5		-1.7
BFZ	**Birch Farm**	**2.87**	**78**	P		Pn	23 38 28.6		-0.5
FOZ	**Fox Glacier**	**3.06**	**223**	P		Pn	23 38 28.4		-3.0
WNWZ	**Wahianoa**	**3.08**	**50**	P		Pn	23 38 30.3		-1.3
MOVZ	**Moawhango**	**3.12**	**52**	P		Pn	23 38 30.4		-1.7
WTVZ	**West Tongariro**	**3.22**	**47**	P		Pn	23 38 31.4		-2.0
HIZ	**Hauiti**	**3.34**	**33**	*e*P		Pn	23 38 32.6		-2.2
LBZ	**Lake Benmore**	**3.50**	**209**	*e*P		Pn	23 38 35.1		-1.6
BKZ	**Black Stump Fm**	**3.72**	**55**	P		Pn	23 38 37.3		-2.2
JCZ	**Jackson Bay**	**3.90**	**225**	P		Pn	23 38 39.5		-2.3
ODZ	**Otahua Downs**	**3.94**	**200**	*e*P		Pn	23 38 40.6		-1.7
WKZ	**Wanaka**	**4.33**	**216**	P		Pn	23 38 44.6		-2.6
EAZ	**Earnscleugh**	**4.54**	**210**	*e*P		Pn	23 38 47.1		-2.8
URZ	**Urewera**	**4.67**	**50**	*e*P		Pn	23 38 47.9		-3.6
TUZ	**Tuapeka**	**5.06**	**204**	*e*P		Pn	23 38 54.0		-2.5
MLZ	**Mavora Lakes**	**5.11**	**217**	*e*P		Pn	23 38 55.2		-2.0
WHZ	**Wether Hill Ro**	**5.64**	**215**	*e*P		Pn	23 39 00.8		-3.2
DCZ	**Deep Cove**	**5.70**	**222**	*e*P		Pn	23 39 01.2		-3.6

ISCJB ***26*** *23:42:02.9±0.6, 3622N±004×695E±0.1, h162km±14km, mb3.8/3, Error ellipse: s-maj=14.9km s-min=5.8km az=17.6*
NEIC ***26*** *23:42:07.8±2.1, 3657N×6938E, h167km±22km, mb4.0/4, Error ellipse: s-maj=18.4km s-min=11.9km az=188.0*
NNC ***26*** *23:42:08.6±3.4, 3671N×6920E, h146km±38km, mb3.0, mpv3.3, Error ellipse: s-maj=26.3km s-min=19.3km az=28.0*
MOS ***26*** *23:42:08.5±1.1, 3662N×6939E, h188km, mb3.8/1, Error ellipse: s-maj=18.7km s-min=10.6km az=94.5*
IDC ***26*** *23:42:11.4±6.6, 3662N×6949E, h210km±52km, mb3.5/4, mb1 3.5/8, mb1mx3.1/25, mbtmp4.1/8, Error ellipse: s-maj=100.2km s-min=21.8km az=158.0*

ISC 26 23:42:03.7±0.6, **3623N**±004×**694E**±0.1, **h153**km±14km, **n51,** σ**098**/59, **mb3.8**/3, **9C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CEP	**Cherat**	**3.15**	**139**	⇑P		Pn	**23 42 53.6**		**+0.6**
CEP				S		Sn	**23 43 32.0**		**+0.9**
THW	**Thamme Wali**	**3.92**	**150**	⇑P		Pn	**23 43 02.8**		**-0.2**
THW				S		Sn	**23 43 46.0**		**-3.1**
CHCP	**Chirah Chowk**	**4.06**	**128**	⇑P		Pn	**23 43 05.6**		**+0.8**
SBDP	**Sheikh Budin**	**4.08**	**163**	⇑P		Pn	**23 43 04.8**		**-0.3**
DRP	**Derazinda**	**4.52**	**172**	⇑P		Pn	**23 43 11.4**		**+0.6**
SARP	**Sargodha**	**5.07**	**147**	P		Pn	**23 43 17.1**		**-0.9**
SARP				S		Sn	**23 44 13.0**		**-3.1**
THN	**Thein Dam**	**6.43**	**124**	*e*PG		Pn	**23 43 37.0**		**+0.9**
THN				*ex*		x	23 44 48.3		
AML	**Almayashu**	**6.76**	**28**	P		Pn	**23 43 40.8**		**+0.4**
	SNR=38								
KK31	**Karatay Array**	**6.91**	**7**	Pn		Pn	**23 43 41.6**		**-0.9**
	1.1nm,0.2s,baz=18,slow=11,SNR=74								
KK31				⇓Sn		Sn	**23 44 55.6**		**-4.4**
	32nm,0.7s,baz=183,slow=15,SNR=22								
UCH	**Uchtor**	**7.17**	**32**	P		Pn	**23 43 46.7**		**+0.8**
	SNR=40								
EKS2	**Erkin-Say**	**7.25**	**26**	P		Pn	**23 43 47.4**		**+0.4**
	SNR=16								
AAK	**Ala-Archa**	**7.50**	**30**	P		Pn	**23 43 51.5**		**+1.2**
	SNR=9.9								
AAK	**Ala-Archa**	**7.50**	**30**	*e*PN		Pn	**23 43 49.8**		**-0.5**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.4s								
AAK	**Ala-Archa**	**7.50**	**30**	*e*Pn		Pn	**23 43 49.8**		**-0.5**
	comp=Z,6.0nm,0.4s								
AAK				*e*S		Sn	**23 45 05.4**		**-8.7**
KBK	**Karagaybulak**	**7.70**	**32**	P		Pn	**23 43 54.3**		**+1.2**
	SNR=13								
SDNR	**Sundarnagar**	**7.84**	**125**	*e*SG		Sn	**23 45 15.8**		**-6.6**
CHMS	**Chumysh**	**7.90**	**30**	P		Pn	**23 43 55.7**		**0.0**
	SNR=9.4								
ULHL	**Ulahol**	**8.00**	**39**	P		Pn	**23 43 57.4**		**+0.5**
	SNR=7.6								
USP	**Ospenovka**	**8.04**	**27**	P		Pn	**23 43 57.2**		**-0.3**
	SNR=14								
TKM2	**Tokmak 2**	**8.20**	**34**	⇓Pn		Pn	**23 43 59.8**		**+0.1**
	comp=Z,0.9nm,0.8s								
TKM2				⇑Sn		Sn	**23 45 29.4**		**-1.5**
	comp=Z,2.9nm,1.1s								
KLP	**Kalpa**	**8.70**	**120**	*ex*		x	23 43 52.4		
KLP				*e*SG		Sn	**23 45 35.9**		**-7.1**
KLP				AML		AML	23 45 46.8		
	comp=N,74nm,1.3s								
KLP				AML		AML	23 45 49.2		
	comp=E,54nm,0.7s								
KHET	**Khetri**	**9.76**	**145**	*e*SG		Sn	**23 46 00.2**		**-8.3**
BHGR	**Bahadurgarh**	**9.84**	**138**	*ex*		x	23 44 51.7		
NDI	**New Delhi**	**9.99**	**137**	*e*S		Sn	**23 46 03.0**		**-11**
JOSI	**Joshimath**	**10.18**	**121**	*ex*		x	23 43 41.5		
JOSI				*ex*		x	23 45 50.8		
JOSI				AML		AML	23 45 54.8		
	comp=N,91nm,0.6s								
JOSI				AML		AML	23 45 57.3		
	comp=E,86nm,0.6s								
SONA	**Sohna**	**10.26**	**139**	*e*SG		Sn	**23 46 12.0**		**-8.5**
MK03	**Makanchi Array**	**14.25**	**38**	⇑P		Pn	**23 45 21.6**		**+3.0**
	comp=E,2.5nm,1.0s								
MKAR	**Makanchi Array**	**14.27**	**38**	P		Pn	**23 45 19.2**		**+0.4**
	comp=E,0.1nm,0.3s,baz=227,slow=9.8,SNR=12								
AB31	**Akbulak array**	**14.75**	**335**	P		Pn	**23 45 22.8**		**-1.9**
	comp=E,1.0nm,0.6s,baz=147,slow=12,SNR=20								
AB31				⇓S		Sn	**23 47 59.1**		**-9.4**
	comp=E,1.2nm,0.6s,baz=151,slow=23,SNR=4.2								
AKTK	**Aktyubinsk**	**16.42**	**333**	P		Pn	**23 45 44.9**		**-0.4**
AKTO	**Aktyubinsk**	**16.42**	**333**	⇑P		Pn	**23 45 45.2**		**-0.1**
AKTO	**Aktyubinsk**	**16.42**	**333**	P		Pn	**23 45 44.9**		**-0.4**
	comp=E,0.9nm,0.3s,baz=144,slow=12,SNR=15								
VOSK	**Vostochnaya**	**16.52**	**3**	⇓P		Pn	**23 45 46.9**		**+0.3**
	comp=E,1.5nm,0.7s								
ZRNK	**Zerenda**	**16.72**	**359**	⇓P		Pn	**23 45 49.1**		**+0.2**
	comp=E,0.6nm,0.2s								
ZRNK				⇑S		S	**23 48 47.8**		**-7.0**
	comp=E,0.4nm,0.2s								
ZRNK	**Zerenda**	**16.72**	**359**	*e*P		Pn	**23 45 48.6**		**-0.3**
ZRNK				*e*S		S	**23 48 47.1**		**-7.7**
ZRNK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ZRNK	**Zerenda**	**16.72**	**359**	*e*P		Pn	**23 45 48.6**		**-0.4**
	comp=Z,1.6nm,0.6s								
ZRNK				*e*S		S	**23 48 47.1**		**-7.7**
BVAR	**Borovoye Array**	**16.80**	**2**	P		Pn	**23 45 49.5**		**-0.5**
	comp=Z,1.4nm,0.3s,baz=165,slow=8.7,SNR=14								
BRVK	**Borovoye**	**16.84**	**2**	*e*P		Pn	**23 45 50.7**		**+0.4**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.4s								
BRVK	**Borovoye**	**16.84**	**2**	*e*P		Pn	**23 45 50.7**		**+0.3**
	comp=Z,3.0nm,0.4s								
LSA	**Lhasa**	**19.33**	**103**	P		P	**23 46 22.7**		**+5.5**
GNI	**Garni**	**19.78**	**289**	P		P	**23 46 25.2**		**+3.2**
	comp=Z,0.6nm,0.3s,baz=8.1,slow=2.1,SNR=6.3								
GNI	**Garni**	**19.78**	**289**	P		P	**23 46 25.2**		**+3.2**
GNI				pmax		pmax			
	comp=Z,1.0nm,0.3s								
GNI	**Garni**	**19.78**	**289**	*e*P		P	**23 46 25.1**		**+3.1**
	comp=Z,5.9nm,0.9s								
ZAL	**Zalesovo**	**20.68**	**26**	P		P	**23 46 31.4**		**-0.3**
	comp=Z,3.2nm,0.3s,baz=249,slow=5.6,SNR=11								
KIV	**Kislovod

OHR eSg Sg 23 51 53.1 +0.4
OHR Ohrid 1.45 151 *i* Pn Pn 23 51 32.6 -0.4
OHR eSn Sn 23 51 51.7 -0.7
OHR eLg 23 51 53.3
comp=N,8µm,0.7s
OHR eLg 23 51 53.8
comp=E,6µm,0.6s
OHR Ohrid 1.45 151 *i* Pn Pn 23 51 32.6 -0.4
OHR eSn Sn 23 51 51.6 -0.8
OHR eSg Sg 23 51 53.1 +0.5
BARS Barje 1.52 72 *i* Pn Pn 23 51 33.7 -0.3
BARS Sn Sn 23 51 55.0 +0.9
BBLS Bajina Basta - 1.52 348 *i* Pn Pn 23 51 35.1 +1.1
BBLS Sn Sn 23 51 56.6 +2.3
DIVS Divcibare 1.72 3 *i* Pn Pn 23 51 36.5 -0.2
DIVS Sn Sn 23 51 59.4 +0.3
DIVS Divcibare 1.72 3 *e*Pb Pg 23 51 36.0 -3.1
BIA Bitola 1.75 141 *e*Pb Pg 23 51 34.9 -4.7
BIA eSb Sb 23 52 00.9 0.0
BIA Bitola 1.75 141 *i* Pn Pn 23 51 36.3 -0.8
BIA eSn Sn 23 51 59.4 -0.4
BIA eLg 23 52 01.0
comp=N,1µm,0.4s
BIA eLg 23 52 01.6
comp=E,3µm,0.7s
BIA Bitola 1.75 141 *i* Pn Pn 23 51 36.2 -0.9
BIA eSn Sn 23 51 59.3 -0.4
BIA S Sn 23 52 00.9 +1.2
STIP Stip 1.86 111 *e*Pb Pg 23 51 37.3 -4.5
STIP Stip 1.86 111 *e*Pn Pn 23 51 37.7 -1.0
STIP eSn Sn 23 52 03.2 +0.5
STIP eLg 23 52 05.9
comp=N,3µm,0.8s
STIP eLg 23 52 07.7
comp=E,2µm,0.8s
STIP Stip 1.86 111 *e*Pn Pn 23 51 37.6 -1.1
KBN Korca 1.89 158 *i* Pn Pn 23 51 40.5 +1.5
KBN *i* Sn Sn 23 52 08.2 +5.0
FNA Florina 1.96 144 *e*Pb Pg 23 51 39.1 -4.5
SVIS Svilajnac 2.16 27 *i* Pn Pn 23 51 42.6 -1.1
SVIS Sn Sn 23 52 11.1 +1.2
VAY Valandovo 2.28 117 *e*Pn Pn 23 51 44.3 -0.2
VAY eSn Sn 23 52 11.6 -1.4
VAY Valandovo 2.28 117 *e*Pn Pn 23 51 43.2 -1.3
VAY eSn Sn 23 52 12.4 -0.6
VAY eLg 23 52 17.3
comp=N,3µm,0.9s
VAY eLg 23 52 17.4
comp=E,2µm,0.7s
VAY Valandovo 2.28 117 *e*Pn Pn 23 51 43.2 -1.3
VAY eSn Sn 23 52 11.6 -1.4
LSK Leskovik 2.30 166 *i* Pg Pg 23 51 46.8 -3.3
LSK *i* Sn Sg 23 52 24.9 +5.0
GRG Griva 2.38 126 *e*Pn Pn 23 51 45.1 -0.6
GRG eSn Sn 23 52 16.1 +0.8
LCI Lecce 2.43 213 Pn Pn 23 51 45.0 -1.5
KKB Krupnik 2.45 101 *i* P Pn 23 51 48.1 +1.3
BEO Belgrade 2.48 10 *i* Pn Pn 23 51 46.0 -1.2
BEO Sn Sn 23 52 19.8 +2.0
VTS Vitosha 2.48 84 *e*Pn Pn 23 51 46.7 -0.5
VTS eSn Sn 23 52 18.4 +0.4
VTS Vitosha 2.48 84⇑ *i*P Pn 23 51 46.9 -0.4
VTS Vitosha 2.48 84 *i* P Pn 23 51 46.5 -0.8
VTS *i* S Sg 23 52 32.0 +6.1
SRN Sarande 2.50 178 *i* Pn Pn 23 51 47.8 +0.3
SRN *i* Sn Sn 23 52 20.8 +2.5
KZN Kozani 2.52 145 *e*P Pn 23 51 48.0 +0.2
KNT Kendrikon 2.58 117 *e*Pn Pn 23 51 48.0 -0.6
NOCI Noci 2.63 234 Pn Pn 23 51 48.2 -1.1
comp=E,5µm,1.3s
KEK Kerkira 2.66 181 *e*P Pn 23 51 49.0 -0.7
FGSL Fruska Gora 2.78 359 Pn Pn 23 51 50.7 -0.6
MEV Metsovon 2.79 158 *e*Pn Pn 23 51 53.2 +1.7
JAN Janina 2.82 164 *e*P Pn 23 51 53.0 +1.1
AMUR Altamura 2.85 240 Pn Pn 23 51 51.7 -0.6
comp=E,2µm,0.4s
IGT Igoumenitsa 2.87 173 *e*Pn Pn 23 51 52.7 +0.2
IGT eSn Sn 23 52 27.8 +0.3
THE Thessaloniki 2.91 126 *e*Pn Pn 23 51 52.7 -0.5
THE eSn Sn 23 52 29.6 +1.1
DJES Djerdap 2.97 40 *i* Pn Pn 23 51 54.0 +0.1
DJES Djerdap 2.97 40 Pn Pn 23 51 54.0 0.0
FGMS Monte Sant'Ang 2.99 258 Pn Pn 23 51 54.0 -0.2
comp=E,626nm,0.4s
MMB Musomiste 2.99 104 *e*Pn Pn 23 51 54.6 +0.4
MMB eSn Sn 23 52 30.2 -0.2
MMB Musomiste 2.99 104 *i* P Pn 23 51 54.5 +0.3
HORT Hortiatis 3.01 125 *e*Pn Pn 23 51 53.8 -0.7
HORT eSn Sn 23 52 32.2 +1.1
MSAG Monte S. Angel 3.02 259 Pn Pn 23 51 54.3 -0.3
comp=E,2µm,0.7s
LIT Litokhoron 3.02 138 *e*Pn Pn 23 51 54.5 -0.1
LIT eSn Sn 23 52 31.1 -0.1
SOH Sokhos 3.05 120 *e*Pn Pn 23 51 54.2 -0.7
SRS Serrai 3.06 113 *e*Pn Pn 23 51 54.8 -0.4
SRS eSn Sn 23 52 33.4 +1.1
BLY Banja Luka 3.06 322 P Pn 23 51 55.0 -0.2
BLY S Sn 23 52 33.7 +1.4
MIGL Miglionico 3.12 237 Pn Pn 23 51 55.6 -0.4
comp=E,22µm,1.9s
SGRT San Giovanni R 3.13 260 Pn Pn 23 51 55.7 -0.4
comp=E,2µm,0.7s
PGB Panagyurishte 3.19 85 *i* P Pn 23 51 57.8 +0.8
PALZ Palazzo San Ge 3.25 245 Pn Pn 23 51 57.8 0.0
comp=E,481nm,0.9s
RGNG Rignano Grg 3.26 259 Pn Pn 23 51 57.4 -0.5
CRAC Craco 3.27 233 Pn Pn 23 51 58.1 0.0
comp=E,4µm,0.9s
PLG Polygyros 3.36 125 *e*Pn Pn 23 51 59.1 -0.2
PLG eSn Sn 23 52 38.5 -1.1
ORI Oriolo Calabro 3.46 229 Pn Pn 23 52 00.5 -0.2
comp=E,2µm,0.5s
BZS Buzias 3.48 21⇓ *i*P Pn 23 52 00.4 -0.5
BZS Buzias 3.48 21 P Pn 23 52 00.7 -0.2
BZS Buzias 3.48 21 P Pn 23 52 00.7 -0.2
FG4 Candela 3.48 250 Pn Pn 23 52 00.5 -0.4
comp=E,1µm,0.7s
VULT Monte Vulture 3.48 247 Pn Pn 23 52 01.1 +0.1
comp=E,3µm,1.1s
FG2 Serracapriola 3.54 262 Pn Pn 23 52 01.8 0.0
comp=E,3µm,1.4s
SGTA Sant Agata di 3.59 251 Pn Pn 23 52 03.0 +0.6
SCHR S. Chirico Rap 3.59 234 Pn Pn 23 52 02.3 -0.1
comp=E,2µm,1.5s
FG5 Orsara di Pugl 3.60 254 Pn Pn 23 52 02.7 +0.1
comp=E,1µm,0.8s
MRLC Muro Lucano 3.66 245 Pn Pn 23 52 03.1 -0.3
comp=E,1µm,1.0s
GZR Gura Zlata 3.68 34⇑ *i*P Pn 23 52 04.2 +0.6
GZR Gura Zlata 3.68 34 P Pn 23 52 03.8 +0.2
GZR Gura Zlata 3.68 34 P Pn 23 52 03.8 +0.2
RZN Rozhen 3.68 99 *i* P Pn 23 52 05.0 +1.3
RHK3 Tenkes 3.69 342⇓ *e*P Pn 23 52 03.6 -0.3
RHK3 eS Sn 23 52 46.4 -1.4
comp=E,7.6nm,0.4s
OUR Ouranopolis 3.71 122 *e*Pn Pn 23 52 03.9 -0.3
CAFE Carife 3.72 250 Pn Pn 23 52 04.6 +0.4
comp=E,3µm,1.3s
SIRI Monte Sirino - 3.72 235 Pn Pn 23 52 05.3 +1.0
comp=E,636nm,0.4s
MTSN Montesano sull 3.75 237 Pn Pn 23 52 04.1 -0.5
comp=E,912nm,0.7s
SLCN Sala Consilina 3.75 239 Pn Pn 23 52 04.2 -0.5
comp=E,1µm,0.6s
CIGN Sant'Elia a Pi 3.76 261 Pn Pn 23 52 05.6 +0.8
comp=E,787nm,0.9s
EVR Evrytania 3.76 156 *e*P Pn 23 52 07.0 +2.2
SNAL S. Angelo Dei 3.78 249 Pn Pn 23 52 05.0 0.0
comp=E,2µm,1.0s
PAIG Paliouri 3.78 129 *e*Pn Pn 23 52 04.6 -0.5
PAIG eSn Sn 23 52 48.6 -1.4
AGG Agios Georgios 3.84 150 *e*Pn Pn 23 52 05.8 -0.2
AGG eSn Sn 23 52 53.1 +1.6
MCRV Calabrutti - M 3.86 247 Pn Pn 23 52 05.2 -1.0
comp=E,909nm,0.6s
CUC Castrocucco 3.87 233 Pn Pn 23 52 06.3 0.0
comp=E,2µm,0.7s
CDRU Civita di Ruta 3.91 243 Pn Pn 23 52 06.3 -0.6
comp=E,529nm,0.6s
XOR Xorichti 3.93 139 *e*Pn Pn 23 52 06.6 -0.5
PKSM Moragy 3.93 348⇓ *i*P Pn 23 52 06.6 -0.5
PKSM Moragy 3.93 348 P Pn 23 52 06.5 -0.7
PKSM Moragy 3.93 348⇓ *e*Pn Pn 23 52 06.6 -0.5

PSB1 Pescosannita 3.95 255 Pn Pn 23 52 08.2 +0.8
comp=E,2µm,1.6s
TIP Timpagrande 3.97 217 *e*Pn Pn 23 52 06.4 -1.3
TIP eSn Sn 23 52 50.9 -3.7
TIP Timpagrande 3.97 217 *e*Pn Pn 23 52 06.4 -1.3
TIP eSn Sn 23 52 50.9 -3.8
SACR S. Croce Del S 3.97 257 Pn Pn 23 52 08.0 +0.3
comp=E,4µm,2.5s
SISC Sisak 3.99 322 *e*Pn Pn 23 52 10.4 +2.4
SISC Sisak 3.99 322 *e*Pn Pn 23 52 10.3 +2.4
NEO Neokhori 3.99 139 *e*P Pn 23 52 08.5 +0.5
TRIV Triveno 4.00 263 Pn Pn 23 52 09.1 +1.0
comp=E,3µm,1.4s
CMPR Campora 4.00 241 Pn Pn 23 52 07.5 -0.6
comp=E,597nm,0.5s
BSSO Busso 4.01 260 Pn Pn 23 52 08.9 +0.6
comp=E,2µm,1.5s
BULG Bulgheria - Ca 4.09 237 Pn Pn 23 52 08.8 -0.5
comp=E,1µm,0.5s
PVL Pavlikeni 4.11 76 *i* P Pn 23 52 08.2 -1.4
SERS Sersale 4.12 217 Pn Pn 23 52 08.2 -1.5
comp=E,290nm,0.6s
KDZ Kurdzhali 4.20 98 *i* P Pn 23 52 10.0 -0.9
ZIMR 4.23 71 P Pn 23 52 11.6 +0.3
VLS Valsamata 4.23 172 *e*P Pn 23 52 10.0 -1.3
NVLJ Novalja 4.24 303 *i* Pn Pn 23 52 12.4 +1.1
NVLJ *i* Sn Sn 23 53 04.4 +3.2
MIDA Miranda 4.24 262 Pn Pn 23 52 12.1 +0.7
comp=E,1µm,0.9s
RNI2 Rionero Sannit 4.30 263 Pn Pn 23 52 13.2 +0.9
comp=E,1µm,0.7s
VAGA Valle Agricola 4.31 259 Pn Pn 23 52 12.8 +0.5
comp=E,2µm,1.1s
MOCO Biccari - m.te 4.38 259 Pn Pn 23 52 04.1 -9.2
comp=E,2µm,1.0s
GRI Girifalco 4.41 218 Pn Pn 23 52 12.3 -1.5
RDO Rodhopi 4.42 104 *e*P Pn 23 52 14.5 +0.6
CERA Filignano 4.42 262 Pn Pn 23 52 15.7 +1.8
comp=E,2µm,0.7s
AOS Alonnisos 4.42 135 *e*Pn Pn 23 52 13.1 -0.9
INTR Introdacqua 4.44 267 Pn Pn 23 52 13.7 -0.4
comp=E,2µm,0.8s
VCEL Villa Celiera 4.46 272 Pn Pn 23 52 15.6 +1.2
comp=E,2µm,1.2s
PKSN Nyarlorinc 4.52 0⇓ *i*P Pn 23 52 15.0 -0.2
RFI Roccamonfina 4.52 258 Pn Pn 23 52 16.6 +1.4
comp=E,52nm,0.4s
BOJS Bojanci 4.56 315 *i* Pn Pn 23 52 17.8 +2.0
BOJS *i* Sn Sn 23 53 15.2 +5.9
TERO Teramo 4.63 275 Pn Pn 23 52 17.2 +0.4
comp=E,421nm,0.6s
LOS Limnos 4.64 120 *e*Pn Pn 23 52 15.8 -1.0
FAGN Fagnano 4.66 271 Pn Pn 23 52 18.0 +0.9
comp=E,1µm,0.5s
VVLD Villa Vallelon 4.67 266 Pn Pn 23 52 18.1 +0.8
comp=E,945nm,0.6s
PKS7 Kunszentmiklos 4.69 354⇓ *e*P Pn 23 52 17.4 -0.2
PLAC Placanica 4.71 215 Pn Pn 23 52 17.1 -0.8
comp=E,172nm,0.7s
MTUR Matau 4.72 51⇑ *i*P Pn 23 52 19.0 +1.0
AOI Ancona 4.74 286 Pn Pn 23 52 18.9 +0.6
comp=E,556nm,0.8s
AQU L'Aquila 4.79 272⇑ *i*P Pn 23 52 19.5 +0.6
AQU L'Aquila 4.79 272 *e*Pn Pn 23 52 19.6 +0.7
AQU eSn Sn 23 53 17.2 +2.4
AQU L'Aquila 4.79 272 *e*Pn Pn 23 52 19.6 +0.7
AQU eS Sn 23 53 17.2 +2.5
VOIR 4.84 49⇑ *i*P Pn 23 52 20.3 +0.7
DRGR 4.86 24⇑ *i*P Pn 23 52 19.6 -0.3
DRGR 4.86 24 P Pn 23 52 19.3 -0.6
DRGR 4.86 24 P Pn 23 52 19.3 -0.6
ALN Alexandroupoli 4.87 106 *e*Pn Pn 23 52 19.7 -0.2
GUAR Guarcino 4.91 265 Pn Pn 23 52 21.3 +0.7
comp=E,237nm,0.5s
JMB Yambol 4.98 87 *e*Pn Pn 23 52 20.6 -0.9
JMB Yambol 4.98 87 *i* P Pn 23 52 22.0 +0.5
GIUL Giuliano Di Ro 4.99 263 Pn Pn 23 52 22.2 +0.5
FIAM Fiamignano 5.00 271 Pn Pn 23 52 23.1 +1.3
comp=E,608nm,0.7s
LNSS Leonessa 5.05 275 Pn Pn 23 52 23.4 +0.9
comp=E,2µm,0.7s
VENT Ventotene 5.08 254 Pn Pn 23 52 22.2 -0.8
comp=E,389nm,0.9s
MGER Gerania Oros 5.10 148 *e*P Pn 23 52 24.0 +0.8
CEL Celeste 5.11 218 Pn Pn 23 52 22.7 -0.7
comp=E,494nm,1.3s
PKSG 5.12 349⇑ *e*P Pn 23 52 24.0 +0.5
PKSG *e*S Sn 23 53 21.8 -1.2
comp=E,11nm,0.5s
CERT Cerreto 5.13 268 Pn Pn 23 52 24.4 +0.8
comp=E,457nm,0.8s
BUD Budapest 5.14 354⇓ *e*Pn Pn 23 52 23.1 -0.6
BUD eSn Sn 23 53 20.2 -3.2
comp=E,4.4nm,0.6s
EDRB Edirne 5.15 94 *e*PN Pn 23 52 24.5 +0.6
SNTG Esanatoglia 5.17 282 Pn Pn 23 52 24.2 +0.1
comp=E,72nm,0.2s
SOI Samo 5.20 215 Pn Pn 23 52 23.5 -1.0
comp=E,78nm,0.5s
SOI Samo 5.20 215 P Pn 23 52 23.5 -1.0
SOI pmax pmax
comp=Z,78nm,0.5s
ARV Arcevia 5.20 285 Pn Pn 23 52 24.7 +0.1
comp=Z,171nm,0.6s
ATH Athens Observa 5.30 145 *e*P Pn 23 52 27.5 +1.5
PTL Penteli 5.30 143 *e*P Pn 23 52 27.0 +1.0
LJU Ljubljana 5.30 316 *i* Pn Pn 23 52 27.8 +1.8
LJU *i* Sn Sn 23 53 34.1 +6.6
MNS Montasola 5.32 272 Pn Pn 23 52 27.0 +0.8
comp=Z,324nm,0.5s
BOZC Bozcaada 5.32 116 *i* P Pn 23 52 26.3 0.0
RDP Rocca di Papa 5.35 266 Pn Pn 23 52 28.4 +1.7
comp=Z,501nm,0.6s
ASS Assisi 5.36 280 Pn Pn 23 52 27.4 +0.7
comp=Z,15nm,0.4s
ASS Assisi 5.36 280 P Pn 23 52 27.4 +0.7
ASS pmax pmax
comp=Z,15nm,0.4s
FSSB Fossombrone 5.36 287 Pn Pn 23 52 26.9 +0.2
comp=Z,284nm,0.6s
MLR Muntele Rosu 5.38 53 Pn Pn 23 52 28.2 +1.1
comp=E,4.1nm,0.3s,baz=165,slow=12,SNR=28
MLR Muntele Rosu 5.38 53⇑ *i*P Pn 23 52 29.7 +2.6
MLR Muntele Rosu 5.38 53 P Pn 23 52 28.2 +1.1
MLR pmax pmax
comp=Z,4.0nm,0.3s
MLR Muntele Rosu 5.38 53 P Pn 23 52 28.0 +0.9
MLR Muntele Rosu 5.38 53 P Pn 23 52 28.0 +0.9
NAIG Nisos Aigina 5.39 148 *e*P Pn 23 52 28.5 +1.3
MTTG Motta San Giov 5.41 217 Pn Pn 23 52 27.2 -0.3
comp=Z,204nm,0.7s
PENC Penc 5.43 356⇓ *e*P Pn 23 52 27.3 -0.4
PENC eS Sn 23 53 29.4 -1.2
PERS Pernice 5.44 323 *i* Pn Pn 23 52 28.6 +0.7
PERS *i* Sn Sn 23 53 29.7 -1.2
KVR Kavouri 5.44 145 *e*P Pn 23 52 29.0 +1.1
MURB Monte Urbino 5.47 282 Pn Pn 23 52 29.1 +0.8
comp=E,891nm,0.4s
PSZ Piszkesteto 5.54 0⇓ *i*P Pn 23 52 28.6 -0.6
PSZ Piszkesteto 5.54 0 *e*P Pn 23 52 28.3 -0.9
PSZ *e* 23 53 33.6
PSZ pmax pmax
comp=Z,66nm,0.5s
PSZ Piszkesteto 5.54 0 *e*Pn Pn 23 52 28.3 -1.0
comp=E,66nm,0.5s
PSZ eSn Sn 23 53 33.6 +0.3
PSZ Piszkesteto 5.54 0 *e*Pn Pn 23 52 28.3 -0.9
comp=E,66nm,0.5s
PSZ eS Sn 23 53 33.6 +0.3
OBKA Obir 5.61 319⇑ *i*Pn Pn 23 52 31.6 +1.4
SNR=82
OBKA ⇓ *i*Sn Sn 23 53 35.3 +0.2
VOY Vojsko 5.63 312⇓ *e*Pn Pn 23 52 32.1 +1.6
VOY eSn Sn 23 53 41.0 +5.4
RSM Repubblica di 5.64 288 Pn Pn 23 52 31.3 +0.7
comp=Z,299nm,0.8s
RSM Repubblica di 5.64 288 P Pn 23 52 31.3 +0.7
RSM pmax pmax
comp=Z,299nm,0.8s
BADI Badiali 5.70 284 Pn Pn 23 52 33.1 +1.6
comp=Z,307nm,0.6s
CDCA Citt' di Caste 5.70 283 Pn Pn 23 52 33.4 +1.9
comp=Z,2µm,1.1s
RKY Sarkoy-Tekirda 5.75 105 *e*PN Pn 23 52 31.7 -0.4
SART Tekirdag 5.75 105 *i* P Pn 23 52 33.3 +1.2

SART Tekirdag 5.75 105 *i* P Pg 23 52 55.5 -0.7
ARSA Arzberg 5.76 329⇑ *i*Sn Sn 23 53 39.1 +0.2
ARSA Arzberg 5.76 329⇑ *i*Pn Pn 23 52 32.6 +0.3
SNR=88
ARSA ⇑ *i*Sn Sn 23 53 39.1 +0.2
ARSA Arzberg 5.76 329 *e*Pn Pn 23 52 32.8 +0.5
ARSA eSn Sn 23 53 38.8 -0.1
ARSA Arzberg 5.76 329 Pn Pn 23 52 32.6 +0.3
comp=Z,87nm,6.0s
PRK Paraskevi 5.78 121 *e*P Pn 23 52 33.5 +0.9
MFT Murefte 5.79 103 *e*PN Pn 23 52 32.1 -0.6
SOP Sopron 5.80 337⇓ *e*Pn Pn 23 52 32.8 0.0
SOP eSn Sn 23 53 38.8 -0.9
CADS Cadrg 5.84 313 *i* Pn Pn 23 52 35.0 +1.6
CADS *i* Sn Sn 23 53 46.3 +5.5
TOLF Tolfa 5.84 270 Pn Pn 23 52 33.5 +0.1
comp=Z,146nm,0.8s
DRE Drenchia 5.86 312⇑ *i*Pn Pn 23 52 34.5 +0.9
SACS San Casciano d 5.89 277 Pn Pn 23 52 34.2 +0.2
comp=Z,200nm,0.7s
CANB Canakkale 5.92 111 *e*PN Pn 23 52 33.5 -1.0
CRE Caprese Michel 5.93 285 Pn Pn 23 52 35.9 +1.3
comp=Z,156nm,0.7s
CRE Caprese Michel 5.93 285 P Pn 23 52 35.9 +1.3
CRE pmax pmax
comp=Z,156nm,0.7s
COLI Coloredo 5.98 311⇑ *i*Pn Pn 23 52 36.1 +0.8
PLOR Plostina 5.99 52⇑ *i*P Pn 23 52 35.8 +0.3
TLI Talmassons 6.01 308⇑ *i*Pn Pn 23 52 36.3 +0.5
AYVA Ayvalik 6.02 118 *i* P Pn 23 52 36.4 +0.5
VRI Vrincioaia 6.05 52⇓ *i*P Pn 23 52 37.6 +1.4
VRI Vrincioaia 6.05 52 P Pn 23 52 36.5 +0.3
VRI Vrincioaia 6.05 52 P Pn 23 52 36.5 +0.3
SFI Santa Sofia 6.06 287 Pn Pn 23 52 37.3 +0.9
comp=Z,134nm,0.6s
SFI Santa Sofia 6.06 287 P Pn 23 52 37.3 +0.9
SFI pmax pmax
comp=Z,134nm,0.6s
MRMT Marmara Adasi 6.07 104 *e*PN Pn 23 52 34.9 -1.7
BAD Bernadia 6.12 311⇑ *i*Pn Pn 23 52 38.1 +1.0
KECS Kecovo 6.12 4 *e*PN Pn 23 52 37.0 -0.2
KECS eSN Sn 23 53 45.0 -2.6
VLI Veliai 6.13 156 *e*P Pn 23 52 36.5 -0.9
GMNA Gemona 6.14 312 Pn Pn 23 52 39.2 +1.7
VYHS Vyhne 6.16 354 *e*PN Pn 23 52 37.5 -0.2
VYHS eSN Sn 23 53 45.7 -2.9
PTCC Patocco-Chiusa 6.16 313 Pn Pn 23 52 39.0 +1.3
BUA Buia 6.17 311⇑ *i*Pn Pn 23 52 39.0 +1.0
CONA Conrad Observa 6.23 334⇓ *i*Pn Pn 23 52 38.4 -0.3
SNR=27
CONA ⇓ *i*Sn Sn 23 53 48.6 -1.7
BOO Bordano 6.25 311⇑ *i*Pn Pn 23 52 39.8 +0.8
PLRO Paularo 6.36 313⇑ *i*Pn Pn 23 52 42.2 +1.7
SMOL Smolenice 6.37 345 *e*PN Pn 23 52 39.8 -0.8
SMOL eSN Sn 23 53 51.5 -2.3
CSNT Castellina Chi 6.39 283 Pn Pn 23 52 40.7 -0.2
MLNI Malnisio 6.43 308⇑ *i*Pn Pn 23 52 41.9 +0.5
VAE Valguarnera 6.44 222 Pn Pn 23 52 42.7 +1.1
comp=Z,1.6nm,0.3s,baz=305,slow=2.6,SNR=3.8
VAE Sn Sn 23 54 04.9 +9.4
comp=Z,4.9nm,0.3s,baz=51,slow=8.7,SNR=4.6
CAE Caneva 6.45 307⇑ *i*Pn Pn 23 52 42.5 +0.7
ZOU Zoufplan 6.46 313⇑ *i*Pn Pn 23 52 43.4 +1.5
MAON Monte Argentar 6.46 273 Pn Pn 23 52 41.9 0.0
comp=Z,186nm,1.1s
BURAR Bucovina Array 6.47 34⇓ *i*P Pn 23 52 44.1 +2.1
UZH Uzhgorod 6.48 14 *e*P Pn 23 52 41.2 -1.0
UZH eS Sn 23 53 52.0 -4.5
UZH MLR MLR
comp=Z,1µm,9.0s
UZH Uzhgorod 6.48 14 *e*P Pn 23 52 41.2 -1.0
comp=Z,1µm,9.0s
URLA Izmir 6.52 126 *i* P Pn 23 52 43.6 +0.9
ELBA Catalca 6.53 98 *i* P Pn 23 52 43.9 +1.1
MTLO Montello 6.56 304⇑ *i*Pn Pn 23 52 43.4 +0.1
TIRR Tirgusor 6.56 69⇓ *i*P Pn 23 52 42.8 -0.5
TIRR Tirgusor 6.56 69⇓ *i*P Pn 23 52 43.0 -0.3
TIRR Tirgusor 6.56 69 P Pn 23 52 42.8 -0.5
KYTH Kithira 6.57 157 *e*P Pn 23 52 44.0 +0.6
KBA Koelnbreinsper 6.60 318⇑ *i*Sn Sn 23 53 57.5 -2.0
KBA Koelnbreinsper 6.60 318⇑ *i*Pn Pn 23 52 45.5 +1.7
SNR=74
KBA ⇑ *i*Sn Sn 23 53 57.5 -2.0
KBA Koelnbreinsper 6.60 318 *e*Pn Pn 23 52 45.5 +1.6
KBA Koelnbreinsper 6.60 318 Pn Pn 23 52 45.5 +1.6
comp=Z,73nm,6.0s
CSMI Casera Mimoias 6.61 311⇑ *i*Pn Pn 23 52 44.9 +1.0
CRVS Cervenica-Dubn 6.62 9 *e*PN Pn 23 52 44.0 -0.1
CRVS eSN Sn 23 53 58.4 -1.5
TEOL Teolo 6.63 299⇑ *i*Pn Pn 23 52 44.1 -0.1
CSO Casso 6.66 308⇑ *i*Pn Pn 23 52 44.8 +0.1
BTOK Tokmak 6.71 110 *i* P Pn 23 52 45.3 0.0
MOA Molln 6.75 326⇑ *i*Sn Sn 23 54 03.3 +0.2
MOA Molln 6.75 326 *i* Pn Pn 23 52 47.3 +1.4
SNR=88
MOA ⇑ *i*Sn Sn 23 54 03.3 +0.2
MOA Molln 6.75 326 *e*Pn Pn 23 52 47.4 +1.5
MOA eSn Sn 23 54 03.2 0.0
MOA Molln 6.75 326 Pn Pn 23 52 47.3 +1.4
comp=Z,88nm,3.0s
KOLS Kolonicke sedl 6.77 14 *e*PN Pn 23 52 46.2 +0.1
KOLS eSN Sn 23 54 01.6 -2.0
CGRP Cima Grappa 6.77 304⇑ *i*Pn Pn 23 52 46.3 +0.1
BLCB Balcova 6.78 124 *e*PN Pn 23 52 47.3 +1.0
BLCB Balcova 6.78 124 *e*Pn Pn 23 52 47.3 +1.2
FAU Forcella Aurin 6.84 307⇑ *i*Pn Pn 23 52 47.5 +0.4
APE Apeiranthos 6.87 139 *e*P Pn 23 52 48.5 +1.0
APE Apeiranthos 6.87 139⇑ *i*P Pn 23 52 48.4 +0.9
APE Apeiranthos 6.87 139 P Pn 23 52 47.1 -0.4
APE Apeiranthos 6.87 139 P Pn 23 52 47.1 -0.4
AFL Alpe Faloria 6.88 310⇑ *i*Pn Pn 23 52 48.8 +1.1
KDAG Bornova 6.91 123 *i* P Pn 23 52 48.5 +0.5
KLYT Kilyos 6.95 96 *e*PN Pn 23 52 49.2 +0.6
AKHS Akhisar 6.99 117 *i* P Pn 23 52 50.2 +1.1
ISK Istanbul-Kandi 7.01 98 *e*PN Pn 23 52 49.9 +0.5
ISK Istanbul-Kandi 7.01 98 *e*Pn Pn 23 52 50.0 +0.6
NIE Niedzica 7.05 2 *e*Pn Pn 23 52 50.7 +0.7
NIE eSn Sn 23 54 10.2 -0.3
STHS Stebnicka Huta 7.10 7 *e*PN Pn 23 52 51.2 +0.5
STHS eSN Sn 23 54 11.6 -0.3
VLC Villacollemand 7.14 288 *e*Pn Pn 23 52 51.1 -0.1
comp=Z,57nm,0.4s
VLC eSn Sn 23 54 13.7 +0.9
VLC Villacollemand 7.14 288 *e*Pn Pn 23 52 51.1 -0.1
comp=Z,57nm,0.4s
BGLD Berchtesgaden 7.16 320⇓ *i*Pn Pn 23 52 53.5 +1.9
GEMT Gemlik 7.28 102 *e*PN Pn 23 52 52.9 -0.2
VRAC Vranov 7.29 343 Pn Pn 23 52 53.1 -0.3
comp=Z,0.8nm,0.3s,baz=162,slow=11,SNR=4.9
VRAC Sn Sn 23 54 14.0 -2.6
comp=Z,4.2nm,0.3s,baz=161,slow=11,SNR=4.2
VRAC Vranov 7.29 343⇑ *i*P Pn 23 52 55.4 +2.0
RJOB Jochberg 7.33 319⇓ *i*Pn Pn 23 52 56.1 +2.3
RJOB Jochberg 7.33 319⇓ *i*Pn Pn 23 52 56.1 +2.3
YLV Yalova 7.37 101 *e*PN Pn 23 52 53.8 -0.6
SANT Santorini 7.40 142 *e*Pn Pn 23 52 56.2 +1.4
SANT Santorini 7.40 142 *e*Pn Pn 23 52 56.2 +1.4
SCE Schlegeis 7.44 312⇑ *i*Pn Pn 23 52 56.7 +1.3
HRT Hereke 7.51 99 *e*PN Pn 23 52 55.9 -0.5
KWP Kalwaria 7.52 14 *e*Pn Pn 23 52 58.3 +1.9
OKC Ostrava-Krasne 7.55 352 *e*PN Pn 23 52 57.6 +0.7
OKC eSN Sn 23 54 20.1 -2.9
OKC AMS AMS 23 56 20.0
comp=Z,1µm,8.4s
OKC Ostrava-Krasne 7.55 352 *e*Pn Pn 23 52 57.6 +0.7
OKC eSn Sn 23 54 20.1 -2.9
TREC Trest 7.56 338 AMS AMS 23 56 10.0
comp=Z,4µm,9.1s
MORC Moravsky Berou 7.57 349⇑ *i*P Pn 23 52 58.4 +1.2
MORC Moravsky Berou 7.57 349 P Pn 23 52 58.5 +1.3
MORC Moravsky Berou 7.57 349 P Pn 23 52 58.5 +1.3
WTTA Wattenberg 7.62 313⇑ *i*Sn Sn 23 54 24.9 +0.4
WTTA Wattenberg 7.62 313⇑ *i*Pn Pn 23 52 59.1 +1.4
SNR=58
WTTA ⇑ *i*Sn Sn 23 54 24.9 +0.4
WTTA Wattenberg 7.62 313 *e*Pn Pn 23 52 59.2 +1.4
WTTA Wattenberg 7.62 313 Pn Pn 23 52 59.1 +1.3
comp=Z,57nm,8.0s
WTTA *i* S Sn 23 54 24.9 +0.4
KARN Karanos 7.65 154 *e*Pn Pn 23 52 57.4 -0.8
ADVT Abdulvahap 7.68 101 *e*PN Pn 23 52 59.3 +0.7
WATA Walderalm 7.69 313⇑ *i*Sn Sn 23 54 26.7 +0.3

WATA Walderalm 7.69 313 ⇓*i*Pn **Pn** 23 53 00.5 +1.7
SNR=61
WATA ⇑*i*Sn **Sn** 23 54 26.7 +0.3
WATA Walderalm 7.69 313 Pn **Pn** 23 53 00.5 +1.7
comp=Z,60nm,6.0s
WATA *i* S **Sn** 23 54 26.7 +0.4
VAM Vamos 7.74 153 *e*P **Pn** 23 52 57.5 -2.0
AYDN Tasoluk 7.75 125 *i* P **Pn** 23 53 01.0 +1.4
GEC2 GERESS Array S 7.77 328 *e*Pn **Pn** 23 53 00.9 +1.0
GEC2 *e* 23 53 22
GEC2 *e*Sn **Sn** 23 54 29.6 +1.3
GEC2 GERESS Array S 7.77 328 *e*P **Pn** 23 53 01.0 +1.1
GEC2 *e*S **Sn** 23 54 29.6 +1.3
GERES GERESS Array B 7.77 328 Pn **Pn** 23 53 01.4 +1.5
comp=Z,1.5nm,0.3s,baz=154,slow=13,SNR=48
GERES Sn **Sn** 23 54 29.3 +1.0
comp=Z,4.1nm,0.3s,baz=142,slow=24,SNR=5.6
GERES LR LR 23 56 29.6
comp=Z,565nm,20.1s,baz=22,slow=42
GERES GERESS Array B 7.77 328 P **Pn** 23 53 01.4 +1.5
GERES S **Sn** 23 54 29.3 +1.0
SQTA Sankt Quirin 7.83 311 ⇓*i*Sn **Sn** 23 54 30.1 +0.4
SQTA Sankt Quirin 7.83 311 ⇓*i*Pn **Pn** 23 53 01.8 +1.2
SNR=33
SQTA ⇓*i*Sn **Sn** 23 54 30.1 +0.4
SQTA Sankt Quirin 7.83 311 Pn **Pn** 23 53 01.8 +1.1
comp=Z,33nm,3.0s
SQTA *i* S **Sn** 23 54 30.1 +0.4
OJC Ojcow 7.84 360 *e*P **Pn** 23 53 02.3 +1.4
KIS Kishinev 7.88 51 *e*P **Pn** 23 53 00.0 -1.3
KIS MLR MLR
comp=Z,1μm,12.0s
KIS MLR MLR
comp=Z,1μm,12.0s
KIS Kishinev 7.88 51 *e*P **Pn** 23 53 00.0 -1.3
comp=Z,1μm,12.0s
MLSB Milas 7.93 127 *e*PN **Pn** 23 53 03.5 +1.5
MOTA Moosalm 7.96 312 ⇑*i*Sn **Sn** 23 54 32.5 -0.3
MOTA Moosalm 7.96 312 ⇑*i*Pn **Pn** 23 53 04.1 +1.7
SNR=75
MOTA ⇑*i*Sn **Sn** 23 54 32.5 -0.3
MOTA Moosalm 7.96 312 Pn **Pn** 23 53 04.1 +1.7
comp=Z,75nm,3.0s
GDZ Gediz 8.01 111 *i* P **Pn** 23 53 05.4 +2.2
KHC Kasperske Hory 8.05 329 *e*PN **Pn** 23 53 04.5 +0.7
KHC *e*SN **Sn** 23 54 33.5 -1.7
KHC AMS AMS 23 56 20.0
comp=Z,2μm,6.8s
KHC Kasperske Hory 8.05 329 *e*Pn **Pn** 23 53 04.5 +0.7
KHC *e*Sn **Sn** 23 54 33.5 -1.7
GVD Gavdhos 8.22 155 *e*P **Pn** 23 53 05.0 -1.1
GVD Gavdhos 8.22 155 *e*Pn **Pn** 23 53 06.0 0.0
GVD *e*Sn **Sn** 23 54 35.5 -3.9
GVD Gavdhos 8.22 155 *e*Pn **Pn** 23 53 06.0 -0.1
GVD *e*Sn **Sn** 23 54 35.5 -3.9
YER Yerkesik 8.34 126 *e*P **Pn** 23 53 09.4 +1.8
DPC Dobruska-Polom 8.34 344 *e*PN **Pn** 23 53 07.5 -0.2
DPC *e*SN **Sn** 23 54 39.7 -2.6
DPC AMS AMS 23 56 50.0
comp=Z,3μm,8.3s
DPC Dobruska-Polom 8.34 344 *e*Pn **Pn** 23 53 07.5 -0.2
DPC *e*Sn **Sn** 23 54 39.7 -2.6
WET Wettzell 8.34 327 *e*Pn **Pn** 23 53 09.1 +1.4
FUR Furstenfeldbru 8.37 317 *e*Pn **Pn** 23 53 09.0 +0.9
HENT Hendek 8.42 97 *i* P **Pn** 23 53 10.6 +1.8
VSL Villasalto 8.44 254 *e*Pn **Pn** 23 53 09.1 0.0
VSL *e*Sn **Sn** 23 54 43.3 -1.5
VSL Villasalto 8.44 254 *e*Pn **Pn** 23 53 09.1 0.0
VSL *e*Sn **Sn** 23 54 43.3 -1.5
PRU Pruhonice 8.46 336 *e*PN **Pn** 23 53 12.1 +2.8
PRU *e*SN **Sn** 23 54 42.8 -2.3
PRU AMS AMS 23 56 40.0
comp=Z,2μm,8.9s
PRU Pruhonice 8.46 336 *e*Pn **Pn** 23 53 12.1 +2.8
PRU *e*Sn **Sn** 23 54 42.8 -2.3
UPC Upice 8.55 343 *e*PN **Pn** 23 53 11.8 +1.2
UPC *e*SN **Sn** 23 54 45.3 -2.2
PRA Prague 8.56 336 PN **Pn** 23 53 15.0 +4.3
DAVA Damuels 8.62 308 ⇓*i*Sn **Sn** 23 54 49.3 +0.1
DAVA Damuels 8.62 308 ⇑*i*Pn **Pn** 23 53 12.1 +0.5
SNR=14
DAVA ⇓*i*Sn **Sn** 23 54 49.3 +0.1
DAVA Damuels 8.62 308 *e*Pn **Pn** 23 53 12.1 +0.5
DAVA Damuels 8.62 308 Pn **Pn** 23 53 12.1 +0.5
comp=Z,13nm,6.0s
ESKT Eskisehir 8.79 105 *i* P **Pn** 23 53 07.3 -6.6
KSP Ksiaz 8.81 345 *e*Pn **Pn** 23 53 18.8 +4.6
KSP *e*Sn **Sn** 23 54 39.7 -14
PVCC Panska Ves 8.93 338 *e*PN **Pn** 23 53 17.1 +1.3
PVCC AMS AMS 23 57 00.0
comp=Z,2μm,9.2s
NORI Noerdlinger Ri 9.06 318 ⇓*i*Pn **Pn** 23 53 17.7 +0.1
NORI ⇓*i*Pn **Pn** 23 53 17.7 +0.1
TKTP Tekketepe 9.10 115 *i* P **Pn** 23 53 21.6 +3.5
ROTZ Rotzenmuhle 9.10 327 *e*Pn **Pn** 23 53 20.7 +2.6
SBF Sospel 9.21 283 *e*Pn **Pn** 23 53 18.0 -1.6
SBF *e*Sn **Sn** 23 54 53.0 -11
comp=Z,84nm,0.8s
AUTN L'Aution 9.23 284 P **Pn** 23 53 21.5 +1.6
LUCF Luceram 9.28 284 P **Pn** 23 53 20.4 -0.1
MANZ Manzenberg 9.31 327 *e*Pn **Pn** 23 53 22.9 +1.9
MANZ *e*Sn **Sn** 23 55 04.8 -1.4
SGKT Sivrigoynuk 9.33 97 *i* P **Pn** 23 53 24.6 +3.3
TOUF Mont Tournerai 9.36 284 P **Pn** 23 53 22.3 +0.6
NKC Novy Kostel 9.38 329 *e*PN **Pn** 23 53 23.7 +1.8
NKC *e*SN **Sn** 23 55 05.2 -2.6
NKC AMS AMS 23 57 20.0
comp=Z,1μm,18.0s
NKC Novy Kostel 9.38 329 *e*Pn **Pn** 23 53 23.7 +1.8
NKC *e*Sn **Sn** 23 55 05.2 -2.6
MVIF Mont Vial 9.42 284 P **Pn** 23 53 22.9 +0.5
BRG Berggiesshubel 9.42 336 PN **Pn** 23 53 21.5 -1.0
comp=Z,3.6nm,0.9s
BRG *e* 23 54 45.6
BRG *e* 23 55 09.9
comp=Z,26nm,1.4s
BRG
comp=Z,1μm,9.5s
BRG
comp=N,850nm,10.0s
BRG
comp=E,600nm,10.0s
BRG Berggiesshubel 9.42 336 P **Pn** 23 53 21.5 -1.0
BRG *e* 23 55 09.9
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 9.42 336 Pn **Pn** 23 53 21.5 -1.0
comp=Z,3.6nm,0.9s
BRG *e* 23 54 45.6
BRG *e* 23 55 09.9
GRA1 Grafenberg Arr 9.46 324 *e*P **Pn** 23 53 25.7 +2.7
GRF Grafenberg Arr 9.46 324 *e*Pn **Pn** 23 53 25.7 +2.7
GRF *e*L 23 57 31.8
comp=Z,627nm,20.9s
TANN Tannenbergstha 9.52 330 *e*Pn **Pn** 23 53 26.6 +2.7
FRF La Foret Royal 9.76 281 *e*Pn **Pn** 23 53 26.3 -0.9
MBDF Montbardon 9.79 288 *e*Pn **Pn** 23 53 25.8 -1.8
MBDF *e*Sn **Sn** 23 55 07.7 -10
comp=Z,67nm,0.7s
STU Stuttgart 9.83 314 *e*Pn **Pn** 23 53 28.2 0.0
LMR La Mourre 9.85 280 *e*Pn **Pn** 23 53 27.9 -0.6
BNI Bardonecchia 9.91 290 *e*P **Pn** 23 53 28.0 -1.3
BNI *e* 23 55 19.7
BNI pmax pmax
comp=Z,36nm,0.6s
BNI Bardonecchia 9.91 290 *e*Pn **Pn** 23 53 28.0 -1.2
comp=Z,36nm,0.6s
BNI *e*Sn **Sn** 23 55 19.7 -1.2
LPG La Plagne 9.96 293 *e*Pn **Pn** 23 53 27.6 -2.3
LPG *e*Sn **Sn** 23 55 11.3 -11
comp=Z,106nm,0.7s
LPL La Plagne 9.97 293 *e*Pn **Pn** 23 53 27.7 -2.4
LPL *e*Sn **Sn** 23 55 11.6 -11
comp=Z,134nm,0.8s
FELD Feldberg im Sc 10.02 307 P **Pn** 23 53 30.4 -0.3
MOX Moxa 10.03 328 *e*Pn **Pn** 23 53 32.4 +1.6
MOX Moxa 10.03 328 *e*PN **Pn** 23 53 32.2 +1.4
MOX
comp=Z,700nm,15.0s
BFO Black Forest 10.06 310 *e*Pn **Pn** 23 53 31.1 -0.2
BFO *e*Sn **Sn** 23 55 21.2 -3.3
ANTO Ankara 10.08 100 P **Pn** 23 53 30.6 -0.9
ANTO *e* 23 55 18.8
comp=Z,7.0nm,0.8s
ANTO pmax pmax
ANTO Ankara 10.08 100 Pn **Pn** 23 53 30.6 -0.9
comp=Z,6.9nm,0.8s
ANTO *e*Sn **Sn** 23 55 18.8 -6.2
ANTO Ankara 10.08 100 P **Pn** 23 53 30.6 -0.9
comp=Z,7.0nm,0.8s
CLL Collm 10.09 335 *e*Pn **Pn** 23 53 33.0 +1.4
CLL *i* Sn Sn 23 54 59.1 -26
CLL ex x 23 55 33.0
CLL *e*Sb Sn 23 55 49.0 +24
CLL *e*Sg Sn 23 56 02.0 +37
CLL Collm 10.09 335 *e*Pn **Pn** 23 53 33.0 +1.4
CLL *i* Sn Sn 23 54 59.1 -26
CLL *e* 23 55 49.0
CLL *e*Sg Sn 23 56 02.0 +37
KDHN Kadinhani 10.10 108 *i* P **Pn** 23 53 31.2 -0.7
BALT Daday 10.11 90 *i* P **Pn** 23 53 37.2 +5.2
BBS Basel-Blauen 10.12 304 P **Pn** 23 53 31.5 -0.7
ELDT Eldivan 10.36 96 *i* P **Pn** 23 53 41.2 +5.8
ORIF Oris-en-Rattie 10.45 289 *e*Pn **Pn** 23 53 36.0 -0.6
ORIF *e*Sn **Sn** 23 55 27.8 -6.2
comp=Z,93nm,0.9s
LOMF Lomont 10.50 303 P **Pn** 23 53 37.4 +0.1
AKASG Malin Array Be 10.52 35 Pn **Pn** 23 53 36.9 -0.7
comp=Z,0.5nm,0.3s,baz=223,slow=13,SNR=17
AKASG Malin Array Be 10.52 35 *i* P **Pn** 23 53 38.0 +0.4
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 10.52 35 Pn **Pn** 23 53 36.9 -0.7
AKASG Malin Array Be 10.52 35 *i* P **Pn** 23 53 38.0 +0.4
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 10.52 35 *e*Pn **Pn** 23 53 32.1 -5.5
AKBB *e*Sn **Sn** 23 55 35.9 0.0
AKBB Malin Array Si 10.52 35 *e*Pn **Pn** 23 53 32.1 -5.5
AKBB *e*S **Sn** 23 55 35.9 0.0
MOF Molkenrain 10.52 306 P **Pn** 23 53 37.1 -0.5
MOF S **Sn** 23 55 32.2 -3.7
KEST Kesra 10.53 234 Pn **Pn** 23 53 40.6 +2.9
comp=Z,0.2nm,0.3s,baz=281,slow=8.0,SNR=5.2
KEST LR LR 23 58 27.4
comp=Z,155nm,19.7s,baz=176,slow=42
TOD Tromm 10.55 317 P **Pn** 23 53 38.7 +0.8
SMRF Simiane la Rot 10.56 284 *e*Pn **Pn** 23 53 37.4 -0.7
SIM Simferopol' 10.64 71 *e*P **Pn** 23 53 40.0 +0.7
SIM S **Sn** 23 55 38.9 0.0
SIM pmax pmax
comp=Z,11nm,1.0s
SIM MLR MLR
comp=Z,200nm,13.0s
SIM Simferopol' 10.64 71 *e*P **Pn** 23 53 40.0 +0.7
comp=Z,11nm,1.0s
SIM S **Sn** 23 55 38.9 0.0
comp=Z,200nm,13.0s
WLS Welschbruch 10.66 309 P **Pn** 23 53 39.3 -0.2
WLS S **Sn** 23 55 32.0 -7.3
ECH Echery 10.68 307 P **Pn** 23 53 39.3 -0.4
ECH S **Sn** 23 55 34.8 -4.9
HINF Hinteralfeld 10.68 305 *e*Pn **Pn** 23 53 38.4 -1.3
HINF *e*Sn **Sn** 23 55 30.4 -9.3
comp=Z,59nm,0.6s
HINF Hinteralfeld 10.68 305 *e*Pn **Pn** 23 53 38.4 -1.3
HINF *e*Sn **Sn** 23 55 30.4 -9.3
comp=Z,30nm,0.6s
LANF Langenberg 10.70 312 P **Pn** 23 53 41.3 +1.2
CDF Champ du Feu 10.70 309 *e*Pn **Pn** 23 53 37.9 -2.2
CDF *e*Sn **Sn** 23 55 27.7 -13
comp=Z,82nm,1.0s
CDF Champ du Feu 10.70 309 *e*Pn **Pn** 23 53 37.9 -2.2
CDF *e*Sn **Sn** 23 55 27.7 -13
comp=Z,41nm,1.0s
CABF La Chapelle 10.71 298 *e*Pn **Pn** 23 53 39.4 -0.8
CABF *e*Sn **Sn** 23 55 31.6 -8.8
comp=Z,40nm,0.7s
BR131 Keskin Array S 10.74 100 *e*Pn **Pn** 23 53 40.8 +0.2
comp=Z,8.6nm,1.1s
BR131 *e*Sn **Sn** 23 55 38.8 -2.4
BRTR Keskin Array B 10.74 100 Pn **Pn** 23 53 40.0 -0.5
comp=Z,0.3nm,0.3s,baz=284,slow=14,SNR=9.9
BRTR LR LR 23 58 34.3
comp=Z,380nm,18.9s,baz=302,slow=42
BRTR Keskin Array B 10.74 100 *i* P **Pn** 23 53 41.0 +0.4
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 10.74 100 *i* P **Pn** 23 53 41.0 +0.4
comp=Z,1.0nm,0.5s
HAU Haudompre 11.07 305 *e*Pn **Pn** 23 53 43.4 -1.6
HAU *e*Sn **Sn** 23 55 40.1 -9.1
comp=Z,98nm,0.6s
HAU Haudompre 11.07 305 *e*Pn **Pn** 23 53 43.4 -1.6
HAU *e*Sn **Sn** 23 55 40.1 -9.1
comp=Z,49nm,0.6s
TNS Taunus Mts 11.12 319 *e*Pn **Pn** 23 53 46.0 +0.2
VIVF Saint-Julien-l 11.29 288 *e*Pn **Pn** 23 53 46.2 -1.9
CDAG Cicekdag 11.31 99 *i* P **Pn** 23 53 42.6 -5.8
CTKT Corum 11.34 94 *i* P **Pn** 23 53 53.3 +4.6
THEF They Montfort 11.38 306 P **Pn** 23 53 48.8 -0.6
ERMK Ermenek 11.59 115 *i* P **Pn** 23 53 57.7 +5.5
SUW Suwalki 11.85 10 *e*P **Pn** 23 53 58.2 +2.4
RFYF Reffroy 11.86 307 *e*P **Pn** 23 53 57.7 +1.7
baz=131
RFYF *e*Sn **Sn** 23 55 57.6 -11
comp=Z,71nm,1.1s
RFYF Reffroy 11.86 307 *e*P **Pn** 23 53 57.7 +1.7
RFYF *e*Sn **Sn** 23 55 57.6 -11
comp=Z,36nm,1.1s
SFTF Sexfontaines 11.95 304 *e*Pn **Pn** 23 53 54.9 -2.2
baz=125
AVNT Avonos 11.96 103 *i* P **Pn** 23 54 01.4 +4.2
WLF Walferdange 11.98 312 *e*P **Pn** 23 53 59.1 +1.5
WLF *e* 23 56 14.5
WLF pmax pmax
comp=Z,15nm,0.9s
WLF Walferdange 11.98 312 *e*Pn **Pn** 23 53 59.1 +1.5
comp=Z,15nm,0.9s
WLF *e*Sn **Sn** 23 56 14.5 +2.9
WLF Walferdange 11.98 312 *e*P **Pn** 23 53 59.1 +1.5
comp=Z,15nm,0.9s
WLF *e*S **Sn** 23 56 14.5 +2.8
MEZF Maizieres J'vi 12.06 306 *e*Pn **Pn** 23 53 56.9 -1.8
baz=119
PLDF La Plantade 12.20 293 P **Pn** 23 53 58.3 -2.3
SMF Signal de Mont 12.20 296 *e*Pn **Pn** 23 53 57.6 -3.0
SMF *e*Sn **Sn** 23 56 06.0 -11
comp=Z,97nm,0.8s
SMF Signal de Mont 12.20 296 *e*Pn **Pn** 23 53 57.6 -3.0
SMF *e*Sn **Sn** 23 56 06.0 -11
comp=Z,48nm,0.8s
LBL Lubilhac 12.34 289 P **Pn** 23 54 01.3 -1.2
LOR Lormes 12.36 299 *e*Pn **Pn** 23 54 01.2 -1.6
baz=119
LOR *e*Sn **Sn** 23 56 09.3 -12
comp=Z,28nm,0.5s
LOR Lormes 12.36 299 *e*Pn **Pn** 23 54 01.2 -1.6
LOR *e*Sn **Sn** 23 56 09.3 -12
comp=Z,14nm,0.5s
SSF Saint Saulge 12.53 297 *e*Pn **Pn** 23 54 02.7 -2.4
SSF *e*Sn **Sn** 23 56 13.7 -11
comp=Z,25nm,0.6s
SSF Saint Saulge 12.53 297 *e*Pn **Pn** 23 54 02.7 -2.4
SSF *e*Sn **Sn** 23 56 13.7 -11
comp=Z,12nm,0.6s
AGO Saint Agoulin 12.55 293 P **Pn** 23 54 03.0 -2.4
AVF Avril sur Loir 12.56 296 *e*Pn **Pn** 23 54 02.4 -3.1
BGF Bois d'Agland 12.85 295 *e*Pn **Pn** 23 54 07.3 -2.1
CSS Prodhromos 12.86 121 Pn **Pn** 23 54 05.3 -4.3
GIVF Givet 12.95 312 *e*P **Pn** 23 54 12.8 +2.1
MTLF Montolieu 12.98 280 *e*P **Pn** 23 54 12.7 +1.4
ETOS Mallorca 13.13 264 P **Pn** 23 54 16.0 +2.8
comp=Z,3.0nm,0.4s
ETOS Mallorca 13.13 264 P **Pn** 23 54 16.0 +2.8
comp=Z,3.0nm,0.4s
CAF Calviac 13.14 287 *e*Pn **Pn** 23 54 11.2 -2.2
BSD Bornholm Skovb 13.15 347 ⇑*i*P **Pn** 23 54 20.2 +6.6
comp=Z,46nm,1.3s
BSD
comp=Z,90nm,15.0s
BSD Bornholm Skovb 13.15 347 ⇑*e*P **Pn** 23 54 20.2 +6.6
BSD pmax pmax
comp=Z,46nm,1.3s
BSD Bornholm Skovb 13.15 347 ⇑*e*P **Pn** 23 54 20.2 +6.6
comp=Z,46nm,1.3s
BSD *e* 00 09 59.1
HYF Humbligny 13.16 298 *e*Pn **Pn** 23 54 11.6 -2.1
TCF Toulx Ste Croi 13.22 293 *e*Pn **Pn** 23 54 11.6 -3.0
TCF *e*Sn **Sn** 23 56 30.2 -12
comp=Z,26nm,0.9s
TCF Toulx Ste Croi 13.22 293 *e*Pn **Pn** 23 54 11.6 -3.0
TCF *e*Sn **Sn** 23 56 30.2 -12
comp=Z,13nm,0.9s
BAIF Baives 13.27 311 *e*Pn **Pn** 23 54 11.5 -3.6
RJF Les Rejaudoux 13.56 289 *e*Pn **Pn** 23 54 17.2 -1.9
COBT Iskenderun 13.95 109 *i* P **Pn** 23 54 29.2 +4.7
LFF La Frestale 14.08 287 *e*Pn **Pn** 23 54 23.5 -2.7
COP Copenhagen 14.17 343 *i* P **Pn** 23 54 31.0 +3.6
comp=Z,14nm,1.1s
COP
comp=Z,100nm,16.0s
COP Copenhagen 14.17 343 *e*P **Pn** 23 54 31.0 +3.6
COP pmax pmax
comp=Z,14nm,1.1s
COP Copenhagen 14.17 343 *e*P **Pn** 23 54 31.0 +3.6
comp=Z,14nm,1.1s
GZT Gaziantep 14.49 104 *i* P **Pn** 23 54 35.2 +3.4
MALT Malatya 14.73 100 ⇓*i*P **Pn** 23 54 42.4 +7.3
MALT Malatya 14.73 100 *e*Pn **Pn** 23 54 35.5 +0.4
MALT Malatya 14.73 100 *e*P **Pn** 23 54 35.5 +0.5
KELT Kelkit 14.76 92 *i* P **Pn** 23 54 30.9 -4.6
MFF Saint Martin d 14.88 293 *e*Pn **Pn** 23 54 33.9 -3.3
ATAB Bozova 14.96 103 *i* P **Pn** 23 54 42.9 +4.6
ELZG Elazig 15.07 99 *i* P **Pn** 23 54 43.7 +4.1
LDF La Druitiere 15.31 301 *e*P **Pn** 23 54 42.5 -0.4
FLN La Foliniere 15.59 301 *e*P **Pn** 23 54 48.3 +1.8
baz=121
MUD Monsted U'grnd 15.68 338 *i* P **Pn** 23 54 54.9 +7.1
comp=Z,26nm,1.1s
MUD *i* 00 00 25.1
MUD
comp=Z,160nm,15.0s
MUD Monsted U'grnd 15.68 338 *i* P **Pn** 23 54 54.9 +7.1
comp=Z,26nm,1.1s
MUD *i* 00 00 25.1
GRR Gorron 15.73 300 *e*P **Pn** 23 54 48.1 -0.3
VRSR Storozhevoye 15.88 50 *e*P **Pn** 23 54 48.5 -1.8
VRSR pmax pmax
comp=Z,7.0nm,1.1s
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR Storozhevoye 15.88 50 *e*P **Pn** 23 54 48.5 -1.8
comp=E,7.0nm,1.1s
ERZM Erzurum 16.38 91 *i* P **Pn** 23 55 01.2 +4.4
ETOR Torete 16.47 272 P **Pn** 23 54 58.7 +0.8
ETOR pmax pmax
comp=Z,3.0nm,0.6s
ETOR Torete 16.47 272 P **Pn** 23 54 58.7 +0.8
comp=Z,2.7nm,0.6s
ETOR Torete 16.47 272 P **Pn** 23 54 58.7 +0.8
comp=Z,2.7nm,0.6s
BNGL BINGOL 16.51 95 *i* P **Pn** 23 55 04.3 +5.9
VSU Vasula 16.67 13 *i* P **Pn** 23 55 01.0 +0.5
KIV Kislovodsk 16.72 77*c i*P **Pn** 23 55 02.8 +1.7
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,122nm,10.0s
KIV Kislovodsk 16.72 77 *e*Pn **Pn** 23 55 02.3 +1.2
KIV Kislovodsk 16.72 77 *i* P **Pn** 23 55 02.8 +1.7
comp=Z,122nm,10.0s
OBN Obninsk 16.79 35*de*P **Pn** 23 54 59.4 -2.6
OBN pmax pmax
comp=Z,36nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 16.79 35 *e*Pn **Pn** 23 54 59.6 -2.3
comp=Z,20nm,0.8s
OBN Obninsk 16.79 35 *e*P **Pn** 23 54 59.4 -2.6
comp=Z,200nm,19.0s
SGMF Saint Gilles 16.80 298 *e*Pn **Pn** 23 55 00.5 -1.6
MARD Mardin 16.83 101 *i* P **Pn** 23 55 06.2 +3.7
ASF Jabal al Asfar 16.93 121 Pn **Pn** 23 55 04.0 +0.2
comp=Z,0.1nm,0.3s,baz=49,slow=4.4,SNR=6.0
ASF LR LR 00 02 22.6
comp=Z,175nm,18.3s,baz=335,slow=40
QUIF Quistinic 17.13 297 *e*Pn **Pn** 23 55 04.3 -2.0
ROSF Rostrenen 17.28 298 *e*Pn **Pn** 23 55 06.8 -1.4
EIL Elat 17.57 131 *e*Pn **Pn** 23 55 11.7 0.0
EIL Elat 17.57 131 *e*Pn **Pn** 23 55 11.7 0.0
MOS Moscow 17.65 35 *e*P **Pn** 23 55 12.8 0.0
MOS *e*S **Sn** 23 58 33.0 +3.2
MOS pmax pmax
comp=Z,41nm,1.1s
MOS Moscow 17.65 35 *e*P **Pn** 23 55 12.8 0.0
comp=Z,41nm,1.1s
ZEI Tsey 17.70 81 *e*P **Pn** 23 55 15.8 +2.4
EHUE Huescar 17.76 263 P **Pn** 23 55 17.3 +3.2
EHUE pmax pmax
comp=Z,2.0nm,0.8s
EHUE Huescar 17.76 263 P **Pn** 23 55 17.3 +3.2
comp=Z,1.9nm,0.8s
EHUE Huescar 17.76 263 P **Pn** 23 55 17.3 +3.2
comp=Z,1.9nm,0.8s
GUD Guadarrama 18.06 273 P **Pn** 23 55 20.3 +2.5
GUD pmax pmax
comp=Z,1.0nm,0.7s
GUD Guadarrama 18.06 273 P **Pn** 23 55 20.3 +2.5
comp=Z,1.0nm,0.7s
GUD Guadarrama 18.06 273 P **Pn** 23 55 20.3 +2.5
comp=Z,1.0nm,0.7s
EQES Quesada 18.11 263 P **Pn** 23 55 21.0 +2.5
comp=Z,1.9nm,0.7s
EQES Quesada 18.11 263 P **Pn** 23 55 21.0 +2.5
comp=Z,1.9nm,0.7s
ESDC Sonseca Array 18.17 269 P **Pn** 23 55 18.2 -0.9
comp=Z,0.1nm,0.3s,baz=72,slow=12,SNR=5.7
ESDC LR LR 00 01 07.6
comp=Z,170nm,18.3s,baz=225,slow=33
ESDC Sonseca Array 18.17 269 P **Pn** 23 55 18.4 -0.7
comp=Z,0.4nm,0.5s
ESDC Sonseca Array 18.17 269 P **Pn** 23 55 18.4 -0.7
comp=Z,0.4nm,0.5s
ESLA Sonseca Array 18.17 269 *e*Pn **Pn** 23 55 17.8 -1.3
HFS Hagfors 18.18 350 P **Pn** 23 55 19.5 +0.2
comp=Z,0.5nm,0.3s,baz=170,slow=9.9,SNR=20
HFS LR LR 00 02 12.5
comp=Z,125nm,19.6s,baz=175,slow=37
EARI Arriondas 18.39 281 P **Pn** 23 55 23.6 +1.6
comp=Z,1.3nm,0.6s
EARI Arriondas 18.39 281 P **Pn** 23 55 23.6 +1.7
comp=Z,1.3nm,0.6s
TBLG Delisi 18.47 84 P **Pn** 23 55 26.0 +3.1
EBAN Banos Encina 18.51 265 P **Pn** 23 55 23.8 +0.5
EBAN pmax pmax
comp=Z,9.0nm,0.8s
EBAN Banos Encina 18.51 265 P **Pn** 23 55 23.8 +0.4
comp=Z,8.7nm,0.8s
EBAN Banos Encina 18.51 265 P **Pn** 23 55 23.8 +0.5
comp=Z,8.7nm,0.8s
MTA Mtatsminda 18.52 84 P **Pn** 23 55 26.2 +2.7
ECOG Cogollos-Vega 18.68 262 P **Pn** 23 55 27.1 +1.7
ECOG pmax pmax
comp=Z,6.0nm,0.8s
ECOG Cogollos-Vega 18.68 262 P **Pn** 23 55 27.1 +1.7
comp=Z,5.8nm,0.8s
ECOG Cogollos-Vega 18.68 262 P **Pn** 23 55 27.1 +1.7
comp=Z,5.8nm,0.8s
GNI Garni 18.82 88 P **Pn** 23 55 27.0 -0.1
comp=Z,0.7nm,0.3s,baz=241,slow=3.5,SNR=11
GNI LR LR 00 04 09.1
comp=Z,52nm,19.5s,baz=299,slow=42
GNI Garni 18.82 88 ⇑P **Pn** 23 55 28.6 +1.5
SNR=8.0
GNI Garni 18.82 88 P **Pn** 23 55 27.0 -0.1
GNI pmax pmax
comp=Z,1.0nm,0.3s
GNI MLR MLR
comp=Z,52nm,19.5s
GNI Garni 18.82 88 *e*P **Pn** 23 55 26.1 -1.1
MSL Mosul 18.94 101 *ex* x 23 55 37.5
DGRG David-gareji 18.99 84 P **Pn** 23 55 32.2 +3.0
NAO01 NORSAR Array S 19.28 347 *e*P **Pn** 23 55 31.9 -0.8
comp=Z,1.1nm,0.6s
NAO01 NORSAR Array S 19.28 347 *e*P **Pn** 23 55 31.9 -0.7
comp=Z,1.1nm,0.6s
NB2 NORSAR Subarra 19.41 347 P **Pn** 23 55 32.4 -1.8
comp=Z,4.3nm,0.7s,baz=165,slow=12
NB2 NORSAR Subarra 19.41 347 P **Pn** 23 55 32.4 -1.8
NB2 pmax pmax
comp=Z,4.0nm,0.7s

NOA	**NORSAR Array B**	**19.41**	**347**	P		**Pn**	**23 55 32.6**	**-1.5**	
	comp=Z,1.0nm,0.3s,baz=154,slow=10,SNR=27								
FINES	**FINESS Array B**	**19.46**	**9**	P		**Pn**	**23 55 33.2**	**-1.5**	
	comp=Z,0.4nm,0.3s,baz=185,slow=10.0,SNR=21								
FINES				PcP		PcP	23 59 51.8	-3.0	
	comp=Z,0.1nm,0.3s,baz=336,slow=4.2,SNR=3.7								
FINES				LR		LR	00 04 04.9		
	comp=Z,126nm,21.3s,baz=331,slow=40								
FINES	**FINESS Array B**	**19.46**	**9**	PcP		PcP	23 59 51.8	-3.0	
FIA1	**FINESS Array S**	**19.46**	**9**	*e*P		**Pn**	**23 55 34.3**	**-0.5**	
FIA1	**FINESS Array S**	**19.46**	**9**	*e*P		**Pn**	**23 55 34.3**	**-0.5**	
PBRG	**Braganca**	**19.73**	**277**	*e*P		**Pn**	**23 55 36.6**	**-1.4**	
	comp=Z,21nm,1.5s								
EKA	**Eskdalemuir Ar**	**19.82**	**319**	P		**Pn**	**23 55 37.5**	**-1.6**	
	comp=Z,1.5nm,0.3s,baz=115,slow=9.7,SNR=35								
ESK	**Eskdalemuir**	**19.83**	**319**	*e*P		**Pn**	**23 55 38.2**	**-1.0**	
EMIJ	**Mijas**	**19.85**	**261**	P		**Pn**	**23 55 39.2**	**-0.2**	
	comp=Z,2.8nm,0.5s								
EMIJ	**Mijas**	**19.85**	**261**	P		**Pn**	**23 55 39.2**	**-0.3**	
	comp=Z,2.8nm,0.5s								
KAF	**Kangasniemi**	**20.14**	**9**	*e*p		**P**	**23 55 39.6**	**-1.4**	
	comp=Z,18nm,0.8s								
KAF	**Kangasniemi**	**20.14**	**9**	*e*P		**P**	**23 55 39.6**	**-1.4**	
KAF				pmax		pmax			
	comp=Z,18nm,0.8s								
MTE	**Manteigas**	**20.63**	**274**	*e*P		**P**	**23 55 45.2**	**-1.2**	
	comp=Z,15nm,1.1s								
MTE	**Manteigas**	**20.63**	**274**	*e*P		**P**	**23 55 45.3**	**-1.1**	
	comp=Z,6.0nm,0.6s								
DLF	**Lyons Farm**	**20.69**	**311**	*e*P		**P**	**23 55 54.0**	**+7.0**	
EBAD	**Badajoz**	**20.70**	**269**	P		**P**	**23 55 46.5**	**-0.7**	
	comp=Z,0.4nm,0.5s								
PESTR	**Estremoz**	**21.09**	**270**	*e*P		**P**	**23 55 49.6**	**-1.8**	
	comp=Z,26nm,1.3s,mb4.4								
DCN	**Croghan**	**21.12**	**311**	*e*P		**P**	**23 55 53.2**	**+1.5**	
BHD	**Baghdad**	**21.34**	**107**	*ex*		x	23 55 53.5		
PTOM	**Tomar**	**21.48**	**272**	*e*P		**P**	**23 55 55.0**	**-0.5**	
	comp=Z,23nm,1.1s,mb4.4								
MDT	**Midelt**	**21.55**	**252**	P		**P**	**23 55 54.8**	**-1.6**	
	comp=Z,5.7nm,0.8s,mb4.1,baz=69,slow=10.0,SNR=16								
MDT				LR		LR	00 03 47.6		
	comp=Z,129nm,20.4s,MS3.3,baz=95,slow=35								
JOF	**Joensuu**	**21.65**	**14**	*e*p		**P**	**23 55 57.1**	**-0.3**	
	comp=Z,6.1nm,0.6s,mb4.2								
RST	**Umm Al-Ruwaisa**	**25.33**	**112**	*e*P		**P**	**23 56 32.0**	**-1.9**	
RST				AMb		AMB	23 56 33.2		
	comp=Z,78nm,1.1s,mb5.2								
MIB	**Mutribah**	**25.38**	**111**	*e*P		**P**	**23 56 32.7**	**-1.6**	
MIB				AMb		AMB	23 56 34.0		
	comp=Z,82nm,0.9s,mb5.3								
NAY	**Al-Naaiem**	**25.66**	**112**	*e*P		**P**	**23 56 34.6**	**-2.2**	
NAY				AMb		AMB	23 56 38.4		
	comp=Z,27nm,0.8s,mb4.9								
AKTK	**Aktyubinsk**	**27.27**	**60**	P		**P**	**23 56 50.1**	**-1.3**	
AKTK				LR		LR	00 09 49.7		
AKTO	**Aktyubinsk**	**27.27**	**60**	P		**P**	**23 56 50.1**	**-1.3**	
	comp=Z,0.9nm,0.4s,mb3.7,baz=290,slow=8.9,SNR=4.4								
AKTO				LR		LR	00 09 49.7		
	comp=Z,135nm,20.6s,MS3.5,baz=287,slow=41								
ARCES	**ARCESS Array B**	**27.38**	**4**	P		**P**	**23 56 49.1**	**-3.2**	
	comp=Z,8.1nm,0.9s,mb4.2,baz=38,slow=6.1,SNR=10								
ARCES				LR		LR	00 09 00.1		
	comp=Z,240nm,19.8s,MS3.8,baz=10,slow=39								
ARCES	**ARCESS Array B**	**27.38**	**4**	P		**P**	**23 56 49.1**	**-3.2**	
ARCES				LR		LR	00 09 00.1		
ARU	**Arti**	**28.40**	**47**	*e*P		**P**	**23 56 59.1**	**-2.4**	
ARU				*e*PPP			23 57 50.4		
ARU				*e*			00 00 09.8		
ARU				*e*S		**S**	**00 01 44.4**	**-4.6**	
ARU				MLR		MLR			
	comp=N,60nm,16.0s,MS3.6								
ARU				MLR		MLR			
	comp=E,100nm,16.0s,MS3.6								
ARU				MLR		MLR			
	comp=Z,200nm,16.0s,MS3.8								
ARU	**Arti**	**28.40**	**47**	*e*P		**P**	**23 57 00.3**	**-1.2**	
	comp=Z,7.6nm,0.6s,mb4.5								
TOA0	**Torodi Ar. Sit**	**33.11**	**214**	*e*P		**P**	**23 57 42.7**	**-0.4**	
TORD	**Torodi Ar. Bea**	**33.11**	**214**	P		**P**	**23 57 42.2**	**-0.9**	
	comp=Z,3.3nm,0.6s,mb4.4,baz=21,slow=8.8,SNR=22								
TORD				LR		LR	00 11 36.2		
	comp=Z,117nm,18.5s,MS3.6,baz=150,slow=37								
ZRNK	**Zerenda**	**34.11**	**55**	*e*P		**P**	**23 57 51.4**	**-0.4**	
ZRNK				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**34.11**	**55**	*e*P		**P**	**23 57 51.4**	**-0.3**	
	comp=Z,3.2nm,0.6s,mb4.4								
ZRNK	**Zerenda**	**34.11**	**55**	*e*P		**P**	**23 57 51.4**	**-0.4**	
	comp=Z,3.2nm,0.6s,mb4.4								
BRVK	**Borovoye**	**34.88**	**54**	⇑P		**P**	**23 57 58.9**	**+0.5**	
	SNR=7.2								
BRVK	**Borovoye**	**34.88**	**54**	*e*P		**P**	**23 57 58.3**	**-0.1**	
BRVK				pmax		pmax			
	comp=Z,7.0nm,0.4s,mb4.9								
BRVK	**Borovoye**	**34.88**	**54**	*e*P		**P**	**23 57 58.3**	**-0.1**	
	comp=Z,7.0nm,0.4s,mb4.9								
BRVK	**Borovoye**	**34.88**	**54**	*e*P		**P**	**23 57 58.3**	**-0.1**	
	comp=Z,7.0nm,0.4s,mb4.9								
BVAR	**Borovoye Array**	**34.94**	**54**	P		**P**	**23 57 58.9**	**-0.1**	
	comp=Z,5.5nm,0.7s,mb4.6,baz=273,slow=5.8,SNR=29								
ATD	**Arta Tunnel**	**36.69**	**140**	P		**P**	**23 58 14.9**	**+1.0**	
	comp=Z,13nm,1.1s,mb4.7,baz=89,slow=18,SNR=4.3								
ATD	**Arta Tunnel**	**36.69**	**140**	P		**P**	**23 58 14.9**	**+1.0**	
AAK	**Ala-Archa**	**39.67**	**70**	⇓P		**P**	**23 58 39.6**	**+0.5**	
	SNR=11								
AAK	**Ala-Archa**	**39.67**	**70**	*e*P		**P**	**23 58 38.9**	**-0.2**	
AAK				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.6								
AAK	**Ala-Archa**	**39.67**	**70**	*e*P		**P**	**23 58 38.9**	**-0.2**	
	comp=Z,16nm,1.2s,mb4.6								
AAK	**Ala-Archa**	**39.67**	**70**	*e*P		**P**	**23 58 38.9**	**-0.2**	
	comp=Z,16nm,1.2s,mb4.6								
DBIC	**Dimbokro**	**41.75**	**219**	P		**P**	**23 58 55.6**	**-0.7**	
	comp=Z,2.3nm,0.3s,mb4.2,baz=12,slow=9.9,SNR=14								
DBIC				LR		LR	00 19 02.9		
	comp=Z,88nm,21.5s,MS3.6,baz=22,slow=40								
DBIC	**Dimbokro**	**41.75**	**219**	P		**P**	**23 58 55.6**	**-0.7**	
DBIC				LR		LR	00 19 02.9		
NVS	**Novosibirsk**	**42.28**	**50**	*i* P		**P**	**23 59 00.5**	**-0.1**	
NVS				pmax		pmax			
	comp=Z,19nm,1.4s,mb4.5								
NVS				pmax		pmax			
	comp=N,1.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,11nm,1.2s								
NVS	**Novosibirsk**	**42.28**	**50**	*i* P		**P**	**23 59 00.5**	**-0.1**	
	comp=E,1.0nm,0.8s,mb3.5								
ZAL	**Zalesovo**	**43.35**	**51**	P		**P**	**23 59 08.3**	**-0.9**	
	comp=E,2.2nm,0.5s,mb4.2,baz=184,slow=8.9,SNR=10								
ZAL	**Zalesovo**	**43.35**	**51**	P		**P**	**23 59 08.3**	**-0.9**	
MKAR	**Makanchi Array**	**43.65**	**62**	P		**P**	**23 59 10.3**	**-1.4**	
	comp=E,1.9nm,0.7s,mb4.0,baz=285,slow=7.5,SNR=16								
MKAR	**Makanchi Array**	**43.65**	**62**	*i* P		**P**	**23 59 13.5**	**+1.8**	
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
SFJD	**Kangerlussuaq**	**44.37**	**328**	LR		LR	00 18 21.8		
	comp=Z,185nm,18.7s,MS4.0,baz=77,slow=37								
KMBO	**Kilima Mbogo**	**46.07**	**155**	P		**P**	**23 59 31.3**	**+0.4**	
	comp=Z,1.4nm,0.9s,mb3.9,baz=293,slow=13,SNR=2.7								
KMBO				LR		LR	00 21 20.7		
	comp=Z,90nm,18.4s,MS3.8,baz=278,slow=39								
WMQ	**Urumqi**	**48.26**	**64**	*e*P		**P**	**23 59 49.0**	**+0.9**	
WMQ				AMB		AMB			
	comp=Z,187nm,7.8s								
SCHQ	**Schefferville**	**55.08**	**315**	P		**P**	**00 00 39.5**	**+0.5**	
	comp=Z,5.2nm,0.8s,mb4.6,baz=86,slow=4.8,SNR=7.1								
LSA	**Lhasa**	**57.46**	**78**	P		**P**	**00 00 54.5**	**-1.6**	
LSA	**Lhasa**	**57.46**	**78**	*e*P		**P**	**00 00 54.7**	**-1.4**	
LSA				pmax		pmax			
	comp=Z,11nm,0.6s,mb5.1								
LSA	**Lhasa**	**57.46**	**78**	*e*P		**P**	**00 00 54.7**	**-1.4**	
	comp=Z,11nm,0.6s,mb5.1								
SONM	**Songino Array**	**58.24**	**52**	P		**P**	**00 01 00.9**	**-0.6**	
	comp=Z,2.3nm,1.0s,mb4.2,baz=282,slow=7.1,SNR=9.4								
LZH	**Lanzhou**	**62.82**	**65**	*e*P		**P**	**00 01 31.0**	**-1.8**	
LZH				AP		pP	00 01 33.5	-0.8	
LZH				XP		sP	00 01 36.0	+1.2	
LZH				AMB		AMB			
	comp=Z,14nm,1.5s,mb4.9								
LZH	**Lanzhou**	**62.82**	**65**	*e*P		**P**	**00 01 31.0**	**-1.8**	
LZH				pP		pP	00 01 33.5	-0.8	
LZH				sP		sP	00 01 36.0	+1.2	
HHC	**Hu-ho-hao-te**	**65.11**	**57**	*e*P		**P**	**00 01 47.3**	**-0.6**	
HHC				PCP		PcP	00 02 20.5	-0.1	
HHC				PP		PP	00 04 12.5	+1.5	
HHC				PCS			00 06 23.3		
HHC				S		S	00 10 28.3	-2.8	
HHC				PS			00 10 47.5		
HHC				SKS			00 11 39.5		
HHC				AMB		AMB			
	comp=Z,156nm,5.2s								
HHC				LR		LR			
	comp=N,123nm,5.1s								
HHC				LR		LR			
	comp=E,58nm,4.5s								
HHC				LR		LR			
	comp=Z,179nm,5.5s								
OPO	**Ambohidratompo**	**65.68**	**151**	P		**P**	**00 01 52.2**	**+0.6**	
	comp=Z,3.6nm,0.9s,mb4.4,baz=333,slow=3.5,SNR=4.1								
CD2	**Chengdu**	**65.73**	**70**	*e*P		**P**	**00 01 50.8**	**-1.1**	
SADO	**Sadowa**	**67.12**	**310**	P		**P**	**00 02 01.8**	**+1.0**	
	comp=Z,6.8nm,1.0s,mb4.6,baz=69,slow=6.9,SNR=4.2								
KMI	**Kunming**	**68.48**	**75**	P		**P**	**00 02 08.8**	**-0.6**	
KMI				AP		pP	00 02 12.0	+1.2	
KMI				XP		sP	00 02 13.3	+1.9	
KMI				PP		PP	00 04 41.5	+1.1	
KMI				PPP			00 06 18.5		
KMI				S		S	00 11 06.3	-5.5	
KMI				AMB		AMB			
	comp=Z,7.0nm,0.7s,mb4.8								
KMI				AMB		AMB			
	comp=Z,157nm,4.4s								
KMI				LR		LR			
	comp=N,364nm,15.8s,MS4.8								
KMI				LR		LR			
	comp=E,243nm,19.1s,MS4.8								
KMI				LR		LR			
	comp=Z,399nm,15.8s,MS4.8								
KMI	**Kunming**	**68.48**	**75**	P		**P**	**00 02 08.8**	**-0.6**	
KMI				pP		pP	00 02 12.0	+1.2	
KMI				sP		sP	00 02 13.3	+1.9	
KMI				PP		PP	00 04 41.6	+1.2	
KMI				PPP			00 06 18.5		
KMI				S		S	00 11 06.3	-5.5	
KMI				SS		SS	00 15 33.5	-2.0	
YKA	**Yellowknife Ar**	**69.28**	**339**	P		**P**	**00 02 12.9**	**-1.4**	
	comp=Z,3.0nm,0.7s,mb4.4,baz=37,slow=5.4,SNR=7.4								
BOSA	**Boshof**	**70.81**	**175**	P		**P**	**00 02 23.4**	**-0.4**	
	comp=Z,6.5nm,0.7s,mb4.7,baz=18,slow=7.6,SNR=14								
ULM	**Lac du Bonnet**	**72.04**	**323**	P		**P**	**00 02 30.0**	**-1.1**	
	comp=Z,4.2nm,0.7s,mb4.5,baz=40,slow=4.0,SNR=5.9								
ULM	**Lac du Bonnet**	**72.04**	**323**	P		**P**	**00 02 30.0**	**-1.1**	
NJ2	**Nanjing**	**75.15**	**60**	*e*P		**P**	**00 02 44.8**	**-4.6**	
MJAR	**Matsushiro Arr**	**83.41**	**46**	P		**P**	**00 03 33.5**	**-1.0**	
	comp=Z,0.9nm,0.4s,mb4.1,baz=315,slow=4.4,SNR=4.4								
MJAR				LR		LR	00 42 48.5		
	comp=Z,85nm,18.9s,MS4.1,baz=235,slow=37								
PDAR	**Pinedale Array**	**83.81**	**325**	P		**P**	**00 03 36.4**	**-0.2**	
	comp=Z,2.0nm,0.7s,mb4.3,baz=52,slow=5.8,SNR=3.4								
BDFB	**Brasilia**	**84.90**	**244**	LR		LR	00 43 01.3		
	comp=Z,120nm,20.2s,MS4.3,baz=62,slow=37								
ROSC	**El Rosal**	**89.86**	**276**	LR		LR	00 40 51.0		
	comp=Z,120nm,18.8s,MS4.3,baz=23,slow=33								
MAIT	**Maitri**	**113.00**	**183**	*e*P		Pdif	00 05 49.8	-0.4	
WRA	**Warramunga Arr**	**121.10**	**89**	PKP		PKPdf	00 09 57.4	-2.6	
	comp=Z,0.7nm,0.7s,baz=318,slow=1.9,SNR=6.9								
ASAR	**Alice Springs**	**123.01**	**93**	PKP		PKPdf	00 10 01.8	-1.9	
	comp=Z,1.4nm,0.5s,baz=322,slow=1.7,SNR=21								
STKA	**Stephens Creek**	**133.20**	**97**	PKP		PKPdf	00 10 21.9	-1.2	
	comp=Z,1.2nm,0.4s,baz=353,slow=8.0,SNR=4.7								

NIED ***26*** *23:51:00.4660N×153.10E,h23km,Mw4.9 Best double couple: M0 2.55000×10^16 NP1:ϕs=46.00000°,δ79.00000°, λ=-155.00000°. NP2:ϕs=312.00000°,δ66.00000°, λ=-12.00000°.*

ISCJB ***26*** *23:51:50.5±1.5,4625N±005×15338E±005,h0km±9km, mb4.9/106,MS4.4/41, Error ellipse: s-maj=9.1km s-min=4.5km az=112.6*

BJI ***26*** *23:51:51.4,4657N×153.40E,h8km,mB4.9,mb4.8,Ms4.6, Msz4.4*

IDC ***26*** *23:51:52.0±0.5,4625N×15325E,h0km,mb4.5/26, mb1 4.7/27,mb1mx4.6/32,mbtmp4.5/27,ML3.8/1,MS4.3/24, Ms1 4.3/24,ms1mx4.0/42, Error ellipse: s-maj=15.5km s-min=14.9km az=94.0*

SKHL ***26*** *23:51:52.5±2.6,4617N×15393E,h51km,mb5.8/3, mbh5.4/2,Ms4.8/6,msh5.5/3*

GCMT ***26*** *23:51:53.5±0.3,4632N×15352E,h18km,MW5.0/66, Moment Tensor Solution. s36,c55; s66,c122; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.63±.16; Mθθ-1.46±.10; Mϕϕ-2.17±.11; Mrθ0.91±.25; Mrϕ-1.97±.07; Mθϕ0.87±.25; Best double couple: M0 3.93100×10^16 NP1:ϕs=218.00000°,δ36.00000°,λ86.00000°. NP2: ϕs=42.00000°,δ54.00000°,λ93.00000°. Principal axes: T 3.8400, Plg80.0000°, Azm323.0000°; N 0.1820, Plg2.0000°, Azm221.0000°; P -4.0210, Plg9.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***26*** *23:51:53.5±0.2,4625N×15337E,h10km,mb5.0/58, MS4.6/6 Error ellipse: s-maj=6.1km s-min=4.5km az=136.0*

MOS ***26*** *23:51:54.6±1.0,4641N×15326E,h21km,mb5.1/55, MS4.5/16,Error ellipse: s-maj=9.6km s-min=4.9km az=104.4*

SZGRF ***26*** *23:52:14.8,4923N×151.44E,h33km,mb5.0,MS4.3, Northwest of Kuril Islands, Russia*

ISC 26 23:51:53.5±1.6,4632N±005×15342E±006,h9km±10km, n353,σ0s98/347,mb4.8/106,MS4.4/41,23C-12D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**256**	*i* P		**Pn**	**23 52 53.6**	**-1.8**
KUR					AMB	AMB	23 52 54.6	
	2μm,1.0s							
KUR					AMB	AMB	23 52 55.0	
	430nm,0.7s							
KUR					AMB	AMB	23 52 55.0	
	170nm,0.7s							
KUR					AMB	AMB	23 52 55.0	
	1μm,0.7s							
KUR					*e*S	**Sn**	**23 53 41.5**	**-1.2**
KUR					A		23 53 48.2	
	5μm,2.0s							
KUR					A		23 53 59.5	
	570nm,0.9s							
KUR					A		23 53 59.5	
	2μm,0.9s							
KUR					AMS	AMS	23 54 32.0	
	8μm,16.0s							
KUR					AMS	AMS	23 54 32.0	
	4μm,16.0s							
KUR					AMS	AMS	23 54 32.0	
	6μm,16.0s							
KUR	**Kuril'sk**	**4.03**	**256**	⇑*i* PN		**Pn**	**23 52 53.6**	**-1.8**
KUR					*e*S	**Sn**	**23 53 41.5**	**-1.2**
KUR					pmax	pmax		
	comp=Z,2μm,1.0s							
KUR					pmax	pmax		
	comp=N,430nm,0.7s							
KUR					pmax	pmax		
	comp=E,170nm,0.7s							
KUR					pmax	pmax		
	comp=Z,1μm,0.7s							
KUR					smax			
	comp=N,5μm,2.0s							
KUR					smax			
	comp=E,5μm,2.0s							
KUR					smax			
	comp=N,570nm,0.9s							
KUR					smax			
	comp=E,2μm,0.9s							
KUR					MLR	MLR		
	comp=N,8μm,16.0s							
KUR					MLR	MLR		
	comp=E,4μm,16.0s							
KUR					MLR	MLR		
	comp=Z,6μm,16.0s							
SKR	**Severo-Kuril's**	**4.72**	**21**	*e*P		**Pn**	**23 53 01.2**	**-3.5**
SKR					AMB	AMB	23 53 04.0	
	comp=Z,80nm,0.4s							
SKR					AMB	AMB	23 53 04.0	
	comp=Z,70nm,0.4s							
SKR					AMB	AMB	23 53 04.0	
	comp=Z,190nm,0.4s							
SKR					sP		23 53 20.2	
SKR					*e*S	**Sn**	**23 53 52.5**	**-7.0**
SKR					A		23 54 02.0	
	comp=Z,2μm,8.0s							
SKR					A		23 54 02.0	
	comp=Z,5μm,8.0s							
SKR					A		23 54 02.0	
	comp=Z,3μm,8.0s							
SKR					A		23 54 02.0	
	comp=Z,3μm,8.0s							
SKR					A		23 54 02.0	
	comp=Z,5μm,8.0s							
SKR					A		23 54 02.0	
	comp=Z,3μm,8.0s							
SKR					A		23 54 13.0	
	comp=Z,410nm,0.6s							
SKR					A		23 54 13.0	
	comp=Z,170nm,0.6s							
SKR					A		23 54 13.0	
	comp=Z,110nm,0.6s							
SKR					AMS	AMS	23 54 56.0	
	comp=Z,5μm,14.0s							
SKR					AMS	AMS	23 54 56.0	
	comp=Z,5μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**5.81**	**250**	*e*P		**Pn**	**23 53 22.0**	**+2.2**
YUK					AMB	AMB	23 53 23.0	
	comp=Z,170nm,0.3s							
YUK					AMB	AMB	23 53 26.1	
	comp=Z,1μm,2.0s							
YUK					*e*S	**Sn**	**23 54 27.3**	**+0.8**
YUK					A		23 54 31.2	
	comp=Z,350nm,0.4s							
YUK					A		23 54 31.2	
	comp=Z,380nm,0.5s							
YUK					A		23 54 36.0	
	comp=Z,5μm,3.0s							
YUK					A		23 54 36.0	
	comp=Z,2μm,3.0s							
YUK					AMS	AMS	23 55 41.1	
	comp=Z,8μm,15.0s							
YUK					AMS	AMS	23 55 41.1	
	comp=Z,4μm,15.0s							
YUK					AMS	AMS	23 55 41.1	
	comp=Z,3μm,15.0s							
NEM2	**Nemuro 2**	**6.21**	**244**	P		**Pn**	**23 53 24.0**	**-1.2**
NEM2					*e*S	**Sn**	**23 54 29.4**	**-6.8**
JRA	**Rausu**	**6.33**	**251**	P		**Pn**	**23 53 28.1**	**+1.1**
JNK	**Nakash**	**6.75**	**249**	P		**Pn**	**23 53 33.5**	**+0.8**
JAK	**Akkeshi**	**7.05**	**245**	P		**Pn**	**23 53 35.4**	**-1.4**
JAK					*e*S	**Sn**	**23 54 51.2**	**-5.9**
JTKR	**Abashiri--Toko**	**7.12**	**254**	P		**Pn**	**23 53 39.6**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	⇑*i* P		**Pn**	**23 53 47.0**	**+5.8**
YSS					AMB	AMB	23 53 48.0	
	comp=Z,70nm,0.9s							
YSS					AMB	AMB	23 53 48.0	
	comp=Z,50nm,0.9s							
YSS					pP		23 54 00.0	
YSS					*e*S	**Sn**	**23 55 07.2**	**+2.3**
YSS					AMS	AMS	23 56 17.0	
	comp=Z,2μm,15.0s							
YSS					AMS	AMS	23 56 17.0	
	comp=Z,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	⇑*i* PN		**Pn**	**23 53 47.0**	**+5.8**
YSS					*e*S	**Sn**	**23 55 07.2**	**+2.3**
YSS					pmax	pmax		
	comp=E,70nm,0.9s							
YSS					MLR	MLR		
	comp=N,2μm,15.0s							
YSS					MLR	MLR		
	comp=E,2μm,15.0s							
YSS					MLR	MLR		
	comp=Z,2μm,15.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	*e*Pn		**Pn**	**23 53 40.9**	**-0.3**
	comp=Z,53nm,0.8s							
JMP	**Maruseppu**	**7.48**	**256**	P		**Pn**	**23 53 43.6**	**+0.9**
JAR	**Ashorobuto**	**7.50**	**250**	P		**Pn**	**23 53 42.0**	**-0.9**
PET	**Petropavlovsk**	**7.51**	**25**	*e*PN		**Pn**	**23 53 42.4**	**-0.8**
PET				pmax		pmax		
	comp=Z,57nm,0.9s							
PET	**Petropavlovsk**	**7.51**	**25**	*e*Pn		**Pn**	**23 53 42.4**	**-0.8**
	comp=Z,57nm,0.9s							
PET				*e*			23 53 55.3	
PET				*e*Sn		**Sn**	**23 55 05.1**	**-3.4**
JKK2	**Kamakawa 2**	**7.94**	**256**	P		**Pn**	**23 53 50.9**	**+1.9**
ASAJ	**Asahikawa**	**7.95**	**258**	Pn		**Pn**	**23 53 51.5**	**+2.3**
	comp=Z,2.8nm,0.3s,baz=106,slow=14,SNR=21							
ASAJ	**Asahikawa**	**7.95**	**258**	P		**Pn**	**23 53 52.1**	**+2.9**
ASAJ	**Asahikawa**	**7.95**	**258**	PN		**Pn**	**23 53 51.5**	**+2.3**
ASAJ				pmax		pmax		
	comp=Z,3.0nm,0.3s							
JCH	**Churui**	**8.09**	**246**	P		**Pn**	**23 53 50.2**	**-0.9**
JWK2	**Keihoku**	**8.11**	**267**	P		**Pn**	**23 53 57.0**	**+5.6**
UGL	**Uglegorsk**	**8.14**	**294**	*e*P		**Pn**	**23 53 56.0**	**+4.3**
UGL				AMB		AMB	23 53 57.5	
	comp=Z,100nm,0.8s							
UGL				*e*S		**Sn**	**23 55 32.0**	**+8.2**
UGL				A			23 55 34.0	
	comp=Z,70nm,0.6s							
UGL	**Uglegorsk**	**8.14**	**294**	*e*PN		**Pn**	**23 53 56.0**	**+4.3**
UGL				S		**Sn**	**23 55 32.0**	**+8.2**
UGL				pmax		pmax		
	comp=Z,100nm,0.8s							
UGL				smax				
	comp=E,74nm,0.7s							
UGL				smax				
	comp=N,69nm,0.5s							
TYV	**Tymovskoe**	**8.45**	**306**	*e*P		**Pn**	**23 54 00.5**	**+4.4**
TYV				AMB		AMB	23 54 05.0	
	comp=N,600nm,5.0s							
TYV				AMB		AMB	23 54 05.0	
	comp=N,1μm,5.0s							
TYV				AMB		AMB	23 54 05.2	
	comp=N,57nm,1.0s							
TYV				AMB		AMB	23 54 05.2	
	comp=N,119nm,1.0s							
JEM	**Erimo**	**8.54**	**243**	P		**Pn**	**23 53 58.5**	**+1.3**
ERM	**Erimo**	**8.54**	**243**	*e*PN		**Pn**	**23 54 00.1**	**+2.9**
ERM				pmax		pm

KLR MLR MLR
comp=Z,2µm,15.0s
MAJO Matsushiro 15.00 235 *e*P **Pn 23 55 22.5 -3.0**
MAJO pmax pmax
comp=Z,29nm,0.8s
MAJO Matsushiro 15.00 235 *e*Pn **Pn 23 55 22.5 -3.0**
comp=Z,29nm,0.8s
MAJO *e* 23 55 32.7
MAT Matsushiro 15.00 235 P **Pn 23 55 26.0 +0.5**
MJAR Matsushiro Arr 15.00 235 Pn **Pn 23 55 22.5 -3.0**
comp=Z,0.4nm,0.3s,baz=29,slow=12,SNR=8.2
SEY Seymchan 16.66 358 *i* P **Pn 23 55 47.1 +0.1**
MDJ Mudanjiang 16.79 273 P **Pn 23 55 49.8 +1.1**
MDJ AP pP 23 55 52.5 -1.0
MDJ XP sP 23 55 53.8 -0.9
MDJ AMB AMB
comp=Z,37nm,0.9s
MDJ AMB AMB
comp=Z,186nm,5.2s
MDJ LR LR
comp=N,462nm,14.6s
MDJ LR LR
comp=E,421nm,17.5s
MDJ LR LR
comp=Z,594nm,17.8s
MDJ Mudanjiang 16.79 273 *e*Pn **Pn 23 55 49.9 +1.2**
comp=Z,29nm,0.8s
CN2 Changchun 19.88 273 *e*P **Pn 23 56 22.8 -3.7**
CN2 AMB AMB
comp=Z,20nm,0.6s
YAK Yakutsk 20.79 328 *e*P **P 23 56 32.9 -2.0**
YAK *e**PP 23 56 42.6
YAK *e* 23 56 56.0
YAK *e*S **S 00 00 16.8 -10**
YAK *e*SS 00 00 42.6
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,47nm,1.5s
YAK pmax pmax
comp=E,21nm,1.1s
YAK smax
comp=N,93nm,3.0s
YAK smax
comp=E,163nm,3.1s
YAK MLR MLR
comp=Z,930nm,16.0s,MS4.2
YAK MLR MLR
comp=N,611nm,17.0s,MS4.2
YAK MLR MLR
comp=E,535nm,17.0s,MS4.2
YAK Yakutsk 20.79 328 P **P 23 56 34.6 -0.3**
INCN Inchon 21.72 256 *e*P **P 23 56 45.4 +0.5**
comp=E,18nm,0.3s,mb5.0
SNY Shenyang 21.84 269 ⇑P **P 23 56 45.5 -0.6**
SNY AMB AMB
comp=Z,33nm,0.9s,mb4.8
SNY AMB AMB
comp=Z,360nm,7.6s
SNY LR LR
comp=E,755nm,15.3s
SNY LR LR
comp=Z,1µm,16.3s,MS4.4
HIA Hailar 22.71 290 P **P 23 56 56.8 +1.4**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 22.71 290 P **P 23 56 56.8 +1.4**
comp=Z,11nm,0.8s,mb4.3
BILL Bilibino 22.76 12⇑ *i*P **P 23 56 57.5 +1.6**
BILL 00 00 50.0
BILL pmax pmax
comp=Z,11nm,0.6s,mb4.5
BILL MLR MLR
comp=Z,800nm,17.0s,MS4.2
DL2 Dalian 24.42 264⇑ *i*P **P 23 57 12.5 +0.3**
DL2 PP 23 57 50.3
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
DL2 AMB AMB
comp=Z,180nm,5.1s
DL2 LR LR
comp=N,240nm,13.8s,MS3.9
DL2 LR LR
comp=E,190nm,14.8s,MS3.9
DL2 LR LR
comp=Z,200nm,14.7s,MS3.7
BJI Beijing 27.69 270 P **P 23 57 44.0 +2.2**
BJI AMB AMB
comp=Z,37nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,321nm,7.6s
BJI LR LR
comp=N,745nm,14.4s,MS4.5
BJI LR LR
comp=E,578nm,15.0s,MS4.5
BJT Baijiatuau 27.70 270 *e*P **P 23 57 44.0 +2.1**
BJT pmax pmax
comp=Z,36nm,0.8s
BJT Baijiatuau 27.70 270 *e*P **P 23 57 44.0 +2.1**
comp=Z,36nm,0.8s,mb5.0
SSE Sheshan 29.15 250 *e*P **P 23 57 54.8 0.0**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,81nm,5.3s
NJ2 Nanjing 30.08 254 *e*P **P 23 58 03.0 0.0**
NJ2 PP PP 23 59 01.0 -10
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,370nm,5.2s
NJ2 LR LR
comp=N,960nm,14.8s,MS4.8
NJ2 LR LR
comp=E,1µm,16.3s,MS4.8
NJ2 LR LR
comp=Z,2µm,14.2s,MS4.9
SONM Songino Array 31.68 290 P **P 23 58 15.7 -1.4**
comp=Z,3.2nm,0.8s,mb4.2,baz=70,slow=8.0,SNR=22
SONM LR LR 00 11 45.6
comp=Z,492nm,18.1s,MS4.2,baz=77,slow=38
TLY Talaya 32.56 298 *e*P **P 23 58 24.1 -0.8**
TLY *e* 23 59 32.8
TLY *e*S **S 00 03 47.2 +6.8**
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,1µm,16.0s,MS4.7
TLY Talaya 32.56 298 *e*P **P 23 58 24.4 -0.5**
comp=Z,6.9nm,0.6s,mb4.8
ZAK Zakamensk 33.05 296 *e*P **P 23 58 27.4 -1.8**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GUMO Guam 33.42 195 *e*P **P 23 58 32.4 0.0**
WHN Wuhan 34.03 256 P **P 23 58 38.0 +0.3**
XAN Xi'an 35.69 266 P **P 23 58 52.5 +0.4**
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
PMR Palmer 35.76 44 *e*P **P 23 58 52.8 +0.1**
MCK McKinley 35.84 40 *e*P **P 23 58 53.6 +0.3**
MCK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MCK McKinley 35.84 40 *e*P **P 23 58 53.6 +0.2**
comp=Z,3.8nm,0.9s,mb4.3
COLA College 36.34 38 *e*P **P 23 58 58.4 +0.8**
COLA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
COLA College 36.34 38 *e*P **P 23 58 58.4 +0.8**
comp=Z,6.3nm,0.5s,mb4.8
LZH Lanzhou 38.12 273 *e*P **P 23 59 14.5 +1.8**
LZH AMB AMB
comp=Z,51nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,121nm,5.6s
LZH LR LR
comp=N,581nm,15.4s
LZH LR LR
comp=Z,850nm,16.8s,MS4.6
GTA Gaotai 39.25 280 ⇑P **P 23 59 23.3 +1.1**
GTA AP pP 23 59 28.0 +2.9
GTA XP sP 23 59 31.0 +4.8
GTA PP PP 00 00 57.8 +5.7
GTA AMB AMB
comp=Z,18nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,170nm,4.6s
GTA LR LR
comp=N,335nm,14.1s,MS4.5
GTA LR LR
comp=E,332nm,14.9s,MS4.5
GTA LR LR
comp=Z,392nm,14.9s,MS4.4
CD2 Chengdu 41.06 266 *e*P **P 23 59 39.3 +2.1**
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GYA Guiyang 41.83 258⇑ *i*P **P 23 59 44.0 +0.5**
GYA AMB AMB
comp=Z,40nm,0.8s,mb5.1
INK Inuvik 41.90 32 P **P 23 59 44.1 0.0**
comp=Z,8.3nm,0.8s,mb4.4,baz=280,slow=6.7,SNR=16
ZAL Zalesovo 43.05 306 P **P 23 59 51.6 -1.8**
comp=Z,2.7nm,0.7s,mb4.1,baz=57,slow=6.6,SNR=6.0
ZAL PcP PcP 00 01 43.1 -0.3
comp=Z,3.1nm,0.8s,baz=114,slow=1.3,SNR=6.7
ZAL Zalesovo 43.05 306 *i* P **P 23 59 51.5 -1.9**
ZAL pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.33 298 P **P 00 00 26.6 -0.9**
comp=Z,17nm,0.8s,mb5.0,baz=62,slow=8.4,SNR=49
MKAR PcP PcP 00 01 58.3 0.0
comp=Z,3.4nm,0.7s,baz=46,slow=5.2,SNR=4.3
KURK Kurchatov 47.78 304 P **P 00 00 29.9 -1.0**
comp=Z,159nm,0.8s,SNR=10
BBB Bella Bella 49.20 53 LR LR 00 18 37.9
comp=Z,87nm,19.4s,MS3.8,baz=100,slow=32
YKA Yellowknife Ar 51.14 37 P **P 00 00 57.2 +0.6**
comp=Z,5.0nm,0.8s,mb4.5,baz=296,slow=7.3,SNR=8.2
YKA Yellowknife Ar 51.14 37 P **P 00 00 57.2 +0.6**
RES Resolute Bay 51.17 18 P **P 00 00 58.4 +1.5**
BVAR Borovoye Array 51.29 310 P **P 00 00 56.7 -1.1**
comp=Z,5.1nm,0.7s,mb4.6,baz=57,slow=7.0,SNR=16
BVAR PcP PcP 00 02 12.9 +0.2
comp=Z,4.7nm,0.8s,baz=62,slow=2.2,SNR=6.2
BVAR LR LR 00 24 58.6
comp=Z,485nm,18.1s,MS4.6,baz=139,slow=39
BVAR Borovoye Array 51.29 310 P **P 00 00 56.7 -1.1**
BVAR 00 02 12.9
BRVK Borovoye 51.33 310 *e*P **P 00 00 57.3 -0.8**
BRVK *e* 00 02 12.8
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BRVK Borovoye 51.33 310 *e*P **P 00 00 57.3 -0.7**
comp=Z,8.7nm,1.0s,mb4.6
BRVK *e*PcP PcP 00 02 12.8 -0.1
ZRNK Zerenda 52.06 310 *e*P **P 00 01 02.1 -1.4**
ZRNK *e* 00 01 11.0
ZRNK *e* 00 02 11.6
ZRNK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ZRNK Zerenda 52.06 310 *e*P **P 00 01 02.1 -1.5**
comp=Z,8.4nm,0.8s,mb4.7
ZRNK *e* 00 01 11.0
ZRNK *e*PcP PcP 00 02 11.6 -4.0
ULHL Ulahol 53.34 296 P **P 00 01 13.3 +0.3**
SNR=9.2
TKM2 Tokmak 2 53.38 297 P **P 00 01 13.8 +0.5**
SNR=6.4
USP Ospenovka 53.87 297 P **P 00 01 16.3 -0.5**
SNR=22
KBK Karagaybulak 53.92 297 P **P 00 01 17.7 +0.5**
SNR=7.3
KZA Kyzart 54.05 296 P **P 00 01 19.9 +1.7**
SNR=5.8
AAK Ala-Archa 54.21 297 P **P 00 01 19.3 0.0**
SNR=13
AAK Ala-Archa 54.21 297 *e*P **P 00 01 18.4 -1.0**
AAK *e* 00 01 30.9
AAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
AAK Ala-Archa 54.21 297 *e*P **P 00 01 18.4 -0.9**
comp=Z,13nm,0.8s,mb4.9
AAK *e* 00 01 30.9
EKS2 Erkin-Say 54.64 297 P **P 00 01 22.2 -0.3**
SNR=15
AML Almayashu 54.98 297 P **P 00 01 26.0 +1.1**
SNR=7.9
ARU Arti 55.47 318⇑ *i*P **P 00 01 26.6 -1.9**
ARU *e* 00 02 26.6
ARU *e* 00 03 26.9
ARU *e*S **S 00 09 02.4 -11**
ARU *e* 00 11 17.4
ARU *e*SS SS 00 12 54.2 -4.0
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU MLR MLR
comp=N,100nm,18.0s,MS4.4
ARU MLR MLR
comp=E,300nm,18.0s,MS4.4
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.5
ARU Arti 55.47 318 *e*P **P 00 01 26.7 -1.7**
comp=Z,7.3nm,0.8s,mb4.8
ARU *e*PcP PcP 00 02 27.8 -0.7
PMG Port Moresby 55.76 187 LR LR 00 21 45.8
comp=Z,133nm,21.9s,MS4.0,baz=357,slow=32
HNR Honiara 55.81 172 LR LR 00 21 23.5
comp=Z,130nm,19.0s,MS4.0,baz=359,slow=32
DAG Danmarks Havn 57.08 358⇑ *i*P **P 00 01 39.7 -0.3**
comp=Z,4.0nm,1.0s,mb4.4
DAG Danmarks Havn 57.08 358⇑ *e*P **P 00 01 39.7 -0.3**
DAG pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DAG Danmarks Havn 57.08 358⇑ *e*P **P 00 01 39.7 -0.3**
comp=Z,4.0nm,1.0s,mb4.4
KEV Kevo 57.81 341 *ep* **P 00 01 43.4 -1.7**
ARCES ARCESS Array B 58.33 341 P **P 00 01 48.3 -0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=38,slow=8.3,SNR=11
ARCES LR LR 00 29 19.1
comp=Z,195nm,19.1s,MS4.2,baz=192,slow=38
SDNR Sundarnagar 59.10 285 *e*P **P 00 01 54.2 +0.1**
AKTK Aktyubinsk 59.17 312 P **P 00 01 54.8 +0.2**
AKTK LR LR 00 29 42.6
AKTO Aktyubinsk 59.17 312 P **P 00 01 54.8 +0.2**
comp=Z,3.9nm,0.6s,mb4.6,baz=43,slow=4.3,SNR=12
AKTO LR LR 00 29 42.6
comp=Z,863nm,18.6s,MS4.9,baz=228,slow=38
THN Thein Dam 59.36 286 *ex* **P 00 01 55.8 -0.1**
NDI New Delhi 60.70 282 *ex* **P 00 02 04.0 -1.1**
JOF Joensuu 61.81 334 *ep* **P 00 02 11.6 -1.0**
NVAR Mina Array Bea 62.45 62 P **P 00 02 18.8 +1.9**
comp=Z,1.1nm,0.8s,mb4.1,baz=277,slow=8.3,SNR=6.3
KAF Kangasniemi 63.92 335 *ep* **P 00 02 24.2 -2.5**
comp=Z,4.7nm,0.5s,mb4.8,baz=37,slow=6.2
KAF Kangasniemi 63.92 335 *e*P **P 00 02 24.2 -2.5**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
FINES FINESS Array B 64.52 335 P **P 00 02 29.7 -0.9**
comp=Z,13nm,0.7s,mb5.1,baz=38,slow=7.9,SNR=82
FINES LR LR 00 33 24.8
comp=Z,247nm,19.6s,MS4.4,baz=149,slow=39
FINES FINESS Array B 64.52 335 P **P 00 02 29.7 -0.9**
FINES LR LR 00 33 24.8
PDAR Pinedale Array 64.83 54 P **P 00 02 33.9 +1.2**
comp=Z,1.6nm,0.7s,mb4.2,baz=271,slow=7.0,SNR=3.0
OBN Obninsk 65.78 326 P **P 00 02 39.0 +0.2**
OBN pmax pmax
comp=Z,16nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
OBN Obninsk 65.78 326 P **P 00 02 38.9 +0.1**
VSU Vasula 66.69 333*c* *i*P **P 00 02 43.7 -0.9**
VRSR Storozhevoye 67.57 322 *e*P **P 00 02 50.0 -0.2**
VRSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,1.3s
WRAB Tennant Creek 68.17 199 *e*P **P 00 02 52.5 -1.5**
WB2 Warramunga Arr 68.18 199 P **P 00 02 55.2 +1.2**
WRA Warramunga Arr 68.18 199 P **P 00 02 51.6 -2.5**
comp=E,1.3nm,0.9s,mb4.0,baz=18,slow=6.8,SNR=7.0
WRA LR LR 00 28 08.7
comp=E,132nm,21.5s,MS4.1,baz=210,slow=32
NB2 NORSAR Subarra 68.70 341 P **P 00 02 56.6 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=28,slow=6.5
NB2 NORSAR Subarra 68.70 341 P **P 00 02 56.6 -0.7**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
NOA NORSAR Array B 68.70 341 P **P 00 02 56.7 -0.6**
comp=Z,9.5nm,0.6s,mb4.9,baz=28,slow=6.4,SNR=76
NOA LR LR 00 39 20.7
comp=Z,242nm,18.0s,MS4.5,baz=35,slow=41
NOA NORSAR Array B 68.70 341 P **P 00 02 56.7 -0.6**
NOA LR LR 00 39 20.7
FITZ Fitzroy Crossi 68.87 208 P **P 00 02 58.0 -0.3**
comp=Z,2.4nm,1.0s,mb4.1,baz=355,slow=0.7,SNR=4.3
HFS Hagfors 68.93 340 P **P 00 02 58.2 -0.6**
comp=Z,14nm,0.6s,mb5.1,baz=53,slow=5.7,SNR=114
HFS LR LR 00 37 36.2
comp=Z,192nm,19.0s,MS4.4,baz=17,slow=40
NAO01 NORSAR Array S 68.95 341 *e*P **P 00 02 58.2 -0.7**
comp=Z,6.9nm,0.7s,mb4.7
KONO Kongsberg 70.31 341 *e*P **P 00 03 07.2 0.0**
KONO pmax pmax
comp=Z,14nm,0.8s,mb4.9
KONO Kongsberg 70.31 341 *e*P **P 00 03 07.2 0.0**
comp=Z,14nm,0.8s,mb5.0
KIV Kislovodsk 71.25 314 *e*P **P 00 03 13.6 +0.6**
KIV *e* 00 03 31.6
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 71.25 314 *e*P **P 00 03 13.6 +0.6**
comp=Z,16nm,0.9s,mb4.9
KIV *e*PcP PcP 00 03 31.6 -1.3
ZEI Tsey 71.50 313 *e*P **P 00 03 14.4 -0.1**
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MTA Mtatsminda 71.82 312 P **P 00 03 17.3 +0.8**
TBLG Delisi 71.82 312 P **P 00 03 17.8 +1.4**
ASAR Alice Springs 71.87 199 P **P 00 03 17.1 +0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=11,slow=5.1,SNR=18
ASAR LR LR 00 37 02.4
comp=Z,110nm,19.1s,MS4.1,baz=346,slow=38
AKASG Malin Array Be 72.02 326 P **P 00 03 16.8 -0.9**
comp=Z,20nm,0.7s,mb5.2,baz=33,slow=6.2,SNR=76
AKASG LR LR 00 37 49.3
comp=Z,153nm,18.1s,MS4.3,baz=20,slow=38
AKBB Malin Array Si 72.02 326 *e*P **P 00 03 16.8 -0.8**
AKBB *e* 00 03 26.7
GNI Garni 72.97 311 P **P 00 03 24.4 +1.1**
comp=Z,7.8nm,0.7s,mb4.8,baz=26,slow=7.8,SNR=11
GNI LR LR 00 41 09.2
comp=Z,379nm,18.1s,MS4.7,baz=6.5,slow=41
GNI Garni 72.97 311*c* *i*P **P 00 03 25.2 +1.9**
GNI pmax pmax
comp=Z,47nm,2.5s
GNI MLR MLR
comp=Z,500nm,20.0s
SCHQ Schefferville 73.62 23 LR LR 00 37 02.2
comp=Z,107nm,19.7s,MS4.1,baz=21,slow=37
KIS Kishinev 75.15 324 *e*P **P 00 03 34.8 -1.2**
KIS MLR MLR
comp=Z,600nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,700nm,16.0s
BSEG Bad Segeberg 75.30 338 *e*P **P 00 03 35.5 -1.4**
comp=Z,14nm,0.9s,mb4.9
BSEG Bad Segeberg 75.30 338 *e*P **P 00 03 35.5 -1.4**
OJC Ojcow 75.80 331 *e*P **P 00 03 40.1 +0.4**
BURAR Bucovina Array 76.06 327⇓ *i*P **P 00 03 41.2 0.0**
BURAR Bucovina Array 76.06 327 ⇑P **P 00 03 41.2 -0.1**
UZH Uzhgorod 76.29 329⇓ *i*P **P 00 03 41.5 -1.0**
UZH pmax pmax
comp=Z,17nm,1.0s,mb4.9
KSP Ksiaz 76.38 334 *e*P **P 00 03 42.8 -0.2**
OKC Ostrava-Krasne 76.67 332 *e*P **P 00 03 44.8 +0.1**
UPC Upice 76.76 334 *e*P **P 00 03 45.2 0.0**
DPC Dobruska-Polom 76.80 333 *e*P **P 00 03 45.6 +0.2**
DPC AMS AMS 00 44 20.0
comp=Z,400nm,18.3s
EKA Eskdalemuir Ar 76.80 347 P **P 00 03 45.0 -0.5**
comp=Z,2.2nm,0.7s,mb4.2,baz=18,slow=5.2,SNR=14
MORC Moravsky Berou 76.92 332⇓ *i*P **P 00 03 46.6 +0.5**
MORC Moravsky Berou 76.92 332 P **P 00 03 46.7 +0.6**
CLL Collm 76.94 336 *e*P **P 00 03 45.5 -0.7**
comp=Z,23nm,0.8s,mb5.2
CLL Collm 76.94 336⇑ *i*P **P 00 03 45.6 -0.6**
comp=Z,23nm,0.8s,mb5.2
CLL *e*(PcP) PcP 00 03 59.0 +1.7
CLL LmV 00 39 00.0
comp=Z,300nm,18.4s
CLL Collm 76.94 336⇑ *i*P **P 00 03 45.6 -0.6**
comp=Z,23nm,0.8s,mb5.2
CLL *e* 00 03 59.0
BRG Berggiesshubel 77.06 335 *e*P **P 00 03 46.7 -0.2**
comp=Z,10.0nm,1.0s,mb4.7
BRG Berggiesshubel 77.06 335 *i* P **P 00 03 46.9 0.0**
comp=Z,5.8nm,1.0s,mb4.5
BRG *e* 00 03 58.4
BRG Berggiesshubel 77.06 335 *i* P **P 00 03 46.9 0.0**
BRG *e* 00 03 58.4
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PVCC Panska Ves 77.18 334 *e*P **P 00 03 47.7 +0.1**
CLZ Clausthal 77.18 338 *e*P **P 00 03 47.9 +0.3**
comp=Z,19nm,0.9s,mb5.0
CLZ Clausthal 77.18 338 *e*P **P 00 03 47.9 +0.3**
CLZ pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLZ Clausthal 77.18 338 *e*P **P 00 03 47.9 +0.3**
comp=Z,19nm,0.9s,mb5.0
MLR Muntele Rosu 77.53 325 P **P 00 03 50.7 +1.1**
comp=Z,15nm,0.7s,mb5.0,baz=164,slow=7.2,SNR=33
MLR Muntele Rosu 77.53 325⇑ *i*P **P 00 03 51.3 +1.7**
MLR Muntele Rosu 77.53 325 P **P 00 03 50.7 +1.1**
MLR pmax pmax
comp=Z,15nm,0.7s
MLR Muntele Rosu 77.53 325 P **P 00 03 50.9 +1.4**
VRAC Vranov 77.63 333 LR LR 00 41 27.5
comp=Z,318nm,19.4s,MS4.7,baz=13,slow=38
VRAC Vranov 77.63 333⇑ *i*P **P 00 03 50.8 +0.7**
VRAC Vranov 77.63 333 P **P 00 03 50.5 +0.4**
PRU Pruhonice 77.66 334 *e*P **P 00 03 49.7 -0.6**
PRU AMS AMS 00 41 40.0
DRGR 77.69 328⇑ *i*P **P 00 03 50.4 0.0**
DRGR 77.69 328 P **P 00 03 50.4 -0.1**
TANN Tannenbergstha 77.89 336 *e*P **P 00 03 51.2 -0.4**
comp=Z,5.0nm,1.0s,mb4.4
MOX Moxa 77.93 336 *e*P **P 00 03 51.2 -0.5**
comp=Z,11nm,0.9s,mb4.8
MOX Moxa 77.93 336 *e*P **P 00 03 52.3 +0.6**
comp=Z,12nm,1.0s,mb4.8
MOX Moxa 77.93 336 *e*P **P 00 03 52.3 +0.6**
MOX pmax pmax
comp=Z,12nm,1.0s,mb4.8
VOIR 77.93 326⇓ *i*P **P 00 03 52.6 +0.8**
VOIR 77.93 326⇓P **P 00 03 52.6 +0.8**
WTSB Winterswijk 77.97 340 *e*P **P 00 03 51.6 -0.4**
comp=Z,20nm,1.0s,mb5.0
TREC Trest 77.99 333 *e*P **P 00 03 51.8 -0.3**
NKC Novy Kostel 78.06 336 *e*P **P 00 03 52.8 +0.3**
BUG Bochum--Univer 78.34 339 *e*P **P 00 03 54.1 0.0**
comp=Z,15nm,0.8s,mb5.0
MANZ Manzenberg 78.38 336 *e*P **P 00 03 54.7 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
ROTZ Rotzenmuhle 78.55 336 *e*P **P 00 03 55.7 +0.5**
comp=Z,12nm,1.0s,mb4.8
STKA Stephens Creek 78.57 190 LR LR 00 35 10.5
comp=Z,134nm,19.1s,MS4.3,baz=20,slow=33
KHC Kasperske Hory 78.71 334 *e*P **P 00 03 55.1 -1.0**
KHC AMS AMS 00 42 20.0
comp=Z,500nm,18.1s
GZR Gura Zlata 78.84 327⇓ *i*P **P 00 03 57.4 +0.6**
GZR Gura Zlata 78.84 327 P **P 00 03 57.2 +0.4**
BR131 Keskin Array S 78.84 317 *e*P **P 00 03 57.6 +0.8**
comp=Z,5.8nm,1.0s,mb4.5
BRTR Keskin Array B 78.84 317 P **P 00 03 57.4 +0.5**
comp=Z,3.7nm,0.9s,mb4.3,baz=69,slow=4.5,SNR=15
BRTR LR LR 00 44 30.5
comp=Z,144nm,19.9s,MS4.3,baz=29,slow=40
GRA1 Grafenberg Arr 78.89 336 *e*P **P 00 03 57.4 +0.3**
comp=Z,27nm,1.1s,mb5.1
GRA1 LR LR
comp=Z,200nm,20.5s,MS4.4
GRF Grafenberg Arr 78.89 336 *e*P **P 00 03 57.4 +0.3**
comp=Z,27nm,1.1s,mb5.1
GRF *e*L 00 39 48.7
comp=Z,161nm,20.5s
GRF Grafenberg Arr 78.89 336 *e*P **P 00 03 57.4 +0.3**
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.1
GRF MLR MLR
comp=Z,200nm,20.5s,MS4.4
GRF Grafenberg Arr 78.89 336 *e*P **P 00 03 57.4 +0.3**
GRF pmax pmax
comp=Z,27nm,1.1s,mb5.1
GRF MLR MLR

comp=Z,200nm,20.5s,MS4.4
GRF Grafenberg Arr 78.89 336 *e*P P 00 03 57.4 +0.3
comp=Z,27nm,1.1s,mb5.1
GRF LR LR
comp=Z,200nm,20.5s,MS4.4
WET Wettzell 78.91 335 *e*P P 00 03 56.9 -0.3
comp=Z,13nm,0.9s,mb4.9
WET Wettzell 78.91 335 *e*P P 00 03 56.9 -0.3
WET pmax pmax
comp=Z,13nm,0.9s,mb4.9
WET Wettzell 78.91 335 *e*P P 00 03 56.9 -0.3
comp=Z,13nm,0.9s,mb4.9
GEC2 GERESS Array S 78.93 334 *e*P P 00 03 56.9 -0.4
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.93 334 *e*P P 00 03 56.9 -0.4
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 78.93 334 *e*P P 00 03 56.9 -0.4
comp=Z,8.0nm,1.0s,mb4.6
GERES GERESS Array B 78.93 334 P P 00 03 57.4 +0.1
comp=Z,4.0nm,0.8s,mb4.4,baz=34,slow=4.4,SNR=30
GERES LR LR 00 42 44.2
comp=Z,490nm,18.2s,MS4.9,baz=241,slow=39
MIB Mutribah 79.07 302 *e*P P 00 03 58.6 +0.6
MIB AMb AMB 00 04 01.0
comp=Z,83nm,0.8s,mb5.7
BZS Buzias 79.09 328⇑*i*P P 00 03 58.4 +0.2
BZS Buzias 79.09 328 P P 00 03 58.1 0.0
TNS Taunus Mts 79.16 338 *e*P P 00 03 58.6 0.0
comp=Z,15nm,1.3s,mb4.8
TNS Taunus Mts 79.16 338 *e*P P 00 03 58.6 0.0
TNS pmax pmax
comp=Z,15nm,1.3s,mb4.8
TNS Taunus Mts 79.16 338 *e*P P 00 03 58.6 0.0
comp=Z,15nm,1.3s,mb4.8
HGN Heimansgroeve 79.30 340⇑*e*P P 00 03 58.9 -0.4
comp=Z,20nm,1.3s,mb4.9
MEM Membach 79.42 340 P P 00 04 00.0 +0.1
MIAR Mount Ida 79.44 51 *e*P P 00 03 59.9 -0.2
MIAR *e* 00 04 07.8
RST Umm Al-Ruwaisa 79.49 302 *e*P P 00 04 00.7 +0.3
RST AMb AMB 00 04 03.1
comp=Z,74nm,0.9s,mb5.6
NAY Al-Naaiem 79.53 301 *e*P P 00 04 00.5 -0.1
NAY AMb AMB 00 04 03.5
comp=Z,30nm,1.0s,mb5.2
PKSM Moragy 79.64 330⇑*i*P P 00 04 00.7 -0.5
PKSM Moragy 79.64 330 P P 00 04 00.9 -0.3
BCLA Clavier 79.77 340 P P 00 04 01.4 -0.5
GIVF Givet 80.17 340 *e*P P 00 04 03.8 -0.3
DOU Dourbes 80.23 340 P P 00 04 04.7 +0.3
BAIF Baives 80.36 340 *e*P P 00 04 04.9 -0.2
TAOE Nuku Hiva Isla 80.59 113 *e*LR LR 00 28 28.7
comp=Z,1µm,32.6s
KBA Koelnbreinsper 80.62 334⇓*i*P P 00 04 07.1 +0.7
comp=Z,30nm,0.7s,mb5.3,SNR=25
KBA Koelnbreinsper 80.62 334⇓*i*P P 00 04 07.1 +0.7
KBA pmax pmax
comp=Z,30nm,0.7s,mb5.3
BFO Black Forest 80.93 337 P P 00 04 08.8 +0.7
comp=Z,50nm,0.9s,mb5.5,SNR=5.1
BFO Black Forest 80.93 337 *e*P P 00 04 08.2 +0.1
comp=Z,13nm,1.2s,mb4.7
BFO Black Forest 80.93 337 *e*P P 00 04 08.2 +0.1
BFO pmax pmax
comp=Z,13nm,1.2s,mb4.7
BFO Black Forest 80.93 337 *e*P P 00 04 08.2 +0.1
comp=Z,13nm,1.2s,mb4.7
WTTA Wattenberg 80.97 335⇓*i*P P 00 04 08.8 +0.5
comp=Z,23nm,1.0s,mb5.1
WTTA Wattenberg 80.97 335⇓*i*P P 00 04 08.8 +0.5
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.1
VTS Vitosha 81.04 325⇓*i*P P 00 04 09.3 +0.6
VTS Vitosha 81.04 325 P P 00 04 09.4 +0.7
MOTA Moosalm 81.05 335⇓*i*P P 00 04 09.1 +0.4
comp=Z,11nm,1.0s,mb4.7,SNR=9.2
MOTA Moosalm 81.05 335⇓*i*P P 00 04 09.1 +0.3
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 81.13 338 *e*P P 00 04 09.2 0.0
comp=Z,26nm,0.9s,mb4.9
CDF Champ du Feu 81.13 338 *e*P P 00 04 09.2 0.0
CDF pmax pmax
comp=Z,13nm,0.9s,mb4.9
CDF Champ du Feu 81.13 338 *e*P P 00 04 09.2 0.0
comp=Z,13nm,0.9s,mb4.9
MEZF Maizieres J'vi 81.61 339 *e*P P 00 04 11.9 +0.2
comp=Z,26nm,0.7s,mb5.0
MEZF Maizieres J'vi 81.61 339 *e*P P 00 04 11.9 +0.2
comp=Z,26nm,0.7s,mb5.3
PPT Papeete 81.74 126 *e*LR LR 00 28 56.7
comp=Z,393nm,24.8s
PPT Papeete 81.74 126 LR LR 00 38 47.0
comp=Z,125nm,18.1s,MS4.3,baz=332,slow=34
HAU Haudompre 81.75 338 *e*P P 00 04 12.3 -0.1
comp=Z,14nm,0.9s,mb4.6
HAU *e*R
comp=Z,343nm,17.5s
HAU Haudompre 81.75 338 *e*P P 00 04 12.3 -0.1
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU MLR MLR
comp=Z,340nm,17.5s,MS4.8
HAU Haudompre 81.75 338 *e*P P 00 04 12.3 -0.1
comp=Z,7.3nm,0.9s,mb4.6
HAU LR LR
comp=Z,340nm,17.5s,MS4.8
HINF Hinteralfeld 81.79 338 *e*P P 00 04 12.3 -0.4
comp=Z,14nm,0.9s,mb4.6
HINF Hinteralfeld 81.79 338 *e*P P 00 04 12.3 -0.4
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 81.79 338 *e*P P 00 04 12.3 -0.4
comp=Z,6.8nm,0.9s,mb4.6
FLN La Foliniere 82.60 343 *e*P P 00 04 16.7 -0.2
comp=Z,48nm,1.2s,mb5.1
FLN *e*R
comp=Z,312nm,18.2s
FLN La Foliniere 82.60 343 *e*P P 00 04 16.7 -0.2
FLN pmax pmax
comp=Z,24nm,1.2s,mb5.1
FLN MLR MLR
comp=Z,310nm,18.3s,MS4.7
FLN La Foliniere 82.60 343 *e*P P 00 04 16.7 -0.2
comp=Z,24nm,1.2s,mb5.1
FLN LR LR
comp=Z,310nm,18.3s,MS4.7
LDF La Druitiere 82.69 343 *e*P P 00 04 17.1 -0.3
comp=Z,11nm,0.9s,mb4.6
LDF La Druitiere 82.69 343 *e*P P 00 04 17.1 -0.3
LDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LDF La Druitiere 82.69 343 *e*P P 00 04 17.1 -0.3
comp=Z,5.6nm,0.9s,mb4.6
SWET Sewanee 82.84 45 *e*P P 00 04 17.8 -0.4
GRR Gorron 83.04 343 *e*P P 00 04 19.2 0.0
comp=Z,24nm,0.9s,mb4.9
GRR Gorron 83.04 343 *e*P P 00 04 19.2 0.0
GRR pmax pmax
comp=Z,12nm,0.9s,mb4.9
GRR Gorron 83.04 343 *e*P P 00 04 19.2 0.0
comp=Z,12nm,0.9s,mb4.9
LOR Lormes 83.05 340 *e*P P 00 04 19.2 -0.1
comp=Z,22nm,0.9s,mb4.9
LOR *e*R
comp=Z,231nm,21.0s
LOR Lormes 83.05 340 *e*P P 00 04 19.2 -0.1
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,230nm,21.0s,MS4.5
LOR Lormes 83.05 340 *e*P P 00 04 19.2 -0.1
comp=Z,11nm,0.9s,mb4.9
LOR LR LR
comp=Z,230nm,21.0s,MS4.5
CABF La Chapelle 83.10 338 *e*P P 00 04 20.0 +0.5
comp=Z,27nm,1.1s,mb4.9
CABF La Chapelle 83.10 338 *e*P P 00 04 20.0 +0.5
CABF pmax pmax
comp=Z,13nm,1.1s,mb4.9
CABF La Chapelle 83.10 338 *e*P P 00 04 20.0 +0.5
comp=Z,13nm,1.1s,mb4.9
ASF Jabal al Asfar 83.13 310 P P 00 04 19.3 -0.4
comp=Z,5.3nm,0.9s,mb4.6,baz=286,slow=4.3,SNR=7.1
ASF LR LR 00 45 49.6
comp=Z,137nm,18.1s,MS4.4,baz=258,slow=39
SSF Saint Saulge 83.33 340 *e*P P 00 04 20.7 0.0
comp=Z,15nm,0.9s,mb4.7
SSF Saint Saulge 83.33 340 *e*P P 00 04 20.7 0.0
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SSF Saint Saulge 83.33 340 *e*P P 00 04 20.7 0.0
comp=Z,7.3nm,0.9s,mb4.7
HYF Humbligny 83.34 340 *e*P P 00 04 21.3 +0.5
SGMF Saint Gilles 83.50 344 *e*P P 00 04 21.6 0.0
comp=Z,23nm,0.9s,mb4.9
SGMF Saint Gilles 83.50 344 *e*P P 00 04 21.6 0.0
SGMF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SGMF Saint Gilles 83.50 344 *e*P P 00 04 21.6 0.0
comp=Z,12nm,0.9s,mb4.9
TKL Tuckaleechee C 83.53 44 P P 00 04 21.8 0.0
comp=Z,3.1nm,0.7s,mb4.6,baz=70,slow=6.5,SNR=5.4
ROSF Rostrenen 83.55 345 *e*P P 00 04 22.0 +0.1
comp=Z,27nm,0.9s,mb5.1
ROSF Rostrenen 83.55 345 *e*P P 00 04 22.0 +0.1
ROSF pmax pmax
comp=Z,14nm,0.9s,mb5.1
ROSF Rostrenen 83.55 345 *e*P P 00 04 22.0 +0.1
comp=Z,14nm,0.9s,mb5.1
AVF Avril sur Loir 83.62 340 *e*P P 00 04 22.3 +0.1
comp=Z,22nm,0.9s,mb5.0
AVF Avril sur Loir 83.62 340 *e*P P 00 04 22.3 +0.1
AVF pmax pmax
comp=Z,11nm,0.9s,mb5.0
AVF Avril sur Loir 83.62 340 *e*P P 00 04 22.3 +0.1
comp=Z,11nm,0.9s,mb5.0
SMF Signal de Mont 83.64 339 *e*P P 00 04 22.5 +0.2
comp=Z,38nm,0.9s,mb5.2
SMF Signal de Mont 83.64 339 *e*P P 00 04 22.5 +0.2
SMF pmax pmax
comp=Z,19nm,0.9s,mb5.2
SMF Signal de Mont 83.64 339 *e*P P 00 04 22.5 +0.2
comp=Z,19nm,0.9s,mb5.2
ELN Precptdale 83.66 41 *e*P P 00 04 21.1 -1.3
LPL La Plagne 83.95 337 *e*P P 00 04 24.9 +1.0
comp=Z,14nm,0.9s,mb4.8
LPL La Plagne 83.95 337 *e*P P 00 04 24.9 +1.0
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
LPL La Plagne 83.95 337 *e*P P 00 04 24.9 +1.0
comp=Z,7.1nm,0.9s,mb4.8
BGF Bois d'Agland 83.96 340 *e*P P 00 04 24.2 +0.3
comp=Z,12nm,0.8s,mb4.8
BGF Bois d'Agland 83.96 340 *e*P P 00 04 24.2 +0.3
BGF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
BGF Bois d'Agland 83.96 340 *e*P P 00 04 24.2 +0.3
comp=Z,5.9nm,0.8s,mb4.8
LPG La Plagne 83.96 337 *e*P P 00 04 25.0 +1.1
comp=Z,22nm,0.9s,mb5.0
LPG La Plagne 83.96 337 *e*P P 00 04 25.0 +1.1
LPG pmax pmax
comp=Z,11nm,0.9s,mb5.0
LPG La Plagne 83.96 337 *e*P P 00 04 25.0 +1.1
comp=Z,11nm,0.9s,mb5.0
TCF Toulx Ste Croi 84.36 340 *e*P P 00 04 26.3 +0.3
comp=Z,15nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.36 340 *e*P P 00 04 26.3 +0.3
TCF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TCF Toulx Ste Croi 84.36 340 *e*P P 00 04 26.3 +0.3
comp=Z,7.5nm,0.9s,mb4.8
MFF Saint Martin d 84.59 342 *e*P P 00 04 27.3 +0.2
comp=Z,21nm,1.0s,mb4.9
MFF Saint Martin d 84.59 342 *e*P P 00 04 27.3 +0.2
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MFF Saint Martin d 84.59 342 *e*P P 00 04 27.3 +0.2
comp=Z,10nm,1.0s,mb4.9
MBDF Montbardon 84.67 337 *e*P P 00 04 28.3 +0.8
comp=Z,17nm,1.0s,mb4.8
MBDF Montbardon 84.67 337 *e*P P 00 04 28.3 +0.8
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MBDF Montbardon 84.67 337 *e*P P 00 04 28.3 +0.8
comp=Z,8.4nm,1.0s,mb4.8
ORIF Oris-en-Rattie 84.73 337 *e*P P 00 04 28.6 +0.8
comp=Z,31nm,1.1s,mb5.0
ORIF *e*R
comp=Z,243nm,21.0s
ORIF Oris-en-Rattie 84.73 337 *e*P P 00 04 28.6 +0.8
ORIF pmax pmax
comp=Z,15nm,1.1s,mb5.0
ORIF Oris-en-Rattie 84.73 337 *e*P P 00 04 28.6 +0.8
comp=Z,15nm,1.1s,mb5.0
VIVF Saint-Julien-l 85.10 338 *e*P P 00 04 30.4 +0.7
comp=Z,33nm,1.1s,mb5.1
VIVF Saint-Julien-l 85.10 338 *e*P P 00 04 30.4 +0.7
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.1
VIVF Saint-Julien-l 85.10 338 *e*P P 00 04 30.4 +0.7
comp=Z,17nm,1.1s,mb5.1
SBF Sospel 85.28 336 *e*P P 00 04 30.2 -0.4
comp=Z,36nm,0.9s,mb5.2
SBF Sospel 85.28 336 *e*P P 00 04 30.2 -0.4
SBF pmax pmax
comp=Z,18nm,0.9s,mb5.2
SBF Sospel 85.28 336 *e*P P 00 04 30.2 -0.4
comp=Z,18nm,0.9s,mb5.2
RJF Les Rejaudoux 85.45 341 *e*P P 00 04 31.3 -0.2
comp=Z,34nm,1.3s,mb5.0
RJF *e*R
comp=Z,264nm,17.2s
RJF Les Rejaudoux 85.45 341 *e*P P 00 04 31.3 -0.2
RJF pmax pmax
comp=Z,17nm,1.3s,mb5.0
RJF MLR MLR
comp=Z,260nm,17.3s,MS4.7
RJF Les Rejaudoux 85.45 341 *e*P P 00 04 31.3 -0.2
comp=Z,17nm,1.3s,mb5.0
RJF LR LR
comp=Z,260nm,17.3s,MS4.7
CAF Calviac 85.68 340 *e*P P 00 04 32.6 0.0
comp=Z,7.7nm,0.8s,mb4.7
CAF Calviac 85.68 340 *e*P P 00 04 32.6 0.0
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
CAF Calviac 85.68 340 *e*P P 00 04 32.6 0.0
comp=Z,3.8nm,0.8s,mb4.7
SMRF Simiane la Rot 85.68 337 *e*P P 00 04 32.0 -0.6
comp=Z,22nm,1.0s,mb5.0
SMRF Simiane la Rot 85.68 337 *e*P P 00 04 32.0 -0.6
comp=Z,22nm,1.0s,mb5.3
FRF La Foret Royal 85.78 336 *e*P P 00 04 33.0 -0.1
LFF La Frestale 85.97 341 *e*P P 00 04 34.5 +0.4
LMR La Mourre 86.03 336 *e*P P 00 04 34.6 +0.3
LASF Ste Croix 86.04 339 *e*P P 00 04 34.0 -0.4
comp=Z,36nm,1.2s,mb5.2
TBI Tubuai 86.47 129 *e*LR LR 00 31 06.7
comp=Z,242nm,33.8s
MTLF Montolieu 87.14 339 *e*P P 00 04 39.6 -0.2
comp=Z,15nm,1.1s,mb4.8
MTLF Montolieu 87.14 339 *e*P P 00 04 39.6 -0.2
MTLF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
MTLF Montolieu 87.14 339 *e*P P 00 04 39.6 -0.2
comp=Z,7.4nm,1.1s,mb4.8
ESDC Sonseca Array 92.02 343 P P 00 05 02.1 -0.6
comp=Z,0.3nm,0.6s,mb3.8,baz=11,slow=4.8,SNR=4.3
ESDC LR LR 00 54 41.3
comp=Z,186nm,18.4s,MS4.6,baz=220,slow=41
ESDC Sonseca Array 92.02 343 P P 00 05 02.1 -0.6
ESDC LR LR 00 54 41.3
KEST Kesra 92.14 331 LR LR 00 50 31.9
comp=Z,85nm,18.5s,MS4.2,baz=343,slow=38
RKT Rikitea 94.60 119 *e*LR LR 00 34 56.2
comp=Z,285nm,32.5s
MDT Midelt 98.76 341 P P 00 05 33.7 +0.3
comp=Z,0.7nm,0.7s,mb4.3,baz=326,slow=7.3,SNR=3.1
MDT LR LR 00 55 10.5
comp=Z,130nm,19.6s,MS4.4,baz=144,slow=38
TORD Torodi Ar. Bea 115.57 329 PKP PKPdf 00 10 35.1 -0.8
comp=Z,0.5nm,0.8s,baz=11,slow=1.4,SNR=4.4
DBIC Dimbokro 123.80 334 PKP PKPdf 00 10 52.1 +0.4
comp=Z,5.5nm,1.0s,baz=193,slow=17,SNR=3.1
MAW Mawson 131.95 211 PKP PKPdf 00 11 05.9 -1.3
comp=Z,1.1nm,0.7s,baz=320,slow=7.5,SNR=3.6
LVC Limon Verde 138.51 70 PKPdf PKPdf 00 11 20.2 +0.8
BDFB Brasilia 144.55 37 PKP PKPdf 00 11 29.0 -1.3
comp=Z,7.1nm,1.0s,baz=177,slow=4.4,SNR=6.0
PLCA Paso Flores 147.96 96 PKPbc PKPbc 00 11 38.7 -0.4
comp=Z,3.2nm,0.8s,baz=292,slow=4.7,SNR=10
CPUP Villa Florida 148.49 61 PKPbc PKPbc 00 11 40.2 -0.3
comp=Z,4.1nm,0.7s,baz=298,slow=3.5,SNR=14
CPUP Villa Florida 148.49 61 *e*PKPbc PKPbc 00 11 40.3 -0.2
SNAA Sanae 152.20 196 PKPbc PKPbc 00 11 46.5 -2.9
comp=Z,0.6nm,0.6s,baz=181,slow=2.6,SNR=19

IDC ***27*** *00:08:40.0±36.0, 2937N×13936E, h165km±187km, mb3.4/5, mb1 3.5/6, mb1mx3.2/20, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=388.7km s-min=62.6km az=166.0*
JMA ***27*** *00:09:17.4±0.3, 3299N×138.15E, h359km, M3.1*
ISCJB ***27*** *00:09:18.7±1.3, 330N±02×1382E±0.1, h338km±6km, mb3.3/5, Error ellipse: s-maj=28.1km s-min=10.9km az=125.9*
ISC 27 00:09:19.4±1.3, 330N±02×1382E±01, h334km±6km, n20, σ0 59/23, mb3.3/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**1.86**	**320**	P	**Pn**	**00 10 08.7**	**+0.5**
JWZ	**Kozaga**	**2.12**	**286**	P	**Pn**	**00 10 10.2**	**+0.1**
JOD2	**Odawara 2**	**2.41**	**18**	*e*S	**S**	**00 10 56.3**	**+1.5**
JWY	**Kouya**	**2.47**	**301**	P	**Pn**	**00 10 13.3**	**+0.4**
BSO1	**Boso 1**	**2.88**	**54**	P	**Pn**	**00 10 15.9**	**-0.6**
BSO1				*e*S	**S**	**00 11 02.0**	**-0.3**
JGM	**Miyama**	**2.96**	**337**	P	**Pn**	**00 10 17.4**	**+0.2**
JRY	**Ryogami san**	**3.09**	**11**	P	**Pn**	**00 10 19.2**	**+0.8**
JRY				*e*S	**S**	**00 11 04.7**	**-1.1**
JAI	**Aioi**	**3.21**	**286**	P	**Pn**	**00 10 19.3**	**-0.2**
JWT	**Wachi**	**3.24**	**316**	P	**Pn**	**00 10 19.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.55**	**1**	P	**Pn**	**00 10 22.6**	**-0.3**
	1.2nm,0.3s,baz=184,slow=10.0,SNR=12						
MAT	**Matsushiro**	**3.56**	**1**	P	**Pn**	**00 10 22.7**	**-0.2**
JAG	**Ashikaga**	**3.60**	**17**	P	**Pn**	**00 10 23.5**	**+0.1**
JAG				*e*S	**S**	**00 11 10.3**	**-4.5**
JMN	**Monobe**	**3.66**	**283**	P	**Pn**	**00 10 23.9**	**-0.1**
JTO	**Tosashimizu**	**4.51**	**270**	P	**Pn**	**00 10 32.8**	**-0.1**
JHS	**Saijyo**	**4.65**	**297**	P	**Pn**	**00 10 34.0**	**-0.4**
SONM	**Songino Array**	**28.14**	**311**	P	**P**	**00 14 45.4**	**+3.8**
	0.1nm,0.3s,mb2.5,baz=117,slow=8.8,SNR=6.7						
MKAR	**Makanchi Array**	**44.14**	**305**	P	**P**	**00 16 55.6**	**-0.1**
	0.4nm,0.3s,mb3.0,baz=86,slow=9.7,SNR=8.1						
BVAR	**Borovoye Array**	**51.40**	**314**	P	**P**	**00 17 50.6**	**-0.4**
	0.5nm,0.5s,mb3.0,baz=89,slow=7.8,SNR=4.1						
ARCES	**ARCESS Array B**	**66.84**	**339**	P	**P**	**00 19 36.7**	**+0.7**
	6.2nm,0.9s,mb4.3,baz=62,slow=7.6,SNR=6.4						
FINES	**FINESS Array B**	**71.14**	**332**	P	**P**	**00 20 02.1**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=58,slow=7.6,SNR=4.5						

MAN ***27*** *00:09:37.3, 691N×12658E, h133km, mb3.8, ML4.8, MS3.6*
ISCJB ***27*** *00:09:38.1±0.8, 705N±004×12661E±010, h126km±6km, mb4.4/19, Error ellipse: s-maj=16.5km s-min=6.4km az=151.1*
NEIC ***27*** *00:09:39.1±2.1, 709N×12670E, h121km±20km, mb4.6/11, Error ellipse: s-maj=15.3km s-min=4.9km az=72.0*
IDC ***27*** *00:09:40.3±2.0, 705N×12663E, h129km±16km, mb4.2/12, mb1 4.2/12, mb1mx4.0/20, mbtmp4.5/12, Error ellipse: s-maj=36.0km s-min=9.5km az=70.0*
ISC 27 00:09:39.4±0.7, 706N±004×12661E±009, h121km±6km, n51, σ0 76/57, mb4.4/19, 5C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.02**	**270**⇓*e*P		**Pn**	**00 10 00.0**	**-1.7**
DMPH	**Davao City--Mi**	**1.09**	**271**⇑*i*P		**Pn**	**00 10 02.7**	**+0.3**
DMPH				*i* S	**Sn**	**00 10 20.7**	**+0.9**
KCP	**Kidapawan**	**1.50**	**268**⇓*e*P		**Pn**	**00 10 06.9**	**0.0**
KCP				*i* S	**Sn**	**00 10 27.4**	**-0.5**
BUKP	**Musuan**	**1.73**	**298**	*e*P	**Pn**	**00 10 09.4**	**-0.3**
BUKP				*e*S	**Sn**	**00 10 31.9**	**-0.7**
BUTP	**Butuan**	**2.13**	**333**	*e*P	**Pn**	**00 10 15.6**	**+1.1**
BUTP				*e*S	**Sn**	**00 10 45.4**	**+4.0**
CGP	**Cagayan de Oro**	**2.34**	**306**⇑*e*P		**Pn**	**00 10 16.9**	**-0.3**
CGP				*i* S	**Sn**	**00 10 45.1**	**-1.2**
SCPH	**Surigao**	**2.92**	**338**⇑*e*P		**Pn**	**00 10 25.7**	**+1.1**
PAGZ	**Pagadian**	**3.29**	**284**	*e*P	**Pn**	**00 10 29.4**	**-0.1**
DCPH	**Dipolog City**	**3.56**	**295**⇑*e*P		**Pn**	**00 10 33.2**	**+0.1**
TBP	**Tagbilaran**	**3.77**	**314**	*e*P	**Pn**	**00 10 36.0**	**+0.1**
SNPH	**Sibulan**	**4.03**	**304**	*e*P	**Pn**	**00 10 40.0**	**+0.6**
LLP	**Lapu-Lapu**	**4.15**	**321**⇑*e*P		**Pn**	**00 10 41.6**	**+0.6**
LLP				*e*S	**Sn**	**00 11 17.8**	**-11**
PLP	**Palo**	**4.38**	**339**	*e*P	**Pn**	**00 10 44.1**	**+0.1**
PLP				*i* S	**Sn**	**00 11 30.8**	**-3.4**
GUIM	**Jordan**	**5.32**	**312**	*e*P	**Pn**	**00 10 57.0**	**+0.4**
TATO	**Taipei**	**18.47**	**345**	P	**P**	**00 13 44.3**	**-1.5**
QIZ	**Qiongzhong**	**20.18**	**308**	*e*P	**P**	**00 14 05.5**	**+1.2**
	15nm,0.6s						
KAKA	**Kakadu**	**20.48**	**164**	*e*P	**P**	**00 14 07.6**	**0.0**
	28nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.02**	**182**⇓*i*P		**P**	**00 14 52.3**	**+0.2**
	42nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**25.02**	**182**	P	**P**	**00 14 52.4**	**+0.4**
	29nm,0.7s,mb4.8,baz=9.4,slow=11,SNR=78						
PMG	**Port Moresby**	**26.21**	**128**	P	**P**	**00 15 01.9**	**-0.9**
	9.8nm,0.8s,mb4.3,baz=274,slow=14,SNR=4.2						
PMG	**Port Moresby**	**26.21**	**128**	*e*P	**P**	**00 15 03.2**	**+0.4**
	7.1nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**27.89**	**164**	*e*P	**P**	**00 15 17.4**	**-0.4**
	4.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**27.89**	**164**	P	**P**	**00 15 17.4**	**-0.4**
	1.2nm,0.5s,mb3.7,baz=331,slow=11,SNR=25						
WRA				PcP	PcP	00 18 31.6	+1.1
	1.5nm,0.7s,baz=335,slow=3.0,SNR=5.9						
WRA				ScP	ScP	00 22 00.4	+0.3
	1.3nm,0.8s,baz=339,slow=3.6,SNR=6.1						
WB2	**Warramunga Arr**	**27.90**	**164**	*e*P	**P**	**00 15 16.6**	**-1.3**
MBWA	**Marble Bar**	**28.85**	**193**	*e*P	**P**	**00 15 26.4**	**+0.1**
	3.4nm,0.5s,mb4.2						
AS31	**Alice Springs**	**31.36**	**167**	*e*P	**P**	**00 15 48.5**	**0.0**
ASPA	**Alice Springs**	**31.36**	**167**	*e*P	**P**	**00 15 48.5**	**0.0**
ASAR	**Alice Springs**	**31.36**	**167**	P	**P**	**00 15 48.4**	**-0.1**
	2.1nm,0.3s,mb4.3,baz=339,slow=7.2,SNR=50						
ASAR				PcP	PcP	00 18 40.3	+0.9
	1.6nm,0.6s,baz=352,slow=2.5,SNR=12						
ASAR				S	**S**	**00 20 45.3**	**-1.5**
	0.7nm,0.8s,baz=357,slow=19,SNR=4.0						
ASAR				ScP	ScP	00 22 11.3	+0.1
	0.9nm,0.8s,baz=344,slow=2.8,SNR=7.1						
FORT	**Forrest**	**37.65**	**178**⇓*i*P		**P**	**00 16 43.2**	**+0.6**
	26nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**39.36**	**192**⇓*i*P		**P**	**00 16 57.3**	**+0.4**
	32nm,1.0s,mb5.1						
MUN	**Mundaring**	**40.07**	**194**	*e*P	**P**	**00 17 03.4**	**+0.6**
LSA	**Lhasa**	**40.21**	**309**	P	**P**	**00 17 05.2**	**+1.2**
NWAO	**Narrogin (SRO)**	**40.76**	**192**	P	**P**	**00 17 09.4**	**+1.0**
	39nm,0.9s,mb5.2,baz=32,slow=7.9,SNR=14						
STKA	**Stephens Creek**	**41.28**	**161**	*e*P	**P**	**00 17 13.2**	**+0.5**
	3.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.28**	**161**	P	**P**	**00 17 13.6**	**+0.8**
	3.2nm,0.5s,mb4.4,baz=308,slow=6.4,SNR=8.6						
SONM	**Songino Array**	**44.13**	**340**	P	**P**	**00 17 36.1**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=169,slow=6.9,SNR=4.3						
TLY	**Talaya**	**48.35**	**341**	P	**P**	**00 18 09.2**	**+0.5**
MKAR	**Makanchi Array**	**54.78**	**324**	P	**P**	**00 18 57.0**	**+0.4**
	2.8nm,0.5s,mb4.5,baz=112,slow=7.5,SNR=40						
MKAR				PcP	PcP	00 19 57.8	+0.2
	2.1nm,0.8s,baz=116,slow=5.6,SNR=4.0						
MKAR				ScP	ScP	00 23 44.4	-0.3
	0.7nm,0.7s,baz=100,slow=4.5,SNR=4.9						
MA2	**Magadan**	**55.53**	**15**	P	**P**	**00 19 02.3**	**+0.4**
BVAR	**Borovoye Array**	**64.49**	**326**	P	**P**	**00 20 03.6**	**+0.5**
	2.8nm,0.6s,mb4.3,baz=124,slow=9.2,SNR=12						
BRVK	**Borovoye**	**64.56**	**326**	*e*P	**P**	**00 20 03.8**	**+0.2**
	2.1nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**65.23**	**326**	*e*P	**P**	**00 20 07.8**	**-0.1**
	5.8nm,0.6s,mb4.6						
AKTK	**Aktyubinsk**	**71.00**	**321**	P	**P**	**00 20 43.5**	**-0.5**
AKTO	**Aktyubinsk**	**71.00**	**321**	P	**P**	**00 20 43.5**	**-0.5**
	1.3nm,0.6s,mb4.0,baz=96,slow=12,SNR=5.2						
CASY	**Casey**	**74.09**	**187**⇓*i*P		**P**	**00 21 02.3**	**+0.1**
JOF	**Joensuu**	**86.17**	**333**	*e*p	**P**	**00 22 06.5**	**-0.5**
VNDA	**Vanda**	**86.73**	**173**	P	**P**	**00 22 09.9**	**+0.1**
	3.8nm,0.9s,mb4.3,baz=310,slow=5.8,SNR=18						
ARCES	**ARCESS Array B**	**87.30**	**340**	P	**P**	**00 22 10.6**	**-1.9**
	7.2nm,1.1s,mb4.5,baz=72,slow=5.8,SNR=3.0						
FINES	**FINESS Array B**	**88.86**	**332**	P	**P**	**00 22 18.8**	**-1.1**
	1.9nm,0.9s,mb4.1,baz=132,slow=10,SNR=7.3						
TORD	**Torodi Ar. Bea**	**121.72**	**290**	PKP	PKPdf	00 28 19.6	+0.7
	0.9nm,0.7s,baz=69,slow=1.7,SNR=7.0						
LPAZ	**La Paz**	**162.92**	**124**	PKPab	PKPab	00 30 20.9	+3.8
	1.9nm,0.7s,baz=226,slow=3.3,SNR=6.9						

NIED ***27*** *00:18:00,37.80N×142.20E,h5km,Mw3.7 Best double couple: M₀3.65000×10¹⁴ NP1:φ₁187.00000°,δ85.00000°, λ84.00000°. NP2:φ₂58.00000°,δ8.00000°,λ141.00000°.*

IDC ***27*** *00:18:08.6±3.1,3781N×14230E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.3/20,mbtmp3.3/3,ML3.0/1,MS3.7/1, Ms1 3.7/1,ms1mx3.0/19,Error ellipse: s-maj=70.8km s-min=35.7km az=59.0*

JMA ***27*** *00:18:11.2±0.2,3779N×142.15E,h32km±2km,M3.7*

ISCJB ***27*** *00:18:12.2±1.6,3781N±007×142.1E±0.1,h38km±18km, mb3.4/2,MS3.7/1,Error ellipse: s-maj=18.9km s-min=10.4km az=51.0*

ISC 27 00:18:10.8±1.8,3779N±006×14210E±010,h11km±8km, n15,σ0970/18,mb3.4/2,MS3.7/1,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.89**	**318**	P	**Pg**	**00 18 28.0**	**+0.1**
JIO				*e*S	**Sg**	**00 18 39.5**	**+0.1**
JMM	**Marumori**	**1.04**	**274**	P	**Pg**	**00 18 30.4**	**-0.4**
JMM				*e*S	**Sg**	**00 18 44.5**	**+0.3**
JFK	**Kawauchi**	**1.06**	**247**	P	**Pg**	**00 18 30.6**	**-0.6**
JOU	**Okura**	**1.27**	**297**	P	**Pn**	**00 18 34.4**	**-0.1**
JMK	**Ichinoseki**	**1.35**	**329**	P	**Pn**	**00 18 34.8**	**-0.8**
JFT	**Otama**	**1.43**	**259**	P	**Pn**	**00 18 36.9**	**+0.2**
JFT				S	**Sn**	**00 18 55.8**	**+0.4**
JYS	**Shirataka**	**1.66**	**286**	P	**Pn**	**00 18 40.6**	**+0.7**
JYK	**Kaneyama**	**1.77**	**310**	P	**Pn**	**00 18 41.5**	**+0.1**
JOM	**Ohasama**	**1.79**	**340**	P	**Pn**	**00 18 41.0**	**-0.7**
JFY	**Yanaizu**	**1.94**	**259**	P	**Pn**	**00 18 44.5**	**+0.7**
MJAR	**Matsushiro Arr** 1.4nm,0.3s,baz=64,slow=12,SNR=5.8	**3.35**	**249**	Pn	**Pn**	**00 19 04.0**	**+0.9**
MAT	**Matsushiro**	**3.35**	**249**	P	**Pn**	**00 19 03.7**	**+0.6**
MAT				*e*S	**Sn**	**00 19 40.4**	**-2.5**
SONM	**Songino Array** 0.3nm,0.5s,mb3.2,baz=110,slow=8.3,SNR=3.4	**27.82**	**303**	P	**P**	**00 24 00.8**	**+0.6**
KDAK	**Kodiak Island** comp=Z,74nm,18.3s,MS3.7,baz=120,slow=35	**46.17**	**42**	LR	LR	00 44 52.1	
WRA	**Warramunga Arr** 0.3nm,0.6s,mb3.5,baz=6.1,slow=7.2,SNR=5.5	**57.89**	**189**	P	**P**	**00 28 02.5**	**-0.3**

SOF ***27*** *00:36:48.4,4264N×1811E,h10km,MD3.2*

CSEM ***27*** *00:37:05.8±0.1,4245N×1986E,h0km,ML4.0/5,Error ellipse: s-maj=1.2km s-min=0.9km az=64.0*

NEIC ***27*** *00:37:05.9,4237N×1992E,h1km,ML3.6(PDG), ML3.9(ROM),After PDG.*

ISCJB ***27*** *00:37:05.5±0.1,4239N±001×1987E±001,h1km,mb3.7/5, Error ellipse: s-maj=1.8km s-min=1.3km az=89.6*

PDG ***27*** *00:37:05.9±2.1,4237N×1992E,h1km±1km*

TIR ***27*** *00:37:05.3,4235N×1981E,h1km*

MOS ***27*** *00:37:05.8±2.1,4237N×1963E,h10km,mb3.6/1,Error ellipse: s-maj=5.7km s-min=3.9km az=105.8*

SKO ***27*** *00:37:06.3,4245N×1992E,h5km*

IDC ***27*** *00:37:06.5±0.9,4233N×1987E,h0km,mb3.7/5, mb1 3.6/12,mb1mx3.5/26,mbtmp3.5/12,ML3.4/7,Error ellipse: s-maj=13.7km s-min=11.7km az=162.0*

LDG ***27*** *00:37:06.6±0.1,4239N×1987E,h10km,Ml3.9/9,Error ellipse: s-maj=3.6km s-min=2.6km az=11.0*

THE ***27*** *00:37:06.9,4239N×1992E,h10km,ML3.4*

PRU ***27*** *00:37:06.5,4233N×1986E,h0km*

ROM ***27*** *00:37:09.3±0.8,4218N×1974E,h10km,Ml3.9/15,Error ellipse: s-maj=14.3km s-min=4.0km az=134.0*

NAO ***27*** *00:37:24.2,4321N×1741E,h33km,mb3.0*

ISC 27 00:37:06.7±0.1,4236N±001×1988E±001,h1km,n178, σ1827/265,mb3.7/5,22C-21D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.14**	**88**	*i* Pg	**Pg**	**00 37 09.1**	**-0.3**
BCI				*i* Sg	**Sg**	**00 37 11.1**	**-0.1**
PVY	**Plav**	**0.24**	**16**	*e*Pg	**Pg**	**00 37 10.7**	**-0.7**
PVY				*e*Sg	**Sg**	**00 37 14.2**	**-0.3**
PUK	**Puka**	**0.32**	**178**	*i* Pg	**Pg**	**00 37 12.2**	**-0.7**
PUK				*i* Sg	**Sg**	**00 37 17.0**	**0.0**
TTG	**Podgorica**	**0.46**	**279**	⇑*i* Pg	**Pg**	**00 37 13.9**	**-1.7**
TTG				*e*Sg	**Sg**	**00 37 21.9**	**+0.3**
KKS	**Kukesi**	**0.49**	**126**	*i* Pg	**Pg**	**00 37 15.6**	**-0.5**
KKS				*i* Sg	**Sg**	**00 37 26.3**	**+3.9**
IVA	**Berane**	**0.51**	**1**	⇑*i* Pg	**Pg**	**00 37 15.9**	**-0.6**
IVA				*e*Sg	**Sg**	**00 37 23.8**	**+0.7**
ULC	**Ulcinj**	**0.61**	**230**	⇑*i* Pg	**Pg**	**00 37 17.3**	**-1.2**
ULC				*e*Sg	**Sg**	**00 37 27.0**	**+0.5**
BUM	**Brajici-Budva**	**0.73**	**266**	⇑*i* Pg	**Pg**	**00 37 19.9**	**-1.8**
BUM				*e*Sg	**Sg**	**00 37 31.2**	**+1.0**
NKY	**Niksic**	**0.79**	**305**	⇓*i* Pg	**Pg**	**00 37 20.0**	**-1.9**
NKY				*e*Sg	**Sg**	**00 37 32.8**	**+0.6**
TIR	**Tirane**	**1.01**	**181**	*e*Pg	**Pg**	**00 37 25.3**	**-0.8**
TIR				*e*Sg	**Sg**	**00 37 42.3**	**+2.9**
TIR	**Tirane**	**1.01**	**181**	Pn	**Pg**	**00 37 25.5**	**-0.7**
TIR				*e*Sg	**Sg**	**00 37 42.3**	**+3.0**
HCY	**Herceg Novi**	**1.03**	**275**	⇓*i* Pg	**Pg**	**00 37 24.8**	**-1.7**
HCY				*e*Sg	**Sg**	**00 37 41.1**	**+1.4**
PLE	**Pljevlja**	**1.03**	**340**	⇑*i* Pg	**Pg**	**00 37 25.5**	**-1.1**
PLE				*e*Sg	**Sg**	**00 37 41.8**	**+1.9**
UPM	**Unac-Piva**	**1.10**	**320**	⇑*i* Pg	**Pg**	**00 37 26.8**	**-1.1**
UPM				*e*Sg	**Sg**	**00 37 44.0**	**+1.8**
BRY	**Bratogost**	**1.12**	**299**	⇓*i* Pg	**Pg**	**00 37 25.5**	**-2.8**
BRY				*e*Sg	**Sg**	**00 37 44.2**	**+1.4**
TREB	**Trebinje**	**1.19**	**288**	P	**Pg**	**00 37 27.2**	**-2.3**
TREB				S	**Sg**	**00 37 46.2**	**+1.4**
SKO	**Skopje**	**1.22**	**108**	*e*Pg	**Pg**	**00 37 28.5**	**-1.7**
SKO				*e*Sg	**Sg**	**00 37 50.4**	**+4.4**
SKO	**Skopje**	**1.22**	**108**	*e*Pn	**Pn**	**00 37 28.6**	**-2.3**
SKO				*e*Sn	**Sn**	**00 37 47.3**	**-0.9**
SKO	**Skopje**	**1.22**	**108**	*e*Pg	**Pg**	**00 37 28.5**	**-1.7**
SKO				*e*Sn	**Sn**	**00 37 47.2**	**-0.9**
SKO				*e*Sg	**Sg**	**00 37 50.4**	**+4.4**
OHR	**Ohrid**	**1.43**	**151**	*e*Pg	**Pg**	**00 37 32.8**	**-1.2**
OHR				*e*Sg	**Sg**	**00 37 53.0**	**+0.4**
OHR	**Ohrid**	**1.43**	**151**	*e*Pn	**Pn**	**00 37 33.4**	**-0.4**
OHR				*e*Sg	**Sg**	**00 37 53.0**	**+0.4**
BBLS	**Bajina Basta -**	**1.54**	**347**	*i* Pn	**Pn**	**00 37 34.8**	**-0.5**
BBLS				Sn	**Sn**	**00 37 58.1**	**+2.0**
BIA	**Bitola**	**1.72**	**141**	*e*Pb	**Pb**	**00 37 35.9**	**-3.3**
BIA				*e*Sb	**Sb**	**00 38 01.0**	**-0.4**
BIA	**Bitola**	**1.72**	**141**	*e*Pn	**Pn**	**00 37 38.0**	**+0.1**
BIA				*e*Sg	**Sg**	**00 38 02.8**	**+0.7**
BIA	**Bitola**	**1.72**	**141**	*e*Pn	**Pn**	**00 37 37.9**	**+0.1**
BIA				*e*Sg	**Sg**	**00 38 02.8**	**+0.7**
DIVS	**Divcibare**	**1.74**	**3**	*i* Pg	**Pg**	**00 37 37.6**	**-2.5**
DIVS				Sn	**Sn**	**00 38 00.2**	**-0.6**
DIVS	**Divcibare**	**1.74**	**3**	*e*Pb	**Pb**	**00 37 37.3**	**-2.1**
DIVS				*e*Sb	**Sb**	**00 38 00.7**	**-1.1**
DIVS	**Divcibare**	**1.74**	**3**	Pg	**Pg**	**00 37 37.6**	**-2.4**
DIVS				Sn	**Sn**	**00 38 00.2**	**-0.6**
STIP	**Stip**	**1.84**	**110**	*e*Pb	**Pb**	**00 37 38.3**	**-2.9**
STIP				*e*Sb	**Sb**	**00 38 04.5**	**-0.3**
STIP	**Stip**	**1.84**	**110**	*e*Pn	**Pn**	**00 37 38.2**	**-1.3**
STIP				*e*Sg	**Sg**	**00 38 05.3**	**-0.7**
KBN	**Korca**	**1.87**	**158**	*i* Pn	**Pn**	**00 37 41.6**	**+1.8**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn	**Pn**	**00 37 44.3**	**-0.9**
VAY				*e*Sn	**Sn**	**00 38 12.5**	**-1.3**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn	**Pn**	**00 37 44.3**	**-0.9**
VAY				*e*Sg	**Sg**	**00 38 18.3**	**-1.2**
VAY	**Valandovo**	**2.26**	**116**	*e*Pn	**Pn**	**00 37 44.3**	**-1.0**
VAY				*e*Sn	**Sn**	**00 38 12.5**	**-1.3**
VAY				*e*Sg	**Sg**	**00 38 18.2**	**-1.3**
LSK	**Leskovik**	**2.28**	**166**	*i* Pn	**Pn**	**00 37 46.7**	**+1.3**
LSK				*i* Sn	**Sg**	**00 38 24.9**	**+5.0**
GRG	**Griva**	**2.35**	**126**	*e*Pn	**Pn**	**00 37 46.3**	**-0.2**
GRG				*e*Sn	**Sn**	**00 38 17.8**	**+1.7**
LCI	**Lecce** 72nm,0.4s	**2.42**	**214**	Pn	**Pn**	**00 37 45.6**	**-1.9**
KKB	**Krupnik**	**2.43**	**101**	*i* P	**Pn**	**00 37 48.8**	**+1.2**
VTS	**Vitosha**	**2.47**	**84**	*e*Pn	**Pn**	**00 37 47.8**	**-0.3**
VTS				*e*Sn	**Sn**	**00 38 18.4**	**-0.6**
VTS	**Vitosha**	**2.47**	**84**	*i* P	**Pn**	**00 37 48.0**	**-0.1**
VTS	**Vitosha**	**2.47**	**84**	P	**Pn**	**00 37 48.0**	**-0.2**
SRN	**Sarande**	**2.48**	**178**	*i* Pn	**Pn**	**00 37 48.3**	**0.0**
SRN	**Sarande**	**2.48**	**178**	*e*Pn	**Pn**	**00 37 48.3**	**0.0**
KZN	**Kozani**	**2.50**	**145**	*e*P	**Pn**	**00 37 42.0**	**-6.5**
KNT	**Kendrikon**	**2.56**	**117**	*e*Pn	**Pn**	**00 37 48.9**	**-0.4**
KNT				*e*Sn	**Sn**	**00 38 20.3**	**-0.7**
NOCI	**Noci**	**2.63**	**234**	Pn	**Pn**	**00 37 49.2**	**-1.2**
	264nm,0.3s						
KEK	**Kerkira**	**2.65**	**181**	*e*P	**Pn**	**00 37 50.0**	**-0.5**
MEV	**Metsovon**	**2.77**	**158**	*e*Pn	**Pn**	**00 37 55.6**	**+3.4**
FGSL	**Fruska Gora**	**2.79**	**359**	Pn	**Pn**	**00 37 51.6**	**-1.0**
JAN	**Janina**	**2.80**	**164**	*e*P	**Pn**	**00 37 54.5**	**+1.8**
IGT	**Igoumenitsa**	**2.85**	**173**	*e*Pn	**Pn**	**00 37 53.7**	**+0.4**
IGT				*e*Sn	**Sn**	**00 38 29.8**	**+1.6**
AMUR	**Altamura**	**2.85**	**240**	Pn	**Pn**	**00 37 52.0**	**-1.4**
AMUR				Sn	**Sn**	**00 38 25.6**	**-2.8**
	377nm,0.6s						
THE	**Thessaloniki**	**2.89**	**126**	*e*Pn	**Pn**	**00 37 54.8**	**+0.9**
MMB	**Musomiste**	**2.97**	**104**	*e*Pn	**Pn**	**00 37 55.5**	**+0.5**
MMB				*e*Sn	**Sn**	**00 38 32.9**	**+1.6**
MMB	**Musomiste**	**2.97**	**104**	*i* P	**Pn**	**00 37 56.0**	**+1.0**
MMB				*i* S	**Sg**	**00 38 47.0**	**+4.8**
FGMS	**Monte Sant'Ang** 96nm,0.5s	**3.00**	**259**	Pn	**Pn**	**00 37 54.6**	**-0.8**
SOH	**Sokhos**	**3.03**	**119**	*e*Pn	**Pn**	**00 37 55.9**	**+0.1**
MSAG	**Monte S. Angel**	**3.03**	**259**	Pn	**Pn**	**00 37 55.9**	**+0.1**
SRS	**Serrai**	**3.04**	**113**	*e*Pn	**Pn**	**00 37 55.8**	**-0.2**
SRS				*e*Sn	**Sn**	**00 38 32.5**	**-0.5**
BLY	**Banja Luka**	**3.09**	**322**	P	**Pn**	**00 37 56.8**	**+0.2**
BLY				S	**Sn**	**00 38 35.7**	**+1.6**
PGB	**Panagyurishte**	**3.18**	**85**	*e*P	**Pn**	**00 37 59.0**	**+1.2**
CRAC	**Craco**	**3.27**	**234**	Pn	**Pn**	**00 38 00.0**	**+0.9**
RGNG	**Rignano Grg**	**3.27**	**259**	Pn	**Pn**	**00 37 58.0**	**-1.1**
PLG	**Polygyros**	**3.34**	**125**	*e*Pn	**Pn**	**00 38 00.3**	**+0.3**
ORI	**Oriolo Calabro** 313nm,0.6s	**3.46**	**230**	Pn	**Pn**	**00 38 02.5**	**+0.8**
BZS	**Buzias**	**3.49**	**20**	⇓*i* P	**Pn**	**00 38 01.2**	**-0.9**
BZS	**Buzias**	**3.49**	**20**	P	**Pn**	**00 38 02.0**	**-0.1**
BZS	**Buzias**	**3.49**	**20**	P	**Pn**	**00 38 02.0**	**-0.1**
FG4	**Candela** 131nm,0.4s	**3.49**	**251**	Pn	**Pn**	**00 38 01.8**	**-0.3**
FG2	**Serracapriola** 104nm,0.3s	**3.56**	**263**	Pn	**Pn**	**00 38 03.3**	**+0.2**
SCHR	**S. Chirico Rap**	**3.59**	**234**	Pn	**Pn**	**00 38 03.5**	**0.0**
FG5	**Orsara di Pugl** 119nm,0.7s	**3.61**	**254**	Pn	**Pn**	**00 38 03.8**	**0.0**
RZN	**Rozhen**	**3.67**	**99**	*e*P	**Pn**	**00 38 06.0**	**+1.5**
GZR	**Gura Zlata**	**3.68**	**34**	⇓*i* P	**Pn**	**00 38 04.7**	**-0.1**
GZR	**Gura Zlata**	**3.68**	**34**	P	**Pn**	**00 38 04.7**	**-0.1**
OUR	**Ouranopolis**	**3.69**	**122**	*e*Pn	**Pn**	**00 38 05.8**	**+0.9**
RHK3	**Tenkes**	**3.71**	**342**	⇑*e*P	**Pn**	**00 38 04.2**	**-1.0**
EVR	**Evrytania**	**3.74**	**156**	*e*P	**Pn**	**00 38 08.0**	**+2.4**
SLCN	**Sala Consilina** 251nm,0.4s	**3.75**	**240**	Pn	**Pn**	**00 38 05.6**	**-0.2**
AGG	**Agios Georgios**	**3.82**	**150**	*e*Pn	**Pn**	**00 38 07.0**	**+0.4**
AGG				*e*Sn	**Sn**	**00 38 53.7**	**+1.4**
MCRV	**Calabrutti - M** 132nm,0.6s	**3.87**	**248**	Pn	**Pn**	**00 38 07.4**	**0.0**
CUC	**Castrocucco** 299nm,0.6s	**3.87**	**234**	Pn	**Pn**	**00 38 07.8**	**+0.4**
XOR	**Xorichti**	**3.91**	**139**	*e*Pn	**Pn**	**00 38 08.9**	**+1.1**
CDRU	**Civita di Ruta** 100nm,0.6s	**3.92**	**243**	Pn	**Pn**	**00 38 07.5**	**-0.5**
PKSM	**Moragy**	**3.95**	**347**	⇑*i* P	**Pn**	**00 38 09.5**	**+1.0**
PKSM	**Moragy**	**3.95**	**347**	P	**Pn**	**00 38 07.5**	**-1.0**
PKSM	**Moragy**	**3.95**	**347**	⇓*e*Pn	**Pn**	**00 38 07.2**	**-1.3**
PKSM	**Moragy**	**3.95**	**347**	P	**Pn**	**00 38 07.5**	**-1.0**
PVL	**Pavlikeni**	**4.10**	**76**	*e*P	**Pb**	**00 38 22.0**	**+2.2**
MIDA	**Miranda** 107nm,0.5s	**4.25**	**262**	Pn	**Pn**	**00 38 12.9**	**+0.3**
NVLJ	**Novalja**	**4.26**	**303**	*i* Pn	**Pn**	**00 38 13.2**	**+0.5**
NVLJ				*i* Sn	**Sn**	**00 39 05.2**	**+2.1**
NVLJ	**Novalja**	**4.26**	**303**	*i* Pn	**Pn**	**00 38 13.1**	**+0.4**
NVLJ				*i* Sn	**Sn**	**00 39 05.1**	**+2.1**
RNI2	**Rionero Sannit** 157nm,0.8s	**4.32**	**263**	Pn	**Pn**	**00 38 14.0**	**+0.5**
VAGA	**Valle Agricola** 152nm,0.5s	**4.32**	**259**	Pn	**Pn**	**00 38 14.8**	**+1.3**
GRI	**Girifalco**	**4.41**	**218**	Pn	**Pn**	**00 38 13.6**	**-1.2**
CERA	**Filignano** 231nm,0.8s	**4.44**	**262**	Pn	**Pn**	**00 38 17.0**	**+1.9**
INTR	**Intodacqua** 352nm,1.2s	**4.45**	**267**	Pn	**Pn**	**00 38 14.9**	**-0.5**
RFI	**Roccamonfina** 3.0nm,0.3s	**4.53**	**258**	Pn	**Pn**	**00 38 17.5**	**+1.1**
FAGN	**Fagnano** 154nm,0.4s	**4.67**	**271**	Pn	**Pn**	**00 38 19.4**	**+1.0**
VVLD	**Villa Vallelon** 117nm,0.5s	**4.68**	**266**	Pn	**Pn**	**00 38 18.8**	**+0.3**
PKS7	**Kunszentmiklos** 1.8nm,0.3s	**4.71**	**354**	⇑*i* P	**Pn**	**00 38 19.6**	**+0.7**
PKS7				*e*S	**Sn**	**00 39 15.6**	**+1.4**
AQU	**L'Aquila**	**4.80**	**272**	⇑*i* P	**Pn**	**00 38 20.6**	**+0.4**
AQU	**L'Aquila**	**4.80**	**272**	P	**Pn**	**00 38 20.7**	**+0.5**
AQU	**L'Aquila**	**4.80**	**272**	P	**Pn**	**00 38 20.7**	**+0.5**
VOIR		**4.84**	**49**	⇓*i* P	**Pn**	**00 38 23.8**	**+3.1**
ALN	**Alexandroupoli**	**4.85**	**106**	*e*Pn	**Pn**	**00 38 20.8**	**0.0**
DRGR		**4.87**	**24**	⇓*i* P	**Pn**	**00 38 20.5**	**-0.6**
DRGR		**4.87**	**24**	⇑*i* P	**Pn**	**00 38 20.6**	**-0.5**
DRGR		**4.87**	**24**	P	**Pn**	**00 38 20.7**	**-0.4**
DRGR		**4.87**	**24**	P	**Pn**	**00 38 20.7**	**-0.4**
GUAR	**Guarcino**	**4.92**	**266**	Pn	**Pn**	**00 38 23.9**	**+2.1**
LNSS	**Leonessa** 282nm,1.0s	**5.06**	**275**	Pn	**Pn**	**00 38 25.1**	**+1.3**
PKSG		**5.14**	**349**	*e*P	**Pn**	**00 38 24.2**	**-0.6**
PKSG				*e*S	**Sn**	**00 39 25.6**	**+0.8**
	0.3nm,0.3s						
BUD	**Budapest**	**5.16**	**354**	⇓*e*Pn	**Pn**	**00 38 21.5**	**-3.6**
BUD				*e*Sn	**Sn**	**00 39 24.6**	**-0.6**
BUD	**Budapest**	**5.16**	**354**	⇓*e*Pn	**Pn**	**00 38 21.5**	**-3.6**
BUD				*e*S	**Sn**	**00 39 24.5**	**-0.7**
MLR	**Muntele Rosu** 1.2nm,0.3s,baz=175,slow=9.1,SNR=7.4	**5.38**	**52**	Pn	**Pn**	**00 38 30.4**	**+2.2**
MLR				Sn	**Sn**	**00 39 31.8**	**+1.0**
	1.0nm,0.3s,baz=270,slow=20,SNR=6.7						
MLR	**Muntele Rosu**	**5.38**	**52**	⇓*i* P	**Pn**	**00 38 30.1**	**+2.0**
PSZ	**Piszkesteto**	**5.56**	**0**	⇓*i* P	**Pn**	**00 38 29.0**	**-1.5**
PSZ	**Piszkesteto**	**5.56**	**0**	P	**Pn**	**00 38 29.8**	**-0.8**
PSZ	**Piszkesteto**	**5.56**	**0**	⇓*e*Pn	**Pn**	**00 38 29.7**	**-0.8**
PSZ				*e*Sn	**Sn**	**00 39 30.3**	**-4.7**
OBKA	**Obir**	**5.63**	**319**	⇑*i* Pn	**Pn**	**00 38 32.1**	**+0.5**
OBKA				⇓*i* Sn	**Sn**	**00 39 39.4**	**+2.5**
OBKA	**Obir**	**5.63**	**319**	⇑*i* Pn	**Pn**	**00 38 32.1**	**+0.5**
OBKA				Sn	**Sn**	**00 39 39.4**	**+2.4**
VOY	**Vojsko**	**5.65**	**312**	*e*Pn	**Pn**	**00 38 33.3**	**+1.4**
VOY				*e*Sn	**Sn**	**00 39 40.0**	**+2.5**
ARSA	**Arzberg**	**5.79**	**329**	⇓*i* Pn	**Pn**	**00 38 33.7**	**0.0**
ARSA				⇑*i* Sn	**Sn**	**00 39 39.3**	**-1.4**
PLOR	**Plostina**	**5.99**	**52**	⇑*i* P	**Pn**	**00 38 38.2**	**+1.7**
VRI	**Vrincioaia**	**6.05**	**52**	⇓*i* P	**Pn**	**00 38 38.4**	**+1.1**
KECS	**Kecovo**	**6.14**	**4**	*e*PN	**Pn**	**00 38 38.7**	**+0.2**
KECS				*e*SN	**Sn**	**00 39 45.5**	**-3.8**
ZST	**Bratislava**	**6.15**	**342**	*e*PN	**Pn**	**00 38 40.9**	**+2.1**
ZST				*e*SN	**Sn**	**00 39 49.7**	**-0.1**
VYHS	**Vyhne**	**6.18**	**354**	*e*PN	**Pn**	**00 38 39.2**	**+0.1**
VYHS				*e*SN	**Sn**	**00 39 49.1**	**-1.2**
CONA	**Conrad Observa**	**6.25**	**334**	⇓*i* Pn	**Pn**	**00 38 39.5**	**-0.5**
CONA				⇑*i* Sn	**Sn**	**00 39 51.8**	**-0.3**
SMOL	**Smolenice**	**6.39**	**345**	*e*PN	**Pn**	**00 38 41.1**	**-0.9**
SMOL				*e*SN	**Sn**	**00 39 51.2**	**-4.4**
SMOL	**Smolenice**	**6.39**	**345**	*e*Pn	**Pn**	**00 38 41.2**	**-0.8**
SMOL				*e*Sn	**Sn**	**00 39 51.2**	**-4.4**
KBA	**Koelnbreinsper**	**6.62**	**318**	⇑*i* Pn	**Pn**	**00 38 46.0**	**+0.8**
KBA				⇓*i* Sn	**Sn**	**00 40 02.9**	**+1.6**
CRVS	**Cervenica-Dubn**	**6.63**	**9**	*e*PN	**Pn**	**00 38 45.1**	**-0.2**
CRVS				*e*SN	**Sn**	**00 39 57.8**	**-3.8**
MOA	**Molln**	**6.77**	**326**	⇑*i* Pn	**Pn**	**00 38 47.7**	**+0.5**
MOA				⇓*i* Sn	**Sn**	**00 40 06.3**	**+1.4**
KOLS	**Kolonicke sedl**	**6.78**	**13**	*e*PN	**Pn**	**00 38 48.8**	**+1.4**
KOLS				*e*SN	**Sn**	**00 40 04.4**	**-0.8**
NIE	**Niedzica**	**7.07**	**2**	*e*Pn	**Pn**	**00 38 52.6**	**+1.3**
STHS	**Stebnicka Huta**	**7.12**	**7**	*e*	**Pn**	**00 38 55.3**	**+3.3**
STHS				*e*		00 40 13.9	
STHS	**Stebnicka Huta**	**7.12**	**7**	*e*S	**Sn**	**00 40 13.9**	**+0.4**
WTTA	**Wattenberg**	**7.64**	**313**	⇑*i* PPn	**Pn**	**00 39 00.1**	**+1.0**
WTTA				⇓*i* Sn	**Sn**	**00 40 28.9**	**+2.6**
GERES	**GERESS Array B** 0.3nm,0.3s,baz=151,slow=14,SNR=11	**7.79**	**328**	Pn	**Pn**	**00 39 02.4**	**+1.2**
GERES				Sn	**Sn**	**00 40 30.8**	**+0.6**
	0.5nm,0.3s,baz=143,slow=25,SNR=3.9						
MOTA	**Moosalm**	**7.98**	**312**	⇑*i* Pn	**Pn**	**00 39 03.8**	**0.0**
MOTA				⇓*i* Sn	**Sn**	**00 40 36.4**	**+1.7**
KHC	**Kasperske Hory**	**8.07**	**329**	*e*PN	**Pn**	**00 39 06.7**	**+1.6**
KHC				*e*SN	**Sn**	**00 40 34.1**	**-2.9**
DAVA	**Damuels**	**8.64**	**308**	⇑*i* Pn	**Pn**	**00 39 13.7**	**+0.8**
DAVA				⇑*i* Sn	**Sn**	**00 40 50.7**	**-0.3**
SBF	**Sospel**	**9.23**	**284**	*e*Pn	**Pn**	**00 39 18.5**	**-2.4**
FRF	**La Foret Royal**	**9.78**	**282**	*e*Pn	**Pn**	**00 39 26.7**	**-1.8**
MBDF	**Montbardon**	**9.81**	**288**	*e*Pn	**Pn**	**00 39 26.7**	**-2.2**
MBDF				*e*Sn	**Sn**	**00 41 09.1**	**-11**
	7.6nm,0.6s						
LMR	**La Mourre**	**9.87**	**280**	*e*Pn	**Pn**	**00 39 28.0**	**-1.7**
LPG	**La Plagne**	**9.98**	**293**	*e*Pn	**Pn**	**00 39 29.2**	**-2.0**
LPG				*e*Sn	**Sn**	**00 41 12.4**	**-11**
	10nm,0.6s						
LPL	**La Plagne**	**9.99**	**293**	*e*Pn	**Pn**	**00 39 29.3**	**-2.1**
LPL				*e*Sn	**Sn**	**00 41 12.4**	**-12**
	8.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**10.47**	**289**	*e*Pn	**Pn**	**00 39 34.5**	**-3.4**
ORIF				*e*Sn	**Sn**	**00 41 24.3**	**-11**
	4.0nm,0.5s						
HINF	**Hinteralfeld**	**10.70**	**305**	*e*Pn	**Pn**	**00 39 37.0**	**-4.1**
HINF				*e*Sn	**Sn**	**00 41 30.7**	**-11**
	6.1nm,0.5s						
HINF	**Hinteralfeld**	**10.70**	**305**	*e*Pn	**Pn**	**00 39 37.0**	**-4.1**
HINF				*e*Sn	**Sn**	**00 41 30.7**	**-11**
	3.0nm,0.5s						
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=277,slow=12,SNR=3.5	**10.72**	**100**	Pn	**Pn**	**00 39 42.6**	**+1.2**
CDF	**Champ du Feu**	**10.73**	**309**	*e*Pn	**Pn**	**00 39 37.5**	**-4.0**
CDF				*e*Sn	**Sn**	**00 41 30.6**	**-12**
	3.8nm,0.6s						
CDF	**Champ du Feu**	**10.73**	**309**	*e*Pn	**Pn**	**00 39 37.5**	**-4.0**
CDF				*e*Sn	**Sn**	**00 41 30.6**	**-12**
	1.9nm,0.6s						
CABF	**La Chapelle**	**10.73**	**298**	*e*Pn	**Pn**	**00 39 38.2**	**-3.3**
HAU	**Haudompre**	**11.09**	**305**	*e*Pn	**Pn**	**00 39 42.2**	**-4.2**
HAU				*e*Sn	**Sn**	**00 41 38.8**	**-12**
	7.3nm,0.6s						
HAU	**Haudompre**	**11.09**	**305**	*e*Pn	**Pn**	**00 39 42.2**	**-4.2**
HAU				*e*Sn	**Sn**	**00 41 38.8**	**-12**
	3.7nm,0.6s						
VIVF	**Saint-Julien-l**	**11.31**	**288**	*e*Pn	**Pn**	**00 39 45.0**	**-4.4**
SMF	**Signal de Mont**	**12.22**	**296**	*e*Pn	**Pn**	**00 39 57.9**	**-4.0**
SMF				*e*Sn	**Sn**	**00 42 06.3**	**-13**
	11nm,0.7s						
SMF	**Signal de Mont**	**12.22**	**296**	*e*Pn	**Pn**	**00 39 57.9**	**-4.0**
SMF				*e*Sn	**Sn**	**00 42 06.3**	**-13**
	5.6nm,0.7s						
LOR	**Lormes**	**12.38**	**299**	*e*Pn	**Pn**	**00 40 00.2**	**-3.9**
LOR				*e*Sn	**Sn**	**00 42 10.5**	**-12**
	4.3nm,0.3s						
LOR	**Lormes**	**12.38**	**299**	*e*Pn	**Pn**	**00 40 00.2**	**-3.9**
LOR				*e*Sn	**Sn**	**00 42 10.5**	**-12**
	2.2nm,0.3s						
BGF	**Bois d'Agland**	**12.87**	**295**	*e*Pn	**Pn**	**00 40 06.0**	**-4.8**
HFS	**Hagfors** 0.1nm,0.3s,baz=150,slow=

ZRNK	**Zerenda**	**51.19**	**309**	*e*P	**P**		**01 06 30.3**	**-0.1**
	comp=Z,0.9nm,0.3s,mb4.2							
AAK	**Ala-Archa**	**53.41**	**296**	*e*P	**P**		**01 06 47.1**	**+0.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**53.41**	**296**	*e*P	**P**		**01 06 47.1**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.1							
ARCES	**ARCESS Array B**	**57.49**	**341**	P	**P**		**01 07 16.3**	**+0.2**
	comp=Z,6.1nm,1.0s,mb4.6,baz=32,slow=8.6,SNR=4.2							
ARCES	**ARCESS Array B**	**57.49**	**341**	P	**P**		**01 07 16.3**	**+0.1**
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**		**01 07 58.0**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=33,slow=7.8,SNR=20							
FINES	**FINESS Array B**	**63.65**	**334**	*e*P	**P**		**01 07 57.9**	**-0.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**63.65**	**334**	P	**P**		**01 07 58.0**	**-0.2**
NB2	**NORSAR Subarra**	**67.86**	**341**	P	**P**		**01 08 24.8**	**-0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**67.86**	**341**	P	**P**		**01 08 25.2**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=28,slow=6.3,SNR=11							
WRAB	**Tennant Creek**	**68.64**	**198**	*e*P	**P**		**01 08 30.2**	**0.0**
WRAB				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
WRAB	**Tennant Creek**	**68.64**	**198**	*e*P	**P**		**01 08 30.2**	**0.0**
	comp=Z,6.8nm,1.1s,mb4.5							
AKASG	**Malin Array Be**	**71.13**	**326**	P	**P**		**01 08 45.0**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=34,slow=6.0,SNR=8.9							
AKASG	**Malin Array Be**	**71.13**	**326**	*e*P	**P**		**01 08 45.0**	**-0.5**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MLR	**Muntele Rosu**	**76.65**	**325**	P	**P**		**01 09 19.3**	**+1.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=179,slow=3.4,SNR=4.9							
GERES	**GERESS Array B**	**78.06**	**334**	P	**P**		**01 09 25.8**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=34,slow=5.0,SNR=4.2							

NEIC ***27*** *01:03:59.7,2693N×5286E,h14km,mb3.7/3,ML3.5(THR), MN3.8(TEH),After THR.*
THR ***27*** *01:04:00.9±1.2,2701N×5281E,h25km±12km,ML3.5*
KISR ***27*** *01:04:00.2±0.9,2642N×5229E,h34km,ML3.5*
ISCJB ***27*** *01:04:04.7±0.8,2728N±006×5252E±004,h10km, mb3.7/10,Error ellipse: s-maj=9.4km s-min=5.1km az=146.8*
IDC ***27*** *01:04:06.6±1.7,2748N×5238E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/23,mbtmp3.9/11,ML3.4/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/34,Error ellipse: s-maj=41.5km s-min=19.8km az=155.0*
CSEM ***27*** *01:04:08.2±0.2,2747N×5242E,h25km,ML3.5,Error ellipse: s-maj=5.7km s-min=3.0km az=146.0*
TEH ***27*** *01:04:13.6,2756N×5252E,h34km,Mn3.8*

ISC 27 01:04:06.7±0.8,2730N±006×5257E±004,h10km,n48, σ1°11/54,mb3.7/10,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.05**	**21**	*e*PG	**Pg**	**01 04 24.8**	**-2.1**
GHIR				*e*Sg	**Sg**	**01 04 41.1**	**+0.4**
GHIR				AML	AML	01 04 45.6	
	comp=E,3μm,0.7s						
GHIR				AML	AML	01 04 55.9	
	comp=N,1μm,1.2s						
GHIR	**Ghir-Karzin**	**1.05**	**21**	*e*Pg	**Pg**	**01 04 24.0**	**-3.0**
GHIR	**Ghir-Karzin**	**1.05**	**21**	*e*Pg	**Pg**	**01 04 24.8**	**-2.2**
	SNR=94						
GHIR				*e*Sg	**Sg**	**01 04 41.1**	**+0.4**
	SNR=94						
IMOK	**Mook**	**1.75**	**4**	*e*Pn	**Pn**	**01 04 36.4**	**-0.7**
ISRV	**Sarvestan**	**2.13**	**13**	Pn	**Pn**	**01 04 42.6**	**+0.2**
ISRV				Lg		01 05 13.3	
ISRV	**Sarvestan**	**2.13**	**13**	*e*Pn	**Pn**	**01 04 42.7**	**+0.3**
BNDS	**Bandar-Abbas**	**3.21**	**87**	*e*PN	**Pn**	**01 04 48.8**	**-8.3**
BNDS				AML	AML	01 06 06.7	
	comp=E,43nm,0.4s						
BNDS	**Bandar-Abbas**	**3.21**	**87**	*e*Pn	**Pn**	**01 04 48.0**	**-9.1**
IMEH	**Mehriz**	**4.46**	**23**	*e*Pn	**Pn**	**01 05 15.2**	**+0.9**
KRBR	**Kerman**	**4.56**	**53**	*e*Pn	**Pn**	**01 05 11.6**	**-4.1**
KRBR				Sn	**Sn**	**01 06 02.3**	**-6.4**
KRBR				AML	AML	01 06 38.0	
	comp=E,36nm,1.0s						
KRBR	**Kerman**	**4.56**	**53**	Pn	**Pn**	**01 05 11.0**	**-4.7**
UMR	**Umm Al-Rimmam**	**4.83**	**299**	*e*P	**Pn**	**01 05 18.3**	**-1.0**
UMR				*e*S	**Sn**	**01 06 17.5**	**+2.2**
UMR				AML	AML	01 06 20.6	
	comp=Z,31nm,0.5s						
IBAF	**Bafgh**	**5.02**	**31**	*e*Pn	**Pn**	**01 05 22.5**	**+0.5**
NAY	**Al-Naaiem**	**5.08**	**294**	*e*P	**Pn**	**01 05 20.7**	**-2.2**
NAY				*e*S	**Sn**	**01 06 21.9**	**+0.2**
NAY				AML	AML	01 06 25.2	
	comp=Z,17nm,0.6s						
ICHK	**Chekchek**	**5.18**	**18**	*e*Pn	**Pn**	**01 05 24.7**	**+0.4**
MIB	**Mutribah**	**5.23**	**300**	*e*P	**Pn**	**01 05 24.7**	**-0.2**
MIB				*e*S	**Sn**	**01 06 26.8**	**+1.5**
MIB				AML	AML	01 06 27.2	
	comp=Z,38nm,0.5s						
RST	**Umm Al-Ruwaisa**	**5.37**	**295**	*e*P	**Pn**	**01 05 25.4**	**-1.5**
RST				*e*S	**Sn**	**01 06 29.2**	**+0.3**
RST				AML	AML	01 06 37.5	
	comp=Z,20nm,0.5s						
NASN	**Na'in**	**5.49**	**2**	*e*Pn	**Pn**	**01 05 27.7**	**-0.8**
NASN				AML	AML	01 06 30.5	
	comp=E,20nm,0.6s						
NASN				AML	AML	01 06 30.7	
	comp=N,12nm,0.3s						
NASN	**Na'in**	**5.49**	**2**	*e*P	**Pn**	**01 05 28.0**	**-0.5**
IPIR	**Pirpir**	**5.56**	**345**	Sn	**Sn**	**01 06 25.4**	**-8.1**
IPIR	**Pirpir**	**5.56**	**345**	*e*Sn	**Sn**	**01 06 25.5**	**-8.0**
IZEF	**Zefreh**	**5.58**	**358**	*e*P	**Pn**	**01 05 29.8**	**0.0**
IZEF	**Zefreh**	**5.58**	**358**	*e*Pn	**Pn**	**01 05 29.9**	**+0.1**
ASAO	**Ashtian**	**7.55**	**344**	*e*Pn	**Pn**	**01 05 56.4**	**-0.4**
IKOM	**Komasi**	**8.12**	**329**	Pn	**Pn**	**01 06 06.1**	**+1.5**
IGHG	**Ghaleghazi**	**8.70**	**325**	*e*Pn	**Pn**	**01 06 11.8**	**-0.8**
IVIS	**Veys**	**8.72**	**327**	*e*Pn	**Pn**	**01 06 12.6**	**-0.2**
SNGE	**Sanandaj**	**8.96**	**331**	*e*Pn	**Pn**	**01 06 16.0**	**-0.1**
MALT	**Malatya**	**16.16**	**316**	*e*Pn	**Pn**	**01 07 53.2**	**-0.7**
	comp=N,4.7nm,1.0s						
ATD	**Arta Tunnel**	**18.15**	**212**	LR	LR	01 16 23.3	
	comp=N,56nm,19.8s,baz=176,slow=40						
KIV	**Kislovodsk**	**18.44**	**337**	*e*P	**Pn**	**01 08 22.6**	**+0.3**
	comp=N,14nm,1.1s						
KIV	**Kislovodsk**	**18.44**	**337**	*e*P	**P**	**01 08 22.6**	**+0.3**
	comp=N,14nm,1.1s						
BR131	**Keskin Array S**	**20.02**	**313**	*e*P	**P**	**01 08 38.9**	**-0.7**
	comp=N,2.4nm,0.8s						
BR131	**Keskin Array S**	**20.02**	**313**	*e*P	**P**	**01 08 38.9**	**-0.7**
	comp=N,2.4nm,0.8s						
BRTR	**Keskin Array B**	**20.02**	**313**	P	**P**	**01 08 39.6**	**+0.1**
	comp=N,0.1nm,0.3s,baz=134,slow=15,SNR=8.4						
BVAR	**Borovoye Array**	**28.92**	**22**	P	**P**	**01 10 04.7**	**-1.2**
	comp=N,0.4nm,0.4s,mb3.5,baz=235,slow=5.1,SNR=4.0						
AKASG	**Malin Array Be**	**29.35**	**329**	P	**P**	**01 10 08.4**	**-1.3**
	comp=N,0.4nm,0.4s,mb3.5,baz=136,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**30.41**	**42**	P	**P**	**01 10 20.7**	**+1.6**
	comp=N,0.4nm,0.8s,mb3.2,baz=224,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**30.41**	**42**	P	**P**	**01 10 20.6**	**+1.5**
ZAL	**Zalesovo**	**35.62**	**33**	P	**P**	**01 11 05.5**	**+1.0**
	comp=N,1.0nm,0.4s,mb4.1,baz=60,slow=4.1,SNR=4.6						
FINES	**FINESS Array B**	**38.49**	**340**	P	**P**	**01 11 29.9**	**+1.0**
	comp=N,1.7nm,0.9s,mb3.8,baz=140,slow=7.2,SNR=4.4						
NB2	**NORSAR Subarra**	**43.65**	**332**	P	**P**	**01 12 08.9**	**-2.5**
	comp=Z,1.1nm,1.0s,mb3.5,baz=118,slow=8.6						
NOA	**NORSAR Array B**	**43.65**	**332**	P	**P**	**01 12 09.7**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.6,baz=120,slow=8.1,SNR=6.0						
NOA	**NORSAR Array B**	**43.65**	**332**	P	**P**	**01 12 09.6**	**-1.8**
SONM	**Songino Array**	**46.30**	**49**	P	**P**	**01 12 34.5**	**+2.1**
	comp=Z,0.2nm,0.4s,mb3.4,baz=280,slow=8.6,SNR=3.8						
ESDC	**Sonseca Array**	**48.02**	**300**	P	**P**	**01 12 45.4**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.9,baz=84,slow=7.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**49.45**	**264**	P	**P**	**01 12 57.5**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.1,baz=64,slow=6.2,SNR=12						
DBIC	**Dimbokro**	**58.09**	**260**	P	**P**	**01 14 01.3**	**+1.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=22,slow=11,SNR=4.0						

IDC 27 01:54:43.1±4.2,2447S×17805W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.9/11,mbtmp4.2/3,Error ellipse: s-maj=199.0km s-min=46.6km az=156.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.26**	**270**	P	P	02 01 24.4	+2.3
	2.5nm,0.3s,baz=94,slow=9.8,SNR=4.4						

ASAR	**Alice Springs**	**43.70**	**261**	P	P		02 02 49.6	-0.2
	0.9nm,0.4s,baz=87,slow=9.5,SNR=9.2							
WRA	**Warramunga Arr**	**44.15**	**266**	P	P		02 02 52.9	-0.5
	1.8nm,0.3s,baz=103,slow=8.0,SNR=17							
AKASG	**Malin Array Be**	**146.40**	**328**	PKPbc	PKPbc		02 14 26.0	0.0
	0.7nm,0.4s,baz=43,slow=3.8,SNR=6.5							
BRTR	**Keskin Array B**	**149.34**	**307**	PKPbc	PKPbc		02 14 32.8	-1.1
	0.6nm,0.7s,baz=119,slow=3.1,SNR=4.2							

MOS ***27*** *02:16:34.1±0.8,4984N×15730E,h15km,mb4.1/1,Error ellipse: s-maj=62.1km s-min=18.3km az=81.0*

KRSC 27 02:16:34,4984N×15730E,h15km,ML4.3,2C,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.14**	**318**	*i*PN	Pn	02 16 48.0	-7.3
SKR				pmax	pmax		
	comp=Z,554nm,0.5s						
MIPR	**Malaya Ipel'ka**	**2.46**	**352**	*e*P	Pn	02 17 16.0	+2.4
RUS	**Russkaya**	**2.71**	**16**	*e*P	Pn	02 17 17.8	+0.9
RUS				*i*S	Sn	02 17 49.8	+0.4
GRL	**Gorelyy**	**2.76**	**10**	*e*P	Pn	02 17 19.1	+1.4
GRL				*i*S	Sn	02 17 51.7	+1.0
PET	**Petropavlovsk**	**3.30**	**14**	*i*PN	Pn	02 17 27.0	+1.9
PET				*e*S	Sn	02 18 07.0	+3.0
PET				pmax	pmax		
	comp=Z,20nm,0.4s						
PET				smax			
	comp=E,34nm,0.7s						
PET				smax			
	comp=N,80nm,0.3s						
PET	**Petropavlovsk**	**3.30**	**14**	*e*P	Pn	02 17 26.6	+1.5
PET				*i*S	Sn	02 18 05.1	+1.1
AVH	**Avacha**	**3.55**	**14**	*e*P	Pn	02 17 30.6	+2.1
AVH				*i*S	Sn	02 18 11.7	+1.6
SPN	**Mys Shipunski**	**3.68**	**27**	*e*P	Pn	02 17 32.3	+2.0
SPN				*i*S	Sn	02 18 15.0	+1.6
GNL	**Ganaly**	**3.88**	**6**	*e*P	Pn	02 17 32.9	-0.2
MKZ	**Mys Kozlova**	**5.45**	**28**	*e*P	Pn	02 17 55.5	+0.8
MKZ				*i*S	Sn	02 18 55.9	-1.2
TUMR	**Tumrok**	**5.72**	**17**	*e*P	Pn	02 18 00.7	+2.3
ZLN	**Zelenaya**	**6.54**	**18**	*e*P	Pn	02 18 11.4	+1.8
CIRR	**Tsirk**	**6.62**	**17**	P	Pn	02 18 13.4	+2.7
KBTR	**Krutoberegovo**	**7.19**	**25**	*e*P	Pn	02 18 20.8	+2.2
SRKR	**Sorokina**	**7.21**	**17**	*e*P	Pn	02 18 19.8	+1.0

LDG ***27*** *02:17:27.7±0.1,4308N×046W,h5km,Md1.4/2,Error ellipse: s-maj=1.5km s-min=0.9km az=4.0*
STR ***27*** *02:17:27.6±0.1,4313N×045W,h2km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 27 02:17:28.4±0.5,4307N×046W,h0km,mbLg0.5/1,Error ellipse: s-maj=4.5km s-min=2.3km az=176.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**94**	Pg	Pg	02 17 29.3	0.0
REYF				Sg	Sg	02 17 30.5	+0.6
REYF	**Montagne du Re**	**0.05**	**94**	P	Pg	02 17 29.4	+0.1
REYF				S	Sg	02 17 30.5	+0.6
ATE	**Arette**	**0.18**	**274**	Pg	Pg	02 17 31.4	-0.4
ATE				Sg	Sg	02 17 34.2	+0.1
ATE	**Arette**	**0.18**	**274**	P	Pg	02 17 31.4	-0.4
ATE				S	Sg	02 17 34.2	+0.1
ETSF	**Etsaut**	**0.19**	**203**	*e*Pg	Pg	02 17 31.9	-0.1
ETSF				*e*Sg	Sg	02 17 34.6	+0.1
	3.2nm,0.3s						
ETSF	**Etsaut**	**0.19**	**203**	Pg	Pg	02 17 31.9	-0.1
ETSF				Lg		02 17 34.6	
	1.6nm,0.3s						
EPF	**Esparros**	**0.59**	**94**	*e*Sg	Sg	02 17 46.7	-0.5
	0.6nm,0.2s						
EPF	**Esparros**	**0.59**	**94**	Lg		02 17 46.7	
	0.3nm,0.2s						
EBIE	**Bielsa**	**0.59**	**131**	Pg	Pg	02 17 38.9	-0.7
	0.1nm,0.1s,SNR=7.9						
EBIE				Lg		02 17 46.9	
	0.2nm,0.1s,SNR=7.9						

IDC ***27*** *02:20:33.0±1.3,3724N×2122E,h0km,mb3.8/10, mb1 3.9/13,mb1mx3.8/25,mbtmp3.8/13,ML3.2/3,MS3.1/2, Ms1 3.1/2,ms1mx2.6/29,Error ellipse: s-maj=25.4km s-min=19.2km az=148.0*
ISCJB ***27*** *02:20:33.4±0.3,3712N±003×2084E±002,h10km, mb3.9/13,MS3.1/1,Error ellipse: s-maj=3.9km s-min=2.6km az=4.0*
ATH ***27*** *02:20:37.2,3725N×2103E,h19km±3km,MD3.8/14,ML3.9*
CSEM ***27*** *02:20:38.3±0.1,3727N×2088E,h60km,mb4.0/2,ML4.4/7, Error ellipse: s-maj=2.3km s-min=1.6km az=171.0*
ROM ***27*** *02:20:38.9±0.4,3707N×2065E,h10km,Ml3.9/5,Error ellipse: s-maj=6.3km s-min=5.1km az=13.0*
NEIC ***27*** *02:20:39.7,3736N×2121E,h23km,mb3.9/3,ML3.8(ATH), ML3.9(ROM),After ATH.*
THE ***27*** *02:20:40.2,3731N×2101E,h22km,ML3.6*
HLW ***27*** *02:20:47.8,3681N×2242E,h33km,Mb3.6*
NAO ***27*** *02:21:01.6,3953N×2025E,h33km,mb3.3*

ISC 27 02:20:35.1±0.3,3714N±003×2088E±002,h10km,n107, σ1°41/126,mb3.9/13,MS3.1/1,5C-7D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**1.02**	**27**	*e*PN	**Pn**	**02 20 54.3**	**-1.2**
RLS				*e*SN	**Sn**	**02 21 06.4**	**-3.5**
RLS	**Riolos of Patr**	**1.02**	**27**	*e*Pn	**Pn**	**02 20 54.6**	**-0.9**
VLS	**Valsamata**	**1.06**	**348**	*e*PB	**Pb**	**02 20 55.5**	**0.0**
VLS				*e*SN	**Sn**	**02 21 10.5**	**-0.2**
VLS	**Valsamata**	**1.06**	**348**	*e*Pn	**Pn**	**02 20 55.6**	**-0.3**
VLS				*e*Sn	**Sn**	**02 21 12.8**	**+2.1**
VLI	**Veliai**	**1.71**	**104**	*e*PN	**Pg**	**02 21 07.2**	**-0.6**
VLI				*e*SN	**Sg**	**02 21 28.6**	**-1.3**
VLI	**Veliai**	**1.71**	**104**	*e*Pn	**Pg**	**02 21 07.3**	**-0.5**
EVR	**Evrytania**	**1.92**	**22**	*e*PN	**Pg**	**02 21 09.9**	**-1.9**
EVR	**Evrytania**	**1.92**	**22**	*e*Pn	**Pg**	**02 21 10.8**	**-1.0**
KYTH	**Kithira**	**1.94**	**116**	*e*PN	**Pg**	**02 21 11.5**	**-0.7**
MGER	**Gerania Oros**	**2.07**	**65**	*e*PN	**Pn**	**02 21 11.5**	**+1.6**
NAIG	**Nisos Aigina**	**2.17**	**73**	*e*PB	**Pn**	**02 21 12.0**	**+0.8**
AGG	**Agios Georgios**	**2.20**	**31**	*e*Pn	**Pb**	**02 21 13.7**	**-1.2**
LKR	**Lokris**	**2.25**	**48**	*e*PN	**Pn**	**02 21 13.4**	**+1.0**
KVR	**Kavouri**	**2.40**	**73**	*e*PB	**Pn**	**02 21 14.0**	**-0.4**
ATH	**Athens Observa**	**2.40**	**69**	*e*PN	**Pb**	**02 21 16.4**	**-2.0**
ATH	**Athens Observa**	**2.40**	**69**	*e*Pn	**Pb**	**02 21 16.5**	**-1.9**
IGT	**Igoumenitsa**	**2.42**	**350**	*e*Pn	**Pn**	**02 21 15.7**	**+1.0**
IGT				*e*Sn	**Sn**	**02 21 42.6**	**-1.8**
JAN	**Janina**	**2.51**	**360**	*e*PB	**Pb**	**02 21 18.0**	**-2.2**
PTL	**Penteli**	**2.54**	**68**	*e*PN	**Pn**	**02 21 17.0**	**+0.7**
THL	**Klokotos Trika**	**2.58**	**20**	*e*PN	**Pn**	**02 21 18.4**	**+1.5**
MEV	**Metsovon**	**2.65**	**6**	*e*Pn	**Pn**	**02 21 20.5**	**+2.7**
NEO	**Neokhori**	**2.84**	**40**	*e*PN	**Pn**	**02 21 21.4**	**+0.9**
XOR	**Xorichti**	**2.87**	**39**	*e*Pn	**Pn**	**02 21 21.8**	**+0.9**
LSK	**Leskovik**	**3.01**	**356**	*i*Pn	**Pn**	**02 21 24.2**	**+1.4**
KARN	**Karanos**	**3.01**	**124**	*e*Pn	**Pn**	**02 21 25.6**	**+2.8**
AOS	**Alonnisos**	**3.11**	**49**	*e*Pn	**Pn**	**02 21 24.9**	**+0.6**
VAM	**Vamos**	**3.20**	**122**	*e*PN	**Pn**	**02 21 27.6**	**+2.2**
VAM	**Vamos**	**3.20**	**122**	*e*Pb	**Pb**	**02 21 32.5**	**+0.6**
KZN	**Kozani**	**3.23**	**12**	*e*PN	**Pn**	**02 21 27.5**	**+1.6**
PAIG	**Paliouri**	**3.54**	**37**	*e*Pn	**Pn**	**02 21 30.0**	**-0.1**
PLG	**Polygyros**	**3.80**	**31**	*e*PN	**Pn**	**02 21 33.9**	**+0.2**
PLG	**Polygyros**	**3.80**	**31**	*e*Pn	**Pn**	**02 21 33.5**	**-0.2**
THE	**Thessaloniki**	**3.84**	**24**	*e*Pn	**Pn**	**02 21 34.1**	**-0.2**
BIA	**Bitola**	**3.89**	**5**	*e*Pn	**Pn**	**02 21 35.5**	**+0.6**
BIA				*e*Sn	**Sn**	**02 22 18.9**	**-1.6**
BIA	**Bitola**	**3.89**	**5**	*e*Pn	**Pn**	**02 21 35.5**	**+0.7**
GRI	**Girifalco**	**3.90**	**297**	Pg	**Pn**	**02 22 37.9**	**+2.9**
GRI				Sg	**Sn**	**02 22 20.5**	**-0.4**
	23μm,16.0s						
SOI	**Samo**	**3.94**	**285**	Pg	**Pn**	**02 21 38.1**	**+2.5**
SOI				Sg	**Sn**	**02 22 20.3**	**-1.6**
	24nm,0.3s						
OHR	**Ohrid**	**3.96**	**359**	*e*Pn	**Pn**	**02 21 36.5**	**+0.6**
OHR	**Ohrid**	**3.96**	**359**	*e*Pn	**Pn**	**02 21 36.4**	**+0.5**
GRG	**Griva**	**3.99**	**17**	*e*Pn	**Pn**	**02 21 36.6**	**+0.4**
CEL	**Celeste**	**4.11**	**287**	Pg	**Pn**	**02 21 40.6**	**+2.7**
CEL				Sg	**Sn**	**02 22 24.5**	**-1.5**
	102nm,0.6s						
SOH	**Sokhos**	**4.15**	**27**	*e*Pn	**Pn**	**02 21 39.4**	**+0.9**
SOH				*e*Sn	**Sn**	**02 22 24.4**	**-2.6**

MTTG	**Motta San Giov**	**4.21**	**283**	Pg	**Pn**		**02 21 41.7**	**+2.5**
MTTG				Sg	**Sn**		**02 22 27.4**	**-1.0**
	79nm,0.7s							
KNT	**Kendrikon**	**4.31**	**21**	*e*Pn	**Pn**		**02 21 41.5**	**+0.9**
VAY	**Valandovo**	**4.37**	**17**	*e*Pn	**Pn**		**02 21 41.6**	**0.0**
VAY	**Valandovo**	**4.37**	**17**	*e*Pn	**Pn**		**02 21 41.5**	**-0.1**
SRS	**Serrai**	**4.49**	**27**	*e*Pn	**Pn**		**02 21 43.5**	**+0.3**
AGST	**Augusta-Monte**	**4.51**	**273**	Pg	**Pn**		**02 21 44.6**	**+1.1**
AGST				Sg	**Sn**		**02 22 34.3**	**-1.7**
	47nm,0.3s							
ORI	**Oriolo Calabro**	**4.53**	**311**	Pg	**Pn**		**02 21 46.9**	**+3.2**
ORI				Sg	**Sn**		**02 22 36.4**	**0.0**
MMME	**Mongiuffi-Meli**	**4.54**	**282**	Pg	**Pn**		**02 21 46.1**	**+2.3**
MMME				Sg	**Sn**		**02 22 35.3**	**-1.3**
	72nm,0.3s							
HAVL	**Avola**	**4.61**	**269**	Pg	**Pn**		**02 21 46.5**	**+1.8**
HAVL				Sg	**Sn**		**02 22 37.1**	**-1.2**
	294nm,0.2s							
SSY	**Sortino**	**4.64**	**272**	Pg	**Pn**		**02 21 46.5**	**+1.3**
	232nm,0.4s							
STIP	**Stip**	**4.66**	**12**	*e*Pn	**Pn**		**02 21 46.3**	**+0.8**
STIP	**Stip**	**4.66**	**12**	*e*Pn	**Pn**		**02 21 46.2**	**+0.8**
SKO	**Skopje**	**4.84**	**5**	*e*Pn	**Pn**		**02 21 48.2**	**+0.3**
SKO	**Skopje**	**4.84**	**5**	*e*Pn	**Pn**		**02 21 48.2**	**+0.2**
MMB	**Musomiste**	**4.96**	**26**	*e*Pn	**Pn**		**02 21 49.6**	**0.0**
MMB	**Musomiste**	**4.96**	**26**	*i*P	**Pn**		**02 21 49.6**	**0.0**
KKB	**Krupnik**	**5.01**	**19**	*e*P	**Pn**		**02 21 51.7**	**+1.3**
VAE	**Valguarnera**	**5.16**	**276**	Pn	**Pn**		**02 21 56.4**	**+3.9**
	2.1nm,0.3s,baz=280,slow=12,SNR=9.1							
VAE				Sn	**Sn**		**02 22 52.9**	**+0.8**
	3.0nm,0.3s,baz=113,slow=13,SNR=4.1							
RZN	**Rozhen**	**5.42**	**32**	*i*P	**Pn**		**02 21 56.6**	**+0.6**
ALN	**Alexandroupoli**	**5.50**	**45**	*e*Pn	**Pn**		**02 21 56.9**	**-0.1**
VTS	**Vitosha**	**5.73**	**18**	*e*Pn	**Pn**		**02 22 01.0**	**+0.8**
VTS	**Vitosha**	**5.73**	**18**	⇓*i*P	**Pn**		**02 22 01.1**	**+0.9**
VTS	**Vitosha**	**5.73**	**18**	*i*P	**Pn**		**02 22 01.0**	**+0.8**
HMAT	**Matruh**	**7.94**	**138**	⇑P	**Pn**		**02 22 27.2**	**-3.2**
NVLJ	**Novalja**	**8.69**	**330**	*i*Pn	**Pn**		**02 22 40.8**	**0.0**
NVLJ				*i*Sn	**Sn**		**02 24 11.9**	**-7.1**
SWA2		**8.76**	**153**	⇑P	**Pn**		**02 22 41.8**	**0.0**
SWA1		**8.84**	**151**	⇓P	**Pn**		**02 22 42.7**	**-0.1**
SWA1				S	**Sn**		**02 24 06.8**	**-16**
VOIR		**8.86**	**19**	⇑*i*P	**Pn**		**02 22 44.4**	**+1.3**
VOIR		**8.86**	**19**	⇑P	**Pn**		**02 22 44.4**	**+1.2**
MLR	**Muntele Rosu**	**9.17**	**23**	Pn	**Pn**		**02 22 49.2**	**+1.8**
	0.3nm,0.3s,baz=169,slow=16,SNR=3.4							
MLR	**Muntele Rosu**	**9.17**	**23**	⇓*i*P	**Pn**		**02 22 49.2**	**+1.8**
MLR	**Muntele Rosu**	**9.17**	**23**	⇓P	**Pn**		**02 22 49.2**	**+1.8**
KEST	**Kesra**	**9.40**	**265**	Pn	**Pn**		**02 22 54.0**	**+3.4**
	0.1nm,0.3s,baz=90,slow=19,SNR=2.9							
KEST				Sn	**Sn**		**02 24 34.0**	**-2.2**
	0.1nm,0.3s,baz=315,slow=20,SNR=3.8							
PLOR	**Plostina**	**9.71**	**25**	⇓*i*P	**Pn**		**02 22 56.8**	**+1.9**
BRTR	**Keskin Array B**	**10.34**	**72**	Pn	**Pn**		**02 23 07.8**	**+4.3**
	0.0nm,0.3s,baz=254,slow=13,SNR=2.3							
OBKA	**Obir**	**10.48**	**335**	⇑*i*Pn	**Pn**		**02 23 04.9**	**-0.4**
OBKA				⇓*i*Sn	**Sn**		**02 24 54.7**	**-8.0**
AWBH		**11.09**	**140**	P	**Pn**		**02 23 11.2**	**-2.5**
**

SNR=1.0
FRF eSn Sn 03 11 19.5 -6.3
3.3nm,0.2s,SNR=1.0
SMRF Simiane la Rot 3.04 0 ePn Pn 03 10 55.4 -0.5
SNR=1.0
SMRF eSn Sn 03 11 26.0 -6.9
9.6nm,0.4s
SMRF Simiane la Rot 3.04 0 ePn Pn 03 10 55.4 -0.5
SNR=1.0
SMRF eSn Sn 03 11 26.0 -6.9
4.8nm,0.4s
SBF Sospel 3.24 25 ePn Pn 03 10 55.4 -3.3
SNR=1.0
SBF eSn Sn 03 11 30.3 -7.7
8.9nm,0.2s
SBF Sospel 3.24 25 ePn Pn 03 10 55.4 -3.3
SNR=1.0
SBF eSn Sn 03 11 30.3 -7.7
4.4nm,0.2s
LASF Ste Croix 3.37 339 ePn Pn 03 10 59.3 -1.2
SNR=1.0
LASF eSn Sn 03 11 34.8 -6.4
5.8nm,0.2s,SNR=1.0
LASF Ste Croix 3.37 339 ePn Pn 03 10 59.3 -1.2
SNR=1.0
LASF eSn Sn 03 11 34.8 -6.4
2.9nm,0.2s,SNR=1.0
EPOB Poblet 3.39 278 P Pn 03 10 59.6 -1.3
0.3nm,0.1s,SNR=7.9
EPOB S Sn 03 11 37.4 -4.4
1.2nm,0.2s,SNR=7.8
EPOB Poblet 3.39 278 P Pn 03 10 59.6 -1.2
0.3nm,0.1s,SNR=7.9
EPOB S Sn 03 11 37.4 -4.4
1.2nm,0.2s,SNR=7.8
MTLF Montolieu 3.44 315 ePn Pn 03 11 00.4 -1.1
SNR=1.0
MTLF eSn Sn 03 11 37.8 -5.2
10nm,0.2s,SNR=1.0
MTLF Montolieu 3.44 315 ePn Pn 03 11 00.4 -1.1
SNR=1.0
MTLF eSn Sn 03 11 37.8 -5.2
5.2nm,0.2s,SNR=1.0
EIBI Ibiza 3.75 241 P Pn 03 11 04.4 -1.2
1.5nm,0.2s,SNR=10
EIBI S Sn 03 11 42.8 -7.7
1.2nm,0.1s,SNR=7.9
EIBI Ibiza 3.75 241 P Pn 03 11 04.4 -1.3
1.5nm,0.2s,SNR=10
MBDF Montbardon 3.89 13 eP Pn 03 11 09.9 +2.2
MBDF eSn Sn 03 11 46.0 -8.1
1.7nm,0.3s
MBDF Montbardon 3.89 13 P Pn 03 11 06.0 -1.7
MBDF P 03 11 09.9
MBDF S Sn 03 11 46.0 -8.1
0.9nm,0.3s
MBDF Montbardon 3.89 13 ePn Pn 03 11 06.0 -1.7
MBDF eP 03 11 09.9
MBDF eSn Sn 03 11 46.0 -8.1
MBDF Montbardon 3.89 13 eP Pn 03 11 09.9 +2.2
MBDF eSn Sn 03 11 46.0 -8.1
0.9nm,0.3s
ERTA Horta de San J 3.94 272 P Pn 03 11 07.3 -1.0
0.4nm,0.1s,SNR=7.9
ERTA S Sn 03 11 51.9 -3.4
1.0nm,0.2s,SNR=6.9
ERTA Horta de San J 3.94 272 P Pn 03 11 07.3 -1.1
0.4nm,0.1s,SNR=7.9
ERTA S Sn 03 11 51.9 -3.4
1.0nm,0.2s,SNR=6.9
VIVF Saint-Julien-l 3.97 351 ePn Pn 03 11 07.3 -1.4
SNR=1.0
VIVF eSn Sn 03 11 48.8 -7.1
4.8nm,0.2s
VIVF Saint-Julien-l 3.97 351 ePn Pn 03 11 07.3 -1.4
SNR=1.0
VIVF eSn Sn 03 11 48.8 -7.1
2.4nm,0.2s
ORIF Oris-en-Rattie 3.98 3 ePn Pn 03 11 07.7 -1.2
ORIF eSn Sn 03 11 48.8 -7.6
0.6nm,0.3s
ORIF Oris-en-Rattie 3.98 3 ePn Pn 03 11 07.7 -1.2
ORIF eSn Sn 03 11 48.8 -7.6
0.3nm,0.3s
EBIE Bielsa 4.39 295 P Pn 03 11 14.3 -0.3
0.6nm,0.1s,SNR=7.9
EBIE S Sn 03 12 05.1 -1.4
0.6nm,0.1s,SNR=7.9
EBIE Bielsa 4.39 295 P Pn 03 11 14.3 -0.3
EBIE S Sn 03 12 05.1 -1.4
EBIE Bielsa 4.39 295 P Pn 03 11 14.3 -0.3
0.6nm,0.1s,SNR=7.9
EBIE S Sn 03 12 05.1 -1.4
0.6nm,0.1s,SNR=7.9
EPF Esparros 4.40 300 ePn Pn 03 11 16.0 +1.3
SNR=1.0
EPF eSn Sn 03 12 02.4 -4.3
1.5nm,0.4s
EPF Esparros 4.40 300 ePn Pn 03 11 16.0 +1.3
SNR=1.0
EPF eSn Sn 03 12 02.4 -4.3
0.8nm,0.4s
ESAC San Caprasio 4.59 282 P Pn 03 11 16.9 -0.4
1.8nm,0.1s,SNR=7.9
ESAC S Sn 03 12 08.9 -2.4
5.3nm,0.2s,SNR=7.9
ESAC San Caprasio 4.59 282 P Pn 03 11 16.9 -0.4
ESAC S Sn 03 12 08.9 -2.4
EMOS Mosqueruela 4.61 265 S Sn 03 12 07.0 -4.7
0.6nm,0.3s,SNR=7.9
LPG La Plagne 4.64 11 ePn Pn 03 11 18.0 0.0
SNR=1.0
LPL La Plagne 4.66 10 ePn Pn 03 11 17.7 -0.5
CAF Calviac 4.73 329 ePn Pn 03 11 19.0 -0.2
SNR=1.0
CAF eSn Sn 03 12 07.7 -7.0
1.7nm,0.2s,SNR=1.0
CAF Calviac 4.73 329 ePn Pn 03 11 19.0 -0.2
SNR=1.0
CAF eSn Sn 03 12 07.7 -7.0
0.9nm,0.2s,SNR=1.0
ETSF Etsaut 4.95 295 ePn Pn 03 11 22.4 +0.2
ETSF eSn Sn 03 12 16.3 -3.9
1.1nm,0.3s
ETSF Etsaut 4.95 295 ePn Pn 03 11 22.4 +0.2
ETSF eSn Sn 03 12 16.3 -3.9
0.6nm,0.3s
EBEN Beniarda 4.97 245 P Pn 03 11 21.2 -1.3
0.4nm,0.2s,SNR=4.0
EBEN Beniarda 4.97 245 P Pn 03 11 21.2 -1.2
RJF Les Rejaudoux 5.26 327 ePn Pn 03 11 26.2 -0.3
SNR=1.0
RJF eSn Sn 03 12 21.3 -6.6
2.1nm,0.2s,SNR=1.0
RJF Les Rejaudoux 5.26 327 ePn Pn 03 11 26.2 -0.3
SNR=1.0
RJF eSn Sn 03 12 21.3 -6.6
1.0nm,0.2s,SNR=1.0
LFF La Frestale 5.33 320 ePn Pn 03 11 27.0 -0.4
SNR=1.0
LFF eSn Sn 03 12 23.3 -6.2
4.5nm,0.2s,SNR=1.0
LFF La Frestale 5.33 320 ePn Pn 03 11 27.0 -0.4
SNR=1.0
LFF eSn Sn 03 12 23.3 -6.2
2.2nm,0.2s,SNR=1.0
SJPF Ste Jean 5.49 296 ePn Pn 03 11 30.1 +0.5
SMF Signal de Mont 5.83 348 eSn Sn 03 12 33.4 -8.6
1.8nm,0.3s
SMF Signal de Mont 5.83 348 eSn Sn 03 12 33.4 -8.6
0.9nm,0.3s
TCF Toulx Ste Croi 5.87 337 ePn Pn 03 11 33.5 -1.3
TCF eSn Sn 03 12 34.7 -8.1
1.1nm,0.3s
TCF Toulx Ste Croi 5.87 337 ePn Pn 03 11 33.5 -1.3
TCF eSn Sn 03 12 34.7 -8.1
0.6nm,0.3s
BGF Bois d'Agland 5.95 342 ePn Pn 03 11 35.7 -0.2
SNR=1.0
LOR Lormes 6.44 350 ePn Pn 03 11 41.4 -1.3
HINF Hinteralfeld 6.94 7 ePn Pn 03 11 47.9 -1.7
MFF Saint Martin d 7.00 326 ePn Pn 03 11 50.0 -0.3
HAU Haudompre 7.09 4 ePn Pn 03 11 50.1 -1.5
SNR=1.0

*NEIC **27** 03:19:18.0,3893S×17596E,h117km,MG3.7(WEL),After WEL.*

WEL 27 03:19:18.7±0.2,3895S×17598E,h110km±1km,ML3.5/14,7C,Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.10**	**58**	P	Pn	03 19 33.8	-0.1
HATZ				S	Sn	03 19 45.0	-0.3
HATZ	**Hinemaiaia**	**0.10**	**58**	PN	Pn	03 19 33.8	-0.1
HATZ				SN	Sn	03 19 45.0	-0.4
RATZ	**Rangitukua**	**0.18**	**295**	SN	Sn	03 19 45.8	+0.2
KRVZ	**Karewarewa**	**0.30**	**240**	PN	Pn	03 19 34.5	0.0
OTVZ	**Oturere**	**0.33**	**228**	PN	Pn	03 19 34.9	+0.3
OTVZ				SN	Sn	03 19 45.7	-0.8
WTVZ	**West Tongariro**	**0.35**	**241**	P	Pn	03 19 34.7	0.0
WTVZ	**West Tongariro**	**0.35**	**241**	PN	Pn	03 19 34.7	-0.1
WTVZ				SN	Sn	03 19 47.0	+0.2
NGZ	**Ngauruhoe**	**0.38**	**232**	P	Pn	03 19 35.1	+0.2
NGZ	**Ngauruhoe**	**0.38**	**232**	PN	Pn	03 19 35.1	+0.3
NGZ				SN	Sn	03 19 47.1	+0.1
WPVZ	**Whakapapa**	**0.43**	**232**	P	Pn	03 19 35.4	+0.3
WPVZ	**Whakapapa**	**0.43**	**232**	PN	Pn	03 19 35.2	0.0
TWVZ	**Taurewa**	**0.44**	**253**	⇑PN	Pn	03 19 35.2	0.0
TWVZ				SN	Sn	03 19 47.0	-0.6
BKZ	**Black Stump Fm**	**0.46**	**119**	P	Pn	03 19 35.7	+0.4
BKZ	**Black Stump Fm**	**0.46**	**119**	⇑PN	Pn	03 19 35.7	+0.4
BKZ				SN	Sn	03 19 48.0	+0.3
FWVZ	**Far West T-bar**	**0.46**	**227**	PN	Pn	03 19 35.3	0.0
FWVZ				SN	Sn	03 19 47.8	0.0
WNVZ	**Wahianoa**	**0.48**	**218**	P	Pn	03 19 35.8	+0.3
WNVZ	**Wahianoa**	**0.48**	**218**	⇑PN	Pn	03 19 35.8	+0.3
MOVZ	**Moawhango**	**0.49**	**201**	P	Pn	03 19 35.5	-0.1
MOVZ	**Moawhango**	**0.49**	**201**	⇑PN	Pn	03 19 35.5	0.0
MOVZ				SN	Sn	03 19 47.4	-0.8
PKVZ	**Pokaka**	**0.60**	**235**	⇑PN	Pn	03 19 36.3	0.0
PKVZ				SN	Sn	03 19 49.6	+0.1
PATZ	**Paeroa**	**0.60**	**21**	P	Pn	03 19 36.7	+0.4
PATZ	**Paeroa**	**0.60**	**21**	PN	Pn	03 19 36.6	+0.3
TAZ	**Tarawera**	**0.82**	**30**	P	Pn	03 19 38.4	+0.2
TAZ	**Tarawera**	**0.82**	**30**	PN	Pn	03 19 38.3	+0.1
VRZ	**Vera Road**	**0.97**	**259**	eP	Pn	03 19 39.5	-0.1
VRZ	**Vera Road**	**0.97**	**259**	PN	Pn	03 19 39.5	-0.1
HIZ	**Hauiti**	**0.98**	**296**	PN	Pn	03 19 39.4	-0.3
HIZ				SN	Sn	03 19 55.0	-0.6
TSZ	**Takapari Road**	**1.11**	**181**	P	Pn	03 19 41.2	+0.1
TSZ	**Takapari Road**	**1.11**	**181**	PN	Pn	03 19 41.2	+0.1
TSZ				SN	Sn	03 19 57.0	-1.1
WAZ	**Wanganui**	**1.12**	**223**	eP	Pn	03 19 41.2	0.0
WAZ	**Wanganui**	**1.12**	**223**	PN	Pn	03 19 41.0	-0.1
WAZ				SN	Sn	03 19 58.7	+0.5
URZ	**Urewera**	**1.12**	**53**	P	Pn	03 19 40.8	-0.4
URZ	**Urewera**	**1.12**	**53**	PN	Pn	03 19 40.7	-0.5
URZ				SN	Sn	03 19 56.7	-1.5
PXZ	**Pawanui**	**1.28**	**148**	⇑PN	Pn	03 19 43.2	+0.2
PXZ				SN	Sn	03 20 01.6	+0.2
KNZ	**Kokohu**	**1.32**	**94**	SN	Sn	03 20 01.8	-0.4
MWZ	**Matawai**	**1.36**	**64**	P	Pn	03 19 43.8	0.0
MWZ	**Matawai**	**1.36**	**64**	PN	Pn	03 19 43.8	0.0
MRZ	**Mangatainoka R**	**1.74**	**190**	P	Pn	03 19 47.5	-1.0
MRZ	**Mangatainoka R**	**1.74**	**190**	⇑PN	Pn	03 19 47.5	-1.0
MRZ				SN	Sn	03 20 09.8	-1.4
BFZ	**Birch Farm**	**1.75**	**173**	P	Pn	03 19 47.8	-0.7
BFZ	**Birch Farm**	**1.75**	**173**	PN	Pn	03 19 47.8	-0.7
TIWZ	**Tintock**	**1.83**	**182**	PN	Pn	03 19 48.7	-0.9
TIWZ				SN	Sn	03 20 11.1	-2.0
KIW	**Kapiti Island**	**2.08**	**203**	P	Pn	03 19 51.1	-1.7
KIW				S	Sn	03 20 15.9	-2.9
KIW	**Kapiti Island**	**2.08**	**203**	PN	Pn	03 19 51.1	-1.6
KIW				SN	Sn	03 20 15.9	-2.9
MTW	**Mount Morrison**	**2.24**	**189**	P	Pn	03 19 52.9	-1.9
MTW	**Mount Morrison**	**2.24**	**189**	PN	Pn	03 19 52.9	-1.9
MTW				SN	Sn	03 20 19.2	-3.2
CAW	**Cannon Point**	**2.27**	**198**	P	Pn	03 19 53.4	-1.8
CAW	**Cannon Point**	**2.27**	**198**	PN	Pn	03 19 53.3	-1.9
CAW				SN	Sn	03 20 19.3	-3.8
TRWZ	**Traveller**	**2.46**	**185**	PN	Pn	03 19 55.9	-1.8
TRWZ				SN	Sn	03 20 23.9	-3.6
PAWZ	**Paruwai Farm**	**2.47**	**190**	SN	Sn	03 20 23.8	-3.9
MRW	**Makara Radio**	**2.48**	**203**	SN	Sn	03 20 24.1	-3.9
MSWZ	**Moikau Station**	**2.53**	**193**	SN	Sn	03 20 24.3	-4.8
TCW	**Tory Channel**	**2.62**	**209**	P	Pn	03 19 57.2	-2.4
TCW	**Tory Channel**	**2.62**	**209**	PN	Pn	03 19 57.2	-2.5
TCW				SN	Sn	03 20 27.1	-3.9
NNZ	**Nelson**	**3.02**	**220**	SN	Sn	03 20 37.7	-3.0
QRZ	**Quartz Range**	**3.25**	**234**	SN	Sn	03 20 42.4	-3.8
THZ	**Tophouse**	**3.67**	**219**	PN	Pn	03 20 10.7	-2.8
THZ				SN	Sn	03 20 51.9	-4.1

*NEIC **27** 03:20:19.4,4537S×167.19E,h112km,MG3.8(WEL),After WEL.*

WEL 27 03:20:20.2±0.3,4538S×16729E,h108km±2km,ML3.5/11,2C-5D,Error ellipse: s-maj=3.1km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.14**	**222**	P	Pn	03 20 34.3	-0.9
DCZ				S	Sn	03 20 45.3	-1.1
DCZ	**Deep Cove**	**0.14**	**222**	⇑PN	Pn	03 20 34.3	-0.8
DCZ				SN	Sn	03 20 45.3	-1.1
MLZ	**Mavora Lakes**	**0.62**	**88**	P	Pn	03 20 37.5	-0.2
MLZ				S	Sn	03 20 51.0	+0.1
MLZ	**Mavora Lakes**	**0.62**	**88**	⇑PN	Pn	03 20 37.5	-0.2
MLZ				SN	Sn	03 20 51.0	+0.1
WHZ	**Wether Hill Ro**	**0.70**	**139**	P	Pn	03 20 38.3	0.0
WHZ	**Wether Hill Ro**	**0.70**	**139**	PN	Pn	03 20 38.3	0.0
WHZ				SN	Sn	03 20 51.9	0.0
MSZ	**Milford Sound**	**0.84**	**33**	P	Pn	03 20 39.6	0.0
MSZ	**Milford Sound**	**0.84**	**33**	PN	Pn	03 20 39.7	+0.1
MSZ				SN	Sn	03 20 53.8	-0.3
WKZ	**Wanaka**	**1.34**	**67**	eP	Pn	03 20 45.4	+0.4
WKZ	**Wanaka**	**1.34**	**67**	PN	Pn	03 20 45.1	+0.1
WKZ				SN	Sn	03 21 03.6	-0.2
EAZ	**Earnscleugh**	**1.43**	**85**	P	Pn	03 20 46.0	-0.1
EAZ	**Earnscleugh**	**1.43**	**85**	⇓PN	Pn	03 20 46.0	-0.1
EAZ				SN	Sn	03 21 04.8	-0.9
APZ	**The Paps**	**1.54**	**162**	PN	Pn	03 20 47.1	-0.2
APZ				SN	Sn	03 21 07.1	-0.8
JCZ	**Jackson Bay**	**1.67**	**39**	P	Pn	03 20 48.4	-0.5
JCZ	**Jackson Bay**	**1.67**	**39**	PN	Pn	03 20 48.4	-0.5
JCZ				SN	Sn	03 21 09.9	-0.9
SYZ	**Scrubby Hill**	**1.74**	**133**	⇓PN	Pn	03 20 49.7	-0.1
SYZ				SN	Sn	03 21 10.9	-1.4
TUZ	**Tuapeka**	**1.74**	**110**	P	Pn	03 20 49.9	+0.1
TUZ	**Tuapeka**	**1.74**	**110**	⇓PN	Pn	03 20 49.9	0.0
TUZ				SN	Sn	03 21 10.7	-1.7
LBZ	**Lake Benmore**	**2.28**	**65**	⇓PN	Pn	03 20 55.1	-1.6
LBZ				SN	Sn	03 21 21.4	-3.2
ODZ	**Otahua Downs**	**2.40**	**83**	⇓PN	Pn	03 20 57.0	-1.2
ODZ				SN	Sn	03 21 24.8	-2.5
FOZ	**Fox Glacier**	**2.50**	**44**	SN	Sn	03 21 28.1	-1.5

*IDC **27** 03:31:52.3±0.9,352S×13385E,h0km,mb4.0/5,mb1 4.2/6,mb1mx4.1/13,mbtmp4.2/6,ML4.4/1,Error ellipse: s-maj=57.9km s-min=20.3km az=70.0*

*ISCJB **27** 03:31:53.2±2.8,375S±005×1340E±02,h9km±18km,mb4.5/9,Error ellipse: s-maj=27.2km s-min=8.4km az=169.4*

*NEIC **27** 03:31:53.8±0.6,352S×13392E,h10km,mb4.2/5,Error ellipse: s-maj=17.0km s-min=9.2km az=82.0*

*BJI **27** 03:31:55.5,385S×13407E,h30km,mB4.8,mb4.7,Ms4.5,Msz4.3*

ISC 27 03:31:55.0±2.8,371S±005×1340E±02,h8km±18km,n25,σ1§34/28,mb4.5/9,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.09**	**190**	⇑*iP*	**Pn**	**03 34 07.3**	**+0.9**
KAKA	14nm,0.4s			eS	**Sn**	**03 35 50.0**	**+1.2**
WRAB	**Tennant Creek**	**16.13**	**179**	ePn	**Pn**	**03 35 42.2**	**+0.1**
	13nm,0.6s						
WRA	**Warramunga Arr**	**16.14**	**179**	Pn	**Pn**	**03 35 39.1**	**-3.1**
	0.5nm,0.3s,baz=360,slow=12,SNR=8.9						
WRA				Sn	**Sn**	**03 38 35.0**	**-6.3**
	0.3nm,0.3s,baz=2.1,slow=23,SNR=5.1						
WB2	**Warramunga Arr**	**16.14**	**179**	eP	**Pn**	**03 35 39.4**	**-2.8**
WB2				eS	**Sn**	**03 38 35.1**	**-6.2**
FITZ	**Fitzroy Crossi**	**16.50**	**209**	eP	**Pn**	**03 35 45.2**	**-1.6**
	5.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**16.50**	**209**	Pn	**Pn**	**03 35 45.2**	**-1.6**
	1.0nm,0.3s,baz=41,slow=12,SNR=13						
FITZ				Sn	**Sn**	**03 38 42.7**	**-7.3**
	0.3nm,0.3s,baz=176,slow=16,SNR=3.1						
AS31	**Alice Springs**	**19.84**	**180**	eP	**Pn**	**03 36 28.0**	**+0.2**
ASAR	**Alice Springs**	**19.84**	**180**	P	**Pn**	**03 36 28.1**	**+0.3**
	7.8nm,0.6s,baz=6.6,slow=12,SNR=78						
ASAR				S	**Sn**	**03 40 10.3**	**-0.6**
	0.6nm,0.7s,baz=354,slow=25,SNR=4.6						
ASPA	**Alice Springs**	**19.84**	**180**	eP	**Pn**	**03 36 28.0**	**+0.2**
CTA	**Charters Tower**	**20.18**	**145**	P	**P**	**03 36 31.1**	**+1.2**
	11nm,0.9s,baz=334,slow=9.9,SNR=7.2						
CTAO	**Charters Tower**	**20.18**	**145**	eP	**P**	**03 36 30.9**	**+1.0**
	13nm,0.9s						
MBWA	**Marble Bar**	**22.23**	**218**	eP	**P**	**03 36 53.0**	**+1.0**
	38nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**28.91**	**167**	P	**P**	**03 37 54.2**	**-0.1**
	2.3nm,0.8s,mb3.9,baz=350,slow=12,SNR=2.5						
NJ2	**Nanjing**	**38.38**	**339**	eP	**P**	**03 39 16.3**	**-0.3**
KMI	**Kunming**	**41.76**	**315**	P	**P**	**03 39 45.3**	**+0.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
LZH	**Lanzhou**	**48.62**	**327**	eP	**P**	**03 40 41.0**	**+1.8**
LZH				AP	pP	03 40 51.0	+9.4
LZH				XP	sP	03 40 55.3	+13
LZH				PP	PP	03 42 34.3	+2.2
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
LZH	**Lanzhou**	**48.62**	**327**	eP	**P**	**03 40 41.1**	**+1.9**
LZH				pP	pP	03 40 51.0	+9.4
LZH				sP	sP	03 40 55.2	+13
LZH				PP	PP	03 42 34.2	+2.1
HHC	**Hu-ho-hao-te**	**48.87**	**337**	eP	**P**	**03 40 43.0**	**+1.9**
HHC				AP	pP	03 40 52.0	+8.4
HHC				XP	sP	03 40 56.8	+12
HHC				PCP	PcP	03 42 07.0	+1.4
HHC				PP	PP	03 42 36.5	+2.1
HHC				SCP	ScP	03 45 58.0	-2.9
HHC				PCS	PcS	03 46 02.0	+0.2
HHC				S	**S**	**03 47 44.3**	**-0.6**
HHC				XS	sS	03 48 00.3	+11
HHC				SCS	ScS	03 50 29.0	-4.9
HHC				SS	SS	03 51 10.8	-4.6
HHC				AMB	AMB		
	comp=Z,6.0nm,0.2s,mb5.3						
HHC				AMB	AMB		
	comp=Z,107nm,5.1s						
HHC				LR	LR		
	comp=N,171nm,5.1s						
HHC				LR	LR		
	comp=E,123nm,4.9s						
HHC				LR	LR		
	comp=Z,136nm,6.7s						
SONM	**Songino Array**	**56.76**	**338**	P	**P**	**03 41 35.9**	**-3.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=151,slow=7.2,SNR=3.2						
WMQ	**Urumqi**	**62.97**	**324**	eP	**P**	**03 42 23.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,73nm,4.6s						
MKAR	**Makanchi Array**	**67.80**	**324**	P	**P**	**03 42 50.8**	**-2.6**
	comp=Z,0.8nm,0.4s,mb4.2,baz=109,slow=7.9,SNR=15						
ZRNK	**Zerenda**	**78.24**	**326**	eP	**P**	**03 43 52.8**	**-2.5**
	comp=Z,0.7nm,0.4s,mb3.9						
LVC	**Limon Verde**	**145.55**	**140**	PKPbc	PKPbc	03 51 34.9	+1.0
	comp=Z,2.8nm,0.9s,baz=253,slow=9.3,SNR=3.6						
CPUP	**Villa Florida**	**148.18**	**160**	PKPbc	PKPbc	03 51 40.8	-0.6
	comp=Z,0.5nm,0.4s,baz=72,slow=2.9,SNR=4.3						
LPAZ	**La Paz**	**150.42**	**133**	PKPbc	PKPbc	03 51 47.9	+0.9
	comp=Z,1.1nm,0.9s,baz=49,slow=5.0,SNR=5.2						

*NEIC **27** 03:59:36.0,1528N×9677W,h10km,MD3.7(MEX),After MEX.*

MEX 27 03:59:35.3±1.3,1525N×9666W,h16km±34km,MD3.8,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.74**	**46**	*i* P	Pg	03 59 47.1	-2.6
HUIG				*i* S	Sg	03 59 55.2	-4.3
VHO	**Vista Hermosa**	**1.81**	**358**	*i* P	Pn	04 00 04.2	-1.7
VHO				*i* S	Sn	04 00 24.8	-3.8
PNIG	**Pinotepa**	**1.82**	**309**	*i* P	Pn	04 00 02.1	-3.8
PNIG				*i* S	Sn	04 00 23.6	-5.0
OXX	**Oaxaca**	**1.82**	**358**	*i* P	Pn	04 00 05.0	-1.0
OXX				*i* S	Sn	04 00 25.0	-3.8
CMIG	**Matias Romero**	**2.50**	**43**	*i* P	Pn	04 00 13.7	-1.6
CMIG				*i* S	Sn	04 00 41.5	-4.0
UTMO	**Huajuapan**	**2.79**	**337**	*i* P	Pn	04 00 18.1	-1.2
UTMO				*i* S	Sn	04 00 49.7	-3.0
TPIG	**Tehuac#an**	**3.22**	**348**	*i* S	Sn	04 01 01.1	-2.3
PPM	**Popocatepetl**	**4.24**	**334**	*e*P	Pn	04 00 45.5	+6.3
PPM				*i* S	Sn	04 01 26.5	-1.9

*IDC **27** 04:00:50.8±0.7,2860N×13927E,h465km±8km,mb3.6/19,mb1 3.7/22,mb1mx3.6/30,mbtmp4.4/22,Error ellipse: s-maj=13.1km s-min=9.8km az=97.0*

*ISCJB **27** 04:00:50.5±0.3,2862N±003×13925E±005,h470km±3km,mb4.0/55,Error ellipse: s-maj=7.2km s-min=5.4km az=167.7*

*MOS **27** 04:00:50.6±0.9,2859N×139.15E,h476km,mb4.2/14,Error ellipse: s-maj=13.8km s-min=7.6km az=92.9*

*JMA **27** 04:00:51.0±0.3,2874N×13988E,h499km±4km,M4.4*

*BJI **27** 04:00:51.0,2853N×13927E,h482km,mB4.8,mb4.5*

*NEIC **27** 04:00:52.4±0.6,2863N×13922E,h483km±7km,mb4.0/30,Error ellipse: s-maj=7.6km s-min=4.9km az=119.0*

ISC 27 04:00:51.5±0.3,2866N±004×13931E±005,h467km±3km,n124,σ1§04/132,mb4.0/55,4C-1D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.98**	**121**	P	**P**	**04 01 59.9**	**+0.2**
	40nm,0.3s,baz=320,slow=5.9,SNR=26						
CBIJ				S	**S**	**04 02 53.0**	**-2.2**
	40nm,0.3s,baz=44,slow=24,SNR=8.4						
CBIJ	**Chichi jima**	**2.98**	**121**	P	**P**	**04 01 59.7**	**0.0**
CBIJ				eS	**S**	**04 02 53.7**	**-1.5**
JHHJ	**Haha-jima-NKT**	**3.25**	**128**	P	**P**	**04 02 02.1**	**+0.5**
JHHJ				S	**S**	**04 02 58.3**	**-0.4**
JHJ2	**Mitsune**	**4.46**	**6**	P	**P**	**04 02 13.6**	**+1.9**
JHJ2				eS	**S**	**04 03 14.8**	**-2.3**
JHJ	**Hachijo jima 2**	**4.47**	**5**	P	**P**	**04 02 14.0**	**+2.3**
	30nm,0.3s,baz=262,slow=16,SNR=7.6						
JHJ				S	**S**	**04 03 14.7**	**-2.5**
	61nm,0.3s,baz=255,slow=23,SNR=14						
JIE	**Ise**	**6.13**	**339**	P	**P**	**04 02 31.7**	**+4.0**
JIE				eS	**S**	**04 03 50.3**	**+3.9**
JKN2	**Miekihoku**	**6.14**	**336**	P	**P**	**04 02 31.0**	**+3.2**
JKN2				S	**S**	**04 03 50.4**	**+3.9**
BSO1	**Boso 1**	**6.15**	**13**	eS	**S**	**04 03 46.2**	**-0.5**
BSO3	**Boso 3**	**6.21**	**9**	eS	**S**	**04 03 47.1**	**-0.8**
HMMJ	**Hamamatsu 2**	**6.33**	**348**	P	**P**	**04 02 32.0**	**+2.3**
BSO4	**Boso 4**	**6.38**	**8**	eS	**S**	**04 03 50.3**	**-0.6**
JOD2	**Odawara 2**	**6.59**	**358**	P	**P**	**04 02 33.6**	**+1.2**
JOD2				eS	**S**	**04 03 53.2**	**-1.7**
JAI	**Aioi**	**6.59**	**322**	P	**P**	**04 02 37.1**	**+4.7**
JRY	**Ryogami san**	**7.35**	**357**	P	**P**	**04 02 40.9**	**+0.7**
JRY				eS	**S**	**04 04 06.9**	**-2.4**
JYT	**Yasato**	**7.59**	**5**	P	**P**	**04 02 43.5**	**+0.8**
JAG	**Ashikaga**	**7.75**	**1**	P	**P**	**04 02 44.3**	**-0.1**
MJAR	**Matsushiro Arr**	**7.92**	**354**	P	**P**	**04 02 46.7**	**+0.5**
	2.5nm,0.3s,baz=213,slow=8.2,SNR=24						
MJAR				S	**S**	**04 04 16.2**	**-4.2**
	1.6nm,0.3s,baz=148,slow=11,SNR=5.4						
MAJO	**Matsushiro**	**7.92**	**354**	eP	**P**	**04 02 46.8**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,23nm,0.7s						
MAJO	**Matsushiro**	**

comp=Z,1.2nm,0.3s,baz=211,slow=24,SNR=4.1
MDJ Mudanjiang 17.71 337 P **P** **04 04 31.5 +0.9**
MDJ AMB AMB
comp=Z,9.0nm,1.0s
MDJ AMB AMB
comp=Z,45nm,5.0s
NJ2 Nanjing 17.97 286 *e*P **P** **04 04 32.5 -0.7**
HABR Khabarovsk 20.06 352 *e*P **P** **04 04 54.8 +2.5**
HABR S **S** **04 08 14.0 +5.6**
HABR pmax pmax
comp=Z,63nm,1.2s
KLR Kul'dur 21.35 346 *e*P **P** **04 05 00.0 -4.0**
WHN Wuhan 21.77 281 *e*P **P** **04 05 08.3 +0.4**
HIA Hailar 25.45 329 *e*P **P** **04 05 41.0 +0.2**
HHC Hu-ho-hao-te 25.72 306 *e*P **P** **04 05 43.3 +0.2**
HHC AMB AMB
comp=Z,15nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,143nm,5.3s
XAN Xi'an 26.44 289 P **P** **04 05 49.5 0.0**
XAN AP 04 05 52.0
XAN AMB AMB
comp=Z,18nm,0.6s,mb4.7
GYA Guiyang 28.98 273⇑ *i*P **P** **04 06 12.0 +0.2**
GYA AMB AMB
comp=Z,30nm,1.0s,mb4.7
LZH Lanzhou 30.73 293 *e*P **P** **04 06 27.0 0.0**
LZH AP pP 04 07 50.8 +2.2
LZH PP PP 04 07 54.3 +3.7
LZH XP sP 04 08 45.3 +2.4
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.5
LZH Lanzhou 30.73 293 *e*P **P** **04 06 27.0 0.0**
LZH pP pP 04 07 50.7 +2.1
LZH PP PP 04 07 54.2 +3.6
LZH sP sP 04 08 45.3 +2.4
SONM Songino Array 31.83 316 P **P** **04 06 36.7 +0.3**
comp=Z,1.0nm,0.5s,mb3.5,baz=127,slow=8.5,SNR=12
SONM ScP ScP 04 12 10.2 -2.0
comp=Z,1.5nm,0.8s,baz=133,slow=2.2,SNR=9.7
MA2 Magadan 31.89 11⇑ *e*P **P** **04 06 36.4 -0.6**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb4.6
MA2 Magadan 31.89 11 *e*P **P** **04 06 37.1 +0.1**
comp=Z,14nm,0.7s,mb4.5
KMI Kunming 32.72 273 P **P** **04 06 45.3 +1.2**
KMI AMB AMB
comp=Z,16nm,0.9s,mb4.5
KMI Kunming 32.72 273 P **P** **04 06 45.2 +1.1**
YAK Yakutsk 33.98 352⇑ *e*P **P** **04 06 54.6 -0.2**
YAK pmax pmax
comp=Z,20nm,0.8s,mb4.6
GTA Gaotai 34.20 299 *e*P **P** **04 06 57.0 +0.4**
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.2
SEY Seymchan 35.33 10 *d i*P **P** **04 07 06.6 +0.5**
CHTO Chiang Mai 38.07 264 *e*P **P** **04 07 28.4 -0.3**
comp=Z,3.8nm,0.5s,mb4.1
BILL Bilibino 42.55 15⇑ *i*P **P** **04 08 05.0 +0.2**
BILL pmax pmax
comp=Z,29nm,1.0s,mb4.7
BILL Bilibino 42.55 15 *e*P **P** **04 08 04.8 0.0**
comp=Z,19nm,0.7s,mb4.6
KRAR Krasnoyarsk 42.70 323 *e*P **P** **04 08 03.9 -2.1**
KRAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
KULM Kulim 43.35 245 *e*P **P** **04 08 11.1 0.0**
WMQ Urumqi 43.60 305 *e*P **P** **04 08 13.5 +0.5**
WMQ AMB AMB
comp=Z,7.0nm,0.6s,mb4.3
PSI Prapat 46.23 244 P **P** **04 08 34.2 +0.9**
comp=Z,5.3nm,0.4s,mb4.3,baz=144,slow=3.7,SNR=4.5
PSI Prapat 46.23 244 P **P** **04 08 34.2 +0.9**
MKAR Makanchi Array 47.52 309 P **P** **04 08 42.8 -0.4**
comp=Z,1.1nm,0.6s,mb3.4,baz=93,slow=8.4,SNR=11
MKAR ScP ScP 04 13 10.3 -2.9
comp=Z,2.2nm,0.7s,baz=82,slow=5.7,SNR=14
MKAR Makanchi Array 47.52 309 P **P** **04 08 42.8 -0.4**
MKAR ScP ScP 04 13 10.3 -2.9
FITZ Fitzroy Crossi 48.33 198 *e*P **P** **04 08 48.9 -0.3**
comp=Z,8.1nm,0.6s,mb4.2
FITZ Fitzroy Crossi 48.33 198 P **P** **04 08 48.7 -0.5**
comp=Z,4.0nm,0.6s,mb3.9,baz=16,slow=7.4,SNR=17
WRAB Tennant Creek 48.54 186 *e*P **P** **04 08 49.6 -1.2**
WRAB pmax pmax
comp=Z,5.0nm,0.3s,mb4.3
WRAB Tennant Creek 48.54 186 *e*P **P** **04 08 49.6 -1.2**
comp=Z,4.7nm,0.3s,mb4.3
WB2 Warramunga Arr 48.55 186 *e*P **P** **04 08 49.8 -1.1**
WRA Warramunga Arr 48.55 186 P **P** **04 08 49.9 -1.0**
comp=Z,1.3nm,0.2s,mb3.8,baz=7.0,slow=8.6,SNR=72
ASAR Alice Springs 52.28 186 P **P** **04 09 17.5 -0.7**
comp=Z,0.6nm,0.7s,mb3.1,baz=13,slow=13,SNR=7.7
MBWA Marble Bar 53.01 203 *e*P **P** **04 09 22.6 -0.8**
comp=Z,7.0nm,0.7s,mb4.1
AAK Ala-Archa 53.28 304 *e*P **P** **04 09 24.7 -0.7**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
AAK Ala-Archa 53.28 304 *e*P **P** **04 09 24.7 -0.7**
comp=Z,1.6nm,0.6s,mb3.5
KDAK Kodiak Island 54.66 38 P **P** **04 09 35.1 -0.2**
comp=Z,15nm,0.8s,mb4.3,baz=6.9,slow=19,SNR=5.2
BVAR Borovoye Array 55.17 317 P **P** **04 09 38.5 -0.3**
comp=Z,1.0nm,0.5s,mb3.4,baz=86,slow=4.8,SNR=5.5
ZRNK Zerenda 56.01 317 *e*P **P** **04 09 44.0 -0.6**
ZRNK pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
ZRNK Zerenda 56.01 317 *e*P **P** **04 09 44.0 -0.6**
comp=Z,0.8nm,0.5s,mb3.3
KK31 Karatay Array 56.11 305 *i* P **P** **04 09 45.1 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
MCK McKinley 56.66 30 *e*P **P** **04 09 48.5 -0.6**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
MCK McKinley 56.66 30 *e*P **P** **04 09 48.5 -0.7**
comp=Z,7.7nm,0.8s,mb4.1
COLA College 57.17 29 *e*P **P** **04 09 53.2 +0.5**
COLA College 57.17 29 *e*P **P** **04 09 52.8 +0.1**
comp=Z,4.1nm,0.7s,mb3.9
INK Inuvik 62.68 25 P **P** **04 10 28.6 -0.9**
comp=Z,3.1nm,0.5s,mb4.1,baz=300,slow=6.3,SNR=11
INK Inuvik 62.68 25 P **P** **04 10 28.6 -0.9**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 62.68 25 *e*P **P** **04 10 28.0 -1.5**
comp=Z,3.5nm,0.6s,mb4.1
DLBC Dease Lake 66.40 35 P **P** **04 10 54.0 +0.9**
comp=Z,2.1nm,0.7s,mb3.9,baz=291,slow=7.0,SNR=4.5
KEV Kevo 70.66 340 *e*p **P** **04 11 17.7 -1.3**
ARCES ARCESS Array B 71.23 340 P **P** **04 11 21.2 -1.2**
comp=Z,2.9nm,0.6s,mb4.0,baz=71,slow=8.2,SNR=15
ARCES ARCESS Array B 71.23 340 P **P** **04 11 21.2 -1.2**
YKA Yellowknife Ar 71.97 28 P **P** **04 11 25.8 -0.9**
comp=Z,3.8nm,0.6s,mb4.1,baz=298,slow=5.9,SNR=12
JOF Joensuu 72.55 333 *e*p **P** **04 11 28.6 -1.5**
comp=Z,4.7nm,0.5s,mb4.3
KAF Kangasniemi 74.95 333 *e*p **P** **04 11 41.7 -2.1**
comp=Z,2.1nm,0.4s,mb4.0,baz=54,slow=5.2
KAF Kangasniemi 74.95 333 *e*P **P** **04 11 41.7 -2.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
FIA1 FINESS Array S 75.41 333 *e*P **P** **04 11 45.2 -1.1**
FINES FINESS Array B 75.42 333 P **P** **04 11 45.2 -1.2**
comp=Z,2.3nm,0.4s,mb4.1,baz=80,slow=5.5,SNR=36
FINES FINESS Array B 75.42 333 P **P** **04 11 45.2 -1.2**
YBH Yreka Blue Hor 77.00 50 P **P** **04 11 55.8 +0.7**
comp=Z,2.3nm,0.7s,mb3.8,baz=288,slow=4.5,SNR=8.4
NEW Newport 77.46 42 P **P** **04 11 58.1 +0.5**
comp=Z,4.4nm,0.8s,mb4.1,baz=274,slow=4.2,SNR=11
NEW Newport 77.46 42 P **P** **04 11 58.1 +0.4**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 77.46 42 *e*P **P** **04 11 57.5 -0.1**
comp=Z,6.0nm,1.0s,mb4.1
SUMG Summit 79.03 359 *e*P **P** **04 12 06.2 +0.1**
comp=Z,2.2nm,0.6s,mb3.9
WVOR Wild Horse Val 79.35 47 *e*P **P** **04 12 08.1 +0.3**
WVOR pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
WVOR Wild Horse Val 79.35 47 *e*P **P** **04 12 08.1 +0.3**
comp=Z,2.6nm,0.7s,mb3.9
CMB Columbia Colle 80.30 52 *e*P **P** **04 12 13.2 +0.4**
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
CMB Columbia Colle 80.30 52 *e*P **P** **04 12 13.2 +0.4**
comp=Z,5.0nm,0.9s,mb4.0
NB2 NORSAR Subarra 81.21 337 P **P** **04 12 15.4 -2.2**
comp=Z,1.1nm,0.5s,mb3.6,baz=51,slow=4.6
NOA NORSAR Array B 81.21 337 P **P** **04 12 16.2 -1.4**
comp=Z,2.0nm,0.7s,mb3.7,baz=49,slow=4.8,SNR=9.1
NOA NORSAR Array B 81.21 337 P **P** **04 12 16.2 -1.4**
HLID Hailey 81.46 45 *e*P **P** **04 12 19.4 +0.5**
comp=Z,1.2nm,0.7s,mb3.5
BOZ Bozeman (W) 82.03 42 *e*P **P** **04 12 21.9 +0.1**
comp=Z,1.7nm,0.8s,mb3.6
IMW Indian Meadow 83.40 43 *e*P **P** **04 12 29.6 +0.8**
comp=Z,3.2nm,1.0s,mb3.8
MOOW Moose Ponds 83.60 43 *e*P **P** **04 12 30.6 +0.8**
comp=Z,2.8nm,1.1s,mb3.7
TPAW Teton Pass 83.62 44 *e*P **P** **04 12 30.9 +1.1**
comp=Z,2.9nm,0.8s,mb3.9
LOHW Long Hollow 83.76 43 *e*P **P** **04 12 31.1 +0.5**
comp=Z,1.9nm,1.0s,mb3.6
DUG Dugway 84.26 47 *e*P **P** **04 12 33.5 +0.5**
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb3.8
DUG Dugway 84.26 47 *e*P **P** **04 12 33.5 +0.5**
comp=Z,3.4nm,1.0s,mb3.8
HWUT Hardware Ranch 84.28 45 *e*P **P** **04 12 33.9 +0.8**
comp=Z,5.0nm,0.9s,mb4.0
BW06 Boulder Array 84.87 44 *e*P **P** **04 12 36.2 +0.2**
comp=Z,2.8nm,1.0s,mb3.9
PDAR Pinedale Array 84.87 44 P **P** **04 12 36.4 +0.4**
comp=Z,1.5nm,1.0s,mb3.6,baz=317,slow=2.6,SNR=10
FRB Frobisher Bay 85.31 12 P **P** **04 12 37.6 -0.6**
comp=Z,12nm,0.9s,mb4.5,baz=304,slow=9.6,SNR=5.9
MSU Marysvale 85.59 48 *e*P **P** **04 12 40.5 +1.0**
RSSD Black Hills 87.31 40 *e*P **P** **04 12 47.9 +0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
RSSD Black Hills 87.31 40 *e*P **P** **04 12 47.9 +0.2**
comp=Z,3.4nm,0.9s,mb4.1
SDCO Great Sand Dun 90.33 46 *e*P **P** **04 13 02.2 +0.5**
comp=Z,1.5nm,0.8s,mb3.9
ESK Eskdalemuir 90.41 340 *e*P **P** **04 13 01.6 -0.5**
ESK pmax pmax
comp=Z,14nm,1.1s,mb4.7
ESK Eskdalemuir 90.41 340 *e*P **P** **04 13 01.6 -0.5**
comp=Z,14nm,1.1s,mb4.7
ANMO Albuquerque 91.39 49 *e*P **P** **04 13 07.9 +1.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=275,slow=6.3,SNR=8.4
ANMO Albuquerque 91.39 49 *e*P **P** **04 13 07.7 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 91.39 49 *e*P **P** **04 13 07.7 +1.0**
comp=Z,3.9nm,1.3s,mb4.2
TORD Torodi Ar. Bea 121.64 310 PKP PKPdf 04 18 50.2 -1.1
comp=Z,0.2nm,0.5s,baz=352,slow=1.2,SNR=11
DBIC Dimbokro 130.74 310 SKPbc SKPbc 04 21 46.7 -1.9
comp=Z,5.3nm,0.8s,baz=50,slow=6.1,SNR=5.3
LPAZ La Paz 151.89 70 PKPbc PKPbc 04 19 54.1 +1.4
comp=Z,1.4nm,0.8s,baz=342,slow=3.1,SNR=10
PLCA Paso Flores 152.79 124 PKPbc PKPbc 04 19 54.9 +0.3
comp=Z,1.8nm,0.8s,baz=227,slow=11,SNR=3.3
PLCA Paso Flores 152.79 124 PKPbc PKPbc 04 19 54.9 +0.3

*NEIC **27** 04:32:10.9, 4238N×1982E, h3km, MD2.5(PDG), After PDG.*
*CSEM **27** 04:32:10.8±0.2, 4238N×1984E, h2km, ML2.4, Error ellipse: s-maj=4.1km s-min=3.6km az=36.0*
*SKO **27** 04:32:14.4, 4226N×1987E, h9km, M1.5, ML2.4*
PDG 27 04:32:10.9±0.1, 4238N×1982E, h3km±1km, 10C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.24**	**27**⇑	*i*Pg	Pg	04 32 14.9	-0.7
PVY				*e*Sg	Sg	04 32 19.2	+0.4
PVY	**Plav**	**0.24**	**27**⇑	*i*Pg	Pg	04 32 14.9	-0.8
PVY				*e*Sg	Sg	04 32 19.2	+0.3
TTG	**Podgorica**	**0.42**	**278**⇑	*i*Pg	Pg	04 32 17.9	-1.1
TTG				*e*Sg	Sg	04 32 25.3	+0.8
IVA	**Berane**	**0.50**	**6**⇓	*i*Pg	Pg	04 32 20.1	-0.4
IVA				*e*Sg	Sg	04 32 28.0	+1.0
ULC	**Ulcinj**	**0.59**	**226**⇑	*i*Pg	Pg	04 32 22.0	-0.4
ULC				*e*Sg	Sg	04 32 31.4	+1.3
BUM	**Brajici-Budva**	**0.69**	**264**⇑	*i*Pg	Pg	04 32 23.6	-0.6
BUM				*e*Sg	Sg	04 32 34.4	+1.3
NKY	**Niksic**	**0.75**	**306**⇓	*i*Pg	Pg	04 32 24.8	-0.5
NKY				*e*Sg	Sg	04 32 36.5	+1.4
SJES	**Sjenica**	**0.90**	**6**	Pg	Pg	04 32 30.1	+2.0
SJES				Sg	Sg	04 32 40.4	+0.6
HCY	**Herceg Novi**	**0.98**	**275**⇓	*i*Pg	Pg	04 32 29.0	-0.8
HCY				*e*Sg	Sg	04 32 44.7	+2.1
PLE	**Pljevlja**	**1.00**	**342**⇑	*i*Pg	Pg	04 32 29.6	-0.6
PLE				*e*Sg	Sg	04 32 45.4	+2.1
UPM	**Unac-Piva**	**1.07**	**321**⇑	*i*Pg	Pg	04 32 30.8	-0.6
UPM				*e*Sg	Sg	04 32 47.2	+2.0
UPM	**Unac-Piva**	**1.07**	**321**⇑	*i*Pg	Pg	04 32 30.8	-0.6
UPM				*e*Sg	Sg	04 32 47.2	+2.0
BRY	**Bratogost**	**1.08**	**299**⇑	*i*Pg	Pg	04 32 30.6	-1.1
BRY				*e*Sg	Sg	04 32 47.8	+2.1
BRY	**Bratogost**	**1.08**	**299**⇑	*i*Pg	Pg	04 32 30.5	-1.2
BRY				*e*Sg	Sg	04 32 47.8	+2.1
SKO	**Skopje**	**1.27**	**108**	*e*Pg	Pg	04 32 35.8	+0.5
SKO				*e*Sg	Sg	04 32 52.6	+1.0
SKO				*e*Lg		04 32 53.8	
	comp=E,74nm,0.6s						
SKO				*e*Lg		04 32 54.2	
	comp=N,68nm,0.4s						
SKO	**Skopje**	**1.27**	**108**	*e*Pg	Pg	04 32 35.7	+0.5
SKO				*e*Sg	Sg	04 32 52.6	+0.9
OHR	**Ohrid**	**1.46**	**150**	*e*Pg	Pg	04 32 39.0	+0.1
OHR				*e*Sg	Sg	04 32 57.8	0.0
OHR				*e*Lg		04 32 58.7	
	comp=E,60nm,0.6s						
OHR				*e*Lg		04 32 59.4	
	comp=N,52nm,0.6s						
OHR	**Ohrid**	**1.46**	**150**	*e*Pg	Pg	04 32 39.0	+0.1
OHR				*e*Sg	Sg	04 32 57.8	0.0
BBLS	**Bajina Basta -**	**1.52**	**349**	*i* Pn	Pn	04 32 40.3	+1.3
BBLS				*i* Sn	Sn	04 33 01.7	+2.3
BIA	**Bitola**	**1.76**	**140**	*e*Pg	Pg	04 32 44.5	-0.2
BIA				*e*Sg	Sg	04 33 06.6	-0.9
BIA				*e*Lg		04 33 08.9	
	comp=N,18nm,0.7s						
BIA				*e*Lg		04 33 09.7	
	comp=E,18nm,0.4s						
BIA	**Bitola**	**1.76**	**140**	*e*Pg	Pg	04 32 44.4	-0.3
BIA				*e*Sg	Sg	04 33 06.5	-1.0

GUC 27 04:41:11.4±0.8, 3139S×6868W, h23km±20km, MD3.7, ML3.4, 1C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**2.00**	**275**⇓	*i*P	Pn	04 41 45.1	+1.4
CMCH				*i* S	Sn	04 42 11.1	+3.1
CMCH				AML	AML	04 42 15.6	
	comp=N,312nm,0.7s						
CMCH				AML	AML	04 42 16.5	
	comp=E,244nm,0.7s						
TLL	**Tololo Astrono**	**2.19**	**303**⇑	*i*P	Pn	04 41 48.2	+1.7
TLL				*i* S	Sn	04 42 15.7	+2.9
TLL				AML	AML	04 42 17.3	
	comp=N,102nm,0.4s						
TLL				AML	AML	04 42 20.4	
	comp=E,108nm,0.4s						
RCDM	**Rinconada Maip**	**2.76**	**220**	*i* S	Sn	04 42 29.4	+2.6
VACH	**Vallenar**	**3.33**	**327**	*i* S	Sn	04 42 42.9	+2.1
VACH				AML	AML	04 42 46.0	
	comp=E,379nm,0.1s						
VACH				AML	AML	04 42 46.0	
	comp=N,485nm,0.1s						

IDC 27 04:48:07.6±2.1, 1222S×12124E, h0km, mb3.9/3, mb1 3.8/5, mb1mx3.6/13, mbtmp3.6/5, ML2.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.7/22, Error ellipse: s-maj=157.0km s-min=23.4km az=51.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.74**	**123**	Pn	Pn	04 51 36.9	-0.3
	0.1nm,0.3s,baz=304,slow=13,SNR=2.7						
WRA				Sn	Sn	04 54 24.7	+3.4
	0.0nm,0.3s,baz=314,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**16.56**	**135**	Pn	Pn	04 52 02.9	+1.7
	0.0nm,0.3s,baz=310,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**27.09**	**139**	P	P	04 53 51.5	-0.4
	1.0nm,0.4s,baz=325,slow=12,SNR=2.5						
JOW	**Kunigami**	**39.41**	**10**	LR	LR	05 13 56.8	
	comp=Z,80nm,18.7s,baz=151,slow=39						
MKAR	**Makanchi Array**	**68.31**	**332**	P	P	04 59 10.3	-0.2
	0.1nm,0.4s,baz=142,slow=7.3,SNR=2.5						
ZAL	**Zalesovo**	**72.82**	**338**	P	P	04 59 38.1	+0.1
	3.1nm,0.7s,baz=149,slow=17,SNR=15						

*MOS **27** 05:04:48.0±1.6, 4425N×15242E, h33km, mb4.0/4, Error ellipse: s-maj=86.0km s-min=26.1km az=37.5*
*IDC **27** 05:05:02.5±2.0, 4680N×15104E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/33, Error ellipse: s-maj=63.0km s-min=32.4km az=80.0*
*ISCJB **27** 05:05:05.6±1.7, 468N±02×1510E±05, h33km, mb3.7/5, Error ellipse: s-maj=47.6km s-min=28.3km az=155.3*
ISC 27 05:05:07.6±1.7, 468N±02×1510E±05, h35km, n13, σ0§19/11, mb3.7/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.72**	**235**	*e*PN	**Pn**	**05 05 37.5**	**-11**
KUR				pmax	pmax		
	comp=Z,40nm,0.4s						
ASAJ	**Asahikawa**	**6.52**	**248**	LR	LR	05 09 26.7	
	comp=Z,134nm,18.6s,baz=335,slow=41						
KLR	**Kul'dur**	**13.12**	**288**	*e*P		05 08 21.0	
SONM	**Songino Array**	**29.95**	**289**	P	**P**	**05 11 12.3**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.4,baz=76,slow=6.1,SNR=2.9						
SONM	**Songino Array**	**29.95**	**289**	P	**P**	**05 11 12.3**	**-0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.63**	**296**	P	**P**	**05 13 24.7**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=77,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**45.63**	**296**	P	**P**	**05 13 24.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.34**	**334**	P	**P**	**05 15 32.9**	**-0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=39,slow=7.6,SNR=5.7						
FINES	**FINESS Array B**	**63.34**	**334**	P	**P**	**05 15 32.9**	**-0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NB2	**NORSAR Subarra**	**67.67**	**340**	P	**P**	**05 16 01.6**	**+0.5**
	comp=Z,0.2nm,0.7s,mb3.3,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**340**	P	**P**	**05 16 01.2**	**0.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=28,slow=6.4,SNR=4.4						
NOA	**NORSAR Array B**	**67.67**	**340**	P	**P**	**05 16 01.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.15**	**197**	P	**P**	**05 16 04.1**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.7,baz=13,slow=7.1,SNR=5.2						

*NIED **27** 05:21:00, 4730N×14270E, h5km, Mw4.0 Best double couple: M0 1.05000×10^15 NP1:φs=36.00000°, δ=81.00000°, λ=-155.00000°. NP2:φs=302.00000°, δ=66.00000°, λ=-10.00000°.*
*SKHL **27** 05:21:43.5±0.5, 4707N×14244E, h15km, mb4.6/5, Ms4.2/2*
SKHL Felt (III-IV) at Oshidaevo, (II-III) at Yushno-Sakhalinsk, Kholmsk, Pjatireche.
*JMA **27** 05:21:43.7±0.7, 4731N×14267E, h32km, M4.4*
*MOS **27** 05:21:44.5±2.0, 4706N×14231E, h12km, mb4.1/7, Error ellipse: s-maj=21.1km s-min=11.6km az=116.8*
MOS Felt (III-IV) at Ojidaevo; (III) at Chistovodnoye; (II-III) at Yushno-Sakhalinsk, Pyatirech'e, Kholmsk, Dal'nee.
*ISCJB **27** 05:21:44.7±0.3, 4709N±002×14233E±006, h10km, mb4.0/10, MS3.6/1, Error ellipse: s-maj=5.8km s-min=2.7km az=145.0*
*IDC **27** 05:21:45.0±0.9, 4704N×14250E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/20, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=33.5km s-min=15.1km az=86.0*
*NEIC **27** 05:21:46.5±0.6, 4708N×14252E, h10km, mb4.2/2, Error ellipse: s-maj=22.1km s-min=10.2km az=220.0*
NEIC Felt [IV] at Ozhidayevo and [III] at Chistovodnoye, Dal'neye, Kholmsk, Pyatirech'ye and Yuzhno-Sakhalinsk.
ISC 27 05:21:45.9±0.3, 4710N±002×14241E±006, h10km, n40, σ1§33/53, mb4.0/10, MS3.6/1, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.28**	**121**	*i* Pg	**Pg**	**05 21 50.0**	**-1.5**
YSS				AMB	AMB	05 21 51.3	
	2μm,0.3s						
YSS				AMB	AMB	05 21 51.3	
	1μm,0.3s						
YSS				AMB	AMB	05 21 51.3	
	1μm,0.3s						
YSS				*e*Sg	**Sg**	**05 21 54.9**	**-0.4**
YSS				A		05 21 55.8	
	22μm,0.5s						
YSS				A		05 21 55.8	
	46μm,1.0s						
YSS				A		05 21 55.8	
	36μm,0.7s						
YSS				A		05 21 55.8	
	18μm,0.7s						
YSS				AMS	AMS	05 22 15.0	
	40μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	44μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	35μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	43μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	47μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	26μm,2.5s						
YSS				AMS	AMS	05 22 15.0	
	26μm,2.5s						
YSS	**Yuzh-Sakhalins**	**0.28**	**121**κ	*i*PN	**Pg**	**05 21 50.0**	**-1.5**
YSS				*e*		05 21 54.9	
YSS				pmax	pmax		
	comp=E,1μm,0.3s						
YSS				pmax	pmax		
	comp=Z,1μm,0.3s						
YSS				pmax	pmax		
	comp=Z,1μm,0.3s						
YSS				pmax	pmax		
	comp=E,1μm,0.4s						
YSS				smax			
	comp=N,4μm,0.8s						
YSS				smax			
	comp=E,2μm,0.5s						
YSS				smax			
	comp=N,40μm,0.8s						
YSS				smax			
	comp=E,18μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.28**	**121**	*e*Pg	**Pg**	**05 21 50.1**	**-1.4**
JWK2	**Keihoku**	**1.82**	**191**	P	**Pn**	**05 22 17.4**	**+0.1**
JWK2				*e*S	**Sn**	**05 22 42.1**	**+1.7**
UGL	**Uglegorsk**	**1.99**	**354**	*e*Pb	**Pb**	**05 22 20.8**	**-1.5**
UGL				AMB	AMB	05 22 23.0	
	comp=E,150nm,0.8s						
UGL				AMB	AMB	05 22 23.0	
	comp=E,250nm,0.8s						
UGL				AMB	AMB	05 22 23.0	
	comp=E,700nm,1.0s						
UGL				*e*Sb	**Sb**	**05 22 45.0**	**-2.1**
UGL				A		05 22 53.0	
	comp=E,3μm,4.0s						
UGL				A		05 22 53.0	
	comp=E,4μm,4.0s						
UGL				A		05 22 53.0	
	comp=E,2μm,4.0s						
UGL				A		05 22 54.0	
	comp=E,560nm,0.7s						
UGL				A		05 22 54.0	
	comp=E,450nm,0.7s						
UGL	**Uglegorsk**	**1.99**	**354**	*e*PN	**Pn**	**05 22 20.5**	**+0.8**
UGL				*e*S	**Sn**	**05 22 47.8**	**+3.1**
UGL				pmax	pmax		
	comp=Z,250nm,0.8s						
UGL				pmax	pmax		
	comp=Z,700nm,1.0s						
UGL				smax			
	comp=N,3μm,4.0s						
UGL				smax			
	comp=E,4μm,4.0s						
UGL				smax			

comp=Z,2µm,4.0s
UGL smax
comp=N,560nm,0.7s
UGL smax
comp=E,450nm,0.7s

JRR	**Rishiri**	**2.10**	**202**	P	**Pn**	**05 22 22.2**	**+1.0**
JSE	**Soyaes**	**2.15**	**177**	P	**Pn**	**05 22 21.1**	**-0.6**
JSE				*eS*	**Sn**	**05 22 49.2**	**+0.8**
JSS	**Shosan**	**2.73**	**188**	P	**Pn**	**05 22 30.4**	**+0.6**
ASAJ	**Asahikawa**	**2.99**	**177**	Pn	**Pn**	**05 22 33.5**	**+0.1**
	comp=E,14nm,0.3s,baz=25,slow=18,SNR=14						
ASAJ				Sn	**Sn**	**05 23 08.3**	**-0.9**
	comp=E,14nm,0.3s,baz=71,slow=29,SNR=4.7						
ASAJ				Lg		05 23 15.7	
	comp=E,15nm,0.3s,baz=142,slow=30,SNR=6.7						
ASAJ	**Asahikawa**	**2.99**	**177**	P	**Pn**	**05 22 33.2**	**-0.1**
JMP	**Maruseppu**	**3.17**	**167**	P	**Pn**	**05 22 34.2**	**-1.6**
JKK2	**Kamakawa 2**	**3.24**	**176**	P	**Pn**	**05 22 36.9**	**+0.1**
JTKR	**Abashiri--Toko**	**3.30**	**161**	P	**Pn**	**05 22 35.8**	**-1.9**
JTKR				*eS*	**Sn**	**05 23 15.9**	**-1.1**
JHR	**Hokuryu**	**3.39**	**188**	P	**Pn**	**05 22 41.6**	**+2.7**
TYV	**Tymovskoe**	**3.77**	**2**	*eP*	**Pn**	**05 22 45.5**	**+1.4**
TYV				*ePg*	**Pg**	**05 22 59.5**	**+1.3**
TYV				AMB	AMB	05 23 04.0	
	comp=E,149nm,1.0s						
TYV				AMB	AMB	05 23 04.0	
	comp=E,161nm,1.0s						
TYV				AMB	AMB	05 23 08.0	
	comp=E,300nm,6.0s						
TYV				AMB	AMB	05 23 08.0	
	comp=E,500nm,6.0s						
TYV				AMB	AMB	05 23 08.0	
	comp=E,400nm,3.0s						
TYV				*eSg*	**Sg**	**05 23 52.2**	**+5.2**
TYV				A		05 23 59.5	
	comp=E,66nm,1.0s						
TYV				A		05 24 04.0	
	comp=E,500nm,3.0s						
TYV				A		05 24 04.0	
	comp=E,1µm,8.0s						
TYV				AMS	AMS	05 24 06.0	
	comp=E,3µm,9.0s						
TYV				AMS	AMS	05 24 06.0	
	comp=E,2µm,12.0s						
JAR	**Ashorobuto**	**3.92**	**165**	P	**Pn**	**05 22 45.2**	**-1.0**
JAR				*eS*	**Sn**	**05 23 32.6**	**+0.3**
TEY	**Ternei**	**4.54**	**245**	*eP*	**Pn**	**05 22 52.5**	**-2.1**
TEY				*eS*	**Sn**	**05 23 40.8**	**-6.6**
HABR	**Khabarovsk**	**5.14**	**288**	*ePN*	**Pn**	**05 22 58.8**	**-4.2**
GRNR	**Gornyy**	**5.39**	**315**	*eP*	**Pn**	**05 23 02.8**	**-3.5**
GRNR				AMB	AMB	05 23 03.7	
	comp=E,67nm,1.0s						
GRNR				*eS*	**Sn**	**05 24 07.0**	**-1.4**
GRNR				*eSg*	**Sg**	**05 24 43.0**	**+4.1**
GRNR				A		05 24 51.0	
	comp=E,69nm,0.9s						
NKL	**Nikolayevsk**	**6.16**	**350**	*eP*	**Pn**	**05 23 14.2**	**-2.7**
NKL				AMB	AMB	05 23 15.2	
	comp=E,20nm,1.0s						
NKL				AMS	AMS	05 26 06.0	
	comp=E,1µm,13.0s						
NKL				AMS	AMS	05 26 06.0	
	comp=E,600nm,13.0s						
OKH	**Okha**	**6.47**	**3**	*erx*	rx	05 25 21.8	
KLR	**Kul'dur**	**7.44**	**291**	*ePN*	**Pn**	**05 23 32.8**	**-1.7**
KLR				*e*		05 25 04.8	
EKMR	**Ekimchan**	**8.52**	**318**	*eP*	**Pn**	**05 23 46.5**	**-2.9**
EKMR				*eS*	**Sn**	**05 25 24.5**	**-1.0**
EKMR				AMS	AMS	05 26 30.4	
	comp=E,52nm,1.2s						
YASR	**Yasnyy**	**11.12**	**309**	*eP*	**Pn**	**05 24 24.8**	**-0.2**
BILL	**Bilibino**	**24.27**	**22**	*eP*	**P**	**05 27 03.1**	**-0.1**
BILL				*e*		05 27 33.4	
BILL				*eSS*		05 32 05.6	
BILL				pmax	pmax		
	comp=E,6.0nm,0.8s,mb4.1						
BILL				MLR	MLR		
	comp=E,200nm,18.0s,MS3.6						
ZAK	**Zakamensk**	**25.81**	**292**	*eP*	**P**	**05 27 18.9**	**+1.7**
ZAK				pmax	pmax		
	comp=E,2.0nm,1.1s,mb3.6						
MKAR	**Makanchi Array**	**40.14**	**292**	P	**P**	**05 29 23.0**	**+1.0**
	comp=E,0.7nm,0.7s,mb3.5,baz=75,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**40.14**	**292**	*i* P	**P**	**05 29 23.3**	**+1.3**
MKAR				pmax	pmax		
	comp=E,1.0nm,0.7s						
ZRNK	**Zerenda**	**45.62**	**306**	*eP*	**P**	**05 30 06.5**	**+0.2**
ZRNK				pmax	pmax		
	comp=E,2.0nm,0.9s,mb4.0						
ZRNK	**Zerenda**	**45.62**	**306**	*eP*	**P**	**05 30 06.5**	**+0.2**
	comp=E,2.4nm,0.9s,mb4.1						
FINES	**FINESS Array B**	**60.34**	**330**	P	**P**	**05 31 55.0**	**0.0**
	comp=E,1.8nm,0.7s,mb4.2,baz=45,slow=8.1,SNR=4.3						
FINES	**FINESS Array B**	**60.34**	**330**	P	**P**	**05 31 55.0**	**0.0**
FINES				pmax	pmax		
	comp=E,2.0nm,0.7s						
OBN	**Obninsk**	**60.62**	**321**	*eP*	**P**	**05 31 58.3**	**+1.4**
OBN				pmax	pmax		
	comp=E,3.0nm,0.7s,mb4.5						
NB2	**NORSAR Subarra**	**65.23**	**336**	P	**P**	**05 32 28.4**	**+0.8**
	comp=E,1.0nm,0.8s,mb3.9,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**65.23**	**336**	P	**P**	**05 32 28.1**	**+0.5**
	comp=E,1.2nm,0.7s,mb4.0,baz=36,slow=6.6,SNR=4.6						
AKASG	**Malin Array Be**	**66.89**	**321**	*i* P	**P**	**05 32 40.2**	**+2.0**
BW06	**Boulder Array**	**70.23**	**48**	*eP*	**P**	**05 33 00.1**	**+1.0**
	comp=E,1.3nm,0.7s,mb4.0						
PDAR	**Pinedale Array**	**70.23**	**48**	P	**P**	**05 32 59.8**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=336,slow=3.0,SNR=15						
ASAR	**Alice Springs**	**70.85**	**188**	P	**P**	**05 33 04.2**	**+1.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=2.3,slow=5.7,SNR=8.6						

*NEIC **27** 06:02:53.9, 1775N×6829W, h99km, MD3.5(RSPR), After RSPR.*

RSPR 27 06:02:53.9, 1775N×6829W, h99km±2km, MD3.5/12, 11C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.16**	**77**↑	*eP*	Pn	06 03 15.2	-0.6
CRPR				*eS*	Sn	06 03 32.1	-0.4
LSP	**Las Mesas**	**1.23**	**69**↑	*eP*	Pn	06 03 16.3	-0.4
LSP				*eS*	Sn	06 03 33.4	-0.5
AGPR	**Aguadilla, PR**	**1.33**	**57**↑	*eP*	Pn	06 03 17.4	-0.6
AGPR				*eS*	Sn	06 03 36.3	+0.1
GBPR	**Guanica, Bosqu**	**1.37**	**80**	*eS*	Sn	06 03 37.0	+0.1
AOPR	**Arecibo Observ**	**1.58**	**68**↑	*eP*	Pn	06 03 20.5	-0.5
AOPR				*eS*	Sn	06 03 41.8	+0.2
OBIP	**Obispado Ponce**	**1.63**	**79**↑	*eP*	Pn	06 03 21.5	-0.1
OBIP				*eS*	Sn	06 03 42.9	+0.1
CELP	**Cerrillos**	**1.66**	**78**↓	*eP*	Pn	06 03 21.7	-0.3
CELP				*eS*	Sn	06 03 43.0	-0.4
ICM	**Isla Caja Muer**	**1.69**	**85**↑	*eP*	Pn	06 03 22.0	-0.4
ICM				*eS*	Sn	06 03 44.4	+0.2
SJG	**San Juan**	**2.07**	**80**↑	*eP*	Pn	06 03 27.1	-0.2
SJG				*eS*	Sn	06 03 52.8	0.0
CPD	**Cerro la Pandu**	**2.28**	**82**↑	*eP*	Pn	06 03 29.8	-0.2
CPD				*eS*	Sn	06 03 57.3	-0.4
HUMP	**Col San Antoni**	**2.36**	**80**↑	*eP*	Pn	06 03 30.7	-0.3
HUMP				*eS*	Sn	06 03 59.4	-0.1
CBYP	**Canovanas**	**2.38**	**77**↑	*eP*	Pn	06 03 31.2	-0.1
CBYP				*eS*	Sn	06 03 59.6	-0.3
MTP	**Monte Pirata**	**2.63**	**82**↑	*eP*	Pn	06 03 34.4	-0.2
MTP				*eS*	Sn	06 04 06.5	+0.5

*NIED **27** 06:05:00, 2940N×13050E, h26km, Mw4.4 Best double couple: M0×4.76000×10^15 NP1:φ=204.00000°, δ=71.00000°, λ=-74.00000°. NP2:φ=343.00000°, δ=25.00000°, λ=-128.00000°.*

*MOS **27** 06:05:30.9±0.9, 2941N×13059E, h33km, mb4.6/5, Error ellipse: s-maj=17.9km s-min=11.5km az=99.6*

*ISCJB **27** 06:05:32.9±0.5, 2931N±003×13059E±005, h50km±4km, mb4.3/27, MS3.9/7, Error ellipse: s-maj=8.4km s-min=4.3km az=42.3*

*BJI **27** 06:05:33.7, 2926N×13079E, h62km, mB4.6, mb4.3, Ms4.0, Ms2.8*

*JMA **27** 06:05:33.1±0.1, 2936N×13046E, h68km±4km, M4.4*

JMA Felt I J1.

*IDC **27** 06:05:33.0±4.5, 2936N×13052E, h33km±35km, mb4.0/16, mb1 4.1/19, mb1mx4.1/27, mbtmp4.2/19, ML4.1/3, MS3.7/8, Ms1 3.7/8, ms1mx3.4/31, Error ellipse: s-maj=18.7km s-min=13.5km az=76.0*

*NEIC **27** 06:05:35.4±0.4, 2939N×13065E, mb4.6/9, MW4.4(NIED), Error ellipse: s-maj=11.7km s-min=8.1km az=119.0*

NEIC Recorded [1 JMA] on Nakano-shima.

ISC 27 06:05:34.0±0.5, 2933N±003×13056E±005, h41km±5km, n64, σ0°90/66, mb4.3/27, MS3.9/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.79**	**311**	P	**Pn**	**06 05 47.9**	**-0.7**
JNN				*S*	**Sn**	**06 05 59.5**	**+0.3**
JZK	**Kikaishima**	**1.13**	**207**	P	**Pn**	**06 05 53.3**	**0.0**
JKC	**Kuchinoerabu**	**1.18**	**344**	P	**Pn**	**06 05 53.8**	**-0.1**
JKC				*eS*	**Sn**	**06 06 09.4**	**+0.7**
JAM	**Amami Oshima**	**1.24**	**223**	P	**Pn**	**06 05 54.5**	**-0.3**
JAM				*eS*	**Sn**	**06 06 11.8**	**+1.5**
JTN	**Tanegashima 3**	**1.37**	**15**	P	**Pn**	**06 05 56.3**	**-0.3**
JTN				S	**Sn**	**06 06 14.8**	**+1.2**
JTSR	**Tashiro 2**	**1.86**	**10**	P	**Pn**	**06 06 03.3**	**0.0**
JTK	**Tokunoshima**	**2.09**	**223**	P	**Pn**	**06 06 06.1**	**-0.4**
JSU	**Suzuyama**	**2.17**	**358**	P	**Pn**	**06 06 07.2**	**-0.4**
JNAR	**Kushima--Naru**	**2.28**	**15**	P	**Pn**	**06 06 09.4**	**+0.3**
JNAR				S	**Sn**	**06 06 36.9**	**+1.0**
JSJ	**Shimokoshiki**	**2.46**	**343**	P	**Pn**	**06 06 11.4**	**-0.1**
JTZ	**Takazaki**	**2.61**	**10**	P	**Pn**	**06 06 14.4**	**+0.8**
JOW	**Kunigami**	**3.20**	**220**	Pn	**Pn**	**06 06 21.1**	**-0.7**
	21nm,0.3s,baz=75,slow=9.6,SNR=34						
JOW				Sn	**Sn**	**06 06 58.2**	**-0.5**
	27nm,0.3s,baz=214,slow=30,SNR=5.9						
JOW				LR	LR	06 07 48.9	
	comp=Z,376nm,19.9s,baz=15,slow=42						
JOW	**Kunigami**	**3.20**	**220**	P	**Pn**	**06 06 20.9**	**-0.9**
JOW	**Kunigami**	**3.20**	**220**	Pn	**Pn**	**06 06 21.1**	**-0.7**
JOW				Sn	**Sn**	**06 06 58.2**	**-0.5**
JOW				LR	LR	06 07 48.9	
JIH	**Iheya**	**3.23**	**226**	P	**Pn**	**06 06 21.4**	**-0.8**
TATO	**Taipei**	**9.17**	**244**	*ePn*	**Pn**	**06 07 47.3**	**+3.7**
YHNB	**Yeheng**	**9.41**	**243**	*ePn*	**Pn**	**06 07 52.8**	**+5.8**
MAJO	**Matsushiro**	**9.64**	**40**	*eP*	**Pn**	**06 07 47.8**	**-2.4**
MJAR	**Matsushiro Arr**	**9.64**	**40**	Pn	**Pn**	**06 07 50.1**	**-0.1**
	1.0nm,0.3s,baz=242,slow=14,SNR=5.2						
CBIJ	**Chichi jima**	**10.49**	**99**	Pn	**Pn**	**06 08 01.4**	**-0.4**
	13nm,0.3s,baz=294,slow=22,SNR=8.4						
CBIJ				LR	LR	06 11 25.7	
	comp=Z,201nm,19.4s,baz=46,slow=34						
ASAJ	**Asahikawa**	**17.61**	**30**	LR	LR	06 16 38.4	
	comp=Z,228nm,19.8s,baz=238,slow=38						
XAN	**Xi'an**	**19.00**	**290**	P	**Pn**	**06 09 51.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.6s						
KLR	**Kul'dur**	**19.90**	**2**	*eP*	**Pn**	**06 09 57.8**	**-6.0**
GUMO	**Guam**	**20.52**	**137**	LR	LR	06 16 18.4	
	comp=Z,118nm,18.1s,MS3.3,baz=270,slow=31						
GYA	**Guiyang**	**21.31**	**268**	P	**P**	**06 10 18.8**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
QIZ	**Qiongzhong**	**21.47**	**246**	*eP*	**P**	**06 10 20.5**	**+1.7**
	comp=Z,76nm,1.6s,mb4.8						
LZH	**Lanzhou**	**23.43**	**294**	*eP*	**P**	**06 10 42.5**	**+3.0**
LZH				AP		06 10 50.0	
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,153nm,4.5s						
LZH				LR	LR		
	comp=E,650nm,14.0s						
LZH				LR	LR		
	comp=Z,810nm,18.0s,MS4.2						
SONM	**Songino Array**	**26.25**	**321**	P	**P**	**06 11 04.8**	**-0.5**
	comp=Z,3.2nm,0.8s,mb3.9,baz=140,slow=11,SNR=9.8						
SONM				LR	LR	06 22 42.7	
	comp=Z,287nm,20.0s,MS3.8,baz=169,slow=39						
GTA	**Gaotai**	**27.19**	**300**	*eP*	**P**	**06 11 18.0**	**+4.4**
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,109nm,5.7s						
GTA				LR	LR		
	comp=N,214nm,19.1s,MS3.9						
GTA				LR	LR		
	comp=E,221nm,17.6s,MS3.9						
GTA				LR	LR		
	comp=Z,294nm,16.8s,MS3.9						
MKAR	**Makanchi Array**	**41.11**	**309**	P	**P**	**06 13 13.7**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.7,baz=93,slow=9.9,SNR=10						
ZAL	**Zalesovo**	**41.13**	**320**	P	**P**	**06 13 13.0**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.0,baz=71,slow=4.4,SNR=3.1						
FITZ	**Fitzroy Crossi**	**47.39**	**186**	*eP*	**P**	**06 14 04.5**	**+0.4**
	comp=Z,5.5nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**49.11**	**175**	*eP*	**P**	**06 14 17.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**49.11**	**175**	*eP*	**P**	**06 14 17.7**	**+0.4**
	comp=Z,5.0nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**49.12**	**175**	P	**P**	**06 14 17.5**	**+0.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=354,slow=8.4,SNR=30						
WRA				pP	pP	06 14 32.7	+3.6
	comp=Z,4.0nm,0.8s,baz=352,slow=8.2,SNR=11						
WB2	**Warramunga Arr**	**49.12**	**175**	*eP*	**P**	**06 14 17.7**	**+0.3**
BVAR	**Borovoye Array**	**49.41**	**316**	P	**P**	**06 14 19.2**	**-0.4**
	comp=Z,3.9nm,0.5s,mb4.7,baz=96,slow=9.8,SNR=18						
BRVK	**Borovoye**	**49.47**	**316**	*eP*	**P**	**06 14 19.8**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**49.47**	**316**	*eP*	**P**	**06 14 19.8**	**-0.3**
	comp=Z,2.3nm,0.5s,mb4.5						
ZRNK	**Zerenda**	**50.24**	**316**	*eP*	**P**	**06 14 25.5**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**50.24**	**316**	*eP*	**P**	**06 14 25.5**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.4						
MBWA	**Marble Bar**	**51.26**	**193**	*eP*	**P**	**06 14 33.6**	**0.0**
	comp=Z,10.0nm,1.1s,mb4.7						
CTA	**Charters Tower**	**51.40**	**161**	LR	LR	06 36 09.2	
	comp=Z,92nn,19.8s,MS3.8,baz=243,slow=36						
ASAR	**Alice Springs**	**52.78**	**176**	P	**P**	**06 14 46.1**	**+1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=9.5,slow=13,SNR=29						
ASAR				pP	pP	06 15 00.8	+4.1
	comp=Z,2.3nm,0.6s,baz=5.0,slow=9.4,SNR=12						
ASAR				PcP	PcP	06 15 54.0	-0.1
	comp=Z,1.1nm,0.8s,baz=13,slow=4.1,SNR=5.3						
AKTK	**Aktyubinsk**	**57.17**	**313**	P	**P**	**06 15 15.7**	**-0.9**
AKTO	**Aktyubinsk**	**57.17**	**313**	P	**P**	**06 15 15.7**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.2,baz=79,slow=11,SNR=5.0						
KDAK	**Kodiak Island**	**58.81**	**38**	P	**P**	**06 15 27.6**	**-0.6**
	comp=Z,10nm,0.7s,mb5.0,baz=277,slow=5.1,SNR=9.0						
STKA	**Stephens Creek**	**61.76**	**169**	P	**P**	**06 15 47.5**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.4,baz=316,slow=12,SNR=4.8						
INK	**Inuvik**	**65.24**	**24**	P	**P**	**06 16 10.7**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.2,baz=323,slow=5.1,SNR=3.5						
ARCES	**ARCESS Array B**	**67.89**	**338**	LR	LR	06 51 29.4	
	comp=Z,131nm,19.1s,MS4.2,baz=14,slow=41						
FINES	**FINESS Array B**	**71.19**	**331**	P	**P**	**06 16 47.6**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=70,slow=6.3,SNR=5.1						
AKASG	**Malin Array Be**	**74.52**	**320**	P	**P**	**06 17 08.0**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.2,baz=59,slow=6.1,SNR=8.2						
AKASG	**Malin Array Be**	**74.52**	**320**	P	**P**	**06 17 08.0**	**-0.3**
BRTR	**Keskin Array B**	**76.76**	**308**	P	**P**	**06 17 21.9**	**+0.8**
	comp=Z,1.4nm,0.6s,mb4.0,baz=107,slow=4.6,SNR=8.0						
NB2	**NORSAR Subarra**	**77.45**	**334**	P	**P**	**06 17 23.6**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=46,slow=5.9						
NB2	**NORSAR Subarra**	**77.45**	**334**	P	**P**	**06 17 23.6**	**-1.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**77.45**	**334**	P	**P**	**06 17 23.6**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=49,slow=5.5,SNR=4.6						
GERES	**GERESS Array B**	**83.96**	**324**	LR	LR	07 02 26.9	
	comp=Z,134nm,19.0s,MS4.3,baz=348,slow=41						
CMB	**Columbia Colle**	**85.76**	**48**	*eP*	**P**	**06 18 09.6**	**+0.7**
CMB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
CMB	**Columbia Colle**	**85.76**	**48**	*eP*	**P**	**06 18 09.6**	**+0.7**
	comp=Z,4.5nm,0.6s,mb4.9						
HLID	**Hailey**	**86.21**	**41**	*eP*	**P**	**06 18 13.1**	**+2.1**
	comp=Z,2.3nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**89.47**	**40**	P	**P**	**06 18 27.8**	**+1.2**
	comp=Z,0.8nm,0.8s,mb4.1,baz=343,slow=3.1,SNR=8.5						
ULM	**Lac du Bonnet**	**90.73**	**28**	P	**P**	**06 18 32.7**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.4,baz=317,slow=5.7,SNR=3.0						
ULM	**Lac du Bonnet**	**90.73**	**28**	P	**P**	**06 18 32.7**	**+0.1**

*ISCJB **27** 06:08:43.7±0.4, 4235N±002×1985E±003, h1km, Error ellipse: s-maj=3.6km s-min=2.7km az=75.2*

*NEIC **27** 06:08:44.0, 4237N×1985E, h3km, ML2.5(PDG), After PDG.*

*PDG **27** 06:08:44.0±0.3, 4237N×1985E, h3km±1km*

*TIR **27** 06:08:44.3, 4241N×1974E, h0km*

*SKO **27** 06:08:49.4, 4216N×1989E, h22km*

ISC 27 06:08:44.8±0.4, 4236N±002×1984E±003, h1km±15km, n14, σ1°32/28, 8C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.25**	**24**↑	*i*Pg	**Pg**	**06 08 48.2**	**-1.4**
PVY				*e*Sg	**Sg**	**06 08 52.6**	**-0.3**
TTG	**Podgorica**	**0.43**	**279**↑	*i*Pg	**Pg**	**06 08 51.3**	**-1.7**
TTG				*e*Sg	**Sg**	**06 08 58.6**	**0.0**
IVA	**Berane**	**0.51**	**5**↑	*i*Pg	**Pg**	**06 08 53.4**	**-1.1**
IVA				*e*Sg	**Sg**	**06 09 00.7**	**-0.5**
KKS	**Kukesi**	**0.52**	**124**	*i* Pg	**Pg**	**06 08 56.7**	**+2.1**
KKS				*i* Sg	**Sg**	**06 09 03.8**	**+2.5**
ULC	**Ulcinj**	**0.59**	**228**↑	*i*Pg	**Pg**	**06 08 55.2**	**-0.9**
ULC				*e*Sg	**Sg**	**06 09 04.6**	**+0.8**
BUM	**Brajici-Budva**	**0.70**	**265**↑	*i*Pg	**Pg**	**06 08 57.4**	**-0.7**
BUM				*e*Sg	**Sg**	**06 09 07.8**	**+0.7**
NKY	**Niksic**	**0.76**	**306**↑	*i*Pg	**Pg**	**06 08 58.6**	**-0.8**
NKY				*e*Sg	**Sg**	**06 09 10.4**	**+1.1**
HCY	**Herceg Novi**	**0.99**	**275**↓	*i*Pg	**Pg**	**06 09 02.1**	**-1.7**
HCY				*e*Sg	**Sg**	**06 09 18.7**	**+2.1**
PLE	**Pljevlja**	**1.02**	**342**↑	*i*Pg	**Pg**	**06 09 03.6**	**-0.7**
PLE				*e*Sg	**Sg**	**06 09 18.6**	**+1.1**
UPM	**Unac-Piva**	**1.08**	**321**	*e*Pg	**Pg**	**06 09 04.5**	**-1.0**
UPM				*e*Sg	**Sg**	**06 09 21.3**	**+1.8**
BRY	**Bratogost**	**1.09**	**300**↑	*i*Pg	**Pg**	**06 09 04.1**	**-1.7**
BRY				*e*Sg	**Sg**	**06 09 21.5**	**+1.6**
SKO	**Skopje**	**1.26**	**108**	*e*Pg	**Pg**	**06 09 11.3**	**+2.4**
SKO				*e*Sg	**Sg**	**06 09 26.1**	**+1.0**
OHR	**Ohrid**	**1.44**	**150**	*e*Pg	**Pg**	**06 09 12.2**	**-0.2**
OHR				*e*Sg	**Sg**	**06 09 29.5**	**-1.7**
BIA	**Bitola**	**1.75**	**140**	*e*Pn	**Pn**	**06 09 16.1**	**0.0**
BIA				*e*Sg	**Sg**	**06 09 39.2**	**-1.6**

NEIC 27 06:13:00.0, 2368N×12047E, h8km, ML4.1(TAP), After TAP., Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**1.14**	**64**	*e*Pg	Pg	06 13 27.0	+5.1
NACB				*e*Sg	Sg	06 13 42.5	+5.8
YHNB	**Yeheng**	**1.29**	**40**	*e*Pg	Pg	06 13 29.4	+4.7
YHNB				*e*Sg	Sg	06 13 46.0	+4.6
TATO	**Taipei**	**1.59**	**36**	*e*Pg	Pg	06 13 40.1	+10
TATO				*e*Sg	Sg	06 14 02.1	+11

*CSEM **27** 06:24:51.0, 4265N×4586E, h9km, mb3.7, After OBN*

MOS 27 06:24:51.0±1.4, 4265N×4586E, h9km, mb3.7/1, Error ellipse: s-maj=19.1km s-min=8.7km az=23.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.27**	**87**	*i* PG	Pg	06 24 58.0	+1.7
BTLR				*i* S	Sg	06 25 05.5	+5.6
BTLR				pmax	pmax		
	comp=Z,32nm,0.3s						
BTLR	**Botlikh**	**0.27**	**87**	*i* Pg	Pg	06 24 58.0	+1.7
	comp=Z,32nm,0.3s						
BTLR				*i* Sg	Sg	06 25 05.5	+5.6
UNCR	**Uncukul**	**0.69**	**84**	*e*PG	Pg	06 25 05.0	+0.7
UNCR				*i* S	Sg	06 25 17.0	+3.7
UNCR				pmax	pmax		
	comp=Z,34nm,0.3s						
UNCR	**Uncukul**	**0.69**	**84**	*e*Pg	Pg	06 25 05.0	+0.7
	comp=Z,34nm,0.3s						
UNCR				*i* Sg	Sg	06 25 17.0	+3.7
DBC	**Dubki**	**0.80**	**62**	*e*PG	Pg	06 25 05.0	-1.5
DBC				*e*S	Sg	06 25 17.0	+0.1
SNJR	**Sundja**	**0.88**	**299**	*e*Pg	Pg	06 25 08.6	+0.7
SNJR				*e*Sg	Sg	06 25 21.9	+2.6
VLKR	**Vladikavkaz**	**0.96**	**295**	*e*Pg	Pg	06 25 09.6	+0.2
VLKR				*e*Sg	Sg	06 25 23.6	+1.7
KMKR	**Kumukh**	**1.05**	**119**	PG	Pg	06 25 13.0	+1.8
KMKR				*i* S	Sg	06 25 31.0	+6.1
KMKR				pmax	pmax		
	comp=Z,19nm,0.2s						
KMKR	**Kumukh**	**1.05**	**119**	Pg	Pg	06 25 13.0	+1.8
	comp=Z,19nm,0.2s						
KMKR				*i* Sg	Sg	06 25 31.0	+6.1
LACR	**Lac**	**1.17**	**279**	*i* Pg	Pg	06 25 11.7	-1.7
LACR				*i* Sg	Sg	06 25 27.4	-1.2
ARNR	**Ardon**	**1.28**	**295**	*e*Pg	Pg	06 25 15.0	-0.6
ARNR				*e*Sg	Sg	06 25 33.

4.5nm,0.7s,mb4.4
CFAA Coronel Fontan 146.57 120 PKPbc PKPbc 07 20 35.3 -1.2
0.2nm,0.6s,baz=260,slow=6.8,SNR=5.1
LPAZ La Paz 147.76 92 PKPbc PKPbc 07 20 40.8 +1.1
3.1nm,0.7s,baz=300,slow=2.4,SNR=17

IDC 27 07:06:07.7±2.0, 4640N×15313E, h0km, mb3.8/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.8/7, MS3.1/2, Ms1 3.1/2, ms1mx2.9/27, Error ellipse: s-maj=60.9km s-min=33.8km az=80.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.77**	**257**	LR		LR	07 11 36.6	
	comp=Z,4.8nm,18.5s,baz=349,slow=42							
SONM	**Songino Array**	**31.46**	**290**	P		P	07 12 30.6	-0.2
	0.3nm,0.6s,baz=74,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**47.11**	**298**	P		P	07 14 41.4	0.0
	1.1nm,0.8s,baz=68,slow=6.7,SNR=8.2							
BVAR	**Borovoye Array**	**51.09**	**310**	P		P	07 15 11.4	-0.4
	0.4nm,0.4s,baz=35,slow=7.8,SNR=2.5							
FINES	**FINESS Array B**	**64.36**	**335**	P		P	07 16 45.1	-0.2
	1.2nm,0.6s,baz=23,slow=7.5,SNR=3.3							
NB2	**NORSAR Subarra**	**68.56**	**341**	P		P	07 17 11.7	-0.5
	comp=Z,0.1nm,0.7s,baz=31,slow=6.2							
NOA	**NORSAR Array B**	**68.56**	**341**	P		P	07 17 11.8	-0.3
	comp=Z,0.6nm,0.6s,baz=27,slow=6.2,SNR=4.3							
AKASG	**Malin Array Be**	**71.84**	**326**	P		P	07 17 31.5	-0.7
	comp=Z,1.0nm,0.5s,baz=36,slow=5.6,SNR=6.1							
ASAR	**Alice Springs**	**71.88**	**199**	P		P	07 17 32.4	-0.1
	comp=Z,0.2nm,0.5s,baz=7.8,slow=7.5,SNR=4.1							
BRTR	**Keskin Array B**	**78.65**	**317**	LR		LR	07 58 52.8	
	comp=Z,32nm,18.4s,baz=189,slow=40							

JMA 27 07:14:39.1±0.3, 4385N×14795E, h8km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.68**	**254**	P		Pn	07 15 09.2	+0.5
NEM2					*e*S	Sn	07 15 30.9	+0.6
JRA	**Rausu**	**2.05**	**273**	P		Pn	07 15 14.4	+0.6
JRA					*e*S	Sn	07 15 40.6	+1.1
JNK	**Nakash**	**2.36**	**265**	P		Pn	07 15 18.5	+0.4
JNK					*e*S	Sn	07 15 47.8	+0.6
JAK	**Akkeshi**	**2.52**	**251**	P		Pn	07 15 20.8	+0.5
JAK					*e*S	Sn	07 15 51.5	+0.3
JTKR	**Abashiri--Toko**	**2.92**	**274**	P		Pn	07 15 26.0	+0.1
JAR	**Ashorobuto**	**3.09**	**261**	P		Pn	07 15 29.3	+1.2
JAR					*e*S	Sn	07 16 06.7	+1.5
JOB	**Onbets**	**3.15**	**254**	P		Pn	07 15 29.9	+1.0
JOB					*e*S	Sn	07 16 07.2	+0.5
JCH	**Churui**	**3.57**	**251**	P		Pn	07 15 35.3	+0.5
JCH					*e*S	Sn	07 16 17.3	+0.1
JNBK	**Urakawa-nobuka**	**4.12**	**249**	P		Pn	07 15 42.6	+0.3
JNBK					*e*S	Sn	07 16 30.4	-0.2

ISCJB 27 07:32:39.8±0.5, 4082N±005×13964E±009, h190km±4km, mb3.4/5, Error ellipse: s-maj=11.9km s-min=7.6km az=41.6

IDC 27 07:32:39.8±1.5, 4079N×13958E, h175km±16km, mb3.2/5, mb1 3.4/7, mb1mx3.2/23, mbtmp3.7/7, Error ellipse: s-maj=27.0km s-min=14.8km az=113.0

NEIC 27 07:32:40.8, 4079N×13958E, h186km, MG3.1(JMA), After JMA.

JMA 27 07:32:40.8±0.1, 4079N×13958E, h186km±1km, M3.1

ISC 27 07:32:40.7±0.5, 4082N±005×13965E±009, h187km±4km, n18, σ0°876/25, mb3.4/5, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JIW	**Iwasaki**	**0.35**	**129**	P		Pn	**07 33 05.9**	**+0.1**
JIW						Sn	**07 33 25.5**	**+0.4**
JSI2	**Shiura 2**	**0.63**	**67**	P		Pn	**07 33 07.2**	**+0.3**
JSI2					*e*S	Sn	**07 33 26.8**	**-0.2**
JOSM	**Okushiri--Mats**	**1.27**	**354**	P		Pn	**07 33 11.2**	**0.0**
JOSM					*e*S	Sn	**07 33 34.8**	**0.0**
JANG	**Nango**	**1.49**	**107**	P		Pn	**07 33 13.6**	**+0.4**
JANG					*e*S	Sn	**07 33 38.5**	**+0.2**
JKB	**Kayabe**	**1.50**	**44**	P		Pn	**07 33 13.9**	**+0.7**
JOM	**Ohasama**	**1.84**	**136**	P		Pn	**07 33 16.5**	**-0.1**
JYK	**Kaneyama**	**1.98**	**164**	P		Pn	**07 33 17.9**	**-0.1**
JMK	**Ichinoseki**	**2.22**	**146**	P		Pn	**07 33 20.4**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.75**	**57**	P		Pn	**07 33 27.4**	**+0.7**
JNBK					*e*S	Sn	**07 34 03.0**	**+0.5**
ERM	**Erimo**	**2.90**	**64**	*e*Pn		Pn	**07 33 28.8**	**+0.3**
ERM					*e*Sn	Sn	**07 34 03.5**	**-2.1**
ASAJ	**Asahikawa**	**3.95**	**33**	P		Pn	**07 33 42.4**	**+0.9**
	20nm,0.3s,baz=236,slow=11,SNR=46							
ASAJ					S	Sn	**07 34 27.1**	**-1.9**
	0.8nm,0.3s,baz=327,slow=28,SNR=3.8							
MAJO	**Matsushiro**	**4.41**	**195**	*e*Pn		Pn	**07 33 46.8**	**-0.5**
MJAR	**Matsushiro Arr**	**4.42**	**195**	P		Pn	**07 33 47.0**	**-0.3**
	0.9nm,0.3s,baz=13,slow=14,SNR=5.8							
MKAR	**Makanchi Array**	**41.03**	**298**	P		P	**07 40 04.7**	**-0.9**
	0.3nm,0.6s,mb3.1,baz=90,slow=11,SNR=2.6							
BVAR	**Borovoye Array**	**47.06**	**309**	P		P	**07 40 53.5**	**0.0**
	0.9nm,0.4s,mb3.8,baz=63,slow=9.1,SNR=5.2							
INK	**Inuvik**	**51.68**	**28**	P		P	**07 41 28.9**	**+0.4**
	0.7nm,0.5s,mb3.6,baz=268,slow=5.7,SNR=4.2							
WRA	**Warramunga Arr**	**60.65**	**186**	P		P	**07 42 31.0**	**-1.0**
	0.2nm,0.3s,mb3.4,baz=2.7,slow=7.1,SNR=6.7							
PDAR	**Pinedale Array**	**75.99**	**45**	P		P	**07 44 08.8**	**+1.7**
	0.4nm,0.5s,mb3.3,baz=283,slow=0.9,SNR=4.7							

NIED 27 08:04:00, 4620N×15360E, h17km, Mw4.5 Best double couple: M0 7.03000×10^15 NP1:φs=50.00000°, δ=88.00000°, λ=-153.00000°. NP2:φs=319.00000°, δ=63.00000°, λ=-2.00000°.

SKHL 27 08:04:13.5±1.5, 4601N×15403E, h50km±20km, mb4.9/1, mbh4.8/1, Ms4.4/6, msh5.3/2

JMA 27 08:04:16.8±0.8, 4625N×15355E, h30km, M4.6

NEIC 27 08:04:17.7±0.4, 4656N×15318E, h10km, mb4.9/36, Error ellipse: s-maj=11.0km s-min=5.9km az=159.0

GCMT 27 08:04:17.7±0.5, 4627N×15355E, h22km±1km, MW4.8/47, Moment Tensor Solution. s18,c18; s47,c64; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.39±.20; Mθθ -1.09±.13; Mφφ -1.30±.13; Mrθ 0.44±.21; Mrφ -0.86±.07; Mθφ 0.38±.19; Best double couple: Mo 2.30200×10^16 NP1:φs=220.00000°, δ=38.00000°, λ=87.00000°. NP2: φs=43.00000°, δ=52.00000°, λ=92.00000°. Principal axes: T 2.4670, Plg=83.0000°, Azm=324.0000°; N -0.3300, Plg=2.0000°, Azm=222.0000°; P -2.1370, Plg=7.0000°, Azm=132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BJI 27 08:04:19.4, 4661N×15326E, h42km, mB4.9, mb4.7, Ms4.4, Msz4.2

MOS 27 08:04:20.9±1.3, 4651N×15300E, h46km, mb5.0/33, Error ellipse: s-maj=9.9km s-min=6.1km az=107.2

IDC 27 08:04:21.9±3.4, 4646N×15313E, h49km±31km, mb4.1/18, mb1 4.2/20, mb1mx4.1/25, mbtmp4.3/20, ML4.1/1, MS4.1/11, Ms1 4.1/11, ms1mx3.6/41, Error ellipse: s-maj=18.5km s-min=15.4km az=128.0

ISCJB 27 08:04:22.6±0.3, 4632N±005×15306E±005, h67km, mb4.5/76, Error ellipse: s-maj=8.3km s-min=3.5km az=126.5

ISC 27 08:04:24.8±0.3, 4646N±005×15301E±005, h69km, h69km±2.7km: pP-P, n207, σ1s26/217, mb4.5/76, 19C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.79**	**253**	*i* P		Pn	**08 05 16.0**	**-4.8**
KUR				⇓ *i*P			08 05 16.0	
KUR					AMB	AMB	08 05 16.6	
	2μm,1.0s							
KUR					AMB	AMB	08 05 16.8	
	290nm,0.5s							
KUR					AMB	AMB	08 05 16.8	
	110nm,0.5s							
KUR					AMB	AMB	08 05 16.8	
	930nm,0.5s							
KUR					*e*S	Sn	**08 06 04.0**	**-0.2**
KUR					A		08 06 10.6	
	4μm,1.6s							
KUR					A		08 06 10.6	
	1μm,1.6s							
KUR					A		08 06 20.5	
	170nm,0.7s							
KUR					A		08 06 20.5	
	690nm,0.7s							
KUR					AMS	AMS	08 07 26.0	
	2μm,16.0s							
KUR					AMS	AMS	08 07 26.0	
	2μm,16.0s							
KUR	**Kuril'sk**	**3.79**	**253**	*i* PN		Pn	**08 05 16.0**	**-4.8**
KUR					pmax	pmax		
	comp=Z,2μm,1.0s							
KUR					pmax	pmax		
	comp=N,290nm,0.5s							
KUR					pmax	pmax		
	comp=E,110nm,0.5s							
KUR					pmax	pmax		
	comp=Z,930nm,0.5s							
SKR	**Severo-Kuril's**	**4.71**	**25**	*e*P		Pn	**08 05 23.0**	**-10**
SKR					AMB	AMB	08 05 28.1	
	comp=Z,80nm,0.7s							
SKR					AMB	AMB	08 05 28.1	
	comp=Z,250nm,0.7s							
SKR					*e*S	Sn	**08 06 14.0**	**-12**
SKR					A		08 06 18.0	
	comp=Z,3μm,10.0s							
SKR					A		08 06 25.6	
	comp=Z,540nm,0.7s							
SKR					A		08 06 25.6	
	comp=Z,150nm,0.7s							
SKR					A		08 06 25.6	
	comp=Z,310nm,0.7s							
SKR					AMS	AMS	08 07 20.0	
	comp=Z,3μm,14.0s							
YUK	**Yuzh-Kuril'sk**	**5.60**	**247**	*e*P		Pn	**08 05 42.5**	**-2.9**
YUK					AMB	AMB	08 05 43.3	
	comp=Z,190nm,0.5s							
YUK					*e*S	Sn	**08 06 48.1**	**-0.2**
YUK					A		08 06 53.4	
	comp=Z,270nm,0.5s							
YUK					A		08 06 53.4	
	comp=Z,190nm,0.5s							
YUK					A		08 06 58.7	
	comp=Z,3μm,2.0s							
YUK					A		08 06 58.7	
	comp=Z,2μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**5.60**	**247**	*e*PN		Pn	**08 05 42.5**	**-2.9**
YUK					*e*S	Sn	**08 06 48.1**	**-0.2**
YUK					pmax	pmax		
	comp=Z,190nm,0.5s							
YUK					smax			
	comp=N,270nm,0.5s							
YUK					smax			
	comp=E,190nm,0.5s							
YUK					smax			
	comp=N,3μm,2.0s							
YUK					smax			
	comp=E,2μm,2.0s							
NEM2	**Nemuro 2**	**6.01**	**242**	P		Pn	**08 05 46.2**	**-4.9**
NEM2					*e*S	Sn	**08 06 51.9**	**-6.6**
JNK	**Nakash**	**6.54**	**247**	P		Pn	**08 05 55.6**	**-2.7**
JNK					*e*S	Sn	**08 07 08.4**	**-3.0**
JAK	**Akkeshi**	**6.86**	**243**	P		Pn	**08 05 58.0**	**-4.6**
JAK					*e*S	Sn	**08 07 12.3**	**-6.8**
JTKR	**Abashiri--Toko**	**6.89**	**252**	P		Pn	**08 06 01.5**	**-1.6**
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	⇓ *i*P		Pn	**08 06 08.8**	**+3.3**
YSS					AMB	AMB	08 06 10.0	
	comp=E,60nm,1.0s							
YSS					AMB	AMB	08 06 10.0	
	comp=E,50nm,1.0s							
YSS					AMS	AMS	08 08 31.0	
	comp=E,1μm,16.0s							
YSS					AMS	AMS	08 08 31.0	
	comp=E,900nm,16.0s							
YSS					AMS	AMS	08 08 31.0	
	comp=E,1μm,16.0s							
YSS	**Yuzh-Sakhalins**	**7.07**	**278**	*e*Pn		Pn	**08 06 05.4**	**-0.1**
JMP	**Maruseppu**	**7.24**	**254**	P		Pn	**08 06 07.1**	**-0.7**
JAR	**Ashorobuto**	**7.28**	**248**	P		Pn	**08 06 06.2**	**-2.2**
JAR					*e*S	Sn	**08 07 27.9**	**-1.7**
PET	**Petropavlovsk**	**7.52**	**27**	*e*PN		Pn	**08 06 03.4**	**-8.3**
PET					pmax	pmax		
	comp=Z,29nm,0.9s							
PET					MLR	MLR		
	comp=Z,700nm,19.0s							
PET	**Petropavlovsk**	**7.52**	**27**	*e*Pn		Pn	**08 06 09.3**	**-2.4**
JKK2	**Kamakawa 2**	**7.70**	**254**	P		Pn	**08 06 13.4**	**-0.7**
ASAJ	**Asahikawa**	**7.71**	**256**	P		Pn	**08 06 14.4**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=82,slow=16,SNR=13							
ASAJ	**Asahikawa**	**7.71**	**256**	P		Pn	**08 06 14.1**	**-0.1**
ASAJ	**Asahikawa**	**7.71**	**256**	PN		Pn	**08 06 14.4**	**+0.2**
ASAJ					pmax	pmax		
	comp=Z,3.0nm,0.3s							
UGL	**Uglegorsk**	**7.83**	**294**	*e*PN		Pn	**08 06 18.7**	**+2.8**
UGL					*e*		08 07 52.5	
UGL					pmax	pmax		
	comp=Z,69nm,0.8s							
UGL					MLR	MLR		
	comp=N,1μm,16.0s							
UGL					MLR	MLR		
	comp=E,1μm,16.0s							
UGL					MLR	MLR		
	comp=Z,1μm,16.0s							
JWK2	**Keihoku**	**7.84**	**266**	P		Pn	**08 06 18.3**	**+2.3**
JCH	**Churui**	**7.89**	**244**	P		Pn	**08 06 12.5**	**-4.2**
TYV	**Tymovskoe**	**8.15**	**307**	*e*P		Pn	**08 06 23.0**	**+2.7**
TYV					AMB	AMB	08 06 27.2	
	comp=Z,22nm,1.0s							
TYV					AMB	AMB	08 06 27.2	
	comp=Z,46nm,1.0s							
TYV					AMB	AMB	08 06 30.0	
	comp=Z,400nm,10.0s							
TYV					AMB	AMB	08 06 30.0	
	comp=Z,400nm,10.0s							
TYV					AMS	AMS	08 10 14.0	
	comp=Z,500nm,15.0s							
TYV					AMS	AMS	08 10 14.0	
	comp=Z,2μm,15.0s							
TYV					AMS	AMS	08 10 14.0	
	comp=Z,1μm,15.0s							
JBT2	**Biratori 2**	**8.44**	**248**	P		Pn	**08 06 21.1**	**-3.1**
JNBK	**Urakawa-nobuka**	**8.45**	**244**	P		Pn	**08 06 19.7**	**-4.7**
JNBK					*e*S	Sn	**08 07 51.5**	**-6.6**
OKH	**Okha**	**9.61**	**321**	AMS		AMS	08 10 50.4	
	comp=Z,2μm,15.0s							
OKH					AMS	AMS	08 10 50.4	
	comp=Z,2μm,15.0s							
OKH					AMS	AMS	08 10 50.4	
	comp=Z,1μm,15.0s							
JANG	**Nango**	**10.33**	**238**	P		Pn	**08 06 43.0**	**-7.1**
JANG					*e*S	Sn	**08 08 31.1**	**-13**
JTM	**Tenmabayashi**	**10.34**	**241**	*e*S		Sn	**08 08 32.4**	**-12**
TEY	**Ternei**	**11.55**	**269**	*e*P		Pn	**08 07 09.0**	**+2.2**
JIO	**Ouri**	**11.74**	**231**	*e*S		Sn	**08 09 03.0**	**-16**
HABR	**Khabarovsk**	**12.32**	**286**	*e*PN		Pn	**08 07 16.6**	**-0.6**
MA2	**Magadan**	**13.21**	**355**	*i* PN		Pn	**08 07 24.7**	**-4.6**
KLR	**Kul'dur**	**14.54**	**289**	*e*P		Pn	**08 07 44.9**	**-1.9**
KLR					MLR	MLR		
	comp=E,900nm,16.0s							
KLR					MLR	MLR		
	comp=Z,1μm,16.0s							
MAJO	**Matsushiro**	**14.85**	**233**	*e*P		Pn	**08 07 55.2**	**+4.4**
MAT	**Matsushiro**	**14.85**	**233**	P		Pn	**08 07 54.3**	**+3.5**
MAT					*e*S	Sn	**08 10 41.0**	**+6.9**
MJAR	**Matsushiro Arr**	**14.85**	**233**	P		Pn	**08 07 48.0**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=23,slow=13,SNR=6.9							
MDJ	**Mudanjiang**	**16.50**	**272**	P		Pn	**08 08 12.5**	**+0.8**
MDJ					S	S	**08 11 13.5**	**-8.7**
MDJ					SCP	ScP	08 16 31.3	+3.4
MDJ					SCS	ScS	08 20 07.0	-0.1
MDJ					AMB	AMB		
	comp=Z,30nm,0.9s							
MDJ					AMB	AMB		
	comp=Z,78nm,3.4s							
MDJ					LR	LR		
	comp=N,326nm,17.2s							
MDJ					LR	LR		
	comp=E,107nm,24.2s							
MDJ					LR	LR		
	comp=Z,449nm,17.2s							
MDJ	**Mudanjiang**	**16.50**	**272**	*e*P		Pn	**08 08 12.3**	**+0.6**
	comp=Z,27nm,1.0s							
SEY	**Seymchan**	**16.52**	**359**	*i* P		Pn	**08 08 09.7**	**-2.3**
CN2	**Changchun**	**19.59**	**272**	*e*P		Pn	**08 08 45.0**	**-4.2**
CN2					*e*XP	sP	08 09 08.8	-1.4
CN2					*e*S	**S**	**08 12 15.5**	**-9.1**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.6s							
CN2					AMB	AMB		
	comp=Z,100nm,10.0s							
CN2					LR	LR		
	comp=N,400nm,16.0s							
CN2					LR	LR		
	comp=E,400nm,16.0s							
CN2					LR	LR		
	comp=Z,400nm,17.0s							
YAK	**Yakutsk**	**20.53**	**328**	*e*P		**P**	**08 08 57.0**	**-0.4**
YAK					*e*		08 09 15.9	
YAK					*e*S	**S**	**08 12 41.2**	**-2.1**
YAK					*e*SS		08 13 03.9	
YAK					pmax	pmax		
	comp=Z,18nm,1.1s							
YAK					pmax	pmax		
	comp=E,8.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,10.0nm,0.4s							
YAK					pmax	pmax		
	comp=N,13nm,0.7s							
YAK					pmax	pmax		
	comp=E,14nm,0.8s							
YAK					smax			
	comp=E,66nm,2.7s							
SNY	**Shenyang**	**21.55**	**268**	⇓P		**P**	**08 09 09.0**	**+0.6**
SNY					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5							
SNY					LR	LR		
	comp=N,176nm,11.6s							
SNY					LR	LR		
	comp=E,267nm,12.2s							
SNY					LR	LR		
	comp=Z,441nm,15.5s							
BILL	**Bilibino**	**22.70**	**13**	*i* P		**P**	**08 09 16.8**	**-3.7**
BILL					pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1							
BILL					MLR	MLR		
	comp=Z,300nm,17.0s							
DL2	**Dalian**	**24.16**	**263**	P		**P**	**08 09 36.5**	**+2.1**
DL2					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3							
BOD	**Bodaibo**	**26.12**	**310**	*e*P		**P**	**08 09 50.3**	**-1.9**
BOD					pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9							
SSE	**Sheshan**	**28.93**	**249**	P		**P**	**08 10 20.5**	**+3.2**
SSE					S	**S**	**08 15 05.0**	**+2.1**
SSE					AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1							
SSE					AMB	AMB		
	comp=Z,93nm,4.6s							
SSE					LR	LR		
	comp=N,91nm,20.3s							
SSE					LR	LR		
	comp=E,72nm,20.4s							
SSE					LR	LR		
	comp=Z,84nm,20.4s							
SSE	**Sheshan**	**28.93**	**249**	P		**P**	**08 10 20.5**	**+3.2**
	comp=Z,37nm,0.7s,mb5.1							
SSE					pP	pP	08 10 37.3	+3.5
SSE					S	**S**	**08 15 05.1**	**+2.2**
SSE					sS	sS	08 15 34.5	+3.4
NJ2	**Nanjing**	**29.84**	**253**	*e*P		**P**	**08 10 26.5**	**+1.1**
NJ2					AP	pP	08 10 42.3	+0.4
NJ2					PP	PP	08 11 26.8	-7.0
NJ2					S	**S**	**08 15 17.0**	**-0.3**
NJ2					AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8							
NJ2					AMB	AMB		
	comp=Z,300nm,5.8s							
NJ2					LR	LR		
	comp=N,650nm,14.0s							
NJ2					LR	LR		
	comp=E,650nm,15.7s							
NJ2					LR	LR		
	comp=Z,640nm,14.7s							
HHC	**Hu-ho-hao-te**	**30.24**	**275**	*e*P		**P**	**08 10 31.0**	**+2.1**
HHC					AP	pP	08 10 46.5	+1.1
HHC					PP	PP	08 11 31.5	-6.8
HHC					PCP	PcP	08 13 30.8	+2.7
HHC					S	**S**	**08 15 23.0**	**-0.6**
HHC					XS	sS	08 15 51.3	-0.6
HHC					SCP	ScP	08 17 06.5	+2.1
HHC					PCS	PcS	08 17 14.0	+2.3
HHC					SCS	ScS	08 21 00.0	-0.2
HHC					AMB	AMB		
	comp=Z,32nm,0.4s,mb5.3							
HHC					AMB	AMB		
	comp=Z,78nm,7.1s							
HHC					LR	LR		
	comp=N,304nm,14.7s							
HHC					LR	LR		
	comp=E,316nm,10.0s							
HHC					LR	LR		
	comp=Z,275nm,16.2s							
SONM	**Songino Array**	**31.36**	**290**	P		**P**	**08 10 39.0**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.9,baz=70,slow=8.5,SNR=11							
SONM					PcP	PcP	08 13 31.6	+0.5
	comp=Z,0.6nm,0.6s,baz=106,slow=2.7,SNR=3.8							
SONM					LR	LR	08 24 17.1	
	comp=Z,307nm,18.1s,baz=270,slow=38							
SONM	**Songino Array**	**31.36**	**290**	P		**P**	**08 10 39.0**	**+0.2**
SONM							08 13 31.6	
TLY	**Talaya**	**32.25**	**298**	*e*P		**P**	**08 10 46.5**	**-0.1**
TLY					pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
TLY					MLR	MLR		
	comp=Z,415nm,16.0s							
TLY	**Talaya**	**32.25**	**298**	*e*P		**P**	**08 10 46.2**	**-0.4**
	comp=Z,4.0nm,0.6s,mb4.3							
ZAK	**Zakamensk**	**32.74**	**295**	*e*P		**P**	**08 10 50.7**	**-0.2**
ZAK					pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2							
XAN	**Xi'an**	**35.42**	**265**	P		**P**	**08 11 15.0**	**+0.9**
XAN					AP	pP	08 11 23.5	-7.3
XAN					AMB	AMB		
	comp=Z,9.0nm,2.2s,mb4.2							
COLA	**College**	**36.41**	**38**	*e*P		**P**	**08 11 20.8**	**-1.8**
	comp=Z,9.8nm,0.8s,mb4.8							
COLA					*e*pP	pP	08 11 37.3	-2.0
LZH	**Lanzhou**	**37.83**	**272**	*e*P		**P**	**08 11 36.3**	**+1.8**
LZH					PP	PP	08 13 06.0	+4.0
LZH					*e*S	**S**	**08 17 22.0**	**+1.4**
LZH					XS	sS	08 17 48.0	-1.3
LZH					*e*SS	SS	08 20 01.0	-8.0
LZH					AMB	AMB		
	comp=Z,43nm,1.0s,mb5.2							
LZH					AMB	AMB		
	comp=Z,170nm,4.0s							
LZH					LR	LR		
	comp=E,1μm,13.0s							
LZH					LR	LR		
	comp=Z,2μm,14.0s							
LZH	**Lanzhou**	**37.83**	**272**	*e*P		**P**	**08 11 36.2**	**+1.7**
LZH					*PP	pP	08 11 55.0	+3.6
LZH							08 13 06.0	
LZH					*e*S	**S**	**08 17 22.0**	**+1.4**
LZH					*e*SS	SS	08 20 01.0	-8.0
LZH					pmax	pmax		
	comp=Z,43nm,1.0s,mb5.2							
LZH					MLR	MLR		
	comp=Z,2μm,14.0s							
LZH	**Lanzhou**	**37.83**	**272**	*e*P		**P**	**08 11 36.2**	**+1.7**
	comp=Z,43nm,1.0s,mb5.2							
LZH					pP	pP	08 11 55.0	+3.6
LZH					sP	sP	08 12 05.0	+5.6
LZH					PP	PP	08 13 06.0	+4.0
LZH					*e*S	**S**	**08 17 22.0**	**+1.4**
LZH					sS	sS	08 17 48.0	-1.3
LZH					*e*SS	SS	08 20 01.0	-8.0
LZH					LR	LR		
	comp=Z,2μm,14.0s							
GTA	**Gaotai**	**38.95**	**279**	*e*P		**P**	**08 11 45.8**	**+1.9**
GTA					PCP	PcP	08 13 54.8	+1.5
GTA					AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8							
GTA					AMB	AMB		
	comp=Z,50nm,3.8s							
GTA					LR	LR		
	comp=N,205nm,17.5s							
GTA					LR	LR		
	comp=E,122nm,15.6s							

GTA LR LR
comp=Z,111nm,12.2s
EGAK Eagle 39.28 38 *e*P **P** **08 11 44.0 -2.7**
EGAK *e*pP pP 08 12 01.2 -2.4
CD2 Chengdu 40.78 265 *e*P **P** **08 12 00.3 +1.1**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,30nm,5.8s
GYA Guiyang 41.58 258⇑*i*P **P** **08 12 06.3 +0.6**
GYA PP PP 08 13 46.8 +3.9
GYA S **S** **08 18 15.5 -1.2**
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,80nm,4.0s
GYA LR LR
comp=N,340nm,17.2s
GYA LR LR
comp=E,310nm,16.4s
GYA LR LR
comp=Z,280nm,17.0s
INK Inuvik 41.94 32 P **P** **08 12 07.3 -1.3**
comp=Z,3.5nm,0.7s,mb4.2,baz=280,slow=7.9,SNR=10.0
INK Inuvik 41.94 32 P **P** **08 12 07.3 -1.3**
ZAL Zalesovo 42.74 306 P **P** **08 12 13.3 -1.8**
comp=Z,2.0nm,0.5s,mb4.1,baz=50,slow=5.2,SNR=5.9
ZAL PcP PcP 08 14 05.3 -0.3
comp=Z,1.5nm,0.8s,baz=277,slow=2.7,SNR=5.4
ZAL LR LR 08 31 50.2
comp=Z,466nm,20.1s,baz=58,slow=38
ZAL Zalesovo 42.74 306 P **P** **08 12 13.4 -1.8**
ZAL 08 14 05.3
NVS Novosibirsk 43.31 308 *e*P **P** **08 12 18.5 -1.3**
WMQ Urumqi 44.97 291 *e*P **P** **08 12 34.5 +1.5**
WMQ AP pP 08 12 50.0 -0.2
WMQ PP PP 08 14 19.0 -0.1
WMQ PPP 08 15 02.0
WMQ PCS PcS 08 18 06.0 -0.9
WMQ S **S** **08 19 07.5 +1.3**
WMQ XS sS 08 19 34.0 -1.5
WMQ SS SS 08 22 21.0 -8.8
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,88nm,3.7s
WMQ LR LR
comp=N,416nm,16.3s
WMQ LR LR
comp=E,608nm,15.6s
WMQ LR LR
comp=Z,642nm,18.2s
KMI Kunming 45.12 260 P **P** **08 12 36.0 +1.8**
KMI *PP pP 08 12 53.9 +2.5
KMI pmax pmax
comp=Z,18nm,0.8s,mb4.8
KMI Kunming 45.12 260 P **P** **08 12 36.0 +1.8**
comp=Z,18nm,0.8s,mb4.8
KMI pP pP 08 12 53.9 +2.5
DLBC Dease Lake 45.85 46 P **P** **08 12 39.0 -1.0**
comp=Z,1.8nm,0.9s,mb3.8,baz=270,slow=12,SNR=2.6
DLBC Dease Lake 45.85 46 P **P** **08 12 39.0 -1.0**
MKAR Makanchi Array 47.01 298 P **P** **08 12 49.0 -0.1**
comp=Z,9.3nm,0.8s,mb4.5,baz=64,slow=8.4,SNR=48
MKAR PcP PcP 08 14 20.4 +0.1
comp=Z,1.5nm,0.6s,baz=150,slow=0.2,SNR=5.2
MKAR Makanchi Array 47.01 298 P **P** **08 12 49.0 -0.1**
MKAR PcP PcP 08 14 20.4 +0.1
BVAR Borovoye Array 50.99 310 LR LR 08 37 29.7
comp=Z,220nm,18.0s,baz=320,slow=39
BRVK Borovoye 51.03 310 *e*P **P** **08 13 19.6 -0.2**
BRVK *e* 08 14 35.2
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
BRVK Borovoye 51.03 310 *e*P **P** **08 13 19.6 -0.2**
comp=Z,3.8nm,0.6s,mb4.6
BRVK *e*PcP PcP 08 14 35.2 +0.3
YKA Yellowknife Ar 51.20 37 P **P** **08 13 19.2 -1.8**
comp=Z,2.9nm,0.9s,mb4.3,baz=300,slow=7.5,SNR=6.0
ZRNK Zerenda 51.76 310 *e*P **P** **08 13 24.5 -0.7**
ZRNK *e**PP pP 08 13 38.6 -4.2
ZRNK *e* 08 14 37.7
ZRNK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ZRNK Zerenda 51.76 310 *e*P **P** **08 13 24.4 -0.8**
comp=Z,6.8nm,0.9s,mb4.7
ZRNK *e*pP pP 08 13 38.6 -4.3
ZRNK *e*PcP PcP 08 14 37.7 +0.1
AAK Ala-Archa 53.90 296*c iP* **P** **08 13 40.6 -0.4**
AAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
AAK MLR MLR
comp=Z,200nm,13.0s
AAK Ala-Archa 53.90 296 *e*P **P** **08 13 40.9 -0.2**
comp=Z,7.1nm,0.9s,mb4.7
ARU Arti 55.18 318⇓*i*P **P** **08 13 48.8 -1.5**
ARU *e* 08 15 51.4
ARU *e*S **S** **08 21 27.4 -0.9**
ARU pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
ARU Arti 55.18 318 *e*P **P** **08 13 49.3 -1.0**
comp=Z,6.3nm,0.4s,mb5.0
ARU *e*pP pP 08 14 06.1 -1.9
BOK Bokaro 57.58 271 *e*P **P** **08 14 08.4 +1.1**
BOK AMb AMB 08 14 10.2
comp=Z,16nm,2.0s,mb4.7
ARCES ARCESS Array B 58.11 341 P **P** **08 14 08.8 -2.3**
comp=Z,3.4nm,0.8s,mb4.4,baz=17,slow=8.9,SNR=8.1
ARCES LR LR 08 46 22.8
comp=Z,104nm,19.4s,baz=360,slow=43
SMLA Simla 58.89 284 *e*P **P** **08 14 17.6 +1.2**
SUMG Summit 61.00 4 *e*P **P** **08 14 29.8 -1.1**
comp=Z,12nm,0.7s,mb5.0
SUMG *e*pP pP 08 14 50.3 +1.4
LRM Limekiln Ridge 61.43 53 *e*P **P** **08 14 33.5 -0.4**
JOF Joensuu 61.57 334 *e*p **P** **08 14 33.4 -1.4**
comp=Z,2.6nm,0.5s,mb4.5
BOZ Bozeman (W) 61.99 52 *e*P **P** **08 14 37.8 +0.2**
BOZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BOZ Bozeman (W) 61.99 52 *e*P **P** **08 14 37.8 +0.2**
comp=Z,6.9nm,1.1s,mb4.6
VIS Vishakhapatnam 63.42 268 *e*P **P** **08 14 48.8 +1.7**
VIS AMb AMB 08 15 07.5
comp=Z,17nm,1.7s,mb4.7
IMW Indian Meadow 63.48 53 *e*P **P** **08 14 50.4 +2.9**
comp=Z,5.3nm,1.2s,mb4.3
RRI2 Red Ridge 63.62 54 *e*P **P** **08 14 50.1 +1.7**
KAF Kangasniemi 63.68 335 *e*p **P** **08 14 47.4 -1.4**
comp=Z,4.5nm,0.5s,mb4.5,baz=36,slow=6.2
KAF Kangasniemi 63.68 335 *e*P **P** **08 14 47.4 -1.4**
KAF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
TPAW Teton Pass 63.73 54 *e*P **P** **08 14 49.8 +0.6**
comp=Z,5.0nm,0.9s,mb4.3
BHPL Bhopal 63.78 277 *e*P **P** **08 14 50.9 +1.4**
BHPL AMb AMB 08 14 52.2
comp=Z,22nm,0.6s,mb5.2
REDW Red Top Meadow 63.87 54 *e*P **P** **08 14 50.0 -0.1**
comp=Z,9.5nm,1.3s,mb4.5
NGP Nagpur 64.06 274 *e*P **P** **08 14 50.9 -0.4**
NGP AMb AMB 08 14 51.3
comp=Z,21nm,1.2s,mb4.8
FIA1 FINESS Array S 64.28 335 *e*P **P** **08 14 52.1 -0.6**
FINES FINESS Array B 64.28 335 P **P** **08 14 51.7 -1.0**
comp=Z,6.7nm,0.5s,mb4.8,baz=33,slow=8.3,SNR=23
FINES LR LR 08 43 56.2
comp=Z,134nm,18.1s,baz=17,slow=37
PDAR Pinedale Array 64.98 54 P **P** **08 14 56.8 -0.6**
comp=Z,0.8nm,0.7s,mb3.6,baz=308,slow=2.2,SNR=9.0
OBN Obninsk 65.51 326 *i*P **P** **08 14 59.4 -1.4**
OBN *e**PP pP 08 15 16.5 -2.5
OBN *e* 08 15 31.9
OBN *e*S S 08 23 39.3 -1.1
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,200nm,20.0s
AKL Akola 65.76 275 *e*P **P** **08 15 05.0 +2.6**
AKL AMb AMB 08 15 06.3
comp=Z,23nm,1.5s,mb4.8
SRU San Rafael 66.84 57 *e*P **P** **08 15 09.3 0.0**
RSSD Black Hills 67.07 50 *e*P **P** **08 15 09.5 -1.2**
WRA Warramunga Arr 68.21 199 P **P** **08 15 18.9 +1.0**
comp=Z,1.0nm,1.1s,mb3.6,baz=17,slow=6.8,SNR=3.3
NB2 NORSAR Subarra 68.48 341 P **P** **08 15 19.0 -0.6**
comp=Z,6.8nm,0.6s,mb4.7,baz=28,slow=6.2
NB2 NORSAR Subarra 68.48 341 P **P** **08 15 19.0 -0.6**
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
NOA NORSAR Array B 68.48 341 P **P** **08 15 19.2 -0.4**
comp=Z,6.0nm,0.6s,mb4.6,baz=28,slow=6.4,SNR=40
NOA LR LR 08 51 52.0
comp=Z,89nm,18.0s,baz=35,slow=42
FITZ Fitzroy Crossi 68.85 208 P **P** **08 15 20.5 -1.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=169,slow=17,SNR=4.6
KONO Kongsberg 70.09 341⇑*e*P **P** **08 15 30.7 +1.2**
KIV Kislovodsk 70.95 314 *e*P **P** **08 15 36.0 +1.2**
KIV pmax pmax
comp=Z,11nm,0.7s,mb4.8
ZEI Tsey 71.20 313 *e*P **P** **08 15 35.4 -0.9**
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AKASG Malin Array Be 71.75 326 P **P** **08 15 37.0 -2.6**
comp=Z,13nm,0.7s,mb4.9,baz=34,slow=6.2,SNR=46
AKASG LR LR 08 48 45.7
comp=Z,106nm,18.6s,baz=50,slow=37
AKBB Malin Array Si 71.75 326 *e*P **P** **08 15 39.3 -0.3**
ASAR Alice Springs 71.91 198 P **P** **08 15 39.5 -1.1**
comp=Z,1.3nm,1.0s,mb3.7,baz=360,slow=4.6,SNR=6.8
GNI Garni 72.67 310 P **P** **08 15 45.2 +0.1**
comp=Z,3.6nm,0.4s,mb4.5,baz=54,slow=8.7,SNR=4.2
ANN Anapa 72.85 318 *e*P **P** **08 15 46.6 +0.5**
ANN pmax pmax
comp=Z,20nm,1.3s,mb4.8
SCHQ Schefferville 73.61 23 P **P** **08 15 49.6 -1.0**
comp=Z,2.2nm,0.8s,mb4.0,baz=83,slow=8.1,SNR=2.7
OJC Ojcow 75.54 331 *e*P **P** **08 16 02.1 +0.3**
STHS Stebnicka Huta 75.73 330 *e*P **P** **08 16 04.1 +1.2**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
STHS Stebnicka Huta 75.73 330 *e*P **P** **08 16 04.1 +1.2**
comp=Z,6.1nm,1.1s,mb4.2
BURAR Bucovina Array 75.80 327⇑*i*P **P** **08 16 03.6 +0.3**
BURAR Bucovina Array 75.80 327⇑P **P** **08 16 03.6 +0.3**
UPC Upice 76.51 333 *e*P **P** **08 16 07.9 +0.6**
DPC Dobruska-Polom 76.56 333 *e*P **P** **08 16 08.3 +0.7**
MORC Moravsky Berou 76.67 332⇑*i*P **P** **08 16 09.2 +1.0**
MORC Moravsky Berou 76.67 332 *e*P **P** **08 16 08.9 +0.7**
MORC pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MORC Moravsky Berou 76.67 332 *e*P **P** **08 16 08.8 +0.7**
comp=Z,5.6nm,0.8s,mb4.3
CLL Collm 76.70 336⇓*i*P **P** **08 16 08.2 -0.2**
comp=Z,13nm,0.9s,mb4.7
CLL Collm 76.70 336⇓*i*P **P** **08 16 08.2 -0.2**
CLL pmax pmax
comp=Z,13nm,0.9s,mb4.7
MLR Muntele Rosu 77.27 325⇑*i*P **P** **08 16 14.1 +2.5**
MLR Muntele Rosu 77.27 325⇑P **P** **08 16 14.1 +2.5**
MALT Malatya 77.30 313 *e*P **P** **08 16 12.7 +0.9**
MALT pmax pmax
comp=Z,16nm,1.3s,mb4.6
MALT Malatya 77.30 313 *e*P **P** **08 16 12.7 +1.0**
comp=Z,16nm,1.3s,mb4.6
VYHS Vyhne 77.35 331 *e*P **P** **08 16 12.5 +0.5**
VYHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
VYHS Vyhne 77.35 331 *e*P **P** **08 16 12.5 +0.5**
comp=Z,3.3nm,0.8s,mb4.1
PRU Pruhonice 77.42 334 *e*P **P** **08 16 13.2 +0.8**
KHC Kasperske Hory 78.47 334 *e*P **P** **08 16 18.6 +0.3**
KHC Kasperske Hory 78.47 334*c iP* **P** **08 16 18.7 +0.4**
BR131 Keskin Array S 78.56 317 *e*P **P** **08 16 19.1 +0.4**
comp=Z,0.5nm,0.3s,mb3.8
BRTR Keskin Array B 78.56 317 P **P** **08 16 19.8 +1.1**
comp=Z,2.1nm,0.8s,mb4.0,baz=90,slow=1.5,SNR=9.8
BRTR LR LR 08 57 45.6
comp=Z,76nm,18.1s,baz=248,slow=41
GERES GERESS Array B 78.69 334 P **P** **08 16 19.7 +0.3**
comp=Z,1.9nm,0.7s,mb4.0,baz=36,slow=3.4,SNR=11
GERES LR LR 08 55 32.8
comp=Z,224nm,19.7s,baz=211,slow=39
CONA Conrad Observa 78.82 332⇓*i*P **P** **08 16 21.5 +1.3**
comp=Z,5.9nm,1.1s,mb4.3
BEBN Eben Emael 79.10 340⇓P **P** **08 16 22.0 +0.3**
comp=Z,4.1nm,0.4s,mb4.6
MEM Memmach 79.20 339⇓P **P** **08 16 22.6 +0.4**
BCLA Clavier 79.54 340⇑P **P** **08 16 25.6 +1.5**
GIVF Givet 79.95 340 *e*P **P** **08 16 26.0 -0.3**
KBA Koelnbreinsper 80.37 333⇑*i*P **P** **08 16 29.7 +1.1**
comp=Z,23nm,0.9s,mb5.0
KBA Koelnbreinsper 80.37 333⇑*i*P **P** **08 16 29.7 +1.1**
KBA pmax pmax
comp=Z,23nm,0.9s,mb5.0
KBA Koelnbreinsper 80.37 333⇑*i*P **P** **08 16 29.6 +1.1**
comp=Z,23nm,0.9s,mb5.0
WTTA Wattenberg 80.72 334⇑*i*P **P** **08 16 31.4 +1.0**
comp=Z,14nm,0.5s,mb5.0
WTTA Wattenberg 80.72 334⇑*i*P **P** **08 16 31.4 +0.9**
WTTA pmax pmax
comp=Z,14nm,0.5s,mb5.0
MOTA Moosalm 80.81 335⇑*i*P **P** **08 16 32.1 +1.2**
comp=Z,22nm,1.1s,mb4.9
MOTA Moosalm 80.81 335⇑*i*P **P** **08 16 32.1 +1.2**
MOTA pmax pmax
comp=Z,22nm,1.1s,mb4.9
CDF Champ du Feu 80.90 338 *e*P **P** **08 16 31.4 0.0**
comp=Z,24nm,0.9s,mb4.7
CDF Champ du Feu 80.90 338 *e*P **P** **08 16 31.4 0.0**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.7
CDF Champ du Feu 80.90 338 *e*P **P** **08 16 31.4 0.0**
comp=Z,12nm,0.9s,mb4.7
PMOR Pomariorio Ree 80.95 123 *e*T 09 46 45.8
comp=Z,1.3nm,0.2s
MEZF Maizieres J'vi 81.39 339 *e*P **P** **08 16 34.2 +0.2**
PPT Papeete 82.04 126 *e*LR LR 08 43 26.9
comp=Z,159nm,25.2s
PPT Papeete 82.04 126 LR LR 08 49 56.0
comp=Z,80nm,19.6s,baz=330,slow=33
FLN La Foliniere 82.39 343 *e*P **P** **08 16 38.8 -0.5**
GRR Gorron 82.83 343 *e*P **P** **08 16 41.3 -0.2**
comp=Z,16nm,0.9s,mb4.6
GRR Gorron 82.83 343 *e*P **P** **08 16 41.3 -0.2**
GRR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GRR Gorron 82.83 343 *e*P **P** **08 16 41.3 -0.2**
comp=Z,8.0nm,0.9s,mb4.5
LOR Lormes 82.83 339 *e*P **P** **08 16 41.5 0.0**
comp=Z,17nm,0.9s,mb4.6
LOR Lormes 82.83 339 *e*P **P** **08 16 41.5 0.0**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
LOR Lormes 82.83 339 *e*P **P** **08 16 41.5 0.0**
comp=Z,8.4nm,0.9s,mb4.6
SSF Saint Saulge 83.11 340 *e*P **P** **08 16 42.7 -0.3**
comp=Z,12nm,1.0s,mb4.4
SSF Saint Saulge 83.11 340 *e*P **P** **08 16 42.7 -0.3**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
SSF Saint Saulge 83.11 340 *e*P **P** **08 16 42.7 -0.3**
comp=Z,6.3nm,1.0s,mb4.4
SGMF Saint Gilles 83.29 344 *e*P **P** **08 16 43.8 -0.1**
comp=Z,18nm,0.7s,mb4.8
SGMF Saint Gilles 83.29 344 *e*P **P** **08 16 43.8 -0.1**
SGMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
SGMF Saint Gilles 83.29 344 *e*P **P** **08 16 43.8 -0.1**
comp=Z,9.3nm,0.7s,mb4.7
ROSF Rostrenen 83.35 344 *e*P **P** **08 16 44.1 -0.1**
comp=Z,31nm,1.0s,mb4.8
ROSF Rostrenen 83.35 344 *e*P **P** **08 16 44.1 -0.1**
ROSF pmax pmax
comp=Z,16nm,1.0s,mb4.8
ROSF Rostrenen 83.35 344 *e*P **P** **08 16 44.1 -0.1**
comp=Z,16nm,1.0s,mb4.8
AVF Avril sur Loir 83.40 340 *e*P **P** **08 16 44.5 0.0**
comp=Z,26nm,1.0s,mb4.7
AVF Avril sur Loir 83.40 340 *e*P **P** **08 16 44.5 0.0**
AVF pmax pmax
comp=Z,13nm,1.0s,mb4.7
AVF Avril sur Loir 83.40 340 *e*P **P** **08 16 44.5 0.0**
comp=Z,13nm,1.0s,mb4.7
SMF Signal de Mont 83.41 339 *e*P **P** **08 16 44.7 +0.1**
comp=Z,41nm,1.1s,mb4.9
SMF Signal de Mont 83.41 339 *e*P **P** **08 16 44.7 +0.1**
SMF pmax pmax
comp=Z,20nm,1.1s,mb4.9
SMF Signal de Mont 83.41 339 *e*P **P** **08 16 44.7 +0.1**
comp=Z,20nm,1.1s,mb4.9
TKL Tuckaleechee C 83.63 43 LR LR 08 54 08.8
comp=Z,83nm,18.5s,baz=320,slow=36
LPL La Plagne 83.72 337 *e*P **P** **08 16 47.1 +1.0**
LPG La Plagne 83.73 337 *e*P **P** **08 16 47.3 +1.1**
comp=Z,29nm,1.2s,mb4.7
LPG La Plagne 83.73 337 *e*P **P** **08 16 47.3 +1.1**
LPG pmax pmax
comp=Z,14nm,1.2s,mb4.7
LPG La Plagne 83.73 337 *e*P **P** **08 16 47.3 +1.1**
comp=Z,14nm,1.2s,mb4.7
MFF Saint Martin d 84.38 342 *e*P **P** **08 16 49.6 +0.1**
ORIF Oris-en-Rattie 84.50 337 *e*P **P** **08 16 50.9 +0.8**
comp=Z,33nm,1.2s,mb4.8
ORIF Oris-en-Rattie 84.50 337 *e*P **P** **08 16 50.9 +0.8**
ORIF pmax pmax
comp=Z,17nm,1.2s,mb4.8
ORIF Oris-en-Rattie 84.50 337 *e*P **P** **08 16 50.9 +0.8**
comp=Z,17nm,1.2s,mb4.7
VIVF Saint-Julien-l 84.87 338 *e*P **P** **08 16 52.6 +0.6**
LASF Ste Croix 85.81 338 *e*P **P** **08 16 56.6 0.0**
comp=Z,33nm,1.2s,mb4.8
RKT Rikitea 94.91 118 *e*LR LR 08 49 24.5
comp=Z,108nm,28.0s
BDFB Brasilia 144.62 37 PKP PKPdf 08 23 50.3 -3.0
comp=Z,3.7nm,0.8s,baz=73,slow=3.3,SNR=3.8
BDFB Brasilia 144.62 37 PKIKP PKPdf 08 23 50.3 -3.1
BDFB pmax pmax
comp=Z,4.0nm,0.8s
PLCA Paso Flores 148.25 96 PKPbc PKPbc 08 24 00.8 -2.2
comp=Z,1.2nm,0.5s,baz=356,slow=12,SNR=3.2
PLCA Paso Flores 148.25 96 PKIKP PKPdf 08 24 00.8 +1.3
PLCA pmax pmax
comp=Z,1.0nm,0.5s
CPUP Villa Florida 148.67 61 PKPbc PKPbc 08 24 02.2 -1.9
comp=Z,2.2nm,0.7s,baz=329,slow=3.3,SNR=8.3
CPUP Villa Florida 148.67 61 PKIKP PKPdf 08 24 02.2 +2.0
CPUP pmax pmax
comp=Z,2.0nm,0.7s
SNAA Sanae 152.25 196 *e*PKPdf PKPdf 08 24 09.1 +3.3
SNAA *e* 08 24 15.7
SNAA *e* 08 24 32.4

BJI ***27*** *08:06:09.5,1854N×10854W,h17km,mB5.1,mb4.8,Ms4.4, Msz4.3*
ISCJB ***27*** *08:06:11.7±0.9,1887N±009×108.17W±007,h10km, mb4.0/15,Error ellipse: s-maj=13.3km s-min=9.1km az=18.0*
NEIC ***27*** *08:06:12.0±0.5,1875N×10823W,h10km,mb4.0/21,Error ellipse: s-maj=8.7km s-min=6.2km az=60.0*

ISC 27 08:06:13.6±0.9,1888N±008×10815W±007,h10km,n49, σ0§90/43,mb4.0/15,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJM	**Santa Fe**	**5.08**	**71**	*e*P	**Pn**	**08 07 31.0**	**+1.3**
PPM	**Popocatepetl**	**9.02**	**87**	*i* P	**Pn**	**08 08 30.3**	**+6.5**
MNTX	**Cornudas Mount**	**13.00**	**11**	*e*Pn	**Pn**	**08 09 18.7**	**+0.4**
JCT	**Junction City**	**13.81**	**32**	*e*Pn	**Pn**	**08 09 29.9**	**+0.6**
GLA	**Glamis**	**15.32**	**338**	*e*Pn	**Pn**	**08 09 49.3**	**-0.6**
LAZ	**Ladron**	**15.48**	**3**	*e*P	**Pn**	**08 09 52.5**	**+0.5**
HKT	**Hockley**	**15.71**	**43**	*e*Pn	**Pn**	**08 09 55.2**	**+0.3**
	39nm,1.9s						
ANMO	**Albuquerque**	**16.07**	**5**	*e*Pn	**Pn**	**08 10 01.0**	**+1.4**
	2.6nm,1.0s						
WUAZ	**Wupatki**	**16.81**	**351**	*e*Pn	**Pn**	**08 10 09.2**	**+0.1**
	12nm,1.2s						
NATX	**Nacogdoches**	**17.67**	**41**	*e*Pn	**Pn**	**08 10 19.6**	**-0.2**
	6.9nm,0.5s						
NATX				Sn	**Sn**	**08 13 34.5**	**-2.2**
WMOK	**Wichita Mounta**	**17.85**	**26**	*e*Pn	**Pn**	**08 10 21.2**	**-0.8**
GSC	**Goldstone**	**18.06**	**337**	*e*Pn	**Pn**	**08 10 24.6**	**0.0**
SHPR	**Sheep Range**	**18.61**	**342**	*e*P	**Pn**	**08 10 31.2**	**0.0**
SDCO	**Great Sand Dun**	**18.93**	**6**	*e*P	**Pn**	**08 10 34.8**	**-0.4**
	1.6nm,0.9s						
PV01	**Paradox Valley**	**19.18**	**359**	*e*P	**Pn**	**08 10 33.5**	**-4.7**
DAC	**Darwin (Calif)**	**19.22**	**336**	*e*Pn	**Pn**	**08 10 39.0**	**+0.3**
ARUT	**Antelope Range**	**19.39**	**347**	*e*Pn	**Pn**	**08 10 39.9**	**-0.8**
PV10	**Paradox Valley**	**19.44**	**358**	*e*P	**Pn**	**08 10 40.1**	**-1.2**
SRU	**San Rafael**	**20.26**	**355**	*e*P	**P**	**08 10 49.4**	**+0.3**
ISCO	**Idaho Springs**	**20.96**	**5**	*e*Pn	**P**	**08 10 58.4**	**+1.8**
	6.4nm,1.2s						
DUG	**Dugway**	**21.61**	**350**	*e*Pn	**P**	**08 11 03.0**	**-0.7**
	5.4nm,1.0s,mb3.9						
DUG				*e*S	**S**	**08 15 06.8**	**+3.8**
CMB	**Columbia Colle**	**21.86**	**333**	*e*P	**P**	**08 11 06.4**	**+0.1**
	4.7nm,1.1s,mb3.8						
WAKR	**Walker**	**21.88**	**336**	*e*P	**P**	**08 11 07.0**	**+0.4**
CTU	**Camp Tracy**	**21.95**	**353**	*e*P	**P**	**08 11 07.5**	**+0.2**
SPUT	**South Promonto**	**22.65**	**352**	*e*P	**P**	**08 11 14.5**	**-0.3**
OHCM	**Honcut**	**23.42**	**333**	*e*P	**P**	**08 11 22.9**	**0.0**
RRI2	**Red Ridge**	**24.53**	**354**	*e*P	**P**	**08 11 34.2**	**+0.9**
SNOW	**Snow King Moun**	**24.60**	**355**	*e*P	**P**	**08 11 34.3**	**+0.4**
TPAW	**Teton Pass**	**24.64**	**355**	*e*P	**P**	**08 11 34.2**	**0.0**
	4.3nm,0.9s,mb4.0						
LOHW	**Long Hollow**	**24.74**	**356**	*e*P	**P**	**08 11 34.6**	**-0.5**
	5.6nm,0.9s,mb4.1						
WVT	**Waverly**	**24.82**	**42**	*e*P	**P**	**08 11 36.0**	**+0.2**
	2.6nm,0.9s,mb3.8						
MOOW	**Moose Ponds**	**24.89**	**356**	*e*P	**P**	**08 11 37.1**	**+0.7**
	3.9nm,0.9s,mb3.9						
IMW	**Indian Meadow**	**25.05**	**355**	*e*P	**P**	**08 11 38.2**	**+0.3**
	6.2nm,1.2s,mb4.0						
HLID	**Hailey**	**25.16**	**349**	*e*P	**P**	**08 11 38.8**	**-0.2**
	2.6nm,0.9s,mb3.8						
MOD	**Modoc**	**25.17**	**338**	*e*P	**P**	**08 11 38.3**	**-0.7**
	8.5nm,1.3s,mb4.1						
BMO	**Blue Mountains**	**27.00**	**346**	*e*P	**P**	**08 11 53.5**	**-2.0**
	0.5nm,0.8s,mb3.1						
EGMT	**Eagleton**	**29.09**	**358**	*e*P	**P**	**08 12 16.6**	**+2.4**
	4.5nm,0.5s,mb4.5						
SDV	**Santo Domingo**	**37.68**	**100**	*e*P	**P**	**08 13 35.2**	**+6.2**
	5.2nm,0.9s,mb4.3						
INK	**Inuvik**	**51.92**	**348**	*e*P	**P**	**08 15 21.5**	**-1.0**
	1.9nm,0.6s,mb4.2						
LPAZ	**La Paz**	**52.65**	**129**	*e*P	**P**	**08 15 28.5**	**+0.6**
	1.4nm,0.9s,mb3.9						
CPUP	**Villa Florida**	**66.74**	**131**	*e*P	**P**	**08 17 02.7**	**-2.3**
	3.0nm,0.4s,mb4.7						
CN2	**Changchun**	**100.66**	**324**	*e*P	Pdif	08 19 59.0	-2.9
SBA	**Scott Base**	**107.29**	**193**	*e*PKP	PKiKP	08 24 36.5	-3.7
VNDA	**Vanda**	**108.30**	**193**	*e*PKP	PKiKP	08 24 39.3	-2.7
HHC	**Hu-ho-hao-te**	**110.05**	**329**	*e*PKP	PKiKP	08 24 42.0	-3.4
SNAA	**Sanae**	**112.60**	**161**	*e*PKP	PKiKP	08 24 47.3	-2.9
WMQ	**Urumqi**	**115.93**	**347**	*e*PKP	PKPdf	08 24 56.0	-0.6
LZH	**Lanzhou**	**117.50**	**331**	*e*PKP	PKPdf	08 24 54.3	-5.3
TSUM	**Tsumeb**	**128.89**	**100**	*e*PKPdf	PKPdf	08 25 20.8	-0.6

IDC 27 08:13:38.0±11.0,358N×12740E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/17,mbtmp3.7/3,MS3.8/2,Ms1 3.8/2, ms1mx3.0/32,Error ellipse: s-maj=194.8km s-min=175.0km az=144.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.35**	**164**	P	P	08 18 58.4	+0.8
	0.6nm,0.4s,baz=343,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**27.81**	**167**	P	P	08 19 29.5	+0.6
	0.4nm,0.7s,baz=354,slow=8.2,SNR=6.6						
HNR	**Honiara**	**34.92**	**112**	LR	LR	08 32 06.3	
	comp=Z,100nm,19.3s,baz=357,slow=32						
STKA	**Stephens Creek**	**37.76**	**160**	P	P	08 20 55.0	-0.6
	0.9nm,0.4s,baz=345,slow=12,SNR=4.6						
YKA	**Yellowknife Ar**	**99.36**	**25**	LR	LR	09 13 05.4	
	comp=Z,58nm,18.1s,baz=245,slow=36						

IDC ***27*** *08:15:36.8±0.7,4.07S×13506E,h0km,mb4.2/6, mb1 4.5/10,mb1mx4.4/15,mbtmp4.4/10,ML4.0/4,MS3.8/7, Ms1 3.7/7,ms1mx3.4/23,Error ellipse: s-maj=38.3km s-min=17.6km az=69.0*
NEIC ***27*** *08:15:36.5±0.6,4.18S×13558E,h10km,mb4.5/10,Error ellipse: s-maj=20.9km s-min=8.4km az=88.0*
BJI ***27*** *08:15:36.4,4.20S×13560E,h10km,mB5.1,mb4.7,Ms4.5, Msz4.2*
ISCJB ***27*** *08:15:39.1±0.5,4.31S±003×135.10E±009,h33km, mb4.5/17,MS3.5/7,Error ellipse: s-maj=13.1km s-min=4.7km az=176.2*

ISC 27 08:15:41.4±0.5,432S±004×13505E±009,h35km,n43, σ1§38/43,mb4.5/17,MS3.5/7,1C-1D,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.73**	**197**	*eP*	**Pn**	**08 17 48.9**	**+3.8**
	35nm,0.6s						
KAKA				*eS*	**Sn**	**08 19 25.2**	**+3.0**
PMG	**Port Moresby**	**13.04**	**113**	Pn	**Pn**	**08 18 44.5**	**+0.4**
	0.8nm,0.3s,baz=302,slow=13,SNR=2.2						
WRAB	**Tennant Creek**	**15.53**	**182**	*ePn*	**Pn**	**08 19 17.2**	**-0.5**
	40nm,0.6s						
WRAB				*eSn*	**Sn**	**08 22 07.7**	**-0.9**
WB2	**Warramunga Arr**	**15.54**	**182**	*⇓iP*	**Pn**	**08 19 16.9**	**-0.9**
WB2				*e*		08 19 25.9	
WB2				*eS*	**S**	**08 22 05.3**	**-18**
WRA	**Warramunga Arr**	**15.54**	**182**	Pn	**Pn**	**08 19 17.1**	**-0.7**
	0.3nm,0.3s,baz=3.8,slow=13,SNR=21						
WRA				Sn	**Sn**	**08 22 07.2**	**-1.7**
	0.8nm,0.3s,baz=9.9,slow=22,SNR=4.8						
WRA				Lg		08 24 00.5	
	0.3nm,0.3s,baz=15,slow=30,SNR=5.5						
FITZ	**Fitzroy Crossi**	**16.50**	**213**	*eP*	**Pn**	**08 19 31.9**	**+1.8**
	36nm,0.8s						
FITZ				*eS*	**S**	**08 22 27.4**	**-16**
FITZ	**Fitzroy Crossi**	**16.50**	**213**	Pn	**Pn**	**08 19 31.3**	**+1.2**
	0.8nm,0.3s,baz=39,slow=12,SNR=35						
FITZ				Sn	**Sn**	**08 22 31.2**	**-1.0**
	1.2nm,0.3s,baz=206,slow=14,SNR=7.1						
CTA	**Charters Tower**	**19.10**	**146**	*eP*	**Pn**	**08 20 04.0**	**+1.9**
	6.4nm,0.8s						
CTA	**Charters Tower**	**19.10**	**146**	P	**Pn**	**08 20 04.6**	**+2.6**
	0.3nm,0.3s,baz=326,slow=13,SNR=5.2						
CTA				Lg		08 25 45.8	
	0.2nm,0.3s,baz=49,slow=20,SNR=3.6						
CTA				LR	LR	08 27 06.7	
	comp=Z,192nm,21.4s,baz=236,slow=36						
CTAO	**Charters Tower**	**19.10**	**146**	*eP*	**Pn**	**08 19 57.8**	**-4.3**
	18nm,1.2s						
AS31	**Alice Springs**	**19.26**	**183**	*eP*	**Pn**	**08 20 06.6**	**+2.6**
AS31				*eS*	**S**	**08 23 31.3**	**-7.8**
ASAR	**Alice Springs**	**19.27**	**183**	P	**Pn**	**08 20 07.0**	**+3.0**
	1.5nm,0.3s,baz=7.3,slow=12,SNR=123						
ASAR				S	**S**	**08 23 34.6**	**-4.5**
	0.1nm,0.3s,baz=8.0,slow=27,SNR=3.7						
ASAR				Lg		08 25 51.1	
	0.1nm,0.3s,baz=2.9,slow=28,SNR=2.4						
ASAR				LR	LR	08 28 14.8	
	comp=Z,626nm,19.7s,baz=358,slow=39						
ASPA	**Alice Springs**	**19.27**	**183**	*eP*	**Pn**	**08 20 06.6**	**+2.5**
ASPA				*eS*	**S**	**08 23 31.3**	**-7.8**
MBWA	**Marble Bar**	**22.40**	**220**	*eP*	**P**	**08 20 40.7**	**+4.0**
	46nm,1.1s,mb4.8						
FORT	**Forrest**	**27.13**	**193**	*eP*	**P**	**08 21 24.5**	**+3.4**
	12nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**28.09**	**168**	LR	LR	08 33 52.4	
	comp=Z,177nm,20.1s,MS3.6,baz=24,slow=39						
JOW	**Kunigami**	**31.65**	**348**	LR	LR	08 34 33.1	
	comp=Z,169nm,18.0s,MS3.8,baz=121,slow=36						
CBIJ	**Chichi jima**	**31.98**	**12**	LR	LR	08 32 48.3	
	comp=Z,78nm,18.8s,MS3.4,baz=183,slow=32						
JHJ	**Hachijo jima 2**	**37.50**	**7**	LR	LR	08 35 49.8	
	comp=Z,3.9nm,20.5s,MS2.2,baz=262,slow=33						
KMI	**Kunming**	**42.91**	**315**	P	**P**	**08 23 35.5**	**-1.0**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
KMI	**Kunming**	**42.91**	**315**	P	**P**	**08 23 35.4**	**-1.1**
XAN	**Xi'an**	**45.43**	**329**	P	**P**	**08 23 55.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.4						
ASAJ	**Asahikawa**	**48.69**	**7**	LR	LR	08 41 37.7	
	comp=Z,66nm,21.8s,MS3.6,baz=163,slow=32						
MDJ	**Mudanjiang**	**48.96**	**355**	P	**P**	**08 24 21.0**	**-3.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,105nm,4.0s						
LZH	**Lanzhou**	**49.68**	**327**	*eP*	**P**	**08 24 30.5**	**+0.8**
LZH				AP	pP	08 24 43.0	+2.8
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,129nm,4.1s						
GTA	**Gaotai**	**54.29**	**327**	*⇑P*	**P**	**08 25 05.0**	**+1.0**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
SONM	**Songino Array**	**57.70**	**338**	P	**P**	**08 25 27.5**	**-1.0**
	comp=Z,1.7nm,0.9s,mb4.1,baz=152,slow=7.4,SNR=10						
SONM				LR	LR	08 53 06.2	
	comp=Z,83nm,18.3s,MS3.9,baz=63,slow=39						
DGAR	**Diego Garcia**	**62.30**	**264**	*eP*	**P**	**08 26 02.6**	**+2.6**
	comp=Z,217nm,1.2s						
WMQ	**Urumqi**	**64.06**	**324**	*eP*	**P**	**08 26 12.8**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,95nm,5.4s						
WMQ				LR	LR		
	comp=Z,105nm,19.2s,MS4.0						
POO	**Poona**	**64.39**	**293**	*ex*	x	08 26 20.0	
MA2	**Magadan**	**64.90**	**9**	*eP*	**P**	**08 26 14.8**	**-2.4**
	comp=Z,22nm,1.2s,mb5.1						
MKAR	**Makanchi Array**	**68.88**	**324**	P	**P**	**08 26 43.1**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.3,baz=109,slow=8.3,SNR=15						
VNDA	**Vanda**	**74.53**	**174**	P	**P**	**08 27 17.6**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=280,slow=7.0,SNR=5.0						
VNDA	**Vanda**	**74.53**	**174**	P	**P**	**08 27 15.2**	**-1.3**
	comp=Z,1.4nm,1.0s,mb3.9						
BVAR	**Borovoye Array**	**78.57**	**326**	P	**P**	**08 27 39.2**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.5,baz=102,slow=6.4,SNR=16						
BRVK	**Borovoye**	**78.64**	**326**	*eP*	**P**	**08 27 39.3**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.3						
MAW	**Mawson**	**79.28**	**202**	P	**P**	**08 27 45.0**	**+1.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=86,slow=6.2,SNR=6.2						
ZRNK	**Zerenda**	**79.31**	**326**	*eP*	**P**	**08 27 43.0**	**-0.4**
	comp=Z,6.8nm,1.1s,mb4.5						
AKTK	**Aktyubinsk**	**85.09**	**321**	P	**P**	**08 28 13.2**	**-0.3**
AKTO	**Aktyubinsk**	**85.09**	**321**	P	**P**	**08 28 13.2**	**-0.3**
	comp=Z,1.1nm,0.7s,mb4.1,baz=76,slow=4.2,SNR=3.4						
ATAH	**Atahualpa**	**144.78**	**108**	PKP	PKPdf	08 35 17.5	+3.0
	comp=Z,6.5nm,0.6s,baz=229,slow=2.4,SNR=5.1						
LPAZ	**La Paz**	**149.26**	**132**	PKPbc	PKPbc	08 35 29.9	+3.6
	comp=Z,1.3nm,0.7s,baz=225,slow=2.7,SNR=11						
ROSC	**El Rosal**	**150.71**	**88**	PKPbc	PKPbc	08 35 31.1	+1.3
	comp=Z,4.7nm,0.5s,baz=68,slow=21,SNR=5.9						

ISCJB ***27*** *08:21:15.8±4.2,* **1272N×8982W,h34**^{km}**±232**^{km}**, MD3.7,5C, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	**Serv Nac Est T**	**1.12**	**31⇑**	*eP*	x	08 22 01.6	
SNET				*eS*	x	08 22 16.6	
SBLS	**San Blas**	**1.13**	**10**	*eP*	x	08 22 02.1	
SBLS				*eS*	x	08 22 18.5	
BOQS	**Boqueron**	**1.14**	**28⇑**	*eP*	x	08 22 02.5	
BOQS				*eS*	x	08 22 17.9	
SNJE	**San Jose**	**1.16**	**11⇑**	*eP*	x	08 22 02.2	
SNJE				*eS*	x	08 22 15.3	
RTR	**El Retiro**	**1.18**	**8⇑**	*eP*	x	08 22 02.4	
RTR				*eS*	x	08 22 19.8	
LFU	**La Fuente**	**1.23**	**34**	*eP*	x	08 22 04.2	
LFU				*eS*	x	08 22 19.6	
RBDL	**Robledal**	**1.39**	**6⇑**	*eP*	x	08 22 05.8	
RBDL				*eS*	x	08 22 25.8	
TP2	**Tecpan 2**	**2.36**	**331**	*eP*	Pn	08 21 54.6	+2.5
TP2				*eS*	Sn	08 22 20.9	+1.0

ISCJB ***27*** *08:22:08.6±1.3, 161S±03×1756W±04, h391*^{km}*±47*^{km}*, mb3.9/6, Error ellipse: s-maj=56.7km s-min=40.4km az=143.2*

IDC ***27*** *08:22:08.9±1.5, 1620S×17567W, h365*^{km}*±44*^{km}*, mb3.7/5, mb1 3.8/7, mb1mx3.4/16, mbtmp4.4/7, Error ellipse: s-maj=44.5km s-min=32.4km az=68.0*

NEIC ***27*** *08:22:09.1±1.0, 1594S×17580W, h366*^{km}*±30*^{km}*, mb3.9/2, Error ellipse: s-maj=112.6km s-min=30.2km az=149.0*

ISC 27 08:22:09.2±1.2,162S±03×1756W±03,h369^{km}**±35**^{km}**,n12, σ0°38/13,mb3.8/6,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.39**	**59**	P	**Pn**	**08 23 23.1**	**-0.1**
	17nm,0.3s,baz=116,slow=16,SNR=19						
AFI				S	**S**	**08 24 23.2**	**+0.1**
	0.8nm,0.3s,baz=92,slow=24,SNR=2.5						
DZM	**Mont Dzumac**	**17.89**	**248**	P	**P**	**08 25 54.1**	**+0.1**
	0.3nm,0.3s,baz=73,slow=20,SNR=4.8						
URZ	**Urewera**	**22.86**	**195**	P	**P**	**08 26 41.7**	**-0.1**
	2.2nm,0.3s,mb3.9,baz=250,slow=5.8,SNR=9.2						
STKA	**Stephens Creek**	**41.76**	**240**	P	**P**	**08 29 24.2**	**+0.4**
	1.5nm,0.3s,mb3.6,baz=103,slow=11,SNR=6.0						
WB2	**Warramunga Arr**	**47.55**	**258**	*eP*	**P**	**08 30 08.4**	**-0.6**
WRAB	**Tennant Creek**	**47.55**	**258**	*eP*	**P**	**08 30 08.5**	**-0.5**
	3.6nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**47.56**	**258**	P	**P**	**08 30 08.8**	**-0.2**
	3.9nm,0.8s,mb3.7,baz=95,slow=7.8,SNR=36						
AS31	**Alice Springs**	**47.80**	**253**	*eP*	**P**	**08 30 11.0**	**+0.1**
ASAR	**Alice Springs**	**47.80**	**253**	P	**P**	**08 30 10.8**	**-0.1**
	7.5nm,0.4s,mb4.3,baz=90,slow=7.8,SNR=103						
ASPA	**Alice Springs**	**47.81**	**253**	*eP*	**P**	**08 30 11.0**	**0.0**
FITZ	**Fitzroy Crossi**	**55.93**	**259**	*eP*	**P**	**08 31 11.3**	**+1.1**
	5.7nm,1.0s,mb3.9						
FITZ	**Fitzroy Crossi**	**55.93**	**259**	P	**P**	**08 31 11.0**	**+0.8**
	2.4nm,0.8s,mb3.6,baz=108,slow=13,SNR=4.6						

MOS ***27*** *08:29:12.8±1.5, 4624N×154.07E, h22*^{km}*, mb4.3/3, Error ellipse: s-maj=28.9km s-min=25.4km az=105.8*

ISCJB ***27*** *08:29:16.4±4.2, 465N±05×1539E±05, h33*^{km}*, mb3.9/4, Error ellipse: s-maj=82.4km s-min=15.1km az=107.8*

IDC ***27*** *08:29:23.7±10.0, 4609N×15332E, h77*^{km}*±90*^{km}*, mb3.6/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=103.9km s-min=63.8km az=36.0*

ISC 27 08:29:17.0±4.2,463N±05×1541E±05,h35^{km}**,n13, σ1°20/12,mb3.9/4,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.58**	**16**	*ePN*	**Pn**	**08 30 22.4**	**-1.3**
SKR				*e*		08 31 19.5	
YSS	**Yuzh-Sakhalins**	**7.83**	**279**	*ePN*	**Pn**	**08 31 09.1**	**+0.7**
ASAJ	**Asahikawa**	**8.40**	**259**	P	**Pn**	**08 31 14.9**	**-1.4**
	0.7nm,0.3s,baz=72,slow=20,SNR=3.8						
ASAJ	**Asahikawa**	**8.40**	**259**	PN	**Pn**	**08 31 14.9**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.74**	**298**	P	**P**	**08 37 49.6**	**-0.9**
	comp=Z,1.6nm,0.9s,mb4.1,baz=69,slow=6.6,SNR=9.8						
MKAR	**Makanchi Array**	**47.74**	**298**	P	**P**	**08 37 49.6**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**08 38 21.0**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=226,slow=39,SNR=3.6						
BVAR	**Borovoye Array**	**51.66**	**310**	P	**P**	**08 38 21.0**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.86**	**342**	P	**P**	**08 40 20.6**	**+2.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=25,slow=6.9						
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**	**08 40 20.3**	**+2.4**
	comp=Z,1.0nm,0.8s,mb3.8,baz=26,slow=6.5,SNR=3.7						
NOA	**NORSAR Array B**	**68.86**	**342**	P	**P**	**08 40 20.3**	**+2.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.28**	**327**	P	**P**	**08 40 39.0**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=36,slow=6.5,SNR=5.7						
CFAA	**Coronel Fontan**	**144.41**	**81**	PKP	PKPdf	08 48 51.4	+1.9
	comp=Z,0.2nm,0.7s,baz=235,slow=5.7,SNR=4.1						

ISCJB ***27*** *08:35:02.1±1.5, 1653S±008×7189W±009, h27*^{km}*±11*^{km}*, mb4.0/2, Error ellipse: s-maj=18.1km s-min=8.4km az=103.7*

NEIC ***27*** *08:35:02.4, 1655S×7198W, h27*^{km}*, ML4.1(LIM), After LIM.*

NEIC Felt [III] at Arequipa and [II] at Mollendo.

IDC ***27*** *08:35:06.0±1.9, 1654S×7189W, h44*^{km}*±21*^{km}*, mb3.7/2, mb1 3.9/5, mb1mx3.6/19, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=38.4km s-min=14.6km az=49.0*

ISC 27 08:35:03.1±2.2,1652S±008×719W±01,h14^{km}**±13**^{km}**,n13, σ1°20/15,mb4.0/2,1D,Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**0.39**	**81**	*⇓iP*	**Pg**	**08 35 10.4**	**-0.6**
ARE				*i*	**Sg**	**08 35 16.4**	**+0.1**
LPAZ	**La Paz**	**3.62**	**87**	P	**Pn**	**08 36 05.8**	**+7.0**
	7.6nm,0.3s,baz=265,slow=9.1,SNR=179						
LPAZ	**La Paz**	**3.62**	**87**	*ePn*	**Pn**	**08 36 05.9**	**+7.2**
NNA	**Nana**	**6.58**	**313**	P	**Pn**	**08 36 41.5**	**+2.0**
	1.1nm,0.3s,baz=118,slow=17,SNR=3.0						
NNA				S	**Sn**	**08 37 53.9**	**-0.3**
	0.4nm,0.3s,baz=227,slow=14,SNR=2.2						
LVC	**Limon Verde**	**6.68**	**156**	P	**Pn**	**08 36 40.7**	**-0.1**
	2.4nm,0.3s,baz=327,slow=10.0,SNR=12						
LVC				S	**Sn**	**08 37 57.1**	**+0.4**
	3.4nm,0.3s,baz=317,slow=24,SNR=7.3						
LVC	**Limon Verde**	**6.68**	**156**	*ePn*	**Pn**	**08 36 39.1**	**-1.6**
	8.6nm,0.3s						
LVC				*eSn*	**Sn**	**08 37 57.4**	**+0.7**
SIV	**San Ignacio**	**10.41**	**89**	P	**Pn**	**08 37 34.4**	**+2.5**
	0.5nm,0.3s,baz=267,slow=13,SNR=14						
SAML	**Samuel**	**11.35**	**50**	*ePn*	**Pn**	**08 37 44.9**	**+0.1**
CFAA	**Coronel Fontan**	**15.38**	**168**	P	**Pn**	**08 38 45.1**	**+5.5**
	0.0nm,0.3s,baz=320,slow=7.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**78.46**	**73**	P	**P**	**08 47 02.0**	**-1.5**
	0.5nm,0.3s,mb3.9,baz=256,slow=4.4,SNR=20						
YKA	**Yellowknife Ar**	**85.59**	**342**	P	**P**	**08 47 39.8**	**-1.2**
	0.8nm,0.8s,mb4.0,baz=140,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**135.53**	**216**	PKP	PKPdf	08 54 22.6	-0.2
	0.3nm,0.8s,baz=140,slow=1.7,SNR=7.3						
SONM	**Songino Array**	**148.74**	**2**	PKPbc	PKPbc	08 54 49.0	-1.0
	0.4nm,0.5s,baz=334,slow=0.4,SNR=3.6						

HLW ***27*** *08:35:42.1, 3132N×3542E, h14*^{km}*, Mb2.7*

GII ***27*** *08:35:44.4±0.1, 3108N×3516E, h0*^{km}*, ML2.5/9*

ISCJB ***27*** *08:35:45.2±0.4, 3107N±002×3518E±004, h7*^{km}*±4km, Error ellipse: s-maj=5.6km s-min=2.8km az=31.9*

ISC 27 08:35:45.9±0.4,3107N±002×3518E±004,h8^{km}**±4km,n27, σ0°92/44,2C-3D,Dead Sea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MZDA	**Masada**	**0.29**	**34**	Pg	**Pg**	**08 35 51.1**	**-0.4**
MZDA				Sg	**Sg**	**08 35 56.3**	**+0.9**
MZDA	**Masada**	**0.29**	**34**	T		08 37 16.5	
YTIR	**Yattir**	**0.29**	**350**	Pg	**Pg**	**08 35 50.6**	**-1.1**
YTIR				Sg	**Sg**	**08 35 56.0**	**+0.3**
YTIR	**Yattir**	**0.29**	**350**	Pg	**Pg**	**08 35 50.6**	**-1.1**
YTIR				Sg	**Sg**	**08 35 55.9**	**+0.2**
MASH	**Mash'abbe Sade**	**0.34**	**257**	Pg	**Pg**	**08 35 52.0**	**-0.7**
MASH				Sg	**Sg**	**08 35 57.5**	**+0.2**
RTMI	**Retamim**	**0.42**	**268**	Pg	**Pg**	**08 35 53.5**	**-0.5**
AMAZ	**Amatzia**	**0.51**	**334**	Pg	**Pg**	**08 35 55.5**	**-0.2**
AMAZ				Sg	**Sg**	**08 36 03.1**	**+0.7**
AMAZ	**Amatzia**	**0.51**	**334**	Pg	**Pg**	**08 35 55.6**	**-0.2**
AMAZ				Sg	**Sg**	**08 36 03.1**	**+0.6**
ZFRI	**Zfri**	**0.52**	**180**	Pg	**Pg**	**08 35 55.6**	**-0.3**
DRGI	**Dragot**	**0.55**	**19**	Pg	**Pg**	**08 35 56.7**	**+0.1**
KZIT	**Kziot**	**0.69**	**256**	Pg	**Pg**	**08 35 58.3**	**-0.9**
KZIT				Sg	**Sg**	**08 36 09.4**	**+1.2**
PRNI	**Paran**	**0.73**	**192**	Pg	**Pg**	**08 35 59.2**	**-0.8**
PRNI				Sg	**Sg**	**08 36 11.4**	**+1.9**
PRNI	**Paran**	**0.73**	**192**	Pg	**Pg**	**08 35 59.7**	**-0.3**
PRNI				Sg	**Sg**	**08 36 11.2**	**+1.7**
PRNI	**Paran**	**0.73**	**192**	Pg	**Pg**	**08 35 59.7**	**-0.3**
PRNI				Sg	**Sg**	**08 36 11.2**	**+1.6**
HRFI	**Mount Harif**	**1.04**	**187**	Pg	**Pg**	**08 36 05.2**	**-0.7**
HRFI				Sg	**Sg**	**08 36 20.8**	**+1.5**
SLTI	**Sal'it**	**1.17**	**354**	Pg	**Pg**	**08 36 07.4**	**-1.0**
SLTI				Sg	**Sg**	**08 36 24.4**	**+0.9**
HMDT	**Nahal Hemdat**	**1.22**	**14**	Pg	**Pg**	**08 36 08.1**	**-1.1**
HMDT				Sg	**Sg**	**08 36 26.4**	**+1.4**
MBH	**Mount Berech**	**1.29**	**190**	Pg	**Pg**	**08 36 09.7**	**-1.1**
MBH				Sg	**Sg**	**08 36 28.8**	**+1.3**
MMLI	**Mount Malkishu**	**1.38**	**9**	Pn	**Pn**	**08 36 11.0**	**-0.4**
MMLI				Sn	**Sn**	**08 36 31.6**	**+1.8**
EIL	**Elat**	**1.41**	**188**	Pn	**Pn**	**08 36 11.5**	**-0.4**
HNKL	**Nakhl**	**1.54**	**223**	*⇑P*	**Pn**	**08 36 12.7**	**-0.9**
HNKL				S	**Sn**	**08 36 35.3**	**+1.6**
OFRI	**'Ofer**	**1.55**	**354**	Pn	**Pn**	**08 36 13.2**	**-0.7**
AMAG	**Maghara**	**1.75**	**256**	*⇓P*	**Pn**	**08 36 15.1**	**-1.4**
AMAG				S	**Sn**	**08 36 39.1**	**+0.2**
KSHT	**Keshet**	**1.98**	**16**	Pn	**Pn**	**08 36 20.2**	**+0.5**
SUZ		**2.37**	**239**	*⇓P*	**Pn**	**08 36 24.0**	**-1.0**
SUZ				S	**Sn**	**08 36 55.0**	**+0.7**
HKAT	**Jabal Katrina**	**2.74**	**202**	*⇑P*	**Pn**	**08 36 29.6**	**-0.5**
TR2		**2.96**	**206**	*⇓P*	**Pn**	**08 36 32.6**	**-0.6**

IDC ***27*** *08:37:00.3±15.0, 2264S×17871W, h458*^{km}*±125*^{km}*, mb3.5/5, mb1 3.6/6, mb1mx3.3/14, mbtmp4.4/6, Error ellipse: s-maj=206.5km s-min=72.6km az=55.0*

ISCJB ***27*** *08:37:07.4±6.1, 231S±04×1794W±08, h500*^{km}*, mb4.0/9, Error ellipse: s-maj=114.4km s-min=23.4km az=121.6*

NEIC ***27*** *08:37:08.2±4.8, 2319S×17922W, h516*^{km}*±48*^{km}*, mb4.2/6, Error ellipse: s-maj=92.6km s-min=31.6km az=65.0*

ISC 27 08:37:08.5±6.3,232S±04×1794W±09,h500^{km}**,n15, σ0°36/15,mb4.0/9,1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.28**	**191**	P	**P**	**08 40 21.6**	**0.0**
	1.3nm,0.3s,baz=334,slow=7.8,SNR=9.7						
CTA	**Charters Tower**	**32.06**	**269**	P	**P**	**08 42 54.4**	**+0.9**
	8.3nm,0.4s,mb4.6,baz=99,slow=11,SNR=20						
CTAO	**Charters Tower**	**32.06**	**269**	*eP*	**P**	**08 42 53.7**	**+0.2**
	9.0nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.83**	**288**	*eP*	**P**	**08 43 16.8**	**-0.1**
	13nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**35.51**	**247**	P	**P**	**08 43 22.5**	**-0.1**
	0.6nm,0.4s,mb3.4,baz=79,slow=16,SNR=3.4						
AS31	**Alice Springs**	**42.72**	**260**	*eP*	**P**	**08 44 20.9**	**0.0**
ASAR	**Alice Springs**	**42.72**	**260**	P	**P**	**08 44 20.9**	**0.0**
	2.3nm,0.6s,mb3.8,baz=95,slow=8.1,SNR=24						
ASPA	**Alice Springs**	**42.72**	**260**	*eP*	**P**	**08 44 20.9**	**0.0**
WB2	**Warramunga Arr**	**43.02**	**265**	*⇓iP*	**P**	**08 44 22.9**	**-0.4**
WRAB	**Tennant Creek**	**43.03**	**265**	*eP*	**P**	**08 44 22.9**	**-0.4**
	4.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**43.03**	**265**	P	**P**	**08 44 23.0**	**-0.3**
	2.7nm,0.4s,mb4.1,baz=92,slow=8.4,SNR=128						
KAKA	**Kakadu**	**46.83**	**274**	*eP*	**P**	**08 44 52.5**	**-0.1**
	3.0nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**51.46**	**265**	*eP*	**P**	**08 45 28.0**	**+1.1**
	3.7nm,0.7s,mb3.8						
FITZ	**Fitzroy Crossi**	**51.46**	**265**	P	**P**	**08 45 27.5**	**+0.6**
	1.4nm,0.5s,mb3.5,baz=114,slow=9.7,SNR=12						
MBWA	**Marble Bar**	**56.06**	**259**	*eP*	**P**	**08 45 59.3**	**-0.2**
	8.4nm,1.2s,mb4.0						

IDC ***27*** *08:43:05.6±1.9, 1267N×8763W, h78*^{km}*±34*^{km}*, mb3.5/5, mb1 3.7/7, mb1mx3.5/21, mbtmp3.7/7, Error ellipse: s-maj=55.1km s-min=14.2km az=36.0*

ISCJB ***27*** *08:43:06.4±0.8, 1261N±007×876W±0.1, h103*^{km}*±7km, mb3.9/6, Error ellipse: s-maj=19.6km s-min=6.9km az=115.2*

CASC ***27*** *08:43:06.7±2.4, 1263N×8771W, h84*^{km}*±14*^{km}*, MD3.9, ML4.0, mb4.5(NEIC)*

NEIC ***27*** *08:43:07.1±1.3, 1262N×8756W, h99*^{km}*±12*^{km}*, mb4.5/1, Error ellipse: s-maj=27.8km s-min=16.0km az=223.0*

ISC 27 08:43:07.4±0.7,1262N±007×8761W±009,h98^{km}**±6**^{km}**,n39, σ0°93/42,mb3.9/6,4C-13D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.56**	**82**	*⇓eP*	**Pn**	**08 43 23.4**	**0.0**
CRIN				*eS*	**Sn**	**08 43 35.8**	**+0.3**
CNCH	**Conchagua**	**0.69**	**342**	*eP*	x	08 43 22.3	
LEON	**Leon**	**0.73**	**106**	*⇓eP*	**Pn**	**08 43 23.9**	**-1.1**
LEON				*eS*	**Sn**	**08 43 39.6**	**+1.5**
TELN	**Telica**	**0.76**	**91**	*⇓eP*	**Pn**	**08 43 24.8**	**-0.5**
TELN				*eS*	**Sn**	**08 43 37.7**	**-0.9**
MIRN	**Miramar**	**0.90**	**101**	*⇑eP*	**Pn**	**08 43 26.4**	**-0.2**
MIRN				*eS*	**Sn**	**08 43 40.0**	**-1.1**
CNGN	**Cerro Negro**	**0.90**	**97**	*⇓eP*	**Pn**	**08 43 26.5**	**-0.2**
CNGN				*eS*	**Sn**	**08 43 40.8**	**-0.3**
BLLM	**Bellamira**	**1.02**	**323**	*⇓eP*	x	08 43 50.9	
BLLM				*eS*	x	08 44 06.7	
VSM	**San Miguel**	**1.03**	**321**	*eP*	x	08 43 26.2	
MOMJ	**Momotombo**	**1.07

PINO				S	Sn	09 00 06.9	+7.3	
CAYR	**Refugio Cayamb**	**3.44**	**17**	P	Pn	08 59 31.9	+5.1	
CAYA	**Cayambe**	**3.50**	**17**	P	Pn	08 59 32.5	+4.9	
COTA	**Cotacachi**	**3.67**	**11**	P	Pn	08 59 32.6	+2.8	

*IDC **27** 09:11:47.6±1.6, 751S×12974E, h0km, mb4.2/2, mb1 4.6/4, mb1mx4.1/13, mbtmp4.4/4, ML4.6/2, Error ellipse: s-maj=125.6km s-min=24.5km az=65.0*
*NEIC **27** 09:11:51.4±1.2, 701S×13134E, h35km, mb4.5/4, Error ellipse: s-maj=20.0km s-min=16.2km az=96.0*
*ISCJB **27** 09:11:54.3±1.3, 7455S×008×1315E±01, h33km, mb4.3/3, Error ellipse: s-maj=16.0km s-min=10.8km az=13.2*
ISC 27 09:11:56.2±1.4, 741S×008×1315E±01, h35km, n14, σ0§84/22, mb4.3/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.36**	**170**	*e*P	**Pn**	**09 13 18.2**	**+4.6**
KAKA	61nm,0.3s			*e*S	**Sn**	**09 14 22.0**	**+7.9**
FITZ	**Fitzroy Crossi**	**12.04**	**207**	*e*P	**Pn**	**09 14 45.6**	**+0.4**
FITZ	47nm,0.4s			*e*S	**Sn**	**09 16 56.8**	**-1.4**
WRAB	**Tennant Creek**	**12.76**	**168**	*e*Pn	**Pn**	**09 14 55.3**	**+0.1**
WRAB	27nm,0.6s			*e*Sn	**Sn**	**09 17 15.8**	**-0.1**
WRA	**Warramunga Arr**	**12.77**	**168**	P	**Pn**	**09 14 55.7**	**+0.5**
WRA	2.3nm,0.3s,baz=342,slow=13,SNR=132				**Sn**	**09 17 17.6**	**+1.5**
	3.6nm,0.3s,baz=347,slow=24,SNR=5.7						
WB2	**Warramunga Arr**	**12.77**	**168**	*e*P	**Pn**	**09 14 55.3**	**0.0**
WB2				*e*S	**Sn**	**09 17 16.2**	**+0.1**
PMG	**Port Moresby**	**15.67**	**98**	P	**Pn**	**09 15 32.4**	**-1.8**
AS31	**Alice Springs**	**16.33**	**172**	*e*P	**Pn**	**09 15 42.7**	**-0.1**
AS31	89nm,0.4s			*e*S	**S**	**09 18 42.6**	**-12**
ASAR	**Alice Springs**	**16.33**	**172**	Pn	**Pn**	**09 15 42.9**	**+0.1**
ASAR	3.7nm,0.3s,baz=351,slow=13,SNR=121			Sn	**Sn**	**09 18 41.7**	**-1.2**
	1.4nm,0.3s,baz=357,slow=28,SNR=8.1						
ASPA	**Alice Springs**	**16.33**	**172**	*e*P	**Pn**	**09 15 42.7**	**-0.1**
ASPA				*e*S	**S**	**09 18 42.6**	**-12**
CTA	**Charters Tower**	**19.10**	**133**	*e*P	**P**	**09 16 22.8**	**+5.9**
	4.3nm,0.9s						
FORT	**Forrest**	**23.46**	**187**	*e*P	**P**	**09 17 03.6**	**+1.0**
	34nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**26.12**	**160**	*e*P	**P**	**09 17 27.4**	**+0.6**
	2.3nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**26.12**	**160**	P	**P**	**09 17 27.6**	**+0.9**
	2.8nm,0.8s,mb3.8,baz=336,slow=9.6,SNR=7.2						
MKAR	**Makanchi Array**	**69.36**	**326**	P	**P**	**09 22 52.0**	**-8.3**
	1.0nm,0.4s,mb4.1,baz=112,slow=6.9,SNR=11						

*ATH **27** 09:31:23.6, 4007N×2227E, h19km±3km, MD3.0/4*
*CSEM **27** 09:31:23.9±0.1, 4009N×2231E, h15km, ML2.3, Error ellipse: s-maj=1.8km s-min=1.4km az=121.0*
*ISCJB **27** 09:31:24.1±0.5, 4005N±003×2227E±004, h18km±6km, Error ellipse: s-maj=4.7km s-min=4.2km az=38.9*
*NEIC **27** 09:31:24.7, 4008N×2236E, h9km, MD3.0(ATH), After THE.*
*THE **27** 09:31:24.7, 4008N×2236E, h9km, ML2.3*
ISC 27 09:31:23.8±0.4, 4009N±002×2231E±003, h17km±4km, n23, σ0§90/43, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.14**	**83**	*e*Pg	**Pg**	**09 31 27.1**	**-0.7**
LIT				*e*Sg	**Sg**	**09 31 29.9**	**-0.6**
KZN	**Kozani**	**0.47**	**299**	*e*PB	**Pb**	**09 31 32.5**	**-1.1**
KZN				*e*SB	**Sb**	**09 31 39.9**	**-0.3**
THL	**Klokotos Trika**	**0.57**	**203**	*e*PN	**Pg**	**09 31 34.2**	**-0.8**
THL				*e*SN	**Sg**	**09 31 42.7**	**+0.1**
THE	**Thessaloniki**	**0.74**	**42**	*e*Pg	**Pg**	**09 31 37.7**	**-0.7**
THE				*e*Sg	**Sg**	**09 31 49.2**	**+1.0**
THE	**Thessaloniki**	**0.74**	**42**	*e*Pg	**Pg**	**09 31 37.7**	**-0.7**
THE				*e*Sg	**Sg**	**09 31 49.2**	**+1.0**
HORT	**Hortiatis**	**0.80**	**50**	*e*Pg	**Pg**	**09 31 39.3**	**0.0**
HORT				*e*Sg	**Sg**	**09 31 49.5**	**-0.4**
GRG	**Griva**	**0.87**	**5**	*e*Pg	**Pg**	**09 31 40.5**	**-0.3**
GRG				*e*Sg	**Sg**	**09 31 54.3**	**+1.9**
MEV	**Metsovon**	**0.88**	**250**	*e*Pg	**Pg**	**09 31 41.0**	**+0.1**
MEV				*e*Sg	**Sg**	**09 31 56.0**	**+3.5**
PLG	**Polygyros**	**0.92**	**71**	*e*Pg	**Pg**	**09 31 41.5**	**-0.2**
PLG				*e*Sg	**Sg**	**09 31 54.9**	**+1.1**
PLG	**Polygyros**	**0.92**	**71**	*e*PN	**Pn**	**09 31 41.2**	**-0.8**
PLG				*e*SN	**Sn**	**09 31 54.7**	**-0.1**
PLG	**Polygyros**	**0.92**	**71**	*e*Pg	**Pg**	**09 31 41.5**	**-0.2**
PLG				*e*Sn	**Sn**	**09 31 54.7**	**-0.1**
PLG				*e*Sg	**Sg**	**09 31 54.9**	**+1.1**
XOR	**Xorichti**	**0.99**	**136**	*e*Pg	**Pg**	**09 31 42.9**	**-0.2**
XOR				*e*Sg	**Sg**	**09 31 56.7**	**+0.6**
NEO	**Neokhori**	**1.05**	**137**	*e*PN	**Pn**	**09 31 43.5**	**-0.3**
NEO				*e*SN	**Sn**	**09 31 58.3**	**+0.3**
AGG	**Agios Georgios**	**1.06**	**179**	*e*Pg	**Pg**	**09 31 44.2**	**-0.1**
AGG				*e*Sg	**Sg**	**09 32 00.3**	**+2.0**
PAIG	**Paliouri**	**1.07**	**98**	*e*Pg	**Pg**	**09 31 43.8**	**-0.7**
PAIG				*e*Sg	**Sg**	**09 31 58.7**	**+0.2**
SOH	**Sokhos**	**1.09**	**47**	*e*Pg	**Pg**	**09 31 44.7**	**-0.2**
SOH				*e*Sg	**Sg**	**09 32 00.2**	**+1.1**
KNT	**Kendrikon**	**1.17**	**23**	*e*Pg	**Pg**	**09 31 45.8**	**-0.6**
KNT				*e*Sg	**Sg**	**09 32 02.9**	**+1.3**
EVR	**Evrytania**	**1.23**	**198**	*e*PN	**Pn**	**09 31 46.7**	**+0.5**
VAY	**Valandovo**	**1.25**	**9**	*e*Pg	**Pg**	**09 31 47.3**	**-0.7**
VAY				*e*Sg	**Sg**	**09 32 05.2**	**+0.8**
OUR	**Ouranopolis**	**1.31**	**78**	*e*Pg	**Pg**	**09 31 47.8**	**-1.2**
SRS	**Serrai**	**1.42**	**43**	*e*Pg	**Pg**	**09 31 50.1**	**-1.1**
SRS				*e*Sg	**Sg**	**09 32 08.9**	**-0.9**
NVR	**Nevrokopi**	**1.73**	**43**	*e*PN	**Pn**	**09 31 55.5**	**+2.4**
MMB	**Musomiste**	**1.85**	**35**	*e*Pb	**Pb**	**09 31 56.2**	**-0.9**

*NIED **27** 09:34:00, 29.30N×13060E, h26km, Mw4.3 Best double couple: M0 2.80000×10^15 NP1:φ=187.00000°, δ=86.00000°, λ=-53.00000°. NP2:φ=282.00000°, δ=38.00000°, λ=-174.00000°.*
*IDC **27** 09:34:53.0±1.0, 2932N×13045E, h0km, mb3.7/5, mb1 4.0/9, mb1mx3.8/25, mbtmp4.0/9, ML3.9/4, MS3.6/6, Ms1 3.6/6, ms1mx3.2/33, Error ellipse: s-maj=25.0km s-min=19.2km az=108.0*
*ISCJB **27** 09:34:57.4±0.5, 2929N±004×13062E±007, h52km±9km, mb3.7/5, MS3.7/4, Error ellipse: s-maj=10.3km s-min=5.2km az=49.4*
*JMA **27** 09:34:57.3±0.1, 2932N×13064E, h29km, M3.7*
*NEIC **27** 09:34:58.8±1.0, 2931N×13049E, h45km±11km, MG4.5(JMA), Error ellipse: s-maj=17.6km s-min=9.3km az=119.0*
ISC 27 09:34:58.9±0.5, 2931N±004×13055E±006, h45km±9km, n26, σ0§58/26, mb3.7/5, MS3.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.79**	**313**	P	**Pn**	**09 35 13.0**	**-0.6**
JNN				S	**Sn**	**09 35 24.6**	**+0.3**
JZK	**Kikaishima**	**1.11**	**207**	P	**Pn**	**09 35 18.1**	**+0.1**
JKC	**Kuchinoerabu**	**1.19**	**345**	*e*S	**Sn**	**09 35 34.7**	**+0.6**
JAM	**Amami Oshima**	**1.22**	**223**	P	**Pn**	**09 35 19.5**	**+0.1**
JAM				*e*S	**Sn**	**09 35 36.4**	**+1.7**
JTN	**Tanegashima 3**	**1.40**	**16**	P	**Pn**	**09 35 21.1**	**-0.8**
JTSR	**Tashiro 2**	**1.88**	**16**	P	**Pn**	**09 35 28.4**	**-0.1**
JTK	**Tokunoshima**	**2.06**	**223**	P	**Pn**	**09 35 31.0**	**-0.1**
JSU	**Suzuyama**	**2.19**	**358**	P	**Pn**	**09 35 32.2**	**-0.6**
JNAR	**Kushima--Naru**	**2.30**	**16**	P	**Pn**	**09 35 34.4**	**+0.1**
JSJ	**Shimokoshiki**	**2.47**	**343**	P	**Pn**	**09 35 37.0**	**+0.4**
JTZ	**Takazaki**	**2.63**	**10**	P	**Pn**	**09 35 38.6**	**-0.2**
JOW	**Kunigami**	**3.18**	**220**	Pn	**Pn**	**09 35 45.8**	**-0.6**
	6.4nm,0.3s,baz=48,slow=8.5,SNR=40						
JOW				Sn	**Sn**	**09 36 22.0**	**-1.0**
	21nm,0.3s,baz=74,slow=26,SNR=6.1						
JOW				LR	LR	09 37 18.9	
	comp=Z,812nm,19.2s,baz=258,slow=47						
JOW	**Kunigami**	**3.18**	**220**	P	**Pn**	**09 35 45.6**	**-0.7**
JIH	**Iheya**	**3.21**	**226**	P	**Pn**	**09 35 46.4**	**-0.4**
JHJ	**Hachijo jima 2**	**8.78**	**62**	Pn	**Pn**	**09 37 03.5**	**+0.4**
	18nm,0.3s,baz=41,slow=14,SNR=3.8						
MAJO	**Matsushiro**	**9.67**	**40**	*e*Pn	**Pn**	**09 37 15.7**	**+0.3**
	3.7nm,0.6s						
MJAR	**Matsushiro Arr**	**9.67**	**40**	Pn	**Pn**	**09 37 15.9**	**+0.5**
	0.6nm,0.3s,baz=244,slow=14,SNR=7.0						

CBIJ	**Chichi jima**	**10.50**	**99**	Pn	**Pn**	**09 37 26.4**	**-0.4**	
	8.9nm,0.3s,baz=275,slow=18,SNR=4.9							
CBIJ				LR	LR	09 41 01.7		
	comp=Z,100nm,22.0s,baz=243,slow=35							
GUMO	**Guam**	**20.52**	**137**	LR	LR	09 45 45.1		
	comp=Z,120nm,19.1s,MS3.3,baz=88,slow=32							
SONM	**Songino Array**	**26.26**	**321**	P	**P**	**09 40 30.2**	**+0.4**	
	0.6nm,0.8s,mb3.2,baz=141,slow=9.3,SNR=3.4							
SONM				LR	LR	09 51 55.4		
	comp=Z,165nm,18.3s,MS3.6,baz=186,slow=39							
WRA	**Warramunga Arr**	**49.10**	**175**	P	**P**	**09 43 42.1**	**+0.3**	
	1.2nm,0.8s,mb4.0,baz=354,slow=8.2,SNR=9.6							
BVAR	**Borovoye Array**	**49.41**	**316**	P	**P**	**09 43 43.3**	**-0.8**	
	1.0nm,0.5s,mb4.1,baz=92,slow=7.2,SNR=4.6							
ASAR	**Alice Springs**	**52.77**	**176**	P	**P**	**09 44 09.9**	**+0.6**	
	0.5nm,0.7s,mb3.5,baz=9.9,slow=11,SNR=12							
AKTO	**Aktyubinsk**	**57.17**	**313**	LR	LR	10 10 25.7		
	comp=Z,107nm,20.2s,MS3.9,baz=105,slow=37							
AFI	**Afiamalu**	**70.30**	**119**	LR	LR	10 15 03.0		
	comp=Z,57nm,18.5s,MS3.9,baz=118,slow=34							
PDAR	**Pinedale Array**	**89.49**	**40**	P	**P**	**09 47 51.1**	**-0.1**	
	0.3nm,0.7s,mb3.7,baz=326,slow=0.5,SNR=3.7							

ISC 27 09:35:10.2±0.9, 4058N±003×3507E±008, h10km, n5, σ0§92/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.21**	**283**	*i* P	**Pg**	**09 35 13.6**	**-1.1**
CTKT				*i* S	**Sg**	**09 35 17.7**	**0.0**
CORM	**Corum**	**0.52**	**220**	PG	**Pg**	**09 35 19.6**	**-0.7**
CORM				SG	**Sg**	**09 35 27.1**	**0.0**
BOYT	**Boyabat**	**0.85**	**352**	*i* P	**Pg**	**09 35 25.5**	**-1.1**
BOYT				*i* S	**Sg**	**09 35 38.0**	**+0.3**
YOZ	**Yozgat**	**0.96**	**168**	PG	**Pg**	**09 35 28.2**	**-0.3**
YOZ				SG	**Sg**	**09 35 41.9**	**+0.9**
BALT	**Daday**	**1.59**	**308**	*i* P	**Pn**	**09 35 39.0**	**+0.6**
BALT				*i* S	**Sn**	**09 36 01.9**	**+3.0**

*ISCJB **27** 09:40:03.7±0.4, 3268S±008×572E±01, h10km, mb4.2/15, MS3.7/8, Error ellipse: s-maj=18.0km s-min=10.4km az=154.5*
*IDC **27** 09:40:03.8±0.7, 3262S×5709E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/26, mbtmp4.2/13, ML5.3/1, MS3.7/8, Ms1 3.7/8, ms1mx3.5/29, Error ellipse: s-maj=28.4km s-min=16.3km az=74.0*
*NEIC **27** 09:40:05.5±0.4, 3265S×57.17E, h10km, mb4.6/4, Error ellipse: s-maj=15.6km s-min=8.6km az=67.0*
ISC 27 09:40:05.3±0.4, 3265S±008×571E±01, h10km, n33, σ0§61/27, mb4.2/15, MS3.7/8, 1D, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.62**	**325**	Pn	**Pn**	**09 43 59.8**	**+1.4**
	12nm,0.3s,baz=125,slow=13,SNR=75						
OPO				Sn	**Sn**	**09 46 52.4**	**-11**
	1.2nm,0.3s,baz=256,slow=13,SNR=3.5						
OPO				T		09 59 01.1	
	0.6nm,0.3s,baz=131,slow=20,SNR=1.7						
OPO	**Ambohidratompo**	**16.62**	**325**	Pn	**Pn**	**09 43 59.8**	**+1.4**
OPO				Sn	**Sn**	**09 46 52.4**	**-11**
BOSA	**Boshof**	**27.65**	**270**	LR	LR	09 54 50.4	
	comp=Z,103nm,18.4s,MS3.4,baz=284,slow=32						
MATP	**Matopo**	**28.26**	**288**	LR	LR	09 56 09.8	
	comp=Z,126nm,18.2s,MS3.5,baz=115,slow=34						
LBTB	**Lobatse**	**28.57**	**277**	LR	LR	09 55 18.1	
	comp=Z,83nm,18.4s,MS3.4,baz=296,slow=32						
LSZ	**Lusaka**	**31.44**	**296**	LR	LR	09 57 00.6	
	comp=Z,115nm,19.7s,MS3.5,baz=188,slow=32						
MAW	**Mawson**	**35.15**	**176**	P	**P**	**09 46 59.4**	**+0.3**
	5.2nm,1.0s,mb4.4,baz=345,slow=9.8,SNR=12						
KMBO	**Kilima Mbogo**	**36.51**	**325**	LR	LR	10 02 47.1	
	comp=Z,83nm,19.0s,MS3.5,baz=86,slow=37						
SYO	**Syowa Base**	**37.74**	**190**	‖*e*P	**P**	**09 47 21.0**	**-0.3**
SNAA	**Sanae**	**49.98**	**201**	P	**P**	**09 48 59.0**	**-0.6**
	1.6nm,0.8s,mb4.1,baz=93,slow=6.1,SNR=24						
SNAA	**Sanae**	**49.98**	**201**	*e*	**P**	**09 48 59.4**	**-0.2**
SNAA				*e*		09 49 08.4	
VNA3	**Neumayer Olymp**	**52.00**	**202**	*e*	**P**	**09 49 15.0**	**+0.2**
VNA3				*e*		09 49 26.9	
VNA3				*e*		09 49 28.7	
VNA3				*e*		09 49 37.7	
QSPA	**South Pole Qui**	**57.52**	**180**	*e*P	**P**	**09 49 54.7**	**-0.1**
	4.3nm,0.7s,mb4.6						
VNDA	**Vanda**	**61.48**	**166**	P	**P**	**09 50 22.3**	**+0.2**
	4.1nm,0.9s,mb4.5,baz=260,slow=6.4,SNR=20						
VNDA				LR	LR	10 13 10.3	
	comp=Z,92nm,19.5s,MS3.9,baz=260,slow=32						
VNDA	**Vanda**	**61.48**	**166**	*e*P	**P**	**09 50 22.3**	**+0.2**
	4.3nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**66.97**	**104**	P	**P**	**09 50 58.9**	**+0.7**
	0.8nm,0.6s,mb4.0,baz=238,slow=5.7,SNR=15						
ASF	**Jabal al Asfar**	**67.25**	**341**	P	**P**	**09 51 00.2**	**+0.3**
	1.2nm,0.3s,mb4.3,baz=324,slow=23,SNR=2.3						
KKM	**Kota Kinabalu**	**67.99**	**67**	*e*P	**P**	**09 50 56.8**	**-7.8**
WRA	**Warramunga Arr**	**69.05**	**101**	P	**P**	**09 51 12.0**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=239,slow=5.4,SNR=24						
WB2	**Warramunga Arr**	**69.06**	**101**	*e*P	**P**	**09 51 11.5**	**+0.2**
WRAB	**Tennant Creek**	**69.06**	**101**	*e*P	**P**	**09 51 10.1**	**-1.2**
	2.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**69.43**	**115**	P	**P**	**09 51 13.8**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=130,slow=7.9,SNR=4.0						
STKA	**Stephens Creek**	**69.43**	**115**	*e*P	**P**	**09 51 14.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**69.82**	**301**	LR	LR	10 19 54.8	
	comp=Z,88nm,20.6s,MS4.0,baz=355,slow=34						
DBIC	**Dimbokro**	**70.62**	**292**	LR	LR	10 18 51.8	
	comp=Z,86nm,21.8s,MS4.0,baz=103,slow=33						
BRTR	**Keskin Array B**	**75.23**	**341**	P	**P**	**09 51 47.2**	**-1.0**
	1.4nm,0.8s,mb4.0,baz=170,slow=7.5,SNR=7.4						
MKAR	**Makanchi Array**	**82.27**	**17**	P	**P**	**09 52 26.8**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=192,slow=11,SNR=4.8						
AKTK	**Aktyubinsk**	**82.73**	**1**	P	**P**	**09 52 28.7**	**-0.6**
AKTO	**Aktyubinsk**	**82.73**	**1**	P	**P**	**09 52 28.7**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=185,slow=11,SNR=4.8						
MLR	**Muntele Rosu**	**82.76**	**338**	P	**P**	**09 52 28.9**	**-0.6**
	1.6nm,0.6s,mb4.2,baz=152,slow=4.1,SNR=3.0						
ZRNK	**Zerenda**	**85.87**	**7**	*e*P	**P**	**09 52 45.1**	**-0.2**
	5.7nm,1.3s,mb4.6						
BVAR	**Borovoye Array**	**86.10**	**8**	P	**P**	**09 52 46.7**	**+0.3**
	2.4nm,0.7s,mb4.5,baz=201,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**149.68**	**352**	PKPbc	PKPbc	09 59 53.7	-1.5
	1.0nm,0.8s,baz=352,slow=3.7,SNR=3.8						

*IDC **27** 09:42:14.6±2.1, 2738N×5250E, h0km, mb3.9/10, mb1 3.9/11, mb1mx3.8/26, mbtmp3.9/11, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx2.7/31, Error ellipse: s-maj=44.5km s-min=23.2km az=160.0*
*ISCJB **27** 09:42:14.8±0.8, 2737N±007×5248E±008, h10km, mb3.9/10, MS3.5/2, Error ellipse: s-maj=10.5km s-min=8.7km az=79.9*
*NEIC **27** 09:42:18.6, 2750N×5277E, h14km, mb3.6/1, ML3.5(THR), After THR.*
*CSEM **27** 09:42:18.3±0.2, 2752N×5265E, h24km, ML3.7, Error ellipse: s-maj=4.6km s-min=2.9km az=31.0*
*THR **27** 09:42:18.5±0.6, 2750N×5276E, h15km±13km, ML3.5*
*TEH **27** 09:42:20.4, 2754N×5256E, h18km, Mn3.7*
ISC 27 09:42:17.2±0.8, 2747N±006×5254E±008, h10km, n34, σ1§37/41, mb3.9/10, MS3.5/2, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.91**	**26**	*e*PG	**Pg**	**09 42 34.0**	**-0.6**
GHIR				AML	AML	09 42 54.4	
	comp=E,2μm,0.4s						
GHIR				AML	AML	09 42 56.7	
	comp=N,1μm,0.6s						
GHIR	**Ghir-Karzin**	**0.91**	**26**	*e*Pg	**Pg**	**09 42 33.0**	**-1.6**
IMOK	**Mook**	**1.58**	**5**	*e*Pn	**Pn**	**09 42 46.2**	**+1.0**
IMOK				*e*Sn	**Sn**	**09 43 06.0**	**+0.3**
ISRV	**Sarvestan**	**1.97**	**15**	*e*Pn	**Pn**	**09 42 51.8**	**+1.2**
IPAR	**Pars**	**2.41**	**11**	*e*Pn	**Pn**	**09 42 57.8**	**+1.2**
IPAR				*e*Sn	**Sn**	**09 43 25.7**	**-0.4**
BNDS	**Bandar-Abbas**	**3.23**	**90**	*e*PN	**Pn**	**09 43 08.1**	**+0.2**
BNDS				*e*SG	**Sg**	**09 43 52.9**	**-7.8**
BNDS				AML	AML	09 44 06.5	
	comp=E,101nm,0.4s						
BNDS				AML	AML	09 44 12.9	
	comp=N,130nm,0.6s						
BNDS	**Bandar-Abbas**	**3.23**	**90**	*e*Pn	**Pn**	**09 43 08.0**	**+0.2**
BNDS				*e*Sg	**Sg**	**09 43 52.0**	**-8.8**

BNDS	**Bandar-Abbas**	**3.23**	**90**	*e*Pn	**Pn**	**09 43 08.1**	**+0.3**	
	SNR=52							
BNDS				*e*Sg	**Sg**	**09 43 52.9**	**-7.9**	
	SNR=90							
IMEH	**Mehriz**	**4.31**	**24**	*e*Pn	**Pn**	**09 43 23.6**	**+0.9**	
KRBR	**Kerman**	**4.47**	**55**	*e*PN	**Pn**	**09 43 25.9**	**+0.9**	
KRBR				AML	AML	09 44 21.5		
	comp=N,58nm,0.6s							
KRBR	**Kerman**	**4.47**	**55**	*e*Pn	**Pn**	**09 43 25.0**	**0.0**	
IBAF	**Bafgh**	**4.88**	**32**	*e*Pn	**Pn**	**09 43 31.2**	**+0.6**	
IBAF				*e*Sn	**Sn**	**09 44 23.7**	**-3.5**	
ICHK	**Chekchek**	**5.03**	**18**	*e*Pn	**Pn**	**09 43 33.7**	**+1.1**	
ICHK				*e*Sn	**Sn**	**09 44 27.9**	**-2.9**	
NASN	**Na'in**	**5.32**	**2**	*e*Pn	**Pn**	**09 43 39.0**	**+2.4**	
IKLH	**Kalahroud**	**5.89**	**352**	*e*Pn	**Pn**	**09 43 45.3**	**+0.8**	
IKLH				*e*Sn	**Sn**	**09 44 47.6**	**-4.5**	
SNGE	**Sanandaj**	**8.80**	**331**	*e*Pn	**Pn**	**09 44 28.0**	**+3.5**	
BR131	**Keskin Array S**	**19.89**	**313**	*e*P	**Pn**	**09 46 49.7**	**-0.6**	
	comp=N,2.2nm,0.7s							
BR131				*e*pP	pP	09 46 55.4	+3.9	
BR131	**Keskin Array S**	**19.89**	**313**	*e*P	**Pn**	**09 46 49.7**	**-0.5**	
	comp=N,2.2nm,0.7s							
BR131				*e*pP	pP	09 46 55.4	+3.9	
BRTR	**Keskin Array B**	**19.89**	**313**	P	**Pn**	**09 46 49.9**	**-0.4**	
	comp=N,0.2nm,0.3s,baz=137,slow=11,SNR=5.5							
BRTR	**Keskin Array B**	**19.89**	**313**	P	**Pn**	**09 46 49.8**	**-0.4**	
AKTK	**Aktyubinsk**	**23.32**	**9**	P	**P**	**09 47 26.6**	**+1.2**	
AKTO	**Aktyubinsk**	**23.32**	**9**	P	**P**	**09 47 26.6**	**+1.2**	
	comp=N,1.8nm,0.6s,mb3.7,baz=184,slow=10,SNR=5.7							
BVAR	**Borovoye Array**	**28.77**	**23**	P	**P**	**09 48 15.0**	**0.0**	
	comp=N,0.9nm,0.5s,mb3.8,baz=193,slow=6.1,SNR=5.5							
AKASG	**Malin Array Be**	**29.20**	**329**	P	**P**	**09 48 17.2**	**-1.5**	
	comp=N,0.8nm,0.5s,mb3.7,baz=118,slow=6.9,SNR=4.6							
ZAL	**Zalesovo**	**35.48**	**33**	P	**P**	**09 49 13.8**	**-0.1**	
	comp=N,1.4nm,0.4s,mb4.2,baz=226,slow=8.3,SNR=5.2							
ZAL	**Zalesovo**	**35.48**	**33**	P	**P**	**09 49 13.8**	**-0.1**	
FINES	**FINESS Array B**	**38.32**	**340**	P	**P**	**09 49 37.2**	**-0.8**	
	comp=N,3.8nm,0.9s,mb4.2,baz=159,slow=11,SNR=5.1							
HFS	**Hagfors**	**41.97**	**332**	P	**P**	**09 50 06.9**	**-1.3**	
	comp=N,1.8nm,0.5s,mb4.0,baz=117,slow=9.0,SNR=6.7							
NB2	**NORSAR Subarra**	**43.49**	**332**	P	**P**	**09 50 19.1**	**-1.5**	
	comp=Z,0.8nm,0.5s,mb3.7,baz=118,slow=7.9							
NOA	**NORSAR Array B**	**43.49**	**332**	P	**P**	**09 50 19.1**	**-1.5**	
	comp=Z,0.8nm,0.6s,mb3.6,baz=137,slow=9.2,SNR=4.1							
NOA				LR	LR	10 08 51.1		
	comp=Z,28nm,20.5s,MS3.1,baz=20,slow=37							
SONM	**Songino Array**	**46.20**	**49**	P	**P**	**09 50 41.3**	**-0.8**	
	comp=Z,0.6nm,0.8s,mb3.6,baz=272,slow=6.7,SNR=5.4							
EKA	**Eskdalemuir Ar**	**48.50**	**321**	P	**P**	**09 50 58.4**	**-1.8**	
	comp=Z,1.0nm,0.5s,mb4.1,baz=104,slow=7.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**49.45**	**264**	P	**P**	**09 51 06.8**	**-0.5**	
	comp=Z,1.2nm,0.6s,mb4.1,baz=53,slow=6.9,SNR=13							
MJAR	**Matsushiro Arr**	**70.97**	**58**	LR	LR	10 28 08.7		
	comp=Z,56nm,19.5s,MS3.8,baz=215,slow=39							

*BER **27** 09:51:30.9±3.1, 6110N×2983E, h0km, ML2.1(NAO), Suspected explosion*
*FIAO **27** 09:51:30.6, 6106N×2983E, h0km, ML2.0, Explosion*
*NAO **27** 09:51:31.7±2.2, 6115N×2977E, ML2.1*
*IDC **27** 09:51:33.7±2.2, 6129N×2960E, h0km, mb1 3.4/3, mb1mx3.2/20, mbtmp3.4/3, ML2.8/3, Error ellipse: s-maj=20.8km s-min=10.2km az=153.0*
HEL 27 09:51:30.8±0.4, 6117N×2990E, h0km, ML2.1(NAO), Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**1.86**	**280**	*e*P	Pn	09 52 03.4	-0.6
FIA0				*e*SG	Sg	09 52 28.4	-2.3
FIA0				*e*RG		09 52 37.3	
FIA0	**FINESS Array S**	**1.86**	**280**	Pg	Pg	09 52 03.5	-3.1
	baz=107,slow=16						
FIA0				Lg		09 52 29.5

WRA	**Warramunga Arr**	**42.45**	**192**	P		P	10 27 19.6	+0.1
	0.5nm,0.7s,baz=16,slow=9.0,SNR=5.6							
ASAR	**Alice Springs**	**46.16**	**192**	P		P	10 27 49.6	+0.4
	0.5nm,0.6s,baz=18,slow=9.3,SNR=10							
STKA	**Stephens Creek**	**53.46**	**182**	P		P	10 28 44.6	-0.2
	2.5nm,0.9s,baz=13,slow=14,SNR=2.9							
ZAL	**Zalesovo**	**54.09**	**322**	P		P	10 28 48.1	-1.4
	1.9nm,0.3s,baz=36,slow=4.8,SNR=3.7							
MKAR	**Makanchi Array**	**54.59**	**313**	P		P	10 28 53.5	+0.4
	0.3nm,0.4s,baz=106,slow=7.1,SNR=4.4							
YKA	**Yellowknife Ar**	**76.30**	**28**	P		P	10 31 13.6	0.0
	0.4nm,0.4s,baz=294,slow=6.1,SNR=4.1							

ISCJB ***27*** *10:54:52.8±1.0,3506N±004×228E±0.1,h10km,Error ellipse: s-maj=13.9km s-min=5.7km az=168.6*
CSEM ***27*** *10:54:54.3±0.1,3514N×2286E,h10km,MD3.4,Error ellipse: s-maj=2.1km s-min=1.0km az=86.0*
NEIC ***27*** *10:54:55.0,3524N×2285E,h19km,MD3.4(ATH),After ATH.*
ATH ***27*** *10:54:55.0,3524N×2285E,h19km±2km,MD3.4/4*
HLW ***27*** *10:54:56.4,3546N×2337E,h33km,Mb3.7*

ISC 27 10:54:54.7±1.0,3515N±004×229E±0.1,h10km,n8,
σ1§25/13,3C,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**1.05**	**107**	*e*PN	**Pn**	**10 55 16.0**	**+0.5**
VAM	**Vamos**	**1.12**	**76**	*e*PN	**Pn**	**10 55 16.3**	**-0.1**
VAM				*e*SN	**Sn**	**10 55 32.1**	**+0.1**
KYTH	**Kithira**	**1.14**	**7**	*e*PN	**Pn**	**10 55 15.0**	**-1.6**
VLI	**Veliai**	**1.57**	**2**	*e*PN	**Pn**	**10 55 22.3**	**-0.2**
VLI				*e*SN	**Sn**	**10 55 43.0**	**+0.1**
SWA2		**6.29**	**159**	⇑P	**Pn**	**10 56 29.4**	**+2.0**
SWA2				S	**Sn**	**10 57 37.6**	**-1.7**
SWA1		**6.34**	**157**	⇑P	**Pn**	**10 56 30.3**	**+2.1**
SWA1				S	**Sn**	**10 57 38.4**	**-2.3**
AWBH		**8.53**	**141**	P	**Pn**	**10 56 58.4**	**+0.2**
HFRF	**Wahat Farafira**	**9.24**	**148**	⇑P	**Pn**	**10 57 08.9**	**+1.0**
HFRF				S	**Sn**	**10 58 46.4**	**-5.5**

IDC 27 11:35:08.6±5.5,682S×15453E,h0km,mb3.4/3,mb1 3.5/3,
mb1mx3.4/12,mbtmp3.4/3,Error ellipse:
s-maj=162.3km s-min=41.0km az=113.0,Bougainville -
Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.54**	**234**	P	P	11 40 19.8	-0.8
	0.4nm,0.4s,baz=58,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**25.95**	**228**	P	P	11 40 43.5	+0.9
	0.1nm,0.3s,baz=58,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**82.96**	**319**	P	P	11 47 36.1	+0.7
	0.5nm,0.8s,baz=111,slow=6.6,SNR=4.2						

IDC ***27*** *11:58:55.4±0.7,2186N×143.11E,h0km,mb4.3/9,*
mb1 4.4/11,mb1mx4.3/19,mbtmp4.3/11,ML4.3/2,MS3.2/4,
Ms1 3.2/4,ms1mx2.8/29,Error ellipse: s-maj=30.7km
s-min=15.6km az=83.0
MOS ***27*** *11:58:58.8±1.5,2189N×14296E,h33km,mb4.7/14,Error ellipse: s-maj=26.3km s-min=10.8km az=111.5*
ISCJB ***27*** *11:58:59.1±0.4,2184N±005×1429E±0.1,h33km,mb4.3/18,*
MS3.8/2,Error ellipse: s-maj=17.0km s-min=7.0km
az=169.2
NEIC ***27*** *11:59:13.4±2.0,2174N×14286E,h150km±18km,mb4.3/9,*
Error ellipse: s-maj=12.2km s-min=6.1km az=87.0
BJI ***27*** *11:59:13.9,2232N×14286E,h150km,mB5.2,mb4.7*

ISC 27 11:59:01.1±0.4,2185N±005×1430E±01,h35km,n51,
σ0§87/48,mb4.3/18,MS3.8/2,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.28**	**352**	Pn	**Pn**	**12 00 16.5**	**-1.0**
	38nm,0.3s,baz=209,slow=5.1,SNR=14						
CBIJ				Sn	**Sn**	**12 01 17.9**	**+0.9**
	6.9nm,0.3s,baz=314,slow=22,SNR=3.8						
CBIJ				LR	LR	12 01 56.3	
	comp=Z,94nm,21.7s,baz=152,slow=34						
GUMO	**Guam**	**8.40**	**167**	LR	LR	12 03 51.7	
	comp=Z,45nm,21.8s,baz=293,slow=35						
MJAR	**Matsushiro Arr**	**15.22**	**345**	Pn	**Pn**	**12 02 31.9**	**-1.5**
	0.3nm,0.3s,baz=166,slow=12,SNR=5.5						
MJAR	**Matsushiro Arr**	**15.22**	**345**	Pn	**Pn**	**12 02 31.9**	**-1.5**
MAJO	**Matsushiro**	**15.22**	**345**	*e*P	**Pn**	**12 02 41.5**	**+8.1**
MAJO				pmax	pmax		
	comp=Z,122nm,2.3s						
MAJO	**Matsushiro**	**15.22**	**345**	*e*Pn	**Pn**	**12 02 41.5**	**+8.1**
	comp=Z,122nm,2.3s						
KLR	**Kul'dur**	**28.75**	**345**	*e*P	**P**	**12 04 51.7**	**-3.6**
SONM	**Songino Array**	**39.11**	**320**	P	**P**	**12 06 25.3**	**+0.3**
	comp=Z,3.4nm,0.6s,mb4.3,baz=130,slow=7.2,SNR=21						
SONM	**Songino Array**	**39.11**	**320**	P	**P**	**12 06 25.3**	**+0.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAK	**Zakamensk**	**42.12**	**322**	*e*P	**P**	**12 06 49.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.0						
WRAB	**Tennant Creek**	**42.38**	**192**	*e*P	**P**	**12 06 51.4**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**42.38**	**192**	*e*P	**P**	**12 06 51.4**	**-0.5**
	comp=Z,5.3nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**42.38**	**192**	*e*P	**P**	**12 06 52.0**	**0.0**
WRA	**Warramunga Arr**	**42.39**	**192**	P	**P**	**12 06 51.8**	**-0.2**
	comp=Z,2.6nm,0.9s,mb3.9,baz=17,slow=9.3,SNR=17						
WRA	**Warramunga Arr**	**42.39**	**192**	P	**P**	**12 06 51.8**	**-0.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**12 06 54.0**	**+0.7**
TLY				*e*		12 07 00.6	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**12 06 54.0**	**+0.6**
	comp=Z,6.7nm,0.9s,mb4.4						
TLY				*e*		12 07 00.6	
AS31	**Alice Springs**	**46.09**	**192**	*e*P	**P**	**12 07 22.1**	**+0.4**
AS31				*e*		12 07 27.8	
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**12 07 21.8**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=17,slow=10,SNR=30						
ASAR				LR	LR	12 26 09.8	
	comp=Z,91nm,18.9s,MS3.8,baz=213,slow=35						
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**12 07 21.8**	**+0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,91nm,18.9s						
WMQ	**Urumqi**	**50.35**	**309**	*e*P	**P**	**12 07 55.0**	**+0.4**
STKA	**Stephens Creek**	**53.44**	**181**	*e*P	**P**	**12 08 17.3**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.44**	**181**	P	**P**	**12 08 17.2**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.4,baz=4.0,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**54.47**	**313**	P	**P**	**12 08 25.7**	**+0.6**
	comp=Z,5.6nm,0.4s,mb4.9,baz=92,slow=8.4,SNR=21						
MKAR	**Makanchi Array**	**54.47**	**313**	P	**P**	**12 08 25.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
NVS	**Novosibirsk**	**55.08**	**322**	*e*P	**P**	**12 08 26.2**	**-3.3**
AAK	**Ala-Archa**	**59.94**	**308**	*e*P	**P**	**12 09 02.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**59.94**	**308**	*e*P	**P**	**12 09 03.7**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.4						
BRVK	**Borovoye**	**62.51**	**319**	*e*P	**P**	**12 09 21.0**	**-0.2**
BRVK				*e*		12 09 40.8	
ZRNK	**Zerenda**	**63.28**	**319**	*e*P	**P**	**12 09 26.0**	**-0.3**
ZRNK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ZRNK	**Zerenda**	**63.28**	**319**	*e*P	**P**	**12 09 25.9**	**-0.3**
	comp=Z,6.5nm,1.0s,mb4.7						
ARU	**Arti**	**69.04**	**324**	*e*P	**P**	**12 10 02.8**	**-0.4**
ARU				*e*	pP	12 10 12.7	-1.3
ARU				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
ARU	**Arti**	**69.04**	**324**	*e*P	**P**	**12 10 02.8**	**-0.4**
	comp=Z,12nm,1.3s,mb4.7						
ARU				*e*	pP	12 10 12.7	-1.3
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**12 10 45.9**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=294,slow=5.9,SNR=7.2						
YKA				LR	LR	12 48 17.0	
	comp=Z,45nm,18.0s,MS3.8,baz=355,slow=39						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**12 10 45.9**	**-1.0**
	comp=Z,1.0nm,0.5s			pmax	pmax		
YKA				MLR	MLR		
	comp=Z,45nm,18.0s						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**12 10 45.9**	**-1.0**
YKA				LR	LR	12 48 17.0	
ARCES	**ARCESS Array B**	**78.73**	**341**	P	**P**	**12 10 59.6**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.3,baz=57,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**78.73**	**341**	P	**P**	**12 10 59.7**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**80.28**	**42**	*e*P	**P**	**12 11 08.8**	**+0.4**
NEW				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NEW	**Newport**	**80.28**	**42**	*e*P	**P**	**12 11 08.8**	**+0.4**
	comp=Z,3.4nm,1.0s,mb4.2						
KIV	**Kislovodsk**	**82.20**	**314**	*i* P	**P**	**12 11 20.4**	**+1.9**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
GNI	**Garni**	**82.22**	**310**	*i* P	**P**	**12 11 20.8**	**+2.2**
GNI				pmax	pmax		
	comp=Z,21nm,1.9s						
IMW	**Indian Meadow**	**86.00**	**44**	*e*P	**P**	**12 11 38.8**	**+0.9**
	comp=Z,3.1nm,0.8s,mb4.6						
RLMT	**Red Lodge**	**86.51**	**43**	*e*P	**P**	**12 11 41.0**	**+0.7**
PDAR	**Pinedale Array**	**87.41**	**45**	P	**P**	**12 11 44.8**	**+0.1**
	comp=Z,0.5nm,0.9s,mb3.8,baz=286,slow=3.3,SNR=2.8						
PV10	**Paradox Valley**	**89.80**	**48**	*e*P	**P**	**12 11 55.7**	**-0.3**
BRTR	**Keskin Array B**	**90.12**	**313**	P	**P**	**12 11 56.6**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.3,baz=76,slow=5.2,SNR=6.5						
BRTR	**Keskin Array B**	**90.12**	**313**	P	**P**	**12 11 56.6**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**150.10**	**85**	PKPbc	PKPbc	12 18 49.1	+1.1
	comp=Z,1.9nm,0.9s,baz=339,slow=4.9,SNR=8.2						
LPAZ				PKPab	PKPab	12 18 55.0	+1.0
	comp=Z,2.8nm,0.8s,baz=107,slow=0.2,SNR=13						
LPAZ	**La Paz**	**150.10**	**85**	PKIKP	PKPdf	12 18 49.2	+6.2
LPAZ						12 18 55.0	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LPAZ	**La Paz**	**150.10**	**85**	*e*PKPbc	PKPbc	12 18 48.0	-0.1
LPAZ				*e*PKPab	PKPab	12 18 55.1	+1.1

PGC 27 12:20:18.6,5040N×13029W,h10km,MLSn2.8/1,Mw3.5,
1C,206km southwest of Pt. Hardy, Bc West of
Vancouver Island, British Columbia,Vancouver Island
region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.40**	**79**	Pn	Pn	12 20 41.9	-2.2
HOLB				Sn	Sn	12 20 59.3	-3.4
	comp=Z,130nm,0.5s						
HOLB				Trac		12 20 59.9	
	comp=Z,130nm,0.5s						
BPBC	**Brooks Peninsu**	**1.64**	**98**	Pn	Pn	12 20 45.3	-2.1
BPBC				Sn	Sn	12 21 04.7	-3.8
	comp=Z,22nm,0.2s						
BPBC				Trac		12 21 05.1	
	comp=Z,22nm,0.2s						
PHC	**Port Hardy**	**1.85**	**79**	⇑Pn	Pn	12 20 48.4	-1.9
PHC				Sn	Sn	12 21 09.8	-3.9
PHC				Trac		12 21 11.2	
	comp=Z,26nm,0.2s						
MAYB	**Maynard**	**2.00**	**89**	Pn	Pn	12 20 50.5	-1.9
MAYB				Sn	Sn	12 21 15.1	-2.3
	comp=Z,22nm,0.4s						
MAYB				Trac		12 21 21.4	
	comp=Z,22nm,0.4s						
EDB	**Eliza Dome**	**2.11**	**103**	Pn	Pn	12 20 52.0	-1.9
EDB				Sn	Sn	12 21 16.3	-3.9
EDB				Trac		12 21 21.4	
	comp=Z,9.0nm,0.5s						
BBB	**Bella Bella**	**2.25**	**37**	Pn	Pn	12 20 53.8	-2.0
BBB				Sn	Sn	12 21 19.4	-4.2
BBB				Trac		12 21 20.6	
	comp=Z,8.0nm,0.2s						
BNB	**Barry Inlet**	**2.36**	**338**	Pn	Pn	12 20 55.2	-2.2
BNB				Sn	Sn	12 21 23.4	-3.0
	comp=Z,343nm,0.5s						
BNB				Trac		12 21 31.2	
	comp=Z,343nm,0.5s						
WOSB	**Woss**	**2.40**	**94**	Pn	Pn	12 20 56.7	-1.2
WOSB				Sn	Sn	12 21 22.2	-5.2
	comp=Z,17nm,0.4s						
WOSB				Trac		12 21 29.8	
	comp=Z,17nm,0.4s						
NCRB	**Newcastle Ridg**	**2.71**	**88**	Pn	Pn	12 21 00.9	-1.3
NCRB				Trac		12 21 38.2	
	comp=Z,23nm,0.5s						
GDR	**Gold River**	**2.81**	**101**	Pn	Pn	12 21 02.3	-1.3
GDR				Sn	Sn	12 21 36.9	-0.6
	comp=Z,9.0nm,0.5s						
GDR				Trac		12 21 40.9	
	comp=Z,9.0nm,0.5s						
MOBC	**Moresby Island**	**2.97**	**341**	Pn	Pn	12 21 04.8	-1.0
MOBC				Sn	Sn	12 21 40.1	-1.3
MOBC				Trac		12 21 42.8	
	comp=Z,6.0nm,0.6s						
BNAB	**Bonilla**	**3.10**	**356**	Pn	Pn	12 21 05.3	-2.3
BNAB				Sn	Sn	12 21 40.5	-4.2
	comp=Z,1.0nm,0.2s						
BNAB				Trac		12 21 42.0	
	comp=Z,1.0nm,0.2s						
CBB	**Campbell River**	**3.19**	**95**	Pn	Pn	12 21 08.1	-0.6
CBB				Sn	Sn	12 21 42.8	-3.9
CBB				Trac		12 21 45.5	
	comp=Z,8.0nm,0.6s						
BTB	**Buttle Lake**	**3.22**	**105**	Pn	Pn	12 21 08.3	-0.9
BTB				Sn	Sn	12 21 43.6	-4.0
	comp=Z,10.0nm,0.4s						
BTB				Trac		12 21 50.4	
	comp=Z,10.0nm,0.4s						
TXB	**Texada**	**3.84**	**98**	Pn	Pn	12 21 18.2	+0.5
TXB				Trac		12 22 08.2	
	comp=Z,4.0nm,0.4s						
MGB	**Mount Grey**	**3.90**	**109**	Pn	Pn	12 21 19.4	+0.9
MGB				Sn	Sn	12 22 01.1	-3.2
	comp=Z,3.0nm,0.4s						
MGB				Trac		12 22 04.9	
	comp=Z,3.0nm,0.4s						
RUBB	**Prince Rupert**	**3.93**	**0**	Pn	Pn	12 21 17.9	-1.0
RUBB				Sn	Sn	12 22 01.2	-3.9
RUBB				Trac		12 22 04.3	
	comp=Z,7.0nm,0.3s						
SHB	**Sechelt**	**4.22**	**99**	Pn	Pn	12 21 22.8	-0.1
SHB				Trac		12 22 44.0	
	comp=Z,8.1nm,0.5s						

ISCJB ***27*** *12:22:07.5±2.0,3325S±007×1799W±03,h100km,mb3.8/2,*
Error ellipse: s-maj=39.4km s-min=10.0km az=5.7
IDC ***27*** *12:22:10.4±8.5,3330S×17981W,h116km±82km,mb3.5/2,*
mb1 3.7/3,mb1mx3.5/12,mbtmp3.9/3,ML3.4/1,Error
ellipse: s-maj=73.1km s-min=54.0km az=170.0

ISC 27 12:22:08.5±2.0,3325S±007×1798W±03,h100km,n19,
σ1§41/20,mb3.8/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.58**	**199**	PN	**Pn**	**12 23 16.8**	**+1.3**
MXZ				SN	**Sn**	**12 24 06.5**	**-1.0**
PUZ	**Puketiti**	**5.07**	**198**	PN	**Pn**	**12 23 23.1**	**+0.9**
PUZ				SN	**Sn**	**12 24 19.1**	**-0.4**
MWZ	**Matawai**	**5.53**	**203**	PN	**Pn**	**12 23 29.4**	**+1.1**
MWZ				SN	**Sn**	**12 24 32.0**	**+1.4**
URZ	**Urewera**	**5.61**	**206**	P	**Pn**	**12 23 30.9**	**+1.6**
	1.3nm,0.3s,baz=228,slow=4.0,SNR=32						
URZ				S	**Sn**	**12 24 33.2**	**+0.8**
	4.4nm,0.3s,baz=161,slow=22,SNR=13						
URZ	**Urewera**	**5.61**	**206**	PN	**Pn**	**12 23 30.0**	**+0.6**
KNZ	**Kokohu**	**6.12**	**199**	PN	**Pn**	**12 23 36.8**	**+0.4**
BKZ	**Black Stump Fm**	**6.63**	**206**	PN	**Pn**	**12 23 42.8**	**-0.5**
TSZ	**Takapari Road**	**7.61**	**205**	PN	**Pn**	**12 23 53.9**	**-2.7**
TIWZ	**Tintock**	**8.28**	**203**	PN	**Pn**	**12 24 02.9**	**-2.8**
MRZ	**Mangatainoka R**	**8.28**	**205**	PN	**Pn**	**12 24 01.9**	**-3.8**
MRZ				*e*SN	Sx	12 25 31.4	
NNZ	**Nelson**	**9.64**	**212**	PN	**Pn**	**12 24 19.9**	**-4.3**
NNZ				SN	Sx	12 26 03.9	
QRZ	**Quartz Range**	**9.74**	**217**	PN	**Pn**	**12 24 22.4**	**-3.2**
QRZ				SN	Sx	12 26 07.9	
THZ	**Tophouse**	**10.29**	**212**	PN	**Pn**	**12 24 28.9**	**-4.1**
THZ				SN	Sx	12 26 19.6	
LTZ	**Lake Taylor**	**11.39**	**211**	PN	**Pn**	**12 24 43.2**	**-4.8**
LTZ				SN	Sx	12 26 42.7	
MQZ	**McQueen's Vall**	**12.00**	**207**	SN	Sx	12 26 54.5	
RPZ	**Rata Peaks**	**12.67**	**212**	SN	Sx	12 27 11.6	
ASAR	**Alice Springs**	**41.54**	**271**	P	**P**	**12 29 46.5**	**+0.5**
	0.9nm,0.4s,mb3.9,baz=109,slow=7.4,SNR=36						
WRA	**Warramunga Arr**	**42.79**	**276**	P	**P**	**12 29 56.4**	**+0.3**
	0.4nm,0.2s,mb3.7,baz=117,slow=8.0,SNR=28						
FINES	**FINESS Array B**	**147.23**	**337**	PKPbc	PKPbc	12 41 38.7	-1.4
	2.2nm,0.9s,baz=64,slow=6.3,SNR=4.5						

IDC 27 12:23:28.7±1.0,2192N×14331E,h0km,mb3.8/4,
mb1 4.0/5,mb1mx3.8/18,mbtmp3.9/5,ML4.2/1,Error
ellipse: s-maj=45.8km s-min=19.3km az=88.0,Mariana
Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.25**	**349**	Pn	Pn	12 24 49.8	+1.4
	20nm,0.3s,baz=310,slow=23,SNR=11						
CBIJ				Sn	Sn	12 25 49.5	-0.1
	4.4nm,0.3s,baz=298,slow=22,SNR=3.1						
SONM	**Songino Array**	**39.24**	**320**	P	P	12 30 58.5	-0.3
	1.1nm,0.5s,baz=130,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**42.52**	**193**	P	P	12 31 27.2	+1.3
	0.8nm,0.7s,baz=16,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**46.23**	**192**	P	P	12 31 54.7	-0.8
	0.6nm,0.6s,baz=14,slow=9.5,SNR=14						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	P	12 35 18.9	+0.2
	0.7nm,0.5s,baz=296,slow=5.9,SNR=6.0						
LPAZ	**La Paz**	**149.80**	**85**	PKPbc	PKPbc	12 43 21.5	+0.9
	0.3nm,0.4s,baz=334,slow=2.7,SNR=2.7						

HLW ***27*** *13:02:47.5,3578N×2487E,h33km,Mb3.4*
ISCJB ***27*** *13:02:52.9±0.8,3504N±003×2423E±006,h15km±7km,*
mb3.8/11,Error ellipse: s-maj=7.9km s-min=4.3km
az=159.1
NEIC ***27*** *13:02:53.0,35.11N×24.17E,h17km,mb4.1/3,ML3.9(ATH),*
After ATH.
ATH ***27*** *13:02:53.0,35.11N×24.17E,h17km±1km,MD3.8/10,ML3.9*
CSEM ***27*** *13:02:54.7±0.1,3500N×2421E,h30km,ML3.9,Error*
ellipse: s-maj=3.2km s-min=2.2km az=77.0
IDC ***27*** *13:02:59.2±3.7,3515N×2416E,h57km±34km,mb3.6/8,*
mb1 3.7/12,mb1mx3.6/23,mbtmp3.8/12,ML4.0/4,Error
ellipse: s-maj=28.5km s-min=23.2km az=145.0

ISC 27 13:02:53.3±0.9,3507N±003×2427E±006,h6km±6km,n43,
σ1§05/50,mb3.8/11,2C-3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.28**	**213**	*e*PB	**Pg**	**13 02 59.0**	**+0.2**
VAM	**Vamos**	**0.34**	**350**	⇑*i*PB	**Pg**	**13 02 59.3**	**-0.6**
VAM				*e*SB	**Sg**	**13 03 04.6**	**+0.3**
NPS	**Neapolis**	**1.11**	**80**	*e*PN	**Pn**	**13 03 15.2**	**-0.2**
XRY	**Khrisi**	**1.19**	**99**	*e*PN	**Pn**	**13 03 16.5**	**+0.1**
KYTH	**Kithira**	**1.57**	**321**	*e*PN	**Pn**	**13 03 21.0**	**-0.7**
SANT	**Santorini**	**1.61**	**36**	*e*Pn	**Pn**	**13 03 21.4**	**-0.9**
SANT				*e*Sn	**Sn**	**13 03 44.2**	**+0.8**
SANT	**Santorini**	**1.61**	**36**	*e*Pn	**Pn**	**13 03 21.4**	**-0.9**
SANT				*e*Sn	**Sn**	**13 03 44.2**	**+0.8**
VLI	**Veliai**	**1.97**	**327**	*e*PN	**Pn**	**13 03 26.9**	**-0.2**
VLI				*e*SN	**Sn**	**13 03 50.7**	**-1.4**
APE	**Apeiranthos**	**2.24**	**27**	*e*PN	**Pn**	**13 03 31.9**	**+1.0**
KARP	**Karpathos**	**2.41**	**78**	*e*PB	**Pb**	**13 03 35.8**	**-1.3**
KVR	**Kavouri**	**2.78**	**352**	*e*PN	**Pn**	**13 03 38.5**	**+0.2**
ATH	**Athens Observa**	**2.93**	**351**	*e*PB	**Pn**	**13 03 41.3**	**+0.9**
PTL	**Penteli**	**2.99**	**354**	*e*PN	**Pn**	**13 03 41.5**	**+0.3**
LKR	**Lokris**	**3.71**	**344**	*e*PN	**Pn**	**13 03 51.2**	**0.0**
PRK	**Paraskevi**	**4.46**	**20**	*e*PN	**Pn**	**13 04 02.2**	**+0.8**
HMAT	**Matruh**	**4.62**	**148**	⇓P	**Pn**	**13 04 00.8**	**-2.9**
HMAT				S	**Sn**	**13 04 54.6**	**-3.1**
THL	**Klokotos Trika**	**4.83**	**339**	*e*PN	**Pn**	**13 04 07.1**	**+0.6**
SWA2		**5.90**	**170**	⇑P	**Pn**	**13 04 21.7**	**+0.5**
SWA2				S	**Sn**	**13 05 30.7**	**+1.6**
SWA1		**5.92**	**168**	⇓P	**Pn**	**13 04 21.9**	**+0.4**
SWA1				S	**Sn**	**13 05 31.0**	**+1.4**
HFRF	**Wahat Farafira**	**8.62**	**155**	⇓P	**Pn**	**13 04 57.6**	**-1.0**
BR131	**Keskin Array S**	**8.78**	**55**	*e*Pn	**Pn**	**13 05 06.9**	**+6.2**
	2.1nm,0.7s						
BR131	**Keskin Array S**	**8.78**	**55**	*e*Pn	**Pn**	**13 05 06.9**	**+6.1**
	2.1nm,0.7s						
BRTR	**Keskin Array B**	**8.78**	**55**	P	**Pn**	**13 05 03.9**	**+3.1**
	0.3nm,0.3s,baz=234,slow=14,SNR=11						
MLR	**Muntele Rosu**	**10.48**	**6**	P	**Pn**	**13 05 25.7**	**+1.6**
	0.2nm,0.3s,baz=210,slow=14,SNR=2.6						
GERES	**GERESS Array B**	**15.82**	**334**	P	**Pn**	**13 06 38.0**	**+1.4**
	0.4nm,0.3s,baz=359,slow=25,SNR=3.6						
AKASG	**Malin Array Be**	**16.03**	**11**	P	**Pn**	**13 06 40.6**	**+1.3**
	1.9nm,0.3s,baz=202,slow=10,SNR=5.8						
HFS	**Hagfors**	**26.00**	**348**	P	**P**	**13 08 25.6**	**-1.3**
	0.9nm,0.4s,mb3.6,baz=170,slow=9.0,SNR=4.0						
FINES	**FINESS Array B**	**26.41**	**2**	P	**P**	**13 08 29.8**	**-0.9**
	1.9nm,0.8s,mb3.6,baz=168,slow=12,SNR=4.9						
FINES	**FINESS Array B**

KEF				*e*S	Sn	13 10 50.3	-1.2	
JOF	**Joensuu**	**2.22**	**31**	*e*P	Pn	13 10 23.4	-0.2	
JOF				*e*S	Sn	13 10 50.2	-1.5	
KJN	**Kajaani**	**3.10**	**351**	*e*P	Pn	13 10 36.8	+1.1	
KJN				*e*S	Sn	13 11 10.8	-2.8	
KJN				*e*SB	Sb	13 11 18.0	-2.0	
HFS	**Hagfors**	**7.51**	**270**	*e*S	Sn	13 12 55.6	-6.7	
HFS				*e*SG		13 13 33.4		
HFS	**Hagfors**	**7.51**	**270**	Pn	Pn	13 11 35.3	-1.1	
comp=Z,0.3nm,0.3s,baz=82,slow=15,SNR=4.6								
HFS	**Hagfors**	**7.51**	**270**	Sn	Sn	13 12 55.6	-6.7	
baz=93,slow=28								
HFS				Lg		13 13 33.4		
baz=85,slow=28								
NB2	**NORSAR Subarra**	**8.55**	**278**	*e*P	Pn	13 11 49.1	-1.6	
NOA	**NORSAR Array B**	**8.55**	**278**	Pn	Pn	13 11 50.0	-0.6	
comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=2.8								
ARA0	**ARCESS Array S**	**8.64**	**352**	Pn	Pn	13 11 51.9	0.0	
baz=170,slow=14								
ARA0	**ARCESS Array S**	**8.64**	**352**	*e*P	Pn	13 11 51.9	0.0	
ARCES	**ARCESS Array B**	**8.64**	**352**	Pn	Pn	13 11 51.8	-0.1	
comp=Z,0.3nm,0.3s,baz=173,slow=12,SNR=10.0								

IDC ***27*** *13:27:37.9±0.8, 1170N×9995E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/30, Error ellipse: s-maj=33.0km s-min=15.7km az=68.0*

ISCJB ***27*** *13:27:40.7±0.5, 1173N±006×1000E±02, h33km, mb4.0/10, Error ellipse: s-maj=24.5km s-min=7.7km az=155.9*

NEIC ***27*** *13:27:42.3±4.5, 1170N×9996E, h29km±34km, mb4.1/2, Error ellipse: s-maj=21.1km s-min=10.3km az=67.0*

ISC 27 13:27:43.1±0.5, 1174N±007×1000E±02, h35km, n16, σ0985/16, mb4.0/10, Gulf of Thailand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**0.89**	**341**	P	**Pn**	**13 27 55.0**	**-4.2**
SNG	**Songkhla**	**4.57**	**173**	P	**Pn**	**13 28 48.5**	**-1.2**
480nm,0.9s							
KULM	**Kulim**	**6.44**	**174**	*e*Pn	**Pn**	**13 29 14.1**	**-1.3**
KULM				*e*Pg	Pn	13 29 39.7	+24
KULM				*e*Sg	Sn	13 31 08.4	+41
PSI	**Prapat**	**8.95**	**187**	Pn	**Pn**	**13 29 51.2**	**+1.4**
1.2nm,0.3s,baz=190,slow=14,SNR=3.3							
PSI				Lg		13 32 25.7	
1.2nm,0.3s,baz=78,slow=21,SNR=2.4							
PSI				LR	LR	13 33 41.1	
comp=Z,336nm,19.6s,baz=115,slow=40							
LZH	**Lanzhou**	**24.49**	**7**	*e*P	**P**	**13 32 57.9**	**-1.0**
LZH				pP		13 33 10.1	
LZH				sP	sP	13 33 14.5	+1.4
SONM	**Songino Array**	**36.38**	**7**	P	**P**	**13 34 45.2**	**+1.3**
3.3nm,0.9s,mb4.2,baz=183,slow=9.0,SNR=21							
MKAR	**Makanchi Array**	**38.02**	**340**	P	**P**	**13 34 58.2**	**+0.4**
0.2nm,0.3s,mb3.3,baz=132,slow=8.8,SNR=3.6							
WRA	**Warramunga Arr**	**46.17**	**133**	P	**P**	**13 36 04.5**	**+0.2**
1.7nm,1.0s,mb3.9,baz=312,slow=9.2,SNR=13							
WRA				PcP	PcP	13 37 39.4	-0.5
0.4nm,0.8s,baz=293,slow=6.3,SNR=6.0							
BVAR	**Borovoye Array**	**47.52**	**336**	P	**P**	**13 36 14.6**	**-0.3**
0.9nm,0.7s,mb3.9,baz=124,slow=7.4,SNR=5.7							
BRVK	**Borovoye**	**47.59**	**336**	*e*P	**P**	**13 36 15.4**	**0.0**
1.2nm,0.6s,mb4.1							
ZRNK	**Zerenda**	**48.03**	**335**	*e*P	**P**	**13 36 18.8**	**-0.1**
1.2nm,0.6s,mb4.1							
ASAR	**Alice Springs**	**48.33**	**137**	P	**P**	**13 36 21.9**	**+0.8**
3.8nm,0.9s,mb4.4,baz=314,slow=6.9,SNR=31							
AKTK	**Aktyubinsk**	**51.63**	**327**	P	**P**	**13 36 46.0**	**-0.1**
AKTO	**Aktyubinsk**	**51.63**	**327**	P	**P**	**13 36 46.0**	**-0.1**
1.0nm,0.8s,mb3.8,baz=122,slow=14,SNR=4.4							
BRTR	**Keskin Array B**	**64.45**	**308**	P	**P**	**13 38 15.7**	**-0.3**
0.9nm,0.7s,mb3.9,baz=117,slow=7.2,SNR=5.4							
BOSA	**Boshof**	**82.53**	**239**	P	**P**	**13 40 03.1**	**+0.8**
3.9nm,1.0s,mb4.4,baz=94,slow=11,SNR=3.0							

IDC 27 13:31:04.9±6.3, 2212N×14447E, h56km±40km, mb3.3/4, mb1 3.5/5, mb1mx3.3/19, mbtmp3.7/5, ML3.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=218.3km s-min=21.2km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.37**	**338**	P	Pn	13 32 23.5	+1.0
7.2nm,0.3s,baz=268,slow=21,SNR=8.6							
CBIJ				S	Sn	13 33 23.4	+0.3
2.4nm,0.3s,baz=278,slow=20,SNR=2.6							
GUMO	**Guam**	**8.49**	**177**	LR	LR	13 35 49.9	
comp=Z,70nm,20.0s,baz=70,slow=34							
SONM	**Songino Array**	**39.79**	**320**	P	P	13 38 32.1	-0.3
0.5nm,0.5s,baz=131,slow=6.3,SNR=5.0							
WRA	**Warramunga Arr**	**42.96**	**194**	P	P	13 38 58.5	+0.1
0.3nm,0.4s,baz=17,slow=9.5,SNR=7.9							
ASAR	**Alice Springs**	**46.66**	**193**	P	P	13 39 28.0	+0.2
0.3nm,0.8s,baz=19,slow=8.8,SNR=4.3							
BVAR	**Borovoye Array**	**63.13**	**319**	P	P	13 41 27.1	+0.3
1.5nm,0.7s,baz=79,slow=7.8,SNR=6.3							

IDC 27 13:32:59.4±3.6, 2204N×14357E, h47km±64km, mb3.4/5, mb1 3.5/6, mb1mx3.4/19, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=262.0km s-min=20.6km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.19**	**346**	P	Pn	13 34 15.4	+1.0
10nm,0.3s,baz=349,slow=22,SNR=5.7							
CBIJ				S	Sn	13 35 13.2	+0.2
3.6nm,0.3s,baz=292,slow=20,SNR=2.4							
SONM	**Songino Array**	**39.30**	**320**	P	P	13 40 23.9	+0.2
0.7nm,0.5s,baz=130,slow=7.3,SNR=6.2							
WRA	**Warramunga Arr**	**42.69**	**193**	P	P	13 40 52.0	+0.4
0.4nm,0.6s,baz=15,slow=9.0,SNR=5.4							
ASAR	**Alice Springs**	**46.39**	**192**	P	P	13 41 20.8	-0.3
0.6nm,0.7s,baz=14,slow=7.7,SNR=4.8							
MKAR	**Makanchi Array**	**54.73**	**312**	P	P	13 42 23.8	-0.1
0.3nm,0.6s,baz=90,slow=9.7,SNR=2.3							
BVAR	**Borovoye Array**	**62.64**	**319**	P	P	13 43 19.1	+0.1
1.6nm,0.6s,baz=88,slow=7.9,SNR=6.7							

BJI ***27*** *13:41:04.0, 2196N×14307E, h20km, mB4.9, mb4.7, Ms4.3, Msz4.0*

MOS ***27*** *13:41:05.8±1.1, 2187N×14298E, h33km, mb5.0/29, Error ellipse: s-maj=15.8km s-min=7.1km az=110.7*

NEIC ***27*** *13:41:05.4±0.3, 2191N×14301E, mb4.8/21, Error ellipse: s-maj=10.8km s-min=6.8km az=90.0*

GCMT ***27*** *13:41:05.4±0.3, 2185N×14306E, h12km, MW4.8/64, Moment Tensor Solution. s11,c12; s64,c87; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.98±.06; Mθθ 0.73±.06; Mϕϕ 1.25±.06; Mrθ -0.66±.31; Mϕθ -0.70±.05; Mϕr 0.57±.30; Best double couple: Mo2.05100×10^16 NP1:ϕs330.00000°, δ33.00000°, λ-82.00000°. NP2: ϕs140.00000°, δ57.00000°, λ-95.00000°. Principal axes: T 1.9210, Plg12.0000°, Azm234.0000°; N 0.2600, Plg5.0000°, Azm143.0000°; P -2.1810, Plg77.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***27*** *13:41:06.1±1.2, 2185N±004×14292E±006, h35km±10km, mb4.6/56, MS4.0/34 Error ellipse: s-maj=9.6km s-min=6.9km az=142.4*

IDC ***27*** *13:41:08.1±3.0, 2188N×14303E, h41km±27km, mb4.2/14, mb1 4.3/16, mb1mx4.3/22, mbtmp4.4/16, ML4.4/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/38, Error ellipse: s-maj=28.0km s-min=12.7km az=85.0*

ISC 27 13:41:08.9±1.1, 2188N±004×14298E±006, h44km±9km, h45km±11.5km; pP-P, n124, σ1909/113, mb4.6/56, MS4.0/34, 2C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.24**	**352**	P	**Pn**	**13 42 23.9**	**-0.9**
64nm,0.3s,baz=275,slow=12,SNR=30							
CBIJ				S	**Sn**	**13 43 23.6**	**-0.2**
4.0nm,0.3s,baz=290,slow=23,SNR=2.7							
GUMO	**Guam**	**8.44**	**167**	LR	LR	13 45 50.5	
comp=Z,660nm,18.9s,baz=168,slow=34							
JOW	**Kunigami**	**14.28**	**293**	LR	LR	13 49 07.3	
comp=Z,697nm,19.0s,baz=254,slow=34							
MJAR	**Matsushiro Arr**	**15.19**	**345**	P	**Pn**	**13 44 38.0**	**-2.4**
0.4nm,0.3s,baz=154,slow=9.5,SNR=4.7							
MJAR				LR	LR	13 50 07.9	
comp=Z,464nm,20.8s,baz=165,slow=36							
MAT	**Matsushiro**	**15.19**	**345**	P	**Pn**	**13 44 41.2**	**+0.8**
SSE	**Sheshan**	**21.53**	**300**	P	**P**	**13 45 51.3**	**-2.9**
SSE				AP		13 45 59.3	
SSE				XP	sP	13 46 03.0	-7.4
SSE				S	**S**	**13 49 39.5**	**-11**
SSE				AMB	AMB		
comp=Z,25nm,0.7s,mb4.8							
SSE				AMB	AMB		
comp=Z,92nm,5.6s							
SSE				LR	LR		
comp=N,126nm,19.2s,MS3.6							
SSE				LR	LR		
comp=E,171nm,19.2s,MS3.6							
SSE				LR	LR		
comp=Z,259nm,16.8s,MS3.7							
ASAJ	**Asahikawa**	**22.18**	**359**	LR	LR	13 54 46.0	
comp=Z,196nm,18.8s,MS3.5,baz=179,slow=37							
VLA	**Vladivostok**	**23.11**	**339**	*i* P	**P**	**13 46 11.7**	**+0.7**
VLA				pmax	pmax		
comp=Z,59nm,1.7s,mb4.7							
NJ2	**Nanjing**	**23.72**	**300**	*e*P	**P**	**13 46 16.3**	**-0.6**
NJ2				PP		13 46 47.8	
NJ2				S	**S**	**13 50 24.0**	**-4.9**
NJ2				AMB	AMB		
comp=Z,30nm,1.0s,mb4.7							
NJ2				AMB	AMB		
comp=Z,290nm,7.4s							
NJ2				LR	LR		
comp=N,510nm,13.6s							
NJ2				LR	LR		
comp=E,800nm,29.2s							
NJ2				LR	LR		
comp=Z,610nm,23.0s							
DL2	**Dalian**	**24.95**	**318**	P	**P**	**13 46 29.3**	**+1.3**
DL2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
YSS	**Yuzh-Sakhalins**	**25.02**	**360**	*e*P	**P**	**13 46 30.0**	**+1.3**
YSS				pmax	pmax		
comp=Z,20nm,1.0s,mb4.6							
YSS				MLR	MLR		
comp=Z,200nm,18.0s,MS3.7							
YSS	**Yuzh-Sakhalins**	**25.02**	**360**	*e*P	**P**	**13 46 29.0**	**+0.4**
comp=Z,23nm,1.1s,mb4.6							
MDJ	**Mudanjiang**	**25.22**	**337**	P	**P**	**13 46 30.5**	**-0.1**
MDJ				AP	pP	13 46 37.3	-4.9
MDJ				XP	sP	13 46 39.5	-7.9
MDJ				AMB	AMB		
comp=Z,7.0nm,1.1s,mb4.1							
MDJ				AMB	AMB		
comp=Z,112nm,3.8s							
MDJ				LR	LR		
comp=N,52nm,16.1s,MS3.5							
MDJ				LR	LR		
comp=E,107nm,19.8s,MS3.5							
MDJ				LR	LR		
comp=Z,155nm,19.8s,MS3.5							
HABR	**Khabarovsk**	**27.28**	**348**	*e*P	**P**	**13 46 48.9**	**-0.3**
HABR				*e*S	**S**	**13 51 27.3**	**+1.8**
HABR				pmax	pmax		
comp=Z,49nm,1.5s,mb4.8							
KLR	**Kul'dur**	**28.71**	**345**	*e*P	**P**	**13 46 57.7**	**-4.2**
QIZ	**Qiongzhong**	**31.14**	**271**	P	**P**	**13 47 21.0**	**-2.4**
QIZ				S	**S**	**13 52 19.5**	**-6.7**
QIZ				AMB	AMB		
comp=Z,31nm,2.6s,mb4.7							
QIZ				LR	LR		
comp=Z,420nm,22.2s,MS4.1							
PMG	**Port Moresby**	**31.36**	**172**	LR	LR	13 58 10.3	
comp=Z,44nm,21.4s,MS3.1,baz=161,slow=33							
HHC	**Hu-ho-hao-te**	**32.57**	**313**	*e*P	**P**	**13 47 37.3**	**+1.3**
HHC				PP	PP	13 48 47.5	-2.6
HHC				PCP	PcP	13 50 22.3	+0.7
HHC				S	**S**	**13 52 46.8**	**-1.6**
HHC				SCP	ScP	13 54 00.0	-1.9
HHC				PCS	PcS	13 54 07.5	+0.8
HHC				SS	SS	13 54 45.8	-24
HHC				SCS	ScS	13 57 58.5	-2.9
HHC				AMB	AMB		
comp=Z,15nm,0.3s,mb5.4							
HHC				AMB	AMB		
comp=Z,196nm,4.8s							
HHC				LR	LR		
comp=N,196nm,11.8s							
HHC				LR	LR		
comp=E,218nm,5.3s							
HHC				LR	LR		
comp=Z,216nm,21.4s							
HNR	**Honiara**	**35.29**	**150**	LR	LR	14 00 31.7	
comp=Z,148nm,18.9s,MS3.8,baz=360,slow=33							
CD2	**Chengdu**	**36.12**	**293**	*e*P	**P**	**13 48 06.5**	**-0.1**
CD2				PP	PP	13 49 29.0	-0.3
CD2				S	**S**	**13 53 40.0**	**-3.1**
CD2				SS	SS	13 56 05.3	-16
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB	AMB		
comp=Z,30nm,5.2s							
CD2				LR	LR		
comp=E,120nm,16.2s							
CD2				LR	LR		
comp=Z,90nm,14.2s,MS3.7							
LZH	**Lanzhou**	**36.79**	**301**	*e*P	**P**	**13 48 15.0**	**+2.6**
LZH				PP	PP	13 49 42.3	+5.6
LZH				AMB	AMB		
comp=Z,19nm,1.2s,mb4.8							
LZH	**Lanzhou**	**36.79**	**301**	*e*P	**P**	**13 48 15.1**	**+2.7**
LZH				*PP	pP	13 48 30.4	+6.1
LZH						13 49 42.2	
LZH	**Lanzhou**	**36.79**	**301**	*e*P	**P**	**13 48 15.1**	**+2.7**
LZH				pP	pP	13 48 30.4	+6.1
LZH				sP	sP	13 48 37.5	+8.0
LZH				PP	PP	13 49 42.2	+5.5
KMI	**Kunming**	**36.95**	**283**	P	**P**	**13 48 14.3**	**+0.5**
KMI				PP	PP	13 49 40.5	+2.0
KMI				S	**S**	**13 53 54.3**	**-1.6**
KMI				SS	SS	13 56 25.5	-13
KMI				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.2							
KMI				AMB	AMB		
comp=Z,94nm,6.3s							
KMI				LR	LR		
comp=N,192nm,20.6s,MS4.1							
KMI				LR	LR		
comp=E,205nm,18.7s,MS4.1							
KMI				LR	LR		
comp=Z,239nm,21.2s,MS4.0							
KMI	**Kunming**	**36.95**	**283**	P	**P**	**13 48 14.2**	**+0.4**
KMI				*PP	pP	13 48 28.6	+3.0
KMI						13 49 40.4	
KMI				S	**S**	**13 53 54.2**	**-1.7**
KMI				SS	SS	13 56 25.5	-13
KMI	**Kunming**	**36.95**	**283**	P	**P**	**13 48 14.2**	**+0.4**
KMI				pP	pP	13 48 28.6	+3.0
KMI				sP	sP	13 48 32.8	+2.0
KMI				PP	PP	13 49 40.4	+1.9
KMI				S	**S**	**13 53 54.2**	**-1.7**
KMI				sS	sS	13 54 18.1	+2.4
KMI				SS	SS	13 56 25.5	-13
CIT	**Chita**	**37.70**	**330**	*e*P	**P**	**13 48 21.1**	**+1.0**
CIT				*e*		13 48 26.1	
CIT				pmax	pmax		
comp=Z,23nm,1.2s,mb4.8							
SONM	**Songino Array**	**39.08**	**320**	P	**P**	**13 48 31.9**	**+0.2**
comp=Z,7.0nm,0.7s,mb4.5,baz=128,slow=7.5,SNR=41							
SONM				LR	LR	14 05 50.1	
comp=Z,195nm,18.9s,MS4.0,baz=155,slow=38							
SONM	**Songino Array**	**39.08**	**320**	P	**P**	**13 48 31.9**	**+0.2**
SONM				pmax	pmax		
comp=Z,7.0nm,0.7s							
SONM				MLR	MLR		
comp=Z,195nm,18.9s							
GTA	**Gaotai**	**40.61**	**305**	*e*P	**P**	**13 48 46.8**	**+2.4**
GTA				AP	pP	13 48 56.0	-0.4
GTA				XP	sP	13 49 00.5	-1.1
GTA				AMB	AMB		
comp=Z,6.0nm,1.6s,mb4.0							
GTA				LR	LR		
comp=N,91nm,16.0s,MS4.0							
GTA				LR	LR		
comp=E,94nm,11.4s,MS4.0							
GTA				LR	LR		
comp=Z,186nm,18.6s							
YAK	**Yakutsk**	**41.16**	**351**	*e*P	**P**	**13 48 47.2**	**-1.7**
YAK				*e*		13 48 53.9	
YAK				pmax	pmax		
comp=Z,27nm,0.9s,mb4.9							
YAK	**Yakutsk**	**41.16**	**351**	*e*P	**P**	**13 48 47.2**	**-1.7**
comp=Z,27nm,0.9s,mb4.9							
YAK				*e*		13 48 53.9	
SEY	**Seymchan**	**41.52**	**6**	*e*P	**P**	**13 48 52.0**	**+0.1**
BOD	**Bodaibo**	**41.60**	**337**	*e*P	**P**	**13 48 51.3**	**-1.2**
CTA	**Charters Tower**	**41.83**	**175**	P	**P**	**13 48 55.1**	**+0.7**
comp=Z,5.8nm,0.8s,mb4.2,baz=349,slow=12,SNR=3.9							
CTA				LR	LR	14 03 44.6	
comp=Z,160nm,20.2s,MS3.9,baz=45,slow=32							
ZAK	**Zakamensk**	**42.09**	**322**	*e*P	**P**	**13 48 56.2**	**-0.3**
ZAK				pmax	pmax		
comp=Z,11nm,1.0s,mb4.4							
WRAB	**Tennant Creek**	**42.40**	**192**	*i* P	**P**	**13 48 59.6**	**+0.5**
WRAB	**Tennant Creek**	**42.40**	**192**	*e*P	**P**	**13 49 00.2**	**+1.1**
comp=Z,7.3nm,0.6s,mb4.5							
WB2	**Warramunga Arr**	**42.41**	**192**	*e*P	**P**	**13 48 58.6**	**-0.6**
WRA	**Warramunga Arr**	**42.41**	**192**	P	**P**	**13 48 58.6**	**-0.6**
comp=Z,4.1nm,0.6s,mb4.3,baz=16,slow=8.9,SNR=58							
WRA				LR	LR	14 05 14.3	
comp=Z,157nm,18.5s,MS3.9,baz=150,slow=34							
IRK	**Irkutsk**	**42.45**	**325**	*e*P	**P**	**13 49 00.0**	**+0.5**
IRK				pmax	pmax		
comp=Z,31nm,2.1s,mb4.6							
TLY	**Talaya**	**42.51**	**324**	*e*P	**P**	**13 48 59.8**	**-0.1**
TLY				*e*		13 49 06.2	
TLY				pmax	pmax		
comp=Z,24nm,1.5s,mb4.7							
TLY	**Talaya**	**42.51**	**324**	*e*P	**P**	**13 48 59.8**	**-0.1**
comp=Z,24nm,1.5s,mb4.7							
TLY				*e*		13 49 06.2	
FITZ	**Fitzroy Crossi**	**43.21**	**204**	*e*P	**P**	**13 49 07.6**	**+2.0**
comp=Z,4.4nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**43.21**	**204**	LR	LR	14 04 13.8	
comp=Z,165nm,20.7s,MS3.9,baz=354,slow=32							
MOY	**Mondy**	**43.96**	**323**	*e*P	**P**	**13 49 13.1**	**+1.5**
MOY				pmax	pmax		
comp=Z,36nm,2.8s,mb4.6							
AS31	**Alice Springs**	**46.12**	**192**	*e*P	**P**	**13 49 28.1**	**-0.7**
ASAR	**Alice Springs**	**46.12**	**192**	P	**P**	**13 49 28.1**	**-0.7**
comp=Z,3.9nm,0.6s,mb4.5,baz=16,slow=9.4,SNR=82							
ASAR				LR	LR	14 07 23.8	
comp=Z,178nm,21.4s,MS4.0,baz=355,slow=34							
ASPA	**Alice Springs**	**46.13**	**192**	*e*P	**P**	**13 49 28.1**	**-0.8**
PSI	**Prapat**	**46.79**	**252**	LR	LR	14 06 38.3	
comp=Z,348nm,19.0s,MS4.3,baz=260,slow=33							
BILL	**Bilibino**	**48.38**	**11**	*i* P	**P**	**13 49 50.8**	**+4.4**
BILL				MLR	MLR		
comp=Z,100nm,17.0s,MS3.9							
DZM	**Mont Dzumac**	**49.31**	**151**	LR	LR	14 07 26.4	
comp=Z,151nm,19.5s,MS4.0,baz=46,slow=32							
WMQ	**Urumqi**	**50.32**	**309**	P	**P**	**13 50 02.8**	**+1.6**
WMQ				PCP	PcP	13 51 21.0	+1.6
WMQ				PPP		13 52 57.0	
WMQ				S	**S**	**13 57 10.0**	**-0.9**
WMQ				SCS	ScS	13 59 45.0	-3.6
WMQ				AMB	AMB		
comp=Z,15nm,1.3s,mb4.9							
WMQ				AMB	AMB		
comp=Z,156nm,4.0s							
WMQ				LR	LR		
comp=N,288nm,16.4s,MS4.5							
WMQ				LR	LR		
comp=E,314nm,19.2s,MS4.5							
WMQ				LR	LR		
comp=Z,318nm,21.7s,MS4.3							
STKA	**Stephens Creek**	**53.47**	**181**	*e*P	**P**	**13 50 23.9**	**-0.7**
comp=Z,3.0nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**53.47**	**181**	P	**P**	**13 50 23.8**	**-0.9**
comp=Z,1.6nm,0.5s,mb4.2,baz=350,slow=8.6,SNR=7.0							
STKA				LR	LR	14 10 45.0	
comp=Z,132nm,21.6s,MS4.0,baz=25,slow=33							
ZAL	**Zalesovo**	**53.96**	**322**	LR	LR	14 16 14.2	
comp=Z,124nm,18.9s,MS4.0,baz=50,slow=39							
MKAR	**Makanchi Array**	**54.44**	**313**	P	**P**	**13 50 31.8**	**0.0**
comp=Z,2.0nm,0.6s,mb4.2,baz=94,slow=8.9,SNR=13							
MKAR	**Makanchi Array**	**54.44**	**313**	P	**P**	**13 50 31.8**	**+0.1**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
NVS	**Novosibirsk**	**55.05**	**322**	*e*P	**P**	**13 50 35.0**	**-1.1**
NVS				*e*		13 51 37.3	
NVS				pmax	pmax		
comp=E,25nm,1.9s							
NVS				pmax	pmax		
comp=Z,25nm,1.9s,mb4.9							
AFI	**Afiamalu**	**56.87**	**125**	LR	LR	14 09 34.1	
comp=Z,65nm,21.4s,MS3.7,baz=298,slow=30							
KBK	**Karagaybulak**	**59.57**	**307**	P	**P**	**13 51 09.2**	**+1.2**
SNR=6.9							
USP	**Ospenovka**	**59.87**	**308**	P	**P**	**13 51 11.0**	**+0.9**
SNR=5.0							
AAK	**Ala-Archa**	**59.91**	**307**	*e*P	**P**	**13 51 10.3**	**0.0**
AAK				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**59.91**	**307**	*e*P	**P**	**13 51 10.2**	**-0.1**
comp=Z,4.7nm,1.0s,mb4.5							
UCH	**Uchtor**	**59.91**	**307**	P	**P**	**13 51 12.4**	**+2.0**
SNR=15							
EKS2	**Erkin-Say**	**60.44**	**308**	P	**P**	**13 51 15.1**	**+1.1**
SNR=7.9							
AML	**Almayashu**	**60.53**	**307**	P	**P**	**13 51 16.4**	**+1.8**
SNR=8.8							
BVAR	**Borovoye Array**	**62.41**	**319**	P	**P**	**13 51 27.2**	**-0.1**
comp=Z,18nm,0.9s,mb5.2,baz=92,slow=7.4,SNR=47							
BVAR	**Borovoye Array**	**62.41**	**319**	P	**P**	**13 51 27.2**	**-0.1**
BVAR				pmax	pmax		
comp=Z,18nm,0.9s							
BRVK	**Borovoye**	**62.48**	**319**	*e*P	**P**	**13 51 27.2**	**-0.5**
BRVK				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
BRVK	**Borovoye**	**62.48**	**319**	*e*P	**P**	**13 51 27.2**	**-0.5**
comp=Z,14nm,1.0s,mb5.1							
KK31	**Karatay Array**	**62.80**	**308**	*i* P	**P**	**13 51 30.1**	**+0.2**
KK31				pmax	pmax		
comp=Z,20nm,1.0s,mb5.2							
ZRNK	**Zerenda**	**63.25**	**319**	*e*P	**P**	**13 51 32.1**	**-0.8**
ZRNK				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
ZRNK	**Zerenda**	**63.25**	**319**	*e*P	**P**	**13 51 32.1**	**-0.8**
comp=Z,14nm,1.0s,mb5.1							
INK	**Inuvik**	**67.48**	**24**	P	**P**	**13 52 00.0**	**-0.2**
comp=Z,2.7nm,1.0s,mb4.2,baz=299,slow=3.1,SNR=3.4							
INK	**Inuvik**	**67.48**	**24**	P	**P**	**13 52 00.0**	**-0.2**
INK				pmax	pmax		
comp=Z,3.0nm,1.0s							
ARU	**Arti**	**69.01**	**324**	*e*P	**P**	**13 52 08.9**	**-0.9**
ARU				pmax	pmax		
comp=Z,17nm,1.1s,mb4.9							
ARU

OBN				*e*			13 56 22.4		
OBN				*e*S	S		14 03 24.5	-2.7	
OBN				*e*SS	SS		14 08 38.6	-4.6	
OBN				pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.8								
OBN				MLR	MLR				
	comp=Z,100nm,19.0s,MS4.2								
BMO	**Blue Mountains**	**81.43**	**45**	*e*P	**P**		**13 53 20.5**	**-0.8**	
BMO				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.3								
BMO	**Blue Mountains**	**81.43**	**45**	*e*P	**P**		**13 53 20.5**	**-0.8**	
	comp=Z,4.0nm,1.0s,mb4.3								
VRSR	**Storozhevoye**	**81.44**	**322**	*e*P	**P**		**13 53 21.4**	**+0.1**	
VRSR				pmax	pmax				
	comp=Z,20nm,0.9s,mb5.0								
VRSR				pmax	pmax				
	comp=N,10.0nm,1.0s								
VRSR				pmax	pmax				
	comp=E,20nm,0.9s								
ZEI	**Tsey**	**81.80**	**313**	*e*P	**P**		**13 53 22.7**	**-0.5**	
ZEI				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5								
WALA	**Waterton Lakes**	**81.92**	**40**	*e*P	**P**		**13 53 24.0**	**+0.1**	
	comp=Z,4.8nm,0.9s,mb4.4								
KIV	**Kislovodsk**	**82.16**	**314**⇓	*e*P	**P**		**13 53 25.7**	**+0.6**	
KIV				pmax	pmax				
	comp=Z,24nm,1.0s,mb5.1								
KIV	**Kislovodsk**	**82.16**	**314**	*e*P	**P**		**13 53 25.6**	**+0.5**	
	comp=Z,13nm,0.8s,mb4.9								
FINES	**FINESS Array B**	**82.94**	**334**	P	**P**		**13 53 27.6**	**-1.5**	
	comp=Z,1.4nm,0.7s,mb4.1,baz=133,slow=8.1,SNR=2.3								
FINES				LR	LR		14 30 42.5		
	comp=Z,100nm,18.9s,MS4.2,baz=326,slow=36								
FINES	**FINESS Array B**	**82.94**	**334**	P	**P**		**13 53 27.7**	**-1.4**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
FINES				MLR	MLR				
	comp=Z,100nm,18.9s								
QLMT	**Earthquake Lak**	**85.25**	**43**	*e*P	**P**		**13 53 41.2**	**+0.3**	
QLMT				*e*			13 53 47.5		
FFC	**Flin Flon**	**85.77**	**32**	*e*P	**P**		**13 53 42.5**	**-1.0**	
FFC				*e*			13 53 48.3		
FFC				pmax	pmax				
	comp=Z,23nm,1.0s,mb5.4								
FFC	**Flin Flon**	**85.77**	**32**	*e*P	**P**		**13 53 42.5**	**-1.0**	
	comp=Z,23nm,1.0s,mb5.4								
FFC				*e*			13 53 48.3		
RRI2	**Red Ridge**	**85.98**	**45**	*e*P	**P**		**13 53 49.6**	**+5.1**	
	comp=Z,7.1nm,1.1s,mb4.8								
IMW	**Indian Meadow**	**85.98**	**44**	*e*P	**P**		**13 53 44.6**	**0.0**	
	comp=Z,5.1nm,0.9s,mb4.8								
RLMT	**Red Lodge**	**86.49**	**42**	*e*P	**P**		**13 53 47.7**	**+0.6**	
RLMT				*e*			13 53 53.5		
HWUT	**Hardware Ranch**	**86.59**	**46**	*e*P	**P**		**13 53 48.1**	**+0.6**	
	comp=Z,9.7nm,1.2s,mb4.9								
ARUT	**Antelope Range**	**86.94**	**50**	*e*P	**P**		**13 53 51.0**	**+1.7**	
AKASG	**Malin Array Be**	**87.25**	**324**	P	**P**		**13 53 48.4**	**-2.4**	
	comp=Z,0.9nm,0.5s,mb4.3,baz=47,slow=4.7,SNR=8.3								
AKASG	**Malin Array Be**	**87.25**	**324**	P	**P**		**13 53 48.4**	**-2.3**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
PDAR	**Pinedale Array**	**87.40**	**45**	P	**P**		**13 53 51.5**	**0.0**	
	comp=Z,0.7nm,0.8s,mb3.9,baz=233,slow=0.7,SNR=5.1								
PDAR				LR	LR		14 25 11.8		
	comp=Z,137nm,21.4s,MS4.3,baz=294,slow=30								
MSU	**Marysvale**	**87.53**	**49**	*e*P	**P**		**13 53 53.5**	**+1.4**	
PV10	**Paradox Valley**	**89.79**	**48**	*e*P	**P**		**13 54 02.6**	**-0.1**	
BRTR	**Keskin Array B**	**90.08**	**313**	LR	LR		14 37 01.0		
	comp=Z,45nm,19.9s,MS3.9,baz=288,slow=37								
SMCO	**Snowmass**	**90.82**	**47**	*e*P	**P**		**13 54 07.7**	**+0.1**	
	comp=Z,6.7nm,1.0s,mb4.9								
RKT	**Rikitea**	**91.51**	**114**	*e*LR	LR		14 22 54.2		
	comp=Z,152nm,33.8s								
SDCO	**Great Sand Dun**	**92.53**	**48**	*e*P	**P**		**13 54 16.4**	**+1.0**	
	comp=Z,9.1nm,1.6s,mb5.0								
VRAC	**Vranov**	**94.62**	**328**	LR	LR		14 41 11.3		
	comp=Z,87nm,19.3s,MS4.2,baz=2.2,slow=38								
ATD	**Arta Tunnel**	**94.97**	**284**	LR	LR		14 36 03.7		
	comp=Z,52nm,18.1s,MS4.0,baz=80,slow=35								
GERES	**GERESS Array B**	**96.33**	**329**	P	**P**		**13 54 31.6**	**-1.3**	
	comp=Z,0.4nm,0.5s,mb4.1,baz=61,slow=11,SNR=4.2								
GERES				LR	LR		14 42 14.2		
	comp=Z,93nm,18.1s,MS4.3,baz=237,slow=38								
SCHQ	**Schefferville**	**99.44**	**17**	LR	LR		14 45 48.7		
	comp=Z,67nm,18.8s,MS4.2,baz=71,slow=39								
VNDA	**Vanda**	**99.81**	**176**	LR	LR		14 37 24.6		
	comp=Z,59nm,19.5s,MS4.1,baz=322,slow=34								
PLCA	**Paso Flores**	**146.02**	**131**	PKPbc	PKPbc		14 00 42.0	-1.8	
	comp=Z,1.1nm,0.5s,baz=238,slow=1.6,SNR=4.7								
PLCA	**Paso Flores**	**146.02**	**131**	PKIKP	PKPdf		14 00 42.1	-0.9	
PLCA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
LPAZ	**La Paz**	**150.11**	**85**	PKPbc	PKPbc		14 00 55.8	+0.9	
	comp=Z,3.0nm,0.9s,baz=270,slow=3.1,SNR=11								
LPAZ	**La Paz**	**150.11**	**85**	*e*PKPbc	PKPbc		14 00 55.6	+0.8	
LPAZ				*e*PKPab	PKPab		14 01 01.9	+1.1	

JMA 27 13:41:45.9±0.2, 2557N×12327E, h182km, M3.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.13**	**192**	P	Pn	13 42 15.0	+0.2
YOJ				S	Sn	13 42 37.2	+0.2
IRIF	**Iriomote-Funau**	**1.30**	**161**	P	Pn	13 42 16.0	-0.2
IRIF				S	Sn	13 42 39.4	-0.2
JIJ	**Ishigaki jima**	**1.44**	**146**	P	Pn	13 42 17.3	-0.1
JIJ				S	Sn	13 42 41.0	-0.8
JKRS	**Kuro-shima**	**1.49**	**153**	P	Pn	13 42 18.0	+0.1
JKRS				S	Sn	13 42 42.5	-0.1
HATJ	**Hateruma jima**	**1.58**	**162**	P	Pn	13 42 18.8	0.0
HATJ				S	Sn	13 42 44.5	+0.3
JTJ	**Tarama**	**1.59**	**125**	P	Pn	13 42 19.2	+0.3
JTJ				S	Sn	13 42 44.7	+0.3
JMJ	**Miyako jima 2**	**1.98**	**112**	P	Pn	13 42 23.4	+0.5
JMJ				S	Sn	13 42 51.7	+0.2
JOGS	**Gusukube**	**2.10**	**112**	P	Pn	13 42 24.8	+0.7
JOGS				S	Sn	13 42 54.2	+0.4
JKE	**Kume jima 2**	**3.25**	**76**	P	Pn	13 42 37.3	-0.4
JKE				S	Sn	13 43 17.5	-0.6
JAGN	**Aguni-jima**	**3.71**	**73**	P	Pn	13 42 42.3	-1.1
JAGN				S	Sn	13 43 25.5	-2.8
NAH1	**Naha**	**4.03**	**80**	S	Sn	13 43 32.3	-3.2
JJT2	**Tamagusuku 2**	**4.08**	**81**	P	Pn	13 42 47.1	-0.9
JIH	**Iheya**	**4.46**	**70**	P	Pn	13 42 51.2	-1.7
JIH				S	Sn	13 43 40.9	-4.5
JOW	**Kunigami**	**4.67**	**73**	P	Pn	13 42 53.3	-2.3
JOW				S	Sn	13 43 43.7	-6.5
JTK	**Tokunoshima**	**5.54**	**65**	P	Pn	13 43 03.7	-3.2
JTK				S	Sn	13 44 04.5	-6.0
JAM	**Amami Oshima**	**6.32**	**62**	*e*S	Sn	13 44 22.6	-6.3
JMZ	**Minamidaito 2**	**7.18**	**86**	P	Pn	13 43 26.2	-2.1
JMZ				S	Sn	13 44 39.7	-10

*ISCJB **27** 13:41:51.8±4.5, 464N±0.3×1533E±0.3, h21km±29km, mb3.9/3, Error ellipse: s-maj=68.0km s-min=11.8km az=111.1*
*MOS **27** 13:41:52.1±2.7, 4629N×15348E, h49km, mb4.4/3, Error ellipse: s-maj=22.4km s-min=21.4km az=4.0*
*IDC **27** 13:41:55.4±11.0, 47.13N×15288E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.9/4, ML3.5/1, Error ellipse: s-maj=265.5km s-min=45.8km az=140.0*
ISC 27 13:41:51.4±6.2, 462N±04×1534E±03, h17km±33km, n11, σ0≤65/12, mb3.9/3, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**258**⇓	*i*PN	**Pn**	**13 42 52.0**	**-0.2**
KUR				*i* S	**Sn**	**13 43 38.4**	**-0.6**
KUR				pmax	pmax		
	comp=N,50nm,0.5s						
KUR				pmax	pmax		
	comp=Z,170nm,0.5s						
KUR				smax			
	comp=N,230nm,0.6s						
KUR				smax			
	comp=E,80nm,0.6s						
SKR	**Severo-Kuril's**	**4.80**	**21**	*e*PN	**Pn**	**13 43 02.0**	**-0.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**7.95**	**258**	Pn	**Pn**	**13 43 50.3**	**+4.2**
	comp=Z,0.6nm,0.3s,baz=74,slow=13,SNR=5.5						
ASAJ	**Asahikawa**	**7.95**	**258**	PN	**Pn**	**13 43 50.3**	**+4.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.89**	**289**	*e*P	**Pn**	**13 45 21.7**	**+0.6**
MKAR	**Makanchi Array**	**47.38**	**298**	P	**P**	**13 50 25.0**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=69,slow=7.1,SNR=8.6						
MKAR	**Makanchi Array**	**47.38**	**298**	*i* P	**P**	**13 50 25.0**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NB2	**NORSAR Subarra**	**68.79**	**341**	P	**P**	**13 52 53.7**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**13 52 54.8**	**+0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=26,slow=6.2,SNR=4.8						
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**13 52 54.8**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**72.11**	**326**	P	**P**	**13 53 15.4**	**+0.6**
	comp=Z,0.3nm,0.2s,mb3.8,baz=30,slow=5.7,SNR=5.0						

IDC 27 13:47:05.4±5.5, 2185N×14317E, h37km±47km, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=55.6km s-min=18.9km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**350**	Pn	Pn	13 48 22.6	+0.6
	20nm,0.3s,baz=282,slow=20,SNR=10						
CBIJ				Sn	Sn	13 49 20.7	-1.0
	5.0nm,0.3s,baz=275,slow=23,SNR=2.8						
SONM	**Songino Array**	**39.21**	**320**	P	P	13 54 29.9	0.0
	1.5nm,0.6s,baz=131,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**42.43**	**192**	P	P	13 54 56.3	-0.1
	1.5nm,0.9s,baz=16,slow=9.0,SNR=9.1						
ASAR	**Alice Springs**	**46.13**	**192**	P	P	13 55 26.2	+0.2
	0.4nm,0.6s,baz=14,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**54.59**	**313**	P	P	13 56 30.0	+0.1
	0.8nm,0.6s,baz=93,slow=8.3,SNR=6.1						
BVAR	**Borovoye Array**	**62.55**	**319**	P	P	13 57 25.2	-0.1
	2.7nm,0.6s,baz=92,slow=6.8,SNR=14						
LPAZ	**La Paz**	**149.93**	**85**	PKPbc	PKPbc	14 06 53.1	+1.5
	1.3nm,0.9s,baz=270,slow=5.1,SNR=4.8						

*CSEM **27** 14:27:12.8, 35.18N×3.70W, h2km, MD2.6, After CNRM*
*CNRM **27** 14:27:12.8, 35.18N×3.70W, h2km, MD2.6*
MDD 27 14:27:11.4±1.0, 3520N×395W, h0km, mbLg1.5/1, Error ellipse: s-maj=11.0km s-min=5.2km az=84.0, PRXIMO SIN SOLUCIN, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.03**	**17**	*i* P	Pg	14 27 16.0	+4.2
MPAL				*i* S	Sg	14 27 19.5	+7.3
TOU	**Touzarine**	**0.29**	**146**	*i* P	Pg	14 27 16.5	-0.4
TOU				*i* S	Sg	14 27 20.5	-0.1
EALB	**Alboran**	**1.05**	**45**	P	Pg	14 27 30.7	-0.8
	0.9nm,0.4s,SNR=7.9						
EALB				S	Sg	14 27 45.8	+0.7
	4.1nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.13**	**190**	*i* P	Pg	14 27 35.0	+2.0
TZK				*i* S	Sg	14 27 49.0	+1.4
EMIJ	**Mijas**	**1.52**	**334**	P	Pn	14 27 37.9	-1.9
	1.6nm,0.2s,SNR=7.9						
EMIJ				S	Sg	14 27 53.9	-6.1
	1.3nm,0.2s,SNR=7.9						

*FUNV **27** 14:53:37.4, 1166N×6198W, h8km, MW2.8*
*ISCJB **27** 14:53:38.2±1.0, 1163N±004×6200W±004, h81km±11km, Error ellipse: s-maj=6.8km s-min=5.4km az=63.6*
*TRN **27** 14:53:38.5, 1163N×6196W, h85km, MD3.2*
ISC 27 14:53:38.9±1.0, 1163N±004×6199W±004, h79km±11km, n15, σ0≤71/28, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.62**	**31**	*e*P	**Pn**	**14 53 54.3**	**+0.6**
GRW				*e*S	**Sn**	**14 54 04.8**	**+0.2**
GRHS	**Sauteurs**	**0.68**	**29**	*e*P	**Pn**	**14 53 54.5**	**+0.2**
GRHS				*e*S	**Sn**	**14 54 05.6**	**-0.1**
GRSS	**Sisters**	**0.76**	**29**	*e*P	**Pn**	**14 53 55.4**	**+0.3**
GRSS				*e*S	**Sn**	**14 54 07.7**	**+0.5**
GRIC	**Isle de Caille**	**0.76**	**31**	*e*P	**Pn**	**14 53 55.3**	**+0.2**
GRIC				*e*S	**Sn**	**14 54 06.6**	**-0.6**
TCE	**Chacachacare**	**0.95**	**166**⇑	*i*P	**Pn**	**14 53 58.0**	**+0.8**
TCE				*e*S	**Sn**	**14 54 10.9**	**-0.1**
GRCU	**Cariacou**	**0.99**	**32**	*e*P	**Pn**	**14 53 57.4**	**-0.3**
GRCU				*e*S	**Sn**	**14 54 12.1**	**+0.3**
GUIV	**Guiria**	**1.00**	**194**	*e*P	**Pn**	**14 53 56.5**	**-1.4**
GUIV				*e*S	**Sn**	**14 54 11.0**	**-1.1**
TRN	**Trinidad (W)**	**1.13**	**149**	*e*P	**Pn**	**14 53 59.7**	**+0.3**
TRN				*e*S	**Sn**	**14 54 15.2**	**+0.5**
ITEV	**Isla Los Testi**	**1.16**	**257**	*e*P	**Pn**	**14 53 58.9**	**-0.9**
ITEV				*e*S	**Sn**	**14 54 14.3**	**-1.1**
TPR	**Prospect**	**1.26**	**110**	*e*P	**Pn**	**14 54 00.6**	**-0.5**
TPR				*e*S	**Sn**	**14 54 17.9**	**+0.1**
BOT	**Bacolet**	**1.32**	**110**⇓	*e*P	**Pn**	**14 54 01.6**	**-0.3**
TBH	**Brigand Hill**	**1.45**	**141**	*e*P	**Pn**	**14 54 02.4**	**-1.0**
CRUV	**Carupano**	**1.55**	**233**	*e*P	**Pn**	**14 54 05.0**	**+0.2**
CRUV				*e*S	**Sn**	**14 54 26.2**	**+1.8**
GUNV	**Guanoco**	**1.73**	**213**	*e*P	**Pn**	**14 54 07.6**	**+0.5**
GUNV				*e*S	**Sn**	**14 54 29.9**	**+1.2**
CUPV	**Cœpira**	**4.05**	**248**	*e*P	**Pn**	**14 54 39.0**	**+0.6**
CUPV				*e*S	**Sn**	**14 55 24.0**	**-0.6**

*IDC **27** 15:04:49.5±0.7, 2192N×14308E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx2.6/39, Error ellipse: s-maj=31.0km s-min=14.9km az=80.0*
*NEIC **27** 15:04:51.0±0.4, 2198N×143.14E, h10km, mb4.5/2, Error ellipse: s-maj=20.0km s-min=7.6km az=82.0*
*BJI **27** 15:04:51.0, 2178N×142.49E, h10km, mB5.2, mb4.6, Ms4.3, Msz4.1*
*ISCJB **27** 15:04:52.3±3.3, 2193N±005×1430E±0.1, h28km±24km, mb4.4/28, Error ellipse: s-maj=21.1km s-min=8.3km az=166.8*
*MOS **27** 15:04:53.5±1.3, 2199N×14293E, h33km, mb4.6/21, Error ellipse: s-maj=22.3km s-min=8.6km az=107.4*
ISC 27 15:04:56.2±1.7, 2195N±006×1431E±02, h45km±15km, n62, σ1≤17/57, mb4.4/28, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.18**	**351**	Pn	**Pn**	**15 06 10.7**	**-0.4**
	21nm,0.3s,baz=289,slow=17,SNR=12						
CBIJ				Sn	**Sn**	**15 07 11.1**	**+1.5**
	20nm,0.3s,baz=124,slow=23,SNR=4.9						
JOW	**Kunigami**	**14.31**	**293**	LR	LR	15 12 45.8	
	comp=Z,262nm,19.0s,baz=132,slow=33						
MJAR	**Matsushiro Arr**	**15.13**	**345**	Pn	**Pn**	**15 08 24.0**	**-2.9**
	0.3nm,0.3s,baz=153,slow=14,SNR=3.8						
SSE	**Sheshan**	**21.55**	**300**	P	**P**	**15 09 37.0**	**-4.6**
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
SSE				AMB	AMB		
	comp=Z,133nm,5.4s						
SSE	**Sheshan**	**21.55**	**300**	P	**P**	**15 09 36.9**	**-4.7**
NJ2	**Nanjing**	**23.75**	**300**	*e*P	**P**	**15 10 02.3**	**-2.0**
NJ2				AP		15 10 11.3	
NJ2				XP	sP	15 10 15.0	-6.4
NJ2				PP		15 10 35.0	
NJ2				PPP		15 10 44.0	
NJ2				S	**S**	**15 14 12.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,430nm,4.9s						
NJ2				LR	LR		
	comp=N,410nm,18.8s						
NJ2				LR	LR		
	comp=E,850nm,24.4s						
NJ2				LR	LR		
	comp=Z,490nm,14.9s						
YSS	**Yuzh-Sakhalins**	**24.94**	**360**	*i* P	**P**	**15 10 17.5**	**+2.3**
YSS				pmax	pmax		
	comp=Z,24nm,2.4s,mb4.3						
HABR	**Khabarovsk**	**27.23**	**348**	*e*P	**P**	**15 10 40.2**	**+4.4**
HABR				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.4						
KLR	**Kul'dur**	**28.66**	**344**	*e*P	**P**	**15 10 46.6**	**-2.0**
SONM	**Songino Array**	**39.07**	**320**	P	**P**	**15 12 19.5**	**+0.7**
	comp=Z,2.3nm,0.5s,mb4.2,baz=130,slow=7.3,SNR=25						
SONM	**Songino Array**	**39.07**	**320**	P	**P**	**15 12 19.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YAK	**Yakutsk**	**41.10**	**350**	*i* P	**P**	**15 12 35.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
SEY	**Seymchan**	**41.45**	**6**	*i* P	**P**	**15 12 38.8**	**+0.4**
ZAK	**Zakamensk**	**42.07**	**322**	*e*P	**P**	**15 12 44.4**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.0						
TLY	**Talaya**	**42.49**	**324**	*i* P	**P**	**15 12 45.8**	**-1.1**
WRAB	**Tennant Creek**	**42.49**	**192**	*e*P	**P**	**15 12 48.6**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,291nm,1.0s						
WRAB	**Tennant Creek**	**42.49**	**192**	*e*P	**P**	**15 12 48.6**	**+1.6**
	comp=Z,291nm,1.0s						
WB2	**Warramunga Arr**	**42.50**	**192**	*e*P	**P**	**15 12 46.9**	**-0.1**
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**15 12 46.6**	**-0.4**
	comp=Z,4.4nm,0.5s,mb4.2,baz=18,slow=9.4,SNR=26						
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**15 12 46.6**	**-0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**46.21**	**192**	*e*P	**P**	**15 13 17.0**	**+0.3**
ASAR	**Alice Springs**	**46.21**	**192**	P	**P**	**15 13 16.1**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=19,slow=11,SNR=28						
ASAR	**Alice Springs**	**46.21**	**192**	P	**P**	**15 13 16.2**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BILL	**Bilibino**	**48.29**	**11**	*e*P	**P**	**15 13 32.4**	**-0.5**
BILL				*e*		15 14 56.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
WMQ	**Urumqi**	**50.33**	**309**	P	**P**	**15 13 50.5**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,147nm,3.9s						
STKA	**Stephens Creek**	**53.54**	**182**	P	**P**	**15 14 12.3**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.2,baz=0.0,slow=8.1,SNR=3.1						
STKA	**Stephens Creek**	**53.54**	**182**	P	**P**	**15 14 12.3**	**-0.1**
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**15 14 15.3**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.3,baz=357,slow=7.2,SNR=11						
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**15 14 15.3**	**0.0**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**53.95**	**322**	P	**P**	**15 14 15.3**	**0.0**
MKAR	**Makanchi Array**	**54.44**	**313**	P	**P**	**15 14 19.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=84,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**54.44**	**313**	*i* P	**P**	**15 14 20.2**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVS	**Novosibirsk**	**55.03**	**322**	*e*P	**P**	**15 14 20.9**	**-2.2**
NVS				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.9						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
AAK	**Ala-Archa**	**59.92**	**307**	*i* P	**P**	**15 14 58.8**	**+1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**62.40**	**319**	P	**P**	**15 15 14.5**	**+0.1**
	comp=Z,6.4nm,0.5s,mb5.0,baz=92,slow=7.3,SNR=9.1						
BVAR	**Borovoye Array**	**62.40**	**319**	P	**P**	**15 15 14.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BRVK	**Borovoye**	**62.46**	**319**	*e*P	**P**	**15 15 15.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**62.46**	**319**	*e*P	**P**	**15 15 15.5**	**+0.7**
	comp=Z,3.6nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**63.24**	**319**	*e*P	**P**	**15 15 20.3**	**+0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**63.24**	**319**	*e*P	**P**	**15 15 20.3**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.5						
INK	**Inuvik**	**67.38**	**24**	P	**P**	**15 15 47.0**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=209,slow=7.6,SNR=3.0						
INK	**Inuvik**	**67.38**	**24**	P	**P**	**15 15 47.0**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**67.38**	**24**	P	**P**	**15 15 47.0**	**+0.2**
ARU	**Arti**	**68.99**	**324**⇓	*i*P	**P**	**15 15 56.7**	**-0.1**
ARU				*e*		15 16 18.6	
ARU				*e*		15 18 24.7	
ARU				*e*PPP		15 20 03.7	
ARU				*e*S	S	15 25 00.6	+2.3
ARU				*e*SS	SS	15 29 29.6	+5.2
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**15 16 40.2**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.3,baz=294,slow=5.9,SNR=8.7						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**15 16 40.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**15 16 40.2**	**0.0**
JOF	**Joensuu**	**80.03**	**334**	*ep*	**P**	**15 17 00.2**	**-0.7**
	comp=Z,4.1nm,0.5s,mb4.6						
OBN	**Obninsk**	**81.21**	**326**	*e*P	**P**	**15 17 06.6**	**-0.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KIV	**Kislovodsk**	**82.16**	**314**	*e*P	**P**	**15 17 14.7**

comp=Z,1μm,20.9s,baz=114,slow=39
PMG Port Moresby 14.03 113 *c i*P **Pn 15 12 42.2 +1.2**
PMG Port Moresby 14.03 113 *e*Pn **Pn 15 12 42.0 +0.9**
PMG LR LR 15 18 41.5
PCI Palu 14.57 282 P **Pn 15 12 49.1 +0.8**
122nm,0.9s
WRAB Tennant Creek 15.81 179 *i* P **Pn 15 13 02.1 -2.7**
WRAB Tennant Creek 15.81 179 *e*P **Pn 15 13 01.7 -3.1**
WB2 Warramunga Arr 15.81 179 *e*P **Pn 15 13 02.7 -2.2**
WRA Warramunga Arr 15.81 179 Pn **Pn 15 13 01.6 -3.3**
1.0nm,0.3s,baz=353,slow=13,SNR=31
WRA Sn **Sn 15 15 46.9 -14**
0.3nm,0.3s,baz=0.9,slow=24,SNR=6.1
WRA Lg 15 17 44.6
baz=7.1,slow=29,SNR=2.5
WRA LR LR 15 19 53.2
comp=Z,1μm,18.1s,baz=5.0,slow=40
WRA Warramunga Arr 15.81 179 P **Pn 15 13 01.6 -3.3**
WRA pmax pmax
comp=Z,1.0nm,0.3s
WRA MLR MLR
comp=Z,1μm,18.1s
FITZ Fitzroy Crossi 16.24 210 *e*P **Pn 15 13 05.5 -5.0**
comp=Z,54nm,0.6s
FITZ *e*S **Sn 15 15 56.2 -15**
FITZ Fitzroy Crossi 16.24 210 Pn **Pn 15 13 05.6 -4.9**
comp=Z,2.5nm,0.3s,baz=36,slow=12,SNR=53
FITZ Sn **Sn 15 15 55.0 -16**
comp=Z,2.0nm,0.3s,baz=184,slow=15,SNR=12
TSM Tawau 18.19 297 P **Pn 15 13 37.0 +2.1**
AS31 Alice Springs 19.52 180 *e*P **Pn 15 13 50.9 -0.1**
AS31 *e*S Sn 15 17 06.9 -24
ASAR Alice Springs 19.52 180 P **Pn 15 13 50.9 -0.1**
comp=Z,2.9nm,0.3s,baz=359,slow=11,SNR=124
ASAR S **Sn 15 17 22.6 -8.0**
comp=Z,0.3nm,0.3s,baz=359,slow=27,SNR=4.5
ASAR LR LR 15 22 01.0
comp=Z,1μm,18.3s,baz=4.1,slow=39
ASAR Alice Springs 19.52 180 P **Pn 15 13 50.9 -0.1**
ASAR S **Sn 15 17 22.6 -8.0**
ASAR pmax pmax
comp=Z,3.0nm,0.3s
ASAR MLR MLR
comp=Z,1μm,18.3s
ASPA Alice Springs 19.52 181 *e*P **Pn 15 13 50.9 -0.1**
ASPA *e*S Sn 15 17 06.9 -24
CTA Charters Tower 19.88 144⇓ *i*P **Pn 15 13 55.9 +0.6**
comp=Z,59nm,1.1s
CTA Charters Tower 19.88 144 P **Pn 15 13 56.1 +0.8**
comp=Z,114nm,1.1s,baz=319,slow=11,SNR=22
CTA Lg 15 19 51.9
comp=Z,13nm,1.0s,baz=225,slow=19,SNR=3.2
CTA LR LR 15 22 44.5
comp=Z,1μm,18.1s,baz=334,slow=40
CTAO Charters Tower 19.88 144 *e*P **Pn 15 13 55.8 +0.5**
CTAO pmax pmax
comp=Z,113nm,1.1s
CTAO Charters Tower 19.88 144 *e*P **Pn 15 13 55.8 +0.5**
comp=Z,113nm,1.1s
KMMI Kalianget 20.25 261 P **P 15 13 52.8 -4.9**
comp=Z,423nm,1.4s
KKM Kota Kinabalu 20.46 299 P **P 15 14 00.7 +0.6**
KKM Kota Kinabalu 20.46 299 *e*P **P 15 14 00.7 +0.6**
GUMO Guam 20.52 31 LR LR 15 21 37.8
comp=Z,322nm,20.4s,MS3.7,baz=188,slow=36
MBWA Marble Bar 22.01 218 *e*P **P 15 14 17.4 +0.6**
comp=Z,128nm,1.1s,mb5.3
KSM Kuching 24.38 283 *e*P **P 15 14 41.5 +0.7**
BJII Banjamegara 24.47 261 P **P 15 14 39.4 -2.2**
comp=Z,28nm,1.4s,mb4.6
LEM Lembang 26.49 263 P **P 15 14 59.9 0.0**
comp=Z,87nm,1.1s,mb5.3
FORT Forrest 27.20 191 *e*P **P 15 15 06.9 +0.6**
comp=Z,27nm,0.6s,mb5.2
STKA Stephens Creek 28.58 167 *e*P **P 15 15 19.0 +0.4**
comp=Z,15nm,0.9s,mb4.8
STKA Stephens Creek 28.58 167 P **P 15 15 18.9 +0.2**
comp=Z,21nm,0.9s,mb4.9,baz=2.0,slow=8.6,SNR=12
STKA LR LR 15 28 21.7
comp=Z,886nm,19.1s,MS4.4,baz=339,slow=40
JOW Kunigami 31.19 350 LR LR 15 25 52.7
comp=Z,752nm,21.8s,MS4.3,baz=139,slow=32
KGM Kluang 31.33 281 P **P 15 15 43.9 +1.0**
CBIJ Chichi jima 31.92 14 LR LR 15 27 04.0
comp=Z,134nm,18.2s,MS3.7,baz=204,slow=33
QIZ Qiongzhong 33.09 315 P **P 15 16 00.8 +2.4**
QIZ AP 15 16 09.8
QIZ XP sP 15 16 13.5 +15
QIZ S **S 15 21 13.0 -5.3**
QIZ XS sS 15 21 35.0 +17
QIZ AMB AMB
comp=Z,27nm,2.2s,mb4.8
PPI Padang Panjang 33.84 275 P **P 15 16 07.1 +2.1**
comp=Z,70nm,1.0s,mb5.5
IPM Ipoh 34.09 284 P **P 15 16 07.8 +0.6**
PSI Prapat 35.79 280 P **P 15 16 19.8 -2.0**
comp=Z,14nm,0.8s,mb4.8,baz=159,slow=7.6,SNR=4.8
PSI Prapat 35.79 280 P **P 15 16 19.8 -2.0**
PSI pmax pmax
comp=Z,14nm,0.8s,mb4.8
DZM Mont Dzumac 36.12 123 P **P 15 16 27.7 +3.1**
comp=Z,12nm,0.9s,mb4.7,baz=275,slow=19,SNR=3.2
SSE Sheshan 37.04 341 P **P 15 16 34.0 +1.6**
SSE AP 15 16 43.3
SSE XP sP 15 16 46.8 +14
SSE S **S 15 22 19.8 +0.7**
SSE XS sS 15 22 34.5 +15
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,122nm,5.9s
SSE LR LR
comp=N,65nm,16.9s,MS4.1
SSE LR LR
comp=E,239nm,16.9s,MS4.1
SSE Sheshan 37.04 341 P **P 15 16 34.0 +1.6**
SSE pP 15 16 43.2
SSE sP sP 15 16 46.8 +14
SSE S **S 15 22 19.8 +0.7**
SSE sS sS 15 22 34.5 +15
SSE SS SS 15 25 03.0 +2.2
NJ2 Nanjing 38.70 339 *e*P **P 15 16 45.0 -1.5**
NJ2 AP 15 16 54.8
NJ2 XP sP 15 16 59.0 +12
NJ2 PP PP 15 18 18.8 +3.9
NJ2 S **S 15 22 38.0 -6.3**
NJ2 XS sS 15 22 57.0 +13
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
NJ2 AMB AMB
comp=Z,250nm,6.8s
NJ2 LR LR
comp=N,470nm,24.0s
NJ2 LR LR
comp=E,460nm,16.7s
NJ2 LR LR
comp=Z,420nm,15.4s
WHN Wuhan 39.22 333 P **P 15 16 54.0 +3.2**
GYA Guiyang 40.29 320⇑ *i*P **P 15 16 59.8 +0.1**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
MJAR Matsushiro Arr 40.55 5 P **P 15 17 01.0 -0.9**
comp=Z,1.9nm,0.8s,mb3.9,baz=172,slow=8.6,SNR=4.9
MJAR LR LR 15 30 55.8
comp=Z,361nm,19.4s,MS4.2,baz=195,slow=32
CHTO Chiang Mai 41.38 304 *e*P **P 15 17 07.9 -0.9**
CHTO pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
CHTO Chiang Mai 41.38 304 *e*P **P 15 17 07.9 -0.9**
comp=Z,6.0nm,0.9s,mb4.3
KMI Kunming 42.03 315 P **P 15 17 14.5 +0.4**
KMI S **S 15 23 22.7 -11**
KMI AMB AMB
comp=Z,11nm,1.5s,mb4.4
KMI LR LR
comp=Z,224nm,28.1s,MS3.9
KMI Kunming 42.03 315 P **P 15 17 14.6 +0.5**
KMI S **S 15 23 22.7 -11**
XAN Xi'an 44.70 330 P **P 15 17 34.8 -0.8**
XAN AP 15 17 49.3
XAN AMB AMB
comp=Z,10.0nm,1.4s,mb4.5
CN2 Changchun 48.25 352 *e*P **P 15 18 06.0 +2.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.1
CN2 LR LR
comp=N,300nm,11.0s,MS4.7
CN2 LR LR
comp=E,300nm,11.0s,MS4.7
CN2 LR LR
comp=Z,300nm,17.0s
ASAJ Asahikawa 48.54 8 P **P 15 18 05.0 -0.7**
comp=Z,7.2nm,0.9s,mb4.7,baz=195,slow=12,SNR=3.6
ASAJ Asahikawa 48.54 8 P **P 15 18 05.0 -0.7**
ASAJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ Mudanjiang 48.60 356 P **P 15 18 05.5 -0.7**
MDJ S **S 15 25 13.8 +4.8**
MDJ AMB AMB
comp=Z,14nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,22nm,3.4s
MDJ LR LR
comp=E,164nm,24.1s
MDJ Mudanjiang 48.60 356 P **P 15 18 05.1 -1.1**
comp=E,17nm,1.0s,mb5.0
LZH Lanzhou 48.92 327 *e*P **P 15 18 09.0 +0.3**
LZH AP 15 18 17.0
LZH XP sP 15 18 21.0 +12
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,128nm,4.0s
HHC Hu-ho-hao-te 49.19 337 *e*P **P 15 18 13.0 +2.2**
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,90nm,3.9s
HABR Khabarovsk 52.29 1 *e*P **P 15 18 32.7 -1.5**
GTA Gaotai 53.52 327 *e*P **P 15 18 44.0 +0.7**
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,90nm,3.8s
GTA LR LR
comp=N,153nm,18.2s,MS4.3
GTA LR LR
comp=E,188nm,15.2s,MS4.3
GTA LR LR
comp=Z,144nm,17.1s,MS4.1
SONM Songino Array 57.08 338 P **P 15 19 08.2 -0.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=150,slow=6.5,SNR=5.3
SONM LR LR 15 41 16.2
comp=Z,177nm,20.8s,MS4.2,baz=148,slow=34
HYB Hyderabad 58.79 293 *i* P **P 15 19 20.0 -0.9**
MOY Mondy 62.23 337 *e*P **P 15 19 45.1 +0.7**
WMQ Urumqi 63.27 324⇑ *i*P **P 15 19 52.3 +1.0**
WMQ AMB AMB
comp=Z,22nm,0.9s,mb5.3
WMQ AMB AMB
comp=Z,183nm,3.8s
BOD Bodaibo 63.74 348 *e*P **P 15 19 53.6 -0.9**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.6
CASY Casey 64.29 190 *e*P **P 15 19 58.2 +0.1**
YAK Yakutsk 65.96 358 *e*P **P 15 20 07.9 -1.1**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.2
YAK Yakutsk 65.96 358 *e*P **P 15 20 07.5 -1.5**
comp=Z,34nm,0.7s,mb5.7
MKAR Makanchi Array 68.09 324 P **P 15 20 21.9 -0.6**
comp=Z,8.4nm,0.7s,mb5.1,baz=112,slow=8.0,SNR=25
MKAR Makanchi Array 68.09 324‖ *e*P **P 15 20 22.5 0.0**
SEY Seymchan 68.21 9 *i* P **P 15 20 23.1 -0.1**
MIR Mirnyy 68.59 196⇑ *i*P **P 15 20 28.0 +2.4**
MIR *i* 15 20 40.0
MIR *i* 15 20 51.0
MIR pmax pmax
comp=Z,200nm,1.0s
ZAL Zalesovo 70.83 332 P **P 15 20 38.1 -1.3**
comp=Z,2.7nm,0.9s,mb4.4,baz=356,slow=6.7,SNR=12
ZAL LR LR 15 52 13.1
comp=Z,148nm,18.3s,MS4.3,baz=356,slow=36
ZAL Zalesovo 70.83 332 P **P 15 20 38.1 -1.3**
ZAL pmax pmax
comp=Z,3.0nm,0.9s
ZAL MLR MLR
comp=Z,149nm,18.3s
AAK Ala-Archa 71.00 318 *e*P **P 15 20 39.7 -0.8**
AAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
AAK Ala-Archa 71.00 318 *e*P **P 15 20 39.7 -0.8**
comp=Z,8.7nm,1.3s,mb4.7
NVS Novosibirsk 72.10 332⇑ *i*P **P 15 20 45.9 -1.2**
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb5.0
NVS pmax pmax
comp=E,11nm,1.5s
VNDA Vanda 74.92 174 P **P 15 21 03.0 -0.7**
comp=E,5.6nm,0.8s,mb4.6,baz=318,slow=5.9,SNR=16
VNDA LR LR 15 55 25.9
comp=E,270nm,18.1s,MS4.6,baz=346,slow=37
VNDA Vanda 74.92 174 P **P 15 21 03.0 -0.7**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA MLR MLR
comp=Z,270nm,18.2s
VNDA Vanda 74.92 174 *e*P **P 15 21 02.5 -1.1**
VNDA LR LR 15 55 25.9
BILL Bilibino 75.35 12 *e*P **P 15 21 06.2 0.0**
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.2
SBA Scott Base 75.75 173 *e*P **P 15 21 09.1 +0.6**
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SBA Scott Base 75.75 173 *e*P **P 15 21 09.1 +0.6**
comp=Z,3.5nm,0.8s,mb4.5
PPT Papeete 75.78 107 *e*LR LR 15 44 30.0
comp=Z,198nm,23.5s
TBI Tubuai 75.98 113 *e*LR LR 15 44 35.3
comp=Z,190nm,30.8s
BVAR Borovoye Array 77.80 326 P **P 15 21 19.3 -0.7**
comp=Z,3.5nm,0.7s,mb4.6,baz=120,slow=6.0,SNR=16
BVAR Borovoye Array 77.80 326 P **P 15 21 19.3 -0.7**
BVAR pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 77.87 326 *e*P **P 15 21 19.4 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BRVK Borovoye 77.87 326 *e*P **P 15 21 19.4 -1.1**
comp=Z,6.6nm,1.0s,mb4.7
ZRNK Zerenda 78.54 326 P **P 15 21 22.8 -1.3**
ZRNK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ZRNK Zerenda 78.54 326 P **P 15 21 22.8 -1.3**
comp=Z,8.2nm,1.0s,mb4.7
MAW Mawson 79.19 202 *e*P **P 15 21 28.6 +0.9**
comp=Z,5.8nm,0.7s,mb4.7
MAW Mawson 79.19 202 P **P 15 21 27.8 +0.1**
comp=Z,7.3nm,0.9s,mb4.7,baz=349,slow=5.2,SNR=12
MAW LR LR 15 51 28.4
comp=Z,38nm,20.0s,MS3.7,baz=243,slow=32
MAW Mawson 79.19 202 *e*P **P 15 21 28.6 +0.9**
MAW pmax pmax
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 84.38 328 *e*P **P 15 21 54.8 -0.3**
SVE *e* 15 22 02.0
SVE pmax pmax
comp=Z,36nm,15.0s
KDAK Kodiak Island 84.59 31 P **P 15 21 58.4 +2.2**
comp=Z,19nm,0.8s,mb5.4,baz=82,slow=6.0,SNR=6.3
KDAK LR LR 15 56 30.7
comp=Z,217nm,18.8s,MS4.6,baz=145,slow=33
ARU Arti 85.39 327 *e*P **P 15 21 57.4 -2.8**
ARU *e* 15 25 15.6
ARU *e*PPP 15 27 15.8
ARU *e*S S 15 32 19.0 -13
ARU *e*SS SS 15 37 59.4 -7.3
OPO Ambohidratompo 85.80 252 P **P 15 22 02.7 +0.5**
comp=Z,3.6nm,0.9s,mb4.5,baz=102,slow=7.6,SNR=4.5
QSPA South Pole Qui 85.92 180 *e*P **P 15 22 02.2 -0.6**
IMA2 Indian Mountai 86.54 23 *e*P **P 15 22 08.3 +2.4**
RKT Rikitea 89.30 113 *e*LR LR 15 50 44.7
comp=Z,127nm,23.2s
KMBO Kilima Mbogo 96.74 268 LR LR 16 03 49.2
comp=Z,92nm,18.2s,MS4.3,baz=91,slow=34
OBN Obninsk 97.59 325 *e*P **P 15 22 56.7 -0.5**
OBN *e*S SKSac 15 33 34.6 -1.3
OBN *e*SS SS 15 41 01.9 -0.8
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb5.2
TORD Torodi Ar. Bea 132.14 284 PKP PKPdf 15 28 36.3 -0.4
comp=Z,1.2nm,0.8s,baz=55,slow=1.7,SNR=7.1
LVC Limon Verde 145.27 141 *e*PKP PKPdf 15 29 03.3 +2.7
CPUP Villa Florida 147.86 160 PKPbc PKPbc 15 29 07.9 0.0
comp=Z,1.6nm,0.5s,baz=197,slow=5.2,SNR=6.5
CPUP Villa Florida 147.86 160 *e*PKPdf PKPdf 15 29 05.5 +0.6
CPUP PKPbc PKPbc 15 29 07.9 0.0
LPAZ La Paz 150.16 133 PKPbc PKPbc 15 29 14.4 +0.7
comp=Z,5.4nm,1.0s,baz=326,slow=2.4,SNR=9.4
LPAZ La Paz 150.16 133 *e*PKPdf PKPdf 15 29 11.7 +3.1
LPAZ PKPbc PKPbc 15 29 14.4 +0.7
ROSC El Rosal 151.66 87 PKPbc PKPbc 15 29 21.3 +4.0
comp=Z,21nm,0.8s,baz=122,slow=19,SNR=7.5
SDV Santo Domingo 154.98 78 PKPdf PKPdf 15 29 15.9 +0.2

CSEM ***27*** *15:31:52.0±0.1, 67.15N×2105E, h1km, ML2.5, Error ellipse: s-maj=3.6km s-min=3.1km az=76.0, Mining explosion.*
UPP ***27*** *15:31:53.7, 6709N×2093E, h7km, ML2.5, Mining explosion.*
NAO ***27*** *15:31:54.5±1.0, 6699N×2151E, ML2.1*
BER ***27*** *15:31:56.2±4.0, 6703N×2111E, h0km, ML1.9, ML2.1(NAO), Suspected explosion*
HEL 27 15:31:54.3±0.1, 6708N×2093E, h0km, ML2.5, ML2.5(UPP), **ML1.9**(BER), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**287**	*i* P		Pg	15 31 56.5	-0.6
DUNU	**Dundret**	**0.15**	**287**	P		Pg	15 31 56.5	-0.6
MASU	**Masugnsbyn**	**0.56**	**47**	*i* P		Pg	15 32 04.2	-0.9
ERTU	**Ertsjaerv**	**0.72**	**136**	*i* P		Pg	15 32 07.7	-0.5
PAJU	**Pajala**	**0.86**	**93**	*i* P		Pg	15 32 08.9	-1.8
KUA	**Kurravaara**	**0.91**	**346**	*e*P		Pg	15 32 10.3	-1.5
SALU	**Saltoluokta**	**0.99**	**289**	*e*P		Pg	15 32 12.2	-1.1
LANU	**Lannavaara**	**1.06**	**22**	*e*P		Pg	15 32 12.7	-1.9
NIKU	**Nikkaluokta**	**1.08**	**318**	*e*P		Pg	15 32 13.5	-1.5
KALU	**Kalix**	**1.56**	**140**	P		Pn	15 32 21.9	-1.4
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P		Pn	15 32 22.1	-1.7
LILU	**Lilltraesk**	**1.85**	**194**	*e*P		Pn	15 32 26.4	-0.9
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P		Pn	15 32 28.8	+0.3
KIF				*e*S		Sn	15 32 55.1	+1.6
KTK1	**Kautokeino**	**2.13**	**23**	*e*P		Pn	15 32 31.7	+0.6
KTK1				*e*SG		Sg	15 33 00.6	-2.1
KTK1				AML		AML	15 33 04.3	
comp=Z,18nm,0.1s								
SGF	**Sodankyl**	**2.21**	**78**	*e*P		Pn	15 32 32.0	-0.2
SGF				*e*S		Sn	15 33 01.6	+1.5
SGF				*e*SG		Sg	15 33 03.6	-1.6
SGF				MSG			15 33 04.9	
comp=Z,25nm,0.2s								
BURU	**Burvik**	**2.51**	**176**	*e*P		Pn	15 32 36.3	-0.1
SVAU	**Svanoeiden**	**2.66**	**193**	*e*P		Pn	15 32 37.8	-0.6
TRO	**Tromso**	**2.67**	**345**	*e*S		Sn	15 33 13.9	+2.3
MOR8	**Moi Rana**	**2.74**	**254**	*e*P		Pn	15 32 38.6	-0.9
MOR8				*e*SG		Sg	15 33 15.5	-6.9
MOR8				AML		AML	15 33 22.7	
comp=Z,8.6nm,0.1s								
OUL	**Oulu**	**2.85**	**132**	*e*P		Pn	15 32 43.1	+2.2
OUL				*e*S		Sn	15 33 16.9	+0.9
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn		Pn	15 32 42.6	-0.5
baz=215,slow=14								
ARA0				Sn		Sn	15 33 20.1	+0.4
baz=216,slow=28								
ARA0	**ARCESS Array S**	**3.00**	**32**	*e*P		Pn	15 32 42.6	-0.5
ARA0				*e*S		Sn	15 33 20.1	+0.4
LOF	**Lofoten**	**3.02**	**294**	*e*		Sg	15 33 31.9	+0.6
LOF				AML		AML	15 33 40.4	
comp=Z,7.5nm,0.2s								
LOF	**Lofoten**	**3.02**	**294**	*e*Sg		Sg	15 33 31.9	+0.6
LOF				AML		AML	15 33 40.4	
comp=Z,7.5nm,0.2s								
UMAU	**Umeaa**	**3.21**	**182**	*e*P		Pn	15 32 45.5	-0.5
STOK	**Stokkvaagen**	**3.23**	**260**	*e*		Sg	15 33 39.2	+1.1
STOK				AML		AML	15 33 41.3	
comp=Z,9.0nm,0.9s								
STOK	**Stokkvaagen**	**3.23**	**260**	*e*Sg		Sg	15 33 39.2	+1.1
STOK				AML		AML	15 33 41.3	
comp=Z,9.0nm,0.9s								
BREU	**Bredtraesk**	**3.35**	**198**	*e*P		Pn	15 32 47.5	-0.4
NSS	**Namsos**	**4.49**	**239**	*e*S		Sn	15 33 56.5	+0.1
APA0	**Apatity Array**	**4.70**	**78**	Pn		Pn	15 33 04.7	-1.7
baz=260,slow=12								
APA0	**Apatity Array**	**4.70**	**78**	*e*P		Pn	15 33 04.7	-1.7
FIA0	**FINESS Array S**	**6.08**	**156**	*e*P		Pn	15 33 23.6	-1.9
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn		Pn	15 33 43.5	-0.1
baz=27,slow=14								
NB2	**NORSAR Subarra**	**7.40**	**220**	*e*P		Pn	15 33 43.5	-0.1
HFS	**Hagfors**	**7.67**	**208**	Pn		Pn	15 33 46.0	-1.3
baz=23,slow=12								
HFS				Sn		Sn	15 35 11.3	-3.7
baz=32,slow=28								
HFS	**Hagfors**	**7.67**	**208**	*e*P		Pn	15 33 46.0	-1.3
HFS				*e*S		Sn	15 35 11.3	-3.7

ISCJB ***27*** *15:39:58.3±0.9, 4796N×007×1526E±0.1, h119km±8km, mb4.0/21, Error ellipse: s-maj=14.6km s-min=7.3km az=96.0*
MOS ***27*** *15:40:00.0±1.3, 4795N×1528E, h139km, mb3.9/4, Error ellipse: s-maj=14.1km s-min=10.1km az=90.1*
NEIC ***27*** *15:40:01.5±0.6, 4784N×1527E, mb4.2/3, Error ellipse: s-maj=13.6km s-min=11.4km az=168.0*
IDC ***27*** *15:40:02.1±1.0, 4793N×1527E, h138km±7km, mb3.7/17, mb1 3.8/18, mb1mx3.8/24, mbtmp4.1/18, Error ellipse: s-maj=16.1km s-min=12.9km az=142.0*
ISC 27 15:39:59.7±0.8, 4797N±007×1527E±01, h118km±7km, h140km±1.4km: pP-P, n52, σ1.9 06/54, mb4.0/21, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.53**	**38**	*e*PN		**Pn**	**15 40 55.0**	**+2.1**
SKR				*e*S		**Sn**	**15 41 29.0**	**-5.1**
SKR				smax				
comp=N,400nm,0.4s								
KUR	**Kuril'sk**	**4.29**	**232**	*e*PN		**Pn**	**15 41 03.0**	**-0.1**
KUR				*e*S		**Sn**	**15 41 52.5**	**+0.2**
KUR				pmax	pmax			
comp=Z,80nm,0.7s								
KUR				smax				
comp=N,170nm,0.7s								
KUR				smax				
comp=E,60nm,0.7s								
PET	**Petropavlovsk**	**6.34**	**35**	*e*PN		**Pn**	**15 41 29.9**	**-0.8**
PET				*e*S		**Sn**	**15 42 40.4**	**-1.3**
PET				pmax	pmax			
comp=Z,27nm,0.5s								
PET				smax				
comp=N,39nm,0.5s								
PET				smax				
comp=E,51nm,0.5s								
PET				MLR	MLR			
comp=Z,100nm,20.0s								
PET	**Petropavlovsk**	**6.34**	**35**	*e*P		**Pn**	**15 41 30.2**	**-0.5**
PET				*e*S		**Sn**	**15 42 32.3**	**-9.4**
YSS	**Yuzh-Sakhalins**	**6.79**	**265**⇓	*e*PN		**Pn**	**15 41 42.0**	**+5.2**
YSS				pmax	pmax			
comp=Z,20nm,0.8s								
ASAJ	**Asahikawa**	**7.99**	**245**	P		**Pn**	**15 41 56.8**	**+3.7**
comp=Z,2.0nm,0.3s,baz=69,slow=15,SNR=20								
ASAJ	**Asahikawa**	**7.99**	**245**	PN		**Pn**	**15 41 56.8**	**+3.7**
ASAJ				pmax	pmax			
comp=Z,2.0nm,0.3s								
ERM	**Erimo**	**8.98**	**232**	P		**Pn**	**15 42 02.3**	**-4.2**
ERM				*e*S		**Sn**	**15 43 35.6**	**-10**
MA2	**Magadan**	**11.68**	**355**	*e*PN		**Pn**	**15 42 47.4**	**+4.8**
HABR	**Khabarovsk**	**11.76**	**279**	*e*PN		**Pn**	**15 42 40.4**	**-3.3**
VLA	**Vladivostok**	**15.32**	**259**	*i* P		**Pn**	**15 43 26.6**	**-3.0**
VLA				pmax	pmax			
comp=Z,13nm,0.8s								
YAK	**Yakutsk**	**19.13**	**326**	*e*P		**P**	**15 44 16.2**	**+2.6**
YAK				pmax	pmax			
comp=Z,18nm,0.8s								
YAK	**Yakutsk**	**19.13**	**326**	*e*P		**P**	**15 44 16.2**	**+2.6**
comp=Z,18nm,0.8s								
SONM	**Songino Array**	**30.66**	**287**	P		**P**	**15 46 03.2**	**+0.2**

comp=Z,0.2nm,0.5s,mb3.1,baz=44,slow=11,SNR=2.9
SONM Songino Array 30.66 287 P **P** **15 46 03.1 +0.2**
KDAK Kodiak Island 33.59 52 P **P** **15 46 27.1 -1.4**
comp=Z,12nm,1.1s,mb4.7,baz=269,slow=11,SNR=5.0
EGAK Eagle 38.24 39 *eP* **P** **15 47 08.0 -0.2**
INK Inuvik 40.79 33 P **P** **15 47 29.4 +0.1**
comp=Z,1.3nm,0.3s,mb4.2,baz=286,slow=8.0,SNR=6.5
INK Inuvik 40.79 33 P **P** **15 47 29.4 0.0**
ZAL Zalesovo 41.67 305 P **P** **15 47 36.8 +0.2**
comp=Z,1.7nm,0.5s,mb4.1,baz=83,slow=5.8,SNR=4.4
MKAR Makanchi Array 46.12 296 P **P** **15 48 12.2 +0.1**
comp=Z,0.8nm,0.4s,mb3.8,baz=64,slow=6.9,SNR=8.0
MKAR pP pP 15 48 43.4 +4.2
comp=Z,2.0nm,0.8s,baz=50,slow=8.5,SNR=7.9
BVAR Borovoye Array 49.85 308 P **P** **15 48 41.5 +0.7**
comp=Z,1.9nm,0.4s,mb4.3,baz=58,slow=7.7,SNR=15
BVAR pP pP 15 49 12.9 +4.6
comp=Z,0.8nm,0.6s,baz=45,slow=8.6,SNR=2.5
BVAR PcP PcP 15 49 59.8 +0.1
comp=Z,0.8nm,0.4s,baz=34,slow=4.0,SNR=4.7
BRVK Borovoye 49.89 309 *eP* **P** **15 48 41.7 +0.6**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 49.89 309 *eP* **P** **15 48 41.7 +0.6**
comp=Z,1.3nm,0.5s,mb4.1
YKA Yellowknife Ar 50.13 37 P **P** **15 48 43.3 +0.3**
comp=Z,2.7nm,0.4s,mb4.5,baz=299,slow=7.1,SNR=10.0
YKA Yellowknife Ar 50.13 37 P **P** **15 48 43.3 +0.3**
ZRNK Zerenda 50.62 309 *eP* **P** **15 48 45.9 -0.7**
ZRNK pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ZRNK Zerenda 50.62 309 *eP* **P** **15 48 45.9 -0.7**
comp=Z,2.0nm,0.4s,mb4.5
SVE Sverdlovsk 52.73 316 *eP* **P** **15 49 00.0 -2.3**
AAK Ala-Archa 53.03 295 *i* P **P** **15 49 05.1 +0.6**
AKTK Aktyubinsk 57.69 311 P **P** **15 49 38.0 +0.2**
AKTO Aktyubinsk 57.69 311 P **P** **15 49 38.0 +0.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=69,slow=8.4,SNR=7.2
JOF Joensuu 60.10 333 *ep* **P** **15 49 52.0 -2.6**
comp=Z,1.9nm,0.3s,mb4.3
FINES FINESS Array B 62.81 334 P **P** **15 50 11.8 -0.9**
comp=Z,1.7nm,0.4s,mb4.4,baz=39,slow=7.5,SNR=27
FINES pP pP 15 50 45.5 +4.1
comp=Z,2.4nm,0.8s,baz=29,slow=8.7,SNR=3.6
FINES FINESS Array B 62.81 334 P **P** **15 50 11.8 -1.0**
FINES pP pP 15 50 45.5 +4.1
OBN Obninsk 64.13 325 *eP* **P** **15 50 22.1 +0.7**
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
PDAR Pinedale Array 64.28 54 P **P** **15 50 23.2 +0.8**
comp=Z,1.8nm,0.7s,mb4.0,baz=320,slow=1.9,SNR=13
NB2 NORSAR Subarra 66.97 341 P **P** **15 50 40.6 +0.9**
comp=Z,1.0nm,0.6s,mb3.8,baz=30,slow=6.5
NOA NORSAR Array B 66.97 341 P **P** **15 50 39.5 -0.2**
comp=Z,0.6nm,0.6s,mb3.6,baz=28,slow=6.4,SNR=2.9
WB2 Warramunga Arr 69.57 198 *eP* **P** **15 50 55.7 -0.2**
WRA Warramunga Arr 69.57 198 P **P** **15 50 55.3 -0.6**
comp=Z,0.5nm,0.5s,mb3.6,baz=18,slow=6.7,SNR=13
WRA Warramunga Arr 69.57 198 *i* P **P** **15 50 56.0 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 70.36 326 P **P** **15 51 01.2 +0.4**
comp=Z,0.4nm,0.3s,mb3.7,baz=32,slow=5.9,SNR=4.7
AKASG Malin Array Be 70.36 326 P **P** **15 51 01.2 +0.4**
SCHQ Schefferville 72.30 23 P **P** **15 51 12.7 +0.2**
comp=Z,2.5nm,0.5s,mb4.3,baz=359,slow=8.3,SNR=9.4
ASAR Alice Springs 73.27 198 P **P** **15 51 18.1 -0.1**
comp=Z,2.0nm,0.7s,mb4.1,baz=8.1,slow=5.5,SNR=57
ASPA Alice Springs 73.27 198 *eP* **P** **15 51 18.7 +0.6**
GERES GERESS Array B 77.22 334 P **P** **15 51 39.8 -0.9**
comp=Z,0.6nm,0.6s,mb3.5,baz=38,slow=6.8,SNR=6.1
BRTR Keskin Array B 77.29 316 P **P** **15 51 42.7 +1.6**
comp=Z,0.4nm,0.5s,mb3.4,baz=36,slow=6.4,SNR=3.9
TORD Torodi Ar. Bea 113.89 329 PKiKP PKiKP 15 58 23.9 -0.8
comp=Z,0.1nm,0.3s,baz=358,slow=2.5,SNR=4.3
CPUP Villa Florida 148.11 58 PKPbc PKPbc 15 59 30.7 -0.9
comp=Z,0.7nm,0.4s,baz=324,slow=2.7,SNR=2.9
CPUP Villa Florida 148.11 58 PKPbc PKPbc 15 59 30.7 -0.9

ISCJB ***27*** *15:50:03.7±0.6, 1829S±004×178°03W±004, h596km±7km, mb4.7/90, Error ellipse: s-maj=7.0km s-min=4.4km az=82.9*
BJI ***27*** *15:50:03.6, 1836S×17752W, h619km, mB4.9, mb4.8*
MOS ***27*** *15:50:04.0±1.2, 1814S×17802W, h591km, mb4.8/29, Error ellipse: s-maj=10.2km s-min=8.9km az=51.5*
NEIC ***27*** *15:50:05.0±0.6, 1826S×178°00W, h600km±7km, mb4.7/60, Error ellipse: s-maj=7.0km s-min=4.4km az=132.0*
IDC ***27*** *15:50:05.2±1.0, 1825S×177°99W, h602km±12km, mb4.3/22, mb1 4.4/24, mb1mx4.3/25, mbtmp5.3/24, Error ellipse: s-maj=10.1km s-min=7.5km az=134.0*
SZGRF ***27*** *15:50:10.5, 1958S×177.16W, h695km, Fiji Islands region*
ISC 27 15:50:04.4±0.6, 1829S±004×17796W±004, h589km±7km, h604km±6.1km; pP-P, n455, σ1°00/241, mb 4.7/90, 25C-38D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.36**	**55**	P		**P**	**15 51 57.0**	**-0.3**
	34nm,0.3s,baz=176,slow=2.2,SNR=69							
AFI				S		**S**	**15 53 29.7**	**-0.1**
	19nm,0.3s,baz=52,slow=24,SNR=6.8							
AFI	**Afiamalu**	**7.36**	**55**	P		**P**	**15 51 57.0**	**-0.3**
AFI				S		**S**	**15 53 29.7**	**0.0**
AFI				pmax	pmax			
	comp=Z,34nm,0.3s							
AFI				smax				
	comp=N,19nm,0.3s							
AFI	**Afiamalu**	**7.36**	**55**	*eP*		**P**	**15 51 57.0**	**-0.3**
	comp=N,160nm,0.6s							
AFI				*eS*		**S**	**15 53 26.7**	**-3.0**
FUNA	**Funafuti**	**10.09**	**344**	*eP*		**P**	**15 52 23.5**	**-0.3**
RAO	**Raoul Island**	**10.92**	**180**	S		**S**	**15 54 32.7**	**-0.7**
	comp=N,144nm,0.3s,baz=94,slow=22,SNR=9.0							
DZM	**Mont Dzumac**	**15.12**	**253**	*eP*		**P**	**15 53 14.9**	**+0.9**
DZM	**Mont Dzumac**	**15.12**	**253**	P		**P**	**15 53 14.6**	**+0.6**
	comp=N,4.6nm,0.3s,baz=80,slow=18,SNR=40							
MTAZ	**Motutapu**	**19.47**	**197**	P		**P**	**15 53 56.8**	**+3.0**
MXZ	**Matakaoa Point**	**19.48**	**189**	P		**P**	**15 53 53.0**	**-0.9**
MXZ	**Matakaoa Point**	**19.48**	**189**	PN		**P**	**15 53 52.6**	**-1.3**
OTAZ	**Otara**	**19.62**	**197**	P		**P**	**15 53 57.7**	**+2.6**
OTAZ	**Otara**	**19.62**	**197**	PN		**P**	**15 53 57.6**	**+2.5**
MKAZ	**Moumakai**	**19.70**	**196**	PN		**P**	**15 53 58.0**	**+2.1**
WTAZ	**Waiatarua**	**19.71**	**198**	P		**P**	**15 53 57.1**	**+1.2**
PUZ	**Puketiti**	**19.99**	**189**	P		**P**	**15 53 57.6**	**-0.8**
PUZ	**Puketiti**	**19.99**	**189**	*e*PN		**P**	**15 53 57.5**	**-0.9**
MWZ	**Matawai**	**20.36**	**190**	P		**P**	**15 54 00.0**	**-1.8**
MWZ	**Matawai**	**20.36**	**190**	PN		**P**	**15 54 00.0**	**-1.7**
URZ	**Urewera**	**20.36**	**191**	P		**P**	**15 54 00.3**	**-1.5**
	comp=N,70nm,0.6s,baz=28,slow=2.3,SNR=65							
URZ				S		**S**	**15 57 14.7**	**+1.1**
	comp=N,12nm,0.6s,baz=317,slow=22,SNR=3.9							
URZ	**Urewera**	**20.36**	**191**	*e*P		**P**	**15 53 59.8**	**-2.0**
URZ	**Urewera**	**20.36**	**191**	PN		**P**	**15 53 59.7**	**-2.1**
BFZ	**Birch Farm**	**22.87**	**191**	PN		**P**	**15 54 23.0**	**-1.2**
BFZ				SN		**S**	**15 57 51.9**	**-1.2**
SNZO	**South Karori**	**23.79**	**194**	*e*P		**P**	**15 54 31.2**	**-1.2**
	comp=N,90nm,1.1s,mb5.3							
QRZ	**Quartz Range**	**23.91**	**198**	*e*P		**P**	**15 54 33.9**	**+0.5**
QRZ	**Quartz Range**	**23.91**	**198**	PN		**P**	**15 54 33.9**	**+0.5**
	comp=N,48nm,0.5s,mb5.4							
QRZ				sP		sP	15 57 09.0	-1.3
NNZ	**Nelson**	**24.03**	**196**	*e*P		**P**	**15 54 33.1**	**-1.4**
NNZ	**Nelson**	**24.03**	**196**	PN		**P**	**15 54 33.3**	**-1.2**
NNZ				sP		sP	15 57 08.6	-3.1
NNZ				SN		**S**	**15 58 07.2**	**-4.1**
THZ	**Tophouse**	**24.67**	**197**	*e*P		**P**	**15 54 39.6**	**-0.5**
THZ	**Tophouse**	**24.67**	**197**	PN		**P**	**15 54 39.3**	**-0.9**
THZ				sP		sP	15 57 16.0	-2.6
THZ				SN		**S**	**15 58 16.4**	**-5.0**
KHZ	**Kahutara**	**25.12**	**195**	*e*P		**P**	**15 54 43.0**	**-1.1**
KHZ	**Kahutara**	**25.12**	**195**	PN		**P**	**15 54 42.9**	**-1.2**
KHZ				sP		sP	15 57 18.1	-5.3
LTZ	**Lake Taylor**	**25.79**	**197**	*e*P		**P**	**15 54 48.6**	**-1.4**
LTZ	**Lake Taylor**	**25.79**	**197**	PN		**P**	**15 54 48.6**	**-1.4**
WVZ	**Waitaha Valley**	**26.50**	**199**	PN		**P**	**15 54 55.2**	**-1.0**
RPZ	**Rata Peaks**	**26.99**	**198**	P		**P**	**15 54 60.0**	**-0.5**
	comp=N,19nm,0.5s,mb5.0,baz=0.4,slow=2.3,SNR=24							
RPZ	**Rata Peaks**	**26.99**	**198**	P		**P**	**15 54 60.0**	**-0.5**
PPT	**Papeete**	**27.00**	**93**	P		**P**	**15 55 00.8**	**+0.1**
	comp=N,33nm,0.5s,mb5.2,baz=230,slow=18,SNR=7.9							
PPT	**Papeete**	**27.00**	**93**	P		**P**	**15 55 00.8**	**+0.2**
PPT				pmax	pmax			

comp=Z,33nm,0.5s
JCZ Jackson Bay 28.03 201 *e*P **P** **15 55 09.4 -0.2**
JCZ Jackson Bay 28.03 201 PN **P** **15 55 09.1 -0.5**
ARMA Armidale 30.12 241 *e*P **P** **15 55 29.6 +1.9**
CNB Canberra Magne 33.54 233 ⇓*i*P **P** **15 55 58.4 +1.8**
comp=Z,48nm,0.6s,mb5.3
CTA Charters Tower 33.81 261 *e*P **P** **15 55 59.8 +1.0**
comp=Z,47nm,0.5s,mb5.4
CTA Charters Tower 33.81 261 P **P** **15 55 59.2 +0.4**
comp=Z,60nm,0.6s,mb5.4,baz=90,slow=10,SNR=140
CTA Charters Tower 33.81 261 *e*P **P** **15 55 59.8 +1.0**
CTA pmax pmax
comp=Z,47nm,0.5s
CTAO Charters Tower 33.81 261 *e*P **P** **15 55 59.7 +0.9**
CTAO pmax pmax
comp=Z,64nm,0.6s,mb5.4
CTAO Charters Tower 33.81 261 *e*P **P** **15 55 59.7 +0.9**
comp=Z,64nm,0.6s,mb5.4
PMG Port Moresby 34.94 280 *d*⇓*i*P **P** **15 56 09.8 +1.5**
PMG Port Moresby 34.94 280 *e*P **P** **15 56 09.6 +1.3**
comp=Z,119nm,0.8s,mb5.6
STKA Stephens Creek 38.83 242 *e*P **P** **15 56 41.5 +1.5**
comp=Z,31nm,0.6s,mb5.0
STKA *e*S **S** **16 01 56.2 -0.3**
STKA Stephens Creek 38.83 242 P **P** **15 56 41.5 +1.5**
comp=Z,40nm,0.5s,mb5.2,baz=91,slow=9.5,SNR=178
WB2 Warramunga Arr 44.97 260 ⇓*i*P **P** **15 57 28.2 0.0**
WB2 *e*PCP PcP 15 58 56.9 +0.5
WB2 *e*S S **16 03 21.4 -3.1**
WB2 *e*SCS ScS 16 06 21.3 +1.1
WRAB Tennant Creek 44.98 260 *e*P **P** **15 57 28.1 -0.1**
WRAB *e*S S **16 03 20.7 -3.8**
WRAB pmax pmax
comp=Z,83nm,0.6s,mb5.4
WRAB Tennant Creek 44.98 260 *e*P **P** **15 57 28.1 0.0**
comp=Z,83nm,0.6s,mb5.4
WRAB *e*S S **16 03 20.7 -3.8**
WRA Warramunga Arr 44.98 260 P **P** **15 57 28.1 -0.1**
comp=Z,56nm,0.6s,mb5.3,baz=96,slow=7.0,SNR=973
WRA PcP PcP 15 58 56.8 +0.3
comp=Z,5.5nm,0.4s,baz=92,slow=3.8,SNR=6.4
WRA S S **16 03 21.3 -3.4**
comp=Z,4.1nm,0.9s,baz=94,slow=13,SNR=6.4
WRA Warramunga Arr 44.98 260 P **P** **15 57 28.1 -0.2**
WRA 15 58 56.8
WRA S S **16 03 21.3 -3.3**
WRA pmax pmax
comp=Z,56nm,0.6s
WRA pmax pmax
comp=Z,6.0nm,0.4s
WRA smax
comp=N,4.0nm,0.9s
AS31 Alice Springs 45.10 255 ⇓*i*P **P** **15 57 29.8 +0.7**
AS31 *e*PcP PcP 15 58 57.1 +0.2
AS31 *e*S S **16 03 24.5 -1.7**
ASAR Alice Springs 45.10 255 P **P** **15 57 29.9 +0.7**
comp=N,199nm,1.0s,mb5.6,baz=95,slow=7.2,SNR=2561
ASAR PcP PcP 15 58 56.5 -0.4
comp=N,11nm,0.5s,baz=105,slow=3.8,SNR=9.1
ASAR S S **16 03 24.8 -1.5**
comp=N,13nm,1.0s,baz=89,slow=16,SNR=31
ASAR Alice Springs 45.10 255 P **P** **15 57 29.9 +0.8**
ASAR 15 58 56.5
ASAR S S **16 03 24.8 -1.5**
ASAR pmax pmax
comp=Z,199nm,1.0s
ASAR pmax pmax
comp=Z,11nm,0.5s
ASAR smax
comp=N,13nm,1.0s
ASPA Alice Springs 45.10 255 ⇓*i*P **P** **15 57 29.8 +0.6**
ASPA *e*PCP PcP 15 58 57.1 +0.2
ASPA *e*S S **16 03 24.5 -1.8**
KAKA Kakadu 48.01 269 ⇓*i*P **P** **15 57 51.1 +0.1**
comp=N,86nm,0.6s,mb5.5
GUMO Guam 48.44 308 P **P** **15 57 55.5 +1.3**
comp=N,112nm,0.5s,mb5.6,baz=169,slow=12,SNR=11
GUMO Guam 48.44 308 *eP* **P** **15 57 55.7 +1.5**
GUMO pmax pmax
comp=Z,130nm,0.8s,mb5.5
GUMO Guam 48.44 308 *eP* **P** **15 57 55.7 +1.5**
comp=Z,130nm,0.8s,mb5.5
FORT Forrest 50.23 245 ⇓*i*P **P** **15 58 07.3 -0.1**
comp=Z,72nm,0.6s,mb5.3
FITZ Fitzroy Crossi 53.39 261 ⇓*i*P **P** **15 58 30.5 +0.5**
comp=Z,29nm,0.5s,mb4.9
MBWA Marble Bar 58.40 256 *eP* **P** **15 59 04.5 0.0**
comp=Z,31nm,0.6s,mb4.6
KLBR Kellerberrin 59.05 244 ⇓*i*P **P** **15 59 08.7 -0.1**
comp=Z,47nm,0.6s,mb4.8
CBIJ Chichi jima 59.41 318 P **P** **15 59 10.6 -0.6**
comp=Z,35nm,0.5s,mb4.7,baz=316,slow=0.0
NWAO Narrogin (SRO) 59.41 242 P **P** **15 59 11.2 0.0**
NWAO Narrogin (SRO) 59.41 242 *eP* **P** **15 59 11.3 +0.1**
NWAO pmax pmax
comp=Z,8.0nm,0.6s
NWAO Narrogin (SRO) 59.41 242 *eP* **P** **15 59 11.3 +0.1**
comp=Z,8.2nm,0.6s,mb4.0
SBA Scott Base 60.07 184 *eP* **P** **15 59 16.8 +1.2**
SBA pmax pmax
comp=Z,35nm,1.1s,mb4.5
SBA Scott Base 60.07 184 *eP* **P** **15 59 16.8 +1.2**
comp=Z,35nm,1.1s,mb4.5
VNDA Vanda 60.11 185 P **P** **15 59 16.9 +1.0**
comp=Z,6.0nm,0.6s,mb4.0,baz=352,slow=7.3,SNR=68
VNDA Vanda 60.11 185 P **P** **15 59 16.9 +1.1**
VNDA pmax pmax
comp=Z,6.0nm,0.6s
VNDA Vanda 60.11 185 *eP* **P** **15 59 16.8 +0.9**
comp=Z,6.9nm,0.7s,mb4.0
MUN Mundaring 60.33 243 *eP* **P** **15 59 17.9 +0.6**
CASY Casey 65.97 205 *eP* **P** **15 59 53.1 -0.3**
comp=Z,13nm,1.0s,mb4.3
TSM Tawau 67.07 283 P **P** **16 00 05.0 +5.0**
MJAR Matsushiro Arr 68.46 323 P **P** **16 00 07.9 -0.7**
comp=Z,25nm,0.5s,mb4.9,baz=153,slow=5.9,SNR=61
MJAR Matsushiro Arr 68.46 323 P **P** **16 00 07.9 -0.7**
MJAR pmax pmax
comp=Z,25nm,0.5s
MAJO Matsushiro 68.46 323 *eP* **P** **16 00 07.9 -0.7**
MAJO pmax pmax
comp=Z,15nm,0.6s,mb4.6
MAJO Matsushiro 68.46 323 *eP* **P** **16 00 07.9 -0.6**
comp=Z,15nm,0.6s,mb4.6
MAT Matsushiro 68.46 323 P **P** **16 00 07.9 -0.7**
JOW Kugami 68.79 309 P **P** **16 00 11.3 +0.8**
comp=Z,29nm,0.7s,mb4.8,baz=154,slow=7.0
KKM Kota Kinabalu 69.25 284 P **P** **16 00 14.5 +1.2**
QSPA South Pole Qui 71.77 180 *eP* **P** **16 00 28.8 +0.7**
comp=Z,26nm,0.8s,mb4.8
ASAJ Asahikawa 71.81 331 P **P** **16 00 28.8 +0.4**
comp=Z,40nm,1.0s,mb4.9,baz=191,slow=3.0
ASAJ Asahikawa 71.81 331 P **P** **16 00 28.8 +0.4**
ASAJ pmax pmax
comp=Z,40nm,1.0s
KSM Kuching 73.16 277 *eP* **P** **16 00 36.9 +0.8**
PET Petropavlovsk 73.84 346 *i* P **P** **16 00 38.4 -1.6**
PET pmax pmax
comp=Z,51nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 73.94 333 ⇑*i*P **P** **16 00 40.9 +0.4**
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 73.94 333 *eP* **P** **16 00 40.4 -0.1**
comp=Z,70nm,1.0s,mb5.2
SDPT Sand Point 74.83 10 *eP* **P** **16 00 43.6 -1.9**
comp=Z,178nm,1.3s,mb5.4
QZH Quanzhou 75.24 303 ⇓*i*P **P** **16 00 48.0 +0.2**
QZH AMB AMB
comp=Z,70nm,0.6s,mb5.4
CHGN Chignik 76.10 11 *eP* **P** **16 00 51.0 -1.6**
SAO San Andreas Ge 76.40 44 *eP* **P** **16 00 54.3 +0.1**
SAO pmax pmax
comp=Z,19nm,0.9s,mb4.5
SAO San Andreas Ge 76.40 44 *eP* **P** **16 00 54.3 +0.1**
comp=Z,19nm,0.9s,mb4.5
LRV Little Rabbit 76.49 44 *eP* **P** **16 00 55.8 +1.1**
PTRM Twissleman Ran 76.59 45 *eP* **P** **16 00 56.1 +0.9**
HOPS Hopland 76.68 41 *eP* **P** **16 00 55.8 +0.1**
comp=Z,13nm,1.0s,mb4.3
KIPM Iron Peak 76.92 40 *eP* **P** **16 00 57.0 0.0**
CMB Columbia Colle 77.82 43 *eP* **P** **16 01 02.2 +0.3**
CMB pmax pmax
comp=Z,15nm,0.8s,mb4.5
CMB Columbia Colle 77.82 43 *eP* **P** **16 01 02.1 +0.3**
comp=Z,15nm,0.8s,mb4.5
OHCM Honcut 77.87 41 *eP* **P** **16 01 01.8 -0.4**
NJ2 Nanjing 78.51 309 *eP* **P** **16 01 06.3 +0.8**
NJ2 AMB AMB
comp=Z,50nm,0.8s,mb4.9
YBH Yreka Blue Hor 78.55 39 P **P** **16 01 06.5 +0.8**
comp=Z,15nm,0.8s,mb4.3,baz=170,slow=1.5,SNR=42
YBH Yreka Blue Hor 78.55 39 *eP* **P** **16 01 06.6 +0.8**
YBH pmax pmax
comp=Z,10.0nm,0.7s
YBH Yreka Blue Hor 78.55 39 *eP* **P** **16 01 06.5 +0.8**
comp=Z,9.9nm,0.7s,mb4.2
HABR Khabarovsk 78.55 330 ⇓*i*P **P** **16 01 06.5 +0.7**
HABR *e*S S 16 10 15.5 +0.6
HABR pmax pmax
comp=Z,68nm,1.0s,mb4.9
MTUM Tungsten Hills 78.64 44 *eP* **P** **16 01 07.3 +1.1**
KDAK Kodiak Island 78.67 14 P **P** **16 01 05.1 -1.3**
comp=Z,26nm,0.9s,mb4.6,baz=183,slow=2.4,SNR=8.5
DAC Darwin (Calif) 78.70 46 *eP* **P** **16 01 07.2 +0.6**
DAC pmax pmax
comp=Z,4.0nm,0.9s,mb3.8
DAC Darwin (Calif) 78.70 46 *eP* **P** **16 01 07.2 +0.6**
comp=Z,4.1nm,0.9s,mb3.8
MDJ Mudanjiang 78.74 325 P **P** **16 01 07.5 +0.7**
MDJ AMB AMB
comp=Z,52nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,113nm,3.7s
MDJ Mudanjiang 78.74 325 *eP* **P** **16 01 06.2 -0.6**
comp=Z,45nm,0.9s,mb4.8
LBCM Butte Creek Ri 78.84 40 P **P** **16 01 07.8 +0.5**
PAHR Pah Rah Range 79.41 42 *eP* **P** **16 01 10.9 +0.6**
comp=Z,13nm,0.9s,mb4.3
MPOR Mary's Peak 79.76 36 P **P** **16 01 13.0 +0.8**
KGM Kluang 79.93 275 P **P** **16 01 13.9 +0.9**
MOD Modoc 80.10 40 *eP* **P** **16 01 14.1 +0.2**
comp=Z,11nm,0.9s,mb4.2
DL2 Dalian 80.16 316 P **P** **16 01 14.5 +0.3**
DL2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
CN2 Changchun 80.58 322 ⇓P **P** **16 01 16.5 +0.1**
CN2 *e*AP pP 16 03 21.8 +1.4
CN2 *e*S S 16 10 34.5 -1.2
CN2 AMB AMB
comp=Z,40nm,1.0s,mb4.8
KLR Kul'dur 80.65 329 *eP* **P** **16 01 13.1 -3.7**
SVW2 Sparrevohn 81.13 11 *eP* **P** **16 01 17.5 -1.7**
TRCR Troy Canyon 81.16 45 *eP* **P** **16 01 19.9 +0.6**
WHN Wuhan 81.17 306 P **P** **16 01 20.0 +0.5**
BMN Battle Mountai 81.20 42 *eP* **P** **16 01 20.1 +0.5**
BMN pmax pmax
comp=Z,17nm,0.9s,mb4.5
BMN Battle Mountai 81.20 42 *eP* **P** **16 01 20.1 +0.5**
comp=Z,17nm,0.9s,mb4.5
WVOR Wild Horse Val 81.42 40 *eP* **P** **16 01 20.9 +0.2**
WVOR pmax pmax
comp=Z,23nm,0.9s,mb4.6
WVOR Wild Horse Val 81.42 40 *eP* **P** **16 01 20.9 +0.2**
comp=Z,23nm,0.9s,mb4.6
OOW Octopus West 81.43 33 P **P** **16 01 21.8 +1.0**
TUC Tucson 81.59 52 *eP* **P** **16 01 22.9 +1.3**
TUC pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
TUC Tucson 81.59 52 *eP* **P** **16 01 22.9 +1.3**
comp=Z,10nm,0.9s,mb4.4
SLKM Skilak Lake 81.66 13 *eP* **P** **16 01 20.2 -1.7**
MA2 Magadan 81.67 345 *eP* **P** **16 01 20.6 -1.4**
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.2
TIA Tai'an 81.82 312 ⇑P **P** **16 01 23.0 +0.2**
CCUT Cedar City 82.26 46 *eP* **P** **16 01 26.2 +1.3**
PGC Sidney 82.39 33 *eP* **P** **16 01 24.9 -0.7**
comp=Z,47nm,0.9s,mb5.0
WUAZ Wupatki 82.67 49 *eP* **P** **16 01 28.4 +1.3**
comp=Z,16nm,0.9s,mb4.6
TTA Tatalina 82.77 10 *eP* **P** **16 01 26.8 -0.7**
TWW Teanaway 82.85 35 P **P** **16 01 28.8 +0.9**
PMR Palmer 82.87 13 *eP* **P** **16 01 26.2 -1.8**
PMR pmax pmax
comp=Z,13nm,0.4s,mb4.8
PMR Palmer 82.87 13 *eP* **P** **16 01 26.2 -1.8**
comp=Z,13nm,0.4s,mb4.8
IPM Ipoh 82.89 277 P **P** **16 01 30.1 +1.9**
HAWA Hanford 83.15 36 *eP* **P** **16 01 29.6 +0.2**
comp=Z,1.4nm,0.9s,mb3.5
MSU Marysvale 83.55 46 *eP* **P** **16 01 31.8 +0.4**
MAW Mawson 83.65 200 P **P** **16 01 32.3 +0.4**
comp=Z,2.1nm,0.5s,mb3.9,baz=128,slow=5.9,SNR=12
MAW Mawson 83.65 200 P **P** **16 01 32.3 +0.4**
MAW pmax pmax
comp=Z,2.0nm,0.5s
MAW Mawson 83.65 200 *eP* **P** **16 01 31.6 -0.3**
comp=Z,3.7nm,0.9s,mb3.9
SEY Seymchan 84.24 347 *d*⇓*i*P **P** **16 01 33.5 -1.3**
PSI Prapat 84.34 275 P **P** **16 01 34.7 -0.6**
comp=Z,28nm,0.8s,mb4.8,baz=150,slow=1.5,SNR=9.3
PSI Prapat 84.34 275 P **P** **16 01 34.7 -0.6**
PSI pmax pmax
comp=Z,28nm,0.8s,mb4.8
PSI Prapat 84.34 275 P **P** **16 01 34.7 -0.6**
TMUT Trail Mountain 84.59 46 *eP* **P** **16 01 37.6 +1.1**
HLID Hailey 84.63 41 *eP* **P** **16 01 37.4 +0.6**
comp=Z,10nm,0.8s,mb4.5
HVU Hansel Valley 84.76 43 *eP* **P** **16 01 37.9 +0.5**
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
HVU Hansel Valley 84.76 43 *eP* **P** **16 01 37.9 +0.5**
comp=Z,5.9nm,0.9s,mb4.2
MCK McKinley 84.81 13 *eP* **P** **16 01 36.0 -1.6**
MCK pmax pmax
comp=Z,24nm,0.9s,mb4.8
MCK McKinley 84.81 13 *eP* **P** **16 01 36.0 -1.6**
comp=Z,24nm,0.9s,mb4.8
SRU San Rafael 84.97 46 *eP* **P** **16 01 38.2 -0.2**
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
SRU San Rafael 84.97 46 *eP* **P** **16 01 38.2 -0.1**
comp=Z,8.7nm,0.9s,mb4.4
HWUT Hardware Ranch 85.47 44 *eP* **P** **16 01 40.8 0.0**
comp=Z,4.8nm,0.9s,mb4.1
NEW Newport 85.56 36 P **P** **16 01 40.6 -0.6**
comp=Z,7.9nm,0.8s,mb4.4,baz=224,slow=1.2,SNR=5.0
NEW Newport 85.56 36 P **P** **16 01 40.7 -0.5**
NEW pmax pmax
comp=Z,8.0nm,0.8s
PV01 Paradox Valley 85.87 48 *eP* **P** **16 01 42.5 -0.1**
ANMO Albuquerque 86.00 51 *eP* **P** **16 01 44.0 +0.7**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 86.00 51 *eP* **P** **16 01 44.0 +0.8**
comp=Z,10nm,1.0s,mb4.4
COLA College 86.05 12 *eP* **P** **16 01 41.4 -2.1**
COLA pmax pmax
comp=Z,42nm,0.9s,mb5.1
COLA College 86.05 12 *eP* **P** **16 01 41.4 -2.2**
comp=Z,42nm,0.9s,mb5.1
IMA2 Indian Mountai 86.07 10 *eP* **P** **16 01 42.3 -1.3**
MCMT McKenzie Canyo 86.25 40 *eP* **P** **16 01 45.1 +0.7**
DLMT Dillon 86.67 40 *eP* **P** **16 01 45.2 -1.3**
comp=Z,18nm,0.9s,mb4.8
TPAW Teton Pass 86.78 42 *eP* **P** **16 01 47.4 +0.5**
comp=Z,10nm,0.9s,mb4.6
REDW Red Top Meadow 86.78 42 *eP* **P** **16 01 47.5 +0.5**
comp=Z,17nm,1.0s,mb4.7
XAN Xi'an 86.83 307 P **P** **16 01 47.8 +0.6**
XAN AMB AMB
comp=Z,43nm,1.1s,mb5.1
BILL Bilibino 86.85 354 *i* P **P** **16 01 46.1 -1.2**
BILL pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
SNOW Snow King Moun 86.89 42 *eP* **P** **16 01 48.4 +0.9**
comp=Z,23nm,0.9s,mb4.9
HIA Hailar 86.92 324 *eP* **P** **16 01 47.0 -0.6**
HIA pmax pmax
comp=Z,4.0nm,0.5s
HIA Hailar 86.92 324 *eP* **P** **16 01 47.0 -0.7**
comp=Z,3.5nm,0.5s,mb4.3
IMW Indian Meadow 86.98 42 *eP* **P** **16 01 48.6 +0.7**
comp=Z,21nm,0.8s,mb4.9
MOOW Moose Ponds 87.03 42 *eP* **P** **16 01 47.9 -0.3**
comp=Z,5.4nm,1.0s,mb4.2
LOHW Long Hollow 87.06 42 *eP* **P** **16 01 48.6 +0.3**
comp=Z,7.7nm,1.0s,mb4.4
CHMT Chamberlain Mo 87.06 38 *eP* **P** **16 01 47.7 -0.6**
QLMT Earthquake Lak 87.12 41 *eP* **P** **16 01 49.8 +1.2**

DAWY Dawson 87.33 16 eP P 16 01 48.6 -0.9
PDAR Pinedale Array 87.33 43 P P 16 01 49.0 -0.5
comp=Z,8.3nm,0.8s,mb4.5,baz=211,slow=2.6,SNR=50
BOZ Bozeman (W) 87.40 40 eP P 16 01 49.9 0.0
BOZ pmax pmax
comp=Z,11nm,1.0s,mb4.5
BOZ Bozeman (W) 87.40 40 eP P 16 01 49.9 0.0
comp=Z,11nm,1.0s,mb4.5
EGAK Eagle 87.47 15 eP P 16 01 49.1 -1.1
LKWY Lake 87.64 41 eP P 16 01 53.1 +2.1
LKWY pmax pmax
comp=Z,21nm,1.0s,mb4.8
LKWY Lake 87.64 41 eP P 16 01 53.0 +2.1
comp=Z,21nm,1.0s,mb4.8
HHC Hu-ho-hao-te 87.84 314 eP P 16 01 53.0 +1.1
HHC AP pP 16 04 02.8 +3.9
HHC XP sP 16 05 02.0 +4.1
HHC PP PP 16 05 32.5 +3.5
HHC SKS 16 11 23.8
HHC S S 16 11 44.8 -1.1
HHC XS sS 16 15 34.0 +1.8
HHC SS SS 16 17 54.5 +3.4
HHC AMB AMB
comp=Z,31nm,0.5s,mb5.3
HHC AMB AMB
comp=Z,112nm,4.4s
SDCO Great Sand Dun 87.89 49 eP P 16 01 52.3 +0.2
comp=Z,5.4nm,0.9s,mb4.3
KMI Kunming 88.38 297 P P 16 01 56.0 +1.5
KMI AMB AMB
comp=Z,13nm,1.1s,mb4.6
RLMT Red Lodge 88.61 41 eP P 16 01 56.3 +0.7
SYO Syowa Base 88.88 193⇑eP P 16 01 55.6 -1.2
JCT Junction City 89.37 58 eP P 16 01 59.5 +0.4
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
JCT Junction City 89.37 58 eP P 16 01 59.5 +0.5
comp=Z,6.1nm,0.7s,mb4.5
PHWY Pilot Hill 89.42 46 eP P 16 01 59.5 +0.2
CD2 Chengdu 89.63 303 eP P 16 01 59.5 -0.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
YAK Yakutsk 90.08 338d iP P 16 02 00.0 -2.3
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.9
YAK Yakutsk 90.08 338 eP P 16 01 59.0 -3.3
comp=Z,8.6nm,0.6s,mb4.8
SNAA Sanae 90.21 178 eP P 16 02 02.3 -0.6
SNAA e 16 02 03.4
SNAA e 16 02 41.5
EDM Edmonton 90.24 33 eP P 16 02 02.0 -1.1
VNA3 Neumayer Olymp 90.34 176⇓iP P 16 02 03.3 -0.2
VNA3 e 16 02 04.0
VNA3 e 16 02 45.1
PLCA Paso Flores 90.76 134 P P 16 02 06.1 +0.6
comp=Z,2.1nm,0.6s,mb4.2,baz=243,slow=4.2,SNR=5.0
PLCA Paso Flores 90.76 134 P P 16 02 06.1 +0.6
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 90.76 134 P P 16 02 06.1 +0.6
VNA1 Neumayer--Stat 91.01 177⇓iP P 16 02 07.0 +0.4
VNA1 e 16 02 07.7
VNA1 e 16 02 46.5
LZH Lanzhou 91.46 308 eP P 16 02 09.5 +0.8
LZH AP pP 16 04 22.5 +6.1
LZH XP sP 16 05 20.0 +5.0
LZH PP PP 16 06 01.8 +4.6
LZH AMB AMB
comp=Z,42nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,212nm,5.1s
LZH Lanzhou 91.46 308 eP P 16 02 09.5 +0.8
LZH pP pP 16 04 22.5 +6.1
LZH sP sP 16 05 20.0 +5.0
LZH PP PP 16 06 01.7 +4.5
RSSD Black Hills 91.54 44 eP P 16 02 08.6 -0.4
RSSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
RSSD Black Hills 91.54 44 eP P 16 02 08.6 -0.4
comp=Z,8.8nm,0.9s,mb4.8
CIT Chita 91.71 325 eP P 16 02 09.2 -0.6
INK Inuvik 92.14 15 eP P 16 02 10.0 -1.8
INK pmax pmax
comp=Z,21nm,1.0s
INK Inuvik 92.14 15 eP P 16 02 10.0 -1.8
comp=Z,21nm,1.0s,mb5.1
DGMT Dagmar 93.21 40 eP P 16 02 17.0 +0.3
comp=Z,27nm,0.9s,mb5.3
SONM Songino Array 94.11 319 P P 16 02 19.6 -1.2
comp=Z,2.2nm,0.8s,mb4.3,baz=127,slow=3.0,SNR=14
SONM Songino Array 94.11 319 P P 16 02 19.6 -1.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 94.49 25 P P 16 02 21.0 -1.5
comp=Z,5.4nm,0.8s,mb4.7,baz=237,slow=4.7,SNR=8.7
GTA Gaotai 95.60 310 P P 16 02 27.5 -0.1
GTA AP pP 16 04 38.0 +2.4
GTA XP sP 16 05 36.5 +2.3
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.7
ZAK Zakamensk 96.95 321 eP P 16 02 33.0 -0.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
MKAR Makanchi Array 109.70 314 PKiKP PKiKP 16 07 27.2 -1.9
comp=Z,1.5nm,0.5s,baz=212,slow=0.6,SNR=12
MKAR Makanchi Array 109.70 314 PKPdf PKiKP 16 07 27.2 -1.9
QUA2 Belchertown 113.50 51 ePdif Pdif 16 03 46.4 -0.7
AAK Ala-Archa 114.95 309 iPKIKP PKPdf 16 07 37.6 -1.5
AAK Ala-Archa 114.95 309 ePKPdf PKPdf 16 07 36.8 -2.3
BVAR Borovoye Array 117.41 321 PKP PKPdf 16 07 42.2 -1.7
comp=Z,2.9nm,0.4s,baz=131,slow=1.1,SNR=19
BVAR Borovoye Array 117.41 321 PKIKP PKPdf 16 07 42.2 -1.6
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 117.47 321 ePKIKP PKPdf 16 07 42.4 -1.5
ZRNK Zerenda 118.25 321 ePKIKP PKPdf 16 07 43.6 -1.8
SVE Sverdlovsk 122.19 326 ePKIKP PKPdf 16 07 52.0 -1.0
ARU Arti 123.40 326 iPKIKP PKPdf 16 07 53.6 -1.7
ARU e 16 09 47.8
AKTK Aktyubinsk 125.43 319 PKP PKPdf 16 07 57.8 -1.4
AKTO Aktyubinsk 125.43 319 PKP PKPdf 16 07 57.8 -1.4
comp=Z,5.1nm,0.8s,baz=66,slow=4.1,SNR=13
AKTO Aktyubinsk 125.43 319 PKIKP PKPdf 16 07 57.8 -1.4
AKTO pmax pmax
comp=Z,5.0nm,0.9s
KEV Kevo 126.31 349 epkp PKPdf 16 07 58.5 -2.4
ARCES ARCESS Array B 126.76 350 PKP PKPdf 16 07 60.0 -1.8
comp=Z,10nm,0.8s,baz=35,slow=0.9,SNR=22
ARCES ARCESS Array B 126.76 350 PKIKP PKPdf 16 08 00.0 -1.8
ARCES pmax pmax
comp=Z,10.0nm,0.8s
JOF Joensuu 131.04 343 epkp PKPdf 16 08 07.6 -2.3
KAF Kangasniemi 133.04 345 epkp PKPdf 16 08 11.2 -2.5
FIA1 FINESS Array S 133.66 344 ePKPdf PKPdf 16 08 12.6 -2.2
FINES FINESS Array B 133.67 344 PKhKP 16 07 59.0
comp=Z,0.8nm,0.6s,baz=231,slow=1.2,SNR=3.6
FINES PKP PKPdf 16 08 12.8 -2.0
comp=Z,4.9nm,0.6s,baz=82,slow=2.9,SNR=6.5
FINES FINESS Array B 133.67 344 PKHKP 16 07 59.1
FINES 16 08 12.8
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 133.67 344 PKP 16 07 59.0
FINES PKP PKPdf 16 08 12.8 -2.0
OBN Obninsk 134.83 333 iPKIKP PKPdf 16 08 15.8 -1.2
OBN eSS SS 16 28 08.7 +1.7
OBN pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra136.80 353 PKPa 16 08 09.4
comp=Z,1.3nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 136.80 353 PKhKP 16 08 07.3
comp=Z,1.7nm,0.8s,baz=26,slow=2.1,SNR=5.5
NOA PKP PKPdf 16 08 19.1 -1.6
comp=Z,2.0nm,0.6s,baz=18,slow=3.9,SNR=8.0
NOA NORSAR Array B 136.80 353 PKHKP 16 08 07.4
NOA 16 08 19.1
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 140.36 245 PKHKP 16 08 22.9
comp=Z,2.3nm,0.7s,baz=44,slow=12,SNR=6.9
KMBO Kilima Mbogo 140.36 245 PKHKP 16 08 22.9
KMBO pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 141.09 332 PKhKP 16 08 21.6
comp=Z,6.8nm,0.5s,baz=41,slow=4.0,SNR=5.5
AKASG Malin Array Be 141.09 332 PKHKP 16 08 21.6
AKASG pmax pmax
comp=Z,7.0nm,0.5s
AKBB Malin Array Si 141.09 332 ePKHKP 16 08 21.0
MARD Mardin 141.18 307 iP PKPdf 16 08 22.0 -6.6
KELT Kelkit 141.28 312 iP PKPdf 16 08 23.0 -5.8
SIM Simferopol' 142.31 322 iPKIKP PKPdf 16 08 29.0 -1.6
SIM pmax pmax
comp=Z,37nm,0.9s
MALT Malatya 142.58 310⇑iP PKPdf 16 08 28.7 -2.4
MALT Malatya 142.58 310 PKIKP PKPdf 16 08 29.1 -2.0
MALT Malatya 142.58 310 ePKPpre 16 08 29.0
SVST Sivas 143.05 313 iP PKPdf 16 08 31.1 -0.9
GKP Gorka Klasztor 143.14 345 ePKP PKPdf 16 08 29.5 -2.6
GZT Gaziantep 143.57 309 iP PKPdf 16 08 31.8 -1.1
GZT Gaziantep 143.57 309 iP PKPdf 16 08 31.8 -1.1
BOYT Boyabat 143.68 316 iP PKPdf 16 08 32.4 -0.7
BSEG Bad Segeberg 143.85 352 ePKPbc PKPdf 16 08 31.5 -1.8
LVV L'vov 143.93 336 ePKIKP PKPdf 16 08 31.8 -1.6
CTKT Corum 144.15 315 iP PKPdf 16 08 32.7 -1.1
DCN Croghan 144.27 10 eP PKPdf 16 08 32.6 -1.4
DLF Lyons Farm 144.43 9 eP PKPdf 16 08 32.9 -1.4
KWP Kalwaria 144.59 337 ePKP PKPdf 16 08 34.5 -0.1
BALT Daday 144.61 318 iP PKPdf 16 08 34.5 -0.1
COBT Iskenderun 144.86 308 iP PKPdf 16 08 35.7 +0.7
CDAG Cicekdag 144.90 314 iP PKPdf 16 08 35.8 +0.7
OJC Ojcow 145.11 340 iPKPd PKPdf 16 08 35.8 +0.3
ELDT Eldivan 145.12 316 iP PKPdf 16 08 36.5 +1.1
BURAR Bucovina Array 145.15 332⇑iP PKPdf 16 08 37.2 +1.7
BURAR Bucovina Array 145.15 332 ⇑P PKPdf 16 08 37.2 +1.7
NRDL Niedersach Rie 145.28 351 ePKPbc PKPbc 16 08 36.0 -1.0
STHS Stebnicka Huta 145.30 338 ePKP PKPdf 16 08 36.7 +0.9
KOLS Kolonicke sedl 145.32 336 ePKP PKPdf 16 08 35.8 0.0
KOLS Kolonicke sedl 145.32 336 ePKP PKPdf 16 08 35.9 +0.1
BR131 Keskin Array S 145.35 315 ePKPdf PKPdf 16 08 35.1 -0.8
BR131 ePKPbc PKPbc 16 08 36.9 -0.3
BRTR Keskin Array B 145.35 315 PKPbc PKPbc 16 08 34.8 -2.4
comp=Z,18nm,0.8s,baz=131,slow=1.7,SNR=76
BRTR Keskin Array B 145.35 315 PKIKP PKPdf 16 08 34.8 -1.1
BRTR pmax pmax
comp=Z,18nm,0.8s
WIT Witteveen 145.35 355 ePKP PKPdf 16 08 37.3 +1.4
UZH Uzhgorod 145.56 336⇑iPKIKP PKPdf 16 08 37.0 +0.8
KSP Ksiaz 145.59 344 ePKP PKPdf 16 08 37.8 +1.5
KSP Ksiaz 145.59 344⇓iPKP PKPdf 16 08 37.7 +1.4
KSP epPKP SKPdf 16 11 12.6 -2.6
NIE Niedzica 145.63 339 ePKPd PKPdf 16 08 38.0 +1.6
NIE e SKPdf 16 11 13.3 -1.9
NIE Niedzica 145.63 339⇓ePKP PKPdf 16 08 38.0 +1.6
NIE e SKPdf 16 11 13.3 -1.9
CRLS Cervenica-Dubn 145.65 337 ePKP PKPdf 16 08 36.0 -0.4
VRI Vrincioaia 145.72 329⇑iP PKPdf 16 08 37.5 +1.0
VRI Vrincioaia 145.72 329 P PKPdf 16 08 38.1 +1.6
ASF Jabal al Asfar 145.74 301 PKPbc PKPbc 16 08 38.7 +0.4
comp=Z,19nm,1.0s,baz=345,slow=1.8,SNR=26
ASF Jabal al Asfar 145.74 301 PKP2 PKPab 16 08 38.7 -1.4
ASF pmax pmax
comp=Z,19nm,1.0s
PLOR Plostina 145.77 329⇑iP PKPdf 16 08 38.2 +1.6
TIRR Tirgusor 145.82 326⇓iP PKPdf 16 08 38.0 +1.3
TIRR Tirgusor 145.82 326 ePKPbc PKPbc 16 08 38.0 -0.6
ANTO Ankara 145.85 315 ePKHKP 16 08 34.5
ANTO e 16 08 38.8
CLZ Clausthal 145.88 351 ePKPbc PKPbc 16 08 38.0 -0.7
CLL Collm 145.92 348 ePKPbc PKPbc 16 08 37.9 -0.9
CLL epPKPbc 16 11 12.9
CLL Collm 145.92 348⇓iPKPbc PKPbc 16 08 38.0 -0.8
comp=Z,94nm,0.8s
CLL Collm 145.92 348⇓iPKP PKPdf 16 08 38.0 +1.1
OKC Ostrava-Krasne 145.97 341 ePKPbc PKPbc 16 08 37.9 -1.0
SGKT Sivrigoynuk 145.97 317 iP PKPdf 16 08 36.2 -0.8
UPC Upice 145.97 344 ePKPbc PKPbc 16 08 38.7 -0.2
DPC Dobruska-Polom 146.03 344 ePKPbc PKPbc 16 08 39.0 -0.1
DPC ePKPab PKPab 16 08 41.5 +0.2
BRG Berggiesshubel 146.13 346 ePKPbc PKPbc 16 08 38.6 -0.8
BRG Berggiesshubel 146.13 346 ePKP PKPdf 16 08 35.3 -1.9
comp=Z,6.0nm,1.3s
BRG i 16 08 38.9
comp=Z,24nm,0.7s
BRG i 16 11 14.0
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 146.13 346 ePKIKP PKPdf 16 08 35.3 -1.9
BRG i 16 08 38.9
WTSB Winterswijk 146.18 355 ePKP PKPdf 16 08 38.5 +1.2
MORC Moravsky Berou 146.20 342⇑iP PKPdf 16 08 39.6 +2.3
MORC Moravsky Berou 146.20 342 ePKPdf PKPdf 16 08 36.0 -1.3
MORC ePKPbc PKPbc 16 08 39.2 -0.4
PVCC Panska Ves 146.31 346 ePKPbc PKPbc 16 08 39.6 -0.3
KECS Kecovo 146.36 338 ePKP PKPdf 16 08 39.7 +2.1
KECS eSKPDF 16 11 14.5
MLR Muntele Rosu 146.37 329 PKPbc PKPbc 16 08 39.3 -0.8
comp=Z,26nm,0.8s,baz=357,slow=4.4,SNR=23
MLR Muntele Rosu 146.37 329⇑iP PKPdf 16 08 39.8 +2.2
MLR Muntele Rosu 146.37 329 PKIKP PKPdf 16 08 39.3 +1.7
MLR pmax pmax
comp=Z,26nm,0.8s
MLR Muntele Rosu 146.37 329 P PKPdf 16 08 40.2 +2.6
MEST Erdemli 146.39 309 iP PKPdf 16 08 39.6 +2.0
BUG Bochum--Univer 146.66 354 ePKPbc PKPbc 16 08 39.9 -0.9
PRU Pruhonice 146.82 345 ePKPbc PKPbc 16 08 40.7 -0.6
PRU ePKPab PKPab 16 08 43.8 -0.7
MOX Moxa 146.82 349 ePKPbc PKPbc 16 08 40.5 -0.8
MOX epPKPbc SKPdf 16 11 14.1 -3.0
MOX Moxa 146.82 349 ePKP PKPdf 16 08 40.6 +2.2
comp=Z,33nm,1.2s
VOIR 146.85 330⇑iP PKPbc 16 08 41.2 -0.1
VOIR 146.85 330⇑P PKPbc 16 08 41.2 -0.1
DRGR 146.87 334⇓iP PKPdf 16 08 40.7 +2.3
DRGR 146.87 334 P PKPbc 16 08 41.2 -0.2
TANN Tannenbergstha 146.88 348 ePKPbc PKPbc 16 08 40.8 -0.6
VRAC Vranov 146.90 342⇑iP PKPdf 16 08 41.0 +2.5
VRAC Vranov 146.90 342 P PKPbc 16 08 41.8 +0.3
VYHS Vyhne 146.92 339 iPKP PKPdf 16 08 41.1 +2.6
VYHS eSKPDF 16 11 16.6
KDHN Kadinhani 146.97 314 iP PKPdf 16 08 41.0 +2.4
PSZ Piszkesteto 147.04 338⇓ePKP/p PKPbc 16 08 41.5 -0.4
PSZ Piszkesteto 147.04 338⇑iP PKPdf 16 08 41.4 +2.7
PSZ Piszkesteto 147.04 338 PKP2 PKPbc 16 08 41.8 -0.1
PSZ Piszkesteto 147.04 338 ePKPbc PKPbc 16 08 41.1 -0.7
NKC Novy Kostel 147.06 348 ePKPbc PKPbc 16 08 41.2 -0.7
PRD Provadia 147.20 325 eP PKPbc 16 08 41.7 -0.6
TREC Trest 147.22 344 ePKPbc PKPbc 16 08 41.7 -0.6
ERMK Ermenek 147.27 310 iP PKPbc 16 08 42.2 -0.2
MANZ Manzenberg 147.36 348 ePKPbc PKPbc 16 08 42.3 -0.4
SMOL Smolenice 147.36 341 iPKP PKPbc 16 08 42.6 -0.1
BEBN Eben Emael 147.44 356 PKPbc PKPbc 16 08 42.4 -0.4
BEBN APKPab 16 10 58.6
HGN Heimansgroeve 147.45 355 ePKP PKPdf 16 08 42.1 +2.7
comp=Z,26nm,1.0s
UCC Uccle 147.51 357 PKPbc PKPbc 16 08 42.3 -0.7
UCC PKPab PKPab 16 08 45.8 -1.5
ROTZ Rotzenmuhle 147.55 348 ePKPbc PKPbc 16 08 42.7 -0.5
MEM Membach 147.60 355 PKPbc PKPbc 16 08 42.8 -0.5
CSS Prodhromos 147.65 307 ePKPbc PKPbc 16 08 42.8 -0.7
BUD Budapest 147.72 338⇓ePKP/p PKPbc 16 08 43.6 0.0
TNS Taunus Mts 147.73 352 ePKPbc PKPbc 16 08 42.7 -0.9
ZST Bratislava 147.74 341 ePKP PKPbc 16 08 43.6 0.0
SNF Seneffe 147.80 357 PKPdf PKPdf 16 08 39.7 -0.3
SNF PKPbc PKPbc 16 08 42.8 -1.0
SNF PKPab PKPab 16 08 43.8 -1.7
GRA1 Grafenberg Arr 147.81 349 ePKPbc PKPbc 16 08 43.3 -0.5
GRA1 ePKPab PKPab 16 08 47.2 -1.3
GRA1 epPKPbc SKPbc 16 11 19.1 -6.8
GRF Grafenberg Arr 147.81 349 ePKPbc PKPbc 16 08 43.3 -0.5
GRF ePKPab PKPab 16 08 47.2 -1.3
GRF epPKPbc SKPbc 16 11 19.1 -6.8
BCLA Clavier 147.84 356 PKPbc PKPbc 16 08 42.9 -1.0
BCLA PKPab PKPab 16 08 47.6 -1.0
KHC Kasperske Hory 147.85 346 ePKPbc PKPbc 16 08 43.6 -0.3
KHC ePKPab PKPab 16 08 48.4 -0.3
GZR Gura Zlata 147.93 332⇑iP PKPbc 16 08 43.4 -0.7
GZR Gura Zlata 147.93 332 P PKPbc 16 08 43.4 -0.8
ZIMR 147.97 327 PKP2 PKPbc 16 08 44.8 +0.6
EIL Elat 147.97 297 ePKPbc PKPbc 16 08 44.3 +0.1
WET Wettzell 147.99 347 ePKPbc PKPbc 16 08 43.7 -0.6
GEC2 GERESS Array S 148.09 345 ePKPbc PKPbc 16 08 43.9 -0.6
GERES GERESS Array B 148.09 345 PKPbc PKPbc 16 08 43.6 -0.9
comp=Z,19nm,0.7s,baz=19,slow=2.2,SNR=78
GERES GERESS Array B 148.09 345 PKHKP PKPbc 16 08 43.6 -0.9
GERES pmax pmax
comp=Z,19nm,0.7s
GIVF Givet 148.18 357 ePKP1 PKPbc 16 08 43.9 -0.9
comp=Z,92nm,1.0s
DOU Dourbes 148.20 357 PKPbc PKPbc 16 08 44.1 -0.6
DOU PKPab PKPab 16 08 48.6 -1.5
DOU APKPab 16 11 20.2
BAIF Baives 148.25 357 ePKP1 PKPbc 16 08 44.2 -0.7
comp=Z,55nm,0.9s
BZS Buzias 148.26 333⇓iP PKPbc 16 08 44.3 -0.7
BZS Buzias 148.26 333 P PKPbc 16 08 44.5 -0.5
CONA Conrad Observa 148.35 342⇓iPKiKP PKiKP 16 08 45.1 -1.2
comp=Z,41nm,1.1s,SNR=21
SOP Sopron 148.36 341⇓ePKP/p PKPbc 16 08 45.1 -0.1
TKTP Tekketepe 148.43 314 iP PKPdf 16 08 44.5 +3.5
GDZ Gediz 148.44 317 iP PKPdf 16 08 43.7 +2.7
WLF Walferdange 148.52 355 ePKPbc PKPbc 16 08 45.5 -0.1
WLF Walferdange 148.52 355 PKPbc PKPbc 16 08 45.6 0.0
WLF E 16 11 21.8
WLF Walferdange 148.52 355 ePKPbc PKPbc 16 08 45.6 0.0
MOA Molln 148.87 344 iP PKPbc 16 08 45.9 -0.6
comp=Z,24nm,1.1s,SNR=7.6
PKSM Moragy 148.95 337⇓iP PKPbc 16 08 45.7 -0.9
PKSM Moragy 148.95 337 P PKPbc 16 08 45.6 -1.0
BTOK Tokmak 148.98 319 iP PKPbc 16 08 46.0 -0.7
LANF Langenberg 149.03 353 PKP PKPbc 16 08 46.4 -0.4
STU Stuttgart 149.04 351 ePKPbc PKPbc 16 08 46.2 -0.7
ARSA Arzberg 149.06 342⇓iP PKPbc 16 08 47.0 +0.1
comp=Z,11nm,0.8s,SNR=5.3
FUR Furstenfeldbru 149.26 348 ePKPbc PKPbc 16 08 46.7 -0.7
FUR ePKPab PKPab 16 08 53.8 -0.7
BFO Black Forest 149.60 352 ePKPbc PKPbc 16 08 47.4 -0.8
BFO ePKPab PKPab 16 08 54.6 -1.3
BFO epPKPbc SKPdf 16 11 21.3 +0.1
WLS Welschbruch 149.64 353 PKP PKPbc 16 08 48.0 -0.3
CDF Champ du Feu 149.65 353 ePKP1 PKPbc 16 08 47.5 -0.8
comp=Z,61nm,1.0s
ROSF Rostrenen 149.72 7 ePKP1 PKPbc 16 08 47.0 -1.5
PERS Pernice 149.74 342 iPKPbc PKPbc 16 08 47.5 -1.1
MEZF Maizieres J'vi 149.76 356 ePKP1 PKPbc 16 08 47.9 -0.7
KBA Koelnbreinsper 149.82 345⇓iP PKPbc 16 08 47.7 -1.0
comp=Z,22nm,0.7s
VTS Vitosha 149.84 328⇑iP PKPbc 16 08 48.2 -0.5
VTS Vitosha 149.84 328 iP PKPbc 16 08 48.0 -0.7
VTS Vitosha 149.84 328 P PKPbc 16 08 48.6 -0.2
ECH Echery 149.86 353 PKP PKPbc 16 08 48.0 -0.8
SGMF Saint Gilles 149.88 6 ePKP1 PKPbc 16 08 47.5 -1.3
comp=Z,86nm,1.0s
GRR Gorron 149.88 4 ePKP1 PKPbc 16 08 47.8 -1.1
comp=Z,33nm,0.6s
THEF They Montfort 149.96 355 PKP PKPbc 16 08 48.8 -0.2
WATA Walderalm 149.99 347⇓iP PKPbc 16 08 48.2 -0.9
comp=Z,17nm,0.6s
OBKA Obir 150.02 343⇓iP PKPbc 16 08 48.0 -1.1
comp=Z,9.9nm,0.8s
WTTA Wettenberg 150.04 347⇓i PKPbc 16 08 48.9 -0.4
comp=Z,48nm,0.6s,SNR=18
WTTA Wettenberg 150.04 347⇑i PKPab 16 08 54.8 -2.9
comp=Z,44nm,0.9s
WTTA Wettenberg 150.04 347⇓iPKPdf PKPdf 16 08 43.0 -0.5
comp=Z,5.2nm,0.7s
WTTA ⇓iPKiKP PKiKP 16 08 48.9 -0.9
comp=Z,48nm,0.6s,SNR=18
WTTA ⇑iPKPab PKPab 16 08 54.8 -2.9
comp=Z,44nm,0.9s
MOTA Moosalm 150.08 348⇑i PKPbc 16 08 48.9 -0.4
comp=Z,54nm,1.2s
MOTA Moosalm 150.08 348⇑iPKPdf PKPdf 16 08 42.8 -0.8
comp=Z,4.1nm,0.6s
MOTA ⇑iPKiKP PKiKP 16 08 48.9 -1.0
comp=Z,54nm,1.2s
QUIF Quistinic 150.14 7 ePKP1 PKPbc 16 08 48.1 -1.4
comp=Z,103nm,1.3s
HAU Haudompre 150.15 354 ePKP1 PKPbc 16 08 48.6 -0.9
comp=Z,32nm,0.6s
SQTA Sankt Quirin 150.18 347⇓i PKPbc 16 08 48.9 -0.6
comp=Z,30nm,0.7s,SNR=11
SQTA Sankt Quirin 150.18 347⇑iPKPdf PKPdf 16 08 44.0 +0.2
comp=Z,4.0nm,0.6s
SQTA ⇓iPKPbc PKPbc 16 08 48.9 -0.6
comp=Z,30nm,0.7s,SNR=11
HINF Hinteralfeld 150.28 353 ePKP1 PKPbc 16 08 48.7 -1.1
comp=Z,26nm,0.8s
MMB Musomiste 150.28 326 iP PKPbc 16 08 49.0 -0.8
CRES Cresnjev 150.36 341 iPKPbc PKPbc 16 08 49.4 -0.6
CRES i 16 08 57.7
DAVA Damuels 150.37 349⇓i PKPbc 16 08 49.5 -0.5
comp=Z,46nm,1.1s,SNR=11
DAVA Damuels 150.37 349⇑iPKPdf PKPdf 16 08 43.5 -0.5
comp=Z,5.2nm,1.1s
DAVA ⇓iPKiKP PKiKP 16 08 49.5 -1.0
comp=Z,46nm,1.1s,SNR=11
KKB Krupnik 150.43 327 iP PKPdf 16 08 47.9 +3.8
LJU Ljubljana 150.45 342 iPKPbc PKPbc 16 08 49.4 -0.7
VOY Vojsko 150.64 343 ePKPbc PKPbc 16 08 49.4 -1.2
VOY ePKPab PKPab 16 08 57.7 -2.6
BOJS Bojanci 150.72 341 iPKPbc PKPbc 16 08 50.4 -0.3
BOJS iPKPab PKPab 16 08 59.3 -1.3
LOR Lormes 151.06 357 ePKP1 PKPbc 16 08 50.8 -0.8
comp=Z,66nm,1.0s
VAY Valandovo 151.09 327 ePKP PKPdf 16 08 48.2 +3.1
HYF Humbligny 151.09 359 ePKP1 PKPbc 16 08 51.2 -0.4
SSF Saint Saulge 151.28 358 ePKP1 PKPbc 16 08 51.2 -0.9
comp=Z,54nm,0.9s
AVF Avril sur Loir 151.55 358 ePKP1 PKPbc 16 08 51.5 -1.2
comp=Z,21nm,1.0s
CABF La Chapelle 151.56 354 ePKP1 PKPbc 16 08 52.4 -0.3
comp=Z,93nm,1.1s
SMF Signal de Mont 151.68 357 ePKP1 PKPbc 16 08 51.9 -1.1
comp=Z,23nm,1.0s
MFF Saint Martin d 151.70 3 ePKP1 PKPbc 16 08 51.9 -1.1
comp=Z,25nm,0.6s
BGF Bois d'Agland 151.80 359 ePKP1 PKPbc 16 08 52.3 -0.9
comp=Z,46nm,0.9s
TCF Toulx Ste Croi 152.08 360 ePKP1 PKPbc 16 08 52.8 -1.0
comp=Z,24nm,0.8s
OHR Ohrid 152.14 329 ePKP PKPbc 16 08 52.5 -1.4
AGO Saint Agoulin 152.30 358 PKP PKPbc 16 08 53.5 -0.8
PLDF La Plantade 152.36 358 PKP PKPbc 16 08 54.1 -0.4
LPL La Plagne 152.57 353 ePKP1 PKPbc 16 08 54.8 -0.1
comp=Z,11nm,0.8s
LPG La Plagne 152.58 353 ePKP1 PKPbc 16 08 55.0 +0.1
comp=Z,14nm,0.8s
PYM Petit Puy Mans 152.60 359 PKP PKPbc 16 08 54.9 -0.1
RJF Les Rejaudoux 153.06 1 ePKP1 PKPbc 16 08 55.0 -1.0
comp=Z,15nm,0.7s
LBL Lubilhac 153.11 358 PKP PKPbc 16 08 56.2 +0.1
ORIF Oris-en-Rattie 153.25 354 ePKP1 PKPbc 16 08 55.8 -0.6
comp=Z,11nm,0.8s
MBDF Montbardon 153.34 352 ePKP1 PKPbc 16 08 56.0 -0.6
comp=Z,17nm,0.6s
LFF La Frestale 153.40 2 ePKP1 PKPbc 16 08 55.7 -1.0
VIVF Saint-Julien-l 153.42 356 ePKP1 PKPbc 16 08 56.2 -0.5
comp=Z,10nm,0.7s
CAF Calviac 153.44 360 ePKP1 PKPbc 16 08 56.1 -0.7
comp=Z,18nm,1.0s
SMRF Simiane la Rot 154.22 354 ePKP1 PKPbc 16 08 58.4 0.0
LASF Ste Croix 154.24 357 ePKP1 PKPbc 16 08 58.1 -0.4
comp=Z,14nm,0.9s
FRF La Foret Royal 154.50 352 ePKP1 PKPbc 16 08 58.2 -0.8
ETSF Etsaut 155.37 5 ePKP1 PKPdf 16 08 59.7 +8.5
comp=Z,4.7nm,0.6s
EVO Evora 158.00 21 ePKIKP PKPdf 16 08 45.8 -6.0
comp=Z,3.3nm,0.5s
ESDC Sonseca Array 158.06 12 PKPab PKPab 16 09 31.3 -0.8
comp=Z,4.3nm,0.8s,baz=341,slow=4.0,SNR=15
KEST Kesra 161.46 341 PKPab PKPab 16 09 47.2 +0.2
comp=Z,3.2nm,0.7s,baz=157,slow=1.3,SNR=7.4
DBIC Dimbokro 166.64 149 PKP PKPdf 16 09 02.4 -0.6
comp=Z,1.9nm,0.9s,baz=149,slow=6.3,SNR=4.4
DBIC Dimbokro 166.64 149 PKIKP PKPdf 16 09 02.4 -0.6
DBIC pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 174.88 176 PKP PKPdf 16 09 06.0 -1.2
comp=Z,2.4nm,1.0s,baz=213,slow=0.9,SNR=8.7
TORD PKPab PKPab 16 10 46.8 +0.4
comp=Z,0.8nm,1.0s,baz=192,slow=2.3,SNR=4.0

*ISCJB **27** 15:52:39.4±0.9, 1826S±008×177.97W±009, h605km±14km, mb4.4/20, Error ellipse: s-maj=14.7km s-min=10.9km az=89.0*

BJI 27 15:52:40.3, 1830S×17800W, h625km, mB4.0, mb4.3
IDC 27 15:52:41.7±2.2, 1833S×17801W, h616km±26km, mb3.9/10, mb1 3.9/10, mb1mx3.7/17, mbtmp4.9/10, Error ellipse: s-maj=18.7km s-min=14.9km az=132.0
NEIC 27 15:52:42.3±2.6, 1826S×17799W, h625km±28km, mb4.5/13, Error ellipse: s-maj=18.9km s-min=10.3km az=64.0

ISC 27 15:52:42.4±1.9, 1830S±009×1780W±01, h624km±23km, n52, σ0°68/40, mb4.4/20, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.38**	**55**	S	**S**	**15 56 02.8**	**-7.7**
	3.0nm,0.3s,baz=120,slow=20,SNR=4.8						
DZM	**Mont Dzumac**	**15.10**	**253**	*e*P	**P**	**15 55 50.8**	**+0.3**
DZM	**Mont Dzumac**	**15.10**	**253**	S	**P**	**15 55 50.5**	**-0.1**
	3.2nm,0.3s,baz=84,slow=17,SNR=9.2						
URZ	**Urewera**	**20.35**	**191**	P	**P**	**15 56 36.2**	**-2.0**
	8.4nm,0.5s,baz=79,slow=10,SNR=5.1						
CNB	**Canberra Magne**	**33.52**	**233**	*e*P	**P**	**15 58 33.5**	**+0.9**
	6.7nm,0.5s,mb4.5						
CTA	**Charters Tower**	**33.80**	**261**	*e*P	**P**	**15 58 34.7**	**-0.2**
	7.7nm,0.4s,mb4.7						
CTA	**Charters Tower**	**33.80**	**261**	P	**P**	**15 58 34.4**	**-0.5**
	10nm,0.4s,mb4.8,baz=93,slow=12,SNR=12						
CTAO	**Charters Tower**	**33.80**	**261**	*e*P	**P**	**15 58 34.9**	**0.0**
	9.1nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.94**	**280**	*e*P	**P**	**15 58 44.8**	**+0.5**
	34nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**38.81**	**242**	*e*P	**P**	**15 59 16.9**	**+1.1**
	5.5nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**38.81**	**242**	P	**P**	**15 59 16.4**	**+0.6**
	6.0nm,0.4s,mb4.4,baz=85,slow=8,6,SNR=6.5						
WB2	**Warramunga Arr**	**44.96**	**260**	*e*P	**P**	**16 00 03.7**	**-0.2**
WRAB	**Tennant Creek**	**44.96**	**260**	*e*P	**P**	**16 00 03.5**	**-0.3**
WRA	**Warramunga Arr**	**44.97**	**260**	P	**P**	**16 00 03.8**	**-0.2**
	13nm,0.4s,mb4.8,baz=96,slow=6.9,SNR=23						
WRA				PcP	PcP	16 01 31.8	+0.6
	1.4nm,0.3s,baz=90,slow=3.8,SNR=5.1						
AS31	**Alice Springs**	**45.09**	**255**	*e*P	**P**	**16 00 05.1**	**+0.3**
AS31				*e*S	**S**	**16 05 59.7**	**-0.3**
ASAR	**Alice Springs**	**45.09**	**255**	P	**P**	**16 00 04.8**	**0.0**
	17nm,0.4s,mb5.0,baz=95,slow=7.5,SNR=26						
ASAR				PcP	PcP	16 01 32.2	+0.6
	2.7nm,0.4s,baz=105,slow=3.9,SNR=6.2						
ASAR				S	**S**	**16 05 59.5**	**-0.6**
	3.6nm,0.8s,baz=88,slow=16,SNR=9.4						
ASPA	**Alice Springs**	**45.09**	**255**	*e*P	**P**	**16 00 05.1**	**+0.3**
ASPA				*e*S	**S**	**16 05 59.7**	**-0.4**
FORT	**Forrest**	**50.22**	**245**	*e*P	**P**	**16 00 42.6**	**-0.3**
	9.8nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.38**	**261**	*e*P	**P**	**16 01 05.6**	**+0.1**
	6.8nm,0.4s,mb4.3						
KLBR	**Kellerberrin**	**59.03**	**244**	*e*P	**P**	**16 01 45.0**	**+0.8**
	6.8nm,0.5s,mb4.0						
SBA	**Scott Base**	**60.06**	**184**	*e*P	**P**	**16 01 52.0**	**+1.0**
	2.8nm,0.6s,mb3.7						
VNDA	**Vanda**	**60.09**	**185**	P	**P**	**16 01 49.8**	**-1.4**
	0.9nm,0.5s						
MUN	**Mundaring**	**60.32**	**243**	*e*P	**P**	**16 01 53.0**	**+0.3**
JHJ	**Hachijo jima 2**	**65.13**	**322**	P	**P**	**16 02 23.3**	**-0.2**
	90nm,0.4s,baz=67,slow=21,SNR=11						
CASY	**Casey**	**65.96**	**205**	P	**P**	**16 02 28.1**	**-0.5**
	3.6nm,0.8s,mb3.9						
MJAR	**Matsushiro Arr**	**68.47**	**323**	P	**P**	**16 02 42.9**	**-1.0**
	13nm,0.6s,mb4.5,baz=156,slow=5.9,SNR=27						
MAJO	**Matsushiro**	**68.47**	**323**	*e*P	**P**	**16 02 43.2**	**-0.7**
	15nm,0.5s,mb4.7						
JOW	**Kunigami**	**68.79**	**309**	P	**P**	**16 02 45.8**	**0.0**
	6.0nm,0.4s,mb4.3,baz=144,slow=14,SNR=4.9						
QSPA	**South Pole Qui**	**71.76**	**180**	*e*P	**P**	**16 03 03.7**	**+0.5**
	10nm,0.8s,mb4.4						
ASAJ	**Asahikawa**	**71.82**	**331**	P	**P**	**16 03 04.0**	**+0.4**
	7.3nm,0.5s,mb4.5,baz=191,slow=4.4,SNR=9.3						
YSS	**Yuzh-Sakhalins**	**73.95**	**333**	*e*P	**P**	**16 03 15.9**	**+0.1**
	13nm,0.9s,mb4.5						
KDAK	**Kodiak Island**	**78.68**	**14**	P	**P**	**16 03 41.2**	**-0.4**
	5.6nm,0.6s,mb4.0,baz=207,slow=4.5,SNR=4.2						
KDAK	**Kodiak Island**	**78.68**	**14**	P	**P**	**16 03 41.2**	**-0.4**
MDJ	**Mudanjiang**	**78.74**	**325**	P	**P**	**16 03 42.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.2						
MDJ	**Mudanjiang**	**78.74**	**325**	*e*P	**P**	**16 03 42.4**	**+0.4**
	comp=Z,7.2nm,0.6s,mb4.2						
PLCA	**Paso Flores**	**90.76**	**134**	P	**P**	**16 04 41.0**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=303,slow=4.1,SNR=3.8						
PLCA	**Paso Flores**	**90.76**	**134**	*e*P	**P**	**16 04 42.1**	**+1.6**
BVAR	**Borovoye Array**	**117.41**	**321**	PKP	PKPdf	16 10 18.0	-0.5
	comp=Z,1.3nm,0.3s,baz=120,slow=2.7,SNR=12						
ARCES	**ARCESS Array B**	**126.77**	**350**	PKP	PKPdf	16 10 35.3	-1.2
	comp=Z,1.4nm,0.3s,baz=60,slow=1.4,SNR=10						
JOF	**Joensuu**	**131.05**	**343**	*e*pkp	PKPdf	16 10 43.1	-1.5
KAF	**Kangasniemi**	**133.05**	**345**	*e*pkp	PKPdf	16 10 47.4	-0.9
FINES	**FINESS Array B**	**133.68**	**344**	PKP	PKPdf	16 10 48.5	-1.0
	comp=Z,3.0nm,0.8s,baz=28,slow=5.2,SNR=5.7						
FINES				PP	PP	16 13 24.5	-3.4
	comp=Z,2.1nm,0.8s,baz=15,slow=9.8,SNR=4.4						
AKASG	**Malin Array Be**	**141.10**	**332**	PKhKP		16 10 57.5	
	comp=Z,1.7nm,0.3s,baz=43,slow=3.9,SNR=11						
AKASG	**Malin Array Be**	**141.10**	**332**	PKP		16 10 57.5	
MALT	**Malatya**	**142.58**	**310**	*e*PKPpre		16 11 04.3	
BR131	**Keskin Array S**	**145.35**	**315**	*e*PKPbc	PKPbc	16 11 12.0	+0.1
BRTR	**Keskin Array B**	**145.35**	**315**	PKPbc	PKPbc	16 11 11.5	-0.4
	comp=Z,5.3nm,0.8s,baz=140,slow=4.7,SNR=11						
ASF	**Jabal al Asfar**	**145.73**	**301**	PKPbc	PKPbc	16 11 13.5	+0.4
	comp=Z,3.6nm,0.9s,baz=279,slow=3.0,SNR=5.3						
CLL	**Collm**	**145.93**	**348**	↑*i*PKPbc	PKPbc	16 11 13.4	-0.2
	comp=Z,23nm,0.7s						
MLR	**Muntele Rosu**	**146.38**	**329**	PKPbc	PKPbc	16 11 15.0	+0.2
	comp=Z,2.5nm,0.3s,baz=299,slow=5.2,SNR=4.9						
GERES	**GERESS Array B**	**148.09**	**345**	PKPbc	PKPbc	16 11 18.4	-0.9
	comp=Z,4.1nm,0.6s,baz=24,slow=2.9,SNR=12						
KEST	**Kesra**	**161.47**	**341**	PKPab	PKPab	16 12 21.8	-0.1
	comp=Z,2.1nm,0.9s,baz=304,slow=3.6,SNR=4.2						

IDC 27 15:57:29.2±0.8, 1164N×9984E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, MS3.8/2, Ms1 3.8/2, ms1mx3.0/34, Error ellipse: s-maj=39.7km s-min=16.4km az=60.0
NEIC 27 15:57:30.3±0.5, 1172N×9987E, h10km, mb4.5/2, Error ellipse: s-maj=23.7km s-min=8.4km az=69.0
ISCJB 27 15:57:32.1±0.5, 1169N±008×999E±02, h33km, mb4.1/11, MS3.8/2, Error ellipse: s-maj=24.9km s-min=8.6km az=141.2

ISC 27 15:57:34.4±0.5, 1171N±008×999E±02, h35km, n20, σ0°71/18, mb4.1/11, MS3.8/2, Malay Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNG	**Songkhla**	**4.55**	**171**	P	**Pn**	**15 58 41.0**	**+0.2**
	480nm,0.9s						
KULM	**Kulim**	**6.42**	**173**	*e*Pn	**Pn**	**15 59 05.0**	**-1.5**
CM31	**Chiang Mai Arr**	**6.78**	**352**	*e*P	**Pn**	**15 59 07.2**	**-4.1**
	0.4nm,1.4s						
CM31				*e*Sg	Sn	16 01 04.9	+38
CHTO	**Chiang Mai**	**7.13**	**353**	*e*Pn	**Pn**	**15 59 14.6**	**-1.6**
	7.1nm,0.8s						
CHTO				*e*Sg	Sn	16 01 13.9	+38
SONM	**Songino Array**	**36.42**	**7**	P	**P**	**16 04 36.5**	**+0.8**
	3.6nm,0.9s,mb4.3,baz=185,slow=9.9,SNR=16						
MKAR	**Makanchi Array**	**38.01**	**340**	P	**P**	**16 04 48.7**	**-0.4**
	0.7nm,0.8s,mb3.5,baz=140,slow=9.6,SNR=4.5						
MKAR	**Makanchi Array**	**38.01**	**340**	P	**P**	**16 04 48.7**	**-0.4**
MJAR	**Matsushiro Arr**	**42.39**	**48**	LR	LR	16 22 19.0	
	comp=Z,83nm,20.3s,MS3.6,baz=350,slow=35						
ZAL	**Zalesovo**	**43.80**	**347**	P	**P**	**16 05 37.3**	**+0.5**
	1.9nm,0.4s,mb4.2,baz=337,slow=9.2,SNR=9.1						
WRA	**Warramunga Arr**	**46.24**	**133**	P	**P**	**16 05 55.9**	**-0.2**
	1.5nm,0.6s,mb4.1,baz=311,slow=9.4,SNR=13						
WRAB	**Tennant Creek**	**46.24**	**133**	*e*P	**P**	**16 05 56.1**	**0.0**
	3.2nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**46.25**	**133**	*e*P	**P**	**16 05 56.2**	**0.0**
WB2	**Warramunga Arr**	**46.25**	**133**	*e*S	**P**	**16 05 56.4**	**+0.2**
BVAR	**Borovoye Array**	**47.51**	**336**	P	**P**	**16 06 06.0**	**0.0**
	1.3nm,0.6s,mb4.2,baz=140,slow=10.0,SNR=8.5						
ZRNK	**Zerenda**	**48.01**	**335**	*e*P	**P**	**16 06 09.9**	**0.0**
	2.6nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**48.39**	**137**	P	**P**	**16 06 13.7**	**+0.8**
	3.6nm,0.7s,mb4.5,baz=316,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**58.91**	**139**	P	**P**	**16 07 30.0**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=330,slow=18,SNR=3.0						
KMBO	**Kilima Mbogo**	**63.52**	**263**	LR	LR	16 32 52.3	
	comp=Z,83nm,19.6s,MS3.9,baz=92,slow=34						
BRTR	**Keskin Array B**	**64.38**	**308**	P	**P**	**16 08 07.5**	**+0.7**
	1.0nm,0.8s,mb3.9,baz=125,slow=6.1,SNR=7.5						
BOSA	**Boshof**	**82.42**	**239**	P	**P**	**16 09 53.5**	**+0.6**
	2.0nm,0.7s,mb4.2,baz=74,slow=8.0,SNR=3.4						

IDC 27 15:59:36.9±8.2, 2221N×14429E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=335.4km s-min=25.0km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.23**	**339**	LR	LR	16 02 44.6	
	comp=Z,130nm,18.6s,baz=139,slow=36						
SONM	**Songino Array**	**39.61**	**320**	P	P	16 07 10.1	0.0
	0.7nm,0.8s,baz=127,slow=6.4,SNR=2.5						
WRA	**Warramunga Arr**	**43.01**	**194**	P	P	16 07 38.0	0.0
	2.1nm,0.9s,baz=16,slow=8.7,SNR=6.3						
ASAR	**Alice Springs**	**46.71**	**193**	P	P	16 08 07.9	+0.4
	0.4nm,0.6s,baz=17,slow=9.2,SNR=5.4						
BVAR	**Borovoye Array**	**62.95**	**319**	P	P	16 10 05.3	+0.1
	1.5nm,0.8s,baz=94,slow=8.9,SNR=4.5						
YBH	**Yreka Blue Hor**	**77.70**	**50**	LR	LR	16 43 42.5	
	comp=Z,45nm,19.6s,baz=359,slow=34						

ISCJB 27 16:02:22.4±0.9, 138N±01×1445E±03, h159km±10km, mb3.8/8, Error ellipse: s-maj=48.4km s-min=19.0km az=159.1
IDC 27 16:02:23.2±0.7, 1377N×14447E, h149km±8km, mb3.5/7, mb1 3.7/7, mb1mx3.5/21, mbtmp4.0/7, Error ellipse: s-maj=38.6km s-min=17.7km az=75.0
NEIC 27 16:02:23.7±0.8, 1383N×14456E, h157km±9km, mb4.1/3, Error ellipse: s-maj=32.0km s-min=12.6km az=79.0

ISC 27 16:02:23.8±0.9, 138N±01×1445E±03, h155km±9km, n15, σ0°53/17, mb3.8/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.42**	**125**	P	**Pn**	**16 02 45.8**	**+0.5**
	106nm,0.3s,baz=130,slow=1.1,SNR=220						
GUMO				S	**Sn**	**16 03 01.3**	**-0.4**
	245nm,0.3s,baz=345,slow=20,SNR=69						
GUMO	**Guam**	**0.42**	**125**	*e*Pn	**Pn**	**16 02 45.3**	**0.0**
GUMO				*e*Sn	**Sn**	**16 03 01.7**	**0.0**
WRAB	**Tennant Creek**	**35.01**	**197**	*e*P	**P**	**16 09 01.4**	**0.0**
	4.3nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**35.02**	**197**	*e*P	**P**	**16 09 01.8**	**+0.3**
WRA	**Warramunga Arr**	**35.02**	**197**	P	**P**	**16 09 00.9**	**-0.6**
	2.5nm,0.6s,mb4.0,baz=23,slow=9.9,SNR=31						
FITZ	**Fitzroy Crossi**	**36.79**	**211**	*e*P	**P**	**16 09 17.4**	**+0.9**
	4.9nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**36.79**	**211**	P	**P**	**16 09 16.1**	**-0.4**
	2.2nm,0.8s,mb3.8,baz=29,slow=13,SNR=6.2						
AS31	**Alice Springs**	**38.68**	**196**	*e*P	**P**	**16 09 32.8**	**+0.4**
ASAR	**Alice Springs**	**38.69**	**196**	P	**P**	**16 09 31.9**	**-0.5**
	0.7nm,0.5s,mb3.5,baz=17,slow=14,SNR=10						
ASPA	**Alice Springs**	**38.69**	**196**	*e*P	**P**	**16 09 32.8**	**+0.4**
DZM	**Mont Dzumac**	**41.66**	**149**	P	**P**	**16 09 57.1**	**+0.3**
	4.9nm,0.5s,mb4.4,baz=306,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**45.53**	**183**	*e*P	**P**	**16 10 27.5**	**-0.3**
	1.0nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**45.53**	**183**	P	**P**	**16 10 27.4**	**-0.5**
	1.4nm,0.6s,mb3.8,baz=2.1,slow=12,SNR=10						
SONM	**Songino Array**	**46.34**	**325**	P	**P**	**16 10 35.0**	**+0.8**
	0.4nm,0.8s,mb3.1,baz=127,slow=6.4,SNR=3.6						
BVAR	**Borovoye Array**	**69.53**	**322**	P	**P**	**16 13 14.6**	**-1.0**
	0.6nm,0.5s,mb3.5,baz=104,slow=7.4,SNR=4.1						

NEIC 27 17:06:27.2, 3794S×17625E, h195km, MG3.9(WEL), After WEL.

WEL 27 17:06:27.4±0.2, 3792S×17626E, h192km±2km, ML3.9/21, 3C, Error ellipse: s-maj=2.8km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.75**	**117**	P	Pn	17 06 54.9	+0.2
URZ	**Urewera**	**0.75**	**117**	PN	Pn	17 06 54.9	+0.1
URZ				SN	Sn	17 07 15.8	-0.1
MWZ	**Matawai**	**1.08**	**113**	P	Pn	17 06 57.2	+0.3
MWZ				S	Sn	17 07 19.9	+0.2
MWZ	**Matawai**	**1.08**	**113**	PN	Pn	17 06 57.1	+0.2
MWZ				SN	Sn	17 07 19.7	0.0
BKZ	**Black Stump Fm**	**1.26**	**172**	P	Pn	17 06 58.4	+0.1
BKZ				S	Sn	17 07 22.1	0.0
BKZ	**Black Stump Fm**	**1.26**	**172**	↑PN	Pn	17 06 58.4	+0.1
BKZ				SN	Sn	17 07 22.0	-0.1
WTVZ	**West Tongariro**	**1.30**	**204**	P	Pn	17 06 58.9	+0.2
WTVZ	**West Tongariro**	**1.30**	**204**	PN	Pn	17 06 58.9	+0.2
TUVZ	**Tukino**	**1.43**	**199**	P	Pn	17 07 00.0	+0.3
TUVZ	**Tukino**	**1.43**	**199**	PN	Pn	17 07 00.0	+0.3
FWVZ	**Far West T-bar**	**1.44**	**202**	PN	Pn	17 07 00.2	+0.3
WNVZ	**Wahianoa**	**1.50**	**200**	P	Pn	17 07 00.5	+0.2
WNVZ	**Wahianoa**	**1.50**	**200**	PN	Pn	17 07 00.5	+0.1
MOVZ	**Moawhango**	**1.54**	**195**	P	Pn	17 07 00.3	-0.4
MOVZ	**Moawhango**	**1.54**	**195**	PN	Pn	17 07 00.3	-0.4
MOVZ				SN	Sn	17 07 26.2	-0.3
KNZ	**Kokohu**	**1.56**	**135**	PN	Pn	17 07 01.3	+0.4
KNZ				SN	Sn	17 07 26.3	-0.7
PUZ	**Puketiti**	**1.59**	**96**	*e*P	Pn	17 07 00.7	-0.5
PUZ	**Puketiti**	**1.59**	**96**	PN	Pn	17 07 00.7	-0.5
PUZ				SN	Sn	17 07 27.0	-0.3
MTVZ	**Mangateitei**	**1.59**	**203**	PN	Pn	17 07 01.2	0.0
MXZ	**Matakaoa Point**	**1.66**	**78**	P	Pn	17 07 02.0	+0.1
MXZ	**Matakaoa Point**	**1.66**	**78**	PN	Pn	17 07 01.8	-0.1
MXZ				SN	Sn	17 07 27.9	-0.7
WAZ	**Wanganui**	**2.09**	**208**	P	Pn	17 07 05.6	-0.6
WAZ				S	Sn	17 07 34.8	-1.5
WAZ	**Wanganui**	**2.09**	**208**	PN	Pn	17 07 05.5	-0.7
WAZ				SN	Sn	17 07 35.2	-1.2
TSZ	**Takapari Road**	**2.15**	**186**	P	Pn	17 07 06.1	-0.8
TSZ				S	Sn	17 07 35.7	-1.9
TSZ	**Takapari Road**	**2.15**	**186**	↑PN	Pn	17 07 06.1	-0.7
TSZ				SN	Sn	17 07 35.7	-1.9
PXZ	**Pawanui**	**2.16**	**168**	PN	Pn	17 07 06.4	-0.6
PXZ				SN	Sn	17 07 36.6	-1.2
BFZ	**Birch Farm**	**2.76**	**180**	P	Pn	17 07 12.0	-1.7
BFZ	**Birch Farm**	**2.76**	**180**	PN	Pn	17 07 12.0	-1.7
BFZ				SN	Sn	17 07 48.1	-1.7
MRZ	**Mangatainoka R**	**2.79**	**191**	P	Pn	17 07 12.2	-1.9
MRZ	**Mangatainoka R**	**2.79**	**191**	↑PN	Pn	17 07 12.2	-1.9
KIW	**Kapiti Island**	**3.12**	**199**	P	Pn	17 07 15.5	-2.5
MTW	**Mount Morrison**	**3.29**	**190**	P	Pn	17 07 17.3	-2.8
CAW	**Cannon Point**	**3.31**	**196**	P	Pn	17 07 17.7	-2.7
PAWZ	**Paruwai Farm**	**3.52**	**190**	P	Pn	17 07 20.1	-2.8
MRW	**Makara Radio**	**3.52**	**200**	P	Pn	17 07 20.0	-2.9
WEL	**Wellington**	**3.55**	**198**	P	Pn	17 07 20.4	-2.9
MSWZ	**Moikau Station**	**3.58**	**192**	P	Pn	17 07 20.6	-3.0
SNZO	**South Karori**	**3.59**	**199**	P	Pn	17 07 20.6	-3.2
TCW	**Tory Channel**	**3.63**	**204**	P	Pn	17 07 21.2	-3.0
BHW	**Baring Head**	**3.65**	**197**	P	Pn	17 07 21.2	-3.3
NNZ	**Nelson**	**3.98**	**213**	*e*P	Pn	17 07 25.3	-3.3
QRZ	**Quartz Range**	**4.10**	**224**	*e*P	Pn	17 07 25.9	-4.2
BSWZ	**Blackbirch Sta**	**4.21**	**205**	P	Pn	17 07 28.4	-3.1
THZ	**Tophouse**	**4.63**	**213**	*e*P	Pn	17 07 33.0	-3.8
KHZ	**Kahutara**	**4.95**	**204**	P	Pn	17 07 37.4	-3.6
DSZ	**Denniston Nort**	**5.13**	**221**	*e*P	Pn	17 07 38.6	-4.7
LTZ	**Lake Taylor**	**5.73**	**211**	P	Pn	17 07 46.4	-4.7
MQZ	**McQueen's Vall**	**6.39**	**204**	*e*P	Pn	17 07 54.3	-5.4
ODZ	**Otahua Downs**	**8.27**	**209**	*e*P	Pn	17 08 19.6	-4.6

ISCJB 27 17:10:39.9±1.4, 2194N±008×1428E±03, h265km±13km, mb3.7/12, Error ellipse: s-maj=40.6km s-min=12.5km az=178.1
IDC 27 17:10:40.5±1.9, 2193N×14286E, h254km±18km, mb3.5/9, mb1 3.5/11, mb1mx3.4/23, mbtmp4.1/11, Error ellipse: s-maj=32.8km s-min=12.6km az=87.0
NEIC 27 17:10:42.0±2.7, 2194N×14288E, h274km±28km, mb3.6/1, Error ellipse: s-maj=30.4km s-min=10.6km az=87.0

ISC 27 17:10:41.0±1.4, 2198N±008×1428E±03, h260km±13km, n18, σ0°81/19, mb3.7/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.13**	**354**	P	**Pn**	**17 11 59.6**	**+1.0**
	8.0nm,0.3s,baz=106,slow=18,SNR=10						
CBIJ				S	**S**	**17 12 59.6**	**-1.0**
	10nm,0.3s,baz=284,slow=22,SNR=7.4						
MJAR	**Matsushiro Arr**	**15.06**	**346**	P	**Pn**	**17 14 02.0**	**+0.6**
	1.1nm,0.3s,baz=234,slow=11,SNR=8.5						
MAJO	**Matsushiro**	**15.06**	**346**	*e*P	**Pn**	**17 14 00.7**	**-0.7**
ASAJ	**Asahikawa**	**22.08**	**360**	P	**P**	**17 15 16.6**	**+1.8**
	5.2nm,0.7s,mb4.0,baz=150,slow=28,SNR=5.3						
SONM	**Songino Array**	**38.92**	**320**	P	**P**	**17 17 42.5**	**+0.8**
	0.7nm,0.4s,mb3.4,baz=131,slow=7.4,SNR=15						
WRAB	**Tennant Creek**	**42.47**	**192**	*e*P	**P**	**17 18 10.6**	**-0.1**
	2.0nm,0.6s,mb3.5						
WB2	**Warramunga Arr**	**42.48**	**192**	*e*P	**P**	**17 18 10.8**	**0.0**
WRA	**Warramunga Arr**	**42.48**	**192**	P	**P**	**17 18 10.8**	**0.0**
	0.7nm,0.5s,mb3.1,baz=9.5,slow=7.9,SNR=16						
FITZ	**Fitzroy Crossi**	**43.24**	**204**	*e*P	**P**	**17 18 17.0**	**+0.2**
	3.3nm,1.1s,mb3.5						
ASAR	**Alice Springs**	**46.19**	**191**	P	**P**	**17 18 39.6**	**-0.4**
	0.3nm,0.7s,mb2.7,baz=13,slow=7.6,SNR=9.8						
ZAL	**Zalesovo**	**53.80**	**322**	P	**P**	**17 19 36.7**	**-0.3**
	0.9nm,0.4s,mb3.5,baz=329,slow=5.9,SNR=3.5						
ZAL	**Zalesovo**	**53.80**	**322**	P	**P**	**17 19 36.7**	**-0.3**
KDAK	**Kodiak Island**	**58.16**	**35**	P	**P**	**17 20 07.7**	**-0.1**
	10nm,1.1s,mb4.2,baz=270,slow=7.1,SNR=4.4						
BVAR	**Borovoye Array**	**62.25**	**319**	P	**P**	**17 20 36.5**	**+1.1**
	0.8nm,0.4s,mb3.8,baz=92,slow=7.4,SNR=6.4						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**17 22 13.5**	**-0.1**
	7.6nm,1.0s,mb4.4,baz=69,slow=7.9,SNR=4.2						
ARCES	**ARCESS Array B**	**78.56**	**341**	P	**P**	**17 22 13.5**	**-0.2**
JOF	**Joensuu**	**79.92**	**334**	*e*p	**P**	**17 22 19.5**	**-1.6**
	3.5nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**82.79**	**334**	P	**P**	**17 22 35.0**	**-1.0**
	1.6nm,0.4s,mb4.2,baz=68,slow=5.3,SNR=21						

MOS 27 17:14:57.1±1.7, 4573N×15423E, h33km, mb4.1/3, Error ellipse: s-maj=31.8km s-min=24.1km az=107.4
ISCJB 27 17:14:58.6±3.4, 459N±04×154.1E±04, h33km, mb3.8/4, Error ellipse: s-maj=65.4km s-min=16.5km az=109.4
IDC 27 17:15:06.5±11.0, 47.11N×15253E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.8/5, ML3.4/1, Error ellipse: s-maj=270.9km s-min=44.1km az=138.0

ISC 27 17:15:00.4±3.3, 459N±04×1542E±04, h35km, n12, σ1°09/12, mb3.8/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**5.00**	**14**	*e*P	**Pn**	**17 16 11.7**	**-1.3**
SKR				*e*		17 17 03.0	
ASAJ	**Asahikawa**	**8.38**	**262**	Pn	**Pn**	**17 16 58.3**	**-1.0**
	0.6nm,0.3s,baz=81,slow=13,SNR=5.5						
ASAJ	**Asahikawa**	**8.38**	**262**	P	**Pn**	**17 16 58.3**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**15.49**	**291**	*e*P	**Pn**	**17 18 37.2**	**+1.1**
MKAR	**Makanchi Array**	**48.00**	**299**	P	**P**	**17 23 34.5**	**-1.4**
	comp=Z,0.9nm,0.9s,mb3.8,baz=66,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**48.00**	**299**	P	**P**	**17 23 34.5**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**65.15**	**335**	P	**P**	**17 25 38.5**	**+0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=39,slow=7.2,SNR=7.5						
FINES	**FINESS Array B**	**65.15**	**335**	P	**P**	**17 25 38.5**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.

ZAL				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**46.20**	**133**	P	**P**	**17 46 59.2**	**-0.2**	
	comp=Z,1.1nm,0.6s,mb3.9,baz=315,slow=8.6,SNR=6.3							
WRA	**Warramunga Arr**	**46.20**	**133**	P	**P**	**17 46 59.2**	**-0.2**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**47.46**	**336**	P	**P**	**17 47 09.0**	**-0.2**	
	comp=Z,1.6nm,0.8s,mb4.0,baz=128,slow=9.6,SNR=11							
BVAR	**Borovoye Array**	**47.46**	**336**	P	**P**	**17 47 09.0**	**-0.3**	
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
BRVK	**Borovoye**	**47.53**	**336**	*e*P	**P**	**17 47 09.4**	**-0.4**	
BRVK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
BRVK	**Borovoye**	**47.53**	**336**	*e*P	**P**	**17 47 09.4**	**-0.4**	
	comp=Z,1.4nm,0.7s,mb4.1							
ZRNK	**Zerenda**	**47.97**	**335**	*e*P	**P**	**17 47 13.1**	**-0.1**	
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ZRNK	**Zerenda**	**47.97**	**335**	*e*P	**P**	**17 47 13.1**	**-0.1**	
	comp=Z,2.0nm,0.6s,mb4.3							
AS31	**Alice Springs**	**48.37**	**137**	*e*P	**P**	**17 47 16.2**	**-0.1**	
ASAR	**Alice Springs**	**48.37**	**137**	P	**P**	**17 47 16.4**	**+0.1**	
	comp=Z,2.6nm,0.8s,mb4.3,baz=315,slow=7.3,SNR=26							
ASAR	**Alice Springs**	**48.37**	**137**	P	**P**	**17 47 16.4**	**+0.1**	
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AKTK	**Aktyubinsk**	**51.58**	**327**	P	**P**	**17 47 40.7**	**+0.1**	
AKTO	**Aktyubinsk**	**51.58**	**327**	P	**P**	**17 47 40.7**	**+0.1**	
	comp=Z,0.6nm,0.3s,mb3.9,baz=137,slow=14,SNR=3.3							
AKTO	**Aktyubinsk**	**51.58**	**327**	P	**P**	**17 47 40.7**	**0.0**	
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
YAK	**Yakutsk**	**54.49**	**17**	*i* P	**P**	**17 48 02.0**	**-0.1**	
YAK				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
YAK				MLR	MLR			
	comp=Z,100nm,15.0s,MS4.0							
KIV	**Kislovodsk**	**58.53**	**315***c*	*i*P	**P**	**17 48 32.0**	**+1.1**	
KIV				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
BRTR	**Keskin Array B**	**64.43**	**308**	P	**P**	**17 49 10.1**	**-0.8**	
	comp=Z,1.5nm,0.9s,mb4.0,baz=108,slow=7.9,SNR=7.8							
BRTR	**Keskin Array B**	**64.43**	**308**	P	**P**	**17 49 10.1**	**-0.7**	
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
OBN	**Obninsk**	**65.31**	**326**	*e*P	**P**	**17 49 15.9**	**-0.6**	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
NOA	**NORSAR Array B**	**79.20**	**330**	P	**P**	**17 50 38.8**	**-0.7**	
	comp=Z,0.6nm,0.8s,mb3.6,baz=90,slow=5.5,SNR=3.1							
NOA	**NORSAR Array B**	**79.20**	**330**	P	**P**	**17 50 38.8**	**-0.7**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BOSA	**Boshof**	**82.62**	**239**	P	**P**	**17 50 57.5**	**-0.3**	
	comp=Z,2.5nm,0.8s,mb4.3,baz=72,slow=9.2,SNR=3.7							
BOSA	**Boshof**	**82.62**	**239**	P	**P**	**17 50 57.5**	**-0.3**	
BOSA				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
AFI	**Afiamalu**	**91.03**	**104**	LR	LR	18 26 04.6		
	comp=Z,63nm,21.1s,MS4.0,baz=260,slow=31							

PGC 27 17:40:09.8, 6215N×12399W, h1km, MN3.5/4, 149km northwest of Ft. Simpson, Nt Nahanni, Northwest Territories, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNBB	**Fort Nelson**	**3.31**	**171**	Pn	Pn	17 41 02.1	-0.5
FNBB				Sn	Sn	17 41 41.0	-1.5
FNBB				Sg	Sg	17 41 52.2	-3.8
FNBB				Trac		17 41 55.6	
	comp=Z,22nm,0.2s						
FNBB				Trac		17 41 55.6	
	comp=Z,22nm,0.2s						
YKW3	**Yellowknife Ar**	**4.39**	**80**	Pn	Pn	17 41 16.2	-1.3
YKW3				Pn	Pn	17 41 16.7	-0.8
YKW3				Pg	Pg	17 41 32.1	-1.8
YKW3				Sn	Sn	17 42 05.8	-3.6
YKW3				Sn	Sn	17 42 07.8	-1.6
YKW3				Sg	Sg	17 42 26.1	-4.7
YKW3				Sg	Sg	17 42 26.1	-4.7
YKW3				Trac		17 42 28.6	
	comp=Z,80nm,0.4s						
YKW3				Trac		17 42 28.6	
	comp=Z,80nm,0.4s						
YKW3				Trac		17 42 33.2	
	comp=Z,137nm,0.6s						
YKW3				Trac		17 42 33.2	
	comp=Z,137nm,0.6s						
DLBC	**Dease Lake**	**4.78**	**222**	Pn	Pn	17 41 22.7	-0.2
DLBC				Sn	Sn	17 42 16.9	-2.1
DLBC				Sg	Sg	17 42 38.8	-4.5
DLBC				Trac		17 42 44.5	
	comp=Z,16nm,0.3s						
WHY	**Whitehorse**	**5.44**	**259**	Pn	Pn	17 41 31.6	-0.4
WHY				Sn	Sn	17 42 30.2	-5.0
WHY				Sg	Sg	17 42 58.4	-6.1
WHY				Trac		17 43 06.2	
	comp=Z,19nm,0.7s						
BMBC	**Bull Mountain**	**6.20**	**170**	Pn	Pn	17 41 42.7	+0.3
BMBC				Sn	Sn	17 42 50.6	-3.3
BMBC				Sg	Sg	17 43 22.2	-6.6
BMBC				Trac		17 43 37.9	
	comp=Z,33nm,0.5s						
BMBC				Trac		17 43 37.9	
	comp=Z,33nm,0.5s						
HYT	**Haines Junctio**	**6.60**	**264**	Pn	Pn	17 41 47.7	-0.2
HYT				Sg	Sg	17 43 35.0	-6.9
HYT				Trac		17 43 37.5	
	comp=Z,11nm,0.6s						
PLBC	**Pleasant Camp**	**6.63**	**251**	Pn	Pn	17 41 49.7	+1.4
PLBC				Sg	Sg	17 43 34.0	-8.6
DAWY	**Dawson**	**7.24**	**292**	Pn	Pn	17 41 56.2	-0.5
DAWY				Sn	Sn	17 43 11.3	-8.3
DAWY				Sg	Sg	17 43 58.3	-4.0
DAWY				Trac		17 44 11.4	
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**7.36**	**331**	Pn	Pn	17 41 56.4	-1.9
INK				Sn	Sn	17 43 15.4	-6.9
INK				Trac		17 43 19.0	
	comp=Z,6.0nm,0.3s						
FSB	**Fort Saint Jam**	**7.70**	**181**	Pn	Pn	17 42 01.1	-1.9
FSB				Sg	Sg	17 44 08.3	-8.6
FSB				Trac		17 44 33.2	
	comp=Z,4.0nm,0.4s						

*ISCJB **27** 17:40:15.6±0.5, 1174N±006×999E±0.1, h10km, mb4.0/15, Error ellipse: s-maj=21.4km s-min=7.8km az=155.9*
*IDC **27** 17:40:15.7±0.7, 1173N×9991E, h0km, mb4.0/11, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, ML3.9/1, Error ellipse: s-maj=32.0km s-min=15.1km az=73.0*
*BJI **27** 17:40:15.7, 1173N×9978E, h11km, mb4.4*
*NEIC **27** 17:40:17.3±0.3, 1174N×9993E, h10km, mb4.3/2, Error ellipse: s-maj=16.2km s-min=5.8km az=76.0*
ISC 27 17:40:17.6±0.5, 1178N±005×999E±01, h10km, n27, σ0§71/28, mb4.0/15, Malay Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UBT	**Ubonrachathani**	**6.04**	**55**	P	**Sn**	**17 42 45.0**	**-11**
KULM	**Kulim**	**6.49**	**174**	Pn	**Pn**	**17 41 53.4**	**+0.3**
KULM				*e*Sg	**Sg**	**17 43 40.9**	**-4.9**
CM31	**Chiang Mai Arr**	**6.71**	**352**	Pn	**Pn**	**17 41 51.9**	**-4.3**
CM31				Sg	**Sg**	**17 43 52.4**	**-0.6**
CHTO	**Chiang Mai**	**7.06**	**352**	Pn	**Pn**	**17 42 02.2**	**+1.2**
CHTO				*e*Sg	**Sg**	**17 43 54.9**	**-9.3**
PSI	**Prapat**	**8.97**	**186**	Pn	**Pn**	**17 42 28.6**	**+1.4**
	1.3nm,0.3s,baz=0.0,slow=17,SNR=2.5						
PSI				Lg		17 45 04.5	
	1.3nm,0.3s,baz=120,slow=20,SNR=3.2						
PSI	**Prapat**	**8.97**	**186**	Pn	**Pn**	**17 42 28.6**	**+1.4**
PSI				Lg		17 45 04.5	
LZH	**Lanzhou**	**24.46**	**8**	*e*P	**P**	**17 45 38.0**	**+1.4**
LZH				AP		17 45 45.0	
LZH				XP	sP	17 45 51.0	+10
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
LZH	**Lanzhou**	**24.46**	**8**	*e*P	**P**	**17 45 38.0**	**+1.4**
LZH				pP		17 45 45.0	
LZH				sP	sP	17 45 51.0	+10
GTA	**Gaotai**	**27.52**	**360**	*e*P	**P**	**17 46 05.0**	**+0.7**
GTA				AP	pP	17 46 11.3	+3.9
GTA				XP	sP	17 46 14.8	+6.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
SONM	**Songino Array**	**36.35**	**7**	P	**P**	**17 47 22.8**	**+1.0**
	comp=Z,3.0nm,0.9s,mb4.2,baz=183,slow=7.3,SNR=12						
ZAL	**Zalesovo**	**43.74**	**347**	P	**P**	**17 48 23.2**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=324,slow=8.7,SNR=5.0						
WRA	**Warramunga Arr**	**46.28**	**133**	P	**P**	**17 48 42.0**	**-1.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=312,slow=8.4,SNR=6.2						
BVAR	**Borovoye Array**	**47.45**	**336**	P	**P**	**17 48 52.4**	**0.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=139,slow=12,SNR=7.1						
BRVK	**Borovoye**	**47.51**	**336**	*e*P	**P**	**17 48 53.0**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.1						
ZRNK	**Zerenda**	**47.95**	**335**	*e*P	**P**	**17 48 55.5**	**-0.8**
	comp=Z,2.4nm,0.7s,mb4.3						
AS31	**Alice Springs**	**48.43**	**137**	P	**P**	**17 48 59.5**	**-0.5**
ASAR	**Alice Springs**	**48.43**	**137**	P	**P**	**17 48 59.6**	**-0.4**
	comp=Z,4.3nm,1.0s,mb4.5,baz=318,slow=7.4,SNR=17						
AKTK	**Aktyubinsk**	**51.54**	**327**	P	**P**	**17 49 23.3**	**-0.3**
AKTO	**Aktyubinsk**	**51.54**	**327**	P	**P**	**17 49 23.3**	**-0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=50,slow=5.4,SNR=3.8						
BRTR	**Keskin Array B**	**64.35**	**308**	P	**P**	**17 50 53.0**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.9,baz=124,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**72.01**	**331**	P	**P**	**17 51 41.5**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=118,slow=8.0,SNR=2.5						
NOA	**NORSAR Array B**	**79.17**	**330**	P	**P**	**17 52 22.1**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.7,baz=87,slow=5.0,SNR=3.2						
BOSA	**Boshof**	**82.47**	**239**	P	**P**	**17 52 40.2**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=145,slow=2.4,SNR=3.7						
BOSA	**Boshof**	**82.47**	**239**	P	**P**	**17 52 40.2**	**-0.1**
MAW	**Mawson**	**83.56**	**193**	P	**P**	**17 52 45.6**	**-0.4**
	comp=Z,0.4nm,0.3s,mb4.0,baz=349,slow=10,SNR=3.6						
BDFB	**Brasilia**	**148.63**	**259**	PKPbc	PKPbc	18 00 05.5	+0.6
	comp=Z,1.9nm,0.4s,baz=96,slow=2.1,SNR=3.1						
PLCA	**Paso Flores**	**149.96**	**195**	PKPbc	PKPbc	18 00 08.7	+0.5
	comp=Z,0.8nm,0.5s,baz=221,slow=7.9,SNR=3.1						

*IDC **27** 17:40:23.3±2.3, 743S×12772E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.4/14, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=101.7km s-min=29.5km az=72.0*
*ISCJB **27** 17:40:38.7±3.8, 8.1S±02×1278E±02, h174km±45km, mb3.0/1, Error ellipse: s-maj=34.3km s-min=22.6km az=114.1*
ISC 27 17:40:37.6±4.0, 81S±02×1277E±02, h136km±47km, n8, σ1§26/11, mb3.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.54**	**135**	*e*P	**Pn**	**17 42 12.1**	**+0.6**
	5.7nm,0.4s						
KAKA				*e*S	**Sn**	**17 43 23.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.19**	**191**	*e*P	**Pn**	**17 43 01.8**	**+1.4**
	1.7nm,0.4s						
FITZ				*e*S	**Sn**	**17 44 47.2**	**-5.7**
FITZ	**Fitzroy Crossi**	**10.19**	**191**	Pn	**Pn**	**17 43 00.6**	**+0.2**
	0.3nm,0.3s,baz=9.4,slow=12,SNR=22						
FITZ				Sn	**Sn**	**17 44 50.8**	**-2.1**
	1.3nm,0.3s,baz=18,slow=23,SNR=9.0						
WRA	**Warramunga Arr**	**13.44**	**152**	Pn	**Pn**	**17 43 41.8**	**-1.1**
	0.1nm,0.3s,baz=325,slow=14,SNR=12						
WRA				Sn	Sx	17 46 05.5	
	0.6nm,0.3s,baz=326,slow=24,SNR=9.6						
WB2	**Warramunga Arr**	**13.45**	**152**	*e*P	**Pn**	**17 43 43.7**	**+0.8**
WB2				*e*S	Sx	17 46 06.3	
ASPA	**Alice Springs**	**16.61**	**160**	*e*P	**Pn**	**17 44 27.8**	**+5.3**
ASPA				*e*S	Sx	17 47 19.1	
ASAR	**Alice Springs**	**16.61**	**160**	P	**Pn**	**17 44 24.9**	**+2.4**
	0.1nm,0.3s,baz=333,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**67.90**	**328**	P	**P**	**17 51 20.4**	**-1.0**
	0.2nm,0.6s,mb3.0,baz=125,slow=8.0,SNR=2.3						

*ISCJB **27** 18:12:04.2±2.8, 2191N±005×1428E±0.1, h25km±20km, mb4.4/31, MS3.8/20, Error ellipse: s-maj=15.8km s-min=7.3km az=159.7*
*MOS **27** 18:12:05.5±1.2, 2195N×14277E, h33km, mb4.6/21, Error ellipse: s-maj=22.0km s-min=8.9km az=110.2*
*BJI **27** 18:12:06.2, 2198N×14270E, h30km, mB5.0, mb4.8, Ms4.2, Msz3.8*
*NEIC **27** 18:12:07.6±2.4, 2195N×14293E, h39km±21km, mb4.6/9, Error ellipse: s-maj=16.8km s-min=7.6km az=83.0*
*IDC **27** 18:12:08.1±2.7, 2193N×14292E, h43km±24km, mb4.0/16, mb1 4.1/18, mb1mx4.0/26, mbtmp4.2/18, ML3.9/2, MS3.8/18, Ms1 3.8/18, ms1mx3.6/29, Error ellipse: s-maj=24.5km s-min=12.0km az=83.0*
ISC 27 18:12:08.5±1.4, 2194N±005×1428E±01, h44km±13km, n84, σ1§02/71, mb4.4/31, MS3.8/20, 2C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.17**	**354**	P	**Pn**	**18 13 22.4**	**-0.8**
	18nm,0.3s,baz=80,slow=23,SNR=13						
CBIJ				S	**Sn**	**18 14 22.6**	**+1.1**
	2.6nm,0.3s,baz=270,slow=20,SNR=2.4						
JHJ	**Hachijo jima 2**	**11.46**	**347**	LR	LR	18 19 02.3	
	comp=Z,300nm,20.1s,baz=268,slow=36						
JOW	**Kunigami**	**14.11**	**293**	LR	LR	18 20 06.5	
	comp=Z,378nm,18.9s,baz=118,slow=34						
MJAR	**Matsushiro Arr**	**15.09**	**346**	P	**Pn**	**18 15 37.5**	**-1.1**
	0.1nm,0.3s,baz=168,slow=10,SNR=4.5						
MJAR				LR	LR	18 21 06.3	
	comp=Z,219nm,20.1s,baz=175,slow=36						
MAT	**Matsushiro**	**15.09**	**346**	P	**Pn**	**18 15 42.8**	**+4.1**
SSE	**Sheshan**	**21.36**	**300**	P	**P**	**18 16 52.0**	**0.0**
SSE				XP	sP	18 17 04.0	-4.2
SSE				S	**S**	**18 20 41.0**	**-5.6**
SSE				XS	sS	18 20 54.5	-9.4
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,74nm,7.9s						
SSE				LR	LR		
	comp=N,66nm,17.7s,MS3.3						
SSE				LR	LR		
	comp=E,88nm,17.7s,MS3.3						
SSE				LR	LR		
	comp=Z,123nm,17.2s,MS3.4						
ASAJ	**Asahikawa**	**22.12**	**360**	LR	LR	18 25 55.5	
	comp=Z,111nm,18.4s,MS3.3,baz=181,slow=37						
NJ2	**Nanjing**	**23.56**	**300**	*e*P	**P**	**18 17 13.5**	**-1.4**
NJ2				AP		18 17 22.5	
NJ2				XP	sP	18 17 26.0	-5.6
NJ2				PP		18 17 46.3	
NJ2				PPP		18 17 56.5	
NJ2				S	**S**	**18 21 24.0**	**-1.7**
NJ2				XS	sS	18 21 39.0	-6.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,340nm,5.4s						
NJ2				LR	LR		
	comp=N,280nm,13.2s						
NJ2				LR	LR		
	comp=E,370nm,18.7s						
NJ2				LR	LR		
	comp=Z,370nm,13.0s,MS4.0						
MDJ	**Mudanjiang**	**25.11**	**337**	P	**P**	**18 17 30.0**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,69nm,3.8s						
HABR	**Khabarovsk**	**27.20**	**349**	*e*P	**P**	**18 17 52.6**	**+4.7**
HABR				*e*S	**S**	**18 22 31.8**	**+8.2**
KLR	**Kul'dur**	**28.62**	**345**	*e*P	**P**	**18 17 58.1**	**-2.5**
PMG	**Port Moresby**	**31.44**	**172**	LR	LR	18 30 35.6	
	comp=Z,77nm,19.5s,MS3.4,baz=159,slow=35						
HNR	**Honiara**	**35.42**	**150**	LR	LR	18 32 18.1	
	comp=Z,99nm,18.8s,MS3.6,baz=359,slow=34						
SONM	**Songino Array**	**38.93**	**320**	P	**P**	**18 19 31.4**	**+1.4**
	comp=Z,4.0nm,0.8s,mb4.2,baz=129,slow=7.4,SNR=30						
SONM				LR	LR	18 35 48.7	
	comp=Z,117nm,19.3s,MS3.7,baz=193,slow=36						
SONM	**Songino Array**	**38.93**	**320**	P	**P**	**18 19 31.4**	**+1.4**
SONM				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,117nm,19.3s						
YAK	**Yakutsk**	**41.08**	**351***d*	*i*P	**P**	**18 19 46.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.7						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.7						
CTA	**Charters Tower**	**41.90**	**175**	*e*P	**P**	**18 19 56.0**	**+1.5**
	comp=Z,7.7nm,1.0s,mb4.3						
CTA	**Charters Tower**	**41.90**	**175**	P	**P**	**18 19 55.8**	**+1.3**
	comp=Z,10nm,1.0s,mb4.4,baz=12,slow=9.0,SNR=4.1						
CTA				LR	LR	18 36 07.2	
	comp=Z,104nm,19.6s,MS3.7,baz=159,slow=34						
CTA	**Charters Tower**	**41.90**	**175**	*e*P	**P**	**18 19 56.0**	**+1.5**
CTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CTAO	**Charters Tower**	**41.90**	**175**	*e*P	**P**	**18 19 56.0**	**+1.5**
ZAK	**Zakamensk**	**41.94**	**322**	*e*P	**P**	**18 19 55.8**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.1						
WRAB	**Tennant Creek**	**42.43**	**192**	*e*P	**P**	**18 19 58.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.4						
WRAB	**Tennant Creek**	**42.43**	**192**	*e*P	**P**	**18 19 58.5**	**-0.3**
	comp=Z,13nm,1.3s,mb4.4						
WB2	**Warramunga Arr**	**42.44**	**192**	*e*P	**P**	**18 19 58.0**	**-0.8**
WRA	**Warramunga Arr**	**42.44**	**192**	P	**P**	**18 19 58.4**	**-0.4**
	comp=Z,2.3nm,0.7s,mb3.9,baz=15,slow=8.9,SNR=22						
WRA				LR	LR	18 36 25.7	
	comp=Z,130nm,18.2s,MS3.9,baz=105,slow=34						
WRA	**Warramunga Arr**	**42.44**	**192**	P	**P**	**18 19 58.4**	**-0.5**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				MLR	MLR		
	comp=Z,130nm,18.2s						
FITZ	**Fitzroy Crossi**	**43.20**	**204**	*e*P	**P**	**18 20 07.6**	**+2.6**
	comp=Z,3.9nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.20**	**204**	P	**P**	**18 20 06.0**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.0,baz=34,slow=12,SNR=5.2						
FITZ				LR	LR	18 38 28.9	
	comp=Z,86nm,18.0s,MS3.7,baz=330,slow=37						
AS31	**Alice Springs**	**46.15**	**191**	*e*P	**P**	**18 20 28.8**	**+0.3**
ASAR	**Alice Springs**	**46.15**	**191**	P	**P**	**18 20 26.6**	**-2.0**
	comp=Z,1.1nm,0.6s,mb3.9,baz=16,slow=9.5,SNR=27						
ASAR				LR	LR	18 37 59.1	
	comp=Z,174nm,19.7s,MS4.0,baz=349,slow=34						
ASAR	**Alice Springs**	**46.15**	**191**	P	**P**	**18 20 26.6**	**-1.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,174nm,19.7s						
ASPA	**Alice Springs**	**46.15**	**191**	*e*P	**P**	**18 20 28.8**	**+0.3**
STKA	**Stephens Creek**	**53.52**	**181**	*e*P	**P**	**18 21 24.3**	**-0.2**
	comp=Z,4.0nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**53.52**	**181**	P	**P**	**18 21 25.3**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.2,baz=352,slow=4.9,SNR=4.7						
STKA				LR	LR	18 42 22.0	
	comp=Z,66nm,21.0s,MS3.7,baz=25,slow=34						
STKA	**Stephens Creek**	**53.52**	**181**	*e*P	**P**	**18 21 24.4**	**-0.1**
ZAL	**Zalesovo**	**53.82**	**322**	P	**P**	**18 21 26.5**	**-0.2**
	comp=Z,4.8nm,0.9s,mb4.4,baz=12,slow=7.6,SNR=24						
ZAL				LR	LR	18 45 17.3	
	comp=Z,76nm,21.7s,MS3.7,baz=56,slow=37						
ZAL	**Zalesovo**	**53.82**	**322**	P	**P**	**18 21 26.5**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZAL				MLR	MLR		
	comp=Z,76nm,21.7s						
ZAL	**Zalesovo**	**53.82**	**322**	P	**P**	**18 21 26.5**	**-0.2**
ZAL				LR	LR	18 45 17.3	
MKAR	**Makanchi Array**	**54.28**	**313**	P	**P**	**18 21 31.4**	**+1.4**
	comp=Z,1.3nm,0.6s,mb4.0,baz=94,slow=8.3,SNR=12						
MKAR				PcP	PcP	18 22 34.1	+0.3
	comp=Z,1.1nm,0.8s,baz=102,slow=5.1,SNR=4.3						
MKAR	**Makanchi Array**	**54.28**	**313**	P	**P**	**18 21 31.4**	**+1.3**
MKAR						18 22 34.1	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**54.28**	**313**	P	**P**	**18 21 31.4**	**+1.4**
MKAR				PcP	PcP	18 22 34.1	+0.3
NVS	**Novosibirsk**	**54.90**	**322**	*e*P	**P**	**18 21 34.7**	**+0.1**
AAK	**Ala-Archa**	**59.75**	**307**	*i* P	**P**	**18 22 06.7**	**-2.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**18 22 26.4**	**+0.6**
	comp=Z,9.5nm,0.8s,mb5.0,baz=92,slow=7.4,SNR=51						
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**18 22 26.4**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRVK	**Borovoye**	**62.33**	**319**	*e*P	**P**	**18 22 26.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
BRVK	**Borovoye**	**62.33**	**319**	*e*P	**P**	**18 22 26.3**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.7						
KK31	**Karatay Array**	**62.64**	**308**	*i* P	**P**	**18 22 29.6**	**+1.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
ZRNK	**Zerenda**	**63.10**	**319**	*i* P	**P**	**18 22 32.2**	**+0.8**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZRNK	**Zerenda**	**63.10**	**319**	*e*P	**P**	**18 22 31.7**	**+0.3**
	comp=Z,5.5nm,0.9s,mb4.7						
INK	**Inuvik**	**67.49**	**24**	P	**P**	**18 22 58.5**	**-1.3**
	comp=Z,3.9nm,0.9s,mb4.5,baz=0.0,slow=10,SNR=2.3						
INK	**Inuvik**	**67.49**	**24**	P	**P**	**18 22 58.5**	**-1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARU	**Arti**	**68.87**	**324**	*i* P	**P**	**18 23 08.0**	**-0.4**
ARU				*e

comp=Z,2.1nm,0.8s,mb4.5
BRTR Keskin Array B 89.93 313 P **P** 18 25 02.8 -0.1
comp=Z,2.3nm,0.9s,mb4.5,baz=98,slow=3.7,SNR=9.3
BRTR Keskin Array B 89.93 313 P **P** 18 25 02.8 -0.1
BRTR pmax pmax
comp=Z,2.0nm,0.9s
RKT Rikitea 91.67 114 *e*LR LR 18 53 59.8
comp=Z,87nm,25.5s
SCHQ Schefferville 99.43 17 LR LR 19 10 57.0
comp=Z,67nm,19.6s,MS4.2,baz=22,slow=36
TORD Torodi Ar. Bea 128.32 309 PKP PKPdf 18 31 10.8 +0.8
comp=Z,0.3nm,0.5s,baz=44,slow=1.2,SNR=5.3
TORD Torodi Ar. Bea 128.32 309 PKP PKPdf 18 31 10.8 +0.8
PLCA Paso Flores 146.17 131 PKPbc PKPbc 18 31 43.0 -0.8
comp=Z,1.0nm,0.8s,baz=316,slow=9.3,SNR=3.1
PLCA Paso Flores 146.17 131 PKP2 PKPab 18 31 43.1 -1.5
PLCA pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 150.26 85 PKPbc PKPbc 18 31 55.3 +0.6
comp=Z,1.8nm,0.7s,baz=341,slow=3.1,SNR=7.1
LPAZ La Paz 150.26 85 PKIKP PKPdf 18 31 55.3 +5.8
LPAZ pmax pmax
comp=Z,2.0nm,0.7s

---

*ISCJB **27** 18:13:51.5±0.4, 5551N±006×16197W±007, h100km±4km, mb4.2/24, Error ellipse: s-maj=10.9km s-min=4.8km az=121.7*
*IDC **27** 18:13:51.4±2.7, 5549N×16209W, h84km±24km, mb3.8/17, mb1 3.9/20, mb1mx3.9/28, mbtmp4.1/20, Error ellipse: s-maj=22.4km s-min=14.3km az=171.0*
*BJI **27** 18:13:51.7, 5520N×16170W, h84km, mB4.8, mb4.9, Ms4.2, Msz4.0*
*NEIC **27** 18:13:54.7, 5524N×16174W, h84km, mb4.5/5, After AEIC.*

ISC 27 18:13:52.6±0.4,**5551N**±006×**16195W**±007,**h98**km±24km, **n61**,σ0**98**/62,**mb4.2**/24,**Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**0.85**	**100**	P	**Pn**	**18 14 10.2**	**-1.2**
SDPT				S	**Sn**	**18 14 23.1**	**-2.2**
CHGN	**Chignik**	**2.14**	**67**	P	**Pn**	**18 14 27.7**	**+0.8**
AKUT	**Akutan**	**2.60**	**240**	P	**Pn**	**18 14 33.7**	**+0.6**
AKLV	**Akutan Long Va**	**2.68**	**241**	P	**Pn**	**18 14 34.3**	**+0.3**
OKCD	**Okmok Cone D**	**4.15**	**242**	P	**Pn**	**18 14 54.9**	**+1.1**
NIKO	**Nikolski**	**4.78**	**241**	P	**Pn**	**18 15 03.0**	**+0.7**
NIKO				S	**Sn**	**18 15 56.4**	**-0.1**
KDAK	**Kodiak Island**	**5.65**	**62**	P	**Pn**	**18 15 13.3**	**-0.8**
	42nm,0.3s,baz=236,slow=6.7,SNR=320						
KDAK				S	**Sn**	**18 16 14.2**	**-3.4**
	7.8nm,0.3s,baz=322,slow=23,SNR=6.9						
SVW2	**Sparrevohn**	**6.53**	**28**	P	**Pn**	**18 15 28.2**	**+2.1**
SLKM	**Skilak Lake**	**7.99**	**46**	P	**Pn**	**18 15 47.3**	**+1.4**
TTA	**Tatalina**	**8.04**	**20**	*e*P	**Pn**	**18 15 49.9**	**+3.3**
SEW	**Seward**	**8.11**	**50**	P	**Pn**	**18 15 47.8**	**+0.2**
FIB	**Fire Island**	**8.39**	**43**	P	**Pn**	**18 15 53.4**	**+2.0**
RC01	**Rabbit Creek A**	**8.52**	**44**	P	**Pn**	**18 15 53.5**	**+0.4**
PMR	**Palmer**	**9.05**	**42**	P	**Pn**	**18 16 00.3**	**0.0**
KNK	**Knik Glacier**	**9.21**	**45**	P	**Pn**	**18 16 02.5**	**-0.1**
EYAK	**Cordova Ski Ar**	**9.96**	**53**	P	**Pn**	**18 16 11.7**	**-1.0**
MCK	**McKinley**	**10.53**	**33**	*e*P	**Pn**	**18 16 18.7**	**-1.9**
IMA2	**Indian Mountai**	**11.32**	**17**	*e*P	**Pn**	**18 16 33.0**	**+1.8**
COLA	**College**	**11.69**	**31**	*e*P	**Pn**	**18 16 35.2**	**-1.0**
	31nm,0.9s						
MENT	**Mentasta**	**11.91**	**44**	*e*P	**Pn**	**18 16 38.9**	**-0.1**
AMKA	**Amchitka**	**11.91**	**257**	*e*P	**Pn**	**18 16 38.6**	**-0.5**
EGAK	**Eagle**	**13.84**	**39**	*e*P	**Pn**	**18 17 03.3**	**-1.1**
DAWY	**Dawson**	**14.15**	**44**	*e*P	**Pn**	**18 17 08.6**	**+0.1**
SKAG	**Skagway**	**14.80**	**64**	*e*P	**Pn**	**18 17 21.4**	**+4.5**
	12nm,0.3s						
DLBC	**Dease Lake**	**17.55**	**67**	P	**Pn**	**18 17 52.7**	**+1.7**
	0.5nm,0.3s,baz=283,slow=16,SNR=6.0						
INK	**Inuvik**	**18.29**	**34**	P	**Pn**	**18 17 58.1**	**-1.7**
	2.8nm,0.3s,baz=251,slow=7.7,SNR=23						
BBB	**Bella Bella**	**20.12**	**85**	P	**P**	**18 18 18.4**	**-0.2**
	3.4nm,0.9s,baz=300,slow=9.5,SNR=4.1						
YKA	**Yellowknife Ar**	**24.86**	**54**	P	**P**	**18 19 07.2**	**+1.3**
	4.2nm,0.4s,mb4.2,baz=279,slow=8.8,SNR=14						
YKA	**Yellowknife Ar**	**24.86**	**54**	P	**P**	**18 19 07.2**	**+1.3**
EDM	**Edmonton**	**27.95**	**74**	*e*P	**P**	**18 19 34.7**	**+1.0**
HLID	**Hailey**	**32.44**	**91**	*e*P	**P**	**18 20 13.8**	**+0.4**
PDAR	**Pinedale Array**	**35.70**	**88**	P	**P**	**18 20 42.2**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=314,slow=5.4,SNR=12						
RSSD	**Black Hills**	**37.98**	**83**	*e*P	**P**	**18 21 02.1**	**+1.2**
	7.0nm,0.5s,mb4.8						
ULM	**Lac du Bonnet**	**38.86**	**69**	P	**P**	**18 21 08.7**	**+0.5**
	5.3nm,0.5s,mb4.6,baz=290,slow=9.1,SNR=7.1						
PV01	**Paradox Valley**	**39.35**	**93**	*e*P	**P**	**18 21 12.9**	**+0.6**
SDCO	**Great Sand Dun**	**41.36**	**91**	*e*P	**P**	**18 21 28.8**	**-0.1**
	5.2nm,1.1s,mb4.3						
MJAR	**Matsushiro Ar**	**44.13**	**270**	P	**P**	**18 21 50.5**	**-0.8**
	0.9nm,0.5s,mb3.8,baz=33,slow=7.4,SNR=4.2						
CN2	**Changchun**	**46.34**	**287**	*e*P	**P**	**18 22 14.3**	**+5.6**
WMOK	**Wichita Mounta**	**47.31**	**89**	*e*P	**P**	**18 22 16.2**	**-0.1**
	8.0nm,1.0s,mb4.4						
CBIJ	**Chichi jima**	**48.91**	**258**	P	**P**	**18 22 28.9**	**+0.2**
	39nm,0.8s,mb5.4,baz=270,slow=20,SNR=3.1						
SCHQ	**Schefferville**	**50.10**	**49**	P	**P**	**18 22 37.8**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=334,slow=1.3,SNR=4.1						
SONM	**Songino Array**	**53.37**	**303**	P	**P**	**18 23 02.1**	**+0.2**
	0.7nm,0.5s,mb3.9,baz=40,slow=5.5,SNR=10						
SONM				PcP	PcP	18 24 08.6	+0.5
	3.0nm,0.7s,baz=85,slow=2.0,SNR=21						
SONM				ScP	ScP	18 27 57.5	+0.7
	0.7nm,0.7s,baz=58,slow=3.9,SNR=7.0						
ARCES	**ARCESS Array B**	**55.15**	**357**	P	**P**	**18 23 14.2**	**-0.7**
	5.6nm,1.0s,mb4.6,baz=12,slow=7.1,SNR=5.5						
JOF	**Joensuu**	**61.46**	**353**	*e*p	**P**	**18 23 57.8**	**-1.0**
	2.2nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**62.54**	**356**	*e*p	**P**	**18 24 05.0**	**-1.0**
	1.9nm,0.3s,mb4.5,baz=2.2,slow=6.4						
FINES	**FINESS Array B**	**63.22**	**356**	P	**P**	**18 24 10.1**	**-0.4**
	1.0nm,0.4s,mb4.1,baz=19,slow=6.9,SNR=15						
LZH	**Lanzhou**	**63.35**	**295**	*e*P	**P**	**18 24 18.0**	**+6.6**
LZH				AP	pP	18 24 37.5	+1.7
LZH				XP	sP	18 24 46.0	-0.6
LZH				PP	PP	18 26 39.8	+8.0
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH	**Lanzhou**	**63.35**	**295**	*e*P	**P**	**18 24 17.9**	**+6.5**
LZH				pP	pP	18 24 37.5	+1.7
LZH				sP	sP	18 24 46.0	-0.6
LZH				PP	PP	18 26 39.8	+8.0
BVAR	**Borovoye Array**	**63.55**	**328**	P	**P**	**18 24 12.8**	**+0.1**
	comp=Z,1.8nm,0.6s,mb4.1,baz=33,slow=7.4,SNR=6.5						
NOA	**NORSAR Array B**	**63.67**	**4**	P	**P**	**18 24 12.9**	**-0.6**
	comp=Z,1.3nm,0.9s,mb3.8,baz=357,slow=6.8,SNR=3.8						
ZRNK	**Zerenda**	**64.03**	**328**	*e*P	**P**	**18 24 15.6**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.0						
HFS	**Hagfors**	**64.65**	**2**	P	**P**	**18 24 19.6**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=13,slow=3.5,SNR=17						
MKAR	**Makanchi Array**	**64.68**	**317**	P	**P**	**18 24 19.2**	**-0.9**
	comp=Z,0.9nm,0.5s,mb3.8,baz=46,slow=6.4,SNR=10						
MKAR	**Makanchi Array**	**64.68**	**317**	P	**P**	**18 24 19.2**	**-0.9**
WMQ	**Urumqi**	**64.90**	**311**	*e*P	**P**	**18 24 28.0**	**+6.5**
EKA	**Eskdalemuir Ar**	**68.17**	**13**	P	**P**	**18 24 43.0**	**+0.6**
	comp=Z,0.7nm,0.7s,mb3.6,baz=9.0,slow=4.6,SNR=3.7						
AKASG	**Malin Array Be**	**73.75**	**353**	P	**P**	**18 25 15.6**	**-0.5**
	comp=Z,0.8nm,0.3s,mb3.9,baz=10,slow=6.0,SNR=7.1						
WRA	**Warramunga Arr**	**92.40**	**238**	P	**P**	**18 26 51.2**	**-1.0**
	comp=Z,0.9nm,1.0s,mb4.0,baz=38,slow=6.2,SNR=8.3						
ASAR	**Alice Springs**	**95.78**	**236**	P	**P**	**18 27 07.3**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.7,baz=28,slow=4.5,SNR=5.7						
QSPA	**South Pole Qui**	**145.28**	**180**	*e*PKPdf	PKPdf	18 33 16.1	-2.7
BOSA	**Boshof**	**152.63**	**346**	PKPbc	PKPbc	18 33 37.7	0.0
	comp=Z,2.1nm,0.5s,baz=31,slow=22,SNR=6.9						

MAN 27 18:33:12.5,919N×12230E,h22km,mb2.6,ML4.1,MS2.9, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.94**	**81**	*i* P	Pb	18 33 29.5	-0.6
DCPH	**Dipolog City**	**1.21**	**120**∥	*e*P	Pn	18 33 30.4	-3.6
DCPH				*e*S	Sn	18 33 47.4	-2.3
IPIL	**Ipil**	**1.42**	**169**	*e*P	Pn	18 33 36.0	-1.0
IPIL				*e*S	Sn	18 33 52.5	-2.5
GUIM	**Jordan**	**1.45**	**11**	*e*P	Pn	18 33 37.9	+0.4
PAGZ	**Pagadian**	**1.71**	**141**	*e*P	Pn	18 33 41.2	+0.2
LLP	**Lapu-Lapu**	**1.99**	**56**	*e*P	Pn	18 33 44.9	+0.1
LLP				*i* S	Sn	18 34 09.5	+0.5
CUYO	**Cuyo Island**	**2.07**	**323**	*e*P	Pn	18 33 46.7	+0.8
BUKP	**Musuan**	**3.03**	**115**	*e*P	Pn	18 34 01.2	+2.0
BUSP	**Coron**	**3.47**	**324**	*e*P	Pn	18 34 05.7	+0.5

---

*IDC **27** 18:42:15.8±1.4, 931N×12270E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=155.8km s-min=19.8km az=66.0*
*ISCJB **27** 18:42:19.9±0.6, 9.14N±003×122.31E±004, h40km±8km, mb3.6/6, Error ellipse: s-maj=7.2km s-min=5.2km az=119.0*
*MAN **27** 18:42:19.4, 9.14N×12231E, h27km, mb3.0, ML4.3, MS2.8*

ISC 27 18:42:20.4±1.4,**913N**±004×**12233E**±004,**h29**km±11km, **n27**,σ1**920**/36,**mb3.6**/6,**8C,Negros**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.92**	**77**	*i* P	**Pn**	**18 42 36.0**	**-1.4**
SNPH				*i* S	**Sb**	**18 42 49.5**	**-0.1**
DCPH	**Dipolog City**	**1.15**	**118**	∥ *i* P	**Pn**	**18 42 39.2**	**-1.3**
DCPH				*i* S	**Sn**	**18 42 53.7**	**-1.6**
IPIL	**Ipil**	**1.36**	**170**	∥ *e*P	**Pn**	**18 42 43.2**	**-0.3**
IPIL				*e*S	**Sn**	**18 43 00.0**	**-0.4**
IPIL	**Ipil**	**1.36**	**170**	*e*P	**Pn**	**18 42 43.1**	**-0.3**
IPIL				*e*S	**Sn**	**18 42 59.7**	**-0.8**
GUIM	**Jordan**	**1.50**	**10**	*e*P	**Pn**	**18 42 44.5**	**-0.9**
GUIM				*e*S	**Sn**	**18 43 01.6**	**-2.4**
TBP	**Tagbilaran**	**1.61**	**70**	*e*P	**Pn**	**18 42 46.7**	**-0.2**
TBP				*e*S	**Sn**	**18 43 03.9**	**-2.8**
PAGZ	**Pagadian**	**1.65**	**141**	*e*P	**Pn**	**18 42 48.4**	**+1.0**
LLP	**Lapu-Lapu**	**2.00**	**54**	∥ *i* P	**Pn**	**18 42 51.9**	**-0.3**
LLP				*i* S	**Sn**	**18 43 16.4**	**+0.2**
CUYO	**Cuyo Island**	**2.14**	**323**	*e*P	**Pn**	**18 42 53.5**	**-0.6**
CGP	**Cagayan de Oro**	**2.43**	**106**	∥ *e*P	**Pn**	**18 42 57.8**	**-0.3**
CGP				*i* S	**Sn**	**18 43 28.9**	**+1.9**
RCP	**Roxas**	**2.44**	**10**	∥ *e*P	**Pn**	**18 43 00.2**	**+1.8**
RCP				*e*S	**Sn**	**18 43 30.0**	**+2.8**
KALP	**Kalibo**	**2.53**	**0**	*e*P	**Pn**	**18 42 59.0**	**-0.5**
MSLP	**Maasin**	**2.68**	**68**	*e*P	**Pn**	**18 43 02.9**	**+1.2**
BUKP	**Musuan**	**2.98**	**115**	*e*P	**Pn**	**18 43 08.0**	**+2.3**
SCPH	**Surigao**	**3.18**	**78**	∥ *e*P	**Pn**	**18 43 08.1**	**-0.4**
OTRP	**Odiongan**	**3.22**	**355**	*e*P	**Pn**	**18 43 10.6**	**+1.6**
BUTP	**Butuan**	**3.25**	**93**	*e*P	**Pn**	**18 43 10.7**	**+1.2**
ENPP	**El Nido**	**3.52**	**306**	*e*P	**Pn**	**18 43 13.1**	**-0.2**
BUSP	**Coron**	**3.54**	**324**	*e*P	**Pn**	**18 43 12.6**	**-0.8**
PPR	**Puerto Princes**	**3.61**	**280**	∥ *e*P	**Pn**	**18 43 10.8**	**-3.5**
SNG	**Songkhla**	**21.58**	**266**	P	**P**	**18 47 11.5**	**+3.8**
	1μm,1.0s						
WRA	**Warramunga Arr**	**31.22**	**158**	P	**P**	**18 48 36.9**	**-0.3**
	0.4nm,0.7s,mb3.4,baz=336,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**34.51**	**161**	P	**P**	**18 49 06.7**	**+0.7**
	0.3nm,0.5s,mb3.5,baz=338,slow=7.0,SNR=12						
SONM	**Songino Array**	**40.86**	**344**	P	**P**	**18 49 58.7**	**-1.0**
	0.5nm,0.7s,mb3.3,baz=166,slow=7.7,SNR=4.5						
MKAR	**Makanchi Array**	**50.65**	**325**	P	**P**	**18 51 18.1**	**+1.1**
	1.1nm,0.8s,mb3.8,baz=120,slow=7.9,SNR=6.5						
BVAR	**Borovoye Array**	**60.44**	**327**	P	**P**	**18 52 27.6**	**+0.3**
	1.2nm,0.9s,mb3.9,baz=132,slow=12,SNR=4.0						
AKTO	**Aktyubinsk**	**66.74**	**321**	P	**P**	**18 53 09.1**	**+0.2**
	0.4nm,0.3s,mb3.9,baz=117,slow=2.3,SNR=4.3						

---

*BJI **27** 18:45:59.9, 1118N×100.15E, h37km, mB4.8, mb4.5, Ms4.3, Msz3.9*
*ISCJB **27** 18:46:00.8±1.8, 1177N±004×10007E±006, h11km±11km, mb4.3/29, MS3.9/22, Error ellipse: s-maj=9.8km s-min=6.7km az=164.6*
*IDC **27** 18:46:00.3±0.6, 1169N×9999E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, MS3.8/14, Ms1 3.8/14, ms1mx3.5/35, Error ellipse: s-maj=32.5km s-min=13.1km az=59.0*
*MOS **27** 18:46:02.8±1.2, 1180N×9999E, h26km, mb4.6/21, Error ellipse: s-maj=19.5km s-min=7.7km az=102.7*
*NEIC **27** 18:46:02.1±0.4, 1182N×100.15E, h10km, mb4.3/8, Error ellipse: s-maj=18.9km s-min=7.0km az=69.0*
*GCMT **27** 18:46:02.1±0.6, 1189N×100.18E, h17km±1km, MW4.7/37, Moment Tensor Solution. s10,c11; s37,c46; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.51±.16; Mθθ 0.13±.08; Mφφ 1.37±.12; Mrθ 0.25±.29; Mrφ 0.05±.06; Mθφ-0.23±.24; Best double couple: Mo1.47800×10^16 NP1:φs191.00000°, δ41.00000°, λ-77.00000°. NP2: φs353.00000°, δ50.00000°, λ-101.00000°. Principal axes: T 1.3890, Plg4.0000°, Azm91.0000°; N 0.1710, Plg9.0000°, Azm1.0000°; P -1.5670, Plg80.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 27 18:46:02.2±1.5,**1177N**±004×**10002E**±006,**h7**km±9km, **h31**km±.9km:**pP-P,n75,**σ1**922**/73,**mb4.3**/29,**MS3.9**/22, **2C-3D,Gulf of Thailand**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**0.86**	**341**	P	**Pg**	**18 46 18.0**	**-0.8**
KULM	**Kulim**	**6.47**	**174**	*e*P	**Pn**	**18 47 36.9**	**-0.8**
NANT	**Nan**	**7.02**	**5**	∥P	**Pn**	**18 47 45.0**	**-0.4**
	1μm,1.0s						
CHTO	**Chiang Mai**	**7.08**	**352**	*e*P	**Pn**	**18 47 44.9**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CHTO	**Chiang Mai**	**7.08**	**352**	*e*P	**Pn**	**18 47 44.9**	**-1.3**
	comp=Z,8.3nm,0.6s						
PSI	**Prapat**	**8.97**	**187**	Pn	**Pn**	**18 48 15.0**	**+2.8**
	comp=Z,4.5nm,0.3s,baz=354,slow=16,SNR=6.7						
PSI				Lg		18 50 49.9	
	comp=Z,1.9nm,0.3s,baz=204,slow=20,SNR=2.8						
PSI				LR	LR	18 52 05.0	
	comp=Z,398nm,21.2s,baz=185,slow=40						
PSI	**Prapat**	**8.97**	**187**	Pn	**Pn**	**18 48 15.0**	**+2.8**
PSI				Lg		18 50 49.9	
PSI				LR	LR	18 52 05.0	
QIZ	**Qiongzhong**	**11.90**	**51**	P	**Pn**	**18 48 52.8**	**+0.5**
QIZ				S	**Sn**	**18 51 07.5**	**+2.2**
QIZ				LR	LR		
	comp=N,2μm,13.1s						
QIZ				LR	LR		
	comp=Z,559nm,11.8s						
LSA	**Lhasa**	**19.66**	**336**	*e*P	**Pn**	**18 50 29.5**	**-3.4**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**19.66**	**336**	*e*P	**Pn**	**18 50 29.5**	**-3.4**
	comp=Z,4.5nm,0.8s						
HYB	**Hyderabad**	**21.51**	**288**	*i* P	**P**	**18 50 54.5**	**+2.9**
XAN	**Xi'an**	**23.61**	**19**	P	**P**	**18 51 12.0**	**-1.8**
XAN				AP		18 51 19.5	
XAN				S	**S**	**18 55 19.5**	**-8.7**
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.2						
XAN				LR	LR		
	comp=N,186nm,15.5s,MS4.2						
XAN				LR	LR		
	comp=E,567nm,15.5s,MS4.2						
XAN				LR	LR		
	comp=Z,238nm,15.1s,MS3.8						
LZH	**Lanzhou**	**24.46**	**7**	*e*P	**P**	**18 51 22.5**	**+0.9**
LZH				AP		18 51 31.0	
LZH				XP	sP	18 51 36.0	+11
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,173nm,4.6s						
NJ2	**Nanjing**	**26.61**	**38**	*e*P	**P**	**18 51 42.8**	**+1.7**
NJ2				AP	pP	18 51 51.5	+8.2
NJ2				XP	sP	18 51 55.5	+11
NJ2				PP		18 52 27.0	
NJ2				AMB	AMB		
	comp=Z,320nm,4.4s						
NJ2				LR	LR		
	comp=N,240nm,18.7s,MS4.0						
NJ2				LR	LR		
	comp=E,400nm,20.4s,MS4.0						
NJ2				LR	LR		
	comp=Z,280nm,12.2s						
SSE	**Sheshan**	**27.44**	**42**	P	**P**	**18 51 51.0**	**+2.5**
SSE				AP	pP	18 51 59.8	+9.1
SSE				S	**S**	**18 56 27.8**	**-1.4**
SSE				XS	sS	18 56 42.8	+10
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,27nm,3.1s						
SSE				LR	LR		
	comp=N,180nm,15.1s,MS3.9						
SSE				LR	LR		
	comp=E,159nm,15.1s,MS3.9						
SSE				LR	LR		
	comp=Z,99nm,17.1s,MS3.5						
GTA	**Gaotai**	**27.53**	**360**	*e*P	**P**	**18 51 50.3**	**+0.9**
GTA				PP		18 52 36.8	
GTA				S	**S**	**18 56 26.5**	**-4.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,80nm,4.2s						
GTA				LR	LR		
	comp=N,116nm,10.6s,MS4.1						
GTA				LR	LR		
	comp=E,257nm,12.2s,MS4.1						
GTA				LR	LR		
	comp=Z,121nm,11.8s,MS3.7						
JOW	**Kunigami**	**30.49**	**56**	LR	LR	19 03 35.9	
	comp=Z,222nm,21.6s,MS3.8,baz=122,slow=34						
SONM	**Songino Array**	**36.35**	**7**	P	**P**	**18 53 07.7**	**+1.0**
	comp=Z,9.2nm,1.0s,mb4.7,baz=188,slow=7.4,SNR=44						
SONM				LR	LR	19 09 37.0	
	comp=Z,132nm,18.7s,MS3.7,baz=175,slow=39						
SONM	**Songino Array**	**36.35**	**7**	P	**P**	**18 53 07.7**	**+1.0**
SONM				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,132nm,18.7s						
AAK	**Ala-Archa**	**37.92**	**329**	∥ *e*P	**P**	**18 53 21.0**	**+1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,23.0s,MS3.6						
AAK	**Ala-Archa**	**37.92**	**329**	*e*P	**P**	**18 53 19.9**	**-0.1**
	comp=Z,6.9nm,1.2s,mb4.3						
MKAR	**Makanchi Array**	**37.99**	**340**	P	**P**	**18 53 21.4**	**+0.7**
	comp=Z,2.4nm,1.0s,mb3.9,baz=146,slow=8.8,SNR=7.9						
MKAR	**Makanchi Array**	**37.99**	**340**	P	**P**	**18 53 21.4**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK	**Zakamensk**	**38.59**	**3**	*e*P	**P**	**18 53 25.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
FITZ	**Fitzroy Crossi**	**38.99**	**139**	*e*P	**P**	**18 53 27.4**	**-1.6**
	comp=Z,4.9nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**38.99**	**139**	P	**P**	**18 53 27.6**	**-1.5**
	comp=Z,2.8nm,0.8s,mb4.1,baz=343,slow=3.3,SNR=5.9						
FITZ				LR	LR	19 10 45.3	
	comp=Z,98nm,19.7s,MS3.6,baz=179,slow=38						
JHJ	**Hachijo jima 2**	**42.11**	**53**	LR	LR	19 11 38.2	
	comp=Z,108nm,21.7s,MS3.7,baz=96,slow=36						
MJAR	**Matsushiro Arr**	**42.27**	**48**	LR	LR	19 12 09.8	
	comp=Z,107nm,21.4s,MS3.7,baz=240,slow=37						
CBIJ	**Chichi jima**	**42.36**	**63**	LR	LR	19 09 10.9	
	comp=Z,48nm,21.2s,MS3.4,baz=27,slow=33						
ZAL	**Zalesovo**	**43.77**	**347**	P	**P**	**18 54 07.7**	**-0.6**
	comp=Z,4.6nm,1.0s,mb4.2,baz=301,slow=7.5,SNR=23						
ZAL	**Zalesovo**	**43.77**	**347**	*i* P	**P**	**18 54 07.6**	**-0.7**
ZAL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAL	**Zalesovo**	**43.77**	**347**	P	**P**	**18 54 07.7**	**-0.6**
NVS	**Novosibirsk**	**44.96**	**346**	*e*P	**P**	**18 54 16.8**	**-1.0**
WRA	**Warramunga Arr**	**46.20**	**133**	P	**P**	**18 54 26.8**	**-0.9**
	comp=Z,2.4nm,0.7s,mb4.2,baz=311,slow=9.4,SNR=26						
WRA				PcP	PcP	18 56 02.3	-1.0
	comp=Z,1.2nm,0.8s,baz=312,slow=2.9,SNR=4.7						
WRA	**Warramunga Arr**	**46.20**	**133**	P	**P**	**18 54 26.8**	**-0.8**
WRA						18 56 02.3	
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WB2	**Warramunga Arr**	**46.21**	**133**	*e*P	**P**	**18 54 26.8**	**-0.9**
HABR	**Khabarovsk**	**46.77**	**32**	*e*P	**P**	**18 54 30.3**	**-1.9**
HABR				*e*S	**S**	**19 01 19.4**	**-3.1**
BOD	**Bodaibo**	**47.18**	**10**	*e*P	**P**	**18 54 35.8**	**+0.5**
BVAR	**Borovoye Array**	**47.50**	**336**	P	**P**	**18 54 36.7**	**-1.1**
	comp=Z,3.2nm,0.9s,mb4.2,baz=145,slow=9.0,SNR=10						
BVAR	**Borovoye Array**	**47.50**	**336**	P	**P**	**18 54 36.7**	**-1.1**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZRNK	**Zerenda**	**48.00**	**335**	*e*P	**P**	**18 54 41.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ZRNK	**Zerenda**	**48.00**	**335**	*e*P	**P**	**18 54 41.3**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.5						
ASPA	**Alice Springs**	**48.35**	**137**	*e*P	**P**	**18 54 44.3**	**-0.1**
AS31	**Alice Springs**	**48.35**	**137**	*e*P	**P**	**18 54 44.3**	**-0.1**
ASAR	**Alice Springs**	**48.35**	**137**	P	**P**	**18 54 44.3**	**-0.1**
	comp=Z,6.8nm,0.7s,mb4.8,baz=315,slow=6.2,SNR=38						
ASAR	

BRG			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3					
NB2	**NORSAR Subarra**	**79.23 330**	P	**P**	**18 58 09.5**	**+1.6**
	comp=Z,2.6nm,0.8s,mb4.2,baz=84,slow=5.6					
NOA	**NORSAR Array B**	**79.23 330**	P	**P**	**18 58 09.4**	**+1.4**
	comp=Z,2.3nm,0.9s,mb4.1,baz=86,slow=5.5,SNR=5.5					
NOA	**NORSAR Array B**	**79.23 330**	P	**P**	**18 58 09.4**	**+1.5**
NOA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
BOSA	**Boshof**	**82.55 239**	P	**P**	**18 58 25.9**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.5,baz=60,slow=8.2,SNR=8.0					
BOSA			LR	LR	19 32 34.0	
	comp=Z,50nm,20.5s,MS3.9,baz=262,slow=34					
BOSA	**Boshof**	**82.55 239**	P	**P**	**18 58 25.9**	**+0.2**
BOSA			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6					
BOSA			MLR	MLR		
	comp=Z,50nm,20.5s,MS3.9					
MAW	**Mawson**	**83.57 193**	P	**P**	**18 58 31.4**	**+0.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=13,slow=11,SNR=5.0					
MAW	**Mawson**	**83.57 193**	P	**P**	**18 58 31.4**	**+0.4**
MAW			pmax	pmax		
	comp=Z,1.0nm,0.8s					
RPZ	**Rata Peaks**	**84.77 136**	LR	LR	19 36 45.8	
	comp=Z,105nm,18.2s,MS4.3,baz=3.6,slow=36					

*IDC **27** 18:53:20.4±2.3, 31.18S×7005W, h98km±18km, mb3.4/1, mb1 3.6/5, mb1mx3.5/16, mbtmp3.9/5, Error ellipse: s-maj=27.3km s-min=17.2km az=77.0*

*ISCJB **27** 18:53:21.7±0.5, 3123S±004×6985W±005, h122km±6km, mb3.5/1, Error ellipse: s-maj=7.3km s-min=5.1km az=65.6*

*NEIC **27** 18:53:21.6, 3123S×6984W, h125km, MD3.9(GUC), After GUC.*

*GUC **27** 18:53:21.6±1.0, 3123S×6984W, h125km±6km, MD3.9, ML4.2*

ISC 27 18:53:22.4±0.5, 3120S±003×6987W±005, h117km±6km, n44, σ0°89/71, mb3.5/1, 14C-10D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.97**	**271**	⇓*iP*	**Pn**	**18 53 44.6**	**+0.7**
CMCH				*i* S	**Sn**	**18 54 01.6**	**+1.6**
CMCH				AML	AML	18 54 02.5	
	comp=E,7μm,0.3s						
CMCH	**Combarbala**	**0.97**	**271**	⇓*iP*	**Pn**	**18 53 44.6**	**+0.7**
CMCH				*i* S	**Sn**	**18 54 01.6**	**+1.6**
ZON	**Zonda**	**1.07**	**109**	⇑*iP*	**Pn**	**18 53 45.0**	**+0.2**
ZON				*i* S	**Sn**	**18 54 01.7**	**-0.2**
ZON				AML	AML	18 54 03.1	
	comp=E,3μm,0.7s						
PTCH	**Petorca**	**1.40**	**220**	⇓*iP*	**Pn**	**18 53 48.3**	**0.0**
PTCH				*i* S	**Sn**	**18 54 08.8**	**+0.7**
PTCH				AML	AML	18 54 10.2	
	comp=E,8μm,0.2s						
PTCH	**Petorca**	**1.40**	**220**	⇓*iP*	**Pn**	**18 53 48.3**	**0.0**
PTCH				*i* S	**Sn**	**18 54 08.8**	**+0.7**
CFAA	**Coronel Fontan**	**1.45**	**107**	P	**Pn**	**18 53 49.2**	**+0.2**
	comp=E,37nm,0.3s,baz=294,slow=8.9,SNR=1040						
CFAA				S	**Sn**	**18 54 08.6**	**-0.6**
	comp=E,59nm,0.3s,baz=288,slow=16,SNR=58						
CFAA	**Coronel Fontan**	**1.45**	**107**	P	**Pn**	**18 53 49.2**	**+0.2**
CFAA				S	**Sn**	**18 54 08.6**	**-0.6**
CHNG	**Los Chungos**	**1.55**	**244**	⇓*iP*	**Pn**	**18 53 50.1**	**-0.1**
CHNG				*i* S	**Sn**	**18 54 10.8**	**-0.6**
JACH	**Jahuel**	**1.60**	**203**	⇑*iP*	**Pn**	**18 53 51.4**	**+0.6**
PACH	**Papudo**	**1.89**	**225**	⇑*iP*	**Pn**	**18 53 53.9**	**-0.3**
PACH				*i* S	**Sn**	**18 54 17.5**	**-1.1**
ROCH	**El Roble**	**2.02**	**209**	⇑*iP*	**Pn**	**18 53 55.7**	**-0.1**
ROCH				*i* S	**Sn**	**18 54 21.1**	**-0.3**
PEL	**Peldehue**	**2.06**	**200**	⇑*iP*	**Pn**	**18 53 56.3**	**-0.1**
PEL				*i* S	**Sn**	**18 54 22.2**	**-0.2**
PEL				AML	AML	18 54 26.6	
	comp=N,1μm,0.2s						
PEL	**Peldehue**	**2.06**	**200**	⇑*iP*	**Pn**	**18 53 56.3**	**-0.1**
PEL				*i* S	**Sn**	**18 54 22.2**	**-0.2**
FCH	**Farellones**	**2.15**	**190**	⇓*iP*	**Pn**	**18 53 58.7**	**+1.1**
FCH				*i* S	**Sn**	**18 54 26.6**	**+2.1**
FCH				AML	AML	18 54 29.4	
	comp=N,1μm,0.4s						
CLCH	**Cerro Calan**	**2.26**	**194**	⇓*iP*	**Pn**	**18 53 59.1**	**+0.2**
CLCH				*i* S	**Sn**	**18 54 27.4**	**+0.4**
CLCH				AML	AML	18 54 30.3	
	comp=E,1μm,0.5s						
CLCH				AML	AML	18 54 30.9	
	comp=E,2μm,0.5s						
DSCH	**Colegio Aleman**	**2.27**	**195**	*eP*	**Pn**	**18 53 58.9**	**-0.2**
DSCH				*i* S	**Sn**	**18 54 27.5**	**+0.3**
DSCH				AML	AML	18 54 28.3	
	comp=E,326nm,0.2s						
DSCH	**Colegio Aleman**	**2.27**	**195**	*eP*	**Pn**	**18 53 58.9**	**-0.2**
DSCH				*i* S	**Sn**	**18 54 27.5**	**+0.3**
STL	**Santa Lucia**	**2.32**	**196**	*eP*	**Pn**	**18 53 59.4**	**-0.4**
STL				*i* S	**Sn**	**18 54 28.2**	**-0.3**
STL				AML	AML	18 54 29.2	
	comp=N,274nm,0.2s						
FSR	**Penalolen**	**2.34**	**194**	*i* P	**Pn**	**18 54 00.7**	**+0.7**
FSR				*i* S	**Sn**	**18 54 29.7**	**+0.9**
FSR				AML	AML	18 54 33.5	
	comp=E,2μm,0.2s						
FSR	**Penalolen**	**2.34**	**194**	*i* P	**Pn**	**18 54 00.7**	**+0.7**
FSR				*i* S	**Sn**	**18 54 29.7**	**+0.9**
SAN	**Santiago**	**2.35**	**196**	*eP*	**Pn**	**18 53 59.5**	**-0.5**
SAN				*i* S	**Sn**	**18 54 28.8**	**-0.1**
SAN				AML	AML	18 54 30.1	
	comp=N,1μm,0.3s						
SAN	**Santiago**	**2.35**	**196**	*eP*	**Pn**	**18 53 59.5**	**-0.5**
SAN				*i* S	**Sn**	**18 54 28.8**	**-0.1**
RCDM	**Rinconada Maip**	**2.42**	**199**	⇑*iP*	**Pn**	**18 54 00.8**	**-0.1**
RCDM				*i* S	**Sn**	**18 54 30.3**	**-0.3**
RCDM				AML	AML	18 54 31.0	
	comp=E,4μm,0.2s						
RCDM				AML	AML	18 54 31.0	
	comp=N,2μm,0.1s						
RCDM	**Rinconada Maip**	**2.42**	**199**	⇑*iP*	**Pn**	**18 54 00.8**	**-0.1**
RCDM				*i* S	**Sn**	**18 54 30.3**	**-0.3**
ANTU	**Antumapu**	**2.45**	**195**	⇑*iP*	**Pn**	**18 54 01.5**	**+0.1**
ANTU				*i* S	**Sn**	**18 54 31.4**	**+0.1**
ANTU				AML	AML	18 54 32.1	
	comp=E,2μm,0.4s						
ANTU	**Antumapu**	**2.45**	**195**	⇑*iP*	**Pn**	**18 54 01.5**	**+0.1**
ANTU				*i* S	**Sn**	**18 54 31.4**	**+0.1**
SJCH	**San Jose de Ma**	**2.47**	**189**	*eP*	**Pn**	**18 54 01.7**	**+0.1**
SJCH				AML	AML	18 54 33.5	
	comp=N,560nm,0.4s						
TACH	**Talagante**	**2.61**	**200**	⇑*iP*	**Pn**	**18 54 02.7**	**-0.8**
TACH				*i* S	**Sn**	**18 54 32.9**	**-2.1**
LMEL	**Las Melosas**	**2.66**	**186**	⇓*iP*	**Pn**	**18 54 04.5**	**+0.5**
LMEL				*i* S	**Sn**	**18 54 39.3**	**+3.2**
LMEL				AML	AML	18 54 42.5	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**2.66**	**186**	⇓*iP*	**Pn**	**18 54 04.5**	**+0.5**
LMEL				S	**Sn**	**18 54 39.3**	**+3.2**
VACH	**Vallenar**	**2.73**	**343**	⇑*iP*	**Pn**	**18 54 09.9**	**+5.0**
VACH				*i* S	**Sn**	**18 54 43.0**	**+5.2**
CHCH	**Chadas Angostu**	**2.81**	**193**	⇑*iP*	**Pn**	**18 54 05.5**	**-0.5**
CHCH				*eS*	**Sn**	**18 54 38.9**	**-0.7**
CACH	**El Canelo**	**2.97**	**192**	⇓*iP*	**Pn**	**18 54 08.2**	**0.0**
CICH	**Cipreses**	**3.15**	**188**	⇑*iP*	**Pn**	**18 54 10.3**	**-0.2**
LVC	**Limon Verde**	**8.60**	**6**	P	**Pn**	**18 55 22.0**	**-1.9**
	comp=N,2.0nm,0.3s,baz=190,slow=7.7,SNR=16						
LVC				S	**Sn**	**18 56 57.4**	**-1.6**
	comp=N,0.9nm,0.3s,baz=252,slow=20,SNR=2.8						
PLCA	**Paso Flores**	**9.53**	**183**	P	**Pn**	**18 55 34.2**	**-2.4**
	comp=N,0.5nm,0.3s,baz=327,slow=11,SNR=5.3						
CPUP	**Villa Florida**	**12.02**	**69**	P	**Pn**	**18 56 10.3**	**+0.6**
	comp=N,0.5nm,0.3s,baz=219,slow=16,SNR=4.0						
LPAZ	**La Paz**	**14.93**	**6**	P	**Pn**	**18 56 50.1**	**+2.8**
	comp=N,0.4nm,0.3s,baz=182,slow=7.6,SNR=21						
SIV	**San Ignacio**	**17.14**	**30**	P	**Pn**	**18 57 14.6**	**0.0**
	comp=N,0.5nm,0.3s,baz=216,slow=11,SNR=30						
TORD	**Torodi Ar. Bea**	**81.52**	**69**	P	**P**	**19 05 27.9**	**+1.1**
	comp=N,0.3nm,0.4s,mb3.5,baz=280,slow=6.5,SNR=8.6						
ASAR	**Alice Springs**	**120.88**	**206**	PKP	PKPdf	19 12 01.1	+0.3
	comp=N,0.2nm,0.5s,baz=137,slow=1.7,SNR=6.0						
WRA	**Warramunga Arr**	**124.09**	**208**	PKP	PKPdf	19 12 07.5	+0.5
	comp=N,0.5nm,0.5s,baz=160,slow=1.7,SNR=16						
ZAL	**Zalesovo**	**150.88**	**31**	PKPbc	PKPbc	19 13 01.6	+0.4
	comp=N,2.4nm,0.5s,baz=133,slow=3.0,SNR=8.4						
MKAR	**Makanchi Array**	**153.53**	**46**	PKPbc	PKPbc	19 13 07.5	+0.4
	comp=N,0.4nm,0.6s,baz=297,slow=3.8,SNR=3.8						
MKAR				PKPab	PKPab	19 13 20.2	+0.3
	comp=N,0.2nm,0.4s,baz=314,slow=2.5,SNR=6.2						

*NEIC **27** 19:01:04.7, 38.18S×176.43E, h144km, MG4.0(WEL), After WEL.*

WEL 27 19:01:04.9±0.2, 38.18S×176.43E, h141km±1km, ML4.0/11, 13C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.54**	**99**	P	Pn	19 01 25.4	-0.1
URZ	**Urewera**	**0.54**	**99**	⇑PN	Pn	19 01 25.4	-0.1
URZ				SN	Sn	19 01 41.1	0.0
HATZ	**Hinemaiaia**	**0.76**	**200**	P	Pn	19 01 27.1	+0.2
HATZ	**Hinemaiaia**	**0.76**	**200**	PN	Pn	19 01 27.1	+0.2
HATZ				SN	Sn	19 01 43.9	+0.3
RATZ	**Rangitukua**	**0.86**	**217**	P	Pn	19 01 27.9	+0.3
RATZ	**Rangitukua**	**0.86**	**217**	⇑PN	Pn	19 01 27.9	+0.2
MWZ	**Matawai**	**0.88**	**101**	P	Pn	19 01 28.0	+0.2
MWZ	**Matawai**	**0.88**	**101**	PN	Pn	19 01 28.0	+0.2
MWZ				SN	Sn	19 01 45.1	-0.1
KATZ	**Kakaramea**	**0.98**	**216**	P	Pn	19 01 28.8	+0.1
KATZ	**Kakaramea**	**0.98**	**216**	PN	Pn	19 01 28.8	+0.2
BKZ	**Black Stump Fm**	**0.99**	**177**	P	Pn	19 01 28.8	+0.1
BKZ	**Black Stump Fm**	**0.99**	**177**	⇑PN	Pn	19 01 28.8	+0.1
BKZ				SN	Sn	19 01 46.7	-0.1
KRVZ	**Karewarewa**	**1.10**	**214**	PN	Pn	19 01 29.9	+0.1
WTVZ	**West Tongariro**	**1.14**	**215**	P	Pn	19 01 30.2	+0.1
WTVZ	**West Tongariro**	**1.14**	**215**	PN	Pn	19 01 30.2	+0.1
OTVZ	**Oturere**	**1.15**	**211**	PN	Pn	19 01 30.5	+0.2
TWVZ	**Taurewa**	**1.18**	**221**	⇑PN	Pn	19 01 30.6	+0.1
NGZ	**Ngauruhoe**	**1.19**	**213**	PN	Pn	19 01 30.6	+0.1
WPVZ	**Whakapapa**	**1.23**	**214**	P	Pn	19 01 31.0	0.0
WPVZ	**Whakapapa**	**1.23**	**214**	PN	Pn	19 01 31.0	-0.1
TUVZ	**Tukino**	**1.25**	**209**	⇑PN	Pn	19 01 31.4	+0.3
FWVZ	**Far West T-bar**	**1.27**	**212**	P	Pn	19 01 31.3	-0.1
FWVZ	**Far West T-bar**	**1.27**	**212**	PN	Pn	19 01 31.3	-0.1
KNZ	**Kokohu**	**1.29**	**131**	P	Pn	19 01 31.8	+0.2
KNZ	**Kokohu**	**1.29**	**131**	⇑PN	Pn	19 01 31.8	+0.2
KNZ				SN	Sn	19 01 51.4	-0.5
WNVZ	**Wahianoa**	**1.32**	**209**	⇑PN	Pn	19 01 32.0	+0.1
MOVZ	**Moawhango**	**1.33**	**203**	P	Pn	19 01 31.6	-0.4
MOVZ	**Moawhango**	**1.33**	**203**	⇑PN	Pn	19 01 31.6	-0.4
PKVZ	**Pokaka**	**1.40**	**217**	⇑PN	Pn	19 01 32.7	0.0
MTVZ	**Mangateitei**	**1.42**	**212**	PN	Pn	19 01 32.9	0.0
PUZ	**Puketiti**	**1.45**	**86**	*eP*	Pn	19 01 33.0	-0.1
PUZ	**Puketiti**	**1.45**	**86**	PN	Pn	19 01 33.0	-0.2
PUZ				SN	Sn	19 01 53.8	-1.1
KUZ	**Kuaotunu**	**1.54**	**338**	P	Pn	19 01 34.1	-0.1
KUZ	**Kuaotunu**	**1.54**	**338**	⇓PN	Pn	19 01 34.1	-0.1
MXZ	**Matakaoa Point**	**1.61**	**68**	P	Pn	19 01 35.0	0.0
MXZ	**Matakaoa Point**	**1.61**	**68**	PN	Pn	19 01 35.0	0.0
VRZ	**Vera Road**	**1.61**	**234**	P	Pn	19 01 35.1	+0.1
VRZ	**Vera Road**	**1.61**	**234**	⇑PN	Pn	19 01 35.1	0.0
PXZ	**Pawanui**	**1.88**	**170**	⇑PN	Pn	19 01 37.6	-0.5
PXZ				SN	Sn	19 02 02.1	-1.4
TSZ	**Takapari Road**	**1.91**	**191**	PN	Pn	19 01 37.6	-0.9
WAZ	**Wanganui**	**1.93**	**215**	P	Pn	19 01 38.3	-0.4
WAZ	**Wanganui**	**1.93**	**215**	⇑PN	Pn	19 01 38.3	-0.4
RAEZ	**Rainy Point**	**1.94**	**235**	P	Pn	19 01 39.1	+0.3
RAEZ	**Rainy Point**	**1.94**	**235**	PN	Pn	19 01 39.1	+0.3
NEZ	**North Egmont**	**2.12**	**238**	P	Pn	19 01 41.4	+0.4
NEZ	**North Egmont**	**2.12**	**238**	PN	Pn	19 01 41.5	+0.5
PKE	**Pukeiti**	**2.16**	**241**	P	Pn	19 01 41.6	+0.2
PKE	**Pukeiti**	**2.16**	**241**	PN	Pn	19 01 41.6	+0.1
BFZ	**Birch Farm**	**2.50**	**183**	P	Pn	19 01 44.0	-1.6
BFZ	**Birch Farm**	**2.50**	**183**	PN	Pn	19 01 44.0	-1.6
BFZ				SN	Sn	19 02 14.2	-2.7
MRZ	**Mangatainoka R**	**2.56**	**195**	P	Pn	19 01 44.5	-1.9
MRZ	**Mangatainoka R**	**2.56**	**195**	⇑PN	Pn	19 01 44.5	-1.9
MRZ				SN	Sn	19 02 15.3	-3.0
TIWZ	**Tintock**	**2.63**	**189**	PN	Pn	19 01 45.4	-1.8
KIW	**Kapiti Island**	**2.92**	**203**	P	Pn	19 01 48.4	-2.6
MTW	**Mount Morrison**	**3.06**	**193**	P	Pn	19 01 49.9	-2.8
CAW	**Cannon Point**	**3.11**	**199**	P	Pn	19 01 50.6	-2.7
PAWZ	**Paruwai Farm**	**3.29**	**193**	P	Pn	19 01 52.6	-3.1
MRW	**Makara Radio**	**3.33**	**203**	P	Pn	19 01 53.0	-3.1
MSWZ	**Moikau Station**	**3.36**	**195**	P	Pn	19 01 53.3	-3.2
SNZO	**South Karori**	**3.40**	**202**	P	Pn	19 01 53.7	-3.3
BHW	**Baring Head**	**3.44**	**200**	P	Pn	19 01 54.3	-3.3
TCW	**Tory Channel**	**3.45**	**208**	P	Pn	19 01 54.5	-3.3
NNZ	**Nelson**	**3.84**	**217**	P	Pn	19 01 59.4	-3.4
QRZ	**Quartz Range**	**4.01**	**228**	*eP*	Pn	19 02 01.4	-3.7
THZ	**Tophouse**	**4.49**	**216**	P	Pn	19 02 07.8	-3.6
KHZ	**Kahutara**	**4.77**	**207**	P	Pn	19 02 11.1	-4.1
DSZ	**Denniston Nort**	**5.03**	**223**	P	Pn	19 02 14.1	-4.5
LTZ	**Lake Taylor**	**5.58**	**213**	*eP*	Pn	19 02 21.0	-5.0
MQZ	**McQueen's Vall**	**6.22**	**206**	P	Pn	19 02 28.5	-5.9
RPZ	**Rata Peaks**	**6.86**	**215**	*eP*	Pn	19 02 38.5	-4.6
LBZ	**Lake Benmore**	**7.78**	**215**	*eP*	Pn	19 02 50.9	-4.5
ODZ	**Otahua Downs**	**8.11**	**210**	*eP*	Pn	19 02 54.5	-5.3

*CSEM **27** 19:21:08.2, 3509N×2660E, h32km, MD3.6/6, After ATH*

*NEIC **27** 19:21:08.2, 3509N×2660E, h32km±7km, MD3.5(ATH), After ATH.*

ATH 27 19:21:08.2, 3509N×2660E, h32km±7km, MD3.5/6, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.65**	**45**	⇓*i*PN	Pn	19 21 21.3	+0.2
KARP				*e*SN	Sn	19 21 31.3	+1.0
XRY	**Khrisi**	**0.77**	**254**	*e*PN	Pn	19 21 23.0	+0.1
NPS	**Neapolis**	**0.83**	**282**	⇑*i*PN	Pn	19 21 24.5	+0.9
NPS				*e*SN	Sn	19 21 35.6	+0.9
SANT	**Santorini**	**1.58**	**324**	*e*P	Pn	19 21 35.0	+1.0
ARG	**Arkhangelos**	**1.68**	**47**	*e*PN	Pn	19 21 38.2	+2.9
ARG				*e*SN	Sn	19 21 58.2	+2.6
VAM	**Vamos**	**1.99**	**280**	*e*PB	Pb	19 21 42.8	-0.9
APE	**Apeiranthos**	**2.16**	**337**	*e*PN	Pn	19 21 43.8	+1.9
VLI	**Veliai**	**3.39**	**300**	*e*PN	Pn	19 22 00.8	+2.0

KRSC 27 19:35:33, 5322N×16011E, h60km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.13**	**203**	*i* P	Pn	19 35 43.1	+1.0
SPN				*i* S	Sn	19 35 46.6	+0.9
NLC	**Nalytchevo**	**0.46**	**264**	*i* P	Pn	19 35 45.7	+1.1
NLC				*i* S	Sn	19 35 54.2	+1.2
AVH	**Avacha**	**0.83**	**274**	*e*P	Pn	19 35 50.3	+1.5
AVH				*i* S	Sn	19 36 03.0	+2.6
PET	**Petropavlovsk**	**0.90**	**258**	*i* P	Pn	19 35 50.9	+1.2
PET				*i* S	Sn	19 36 03.1	+1.0
KII	**Karymskiy**	**0.91**	**335**	*e*P	Pn	19 35 50.9	+1.1
KII				*i* S	Sn	19 36 03.0	+0.8
RUS	**Russkaya**	**1.25**	**232**	*i* P	Pn	19 35 55.5	+1.2
RUS				*i* S	Sn	19 36 11.4	+1.2
GNL	**Ganaly**	**1.38**	**291**	*e*P	Pn	19 35 57.6	+1.5
GNL				*i* S	Sn	19 36 15.0	+1.6
GRL	**Gorelyy**	**1.40**	**242**	*e*P	Pn	19 35 58.5	+2.1
GRL				*i* S	Sn	19 36 16.4	+2.5
MKZ	**Mys Kozlova**	**1.65**	**35**	*e*P	Pn	19 36 00.2	+0.6
MKZ				*i* S	Sn	19 36 19.9	+0.1
TUMR	**Tumrok**	**2.07**	**1**	*e*P	Pn	19 36 07.7	+2.3
TUMR				*i* S	Sn	19 36 32.2	+2.2
MIPR	**Malaya Ipel'ka**	**2.25**	**246**	*e*P	Pn	19 36 10.6	+2.8
KMNR	**Kamenistaya**	**2.54**	**2**	*e*P	Pn	19 36 14.4	+2.6
KMNR				*i* S	Sn	19 36 44.0	+2.4
KPT	**Kopyto**	**2.75**	**1**	*e*P	Pn	19 36 17.6	+2.9
ZLN	**Zelenaya**	**2.83**	**8**	*e*P	Pn	19 36 19.1	+3.3
ZLN				*i* S	Sn	19 36 51.4	+2.7
CIRR	**Tsirk**	**2.92**	**7**	*e*P	Pn	19 36 20.5	+3.4
CIRR				*i* S	Sn	19 36 55.3	+4.3
KRSR	**Krestovskiy**	**3.02**	**5**	*e*P	Pn	19 36 20.9	+2.6
SRDR	**Sredinnyy**	**3.11**	**356**	*e*P	Pn	19 36 21.7	+2.1
KLY	**Klyuchi**	**3.12**	**6**	P	Pn	19 36 23.9	+4.2
KLY				*i* S	Sn	19 37 00.6	+4.9
KBTR	**Krutoberegovo**	**3.38**	**27**	*e*P	Pn	19 36 26.1	+2.8
KBTR				*i* S	Sn	19 37 04.2	+2.0
BDR	**Baidarnaya**	**3.42**	**10**	*e*P	Pn	19 36 24.7	+1.0
SMKR	**Semkarok**	**3.46**	**13**	*e*P	Pn	19 36 27.1	+2.7
SMKR				*i* S	Sn	19 37 05.4	+1.3
SRKR	**Sorokina**	**3.50**	**10**	*e*P	Pn	19 36 27.9	+3.0

*MOS **27** 19:53:50.2±2.0, 7583N×796E, h10km, mb4.5/1, Error ellipse: s-maj=45.9km s-min=8.0km az=97.0*

*IDC **27** 19:53:51.5±1.0, 7588N×802E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.8/23, mbtmp3.8/13, ML3.1/4, MS3.3/8, Ms1 3.3/8, ms1mx3.1/34, Error ellipse: s-maj=20.3km s-min=17.7km az=75.0*

*ISCJB **27** 19:53:52.1±0.7, 7588N±003×96E±03, h10km, mb3.7/10, MS3.5/5, Error ellipse: s-maj=11.5km s-min=4.6km az=7.9*

*NEIC **27** 19:53:53.0±0.6, 7591N×850E, h10km, mb4.3/2, Error ellipse: s-maj=12.2km s-min=6.9km az=88.0*

*CSEM **27** 19:53:53.6±0.1, 7589N×777E, h30km, ML2.8, Error ellipse: s-maj=5.5km s-min=2.8km az=94.0*

*BER **27** 19:53:53.9±3.5, 7598N×764E, h10km, MD2.9, ML2.7, ML2.8(NAO)*

*NAO **27** 19:53:53.6±3.6, 7580N×759E, h53km±97km, ML2.8*

*HEL **27** 19:53:59.6±0.9, 7600N×1128E, h10km, ML4.0, mb4.3(NEIC)*

ISC 27 19:53:53.6±0.6, 7585N±004×92E±03, h10km, n57, σ1°54/69, mb3.7/10, MS3.6/4, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPB4	**Spitsbergen Ar**	**2.83**	**31**	*e*Pn	**Pn**	**19 54 39.0**	**0.0**
SPB4				*e*Sn	**Sn**	**19 55 10.3**	**-2.8**
SPB4	**Spitsbergen Ar**	**2.83**	**31**	*e*Pn	**Pn**	**19 54 39.0**	**+0.1**
SPB4				*e*Sn	**Sn**	**19 55 10.4**	**-2.7**
SPA0	**Spitsbergen Ar**	**2.84**	**31**	*e*P	**Pn**	**19 54 39.3**	**+0.4**
	baz=207,slow=16						
SPA0				*e*SB	**Sb**	**19 55 13.9**	**-5.2**
	baz=236,slow=28						
KBS	**Kingsbay**	**3.15**	**10**	Pn	**Pn**	**19 54 40.2**	**-3.0**
KBS				Sn	**Sn**	**19 55 15.3**	**-5.5**
KBS	**Kingsbay**	**3.15**	**10**	*e*P	**Pn**	**19 54 40.6**	**-2.6**
KBS				*e*S	**Sn**	**19 55 15.3**	**-5.5**
KBS				AML	AML	19 55 20.2	
	comp=Z,63nm,0.6s						
KBS	**Kingsbay**	**3.15**	**10**	*e*Pn	**Pn**	**19 54 40.4**	**-2.8**
KBS				*e*Sn	**Sn**	**19 55 16.2**	**-4.6**
KBS	**Kingsbay**	**3.15**	**10**	*e*Pn	**Pn**	**19 54 40.4**	**-2.8**
KBS				Sn	**Sn**	**19 55 15.3**	**-5.5**
HOPEN	**Hopen**	**3.84**	**73**	*e*P	**Pn**	**19 54 54.9**	**+2.2**
HOPEN				*e*S	**Sn**	**19 55 41.2**	**+3.4**
DAG	**Danmarks Havn**	**6.64**	**291**	⇑*i*P	**Pn**	**19 55 22.2**	**-9.0**
	comp=Z,4.1nm,0.7s						
DAG				*i*		19 56 25.6	
DAG	**Danmarks Havn**	**6.64**	**291**	⇑*i*P	**Pn**	**19 55 22.2**	**-9.0**
DAG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TRO	**Tromso**	**6.87**	**150**	*e*P	**Pn**	**19 55 35.4**	**+1.1**
TRO	**Tromso**	**6.87**	**150**	*e*P	**Pn**	**19 55 36.1**	**+1.7**
TRO	**Tromso**	**6.87**	**150**	*e*P	**Pn**	**19 55 36.1**	**+1.7**
KIF	**Kilpisjarvi**	**7.70**	**147**	*e*P	**Pn**	**19 55 48.5**	**+2.8**
KIF				MPN		19 55 49.3	
	comp=Z,4.7nm,0.2s						
KIF				*e*S	**Sn**	**19 57 10.4**	**-2.6**
ARA0	**ARCESS Array S**	**7.95**	**135**	*e*P	**Pn**	**19 55 48.9**	**-0.2**
	baz=331,slow=12						
ARA0				*e*S	**Sn**	**19 57 15.5**	**-3.6**
	baz=328,slow=22						
ARCES	**ARCESS Array B**	**7.95**	**135**	Pn	**Pn**	**19 55 49.3**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=329,slow=12,SNR=44						
ARCES				Sn	**Sn**	**19 57 15.9**	**-3.2**
	comp=Z,2.3nm,0.3s,baz=327,slow=19,SNR=9.0						
ARCES				LR	LR	19 59 14.6	
	comp=Z,134nm,19.9s,baz=126,slow=40						
ARCES	**ARCESS Array B**	**7.95**	**135**	Pn	**Pn**	**19 55 49.3**	**+0.2**
ARCES				Sn	**Sn**	**19 57 15.9**	**-3.2**
KEV	**Kevo**	**8.03**	**130**	*e*P	**Pn**	**19 55 50.8**	**+0.5**
KEV				*e*S	**Sn**	**19 57 14.

ML3.3, 8C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.57**	**163**	⇓*i*P	Pb	19 55 17.1	-0.2
PACH				*i* S	Sb	19 55 25.5	+0.4
CMCH	**Combarbala**	**0.97**	**34**	⇑*i*P	Pn	19 55 23.0	-0.9
CMCH				*i* S	Sb	19 55 36.2	-0.4
CMCH				AML	AML	19 55 40.1	
	comp=E,3μm,0.6s						
CMCH	**Combarbala**	**0.97**	**34**	⇑*i*P	Pn	19 55 23.0	-0.9
CMCH				*i* S	Sb	19 55 36.2	-0.4
ROCH	**El Roble**	**1.11**	**152**	⇓*i*P	Pn	19 55 25.9	+0.1
ROCH				*i* S	Sn	19 55 40.8	+0.4
JACH	**Jahuel**	**1.12**	**129**	⇓*i*P	Pn	19 55 26.0	+0.1
JACH				*i* S	Sn	19 55 41.1	+0.6
PEL	**Peldehue**	**1.40**	**146**	⇑*i*P	Pn	19 55 30.2	+0.3
PEL				*i* S	Sn	19 55 49.0	+1.5
PEL				AML	AML	19 55 50.9	
	comp=E,1μm,0.2s						
PEL	**Peldehue**	**1.40**	**146**	⇑*i*P	Pn	19 55 30.2	+0.3
PEL				*i* S	Sn	19 55 49.0	+1.5
LCCH	**Las Cruces**	**1.48**	**178**	⇓*i*P	Pn	19 55 31.0	0.0
RCDM	**Rinconada Maip**	**1.65**	**155**	⇑*i*P	Pn	19 55 34.5	+1.2
RCDM				*i* S	Sn	19 55 55.5	+1.8
RCDM				AML	AML	19 55 60.0	
	comp=E,200nm,0.1s						
RCDM	**Rinconada Maip**	**1.65**	**155**	⇑*i*P	Pn	19 55 34.5	+1.2
RCDM				*i* S	Sn	19 55 55.5	+1.8
CLCH	**Cerro Calan**	**1.68**	**147**	*e*P	Pn	19 55 34.5	+0.9
CLCH				*i* S	Sn	19 55 56.3	+1.9
CLCH				AML	AML	19 55 59.5	
	comp=E,405nm,0.3s						
CLCH				AML	AML	19 56 07.5	
	comp=N,494nm,0.5s						
FCH	**Farellones**	**1.75**	**140**	*i* P	Pn	19 55 36.1	+1.5
FCH				*i* S	Sn	19 55 58.7	+2.5
FCH				AML	AML	19 56 00.1	
	comp=E,252nm,0.1s						
TACH	**Talagante**	**1.76**	**161**	*e*P	Pn	19 55 36.0	+1.3
TLL	**Tololo Astrono**	**1.95**	**22**	*e*P	Pn	19 55 39.4	+2.0
TLL				*e*S	Sn	19 56 05.1	+4.1
TLL				AML	AML	19 56 09.3	
	comp=N,685nm,0.8s						
TLL	**Tololo Astrono**	**1.95**	**22**	*e*P	Pn	19 55 39.4	+2.0
TLL				*e*S	Sn	19 56 05.1	+4.1
LNV	**Longovilo**	**1.97**	**175**	*e*P	Pn	19 55 38.3	+0.6
LMEL	**Las Melosas**	**2.21**	**147**	⇑*i*P	Pn	19 55 42.6	+1.6
LMEL				AML	AML	19 56 18.4	
	comp=N,265nm,0.1s						
CACH	**El Canelo**	**2.29**	**158**	*e*P	Pn	19 55 44.2	+2.1

*ISCJB **27** 20:22:30.6±0.3, 43.17N±.002×028W±.002, h2km±.5km, Error ellipse: s-maj=3.1km s-min=2.6km az=142.9*
*STR **27** 20:22:31.8±0.1, 4306N×.031W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 20:22:32.1±0.0, 4306N×.032W, h3km, Ml2.3/6, Error ellipse: s-maj=1.0km s-min=0.8km az=4.0*
ISC 27 20:22:31.6±0.3, 4312N±.002×030W±.002, h7km±4km, n48, σ0§63/79, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.08**	**234**	Pg	**Pg**	**20 22 33.6**	**0.0**
REYF				Sg	**Sg**	**20 22 34.9**	**-0.1**
REYF	**Montagne du Re**	**0.08**	**234**	P	**Pg**	**20 22 33.6**	**0.0**
REYF				S	**Sg**	**20 22 34.9**	**-0.1**
LABF	**Labassere**	**0.28**	**104**	Pg	**Pg**	**20 22 37.2**	**0.0**
LABF				Sg	**Sg**	**20 22 42.0**	**+1.0**
LABF	**Labassere**	**0.28**	**104**	P	**Pg**	**20 22 37.3**	**+0.1**
LABF				S	**Sg**	**20 22 42.1**	**+1.1**
ETSF	**Etsaut**	**0.29**	**221**	*e*Pg	**Pg**	**20 22 36.9**	**-0.4**
ETSF				*e*Sg	**Sg**	**20 22 39.9**	**-1.2**
	16nm,0.2s						
ETSF	**Etsaut**	**0.29**	**221**	Pg	**Pg**	**20 22 36.9**	**-0.4**
ETSF				Lg		20 22 39.9	
	8.1nm,0.2s						
ATE	**Arette**	**0.29**	**264**	Pg	**Pg**	**20 22 37.3**	**0.0**
ATE				Sg	**Sg**	**20 22 41.6**	**+0.4**
ATE	**Arette**	**0.29**	**264**	P	**Pg**	**20 22 37.2**	**-0.1**
ATE				S	**Sg**	**20 22 41.2**	**-0.1**
VIEF	**Viey**	**0.34**	**134**	Pg	**Pg**	**20 22 38.0**	**-0.1**
VIEF				Sg	**Sg**	**20 22 41.9**	**-0.7**
VIEF	**Viey**	**0.34**	**134**	P	**Pg**	**20 22 38.1**	**-0.1**
VIEF				S	**Sg**	**20 22 42.3**	**-0.2**
FDAF	**Les Forges d'A**	**0.36**	**213**	P	**Pg**	**20 22 38.1**	**-0.4**
FDAF				S	**Sg**	**20 22 42.9**	**-0.4**
ORDF	**Ordiarp**	**0.47**	**282**	Pg	**Pg**	**20 22 41.3**	**+0.6**
ORDF				Sg	**Sg**	**20 22 47.8**	**+0.9**
ORDF	**Ordiarp**	**0.47**	**282**	P	**Pg**	**20 22 41.5**	**+0.7**
ORDF				S	**Sg**	**20 22 48.0**	**+1.0**
EPF	**Esparros**	**0.48**	**100**	*e*Pg	**Pg**	**20 22 41.1**	**+0.2**
EPF				*e*Sg	**Sg**	**20 22 47.8**	**+0.6**
	8.1nm,0.2s						
EPF				*e*Sn	**Sg**	**20 22 49.8**	**+2.6**
EPF	**Esparros**	**0.48**	**100**	Pg	**Pg**	**20 22 41.1**	**+0.2**
EPF				Lg		20 22 47.8	
	4.1nm,0.2s						
LARF	**Larrau**	**0.51**	**261**	Pg	**Pg**	**20 22 41.4**	**0.0**
LARF				Sg	**Sg**	**20 22 48.4**	**+0.4**
LARF	**Larrau**	**0.51**	**261**	P	**Pg**	**20 22 41.4**	**0.0**
LARF				S	**Sg**	**20 22 48.6**	**+0.6**
EBIE	**Bielsa**	**0.54**	**143**	Pg	**Pg**	**20 22 41.8**	**-0.3**
	1.2nm,0.3s,SNR=8.9						
EBIE				Lg		20 22 48.4	
	11nm,0.1s,SNR=21						
RESF	**Ens**	**0.56**	**123**	Pg	**Pg**	**20 22 42.3**	**-0.2**
RESF				Sg	**Sg**	**20 22 49.8**	**0.0**
RESF	**Ens**	**0.56**	**123**	P	**Pg**	**20 22 42.5**	**0.0**
RESF				S	**Sg**	**20 22 50.0**	**+0.2**
SJPF	**Ste Jean**	**0.68**	**270**	*e*Pg	**Pg**	**20 22 44.8**	**+0.2**
SJPF				*e*Sg	**Sg**	**20 22 53.6**	**+0.2**
	6.5nm,0.2s						
SJPF	**Ste Jean**	**0.68**	**270**	Pg	**Pg**	**20 22 44.8**	**+0.2**
SJPF				Lg		20 22 53.6	
	3.2nm,0.2s						
IPRE	**Itoiz**	**0.83**	**248**	Lg		20 22 59.2	
	2.4nm,0.2s,SNR=9.5						
EALK	**Alkurruntz**	**0.89**	**277**	Pg	**Pg**	**20 22 48.9**	**+0.3**
	3.5nm,0.5s,SNR=6.0						
EALK				Lg		20 23 00.6	
	2.5nm,0.1s,SNR=10.0						
ELIZ	**Elizondo**	**0.90**	**273**	Pg	**Pg**	**20 22 48.5**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
ELIZ				Lg		20 23 00.4	
	1.6nm,0.1s,SNR=9.6						
IUSE	**Utxeti**	**0.93**	**260**	Lg		20 23 02.0	
	1.6nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.93**	**260**	Lg		20 23 18.4	
	2.5nm,0.1s,SNR=7.9						
CSOR	**Sort**	**1.29**	**125**	P	**Pn**	**20 22 56.9**	**+0.9**
CSOR				S	**Sb**	**20 23 14.2**	**+1.2**
	3.5nm,0.3s						
ESAC	**San Caprasio**	**1.40**	**185**	Pg	**Pg**	**20 22 58.3**	**-0.1**
	6.2nm,0.3s,SNR=6.5						
ESAC				Lg		20 23 16.7	
	7.6nm,0.1s,SNR=10						
CAVN	**Les Avellanes**	**1.46**	**147**	Pg	**Pg**	**20 22 58.9**	**-0.7**
CAVN				Lg		20 23 17.1	
	1.8nm,0.3s						
CORG	**Organya**	**1.49**	**126**	P	**Pn**	**20 23 00.2**	**+1.5**
CORG				S	**Sn**	**20 23 18.5**	**+0.1**
MTLF	**Montolieu**	**1.86**	**82**	*e*Pn	**Pn**	**20 23 03.0**	**-0.8**
MTLF	**Montolieu**	**1.86**	**82**	*e*Pg	**Pg**	**20 23 06.9**	**-0.3**
MTLF				*e*Sg	**Sg**	**20 23 31.3**	**+0.1**
	3.9nm,0.3s						
MTLF	**Montolieu**	**1.86**	**82**	Pn	**Pn**	**20 23 03.0**	**-0.8**
MTLF				Pg	**Pg**	**20 23 06.9**	**-0.3**
MTLF				Lg		20 23 31.3	
	1.9nm,0.3s						
LFF	**La Frestale**	**1.97**	**22**	*e*Pn	**Pn**	**20 23 05.3**	**0.0**
LFF	**La Frestale**	**1.97**	**22**	*e*Pg	**Pg**	**20 23 09.9**	**+0.5**
LFF				*e*Sg	**Sg**	**20 23 35.7**	**+0.8**
	7.3nm,0.3s						
LFF	**La Frestale**	**1.97**	**22**	Pn	**Pn**	**20 23 05.3**	**0.0**
LFF				Pg	**Pg**	**20 23 09.9**	**+0.5**
LFF				Lg		20 23 35.7	
	3.7nm,0.3s						
CAF	**Calviac**	**2.49**	**43**	*e*Pn	**Pn**	**20 23 12.4**	**0.0**
CAF	**Calviac**	**2.49**	**43**	*e*Pg	**Pg**	**20 23 19.3**	**0.0**
CAF				*e*Sn	**Sn**	**20 23 41.6**	**-1.4**
CAF				*e*Sg	**Sg**	**20 23 51.9**	**+0.4**
	2.0nm,0.2s						
CAF	**Calviac**	**2.49**	**43**	Pn	**Pn**	**20 23 12.4**	**0.0**
CAF				Pg	**Pg**	**20 23 19.3**	**0.0**
CAF				Sn	**Sn**	**20 23 41.6**	**-1.4**
CAF				Lg		20 23 51.9	
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**30**	*e*Pn	**Pn**	**20 23 13.2**	**-0.1**
RJF	**Les Rejaudoux**	**2.55**	**30**	*e*Pg	**Pg**	**20 23 20.3**	**-0.1**
RJF				*e*Sg	**Sg**	**20 23 53.1**	**-0.3**
	2.2nm,0.2s						
RJF	**Les Rejaudoux**	**2.55**	**30**	Pn	**Pn**	**20 23 13.2**	**-0.1**
RJF				Pg	**Pg**	**20 23 20.3**	**-0.1**
RJF				Lg		20 23 53.1	
	1.1nm,0.2s						
LASF	**Ste Croix**	**3.17**	**71**	*e*Pn	**Pn**	**20 23 21.3**	**-0.5**
LASF	**Ste Croix**	**3.17**	**71**	*e*Pg	**Pg**	**20 23 31.2**	**-1.1**
LASF				*e*Sg	**Sg**	**20 24 12.4**	**-1.0**
	0.9nm,0.2s						
LASF	**Ste Croix**	**3.17**	**71**	Pn	**Pn**	**20 23 21.3**	**-0.5**
LASF				Pg	**Pg**	**20 23 31.2**	**-1.1**
LASF				Lg		20 24 12.4	
	0.4nm,0.2s						
MFF	**Saint Martin d**	**3.49**	**2**	*e*Pg	**Pg**	**20 23 37.7**	**-0.7**
MFF				*e*Sg	**Sg**	**20 24 23.5**	**-0.1**
	1.2nm,0.2s						
MFF	**Saint Martin d**	**3.49**	**2**	Pg	**Pg**	**20 23 37.7**	**-0.7**
MFF				Lg		20 24 23.5	
	0.6nm,0.2s						

*ISCJB **27** 20:22:47.0±0.5, 43.16N±.003×.030W±.003, h2km, Error ellipse: s-maj=4.3km s-min=2.7km az=122.4*
*STR **27** 20:22:48.5±0.1, 4300N×.036W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 20:22:48.5±0.1, 4306N×.032W, h3km, Ml2.0/5, Error ellipse: s-maj=1.3km s-min=0.7km az=169.0*
*MDD **27** 20:22:48.9±0.3, 4308N×.031W, h0km, mbLg1.4/8, Error ellipse: s-maj=3.8km s-min=1.7km az=0.0, PRXIMO*
ISC 27 20:22:47.9±0.7, 4311N±.003×032W±.003, h10km±9km, n28, σ0§60/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.07**	**237**	Pg	**Pg**	**20 22 50.1**	**0.0**
REYF				Sg	**Sg**	**20 22 51.4**	**-0.3**
REYF	**Montagne du Re**	**0.07**	**237**	P	**Pg**	**20 22 50.2**	**+0.1**
REYF				S	**Sg**	**20 22 51.4**	**-0.4**
ETSF	**Etsaut**	**0.27**	**221**	*e*Pg	**Pg**	**20 22 53.3**	**-0.1**
ETSF				*e*Sg	**Sg**	**20 22 56.4**	**-0.8**
	14nm,0.2s						
ETSF	**Etsaut**	**0.27**	**221**	Pg	**Pg**	**20 22 53.3**	**-0.1**
ETSF				Lg		20 22 56.4	
	6.8nm,0.2s						
ATE	**Arette**	**0.28**	**266**	S	**Sg**	**20 22 57.5**	**0.0**
LABF	**Labassere**	**0.29**	**101**	S	**Sg**	**20 22 58.6**	**+0.8**
VIEF	**Viey**	**0.34**	**131**	Pg	**Pg**	**20 22 54.5**	**-0.1**
VIEF				Sg	**Sg**	**20 22 58.8**	**-0.3**
VIEF	**Viey**	**0.34**	**131**	S	**Sg**	**20 22 59.0**	**-0.1**
FDAF	**Les Forges d'A**	**0.34**	**213**	S	**Sg**	**20 22 59.4**	**+0.1**
EPF	**Esparros**	**0.49**	**99**	*e*Pg	**Pg**	**20 22 57.6**	**+0.2**
EPF				*e*Sg	**Sg**	**20 23 04.2**	**+0.3**
	7.1nm,0.2s						
EPF				*e*Sn	**Sg**	**20 23 06.2**	**+2.3**
EPF	**Esparros**	**0.49**	**99**	Pg	**Pg**	**20 22 57.6**	**+0.2**
EPF				Lg		20 23 04.2	
	3.5nm,0.2s						
EBIE	**Bielsa**	**0.54**	**141**	Lg		20 23 05.2	
	4.1nm,0.1s,SNR=6.6						
SJPF	**Ste Jean**	**0.67**	**271**	*e*Pg	**Pg**	**20 23 01.2**	**+0.4**
SJPF				*e*Sg	**Sg**	**20 23 10.0**	**+0.5**
	5.5nm,0.2s						
SJPF	**Ste Jean**	**0.67**	**271**	Pg	**Pg**	**20 23 01.2**	**+0.4**
SJPF				Lg		20 23 10.0	
	2.8nm,0.2s						
IPRE	**Itoiz**	**0.82**	**249**	Lg		20 23 15.2	
	0.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**0.88**	**278**	Lg		20 23 17.4	
	4.6nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**0.89**	**274**	Lg		20 23 17.3	
	1.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.39**	**185**	Lg		20 23 33.3	
	3.9nm,0.1s,SNR=7.9						
MTLF	**Montolieu**	**1.87**	**82**	*e*Pg	**Pg**	**20 23 23.4**	**-0.3**
MTLF				*e*Sg	**Sg**	**20 23 47.8**	**-0.2**
	1.8nm,0.2s						
MTLF	**Montolieu**	**1.87**	**82**	Pg	**Pg**	**20 23 23.4**	**-0.3**
MTLF				Lg		20 23 47.8	
	0.9nm,0.2s						
LFF	**La Frestale**	**1.98**	**22**	*e*Sg	**Sg**	**20 23 52.3**	**+0.6**
	1.8nm,0.2s						
LFF	**La Frestale**	**1.98**	**22**	Lg		20 23 52.3	
	0.9nm,0.2s						
CAF	**Calviac**	**2.50**	**43**	*e*Sg	**Sg**	**20 24 08.5**	**+0.2**
	1.6nm,0.2s						
CAF	**Calviac**	**2.50**	**43**	Lg		20 24 08.5	
	0.8nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**30**	*e*Sg	**Sg**	**20 24 09.5**	**-0.8**
	1.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.56**	**30**	Lg		20 24 09.5	
	0.9nm,0.2s						
LASF	**Ste Croix**	**3.18**	**71**	*e*Sg	**Sg**	**20 24 28.9**	**-1.3**
	0.6nm,0.2s						
LASF	**Ste Croix**	**3.18**	**71**	Lg		20 24 28.9	
	0.3nm,0.2s						

*ISCJB **27** 20:32:33.3±0.6, 43.11N±.005×.029W±.003, h14km±4km, Error ellipse: s-maj=7.9km s-min=3.9km az=153.0*
*STR **27** 20:32:34.8±0.1, 43.13N×.033W, h2km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **27** 20:32:34.9±0.1, 4306N×.032W, h3km, Md1.8/1, Ml1.4/2, Error ellipse: s-maj=1.6km s-min=0.7km az=171.0*
*MDD **27** 20:32:35.4±0.4, 4306N×.031W, h0km, mbLg0.7/4, Error ellipse: s-maj=4.3km s-min=2.0km az=12.0, PRXIMO*
ISC 27 20:32:34.6±0.8, 4309N±.005×032W±.004, h10km±9km, n17, σ0§55/22, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.06**	**253**	Pg	**Pg**	**20 32 36.5**	**-0.1**
REYF				Sg	**Sg**	**20 32 37.9**	**-0.1**
REYF	**Montagne du Re**	**0.06**	**253**	P	**Pg**	**20 32 36.6**	**0.0**
REYF				S	**Sg**	**20 32 37.9**	**-0.2**
ETSF	**Etsaut**	**0.26**	**224**	*e*Pg	**Pg**	**20 32 39.8**	**0.0**
ETSF				*e*Sg	**Sg**	**20 32 42.8**	**-0.5**
	4.3nm,0.3s						
ETSF	**Etsaut**	**0.26**	**224**	Pg	**Pg**	**20 32 39.8**	**0.0**
ETSF				Lg		20 32 42.8	
	2.2nm,0.3s						
ATE	**Arette**	**0.28**	**270**	Pg	**Pg**	**20 32 40.3**	**+0.1**
ATE				Sg	**Sg**	**20 32 44.2**	**+0.2**
ATE	**Arette**	**0.28**	**270**	P	**Pg**	**20 32 40.3**	**+0.1**
ATE				S	**Sg**	**20 32 44.3**	**+0.3**
EPF	**Esparros**	**0.48**	**96**	*e*Sg	**Sg**	**20 32 50.6**	**+0.2**
	0.9nm,0.2s						
EPF				*e*Sn	**Sg**	**20 32 52.7**	**+2.3**
EPF	**Esparros**	**0.48**	**96**	Lg		20 32 50.6	
	0.4nm,0.2s						
EPF				Sn	**Sg**	**20 32 52.7**	**+2.3**
EBIE	**Bielsa**	**0.52**	**140**	Pg	**Pg**	**20 32 44.6**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
EBIE				Lg		20 32 51.7	
	0.6nm,0.0s,SNR=7.9						
SJPF	**Ste Jean**	**0.67**	**273**	*e*Pg	**Pg**	**20 32 47.7**	**+0.2**
SJPF				*e*Sg	**Sg**	**20 32 56.5**	**+0.3**
	0.8nm,0.3s						
SJPF	**Ste Jean**	**0.67**	**273**	Pg	**Pg**	**20 32 47.7**	**+0.2**
SJPF				Lg		20 32 56.5	
	0.4nm,0.3s						
EALK	**Alkurruntz**	**0.88**	**279**	Lg		20 33 04.8	
	0.3nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**185**	Lg		20 33 19.5	
	SNR=7.9						
MTLF	**Montolieu**	**1.87**	**81**	*e*Pg	**Pg**	**20 33 09.9**	**-0.5**
MTLF				*e*Sg	**Sg**	**20 33 34.2**	**-0.5**
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.87**	**81**	Pg	**Pg**	**20 33 09.9**	**-0.5**
MTLF				Lg		20 33 34.2	
	0.1nm,0.2s						
LFF	**La Frestale**	**2.00**	**22**	*e*Sg	**Sg**	**20 33 38.7**	**-0.2**
	1.1nm,0.3s						
LFF	**La Frestale**	**2.00**	**22**	Lg		20 33 38.7	
	0.6nm,0.3s						

*ISCJB **27** 20:43:20.1±1.3, 1441N±.009×.9256W±.004, h33km, Error ellipse: s-maj=12.4km s-min=5.6km az=14.8*
*NEIC **27** 20:43:21.8, 1436N×.9238W, h20km, MD4.4(MEX), After MEX.*
*MEX **27** 20:43:21.3±0.5, 1435N×.9255W, h22km±74km, MD4.5*
*CASC **27** 20:43:22.4±2.1, 1451N×.9232W, h27km±115km, MD4.2*
ISC 27 20:43:22.2±1.2, 1445N±.009×9247W±.004, h35km, n15, σ1§28/20, 1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TP2	**Tecpan 2**	**1.44**	**77**	⇓*e*P	**Pn**	**20 43 45.7**	**-0.1**
TP2				*e*S	**Sn**	**20 44 03.0**	**-0.5**
CCIG	**Comitan**	**1.85**	**10**	*i* P	**Pn**	**20 43 50.8**	**-0.6**
CCIG				*i* S	**Sn**	**20 44 13.9**	**+0.4**
SCX	**San Cristobal**	**2.28**	**356**	*i* P	**Pn**	**20 43 57.0**	**-0.3**
SCX				*i* S	**Sn**	**20 44 25.0**	**+0.9**
SBLS	**San Blas**	**2.83**	**102**	*e*P	x	20 44 09.6	
SBLS				*e*S	x	20 44 43.6	
SNJE	**San Jose**	**2.84**	**101**	*e*P	x	20 44 09.3	
SNJE				*e*S	x	20 44 43.1	
LFRS	**El Faro**	**3.41**	**104**	*e*P	x	20 44 17.1	
LFRS				*e*S	x	20 44 56.4	
CMIG	**Matias Romero**	**3.50**	**319**	*i* P	**Pn**	**20 44 13.5**	**-0.6**
CMIG				*i* S	**Sn**	**20 44 52.1**	**-2.3**
HUIG	**Huatulco**	**3.75**	**291**	*i* S	**Sn**	**20 44 55.8**	**-4.6**
OXX	**Oaxaca**	**4.86**	**303**	*e*P	**Pn**	**20 44 35.0**	**+2.2**
VHO	**Vista Hermosa**	**4.86**	**303**	*e*P	**Pn**	**20 44 30.9**	**-1.9**
VHO				*i* S	**Sn**	**20 45 25.8**	**-2.0**
VHO	**Vista Hermosa**	**4.86**	**303**	*i* P	**Pn**	**20 44 35.2**	**+2.4**
VHO				*i* S	**Sn**	**20 45 28.9**	**+1.1**
TPIG	**Tehuac#an**	**6.13**	**311**	*i* S	**Sn**	**20 46 00.0**	**+0.9**
PPM	**Popocatepetl**	**7.47**	**309**	*e*P	**Pn**	**20 45 10.0**	**+1.4**
PPM				*i* S	**Sn**	**20 46 33.1**	**+1.0**
PPM	**Popocatepetl**	**7.47**	**309**	*e*P	**Pn**	**20 45 10.0**	**+1.4**
PPM				*i* S	**Sn**	**20 46 36.0**	**+3.9**
PLIG	**Platanillo**	**7.80**	**301**	*i* S	**Sn**	**20 46 38.5**	**-1.8**

*NIED **27** 20:45:00, 46.30N×.153.60E, h20km, Mw4.4 Best double couple: M0 3.82000×10^15 NP1:φ±244.00000°, δ72.00000°, λ95.00000°. NP2:φ±48.00000°, δ19.00000°, λ75.00000°.*
*NEIC **27** 20:45:50.7±0.4, 46.36N×.153.35E, h10km, mb4.5/9, Error ellipse: s-maj=12.4km s-min=6.9km az=150.0*
*BJI **27** 20:45:50.2, 46.66N×.153.45E, h8km, mB4.4, mb4.2, Ms3.3, Ms23.4*
*ISCJB **27** 20:45:52.1±0.4, 4623N±.007×.15332E±.006, h33km, mb4.2/27, MS3.7/4, Error ellipse: s-maj=10.9km s-min=4.2km az=124.7*
*MOS **27** 20:45:53.1±1.0, 4632N×.15325E, h42km, mb4.6/8, Error ellipse: s-maj=12.4km s-min=10.8km az=50.6*
*IDC **27** 20:45:56.8±3.9, 4631N×.15321E, h56km±35km, mb3.8/16, mb1 4.0/18, mb1mx3.9/24, mbtmp4.0/18, ML3.8/2, MS3.7/5, Ms1 3.7/5, ms1mx3.2/37, Error ellipse: s-maj=18.1km s-min=16.1km az=143.0*
ISC 27 20:45:54.2±0.4, 4627N±.007×15328E±.007, h35km, n83, σ1§33/85, mb4.2/27, MS3.7/4, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.93**	**257**	⇑*i*PN	**Pn**	**20 46 51.0**	**-1.0**
KUR				*i* S	**Sn**	**20 47 36.5**	**-0.4**
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,480nm,0.5s						
KUR				smax			
	comp=E,230nm,0.5s						
SKR	**Severo-Kuril's**	**4.80**	**22**	*e*PN	**Pn**	**20 46 58.5**	**-5.5**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
NEM2	**Nemuro 2**	**6.10**	**244**	P	**Pn**	**20 47 20.9**	**-0.9**
NEM2				*e*S	**Sn**	**20 48 27.5**	**-2.8**
JNK	**Nakash**	**6.64**	**249**	P	**Pn**	**20 47 30.1**	**+0.8**
JAK	**Akkeshi**	**6.94**	**245**	*e*S	**Sn**	**20 48 48.6**	**-2.5**
JTKR	**Abashiri--Toko**	**7.02**	**254**	P	**Pn**	**20 47 36.1**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.29**	**279**	PN	**Pn**	**20 47 44.0**	**+5.9**
YSS				S	**Sn**	**20 49 03.0**	**+3.4**
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
JAR	**Ashorobuto**	**7.39**	**250**	P	**Pn**	**20 47 40.9**	**+1.3**
JAR				*e*S	**Sn**	**20 49 02.3**	**+0.1**
JKK2	**Kamakawa 2**	**7.83**	**256**	P	**Pn**	**20 47 47.8**	**+2.2**
ASAJ	**Asahikawa**	**7.85**	**258**	P	**Pn**	**20 47 48.5**	**+2.7**
	comp=E,1.7nm,0.3s,baz=112,slow=17,SNR=9.8						
ASAJ				LR	LR	20 50 44.5	
	comp=E,259nm,18.6s,baz=56,slow=37						
ASAJ	**Asahikawa**	**7.85**	**258**	P	**Pn**	**20 47 49.3**	**+3.5**
ASAJ	**Asahikawa**	**7.85**	**258**	PN	**Pn**	**20 47 48.5**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,259nm,18.6s						
JCH	**Churui**	**7.98**	**246**	P	**Pn**	**20 47 47.5**	**-0.2**
JCH				*e*S	**Sn**	**20 49 12.9**	**-3.8**
JFR	**Furan**	**8.22**	**252**	P	**Pn**	**20 47 53.5**	**+2.6**
JAB	**Ashibetsu**	**8.32**	**255**	P	**Pn**	**20 47 55.9**	**+3.5**
ERM	**Erimo**	**8.43**	**243**	*e*PN	**Pn**	**20 47 55.9**	**+2.1**
JNBK	**Urakawa-nobuka**	**8.54**	**246**	P	**Pn**	**20 47 56.7**	**+1.4**
JNB	**Noboribetsu**	**9.55**	**251**	P	**Pn**	**20 48 10.0**	**+0.8**
JNB				*e*S	**S

ZAL	**Zalesovo**	**43.01**	**306**	P		**P**	**20 53 49.0**	**-1.1**
	comp=Z,1.0nm,0.4s,mb3.9,baz=138,slow=11,SNR=3.6							
ZAL				LR		LR	21 13 45.7	
	comp=Z,153nm,18.9s,MS3.9,baz=305,slow=39							
MKAR	**Makanchi Array**	**47.27**	**298**	P		**P**	**20 54 22.9**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=71,slow=8.2,SNR=9.8							
LSA	**Lhasa**	**50.42**	**274**	P		**P**	**20 54 50.3**	**+2.1**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.42**	**274**	P		**P**	**20 54 50.3**	**+2.1**
	comp=Z,2.6nm,0.6s,mb4.4							
YKA	**Yellowknife Ar**	**51.24**	**37**	P		**P**	**20 54 53.5**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.2,baz=296,slow=7.0,SNR=4.4							
YKA	**Yellowknife Ar**	**51.24**	**37**	P		**P**	**20 54 53.5**	**-0.8**
BVAR	**Borovoye Array**	**51.26**	**310**	P		**P**	**20 54 53.6**	**-0.9**
	comp=Z,0.5nm,0.3s,mb3.9,baz=51,slow=7.2,SNR=6.5							
ZRNK	**Zerenda**	**52.03**	**310**	*e*P		**P**	**20 54 59.1**	**-1.1**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
ZRNK	**Zerenda**	**52.03**	**310**	*e*P		**P**	**20 54 59.1**	**-1.1**
	comp=Z,1.4nm,0.6s,mb4.1							
KEV	**Kevo**	**57.84**	**341**	*e*p		**P**	**20 55 38.1**	**-4.1**
	comp=Z,8.1nm,0.8s,mb4.8							
KEV	**Kevo**	**57.84**	**341**	*e*P		**P**	**20 55 38.1**	**-4.1**
KEV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
YBH	**Yreka Blue Hor**	**57.87**	**62**	P		**P**	**20 55 42.9**	**+0.4**
	comp=Z,0.4nm,0.3s,mb4.0,baz=134,slow=17,SNR=2.7							
JOF	**Joensuu**	**61.82**	**334**	*e*p		**P**	**20 56 07.8**	**-1.8**
	comp=Z,0.7nm,0.4s,mb4.1							
BOZ	**Bozeman (W)**	**61.96**	**52**	*e*P		**P**	**20 56 11.2**	**+0.7**
BOZ				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.9							
BOZ	**Bozeman (W)**	**61.96**	**52**	*e*P		**P**	**20 56 11.2**	**+0.7**
	comp=Z,9.9nm,1.1s,mb4.8							
KAF	**Kangasniemi**	**63.93**	**335**	*e*p		**P**	**20 56 21.1**	**-2.5**
	comp=Z,0.5nm,0.3s,mb4.0,baz=36,slow=6.3							
KAF	**Kangasniemi**	**63.93**	**335**	*e*P		**P**	**20 56 21.1**	**-2.5**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.3							
FIA1	**FINESS Array S**	**64.53**	**335**	P		**P**	**20 56 25.8**	**-1.8**
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**	**20 56 26.8**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.2,baz=32,slow=7.6,SNR=19							
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**	**20 56 26.8**	**-0.8**
DUG	**Dugway**	**64.73**	**58**	P		**P**	**20 56 28.2**	**-0.7**
PDAR	**Pinedale Array**	**64.94**	**54**	P		**P**	**20 56 30.6**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.3,baz=292,slow=2.1,SNR=20							
ULM	**Lac du Bonnet**	**66.81**	**41**	P		**P**	**20 56 41.3**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.5,baz=316,slow=3.7,SNR=5.9							
ULM				LR		LR	21 24 53.9	
	comp=Z,142nm,18.5s,MS4.2,baz=277,slow=35							
RSSD	**Black Hills**	**67.05**	**50**	*e*P		**P**	**20 56 44.0**	**+0.2**
RSSD				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
RSSD	**Black Hills**	**67.05**	**50**	*e*P		**P**	**20 56 44.0**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**68.09**	**199**	P		**P**	**20 56 49.8**	**-0.6**
	comp=Z,0.6nm,0.8s,mb3.8,baz=18,slow=6.5,SNR=5.9							
NB2	**NORSAR Subarra**	**68.72**	**341**	P		**P**	**20 56 53.7**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.5,baz=30,slow=6.5							
NB2	**NORSAR Subarra**	**68.72**	**341**	P		**P**	**20 56 53.7**	**-0.6**
NB2				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
NOA	**NORSAR Array B**	**68.72**	**341**	P		**P**	**20 56 53.9**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.2,baz=28,slow=6.4,SNR=9.0							
ASAR	**Alice Springs**	**71.79**	**199**	P		**P**	**20 57 13.8**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=12,slow=5.8,SNR=13							
AKASG	**Malin Array Be**	**72.02**	**326**	P		**P**	**20 57 13.9**	**-0.5**
	comp=Z,2.3nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=10							
BURAR	**Bucovina Array**	**76.06**	**327**	⇑ *i*P		**P**	**20 57 38.4**	**+0.4**
CLL	**Collm**	**76.95**	**336**	*e*P		**P**	**20 57 44.0**	**+0.9**
CLL				*i* (PcP)		PcP	20 57 56.2	+2.2
MLR	**Muntele Rosu**	**77.53**	**325**	⇓ *i*P		**P**	**20 57 49.7**	**+3.4**
MALT	**Malatya**	**77.57**	**313**	*e*P		**P**	**20 57 48.7**	**+2.2**
MALT				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
MALT	**Malatya**	**77.57**	**313**	*e*P		**P**	**20 57 48.7**	**+2.2**
	comp=Z,2.7nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**78.82**	**317**	P		**P**	**20 57 54.3**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=58,slow=5.3,SNR=3.4							
GERES	**GERESS Array B**	**78.94**	**334**	P		**P**	**20 57 53.9**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=36,slow=7.0,SNR=5.1							
TORD	**Torodi Ar. Bea**	**115.57**	**329**	PKP		PKPdf	21 04 32.4	-0.1
	comp=Z,0.2nm,0.6s,baz=38,slow=2.7,SNR=4.4							
CFAA	**Coronel Fontan**	**144.96**	**80**	PKPbc		PKPdf	21 05 26.2	-1.4
	comp=Z,0.7nm,0.5s,baz=274,slow=3.3,SNR=8.7							
PLCA	**Paso Flores**	**148.04**	**96**	PKPbc		PKPbc	21 05 35.5	-0.4
	comp=Z,3.0nm,0.8s,baz=264,slow=4.1,SNR=7.3							
CPUP	**Villa Florida**	**148.60**	**61**	PKPbc		PKPbc	21 05 37.5	+0.1
	comp=Z,2.9nm,0.6s,baz=296,slow=3.1,SNR=7.3							
CPUP	**Villa Florida**	**148.60**	**61**	PKPbc		PKPbc	21 05 37.5	+0.1

*BJI **27** 20:50:55.6, 46.98N×153.69E, h22km, mB4.6, mb4.3, Ms4.1, Msz3.8*
*NEIC **27** 20:50:56.4±0.4, 46.32N×153.34E, h10km, mb4.5/11, Error ellipse: s-maj=12.2km s-min=8.2km az=160.0*
*ISCJB **27** 20:50:58.3±0.4, 46.25N±007×153.46E±006, h33km, mb4.2/32, MS3.6/2, Error ellipse: s-maj=9.8km s-min=5.7km az=137.0*
*MOS **27** 20:50:58.1±1.3, 46.28N×153.38E, h33km, mb4.6/12, Error ellipse: s-maj=11.1km s-min=9.4km az=110.5*
*IDC **27** 20:51:02.2±3.7, 46.31N×153.29E, h52km±32km, mb3.9/17, mb1 4.1/19, mb1mx4.0/25, mbtmp4.1/19, ML3.7/2, Error ellipse: s-maj=17.8km s-min=14.8km az=149.0*
ISC 27 20:51:00.1±0.5, 46.29N±007×153.41E±008, h35km, n92, σ1°03/86, mb4.2/32, MS3.6/2, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.02**	**257**	*e*PN		**Pn**	**20 51 56.0**	**-3.2**
KUR				pmax		pmax		
	comp=Z,360nm,0.5s							
SKR	**Severo-Kuril's**	**4.75**	**21**	*e*PN		**Pn**	**20 52 05.5**	**-3.7**
SKR				*e*S		**Sn**	**20 53 04.5**	**+1.4**
SKR				pmax		pmax		
	comp=N,80nm,0.5s							
SKR				pmax		pmax		
	comp=E,40nm,0.5s							
SKR				pmax		pmax		
	comp=Z,140nm,0.5s							
SKR				smax				
	comp=N,330nm,0.9s							
SKR				smax				
	comp=E,80nm,0.6s							
SKR				smax				
	comp=N,2μm,8.0s							
SKR				smax				
	comp=E,2μm,8.0s							
SKR				MLR		MLR		
	comp=Z,2μm,8.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	*e*PN		**Pn**	**20 52 51.0**	**+5.9**
YSS				MLR		MLR		
	comp=Z,500nm,16.0s							
YSS				MLR		MLR		
	comp=E,300nm,17.0s							
PET	**Petropavlovsk**	**7.55**	**25**	*i* Pn		**Pn**	**20 52 57.1**	**+9.4**
ASAJ	**Asahikawa**	**7.94**	**258**	P		**Pn**	**20 52 54.2**	**+1.3**
	comp=E,1.2nm,0.3s,baz=96,slow=30,SNR=6.0							
ASAJ	**Asahikawa**	**7.94**	**258**	PN		**Pn**	**20 52 54.3**	**+1.3**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
UGL	**Uglegorsk**	**8.15**	**294**	*e*PN		**Pn**	**20 52 58.5**	**+2.7**
UGL				S		**Sn**	**20 54 31.5**	**+4.8**
UGL				pmax		pmax		
	comp=Z,31nm,0.5s							
UGL				smax				
	comp=E,65nm,0.5s							
UGL				smax				
	comp=N,70nm,0.7s							
KLR	**Kul'dur**	**14.85**	**289**	*e*P		**Pn**	**20 54 28.3**	**+0.8**
KLR				MLR		MLR		
	comp=E,500nm,14.0s							
KLR				MLR		MLR		
	comp=Z,600nm,14.0s							
MAT	**Matsushiro**	**14.97**	**235**	P		**Pn**	**20 54 34.5**	**+5.4**
MJAR	**Matsushiro Arr**	**14.97**	**235**	P		**Pn**	**20 54 30.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=29,slow=11,SNR=7.0							
MJAR	**Matsushiro Arr**	**14.97**	**235**	P		**Pn**	**20 54 30.3**	**+1.2**
MDJ	**Mudanjiang**	**16.79**	**273**	P		**Pn**	**20 54 53.3**	**+0.9**
MDJ				AMB		AMB		
	comp=Z,9.0nm,0.9s							
MDJ				AMB		AMB		
	comp=Z,83nm,4.7s							
YAK	**Yakutsk**	**20.82**	**328**	⇑ *e*P		**P**	**20 55 45.4**	**+6.9**
YAK				pmax		pmax		
	comp=Z,30nm,1.6s							
YAK				MLR		MLR		
	comp=Z,100nm,17.0s,MS3.3							
BILL	**Bilibino**	**22.80**	**12**	*e*P		**P**	**20 56 02.2**	**+2.6**
BILL				pmax		pmax		
	comp=Z,10.0nm,1.3s,mb4.1							
SONM	**Songino Array**	**31.68**	**290**	P		**P**	**20 57 19.6**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.5,baz=70,slow=7.5,SNR=5.5							
SONM				PcP		PcP	21 00 11.4	-0.1
	comp=Z,0.2nm,0.6s,baz=124,slow=1.8,SNR=4.6							
ZAK	**Zakamensk**	**33.06**	**296**	*e*P		**P**	**20 57 30.9**	**-1.4**
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.8							
MCK	**McKinley**	**35.87**	**40**	*e*P		**P**	**20 57 56.9**	**+0.3**
MCK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.3							
MCK	**McKinley**	**35.87**	**40**	*e*P		**P**	**20 57 56.9**	**+0.3**
	comp=Z,3.8nm,1.0s,mb4.3							
COLA	**College**	**36.37**	**38**	*e*P		**P**	**20 58 01.5**	**+0.6**
LZH	**Lanzhou**	**38.11**	**273**	*e*P		**P**	**20 58 17.5**	**+1.9**
LZH				XP		sP	20 58 30.0	0.0
LZH				AMB		AMB		
	comp=Z,22nm,1.5s,mb4.7							
GTA	**Gaotai**	**39.25**	**280**	*e*P		**P**	**20 58 26.3**	**+1.1**
GTA				AP		pP	20 58 32.0	-3.4
GTA				XP		sP	20 58 35.0	-4.6
GTA				AMB		AMB		
	comp=Z,4.0nm,0.7s,mb4.3							
GTA				AMB		AMB		
	comp=Z,79nm,4.2s							
GTA				LR		LR		
	comp=N,137nm,14.8s,MS4.0							
GTA				LR		LR		
	comp=E,100nm,15.2s,MS4.0							
GTA				LR		LR		
	comp=Z,111nm,15.2s,MS3.8							
INK	**Inuvik**	**41.93**	**32**	P		**P**	**20 58 48.1**	**+0.8**
	comp=Z,6.5nm,0.6s,mb4.4,baz=293,slow=7.8,SNR=11							
ZAL	**Zalesovo**	**43.06**	**306**	P		**P**	**20 58 56.9**	**+0.4**
	comp=Z,0.7nm,0.3s,mb3.9,baz=81,slow=2.1,SNR=3.0							
ZAL				PcP		PcP	21 00 45.5	-0.6
	comp=Z,1.3nm,0.4s,baz=121,slow=2.6,SNR=4.1							
DLBC	**Dease Lake**	**45.77**	**46**	P		**P**	**20 59 19.4**	**+1.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=244,slow=11,SNR=3.9							
MKAR	**Makanchi Array**	**47.34**	**298**	P		**P**	**20 59 29.1**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=63,slow=5.6,SNR=10.0							
MKAR				PcP		PcP	21 01 00.8	0.0
	comp=Z,0.9nm,0.7s,baz=48,slow=5.1,SNR=3.7							
LSA	**Lhasa**	**50.51**	**274**	P		**P**	**20 59 55.6**	**+1.8**
LSA	**Lhasa**	**50.51**	**274**	*e*P		**P**	**20 59 55.8**	**+1.1**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**50.51**	**274**	*e*P		**P**	**20 59 55.8**	**+1.1**
	comp=Z,3.8nm,0.6s,mb4.5							
YKA	**Yellowknife Ar**	**51.17**	**37**	P		**P**	**20 59 58.3**	**-1.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=300,slow=7.2,SNR=4.0							
YKA	**Yellowknife Ar**	**51.17**	**37**	P		**P**	**20 59 58.3**	**-1.4**
BVAR	**Borovoye Array**	**51.31**	**310**	P		**P**	**20 59 59.4**	**-1.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=48,slow=7.9,SNR=8.4							
BVAR				PcP		PcP	21 01 14.8	-0.5
	comp=Z,1.1nm,0.6s,baz=61,slow=4.2,SNR=4.9							
ZRNK	**Zerenda**	**52.08**	**310**	*e*P		**P**	**21 00 04.9**	**-1.6**
ZRNK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
ZRNK	**Zerenda**	**52.08**	**310**	*e*P		**P**	**21 00 04.9**	**-1.6**
	comp=Z,1.4nm,0.4s,mb4.2							
AAK	**Ala-Archa**	**54.23**	**297**	⇓ *e*P		**P**	**21 00 21.7**	**-0.6**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.23**	**297**	*e*P		**P**	**21 00 19.6**	**-2.7**
	comp=Z,3.4nm,0.8s,mb4.3							
YBH	**Yreka Blue Hor**	**57.78**	**62**	P		**P**	**21 00 47.7**	**0.0**
	comp=Z,0.7nm,0.3s,mb4.2,baz=329,slow=5.9,SNR=2.7							
WVOR	**Wild Horse Val**	**59.82**	**59**	*e*P		**P**	**21 01 03.1**	**+1.2**
WVOR				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
WVOR	**Wild Horse Val**	**59.82**	**59**	*e*P		**P**	**21 01 03.1**	**+1.2**
	comp=Z,1.0nm,0.6s,mb4.0							
JOF	**Joensuu**	**61.84**	**334**	*e*p		**P**	**21 01 14.2**	**-1.4**
KAF	**Kangasniemi**	**63.95**	**335**	*e*p		**P**	**21 01 26.9**	**-2.7**
FINES	**FINESS Array B**	**64.55**	**335**	P		**P**	**21 01 32.5**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.5,baz=38,slow=6.9,SNR=22							
PDAR	**Pinedale Array**	**64.86**	**54**	P		**P**	**21 01 36.4**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.4,baz=301,slow=2.7,SNR=28							
SRU	**San Rafael**	**66.69**	**57**	*e*P		**P**	**21 01 48.1**	**+0.7**
SRU				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
SRU	**San Rafael**	**66.69**	**57**	*e*P		**P**	**21 01 48.1**	**+0.7**
	comp=Z,7.0nm,0.9s,mb4.7							
ULM	**Lac du Bonnet**	**66.74**	**41**	P		**P**	**21 01 47.0**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.4,baz=325,slow=9.3,SNR=4.6							
RSSD	**Black Hills**	**66.97**	**50**	*e*P		**P**	**21 01 49.2**	**0.0**
RSSD				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
RSSD	**Black Hills**	**66.97**	**50**	*e*P		**P**	**21 01 49.2**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.7							
WRA	**Warramunga Arr**	**68.14**	**199**	P		**P**	**21 01 55.6**	**-1.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=18,slow=6.6,SNR=6.4							
WRA	**Warramunga Arr**	**68.14**	**199**	*i* P		**P**	**21 01 54.7**	**-1.9**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
NB2	**NORSAR Subarra**	**68.73**	**341**	P		**P**	**21 01 59.4**	**-0.9**
	comp=Z,1.6nm,0.5s,mb4.2,baz=28,slow=6.5							
NB2	**NORSAR Subarra**	**68.73**	**341**	P		**P**	**21 01 59.4**	**-0.9**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
NOA	**NORSAR Array B**	**68.73**	**341**	P		**P**	**21 01 59.7**	**-0.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=27,slow=6.3,SNR=14							
NOA	**NORSAR Array B**	**68.73**	**341**	P		**P**	**21 01 59.7**	**-0.5**
ASAR	**Alice Springs**	**71.83**	**199**	P		**P**	**21 02 19.7**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=13,slow=5.6,SNR=15							
AKASG	**Malin Array Be**	**72.05**	**326**	P		**P**	**21 02 19.5**	**-1.0**
	comp=Z,4.3nm,0.5s,mb4.6,baz=34,slow=6.2,SNR=25							
BURAR	**Bucovina Array**	**76.09**	**327**	⇑ *i*P		**P**	**21 02 44.2**	**+0.1**
CLL	**Collm**	**76.97**	**336**	*i* (PcP)		PcP	21 03 02.6	+2.6
MLR	**Muntele Rosu**	**77.56**	**325**	⇓ *i*P		**P**	**21 02 53.3**	**+0.9**
MALT	**Malatya**	**77.62**	**313**	*e*P		**P**	**21 02 52.9**	**+0.2**
MALT				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
MALT	**Malatya**	**77.62**	**313**	*e*P		**P**	**21 02 52.9**	**+0.1**
	comp=Z,3.2nm,0.9s,mb4.2							
KHC	**Kasperske Hory**	**78.75**	**334**	*e*P		**P**	**21 02 59.2**	**+0.2**
BRTR	**Keskin Array B**	**78.87**	**317**	P		**P**	**21 03 00.5**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=103,slow=2.8,SNR=3.7							
GERES	**GERESS Array B**	**78.96**	**334**	P		**P**	**21 03 00.1**	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=28,slow=6.0,SNR=8.1							
BAIF	**Baives**	**80.39**	**340**	*e*P		**P**	**21 03 07.4**	**-0.5**
CDF	**Champ du Feu**	**81.16**	**338**	*e*P		**P**	**21 03 11.5**	**-0.5**
MEZF	**Maizieres J'vi**	**81.64**	**339**	*e*P		**P**	**21 03 14.3**	**-0.3**
HAU	**Haudompre**	**81.78**	**338**	*e*P		**P**	**21 03 14.6**	**-0.7**
FLN	**La Foliniere**	**82.64**	**343**	*e*P		**P**	**21 03 19.1**	**-0.7**
LOR	**Lormes**	**83.08**	**340**	*e*P		**P**	**21 03 21.4**	**-0.7**
	comp=Z,7.2nm,0.8s,mb4.4							
SSF	**Saint Saulge**	**83.36**	**340**	*e*P		**P**	**21 03 22.9**	**-0.6**
HYF	**Humbligny**	**83.37**	**340**	*e*P		**P**	**21 03 23.4**	**-0.2**
SGMF	**Saint Gilles**	**83.53**	**344**	*e*P		**P**	**21 03 24.5**	**+0.1**
ROSF	**Rostrenen**	**83.59**	**345**	*e*P		**P**	**21 03 24.1**	**-0.6**
AVF	**Avril sur Loir**	**83.65**	**340**	*e*P		**P**	**21 03 24.7**	**-0.3**
	comp=Z,8.9nm,0.9s,mb4.6							
AVF	**Avril sur Loir**	**83.65**	**340**	*e*P		**P**	**21 03 24.7**	**-0.3**
AVF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
AVF	**Avril sur Loir**	**83.65**	**340**	*e*P		**P**	**21 03 24.7**	**-0.3**
	comp=Z,4.4nm,0.9s,mb4.6							
SMF	**Signal de Mont**	**83.67**	**339**	*e*P		**P**	**21 03 24.8**	**-0.3**
LPL	**La Plagne**	**83.98**	**337**	*e*P		**P**	**21 03 27.2**	**+0.5**
LPG	**La Plagne**	**83.99**	**337**	*e*P		**P**	**21 03 27.4**	**+0.6**
	comp=Z,6.3nm,1.0s,mb4.4							
LPG	**La Plagne**	**83.99**	**337**	*e*P		**P**	**21 03 27.4**	**+0.6**
LPG				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.4							
LPG	**La Plagne**	**83.99**	**337**	*e*P		**P**	**21 03 27.4**	**+0.6**
	comp=Z,3.2nm,1.0s,mb4.4							
TCF	**Toulx Ste Croi**	**84.39**	**340**	*e*P		**P**	**21 03 28.3**	**-0.5**
MBDF	**Montbardon**	**84.70**	**337**	*e*P		**P**	**21 03 30.6**	**+0.3**
ORIF	**Orisen-Rattie**	**84.76**	**337**	*e*P		**P**	**21 03 31.1**	**+0.4**
VIVF	**Saint-Julien-l**	**85.13**	**338**	*e*P		**P**	**21 03 32.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**115.60**	**329**	PKP		PKPdf	21 09 37.8	-0.6
	comp=Z,0.2nm,0.6s,baz=15,slow=2.2,SNR=7.7							
BDFB	**Brasilia**	**144.59**	**37**	PKP		PKPdf	21 10 31.8	-1.0
	comp=Z,2.8nm,0.7s,baz=187,slow=6.9,SNR=3.9							
CFAA	**Coronel Fontan**	**144.87**	**80**	PKP		PKPdf	21 10 32.0	-1.3
	comp=Z,0.8nm,0.5s,baz=269,slow=3.8,SNR=12							
PLCA	**Paso Flores**	**147.96**	**96**	PKPbc		PKPbc	21 10 41.5	-0.1
	comp=Z,3.4nm,0.7s,baz=326,slow=4.3,SNR=8.5							
CPUP	**Villa Florida**	**148.51**	**61**	PKPbc		PKPbc	21 10 42.8	-0.3
	comp=Z,3.4nm,0.6s,baz=308,slow=2.7,SNR=9.1							
SNAA	**Sanae**	**152.16**	**196**	*e*		PKPdf	21 10 49.9	+4.7
SNAA				*e*			21 11 00.1	
PMSA	**Palmer Station**	**152.48**	**146**	PKPdf		PKPdf	21 10 43.0	-2.6
PMSA				*e*PKPbc		PKPbc	21 10 51.0	-1.6

*IDC **27** 21:11:38.0±2.8, 9.28S×154.04E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/13, mbtmp3.8/5, ML2.8/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=75.9km s-min=34.1km az=125.0*
*NEIC **27** 21:11:39.5±1.8, 9.16S×154.06E, h10km, mb4.2/3, Error ellipse: s-maj=39.3km s-min=24.8km az=129.0*
*ISCJB **27** 21:11:44.4±2.2, 9.1S±02×153.6E±03, h33km, mb3.8/6, Error ellipse: s-maj=38.0km s-min=25.7km az=37.9*
ISC 27 21:11:45.6±2.2, 92S±02×153.8E±03, h35km, n12, σ0°85/11, mb3.8/6, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.54**	**267**	Pn		**Pn**	**21 13 19.5**	**+0.1**
	1.0nm,0.3s,baz=120,slow=16,SNR=3.6							
PMG				LR		LR	21 14 56.8	
	comp=Z,83nm,20.6s,baz=51,slow=29							
KAKA	**Kakadu**	**21.25**	**259**	*e*P		**P**	**21 16 28.1**	**-0.5**
	6.1nm,0.6s,mb4.1							
WRAB	**Tennant Creek**	**21.61**	**238**	*e*P		**P**	**21 16 33.9**	**+1.3**
	7.6nm,1.1s,mb4.0							
WB2	**Warramunga Arr**	**21.62**	**238**	*e*P		**P**	**21 16 33.9**	**+1.3**
WRA	**Warramunga Arr**	**21.63**	**238**	P		**P**	**21 16 32.3**	**-0.4**
	1.2nm,0.6s,mb3.5,baz=60,slow=10.0,SNR=21							
AS31	**Alice Springs**	**23.85**	**230**	*e*P		**P**	**21 16 55.1**	**-0.5**
ASAR	**Alice Springs**	**23.85**	**230**	P		**P**	**21 16 55.8**	**+0.1**
	1.8nm,0.5s,mb3.8,baz=59,slow=9.9,SNR=33							
ASPA	**Alice Springs**	**23.86**	**230**	*e*P		**P**	**21 16 55.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**28.72**	**249**	*e*P		**P**	**21 17 38.1**	**-1.4**
	2.9nm,0.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**28.72**	**249**	P		**P**	**21 17 37.5**	**-2.0**
	1.5nm,0.5s,mb4.0,baz=75,slow=10,SNR=8.0							
SONM	**Songino Array**	**70.53**	**328**	P		**P**	**21 22 57.3**	**+0.4**
	0.4nm,0.8s,mb3.4,baz=140,slow=7.0,SNR=2.5							
TORD	**Torodi Ar. Bea**	**152.35**	**281**	PKPbc		PKPbc	21 31 36.0	-1.8
	0.4nm,0.9s,baz=101,slow=3.2,SNR=2.2							

*ISCJB **27** 21:42:01.0±0.6, 29.9N±01×126.9E±03, h100km, mb3.7/10, Error ellipse: s-maj=41.5km s-min=11.0km az=148.4*
*IDC **27** 21:42:02.5±8.6, 29.90N×126.89E, h97km±85km, mb3.4/9, mb1 3.5/9, mb1mx3.5/18, mbtmp3.8/9, Error ellipse: s-maj=54.9km s-min=18.2km az=78.0*
*NEIC **27** 21:42:03.8±4.6, 28.89N×126.92E, h112km±45km, mb4.0/2, Error ellipse: s-maj=30.2km s-min=10.5km az=79.0*
ISC 27 21:42:02.9±0.6, 29N±01×126.9E±03, h100km, n13, σ0°48/12, mb3.7/10, Northern Molucca Sea

| Code |

99nm,0.1s,SNR=5.0
EBIE Bielsa 0.40 170 Pg **Pg** **21 56 20.6 -0.8**
22nm,0.1s,SNR=18
EBIE Lg 21 56 25.2
99nm,0.1s,SNR=5.0
ETSF Etsaut 0.48 248 *e*Pg **Pg** **21 56 22.5 -0.4**
ETSF *e*Sg **Sg** **21 56 28.5 -0.7**
62nm,0.3s
ETSF Etsaut 0.48 248 *e*Pg **Pg** **21 56 22.5 -0.4**
ETSF *e*Sg **Sg** **21 56 28.5 -0.7**
31nm,0.3s
FDAF Les Forges d'A 0.53 240 P **Pg** **21 56 23.3 -0.3**
FDAF S **Sg** **21 56 29.7 -0.8**
ATE Arette 0.55 270 Pg **Pg** **21 56 24.2 +0.1**
ATE Sg **Sg** **21 56 32.1 +0.8**
ATE Arette 0.55 270 P **Pg** **21 56 23.9 -0.2**
ATE S **Sg** **21 56 31.6 +0.3**
MELF Melles 0.56 112 Pg **Pg** **21 56 24.6 +0.2**
MELF Sg **Sg** **21 56 31.6 -0.1**
MELF Melles 0.56 112 P **Pg** **21 56 24.4 0.0**
MELF S **Sg** **21 56 31.7 0.0**
ORDF Ordiarp 0.73 280 Pg **Pg** **21 56 28.0 +0.4**
ORDF Sg **Sg** **21 56 38.1 +0.9**
ORDF Ordiarp 0.73 280 P **Pg** **21 56 28.0 +0.4**
ORDF S **Sg** **21 56 38.2 +1.1**
LARF Larrau 0.76 267 Pg **Pg** **21 56 28.0 -0.2**
LARF Sg **Sg** **21 56 38.5 +0.4**
LARF Larrau 0.76 267 P **Pg** **21 56 28.0 -0.1**
LARF S **Sg** **21 56 38.5 +0.4**
MLS Moulis 0.78 99 S **Sg** **21 56 40.3 +1.8**
SALF Salau 0.90 111 Pg **Pg** **21 56 30.8 0.0**
SALF Sg **Sg** **21 56 42.7 +0.3**
SALF Salau 0.90 111 P **Pg** **21 56 30.8 0.0**
SALF S **Sg** **21 56 42.4 0.0**
SJPF Ste Jean 0.94 272 *e*Pg **Pg** **21 56 31.6 +0.1**
SJPF *e*Sg **Sg** **21 56 43.3 -0.3**
16nm,0.3s
SJPF Ste Jean 0.94 272 *e*Pg **Pg** **21 56 31.6 +0.1**
SJPF *e*Sg **Sg** **21 56 43.3 -0.3**
7.8nm,0.3s
OSSF Osses 0.97 281 Pg **Pg** **21 56 32.3 +0.1**
OSSF Osses 0.97 281 P **Pg** **21 56 32.5 +0.3**
OSSF S **Sg** **21 56 46.2 +1.3**
CSOR Sort 1.07 131 P **Pg** **21 56 33.4 -0.6**
CSOR S **Sg** **21 56 48.0 +0.1**
17nm,0.2s
CSOR Sort 1.07 131 P **Pg** **21 56 33.4 -0.6**
CSOR S **Sg** **21 56 48.0 +0.2**
IPRE Itoiz 1.07 255 Pg **Pg** **21 56 35.0 +1.0**
4.0nm,0.2s,SNR=10
IPRE Lg 21 56 49.1
4.2nm,0.2s,SNR=4.6
IPRE Itoiz 1.07 255 Pg **Pg** **21 56 35.0 +0.9**
4.0nm,0.2s,SNR=10
GRBF Gourbit 1.12 102 P **Pg** **21 56 35.5 +0.5**
EALK Alkurruntz 1.15 277 Pg **Pg** **21 56 35.4 -0.1**
1.8nm,0.1s,SNR=7.9
EALK Lg 21 56 52.1
22nm,0.3s,SNR=7.9
ELIZ Elizondo 1.16 274 Pg **Pg** **21 56 34.9 -0.8**
2.4nm,0.1s,SNR=14
ELIZ Lg 21 56 51.8
7.9nm,0.1s,SNR=5.0
IUSE Utxeti 1.18 264 Pg **Pg** **21 56 37.0 +0.9**
11nm,0.2s,SNR=12
IUSE Lg 21 56 52.7
7.2nm,0.1s,SNR=7.9
IUSE Utxeti 1.18 264 Pg **Pg** **21 56 37.0 +0.8**
11nm,0.2s,SNR=12
PAND Andorre 1.24 117 S **Sg** **21 56 53.2 0.0**
EARA Aranguren 1.24 256 Pg **Pg** **21 56 39.5 +2.2**
5.5nm,0.2s,SNR=7.9
EARA Lg 21 56 56.0
7.8nm,0.1s,SNR=7.9
CORG Organya 1.27 132 P **Pn** **21 56 37.2 -0.4**
CORG S **Sb** **21 56 54.4 +0.3**
5.8nm,0.4s
CORG Organya 1.27 132 P **Pn** **21 56 37.2 -0.4**
CORG S **Sb** **21 56 54.5 +0.3**
CORG Organya 1.27 132 P **Pn** **21 56 37.2 -0.4**
CORG S **Sb** **21 56 54.5 +0.4**
CAVN Les Avellanes 1.31 156 P **Pn** **21 56 37.7 -0.5**
CAVN S **Sb** **21 56 55.8 +0.4**
57nm,0.1s
CAVN Les Avellanes 1.31 156 P **Pn** **21 56 37.8 -0.4**
CAVN S **Sb** **21 56 55.8 +0.4**
CAVN Les Avellanes 1.31 156 P **Pn** **21 56 37.8 -0.4**
CAVN S **Sb** **21 56 55.8 +0.4**
ESAC San Caprasio 1.42 196 Pg **Pg** **21 56 40.1 -0.6**
67nm,0.2s,SNR=57
ESAC Lg 21 56 57.7
50nm,0.1s,SNR=13
ESAC San Caprasio 1.42 196 Pg **Pg** **21 56 40.1 -0.6**
67nm,0.2s,SNR=57
CLLI Llivia 1.54 112 P **Pn** **21 56 42.7 +1.3**
CLLI S **Sn** **21 57 03.4 +1.8**
4.9nm,0.2s
CLLI Llivia 1.54 112 P **Pn** **21 56 42.8 +1.4**
CLLI S **Sn** **21 57 03.4 +1.8**
CLLI Llivia 1.54 112 P **Pn** **21 56 42.8 +1.4**
CLLI S **Sn** **21 57 03.4 +1.8**
VALF Valcebollere 1.60 115 Pg **Pg** **21 56 44.0 -0.2**
VALF Sg **Sg** **21 57 06.2 +1.2**
VALF Valcebollere 1.60 115 P **Pn** **21 56 45.2 +3.1**
VALF S **Sn** **21 57 06.2 +3.1**
VALF Valcebollere 1.60 115 Pg **Pg** **21 56 44.0 -0.2**
VALF Sg **Sg** **21 57 06.3 +1.3**
MTLF Montolieu 1.60 80 *e*Pg **Pg** **21 56 44.8 +0.5**
MTLF *e*Sg **Sg** **21 57 05.7 +0.6**
8.2nm,0.2s
MTLF Montolieu 1.60 80 Pn **Pn** **21 56 42.5 +0.3**
MTLF Pg **Pg** **21 56 44.8 +0.5**
MTLF Lg 21 57 05.7
4.1nm,0.2s
MTLF Montolieu 1.60 80 *e*Pn **Pn** **21 56 42.5 +0.3**
MTLF *e*Pg **Pg** **21 56 44.8 +0.5**
MTLF *e*Sg **Sg** **21 57 05.7 +0.6**
MTLF Montolieu 1.60 80 *e*Pg **Pg** **21 56 44.8 +0.5**
MTLF *e*Sg **Sg** **21 57 05.7 +0.6**
4.1nm,0.2s
CBRU Bruguera 1.76 116 P **Pn** **21 56 43.9 -0.5**
CBRU Bruguera 1.76 116 P **Pn** **21 56 43.9 -0.5**
EPOB Poblet 1.89 156 Pn **Pn** **21 56 46.4 +0.2**
0.2nm,0.2s,SNR=7.9
EPOB Pg **Pg** **21 56 48.0 -1.8**
3.3nm,0.1s,SNR=7.9
EPOB Sn **Sn** **21 57 09.2 -1.1**
4.9nm,0.2s,SNR=7.9
EPOB Lg 21 57 12.2
8.6nm,0.2s,SNR=7.9
EPOB Poblet 1.89 156 Pn **Pn** **21 56 46.4 +0.2**
SNR=7.9
EPOB Poblet 1.89 156 Pg **Pg** **21 56 48.0 -1.8**
3.3nm,0.1s,SNR=7.9
EPOB Sn **Sn** **21 57 09.2 -1.1**
SNR=7.9
LFF La Frestale 1.92 15 *e*Pg **Pg** **21 56 51.4 +1.1**
LFF *e*Sg **Sg** **21 57 16.7 +1.5**
34nm,0.4s
LFF La Frestale 1.92 15 Pn **Pn** **21 56 47.2 +0.6**
LFF Pg **Pg** **21 56 51.4 +1.1**
LFF Lg 21 57 16.7
17nm,0.4s
LFF La Frestale 1.92 15 *e*Pn **Pn** **21 56 47.2 +0.6**
LFF *e*Pg **Pg** **21 56 51.4 +1.1**
LFF *e*Sg **Sg** **21 57 16.7 +1.5**
LFF La Frestale 1.92 15 *e*Pg **Pg** **21 56 51.4 +1.1**
LFF *e*Sg **Sg** **21 57 16.7 +1.5**
17nm,0.4s
ERTA Horta de San J 2.14 174 Pg **Pg** **21 56 52.9 -1.6**
1.7nm,0.1s,SNR=7.9
ERTA Lg 21 57 20.3
4.4nm,0.1s,SNR=7.9
ERTA Horta de San J 2.14 174 Pg **Pg** **21 56 52.9 -1.6**
1.7nm,0.1s,SNR=7.9
SJAF Saint Jean de 2.17 105 S **Sn** **21 57 22.9 +5.8**
EJON La Jonquera 2.18 106 Pg **Pg** **21 56 53.4 -2.0**
0.6nm,0.1s,SNR=7.9
EJON Lg 21 57 23.9
6.9nm,0.3s,SNR=7.9
EJON La Jonquera 2.18 106 Pg **Pg** **21 56 53.3 -2.1**
0.6nm,0.1s,SNR=7.9
CAF Calviac 2.34 38 *e*Sg **Sg** **21 57 29.0 +0.1**
CAF *e*Sn **Sn** **21 57 20.3 -1.2**
7.0nm,0.2s
CAF Calviac 2.34 38 Pn **Pn** **21 56 51.5 -0.9**
CAF Pg **Pg** **21 56 58.5 0.0**
CAF Sn **Sn** **21 57 20.3 -1.2**
CAF Lg 21 57 29.0
3.5nm,0.2s
CAF Calviac 2.34 38 *e*Pn **Pn** **21 56 51.5 -0.9**
CAF *e*Pg **Pg** **21 56 58.5 0.0**
CAF *e*Sn **Sn** **21 57 20.3 -1.2**
CAF *e*Sg **Sg** **21 57 29.0 +0.1**
CAF Calviac 2.34 38 *e*Pg **Pg** **21 56 58.5 0.0**
CAF *e*Sn **Sn** **21 57 20.3 -1.2**
CAF *e*Sg **Sg** **21 57 29.0 +0.1**
3.5nm,0.2s
RJF Les Rejaudoux 2.46 25 *e*Pg **Pg** **21 57 00.9 +0.3**
RJF *e*Sg **Sg** **21 57 33.1 +0.6**
10nm,0.2s
RJF Les Rejaudoux 2.46 25 Pn **Pn** **21 56 52.7 -1.3**
RJF Pg **Pg** **21 57 00.9 +0.3**
RJF Lg 21 57 33.1
5.2nm,0.2s
RJF Les Rejaudoux 2.46 25 *e*Pn **Pn** **21 56 52.7 -1.3**
RJF *e*Pg **Pg** **21 57 00.9 +0.3**
RJF *e*Sg **Sg** **21 57 33.1 +0.6**
RJF Les Rejaudoux 2.46 25 *e*Pg **Pg** **21 57 00.9 +0.3**
RJF *e*Sg **Sg** **21 57 33.1 +0.6**
5.2nm,0.2s
ELAN Lanestosa 2.55 274 Pg **Pg** **21 57 01.4 -1.1**
0.2nm,0.1s,SNR=7.9
ELAN Sn **Sn** **21 57 27.6 +1.0**
1.4nm,0.3s,SNR=7.9
ELAN Lanestosa 2.55 274 Pg **Pg** **21 57 01.4 -1.1**
SNR=7.9
ELAN Sn **Sn** **21 57 27.6 +1.0**
SNR=7.9
EMOS Mosqueruela 2.75 188 Pn **Pn** **21 56 59.4 +1.5**
0.2nm,0.1s,SNR=7.9
EMOS Pg **Pg** **21 57 02.9 -3.3**
0.2nm,0.1s,SNR=7.9
EMOS Sn **Sn** **21 57 31.7 +0.3**
1.6nm,0.3s,SNR=7.9
EMOS Lg 21 57 40.6
6.0nm,0.3s,SNR=7.9
EMOS Mosqueruela 2.75 188 Pn **Pn** **21 56 59.4 +1.5**
0.2nm,0.1s,SNR=7.9
EMOS Mosqueruela 2.75 188 Pg **Pg** **21 57 02.9 -3.2**
SNR=7.9
EMOS Sn **Sn** **21 57 31.7 +0.3**
1.6nm,0.3s,SNR=7.9
ETOR Torete 2.75 215 Pn **Pn** **21 56 58.8 +0.8**
4.5nm,0.1s,SNR=10
ETOR Sn **Sn** **21 57 31.8 +0.2**
9.1nm,0.1s,SNR=7.9
ETOR Lg 21 57 41.8
14nm,0.2s,SNR=5.0
ETOR Torete 2.75 215 Pn **Pn** **21 56 58.8 +0.7**
4.5nm,0.1s,SNR=10
ETOR Sn **Sn** **21 57 31.8 +0.2**
9.1nm,0.1s,SNR=7.9
LASF Ste Croix 2.94 69 *e*Pg **Pg** **21 57 09.2 -0.6**
LASF *e*Sg **Sg** **21 57 47.4 -0.5**
3.4nm,0.2s
LASF Ste Croix 2.94 69 Pn **Pn** **21 57 00.1 -0.5**
LASF Pg **Pg** **21 57 09.2 -0.6**
LASF Lg 21 57 47.4
1.7nm,0.2s
LASF Ste Croix 2.94 69 *e*Pn **Pn** **21 57 00.1 -0.5**
LASF *e*Pg **Pg** **21 57 09.2 -0.6**
LASF *e*Sg **Sg** **21 57 47.4 -0.5**
LASF Ste Croix 2.94 69 *e*Pg **Pg** **21 57 09.2 -0.6**
LASF *e*Sg **Sg** **21 57 47.4 -0.5**
1.7nm,0.2s
LBL Lubilhac 3.15 46 Pn **Pn** **21 57 03.3 -0.1**
MFF Saint Martin d 3.52 358 *e*Pg **Pg** **21 57 20.3 -0.7**
MFF *e*Sg **Sg** **21 58 06.0 -0.6**
4.8nm,0.3s
MFF Saint Martin d 3.52 358 Pn **Pn** **21 57 08.4 -0.2**
MFF Pg **Pg** **21 57 20.3 -0.7**
MFF Lg 21 58 06.0
2.4nm,0.3s
MFF Saint Martin d 3.52 358 *e*Pn **Pn** **21 57 08.4 -0.2**
MFF *e*Pg **Pg** **21 57 20.3 -0.7**
MFF *e*Sg **Sg** **21 58 06.0 -0.6**
MFF Saint Martin d 3.52 358 *e*Pg **Pg** **21 57 20.3 -0.7**
MFF *e*Sg **Sg** **21 58 06.0 -0.6**
2.4nm,0.3s
TCF Toulx Ste Croi 3.55 25 *e*Pg **Pg** **21 57 21.4 -0.2**
TCF *e*Sg **Sg** **21 58 07.6 -0.1**
3.4nm,0.3s
TCF Toulx Ste Croi 3.55 25 Pn **Pn** **21 57 09.1 +0.1**
TCF Pg **Pg** **21 57 21.4 -0.2**
TCF Lg 21 58 07.6
1.7nm,0.3s
TCF Toulx Ste Croi 3.55 25 *e*Pn **Pn** **21 57 09.1 +0.1**
TCF *e*Pg **Pg** **21 57 21.4 -0.2**
TCF *e*Sg **Sg** **21 58 07.6 -0.1**
TCF Toulx Ste Croi 3.55 25 *e*Pg **Pg** **21 57 21.4 -0.2**
TCF *e*Sg **Sg** **21 58 07.6 -0.1**
1.7nm,0.3s
VIVF Saint-Julien-l 3.78 60 *e*Pg **Pg** **21 57 24.9 -1.0**
VIVF *e*Sg **Sg** **21 58 13.9 -0.9**
1.1nm,0.2s
VIVF Saint-Julien-l 3.78 60 Pn **Pn** **21 57 11.9 -0.2**
VIVF Pg **Pg** **21 57 24.9 -1.0**
VIVF Lg 21 58 13.9
0.6nm,0.2s
VIVF Saint-Julien-l 3.78 60 *e*Pn **Pn** **21 57 11.9 -0.2**
VIVF *e*Pg **Pg** **21 57 24.9 -1.0**
VIVF *e*Sg **Sg** **21 58 13.9 -0.9**
VIVF Saint-Julien-l 3.78 60 *e*Pg **Pg** **21 57 24.9 -1.0**
VIVF *e*Sg **Sg** **21 58 13.9 -0.9**
0.6nm,0.2s
EARI Arriondas 3.85 275 Pn **Pn** **21 57 15.1 +1.9**
0.1nm,0.1s,SNR=7.9
EARI Sn **Sn** **21 57 58.8 +0.1**
0.3nm,0.1s,SNR=7.9
EARI Arriondas 3.85 275 Pn **Pn** **21 57 15.1 +1.9**
0.1nm,0.1s,SNR=7.9
EARI Sn **Sn** **21 57 58.8 +0.2**
0.3nm,0.1s,SNR=7.9
BGF Bois d'Agland 4.00 29 *e*Pn **Pn** **21 57 14.0 -1.2**
BGF *e*Sg **Sg** **21 58 21.7 -0.3**
17nm,0.4s
BGF Bois d'Agland 4.00 29 *e*Pn **Pn** **21 57 14.0 -1.2**
BGF *e*Sg **Sg** **21 58 21.7 -0.3**
8.4nm,0.4s
ESDC Sonseca Array 4.55 223 Pn **Pn** **21 57 22.8 0.0**
0.6nm,0.1s,baz=42,slow=14,SNR=7.2
ESDC Sn **Sn** **21 58 12.0 -3.9**
0.7nm,0.1s,baz=42,slow=24,SNR=7.9
ESDC Sonseca Array 4.55 223 Pn **Pn** **21 57 22.8 0.0**
0.6nm,0.1s,SNR=7.2
ESDC Sn **Sn** **21 58 12.0 -3.9**
0.7nm,0.1s,SNR=7.9
QUIF Quistinic 5.33 336 *e*Pn **Pn** **21 57 33.0 -0.5**
GRR Gorron 5.34 353 *e*Pn **Pn** **21 57 33.2 -0.4**
SGMF Saint Gilles 5.48 341 *e*Pn **Pn** **21 57 34.8 -0.8**
LDF La Druitiere 5.51 359 *e*Pn **Pn** **21 57 35.3 -0.6**
FLN La Foliniere 5.69 356 *e*Pn **Pn** **21 57 37.9 -0.5**
ROSF Rostrenen 5.74 337 *e*Pn **Pn** **21 57 38.5 -0.7**

*NEIC **27** 21:56:19.4, 17.17N×94.32W, h154km, MD4.0(MEX), After MEX.*

MEX 27 21:56:18.5±1.6, 1691N×9449W, h142km±18km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**296**	*i* P	Pn	21 56 38.4	-0.1
CMIG				*i* S	Sn	21 56 51.4	-2.3
TUIG	**Tuzandepetl**	**1.12**	**3**	*i* P	Pn	21 56 41.4	-2.2
TUIG				*i* S	Sn	21 57 00.6	-2.1
SCX	**San Cristobal**	**1.78**	**95**	*i* P	Pn	21 56 50.0	-0.5
SCX				*i* S	Sn	21 57 13.0	-2.1
HUIG	**Huatulco**	**1.92**	**234**	*i* P	Pn	21 56 50.6	-1.6
HUIG				*i* S	Sn	21 57 15.7	-2.3
OXX	**Oaxaca**	**2.15**	**275**	*i* P	Pn	21 56 58.0	+3.1
OXX				*i* S	Sn	21 57 25.0	+2.2
VHO	**Vista Hermosa**	**2.16**	**275**	*e*P	Pn	21 56 56.9	+2.0
VHO				*i* S	Sn	21 57 23.9	+1.0
VHO	**Vista Hermosa**	**2.16**	**275**	*i* P	Pn	21 56 58.1	+3.2
VHO				*i* S	Sn	21 57 25.9	+2.9
CCIG	**Comitan**	**2.34**	**105**	*i* P	Pn	21 56 57.7	+0.5
CCIG				*i* S	Sn	21 57 26.1	-0.8
TPIG	**Tehuac#an**	**3.13**	**299**	*i* P	Pn	21 57 44.8	0.0
UTMO	**Huajuapan**	**3.30**	**287**	*i* P	Pn	21 57 09.9	+0.6
UTMO				*i* S	Sn	21 57 49.1	+0.4

IDC 27 21:59:48.8±1.9, 293N×12675E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=117.8km s-min=23.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.92**	**183**	P	P	22 04 33.4	+0.4
	1.4nm,0.9s,baz=0,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**23.92**	**162**	P	P	22 05 04.3	0.0
	1.7nm,0.6s,baz=341,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.34**	**166**	P	P	22 05 36.0	+0.6
	0.2nm,0.5s,baz=348,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**58.22**	**326**	P	P	22 09 44.9	+0.1
	0.7nm,0.6s,baz=122,slow=6.9,SNR=7.3						

*LDG **27** 22:00:42.4±0.0, 4302N×002E, h4km, Md2.2/2, Ml2.0/8, Error ellipse: s-maj=0.8km s-min=0.7km az=7.0*
*STR **27** 22:00:42.1±0.1, 4301N×002E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

MDD 27 22:00:43.0±0.2, 4301N×003E, h0km, mbLg1.6/16, 1C-1D, Error ellipse: s-maj=1.6km s-min=1.4km az=52.0, PRXIMO, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.05**	**40**	Pg	Pg	22 00 44.1	+0.2
LABF				Sg	Sg	22 00 45.2	+0.6
LABF	**Labassere**	**0.05**	**40**	P	Pg	22 00 44.1	+0.2
LABF				S	Sg	22 00 45.2	+0.6
VIEF	**Viey**	**0.12**	**182**	Pg	Pg	22 00 45.3	-0.1
VIEF				Sg	Sg	22 00 47.1	+0.1
VIEF	**Viey**	**0.12**	**182**	P	Pg	22 00 45.4	0.0
VIEF				S	Sg	22 00 47.4	+0.4
EPF	**Esparros**	**0.23**	**84**	*e*Pg	Pg	22 00 47.1	-0.3
EPF				*e*Sg	Sg	22 00 50.3	0.0
	28nm,0.2s						
EPF	**Esparros**	**0.23**	**84**	Pg	Pg	22 00 47.1	-0.3
EPF				Lg		22 00 50.3	
	14nm,0.2s						
RESF	**Ens**	**0.30**	**131**	Pg	Pg	22 00 48.5	-0.3
RESF				Sg	Sg	22 00 53.0	+0.3
RESF	**Ens**	**0.30**	**131**	P	Pg	22 00 48.5	-0.3
RESF				S	Sg	22 00 53.1	+0.4
REYF	**Montagne du Re**	**0.32**	**281**	Pg	Pg	22 00 48.1	-0.9
REYF				Sg	Sg	22 00 52.7	-0.4
REYF	**Montagne du Re**	**0.32**	**281**	P	Pg	22 00 48.2	-0.8
REYF				S	Sg	22 00 52.8	-0.3
EBIE	**Bielsa**	**0.33**	**165**	⇑Pg	Pg	22 00 49.1	-0.3
	7.0nm,0.1s,SNR=18						
EBIE				Lg		22 00 53.6	
	10nm,0.1s,SNR=24						
ETSF	**Etsaut**	**0.45**	**256**	*e*Pg	Pg	22 00 50.9	-0.6
ETSF				*e*Sg	Sg	22 00 56.9	-0.4
	15nm,0.2s						
ETSF	**Etsaut**	**0.45**	**256**	Pg	Pg	22 00 50.9	-0.6
ETSF				Lg		22 00 56.9	
	7.7nm,0.2s						
ATE	**Arette**	**0.54**	**278**	Pg	Pg	22 00 52.8	-0.5
ATE				Sg	Sg	22 00 59.9	-0.4
ATE	**Arette**	**0.54**	**278**	P	Pg	22 00 52.7	-0.7
ATE				S	Sg	22 00 59.8	-0.5
MELF	**Melles**	**0.55**	**104**	Pg	Pg	22 00 53.0	-0.6
MELF				Sg	Sg	22 01 00.8	+0.1
MELF	**Melles**	**0.55**	**104**	P	Pg	22 00 52.9	-0.7
MELF				S	Sg	22 01 00.4	-0.4
LARF	**Larrau**	**0.75**	**273**	S	Sg	22 01 06.7	-0.3
SALF	**Salau**	**0.89**	**106**	Pg	Pg	22 00 59.2	-0.8
SALF				Sg	Sg	22 01 11.0	-0.5
SALF	**Salau**	**0.89**	**106**	P	Pg	22 00 59.3	-0.7
SALF				S	Sg	22 01 11.1	-0.4
SJPF	**Ste Jean**	**0.93**	**277**	*e*Pg	Pg	22 01 00.0	-0.7
SJPF				*e*Sg	Sg	22 01 11.6	-1.1
	3.3nm,0.3s						
SJPF	**Ste Jean**	**0.93**	**277**	Pg	Pg	22 01 00.0	-0.7
SJPF				Lg		22 01 11.6	
	1.6nm,0.3s						
CSOR	**Sort**	**1.03**	**127**	P	Pg	22 01 01.9	-0.8
CSOR				S	Sg	22 01 15.8	-0.3
	3.1nm,0.2s						
IPRE	**Itoiz**	**1.04**	**259**	Pg	Pg	22 01 04.0	+1.1
	0.4nm,0.1s,SNR=4.0						
IPRE				Lg		22 01 18.1	
	0.4nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.15**	**281**	Pg	Pg	22 01 04.8	-0.1
	0.1nm,0.0s,SNR=7.9						
EALK				Lg		22 01 20.5	
	1.1nm,0.1s,SNR=8.1						
ELIZ	**Elizondo**	**1.15**	**278**	Pg	Pg	22 01 04.7	-0.3
	0.3nm,0.1s,SNR=4.0						
ELIZ				Lg		22 01 19.9	
	1.0nm,0.1s,SNR=8.5						
IUSE	**Utxeti**	**1.16**	**268**	Pg	Pg	22 01 05.2	0.0
	0.3nm,0.2s,SNR=4.0						
IUSE				Lg		22 01 21.6	
	1.1nm,0.1s,SNR=7.9						
CORG	**Organya**	**1.23**	**129**	P	Pg	22 01 05.8	-0.7
CORG				S	Sg	22 01 22.9	+0.5
	0.9nm,0.2s						
CAVN	**Les Avellanes**	**1.25**	**154**	P	Pg	22 01 06.1	-0.7
CAVN				S	Sg	22 01 23.6	+0.6
	20nm,0.2s						
ESAC	**San Caprasio**	**1.34**	**196**	⇓Pg	Pg	22 01 09.0	+0.4
	11nm,0.2s,SNR=18						
ESAC				Lg		22 01 27.6	
	24nm,0.1s,SNR=14						
CLLI	**Llivia**	**1.53**	**110**	P	Pn	22 01 11.7	+0.2
CLLI				S	Sb	22 01 31.7	-0.3
	0.9nm,0.2s						
MTLF	**Montolieu**	**1.64**	**78**	*e*Pn	Pn	22 01 11.0	-2.0
MTLF	**Montolieu**	**1.64**	**78**	*e*Pg	Pg	22 01 13.2	-1.1
MTLF				*e*Sg	Sg	22 01 34.2	-1.3
	2.1nm,0.2s						
MTLF	**Montolieu**	**1.64**	**78**	Pn	Pn	22 01 11.0	-2.0
MTLF				Pg	Pg	22 01 13.2	-1.1
MTLF				Lg		22 01 34.2	
	1.1nm,0.2s						
EPOB	**Poblet**	**1.83**	**154**	Pg	Pg	22 01 16.5	-1.6
	0.9nm,0.1s,SNR=7.3						
EPOB				Sn	Sn	22 01 38.4	-1.1
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		22 01 40.7	
	3.5nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.00**	**15**	*e*Pg	Pg	22 01 19.8	-1.5
LFF				*e*Sg	Sg	22 01 45.1	-2.1
	1.9nm,0.2s						
LFF	**La Frestale**	**2.00**	**15**	Pg	Pg	22 01 19.8	-1.5
LFF				Lg		22 01 45.1	
	0.9nm,0.2s						
ERTA	**Horta de San J**	**2.06**	**174**	Pg	Pg	22 01 21.5	-1.0
	0.2nm,0.1s,SNR=7.9						
ERTA				Lg		22 01 47.7	
	0.5nm,0.1s,SNR=5.6						
EJON	**La Jonquera**	**2.18**	**104**	Lg		22 01 53.7	
	1.4nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.42**	**37**	*e*Pn	Pn	22 01 20.0	-3.7
CAF	**Calviac**	**2.42**	**37**	*e*Pg	Pg	22 01 26.8	-2.5
CAF				*e*Sn	Sn	22 01 48.7	-5.3
CAF				*e*Sg	Sg	22 01 57.4	-3.2
	2.3nm,0.3s						
CAF	**Calviac**	**2.42**	**37**	Pn	Pn	22 01 20.0	-3.7
CAF				Pg	Pg	22 01 26.8	-2.5
CAF				Sn	Sn	22 01 48.7	-5.3
CAF				Lg		22 01 57.4	
	1.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.53**	**24**	*e*Pn	Pn	22 01 21.2	-4.1
RJF	**Les Rejaudoux**	**2.53**	**24**	*e*Pg	Pg	22 01 29.1	-2.4
RJF				*e*Sg	Sg	22 02 01.6	-2.8
	2.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.53**	**24**	Pn	Pn	22 01 21.2	-4.1
RJF				Pg	Pg	22 01 29.1	-2.4
RJF				Lg		22 02 01.6	
	1.1nm,0.2s						
EMOS	**Mosqueruela**	**2.67**	**188**	Pn	Pn	22 01 28.8	+1.6
	0.1nm,0.1s,SNR=7.9						
EMOS				Pg	Pg	22 01 32.4	-1.8

	3.6nm,0.7s,SNR=7.9							
EMOS					Sn	Sn	22 01 59.8	-0.4
	4.6nm,0.8s,SNR=4.0							
EMOS					Lg		22 02 06.1	
	0.3nm,0.1s,SNR=7.9							
ETOR	**Torete**	**2.68**	**216**		Sn	Sn	22 01 58.4	-2.2
	0.3nm,1.2s,SNR=4.0							
ETOR					Lg		22 02 08.2	
	1.8nm,0.1s,SNR=4.0							
LASF	**Ste Croix**	**2.98**	**68**	*e*Pn	Pn	Pn	22 01 28.5	-3.0
LASF	**Ste Croix**	**2.98**	**68**	*e*Pg	Pg	Pg	22 01 37.6	-2.5
LASF				*e*Sg	Sg	Sg	22 02 15.9	-2.8
	0.9nm,0.3s							
LASF	**Ste Croix**	**2.98**	**68**	Pn	Pn	Pn	22 01 28.5	-3.0
LASF				Pg	Pg	Pg	22 01 37.6	-2.5
LASF				Lg			22 02 15.9	
	0.4nm,0.3s							
MFF	**Saint Martin d**	**3.60**	**358**	*e*Pg	Pg	Pg	22 01 48.7	-3.2
MFF				*e*Sg	Sg	Sg	22 02 34.5	-4.0
	0.3nm,0.2s							
MFF	**Saint Martin d**	**3.60**	**358**	Pg	Pg	Pg	22 01 48.7	-3.2
MFF				Lg			22 02 34.5	
	0.2nm,0.2s							
VIVF	**Saint-Julien-l**	**3.83**	**60**	*e*Pn	Pn	Pn	22 01 40.3	-2.8
VIVF	**Saint-Julien-l**	**3.83**	**60**	*e*Pg	Pg	Pg	22 01 53.3	-3.1
VIVF				*e*Sg	Sg	Sg	22 02 42.3	-3.7
	0.6nm,0.3s							
VIVF	**Saint-Julien-l**	**3.83**	**60**	Pn	Pn	Pn	22 01 40.3	-2.8
VIVF				Pg	Pg	Pg	22 01 53.3	-3.1
VIVF				Lg			22 02 42.3	
	0.3nm,0.3s							

CSEM ***27*** *22:14:50.7, 6720N×2066E, h3km, ML2.6, Mining explosion. After UPP*
UPP ***27*** *22:14:50.7, 6720N×2066E, h3km, ML2.6, Mining explosion.*
HEL 27 22:14:51.2±0.1, 6719N×2064E, h0km, ML2.6(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**202**	*i* P	Pg	22 14 52.4	-0.3
MASU	**Masugnsbyn**	**0.59**	**63**	*i* P	Pg	22 15 01.6	-0.8
KUA	**Kurravaara**	**0.77**	**351**	*i* P	Pg	22 15 05.0	-1.0
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	Pg	22 15 06.7	-0.8
ERTU	**Ertsjaerv**	**0.89**	**136**	*i* P	Pg	22 15 07.5	-0.6
ERTU	**Ertsjaerv**	**0.89**	**136**	P	Pg	22 15 07.5	-0.7
	baz=284						
NIKU	**Nikkaluokta**	**0.92**	**318**	*e*P	Pg	22 15 07.8	-1.0
PAJU	**Pajala**	**0.98**	**99**	*e*P	Pg	22 15 08.4	-1.6
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	22 15 09.0	-1.4
HARU	**Harads**	**1.04**	**173**	P	Pg	22 15 09.5	-1.7
	baz=345						
KALU	**Kalix**	**1.73**	**140**	P	Pn	22 15 21.8	-0.6
SJUU	**Sjulsmark**	**1.74**	**167**	*e*P	Pn	22 15 21.8	-0.8
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	Pn	22 15 24.1	+0.4
KIF				*e*S	Sn	22 15 47.3	-0.2
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	22 15 25.0	-0.4
SGF	**Sodankyl**	**2.29**	**81**	*e*P	Pn	22 15 30.6	+0.3
SGF				*e*S	Sn	22 15 59.0	-0.2
BURU	**Burvik**	**2.64**	**173**	*e*P	Pn	22 15 35.1	+0.1

IDC 27 22:30:42.5±7.7, 1565S×17812W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/12, mbtmp3.8/2, Error ellipse: s-maj=362.5km s-min=50.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.36**	**257**	P	P	22 39 03.2	+0.8
	0.2nm,0.4s,baz=91,slow=7.0,SNR=7.0						
ASAR	**Alice Springs**	**45.71**	**252**	P	P	22 39 05.2	0.0
	2.0nm,0.5s,baz=89,slow=8.2,SNR=33						
GERES	**GERESS Array B**	**145.50**	**346**	PKPbc	PKPbc	22 50 22.0	-0.6
	0.5nm,0.5s,baz=31,slow=3.1,SNR=5.6						

SKHL ***27*** *22:49:29.8±0.4, 4610N×14207E, h15km, mb3.9/1*
JMA ***27*** *22:49:29.9±0.3, 4631N×14201E, h11km±3km, M3.4*
IDC ***27*** *22:49:30.1±1.6, 4623N×14198E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.5/5, ML3.5/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=72.1km s-min=20.1km az=72.0*
ISCJB ***27*** *22:49:31.6±1.0, 4626N±004×1419E±0.1, h19km±9km, mb3.5/4, MS3.3/1, Error ellipse: s-maj=13.6km s-min=6.0km az=26.2*
MOS ***27*** *22:49:33.2±0.9, 4625N×14227E, h43km, mb4.2/2, Error ellipse: s-maj=61.5km s-min=23.5km az=92.9*
ISC 27 22:49:31.5±1.0, 4622N±003×1420E±01, h11km±7km, n16, σ0.6 79/21, mb3.5/4, MS3.3/1, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.91**	**182**	P	**Pg**	**22 49 48.4**	**-0.5**
JWK2				*e*S	**Sg**	**22 50 01.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**0.92**	**37**	*e*Pg	**Pg**	**22 49 49.0**	**-0.2**
YSS				AMB	AMB	22 49 50.0	
	90nm,0.4s						
YSS				*e*Sg	**Sg**	**22 50 02.0**	**+0.8**
YSS				A		22 50 04.7	
	640nm,0.3s						
YSS				A		22 50 04.7	
	1μm,0.4s						
YSS	**Yuzh-Sakhalins**	**0.92**	**37**	⇓*e*PN	**Pg**	**22 49 49.0**	**-0.2**
YSS				*e*		22 50 02.0	
YSS				pmax	pmax		
	comp=Z,90nm,0.4s						
YSS				smax			
	comp=N,640nm,0.3s						
YSS				smax			
	comp=E,1μm,0.4s						
JRR	**Rishiri**	**1.17**	**203**	P	**Pb**	**22 49 52.9**	**-0.9**
JRR				*e*S	**Sb**	**22 50 09.0**	**+0.1**
JSE	**Soyaes**	**1.34**	**160**	P	**Pn**	**22 49 54.9**	**-1.2**
JSE				*e*S	**Sb**	**22 50 12.9**	**-0.8**
JSS	**Shosan**	**1.82**	**182**	P	**Pn**	**22 50 02.7**	**-0.1**
JSS				*e*S	**Sn**	**22 50 27.1**	**+1.2**
ASAJ	**Asahikawa**	**2.15**	**167**	Pn	**Pn**	**22 50 07.0**	**-0.4**
	comp=E,9.3nm,0.3s,baz=3.3,slow=7.1,SNR=16						
ASAJ				Sn	**Sn**	**22 50 37.5**	**+3.4**
	comp=E,14nm,0.3s,baz=230,slow=29,SNR=8.3						
ASAJ	**Asahikawa**	**2.15**	**167**	P	**Pn**	**22 50 07.1**	**-0.2**
ASAJ	**Asahikawa**	**2.15**	**167**	PN	**Pn**	**22 50 07.0**	**-0.3**
ASAJ						22 50 37.5	
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,15nm,0.3s						
SONM	**Songino Array**	**24.16**	**287**	P	**P**	**22 54 48.2**	**+0.5**
	comp=N,0.3nm,0.8s,mb2.8,baz=94,slow=8.7,SNR=3.5						
ZAL	**Zalesovo**	**36.58**	**304**	LR	LR	23 11 32.5	
	comp=N,51nm,18.2s,MS3.3,baz=329,slow=36						
FINES	**FINESS Array B**	**60.95**	**330**	P	**P**	**22 59 44.7**	**+0.1**
	comp=N,1.1nm,0.6s,mb4.2,baz=59,slow=9.2,SNR=10.0						
FINES	**FINESS Array B**	**60.95**	**330**	P	**P**	**22 59 44.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**65.91**	**336**	P	**P**	**23 00 17.1**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=37,slow=6.1,SNR=3.7						
NOA	**NORSAR Array B**	**65.91**	**336**	P	**P**	**23 00 17.1**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**69.93**	**188**	P	**P**	**23 00 42.8**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=7.8,slow=7.5,SNR=2.1						

NEIC ***27*** *22:54:48.5, 1635N×9936W, h8km, MD4.1(MEX), After MEX.*
MEX 27 22:54:49.1±1.0, 1633N×9936W, h14km±10km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.76**	**315**	*i* P	Pg	22 55 01.0	-2.8
ACX				*i* S	Sg	22 55 11.5	-2.2
CAIG	**El Cayaco**	**1.13**	**309**	*i* P	Pb	22 55 06.2	-4.1
CAIG				*i* S	Sb	22 55 21.4	-3.5
PNIG	**Pinotepa**	**1.18**	**87**	*i* P	Pn	22 55 08.2	-3.1
PNIG				*i* S	Sb	22 55 21.5	-5.0
MEIG	**Mezcala**	**1.60**	**351**	*i* P	Pn	22 55 13.2	-3.9
MEIG				*i* S	Sn	22 55 31.1	-6.5
PLIG	**Platanillo**	**2.05**	**356**	*e*P	Pn	22 55 20.7	-2.6
PLIG				*i* S	Sn	22 55 45.1	-3.5
UTMO	**Huajuapan**	**2.10**	**45**	*i* P	Pn	22 55 20.6	-3.3
UTMO				*i* S	Sn	22 55 47.1	-2.7
ZIIG	**Zihuatanejo**	**2.38**	**302**	*i* P	Pn	22 55 26.8	-1.0
ZIIG				*i* S	Sn	22 55 51.7	-5.1
YAIG	**Yautepec**	**2.53**	**6**	*i* P	Pn	22 55 28.2	-1.6
YAIG				*i* S	Sn	22 55 58.0	-2.4
VHO	**Vista Hermosa**	**2.62**	**73**	*i* P	Pn	22 55 29.0	-2.0
VHO				*i* S	Sn	22 55 59.0	-3.7
OXX	**Oaxaca**	**2.63**	**73**	*i* P	Pn	22 55 30.0	-1.2
PPM	**Popocatepetl**	**2.81**	**14**	*e*P	Pn	22 55 30.0	-3.6
PPM				*e*P		22 55 31.2	
PPM				*i* S	Sn	22 56 05.1	-2.1
TPIG	**Tehuac#an**	**2.82**	**42**	*i* P	Pn	22 55 30.0	-3.7
TPIG				*i* S	Sn	22 56 06.0	-1.5
UNM	**Universidad Na**	**2.98**	**3**	*e*P	Pn	22 55 35.0	-1.0
IIO	**Organos**	**3.30**	**10**	*i* P	Pn	22 55 38.7	-1.7
IIO				*i* S	Sn	22 56 14.8	-4.5
MRX	**Morelia**	**3.78**	**333**	*i* P	Pn	22 55 45.0	-2.0
CMIG	**Matias Romero**	**4.35**	**79**	*i* P	Pn	22 55 51.4	-3.4
CMIG				*i* S	Sn	22 56 42.0	-3.3
SFJM	**Santa Fe**	**5.41**	**320**	*e*P	Pn	22 56 07.5	-1.9
SFJM	**Santa Fe**	**5.41**	**320**	*e*P	Pn	22 56 10.0	+0.6

NEIC ***27*** *23:02:42.6, 1504N×6024W, h31km, MD3.6(FDF), After FDF.*
TRN 27 23:02:30.6, 1485N×5947W, h47km, M3.6(FDF), **M3.3**(FDF), **1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**1.63**	**266**	⇓*e*P	Pn	23 02 58.4	+1.6
FDF				*e*S	Sn	23 03 10.3	-6.3
TBG	**Guadaloupe-3**	**2.32**	**296**	*e*P	Pn	23 03 08.3	+1.9
DOG	**Dongo Capester**	**2.38**	**300**	*e*P	Pn	23 03 08.8	+1.6
PHG	**Guadaloupe-2**	**2.39**	**299**	*e*P	Pn	23 03 09.5	+2.2
BCG	**Bois Riant Cap**	**2.41**	**301**	*e*P	Pn	23 03 09.1	+1.6
SCG	**Saint Claude**	**2.43**	**299**	*e*P	Pn	23 03 09.5	+1.7
SCG				*e*S	Sn	23 03 38.3	+1.9

ISCJB ***27*** *23:09:54.2±0.6, 5140N±003×16.15E±003, h0km, Error ellipse: s-maj=4.5km s-min=2.6km az=37.7*
NEIC ***27*** *23:09:55.1±0.6, 5147N×1619E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=6.6km s-min=4.7km az=203.0*
IPEC ***27*** *23:09:55.0±0.3, 5147N×1632E, h0km, ML2.2/4, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
VIE ***27*** *23:09:56.9±0.4, 5129N×1617E, h0km, mb2.0/3, ML2.7/4, Error ellipse: s-maj=2.4km s-min=2.2km az=172.0 62 km WNW of Breslau Suspected Mining induced.*
WAR ***27*** *23:09:56.2, 5145N×1617E, ML2.6, Mining Induced*
CSEM ***27*** *23:09:56.8±0.2, 5139N×1616E, h1km, ML3.2/9, Error ellipse: s-maj=3.3km s-min=1.6km az=17.0*
PRU ***27*** *23:09:57.6, 5136N×1612E, h0km*
ISC 27 23:09:55.2±0.6, 5144N±003×1618E±003, h0km, n29, σ0.6 79/56, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.60**	**173**	*e*Pg	**Pg**	**23 10 07.4**	**+0.7**
KSP				*e*Sg	**Sg**	**23 10 15.6**	**+1.1**
KSP	**Ksiaz**	**0.60**	**173**	*e*Pg	**Pg**	**23 10 07.4**	**+0.7**
KSP				*e*Sg	**Sg**	**23 10 14.6**	**+0.1**
UPC	**Upice**	**0.94**	**186**	*e*PG	**Pg**	**23 10 13.7**	**+0.5**
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*PG	**Pg**	**23 10 16.3**	**+0.1**
DPC				*e*SG	**Sg**	**23 10 30.8**	**+0.5**
	30nm,0.4s						
DPC	**Dobruska-Polom**	**1.09**	**175**	*e*Pg	**Pg**	**23 10 16.3**	**+0.1**
DPC				*e*Sg	**Sg**	**23 10 30.4**	**+0.1**
PVCC	**Panska Ves**	**1.36**	**229**	*e*PG	**Pg**	**23 10 21.9**	**+0.5**
PVCC	**Panska Ves**	**1.36**	**229**	*e*Pg	**Pg**	**23 10 21.7**	**+0.3**
PVCC				*e*Sg	**Sg**	**23 10 40.8**	**+1.7**
BRG	**Berggiesshubel**	**1.52**	**249**	PG	**Pg**	**23 10 24.7**	**+0.4**
BRG				SG	**Sg**	**23 10 44.4**	**+0.5**
	31nm,0.3s						
PRU	**Pruhonice**	**1.78**	**216**	*e*PG	**Pg**	**23 10 28.4**	**-1.0**
PRU				*e*SG	**Sg**	**23 10 52.2**	**-0.4**
	27nm,0.4s						
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**23 10 28.0**	**-0.5**
MORC				*e*Sg	**Sg**	**23 10 55.7**	**+0.2**
MORC	**Moravsky Berou**	**1.88**	**152**	*e*Pn	**Pn**	**23 10 28.0**	**-0.6**
MORC				*e*Sg	**Sg**	**23 10 55.7**	**+0.2**
CLL	**Collm**	**1.99**	**268**	*e*Pg	**Pg**	**23 10 33.0**	**-0.5**
CLL				*i* Sg	**Sg**	**23 11 00.0**	**+0.7**
	comp=Z,24nm,0.4s						
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	**Pg**	**23 10 34.6**	**+0.4**
OKC				*e*SG	**Sg**	**23 10 59.2**	**-1.4**
	comp=Z,24nm,0.5s						
VRAC	**Vranov**	**2.15**	**173**	*e*Pn	**Pn**	**23 10 32.8**	**+0.5**
VRAC				*e*Sg	**Sg**	**23 11 03.3**	**-1.0**
	comp=Z,14nm,0.3s						
TREC	**Trest**	**2.19**	**192**	*e*PN	**Pn**	**23 10 33.5**	**+0.6**
TREC				*e*PG	**Pg**	**23 10 36.3**	**-0.9**
KRUC	**Moravsky**	**2.38**	**177**	*e*Pn	**Pn**	**23 10 35.9**	**+0.4**
KRUC				*e*Sg	**Sg**	**23 11 10.8**	**-1.0**
	comp=Z,6.5nm,0.2s						
OJC	**Ojcow**	**2.60**	**117**	*e*Pg	**Pg**	**23 10 44.9**	**-0.2**
OJC				*e*Sg	**Sg**	**23 11 19.3**	**+0.5**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**23 10 39.4**	**+0.1**
NKC				*e*PG	**Pg**	**23 10 45.4**	**-0.7**
NKC				*e*SG	**Sg**	**23 11 20.1**	**-0.4**
	comp=Z,33nm,0.3s						
JAVC	**Velka Javorina**	**2.75**	**159**	*e*Sg	**Sg**	**23 11 24.3**	**+0.6**
	comp=Z,11nm,0.8s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	**Pn**	**23 10 42.0**	**+0.1**
KHC				*e*PG	**Pg**	**23 10 48.0**	**-1.8**
KHC				*e*SN	**Sn**	**23 11 16.8**	**-0.1**
KHC				*e*SG	**Sg**	**23 11 24.8**	**-1.9**
	comp=Z,7.6nm,0.4s						
MOX	**Moxa**	**2.99**	**256**	*e*PG	**Pg**	**23 10 52.8**	**+0.3**
MOX				*e*SG	**Sg**	**23 11 32.2**	**+1.0**
SMOL	**Smolenice**	**3.04**	**164**	*e*PG	**Pg**	**23 10 54.4**	**+1.0**
SMOL				*e*SG	**Sg**	**23 11 33.6**	**+0.8**
WET	**Wettzell**	**3.12**	**224**	*e*Pn	**Pn**	**23 10 46.0**	**+0.3**
CONA	**Conrad Observa**	**3.52**	**183**	⇑*i*Pn	**Pn**	**23 10 50.5**	**-0.7**
CONA				⇓*i*Sg	**Sg**	**23 11 47.9**	**-0.4**
	comp=Z,8.1nm,0.5s						
BSD	**Bornholm Skovb**	**3.76**	**349**	*i* P	**Pn**	**23 10 53.1**	**-1.4**
BSD				*i* S	**Sn**	**23 11 33.3**	**-6.1**
MOA	**Molln**	**3.80**	**200**	⇑*i*Pn	**Pn**	**23 10 54.7**	**-0.3**
MOA				⇓*i*Sg	**Sg**	**23 11 57.9**	**+0.6**
	comp=Z,7.8nm,0.5s						
MOA	**Molln**	**3.80**	**200**	Pn	**Pn**	**23 10 54.7**	**-0.3**
MOA				Sg	**Sg**	**23 11 57.9**	**+0.6**
	comp=Z,7.8nm,0.5s						
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*PG	**Pg**	**23 11 09.5**	**+1.1**
STHS				*e*SG	**Sg**	**23 12 02.8**	**+4.8**
STHS	**Stebnicka Huta**	**3.82**	**120**	*e*Pg	**Pg**	**23 11 09.6**	**+1.2**

ISCJB ***27*** *23:10:44.2±1.2, 2335S±009×18000E±009, h557km±14km, mb4.3/14, Error ellipse: s-maj=13.7km s-min=12.4km az=60.1*
IDC ***27*** *23:10:44.5±1.9, 2320S×18000W, h543km±16km, mb3.5/7, mb1 3.6/8, mb1mx3.5/14, mbtmp4.4/8, Error ellipse: s-maj=22.6km s-min=16.3km az=47.0*
NEIC ***27*** *23:10:44.8±0.9, 2321S×17997W, h555km±10km, mb4.6/7, Error ellipse: s-maj=12.4km s-min=9.2km az=191.0*
ISC 27 23:10:44.9±1.2, 233S±01×17994W±009, h553km±14km, n34, σ0.6 2/28, mb4.3/14, 1C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.25**	**164**	P	**P**	**23 12 25.1**	**-0.8**
DZM	**Mont Dzumac**	**12.63**	**273**	P	**P**	**23 13 30.9**	**+1.1**
	0.5nm,0.3s,baz=77,slow=16,SNR=5.1						
URZ	**Urewera**	**15.17**	**189**	P	**P**	**23 13 51.8**	**-4.2**
	2.1nm,0.3s,baz=297,slow=4.6,SNR=13						
URZ				S	**S**	**23 16 25.6**	**-7.7**
	0.5nm,0.3s,baz=163,slow=19,SNR=3.7						
RPZ	**Rata Peaks**	**21.72**	**198**	P	**P**	**23 14 57.0**	**+0.7**
	7.9nm,0.9s,mb4.3,baz=245,slow=18,SNR=6.1						
CTA	**Charters Tower**	**31.53**	**269**	⇓*i*P	**P**	**23 16 23.0**	**+0.8**
	21nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**35.02**	**247**	⇓*i*P	**P**	**23 16 51.9**	**+0.3**
	3.7nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**35.02**	**247**	P	**P**	**23 16 52.0**	**+0.4**
	4.9nm,0.5s,mb4.3,baz=97,slow=10,SNR=21						

AS31	**Alice Springs**	**42.20**	**260**	⇓*i*P	**P**	**23 17 49.7**	**+0.1**
ASAR	**Alice Springs**	**42.20**	**260**	P	**P**	**23 17 49.7**	**+0.1**
	11nm,0.7s,mb4.5,baz=100,slow=6.8,SNR=99						
ASAR				ScP	ScP	23 22 32.0	+3.2
	1.1nm,0.8s,baz=108,slow=4.2,SNR=7.2						
ASAR				S	**S**	**23 23 29.8**	**-0.2**
	0.5nm,0.8s,baz=94,slow=15,SNR=3.8						
ASPA	**Alice Springs**	**42.20**	**260**	⇓*i*P	**P**	**23 17 49.7**	**+0.1**
WB2	**Warramunga Arr**	**42.50**	**265**	⇓*i*P	**P**	**23 17 51.4**	**-0.5**
WRAB	**Tennant Creek**	**42.50**	**265**	*e*P	**P**	**23 17 51.6**	**-0.4**
	18nm,0.7s,mb4.7						
WRAB				*e*PcP	PcP	23 19 32.7	+0.9
WRAB				*e*PP	PP	23 19 43.8	+0.4
WRA	**Warramunga Arr**	**42.51**	**265**	P	**P**	**23 17 51.6**	**-0.4**
	14nm,0.6s,mb4.7,baz=101,slow=8.2,SNR=71						
WRA				ScP	ScP	23 22 33.2	+3.1
	0.9nm,1.0s,baz=102,slow=4.2,SNR=4.9						
KAKA	**Kakadu**	**46.31**	**275**	⇓*i*P	**P**	**23 18 20.8**	**-0.5**
	7.5nm,0.4s,mb4.6						
FORT	**Forrest**	**46.59**	**249**	⇑*i*P	**P**	**23 18 22.4**	**-1.0**
	16nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.94**	**265**	*e*P	**P**	**23 18 55.9**	**+0.3**
	7.9nm,0.4s,mb4.4						
VNDA	**Vanda**	**55.03**	**185**	P	**P**	**23 19 24.9**	**+0.2**
	1.1nm,0.6s,mb3.2,baz=5.1,slow=5.8,SNR=13						
VNDA				PcP	PcP	23 20 17.1	-0.7
	0.4nm,0.6s,baz=359,slow=4.2,SNR=3.7						
VNDA				ScP	ScP	23 23 23.4	-0.1
	0.4nm,0.7s,baz=27,slow=2.3,SNR=3.5						
QSPA	**South Pole Qui**	**66.83**	**180**	*e*P	**P**	**23 20 42.3**	**+0.2**
	5.6nm,0.4s,mb4.5						
MJAR	**Matsushiro Art**	**71.39**	**325**	P	**P**	**23 21 09.3**	**-0.1**
	1.0nm,0.6s,mb3.5,baz=161,slow=7.2,SNR=4.7						
MJAR	**Matsushiro Arr**	**71.39**	**325**	P	**P**	**23 21 09.3**	**-0.1**
MAW	**Mawson**	**78.38**	**200**	P	**P**	**23 21 48.0**	**-0.5**
	1.3nm,0.3s,mb3.8,baz=322,slow=3.9,SNR=9.2						
PAHR	**Pah Rah Range**	**84.32**	**42**	P	**P**	**23 22 19.9**	**+0.9**
PLCA	**Paso Flores**	**88.68**	**134**	P	**P**	**23 22 40.4**	**+0.8**
ANMO	**Albuquerque**	**90.52**	**52**	P	**P**	**23 22 48.0**	**-0.1**
COLA	**College**	**91.27**	**13**	*e*P	**P**	**23 22 50.4**	**-1.2**
	3.2nm,0.3s,mb4.7						
WALA	**Waterton Lakes**	**92.86**	**37**	P	**P**	**23 22 59.1**	**+0.3**
BRVK	**Borovoye**	**120.05**	**319**	*e*PKPdf	PKPdf	23 28 30.7	-2.3
ZRNK	**Zerenda**	**120.83**	**319**	PKPdf	PKPdf	23 28 33.5	-1.0
FINES	**FINESS Array B**	**137.85**	**342**	SKPbc	SKPbc	23 31 49.0	+0.2
	1.5nm,1.0s,baz=48,slow=2.8,SNR=6.3						
AKASG	**Malin Array Be**	**144.45**	**328**	PKP	PKPdf	23 29 17.5	-1.0
	1.2nm,0.4s,baz=45,slow=4.0,SNR=14						
AKASG				SKPbc	SKPbc	23 32 06.5	+0.9
	0.1nm,0.3s,baz=42,slow=3.1,SNR=4.1						
AKASG	**Malin Array Be**	**144.45**	**328**	PKP	PKPdf	23 29 17.5	-1.0
AKASG				SKPbc	SKPbc	23 32 06.5	+0.9
BRTR	**Keskin Array B**	**147.23**	**308**	PKPbc	PKPbc	23 29 26.5	+0.2
	0.9nm,0.6s,baz=97,slow=3.6,SNR=3.0						
BRTR				PKPab	PKPab	23 29 30.2	+0.3
	0.9nm,0.6s,baz=88,slow=4.1,SNR=6.0						
BRTR	**Keskin Array B**	**147.23**	**308**	PKPbc	PKPbc	23 29 26.5	+0.1
BRTR				PKPab	PKPab	23 29 30.2	+0.3
TORD	**Torodi Ar. Bea**	**169.83**	**189**	PKPab	PKPab	23 31 07.5	-0.3
	0.2nm,0.4s,baz=173,slow=3.9,SNR=5.8						

CSEM ***27*** *23:17:38.8, 6782N×20.19E, h0km, ML2.8, Mining explosion. After UPP*
UPP ***27*** *23:17:38.8, 6782N×20.19E, h0km, ML2.8, Mining explosion.*
HEL 27 23:17:39.5±0.1, 6783N×2018E, h0km, ML2.8(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**24**	*i* P	Pg	23 17 41.8	-0.4
KUA				*i* S	Sg	23 17 44.0	-0.1
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	23 17 47.3	-0.6
LANU	**Lannavaara**	**0.72**	**71**	*i* P	Pg	23 17 52.3	-1.0
DUNU	**Dundret**	**0.72**	**168**	*i* P	Pg	23 17 52.3	-1.1
SALU	**Saltoluokta**	**0.78**	**236**	*i* P	Pg	23 17 53.5	-1.0
SALU	**Saltoluokta**	**0.78**	**236**	P	Pg	23 17 53.5	-1.0
	baz=72						
MASU	**Masugnsbyn**	**0.79**	**117**	*i* P	Pg	23 17 53.7	-0.9
KIF	**Kilpisjarvi**	**1.21**	**11**	*e*P	Pg	23 18 02.1	-0.5
KIF				*e*S	Sg	23 18 16.6	-1.7
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	23 18 04.0	-2.1
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 18 07.0	-0.6
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 18 07.0	-0.6
	baz=306						
HARU	**Harads**	**1.70**	**169**	P	Pn	23 18 09.6	-0.8
KALU	**Kalix**	**2.34**	**146**	P	Pn	23 18 19.3	+0.1
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	23 18 20.4	+0.4
SGF	**Sodankyl**	**2.46**	**96**	*e*P	Pn	23 18 20.8	0.0
SGF				*e*S	Sn	23 18 50.2	-1.4
**K

MEX 27 23:42:49.9±1.1, 1640N×9934W, h23km±28km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.72**	**310**	*i* P	Pb	23 43 00.5	-3.3
ACX				*i* S	Sb	23 43 12.0	-1.2
CAIG	**El Cayaco**	**1.10**	**306**	*i* P	Pn	23 43 07.5	-2.4
CAIG				*i* S	Sb	23 43 19.4	-4.6
PNIG	**Pinotepa**	**1.16**	**90**	*i* P	Pn	23 43 08.1	-2.6
PNIG				*i* S	Sb	23 43 21.6	-4.3
MEIG	**Mezcala**	**1.54**	**350**	*i* P	Pn	23 43 13.2	-2.7
MEIG				*i* S	Sn	23 43 31.4	-3.8
PLIG	**Platanillo**	**1.98**	**355**	*i* P	Pn	23 43 20.6	-1.5
PLIG				*i* S	Sn	23 43 41.4	-4.8
PLIG	**Platanillo**	**1.98**	**355**	*i* P	Pn	23 43 20.6	-1.5
PLIG				*i* S	Sn	23 43 40.0	-6.2
UTMO	**Huajuapan**	**2.04**	**46**	*i* P	Pn	23 43 19.9	-2.9
UTMO				*i* S	Sn	23 43 46.1	-1.5
ZIIG	**Zihuatanejo**	**2.36**	**301**	*eP*	Pn	23 43 25.5	-1.7
ZIIG				*i* S	Sn	23 43 52.6	-2.9
YAIG	**Yautepec**	**2.46**	**6**	*i* P	Pn	23 43 26.9	-1.7
YAIG				*i* S	Sn	23 43 55.2	-2.7
VHO	**Vista Hermosa**	**2.58**	**75**	*eP*	Pn	23 43 29.1	-1.2
VHO				*i* S	Sn	23 43 58.6	-2.3
OXX	**Oaxaca**	**2.59**	**75**	*i* P	Pn	23 43 33.0	+2.5
PPM	**Popocatepetl**	**2.73**	**14**	*eP*	Pn	23 43 31.0	-1.4
PPM				*eP*		23 43 31.6	
PPM				*i* S	Sn	23 44 03.3	-1.4
TPIG	**Tehuac#an**	**2.75**	**43**	*i* P	Pn	23 43 31.4	-1.2
TPIG				*i* S	Sn	23 44 00.7	-4.5
UNM	**Universidad Na**	**2.91**	**3**	*eP*	Pn	23 43 30.5	-4.3
IIO	**Organos**	**3.22**	**10**	*i* P	Pn	23 43 42.7	+3.6
IIO				*i* S	Sn	23 44 23.0	+6.2
MOIG	**Morelia**	**3.70**	**332**	*i* S	Sn	23 44 24.3	-4.3
MRX	**Morelia**	**3.73**	**332**	*eP*	Pn	23 44 00.0	+14
CMIG	**Matias Romero**	**4.32**	**80**	*i* P	Pn	23 43 53.2	-1.0
CMIG				*i* S	Sn	23 44 39.4	-4.5
SFJM	**Santa Fe**	**5.37**	**320**	*eP*	Pn	23 44 22.0	+13

*ISCJB **28** 00:03:09.2±0.8, 12N±0.1×1245E±0.2, h350km, mb3.6/7, Error ellipse: s-maj=32.6km s-min=10.4km az=125.4*
*NEIC **28** 00:03:10.0±6.3, 123N×124.46E, h342km±74km, mb3.7/1, Error ellipse: s-maj=34.6km s-min=11.0km az=49.0*
*IDC **28** 00:03:12.4±11.0, 1.14N×124.27E, h369km±137km, mb3.1/5, mb1 3.2/6, mb1mx3.0/18, mbtmp3.8/6, Error ellipse: s-maj=101.8km s-min=21.6km az=60.0*

ISC 28 00:03:10.9±0.8, 12N±01×1245E±02, h350km, n12, σ0§45/12, mb3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.24**	**177**	P	**P**	**00 07 10.9**	**0.0**
	0.3nm,0.3s,baz=1.0,slow=10,SNR=9.9						
MBWA	**Marble Bar**	**22.72**	**192**	P	**P**	**00 07 43.6**	**0.0**
WRAB	**Tennant Creek**	**23.15**	**156**	*eP*	**P**	**00 07 47.4**	**-0.1**
	17nm,0.2s,mb4.9						
WRA	**Warramunga Arr**	**23.16**	**156**	P	**P**	**00 07 47.5**	**-0.1**
	3.1nm,0.3s,mb4.0,baz=336,slow=9.9,SNR=21						
WB2	**Warramunga Arr**	**23.16**	**156**	*eP*	**P**	**00 07 47.1**	**-0.5**
KULM	**Kulim**	**24.11**	**280**	P	**P**	**00 07 56.3**	**+0.1**
ASAR	**Alice Springs**	**26.39**	**160**	P	**P**	**00 08 16.1**	**-0.4**
	0.4nm,0.5s,mb2.9,baz=339,slow=7.0,SNR=6.2						
STKA	**Stephens Creek**	**36.71**	**155**	P	**P**	**00 09 46.8**	**+1.1**
	0.9nm,0.3s,mb3.5,baz=0.0,slow=6.1,SNR=4.2						
LSA	**Lhasa**	**42.49**	**315**	P	**P**	**00 10 33.1**	**+0.2**
SONM	**Songino Array**	**49.00**	**344**	P	**P**	**00 11 23.7**	**+0.4**
	0.3nm,0.5s,mb2.7,baz=160,slow=7.9,SNR=5.3						
MKAR	**Makanchi Array**	**58.37**	**327**	P	**P**	**00 12 29.8**	**-0.8**
	0.4nm,0.3s,mb3.3,baz=122,slow=8.2,SNR=8.5						
ZRNK	**Zerenda**	**68.91**	**328**	*eP*	**P**	**00 13 38.8**	**+0.1**
	0.9nm,0.5s,mb3.8						

*STR **28** 00:46:39.6±0.1, 4300N×005W, h2km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **28** 00:46:40.0±0.1, 4299N×004E, h4km, Md1.7/2, Ml1.3/3, Error ellipse: s-maj=2.6km s-min=1.7km az=159.0*

MDD 28 00:46:40.3±0.3, 4298N×006E, h0km, mbLg0.5/2, Error ellipse: s-maj=2.5km s-min=1.9km az=103.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**9**	Pg	Pg	00 46 41.8	+0.1
LABF				Sg	Sg	00 46 43.4	+0.7
LABF	**Labassere**	**0.07**	**9**	P	Pg	00 46 41.8	0.0
LABF				S	Sg	00 46 43.4	+0.7
VIEF	**Viey**	**0.10**	**195**	Pg	Pg	00 46 42.4	+0.2
VIEF				Sg	Sg	00 46 44.3	+0.9
VIEF	**Viey**	**0.10**	**195**	P	Pg	00 46 42.4	+0.2
VIEF				S	Sg	00 46 44.4	+1.0
EPF	**Esparros**	**0.21**	**75**	*ePg*	Pg	00 46 43.7	-0.8
EPF				*eSg*	Sg	00 46 47.2	0.0
	2.6nm,0.2s						
EPF	**Esparros**	**0.21**	**75**	Pg	Pg	00 46 43.7	-0.8
EPF				Lg		00 46 47.2	
	1.3nm,0.2s						
EBIE	**Bielsa**	**0.29**	**168**	Pg	Pg	00 46 45.6	-0.4
	0.2nm,0.0s,SNR=7.9						
EBIE				Lg		00 46 49.8	
	1.3nm,0.1s,SNR=13						
ETSF	**Etsaut**	**0.46**	**261**	*ePg*	Pg	00 46 48.6	-0.5
ETSF				*eSg*	Sg	00 46 54.6	-0.5
	1.0nm,0.2s						
ETSF	**Etsaut**	**0.46**	**261**	Pg	Pg	00 46 48.6	-0.5
ETSF				Lg		00 46 54.6	
	0.0nm,0.2s						
SJPF	**Ste Jean**	**0.95**	**279**	*ePg*	Pg	00 46 58.0	-0.6
SJPF				*eSg*	Sg	00 47 09.3	-1.6
	0.6nm,0.3s						
SJPF	**Ste Jean**	**0.95**	**279**	Pg	Pg	00 46 58.0	-0.6
SJPF				Lg		00 47 09.3	
	0.3nm,0.3s						
MTLF	**Montolieu**	**1.62**	**76**	*ePg*	Pg	00 47 10.7	-0.7
MTLF				*eSg*	Sg	00 47 31.8	-0.7
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.62**	**76**	Pg	Pg	00 47 10.7	-0.7
MTLF				Lg		00 47 31.8	
	0.1nm,0.2s						
LFF	**La Frestale**	**2.02**	**14**	*eSg*	Sg	00 47 42.8	-2.6
	1.1nm,0.4s						
LFF	**La Frestale**	**2.02**	**14**	Lg		00 47 42.8	
	0.6nm,0.4s						

*IDC **28** 00:54:13.4±0.7, 51.38N×179.40W, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, ML4.5/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=22.7km s-min=15.7km az=172.0*
*BJI **28** 00:54:15.3, 51.40N×179.40W, h39km, mB5.3, mb4.8, Ms4.7, Msz4.3*
*MOS **28** 00:54:16.5±1.1, 51.42N×179.47W, h33km, mb4.4/9, Error ellipse: s-maj=13.2km s-min=10.5km az=75.5*
*ISCJB **28** 00:54:18.7±0.8, 51.46N×009×17937W±006, h50km±7km, mb4.3/33, MS3.3/3, Error ellipse: s-maj=14.8km s-min=5.9km az=164.4*
*NEIC **28** 00:54:19.3±1.0, 51.39N×179.37W, h39km±9km, mb4.3/17, ML4.0(AEIC), Error ellipse: s-maj=12.7km s-min=5.0km az=179.0*

ISC 28 00:54:19.4±0.9, 5146N×009×17937W±006, h41km±8km, h30km±3.3km; pP-P, n85, σ1§04/80, mb4.3/33, MS3.3/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.83**	**265**	P	**Pn**	**00 54 34.1**	**-0.6**
AMKA				S	**Sn**	**00 54 46.6**	**+0.9**
ATKA	**Atka Island**	**3.30**	**75**	P	**Pn**	**00 55 08.8**	**+0.4**
SVW2	**Sparrevohn**	**16.26**	**44**	*ePn*	**Pn**	**00 58 08.6**	**+3.8**
KDAK	**Kodiak Island**	**16.68**	**57**	Pn	**Pn**	**00 58 07.2**	**-2.9**
	1.8nm,0.3s,baz=230,slow=7.9,SNR=11						
SLKM	**Skilak Lake**	**18.51**	**49**	*eP*	**Pn**	**00 58 32.9**	**+0.3**
MA2	**Magadan**	**18.62**	**307**	P	**Pn**	**00 58 31.7**	**-2.2**
PMR	**Palmer**	**19.33**	**47**	P	**Pn**	**00 58 42.1**	**-0.4**
IMA2	**Indian Mountai**	**19.57**	**32**	*eP*	**Pn**	**00 58 45.8**	**+0.5**
MCK	**McKinley**	**20.17**	**41**	*eP*	**P**	**00 58 51.1**	**+0.8**
COLA	**College**	**21.07**	**38**	*eP*	**P**	**00 59 00.3**	**+0.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.1						
COLA	**College**	**21.07**	**38**	*eP*	**P**	**00 59 00.3**	**+0.3**
	comp=Z,3.5nm,0.4s,mb4.0						
EGAK	**Eagle**	**23.72**	**41**	*eP*	**P**	**00 59 27.4**	**-0.2**
ASAJ	**Asahikawa**	**26.35**	**269**	LR	LR	01 08 56.5	
	comp=Z,59nm,18.7s,MS3.2,baz=92,slow=34						
INK	**Inuvik**	**27.60**	**35**	LR	LR	01 12 29.2	
	comp=Z,79nm,18.2s,MS3.3,baz=282,slow=40						
KLR	**Kul'dur**	**30.81**	**285**	*eP*	**P**	**01 00 28.2**	**-3.0**
MAJO	**Matsushiro**	**33.44**	**260**	P	**P**	**01 00 53.7**	**-0.6**
BOD	**Bodaibo**	**37.64**	**306**	*eP*	**P**	**01 01 27.5**	**-2.8**
HIA	**Hailar**	**37.92**	**291**	P	**P**	**01 01 32.9**	**+0.2**
NEW	**Newport**	**39.19**	**69**	P	**P**	**01 01 43.0**	**-0.4**
	comp=Z,3.0nm,0.6s,mb4.2,baz=301,slow=10,SNR=5.3						
NEW	**Newport**	**39.19**	**69**	*eP*	**P**	**01 01 43.1**	**-0.3**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.6s						
NEW	**Newport**	**39.19**	**69**	*eP*	**P**	**01 01 43.1**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.2						
YBH	**Yreka Blue Hor**	**39.22**	**81**	P	**P**	**01 01 44.9**	**+1.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=318,slow=6.5,SNR=6.1						
YBH				LR	LR	01 14 34.3	
	comp=Z,67nm,20.9s,MS3.5,baz=167,slow=31						
RES	**Resolute Bay**	**39.82**	**24**	P	**P**	**01 01 47.8**	**-0.8**
INCN	**Inchon**	**40.07**	**271**	*eP*	**P**	**01 01 52.0**	**+1.3**
	comp=Z,15nm,0.4s,mb5.1						
WALA	**Waterton Lakes**	**40.67**	**67**	*eP*	**P**	**01 01 54.4**	**-1.2**
CMB	**Columbia Colle**	**42.85**	**84**	P	**P**	**01 02 14.5**	**+1.1**
HLID	**Hailey**	**43.26**	**74**	*eP*	**P**	**01 02 17.0**	**+0.2**
	comp=Z,1.6nm,0.6s,mb3.9						
MCMT	**McKenzie Canyo**	**43.49**	**72**	*eP*	**P**	**01 02 18.6**	**-0.1**
BOZ	**Bozeman (W)**	**43.76**	**70**	*eP*	**P**	**01 02 20.6**	**-0.2**
BOZ				*e*	pP	01 02 29.4	-3.0
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
BOZ	**Bozeman (W)**	**43.76**	**70**	*eP*	**P**	**01 02 20.6**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.3						
BOZ				*e*	pP	01 02 29.4	-3.0
NVAR	**Mina Array Bea**	**43.90**	**82**	P	**P**	**01 02 22.4**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=286,slow=9.0,SNR=6.9						
IMW	**Indian Meadow**	**45.15**	**72**	*eP*	**P**	**01 02 33.0**	**+1.1**
	comp=Z,3.8nm,0.9s,mb4.2						
IMW				*e*		01 02 41.0	
FLWY	**Flagg Ranch**	**45.19**	**71**	*eP*	**P**	**01 02 33.1**	**+0.9**
	comp=Z,6.2nm,1.0s,mb4.4						
FLWY				*e*	pP	01 02 41.8	-1.9
RRI2	**Red Ridge**	**45.24**	**72**	P	**P**	**01 02 36.3**	**+3.7**
	comp=Z,3.8nm,0.6s,mb4.4						
HVU	**Hansel Valley**	**45.28**	**75**	*eP*	**P**	**01 02 33.4**	**+0.5**
HVU				*e*		01 02 40.6	
HVU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
HVU	**Hansel Valley**	**45.28**	**75**	*eP*	**P**	**01 02 33.4**	**+0.4**
	comp=Z,4.1nm,0.6s,mb4.4						
HVU				*e*		01 02 40.6	
RLMT	**Red Lodge**	**45.44**	**69**	*eP*	**P**	**01 02 33.7**	**-0.5**
RLMT				*e*	pP	01 02 43.4	-2.4
HWUT	**Hardware Ranch**	**46.11**	**74**	*eP*	**P**	**01 02 39.3**	**-0.2**
	comp=Z,3.1nm,1.0s,mb4.2						
DUG	**Dugway**	**46.20**	**77**	*eP*	**P**	**01 02 40.6**	**+0.4**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
DUG	**Dugway**	**46.20**	**77**	*eP*	**P**	**01 02 40.6**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.4						
SONM	**Songino Array**	**46.29**	**296**	P	**P**	**01 02 42.4**	**+1.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=58,slow=9.3,SNR=11						
BW06	**Boulder Array**	**46.63**	**72**	*eP*	**P**	**01 02 43.6**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.6						
BW06				*e*		01 02 51.3	
PDAR	**Pinedale Array**	**46.63**	**72**	P	**P**	**01 02 43.4**	**-0.2**
	comp=Z,6.1nm,0.5s,mb4.8,baz=312,slow=3.4,SNR=26						
HHC	**Hu-ho-hao-te**	**47.32**	**285**	*eP*	**P**	**01 02 50.3**	**+1.3**
HHC				PcP	PcP	01 04 22.3	+2.9
HHC				PP	PP	01 04 40.5	+0.2
HHC				PcS	PcS	01 08 16.0	+1.3
HHC				S	S	**01 09 42.8**	**+3.1**
HHC				SS	SS	01 13 02.5	-5.0
HHC				AMB	AMB		
	comp=Z,92nm,4.6s						
HHC				LR	LR		
	comp=N,99nm,4.9s						
HHC				LR	LR		
	comp=E,132nm,5.1s						
HHC				LR	LR		
	comp=Z,67nm,5.7s						
TMUT	**Trail Mountain**	**47.73**	**77**	*eP*	**P**	**01 02 48.8**	**-3.4**
SRU	**San Rafael**	**48.26**	**77**	*eP*	**P**	**01 02 56.0**	**-0.2**
SRU				*e*	pP	01 03 06.8	-1.1
SRU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
SRU	**San Rafael**	**48.26**	**77**	*eP*	**P**	**01 02 56.0**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.7						
SRU				*e*	pP	01 03 06.8	-1.1
RSSD	**Black Hills**	**49.06**	**67**	P	**P**	**01 03 00.7**	**-1.7**
PV10	**Paradox Valley**	**49.62**	**76**	*eP*	**P**	**01 03 07.8**	**+1.1**
PV01	**Paradox Valley**	**50.06**	**76**	*eP*	**P**	**01 03 09.9**	**-0.1**
ISCO	**Idaho Springs**	**50.79**	**73**	*eP*	**P**	**01 03 16.6**	**+1.1**
ISCO				*e*	pP	01 03 25.1	-2.1
SDCO	**Great Sand Dun**	**52.17**	**75**	*eP*	**P**	**01 03 26.5**	**+0.7**
	comp=Z,9.0nm,0.4s,mb4.0						
LZH	**Lanzhou**	**55.02**	**286**	*eP*	**P**	**01 03 46.8**	**+0.1**
LZH				PP	PP	01 05 51.0	+1.0
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb5.0						
LZH	**Lanzhou**	**55.02**	**286**	*eP*	**P**	**01 03 46.7**	**0.0**
LZH				pP	pP	01 03 51.0	-7.5
LZH				sP	sP	01 03 53.6	-10
LZH				PP	PP	01 05 51.1	+1.1
ARCES	**ARCESS Array B**	**57.95**	**350**	P	**P**	**01 04 07.2**	**-0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=28,slow=7.2,SNR=6.8						
ARCES	**ARCESS Array B**	**57.95**	**350**	P	**P**	**01 04 07.2**	**-0.3**
WMOK	**Wichita Mounta**	**58.22**	**73**	*eP*	**P**	**01 04 09.1**	**-0.3**
WMQ	**Urumqi**	**58.99**	**302**	*eP*	**P**	**01 04 18.5**	**+3.7**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**59.70**	**308**	P	**P**	**01 04 19.5**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.1,baz=48,slow=6.1,SNR=17						
SCHQ	**Schefferville**	**60.16**	**38**	P	**P**	**01 04 22.0**	**-0.9**
	comp=Z,1.9nm,0.6s,mb4.3,baz=318,slow=17,SNR=6.2						
BRVK	**Borovoye**	**60.61**	**319**	P	**P**	**01 04 28.4**	**+2.4**
ZRNK	**Zerenda**	**61.21**	**320**	*eP*	**P**	**01 04 31.5**	**+1.5**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
ZRNK	**Zerenda**	**61.21**	**320**	*eP*	**P**	**01 04 31.5**	**+1.5**
	comp=Z,1.1nm,0.5s,mb4.2						
KMI	**Kunming**	**63.36**	**277**	P	**P**	**01 04 45.0**	**+0.6**
QIZ	**Qiongzhong**	**63.41**	**267**	P	**P**	**01 04 44.8**	**+0.1**
JOF	**Joensuu**	**63.42**	**345**	*ep*	**P**	**01 04 44.0**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.5						
PLAL	**Pickwick Lake**	**64.30**	**66**	*eP*	**P**	**01 04 49.6**	**-1.0**
	comp=Z,8.0nm,0.6s,mb4.9						
PLAL				*e*	pP	01 04 58.6	-4.0
KAF	**Kangasniemi**	**64.95**	**347**	*ep*	**P**	**01 04 50.8**	**-4.0**
FINES	**FINESS Array B**	**65.62**	**347**	P	**P**	**01 04 58.2**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.1,baz=20,slow=6.1,SNR=6.0						
AAK	**Ala-Archa**	**66.54**	**309**	P	**P**	**01 05 05.6**	**+0.6**
NB2	**NORSAR Subarra**	**67.53**	**354**	P	**P**	**01 05 11.5**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=6.8,slow=6.5						
NB2	**NORSAR Subarra**	**67.53**	**354**	P	**P**	**01 05 11.5**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**67.53**	**354**	P	**P**	**01 05 11.9**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=7.4,slow=6.3,SNR=5.8						
AKASG	**Malin Array Be**	**75.36**	**342**	P	**P**	**01 05 57.7**	**-0.8**
	comp=Z,0.7nm,0.3s,mb4.1,baz=18,slow=5.3,SNR=7.4						
AKASG	**Malin Array Be**	**75.36**	**342**	P	**P**	**01 05 57.7**	**-0.8**
WRA	**Warramunga Arr**	**81.82**	**223**	P	**P**	**01 06 32.2**	**-2.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=35,slow=6.7,SNR=5.0						
BRTR	**Keskin Array B**	**84.72**	**335**	P	**P**	**01 06 49.4**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.8,baz=61,slow=3.8,SNR=5.2						
ASAR	**Alice Springs**	**85.31**	**222**	P	**P**	**01 06 50.8**	**-1.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=28,slow=4.9,SNR=6.5						
ASAR	**Alice Springs**	**85.31**	**222**	P	**P**	**01 06 50.8**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**89.80**	**212**	P	**P**	**01 07 13.0**	**-0.6**
	comp=Z,1.7nm,0.8s,mb4.4,baz=342,slow=4.0,SNR=3.0						
MAW	**Mawson**	**146.33**	**218**	PKPbc	PKPbc	01 13 54.2	-1.4
	comp=Z,0.4nm,0.4s,baz=42,slow=2.4,SNR=4.5						
LBTB	**Lobatse**	**147.42**	**315**	PKPbc	PKPbc	01 13 59.7	+0.9
	comp=Z,5.6nm,0.5s,baz=15,slow=1.5,SNR=21						
LBTB	**Lobatse**	**147.42**	**315**	PKP2	PKPab	01 13 59.7	-1.0
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BOSA	**Boshof**	**150.65**	**312**	PKPbc	PKPbc	01 14 07.2	+0.2
	comp=Z,2.6nm,0.6s,baz=39,slow=6.3,SNR=10						
BOSA	**Boshof**	**150.65**	**312**	PKIKP	PKPdf	01 14 07.2	+5.8
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						

*IDC **28** 01:11:46.9±5.3, 22.33N×144.37E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, MS3.2/3, Ms1 3.2/3, ms1mx2.9/37, Error ellipse: s-maj=228.9km s-min=19.4km az=75.0*
*ISCJB **28** 01:11:49.8±0.8, 22.30N±008×144.3E±02, h33km, mb4.1/10, MS3.0/1, Error ellipse: s-maj=28.1km s-min=11.2km az=158.1*
*NEIC **28** 01:11:52.0±0.5, 22.29N×144.35E, h35km, mb4.2/2, Error ellipse: s-maj=17.6km s-min=7.3km az=79.0*

ISC 28 01:11:52.0±0.8, 2232N±008×1444E±02, h35km, n18, σ0§36/15, mb4.1/10, MS3.0/1, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.16**	**338**	LR	LR	01 14 52.9	
	comp=Z,152nm,21.0s,baz=164,slow=36						
MJAR	**Matsushiro Arr**	**15.15**	**341**	LR	LR	01 20 44.1	
	comp=Z,200nm,20.8s,baz=290,slow=36						
TATO	**Taipei**	**21.14**	**282**	P	**P**	**01 16 33.8**	**0.0**
ASAJ	**Asahikawa**	**21.79**	**357**	LR	LR	01 24 55.3	
	comp=Z,61nm,18.3s,MS3.0,baz=241,slow=36						
SONM	**Songino Array**	**39.58**	**319**	P	**P**	**01 19 19.5**	**-0.4**
	1.3nm,0.7s,mb3.8,baz=129,slow=6.7,SNR=6.0						
YAK	**Yakutsk**	**40.95**	**349**	*eP*	**P**	**01 19 31.1**	**-0.1**
	30nm,0.3s,mb5.4						
CTAO	**Charters Tower**	**42.19**	**177**	P	**P**	**01 19 41.7**	**+0.3**
WRAB	**Tennant Creek**	**43.12**	**194**	*eP*	**P**	**01 19 48.2**	**-0.7**
	6.4nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**43.13**	**194**	*eP*	**P**	**01 19 48.5**	**-0.5**
WRA	**Warramunga Arr**	**43.14**	**194**	P	**P**	**01 19 49.7**	**+0.7**
	0.8nm,0.7s,mb3.6,baz=16,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**46.83**	**193**	P	**P**	**01 20 18.2**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=15,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**53.95**	**183**	P	**P**	**01 21 12.5**	**+0.2**
	2.1nm,0.8s,mb4.1,baz=307,slow=4.8,SNR=3.5						
ZAL	**Zalesovo**	**54.43**	**321**	P	**P**	**01 21 15.9**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=83,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**55.10**	**312**	P	**P**	**01 21 20.8**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=82,slow=8.8,SNR=5.3						
MKAR	**Makanchi Array**	**55.10**	**312**	P	**P**	**01 21 20.8**	**+0.2**
BVAR	**Borovoye Array**	**62.93**	**319**	P	**P**	**01 22 14.9**	**+0.1**
	2.4nm,0.7s,mb4.4,baz=80,slow=8.1,SNR=9.5						
ZRNK	**Zerenda**	**63.77**	**319**	*eP*	**P**	**01 22 20.6**	**+0.3**
	1.6nm,0.8s,mb4.1						
INK	**Inuvik**	**66.55**	**24**	P	**P**	**01 22 38.3**	**-0.2**

IDC 28 01:14:03.2±4.6, 4707N×15510E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=152.4km s-min=32.0km az=7.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.00**	**298**	P	P	01 22 44.2	+0.4
	0.6nm,0.6s,baz=71,slow=9.5,SNR=4.7						
BVAR	**Borovoye Array**	**51.70**	**310**	P	P	01 23 10.6	-1.4
	1.6nm,0.4s,baz=60,slow=7.4,SNR=7.9						
NVAR	**Mina Array Bea**	**61.07**	**64**	P	P	01 24 18.9	+0.1
	0.8nm,0.8s,baz=270,slow=5.4,SNR=6.3						
FINES	**FINESS Array B**	**64.32**	**336**	P	P	01 24 40.3	-0.2
	0.8nm,0.4s,baz=38,slow=7.1,SNR=12						

IDC 28 01:14:47.2±2.8, 4851N×14842E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/20, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=76.7km s-min=37.9km az=66.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.96**	**225**	Pn	Pn	01 16 16.3	-0.3
	2.8nm,0.3s,baz=36,slow=18,SNR=4.3						
ZAL	**Zalesovo**	**39.01**	**303**	P	P	01 22 14.9	-0.4
	1.6nm,0.4s,baz=52,slow=8.4,SNR=3.1						
WRA	**Warramunga Arr**	**69.29**	**194**	P	P	01 25 56.8	+0.6
	0.3nm,0.5s,baz=17,slow=6.1,SNR=2.9						
ASAR	**Alice Springs**	**73.01**	**194**	P	P	01 26 17.9	-0.8
	0.3nm,0.5s,baz=8.6,slow=5.3,SNR=6.9						

*NEIC **28**

Principal axes: T Plg50.0000°, Azm305.0000°; N Plg0.0000°, Azm0.0000°; P Plg40.0000°, Azm125.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

*IGIL **28** 01:36:49.7, 4659N×15331E, h21km, MS5.9*

*MOS **28** 01:36:50.1±0.9, 4654N×15324E, h38km, mb6.0/122, MS5.7/70, Error ellipse: s-maj=6.5km s-min=5.4km az=90.5 Broadband fault plane solution: P waves. $M_0 2.50000\times10^{18}$ NP1:φs171.00000°, δ8.00000°, λ54.00000°. NP2:φs27.00000°, δ84.00000°, λ95.00000°. Principal axes: T Plg51.0000°, Azm302.0000°; N Plg5.0000°, Azm207.0000°; P Plg38.0000°, Azm113.0000°;*

*SZGRF **28** 01:36:54.3, 4669N×152.18E, h33km, mb6.0, MS6.0, Kuril Islands, Russia*

ISC 28 01:36:49.5±0.1**, 4649N**±002×**15333E**±002**, h18**km**, h18**km±1.1km**:pP-P, n1419, σ0.99**/1388**, mb5.8**/322**, MS5.7**/205**, 253C-39D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.02	254	⇓iP	Pn	01 37 48.3	-1.8
KUR				⇓iP		01 37 48.3	
KUR				AMB	AMB	01 37 52.0	
	38μm,2.0s						
KUR				AMB	AMB	01 37 53.5	
	4μm,0.8s						
KUR				AMB	AMB	01 37 53.5	
	3μm,0.8s						
KUR				AMB	AMB	01 37 53.5	
	8μm,0.8s						
KUR				eS	Sn	01 38 39.0	+2.2
KUR				A		01 38 43.5	
	2μm,0.9s						
KUR				A		01 38 43.5	
	18μm,0.9s						
KUR				A		01 38 46.0	
	92μm,2.0s						
KUR				A		01 38 46.0	
	60μm,2.0s						
KUR				A		01 38 46.0	
	50μm,2.0s						
KUR				A		01 38 46.0	
	20μm,2.0s						
KUR				AMS	AMS	01 39 44.0	
	193μm,15.0s						
KUR	Kuril'sk	4.02	254j	iPN	Pn	01 37 48.3	-1.8
KUR				eS	Sn	01 38 39.0	+2.2
KUR				pmax	pmax		
	comp=N,15μm,2.0s						
KUR				pmax	pmax		
	comp=E,38μm,2.0s						
KUR				pmax	pmax		
	comp=Z,38μm,2.0s						
KUR				pmax	pmax		
	comp=N,774nm,0.8s						
KUR				pmax	pmax		
	comp=E,376nm,0.8s						
KUR				pmax	pmax		
	comp=Z,376nm,0.8s						
KUR				smax			
	comp=N,2μm,0.9s						
KUR				smax			
	comp=E,2μm,0.9s						
KUR				smax			
	comp=N,92μm,2.0s						
KUR				smax			
	comp=E,110μm,2.0s						
SKR	Severo-Kuril's	4.58	23	ePN	Pn	01 37 53.5	-4.4
SKR				pmax	pmax		
	comp=N,670nm,1.0s						
SKR				pmax	pmax		
	comp=E,670nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2μm,1.0s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,5μm,4.0s						
SKR				MLR	MLR		
	comp=N,35μm,14.0s						
SKR				MLR	MLR		
	comp=E,209μm,14.0s						
SKR				MLR	MLR		
	comp=Z,92μm,14.0s						
SKR	Severo-Kuril's	4.58	23	eP	Pn	01 37 53.9	-4.0
YUK	Yuzh-Kuril'sk	5.82	248	eP	Pn	01 38 15.5	+0.7
YUK				AMB	AMB	01 38 19.0	
	comp=Z,1μm,1.6s						
YUK				AMB	AMB	01 38 19.3	
	comp=Z,580nm,0.4s						
YUK				AMB	AMB	01 38 19.3	
	comp=Z,420nm,0.4s						
YUK				AMB	AMB	01 38 19.3	
	comp=Z,1μm,0.4s						
YUK				eS	Sn	01 39 24.3	+3.3
YUK				A		01 39 33.5	
	comp=Z,18μm,0.7s						
YUK				A		01 39 33.5	
	comp=Z,7μm,0.7s						
YUK				A		01 39 58.0	
	comp=Z,85μm,3.0s						
YUK				A		01 39 58.0	
	comp=Z,28μm,1.2s						
YUK				AMS	AMS	01 40 42.0	
	comp=Z,124μm,17.0s						
YUK				AMS	AMS	01 40 42.0	
	comp=Z,112μm,17.0s						
YUK				AMS	AMS	01 40 42.0	
	comp=Z,22μm,17.0s						
YUK	Yuzh-Kuril'sk	5.82	248	PN	Pn	01 38 15.5	+0.7
YUK				eS	Sn	01 39 24.3	+3.3
YUK				pmax	pmax		
	comp=Z,1μm,1.6s						
YUK				pmax	pmax		
	comp=E,420nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,580nm,0.3s						
YUK				smax			
	comp=E,7μm,0.6s						
YUK				smax			
	comp=N,18μm,0.7s						
YUK				smax			
	comp=N,85μm,3.0s						
YUK				smax			
	comp=E,28μm,1.2s						
YUK				MLR	MLR		
	comp=N,124μm,16.0s						
YUK				MLR	MLR		
	comp=Z,22μm,16.0s						
YUK				MLR	MLR		
	comp=E,112μm,18.0s						
NEM2	Nemuro 2	6.23	243	P	Pn	01 38 18.5	-2.0
NEM2				eS	Sn	01 39 27.3	-3.9
JRA	Rausu	6.34	249	P	Pn	01 38 23.4	+1.5
JNK	Nakash	6.76	248	P	Pn	01 38 28.2	+0.5
JAK	Akkeshi	7.07	243	P	Pn	01 38 29.8	-2.2
JAK				eS	Sn	01 39 49.5	-2.4
JTKR	Abashiri--Toko	7.12	253	P	Pn	01 38 33.6	+1.0
YSS	Yuzh-Sakhalins	7.29	277	⇑iP	Pn	01 38 39.0	+4.0
YSS				AMB	AMB	01 38 42.0	
	comp=E,90nm,1.0s						
YSS				AMB	AMB	01 38 42.0	
	comp=E,200nm,1.0s						
YSS				AMB	AMB	01 38 42.0	
	comp=E,250nm,1.0s						
YSS				AMB	AMB	01 38 47.0	
	comp=E,11μm,6.0s						
YSS				AMB	AMB	01 38 47.0	
	comp=E,8μm,6.0s						
YSS				eS	Sn	01 40 02.0	+4.8
YSS				AMS	AMS	01 41 22.0	
	comp=E,79μm,16.0s						
YSS				AMS	AMS	01 41 22.0	
	comp=E,113μm,16.0s						
YSS	Yuzh-Sakhalins	7.29	277	⇑iPN	Pn	01 38 39.0	+4.0
YSS				eS	Sn	01 40 02.0	+4.8
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=E,200nm,1.0s						
YSS				pmax	pmax		
	comp=Z,250nm,1.0s						
YSS				pmax	pmax		
	comp=E,11μm,6.0s						
YSS				pmax	pmax		
	comp=Z,8μm,6.0s						
YSS				MLR	MLR		
	comp=E,79μm,16.0s						
YSS				MLR	MLR		
	comp=Z,113μm,16.0s						
YSS	Yuzh-Sakhalins	7.29	277	ePn	Pn	01 38 39.5	+4.6
PET	Petropavlovsk	7.39	26	ePN	Pn	01 38 33.2	-3.2
PET				pmax	pmax		
	comp=N,2μm,9.2s						
PET				pmax	pmax		
	comp=N,3μm,6.3s						
PET				pmax	pmax		
	comp=Z,3μm,6.3s						
PET				pmax	pmax		
	comp=Z,2μm,11.4s						
PET				pmax	pmax		
	comp=Z,635nm,1.1s						
PET				pmax	pmax		
	comp=N,502nm,1.0s						
PET				pmax	pmax		
	comp=E,264nm,1.0s						
PET				MLR	MLR		
	comp=Z,38μm,18.0s						
PET				MLR	MLR		
	comp=Z,34μm,16.0s						
PET				MLR	MLR		
	comp=N,47μm,19.0s						
PET				MLR	MLR		
	comp=N,39μm,20.0s						
PET				MLR	MLR		
	comp=E,98μm,17.0s						
PET				MLR	MLR		
	comp=E,95μm,19.0s						
PET	Petropavlovsk	7.39	26	ePn	Pn	01 38 33.6	-2.8
PET				eSn	Sn	01 39 55.4	-4.4
JMP	Maruseppu	7.46	254	P	Pn	01 38 39.1	+1.7
JAR	Ashorobuto	7.50	248	P	Pn	01 38 38.4	+0.4
JAR				eS	Sn	01 40 01.8	-0.8
JOB	Onbets	7.66	245	P	Pn	01 38 39.7	-0.4
JOB				eS	Sn	01 40 04.4	-2.0
JSE	Soyaes	7.68	262	P	Pn	01 38 44.4	+4.0
JKK2	Kamakawa 2	7.92	255	P	Pn	01 38 45.1	+1.4
ASAJ	Asahikawa	7.93	256	Pn	Pn	01 38 46.7	+2.8
	comp=E,11nm,0.3s,baz=97,slow=16,SNR=45						
ASAJ				Sn	Sn	01 40 28.8	+16
	baz=92,slow=18,SNR=1.5						
ASAJ	Asahikawa	7.93	256	P	Pn	01 38 46.6	+2.7
ASAJ	Asahikawa	7.93	256	PN	Pn	01 38 46.7	+2.8
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
UGL	Uglegorsk	8.02	293	iP	Pn	01 38 50.5	+5.5
UGL				iP		01 38 50.5	
UGL				AMB	AMB	01 38 55.0	
	comp=Z,3μm,1.2s						
UGL				AMB	AMB	01 38 58.0	
	comp=Z,8μm,8.0s						
UGL				AMB	AMB	01 38 58.0	
	comp=Z,13μm,8.0s						
UGL				AMB	AMB	01 38 58.0	
	comp=Z,20μm,8.0s						
UGL				eS	Sn	01 40 28.0	+13
UGL				A		01 40 31.5	
	comp=Z,560nm,0.7s						
UGL				A		01 40 31.5	
	comp=Z,330nm,0.7s						
UGL				A		01 40 38.0	
	comp=Z,17μm,9.0s						
UGL				A		01 40 38.0	
	comp=Z,10μm,9.0s						
UGL				AMS	AMS	01 42 00.0	
	comp=Z,96μm,17.0s						
UGL				AMS	AMS	01 42 00.0	
	comp=Z,98μm,17.0s						
UGL				AMS	AMS	01 42 00.0	
	comp=Z,90μm,17.0s						
UGL	Uglegorsk	8.02	293	⇑iPN	Pn	01 38 50.5	+5.5
UGL				eS	Sn	01 40 28.0	+13
UGL				pmax	pmax		
	comp=N,8μm,8.0s						
UGL				pmax	pmax		
	comp=E,13μm,8.0s						
UGL				pmax	pmax		
	comp=Z,20μm,8.0s						
UGL				pmax	pmax		
	comp=Z,3μm,1.2s						
UGL				smax			
	comp=N,560nm,0.7s						
UGL				smax			
	comp=E,330nm,0.7s						
UGL				smax			
	comp=E,17μm,9.0s						
UGL				smax			
	comp=Z,10μm,9.0s						
UGL				MLR	MLR		
	comp=N,96μm,17.0s						
UGL				MLR	MLR		
	comp=Z,90μm,17.0s						
UGL				MLR	MLR		
	comp=E,98μm,16.0s						
JWK2	Keihoku	8.06	266	P	Pn	01 38 51.2	+5.5
JCH	Churui	8.11	245	P	Pn	01 38 45.0	-1.2
JCH				eS	Sn	01 40 12.7	-4.7
JFR	Furan	8.33	250	P	Pn	01 38 51.3	+2.0
JSS	Shosan	8.34	260	P	Pn	01 38 53.9	+4.5
JAB	Ashibetsu	8.42	253	P	Pn	01 38 53.3	+2.8
ERM	Erimo	8.56	242	ePN	Pn	01 38 53.7	+1.2
ERM				pmax	pmax		
	comp=Z,1μm,0.7s						
ERM	Erimo	8.56	242	ePn	Pn	01 38 53.7	+1.2
	comp=Z,1μm,0.7s						
ERM				eSn	Sn	01 40 28.9	+0.3
JEM	Erimo	8.56	242	P	Pn	01 38 52.8	+0.3
JEM				eS	Sn	01 40 26.3	-2.3
JBT2	Biratori 2	8.66	249	P	Pn	01 38 53.7	-0.1
JHR	Hokuryu	8.66	256	P	Pn	01 38 56.5	+2.7
JNBK	Urakawa-nobuka	8.67	245	P	Pn	01 38 52.5	-1.4
JNBK				eS	Sn	01 40 28.0	-3.2
JEW	Eniwo	9.22	251	P	Pn	01 39 02.5	+1.0
JNB	Noboribetsu	9.66	250	P	Pn	01 39 07.4	-0.2
OKH	Okha	9.72	320	⇑iP	Pn	01 39 10.2	+1.8
OKH				AMB	AMB	01 39 13.1	
	comp=Z,400nm,0.4s						
OKH				AMB	AMB	01 39 16.0	
	comp=Z,12μm,10.0s						
OKH				AMB	AMB	01 39 16.0	
	comp=Z,15μm,10.0s						
OKH				AMB	AMB	01 39 16.0	
	comp=Z,22μm,10.0s						
OKH				eS	Sn	01 41 04.0	+6.8
OKH				A		01 41 10.0	
	comp=Z,8μm,6.0s						
OKH				A		01 41 10.0	
	comp=Z,11μm,6.0s						
OKH				AMS	AMS	01 43 41.0	
	comp=Z,22μm,15.0s						
OKH				AMS	AMS	01 43 41.0	
	comp=Z,75μm,15.0s						
OKH				AMS	AMS	01 43 41.0	
	comp=Z,78μm,19.0s						
JKB	Kayabe	9.96	247	P	Pn	01 39 10.3	-1.3
JKB				eS	Sn	01 40 55.8	-7.1
JYM2	Yakumo 2	10.27	249	P	Pn	01 39 14.7	-1.1
NKL	Nikolayevsk	10.54	314	iP	Pn	01 39 20.0	+0.4
NKL				AMB	AMB	01 39 28.0	
	comp=Z,8μm,7.0s						
NKL				AMB	AMB	01 39 28.0	
	comp=Z,16μm,7.0s						
NKL				AMB	AMB	01 39 28.0	
	comp=Z,14μm,7.0s						
NKL				AMB	AMB	01 39 34.5	
	comp=Z,470nm,1.0s						
NKL				AMB	AMB	01 39 34.5	
	comp=Z,300nm,1.0s						
NKL				eS	Sn	01 41 26.0	+8.9
NKL				A		01 41 38.0	
	comp=Z,4μm,9.0s						
NKL				A		01 41 38.0	
	comp=Z,6μm,9.0s						
NKL				AMS	AMS	01 44 12.0	
	comp=Z,105μm,15.0s						
NKL				AMS	AMS	01 44 12.0	
	comp=Z,56μm,15.0s						
NKL				AMS	AMS	01 44 12.0	
	comp=Z,123μm,15.0s						
JSR	Shiriuchi	10.54	247	P	Pn	01 39 17.8	-1.8
JSR				eS	Sn	01 41 12.1	-5.0
JANG	Nango	10.54	239	P	Pn	01 39 15.3	-4.3
JANG				eS	Sn	01 41 05.5	-12
JTM	Tenmabayashi	10.56	242	P	Pn	01 39 17.0	-2.8
JTM				eS	Sn	01 41 06.2	-11
JTH	Tanohata	10.62	236	P	Pn	01 39 16.8	-3.9
JOSM	Okushiri--Mats	10.87	251	P	Pn	01 39 23.3	-0.7
OFUJ	Ofunato	11.32	233	eS	Sn	01 41 23.8	-12
JRG	Rokugo	11.69	237	P	Pn	01 39 32.4	-2.9
JRG				eS	Sn	01 41 38.6	-6.8
TEY	Ternei	11.78	269	eP	Pn	01 39 38.0	+1.5
TEY				AMB	AMB	01 39 42.0	
	comp=Z,90nm,1.0s						
TEY				AMB	AMB	01 39 42.0	
	comp=Z,190nm,1.0s						
TEY				AMB	AMB	01 39 49.0	
	comp=Z,14μm,11.0s						
TEY				AMB	AMB	01 39 49.0	
	comp=Z,18μm,11.0s						
TEY				eS	Sn	01 41 54.0	+6.5
TEY				A		01 43 47.0	
	comp=Z,80μm,17.0s						
TEY				A		01 43 47.0	
	comp=Z,22μm,17.0s						
JIO	Ouri	11.94	232	P	Pn	01 39 34.6	-4.1
JIO				eS	Sn	01 41 40.3	-11
HABR	Khabarovsk	12.53	286	⇑iPN	Pn	01 39 51.4	+4.6
HABR				eS	Sn	01 42 15.5	+10
HABR				pmax	pmax		
	comp=Z,368nm,2.4s						
HABR				MLR	MLR		
	comp=Z,78μm,15.9s						
JFK	Kawauchi	12.99	230	P	Pn	01 39 48.8	-4.3
MA2	Magadan	13.20	354c	iPN	Pn	01 39 56.2	+0.3
MA2				pmax	pmax		
	comp=Z,300nm,1.0s						
MA2				MLR	MLR		
	comp=Z,33μm,15.3s						
MA2	Magadan	13.20	354	ePn	Pn	01 39 56.6	+0.7
JFY	Yanaizu	13.59	233	P	Pn	01 39 58.3	-3.0
KLR	Kul'dur	14.74	289	⇓iP	Pn	01 40 16.8	-0.1
KLR				pmax	pmax		
	comp=E,470nm,2.2s						
KLR				pmax	pmax		
	comp=Z,39nm,2.2s						
KLR				pmax	pmax		
	comp=E,14μm,11.5s						
KLR				pmax	pmax		
	comp=Z,18μm,11.5s						
KLR				MLR	MLR		
	comp=Z,73μm,15.0s						
SMY	Shemya	14.81	58	eP	Pn	01 40 17.0	-1.0
MAJO	Matsushiro	15.05	234	P	Pn	01 40 17.8	-3.3
MAJO				pmax	pmax		
	comp=Z,260nm,1.0s						
MAJO	Matsushiro	15.05	234	ePn	Pn	01 40 17.7	-3.5
MAT	Matsushiro	15.05	234	P	Pn	01 40 19.9	-1.2
MAT				S	Sn	01 43 06.0	-1.3
MJAR	Matsushiro Arr	15.05	234	Pn	Pn	01 40 19.8	-1.3
	comp=Z,2.0nm,0.3s,baz=29,slow=11,SNR=36						
VLA	Vladivostok	15.58	265	iP	Pn	01 40 29.3	+1.2
VLA				pmax	pmax		
	comp=Z,300nm,1.2s						
VLA				MLR	MLR		
	comp=Z,26μm,16.0s						
VLA	Vladivostok	15.58	265	iP	Pn	01 40 29.4	+1.3
SEY	Seymchan	16.49	358	⇓eP	Pn	01 40 40.2	+0.4
MDJ	Mudanjiang	16.72	272	P	Pn	01 40 42.5	-0.3
MDJ				AMB	AMB		
	comp=Z,295nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,6μm,14.0s						
MDJ				LR	LR		
	comp=N,25μm,16.7s						
MDJ				LR	LR		
	comp=E,24μm,16.7s						
MDJ				LR	LR		
	comp=Z,38μm,16.7s						
MDJ	Mudanjiang	16.72	272	⇑iPn	Pn	01 40 42.3	-0.5
	comp=Z,362nm,1.0s						
MDJ				eSn	Sn	01 43 47.5	-0.5
MDJ				ePcP	PcP	01 45 17.9	-13
JHJ	Hachijo jima 2	16.90	223	Pn	Pn	01 40 46.5	+1.6
	comp=Z,7.9nm,0.3s,baz=177,slow=9.7,SNR=4.3						
JHJ				Sn	Sn	01 43 38.3	-14
	comp=Z,16nm,0.3s,baz=75,slow=21,SNR=3.5						
AMKA	Amchitka	17.70	64	ePn	Pn	01 40 55.4	+0.4
CN2	Changchun	19.81	272	eP	Pn	01 41 16.3	-4.3
CN2				eAP	pP	01 41 22.5	-1.6
CN2				eXP	sP	01 41 26.5	+0.1
CN2				eS	Sn	01 44 50.3	-12
CN2				AMB	AMB		
	comp=Z,120nm,1.1s						
CN2				AMB	AMB		
	comp=Z,4μm,15.0s						
CN2				LR	LR		
	comp=N,30μm,16.0s						
CN2				LR	LR		
	comp=E,28μm,16.0s						
CN2				LR	LR		
	comp=Z,32μm,16.0s						
CLNS	Chul'man	20.30	311	eP	P	01 41 24.0	-0.3
CLNS				e		01 41 41.0	
CLNS				ePPP		01 41 45.9	
CLNS				eS	S	01 45 05.0	-6.2
CLNS				e		01 45 39.2	
CLNS				eSS		01 45 45.7	
CLNS				pmax	pmax		
	comp=N,250nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,304nm,1.2s						
CLNS				pmax	pmax		
	comp=E,192nm,1.1s						
CLNS				smax			
	comp=N,2μm,14.3s						
CLNS				smax			
	comp=Z,8μm,11.9s						
CLNS				smax			
	comp=E,4μm,13.7s						
CLNS				MLR	MLR		
	comp=N,33μm,15.0s,MS6.2						
CLNS				MLR	MLR		
	comp=E,64μm,15.0s,MS6.2						
CLNS				MLR	MLR		
	comp=Z,83μm,15.0s,MS6.2						
NRGR	Nerungri	20.34	310	eP	P	01 41 25.4	+0.7
NRGR				S	S	01 45 12.3	+0.4
NRGR				smax			
	comp=E,32nm,0.6s						
YAK	Yakutsk	20.62	328	eP	P	01 41 28.2	+0.4
YAK				e		01 41 47.1	
YAK				ePPP		01 41 54.7	
YAK				eS	S	01 45 18.9	+1.4
YAK				eSS		01 45 35.1	
YAK				eSSS		01 45 52.9	
YAK				e		01 52 54.3	
YAK				pmax	pmax		
	comp=Z,410nm,1.0s						
YAK				pmax	pmax		
	comp=N,270nm,1.5s						
YAK				pmax	pmax		
	comp=E,240nm,1.5s						
YAK				pmax	pmax		
	comp=Z,300nm,0.9s						
YAK				pmax	pmax		
	comp=N,600nm,2.2s						
YAK				pmax	pmax		
	comp=E,500nm,1.8s						
YAK				smax			
	comp=N,1μm,2.0s						
YAK				smax			
	comp=E,1μm,2.1s						
YAK				MLR	MLR		
	comp=Z,31μm,19.0s,MS5.7						
YAK				MLR	MLR		
	comp=N,27μm,16.0s,MS5.8						
YAK				MLR	MLR		
	comp=E,19μm,15.0s,MS5.8						
YAK	Yakutsk	20.62	328	eP	P	01 41 27.9	+0.2
	comp=E,621nm,1.1s						
YAK				e		01 45 16.7	

KS15 **Wonju Array Si** 20.90 253 *eP* **P** **01 41 31.6 +0.8**
CBIJ **Chichi jima** 21.28 208 P **P** **01 41 36.6 +1.8**
comp=E,182nm,1.0s,mb5.3,baz=345,slow=9.5,SNR=4.2
CBIJ S **S** **01 45 18.6 -12**
comp=E,28nm,0.5s,baz=287,slow=19,SNR=3.7
INCN **Inchon** 21.71 255 ⇑P **P** **01 41 40.4 +0.9**
SNR=46
INCN **Inchon** 21.71 255 *eP* **P** **01 41 40.6 +1.2**
comp=E,353nm,0.9s,mb5.8
INCN LR LR
comp=Z,12μm,19.0s,MS5.3
SNY **Shenyang** 21.78 268 ⇑P **P** **01 41 39.5 -0.8**
SNY AP 01 41 45.3
SNY XP sP 01 41 48.0 +0.3
SNY PP 01 42 04.3
SNY S **S** **01 45 40.0 -0.4**
SNY XS sS 01 45 48.3 -0.3
SNY AMB AMB
comp=Z,123nm,0.9s,mb5.3
SNY AMB AMB
comp=Z,9μm,8.6s
SNY LR LR
comp=N,14μm,14.4s,MS5.7
SNY LR LR
comp=E,20μm,15.1s,MS5.7
SNY LR LR
comp=Z,30μm,15.0s,MS5.8
HIA **Hailar** 22.59 289⇑ *eP* **P** **01 41 45.4 -3.5**
HIA *e* 01 45 51.6
HIA pmax pmax
comp=Z,76nm,0.8s
HIA MLR MLR
comp=Z,27μm,20.0s
HIA **Hailar** 22.59 289⇑ *eP* **P** **01 41 45.4 -3.5**
comp=Z,76nm,0.8s,mb5.2
HIA *e*PcP PcP 01 45 51.6 +10
HIA LR LR
comp=Z,27μm,20.0s,MS5.7
BILL **Bilibino** 22.61 13⇑ *eP* **P** **01 41 48.0 -1.1**
BILL pmax pmax
comp=Z,34nm,0.6s,mb5.0
BILL MLR MLR
comp=Z,30μm,18.0s,MS5.8
BILL **Bilibino** 22.61 13 *eP* **P** **01 41 47.7 -1.4**
comp=Z,111nm,0.7s,mb5.4
BILL LR LR
comp=Z,19μm,20.0s,MS5.5
DL2 **Dalian** 24.38 263⇑ *iP* **P** **01 42 06.8 +0.3**
DL2 S **S** **01 46 23.5 -1.8**
DL2 AMB AMB
comp=Z,180nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,4μm,7.2s
DL2 LR LR
comp=N,7μm,15.2s,MS5.3
DL2 LR LR
comp=E,4μm,15.8s,MS5.3
DL2 LR LR
comp=Z,5μm,13.7s,MS5.2
BOD **Bodaibo** 26.27 310 *eP* **P** **01 42 21.9 -1.8**
BOD pmax pmax
comp=Z,164nm,1.3s,mb5.4
CIT **Chita** 26.30 297 *eP* **P** **01 42 22.9 -1.0**
CIT *e* 01 42 36.1
CIT pmax pmax
comp=Z,265nm,2.1s,mb5.4
BJI **Beijing** 27.63 270 *eP* **P** **01 42 36.5 +0.6**
BJI XP sP 01 42 45.5 +1.9
BJI S **S** **01 47 21.3 +4.5**
BJI AMB AMB
comp=Z,87nm,0.8s,mb5.4
BJI AMB AMB
comp=Z,7μm,11.0s
BJI LR LR
comp=N,19μm,16.1s,MS5.9
BJI LR LR
comp=E,14μm,15.5s,MS5.9
BJI LR LR
comp=Z,25μm,16.0s,MS5.9
BJI **Beijing** 27.63 270 *eP* **P** **01 42 36.4 +0.5**
BJI sP sP 01 42 45.5 +1.9
BJI S **S** **01 47 21.3 +4.5**
BJT **Baijiatuan** 27.64 270 ⇓*iP* **P** **01 42 36.3 +0.3**
BJT *e*S **S** **01 47 17.4 +0.4**
BJT pmax pmax
comp=Z,108nm,1.1s
BJT MLR MLR
comp=Z,17μm,19.0s
BJT **Baijiatuan** 27.64 270 ⇓*iP* **P** **01 42 36.3 +0.2**
comp=Z,108nm,1.1s,mb5.4
BJT *e*S **S** **01 47 17.4 +0.4**
BJT *e*ScP ScP 01 49 32.9 +0.1
BJT LR LR
comp=Z,17μm,19.0s,MS5.7
TIXI **Tiksi** 27.76 344 *eP* **P** **01 42 30.6 -6.5**
TIXI *e*S **S** **01 47 12.5 -6.3**
TIXI pmax pmax
comp=Z,48nm,1.2s,mb5.0
TIXI pmax pmax
comp=N,19nm,1.1s
TIXI pmax pmax
comp=E,23nm,1.3s
TIXI MLR MLR
comp=Z,41μm,15.0s,MS6.1
TIXI MLR MLR
comp=N,17μm,14.0s,MS5.9
TIXI MLR MLR
comp=E,14μm,16.0s,MS5.9
TIXI **Tiksi** 27.76 344⇑ *eP* **P** **01 42 36.0 -1.1**
JOW **Kunigami** 27.89 234 P **P** **01 42 37.6 -0.7**
comp=E,39nm,0.9s,mb5.0,baz=31,slow=5.1,SNR=5.4
TNA **Tin City** 28.16 33 *eP* **P** **01 42 48.2 +7.5**
TIA **Tai'an** 28.83 262 *eP* **P** **01 42 47.5 +0.9**
TIA S **S** **01 47 34.0 -1.7**
TIA AMB AMB
comp=Z,237nm,1.9s,mb5.6
TIA LR LR
comp=N,6μm,16.0s,MS5.4
TIA LR LR
comp=E,6μm,17.0s,MS5.4
SSE **Sheshan** 29.15 250 ⇑P **P** **01 42 50.3 +0.9**
SSE AP pP 01 42 58.8 +3.9
SSE XP sP 01 43 03.0 +5.8
SSE PCP PcP 01 45 57.0 +0.2
SSE S **S** **01 47 41.5 +0.8**
SSE SCS ScS 01 53 30.0 -1.6
SSE AMB AMB
comp=Z,39nm,1.4s,mb4.9
SSE AMB AMB
comp=Z,2μm,8.4s
SSE LR LR
comp=N,8μm,19.2s,MS5.4
SSE LR LR
comp=E,4μm,19.3s,MS5.4
SSE LR LR
comp=Z,8μm,18.4s,MS5.4
SSE **Sheshan** 29.15 250 ⇑P **P** **01 42 50.2 +0.8**
SSE pP pP 01 42 58.7 +3.8
SSE sP sP 01 43 02.9 +5.7
SSE PP PP 01 43 56.7 +1.4
SSE PcP PcP 01 45 56.9 +0.1
SSE S **S** **01 47 41.4 +0.7**
SSE sS sS 01 47 56.4 +6.6
SSE ScS ScS 01 53 30.0 -1.6
MIDW **Midway** 29.34 118 PFAKE 01 43 00.0 +8.9
MIDW LR LR
comp=Z,11μm,19.0s,MS5.5
NJ2 **Nanjing** 30.07 254 *eP* **P** **01 42 59.0 +1.4**
NJ2 AP pP 01 43 05.0 +1.9
NJ2 XP sP 01 43 08.0 +2.7
NJ2 PP PP 01 43 57.8 -7.7
NJ2 S **S** **01 47 55.0 -0.1**
NJ2 XS sS 01 48 04.0 -0.2
NJ2 AMB AMB
comp=Z,110nm,0.7s,mb5.7
NJ2 AMB AMB
comp=Z,4μm,9.5s
NJ2 LR LR
comp=N,40μm,17.3s,MS6.3
NJ2 LR LR
comp=E,37μm,15.6s,MS6.3
NJ2 LR LR
comp=Z,36μm,16.3s,MS6.1
HHC **Hu-ho-hao-te** 30.46 275⇑ *iP* **P** **01 43 01.8 +0.7**
HHC AP pP 01 43 07.5 +0.9
HHC XP sP 01 43 10.5 +1.7
HHC PP PP 01 44 01.5 -8.4
HHC PCP PcP 01 46 01.3 +1.1
HHC S **S** **01 48 00.3 -1.0**
HHC XS sS 01 48 10.5 +0.1
HHC SS SS 01 49 40.0 -31
HHC SCP ScP 01 49 41.8 +0.1
HHC PCS PcS 01 49 43.8 -0.1
HHC AMB AMB
comp=Z,212nm,0.8s,mb5.9
HHC AMB AMB
comp=Z,3μm,6.8s
HHC LR LR
comp=N,22μm,16.3s,MS6.0
HHC LR LR
comp=E,21μm,16.7s,MS6.0
HHC LR LR
comp=Z,24μm,16.5s,MS5.9
SONM **Songino Array** 31.56 290 P **P** **01 43 10.4 -0.4**
comp=Z,41nm,0.9s,mb5.2,baz=69,slow=8.7,SNR=72
SONM PcP PcP 01 46 03.2 +0.1
comp=Z,25nm,1.0s,baz=99,slow=1.6,SNR=6.4
SONM ScP ScP 01 49 47.2 +1.8
comp=Z,6.9nm,1.2s,baz=108,slow=4.7,SNR=4.2
SONM LR LR 01 56 49.9
comp=Z,27μm,18.4s,MS6.0,baz=76,slow=38
SONM P3KP 02 15 58.9
comp=Z,0.8nm,1.2s,baz=76,slow=0.6,SNR=3.6
SONM **Songino Array** 31.56 290 P **P** **01 43 10.4 -0.4**
SONM 01 46 03.2
BTO **Baotou** 31.63 275 *eP* **P** **01 43 10.5 -0.9**
BTO S **S** **01 48 15.8 -3.8**
BTO LR LR
comp=N,8μm,15.9s,MS5.5
BTO LR LR
comp=E,3μm,16.3s,MS5.5
IRK **Irkutsk** 31.95 299 *eP* **P** **01 43 13.0 -1.2**
IRK pmax pmax
comp=Z,86nm,1.8s,mb5.3
TLY **Talaya** 32.43 298 ⇑P **P** **01 43 17.4 -1.1**
SNR=81
TLY **Talaya** 32.43 298 *eP* **P** **01 43 17.2 -1.2**
TLY LR LR
comp=Z,6μm,19.0s,MS5.3
TTA **Tatalina** 32.52 41 *eP* **P** **01 43 18.7 -0.4**
SVW2 **Sparrevohn** 32.57 45 *eP* **P** **01 43 19.4 -0.2**
ZAK **Zakamensk** 32.92 295⇑ *iP* **P** **01 43 22.4 -0.3**
ZAK *e* 01 46 07.0
ZAK pmax pmax
comp=Z,61nm,1.1s,mb5.4
YHNB **Yeheng** 33.55 241 *eP* **P** **01 43 31.9 +3.7**
GUMO **Guam** 33.56 195 PFAKE 01 43 40.0 +12
GUMO LR LR
comp=Z,4μm,20.0s,MS5.1
IMA2 **Indian Mountai** 33.93 36 *eP* **P** **01 43 31.0 -0.5**
WHN **Wuhan** 34.01 256 ⇓P **P** **01 43 33.0 +0.8**
WHN S **S** **01 48 57.0 +0.3**
WHN AMB AMB
comp=Z,4μm,8.6s
WHN LR LR
comp=Z,15μm,19.2s,MS5.8
MOY **Mondy** 34.05 298 *eP* **P** **01 43 31.5 -1.1**
MOY pmax pmax
comp=Z,99nm,1.6s,mb5.5
KDAK **Kodiak Island** 34.15 51 P **P** **01 43 31.8 -1.6**
comp=Z,53nm,0.7s,mb5.6,baz=282,slow=6.2,SNR=15
KDAK LR LR 01 57 29.4
comp=Z,9μm,21.6s,MS5.5,baz=258,slow=36
KDAK **Kodiak Island** 34.15 51 *eP* **P** **01 43 31.7 -1.7**
comp=Z,42nm,0.6s,mb5.5
KDAK LR LR
comp=Z,2μm,21.0s,MS4.9
QZH **Quanzhou** 35.06 244⇑ *iP* **P** **01 43 41.8 +0.6**
QZH PP PP 01 45 01.0 +0.2
QZH S **S** **01 49 11.0 -1.7**
QZH AMB AMB
comp=Z,700nm,1.6s,mb6.3
QZH AMB AMB
comp=Z,4μm,6.7s
QZH LR LR
comp=N,14μm,17.0s
QZH LR LR
comp=E,25μm,23.6s
QZH LR LR
comp=Z,14μm,16.2s,MS5.8
SLKM **Skilak Lake** 35.20 46 P **P** **01 43 42.0 -0.4**
SLKM **Skilak Lake** 35.20 46 *eP* **P** **01 43 42.2 -0.2**
XAN **Xi'an** 35.65 266 P **P** **01 43 46.5 +0.2**
XAN AP pP 01 43 54.8 +2.9
XAN S **S** **01 49 18.8 -3.0**
XAN AMB AMB
comp=Z,109nm,1.2s,mb5.7
XAN AMB AMB
comp=Z,2μm,9.4s
XAN LR LR
comp=N,5μm,16.3s,MS5.7
XAN LR LR
comp=E,9μm,14.4s,MS5.7
XAN LR LR
comp=Z,14μm,15.9s,MS5.8
PMR **Palmer** 35.68 44 *eP* **P** **01 43 45.9 -0.7**
PMR pmax pmax
comp=Z,110nm,1.3s,mb5.6
PMR **Palmer** 35.68 44 *eP* **P** **01 43 46.4 -0.2**
comp=Z,36nm,0.9s,mb5.3
PMR LR LR
comp=Z,10μm,21.0s,MS5.6
MCK **McKinley** 35.75 40⇑ *eP* **P** **01 43 46.7 -0.5**
MCK *e* 01 45 12.4
MCK *e*S **S** **01 49 24.2 +0.8**
MCK pmax pmax
comp=Z,78nm,1.2s,mb5.5
MCK MLR MLR
comp=Z,4μm,20.0s,MS5.2
MCK **McKinley** 35.75 40⇑ *eP* **P** **01 43 46.7 -0.5**
comp=Z,78nm,1.2s,mb5.5
MCK *e*PP PP 01 45 12.4 +3.9
MCK *e*S **S** **01 49 24.2 +0.8**
MCK *e*ScP ScP 01 50 01.5 +1.4
MCK LR LR
comp=Z,4μm,20.0s,MS5.2
COLA **College** 36.25 38⇑ *iP* **P** **01 43 51.5 0.0**
COLA MLR MLR
comp=Z,7μm,19.0s,MS5.4
DIV **Divide** 37.33 44 PFAKE 01 44 10.0 +9.3
DIV LR LR
comp=Z,28μm,21.0s,MS6.0
EYAK **Cordova Ski Ar** 37.40 45⇓ *eP* **P** **01 43 59.9 -1.3**
ENH **Enshi** 37.47 260 PFAKE 01 44 10.0 +8.1
ENH LR LR
comp=Z,3.0nm,22.0s
KRAR **Krasnoyarsk** 37.86 307⇑ *iP* **P** **01 44 04.4 -0.8**
KRAR pmax pmax
comp=Z,108nm,0.9s,mb5.6
KRAR MLR MLR
comp=Z,48μm,21.0s,MS6.3
LZH **Lanzhou** 38.05 272 P **P** **01 44 08.3 +1.5**
LZH AP pP 01 44 16.0 +3.7
LZH PP PP 01 45 40.0 +6.2
LZH S **S** **01 49 58.0 -0.4**
LZH XS sS 01 50 11.0 +3.4
LZH eSS SS 01 52 36.0 -10
LZH AMB AMB
comp=Z,510nm,1.0s,mb6.2
LZH AMB AMB
comp=Z,4μm,6.6s
LZH LR LR
comp=E,26μm,15.9s
LZH LR LR
comp=Z,26μm,17.1s,MS6.1
LZH **Lanzhou** 38.05 272 P **P** **01 44 08.3 +1.5**
LZH pP pP 01 44 15.9 +3.6
LZH sP sP 01 44 21.1 +6.5
LZH PP PP 01 45 40.0 +6.2
LZH S **S** **01 49 58.0 -0.4**
LZH sS sS 01 50 11.0 +3.4
LZH eSS SS 01 52 36.0 -10
MENT **Mentasta** 38.13 41 *eP* **P** **01 44 06.1 -1.3**
EGAK **Eagle** 39.11 38⇑ *iP* **P** **01 44 14.9 -0.8**
EGAK *e*PP PP 01 45 43.8 -1.6
EGAK *e*ScP ScP 01 50 17.5 +4.8
GTA **Gaotai** 39.16 279 ⇑P **P** **01 44 17.0 +0.9**
GTA AP pP 01 44 23.0 +1.3
GTA XP sP 01 44 26.3 +2.4
GTA PP PP 01 45 51.8 +5.8
GTA PCP PcP 01 46 26.8 +1.4
GTA SCP ScP 01 50 13.3 +0.4
GTA S **S** **01 50 16.3 +1.1**
GTA XS sS 01 50 26.5 +2.1
GTA SS SS 01 53 00.0 -8.1
GTA AMB AMB
comp=Z,119nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,3μm,7.6s
GTA LR LR
comp=N,11μm,17.9s,MS5.8
GTA LR LR
comp=E,7μm,17.5s,MS5.8
GTA LR LR
comp=Z,5μm,13.4s,MS5.5
GZH **Guangzhou** 39.71 248 P **P** **01 44 16.0 -4.7**
GZH PP PP 01 45 51.0 -0.9
GZH LR LR
comp=N,10μm,18.3s,MS5.8
GZH LR LR
comp=E,10μm,17.4s,MS5.8
GZH LR LR
comp=Z,13μm,17.1s,MS5.8
HKC **Hong Kong** 39.74 246⇓ *iP* **P** **01 44 27.0 +6.0**
HKC **Hong Kong** 39.74 246 P **P** **01 44 22.0 +1.0**
DAWY **Dawson** 39.95 39 *eP* **P** **01 44 22.8 +0.2**
CD2 **Chengdu** 41.01 266⇓ *iP* **P** **01 44 31.5 +0.1**
CD2 AP pP 01 44 37.5 +0.5
CD2 XP sP 01 44 40.5 +1.2
CD2 PP PP 01 46 09.3 +3.2
CD2 PCP PcP 01 46 33.0 +1.7
CD2 PCS PcS 01 50 22.5 +0.3
CD2 S **S** **01 50 41.3 -1.6**
CD2 XS sS 01 50 51.0 -1.1
CD2 SS SS 01 53 37.5 -7.6
CD2 AMB AMB
comp=Z,190nm,1.1s,mb5.6
CD2 AMB AMB
comp=Z,2μm,9.6s
CD2 LR LR
comp=N,6μm,15.6s
CD2 LR LR
comp=Z,5μm,16.8s,MS5.4
INK **Inuvik** 41.79 32 P **P** **01 44 38.1 +0.3**
comp=Z,33nm,0.8s,mb5.0,baz=278,slow=6.7,SNR=38
INK LR LR 02 03 46.2
comp=Z,4μm,19.0s,MS5.3,baz=113,slow=39
INK **Inuvik** 41.79 32 P **P** **01 44 38.1 +0.3**
INK pmax pmax
comp=Z,93nm,1.1s
INK **Inuvik** 41.79 32 *eP* **P** **01 44 38.0 +0.2**
GYA **Guiyang** 41.81 258⇑ *iP* **P** **01 44 38.5 +0.5**
GYA AP pP 01 44 44.3 +0.7
GYA XP sP 01 44 46.8 +1.0
GYA PP PP 01 46 19.0 +4.3
GYA PCP PcP 01 46 34.0 +0.1
GYA PPP 01 46 50.5
GYA SCP ScP 01 50 22.0 -1.3
GYA S **S** **01 50 56.0 +1.3**
GYA SS SS 01 53 57.8 -3.1
GYA AMB AMB
comp=Z,420nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,3μm,8.4s
GYA LR LR
comp=N,8μm,17.4s,MS5.6
GYA LR LR
comp=E,3μm,20.1s,MS5.6
GYA LR LR
comp=Z,5μm,21.4s,MS5.3
SKAG **Skagway** 42.74 45 *eP* **P** **01 44 46.2 +0.6**
comp=Z,77nm,1.4s,mb5.2
ZAL **Zalesovo** 42.90 306 P **P** **01 44 45.2 -1.7**
comp=Z,23nm,0.5s,mb5.2,baz=45,slow=7.0,SNR=45
ZAL PcP PcP 01 46 37.2 -0.3
comp=Z,39nm,0.9s,baz=27,slow=2.6,SNR=8.4
ZAL LR LR 02 04 22.8
comp=Z,48μm,18.1s,MS6.4,baz=37,slow=39
ZAL **Zalesovo** 42.90 306 P **P** **01 44 45.2 -1.7**
ZAL 01 46 37.3
ZAL **Zalesovo** 42.90 306 P **P** **01 44 45.2 -1.7**
ZAL PcP PcP 01 46 37.2 -0.3
ZAL LR LR 02 04 22.8
SIT **Sitka** 43.43 49 PFAKE 01 45 00.0 +8.9
SIT LR LR
comp=Z,6μm,19.0s,MS5.5
NVS **Novosibirsk** 43.47 308 *eP* **P** **01 44 48.8 -2.7**
NVS *e* 01 46 37.7
NVS *e*S **S** **01 51 17.5 -1.6**
NVS *e*SS SS 01 54 48.1 +15
NVS pmax pmax
comp=N,56nm,1.3s
NVS pmax pmax
comp=E,109nm,1.3s
NVS pmax pmax
comp=Z,137nm,1.3s,mb5.5
NVS smax
comp=N,39nm,2.1s
NVS smax
comp=E,47nm,2.1s
QIZ **Qiongzhong** 44.89 247 P **P** **01 45 02.5 -0.4**
QIZ PP PP 01 46 51.0 +3.2
QIZ S **S** **01 51 39.5 -0.3**
QIZ XS sS 01 51 48.3 -0.8
QIZ AMB AMB
comp=Z,46nm,1.6s,mb5.1
QIZ AMB AMB
comp=Z,2μm,12.6s
QIZ LR LR
comp=N,7μm,19.3s,MS5.7
QIZ LR LR
comp=E,5μm,17.3s,MS5.7
QIZ LR LR
comp=Z,5μm,18.4s,MS5.5
QIZ **Qiongzhong** 44.89 247 PFAKE 01 45 10.0 +7.1
QIZ LR LR
comp=Z,6μm,19.0s,MS5.5
CRAG **Craig** 45.11 50 *eP* **P** **01 45 05.4 +0.8**
CRAG *e*PP PP 01 46 49.1 -1.0
WMQ **Urumqi** 45.16 292⇑ *iP* **P** **01 45 05.5 +0.5**
WMQ AP pP 01 45 12.0 +1.3
WMQ XP sP 01 45 14.5 +1.6
WMQ PCP PcP 01 46 48.0 +2.8
WMQ PPP 01 47 32.0
WMQ PCS PcS 01 50 37.0 -2.0
WMQ S **S** **01 51 43.0 -0.8**
WMQ XS sS 01 51 54.0 +1.0
WMQ SCS ScS 01 55 00.0 -1.2
WMQ AMB AMB
comp=Z,102nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,3μm,6.0s
WMQ LR LR
comp=N,29μm,17.9s,MS6.4
WMQ LR LR
comp=E,23μm,16.7s,MS6.4
WMQ LR LR
comp=Z,32μm,16.0s,MS6.3
WRAK **Wrangell Islan** 45.19 49 *eP* **P** **01 45 07.0 +1.7**
WRAK PcP PcP 01 46 44.3 -1.0
KMI **Kunming** 45.34 260 P **P** **01 45 07.3 +0.8**
KMI AP pP 01 45 13.3 +1.2
KMI XP sP 01 45 15.3 +1.0
KMI PCP PcP 01 46 47.8 +2.0
KMI PP PP 01 46 53.8 +1.2
KMI PPP 01 47 33.0
KMI SCP ScP 01 50 35.8 -1.9
KMI PCS PcS 01 50 40.5 +0.7
KMI S **S** **01 51 45.3 -1.1**
KMI XS sS 01 51 55.0 -0.7
KMI SS SS 01 54 59.0 -11
KMI AMB AMB
comp=Z,159nm,1.1s,mb5.8
KMI AMB AMB
comp=Z,3μm,10.3s
KMI LR LR
comp=N,8μm,16.6s,MS5.8
KMI LR LR
comp=E,4μm,15.1s,MS5.8
KMI LR LR
comp=Z,7μm,15.5s,MS5.7
KMI **Kunming** 45.34 260 P **P** **01 45 07.2 +0.7**
KMI *SP sP 01 45 15.3 +1.0
KMI 01 46 47.8

KMI 01 46 53.7
KMI PPP 01 47 33.0
KMI S **S** **01 51 45.3 -1.1**
KMI *SS sS 01 51 55.1 -0.6
KMI SS SS 01 54 59.0 -11
KMI Kunming 45.34 260 P **P** **01 45 07.2 +0.7**
KMI pP pP 01 45 13.2 +1.1
KMI sP sP 01 45 15.3 +1.0
KMI PcP PcP 01 46 47.8 +2.0
KMI PP PP 01 46 53.7 +1.1
KMI PPP 01 47 33.0
KMI ScP ScP 01 50 35.8 -1.9
KMI PcS PcS 01 50 40.4 +0.6
KMI S **S** **01 51 45.3 -1.1**
KMI sS sS 01 51 55.1 -0.6
KMI SS SS 01 54 59.0 -11
DLBC Dease Lake 45.67 46 LR LR 02 05 24.8
comp=Z,5µm,19.2s,MS5.5,baz=302,slow=38
DAV Davao City (W) 45.95 220 PFAKE
DAV LR LR 01 45 20.0 +8.7
comp=Z,4µm,19.0s,MS5.3
KIP Kipapa 46.55 106 PFAKE 01 45 30.0 +14
KIP LR LR
comp=Z,8µm,21.0s,MS5.6
MKAR Makanchi Array 47.20 298 P **P** **01 45 20.4 -0.7**
comp=Z,218nm,0.9s,mb6.1,baz=64,slow=8.2,SNR=337
MKAR PcP PcP 01 46 52.3 0.0
comp=Z,19nm,0.7s,baz=53,slow=2.3,SNR=5.1
MKAR ScP ScP 01 50 47.7 +2.3
comp=Z,6.4nm,0.9s,baz=86,slow=4.0,SNR=4.0
MKAR Makanchi Array 47.20 298 *i* P **P** **01 45 20.3 -0.7**
MKAR pmax pmax
comp=Z,218nm,0.9s
MKAR Makanchi Array 47.20 298 P **P** **01 45 20.4 -0.7**
MKAR PcP PcP 01 46 52.3 0.0
MKAR ScP ScP 01 50 47.7 +2.3
KURK Kurchatov 47.63 304 P **P** **01 45 23.5 -1.0**
comp=Z,2µm,0.9s,SNR=62
POHA Pohakuloa 49.36 105 PFAKE 01 45 50.0 +12
POHA LR LR
comp=Z,6µm,19.0s,MS5.6
ALE Alert 49.99 6 P **P** **01 45 42.0 -0.5**
comp=Z,707nm,1.1s,mb6.6,SNR=37
LSA Lhasa 50.44 273 P **P** **01 45 48.0 +2.0**
LSA AP pP 01 45 57.3 +5.6
LSA PP PP 01 47 46.3 +4.7
LSA S **S** **01 53 05.0 +6.4**
LSA AMB AMB
comp=Z,60nm,0.9s,mb5.6
LSA AMB AMB
comp=Z,3µm,9.9s
LSA LR LR
comp=N,4µm,18.2s,MS5.7
LSA LR LR
comp=E,6µm,16.8s,MS5.7
LSA LR LR
comp=Z,7µm,18.3s,MS5.7
LSA Lhasa 50.44 273 ⇑*i* P **P** **01 45 48.3 +2.3**
LSA *e* 01 47 44.9
LSA pmax pmax
comp=Z,116nm,0.8s,mb6.0
LSA MLR MLR
comp=Z,3µm,19.0s,MS5.3
LSA Lhasa 50.44 273 ⇑*i* P **P** **01 45 48.3 +2.4**
comp=Z,116nm,0.8s,mb6.0
LSA *e*PP PP 01 47 44.9 +3.3
LSA *e*ScP ScP 01 50 58.3 -0.9
LSA LR LR
comp=Z,3µm,19.0s,MS5.3
YKW3 Yellowknife Ar 51.01 37 *e*P **P** **01 45 50.4 +0.2**
RES Resolute Bay 51.03 19 *e*P **P** **01 45 50.4 0.0**
RES pmax pmax
comp=Z,136nm,1.4s,mb5.7
RES Resolute Bay 51.03 19 *e*P **P** **01 45 50.4 -0.1**
comp=Z,136nm,1.4s,mb5.7
NANT Nan 51.04 256 ⇑P **P** **01 45 48.5 -2.0**
comp=Z,1µm,1.0s,mb6.7
BVAR Borovoye Array 51.14 310 LR LR 02 10 02.4
comp=Z,21µm,18.0s,MS6.2,baz=320,slow=39
BRVK Borovoye 51.18 310 ⇑P **P** **01 45 50.6 -1.0**
SNR=69
BRVK Borovoye 51.18 310 *e*P **P** **01 45 50.2 -1.3**
BRVK pmax pmax
comp=Z,95nm,0.9s,mb5.7
BRVK MLR MLR
comp=Z,3µm,19.0s,MS5.3
BRVK Borovoye 51.18 310 *e*P **P** **01 45 50.2 -1.4**
comp=Z,95nm,0.9s,mb5.7
BRVK LR LR
comp=Z,3µm,19.0s,MS5.3
KKM Kota Kinabalu 51.43 230 P **P** **01 45 57.2 +3.8**
KKM Kota Kinabalu 51.43 230 *e*P **P** **01 45 54.1 +0.7**
KKM *e*PcP PcP 01 47 07.7 -0.1
IMP Imphal 51.61 267 *e*P **P** **01 45 55.0 +0.3**
IMP *ex* x 01 47 12.0
ZRNK Zerenda 51.91 310 ⇑*i* P **P** **01 45 55.9 -1.1**
ZRNK *e* 01 47 09.0
ZRNK *e* 01 47 55.1
ZRNK *e*S **S** **01 53 10.9 -8.1**
ZRNK pmax pmax
comp=Z,145nm,1.0s,mb5.9
ZRNK Zerenda 51.91 310 ⇑*i* P **P** **01 45 55.9 -1.1**
comp=Z,145nm,1.0s,mb5.9
ZRNK *e*PcP PcP 01 47 09.0 -0.5
ZRNK *e*PP PP 01 47 55.1 +0.2
ZRNK *e*ScP ScP 01 51 03.9 -1.6
ZRNK *e*S **S** **01 53 10.9 -8.1**
TSM Tawau 52.05 227 P **P** **01 45 57.7 -0.3**
CHG Chiang Mai 52.21 257 ⇑P **P** **01 45 59.9 +0.7**
comp=Z,102nm,0.9s,mb5.8
CHTO Chiang Mai 52.21 257 ⇑*i* P **P** **01 45 59.7 +0.5**
CHTO *e* 01 47 12.1
CHTO *e* 01 47 59.4
CHTO pmax pmax
comp=Z,217nm,1.0s,mb6.0
CHTO MLR MLR
comp=Z,6µm,19.0s,MS5.6
CHTO Chiang Mai 52.21 257 ⇑*i* P **P** **01 45 59.7 +0.5**
comp=Z,217nm,1.0s,mb6.0
CHTO *e*PcP PcP 01 47 12.1 +1.4
CHTO *e*PP PP 01 47 59.4 +1.8
CHTO LR LR
comp=Z,6µm,19.0s,MS5.6
AAA Alma-Ata 52.23 296 *e*P **P** **01 45 59.8 +0.5**
AAA *e*S **S** **01 53 31.4 +8.1**
AAA pmax pmax
comp=Z,3µm,10.9s
AAA MLR MLR
comp=Z,30µm,14.9s,MS6.5
AAA Alma-Ata 52.23 296 *e*P **P** **01 46 00.0 +0.7**
CM31 Chiang Mai Arr 52.46 257 ⇑*i* P **P** **01 46 02.6 +1.5**
CM31 *e*PcP PcP 01 47 12.1 +0.5
SHL Shillong 52.52 269 *e*P **P** **01 46 04.0 +2.5**
SHL *e*PCS PcS 01 51 10.0 -0.3
SHL *e*S **S** **01 53 32.0 +4.7**
KBS Kingsbay 52.78 351 *e*P **P** **01 46 02.2 -1.2**
KBS *e* pP 01 46 06.2 -3.0
KBS AMb AMB 01 46 06.9
comp=Z,71nm,1.8s,mb5.3
KBS *e*S **S** **01 53 32.4 +1.6**
KBS AMS AMS 02 13 30.4
comp=Z,3µm,17.1s,MS5.3
KBS Kingsbay 52.78 351 *e*P **P** **01 46 03.2 -0.2**
KBS pmax pmax
comp=Z,75nm,1.0s,mb5.6
KBS MLR MLR
comp=Z,5µm,19.0s,MS5.6
KBS Kingsbay 52.78 351 *e*P **P** **01 46 03.2 -0.3**
comp=Z,75nm,1.0s,mb5.6
KBS LR LR
comp=Z,5µm,19.0s,MS5.6
SPB4 Spitsbergen Ar 52.90 350 *e*P **P** **01 46 04.5 +0.2**
ULHL Ulahol 53.21 295 P **P** **01 46 07.4 +0.7**
SNR=126
TKM2 Tokmak 2 53.25 296 P **P** **01 46 07.5 +0.5**
SNR=118
TKM2 Tokmak 2 53.25 296 *i* P **P** **01 46 07.4 +0.5**
TKM2 pmax pmax
comp=Z,149nm,1.0s,mb5.9
TKM2 Tokmak 2 53.25 296 *i* P **P** **01 46 07.5 +0.6**
PGC Sidney 53.47 55 *e*P **P** **01 46 10.2 +1.7**
GTK Gangtok 53.65 273 *ex* x 01 46 25.0
CHMS Chumysh 53.73 297 P **P** **01 46 10.4 0.0**
SNR=58

USP Ospenovka 53.74 297 P **P** **01 46 10.9 +0.4**
SNR=374
KBK Karagaybulak 53.79 296 P **P** **01 46 11.5 +0.6**
SNR=74
MCW Mount Constitu 53.80 55 P **P** **01 46 11.5 +0.5**
FRU Bishkek 53.90 297 ⇑*i* P **P** **01 46 12.2 +0.5**
FRU S **S** **01 53 52.0 +5.9**
FRU *e* 01 57 26.0
FRU pmax pmax
comp=Z,320nm,1.2s,mb6.1
FRU pmax pmax
comp=Z,2µm,8.0s
FRU MLR MLR
comp=N,30µm,16.0s,MS6.5
FRU MLR MLR
comp=Z,33µm,16.0s,MS6.5
FRU MLR MLR
comp=E,22µm,17.0s,MS6.5
KZA Kyzart 53.92 296 P **P** **01 46 13.2 +1.3**
SNR=32
AGT Agartala 54.04 268 *ex* x 01 46 17.0
AAK Ala-Archa 54.09 297 P **P** **01 46 13.5 +0.5**
SNR=128
AAK Ala-Archa 54.09 297 ⇑P **P** **01 46 11.8 -1.2**
SNR=78
AAK Ala-Archa 54.09 297 *c i*P **P** **01 46 12.2 -0.8**
AAK pmax pmax
comp=Z,70nm,0.9s,mb5.6
AAK MLR MLR
comp=Z,20µm,16.0s,MS6.3
AAK Ala-Archa 54.09 297 *e*P **P** **01 46 15.3 +2.3**
AAK LR LR
comp=Z,3µm,22.0s,MS5.4
SVE Sverdlovsk 54.12 317 ⇑*i* P **P** **01 46 12.0 -1.3**
SVE *e* 01 48 13.0
SVE *e* 01 56 00.0
SVE *e* 01 57 20.0
SVE pmax pmax
comp=Z,180nm,1.7s,mb5.7
SVE pmax pmax
comp=E,1µm,8.0s
SVE pmax pmax
comp=Z,2µm,8.0s
SVE MLR MLR
comp=N,7µm,14.0s,MS5.9
SVE MLR MLR
comp=E,2µm,14.0s,MS5.9
SVE MLR MLR
comp=Z,15µm,14.0s,MS6.2
MBW Mount Baker 54.27 54 P **P** **01 46 14.4 -0.1**
UCH Uchtor 54.30 296 P **P** **01 46 15.4 +0.9**
SNR=39
GNW Green Mountain 54.40 56 *e*P **P** **01 46 17.2 +1.9**
EKS2 Erkin-Say 54.51 297 P **P** **01 46 16.7 +0.5**
SNR=106
AML Almayashu 54.86 297 P **P** **01 46 19.2 +0.6**
SNR=94
KSH Kashi 54.89 293 ⇑*i* P **P** **01 46 20.0 +1.1**
KSH *e*AP pP 01 46 26.5 +1.9
KSH *e*XP sP 01 46 28.5 +1.7
KSH *e*PCP PcP 01 47 22.3 +1.5
KSH *e*PP PP 01 48 24.0 +2.2
KSH *e*PPP 01 49 36.3
KSH *e*SCP ScP 01 51 18.0 -0.5
KSH *e*PCS PcS 01 51 20.3 -0.3
KSH *e*S **S** **01 53 57.0 -2.5**
KSH *e*XS sS 01 54 08.0 -0.9
KSH *e*PS 01 54 11.3
KSH *e*SCS ScS 01 56 06.0 -1.3
KSH *e*SS SS 01 57 41.3 -1.6
KSH AMB AMB
comp=Z,149nm,0.8s,mb6.1
KSH AMB AMB
comp=Z,2µm,3.6s
KSH LR LR
comp=N,12µm,10.4s,MS6.4
KSH LR LR
comp=E,16µm,12.4s,MS6.4
KSH LR LR
comp=Z,46µm,16.7s,MS6.6
ARU Arti 55.30 318 P **P** **01 46 20.0 -1.9**
comp=Z,838nm,1.0s,mb6.7,SNR=30
ARU Arti 55.30 318 ⇑*i* P **P** **01 46 20.1 -1.8**
ARU *e* 01 47 20.2
ARU *e*PP PP 01 48 19.7 -5.8
ARU *e* 01 49 39.4
ARU *e*S **S** **01 54 04.4 -0.6**
ARU pmax pmax
comp=Z,156nm,1.0s,mb6.0
ARU Arti 55.30 318 *e*P **P** **01 46 20.4 -1.5**
comp=Z,102nm,0.8s,mb5.9
ARU LR LR
comp=Z,3µm,20.0s,MS5.3
LON Longmire 55.42 56 *e*P **P** **01 46 28.7 +6.0**
BJO Bjornoya 55.46 346 *e*P **P** **01 46 25.1 +2.1**
BJO AMS AMS 02 16 07.4
comp=Z,9µm,17.6s,MS5.9
BJO1 Bjornoya 55.49 347 *e*P **P** **01 46 25.1 +1.9**
BJO1 LR LR
comp=Z,9µm,17.6s,MS5.9
NLW Nelson Butte 55.53 54 P **P** **01 46 23.5 0.0**
MPOR Mary's Peak 55.65 59 P **P** **01 46 30.1 +5.7**
COR Corvallis 55.75 59 P **P** **01 46 27.6 +2.5**
COR pmax pmax
comp=Z,41nm,1.1s,mb5.4
COR Corvallis 55.75 59 *e*P **P** **01 46 31.2 +6.1**
COR LR LR
comp=Z,4µm,21.0s,MS5.5
ETW Entiat 55.80 55 P **P** **01 46 25.4 -0.1**
PMG Port Moresby 55.92 187 LR LR 02 05 57.1
comp=Z,3µm,21.3s,MS5.3,baz=169,slow=31
PMG Port Moresby 55.92 187 *e*P **P** **01 46 26.0 -0.3**
PMG *e* 01 47 24.4
PMG *e* 01 48 33.2
PMG MLR MLR
comp=Z,3µm,22.0s
WTV Waterville 55.96 54 P **P** **01 46 26.4 -0.2**
HNR Honiara 55.98 172 LR LR 02 06 23.0
comp=Z,3µm,19.2s,MS5.5,baz=360,slow=32
HNR Honiara 55.98 172 PFAKE 01 46 40.0 +13
HNR LR LR
comp=Z,3µm,19.0s,MS5.4
EBG Ellensburg 56.05 56 P **P** **01 46 27.7 +0.5**
KEBM Edson Butte 56.09 61 *e*P **P** **01 46 31.3 +3.8**
KK31 Karatay Array 56.26 299 *i* P **P** **01 46 27.5 -1.2**
KK31 pmax pmax
comp=Z,158nm,1.0s,mb6.0
KK31 Karatay Array 56.26 299 *i* P **P** **01 46 27.6 -1.1**
HOOD Mount Hood Mea 56.31 58 *e*P **P** **01 46 29.3 +0.2**
EDM Edmonton 56.38 46 P **P** **01 46 29.4 -0.2**
EDM Edmonton 56.38 46 *e*P **P** **01 46 29.5 -0.1**
VFP Flag Point 56.42 58 P **P** **01 46 29.6 -0.3**
BROR Big Rock Looko 56.43 59 P **P** **01 46 30.1 +0.1**
KBO Bosley Butte 56.53 62 *e*P **P** **01 46 33.2 +2.5**
DAG Danmarks Havn 56.91 358 ⇓*i* P **P** **01 46 32.8 -0.6**
comp=Z,146nm,0.8s,mb6.1
DAG Danmarks Havn 56.91 358 ⇓*i* P **P** **01 46 32.8 -0.6**
DAG pmax pmax
comp=Z,146nm,0.8s,mb6.1
HAWA Hanford 56.93 56 *e*P **P** **01 46 32.9 -0.5**
comp=Z,7.8nm,1.5s
HAWA *e* 01 46 46.3
HAWA *e*PcP PcP 01 47 27.0 -1.7
HAWA LR LR
comp=Z,169nm,20.0s
CAL Calcutta 56.94 269 *e*P **P** **01 46 34.0 +0.4**
CAL *ex* x 01 54 24.0
LVZ Lovozero 57.06 337 *e*P **P** **01 46 33.2 -1.2**
LVZ S **S** **01 54 24.8 -3.6**
LVZ pmax pmax
comp=Z,57nm,1.0s,mb5.6
LVZ pmax pmax
comp=N,11nm,1.1s
LVZ pmax pmax
comp=E,13nm,0.9s
LVZ MLR MLR
comp=N,4µm,17.0s,MS6.0
LVZ MLR MLR
comp=Z,11µm,17.0s,MS6.0
LVZ MLR MLR
comp=E,8µm,16.0s,MS6.0
LVZ Lovozero 57.06 337 *i* P **P** **01 46 33.8 -0.6**
KRMB Red Mountain 57.12 62 *e*P **P** **01 46 36.2 +1.3**
KRMB *e*PcP PcP 01 47 31.8 +2.2
KRMB *e*PP PP 01 48 40.8 -1.0

NEW Newport 57.21 53 LR LR 02 08 32.9
comp=E,4µm,21.6s,MS5.5,baz=296,slow=33
NEW Newport 57.21 53 *e*P **P** **01 46 34.6 -0.9**
NEW pmax pmax
comp=Z,127nm,1.5s
NEW MLR MLR
comp=Z,5µm,21.0s
NEW Newport 57.21 53 *e*P **P** **01 46 34.6 -0.9**
comp=Z,127nm,1.5s,mb5.7
NEW LR LR
comp=Z,5µm,21.0s,MS5.5
KHMM Horse Mountain 57.61 63 *e*P **P** **01 46 39.6 +1.4**
APA Apatity 57.63 337 ⇑*i* P **P** **01 46 37.0 -1.5**
APA *i* 01 46 50.0
APA *e* 01 48 43.0
APA *i* PPP 01 50 08.0
APA *i* S **S** **01 54 33.0 -2.9**
APA pmax pmax
comp=Z,18nm,0.7s,mb5.2
APA pmax pmax
comp=Z,2µm,9.0s
KEV Kevo 57.64 341 *e*P **P** **01 46 37.3 -1.2**
KEV pmax pmax
comp=Z,28nm,0.8s,mb5.3
KEV MLR MLR
comp=Z,9µm,19.0s,MS5.9
KEV Kevo 57.64 341 *e*P **P** **01 46 37.3 -1.2**
comp=Z,28nm,0.8s,mb5.3
KEV LR LR
comp=Z,9µm,19.0s,MS5.9
YBH Yreka Blue Hor 57.73 62 LR LR 02 07 19.2
comp=Z,3µm,21.6s,MS5.3,baz=307,slow=32
YBH Yreka Blue Hor 57.73 62 *e*P **P** **01 46 39.4 +0.2**
BOK Bokaro 57.81 272 *e*P **P** **01 46 40.9 +1.2**
BOK AMb AMB 01 46 45.2
comp=Z,212nm,1.3s,mb6.0
BOK *i* x x 01 48 47.6
PTH Pithoragarh 58.02 281 *e*P **P** **01 46 43.2 +2.0**
ARCES ARCESS Array B 58.15 341 P **P** **01 46 42.0 0.0**
comp=Z,63nm,0.9s,mb5.6,baz=35,slow=6.6,SNR=30
ARCES LR LR 02 17 31.0
comp=Z,8µm,18.5s,MS5.9,baz=30,slow=42
ARE0 ARCESS Array S 58.15 341 *e*P **P** **01 46 42.2 +0.1**
KIPM Iron Peak 58.39 64 *e*P **P** **01 46 44.3 +0.5**
KIPM *e* 01 46 56.2
KSM Kuching 58.44 233 P **P** **01 46 44.9 +0.8**
WALA Waterton Lakes 58.49 50 *e*P **P** **01 46 44.3 -0.1**
comp=Z,125nm,1.4s,mb5.8
WDC Whiskeytown Da 58.51 63 *e*P **P** **01 46 44.2 -0.4**
TMCR Tamitsa 58.63 332 *c i*P **P** **01 46 44.7 -0.8**
TMCR *e**PP pP 01 46 54.8 +3.5
TMCR *e**SP sP 01 46 58.7 +5.3
TMCR pmax pmax
comp=Z,175nm,1.1s,mb6.0
AB31 Akbulak array 58.71 310 *i* P **P** **01 46 44.8 -1.2**
BSMT Bassoo Peak 58.73 52 P **P** **01 46 45.9 -0.3**
SDNR Sundarnagar 59.00 284 *e*P **P** **01 46 48.0 0.0**
DDI Dehra Dun 59.00 283 *ex* x 01 46 11.5
DDI *ex* x 01 46 44.8
AKTK Aktyubinsk 59.01 312 *i* P **P** **01 46 46.8 -1.3**
AKTO Aktyubinsk 59.01 312 LR LR 02 14 36.8
comp=Z,24µm,19.2s,MS6.3,baz=48,slow=38
AKTO Aktyubinsk 59.01 312 *i* P **P** **01 46 46.8 -1.3**
MOD Modoc 59.09 60 *e*P **P** **01 46 48.2 -0.5**
comp=Z,45nm,1.4s,mb5.3
MOD *e* 01 47 01.1
MOD *e*ScP ScP 01 51 40.3 +3.3
MOD LR LR
comp=Z,2µm,19.0s,MS5.3
BMO Blue Mountains 59.09 56 PFAKE 01 47 00.0 +11
BMO LR LR
comp=Z,2µm,19.0s,MS5.3
SMLA Simla 59.10 284 *e*P **P** **01 46 49.7 +1.0**
HOPS Hopland 59.13 64 *e*P **P** **01 46 49.9 +0.9**
comp=Z,65nm,1.6s,mb5.4
HOPS LR LR
comp=Z,4µm,20.0s,MS5.5
THN Thein Dam 59.26 286 *e*P **P** **01 46 49.5 -0.3**
THN *ex* x 01 56 50.6
KAPI Kappang 59.29 220 P **P** **01 46 50.7 +0.7**
BHK Bhakra 59.42 285 *ex* x 01 46 54.8
TRO Tromso 59.47 343 *e*P **P** **01 46 48.7 -2.6**
TRO AMb AMB 01 46 53.5
comp=Z,315nm,0.8s,mb6.4
TRO *e*S **S** **01 54 58.4 -1.4**
TRO AMS AMS 02 17 47.8
comp=Z,6µm,15.7s,MS5.8
TRO Tromso 59.47 343 *e*P **P** **01 46 48.7 -2.6**
TRO pmax pmax
comp=Z,315nm,0.8s,mb6.4
TRO MLR MLR
comp=Z,6µm,15.7s,MS5.8
TRO Tromso 59.47 343 *e*P **P** **01 46 48.7 -2.6**
comp=Z,315nm,0.8s,mb6.4
TRO LR LR
comp=Z,6µm,15.7s,MS5.8
WVOR Wild Horse Val 59.76 59 *e*P **P** **01 46 53.0 -0.3**
WVOR *e* 01 47 41.2
WVOR pmax pmax
comp=Z,38nm,0.9s,mb5.4
WVOR Wild Horse Val 59.76 59 *e*P **P** **01 46 53.0 -0.3**
comp=Z,38nm,0.9s,mb5.4
WVOR *e*PcP PcP 01 47 41.1 +1.2
MSO Missoula 59.80 53 *e*P **P** **01 46 53.1 -0.4**
comp=Z,54nm,1.3s,mb5.4
MSO *e* 01 47 05.9
MSO *e*PcP PcP 01 47 37.7 -2.4
MSO LR LR
comp=Z,2µm,19.0s,MS5.2
OHCM Honcut 59.91 63 *e*P **P** **01 46 53.8 -0.5**
CHMT Chamberlain Mo 60.12 52 *e*P **P** **01 46 55.1 -0.6**
NIL Nilore 60.13 289 P **P** **01 46 57.0 +1.2**
comp=Z,990nm,1.0s,mb6.8,SNR=40
NDI New Delhi 60.60 282 *e*P **P** **01 46 58.0 -1.0**
NDI *ex* x 01 55 14.0
FFC Flin Flon 60.84 40 P **P** **01 47 00.1 -0.6**
comp=Z,521nm,1.1s,mb6.6,SNR=20
FFC Flin Flon 60.84 40 *e*P **P** **01 46 59.5 -1.1**
FFC LR LR
comp=Z,1µm,20.0s,MS5.0
SUMG Summit 60.95 4 *e*P **P** **01 47 00.8 -0.6**
PAHR Pah Rah Range 60.97 62 *e*P **P** **01 47 00.8 -0.7**
comp=Z,105nm,1.5s,mb5.7
PAHR *e* 01 47 13.6
PAHR *e*ScP ScP 01 51 45.9 +0.5
KULM Kulim 61.10 245 P **P** **01 47 05.4 +3.0**
LRM Limekiln Ridge 61.23 53 *e*P **P** **01 47 03.1 -0.2**
EGMT Eagleton 61.31 49 *e*P **P** **01 47 03.5 -0.4**
EGMT LR LR
comp=Z,3µm,21.0s,MS5.5
CMB Columbia Colle 61.38 64 *e*P **P** **01 47 04.2 -0.1**
CMB pmax pmax
comp=Z,100nm,1.5s,mb5.7
CMB MLR MLR
comp=Z,3µm,19.0s,MS5.4
CMB Columbia Colle 61.38 64 *e*P **P** **01 47 04.2 -0.1**
comp=Z,100nm,1.5s,mb5.7
CMB LR LR
comp=Z,3µm,19.0s,MS5.4
FCC Fort Churchill 61.40 33 P **P** **01 47 00.2 -4.2**
DLMT Dillon 61.44 53 *e*P **P** **01 47 07.0 +2.3**
comp=Z,124nm,1.5s,mb5.8
IPM Ipoh 61.49 244 P **P** **01 47 09.1 +4.1**
IPM Ipoh 61.49 244 P **P** **01 47 07.5 +2.4**
SAO San Andreas Ge 61.51 66 *e*P **P** **01 47 10.2 +5.0**
SAO MLR MLR
comp=Z,2µm,19.0s,MS5.3
OUL Oulu 61.51 337 P **P** **01 47 03.8 -1.4**
HLID Hailey 61.53 56 *e*P **P** **01 47 05.2 -0.1**
HLID LR LR
comp=Z,3µm,21.0s,MS5.4
MCMT McKenzie Canyo 61.63 54 *e*P **P** **01 47 07.0 +1.0**
JOF Joensuu 61.63 334 *ep* **P** **01 47 03.9 -2.1**
comp=Z,26nm,0.5s,mb5.6
WAKR Walker 61.68 63 *e*P **P** **01 47 06.8 +0.5**
PECR Pechory 61.74 323 *i* P **P** **01 47 05.3 -1.5**
PECR *e* 01 47 48.0
PECR *e*S **S** **01 55 13.6 -15**
PECR *e*PS 01 55 39.0
PECR *e* 01 56 53.0
PECR *e*SS SS 01 59 35.0 +4.5
PECR pmax pmax
comp=N,800nm,7.0s
PECR pmax pmax

comp=E,900nm,8.0s
PECR smax
comp=N,800nm,13.0s
PECR smax
comp=E,800nm,14.0s
PECR MLR MLR
comp=N,10µm,15.0s,MS6.2
PECR MLR MLR
comp=E,7µm,15.0s,MS6.2
BOZ Bozeman (W) 61.79 52 eP P 01 47 07.0 -0.1
BOZ MLR MLR
comp=Z,2µm,19.0s,MS5.4
LOF Lofoten 61.80 344⇓ iP P 01 47 08.3 +1.2
LOF AMb AMB 01 47 11.9
comp=Z,554nm,1.2s,mb6.6
LOF Lofoten 61.80 344⇓ iP P 01 47 08.3 +1.2
comp=Z,554nm,1.2s,mb6.6
BMN Battle Mountai 61.83 60 P P **01 47 07.7 +0.4**
BMN pmax pmax
comp=Z,120nm,1.5s,mb5.8
BMN Battle Mountai 61.83 60 eP P 01 47 07.9 +0.5
comp=Z,122nm,1.5s,mb5.8
BMN LR LR
comp=Z,3µm,19.0s,MS5.4
KAKA Kakadu 61.85 203 eP P 01 47 05.6 -1.9
comp=Z,20nm,1.0s,mb5.2
LRV Little Rabbit 61.99 66 eP P 01 47 10.0 +1.6
LRV e 01 47 21.8
LRV PcP PcP 01 47 48.9 -0.1
KGM Kluang 62.03 240 P **P 01 47 10.5 +1.8**
JMIC Jan Mayen 62.10 353 eP P 01 47 11.2 +2.0
JMIC eS **S 01 55 36.7 +3.3**
JMIC AMS AMS 02 16 22.8
comp=Z,2µm,14.4s,MS5.5
JBP Jabalpur 62.29 275⇑ eP P 01 47 11.4 +1.0
JBP ex x 01 47 16.0
comp=Z,262nm,1.0s
JBP i S **S 01 55 38.2 +2.4**
QLMT Earthquake Lak 62.41 53 eP P 01 47 11.4 +0.2
NVAR Mina Array Bea 62.42 62 P **P 01 47 11.0 -0.3**
comp=Z,6.4nm,0.8s,mb4.8,baz=283,slow=8.2,SNR=18
NVAR Mina Array Bea 62.42 62 P **P 01 47 11.0 -0.3**
GCMT Greycliff 62.77 51 eP P 01 47 13.9 +0.3
GCMT e 01 47 27.4
YMR Madison River 62.77 53 eP P 01 47 14.5 +0.9
comp=Z,222nm,1.6s,mb6.0
YMR PcP PcP 01 47 53.9 +1.8
YMR ePP PP 01 49 33.0 +1.2
YMR LR LR
comp=Z,3µm,20.0s,MS5.5
YNR Norris Junctio 62.90 53 eP P 01 47 16.5 +2.0
MTUM Tungsten Hills 62.94 63 eP P 01 47 15.8 +1.1
PTRM Twissleman Ran 62.98 66 eP P 01 47 15.2 +0.2
PTRM e pP 01 47 22.3 +1.4
PTRM ePcP PcP 01 47 52.1 -0.8
YFT Old Faithful 62.98 53 eP P 01 47 17.2 +2.2
LKWY Lake 63.15 53 eP P 01 47 18.3 +2.1
LKWY pmax pmax
comp=Z,43nm,1.0s,mb5.5
LKWY MLR MLR
comp=Z,5µm,20.0s,MS5.7
LKWY Lake 63.15 53 eP P 01 47 18.3 +2.1
comp=Z,43nm,1.0s,mb5.5
LKWY LR LR
comp=Z,5µm,20.0s,MS5.7
IMW Indian Meadow 63.28 54 eP P 01 47 17.7 +0.7
comp=Z,144nm,1.4s,mb5.9
SCO Scoresbysund 63.29 358 i P P **01 47 16.3 -0.8**
comp=Z,101nm,0.9s,mb6.0
SCO i S **S 01 55 55.1 +6.8**
SCO Scoresbysund 63.29 358 i P P **01 47 16.3 -0.8**
SCO i S **S 01 55 55.1 +6.8**
SCO pmax pmax
comp=Z,101nm,0.9s,mb6.0
FLWY Flagg Ranch 63.29 53 eP P 01 47 18.6 +1.5
TPH Tonopah 63.30 62 eP P 01 47 19.8 +2.6
TPH pmax pmax
comp=Z,148nm,1.5s,mb5.9
TPH MLR MLR
comp=Z,1µm,19.0s,MS5.2
TPH Tonopah 63.30 62 eP P 01 47 19.8 +2.6
comp=Z,148nm,1.5s,mb5.9
TPH LR LR
comp=Z,1µm,19.0s,MS5.2
MOR8 Moi Rana 63.31 343 eP P 01 47 15.2 -2.0
MOR8 AMb AMB 01 47 19.4
comp=Z,483nm,1.2s,mb6.5
MOR8 Moi Rana 63.31 343 eP P 01 47 15.2 -2.0
comp=Z,483nm,1.2s,mb6.5
DCID1 Drake Creek 63.34 54 eP P 01 47 19.0 +1.6
DCID1 e 01 47 31.2
RLMT Red Lodge 63.41 52 eP P 01 47 18.3 +0.4
RLMT e 01 47 31.1
RLMT ePP PP 01 49 35.1 -2.2
RRI2 Red Ridge 63.42 54 eP P 01 47 23.6 +5.6
STOK Stokkvaagen 63.46 343 eP P 01 47 17.2 -1.0
STOK AMb AMB 01 47 21.5
comp=Z,281nm,1.3s,mb6.2
STOK Stokkvaagen 63.46 343 eP P 01 47 17.2 -1.0
comp=Z,281nm,1.3s,mb6.2
MOOW Moose Ponds 63.48 54 eP P 01 47 18.9 +0.5
comp=Z,156nm,1.6s,mb5.9
TPAW Teton Pass 63.53 54 eP P 01 47 19.4 +0.7
HVU Hansel Valley 63.59 56 P **P 01 47 19.6 +0.5**
HVU pmax pmax
comp=Z,30nm,1.1s,mb5.2
HVU Hansel Valley 63.59 56 eP P 01 47 23.1 +4.0
LOHW Long Hollow 63.65 54 eP P 01 47 20.0 +0.5
VIS Vishakhapatnam 63.65 268 eP P 01 47 20.4 +1.0
VIS AMb AMB 01 47 25.0
comp=Z,270nm,1.2s,mb6.2
VIS i x x 01 55 58.7
SNOW Snow King Moun 63.66 54 eP P 01 47 20.8 +1.3
comp=Z,123nm,1.3s,mb5.8
REDW Red Top Meadow 63.67 54 eP P 01 47 20.1 +0.5
KAF Kangasniemi 63.74 335 ep P 01 47 18.6 -1.5
comp=Z,83nm,0.8s,mb5.8,baz=37,slow=6.2
KAF Kangasniemi 63.74 335 eP P 01 47 18.6 -1.5
KAF pmax pmax
comp=Z,83nm,0.8s,mb5.8
AJM Ajmer 63.77 282 eP P 01 47 21.0 +0.8
DGMT Dagmar 63.88 46 eP P 01 47 21.1 +0.1
comp=Z,100nm,1.2s,mb5.7
DGMT e 01 47 33.9
DGMT ePP PP 01 49 42.7 +1.2
DGMT LR LR
comp=Z,5µm,21.0s,MS5.7
AHID Auburn Hatcher 63.91 55 eP P 01 47 24.0 +2.8
comp=Z,166nm,1.6s,mb5.8
AHID LR LR
comp=Z,3µm,19.0s,MS5.5
BGU Big Grassy Mou 63.99 57 eP P 01 47 21.2 -0.5
BGU e 01 47 35.0
BHPL Bhopal 64.00 277 eP P 01 47 22.3 +0.5
LAO LASA Array 64.01 49 PFAKE 01 47 30.0 +8.1
LAO LR LR
comp=Z,5µm,19.0s,MS5.8
ISA Isabella 64.06 65 eP P 01 47 21.6 -0.6
ISA MLR MLR
comp=Z,540nm,19.0s,MS4.8
SPUT South Promonto 64.08 57 eP P 01 47 22.0 -0.3
TRCR Troy Canyon 64.12 61 eP P 01 47 22.2 -0.3
TRCR e 01 47 35.8
TRCR ePcP PcP 01 47 57.2 -0.5
DAC Darwin (Calif) 64.22 64 eP P 01 47 22.9 -0.3
DAC MLR MLR
comp=Z,2µm,20.0s,MS5.3
NGP Nagpur 64.28 274 eP P 01 47 22.4 -1.2
NGP ex x 01 55 58.2
FINES FINESS Array B 64.34 335 P **P 01 47 22.7 -1.3**
comp=Z,91nm,0.7s,mb5.9,baz=40,slow=7.6,SNR=243
FINES LR LR 02 18 27.7
comp=Z,12µm,19.4s,MS6.1,baz=36,slow=39
PUL Pulkovo 64.34 332 eP P 01 47 24.9 +0.9
PUL 01 51 14.0
PUL S **S 01 55 54.1 -7.2**
PUL MLR MLR
comp=N,3µm,16.0s,MS6.0
PUL MLR MLR
comp=Z,8µm,16.0s,MS6.0
PUL MLR MLR
comp=E,6µm,15.0s,MS6.0
PUL Pulkovo 64.34 332 i P P **01 47 24.3 +0.3**
HWUT Hardware Ranch 64.39 56 eP P 01 47 24.3 -0.1
comp=E,118nm,1.4s,mb5.7
HWUT LR LR
comp=Z,3µm,20.0s,MS5.4
DUG Dugway 64.58 58 eP P 01 47 25.5 -0.1
DUG pmax pmax
comp=Z,117nm,1.4s,mb5.7
DUG MLR MLR
comp=Z,3µm,20.0s,MS5.4
DUG Dugway 64.58 58 eP P 01 47 25.5 -0.1
comp=Z,117nm,1.4s,mb5.7
DUG LR LR
comp=Z,3µm,20.0s,MS5.4
NOQ North Oquirrh 64.69 57 eP P 01 47 29.5 +3.2
MOS Moscow 64.74 326 eP P 01 47 24.8 -1.8
MOS e 01 47 37.4
MOS e 01 47 58.1
MOS e 01 49 46.2
MOS eS **S 01 56 00.4 -5.9**
MOS e 01 57 16.2
MOS i SS SS 02 00 13.6 -3.8
MOS pmax pmax
comp=Z,900nm,2.3s,mb6.4
MOS pmax pmax
comp=Z,222nm,1.6s,mb5.9
MOS MLR MLR
comp=N,9µm,16.0s,MS6.0
MOS MLR MLR
comp=E,2µm,16.0s,MS6.0
MOS MLR MLR
comp=Z,10µm,16.0s,MS6.1
BW06 Boulder Array 64.78 54 eP P 01 47 26.2 -0.6
comp=Z,105nm,1.3s,mb5.7
BW06 01 47 39.5
BW06 e
comp=Z,2µm,19.0s,MS5.4
PDAR Pinedale Array 64.78 54 P **P 01 47 26.9 0.0**
comp=Z,15nm,0.9s,mb5.0,baz=302,slow=2.8,SNR=36
TCUT Toone Canyon 64.80 56 eP P 01 47 27.7 +0.7
CTU Camp Tracy 64.88 57 eP P 01 47 28.3 +0.8
SNCC San Nicolas Is 64.95 67 PFAKE 01 47 40.0 +12
SNCC LR LR
comp=Z,3µm,22.0s,MS5.4
NLU North Lily Min 65.17 58 eP P 01 47 32.6 +3.2
MWC Mount Wilson 65.25 66 eP P 01 47 31.5 +1.5
NSS Namsos 65.26 343 eP P 01 47 29.9 -0.1
NSS AMb AMB 01 47 32.5
comp=Z,222nm,1.1s,mb6.1
NSS eS S 01 56 12.9 +0.2
NSS AMS AMS 02 21 27.8
comp=Z,6µm,16.3s,MS5.9
NSS Namsos 65.26 343 eP P 01 47 29.9 -0.1
comp=Z,222nm,1.1s,mb6.1
NSS LR LR
comp=Z,6µm,16.3s,MS5.9
GSC Goldstone 65.34 64 eP P 01 47 30.1 -0.4
SFJD Kangerlussuaq 65.38 10 eP P 01 47 30.3 -0.5
SFJD e 01 48 01.2
SFJD e 01 49 53.1
MPU Maple Canyon 65.39 57 eP P 01 47 31.3 +0.5
MPU LR LR
comp=Z,4µm,19.0s,MS5.7
SHPR Sheep Range 65.57 62 eP P 01 47 31.9 -0.2
OBN Obninsk 65.61 326⇑ iP P 01 47 31.0 -1.3
OBN i S S 01 56 16.2 -0.7
OBN pmax pmax
comp=Z,206nm,1.1s,mb6.1
OBN MLR MLR
comp=Z,12µm,16.0s,MS6.2
OBN Obninsk 65.61 326 eP P 01 47 31.2 -1.0
OBN LR LR
comp=Z,2µm,20.0s,MS5.3
ARUT Antelope Range 65.78 60 eP P 01 47 33.2 -0.2
CCUT Cedar City 65.98 60 eP P 01 47 34.5 -0.1
CCUT e 01 47 48.5
AKL Akola 65.98 275 eP P 01 47 36.0 +1.4
AKL eP 01 47 36.1
AKL AMb AMB 01 47 39.8
comp=Z,273nm,0.0s
AKL ex x 01 49 29.0
MVU Marysvale 66.04 59 PFAKE 01 47 50.0 +15
MVU LR LR
comp=Z,2µm,19.0s,MS5.4
MSU Marysvale 66.05 59 P **P 01 47 35.8 +0.7**
MSU Marysvale 66.05 59 eP P 01 47 36.5 +1.4
TMUT Trail Mountain 66.11 58 eP P 01 47 38.7 +3.2
VRHR Novokhopersk 66.42 320 eP P 01 47 36.4 -1.1
VRHR e*SP sP 01 47 45.0 -0.5
VRHR pmax pmax
comp=Z,40nm,0.6s,mb5.6
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR MLR MLR
comp=Z,7µm,17.0s,MS6.0
VRHR MLR MLR
comp=N,5µm,16.0s,MS5.9
VRHR MLR MLR
comp=E,5µm,20.0s,MS5.9
VSU Vasula 66.52 333 P **P 01 47 36.8 -1.3**
CTA Charters Tower 66.57 187 eP P 01 47 39.9 +1.4
comp=E,18nm,2.0s,mb4.8
CTA i S S 01 56 25.6 -3.1
CTA Charters Tower 66.57 187 LR LR 02 16 27.4
comp=E,3µm,19.0s,MS5.5,baz=359,slow=36
CTA Charters Tower 66.57 187 eP P 01 47 39.9 +1.4
CTA i S S 01 56 25.6 -3.1
CTA pmax pmax
comp=Z,18nm,2.0s
CTAO Charters Tower 66.57 187 P **P 01 47 42.9 +4.4**
CTAO pmax pmax
comp=Z,63nm,1.5s,mb5.4
CTAO Charters Tower 66.57 187 eP P 01 47 47.7 +9.2
CTAO LR LR
comp=Z,3µm,20.0s,MS5.4
ULM Lac du Bonnet 66.62 41 P **P 01 47 38.2 -0.6**
comp=Z,18nm,1.0s,mb5.1,baz=311,slow=6.7,SNR=12
ULM Lac du Bonnet 66.62 41 P **P 01 47 38.2 -0.6**
SRU San Rafael 66.63 57 eP P 01 47 38.5 -0.3
PFO Pinyon Flat Ob 66.66 65 eP P 01 47 40.3 +1.3
PFO MLR MLR
comp=Z,666nm,21.0s,MS4.8
RWWY Rawlins 66.80 53 eP P 01 47 39.8 -0.1
RSSD Black Hills 66.88 50 eP P 01 47 39.8 -0.6
RSSD pmax pmax
comp=Z,137nm,1.3s,mb5.8
RSSD MLR MLR
comp=Z,4µm,21.0s,MS5.6
RSSD Black Hills 66.88 50 eP P 01 47 39.8 -0.6
comp=Z,137nm,1.3s,mb5.8
RSSD LR LR
comp=Z,4µm,21.0s,MS5.6
VOR Voronezh 67.02 322 eP P 01 47 40.0 -1.3
VOR pmax pmax
comp=Z,250nm,2.0s,mb5.9
BAR Barrett 67.14 66 eP P 01 47 40.9 -1.1
HYB Hyderabad 67.16 272 i P P **01 47 42.5 +0.3**
comp=Z,120nm,1.0s,mb5.9
HYB ePP PP 01 50 14.0 +3.9
HYB eS S 01 56 36.0 +0.3
HYB Hyderabad 67.16 272 eP P 01 47 42.5 +0.3
HYB eS S 01 56 36.0 +0.3
HYB pmax pmax
comp=Z,120nm,1.0s,mb5.9
HYB Hyderabad 67.16 272 eP P 01 47 42.5 +0.3
comp=Z,120nm,1.0s,mb5.9
HYB eS S 01 56 36.0 +0.3
VRSR Storozhevoye 67.40 322 eP P 01 47 42.9 -0.8
VRSR e*PP pP 01 47 50.8 +1.2
VRSR eS S 01 56 36.7 -1.9
VRSR eSS SS 02 01 02.0 +3.3
VRSR pmax pmax
comp=Z,100nm,2.2s,mb5.5
VRSR pmax pmax
comp=N,40nm,0.8s
VRSR pmax pmax
comp=E,30nm,0.8s
VRSR smax
comp=N,10.0nm,1.1s
VRSR smax
comp=Z,2.0nm,0.7s
VRSR smax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=N,7µm,17.0s,MS6.2
VRSR MLR MLR
comp=E,9µm,17.0s,MS6.2
VRSR MLR MLR
comp=Z,13µm,17.0s,MS6.2
VORD Divnogorie 67.54 321 eP P 01 47 43.1 -1.5
VORD pmax pmax
comp=Z,150nm,1.9s,mb5.7
VORD pmax pmax
comp=N,90nm,2.3s
VORD pmax pmax
comp=E,60nm,2.5s
VORD MLR MLR
comp=Z,15µm,17.0s,MS6.3
VORD MLR MLR
comp=N,8µm,16.0s,MS6.2
VORD MLR MLR
comp=E,8µm,16.0s,MS6.2
AFI Afiamalu 67.81 143 LR LR 02 19 03.1
comp=E,3µm,18.2s,MS5.6,baz=326,slow=38
AFI Afiamalu 67.81 143 PFAKE 01 48 00.0 +14
AFI LR LR
comp=Z,4µm,22.0s,MS5.6
LATR Latur 67.85 274 eP P 01 47 46.0 -0.5
PV10 Paradox Valley 67.98 57 eP P 01 47 47.6 +0.2
PV10 e 01 48 01.4
PV10 PP PP 01 50 15.8 -1.6
PHWY Pilot Hill 68.03 53 eP P 01 47 47.7 0.0
GLA Glamis 68.05 65 eP P 01 47 47.1 -0.7
WRAB Tennant Creek 68.31 199 eP P 01 47 47.5 -1.9
WRAB pmax pmax
comp=Z,75nm,0.9s,mb5.7
WRAB MLR MLR
comp=Z,578nm,19.0s,MS4.8
WRAB Tennant Creek 68.31 199 eP P 01 47 47.5 -1.9
comp=Z,75nm,0.9s,mb5.7
WRAB LR LR
comp=Z,578nm,19.0s,MS4.8
WB2 Warramunga Arr 68.31 199⇑ iP P 01 47 47.6 -1.9
WB2 i S S 01 56 46.8 -2.8
WRA Warramunga Arr 68.32 199 P P 01 47 47.9 -1.6
comp=Z,21nm,0.9s,mb5.2,baz=17,slow=6.7,SNR=71
WRA PKP2bc 02 16 07.5
comp=Z,1.9nm,1.0s,baz=181,slow=2.0,SNR=6.2
WRA LR LR 02 17 20.8
comp=Z,2µm,19.9s,MS5.3,baz=35,slow=36
WRA Warramunga Arr 68.32 199 P **P 01 47 47.9 -1.6**
WRA ⇑e 02 16 07.5
WRA LR LR 02 17 20.8
PV01 Paradox Valley 68.42 57 eP P 01 47 50.2 0.0
PV01 e 01 48 03.2
NB2 NORSAR Subarra 68.52 341 P **P 01 47 50.3 -0.5**
comp=E,161nm,0.8s,mb6.0,baz=28,slow=6.5
NB2 NORSAR Subarra 68.52 341 P **P 01 47 50.3 -0.5**
NB2 pmax pmax
comp=Z,161nm,0.8s,mb6.0
NOA NORSAR Array B 68.52 341 P **P 01 47 50.4 -0.4**
comp=Z,144nm,0.8s,mb5.9,baz=28,slow=6.3,SNR=283
NOA LR LR 02 24 23.6
comp=Z,6µm,18.6s,MS5.8,baz=20,slow=42
WUAZ Wupatki 68.52 61 eP P 01 47 51.2 +0.5
comp=E,85nm,1.4s,mb5.5
SMCO Snowmass 68.63 55 eP P 01 47 51.2 -0.3
comp=Z,42nm,1.0s,mb5.3
SMCO e 01 48 03.1
HFA0 Hagfors New Ar 68.75 340 P **P 01 47 51.6 -0.6**
NAO01 NORSAR Array S 68.77 341⇑ iP P 01 47 51.6 -0.7
comp=Z,127nm,0.9s,mb5.8
NAO01 ePcP PcP 01 48 17.5 +0.6
NAO01 ePP PP 01 50 23.1 -1.0
NAO01 LR LR
comp=Z,6µm,20.0s,MS5.9
IZAR Zarasai 68.86 331 eP P 01 47 52.1 -0.8
IZAR AMb AMB 01 47 55.7
comp=Z,2µm,0.7s
ISCO Idaho Springs 68.97 54 eP P 01 47 53.7 +0.1
ISCO MLR MLR
comp=Z,5µm,19.0s,MS5.8
FITZ Fitzroy Crossi 68.99 208⇑ iP P 01 47 52.8 -0.9
comp=Z,36nm,0.8s,mb5.4
MDRS Chennai 69.00 267 eP P 01 47 55.4 +1.6
MDRS ex x 01 50 30.5
BORG Borgarnes 69.03 358 eP P 01 47 50.3 -3.6
BORG LR LR
comp=Z,774nm,19.0s,MS5.0
IDID Didziasalis 69.04 331 eP P 01 47 53.5 -0.5
IDID AMb AMB 01 47 57.1
comp=Z,3µm,1.1s
MVCO Mesa Verde 69.09 58 eP P 01 47 53.8 -0.5
MVCO e 01 48 07.5
MVCO ePP PP 01 50 24.9 -2.0
IIGN Ignalina 69.19 331 eP P 01 47 54.4 -0.6
IIGN AMb AMB 01 47 57.9
comp=Z,4µm,0.6s
DZM Mont Dzumac 69.26 167 LR LR 02 17 14.7
comp=Z,5µm,18.3s,MS5.8,baz=2.5,slow=35
FOO Floro 69.27 344 eP P 01 47 54.5 -0.9
FOO AMb AMB 01 47 58.5
comp=Z,196nm,1.1s,mb6.0
FOO Floro 69.27 344 eP P 01 47 54.5 -0.9
comp=Z,196nm,1.1s,mb6.0
MNK Minsk 69.32 329 i P P **01 47 50.0 -5.7**
MNK e 01 50 26.0
MNK ePPP 01 52 10.0
MNK eS S 01 56 56.0 -5.5
MNK pmax pmax
comp=Z,610nm,0.8s,mb6.6
MNK MLR MLR
comp=Z,23µm,18.0s,MS6.5
HYA Hoyanger 69.45 344 eP P 01 47 57.5 +0.9
HYA AMb AMB 01 48 02.1
comp=Z,386nm,1.1s,mb6.2
HYA Hoyanger 69.45 344 eP P 01 47 57.5 +0.9
comp=Z,386nm,1.1s,mb6.2
OSL Oslo 69.62 341 eP P 01 47 57.5 -0.1
POO Poona 69.64 276⇑ ix x 01 47 56.0
comp=Z,250nm,1.0s
SUE Sulen 69.83 344 eP P 01 47 58.4 -0.5
SUE e 01 48 00.0
SUE epP pP 01 48 01.9 -2.8
KONO Kongsberg 70.13 341 eP P 01 48 00.1 -0.6
KONO eS S 01 57 13.8 +2.8
KONO eSS SS 02 01 46.7 +5.8
KONO Kongsberg 70.13 341 eP P 01 48 00.7 0.0
KONO e 01 48 04.0
KONO ePcP PcP 01 48 18.7 -4.0
KONO ePP PP 01 50 34.1 -1.8
KONO LR LR
comp=Z,7µm,19.0s,MS5.9
KAD Karad 70.25 275 eP P 01 48 01.9 +0.5
KAD AMb AMB 01 48 06.2
comp=Z,302nm,1.3s,mb6.1
EYMN Ely 70.27 40 eP P 01 48 00.9 -0.7
EYMN LR LR
comp=Z,259nm,19.0s
ASK Askoy 70.28 344 eP P 01 48 01.0 -0.6
ASK epP pP 01 48 05.3 -2.2
ASK AMb AMB 01 48 06.3
comp=Z,495nm,1.1s,mb6.3
ASK Askoy 70.28 344 eP P 01 48 01.0 -0.6
comp=Z,495nm,1.1s,mb6.3
RUND Rundenannen 70.31 344 eP P 01 48 01.8 0.0
RUND epP pP 01 48 05.5 -2.2
RUND AMb AMB 01 48 06.5
comp=Z,694nm,1.0s,mb6.5
RUND Rundenannen 70.31 344 eP P 01 48 01.8 0.0
comp=Z,694nm,1.0s,mb6.5
BER Bergen 70.34 344 eP P 01 48 02.0 0.0
BER eP 01 48 02.2
BER epP pP 01 48 05.5 -2.4
BER AMb AMB 01 48 07.0
comp=Z,467nm,1.1s,mb6.3
BER eS S 01 57 13.7 +0.2
BER Bergen 70.34 344 eP P 01 48 02.2 +0.2
BER pmax pmax
comp=Z,467nm,1.1s,mb6.3
BER Bergen 70.34 344 eP P 01 48 02.2 +0.1
comp=Z,467nm,1.1s,mb6.3
SDCO Great Sand Dun 70.45 56 eP P 01 48 03.0 +0.3
comp=Z,109nm,1.5s,mb5.6
SDCO e 01 48 15.6
SDCO LR LR
comp=Z,3µm,20.0s,MS5.5
EGD Espegrend 70.47 344 eP P 01 48 03.0 +0.2
EGD epP pP 01 48 06.5 -2.2
ODD1 Odda 70.52 343 eP P 01 48 02.1 -1.0
ODD1 epP pP 01 48 05.3 -3.7

ECSD EROS,Sioux Fal 70.96 46 *e*P **P 01 48 04.5 -1.2**
ECSD *e* 01 48 17.2
ECSD *e*PcP PcP 01 48 28.4 +2.3
ECSD *e*PP PP 01 50 44.5 +1.4
BLS5 Blasjo 71.00 343 *e*P **P 01 48 06.7 +0.7**
BLS5 AMb AMB 01 48 11.4
comp=Z,218nm,1.1s,mb6.0
BLS5 Blasjo 71.00 343 *e*P **P 01 48 06.7 +0.7**
comp=Z,218nm,1.1s,mb6.0
TUC Tucson 71.06 63 *e*P **P 01 48 05.2 -1.2**
TUC *e* 01 48 19.4
TUC *e* 01 50 47.4
TUC pmax pmax
comp=Z,42nm,1.4s,mb5.2
TUC Tucson 71.06 63 *e*P **P 01 48 05.2 -1.3**
comp=Z,42nm,1.4s,mb5.2
TUC *e* 01 48 19.4
TUC *e*PP PP 01 50 47.4 +3.4
KIV Kislovodsk 71.09 314 ⇑P **P 01 48 07.0 +0.5**
SNR=67
KIV Kislovodsk 71.09 314*c i*P **P 01 48 06.0 -0.6**
KIV *e* 01 48 26.4
KIV *e* 01 50 43.3
KIV *e*PPP 01 52 27.9
KIV *e*S S 01 57 22.5 +0.3
KIV *e*SS SS 02 01 56.9 +1.3
KIV pmax pmax
comp=Z,125nm,0.7s,mb6.0
KIV pmax pmax
comp=Z,1μm,2.6s,mb6.3
KIV MLR MLR
comp=Z,28μm,18.0s,MS6.6
KIV Kislovodsk 71.09 314 *e*P **P 01 48 07.6 +1.1**
KIV LR LR
comp=Z,2μm,19.0s,MS5.5
SUW Suwalki 71.30 332 *e*Pc **P 01 48 06.9 -0.9**
SUW *e*pP pP 01 48 12.5 -1.2
SUW *e*S S 01 57 24.2 -0.4
SUW *e*SKS 01 58 03.5
ZEI Tsey 71.34 313 *e*P **P 01 48 08.0 -0.1**
ZEI *e**PP pP 01 48 16.6 +2.6
ZEI pmax pmax
comp=Z,94nm,1.1s,mb5.6
DUS Dusheti 71.43 312 P **P 01 48 15.3 +6.7**
KMY Karmoy 71.44 343 *e*P **P 01 48 09.0 +0.3**
KMY *e*pP pP 01 48 12.4 -2.2
KMY AMb AMB 01 48 13.4
comp=Z,312nm,1.0s,mb6.2
KMY Karmoy 71.44 343 *e*P **P 01 48 09.0 +0.3**
comp=Z,312nm,1.0s,mb6.2
DGRG David-gareji 71.54 311 P **P 01 48 09.7 +0.4**
STAV Stavanger 71.61 343 *e*P **P 01 48 10.1 +0.4**
STAV *e*pP pP 01 48 13.3 -2.3
STAV AMb AMB 01 48 14.3
comp=Z,276nm,1.1s,mb6.1
STAV Stavanger 71.61 343 *e*P **P 01 48 10.1 +0.4**
comp=Z,276nm,1.0s,mb6.1
WAL1 Walls 71.67 347 *e*P **P 01 48 10.3 +0.2**
WAL1 Walls 71.67 347 *e*P **P 01 48 10.3 +0.5**
MTA Mtatsminda 71.67 312 P **P 01 48 10.6 +0.5**
TBLG Delisi 71.67 312 P **P 01 48 11.9 +1.8**
LRW Lerwick 71.71 347 *e*P **P 01 48 09.3 -1.1**
LRW AMb AMB 01 48 14.1
comp=Z,88nm,1.2s,mb5.6
LRW Lerwick 71.71 347 *e*P **P 01 48 09.3 -1.1**
LRW AMb AMB 01 48 14.1
comp=Z,88nm,1.2s,mb5.6
GOA Goa 71.75 273 *e*P **P 01 48 13.0 +2.4**
GOR Gori 71.81 312 P **P 01 48 12.6 +1.7**
ANMO Albuquerque 71.84 58 *e*P **P 01 48 11.0 -0.1**
ANMO *e* 01 48 24.0
ANMO MLR MLR
comp=Z,2μm,19.0s
SNART Snartemo 71.84 342 *e*P **P 01 48 11.0 -0.1**
SNART *e*pP pP 01 48 14.4 -2.6
SNART AMb AMB 01 48 15.7
comp=Z,232nm,1.1s,mb6.0
AKASG Malin Array Be 71.85 326 P **P 01 48 09.9 -1.3**
comp=Z,296nm,0.9s,mb6.2,baz=34,slow=6.1,SNR=408
AKASG LR LR 02 22 43.3
comp=Z,7μm,18.0s,MS5.9,baz=30,slow=38
AKBB Malin Array Si 71.85 326 *e*P **P 01 48 10.1 -1.1**
AKBB *e*pP pP 01 48 13.6 -3.5
AS31 Alice Springs 72.01 199 *e*P **P 01 48 11.4 -0.7**
ASAR Alice Springs 72.01 199 P **P 01 48 11.6 -0.6**
comp=Z,23nm,0.9s,mb5.1,baz=12,slow=5.6,SNR=165
ASAR PKPPKP 02 16 04.8
comp=Z,1.2nm,1.0s,baz=189,slow=1.7,SNR=4.8
ASAR LR LR 02 19 47.6
comp=Z,2μm,19.1s,MS5.4,baz=20,slow=36
ASPA Alice Springs 72.01 199 *e*P **P 01 48 11.4 -0.7**
PALK Pallekele 72.81 262 *e*P **P 01 48 18.0 +1.1**
PALK LR LR
comp=Z,554nm,21.0s,MS4.8
GNI Garni 72.81 310 P **P 01 48 16.4 -0.5**
GNI Garni 72.81 310 LR LR 02 23 06.1
comp=Z,8μm,21.1s,MS6.0,baz=29,slow=38
GNI Garni 72.81 310*c i*P **P 01 48 18.7 +1.8**
GNI pmax pmax
comp=Z,335nm,1.7s
GNI MLR MLR
comp=Z,14μm,18.0s
GNI Garni 72.81 310 ⇑*i*P **P 01 48 18.8 +1.9**
GNI LR LR
comp=Z,8μm,21.0s,MS6.0
MNGI Mangalore 72.84 271 *ex* x 01 48 15.0
MNGI *i* x x 01 57 50.2
BSD Bornholm Skovb 72.86 336 ⇑*i*P **P 01 48 16.4 -0.8**
comp=Z,212nm,1.0s,mb6.0
BSD *i* S S 01 57 39.8 -2.7
BSD *i* 01 58 23.1
BSD
comp=Z,7μm,20.0s
BSD Bornholm Skovb 72.86 336 ⇑*i*P **P 01 48 16.4 -0.8**
comp=Z,212nm,1.0s,mb6.0
BSD *i* S S 01 57 39.8 -2.7
BSD *i* 01 58 23.1
ANN Anapa 72.97 318 *e*P **P 01 48 16.8 -1.1**
ANN *e* 01 50 54.8
ANN *e*PPP 01 52 39.9
ANN *e*S S 01 57 42.7 -1.1
ANN *e* 01 58 19.1
ANN pmax pmax
comp=Z,264nm,1.6s,mb5.9
ANN Anapa 72.97 318 *i*P **P 01 48 16.9 -1.0**
COP Copenhagen 73.01 338 ⇑*i*P **P 01 48 17.9 -0.2**
comp=Z,147nm,0.9s,mb5.9
COP *i* S S 01 57 44.6 +0.3
COP *i* 02 02 33.2
COP
comp=Z,3μm,19.0s
COP Copenhagen 73.01 338 ⇑*i*P **P 01 48 17.9 -0.2**
COP *i* S S 01 57 44.6 +0.3
COP pmax pmax
comp=Z,147nm,0.9s,mb5.9
COP MLR MLR
comp=Z,3μm,19.0s,MS5.5
MUD Monsted U'grnd 73.12 340 ⇑*i*P **P 01 48 18.6 -0.1**
comp=Z,93nm,0.8s,mb5.8
MUD *i* S S 01 57 49.0 +3.5
MUD *i* 01 58 26.4
MUD *i* 02 02 45.6
MUD
comp=Z,7μm,18.0s
MUD Monsted U'grnd 73.12 340 ⇑*i*P **P 01 48 18.6 -0.1**
MUD *i* S S 01 57 49.0 +3.5
MUD *i* 01 58 26.4
MUD pmax pmax
comp=Z,93nm,0.8s,mb5.8
MUD Monsted U'grnd 73.12 340 ⇑*i*P **P 01 48 18.6 -0.1**
comp=Z,93nm,0.8s,mb5.8
MUD *i* S S 01 57 49.0 +3.5
MUD *i* 01 58 26.4
MUD *i* 02 02 45.6
BCA Borcka 73.47 313 P **P 01 48 21.0 +0.2**
OBR Brabster 73.47 347 *e*P **P 01 48 20.1 -0.7**
OBR Brabster 73.47 347 *e*P **P 01 48 20.1 -0.7**
SCHQ Schefferville 73.49 23 P **P 01 48 20.7 -0.2**
comp=Z,18nm,0.9s,mb5.0,baz=330,slow=7.3,SNR=9.2
SCHQ LR LR 02 24 49.9
comp=Z,3μm,18.6s,MS5.5,baz=345,slow=39
SCHQ Schefferville 73.49 23 P **P 01 48 20.7 -0.3**
SCHQ LR LR 02 24 49.9
WAR Warsaw 73.49 332 *e*P **P 01 48 21.0 +0.1**
WAR *e*pP pP 01 48 26.7 -0.1
WAR *e*S S 01 57 49.5 -0.2
WAR *L* 02 24 37.3
comp=Z,9.8nm,20.2s
ORE Reay 73.63 348 *e*P **P 01 48 21.4 -0.3**
ORE Reay 73.63 348 *e*P **P 01 48 21.4 -0.3**
RGN Rugen 73.79 337 *e*P **P 01 48 22.5 -0.2**
comp=Z,223nm,0.9s,mb6.1
RGN *e*S S 01 57 50.8 -2.3
RGN Rugen 73.79 337 *e*P **P 01 48 23.1 +0.4**
comp=Z,267nm,0.8s,mb6.2
RGN *e*pP pP 01 48 26.7 -1.9
RGN *e*PP PP 01 51 09.1 +1.8
GKP Gorka Klasztor 73.80 334 *e*P **P 01 48 22.5 -0.2**
GKP *e*pP pP 01 48 28.2 -0.4
GKP *e*S S 01 57 53.8 +0.6
GKP *e*SKS 01 58 24.0
GKP *L* 02 24 17.8
comp=Z,16nm,18.9s
MBWA Marble Bar 73.88 213 *e*P **P 01 48 22.4 -0.8**
MBWA *e* 01 48 34.0
MBWA PcP PcP 01 48 39.2 +0.6
MBWA LR LR
comp=Z,954nm,20.0s,MS5.1
SCIA State Center 73.99 45 *e*P **P 01 48 23.1 -0.8**
SCIA *e* 01 48 33.5
KSU1 Kansas State U 74.35 49 *e*P **P 01 48 24.0 -1.9**
KSU1 *e* 01 48 34.6
KSU1 *e*PP PP 01 51 12.5 +0.4
SIM Simferopol' 74.36 320*c i*P **P 01 48 27.0 +1.0**
SIM *e* 01 48 41.0
SIM *e*PPP 01 52 56.0
SIM *i*S S 01 58 02.0 +2.5
SIM *e* 01 58 48.0
SIM pmax pmax
comp=Z,208nm,1.0s,mb6.0
SIM MLR MLR
comp=Z,11μm,17.0s,MS6.2
SIM Simferopol' 74.36 320 *i*P **P 01 48 27.1 +1.1**
LVV L'vov 74.50 329 ⇑*i*P **P 01 48 26.7 -0.1**
LVV *e* 01 48 41.1
LVV *i*S S 01 58 00.5 -0.5
LVV *e*PS 01 58 43.1
LVV MLR MLR
comp=N,8μm,16.0s,MS6.2
LVV MLR MLR
comp=E,6μm,16.0s,MS6.2
LVV MLR MLR
comp=Z,9μm,16.0s,MS6.1
TRD Trivandrum 74.50 266 *e*P **P 01 48 27.3 +0.4**
TRD AMb AMB 01 48 31.9
comp=Z,241nm,1.3s,mb6.0
JFWS Jewell Farm 74.66 43 *e*P **P 01 48 26.5 -1.2**
JFWS MLR MLR
comp=Z,4μm,21.0s,MS5.7
VANB Van 74.67 310 *e*P **P 01 48 28.1 +0.3**
TVAN Van 74.70 310 *i*P **P 01 48 29.1 +1.1**
KTUT Trabzon 74.74 314 *e*P **P 01 48 27.8 -0.4**
ERZM Erzurum 74.74 312 *i*P **P 01 48 29.6 +1.3**
EZM Erzurum 74.75 312 P **P 01 48 30.0 +1.7**
MNTX Cornudas Mount 74.77 60 *e*P **P 01 48 28.0 -0.4**
comp=Z,118nm,1.6s,mb5.6
MNTX LR LR
comp=Z,2μm,21.0s,MS5.4
MACK Trabzon 74.77 314 *i*P **P 01 48 27.6 -0.8**
KAC Achnashellach 74.86 348 *e*P **P 01 48 28.2 -0.7**
KAC Achnashellach 74.86 348 *e*P **P 01 48 28.2 -0.7**
SEMD Semdilli 74.98 309 *e*P **P 01 48 30.4 +0.8**
KIS Kishinev 74.98 324*c i*P **P 01 48 27.0 -2.6**
KIS *i* 01 48 42.0
KIS *e* 01 51 15.0
KIS *e*PPP 01 53 02.0
KIS *e*S S 01 58 00.0 -6.5
KIS *i*PS 01 58 40.0
KIS pmax pmax
comp=Z,3μm,6.0s
KIS MLR MLR
comp=N,12μm,16.0s,MS6.3
KIS MLR MLR
comp=E,7μm,16.0s,MS6.3
KIS MLR MLR
comp=Z,10μm,16.0s,MS6.2
KPL Plockton 75.06 348 *e*P **P 01 48 29.6 -0.6**
KPL AMb AMB 01 48 35.0
comp=Z,167nm,1.1s,mb5.9
KPL Plockton 75.06 348 *e*P **P 01 48 29.6 -0.6**
KPL AMb AMB 01 48 35.0
comp=Z,167nm,1.1s,mb5.9
KWP Kalwaria 75.12 329 *e*Pc **P 01 48 31.1 +0.7**
KWP *e*pP pP 01 48 35.9 -0.5
KWP *e*S S 01 58 08.9 +0.9
BSEG Bad Segeberg 75.13 338 *e*P **P 01 48 30.3 -0.2**
comp=Z,144nm,1.0s,mb5.9
BSEG *e*S S 01 58 07.4 -0.7
KSB Sheil Bridge 75.16 348 *e*P **P 01 48 30.1 -0.5**
KSB Sheil Bridge 75.16 348 *e*P **P 01 48 30.1 -0.5**
HKR Hakkari 75.23 309 P **P 01 48 32.6 +1.5**
IAS Iasi 75.33 325 ⇓*i*P **P 01 48 31.6 0.0**
IAS Iasi 75.33 325 P **P 01 48 32.0 +0.4**
KAR1 Arisaig 75.50 348 *e*P **P 01 48 31.9 -0.7**
KAR1 Arisaig 75.50 348 *e*P **P 01 48 31.9 -0.7**
RUE Ruedersdorf 75.50 336 *e*P **P 01 48 32.2 -0.4**
comp=Z,196nm,1.0s,mb6.0
RUE *e*S S 01 58 09.8 -2.4
RUE Ruedersdorf 75.50 336 *e*P **P 01 48 32.6 0.0**
comp=Z,184nm,0.8s,mb6.1
RUE *e*PcP PcP 01 48 45.4 -0.2
RUE *e*PP PP 01 51 20.4 -1.4
GRSN GIRESUNGRSN 75.53 315 *i*P **P 01 48 32.0 -0.8**
CUKT Cukurca 75.55 309 P **P 01 48 34.2 +1.3**
BNGL BINGOL 75.57 312 *i*P **P 01 48 34.6 +1.6**
OJC Ojcow 75.62 331 *i*Pc **P 01 48 33.4 +0.1**
OJC *e*pP pP 01 48 39.0 -0.2
OJC *e*PcP PcP 01 48 44.8 -1.3
OJC *e*PP PP 01 51 21.2 -1.6
OJC *e*S S 01 58 12.2 -1.3
OJC *e*SS SS 02 03 02.6 -2.1
OJC *L* 02 27 07.0
comp=Z,38nm,17.2s
OJC Ojcow 75.62 331 ⇑*i*P **P 01 48 33.4 +0.1**
OJC *e* 01 48 44.8
OJC *e*S S 01 58 12.2 -1.3
OJC *e*SS SS 02 03 02.6 -2.1
OJC Ojcow 75.62 331 ⇑*i*P **P 01 48 33.4 +0.1**
OJC *e*pP pP 01 48 39.0 -0.2
OJC *e*PcP PcP 01 48 44.8 -1.3
OJC *e*S S 01 58 12.2 -1.3
OJC *e*SS SS 02 03 02.6 -2.1
OJC LR LR
comp=Z,38μm,17.2s,MS6.8
KELT Kelkit 75.63 314 *i*P **P 01 48 33.0 -0.4**
EZC Erzincan 75.65 313 P **P 01 48 36.4 +3.0**
STHS Stebnicka Huta 75.82 330 *i*P **P 01 48 35.0 +0.6**
STHS Stebnicka Huta 75.82 330 *i*P **P 01 48 35.1 +0.7**
STHS pmax pmax
comp=Z,62nm,0.8s,mb5.6
STHS Stebnicka Huta 75.82 330 *i*P **P 01 48 35.1 +0.7**
comp=Z,62nm,0.8s,mb5.6
KOLS Kolonicke sedl 75.86 329 *e*P **P 01 48 34.9 +0.2**
KOLS *e*S S 01 58 17.6 +1.4
BURAR Bucovina Array 75.89 327 ⇑*i*P **P 01 48 34.5 -0.3**
BURAR Bucovina Array 75.89 327 P **P 01 48 35.0 +0.2**
BTMT Batman 75.96 311 P **P 01 48 36.9 +1.6**
BINT Bingol 75.96 312 P **P 01 48 36.9 +1.6**
SIRT Sirnak 75.98 310 *e*P **P 01 48 36.0 +0.6**
EAB Aberfoyle 75.99 347 *e*P **P 01 48 34.8 -0.6**
EAB Aberfoyle 75.99 347 *e*P **P 01 48 34.8 -0.6**
EDI Edinburgh 76.06 347 *e*P **P 01 48 36.0 +0.1**
EDI AMb AMB 01 48 41.6
comp=Z,83nm,1.9s,mb5.3
EDI Edinburgh 76.06 347 *e*P **P 01 48 36.0 +0.1**
EDI AMb AMB 01 48 41.6
comp=Z,83nm,1.9s,mb5.3
UZH Uzhgorod 76.11 329 ⇓*i*P **P 01 48 35.2 -0.9**
UZH *e* 01 48 52.0
UZH *i* 01 51 21.0
UZH *i*S S 01 58 18.0 -1.0
UZH *e* 01 58 45.0
UZH *e* 01 58 56.0
UZH *i* 01 59 18.0
NIE Niedzica 76.13 331 *i*Pc **P 01 48 36.8 +0.6**
CRVS Cervenica-Dubn 76.18 330 *e*P **P 01 48 36.7 +0.2**
CRVS *e*PP PP 01 51 22.3 -5.2
CRVS *e*S S 01 58 22.7 +3.0
EAU Auchinoon 76.18 347 *e*P **P 01 48 36.1 -0.4**
EAU Auchinoon 76.18 347 *e*P **P 01 48 36.1 -0.4**
EBL Broad Law 76.19 347 *e*P **P 01 48 35.9 -0.6**
EBL Broad Law 76.19 347 *e*P **P 01 48 35.9 -0.6**
KSP Ksiaz 76.20 334 *e*P **P 01 48 36.8 +0.2**
KSP *e*pP pP 01 48 40.8 -1.7
KSP *e*S S 01 58 17.8 -2.1
KSP *L* 02 25 44.8
comp=Z,24nm,18.5s
KSP Ksiaz 76.20 334⇑*e*P **P 01 48 36.6 0.0**
KSP *e*S S 01 58 17.0 -2.9
KSP *e*SS SS 02 03 12.0 -1.5
KSP LR LR
comp=Z,27μm,18.5s,MS6.6
RAC Raciborz 76.26 332 *e*P **P 01 48 35.7 -1.3**
RAC *e* 01 48 37.1
RAC *e*S S 01 58 22.5 +1.9
RAC LR LR
comp=Z,11μm,20.0s,MS6.2
BEST Besiri 76.30 311 *i*P **P 01 48 39.2 +2.1**
XSO Sourhope Farm 76.33 346 *e*P **P 01 48 36.8 -0.5**
XSO Sourhope Farm 76.33 346 *e*P **P 01 48 36.8 -0.5**
PGBU Glenifferbraes 76.37 347 *e*P **P 01 48 37.0 -0.6**
PGBU AMb AMB 01 48 42.8
comp=Z,150nm,1.2s,mb5.8
PGBU Glenifferbraes 76.37 347 *e*P **P 01 48 37.0 -0.6**
PGBU AMb AMB 01 48 42.8
comp=Z,150nm,1.2s,mb5.8
WMOK Wichita Mounta 76.39 54 *e*P **P 01 48 37.0 -0.7**
WMOK *e* 01 48 49.5
WMOK *e* 01 51 27.7
WMOK pmax pmax
comp=Z,49nm,1.2s,mb5.3
WMOK Wichita Mounta 76.39 54 *e*P **P 01 48 37.0 -0.7**
comp=Z,50nm,1.2s,mb5.3
WMOK *e*PcP PcP 01 48 49.5 +0.1
WMOK *e*PP PP 01 51 27.7 -1.6
DIKM Dikmen 76.41 317 *e*P **P 01 48 38.0 +0.2**
KVT Kavak 76.48 316 P **P 01 48 39.3 +1.1**
OKC Ostrava-Krasne 76.49 332 *e*S S 01 58 25.2 +2.1
OKC AMS AMS 02 28 00.0
comp=Z,9μm,16.0s
PTK Pertek 76.51 313 *e*P **P 01 48 39.9 +1.6**
MSL Mosul 76.53 309 *i*x x 01 48 47.5
MSL *ex* x 01 48 59.5
MSL *ex* x 01 51 21.0
MSL *ex* x 01 58 31.0
ARMA Armidale 76.56 182 *e*P **P 01 48 40.8 +2.1**
UPC Upice 76.58 334 *e*P **P 01 48 38.9 +0.1**
DPC Dobruska-Polom 76.62 333 *e*P **P 01 48 39.4 +0.4**
DPC *e*S S 01 58 22.0 -2.6
DPC AMS AMS 02 28 40.0
comp=Z,12μm,17.5s
ESK Eskdalemuir 76.65 346 *e*P **P 01 48 39.3 +0.1**
ESK AMb AMB 01 48 44.8
comp=Z,132nm,1.7s,mb5.6
ESK Eskdalemuir 76.65 346 *e*P **P 01 48 39.3 +0.1**
ESK AMb AMB 01 48 44.8
comp=Z,132nm,1.7s,mb5.6
ESK Eskdalemuir 76.65 346 P **P 01 48 40.5 +1.3**
ESK pmax pmax
comp=Z,210nm,1.5s,mb5.8
ESK Eskdalemuir 76.65 346 *e*P **P 01 48 40.7 +1.5**
ESK LR LR
comp=Z,830nm,19.0s,MS5.1
CFR Carcaliu 76.74 324 ⇑*i*P **P 01 48 40.0 +0.4**
MORC Moravsky Berou 76.74 332 ⇓*i*P **P 01 48 39.6 -0.1**
MORC Moravsky Berou 76.74 332 *e*P **P 01 48 37.9 -1.8**
MORC *e* pP 01 48 43.9 -1.7
MORC Moravsky Berou 76.74 332 *e*P **P 01 48 39.5 -0.1**
BIDO Bidbid 76.74 290 P **P 01 48 41.7 +2.1**
SNR=24
VRI Vrincioaia 76.74 325 ⇑*i*P **P 01 48 40.3 +0.6**
VRI Vrincioaia 76.74 325 P **P 01 48 40.2 +0.5**
BZK Bozkurt 76.75 318 P **P 01 48 39.7 0.0**
BOYT Boyabat 76.76 317 *i*P **P 01 48 41.0 +1.2**
CLL Collm 76.76 336 ⇑*i*P **P 01 48 39.2 -0.6**
comp=Z,254nm,0.9s,mb6.2
CLL *e*PP PP 01 51 31.4 -1.1
CLL *e*PPP 01 53 20.6
CLL *e*PPPP 01 54 30.8
CLL *e*S S 01 58 24.0 -2.1
CLL *e*ScS ScS 01 58 54.3 -1.1
CLL *e*SP 01 58 54.5
CLL *e*(SS) 02 03 30.0
CLL *e*SSS 02 06 55.2
CLL *e*LR LR 02 14 01.6
CLL *e*L 02 28 54.4
comp=Z,9μm,18.0s
CLL Collm 76.76 336 ⇑*i*P **P 01 48 39.4 -0.4**
comp=Z,281nm,1.4s,mb6.0
CLL *i* Pmax 01 48 42.7
comp=Z,229nm,0.8s
CLL *e*Plp 01 48 42.0
CLL *i* pP pP 01 48 46.5 +0.8
CLL *e*PP PP 01 51 32.0 -0.5
CLL *e*PPP 01 53 16.0
CLL *e*PPPP 01 54 31.0
CLL *e*S S 01 58 23.0 -3.1
CLL *e*(pS) 01 58 30.0
CLL *e*ScS ScS 01 58 47.0 -8.4
CLL *e*SP 01 59 01.0
CLL *ex* x 02 00 18.0
CLL *e*(SS) 02 03 59.0
CLL *e*SSS 02 06 59.0
CLL *ex* x 02 07 59.0
CLL *e*(SSSS) 02 09 00.0
CLL Collm 76.76 336 ⇑*i*P **P 01 48 39.4 -0.4**
CLL *i* *PP pP 01 48 46.5 +0.8
CLL *e*S S 01 58 23.0 -3.1
CLL pmax pmax
comp=Z,281nm,1.4s,mb6.0
CLL MLR MLR
comp=Z,9μm,16.5s,MS6.2
CLL Collm 76.76 336 ⇑*i*P **P 01 48 39.4 -0.4**
comp=Z,281nm,1.4s,mb6.0
CLL *i* 01 48 42.7
CLL *i* pP pP 01 48 46.5 +0.8
CLL *e*S S 01 58 23.0 -3.1
CLL LR LR
comp=Z,9μm,16.5s,MS6.2
ECK Cauldkaine Hil 76.77 346 *e*P **P 01 48 39.1 -0.7**
ECK Cauldkaine Hil 76.77 346 *e*P **P 01 48 39.1 -0.7**
BYBT Boyabat 76.78 317 P **P 01 48 41.6 +1.7**
PLOR Plostina 76.79 325 ⇓*i*P **P 01 48 40.2 +0.3**
BHH Howats Hill 76.87 346 *e*P **P 01 48 40.9 +0.5**
BHH Howats Hill 76.87 346 *e*P **P 01 48 40.9 +0.5**
KECS Kecovo 76.87 330 *i*P **P 01 48 40.5 +0.1**
KECS pmax pmax
comp=Z,57nm,0.9s,mb5.5
KECS Kecovo 76.87 330 *i*P **P 01 48 40.5 +0.1**
comp=Z,57nm,0.9s,mb5.5
BRG Berggiesshubel 76.88 335 *e*P **P 01 48 39.9 -0.5**
comp=Z,80nm,1.2s,mb5.5
BRG *e*S S 01 58 24.8 -2.6
BRG Berggiesshubel 76.88 335 ⇑*i*P **P 01 48 40.3 -0.2**
comp=Z,20nm,1.0s,mb5.0
BRG *i* 01 48 41.8
comp=Z,48nm,1.2s
BRG *i* pP 01 48 46.7 +0.3
comp=Z,66nm,1.2s
BRG *e* 01 49 08.9
comp=Z,32nm,1.2s
BRG S S 01 58 27.0 -0.4
BRG
comp=Z,6μm,16.8s
BRG
comp=N,3μm,15.4s
BRG
comp=E,3μm,15.4s
BRG Berggiesshubel 76.88 335 ⇑*i*P **P 01 48 40.3 -0.1**
BRG *i* pP 01 48 46.7 +0.3
BRG S S 01 58 27.0 -0.4
BRG pmax pmax
comp=Z,20nm,1.0s,mb5.0
BRG MLR MLR
comp=Z,6μm,16.8s,MS6.0
BRG Berggiesshubel 76.88 335 ⇑*i*P **P 01 48 40.3 -0.2**
comp=Z,20nm,1.0s,mb5.0
BRG *i* 01 48 41.8
BRG *i* pP 01 48 46.7 +0.3

BRG e 01 49 08.9
BRG S S 01 58 27.0 -0.4
BRG LR LR
comp=Z,6µm,16.8s,MS6.0
SVSK Karacayir 76.92 315 eP **P 01 48 41.8 +1.1**
MARD Mardin 76.99 311 i P **P 01 48 41.4 +0.3**
PVCC Panska Ves 77.00 334 eP **P 01 48 41.2 +0.1**
PVCC AMS AMS 02 26 00.0
comp=Z,9µm,16.6s
CLZ Clausthal 77.01 337 eP **P 01 48 41.4 +0.2**
comp=Z,259nm,0.9s,mb6.2
CLZ Clausthal 77.01 337 eP **P 01 48 41.4 +0.2**
CLZ pmax pmax
comp=Z,259nm,0.9s,mb6.2
FBE Freiberg 77.01 335 eP **P 01 48 40.8 -0.4**
comp=Z,141nm,0.9s,mb5.9
ELZG Elazig 77.02 313 i P **P 01 48 42.7 +1.4**
WIT Witteveen 77.05 340 eP **P 01 48 42.3 +0.9**
SVST Sivas 77.05 315 i P **P 01 48 42.7 +1.3**
HATD Hatta, Dubai 77.11 292 P **P 01 48 43.4 +1.7**
SNR=29
SMDO Samad 77.12 290 P **P 01 48 43.6 +1.8**
SNR=28
TIRR Tirgusor 77.21 323 ⇓iP **P 01 48 41.8 -0.5**
TIRR Tirgusor 77.21 323 eP **P 01 48 42.4 +0.1**
TIRR ePP PP 01 51 39.7 +3.5
HARR Harsova 77.22 323 ⇓iP **P 01 48 43.0 +0.6**
HARR Harsova 77.22 323 P **P 01 48 43.4 +1.0**
COCO West Island 77.22 237 PFAKE 01 48 50.0 +7.6
COCO LR LR
comp=Z,452nm,19.0s,MS4.8
HOQ Hoqain 77.23 291 P **P 01 48 43.9 +1.5**
SNR=69
IBBN Ibbenburen 77.25 339 eP **P 01 48 42.4 -0.1**
comp=Z,230nm,1.0s,mb6.1
IBBN eS S 01 58 23.9 -7.5
ASHO Ashiyiah 77.25 292 P **P 01 48 44.1 +1.6**
SNR=32
GAL1 Galloway 77.32 347 eP **P 01 48 42.3 -0.6**
GAL1 AMb AMB 01 48 45.5
comp=Z,211nm,1.5s,mb5.8
GAL1 Galloway 77.32 347 eP **P 01 48 42.3 -0.6**
GAL1 AMb AMB 01 48 45.5
comp=Z,211nm,1.5s,mb5.8
GCL Cushendall 77.33 348 eP **P 01 48 42.3 -0.7**
GCL Cushendall 77.33 348 eP **P 01 48 42.3 -0.7**
CKE Keswick 77.33 346 eP **P 01 48 43.5 +0.5**
CKE Keswick 77.33 346 eP **P 01 48 43.5 +0.5**
MLR Muntele Rosu 77.36 325⇑iP **P 01 48 43.4 +0.2**
MLR Muntele Rosu 77.36 325 P **P 01 48 43.6 +0.4**
BALT Daday 77.37 318 i P **P 01 48 44.5 +1.2**
GTTG Gvttingen 77.38 338 eP **P 01 48 43.3 0.0**
comp=Z,138nm,1.0s,mb5.8
VYHS Vyhne 77.43 331 i P **P 01 48 43.9 +0.4**
VYHS ePP PP 01 51 26.2 -12
VYHS eS S 01 58 34.9 +1.6
VYHS Vyhne 77.43 331 i P **P 01 48 43.9 +0.4**
VYHS eS S 01 58 34.9 +1.6
VYHS pmax pmax
comp=Z,60nm,0.9s,mb5.5
VYHS MLR MLR
comp=Z,5µm,14.9s,MS6.0
VYHS Vyhne 77.43 331 i P **P 01 48 43.9 +0.4**
comp=Z,60nm,0.9s,mb5.5
VYHS ePP PP 01 51 26.2 -12
VYHS eS S 01 58 34.9 +1.6
VYHS LR LR
comp=Z,5µm,14.9s,MS6.0
MYA Malataya 77.43 313 eP **P 01 48 45.5 +1.9**
CTKT Corum 77.43 317 i P **P 01 48 44.6 +1.1**
ISR Istrita 77.43 324⇓iP **P 01 48 44.5 +0.9**
ISR Istrita 77.43 324⇓⇓P **P 01 48 44.5 +1.0**
MALT Malatya 77.44 313⇑iP **P 01 48 44.9 +1.3**
MALT Malatya 77.44 313 P **P 01 48 45.3 +1.7**
MALT pmax pmax
comp=Z,200nm,1.1s,mb6.0
MALT Malatya 77.44 313 P **P 01 48 45.6 +2.1**
PRA Prague 77.45 334 P **P 01 48 43.0 -0.6**
VRAC Vranov 77.45 333⇑iP **P 01 48 44.1 +0.4**
VRAC Vranov 77.45 333 P **P 01 48 43.7 0.0**
PRU Pruhonice 77.49 334 eP **P 01 48 44.0 +0.1**
PRU eS S 01 58 31.4 -2.6
PRU AMS AMS 02 26 40.0
comp=Z,12µm,17.5s
JAVC Velka Javorina 77.50 332 P **P 01 48 45.1 +1.2**
DRGR 77.51 328⇑iP **P 01 48 44.0 0.0**
DRGR 77.51 328 P **P 01 48 44.4 +0.4**
PSZ Piszkesteto 77.56 330⇑eP **P 01 48 44.9 +0.6**
PSZ Piszkesteto 77.56 330⇑iP **P 01 48 44.4 +0.1**
PSZ Piszkesteto 77.56 330 eP **P 01 48 44.8 +0.6**
JMDO Jabal Madar 77.57 289 P **P 01 48 46.1 +1.8**
SNR=40
TANN Tannenbergstha 77.72 336 eP **P 01 48 45.1 0.0**
comp=Z,67nm,1.2s,mb5.5
TANN eS S 01 58 32.2 -4.3
KRUC Moravsky 77.73 333 P **P 01 48 45.3 +0.1**
WERD Werda 77.73 336 eP **P 01 48 45.2 0.0**
comp=Z,87nm,1.0s,mb5.6
MOX Moxa 77.75 336 eP **P 01 48 45.2 -0.1**
comp=Z,166nm,1.0s,mb5.9
MOX eS S 01 58 35.8 -1.0
MOX Moxa 77.75 336 eP **P 01 48 45.2 -0.1**
comp=Z,195nm,1.1s,mb6.0
MOX
comp=Z,5µm,20.0s
MOX Moxa 77.75 336⇑eP **P 01 48 45.2 -0.1**
MOX e 01 51 40.0
MOX eS S 01 58 37.0 +0.2
MOX eSS SS 02 03 30.0 -6.9
MOX pmax pmax
comp=Z,195nm,1.1s,mb6.0
MOX Moxa 77.75 336⇑eP **P 01 48 45.2 -0.1**
comp=Z,195nm,1.1s,mb6.0
MOX ePP PP 01 51 40.0 -0.7
MOX eS S 01 58 37.0 +0.2
MOX eSS SS 02 03 30.0 -6.9
MOX eSSS 02 04 07.0
MOX eLQ 02 08 00.0
MOX eLR LR 02 15 00.0
VOIR 77.76 326⇓⇓iP **P 01 48 46.0 +0.6**
VOIR 77.76 326⇓⇓P **P 01 48 46.0 +0.7**
WTSB Winterswijk 77.80 340⇑eP **P 01 48 45.5 -0.1**
comp=Z,218nm,1.0s,mb6.0
GUNZ Gunzen 77.80 336 eP **P 01 48 45.6 0.0**
comp=Z,134nm,1.0s,mb5.8
TREC Trest 77.81 333 eP **P 01 48 45.8 +0.1**
TREC eS S 01 58 39.5 +2.0
CORM Corum 77.86 317 P **P 01 48 47.1 +1.2**
SMOL Smolenice 77.88 332 i P **P 01 48 46.8 +0.8**
NKC Novy Kostel 77.88 336 eP **P 01 48 46.1 0.0**
NKC eS S 01 58 35.9 -2.4
NKC AMS AMS 02 26 10.0
comp=Z,7µm,16.7s
NKC Novy Kostel 77.88 336 eP **P 01 48 46.1 0.0**
NKC eS S 01 58 35.9 -2.4
BSY Bisya 77.89 290 P **P 01 48 47.5 +1.4**
SNR=73
URFA Urfa 77.91 312 eP **P 01 48 47.8 +1.6**
ARQ Araqi 77.91 291 P **P 01 48 47.9 +1.6**
SNR=54
SAFT Safranbolu 77.93 318 eP **P 01 48 47.1 +0.8**
MTUR Matau 77.93 325⇓iP **P 01 48 47.1 +0.8**
PSN Preselentsi 77.94 323 i P **P 01 48 48.4 +2.0**
SLM Saint Louis 77.95 46 eP **P 01 48 45.9 -0.6**
SLM e 01 48 57.7
SLM e 01 51 42.9
UBBA Unterbreizbach 78.03 337 eP **P 01 48 46.7 -0.2**
comp=Z,69nm,1.2s,mb5.5
BHD Baghdad 78.07 306 i x x 01 48 44.0
BHD i x x 01 48 49.0
BHD ex x 01 49 08.5
BHD ex x 01 51 31.5
BHD ex x 01 58 41.0
BHD ex x 01 59 04.0
GMM Mts of Mourne 78.11 348 eP **P 01 48 47.0 -0.4**
GMM Mts of Mourne 78.11 348 eP **P 01 48 47.0 -0.4**
AAM Ann Arbor 78.14 39 eP **P 01 48 49.7 +2.2**
AAM MLR MLR
comp=Z,3µm,20.0s,MS5.6
ATAB Bozova 78.15 313 i P **P 01 48 48.7 +1.2**
BUG Bochum--Univer 78.17 339 eP **P 01 48 47.5 -0.1**
comp=Z,255nm,1.1s,mb6.1
BUG eS S 01 58 38.7 -2.6

ELDT Eldivan 78.18 318 i P **P 01 48 48.9 +1.2**
MANZ Manzenberg 78.20 336 eP **P 01 48 47.9 +0.1**
comp=Z,144nm,1.0s,mb5.9
BUD Budapest 78.24 330⇑eP **P 01 48 48.7 +0.7**
ZST Bratislava 78.26 332⇑eSKSp 01 59 02.0
ZST Bratislava 78.26 332 eP **P 01 48 49.1 +0.9**
ZST ePS SKSac 01 59 02.0 +0.2
ZST pmax pmax
comp=Z,150nm,0.9s,mb5.9
ZST MLR MLR
comp=Z,10µm,14.3s,MS6.3
ZST Bratislava 78.26 332 eP **P 01 48 49.1 +0.9**
comp=Z,150nm,0.9s,mb5.9
ZST ePS SKSac 01 59 02.0 +0.2
ZST LR LR
comp=Z,10µm,14.3s,MS6.3
BUC1 Bucharest 78.28 324 P **P 01 48 49.7 +1.5**
BNN Bunyan 78.31 315 P **P 01 48 49.7 +1.3**
KBI1 Birley Grange 78.34 345 eP **P 01 48 48.3 -0.3**
KBI1 Birley Grange 78.34 345 eP **P 01 48 48.3 -0.3**
ROTZ Rotzenmuhle 78.37 335 eP **P 01 48 49.1 +0.3**
comp=Z,144nm,1.0s,mb5.9
CDAG Cicekdag 78.42 316 i P **P 01 48 48.4 -0.6**
PKSG 78.53 331⇑eP **P 01 48 50.3 +0.6**
KHC Kasperske Hory 78.54 334 eP **P 01 48 49.9 +0.2**
KHC eS S 01 58 45.2 -0.1
KHC AMS AMS 02 26 50.0
comp=Z,12µm,17.3s
GZT Gaziantep 78.61 313 i P **P 01 48 50.5 +0.4**
KWE Weaver Farm 78.62 345 eP **P 01 48 49.9 -0.3**
KWE Weaver Farm 78.62 345 eP **P 01 48 49.9 -0.3**
PRD Provadia 78.66 323 i P **P 01 48 50.0 -0.4**
GZR Gura Zlata 78.67 327⇓iP **P 01 48 50.8 +0.4**
GZR Gura Zlata 78.67 327 P **P 01 48 50.7 +0.2**
BR131 Keskin Array S 78.68 317 eP **P 01 48 51.3 +0.8**
comp=Z,0.3nm,0.5s
BR131 epP pP 01 48 54.0 -2.5
BR131 ePcP PcP 01 49 00.6 +1.2
BR131 ePP PP 01 51 49.8 +1.2
BR131 LR LR
comp=Z,3µm,20.0s,MS5.6
BRTR Keskin Array B 78.68 317 P **P 01 48 51.4 +0.9**
comp=Z,38nm,0.9s,mb5.3,baz=72,slow=4.0,SNR=90
BRTR PP PP 01 51 52.2 +3.7
comp=Z,13nm,0.9s,baz=61,slow=5.3,SNR=4.5
BRTR LR LR 02 29 35.9
comp=Z,4µm,19.7s,MS5.7,baz=244,slow=40
BRTR Keskin Array B 78.68 317 P **P 01 48 51.4 +0.9**
BRTR 01 51 52.3
GRA1 Grafenberg Arr 78.72 336 eP **P 01 48 51.1 +0.4**
comp=Z,402nm,1.0s,mb6.3
GRA1 ePP PP 01 51 54.3 +5.5
GRA1 eS S 01 58 45.3 -1.9
GRA1 LR LR
comp=Z,6µm,18.5s,MS6.0
GRF Grafenberg Arr 78.72 336 eP **P 01 48 51.1 +0.4**
comp=Z,402nm,1.0s,mb6.3
GRF ePP PP 01 51 54.3 +5.5
GRF eS S 01 58 45.3 -1.9
GRF eL 02 26 08.8
comp=Z,6µm,18.5s
GRF Grafenberg Arr 78.72 336 eP **P 01 48 51.1 +0.4**
GRF e 01 51 54.3
GRF eS S 01 58 45.3 -1.9
GRF pmax pmax
comp=Z,402nm,1.0s,mb6.3
GRF MLR MLR
comp=Z,6µm,18.5s,MS6.0
GRF Grafenberg Arr 78.72 336 eP **P 01 48 51.1 +0.4**
GRF e 01 51 54.3
GRF eS S 01 58 45.3 -1.9
GRF pmax pmax
comp=Z,402nm,1.0s,mb6.3
GRF MLR MLR
comp=Z,6µm,18.5s,MS6.0
STKA Stephens Creek 78.72 190 eP **P 01 48 49.2 -1.5**
comp=Z,12nm,1.8s
STKA eS S 01 58 46.0 -1.3
STKA Stephens Creek 78.72 190 P **P 01 48 49.5 -1.2**
comp=Z,5.7nm,0.8s,baz=327,slow=8.3,SNR=9.5
STKA LR LR 02 27 55.6
comp=Z,2µm,18.0s,MS5.5,baz=8.2,slow=39
WET Wettzell 78.73 335 eP **P 01 48 51.2 +0.4**
comp=Z,168nm,1.0s,mb5.9
WET eS S 01 58 41.9 -5.5
WET Wettzell 78.73 335 eP **P 01 48 51.2 +0.4**
WET eS S 01 58 41.9 -5.5
WET pmax pmax
comp=Z,168nm,1.0s,mb5.9
SGKT Sivrigoynuk 78.75 318 i P **P 01 48 50.9 +0.1**
GEC2 GERESS Array S 78.75 334 eP **P 01 48 50.8 -0.1**
comp=Z,80nm,1.0s,mb5.6
GEC2 eS S 01 58 38.8 -8.8
GEC2 GERESS Array S 78.75 334 eP **P 01 48 50.8 -0.1**
GEC2 eS S 01 58 38.8 -8.8
GEC2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
GERES GERESS Array B 78.75 334 P **P 01 48 50.9 0.0**
comp=Z,58nm,0.9s,mb5.5,baz=37,slow=4.2,SNR=108
GERES LR LR 02 28 21.7
comp=Z,12µm,18.1s,MS6.3,baz=23,slow=39
KMRS Kahramanmaras 78.83 313 eP **P 01 48 52.1 +0.8**
SOP Sopron 78.89 332⇑eP **P 01 48 52.5 +0.9**
UMR Umm Al-Rimmam 78.89 301 eP **P 01 48 52.0 +0.4**
UMR AMb AMB 01 48 57.8
comp=Z,679nm,0.8s,mb6.6
CONA Conrad Observa 78.90 332⇑iP **P 01 48 52.5 +0.8**
comp=Z,102nm,1.0s,mb5.7,SNR=124
BZS Buzias 78.91 328⇑iP **P 01 48 51.0 -0.8**
BZS Buzias 78.91 328 P **P 01 48 51.8 0.0**
MIB Mutribah 78.93 302 eP **P 01 48 52.4 +0.5**
MIB AMb AMB 01 48 58.0
comp=Z,907nm,0.9s,mb6.7
KAMT Kaman 78.93 317 P **P 01 48 52.6 +0.7**
GAZ Gaziantep 78.93 313 P **P 01 48 53.1 +1.2**
JCT Junction City 78.94 57 eP **P 01 48 51.4 -0.5**
JCT e 01 49 03.4
JCT e 01 51 45.7
JCT pmax pmax
comp=Z,125nm,1.3s,mb5.7
JCT MLR MLR
comp=Z,3µm,19.0s,MS5.6
JCT Junction City 78.94 57 eP **P 01 48 51.4 -0.5**
comp=Z,125nm,1.3s,mb5.7
JCT e 01 49 03.4
JCT ePP PP 01 51 45.7 -5.0
JCT LR LR
comp=Z,3µm,19.0s,MS5.6
ANTO Ankara 78.97 318 P **P 01 48 51.1 -0.9**
ANTO Ankara 78.97 318⇑iP **P 01 48 51.9 -0.1**
ANTO Ankara 78.97 318 P **P 01 48 53.6 +1.6**
SNR=46
ANTO Ankara 78.97 318 P **P 01 48 53.3 +1.3**
ANTO pmax pmax
comp=Z,280nm,1.4s,mb6.0
ANTO Ankara 78.97 318 P **P 01 48 53.4 +1.3**
ANTO LR LR
comp=Z,3µm,20.0s,MS5.6
SBD1 Bryn Du 78.98 346 eP **P 01 48 52.1 0.0**
SBD1 Bryn Du 78.98 346 eP **P 01 48 52.1 0.0**
TNS Taunus Mts 78.99 338 eP **P 01 48 52.2 0.0**
comp=Z,210nm,1.1s,mb6.0
TNS Taunus Mts 78.99 338 eP **P 01 48 52.2 0.0**
TNS pmax pmax
comp=Z,210nm,1.1s,mb6.0
HENT Hendek 79.07 319 i P **P 01 48 51.8 -0.8**
DLF Lyons Farm 79.12 348 eP **P 01 48 49.8 -3.1**
ZIMR 79.12 324⇓iP **P 01 48 53.0 +0.1**
ZIMR 79.12 324 P **P 01 48 53.0 +0.2**
HGN Heimansgroeve 79.12 340⇑eP **P 01 48 52.8 -0.1**
comp=Z,242nm,1.1s,mb6.0
HGN eS S 01 58 51.9 +0.4
HGN eSS SS 02 04 34.6 +37
DSB Dublin 79.14 348 eP **P 01 48 52.8 -0.2**
comp=Z,100nm,1.1s,mb5.7
DSB epP pP 01 48 55.6 -3.3
BEBN Eben Emael 79.15 340 P **P 01 48 52.9 -0.1**
DCN Croghan 79.17 348 eP **P 01 48 50.1 -3.1**
SIUC Southern Illin 79.17 46 eP **P 01 48 52.7 -0.5**
comp=Z,78nm,1.0s,mb5.6
CRAR CRAIOVA 79.18 326⇓iP **P 01 48 54.8 +1.6**
CRAR CRAIOVA 79.18 326 P **P 01 48 54.2 +1.0**
SZH Strazhica 79.21 324 i P **P 01 48 55.4 +2.0**
MEM Membach 79.24 340 P **P 01 48 53.2 -0.4**

HLM1 Long Mynd 79.28 345 eP **P 01 48 53.5 -0.3**
HLM1 Long Mynd 79.28 345 eP **P 01 48 53.5 -0.3**
BLO Bloomington 79.33 43 eP **P 01 48 53.5 -0.6**
QRN Al-Qurain 79.36 301 eP **P 01 48 54.7 +0.5**
QRN AMb AMB 01 49 00.6
comp=Z,550nm,0.9s,mb6.5
MIAR Mount Ida 79.38 51 eP **P 01 48 53.6 -0.7**
MIAR e 01 49 05.3
MIAR e 01 51 58.2
MIAR pmax pmax
comp=Z,63nm,1.2s,mb5.4
MIAR MLR MLR
comp=Z,4µm,20.0s,MS5.8
MIAR Mount Ida 79.38 51 eP **P 01 48 53.6 -0.7**
comp=Z,62nm,1.2s,mb5.4
MIAR ePcP PcP 01 49 05.2 +2.9
MIAR ePP PP 01 51 58.2 +3.9
MIAR LR LR
comp=Z,4µm,20.0s,MS5.8
KOZT Kozan 79.39 314 eP **P 01 48 55.2 +0.8**
NAY Al-Naaiem 79.39 301 eP **P 01 48 54.9 +0.5**
NAY AMb AMB 01 49 00.6
comp=Z,373nm,0.9s,mb6.3
DJES Djerdap 79.41 327 i P **P 01 48 56.8 +2.4**
RDF Al-Radifah 79.45 301 eP **P 01 48 55.4 +0.7**
RDF AMb AMB 01 49 01.2
comp=Z,841nm,0.9s,mb6.7
UCC Uccle 79.46 341 P **P 01 48 54.4 -0.3**
TOD Tromm 79.46 337 eP **P 01 48 54.9 +0.2**
MOA Molln 79.47 333⇑iP **P 01 48 55.1 +0.3**
comp=Z,64nm,0.9s,mb5.5,SNR=53
PKSM Moragy 79.47 330⇑iP **P 01 48 54.0 -0.8**
PKSM Moragy 79.47 330 P **P 01 48 54.5 -0.3**
MSNY Massena 79.47 33 eP **P 01 48 54.0 -0.9**
MSNY PP PP 01 51 52.0 -3.1
SIND Sindeldorf 79.48 337 P **P 01 48 54.9 +0.1**
ABH Alteburg 79.53 338 eP **P 01 48 55.1 0.0**
BCLA Clavier 79.59 340 P **P 01 48 55.2 -0.3**
SWS Schriesheim-Wi 79.59 337 P **P 01 48 55.9 +0.4**
ARSA Arzberg 79.60 332⇑iP **P 01 48 56.1 +0.6**
comp=Z,59nm,1.1s,mb5.4,SNR=41
RAR Rarotonga 79.60 136 LR LR 02 19 40.2
comp=Z,4µm,19.5s,MS5.7,baz=338,slow=32
RAR Rarotonga 79.60 136 PFAKE 01 49 10.0 +14
RAR LR LR
comp=Z,2.0nm,21.0s
JMB Yambol 79.60 323 eP **P 01 48 55.5 0.0**
JMB Yambol 79.60 323 i P **P 01 48 55.0 -0.5**
HRT Hereke 79.62 320 eP **P 01 48 55.6 0.0**
SSW Stow on the Wo 79.63 345 eP **P 01 48 55.6 0.0**
SSW Stow on the Wo 79.63 345 eP **P 01 48 55.6 0.0**
SKP1 Kophill 79.67 344 eP **P 01 48 55.1 -0.8**
SKP1 Kophill 79.67 344 eP **P 01 48 55.1 -0.8**
ISK Istanbul-Kandi 79.69 321 eP **P 01 48 55.8 -0.2**
PARMO Parma 79.73 47 eP **P 01 48 55.8 -0.4**
PARMO ePP PP 01 51 56.8 -0.5
USIN University of 79.74 45 eP **P 01 48 56.0 -0.2**
comp=Z,77nm,1.0s,mb5.6
SNF Seneffe 79.74 341 P **P 01 48 56.3 0.0**
RAO Raoul Island 79.75 155 PFAKE 01 49 10.0 +14
RAO LR LR
comp=Z,5µm,20.0s,MS5.9
HTR Trewern Hill 79.78 346 eP **P 01 48 56.2 -0.2**
HTR Trewern Hill 79.78 346 eP **P 01 48 56.2 -0.2**
CEYT Ceyhan 79.79 314 P **P 01 48 57.6 +1.0**
MCH1 Michaelchurch 79.81 345 eP **P 01 48 56.4 -0.2**
MCH1 eP 01 48 56.4
MCH1 AMb AMB 01 49 01.9
comp=Z,125nm,1.1s,mb5.8
MCH1 Michaelchurch 79.81 345 eP **P 01 48 56.4 -0.2**
MCH1 eP 01 48 56.4
MCH1 AMb AMB 01 49 01.9
comp=Z,125nm,1.1s,mb5.8
RUP Ruppelstein 79.82 339 eP **P 01 48 56.4 -0.3**
UALR University of 79.85 50 eP **P 01 48 58.9 +2.0**
LONY Lake Ozonia 79.90 33 eP **P 01 48 55.6 -1.5**
ELBA Catalca 79.90 321 i P **P 01 48 56.7 -0.4**
ADVT Abdulvahap 79.91 320 P **P 01 48 56.9 -0.3**
KTD Kalmit 79.91 338 P **P 01 48 59.3 +2.1**
COBT Iskenderun 79.92 313 i P **P 01 48 58.0 +0.8**
KARA Karaisali 79.94 314 P **P 01 48 58.1 +0.8**
GIVF Givet 80.00 340⇑iP **P 01 48 57.4 -0.3**
comp=Z,219nm,1.2s,mb5.7
GIVF Givet 80.00 340⇑iP **P 01 48 57.4 -0.3**
GIVF pmax pmax
comp=Z,109nm,1.2s,mb5.7
GIVF Givet 80.00 340⇑⇑iP **P 01 48 57.4 -0.3**
comp=Z,109nm,1.2s,mb5.7
BEO Belgrade 80.02 328 i P **P 01 48 58.4 +0.7**
BEO Belgrade 80.02 328 P **P 01 48 57.4 -0.4**
EDRB Edirne 80.05 322 P **P 01 48 57.4 -0.5**
DOU Dourbes 80.06 340 P **P 01 48 57.5 -0.5**
SWN1 Swindon 80.06 345 eP **P 01 48 57.9 -0.1**
SWN1 Swindon 80.06 345 eP **P 01 48 57.9 -0.1**
KOGS Kog 80.07 331 P **P 01 48 58.5 +0.4**
FUR Furstenfeldbru 80.08 335 eP **P 01 48 58.4 +0.3**
comp=Z,292nm,1.1s,mb6.1
FUR Furstenfeldbru 80.08 335 eP **P 01 48 58.4 +0.3**
FUR pmax pmax
comp=Z,292nm,1.1s,mb6.1
WLF Walferdange 80.08 339 eP **P 01 48 57.9 -0.2**
comp=Z,164nm,1.5s,mb5.7
WLF Walferdange 80.08 339 P **P 01 48 58.4 +0.3**
WLF Walferdange 80.08 339 P **P 01 48 58.9 +0.8**
WLF pmax pmax
comp=Z,110nm,1.2s,mb5.7
WLF Walferdange 80.08 339 eP **P 01 48 58.8 +0.7**
ACSO Alum Creek Sta 80.11 40 eP **P 01 48 57.8 -0.5**
ACSO LR LR
comp=Z,3µm,19.0s,MS5.6
STU Stuttgart 80.11 337 eP **P 01 48 58.4 +0.1**
comp=Z,202nm,1.0s,mb6.0
STU Stuttgart 80.11 337 eP **P 01 48 58.7 +0.4**
STU e*PP PP 01 51 59.9 -0.6
STU pmax pmax
comp=Z,201nm,1.0s,mb6.0
STU Stuttgart 80.11 337 eP **P 01 48 58.7 +0.4**
comp=Z,202nm,1.0s,mb6.0
STU epP pP 01 51 59.9 -0.6
HGH Gray Hill 80.12 345 eP **P 01 48 58.1 -0.2**
HGH Gray Hill 80.12 345 eP **P 01 48 58.1 -0.2**
HBAR Harrisburg 80.13 48 eP **P 01 48 58.2 -0.1**
HBAR epP pP 01 49 01.2 -3.1
HBAR ePcP PcP 01 49 05.4 -0.2
HBAR e 01 49 10.3
HBAR ePP PP 01 52 01.5 +1.0
ESKT Eskisehir 80.14 319 P **P 01 48 58.8 +0.3**
ESKT Eskisehir 80.14 319 i P **P 01 48 58.4 0.0**
GEMT Gemlik 80.15 320 P **P 01 48 58.1 -0.4**
MENF Mencas 80.17 342 eP **P 01 48 59.3 +0.7**
BAIF Baives 80.18 340⇑iP **P 01 48 58.6 -0.1**
comp=Z,196nm,1.2s,mb5.6
BAIF Baives 80.18 340⇑iP **P 01 48 58.6 -0.1**
BAIF pmax pmax
comp=Z,98nm,1.2s,mb5.6
BAIF Baives 80.18 340⇑⇑iP **P 01 48 58.6 -0.1**
comp=Z,98nm,1.2s,mb5.6
ALLY Alegheny Colle 80.18 38 eP **P 01 48 58.4 -0.3**
WCI Wyandotte Cave 80.19 44 P **P 01 48 57.8 -0.9**
WCI pmax pmax
comp=Z,86nm,1.1s,mb5.6
WCI Wyandotte Cave 80.19 44 eP **P 01 48 57.9 -0.8**
comp=Z,86nm,1.1s,mb5.6
FORT Forrest 80.24 202 eP **P 01 48 58.0 -0.9**
comp=Z,42nm,0.7s,mb5.5
PERS Pernice 80.28 332 i P **P 01 48 59.4 +0.2**
HTY Hatay 80.29 313 eP **P 01 49 00.2 +1.0**
LANF Langenberg 80.29 338 eP **P 01 48 59.2 -0.1**
KRTS Karatas 80.32 314 eP **P 01 49 00.2 +0.8**
LBG Lerchenberg 80.32 337 P **P 01 48 59.8 +0.4**
DIM Dimitrovgrad 80.39 323 i P **P 01 49 01.0 +1.2**
KBA Koelnbreinsper 80.44 334 i P **P 01 49 00.9 +0.8**
comp=Z,410nm,1.0s,mb6.3,SNR=154
KBA Koelnbreinsper 80.44 334 i P **P 01 49 00.9 +0.9**
KBA pmax pmax
comp=Z,410nm,1.0s,mb6.3
MERS Mersin 80.51 315 P **P 01 48 59.9 -0.5**
OBKA Obir 80.57 333⇑iP **P 01 49 00.9 +0.2**
comp=Z,90nm,1.5s,mb5.5,SNR=19
NCB Newcomb 80.59 33 eP **P 01 48 59.8 -1.0**
NCB LR LR
comp=Z,3µm,19.0s,MS5.7
STR Strasbourg 80.67 338 eP **P 01 49 01.6 +0.3**

PLD Plovdiv 80.68 324 *i* P P 01 49 00.0 -1.3
MFT Murefte 80.69 322 *e*P P 01 49 01.2 -0.2
KONT Konya--Tatoy 80.70 317 *e*P P 01 49 01.8 +0.3
TAOE Nuku Hiva Isla 80.71 113 *e*S S 01 59 03.7 -4.6
comp=Z,3µm,26.3s
TAOE *e*LR LR 02 13 43.7
comp=Z,26µm,29.7s,baz=325
MRMT Marmara Adasi 80.71 321 *e*P P 01 49 02.0 +0.6
GRUS Gruza 80.72 327 *i*P P 01 49 02.9 +1.3
WATA Walderalm 80.74 335⇑*i*P P 01 49 02.2 +0.5
comp=Z,87nm,0.6s,mb5.8,SNR=90
WATA Walderalm 80.74 335⇑*i*P P 01 49 02.2 +0.5
WATA pmax pmax
comp=Z,87nm,0.6s,mb5.9
WATA Walderalm 80.74 335⇑*i*P P 01 49 02.2 +0.5
comp=Z,87nm,0.6s,mb5.9
BFO Black Forest 80.75 337 P P 01 49 01.2 -0.5
comp=Z,748nm,1.1s,mb6.5,SNR=59
BFO Black Forest 80.75 337 *e*P P 01 49 01.8 +0.1
comp=Z,190nm,1.2s,mb5.9
BFO Black Forest 80.75 337 *e*P P 01 49 01.8 +0.1
BFO pmax pmax
comp=Z,190nm,1.2s,mb5.9
KDZ Kurdzhali 80.77 323 *i*P P 01 49 00.0 -1.8
GUT Gutenstein 80.78 337 P P 01 49 02.2 +0.4
WTTA Wattenberg 80.79 335⇑*i*P P 01 49 02.8 +0.9
comp=Z,335nm,1.0s,mb6.2,SNR=135
WTTA Wattenberg 80.79 335⇑*i*P P 01 49 02.8 +0.9
WTTA pmax pmax
comp=Z,335nm,1.0s,mb6.2
SART Tekirdag 80.82 322 *i*P P 01 49 01.5 -0.6
RKY Sarkoy-Tekirda 80.82 322 *e*P P 01 49 01.7 -0.4
MET Memphis--Engin 80.83 48 *e*P P 01 49 02.2 0.0
MET *e* 01 49 14.1
SPAK Spaichingen-Ko 80.84 337 *e*P P 01 49 02.4 +0.2
HEX Exmoor 80.84 346 *e*P P 01 49 01.0 -1.2
HEX Exmoor 80.84 346 *e*P P 01 49 01.0 -1.2
UBR Ueberruh 80.85 336 P P 01 49 02.8 +0.5
ALT Altintas 80.86 319 P P 01 49 03.3 +1.0
VTS Vitosha 80.87 325 *e*P P 01 49 02.8 +0.5
VTS Vitosha 80.87 325⇑*i*P P 01 49 02.0 -0.4
VTS Vitosha 80.87 325 *i*P P 01 49 01.0 -1.4
MOTA Moosalm 80.87 335⇑*i*P P 01 49 02.9 +0.5
comp=Z,309nm,1.0s,mb6.2,SNR=127
MOTA Moosalm 80.87 335⇑*i*P P 01 49 02.9 +0.5
MOTA pmax pmax
comp=Z,309nm,1.0s,mb6.2
NATX Nacogdoches 80.90 53 *e*P P 01 49 02.8 +0.3
NATX LR LR
comp=Z,3µm,21.0s,MS5.6
MEST Erdemli 80.92 315 *i*P P 01 49 02.0 -0.6
WLS Welschbruch 80.93 338 *e*P P 01 49 02.9 +0.2
VAL Valentia 80.94 350 *e*P P 01 48 56.5 -6.2
CDF Champ du Feu 80.95 338⇑*i*P P 01 49 02.9 +0.1
comp=Z,470nm,1.2s,mb6.0
CDF Champ du Feu 80.95 338⇑*i*P P 01 49 02.9 +0.1
CDF pmax pmax
comp=Z,235nm,1.2s,mb6.0
CDF Champ du Feu 80.95 338⇑*i*P P 01 49 02.9 +0.1
comp=Z,235nm,1.2s,mb6.0
SQTA Sankt Quirin 80.95 335⇑*i*P P 01 49 03.5 +0.7
comp=Z,158nm,0.9s,mb5.9,SNR=41
SQTA Sankt Quirin 80.95 335⇑*i*P P 01 49 03.5 +0.7
SQTA pmax pmax
comp=Z,158nm,0.9s,mb5.9
LJU Ljubljana 80.99 332 *e*P P 01 49 02.4 -0.6
LJU *i*PcP PcP 01 49 05.8 -3.7
LJU *e*PP PP 01 52 14.3 +6.6
LJU *e*S S 01 59 11.4 +0.2
LJU *e*SS SS 02 04 53.4 +28
LJU Ljubljana 80.99 332 *e*P P 01 49 02.4 -0.6
LJU *e* 01 52 14.4
LJU *e*S S 01 59 11.4 +0.2
RZN Rozhen 81.02 324 *i*P P 01 49 02.0 -1.2
HTL Hartland 81.03 346 *e*P P 01 49 03.1 0.0
HTL AMb AMB 01 49 06.6
comp=Z,79nm,1.0s,mb5.6
HTL Hartland 81.03 346 *e*P P 01 49 03.1 0.0
HTL AMb AMB 01 49 06.6
comp=Z,79nm,1.0s,mb5.6
SEST Monte Rota 81.08 334 P P 01 49 05.0 +1.5
WVT Waverly 81.11 46 P P 01 49 02.3 -1.3
WVT pmax pmax
comp=Z,90nm,1.4s,mb5.5
WVT Waverly 81.11 46 *e*P P 01 49 02.4 -1.2
comp=Z,90nm,1.4s,mb5.5
LIBD Limburg 81.11 338 *e*P P 01 49 03.7 +0.1
GDZ Gediz 81.11 319 *i*P P 01 49 02.1 -1.5
ALN Alexandroupoli 81.13 322 *e*P P 01 49 03.9 +0.2
ECH Echery 81.17 338 *e*P P 01 49 04.0 +0.1
SISB Singen-Schiene 81.17 337 P P 01 49 04.5 +0.6
LBNH Lisbon 81.19 31 PFAKE 01 49 20.0 +16
LBNH LR LR
comp=Z,4µm,19.0s,MS5.8
VOY Vojsko 81.20 333 *e*P P 01 49 03.3 -0.8
VOY *e* 01 49 04.7
KIZ Kirchzarten 81.20 337 P P 01 49 04.1 0.0
STEIN Stein am Rhein 81.21 337⇑*i*P P 01 49 02.7 -1.5
comp=Z,378nm,1.2s,mb6.2
BTOK Tokmak 81.21 320 *i*P P 01 49 04.0 -0.1
BARS Barje 81.22 326 *i*P P 01 49 05.0 +0.8
SLE Schleitheim 81.22 337⇑*i*P P 01 49 04.8 +0.6
comp=Z,545nm,2.2s,mb6.1
SLE Schleitheim 81.22 337⇑P P 01 49 04.1 -0.1
BOJS Bojanci 81.23 332 *i*P P 01 49 04.2 -0.1
BOJS *e*PcP PcP 01 49 07.2 -3.2
FELD Feldberg im Sc 81.25 337⇑*e*P P 01 49 04.4 0.0
DAVA Damuels 81.28 336 *i*P P 01 49 05.1 +0.6
comp=Z,130nm,1.1s,mb5.8,SNR=41
CEY Cerknica 81.29 332 P P 01 49 04.3 -0.3
ACCN Adirondack Com 81.30 33 *e*P P 01 49 02.6 -2.0
WEIN Weingarten 81.31 336⇑*i*P P 01 49 04.3 -0.4
comp=Z,644nm,2.3s,mb6.1
IKL Isikli 81.42 315 P P 01 49 05.4 +0.1
BINY Binghamton 81.42 35 *e*P P 01 49 04.2 -1.1
comp=Z,14nm,1.0s,mb4.8
BINY LR LR
comp=Z,3µm,19.0s,MS5.7
CANB Canakkale 81.42 321 P P 01 49 05.0 -0.3
HDMB Hadim 81.42 316 P P 01 49 05.8 +0.4
MEZF Maizieres J'vi 81.43 339⇑*i*P P 01 49 05.6 +0.3
comp=Z,439nm,1.0s,mb6.0
MEZF Maizieres J'vi 81.43 339⇑*i*P P 01 49 05.6 +0.3
comp=Z,439nm,1.0s,mb6.3
WILA Wila 81.43 336⇑*i*P P 01 49 05.0 -0.3
comp=Z,574nm,2.1s,mb6.1
WILA Wila 81.43 336⇑P P 01 49 05.6 +0.3
THEF They Montfort 81.45 339 *e*P P 01 49 05.7 +0.2
DYA Yadsworthy 81.47 346 *e*P P 01 49 05.1 -0.4
DYA Yadsworthy 81.47 346 *e*P P 01 49 05.1 -0.4
ERMK Ermenek 81.48 315 *i*P P 01 49 05.1 -0.5
MMB Musomiste 81.51 324 *e*P P 01 49 06.0 +0.3
MOF Molkenrain 81.51 338 *e*P P 01 49 05.7 0.0
KKB Krupnik 81.53 325 *i*P P 01 49 05.6 -0.3
SULZ Sulz-Cheisache 81.55 337⇑*i*P P 01 49 05.3 -0.6
comp=Z,581nm,1.3s,mb6.4
SULZ Sulz-Cheisache 81.55 337⇑P P 01 49 06.1 +0.2
ZUR Zurich 81.56 337⇑*i*P P 01 49 05.6 -0.4
comp=Z,814nm,2.2s,mb6.3
ZUR Zurich 81.56 337⇑P P 01 49 05.3 -0.7
HAU Haudompre 81.57 338⇑*i*P P 01 49 06.0 -0.1
comp=Z,356nm,1.3s,mb5.8
HAU *e*R
comp=Z,11µm,17.5s
HAU Haudompre 81.57 338⇑*i*P P 01 49 06.0 -0.1
HAU pmax pmax
comp=Z,178nm,1.3s,mb5.8
HAU MLR MLR
comp=Z,11µm,17.5s,MS6.3
HAU Haudompre 81.57 338⇑*i*P P 01 49 06.0 -0.1
comp=Z,178nm,1.3s,mb5.8
HAU LR LR
comp=Z,11µm,17.5s,MS6.3
OXF Oxford 81.58 48 *e*P P 01 49 05.5 -0.6
OXF MLR MLR
comp=Z,4µm,22.0s,MS5.7
TKTP Tekketepe 81.58 318 *i*P P 01 49 05.9 -0.3
HINF Hinteralfeld 81.61 338⇑*i*P P 01 49 06.0 -0.3
comp=Z,192nm,1.1s,mb5.6
HINF Hinteralfeld 81.61 338⇑*i*P P 01 49 06.0 -0.3
HINF pmax pmax
comp=Z,96nm,1.1s,mb5.6
HINF Hinteralfeld 81.61 338⇑*i*P P 01 49 06.0 -0.3
comp=Z,96nm,1.1s,mb5.6
HKT Hockley 81.61 55 *e*P P 01 49 06.8 +0.5
HKT *e* 01 49 18.0
HKT pmax pmax
comp=Z,45nm,1.6s,mb5.2
HKT MLR MLR
comp=Z,22µm,21.0s,MS6.5
HKT Hockley 81.61 55 *e*P P 01 49 06.8 +0.4
comp=Z,45nm,1.6s,mb5.2
HKT *e* 01 49 18.0
HKT LR LR
comp=Z,22µm,21.0s,MS6.5
APPI Appiano 81.62 335 P P 01 49 08.0 +1.7
PLONS Plons 81.63 336⇑*i*P P 01 49 06.7 +0.3
comp=Z,552nm,2.1s,mb6.1
ISP Isparta 81.65 318 P P 01 49 05.7 -0.8
ISP Isparta 81.65 318 *e*P P 01 49 06.4 -0.1
ISP Isparta 81.65 318⇑*i*P P 01 49 06.9 +0.4
ISP Isparta 81.65 318 P P 01 49 06.7 +0.2
ISP pmax pmax
comp=Z,110nm,0.9s,mb5.8
NVR Nevrokopi 81.66 324 *e*P P 01 49 06.0 -0.5
PLE Pljevlja 81.69 328⇓*i*P P 01 49 07.0 +0.3
WVL Waterville 81.70 30 *e*P P 01 49 06.2 -0.5
CSA1 St Austell 81.71 346 *e*P P 01 49 06.5 -0.4
CSA1 St Austell 81.71 346 *e*P P 01 49 06.5 -0.4
DAVOX Davos 81.74 336⇑*i*P P 01 49 06.3 -0.7
comp=Z,551nm,2.8s,mb6.0
BBS Basel-Blauen 81.77 337 *e*P P 01 49 07.0 -0.1
FUORN Ofenpass 81.77 335⇑*i*P P 01 49 06.7 -0.4
comp=Z,487nm,1.9s,mb6.1
BALST Balsthal 81.83 337⇑*i*P P 01 49 07.7 +0.2
comp=Z,714nm,1.3s,mb6.5
BRMO Bormio 81.87 335 P P 01 49 08.3 +0.6
PPT Papeete 81.88 126 *e*S S 01 59 15.9 -4.6
comp=Z,9µm,34.5s
PPT *e*LR LR 02 14 05.2
comp=Z,11µm,25.0s,baz=327
PPT Papeete 81.88 126 LR LR 02 22 37.0
comp=Z,3µm,18.9s,MS5.7,baz=269,slow=34
PLAL Pickwick Lake 81.89 47 *e*P P 01 49 06.6 -1.2
comp=Z,40nm,1.2s,mb5.2
PLAL LR LR
comp=Z,3µm,20.0s,MS5.7
IVA Berane 81.90 327⇓*i*P P 01 49 06.9 -0.9
BOURR Bourrignon 81.90 337⇑*i*P P 01 49 07.8 0.0
comp=Z,443nm,1.3s,mb6.2
MUO Muotathal 81.92 336⇑*i*P P 01 49 08.8 +0.9
comp=Z,873nm,2.6s,mb6.2
MUO Muotathal 81.92 336⇑P P 01 49 08.3 +0.4
LLS Linth-Limmern 81.92 336⇑*i*P P 01 49 08.1 +0.2
comp=Z,479nm,2.6s,mb6.0
LLS Linth-Limmern 81.92 336⇑P P 01 49 08.3 +0.4
CCA1 Carnmenellis 81.93 346 *e*P P 01 49 07.4 -0.5
CCA1 Carnmenellis 81.93 346 *e*P P 01 49 07.4 -0.5
CRQ2 Rosemanowes 2 81.94 346 *e*P P 01 49 07.7 -0.3
CRQ2 Rosemanowes 2 81.94 346 *e*P P 01 49 07.7 -0.3
MCWV Mont Chateau 81.96 39 *e*P P 01 49 07.8 -0.3
comp=Z,66nm,1.1s,mb5.5
MCWV LR LR
comp=Z,4µm,20.0s,MS5.8
SRS Serrai 81.96 324 *e*P P 01 49 07.2 -0.9
FFD Franklin Falls 81.96 31 *e*P P 01 49 07.5 -0.6
comp=Z,33nm,1.0s,mb5.2
SSPA Standing Stone 81.97 37 *e*P P 01 49 07.2 -1.0
comp=Z,41nm,1.1s,mb5.3
SSPA LR LR
comp=Z,3µm,20.0s,MS5.6
UPM Unac-Piva 81.98 328⇓*i*P P 01 49 06.1 -2.1
BOZC Bozcaada 82.00 322 *i*P P 01 49 06.7 -1.6
AKHS Akhisar 82.03 320 *i*P P 01 49 05.7 -2.8
AKS Akhisar 82.03 320 *e*P P 01 49 07.0 -1.6
STIP Stip 82.03 325 *e*P P 01 49 07.6 -0.9
STIP Stip 82.03 325 *i*P P 01 49 05.0 -3.6
LOMF Lomont 82.05 338 *e*P P 01 49 08.5 -0.1
SKO Skopje 82.09 326 *e*P P 01 49 08.5 -0.3
SKO Skopje 82.09 326 *i*P P 01 49 06.4 -2.4
PVY Plav 82.11 327 *e*P P 01 49 08.1 -0.9
VDL Val di Lei 82.12 336⇑*i*P P 01 49 08.3 -0.7
comp=Z,611nm,2.1s,mb6.2
VDL Val di Lei 82.12 336⇑P P 01 49 09.8 +0.8
TUE Stuetta 82.17 336 P P 01 49 10.1 +0.9
VAY Valandovo 82.20 325 *e*P P 01 49 09.2 -0.2
VAY Valandovo 82.20 325 *i*P P 01 49 06.7 -2.7
KNT Kendrikon 82.20 325 *e*P P 01 49 09.3 -0.1
MABI Malga Bissina 82.21 335 P P 01 49 09.4 -0.1
HASLI Hasliberg 82.24 337⇑*i*P P 01 49 08.3 -1.3
comp=Z,603nm,1.9s,mb6.2
BHL Bhannes 82.27 312 *e*P P 01 49 10.0 +0.2
NKY Niksic 82.28 328⇓*i*P P 01 49 07.1 -2.8
EMMW East Machias 82.31 28 *e*P P 01 49 09.8 -0.1
SOH Sokhos 82.31 324 *e*P P 01 49 08.6 -1.3
LOS Limnos 82.34 322 *e*P P 01 49 10.2 +0.1
BRY Bratogost 82.38 328⇓*i*P P 01 49 09.4 -0.9
FUSIO Fusio 82.38 336⇑*i*P P 01 49 09.7 -0.6
PRK Paraskevi 82.40 321 *e*P P 01 49 09.0 -1.5
DENT Denizli 82.41 319 *e*P P 01 49 11.6 +1.1
FLN La Foliniere 82.43 343⇑*i*P P 01 49 10.4 -0.2
comp=Z,375nm,1.1s,mb5.9
FLN *e*R
comp=Z,7µm,17.8s
FLN La Foliniere 82.43 343⇑*i*P P 01 49 10.4 -0.2
FLN pmax pmax
comp=Z,188nm,1.1s,mb5.9
FLN MLR MLR
comp=Z,7µm,17.8s,MS6.1
FLN La Foliniere 82.43 343⇑*i*P P 01 49 10.4 -0.2
comp=Z,188nm,1.1s,mb5.9
FLN LR LR
comp=Z,7µm,17.8s,MS6.1
OUR Ouranopolis 82.46 323 *e*P P 01 49 10.2 -0.5
WIMIS Wimmis 82.47 337⇑*i*P P 01 49 09.8 -1.0
comp=Z,520nm,3.2s
MAMC Mammari 82.50 314 P P 01 49 11.7 +0.8
LDF La Druitiere 82.51 343⇑*i*P P 01 49 10.8 -0.2
comp=Z,238nm,1.1s,mb5.8
LDF La Druitiere 82.51 343⇑*i*P P 01 49 10.8 -0.2
LDF pmax pmax
comp=Z,119nm,1.1s,mb5.8
LDF La Druitiere 82.51 343⇑*i*P P 01 49 10.8 -0.2
comp=Z,119nm,1.1s,mb5.8
RCY Rachaya 82.52 312 *e*P P 01 49 12.0 +0.9
TTG Podgorica 82.52 328⇓*i*P P 01 49 07.4 -3.7
BRANT Les Verrieres 82.52 338⇑*i*P P 01 49 10.9 -0.2
comp=Z,723nm,3.2s
GRG Griva 82.58 325 *e*P P 01 49 11.0 -0.3
HORT Hortiatis 82.60 324 *e*P P 01 49 10.7 -0.7
CSS Prodhromos 82.61 314⇑P P 01 49 11.8 +0.3
comp=Z,1.7nm,0.8s
CSS Prodhromos 82.61 314 P P 01 49 11.3 -0.2
CSS Prodhromos 82.61 314 *e*P P 01 49 11.8 +0.2
CSS Prodhromos 82.61 314⇑*e*P P 01 49 11.8 +0.3
THE Thessaloniki 82.62 324 *e*P P 01 49 09.9 -1.7
SALA Sala 82.64 311 ⇑P P 01 49 14.8 +3.1
PLG Polygyros 82.65 324 *e*P P 01 49 11.6 -0.1
PLG Polygyros 82.65 324 *e*P P 01 49 10.5 -1.2
KDAG Bornova 82.67 320 *i*P P 01 49 11.6 -0.2
IZM Izmir 82.67 320 P P 01 49 11.7 -0.2
LKBD Leukerbad 82.72 337⇑*i*P P 01 49 11.0 -1.1
comp=Z,311nm,2.2s,mb6.0
LKBD Leukerbad 82.72 337 ⇑P P 01 49 12.5 +0.4
LKBD ⇑P 01 49 12.8
MUGIO Muggio 82.76 336⇑*i*P P 01 49 11.5 -0.8
comp=Z,736nm,2.0s,mb6.4
BUM Brajici-Budva 82.77 328⇓*i*P P 01 49 10.0 -2.3
BLCB Balcova 82.78 320 P P 01 49 10.8 -1.6
BLCB Balcova 82.78 320 *e*P P 01 49 11.3 -1.1
HCY Herceg Novi 82.78 328⇓*i*P P 01 49 11.0 -1.5
ALFC Alevga 82.81 315 ⇑P P 01 49 12.3 -0.3
comp=Z,3.8nm,0.8s
ALFC Alevga 82.81 315⇑*e*P P 01 49 12.3 -0.3
ELL Elmali 82.82 317 P P 01 49 11.5 -1.1
HRV Harvard--Oak R 82.83 32 *e*P P 01 49 10.6 -2.1
HRV pmax pmax
comp=Z,29nm,1.0s,mb5.3
HRV MLR MLR
comp=Z,3µm,19.0s,MS5.6
HRV Harvard--Oak R 82.83 32 *e*P P 01 49 10.6 -2.1
comp=Z,29nm,1.0s,mb5.3
HRV LR LR
comp=Z,3µm,19.0s,MS5.6
SENIN Lac Senin 82.83 337⇑*i*P P 01 49 12.3 -0.4
comp=Z,701nm,2.9s,mb6.2
TZTN Tazewell 82.84 43 *e*P P 01 49 12.5 -0.3
GRR Gorron 82.86 343⇑*i*P P 01 49 12.8 0.0
comp=Z,438nm,1.0s,mb6.1
GRR Gorron 82.86 343⇑*i*P P 01 49 12.8 0.0
GRR pmax pmax
comp=Z,219nm,1.0s,mb6.1
GRR Gorron 82.86 343⇑*i*P P 01 49 12.8 0.0
comp=Z,219nm,1.0s,mb6.1
LOR Lormes 82.87 340⇑*i*P P 01 49 12.9 0.0
comp=Z,273nm,1.1s,mb5.9
LOR *e*R
comp=Z,8µm,17.8s
LOR Lormes 82.87 340⇑*i*P P 01 49 12.9 0.0
LOR pmax pmax
comp=Z,136nm,1.1s,mb5.9
LOR MLR MLR
comp=Z,8µm,17.8s,MS6.2
LOR Lormes 82.87 340⇑*i*P P 01 49 12.9 0.0
comp=Z,136nm,1.1s,mb5.9
LOR LR LR
comp=Z,8µm,17.8s,MS6.2
PAIG Paliouri 82.93 323 *e*P P 01 49 12.4 -0.8
ULC Ulcinj 82.93 327⇓*i*P P 01 49 10.6 -2.6
MMK Mattmark 82.94 336⇑*i*P P 01 49 13.2 0.0
comp=Z,785nm,3.1s
MMK Mattmark 82.94 336 ⇑P P 01 49 14.3 +1.1
BIA Bitola 82.95 325 *e*P P 01 49 12.1 -1.2
BIA Bitola 82.95 325 *i*P P 01 49 10.5 -2.8
AIGLE Aigle 82.95 337⇑*i*P P 01 49 12.5 -0.8
comp=Z,230nm,1.5s,mb6.0
GRYON Gryon 82.99 337⇑*i*P P 01 49 13.6 +0.1
comp=Z,355nm,2.4s,mb6.0
URLA Izmir 83.00 321 *i*P P 01 49 11.8 -1.7
WES Weston 83.03 32 *e*P P 01 49 13.3 -0.4
WES MLR MLR
comp=Z,2µm,21.0s,MS5.4
DIX Grande Dixence 83.07 337⇑*i*P P 01 49 13.9 0.0
comp=Z,516nm,3.0s
DIX Grande Dixence 83.07 337 ⇑P P 01 49 14.9 +1.0
OHR Ohrid 83.07 326 *e*P P 01 49 12.1 -1.8
OHR Ohrid 83.07 326 *i*P P 01 49 11.2 -2.7
SALAN Lac Salanfe 83.12 337⇑*i*P P 01 49 14.2 0.0
comp=Z,479nm,2.5s,mb6.1
MVL Millersville 83.14 36 *e*P P 01 49 13.6 -0.7
SSF Saint Saulge 83.15 340⇑*i*P P 01 49 14.4 +0.1
comp=Z,80nm,0.8s,mb5.5
SSF Saint Saulge 83.15 340⇑*i*P P 01 49 14.4 +0.1
SSF pmax pmax
comp=Z,40nm,0.8s,mb5.5
SSF Saint Saulge 83.15 340⇑*i*P P 01 49 14.4 +0.1
comp=Z,40nm,0.8s,mb5.5
PPCY Paphos 83.16 315 ⇑P P 01 49 14.2 -0.2
PPCY Paphos 83.16 315⇑*e*P P 01 49 14.2 -0.2
HYF Humbligny 83.16 340⇑*i*P P 01 49 14.8 +0.4
EMV Vieux Emosson 83.22 337⇑*i*P P 01 49 14.7 0.0
comp=Z,843nm,3.1s
EMV Vieux Emosson 83.22 337 ⇑P P 01 49 15.4 +0.7
TIR Tirane 83.23 327 *e*P P 01 49 14.0 -0.7
FWV Forest Hill 83.25 40 *e*P P 01 49 13.8 -1.1
FWV *e*pP PP 01 52 24.9 -1.4
PAL Palisades 83.25 34 P P 01 49 14.2 -0.7
PAL pmax pmax
comp=Z,38nm,1.0s,mb5.4
PAL Palisades 83.25 34 *e*P P 01 49 14.1 -0.8
YER Yerkesik 83.25 319 *e*P P 01 49 15.3 +0.4
LIT Litokhoron 83.27 324 *e*P P 01 49 14.0 -0.9
SGMF Saint Gilles 83.32 344⇑*i*P P 01 49 15.2 0.0
comp=Z,386nm,1.1s,mb6.0
SGMF Saint Gilles 83.32 344⇑*i*P P 01 49 15.2 0.0
SGMF pmax pmax
comp=Z,193nm,1.1s,mb6.0
SGMF Saint Gilles 83.32 344⇑*i*P P 01 49 15.2 0.0
comp=Z,193nm,1.1s,mb6.0
ORO Oropa 83.33 336 P P 01 49 14.7 -0.5
MLSB Milas 83.35 319 *e*P P 01 49 14.7 -0.6
ROSF Rostrenen 83.38 345⇑*i*P P 01 49 15.5 0.0
comp=Z,352nm,1.0s,mb6.0
ROSF Rostrenen 83.38 345⇑*i*P P 01 49 15.5 0.0
ROSF pmax pmax
comp=Z,176nm,1.0s,mb6.0
ROSF Rostrenen 83.38 345⇑*i*P P 01 49 15.5 0.0
comp=Z,176nm,1.0s,mb6.0
KZN Kozani 83.38 325 *e*P P 01 49 16.0 +0.5
AKAS Kas 83.38 317 *i*P P 01 49 13.6 -1.9
CPNY Central Park 83.42 34 *e*P P 01 49 17.6 +1.9
SMG Samos 83.43 320 *e*P P 01 49 14.5 -1.3
AVF Avril sur Loir 83.44 340⇑*i*P P 01 49 16.0 +0.2
comp=Z,672nm,1.3s,mb6.2
AVF Avril sur Loir 83.44 340⇑*i*P P 01 49 16.0 +0.2
AVF pmax pmax
comp=Z,336nm,1.3s,mb6.2
AVF Avril sur Loir 83.44 340⇑*i*P P 01 49 16.0 +0.2
comp=Z,336nm,1.3s,mb6.2
TKL Tuckaleechee C 83.45 43 LR LR 02 30 39.4
comp=Z,4µm,18.5s,MS5.8,baz=340,slow=39
SMF Signal de Mont 83.46 339⇑*i*P P 01 49 16.2 +0.3
comp=Z,925nm,1.1s,mb6.4
SMF Signal de Mont 83.46 339⇑*i*P P 01 49 16.2 +0.3
SMF pmax pmax
comp=Z,463nm,1.1s,mb6.4
SMF Signal de Mont 83.46 339⇑*i*P P 01 49 16.2 +0.3
comp=Z,462nm,1.1s,mb6.4
AOS Alonnisos 83.48 323 *e*P P 01 49 15.5 -0.5
RSM Repubblica di 83.54 333 P P 01 49 17.7 +1.4
ELN Prospectdale 83.57 41 *e*P P 01 49 15.7 -0.8
ELN *e* pP 01 49 21.7 -0.8
ELN *e*PP PP 01 52 32.2 +3.3
XOR Xorichti 83.60 323 *e*P P 01 49 16.1 -0.6
ZCCA Zocca 83.62 334 P P 01 49 18.4 +1.7
NEO Neokhori 83.64 323 *e*P P 01 49 15.0 -1.9
FSSB Fossombrone 83.65 332 P P 01 49 17.2 +0.3
BOB Bobbio (Coli) 83.70 335 P P 01 49 17.7 +0.6
ERBM Eremo 83.73 334 P P 01 49 18.4 +1.1
BLA Blacksburg 83.73 40 *e*P P 01 49 16.3 -1.0
BLA *e* 01 49 27.7
BLA *e* 01 52 28.1
BLA Blacksburg 83.73 40 *e*P P 01 49 16.2 -1.1
comp=Z,3.9nm,1.1s
BLA *e* 01 49 27.7
BLA *e*PP PP 01 52 28.1 -2.2
BLA LR LR
comp=Z,249nm,19.0s
GSCL Gusciola 83.74 334 P P 01 49 18.4 +1.1
FNVD Fontana Vidola 83.74 334 P P 01 49 18.3 +0.9
SFI Santa Sofia 83.75 333 P P 01 49 18.5 +1.1
QUIF Quistinic 83.76 344 *e*P P 01 49 17.2 -0.3
comp=Z,171nm,1.3s,mb5.7
QUIF Quistinic 83.76 344 *e*P P 01 49 17.2 -0.3
QUIF pmax pmax
comp=Z,85nm,1.3s,mb5.7
QUIF Quistinic 83.76 344 *e*P P 01 49 17.2 -0.3
comp=Z,85nm,1.3s,mb5.7
LPL La Plagne 83.77 337⇑*i*P P 01 49 18.5 +1.0
comp=Z,105nm,0.9s,mb5.7
LPL La Plagne 83.77 337⇑*i*P P 01 49 18.5 +1.0
LPL pmax pmax
comp=Z,52nm,0.9s,mb5.7
LPL La Plagne 83.77 337⇑*i*P P 01 49 18.5 +1.0
comp=Z,52nm,0.9s,mb5.7
SEI Scarperia 83.77 333 P P 01 49 19.0 +1.5
BGF Bois d'Agland 83.78 340⇑*i*P P 01 49 17.7 +0.1
comp=Z,318nm,1.3s,mb6.0
BGF Bois d'Agland 83.78 340⇑*i*P P 01 49 17.7 +0.1
BGF pmax pmax
comp=Z,159nm,1.3s,mb6.0
BGF Bois d'Agland 83.78 340⇑*i*P P 01 49 17.7 +0.1
comp=Z,159nm,1.3s,mb6.0
LPG La Plagne 83.78 337⇑*i*P P 01 49 18.7 +1.1
comp=Z,152nm,0.9s,mb5.8
LPG La Plagne 83.78 337⇑*i*P P 01 49 18.7 +1.1
LPG pmax pmax
comp=Z,76nm,0.9s,mb5.8
LPG La Plagne 83.78 337⇑*i*P P 01 49 18.7 +1.1
comp=Z,76nm,0.9s,mb5.8
VMG Vicchio 83.80 333 P P 01 49 19.1 +1.4
DAT Datca 83.91 319 *e*P P 01 49 16.5 -1.7
THL Klokotos Trika 83.91 324 *e*P P 01 49 14.0 -4.3
RSP Reno Superiore 83.96 337 P P 01 49 17.9 -0.6
VLC Villacollemand 83.97 334 *e*P P 01 49 19.3 +0.7
comp=Z,85nm,0.9s,mb5.9
VLC *e*pP pP 01 49 22.1 -2.4
VLC *e*PP PP 01 52 32.9 +0.7
CRE Caprese Michel 83.98 333 P P 01 49 19.1 +0.5
BADI Badiali 83.98 333 P P 01 49 19.4 +0.8
SNTG Esanatoglia 83.99 332 P P 01 49 18.9 +0.3
BDI Bagni Di Lucca 84.00 334 P P 01 49 18.4 -0.3

CDCA Citt' di Caste 84.03 333 P P 01 49 19.7 +0.8
MEV Metsovon 84.04 325 eP P 01 49 20.1 +1.2
ARG Arkhangelos 84.08 318 eP P 01 49 19.0 -0.1
KLBR Kellerberrin 84.11 210 eP P 01 49 17.9 -1.3
comp=Z,52nm,1.3s,mb5.5
MURB Monte Urbino 84.11 332 P P 01 49 20.2 +0.9
PLDF La Plantade 84.15 339 eP P 01 49 19.9 +0.5
TCF Toulx Ste Croi 84.18 340⇑iP P 01 49 19.9 +0.3
comp=Z,298nm,1.1s,mb6.0
TCF Toulx Ste Croi 84.18 340⇑iP P 01 49 19.9 +0.3
TCF pmax pmax
comp=Z,149nm,1.1s,mb6.0
TCF Toulx Ste Croi 84.18 340⇑iP P 01 49 19.9 +0.3
comp=Z,149nm,1.1s,mb6.0
AGO Saint Agoulin 84.19 340 eP P 01 49 21.0 +1.4
BNI Bardonecchia 84.21 337 eP P 01 49 20.3 +0.5
BNI pmax pmax
comp=Z,147nm,1.4s,mb5.9
BNI Bardonecchia 84.21 337 eP P 01 49 20.3 +0.6
comp=Z,147nm,1.4s,mb5.9
GDM Grand'Maison 84.22 337 eP P 01 49 20.9 +1.1
CBN Corbin 84.23 38 PFAKE 01 49 30.0 +10
CBN LR LR
comp=Z,4µm,21.0s,MS5.8
AGG Agios Georgios 84.25 324 eP P 01 49 18.7 -1.2
GRN Grenoble 84.29 338 eP P 01 49 21.2 +1.1
LKR Lokris 84.29 323 eP P 01 49 19.0 -1.2
JAN Janina 84.30 325 eP P 01 49 20.0 -0.2
CSNT Castellina Chi 84.32 333 P P 01 49 20.2 -0.1
TERO Teramo 84.34 331 P P 01 49 21.6 +1.2
FGMS Monte Sant'Ang 84.35 329 P P 01 49 22.1 +1.6
MFF Saint Martin d 84.41 342⇑iP P 01 49 21.0 +0.2
comp=Z,180nm,1.1s,mb5.8
MFF Saint Martin d 84.41 342⇑iP P 01 49 21.0 +0.2
MFF pmax pmax
comp=Z,90nm,1.1s,mb5.8
MFF Saint Martin d 84.41 342⇑iP P 01 49 21.0 +0.2
comp=Z,90nm,1.1s,mb5.8
PTL Penteli 84.43 322 eP P 01 49 18.0 -2.9
MBDF Montbardon 84.49 337⇑iP P 01 49 21.5 +0.3
comp=Z,252nm,1.2s,mb5.9
MBDF Montbardon 84.49 337⇑iP P 01 49 21.5 +0.3
MBDF pmax pmax
comp=Z,126nm,1.2s,mb5.9
MBDF Montbardon 84.49 337⇑iP P 01 49 21.5 +0.3
comp=Z,126nm,1.2s,mb5.9
PYM Petit Puy Mans 84.50 340 eP P 01 49 22.0 +0.8
RGNG Rignano Grg 84.50 330 P P 01 49 21.4 +0.1
APE Apeiranthos 84.54 321 eP P 01 49 20.7 -0.7
APE Apeiranthos 84.54 321 eP P 01 49 19.5 -1.9
APE Apeiranthos 84.54 321⇑iP P 01 49 20.6 -0.8
EVR Evrytania 84.55 324 eP P 01 49 22.5 +1.0
ORIF Oris-en-Rattie 84.55 337⇑iP P 01 49 22.4 +0.9
comp=Z,441nm,1.3s,mb6.1
ORIF eR
comp=Z,6µm,18.0s
ORIF Oris-en-Rattie 84.55 337⇑iP P 01 49 22.4 +0.9
ORIF pmax pmax
comp=Z,221nm,1.3s,mb6.1
ORIF Oris-en-Rattie 84.55 337⇑iP P 01 49 22.4 +0.9
comp=Z,221nm,1.3s,mb6.1
COLF Collangettes 84.55 339 eP P 01 49 21.4 -0.1
ATH Athens Observa 84.56 322 eP P 01 49 22.5 +1.0
DOI San Damiano 84.56 336 P P 01 49 20.1 -1.5
FIN Finale Ligure 84.56 336 P P 01 49 20.2 -1.4
IGT Igoumenitsa 84.61 325 eP P 01 49 21.4 -0.4
AQU L'Aquila 84.64 331 µiP P 01 49 21.7 -0.3
AQU L'Aquila 84.64 331 eP P 01 49 22.1 +0.1
AQU pmax pmax
comp=Z,147nm,1.0s,mb6.1
AQU L'Aquila 84.64 331 eP P 01 49 22.1 +0.2
comp=Z,147nm,1.0s,mb6.1
KEK Kerkira 84.66 326 eP P 01 49 22.0 -0.1
SURF Saint Ours 84.70 337 eP P 01 49 22.7 +0.4
GRFL Gerfalco 84.71 333 P P 01 49 22.0 -0.3
FIAM Fiamignano 84.81 332 P P 01 49 23.0 +0.2
MNS Montasola 84.85 332 P P 01 49 22.6 -0.4
VIVF Saint-Julien-l 84.92 338⇑iP P 01 49 24.1 +0.7
comp=Z,408nm,1.2s,mb6.1
VIVF Saint-Julien-l 84.92 338⇑iP P 01 49 24.1 +0.7
VIVF pmax pmax
comp=Z,204nm,1.2s,mb6.1
VIVF Saint-Julien-l 84.92 338⇑iP P 01 49 24.1 +0.7
comp=Z,204nm,1.2s,mb6.1
LBL Lubilhac 84.93 339 eP P 01 49 24.3 +0.9
AUTN L'Aution 84.98 336 eP P 01 49 23.7 0.0
MIDA Miranda 84.99 330 P P 01 49 24.1 +0.4
MUN Mundaring 85.00 211 eP P 01 49 23.0 -0.8
VVLD Villa Vallelon 85.00 331 P P 01 49 23.5 -0.3
TOUF Mont Tournerai 85.02 336 eP P 01 49 23.8 0.0
KARP Karpathos 85.07 319 eP P 01 49 25.0 +0.9
LUCF Luceram 85.10 336 eP P 01 49 24.0 -0.3
CERT Cerreto 85.14 331 P P 01 49 24.0 -0.5
MVIF Mont Vial 85.15 336 eP P 01 49 24.3 -0.2
REVF Revere 85.23 336 eP P 01 49 24.9 0.0
RJF Les Rejaudoux 85.27 340⇑iP P 01 49 24.8 -0.3
comp=Z,187nm,1.2s,mb5.8
RJF eR
comp=Z,7µm,22.0s
RJF Les Rejaudoux 85.27 340⇑iP P 01 49 24.8 -0.3
RJF pmax pmax
comp=Z,94nm,1.2s,mb5.8
RJF MLR MLR
comp=Z,7µm,22.0s,MS6.0
RJF Les Rejaudoux 85.27 340⇑iP P 01 49 24.8 -0.3
comp=Z,94nm,1.2s,mb5.8
RJF LR LR
comp=Z,7µm,22.0s,MS6.0
TOLF Tolfa 85.36 332 P P 01 49 25.3 -0.3
STOF St-Etienne Org 85.40 337 eP P 01 49 26.5 +0.8
RLS Riolos of Patr 85.42 324 eP P 01 49 25.0 -0.9
CAF Calviac 85.50 340⇑iP P 01 49 26.3 0.0
comp=Z,153nm,1.0s,mb5.9
CAF Calviac 85.50 340⇑iP P 01 49 26.3 0.0
CAF pmax pmax
comp=Z,76nm,1.0s,mb5.9
CAF Calviac 85.50 340⇑iP P 01 49 26.3 0.0
comp=Z,76nm,1.0s,mb5.9
NWAO Narrogin (SRO) 85.50 210 PFAKE 01 49 40.0 +14
NWAO LR LR
comp=Z,2µm,19.0s,MS5.5
SMRF Simiane la Rot 85.51 337⇑iP P 01 49 27.3 +1.0
comp=Z,259nm,1.2s,mb6.0
SMRF Simiane la Rot 85.51 337⇑iP P 01 49 27.3 +1.0
comp=Z,259nm,1.2s,mb6.3
FRF La Foret Royal 85.60 336⇑iP P 01 49 26.8 0.0
comp=Z,272nm,1.3s,mb6.0
FRF La Foret Royal 85.60 336⇑iP P 01 49 26.8 0.0
FRF pmax pmax
comp=Z,136nm,1.3s,mb6.0
FRF La Foret Royal 85.60 336⇑iP P 01 49 26.8 0.0
comp=Z,136nm,1.3s,mb6.0
VLS Valsamata 85.67 325 eP P 01 49 26.0 -1.1
TAVF Tavernes 85.71 337 eP P 01 49 27.8 +0.5
JSC Jenkinsville 85.76 43 eP P 01 49 27.6 0.0
JSC ePcP PcP 01 49 29.9 -0.5
PRAF Pradon 85.78 337 eP P 01 49 28.9 +1.3
LFF La Frestale 85.80 341⇑iP P 01 49 27.4 -0.3
comp=Z,160nm,1.1s,mb5.9
LFF La Frestale 85.80 341⇑iP P 01 49 27.4 -0.3
LFF pmax pmax
comp=Z,80nm,1.1s,mb5.9
LFF La Frestale 85.80 341⇑iP P 01 49 27.4 -0.3
comp=Z,80nm,1.1s,mb5.9
LMR La Mourre 85.85 336⇑iP P 01 49 28.3 +0.3
comp=Z,420nm,1.1s,mb6.3
LMR La Mourre 85.85 336⇑iP P 01 49 28.3 +0.3
LMR pmax pmax
comp=Z,210nm,1.1s,mb6.3
LMR La Mourre 85.85 336⇑iP P 01 49 28.3 +0.3
comp=Z,210nm,1.1s,mb6.3
ZKR Zakros 85.86 319 eP P 01 49 27.4 -0.6
LASF Ste Croix 85.86 338⇑iP P 01 49 28.2 +0.2
comp=Z,169nm,1.2s,mb5.9
VLI Veliai 85.95 322 eP P 01 49 26.5 -2.0
EIL Elat 85.97 310 eP P 01 49 29.1 +0.4
comp=Z,4µm,1.0s
EIL ePcP PcP 01 49 31.8 +0.5
EIL esP sP 01 49 33.8 -2.9
EIL ePP PP 01 52 46.6 -1.9
NPS Neapolis 86.01 320 eP P 01 49 27.0 -1.8
GELF Grande-Etoile 86.10 337 eP P 01 49 29.5 +0.3
LAST Lasithi 86.15 320 eP P 01 49 27.7 -1.8
KYTH Kithira 86.28 322 eP P 01 49 29.0 -1.1

XRY Khrisi 86.30 319 eP P 01 49 30.0 -0.2
VAM Vamos 86.52 321 eP P 01 49 31.4 +0.1
SIVA Sivas 86.57 320 eP P 01 49 31.6 0.0
TBI Tubuai 86.62 129 eS S 02 00 03.6 -4.2
comp=Z,3µm,31.2s
TBI eSS SS 02 05 42.0 -6.7
comp=Z,735nm,28.2s
TBI eLR LR 02 15 48.2
comp=Z,8µm,35.0s,baz=330
MTLF Montolieu 86.96 339⇑iP P 01 49 33.2 -0.2
comp=Z,100nm,1.1s,mb5.6
MTLF Montolieu 86.96 339⇑iP P 01 49 33.2 -0.2
MTLF pmax pmax
comp=Z,50nm,1.1s,mb5.7
MTLF Montolieu 86.96 339⇑iP P 01 49 33.2 -0.2
comp=Z,50nm,1.1s,mb5.7
URZ Urewera 87.02 161 LR LR 02 27 03.2
comp=Z,3µm,18.1s,MS5.7,baz=6.4,slow=35
GVD Gavdhos 87.04 320 eP P 01 49 35.0 +1.1
comp=Z,144nm,0.9s,mb6.2
GVD ePcP PcP 01 49 36.6 +0.6
GVD esP sP 01 49 38.6 -3.4
GVD ePP PP 01 52 58.7 +1.5
LRDF Laroque-de-Fa 87.26 339 eP P 01 49 34.9 0.0
MLS Moulis 87.59 340 eP P 01 49 36.0 -0.5
FILF Fillols 87.61 339 eP P 01 49 36.5 -0.1
EJON La Jonquera 87.63 339 P P 01 49 39.3 +2.6
comp=Z,66nm,1.0s,mb5.8
EPF Esparros 87.70 341 eP P 01 49 37.0 0.0
comp=Z,36nm,0.9s,mb5.3
EPF Esparros 87.70 341 eP P 01 49 37.0 0.0
EPF pmax pmax
comp=Z,18nm,0.9s,mb5.3
EPF Esparros 87.70 341 eP P 01 49 37.0 0.0
comp=Z,18nm,0.9s,mb5.3
VALF Valcebollere 87.89 339 eP P 01 49 37.8 -0.1
RESF Ens 87.91 340 eP P 01 49 37.8 -0.2
VIEF Viey 87.91 341 eP P 01 49 37.7 -0.3
EALK Alkurruntz 87.93 342 P P 01 49 37.9 -0.3
comp=Z,37nm,1.0s,mb5.6
SJPF Ste Jean 87.97 342 eP P 01 49 39.0 +0.7
comp=Z,51nm,1.2s,mb5.3
SJPF Ste Jean 87.97 342 eP P 01 49 39.0 +0.7
SJPF pmax pmax
comp=Z,26nm,1.2s,mb5.3
SJPF Ste Jean 87.97 342 eP P 01 49 39.0 +0.7
comp=Z,26nm,1.2s,mb5.3
ELIZ Elizondo 87.99 342 P P 01 49 39.3 +0.9
ELIZ pmax pmax
comp=Z,18nm,0.8s,mb5.3
ELIZ Elizondo 87.99 342 P P 01 49 39.3 +0.9
comp=Z,18nm,0.8s,mb5.4
LARF Larrau 87.99 341 eP P 01 49 37.5 -0.9
ETSF Etsaut 88.03 341⇑iP P 01 49 38.2 -0.4
comp=Z,38nm,0.9s,mb5.3
ETSF Etsaut 88.03 341⇑iP P 01 49 38.2 -0.4
ETSF pmax pmax
comp=Z,19nm,0.9s,mb5.3
ETSF Etsaut 88.03 341⇑iP P 01 49 38.2 -0.4
comp=Z,19nm,0.9s,mb5.3
EBIE Bielsa 88.07 341 P P 01 49 39.6 +0.8
comp=Z,42nm,1.1s,mb5.6
ELAN Lastosa 88.32 343 P P 01 49 39.6 -0.3
comp=Z,42nm,1.0s,mb5.6
VSL Villasalto 88.53 333 eP P 01 49 38.5 -2.4
comp=Z,84nm,0.9s,mb6.1
VSL epP pP 01 49 44.2 -2.8
VSL ePP PP 01 53 08.5 -0.6
EARI Arriondas 88.59 345 P P 01 49 42.7 +1.4
comp=Z,52nm,1.3s,mb5.7
EPON Pontenova 88.91 346 P P 01 49 41.9 -0.8
comp=Z,85nm,1.1s,mb6.0
DGAR Diego Garcia 89.09 258 PFAKE 01 49 50.0 +6.4
DGAR LR LR
comp=Z,396nm,19.0s,MS4.9
EPOB Poblet 89.11 339 P P 01 49 43.8 +0.1
comp=Z,35nm,1.1s,mb5.6
ESAC San Caprasio 89.13 341 P P 01 49 45.9 +2.1
comp=Z,81nm,1.0s,mb6.0
TAU Tasmania Unive 89.18 184 PFAKE 01 49 50.0 +6.0
TAU LR LR
comp=Z,851nm,19.0s,MS5.2
SNZO South Karori 89.47 164 PFAKE 01 50 00.0 +15
SNZO LR LR
comp=Z,3µm,19.0s,MS5.8
STS Santiago 89.57 347 P P 01 49 44.4 -1.4
STS pmax pmax
comp=Z,32nm,1.0s,mb5.6
STS Santiago 89.57 347 P P 01 49 44.4 -1.4
comp=Z,32nm,1.0s,mb5.6
EMAZ Mazaricos 89.57 347 P P 01 49 42.4 -3.4
comp=Z,42nm,1.3s,mb5.6
ERTA Horta de San J 89.67 340 P P 01 49 46.0 -0.3
ERUA La Rua 89.81 346 P P 01 49 45.9 -1.1
ERUA pmax pmax
comp=Z,40nm,1.0s,mb5.7
ERUA La Rua 89.81 346 P P 01 49 45.9 -1.1
comp=Z,40nm,1.0s,mb5.7
ETOS Mallorca 90.17 338 P P 01 49 51.1 +2.4
comp=Z,58nm,1.2s,mb5.8
ECAL Calabor 90.18 345 P P 01 49 50.2 +1.5
comp=Z,32nm,1.3s,mb5.5
PBRG Braganca 90.32 345 eP P 01 49 48.4 -0.9
comp=Z,66nm,1.3s,mb5.8
ETOR Torete 90.34 342 P P 01 49 48.9 -0.6
ETOR pmax pmax
comp=Z,23nm,0.9s,mb5.5
ETOR Torete 90.34 342 P P 01 49 48.9 -0.6
comp=Z,23nm,0.9s,mb5.5
PCAB Cabril 90.63 346 eP P 01 49 50.3 -0.5
comp=Z,92nm,1.4s,mb5.9
DWPF Disney 90.76 46 PFAKE 01 50 00.0 +8.6
DWPF LR LR
comp=Z,3µm,19.0s,MS5.7
GUD Guadarrama 90.95 343 P P 01 49 52.6 +0.3
GUD pmax pmax
comp=Z,12nm,1.0s,mb5.2
GUD Guadarrama 90.95 343 P P 01 49 52.6 +0.3
comp=Z,12nm,1.0s,mb5.2
PVRL Vila Real 91.00 346 eP P 01 49 51.7 -0.8
comp=Z,132nm,1.4s,mb6.1
EIBI Ibiza 91.25 339 P P 01 49 53.7 +0.1
comp=Z,38nm,1.0s,mb5.7
PVIS Viseu 91.58 346 eP P 01 49 54.4 -0.8
comp=Z,76nm,1.3s,mb5.9
MTE Manteigas 91.82 346 eP P 01 49 55.5 -0.8
comp=Z,68nm,1.1s,mb5.9
MTE Manteigas 91.82 346 eP P 01 49 55.9 -0.4
comp=Z,68nm,1.1s,mb5.9
MTE Manteigas 91.82 346 ePP PP 01 53 31.0 -4.3
MTE eSKSac SKSac 02 00 29.9 +1.6
MTE Manteigas 91.82 346 eLR LR 02 21 40.7
comp=Z,3µm,13.3s
MTE Manteigas 91.82 346 eP P 01 49 55.8 -0.6
comp=Z,41nm,1.0s,mb5.7
ESDC Sonseca Array 91.85 343 P P 01 49 55.7 -0.7
comp=Z,17nm,0.9s,mb5.3,baz=11,slow=4.0,SNR=22
ESDC LR LR 02 39 18.5
comp=Z,6µm,18.4s,MS6.1,baz=20,slow=41
ESDC Sonseca Array 91.85 343 P P 01 49 55.6 -0.8
comp=Z,22nm,1.0s,mb5.5
ESLA Sonseca Array 91.85 343 eP P 01 49 55.6 -0.8
comp=Z,12nm,1.2s,mb5.1
ESLA ePcP PcP 01 49 57.9 +0.6
ESLA ePP PP 01 53 32.4 -3.0
ESLA LR LR
comp=Z,31µm,19.0s,MS6.8
KEST Kesra 91.97 331 P P 01 49 57.5 +0.5
comp=Z,17nm,0.9s,mb5.4,baz=317,slow=1.6,SNR=23
KEST LR LR 02 36 00.2
comp=Z,3µm,18.8s,MS5.8,baz=138,slow=39
ETOB Tobarra 92.31 341 P P 01 49 59.1 +0.5
comp=Z,12nm,0.9s,mb5.2
PCBR Castelo Branco 92.36 345 eP P 01 49 57.7 -1.1
comp=Z,46nm,1.4s,mb5.6
EVIA Vianos 92.53 341 P P 01 49 58.9 -0.7
EVIA pmax pmax
comp=Z,15nm,1.0s,mb5.4
EVIA Vianos 92.53 341 P P 01 49 58.9 -0.7
comp=Z,15nm,1.0s,mb5.4
PTOM Tomar 92.73 346 eP P 01 49 59.7 -0.8
comp=Z,77nm,1.3s,mb6.0
SET Setif 92.78 335 P P 01 50 02.0 +1.3
EMUR La Murta 93.00 340 P P 01 50 03.5 +1.7
EMUR P 01 50 04.1
CMER Merouana 93.17 334 P P 01 50 00.0 -2.5

EBAN Banos Encina 93.26 342 P P 01 50 01.9 -1.1
EBAN pmax pmax
comp=Z,15nm,0.8s,mb5.5
EBAN Banos Encina 93.26 342 P P 01 50 01.9 -1.1
comp=Z,15nm,0.8s,mb5.5
PESTR Estremoz 93.32 345 eP P 01 50 01.8 -1.4
comp=Z,47nm,1.4s,mb5.7
PESTR Estremoz 93.32 345 eP P 01 50 02.4 -0.8
comp=Z,47nm,1.4s,mb5.7
PESTR Estremoz 93.32 345 ePP PP 01 53 49.6 +2.5
PESTR eSKSac SKSac 02 00 38.1 +1.4
PESTR Estremoz 93.32 345 eLR LR 02 22 15.9
EBAD Badajoz 93.33 345 P P 01 50 02.2 -1.1
comp=Z,17nm,1.1s,mb5.4
EHUE Huescar 93.34 341 P P 01 50 02.5 -0.8
EHUE pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
EHUE Huescar 93.34 341 P P 01 50 02.5 -0.9
comp=Z,4.1nm,1.0s,mb4.8
EADA Adamuz 93.42 343 P P 01 50 02.6 -1.1
comp=Z,16nm,1.0s,mb5.4
EQES Quesada 93.45 341 P P 01 50 03.8 0.0
comp=Z,11nm,1.1s,mb5.2
EMHD Djebel Mahouad 93.48 336 P P 01 50 04.0 0.0
PMAFR Mafra 93.52 347 eP P 01 50 04.8 +0.6
PLOU Loures 93.57 346 eP P 01 50 06.0 +1.6
EVO Evora 93.72 345 eP P 01 50 04.9 -0.2
comp=Z,123nm,1.8s,mb5.7
EVO eR
comp=Z,5µm,19.5s
LIS Lisbon 93.73 346 eP P 01 50 00.9 -4.2
LIS eS SKSac 02 00 37.7 -1.2
LIS eS SKSac 02 00 38.5 -0.5
LIS AMS AMS 02 39 52.4
comp=E,4µm,28.2s
ECOG Cogollos-Vega 94.07 342 P P 01 50 07.5 +0.8
ECOG pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
ECOG Cogollos-Vega 94.07 342 P P 01 50 07.5 +0.9
comp=Z,3.9nm,0.6s,mb5.0
PBEJ Beja 94.19 345 eP P 01 50 06.6 -0.6
comp=Z,50nm,1.3s,mb5.8
EANR 'Ain N'Sour 94.22 338 P P 01 50 07.0 -0.4
EMIN Mina Concepcio 94.22 344 P P 01 50 06.7 -0.7
comp=Z,22nm,1.2s,mb5.5
ELOJ Sierra Loja 94.32 342 P P 01 50 08.5 +0.7
ELOJ pmax pmax
comp=Z,12nm,1.0s,mb5.3
ELOJ Sierra Loja 94.32 342 P P 01 50 08.5 +0.6
comp=Z,12nm,1.0s,mb5.3
BBSR BB Station 94.32 32 PFAKE 01 50 20.0 +12
BBSR LR LR
comp=Z,2µm,21.0s,MS5.5
EGRO El Granado 94.60 345 P P 01 50 07.2 -1.9
comp=Z,23nm,1.6s,mb5.4
ETRT Tiaret 94.69 337 P P 01 50 09.0 -0.5
RKT Rikitea 94.73 119 eSKSac SKSac 02 00 39.2 -5.1
comp=Z,1µm,29.2s
RKT eSP SP 02 02 34.5 -3.4
comp=Z,2µm,28.5s
RKT eSS SS 02 07 44.2 -1.8
comp=Z,2µm,25.0s
RKT eLR LR 02 19 40.7
comp=Z,9µm,33.2s,baz=320
PTEO Sao Teotonio 94.81 346 eP P 01 50 10.8 +0.7
comp=Z,66nm,1.6s,mb5.8
ESPR Espera 94.94 343 P P 01 50 10.5 -0.1
comp=Z,17nm,0.9s,mb5.5
EMIJ Mijas 95.01 342 P P 01 50 12.6 +1.6
comp=Z,16nm,0.9s,mb5.5
MORF Marmelete 95.03 346 eP P 01 50 10.5 -0.6
MORF eS SKSac 02 00 46.0 +0.1
MORF eS SKSac 02 00 50.4 +4.5
MORF AMS AMS 02 41 12.7
comp=Z,4µm,12.5s,MS6.1
EJIF Jimena Fronter 95.26 343 P P 01 50 11.4 -0.7
EJIF pmax pmax
comp=Z,24nm,1.0s,mb5.6
EJIF Jimena Fronter 95.26 343 P P 01 50 11.4 -0.8
comp=Z,24nm,1.0s,mb5.6
CMLA Cha da Macela 96.12 359 PFAKE 01 50 30.0 +14
CMLA LR LR
comp=Z,938nm,21.0s,MS5.2
MSEY Mahe Island 98.78 272 PFAKE 01 50 40.0 +12
MSEY LR LR
comp=Z,653nm,19.0s,MS5.2
PTCN Pitcairn Islan 99.16 117 PFAKE 01 50 40.0 +10
PTCN LR LR
comp=Z,4µm,19.0s,MS5.9
JTS JuntasAbangare 103.25 59 P Pdif 01 50 48.3 +0.4
JTS MLR MLR
comp=Z,295nm,19.0s
SJG San Juan 106.49 39 PFAKE 01 55 20.0 +6.8
SJG LR LR
comp=Z,2µm,19.0s,MS5.8
PAYG Puerto Ayora 108.39 71 PFAKE 01 55 30.0 +13
PAYG LR LR
comp=Z,2µm,19.0s,MS5.6
KMBO Kilima Mbogo 108.53 289 Pdiff Pdif 01 51 13.5 +2.1
comp=Z,1.5nm,0.9s,baz=46,slow=5.7,SNR=2.5
KMBO Kilima Mbogo 108.53 289 Pdif Pdif 01 51 13.5 +2.1
KMBO LR LR
comp=Z,5µm,19.0s,MS6.0
SDV Santo Domingo 112.36 48 ePKiKP PKiKP 01 55 23.8 -0.5
SDV LR LR
comp=Z,748nm,22.0s,MS5.2
DRV Dumont d'Urvil 113.28 186 SP SP 02 05 47.0 -2.7
DRV SS SS 02 11 59.0 -1.9
RPN Rapa Nui 113.98 105 PFAKE 01 55 40.0 +13
RPN LR LR
comp=Z,808nm,20.0s,MS5.3
TORD Torodi Ar. Bea 115.39 329 PKP PKPdf 01 55 28.7 -1.4
comp=Z,8.2nm,1.0s,baz=19,slow=2.2,SNR=32
CASY Casey 117.13 198 eP PKPdf 01 55 30.7 -2.7
CASY Casey 117.13 198 ePKPdf PKPdf 01 55 31.2 -2.2
CASY LR LR
comp=Z,1µm,20.0s,MS5.5
ATAH Atahualpa 120.82 65 PKP PKPdf 01 55 40.6 +0.1
comp=Z,6.7nm,0.9s,baz=280,slow=6.1,SNR=2.4
DBIC Dimbokro 123.62 334 PKP PKPdf 01 55 45.7 -0.1
comp=Z,32nm,1.0s,baz=343,slow=2.5,SNR=15
DBIC PP PP 01 57 25.9 -2.0
comp=Z,14nm,1.0s,baz=41,slow=3.8,SNR=4.5
DBIC Dimbokro 123.62 334 PKP PKPdf 01 55 45.7 -0.2
DBIC PP PP 01 57 25.9 -2.0
DBIC LR LR
comp=Z,2µm,20.0s,MS5.8
VNDA Vanda 123.85 178 PKP PKPdf 01 55 43.2 -3.1
comp=Z,1.5nm,0.7s,baz=337,slow=4.6,SNR=10
LIC Lamto 124.10 334 ePKIKP PKPdf 01 55 44.0 -2.8
comp=Z,89nm,1.1s
LIC eR
comp=Z,3µm,18.2s
LIC Lamto 124.10 334 ePKPdf PKPdf 01 55 44.0 -2.8
LIC LR LR
comp=Z,1µm,18.3s,MS5.6
SBA Scott Base 124.35 177 PFAKE 01 56 00.0 +13
SBA LR LR
comp=Z,1µm,20.0s,MS5.5
LSZ Lusaka 124.97 286 PFAKE 01 56 00.0 +12
LSZ LR LR
comp=Z,5µm,20.0s,MS6.1
NNA Nana 125.60 68 PFAKE 01 56 00.0 +10
NNA LR LR
comp=Z,399nm,19.0s,MS5.1
SAML Samuel 131.32 52 ePKPdf PKPdf 01 55 59.8 -0.7
SAML LR LR
comp=Z,2µm,20.0s,MS5.7
MAW Mawson 132.06 211 eP PKPdf 01 56 00.3 -1.6
comp=Z,4.2nm,0.8s
MAW Mawson 132.06 211 PKP PKPdf 01 55 59.3 -2.7
comp=Z,3.8nm,0.9s,baz=195,slow=1.0,SNR=9.1
MAW Mawson 132.06 211 PKIKP PKPdf 01 55 59.3 -2.6
MAW pmax pmax
comp=Z,4.0nm,0.9s
MAW Mawson 132.06 211 eP PKPdf 01 56 00.3 -1.6
MAW LR LR
comp=Z,2µm,19.0s,MS5.8
LBTB Lobatse 133.44 279 PFAKE 01 56 20.0 +15
LBTB LR LR
comp=Z,3µm,21.0s,MS5.9
LPAZ La Paz 134.33 63 PKP PKPdf 01 56 07.1 +0.9
comp=Z,3.2nm,0.7s,baz=335,slow=3.4,SNR=14
LPAZ SKP 01 59 43.3
comp=Z,3.2nm,1.2s,baz=297,slow=4.5,SNR=3.5
LPAZ La Paz 134.33 63 PKP PKPdf 01 56 07.1 +0.9

LPAZ SKP 01 59 43.3
LPAZ LR LR
comp=Z,1μm,20.0s,MS5.7
TSUM Tsumeb 134.75 292 *e*P 01 55 56.0
TSUM *e*PKPdf PKPdf 01 56 07.8 +0.8
TSUM *e*PP PP 01 58 40.9 +0.3
TSUM *e*SKPbc SKPbc 01 59 39.1 +2.8
TSUM LR LR
comp=Z,2μm,20.0s,MS5.9
BOSA Boshof 135.98 275 PKP PKPdf 01 56 07.1 -2.2
comp=Z,6.6nm,1.0s,baz=300,slow=2.4,SNR=4.9
BOSA PP PP 01 58 44.0 -4.3
comp=Z,7.5nm,1.0s,baz=46,slow=7.3,SNR=4.1
BOSA Boshof 135.98 275 PKP PKPdf 01 56 07.1 -2.2
BOSA PP PP 01 58 44.0 -4.3
BOSA LR LR
comp=Z,2μm,20.0s,MS5.9
QSPA South Pole Qui 136.23 180 *e*P PKPdf 01 56 09.2 -0.6
QSPA LR LR
comp=Z,1μm,19.0s,MS5.7
LVC Limon Verde 138.50 70 *e*PKPbc PKPdf 01 56 13.0 -1.0
LVC LR LR
comp=Z,1μm,20.0s,MS5.7
RCBR Riachuelo 138.71 14 *e*PKPdf PKPdf 01 56 14.9 +0.6
RCBR LR LR
comp=Z,2μm,20.0s,MS5.7
SYO Syowa Base 140.77 211⇑ *e*P 01 56 08.0
SYO Syowa Base 140.77 211⇑ *e*P PKPdf 01 56 15.2 -2.9
SUR Sutherland 141.30 274 PFAKE 01 56 30.0 +11
SUR LR LR
comp=Z,732nm,20.0s,MS5.4
BDFB Brasilia 144.46 37 PKP PKPdf 01 56 22.8 -1.8
comp=Z,36nm,1.0s,baz=329,slow=3.3,SNR=16
BDFB Brasilia 144.46 37 PKP PKPdf 01 56 22.8 -1.8
BDFB LR LR
comp=Z,4μm,22.0s,MS6.1
BAO Brasilia Array 144.46 37 PKPdf PKPdf 01 56 23.5 -1.1
MDZ Mendoza 145.23 82 *e*PKIKP PKPbc 01 56 33.2 +7.6
PLCA Paso Flores 148.03 96 PKPbc PKPbc 01 56 33.1 -0.7
comp=Z,37nm,1.1s,baz=290,slow=3.5,SNR=18
PLCA Paso Flores 148.03 96 PKPbc PKPbc 01 56 33.1 -0.7
PLCA LR LR
comp=Z,2μm,22.0s,MS5.8
CPUP Villa Florida 148.46 61 PKPbc PKPbc 01 56 34.2 -0.7
comp=Z,32nm,0.9s,baz=328,slow=2.6,SNR=32
CPUP Villa Florida 148.46 61 PKPbc PKPbc 01 56 34.2 -0.7
NVL N'lazarevskaya 149.46 204 *e*PKP2 PKPbc 01 56 34.4 -3.1
NVL *i* 02 19 25.1
NVL pmax pmax
comp=Z,45nm,1.2s
NVL pmax pmax
comp=N,25nm,1.0s
NVL pmax pmax
comp=E,23nm,1.6s
SNAA Sanae 152.35 196 PKPbc PKPbc 01 56 41.1 -3.1
comp=E,12nm,1.0s,baz=147,slow=1.7,SNR=24
SNAA Sanae 152.35 196 *e*PKPdf PKPdf 01 56 36.4 -1.0
SNAA *e* 01 56 41.4
SNAA *e* 01 56 43.8
SNAA *e* 01 56 53.1
SNAA *e* 01 56 55.2
SNAA *e* 01 57 04.4
SNAA *e* 01 57 09.0
SNAA *e* 01 57 14.8
SNAA *e* 01 57 22.6
SNAA *e* 01 57 29.5
SNAA *e* 01 57 34.2
SNAA *e* 02 00 38.6
SNAA *e* 02 00 54.7
SNAA Sanae 152.35 196 *e*PKPdf PKPdf 01 56 36.4 -1.1
SNAA PKPbc PKPbc 01 56 41.1 -3.1
PMSA Palmer Station 152.68 145 PFAKE 01 56 50.0 +12
PMSA LR LR
comp=Z,2μm,19.0s,MS6.0
VNA3 Neumayer Olymp 153.87 192 *e*PKPdf PKPdf 01 56 38.9 -0.8
VNA3 *e* 01 56 47.0
VNA3 *e* 01 56 49.5
VNA3 *e* 01 56 57.2
VNA3 *e* 01 56 59.1
VNA3 *e* 01 57 09.1
VNA3 *e* 01 57 13.8
VNA3 *e* 01 57 22.2
VNA3 *e* 01 57 25.0
VNA3 *e* 01 57 31.8
VNA3 *e* 01 57 39.1
VNA3 *e* 01 57 46.7
VNA3 *e* 01 57 50.6
VNA3 *e* 02 00 34.6
VNA3 *e* 02 00 43.8
VNA3 *e* 02 00 49.3
VNA1 Neumayer--Stat 154.17 194 *e*PKPdf PKPdf 01 56 39.4 -0.7
VNA1 *e* 01 56 46.1
VNA1 *e* 01 56 48.4
VNA1 *e* 01 56 58.4
VNA1 *e* 01 57 00.2
VNA1 *e* 01 57 10.9
VNA1 *e* 01 57 16.1
VNA1 *e* 01 57 22.9
VNA1 *e* 01 57 31.1
VNA1 *e* 01 57 38.2
VNA1 *e* 01 57 49.6
EFI East Falkland 158.89 116 PFAKE 01 57 00.0 +14
EFI LR LR
comp=Z,929nm,20.0s,MS5.6

CASC 28 01:40:51.0±2.3, 1038N×8634W, h5km±20km, MD3.7, ML2.9, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCR	**Vista de Mar**	**0.74**	**110**	*e*P	Pg	01 41 06.4	+1.2
VCR				*e*S	Sg	01 41 16.4	+1.5
SSNN	**San Juan del S**	**1.02**	**28**⇑	*e*P	Pg	01 41 10.3	-0.3
SSNN				*e*S	Sg	01 41 24.5	+0.7
MADN	**Villa Maderas**	**1.29**	**38**	*e*P	Pn	01 41 15.1	-0.6
JCR	**Jicaral**	**1.32**	**114**	*e*P	Pn	01 41 14.8	-1.3
CONN	**Concepcion**	**1.37**	**31**	*e*P	Pn	01 41 15.1	-1.7
CONN				*i*		01 41 23.9	
	comp=Z,172nm,0.3s						
CGA2	**Cerro Gallo 2**	**1.88**	**101**	*e*P	Pn	01 41 24.5	+0.6
PRS1	**Puriscal**	**2.04**	**101**	*e*P	Pn	01 41 26.7	+0.7
LAJ	**Bijagual**	**2.25**	**103**	*e*P	Pn	01 41 21.4	-7.4
LCR2	**La Lucha 2**	**2.39**	**105**	*e*P	Pn	01 41 32.7	+1.9

IDC 28 01:46:05.1±6.1, 4586N×15360E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.8/21, mbtmp4.1/6, Error ellipse: s-maj=168.8km s-min=38.1km az=179.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.66**	**298**	P	P	01 54 43.1	0.0
	1.7nm,0.9s,baz=52,slow=9.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.69**	**310**	P	P	01 55 13.2	-0.7
	0.6nm,0.5s,baz=48,slow=7.7,SNR=4.2						
NEW	**Newport**	**57.45**	**52**	P	P	01 55 55.4	-0.3
	3.7nm,1.0s,baz=286,slow=8.4,SNR=3.2						
FINES	**FINESS Array B**	**64.99**	**335**	P	P	01 56 46.2	-0.6
	1.0nm,0.4s,baz=42,slow=7.3,SNR=8.6						
NB2	**NORSAR Subarra**	**69.18**	**341**	P	P	01 57 13.2	-0.3
	comp=Z,2.2nm,0.7s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.18**	**341**	P	P	01 57 13.4	-0.1
	comp=Z,1.6nm,0.7s,baz=28,slow=6.2,SNR=6.4						
AKASG	**Malin Array Be**	**72.47**	**327**	P	P	01 57 33.0	-0.5
	comp=Z,0.7nm,0.4s,baz=32,slow=6.0,SNR=6.1						

*SZGRF **28** 01:46:40.6, 4375N×15250E, h33km, mb4.8, East of Kuril Islands, Russia*
*BJI **28** 01:46:48.7, 4679N×15379E, h29km, mB5.6, mb4.7, Ms5.2, Msz5.3*
*NEIC **28** 01:46:49.5±0.2, 4644N×15340E, h10km, mb4.8/53, Error ellipse: s-maj=6.4km s-min=5.5km az=150.0*
*SKHL **28** 01:46:50.3±1.9, 4649N×15358E, h50km±15km, mb5.1/5, Ms5.8/2*
*ISCJB **28** 01:46:52.1±0.3, 4639N±005×15328E±005, h37km, mb4.7/84, MS5.3/5, Error ellipse: s-maj=7.8km s-min=3.5km az=107.5*
*MOS **28** 01:46:52.7±0.9, 4647N×153.15E, h38km, mb5.0/40, Error ellipse: s-maj=10.2km s-min=5.3km az=104.6*
*IDC **28** 01:46:55.8±3.7, 4647N×153.17E, h56km±32km, mb4.1/16, mb1 4.3/18, mb1mx4.2/23, mbtmp4.4/18, ML3.9/2, Error ellipse: s-maj=17.3km s-min=14.9km az=91.0*

ISC 28 01:46:53.8±0.3, 4644N±005×15331E±005, h39km, h39km±3.6km: pP-P, n269, σ1°05/275, mb4.7/84, MS5.3/5, 50C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.99**	**254**	*i* P	**Pn**	**01 47 50.8**	**-1.7**
KUR				AMB	AMB	01 47 51.5	
	300nm,0.7s						
KUR				AMB	AMB	01 47 51.5	
	220nm,0.7s						
KUR				AMB	AMB	01 47 51.5	
	1μm,0.7s						
KUR				*e*S	**Sn**	**01 48 37.0**	**-1.0**
KUR				A		01 48 49.5	
	860nm,0.8s						
KUR				A		01 48 49.5	
	645nm,0.8s						
KUR				AMS	AMS	01 49 44.0	
	116μm,15.0s						
KUR				AMS	AMS	01 49 44.0	
	110μm,15.0s						
KUR				AMS	AMS	01 49 44.0	
	56μm,15.0s						
KUR				AMS	AMS	01 49 44.0	
	62μm,15.0s						
KUR				AMS	AMS	01 49 44.0	
	89μm,15.0s						
KUR	**Kuril'sk**	**3.99**	**254**⇑	*i* PN	**Pn**	**01 47 50.8**	**-1.7**
KUR				*e*S	**Sn**	**01 48 37.0**	**-1.0**
KUR				pmax	pmax		
	comp=N,300nm,0.7s						
KUR				pmax	pmax		
	comp=E,220nm,0.7s						
KUR				pmax	pmax		
	comp=Z,112nm,0.7s						
KUR				smax			
	comp=N,860nm,0.8s						
KUR				smax			
	comp=E,650nm,0.8s						
SKR	**Severo-Kuril's**	**4.63**	**23**	*e*P	**Pn**	**01 47 56.0**	**-5.2**
SKR				AMB	AMB	01 47 59.3	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	01 47 59.3	
	comp=E,90nm,0.5s						
SKR				*e*S	**Sn**	**01 48 46.1**	**-7.7**
SKR				A		01 49 13.0	
	comp=E,240nm,0.8s						
SKR				A		01 49 13.0	
	comp=E,270nm,0.8s						
SKR				A		01 49 13.0	
	comp=E,130nm,0.8s						
NEM2	**Nemuro 2**	**6.19**	**243**	P	**Pn**	**01 48 21.3**	**-1.4**
NEM2				*e*S	**Sn**	**01 49 28.3**	**-3.9**
JRA	**Rausu**	**6.31**	**250**	P	**Pn**	**01 48 25.6**	**+1.4**
JNK	**Nakash**	**6.73**	**248**	P	**Pn**	**01 48 30.4**	**+0.4**
JAK	**Akkeshi**	**7.04**	**244**	P	**Pn**	**01 48 32.8**	**-1.4**
JAK				*e*S	**Sn**	**01 49 48.6**	**-4.4**
JTKR	**Abashiri--Toko**	**7.09**	**253**	P	**Pn**	**01 48 36.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.28**	**278**	*i* PN	**Pn**	**01 48 42.8**	**+5.2**
YSS				pmax	pmax		
	comp=Z,38nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.28**	**278**	*e*Pn	**Pn**	**01 48 38.9**	**+1.3**
PET	**Petropavlovsk**	**7.44**	**26**	*e*PN	**Pn**	**01 48 37.0**	**-2.8**
PET				pmax	pmax		
	comp=Z,36nm,0.7s						
PET	**Petropavlovsk**	**7.44**	**26**	*e*Pn	**Pn**	**01 48 32.6**	**-7.2**
PET				*e*Sn	**Sn**	**01 49 57.9**	**-4.9**
JAR	**Ashorobuto**	**7.47**	**249**	P	**Pn**	**01 48 40.9**	**+0.7**
JAR				*e*S	**Sn**	**01 50 03.5**	**-0.2**
JOB	**Onbets**	**7.63**	**246**	P	**Pn**	**01 48 42.1**	**-0.2**
JOB				*e*S	**Sn**	**01 50 04.4**	**-3.0**
JKK2	**Kamakawa 2**	**7.90**	**255**	P	**Pn**	**01 48 48.1**	**+2.1**
ASAJ	**Asahikawa**	**7.91**	**257**	P	**Pn**	**01 48 48.1**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=99,slow=18,SNR=4.9						
ASAJ	**Asahikawa**	**7.91**	**257**	P	**Pn**	**01 48 49.1**	**+2.9**
ASAJ	**Asahikawa**	**7.91**	**257**	PN	**Pn**	**01 48 48.1**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
UGL	**Uglegorsk**	**8.03**	**293**	*e*P	**Pn**	**01 48 52.0**	**+4.2**
UGL				AMB	AMB	01 48 58.0	
	comp=Z,71nm,0.6s						
JCH	**Churui**	**8.07**	**245**	P	**Pn**	**01 48 47.3**	**-1.1**
JCH				*e*S	**Sn**	**01 50 14.4**	**-4.0**
TYV	**Tymovskoe**	**8.33**	**306**	*e*P	**Pn**	**01 48 55.0**	**+3.1**
TYV				AMB	AMB	01 48 57.0	
	comp=Z,34nm,0.8s						
JNBK	**Urakawa-nobuka**	**8.63**	**245**	P	**Pn**	**01 48 57.8**	**+1.7**
JNBK				*e*S	**Sn**	**01 50 30.3**	**-1.9**
JANG	**Nango**	**10.51**	**239**	P	**Pn**	**01 49 18.0**	**-3.8**
JANG				*e*S	**Sn**	**01 51 07.6**	**-10**
JTM	**Tenmabayashi**	**10.52**	**242**	P	**Pn**	**01 49 19.1**	**-2.9**
JTM				*e*S	**Sn**	**01 51 10.4**	**-8.1**
NKL	**Nikolayevsk**	**10.56**	**314**	*e*P	**Pn**	**01 49 22.0**	**-0.6**
NKL				AMB	AMB	01 49 24.0	
	comp=Z,30nm,1.0s						
OFUJ	**Ofunato**	**11.28**	**233**	*e*S	**Sn**	**01 51 27.1**	**-10**
JRG	**Rokugo**	**11.65**	**237**	P	**Pn**	**01 49 36.4**	**-1.1**
JRG				*e*S	**Sn**	**01 51 38.3**	**-7.9**
TEY	**Ternei**	**11.77**	**269**	AMS	AMS	01 50 32.0	
	comp=Z,14μm,14.0s						
TEY				AMS	AMS	01 50 32.0	
	comp=Z,15μm,14.0s						
TEY				AMS	AMS	01 50 32.0	
	comp=Z,23μm,14.0s						
JIO	**Ouri**	**11.90**	**232**	*e*S	**Sn**	**01 51 40.8**	**-11**
MA2	**Magadan**	**13.24**	**354**	*e*PN	**Pn**	**01 50 00.5**	**+1.3**
KLR	**Kul'dur**	**14.74**	**289**	*e*P	**Pn**	**01 50 19.8**	**+0.3**
MJAR	**Matsushiro Arr**	**15.01**	**234**	P	**Pn**	**01 50 22.7**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=31,slow=13,SNR=8.4						
MAJO	**Matsushiro**	**15.01**	**234**	*e*P	**Pn**	**01 50 23.1**	**+0.1**
MDJ	**Mudanjiang**	**16.71**	**272**	P	**Pn**	**01 50 46.8**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,21nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,6μm,13.3s						
MDJ	**Mudanjiang**	**16.71**	**272**	*e*Pn	**Pn**	**01 50 46.0**	**+1.1**
YAK	**Yakutsk**	**20.66**	**328**	*e*P	**P**	**01 51 28.4**	**-1.7**
YAK	**Yakutsk**	**20.66**	**328**	P	**P**	**01 51 30.9**	**+0.8**
INCN	**Inchon**	**21.68**	**255**	*e*P	**P**	**01 51 42.5**	**+1.4**
	comp=Z,24nm,0.3s,mb5.1						
BILL	**Bilibino**	**22.66**	**13**	*i* P	**P**	**01 51 50.9**	**-0.6**
NJ2	**Nanjing**	**30.04**	**254**	*e*P	**P**	**01 53 01.5**	**+2.5**
NJ2				AP	pP	01 53 10.8	+1.0
NJ2				XP	sP	01 53 15.3	+0.7
NJ2				PP	PP	01 54 00.5	-6.7
NJ2				PPP		01 54 12.8	
NJ2				S	**S**	**01 57 57.0**	**+2.5**
NJ2				XS	sS	01 58 10.0	-2.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,220nm,5.5s						
NJ2				LR	LR		
	comp=Z,9μm,16.9s,MS5.5						
HHC	**Hu-ho-hao-te**	**30.45**	**275**	*e*P	**P**	**01 53 04.3**	**+1.7**
HHC				AP	pP	01 53 13.3	-0.2
HHC				XP	sP	01 53 17.5	-0.7
HHC				PP	PP	01 54 04.0	-7.8
HHC				S	**S**	**01 58 00.5**	**-0.5**
HHC				XS	sS	01 58 15.5	-3.6
HHC				SCS	ScS	02 03 37.8	+1.0
HHC				AMB	AMB		
	comp=Z,37nm,0.5s,mb5.4						
HHC				AMB	AMB		
	comp=Z,2μm,7.4s						
HHC				LR	LR		
	comp=N,3μm,15.7s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,12.8s,MS5.2						
HHC				LR	LR		
	comp=Z,4μm,12.2s,MS5.3						
SONM	**Songino Array**	**31.57**	**290**	P	**P**	**01 53 12.2**	**-0.3**
	comp=Z,1.5nm,0.8s,mb3.9,baz=60,slow=7.1,SNR=4.2						
SONM				PcP	PcP	01 56 04.7	+0.5
	comp=Z,0.8nm,0.5s,baz=94,slow=3.6,SNR=4.1						
TLY	**Talaya**	**32.45**	**298**	*e*P	**P**	**01 53 19.2**	**-0.9**
TLY				*e*PP	pP	01 53 29.7	-1.3
WHN	**Wuhan**	**33.99**	**256**	P	**P**	**01 53 35.0**	**+1.4**
WHN				*e*S	**S**	**01 59 06.0**	**+10**
WHN				LR	LR		
	comp=Z,24μm,14.7s,MS6.0						
MCK	**McKinley**	**35.80**	**40**	*e*P	**P**	**01 53 48.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MCK	**McKinley**	**35.80**	**40**	*e*P	**P**	**01 53 48.9**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.1						
COLA	**College**	**36.29**	**38**	*e*P	**P**	**01 53 54.3**	**+0.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.8						
COLA	**College**	**36.29**	**38**	*e*P	**P**	**01 53 54.3**	**+0.8**
	comp=Z,4.1nm,0.3s,mb4.8						
ENH	**Enshi**	**37.45**	**260**	P	**P**	**01 54 03.2**	**-0.1**
LZH	**Lanzhou**	**38.04**	**272**	⇑P	**P**	**01 54 10.0**	**+1.8**
LZH				*e*PP	PP	01 55 39.8	+4.2
LZH				*e*S	**S**	**01 59 59.3**	**+1.3**
LZH				XS	sS	02 00 15.0	-1.3
LZH				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,246nm,4.6s						
LZH				LR	LR		
	comp=N,2μm,14.9s						
LZH				LR	LR		
	comp=Z,2μm,15.4s,MS5.1						
LZH	**Lanzhou**	**38.04**	**272**	⇑P	**P**	**01 54 10.0**	**+1.8**
LZH				*PP	pP	01 54 26.5	+7.2
LZH				*e*		01 55 39.8	
LZH				*e*S	**S**	**01 59 59.2**	**+1.2**
LZH				*SS	sS	02 00 15.1	-1.2
LZH				*eSS	SS	02 02 35.2	-10
LZH	**Lanzhou**	**38.04**	**272**	⇑P	**P**	**01 54 10.0**	**+1.8**
LZH				pP	pP	01 54 26.5	+7.2
LZH				sP	sP	01 54 34.0	+10
LZH				*ePP	PP	01 55 39.8	+4.2
LZH				*e*S	**S**	**01 59 59.2**	**+1.2**
LZH				sS	sS	02 00 15.1	-1.2
LZH				*eSS	SS	02 02 35.2	-10
GTA	**Gaotai**	**39.16**	**280**	*e*P	**P**	**01 54 19.5**	**+1.9**
GTA				AP	pP	01 54 23.0	-5.7
GTA				XP	sP	01 54 25.8	-7.6
GTA				PCP	PcP	01 56 28.0	+1.5
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
CD2	**Chengdu**	**40.99**	**266**	*e*P	**P**	**01 54 34.5**	**+1.6**
CD2				XP	sP	01 54 48.3	-0.3
CD2				PP	PP	01 56 12.5	+4.7
CD2				S	**S**	**02 00 44.3**	**+2.0**
CD2				XS	sS	02 01 00.5	-0.2
CD2				SS	SS	02 03 42.5	-2.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
GYA	**Guiyang**	**41.78**	**258**⇑	*i*P	**P**	**01 54 40.5**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**01 54 39.6**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.0,baz=292,slow=17,SNR=4.7						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**01 54 39.7**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**41.84**	**32**	*e*P	**P**	**01 54 39.9**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**42.92**	**306**	P	**P**	**01 54 45.9**	**-2.7**
	comp=Z,1.4nm,0.6s,mb3.9,baz=78,slow=6.4,SNR=2.8						
ZAL				PcP	PcP	01 56 38.6	-0.2
	comp=Z,1.7nm,1.0s,baz=55,slow=4.1,SNR=3.9						
ZAL	**Zalesovo**	**42.92**	**306**	P	**P**	**01 54 45.9**	**-2.7**
ZAL				PcP	PcP	01 56 38.6	-0.2
WMQ	**Urumqi**	**45.17**	**292**	*e*P	**P**	**01 55 09.0**	**+2.4**
WMQ				AP	pP	01 55 19.0	+1.2
WMQ				XP	sP	01 55 23.0	+0.5
WMQ				PCP	PcP	01 56 50.0	+3.6
WMQ				PPP		01 57 36.0	
WMQ				*e*S	**S**	**02 01 46.0**	**+2.5**
WMQ				XS	sS	02 02 02.0	-0.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,120nm,5.3s						
WMQ				LR	LR		
	comp=N,719nm,14.6s,MS4.9						
WMQ				LR	LR		
	comp=E,626nm,14.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,512nm,15.9s,MS4.5						
KMI	**Kunming**	**45.32**	**260**	P	**P**	**01 55 09.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.1						
DLBC	**Dease Lake**	**45.71**	**46**	P	**P**	**01 55 11.9**	**+1.0**
	comp=Z,2.8nm,0.9s,mb4.2,baz=333,slow=9.0,SNR=2.8						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**01 55 21.8**	**-0.8**
	comp=Z,9.4nm,0.8s,mb4.8,baz=67,slow=7.9,SNR=25						
MKAR				PcP	PcP	01 56 53.9	+0.3
	comp=Z,1.9nm,0.7s,baz=64,slow=5.5,SNR=4.2						
LSA	**Lhasa**	**50.43**	**274**	*e*P	**P**	**01 55 50.6**	**+3.2**
LSA				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
LSA	**Lhasa**	**50.43**	**274**	*e*P	**P**	**01 55 50.6**	**+3.2**
	comp=Z,16nm,0.7s,mb5.2						
BVAR	**Borovoye Array**	**51.16**	**310**	P	**P**	**01 55 52.0**	**-0.9**
	comp=Z,3.3nm,0.5s,mb4.5,baz=56,slow=8.1,SNR=16						
BVAR				PcP	PcP	01 57 08.1	+0.1
	comp=Z,2.0nm,0.7s,baz=113,slow=3.4,SNR=3.9						
BRVK	**Borovoye**	**51.20**	**310**	*e*P	**P**	**01 55 52.0**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.20**	**310**	*e*P	**P**	**01 55 52.0**	**-1.2**
	comp=Z,3.5nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**01 55 57.8**	**-0.8**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
ZRNK	**Zerenda**	**51.93**	**310**	*e*P	**P**	**01 55 57.8**	**-0.8**
	comp=Z,5.4nm,0.5s,mb4.7						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**01 56 13.9**	**-0.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**01 56 13.9**	**-0.7**
	comp=Z,6.4nm,0.8s,mb4.6						
ARU	**Arti**	**55.33**	**318**⇓	*i*P	**P**	**01 56 19.5**	**-4.0**
ARU				*e*S	**S**	**02 03 58.2**	**-6.7**
ARU				*e*SS	SS	02 07 41.9	-7.7
ARU				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
ARU	**Arti**	**55.33**	**318**	*e*P	**P**	**01 56 21.5**	**-2.0**
	comp=Z,8.3nm,0.6s,mb4.9						
KK31	**Karatay Array**	**56.27**	**299**	*i* P	**P**	**01 56 29.4**	**-0.8**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ARCES	**ARCESS Array B**	**58.19**	**341**	P	**P**	**01 56 42.6**	**-1.2**
	comp=Z,4.7nm,0.8s,mb4.5,baz=3.3,slow=8.5,SNR=4.1						
WALA	**Waterton Lakes**	**58.53**	**50**	*e*P	**P**	**01 56 45.1**	**-1.0**
WALA				*e*	pP	01 56 56.7	-1.0
AKTK	**Aktyubinsk**	**59.04**	**312**	P	**P**	**01 56 48.5**	**-1.2**
AKTO	**Aktyubinsk**	**59.04**	**312**	P	**P**	**01 56 48.5**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.3,baz=55,slow=7.6,SNR=8.4						
SUMG	**Summit**	**61.00**	**4**	*e*P	**P**	**01 57 03.0**	**-0.1**
	comp=Z,21nm,0.8s,mb5.3						
CMB	**Columbia Colle**	**61.42**	**64**	*e*P	**P**	**01 57 04.5**	**-1.5**
CMB				*e*	pP	01 57 17.8	+0.2
JOF	**Joensuu**	**61.67**	**334**	*e*p	**P**	**01 57 06.1**	**-1.6**
	comp=Z,2.2nm,0.4s,mb4.6						
LRV	**Little Rabbit**	**62.02**	**66**	*e*P	pP	01 57 20.1	-1.6
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**01 57 13.7**	**+0.8**
	comp=Z,1.3nm,0.8s,mb4.1,baz=299,slow=8.3,SNR=8.8						
MOOW	**Moose Ponds**	**63.52**	**54**	*e*P	**P**	**01 57 13.5**	**-6.5**
	comp=Z,9.2nm,1.1s,mb4.7						
KAF	**Kangasniemi**	**63.78**	**335**	*e*p	**P**	**01 57 20.0**	**-1.7**
	comp=Z,6.5nm,0.6s,mb4.8,baz=37,slow=6.1						
KAF	**Kangasniemi**	**63.78**	**335**	*e*P	**P**	**01 57 20.0**	**-1.7**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**64.38**	**335**	P	**P**	**01 57 24.6**	**-1.0**
	comp=Z,9.0nm,0.6s,mb5.0,baz=37,slow=7.6,SNR=39						
HWUT	**Hardware Ranch**	**64.43**	**56**	P	**P**	**01 57 19.5**	**-6.5**
	comp=Z,14nm,1.6s,mb4.7						
DUG	**Dugway**	**64.62**	**58**	*e*P	**P**	**01 57 25.1**	**-2.2**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
DUG	**Dugway**	**64.62**	**58**	*e*P	**

MSU Marysvale 66.09 59 P **P** 01 57 37.9 +1.1
CTAO Charters Tower 66.52 187 P **P** 01 57 39.6 +0.1
VRSR Storozhevoye 67.43 322 *e*P **P** 01 57 44.5 -0.8
VRSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
WRAB Tennant Creek 68.25 199 *e*P **P** 01 57 50.4 -0.1
WRAB pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
WRAB Tennant Creek 68.25 199 *e*P **P** 01 57 50.4 -0.1
comp=Z,2.3nm,0.8s,mb4.3
WB2 Warramunga Arr 68.26 199 *e*P **P** 01 57 49.9 -0.6
WRA Warramunga Arr 68.27 199 P **P** 01 57 49.3 -1.3
comp=Z,1.8nm,0.8s,mb4.1,baz=20,slow=6.9,SNR=6.6
NB2 NORSAR Subarra 68.57 341 P **P** 01 57 51.6 -0.8
comp=Z,9.8nm,0.7s,mb4.8,baz=28,slow=6.5
NB2 NORSAR Subarra 68.57 341 P **P** 01 57 51.6 -0.8
NB2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
NOA NORSAR Array B 68.57 341 P **P** 01 57 51.6 -0.8
comp=Z,8.4nm,0.7s,mb4.8,baz=27,slow=6.3,SNR=30
ISCO Idaho Springs 69.01 54 *e*P **P** 01 57 57.1 +1.9
ISCO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ISCO Idaho Springs 69.01 54 *e*P **P** 01 57 57.1 +1.9
comp=Z,1.0nm,0.6s,mb3.9
KIV Kislovodsk 71.11 314 *i* P **P** 01 58 08.8 +0.7
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KIV Kislovodsk 71.11 314 *e*P **P** 01 58 07.9 -0.2
SUW Suwalki 71.33 332 *e*P **P** 01 58 08.6 -0.8
SUW L 02 23 01.6
comp=Z,9.1nm,19.5s
AKASG Malin Array Be 71.88 326 P **P** 01 58 11.9 -0.8
comp=Z,16nm,0.7s,mb5.0,baz=34,slow=6.2,SNR=32
AS31 Alice Springs 71.96 199 *e*P **P** 01 58 13.3 +0.1
ASAR Alice Springs 71.96 199 P **P** 01 58 13.8 +0.7
comp=Z,1.9nm,0.6s,mb4.2,baz=12,slow=5.6,SNR=24
GNI Garni 72.84 310 *i* P **P** 01 58 20.8 +2.4
GNI pmax pmax
comp=Z,12nm,1.2s
GNI Garni 72.84 310 *e*P **P** 01 58 20.4 +2.0
comp=Z,6.1nm,0.7s,mb4.6
SCHQ Schefferville 73.54 23 P **P** 01 58 30.1 +7.6
comp=Z,4.6nm,1.0s,mb4.4,baz=309,slow=6.5,SNR=3.5
KWP Kalwaria 75.16 329 *e*P **P** 01 58 32.8 +0.8
KWP L 02 24 53.1
comp=Z,16nm,18.1s
BSEG Bad Segeberg 75.17 338 *e*P **P** 01 58 32.7 +0.7
comp=Z,10.0nm,0.9s,mb4.8
OJC Ojcow 75.66 331 *e*P **P** 01 58 34.9 +0.1
STHS Stebnicka Huta 75.85 330 *e*P **P** 01 58 36.5 +0.6
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 75.85 330 *e*P **P** 01 58 36.5 +0.6
comp=Z,4.6nm,0.8s,mb4.5
BURAR Bucovina Array 75.92 327⇑ *i*P **P** 01 58 36.4 0.0
BURAR Bucovina Array 75.92 327⇑P **P** 01 58 36.4 +0.1
WMOK Wichita Mounta 76.43 54 *e*P **P** 01 58 41.0 +1.8
WMOK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WMOK Wichita Mounta 76.43 54 *e*P **P** 01 58 41.0 +1.8
comp=Z,4.9nm,0.9s,mb4.4
NRDL Niedersach Rie 76.53 338 *e*P **P** 01 58 40.2 +0.4
comp=Z,8.0nm,1.0s,mb4.6
UPC Upice 76.62 334 *e*P **P** 01 58 39.5 -0.8
DPC Dobruska-Polom 76.66 333 *e*P **P** 01 58 39.5 -1.0
MORC Moravsky Berou 76.78 332⇑ *i*P **P** 01 58 41.0 -0.2
MORC Moravsky Berou 76.78 332 P **P** 01 58 41.7 +0.5
CLL Collm 76.81 336 *e*P **P** 01 58 40.9 -0.4
comp=Z,18nm,0.8s,mb5.0
CLL Collm 76.81 336⇓ *i*P **P** 01 58 41.1 -0.2
comp=Z,18nm,0.8s,mb5.0
CLL *i* pP pP 01 58 45.3 -7.9
CLL Collm 76.81 336⇓ *i*P **P** 01 58 41.1 -0.2
CLL pmax pmax
comp=Z,18nm,0.8s,mb5.0
KECS Kecovo 76.91 330 *e*P **P** 01 58 41.5 -0.4
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
KECS Kecovo 76.91 330 *e*P **P** 01 58 41.5 -0.4
comp=Z,2.0nm,0.7s,mb4.2
CLZ Clausthal 77.05 337 *e*P **P** 01 58 42.9 +0.2
comp=Z,10.0nm,0.8s,mb4.8
CLZ Clausthal 77.05 337 *e*P **P** 01 58 42.9 +0.2
CLZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
FBE Freiberg 77.05 335 *e*P **P** 01 58 42.3 -0.4
comp=Z,7.0nm,0.8s,mb4.6
MLR Muntele Rosu 77.40 325⇑ *i*P **P** 01 58 45.9 +1.2
VYHS Vyhne 77.46 331 *e*P **P** 01 58 45.1 +0.1
MALT Malatya 77.47 313 P **P** 01 58 46.8 +1.7
VRAC Vranov 77.49 333⇓ *i*P **P** 01 58 45.9 +0.7
VRAC Vranov 77.49 333⇓P **P** 01 58 45.9 +0.7
PRU Pruhonice 77.53 334 *e*P **P** 01 58 45.1 -0.3
DRGR 77.55 328⇑ *i*P **P** 01 58 45.5 0.0
DRGR 77.55 328 P **P** 01 58 45.9 +0.3
MOX Moxa 77.79 336 *e*P **P** 01 58 46.6 -0.3
comp=Z,9.0nm,0.9s,mb4.7
MOX Moxa 77.79 336 *e*P **P** 01 58 46.6 -0.3
MOX pmax pmax
comp=Z,11nm,0.9s,mb4.8
VOIR 77.80 326⇑ *i*P **P** 01 58 47.7 +0.8
GUNZ Gunzen 77.84 336 *e*P **P** 01 58 47.4 +0.3
comp=Z,4.0nm,0.7s,mb4.5
TREC Trest 77.85 333 *e*P **P** 01 58 46.9 -0.3
NKC Novy Kostel 77.92 336 *e*P **P** 01 58 47.3 -0.3
MANZ Manzenberg 78.24 336 *e*P **P** 01 58 48.4 -1.0
comp=Z,5.0nm,0.9s,mb4.4
ZST Bratislava 78.30 332 *e*P **P** 01 58 50.8 +1.1
ZST pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZST Bratislava 78.30 332 *e*P **P** 01 58 50.8 +1.1
comp=Z,6.9nm,1.0s,mb4.5
ROTZ Rotzenmuhle 78.41 335 *e*P **P** 01 58 48.7 -1.6
KHC Kasperske Hory 78.58 334 *e*P **P** 01 58 50.8 -0.4
GZR Gura Zlata 78.71 327⇓ *i*P **P** 01 58 52.0 +0.1
GZR Gura Zlata 78.71 327 P **P** 01 58 52.1 +0.1
BR131 Keskin Array S 78.71 317 *e*P **P** 01 58 52.4 +0.4
comp=Z,2.2nm,0.8s,mb4.1
BRTR Keskin Array B 78.71 317 P **P** 01 58 52.1 +0.1
comp=Z,2.3nm,0.9s,mb4.1,baz=65,slow=3.3,SNR=8.6
BRTR Keskin Array B 78.71 317 *i* P **P** 01 58 52.5 +0.5
BRTR pmax pmax
comp=Z,2.0nm,1.0s
GRA1 Grafenberg Arr 78.76 336 *e*P **P** 01 58 52.5 +0.3
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 78.76 336 *e*P **P** 01 58 52.5 +0.3
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 78.76 336 *e*P **P** 01 58 52.5 +0.3
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 78.76 336 *e*P **P** 01 58 52.5 +0.3
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
WET Wettzell 78.77 335 *e*P **P** 01 58 52.3 0.0
comp=Z,7.0nm,0.8s,mb4.6
WET Wettzell 78.77 335 *e*P **P** 01 58 52.3 0.0
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GEC2 GERESS Array S 78.80 334 *e*P **P** 01 58 52.1 -0.3
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 78.80 334 *e*P **P** 01 58 52.1 -0.3
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 78.80 334 P **P** 01 58 52.3 -0.2
comp=Z,2.7nm,0.8s,mb4.2,baz=32,slow=5.1,SNR=19
CONA Conrad Observa 78.93 332⇑ *i*P **P** 01 58 54.0 +0.8
comp=Z,6.0nm,1.1s,mb4.5
BZS Buzias 78.95 328⇓ *i*P **P** 01 58 53.1 -0.2
BZS Buzias 78.95 328 P **P** 01 58 53.2 -0.1
ANTO Ankara 78.99 318 *e*P **P** 01 58 54.8 +1.3
ANTO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ANTO Ankara 78.99 318 *e*P **P** 01 58 54.8 +1.3
comp=Z,8.5nm,0.8s,mb4.7
TNS Taunus Mts 79.03 338 *e*P **P** 01 58 53.1 -0.6
comp=Z,10.0nm,0.8s,mb4.8
TNS Taunus Mts 79.03 338 *e*P **P** 01 58 53.1 -0.6
TNS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MEM Membach 79.29 339 P **P** 01 58 55.6 +0.5

PKSM Moragy 79.50 330⇓ *i*P **P** 01 58 54.2 -2.1
PKSM Moragy 79.50 330⇓P **P** 01 58 54.2 -2.1
MOA Molln 79.51 333⇑ *i*P **P** 01 58 56.4 +0.1
comp=Z,6.2nm,0.9s,mb4.5
BCLA Clavier 79.63 340 P **P** 01 58 56.7 -0.3
GIVF Givet 80.04 340 *e*P **P** 01 58 58.8 -0.4
BAIF Baives 80.22 340 *e*P **P** 01 58 59.9 -0.3
PERS Pernice 80.31 332 *i* P **P** 01 59 00.9 +0.2
KBA Koelnbreinsper 80.48 334⇑ *i*P **P** 01 59 02.1 +0.5
comp=Z,21nm,0.9s,mb5.1
KBA Koelnbreinsper 80.48 334⇑ *i*P **P** 01 59 02.1 +0.5
KBA pmax pmax
comp=Z,21nm,0.9s,mb5.1
BFO Black Forest 80.79 337 *e*P **P** 01 59 02.7 -0.5
comp=Z,16nm,1.3s,mb4.8
BFO Black Forest 80.79 337 *e*P **P** 01 59 02.7 -0.5
BFO pmax pmax
comp=Z,16nm,1.3s,mb4.8
VTS Vitosha 80.90 325⇑ *i*P **P** 01 59 03.1 -0.7
VTS Vitosha 80.90 325 P **P** 01 59 04.4 +0.5
CDF Champ du Feu 81.00 338⇑ *i*P **P** 01 59 04.2 -0.1
comp=Z,29nm,1.3s,mb4.8
CDF Champ du Feu 81.00 338⇑ *i*P **P** 01 59 04.2 -0.1
CDF pmax pmax
comp=Z,15nm,1.3s,mb4.8
CDF Champ du Feu 81.00 338⇑ *i*P **P** 01 59 04.2 -0.1
comp=Z,15nm,1.3s,mb4.8
BOJS Bojanci 81.27 332 *i* P **P** 01 59 05.3 -0.5
MEZF Maizieres J'vi 81.47 339 *e*P **P** 01 59 06.9 0.0
comp=Z,22nm,0.9s,mb4.8
MEZF Maizieres J'vi 81.47 339 *e*P **P** 01 59 06.9 0.0
comp=Z,22nm,0.9s,mb5.1
HAU Haudompre 81.61 338⇑ *i*P **P** 01 59 07.3 -0.3
comp=Z,10nm,0.8s,mb4.5
HAU Haudompre 81.61 338⇑ *i*P **P** 01 59 07.3 -0.3
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU Haudompre 81.61 338⇑ *i*P **P** 01 59 07.3 -0.3
comp=Z,5.1nm,0.8s,mb4.5
HINF Hinteralfeld 81.66 338 *e*P **P** 01 59 07.6 -0.2
FLN La Foliniere 82.47 343⇑ *i*P **P** 01 59 11.8 -0.3
comp=Z,18nm,0.9s,mb4.7
FLN La Foliniere 82.47 343⇑ *i*P **P** 01 59 11.8 -0.3
FLN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FLN La Foliniere 82.47 343⇑ *i*P **P** 01 59 11.8 -0.3
comp=Z,9.0nm,0.9s,mb4.7
GRR Gorron 82.90 343 *e*P **P** 01 59 14.1 -0.2
LOR Lormes 82.92 340⇑ *i*P **P** 01 59 14.1 -0.3
comp=Z,16nm,0.9s,mb4.7
LOR Lormes 82.92 340⇑ *i*P **P** 01 59 14.1 -0.3
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR Lormes 82.92 340⇑ *i*P **P** 01 59 14.1 -0.3
comp=Z,7.8nm,0.9s,mb4.7
SSF Saint Saulge 83.19 340⇑ *i*P **P** 01 59 15.7 -0.1
comp=Z,11nm,0.9s,mb4.6
SSF Saint Saulge 83.19 340⇑ *i*P **P** 01 59 15.7 -0.1
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SSF Saint Saulge 83.19 340⇑ *i*P **P** 01 59 15.7 -0.1
comp=Z,5.7nm,0.9s,mb4.6
HYF Humbligny 83.20 340 *e*P **P** 01 59 16.1 +0.2
SGMF Saint Gilles 83.36 344⇑ *i*P **P** 01 59 16.6 -0.1
ROSF Rostrenen 83.42 345 *e*P **P** 01 59 17.0 0.0
AVF Avril sur Loir 83.48 340⇑ *i*P **P** 01 59 17.4 +0.1
comp=Z,16nm,0.9s,mb4.8
AVF Avril sur Loir 83.48 340⇑ *i*P **P** 01 59 17.4 +0.1
AVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AVF Avril sur Loir 83.48 340⇑ *i*P **P** 01 59 17.4 +0.1
comp=Z,8.3nm,0.9s,mb4.8
SMF Signal de Mont 83.50 339⇑ *i*P **P** 01 59 17.5 +0.1
comp=Z,54nm,1.1s,mb5.3
SMF Signal de Mont 83.50 339⇑ *i*P **P** 01 59 17.5 +0.1
SMF pmax pmax
comp=Z,27nm,1.1s,mb5.3
SMF Signal de Mont 83.50 339⇑ *i*P **P** 01 59 17.5 +0.1
comp=Z,27nm,1.1s,mb5.3
QUIF Quistinic 83.80 344 *e*P **P** 01 59 18.5 -0.5
LPL La Plagne 83.81 337⇑ *i*P **P** 01 59 19.9 +0.9
comp=Z,12nm,1.0s,mb4.7
LPL La Plagne 83.81 337⇑ *i*P **P** 01 59 19.9 +0.9
LPL pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
LPL La Plagne 83.81 337⇑ *i*P **P** 01 59 19.9 +0.9
comp=Z,5.8nm,1.0s,mb4.7
LPG La Plagne 83.82 337⇑ *i*P **P** 01 59 20.1 +1.0
comp=Z,24nm,1.2s,mb4.9
LPG La Plagne 83.82 337⇑ *i*P **P** 01 59 20.1 +1.0
LPG pmax pmax
comp=Z,12nm,1.2s,mb4.9
LPG La Plagne 83.82 337⇑ *i*P **P** 01 59 20.1 +1.0
comp=Z,12nm,1.2s,mb4.9
BGF Bois d'Agland 83.82 340 *e*P **P** 01 59 19.2 +0.1
TCF Toulx Ste Croi 84.23 340 *e*P **P** 01 59 21.3 +0.2
comp=Z,10.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 84.23 340 *e*P **P** 01 59 21.3 +0.2
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 84.23 340 *e*P **P** 01 59 21.3 +0.2
comp=Z,5.0nm,0.9s,mb4.6
MFF Saint Martin d 84.46 342 *e*P **P** 01 59 22.2 -0.1
comp=Z,6.6nm,0.7s,mb4.5
MFF Saint Martin d 84.46 342 *e*P **P** 01 59 22.2 -0.1
MFF pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MFF Saint Martin d 84.46 342 *e*P **P** 01 59 22.2 -0.1
comp=Z,3.3nm,0.7s,mb4.6
MBDF Montbardon 84.53 337 *e*P **P** 01 59 22.9 +0.2
ORIF Oris-en-Rattie 84.59 337⇑ *i*P **P** 01 59 23.7 +0.7
comp=Z,16nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.59 337⇑ *i*P **P** 01 59 23.7 +0.7
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.59 337⇑ *i*P **P** 01 59 23.7 +0.7
comp=Z,7.9nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.97 338 *e*P **P** 01 59 25.4 +0.5
comp=Z,30nm,1.3s,mb5.0
VIVF Saint-Julien-l 84.97 338 *e*P **P** 01 59 25.4 +0.5
VIVF pmax pmax
comp=Z,15nm,1.3s,mb5.0
VIVF Saint-Julien-l 84.97 338 *e*P **P** 01 59 25.4 +0.5
comp=Z,15nm,1.3s,mb5.0
CAF Calviac 85.55 340 *e*P **P** 01 59 27.7 -0.1
SMRF Simiane la Rot 85.55 337 *e*P **P** 01 59 28.6 +0.8
comp=Z,8.1nm,0.8s,mb4.7
SMRF Simiane la Rot 85.55 337 *e*P **P** 01 59 28.6 +0.8
comp=Z,8.1nm,0.8s,mb5.0
FRF La Foret Royal 85.64 336 *e*P **P** 01 59 28.0 -0.2
LFF La Frestale 85.84 341 *e*P **P** 01 59 28.8 -0.4
LMR La Mourre 85.89 336⇑ *i*P **P** 01 59 29.6 +0.1
comp=Z,14nm,1.0s,mb4.9
LMR La Mourre 85.89 336⇑ *i*P **P** 01 59 29.6 +0.1
LMR pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
LMR La Mourre 85.89 336⇑ *i*P **P** 01 59 29.6 +0.1
comp=Z,7.1nm,1.0s,mb4.8
LASF Ste Croix 85.90 338 *e*P **P** 01 59 30.2 +0.7
MTLF Montolieu 87.00 339 *e*P **P** 01 59 34.5 -0.4
comp=Z,11nm,1.1s,mb4.7
MTLF Montolieu 87.00 339 *e*P **P** 01 59 34.5 -0.4
MTLF pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
MTLF Montolieu 87.00 339 *e*P **P** 01 59 34.5 -0.4
comp=Z,5.3nm,1.1s,mb4.7
ETSF Etsaut 88.07 341 *e*P **P** 01 59 39.7 -0.4
JTS JuntasAbangare 103.28 59 *e*P Pdif 02 00 50.5 +1.2
TORD Torodi Ar. Bea 115.43 329 PKP PKPdf 02 05 30.1 -1.2
comp=Z,0.6nm,0.7s,baz=14,slow=2.2,SNR=6.9
DBIC Dimbokro 123.66 334 PKP PKPdf 02 05 46.8 -0.3
comp=Z,5.6nm,1.1s,baz=246,slow=1.1,SNR=3.2
VNDA Vanda 123.80 178 PKP PKPdf 02 05 45.5 -1.9
comp=Z,0.7nm,0.7s,baz=297,slow=3.1,SNR=3.9
VNDA Vanda 123.80 178 PKP PKPdf 02 05 45.5 -1.9
SBA Scott Base 124.30 177 *e*PKIKP PKPdf 02 05 45.6 -2.7
NNA Nana 125.63 68 *e*PKPdf PKPdf 02 05 51.9 +1.1
MAW Mawson 132.01 211 PKP PKPdf 02 06 01.8 -1.2
comp=Z,1.1nm,0.7s,baz=284,slow=4.2,SNR=2.7
LPAZ La Paz 134.36 63 *e*PKIKP PKPdf 02 06 10.1 +2.7
BDFB Brasilia 144.50 37 PKP PKPdf 02 06 25.6 -0.3
comp=Z,2.9nm,0.8s,baz=64,slow=11,SNR=3.2
CFAA Coronel Fontan 144.91 80 PKPbc PKPdf 02 06 24.8 -1.8
comp=Z,0.2nm,0.6s,baz=268,slow=7.4,SNR=3.5
PLCA Paso Flores 148.04 96 PKPbc PKPbc 02 06 33.8 -1.2
comp=Z,3.3nm,1.1s,baz=212,slow=9.6,SNR=3.3

CPUP Villa Florida 148.50 61 PKPbc PKPbc 02 06 34.1 -2.1
comp=Z,0.8nm,0.4s,baz=181,slow=3.6,SNR=3.5
SNAA Sanae 152.29 196 PKP PKPdf 02 06 37.0 -1.5
comp=Z,1.0nm,1.1s,baz=282,slow=1.6,SNR=3.0
SNAA PKPbc PKPbc 02 06 43.4 -1.9
comp=Z,0.7nm,0.8s,baz=321,slow=3.3,SNR=7.5
SNAA PKPab PKPab 02 06 53.2 -2.1
comp=Z,0.6nm,1.0s,baz=295,slow=2.2,SNR=5.6

*ISCJB **28** 01:53:33.1±0.6,5062N±004×13002W±0.06,h10km,Error ellipse: s-maj=7.8km s-min=2.7km az=89.3*
*NEIC **28** 01:53:33.4,5045N×13023W,h10km,mb4.1/1, MW4.7(PGC),After PGC.*
*PGC **28** 01:53:33.4,5045N×13023W,h10km,MLSn4.1,Mw4.7, 201km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia*

ISC 28 01:53:34.4±0.6,5062N±004×13000W±006,h10km,n75,
σ1§43/119,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOLB	**Holberg**	**1.19**	**88**	Pn	**Pn**	**01 53 56.3**	**-0.7**
HOLB				Sn	**Sn**	**01 54 13.1**	**-0.1**
	comp=Z,1μm,0.5s						
HOLB				Trac		01 54 13.6	
	comp=Z,1μm,0.5s						
HOLB	**Holberg**	**1.19**	**88**	*e*Pn	**Pn**	**01 53 56.3**	**-0.7**
HOLB				*e*Sn	**Sn**	**01 54 13.1**	**-0.1**
BPBC	**Brooks Peninsu**	**1.50**	**107**	Pn	**Pn**	**01 53 59.3**	**-1.9**
BPBC				Sn	**Sn**	**01 54 18.7**	**-2.2**
	comp=Z,237nm,0.3s						
BPBC				Trac		01 54 24.9	
	comp=Z,237nm,0.3s						
BPBC	**Brooks Peninsu**	**1.50**	**107**	*e*Pn	**Pn**	**01 53 59.3**	**-1.9**
BPBC				*e*Sn	**Sn**	**01 54 18.7**	**-2.2**
PHC	**Port Hardy**	**1.63**	**86**	Pn	**Pn**	**01 54 02.8**	**-0.4**
PHC				Sn	**Sn**	**01 54 23.8**	**-0.4**
PHC				Trac		01 54 24.8	
	comp=Z,298nm,0.3s						
PHC	**Port Hardy**	**1.63**	**86**	*e*Pn	**Pn**	**01 54 02.8**	**-0.4**
PHC				*e*Sn	**Sn**	**01 54 23.8**	**-0.4**
MAYB	**Maynard**	**1.82**	**96**	Pn	**Pn**	**01 54 04.8**	**-0.8**
MAYB				Sn	**Sn**	**01 54 28.0**	**-0.7**
	comp=Z,492nm,0.8s						
MAYB				Trac		01 54 59.3	
	comp=Z,492nm,0.8s						
MAYB	**Maynard**	**1.82**	**96**	*e*Pn	**Pn**	**01 54 04.8**	**-0.8**
MAYB				*e*Sn	**Sn**	**01 54 28.0**	**-0.7**
BBB	**Bella Bella**	**1.96**	**36**	Pn	**Pn**	**01 54 08.0**	**+0.3**
BBB				Sn	**Sn**	**01 54 32.5**	**+0.2**
BBB				Trac		01 54 34.4	
	comp=Z,118nm,0.3s						
BBB	**Bella Bella**	**1.96**	**36**	*e*Pn	**Pn**	**01 54 08.0**	**+0.3**
BBB				*e*Sn	**Sn**	**01 54 32.5**	**+0.2**
EDB	**Eliza Dome**	**1.99**	**111**	Pn	**Pn**	**01 54 06.5**	**-1.5**
EDB				Sn	**Sn**	**01 54 30.3**	**-2.8**
EDB				Trac		01 54 34.9	
	comp=Z,46nm,0.2s						
EDB	**Eliza Dome**	**1.99**	**111**	*e*Pn	**Pn**	**01 54 06.5**	**-1.5**
EDB				*e*Sn	**Sn**	**01 54 30.3**	**-2.8**
WOSB	**Woss**	**2.24**	**100**	Pn	**Pn**	**01 54 11.1**	**-0.4**
WOSB				Sn	**Sn**	**01 54 36.8**	**-2.4**
	comp=Z,166nm,0.5s						
WOSB				Trac		01 54 43.2	
	comp=Z,166nm,0.5s						
WOSB	**Woss**	**2.24**	**100**	*e*Pn	**Pn**	**01 54 11.1**	**-0.4**
WOSB				*e*Sn	**Sn**	**01 54 36.8**	**-2.4**
BNB	**Barry Inlet**	**2.25**	**332**	Pn	**Pn**	**01 54 10.4**	**-1.1**
BNB				Sn	**Sn**	**01 54 37.2**	**-2.2**
	comp=Z,2μm,0.5s						
BNB				Trac		01 54 39.7	
	comp=Z,2μm,0.5s						
BNB	**Barry Inlet**	**2.25**	**332**	*e*Pn	**Pn**	**01 54 10.4**	**-1.1**
BNB				*e*Sn	**Sn**	**01 54 37.2**	**-2.2**
NCRB	**Newcastle Ridg**	**2.52**	**93**	Pn	**Pn**	**01 54 15.3**	**-0.1**
NCRB				Sn	**Sn**	**01 54 48.2**	**+2.0**
	comp=Z,243nm,0.8s						
NCRB				Trac		01 55 21.3	
	comp=Z,243nm,0.8s						
NCRB	**Newcastle Ridg**	**2.52**	**93**	*e*Pn	**Pn**	**01 54 15.3**	**-0.1**
NCRB				*e*Sn	**Sn**	**01 54 48.2**	**+2.0**
ETB	**Estevan Point**	**2.55**	**118**	Pn	**Pn**	**01 54 13.8**	**-2.0**
ETB				Sn	**Sn**	**01 54 43.9**	**-3.0**
	comp=Z,45nm,0.5s						
ETB				Trac		01 54 47.5	
	comp=Z,45nm,0.5s						
ETB	**Estevan Point**	**2.55**	**118**	*e*Pn	**Pn**	**01 54 13.8**	**-2.0**
ETB				*e*Sn	**Sn**	**01 54 43.9**	**-3.0**
GDR	**Gold River**	**2.68**	**107**	Pn	**Pn**	**01 54 16.5**	**-1.1**
GDR				Sn	**Sn**	**01 54 49.2**	**-0.9**
	comp=Z,128nm,0.7s						
GDR				Trac		01 55 13.2	
	comp=Z,128nm,0.7s						
GDR	**Gold River**	**2.68**	**107**	*e*Pn	**Pn**	**01 54 16.5**	**-1.1**
GDR				*e*Sn	**Sn**	**01 54 49.2**	**-0.9**
MOBC	**Moresby Island**	**2.84**	**336**	Pn	**Pn**	**01 54 18.3**	**-1.5**
MOBC				Sn	**Sn**	**01 54 52.4**	**-1.6**
MOBC				Trac		01 55 00.9	
	comp=Z,36nm,0.5s						
MOBC	**Moresby Island**	**2.84**	**336**	*e*Pn	**Pn**	**01 54 18.3**	**-1.5**
BNAB	**Bonilla**	**2.91**	**352**	Pn	**Pn**	**01 54 20.7**	**0.0**
BNAB				Sn	**Sn**	**01 54 54.4**	**-1.3**
	comp=Z,16nm,0.2s						
BNAB				Trac		01 54 56.2	
	comp=Z,16nm,0.2s						
BNAB	**Bonilla**	**2.91**	**352**	*e*Pn	**Pn**	**01 54 20.7**	**0.0**
BNAB				*e*Sn	**Sn**	**01 54 54.4**	**-1.3**
CBB	**Campbell River**	**3.02**	**99**	Pn	**Pn**	**01 54 22.0**	**-0.3**
CBB				Sn	**Sn**	**01 54 57.8**	**-0.8**
CBB				Trac		01 55 31.1	
	comp=Z,154nm,0.8s						
CBB	**Campbell River**	**3.02**	**99**	*e*Pn	**Pn**	**01 54 22.0**	**-0.3**
CBB				*e*Sn	**Sn**	**01 54 57.8**	**-0.8**
ALB	**Alberni**	**3.60**	**110**	Pn	**Pn**	**01 54 29.1**	**-1.0**
ALB				Trac		01 55 13.4	
	comp=Z,26nm,0.6s						
ALB	**Alberni**	**3.60**	**110**	*e*Pn	**Pn**	**01 54 29.1**	**-1.0**
TXB	**Texada**	**3.69**	**102**	Pn	**Pn**	**01 54 31.7**	**+0.2**
TXB				Sn	**Sn**	**01 55 15.2**	**+0.2**
	comp=Z,58nm,0.6s						
TXB				Trac		01 55 19.2	
	comp=Z,58nm,0.6s						
TXB	**Texada**	**3.69**	**102**	*e*Pn	**Pn**	**01 54 31.7**	**+0.2**
TXB				*e*Sn	**Sn**	**01 55 15.2**	**+0.2**
RUBB	**Prince Rupert**	**3.72**	**358**	Pn	**Pn**	**01 54 32.7**	**+0.9**
RUBB				Sn	**Sn**	**01 55 16.1**	**+0.4**
RUBB				Trac		01 55 18.8	
	comp=Z,43nm,0.5s						
RUBB	**Prince Rupert**	**3.72**	**358**	*e*Pn	**Pn**	**01 54 32.7**	**+0.9**
RUBB				*e*Sn	**Sn**	**01 55 16.1**	**+0.4**
NDB	**Naden**	**3.80**	**333**	Pn	**Pn**	**01 54 32.0**	**-0.9**
NDB				Sn	**Sn**	**01 55 17.6**	**-0.1**
	comp=Z,31nm,0.7s						
NDB				Trac		01 55 29.1	
	comp=Z,31nm,0.7s						
NDB	**Naden**	**3.80**	**333**	*e*Pn	**Pn**	**01 54 32.0**	**-0.9**
NDB				*e*Sn	**Sn**	**01 55 17.6**	**-0.1**
SHB	**Sechelt**	**4.07**	**102**	Pn	**Pn**	**01 54 36.5**	**-0.1**
SHB				Sn	**Sn**	**01 55 20.6**	**-3.7**
SHB				Trac		01 55 34.8	
	comp=Z,124nm,0.7s						
SHB	**Sechelt**	**4.07**	**102**	*e*Pn	**Pn**	**01 54 36.5**	**-0.1**
SHB				*e*Sn	**Sn**	**01 55 20.6**	**-3.7**
NLLB	**Nanaimo Lost L**	**4.12**	**107**	Trac		01 55 39.8	
	comp=Z,29nm,0.5s						
NLLB	**Nanaimo Lost L**	**4.12**	**107**	Sn	**Sn**	**01 55 26.0**	**+0.4**
PFB	**Port Renfrew**	**4.15**	**117**	Pn	**Pn**	**01 54 38.1**	**+0.4**
PFB				Sn	**Sn**	**01 55 24.1**	**-2.3**
PFB				Trac		01 55 26.2	
	comp=Z,9.0nm,0.8s						
PFB	**Port Renfrew**	**4.15**	**117**	*e*Pn	**Pn**	**01 54 38.1**	**+0.4**
PFB				*e*Sn	**Sn**	**01 55 24.1**	**-2.3**
WPB	**Watts Point**	**4.47**	**100**	Pn	**Pn**	**01 54 43.2**	**+1.1**
WPB				Sn	**Sn**	**01 55 37.5**	**+3.4**
	comp=Z,56nm,0.9s						
WPB				Trac		01 56 10.8	
	comp=Z,56nm,0.9s						
WPB	**Watts Point**	**4.47**	**100**	*e*Pn	**Pn**	**01 54 43.2**	**+1.1**
WPB				*e*Sn	**Sn**	**01 55 37.5**	**+3.4**
BIB	**Bowen

LZB	Mount Lazard	4.49	114	eSn		Sn	01 55 32.4	-2.2
GOBB	Galiano Island	4.52	109	Pn		Pn	01 54 44.5	+1.7
GOBB				Sn		Sn	01 55 35.6	+0.1
	comp=Z,68nm,0.8s							
GOBB				Trac			01 55 38.8	
	comp=Z,68nm,0.3s							
GOBB				Trac			01 56 27.0	
	comp=Z,68nm,0.8s							
GOBB	Galiano Island	4.52	109	ePn		Pn	01 54 44.5	+1.7
GOBB				eSn		Sn	01 55 35.6	+0.1
WSLR	Whistler	4.55	93	ePn		Pn	01 54 44.5	+1.2
PGC	Sidney	4.69	112	Trac			01 55 51.6	
	comp=Z,11nm,0.6s							
SNB	Saturna Island	4.80	110	Pn		Pn	01 54 47.6	+1.0
SNB				Sn		Sn	01 55 40.0	-2.3
SNB				Trac			01 55 45.8	
	comp=Z,6.0nm,0.8s							
SNB	Saturna Island	4.80	110	ePn		Pn	01 54 47.6	+1.0
SNB				eSn		Sn	01 55 40.0	-2.3
VGZ	Gonzales	4.87	114	Pn		Pn	01 54 49.4	+1.7
VGZ				Sn		Sn	01 55 40.0	-4.2
VGZ				Trac			01 55 44.4	
	comp=Z,5.0nm,0.2s							
VGZ	Gonzales	4.87	114	ePn		Pn	01 54 49.4	+1.7
VGZ				eSn		Sn	01 55 40.0	-4.2
HNB	Haney	4.97	103	Pn		Pn	01 54 50.5	+1.4
HNB				Trac			01 56 37.3	
	comp=Z,35nm,0.8s							
HNB	Haney	4.97	103	ePn		Pn	01 54 50.5	+1.4
MCW	Mount Constitu	5.04	110	eP		Pn	01 54 51.8	+1.8
LLLB	Lillooet	5.17	87	Pn		Pn	01 54 53.0	+1.2
LLLB				Trac			01 57 02.2	
	comp=Z,26nm,0.9s							
LLLB	Lillooet	5.17	87	ePn		Pn	01 54 53.0	+1.2
FSB	Fort Saint Jam	5.19	40	Pn		Pn	01 54 54.4	+2.4
FSB				Sg		Sg	01 56 21.5	+0.6
FSB				Trac			01 56 39.0	
	comp=Z,51nm,1.0s							
FSB	Fort Saint Jam	5.19	40	ePn		Pn	01 54 54.4	+2.4
FSB				eSg		Sg	01 56 21.5	+0.6
VDB	Vedder Mountai	5.35	104	Pn		Pn	01 54 56.2	+2.0
VDB				P			01 54 56.4	
VDB	Vedder Mountai	5.35	104	ePn		Pn	01 54 56.2	+2.0
MBW	Mount Baker	5.56	106	P		Pn	01 54 59.2	+2.0
FMW	Mount Fremont	6.62	121	P		Pn	01 55 14.3	+2.6
TWW	Teanaway	6.95	117	P		Pn	01 55 20.0	+3.7
BMBC	Bull Mountain	7.19	38	Pn		Pn	01 55 21.8	+2.3
BMBC				Trac			01 57 53.1	
	comp=Z,23nm,0.8s							
BMBC	Bull Mountain	7.19	38	ePn		Pn	01 55 21.8	+2.3
DLBC	Dease Lake	7.84	360	ePn		Pn	01 55 31.4	+3.0
HLID	Hailey	12.73	118	ePn		Pn	01 56 37.0	+1.5
	5.2nm,1.3s							
IMW	Indian Meadow	14.56	110	ePn		Pn	01 57 04.3	+4.0
	7.6nm,1.0s							
TPAW	Teton Pass	14.79	111	ePn		Pn	01 57 07.0	+3.5
	17nm,1.1s							
REDW	Red Top Meadow	14.92	112	ePn		Pn	01 57 06.5	+1.2
	16nm,1.3s							
LOHW	Long Hollow	14.92	111	ePn		Pn	01 57 06.5	+1.2
	8.8nm,1.1s							

IDC 28 02:09:38.9±4.3, 1912S×16903E, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=96.8km s-min=55.7km az=123.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	3.80	219	eP	Pn	02 10 36.4	-2.3
DZM				eS	Sn	02 11 12.3	-12
DZM	Mont Dzumac	3.80	219	Pn	Pn	02 10 36.8	-1.9
	5.8nm,0.3s,baz=110,slow=15,SNR=97						
DZM				Sn	Sn	02 11 12.5	-12
	8.1nm,0.3s,baz=124,slow=21,SNR=6.4						
WRA	Warramunga Arr	32.67	263	P	P	02 16 13.6	+0.9
	0.6nm,0.4s,baz=90,slow=8.4,SNR=4.7						
ASAR	Alice Springs	32.96	256	P	P	02 16 15.8	+0.6
	3.7nm,0.6s,baz=85,slow=9.1,SNR=52						
GERES	GERESS Array B	144.29	332	PKP	PKPdf	02 29 16.4	-0.5
	0.9nm,0.7s,baz=40,slow=2.3,SNR=8.4						

IDC 28 02:10:30.2±0.9, 4641N×153.13E, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, MS4.4/1, Ms1 4.4/1, ms1mx3.6/37, Error ellipse: s-maj=33.1km s-min=21.4km az=87.0
NEIC 28 02:10:31.8±0.6, 4643N×153.10E, h10km, mb4.2/3, Error ellipse: s-maj=17.6km s-min=13.6km az=75.0
ISCJB 28 02:10:33.0±0.8, 465N±0.1×1533E±0.1, h33km, mb4.0/17, MS4.5/1, Error ellipse: s-maj=18.7km s-min=9.6km az=119.4
MOS 28 02:10:32.3±1.3, 4652N×15329E, h30km, mb4.3/4, Error ellipse: s-maj=18.0km s-min=13.7km az=107.9
BJI 28 02:10:32.8, 4640N×153.10E, h10km, mb4.3

ISC 28 02:10:34.8±0.8, 465N±0.1×1534E±0.1, h35km, n28, σ1§15/27, mb4.0/17, MS4.4/1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	4.07	253	ePN	Pn	02 11 32.0	-2.4
KUR				eS	Sn	02 12 21.5	+0.7
KUR				pmax	pmax		
	comp=Z,300nm,0.6s						
KUR				smax			
	comp=N,280nm,0.9s						
SKR	Severo-Kuril's	4.53	23	ePN	Pn	02 11 38.5	-2.3
KLR	Kul'dur	14.75	288	eP	Pn	02 14 00.0	-0.8
ZAK	Zakamensk	32.93	295	eP	P	02 17 03.5	-2.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
LZH	Lanzhou	38.08	272	eP	P	02 17 51.3	+1.3
LZH				AP	pP	02 17 58.3	-1.9
LZH				XP	sP	02 18 01.5	-2.9
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
LZH	Lanzhou	38.08	272	eP	P	02 17 51.2	+1.2
LZH				pP	pP	02 17 58.2	-2.0
LZH				sP	sP	02 18 01.5	-2.9
GTA	Gaotai	39.19	279	eP	P	02 18 01.5	+2.2
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
INK	Inuvik	41.73	32	P	P	02 18 21.0	+0.7
	comp=Z,3.2nm,0.9s,mb4.0,baz=325,slow=16,SNR=3.1						
INK	Inuvik	41.73	32	P	P	02 18 21.0	+0.7
MKAR	Makanchi Array	47.20	298	P	P	02 19 03.3	-0.7
	comp=Z,2.3nm,0.8s,mb4.2,baz=67,slow=9.3,SNR=13						
BBB	Bella Bella	49.10	53	LR	LR	02 37 46.8	
	comp=Z,409nm,18.8s,MS4.4,baz=324,slow=33						
BVAR	Borovoye Array	51.13	310	P	P	02 19 34.3	+0.2
	comp=Z,0.7nm,0.4s,mb4.0,baz=51,slow=7.0,SNR=4.7						
BRVK	Borovoye	51.17	310	eP	P	02 19 33.9	-0.5
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BRVK	Borovoye	51.17	310	eP	P	02 19 33.9	-0.5
	comp=Z,0.9nm,0.5s,mb4.0						
ZRNK	Zerenda	51.90	310	eP	P	02 19 39.5	-0.3
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ZRNK	Zerenda	51.90	310	eP	P	02 19 39.5	-0.3
	comp=Z,1.5nm,0.4s,mb4.3						
AAK	Ala-Archa	54.09	297	eP	P	02 19 55.5	-0.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	Ala-Archa	54.09	297	eP	P	02 19 55.5	-0.4
	comp=Z,1.9nm,0.7s,mb4.1						
FINES	FINESS Array B	64.31	335	P	P	02 21 07.2	+0.5
	comp=Z,1.9nm,0.6s,mb4.3,baz=39,slow=6.1,SNR=18						
WRA	Warramunga Arr	68.37	199	P	P	02 21 31.8	-0.9
	comp=Z,0.4nm,0.8s,mb3.5,baz=21,slow=6.6,SNR=3.2						
NB2	NORSAR Subarra	68.49	341	P	P	02 21 34.0	+0.6
	comp=Z,3.0nm,0.7s,mb4.4,baz=29,slow=6.5						
NOA	NORSAR Array B	68.49	341	P	P	02 21 34.3	+0.9
	comp=Z,2.0nm,0.6s,mb4.3,baz=27,slow=6.3,SNR=16						
AKASG	Malin Array Be	71.83	326	P	P	02 21 54.1	+0.3
	comp=Z,5.9nm,0.8s,mb4.6,baz=33,slow=6.0,SNR=18						
ASAR	Alice Springs	72.06	199	P	P	02 21 55.0	-0.3
	comp=Z,0.4nm,0.7s,mb3.5,baz=16,slow=5.3,SNR=4.1						
CLL	Collm	76.73	336	eP	P	02 22 23.0	+0.6
	comp=Z,5.0nm,1.1s,mb4.4						
BRTR	Keskin Array B	78.67	317	P	P	02 22 34.8	+1.6
	comp=Z,1.4nm,0.9s,mb3.9,baz=56,slow=7.0,SNR=6.5						
GERES	GERESS Array B	78.73	334	P	P	02 22 34.6	+1.1
	comp=Z,0.1nm,0.3s,mb3.2,baz=38,slow=5.2,SNR=7.1						
PLCA	Paso Flores	148.00	96	PKPbc	PKPbc	02 30 18.7	+2.3
	comp=Z,2.0nm,1.0s,baz=318,slow=3.0,SNR=3.0						

IDC 28 02:14:17.2±2.5, 4639N×15357E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.8/5, MS4.4/1, Ms1 4.4/1, ms1mx3.4/40, Error ellipse: s-maj=125.0km s-min=25.3km az=84.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	33.51	195	LR	LR	02 34 45.0	
	comp=Z,588nm,18.6s,baz=9.8,slow=37						
BVAR	Borovoye Array	51.33	310	P	P	02 23 23.0	-0.2
	1.4nm,0.9s,baz=60,slow=3.5,SNR=3.6						
FINES	FINESS Array B	64.50	335	P	P	02 24 53.8	-1.9
	1.6nm,0.8s,baz=35,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	68.28	199	P	P	02 25 19.0	-0.9
	0.9nm,0.8s,baz=34,slow=7.5,SNR=4.6						
NB2	NORSAR Subarra	68.67	341	P	P	02 25 21.9	-0.5
	comp=Z,0.5nm,0.6s,baz=28,slow=6.5						
NOA	NORSAR Array B	68.67	341	P	P	02 25 23.4	+1.0
	comp=Z,0.5nm,0.6s,baz=29,slow=6.4,SNR=3.6						
ASAR	Alice Springs	71.97	199	P	P	02 25 43.1	+0.6
	comp=Z,1.2nm,0.6s,baz=11,slow=5.5,SNR=13						

IDC 28 02:15:22.0±18.0, 4596N×15360E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.7/20, mbtmp4.0/5, MS4.8/1, Ms1 4.8/1, ms1mx3.5/43, Error ellipse: s-maj=436.8km s-min=73.1km az=157.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAL	Zalesovo	43.37	307	LR	LR	02 41 10.7	
	comp=Z,1μm,20.3s,baz=313,slow=36						
MKAR	Makanchi Array	47.61	298	P	P	02 23 59.5	-0.1
	0.9nm,0.7s,baz=69,slow=7.9,SNR=5.5						
BVAR	Borovoye Array	51.62	310	P	P	02 24 29.7	-0.6
	0.5nm,0.4s,baz=51,slow=6.4,SNR=3.7						
FINES	FINESS Array B	64.90	335	P	P	02 26 02.6	-0.6
	1.1nm,0.4s,baz=41,slow=7.1,SNR=13						
NOA	NORSAR Array B	69.09	341	P	P	02 26 29.4	-0.4
	1.1nm,0.7s,baz=29,slow=6.1,SNR=5.6						
AKASG	Malin Array Be	72.39	327	P	P	02 26 49.7	-0.2
	1.2nm,0.5s,baz=33,slow=5.9,SNR=7.5						

PGC 28 02:15:44.2, 5044N×13029W, h10km, MLSn4.0/1, Mw4.6, 204km southwest of Pt. Hardy, Bc West of Vancouver Island, British Columbia
ISCJB 28 02:15:48.5±0.9, 5063N±004×12954W±006, h4km±7km, mb3.9/13, Error ellipse: s-maj=8.2km s-min=3.8km az=84.4
NEIC 28 02:15:51.4±0.4, 5068N×12954W, h10km, mb4.0/14, MW4.6(PGC), Error ellipse: s-maj=10.6km s-min=3.9km az=50.0
IDC 28 02:15:53.6±3.8, 5079N×12948W, h27km±28km, mb3.8/7, mb1 4.0/12, mb1mx3.8/26, mbtmp3.9/12, ML3.6/4, Error ellipse: s-maj=17.9km s-min=10.5km az=79.0

ISC 28 02:15:51.3±1.1, 5066N±004×12955W±006, h13km±8km, n98, σ1§28/128, mb3.9/13, 1C, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOLB	Holberg	0.90	91	⇑Pn	Pn	02 16 07.7	-2.0
HOLB				Sn	Sn	02 16 24.4	+1.8
	comp=Z,1μm,0.5s						
HOLB				Trac		02 16 43.0	
	comp=Z,1μm,0.5s						
BPBC	Brooks Peninsu	1.24	113	Pn	Pn	02 16 10.7	-3.7
BPBC				Sn	Sn	02 16 29.7	-1.3
	comp=Z,195nm,0.2s						
BPBC				Trac		02 16 32.9	
	comp=Z,195nm,0.2s						
PHC	Port Hardy	1.35	87	⇑Pn	Pn	02 16 14.2	-1.6
PHC				Sn	Sn	02 16 35.5	+1.9
PHC				Trac		02 16 36.1	
	comp=Z,499nm,0.5s						
MAYB	Maynard	1.54	99	⇑Pn	Pn	02 16 16.2	-2.2
MAYB				Sn	Sn	02 16 37.6	-0.7
	comp=Z,162nm,0.4s						
MAYB				Trac		02 16 48.5	
	comp=Z,162nm,0.4s						
EDB	Eliza Dome	1.74	116	Pn	Pn	02 16 17.8	-3.4
EDB				Sn	Sn	02 16 42.0	-1.3
EDB				Trac		02 16 49.8	
	comp=Z,79nm,0.5s						
BBB	Bella Bella	1.77	30	Pn	Pn	02 16 19.7	-1.9
	11nm,0.3s,baz=218,slow=15,SNR=28						
BBB				Sn	Sn	02 16 37.0	-7.1
	38nm,0.3s,baz=220,slow=14,SNR=13						
BBB	Bella Bella	1.77	30	Pn	Pn	02 16 19.8	-1.9
BBB				Sn	Sn	02 16 44.2	+0.1
BBB				Trac		02 16 53.9	
	comp=Z,106nm,0.3s						
WOSB	Woss	1.97	103	⇑Pn	Pn	02 16 22.4	-2.0
WOSB				Sn	Sn	02 16 50.2	+1.3
	comp=Z,119nm,0.4s						
WOSB				Trac		02 16 56.9	
	comp=Z,119nm,0.4s						
NCRB	Newcastle Ridg	2.24	95	Pn	Pn	02 16 26.6	-1.6
NCRB				Sn	Sn	02 16 56.2	+0.6
	comp=Z,176nm,0.7s						
NCRB				Trac		02 17 14.9	
	comp=Z,176nm,0.7s						
ETB	Estevan Point	2.33	122	Pn	Pn	02 16 25.4	-3.9
ETB				Sn	Sn	02 16 54.4	-3.3
	comp=Z,22nm,0.2s						
ETB				Trac		02 16 59.1	
	comp=Z,22nm,0.2s						
BNB	Barry Inlet	2.36	325	Pn	Pn	02 16 20.9	-8.8
BNB				Sn	Sn	02 16 45.4	-13
	comp=Z,3μm,0.5s						
BNB				Trac		02 16 55.9	
	comp=Z,3μm,0.5s						
GDR	Gold River	2.42	110	Pn	Pn	02 16 28.1	-2.5
GDR				Sn	Sn	02 17 01.8	+1.7
	comp=Z,63nm,0.5s						
GDR				Trac		02 17 05.4	
	comp=Z,63nm,0.5s						
CBB	Campbell River	2.75	102	Pn	Pn	02 16 33.6	-1.5
CBB				Sn	Sn	02 17 07.0	-1.2
CBB				Trac		02 17 25.3	
	comp=Z,132nm,0.9s						
BNAB	Bonilla	2.92	347	Pn	Pn	02 16 31.2	-6.2
BNAB				Sn	Sn	02 17 05.5	-6.9
	comp=Z,18nm,0.3s						
BNAB				Trac		02 17 09.6	
	comp=Z,18nm,0.3s						
MOBC	Moresby Island	2.93	331	Pn	Pn	02 16 28.8	-8.8
MOBC				Sn	Sn	02 17 03.0	-10
MOBC				Trac		02 17 11.6	
	comp=Z,70nm,0.7s						
VIB	Van Inlet	3.19	326	Trac		02 17 11.9	
	comp=N,1.0nm,0.2s						
VIB	Van Inlet	3.19	326	Pn	Pn	02 16 32.5	-8.7
VIB				Sn	Sn	02 17 07.8	-11
ALB	Alberni	3.35	113	Pn	Pn	02 16 38.6	-4.6
ALB				Sn	Sn	02 17 22.8	-0.1
	comp=Z,21nm,0.5s						
ALB				Trac		02 17 33.0	
	comp=Z,21nm,0.5s						
TXB	Texada	3.42	104	Pn	Pn	02 16 43.5	-0.9
TXB				Sn	Sn	02 17 26.2	+1.4
	comp=Z,128nm,0.8s						
TXB				Trac		02 17 46.9	
	comp=Z,128nm,0.8s						
RUBB	Prince Rupert	3.70	354	Pn	Pn	02 16 43.6	-4.6
RUBB				Sn	Sn	02 17 26.3	-5.3
RUBB				Trac		02 17 31.4	
	comp=Z,42nm,0.3s						
SHB	Sechelt	3.80	104	Pn	Pn	02 16 48.5	-1.0
SHB				Sn	Sn	02 17 32.5	-1.6
SHB				Trac		02 17 46.1	
	comp=Z,91nm,0.6s						
NLLB	Nanaimo Lost L	3.87	110	Pn	Pn	02 16 49.0	-1.4
NLLB				Sn	Sn	02 17 38.2	+2.5
NLLB				Trac		02 17 45.7	
	comp=Z,49nm,0.8s						
NDB	Naden	3.91	329	Pn	Pn	02 16 42.6	-8.4
NDB				Sn	Sn	02 17 23.4	-13
	comp=Z,32nm,0.5s						
NDB				Trac		02 17 45.1	
	comp=Z,32nm,0.5s						
PFB	Port Renfrew	3.92	120	Pn	Pn	02 16 48.9	-2.4
PFB				Sn	Sn	02 17 36.5	-0.6
PFB				Trac		02 17 41.2	
	comp=Z,7.9nm,0.3s						
WPB	Watts Point	4.20	101	Pn	Pn	02 16 54.7	-0.3
WPB				Trac		02 17 55.9	
	comp=Z,43nm,0.8s						
BIB	Bowen Island	4.21	105	Pn	Pn	02 16 55.1	-0.2
BIB				Sn	Sn	02 17 45.6	+1.3
	comp=Z,5.0nm,0.3s						
BIB				Trac		02 17 48.3	
	comp=Z,5.0nm,0.3s						
LZB	Mount Lazard	4.25	117	Pn	Pn	02 16 54.6	-1.0
LZB				Sn	Sn	02 17 43.3	-1.8
LZB				Trac		02 17 57.4	
	comp=Z,9.9nm,0.7s						
GOBB	Galiano Island	4.27	111	Pn	Pn	02 16 55.2	-0.7
GOBB				Sn	Sn	02 17 44.3	-1.3
	comp=Z,14nm,0.4s						
GOBB				Trac		02 17 54.0	
	comp=Z,14nm,0.4s						
WSLR	Whistler	4.27	95	Pn	Pn	02 16 56.8	+0.7
WSLR				Trac		02 18 31.9	
	comp=Z,37nm,0.8s						
PGC	Sidney	4.44	115	Pn	Pn	02 16 56.7	-1.7
PGC				Sn	Sn	02 17 48.1	-1.7
PGC				Trac		02 17 54.0	
	comp=Z,11nm,0.5s						
PGC	Sidney	4.44	115	ePn	Pn	02 16 57.0	-1.3
SNB	Saturna Island	4.55	112	Pn	Pn	02 16 60.0	+0.2
SNB				Sn	Sn	02 17 53.7	+1.2
SNB				Trac		02 18 01.4	
	comp=Z,4.0nm,0.5s						
VGZ	Gonzales	4.63	117	Pn	Pn	02 16 59.6	-1.4
VGZ				Sn	Sn	02 17 54.0	-0.7
VGZ				Trac		02 17 56.9	
	comp=Z,5.0nm,0.2s						
HNB	Haney	4.71	104	Pn	Pn	02 17 02.1	+0.1
HNB				Sn	Sn	02 17 56.4	-0.1
HNB				Trac		02 18 00.8	
	comp=Z,16nm,0.5s						
MCW	Mount Constitu	4.79	112	P	Pn	02 17 02.7	-0.4
LLLB	Lillooet	4.88	88	Pn	Pn	02 17 04.5	+0.1
LLLB				Trac		02 19 13.8	
	comp=Z,28nm,0.8s						
FSB	Fort Saint Jam	4.98	38	Pn	Pn	02 17 06.2	+0.5
FSB				Sg	Sg	02 18 23.4	-7.6
FSB				Trac		02 19 10.4	
	comp=Z,194nm,1.6s						
VDB	Vedder Mountai	5.09	106	Pn	Pn	02 17 09.0	+1.8
CRAG	Craig	5.28	337	ePn	Pn	02 17 09.8	-0.1
MBW	Mount Baker	5.30	108	P	Pn	02 17 10.6	+0.4
CMW	Cultus Mountai	5.33	112	P	Pn	02 17 10.8	+0.3
JCW	Jim Creek	5.55	113	P	Pn	02 17 13.9	+0.4
RPW	Rockport	5.68	110	P	Pn	02 17 16.0	+0.7
WRAK	Wrangell Islan	6.01	345	ePn	Pn	02 17 16.3	-3.6
GSM	Grass Mountain	6.17	121	P	Pn	02 17 23.0	+1.0
PNT	Penticton	6.54	98	Pn	Pn	02 17 28.8	+1.6
PNT				Trac		02 20 05.0	
	comp=Z,22nm,0.9s						
BMBC	Bull Mountain	6.99	37	Pn	Pn	02 17 33.9	+0.6
BMBC				Trac		02 19 59.5	
	comp=Z,35nm,1.2s						
DLBC	Dease Lake	7.80	358	Pn	Pn	02 17 42.9	-1.6
	1.0nm,0.3s,baz=191,slow=15,SNR=15						
DLBC				Lg		02 20 08.3	
	0.2nm,0.3s,baz=317,slow=22,SNR=2.8						
DLBC	Dease Lake	7.80	358	Pn	Pn	02 17 42.9	-1.6
DLBC				Trac		02 20 42.1	
	comp=Z,6.0nm,0.7s						
DLBC	Dease Lake	7.80	358	Pn	Pn	02 17 42.9	-1.6
DLBC				Lg		02 20 08.3	
HAWA	Hanford	7.90	119	ePn	Pn	02 17 46.0	+0.2
	0.6nm,0.8s						
NEW	Newport	8.44	102	Pn	Pn	02 17 54.1	+0.8
	0.2nm,0.3s,baz=304,slow=11,SNR=3.1						
NEW				Lg		02 20 33.2	
	0.1nm,0.3s,baz=295,slow=7.4,SNR=6.1						
NEW	Newport	8.44	102	ePn	Pn	02 17 53.6	+0.3
BMO	Blue Mountains	10.08	120	ePn	Pn	02 18 16.1	+0.4
	3.4nm,1.2s						
YBH	Yreka Blue Hor	10.10	149	Pn	Pn	02 18 17.3	+1.3
	0.0nm,0.3s,baz=342,slow=13,SNR=12						
WVOR	Wild Horse Val	11.13	133	ePn	Pn	02 18 30.2	+0.1
	7.2nm,1.1s						
CHMT	Chamberlain Mo	11.38	103	ePn	Pn	02 18 33.7	+0.1
KIPM	Iron Peak	11.66	156	ePn	Pn	02 18 37.2	-0.1
HLID	Hailey	12.50	119	ePn	Pn	02 18 49.8	+0.9
	12nm,1.6s						
BOZ	Bozeman (W)	12.96	106	ePn	Pn	02 18 56.4	+1.2
EGMT	Eagleton	13.17	94	ePn	Pn	02 18 57.3	-0.7
	9.1nm,1.0s						
IMW	Indian Meadow	14.31	111	ePn	Pn	02 19 15.8	+2.2
	10nm,0.9s						
FLWY	Flagg Ranch	14.35	110	ePn	Pn	02 19 15.5	+1.4
	28nm,1.4s						
DAWY	Dawson	14.43	342	ePn	Pn	02 19 17.7	+2.6
MOOW	Moose Ponds	14.51	111	ePn	Pn	02 19 17.1	+0.8
	6.8nm,0.9s						
TPAW	Teton Pass	14.54	112	ePn	Pn	02 19 18.1	+1.4
	11nm,0.8s						
NVAR	Mina Array Bea	14.60	143	Pn	Pn	02 19 21.9	+4.4
	0.1nm,0.3s,baz=309,slow=14,SNR=6.9						
SNOW	Snow King Moun	14.67	112	ePn	Pn	02 19 25.5	+7.1
	12nm,1.0s						
LOHW	Long Hollow	14.67	111	ePn	Pn	02 19 21.4	+2.9
	7.2nm,0.9s						
HWUT	Hardware Ranch	15.37	119	ePn	Pn	02 19 30.2	+2.3
	12nm,1.4s						
EGAK	Eagle	15.41	341	ePn	Pn	02 19 31.0	+2.6
LRV	Little Rabbit	15.50	153	ePn	Pn	02 19 30.2	+0.7
DUG	Dugway	15.69	125	ePn	Pn	02 19 32.5	+0.5
	4.9nm,1.1s						
DUG				e		02 19 47.4	
BW06	Boulder Array	15.79	112	ePn	Pn	02 19 34.9	+1.6
	10nm,1.2s						
PDAR	Pinedale Array	15.79	112	Pn	Pn	02 19 36.4	+3.1
	0.0nm,0.3s,baz=317,slow=8.5,SNR=27						
PTRM	Twissleman Ran	16.45	152	ePn	Pn	02 19 43.1	+1.3
MCK	McKinley	16.69	329	ePn	Pn	02 19 45.8	+0.9
	3.6nm,0.9s						
INK	Inuvik	17.81	355	eP	Pn	02 20 00.2	+1.4
	14nm,1.3s						
TTA	Tatalina	18.82	321	eP	Pn	02 20 12.8	+1.5
PV01	Paradox Valley	19.45	122	eP	Pn	02 20 17.2	-1.5
SMCO	Snowmass	19.59	117	eP	Pn	02 20 20.4	0.0
	4.6nm,0.9s						
IMA2	Indian Mountai	19.76	330	eP	Pn	02 20

SKHL 28 02:17:25.6±0.4, 5338N×12306E, h22km±2km, mb4.2/6, 2C-1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**2.12**	**301**	⇑*i*Pn	Pn	02 18 01.4	+1.8
TUP				*e*Pg	Pn	02 18 04.5	+4.9
TUP				AMB	AMB	02 18 09.2	
	78nm,0.4s						
TUP				*e*Sg	Sn	02 18 33.0	+7.8
TUP				A		02 18 40.6	
	686nm,0.7s						
KROS	**Kirovskiy**	**2.54**	**64**	⇑*i*Pn	Pn	02 18 04.4	-1.1
KROS				*e*Pg	Pn	02 18 12.5	+7.0
KROS				AMB	AMB	02 18 13.6	
	44nm,0.4s						
KROS				*e*Sg	Sn	02 18 46.0	+10
KROS				A		02 18 49.7	
	140nm,0.6s						
KROS				A		02 18 49.7	
	130nm,0.6s						
YASR	**Yasnyy**	**2.95**	**90**	*e*Pn	Pn	02 18 09.6	-1.5
YASR				*e*Pg	Pn	02 18 17.3	+6.2
YASR				AMB	AMB	02 18 19.7	
	40nm,0.3s						
YASR				pPg		02 18 24.3	
YASR				*e*Sg	Sn	02 18 55.3	+9.4
YASR				A		02 19 01.0	
	65nm,0.3s						
YASR				A		02 19 01.0	
	220nm,0.3s						
CLNS	**Chul'man**	**3.62**	**16**	*e*rx	rx	02 18 36.8	
CLNS				*e*Sg	Sn	02 19 20.4	+18
CLNS				A		02 19 25.5	
	301nm,0.5s						
CLNS				A		02 19 25.5	
	291nm,0.5s						
BMKR	**Bomnak**	**3.66**	**66**	*e*Pn	Pn	02 18 19.1	-1.8
BMKR				pPn		02 18 25.4	
BMKR				*e*Pg	Pn	02 18 31.6	+11
BMKR				AMB	AMB	02 18 33.5	
	18nm,0.4s						
BMKR				*e*Sg	Sn	02 19 20.2	+17
BMKR				A		02 19 30.0	
	52nm,0.5s						
BMKR				A		02 19 30.0	
	80nm,0.5s						
CRS	**Chara**	**4.47**	**324**	⇓*i*Pn	Pn	02 18 34.5	+2.5
CRS				*e*Pg	Pn	02 18 49.6	+18
CRS				pPg		02 18 56.7	
CRS				*e*Sg	Sn	02 19 46.1	+23
HIA	**Hailar**	**4.61**	**208**	*e*rx	rx	02 18 51.4	
HIA				*e*Sg	Sn	02 19 49.3	+22
UKT	**Uakit**	**5.90**	**295**	*i* Pn	Pn	02 18 53.3	+1.7
UKT				*e*Pg	Pn	02 19 14.3	+23
UKT				AMB	AMB	02 19 16.3	
	6.0nm,0.7s						
UKT				*e*Sn	Sn	02 19 58.0	-0.5
UKT				*e*Sg	Sn	02 20 28.1	+30
UKT				A		02 20 30.1	
	83nm,1.0s						
EKMR	**Ekimchan**	**5.95**	**89**	*e*Pn	Pn	02 18 51.9	-0.4
EKMR				AMB	AMB	02 18 52.1	
	10.0nm,0.2s						
EKMR				pPn		02 18 59.5	
EKMR				*e*Sg	Sn	02 20 30.5	+31
EKMR				A		02 20 38.0	
	24nm,0.7s						
KLR	**Kul'dur**	**6.85**	**124**	*e*Pg	Pn	02 19 29.6	+25
KLR				*e*Sg	Sn	02 21 00.0	+38

*TIR **28** 02:34:01.6, 4238N×1985E, h23km*
*ISCJB **28** 02:34:04.0±0.4, 4238N±002×1983E±003, h10km, Error ellipse: s-maj=3.6km s-min=2.9km az=21.6*
*NEIC **28** 02:34:03.7, 4237N×1986E, h5km, MD2.7(PDG), After PDG.*
*PDG **28** 02:34:03.7±0.2, 4237N×1986E, h5km±6km*
*SKO **28** 02:34:07.2, 4230N×2022E, h0km*

ISC 28 02:34:04.2±0.4, 4237N±003×1986E±003, h10km, n17, σ1℗24/29, 6C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.24**	**20**	⇑*i*Pg	**Pg**	**02 34 08.0**	**-1.1**
PVY				*e*Sg	**Sg**	**02 34 12.1**	**-0.2**
TTG	**Podgorica**	**0.45**	**278**	⇑*i*Pg	**Pg**	**02 34 11.0**	**-2.0**
TTG				*e*Sg	**Sg**	**02 34 18.6**	**-0.3**
IVA	**Berane**	**0.50**	**3**	⇑*i*Pg	**Pg**	**02 34 13.1**	**-0.9**
IVA				*e*Sg	**Sg**	**02 34 20.6**	**0.0**
KKS	**Kukesi**	**0.50**	**126**	*i* Pg	**Pg**	**02 34 12.7**	**-1.3**
KKS				*i* Sg	**Sg**	**02 34 23.5**	**+2.8**
ULC	**Ulcinj**	**0.61**	**228**	⇓*i*Pg	**Pg**	**02 34 14.9**	**-1.1**
ULC				*e*Sg	**Sg**	**02 34 24.7**	**+0.7**
BUM	**Brajici-Budva**	**0.72**	**265**	⇓*i*Pg	**Pg**	**02 34 17.3**	**-0.8**
BUM				*e*Sg	**Sg**	**02 34 28.4**	**+1.0**
NKY	**Niksic**	**0.78**	**305**	⇓*i*Pg	**Pg**	**02 34 17.8**	**-1.4**
NKY				*e*Sg	**Sg**	**02 34 30.1**	**+0.8**
HCY	**Herceg Novi**	**1.01**	**275**	⇑*i*Pg	**Pg**	**02 34 22.2**	**-1.5**
HCY				*e*Sg	**Sg**	**02 34 38.3**	**+1.4**
PLE	**Pljevlja**	**1.02**	**340**	⇓*i*Pg	**Pg**	**02 34 22.6**	**-1.2**
PLE				*e*Sg	**Sg**	**02 34 38.7**	**+1.6**
UPM	**Unac-Piva**	**1.09**	**320**	⇑*i*Pg	**Pg**	**02 34 24.8**	**-0.3**
UPM				*e*Sg	**Sg**	**02 34 41.0**	**+1.7**
BRY	**Bratogost**	**1.11**	**299**	⇑*i*Pg	**Pg**	**02 34 23.6**	**-1.9**
BRY				*e*Sg	**Sg**	**02 34 41.5**	**+1.6**
SKO	**Skopje**	**1.24**	**108**	*e*Pn	**Pn**	**02 34 26.7**	**-0.8**
OHR	**Ohrid**	**1.44**	**151**	*e*Pn	**Pn**	**02 34 32.4**	**+2.1**
BARS	**Barje**	**1.52**	**72**	*i* Pn	**Pn**	**02 34 32.0**	**+0.6**
BARS					Sn	**02 34 56.8**	**+3.8**
GRUS	**Gruza**	**1.64**	**22**	*i* Pn	**Pb**	**02 34 35.5**	**+1.0**
BIA	**Bitola**	**1.74**	**140**	*e*Pn	**Pb**	**02 34 36.9**	**+0.7**
STIP	**Stip**	**1.86**	**111**	*e*Pn	**Pn**	**02 34 36.0**	**-0.2**

IDC 28 02:38:29.2±25.0, 4639N×15336E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/19, mbtmp3.9/4, Error ellipse: s-maj=594.1km s-min=84.4km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**47.26**	**298**	P	P	02 47 03.9	-0.2
	0.3nm,0.5s,baz=72,slow=8.1,SNR=4.2						
FINES	**FINESS Array B**	**64.44**	**335**	P	P	02 49 06.5	-0.8
	1.4nm,0.6s,baz=40,slow=6.6,SNR=14						
NB2	**NORSAR Subarra**	**68.62**	**341**	P	P	02 49 34.2	+0.1
	comp=Z,0.7nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.62**	**341**	P	P	02 49 34.1	+0.1
	comp=Z,0.7nm,0.6s,baz=26,slow=6.3,SNR=4.9						
AKASG	**Malin Array Be**	**71.94**	**326**	P	P	02 49 54.0	-0.4
	comp=Z,0.4nm,0.3s,baz=34,slow=6.3,SNR=6.7						

*JMA **28** 02:46:12.3±0.8, 4652N×15366E, h30km, M4.7*
*IDC **28** 02:46:12.3±0.6, 4638N×15328E, h0km, mb4.3/17, mb1 4.5/18, mb1mx4.4/24, mbtmp4.3/18, Error ellipse: s-maj=18.7km s-min=17.5km az=36.0*
*SKHL **28** 02:46:12.1±0.6, 4610N×15390E, h50km±19km, mb4.9/6*
*BJI **28** 02:46:13.2, 4687N×15349E, h17km, mB5.2, mb4.7, Ms4.3, Msz4.4*
*NEIC **28** 02:46:14.1±0.3, 4638N×15333E, h10km, mb4.8/40, Error ellipse: s-maj=8.4km s-min=6.0km az=141.0*
*ISCJB **28** 02:46:16.1±1.1, 4626N±006×15325E±009, h35km±8km, mb4.6/67, MS4.5/2, Error ellipse: s-maj=12.7km s-min=6.6km az=85.8*
*MOS **28** 02:46:20.0±0.9, 4690N×15262E, h33km, mb5.0/40, Error ellipse: s-maj=13.1km s-min=5.9km az=112.4*
*SZGRF **28** 02:46:24.3, 4743N×15362E, h33km, mb4.7, Kuril Islands, Russia*

ISC 28 02:46:17.3±2.1, 4637N±007×15327E±008, h31km±14km, n235, σ1℗05/234, mb4.6/67, MS4.5/2, 36C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.95**	**255**	*i* P	**Pn**	**02 47 14.0**	**-1.7**
KUR				AMB	AMB	02 47 14.7	
	110nm,0.6s						
KUR				AMB	AMB	02 47 14.7	
	170nm,0.6s						
KUR				AMB	AMB	02 47 16.5	
	40nm,0.4s						
KUR				*e*S	**Sn**	**02 47 59.8**	**-1.1**
KUR				A		02 48 15.5	
	840nm,0.5s						
KUR				A		02 48 15.5	
	950nm,0.5s						
KUR	**Kuril'sk**	**3.95**	**255**	⇑*i*PN	**Pn**	**02 47 14.0**	**-1.7**
KUR				*e*S	**Sn**	**02 47 59.8**	**-1.1**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=E,170nm,0.6s						
KUR				pmax	pmax		
	comp=Z,530nm,0.6s						
KUR				smax			
	comp=N,840nm,0.6s						
KUR				smax			
	comp=E,950nm,0.6s						
SKR	**Severo-Kuril's**	**4.71**	**23**	*e*P	**Pn**	**02 47 20.8**	**-5.4**
SKR				AMB	AMB	02 47 21.4	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**02 48 12.4**	**-7.3**
SKR				A		02 48 21.9	
	comp=E,330nm,0.7s						
SKR				A		02 48 21.9	
	comp=E,180nm,0.7s						
SKR				A		02 48 21.9	
	comp=E,80nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**249**	*e*rx	rx	02 48 53.8	
NEM2	**Nemuro 2**	**6.14**	**243**	P	**Pn**	**02 47 44.2**	**-1.6**
NEM2				*e*S	**Sn**	**02 48 52.0**	**-2.9**
JAK	**Akkeshi**	**6.98**	**244**	P	**Pn**	**02 47 55.5**	**-1.9**
JAK				*e*S	**Sn**	**02 49 12.1**	**-3.6**
JTKR	**Abashiri--Toko**	**7.04**	**253**	P	**Pn**	**02 47 59.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*PN	**Pn**	**02 48 06.2**	**+5.0**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*Pn	**Pn**	**02 48 06.2**	**+5.0**
	comp=Z,60nm,1.0s						
JMP	**Maruseppu**	**7.39**	**255**	P	**Pn**	**02 48 05.3**	**+2.3**
JAR	**Ashorobuto**	**7.42**	**249**	P	**Pn**	**02 48 04.2**	**+0.8**
JAR				*e*S	**Sn**	**02 49 28.6**	**+2.1**
PET	**Petropavlovsk**	**7.51**	**26**	*e*PN	**Pn**	**02 48 16.1**	**+11**
PET				*e*S	**Sn**	**02 49 35.0**	**+6.2**
PET				smax			
	comp=N,101nm,1.1s						
PET				smax			
	comp=E,81nm,1.2s						
JKK2	**Kamakawa 2**	**7.85**	**255**	P	**Pn**	**02 48 11.2**	**+1.9**
ASAJ	**Asahikawa**	**7.86**	**257**	Pn	**Pn**	**02 48 11.2**	**+1.7**
	comp=E,2.2nm,0.3s,baz=96,slow=14,SNR=9.4						
ASAJ	**Asahikawa**	**7.86**	**257**	P	**Pn**	**02 48 12.3**	**+2.8**
ASAJ	**Asahikawa**	**7.86**	**257**	PN	**Pn**	**02 48 11.2**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**8.02**	**246**	P	**Pn**	**02 48 10.7**	**-0.9**
JCH				*e*S	**Sn**	**02 49 37.9**	**-3.3**
UGL	**Uglegorsk**	**8.02**	**294**	*e*P	**Pn**	**02 48 16.3**	**+4.6**
UGL				AMB	AMB	02 48 17.5	
	comp=Z,70nm,0.7s						
UGL				*e*S	**Sn**	**02 49 50.0**	**+8.7**
UGL				A		02 49 55.5	
	comp=Z,70nm,0.7s						
UGL				A		02 49 55.5	
	comp=Z,60nm,0.7s						
TYV	**Tymovskoe**	**8.34**	**306**	*e*P	**Pn**	**02 48 20.5**	**+4.5**
TYV				AMB	AMB	02 48 22.0	
	comp=Z,16nm,0.8s						
TYV				AMB	AMB	02 48 22.0	
	comp=Z,24nm,0.8s						
ERM	**Erimo**	**8.47**	**243**	*e*PN	**Pn**	**02 48 21.5**	**+3.7**
ERM				pmax	pmax		
	comp=Z,48nm,0.6s						
ERM	**Erimo**	**8.47**	**243**	*e*Pn	**Pn**	**02 48 21.5**	**+3.6**
	comp=Z,48nm,0.6s						
JANG	**Nango**	**10.44**	**239**	*e*S	**Sn**	**02 50 31.4**	**-9.4**
JTM	**Tenmabayashi**	**10.46**	**242**	*e*S	**Sn**	**02 50 33.9**	**-7.3**
NKL	**Nikolayevsk**	**10.59**	**314**	*e*P	**Pn**	**02 48 48.7**	**+1.9**
NKL				AMB	AMB	02 48 59.2	
	comp=Z,40nm,1.0s						
GRNR	**Gornyy**	**11.99**	**298**	*e*rx	rx	02 49 10.0	
EKMR	**Ekimchan**	**14.72**	**304**	*e*P	**Pn**	**02 49 46.8**	**+3.5**
EKMR				AMB	AMB	02 49 55.5	
	comp=Z,8.0nm,0.5s						
KLR	**Kul'dur**	**14.73**	**289**	*e*P	**Pn**	**02 49 43.0**	**-0.5**
MJAR	**Matsushiro Arr**	**14.94**	**234**	Pn	**Pn**	**02 49 45.0**	**-1.2**
	baz=30,slow=12,SNR=10						
MAJO	**Matsushiro**	**14.94**	**234**	*e*P	**Pn**	**02 49 46.1**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
MAJO	**Matsushiro**	**14.94**	**234**	*e*P	**Pn**	**02 49 46.1**	**-0.2**
	comp=Z,14nm,1.0s						
MAT	**Matsushiro**	**14.94**	**234**	P	**Pn**	**02 49 45.6**	**-0.7**
MDJ	**Mudanjiang**	**16.68**	**273**	P	**Pn**	**02 50 09.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,29nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,346nm,11.7s						
MDJ	**Mudanjiang**	**16.68**	**273**	*e*P	**Pn**	**02 50 09.8**	**+1.1**
	comp=Z,35nm,1.0s						
YAK	**Yakutsk**	**20.70**	**328**	*i* P	**P**	**02 50 49.5**	**-5.3**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s						
YAK				MLR	MLR		
	comp=Z,800nm,11.0s,MS4.3						
BOD	**Bodaibo**	**26.31**	**310**	*e*P	**P**	**02 51 47.8**	**-2.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.0						
SSE	**Sheshan**	**29.07**	**250**	*e*P	**P**	**02 52 19.8**	**+5.0**
SSE				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,564nm,12.0s						
SSE	**Sheshan**	**29.07**	**250**	*e*P	**P**	**02 52 19.7**	**+4.9**
NJ2	**Nanjing**	**29.99**	**254**	*e*P	**P**	**02 52 29.5**	**+6.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,320nm,6.5s						
SONM	**Songino Array**	**31.56**	**290**	P	**P**	**02 52 36.3**	**-0.5**
	comp=Z,1.5nm,0.7s,mb3.9,baz=72,slow=8.3,SNR=11						
SONM				PcP	PcP	02 55 28.4	-0.5
	comp=Z,0.8nm,0.8s,baz=101,slow=3.3,SNR=4.0						
ZAK	**Zakamensk**	**32.94**	**296**	*e*P	**P**	**02 52 46.5**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
WHN	**Wuhan**	**33.94**	**256**	P	**P**	**02 53 02.3**	**+4.6**
XAN	**Xi'an**	**35.59**	**266**	P	**P**	**02 53 12.3**	**+0.4**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
COLA	**College**	**36.37**	**38**	*e*P	**P**	**02 53 18.1**	**-0.4**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
COLA	**College**	**36.37**	**38**	*e*P	**P**	**02 53 18.1**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.4						
LZH	**Lanzhou**	**38.01**	**272**	*e*P	**P**	**02 53 34.0**	**+1.5**
LZH				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,176nm,4.1s						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**02 54 04.5**	**-0.4**
	comp=Z,2.2nm,0.8s,mb3.9,baz=34,slow=2.5,SNR=7.1						
INK	**Inuvik**	**41.91**	**32**	P	**P**	**02 54 04.5**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**41.91**	**32**	*e*P	**P**	**02 54 04.4**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**42.94**	**306**	P	**P**	**02 54 11.4**	**-1.7**
	comp=Z,5.3nm,0.2s,mb4.8,baz=189,slow=4.7,SNR=6.1						
ZAL				PcP	PcP	02 56 02.9	-0.5
	comp=Z,2.6nm,0.3s,baz=33,slow=3.1,SNR=5.3						
MKAR	**Makanchi Array**	**47.21**	**298**	P	**P**	**02 54 46.4**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.7,baz=66,slow=8.0,SNR=53						
MKAR				PcP	PcP	02 56 18.4	+0.2
	comp=Z,1.4nm,0.8s,baz=68,slow=4.1,SNR=3.2						
BVAR	**Borovoye Array**	**51.18**	**310**	P	**P**	**02 55 16.6**	**-0.9**
	comp=Z,3.6nm,0.8s,mb4.4,baz=60,slow=8.8,SNR=13						
BVAR				PcP	PcP	02 56 32.7	0.0
	comp=Z,1.6nm,0.7s,baz=64,slow=3.4,SNR=4.5						
BRVK	**Borovoye**	**51.22**	**310**	*e*P	**P**	**02 55 16.6**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**51.22**	**310**	*e*P	**P**	**02 55 16.6**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**51.95**	**310**	*e*P	**P**	**02 55 21.8**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ZRNK	**Zerenda**	**51.95**	**310**	*e*P	**P**	**02 55 21.8**	**-1.5**
	comp=Z,5.1nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**52.14**	**257**	*e*P	**P**	**02 55 26.2**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
CHTO	**Chiang Mai**	**52.14**	**257**	*e*P	**P**	**02 55 26.2**	**+1.6**
	comp=Z,10nm,1.3s,mb4.6						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**02 55 38.6**	**-0.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.10**	**297**	*e*P	**P**	**02 55 38.6**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.5						
ARU	**Arti**	**55.36**	**318**	⇓*e*P	**P**	**02 55 47.0**	**-1.3**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ARU				MLR	MLR		
	comp=Z,300nm,12.0s,MS4.6						
ARU	**Arti**	**55.36**	**318**	*e*P	**P**	**02 55 46.5**	**-1.7**
	comp=Z,6.2nm,0.8s,mb4.7						
KK31	**Karatay Array**	**56.28**	**299**	*i* P	**P**	**02 55 54.5**	**-0.3**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
EDM	**Edmonton**	**56.50**	**46**	*e*P	**P**	**02 55 55.4**	**-1.0**
BOK	**Bokaro**	**57.77**	**272**	*e*P	**P**	**02 56 05.3**	**0.0**
BOK				AMb	AMB	02 56 12.3	
	comp=Z,16nm,1.3s,mb4.9						
ARCES	**ARCESS Array B**	**58.24**	**341**	P	**P**	**02 56 08.0**	**-0.7**
	comp=Z,4.4nm,1.0s,mb4.4,baz=41,slow=10.0,SNR=3.7						
AKTK	**Aktyubinsk**	**59.06**	**312**	P	**P**	**02 56 12.9**	**-1.4**
AKTK				PcP	PcP	02 57 02.9	-0.1
AKTO	**Aktyubinsk**	**59.06**	**312**	P	**P**	**02 56 12.9**	**-1.4**
	comp=Z,1.5nm,0.5s,mb4.3,baz=73,slow=8.0,SNR=9.4						
AKTO				PcP	PcP	02 57 02.9	-0.1
	comp=Z,1.9nm,0.9s,baz=84,slow=2.5,SNR=3.8						
SUMG	**Summit**	**61.07**	**4**	*e*P	**P**	**02 56 27.9**	**-0.3**
	comp=Z,14nm,0.8s,mb5.1						
JOF	**Joensuu**	**61.72**	**334**	*e*p	**P**	**02 56 30.2**	**-2.3**
NVAR	**Mina Array Bea**	**62.51**	**62**	P	**P**	**02 56 37.5**	**-0.3**
	comp=Z,0.9nm,0.9s,mb3.9,baz=282,slow=8.8,SNR=4.8						
VIS	**Vishakhapatnam**	**63.60**	**268**	*e*P	**P**	**02 56 46.0**	**+0.9**
VIS				AMb	AMB	02 56 48.3	
	comp=Z,19nm,2.0s,mb4.8						
AJM	**Ajmer**	**63.75**	**282**	*e*P	**P**	**02 56 47.1**	**+1.1**
AJM				AMb	AMB	02 56 47.9	
	comp=Z,9.3nm,0.8s,mb4.9						
KAF	**Kangasniemi**	**63.83**	**335**	*e*p	**P**	**02 56 44.5**	**-2.1**
	comp=Z,7.0nm,0.7s,mb4.8,baz=37,slow=6.2						
KAF	**Kangasniemi**	**63.83**	**335**	*e*P	**P**	**02 56 44.5**	**-2.1**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
BHPL	**Bhopal**	**63.97**	**277**	*e*P	**P**	**02 56 48.2**	**+0.7**
BHPL				AMb	AMB	02 56 50.0	
	comp=Z,24nm,0.8s,mb5.2						
FINES	**FINESS Array B**	**64.43**	**335**	P	**P**	**02 56 49.6**	**-0.9**
	comp=Z,6.2nm,0.6s,mb4.8,baz=34,slow=8.1,SNR=28						
FINES	**FINESS Array B**	**64.43**	**335**	*i* P	**P**	**02 56 49.5**	**-1.0**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MOS	**Moscow**	**64.81**	**326**	*e*P	**P**	**02 56 49.5**	**-3.5**
MOS				*e*		03 05 16.4	
PDAR	**Pinedale Array**	**64.88**	**54**	P	**P**	**02 56 52.8**	**-0.7**
	comp=Z,0.8nm,0.8s,mb3.8,baz=306,slow=1.3,SNR=7.7						
OBN	**Obninsk**	**65.68**	**326**	⇑*e*P	**P**	**02 56 56.5**	**-2.2**
OBN				*e*S	S	03 05 59.5	+17
OBN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**68.18**	**199**	*i* P	**P**	**02 57 25.1**	**+11**
WRA	**Warramunga Arr**	**68.19**	**199**	P	**P**	**02 57 14.5**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=20,slow=6.5,SNR=5.2						
NB2	**NORSAR Subarra**	**68.62**	**341**	P	**P**	**02 57 16.4**	**-0.9**
	comp=Z,8.0nm,0.7s,mb4.8,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.62**	**341**	P	**P**	**02 57 16.4**	**-0.9**
NB2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
NOA	**NORSAR Array B**	**68.62**	**341**	P	**P**	**02 57 16.7**	**-0.6**
	comp=Z,6.5nm,0.7s,mb4.7,baz=27,slow=6.3,SNR=34						
MDRS	**Chennai**	**68.95**	**267**	*ex*	x	02 56 03.6	
POO	**Poona**	**69.60**	**276**	*e*P	**P**	**02 57 23.0**	**-0.4**
KIV	**Kislovodsk**	**71.14**	**314**	*e*P	**P**	**02 57 34.2**	**+1.4**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
SUW	**Suwalki**	**71.38**	**332**	*e*P	**P**	**02 57 33.6**	**-0.6**
ZEI	**Tsey**	**71.39**	**313**	*e*P	**P**	**02 57 33.5**	**-0.8**
ZEI				*e**PP	pP	02 57 43.2	-0.9
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**71.89**	**199**	P	**P**	**02 57 37.7**	**+0.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=16,slow=4.7,SNR=8.5						
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**02 57 36.9**	**-0.6**
	comp=Z,13nm,0.7s,mb5.0,baz=34,slow=6.1,SNR=58						
AKBB	**Malin Array Si**	**71.92**	**326**	*e*P	**P**	**02 57 36.8**	**-0.7**
GNI	**Garni**	**72.86**	**310**	⇓*e*P	**P**	**02 57 45.5**	**+2.4**
GNI				pmax	pmax		
	comp=Z,14nm,1.3s						
GNI				MLR	MLR		
	comp=Z,300nm,21.0s						
KWP	**Kalwaria**	**75.20**	**329**	*e*P	**P**	**02 57 57.4**	**+0.6**
KWP	**Kalwaria**	**75.20**	**329**	*e*P	**P**	**02 57 57.0**	**+0.2**
KWP				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KWP	**Kalwaria**	**75.20**	**329**	*e*P	**P**	**02 57 57.0**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8						
OJC	**Ojcow**	**75.70**	**331**	*e*P	**P**	**02 57 59.9**	**+0.3**
STHS	**Stebnicka Huta**	**75.90**	**330**	*e*P	**P**	**02 58 01.4**	**+0.6**
STHS	**Stebnicka Huta**	**75.90**	**330**	*e*P	**P**	**02 58 01.5**	**+0.7**
STHS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
STHS	**Stebnicka Huta**	**75.90**	**330**	*e*P	**P**	**02 58 01.5**	**+0.7**
	comp=Z,6.2nm,1.0s,mb4.5						
KOLS	**Kolonicke sedl**	**75.94**	**329**	*e*P	**P**	**02 58 00.7**	**-0.3**
BURAR	**Bucovina Array**	**75.96**	**327**	⇑*i*P	**P**	**02 58 01.0**	**-0.1**
BURAR	**Bucovina Array**	**75.96**

SNX	**Sinaia**	**77.72**	**325**	⇓*P*	**P**	**02 58 12.5**	**+1.5**
VOIR		**77.83**	**326**	⇑*P*	**P**	**02 58 12.9**	**+1.2**
VOIR		**77.83**	**326**	⇑*P*	**P**	**02 58 12.9**	**+1.2**
MOX	**Moxa**	**77.84**	**336**	*eP*	**P**	**02 58 12.1**	**+0.4**
TREC	**Trest**	**77.90**	**333**	*eP*	**P**	**02 58 12.0**	**0.0**
NKC	**Novy Kostel**	**77.97**	**335**	*eP*	**P**	**02 58 12.5**	**+0.1**
ZST	**Bratislava**	**78.34**	**332**	*eP*	**P**	**02 58 14.3**	**-0.2**
KHC	**Kasperske Hory**	**78.62**	**334**	*eP*	**P**	**02 58 16.3**	**+0.3**
KHC	**Kasperske Hory**	**78.62**	**334**	⇓*eP*	**P**	**02 58 16.6**	**+0.6**
BR131	**Keskin Array S**	**78.74**	**317**	*eP*	**P**	**02 58 16.3**	**-0.4**
	comp=Z,4.3nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**78.74**	**317**	P	**P**	**02 58 17.5**	**+0.8**
	comp=Z,2.9nm,1.0s,mb4.2,baz=108,slow=4.0,SNR=12						
GZR	**Gura Zlata**	**78.75**	**327**	⇓*iP*	**P**	**02 58 17.0**	**+0.3**
GZR	**Gura Zlata**	**78.75**	**327**	⇓*P*	**P**	**02 58 17.0**	**+0.2**
GRA1	**Grafenberg Arr**	**78.81**	**336**	*eP*	**P**	**02 58 17.5**	**+0.4**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.81**	**336**	*eP*	**P**	**02 58 17.5**	**+0.4**
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.81**	**336**	*eP*	**P**	**02 58 17.5**	**+0.4**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**78.81**	**336**	*eP*	**P**	**02 58 17.5**	**+0.4**
GRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
GERES	**GERESS Array B**	**78.84**	**334**	P	**P**	**02 58 16.9**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=46,slow=3.9,SNR=20						
CONA	**Conrad Observa**	**78.98**	**332**	⇓*iP*	**P**	**02 58 18.9**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.3						
BZS	**Buzias**	**78.99**	**328**	⇑*iP*	**P**	**02 58 18.4**	**+0.3**
BZS	**Buzias**	**78.99**	**328**	⇑*P*	**P**	**02 58 18.4**	**+0.3**
ANTO	**Ankara**	**79.02**	**317**	⇑*iP*	**P**	**02 58 19.3**	**+1.1**
PKSM	**Moragy**	**79.55**	**330**	⇑*iP*	**P**	**02 58 20.1**	**-1.0**
PKSM	**Moragy**	**79.55**	**330**	⇑*P*	**P**	**02 58 20.1**	**-1.0**
BAIF	**Baives**	**80.28**	**340**	*eP*	**P**	**02 58 24.8**	**-0.2**
PERS	**Pernice**	**80.36**	**332**	*eP*	**P**	**02 58 25.9**	**+0.4**
KBA	**Koelnbreinsper**	**80.53**	**334**	⇓*iP*	**P**	**02 58 27.3**	**+0.9**
	comp=Z,14nm,0.7s,mb5.0						
KBA	**Koelnbreinsper**	**80.53**	**334**	⇓*iP*	**P**	**02 58 27.3**	**+0.9**
KBA				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
WATA	**Walderalm**	**80.83**	**335**	⇑*eP*	**P**	**02 58 29.0**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.6						
WATA	**Walderalm**	**80.83**	**335**	⇑*eP*	**P**	**02 58 29.0**	**+1.0**
WATA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WTTA	**Wattenberg**	**80.88**	**335**	⇑*iP*	**P**	**02 58 28.9**	**+0.7**
	comp=Z,9.5nm,0.5s,mb5.0						
WTTA	**Wattenberg**	**80.88**	**335**	⇑*iP*	**P**	**02 58 28.9**	**+0.6**
WTTA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
VTS	**Vitosha**	**80.94**	**325**	⇓*iP*	**P**	**02 58 29.1**	**+0.5**
MOTA	**Moosalm**	**80.96**	**335**	⇓*iP*	**P**	**02 58 29.2**	**+0.5**
	comp=Z,13nm,1.2s,mb4.8						
MOTA	**Moosalm**	**80.96**	**335**	⇓*iP*	**P**	**02 58 29.2**	**+0.5**
MOTA				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
SQTA	**Sankt Quirin**	**81.04**	**335**	⇓*iP*	**P**	**02 58 29.7**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.3						
SQTA	**Sankt Quirin**	**81.04**	**335**	⇓*iP*	**P**	**02 58 29.7**	**+0.6**
SQTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
CDF	**Champ du Feu**	**81.05**	**338**	*eP*	**P**	**02 58 29.0**	**-0.2**
	comp=Z,16nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**81.05**	**338**	*eP*	**P**	**02 58 29.0**	**-0.2**
CDF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**81.05**	**338**	*eP*	**P**	**02 58 29.0**	**-0.2**
	comp=Z,8.2nm,1.0s,mb4.6						
DAVA	**Damuels**	**81.36**	**336**	⇑*eP*	**P**	**02 58 31.6**	**+0.7**
	comp=Z,5.9nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**81.53**	**339**	*eP*	**P**	**02 58 31.9**	**+0.2**
	comp=Z,9.8nm,0.6s,mb4.6						
MEZF	**Maizieres J'vi**	**81.53**	**339**	*eP*	**P**	**02 58 31.9**	**+0.2**
	comp=Z,9.8nm,0.6s,mb4.9						
HAU	**Haudompre**	**81.66**	**338**	*eP*	**P**	**02 58 32.2**	**-0.2**
HINF	**Hinteralfeld**	**81.70**	**338**	*eP*	**P**	**02 58 32.2**	**-0.5**
LDF	**La Druitiere**	**82.61**	**343**	*eP*	**P**	**02 58 36.9**	**-0.5**
	comp=Z,24nm,1.1s,mb4.8						
LDF	**La Druitiere**	**82.61**	**343**	*eP*	**P**	**02 58 36.9**	**-0.5**
LDF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
LDF	**La Druitiere**	**82.61**	**343**	*eP*	**P**	**02 58 36.9**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8						
GRR	**Gorron**	**82.96**	**343**	*eP*	**P**	**02 58 38.9**	**-0.3**
LOR	**Lormes**	**82.97**	**340**	⇑*iP*	**P**	**02 58 39.1**	**-0.1**
	comp=Z,9.1nm,0.8s,mb4.6						
LOR	**Lormes**	**82.97**	**340**	⇑*iP*	**P**	**02 58 39.1**	**-0.1**
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
LOR	**Lormes**	**82.97**	**340**	⇑*iP*	**P**	**02 58 39.1**	**-0.1**
	comp=Z,4.6nm,0.8s,mb4.6						
SSF	**Saint Saulge**	**83.25**	**340**	⇑*iP*	**P**	**02 58 41.3**	**+0.6**
	comp=Z,19nm,1.0s,mb4.8						
SSF	**Saint Saulge**	**83.25**	**340**	⇑*iP*	**P**	**02 58 41.3**	**+0.6**
SSF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SSF	**Saint Saulge**	**83.25**	**340**	⇑*iP*	**P**	**02 58 41.3**	**+0.6**
	comp=Z,9.3nm,1.0s,mb4.8						
HYF	**Humbligny**	**83.26**	**340**	*eP*	**P**	**02 58 41.1**	**+0.4**
AVF	**Avril sur Loir**	**83.54**	**340**	⇑*iP*	**P**	**02 58 42.2**	**0.0**
	comp=Z,29nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**83.54**	**340**	⇑*iP*	**P**	**02 58 42.2**	**0.0**
AVF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**83.54**	**340**	⇑*iP*	**P**	**02 58 42.2**	**0.0**
	comp=Z,14nm,1.2s,mb5.0						
SMF	**Signal de Mont**	**83.56**	**339**	⇑*iP*	**P**	**02 58 42.3**	**0.0**
	comp=Z,33nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.56**	**339**	⇑*iP*	**P**	**02 58 42.3**	**0.0**
SMF				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
SMF	**Signal de Mont**	**83.56**	**339**	⇑*iP*	**P**	**02 58 42.3**	**0.0**
	comp=Z,16nm,1.1s,mb5.1						
LPL	**La Plagne**	**83.86**	**337**	*eP*	**P**	**02 58 44.6**	**+0.8**
	comp=Z,13nm,1.0s,mb4.7						
LPL	**La Plagne**	**83.86**	**337**	*eP*	**P**	**02 58 44.6**	**+0.8**
LPL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LPL	**La Plagne**	**83.86**	**337**	*eP*	**P**	**02 58 44.6**	**+0.8**
	comp=Z,6.6nm,1.0s,mb4.7						
LPG	**La Plagne**	**83.87**	**337**	*eP*	**P**	**02 58 45.0**	**+1.1**
	comp=Z,14nm,1.0s,mb4.7						
LPG	**La Plagne**	**83.87**	**337**	*eP*	**P**	**02 58 45.0**	**+1.1**
LPG				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
LPG	**La Plagne**	**83.87**	**337**	*eP*	**P**	**02 58 45.0**	**+1.1**
	comp=Z,7.1nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**84.28**	**340**	*eP*	**P**	**02 58 46.0**	**0.0**
	comp=Z,11nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**84.28**	**340**	*eP*	**P**	**02 58 46.0**	**0.0**
TCF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**84.28**	**340**	*eP*	**P**	**02 58 46.0**	**0.0**
	comp=Z,5.3nm,1.0s,mb4.6						
ORIF	**Oris-en-Rattie**	**84.64**	**337**	*eP*	**P**	**02 58 48.6**	**+0.8**
	comp=Z,17nm,1.2s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.64**	**337**	*eP*	**P**	**02 58 48.6**	**+0.8**
ORIF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8						
ORIF	**Oris-en-Rattie**	**84.64**	**337**	*eP*	**P**	**02 58 48.6**	**+0.8**
	comp=Z,8.6nm,1.2s,mb4.8						
VIVF	**Saint-Julien-l**	**85.02**	**338**	*eP*	**P**	**02 58 50.3**	**+0.6**
	comp=Z,11nm,0.9s,mb4.7						
VIVF	**Saint-Julien-l**	**85.02**	**338**	*eP*	**P**	**02 58 50.3**	**+0.6**
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
VIVF	**Saint-Julien-l**	**85.02**	**338**	*eP*	**P**	**02 58 50.3**	**+0.6**
	comp=Z,5.7nm,0.9s,mb4.7						
RJF	**Les Rejaudoux**	**85.37**	**340**	*eP*	**P**	**02 58 51.0**	**-0.5**
CAF	**Calviac**	**85.60**	**340**	*eP*	**P**	**02 58 53.1**	**+0.5**
SMRF	**Simiane la Rot**	**85.60**	**337**	*eP*	**P**	**02 58 53.5**	**+0.9**
FRF	**La Foret Royal**	**85.69**	**336**	*eP*	**P**	**02 58 53.0**	**-0.1**
LMR	**La Mourre**	**85.94**	**336**	*eP*	**P**	**02 58 54.5**	**+0.2**
	comp=Z,30nm,1.3s,mb5.1						
LMR	**La Mourre**	**85.94**	**336**	*eP*	**P**	**02 58 54.5**	**+0.2**
LMR				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.1						
LMR	**La Mourre**	**85.94**	**336**	*eP*	**P**	**02 58 54.5**	**+0.2**
	comp=Z,15nm,1.3s,mb5.1						
LASF	**Ste Croix**	**85.95**	**338**	*eP*	**P**	**02 58 55.0**	**+0.6**
MTLF	**Montolieu**	**87.05**	**339**	*eP*	**P**	**02 58 59.3**	**-0.5**
EPF	**Esparros**	**87.79**	**340**	*eP*	**P**	**02 59 03.1**	**-0.2**
SJPF	**Ste Jean**	**88.07**	**342**	*eP*	**P**	**02 59 05.5**	**+0.9**
	comp=Z,31nm,1.3s,mb5.1						
SJPF	**Ste Jean**	**88.07**	**342**	*eP*	**P**	**02 59 05.5**	**+0.9**
SJPF				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.1						
SJPF	**Ste Jean**	**88.07**	**342**	*eP*	**P**	**02 59 05.5**	**+0.9**
	comp=Z,16nm,1.3s,mb5.1						
TORD	**Torodi Ar. Bea**	**115.47**	**329**	PKP	PKPdf	03 04 55.2	-0.8
	comp=Z,0.3nm,0.8s,baz=8.1,slow=2.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**115.47**	**329**	PKP	PKPdf	03 04 55.2	-0.8
CFAA	**Coronel Fontan**	**144.95**	**80**	PKP	PKPdf	03 05 52.5	+1.2
	comp=Z,0.3nm,0.8s,baz=198,slow=3.2,SNR=4.5						
CFAA	**Coronel Fontan**	**144.95**	**80**	PKP	PKPdf	03 05 52.5	+1.2
PLCA	**Paso Flores**	**148.06**	**96**	PKPbc	PKPbc	03 05 58.6	-1.1
	comp=Z,1.0nm,0.6s,baz=270,slow=4.0,SNR=3.2						
CPUP	**Villa Florida**	**148.56**	**61**	PKPbc	PKPbc	03 05 60.0	-1.0
	comp=Z,1.1nm,0.5s,baz=311,slow=2.2,SNR=5.9						
SNAA	**Sanae**	**152.22**	**196**	PKPbc	PKPbc	03 06 07.1	-2.7
	comp=Z,0.6nm,1.1s,baz=277,slow=1.2,SNR=5.6						

IDC 28 02:49:57.7±26.0, 4650N×15307E, h0km, mb3.9/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=613.0km s-min=87.5km az=153.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**47.03**	**298**	P	P	02 58 30.5	-0.3
	0.7nm,0.7s,baz=74,slow=8.9,SNR=3.8						
FINES	**FINESS Array B**	**64.25**	**335**	P	P	03 00 34.1	-0.5
	0.6nm,0.5s,baz=39,slow=7.0,SNR=7.7						
NOA	**NORSAR Array B**	**68.45**	**341**	P	P	03 01 01.1	-0.5
	0.7nm,0.6s,baz=28,slow=6.4,SNR=3.3						
AKASG	**Malin Array Be**	**71.74**	**326**	P	P	03 01 21.3	-0.4
	0.6nm,0.4s,baz=34,slow=6.2,SNR=6.6						

GUC 28 03:07:32.5±0.8, 3374S×7000W, h12km±8km, MD4.2, ML3.2, 13C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJCH	**San Jose de Ma**	**0.31**	**289**	⇑*iP*	Pg	03 07 38.5	-0.3
SJCH				*i* S	Sg	03 07 43.0	0.0
SJCH				AML	AML	03 07 43.8	
	comp=N,10μm,0.2s						
PCH	**Pirque**	**0.44**	**286**	⇓*iP*	Pg	03 07 41.3	+0.1
PCH				*i* S	Sg	03 07 47.4	+0.3
FCH	**Farellones**	**0.48**	**330**	⇑*iP*	Pg	03 07 42.1	+0.3
FCH				*i* S	Sg	03 07 49.3	+1.1
LACH	**Colegio Las Am**	**0.53**	**303**	⇑*eP*	Pg	03 07 42.1	-0.7
LACH				⇑*iP*		03 07 42.2	
LACH				*i* S	Sg	03 07 49.9	+0.1
LACH				AML	AML	03 07 50.4	
	comp=N,1μm,0.3s						
ANTU	**Antumapu**	**0.55**	**288**	⇑*iP*	Pg	03 07 43.3	0.0
ANTU				*i* S	Sg	03 07 51.1	+0.5
ANTU				AML	AML	03 07 51.5	
	comp=N,4μm,0.3s						
CLCH	**Cerro Calan**	**0.56**	**308**	⇑*iP*	Pg	03 07 43.6	+0.2
CLCH				*i* S	Sg	03 07 52.1	+1.2
CLCH				AML	AML	03 07 52.5	
	comp=N,3μm,0.6s						
CHCH	**Chadas Angostu**	**0.57**	**251**	⇑*iP*	Pg	03 07 43.3	-0.3
CHCH				*i* S	Sg	03 07 51.2	0.0
DSCH	**Colegio Aleman**	**0.58**	**306**	⇑*iP*	Pg	03 07 43.4	-0.5
DSCH				*i* S	Sg	03 07 51.8	+0.3
STL	**Santa Lucia**	**0.61**	**300**	⇑*iP*	Pg	03 07 43.9	-0.5
STL				*i* S	Sg	03 07 52.4	-0.1
CACH	**El Canelo**	**0.62**	**233**	⇓*iP*	Pg	03 07 44.1	-0.4
SAN	**Santiago**	**0.62**	**298**	*eP*	Pg	03 07 44.2	-0.4
SAN				*i* S	Sg	03 07 53.2	+0.4
CICH	**Cipreses**	**0.67**	**211**	⇑*iP*	Pg	03 07 44.9	-0.6
RCDM	**Rinconada Maip**	**0.72**	**291**	⇓*iP*	Pg	03 07 46.3	-0.1
RCDM				*i* S	Sg	03 07 56.4	+0.6
RCDM				AML	AML	03 07 56.7	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**0.78**	**276**	⇑*iP*	Pg	03 07 47.2	-0.5
TACH				*i* S	Sg	03 07 57.9	0.0
PEL	**Peldehue**	**0.83**	**316**	⇓*iP*	Pg	03 07 48.3	-0.2
PEL				*i* S	Sg	03 07 59.2	-0.1
PEL				AML	AML	03 08 01.2	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**1.14**	**312**	⇓*iP*	Pb	03 07 53.6	-0.5
JACH	**Jahuel**	**1.17**	**335**	⇓*iP*	Pb	03 07 54.2	-0.4
JACH				*i* S	Sb	03 08 10.2	+0.4
LNV	**Longovilo**	**1.19**	**259**	⇓*iP*	Pn	03 07 53.7	-1.3
SFDO	**San Fernando**	**1.21**	**224**	⇑*iP*	Pn	03 07 54.5	-0.7
LCCH	**Las Cruces**	**1.33**	**281**	⇑*iP*	Pn	03 07 56.8	-0.2
IHA	**Instituto Hidr**	**1.55**	**297**	⇓*iP*	Pn	03 08 00.2	+0.3
IHA				*i* S	Sn	03 08 21.1	+1.2
PACH	**Papudo**	**1.70**	**315**	*eP*	Pn	03 08 03.2	+1.1
CHNG	**Los Chungos**	**2.24**	**325**	⇓*iP*	Pn	03 08 11.9	+2.4
ZON	**Zonda**	**2.46**	**27**	*eP*	Pg	03 08 10.1	-0.5
ZON				*i* S	Sg	03 08 53.8	+2.2

*CSEM **28** 03:15:10.7±0.2, 3687N×278E, h2km, ML3.6, Error ellipse: s-maj=10.8km s-min=4.4km az=44.0*
*CRAAG **28** 03:15:10.5, 3691N×279E, Ml3.6*
*ISCJB **28** 03:15:11.7±0.5, 3702N±003×292E±004, h10km, Error ellipse: s-maj=5.1km s-min=4.0km az=148.1*
*MDD **28** 03:15:12.8±0.5, 3690N×287E, h0km, mb3.9/4, Error ellipse: s-maj=10.0km s-min=4.2km az=48.0, PRXIMO*
*NEIC **28** 03:15:14.8, 3705N×286E, h0km, MG3.9(MDD), After MDD.*

ISC 28 03:15:12.2±1.1, 3698N±004×292E±008, h8km±12km, n25, σ1§14/40, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.20**	**152**	P	**Pg**	**03 15 15.6**	**-0.6**
ABMS	**Boumerdes**	**0.50**	**117**	P	**Pg**	**03 15 22.4**	**+0.5**
EMHD	**Djebel Mahouad**	**0.77**	**178**	P	**Pg**	**03 15 25.0**	**-2.0**
ADJB	**Djebel Djouab**	**0.92**	**153**	P	**Pg**	**03 15 28.5**	**-1.3**
AKET	**Djebel Ketaf**	**1.21**	**140**	P	**Pb**	**03 15 35.6**	**+0.3**
EBNR	**Beni Rached**	**1.31**	**239**	P	**Sb**	**03 15 55.0**	**+1.0**
ECH	**Ech Chlef**	**1.50**	**237**	P	**Sn**	**03 16 00.0**	**+0.5**
ECHF	**Ech Chlef**	**1.51**	**238**	P	**Sn**	**03 16 00.0**	**+0.5**
EANR	**'Ain N'Sour**	**1.79**	**236**	P	**Sn**	**03 16 05.0**	**-1.3**
EIBI	**Ibiza**	**2.40**	**329**	P	**Pn**	**03 15 52.9**	**+1.1**
	5.3nm,0.1s,SNR=43						
EIBI				S	**Sn**	**03 16 21.1**	**-0.2**
	7.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.40**	**329**	P	**Pn**	**03 15 52.9**	**+1.2**
	5.3nm,0.1s,SNR=43						
EIBI				S	**Sn**	**03 16 21.1**	**-0.2**
	7.7nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**2.79**	**358**	P	**Pn**	**03 15 58.6**	**+1.5**
	1.4nm,0.2s,SNR=9.0						
ETOS				S	**Sn**	**03 16 30.5**	**-0.4**
	0.8nm,0.2s,SNR=4.9						
ETOS	**Mallorca**	**2.79**	**358**	P	**Pn**	**03 15 58.6**	**+1.5**
ETOS				S	**Sn**	**03 16 29.9**	**-1.0**
ETOS	**Mallorca**	**2.79**	**358**	P	**Pn**	**03 15 58.6**	**+1.5**
	1.4nm,0.2s,SNR=9.0						
ETOS				S	**Sn**	**03 16 29.9**	**-1.0**
	0.8nm,0.2s,SNR=4.9						
EBEN	**Beniarda**	**3.03**	**306**	P	**Pn**	**03 16 01.0**	**+0.5**
	0.1nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**03 16 35.8**	**-1.1**
	0.6nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.03**	**306**	P	**Pn**	**03 16 00.9**	**+0.5**
EBEN				S	**Sn**	**03 16 35.8**	**-1.1**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.91**	**297**	P	**Pn**	**03 16 13.5**	**+1.0**
	3.2nm,0.2s,SNR=33						
ETOB				S	**Sn**	**03 16 57.9**	**-0.8**
	0.9nm,0.2s						
ETOB	**Tobarra**	**3.91**	**297**	P	**Pn**	**03 16 13.5**	**+1.0**
	3.2nm,0.2s,SNR=33						
ETOB				S	**Sn**	**03 16 57.9**	**-0.7**
	0.9nm,0.2s						
EMOS	**Mosqueruela**	**4.30**	**323**	P	**Pn**	**03 16 19.4**	**+1.5**
	1.8nm,0.1s,SNR=28						
EMOS				S	**Sn**	**03 17 06.8**	**-1.4**
	0.6nm,0.1s						
EMOS	**Mosqueruela**	**4.30**	**323**	P	**Pn**	**03 16 19.4**	**+1.5**
	1.8nm,0.1s,SNR=28						
EMOS				S	**Sn**	**03 17 06.8**	**-1.4**
	0.6nm,0.1s						
ERTA	**Horta de San J**	**4.46**	**334**	P	**Pn**	**03 16 21.3**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**03 17 10.1**	**-2.0**
	0.7nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.46**	**334**	P	**Pn**	**03 16 21.3**	**+1.3**
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.84**	**282**	P	**Pn**	**03 16 26.8**	**+1.5**
	0.5nm,0.2s,SNR=5.6						
EQES				S	**Sn**	**03 17 19.7**	**-1.9**
	0.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.84**	**282**	P	**Pn**	**03 16 26.8**	**+1.5**
EQES				S	**Sn**	**03 17 21.4**	**-0.2**
EQES	**Quesada**	**4.84**	**282**	P	**Pn**	**03 16 26.8**	**+1.5**
	0.5nm,0.2s,SNR=5.6						
EQES				S	**Sn**	**03 17 21.4**	**-0.2**
	0.7nm,0.2s,SNR=7.9						

*ISCJB **28** 03:20:19.0±0.8, 2091S×007×6881W±009, h120km±8km, mb3.9/10, Error ellipse: s-maj=14.2km s-min=11.1km az=18.3*
*NEIC **28** 03:20:19.7±0.9, 2089S×6884W, h111km±9km, mb3.8/9, Error ellipse: s-maj=12.6km s-min=10.6km az=77.0*
*IDC **28** 03:20:20.0±1.4, 2092S×6878W, h114km±14km, mb3.8/4, mb1 3.8/7, mb1mx3.5/17, mbtmp4.1/7, MS3.3/1, Ms1 3.5/1, ms1mx3.0/28, Error ellipse: s-maj=25.0km s-min=16.8km az=109.0*

ISC 28 03:20:20.0±0.8, 2088S±007×6884W±009, h110km±9km, n25, σ1§11/28, mb3.9/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.72**	**182**	P	**Pn**	**03 20 49.4**	**-0.1**
	34nm,0.3s,baz=11,slow=9.0,SNR=118						
LVC				S	**Sn**	**03 21 12.4**	**+0.4**
	42nm,0.3s,baz=13,slow=9.9,SNR=6.2						
LVC				LR	LR	03 21 26.9	
	comp=Z,733nm,19.8s,baz=298,slow=40						
LVC	**Limon Verde**	**1.72**	**182**	*e*P	**Pn**	**03 20 49.4**	**-0.1**
LVC				*e*S	**Sn**	**03 21 11.4**	**-0.5**
LPAZ	**La Paz**	**4.62**	**8**	P	**Pn**	**03 21 29.5**	**+1.9**
	1.5nm,0.3s,baz=211,slow=9.3,SNR=31						
LPAZ				LR	LR	03 23 23.6	
	comp=Z,359nm,19.3s,baz=107,slow=40						
LPAZ	**La Paz**	**4.62**	**8**	*e*P	**Pn**	**03 21 29.3**	**+1.7**
ARE	**Arequipa**	**5.07**	**330**	*e*P	**Pn**	**03 21 29.0**	**-4.7**
ARE				*e*S	**Sn**	**03 22 22.0**	**-9.0**
SIV	**San Ignacio**	**8.83**	**58**	P	**Pn**	**03 22 22.8**	**-1.9**
	3.3nm,0.3s,baz=254,slow=10,SNR=89						
CFAA	**Coronel Fontan**	**10.69**	**177**	P	**Pn**	**03 22 45.3**	**-4.6**
	0.0nm,0.3s,baz=350,slow=12,SNR=4.4						
CFAA				S	**Sn**	**03 24 37.9**	**-10**
	0.1nm,0.3s,baz=209,slow=14,SNR=4.0						
CPUP	**Villa Florida**	**11.86**	**119**	P	**Pn**	**03 23 05.5**	**+0.1**
	0.7nm,0.3s,baz=297,slow=11,SNR=5.8						
SAML	**Samuel**	**13.06**	**26**	*e*Pn	**Pn**	**03 23 20.8**	**-0.4**
	0.6nm,0.6s						
TRQA	**Tornquist**	**18.11**	**162**	*e*P	**P**	**03 24 22.8**	**-0.5**
	6.3nm,0.8s						
PLCA	**Paso Flores**	**19.84**	**184**	P	**P**	**03 24 45.8**	**+3.7**
	0.2nm,0.3s,baz=4.1,slow=10,SNR=4.0						
PLCA	**Paso Flores**	**19.84**	**184**	*e*P	**P**	**03 24 45.4**	**+3.3**
	1.5nm,0.6s						
BDFB	**Brasilia**	**20.44**	**79**	P	**P**	**03 24 49.5**	**+0.9**
	8.8nm,0.4s,baz=257,slow=7.0,SNR=18						
BAO	**Brasilia Array**	**20.47**	**79**	P	**P**	**03 24 51.0**	**+2.2**
RCBR	**Riachuelo**	**35.26**	**70**	*e*P	**P**	**03 27 03.5**	**-0.4**
	18nm,1.0s,mb4.9						
WMOK	**Wichita Mounta**	**62.20**	**332**	*e*P	**P**	**03 30 31.2**	**+1.4**
	4.2nm,0.8s,mb4.5						
MNTX	**Cornudas Mount**	**62.93**	**325**	*e*P	**P**	**03 30 32.3**	**-2.3**
	0.9nm,

RUBB				Sn	Sn	03 37 50.8	-0.3
RUBB				Trac		03 37 58.3	
	comp=Z,68nm,0.7s						
TXB	**Texada**	**3.67**	**104**	Pn	**Pn**	**03 37 09.3**	**+1.0**
TXB				Sn	**Sn**	**03 37 50.5**	**-1.2**
	comp=Z,60nm,0.8s						
TXB				Trac		03 37 59.2	
	comp=Z,60nm,0.8s						
NDB	**Naden**	**3.75**	**332**	Pn	**Pn**	**03 37 08.6**	**-0.8**
NDB				Sn	**Sn**	**03 37 47.9**	**-5.8**
	comp=Z,31nm,0.6s						
NDB				Trac		03 38 07.5	
	comp=Z,31nm,0.6s						
SHB	**Sechelt**	**4.05**	**103**	Pn	**Pn**	**03 37 15.4**	**+1.9**
SHB				Sn	**Sn**	**03 38 00.2**	**-0.8**
SHB				Trac		03 38 08.0	
	comp=Z,54nm,0.5s						
NLLB	**Nanaimo Lost L**	**4.11**	**109**	Pn	**Pn**	**03 37 15.4**	**+1.0**
NLLB				Trac		03 38 07.7	
	comp=Z,19nm,0.5s						
PFB	**Port Renfrew**	**4.16**	**119**	Pn	**Pn**	**03 37 14.2**	**-0.7**
WPB	**Watts Point**	**4.45**	**101**	Pn	**Pn**	**03 37 21.9**	**+2.9**
WPB				Sn	**Sn**	**03 38 08.7**	**-2.1**
	comp=Z,15nm,0.5s						
WPB				Trac		03 38 47.4	
	comp=Z,15nm,0.5s						
BIB	**Bowen Island**	**4.46**	**104**	Trac		03 38 19.0	
	comp=Z,20nm,0.7s						
LZB	**Mount Lazard**	**4.48**	**115**	Pn	**Pn**	**03 37 19.9**	**+0.3**
LZB				Sn	**Sn**	**03 38 06.5**	**-5.3**
LZB				Trac		03 38 16.6	
	comp=Z,7.9nm,0.7s						
PGC	**Sidney**	**4.68**	**113**	*e*Pn	**Pn**	**03 37 20.4**	**-1.9**
HNB	**Haney**	**4.95**	**104**	Pn	**Pn**	**03 37 28.3**	**+2.3**
MCW	**Mount Constitu**	**5.03**	**111**	P	**Pn**	**03 37 28.3**	**+1.3**
FSB	**Fort Saint Jam**	**5.10**	**40**	Pn	**Pn**	**03 37 30.9**	**+2.9**
FSB				Sg	**Sb**	**03 38 54.0**	**+12**
FSB				Trac		03 39 15.8	
	comp=Z,17nm,0.6s						
LLLB	**Lillooet**	**5.13**	**88**	Pn	**Pn**	**03 37 29.4**	**+1.1**
LLLB				Trac		03 39 02.0	
	comp=Z,10.0nm,0.6s						
VDB	**Vedder Mountai**	**5.33**	**105**	P	**Pn**	**03 37 33.0**	**+1.8**
MBW	**Mount Baker**	**5.55**	**107**	P	**Pn**	**03 37 35.8**	**+1.6**
CMW	**Cultus Mountai**	**5.57**	**111**	P	**Pn**	**03 37 36.0**	**+1.6**
JCW	**Jim Creek**	**5.79**	**112**	P	**Pn**	**03 37 38.9**	**+1.4**
RPW	**Rockport**	**5.92**	**109**	P	**Pn**	**03 37 41.0**	**+1.8**
FMW	**Mount Fremont**	**6.63**	**121**	P	**Pn**	**03 37 50.0**	**+1.0**
TWW	**Teanaway**	**6.95**	**117**	P	**Pn**	**03 37 56.0**	**+2.5**
TBM	**Table Mountain**	**7.09**	**116**	P	**Pn**	**03 37 57.5**	**+2.1**
BMBC	**Bull Mountain**	**7.11**	**38**	Pn	**Pn**	**03 38 02.5**	**+6.9**
BMBC				Trac		03 40 58.2	
	comp=Z,20nm,0.7s						
DLBC	**Dease Lake**	**7.76**	**360**	Pn	**Pn**	**03 38 08.5**	**+3.9**
KIPM	**Iron Peak**	**11.79**	**155**	*e*Pn	**Pn**	**03 39 05.4**	**+5.7**
IMW	**Indian Meadow**	**14.55**	**110**	*e*P	**Pn**	**03 39 47.6**	**+10**
MOOW	**Moose Ponds**	**14.75**	**111**	*e*P	**Pn**	**03 39 49.5**	**+9.4**
TPAW	**Teton Pass**	**14.78**	**112**	*e*P	**Pn**	**03 39 49.8**	**+9.3**
REDW	**Red Top Meadow**	**14.91**	**112**	*e*P	**Pn**	**03 39 49.8**	**+7.5**
	16nm,1.4s						

*NEIC **28** 03:41:19.7, 10.16N×6239W, h2km, MD3.2(TRN), After TRN.*
*TRN **28** 03:41:19.7, 10.16N×6239W, h2km, MD3.2*
*ISCJB **28** 03:41:22.8±0.4, 1036N±004×6240W±003, h10km, Error ellipse: s-maj=5.5km s-min=3.1km az=130.5*
*FUNV **28** 03:41:23.9, 1042N×6241W, h5km, MW3.0*

ISC 28 03:41:23.5±0.4, 1041N±004×6242W±003, h10km, n18, σ1§14/28, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**39**	⇑*i*P	**Pg**	**03 41 29.6**	**-0.1**
GUIV				*e*S	**Sg**	**03 41 34.6**	**+0.9**
GUNV	**Guanoco**	**0.57**	**245**	⇑*i*P	**Pg**	**03 41 34.1**	**-0.5**
GUNV				*e*S	**Sg**	**03 41 43.9**	**+1.7**
TCE	**Chacachacare**	**0.71**	**66**	*e*P	**Pg**	**03 41 35.8**	**-1.5**
TCE				*e*S	**Sg**	**03 41 48.2**	**+1.6**
TCE	**Chacachacare**	**0.71**	**66**	*e*P	**Pg**	**03 41 35.8**	**-1.5**
TCE				*e*S	**Sg**	**03 41 48.2**	**+1.6**
CRUV	**Carupano**	**0.85**	**288**	*e*P	**Pg**	**03 41 38.9**	**-1.0**
CRUV				*e*S	**Sg**	**03 41 50.4**	**-0.6**
TPP	**Pointe-a-Pierr**	**0.95**	**95**	*e*P	**Pg**	**03 41 38.0**	**-3.9**
TRN	**Trinidad (W)**	**1.02**	**76**	*e*P	**Pg**	**03 41 40.8**	**-2.4**
TRN				*e*S	**Sg**	**03 41 56.0**	**-0.5**
ITEV	**Isla Los Testi**	**1.17**	**323**	*e*P	**Pb**	**03 41 44.6**	**-1.3**
ITEV				*e*S	**Sb**	**03 42 00.9**	**-0.3**
TBH	**Brigand Hill**	**1.33**	**87**	*e*P	**Pn**	**03 41 45.2**	**-2.9**
ORIV	**Orītupano**	**1.65**	**216**	*e*P	**Pn**	**03 41 53.2**	**+0.7**
ORIV				*e*S	**Sn**	**03 42 14.6**	**+0.8**
TPR	**Prospect**	**1.79**	**64**	*e*P	**Pn**	**03 41 54.4**	**-0.1**
TPR				*e*S	**Sn**	**03 42 18.6**	**+1.5**
GRW	**Mount Saint Ca**	**1.89**	**23**	*e*P	**Pn**	**03 41 56.9**	**+1.0**
GRW				*e*S	**Sn**	**03 42 22.9**	**+3.1**
PCRV	**Puerto La Cruz**	**2.20**	**264**	*e*P	**Pn**	**03 42 00.3**	**+0.2**
PRGV	**PARIAGUAN**	**2.74**	**233**	*e*P	**Pn**	**03 42 08.0**	**+0.4**
CUPV	**Cœpira**	**3.34**	**264**	*e*P	**Pn**	**03 42 16.7**	**+1.0**
BIRV	**Birongo**	**3.79**	**271**	*e*P	**Pn**	**03 42 21.3**	**-0.7**
LUEV	**Luepa**	**4.63**	**168**	*e*P	**Pn**	**03 42 33.1**	**-0.5**
CAOV	**Caicara del Or**	**4.93**	**232**	*e*P	**Pn**	**03 42 37.1**	**-0.5**

*IGQ **28** 03:43:34.4, 080S×7962W, h17km±3km, Mb4.3, Ms4.1, Error ellipse: s-maj=3.9km s-min=1.4km az=176.8*
*ISCJB **28** 03:43:35.4±1.4, 086S±005×798W±0.1, h41km±16km, mb3.8/5, Error ellipse: s-maj=17.5km s-min=7.8km az=153.3*
*NEIC **28** 03:43:43.2±3.6, 066S×7927W, h108km±35km, mb3.8/4, MD4.4(IGQ), Error ellipse: s-maj=35.6km s-min=13.5km az=61.0*
NEIC Felt at Ambato and Guaranda.
*IDC **28** 03:43:43.1±4.9, 066S×7929W, h101km±44km, mb3.3/3, mb1 3.5/6, mb1mx3.4/21, mbtmp3.8/6, Error ellipse: s-maj=47.2km s-min=23.2km az=50.0*

ISC 28 03:43:36.8±1.3, 087S±005×7969W±009, h37km±16km, n36, σ1§02/43, mb3.8/5, 5C-18D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAMI	**Rancho Maria**	**1.20**	**81**	⇓P	**Pn**	**03 43 56.6**	**-0.4**
IGUA	**Igualata**	**1.22**	**121**	⇓P	**Pn**	**03 43 57.3**	**-0.1**
NAS1	**Nasa**	**1.23**	**79**	⇓P	**Pn**	**03 43 57.4**	**-0.1**
JUA2	**San Juan 2**	**1.26**	**59**	⇓P	**Pn**	**03 43 57.1**	**-0.8**
TERV	**Terraza Guagua**	**1.28**	**58**	⇑P	**Pn**	**03 43 57.3**	**-0.9**
PINO	**Pino**	**1.29**	**57**	⇑P	**Pn**	**03 43 57.2**	**-1.1**
GGP	**Refugio Guagua**	**1.29**	**58**	⇑P	**Pn**	**03 43 57.3**	**-1.0**
VC1	**Cotopaxi 1**	**1.30**	**80**	⇓P	**Pn**	**03 43 58.5**	**0.0**
PISA	**Pisayambo**	**1.32**	**98**	⇓P	**Pn**	**03 43 58.6**	**0.0**
BILB	**Tungurahua vol**	**1.32**	**116**	⇓P	**Pn**	**03 43 58.5**	**-0.2**
BILB				S	**Sn**	**03 44 13.8**	**-1.2**
TAMB	**Tambo**	**1.33**	**83**	⇓P	**Pn**	**03 43 58.8**	**-0.1**
YANA	**Yana**	**1.34**	**56**	⇓P	**Pn**	**03 43 58.1**	**-0.9**
YANA				S	**Sn**	**03 44 14.4**	**-1.2**
JUIV	**Juive**	**1.34**	**114**	⇓P	**Pn**	**03 43 58.8**	**-0.3**
JUIV				S	**Sn**	**03 44 16.0**	**+0.3**
RETU	**Refugio**	**1.37**	**115**	⇓P	**Pn**	**03 43 59.6**	**+0.2**
RETU				S	**Sn**	**03 44 17.5**	**+1.1**
RUN5	**Runtun**	**1.38**	**113**	⇓P	**Pn**	**03 43 59.4**	**-0.1**
ARRY	**Arrayan**	**1.39**	**117**	⇓P	**Pn**	**03 43 59.4**	**-0.2**
ULBA	**Ulba**	**1.41**	**114**	⇓P	**Pn**	**03 43 59.8**	**0.0**
ANTI	**Antisana**	**1.58**	**75**	⇓P	**Pn**	**03 44 02.6**	**+0.3**
COTA	**Cotacachi**	**1.80**	**49**	⇓P	**Pn**	**03 44 05.1**	**-0.2**
CAYR	**Refugio Cayamb**	**1.90**	**63**	⇓P	**Pn**	**03 44 08.2**	**+1.6**
ANGU	**Angureal**	**1.91**	**62**	P	**Pn**	**03 44 08.9**	**+2.1**
CAYA	**Cayambe**	**1.94**	**61**	⇑P	**Pn**	**03 44 08.4**	**+1.2**
CONE	**Cono NE Rev Vo**	**2.19**	**69**	⇑P	**Pn**	**03 44 13.9**	**+3.2**
CONE				S	**Sn**	**03 44 42.2**	**+5.6**
LAV3	**Lava3-Reventad**	**2.19**	**70**	⇓P	**Pn**	**03 44 13.5**	**+2.8**
LAV3				S	**Sn**	**03 44 42.0**	**+5.4**
ROSC	**El Rosal**	**7.81**	**43**	P	**Pn**	**03 45 27.9**	**+0.1**
	2.8nm,0.3s,baz=102,slow=1.0,SNR=23						
NNA	**Nana**	**11.40**	**166**	*e*Pn	**Pn**	**03 46 15.6**	**-1.5**
	27nm,0.6s						
NNA				*e*Sn	**Sn**	**03 48 16.1**	**-7.0**
SDV	**Santo Domingo**	**13.24**	**43**	P	**Pn**	**03 46 43.0**	**+0.9**
	0.2nm,0.3s,baz=260,slow=11,SNR=2.3						
SAML	**Samuel**	**18.29**	**117**	*e*P	**Pn**	**03 47 43.8**	**-3.8**
	4.9nm,0.9s						
LPAZ	**La Paz**	**19.09**	**144**	P	**Pn**	**03 47 58.1**	**+0.8**
	0.1nm,0.3s,baz=321,slow=15,SNR=7.9						
LPAZ	**La Paz**	**19.09**	**144**	*e*P	**Pn**	**03 47 58.6**	**+1.3**
	1.4nm,0.6s						
LVC	**Limon Verde**	**24.02**	**155**	*e*P	**P**	**03 48 49.2**	**+1.1**
	3.2nm,0.8s,mb3.8						
MNTX	**Cornudas Mount**	**40.52**	**325**	*e*P	**P**	**03 51 11.4**	**-0.8**
	15nm,2.0s,mb4.3						
ANMO	**Albuquerque**	**43.55**	**328**	P	**P**	**03 51 37.3**	**+0.4**
	2.7nm,0.9s,mb4.0,baz=153,slow=7.4,SNR=11						
NVAR	**Mina Array Bea**	**52.82**	**322**	P	**P**	**03 52 49.1**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=140,slow=5.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**81.81**	**77**	P	**P**	**03 55 49.2**	**-2.7**
	0.3nm,0.9s,mb3.2,baz=282,slow=5.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**81.81**	**77**	P	**P**	**03 55 49.2**	**-2.7**

NEIC 28 03:43:55.1±1.7, 3404S×17854E, h300km, Error ellipse: s-maj=43.5km s-min=20.2km az=107.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.52**	**183**	PN	Pn	03 44 56.3	+0.2
MXZ				SN	S	03 45 51.8	+6.8
PUZ	**Puketiti**	**4.03**	**183**	*e*PN	Pn	03 44 59.2	-2.4
PUZ				SN	S	03 45 59.2	+4.3
MWZ	**Matawai**	**4.37**	**190**	*e*P	Pn	03 45 05.9	+0.6
MWZ				S	S	03 46 12.3	+11
MWZ	**Matawai**	**4.37**	**190**	*e*PN	Pn	03 45 03.9	-1.4
MWZ				SN	S	03 46 11.4	+10
URZ	**Urewera**	**4.37**	**195**	PN	Pn	03 45 05.2	-0.1
URZ				*e*SN	S	03 46 09.6	+7.9
KNZ	**Kokohu**	**5.02**	**188**	PN	Pn	03 45 11.6	-1.2
BKZ	**Black Stump Fm**	**5.38**	**197**	*e*P	Pn	03 45 17.6	+0.7
BKZ	**Black Stump Fm**	**5.38**	**197**	*e*PN	Pn	03 45 17.3	+0.3
BKZ				SN	S	03 46 32.4	+10
WTVZ	**West Tongariro**	**5.59**	**204**	P	Pn	03 45 22.5	+3.0
WTVZ	**West Tongariro**	**5.59**	**204**	PN	Pn	03 45 22.4	+2.9
FWVZ	**Far West T-bar**	**5.73**	**204**	*e*PN	Pn	03 45 22.7	+1.5
WNVZ	**Wahianoa**	**5.78**	**203**	P	Pn	03 45 24.1	+2.4
WNVZ	**Wahianoa**	**5.78**	**203**	*e*PN	Pn	03 45 24.3	+2.5
MOVZ	**Moawhango**	**5.81**	**202**	P	Pn	03 45 23.7	+1.7
MOVZ	**Moawhango**	**5.81**	**202**	PN	Pn	03 45 23.6	+1.6
PXZ	**Pawanui**	**6.13**	**192**	*e*PN	Pn	03 45 23.8	-2.1
PXZ				*e*SN	S	03 46 45.5	+6.4
PKE	**Pukeiti**	**6.31**	**214**	P	Pn	03 45 34.1	+6.0
NEZ	**North Egmont**	**6.33**	**213**	P	Pn	03 45 34.1	+5.9
TSZ	**Takapari Road**	**6.35**	**198**	P	Pn	03 45 28.2	-0.4
TSZ	**Takapari Road**	**6.35**	**198**	*e*PN	Pn	03 45 28.2	-0.3
TSZ				*e*SN	S	03 46 52.4	+8.4
WAZ	**Wanganui**	**6.38**	**205**	P	Pn	03 45 31.0	+2.2
WAZ	**Wanganui**	**6.38**	**205**	PN	Pn	03 45 30.6	+1.7
BFZ	**Birch Farm**	**6.88**	**195**	P	Pn	03 45 34.1	-0.8
BFZ	**Birch Farm**	**6.88**	**195**	*e*PN	Pn	03 45 34.1	-0.8
BFZ				*e*SN	S	03 47 02.2	+6.7
MRZ	**Mangatainoka R**	**7.02**	**199**	*e*P	Pn	03 45 35.9	-0.7
MRZ	**Mangatainoka R**	**7.02**	**199**	PN	Pn	03 45 35.1	-1.5
MRZ				*e*SN	S	03 47 05.6	+6.9
TIWZ	**Tintock**	**7.05**	**197**	*e*PN	Pn	03 45 37.0	0.0
TIWZ				*e*SN	S	03 47 06.9	+7.5
KIW	**Kapiti Island**	**7.40**	**202**	P	Pn	03 45 41.2	0.0
KIW	**Kapiti Island**	**7.40**	**202**	PN	Pn	03 45 41.2	0.0
KIW				*e*SN	S	03 47 13.9	+6.8
CAW	**Cannon Point**	**7.58**	**200**	P	Pn	03 45 42.5	-0.9
CAW	**Cannon Point**	**7.58**	**200**	PN	Pn	03 45 42.1	-1.3
PAWZ	**Paruwai Farm**	**7.73**	**198**	P	Pn	03 45 45.1	-0.2
MRW	**Makara Radio**	**7.80**	**202**	P	Pn	03 45 44.8	-1.3
MRW	**Makara Radio**	**7.80**	**202**	*e*PN	Pn	03 45 44.8	-1.2
MSWZ	**Moikau Station**	**7.81**	**199**	P	Pn	03 45 46.0	-0.3
SNZO	**South Karori**	**7.87**	**202**	*e*Pn	Pn	03 45 46.3	-0.6
SNZO				*e*S	S	03 47 25.3	+7.6
BHW	**Baring Head**	**7.91**	**200**	P	Pn	03 45 46.2	-1.3
TCW	**Tory Channel**	**7.92**	**204**	P	Pn	03 45 47.2	-0.4
TCW	**Tory Channel**	**7.92**	**204**	PN	Pn	03 45 46.8	-0.8
NNZ	**Nelson**	**8.25**	**208**	*e*PN	Pn	03 45 51.4	-0.2
NNZ				*e*SN	S	03 47 34.2	+7.9
QRZ	**Quartz Range**	**8.29**	**213**	P	Pn	03 45 52.8	+0.7
QRZ	**Quartz Range**	**8.29**	**213**	*e*PN	Pn	03 45 52.8	+0.7
BSWZ	**Blackbirch Sta**	**8.50**	**204**	P	Pn	03 45 55.7	+1.0
THZ	**Tophouse**	**8.90**	**208**	*e*P	Pn	03 45 59.4	-0.3
THZ	**Tophouse**	**8.90**	**208**	*e*PN	Pn	03 45 58.5	-1.1
THZ				*e*SN	S	03 47 49.1	+8.1
DSZ	**Denniston Nort**	**9.35**	**213**	*e*P	Pn	03 46 05.1	-0.1
DSZ	**Denniston Nort**	**9.35**	**213**	*e*PN	Pn	03 46 04.8	-0.3
DSZ				*e*SN	S	03 47 58.4	+7.2
LTZ	**Lake Taylor**	**10.02**	**208**	P	Pn	03 46 13.1	-0.2
LTZ	**Lake Taylor**	**10.02**	**208**	PN	Pn	03 46 13.1	-0.2
MQZ	**McQueen's Vall**	**10.69**	**204**	P	Pn	03 46 20.6	-0.9
MQZ	**McQueen's Vall**	**10.69**	**204**	PN	Pn	03 46 20.5	-1.1
MQZ				*e*SN	S	03 48 24.9	+3.6
WVZ	**Waitaha Valley**	**10.89**	**212**	PN	Pn	03 46 22.9	-1.1
RPZ	**Rata Peaks**	**11.28**	**209**	P	Pn	03 46 28.5	-0.3
RPZ	**Rata Peaks**	**11.28**	**209**	*e*PN	Pn	03 46 27.8	-1.0
RPZ				*e*SN	S	03 48 39.5	+4.7
FOZ	**Fox Glacier**	**11.74**	**213**	P	Pn	03 46 32.8	-1.6
FOZ	**Fox Glacier**	**11.74**	**213**	*e*PN	Pn	03 46 32.1	-2.3
ODZ	**Otahua Downs**	**12.56**	**207**	*e*PN	Pn	03 46 44.4	+0.1
JCZ	**Jackson Bay**	**12.57**	**214**	*e*PN	Pn	03 46 44.1	-0.3

*MOS **28** 03:51:45.0±1.2, 4662N×153.44E, h25km, mb4.5/4, Error ellipse: s-maj=15.6km s-min=13.8km az=88.2*
*NEIC **28** 03:51:45.8±0.8, 4637N×15280E, h10km, mb4.1/3, Error ellipse: s-maj=24.6km s-min=17.4km az=183.0*
*ISCJB **28** 03:51:49.8±0.9, 468N±01×1529E±02, h33km, mb4.0/13, Error ellipse: s-maj=23.1km s-min=10.5km az=116.5*
*IDC **28** 03:51:56.9±3.9, 4642N×15277E, h98km±36km, mb3.6/10, mb1 3.8/12, mb1mx3.6/22, mbtmp4.0/12, Error ellipse: s-maj=24.1km s-min=20.6km az=163.0*

ISC 28 03:51:51.8±0.9, 468N±01×1529E±02, h35km, n36, σ1§08/34, mb4.0/13, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**247**	⇓*i*PN	**Pn**	**03 52 45.2**	**-2.9**
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
SKR	**Severo-Kuril's**	**4.43**	**28**	*e*PN	**Pn**	**03 52 50.5**	**-6.0**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
ASAJ	**Asahikawa**	**7.70**	**253**	P	**Pn**	**03 53 43.2**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=80,slow=16,SNR=5.1						
ASAJ	**Asahikawa**	**7.70**	**253**	PN	**Pn**	**03 53 43.2**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KLR	**Kul'dur**	**14.32**	**287**	*e*P	**Pn**	**03 55 14.8**	**+2.8**
MJAR	**Matsushiro Arr**	**14.98**	**232**	P	**Pn**	**03 55 20.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=9.3,slow=16,SNR=4.0						
LZH	**Lanzhou**	**37.71**	**272**	*e*P	**P**	**03 59 04.6**	**+0.7**
LZH				pP	pP	03 59 10.2	-3.9
LZH				sP	sP	03 59 13.5	-4.8
INK	**Inuvik**	**41.69**	**32**	P	**P**	**03 59 38.6**	**+1.6**
	comp=Z,3.0nm,1.1s,mb3.9,baz=309,slow=4.1,SNR=2.2						
MKAR	**Makanchi Array**	**46.75**	**297**	P	**P**	**04 00 17.4**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=63,slow=8.8,SNR=9.9						
MKAR	**Makanchi Array**	**46.75**	**297**	P	**P**	**04 00 17.4**	**-0.1**
BRVK	**Borovoye**	**50.71**	**309**	*e*P	**P**	**04 00 46.9**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**50.71**	**309**	*e*P	**P**	**04 00 46.9**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**51.44**	**310**	*e*P	**P**	**04 00 52.6**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ZRNK	**Zerenda**	**51.44**	**310**	*e*P	**P**	**04 00 52.6**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**04 01 09.1**	**-0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**53.64**	**296**	*e*P	**P**	**04 01 09.1**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.2						
JOF	**Joensuu**	**61.19**	**334**	*e*p	**P**	**04 02 01.6**	**-1.4**
NVAR	**Mina Array Bea**	**62.56**	**62**	P	**P**	**04 02 11.6**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.6,baz=286,slow=7.9,SNR=3.6						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**04 02 20.0**	**-1.1**
	comp=Z,2.3nm,0.5s,mb4.5,baz=38,slow=7.4,SNR=16						
PDAR	**Pinedale Array**	**64.85**	**54**	P	**P**	**04 02 28.1**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.5,baz=289,slow=2.8,SNR=3.1						
NB2	**NORSAR Subarra**	**68.10**	**341**	P	**P**	**04 02 47.2**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.4,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**68.10**	**341**	P	**P**	**04 02 47.5**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=28,slow=6.3,SNR=10.0						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**04 03 07.5**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.4,baz=34,slow=6.2,SNR=14						
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**04 03 07.5**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASAR	**Alice Springs**	**72.22**	**198**	P	**P**	**04 03 08.6**	**-4.7**
	comp=Z,0.6nm,0.8s,mb3.6,baz=12,slow=7.5,SNR=6.4						
BURAR	**Bucovina Array**	**75.43**	**326**	⇓*i*P	**P**	**04 03 31.9**	**-0.2**
TIRR	**Tirgusor**	**76.75**	**323**	⇑*i*P	**P**	**04 03 39.2**	**-0.4**
MLR	**Muntele Rosu**	**76.90**	**325**	⇑*i*P	**P**	**04 03 40.0**	**-0.4**
DRGR		**77.06**	**327**	⇑*i*P	**P**	**04 03 41.7**	**+0.4**
SNX	**Sinaia**	**77.19**	**325**	⇓*i*P	**P**	**04 03 43.6**	**+1.6**
VOIR		**77.30**	**325**	⇓*i*P	**P**	**04 03 42.9**	**+0.2**
BRTR	**Keskin Array B**	**78.21**	**317**	P	**P**	**04 03 48.9**	**+1.1**
	comp=Z,1.8nm,1.0s,mb4.0,baz=48,slow=1.8,SNR=5.2						
GERES	**GERESS Array B**	**78.31**	**334**	P	**P**	**04 03 47.8**	**-0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=38,slow=6.9,SNR=5.6						
VTS	**Vitosha**	**80.41**	**325**	⇓*i*P	**P**	**04 04 00.7**	**+1.0**
CPUP	**Villa Florida**	**148.59**	**60**	PKPbc	PKPbc	04 11 31.3	-3.7
	comp=Z,0.5nm,0.5s,baz=270,slow=4.0,SNR=3.1						
CPUP	**Villa Florida**	**148.59**	**60**	PKPbc	PKPbc	04 11 31.3	-3.7

IDC 28 04:05:48.8±3.0, 380S×15138E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.7/16, Error ellipse: s-maj=114.8km s-min=40.4km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.97**	**217**	LR	LR	04 09 38.4	
	comp=Z,106nm,21.4s,baz=212,slow=33						
WRA	**Warramunga Arr**	**23.10**	**225**	P	P	04 10 57.1	+1.0
	1.5nm,0.4s,baz=50,slow=10,SNR=18						
ASAR	**Alice Springs**	**25.98**	**219**	P	P	04 11 22.2	-0.9
	0.2nm,0.4s,baz=50,slow=9.3,SNR=3.8						
FITZ	**Fitzroy Crossi**	**28.93**	**239**	P	P	04 11 51.0	+1.5
	0.8nm,0.7s,baz=55,slow=7.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.65**	**289**	PKPbc	PKPbc	04 25 38.1	+0.3
	0.6nm,0.8s,baz=90,slow=2.3,SNR=15						

*NEIC **28** 04:33:40.6, 3161S×7192W, h30km, ML3.4(GUC), After GUC.*

GUC 28 04:33:40.6±0.7, 3161S×7192W, h30km±3km, MD4.0, ML3.4, 1C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.45**	**128**	⇓*i*P	Pb	04 33 49.8	-0.5
CHNG				*i*S	Sb	04 33 56.8	0.0
CMCH	**Combarbala**	**0.90**	**61**	⇓*i*P	Pn	04 33 56.6	-0.5
CMCH				*e*S	Sn	04 34 09.4	+0.4
CMCH				AML	AML	04 34 11.7	
	comp=E,6μm,0.2s						
CMCH	**Combarbala**	**0.90**	**61**	⇓*i*P	Pn	04 33 56.6	-0.5
CMCH				*e*S	Sn	04 34 09.4	+0.4
PTCH	**Petorca**	**1.07**	**128**	⇓*i*P	Pn	04 33 59.7	+0.2
PTCH				*i*S	Sn	04 34 14.0	+0.7
PTCH				AML	AML	04 34 16.3	
	comp=N,2μm,0.3s						
PTCH	**Petorca**	**1.07**	**128**	⇓*i*P	Pn	04 33 59.7	+0.2
PTCH				*i*S	Sn	04 34 14.0	+0.7
JACH	**Jahu

VHO	**Vista Hermosa**	**2.07 112**	*e*P	Pn	05 08 03.6	-1.5
VHO			*i* S	Sn	05 08 28.4	-1.3
OXX	**Oaxaca**	**2.07 112**	*i* P	Pn	05 08 05.0	-0.2

WEL 28 05:17:56.1±0.7, 3651S×17982W, h33km, ML3.7/3, Error ellipse: s-maj=10.7km s-min=9.9km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.83**	**234**	PN	Pn	05 18 23.8	-1.4
MXZ				SN	Sn	05 18 45.2	-2.0
PUZ	**Puketiti**	**2.19**	**224**	PN	Pn	05 18 29.9	-0.2
PUZ				SN	Sn	05 18 54.8	-1.2
MWZ	**Matawai**	**2.79**	**228**	PN	Pn	05 18 37.8	-0.6
URZ	**Urewera**	**3.00**	**234**	PN	Pn	05 18 40.7	-0.6
URZ				SN	Sn	05 19 14.1	-2.1
KNZ	**Kokohu**	**3.20**	**218**	*e*PN	Pn	05 18 42.7	-1.3

IDC ***28*** *06:05:04.2±1.4, 392N×12673E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, MS4.2/1, Ms1 4.2/1, ms1mx3.1/23, Error ellipse: s-maj=101.3km s-min=20.8km az=71.0*

NEIC ***28*** *06:05:06.0±1.0, 381N×12640E, h10km, Error ellipse: s-maj=80.9km s-min=14.9km az=72.0*

ISCJB ***28*** *06:05:07.6±1.1, 38N±02×1263E±06, h33km, mb3.5/6, MS4.0/1, Error ellipse: s-maj=90.4km s-min=15.7km az=143.7*

ISC 28 06:05:09.9±1.1, 38N±02×1263E±06, h35km, n8, σ0§84/7, mb3.5/6, MS4.0/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.75**	**182**	P	**P**	**06 09 58.4**	**+0.1**
	1.2nm,0.8s,mb3.4,baz=24,slow=10.0,SNR=3.4						
JOW	**Kunigami**	**23.00**	**4**	LR	LR	06 17 24.0	
	comp=Z,594nm,21.3s,MS4.0,baz=166,slow=32						
WRA	**Warramunga Arr**	**24.85**	**162**	P	**P**	**06 10 27.2**	**-1.8**
	1.1nm,0.6s,mb3.5,baz=345,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**28.26**	**165**	P	**P**	**06 11 00.3**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=343,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**06 12 28.1**	**+0.9**
	1.3nm,0.7s,mb3.8,baz=319,slow=11,SNR=3.9						
SONM	**Songino Array**	**47.13**	**342**	P	**P**	**06 13 38.7**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=157,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**06 14 54.0**	**-0.1**
	0.4nm,0.4s,mb3.8,baz=125,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**06 14 54.0**	**-0.1**

SZGRF ***28*** *06:22:01.8, 1898S×17324W, h42km, mb6.8, Tonga Islands*

IDC ***28*** *06:22:05.0±0.3, 1655S×17227W, h0km, mb6.0/29, mb1 6.1/29, mb1mx6.1/29, mbtmp6.0/29, MS6.6/26, Ms1 6.6/26, ms1mx6.4/36, Error ellipse: s-maj=11.9km s-min=9.1km az=145.0*

BJI ***28*** *06:22:08.8, 16.12S×171.67W, h28km, mB6.9, mb6.0, Ms6.6, Msz6.4*

NEIC ***28*** *06:22:09.7±0.1, 1659S×17203W, h28km, mb6.5/130, ME6.8, MS6.6/156, MW6.7, Error ellipse: s-maj=4.0km s-min=2.4km az=136.0, Moment Tensor Solution. s81 Moment tensor: Scale 10^{19}Nm; M_{rr}=1.16; $M_{\theta\theta}$=-0.01; $M_{\phi\phi}$1.16; $M_{r\theta}$0.11; $M_{\theta\phi}$0.67; $M_{r\phi}$0.04; Best double couple: $M_0$1.30000×10^{19} NP1:ϕ_s210.00000°, δ47.00000°, λ-82.00000°. NP2:ϕ_s19.00000°, δ43.00000°, λ-98.00000°. Principal axes: T 1.4700, Plg2.0000°, Azm294.0000°; N -0.3000, Plg6.0000°, Azm25.0000°; P -1.1700, Plg84.0000°, Azm186.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s0.00000°, δ30.00000°, λ-90.00000°. NP2:ϕ_s180.00000°, δ60.00000°, λ-90.00000°. Principal axes: T Plg15.0000°, Azm270.0000°; N Plg0.0000°, Azm0.0000°; P Plg75.0000°, Azm90.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Alofi and [III] at Tamakautoga, Niue. Felt [III] at Apia. Also felt [III] at Neiafu, Tonga. A tsunami with a wave height of 16 cm [peak-to-trough] was recorded at Pago Pago, American Samoa.

MOS ***28*** *06:22:09.0±0.9, 1657S×17206W, h34km, mb6.7/80, MS6.5/83 Error ellipse: s-maj=7.5km s-min=5.6km az=46.1*

GCMT ***28*** *06:22:09.7±0.0, 1663S×17166W, h16km, MW6.9/113, Moment Tensor Solution. s113,c281; s112,c533; Duration: 6§8 Moment tensor: Scale 10^{19}Nm; M_{rr}-2.54±.01; $M_{\theta\theta}$-0.06±.01; $M_{\phi\phi}$2.59±.01; $M_{r\theta}$0.38±.03; $M_{\theta\phi}$0.61±.01; $M_{r\phi}$0.41±.03; Best double couple: $M_0$2.69300×10^{19} NP1:ϕ_s6.00000°, δ40.00000°, λ-100.00000°. NP2:ϕ_s199.00000°, δ51.00000°, λ-81.00000°. Principal axes: T 2.7700, Plg5.0000°, Azm283.0000°; N -0.1570, Plg7.0000°, Azm14.0000°; P -2.6170, Plg82.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISCJB ***28*** *06:22:09.7±0.1, 1657S±002×172.06W±002, h38km, mb6.3/177, MS6.6/206 Error ellipse: s-maj=4.0km s-min=2.6km az=93.6*

CRAAG ***28*** *06:22:10.1, 1650S×17207W, Mw6.9*

ISC 28 06:22:11.6±0.1, 1662S±002×17202W±002, h40km, h40km±.6km: pP-P, n1477, σ1§05/573, mb6.3/177, MS6.6/206, 67C-247D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.70**	**5**	Pn	**Pn**	**06 22 44.9**	**-7.6**
	526nm,0.3s,baz=150,slow=2.6,SNR=236						
AFI				Sn	**Sn**	**06 23 15.0**	**-8.9**
	13μm,0.3s,baz=66,slow=21,SNR=16						
AFI				LR	LR	06 23 31.6	
	comp=Z,242μm,18.3s,baz=180,slow=32						
AFI	**Afiamalu**	**2.70**	**5**	P	**Pn**	**06 22 44.9**	**-7.6**
AFI						06 23 15.0	
AFI				pmax	pmax		
	comp=Z,526nm,0.3s						
AFI	**Afiamalu**	**2.70**	**5**	*e*Pn	**Pn**	**06 22 44.8**	**-7.7**
AFI				*e*Sn	**Sn**	**06 23 16.1**	**-7.9**
FUNA	**Funafuti**	**11.75**	**312**	*e*Pn	**Pn**	**06 24 55.4**	**-1.3**
FUNA				*e*Sn	**Sn**	**06 26 49.5**	**-17**
RAR	**Rarotonga**	**12.46**	**113**	Pn	**Pn**	**06 24 58.3**	**-7.9**
	comp=Z,59nm,0.3s,baz=259,slow=9.3,SNR=54						
RAR				Sn	**Sn**	**06 27 18.3**	**-5.4**
	comp=Z,50nm,0.3s,baz=91,slow=22,SNR=3.0						
RAR				LR	LR	06 29 07.2	
	comp=Z,252μm,19.6s,baz=331,slow=33						
RAR	**Rarotonga**	**12.46**	**113**	P	**Pn**	**06 24 58.3**	**-8.0**
RAR						06 27 18.3	
RAO	**Raoul Island**	**13.70**	**202**	Pn	**Pn**	**06 25 17.1**	**-6.1**
	comp=Z,156nm,0.3s,baz=93,slow=19,SNR=4.5						
RAO				Sn	**Sn**	**06 27 45.2**	**-8.7**
	comp=Z,465nm,0.3s,baz=309,slow=23,SNR=9.6						
RAO	**Raoul Island**	**13.70**	**202**	*e*Pn	**Pn**	**06 25 19.4**	**-3.7**
	comp=Z,2μm,0.5s						
DZM	**Mont Dzumac**	**21.02**	**252**	*e*P	**P**	**06 26 48.1**	**-3.7**
DZM	**Mont Dzumac**	**21.02**	**252**	P	**P**	**06 26 47.7**	**-4.1**
	comp=Z,134nm,0.8s,mb5.3,baz=77,slow=16,SNR=41						
PAE	**Paea**	**21.47**	**96**	*e*P	**P**	**06 26 54.8**	**-1.8**
	comp=Z,3μm,1.4s,mb6.4						
PAE				*e*Sn	**S**	**06 30 33.1**	**-19**
	comp=Z,18nm,0.3s						
PPT	**Papeete**	**21.47**	**96**	*e*P	**P**	**06 26 55.3**	**-1.3**
	comp=Z,1μm,1.3s,mb6.1						
PPT				*e*Sn	**S**	**06 30 33.1**	**-19**
	comp=Z,14nm,0.4s						
PPT	**Papeete**	**21.47**	**96**	*e*LQ		06 31 03.4	
	comp=Z,732μm,31.2s						
PPT				*e*LR	LR	06 31 54.2	
	comp=Z,1069μm,36.5s,baz=263						
PPT	**Papeete**	**21.47**	**96**	P	**P**	**06 26 56.7**	**+0.1**
	comp=Z,555nm,1.3s,mb5.7,baz=279,slow=7.3,SNR=15						
PPT				S	**S**	**06 30 49.8**	**-2.7**
	comp=Z,51nm,0.6s,baz=317,slow=23,SNR=4.0						
PPT				LR	LR	06 32 56.2	
	comp=Z,157μm,21.8s,MS6.4,baz=257,slow=30						
PPT	**Papeete**	**21.47**	**96**	P	**P**	**06 26 56.7**	**+0.1**
PPT				S	**S**	**06 30 49.8**	**-2.7**
TVO	**Taravao**	**21.78**	**96**	*e*P	**P**	**06 26 58.4**	**-1.5**
	comp=Z,2μm,1.1s,mb6.5						
TVO				*e*Sn	**S**	**06 30 40.3**	**-18**
	comp=Z,26nm,0.3s						
TBI	**Tubuai**	**22.22**	**111**	*e*LQ		06 31 30.3	
	comp=Z,357μm,37.0s						
TBI	**Tubuai**	**22.22**	**111**	*e*P	**P**	**06 27 01.1**	**-3.5**
	comp=Z,7μm,1.3s,mb6.9						
TBI				*e*LR	LR	06 32 18.8	
	comp=Z,873μm,57.5s,baz=287						
TBI	**Tubuai**	**22.22**	**111**	*e*P	**P**	**06 27 01.1**	**-3.5**
	comp=Z,7μm,1.3s,mb6.9						
TBI				*e*LQ		06 31 30.3	
MXZ	**Matakaoa Point**	**22.55**	**200**	*e*P	**P**	**06 27 08.8**	**+0.7**
MXZ	**Matakaoa Point**	**22.55**	**200**	PN	**P**	**06 27 08.5**	**+0.4**
MXZ				SN	**S**	**06 31 07.5**	**-5.6**
OUZ	**Omahuta**	**22.55**	**212**	PN	**P**	**06 27 08.2**	**+0.1**
	comp=Z,1μm,0.6s,mb6.5						
WCZ	**Waipu Caves**	**22.75**	**210**	*e*P	**P**	**06 27 09.9**	**-0.4**
WCZ	**Waipu Caves**	**22.75**	**210**	PN	**P**	**06 27 10.4**	**+0.2**
KUZ	**Kuaotunu**	**22.81**	**206**	*e*P	**P**	**06 27 10.7**	**-0.1**
KUZ	**Kuaotunu**	**22.81**	**206**	PN	**P**	**06 27 10.7**	**-0.1**
	comp=Z,2μm,0.7s,mb6.7						
PUZ	**Puketiti**	**23.02**	**200**	*e*P	**P**	**06 27 12.6**	**-0.5**
PUZ				S	**S**	**06 31 19.1**	**-1.8**
PUZ	**Puketiti**	**23.02**	**200**	PN	**P**	**06 27 12.3**	**-0.8**
PUZ				*e*SN	**S**	**06 31 15.0**	**-5.9**
PUZ				sS	PcS	06 34 44.6	+3.9
MTAZ	**Motutapu**	**23.19**	**207**	P	**P**	**06 27 16.8**	**+1.9**
PMOR	**Pomariorio Ree**	**23.27**	**89**	*e*P	**P**	**06 27 13.7**	**-2.0**
	comp=Z,2μm,1.2s,mb6.4						
PMOR				*e*Sn	**S**	**06 31 24.7**	**-0.1**
	comp=Z,30nm,0.5s						
KAAZ	**Kauri Point**	**23.31**	**208**	*e*P	**P**	**06 27 16.9**	**+0.8**
OTAZ	**Otara**	**23.32**	**207**	*e*P	**P**	**06 27 16.9**	**+0.7**
MKAZ	**Moumakai**	**23.35**	**207**	*e*P	**P**	**06 27 16.5**	**0.0**
MKAZ	**Moumakai**	**23.35**	**207**	PN	**P**	**06 27 16.5**	**-0.1**
WTAZ	**Waiatarua**	**23.46**	**208**	*e*P	**P**	**06 27 18.0**	**+0.4**
WTAZ	**Waiatarua**	**23.46**	**208**	PN	**P**	**06 27 18.0**	**+0.5**
VAH	**Vaihoa**	**23.49**	**90**	*e*P	**P**	**06 27 15.4**	**-2.5**
	comp=Z,2μm,1.1s,mb6.3						
VAH				*e*Sn	**S**	**06 31 29.9**	**+1.4**
	comp=Z,9.8nm,0.4s						
MWZ	**Matawai**	**23.50**	**201**	*e*P	**P**	**06 27 17.9**	**-0.1**
MWZ	**Matawai**	**23.50**	**201**	PN	**P**	**06 27 17.8**	**-0.2**
MWZ				*e*SN	**S**	**06 31 28.0**	**-0.6**
URZ	**Urewera**	**23.58**	**202**	P	**P**	**06 27 16.9**	**-1.8**
	comp=Z,285nm,0.8s,mb5.8,baz=28,slow=5.5,SNR=67						
URZ				S	**S**	**06 31 33.6**	**+3.7**
	comp=Z,244nm,0.7s,baz=108,slow=21,SNR=10						
URZ	**Urewera**	**23.58**	**202**	*e*P	**P**	**06 27 17.3**	**-1.4**
URZ	**Urewera**	**23.58**	**202**	*e*PN	**P**	**06 27 17.2**	**-1.5**
URZ				*e*SN	**S**	**06 31 29.6**	**-0.3**
TOZ	**Tahuroa Road**	**23.73**	**205**	*e*P	**P**	**06 27 24.4**	**+4.3**
TOZ	**Tahuroa Road**	**23.73**	**205**	PN	**P**	**06 27 24.4**	**+4.3**
TAZ	**Tarawera**	**23.78**	**203**	*e*P	**P**	**06 27 23.8**	**+3.3**
PATZ	**Paeroa**	**24.00**	**203**	P	**P**	**06 27 22.5**	**0.0**
KNZ	**Kokohu**	**24.07**	**200**	*e*P	**P**	**06 27 22.4**	**-0.8**
KNZ	**Kokohu**	**24.07**	**200**	PN	**P**	**06 27 24.2**	**+1.0**
BKZ	**Black Stump Fm**	**24.61**	**202**	*e*P	**P**	**06 27 29.1**	**+1.1**
BKZ	**Black Stump Fm**	**24.61**	**202**	PN	**P**	**06 27 29.1**	**+1.1**
BKZ				*e*SN	**S**	**06 31 53.9**	**+7.4**
HIZ	**Hauiti**	**24.67**	**205**	*e*P	**P**	**06 27 27.1**	**-1.5**
HIZ	**Hauiti**	**24.67**	**205**	*e*PN	**P**	**06 27 28.9**	**+0.3**
OTVZ	**Oturere**	**24.91**	**203**	PN	**P**	**06 27 30.8**	**+0.1**
PXZ	**Pawanui**	**25.26**	**200**	*e*PN	**P**	**06 27 35.6**	**+1.7**
PKE	**Pukeiti**	**25.60**	**206**	*e*P	**P**	**06 27 40.8**	**+3.7**
NEZ	**North Egmont**	**25.62**	**206**	*e*P	**P**	**06 27 38.9**	**+1.6**
NEZ	**North Egmont**	**25.62**	**206**	*e*PN	**P**	**06 27 37.4**	**+0.2**
BFZ	**Birch Farm**	**26.05**	**201**	*e*PN	**P**	**06 27 40.3**	**-0.8**
BFZ				*e*SN	**S**	**06 32 22.4**	**+13**
MRZ	**Mangatainoka R**	**26.26**	**202**	*e*P	**P**	**06 27 41.9**	**-1.1**
MRZ	**Mangatainoka R**	**26.26**	**202**	PN	**P**	**06 27 41.9**	**-1.1**
MRZ				*e*SN	**S**	**06 32 22.4**	**+10**
DUWZ	**D'Urville Isla**	**27.00**	**204**	*e*PN	**P**	**06 27 51.5**	**+1.8**
SNZO	**South Karori**	**27.14**	**202**	*e*P	**P**	**06 27 50.1**	**-0.8**
	comp=Z,290nm,0.6s,mb6.0						
SNZO				*e*PcP	PcP	06 31 12.2	+1.4
SNZO				LR	LR		
	comp=Z,119μm,20.0s,MS6.5						
NNZ	**Nelson**	**27.57**	**204**	*e*PN	**P**	**06 27 54.3**	**-0.5**
QRZ	**Quartz Range**	**27.58**	**206**	*e*PN	**P**	**06 27 52.7**	**-2.2**
HNR	**Honiara**	**28.20**	**281**	P	**P**	**06 28 02.3**	**+1.9**
	comp=Z,239nm,0.7s,mb6.0,baz=258,slow=3.5,SNR=5.6						
HNR	**Honiara**	**28.20**	**281**	P	**P**	**06 28 02.3**	**+1.8**
HNR				pmax	pmax		
	comp=Z,239nm,0.7s,mb5.9						
HNR	**Honiara**	**28.20**	**281**	*e*P	**P**	**06 28 02.5**	**+2.1**
	comp=Z,716nm,1.1s,mb6.2						
HNR				LR	LR		
	comp=Z,182μm,20.0s,MS6.7						
THZ	**Tophouse**	**28.22**	**204**	*e*PN	**P**	**06 27 58.7**	**-1.9**
DSZ	**Denniston Nort**	**28.65**	**206**	PN	**P**	**06 28 01.8**	**-2.6**
LTZ	**Lake Taylor**	**29.33**	**204**	*e*PN	**P**	**06 28 07.9**	**-2.5**
WVZ	**Waitaha Valley**	**30.19**	**206**	*e*PN	**P**	**06 28 15.2**	**-2.9**
RPZ	**Rata Peaks**	**30.59**	**205**	P	**P**	**06 28 19.8**	**-1.9**
	comp=Z,24nm,0.9s,baz=22,slow=6.2,SNR=15						
RPZ				S	**S**	**06 33 31.5**	**+11**
	comp=Z,18nm,0.8s,baz=24,slow=16,SNR=2.2						
RPZ				LR	LR	06 40 24.2	
	comp=Z,85μm,18.8s,baz=26,slow=36						
FOZ	**Fox Glacier**	**31.03**	**206**	*e*PN	**P**	**06 28 21.4**	**-4.0**
FOZ				pP	PcP	06 31 21.3	+0.8
LBZ	**Lake Benmore**	**31.50**	**205**	*e*PN	**P**	**06 28 28.3**	**-1.4**
LBZ				pP	PcP	06 31 23.8	+1.9
JCZ	**Jackson Bay**	**31.84**	**207**	*e*PN	**P**	**06 28 29.5**	**-3.1**
JCZ				pP	PcP	06 31 23.7	+0.9
TAOE	**Nuku Hiva Isla**	**32.00**	**80**	*e*S	**S**	**06 33 43.5**	**+0.7**
	comp=Z,145μm,29.2s						
TAOE				*e*LR	LR	06 36 49.4	
	comp=Z,637μm,30.5s,baz=256						
TUZ	**Tuapeka**	**33.02**	**204**	*e*PN	**P**	**06 28 42.3**	**-0.6**
WHZ	**Wether Hill Ro**	**33.65**	**206**	*e*PN	**P**	**06 28 46.9**	**-1.5**
SYZ	**Scrubby Hill**	**33.70**	**204**	PN	**P**	**06 28 48.2**	**-0.6**
RKT	**Rikitea**	**35.37**	**107**	*e*S	**S**	**06 34 32.1**	**-2.9**
	comp=Z,88μm,35.5s						
RKT				*e*LQ		06 36 58.8	
	comp=Z,54μm,35.0s						
RKT				*e*LR	LR	06 38 25.8	
	comp=Z,437μm,54.2s,baz=276						
RKT	**Rikitea**	**35.37**	**107**	*e*P	**P**	**06 29 00.8**	**-2.5**
RKT				*e*S	**S**	**06 34 32.1**	**-2.9**
RKT				pmax	pmax		
	comp=Z,397nm,1.1s,mb6.3						
RKT	**Rikitea**	**35.37**	**107**	*e*P	**P**	**06 29 00.8**	**-2.5**
	comp=Z,397nm,1.1s,mb6.3						
RKT				*e*S	**S**	**06 34 32.1**	**-2.9**
RKT				*e*LQ		06 36 58.8	
ARMA	**Armidale**	**35.88**	**241**	*e*P	**P**	**06 29 06.7**	**-1.0**
ARMA				*e*S	S	06 34 21.2	-22
RIV	**Riverview**	**37.22**	**236**	*e*P	**P**	**06 29 20.6**	**+1.5**
HPO	**Honuapo**	**39.00**	**25**	*e*P	**P**	**06 29 34.0**	**-0.1**
HPO				*e*pP	pP	06 29 44.7	-0.6
CNB	**Canberra Magne**	**39.09**	**234**	*i*P	**P**	**06 29 33.9**	**-0.9**
	comp=Z,1μm,1.1s,mb6.5						
KKH	**Kailua Kona**	**39.33**	**24**	*e*P	**P**	**06 29 36.8**	**0.0**
KKH				*e**PP	pP	06 29 48.6	+0.6
POHA	**Pohakuloa**	**39.61**	**25**	PFAKE		06 29 50.0	+11
POHA				LR	LR		
	comp=Z,58μm,21.0s,MS6.4						
CTA	**Charters Tower**	**39.68**	**258**	*e*P	**P**	**06 29 37.4**	**-2.4**
	comp=Z,153nm,0.9s,mb5.7						
CTA				*i* S	**S**	**06 35 36.7**	**-3.8**
CTA	**Charters Tower**	**39.68**	**258**	LR	LR	06 41 35.6	
	comp=Z,17μm,21.6s,MS5.8,baz=87,slow=30						
CTA	**Charters Tower**	**39.68**	**258**	*e*P	**P**	**06 29 37.4**	**-2.4**
CTA				*i* S	**S**	**06 35 36.7**	**-3.8**
CTA				pmax	pmax		
	comp=Z,153nm,0.9s						
CTAO	**Charters Tower**	**39.68**	**258**	*e*P	**P**	**06 29 37.6**	**-2.2**
CTAO				pmax	pmax		
	comp=Z,112nm,0.7s,mb5.7						
CTAO				MLR	MLR		
	comp=Z,105μm,22.0s,MS6.6						
CTAO	**Charters Tower**	**39.68**	**258**	*e*P	**P**	**06 29 37.6**	**-2.2**
	comp=Z,112nm,0.7s,mb5.7						
CTAO				LR	LR		
	comp=Z,105μm,22.0s,MS6.6						
PTCN	**Pitcairn Islan**	**39.94**	**109**	*e*P	**P**	**06 29 42.9**	**+1.0**
PTCN				LR	LR		
	comp=Z,123μm,19.0s,MS6.8						
HON	**Honolulu**	**40.13**	**21**	*e*P	**P**	**06 29 42.8**	**-0.7**
HKL	**Haleakala**	**40.19**	**23**	*e*P	**P**	**06 29 45.5**	**+1.5**
KIP	**Kipapa**	**40.22**	**20**	*e*P	**P**	**06 29 44.0**	**-0.2**
KIP				pmax	pmax		
	comp=Z,761nm,1.0s,mb6.4						
KIP				MLR	MLR		
	comp=Z,47μm,19.0s,MS6.4						
KIP	**Kipapa**	**40.22**	**20**	*e*P	**P**	**06 29 44.0**	**-0.2**
	comp=Z,760nm,1.0s,mb6.4						
KIP				LR	LR		
	comp=Z,47μm,19.0s,MS6.4						
PMG	**Port Moresby**	**40.35**	**275**	P	**P**	**06 29 45.8**	**+0.5**
	comp=Z,297nm,0.9s,mb6.0,baz=112,slow=3.5,SNR=45						
PMG	**Port Moresby**	**40.35**	**275**	*e*P	**P**	**06 29 45.2**	**-0.1**
PMG				pmax	pmax		
	comp=Z,285nm,0.9s						
PMG				MLR	MLR		
	comp=Z,77μm,21.0s						
PMG	**Port Moresby**	**40.35**	**275**	*e*P	**P**	**06 29 45.2**	**-0.1**
	comp=Z,285nm,0.9s,mb6.0						
PMG				LR	LR		
	comp=Z,77μm,21.0s,MS6.5						
TOO	**Toolangi**	**42.75**	**232**	*i*P	**P**	**06 30 04.3**	**-0.7**
	comp=Z,880nm,1.6s,mb6.2						
TOO				*e*S	**S**	**06 36 27.1**	**+1.1**
TOO	**Toolangi**	**42.75**	**232**	*i*P	**P**	**06 30 04.3**	**-0.7**
TOO				*e*S	**S**	**06 36 27.1**	**+1.1**
TOO				pmax	pmax		
	comp=Z,881nm,1.6s,mb6.2						
COEN	**Coen**	**43.24**	**267**	P	**P**	**06 30 09.3**	**+0.4**
TAU	**Tasmania Unive**	**43.35**	**224**	*e*P	**P**	**06 30 10.3**	**+0.5**
TAU				*e**PP	pP	06 30 21.1	-0.1
TAU				pmax	pmax		
	comp=Z,592nm,1.1s,mb6.2						
TAU				MLR	MLR		
	comp=Z,23μm,19.0s,MS6.1						
TAU	**Tasmania Unive**	**43.35**	**224**	*e*P	**P**	**06 30 10.3**	**+0.5**
	comp=Z,592nm,1.1s,mb6.2						
TAU				*e*pP	pP	06 30 21.1	0.0
TAU				LR	LR		
	comp=Z,23μm,19.0s,MS6.1						
MCQ	**Macquarie Isla**	**43.96**	**204**	*e*P	**P**	**06 30 13.1**	**-1.6**
STKA	**Stephens Creek**	**44.60**	**241**	*i*P	**P**	**06 30 19.0**	**-0.8**
	comp=Z,965nm,1.1s,mb6.5						
STKA				*e*PCS	PcS	06 35 57.0	+1.3
STKA				*e*S	**S**	**06 36 53.9**	**+0.9**
STKA	**Stephens Creek**	**44.60**	**241**	P	**P**	**06 30 19.3**	**-0.5**
	comp=Z,648nm,0.9s,mb6.5,baz=84,slow=8.6,SNR=153						
STKA				LR	LR	06 45 41.1	
	comp=Z,70μm,20.2s,MS6.6,baz=72,slow=32						
STKA				PKPPKP		07 01 46.0	
	comp=Z,4.0nm,0.9s,baz=340,slow=12,SNR=4.1						
MIDW	**Midway**	**44.87**	**353**	*e*P	**P**	**06 30 21.6**	**-0.4**
	comp=Z,747nm,1.3s,mb6.4						
MIDW				*e*pP	pP	06 30 33.6	+0.3
MIDW				LR	LR		
	comp=Z,41μm,22.0s,MS6.3						
JAY	**Jayapura**	**48.53**	**282**	P	**P**	**06 30 51.4**	**+0.8**
WB2	**Warramunga Arr**	**50.86**	**258**	*e*P	**P**	**06 31 06.2**	**-2.1**
WB2				*e*S	**S**	**06 38 20.5**	**-1.2**
WRAB	**Tennant Creek**	**50.86**	**258**	P	**P**	**06 31 07.1**	**-1.3**
	comp=Z,3μm,1.0s,mb7.2						
WRAB	**Tennant Creek**	**50.86**	**258**	*e*P	**P**	**06 31 07.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,785nm,1.0s,mb6.6						
WRAB				MLR	MLR		
	comp=Z,13μm,19.0s,MS6.0						
WRAB	**Tennant Creek**	**50.86**	**258**	*e*P	**P**	**06 31 07.0**	**-1.3**
	comp=Z,785nm,1.0s,mb6.6						
WRAB				LR	LR		
	comp=Z,13μm,19.0s,MS6.0						
WRA	**Warramunga Arr**	**50.87**	**258**	P	**P**	**06 31 06.6**	**-1.9**
	comp=Z,204nm,0.8s,mb6.1,baz=95,slow=8.1,SNR=444						
WRA				S	**S**	**06 38 21.2**	**-0.7**
	comp=Z,11nm,1.1s,baz=97,slow=13,SNR=3.1						
WRA				LR	LR	06 51 46.0	
	comp=Z,43μm,18.7s,MS6.5,baz=95,slow=35						
WRA				PKPPKP		07 01 34.6	
	comp=Z,2.4nm,1.2s,baz=274,slow=0.6,SNR=6.1						
WRA	**Warramunga Arr**	**50.87**	**258**	P	**P**	**06 31 06.6**	**-1.8**
WRA				S	**S**	**06 38 21.2**	**-0.7**
AS31	**Alice Springs**	**51.01**	**253**	*i*P	**P**	**06 31 08.5**	**-1.0**
AS31				*i* S	**S**	**06 38 21.3**	**-2.5**
ASAR	**Alice Springs**	**51.01**	**253**	P	**P**	**06 31 08.4**	**-1.0**
	comp=Z,559nm,0.7s,mb6.6,baz=87,slow=7.6,SNR=582						
ASAR				S	**S**	**06 38 22.1**	**-1.7**
	comp=Z,42nm,1.1s,baz=86,slow=16,SNR=9.8						
ASAR				LR	LR	06 50 15.2	
	comp=Z,58μm,20.8s,MS6.6,baz=99,slow=33						
ASAR				PKPPKP		07 01 36.8	
	comp=Z,3.7nm,1.0s,baz=292,slow=2.6,SNR=5.6						
ASAR	**Alice Springs**	**51.01**	**253**	P	**P**	**06 31 08.5**	**-1.0**
ASAR				S	**S**	**06 38 22.2**	**-1.6**
ASPA	**Alice Springs**	**51.01**	**253**	*i*P	**P**	**06 31 08.5**	**-1.0**
ASPA				*i* S	**S**	**06 38 21.3**	**-2.6**
GUMO	**Guam**	**52.10**	**303**	*e*P	**P**	**06 31 16.9**	**-0.8**
GUMO				*e**PP	pP	06 31 30.8	+1.6
GUMO				pmax	pmax		
	comp=Z,2μm,1.8s,mb6.8						
GUMO				MLR	MLR		
	comp=Z,22μm,21.0s,MS6.2						
GUMO	**Guam

NWAO MLR MLR
comp=Z,47µm,22.0s
NWAO Narrogin (SRO) 65.19 241 *e*P **P 06 32 49.1 +0.4**
comp=Z,963nm,1.4s,mb6.6
NWAO *e*pP pP 06 33 01.4 +0.8
NWAO LR LR
comp=Z,47µm,22.0s,MS6.6
WSI Waingapu 66.02 267 P **P 06 32 54.9 +0.8**
DAV Davao City (W) 66.04 286⇓ *e*P **P 06 32 52.5 -1.7**
MUN Mundaring 66.13 242⇓ *i*P **P 06 32 55.4 +0.6**
MUN *i* S S 06 41 46.9 +6.5
SCPH Surigao 67.14 288⇑ *e*P **P 06 33 03.5 +2.3**
CGP Cagayan de Oro 67.36 287⇑ *i*P **P 06 33 04.1 +1.4**
KAPI Kappang 67.73 271 P **P 06 33 05.5 +0.6**
comp=Z,2µm,0.9s,mb7.2,SNR=26
KAPI Kappang 67.73 271 P **P 06 33 04.6 -0.3**
AMKA Amchitka 68.12 354 *e*P **P 06 33 07.5 +0.1**
AMKA *e*pP pP 06 33 18.4 -0.9
PLP Palo 68.13 290 *e*P **P 06 33 12.7 +5.2**
PAGZ Pagadian 68.35 286 *e*P **P 06 33 11.9 +3.1**
TBP Tagbilaran 68.59 288 *e*P **P 06 33 10.6 +0.3**
LLP Lapu-Lapu 68.73 288⇓ *e*P **P 06 33 12.6 +1.5**
PCI Palu 68.82 276 P **P 06 33 13.4 +1.7**
SNPH Sibulan 69.03 287 *e*P **P 06 33 13.0 -0.1**
NIKO Nikolski 69.35 2 *e*P **P 06 33 14.2 -0.9**
CASY Casey 69.87 205⇓ *i*P **P 06 33 17.6 -0.6**
CASY *i* S S 06 42 11.4 -14
SMY Shemya 70.09 351 *e*P **P 06 33 19.0 -0.6**
SMY pmax pmax
comp=Z,1µm,1.4s,mb6.6
SMY MLR MLR
comp=Z,35µm,21.0s,MS6.6
SMY Shemya 70.09 351 *e*P **P 06 33 19.0 -0.6**
comp=Z,1µm,1.4s,mb6.6
SMY LR LR
comp=Z,35µm,21.0s,MS6.6
RCP Roxas 70.31 289⇓ *e*P **P 06 33 22.2 +1.2**
UNV Unalaska Valle 70.33 3 PFAKE 06 33 30.0 +8.9
UNV LR LR
comp=Z,91µm,22.0s,MS7.0
SNCC San Nicolas Is 70.48 45 *e*P **P 06 33 21.0 -1.0**
SNCC LR LR
comp=Z,44µm,20.0s,MS6.7
AKUT Akutan 70.67 4 *e*P **P 06 33 22.0 -1.1**
comp=Z,2µm,1.7s,mb6.8
AKUT LR LR
comp=Z,35µm,23.0s,MS6.6
MJAR Matsushiro Arr 70.72 319 P **P 06 33 23.2 -0.2**
comp=Z,132nm,1.2s,mb5.8,baz=154,slow=5.5,SNR=104
MJAR LR LR 06 58 15.2
comp=Z,28µm,21.8s,MS6.5,baz=155,slow=31
MJAR PKPPKP 07 01 23.6
comp=Z,1.3nm,0.6s,baz=332,slow=2.3,SNR=7.3
MAJO Matsushiro 70.72 319 *e*P **P 06 33 23.5 +0.1**
MAJO pmax pmax
comp=Z,193nm,1.1s,mb5.9
MAJO MLR MLR
comp=Z,29µm,22.0s,MS6.5
MAJO Matsushiro 70.72 319 *e*Pg **P 06 33 23.5 +0.1**
comp=Z,193nm,1.1s,mb5.9
MAJO LR LR
comp=Z,29µm,22.0s,MS6.5
MAT Matsushiro 70.72 319 P **P 06 33 23.1 -0.3**
MAT S S 06 42 36.0 +1.0
DNP Denpasar 71.13 266 P **P 06 33 27.0 +1.1**
SAC San Andreas 71.27 40 *e*P **P 06 33 26.9 +0.1**
MCCM Marconi Confer 71.35 39 *e*P **P 06 33 27.2 -0.1**
MCCM *e*pP pP 06 33 38.9 -0.4
SAO San Andreas Ge 71.36 41 *e*P **P 06 33 27.5 +0.2**
SAO *e**PP pP 06 33 39.2 -0.1
SAO pmax pmax
comp=Z,1µm,1.4s,mb6.6
SAO MLR MLR
comp=Z,40µm,20.0s,MS6.7
SAO San Andreas Ge 71.36 41 *e*P **P 06 33 27.5 +0.1**
comp=Z,1µm,1.4s,mb6.6
SAO *e*pP pP 06 33 39.2 -0.1
SAO LR LR
comp=Z,40µm,20.0s,MS6.7
LRV Little Rabbit 71.42 41 *e*P **P 06 33 28.2 +0.5**
PTRM Twissleman Ran 71.47 42 *e*P **P 06 33 28.2 +0.2**
ERM Erimo 71.50 326 *e*P **P 06 33 27.5 -0.7**
ERM pmax pmax
comp=Z,113nm,0.9s,mb5.8
ERM MLR MLR
comp=Z,9µm,20.0s,MS6.0
ERM Erimo 71.50 326 *e*P **P 06 33 27.5 -0.7**
comp=Z,112nm,0.9s,mb5.8
ERM LR LR
comp=Z,9µm,20.0s,MS6.0
NBBI Negara 71.77 266 P **P 06 33 28.9 -0.9**
HOPS Hopland 71.78 38 *e*P **P 06 33 30.0 +0.1**
comp=Z,796nm,1.3s,mb6.5
HOPS LR LR
comp=Z,61µm,20.0s,MS6.9
MWC Mount Wilson 72.04 45 *e*P **P 06 33 31.3 -0.1**
KIPM Iron Peak 72.08 37 *e*P **P 06 33 32.1 +0.5**
KIPM *e*PP PP 06 36 12.9 +0.9
BAR Barrett 72.12 47 *e*P **P 06 33 31.4 -0.5**
TSM Tawau 72.29 280 P **P 06 33 35.9 +3.0**
SDPT Sand Point 72.35 7 *e*P **P 06 33 31.8 -1.4**
comp=Z,1µm,1.2s,mb6.8
SDPT LR LR
comp=Z,40µm,23.0s,MS6.6
LPIG La Paz 72.55 58 P **P 06 33 34.8 +0.3**
comp=Z,153nm,1.1s,mb5.9,baz=193,slow=0.8,SNR=11
LPIG La Paz 72.55 58 P **P 06 33 34.8 +0.3**
ISA Isabella 72.61 43 *e*P **P 06 33 34.8 0.0**
ISA MLR MLR
comp=Z,10µm,19.0s,MS6.1
SKR Severo-Kuril's 72.62 339 *e*P **P 06 33 30.5 -4.3**
SKR *e*S S 06 42 56.0 -0.8
SKR *e*PS 06 43 27.0
SKR *e* 06 43 40.0
SKR *e*SS SS 06 47 44.0 +7.6
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,580nm,1.0s,mb6.5
SKR pmax pmax
comp=E,640nm,1.5s
SKR pmax pmax
comp=N,5µm,10.0s
SKR pmax pmax
comp=Z,10µm,10.0s
SKR pmax pmax
comp=E,5µm,6.0s
SKR smax
comp=N,12µm,14.0s
SKR smax
comp=E,8µm,10.0s
SKR MLR MLR
comp=Z,13µm,20.0s,MS6.2
SKR MLR MLR
comp=N,15µm,18.0s,MS6.4
SKR MLR MLR
comp=E,5µm,16.0s,MS6.4
KHMM Horse Mountain 72.63 36 *e*P **P 06 33 35.5 +0.6**
PFO Pinyon Flat Ob 72.79 46 P **P 06 33 35.6 -0.3**
comp=E,2µm,1.1s,mb6.9,SNR=55
PFO Pinyon Flat Ob 72.79 46 *e*P **P 06 33 35.8 -0.1**
PFO pmax pmax
comp=Z,468nm,1.2s,mb6.3
PFO MLR MLR
comp=Z,11µm,20.0s,MS6.1
PFO Pinyon Flat Ob 72.79 46 *e*P **P 06 33 35.8 -0.1**
comp=Z,468nm,1.2s,mb6.3
PFO LR LR
comp=Z,11µm,20.0s,MS6.1
CMB Columbia Colle 72.81 40 *e*P **P 06 33 35.8 -0.2**
CMB pmax pmax
comp=Z,468nm,1.1s,mb6.3
CMB MLR MLR
comp=Z,41µm,21.0s,MS6.7
CMB Columbia Colle 72.81 40 *e*P **P 06 33 35.8 -0.2**
comp=Z,468nm,1.1s,mb6.3
CMB LR LR
comp=Z,41µm,21.0s,MS6.7
OHCM Honcut 72.95 39 *e*P **P 06 33 36.2 -0.6**
OHCM *e*pP pP 06 33 48.6 -0.2
KRMB Red Mountain 72.96 36 *e*P **P 06 33 37.4 +0.5**
KRMB *e*pP pP 06 33 49.2 +0.3
BALP Baler 72.97 293 *e*P **P 06 33 38.6 +1.6**
WDC Whiskeytown Da 73.12 37 *e*P **P 06 33 37.8 0.0**
WDC *e**PP pP 06 33 49.6 -0.3
WDC pmax pmax
comp=Z,856nm,1.5s,mb6.5
WDC MLR MLR
comp=Z,65µm,20.0s,MS6.9
WDC Whiskeytown Da 73.12 37 *e*P **P 06 33 37.8 -0.1**
comp=Z,856nm,1.5s,mb6.5
WDC *e*pP pP 06 33 49.6 -0.3
WDC LR LR
comp=Z,65µm,20.0s,MS6.9
PCPH Palayan 73.32 292⇓ *e*P **P 06 33 40.0 +1.0**
QSPA South Pole Qui 73.44 180⇓ *i*P **P 06 33 39.9 +0.2**
comp=Z,968nm,1.0s,mb6.7
GSC Goldstone 73.51 44 *e*P **P 06 33 39.9 -0.2**
GSC *e**PP pP 06 33 51.6 -0.5
CHGN Chignik 73.53 8 *e*P **P 06 33 39.0 -1.3**
DAC Darwin (Calif) 73.54 43 *e*P **P 06 33 40.2 -0.1**
DAC pmax pmax
comp=Z,504nm,1.3s,mb6.3
DAC MLR MLR
comp=Z,47µm,19.0s,MS6.8
DAC Darwin (Calif) 73.54 43 *e*P **P 06 33 40.2 -0.1**
comp=Z,504nm,1.3s,mb6.3
DAC LR LR
comp=Z,47µm,19.0s,MS6.8
MTUM Tungsten Hills 73.55 42 *e*P **P 06 33 40.6 +0.3**
MTUM *e*pP pP 06 33 52.5 +0.1
GLA Glamis 73.62 47 *e*P **P 06 33 41.0 +0.2**
KEBM Edson Butte 73.63 35 *e*P **P 06 33 41.2 +0.4**
WAKR Walker 73.69 40 *e*P **P 06 33 41.4 +0.2**
YBH Yreka Blue Hor 73.78 36 P **P 06 33 42.0 +0.3**
comp=Z,404nm,1.0s,mb6.3,baz=196,slow=2.3,SNR=246
YBH LR LR 06 58 26.9
comp=Z,63µm,21.9s,MS6.9,baz=235,slow=30
YBH PKPPKP 07 01 06.9
comp=Z,1.4nm,1.0s,baz=8.7,slow=13,SNR=2.3
YBH Yreka Blue Hor 73.78 36 *e*P **P 06 33 41.9 +0.2**
YBH *e**PP pP 06 33 54.3 +0.6
YBH *e* 06 36 26.7
YBH pmax pmax
comp=Z,432nm,1.0s
YBH MLR MLR
comp=Z,54µm,21.0s
YBH Yreka Blue Hor 73.78 36 *e*P **P 06 33 41.9 +0.2**
comp=Z,432nm,1.0s,mb6.3
YBH *e*pP pP 06 33 54.3 +0.6
YBH *e*PP PP 06 36 26.7 +0.2
YBH LR LR
comp=Z,54µm,21.0s,MS6.8
PET Petropavlovsk 73.83 342κ *i*P **P 06 33 40.5 -1.5**
PET *i* *PP pP 06 33 52.2 -1.8
PET *i* S S 06 43 10.7 +0.1
PET *e*PS 06 43 44.5
PET *e*PPS 06 43 57.9
PET pmax pmax
comp=N,91nm,1.4s
PET pmax pmax
comp=E,69nm,1.4s
PET pmax pmax
comp=Z,312nm,1.4s,mb6.0
PET pmax pmax
comp=Z,6µm,7.2s
PET pmax pmax
comp=N,2µm,7.7s
PET pmax pmax
comp=E,2µm,7.8s
PET pmax pmax
comp=N,3µm,15.0s
PET pmax pmax
comp=Z,8µm,14.6s
PET pmax pmax
comp=E,2µm,14.5s
PET smax
comp=N,19µm,16.6s
PET smax
comp=N,15µm,15.0s
PET Petropavlovsk 73.83 342 *e*P **P 06 33 40.9 -1.2**
comp=N,1µm,1.7s,mb6.6
PET *e*pP pP 06 33 52.3 -1.7
PET LR LR
comp=Z,25µm,20.0s,MS6.5
LTIM Timbered Crate 74.12 37 P **P 06 33 43.8 +0.1**
NVAR Mina Array Bea 74.35 41 P **P 06 33 44.8 -0.3**
comp=Z,348nm,1.0s,mb6.2,baz=231,slow=9.6,SNR=441
NVAR PKKPbc PKKPbc 06 53 15.3 +1.9
comp=Z,0.8nm,0.8s,baz=68,slow=43,SNR=2.9
NVAR PKPPKP 07 01 08.6
comp=Z,1.6nm,1.0s,baz=69,slow=2.1,SNR=4.2
NVAR Mina Array Bea 74.35 41 P **P 06 33 44.8 -0.3**
NVAR PKKPbc PKKPbc 06 53 15.3 +1.9
NVAR P'P' 07 01 08.6
BUOR Burton Butte 74.39 36 P **P 06 33 45.6 +0.3**
KKM Kota Kinabalu 74.42 281 P **P 06 33 47.1 +1.7**
KKM Kota Kinabalu 74.42 281 *e*P **P 06 33 46.8 +1.4**
KKM *e*pP pP 06 33 58.4 +1.0
PAHR Pah Rah Range 74.45 40 *e*P **P 06 33 45.7 +0.1**
comp=Z,970nm,1.4s,mb6.5
SCZP Santa Cruz 74.45 292 *e*P **P 06 33 48.0 +2.4**
VSP Spence Mountai 74.60 36 P **P 06 33 46.8 +0.3**
HSO Harness Mounta 74.74 35 P **P 06 33 47.6 +0.3**
TPH Tonopah 74.83 42 *e*P **P 06 33 48.1 +0.3**
TPH *e**PP pP 06 34 00.3 +0.4
TPH pmax pmax
comp=Z,819nm,1.0s,mb6.6
TPH MLR MLR
comp=Z,37µm,19.0s,MS6.7
TPH Tonopah 74.83 42 *e*P **P 06 33 48.0 +0.2**
comp=Z,819nm,1.0s,mb6.6
TPH *e*pP pP 06 34 00.3 +0.4
TPH LR LR
comp=Z,37µm,19.0s,MS6.7
CJM Chamela 74.96 64 *e*P **P 06 33 44.7 -3.9**
MPOR Mary's Peak 75.15 34 P **P 06 33 50.0 +0.4**
YSS Yuzh-Sakhalins 75.19 330κ *i*P **P 06 33 49.8 -0.1**
YSS *i* *PP pP 06 34 01.0 -1.0
YSS *e**SP sP 06 34 05.0 -1.5
YSS *e* 06 36 42.0
YSS *e*PPP 06 38 22.0
YSS *e*S S 06 43 23.0 -2.8
YSS *e*PPS 06 44 10.0
YSS *e*SSS 06 51 26.0
YSS pmax pmax
comp=N,430nm,1.0s
YSS pmax pmax
comp=Z,840nm,1.0s,mb6.6
YSS pmax pmax
comp=Z,7µm,6.0s
YSS smax
comp=N,12µm,12.0s
YSS MLR MLR
comp=Z,14µm,20.0s,MS6.3
YSS MLR MLR
comp=N,13µm,18.0s,MS6.5
YSS MLR MLR
comp=E,15µm,18.0s,MS6.5
YSS Yuzh-Sakhalins 75.19 330 *e*P **P 06 33 50.0 0.0**
comp=E,1µm,1.1s,mb6.7
YSS LR LR
comp=Z,22µm,20.0s,MS6.5
MOD Modoc 75.27 37 *e*P **P 06 33 50.3 0.0**
comp=Z,363nm,1.0s,mb6.3
MOD LR LR
comp=Z,36µm,20.0s,MS6.7
SHPR Sheep Range 75.29 44 *e*P **P 06 33 50.8 +0.3**
COR Corvallis 75.33 34 P **P 06 33 50.8 +0.1**
COR S S 06 43 33.0 +5.7
COR Corvallis 75.33 34 *e*P **P 06 33 50.7 0.0**
COR *e* 06 36 37.3
COR pmax pmax
comp=Z,488nm,1.3s,mb6.3
COR MLR MLR
comp=Z,73µm,21.0s,MS7.0
COR Corvallis 75.33 34 *e*P **P 06 33 50.7 -0.1**
comp=Z,488nm,1.3s,mb6.3
COR *e*PP PP 06 36 37.3 -2.4
COR LR LR
comp=Z,73µm,21.0s,MS7.0
HBO Huckleberry Mo 75.37 35 P **P 06 33 50.9 -0.1**
IRO Indian Ridge 75.51 35 P **P 06 33 51.6 -0.2**
KDAK Kodiak Island 75.86 11 P **P 06 33 53.0 -0.7**
comp=Z,4µm,1.3s,mb7.1,SNR=34
KDAK Kodiak Island 75.86 11 P **P 06 33 52.5 -1.2**
comp=Z,492nm,1.1s,mb6.4,baz=174,slow=4.4,SNR=11
KDAK Kodiak Island 75.86 11 *e*P **P 06 33 52.8 -0.9**
comp=Z,2µm,1.4s,mb6.8
KDAK LR LR
comp=Z,7µm,22.0s,MS5.9
KMOR Kings Mountain 75.94 33 P **P 06 33 54.2 0.0**
SSOR Sweet Springs 75.96 34 P **P 06 33 53.9 -0.4**
TRCR Troy Canyon 76.04 42 *e*P **P 06 33 54.9 +0.1**
GVA Apache Junctio 76.13 49 P **P 06 33 55.6 +0.3**
GVA *e*S S 06 43 48.7 +13
TUC Tucson 76.14 50 *e*P **P 06 33 55.9 +0.6**
TUC pmax pmax
comp=Z,377nm,1.0s,mb6.3
TUC MLR MLR
comp=Z,41µm,20.0s,MS6.7
TUC Tucson 76.14 50 *e*P **P 06 33 55.9 +0.6**
comp=Z,377nm,1.0s,mb6.3
TUC LR LR
comp=Z,41µm,20.0s,MS6.7
PINOR Pine Mountain 76.15 35 P **P 06 33 55.9 +0.5**
BMN Battle Mountai 76.21 40 *e*P **P 06 33 55.8 +0.1**
BMN pmax pmax
comp=Z,594nm,1.1s,mb6.4
BMN MLR MLR
comp=Z,46µm,21.0s,MS6.8
BMN Battle Mountai 76.21 40 *e*P **P 06 33 55.8 0.0**
comp=Z,594nm,1.1s,mb6.4
BMN LR LR
comp=Z,46µm,21.0s,MS6.8
NACB Ninganchiao 76.41 301 *e*P **P 06 33 56.8 -0.1**
WVOR Wild Horse Val 76.57 38 *e*P **P 06 33 57.6 -0.1**
WVOR *e* 06 36 53.0
WVOR pmax pmax
comp=Z,716nm,1.2s,mb6.5
WVOR MLR MLR
comp=Z,80µm,20.0s,MS7.0
WVOR Wild Horse Val 76.57 38 *e*P **P 06 33 57.6 -0.1**
comp=Z,716nm,1.2s,mb6.5
WVOR *e*PP PP 06 36 53.0 +2.8
WVOR LR LR
comp=Z,80µm,20.0s,MS7.0
TDH Tom, Dick, Har 76.61 34 P **P 06 33 57.6 -0.4**
VLMM Larch Mountain 76.64 34 P **P 06 33 57.9 -0.3**
HOOD Mount Hood Mea 76.70 34 *e*P **P 06 33 58.0 -0.5**
LVP Lakeview Peak 76.79 33 P **P 06 33 58.8 -0.2**
VFP Flag Point 76.80 34 P **P 06 33 58.8 -0.2**
YHNB Yeheng 76.80 301 *e*P **P 06 33 59.6 +0.6**
TATO Taipei 76.83 301 *e*P **P 06 33 59.2 0.0**
comp=Z,519nm,0.9s,mb6.5
TATO LR LR
comp=Z,22µm,20.0s,MS6.5
MIR Mirnyy 76.86 204⇑ *i*P **P 06 34 00.0 +0.6**
MIR *e* 06 36 59.0
MIR *e*S S 06 43 50.0 +5.8
MIR *e* 06 44 10.0
MIR *e*PS 06 44 30.0
MIR *e*SS SS 06 48 48.0 +7.0
MIR *e*SSS 06 52 06.0
MIR pmax pmax
comp=Z,6µm,2.0s,mb7.2
MIR pmax pmax
comp=Z,16µm,6.0s
MIR MLR MLR
comp=N,5µm,17.0s,MS6.2
MIR MLR MLR
comp=E,8µm,17.0s,MS6.2
MIR MLR MLR
comp=Z,18µm,17.0s,MS6.5
STD Studebaker Rid 77.00 33 P **P 06 34 00.5 +0.3**
OOW Octopus West 77.01 31 P **P 06 34 00.8 +0.5**
CCUT Cedar City 77.06 44 *e*P **P 06 34 01.2 +0.7**
SFJM Santa Fe 77.08 64 *e*P **P 06 34 02.0 +1.3**
ARUT Antelope Range 77.14 44 P **P 06 34 01.3 +0.3**
ARUT Antelope Range 77.14 44 *e*P **P 06 34 01.2 +0.2**
WUAZ Wupatki 77.35 47 *e*P **P 06 34 02.7 +0.6**
comp=Z,680nm,1.2s,mb6.5
WUAZ LR LR
comp=Z,39µm,21.0s,MS6.7
ZIIG Zihuatanejo 77.35 67 *i*P **P 06 34 03.1 +0.9**
LON Longmire 77.55 33 *e*P **P 06 34 02.7 -0.6**
GNW Green Mountain 77.57 32 *e*P **P 06 34 03.0 -0.4**
ELK Elko 77.62 41 *e*P **P 06 34 03.8 +0.1**
ELK *e**PP pP 06 34 15.8 0.0
ELK pmax pmax
comp=Z,630nm,1.2s
ELK MLR MLR
comp=Z,56µm,22.0s
ELK Elko 77.62 41 *e*P **P 06 34 03.8 +0.1**
comp=Z,630nm,1.2s,mb6.4
ELK *e*pP pP 06 34 15.8 0.0
ELK LR LR
comp=Z,56µm,22.0s,MS6.8
WPW White Pass 77.65 33 P **P 06 34 03.6 -0.3**
SQM Sequim 77.80 31 P **P 06 34 05.2 +0.6**
VGZ Gonzales 77.89 31 P **P 06 34 04.7 -0.5**
KS15 Wonju Array Si 77.97 315 *e*P **P 06 34 07.2 +1.6**
PGC Sidney 77.99 31 *e*P **P 06 34 05.5 -0.3**
comp=Z,1µm,1.1s,mb6.7
PGC *e*pP pP 06 34 17.1 -0.7
RMW Rattlesnake Mo 78.02 32 P **P 06 34 05.6 -0.3**
TWW Teanaway 78.29 33 P **P 06 34 07.5 +0.1**
MVU Marysvale 78.34 44 PFAKE 06 34 20.0 +12
MVU LR LR
comp=Z,45µm,19.0s,MS6.8
MSU Marysvale 78.37 44 *e*P **P 06 34 09.0 +1.2**
MRX Morelia 78.38 65 *e*P **P 06 34 10.0 +2.1**
BBB Bella Bella 78.38 26 LR LR 07 05 57.7
comp=Z,25µm,18.0s,MS6.6,baz=228,slow=34
ZAIG Zacatecas 78.39 62 *i*P **P 06 34 07.8 -0.2**
JCW Jim Creek 78.44 32 P **P 06 34 07.9 -0.3**
ACX Acapulco 78.45 68 *e*P **P 06 34 10.0 +1.7**
HAWA Hanford 78.52 34 *e*P **P 06 34 08.2 -0.5**
comp=Z,22nm,0.9s
HAWA LR LR
comp=Z,5µm,20.0s,MS5.8
SVW2 Sparrevohn 78.56 8 *e*P **P 06 34 07.2 -1.7**
VLA Vladivostok 78.57 322*c* *i*P **P 06 34 08.6 -0.3**
VLA Vladivostok 78.57 322⇑ *i*P **P 06 34 08.7 -0.2**
MID Middleton Isla 78.61 13 *e*P **P 06 34 09.7 +0.5**
KMI Kuching 78.62 275 *e*P **P 06 34 10.7 +1.5**
KSM *e*pP pP 06 34 21.4 +0.1
BMO Blue Mountains 78.80 36 *e*P **P 06 34 09.7 -0.5**
comp=Z,448nm,1.2s,mb6.3
BMO LR LR
comp=Z,48µm,21.0s,MS6.8
SLKM Skilak Lake 78.84 11 *e*P **P 06 34 09.3 -1.1**
INCN Inchon 78.84 315⇓ P **P 06 34 13.6 +3.2**
SNR=91
INCN Inchon 78.84 315 PFAKE 06 34 20.0 +10
INCN LR LR
comp=Z,16µm,20.0s,MS6.3
DUG Dugway 78.86 42 *e*P **P 06 34 10.5 0.0**
DUG pmax pmax
comp=Z,428nm,1.1s,mb6.3
DUG MLR MLR
comp=Z,29µm,22.0s,MS6.6
DUG Dugway 78.86 42 *e*P **P 06 34 10.5 0.0**
comp=Z,428nm,1.1s,mb6.3
DUG LR LR
comp=Z,29µm,22.0s,MS6.6
CRAG Craig 78.97 21 *e*P **P 06 34 10.8 -0.3**
comp=Z,1µm,1.5s,mb6.6
CRAG LR LR
comp=Z,19µm,17.0s,MS6.5
BGU Big Grassy Mou 79.11 41 *e*P **P 06 34 11.7 -0.3**
NLU North Lily Min 79.20 43 *e*P **P 06 34 12.7 +0.3**
QZH Quanzhou 79.21 300 *i*PR **P 06 34 13.5 +1.1**
QZH PP PP 06 37 14.0 +1.7
QZH S S 06 44 14.5 +5.1
QZH AMB AMB
comp=Z,670nm,1.4s,mb6.4
QZH AMB AMB
comp=Z,12µm,5.3s
QZH LR LR
comp=N,8µm,16.7s,MS6.4
QZH LR LR
comp=E,12µm,15.6s,MS6.4
TMUT Trail Mountain 79.42 44 *e*P **P 06 34 14.6 +1.0**
SIT Sitka 79.51 19 *e*P **P 06 34 13.8 -0.3**
SIT pmax pmax
comp=Z,594nm,1.3s,mb6.4
SIT MLR MLR
comp=Z,29µm,17.0s,MS6.7
SIT Sitka 79.51 19 *e*P **P 06 34 13.8 -0.3**
comp=Z,594nm,1.3s,mb6.4
SIT LR LR
comp=Z,29µm,17.0s,MS6.7
MPU Maple Canyon 79.52 43 *e*P **P 06 34 14.5 +0.4**
comp=Z,329nm,1.0s,mb6.2

MPU LR LR
comp=Z,52µm,20.0s,MS6.9
NOQ North Oquirrh 79.55 42 *e*P **P 06 34 14.3 0.0**
comp=Z,528nm,1.0s,mb6.4
SPUT South Promonto 79.69 41 *e*P **P 06 34 13.7 -1.4**
HLID Hailey 79.73 39 *e*P **P 06 34 15.5 +0.3**
comp=Z,503nm,1.0s,mb6.4
HLID *e*pP pP 06 34 27.3 -0.1
HLID LR LR
comp=Z,38µm,21.0s,MS6.7
HVU Hansel Valley 79.74 41 *e*P **P 06 34 15.3 0.0**
HVU *e**PP pP 06 34 27.0 -0.5
HVU pmax pmax
comp=Z,2µm,1.7s,mb6.7
HVU Hansel Valley 79.74 41 *e*P **P 06 34 15.3 -0.1**
comp=Z,2µm,1.7s,mb6.7
HVU *e*pP pP 06 34 27.0 -0.5
SSE Sheshan 79.74 307 ⇓P **P 06 34 16.0 +0.7**
SSE PCP PcP 06 34 24.0 +1.0
SSE AP pP 06 34 28.5 +1.0
SSE XP sP 06 34 32.8 +0.8
SSE PP PP 06 37 13.3 -3.4
SSE S S 06 44 12.0 -3.1
SSE XS sS 06 44 31.5 -3.8
SSE SCS ScS 06 44 36.5 +0.1
SSE AMB AMB
comp=Z,95nm,0.8s,mb5.8
SSE AMB AMB
comp=Z,4µm,11.8s
SSE LR LR
comp=N,22µm,36.3s,MS6.3
SSE LR LR
comp=E,12µm,36.2s,MS6.3
SSE LR LR
comp=Z,28µm,42.7s
SSE Sheshan 79.74 307 ⇓P **P 06 34 15.9 +0.6**
SSE PcP PcP 06 34 24.0 +1.0
SSE pP pP 06 34 28.6 +1.1
SSE sP sP 06 34 32.7 +0.7
SSE PP PP 06 37 13.3 -3.4
SSE S S 06 44 11.9 -3.2
SSE sS sS 06 44 31.5 -3.8
SSE ScS ScS 06 44 36.6 +0.2
EYAK Cordova Ski Ar 79.76 13 *e*P **P 06 34 14.0 -1.4**
SRU San Rafael 79.78 44 *e*P **P 06 34 15.8 +0.3**
SRU pmax pmax
comp=Z,458nm,1.1s,mb6.3
SRU San Rafael 79.78 44 *e*P **P 06 34 15.8 +0.3**
comp=Z,458nm,1.1s,mb6.3
CTU Camp Tracy 79.81 42 *e*P **P 06 34 15.5 -0.2**
comp=Z,416nm,1.1s,mb6.3
MNTX Cornudas Mount 79.89 53 *e*P **P 06 34 16.4 +0.2**
comp=Z,2µm,1.9s,mb6.7
MNTX *e*pP pP 06 34 28.2 -0.1
MNTX LR LR
comp=Z,32µm,21.0s,MS6.6
WRAK Wrangell Islan 79.99 21 *e*P **P 06 34 16.3 -0.4**
WRAK *e*pP pP 06 34 27.8 -1.0
PMR Palmer 80.05 11 *e*P **P 06 34 15.4 -1.6**
PMR pmax pmax
comp=Z,944nm,1.4s,mb6.5
PMR Palmer 80.05 11 *e*P **P 06 34 15.4 -1.6**
comp=Z,944nm,1.4s,mb6.5
HABR Khabarovsk 80.07 327 ⇓*i*P **P 06 34 17.7 +0.6**
HABR *e* 06 34 26.0
HABR *e*S S 06 44 21.9 +3.4
HABR pmax pmax
comp=Z,1µm,1.8s,mb6.5
MVCO Mesa Verde 80.20 46 *e*P **P 06 34 18.1 +0.3**
TTA Tatalina 80.27 7 *e*P **P 06 34 17.6 -0.6**
DIV Divide 80.28 13 PFAKE 06 34 30.0 +12
DIV LR LR
comp=Z,92µm,22.0s,MS7.1
PNT Penticton 80.33 32 P **P 06 34 18.2 -0.3**
PPM Popocatepetl 80.39 67 *e*P **P 06 34 21.0 +2.2**
PV10 Paradox Valley 80.41 45 *e*P **P 06 34 18.9 -0.1**
HWUT Hardware Ranch 80.41 41 *e*P **P 06 34 18.6 -0.4**
comp=Z,763nm,1.5s,mb6.4
HWUT *e*PP PP 06 37 23.8 +1.6
HWUT LR LR
comp=Z,48µm,20.0s,MS6.8
IIO Organos 80.50 66 *i* P **P 06 34 21.1 +1.7**
ANMO Albuquerque 80.57 49 LR LR 07 03 56.7
comp=Z,35µm,19.3s,MS6.7,baz=247,slow=31
ANMO Albuquerque 80.57 49 *e*P **P 06 34 20.2 +0.4**
ANMO pmax pmax
comp=Z,894nm,1.4s
ANMO MLR MLR
comp=Z,35µm,20.0s
ANMO Albuquerque 80.57 49 *e*P **P 06 34 20.2 +0.4**
comp=Z,894nm,1.4s,mb6.5
ANMO LR LR
comp=Z,35µm,20.0s,MS6.7
PV01 Paradox Valley 80.61 46 *e*P **P 06 34 20.4 +0.4**
PV01 *e*pP pP 06 34 32.3 +0.1
MDJ Mudanjiang 80.79 322 P **P 06 34 21.3 +0.3**
MDJ AP pP 06 34 27.8 -5.3
MDJ XP sP 06 34 30.5 -7.2
MDJ PP PP 06 37 27.0 +1.6
MDJ S S 06 44 31.3 +5.2
MDJ XS sS 06 44 43.0 -3.3
MDJ AMB AMB
comp=Z,172nm,1.9s,mb5.7
MDJ AMB AMB
comp=Z,8µm,6.4s
MDJ LR LR
comp=N,15µm,41.7s,MS6.3
MDJ LR LR
comp=E,24µm,42.4s,MS6.3
MDJ LR LR
comp=Z,38µm,38.6s,MS6.5
MDJ Mudanjiang 80.79 322 *e*P **P 06 34 20.9 -0.1**
comp=Z,421nm,1.4s,mb6.2
MDJ *e*pP pP 06 34 33.1 -0.1
MDJ LR LR
comp=Z,35µm,21.0s,MS6.7
NEW Newport 80.97 34 PKPPKP 07 01 03.5
comp=Z,0.9nm,0.4s,baz=262,slow=1.9,SNR=4.9
NEW LR LR 07 02 40.3
comp=Z,65µm,21.8s,MS7.0,baz=234,slow=30
NEW Newport 80.97 34 *e*P **P 06 34 20.7 -1.2**
NEW pmax pmax
comp=Z,56nm,0.8s
NEW MLR MLR
comp=Z,80µm,22.0s
NEW Newport 80.97 34 *e*P **P 06 34 20.7 -1.2**
comp=Z,56nm,0.8s,mb5.5
NEW LR LR
comp=Z,80µm,22.0s,MS7.0
AHID Auburn Hatcher 81.32 41 *e*P **P 06 34 23.8 0.0**
comp=Z,281nm,1.0s,mb6.2
AHID LR LR
comp=Z,36µm,19.0s,MS6.7
MCMT McKenzie Canyo 81.37 38 *e*P **P 06 34 24.3 +0.2**
MCMT *e*pP pP 06 34 36.3 0.0
OXX Oaxaca 81.39 69 *e*P **P 06 34 26.0 +1.9**
SKAG Skagway 81.47 18 *e*P **P 06 34 24.2 -0.4**
comp=Z,796nm,1.2s,mb6.5
SKAG LR LR
comp=Z,28µm,19.0s,MS6.6
RRI2 Red Ridge 81.49 40 *e*P **P 06 34 29.7 +5.0**
comp=Z,487nm,1.1s,mb6.3
DCID1 Drake Creek 81.71 40 *e*P **P 06 34 26.1 +0.3**
MA2 Magadan 81.72 342 *d*/P **P 06 34 24.2 -1.7**
MA2 *e* 06 34 30.8
MA2 *e*S S 06 44 30.9 -4.8
MA2 *e* 06 44 42.9
MA2 *e*PS 06 45 25.2
MA2 *e*SS SS 06 49 56.4 +2.6
MA2 *e*SSS 06 53 14.9
MA2 pmax pmax
comp=Z,500nm,1.5s,mb6.2
MA2 MLR MLR
comp=Z,16µm,19.3s,MS6.4
MA2 Magadan 81.72 342 *e*P **P 06 34 25.1 -0.9**
comp=Z,188nm,1.1s,mb5.9
MA2 LR LR
comp=Z,11µm,20.0s,MS6.2
REDW Red Top Meadow 81.79 40 *e*P **P 06 34 26.1 -0.1**
comp=Z,936nm,1.5s,mb6.5
TPAW Teton Pass 81.80 40 *e*P **P 06 34 26.4 +0.1**
comp=Z,1µm,1.5s,mb6.6
TPAW *e*pP pP 06 34 38.5 0.0
DLMT Dillon 81.82 38 *e*P **P 06 34 26.3 -0.1**
MSO Missoula 81.87 36 *e*P **P 06 34 25.6 -1.1**
comp=Z,361nm,1.3s,mb6.1
MSO LR LR
comp=Z,50µm,22.0s,MS6.8
PAYG Puerto Ayora 81.89 88 *e*P **P 06 34 27.0 +0.2**
comp=Z,306nm,1.5s,mb6.0
PAYG LR LR
comp=Z,23µm,19.0s,MS6.6
SNOW Snow King Moun 81.90 40 *e*P **P 06 34 26.9 0.0**
comp=Z,706nm,1.3s,mb6.4
SNOW *e*pP pP 06 34 39.1 0.0
HKC Hong Kong 81.93 296 ⇓*i*P **P 06 34 29.0 +2.0**
HKC Hong Kong 81.93 296 P **P 06 34 28.0 +1.0**
NJ2 Nanjing 81.95 307 *e*P **P 06 34 29.0 +1.9**
NJ2 AP pP 06 34 37.0 -2.3
NJ2 XP sP 06 34 40.3 -3.5
NJ2 PP PP 06 37 39.0 +4.0
NJ2 S S 06 44 42.0 +3.9
NJ2 XS sS 06 44 56.0 -2.4
NJ2 AMB AMB
comp=Z,800nm,1.5s,mb6.4
NJ2 AMB AMB
comp=Z,13µm,10.0s
NJ2 LR LR
comp=N,90µm,31.9s
NJ2 LR LR
comp=Z,33µm,27.8s,MS6.5
BSMT Bassoo Peak 81.98 35 *e*P **P 06 34 26.5 -0.8**
TNA Tin City 81.98 2 *e*P **P 06 34 26.9 -0.4**
comp=Z,824nm,1.4s,mb6.5
TNA *e*pP pP 06 34 38.3 -1.2
TNA LR LR
comp=Z,14µm,20.0s,MS6.3
IMW Indian Meadow 82.02 40 *e*P **P 06 34 27.5 +0.1**
comp=Z,683nm,1.3s,mb6.4
MOOW Moose Ponds 82.06 40 *e*P **P 06 34 27.4 -0.3**
comp=Z,758nm,1.6s,mb6.4
MCK McKinley 82.07 10 P **P 06 34 26.1 -1.6**
MCK pmax pmax
comp=Z,730nm,1.4s,mb6.4
MCK McKinley 82.07 10 *e*P **P 06 34 26.4 -1.4**
comp=Z,734nm,1.5s,mb6.4
MCK LR LR
comp=Z,16µm,19.0s,MS6.4
LOHW Long Hollow 82.08 40 *e*P **P 06 34 27.6 -0.1**
comp=Z,470nm,1.3s,mb6.3
LOHW *e*pP pP 06 34 39.8 -0.2
LRM Limekiln Ridge 82.16 37 *e*P **P 06 34 27.9 -0.3**
SMCO Snowmass 82.21 45 *e*P **P 06 34 29.0 +0.5**
comp=Z,970nm,1.3s,mb6.6
SMCO *e*pP pP 06 34 41.1 +0.5
KLR Kul'dur 82.25 327 ⇑*i*P **P 06 34 25.1 -3.6**
KLR *e*PS 06 45 37.0
KLR pmax pmax
comp=E,150nm,1.8s
KLR pmax pmax
comp=Z,450nm,1.8s,mb6.1
KLR pmax pmax
comp=E,2µm,9.0s
KLR pmax pmax
comp=Z,14µm,9.0s
FLWY Flagg Ranch 82.27 40 *e*pP pP 06 34 41.2 +0.3
FLWY *e*PP PP 06 37 37.4 -0.1
BW06 Boulder Array 82.29 41 *e*P **P 06 34 28.3 -0.6**
comp=Z,957nm,1.7s,mb6.5
BW06 LR LR
comp=Z,35µm,19.0s,MS6.7
PDAR Pinedale Array 82.29 41 P **P 06 34 28.2 -0.7**
comp=Z,114nm,1.0s,mb5.8,baz=211,slow=3.5,SNR=188
PDAR PKKPbc PKKPbc 06 52 58.1 +2.1
comp=Z,5.5nm,0.9s,baz=99,slow=3.8,SNR=9.1
PDAR PKPPKP 07 00 52.5
comp=Z,2.8nm,1.0s,baz=76,slow=1.8,SNR=8.8
PDAR LR LR 07 06 27.3
comp=Z,29µm,18.2s,MS6.7,baz=248,slow=32
CHMT Chamberlain Mo 82.31 36 *e*pP pP 06 34 40.0 -1.1
MENT Mentasta 82.33 13 *e*P **P 06 34 28.3 -0.8**
YFT Old Faithful 82.38 39 *e*P **P 06 34 30.7 +1.3**
YMR Madison River 82.42 39 *e*P **P 06 34 30.2 +0.7**
comp=Z,1µm,1.5s,mb6.7
YMR *e*pP pP 06 34 41.7 0.0
YMR *e*PP PP 06 37 39.0 +0.2
YMR LR LR
comp=Z,27µm,22.0s,MS6.6
PMSA Palmer Station 82.53 156 P **P 06 34 29.8 -0.3**
comp=Z,42nm,0.8s,mb5.5,baz=237,slow=4.8,SNR=12
PMSA LR LR 07 05 29.8
comp=Z,59µm,18.3s,MS7.0,baz=110,slow=32
PMSA Palmer Station 82.53 156 *e*P **P 06 34 29.7 -0.5**
comp=Z,471nm,1.4s,mb6.3
PMSA *e*pP pP 06 34 41.1 -1.2
PMSA LR LR
comp=Z,58µm,19.0s,MS7.0
BOZ Bozeman (W) 82.54 38 *e*P **P 06 34 29.8 -0.4**
BOZ pmax pmax
comp=Z,569nm,1.3s,mb6.4
BOZ MLR MLR
comp=Z,46µm,20.0s,MS6.8
BOZ Bozeman (W) 82.54 38 *e*P **P 06 34 29.8 -0.4**
comp=Z,569nm,1.3s,mb6.4
BOZ LR LR
comp=Z,46µm,20.0s,MS6.8
SDCO Great Sand Dun 82.55 47 *e*P **P 06 34 30.5 +0.2**
comp=Z,1µm,1.8s,mb6.6
SDCO LR LR
comp=Z,34µm,19.0s,MS6.7
YNR Norris Junctio 82.61 39 *e*P **P 06 34 31.4 +0.8**
YNR *e*pP pP 06 34 42.8 0.0
LKWY Lake 82.70 39 *e*P **P 06 34 32.4 +1.4**
LKWY *e* 06 37 41.4
LKWY pmax pmax
comp=Z,490nm,1.0s,mb6.5
LKWY MLR MLR
comp=Z,35µm,19.0s,MS6.7
LKWY Lake 82.70 39 *e*P **P 06 34 32.4 +1.3**
comp=Z,490nm,1.0s,mb6.5
LKWY *e*PP PP 06 37 41.4 +0.3
LKWY LR LR
comp=Z,35µm,19.0s,MS6.7
CN2 Changchun 82.87 320 ⇓P **P 06 34 31.8 -0.1**
CN2 *e*AP pP 06 34 45.0 +0.9
CN2 *e*XP sP 06 34 50.5 +1.9
CN2 PP PP 06 37 46.0 +3.5
CN2 *e*S S 06 44 46.8 -0.7
CN2 SS SS 06 50 14.0 +3.2
CN2 AMB AMB
comp=Z,240nm,1.7s,mb6.0
CN2 AMB AMB
comp=Z,12µm,10.0s
CN2 LR LR
comp=N,6µm,19.0s,MS6.3
CN2 LR LR
comp=E,12µm,19.0s,MS6.3
CN2 LR LR
comp=Z,13µm,19.0s,MS6.3
GZH Guangzhou 82.93 297 P **P 06 34 32.8 +0.6**
GZH S S 06 44 52.5 +4.4
GZH AMB AMB
comp=Z,191nm,1.5s,mb5.9
GZH LR LR
comp=N,4µm,18.3s,MS6.2
GZH LR LR
comp=E,10µm,20.8s,MS6.2
GZH LR LR
comp=Z,17µm,20.5s,MS6.4
DL2 Dalian 82.97 314 *i* PR **P 06 34 33.5 +1.0**
DL2 PP PP 06 37 44.5 +1.1
DL2 S S 06 44 52.5 +3.9
DL2 SS SS 06 50 18.0 +5.6
DL2 AMB AMB
comp=Z,270nm,1.0s,mb6.2
DL2 AMB AMB
comp=Z,8µm,7.1s
DL2 LR LR
comp=N,6µm,29.9s,MS5.9
DL2 LR LR
comp=E,4µm,27.5s,MS5.9
DL2 LR LR
comp=Z,12µm,22.7s,MS6.2
HRY Holter Researc 83.00 37 *e*P **P 06 34 29.6 -3.0**
CMIG Matias Romero 83.04 70 P **P 06 34 33.7 +0.9**
comp=Z,52nm,0.7s,mb5.7,baz=244,slow=5.2,SNR=50
CMIG LR LR 07 02 57.8
comp=Z,49µm,20.3s,MS6.9,baz=247,slow=30
SNY Shenyang 83.06 317 ⇓P **P 06 34 33.5 +0.6**
SNY AP pP 06 34 42.8 -2.3
SNY XP sP 06 34 48.3 -1.3
SNY S S 06 44 54.5 +5.0
SNY AMB AMB
comp=Z,322nm,1.8s,mb6.0
SNY AMB AMB
comp=Z,13µm,7.4s
SNY LR LR
comp=N,13µm,37.2s,MS6.2
SNY LR LR
comp=E,16µm,38.2s,MS6.2
SNY LR LR
comp=Z,24µm,38.2s,MS6.3
WALA Waterton Lakes 83.16 34 *e*P **P 06 34 32.6 -0.8**
comp=Z,232nm,0.8s,mb6.3
RWWY Rawlins 83.26 43 *e*P **P 06 34 33.7 -0.2**
RWWY *e*pP pP 06 34 45.3 -0.8
COLA College 83.31 10 *e*P **P 06 34 32.5 -1.7**
COLA pmax pmax
comp=Z,1µm,1.4s,mb6.8
COLA MLR MLR
comp=Z,23µm,22.0s,MS6.5
COLA College 83.31 10 *e*P **P 06 34 32.5 -1.7**
comp=Z,1µm,1.4s,mb6.8
COLA LR LR
comp=Z,23µm,22.0s,MS6.5
ISCO Idaho Springs 83.43 45 *e*P **P 06 34 35.0 +0.2**
ISCO *e**PP pP 06 34 47.4 +0.4
ISCO *e* 06 37 48.4
ISCO pmax pmax
comp=Z,760nm,1.8s,mb6.4
ISCO MLR MLR
comp=Z,40µm,20.0s,MS6.8
ISCO Idaho Springs 83.43 45 *e*P **P 06 34 35.0 +0.2**
comp=Z,760nm,1.8s,mb6.4
ISCO *e*pP pP 06 34 47.4 +0.4
ISCO *e*PP PP 06 37 48.4 +1.3
ISCO LR LR
comp=Z,40µm,20.0s,MS6.8
IMA2 Indian Mountai 83.58 7 *e*P **P 06 34 34.4 -1.2**
RLMT Red Lodge 83.68 39 *e*P **P 06 34 36.2 +0.1**
RLMT *e*pP pP 06 34 47.8 -0.5
JCT Junction City 83.72 56 *e*P **P 06 34 35.6 -0.7**
JCT pmax pmax
comp=Z,187nm,1.1s,mb6.1
JCT MLR MLR
comp=Z,26µm,21.0s,MS6.6
JCT Junction City 83.72 56 *e*P **P 06 34 35.6 -0.7**
comp=Z,187nm,1.1s,mb6.1
JCT LR LR
comp=Z,26µm,21.0s,MS6.6
GCMT Greycliff 83.79 39 *e*P **P 06 34 36.7 0.0**
GCMT *e*pP pP 06 34 48.0 -0.8
SEY Seymchan 84.03 344 *d*/P **P 06 34 36.7 -1.2**
SEY Seymchan 84.03 344 *i* Pr **P 06 34 36.8 -1.1**
KVTX Kingsville 84.14 59 *e*P **P 06 34 39.9 +1.4**
USHA Ushuaia 84.17 146 P **P 06 34 39.0 +0.4**
comp=Z,95nm,0.9s,mb5.9,baz=228,slow=5.1,SNR=22
USHA LR LR 07 05 03.4
comp=Z,68µm,18.9s,MS7.0,baz=233,slow=31
PHWY Pilot Hill 84.23 44 *e*P **P 06 34 38.5 -0.4**
PHWY *e*pP pP 06 34 50.0 -1.1
DAWY Dawson 84.27 14 *e*P **P 06 34 38.4 -0.7**
DAWY *e*pP pP 06 34 50.0 -1.3
EGAK Eagle 84.50 13 *e*P **P 06 34 39.2 -1.1**
EGAK *e*pP pP 06 34 50.8 -1.7
QIZ Qiongzhong 84.59 292 P **P 06 34 41.8 +1.1**
QIZ AP pP 06 34 53.0 +0.1
QIZ XP sP 06 34 56.5 -0.9
QIZ PP PP 06 37 59.3 +2.8
QIZ S S 06 45 07.5 +2.7
QIZ XS sS 06 45 22.8 -2.3
QIZ AMB AMB
comp=Z,7µm,8.3s
QIZ LR LR
comp=N,15µm,28.8s
QIZ LR LR
comp=Z,39µm,31.5s,MS6.6
QIZ Qiongzhong 84.59 292 *e*P **P 06 34 43.0 +2.3**
comp=Z,488nm,1.9s,mb6.3
QIZ LR LR
comp=Z,13µm,22.0s,MS6.3
WHN Wuhan 84.87 304 ⇑P **P 06 34 43.5 +1.4**
WHN S S 06 45 09.0 +1.4
WHN AMB AMB
comp=Z,11µm,11.4s
WHN LR LR
comp=Z,19µm,18.4s,MS6.5
EGMT Eagleton 84.90 37 *e*P **P 06 34 41.4 -0.9**
comp=Z,311nm,1.1s,mb6.3
EGMT *e*PP PP 06 37 55.8 -3.3
EGMT LR LR
comp=Z,43µm,20.0s,MS6.8
TIA Tai'an 85.00 310 ⇓P **P 06 34 44.0 +1.2**
TIA S S 06 45 08.0 -0.9
TIA AMB AMB
comp=Z,917nm,2.2s,mb6.5
TIA AMB AMB
comp=Z,2µm,5.0s
TIA LR LR
comp=N,4µm,15.0s,MS6.1
TIA LR LR
comp=E,5µm,16.0s,MS6.1
KGM Kluang 85.46 273 P **P 06 34 48.1 +3.0**
EDM Edmonton 85.83 31 *e*P **P 06 34 45.7 -1.2**
EDM *e**PP pP 06 34 57.3 -1.9
BILL Bilibino 85.89 352 *d*/P **P 06 34 45.8 -1.4**
BILL pmax pmax
comp=Z,563nm,1.3s,mb6.6
BILL MLR MLR
comp=Z,12µm,19.0s,MS6.3
BILL Bilibino 85.89 352 *e*P **P 06 34 46.0 -1.2**
comp=Z,712nm,1.1s,mb6.8
BILL *e*pP pP 06 34 57.5 -2.0
BILL LR LR
comp=Z,37µm,22.0s,MS6.7
WMOK Wichita Mounta 86.19 52 *e*P **P 06 34 47.7 -1.0**
WMOK *e**PP pP 06 34 59.3 -1.6
WMOK pmax pmax
comp=Z,527nm,1.6s,mb6.5
WMOK MLR MLR
comp=Z,38µm,20.0s,MS6.8
WMOK Wichita Mounta 86.19 52 *e*P **P 06 34 47.7 -1.0**
comp=Z,527nm,1.6s,mb6.5
WMOK *e*pP pP 06 34 59.3 -1.6
WMOK LR LR
comp=Z,38µm,20.0s,MS6.8
LAO LASA Array 86.30 39 *e*P **P 06 34 49.1 -0.2**
LAO LR LR
comp=Z,41µm,22.0s,MS6.8
RSSD Black Hills 86.46 42 *e*P **P 06 34 48.9 -1.1**
RSSD pmax pmax
comp=Z,68nm,0.8s,mb5.9
RSSD MLR MLR
comp=Z,33µm,20.0s,MS6.7
RSSD Black Hills 86.46 42 *e*P **P 06 34 48.9 -1.1**
comp=Z,68nm,0.8s,mb5.9
RSSD LR LR
comp=Z,33µm,20.0s,MS6.7
HKT Hockley 86.70 58 *e*P **P 06 34 51.4 +0.2**
HKT *e**PP pP 06 35 03.4 -0.1
HKT *e* 06 38 12.0
HKT pmax pmax
comp=Z,742nm,1.7s,mb6.6
HKT MLR MLR
comp=Z,25µm,19.0s,MS6.6
HKT Hockley 86.70 58 *e*P **P 06 34 51.4 +0.2**
comp=Z,742nm,1.7s,mb6.6
HKT *e*pP pP 06 35 03.4 -0.1
HKT *e*PP PP 06 38 12.0 -1.7
HKT LR LR
comp=Z,25µm,19.0s,MS6.6
MAW Mawson 87.07 198 *e*S S 06 45 21.1 -8.0
MAW Mawson 87.07 198 P **P 06 34 53.0 0.0**
comp=Z,231nm,0.9s,mb6.4,baz=124,slow=6.0,SNR=146
MAW LR LR 07 11 17.1
comp=Z,45µm,19.4s,MS6.9,baz=115,slow=34
MAW Mawson 87.07 198 ⇓*i*/P **P 06 34 52.9 -0.1**
MAW *e*S S 06 45 21.1 -8.0
MAW pmax pmax
comp=Z,486nm,1.4s
MAW Mawson 87.07 198 ⇓*i*/P **P 06 34 52.9 -0.1**
comp=Z,486nm,1.4s,mb6.5
MAW *e*S S 06 45 21.1 -8.0
BJT Baijiatuau 87.26 313 *e*P **P 06 34 56.0 +2.1**
BJT pmax pmax
comp=Z,206nm,1.4s

BJT MLR MLR
comp=Z,8µm,22.0s
BJT Baijiatuau 87.26 313 *e*P **P 06 34 56.0 +2.1**
comp=Z,206nm,1.4s,mb6.2
BJT LR LR
comp=Z,8µm,22.0s,MS6.1
BJI Beijing 87.26 313 *e*P **P 06 34 54.8 +0.9**
BJI XP sP 06 35 11.8 +1.1
BJI S SKSac 06 45 21.3 +3.0
BJI AMB AMB
comp=Z,388nm,1.8s,mb6.3
BJI AMB AMB
comp=Z,19µm,4.6s
BJI LR LR
comp=N,15µm,25.3s,MS6.3
BJI LR LR
comp=E,6µm,24.3s,MS6.3
BJI LR LR
comp=Z,24µm,28.0s,MS6.5
BJI Beijing 87.26 313 *e*P **P 06 34 54.7 +0.8**
BJI *SP sP 06 35 11.8 +1.1
BJI S SKSac 06 45 21.2 +2.9
COCO West Island 87.66 258 P **P 06 34 56.3 +0.5**
COCO LR LR
comp=Z,7µm,20.0s,MS6.1
PLCA Paso Flores 87.72 132 P **P 06 34 56.9 +0.8**
comp=Z,60nm,1.0s,mb5.8,baz=249,slow=5.0,SNR=59
PLCA PKKPbc PKKPbc 06 52 44.1 +0.9
comp=Z,10nm,1.0s,baz=71,slow=3.6,SNR=11
PLCA LR LR 07 06 03.0
comp=Z,63µm,20.1s,MS7.0,baz=257,slow=30
PLCA Paso Flores 87.72 132 *e*P **P 06 34 57.0 +0.9**
PLCA *e*PP pP 06 35 08.1 -0.3
PLCA pmax pmax
comp=Z,800nm,1.6s
PLCA MLR MLR
comp=Z,61µm,20.0s
PLCA Paso Flores 87.72 132 *e*P **P 06 34 57.0 +0.9**
comp=Z,800nm,1.6s,mb6.7
PLCA *e*pP pP 06 35 08.1 -0.3
PLCA LR LR
comp=Z,61µm,20.0s,MS7.0
NATX Nacogdoches 88.29 56 *e*P **P 06 34 59.5 +0.7**
comp=Z,497nm,1.4s,mb6.5
NATX *e*pP pP 06 35 11.0 -0.1
NATX LR LR
comp=Z,27µm,20.0s,MS6.7
IPM Ipoh 88.35 275 P **P 06 35 01.9 +2.8**
DGMT Dagmar 88.35 38 PFAKE 06 35 10.0 +11
DGMT LR LR
comp=Z,38µm,22.0s,MS6.8
KULM Kulim 88.94 276 *e*P **P 06 35 04.0 +2.0**
KULM *e*pP pP 06 35 15.6 +1.4
KULM *e*PP PP 06 38 31.2 -0.5
HIA Hailar 88.96 323 *e*P **P 06 35 01.9 -0.1**
HIA *e**PP pP 06 35 13.5 -0.8
HIA pmax pmax
comp=Z,793nm,1.6s
HIA MLR MLR
comp=Z,27µm,21.0s
HIA Hailar 88.96 323 *e*P **P 06 35 01.9 -0.1**
comp=Z,793nm,1.6s,mb6.8
HIA *e*pP pP 06 35 13.5 -0.8
HIA LR LR
comp=Z,27µm,21.0s,MS6.7
INK Inuvik 89.13 13 *e*P **P 06 35 01.4 -1.4**
INK pmax pmax
comp=Z,260nm,1.2s
INK Inuvik 89.13 13 *e*P **P 06 35 01.4 -1.4**
comp=Z,260nm,1.2s,mb6.4
NICH Los Niches 89.14 126⇓*e*P **P 06 35 03.4 +0.5**
KSU1 Kansas State U 89.46 49 *e*P **P 06 35 03.4 -0.9**
GYA Guiyang 89.78 298⇓*i*P **P 06 35 07.5 +1.7**
GYA AP pP 06 35 21.0 +2.9
GYA SKS 06 45 30.3
GYA AMB AMB
comp=Z,220nm,1.1s,mb6.4
GYA AMB AMB
comp=Z,11µm,10.0s
GYA LR LR
comp=N,9µm,18.3s,MS6.4
GYA LR LR
comp=E,13µm,21.9s,MS6.4
GYA LR LR
comp=Z,24µm,24.5s,MS6.5
CAO Cobano 89.81 80⇑*e*P **P 06 35 07.0 +1.1**
RIN3 Volcan Rincon 89.87 79 *e*P **P 06 35 07.3 +1.1**
NRGR Nerungri 89.92 330 *e*P **P 06 35 03.5 -3.0**
CLNS Chul'man 89.94 331 *e*P **P 06 35 06.3 -0.3**
CLNS *e**PP pP 06 35 16.2 -2.7
CLNS pmax pmax
comp=Z,211nm,1.0s,mb6.4
CLNS pmax pmax
comp=N,137nm,1.3s
CLNS pmax pmax
comp=E,93nm,1.3s
CLNS MLR MLR
comp=E,10µm,19.0s,MS6.3
CLNS MLR MLR
comp=Z,11µm,19.0s,MS6.3
CLNS MLR MLR
comp=N,5µm,18.0s,MS6.3
LIM1 Limonal 89.96 79 *e*P **P 06 35 06.8 +0.1**
KKTK Khon Kaen 90.10 287 P **P 06 35 09.0 +1.7**
comp=N,370nm,1.0s,mb6.7
MIAR Mount Ida 90.11 54 PFAKE 06 35 20.0 +13
MIAR LR LR
comp=Z,24µm,19.0s,MS6.6
JTS JuntasAbangare 90.12 79 P **P 06 35 08.3 +0.9**
comp=Z,5µm,1.1s
JTS JuntasAbangare 90.12 79 P **P 06 35 08.2 +0.7**
comp=Z,594nm,1.0s,mb6.9,baz=308,slow=2.9,SNR=135
JTS JuntasAbangare 90.12 79 P **P 06 35 08.2 +0.8**
JTS pmax pmax
comp=Z,2µm,1.3s
JTS JuntasAbangare 90.12 79 *e*P **P 06 35 07.8 +0.4**
comp=Z,2µm,1.5s,mb7.3
JTS LR LR
comp=Z,8µm,22.0s,MS6.1
CLCH Cerro Calan 90.23 125⇓*e*P **P 06 35 08.8 +0.8**
LMEL Las Melosas 90.33 125⇓*e*P **P 06 35 09.2 +0.7**
EPA Esparza 90.37 80⇑*e*P **P 06 35 10.4 +1.8**
VACR Volcan Arenal 90.44 79⇓*e*P **P 06 35 09.6 +0.7**
FCH Farellones 90.45 125⇓*e*P **P 06 35 10.2 +1.3**
CMCH Combarbala 90.61 123⇓*e*P **P 06 35 10.2 +0.4**
YKW3 Yellowknife Ar 90.72 23 *e*P **P 06 35 09.6 -0.6**
YAK Yakutsk 90.75 336*d i*P **P 06 35 08.3 -2.1**
YAK *e**PP pP 06 35 18.7 -4.0
YAK *e* 06 38 53.3
YAK *i* S SKSac 06 45 37.3 -1.6
YAK *e*SS SS 06 52 01.0 -5.2
YAK pmax pmax
comp=Z,230nm,1.1s,mb6.4
YAK pmax pmax
comp=N,40nm,1.2s
YAK pmax pmax
comp=E,80nm,1.5s
YAK pmax pmax
comp=Z,2µm,3.4s
YAK pmax pmax
comp=N,1µm,3.6s
YAK pmax pmax
comp=E,600nm,2.3s
YAK Yakutsk 90.75 336 *e*P **P 06 35 08.8 -1.5**
comp=E,429nm,1.2s,mb6.7
YAK *e*pP pP 06 35 19.6 -3.0
YAK LR LR
comp=Z,15µm,21.0s,MS6.4
HHC Hu-ho-hao-te 90.82 312⇓*i*P **P 06 35 11.5 +0.8**
HHC AP pP 06 35 25.0 +2.0
HHC XP sP 06 35 30.0 +2.5
HHC PP PP 06 38 50.0 +3.3
HHC SKS 06 45 38.0
HHC S S 06 46 03.0 -1.3
HHC XS sS 06 46 24.8 -0.1
HHC PS PS 06 47 20.0 +3.2
HHC SS SS 06 52 09.8 +2.5
HHC AMB AMB
comp=Z,158nm,1.0s,mb6.3
HHC AMB AMB
comp=Z,8µm,4.3s
HHC LR LR
comp=N,6µm,22.4s,MS6.2
HHC LR LR
comp=E,8µm,19.2s,MS6.2
HHC LR LR
comp=Z,13µm,23.5s,MS6.3
OCM Ochomogo 90.95 80⇓*e*P **P 06 35 13.7 +2.4**
TLL Tololo Astrono 91.11 122⇓*e*P **P 06 35 12.9 +0.9**
UALR University of 91.14 54 *e*P **P 06 35 12.2 0.0**
comp=Z,161nm,0.9s,mb6.3
EFI East Falkland 91.15 145 P **P 06 35 12.6 +0.4**
comp=Z,2µm,2.1s,mb7.0,SNR=7.4
EFI East Falkland 91.15 145 *e*P **P 06 35 12.7 +0.5**
EFI LR LR
comp=Z,17µm,20.0s,MS6.5
VTU Volcan Turrial 91.17 80 *e*P **P 06 35 14.4 +2.1**
ECSD EROS,Sioux Fal 91.18 45 *e*P **P 06 35 10.4 -1.9**
ECSD *e*pP pP 06 35 22.8 -1.9
ATAH Atahualpa 91.48 98 P **P 06 35 16.4 +2.6**
comp=Z,111nm,1.2s,mb6.1,baz=248,slow=3.7,SNR=35
NNA Nana 91.49 103 P **P 06 35 14.9 +1.1**
comp=Z,827nm,2.2s,mb6.7,SNR=15
NNA Nana 91.49 103 P **P 06 35 14.2 +0.5**
comp=Z,86nm,1.1s,mb6.0,baz=255,slow=7.8,SNR=14
NNA Nana 91.49 103 *e*P **P 06 35 14.0 +0.2**
NNA LR LR
comp=Z,6µm,19.0s,MS6.0
VNA3 Neumayer Olymp 91.53 174⇓*i*P **P 06 35 13.4 -0.6**
VNA3 *e* 06 35 14.5
VNA3 *e* pP 06 35 25.3 -1.0
VNA3 *e* pP 06 35 28.0 +1.7
VNA3 *e* 06 35 34.5
VNA3 *e* 06 52 34.0
VNA3 *e* 06 52 38.9
VNA3 *e* 06 52 44.0
LCO Las Campanas 91.59 121⇓*e*P **P 06 35 15.4 +1.1**
SNAA Sanae 91.63 177 P **P 06 35 13.6 -0.8**
comp=Z,31nm,1.0s,mb5.6,baz=206,slow=4.2,SNR=123
SNAA PKKPbc PKKPbc 06 52 33.5 -0.1
comp=Z,4.4nm,1.1s,baz=3.2,slow=2.9,SNR=8.0
SNAA PKPPKP 07 00 39.7
comp=Z,3.3nm,1.1s,baz=71,slow=0.7,SNR=7.4
SNAA Sanae 91.63 177⇓*i*P **P 06 35 13.7 -0.7**
SNAA *e* 06 35 14.8
SNAA *e* pP 06 35 25.5 -1.2
SNAA *e* pP 06 35 27.9 +1.2
SNAA *e* 06 35 34.7
SNAA *e* 06 52 31.7
SNAA *e* 06 52 37.7
SNAA *e* 06 52 44.1
SNAA Sanae 91.63 177 *e*P **P 06 35 13.6 -0.8**
SYO Syowa Base 91.67 191⇑*i*P **P 06 35 13.0 -1.6**
SYO Syowa Base 91.67 191⇓*i*X PcP 06 35 18.2 +2.7
CTCR Cotoan 91.80 81 *e*P **P 06 35 17.4 +2.2**
BTO Baotou 91.83 312 *e*P **P 06 35 15.5 +0.1**
BTO AMB AMB
comp=Z,95nm,2.7s,mb5.7
VNA1 Neumayer--Stat 92.23 175⇓*i*P **P 06 35 17.4 +0.2**
VNA1 *e* 06 35 18.8
VNA1 *e* pP 06 35 28.5 -1.0
VNA1 *e* pP 06 35 31.0 +1.5
VNA1 *e* 06 35 39.2
VNA1 *e* 06 52 32.4
VNA1 *e* 06 52 38.1
VNA1 *e* 06 52 43.3
FFC Flin Flon 92.39 33 P **P 06 35 15.8 -2.1**
comp=Z,687nm,1.2s,mb6.9,SNR=13
FFC Flin Flon 92.39 33 *e*P **P 06 35 16.1 -1.8**
FFC pmax pmax
comp=Z,283nm,1.4s,mb6.4
FFC MLR MLR
comp=Z,10µm,20.0s,MS6.3
FFC Flin Flon 92.39 33 *e*P **P 06 35 16.1 -1.9**
comp=Z,283nm,1.4s,mb6.4
FFC LR LR
comp=Z,10µm,20.0s,MS6.3
CFAA Coronel Fontan 92.68 124 P **P 06 35 20.0 +0.7**
comp=Z,11nm,0.8s,mb5.3,baz=251,slow=3.7,SNR=82
CFAA PKPPKP 07 00 39.6
comp=Z,0.7nm,1.0s,baz=112,slow=1.0,SNR=5.4
HBAR Harrisburg 92.70 54 *e*P **P 06 35 19.4 0.0**
KMI Kunming 92.74 295 P **P 06 35 21.8 +2.2**
KMI AP pP 06 35 31.8 -0.1
KMI XP sP 06 35 35.0 -1.4
KMI PP PP 06 39 07.0 +5.2
KMI PPP 06 41 03.5
KMI SKS 06 45 51.3
KMI S S 06 46 20.3 -1.4
KMI XS sS 06 46 36.0 -6.3
KMI PS PS 06 47 38.0 -0.1
KMI SS SS 06 52 34.0 -0.9
KMI SSS 06 56 14.0
KMI AMB AMB
comp=Z,144nm,2.0s,mb6.1
KMI AMB AMB
comp=Z,8µm,8.0s
KMI LR LR
comp=N,4µm,20.9s,MS6.3
KMI LR LR
comp=E,12µm,20.9s,MS6.3
KMI LR LR
comp=Z,39µm,44.6s
KMI Kunming 92.74 295 P **P 06 35 21.7 +2.1**
KMI *PP pP 06 35 31.7 -0.2
KMI *SP sP 06 35 35.0 -1.4
KMI 06 39 06.9
KMI PPP 06 41 03.4
KMI 06 45 51.2
KMI S S 06 46 20.3 -1.4
KMI PS PS 06 47 38.0 -0.1
KMI SS SS 06 52 33.9 -1.0
KMI SSS 06 56 13.9
KMI Kunming 92.74 295 P **P 06 35 21.7 +2.1**
KMI pP pP 06 35 31.7 -0.2
KMI sP sP 06 35 35.0 -1.4
KMI PP PP 06 39 06.9 +5.1
KMI PPP 06 41 03.4
KMI SKS 06 45 51.2
KMI S S 06 46 20.3 -1.4
KMI sS sS 06 46 36.1 -6.2
KMI PS PS 06 47 38.0 -0.1
KMI SS SS 06 52 33.9 -1.0
KMI SSS 06 56 13.9
NANT Nan 92.75 289⇓P **P 06 35 18.0 -1.6**
comp=Z,631nm,1.0s,mb7.0
MAIT Maitri 92.80 181 *e*P **P 06 35 19.6 -0.2**
NVL N'lazarevskaya 92.80 181*d i*P **P 06 35 18.7 -1.2**
NVL *i* *PP pP 06 35 28.7 -3.5
NVL *e* 06 39 04.3
NVL *i* S SKSac 06 45 49.1 -1.4
NVL *i* 06 46 22.9
NVL *i* PS PS 06 47 35.3 -3.4
NVL pmax pmax
comp=Z,725nm,1.8s,mb6.8
NVL MLR MLR
comp=Z,53µm,17.9s,MS7.0
SCIA State Center 92.88 47 *e*P **P 06 35 19.3 -0.9**
MET Memphis--Engin 93.13 54 *e*P **P 06 35 21.8 +0.4**
MET *e*pP pP 06 35 33.2 -0.4
GNAR Gosnell 93.32 54 *e*P sP 06 35 41.9 +2.8
OXF Oxford 93.35 55 PFAKE 06 35 30.0 +7.6
OXF LR LR
comp=Z,37µm,20.0s,MS6.8
CD2 Chengdu 93.57 301⇑*i*P **P 06 35 24.5 +1.1**
CD2 AP pP 06 35 38.0 +2.3
CD2 XP sP 06 35 43.3 +3.1
CD2 PP PP 06 39 12.5 +4.2
CD2 SKS 06 45 53.8
CD2 S S 06 46 26.8 -2.2
CD2 XS sS 06 46 49.8 +0.2
CD2 PS PS 06 47 51.8 +4.6
CD2 SS SS 06 52 49.3 +2.5
CD2 AMB AMB
comp=Z,40nm,1.3s,mb5.7
CD2 AMB AMB
comp=Z,5µm,9.6s
CD2 LR LR
comp=E,6µm,18.0s
CD2 LR LR
comp=Z,14µm,22.6s,MS6.4
CIT Chita 93.69 323⇓*i*P **P 06 35 23.9 -0.1**
CIT *e* 06 39 11.0
CIT *e* 06 45 59.6
CIT *e* 06 52 49.3
CIT pmax pmax
comp=Z,1µm,3.5s
PARMO Parma 93.74 53 *e*P **P 06 35 23.9 -0.3**
PARMO *e*pP pP 06 35 35.9 -0.6
GLAT Glass 93.98 53 *e*P **P 06 35 25.9 +0.6**
SLM Saint Louis 93.98 51 P **P 06 35 25.9 +0.6**
SLM pmax pmax
comp=Z,120nm,1.0s,mb6.3
SLM Saint Louis 93.98 51 *e*P **P 06 35 24.3 -1.0**
comp=Z,174nm,1.1s,mb6.4
ULM Lac du Bonnet 94.04 39 P **P 06 35 23.2 -2.3**
comp=Z,74nm,1.0s,mb6.1,baz=246,slow=4.8,SNR=44
ULM LR LR 07 11 05.9
comp=Z,53µm,21.4s,MS7.0,baz=253,slow=31
ULM Lac du Bonnet 94.04 39 *e*P **P 06 35 23.3 -2.3**
comp=Z,192nm,1.2s,mb6.4
ULM LR LR
comp=Z,78µm,21.0s,MS7.1
CM31 Chiang Mai Arr 94.25 288 *e*P **P 06 35 29.5 +3.0**
comp=Z,18nm,0.7s,mb5.6
CM31 LR LR
comp=Z,9µm,19.0s,MS6.3
UTMT University of 94.33 54 *e*P **P 06 35 26.6 -0.2**
comp=Z,455nm,1.0s,mb6.9
CHG Chiang Mai 94.35 288 ⇓P **P 06 35 28.1 +1.1**
comp=Z,62nm,1.3s,mb5.9
CHTO Chiang Mai 94.35 288 *e*P **P 06 35 28.8 +1.8**
CHTO pmax pmax
comp=Z,559nm,2.0s,mb6.7
CHTO MLR MLR
comp=Z,7µm,21.0s,MS6.1
CHTO Chiang Mai 94.35 288 *e*P **P 06 35 28.8 +1.8**
comp=Z,559nm,2.0s,mb6.7
CHTO LR LR
comp=Z,7µm,21.0s,MS6.1
SIUC Southern Illin 94.47 52 *e*P **P 06 35 27.1 -0.4**
comp=Z,405nm,1.5s,mb6.6
SIUC *e*pP pP 06 35 38.6 -1.2
PLAL Pickwick Lake 94.54 55 *e*P **P 06 35 27.9 0.0**
comp=Z,29nm,0.8s,mb5.8
PLAL LR LR
comp=Z,24µm,19.0s,MS6.7
TRQA Tornquist 94.87 132 *e*P **P 06 35 30.6 +1.2**
comp=Z,197nm,1.5s,mb6.3
TRQA *e*PP PP 06 39 17.8 -0.7
TRQA LR LR
comp=Z,43µm,20.0s,MS6.9
LZH Lanzhou 95.01 306 P **P 06 35 31.0 +1.0**
LZH AP pP 06 35 41.3 -1.0
LZH XP sP 06 35 48.3 +1.5
LZH PP PP 06 39 24.0 +4.5
LZH SKS 06 46 07.3
LZH S S 06 46 42.0 +0.5
LZH XS sS 06 47 02.5 +0.3
LZH PS PS 06 48 11.0 +7.9
LZH AMB AMB
comp=Z,340nm,1.4s,mb6.6
LZH AMB AMB
comp=Z,2µm,6.4s
LZH LR LR
comp=E,18µm,18.4s
LZH LR LR
comp=Z,31µm,19.3s,MS6.8
LZH Lanzhou 95.01 306 P **P 06 35 31.1 +1.1**
LZH *PP pP 06 35 41.3 -1.0
LZH *SP sP 06 35 48.2 +1.4
LZH 06 39 24.0
LZH 06 46 07.3
LZH S S 06 46 42.0 +0.5
LZH PS PS 06 48 11.0 +7.9
LZH SS SS 06 53 19.1 +12
LZH Lanzhou 95.01 306 P **P 06 35 31.1 +1.1**
LZH pP pP 06 35 41.3 -1.0
LZH sP sP 06 35 48.2 +1.4
LZH PP PP 06 39 24.0 +4.5
LZH SKS 06 46 07.3
LZH S S 06 46 42.0 +0.5
LZH sS sS 06 47 02.4 +0.2
LZH PS PS 06 48 11.0 +7.9
LZH SS SS 06 53 19.1 +12
WVT Waverly 95.06 54 *e*P **P 06 35 29.5 -0.7**
WVT pmax pmax
comp=Z,58nm,1.1s,mb5.9
WVT MLR MLR
comp=Z,30µm,20.0s,MS6.8
WVT Waverly 95.06 54 *e*P **P 06 35 29.5 -0.8**
comp=Z,58nm,1.1s,mb5.9
WVT LR LR
comp=Z,30µm,20.0s,MS6.8
JFWS Jewell Farm 95.28 47 *e*P **P 06 35 29.8 -1.4**
JFWS *e* 06 39 19.0
JFWS pmax pmax
comp=Z,88nm,0.6s,mb6.4
JFWS MLR MLR
comp=Z,41µm,21.0s,MS6.9
JFWS Jewell Farm 95.28 47 *e*P **P 06 35 29.8 -1.4**
comp=Z,88nm,0.6s,mb6.4
JFWS *e*PP PP 06 39 19.0 -2.6
JFWS LR LR
comp=Z,41µm,21.0s,MS6.9
LVC Limon Verde 95.30 115 P **P 06 35 33.9 +2.6**
comp=Z,74nm,1.0s,mb6.0,baz=252,slow=4.3,SNR=42
LVC PKKPbc PKKPbc 06 52 24.9 +0.9
comp=Z,15nm,1.0s,baz=52,slow=1.8,SNR=8.8
LVC Limon Verde 95.30 115 *e*P **P 06 35 33.7 +2.4**
comp=Z,367nm,1.4s,mb6.6
LVC *e*PP PP 06 39 26.4 +4.7
LVC LR LR
comp=Z,24µm,19.0s,MS6.7
BOD Bodaibo 95.65 329 *e*P **P 06 35 30.9 -2.0**
BOD pmax pmax
comp=Z,75nm,1.4s,mb5.9
USIN University of 95.71 52 *e*P **P 06 35 32.9 -0.3**
USIN *e*pP pP 06 35 44.9 -0.7
EYMN Ely 95.98 42 *e*P **P 06 35 32.9 -1.6**
comp=Z,6.6nm,1.2s
EYMN LR LR
comp=Z,3µm,19.0s,MS5.7
TIXI Tiksi 96.53 344 *e*P **P 06 35 32.9 -4.0**
TIXI *e* 06 39 26.0
TIXI *e* 06 46 06.1
TIXI *e*SS SS 06 53 27.9 -0.9
TIXI *e*SSS 06 57 06.0
TIXI pmax pmax
comp=Z,64nm,1.1s,mb6.0
TIXI pmax pmax
comp=N,14nm,1.3s
TIXI pmax pmax
comp=E,25nm,1.3s
TIXI pmax pmax
comp=Z,2µm,4.3s
TIXI MLR MLR
comp=N,6µm,20.0s,MS6.3
TIXI MLR MLR
comp=E,7µm,20.0s,MS6.3
TIXI MLR MLR
comp=Z,19µm,20.0s,MS6.6
TIXI Tiksi 96.53 344 *i* Pr **P 06 35 35.1 -1.8**
SONM Songino Array 96.63 318 P **P 06 35 37.0 -0.4**
comp=Z,11nm,0.9s,mb5.3,baz=129,slow=2.7,SNR=43
SONM PKPPKP 07 00 32.3
comp=Z,0.8nm,0.8s,baz=199,slow=1.7,SNR=4.1
SONM LR LR 07 18 42.1
comp=Z,9µm,19.6s,MS6.3,baz=114,slow=35
WCI Wyandotte Cave 96.83 52 *e*P **P 06 35 37.5 -0.8**
WCI *e* 06 39 32.5
WCI pmax pmax
comp=Z,28nm,1.0s,mb5.7
WCI MLR MLR
comp=Z,32µm,20.0s,MS6.8
WCI Wyandotte Cave 96.83 52 *e*P **P 06 35 37.5 -0.8**
comp=Z,28nm,1.0s,mb5.7
WCI *e*PP PP 06 39 32.5 -1.1
WCI LR LR
comp=Z,32µm,20.0s,MS6.8
BLO Bloomington 96.91 51 *e*P **P 06 35 37.1 -1.5**
BLO *e* 06 39 32.5
BLO pmax pmax
comp=Z,24nm,0.7s,mb5.7
BLO Bloomington 96.91 51 *e*P **P 06 35 37.1 -1.5**
comp=Z,24nm,0.7s,mb5.7
BLO *e*PP PP 06 39 32.5 -1.7
FCC Fort Churchill 97.94 31 P **P 06 35 43.1 -0.2**
FCC pmax pmax
comp=Z,220nm,1.3s,mb6.5
LPAZ La Paz 98.15 110 P **P 06 35 46.6 +2.4**
comp=Z,32nm,1.0s,mb5.8,baz=282,slow=3.2,SNR=15
LPAZ PKKPbc PKKPbc 06 52 17.0 +0.8

comp=Z,4.0nm,0.9s,baz=60,slow=4.1,SNR=6.1
LPAZ PKPPKP 07 00 28.4
comp=Z,1.6nm,1.0s,baz=46,slow=5.9,SNR=3.9
LPAZ LR LR 07 10 51.8
comp=Z,26µm,20.8s,MS6.7,baz=253,slow=30
LPAZ La Paz 98.15 110 P P 06 35 46.6 +2.4
LPAZ PKKPbc PKKPbc 06 52 17.0 +0.8
LPAZ P'P' 07 00 28.4
LPAZ LR LR 07 10 51.9
DWPF Disney 98.16 63 *e*P P 06 35 45.8 +1.5
comp=Z,142nm,1.3s,mb6.3
DWPF LR LR
comp=Z,12µm,22.0s,MS6.3
PBA Port Blair 98.21 280 *e*x x 06 35 35.5
PBA *e*x x 06 35 39.0
comp=Z,128nm,1.4s
PBA *e*x x 06 45 05.9
TZTN Tazewell 98.50 54 *e*P P 06 35 45.4 -0.4
ROSC El Rosal 98.73 88 P P 06 35 49.8 +3.0
comp=Z,1.5nm,0.4s,baz=105,slow=7.9,SNR=11
ROSC PKiKP PKiKP 06 40 18.6 +0.6
comp=Z,5.1nm,0.9s,baz=94,slow=19,SNR=4.1
ROSC LR LR 07 11 16.3
comp=Z,13µm,21.5s,MS6.4,baz=223,slow=30
ROSC El Rosal 98.73 88 *e*P P 06 35 48.6 +1.8
GTA Gaotai 98.97 308 ⇓P P 06 35 48.5 +0.6
GTA AP pP 06 35 59.5 -0.7
GTA XP sP 06 36 03.5 -1.2
GTA PP PP 06 39 52.8 +2.8
GTA SKS 06 46 21.5
GTA S S 06 47 11.0 -4.5
GTA XS sS 06 47 30.0 -6.2
GTA PS PS 06 48 48.3 +2.1
GTA SS SS 06 54 05.0 +1.8
GTA AMB AMB
comp=Z,43nm,1.6s,mb5.7
GTA AMB AMB
comp=Z,2µm,9.2s
GTA LR LR
comp=N,2µm,19.9s,MS6.4
GTA LR LR
comp=E,13µm,21.8s,MS6.4
GTA LR LR
comp=Z,19µm,21.4s,MS6.6
IRK Irkutsk 99.18 322⇓*i*P P 06 35 47.6 -1.2
IRK *e* 06 39 47.1
IRK pmax pmax
comp=Z,339nm,3.2s
LPA La Plata 99.19 131*ce*P P 06 35 49.0 +0.1
LPA *e*pP pP 06 35 58.0 -3.2
LPA *e*pSKS 06 46 37.0
LPA *e*pS 06 47 29.0
LPA
comp=Z,27µm,20.0s
ZAK Zakamensk 99.30 320⇑*e*P P 06 35 48.2 -1.2
ZAK pmax pmax
comp=Z,21nm,1.8s,mb5.4
TLY Talaya 99.41 321 ⇑P P 06 35 51.4 +1.5
SNR=32
TLY Talaya 99.41 321 *e*P P 06 35 49.1 -0.8
TLY *e* 06 46 29.1
TLY *e*PPS 06 48 55.5
TLY *e* 06 54 06.7
TLY pmax pmax
comp=Z,69nm,1.4s,mb6.0
TLY MLR MLR
comp=Z,15µm,19.0s,MS6.5
TLY Talaya 99.41 321 *e*P P 06 35 49.2 -0.6
comp=Z,40nm,1.1s,mb5.9
TLY LR LR
comp=Z,4µm,20.0s,MS5.9
AAM Ann Arbor 99.80 49 P Pdif 06 35 52.3 +0.7
AAM pmax pmax
comp=Z,81nm,1.1s,mb6.1
AAM Ann Arbor 99.80 49 *e*Pdif Pdif 06 35 52.0 +0.4
AAM LR LR
comp=Z,37µm,20.0s,MS6.9
ACSO Alum Creek Sta 99.82 51 *e*Pdif Pdif 06 35 51.1 -0.6
ACSO LR LR
comp=Z,22µm,19.0s,MS6.7
IMP Imphal 100.37 293 *e*x x 06 36 03.0
IMP *e*x x 06 40 26.0
ELN Prospectdale 100.84 54 *e*Pdif Pdif 06 35 57.1 +0.9
FWV Forest Hill 100.87 54 *e*Pdif Pdif 06 35 56.3 -0.1
MOY Mondy 101.01 321 *e*P Pdif 06 35 56.3 -0.7
BLA Blacksburg 101.10 54 P Pdif 06 36 00.4 +3.0
BLA Blacksburg 101.10 54 *e*Pdif Pdif 06 35 57.0 -0.3
comp=Z,1.4nm,1.0s
BLA LR LR
comp=Z,2µm,20.0s,MS5.7
HLGC Holguin 101.18 71 *e*P Pdif 06 35 56.2 -1.5
RCC Rio Carpintero 101.30 72 *e*P Pdif 06 35 58.9 +0.6
baz=250
RCC *e*S SKSac 06 46 35.6 +1.3
comp=N,6µm,20.1s
RCC *e*
comp=E,12µm,21.6s
MCWV Mont Chateau 102.05 52 *e*Pdif Pdif 06 36 01.8 +0.2
MCWV LR LR
comp=Z,37µm,20.0s,MS6.9
SHL Shillong 102.35 293 *e*P Pdif 06 36 03.3 +0.3
RES Resolute Bay 102.54 15 *e*P Pdif 06 36 02.6 -1.2
RES pmax pmax
comp=Z,160nm,1.7s
RES Resolute Bay 102.54 15 *e*Pdif Pdif 06 36 02.6 -1.2
comp=Z,160nm,1.7s
AGT Agartala 102.55 291 *e*x x 06 35 12.0
MASC Masc 102.68 73 *e*P Pdif 06 36 09.1 +4.7
SDV Santo Domingo 103.34 85 Pdiff Pdif 06 36 10.6 +3.3
comp=Z,6.7nm,0.8s,baz=303,slow=13,SNR=6.7
SDV PKiKP PKiKP 06 40 26.0 -0.3
comp=Z,11nm,1.0s,baz=295,slow=0.1,SNR=6.0
SDV Santo Domingo 103.34 85 *e*Pdif Pdif 06 36 08.7 +1.4
comp=Z,48nm,1.6s
SDV *e*PP PP 06 40 26.4 +3.4
SDV LR LR
comp=Z,6µm,21.0s,MS6.1
CPUP Villa Florida 103.54 123 Pdiff Pdif 06 36 09.6 +1.4
comp=Z,6.7nm,0.9s,baz=237,slow=5.6,SNR=13
CBN Corbin 103.66 54 PFAKE 06 36 20.0 +11
CBN LR LR
comp=Z,36µm,20.0s,MS6.9
SSPA Standing Stone 103.71 51 *e*Pdif Pdif 06 36 08.8 -0.1
SSPA LR LR
comp=Z,27µm,21.0s,MS6.8
LSA Lhasa 103.84 297 *e*P Pdif 06 36 10.7 +1.1
LSA MLR MLR
comp=Z,7µm,21.0s,MS6.2
SIV San Ignacio 104.59 112 Pdiff Pdif 06 36 14.9 +2.0
comp=Z,5.8nm,1.0s,baz=244,slow=4.4,SNR=14
SIV PKKPbc PKKPbc 06 51 57.6 0.0
comp=Z,8.6nm,1.0s,baz=67,slow=2.5,SNR=13
MVL Millersville 104.76 52 *e*Pdif Pdif 06 36 14.1 +0.5
MVL *e*PKPdf PKiKP 06 40 30.3 +1.4
CAL Calcutta 104.89 289 *e*P Pdif 06 36 12.8 -1.4
CAL AMP 06 36 30.6
comp=Z,1µm,0.3s
CAL *e*x x 06 40 24.5
BINY Binghamton 105.37 50 *e*Pdif Pdif 06 36 16.8 +0.4
comp=Z,26nm,1.2s
BINY LR LR
comp=Z,54µm,20.0s,MS7.1
LONY Lake Ozonia 106.71 48 *e*Pdif Pdif 06 36 21.5 -0.8
PAL Palisades 106.75 51 P Pdif 06 36 23.6 +1.1
PAL pmax pmax
comp=Z,26nm,1.2s
PAL Palisades 106.75 51 *e*Pdif Pdif 06 36 22.1 -0.4
NCB Newcomb 106.89 48 PFAKE 06 40 40.0 +7.2
NCB LR LR
comp=Z,32µm,21.0s,MS6.8
BOK Bokaro 107.34 290 *e*x x 06 40 35.1
GUN Gumba 108.07 294 *e*P PKiKP 06 40 36.2 +1.1
comp=Z,1µm,2.0s
GUN Gumba 108.07 294 *e*P Pdif 06 36 30.3 +1.9
PKI Pulchoki 108.43 294 *e*P PKiKP 06 40 36.5 +0.8
comp=Z,774nm,2.1s
PKI Pulchoki 108.43 294 *e*P Pdif 06 36 31.5 +1.6
VIS Vishakhapatnam 108.49 284 *e*x x 06 40 36.4
PALK Pallekele 108.56 272 PFAKE 06 40 50.0 +14
PALK LR LR
comp=Z,3µm,21.0s,MS5.8
LBNH Lisbon 108.56 48 *e*Pdif Pdif 06 36 31.6 +1.1
LBNH *e*PKPdf PKiKP 06 40 35.2 -0.8
LBNH LR LR
comp=Z,45µm,20.0s,MS7.0

KKN Kakani 108.58 294 *e*P PKiKP 06 40 36.3 +0.3
comp=Z,281nm,1.7s
KKN Kakani 108.58 294 *e*P Pdif 06 36 32.1 +1.5
WMQ Urumqi 108.66 311 PDIF Pdif 06 36 31.0 0.0
WMQ PP PP 06 41 06.5 +4.2
WMQ SS SS 06 56 16.0 -0.3
WMQ PP PP
comp=Z,2µm,7.4s
WMQ LR LR
comp=N,16µm,24.0s,MS6.6
WMQ LR LR
comp=E,15µm,26.0s,MS6.6
WMQ LR LR
comp=Z,18µm,22.6s,MS6.6
HRV Harvard--Oak R 108.67 50 PFAKE 06 40 50.0 +14
HRV LR LR
comp=Z,47µm,19.0s,MS7.1
DMN Daman 108.70 294 *e*P PKiKP 06 40 36.9 +0.7
comp=Z,531nm,1.9s
DMN Daman 108.70 294 *e*P Pdif 06 36 32.7 +1.5
GKN Gorkha 109.17 294 *e*P PKiKP 06 40 37.5 +0.4
comp=Z,969nm,2.2s
GKN Gorkha 109.17 294 *e*P Pdif 06 36 34.2 +0.9
SJG San Juan 109.70 76 PKiKP PKiKP 06 40 38.0 -0.1
comp=Z,25nm,1.0s,baz=314,slow=19,SNR=5.4
SJG San Juan 109.70 76 PKPdf PKiKP 06 40 38.0 -0.1
SJG LR LR
comp=Z,12µm,19.0s,MS6.5
KOLN Koldanda 110.04 294 *e*P PKiKP 06 40 38.8 +0.1
comp=Z,245nm,1.6s
KOLN Koldanda 110.04 294 *e*P Pdif 06 36 37.4 +0.3
MDRS Chennai 110.39 278 *e*x x 06 36 41.4
ZAL Zalesovo 111.01 322 Pdiff Pdif 06 36 40.7 -0.7
comp=Z,2.5nm,0.7s,baz=41,slow=6.6,SNR=12
ZAL PKiKP PKiKP 06 40 39.3 -1.3
comp=Z,9.8nm,0.9s,baz=331,slow=1.9,SNR=18
ZAL PKKPbc PKKPbc 06 51 38.0 +0.6
comp=Z,2.2nm,0.6s,baz=199,slow=4.5,SNR=3.5
ZAL Zalesovo 111.01 322 P Pdif 06 36 40.7 -0.7
ZAL 06 40 39.3
NVS Novosibirsk 111.90 323 *e*P Pdif 06 36 44.2 -1.2
NVS *e* 06 40 41.5
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,20nm,1.7s
NVS pmax pmax
comp=Z,26nm,1.7s
DGAR Diego Garcia 111.92 255 PFAKE 06 40 50.0 +7.7
DGAR LR LR
comp=Z,7µm,22.0s,MS6.2
SCHQ Schefferville 112.16 37 PKiKP PKiKP 06 40 42.3 -0.4
comp=Z,6.7nm,1.1s,baz=48,slow=1.7,SNR=3.4
SCHQ Schefferville 112.16 37 PKPdf PKiKP 06 40 42.3 -0.4
SCHQ LR LR
comp=Z,43µm,19.0s,MS7.1
JBP Jabalpur 112.57 289 *e*P PKiKP 06 40 43.4 -0.1
JBP *e*x x 06 48 43.5
MKAR Makanchi Array 112.62 314 Pdiff Pdif 06 36 48.0 -0.6
comp=Z,2.1nm,0.9s,baz=78,slow=6.3,SNR=6.3
MKAR PKiKP PKiKP 06 40 42.9 -0.7
comp=Z,40nm,0.9s,baz=46,slow=3.5,SNR=45
MKAR PKKPbc PKKPbc 06 51 32.0 -0.1
comp=Z,5.5nm,0.8s,baz=241,slow=3.0,SNR=7.7
MKAR Makanchi Array 112.62 314 P Pdif 06 36 48.0 -0.6
MKAR 06 40 42.9
MKAR Makanchi Array 112.62 314 Pdif Pdif 06 36 48.0 -0.6
MKAR PKPdf PKiKP 06 40 42.9 -0.7
MKAR PKKPbc PKKPbc 06 51 32.0 -0.1
HYB Hyderabad 112.89 282 *i* Pdif Pdif 06 36 52.0 +2.2
HYB *e*PKP PKiKP 06 40 43.0 -1.1
HYB *e*PP PP 06 41 32.0 -0.7
HYB *e*SKS SKSac 06 47 18.0 -7.0
HYB *e*SKKS SKKSac 06 48 34.0 +2.3
HYB *e*Sdif Sdif 06 49 12.0 +0.4
HYB *e* 06 49 26.0
HYB *e* 06 51 12.0
HYB *e*PKKP PKKPbc 06 51 33.0 +1.8
HYB LR LR 07 20 28.0
comp=Z,45nm,30.0s
HYB Hyderabad 112.89 282 *e*PKIKP PKiKP 06 40 43.0 -1.1
NGP Nagpur 113.10 286 *e*P PKiKP 06 40 43.8 -0.8
BBSR BB Station 113.14 61 PFAKE 06 41 00.0 +15
BBSR LR LR
comp=Z,16µm,21.0s,MS6.6
AKL Akola 114.90 285 *e*P PKiKP 06 40 48.0 0.0
AKL *i* x x 06 48 47.9
BHPL Bhopal 114.91 288 *e*P PKiKP 06 40 48.3 +0.3
BHPL AMb AMB 06 40 50.2
comp=Z,54nm,1.1s
AGRA Agra 114.95 293 *e*P PKiKP 06 40 48.0 -0.1
KLP Kalpa 115.11 297 *e*P PKiKP 06 40 48.6 +0.3
NDI New Delhi 115.74 294 *e*P PKPdf 06 40 48.5 -1.1
NDI *e*x x 06 48 09.0
AYAN Aya Nagar 115.80 294 *e*P PKPdf 06 40 48.9 -0.8
SONA Sohna 115.82 294 *e*P PKPdf 06 40 48.4 -1.4
SMLA Simla 116.00 297 *e*P PKPdf 06 40 49.7 -0.4
BDFB Brasilia 116.13 117 PKP PKPdf 06 40 50.8 +0.4
comp=Z,13nm,0.9s,baz=182,slow=3.3,SNR=14
BDFB Brasilia 116.13 117 PKP PKPdf 06 40 50.8 +0.4
BDFB LR LR
comp=Z,34µm,19.0s,MS7.0
BAO Brasilia Array 116.16 117 PKPdf PKPdf 06 40 52.5 +2.1
SDNR Sundarnagar 116.19 297 *e*P PKPdf 06 40 50.0 -0.5
AAA Alma-Ata 116.45 310 *e*P Pdif 06 37 09.0 +3.4
AAA *e*SKS SKSdf 06 47 54.5 -5.4
BHK Bhakra 116.66 297 *e*x x 06 40 55.2
KHET Khetri 116.92 293 *e*P PKPdf 06 40 50.7 -1.2
KAD Karad 116.97 281 *e*P PKPdf 06 40 52.3 +0.3
ULHL Ulahol 117.00 309 P PKPdf 06 40 53.7 +1.7
SNR=50
KSH Kashi 117.26 306 PKP PKPdf 06 40 53.8 +1.3
KSH *e*XPKP 06 41 07.0
KSH *e*PP PP 06 42 03.5 0.0
KSH *e*PKS 06 44 28.0
KSH *e*PPP 06 44 38.3
KSH *e*SKS SKSdf 06 48 00.3 -1.1
KSH *e*SKKS SKKSac 06 48 58.3 -2.8
KSH *e*SS SS 06 58 13.3 +3.1
KSH PP PP
comp=Z,6µm,4.9s
KSH LR LR
comp=N,5µm,13.6s,MS6.5
KSH LR LR
comp=E,7µm,16.3s,MS6.5
KSH LR LR
comp=Z,13µm,20.2s,MS6.5
THN Thein Dam 117.31 298 *e*P PKPdf 06 40 53.3 +0.7
TKM2 Tokmak 2 117.45 310 P PKPdf 06 40 54.0 +1.0
SNR=46
POO Poona 117.50 283⇓*i*P PKPdf 06 40 56.0 +3.0
comp=Z,130nm,1.0s
POO *e*x x 06 41 49.4
POO *e*x x 06 57 59.0
KBS Kingsbay 117.63 359 *e*PKPd PKPdf 06 40 52.7 -0.5
KBS *e*PP PP 06 41 59.1 -6.9
KBS *e*SS SS 06 58 14.7 -0.3
KBS AMS AMS 07 23 49.9
comp=Z,6µm,25.4s,MS6.1
KBS Kingsbay 117.63 359 *e*PKPdf PKPdf 06 40 52.7 -0.5
KBS LR LR
comp=Z,11µm,22.0s,MS6.5
KZA Kyzart 117.75 309 P PKPdf 06 40 55.6 +2.1
SNR=7.8
AJM Ajmer 117.80 292 *i* P PKPdf 06 40 53.0 -0.6
KBK Karagaybulak 117.94 310 P PKPdf 06 40 55.1 +1.3
SNR=40
SUMG Summit 118.04 14 *e*PKPdf PKPdf 06 40 53.5 -0.5
CHMS Chumysh 118.07 310 P PKPdf 06 40 55.0 +0.9
SNR=22
FRU Bishkek 118.18 310 *i* PKIKP PKPdf 06 40 54.0 -0.3
FRU *e* 06 42 05.5
FRU *e* 06 47 48.0
FRU pmax pmax
comp=Z,160nm,2.0s
FRU MLR MLR
comp=Z,8µm,20.0s,MS6.3
USP Ospenovka 118.24 310 P PKPdf 06 40 55.4 +1.0
SNR=23
SPB4 Spitsbergen Ar 118.27 358 *e*PKPdf PKPdf 06 40 53.9 -0.6
AAK Ala-Archa 118.28 310 P PKPdf 06 40 55.8 +1.3
SNR=24
AAK Ala-Archa 118.28 310*d i*PKIKP PKPdf 06 40 52.9 -1.6
AAK MLR MLR

comp=Z,10µm,21.0s,MS6.4
AAK Ala-Archa 118.28 310 *e*PKPdf PKPdf 06 40 54.9 +0.4
AAK LR LR
comp=Z,3µm,22.0s,MS5.9
UCH Uchtor 118.28 309 P PKPdf 06 40 56.7 +2.2
SNR=34
DAG Danmarks Havn 118.29 7⇓*i*P PKPdf 06 40 53.6 -0.9
comp=Z,17nm,0.9s
DAG *i* 06 42 26.0
EKS2 Erkin-Say 118.81 310 P PKPdf 06 40 57.0 +1.5
SNR=34
AML Almayashu 118.90 309 P PKPdf 06 40 57.6 +1.9
SNR=24
BRVK Borovoye 119.71 322 *e*PKIKP PKPdf 06 40 56.4 -0.8
BRVK *e* 06 41 07.5
BRVK MLR MLR
comp=Z,3µm,20.0s,MS5.9
ZRNK Zerenda 120.48 322 *e*PKIKP PKPdf 06 40 57.5 -1.2
ZRNK *e* 06 41 09.0
JASL Jaisalmer 121.17 292 *e*P PKPdf 06 41 00.4 +0.4
BJO Bjornoya 121.77 356 *e*P PKPdf 06 41 01.1 -0.1
BJO *e*PP PP 06 42 33.7 -0.8
BJO1 Bjornoya 121.79 357 *e*P PKPdf 06 41 05.1 +3.8
SCO Scoresbysund 123.16 12 *i* P PKPdf 06 41 04.6 +0.7
comp=Z,56nm,1.0s
SCO *i* 06 42 40.0
TRIS Tristan da Cun 123.28 161 PFAKE 06 41 20.0 +16
TRIS LR LR
comp=Z,16µm,19.0s,MS6.7
SVE Sverdlovsk 123.86 328⇓*i*PKIKP PKPdf 06 41 03.8 -1.4
SVE *e* 06 42 47.0
SVE *e*PS PS 06 52 44.0 -2.6
SVE *e*SS SS 06 59 36.0 +1.2
SVE pmax pmax
comp=Z,280nm,1.8s
SVE MLR MLR
comp=N,2µm,20.0s,MS5.8
SVE MLR MLR
comp=E,1µm,20.0s,MS5.8
SVE MLR MLR
comp=Z,12µm,20.0s,MS6.5
JMIC Jan Mayen 124.73 7 *e*P PKPdf 06 41 09.7 +2.8
JMIC *e*PP PP 06 42 51.8 -2.7
ARU Arti 125.06 328*d i*PKIKP PKPdf 06 41 06.7 -0.8
ARU Arti 125.06 328 *e*PKPdf PKPdf 06 41 06.9 -0.6
ARU LR LR
comp=Z,4µm,21.0s,MS6.1
KEV Kevo 125.59 352 *e*pkp PKPdf 06 41 05.5 -3.0
LVZ Lovozero 125.96 348 P Pdif 06 37 42.8 -5.1
LVZ *e* 06 41 06.2
LVZ Lovozero 125.96 348⇑*i*PKP PKPdf 06 41 08.8 -0.4
ARCES ARCESS Array B 125.99 352 PKP PKPdf 06 41 08.0 -1.3
comp=Z,128nm,0.9s,baz=349,slow=1.2,SNR=78
ARCES ARCESS Array B 125.99 352 PKP PKPdf 06 41 08.0 -1.3
ARE0 ARCESS Array S 125.99 352 *e*PKPdf PKPdf 06 41 08.1 -1.2
APA Apatity 126.49 348⇓*i*PKIKP PKPdf 06 41 09.0 -1.3
APA *i* 06 41 19.8
APA *i* 06 48 21.0
APA *e*SP SP 06 53 00.0 -5.0
APA pmax pmax
comp=Z,94nm,1.0s
APA MLR MLR
comp=Z,18µm,20.0s,MS6.7
TRO Tromso 126.57 355 *e*PKPd PKPdf 06 41 08.7 -1.7
TRO *e*PP PP 06 43 04.5 -2.2
TRO *e*SS SS 07 00 10.5 +1.7
TRO Tromso 126.57 355 *e*P PKPdf 06 41 06.2 -4.2
KTK1 Kautokeino 126.75 353 *e*P PKPdf 06 41 09.4 -1.3
OPO Ambohidratompo 127.93 229 PKP PKPdf 06 41 14.2 +1.2
comp=Z,46nm,1.0s,baz=143,slow=0.9,SNR=22
BORG Borgarnes 127.98 15 PFAKE 06 41 20.0 +6.9
BORG LR LR
comp=Z,4µm,20.0s,MS6.1
TMCR Tamitsa 128.25 344 *e*PKIKP PKPdf 06 41 12.6 -1.0
LOF Lofoten 128.39 357 *e*P PKPdf 06 41 15.3 +1.5
LOF AMb AMB 06 41 19.8
comp=Z,241nm,1.6s
LOF Lofoten 128.39 357 *e*P PKPdf 06 41 15.9 +2.0
MSEY Mahe Island 128.51 250 *e*PKPdf PKPdf 06 41 16.8 +2.7
MSEY *e*pPKPdf pPKPdf 06 41 27.2 +0.4
MSEY LR LR
comp=Z,5µm,19.0s,MS6.2
SUR Sutherland 129.76 194 PKP PKPdf 06 41 17.9 +1.4
comp=Z,63nm,0.8s,baz=152,slow=3.2,SNR=24
SUR Sutherland 129.76 194 *e*PKPdf PKPdf 06 41 17.1 +0.6
SUR *e*PP PP 06 43 29.1 +1.4
SUR LR LR
comp=Z,5µm,19.0s,MS6.2
MOR8 Moi Rana 130.30 357 *e*P PKPdf 06 41 15.7 -1.8
JOF Joensuu 130.97 346 *e*pkp PKPdf 06 41 15.7 -3.1
RCBR Riachuelo 131.21 114 *e*PKPdf PKPdf 06 41 20.2 +0.9
RCBR LR LR
comp=Z,24µm,19.0s,MS6.9
PECR Pechory 131.88 334 *e*PKIKP PKPdf 06 41 20.0 -0.5
PECR *e* 06 43 40.0
PECR *e* 06 48 17.0
PECR pmax pmax
comp=Z,440nm,2.0s
PECR MLR MLR
comp=N,7µm,22.0s
BOSA Boshof 132.03 201 PKPdf PKPdf 06 41 21.4 +0.6
BOSA PKSbc 06 44 53.7
BOSA Boshof 132.03 201 PKhKP 06 41 11.2
comp=N,4.4nm,0.9s,baz=158,slow=4.3,SNR=4.6
BOSA PKP PKPdf 06 41 22.4 +1.7
comp=N,120nm,1.0s,baz=150,slow=2.6,SNR=45
BOSA Boshof 132.03 201 *e*PKPdf PKPdf 06 41 22.0 +1.2
BOSA *e*PP PP 06 43 41.3 -1.0
BOSA LR LR
comp=Z,20µm,20.0s,MS6.8
NSS Namsos 132.05 358 *e*PKPd PKPdf 06 41 18.7 -2.2
NSS *e*PP PP 06 43 41.3 -1.2
NSS Namsos 132.05 358 *e*P PKPdf 06 41 18.7 -2.2
JMDO Jabal Madar 132.57 285 P PKPdf 06 41 23.3 +1.5
SNR=16
KAF Kangasniemi 132.75 348 *e*pkp PKPdf 06 41 19.0 -3.1
FIA1 FINESS Array S 133.40 348 *e*PKPdf PKPdf 06 41 23.0 -0.4
FINES FINESS Array B 133.40 348 PKhKP 06 41 10.6
comp=Z,6.0nm,0.9s,baz=352,slow=5.8,SNR=5.7
FINES PKP PKPdf 06 41 22.8 -0.5
comp=Z,58nm,0.8s,baz=52,slow=2.3,SNR=43
FINES FINESS Array B 133.40 348 PKIKP PKPdf 06 41 22.8 -0.6
PUL Pulkovo 133.94 345 PKHKP 06 41 14.5
PUL SS SS 07 02 16.3 +37
PUL Pulkovo 133.94 345 *e*PKP PKPdf 06 41 23.7 -0.7
ASHO Ashiyiah 134.49 288 P PKPdf 06 41 26.2 +0.8
SNR=14
MOS Moscow 134.88 337 *e*PKIKP PKPdf 06 41 24.1 -2.0
MOS *i* 06 43 55.5
MOS *e*SSS 07 06 52.8
MOS pmax pmax
comp=Z,225nm,1.2s
LBTB Lobatse 135.20 203 PKPdf PKPdf 06 41 29.4 +2.7
LBTB PKSbc 06 45 02.6
LBTB Lobatse 135.20 203 PKhKP 06 41 19.4
comp=Z,9.4nm,1.0s,baz=154,slow=4.0,SNR=8.0
LBTB PKP PKPdf 06 41 27.9 +1.1
comp=Z,32nm,1.1s,baz=152,slow=2.7,SNR=15
LBTB Lobatse 135.20 203 PKIKP PKPdf 06 41 19.4 -7.3
LBTB 06 41 27.9
LBTB pmax pmax
comp=Z,9.0nm,1.0s
LBTB Lobatse 135.20 203 *e*PKPdf PKPdf 06 41 20.7 -6.0
LBTB PKP PKPdf 06 41 27.9 +1.1
LBTB *e*PP PP 06 44 00.0 -2.6
LBTB LR LR
comp=Z,21µm,19.0s,MS6.9
HYA Hoyanger 135.49 1 *e*P PKPdf 06 41 30.5 +3.2
SUE Sulen 135.56 2 *e*P PKPdf 06 41 28.6 +1.2
NB2 NORSAR Subarra 135.57 358 PKPd 06 41 16.1
comp=Z,336nm,1.7s,baz=6.6,slow=1.8
NB2 NORSAR Subarra 135.57 358 PKPd 06 41 16.1
baz=6.6,slow=1.8
NB2 NORSAR Subarra 135.57 358 PKIKP PKPdf 06 41 27.7 +0.3
NOA NORSAR Array B 135.57 358 PKhKP 06 41 14.7
comp=Z,4.6nm,0.8s,baz=2.9,slow=2.6,SNR=12
NOA PKP PKPdf 06 41 25.3 -2.1
comp=Z,45nm,1.0s,baz=0.5,slow=2.4,SNR=22
NOA NORSAR Array B 135.57 358 PKIKP PKPdf 06 41 25.3 -2.1
OBN Obninsk 135.75 337⇓*e*PKHKP 06 41 14.2
OBN *i* 06 41 26.6
OBN *e* 06 44 06.7
OBN *e*SS SS 07 01 53.8 -7.3
OBN pmax pmax

comp=Z,33nm,1.2s
OBN pmax pmax
comp=Z,384nm,1.3s
OBN MLR MLR
comp=Z,17µm,22.0s,MS6.7
OBN Obninsk 135.75 337 *e*PKPdf PKPdf 06 41 27.7 0.0
OBN LR LR
comp=Z,4µm,22.0s,MS6.1
NAO01 NORSAR Array S 135.78 358 *e*PKPdf 06 41 16.1
NAO01 LR LR
comp=Z,11µm,19.0s,MS6.6
VSU Vasula 135.97 346*d i*PKIKP PKPdf 06 41 26.6 -1.6
VSU Vasula 135.97 346 *i* PKPr PKPdf 06 41 26.7 -1.5
ASK Askoy 136.15 2 *e*P PKPdf 06 41 30.9 +2.4
BER Bergen 136.25 2 *e*P PKPdf 06 41 27.2 -1.5
BER *e*P 06 41 28.9
BER Bergen 136.25 2 *e*P PKPdf 06 41 28.9 +0.2
VRHR Novokhopersk 136.38 330 *e*PKIKP PKPdf 06 41 28.4 -0.5
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=Z,60nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.4s
ODD1 Odda 136.75 1 *e* PKPdf 06 41 22.7 -7.0
KONO Kongsberg 137.01 359 PKPdf PKPdf 06 41 29.7 -0.4
KONO Kongsberg 137.01 359 *e*PKPd PKPdf 06 41 28.0 -2.1
KONO *e*PP PP 06 44 13.0 -1.0
KONO *e*SS SS 07 02 17.1 +0.9
KONO Kongsberg 137.01 359 *e*P PKPdf 06 41 28.5 -1.6
KONO LR LR
comp=Z,12µm,20.0s,MS6.6
VOR Voronezh 137.09 332 PKIKP PKPdf 06 41 30.0 -0.3
VOR 06 44 11.0
VOR pmax pmax
comp=Z,510nm,2.0s
VOR pmax pmax
comp=Z,300nm,2.0s
BLS5 Blasjo 137.24 1 *e*P PKPdf 06 41 31.9 +1.4
MAK Makhachkala 137.38 316 *i* PKIKP PKPdf 06 41 32.6 +1.8
VRSR Storozhevoye 137.45 331 *i* PKIKP PKPdf 06 41 29.9 -1.0
VRSR *e* 06 44 15.9
VRSR pmax pmax
comp=Z,3µm,3.8s
VRSR pmax pmax
comp=N,320nm,4.1s
VRSR pmax pmax
comp=E,640nm,5.3s
VRSR MLR MLR
comp=Z,14µm,22.0s,MS6.7
VRSR MLR MLR
comp=E,11µm,24.0s
VORD Divnogorie 137.57 331 *i* PKIKP PKPdf 06 41 30.7 -0.4
VORD pmax pmax
comp=Z,120nm,1.2s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,60nm,0.9s
VORD MLR MLR
comp=Z,10µm,20.0s,MS6.6
VORD MLR MLR
comp=N,7µm,22.0s,MS6.6
VORD MLR MLR
comp=E,9µm,21.0s,MS6.6
MATP Matopo 138.04 209 PKhKP 06 41 21.1
comp=E,10nm,1.0s,baz=183,slow=5.3,SNR=16
MATP PKP PKPdf 06 41 32.0 0.0
comp=E,93nm,1.0s,baz=154,slow=2.7,SNR=21
MATP Matopo 138.04 209 PKP PKPdf 06 41 32.0 0.0
MNK Minsk 139.19 342 *e*PKHKP 06 41 20.0
MNK *e*SS SS 07 02 44.0 +2.1
MNK *e*SSS 07 07 48.0
MNK MLR MLR
comp=E,18µm,22.0s,MS6.9
MNK MLR MLR
comp=Z,23µm,22.0s,MS6.9
MNK MLR MLR
comp=N,13µm,22.0s,MS6.9
DUS Dusheti 139.62 317 P PKPdf 06 41 31.6 -3.3
MTA Mtatsminda 139.75 316 P PKPdf 06 41 27.9 -7.2
TBLG Delisi 139.76 316 P PKPdf 06 41 29.4 -5.7
ZEI Tsey 139.82 318 *e*PKIKP PKPdf 06 41 29.4 -5.9
KIV Kislovodsk 139.98 320 P PKPdf 06 41 32.3 -3.2
SNR=30
KIV Kislovodsk 139.98 320 *i* PKHKP 06 41 29.3
KIV *e*SS SS 07 02 46.2 -5.0
KIV *e*SSS 07 08 02.7
KIV pmax pmax
comp=Z,87nm,1.2s
KIV MLR MLR
comp=Z,10µm,20.0s,MS6.6
KIV Kislovodsk 139.98 320 *e*PKPdf PKPdf 06 41 28.9 -6.6
KIV *e*PKP PKPdf 06 41 32.5 -3.0
KIV LR LR
comp=Z,3µm,20.0s,MS6.0
GOR Gori 140.06 317 P PKPdf 06 41 27.0 -8.7
KZR Kazreti 140.14 316 P PKPdf 06 41 38.6 +2.8
MUD Monsted U'grnd 140.22 359 *i* P PKPdf 06 41 28.2 -7.8
comp=Z,64nm,1.0s
MUD *i* 06 44 34.2
MUD *i* 06 45 07.1
MUD *i* 06 56 47.8
MUD
comp=Z,11µm,20.0s
MUD Monsted U'grnd 140.22 359 *i* PKHKP 06 41 28.2
MUD *i* 06 44 34.2
MUD *i* 06 56 47.8
MUD pmax pmax
comp=Z,64nm,1.0s
MUD MLR MLR
comp=Z,11µm,20.0s,MS6.6
ESK Eskdalemuir 140.43 10 PFAKE 06 41 50.0 +14
ESK LR LR
comp=Z,4µm,20.0s,MS6.1
GNI Garni 140.47 314 *i* PKIKP PKPdf 06 41 33.9 -2.5
GNI MLR MLR
comp=Z,9µm,22.0s
GNI Garni 140.47 314 *e*PKPdf PKPdf 06 41 32.0 -4.4
GNI LR LR
comp=Z,9µm,21.0s,MS6.5
SUW Suwalki 140.85 346 *e*PKP PKPdf 06 41 31.3 -5.8
SUW *e*PKiKP PKiKP 06 41 39.9 +0.1
SUW *ep*PKP pPKPdf 06 41 47.3 -2.5
SUW L 06 45 42.1
comp=Z,19nm,23.6s
SUW Suwalki 140.85 346 *e*PKIKP PKPdf 06 41 31.3 -5.8
SUW *e* 06 41 39.9
SUW *e* 06 41 47.3
SUW Suwalki 140.85 346 *e*PKP PKPdf 06 41 31.3 -5.8
SUW *e*PKPdf PKPdf 06 41 39.9 +2.8
SUW *ep*PKP pPKPdf 06 41 47.3 -2.5
COP Copenhagen 140.86 356 *i* P 06 41 25.5
COP *i* 06 44 32.8
COP *i* 06 44 33.8
COP *i* 06 45 22.7
COP *i* 06 56 39.4
COP *e* 07 12 38.2
COP
comp=Z,7µm,18.0s
COP Copenhagen 140.86 356 *i* PKHKP 06 41 25.5
COP *i* 06 44 33.8
COP MLR MLR
comp=Z,7µm,18.0s,MS6.5
BSD Bornholm Skovb 141.21 354 *i* P 06 41 29.2
comp=Z,90nm,1.0s
BSD *i* 06 45 19.1
BSD
comp=Z,12µm,19.0s
BSD Bornholm Skovb 141.21 354 *i* PKHKP 06 41 29.2
BSD pmax pmax
comp=Z,90nm,1.0s
BSD MLR MLR
comp=Z,12µm,19.0s,MS6.7
QRN Al-Qurain 141.40 295 *e*P PKPdf 06 41 34.7 -3.4
QRN AMb AMB 06 41 41.0
comp=Z,478nm,1.1s
PICO Pico 141.41 48 *e-* PKPdf 06 41 40.6 +2.5
DCN Croghan 141.45 15⇑*iP* PKPdf 06 41 28.6 -10
ROSA Rosais 141.45 48 *e-* PKPdf 06 41 36.2 -2.0
SRBC Serra Branca 141.46 47 *e-* PKPdf 06 41 34.6 -3.6
DLF Lyons Farm 141.67 14⇑*iP* PKPdf 06 41 28.9 -10
RDF Al-Radifah 141.69 296 *e*P PKPdf 06 41 35.4 -3.3
RDF AMb AMB 06 41 44.5
comp=Z,462nm,1.1s
MIB Mutribah 141.71 297 *e*P PKPdf 06 41 35.1 -3.5
MIB AMb AMB 06 41 41.9
comp=Z,341nm,1.0s
DSB Dublin 141.75 14 *e*PKPdf PKPdf 06 41 38.9 +0.1
NAY Al-Naaiem 141.89 296 *e*P PKPdf 06 41 35.8 -3.2
NAY AMb AMB 06 41 44.7
comp=Z,229nm,1.1s
RGN Rugen 141.92 355 *e*PKPdf PKPdf 06 41 34.6 -4.4
AKASG Malin Array Be 141.96 338 PKhKP 06 41 32.2
comp=Z,64nm,1.1s,baz=33,slow=3.3,SNR=53
AKASG PKP PKPdf 06 41 39.0 -0.1
comp=Z,88nm,1.0s,baz=34,slow=4.0,SNR=54
AKASG Malin Array Be 141.96 338 PKIKP PKPdf 06 41 39.0 -0.1
AKASG Malin Array Be 141.96 338 PKP PKPdf 06 41 39.0 -0.1
AKBB Malin Array Si 141.96 338 *e*PKHKP 06 41 33.0
SOC Sochi 141.98 322 *i* PKIKP PKPdf 06 41 34.5 -4.6
RST Umm Al-Ruwaisa 142.06 297 *e*P PKPdf 06 41 36.2 -3.1
RST AMb AMB 06 41 42.3
comp=Z,390nm,1.1s
TVAN Van 142.10 312 *i* P PKPdf 06 41 35.0 -4.3
ANN Anapa 142.56 325 *i* PKHKP 06 41 34.0
ANN *e* 06 44 47.5
ANN *e*SS SS 07 03 16.6 -4.6
ANN pmax pmax
comp=Z,5µm,7.1s
ANN MLR MLR
comp=N,18µm,24.0s,MS6.8
ANN MLR MLR
comp=E,11µm,24.0s,MS6.8
ANN MLR MLR
comp=Z,8µm,24.0s,MS6.4
LSZ Lusaka 142.56 213 PKhKP 06 41 36.4
comp=Z,90nm,1.0s,baz=152,slow=2.5,SNR=40
LSZ PKP PKPdf 06 41 39.7 -0.5
comp=Z,90nm,1.0s,baz=128,slow=2.3,SNR=65
LSZ Lusaka 142.56 213 *e*PKPdf PKPdf 06 41 36.6 -3.6
LSZ PKP PKPdf 06 41 39.7 -0.5
LSZ LR LR
comp=Z,23µm,19.0s,MS7.0
GKP Gorka Klasztor 142.71 351 *e*PKP PKPdf 06 41 37.4 -3.0
GKP *e*PKiKP PKiKP 06 41 43.9 +0.3
GKP *ep*PKP pPKPdf 06 41 50.8 -2.3
GKP L 06 49 27.5
comp=Z,20nm,20.2s
BSEG Bad Segeberg 142.72 358 *e*PKPbc PKPdf 06 41 36.2 -4.3
BSEG *e*PP PP 06 44 52.2 +3.2
ERZM Erzurum 142.88 315 *i* P PKPdf 06 41 38.3 -2.4
WAR Warsaw 142.98 347 *e*PKP PKPdf 06 41 38.0 -2.9
WAR *e*PKiKP PKiKP 06 41 43.1 -1.0
WAR L 07 41 15.1
comp=Z,16nm,24.1s
TSUM Tsumeb 143.18 195 PKhKP 06 41 39.2
comp=Z,220nm,0.9s,baz=153,slow=4.0,SNR=156
TSUM PKP PKPdf 06 41 41.1 -0.2
comp=Z,220nm,0.9s,baz=144,slow=4.7,SNR=161
TSUM Tsumeb 143.18 195 *e*PKPdf PKPdf 06 41 39.4 -1.9
TSUM LR LR
comp=Z,34µm,19.0s,MS7.1
MSL Mosul 143.24 309 *i* x x 06 41 46.0
MSL *ex* x 06 45 26.5
MSL *ex* x 06 48 30.5
MSL *ex* x 06 51 52.5
BHD Baghdad 143.29 304 *i* x x 06 41 33.0
BHD *i* x x 06 44 48.0
BHD *ex* x 06 45 17.0
BHD *i* x x 06 47 58.0
BHD *ex* x 06 48 33.0
BHD *ex* x 06 51 32.0
MACK Trabzon 143.41 318 *i* P PKPdf 06 41 39.8 -1.9
BNGL BINGOL 143.49 314 *i* P PKPdf 06 41 38.7 -3.1
PSET Sete Cidades 143.63 48 *e*PKP PKPdf 06 41 40.4 -1.7
PDA Ponta Delgada 143.70 48 *i* PKP PKPdf 06 41 41.0 -1.2
PDA *e*SKS 06 45 39.0
PDA Ponta Delgada 143.70 48 *i* LR LR 07 29 32.0
CML Cha da Macela 143.78 48 *e*PKP PKPdf 06 41 40.5 -1.8
PVER Pico Vermelho 143.79 48 *e*PKP PKPdf 06 41 40.9 -1.4
CMLA Cha da Macela 143.79 48 *e*PKPdf PKPdf 06 41 40.1 -2.3
CMLA Cha da Macela 143.79 48 *e*PKP PKPdf 06 41 39.3 -3.1
CMLA Cha da Macela 143.79 48 *e*SS SS 07 03 35.7 +0.2
CMLA Cha da Macela 143.79 48 *e*LQ 07 22 10.8
CMLA Cha da Macela 143.79 48 *e*PKPdf PKPdf 06 41 41.7 -0.6
CMLA LR LR
comp=Z,13µm,21.0s,MS6.7
PMAT Coroa da Mata 143.81 48 *e*PKP PKPdf 06 41 41.1 -1.3
LFA Lagoa do Fogo 143.82 48 *e*PKP PKPdf 06 41 40.9 -1.5
MESC Monte Escuro 143.84 48 *e*PKP PKPdf 06 41 41.7 -0.7
PRCH Ribeira Ch 143.84 48 *e*PKP PKPdf 06 41 41.0 -1.4
VIF Vila Franca 143.86 48 *e*PKP PKPdf 06 41 41.8 -0.7
WIT Witteveen 143.87 1⇓*e*PKP PKPdf 06 41 39.6 -2.9
WIT *ex* x 06 41 50.9
PCNG Congro 143.88 48 *e*PKP PKPdf 06 41 42.0 -0.5
BEST Besiri 143.89 313 *i* P PKPdf 06 41 43.0 +0.4
PFAD Fenais da Ajud 143.90 48 *e*PKP PKPdf 06 41 42.9 +0.4
RUE Ruedersdorf 143.92 354 *e*PKPdf PKPdf 06 41 40.3 -2.3
MIRA Miradouro 143.96 48 *e*PKP PKPdf 06 41 43.1 +0.5
LBOS 143.97 271⇓*eP* PKPdf 06 41 42.0 -0.7
KELT Kelkit 144.16 317 *i* P PKPdf 06 41 42.6 -0.4
NRDL Niedersach Rie 144.16 358 *e*PKPbc PKPdf 06 41 40.6 -2.4
NRDL *ep*PKPbc 06 41 51.5
NRDL *e*PP PP 06 45 00.4 +2.7
SIM Simferopol' 144.22 328*d i*PKIKP PKPdf 06 41 42.0 -1.1
SIM *e* 06 41 55.0
SIM *e* 06 45 00.0
SIM *e*SSS 07 09 01.0
SIM pmax pmax
comp=Z,116nm,1.1s
SIM pmax pmax
comp=Z,4µm,16.9s
SIM MLR MLR
comp=Z,14µm,20.3s,MS6.7
GRSN GIRESUNGRSN 144.37 319 *i* P PKPdf 06 41 40.6 -2.7
IBBN Ibbenburen 144.39 0 *e*PKPbc PKPdf 06 41 41.1 -2.3
IBBN *ep*PKPbc 06 41 52.5
IBBN *e*PP PP 06 45 04.0 +4.9
LVV L'vov 144.42 342 *i* PKIKP PKPdf 06 41 41.1 -2.4
LVV *e* 06 44 56.7
LVV *e*PPP 06 48 16.7
LVV *e* 06 48 51.9
LVV L'vov 144.42 342 *i* P PKPdf 06 41 41.4 -2.1
PSMN Pico do Norte, 144.46 49 *e-* 06 41 43.0
MARD Mardin 144.50 312 *i* P PKPdf 06 41 43.1 -0.5
WTSB Winterswijk 144.72 1⇓*e*PKP PKPdf 06 41 41.5 -2.4
WTSB *ex* x 06 41 53.4
CLZ Clausthal 144.81 357 *e*PKPbc PKPdf 06 41 42.3 -1.8
CLZ *ep*PKPbc 06 41 54.1
CLZ *e*PP PP 06 45 04.4 +2.9
KBSD Kabsdagh 144.81 312 ⇑P PKPdf 06 41 43.6 -0.5
TRBA At Turbah 144.95 269⇓*eP* PKPdf 06 41 46.5 +2.1
KWP Kalwaria 144.97 343 *e*PKPd PKPdf 06 41 43.8 -0.6
KWP *ep*PKP pPKPdf 06 41 54.2 -2.9
KWP *e*SS SS 07 03 52.2 +3.2
KWP L 07 39 44.2
comp=Z,15nm,28.7s
KWP Kalwaria 144.97 343⇓*e*PKP PKPdf 06 41 43.8 -0.6
KWP *ep*PKP pPKPdf 06 41 54.2 -2.9
KWP *e*SS SS 07 03 52.2 +3.2
OJC Ojcow 145.15 347 *e*PKPdf PKPdf 06 41 43.9 -0.8
OJC *e*PP PP 06 45 00.6 -3.0
OJC *e*SKSdf SKSdf 06 48 48.2 -2.5
OJC *e*SS SS 07 03 56.6 +5.6
OJC L 07 48 25.2
comp=Z,76nm,20.1s
OJC Ojcow 145.15 347 *e*PKIKP PKPdf 06 41 43.9 -0.8
OJC *e* 06 45 00.6
OJC *e*SS SS 07 03 56.6 +5.6
OJC MLR MLR
comp=Z,76µm,20.1s,MS7.5
CLL Collm 145.16 354 *e*PKPbc PKPbc 06 41 43.3 -1.1
CLL *es*PKPbc 06 41 54.9
CLL *e*PP PP 06 45 08.9 +5.3
CLL *e*SKKSac SKKSac 06 51 52.8 -0.1
CLL *e*SKKPbc 06 53 17.7
CLL *e*PSKS 06 55 16.2
CLL *e*PPS 06 57 47.8
CLL *e*SS SS 07 03 50.3 -0.9
CLL *e*SSS 07 09 22.9
CLL *e*LR LR 07 30 52.6
CLL *e*L 07 50 33.2
comp=Z,21µm,20.0s
CLL Collm 145.16 354⇓*i*PKPdf PKPdf 06 41 43.5 -1.2
CLL *i* PKPdfmax 06 41 44.7
comp=Z,339nm,0.9s
CLL *i* PKiKP PKiKP 06 41 50.0 +1.4
CLL *i* sPKPdf 06 41 54.7
CLL *es*PKiKP 06 42 00.0
CLL *i* x x 06 42 12.8
CLL *e*PP PP 06 45 08.0 +4.4
CLL *e*PPP 06 48 09.0
CLL *e*SKSdf SKSdf 06 48 50.0 -0.7
CLL *ex* x 06 49 16.0
CLL *e*SKKSac SKKSac 06 51 47.0 -5.9
CLL *ex* x 06 52 55.0
CLL *e*SKKPbc 06 53 18.0
CLL *e*(PSKS) 06 55 04.0
CLL *e*(PPPr) 06 56 04.0
CLL *ex* x 06 56 13.0
CLL *e*PPS 06 57 34.0
CLL *e*SKKSdf SKKSdf 06 57 56.0 -3.0
CLL *e*SS SS 07 03 39.0 -12
CLL *e*SSP 07 04 26.0
CLL *es*PSPS 07 05 06.0
CLL *ex* x 07 06 36.0
CLL *e*SSS 07 09 10.0
CLL Lm 07 50 00.0
comp=N,13µm,19.5s
CLL Lm 07 50 00.0
comp=E,8µm,19.9s
CLL Lm 07 50 00.0
comp=Z,20µm,19.0s
CLL Collm 145.16 354⇓*i*PKIKP PKPdf 06 41 43.5 -1.2
CLL *i* 06 41 44.7
CLL *i* 06 41 50.0
CLL *i* 06 41 54.7
CLL *e* 06 48 50.0
CLL MLR MLR
comp=Z,20µm,19.0s,MS6.9
CLL Collm 145.16 354⇓*i*PKP PKPdf 06 41 43.5 -1.2
CLL *i* 06 41 44.7
CLL *i* 06 41 50.0
CLL *i* pPKP pPKPdf 06 41 54.7 -2.7
CLL *e*SKS SKSdf 06 48 50.0 -0.7
CLL *e*SKKS SKKSac 06 51 47.0 -5.9
CLL LR LR
comp=Z,20µm,19.0s,MS6.9
ELZG Elazig 145.19 315 *i* P PKPbc 06 41 46.0 +1.6
KSP Ksiaz 145.21 351 *e*PKPd PKPdf 06 41 44.5 -0.3
KSP *ep*PKP pPKPdf 06 41 55.1 -2.4
KSP L 06 48 17.2
comp=Z,25nm,22.1s
KSP *e*SKS SKSdf 06 48 51.0 +0.2
KSP *e*SS 07 05 26.2
KSP Ksiaz 145.21 351⇓*e*PKIKP PKPdf 06 41 43.9 -0.9
KSP *e* 06 41 55.0
KSP *e* 06 44 59.0
KSP MLR MLR
comp=Z,31µm,21.1s,MS7.0
KSP Ksiaz 145.21 351⇓*e*PKP PKPdf 06 41 43.9 -0.9
KSP *ep*PKP pPKPdf 06 41 55.0 -2.5
KSP *e*PP PP 06 44 59.0 -4.9
KSP *e*SS SS 07 03 41.0 -11
KSP LR LR
comp=Z,31µm,21.1s,MS7.0
MZRK Al-Mazaregh 145.23 310 ⇑P PKPbc 06 41 45.1 +0.5
BUG Bochum--Üniver 145.25 1 *e*PKPbc PKPbc 06 41 43.9 -0.8
BUG *ep*PKPbc pPKPbc 06 41 55.0 -2.2
BUG *e*PP PP 06 45 10.8 +6.6
SFNV Sufian 145.37 311 ⇑P PKPbc 06 41 45.0 -0.1
DRBT Darb Altahta 145.40 312 ⇑P PKPbc 06 41 48.3 +3.2
IAS Iasi 145.48 336⇓*iP* PKPdf 06 41 44.4 -0.9
IAS Iasi 145.48 336 P PKPdf 06 41 46.3 +1.0
BRG Berggiesshubel 145.49 353 *e*PKPbc PKPbc 06 41 44.5 -0.9
BRG *ep*PKPbc pPKPbc 06 41 56.2 -1.8
BRG Berggiesshubel 145.49 353⇓*i*PKP PKPdf 06 41 44.6 -0.7
comp=Z,259nm,1.3s
BRG *i* 06 41 50.8
comp=Z,162nm,1.0s
BRG *i* 06 41 56.2
comp=Z,2µm,2.1s
BRG PKKP 06 52 41.0
comp=Z,215nm,2.9s
BRG *e* 06 55 11.0
BRG SS SS 07 04 01.0 +6.0
BRG
comp=Z,12µm,20.1s
BRG
comp=N,10µm,20.8s
BRG
comp=E,5µm,20.8s
BRG Berggiesshubel 145.49 353⇓*i*PKIKP PKPdf 06 41 44.6 -0.7
BRG *i* 06 41 50.8
BRG *i* 06 41 56.2
BRG SS SS 07 04 01.0 +6.0
BRG MLR MLR
comp=Z,12µm,20.1s,MS6.7
BRG Berggiesshubel 145.49 353⇓*i*PKP PKPdf 06 41 44.6 -0.7
BRG *i* 06 41 50.8
BRG *i* 06 41 56.2
BRG PKKP 06 52 41.0
BRG *e* 06 55 11.0
BRG SS SS 07 04 01.0 +6.0
BRG LR LR
comp=Z,12µm,20.1s,MS6.7
STHS Stebnicka Huta 145.55 345 *e* PKPdf 06 41 46.1 +0.7
STHS *e* 06 47 12.6
STHS Stebnicka Huta 145.55 345 *e*PKP PKPdf 06 41 46.1 +0.7
STHS *e* 06 47 12.7
UPC Upice 145.58 351 *e*PKP PKPdf 06 41 45.4 0.0
UPC *ep*PKP pPKPdf 06 41 55.1 -3.0
RAC Raciborz 145.61 348 *e*PKP2 PKPab 06 41 45.2 -0.9
RAC MLR MLR
comp=Z,17µm,22.1s,MS6.8
MALT Malatya 145.66 315⇓*iP* PKPdf 06 41 46.4 +0.8
MALT Malatya 145.66 315 *e*PKPdf PKPdf 06 41 45.8 +0.3
MALT *ep*PKPdf pPKPdf 06 41 58.9 +0.6
DPC Dobruska-Polom 145.68 351 *e*PKP PKPdf 06 41 45.9 +0.3
DPC *ep*PKP pPKPdf 06 41 57.3 -1.0
DPC *ex* x 07 04 56.2
KOLS Kolonicke sedl 145.72 343 *e*PKP PKPdf 06 41 46.1 +0.4
KOLS *e* 06 41 48.8
PVCC Panska Ves 145.76 353 *e*PKP PKPdf 06 41 45.7 -0.1
PVCC *ep*PKP pPKPdf 06 41 57.2 -1.3
PVCC *ex* x 07 04 37.4
PVCC AMS AMS 07 49 20.0
comp=Z,15µm,21.1s
UCC Uccle 145.78 4 PKP PKPdf 06 41 46.0 +0.2
UCC APKP 06 41 55.9
NIE Niedzica 145.78 346 *e*PKP PKPdf 06 41 46.4 +0.6
MENF Mencas 145.82 7 PKP PKPdf 06 41 45.7 -0.2
ATD Arta Tunnel 145.84 266 PKPbc PKPbc 06 41 47.6 +1.1
comp=Z,428nm,1.1s,baz=61,slow=2.1,SNR=174
SVST Sivas 145.85 318 *i* P PKPdf 06 41 47.6 +1.7
BEBN Eben Emael 145.85 3 PKP PKPdf 06 41 43.9 -2.1
BEBN APKP 06 41 55.7
OKC Ostrava-Krasne 145.85 348 *e*PKP PKPdf 06 41 45.9 0.0
OKC *ep*PKP pPKPdf 06 41 57.6 -1.0
OKC *ex* x 06 55 20.3
OKC AMS AMS 07 51 30.0
comp=Z,12µm,21.7s
OKC Ostrava-Krasne 145.85 348 *e*PKP PKPdf 06 41 45.9 0.0
OKC *e* 06 41 57.6
OKC *e* 06 55 20.3
HGN Heimansgroeve 145.90 2⇓*e*PKP PKPdf 06 41 46.0 0.0
comp=Z,1µm,1.9s
HGN *ex* x 06 41 57.7
BSHR Al Beshri 145.91 310 ⇑P PKPdf 06 41 48.3 +2.3
MOX Moxa 145.93 356 *e*PKPbc PKPbc 06 41 45.6 -1.2
MOX *ep*PKPbc pPKPbc 06 41 57.5 -1.8
MOX Moxa 145.93 356⇓*i*PKP PKPdf 06 41 46.3 +0.3
comp=Z,1µm,1.4s
MOX *e* 06 41 57.0
comp=Z,3µm,1.5s
MOX
comp=Z,13µm,22.0s
MOX Moxa 145.93 356⇓*i*PKP PKPdf 06 41 46.3 +0.3
MOX *ep*PKP pPKPdf 06 41 57.0 -1.7
MOX *e*PP PP 06 44 58.0 -10
MOX *e*SKSP 06 55 29.0
MOX LR LR
comp=Z,13µm,22.0s,MS6.7
CRVS Cervenica-Dubn 145.97 344 *e*PKP PKPdf 06 41 46.4 +0.3
CRVS *e* 06 41 48.6
BURAR Bucovina Array 145.98 339⇓*iP* PKPdf 06 41 46.5 +0.4
BURAR Bucovina Array 145.98 339 P PKPdf 06 41 47.1 +1.0

UZH	**Uzhgorod**	**145.99**	**343**	⇓*i*	PKP2	PKPab	06 41 46.0	-1.5
UZH				*e*			07 04 01.0	
UZH				*e*			07 09 28.0	
UZH					pmax	pmax		
	comp=Z,3µm,1.2s							
MORC	**Moravsky Berou**	**146.03**	**349**	⇓*i*	P	PKPdf	06 41 46.0	-0.2
MORC	**Moravsky Berou**	**146.03**	**349**	*e*	PKPdf	PKPdf	06 41 46.0	-0.2
MORC				*ep*	PKPdf	pPKPdf	06 41 58.6	-0.3
MEM	**Membach**	**146.05**	**2**		PKP	PKPdf	06 41 46.7	+0.5
MEM					APKP		06 41 56.2	
SNF	**Seneffe**	**146.06**	**4**		PKP	PKPdf	06 41 46.0	-0.2
SNF					APKP		06 41 57.9	
TANN	**Tannenbergstha**	**146.09**	**355**		ePKPbc	PKPbc	06 41 46.0	-1.3
TANN				*ep*	PKPbc	pPKPbc	06 41 58.2	-1.6
TANN				*e*	PP	PP	06 45 12.8	+3.6
BOYT	**Boyabat**	**146.12**	**322**	*i*	P	PKPdf	06 41 47.3	+1.0
KMBO	**Kilima Mbogo**	**146.16**	**241**		PKPdf	PKPdf	06 41 48.5	+2.1
KMBO	**Kilima Mbogo**	**146.16**	**241**		PKPbc	PKPdf	06 41 48.5	+1.1
	comp=Z,363nm,1.0s,baz=94,slow=2.6,SNR=131							
KMBO	**Kilima Mbogo**	**146.16**	**241**		PKP2	PKPab	06 41 48.5	+0.3
KMBO					pmax	pmax		
	comp=Z,363nm,1.0s							
ATAB	**Bozova**	**146.17**	**314**	*i*	P	PKPdf	06 41 48.4	+1.9
MNKR	**ALMNKUR**	**146.19**	**311**	⇑	P	PKPdf	06 41 44.7	-1.8
BCLA	**Clavier**	**146.21**	**3**		PKP	PKPdf	06 41 47.1	+0.6
BCLA					APKP		06 41 58.7	
PRA	**Prague**	**146.22**	**353**		PKP	PKPdf	06 41 47.0	+0.5
PRA					ppPKP	pPKPdf	06 42 00.0	+0.8
PRA					PP	PP	06 44 54.0	-16
NKC	**Novy Kostel**	**146.27**	**355**	*e*	PKP	PKPdf	06 41 46.8	+0.2
NKC				*ep*	PKP	pPKPdf	06 41 58.7	-0.6
NKC				*ex*	x	x	06 55 28.4	
NKC				*ex*	x	x	07 05 00.4	
NKC					AMS	AMS	07 49 40.0	
	comp=Z,19µm,20.3s							
NKC	**Novy Kostel**	**146.27**	**355**	*e*	PKP	PKPdf	06 41 46.8	+0.2
NKC				*e*			06 41 58.7	
NKC				*e*			06 55 28.4	
NKC				*e*			07 05 00.4	
PRU	**Pruhonice**	**146.29**	**352**	*e*	PKP	PKPdf	06 41 46.5	-0.2
PRU				*ep*	PKP	pPKPdf	06 41 58.8	-0.6
PRU				*ex*	x	x	06 55 25.1	
PRU				*ex*	x	x	07 04 14.8	
PRU					AMS	AMS	07 52 10.0	
	comp=Z,18µm,19.6s							
TNS	**Taunus Mts**	**146.48**	**359**	*e*	PKPbc	PKPbc	06 41 46.7	-1.7
TNS				*ep*	PKPbc	pPKPbc	06 41 59.3	-1.7
DOU	**Dourbes**	**146.49**	**4**		PKP	PKPdf	06 41 48.3	+1.3
DOU					APKP		06 41 59.2	
GIVF	**Givet**	**146.50**	**4**	⇓*i*	PKIKP	PKPdf	06 41 46.6	-0.4
	comp=Z,4µm,1.5s							
BAIF	**Baives**	**146.50**	**4**	⇓*i*	PKIKP	PKPdf	06 41 46.8	-0.2
	comp=Z,8µm,1.9s							
MANZ	**Manzenberg**	**146.55**	**355**	*e*	PKPbc	PKPbc	06 41 47.1	-1.5
MANZ				*ep*	PKPbc	pPKPbc	06 41 59.6	-1.6
MANZ				*e*	PP	PP	06 45 15.5	+3.6
KECS	**Kecovo**	**146.61**	**345**	*e*	PKP	PKPdf	06 41 47.6	+0.4
KECS				*e*			06 41 50.3	
KECS				*e*			06 47 15.5	
VRAC	**Vranov**	**146.65**	**350**	⇓*i*	P	PKPdf	06 41 47.2	-0.1
VRAC	**Vranov**	**146.65**	**350**		P	PKPdf	06 41 49.0	+1.7
CTKT	**Corum**	**146.68**	**321**	*i*	P	PKPdf	06 41 47.8	+0.4
GZT	**Gaziantep**	**146.73**	**314**	*i*	P	PKPdf	06 41 47.6	+0.2
ROTZ	**Rotzenmuhle**	**146.76**	**355**	*e*	PKPbc	PKPbc	06 41 46.8	-2.4
ROTZ				*ep*	PKPbc	pPKPbc	06 42 00.4	-1.4
ROTZ				*e*	PP	PP	06 45 17.2	+4.1
ABH	**Alteburg**	**146.82**	**1**		PKP	PKPdf	06 41 47.7	+0.2
TREC	**Trest**	**146.84**	**351**	*e*	PKP	PKPdf	06 41 47.5	-0.1
TREC					AMS	AMS	07 54 40.0	
	comp=Z,14µm,18.8s							
CFR	**Carcaliu**	**146.88**	**334**	⇑	P	PKPdf	06 41 47.3	-0.3
CFR	**Carcaliu**	**146.88**	**334**		P	PKPdf	06 41 48.7	+1.0
VRI	**Vrincioaia**	**146.90**	**336**	⇑	P	PKPdf	06 41 49.3	+1.6
VRI	**Vrincioaia**	**146.90**	**336**	⇓	PKP2	PKPab	06 41 47.5	-3.5
VRI	**Vrincioaia**	**146.90**	**336**		P	PKPdf	06 41 49.7	+2.0
GRF	**Grafenberg Arr**	**146.91**	**356**	*e*	PKPbc	PKPbc	06 41 48.1	-1.5
GRF				*ep*	PKPbc	pPKPbc	06 42 00.7	-1.5
GRF				*e*	PP	PP	06 45 17.8	+3.8
GRF				*e*	SKKP		06 53 11.3	
GRF				*e*			06 55 57.7	
GRF				*e*	SS	SS	07 03 57.6	-13
GRF				*e*	L		07 51 41.4	
	comp=Z,18µm,21.0s							
GRF	**Grafenberg Arr**	**146.91**	**356**	*e*	PKP2	PKPbc	06 41 48.1	-1.5
GRF				*e*			06 45 17.8	
GRF	**Grafenberg Arr**	**146.91**	**356**	*e*	PKP2	PKPbc	06 41 48.1	-1.5
GRF				*e*			06 45 17.8	
GRF					MLR	MLR		
	comp=Z,18µm,21.0s,MS6.8							
JHLN	**Al Jahlan**	**146.92**	**311**	⇑	P	PKPdf	06 41 48.7	+1.0
BALT	**Daday**	**146.92**	**324**	*i*	P	PKPdf	06 41 47.9	+0.2
PLOR	**Plostina**	**146.94**	**336**	⇑	P	PKPdf	06 41 49.3	+1.5
VYHS	**Vyhne**	**146.99**	**347**	*e*	PKP	PKPdf	06 41 47.3	-0.5
VYHS				*e*			06 41 50.8	
VYHS				*e*			06 47 16.9	
VYHS	**Vyhne**	**146.99**	**347**	*e*	PKIKP	PKPdf	06 41 47.3	-0.5
VYHS				*e*			06 41 50.8	
VYHS					MLR	MLR		
	comp=Z,10µm,21.0s,MS6.6							
VYHS	**Vyhne**	**146.99**	**347**	*e*	PKP	PKPdf	06 41 47.3	-0.5
VYHS				*e*			06 41 50.8	
VYHS				*e*			06 47 16.9	
VYHS					LR	LR		
	comp=Z,10µm,21.0s,MS6.6							
RUP	**Ruppelstein**	**146.99**	**1**		PKP2	PKPbc	06 41 48.4	-1.5
WLF	**Walferdange**	**147.00**	**2**	*e*	PKPbc	PKPbc	06 41 47.9	-2.0
WLF				*ep*	PKPbc	pPKPbc	06 42 01.5	-1.0
WLF	**Walferdange**	**147.00**	**2**		PKP	PKPdf	06 41 49.1	+1.2
WLF					APKP		06 42 01.9	
WLF	**Walferdange**	**147.00**	**2**	*e*	PKPdf	PKPdf	06 41 47.6	-0.2
WLF				*e*	PKPab	PKPab	06 41 51.8	+0.3
ROSF	**Rostrenen**	**147.05**	**14**	⇓	PKIKP	PKPdf	06 41 47.6	-0.3
	comp=Z,3µm,1.7s							
TOD	**Tromm**	**147.09**	**359**		PKP2	PKPab	06 41 48.2	-3.6
FLN	**La Foliniere**	**147.20**	**10**	⇓*i*	PKIKP	PKPdf	06 41 47.9	-0.3
	comp=Z,3µm,1.3s,baz=355							
KHC	**Kasperske Hory**	**147.25**	**353**	*e*	PKP	PKPdf	06 41 48.2	-0.1
KHC				*ep*	PKP	pPKPdf	06 42 01.6	+0.6
KHC				*ex*	x	x	06 55 31.6	
KHC				*ex*	x	x	07 05 07.4	
KHC					AMS	AMS	07 51 10.0	
	comp=Z,21µm,19.8s							
KHC	**Kasperske Hory**	**147.25**	**353**	*e*	PKIKP	PKPdf	06 41 48.2	-0.1
KHC				*e*			06 42 01.6	
KHC					MLR	MLR		
	comp=Z,21µm,19.8s,MS6.9							
SMOL	**Smolenice**	**147.26**	**348**	*e*	PKP	PKPdf	06 41 49.6	+1.3
SMOL				*e*			06 41 52.2	
SMOL	**Smolenice**	**147.26**	**348**	*e*	PKP	PKPdf	06 41 49.6	+1.3
SMOL				*e*			06 41 52.3	
PSZ	**Piszkesteto**	**147.28**	**345**	⇓*e*	PKP/F	PKPdf	06 41 48.4	+0.1
PSZ	**Piszkesteto**	**147.28**	**345**	⇓*i*	P	PKPdf	06 41 48.1	-0.2
PSZ	**Piszkesteto**	**147.28**	**345**	*e*	PKPdf	PKPdf	06 41 48.2	-0.1
PSZ				*e*	PKPab	PKPab	06 41 52.2	-0.4
SGMF	**Saint Gilles**	**147.28**	**13**	⇓*i*	PKIKP	PKPdf	06 41 48.1	-0.2
	comp=Z,2µm,1.2s							
WET	**Wettzell**	**147.31**	**354**	*e*	PKPbc	PKPbc	06 41 47.8	-3.0
WET				*ep*	PKPbc	pPKPbc	06 42 01.6	-1.8
SIND	**Sindeldorf**	**147.33**	**358**		P	PKPdf	06 41 49.5	+1.1
TIRR	**Tirgusor**	**147.33**	**332**	⇓*i*	P	PKPdf	06 41 48.1	-0.3
TIRR	**Tirgusor**	**147.33**	**332**	*e*	PKPdf	PKPdf	06 41 47.9	-0.5
TIRR				*e*	PKPab	PKPab	06 41 52.4	-0.3
TIRR				*ep*	PKPdf	pPKPdf	06 42 02.2	+1.1
HARR	**Harsova**	**147.35**	**333**	⇓*i*	P	PKPdf	06 41 49.0	+0.6
HARR	**Harsova**	**147.35**	**333**		P	PKPdf	06 41 50.3	+1.8
KTD	**Kalmit**	**147.38**	**360**		PKIKP	PKPdf	06 41 48.2	-0.3
LDF	**La Druitiere**	**147.43**	**10**	⇓*i*	PKIKP	PKPdf	06 41 48.3	-0.3
	comp=Z,3µm,1.4s							
QUIF	**Quistinic**	**147.47**	**14**	⇓*i*	PKIKP	PKPdf	06 41 48.3	-0.3
	comp=Z,2µm,1.4s							
GRR	**Gorron**	**147.50**	**11**	⇓*i*	PKIKP	PKPdf	06 41 48.7	0.0
	comp=Z,3µm,1.2s							
MLR	**Muntele Rosu**	**147.51**	**336**		PKPbc	PKPbc	06 41 48.3	-3.1
	comp=Z,163nm,1.0s,baz=344,slow=2.3,SNR=33							
MLR	**Muntele Rosu**	**147.51**	**336**	⇓*i*	P	PKPdf	06 41 48.3	-0.4
MLR	**Muntele Rosu**	**147.51**	**336**		P	PKPdf	06 41 48.5	-0.2
GEC2	**GERESS Array S**	**147.52**	**353**	*e*	PKPbc	PKPbc	06 41 48.3	-3.0
GEC2				*ep*	PKPbc	pPKPbc	06 42 02.5	-1.4
GEC2				*e*	PP	PP	06 45 20.3	+2.7
GERES	**GERESS Array B**	**147.52**	**353**		PKPbc	PKPbc	06 41 48.4	-2.9
	comp=Z,90nm,0.9s,baz=27,slow=0.3,SNR=83							
GERES	**GERESS Array B**	**147.52**	**353**		PKIKP	PKPdf	06 41 48.4	-0.3
GERES					pmax	pmax		
	comp=Z,90nm,1.0s							
DRGR		**147.52**	**341**	⇓*i*	P	PKPdf	06 41 48.3	-0.4
DRGR		**147.52**	**341**		P	PKPdf	06 41 48.8	0.0
CDAG	**Cicekdag**	**147.55**	**320**	*i*	P	PKPdf	06 41 48.0	-0.8
CDAG	**Cicekdag**	**147.55**	**320**	*i*	P	PKPdf	06 41 52.1	+3.3
PENC	**Penc**	**147.55**	**346**	⇑	*e*P	PKPdf	06 41 49.7	+0.9
ELDT	**Eldivan**	**147.57**	**322**	*i*	P	PKPdf	06 41 49.7	+0.8
ZST	**Bratislava**	**147.63**	**349**	*e*	PKP	PKPbc	06 41 53.8	+2.2
ZST				*e*			06 56 05.8	
ZST				*e*			06 56 05.9	
ZST	**Bratislava**	**147.63**	**349**	*e*	PKP	PKPdf	06 41 49.4	+0.5
ZST				*e*			06 41 53.8	
ZST				*e*			06 56 05.8	
ZST					LR	LR		
	comp=Z,12µm,19.3s,MS6.7							
VKA	**Vienna**	**147.70**	**350**	*i*	PKPbc	PKPbc	06 41 50.2	-1.6
LANF	**Langenberg**	**147.72**	**0**		PKP	PKPdf	06 41 49.3	+0.2
AVNT	**Avonos**	**147.75**	**319**	*i*	P	PKPdf	06 41 50.7	+1.6
SNX	**Sinaia**	**147.79**	**337**	⇓*i*	P	PKPdf	06 41 50.7	+1.5
SNX	**Sinaia**	**147.79**	**337**	⇑	P	PKPdf	06 41 49.3	+0.1
BUD	**Budapest**	**147.90**	**346**	⇓*e*	PKP/F	PKPdf	06 41 49.2	-0.1
VOIR		**147.90**	**337**	⇑*i*	P	PKPdf	06 41 48.9	-0.4
VOIR		**147.90**	**337**	⇑	P	PKPdf	06 41 48.9	-0.4
STU	**Stuttgart**	**147.91**	**358**	*e*	PKPbc	PKPbc	06 41 49.9	-2.5
STU				*ep*	PKPbc	pPKPbc	06 42 03.5	-1.5
STU	**Stuttgart**	**147.91**	**358**	*e*	PKPdf	PKPdf	06 41 49.3	-0.1
STU				*e*	PKPab	PKPab	06 41 54.2	-0.8
BR131	**Keskin Array S**	**147.93**	**321**		PFAKE		06 42 00.0	+11
BR131					LR	LR		
	comp=Z,5µm,20.0s,MS6.3							
BRTR	**Keskin Array B**	**147.93**	**321**		PKPbc	PKPbc	06 41 50.7	-1.8
	comp=Z,409nm,0.9s,baz=359,slow=1.6,SNR=102							
BRTR	**Keskin Array B**	**147.93**	**321**		PKP2	PKPbc	06 41 50.7	-1.8
BRTR					pmax	pmax		
	comp=Z,409nm,1.0s							
PSN	**Preselentsi**	**148.03**	**332**	*i*	P	PKPbc	06 41 53.6	+0.9
MTUR	**Matau**	**148.07**	**337**	⇓*i*	P	PKPdf	06 41 52.8	+3.2
CONA	**Conrad Observa**	**148.11**	**350**	⇓*i*	PKPdf	PKPdf	06 41 49.8	+0.1
	comp=Z,81nm,1.3s,SNR=312							
CONA				⇓*i*	PKPab	PKPab	06 41 55.1	-0.8
	comp=Z,565nm,1.1s							
CONA				⇑*i*	pPKPab	pPKPab	06 42 05.0	-3.3
	comp=Z,951nm,1.4s							
MEZF	**Maizieres J'vi**	**148.11**	**4**	⇓*i*	PKIKP	PKPdf	06 41 50.0	+0.3
	comp=Z,3µm,1.4s,baz=344							
STR	**Strasbourg**	**148.12**	**0**		PKP	PKPdf	06 41 50.1	+0.4
PKSG		**148.13**	**347**	⇑*e*	P	PKPdf	06 41 50.1	+0.4
BTCH	**Batrach**	**148.16**	**313**	⇑	P	PKPdf	06 41 50.3	+0.5
SOP	**Sopron**	**148.22**	**349**	⇓*e*	PKP/p	PKPbc	06 41 53.7	+0.5
SOP	**Sopron**	**148.22**	**349**	⇓*e*	P	PKPbc	06 41 53.8	+0.6
CDF	**Champ du Feu**	**148.28**	**1**	⇓*i*	PKIKP	PKPdf	06 41 50.0	0.0
	comp=Z,3µm,1.3s							
WLS	**Welschbruch**	**148.28**	**1**		PKP	PKPdf	06 41 50.6	+0.6
SGKT	**Sivrigoynuk**	**148.31**	**324**	*i*	P	PKPdf	06 41 50.5	+0.5
ANTO	**Ankara**	**148.34**	**322**		PKPdf	PKPdf	06 41 50.2	+0.1
ANTO					sPKPdf		06 42 04.5	
ANTO	**Ankara**	**148.34**	**322**	⇓*i*	P	PKPdf	06 41 50.2	+0.1
ANTO	**Ankara**	**148.34**	**322**	*e*	PKPdf	PKPdf	06 41 50.2	+0.1
ANTO					LR	LR		
	comp=Z,9µm,21.0s,MS6.5							
BFO	**Black Forest**	**148.37**	**360**	*e*	PKPbc	PKPbc	06 41 50.7	-2.9
BFO				*ep*	PKPbc	pPKPbc	06 42 05.0	-1.2
BFO				*e*	PP	PP	06 45 25.0	+2.4
FUR	**Furstenfeldbru**	**148.42**	**356**	*e*	PKPbc	PKPbc	06 41 51.0	-2.7
FUR				*ep*	PKPbc	pPKPbc	06 42 05.2	-1.2
MOA	**Molln**	**148.43**	**352**	⇓*i*		PKPbc	06 41 55.5	+1.8
	comp=Z,735nm,1.3s							
MOA	**Molln**	**148.43**	**352**	⇓*i*	PKPdf	PKPdf	06 41 49.6	-0.6
	comp=Z,50nm,1.3s,SNR=156							
MOA				⇓*i*	PKPab	PKPab	06 41 55.5	-1.6
	comp=Z,735nm,1.3s							
MOA				⇑*i*	SKPbc	SKPbc	06 45 33.1	+4.9
	comp=Z,7µm,6.5s							
BUC1	**Bucharest**	**148.43**	**335**	⇑	P	PKPdf	06 41 50.1	-0.1
BUC1	**Bucharest**	**148.43**	**335**		P	PKPbc	06 41 53.7	-0.1
THEF	**They Montfort**	**148.43**	**3**		PKP	PKPdf	06 41 50.3	+0.1
SLNF	**Slenfeh**	**148.54**	**312**	⇑	P	PKPdf	06 41 51.2	+0.8
LIBD	**Limburg**	**148.55**	**0**		PKIKP	PKPdf	06 41 50.3	-0.1
SPAK	**Spaichingen-Ko**	**148.59**	**359**		PKP	PKPdf	06 41 51.0	+0.5
GUT	**Gutenstein**	**148.62**	**359**		P	PKPdf	06 41 51.5	+1.0
HAU	**Haudompre**	**148.67**	**2**	⇓*i*	PKIKP	PKPdf	06 41 50.4	-0.2
	comp=Z,3µm,1.2s							
HAU				*e*	R			
	comp=Z,25µm,22.0s							
HAU	**Haudompre**	**148.67**	**2**	⇓*i*	PKPdf	PKPdf	06 41 50.4	-0.2
HAU					LR	LR		
	comp=Z,25µm,22.0s,MS7.0							
GZR	**Gura Zlata**	**148.74**	**340**	⇓*i*	P	PKPdf	06 41 50.1	-0.6
GZR	**Gura Zlata**	**148.74**	**340**		P	PKPdf	06 41 51.5	+0.7
PRD	**Provadia**	**148.77**	**332**	*i*	P	PKPdf	06 41 51.2	+0.4
HENT	**Hendek**	**148.79**	**325**	*i*	P	PKPdf	06 41 51.0	+0.2
DESE	**Dese**	**148.81**	**264**	*e*	P	PKPdf	06 41 53.2	+2.4
ARSA	**Arzberg**	**148.82**	**350**	⇓*i*		PKPbc	06 41 56.2	+1.4
	comp=Z,444nm,1.3s							
ARSA	**Arzberg**	**148.82**	**350**	*i*	PKPdf	PKPdf	06 41 50.2	-0.7
	comp=Z,68nm,1.4s,SNR=121							
ARSA				⇓*i*	PKiKP	PKiKP	06 41 56.2	+0.1
	comp=Z,444nm,1.3s							
ARSA				⇑*i*	SKPbc	SKPbc	06 45 31.0	+1.9
ARSA	**Arzberg**	**148.82**	**350**	*i*	P	PKPdf	06 41 50.2	-0.7
ARSA				*i*			06 41 56.2	
ARSA				*i*			06 45 31.0	
ARSA				*i*			06 52 23.1	
FELD	**Feldberg im Sc**	**148.83**	**360**	⇓*e*	P	PKPdf	06 41 50.8	-0.1
MOF	**Molkenrain**	**148.84**	**1**		PKP	PKPdf	06 41 50.8	-0.1
HINF	**Hinteralfeld**	**148.87**	**1**	⇓*i*	PKIKP	PKPdf	06 41 50.7	-0.2
	comp=Z,4µm,1.8s							
BZS	**Buzias**	**148.91**	**341**	⇓*i*	P	PKPdf	06 41 50.6	-0.4
BZS	**Buzias**	**148.91**	**341**		P	PKPdf	06 41 51.0	0.0
PKS9	**Tamasi**	**148.91**	**346**	⇑*e*	P	PKPdf	06 41 51.6	+0.6
SLE	**Schleitheim**	**148.93**	**359**	⇓*i*	PKPdf	PKPdf	06 41 50.4	-0.6
	comp=Z,2µm,2.1s							
SLE	**Schleitheim**	**148.93**	**359**	⇓*i*	P	PKPdf	06 41 50.7	-0.3
ZALF	**Zalf**	**148.94**	**307**	⇑	P	PKPdf	06 41 52.4	+1.3
FKH	**Fakeheh**	**149.06**	**310**	*e*	P	PKPdf	06 41 51.0	-0.3
HYF	**Humbligny**	**149.12**	**7**	⇓*i*	PKIKP	PKPdf	06 41 51.8	+0.5
WEIN	**Weingarten**	**149.16**	**359**	⇓*i*	PKPdf	PKPdf	06 41 50.6	-0.8
	comp=Z,2µm,2.0s							
SULZ	**Sulz-Cheisache**	**149.18**	**360**	⇓*i*	PKPdf	PKPdf	06 41 51.1	-0.3
	comp=Z,2µm,1.7s							
SULZ	**Sulz-Cheisache**	**149.18**	**360**	⇓	P	PKPdf	06 41 51.3	-0.1
PKSM	**Moragy**	**149.18**	**345**	⇓*i*	P	PKPdf	06 41 51.0	-0.4
PKSM	**Moragy**	**149.18**	**345**		P	PKPdf	06 41 51.3	-0.1
WATA	**Walderalm**	**149.22**	**355**	⇑*i*		PKPbc	06 41 56.7	+0.9
	comp=Z,735nm,1.3s							
WATA	**Walderalm**	**149.22**	**355**	⇑*i*			06 42 07.1	
	comp=Z,2µm,1.6s							
WATA	**Walderalm**	**149.22**	**355**	⇓*i*	PKPdf	PKPdf	06 41 51.2	-0.3
	comp=Z,21nm,0.7s							
WATA				⇑*i*	PKiKP	PKiKP	06 41 56.7	-0.3
	comp=Z,735nm,1.3s							
WATA				⇑*i*	pPKPab	pPKPab	06 42 07.1	-5.7
	comp=Z,2µm,1.6s							
WATA				⇑*e*	SKPbc	SKPbc	06 45 32.2	+2.3
	comp=Z,45nm,1.1s							
WATA	**Walderalm**	**149.22**	**355**	⇓*i*	PKHKP		06 41 51.2	
WATA				*i*			06 41 56.7	
WATA				*e*			06 45 32.2	
WATA	**Walderalm**	**149.22**	**355**	⇓*i*	P	PKPdf	06 41 51.2	-0.3
WATA				*i*			06 41 56.6	
WATA				*i*			06 42 07.1	
WATA				*e*			06 45 32.2	
BBS	**Basel-Blauen**	**149.24**	**1**		PKHKP	PKPdf	06 41 51.6	+0.1
LOR	**Lormes**	**149.25**	**5**	⇓*i*	PKIKP	PKPdf	06 41 51.8	+0.3
	comp=Z,3µm,1.3s,baz=7.3							
LOR				*e*	R			
	comp=Z,35µm,20.8s							
LOR	**Lormes**	**149.25**	**5**	⇓*i*	PKPdf	PKPdf	06 41 51.8	+0.3
LOR					LR	LR		
	comp=Z,35µm,20.8s,MS7.1							
MOTA	**Moosalm**	**149.25**	**356**	⇑*i*		PKPbc	06 41 57.9	+2.1
MOTA	**Moosalm**	**149.25**	**356**	⇓*i*		pPKPdf	06 42 07.6	+3.4
	comp=Z,929nm,1.2s							
MOTA	**Moosalm**	**149.25**	**356**	⇓*i*	PKPdf	PKPdf	06 41 52.2	+0.7
	comp=Z,68nm,1.1s,SNR=134							
MOTA				⇑*i*	PKiKP	PKiKP	06 41 57.9	+0.9
MOTA				⇓*i*	pPKPab	pPKPab	06 42 07.6	-5.2
	comp=Z,929nm,1.2s							
MOTA	**Moosalm**	**149.25**	**356**	⇓*i*	PKHKP	PKPdf	06 41 52.2	+0.7
MOTA				*i*			06 41 57.9	
ZIMR		**149.27**	**335**		PKP2	PKPab	06 41 56.8	-3.7
WILA	**Wila**	**149.28**	**359**	⇓*i*	PKPdf	PKPdf	06 41 51.0	-0.6
	comp=Z,2µm,1.8s							
WILA	**Wila**	**149.28**	**359**	⇓	P	PKPdf	06 41 51.5	-0.1
WTTA	**Wattenberg**	**149.29**	**355**	⇓*i*		PKPbc	06 41 57.7	+1.8
	comp=Z,746nm,1.0s							
WTTA	**Wattenberg**	**149.29**	**355**	⇓*i*	PKPdf	PKPdf	06 41 51.6	-0.1
	comp=Z,103nm,1.2s,SNR=72							
WTTA				⇓*i*	PKiKP	PKiKP	06 41 57.7	+0.6
	comp=Z,746nm,1.0s							
WTTA				⇑*i*	SKPbc	SKPbc	06 45 33.7	+3.6
	comp=Z,4µm,4.2s							
KBA	**Koelnbreinsper**	**149.30**	**353**	⇓*i*		PKPbc	06 41 57.1	+1.1
	comp=Z,408nm,1.3s							
KBA	**Koelnbreinsper**	**149.30**	**353**	⇓*i*	PKPdf	PKPdf	06 41 50.6	-1.0
	comp=Z,66nm,1.3s,SNR=43							
KBA				⇓*i*	PKiKP	PKiKP	06 41 57.1	-0.1
	comp=Z,408nm,1.3s							
KBA				⇑*i*	SKPbc	SKPbc	06 45 34.2	+4.0
	comp=Z,3µm,3.1s							
KBA	**Koelnbreinsper**	**149.30**	**353**	⇓*i*	P	PKPdf	06 41 50.6	-1.0
KBA				*i*			06 41 57.1	
KBA				*i*			06 45 34.2	
BOURR	**Bourrignon**	**149.30**	**1**	⇓*i*	PKPdf	PKPdf	06 41 51.5	-0.1
	comp=Z,3µm,1.8s							
CRAR	**CRAIOVA**	**149.31**	**337**		PKP2	PKPbc	06 41 56.3	+0.3
ZUR	**Zurich**	**149.33**	**359**	⇓*i*	PKPdf	PKPdf	06 41 51.3	-0.4
	comp=Z,2µm,1.8s							
ZUR	**Zurich**	**149.33**	**359**	⇓	P	PKPdf	06 41 51.6	-0.1
LOMF	**Lomont**	**149.34**	**2**		PKP	PKPdf	06 41 51.9	+0.2
MFF	**Saint Martin d**	**149.35**	**11**	⇓*i*	PKIKP	PKPdf	06 41 51.6	-0.1
	comp=Z,3µm,1.5s							
SZH	**Strazhica**	**149.35**	**334**	*i*	P	PKPdf	06 41 51.5	-0.2
BALST	**Balsthal**	**149.37**	**0**	⇓*i*	PKPdf	PKPdf	06 41 51.5	-0.2
	comp=Z,4µm,1.8s							
SQTA	**Sankt Quirin**	**149.37**	**356**	*i*		PKPbc	06 41 58.6	+2.5
	comp=Z,321nm,1.0s							
SQTA	**Sankt Quirin**	**149.37**	**356**	*i*		pPKPdf	06 42 07.8	+3.3
	comp=Z,384nm,0.8s							
SQTA	**Sankt Quirin**	**149.37**	**356**	⇑*i*	PKPdf	PKPdf	06 41 52.4	+0.7
	comp=Z,68nm,1.1s,SNR=70							
SQTA		

FUSIO	Fusio	150.24	359	⇓	*i* PKPdf	PKPdf	06 41 53.0	-0.1
	comp=Z,902nm,1.1s							
STS	Santiago	150.26	25		PKIKP	PKPdf	06 41 54.8	+1.7
VOY	Vojsko	150.26	352		*e*PKPdf	PKPdf	06 41 52.7	-0.4
FAU	Forcella Aurin	150.29	354	⇓	*i* Pn	PKPdf	06 41 52.8	-0.4
MLNI	Malnisio	150.30	353	⇓	*i* Pn	PKPdf	06 41 52.7	-0.5
LKBD	Leukerbad	150.31	0	⇓	*i* PKPdf	PKPdf	06 41 53.4	+0.2
	comp=Z,1μm,1.2s							
LKBD	Leukerbad	150.31	0	⇓	P	PKPdf	06 41 53.1	-0.1
LKBD				⇑	P		06 41 54.6	
SENIN	Lac Senin	150.34	1	⇓	*i* PKPdf	PKPdf	06 41 53.1	-0.2
	comp=Z,5μm,3.3s							
AIGLE	Aigle	150.35	1	⇓	*i* PKPdf	PKPdf	06 41 53.1	-0.2
	comp=Z,4μm,3.0s							
AGO	Saint Agoulin	150.37	7		PKP	PKPdf	06 41 54.6	+1.3
SISC	Sisak	150.38	348		iP	PKPdf	06 41 53.4	+0.1
PHNC	Paralimni	150.39	313		P	PKPdf	06 41 54.0	+0.7
EPON	Pontenova	150.43	23		PKP	PKPdf	06 41 55.0	+1.6
GRYON	Gryon	150.44	1	⇓	*i* PKPdf	PKPdf	06 41 53.4	0.0
	comp=Z,985nm,1.3s							
CAE	Caneva	150.46	354	⇓	*i* Pn	PKPdf	06 41 52.8	-0.7
TLI	Talmassons	150.47	353	⇓	*i* Pn	PKPdf	06 41 54.9	+1.4
CTI	Castel Tesino	150.50	355		PKIKP	PKPdf	06 41 53.1	-0.4
HNTI	Hanita	150.50	309		P	PKPdf	06 41 53.9	+0.4
PLDF	La Plantade	150.51	6		PKP	PKPdf	06 41 55.1	+1.6
DIM	Dimitrovgrad	150.51	333		*i* P	PKPdf	06 41 54.2	+0.7
BOJS	Bojanci	150.56	350		*e*PKPdf	PKPdf	06 41 53.8	+0.2
BOJS					*e*PKPbc	PKPbc	06 42 00.6	+1.5
BOJS					*i* PKPab	PKPab	06 42 05.4	-0.4
MABI	Malga Bissina	150.57	356		P	PKPdf	06 41 54.9	+1.3
OG05	Jujurieux	150.59	4		PKP	PKPdf	06 41 54.5	+0.8
MMLI	Mount Malkishu	150.60	307		P	PKPdf	06 41 54.7	+1.0
DIX	Grande Dixence	150.62	1	⇓	*i* PKPdf	PKPdf	06 41 53.8	+0.1
	comp=Z,2μm,2.0s							
DIX	Grande Dixence	150.62	1	⇓	P	PKPdf	06 41 54.7	+1.0
EMV	Vieux Emosson	150.63	2	⇓	*i* PKPdf	PKPdf	06 41 53.8	+0.1
	comp=Z,4μm,3.6s							
EMV	Vieux Emosson	150.63	2	⇓	P	PKPdf	06 41 54.5	+0.8
CGRP	Cima Grappa	150.65	355	⇓	*i* Pn	PKPdf	06 41 53.4	-0.4
MMK	Mattmark	150.65	0	⇓	*i* PKPdf	PKPdf	06 41 53.6	-0.2
	comp=Z,2μm,1.9s							
MMK	Mattmark	150.65	0	⇓	P	PKPdf	06 41 54.5	+0.7
PYM	Petit Puy Mans	150.66	7		PKP	PKPdf	06 41 54.2	+0.4
PGB	Panagyurishte	150.68	335		*i* P	PKPdf	06 41 53.6	-0.2
MTLO	Montello	150.69	354	⇓	*i* Pn	PKPdf	06 41 53.6	-0.2
GRUS	Gruza	150.75	341	⇑	*i* P	PKPbc	06 41 59.4	-0.1
MUGIO	Muggio	150.77	358	⇓	*i* PKPdf	PKPdf	06 41 53.6	-0.3
	comp=Z,3μm,2.5s							
GDZ	Gediz	150.77	324		*i* P	PKPdf	06 41 51.7	-2.2
PLD	Plovdiv	150.83	334		*i* P	PKPdf	06 41 52.8	-1.2
KDZ	Kurdzhali	150.89	333		*i* P	PKPdf	06 41 53.8	-0.3
RJF	Les Rejaudoux	150.89	9	⇓	*i* PKIKP	PKPdf	06 41 54.2	+0.1
	comp=Z,2μm,1.3s							
RJF					*e*R			
	comp=Z,26μm,21.0s							
RJF	Les Rejaudoux	150.89	9	⇓	*i* PKPdf	PKPdf	06 41 54.2	+0.1
RJF					LR	LR		
	comp=Z,26μm,21.0s,MS7.0							
CSS	Prodhromos	150.90	314		P	PKPdf	06 41 54.7	+0.6
	comp=Z,8.2nm,1.0s							
CSS	Prodhromos	150.90	314		*e*P	PKPdf	06 41 53.7	-0.4
DRGI	Dragot	150.98	306		P	PKPdf	06 41 53.8	-0.5
TKTP	Tekketepe	151.00	322		*i* P	PKPdf	06 41 54.5	+0.2
ISP	Isparta	151.01	321		*e*P	PKPdf	06 41 53.4	-0.9
VTS	Vitosha	151.02	336		*e*P	PKPdf	06 41 53.9	-0.4
VTS	Vitosha	151.02	336	⇓	*i* P	PKPdf	06 41 54.3	0.0
VTS	Vitosha	151.02	336		*i* P	PKPdf	06 41 54.4	+0.1
ORO	Oropa	151.08	360		PKIKP	PKPdf	06 41 54.0	-0.4
BTOK	Tokmak	151.08	327		*i* P	PKPbc	06 42 00.1	-0.2
LFF	La Frestale	151.11	11	⇓	*i* PKIKP	PKPdf	06 41 54.6	+0.1
	comp=Z,2μm,1.4s							
EARI	Arriondas	151.13	20		PKP	PKPdf	06 41 56.1	+1.6
BBLS	Bajina Basta -	151.16	343	⇑	*i* P	PKPdf	06 41 57.1	+2.6
RZN	Rozhen	151.16	333		*i* P	PKPdf	06 41 54.0	-0.5
LPL	La Plagne	151.17	2	⇓	*i* PKIKP	PKPdf	06 41 55.4	+0.8
	comp=Z,2μm,1.1s							
TEOL	Teolo	151.18	355	⇓	*i* Pn	PKPdf	06 41 54.2	-0.3
LPG	La Plagne	151.19	2	⇓	*i* PKIKP	PKPdf	06 41 55.7	+1.1
	comp=Z,2μm,1.1s							
LBL	Lubilhac	151.19	7		PKP	PKPdf	06 41 55.3	+0.7
ALN	Alexandroupoli	151.20	331		*e*P	PKPdf	06 41 53.5	-1.1
ERUA	La Rua	151.23	24		PKIKP	PKPdf	06 41 56.4	+1.8
RDO	Rodhopi	151.24	332	⇓	*i* P	PKPdf	06 41 54.1	-0.6
ALFC	Alevga	151.29	315		P	PKPdf	06 41 54.5	-0.2
	comp=Z,8.4nm,1.0s							
SZAC	Souni-Zanaja	151.32	314		P	PKPdf	06 41 54.8	0.0
BARS	Barje	151.33	338	⇑	*i* P	PKPbc	06 42 02.8	+2.0
CAF	Calviac	151.34	9	⇓	*i* PKIKP	PKPdf	06 41 55.1	+0.3
	comp=Z,1μm,1.3s							
GRN	Grenoble	151.40	3		PKP	PKPdf	06 41 56.0	+1.1
PCAB	Cabril	151.45	26		*e*PKPdf	PKPdf	06 41 56.0	+1.0
PCAB	Cabril	151.45	26		*e*PKPdf	PKPdf	06 41 55.9	+0.9
GDM	Grand'Maison	151.46	3		PKP	PKPdf	06 41 57.1	+2.1
NVLJ	Novalja	151.54	350		*i* P	PKPdf	06 41 53.9	-1.2
ZFRI	Zfri	151.57	304		P	PKPdf	06 41 55.9	+0.7
PPCY	Paphos	151.62	314		P	PKPdf	06 41 53.4	-1.8
BNI	Bardonecchia	151.63	2		*e*PKIKP	PKPdf	06 41 55.7	+0.4
BNI					*e*		06 42 03.7	
PLE	Pljevlja	151.66	342	⇑	*i* PKP	PKPdf	06 41 55.7	+0.4
MMB	Musomiste	151.66	335		*e*P	PKPdf	06 41 55.1	-0.2
MMB	Musomiste	151.66	335		*i* P	PKPdf	06 41 55.0	-0.3
PTO	Porto	151.68	27		*e*PKPbc	PKPbc	06 42 03.0	+1.4
KKB	Krupnik	151.69	336		*i* P	PKPdf	06 41 55.0	-0.3
VIVF	Saint-Julien-l	151.71	5	⇓	*i* PKIKP	PKPdf	06 41 55.9	+0.5
	comp=Z,2μm,1.2s							
ORIF	Oris-en-Rattie	151.73	3	⇓	*i* PKIKP	PKPdf	06 41 56.0	+0.6
	comp=Z,1μm,1.1s							
ORIF					*e*R			
	comp=Z,26μm,23.0s							
ELAN	Lanestosa	151.75	18		PKP	PKPdf	06 41 56.9	+1.4
ECAL	Calabor	151.77	24		PKP	PKPdf	06 41 57.0	+1.5
PRNI	Paran	151.78	304		PKIKP	PKPdf	06 41 56.1	+0.6
NVR	Nevrokopi	151.80	334	⇓	*i* P	PKPdf	06 41 54.7	-0.8
AKHS	Akhisar	151.84	326		*i* P	PKPdf	06 41 55.7	+0.1
OG22	Abries	151.87	2		PKP	PKPdf	06 41 56.7	+1.1
PBRG	Braganca	151.89	24		*e*PKPdf	PKPdf	06 41 56.4	+0.8
UPM	Unac-Piva	151.91	343	⇑	*i* PKP	PKPdf	06 41 55.6	-0.1
IVA	Berane	151.92	341	⇑	*i* PKP	PKPdf	06 41 55.9	+0.2
PVRL	Vila Real	151.94	26		*e*PKPdf	PKPdf	06 41 56.6	+0.9
MBDF	Montbardon	151.96	2	⇓	*i* PKIKP	PKPdf	06 41 56.3	+0.6
	comp=Z,688nm,0.9s							
BOZC	Bozcaada	152.02	329		*i* P	PKPdf	06 41 53.1	-2.7
EIL	Elat	152.08	303		*e*PKPdf	PKPdf	06 41 56.4	+0.5
EIL					*e*PKPbc	PKPbc	06 42 03.8	+1.3
AYVA	Ayvalik	152.11	328		*i* P	PKPbc	06 42 03.2	+0.6
PVY	Plav	152.15	341	⇑	*i* PKP	PKPdf	06 41 56.1	+0.1
STIP	Stip	152.18	337		*e*P	PKPdf	06 41 54.9	-1.2
STIP	Stip	152.18	337		*e*PKP	PKPdf	06 41 55.7	-0.4
	comp=Z,210nm,0.9s							
DOI	San Damiano	152.19	1		PKIKP	PKPdf	06 41 55.5	-0.6
SURF	Saint Ours	152.21	2		PKP	PKPdf	06 41 58.1	+2.0
ERBM	Eremo	152.21	356		P	PKPdf	06 41 56.4	+0.3
SKO	Skopje	152.21	338		*e*P	PKPdf	06 41 56.2	+0.1
SKO	Skopje	152.21	338		*e*PKP	PKPdf	06 41 55.2	-0.9
ZCCA	Zocca	152.24	355		P	PKPdf	06 41 57.0	+0.8
NKY	Niksic	152.25	342	⇑	*i* PKP	PKPdf	06 41 55.1	-1.1
GSCL	Gusciola	152.26	356		P	PKPdf	06 41 56.5	+0.3
EALK	Alkurruntz	152.28	15		PKP	PKPdf	06 41 57.7	+1.5
OG25	Le Caire	152.29	3		PKP	PKPdf	06 41 57.4	+1.2
BRY	Bratogost	152.29	343	⇑	*i* PKP	PKPdf	06 41 55.8	-0.5
OSSF	Osses	152.31	15		PKP	PKPdf	06 41 56.4	+0.1
ELIZ	Elizondo	152.33	15		PKIKP	PKPdf	06 41 56.7	+0.4
PVIS	Viseu	152.33	27		*e*PKPdf	PKPdf	06 41 57.3	+1.0
VAY	Valandovo	152.35	336		*e*P	PKPdf	06 41 55.1	-1.3
VAY	Valandovo	152.35	336		*e*PKP	PKPdf	06 41 55.6	-0.7
KNT	Kendrikon	152.36	335		*e*P	PKPdf	06 41 55.6	-0.8
PRK	Paraskevi	152.37	328	⇓	*i* P	PKPdf	06 41 55.7	-0.6
PMAR	Madeira	152.37	50		*e*PKPdf	PKPdf	06 41 56.9	+0.5
LASF	Ste Croix	152.41	6	⇓	*i* PKIKP	PKPdf	06 41 57.1	+0.7
	comp=Z,940nm,1.2s							
FNVD	Fontana Vidola	152.41	355		P	PKPdf	06 41 56.7	+0.3
LOS	Limnos	152.41	331		*e*P	PKPdf	06 41 54.4	-2.1
ORDF	Ordiarp	152.42	14		PKP	PKPdf	06 41 56.7	+0.3
SJPF	Ste Jean	152.45	15	⇓	*i* PKIKP	PKPdf	06 41 56.9	+0.4
	comp=Z,2μm,1.9s							
STV	Sta Anna Valdi	152.45	1		PKIKP	PKPdf	06 41 55.6	-0.9
SOH	Sokhos	152.46	334		*e*P	PKPdf	06 41 54.0	-2.4
VLC	Villacollemand	152.47	356		P	PKPdf	06 41 55.7	-0.8
VLC					*e*PKPbc	PKPbc	06 42 04.0	+0.5
KDAG	Bornova	152.48	326		*i* P	PKPdf	06 41 55.8	-0.7
FIN	Finale Ligure	152.49	360		PKIKP	PKPdf	06 41 56.0	-0.5
TTG	Podgorica	152.52	342	⇑	*i* PKP	PKPdf	06 41 55.9	-0.7
BDI	Bagni Di Lucca	152.55	356		PKIKP	PKPdf	06 41 55.3	-1.3
VMG	Vicchio	152.57	354		P	PKPdf	06 41 57.2	+0.5
LARF	Larrau	152.58	14		PKP	PKPdf	06 41 57.6	+0.9
OUR	Ouranopolis	152.59	333		*e*P	PKPdf	06 41 56.1	-0.6
SFI	Santa Sofia	152.60	354		PKIKP	PKPdf	06 41 57.0	+0.3
AKAS	Kas	152.60	320		*i* P	PKPdf	06 41 56.1	-0.6
BLCB	Balcova	152.61	326		*e*P	PKPdf	06 41 56.2	-0.5
PMPS	Porto Santo	152.63	49		*e*PKPdf	PKPdf	06 41 58.2	+1.5
STOF	St-Etienne Org	152.65	3		PKP	PKPdf	06 41 57.1	+0.3
SMRF	Simiane la Rot	152.65	4	⇓	*i* PKIKP	PKPdf	06 41 57.5	+0.7
	comp=Z,684nm,0.9s							
AYDN	Tasoluk	152.67	324		*i* P	PKPbc	06 42 05.4	+1.5
REYF	Montagne du Re	152.68	13		PKP	PKPdf	06 41 57.4	+0.6
TOUF	Mont Tournerai	152.68	1		PKP	PKPdf	06 41 57.2	+0.4
AUTN	L'Aution	152.70	1		PKP	PKPdf	06 41 57.1	+0.2
FSSB	Fossombrone	152.71	352		P	PKPdf	06 41 57.0	+0.1
HCY	Herceg Novi	152.72	343	⇑	*i* PKP	PKPdf	06 41 57.0	+0.1
GRG	Griva	152.73	336		*e*P	PKPdf	06 41 55.6	-1.3
AOI	Ancona	152.73	351		P	PKPdf	06 41 57.4	+0.5
MTE	Manteigas	152.74	27		*e*PKPdf	PKPdf	06 41 57.2	+0.3
MTE	Manteigas	152.74	27		*e*PKPdf	PKPdf	06 41 57.6	+0.7
MTE	Manteigas	152.74	27		*e*LQ		07 25 23.3	
MTE					*e*LR	LR	07 34 01.8	
	comp=Z,25μm,20.0s							
MTE	Manteigas	152.74	27		*e*PKPdf	PKPdf	06 41 57.5	+0.6
MTE					*e*PKPbc	PKPbc	06 42 05.4	+1.4
MTE					*e*PKPab	PKPab	06 42 15.7	+0.7
MTE					*e*PP	PP	06 45 45.7	-2.0
BUM	Brajici-Budva	152.74	342	⇑	*i* PKP	PKPdf	06 41 56.3	-0.6
HORT	Hortiatis	152.75	334		*e*P	PKPdf	06 41 55.3	-1.6
THE	Thessaloniki	152.78	335		*e*P	PKPdf	06 41 55.4	-1.6
PLG	Polygyros	152.79	334		*e*P	PKPdf	06 41 55.7	-1.2
PLG	Polygyros	152.79	334	⇓	*i* P	PKPdf	06 41 55.8	-1.2
PRAF	Pradon	152.79	4		PKP	PKPdf	06 41 57.9	+0.9
MVIF	Mont Vial	152.80	1		PKP	PKPdf	06 41 57.4	+0.4
LABF	Labassere	152.81	13		PKP	PKPdf	06 41 57.2	+0.2
LUCF	Luceram	152.81	1		PKP	PKPdf	06 41 57.4	+0.4
ETSF	Etsaut	152.81	14	⇓	*i* PKIKP	PKPdf	06 41 57.9	+0.9
	comp=Z,488nm,1.0s							
URLA	Izmir	152.87	327		*i* P	PKPbc	06 42 03.8	-0.6
CRE	Caprese Michel	152.87	354		PKIKP	PKPdf	06 41 56.5	-0.6
EPF	Esparros	152.88	12	⇓	*i* PKIKP	PKPdf	06 41 57.6	+0.5
	comp=Z,1μm,1.7s							
PII	Pisa	152.90	356		PKIKP	PKPdf	06 41 55.7	-1.4
MTLF	Montolieu	152.91	9	⇓	*i* PKIKP	PKPdf	06 41 57.3	+0.1
	comp=Z,942nm,1.7s							
ULC	Ulcinj	152.95	341	⇑	*i* PKP	PKPdf	06 41 56.5	-0.7
BADI	Badiali	152.95	353		P	PKPdf	06 41 56.9	-0.3
VIEF	Viey	152.95	13		PKP	PKPdf	06 41 58.4	+1.2
REVF	Revere	152.96	1		PKP	PKPdf	06 41 57.6	+0.4
CING	Cingoli	152.96	352		P	PKPdf	06 41 57.4	+0.2
TREF	Trevaresse	152.99	4		PKP	PKPdf	06 41 58.4	+1.1
PTOM	Tomar	153.00	29		*e*PKPdf	PKPdf	06 41 58.2	+0.9
CDCA	Citt' di Caste	153.00	353		P	PKPdf	06 41 57.9	+0.6
TAVF	Tavernes	153.04	3		PKP	PKPdf	06 41 57.7	+0.4
PAIG	Paliouri	153.06	333		*e*P	PKPdf	06 41 57.9	+0.6
CSNT	Castellina Chi	153.08	355		P	PKPdf	06 41 56.2	-1.2
BIA	Bitola	153.09	337		*e*P	PKPdf	06 41 56.7	-0.7
BIA	Bitola	153.09	337		*e*PKP	PKPdf	06 41 56.7	-0.7
	comp=Z,49nm,0.8s							
RESF	Ens	153.09	12		PKP	PKPdf	06 41 58.4	+1.0
MLS	Moulis	153.09	11		PKP	PKPdf	06 41 57.9	+0.5
PMAFR	Mafra	153.10	31		*e*PKPdf	PKPdf	06 41 57.6	+0.2
PMAFR	Mafra	153.10	31		*e*PKPdf	PKPdf	06 41 58.4	+1.0
PMAFR	Mafra	153.10	31		*e*LQ		07 26 47.4	
PMAFR					*e*LR	LR	07 32 23.1	
MELF	Melles	153.11	12		PKP	PKPdf	06 41 58.1	+0.7
SNTG	Esanatoglia	153.11	352		P	PKPdf	06 41 57.3	-0.2
FRF	La Foret Royal	153.12	2	⇓	*i* PKIKP	PKPdf	06 41 57.3	-0.2
	comp=Z,1μm,1.5s							
MURB	Monte Urbino	153.16	353		P	PKPdf	06 41 57.1	-0.4
EBIE	Bielsa	153.17	13		PKP	PKPdf	06 41 58.8	+1.2
OHR	Ohrid	153.20	338		*e*P	PKPdf	06 41 56.9	-0.7
OHR	Ohrid	153.20	338		*e*PKP	PKPdf	06 41 56.8	-0.8
	comp=Z,885nm,1.3s							
SMG	Samos	153.21	325		*e*P	PKPdf	06 41 56.7	-0.9
PLOU	Loures	153.22	31		*e*PKPdf	PKPdf	06 41 58.2	+0.6
PLOU	Loures	153.22	31		*e*PKPdf	PKPdf	06 41 58.4	+0.8
GELF	Grande-Etoile	153.23	4		PKP	PKPdf	06 41 58.4	+0.8
PCBR	Castelo Branco	153.23	27		*e*PKPdf	PKPdf	06 41 58.2	+0.6
ALMR	Almeirim	153.29	30		*e*P	PKPdf	06 41 57.3	-0.4
SALF	Salau	153.30	11		PKP	PKPdf	06 41 58.1	+0.4
TIR	Tirane	153.31	340		*e*P	PKPdf	06 41 56.9	-0.8
BDRM	Kayabasi	153.33	324		*i* P	PKPbc	06 42 02.8	-2.5
LMR	La Mourre	153.34	2	⇓	*i* PKIKP	PKPdf	06 41 57.7	-0.1
	comp=Z,875nm,1.3s							
ASS	Assisi	153.34	352		PKIKP	PKPdf	06 41 57.4	-0.4
LIS	Lisbon	153.35	31		*e*P	PKPdf	06 41 57.0	-0.8
LRDF	Laroque-de-Fa	153.36	9		PKP	PKPdf	06 41 58.7	+0.9
LIT	Litokhoron	153.42	335		*e*P	PKPdf	06 41 56.4	-1.5
GRFL	Gerfalco	153.43	355		P	PKPdf	06 41 57.4	-0.5
ARG	Arkhangelos	153.52	321		*e*P	PKPdf	06 41 57.6	-0.5
KZN	Kozani	153.53	336	⇓	*i* P	PKPdf	06 41 57.2	-0.9
AOS	Alonnisos	153.58	331		*e*P	PKPdf	06 41 57.4	-0.7
CHIE	El Hierro	153.61	61		PKP	PKPdf	06 42 00.0	+1.8
TERO	Teramo	153.64	351		P	PKPdf	06 41 58.0	-0.2
FILF	Fillols	153.73	9		PKP	PKPdf	06 41 58.9	+0.6
XOR	Xorichti	153.73	333		*e*P	PKPdf	06 41 57.8	-0.5
NEO	Neokhori	153.76	333	⇓	*i* P	PKPdf	06 41 57.4	-1.0
VALF	Valcebollere	153.80	10		PKP	PKPdf	06 41 59.4	+1.0
LATE	Laterza	153.88	354		P	PKPdf	06 41 58.5	-0.1
EJON	La Jonquera	153.89	9		PKP	PKPdf	06 41 58.4	-0.1
AQU	L'Aquila	153.93	351	⇑	*i* P	PKPdf	06 41 58.0	-0.6
AQU	L'Aquila	153.93	351		*e*PKPdf	PKPdf	06 41 58.9	+0.3
ESAC	San Caprasio	153.94	15		PKP	PKPdf	06 42 00.7	+2.1
PESTR	Estremoz	153.98	29		*e*PKPdf	PKPdf	06 41 58.5	-0.2
PESTR	Estremoz	153.98	29		*e*PKPdf	PKPdf	06 41 59.3	+0.6
PESTR	Estremoz	153.98	29		*e*LQ		07 24 31.3	
PESTR					*e*LR	LR	07 33 21.5	
MNS	Montasola	154.00	352		PKIKP	PKPdf	06 41 58.0	-0.7
EVO	Evora	154.05	30	⇓	*i* PKIKP	PKPdf	06 41 59.1	+0.3
	comp=Z,431nm,1.1s							
EVO					*e*R			
	comp=Z,17μm,19.5s							
FIAM	Fiamignano	154.06	351		P	PKPdf	06 41 59.0	+0.2
FGMS	Monte Sant'Ang	154.07	346		P	PKPdf	06 41 59.4	+0.6
SGRT	San Giovanni R	154.07	347		P	PKPdf	06 41 58.8	0.0
EGOM	La Somera	154.09	59		PKP	PKPdf	06 42 01.8	+3.0
MAON	Monte Argentar	154.13	355		P	PKPdf	06 41 58.6	-0.3
RGNG	Rignano Grg	154.18	347		P	PKPdf	06 41 59.5	+0.5
MEV	Metsovon	154.19	336		*e*P	PKPdf	06 41 59.9	+0.9
EBAD	Badajoz	154.33	28		PKP	PKPdf	06 41 59.9	+0.7
CIGN	Sant'Elia a Pi	154.34	348		P	PKPdf	06 41 59.2	0.0
ETOR	Torete	154.37	18		PKIKP	PKPdf	06 42 01.0	+1.8
APE	Apeiranthos	154.39	326		*e*P	PKPdf	06 41 58.0	-1.2
APE	Apeiranthos	154.39	326	⇓	*i* P	PKPdf	06 41 57.7	-1.6
APE	Apeiranthos	154.39	326	⇓	*i* P	PKPdf	06 41 58.1	-1.2
APE	Apeiranthos	154.39	326	⇑	PKIKP	PKPdf	06 41 57.7	-1.6
AGG	Agios Georgios	154.39	333		*e*P	PKPdf	06 41 59.6	+0.3
CERT	Cerreto	154.39	351		PKP	PKPdf	06 41 58.9	-0.4
LKR	Lokris	154.40	332	⇓	*i* P	PKPdf	06 41 58.4	-0.9
TOLF	Tolfa	154.41	353		P	PKPdf	06 41 59.2	-0.1
RNI2	Rionero Sannit	154.44	349		P	PKPdf	06 41 59.7	+0.4
JAN	Janina	154.45	337		*e*P	PKPdf	06 41 59.7	+0.3
PTEO	Sao Teotonio	154.47	32		*e*PKPdf	PKPdf	06 42 00.4	+1.0
MIDA	Miranda	154.48	349		P	PKPdf	06 41 59.4	+0.3
PTL	Penteli	154.48	330		*e*P	PKPdf	06 41 57.0	-2.4
GUAR	Guarcino	154.49	351		P	PKPdf	06 42 00.2	+0.8
PBEJ	Beja	154.52	30		*e*PKPdf	PKPdf	06 41 59.8	+0.4
KARP	Karpathos	154.55	321	⇓	*i* P	PKPdf	06 41 59.3	-0.2
CCAN	Las Canadas	154.56	59		PKP	PKPdf	06 42 02.4	+2.9
RDP	Rocca di Papa	154.62	352		PKIKP	PKPdf	06 41 59.4	-0.2
ATH	Athens Observa	154.62	330		*e*P	PKPdf	06 41 58.4	-1.2
EPOB	Poblet	154.64	12		PKP	PKPdf	06 42 00.8	+1.2
EBAJ	Bajamar	154.66	58		PKP	PKPdf	06 42 00.4	+0.7
MORF	Marmelete	154.69	32		*e*P	PKPdf	06 41 59.0	-0.6
EVR	Evrytania	154.70	334	⇓	*i* P	PKPdf	06 41 59.9	+0.2
FG4	Candela	154.72	347		PKIKP	PKPdf	06 41 58.9	-0.8
IGT	Igoumenitsa	154.75	337		*e*P	PKPdf	06 41 57.7	-2.0
ESDC	Sonseca Array	154.78	22		PKP	PKPdf	06 42 00.3	+0.5
	comp=Z,6.4nm,0.7s,baz=343,slow=2.8,SNR=36							
ESDC					PKPbc	PKPbc	06 42 09.8	+1.3
	comp=Z,32nm,0.9s,baz=343,slow=2.2,SNR=26							
ESDC					PKPab	PKPab	06 42 24.2	+0.6
	comp=Z,32nm,0.9s,baz=324,slow=3.5,SNR=8.9							
ESDC					PP	PP	06 45 57.3	-1.8
	comp=Z,9.3nm,1.0s,baz=328,slow=5.3,SNR=4.1							
ESDC	Sonseca Array	154.78	22		PKP	PKPdf	06 41 59.4	-0.4
ESLA	Sonseca Array	154.78	22		*e*PKPdf	PKPdf	06 42 00.7	+0.9
ESLA					*e*PKPbc	PKPbc	06 42 10.0	+1.5
ESLA					*e*PKPab	PKPab	06 42 24.7	+1.2
ESLA					LR	LR		
	comp=Z,130μm,22.0s							
PSB1	Pescosannita	154.78	348		P	PKPdf	06 41 59.5	-0.3
LCI	Lecce	154.78	342		PKIKP	PKPdf	06 42 01.1	+1.3
KEK	Kerkira	154.79	338	⇓	*i* P	PKPdf	06 41 59.8	-0.1
ERTA	Horta de San J	154.86	14		PKP	PKPdf	06 42 01.6	+1.7
RFI	Roccamonfina	154.86	349		P	PKPdf	06 42 00.8	+0.9
NAIG	Nisos Aigina	154.90	330		*e*P	PKPdf	06 41 56.5	-3.5
SANT	Santorini	154.94	325		*e*P	PKPdf	06 41 59.0	-1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAB	**Ashibetsu**	**0.06**	**275**	⇑P	Pn	06 35 53.3	+0.2
JAB				*e*S	Sn	06 36 12.3	+0.2
JFR	**Furan**	**0.40**	**147**	P	Pn	06 35 53.6	-0.1
JFR				*e*S	Sn	06 36 13.1	-0.2
JHR	**Hokuryu**	**0.48**	**300**	⇑P	Pn	06 35 54.5	+0.5
JHR				*e*S	Sn	06 36 14.5	+0.7
JKK2	**Kamakawa 2**	**0.49**	**41**	⇑P	Pn	06 35 54.4	+0.3
JKK2				*e*S	Sn	06 36 14.1	+0.2
JEW	**Eniwo**	**0.91**	**224**	P	Pn	06 35 56.6	+0.4
JEW				*e*S	Sn	06 36 17.4	-0.4
JAR	**Ashorobuto**	**1.09**	**100**	⇑P	Pn	06 35 58.1	+0.6
JAR				*e*S	Sn	06 36 20.0	-0.1
JYG	**Yagishiri**	**1.12**	**326**	⇑P	Pn	06 35 57.6	-0.2
JYG				*e*S	Sn	06 36 19.6	-0.9
JCH	**Churui**	**1.18**	**138**	⇑P	Pn	06 35 57.6	-0.6
JCH				*e*S	Sn	06 36 18.8	-2.5
JTKR	**Abashiri--Toko**	**1.26**	**67**	⇑P	Pn	06 35 59.5	+0.6
JTKR				*e*S	Sn	06 36 22.6	+0.2
JNBK	**Urakawa-nobuka**	**1.26**	**165**	⇑P	Pn	06 35 59.9	+1.0
JNBK				*e*S	Sn	06 36 23.3	+0.8
JSK	**Shakotan**	**1.34**	**264**	P	Pn	06 35 59.5	-0.1
JSK				*e*S	Sn	06 36 22.8	-0.9
JSE	**Soyaes**	**1.47**	**8**	⇑P	Pn	06 36 00.7	-0.1
JSE				*e*S	Sn	06 36 24.9	-0.9
JAK	**Akkeshi**	**1.82**	**105**	P	Pn	06 36 03.8	-0.3
JAK				*e*S	Sn	06 36 30.2	-1.7
JWK2	**Keihoku**	**1.84**	**351**	⇑P	Pn	06 36 04.4	+0.1
JWK2				*e*S	Sn	06 36 31.2	-1.0
JKB	**Kayabe**	**1.86**	**211**	⇓P	Pn	06 36 04.4	-0.2
JKB				*e*S	Sn	06 36 30.7	-1.9
JRA	**Rausu**	**2.09**	**77**	P	Pn	06 36 07.8	+0.8
JRA				*e*S	Sn	06 36 38.0	+1.1
JOT	**Ohata**	**2.31**	**204**	⇓P	Pn	06 36 09.1	-0.3
JOT				*e*S	Sn	06 36 39.4	-1.8
NEM2	**Nemuro 2**	**2.51**	**92**	P	Pn	06 36 10.7	-1.0
NEM2				*e*S	Sn	06 36 42.3	-3.0
JOSM	**Okushiri--Mats**	**2.52**	**237**	⇓P	Pn	06 36 11.4	-0.3

IDC ***28*** *06:36:12.3±0.5, 1659S×172.17W, h0km, mb4.4/17, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, Error ellipse: s-maj=23.3km s-min=14.6km az=142.0*

ISCJB ***28*** *06:36:15.8±0.4, 165S±0.1×17229W±0.10, h33km, mb4.5/24, Error ellipse: s-maj=17.7km s-min=9.3km az=98.8*

NEIC ***28*** *06:36:17.6±0.2, 1659S×17222W, h35km, mb4.8/6, Error ellipse: s-maj=11.3km s-min=5.9km az=140.0*

ISC 28 06:36:17.9±0.4, 166S±01×17220W±010, h35km, (h73km±5km:pP-P), n54, σ0°56/32, mb4.5/24, 6C-9D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.73**	**9**	Pn	**Pn**	**06 36 51.7**	**-7.5**
AFI	26nm,0.3s,baz=239,slow=18,SNR=6.8			Sn	**Sn**	**06 37 21.5**	**-10**
DZM	164nm,0.3s,baz=0.9,slow=23,SNR=5.9 **Mont Dzumac**	**20.86**	**252**	P	**P**	**06 40 57.2**	**+0.5**
URZ	5.8nm,1.0s,baz=90,slow=19,SNR=2.3 **Urewera**	**23.51**	**201**	P	**P**	**06 41 25.9**	**+1.1**
RPZ	3.7nm,0.4s,mb4.2,baz=261,slow=18,SNR=3.8 **Rata Peaks**	**30.52**	**204**	P	**P**	**06 42 36.0**	**+8.2**
STKA	5.5nm,0.6s,mb4.6,baz=56,slow=3.6,SNR=3.9 **Stephens Creek**	**44.44**	**241**	P	**P**	**06 44 24.4**	**-1.1**
WRA	16nm,1.1s,mb4.7,baz=75,slow=7.7,SNR=5.9 **Warramunga Arr**	**50.70**	**258**	P	**P**	**06 45 13.6**	**-0.3**
AS31	1.3nm,0.4s,mb4.2,baz=96,slow=7.4,SNR=23 **Alice Springs**	**50.84**	**253**	*e*P	**P**	**06 45 14.8**	**-0.3**
AS31				*e*		06 45 33.3	
ASAR	**Alice Springs**	**50.84**	**253**	P	**P**	**06 45 14.7**	**-0.3**
FITZ	22nm,0.8s,mb5.2,baz=88,slow=8.6,SNR=134 **Fitzroy Crossi**	**59.09**	**259**	P	**P**	**06 46 15.6**	**+0.9**
VNDA	0.5nm,0.4s,mb3.9,baz=142,slow=17,SNR=3.4 **Vanda**	**62.29**	**186**	P	**P**	**06 46 36.2**	**-0.2**
MJAR	3.0nm,0.9s,mb4.4,baz=345,slow=6.1,SNR=6.9 **Matsushiro Arr**	**70.61**	**319**	P	**P**	**06 47 30.3**	**+0.6**
MJAR	0.7nm,0.3s,mb4.0,baz=163,slow=4.6,SNR=5.3 **Matsushiro Arr**	**70.61**	**319**	P	**P**	**06 47 30.3**	**+0.6**
SAO	**San Andreas Ge**	**71.48**	**41**	*e*P	**P**	**06 47 34.2**	**-0.8**
QSPA	16nm,1.4s,mb4.8 **South Pole Qui**	**73.43**	**180**	*e*P	**P**	**06 47 46.2**	**-0.3**
MTUM	11nm,1.1s,mb4.7 **Tungsten Hills**	**73.67**	**42**	*e*P	**P**	**06 47 48.3**	**+0.4**
MTUM				*e*		06 48 06.5	
YBH	**Yreka Blue Hor**	**73.89**	**36**	P	**P**	**06 47 49.5**	**+0.3**
NVAR	8.9nm,0.8s,mb4.7,baz=205,slow=1.3,SNR=26 **Mina Array Bea**	**74.47**	**41**	P	**P**	**06 47 52.6**	**0.0**
TPH	7.3nm,0.9s,mb4.6,baz=230,slow=11,SNR=12 **Tonopah**	**74.95**	**42**	*e*P	**P**	**06 47 55.4**	**0.0**
TPH	20nm,1.0s,mb5.0			*e*		06 48 13.2	
MOD	**Modoc**	**75.38**	**37**	*e*P	**P**	**06 47 57.7**	**-0.2**
BMN	6.3nm,0.9s,mb4.5 **Battle Mountai**	**76.33**	**40**	*e*P	**P**	**06 48 02.8**	**-0.5**
BMN	8.7nm,0.9s,mb4.7			*e*pP	pP	06 48 22.3	+8.1
WVOR	**Wild Horse Val**	**76.68**	**38**	*e*P	**P**	**06 48 05.3**	**+0.1**
MSU	13nm,1.1s,mb4.8 **Marysvale**	**78.50**	**44**	*e*P	**P**	**06 48 16.3**	**+0.9**
MSU				*e*PcP	PcP	06 48 26.0	+1.5
MSU				*e*pP	pP	06 48 35.6	+9.2
HAWA	**Hanford**	**78.63**	**34**	*e*P	**P**	**06 48 16.0**	**-0.2**
HAWA	0.8nm,1.4s,mb3.5			*e*PcP	PcP	06 48 25.2	+0.2
HAWA				*e*pP	pP	06 48 35.6	+8.5
ANMO	**Albuquerque**	**80.71**	**49**	P	**P**	**06 48 27.6**	**+0.2**
PDAR	5.0nm,1.1s,mb4.4,baz=216,slow=8.6,SNR=3.9 **Pinedale Array**	**82.41**	**41**	P	**P**	**06 48 35.7**	**-0.7**
MAW	1.1nm,0.8s,mb3.8,baz=222,slow=2.0,SNR=3.7 **Mawson**	**87.00**	**198**	P	**P**	**06 48 58.7**	**-0.8**
PLCA	3.7nm,0.9s,mb4.6,baz=126,slow=5.1,SNR=6.2 **Paso Flores**	**87.84**	**132**	P	**P**	**06 49 04.4**	**+0.8**
JTS	2.3nm,1.0s,mb4.4,baz=51,slow=4.8,SNR=3.5 **Juntas Abangare**	**90.30**	**79**	P	**P**	**06 49 15.3**	**+0.2**
SNAA	18nm,0.9s,mb5.4,baz=294,slow=4.4,SNR=12 **Sanae**	**91.63**	**177**	P	**P**	**06 49 20.8**	**-0.5**
CFAA	1.1nm,0.9s,mb4.2,baz=217,slow=5.4,SNR=6.3 **Coronel Fontan**	**92.82**	**124**	P	**P**	**06 49 27.0**	**+0.2**
CLL	0.5nm,0.9s,mb3.9,baz=186,slow=2.1,SNR=5.5 **Collm**	**145.15**	**354**	*i* PKPdf	PKPdf	06 55 51.4	-0.2
IAS	comp=Z,15nm,1.0s **Iasi**	**145.41**	**336**	⇑*i*P	PKPbc	06 55 53.9	+1.8
STHS	**Stebnicka Huta**	**145.52**	**344**	*e*PKP	PKPdf	06 55 53.3	+1.0
MALT	**Malatya**	**145.54**	**315**	⇓*i*P	PKPbc	06 55 54.8	+2.5
BURAR	**Bucovina Array**	**145.92**	**339**	⇓*i*P	PKPdf	06 55 55.1	+2.1
MORC	**Moravsky Berou**	**146.00**	**349**	⇓*i*P	PKPdf	06 55 54.3	+1.2
KMBO	**Kilima Mbogo**	**146.00**	**242**	PKPbc	PKPbc	06 55 56.0	+2.0
KECS	comp=Z,6.8nm,0.8s,baz=82,slow=1.9,SNR=11 **Kecovo**	**146.57**	**345**	*e*PKP	PKPdf	06 55 56.2	+2.1
CFR	**Carcaliu**	**146.81**	**333**	⇑*i*P	PKPdf	06 55 57.7	+3.2
VRI	**Vrincioaia**	**146.83**	**336**	⇓*i*P	PKPdf	06 55 57.3	+2.8
PLOR	**Plostina**	**146.88**	**336**	⇓*i*P	PKPdf	06 55 57.4	+2.8
VYHS	**Vyhne**	**146.96**	**346**	*e*PKP	PKPdf	06 55 57.6	+2.9
PSZ	**Piszkesteto**	**147.24**	**345**	⇑*i*P	PKPdf	06 55 57.8	+2.6
TIRR	**Tirgusor**	**147.25**	**332**	⇓*i*P	PKPdf	06 55 55.6	+0.4
HARR	**Harsova**	**147.28**	**333**	⇑*i*P	PKPbc	06 55 59.6	+2.0
MLR	**Muntele Rosu**	**147.45**	**336**	PKPbc	PKPbc	06 55 58.8	+0.7
MLR	comp=Z,11nm,1.0s,baz=132,slow=2.4,SNR=6.4 **Muntele Rosu**	**147.45**	**336**	⇓*i*P	PKPbc	06 55 59.5	+1.4
GERES	**GERESS Array B**	**147.50**	**353**	PKPbc	PKPbc	06 55 57.4	-0.8
BRTR	comp=Z,4.1nm,0.9s,baz=40,slow=2.3,SNR=8.1 **Keskin Array B**	**147.83**	**321**	PKPbc	PKPbc	06 55 59.2	+0.1
VOIR	comp=Z,3.8nm,0.8s,baz=151,slow=1.7,SNR=8.4	**147.84**	**337**	⇓*i*P	PKPbc	06 56 00.9	+1.8
GZR	**Gura Zlata**	**148.69**	**339**	⇓*i*P	PKPbc	06 56 02.2	+0.8
BZS	**Buzias**	**148.86**	**341**	⇑*i*P	PKPbc	06 56 02.5	+0.7
PKSM	**Moragy**	**149.15**	**345**	⇑*i*P	PKPbc	06 56 02.9	+0.4

ISCJB ***28*** *06:37:56.9±0.7, 1102N±003×6228W±003, h101km±7km, Error ellipse: s-maj=6.0km s-min=4.7km az=96.0*

FUNV ***28*** *06:37:56.7, 11.13N×6218W, h99km, MW3.2*

NEIC ***28*** *06:37:58.5, 1103N×6227W, h89km, MD3.0(TRN), After TRN.*

TRN ***28*** *06:37:58.5, 1103N×6227W, h90km, MD3.0*

ISC 28 06:37:57.7±0.7, 1102N±003×6228W±003, h97km±7km, n22, σ0°70/37, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.38**	**172**	*e*P	**Pn**	**06 38 12.1**	**-0.3**
GUIV				*e*S	**Sn**	**06 38 23.5**	**+0.2**
TCE	**Chacachacare**	**0.61**	**122**	*e*S	**Sn**	**06 38 25.7**	**-0.6**
ITEV	**Isla Los Testi**	**0.90**	**292**	*e*P	**Pn**	**06 38 16.2**	**-0.6**
ITEV				*e*S	**Sn**	**06 38 30.1**	**-1.1**
TRN	**Trinidad (W)**	**0.94**	**113**	⇑*i*P	**Pn**	**06 38 17.5**	**+0.3**
TRN				*e*S	**Sn**	**06 38 31.3**	**-0.6**
CRUV	**Carupano**	**1.00**	**250**	⇓*i*P	**Pn**	**06 38 18.6**	**+0.6**
CRUV				*e*S	**Sn**	**06 38 33.6**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.07**	**131**	*e*P	**Pn**	**06 38 20.2**	**+1.4**
TPP				*e*S	**Sn**	**06 38 34.0**	**-0.6**
GUNV	**Guanoco**	**1.08**	**217**	*e*P	**Pn**	**06 38 19.7**	**+1.0**
GUNV				*e*S	**Sn**	**06 38 36.0**	**+1.3**
GRW	**Mount Saint Ca**	**1.28**	**28**	*e*P	**Pn**	**06 38 21.3**	**+1.2**
GRW				*e*S	**Sn**	**06 38 37.6**	**-1.2**
TBH	**Brigand Hill**	**1.30**	**114**	*e*P	**Pn**	**06 38 21.8**	**+0.4**
TBH				*e*S	**Sn**	**06 38 40.0**	**+0.6**
GRHS	**Sauteurs**	**1.35**	**27**	*e*P	**Pn**	**06 38 22.6**	**+0.7**
GRHS				*e*S	**Sn**	**06 38 40.5**	**+0.3**
GRSS	**Sisters**	**1.43**	**27**	*e*P	**Pn**	**06 38 23.8**	**+0.9**
GRSS				*e*S	**Sn**	**06 38 41.8**	**-0.2**
GRIC	**Isle de Caille**	**1.43**	**28**	*e*P	**Pn**	**06 38 23.4**	**+0.5**
GRIC				*e*S	**Sn**	**06 38 41.5**	**-0.5**
TPR	**Prospect**	**1.48**	**84**	*e*P	**Pn**	**06 38 23.7**	**+0.1**
TPR				*e*S	**Sn**	**06 38 43.0**	**-0.2**
TPR	**Prospect**	**1.48**	**84**	*e*P	**Pn**	**06 38 23.7**	**+0.1**
TPR				*e*S	**Sn**	**06 38 43.0**	**-0.2**
BOT	**Bacolet**	**1.54**	**85**	*e*P	**Pn**	**06 38 24.1**	**-0.2**
BOT				*e*S	**Sn**	**06 38 43.9**	**-0.5**
GRCU	**Cariacou**	**1.65**	**29**	*e*P	**Pn**	**06 38 26.0**	**+0.4**
GRCU				*e*S	**Sn**	**06 38 47.7**	**+0.8**
PCRV	**Puerto La Cruz**	**2.47**	**250**	*e*P	**Pn**	**06 38 36.1**	**-0.2**
GURV	**El Guri**	**3.34**	**194**	*e*P	**Pn**	**06 38 47.7**	**-0.2**
BIRV	**Birongo**	**3.96**	**262**	*e*P	**Pn**	**06 38 55.9**	**-0.4**
LUEV	**Luepa**	**5.21**	**171**	*e*P	**Pn**	**06 39 11.4**	**-1.8**
CAOV	**Caicara del Or**	**5.43**	**228**	*e*P	**Pn**	**06 39 15.3**	**-0.8**
SJG	**San Juan** 28nm,0.3s	**7.98**	**332**	*e*P	**Pn**	**06 39 56.4**	**+5.5**

IDC 28 06:45:48.8±8.1, 978S×12413E, h71km±65km, mb3.7/1, mb1 3.8/4, mb1mx3.5/14, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=71.2km s-min=56.0km az=60.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 10.0nm,0.2s	**8.40**	**170**	*e*P	Pn	06 47 47.5	-0.3
FITZ				*e*S	Sn	06 49 21.6	+0.5
FITZ	**Fitzroy Crossi** 2.3nm,0.3s,baz=4.2,slow=11,SNR=62	**8.40**	**170**	P	Pn	06 47 47.7	-0.1
FITZ				S	Sn	06 49 21.4	+0.4
KAKA	6.8nm,0.3s,baz=267,slow=19,SNR=14 **Kakadu**	**8.66**	**110**	*e*P	Pn	06 47 54.7	+3.5
KAKA	12nm,0.6s			*e*S	Sn	06 49 31.2	+4.0
WRA	**Warramunga Arr**	**14.12**	**137**	P	Pn	06 49 05.7	+0.5
WRA	0.3nm,0.3s,baz=309,slow=14,SNR=15			S	Sn	06 51 41.2	+0.9
WB2	1.0nm,0.3s,baz=317,slow=24,SNR=11 **Warramunga Arr**	**14.12**	**137**	*e*P	Pn	06 49 06.1	+0.8
ASAR	**Alice Springs**	**16.67**	**147**	P	Pn	06 49 39.0	+1.2
ASAR	0.5nm,0.3s,baz=318,slow=12,SNR=18			S		06 52 43.5	-5.9
STKA	0.4nm,0.3s,baz=315,slow=21,SNR=10.0 **Stephens Creek**	**27.30**	**146**	P	P	06 51 26.7	0.0
	0.8nm,0.4s,baz=344,slow=11,SNR=4.6						

NEIC ***28*** *06:54:22.9, 1652N×9939W, h17km, MD3.8(MEX), After MEX.*

MEX 28 06:54:22.9±1.3, 1652N×9939W, h17km±116km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.61**	**305**	*i* P	Pg	06 54 32.0	-3.0
ACX				*i* S	Sg	06 54 40.0	-3.2
CAIG	**El Cayaco**	**0.99**	**302**	*i* P	Pb	06 54 39.1	-2.6
CAIG				*i* S	Sb	06 54 51.2	-3.2
MEIG	**Mezcala**	**1.42**	**351**	*i* P	Pn	06 54 44.7	-3.2
MEIG				*i* S	Sn	06 55 01.9	-4.3
PLIG	**Platanillo**	**1.87**	**357**	*i* P	Pn	06 54 51.6	-2.5
PLIG				*i* S	Sn	06 55 10.8	-6.5
UTMO	**Huajuapan**	**2.00**	**49**	*e*P	Pn	06 54 51.9	-4.1
UTMO				*i* S	Sn	06 55 18.0	-2.6
VHO	**Vista Hermosa**	**2.60**	**77**	*e*P	Pn	06 55 01.1	-3.1
VHO				*i* S	Sn	06 55 30.4	-5.0
OXX	**Oaxaca**	**2.62**	**77**	*i* P	Pn	06 55 01.0	-3.4
PPM	**Popocatepetl**	**2.64**	**16**	*i* P	Pn	06 55 02.0	-2.7
PPM				*i* P		06 55 02.9	
PPM				*i* S	Sn	06 55 34.0	-2.2
TPIG	**Tehuac#an**	**2.71**	**45**	*i* P	Pn	06 55 03.1	-2.6
TPIG				*i* S	Sn	06 55 34.1	-3.9
IIO	**Organos**	**3.12**	**12**	*i* P	Pn	06 55 16.3	+5.0
IIO				*i* S	Sn	06 55 54.7	+6.5

IDC 28 07:01:52.6±5.3, 1577S×17307W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML1.6/1, Error ellipse: s-maj=225.1km s-min=21.8km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.23**	**34**	Pn	Pn	07 02 30.8	0.0
AFI	9.1nm,0.3s,baz=240,slow=7.4,SNR=15			Sn	Sn	07 03 00.6	+1.5
STKA	72nm,0.3s,baz=332,slow=19,SNR=17 **Stephens Creek**	**44.13**	**240**	P	P	07 10 03.0	+0.3
WRA	1.7nm,0.7s,baz=90,slow=10,SNR=2.9 **Warramunga Arr**	**50.07**	**257**	P	P	07 10 48.8	-0.3
ASAR	0.5nm,0.3s,baz=98,slow=7,SNR=22 **Alice Springs**	**50.30**	**252**	P	P	07 10 52.0	+1.1
	6.0nm,0.5s,baz=88,slow=8.5,SNR=109						

ISCJB ***28*** *07:06:32.1±1.2, 3819N±007×14474E±008, h33km, mb3.5/2, Error ellipse: s-maj=11.5km s-min=6.7km az=92.3*

JMA ***28*** *07:06:34.1±0.1, 3812N×14460E, h56km, M4.3*

IDC ***28*** *07:06:53.2±1.7, 4023N×13927E, h215km±19km, mb3.0/3, mb1 3.1/5, mb1mx2.9/22, mbtmp3.5/5, Error ellipse: s-maj=54.9km s-min=19.1km az=94.0*

ISC 28 07:06:34.4±1.2, 3823N±006×14471E±008, h35km, n15, σ0°99/24, mb3.5/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.53**	**290**	P	**Pn**	**07 07 13.4**	**+0.4**
OFUJ				*e*S	**Sn**	**07 07 42.7**	**+0.1**
MIYJ	**Miyakonagasawa**	**2.63**	**302**	P	**Pn**	**07 07 14.9**	**+0.6**
MIYJ				S	**Sn**	**07 07 45.2**	**+0.2**
JIO	**Ouri**	**2.66**	**276**	P	**Pn**	**07 07 14.6**	**-0.1**
JIO				*e*S	**Sn**	**07 07 44.5**	**-1.2**
JMK	**Ichinoseki**	**2.83**	**286**	P	**Pn**	**07 07 17.7**	**+0.6**
JMK				S	**Sn**	**07 07 50.5**	**+0.5**
JCH	**Churui**	**4.50**	**347**	P	**Pn**	**07 07 40.7**	**+0.7**
JCH				*e*S	**Sn**	**07 08 30.8**	**-0.3**
JRY	**Ryogami san**	**5.14**	**246**	P	**Pn**	**07 07 47.7**	**-1.2**
JRY				*e*S	**Sn**	**07 08 42.2**	**-4.8**
NEM2	**Nemuro 2**	**5.19**	**8**	P	**Pn**	**07 07 47.9**	**-1.6**
NEM2				*e*S	**Sn**	**07 08 44.4**	**-3.7**
JOD2	**Odawara 2**	**5.40**	**238**	*e*S	**Sn**	**07 08 48.2**	**-5.2**
MJAR	**Matsushiro Arr**	**5.45**	**254**	P	**Pn**	**07 07 52.9**	**-0.2**
	2.1nm,0.3s,baz=79,slow=15,SNR=15						
MAT	**Matsushiro**	**5.45**	**254**	P	**Pn**	**07 07 53.7**	**+0.6**
MAT				S	**Sn**	**07 08 54.0**	**-0.6**
JTKR	**Abashiri--Toko**	**5.76**	**354**	P	**Pn**	**07 07 57.8**	**+0.4**
JTKR				*e*S	**Sn**	**07 09 00.3**	**-2.0**
JHR	**Hokuryu**	**5.95**	**339**	P	**Pn**	**07 08 02.9**	**+2.9**
ASAJ	**Asahikawa**	**6.09**	**345**	P	**Pn**	**07 08 03.0**	**+1.1**
	2.3nm,0.3s,baz=183,slow=15,SNR=6.4						
WRA	**Warramunga Arr**	**58.68**	**191**	P	**P**	**07 16 36.2**	**+7.8**
	0.4nm,0.5s,mb3.7,baz=10,slow=7.0,SNR=5.5						
ASAR	**Alice Springs**	**62.40**	**191**	P	**P**	**07 17 03.2**	**+10**
	0.1nm,0.5s,mb3.2,baz=3.8,slow=5.6,SNR=2.9						

WEL 28 07:17:57.1±0.7, 3655S×17944W, h33km, ML3.6/5, Error ellipse: s-maj=6.7km s-min=5.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.07**	**240**	PN	Pn	07 18 28.4	-1.2
MXZ				SN	Sn	07 18 52.4	-1.7
PUZ	**Puketiti**	**2.38**	**230**	PN	Pn	07 18 33.5	-0.4
PUZ				SN	Sn	07 19 00.8	-1.1
URZ	**Urewera**	**3.24**	**237**	PN	Pn	07 18 45.4	-0.1
URZ				SN	Sn	07 19 21.7	-1.2
KNZ	**Kokohu**	**3.37**	**222**	PN	Pn	07 18 46.5	-0.8
KNZ				*e*SN	Sn	07 19 24.3	-1.8
KUZ	**Kuaotunu**	**3.90**	**266**	PN	Pn	07 18 54.8	+0.2
KUZ				SN	Sn	07 19 36.7	-2.6
PXZ	**Pawanui**	**4.53**	**219**	PN	Pn	07 19 01.0	-2.4

ISCJB ***28*** *07:54:29.5±0.6, 2409N±008×12262E±003, h50km±7km, mb3.8/6, Error ellipse: s-maj=13.9km s-min=4.3km az=11.4*

JMA ***28*** *07:54:29.3±0.2, 2404N×12261E, h33km, M4.2*

NEIC ***28*** *07:54:30.3±1.1, 2414N×12269E, h41km±13km, MG4.2(JMA), Error ellipse: s-maj=16.1km s-min=11.4km az=189.0*

IDC ***28*** *07:54:39.8±9.8, 2456N×12341E, h144km±116km, mb3.5/5, mb1 3.5/6, mb1mx3.4/21, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=120.8km s-min=15.6km az=64.0*

ISC 28 07:54:30.2±0.7, 2409N±008×12261E±003, h40km±10km, n21, σ0°87/30, mb3.8/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**44**	P	**Pn**	**07 54 40.4**	**-0.9**
YOJ				S	**Sn**	**07 54 48.2**	**-0.8**
NACB	**Ninganchiao**	**0.93**	**275**	*e*Pn	**Pn**	**07 54 47.0**	**+0.1**
NACB				*e*Sn	**Sn**	**07 54 57.5**	**-1.5**
IRIF	**Iriomote-Funau**	**1.05**	**76**	P	**Pn**	**07 54 48.5**	**0.0**
IRIF				S	**Sn**	**07 55 02.9**	**+1.0**
HATJ	**Hateruma jima**	**1.09**	**91**	P	**Pn**	**07 54 48.5**	**-0.5**
HATJ				S	**Sn**	**07 55 02.3**	**-0.6**
YHNB	**Yeheng**	**1.27**	**297**	*e*Pn	**Pn**	**07 54 53.1**	**+1.6**
YHNB				*e*Sn	**Sn**	**07 55 07.5**	**+0.3**
JKRS	**Kuro-shima**	**1.29**	**83**	P	**Pn**	**07 54 51.5**	**-0.2**
JKRS				S	**Sn**	**07 55 08.7**	**+1.0**
TATO	**Taipei**	**1.35**	**311**	*e*Pn	**Pn**	**07 54 53.1**	**+0.5**
TATO				*ep*Pn		07 55 00.5	
TATO				*e*Sn	**Sn**	**07 55 10.7**	**+1.4**
JIJ	**Ishigaki jima**	**1.43**	**79**	P	**Pn**	**07 54 53.2**	**-0.4**
JIJ				S	**Sn**	**07 55 11.5**	**+0.4**
JTJ	**Tarama**	**1.98**	**73**	P	**Pn**	**07 55 01.4**	**+0.1**
JTJ				*e*S	**Sn**	**07 55 26.3**	**+1.4**
JMJ	**Miyako jima 2**	**2.55**	**73**	*e*S	**Sn**	**07 55 39.3**	**+0.4**
JKE	**Kume jima 2**	**4.39**	**59**	P	**Pn**	**07 55 34.5**	**+0.1**
JOW	**Kunigami**	**5.80**	**61**	P	**Pn**	**07 55 52.6**	**-1.2**
	3.8nm,0.3s,baz=107,slow=19,SNR=11						
JOW	**Kunigami**	**5.80**	**61**	P	**Pn**	**07 55 52.7**	**-1.1**
JTK	**Tokunoshima**	**6.79**	**56**	P	**Pn**	**07 56 05.5**	**-1.8**
SONM	**Songino Array**	**26.98**	**335**	P	**P**	**08 00 07.5**	**-0.7**
	1.6nm,0.7s,mb3.7,baz=149,slow=9.4,SNR=7.8						
MKAR	**Makanchi Array**	**39.32**	**315**	P	**P**	**08 01 55.7**	**+0.3**
	1.0nm,0.6s,mb3.7,baz=105,slow=11,SNR=7.4						
MKAR	**Makanchi Array**	**39.32**	**315**	P	**P**	**08 01 55.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**42.04**	**176**	P	**P**	**08 02 22.3**	**+4.5**
	1.6nm,0.8s,mb3.7,baz=24,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**45.23**	**164**	P	**P**	**08 02 43.6**	**0.0**
	1.7nm,0.7s,mb4.0,baz=346,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**48.72**	**166**	P	**P**	**08 03 11.8**	**+1.0**
	0.6nm,0.5s,mb3.9,baz=353,slow=14,SNR=14						
NB2	**NORSAR Subarra**	**78.92**	**332**	P	**P**	**08 06 28.4**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=56,slow=5.3						

NAO ***28*** *08:03:24.9, 4079N×2299E, h33km, mb3.4*

PRU ***28*** *08:03:41.0, 4219N×2015E, h0km*

CSEM ***28*** *08:03:42.9±0.0, 4245N×1987E, h2km, mb4.0/3, Error ellipse: s-maj=1.2km s-min=1.0km az=26.0*

TIR ***28*** *08:03:42.7, 4237N×1980E, h5km*

SKO ***28*** *08:03:43.3, 4244N×1983E, h4km*

THE ***28*** *08:03:43.2, 4244N×1981E, h5km, ML3.6*

ISCJB ***28*** *08:03:43.6±0.1, 4240N±001×1985E±001, h10km, mb3.8/6, Error ellipse: s-maj=1.8km s-min=1.4km az=68.9*

IDC ***28*** *08:03:43.4±1.0, 4241N×1974E, h0km, mb3.9/6, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.5/6, MS4.8/1, Ms1 4.8/1, ms1mx3.9/33, Error ellipse

STIP	**Stip**	**1.87**	**111**	*e*Pb		**Pn**	**08 04 15.4**	**-1.6**
STIP				*e*Sb		**Sb**	**08 04 41.2**	**-1.4**
STIP	**Stip**	**1.87**	**111**	*e*Pn		**Pn**	**08 04 16.5**	**-0.4**
STIP				*e*Sg		**Sg**	**08 04 43.6**	**-1.4**
SVIS	**Svilajnac**	**2.16**	**27**	*i* Pn		**Pg**	**08 04 23.9**	**-2.4**
SVIS					Sn	**Sg**	**08 04 54.4**	**+0.2**
VAY	**Valandovo**	**2.29**	**117**	*e*Pn		**Pn**	**08 04 22.1**	**-0.6**
VAY				*e*Sn		**Sn**	**08 04 53.5**	**+2.5**
VAY	**Valandovo**	**2.29**	**117**	*e*Pn		**Pn**	**08 04 22.6**	**-0.1**
VAY	**Valandovo**	**2.29**	**117**	*e*Pn		**Pn**	**08 04 22.6**	**-0.1**
VAY				*e*Sn		**Sn**	**08 04 53.5**	**+2.5**
LSK	**Leskovik**	**2.30**	**166**	*i* Pn		**Pn**	**08 04 25.5**	**+2.7**
LSK				*i* Sn		**Sn**	**08 04 54.3**	**+3.1**
GRG	**Griva**	**2.38**	**126**	*e*Pn		**Pn**	**08 04 23.5**	**-0.4**
PE1	**Pezze di Greco**	**2.41**	**230**	*e*Pn		**Pn**	**08 04 23.3**	**-1.0**
LCI	**Lecce**	**2.43**	**213**	*i* Pn		**Pn**	**08 04 23.2**	**-1.4**
KKB	**Krupnik**	**2.46**	**101**	*i* P		**Pn**	**08 04 25.9**	**+0.9**
KKB				*i* S		**Sn**	**08 04 57.1**	**+2.0**
KKB				*i* Sg		**Sg**	**08 05 04.8**	**+0.9**
KKB	**Krupnik**	**2.46**	**101**	*i* Pg		**Pg**	**08 04 38.5**	**+6.5**
BEO	**Belgrade**	**2.48**	**10**	*i* Pn		**Pn**	**08 04 24.5**	**-0.8**
BEO					Sn	**Sg**	**08 05 01.3**	**-3.1**
VTS	**Vitosha**	**2.49**	**84**	⇓*i* P		**Pn**	**08 04 25.5**	**0.0**
VTS	**Vitosha**	**2.49**	**84**	*i* P		**Pn**	**08 04 25.3**	**-0.2**
VTS				*i* Pg		**Pg**	**08 04 30.6**	**-2.0**
VTS				*i* S		**Sg**	**08 05 04.1**	**-0.8**
VTS	**Vitosha**	**2.49**	**84**	*e*Pn		**Pn**	**08 04 25.2**	**-0.3**
KZN	**Kozani**	**2.53**	**144**	*e*P		**Pn**	**08 04 27.9**	**+2.0**
BAI	**Bari**	**2.56**	**241**	*e*Pn		**Pn**	**08 04 25.2**	**-1.2**
KNT	**Kendrikon**	**2.59**	**117**	*e*Pn		**Pn**	**08 04 25.9**	**-0.8**
KNT				*e*Sn		**Sn**	**08 04 58.8**	**+0.6**
KEK	**Kerkira**	**2.67**	**181**	*e*P		**Pn**	**08 04 27.3**	**-0.5**
KEK				*e*S		**Sn**	**08 05 01.1**	**+0.9**
FGSL	**Fruska Gora**	**2.77**	**359**	Pn		**Pn**	**08 04 28.7**	**-0.6**
MEV	**Metsovon**	**2.80**	**158**	*e*Pn		**Pn**	**08 04 32.2**	**+2.5**
JAN	**Janina**	**2.83**	**164**	*e*P		**Pn**	**08 04 31.9**	**+1.9**
SG1	**Sgolgore (BA)**	**2.83**	**238**	*e*Pn		**Pn**	**08 04 29.2**	**-1.0**
IGT	**Igoumenitsa**	**2.87**	**173**	*e*Pn		**Pn**	**08 04 30.9**	**+0.3**
IGT				*e*Sn		**Sn**	**08 05 06.8**	**+1.6**
IGT	**Igoumenitsa**	**2.87**	**173**	*e*Pn		**Pn**	**08 04 30.9**	**+0.2**
IGT				*e*Sn		**Sn**	**08 05 06.8**	**+1.5**
DJES	**Djerdap**	**2.97**	**40**	*i* Pn		**Pn**	**08 04 32.4**	**+0.3**
FGMS	**Monte Sant'Ang**	**2.98**	**258**	Pn		**Pn**	**08 04 31.8**	**-0.4**
MMB	**Musomiste**	**3.00**	**104**	*e*Pn		**Pn**	**08 04 32.2**	**-0.2**
MMB				*e*Sn		**Sn**	**08 05 10.4**	**+2.0**
MMB	**Musomiste**	**3.00**	**104**	*i* S		**Sn**	**08 05 10.7**	**+2.3**
MMB				*i* P			08 04 32.4	
MMB				*i* Pg		**Pg**	**08 04 39.4**	**-2.9**
MMB				*i* Sg		**Sg**	**08 05 21.7**	**+0.5**
HORT	**Hortiatis**	**3.02**	**125**	*e*Pn		**Pn**	**08 04 33.0**	**+0.2**
LIT	**Litokhoron**	**3.03**	**138**	*e*Pn		**Pn**	**08 04 32.2**	**-0.6**
LIT				*e*Sn		**Sn**	**08 05 10.0**	**+0.9**
BLY	**Banja Luka**	**3.06**	**322**	P		**Pn**	**08 04 34.0**	**+0.8**
BLY				S		**Sn**	**08 05 13.0**	**+3.2**
NVR	**Nevrokopi**	**3.17**	**108**	*e*P		**Pn**	**08 04 36.4**	**+1.6**
PGB	**Panagyurishte**	**3.20**	**86**	*i* P		**Pn**	**08 04 37.2**	**+2.0**
PGB				*i* Pg		**Pg**	**08 04 44.5**	**-1.6**
PGB				*i* S		**Sg**	**08 05 27.7**	**+0.1**
RGNG	**Rignano Grg**	**3.25**	**259**	Pn		**Pn**	**08 04 35.6**	**-0.3**
THL	**Klokotos Trika**	**3.26**	**149**	*e*P		**Pn**	**08 04 36.9**	**+0.9**
PLG	**Polygyros**	**3.37**	**125**	*e*Pn		**Pn**	**08 04 37.4**	**-0.1**
PLG				*e*Sn		**Sn**	**08 05 17.5**	**-0.1**
PLG	**Polygyros**	**3.37**	**125**	*e*P		**Pn**	**08 04 37.3**	**-0.2**
BZS	**Buzias**	**3.48**	**21**	⇑*i* P		**Pn**	**08 04 38.3**	**-0.7**
FG5	**Orsara di Pugl**	**3.60**	**254**	Pn		**Pn**	**08 04 41.7**	**+1.1**
MRLC	**Muro Lucano**	**3.65**	**245**	Pn		**Pn**	**08 04 41.9**	**+0.5**
GZZA	**Gura Zlata**	**3.68**	**34**	⇓*i* P		**Pn**	**08 04 41.5**	**-0.2**
RHK3	**Tenkes**	**3.69**	**342**	*e*P		**Pn**	**08 04 42.2**	**+0.3**
RZN	**Rozhen**	**3.69**	**99**	*i* P		**Pn**	**08 04 42.9**	**+1.0**
OUR	**Ouranopolis**	**3.72**	**122**	*e*Pn		**Pn**	**08 04 42.1**	**-0.3**
SLCN	**Sala Consilina**	**3.75**	**239**	Pn		**Pn**	**08 04 42.4**	**-0.3**
EVR	**Evrytania**	**3.77**	**156**	*e*P		**Pn**	**08 04 45.2**	**+2.2**
AGG	**Agios Georgios**	**3.85**	**150**	*e*Pn		**Pn**	**08 04 43.9**	**-0.3**
AGG				*e*Sn		**Sn**	**08 05 31.4**	**+2.0**
AGG	**Agios Georgios**	**3.85**	**150**	*e*Pn		**Pn**	**08 04 43.8**	**-0.3**
CUC	**Castrocucco**	**3.87**	**233**	Pn		**Pn**	**08 04 45.5**	**+1.1**
PKSM	**Moragy**	**3.92**	**348**	⇑*i* P		**Pn**	**08 04 44.4**	**-0.8**
PKSM	**Moragy**	**3.92**	**348**	⇑*e*P		**Pn**	**08 04 44.6**	**-0.6**
XOR	**Xorichti**	**3.94**	**139**	*e*Pn		**Pn**	**08 04 44.6**	**-0.7**
PSB1	**Pescosannita**	**3.94**	**255**	Pn		**Pn**	**08 04 47.6**	**+2.2**
NEO	**Neokhori**	**4.00**	**139**	*e*P		**Pn**	**08 04 47.4**	**+1.2**
PVL	**Pavlikeni**	**4.12**	**76**	*i* P		**Pb**	**08 04 55.1**	**-2.4**
NVLJ	**Novalja**	**4.23**	**303**	*i* Pn		**Pn**	**08 04 49.6**	**+0.3**
NVLJ				*i* Sn		**Sn**	**08 05 41.6**	**+2.8**
NVLJ	**Novalja**	**4.23**	**303**	*i* Pn		**Pn**	**08 04 49.5**	**+0.2**
NVLJ				*i* Sn		**Sn**	**08 05 41.5**	**+2.8**
MIDA	**Miranda**	**4.24**	**262**	Pn		**Pn**	**08 04 51.2**	**+1.8**
VLS	**Valsamata**	**4.24**	**172**	*e*P		**Pn**	**08 04 47.8**	**-1.7**
RNI2	**Rionero Sannit**	**4.30**	**263**	Pn		**Pn**	**08 04 51.6**	**+1.3**
PKS9	**Tamasi**	**4.35**	**346**	*e*P		**Pn**	**08 04 50.8**	**-0.2**
RDO	**Rodhopi**	**4.43**	**104**	*e*P		**Pn**	**08 04 51.7**	**-0.4**
INTR	**Introdacqua**	**4.43**	**267**	Pn		**Pn**	**08 04 52.2**	**+0.1**
RFI	**Roccamonfina**	**4.51**	**258**	Pn		**Pn**	**08 04 54.1**	**+0.9**
BOJS	**Bojanci**	**4.56**	**315**	*i* Pn		**Pn**	**08 04 56.0**	**+2.1**
BOJS				*e*Sn		**Sn**	**08 05 52.0**	**+5.2**
TERO	**Teramo**	**4.62**	**275**	Pn		**Pn**	**08 04 55.9**	**+1.1**
VVLD	**Villa Vallelon**	**4.66**	**266**	Pn		**Pn**	**08 04 55.6**	**+0.3**
AQU	**L'Aquila**	**4.78**	**272**	⇓*i* P		**Pn**	**08 04 59.8**	**+2.9**
AQU	**L'Aquila**	**4.78**	**272**	*e*Pn		**Pn**	**08 04 57.3**	**+0.4**
AQU				*ep*Pn			08 04 59.7	
AQU				*e*Sn		**Sn**	**08 05 52.1**	**-0.2**
AQU	**L'Aquila**	**4.78**	**272**	*e*Pn		**Pn**	**08 04 57.3**	**+0.4**
AQU				*e*S		**Sn**	**08 05 52.1**	**-0.2**
JMB	**Yambol**	**4.99**	**87**	*e*Pn		**Pn**	**08 04 58.8**	**-0.9**
FIAM	**Fiamignano**	**4.99**	**271**	Pn		**Pn**	**08 05 01.6**	**+1.8**
SNTG	**Esanatoglia** 22nm,0.4s	**5.16**	**282**	Pn		**Pn**	**08 04 56.6**	**-5.5**
SOI	**Samo**	**5.19**	**215**	Pn		**Pn**	**08 05 02.0**	**-0.6**
LJU	**Ljubljana**	**5.29**	**316**	*e*Pn		**Pn**	**08 05 05.8**	**+1.8**
ASS	**Assisi**	**5.35**	**280**	P		**Pn**	**08 05 05.6**	**+0.9**
ASS	comp=Z,2.0nm,0.5s			pmax	pmax			
ASS	**Assisi** comp=Z,2.1nm,0.5s	**5.35**	**280**	Pn		**Pn**	**08 05 05.6**	**+0.9**
FSSB	**Fossombrone** comp=Z,27nm,0.4s	**5.35**	**287**	Pn		**Pn**	**08 05 05.0**	**+0.3**
MLR	**Muntele Rosu** comp=Z,0.7nm,0.3s,baz=203,slow=11,SNR=4.0	**5.39**	**53**	Pn		**Pn**	**08 05 07.1**	**+1.9**
MLR	comp=Z,1.1nm,0.3s,baz=69,slow=2.9,SNR=5.6			Sn		**Sn**	**08 06 08.6**	**+1.3**
PERS	**Pernice**	**5.43**	**323**	*i* Pn		**Pn**	**08 05 06.5**	**+0.6**
PSZ	**Piszkesteto**	**5.54**	**0**	⇑*e*Pn		**Pn**	**08 05 07.2**	**-0.1**
PSZ	**Piszkesteto**	**5.54**	**0**	*e*P		**Pn**	**08 05 05.1**	**-2.2**
PSZ				*e*			08 06 09.2	
PSZ	comp=Z,12nm,0.6s			pmax	pmax			
PSZ	**Piszkesteto** comp=Z,12nm,0.6s	**5.54**	**0**	*e*Pn		**Pn**	**08 05 05.1**	**-2.1**
PSZ				*e*Sn		**Sn**	**08 06 09.2**	**-1.8**
PSZ	**Piszkesteto** comp=Z,12nm,0.6s	**5.54**	**0**	*e*Pn		**Pn**	**08 05 05.1**	**-2.2**
PSZ				*e*Sn		**Sn**	**08 06 09.2**	**-1.8**
OBKA	**Obir**	**5.60**	**319**	⇑*i* Pn		**Pn**	**08 05 09.2**	**+0.9**
OBKA				⇑*i* Sn		**Sn**	**08 06 18.3**	**+5.7**
VOY	**Vojsko**	**5.62**	**312**	*e*Pn		**Pn**	**08 05 10.2**	**+1.7**
VOY				*e*Sn		**Sn**	**08 06 15.7**	**+2.6**
ARSA	**Arzberg**	**5.76**	**329**	⇑*i* Pn		**Pn**	**08 05 10.6**	**+0.2**
CRE	**Caprese Michel**	**5.92**	**285**	P		**Pn**	**08 05 15.4**	**+2.8**
CRE	comp=Z,10.0nm,0.4s			pmax	pmax			
CRE	**Caprese Michel** comp=Z,10.0nm,0.4s	**5.92**	**285**	P		**Pn**	**08 05 15.4**	**+2.8**
ROBS	**Robic**	**5.96**	**312**	*e*Pn		**Pn**	**08 05 14.5**	**+1.3**
ROBS				*i* Sn		**Sn**	**08 06 25.4**	**+3.8**
KECS	**Kecovo**	**6.12**	**4**	*e*PN		**Pn**	**08 05 15.6**	**+0.3**
KECS				*e*SN		**Sn**	**08 06 25.3**	**0.0**
KECS	**Kecovo**	**6.12**	**4**	*e*Pn		**Pn**	**08 05 15.7**	**+0.4**
KECS				*e*Sn		**Sn**	**08 06 25.3**	**0.0**
PTCC	**Patocco-Chiusa** comp=Z,15nm,0.4s	**6.15**	**313**	Pn		**Pn**	**08 05 17.2**	**+1.5**
VYHS	**Vyhne**	**6.15**	**354**	*e*PN		**Pn**	**08 05 16.3**	**+0.5**
VYHS				*e*SN		**Sn**	**08 06 26.0**	**-0.2**
VAE	**Valguarnera** comp=Z,4.1nm,0.3s,baz=315,slow=4.3,SNR=3.3	**6.44**	**222**	Pn		**Pn**	**08 05 19.5**	**-0.2**
VAE	comp=Z,9µm,20.8s,baz=309,slow=37			LR		LR	08 07 41.7	
KBA	**Koelnbreinsper**	**6.59**	**318**	⇑*i* Pn		**Pn**	**08 05 23.0**	**+1.2**
KBA				⇑*i* Sn		**Sn**	**08 06 40.1**	**+3.1**
KBA	**Koelnbreinsper**	**6.59**	**318**	⇑*i* Pn		**Pn**	**08 05 23.0**	**+1.2**
KBA				*i* Sn		**Sn**	**08 06 40.1**	**+3.1**
MOA	**Molln**	**6.74**	**326**	⇓*i* Pn		**Pn**	**08 05 24.3**	**+0.4**
MOA				⇑*i* Sn		**Sn**	**08 06 40.8**	**0.0**
KWP	**Kalwaria**	**7.52**	**14**	*e*P		**Pn**	**08 05 29.6**	**-4.9**
KWP	comp=Z,31nm,0.6s			pmax	pmax			
KWP	**Kalwaria** comp=Z,31nm,0.6s	**7.52**	**14**	*e*Pn		**Pn**	**08 05 29.6**	**-4.9**
KWP	**Kalwaria** comp=Z,31nm,0.6s	**7.52**	**14**	*e*Pn		**Pn**	**08 05 29.6**	**-4.9**
GERES	**GERESS Array B** comp=Z,0.1nm,0.3s,baz=160,slow=17,SNR=5.2	**7.76**	**328**	Pn		**Pn**	**08 05 37.0**	**-0.9**
PGF	**Pioggiola**	**8.03**	**275**	*e*Pn		**Pn**	**08 05 39.7**	**-1.8**
KHC	**Kasperske Hory**	**8.04**	**329**	*e*PN		**Pn**	**08 05 43.1**	**+1.4**
KHC				*e*SN		**Sn**	**08 07 15.0**	**+2.2**
SBF	**Sospel**	**9.20**	**283**	*e*Pn		**Pn**	**08 05 53.8**	**-3.8**
FRF	**La Foret Royal**	**9.75**	**281**	*e*Pn		**Pn**	**08 06 01.7**	**-3.4**
MBDF	**Montbardon**	**9.78**	**288**	*e*Pn		**Pn**	**08 06 02.7**	**-2.9**
MBDF	comp=Z,13nm,0.7s			*e*Sn		**Sn**	**08 07 46.3**	**-9.1**
LMR	**La Mourre**	**9.85**	**280**	*e*Pn		**Pn**	**08 06 03.1**	**-3.3**
LPG	**La Plagne**	**9.95**	**293**	*e*Pn		**Pn**	**08 06 05.4**	**-2.4**
LPG	**La Plagne**	**9.95**	**293**	*e*P		**Pn**	**08 06 10.1**	**+2.3**
LPG	comp=Z,24nm,0.9s			*e*Sn		**Sn**	**08 07 50.2**	**-9.3**
LPG	**La Plagne**	**9.95**	**293**	*e*P		**Pn**	**08 06 10.1**	**+2.3**
LPL	**La Plagne**	**9.96**	**293**	*e*Pn		**Pn**	**08 06 05.0**	**-3.1**
LPL	comp=Z,21nm,0.8s			*e*Sn		**Sn**	**08 07 51.2**	**-8.7**
ORIF	**Oris-en-Rattie**	**10.44**	**289**	*e*Pn		**Pn**	**08 06 11.1**	**-3.5**
ORIF	comp=Z,14nm,0.8s			*e*Sn		**Sn**	**08 08 02.2**	**-9.3**
BRTR	**Keskin Array B**	**10.75**	**100**	*i* P		**Pn**	**08 06 30.1**	**+11**
BRTR	comp=Z,1.0nm,0.4s			pmax	pmax			
HAU	**Haudompre** comp=Z,4.1nm,0.3s	**11.06**	**305**	*e*Sn		**Sn**	**08 08 16.5**	**-10**
LOR	**Lormes** baz=121	**12.35**	**299**	*e*P		**Pn**	**08 06 42.5**	**+1.7**
VSU	**Vasula**	**16.67**	**13**	*e*P		**Pn**	**08 07 38.5**	**0.0**
OBN	**Obninsk**	**16.79**	**35**	⇓*e*P		**Pn**	**08 07 40.1**	**+0.1**
OBN				*e*S		**Sn**	**08 10 35.8**	**-11**
OBN	comp=Z,7.0nm,0.6s			pmax	pmax			
OBN	**Obninsk** comp=Z,7.0nm,0.6s	**16.79**	**35**	*e*P		**Pn**	**08 07 40.1**	**+0.1**
NB2	**NORSAR Array B** comp=Z,1.4nm,0.7s,baz=155,slow=11	**19.40**	**347**	P		**Pn**	**08 08 10.8**	**-1.4**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.3s,baz=153,slow=10,SNR=5.1	**19.40**	**347**	P		**Pn**	**08 08 12.1**	**-0.1**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=168,slow=9.8,SNR=3.7	**19.45**	**9**	P		**Pn**	**08 08 12.1**	**-0.6**
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.3s,baz=108,slow=9.2,SNR=4.1	**19.81**	**319**	P		**Pn**	**08 08 16.0**	**-1.0**
ARCES	**ARCESS Array B** comp=Z,5.6nm,1.1s,mb4.0,baz=190,slow=6.2,SNR=4.2	**27.38**	**4**	P		**P**	**08 09 30.4**	**+0.2**
ARCES	comp=Z,6.0nm,1.1s			pmax	pmax			
ARCES	**ARCESS Array B**	**27.38**	**4**	P		**P**	**08 09 30.5**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.2nm,0.8s,mb3.9,baz=21,slow=8.2,SNR=7.5	**33.11**	**214**	P		**P**	**08 10 20.3**	**-0.7**
BVAR	**Borovoye Array** comp=Z,1.4nm,0.6s,mb4.1,baz=274,slow=8.8,SNR=6.2	**34.95**	**55**	P		**P**	**08 10 38.0**	**+1.1**
BVAR	**Borovoye Array** comp=Z,1.0nm,0.6s	**34.95**	**55**	P		**P**	**08 10 38.0**	**+1.1**
BVAR				pmax	pmax			
MKAR	**Makanchi Array** comp=Z,0.7nm,0.6s,mb3.6,baz=289,slow=8.3,SNR=4.4	**43.66**	**62**	P		**P**	**08 11 50.4**	**+0.7**
MKAR	**Makanchi Array** comp=Z,1.0nm,0.6s	**43.66**	**62**	P		**P**	**08 11 50.4**	**+0.8**
MKAR				pmax	pmax			
SONM	**Songino Array** comp=Z,0.3nm,0.5s,mb3.6,baz=239,slow=8.1,SNR=3.7	**58.24**	**52**	P		**P**	**08 13 40.5**	**+1.1**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,mb3.8,baz=39,slow=5.7,SNR=6.8	**83.80**	**325**	P		**P**	**08 16 13.8**	**-0.5**

*IDC **28** 08:07:07.8±1.2,3000S×177.38W,h0km,mb4.2/7, mb1 4.3/8,mb1mx4.2/14,mbtmp4.2/8,ML4.3/1,MS4.9/1, Ms1 4.9/1,ms1mx3.9/23,Error ellipse: s-maj=31.9km s-min=16.2km az=71.0*

*ISCJB **28** 08:07:09.5±1.3,3003S±004×177.1W±02,h33km,mb4.2/7, MS4.8/1,Error ellipse: s-maj=19.7km s-min=5.0km az=6.7*

ISC 28 08:07:10.8±1.2,2995S±004×1770W±01,h35km,n40, σ1§36/41,mb4.2/7,MS4.8/1,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**312**	Pn		**Pn**	**08 07 28.2**	**-0.6**
	1µm,0.3s,baz=85,slow=6.5,SNR=50							
RAO					Sn	**Sn**	**08 07 43.8**	**+1.8**
	7µm,0.3s,baz=270,slow=20,SNR=60							
MXZ	**Matakaoa Point**	**8.53**	**206**	*e*PN	Pn	**Pn**	**08 09 03.7**	**-8.1**
MXZ					SN	**Sn**	**08 10 40.8**	**-6.0**
PUZ	**Puketiti**	**9.00**	**204**	*e*PN	Pn	**Pn**	**08 09 10.9**	**-7.3**
PUZ					*e*SN	**Sn**	**08 10 51.4**	**-6.9**
URZ	**Urewera**	**9.61**	**209**	Pn	Pn	**Pn**	**08 09 19.3**	**-7.3**
	0.3nm,0.3s,baz=150,slow=20,SNR=4.6							
URZ	**Urewera**	**9.61**	**209**	*e*PN	Pn	**Pn**	**08 09 25.2**	**-1.4**
URZ					SN	**Sn**	**08 11 03.7**	**-10**
PXZ	**Pawanui**	**11.23**	**205**	*e*SN		**Sn**	**08 11 54.2**	**+1.1**
BFZ	**Birch Farm**	**12.03**	**205**	*e*SN		**Sn**	**08 12 15.0**	**+2.4**
TIWZ	**Tintock**	**12.25**	**206**	SN		**Sn**	**08 12 19.5**	**+1.6**
MRZ	**Mangatainoka R**	**12.27**	**207**	*e*PN	Pn	**Pn**	**08 10 07.9**	**+4.9**
MRZ					SN	**Sn**	**08 12 19.5**	**+1.0**
MRZ	**Mangatainoka R**	**12.27**	**207**	*e*PN	Pn	**Pn**	**08 10 06.5**	**+3.5**
MRZ					*e*SN	**Sn**	**08 12 18.3**	**-0.2**
MTW	**Mount Morrison**	**12.72**	**206**	SN		**Sn**	**08 12 30.3**	**+0.7**
MTW	**Mount Morrison**	**12.72**	**206**	*e*SN		**Sn**	**08 12 30.6**	**+1.0**
MRW	**Makara Radio**	**13.11**	**209**	SN		**Sn**	**08 12 39.7**	**+0.7**
MRW	**Makara Radio**	**13.11**	**209**	*e*SN		**Sn**	**08 12 36.8**	**-2.1**
TCW	**Tory Channel**	**13.27**	**210**	*e*SN		**Sn**	**08 12 42.7**	**-0.2**
NNZ	**Nelson**	**13.68**	**212**	*e*SN		**Sn**	**08 12 52.4**	**-0.4**
THZ	**Tophouse**	**14.32**	**212**	*e*PN	Pn	**Pn**	**08 10 21.3**	**-10**
THZ					SN	**Sn**	**08 13 07.8**	**-0.9**
THZ	**Tophouse**	**14.32**	**212**	*e*PN	Pn	**Pn**	**08 10 34.9**	**+3.9**
THZ					*e*SN	**Sn**	**08 13 07.7**	**-1.0**
KHZ	**Kahutara**	**14.57**	**209**	SN		**Sn**	**08 13 11.9**	**-2.8**
KHZ	**Kahutara**	**14.57**	**209**	*e*SN		**Sn**	**08 13 11.7**	**-3.1**
MQZ	**McQueen's Vall**	**16.01**	**208**	*e*SN		**Sn**	**08 13 43.6**	**-5.9**
RPZ	**Rata Peaks** 1.1nm,0.3s,baz=71,slow=24,SNR=6.6	**16.70**	**211**	Pn		**Pn**	**08 10 59.4**	**-2.7**
FOZ	**Fox Glacier**	**17.23**	**214**	*e*PN	Pn	**Pn**	**08 11 08.5**	**-0.1**
PPT	**Papeete** comp=Z,2µm,21.2s,MS4.8,baz=339,slow=30	**27.91**	**70**	LR	LR		08 21 21.5	
CTA	**Charters Tower** 3.6nm,0.6s,mb4.5,baz=114,slow=10,SNR=4.5	**34.56**	**278**	P		**P**	**08 13 56.8**	**+0.8**
STKA	**Stephens Creek** 9.4nm,2.2s,mb4.3	**35.40**	**256**	*e*P		**P**	**08 14 04.0**	**+0.8**
STKA	**Stephens Creek** 2.3nm,0.6s,mb4.3,baz=101,slow=8.8,SNR=9.4	**35.40**	**256**	P		**P**	**08 14 03.9**	**+0.6**
ASAR	**Alice Springs** 1.1nm,0.3s,mb4.0,baz=105,slow=7.2,SNR=38	**43.97**	**266**	P		**P**	**08 15 13.1**	**-1.4**
ASPA	**Alice Springs**	**43.97**	**266**	*e*P		**P**	**08 15 14.0**	**-0.6**
WB2	**Warramunga Arr**	**44.91**	**271**	*e*P		**P**	**08 15 20.7**	**-1.3**
WRA	**Warramunga Arr** 5.2nm,0.4s,mb4.8,baz=110,slow=8.1,SNR=147	**44.92**	**271**	P		**P**	**08 15 20.6**	**-1.5**
VNDA	**Vanda** 0.7nm,0.6s,mb3.9,baz=9.2,slow=6.9,SNR=13	**48.63**	**186**	P		**P**	**08 15 53.6**	**+2.5**
FITZ	**Fitzroy Crossi** 1.0nm,0.6s,mb3.9,baz=145,slow=12,SNR=4.6	**53.20**	**269**	P		**P**	**08 16 26.1**	**+0.6**
MAW	**Mawson** 1.9nm,0.5s,mb4.2,baz=106,slow=7.4,SNR=6.1	**73.03**	**200**	P		**P**	**08 18 38.3**	**+1.3**
AKTO	**Aktyubinsk** 1.2nm,0.6s,baz=36,slow=4.0,SNR=5.4	**134.41**	**313**	PKP	PKPdf		08 26 28.1	+3.0
KMBO	**Kilima Mbogo** 2.4nm,0.3s,baz=51,slow=21,SNR=7.4	**135.01**	**233**	PKP	PKPdf		08 26 30.8	+4.6
KAF	**Kangasniemi**	**144.39**	**341**	*ep*	PKPdf		08 26 41.9	-1.3
FINES	**FINESS Array B** 4.0nm,0.5s,baz=67,slow=4.0,SNR=39	**145.00**	**341**	PKP	PKPdf		08 26 44.5	+0.2
ASF	**Jabal al Asfar** 1.9nm,0.5s,baz=264,slow=2.0,SNR=4.5	**150.91**	**283**	PKPbc	PKPbc		08 27 01.5	+1.8
AKASG	**Malin Array Be** 0.8nm,0.4s,baz=46,slow=3.2,SNR=4.6	**151.43**	**324**	PKPbc	PKPbc		08 27 02.2	+1.3
AKASG	1.9nm,0.6s,baz=48,slow=3.1,SNR=9.0			PKPab	PKPab		08 27 08.8	-0.5

*SZGRF **28** 08:07:20.8,3151S×176.18W,h33km,Kermadec Islands region*

*IDC **28** 08:07:23.8±0.5,2995S×177.65W,h0km,mb5.1/16, mb1 5.1/18,mb1mx5.1/20,mbtmp5.1/18,ML4.3/2,MS5.0/1, Ms1 5.0/1,ms1mx4.0/23,Error ellipse: s-maj=14.4km s-min=13.0km az=6.0*

*MOS **28** 08:07:28.7±2.0,2993S×177.67W,h33km,mb5.5/29,Error ellipse: s-maj=11.2km s-min=9.9km az=93.3*

*ISCJB **28** 08:07:29.8±0.2,3011S±005×177.80W±005,h48km, mb5.2/53,MS5.6/5,Error ellipse: s-maj=7.4km s-min=5.4km az=92.3*

*BJI **28** 08:07:29.5,2995S×176.73W,h65km,mB5.7,mb5.2,Ms5.8, Ms2.5.6*

*NEIC **28** 08:07:31.6±0.2,2996S×177.72W,mb5.3/30,Error ellipse: s-maj=8.3km s-min=5.4km az=157.0*

ISC 28 08:07:31.2±0.2,3021S±004×17770W±005,h50km, h50km±3.0km:pP-P,n361,σ1§03/168,mb5.2/53,MS5.6/5, 21C-11D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**349**	Pn		**Pn**	**08 07 41.6**	**-6.9**
	7µm,0.3s,baz=81,slow=19,SNR=60							
RAO	**Raoul Island**	**0.97**	**349**	*e*Pn		**Pn**	**08 07 44.5**	**-4.0**
RAO				*e*Sn		**Sn**	**08 07 55.6**	**-5.6**
MXZ	**Matakaoa Point**	**8.05**	**203**	PN		**Pn**	**08 09 21.0**	**-4.5**
MXZ				*e*SN		**Sn**	**08 10 53.6**	**-1.6**
PUZ	**Puketiti**	**8.53**	**202**	PN		**Pn**	**08 09 28.0**	**-4.1**
WCZ	**Waipu Caves**	**8.79**	**227**	*e*PN		**Pn**	**08 09 42.7**	**+7.1**
OUZ	**Omahuta**	**8.87**	**233**	*e*PN		**Pn**	**08 09 42.3**	**+5.5**
MWZ	**Matawai**	**9.02**	**205**	*e*PN		**Pn**	**08 09 34.9**	**-3.8**
URZ	**Urewera** 6.2nm,0.3s,baz=204,slow=3.9,SNR=22	**9.11**	**207**	Pn		**Pn**	**08 09 35.9**	**-4.0**
URZ	15nm,0.3s,baz=307,slow=22,SNR=11			Sn		**Sn**	**08 11 22.2**	**+1.1**
URZ	**Urewera**	**9.11**	**207**	*e*PN		**Pn**	**08 09 35.0**	**-5.0**
URZ				*e*SN		**Sn**	**08 11 20.3**	**-0.8**
KNZ	**Kokohu**	**9.58**	**202**	*e*PN		**Pn**	**08 09 39.0**	**-7.4**
KNZ				SN		**Sn**	**08 11 29.7**	**-3.0**
KNZ	**Kokohu**	**9.58**	**202**	*e*SN		**Sn**	**08 11 29.0**	**-3.7**
BKZ	**Black Stump Fm**	**10.13**	**207**	SN		**Sn**	**08 11 44.8**	**-1.4**
BKZ	**Black Stump Fm**	**10.13**	**207**	*e*PN		**Pn**	**08

MAW Mawson 72.58 200⇑ *i*P **P** **08 18 54.5 +1.4**
comp=Z,24nm,0.8s,mb5.2
MAW Mawson 72.58 200 P **P** **08 18 54.1 +1.0**
comp=Z,35nm,0.9s,mb5.3,baz=125,slow=7.6,SNR=58
KSM Kuching 75.24 281 *e*P **P** **08 19 09.1 +0.5**
JOW Kunigami 76.72 312 P **P** **08 19 16.5 -0.6**
comp=Z,15nm,0.6s,mb5.1,baz=129,slow=4.4,SNR=8.3
SYO Syowa Base 77.36 193⇓ *e*P **P** **08 19 20.6 -0.1**
SYO Syowa Base 77.36 193⇑ *i*PcP PcP 08 19 29.9 -1.2
MJAR Matsushiro Arr 78.23 325 P **P** **08 19 24.5 -1.0**
comp=Z,12nm,0.8s,mb4.9,baz=162,slow=5.5,SNR=18
MJAR Matsushiro Arr 78.23 325 P **P** **08 19 24.5 -1.0**
MJAR pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 78.23 325 *e*P **P** **08 19 24.9 -0.6**
MAJO pmax pmax
comp=Z,29nm,1.0s,mb5.2
MAJO Matsushiro 78.23 325 *e*P **P** **08 19 24.9 -0.6**
comp=Z,29nm,1.0s,mb5.2
MAT Matsushiro 78.23 325 P **P** **08 19 24.1 -1.4**
SNAA Sanae 78.34 178⇑ *i*Pdiff **P** **08 19 26.2 +0.1**
SNAA *e* 08 19 34.7
SNAA *e* pP 08 19 36.4 -4.1
SNAA *e* pP 08 19 39.2 -1.3
SNAA *e* pP 08 19 41.1 +0.6
SNAA *e* pP 08 19 43.7 +3.2
SNAA *e* 08 19 46.2
SNAA *e* 08 19 50.8
SNAA Sanae 78.34 178 *e*P **P** **08 19 26.5 +0.4**
SNAA *e**PP pP 08 19 42.7 +2.2
SNAA pmax pmax
comp=Z,26nm,0.9s
SNAA Sanae 78.34 178 *e*P **P** **08 19 26.5 +0.4**
comp=Z,26nm,0.9s,mb5.2
SNAA *ep*P pP 08 19 42.7 +2.2
VNA3 Neumayer Olymp 78.48 176⇑ *i*Pdiff **P** **08 19 27.0 +0.1**
VNA3 *e* pP 08 19 36.7 -4.6
VNA3 *e* pP 08 19 38.2 -3.1
VNA3 *e* pP 08 19 40.2 -1.1
VNA3 *e* pP 08 19 41.6 +0.3
VNA3 *e* pP 08 19 43.6 +2.3
VNA3 *e* 08 19 46.6
VNA3 *e* 08 19 55.1
MAIT Maitri 79.08 183 *e*P **P** **08 19 30.8 +0.6**
MAIT *ep*P pP 08 19 37.3 -7.3
VNA1 Neumayer--Stat 79.15 176⇑ *i*Pdiff **P** **08 19 31.3 +0.7**
VNA1 *e* 08 19 39.1
VNA1 *e* pP 08 19 40.5 -4.5
VNA1 *e* pP 08 19 44.3 -0.7
VNA1 *e* pP 08 19 45.9 +0.9
VNA1 *e* pP 08 19 48.1 +3.1
VNA1 *e* 08 19 51.1
VNA1 *e* 08 19 56.3
ASAJ Asahikawa 82.39 332 P **P** **08 19 47.3 -0.6**
comp=Z,21nm,0.8s,mb5.1,baz=174,slow=6.1,SNR=5.0
ASAJ Asahikawa 82.39 332 P **P** **08 19 47.3 -0.6**
ASAJ pmax pmax
comp=Z,21nm,0.8s
PLCA Paso Flores 82.45 133 P **P** **08 19 48.8 +0.6**
comp=Z,4.2nm,1.0s,mb4.3,baz=252,slow=3.1,SNR=5.3
PLCA Paso Flores 82.45 133 P **P** **08 19 48.8 +0.6**
PLCA pmax pmax
comp=Z,4.0nm,1.0s
KS15 Wonju Array Si 84.38 319 *e*P **P** **08 19 59.0 +0.8**
YSS Yuzh-Sakhalins 84.68 334⇑ *e*P **P** **08 20 00.2 +0.6**
YSS pmax pmax
comp=Z,120nm,1.4s,mb5.8
YSS Yuzh-Sakhalins 84.68 334 *e*P **P** **08 19 59.9 +0.2**
comp=Z,50nm,0.8s,mb5.7
YSS *e*PcP PcP 08 20 04.8 +1.8
PTRM Twissleman Ran 84.93 44 *e*P **P** **08 20 01.3 +0.4**
PTRM *e*PcP PcP 08 20 06.0 +1.9
LRV Little Rabbit 84.98 43 *e*P **P** **08 20 00.7 -0.4**
PET Petropavlovsk 85.40 346 *e*P **P** **08 20 00.2 -3.1**
PET pmax pmax
comp=Z,34nm,1.6s,mb5.2
PET Petropavlovsk 85.40 346⇑ *e*P **P** **08 20 02.2 -1.1**
KIPM Iron Peak 85.95 39 *e*P **P** **08 20 05.2 -0.7**
ISA Isabella 85.98 45 *e*P **P** **08 20 06.7 +0.6**
CMB Columbia Colle 86.44 42 *e*P **P** **08 20 08.5 +0.1**
CMB pmax pmax
comp=Z,22nm,1.0s,mb5.3
CMB Columbia Colle 86.44 42 *e*P **P** **08 20 08.5 +0.1**
comp=Z,22nm,1.0s,mb5.3
KHMM Horse Mountain 86.57 38 *e*P **P** **08 20 09.8 +0.8**
GLA Glamis 86.57 48 *e*P **P** **08 20 09.5 +0.5**
OHCM Honcut 86.72 40 *e*P **P** **08 20 09.0 -0.7**
GSC Goldstone 86.77 46 *e*P **P** **08 20 10.2 +0.2**
GSC *e**PP pP 08 20 18.5 -6.0
DAC Darwin (Calif) 86.92 45 *e*P **P** **08 20 14.0 +3.3**
WDC Whiskeytown Da 87.00 39 *e*P **P** **08 20 10.9 -0.2**
MTUM Tungsten Hills 87.05 43 *e*P **P** **08 20 11.4 +0.1**
MTUM *e*PP PP 08 23 36.1 +0.9
WAKR Walker 87.31 42 *e*P **P** **08 20 12.7 +0.1**
YBH Yreka Blue Hor 87.72 38 *e*P **P** **08 20 14.6 0.0**
YBH pmax pmax
comp=Z,15nm,1.3s
YBH Yreka Blue Hor 87.72 38 *e*P **P** **08 20 14.6 0.0**
comp=Z,15nm,1.3s,mb5.0
NVAR Mina Array Bea 87.92 43 P **P** **08 20 15.5 0.0**
comp=Z,9.3nm,0.9s,mb5.0,baz=226,slow=9.3,SNR=50
PAHR Pah Rah Range 88.15 41 *e*P **P** **08 20 16.7 +0.1**
comp=Z,17nm,1.2s,mb5.2
SHPR Sheep Range 88.56 46 *e*P **P** **08 20 19.1 +0.6**
MDJ Mudanjiang 88.61 325 P **P** **08 20 19.3 +0.5**
MDJ AP pP 08 20 33.3 -0.1
MDJ XP sP 08 20 39.3 +0.4
MDJ S S 08 31 02.3 +0.9
MDJ SS SS 08 36 54.5 +1.5
MDJ AMB AMB
comp=Z,11nm,1.4s,mb5.0
MDJ AMB AMB
comp=Z,2μm,15.8s
MDJ LR LR
comp=N,903nm,20.4s,MS5.4
MDJ LR LR
comp=E,2μm,24.3s,MS5.4
MDJ LR LR
comp=Z,2μm,20.4s,MS5.6
MDJ Mudanjiang 88.61 325 *e*P **P** **08 20 17.1 -1.7**
comp=Z,16nm,1.0s,mb5.3
TUC Tucson 88.79 51 *e*P pP 08 20 30.3 -3.9
TUC Tucson 88.79 51 *ep*P pP 08 20 30.3 -3.9
MOD Modoc 89.13 39 *e*P **P** **08 20 21.2 -0.1**
comp=Z,14nm,1.3s,mb5.1
SNY Shenyang 89.81 320 ⇑P **P** **08 20 24.3 -0.1**
SNY AMB AMB
comp=Z,11nm,1.1s,mb5.1
TIA Tai'an 90.03 313 *e*P **P** **08 20 25.0 -0.4**
CN2 Changchun 90.14 323 *e*P **P** **08 20 25.3 -0.7**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.6
WUAZ Wupatki 90.34 48 *e*P **P** **08 20 27.6 +0.7**
comp=Z,16nm,0.9s,mb5.3
WVOR Wild Horse Val 90.40 39 *e*P **P** **08 20 26.7 -0.5**
WVOR pmax pmax
comp=Z,28nm,1.4s,mb5.4
WVOR Wild Horse Val 90.40 39 *e*P **P** **08 20 26.7 -0.5**
comp=Z,28nm,1.4s,mb5.4
ARUT Antelope Range 90.44 46 *e*P **P** **08 20 27.6 +0.3**
ARUT *e**PP pP 08 20 41.9 -0.1
HOOD Mount Hood Mea 90.78 36 *e*P **P** **08 20 29.0 0.0**
KLR Kul'dur 91.00 330 *e*P **P** **08 20 26.8 -3.1**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,54nm,1.6s,mb5.6
MSU Marysvale 91.66 46 *e*P **P** **08 20 33.5 +0.5**
GNW Green Mountain 91.78 34 *e*P **P** **08 20 33.6 +0.1**
MNTX Cornudas Mount 92.16 54 *e*P **P** **08 20 35.2 -0.1**
MNTX *ep*P pP 08 20 49.8 -0.1
BMO Blue Mountains 92.73 38 *e*P **P** **08 20 37.1 -0.9**
BMO *e**PP pP 08 20 51.3 -1.3
BMO pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
BMO Blue Mountains 92.73 38 *e*P **P** **08 20 37.0 -0.9**
comp=Z,10.0nm,1.3s,mb5.1
BMO *ep*P pP 08 20 51.3 -1.3
TMUT Trail Mountain 92.74 45 *e*P **P** **08 20 38.5 +0.5**
TMUT *ep*P pP 08 20 54.8 +2.2
BJI Beijing 92.97 315 *e*P **P** **08 20 38.8 -0.2**
BJI S S 08 31 41.5 +0.3
BJI AMB AMB
comp=Z,8.0nm,0.8s,mb5.2
BJI LR LR
comp=N,2μm,19.5s,MS5.8
BJI LR LR
comp=E,3μm,18.6s,MS5.8
BJI LR LR
comp=Z,4μm,19.5s,MS5.9
BJI Beijing 92.97 315 *e*P **P** **08 20 38.7 -0.3**
BJI S S 08 31 41.4 +0.2
BJI pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
BJI MLR MLR
comp=Z,4μm,19.5s,MS5.9
BJI Beijing 92.97 315 *e*P **P** **08 20 38.7 -0.3**
comp=Z,8.0nm,0.8s,mb5.2
BJI S S 08 31 41.4 +0.2
BJI LR LR
comp=Z,4μm,19.5s,MS5.9
SRU San Rafael 93.05 46 *e*P **P** **08 20 39.5 +0.1**
MA2 Magadan 93.17 345 P **P** **08 20 38.3 -1.7**
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
MA2 Magadan 93.17 345 *e*P **P** **08 20 38.1 -1.9**
SPUT South Promonto 93.22 43 *e*P **P** **08 20 39.1 -1.1**
SPUT *ep*P pP 08 20 53.3 -1.6
ANMO Albuquerque 93.25 51⇑ *e*P **P** **08 20 40.1 -0.3**
ANMO Albuquerque 93.25 51 *ep*P pP 08 20 49.5 -5.5
HVU Hansel Valley 93.32 43 *e*P **P** **08 20 40.7 0.0**
HLID Hailey 93.49 41 *e*P **P** **08 20 41.4 -0.1**
comp=Z,9.1nm,1.0s,mb5.2
PV01 Paradox Valley 93.71 48 *e*P **P** **08 20 42.2 -0.3**
PV01 *ep*P pP 08 20 56.6 -0.5
TCUT Toone Canyon 93.72 44 *e*P **P** **08 20 42.9 +0.3**
KMI Kunming 93.96 297 P **P** **08 20 46.3 +2.7**
KMI *PP pP 08 20 58.3 0.0
KMI *SP sP 08 21 02.4 -1.4
KMI pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
KMI Kunming 93.96 297 P **P** **08 20 46.3 +2.7**
comp=Z,7.0nm,1.2s,mb5.0
KMI pP pP 08 20 58.3 0.0
KMI sP sP 08 21 02.4 -1.4
XAN Xi'an 94.20 307 P **P** **08 20 50.9 +6.2**
XAN AP pP 08 20 59.5 +0.1
XAN AMB AMB
comp=Z,5.0nm,0.8s,mb5.0
MCMT McKenzie Canyo 95.16 40 *e*P **P** **08 20 48.6 -0.5**
REDW Red Top Meadow 95.41 42 *e*P **P** **08 20 50.3 +0.1**
comp=Z,12nm,1.1s,mb5.2
TPAW Teton Pass 95.43 42 *e*P **P** **08 20 50.6 +0.3**
TPAW *ep*P pP 08 21 05.8 +0.8
SNOW Snow King Moun 95.53 42 *e*P **P** **08 20 50.8 0.0**
comp=Z,12nm,0.9s,mb5.3
DLMT Dillon 95.63 40 *e*P **P** **08 20 51.2 0.0**
comp=Z,17nm,1.4s,mb5.3
IMW Indian Meadow 95.68 42 *e*P **P** **08 20 58.2 +6.7**
MOOW Moose Ponds 95.70 42 *e*P **P** **08 20 51.5 -0.1**
comp=Z,9.1nm,1.5s,mb5.0
BW06 Boulder Array 95.82 43 *e*P **P** **08 20 51.5 -0.6**
PDAR Pinedale Array 95.82 43 P **P** **08 20 51.4 -0.8**
comp=Z,1.1nm,0.8s,mb4.3,baz=200,slow=3.9,SNR=8.9
SEY Seymchan 95.85 347⇑ *e*P **P** **08 20 51.3 -0.9**
FLWY Flagg Ranch 95.93 42 *e*P **P** **08 20 52.8 +0.2**
comp=Z,11nm,1.0s,mb5.2
QLMT Earthquake Lak 95.96 41 *e*P **P** **08 20 52.7 0.0**
CD2 Chengdu 96.20 302 *e*P **P** **08 20 54.5 +0.6**
CD2 PP PP 08 24 50.5 +3.2
CD2 SKS 08 31 26.0
CD2 S S 08 32 07.0 -2.4
CD2 SS SS 08 38 43.5 +1.5
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,60nm,8.2s
HHC Hu-ho-hao-te 96.28 314 *e*P **P** **08 20 55.8 +1.6**
HHC AP pP 08 21 09.8 +0.9
HHC XP sP 08 21 16.0 +1.6
HHC PP PP 08 24 51.8 +3.8
HHC SKS 08 31 26.8
HHC S S 08 32 08.0 -2.1
HHC AMB AMB
comp=Z,17nm,0.3s,mb6.0
HHC AMB AMB
comp=Z,1μm,7.1s
HHC LR LR
comp=N,1μm,17.7s,MS5.5
HHC LR LR
comp=E,1μm,19.6s,MS5.5
HHC LR LR
comp=Z,2μm,19.0s,MS5.6
HIA Hailar 96.71 324 *e*P **P** **08 20 55.0 -1.2**
COLA College 97.59 12 *e*P **P** **08 20 58.1 -2.0**
BILL Bilibino 98.67 354⇓ *e*P **P** **08 21 01.9 -3.1**
BILL *e* 08 25 05.3
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,3μm,19.0s,MS5.8
BILL Bilibino 98.67 354 *e*P **P** **08 21 03.7 -1.3**
LZH Lanzhou 98.81 307 *e*P **P** **08 21 08.3 +2.7**
LZH AP pP 08 21 21.8 +1.5
LZH PP PP 08 25 12.0 +4.6
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.5
LZH Lanzhou 98.81 307 *e*P **P** **08 21 08.2 +2.6**
LZH *PP pP 08 21 21.7 +1.4
LZH 08 25 12.0
LZH pmax pmax
comp=Z,21nm,1.3s,mb5.5
LZH Lanzhou 98.81 307 *e*P **P** **08 21 08.2 +2.6**
comp=Z,21nm,1.3s,mb5.5
LZH pP pP 08 21 21.7 +1.4
LZH sP sP 08 21 26.9 +1.1
LZH PP PP 08 25 12.0 +4.6
SONM Songino Array 103.17 318 Pdiff Pdif 08 21 24.1 -0.9
comp=Z,0.2nm,0.5s,baz=159,slow=4.6,SNR=2.2
TLY Talaya 106.60 320 *e*P Pdif 08 21 49.5 +9.2
TLY pmax pmax
comp=Z,3.0nm,0.7s
WMQ Urumqi 113.31 308 *e*PKP PKiKP 08 26 05.0 +1.7
WMQ *ep*PP PP 08 26 59.0 +4.8
WMQ PPP 08 29 23.0
WMQ PKS 08 29 40.0
WMQ SKS SKSdf 08 33 10.0 -1.2
WMQ SKKS SKKSac 08 33 47.0 -5.0
WMQ SS SS 08 42 37.0 +0.9
WMQ PP PP
WMQ comp=Z,104nm,4.2s LR LR
WMQ comp=N,812nm,18.0s,MS5.5 LR LR
WMQ comp=E,772nm,19.6s,MS5.5 LR LR
WMQ comp=Z,756nm,22.4s,MS5.2 LR LR
BOSA Boshof 117.54 203 PKP PKPdf 08 26 11.8 +0.3
comp=Z,1.1nm,0.4s,baz=81,slow=17,SNR=3.1
BOSA Boshof 117.54 203 PKIKP PKPdf 08 26 11.8 +0.4
BOSA pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 117.84 310 PKP PKPdf 08 26 10.4 -1.7
comp=Z,1.8nm,0.6s,baz=90,slow=0.2,SNR=13
MKAR Makanchi Array 117.84 310⇑ *i*PKIKP PKPdf 08 26 10.8 -1.2
ZAL Zalesovo 118.07 318 PKP PKPdf 08 26 10.7 -1.7
comp=Z,1.3nm,0.3s,baz=149,slow=4.8,SNR=3.2
ZAL Zalesovo 118.07 318 *i* PKIKP PKPdf 08 26 12.8 +0.3
ZAL pmax pmax
comp=Z,1.0nm,0.3s
NVS Novosibirsk 119.16 319 *e*PKIKP PKPdf 08 26 11.9 -2.7
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=Z,8.0nm,1.3s
FRU Bishkek 122.17 304 PKIKP PKPdf 08 26 20.6 +0.2
AAK Ala-Archa 122.22 304⇑ *e*PKIKP PKPdf 08 26 19.3 -1.1
BRVK Borovoye 126.51 316 *e*PKIKP PKPdf 08 26 27.3 -1.4
ARU Arti 133.10 321⇑ *e*PKIKP PKPdf 08 26 39.8 -1.4
ARU *e* 08 26 47.2
ARU Arti 133.10 321⇑ *e*PKP PKPdf 08 26 39.8 -1.4
ARU *e*PKPdf PKPdf 08 26 47.2 +6.0
AKTK Aktyubinsk 134.16 313 PKP PKPdf 08 26 42.5 -0.7
AKTO Aktyubinsk 134.16 313 PKP PKPdf 08 26 42.5 -0.7
comp=Z,4.6nm,0.7s,baz=111,slow=2.9,SNR=12
AKTO Aktyubinsk 134.16 313 PKIKP PKPdf 08 26 42.5 -0.7
AKTO pmax pmax
comp=Z,5.0nm,0.7s
KMBO Kilima Mbogo 134.40 233 PKP PKPdf 08 26 44.5 +0.9
comp=Z,1.4nm,0.6s,baz=262,slow=23,SNR=3.9
KMBO Kilima Mbogo 134.40 233 PKIKP PKPdf 08 26 44.6 +1.0
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KEV Kevo 137.99 347 *e*pkp 08 26 37.8
ARCES ARCESS Array B 138.45 348 PKHKP 08 26 41.7
comp=Z,2.6nm,0.6s,baz=72,slow=2.4,SNR=13
ARCES PKP PKPdf 08 26 49.6 -1.5
comp=Z,4.5nm,0.6s,baz=60,slow=1.2,SNR=11
ARCES ARCESS Array B 138.45 348 PKHKP 08 26 41.7
ARCES 08 26 49.6
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 138.45 348 PKP PKPdf 08 26 49.6 -1.5
JOF Joensuu 142.33 339 *e*pkp PKPdf 08 26 52.0 -6.1
GNI Garni 144.21 298 *e*PKIKP PKPdf 08 27 00.6 -0.9
MOS Moscow 144.32 326 *e*PKIKP PKPdf 08 26 59.0 -2.6
MOS pmax pmax
comp=Z,94nm,1.3s
SEMD Semdilli 144.42 293 *e*P PKPdf 08 26 59.8 -2.0
KAF Kangasniemi 144.45 341 *e*pkp PKPdf 08 26 57.4 -4.5
ZEI Tsey 144.62 302 *e*PKIKP PKPdf 08 27 01.4 -0.8
CLDR Caldiran 144.88 296 *e*P PKPdf 08 27 01.1 -1.5
HKR Hakkari 145.04 293 *e*P PKPbc 08 27 01.9 -0.5
FINES FINESS Array B 145.05 340 PKP PKPdf 08 27 00.8 -2.1
comp=Z,71nm,0.7s,baz=64,slow=4.4,SNR=98
FINES FINESS Array B 145.05 340 PKIKP PKPdf 08 27 00.8 -2.1
FINES pmax pmax
comp=Z,71nm,0.7s
FINES FINESS Array B 145.05 340 PKP PKPdf 08 27 00.8 -2.1
CUKT Cukurca 145.14 293 *e*P PKPbc 08 27 03.0 +0.3
OBN Obninsk 145.16 326⇑ *i*PKIKP PKPdf 08 27 01.2 -1.9
OBN *e* 08 30 26.8
OBN pmax pmax
comp=Z,314nm,1.7s
OBN Obninsk 145.16 326 *e*PKPbc PKPbc 08 27 01.6 -1.1
TVAN Van 145.30 295 *i* P PKPbc 08 27 04.0 +0.8
VANB Van 145.31 295 *e*P PKPbc 08 27 03.8 +0.6
VANT Van 145.31 295 *e*P PKPbc 08 26 53.4 -10
KIV Kislovodsk 145.33 305 *e*PKIKP PKPdf 08 27 03.4 0.0
KIV Kislovodsk 145.33 305 *e*PKPbc PKPbc 08 27 03.4 +0.1
VOR Voronezh 145.34 319 PKP2 PKPab 08 27 01.0 -2.5
VOR pmax pmax
comp=Z,120nm,2.0s
MSL Mosul 145.54 291 *i* x x 08 27 12.5
SIRT Sirnak 146.07 293 *e*P PKPdf 08 27 05.2 +0.5
ERZM Erzurum 146.81 298 *i* P PKPdf 08 27 08.8 +2.9
EZM Erzurum 146.81 298 *e*P PKPdf 08 27 03.9 -2.0
BEST Besiri 147.00 294 *i* P PKPbc 08 27 08.4 +0.1
BNGL BINGOL 147.04 296 *i* P PKPbc 08 27 09.7 +1.2
VSU Vasula 147.15 336⇑ *i*PKP2 PKPbc 08 27 07.3 -1.4
MARD Mardin 147.40 293 *i* P PKPbc 08 27 10.0 +0.6
SOC Sochi 147.51 305 *i* PKIKP PKPdf 08 27 06.5 -0.6
KELT Kelkit 148.40 298 *i* P PKPbc 08 27 13.5 +1.4
PTK Pertek 148.42 296 *e*P PKPbc 08 27 13.7 +1.5
NB2 NORSAR Subarra 148.60 352 PKPa PKPbc 08 27 10.8 -1.8
comp=Z,40nm,1.2s,baz=17,slow=2.6
NB2 NORSAR Subarra 148.60 352 PKPa PKPbc 08 27 10.8 -1.8
baz=17,slow=2.6
NOA NORSAR Array B 148.60 352 PKPbc PKPbc 08 27 11.1 -1.5
comp=Z,21nm,0.8s,baz=14,slow=4.4,SNR=42
NOA NORSAR Array B 148.60 352 PKIKP PKPdf 08 27 11.1 +2.2
NOA pmax pmax
comp=Z,21nm,0.8s
ELZG Elazig 148.76 295 *i* P PKPbc 08 27 14.5 +1.5
ANN Anapa 148.82 308 *i* PKIKP PKPdf 08 27 11.9 +2.7
ANN pmax pmax
comp=Z,95nm,1.1s
URFA Urfa 148.95 293 *e*P PKPbc 08 27 13.9 +0.4
GRSN GIRESUNGRSN 149.04 300 *i* P PKPdf 08 27 12.9 +3.3
MALT Malatya 149.21 295⇓ *i*P PKPbc 08 27 14.5 +0.4
MALT Malatya 149.21 295 *e*PKPbc PKPbc 08 27 14.9 +0.7
MALT *e*PKPab PKPab 08 27 20.9 +2.2
MYA Malataya 149.22 295 *e*P PKPbc 08 27 14.6 +0.5
GZT Gaziantep 149.96 293 *i* P PKPbc 08 27 16.8 +0.9
KONO Kongsberg 150.15 353 *e*PKHKP PKPbc 08 27 15.1 -1.3
KONO *e* 08 27 21.5
KONO Kongsberg 150.15 353 *e*PKPbc PKPbc 08 27 15.1 -1.3
KONO *e*PKPab PKPab 08 27 21.5 -1.0
KONO *ep*PKPdf pPKPdf 08 27 25.5 -1.0
SVSK Karacayir 150.15 298 *e*P PKPbc 08 27 17.5 +1.1
SVST Sivas 150.20 298 *i* P PKPbc 08 27 17.8 +1.2
GAZ Gaziantep 150.25 293 *e*P PKPbc 08 27 16.8 +0.1
ASF Jabal al Asfar 150.41 283 PKPbc PKPbc 08 27 18.4 +1.3
comp=Z,31nm,0.7s,baz=353,slow=2.4,SNR=44
ASF PKPab PKPab 08 27 24.8 +1.2
comp=Z,10nm,0.6s,baz=71,slow=3.4,SNR=7.9
ASF Jabal al Asfar 150.41 283 PKIKP PKPbc 08 27 18.4 +1.3
ASF 08 27 24.8
ASF pmax pmax
comp=Z,31nm,0.7s
ASF pmax pmax
comp=Z,10.0nm,0.6s
FKH Fakeheh 150.95 287 *e*P PKPbc 08 27 19.7 +1.3
SIM Simferopol' 151.02 309 *e*PKIKP PKPbc 08 27 20.0 +1.5
SIM pmax pmax
comp=Z,35nm,0.8s
COBT Iskenderun 151.05 292 *i* P PKPbc 08 27 19.6 +1.1
BNN Bunyan 151.17 296 *e*P PKPbc 08 27 18.7 -0.1
AKASG Malin Array Be 151.30 323 PKPbc PKPbc 08 27 17.1 -2.1
comp=Z,9.9nm,0.6s,baz=44,slow=2.2,SNR=8.3
AKASG PKPab PKPab 08 27 25.2 -2.1
comp=Z,32nm,0.6s,baz=47,slow=3.0,SNR=38
AKASG Malin Array Be 151.30 323 PKIKP PKPbc 08 27 17.1 -2.1
AKASG 08 27 25.2
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG pmax pmax
comp=Z,33nm,0.6s
AKBB Malin Array Si 151.30 323 *e*PKIKP PKPbc 08 27 17.9 -1.3
AKBB *e* 08 27 24.6
RCY Rachaya 151.41 285 *e*P PKPbc 08 27 20.5 +1.1
CEYT Ceyhan 151.43 293 *e*P PKPbc 08 27 19.3 -0.1
BOYT Boyabat 151.45 302 *i* P PKPbc 08 27 19.8 +0.4
YOZ Yozgat 151.47 298 *e*P PKPbc 08 27 19.6 +0.1
BHL Bhannes 151.56 286 *e*P PKPbc 08 27 20.6 +0.9
CTKT Corum 151.70 300 *i* P PKPbc 08 27 19.9 -0.1
EIL Elat 151.75 277 *e*PKPdf PKPdf 08 27 14.7 +0.9
EIL *e*PKPbc PKPbc 08 27 21.1 +0.9
SUW Suwalki 151.82 334 *e*PKP PKPbc 08 27 19.5 -0.8
CORM Corum 151.90 300 *e*P PKPbc 08 27 21.4 +0.8
AVNT Avonos 151.95 297 *i* P PKPbc 08 27 20.7 +0.1
CDAG Cicekdag 152.19 298 *i* P PKPbc 08 27 21.1 -0.1
MERS Mersin 152.42 293 *e*P PKPbc 08 27 21.6 -0.1
BALT Daday 152.53 303 *i* P PKPbc 08 27 22.5 +0.5
BR131 Keskin Array S 152.73 299 *e*PKPbc PKPbc 08 27 22.3 -0.1
BR131 *ep*PKPdf pPKPdf 08 27 31.0 +0.5
BRTR Keskin Array B 152.73 299 PKP PKPdf 08 27 12.9 -2.3
comp=Z,1.2nm,0.8s,baz=92,slow=3.0,SNR=3.9
BRTR PKPbc PKPbc 08 27 22.1 -0.3
comp=Z,13nm,0.9s,baz=116,slow=2.9,SNR=31
BRTR Keskin Array B 152.73 299 PKIKP PKPdf 08 27 13.0 -2.3
BRTR 08 27 22.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,13nm,0.9s
KAMT Kaman 152.74 298 *e*P PKPbc 08 27 22.3 -0.1
MEST Erdemli 152.74 292 *i* P PKPbc 08 27 22.6 +0.2
SAFT Safranbolu 153.11 302 *e*P PKPbc 08 27 22.8 -0.4
ANTO Ankara 153.34 299⇑ *i*P PKPbc 08 27 24.3 +0.6
ANTO Ankara 153.34 299 *e*PKPbc PKPbc 08 27 24.0 +0.3
ANTO *ep*PKPdf pPKPdf 08 27 30.3 -1.1
BSD Bornholm Skovb 153.52 344 *i* P PKPbc 08 27 23.2 -0.9
BSD Bornholm Skovb 153.52 344 *e*PKIKP PKPbc 08 27 23.2 -0.9
SGKT Sivrigoynuk 153.74 301 *i* P PKPbc 08 27 22.0 -2.6
LVV L'vov 154.46 326 *i* PKP2 PKPab 08 27 39.7 -0.9
LIC Lamto 155.17 162 *e*PKIKP PKPdf 08 27 16.0 -2.7
KWP Kalwaria 155.21 327 *e*PKP PKPdf 08 27 28.0 +9.2
KWP *e* 08 27 43.3
KWP Kalwaria 155.21 327 *e*PKPab PKPab 08 27 43.1 -0.7
DBIC Dimbokro 155.64 163 PKP PKPdf 08 27 17.5 -1.8
comp=Z,11nm,1.3s,baz=180,slow=1.4,SNR=3.1
DBIC Dimbokro 155.64 163 PKIKP PKPdf 08 27 17.5 -1.8
DBIC pmax pmax
comp=Z,11nm,1.3s
DBIC Dimbokro 155.64 163 PKP PKPdf 08 27 17.5 -1.8
MLR Muntele Rosu 156.01 316⇑ *i*P PKPdf 08 27 29.5 +10
STHS Stebnicka Huta 156.04 329 *e*PKP PKPab 08 27 47.5 +0.1

STHS				e		08 28 01.1	
CRVS	**Cervenica-Dubn**	**156.31**	**327**	ePKP	PKPab	08 27 47.8	-0.7
KSP	**Ksiaz**	**156.88**	**337**	ePKP	PKPab	08 27 50.6	-0.4
KSP	**Ksiaz**	**156.88**	**337**	ePKP2	PKPab	08 27 50.1	-0.9
NRDL	**Niedersach Rie**	**157.00**	**348**	ePKPab	PKPab	08 27 49.9	-1.6
OKC	**Ostrava-Krasne**	**157.03**	**333**	ePKPab	PKPab	08 27 50.9	-0.7
KECS	**Kecovo**	**157.06**	**328**	i PKP	PKPab	08 27 51.2	-0.6
KECS				e		08 27 55.7	
UPC	**Upice**	**157.26**	**337**	ePKPab	PKPab	08 27 52.1	-0.5
DPC	**Dobruska-Polom**	**157.28**	**336**	ePKPab	PKPab	08 27 52.7	0.0
MORC	**Moravsky Berou**	**157.31**	**334**	⇓iP	PKPab	08 27 50.7	-2.2
CLL	**Collm**	**157.46**	**342**	ePKPdif		08 27 32.0	
CLL				⇓iPKPab	PKPab	08 27 52.4	-1.1
	comp=Z,37nm,0.9s						
CLL				i x	x	08 27 57.5	
CLL				ex	x	08 28 39.0	
CLL	**Collm**	**157.46**	**342**	⇓ePKIKP	PKPdf	08 27 32.0	+10
CLL				pmax	pmax		
	comp=Z,37nm,0.9s						
IBBN	**Ibbenburen**	**157.55**	**351**	ePKPab	PKPab	08 27 53.0	-0.9
CLZ	**Clausthal**	**157.57**	**347**	ePKPab	PKPab	08 27 52.8	-1.2
BRG	**Berggiesshubel**	**157.59**	**340**	ePKPab	PKPab	08 27 53.2	-0.9
BRG	**Berggiesshubel**	**157.59**	**340**	⇓iPKP	PKPab	08 27 53.1	-1.0
	comp=Z,20nm,0.8s						
BRG				i		08 27 58.8	
	comp=Z,11nm,0.8s						
BRG	**Berggiesshubel**	**157.59**	**340**	⇓iPKP2	PKPab	08 27 53.1	-1.0
BRG				pmax	pmax		
	comp=Z,20nm,0.8s						
BRG				pmax	pmax		
	comp=Z,11nm,0.8s						
PVCC	**Panska Ves**	**157.71**	**339**	ePKPab	PKPab	08 27 54.2	-0.4
VYHS	**Vyhne**	**157.79**	**330**	ePKP	PKPab	08 27 54.1	-0.8
VYHS	**Vyhne**	**157.79**	**330**	ePKP2	PKPab	08 27 54.2	-0.7
WTSB	**Winterswijk**	**158.00**	**353**	eP	PKPab	08 27 54.3	-1.6
	comp=Z,42nm,1.5s						
VRAC	**Vranov**	**158.05**	**334**	⇓iP	PKPab	08 27 55.8	-0.3
PRU	**Pruhonice**	**158.19**	**338**	ePKPab	PKPab	08 27 56.2	-0.4
TANN	**Tannenbergstha**	**158.42**	**342**	ePKPab	PKPab	08 27 56.6	-1.0
MOX	**Moxa**	**158.42**	**344**	ePKPab	PKPab	08 27 56.5	-1.2
MOX	**Moxa**	**158.42**	**344**	ePKP	PKPab	08 27 56.7	-1.0
	comp=Z,34nm,1.4s						
MOX	**Moxa**	**158.42**	**344**	ePKP2	PKPab	08 27 56.7	-1.0
MOX				pmax	pmax		
	comp=Z,13nm,1.4s						
BUG	**Bochum--Univer**	**158.47**	**352**	ePKPab	PKPab	08 27 56.3	-1.6
TREC	**Trest**	**158.47**	**336**	ePKPab	PKPab	08 27 57.4	-0.4
NKC	**Novy Kostel**	**158.59**	**342**	ePKPab	PKPab	08 27 57.9	-0.5
UBBA	**Unterbreizbach**	**158.62**	**347**	ePKPab	PKPab	08 27 57.1	-1.4
MANZ	**Manzenberg**	**158.90**	**342**	ePKPab	PKPab	08 27 59.0	-0.7
ROTZ	**Rotzenmuhle**	**159.07**	**342**	ePKPab	PKPab	08 27 59.9	-0.6
VTS	**Vitosha**	**159.18**	**312**	⇑iP	PKPab	08 28 00.2	-0.8
KHC	**Kasperske Hory**	**159.24**	**339**	ePKPab	PKPab	08 28 00.9	-0.3
HGN	**Heimansgroeve**	**159.28**	**353**	eP	PKPab	08 28 00.1	-1.3
	comp=Z,34nm,1.4s						
GRF	**Grafenberg Arr**	**159.40**	**343**	ePKPab	PKPab	08 28 01.5	-0.4
WET	**Wettzell**	**159.44**	**340**	ePKPab	PKPab	08 28 01.8	-0.3
GEC2	**GERESS Array S**	**159.45**	**338**	ePKPab	PKPab	08 28 01.4	-0.7
GERES	**GERESS Array B**	**159.45**	**338**	PKP	PKPdf	08 27 22.9	-1.2
	comp=Z,0.9nm,0.8s,baz=248,slow=0.7,SNR=4.3						
GERES				PKPab	PKPab	08 28 00.9	-1.2
	comp=Z,6.9nm,0.7s,baz=40,slow=4.4,SNR=22						
GERES	**GERESS Array B**	**159.45**	**338**	PKIKP	PKPdf	08 27 22.9	-1.2
GERES						08 28 00.9	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TNS	**Taunus Mts**	**159.48**	**349**	ePKPab	PKPab	08 28 00.8	-1.4
GIVF	**Givet**	**160.03**	**355**	ePKP2	PKPab	08 28 02.7	-2.0
BAIF	**Baives**	**160.12**	**356**	ePKP2	PKPab	08 28 03.1	-1.9
	comp=Z,63nm,1.4s						
WLF	**Walferdange**	**160.35**	**353**	ePKPab	PKPab	08 28 04.5	-1.5
LANF	**Langenberg**	**160.78**	**349**	PKP	PKPab	08 28 07.0	-0.9
FUR	**Furstenfeldbru**	**160.79**	**341**	ePKPab	PKPab	08 28 07.7	-0.3
PERS	**Pernice**	**160.81**	**332**	i PKPdf	PKPab	08 28 06.7	-1.3
BFO	**Black Forest**	**161.32**	**347**	ePKPab	PKPab	08 28 08.7	-1.6
FLN	**La Foliniere**	**161.35**	**6**	ePKP2	PKPab	08 28 08.0	-2.4
	comp=Z,49nm,1.0s						
WLS	**Welschbruch**	**161.41**	**349**	PKP	PKPab	08 28 09.4	-1.3
CDF	**Champ du Feu**	**161.42**	**350**	ePKP2	PKPab	08 28 08.8	-1.9
	comp=Z,40nm,1.2s						
MEZF	**Maizieres J'vi**	**161.61**	**354**	ePKP2	PKPab	08 28 09.7	-1.8
	comp=Z,82nm,1.2s						
ECH	**Echery**	**161.63**	**350**	PKP	PKPab	08 28 10.5	-1.1
BOJS	**Bojanci**	**161.66**	**330**	i PKPdf	PKPab	08 28 10.9	-0.8
THEF	**They Montfort**	**161.78**	**352**	PKP	PKPab	08 28 11.1	-1.2
HAU	**Haudompre**	**161.95**	**351**	ePKP2	PKPab	08 28 11.1	-2.0
	comp=Z,34nm,1.1s						
MOF	**Molkenrain**	**161.99**	**349**	PKP	PKPab	08 28 11.8	-1.4
HINF	**Hinteralfeld**	**162.07**	**350**	ePKP2	PKPab	08 28 11.4	-2.2
	comp=Z,49nm,1.5s						
LOMF	**Lomont**	**162.53**	**350**	PKP	PKPab	08 28 15.0	-0.6
LOR	**Lormes**	**162.92**	**356**	ePKP2	PKPab	08 28 15.2	-2.1
	comp=Z,20nm,1.1s						
TORD	**Torodi Ar. Bea**	**163.01**	**178**	PKP	PKPdf	08 27 28.2	+0.4
	comp=Z,4.1nm,1.2s,baz=305,slow=0.2,SNR=9.5						
TORD				PKPab	PKPab	08 28 18.4	+0.7
	comp=Z,3.4nm,0.6s,baz=175,slow=3.0,SNR=8.9						
SSF	**Saint Saulge**	**163.14**	**357**	ePKP2	PKPab	08 28 16.2	-2.1
	comp=Z,38nm,1.2s						
CABF	**La Chapelle**	**163.36**	**351**	ePKP2	PKPab	08 28 16.4	-2.8
	comp=Z,20nm,1.0s						
AVF	**Avril sur Loir**	**163.42**	**357**	ePKP2	PKPab	08 28 17.2	-2.3
	comp=Z,62nm,1.5s						
MFF	**Saint Martin d**	**163.52**	**6**	ePKP2	PKPab	08 28 17.8	-2.1
	comp=Z,48nm,1.2s						
SMF	**Signal de Mont**	**163.54**	**356**	ePKP2	PKPab	08 28 18.0	-2.0
	comp=Z,60nm,1.2s						
BGF	**Bois d'Agland**	**163.67**	**359**	ePKP2	PKPab	08 28 18.3	-2.3
PLDF	**La Plantade**	**164.23**	**357**	PKP	PKPab	08 28 21.7	-1.3
LPL	**La Plagne**	**164.32**	**348**	ePKP2	PKPab	08 28 22.5	-1.0
	comp=Z,17nm,0.7s						
LPG	**La Plagne**	**164.34**	**348**	ePKP2	PKPab	08 28 22.8	-0.7
	comp=Z,38nm,0.9s						
RJF	**Les Rejaudoux**	**164.91**	**2**	ePKP2	PKPab	08 28 23.5	-2.6
ORIF	**Oris-en-Rattie**	**165.04**	**350**	ePKP2	PKPab	08 28 25.4	-1.2
	comp=Z,36nm,0.9s						
MBDF	**Montbardon**	**165.08**	**348**	ePKP2	PKPab	08 28 25.3	-1.5
	comp=Z,16nm,0.7s						
LFF	**La Frestale**	**165.24**	**4**	ePKP2	PKPab	08 28 25.5	-2.0
VIVF	**Saint-Julien-l**	**165.25**	**353**	ePKP2	PKPab	08 28 26.1	-1.5
	comp=Z,85nm,1.4s						
AUTN	**L'Aution**	**165.65**	**345**	PKP	PKPab	08 28 28.7	-0.6
TOUF	**Mont Tournerai**	**165.67**	**345**	PKP	PKPab	08 28 28.7	-0.7
LUCF	**Luceram**	**165.76**	**345**	PKP	PKPab	08 28 28.9	-0.9
SBF	**Sospel**	**165.77**	**345**	ePKP2	PKPab	08 28 27.8	-2.0
	comp=Z,81nm,1.0s						
MVIF	**Mont Vial**	**165.80**	**346**	PKP	PKPab	08 28 29.2	-0.8
REVF	**Revere**	**165.90**	**345**	PKP	PKPab	08 28 29.5	-0.9
SMRF	**Simiane la Rot**	**166.01**	**350**	ePKP2	PKPab	08 28 29.8	-1.1
	comp=Z,36nm,1.1s						
FRF	**La Foret Royal**	**166.23**	**347**	ePKP2	PKPab	08 28 29.8	-2.0
LMR	**La Mourre**	**166.47**	**347**	ePKP2	PKPab	08 28 31.1	-1.8
	comp=Z,80nm,1.4s						
PGF	**Pioggiola**	**166.56**	**338**	ePKP2	PKPab	08 28 31.4	-1.9
	comp=Z,48nm,1.2s						
ESDC	**Sonseca Array**	**169.25**	**27**	PKP	PKPdf	08 27 32.3	-0.5
	comp=Z,0.3nm,0.3s,baz=337,slow=1.8,SNR=6.2						
ESDC				PKPab	PKPab	08 28 43.3	-1.9
	comp=Z,1.5nm,0.8s,baz=331,slow=4.6,SNR=6.3						
MDT	**Midelt**	**173.55**	**64**	PKP	PKPdf	08 27 34.7	-0.2
	comp=Z,1.9nm,0.7s,baz=30,slow=0.8,SNR=5.0						

---

*ISCJB **28** 08:19:27.6±4.0, 70S±02×1548E±03, h150km±32km, mb4.0/5, Error ellipse: s-maj=46.3km s-min=31.7km az=78.6*
*NEIC **28** 08:19:27.7±2.6, 694S×15478E, h140km±21km, mb4.2/2, Error ellipse: s-maj=29.7km s-min=19.7km az=131.0*
*IDC **28** 08:19:28.3±9.4, 669S×15469E, h155km±64km, mb3.7/4, mb1 3.8/5, mb1mx3.5/14, mbtmp4.1/5, Error ellipse: s-maj=80.9km s-min=42.8km az=86.0*
ISC 28 08:19:28.1±3.7**, 70S**±02×**1548E**±03**, h138**km±30km**, n11,** σ0^s**37**/10**, mb4.0**/5**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.92**	**252**	P	**Pn**	**08 21 20.6**	**+0.2**
	1.6nm,0.3s,baz=101,slow=8.9,SNR=4.5						
CTAO	**Charters Tower**	**15.45**	**212**	eP	**Pn**	**08 22 58.2**	**-0.3**
	21nm,1.5s						
WRAB	**Tennant Creek**	**23.64**	**235**	eP	**P**	**08 24 26.8**	**+0.2**
	5.0nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**23.65**	**235**	eP	**P**	**08 24 26.7**	**0.0**
WRA	**Warramunga Arr**	**23.66**	**235**	P	**P**	**08 24 26.8**	**+0.1**
	2.0nm,0.4s,mb4.0,baz=60,slow=10,SNR=28						
AS31	**Alice Springs**	**26.03**	**228**	eP	**P**	**08 24 47.8**	**-0.4**
ASAR	**Alice Springs**	**26.03**	**228**	P	**P**	**08 24 47.8**	**-0.5**
	0.9nm,0.4s,mb3.8,baz=58,slow=9.6,SNR=16						
STKA	**Stephens Creek**	**27.68**	**205**	P	**P**	**08 25 03.8**	**+0.8**
	1.3nm,0.5s,mb3.9,baz=25,slow=15,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.47**	**246**	P	**P**	**08 25 27.9**	**+0.2**
	2.5nm,0.8s,mb4.0,baz=113,slow=5.6,SNR=4.5						
MTUM	**Tungsten Hills**	**91.53**	**53**	eP	**P**	**08 32 18.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**152.81**	**285**	PKPbc	PKPbc	08 39 06.9	-1.7
	0.2nm,0.4s,baz=71,slow=2.0,SNR=4.8						
TORD				PKPab	PKPab	08 39 19.2	-0.8
	0.7nm,0.9s,baz=73,slow=3.3,SNR=4.1						

---

*LDG **28** 08:23:13.0±0.1, 4294N×069E, h5km, Md2.1/2, Ml2.1/6, Error ellipse: s-maj=1.7km s-min=1.0km az=10.0*
*STR **28** 08:23:13.0±0.1, 4291N×070E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 28 08:23:13.6±0.3**, 4293N**×**070E, h0**km**, mbLg1.5**/10**, Error ellipse: s-maj=3.2km s-min=1.7km az=12.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.08**	**142**	Pg	Pg	08 23 14.6	-0.5
MELF				Sg	Sg	08 23 15.8	-0.3
MELF	**Melles**	**0.08**	**142**	P	Pg	08 23 14.7	-0.4
MELF				S	Sg	08 23 15.8	-0.3
EPF	**Esparros**	**0.28**	**291**	ePg	Pg	08 23 18.4	-0.5
EPF				eSg	Sg	08 23 22.6	+0.1
	29nm,0.2s						
EPF	**Esparros**	**0.28**	**291**	Pg	Pg	08 23 18.4	-0.5
EPF				Lg		08 23 22.6	
	15nm,0.2s						
RESF	**Ens**	**0.29**	**245**	Pg	Pg	08 23 18.7	-0.5
RESF				Sg	Sg	08 23 23.4	+0.5
RESF	**Ens**	**0.29**	**245**	P	Pg	08 23 18.8	-0.4
RESF				S	Sg	08 23 23.1	+0.1
MLS	**Moulis**	**0.29**	**85**	Pg	Pg	08 23 19.1	-0.2
MLS				Sg	Sg	08 23 23.7	+0.6
MLS	**Moulis**	**0.29**	**85**	P	Pg	08 23 19.2	-0.1
MLS				S	Sg	08 23 23.3	+0.2
SALF	**Salau**	**0.40**	**115**	Pg	Pg	08 23 20.6	-0.7
SALF				Sg	Sg	08 23 26.5	-0.1
SALF	**Salau**	**0.40**	**115**	P	Pg	08 23 20.7	-0.6
SALF				S	Sg	08 23 26.3	-0.3
LABF	**Labassere**	**0.47**	**284**	Pg	Pg	08 23 22.0	-0.6
LABF				Sg	Sg	08 23 28.5	-0.2
LABF	**Labassere**	**0.47**	**284**	P	Pg	08 23 22.0	-0.6
LABF				S	Sg	08 23 28.5	-0.2
EBIE	**Bielsa**	**0.47**	**239**	Pg	Pg	08 23 22.2	-0.5
	1.9nm,0.1s,SNR=7.9						
EBIE				Lg		08 23 28.5	
	3.8nm,0.1s,SNR=7.9						
VIEF	**Viey**	**0.49**	**265**	Pg	Pg	08 23 22.6	-0.5
VIEF				Sg	Sg	08 23 29.9	+0.4
VIEF	**Viey**	**0.49**	**265**	P	Pg	08 23 22.8	-0.3
VIEF				S	Sg	08 23 29.6	+0.1
CSOR	**Sort**	**0.64**	**150**	P	Pg	08 23 25.4	-0.6
ETSF	**Etsaut**	**0.92**	**268**	ePg	Pg	08 23 30.1	-1.2
ETSF				eSg	Sg	08 23 42.3	-0.9
	4.8nm,0.3s						
ETSF	**Etsaut**	**0.92**	**268**	Pg	Pg	08 23 30.1	-1.2
ETSF				Lg		08 23 42.3	
	2.4nm,0.3s						
CAVN	**Les Avellanes**	**1.05**	**178**	P	Pg	08 23 33.8	+0.1
CAVN				S	Sg	08 23 47.4	0.0
	4.4nm,0.2s						
MTLF	**Montolieu**	**1.19**	**69**	ePg	Pg	08 23 35.3	-1.1
MTLF				eSg	Sg	08 23 50.7	-1.1
	3.0nm,0.2s						
MTLF	**Montolieu**	**1.19**	**69**	Pg	Pg	08 23 35.3	-1.1
MTLF				Lg		08 23 50.7	
	1.5nm,0.2s						
SJPF	**Ste Jean**	**1.42**	**278**	ePg	Pg	08 23 39.5	-1.3
SJPF				eSg	Sg	08 23 57.9	-1.3
	1.5nm,0.3s						
SJPF	**Ste Jean**	**1.42**	**278**	Pg	Pg	08 23 39.5	-1.3
SJPF				Lg		08 23 57.9	
	0.8nm,0.3s						
ESAC	**San Caprasio**	**1.49**	**216**	Pg	Pg	08 23 42.2	+0.1
	3.0nm,0.1s,SNR=7.9						
ESAC				Lg		08 24 02.0	
	4.6nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.60**	**170**	Pg	Pg	08 23 43.5	-0.9
	0.9nm,0.1s,SNR=6.8						
EPOB				Lg		08 24 04.2	
	2.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**1.64**	**281**	Pg	Pg	08 23 44.9	-0.2
	0.2nm,0.1s,SNR=7.9						
EALK				Lg		08 24 07.1	
	0.4nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**1.65**	**279**	Pg	Pg	08 23 44.6	-0.5
	0.3nm,0.1s,SNR=7.9						
ELIZ				Lg		08 24 06.9	
	0.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.65**	**271**	Lg		08 24 05.7	
	0.5nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.74**	**132**	P	Pn	08 23 44.3	-0.8
CFON				S	Sn	08 24 04.5	-3.5
	2.7nm,0.2s						
LFF	**La Frestale**	**2.01**	**1**	eSg	Sg	08 24 15.8	-2.3
	8.8nm,0.4s						
LFF	**La Frestale**	**2.01**	**1**	Lg		08 24 15.8	
	4.4nm,0.4s						
CAF	**Calviac**	**2.23**	**26**	eSg	Sg	08 24 23.4	-1.7
	2.9nm,0.3s						
CAF	**Calviac**	**2.23**	**26**	Lg		08 24 23.4	
	1.4nm,0.3s						
LASF	**Ste Croix**	**2.57**	**63**	eSg	Sg	08 24 34.0	-2.2
	1.3nm,0.3s						
LASF	**Ste Croix**	**2.57**	**63**	Lg		08 24 34.0	
	0.6nm,0.3s						

---

*NEIC **28** 08:58:22.6, 1643N×9937W, h16km, MD3.8(MEX), After MEX.*
MEX 28 08:58:22.4±1.1**, 1642N**×**9938W, h16**km±999km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.68**	**311**	i P	Pg	08 58 32.5	-3.2
ACX				i S	Sg	08 58 41.5	-3.2
CAIG	**El Cayaco**	**1.05**	**306**	i P	Pb	08 58 39.6	-2.5
CAIG				i S	Sb	08 58 51.8	-3.9
PNIG	**Pinotepa**	**1.20**	**91**	eP	Pn	08 58 41.7	-2.8
PNIG				i S	Sb	08 58 54.4	-5.7
MEIG	**Mezcala**	**1.51**	**351**	eP	Pn	08 58 45.0	-3.7
MEIG				i S	Sn	08 59 03.7	-4.3
PLIG	**Platanillo**	**1.96**	**357**	i P	Pn	08 58 52.4	-2.5
PLIG				i S	Sn	08 59 13.1	-6.0
UTMO	**Huajuapan**	**2.06**	**47**	i P	Pn	08 58 52.2	-4.0
UTMO				i S	Sn	08 59 19.4	-2.1
VHO	**Vista Hermosa**	**2.62**	**75**	i P	Pn	08 59 02.7	-1.2
VHO				i S	Sn	08 59 31.8	-3.6
OXX	**Oaxaca**	**2.63**	**75**	eP	Pn	08 59 08.0	+3.9
OXX				i S	Sn	08 59 32.0	-3.6
PPM	**Popocatepetl**	**2.73**	**15**	eP	Pn	08 59 04.0	-1.4
PPM				i P		08 59 04.7	
PPM				i S	Sn	08 59 35.6	-2.4
TPIG	**Tehuac#an**	**2.77**	**44**	i P	Pn	08 59 03.8	-2.2
TPIG				i S	Sn	08 59 36.6	-2.4

IDC 28 09:14:16.9±3.6**, 893S**×**10714E, h0**km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.6**/16**, mbtmp3.6**/4**, Error ellipse: s-maj=145.1km s-min=24.8km az=52.0, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.48**	**116**	P	P	09 20 13.7	+0.1
	0.7nm,1.0s,baz=287,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**29.50**	**123**	P	P	09 20 23.2	+0.6
	0.5nm,0.8s,baz=295,slow=8.8,SNR=3.1						
SONM	**Songino Array**	**56.52**	**359**	P	P	09 24 01.6	+0.7
	0.4nm,0.5s,baz=177,slow=6.8,SNR=3.6						
MKAR	**Makanchi Array**	**59.74**	**340**	P	P	09 24 22.8	-0.6
	0.7nm,0.6s,baz=134,slow=6.9,SNR=3.6						

IDC 28 09:26:48.5±3.8**, 379S**×**15122E, h0**km**, mb3.5**/2**, mb1 3.8**/2**, mb1mx3.5**/11**, mbtmp3.6**/2**, Error ellipse: s-maj=160.3km s-min=46.6km az=115.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.99**	**224**	P	P	09 31 54.6	-0.2
	1.6nm,1.0s,baz=49,slow=9.3,SNR=8.1						
ASAR	**Alice Springs**	**25.89**	**219**	P	P	09 32 22.6	+0.6
	1.3nm,1.0s,baz=55,slow=8.6,SNR=8.0						
TORD	**Torodi Ar. Bea**	**148.50**	**289**	PKPbc	PKPbc	09 46 37.8	+0.7
	1.7nm,1.1s,baz=56,slow=3.6,SNR=2.6						

---

*IDC **28** 09:27:37.9±1.6, 379S×15127E, h0km, mb3.9/6, mb1 4.1/6, mb1mx4.0/12, mbtmp3.9/6, MS4.7/1, Ms1 4.6/1, ms1mx3.7/30, Error ellipse: s-maj=50.5km s-min=23.6km az=97.0*
*NEIC **28** 09:27:39.7±1.1, 377S×15126E, h10km, mb4.4/1, Error ellipse: s-maj=28.8km s-min=14.7km az=106.0*
*ISCJB **28** 09:27:41.7±1.5, 38S±02×1512E±03, h33km, mb3.8/6, MS4.6/1, Error ellipse: s-maj=40.0km s-min=20.0km az=29.7*
ISC 28 09:27:43.5±1.5**, 38S**±02×**1513E**±03**, h35**km**, n11,** σ0^s**42**/9**, mb3.8**/6**, MS4.6**/1**, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**20.63**	**243**	eP	**P**	**09 32 19.6**	**-0.2**
	15nm,0.8s						
WB2	**Warramunga Arr**	**23.02**	**224**	eP	**P**	**09 32 46.2**	**+0.8**
WRA	**Warramunga Arr**	**23.03**	**225**	P	**P**	**09 32 45.4**	**-0.1**
	9.0nm,1.2s,mb4.1,baz=48,slow=10,SNR=13						
AS31	**Alice Springs**	**25.92**	**219**	eP	**P**	**09 33 12.7**	**+0.5**
ASAR	**Alice Springs**	**25.92**	**219**	P	**P**	**09 33 12.2**	**-0.1**
	4.6nm,1.0s,mb4.0,baz=54,slow=8.3,SNR=14						
FITZ	**Fitzroy Crossi**	**28.85**	**239**	P	**P**	**09 33 37.8**	**-0.7**
	6.1nm,1.0s,mb4.3,baz=88,slow=9.4,SNR=5.6						
STKA	**Stephens Creek**	**29.37**	**197**	LR	LR	09 43 52.7	
	comp=Z,2µm,21.0s,MS4.6,baz=2.9,slow=33						
SONM	**Songino Array**	**64.69**	**328**	P	**P**	**09 38 18.1**	**+0.2**
	0.2nm,0.3s,mb3.6,baz=139,slow=6.8,SNR=3.2						
VNDA	**Vanda**	**73.88**	**178**	P	**P**	**09 39 14.4**	**-0.3**
	0.3nm,0.9s,mb3.2,baz=288,slow=3.2,SNR=1.9						
MKAR	**Makanchi Array**	**78.59**	**319**	P	**P**	**09 39 41.5**	**0.0**
	0.5nm,0.8s,mb3.5,baz=99,slow=7.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**148.57**	**289**	PKPbc	PKPbc	09 47 26.7	+0.1
	3.7nm,1.0s,baz=65,slow=3.1,SNR=7.2						

---

*IDC **28** 09:46:26.2±2.9, 2999S×17729W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/11, mbtmp4.0/4, Error ellipse: s-maj=55.6km s-min=24.6km az=77.0*
*NEIC **28** 09:46:32.8±2.8, 2939S×178.11W, h10km, mb4.3/2, Error ellipse: s-maj=74.5km s-min=27.7km az=222.0*
*ISCJB **28** 09:46:36.4±1.1, 298S±02×1783W±02, h33km, mb4.1/6, Error ellipse: s-maj=29.6km s-min=9.3km az=92.1*
ISC 28 09:46:38.4±1.1**, 297S**±02×**1783W**±02**, h35**km**, n9,** σ1^s**23**/9**, mb4.1**/6**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.58**	**33**	Pn	**Pn**	**09 46 47.3**	**-2.8**
	361nm,0.3s,baz=251,slow=23,SNR=25						
RAO				Sn	**Sn**	**09 46 59.3**	**+0.9**
	1µm,0.3s,baz=30,slow=20,SNR=17						
CTA	**Charters Tower**	**33.45**	**278**	P	**P**	**09 53 16.5**	**+2.5**
	2.3nm,0.6s,mb4.3,baz=45,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**34.39**	**256**	P	**P**	**09 53 23.1**	**+1.1**
	0.6nm,0.4s,mb3.9,baz=107,slow=15,SNR=2.4						
ASAR	**Alice Springs**	**42.90**	**266**	P	**P**	**09 54 32.4**	**-1.1**
	0.5nm,0.5s,mb3.5,baz=102,slow=7.6,SNR=8.2						
WRAB	**Tennant Creek**	**43.82**	**272**	eP	**P**	**09 54 40.8**	**0.0**
	2.6nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**43.83**	**272**	P	**P**	**09 54 39.9**	**-1.1**
	1.5nm,0.3s,mb4.2,baz=110,slow=8.1,SNR=55						
QSPA	**South Pole Qui**	**60.37**	**180**	eP	**P**	**09 56 44.3**	**+0.4**
	1.2nm,0.5s,mb4.2						
KKM	**Kota Kinabalu**	**72.12**	**288**	eP	**P**	**09 57 58.7**	**-0.5**
FINES	**FINESS Array B**	**144.44**	**340**	PKP	PKPdf	10 06 03.7	-7.1
	1.0nm,0.4s,baz=53,slow=3.4,SNR=13						

---

*IDC **28** 09:47:55.6±0.7, 1172N×9991E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.1/22, mbtmp4.2/13, ML4.4/1, MS4.1/1, Ms1 4.1/1, ms1mx3.4/38, Error ellipse: s-maj=32.9km s-min=15.7km az=60.0*
*ISCJB **28** 09:47:56.6±3.1, 1174N±006×1000E±0.1, h16km±23km, mb4.3/19, MS4.0/2, Error ellipse: s-maj=19.5km s-min=9.0km az=142.3*
*BJI **28** 09:47:57.7, 1153N×9999E, h33km, mB4.9, mb4.4, Ms4.4, Msz4.1*
*NEIC **28** 09:47:59.1±2.8, 1175N×9999E, h22km±21km, mb4.5/2, Error ellipse: s-maj=18.3km s-min=7.3km az=73.0*
ISC 28 09:48:01.2±3.2**, 1178N**±006×**1001E**±01**, h34**km±24km**, n32,** σ0^s**95**/32**, mb4.3**/19**, MS4.0**/2**, Gulf of Thailand**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.47**	**175**	ePn	**Pn**	**09 49 32.4**	**-1.5**
CHTO	**Chiang Mai**	**7.08**	**351**	ePn	**Pn**	**09 49 41.0**	**-1.3**
	15nm,0.6s						
PSI	**Prapat**	**8.99**	**187**	Pn	**Pn**	**09 50 09.3**	**+0.8**
	4.3nm,0.3s,baz=331,slow=9.0,SNR=4.8						
PSI				Lg		09 52 41.7	
	0.4nm,0.3s,baz=122,slow=19,SNR=2.8						
PSI	**Prapat**	**8.99**	**187**	Pn	**Pn**	**09 50 09.3**	**+0.8**
PSI				Lg		09 52 41.7	
SHL	**Shillong**	**15.76**	**332**	eP	**Pn**	**09 51 36.0**	**-4.4**
SHL				eS	**Sn**	**09 54 53.0**	**+19**
GUN	**Gumba**	**20.85**	**322**	eP	**P**	**09 52 41.6**	**+1.6**
PKI	**Pulchoki**	**20.89**	**321**	eP	**P**	**09 52 40.7**	**+0.3**
DMN	**Daman**	**21.11**	**320**	eP	**P**	**09 52 41.9**	**-0.8**
KKN	**Kakani**	**21.13**	**321**	eP	**P**	**09 52 43.2**	**+0.3**
HYB	**Hyderabad**	**21.57**	**288**	i P	**P**	**09 52 51.0**	**+3.3**
HYB	**Hyderabad**	**21.57**	**288**	eP	**P**	**09 52 51.0**	**+3.3**
GKN	**Gorkha**	**21.68**	**320**	eP	**P**	**09 52 49.2**	**+0.4**
	72nm,1.3s,mb5.0						
KOLN	**Koldanda**	**22.18**	**318**	eP	**P**	**09 52 54.1**	**-0.1**
	76nm,1.4s,mb4.9						
XAN	**Xi'an**	**23.59**	**19**	P	**P**	**09 53 08.8**	**0.0**
XAN				AP		09 53 18.5	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.0						
LZH	**Lanzhou**	**24.44**	**7**	eP	**P**	**09 53 16.5**	**-0.1**
LZH				AP		09 53 30.0	
LZH				XP	sP	09 53 36.0	+5.4
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,178nm,4.3s						
GTA	**Gaotai**	**27.52**	**360**	eP	**P**	**09 53 45.8**	**+1.3**
GTA				AP	pP	09 53 50.3	-4.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.7						
GTA				LR	LR		
	comp=N,167nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=E,200nm,12.6s,MS4.0						
GTA				LR	LR		
	comp=Z,149nm,9.6s						
JOW	**Kunigami**	**30.43**	**56**	LR	LR	10 08 21.0	
	comp=Z,316nm,19.8s,MS4.0,baz=136,slow=40						
SONM	**Songino Array**	**36.33**	**7**	P	**P**	**09 55 02.9**	**+1.2**
	comp=Z,8.3nm,1.1s,mb4.6,baz=182,slow=8.6,SNR=28						
AAK	**Ala-Archa**	**37.95**	**329**	eP	**P**	**09 55 15.6**	**+0.2**
	comp=Z,13nm,1.5s,mb4.4						
MKAR	**Makanchi Array**	**38.01**	**340**	P	**P**	**09 55 15.9**	**+0.1**
	comp=Z,2.0nm,1.0s,mb3.8,baz=138,slow=9.2,SNR=7.6						
WRA	**Warramunga Arr**	**46.16**	**133**	P	**P**	**09 56 22.5**	**+0.2**
	comp=Z,2.1nm,1.0s,mb4.0,baz=311,slow=9.5,SNR=9.0						
WRA				PcP	PcP	09 57 58.2	+0.3
	comp=Z,0.7nm,0.8s,baz=318,slow=3.1,SNR=4.7						
BVAR	**Borovoye Array**	**47.51**	**336**	P	**P**	**09 56 32.9**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=134,slow=11,SNR=7.2						
ZRNK	**Zerenda**	**48.02**	**335**	eP	**P**	**09 56 36.6**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.5						
AS31	**Alice Springs**	**48.32**	**137**	eP	**P**	**09 56 39.5**	**+0.4**
ASAR	**Alice Springs**	**48.32**	**137**	P	**P**	**09 56 39.7**	**+0.5**
	comp=Z,2.7nm,0.7s,mb4.4,baz=317,slow=7.0,SNR=39						
GNI	**Garni**	**56.15**	**311**	P	**P**	**09 57 38.5**	**+1.2**

comp=Z,6.8nm,0.5s,mb4.9,baz=349,slow=17,SNR=4.9
BRTR Keskin Array B 64.48 308 P **P** **09 58 32.5 -1.7**
comp=Z,2.2nm,0.9s,mb4.2,baz=123,slow=6.1,SNR=8.0
AKASG **Malin Array Be 68.86 320** P **P** **09 59 00.7 -1.5**
comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=5.0,SNR=5.9
FINES FINESS Array B 72.09 331 P **P** **09 59 21.2 -0.7**
comp=Z,1.6nm,0.7s,mb4.0,baz=185,slow=19,SNR=2.9
GERES GERESS Array B 78.87 318 P **P** **10 00 00.0 -0.8**
comp=Z,0.4nm,0.2s,mb3.9,baz=84,slow=4.2,SNR=4.4
NOA NORSAR Array B 79.25 330 P **P** **10 00 01.6 -1.2**
comp=Z,1.3nm,0.7s,mb3.9,baz=84,slow=5.8,SNR=3.5
BOSA Boshof 82.60 239 P **P** **10 00 21.2 +0.4**
comp=Z,5.0nm,0.9s,mb4.5,baz=84,slow=6.1,SNR=6.4

NEIC ***28*** *09:55:52.0±0.4, 46.30N×153.11E, h10km, mb4.3/3, Error ellipse: s-maj=11.9km s-min=7.8km az=134.0*
MOS ***28*** *09:55:53.6±1.6, 46.29N×153.32E, h41km, mb4.6/3, Error ellipse: s-maj=14.0km s-min=12.0km az=64.7*
ISCJB ***28*** *09:55:55.3±2.1, 46.27N±0.09N×153.2E±0.1, h46km±18km, mb4.3/20, Error ellipse: s-maj=16.4km s-min=14.5km az=117.9*
IDC ***28*** *09:56:00.2±4.5, 46.35N×153.07E, h72km±40km, mb3.8/13, mb1 3.9/14, mb1mx3.8/22, mbtmp4.1/14, ML3.7/1, Error ellipse: s-maj=21.1km s-min=15.8km az=95.0*

ISC 28 09:55:56.9±1.9, 4631N±0.10×1532E±0.1, h45km±16km, n46, σ1♀25/44, mb4.3/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.88**	**256**	*e*PN		**Pn**	**09 56 53.0**	**-1.1**
KUR				*e*S		**Sn**	**09 57 37.5**	**-1.0**
KUR				smax				
	comp=N,710nm,0.8s							
KUR				smax				
	comp=E,310nm,0.8s							
SKR	**Severo-Kuril's**	**4.78**	**23**	*e*PN		**Pn**	**09 57 01.5**	**-4.9**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
YSS	**Yuzh-Sakhalins**	**7.22**	**279**	*e*PN		**Pn**	**09 57 44.5**	**+4.6**
PET	**Petropavlovsk**	**7.59**	**26**	*e*PN		**Pn**	**09 57 54.8**	**+10**
PET				*e*S		**Sn**	**09 59 19.0**	**+9.4**
PET				pmax	pmax			
	comp=Z,18nm,0.8s							
PET				smax				
	comp=N,48nm,1.5s							
ASAJ	**Asahikawa**	**7.80**	**257**	P		**Pn**	**09 57 50.3**	**+2.4**
	comp=N,1.3nm,0.3s,baz=42,slow=23,SNR=7.5							
ASAJ	**Asahikawa**	**7.80**	**257**	PN		**Pn**	**09 57 50.3**	**+2.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KLR	**Kul'dur**	**14.71**	**289**	*e*P		**Pn**	**09 59 24.4**	**+2.3**
MAJO	**Matsushiro**	**14.87**	**234**	*e*P		**Pn**	**09 59 22.0**	**-2.2**
MAJO				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MAJO	**Matsushiro**	**14.87**	**234**	*e*Pn		**Pn**	**09 59 21.9**	**-2.2**
	comp=Z,3.2nm,0.5s							
MAT	**Matsushiro**	**14.87**	**234**	P		**Pn**	**09 59 24.2**	**0.0**
MJAR	**Matsushiro Arr**	**14.87**	**234**	P		**Pn**	**09 59 20.3**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=28,slow=11,SNR=2.6							
MJAR	**Matsushiro Arr**	**14.87**	**234**	P		**Pn**	**09 59 20.3**	**-3.9**
SONM	**Songino Array**	**31.54**	**290**	P		**Pn**	**10 02 14.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=71,slow=6.5,SNR=4.4							
ZAK	**Zakamensk**	**32.92**	**296**	*e*P		**P**	**10 02 26.2**	**-0.7**
INK	**Inuvik**	**41.99**	**32**	P		**P**	**10 03 44.1**	**+0.5**
	comp=Z,2.5nm,0.7s,mb3.9,baz=324,slow=9.8,SNR=6.0							
MKAR	**Makanchi Array**	**47.20**	**298**	P		**P**	**10 04 24.4**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.1,baz=62,slow=8.6,SNR=14							
BVAR	**Borovoye Array**	**51.18**	**310**	P		**P**	**10 04 54.6**	**-1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=60,slow=8.5,SNR=4.0							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P		**P**	**10 05 00.5**	**-0.9**
ZRNK				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P		**P**	**10 05 00.5**	**-0.9**
	comp=Z,1.6nm,0.5s,mb4.2							
AAK	**Ala-Archa**	**54.08**	**297**	*e*P		**P**	**10 05 15.5**	**-1.6**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
AAK	**Ala-Archa**	**54.08**	**297**	*e*P		**P**	**10 05 15.5**	**-1.6**
	comp=Z,1.6nm,0.6s,mb4.1							
GUN	**Gumba**	**55.10**	**275**	*e*P		**P**	**10 05 29.7**	**+5.3**
KKN	**Kakani**	**55.59**	**276**	*e*P		**P**	**10 05 31.1**	**+3.2**
	comp=Z,11nm,0.5s,mb3.5,baz=71,slow=6.5,SNR=4.4							
PKI	**Pulchoki**	**55.64**	**275**	*e*P		**P**	**10 05 30.8**	**+2.5**
DMN	**Daman**	**55.82**	**276**	*e*P		**P**	**10 05 32.5**	**+2.9**
	comp=Z,17nm,0.8s,mb5.1							
GKN	**Gorkha**	**55.90**	**276**	*e*P		**P**	**10 05 32.5**	**+2.3**
	comp=Z,16nm,0.6s,mb5.2							
KOLN	**Koldanda**	**56.76**	**277**	*e*P		**P**	**10 05 38.3**	**+2.0**
	comp=Z,10nm,0.8s,mb4.9							
AKTK	**Aktyubinsk**	**59.06**	**312**	P		**P**	**10 05 51.8**	**-0.7**
AKTO	**Aktyubinsk**	**59.06**	**312**	P		**P**	**10 05 51.8**	**-0.7**
	comp=Z,0.7nm,0.3s,mb4.2,baz=77,slow=11,SNR=4.1							
FINES	**FINESS Array B**	**64.46**	**335**	P		**P**	**10 06 28.2**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.4,baz=35,slow=7.0,SNR=6.1							
PDAR	**Pinedale Array**	**64.96**	**54**	P		**P**	**10 06 32.1**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=295,slow=2.4,SNR=14							
SRU	**San Rafael**	**66.80**	**57**	*e*P		**P**	**10 06 43.2**	**-0.7**
SRU				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
SRU	**San Rafael**	**66.80**	**57**	*e*P		**P**	**10 06 43.2**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**68.12**	**199**	P		**P**	**10 06 51.5**	**-0.7**
	comp=Z,1.6nm,1.0s,mb4.0,baz=17,slow=6.6,SNR=6.8							
PV10	**Paradox Valley**	**68.16**	**57**	*e*P		**P**	**10 06 53.1**	**+0.7**
NB2	**NORSAR Subarra**	**68.66**	**341**	P		**P**	**10 06 55.2**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.4,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**68.66**	**341**	P		**P**	**10 06 55.1**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=28,slow=6.4,SNR=12							
FITZ	**Fitzroy Crossi**	**68.79**	**208**	P		**P**	**10 06 56.6**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=0.0,slow=20,SNR=4.0							
ASAR	**Alice Springs**	**71.81**	**199**	P		**P**	**10 07 15.3**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=12,slow=5.5,SNR=18							
AKASG	**Malin Array Be**	**71.94**	**326**	P		**P**	**10 07 15.4**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.6,baz=34,slow=6.1,SNR=17							
GERES	**GERESS Array B**	**78.88**	**334**	P		**P**	**10 07 54.8**	**-0.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=15,slow=4.2,SNR=11							
GERES	**GERESS Array B**	**78.88**	**334**	P		**P**	**10 07 54.8**	**-0.6**
PLCA	**Paso Flores**	**148.10**	**96**	PKPbc		PKPbc	10 15 37.6	-0.1
	comp=Z,3.2nm,1.0s,baz=304,slow=3.7,SNR=8.1							
PLCA	**Paso Flores**	**148.10**	**96**	PKP2		PKPbc	10 15 37.6	-0.1
PLCA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
CPUP	**Villa Florida**	**148.63**	**61**	PKPbc		PKPbc	10 15 39.2	+0.2
	comp=Z,1.7nm,0.6s,baz=74,slow=2.1,SNR=6.0							
CPUP	**Villa Florida**	**148.63**	**61**	PKP2		PKPbc	10 15 39.2	+0.2
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.6s							

ISCJB ***28*** *10:10:45.8±3.7, 37S±0.1×150.8E±0.2, h74km±29km, mb4.0/12, Error ellipse: s-maj=26.4km s-min=21.6km az=127.3*
IDC ***28*** *10:10:48.1±5.2, 37.7S×150.81E, h82km±45km, mb3.7/8, mb1 3.9/9, mb1mx3.8/16, mbtmp4.1/9, ML2.8/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/24, Error ellipse: s-maj=33.2km s-min=23.0km az=67.0*
NEIC ***28*** *10:10:48.0±2.7, 37.7S×150.81E, h81km±21km, mb4.5/6, Error ellipse: s-maj=20.1km s-min=15.9km az=62.0*

ISC 28 10:10:47.9±3.2, 38S±0.1×150.9E±0.2, h80km±25km, n20, σ0♀97/19, mb4.0/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**6.69**	**213**	P		**Pn**	**10 12 22.7**	**-0.8**
	1.2nm,0.3s,baz=8.6,slow=9.5,SNR=6.7							
PMG	**Port Moresby**	**6.69**	**213**	*e*Pn		**Pn**	**10 12 23.0**	**-0.5**
	28nm,0.8s							
KAKA	**Kakadu**	**20.26**	**243**	*e*P		**P**	**10 15 17.6**	**+0.8**
	20nm,0.9s							
WRAB	**Tennant Creek**	**22.74**	**224**	*e*P		**P**	**10 15 42.8**	**-0.5**
	29nm,1.2s,mb4.5							
WB2	**Warramunga Arr**	**22.74**	**224**	*e*P		**P**	**10 15 42.7**	**-0.6**
WRA	**Warramunga Arr**	**22.75**	**224**	P		**P**	**10 15 43.4**	**0.0**
	9.0nm,1.1s,mb4.0,baz=48,slow=10.0,SNR=28							
DZM	**Mont Dzumac**	**23.65**	**142**	P		**P**	**10 15 53.7**	**+1.8**
	22nm,1.0s,mb4.5,baz=53,slow=4.4,SNR=6.1							
DZM				LR		LR	10 24 14.6	
	comp=Z,229nm,18.8s,baz=18,slow=34							
AS31	**Alice Springs**	**25.67**	**218**	*e*P		**P**	**10 16 11.0**	**+0.7**
ASAR	**Alice Springs**	**25.68**	**218**	P		**P**	**10 16 11.0**	**+0.7**
	5.8nm,0.9s,mb4.0,baz=54,slow=8.1,SNR=31							
ASPA	**Alice Springs**	**25.68**	**218**	*e*P		**P**	**10 16 11.0**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.50**	**238**	*e*P		**P**	**10 16 35.9**	**+0.3**
	11nm,1.1s,mb4.3							
FITZ	**Fitzroy Crossi**	**28.50**	**238**	P		**P**	**10 16 35.9**	**+0.3**
	9.8nm,1.1s,mb4.2,baz=69,slow=7.1,SNR=4.9							
SONM	**Songino Array**	**64.43**	**328**	P		**P**	**10 21 16.2**	**+0.5**
	0.6nm,0.8s,mb3.5,baz=149,slow=3.1,SNR=3.9							
CASY	**Casey**	**68.43**	**196**	*e*P		**P**	**10 21 39.8**	**-1.5**
	6.5nm,1.1s,mb4.4							
VNDA	**Vanda**	**73.92**	**178**	P		**P**	**10 22 12.9**	**-1.4**
	0.5nm,0.9s,mb3.2,baz=305,slow=8.0,SNR=3.3							
MKAR	**Makanchi Array**	**78.28**	**319**	P		**P**	**10 22 38.8**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=126,slow=6.5,SNR=2.7							
MAW	**Mawson**	**85.77**	**203**	*e*P		**P**	**10 23 19.9**	**+1.6**
	14nm,1.9s,mb4.6							
QSPA	**South Pole Qui**	**86.18**	**180**	*e*P		**P**	**10 23 18.7**	**-1.6**
	5.4nm,0.9s,mb4.5							
BVAR	**Borovoye Array**	**87.26**	**323**	P		**P**	**10 23 25.1**	**-0.5**
	0.6nm,0.7s,mb3.7,baz=113,slow=11,SNR=2.7							
TORD	**Torodi Ar. Bea**	**148.14**	**289**	PKPbc		PKPbc	10 30 25.6	+1.1
	3.2nm,1.1s,baz=93,slow=2.5,SNR=10							

ISCJB ***28*** *10:11:13.8±0.4, 3375N±003×4880E±004, h10km, Error ellipse: s-maj=5.2km s-min=3.9km az=77.1*
THR ***28*** *10:11:13.3±1.6, 3386N×4881E, h14km±11km, ML3.9*
CSEM ***28*** *10:11:14.5±0.1, 3380N×4879E, h20km, ML3.9, Error ellipse: s-maj=3.2km s-min=2.7km az=173.0*
NEIC ***28*** *10:11:17.6, 3374N×4877E, h28km, ML3.9(THR), MN4.0(TEH), After TEH.*
TEH ***28*** *10:11:17.6, 3374N×4877E, h28km, Mn4.0*

ISC 28 10:11:14.9±0.4, 3379N±003×4877E±004, h10km, n51, σ1♀00/58, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKOM	**Komasi**	**1.12**	**291**	*e*Pn		**Pn**	**10 11 33.4**	**-3.1**
ASAO	**Ashtian**	**1.29**	**53**	*e*PG		**Pn**	**10 11 35.3**	**-3.6**
ASAO				*e*SG		**Sb**	**10 11 52.1**	**-3.6**
ASAO				AML	AML		10 11 57.0	
	comp=N,4μm,0.8s							
ASAO				AML	AML		10 11 57.7	
	comp=E,2μm,0.5s							
ASAO	**Ashtian**	**1.29**	**53**	Pg		**Pn**	**10 11 35.0**	**-3.9**
ASAO				Sg		**Sb**	**10 11 52.0**	**-3.7**
ASAO	**Ashtian**	**1.29**	**53**	*e*Pg		**Pn**	**10 11 35.3**	**-3.6**
	SNR=90							
ASAO				*e*Sg		**Sb**	**10 11 52.1**	**-3.6**
	SNR=90							
SHGR	**Shooshtar-Gavs**	**1.67**	**179**	*e*PG		**Pn**	**10 11 45.1**	**+0.9**
SHGR				AML	AML		10 12 12.9	
	comp=E,873nm,0.5s							
SHGR				AML	AML		10 12 19.8	
	comp=N,1μm,0.5s							
SHGR	**Shooshtar-Gavs**	**1.67**	**179**	Pg		**Pn**	**10 11 44.0**	**-0.2**
IVIS	**Veys**	**1.76**	**295**	*e*Pn		**Pn**	**10 11 45.2**	**-0.1**
IVIS				*e*Lg			10 12 13.3	
SNGE	**Sanandaj**	**1.76**	**318**	*e*PG		**Pn**	**10 11 44.6**	**-0.8**
SNGE	**Sanandaj**	**1.76**	**318**	Pg		**Pn**	**10 11 44.0**	**-1.4**
IRAZ	**Razeghan**	**1.88**	**30**	*e*Pn		**Pn**	**10 11 45.4**	**-1.6**
IRAZ	**Razeghan**	**1.88**	**30**	Pn		**Pn**	**10 11 45.3**	**-1.7**
ILIN	**Laeen**	**1.88**	**308**	*e*Pn		**Pn**	**10 11 47.9**	**+0.9**
ILIN				*e*Lg			10 12 17.2	
ILIN	**Laeen**	**1.88**	**308**	Pn		**Pn**	**10 11 47.8**	**+0.8**
ILIN				Lg			10 12 17.1	
IGHG	**Ghaleghazi**	**1.91**	**287**	*e*Pn		**Pn**	**10 11 48.5**	**+1.0**
IGHG				*e*Lg			10 12 18.4	
IGHG	**Ghaleghazi**	**1.91**	**287**	Pn		**Pn**	**10 11 48.4**	**+0.9**
IGHG				Lg			10 12 18.4	
IPIR	**Pirpir**	**2.09**	**121**	*e*Pn		**Pn**	**10 11 50.0**	**+0.1**
IPIR				*e*Lg			10 12 22.4	
IPIR	**Pirpir**	**2.09**	**121**	Pn		**Pn**	**10 11 49.9**	**0.0**
IPIR				Lg			10 12 22.3	
IDHR	**Dehrash**	**2.18**	**295**	*e*Pn		**Pn**	**10 11 51.8**	**+0.7**
IDHR	**Dehrash**	**2.18**	**295**	Pn		**Pn**	**10 11 51.7**	**+0.6**
IKLH	**Kalahroud**	**2.39**	**100**	*e*Pn		**Pn**	**10 11 55.0**	**+1.0**
IKLH	**Kalahroud**	**2.39**	**100**	Pn		**Pn**	**10 11 54.9**	**+0.9**
IMHD	**Mahdasht**	**2.45**	**39**	*e*Pn		**Pn**	**10 11 56.2**	**+1.3**
IMHD	**Mahdasht**	**2.45**	**39**	Pn		**Pn**	**10 11 56.1**	**+1.2**
IVRN	**Varamin**	**2.73**	**63**	*e*Pn		**Pn**	**10 11 59.4**	**+0.7**
THKV	**Tehran--Karaj**	**2.74**	**39**	*e*Pn		**Pn**	**10 11 58.2**	**-0.7**
THKV				*e*SG		**Sb**	**10 12 37.2**	**-0.4**
THKV				AML	AML		10 12 42.4	
	comp=N,399nm,0.6s							
THKV				AML	AML		10 12 43.5	
	comp=E,600nm,0.5s							
THKV	**Tehran--Karaj**	**2.74**	**39**	Pn		**Pn**	**10 11 57.0**	**-1.9**
THKV				Sg		**Sb**	**10 12 36.0**	**-1.6**
THKV	**Tehran--Karaj**	**2.74**	**39**	*e*Pn		**Pn**	**10 11 58.2**	**-0.7**
	SNR=52							
THKV				*e*Sg		**Sb**	**10 12 37.2**	**-0.4**
	SNR=90							
IGZV	**Gazvin**	**2.85**	**24**	*e*Pn		**Pn**	**10 12 01.6**	**+1.2**
CHTH	**Charan**	**2.87**	**42**	*e*Pn		**Pn**	**10 12 00.6**	**-0.1**
CHTH				*e*SG		**Sb**	**10 12 40.7**	**-0.5**
CHTH	**Charan**	**2.87**	**42**	Pn		**Pn**	**10 11 59.0**	**-1.6**
CHTH				Sg		**Sb**	**10 12 40.0**	**-1.2**
ISFB	**Sefidab**	**2.93**	**78**	*e*Pn		**Pn**	**10 12 02.9**	**+1.4**
IZEF	**Zefreh**	**3.10**	**106**	*e*Pn		**Pn**	**10 12 04.8**	**+0.9**
IAFJ	**Afjeh**	**3.18**	**49**	*e*Pn		**Pn**	**10 12 06.0**	**+1.1**
IAFJ	**Afjeh**	**3.18**	**49**	Pn		**Pn**	**10 12 05.9**	**+1.0**
DAMV	**Damavand**	**3.21**	**54**	*e*Pn		**Pn**	**10 12 05.5**	**+0.1**
IDMV	**Damavand**	**3.23**	**55**	*e*Pn		**Pn**	**10 12 06.5**	**+1.0**
IGAR	**Garneh**	**3.26**	**117**	*e*Pn		**Pn**	**10 12 03.8**	**-2.2**
NASN	**Na'in**	**3.52**	**105**	*e*Pn		**Pn**	**10 12 09.9**	**+0.3**
NASN	**Na'in**	**3.52**	**105**	Pn		**Pn**	**10 12 09.0**	**-0.6**
IFIR	**Firoozkooh**	**3.76**	**59**	*e*Pn		**Pn**	**10 12 13.7**	**+0.8**
IFIR	**Firoozkooh**	**3.76**	**59**	Pn		**Pn**	**10 12 13.6**	**+0.7**
MIB	**Mutribah**	**4.15**	**197**	*e*P		**Pn**	**10 12 18.6**	**+0.3**
MIB				AML	AML		10 13 08.6	
	comp=Z,40nm,0.5s							
UMR	**Umm Al-Rimmam**	**4.32**	**192**	*e*P		**Pn**	**10 12 20.1**	**-0.4**
UMR				AML	AML		10 13 12.7	
	comp=Z,28nm,0.3s							
NAY	**Al-Naaiem**	**4.71**	**197**	*e*P		**Pn**	**10 12 25.8**	**-0.1**
NAY				AML	AML		10 13 21.4	
	comp=Z,19nm,0.5s							
RDF	**Al-Radifah**	**4.96**	**193**	*e*P		**Pn**	**10 12 28.9**	**-0.5**
RDF				AML	AML		10 13 29.2	
	comp=Z,69nm,0.5s							
ICHK	**Chekchek**	**4.97**	**106**	*e*Pn		**Pn**	**10 12 30.0**	**+0.4**
ICHK	**Chekchek**	**4.97**	**106**	Pn		**Pn**	**10 12 29.9**	**+0.3**
QRN	**Al-Qurain**	**5.08**	**189**	*e*P		**Pn**	**10 12 30.3**	**-0.7**
QRN				AML	AML		10 13 30.0	
	comp=Z,33nm,0.3s							
MSL	**Mosul**	**5.29**	**300**	*ex*		x	10 13 05.0	
IPAR	**Pars**	**5.36**	**136**	*e*Pn		**Pn**	**10 12 34.3**	**-0.5**
ISRV	**Sarvestan**	**5.74**	**139**	*e*Pn		**Pn**	**10 12 39.8**	**-0.3**

MOS ***28*** *10:23:45.5±1.3, 2.91N×126.18E, h33km, mb5.0/40, Error ellipse: s-maj=13.7km s-min=6.7km az=108.1*
BJI ***28*** *10:23:47.2, 2.62N×126.57E, h69km, mB5.0, mb4.7, Ms4.5, Msz4.2*
NEIC ***28*** *10:23:48.5±2.3, 2.87N×126.16E, h46km±20km, mb4.8/23, Error ellipse: s-maj=11.0km s-min=5.6km az=72.0*
NEIC Felt [II] at Naha, Indonesia.
IDC ***28*** *10:23:48.4±2.6, 2.86N×126.10E, h45km±24km, mb4.6/30, mb1 4.6/30, mb1mx4.6/32, mbtmp4.8/30, MS3.4/1, Ms1 3.4/1, ms1mx3.0/30, Error ellipse: s-maj=17.3km s-min=9.4km az=74.0*
ISCJB ***28*** *10:23:50.6±1.1, 2.84N±0.04×126.28E±0.06, h80km±9km, mb4.8/69, Error ellipse: s-maj=9.9km s-min=5.2km az=135.5*

ISC 28 10:23:53.5±0.9, 283N±004×12627E±006, h91km±8km, h82km±3.8km:pP-P, n162, σ1♀12/156, mb4.8/69, 8C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**4.31**	**344**	*e*P		**Pn**	**10 24 47.0**	**-10**
KCP				*i* S		**Sn**	**10 25 48.6**	**+2.7**
AAI	**Ambon**	**6.75**	**163**	P		**Pn**	**10 25 29.8**	**-0.1**
	237nm,0.7s							
PCI	**Palu**	**7.42**	**240**	P		**Pn**	**10 25 38.5**	**-0.5**
	322nm,1.1s							
TSM	**Tawau**	**8.51**	**280**	P		**Pn**	**10 25 53.2**	**-0.6**
TARAI	**Tarakan**	**8.70**	**273**	P		**Pn**	**10 25 56.5**	**+0.1**
	514nm,0.8s							
KKM	**Kota Kinabalu**	**10.52**	**288**	P		**Pn**	**10 26 22.7**	**+1.5**
KKM	**Kota Kinabalu**	**10.52**	**288**	*e*Pn		**Pn**	**10 26 23.1**	**+1.9**
KKM				*e*Sn		**Sn**	**10 28 11.1**	**-6.0**
KSM	**Kuching**	**16.01**	**265**	*e*P		**Pn**	**10 27 37.4**	**+4.3**
KAKA	**Kakadu**	**16.61**	**158**	*e*P		**Pn**	**10 27 36.5**	**-4.2**
	72nm,0.6s							
BJII	**Banjamegara**	**19.36**	**238**	P		**Pn**	**10 28 16.2**	**+2.4**
	51nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.81**	**182**	*e*P		**P**	**10 28 26.6**	**-0.8**
	28nm,0.4s							
FITZ	**Fitzroy Crossi**	**20.81**	**182**	P		**P**	**10 28 26.7**	**-0.8**
	23nm,0.5s,baz=16,slow=9.8,SNR=24							
FITZ				S		**S**	**10 32 03.6**	**-11**
	2.2nm,0.7s,baz=3.4,slow=17,SNR=1.7							
CBJI	**Citeko**	**21.46**	**245**	P		**P**	**10 28 39.6**	**+5.2**
	138nm,0.8s,mb5.3							
JOW	**Kunigami**	**23.94**	**4**	P		**P**	**10 28 59.4**	**+0.3**
	7.6nm,0.4s,mb4.3,baz=200,slow=20,SNR=5.5							
WRAB	**Tennant Creek**	**23.97**	**161**	*e*P		**P**	**10 28 58.5**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,136nm,0.6s,mb5.5							
WRAB	**Tennant Creek**	**23.97**	**161**	*e*P		**P**	**10 28 58.5**	**-0.9**
	comp=Z,136nm,0.6s,mb5.5							
WRA	**Warramunga Arr**	**23.98**	**161**	P		**P**	**10 28 58.4**	**-1.1**
	comp=Z,89nm,0.7s,mb5.2,baz=341,slow=11,SNR=59							
WRA				S		**S**	**10 33 07.3**	**-2.4**
	comp=Z,2.0nm,0.9s,baz=332,slow=16,SNR=3.6							
WRA				ScP		ScP	10 36 13.2	+3.8
	comp=Z,2.0nm,0.9s,baz=335,slow=3.4,SNR=5.5							
WRA	**Warramunga Arr**	**23.98**	**161**	P		**P**	**10 28 58.4**	**-1.0**
WRA				S		**S**	**10 33 07.3**	**-2.4**
WRA				pmax	pmax			
	comp=Z,89nm,0.7s							
WRA				smax				
	comp=N,2.0nm,0.9s							
WRA				pmax	pmax			
	comp=N,2.0nm,0.9s							
WB2	**Warramunga Arr**	**23.98**	**161**	*e*P		**P**	**10 28 58.6**	**-0.9**
PSI	**Prapat**	**27.31**	**271**	P		**P**	**10 29 28.1**	**-1.4**
	comp=N,2.5nm,0.2s,mb4.3,baz=90,slow=19,SNR=2.5							
PSI	**Prapat**	**27.31**	**271**	P		**P**	**10 29 28.2**	**-1.3**
PSI				pmax	pmax			
	comp=Z,3.0nm,0.2s,mb4.5							
AS31	**Alice Springs**	**27.37**	**165**	*e*P		**P**	**10 29 29.6**	**-0.4**
AS31				*e*S		**S**	**10 34 14.8**	**+11**
ASPA	**Alice Springs**	**27.37**	**165**	*e*P		**P**	**10 29 29.6**	**-0.4**
ASPA				*e*S		**S**	**10 34 14.8**	**+11**
ASAR	**Alice Springs**	**27.37**	**165**	P		**P**	**10 29 29.6**	**-0.4**
	comp=Z,16nm,0.5s,mb4.8,baz=342,slow=7.4,SNR=164							
ASAR				PcP		PcP	10 32 48.6	+1.7
	comp=Z,4.6nm,0.8s,baz=342,slow=1.9,SNR=7.0							
ASAR				S		**S**	**10 34 13.2**	**+10**
	comp=Z,4.1nm,0.9s,baz=349,slow=17,SNR=7.3							
ASAR	**Alice Springs**	**27.37**	**165**	P		**P**	**10 29 29.7**	**-0.3**
ASAR							10 32 48.7	
ASAR				S		**S**	**10 34 13.2**	**+10**
ASAR				pmax	pmax			
	comp=Z,16nm,0.5s							
ASAR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ASAR				smax				
	comp=N,4.0nm,0.9s							
CBIJ	**Chichi jima**	**28.54**	**31**	P		**P**	**10 29 40.4**	**-0.1**
	comp=N,27nm,0.4s,mb5.2,baz=80,slow=23,SNR=6.0							
WHN	**Wuhan**	**29.78**	**339**	*e*P		**P**	**10 29 54.8**	**+3.3**
NJ2	**Nanjing**	**29.89**	**347**	*e*P		**P**	**10 29 54.0**	**+1.6**
NJ2				AMB	AMB			
	comp=Z,30nm,0.5s,mb5.2							
CTA	**Charters Tower**	**30.06**	**140**	*e*P		**P**	**10 29 54.5**	**+0.6**
	comp=Z,5.4nm,0.6s,mb4.3							
CTA	**Charters Tower**	**30.06**	**140**	P		**P**	**10 29 53.3**	**-0.7**
	comp=Z,7.0nm,0.6

MDJ				XP	sP	10 32 02.5	-2.6		
MDJ				SCP	ScP	10 37 11.5	+1.3		
MDJ				PCS	PcS	10 37 20.5	+0.7		
MDJ				S	**S**	**10 37 47.5**	**+4.0**		
MDJ				XS	sS	10 38 19.0	-1.3		
MDJ				AMB	AMB				
	comp=Z,6.0nm,1.3s,mb4.2								
MDJ				AMB	AMB				
	comp=Z,94nm,4.7s								
MDJ				LR	LR				
	comp=N,79nm,27.9s								
MDJ				LR	LR				
	comp=E,85nm,27.3s								
MDJ				LR	LR				
	comp=Z,108nm,26.1s								
LSA	**Lhasa**	**42.69**	**312**	*eP*	**P**	**10 31 41.7**	**+0.4**		
LSA				pmax	pmax				
	comp=Z,13nm,0.6s,mb4.8								
LSA	**Lhasa**	**42.69**	**312**	*eP*	**P**	**10 31 41.7**	**+0.4**		
	comp=Z,13nm,0.6s,mb4.8								
ASAJ	**Asahikawa**	**43.58**	**17**	P	**P**	**10 31 48.9**	**+0.5**		
	comp=Z,9.9nm,0.7s,mb4.7,baz=102,slow=14,SNR=5.5								
ASAJ	**Asahikawa**	**43.58**	**17**	P	**P**	**10 31 48.9**	**+0.5**		
ASAJ				pmax	pmax				
	comp=Z,10.0nm,0.7s								
TOO	**Toolangi**	**43.98**	**158**	*eP*	**P**	**10 31 53.1**	**+1.5**		
	comp=Z,8.9nm,0.8s,mb4.5								
TOO	**Toolangi**	**43.98**	**158**	*eP*	**P**	**10 31 53.1**	**+1.5**		
TOO				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.5								
GUN	**Gumba**	**45.89**	**307**	*eP*	**P**	**10 32 06.8**	**+0.1**		
	comp=Z,79nm,0.7s,mb5.6								
PKI	**Pulchoki**	**46.12**	**306**	*eP*	**P**	**10 32 08.1**	**-0.4**		
	comp=Z,18nm,0.8s,mb4.9								
KKN	**Kakani**	**46.31**	**307**	*eP*	**P**	**10 32 09.7**	**-0.4**		
	comp=Z,22nm,0.7s,mb5.0								
DMN	**Daman**	**46.38**	**306**	*eP*	**P**	**10 32 10.2**	**-0.4**		
	comp=Z,48nm,0.9s,mb5.2								
DZM	**Mont Dzumac**	**46.40**	**124**	P	**P**	**10 32 11.2**	**+0.4**		
	comp=Z,10nm,0.9s,mb4.5,baz=31,slow=24,SNR=3.2								
KLR	**Kul'dur**	**46.46**	**5**	*eP*	**P**	**10 32 07.9**	**-3.4**		
HIA	**Hailar**	**46.60**	**354**	*eP*	**P**	**10 32 12.4**	**+0.1**		
HIA				pmax	pmax				
	comp=Z,13nm,0.9s								
HIA	**Hailar**	**46.60**	**354**	*eP*	**P**	**10 32 12.4**	**+0.1**		
	comp=Z,13nm,0.9s,mb4.7								
GKN	**Gorkha**	**46.92**	**306**	*eP*	**P**	**10 32 14.3**	**-0.5**		
	comp=Z,27nm,0.7s,mb5.1								
KOLN	**Koldanda**	**47.66**	**306**	*eP*	**P**	**10 32 20.5**	**-0.1**		
	comp=Z,62nm,0.7s,mb5.6								
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**10 32 22.7**	**-0.5**		
	comp=Z,2.0nm,0.7s,mb4.1,baz=160,slow=9.0,SNR=10								
SONM				PcP	PcP	10 33 50.5	+0.6		
	comp=Z,2.8nm,0.8s,baz=153,slow=3.2,SNR=6.9								
SONM	**Songino Array**	**48.00**	**342**	P	**P**	**10 32 22.7**	**-0.5**		
SONM						10 33 50.5			
SONM				pmax	pmax				
	comp=Z,2.0nm,0.7s								
SONM				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ZAK	**Zakamensk**	**51.22**	**341**	*eP*	**P**	**10 32 45.1**	**-2.5**		
ZAK				*e*		10 34 02.6			
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.6s,mb3.6								
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
WMQ	**Urumqi**	**53.20**	**326**	*eP*	**P**	**10 33 05.0**	**+2.7**		
WMQ				AP	pP	10 33 26.0	+1.5		
WMQ				XP	sP	10 33 35.0	+0.4		
WMQ				PCP	PcP	10 34 10.0	+0.9		
WMQ				PP	PP	10 35 08.0	+4.9		
WMQ				SCP	ScP	10 38 00.0	+1.6		
WMQ				S	**S**	**10 40 27.0**	**+0.8**		
WMQ				XS	sS	10 41 02.0	-2.3		
WMQ				AMB	AMB				
	comp=Z,6.0nm,0.7s,mb4.7								
WMQ				LR	LR				
	comp=N,354nm,25.0s								
WMQ				LR	LR				
	comp=E,301nm,23.8s								
WMQ				LR	LR				
	comp=Z,346nm,22.6s								
BOD	**Bodaibo**	**55.68**	**352**	⇑*iP*	**P**	**10 33 20.3**	**0.0**		
BOD				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8								
PET	**Petropavlovsk**	**56.73**	**23**	⇑*eP*	**P**	**10 33 31.0**	**+3.3**		
PET				pmax	pmax				
	comp=Z,37nm,1.7s,mb5.1								
MKAR	**Makanchi Array**	**58.03**	**326**	P	**P**	**10 33 36.0**	**-0.8**		
	comp=Z,2.8nm,0.5s,mb4.5,baz=122,slow=8.6,SNR=25								
MKAR	**Makanchi Array**	**58.03**	**326**	P	**P**	**10 33 36.0**	**-0.8**		
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
YAK	**Yakutsk**	**59.12**	**2**	⇑*eP*	**P**	**10 33 44.7**	**+0.3**		
YAK				pmax	pmax				
	comp=Z,20nm,0.8s,mb5.2								
YAK	**Yakutsk**	**59.12**	**2**	*eP*	**P**	**10 33 44.4**	**+0.1**		
	comp=Z,16nm,0.6s,mb5.2								
YAK				*e*	pP	10 34 04.1	-2.9		
AAK	**Ala-Archa**	**60.71**	**318**	*eP*	**P**	**10 33 54.7**	**-0.6**		
AAK				pmax	pmax				
	comp=Z,2.0nm,1.3s,mb4.0								
URZ	**Urewera**	**62.21**	**136**	P	**P**	**10 34 06.1**	**+0.7**		
	comp=Z,7.7nm,0.8s,mb4.8,baz=9.5,slow=5.3,SNR=6.6								
BVAR	**Borovoye Array**	**67.82**	**327**	P	**P**	**10 34 40.7**	**-1.1**		
	comp=Z,3.4nm,0.7s,mb4.3,baz=130,slow=8.3,SNR=12								
BVAR	**Borovoye Array**	**67.82**	**327**	P	**P**	**10 34 40.7**	**-1.0**		
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRVK	**Borovoye**	**67.89**	**327**	*eP*	**P**	**10 34 41.4**	**-0.8**		
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.2								
BRVK	**Borovoye**	**67.89**	**327**	*eP*	**P**	**10 34 41.4**	**-0.8**		
	comp=Z,3.7nm,0.9s,mb4.2								
ZRNK	**Zerenda**	**68.54**	**327**	*eP*	**P**	**10 34 46.5**	**+0.3**		
ZRNK				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.7								
ZRNK	**Zerenda**	**68.54**	**327**	*eP*	**P**	**10 34 46.5**	**+0.3**		
	comp=Z,7.8nm,0.6s,mb4.7								
TIXI	**Tiksi**	**68.74**	**1**	⇑*eP*	**P**	**10 34 46.8**	**-0.7**		
TIXI				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.7								
CASY	**Casey**	**69.88**	**187**	*eP*	**P**	**10 34 55.1**	**+0.6**		
BILL	**Bilibino**	**70.53**	**15**	*eP*	**P**	**10 35 00.2**	**+1.7**		
BILL				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.3								
MIR	**Mirnyy**	**73.18**	**193**	⇓*iP*	**P**	**10 35 17.0**	**+2.6**		
MIR				*e*		10 35 32.0			
MIR				pmax	pmax				
	comp=Z,200nm,1.5s,mb5.7								
AKTK	**Aktyubinsk**	**74.08**	**322**	P	**P**	**10 35 18.9**	**-0.7**		
AKTO	**Aktyubinsk**	**74.08**	**322**	P	**P**	**10 35 18.9**	**-0.7**		
	comp=Z,3.2nm,0.6s,mb4.2,baz=105,slow=10.0,SNR=14								
AKTO	**Aktyubinsk**	**74.08**	**322**	P	**P**	**10 35 18.9**	**-0.7**		
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.2								
ARU	**Arti**	**75.45**	**328**	*i* P	**P**	**10 35 27.7**	**+0.2**		
ARU				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.4								
GNI	**Garni**	**81.70**	**310**	*eP*	**P**	**10 36 02.0**	**+0.2**		
GNI				pmax	pmax				
	comp=Z,3.0nm,1.3s								
TTA	**Tatalina**	**81.91**	**27**	*eP*	**P**	**10 36 04.9**	**+2.0**		
TTA				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5								
TTA	**Tatalina**	**81.91**	**27**	*eP*	**P**	**10 36 04.9**	**+2.0**		
	comp=Z,6.8nm,1.0s,mb4.4								
VNDA	**Vanda**	**82.60**	**173**	P	**P**	**10 36 06.8**	**+0.3**		
	comp=Z,3.3nm,0.7s,mb4.3,baz=312,slow=5.9,SNR=32								
VNDA	**Vanda**	**82.60**	**173**	P	**P**	**10 36 06.8**	**+0.3**		
VNDA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
VNDA	**Vanda**	**82.60**	**173**	*eP*	**P**	**10 36 06.5**	**0.0**		
	comp=Z,3.4nm,0.8s,mb4.2								
MAW	**Mawson**	**82.76**	**200**	*eP*	**P**	**10 36 07.9**	**+0.6**		
	comp=Z,4.7nm,0.9s,mb4.3								
MAW	**Mawson**	**82.76**	**200**	P	**P**	**10 36 07.1**	**-0.2**		
	comp=Z,7.4nm,1.0s,mb4.5,baz=54,slow=5.5,SNR=13								
MAW	**Mawson**	**82.76**	**200**	P	**P**	**10 36 07.1**	**-0.2**		
MAW				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KDAK	**Kodiak Island**	**82.89**	**32**	P	**P**	**10 36 09.6**	**+1.6**		
	comp=Z,16nm,1.0s,mb4.8,baz=351,slow=11,SNR=8.0								
SBA	**Scott Base**	**83.51**	**172**	*eP*	**P**	**10 36 12.1**	**+0.9**		
SBA				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb4.2								
SBA	**Scott Base**	**83.51**	**172**	*eP*	**P**	**10 36 12.1**	**+0.9**		
	comp=Z,5.4nm,1.2s,mb4.2								
ANN	**Anapa**	**87.20**	**315**	*eP*	**P**	**10 36 29.9**	**+0.3**		
ANN				pmax	pmax				
	comp=Z,38nm,0.9s,mb5.3								
OBN	**Obninsk**	**87.53**	**325**	⇓*eP*	**P**	**10 36 30.1**	**-1.0**		
OBN				*eS*	S	10 46 54.9	-10		
OBN				pmax	pmax				
	comp=Z,16nm,0.6s,mb5.2								
ASF	**Jabal al Asfar**	**87.98**	**302**	P	**P**	**10 36 32.6**	**-0.7**		
	comp=Z,2.7nm,0.6s,mb4.5,baz=8.1,slow=5.7,SNR=6.8								
ASF	**Jabal al Asfar**	**87.98**	**302**	P	**P**	**10 36 32.6**	**-0.7**		
ASF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KMBO	**Kilima Mbogo**	**89.07**	**269**	P	**P**	**10 36 41.0**	**+2.6**		
	comp=Z,2.4nm,0.7s,mb4.3,baz=44,slow=11,SNR=5.8								
KMBO	**Kilima Mbogo**	**89.07**	**269**	*i* P	**P**	**10 36 41.7**	**+3.3**		
KMBO				pmax	pmax				
	comp=Z,2.0nm,0.7s								
JOF	**Joensuu**	**89.76**	**333**	*ep*	**P**	**10 36 39.6**	**-2.1**		
	comp=Z,5.3nm,0.6s,mb4.8								
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**10 36 43.6**	**-0.3**		
	comp=Z,1.3nm,0.6s,mb4.2,baz=97,slow=5.2,SNR=6.2								
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**10 36 43.6**	**-0.3**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**91.13**	**340**	P	**P**	**10 36 46.1**	**-1.9**		
	comp=Z,6.8nm,0.8s,mb4.8,baz=87,slow=6.2,SNR=9.7								
ARCES	**ARCESS Array B**	**91.13**	**340**	P	**P**	**10 36 46.1**	**-1.9**		
ARCES				pmax	pmax				
	comp=Z,7.0nm,0.8s								
INK	**Inuvik**	**91.16**	**21**	P	**P**	**10 36 47.4**	**-0.7**		
	comp=Z,8.1nm,1.2s,mb4.7,baz=261,slow=5.6,SNR=3.1								
INK	**Inuvik**	**91.16**	**21**	P	**P**	**10 36 47.4**	**-0.8**		
INK				pmax	pmax				
	comp=Z,8.0nm,1.2s								
INK	**Inuvik**	**91.16**	**21**	P	**P**	**10 36 47.4**	**-0.8**		
SYO	**Syowa Base**	**91.43**	**201**	⇑*eP*	**P**	**10 36 50.0**	**+0.6**		
KAF	**Kangasniemi**	**92.17**	**332**	*ep*	**P**	**10 36 50.9**	**-2.0**		
	comp=Z,2.7nm,0.4s,mb4.8								
KAF	**Kangasniemi**	**92.17**	**332**	*eP*	**P**	**10 36 50.9**	**-2.0**		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.4s,mb4.9								
AKASG	**Malin Array Be**	**92.30**	**321**	P	**P**	**10 36 52.4**	**-1.1**		
	comp=Z,2.7nm,0.5s,mb4.7,baz=68,slow=4.5,SNR=8.0								
AKASG	**Malin Array Be**	**92.30**	**321**	P	**P**	**10 36 52.4**	**-1.0**		
AKASG				pmax	pmax				
	comp=Z,3.0nm,0.5s								
FINES	**FINESS Array B**	**92.40**	**332**	P	**P**	**10 36 52.7**	**-1.2**		
	comp=Z,2.2nm,0.7s,mb4.5,baz=72,slow=6.2,SNR=7.6								
FINES	**FINESS Array B**	**92.40**	**332**	*i* P	**P**	**10 36 53.0**	**-0.9**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
QSPA	**South Pole Qui**	**92.74**	**180**	*eP*	**P**	**10 36 55.6**	**+0.1**		
	comp=Z,11nm,1.1s,mb5.1								
MLR	**Muntele Rosu**	**95.22**	**316**	P	**P**	**10 37 07.1**	**+0.2**		
	comp=Z,4.6nm,0.9s,mb4.9,baz=124,slow=3.6								
MLR	**Muntele Rosu**	**95.22**	**316**	⇑*iP*	**P**	**10 37 06.2**	**-0.7**		
MLR	**Muntele Rosu**	**95.22**	**316**	P	**P**	**10 37 07.1**	**+0.2**		
MLR				pmax	pmax				
	comp=Z,5.0nm,0.9s								
BURAR	**Bucovina Array**	**95.36**	**318**	⇓*iP*	**P**	**10 37 08.0**	**+0.5**		
DRGR		**97.19**	**318**	⇓*iP*	**P**	**10 37 15.7**	**-0.1**		
LSZ	**Lusaka**	**98.53**	**255**	*eP*	**P**	**10 37 23.5**	**+1.7**		
HFS	**Hagfors**	**98.59**	**332**	P	**P**	**10 37 20.9**	**-1.2**		
	comp=Z,1.8nm,0.7s,mb4.7,baz=70,slow=4.7,SNR=3.6								
HFS	**Hagfors**	**98.59**	**332**	P	**P**	**10 37 20.9**	**-1.2**		
HFS				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NB2	**NORSAR Subarra**	**99.38**	**333**	P	**P**	**10 37 23.8**	**-1.8**		
	comp=Z,2.4nm,0.7s,mb4.8,baz=70,slow=4.4								
NB2	**NORSAR Subarra**	**99.38**	**333**	P	**P**	**10 37 23.8**	**-1.8**		
NB2				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.8								
NOA	**NORSAR Array B**	**99.38**	**333**	P	**P**	**10 37 23.9**	**-1.7**		
	comp=Z,2.1nm,0.7s,mb4.8,baz=67,slow=4.5,SNR=6.3								
NOA	**NORSAR Array B**	**99.38**	**333**	P	**P**	**10 37 23.9**	**-1.7**		
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GERES	**GERESS Array B**	**102.50**	**321**	P	Pdif	10 37 39.2	-0.3		
	comp=Z,0.5nm,0.6s,baz=61,slow=8.2,SNR=4.6								
GERES	**GERESS Array B**	**102.50**	**321**	P	Pdif	10 37 39.2	-0.3		
GERES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ANMO	**Albuquerque**	**117.96**	**48**	⇑*i*	PKIKP	PKPdf	10 42 28.8	-0.7	
SCHQ	**Schefferville**	**121.52**	**9**	PKP	PKPdf	10 42 37.5	+1.2		
	comp=Z,3.2nm,0.9s,baz=104,slow=6.1,SNR=5.0								
SCHQ	**Schefferville**	**121.52**	**9**	PKP	PKPdf	10 42 37.5	+1.2		
KSU1	**Kansas State U**	**122.59**	**39**	*e*	PKPdf	PKPdf	10 42 40.0	+1.6	
TORD	**Torodi Ar. Bea**	**122.75**	**287**	PKP	PKPdf	10 42 40.0	+1.3		
	comp=Z,2.2nm,0.7s,baz=56,slow=1.9,SNR=11								
JCT	**Junction City**	**124.99**	**49**	*e*	PKIKP	PKPdf	10 42 44.7	+1.7	
MIAR	**Mount Ida**	**127.25**	**42**	*e*	PKIKP	PKPdf	10 42 49.4	+2.1	
DBIC	**Dimbokro**	**130.31**	**281**	PKP	PKPdf	10 42 54.6	+1.5		
	comp=Z,2.4nm,0.9s,baz=144,slow=13,SNR=3.5								
DBIC	**Dimbokro**	**130.31**	**281**	PKIKP	PKPdf	10 42 54.6	+1.5		
DBIC				pmax	pmax				
	comp=Z,2.0nm,1.0s								
PLCA	**Paso Flores**	**139.33**	**160**	PKP	PKPdf	10 43 12.3	+2.4		
	comp=Z,1.9nm,0.7s,baz=229,slow=4.1,SNR=4.7								
PLCA	**Paso Flores**	**139.33**	**160**	PKIKP	PKPdf	10 43 12.3	+2.4		
PLCA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
PLCA	**Paso Flores**	**139.33**	**160**	PKP	PKPdf	10 43 12.3	+2.4		
LVC	**Limon Verde**	**155.43**	**144**	PKPab	PKPab	10 44 06.4	+4.2		
	comp=Z,2.9nm,0.6s,baz=228,slow=5.5,SNR=5.3								
ROSC	**El Rosal**	**158.05**	**70**	PKPab	PKPab	10 44 16.9	+3.5		
	comp=Z,3.7nm,0.4s,baz=96,slow=22,SNR=3.5								
LPAZ	**La Paz**	**160.52**	**134**	PKP	PKPdf	10 43 46.5	+4.1		
	comp=Z,2.2nm,0.9s,baz=56,slow=2.9,SNR=7.3								
LPAZ				PKPab	PKPab	10 44 28.4	+4.2		
	comp=Z,1.9nm,0.8s,baz=170,slow=5.9,SNR=8.0								
LPAZ	**La Paz**	**160.52**	**134**	PKIKP	PKPdf	10 43 46.6	+4.1		
LPAZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
LPAZ				pmax	pmax				
	comp=Z,2.0nm,0.8s								
LPAZ	**La Paz**	**160.52**	**134**	PKP	PKPdf	10 43 46.5	+4.1		
LPAZ				PKPab	PKPab	10 44 28.4	+4.2		

*ISCJB **28** 10:56:10.0±0.9, 163S±0.1×1725W±0.2, h33km, mb4.1/5, Error ellipse: s-maj=29.4km s-min=9.0km az=60.9*
*IDC **28** 10:56:09.4±4.8, 1582S×17299W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, ML1.3/1, Error ellipse: s-maj=204.1km s-min=21.6km az=133.0*
*NEIC **28** 10:56:12.4±0.7, 1664S×17239W, h35km, mb4.1/2, Error ellipse: s-maj=37.5km s-min=16.3km az=147.0*

ISC 28 10:56:12.3±0.9, 162S±01×1725W±02, h35km, n12, σ1♦15/11, mb4.0/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.42**	**17**	Pn	**Pn**	**10 56 46.5**	**-2.8**
	4.6nm,0.3s,baz=301,slow=23,SNR=10						
AFI				Sn	**Sn**	**10 57 17.7**	**+0.1**
	18nm,0.3s,baz=40,slow=23,SNR=14						
STKA	**Stephens Creek**	**44.39**	**241**	P	**P**	**11 04 19.7**	**+0.3**
	2.1nm,0.6s,mb4.0,baz=81,slow=6.3,SNR=5.1						
STKA	**Stephens Creek**	**44.39**	**241**	*eP*	**P**	**11 04 19.1**	**-0.3**
WRA	**Warramunga Arr**	**50.52**	**257**	P	**P**	**11 05 06.5**	**-0.5**
	0.5nm,0.8s,mb3.5,baz=95,slow=7.3,SNR=6.1						
AS31	**Alice Springs**	**50.69**	**253**	*eP*	**P**	**11 05 08.7**	**+0.4**
ASAR	**Alice Springs**	**50.69**	**253**	P	**P**	**11 05 08.8**	**+0.4**
	6.7nm,0.7s,mb4.7,baz=88,slow=8.7,SNR=94						
ASPA	**Alice Springs**	**50.70**	**253**	*eP*	**P**	**11 05 08.7**	**+0.3**
CMB	**Columbia Colle**	**72.81**	**41**	*eP*	**P**	**11 07 38.3**	**+1.0**
	0.8nm,0.9s,mb3.6						
QSPA	**South Pole Qui**	**73.81**	**180**	*eP*	**P**	**11 07 40.8**	**-2.4**
	4.5nm,1.0s,mb4.3						
MSU	**Marysvale**	**78.41**	**44**	*eP*	**P**	**11 08 10.9**	**+1.6**
MALT	**Malatya**	**145.08**	**315**	*e*	PKPdf	PKPdf	11 15 48.7	+2.8
BRTR	**Keskin Array B**	**147.36**	**321**	PKPbc	PKPbc	11 15 54.5	+2.2
	1.3nm,0.9s,baz=48,slow=4.3,SNR=4.3						

*NEIC **28** 11:03:42.1, 3239S×7151W, h30km, ML2.8(GUC), After GUC.*

GUC 28 11:03:42.1±0.7, 3239S×7151W, h30km±2km, MD3.8, ML2.8, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.51**	**1**	⇓*iP*	Pb	11 03 52.5	-0.2
CHNG				*i* S	Sb	11 03 59.8	-0.1
CHNG				AML	AML	11 04 00.1	
	comp=N,802nm,0.2s						
IHA	**Instituto Hidr**	**0.64**	**190**	*eP*	Pb	11 03 54.4	-0.4
ROCH	**El Roble**	**0.71**	**144**	⇑*iP*	Pb	11 03 56.2	+0.1
ROCH				*i* S	Sb	11 04 06.6	+1.1
JACH	**Jahuel**	**0.83**	**111**	⇑*iP*	Pn	11 03 57.8	+0.1
JACH				*i* S	Sb	11 04 09.2	+0.4
PEL	**Peldehue**	**1.02**	**137**	*eP*	Pn	11 04 00.3	0.0
PEL				*i* S	Sn	11 04 14.3	+0.6
PEL				AML	AML	11 04 15.8	
	comp=E,475nm,0.2s						
PEL	**Peldehue**	**1.02**	**137**	*eP*	Pn	11 04 00.3	0.0
PEL				*i* S	Sn	11 04 14.3	+0.6
LCCH	**Las Cruces**	**1.08**	**183**	*eP*	Pn	11 04 01.5	+0.4
RCDM	**Rinconada Maip**	**1.24**	**152**	*eP*	Pn	11 04 03.6	+0.2
RCDM				*i* S	Sn	11 04 20.3	+1.2
RCDM				AML	AML	11 04 23.1	
	comp=E,368nm,0.2s						
RCDM	**Rinconada Maip**	**1.24**	**152**	*eP*	Pn	11 04 03.6	+0.2
RCDM				*i* S	Sn	11 04 20.3	+1.2
CLCH	**Cerro Calan**	**1.29**	**141**	⇓*iP*	Pn	11 04 04.7	+0.7
CLCH				*i* S	Sn	11 04 22.1	+1.7
CLCH				AML	AML	11 04 23.1	
	comp=E,181nm,0.3s						
TACH	**Talagante**	**1.35**	**159**	*i* P	Pn	11 04 05.4	+0.6
TACH				*i* S	Sn	11 04 23.3	+1.6
FCH	**Farellones**	**1.39**	**132**	⇓*iP*	Pn	11 04 06.0	+0.7
FCH				*i* S	Sn	11 04 24.2	+1.6
FCH				AML	AML	11 04 27.2	
	comp=E,153nm,0.2s						
LNV	**Longovilo**	**1.56**	**177**	*i* P	Pn	11 04 07.7	0.0
CHCH	**Chadas Angostu**	**1.70**	**155**	⇓*eP*	Pn	11 04 10.8	+1.2
LMEL	**Las Melosas**	**1.82**	**143**	⇓*iP*	Pn	11 04 12.6	+1.3
LMEL				*i* S	Sn	11 04 36.6	+3.3
LMEL				AML	AML	11 04 42.2	
	comp=N,224nm,0.2s						
LMEL	**Las Melosas**	**1.82**	**143**	⇓*iP*	Pn	11 04 12.6	+1.3
LMEL				*i* S	Sn	11 04 36.6	+3.3
SFDO	**San Fernando**	**2.25**	**169**	*eP*	Pn	11 04 18.8	+1.5
TLL	**Tololo Astrono**	**2.30**	**15**	*eP*	Pn	11 04 19.5	+1.6
TLL				*i* S	Sn	11 04 49.1	+3.9
TLL				AML	AML	11 04 53.0	
	comp=E,118nm,0.3s						
TLL	**Tololo Astrono**	**2.30**	**15**	*eP*	Pn	11 04 19.5	+1.6
TLL				*i* S	Sn	11 04 49.1	+3.9

*ISCJB **28** 11:12:57.5±1.0, 4360N±006×7545E±007, h10km, Error ellipse: s-maj=9.1km s-min=6.5km az=126.1*
*NNC **28** 11:12:57.2±1.9, 4358N×7548E, h0km, mb3.8, mpv2.8, Error ellipse: s-maj=24.8km s-min=9.7km az=79.0*
*KNET **28** 11:12:58.1±0.4, 4352N×7539E, h10km±1km, ml2.1, Error ellipse: s-maj=2.5km s-min=1.4km az=22.0*

ISC 28 11:12:58.2±1.0, 4357N±005×7540E±006, h10km, n12, σ1♦03/20, 16C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.67**	**167**	⇑P	**Pg**	**11 13 10.1**	**-1.0**
	77nm,0.1s,SNR=212						
TKM2				⇑S	**Sg**	**11 13 19.6**	**-0.4**
	139nm,0.1s						
TKM2	**Tokmak 2**	**0.67**	**167**	⇑P	**Pg**	**11 13 10.1**	**-1.0**
	0.4nm,0.2s						
TKM2				⇑S	**Sg**	**11 13 19.5**	**-0.4**
	0.4nm,0.1s						
USP	**Ospenovka**	**0.72**	**245**	P	**Pg**	**11 13 11.3**	**-0.8**
	25nm,0.1s,SNR=27						
USP				⇓S	**Sg**	**11 13 21.4**	**-0.2**
	70nm,0.2s						
CHMS	**Chumysh**	**0.74**	**220**	⇑P	**Pg**	**11 13 11.8**	**-0.8**
	33nm,0.2s,SNR=11						
CHMS				⇑S	**Sg**	**11 13 22.3**	**

RUBB	**Prince Rupert**	**3.42**	**5**	Pn	Pn	11 26 05.0	-1.8
RUBB				Sg	Sg	11 26 53.5	-10
RUBB				Trac		11 27 19.4	
	comp=Z,45nm,0.6s						
CBB	**Campbell River**	**3.54**	**103**	Pn	Pn	11 26 06.5	-2.0
CBB				Sn	Sn	11 26 45.5	-5.0
CBB				Sg	Sg	11 27 00.3	-6.9
CBB				Trac		11 27 20.0	
	comp=Z,15nm,0.6s						
BTB	**Buttle Lake**	**3.65**	**112**	Pn	Pn	11 26 09.7	-0.3
BTB				Sg	Sg	11 27 03.1	-7.7
BTB				Trac		11 27 16.8	
	comp=Z,14nm,0.5s						
FSB	**Fort Saint Jam**	**5.28**	**45**	Pn	Pn	11 26 32.4	+0.1
FSB				Sg	Sg	11 27 49.0	-14
FSB				Trac		11 28 03.7	
	comp=Z,5.0nm,0.4s						

MAN 28 11:26:23.5, 1534N×11957E, h16km, mb2.3, ML3.9, MS1.8, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.55**	**38**	*e*P	Pg	11 26 34.7	+0.5
BOLP	**Bolinao**	**1.08**	**18**	*e*P	Pb	11 26 42.7	-1.1
PCPH	**Palayan**	**1.49**	**81⇓**	*e*P	Pn	11 26 49.0	-0.6
LUBP	**Lubang**	**1.73**	**158**	*e*P	Pn	11 26 52.8	-0.1
POLP	**Polillo Island**	**2.37**	**105**	*e*P	Sn	11 27 32.8	+2.3
BUSP	**Coron**	**3.38**	**169**	*e*P	Pn	11 27 17.0	+1.5
OTRP	**Odiongan**	**3.80**	**141**	*e*P	Pn	11 27 27.5	+6.1
ENPP	**El Nido**	**4.11**	**182**	*e*P	Pn	11 27 26.6	+1.0

PGC 28 11:29:08.0, 5100N×13061W, h10km, MLSn3.4/1, Mw4.0, 215km southwest of Bella Bella, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.61**	**102**	Pn	Pn	11 29 34.4	-2.1
HOLB				Sn	Sn	11 29 52.7	-4.6
	comp=Z,257nm,0.6s						
HOLB				Trac		11 30 18.8	
	comp=Z,257nm,0.6s						
BNB	**Barry Inlet**	**1.73**	**336**	Pn	Pn	11 29 35.9	-2.2
BNB				Sn	Sn	11 29 55.9	-4.3
	comp=Z,459nm,0.2s						
BNB				Trac		11 29 57.0	
	comp=Z,459nm,0.2s						
BBB	**Bella Bella**	**1.96**	**52**	Pn	Pn	11 29 39.0	-2.3
BBB				Sn	Sn	11 30 02.3	-3.6
BBB				Trac		11 30 23.9	
	comp=Z,206nm,0.4s						
BPBC	**Brooks Peninsu**	**2.00**	**114**	Pn	Pn	11 29 39.6	-2.1
BPBC				Sn	Sn	11 30 02.2	-4.6
	comp=Z,56nm,0.3s						
BPBC				Trac		11 30 05.7	
	comp=Z,56nm,0.3s						
PHC	**Port Hardy**	**2.04**	**97**	Pn	Pn	11 29 40.1	-2.2
PHC				Sn	Sn	11 30 03.8	-4.0
PHC				Trac		11 30 04.3	
	comp=Z,22nm,0.2s						
MAYB	**Maynard**	**2.27**	**104**	Pn	Pn	11 29 44.1	-1.3
MAYB				Sg	Sg	11 30 14.6	-6.2
MAYB				Trac		11 30 33.6	
	comp=Z,95nm,0.7s						
MOBC	**Moresby Island**	**2.34**	**341**	Pn	Pn	11 29 45.6	-0.8
MOBC				Sn	Sn	11 30 11.7	-3.6
MOBC				Trac		11 30 42.6	
	comp=Z,52nm,0.7s						
BNAB	**Bonilla**	**2.50**	**360**	Pn	Pn	11 29 46.4	-2.2
BNAB				Sn	Sn	11 30 16.0	-3.2
	comp=Z,48nm,0.7s						
BNAB				Trac		11 30 26.0	
	comp=Z,48nm,0.7s						
EDB	**Eliza Dome**	**2.50**	**115**	Pn	Pn	11 29 47.2	-1.5
EDB				Sg	Sg	11 30 23.9	-4.4
EDB				Trac		11 30 27.3	
	comp=Z,17nm,0.4s						
WOSB	**Woss**	**2.71**	**106**	Pn	Pn	11 29 50.2	-1.4
WOSB				Sg	Sg	11 30 29.1	-5.9
WOSB				Trac		11 30 40.6	
	comp=Z,59nm,0.6s						
NCRB	**Newcastle Ridg**	**2.96**	**100**	Pn	Pn	11 29 54.0	-1.0
NCRB				Sg	Sg	11 30 36.5	-6.5
NCRB				Trac		11 30 57.2	
	comp=Z,45nm,0.7s						
GDR	**Gold River**	**3.17**	**111**	Pn	Pn	11 29 56.4	-1.6
GDR				Sg	Sg	11 30 45.6	-4.3
GDR				Trac		11 31 04.1	
	comp=Z,50nm,0.7s						
NDB	**Naden**	**3.29**	**335**	Sg	Sg	11 30 49.9	-3.6
NDB				Trac		11 31 23.6	
	comp=Z,17nm,0.5s						
RUBB	**Prince Rupert**	**3.34**	**4**	Pn	Pn	11 29 59.2	-1.0
RUBB				Sg	Sg	11 30 49.2	-6.0
RUBB				Trac		11 31 12.5	
	comp=Z,105nm,0.7s						
CBB	**Campbell River**	**3.49**	**104**	Pn	Pn	11 30 01.9	-0.3
CBB				Sg	Sg	11 30 52.8	-7.1
CBB				Trac		11 31 13.4	
	comp=Z,24nm,0.6s						
TXB	**Texada**	**4.17**	**106**	Pn	Pn	11 30 10.4	-1.1
TXB				Sg	Sg	11 31 18.2	-3.5
TXB				Trac		11 31 47.7	
	comp=Z,33nm,1.0s						
NLLB	**Nanaimo Lost L**	**4.62**	**110**	Pn	Pn	11 30 17.9	+0.1
NLLB				Sg	Sg	11 31 25.3	-11
NLLB				Trac		11 31 42.8	
	comp=Z,14nm,0.7s						
BIB	**Bowen Island**	**4.96**	**106**	Pn	Pn	11 30 23.8	+1.4
BIB				Sg	Sg	11 31 36.7	-10
BIB				Trac		11 31 51.4	
	comp=Z,6.0nm,0.6s						
FSB	**Fort Saint Jam**	**5.17**	**45**	Pn	Pn	11 30 25.1	-0.2
FSB				Trac		11 32 11.8	
	comp=Z,14nm,0.5s						
LLLB	**Lillooet**	**5.55**	**91**	Trac		11 32 29.9	
	comp=Z,5.0nm,0.6s						

IDC 28 11:47:44.1±2.8, 891S×10800E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=132.5km s-min=21.3km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.71**	**116**	P	P	11 53 33.4	-0.7
	0.2nm,0.5s,baz=289,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**28.79**	**124**	P	P	11 53 44.9	+1.2
	0.3nm,0.6s,baz=301,slow=8.0,SNR=6.4						
STKA	**Stephens Creek**	**38.63**	**131**	P	P	11 55 09.6	+0.5
	1.4nm,0.7s,baz=280,slow=10,SNR=3.8						
SONM	**Songino Array**	**56.51**	**359**	P	P	11 57 29.1	+1.1
	0.4nm,0.6s,baz=166,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**60.01**	**340**	P	P	11 57 52.0	-0.5
	1.5nm,0.5s,baz=136,slow=7.5,SNR=14						

*NEIC **28** 12:06:51.9, 1485N×5934W, h103km, MD3.7(FDF), After FDF.*

TRN 28 12:06:59.1, 1507N×5986W, h69km, M3.7(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**1.12**	**243**	*e*P	Pn	12 07 18.1	-0.9
MVM				*e*S	Sn	12 07 36.1	+2.2
MGG	**Marie-Galante**	**1.64**	**301**	*e*P	Pn	12 07 27.2	+1.4
TBG	**Guadaloupe-3**	**1.89**	**295**	*e*P	Pn	12 07 31.1	+1.9
PHG	**Guadaloupe-2**	**1.96**	**299**	*e*P	Pn	12 07 32.4	+2.3
BCG	**Bois Riant Cap**	**1.97**	**301**	*e*P	Pn	12 07 32.0	+1.7
SCG	**Saint Claude**	**2.00**	**299**	*e*P	Pn	12 07 32.2	+1.6
LZG	**Guadaloupe-1**	**2.13**	**300**	*e*P	Pn	12 07 33.2	+0.8

*GRAL **28** 12:19:49.5±2.3, 3365N×3658E, h0km±666km, MD2.8*

GII 28 12:20:35.6±0.8, 3248N×3506E, h0km, ML2.0/2, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFRI	**'Ofer**	**0.15**	**336**	Pg	Pg	12 20 39.8	+1.2
OFRI				Sg	Sg	12 20 42.5	+2.0
SLTI	**Sal'it**	**0.24**	**184**	Pg	Pg	12 20 41.4	+1.2
SLTI				Sg	Sg	12 20 46.0	+2.7
MMLI	**Mount Malkishu**	**0.31**	**98**	Pg	Pg	12 20 42.1	+0.6
MMLI				Sg	Sg	12 20 47.6	+2.1
HMDT	**Nahal Hemdat**	**0.46**	**120**	Sg	Sg	12 20 53.2	+3.0
MMA3	**Mount Meron ar**	**0.60**	**29**	Sg	Sg	12 20 58.4	+3.4
HNTI	**Hanita**	**0.61**	**9**	Sg	Sg	12 20 57.9	+2.8
KSHT	**Keshet**	**0.81**	**52**	Sg	Sg	12 21 05.1	+3.5
DRGI	**Dragot**	**0.93**	**162**	Pg	Pg	12 20 53.9	+0.5
RCY	**Rachaya**	**1.19**	**32**	*e*Pg	Pg	12 20 00.5	-58
RCY				*e*Sg	Sg	12 20 08.8	-65
BHL	**Bhannes**	**1.50**	**19**	*e*Pg	Pg	12 20 03.5	-61
BHL				*e*Sg	Sg	12 20 14.6	-69
KZIT	**Kziot**	**1.67**	**200**	Sn	Sn	12 21 30.4	+2.3
KZIT	**Kziot**	**1.67**	**200**	Sn	Sn	12 21 30.5	+2.4
HWQ	**Hawqa**	**1.94**	**22**	*e*Sg		12 20 16.0	

PGC 28 12:59:14.5, 5099N×13063W, h10km, MLSn2.9/1, Mw3.5, 216km southwest of Bella Bella, Bc West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.62**	**101**	Pn	Pn	12 59 41.3	-1.8
HOLB				Sn	Sn	12 59 59.8	-4.4
	comp=Z,15nm,0.2s						
HOLB				Trac		13 00 00.0	
	comp=Z,15nm,0.2s						
BNB	**Barry Inlet**	**1.74**	**337**	Pn	Pn	12 59 42.6	-2.1
BNB				Sn	Sn	13 00 02.6	-4.3
	comp=Z,735nm,0.4s						
BNB				Trac		13 00 03.2	
	comp=Z,735nm,0.4s						
BBB	**Bella Bella**	**1.98**	**52**	Pn	Pn	12 59 45.5	-2.5
BBB				Sn	Sn	13 00 09.6	-3.3
BBB				Trac		13 00 20.4	
	comp=Z,75nm,0.7s						
BPBC	**Brooks Peninsu**	**2.00**	**113**	Pn	Pn	12 59 46.5	-1.9
BPBC				Sn	Sn	13 00 08.9	-4.6
	comp=Z,16nm,0.2s						
BPBC				Trac		13 00 10.4	
	comp=Z,16nm,0.2s						
PHC	**Port Hardy**	**2.05**	**97**	Pn	Pn	12 59 46.8	-2.2
PHC				Sn	Sn	13 00 10.5	-4.1
PHC				Trac		13 00 11.2	
	comp=Z,9.0nm,0.3s						
MAYB	**Maynard**	**2.28**	**104**	Pn	Pn	12 59 50.8	-1.3
MOBC	**Moresby Island**	**2.35**	**341**	Pn	Pn	12 59 51.6	-1.5
MOBC				Sn	Sn	13 00 18.4	-3.5
MOBC				Trac		13 00 22.9	
	comp=Z,8.0nm,0.5s						
EDB	**Eliza Dome**	**2.51**	**115**	Pn	Pn	12 59 54.4	-0.9
BNAB	**Bonilla**	**2.51**	**360**	Pn	Pn	12 59 53.0	-2.3
BNAB				Sn	Sn	13 00 20.8	-5.2
	comp=Z,6.0nm,0.4s						
BNAB				Trac		13 00 23.9	
	comp=Z,6.0nm,0.4s						
WOSB	**Woss**	**2.72**	**106**	Pn	Pn	12 59 57.1	-1.1
WOSB				Sn	Sn	13 00 23.8	-7.3
	comp=Z,12nm,0.6s						
WOSB				Trac		13 00 41.8	
	comp=Z,12nm,0.6s						
NCRB	**Newcastle Ridg**	**2.97**	**100**	Pn	Pn	13 00 01.8	+0.2
NCRB				Trac		13 00 51.7	
	comp=Z,5.0nm,0.4s						
RUBB	**Prince Rupert**	**3.35**	**4**	Pn	Pn	13 00 06.3	-0.6
RUBB				Sg	Sg	13 00 52.8	-9.4
RUBB				Trac		13 01 15.6	
	comp=Z,18nm,0.6s						
BTB	**Buttle Lake**	**3.62**	**113**	Pn	Pn	13 00 09.2	-1.4

*IDC **28** 13:08:02.5±0.6, 1190N×9519E, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/25, mbtmp4.0/14, ML3.7/1, Error ellipse: s-maj=32.2km s-min=13.8km az=59.0*
*ISCJB **28** 13:08:05.6±3.2, 1185N±007×952E±0.1, h32km±23km, mb4.2/22, Error ellipse: s-maj=20.8km s-min=8.2km az=121.4*
*NEIC **28** 13:08:06.3±0.4, 1185N×9520E, mb4.4/6, Error ellipse: s-maj=24.0km s-min=8.3km az=63.0*
*BJI **28** 13:08:07.3, 1180N×9520E, h23km, mb4.4*

ISC 28 13:08:08.9±1.4, 1188N±007×952E±01, h41km±14km, h17km±6.3km: pP-P, n38, σ0°90/36, mb4.2/22, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.39**	**265**	*e*P	x	13 08 29.1	
PBA				*e*S	x	13 09 04.3	
PBA				*ex*	x	13 09 15.8	
	comp=E,1μm,1.1s						
PSI	**Prapat**	**9.76**	**157**	Pn	**Pn**	**13 10 27.0**	**+0.4**
	comp=E,0.7nm,0.3s,baz=286,slow=10,SNR=2.3						
PKI	**Pulchoki**	**18.10**	**331**	*e*P	**Pn**	**13 12 17.3**	**+0.3**
LSA	**Lhasa**	**18.12**	**349**	P	**Pn**	**13 12 16.8**	**-0.5**
LSA	**Lhasa**	**18.12**	**349**	*e*Pn	**Pn**	**13 12 19.4**	**+2.1**
	comp=E,13nm,0.8s						
GUN	**Gumba**	**18.17**	**333**	*e*P	**Pn**	**13 12 17.4**	**-0.5**
DMN	**Daman**	**18.27**	**330**	*e*P	**Pn**	**13 12 19.5**	**+0.3**
KKN	**Kakani**	**18.34**	**331**	*e*P	**Pn**	**13 12 19.9**	**-0.1**
GKN	**Gorkha**	**18.83**	**330**	*e*P	**Pn**	**13 12 25.1**	**-0.8**
	comp=E,14nm,0.6s						
KOLN	**Koldanda**	**19.17**	**327**	*e*P	**Pn**	**13 12 29.4**	**-0.6**
	comp=E,26nm,0.7s						
LZH	**Lanzhou**	**25.34**	**17**	*e*P	**P**	**13 13 34.5**	**+2.7**
LZH				AP	pP	13 13 39.5	-3.5
LZH				XP	sP	13 13 41.5	-6.5
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
LZH	**Lanzhou**	**25.34**	**17**	*e*P	**P**	**13 13 34.4**	**+2.6**
LZH				pP	pP	13 13 39.5	-3.5
LZH				sP	sP	13 13 41.5	-6.5
XAN	**Xi'an**	**25.37**	**27**	P	**P**	**13 13 32.0**	**-0.1**
XAN				AP	pP	13 13 40.0	-3.3
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.4						
GTA	**Gaotai**	**27.72**	**8**	*e*P	**P**	**13 14 01.5**	**+8.2**
GTA				AP	pP	13 14 06.3	+1.8
GTA				XP	sP	13 14 08.5	-1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**35.52**	**333**	*e*P	**P**	**13 15 02.2**	**+0.5**
	comp=Z,4.7nm,1.1s,mb4.3						
AAK				*e*		13 15 09.3	
MKAR	**Makanchi Array**	**36.46**	**345**	P	**P**	**13 15 10.3**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=171,slow=8.6,SNR=6.8						
MKAR	**Makanchi Array**	**36.46**	**345**	P	**P**	**13 15 10.3**	**+0.5**
SONM	**Songino Array**	**37.05**	**13**	P	**P**	**13 15 13.9**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.9,baz=195,slow=7.0,SNR=11						
CN2	**Changchun**	**41.13**	**34**	*e*P	**P**	**13 15 49.3**	**+0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**42.33**	**134**	P	**P**	**13 15 56.8**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.6,baz=298,slow=15,SNR=12						
ZAL	**Zalesovo**	**42.75**	**351**	P	**P**	**13 16 00.8**	**-1.3**
	comp=Z,0.7nm,0.5s,mb3.6,baz=61,slow=6.7,SNR=2.0						
BVAR	**Borovoye Array**	**45.58**	**339**	P	**P**	**13 16 22.3**	**-2.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=144,slow=12,SNR=3.2						
BVAR				PcP	PcP	13 18 03.2	+0.4
	comp=Z,0.6nm,0.7s,baz=144,slow=4.5,SNR=2.0						
ZRNK	**Zerenda**	**46.02**	**338**	*e*P	**P**	**13 16 27.9**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.4						
ZRNK				*e*		13 16 34.9	
AKTK	**Aktyubinsk**	**48.99**	**329**	P	**P**	**13 16 51.6**	**+0.3**
AKTO	**Aktyubinsk**	**48.99**	**329**	P	**P**	**13 16 51.6**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=86,slow=6.3,SNR=1.9						
WRA	**Warramunga Arr**	**49.86**	**129**	P	**P**	**13 16 58.2**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.7,baz=307,slow=8.4,SNR=45						
WRAB	**Tennant Creek**	**49.87**	**129**	*e*P	**P**	**13 16 58.1**	**+0.1**
	comp=Z,11nm,0.7s,mb5.0						
AS31	**Alice Springs**	**51.80**	**133**	*e*P	**P**	**13 17 12.4**	**0.0**
ASAR	**Alice Springs**	**51.80**	**133**	P	**P**	**13 17 12.6**	**+0.1**
	comp=Z,3.8nm,0.7s,mb4.4,baz=311,slow=6.6,SNR=65						
ARU	**Arti**	**52.66**	**335**	*e*P	**P**	**13 17 21.9**	**+3.1**
	comp=Z,4.1nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**62.19**	**136**	P	**P**	**13 18 26.4**	**+0.4**
	comp=Z,5.3nm,0.7s,mb4.8,baz=319,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**62.19**	**136**	*e*P	**P**	**13 18 26.4**	**+0.3**
GERES	**GERESS Array B**	**75.55**	**318**	P	**P**	**13 19 49.2**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=100,slow=5.5,SNR=6.8						
NOA	**NORSAR Array B**	**76.77**	**330**	P	**P**	**13 19 56.0**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=141,slow=20,SNR=2.5						
BOSA	**Boshof**	**78.58**	**237**	P	**P**	**13 20 06.5**	**+0.5**
	comp=Z,2.6nm,1.0s,mb4.1,baz=149,slow=7.5,SNR=3.8						
CASY	**Casey**	**78.77**	**174**	*e*P	**P**	**13 20 06.5**	**-0.6**
	comp=Z,2.2nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**90.67**	**283**	P	**P**	**13 21 07.8**	**+0.7**
	comp=Z,0.7nm,1.0s,mb4.0,baz=79,slow=4.3,SNR=3.5						
CPUP	**Villa Florida**	**150.40**	**237**	PKPbc	PKPbc	13 27 56.0	+0.3
	comp=Z,1.5nm,0.7s,baz=86,slow=2.3,SNR=4.0						

*IDC **28** 13:14:53.5±0.6, 1178N×9506E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/23, mbtmp4.1/14, Error ellipse: s-maj=30.5km s-min=13.4km az=55.0*
*ISCJB **28** 13:14:54.7±4.0, 1174N±007×95.18E±008, h15km±25km, mb4.3/24, Error ellipse: s-maj=15.2km s-min=8.3km az=107.2*
*NEIC **28** 13:14:58.3±3.5, 1176N×9521E, h29km±25km, mb4.5/7, Error ellipse: s-maj=15.5km s-min=7.7km az=56.0*
*BJI **28** 13:15:00.2, 1180N×9520E, h29km, mB4.8, mb4.5, Ms4.4, Msz4.3*

ISC 28 13:14:57.2±3.0, 1175N±006×9518E±008, h21km±22km, h28km±3.0km: pP-P, n46, σ1°05/42, mb4.3/24, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.39**	**268**	*e*P	x	13 15 19.9	
PBA				*e*S	x	13 15 48.4	
PBA				*ex*	x	13 15 57.0	
	comp=N,2μm,0.2s						
PBA				*ex*	x	13 15 58.6	
	comp=E,2μm,0.7s						
KULM	**Kulim**	**8.40**	**139**	*e*Pn	**Pn**	**13 16 56.9**	**-0.6**
KULM				*e*Sn	**Sn**	**13 18 30.1**	**-1.6**
HYB	**Hyderabad**	**17.04**	**291**	*i* P	**Pn**	**13 18 56.0**	**+1.9**
HYB	**Hyderabad**	**17.04**	**291**	*e*P	**Pn**	**13 18 56.0**	**+1.9**
GYA	**Guiyang**	**18.19**	**35⇑**	*i*P	**Pn**	**13 19 10.0**	**+1.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
PKI	**Pulchoki**	**18.21**	**331**	*e*P	**Pn**	**13 19 08.5**	**-0.1**
LSA	**Lhasa**	**18.25**	**349**	*e*P	**Pn**	**13 19 10.1**	**+1.1**
	comp=Z,7.9nm,0.5s						
GUN	**Gumba**	**18.28**	**333**	*e*P	**Pn**	**13 19 08.9**	**-0.5**
DMN	**Daman**	**18.39**	**331**	*e*P	**Pn**	**13 19 10.3**	**-0.4**
KKN	**Kakani**	**18.46**	**331**	*e*P	**Pn**	**13 19 11.6**	**+0.1**
GKN	**Gorkha**	**18.94**	**330**	*e*P	**Pn**	**13 19 16.3**	**-1.2**
KOLN	**Koldanda**	**19.28**	**327**	*e*P	**Pn**	**13 19 20.5**	**-1.0**
LZH	**Lanzhou**	**25.46**	**16**	*e*P	**P**	**13 20 24.0**	**+0.4**
LZH				AP	pP	13 20 33.0	+3.0
LZH				XP	sP	13 20 39.0	+6.4
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
LZH	**Lanzhou**	**25.46**	**16**	*e*P	**P**	**13 20 24.0**	**+0.4**
LZH				pP	pP	13 20 33.0	+3.0
LZH				sP	sP	13 20 39.0	+6.4
XAN	**Xi'an**	**25.48**	**27**	P	**P**	**13 20 22.8**	**-1.0**
XAN				AP	pP	13 20 30.8	+0.6
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.5						
GTA	**Gaotai**	**27.85**	**8**	*e*P	**P**	**13 20 52.5**	**+7.4**
GTA				AP	pP	13 20 58.8	+7.3
GTA				XP	sP	13 21 02.3	+8.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**36.59**	**345**	P	**P**	**13 22 00.8**	**-0.7**
	comp=Z,1.7nm,1.0s,mb3.9,baz=160,slow=7.8,SNR=7.1						
SONM	**Songino Array**	**37.18**	**13**	P	**P**	**13 22 07.0**	**+0.4**
	comp=Z,2.3nm,0.9s,mb4.0,baz=192,slow=10.0,SNR=15						
CN2	**Changchun**	**41.23**	**34**	*e*P	**P**	**13 22 41.0**	**+0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**42.24**	**134**	P	**P**	**13 22 48.5**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.6,baz=114,slow=19,SNR=5.4						
HIA	**Hailar**	**42.58**	**24**	*e*P	**P**	**13 22 52.0**	**+0.5**
	comp=Z,10nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**45.71**	**339**	P	**P**	**13 23 16.2**	**-0.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=239,slow=38,SNR=3.2						
ZRNK	**Zerenda**	**46.14**	**338**	*e*P	**P**	**13 23 22.7**	**+2.7**
	comp=Z,7.2nm,0.9s,mb4.6						
AKTK	**Aktyubinsk**	**49.10**	**329**	P	**P**	**13 23 41.4**	**-1.6**
AKTO	**Aktyubinsk**	**49.10**	**329**	P	**P**	**13 23 41.4**	**-1.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=60,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**49.78**	**129**	P	**P**	**13 23 48.7**	**+0.6**
	comp=Z,6.4nm,0.8s,mb4.7,baz=306,slow=8.5,SNR=42						
WRA				PcP	PcP	13 25 09.8	+0.9
	comp=Z,0.8nm,0.6s,baz=321,slow=2.9,SNR=5.6						
WRAB	**Tennant Creek**	**49.78**	**129**	*e*P	**P**	**13 23 48.9**	**+0.7**
ASAR	**Alice Springs**	**51.70**	**133**	P	**P**	**13 24 03.2**	**+0.6**
	comp=Z,4.3nm,0.7s,mb4.5,baz=312,slow=6.7,SNR=59						
BR131	**Keskin Array S**	**60.74**	**309**	*e*P	**P**	**13 25 11.7**	**+4.5**
	comp=Z,4.1nm,0.6s,mb4.7						
BRTR	**Keskin Array B**	**60.74**	**309**	P	**P**	**13 25 05.3**	**-1.9**
	comp=Z,1.8nm,0.7s,mb4.3,baz=113,slow=6.8,SNR=7.3						
STKA	**Stephens Creek**	**62.09**	**136**	P	**P**	**13 25 17.2**	**+0.9**
	comp=Z,6.4nm,0.8s,mb4.8,baz=313,slow=5.1,SNR=12						
STKA	**Stephens Creek**	**62.09**	**136**	*e*P	**P**	**13 25 17.0**	**+0.7**
JOF	**Joensuu**	**67.83**	**334**	*e*p	**P**	**13 25 58.4**	**+4.8**
	comp=Z,8.5nm,0.7s,mb4.9						
FINES	**FINESS Array B**	**69.80**	**331**	P	**P**	**13 26 04.8**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=148,slow=11,SNR=2.9						
KAF	**Kangasniemi**	**69.84**	**332**	*e*p	**P**	**13 26 09.5**	**+3.3**
	baz=103,slow=6.0						
BRG	**Berggiesshubel**	**75.46**	**320**	*i* P	**P**	**13 26 45.8**	**+6.3**
	comp=Z,6.7nm,1.3s,mb4.4						
GERES	**GERESS Array B**	**75.65**	**318**	P	**P**	**13 26 39.7**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.1,baz=91,slow=6.2,SNR=9.0						
NOA	**NORSAR Array B**	**76.88**	**330**	P	**P**	**13 26 47.3**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=92,slow=9.5,SNR=2.8						
BOSA	**Boshof**	**78.51**	**237**	P	**P

PSI pmax pmax
comp=Z,1.0nm,0.3s
PSI MLR MLR
comp=Z,1μm,20.5s
CAL Calcutta 12.45 330 *ex* x 13 21 43.4
CAL *eS* **Sn 13 27 51.7 -9.4**
VIS Vishakhapatnam 12.73 299 *eP* **Pn 13 25 45.0 -2.2**
VIS AMb AMB 13 25 49.5
comp=Z,55nm,1.0s
VIS *eS* **Sn 13 27 58.2 -10**
SHL Shillong 14.03 348 *eP* **Pn 13 26 03.6 -1.3**
SHL *eP* 13 26 04.0
BOK Bokaro 14.76 325 *eP* **Pn 13 26 14.0 -0.8**
BOK AMb AMB 13 26 23.2
comp=Z,43nm,0.6s
BOK *ex* x 13 28 56.0
KMI Kunming 15.17 28 P **Pn 13 26 24.0 +3.7**
KMI AP pP 13 26 27.8 -4.2
KMI XP sP 13 26 30.8 -4.5
KMI PPP 13 26 43.5
KMI S **Sn 13 29 11.5 +4.0**
KMI SS 13 29 29.5
KMI SSS 13 29 41.8
KMI LR LR
comp=N,1μm,11.7s
KMI LR LR
comp=E,977nm,11.3s
KMI LR LR
comp=Z,1μm,11.2s
KMI Kunming 15.17 28 P **Pn 13 26 24.1 +3.8**
KMI pP pP 13 26 27.8 -4.2
KMI sP sP 13 26 30.8 -4.5
KMI PPP 13 26 43.4
KMI S **Sn 13 29 11.5 +4.0**
KMI SS 13 29 29.6
KMI SSS 13 29 41.7
QIZ Qiongzhong 16.03 61 P **Pn 13 26 32.3 +0.8**
QIZ AP pP 13 26 39.8 -1.8
QIZ XP sP 13 26 45.8 +0.9
QIZ S **Sn 13 29 28.5 +0.1**
QIZ XS sS 13 29 43.5 -9.0
QIZ AMB AMB
comp=Z,699nm,3.9s
QIZ LR LR
comp=N,2μm,17.1s
QIZ LR LR
comp=Z,1μm,11.6s
QIZ Qiongzhong 16.03 61 *eP* **Pn 13 26 35.8 +4.3**
comp=Z,187nm,1.6s
HYB Hyderabad 16.86 291 *i* P **Pn 13 26 42.5 +0.5**
HYB *e* 13 26 46.0
HYB *eS* **Sn 13 29 46.5 -2.1**
HYB Hyderabad 16.86 291 *eP* **Pn 13 26 46.0 +4.0**
NGP Nagpur 17.89 303 *eP* **Pn 13 26 54.9 +0.1**
NGP AMb AMB 13 26 57.4
comp=Z,54nm,1.8s
PKI Pulchoki 18.10 332 *eP* **Pn 13 26 58.4 +1.0**
comp=Z,248nm,1.1s
GUN Gumba 18.18 333 *eP* **Pn 13 26 59.7 +1.3**
comp=Z,137nm,1.0s
LSA Lhasa 18.19 349 *eP* **Pn 13 26 59.2 +0.7**
LSA pmax pmax
comp=Z,38nm,0.7s
LSA Lhasa 18.19 349 *eP* **Pn 13 26 59.2 +0.7**
comp=Z,38nm,0.7s
DMN Daman 18.28 331 *eP* **Pn 13 27 00.6 +1.0**
comp=Z,115nm,0.9s
GYA Guiyang 18.28 35⇓ *i* P **Pn 13 27 00.5 +0.8**
GYA AP pP 13 27 06.5 0.0
GYA XP sP 13 27 10.5 +0.7
GYA PP 13 27 16.0
GYA S **Sn 13 30 21.5 -1.5**
GYA SS 13 30 43.5
GYA AMB AMB
comp=Z,80nm,0.9s
GYA AMB AMB
comp=Z,260nm,6.3s
GYA LR LR
comp=N,1μm,14.2s
GYA LR LR
comp=E,1μm,13.0s
GYA LR LR
comp=Z,2μm,13.2s
KSM Kuching 18.32 123 *eP* **Pn 13 27 00.4 +0.2**
KKN Kakani 18.35 332 *eP* **Pn 13 27 00.9 +0.5**
comp=Z,85nm,1.0s
GKN Gorkha 18.83 331 *eP* **Pn 13 27 06.8 +0.5**
KOLN Koldanda 19.16 328 *eP* **Pn 13 27 10.6 +0.3**
comp=Z,125nm,0.7s
AKL Akola 19.39 300 *eP* **Pn 13 27 12.8 -0.2**
AKL AMb AMB 13 27 22.4
comp=Z,52nm,1.7s
MNGI Mangalore 19.73 275 *i* P **Pn 13 27 16.4 -0.8**
MNGI *i* x x 13 31 05.6
BHPL Bhopal 20.23 307 *eP* **P 13 27 20.0 -1.0**
BHPL AMb AMB 13 27 26.6
comp=Z,52nm,1.7s
CD2 Chengdu 20.70 22⇓ *i* P **P 13 27 26.0 0.0**
CD2 AP 13 27 32.8
CD2 XP sP 13 27 36.5 +0.2
CD2 PP 13 27 48.0
CD2 S **S 13 31 11.0 -5.0**
CD2 SS 13 31 42.5
CD2 AMB AMB
comp=Z,80nm,0.8s
CD2 AMB AMB
comp=Z,140nm,8.4s
CD2 LR LR
comp=E,650nm,12.0s
CD2 LR LR
comp=Z,830nm,13.2s,MS4.3
GZH Guangzhou 20.79 55 P **P 13 27 31.8 +4.8**
GZH LR LR
comp=N,1μm,13.1s,MS4.5
GZH LR LR
comp=E,761nm,15.0s,MS4.5
GZH LR LR
comp=Z,748nm,11.5s,MS4.3
KAD Karad 20.87 288 *eP* **P 13 27 27.0 -0.9**
KAD AMb AMB 13 27 34.4
comp=Z,57nm,1.0s
POO Poona 21.47 291⇑ *i* P **P 13 27 34.0 -0.3**
POO *ex* x 13 28 33.9
POO *ex* x 13 31 31.0
NDI New Delhi 23.63 318 *ex* x 13 27 50.0
NDI *ex* x 13 28 07.0
AJM Ajmer 24.10 310 *eP* **P 13 28 01.5 +0.2**
AJM AMb AMB 13 28 19.8
comp=Z,36nm,1.2s,mb4.7
SMLA Simla 25.34 322 *eP* **P 13 28 13.1 +0.4**
SMLA AMb AMB 13 28 23.4
comp=Z,109nm,0.9s,mb5.4
LZH Lanzhou 25.49 17 *eP* **P 13 28 14.8 +0.8**
LZH AP pP 13 28 24.3 +2.8
LZH XP sP 13 28 27.0 +2.4
LZH PP 13 28 55.0
LZH S **S 13 32 38.0 -1.7**
LZH XS sS 13 32 54.0 +1.9
LZH SS 13 33 43.0
LZH AMB AMB
comp=Z,80nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,240nm,4.3s
LZH LR LR
comp=E,2μm,14.5s
LZH LR LR
comp=Z,3μm,15.4s,MS4.9
LZH Lanzhou 25.49 17 *eP* **P 13 28 14.8 +0.8**
LZH pP pP 13 28 24.3 +2.8
LZH sP sP 13 28 27.1 +2.5
LZH PP 13 28 55.0
LZH S **S 13 32 38.1 -1.6**
LZH sS sS 13 32 54.0 +1.9
LZH SS 13 33 43.0
XAN Xi'an 25.55 28 P **P 13 28 13.0 -1.5**
XAN AP pP 13 28 21.3 -0.7
XAN S **S 13 32 43.0 +2.3**
XAN SS 13 33 45.5
XAN AMB AMB
comp=Z,51nm,1.0s,mb5.0
XAN LR LR
comp=N,255nm,10.6s,MS4.6
XAN LR LR
comp=E,1μm,11.7s,MS4.6
XAN LR LR
comp=Z,1μm,12.8s,MS4.5
SDNR Sundarnagar 25.73 323 *eP* **P 13 28 16.0 -0.1**
WHN Wuhan 25.90 41⇑ P **P 13 28 17.8 +0.1**
WHN S **S 13 32 48.0 +1.8**
WHN LR LR
comp=Z,2μm,11.1s,MS5.0
GTA Gaotai 27.85 8⇓ P **P 13 28 36.3 +1.0**
GTA AP pP 13 28 43.3 +0.5
GTA XP sP 13 28 46.3 +0.4
GTA PP 13 29 25.3
GTA PPP 13 29 39.5
GTA S **S 13 33 17.3 +0.3**
GTA XS sS 13 33 27.5 -1.9
GTA SS 13 34 37.0
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.3
GTA AMB AMB
comp=Z,70nm,5.4s
GTA LR LR
comp=N,199nm,10.3s,MS4.1
GTA LR LR
comp=E,227nm,12.2s,MS4.1
GTA LR LR
comp=Z,184nm,17.2s,MS3.7
NJ2 Nanjing 29.83 44 *eP* **P 13 28 55.0 +2.2**
NJ2 AP pP 13 29 02.3 +1.9
NJ2 XP sP 13 29 05.8 +2.3
NJ2 PP PP 13 29 52.5 -7.8
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,240nm,5.6s
NJ2 LR LR
comp=N,1μm,19.2s,MS4.6
NJ2 LR LR
comp=E,340nm,19.7s,MS4.6
NJ2 LR LR
comp=Z,1μm,19.8s,MS4.6
SSE Sheshan 30.91 47 *eP* **P 13 29 00.3 -2.1**
SSE AP pP 13 29 09.0 -1.0
SSE XP sP 13 29 13.5 +0.4
SSE PP PP 13 30 06.5 -5.9
SSE PCP PcP 13 32 00.8 +2.2
SSE S **S 13 33 59.0 -6.1**
SSE XS sS 13 34 15.8 -1.7
SSE AMB AMB
comp=Z,52nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,81nm,4.6s
SSE LR LR
comp=N,834nm,13.1s,MS4.6
SSE LR LR
comp=E,329nm,13.1s,MS4.6
SSE LR LR
comp=Z,622nm,9.6s
SSE Sheshan 30.91 47 *eP* **P 13 29 00.2 -2.2**
SSE pP pP 13 29 09.0 -1.0
SSE sP sP 13 29 13.6 +0.5
SSE PP PP 13 30 06.5 -5.9
SSE PcP PcP 13 32 00.8 +2.2
SSE S **S 13 33 59.0 -6.1**
SSE sS sS 13 34 15.7 -1.8
SSE ScS ScS 13 39 39.0 +2.6
BTO Baotou 31.62 22 *eP* **P 13 29 07.8 -0.9**
HHC Hu-ho-hao-te 32.42 24 *eP* **P 13 29 16.0 +0.3**
HHC AP pP 13 29 23.3 +0.1
HHC XP sP 13 29 26.5 +0.1
HHC PP PP 13 30 24.3 -4.8
HHC PCP PcP 13 32 03.3 +0.7
HHC S **S 13 34 27.8 -0.9**
HHC XS sS 13 34 40.0 -1.1
HHC SCP ScP 13 35 44.0 -0.7
HHC PCS PcS 13 35 47.3 -0.4
HHC SS SS 13 36 23.3 -25
HHC SCS ScS 13 39 42.0 -2.0
HHC AMB AMB
comp=Z,21nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,99nm,4.3s
HHC LR LR
comp=N,872nm,12.2s,MS4.8
HHC LR LR
comp=E,864nm,13.4s,MS4.8
HHC LR LR
comp=Z,828nm,12.9s,MS4.6
WMQ Urumqi 32.54 350 *eP* **P 13 29 18.0 +1.3**
WMQ AP pP 13 29 25.0 +0.7
WMQ XP sP 13 29 28.5 +1.1
WMQ PP PP 13 30 26.0 -4.5
WMQ PCP PcP 13 32 05.8 +2.8
WMQ S **S 13 34 31.3 +0.8**
WMQ SS SS 13 36 25.0 -26
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,186nm,5.3s
WMQ LR LR
comp=N,1μm,18.4s,MS4.8
WMQ LR LR
comp=E,1μm,16.5s,MS4.8
WMQ LR LR
comp=Z,1μm,22.0s
BJI Beijing 33.81 30 *eP* **P 13 29 28.5 +0.7**
BJI S **S 13 34 52.5 +2.3**
BJI AMB AMB
comp=Z,20nm,0.9s,mb5.0
BJI LR LR
comp=N,552nm,17.0s,MS4.6
BJI LR LR
comp=E,640nm,15.0s,MS4.6
BJI LR LR
comp=Z,282nm,19.2s,MS4.0
TKM2 Tokmak 2 35.30 335 *i* P **P 13 29 37.5 -3.2**
TKM2 pmax pmax
comp=Z,14nm,0.9s,mb4.9
AAK Ala-Archa 35.54 334 *eP* **P 13 29 43.1 +0.4**
AAK *e**PP pP 13 29 50.2 -0.1
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AAK Ala-Archa 35.54 334 *eP* **P 13 29 43.1 +0.4**
comp=Z,9.9nm,0.9s,mb4.7
AAK *ep*P pP 13 29 50.2 -0.1
FRU Bishkek 35.65 334 P **P 13 29 43.0 -0.6**
FRU *e* 13 31 05.0
MKAR Makanchi Array 36.52 345 P **P 13 29 51.2 +0.1**
comp=Z,4.9nm,0.9s,mb4.3,baz=157,slow=7.2,SNR=24
MKAR Makanchi Array 36.52 345 *i* P **P 13 29 51.2 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
SONM Songino Array 37.20 13 P **P 13 29 57.5 +0.6**
comp=Z,9.9nm,0.9s,mb4.6,baz=196,slow=8.8,SNR=57
SONM LR LR 13 46 47.8
comp=Z,380nm,19.0s,MS4.2,baz=192,slow=39
SONM Songino Array 37.20 13 P **P 13 29 57.5 +0.6**
SONM pmax pmax
comp=Z,10.0nm,0.9s
SONM MLR MLR
comp=Z,380nm,19.0s
KK31 Karatay Array 37.74 330 *i* P **P 13 30 01.4 -0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
SNY Shenyang 38.98 35⇑ P **P 13 30 11.0 -0.9**
SNY AP pP 13 30 17.5 -2.1
SNY AMB AMB
comp=Z,21nm,1.2s,mb4.7
SNY AMB AMB
comp=Z,195nm,5.9s
SNY LR LR
comp=N,564nm,13.2s,MS4.6
SNY LR LR
comp=E,238nm,12.1s,MS4.6
SNY LR LR
comp=Z,533nm,12.0s,MS4.6
ZAK Zakamensk 39.09 8 *eP* **P 13 30 12.7 -0.2**
ZAK *e* 13 32 22.7
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,1.5s
TLY Talaya 40.41 8 *eP* **P 13 30 24.3 +0.5**
TLY *eS* **S 13 36 37.1 +6.5**
TLY *eSS* SS 13 39 56.3 +26
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
TLY MLR MLR
comp=Z,195nm,15.0s,MS4.1
TLY Talaya 40.41 8 *eP* **P 13 30 24.8 +1.0**
comp=Z,6.2nm,0.9s,mb4.3
IRK Irkutsk 41.05 9 *eP* **P 13 30 29.4 +0.3**
IRK pmax pmax
comp=Z,25nm,1.4s,mb4.7
CN2 Changchun 41.32 34 *eP* **P 13 30 31.5 +0.2**
CN2 *e*AP pP 13 30 39.0 0.0
CN2 *e*XP sP 13 30 42.3 +0.2
CN2 *eS* **S 13 36 44.3 +0.2**
CN2 AMB AMB
comp=Z,50nm,0.9s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,15.0s,MS4.6
CN2 LR LR
comp=E,400nm,15.0s,MS4.6
CN2 LR LR
comp=Z,400nm,12.0s,MS4.5
FITZ Fitzroy Crossi 42.39 134 P **P 13 30 39.3 -0.8**
comp=Z,1.7nm,0.5s,mb3.9,baz=14,slow=2.5,SNR=9.9
FITZ PcP PcP 13 32 33.1 0.0
comp=Z,2.8nm,0.7s,baz=254,slow=5.4,SNR=5.3
FITZ LR LR 13 49 07.3
comp=Z,305nm,18.0s,MS4.2,baz=299,slow=37
HIA Hailar 42.63 24 *eP* **P 13 30 42.2 +0.2**
HIA pmax pmax
comp=Z,30nm,0.9s
HIA Hailar 42.63 24 *eP* **P 13 30 42.2 +0.2**
comp=Z,30nm,0.9s,mb5.0
ZAL Zalesovo 42.83 351 P **P 13 30 43.2 -0.4**
comp=Z,1.6nm,0.6s,mb4.0,baz=298,slow=9.1,SNR=8.5
ZAL Zalesovo 42.83 351 P **P 13 30 43.2 -0.4**
ZAL pmax pmax
comp=Z,2.0nm,0.6s
CIT Chita 42.86 17 *eP* **P 13 30 44.1 +0.2**
CIT pmax pmax
comp=Z,38nm,1.5s,mb4.9
NVS Novosibirsk 43.95 350 *eP* **P 13 30 51.4 -1.3**
NVS *eS* **S 13 37 22.9 +0.1**
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,7.0nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.6
NVS smax
comp=E,25nm,2.3s
NVS smax
comp=N,19nm,2.2s
MDJ Mudanjiang 44.15 36 P **P 13 30 55.0 +0.8**
MDJ AP pP 13 31 01.5 -0.5
MDJ XP sP 13 31 04.0 -1.0
MDJ PP PP 13 32 37.8 +0.5
MDJ PCP PcP 13 32 39.5 +0.6
MDJ SCP ScP 13 36 29.8 +0.7
MDJ PCS PcS 13 36 33.0 +0.9
MDJ S **S 13 37 27.8 +2.1**
MDJ XS sS 13 37 38.0 -0.4
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
MDJ AMB AMB
comp=Z,42nm,5.4s
MDJ LR LR
comp=N,138nm,15.8s,MS4.5
MDJ LR LR
comp=E,389nm,14.8s,MS4.5
MDJ LR LR
comp=Z,387nm,11.8s,MS4.5
VLA Vladivostok 44.65 39 *eP* **P 13 30 56.7 -1.6**
BVAR Borovoye Array 45.62 339 P **P 13 31 05.7 -0.2**
comp=Z,1.5nm,0.5s,mb4.1,baz=128,slow=9.7,SNR=8.8
BVAR PcP PcP 13 32 44.5 +0.5
comp=Z,2.4nm,0.7s,baz=140,slow=5.3,SNR=3.4
BVAR Borovoye Array 45.62 339 P **P 13 31 05.7 -0.3**
BVAR 13 32 44.5
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 45.68 339 *eP* **P 13 31 05.8 -0.7**
BRVK *e**PP pP 13 31 13.9 -0.3
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 45.68 339 *eP* **P 13 31 05.8 -0.6**
comp=Z,7.6nm,0.9s,mb4.6
BRVK *ep*P pP 13 31 13.8 -0.4
MAJO Matsushiro 45.98 50 *eP* **P 13 31 08.8 0.0**
MAJO pmax pmax
comp=Z,17nm,1.4s,mb4.8
MAJO Matsushiro 45.98 50 *eP* **P 13 31 08.8 -0.1**
comp=Z,17nm,1.4s,mb4.8
MAT Matsushiro 45.98 50 P **P 13 31 08.4 -0.4**
MJAR Matsushiro Arr 45.98 50 P **P 13 31 08.8 0.0**
comp=Z,2.3nm,0.7s,mb4.2,baz=256,slow=11,SNR=9.8
MJAR PcP PcP 13 32 45.7 +0.5
comp=Z,3.9nm,0.9s,baz=258,slow=3.1,SNR=9.6
MJAR LR LR 13 52 25.5
comp=Z,265nm,19.1s,MS4.2,baz=255,slow=39
MJAR Matsushiro Arr 45.98 50 P **P 13 31 08.9 +0.1**
MJAR 13 32 45.7
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR MLR MLR
comp=Z,265nm,19.1s
ZRNK Zerenda 46.05 338 *eP* **P 13 31 09.0 -0.4**
ZRNK *e**PP pP 13 31 16.8 -0.3
ZRNK pmax pmax
comp=Z,23nm,1.0s,mb5.1
ZRNK Zerenda 46.05 338 *eP* **P 13 31 09.0 -0.4**
comp=Z,23nm,1.0s,mb5.1
ZRNK *ep*P pP 13 31 16.8 -0.3
JHJ Hachijo jima 2 46.10 55 LR LR 13 53 14.3
comp=Z,110nm,18.6s,MS3.8,baz=176,slow=40
KLR Kul'dur 48.13 32 *eP* **P 13 31 19.2 -6.4**
KLR MLR MLR
comp=Z,600nm,14.0s,MS4.7
BOD Bodaibo 48.18 14⇑ *i* P **P 13 31 25.4 -0.6**
BOD pmax pmax
comp=Z,17nm,1.4s,mb4.9
GUMO Guam 48.63 82 LR LR 13 48 48.5
comp=Z,110nm,21.3s,MS3.8,baz=146,slow=32
AKTK Aktyubinsk 48.99 329 P **P 13 31 31.6 -0.7**
AKTO Aktyubinsk 48.99 329 P **P 13 31 31.6 -0.7**
comp=Z,2.0nm,0.6s,mb4.3,baz=134,slow=5.7,SNR=8.5
AKTO Aktyubinsk 48.99 329 *i* P **P 13 31 31.3 -0.9**
AKTO pmax pmax
comp=Z,1.0nm,1.2s,mb3.7
NWAO Narrogin (SRO) 49.27 155 LR LR 13 52 25.7
comp=Z,175nm,20.9s,MS4.0,baz=119,slow=36
WRA Warramunga Arr 49.94 129 P **P 13 31 39.1 -0.3**
comp=Z,10nm,0.8s,mb4.9,baz=306,slow=8.5,SNR=82
WRA LR LR 13 53 18.7
comp=Z,141nm,20.5s,MS4.0,baz=330,slow=37
WRA Warramunga Arr 49.94 129 P **P 13 31 39.1 -0.4**
WRA pmax pmax
comp=Z,10.0nm,0.8s
WRA MLR MLR
comp=Z,141nm,20.5s
WRAB Tennant Creek 49.94 129 *eP* **P 13 31 39.1 -0.4**
WRAB pmax pmax
comp=Z,18nm,0.8s,mb5.2
WRAB Tennant Creek 49.94 129 *eP* **P 13 31 39.1 -0.4**
comp=Z,18nm,0.8s,mb5.2
WB2 Warramunga Arr 49.95 129 *eP* **P 13 31 38.8 -0.7**
CLNS Chul'man 50.51 21 *eP* **P 13 31 43.0 -0.8**
CLNS pmax pmax
comp=Z,19nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,13nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.3s
CLNS MLR MLR
comp=Z,600nm,12.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,14.0s,MS4.7
CLNS MLR MLR
comp=E,500nm,13.0s,MS4.7
ASPA Alice Springs 51.85 133 *eP* **P 13 31 53.5 -0.4**
AS31 Alice Springs 51.86 133 *eP* **P 13 31 53.5 -0.4**
ASAR Alice Springs 51.86 133 P **P 13 31 53.7 -0.2**
comp=E,6.7nm,0.7s,mb4.7,baz=312,slow=6.7,SNR=142

ASAR LR LR 13 54 42.0
comp=E,272nm,19.9s,MS4.3,baz=304,slow=37
ASAR Alice Springs 51.86 133 P **P** **13 31 53.7 -0.2**
ASAR pmax pmax
comp=Z,7.0nm,0.7s
ASAR MLR MLR
comp=Z,272nm,19.9s
SVE Sverdlovsk 52.13 337 *e*P **P** **13 31 56.0 +0.1**
SVE *e* pP 13 32 03.0 -0.8
SVE *e* 13 33 09.0
SVE pmax pmax
comp=Z,36nm,1.4s,mb5.1
SVE MLR MLR
comp=N,300nm,14.0s,MS4.6
SVE MLR MLR
comp=E,200nm,14.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.6
GNI Garni 52.40 312 P **P** **13 31 59.8 +1.9**
comp=Z,8.5nm,0.5s,mb4.9,baz=358,slow=20,SNR=5.5
GNI Garni 52.40 312⇑ *e*P **P** **13 31 59.6 +1.7**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 52.40 312 *e*P **P** **13 31 59.8 +1.9**
comp=Z,27nm,0.8s,mb5.2
ARU Arti 52.67 335 *e*P **P** **13 31 59.1 -0.9**
ARU *e**PP pP 13 32 07.1 -0.7
ARU pmax pmax
comp=Z,14nm,0.8s,mb4.9
ARU Arti 52.67 335 *e*P **P** **13 31 59.1 -0.9**
comp=Z,14nm,0.8s,mb4.9
ARU *e*pP pP 13 32 07.1 -0.7
ZEI Tsey 53.84 315 *e*P **P** **13 32 09.0 +0.5**
ZEI *e**PP pP 13 32 17.1 +0.7
KIV Kislovodsk 55.06 316 *e*P **P** **13 32 18.3 +0.9**
KIV pmax pmax
comp=Z,23nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,186nm,19.0s,MS4.2
YAK Yakutsk 56.05 19 *d i*P **P** **13 32 23.5 -1.0**
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,14nm,1.4s
YAK MLR MLR
comp=N,200nm,20.0s,MS4.3
YAK MLR MLR
comp=Z,200nm,20.0s,MS4.2
YAK MLR MLR
comp=E,200nm,23.0s,MS4.3
YAK Yakutsk 56.05 19 *e*P **P** **13 32 23.7 -0.9**
comp=E,37nm,0.9s,mb5.4
MALT Malatya 56.66 308 *e*P **P** **13 32 29.3 +0.5**
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MALT Malatya 56.66 308 *e*P **P** **13 32 29.3 +0.4**
comp=Z,4.6nm,1.1s,mb4.4
KMBO Kilima Mbogo 58.76 261 LR LR 13 53 33.4
comp=Z,125nm,20.4s,MS4.0,baz=65,slow=32
CTA Charters Tower 59.56 122 LR LR 14 01 17.9
comp=Z,179nm,20.6s,MS4.2,baz=282,slow=39
BR131 Keskin Array S 60.58 309 *e*P **P** **13 32 55.6 -0.6**
comp=Z,8.1nm,0.7s,mb5.0
BR131 *e*pP pP 13 33 02.4 -1.8
BRTR Keskin Array B 60.58 309 P **P** **13 32 55.5 -0.7**
comp=Z,5.7nm,0.7s,mb4.8,baz=123,slow=7.5,SNR=28
BRTR LR LR 14 02 54.4
comp=Z,114nm,21.0s,MS4.0,baz=108,slow=40
BRTR Keskin Array B 60.58 309 P **P** **13 32 55.5 -0.7**
BRTR pmax pmax
comp=Z,6.0nm,0.7s
BRTR MLR MLR
comp=Z,114nm,21.0s
MOS Moscow 62.23 327 *e*P pP 13 33 15.1 -0.2
MOS pmax pmax
comp=Z,46nm,1.0s,mb5.6
STKA Stephens Creek 62.24 136 P **P** **13 33 07.8 +0.4**
comp=Z,10nm,0.8s,mb5.0,baz=321,slow=7.4,SNR=16
STKA LR LR 14 05 08.1
comp=Z,182nm,18.2s,MS4.3,baz=20,slow=41
STKA Stephens Creek 62.24 136 *e*P **P** **13 33 07.8 +0.4**
OBN Obninsk 62.57 327⇑ *e*P **P** **13 33 09.6 0.0**
OBN *e*S **S** **13 41 29.6 -6.3**
OBN *e*SS SS 13 45 37.3 -2.9
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb5.1
MA2 Magadan 62.95 28 *e*P **P** **13 33 12.1 0.0**
MA2 *e* pP 13 33 20.6 +0.5
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
MA2 Magadan 62.95 28 *e*P **P** **13 33 12.0 -0.1**
comp=Z,24nm,0.9s,mb5.3
MA2 *e*pP pP 13 33 20.2 +0.1
TIXI Tiksi 63.27 11⇓ *i*P **P** **13 33 12.6 -1.6**
TIXI pmax pmax
comp=Z,22nm,1.3s,mb5.1
TIXI Tiksi 63.27 11 *e*P **P** **13 33 12.7 -1.6**
PET Petropavlovsk 64.91 37⇑ *e*P **P** **13 33 25.9 +0.9**
PET pmax pmax
comp=Z,16nm,1.4s,mb4.9
SEY Seymchan 65.06 25 *e*P **P** **13 33 26.0 0.0**
AKASG Malin Array Be 65.66 320 P **P** **13 33 28.9 -1.0**
comp=Z,1.3nm,0.6s,mb4.2,baz=86,slow=4.8,SNR=11
AKASG LR LR 14 05 33.5
comp=Z,108nm,21.8s,MS4.0,baz=305,slow=39
AKASG Malin Array Be 65.66 320 P **P** **13 33 28.9 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,108nm,21.8s
AKASG Malin Array Be 65.66 320 P **P** **13 33 28.9 -1.0**
AKASG LR LR 14 05 33.5
JOF Joensuu 67.72 334 *e*p **P** **13 33 42.4 -0.7**
comp=Z,11nm,0.8s,mb4.9
HNR Honiara 67.92 105 P **P** **13 33 45.4 +1.1**
comp=Z,104nm,0.2s,baz=142,slow=2.3,SNR=11
HNR Honiara 67.92 105 P **P** **13 33 45.4 +1.1**
HNR pmax pmax
comp=Z,104nm,0.3s
FINES FINESS Array B 69.69 331 P **P** **13 33 55.4 +0.1**
comp=Z,4.1nm,0.7s,mb4.5,baz=103,slow=8.2,SNR=11
FINES LR LR 14 06 47.1
comp=Z,234nm,21.0s,MS4.4,baz=353,slow=38
FINES FINESS Array B 69.69 331 P **P** **13 33 55.4 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES MLR MLR
comp=Z,234nm,21.0s
FINES FINESS Array B 69.69 331 P **P** **13 33 55.4 +0.1**
FINES LR LR 14 06 47.1
KAF Kangasniemi 69.73 332 *e*p **P** **13 34 00.5 +4.9**
comp=Z,9.3nm,0.7s,mb4.8
KAF Kangasniemi 69.73 332 *e*P **P** **13 34 00.5 +4.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
UZH Uzhgorod 69.82 318 *e*P **P** **13 33 56.0 -0.1**
UZH *e* 13 34 09.0
CRVS Cervenica-Dubn 70.39 318 *e*P **P** **13 33 59.0 -0.6**
STHS Stebnicka Huta 70.57 318 *e*P **P** **13 33 58.9 -1.8**
KECS Kecovo 71.01 317 *e*P **P** **13 34 03.4 +0.1**
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 71.01 317 *e*P **P** **13 34 03.4 +0.1**
comp=Z,2.8nm,1.0s,mb4.2
LSZ Lusaka 71.39 249 LR LR 14 04 15.6
comp=Z,100nm,18.5s,MS4.1,baz=156,slow=35
LSZ Lusaka 71.39 249 *e*P **P** **13 34 07.0 +1.4**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSZ Lusaka 71.39 249 *e*P **P** **13 34 07.0 +1.4**
comp=Z,2.1nm,0.6s,mb4.2
ARCES ARCESS Array B 71.91 340 P **P** **13 34 08.2 -0.6**
comp=Z,2.5nm,1.0s,mb4.1,baz=68,slow=6.7,SNR=4.4
ARCES LR LR 14 09 37.6
comp=Z,244nm,19.0s,MS4.5,baz=112,slow=39
ARCES ARCESS Array B 71.91 340 P **P** **13 34 08.2 -0.6**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES MLR MLR
comp=Z,244nm,19.0s
VYHS Vyhne 72.10 317 *e*P **P** **13 34 09.0 -0.9**
BILL Bilibino 72.18 22 *e*P **P** **13 34 09.8 -0.6**
BILL pmax pmax
comp=Z,23nm,1.3s,mb5.0

ZST Bratislava 73.25 317 *e*P **P** **13 34 17.3 +0.5**
KSP Ksiaz 73.83 320 *e*P **P** **13 34 20.2 0.0**
KSP *e**PP pP 13 34 27.3 -1.0
KSP *e* 13 34 35.4
BRG Berggiesshubel 75.32 320 *e*P **P** **13 34 29.2 +0.4**
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 75.32 320 *i* P **P** **13 34 29.1 +0.3**
comp=Z,5.5nm,1.0s,mb4.4
BRG *i* pP pP 13 34 35.8 -1.1
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 75.32 320 *i* P **P** **13 34 29.1 +0.3**
BRG *i **PP pP 13 34 35.8 -1.1
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GEC2 GERESS Array S 75.51 318 *e*P **P** **13 34 30.2 +0.3**
comp=Z,8.0nm,0.7s,mb4.8
GEC2 GERESS Array S 75.51 318 *e*P **P** **13 34 30.2 +0.3**
GEC2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
GERES GERESS Array B 75.51 318 P **P** **13 34 30.4 +0.5**
comp=Z,6.1nm,0.7s,mb4.6,baz=89,slow=5.7,SNR=29
GERES LR LR 14 14 01.6
comp=Z,98nm,19.1s,MS4.1,baz=88,slow=41
KHC Kasperske Hory 75.58 318⇑ *e*P **P** **13 34 30.9 +0.6**
CLL Collm 75.90 320 *e*P **P** **13 34 32.2 0.0**
comp=Z,11nm,1.2s,mb4.7
CLL Collm 75.90 320 *e*P **P** **13 34 34.0 +1.8**
CLL *e*pP pP 13 34 39.0 -1.3
CLL *i* PcP PcP 13 34 46.2 +1.6
WET Wettzell 76.04 318 *e*P **P** **13 34 32.9 -0.1**
comp=Z,5.0nm,1.0s,mb4.4
WET Wettzell 76.04 318 *e*P **P** **13 34 32.9 -0.1**
WET pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TANN Tannenbergstha 76.27 319 *e*P **P** **13 34 34.4 +0.1**
comp=Z,4.0nm,0.9s,mb4.3
ROTZ Rotzenmuhle 76.46 319 *e*P **P** **13 34 36.2 +0.9**
comp=Z,7.0nm,1.0s,mb4.5
MANZ Manzenberg 76.51 319 *e*P **P** **13 34 36.4 +0.8**
comp=Z,5.0nm,0.9s,mb4.4
NB2 NORSAR Subarra 76.77 330 P **P** **13 34 36.0 -1.1**
comp=Z,6.6nm,0.8s,mb4.6,baz=89,slow=5.9
NB2 NORSAR Subarra 76.77 330 P **P** **13 34 36.0 -1.1**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 76.77 330 P **P** **13 34 37.2 +0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=6.3
NOA LR LR 14 11 08.8
comp=Z,101nm,21.1s,MS4.1,baz=95,slow=38
NOA NORSAR Array B 76.77 330 P **P** **13 34 37.2 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.7s
NOA MLR MLR
comp=Z,101nm,21.1s
NOA NORSAR Array B 76.77 330 P **P** **13 34 37.2 +0.1**
NOA LR LR 14 11 08.8
MOX Moxa 76.80 319 *e*P **P** **13 34 37.3 0.0**
comp=Z,6.0nm,0.8s,mb4.6
MOX Moxa 76.80 319 *e*P **P** **13 34 37.4 +0.1**
comp=Z,7.0nm,0.9s,mb4.6
MOX Moxa 76.80 319 *e*P **P** **13 34 37.4 +0.1**
MOX pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LBTB Lobatse 76.85 241 *e*P **P** **13 34 39.1 +1.5**
LBTB *e**PP pP 13 34 46.4 +0.7
LBTB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LBTB Lobatse 76.85 241 *e*P **P** **13 34 39.0 +1.5**
comp=Z,5.5nm,0.9s,mb4.5
LBTB *e*pP pP 13 34 46.4 +0.7
GRA1 Grafenberg Arr 77.10 319 *e*P **P** **13 34 39.2 +0.3**
comp=Z,5.0nm,0.6s,mb4.6
GRA1 *e*pP pP 13 34 46.3 -0.8
GRF Grafenberg Arr 77.10 319 *e*P **P** **13 34 39.2 +0.3**
comp=Z,5.0nm,0.6s,mb4.6
GRF *e*pP pP 13 34 46.3 -0.8
GRF Grafenberg Arr 77.10 319 *e*P **P** **13 34 39.2 +0.3**
GRF *e**PP pP 13 34 46.3 -0.8
GRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GRF Grafenberg Arr 77.10 319 *e*P **P** **13 34 39.2 +0.3**
GRF *e**PP pP 13 34 46.3 -0.8
GRF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BSEG Bad Segeberg 77.45 323 *e*P **P** **13 34 41.7 +0.8**
comp=Z,22nm,0.8s,mb5.1
CLZ Clausthal 77.52 321 *e*P **P** **13 34 41.6 +0.3**
comp=Z,17nm,0.9s,mb5.0
CLZ Clausthal 77.52 321 *e*P **P** **13 34 41.6 +0.3**
CLZ pmax pmax
comp=Z,17nm,0.9s,mb5.0
NRDL Niedersach Rie 77.65 321 *e*P **P** **13 34 42.8 +0.8**
comp=Z,12nm,1.2s,mb4.7
BOSA Boshof 78.37 237 P **P** **13 34 47.4 +1.4**
comp=Z,7.1nm,0.8s,mb4.6,baz=68,slow=7.5,SNR=11
BOSA LR LR 14 06 38.9
comp=Z,93nm,19.7s,MS4.1,baz=127,slow=34
CASY Casey 78.69 174 *e*P **P** **13 34 47.3 -0.5**
comp=Z,16nm,1.6s,mb4.7
TNS Taunus Mts 78.85 319 *e*P **P** **13 34 49.0 +0.3**
comp=Z,6.0nm,1.0s,mb4.5
TNS Taunus Mts 78.85 319 *e*P **P** **13 34 49.0 +0.3**
TNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
PGF Pioggiola 79.21 311 *e*P **P** **13 34 50.3 -0.3**
comp=Z,17nm,0.9s,mb4.6
PGF Pioggiola 79.21 311 *e*P **P** **13 34 50.3 -0.3**
PGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
PGF Pioggiola 79.21 311 *e*P **P** **13 34 50.3 -0.3**
comp=Z,8.4nm,0.9s,mb4.7
BUG Bochum--Univer 79.48 320 *e*P **P** **13 34 52.8 +0.7**
comp=Z,12nm,0.8s,mb4.9
KEST Kesra 79.72 304 P **P** **13 34 54.0 +0.5**
comp=Z,2.0nm,0.9s,mb4.0,baz=1.6,slow=1.4,SNR=4.6
CDF Champ du Feu 79.79 317 *e*P **P** **13 34 53.2 -0.6**
HINF Hinteralfeld 80.14 317 *e*P **P** **13 34 55.1 -0.6**
SBF Sospel 80.20 313 *e*P **P** **13 34 55.7 -0.3**
comp=Z,33nm,0.8s,mb5.0
SBF Sospel 80.20 313 *e*P **P** **13 34 55.7 -0.3**
SBF pmax pmax
comp=Z,17nm,0.8s,mb5.0
SBF Sospel 80.20 313 *e*P **P** **13 34 55.7 -0.3**
comp=Z,17nm,0.8s,mb5.0
HAU Haudompre 80.45 317 *e*P **P** **13 34 56.7 -0.7**
HAU *e*R
comp=Z,119nm,20.8s
HAU Haudompre 80.45 317 *e*P **P** **13 34 56.7 -0.7**
HAU LR LR
comp=Z,120nm,20.8s,MS4.2
LPG La Plagne 80.48 315 *e*P **P** **13 34 57.7 +0.2**
comp=Z,19nm,0.7s,mb4.8
LPG La Plagne 80.48 315 *e*P **P** **13 34 57.7 +0.2**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LPG La Plagne 80.48 315 *e*P **P** **13 34 57.7 +0.2**
comp=Z,9.4nm,0.7s,mb4.8
LPL La Plagne 80.49 315 *e*P **P** **13 34 57.7 +0.1**
comp=Z,26nm,0.7s,mb5.0
LPL La Plagne 80.49 315 *e*P **P** **13 34 57.7 +0.1**
LPL pmax pmax
comp=Z,13nm,0.7s,mb5.0
LPL La Plagne 80.49 315 *e*P **P** **13 34 57.7 +0.1**
comp=Z,13nm,0.7s,mb5.0
MBDF Montbardon 80.56 314 *e*P **P** **13 34 58.2 +0.2**
comp=Z,14nm,0.9s,mb4.6
MBDF Montbardon 80.56 314 *e*P **P** **13 34 58.2 +0.2**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MBDF Montbardon 80.56 314 *e*P **P** **13 34 58.2 +0.2**
comp=Z,7.2nm,0.9s,mb4.6
BNI Bardonecchia 80.59 314 *e*P **P** **13 35 00.6 +2.5**
BNI pmax pmax
comp=Z,14nm,1.2s,mb4.8
BNI Bardonecchia 80.59 314 *e*P **P** **13 35 00.6 +2.5**
comp=Z,14nm,1.2s,mb4.8
FRF La Foret Royal 80.80 313 *e*P **P** **13 34 59.1 -0.1**
comp=Z,23nm,0.8s,mb4.9
FRF La Foret Royal 80.80 313 *e*P **P** **13 34 59.1 -0.1**
FRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
FRF La Foret Royal 80.80 313 *e*P **P** **13 34 59.1 -0.1**
comp=Z,12nm,0.8s,mb4.9
CABF La Chapelle 80.80 316 *e*P **P** **13 34 59.0 -0.2**
comp=Z,20nm,0.9s,mb4.7
CABF La Chapelle 80.80 316 *e*P **P** **13 34 59.0 -0.2**

CABF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CABF La Chapelle 80.80 316 *e*P **P** **13 34 59.0 -0.2**
comp=Z,9.9nm,0.9s,mb4.7
LMR La Mourre 80.93 312 *e*P **P** **13 34 59.7 -0.2**
comp=Z,22nm,0.9s,mb4.8
LMR La Mourre 80.93 312 *e*P **P** **13 34 59.7 -0.2**
LMR pmax pmax
comp=Z,11nm,0.9s,mb4.8
LMR La Mourre 80.93 312 *e*P **P** **13 34 59.7 -0.2**
comp=Z,11nm,0.9s,mb4.8
ORIF Oris-en-Rattie 81.17 314 *e*P **P** **13 35 01.1 -0.1**
comp=Z,9.8nm,0.9s,mb4.5
ORIF *e*R
comp=Z,94nm,19.5s
ORIF Oris-en-Rattie 81.17 314 *e*P **P** **13 35 01.1 -0.1**
ORIF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ORIF Oris-en-Rattie 81.17 314 *e*P **P** **13 35 01.1 -0.1**
comp=Z,4.9nm,0.9s,mb4.4
GIVF Givet 81.18 319 *e*P **P** **13 35 00.9 -0.4**
DOU Dourbes 81.33 319⇑ P **P** **13 35 02.4 +0.3**
DOU AP pP 13 35 09.6 -0.6
SMRF Simiane la Rot 81.52 313 *e*P **P** **13 35 03.3 +0.3**
comp=Z,10nm,0.7s,mb4.5
SMRF Simiane la Rot 81.52 313 *e*P **P** **13 35 03.3 +0.3**
comp=Z,10nm,0.7s,mb4.9
BAIF Baives 81.58 319 *e*P **P** **13 35 03.4 0.0**
comp=Z,21nm,0.7s,mb4.9
BAIF Baives 81.58 319 *e*P **P** **13 35 03.4 0.0**
BAIF pmax pmax
comp=Z,11nm,0.7s,mb4.9
BAIF Baives 81.58 319 *e*P **P** **13 35 03.4 0.0**
comp=Z,11nm,0.7s,mb4.9
VIVF Saint-Julien-l 82.03 314 *e*P **P** **13 35 05.4 -0.3**
comp=Z,15nm,0.9s,mb4.6
VIVF Saint-Julien-l 82.03 314 *e*P **P** **13 35 05.4 -0.3**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VIVF Saint-Julien-l 82.03 314 *e*P **P** **13 35 05.4 -0.3**
comp=Z,7.3nm,0.9s,mb4.6
TSUM Tsumeb 82.21 249 *e*P **P** **13 35 08.6 +1.9**
comp=Z,2.0nm,0.8s,mb4.1
TSUM *e*pP pP 13 35 15.6 +0.7
LOR Lormes 82.22 317 *e*P **P** **13 35 06.2 -0.5**
comp=Z,17nm,0.8s,mb4.7
LOR *e*R
comp=Z,96nm,20.5s
LOR Lormes 82.22 317 *e*P **P** **13 35 06.2 -0.5**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,100nm,20.5s,MS4.2
LOR Lormes 82.22 317 *e*P **P** **13 35 06.2 -0.5**
comp=Z,8.4nm,0.8s,mb4.7
LOR LR LR
comp=Z,100nm,20.5s,MS4.2
SMF Signal de Mont 82.33 316 *e*P **P** **13 35 06.7 -0.6**
comp=Z,14nm,0.7s,mb4.7
SMF Signal de Mont 82.33 316 *e*P **P** **13 35 06.7 -0.6**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SMF Signal de Mont 82.33 316 *e*P **P** **13 35 06.7 -0.6**
comp=Z,7.1nm,0.7s,mb4.7
SSF Saint Saulge 82.49 316 *e*P **P** **13 35 07.7 -0.5**
MAW Mawson 82.50 192 P **P** **13 35 09.4 +1.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=10,slow=7.9,SNR=6.8
MAW LR LR 14 08 44.3
comp=Z,74nm,18.1s,MS4.1,baz=246,slow=33
MAW Mawson 82.50 192 *e*P **P** **13 35 09.2 +1.0**
comp=Z,8.0nm,1.0s,mb4.7
AVF Avril sur Loir 82.64 316 *e*P **P** **13 35 08.4 -0.5**
comp=Z,14nm,0.9s,mb4.7
AVF Avril sur Loir 82.64 316 *e*P **P** **13 35 08.4 -0.5**
AVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
AVF Avril sur Loir 82.64 316 *e*P **P** **13 35 08.4 -0.5**
comp=Z,7.2nm,0.9s,mb4.7
LASF Ste Croix 82.72 313 *e*P **P** **13 35 09.4 0.0**
BGF Bois d'Agland 83.02 316 *e*P **P** **13 35 10.8 -0.1**
SUR Sutherland 83.23 235 *e*P **P** **13 35 14.1 +2.1**
comp=Z,16nm,0.8s,mb5.1
SUR *e*pP pP 13 35 21.1 +0.9
TCF Toulx Ste Croi 83.50 316 *e*P **P** **13 35 13.3 -0.1**
comp=Z,9.7nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.50 316 *e*P **P** **13 35 13.3 -0.1**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 83.50 316 *e*P **P** **13 35 13.3 -0.1**
comp=Z,4.8nm,0.8s,mb4.7
CAF Calviac 83.84 314 *e*P **P** **13 35 15.3 +0.2**
MTLF Montolieu 84.02 313 *e*P **P** **13 35 16.0 0.0**
comp=Z,8.5nm,0.8s,mb4.6
MTLF Montolieu 84.02 313 *e*P **P** **13 35 16.0 0.0**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MTLF Montolieu 84.02 313 *e*P **P** **13 35 16.0 0.0**
comp=Z,4.3nm,0.8s,mb4.6
RJF Les Rejaudoux 84.16 315 *e*P **P** **13 35 16.9 +0.2**
comp=Z,22nm,0.9s,mb5.0
RJF *e*R
comp=Z,164nm,20.8s
RJF Les Rejaudoux 84.16 315 *e*P **P** **13 35 16.9 +0.2**
RJF pmax pmax
comp=Z,11nm,0.9s,mb5.0
RJF MLR MLR
comp=Z,160nm,20.8s,MS4.4
RJF Les Rejaudoux 84.16 315 *e*P **P** **13 35 16.9 +0.2**
comp=Z,11nm,0.9s,mb5.0
RJF LR LR
comp=Z,160nm,20.8s,MS4.4
LDF La Druitiere 84.62 318 *e*P **P** **13 35 18.8 -0.3**
comp=Z,23nm,0.9s,mb5.0
LDF La Druitiere 84.62 318 *e*P **P** **13 35 18.8 -0.3**
LDF pmax pmax
comp=Z,12nm,0.9s,mb5.0
LDF La Druitiere 84.62 318 *e*P **P** **13 35 18.8 -0.3**
comp=Z,12nm,0.9s,mb5.0
LFF La Frestale 84.77 315 *e*P **P** **13 35 20.0 +0.2**
FLN La Foliniere 84.82 319 *e*P **P** **13 35 19.9 -0.2**
comp=Z,23nm,1.0s,mb5.0
FLN La Foliniere 84.82 319 *e*P **P** **13 35 19.9 -0.2**
FLN pmax pmax
comp=Z,12nm,1.0s,mb5.0
FLN La Foliniere 84.82 319 *e*P **P** **13 35 19.9 -0.2**
comp=Z,12nm,1.0s,mb5.0
MFF Saint Martin d 85.04 316 *e*P **P** **13 35 20.9 -0.3**
comp=Z,21nm,1.0s,mb4.9
MFF Saint Martin d 85.04 316 *e*P **P** **13 35 20.9 -0.3**
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
MFF Saint Martin d 85.04 316 *e*P **P** **13 35 20.9 -0.3**
comp=Z,10nm,1.0s,mb4.9
GRR Gorron 85.14 318 *e*P **P** **13 35 21.7 0.0**
ETSF Etsaut 86.10 313 *e*P **P** **13 35 26.8 +0.3**
comp=Z,10nm,0.8s,mb4.8
ETSF Etsaut 86.10 313 *e*P **P** **13 35 26.8 +0.3**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ETSF Etsaut 86.10 313 *e*P **P** **13 35 26.8 +0.3**
comp=Z,5.3nm,0.8s,mb4.8
SGMF Saint Gilles 86.28 318 *e*P **P** **13 35 27.3 0.0**
comp=Z,52nm,1.2s,mb5.3
SGMF Saint Gilles 86.28 318 *e*P **P** **13 35 27.3 0.0**
SGMF pmax pmax
comp=Z,26nm,1.2s,mb5.3
SGMF Saint Gilles 86.28 318 *e*P **P** **13 35 27.3 0.0**
comp=Z,26nm,1.2s,mb5.3
SJPF Ste Jean 86.53 313 *e*P **P** **13 35 28.8 +0.2**
comp=Z,11nm,0.9s,mb4.8
SJPF Ste Jean 86.53 313 *e*P **P** **13 35 28.8 +0.2**
SJPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SJPF Ste Jean 86.53 313 *e*P **P** **13 35 28.8 +0.2**
comp=Z,5.5nm,0.9s,mb4.8
ROSF Rostrenen 86.72 319 *e*P **P** **13 35 29.6 +0.1**
comp=Z,19nm,0.9s,mb5.0
ROSF Rostrenen 86.72 319 *e*P **P** **13 35 29.6 +0.1**
ROSF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
ROSF Rostrenen 86.72 319 *e*P **P** **13 35 29.6 +0.1**
comp=Z,9.3nm,0.9s,mb5.0
ESDC Sonseca Array 89.35 310 P **P** **13 35 42.5 +0.4**
comp=Z,1.7nm,0.7s,mb4.5,baz=47,slow=6.1,SNR=4.2
SYO Syowa Base 89.36 197⇑ *e*P **P** **13 35 42.6 +0.5**
SYO Syowa Base 89.36 197⇑ *e*pP pP 13 35 49.2 -1.2
TORD Torodi Ar. Bea 90.51 283 P **P** **13 35 48.5 +1.1**

comp=Z,2.0nm,0.8s,mb4.5,baz=88,slow=4.4,SNR=11
TORD LR LR 14 15 08.5
comp=Z,130nm,19.6s,MS4.4,baz=40,slow=35
MCK McKinley 90.57 24 *eP* **P 13 35 47.6 -0.1**
MCK *e**PP pP 13 35 54.8 -1.2
MCK pmax pmax
comp=Z,15nm,1.3s,mb5.2
MCK McKinley 90.57 24 *eP* **P 13 35 47.6 -0.1**
comp=Z,15nm,1.3s,mb5.2
MCK *ep*P pP 13 35 54.8 -1.2
PMR Palmer 91.51 25 *eP* **P 13 35 51.9 -0.2**
PMR pmax pmax
comp=Z,23nm,1.2s,mb5.4
PMR Palmer 91.51 25 *eP* **P 13 35 51.9 -0.2**
comp=Z,23nm,1.2s,mb5.4
INK Inuvik 93.03 16 P **P 13 35 58.5 -0.7**
comp=Z,2.9nm,0.6s,mb4.9,baz=304,slow=6.9,SNR=8.4
INK Inuvik 93.03 16 P **P 13 35 58.5 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 93.03 16 *eP* **P 13 35 58.6 -0.6**
comp=Z,8.4nm,0.9s,mb5.2
DBIC Dimbokro 98.22 279 LR LR 14 19 56.3
comp=Z,72nm,19.3s,MS4.2,baz=52,slow=35
PDAR Pinedale Array 121.25 21 PKP PKPdf 13 41 38.9 +0.3
comp=Z,0.9nm,0.8s,baz=66,slow=1.8,SNR=7.2
DAC Darwin (Calif) 123.18 31 *e*PKIKP PKPdf 13 41 43.4 +1.2
BDFB Brasilia 143.88 260 PKP PKPdf 13 42 21.3 +0.5
comp=Z,6.8nm,0.7s,baz=182,slow=2.2,SNR=6.2
BDFB Brasilia 143.88 260 PKIKP PKPdf 13 42 21.3 +0.5
BDFB pmax pmax
comp=Z,7.0nm,0.7s
CPD Cerro la Pandu 144.89 327 *e*PKIKP PKPdf 13 42 22.8 +0.2
CPD *e* 13 42 30.5
TRQA Tornquist 146.71 214 *e*PKPbc PKPbc 13 42 28.4 +1.0
PLCA Paso Flores 148.47 201 PKPbc PKPbc 13 42 33.5 +1.3
comp=Z,2.8nm,0.8s,baz=227,slow=3.3,SNR=8.5
PLCA Paso Flores 148.47 201 PKP2 PKPbc 13 42 33.5 +1.3
PLCA pmax pmax
comp=Z,3.0nm,0.8s
CPUP Villa Florida 150.19 237 PKPbc PKPbc 13 42 37.4 +0.9
comp=Z,5.3nm,0.9s,baz=114,slow=2.2,SNR=7.7
CPUP Villa Florida 150.19 237 PKIKP PKPbc 13 42 37.4 +1.0
CPUP pmax pmax
comp=Z,5.0nm,0.9s

*IDC **28** 13:46:16.4±1.1, 768S×10786E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=56.3km s-min=19.9km az=51.0*
*NEIC **28** 13:46:18.3±0.7, 770S×10778E, h10km, mb4.4/7, Error ellipse: s-maj=24.0km s-min=14.2km az=223.0*
NEIC Felt [III] at Pangandaran.
*ISCJB **28** 13:46:19.8±0.8, 76S±02×1079E±02, h33km, mb4.0/11, Error ellipse: s-maj=26.9km s-min=16.0km az=86.9*
ISC 28 13:46:22.0±0.8, 77S±02×1078E±02, h35km, n15, σ0§94/15, mb4.0/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.21**	**122**	*eP*	**P**	**13 50 53.8**	**-0.1**
	8.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.21**	**122**	P	**P**	**13 50 54.0**	**+0.1**
	4.7nm,0.7s,baz=280,slow=4.6,SNR=12						
WRA	**Warramunga Arr**	**28.45**	**118**	P	**P**	**13 52 12.9**	**-0.7**
	0.6nm,0.4s,mb3.6,baz=291,slow=11,SNR=12						
WRAB	**Tennant Creek**	**28.46**	**118**	*eP*	**P**	**13 52 15.5**	**+1.9**
	8.2nm,1.2s,mb4.2						
ASAR	**Alice Springs**	**29.64**	**125**	P	**P**	**13 52 23.8**	**-0.4**
	0.5nm,0.7s,mb3.4,baz=303,slow=9.0,SNR=7.3						
STKA	**Stephens Creek**	**39.59**	**132**	P	**P**	**13 53 48.0**	**-1.9**
	1.7nm,0.4s,mb4.1,baz=306,slow=7.9,SNR=7.4						
STKA	**Stephens Creek**	**39.59**	**132**	*eP*	**P**	**13 53 50.0**	**+0.1**
MKAR	**Makanchi Array**	**58.83**	**340**	P	**P**	**13 56 18.4**	**+1.4**
	0.4nm,0.5s,mb3.7,baz=131,slow=7.4,SNR=3.5						
MAW	**Mawson**	**66.90**	**197**	*eP*	**P**	**13 57 10.9**	**+0.3**
	1.9nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**68.33**	**337**	P	**P**	**13 57 17.9**	**-1.7**
	0.8nm,0.6s,mb4.0,baz=129,slow=12,SNR=6.1						
VNDA	**Vanda**	**75.12**	**169**	P	**P**	**13 58 00.5**	**0.0**
	0.8nm,0.5s,mb3.9,baz=300,slow=5.4,SNR=10.0						
VNDA	**Vanda**	**75.12**	**169**	*eP*	**P**	**13 58 00.1**	**-0.4**
	1.2nm,0.9s,mb3.8						
SBA	**Scott Base**	**76.19**	**169**	*eP*	**P**	**13 58 06.8**	**+0.2**
	1.7nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**82.27**	**180**	*eP*	**P**	**13 58 39.6**	**-0.2**
	1.2nm,0.4s,mb4.2						
SNAA	**Sanae**	**89.07**	**197**	*eP*	**P**	**13 59 13.8**	**+0.3**
	3.2nm,1.2s,mb4.5						

*IDC **28** 13:49:39.5±0.7, 709N×9248E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/24, mbtmp4.1/13, ML3.6/1, Error ellipse: s-maj=27.9km s-min=14.4km az=57.0*
*ISCJB **28** 13:49:40.1±2.3, 704N±005×9243E±005, h18km±17km, mb4.5/30, Error ellipse: s-maj=9.8km s-min=7.0km az=69.6*
*NEIC **28** 13:49:40.8±3.2, 7.10N×9247E, h8km±20km, mb4.3/6, Error ellipse: s-maj=9.7km s-min=5.9km az=47.0*
*BJI **28** 13:49:40.8, 7.10N×9250E, h8km, mB5.1, mb4.5, Ms4.3, Msz4.0*
*MOS **28** 13:49:42.3±0.9, 7.14N×9256E, h33km, mb4.5/17, Error ellipse: s-maj=16.2km s-min=9.0km az=109.1*
ISC 28 13:49:44.2±2.2, 709N±005×9247E±005, h30km±16km, h27km±2.1km:pP-P, n67, σ0§85/65, mb4.5/30, 3C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.71**	**123**	Pn	**Pn**	**13 51 34.0**	**-0.5**
	0.9nm,0.3s,baz=326,slow=14,SNR=3.5						
PSI	**Prapat**	**7.71**	**123**	P	**Pn**	**13 51 34.0**	**-0.5**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI	**Prapat**	**7.71**	**123**	Pn	**Pn**	**13 51 34.0**	**-0.5**
KULM	**Kulim**	**8.33**	**102**	Pn	**Pn**	**13 51 43.1**	**+0.2**
PALK	**Pallekele**	**11.68**	**272**	*e*Pn	**Pn**	**13 52 27.6**	**-1.2**
PALK				*e*Sn	**Sn**	**13 54 37.7**	**-0.3**
CHTO	**Chiang Mai**	**13.25**	**28**	*eP*	**Pn**	**13 52 49.4**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**13.25**	**28**	*e*Pn	**Pn**	**13 52 49.4**	**-0.9**
	comp=Z,11nm,1.1s						
MDRS	**Chennai**	**13.42**	**297**	*ex*	x	13 51 47.4	
MDRS				*ex*	x	13 59 26.4	
KMI	**Kunming**	**20.45**	**28**	P	**P**	**13 54 24.3**	**+5.1**
KMI				AMB	AMB		
	comp=Z,12nm,0.5s						
KMI	**Kunming**	**20.45**	**28**	P	**P**	**13 54 24.2**	**+5.0**
PKI	**Pulchoki**	**21.44**	**343**	*eP*	**P**	**13 54 31.2**	**+1.3**
DMN	**Daman**	**21.57**	**342**	*eP*	**P**	**13 54 33.1**	**+1.8**
GUN	**Gumba**	**21.63**	**344**	*eP*	**P**	**13 54 32.9**	**+1.0**
	comp=Z,49nm,0.9s,mb4.9						
KKN	**Kakani**	**21.69**	**343**	*eP*	**P**	**13 54 33.2**	**+0.6**
GKN	**Gorkha**	**22.08**	**341**	*eP*	**P**	**13 54 37.1**	**+0.3**
	comp=Z,42nm,0.8s,mb4.9						
KOLN	**Koldanda**	**22.22**	**339**	*eP*	**P**	**13 54 39.0**	**+0.8**
	comp=Z,12nm,0.6s,mb4.5						
GYA	**Guiyang**	**23.53**	**33**	P	**P**	**13 54 54.0**	**+2.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
XAN	**Xi'an**	**30.83**	**27**	P	**P**	**13 55 56.5**	**-1.0**
XAN				AP	pP	13 56 03.3	-2.9
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.2						
GTA	**Gaotai**	**32.85**	**11**	P	**P**	**13 56 16.5**	**+1.2**
GTA				AP	pP	13 56 23.8	-0.2
GTA				XP	sP	13 56 27.0	-0.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
NJ2	**Nanjing**	**34.95**	**41**	*eP*	**P**	**13 56 32.5**	**-0.9**
NJ2				AP	pP	13 56 42.0	-0.2
NJ2				XP	sP	13 56 47.0	+1.2
NJ2				PP	PP	13 57 51.5	-1.4
NJ2				PPP		13 58 08.0	
NJ2				S	**S**	**14 02 03.0**	**-0.1**
NJ2				XS	sS	14 02 20.0	+2.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,300nm,9.2s						
NJ2				LR	LR		
	comp=N,600nm,31.9s						
NJ2				LR	LR		
	comp=E,160nm,20.8s						
NJ2				LR	LR		
	comp=Z,290nm,21.9s						
AAK	**Ala-Archa**	**38.80**	**339**	*eP*	**P**	**13 57 06.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**38.80**	**339**	*eP*	**P**	**13 57 06.1**	**0.0**
	comp=Z,3.2nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**40.52**	**349**	P	**P**	**13 57 20.3**	**-0.2**
	comp=Z,3.3nm,0.5s,mb4.3,baz=166,slow=7.3,SNR=14						
MKAR	**Makanchi Array**	**40.52**	**349**	P	**P**	**13 57 20.3**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**41.21**	**128**	*eP*	**P**	**13 57 25.7**	**-0.5**
	comp=Z,5.6nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**41.21**	**128**	P	**P**	**13 57 26.1**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.0,baz=290,slow=6.9,SNR=6.3						
SONM	**Songino Array**	**42.30**	**14**	P	**P**	**13 57 35.5**	**+0.4**
	comp=Z,1.0nm,0.6s,mb3.6,baz=192,slow=6.9,SNR=8.5						
SONM	**Songino Array**	**42.30**	**14**	P	**P**	**13 57 35.5**	**+0.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZAK	**Zakamensk**	**44.09**	**10**	*eP*	**P**	**13 57 49.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
ZAL	**Zalesovo**	**47.12**	**354**	P	**P**	**13 58 13.3**	**-0.2**
	comp=Z,1.3nm,0.3s,mb4.3,baz=13,slow=5.2,SNR=4.6						
ZAL	**Zalesovo**	**47.12**	**354**	P	**P**	**13 58 13.4**	**-0.2**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**49.18**	**124**	P	**P**	**13 58 29.3**	**-0.2**
	comp=Z,3.2nm,0.8s,mb4.4,baz=304,slow=8.9,SNR=21						
WRA	**Warramunga Arr**	**49.18**	**124**	*i* P	**P**	**13 58 29.2**	**-0.3**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**49.18**	**124**	*eP*	**P**	**13 58 29.4**	**-0.1**
WRAB				*e*		13 58 41.5	
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
WRAB	**Tennant Creek**	**49.18**	**124**	*eP*	**P**	**13 58 29.4**	**-0.1**
	comp=Z,5.3nm,0.7s,mb4.7						
WRAB				*e*		13 58 41.5	
WB2	**Warramunga Arr**	**49.19**	**124**	*eP*	**P**	**13 58 29.4**	**-0.1**
BVAR	**Borovoye Array**	**49.22**	**343**	P	**P**	**13 58 29.4**	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=162,slow=5.9,SNR=6.3						
BVAR	**Borovoye Array**	**49.22**	**343**	P	**P**	**13 58 29.4**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**49.27**	**342**	*eP*	**P**	**13 58 29.6**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
BRVK	**Borovoye**	**49.27**	**342**	*eP*	**P**	**13 58 29.6**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.1						
ZRNK	**Zerenda**	**49.57**	**342**	*eP*	**P**	**13 58 31.9**	**-0.6**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZRNK	**Zerenda**	**49.57**	**342**	*eP*	**P**	**13 58 31.9**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.2						
ASPA	**Alice Springs**	**50.71**	**128**	*eP*	**P**	**13 58 41.1**	**+0.1**
ASAR	**Alice Springs**	**50.71**	**128**	P	**P**	**13 58 41.0**	**-0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=300,slow=7.9,SNR=22						
ASAR	**Alice Springs**	**50.71**	**128**	P	**P**	**13 58 41.0**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AS31	**Alice Springs**	**50.71**	**128**	*eP*	**P**	**13 58 41.1**	**0.0**
BOD	**Bodaibo**	**53.30**	**14**	*eP*	**P**	**13 58 59.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.3						
GNI	**Garni**	**53.81**	**315**	*eP*	**P**	**13 59 02.2**	**-1.9**
GNI				pmax	pmax		
	comp=Z,11nm,1.5s						
SVE	**Sverdlovsk**	**55.53**	**339**	*eP*	**P**	**13 59 17.0**	**+0.4**
ARU	**Arti**	**55.98**	**338**	*eP*	**P**	**13 59 19.0**	**-0.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**56.80**	**319**	*eP*	**P**	**13 59 24.9**	**-0.7**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
EIL	**Elat**	**58.38**	**300**	*eP*	**P**	**13 59 37.9**	**+1.1**
	comp=Z,164nm,1.4s						
STKA	**Stephens Creek**	**60.78**	**133**	P	**P**	**13 59 53.8**	**+0.4**
	comp=Z,2.8nm,0.7s,mb4.5,baz=315,slow=5.8,SNR=6.4						
STKA	**Stephens Creek**	**60.78**	**133**	*eP*	**P**	**13 59 53.8**	**+0.5**
STKA				*e*	pP	14 00 00.8	-1.7
YAK	**Yakutsk**	**61.27**	**19**	*eP*	**P**	**13 59 56.0**	**-0.6**
YAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
BRTR	**Keskin Array B**	**61.69**	**311**	P	**P**	**13 59 59.0**	**-0.5**
	comp=Z,0.7nm,0.6s,mb4.0,baz=134,slow=5.3,SNR=3.5						
BRTR	**Keskin Array B**	**61.69**	**311**	P	**P**	**13 59 59.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
OBN	**Obninsk**	**65.16**	**328**	*eP*	**P**	**14 00 22.0**	**-0.4**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
TIXI	**Tiksi**	**68.33**	**12**	*eP*	**P**	**14 00 40.7**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
BOSA	**Boshof**	**73.77**	**238**	P	**P**	**14 01 16.3**	**+0.8**
	comp=Z,1.6nm,0.7s,mb4.1,baz=53,slow=3.7,SNR=4.4						
BOSA	**Boshof**	**73.77**	**238**	P	**P**	**14 01 16.3**	**+0.8**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
CASY	**Casey**	**74.36**	**173**	*eP*	**P**	**14 01 21.2**	**+2.2**
	comp=Z,24nm,0.7s,mb5.2						
CASY				*e*		14 01 47.2	
GERES	**GERESS Array B**	**77.31**	**318**	P	**P**	**14 01 36.3**	**+0.4**
	comp=Z,0.4nm,0.2s,mb4.0,baz=116,slow=3.1,SNR=7.4						
MAW	**Mawson**	**77.44**	**191**	P	**P**	**14 01 37.0**	**+0.5**
	comp=Z,0.4nm,0.2s,mb3.9,baz=349,slow=5.2,SNR=3.7						
VNA3	**Neumayer Olymp**	**100.57**	**199**	*e*Pdiff	Pdif	14 03 24.2	-4.8
VNA3				*e*		14 03 35.1	
VNA3				*e*		14 03 39.5	
CPUP	**Villa Florida**	**145.47**	**233**	PKPbc	PKPbc	14 09 19.9	+0.5
	comp=Z,1.6nm,0.7s,baz=39,slow=4.9,SNR=3.7						
CPUP	**Villa Florida**	**145.47**	**233**	PKP2	PKPab	14 09 19.9	+0.4
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.7s						

*IDC **28** 13:58:54.6±1.0, 1171N×9491E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=51.8km s-min=17.0km az=54.0*
*ISCJB **28** 13:58:57.7±0.8, 116N±02×949E±03, h33km, mb3.8/8, Error ellipse: s-maj=43.7km s-min=10.8km az=107.6*
ISC 28 13:59:00.4±0.8, 117N±02×950E±03, h35km, n14, σ1§10/13, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.19**	**269**	*eP*	x	13 59 21.0	
PBA				*eS*	x	13 59 52.1	
PBA				*ex*	x	13 59 60.0	
	comp=N,460nm,0.7s						
PBA				*ex*	x	14 00 00.6	
	comp=E,729nm,1.0s						
PKI	**Pulchoki**	**18.17**	**332**	*eP*	**Pn**	**14 03 11.6**	**+1.8**
DMN	**Daman**	**18.35**	**331**	*eP*	**Pn**	**14 03 13.7**	**+1.8**
KKN	**Kakani**	**18.42**	**332**	*eP*	**Pn**	**14 03 13.9**	**+1.1**
GKN	**Gorkha**	**18.90**	**331**	*eP*	**Pn**	**14 03 17.1**	**-1.5**
KOLN	**Koldanda**	**19.23**	**328**	*eP*	**Pn**	**14 03 22.0**	**-0.6**
	comp=E,22nm,0.7s						
MKAR	**Makanchi Array**	**36.60**	**345**	P	**P**	**14 06 02.8**	**-0.2**
	comp=E,0.4nm,0.5s,mb3.5,baz=154,slow=8.0,SNR=3.2						
SONM	**Songino Array**	**37.28**	**13**	P	**P**	**14 06 08.1**	**-0.8**
	comp=E,1.0nm,0.8s,mb3.7,baz=196,slow=8.8,SNR=7.2						
AKTO	**Aktyubinsk**	**49.06**	**329**	P	**P**	**14 07 41.9**	**-2.0**
	comp=E,0.3nm,0.4s,mb3.7,baz=115,slow=15,SNR=2.1						
WRA	**Warramunga Arr**	**49.89**	**129**	P	**P**	**14 07 50.5**	**+0.2**
	comp=E,2.0nm,0.8s,mb4.2,baz=307,slow=8.5,SNR=18						
ASAR	**Alice Springs**	**51.81**	**133**	P	**P**	**14 08 05.2**	**+0.5**
	comp=E,1.3nm,0.7s,mb4.0,baz=310,slow=6.7,SNR=27						
BRTR	**Keskin Array B**	**60.63**	**309**	P	**P**	**14 09 06.7**	**-1.0**
	comp=E,0.5nm,0.6s,mb3.8,baz=125,slow=6.5,SNR=3.6						
STKA	**Stephens Creek**	**62.19**	**136**	P	**P**	**14 09 18.3**	**+0.1**
	comp=E,1.3nm,0.8s,mb4.1,baz=291,slow=2.4,SNR=4.3						
GERES	**GERESS Array B**	**75.56**	**318**	P	**P**	**14 10 42.0**	**+0.6**
	comp=E,0.5nm,0.4s,mb3.8,baz=82,slow=7.0,SNR=6.0						

*SZGRF **28** 14:39:04.9, 1152N×9791E, h24km, mb4.8, Andaman Islands, India, region*
*IDC **28** 14:39:12.1±0.4, 1179N×9500E, h0km, mb4.4/21, mb1 4.5/22, mb1mx4.5/25, mbtmp4.4/22, ML3.7/1, MS4.0/19, Ms1 4.0/19, ms1mx3.8/32, Error ellipse: s-maj=19.6km s-min=11.5km az=58.0*
*ISCJB **28** 14:39:13.6±0.2, 1175N±003×9505E±003, h23km, mb4.8/100, MS4.2/41, Error ellipse: s-maj=4.0km s-min=3.6km az=2.6*
*BJI **28** 14:39:13.7, 1165N×95.17E, h28km, mB4.9, mb4.7, Ms4.7, Msz4.5*
*MOS **28** 14:39:15.0±1.0, 1179N×9503E, h33km, mb5.1/65, Error ellipse: s-maj=9.0km s-min=4.9km az=115.1*
*NEIC **28** 14:39:15.2±0.2, 1179N×9500E, mb5.0/63, Error ellipse: s-maj=6.5km s-min=4.2km az=53.0*
*GCMT **28** 14:39:15.2±0.5, 1179N×95.15E, h17km±1km, MW5.0/46, Moment Tensor Solution. s16,c17; s46,c63; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.22±.30; Mθθ 1.26±.18; Mφφ 1.95±.20; Mrθ 0.00±.45; Mrφ 1.77±.11; Mθφ 0.37±.48; Best double couple: Mo 3.33500×10^16 NP1: φs 44.00000°, δ 43.00000°, λ -84.00000°. NP2: φs 215.00000°, δ 48.00000°, λ -96.00000°. Principal axes: T 3.4200, Plg2.0000°, Azm309.0000°; N -0.1810, Plg4.0000°, Azm219.0000°; P -3.2500, Plg85.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 14:39:15.9±0.2, 1178N±003×9505E±003, h24km, h24km±.6km:pP-P, n318, σ1§13/319, mb4.8/100, MS4.2/41, 11C-12D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**2.27**	**267**	*eP*	x	14 39 37.2	
PBA				*eS*	x	14 40 11.6	
CM31	**Chiang Mai Arr**	**7.62**	**29**	*e*Pn	**Pn**	**14 41 05.7**	**+0.3**
CM31				*ep*Pn		14 41 13.3	
CM31				*e*Sn	**Sn**	**14 42 34.7**	**+3.6**
CHG	**Chiang Mai**	**7.93**	**28**	P	**Pn**	**14 41 12.1**	**+2.4**
CHTO	**Chiang Mai**	**7.93**	**28**	*eP*	**Pn**	**14 41 09.4**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CHTO	**Chiang Mai**	**7.93**	**28**	*e*Pn	**Pn**	**14 41 09.4**	**-0.3**
	comp=Z,10nm,1.0s						
KULM	**Kulim**	**8.50**	**139**	*e*Pn	**Pn**	**14 41 14.7**	**-2.7**
KULM				*ep*Pn		14 41 20.1	
KULM				*e*Sn	**Sn**	**14 42 46.9**	**-5.6**
KKTK	**Khon Kaen**	**8.79**	**58**	P	**Pn**	**14 41 21.0**	**-0.5**
NANT	**Nan**	**8.85**	**37**	§P	**Pn**	**14 41 24.0**	**+1.7**
	comp=Z,79nm,1.0s						
PSI	**Prapat**	**9.71**	**156**	Pn	**Pn**	**14 41 35.6**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=287,slow=14,SNR=6.4						
PSI				LR	LR	14 45 24.5	
	comp=Z,1μm,21.6s,baz=311,slow=38						
PSI	**Prapat**	**9.71**	**156**	P	**Pn**	**14 41 35.6**	**+1.5**
PSI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PSI				MLR	MLR		
	comp=Z,1μm,21.6s						
VIS	**Vishakhapatnam**	**12.78**	**299**	*eP*	**Pn**	**14 42 15.4**	**-0.7**
VIS				AMb	AMB	14 42 17.7	
	comp=Z,51nm,1.3s						
VIS				*ex*	x	14 44 28.7	
MDRS	**Chennai**	**14.52**	**277**	*ex*	x	14 43 09.4	
MDRS				*ex*	x	14 45 37.4	
BOK	**Bokaro**	**14.79**	**325**	*eP*	**Pn**	**14 42 45.2**	**+1.8**
BOK				AMb	AMB	14 42 53.0	
	comp=Z,46nm,0.9s						
PALK	**Pallekele**	**14.84**	**254**	*e*Pn	**Pn**	**14 42 44.1**	**-0.1**
PALK				*e*Sn	**Sn**	**14 45 16.4**	**-11**
KMI	**Kunming**	**15.13**	**28**	P	**Pn**	**14 42 52.5**	**+4.5**
KMI				AP	pP	14 42 56.0	-3.7
KMI				PPP		14 43 12.0	
KMI				S	**Sn**	**14 45 40.8**	**+5.9**
KMI				SS		14 45 58.8	
KMI				AMB	AMB		
	comp=Z,25nm,1.2s						
KMI				LR	LR		
	comp=N,1μm,10.8s						
KMI				LR	LR		
	comp=E,984nm,11.2s						
KMI				LR	LR		
	comp=Z,1μm,10.6s						
KMI	**Kunming**	**15.13**	**28**	P	**Pn**	**14 42 52.4**	**+4.4**
KMI				S	**Sn**	**14 45 40.8**	**+5.9**
KMI	**Kunming**	**15.13**	**28**	P	**Pn**	**14 42 52.4**	**+4.4**
KMI				pP	pP	14 42 55.9	-3.8
KMI				PPP		14 43 12.0	
KMI				S	**Sn**	**14 45 40.8**	**+5.9**
KMI				SS		14 45 58.7	
QIZ	**Qiongzhong**	**15.97**	**61**	P	**Pn**	**14 42 59.3**	**+0.4**
QIZ				AP	pP	14 43 06.8	-2.1
QIZ				XP	sP	14 43 11.5	-0.6
QIZ				S	**Sn**	**14 45 52.0**	**-3.2**
QIZ				XS	sS	14 46 07.0	-12
QIZ				AMB	AMB		
	comp=Z,57nm,1.2s						
QIZ				LR	LR		
	comp=N,1μm,17.1s						
QIZ				LR	LR		
	comp=Z,1μm,11.1s						
HYB	**Hyderabad**	**16.92**	**291**	*i* P	**Pn**	**14 43 14.5**	**+3.5**
HYB				*e*		14 43 21.5	
HYB				*eS*	**Sn**	**14 46 17.0**	**-1.2**
HYB	**Hyderabad**	**16.92**	**291**	*eP*	**Pn**	**14 43 14.5**	**+3.5**
NGP	**Nagpur**	**17.94**	**303**	*eP*	**Pn**	**14 43 24.2**	**+0.6**
NGP				AMb	AMB	14 43 32.3	
	comp=Z,124nm,1.4s						
PKI	**Pulchoki**	**18.13**	**331**	*eP*	**Pn**	**14 43 26.3**	**+0.3**
	comp=Z,466nm,1.6s						
LSA	**Lhasa**	**18.20**	**349**	P	**Pn**	**14 43 27.0**	**+0.2**
LSA	**Lhasa**	**18.20**	**349**	*eP*	**Pn**	**14 43 26.9**	**+0.1**
LSA				pmax	pmax		
	comp=Z,56nm,0.9s						
LSA	**Lhasa**	**18.20**	**349**	*e*Pn	**Pn**	**14 43 26.9**	**+0.1**
	comp=Z,56nm,0.9s						
GUN	**Gumba**	**18.20**	**333**	*eP*	**Pn**	**14 43 27.6**	**+0.7**
GYA	**Guiyang**	**18.24**	**35**	§*i* P	**Pn**	**14 43 28.3**	**+1.0**
GYA				AP	pP	14 43 34.8	+0.7
GYA				XP	sP	14 43 38.5	+1.2
GYA				PP		14 43 43.5	
GYA				S	**Sn**	**14 46 49.8**	**-0.5**
GYA				SS		14 47 13.8	
GYA				AMB	AMB		

comp=Z,690nm,9.6s
GZH Guangzhou 20.73 55 P **P** **14 43 54.0 -0.6**
GZH S **S** **14 47 42.5 -2.4**
GZH LR LR
comp=N,776nm,14.0s,MS4.4
GZH LR LR
comp=E,730nm,11.8s,MS4.4
GZH LR LR
comp=Z,649nm,10.6s,MS4.3
KAD Karad 20.93 288 *e*P **P** **14 43 57.5 +0.8**
KAD AMb AMB 14 44 02.7
comp=Z,59nm,0.9s
POO Poona 21.53 291⇓*i*P **P** **14 44 02.5 -0.7**
comp=Z,100nm,1.0s,mb5.2
POO *i* x x 14 48 17.5
KKM Kota Kinabalu 21.66 103 P **P** **14 44 05.3 +0.7**
NDI New Delhi 23.67 318 *ex* x 14 44 22.0
NDI *ex* x 14 44 45.0
COCO West Island 23.88 176 P **P** **14 44 31.4 +3.8**
comp=Z,216nm,1.3s,mb5.4
AJM Ajmer 24.14 310 *e*P **P** **14 44 31.6 +1.6**
AJM AMb AMB 14 44 35.2
comp=Z,20nm,1.3s,mb4.4
SMLA Simla 25.38 322 *e*P **P** **14 44 42.6 +1.4**
SMLA AMb AMB 14 44 52.9
comp=Z,131nm,1.3s,mb5.3
LZH Lanzhou 25.47 17⇑P **P** **14 44 43.0 +1.0**
LZH AP pP 14 44 51.8 +2.5
LZH XP sP 14 44 56.5 +4.2
LZH PP 14 45 25.0
LZH S **S** **14 49 09.0 +1.3**
LZH XS sS 14 49 25.0 +5.3
LZH AMB AMB
comp=Z,80nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,240nm,5.8s
LZH LR LR
comp=N,1μm,11.5s
LZH LR LR
comp=Z,2μm,12.3s,MS4.9
LZH Lanzhou 25.47 17⇑P **P** **14 44 42.9 +0.9**
LZH *PP pP 14 44 51.7 +2.4
LZH *SP sP 14 44 56.6 +4.3
LZH 14 45 25.0
LZH S **S** **14 49 09.0 +1.3**
LZH *SS sS 14 49 25.0 +5.3
LZH Lanzhou 25.47 17⇑P **P** **14 44 42.9 +0.9**
LZH pP pP 14 44 51.7 +2.4
LZH sP sP 14 44 56.6 +4.3
LZH PP 14 45 25.0
LZH S **S** **14 49 09.0 +1.3**
LZH sS sS 14 49 25.0 +5.3
LZH *e*SS 14 50 16.0
XAN Xi'an 25.52 28 P **P** **14 44 41.0 -1.4**
XAN AP pP 14 44 48.5 -1.2
XAN AMB AMB
comp=Z,32nm,1.1s,mb4.8
XAN AMB AMB
comp=Z,93nm,8.2s
XAN LR LR
comp=N,314nm,10.7s,MS4.6
XAN LR LR
comp=E,892nm,11.1s,MS4.6
XAN LR LR
comp=Z,935nm,12.6s,MS4.5
SDNR Sundarnagar 25.76 322 *e*P **P** **14 44 45.6 +0.9**
QZH Quanzhou 25.84 56 P **P** **14 44 44.5 -0.8**
QZH *e*S **S** **14 49 10.0 -3.5**
QZH LR LR
comp=N,2μm,17.1s,MS4.8
QZH LR LR
comp=E,1μm,15.4s,MS4.8
QZH LR LR
comp=Z,1μm,11.1s,MS4.7
WHN Wuhan 25.85 41⇑P **P** **14 44 46.0 +0.5**
WHN LR LR
comp=Z,2μm,12.6s,MS4.8
GTA Gaotai 27.84 8⇓P **P** **14 45 04.3 +0.9**
GTA AP pP 14 45 11.3 +0.7
GTA XP sP 14 45 14.5 +0.8
GTA PP 14 45 54.0
GTA PCP PcP 14 48 20.3 +1.3
GTA S **S** **14 49 45.5 +0.4**
GTA XS sS 14 49 57.5 +0.4
GTA SS 14 51 08.0
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb3.8
GTA AMB AMB
comp=Z,30nm,3.8s
GTA LR LR
comp=N,199nm,10.7s,MS4.1
GTA LR LR
comp=E,185nm,11.8s,MS4.1
GTA LR LR
comp=Z,232nm,10.3s,MS4.0
NJ2 Nanjing 29.78 44 *e*P **P** **14 45 22.0 +1.4**
NJ2 AP pP 14 45 29.3 +1.4
NJ2 XP sP 14 45 32.5 +1.6
NJ2 S **S** **14 50 16.0 +0.4**
NJ2 XS sS 14 50 29.0 +1.4
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,240nm,5.6s
NJ2 LR LR
comp=N,1μm,19.2s,MS4.6
NJ2 LR LR
comp=E,340nm,19.7s,MS4.6
NJ2 LR LR
comp=Z,1μm,19.8s,MS4.6
SSE Sheshan 30.86 47 *e*P **P** **14 45 27.5 -2.7**
SSE AP pP 14 45 36.3 -1.2
SSE XP sP 14 45 41.0 +0.5
SSE PP PP 14 46 36.5 -3.5
SSE PCP PcP 14 48 25.0 -1.7
SSE S **S** **14 50 28.3 -4.3**
SSE XS sS 14 50 45.5 +0.9
SSE SCS ScS 14 55 57.5 -7.0
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,47nm,3.5s
SSE LR LR
comp=N,658nm,12.9s,MS4.5
SSE LR LR
comp=E,190nm,12.9s,MS4.5
SSE LR LR
comp=Z,575nm,9.6s
SSE Sheshan 30.86 47 *e*P **P** **14 45 27.4 -2.8**
SSE pP pP 14 45 36.3 -1.2
SSE sP sP 14 45 41.0 +0.5
SSE PP PP 14 46 36.6 -3.4
SSE PcP PcP 14 48 25.1 -1.6
SSE S **S** **14 50 28.2 -4.4**
SSE sS sS 14 50 45.5 +0.9
SSE ScS ScS 14 55 57.5 -7.0
KSH Kashi 32.39 332 *e*P **P** **14 45 43.0 -0.6**
KSH *e*PP PP 14 46 49.0 -8.0
KSH *e*PPP 14 47 04.0
KSH *e*PCP PcP 14 48 32.0 +1.2
KSH *e*S **S** **14 50 52.5 -4.0**
KSH *e*SCP ScP 14 52 13.3 +0.3
KSH *e*PCS PcS 14 52 16.3 +0.5
KSH *e*SCS ScS 14 56 11.0 -1.2
KSH AMB AMB
comp=Z,133nm,3.1s
KSH LR LR
comp=N,420nm,5.9s
KSH LR LR
comp=E,564nm,8.2s
KSH LR LR
comp=Z,448nm,7.6s
HHC Hu-ho-hao-te 32.39 24 *e*P **P** **14 45 44.5 +0.8**
HHC AP pP 14 45 51.5 +0.5
HHC XP sP 14 45 55.3 +1.3
HHC PP PP 14 46 52.5 -4.5
HHC PCP PcP 14 48 31.5 +0.7
HHC S **S** **14 50 56.3 -0.2**
HHC XS sS 14 51 08.5 -0.1
HHC SCP ScP 14 52 12.5 -0.5
HHC PCS PcS 14 52 15.8 0.0
HHC SS SS 14 52 52.0 -24
HHC SCS ScS 14 56 10.3 -1.9
HHC AMB AMB
comp=Z,18nm,0.5s,mb5.2
HHC LR LR
comp=N,812nm,12.3s,MS4.7
HHC LR LR
comp=E,711nm,13.3s,MS4.7
HHC LR LR
comp=Z,756nm,11.4s,MS4.6
WMQ Urumqi 32.55 350 *e*P **P** **14 45 48.0 +3.0**
WMQ AP pP 14 45 55.0 +2.7
WMQ XP sP 14 45 58.0 +2.6
WMQ PP PP 14 46 55.0 -3.7
WMQ PPP 14 48 35.0
WMQ S **S** **14 51 00.0 +1.1**
WMQ XS sS 14 51 12.0 +1.0
WMQ SS SS 14 52 53.0 -26
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,132nm,4.0s
WMQ LR LR
comp=N,1μm,10.0s,MS4.9
WMQ LR LR
comp=E,748nm,11.5s,MS4.9
WMQ LR LR
comp=Z,1μm,18.8s
BJI Beijing 33.77 30 *e*P **P** **14 45 56.5 +0.8**
BJI XP sP 14 46 05.3 -0.7
BJI S **S** **14 51 20.5 +2.6**
BJI XS sS 14 51 34.3 +4.3
BJI AMB AMB
comp=Z,14nm,1.1s,mb4.8
BJI AMB AMB
comp=Z,163nm,5.5s
BJI LR LR
comp=N,466nm,15.2s,MS4.5
BJI LR LR
comp=E,487nm,13.4s,MS4.5
BJI LR LR
comp=Z,175nm,17.4s,MS3.8
JOW Kunigami 34.61 60 LR LR 15 02 47.5
comp=Z,212nm,18.9s,MS3.9,baz=267,slow=41
AAK Ala-Archa 35.56 334 *e*P **P** **14 46 11.2 +0.1**
AAK *e**PP pP 14 46 18.0 -0.5
AAK pmax pmax
comp=Z,30nm,1.3s,mb5.1
AAK Ala-Archa 35.56 334 *e*P **P** **14 46 11.2 0.0**
comp=Z,30nm,1.3s,mb5.1
AAK *e*pP pP 14 46 18.0 -0.5
FRU Bishkek 35.67 334 *e*P pP 14 46 21.0 +1.6
MKAR Makanchi Array 36.53 345 P **P** **14 46 20.0 +0.6**
comp=Z,4.2nm,1.0s,mb4.2,baz=150,slow=7.7,SNR=9.6
MKAR **Makanchi Array 36.53 345** P **P** **14 46 20.0 +0.6**
MKAR pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 37.18 13 P **P** **14 46 25.7 +0.7**
comp=Z,0.3nm,0.3s,baz=195,slow=8.9,SNR=29
SONM LR LR 15 02 11.2
comp=Z,120nm,21.2s,MS3.7,baz=196,slow=37
SNY Shenyang 38.94 35⇓P **P** **14 46 39.3 -0.5**
SNY AP pP 14 46 46.8 -0.4
SNY XP sP 14 46 53.5 +3.3
SNY S **S** **14 52 32.5 -4.4**
SNY SS SS 14 55 20.3 -8.6
SNY AMB AMB
comp=Z,19nm,1.5s,mb4.6
SNY LR LR
comp=N,424nm,14.1s,MS4.6
SNY LR LR
comp=E,325nm,10.8s,MS4.6
SNY LR LR
comp=Z,457nm,13.2s,MS4.5
ZAK Zakamensk 39.08 8⇓*i*P **P** **14 46 41.2 +0.2**
ZAK *e* 14 48 47.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.2s
TLY Talaya 40.40 8 *e*P **P** **14 46 53.1 +1.2**
TLY *e*S **S** **14 53 07.2 +8.5**
TLY *e* 14 56 24.8
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TLY MLR MLR
comp=Z,127nm,15.0s,MS3.9
TLY Talaya 40.40 8 *e*P **P** **14 46 52.9 +0.9**
comp=Z,7.3nm,0.9s,mb4.4
CN2 Changchun 41.28 34 *e*P **P** **14 46 59.5 +0.3**
CN2 *e*AP pP 14 47 07.0 +0.3
CN2 *e*XP sP 14 47 10.3 +0.7
CN2 *e*S **S** **14 53 13.0 +1.2**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.5
CN2 LR LR
comp=E,300nm,15.0s,MS4.5
ABKT Ailbek 42.00 315 P **P** **14 47 06.4 +1.2**
comp=E,174nm,0.6s,mb5.9,SNR=5.4
ABKT Ailbek 42.00 315 P **P** **14 47 06.4 +1.3**
FITZ Fitzroy Crossi 42.34 134 *e*P **P** **14 47 07.1 -0.8**
comp=E,9.1nm,1.1s,mb4.3
FITZ Fitzroy Crossi 42.34 134 LR LR 15 05 35.5
comp=E,257nm,19.1s,MS4.1,baz=297,slow=37
HIA Hailar 42.60 24 *e*P **P** **14 47 10.3 +0.3**
HIA pmax pmax
comp=Z,33nm,1.1s
HIA Hailar 42.60 24 *e*P **P** **14 47 10.3 +0.3**
comp=Z,33nm,1.1s,mb5.0
ZAL Zalesovo 42.83 351 P **P** **14 47 12.1 +0.2**
comp=Z,2.6nm,0.6s,mb4.1,baz=291,slow=7.7,SNR=8.1
ZAL LR LR 15 08 51.4
comp=Z,118nm,21.5s,MS3.8,baz=285,slow=42
ZAL Zalesovo 42.83 351 P **P** **14 47 12.1 +0.2**
ZAL pmax pmax
comp=Z,3.0nm,0.6s
ZAL MLR MLR
comp=Z,118nm,21.5s
NVS Novosibirsk 43.95 350 *e*P **P** **14 47 23.0 +2.1**
NVS *e*S **S** **14 53 44.9 -6.3**
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.6
NVS smax
comp=N,14nm,2.2s
NVS smax
comp=E,15nm,2.2s
MDJ Mudanjiang 44.10 36 P **P** **14 47 21.8 -0.3**
MDJ AP pP 14 47 28.0 -1.6
MDJ XP sP 14 47 30.8 -1.8
MDJ S **S** **14 53 54.5 +1.1**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,128nm,5.7s
MDJ LR LR
comp=N,70nm,19.8s,MS4.0
MDJ LR LR
comp=E,148nm,16.4s,MS4.0
MDJ LR LR
comp=Z,99nm,15.5s,MS3.8
VLA Vladivostok 44.60 39 *e*P **P** **14 47 25.5 -0.6**
VLA *i* 14 47 35.5
BVAR Borovoye Array 45.64 339 P **P** **14 47 34.3 -0.1**
comp=Z,9.3nm,1.3s,mb4.6,baz=134,slow=8.5,SNR=7.6
BVAR PcP PcP 14 49 12.9 +0.5
comp=Z,0.5nm,0.3s,baz=151,slow=3.3,SNR=3.2
BVAR Borovoye Array 45.64 339 P **P** **14 47 34.3 -0.1**
BVAR 14 49 12.9
BVAR pmax pmax
comp=Z,9.0nm,1.3s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BRVK Borovoye 45.70 339 *e*P **P** **14 47 34.3 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRVK Borovoye 45.70 339 *e*P **P** **14 47 34.3 -0.5**
comp=Z,8.5nm,0.9s,mb4.7
MAJO Matsushiro 45.93 50 P **P** **14 47 33.4 -3.2**
MAJO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MAJO Matsushiro 45.93 50 P **P** **14 47 33.4 -3.2**
comp=Z,5.0nm,0.8s,mb4.5
MAT Matsushiro 45.93 50 P **P** **14 47 37.1 +0.5**
MJAR Matsushiro Arr 45.93 50 P **P** **14 47 37.0 +0.4**
comp=Z,2.4nm,0.8s,mb4.2,baz=253,slow=10.0,SNR=9.0
MJAR PcP PcP 14 49 13.4 +0.1
comp=Z,4.6nm,1.0s,baz=242,slow=3.7,SNR=9.0
MJAR Matsushiro Arr 45.93 50 P **P** **14 47 37.0 +0.3**
MJAR 14 49 13.4
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR pmax pmax
comp=Z,5.0nm,1.0s
ZRNK Zerenda 46.07 338 *e*P **P** **14 47 36.4 -1.3**
ZRNK pmax pmax
comp=Z,17nm,1.0s,mb4.9
ZRNK Zerenda 46.07 338 *e*P **P** **14 47 36.4 -1.3**
comp=Z,17nm,1.0s,mb4.9
MUN Mundaring 48.00 156 *e*P **P** **14 47 53.5 +0.7**
KLR Kul'dur 48.09 32 *e*P **P** **14 47 48.7 -4.9**
BOD Bodaibo 48.16 13 *e*P **P** **14 47 53.4 -0.7**
BOD pmax pmax
comp=Z,20nm,1.2s,mb5.0
GUMO Guam 48.57 82 LR LR 15 06 16.5
comp=Z,67nm,18.6s,MS3.7,baz=275,slow=33
AKTK Aktyubinsk 49.02 329 P **P** **14 48 01.0 +0.3**
AKTO Aktyubinsk 49.02 329 P **P** **14 48 01.0 +0.4**
comp=Z,0.6nm,0.4s,mb4.0,baz=118,slow=7.8,SNR=3.5
AKTO Aktyubinsk 49.02 329 P **P** **14 48 01.0 +0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
NWAO Narrogin (SRO) 49.24 155 P **P** **14 48 02.9 +0.5**
comp=Z,12nm,1.0s,mb4.9,baz=310,slow=10,SNR=3.7
NWAO Narrogin (SRO) 49.24 155 P **P** **14 48 02.9 +0.5**
NWAO pmax pmax
comp=Z,12nm,1.0s
NWAO Narrogin (SRO) 49.24 155 P **P** **14 48 02.5 +0.1**
comp=Z,18nm,1.1s,mb5.0
WRA Warramunga Arr 49.89 129 P **P** **14 48 07.3 0.0**
comp=Z,22nm,0.9s,mb5.2,baz=307,slow=8.4,SNR=120
WRA PcP PcP 14 49 28.1 +0.6
comp=Z,3.5nm,0.9s,baz=294,slow=7.0,SNR=6.7
WRA LR LR 15 12 12.0
comp=Z,128nm,21.4s,MS3.9,baz=275,slow=40
WRA Warramunga Arr 49.89 129 P **P** **14 48 07.3 0.0**
WRA 14 49 28.1
WRA pmax pmax
comp=Z,22nm,0.9s
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRA MLR MLR
comp=Z,128nm,21.4s
WRA Warramunga Arr 49.89 129 P **P** **14 48 07.3 0.0**
WRA PcP PcP 14 49 28.1 +0.6
WRA LR LR 15 12 12.0
WRAB Tennant Creek 49.90 129 P **P** **14 48 07.9 +0.5**
comp=Z,159nm,0.9s,SNR=9.4
WRAB Tennant Creek 49.90 129 *e*P **P** **14 48 06.9 -0.5**
WRAB *e**PP pP 14 48 14.8 -0.1
WRAB pmax pmax
comp=Z,38nm,0.9s,mb5.4
WRAB Tennant Creek 49.90 129 *e*P **P** **14 48 06.9 -0.5**
comp=Z,38nm,0.9s,mb5.4
WRAB *e*pP pP 14 48 14.8 -0.1
WB2 Warramunga Arr 49.90 129⇓*i*P **P** **14 48 07.3 -0.1**
WB2 Warramunga Arr 49.90 129 *e*P **P** **14 48 07.0 -0.4**
WB2 *e*pP pP 14 48 14.5 -0.5
CLNS Chul'man 50.48 21 *e*P **P** **14 48 11.3 -0.5**
CLNS pmax pmax
comp=Z,20nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,14nm,1.2s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS MLR MLR
comp=N,200nm,12.0s,MS4.6
CLNS MLR MLR
comp=E,300nm,12.0s,MS4.6
CLNS MLR MLR
comp=Z,600nm,12.0s,MS4.8
ASPA Alice Springs 51.81 133 *e*P **P** **14 48 21.9 +0.1**
AS31 Alice Springs 51.81 133 *e*P **P** **14 48 21.9 +0.1**
ASAR Alice Springs 51.81 133 P **P** **14 48 21.9 +0.1**
comp=Z,14nm,0.9s,mb4.9,baz=309,slow=7.1,SNR=121
ASAR PcP PcP 14 49 35.7 +1.1
comp=Z,1.3nm,0.8s,baz=329,slow=3.2,SNR=4.7
ASAR LR LR 15 11 21.4
comp=Z,250nm,20.5s,MS4.2,baz=305,slow=37
ASAR Alice Springs 51.81 133 P **P** **14 48 22.0 +0.2**
ASAR 14 49 35.7
ASAR pmax pmax
comp=Z,14nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR MLR MLR
comp=Z,250nm,20.5s
SVE Sverdlovsk 52.15 337 *e*P **P** **14 48 26.0 +1.7**
SVE *e* pP 14 48 32.5 +0.6
SVE MLR MLR
comp=N,200nm,17.0s,MS4.3
SVE MLR MLR
comp=E,100nm,17.0s,MS4.3
SVE MLR MLR
comp=Z,200nm,17.0s,MS4.2
GNI Garni 52.44 312 P **P** **14 48 27.2 +0.7**
comp=Z,3.1nm,0.4s,mb4.6,baz=153,slow=9.0,SNR=5.5
GNI Garni 52.44 312 P **P** **14 48 27.2 +0.7**
GNI pmax pmax
comp=Z,3.0nm,0.4s
GNI Garni 52.44 312 *e*P **P** **14 48 27.1 +0.7**
comp=Z,74nm,1.2s,mb5.5
ARU Arti 52.70 335⇑*e*P **P** **14 48 28.7 +0.3**
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ARU Arti 52.70 335 *e*P **P** **14 48 27.6 -0.8**
comp=Z,24nm,1.1s,mb5.0
FORT Forrest 52.88 144 *e*P **P** **14 48 30.0 +0.3**
comp=Z,16nm,1.0s,mb4.9
ZEI Tsey 53.88 315 *e*P **P** **14 48 38.6 +1.5**
ZEI *e**PP pP 14 48 47.1 +2.4
ZEI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KIV Kislovodsk 55.10 316 *e*P **P** **14 48 47.5 +1.6**
KIV *e*S **S** **14 56 28.5 +1.3**
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,123nm,15.0s,MS4.1
KIV Kislovodsk 55.10 316 *e*P **P** **14 48 48.2 +2.3**
comp=Z,45nm,1.2s,mb5.4
PMG Port Moresby 55.91 110 P **P** **14 48 54.0 +2.3**
PMG pmax pmax
comp=Z,31nm,1.1s
PMG Port Moresby 55.91 110 P **P** **14 48 54.0 +2.3**
comp=Z,31nm,1.1s,mb5.2
YAK Yakutsk 56.03 19 *e*P **P** **14 48 50.7 -1.9**
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,20nm,1.3s
YAK pmax pmax
comp=Z,40nm,1.3s,mb5.3
YAK MLR MLR
comp=N,100nm,15.0s,MS4.2
YAK MLR MLR
comp=Z,100nm,15.0s,MS4.0
YAK MLR MLR
comp=E,100nm,16.0s,MS4.2
YAK Yakutsk 56.03 19 *e*P **P** **14 48 51.4 -1.2**
comp=E,39nm,1.0s,mb5.4
YAK *e*pP pP 14 48 58.6 -1.6
MALT Malatya 56.70 308 *e*P **P** **14 48 57.0 -0.4**
MALT pmax pmax
comp=Z,17nm,1.2s,mb5.0
MALT Malatya 56.70 308 *e*P **P** **14 48 57.0 -0.4**
comp=Z,17nm,1.2s,mb5.0
KMBO Kilima Mbogo 58.82 261 P **P** **14 49 10.9 -1.4**
comp=Z,2.3nm,1.0s,mb4.2,baz=227,slow=23,SNR=2.8
KMBO LR LR 15 14 42.2
comp=Z,106nm,18.3s,MS4.0,baz=90,slow=36
KMBO Kilima Mbogo 58.82 261 P **P** **14 49 10.9 -1.4**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO MLR MLR
comp=Z,106nm,18.3s
CTA Charters Tower 59.51 122 *e*P **P** **14 49 17.6 +0.6**
comp=Z,8.3nm,1.0s,mb4.7

CTA Charters Tower 59.51 122 LR LR 15 17 46.0
comp=Z,184nm,19.9s,MS4.2,baz=280,slow=39
CTA Charters Tower 59.51 122 *e*P **P** **14 49 17.6 +0.6**
CTA pmax pmax
comp=Z,8.0nm,1.0s
CTAO Charters Tower 59.51 122 *e*P **P** **14 49 17.6 +0.6**
CTAO pmax pmax
comp=Z,19nm,1.3s,mb5.0
CTAO Charters Tower 59.51 122 *e*P **P** **14 49 17.6 +0.5**
comp=Z,19nm,1.3s,mb5.0
BRTR Keskin Array B 60.63 309 P **P** **14 49 23.7 -1.0**
comp=Z,4.3nm,0.8s,mb4.6,baz=124,slow=6.2,SNR=12
BRTR LR LR 15 19 11.7
comp=Z,90nm,20.2s,MS3.9,baz=115,slow=40
BRTR Keskin Array B 60.63 309 P **P** **14 49 23.7 -1.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR MLR MLR
comp=Z,90nm,20.2s
BR131 Keskin Array S 60.63 309 *e*P **P** **14 49 23.4 -1.3**
comp=Z,3.8nm,0.3s,mb5.0
BR131 *e*pP pP 14 49 30.4 -2.1
STKA Stephens Creek 62.20 136⇓ *i*P **P** **14 49 35.7 +0.4**
comp=Z,13nm,0.9s,mb5.1
STKA Stephens Creek 62.20 136 P **P** **14 49 35.9 +0.5**
comp=Z,17nm,0.8s,mb5.2,baz=308,slow=6.5,SNR=29
STKA LR LR 15 15 46.5
comp=Z,424nm,21.3s,MS4.6,baz=118,slow=35
STKA Stephens Creek 62.20 136 *e*P **P** **14 49 35.5 +0.2**
STKA *e*pP pP 14 49 42.7 -0.4
MOS Moscow 62.26 327 *e*P pP 14 49 43.2 -0.3
OBN Obninsk 62.60 327⇓ *e*P **P** **14 49 37.1 -1.0**
OBN *e*SS SS 15 02 01.8 -7.2
OBN pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
OBN Obninsk 62.60 327 P **P** **14 49 39.3 +1.3**
MA2 Magadan 62.91 28 *e*P **P** **14 49 38.8 -1.3**
MA2 pmax pmax
comp=Z,31nm,1.0s,mb5.4
MA2 Magadan 62.91 28 *e*P **P** **14 49 38.8 -1.3**
comp=Z,31nm,1.0s,mb5.4
TIXI Tiksi 63.25 11⇑ *e*P **P** **14 49 40.6 -1.7**
TIXI pmax pmax
comp=Z,25nm,1.6s,mb5.1
TIXI Tiksi 63.25 11 *e*P **P** **14 49 40.9 -1.5**
TIXI *e*pP pP 14 49 47.7 -2.4
SEY Seymchan 65.03 25⇑ *e*P **P** **14 49 52.8 -1.2**
AKASG Malin Array Be 65.70 320 P **P** **14 49 56.8 -1.6**
comp=Z,0.2nm,0.3s,baz=88,slow=4.8,SNR=7.3
AKASG LR LR 15 22 53.2
comp=Z,91nm,21.5s,MS3.9,baz=330,slow=40
AKASG Malin Array Be 65.70 320 P **P** **14 49 56.8 -1.6**
AKASG LR LR 15 22 53.2
JOF Joensuu 67.75 334 *e*p **P** **14 50 12.5 +1.1**
comp=Z,14nm,0.8s,mb5.1
HNR Honiara 67.86 105 *e*P **P** **14 50 15.3 +3.2**
HNR pmax pmax
comp=Z,59nm,0.7s,mb5.7
HNR Honiara 67.86 105 *e*P **P** **14 50 15.3 +3.2**
comp=Z,59nm,0.7s,mb5.7
APA Apatity 68.54 339⇑ *e*P **P** **14 50 20.0 +3.6**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
ARMA Armidale 68.67 129 *e*P **P** **14 50 19.4 +2.2**
FINES FINESS Array B 69.71 331 P **P** **14 50 23.6 -0.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=90,slow=9.7,SNR=4.9
FINES LR LR 15 23 26.3
comp=Z,165nm,20.3s,MS4.3,baz=270,slow=38
FINES FINESS Array B 69.71 331 P **P** **14 50 23.6 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES MLR MLR
comp=Z,165nm,20.3s
KAF Kangasniemi 69.76 332 *e*p **P** **14 50 26.4 +2.4**
baz=100,slow=5.8
UZH Uzhgorod 69.86 318 *e*P pP 14 50 31.0 -1.4
UZH pmax pmax
comp=Z,20nm,1.0s,mb5.0
KOLS Kolonicke sedl 69.90 318 *e* **P** **14 50 28.5 +3.7**
SUW Suwalki 69.91 323 *e*P **P** **14 50 23.5 -1.4**
SUW *e* pP 14 50 31.3 -1.4
SUW pmax pmax
comp=Z,73nm,1.1s,mb5.5
SUW Suwalki 69.91 323 *e*P **P** **14 50 23.5 -1.4**
comp=Z,73nm,1.1s,mb5.5
SUW *e* pP 14 50 31.3 -1.4
CRVS Cervenica-Dubn 70.43 318 *e*P **P** **14 50 28.4 +0.3**
STHS Stebnicka Huta 70.61 318 *e* **P** **14 50 32.2 +3.0**
KECS Kecovo 71.05 317 *e*P **P** **14 50 31.0 -0.8**
NIE Niedzica 71.22 318 *e*P **P** **14 50 34.0 +1.1**
LSZ Lusaka 71.45 249 *e*P **P** **14 50 34.4 +0.1**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LSZ Lusaka 71.45 249 *e*P **P** **14 50 34.4 +0.1**
comp=Z,4.5nm,0.8s,mb4.5
ARCES ARCESS Array B 71.93 340 LR LR 15 25 56.1
comp=Z,192nm,20.4s,MS4.4,baz=120,slow=39
VYHS Vyhne 72.14 317 *e*P **P** **14 50 39.0 +0.6**
BILL Bilibino 72.15 22 *e*P **P** **14 50 37.8 -0.7**
BILL pmax pmax
comp=Z,26nm,1.4s,mb5.0
BILL Bilibino 72.15 22 *e*P **P** **14 50 37.8 -0.6**
comp=Z,26nm,1.4s,mb5.0
OKC Ostrava-Krasne 72.65 319 *e*P **P** **14 50 41.8 +0.4**
OKC *e*pP pP 14 50 48.6 -0.7
MORC Moravsky Berou 73.04 319 *e*P **P** **14 50 42.9 -0.9**
MORC *e**PP pP 14 50 50.7 -0.9
MORC pmax pmax
comp=Z,13nm,0.9s,mb4.9
MORC Moravsky Berou 73.04 319 *e*P **P** **14 50 42.9 -0.8**
comp=Z,13nm,0.9s,mb4.8
MORC *e*pP pP 14 50 50.7 -0.9
DPC Dobruska-Polom 73.84 319 *e*P **P** **14 50 47.8 -0.7**
DPC *e*pP pP 14 50 55.5 -0.8
UPC Upice 74.04 319 *e*P **P** **14 50 46.0 -3.6**
PRU Pruhonice 74.98 319 *e*P **P** **14 50 56.7 +1.6**
PRU *e*pP pP 14 51 02.4 -0.6
BRG Berggiesshubel 75.36 320 *e*P **P** **14 50 57.4 +0.2**
comp=Z,3.1nm,0.7s,mb4.3
BRG *e* pP 14 51 04.2 -1.0
comp=Z,7.3nm,1.0s
BRG Berggiesshubel 75.36 320 *e*P **P** **14 50 57.4 +0.1**
BRG *e* pP 14 51 04.2 -1.0
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GEC2 GERESS Array S 75.55 318 *e*P **P** **14 50 58.2 -0.2**
GEC2 *e**PP pP 14 51 05.0 -1.3
GERES GERESS Array B 75.55 318 P **P** **14 50 58.5 +0.2**
comp=Z,4.2nm,1.0s,mb4.3,baz=84,slow=6.8,SNR=15
GERES LR LR 15 30 19.7
comp=Z,82nm,18.1s,MS4.1,baz=86,slow=41
KHC Kasperske Hory 75.62 318 *e*P **P** **14 51 01.5 +2.7**
KHC Kasperske Hory 75.62 318⇑ *e*P **P** **14 50 58.2 -0.6**
CLL Collm 75.94 320 *i* P **P** **14 51 00.8 +0.2**
comp=Z,7.0nm,1.3s,mb4.4
CLL *i* pP pP 14 51 07.3 -1.2
CLL *i* sP sP 14 51 10.9 -0.5
CLL Collm 75.94 320 *i* P **P** **14 51 00.8 +0.2**
CLL *i **PP pP 14 51 07.3 -1.2
CLL *i **SP sP 14 51 10.9 -0.5
CLL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
SPB4 Spitsbergen Ar 76.23 348 *e*P pP 14 51 09.9 -0.2
NB2 NORSAR Subarra 76.80 330 P pP 14 51 11.9 -1.5
comp=Z,14nm,1.2s,baz=89,slow=5.6
NB2 NORSAR Subarra 76.80 330 P pP 14 51 11.9 -1.5
NB2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
NOA NORSAR Array B 76.80 330 P **P** **14 51 03.6 -1.9**
comp=Z,2.2nm,1.1s,mb4.0,baz=93,slow=5.2,SNR=2.4
NOA LR LR 15 27 37.5
comp=Z,75nm,20.2s,MS4.0,baz=85,slow=38
NOA NORSAR Array B 76.80 330 P **P** **14 51 03.6 -1.9**
NOA pmax pmax
comp=Z,2.0nm,1.1s
NOA MLR MLR
comp=Z,75nm,20.2s
LBTB Lobatse 76.91 241 *e*P **P** **14 51 07.1 +1.0**
LBTB *e**PP pP 14 51 14.4 +0.4
LBTB pmax pmax
comp=Z,11nm,0.9s,mb4.8
LBTB Lobatse 76.91 241 *e*P **P** **14 51 07.1 +1.0**
comp=Z,11nm,0.9s,mb4.8
LBTB *e*pP pP 14 51 14.4 +0.3
GRA1 Grafenberg Arr 77.14 319 *e*P **P** **14 51 07.8 +0.4**
comp=Z,8.0nm,0.8s,mb4.7
GRA1 *e*pP pP 14 51 14.7 -0.6
GRF Grafenberg Arr 77.14 319 *e*P **P** **14 51 07.8 +0.4**
comp=Z,8.0nm,0.8s,mb4.7
GRF *e*pP pP 14 51 14.7 -0.6
comp=Z,8.0nm,0.8s
GRF Grafenberg Arr 77.14 319 *e*P **P** **14 51 07.8 +0.4**
GRF *e**PP pP 14 51 14.7 -0.6
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GRF Grafenberg Arr 77.14 319 *e*P **P** **14 51 07.8 +0.4**
GRF *e**PP pP 14 51 14.7 -0.6
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BOSA Boshof 78.42 237 P **P** **14 51 15.7 +1.1**
comp=Z,10nm,0.9s,mb4.7,baz=67,slow=7.3,SNR=11
BOSA Boshof 78.42 237 *e*P **P** **14 51 15.5 +0.9**
BOSA *e**PP pP 14 51 22.5 0.0
BOSA pmax pmax
comp=Z,15nm,0.9s,mb4.9
BOSA Boshof 78.42 237 *e*P **P** **14 51 15.5 +1.0**
comp=Z,15nm,0.9s,mb4.9
BOSA *e*pP pP 14 51 22.4 0.0
CASY Casey 78.68 174⇓ *i*P **P** **14 51 15.5 -0.5**
KEST Kesra 79.77 304 P **P** **14 51 23.1 +1.2**
comp=Z,3.6nm,0.9s,mb4.3,baz=298,slow=7.1,SNR=4.3
CDF Champ du Feu 79.83 317 *e*P **P** **14 51 20.6 -1.6**
comp=Z,14nm,1.0s,mb4.5
CDF Champ du Feu 79.83 317 *e*P **P** **14 51 20.6 -1.6**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 79.83 317 *e*P **P** **14 51 20.6 -1.6**
comp=Z,6.9nm,1.0s,mb4.5
SBF Sospel 80.24 313 *e*P **P** **14 51 22.9 -1.6**
comp=Z,46nm,0.9s,mb5.1
SBF Sospel 80.24 313 *e*P **P** **14 51 22.9 -1.6**
SBF pmax pmax
comp=Z,23nm,0.9s,mb5.1
SBF Sospel 80.24 313 *e*P **P** **14 51 22.9 -1.6**
comp=Z,23nm,0.9s,mb5.1
HAU Haudompre 80.49 317 *e*P **P** **14 51 24.1 -1.7**
comp=Z,25nm,0.9s,mb4.8
HAU *e*R
comp=Z,62nm,20.2s
HAU Haudompre 80.49 317 *e*P **P** **14 51 24.1 -1.7**
HAU pmax pmax
comp=Z,13nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,60nm,20.3s,MS3.9
HAU Haudompre 80.49 317 *e*P **P** **14 51 24.1 -1.7**
comp=Z,13nm,0.9s,mb4.8
HAU LR LR
comp=Z,60nm,20.3s,MS3.9
LPG La Plagne 80.53 315 *e*P **P** **14 51 25.0 -1.0**
comp=Z,26nm,0.8s,mb4.9
LPG La Plagne 80.53 315 *e*P **P** **14 51 25.0 -1.0**
LPG pmax pmax
comp=Z,13nm,0.8s,mb4.9
LPG La Plagne 80.53 315 *e*P **P** **14 51 25.0 -1.0**
comp=Z,13nm,0.8s,mb4.9
LPL La Plagne 80.54 315 *e*P **P** **14 51 25.1 -1.0**
comp=Z,42nm,0.9s,mb5.1
LPL La Plagne 80.54 315 *e*P **P** **14 51 25.1 -1.0**
LPL pmax pmax
comp=Z,21nm,0.9s,mb5.1
LPL La Plagne 80.54 315 *e*P **P** **14 51 25.1 -1.0**
comp=Z,21nm,0.9s,mb5.1
MBDF Montbardon 80.61 314 *e*P **P** **14 51 25.6 -0.8**
comp=Z,15nm,0.9s,mb4.6
MBDF Montbardon 80.61 314 *e*P **P** **14 51 25.6 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 80.61 314 *e*P **P** **14 51 25.6 -0.8**
comp=Z,7.7nm,0.9s,mb4.6
BNI Bardonecchia 80.63 314 *e*P **P** **14 51 28.1 +1.5**
BNI *e**PP pP 14 51 34.6 +0.1
BNI pmax pmax
comp=Z,14nm,0.9s,mb4.9
BNI Bardonecchia 80.63 314 *e*P **P** **14 51 28.1 +1.5**
comp=Z,14nm,0.9s,mb4.9
BNI *e*pP pP 14 51 34.5 0.0
FRF La Foret Royal 80.85 313 *e*P **P** **14 51 26.4 -1.3**
comp=Z,34nm,0.9s,mb5.0
FRF La Foret Royal 80.85 313 *e*P **P** **14 51 26.4 -1.3**
FRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
FRF La Foret Royal 80.85 313 *e*P **P** **14 51 26.4 -1.3**
comp=Z,17nm,0.9s,mb5.0
LMR La Mourre 80.97 312 *e*P **P** **14 51 27.1 -1.3**
comp=Z,30nm,1.0s,mb4.9
LMR La Mourre 80.97 312 *e*P **P** **14 51 27.1 -1.3**
LMR pmax pmax
comp=Z,15nm,1.0s,mb4.9
LMR La Mourre 80.97 312 *e*P **P** **14 51 27.1 -1.3**
comp=Z,15nm,1.0s,mb4.9
ORIF Oris-en-Rattie 81.21 314 *e*P **P** **14 51 28.6 -1.1**
ORIF *e*R
comp=Z,92nm,21.0s
GIVF Givet 81.22 319 *e*P **P** **14 51 28.5 -1.2**
DOU Dourbes 81.36 319⇑ *i*P **P** **14 51 30.3 -0.2**
DOU AP pP 14 51 37.5 -1.0
SMRF Simiane la Rot 81.56 313 *e*P **P** **14 51 30.7 -0.8**
comp=Z,25nm,1.2s,mb4.7
SMRF Simiane la Rot 81.56 313 *e*P **P** **14 51 30.7 -0.8**
comp=Z,25nm,1.2s,mb5.0
BAIF Baives 81.62 319 *e*P **P** **14 51 30.8 -1.0**
comp=Z,32nm,0.9s,mb5.0
BAIF Baives 81.62 319 *e*P **P** **14 51 30.8 -1.0**
BAIF pmax pmax
comp=Z,16nm,0.9s,mb5.0
BAIF Baives 81.62 319 *e*P **P** **14 51 30.8 -1.0**
comp=Z,16nm,0.9s,mb5.0
VIVF Saint-Julien-l 82.07 314 *e*P **P** **14 51 33.0 -1.2**
comp=Z,17nm,0.9s,mb4.7
VIVF Saint-Julien-l 82.07 314 *e*P **P** **14 51 33.0 -1.2**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VIVF Saint-Julien-l 82.07 314 *e*P **P** **14 51 33.0 -1.2**
comp=Z,8.4nm,0.9s,mb4.7
LOR Lormes 82.26 317 *e*P **P** **14 51 33.6 -1.6**
comp=Z,28nm,1.0s,mb4.8
LOR *e*R
comp=Z,69nm,18.2s
LOR Lormes 82.26 317 *e*P **P** **14 51 33.6 -1.6**
LOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,70nm,18.3s,MS4.1
LOR Lormes 82.26 317 *e*P **P** **14 51 33.6 -1.6**
comp=Z,14nm,1.0s,mb4.8
LOR LR LR
comp=Z,70nm,18.3s,MS4.1
TSUM Tsumeb 82.27 249 *e*P **P** **14 51 37.1 +1.8**
comp=Z,6.9nm,0.8s,mb4.6
TSUM *e*pP pP 14 51 43.6 +0.4
SMF Signal de Mont 82.37 316 *e*P **P** **14 51 34.1 -1.7**
comp=Z,30nm,0.9s,mb4.9
SMF Signal de Mont 82.37 316 *e*P **P** **14 51 34.1 -1.7**
SMF pmax pmax
comp=Z,15nm,0.9s,mb4.9
SMF Signal de Mont 82.37 316 *e*P **P** **14 51 34.1 -1.7**
comp=Z,15nm,0.9s,mb4.9
MAW Mawson 82.52 192 *e*P **P** **14 51 37.1 +0.6**
comp=Z,4.6nm,1.1s,mb4.4
MAW Mawson 82.52 192 P **P** **14 51 37.6 +1.1**
comp=Z,7.3nm,1.0s,mb4.7,baz=26,slow=7.5,SNR=12
MAW Mawson 82.52 192 *e*P **P** **14 51 37.1 +0.6**
MAW pmax pmax
comp=Z,5.0nm,1.1s
SSF Saint Saulge 82.53 316 *e*P **P** **14 51 35.0 -1.6**
comp=Z,10nm,0.9s,mb4.6
SSF Saint Saulge 82.53 316 *e*P **P** **14 51 35.0 -1.6**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SSF Saint Saulge 82.53 316 *e*P **P** **14 51 35.0 -1.6**
comp=Z,5.1nm,0.9s,mb4.5
AVF Avril sur Loir 82.68 316 *e*P **P** **14 51 35.8 -1.6**
comp=Z,28nm,1.1s,mb4.9
AVF Avril sur Loir 82.68 316 *e*P **P** **14 51 35.8 -1.6**
AVF pmax pmax
comp=Z,14nm,1.1s,mb4.9
AVF Avril sur Loir 82.68 316 *e*P **P** **14 51 35.8 -1.6**
comp=Z,14nm,1.1s,mb4.9
LASF Ste Croix 82.77 313 *e*P **P** **14 51 36.9 -0.9**
comp=Z,56nm,1.5s,mb5.1
BGF Bois d'Agland 83.06 316 *e*P **P** **14 51 38.2 -1.2**
SUR Sutherland 83.29 235 P **P** **14 51 42.1 +1.6**
comp=Z,238nm,0.8s,SNR=6.0
SUR Sutherland 83.29 235 *e*P **P** **14 51 42.6 +2.1**
comp=Z,32nm,0.8s,mb5.4
SUR *e*pP pP 14 51 49.7 +1.2
TCF Toulx Ste Croi 83.54 316 *e*P **P** **14 51 40.8 -1.0**
comp=Z,34nm,1.1s,mb5.1
TCF Toulx Ste Croi 83.54 316 *e*P **P** **14 51 40.8 -1.0**
TCF pmax pmax
comp=Z,17nm,1.1s,mb5.1
TCF Toulx Ste Croi 83.54 316 *e*P **P** **14 51 40.8 -1.0**
comp=Z,17nm,1.1s,mb5.1
CAF Calviac 83.89 314 *e*P **P** **14 51 42.7 -0.9**
MTLF Montolieu 84.07 313 *e*P **P** **14 51 43.4 -1.1**
comp=Z,18nm,0.9s,mb4.9
MTLF Montolieu 84.07 313 *e*P **P** **14 51 43.4 -1.1**
MTLF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
MTLF Montolieu 84.07 313 *e*P **P** **14 51 43.4 -1.1**
comp=Z,8.8nm,0.9s,mb4.9
RJF Les Rejaudoux 84.20 315 *e*P **P** **14 51 44.1 -1.1**
comp=Z,31nm,1.0s,mb5.1
RJF *e*R
comp=Z,79nm,22.2s
RJF Les Rejaudoux 84.20 315 *e*P **P** **14 51 44.1 -1.1**
RJF pmax pmax
comp=Z,16nm,1.0s,mb5.1
RJF MLR MLR
comp=Z,80nm,22.3s,MS4.0
RJF Les Rejaudoux 84.20 315 *e*P **P** **14 51 44.1 -1.1**
comp=Z,16nm,1.0s,mb5.1
RJF LR LR
comp=Z,80nm,22.3s,MS4.0
LDF La Druitiere 84.66 318 *e*P **P** **14 51 46.1 -1.4**
MFF Saint Martin d 85.08 316 *e*P **P** **14 51 48.4 -1.2**
comp=Z,35nm,1.1s,mb5.1
MFF Saint Martin d 85.08 316 *e*P **P** **14 51 48.4 -1.2**
MFF pmax pmax
comp=Z,17nm,1.1s,mb5.1
MFF Saint Martin d 85.08 316 *e*P **P** **14 51 48.4 -1.2**
comp=Z,17nm,1.1s,mb5.1
GRR Gorron 85.18 318 *e*P **P** **14 51 48.9 -1.3**
ETSF Etsaut 86.15 313 *e*P **P** **14 51 54.2 -0.7**
comp=Z,18nm,0.8s,mb5.0
ETSF Etsaut 86.15 313 *e*P **P** **14 51 54.2 -0.7**
ETSF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ETSF Etsaut 86.15 313 *e*P **P** **14 51 54.2 -0.7**
comp=Z,8.9nm,0.8s,mb5.0
SGMF Saint Gilles 86.32 318 *e*P **P** **14 51 54.6 -1.2**
comp=Z,40nm,1.1s,mb5.3
SGMF Saint Gilles 86.32 318 *e*P **P** **14 51 54.6 -1.2**
SGMF pmax pmax
comp=Z,20nm,1.1s,mb5.3
SGMF Saint Gilles 86.32 318 *e*P **P** **14 51 54.6 -1.2**
comp=Z,20nm,1.1s,mb5.3
SJPF Ste Jean 86.58 313 *e*P **P** **14 51 56.5 -0.6**
comp=Z,30nm,1.2s,mb5.1
SJPF Ste Jean 86.58 313 *e*P **P** **14 51 56.5 -0.6**
SJPF pmax pmax
comp=Z,15nm,1.2s,mb5.1
SJPF Ste Jean 86.58 313 *e*P **P** **14 51 56.5 -0.6**
comp=Z,15nm,1.2s,mb5.1
ROSF Rostrenen 86.76 319 *e*P **P** **14 51 57.0 -1.0**
comp=Z,36nm,1.0s,mb5.2
ROSF Rostrenen 86.76 319 *e*P **P** **14 51 57.0 -1.0**
ROSF pmax pmax
comp=Z,18nm,1.0s,mb5.3
ROSF Rostrenen 86.76 319 *e*P **P** **14 51 57.0 -1.0**
comp=Z,18nm,1.0s,mb5.3
IMA2 Indian Mountai 87.69 22 *e*P **P** **14 52 02.3 -0.1**
IMA2 *e*pP pP 14 52 09.5 -1.0
SYO Syowa Base 89.38 197⇓ *e*P **P** **14 52 11.2 +0.8**
SYO Syowa Base 89.38 197⇑ *e*pP pP 14 52 18.8 +0.3
ESDC Sonseca Array 89.39 310 P **P** **14 52 11.3 +0.8**
comp=Z,0.2nm,0.3s,mb3.9,baz=45,slow=3.8,SNR=3.5
COLA College 90.40 22 *e*P **P** **14 52 12.9 -2.3**
MCK McKinley 90.54 24 *e*P **P** **14 52 16.2 +0.4**
MCK *e**PP pP 14 52 23.3 -0.6
MCK pmax pmax
comp=Z,21nm,1.3s,mb5.3
MCK McKinley 90.54 24 *e*P **P** **14 52 16.2 +0.3**
comp=Z,21nm,1.3s,mb5.3
MCK *e*pP pP 14 52 23.3 -0.6
TOA0 Torodi Ar. Sit 90.58 283 P **P** **14 52 16.7 +0.7**
TOA0 *e*pP pP 14 52 23.8 -0.2
TORD Torodi Ar. Bea 90.58 283 P **P** **14 52 16.6 +0.6**
comp=Z,1.5nm,1.0s,mb4.3,baz=85,slow=3.8,SNR=7.2
TORD PP PP 14 55 50.7 -0.3
comp=Z,1.0nm,1.1s,baz=93,slow=7.7,SNR=3.6
TORD LR LR 15 29 39.1
comp=Z,88nm,20.1s,MS4.2,baz=120,slow=33
MTE Manteigas 91.84 312 *e*P **P** **14 52 30.7 +8.8**
DAWY Dawson 93.91 21 *e*P **P** **14 52 31.2 -0.2**
DAWY *e*pP pP 14 52 37.9 -1.5
VNDA Vanda 96.55 168 *e*P **P** **14 52 43.6 +0.1**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 96.55 168 *e*P **P** **14 52 43.6 +0.1**
comp=Z,0.9nm,0.9s,mb4.2
DBIC Dimbokro 98.28 279 LR LR 15 36 16.8
comp=Z,68nm,19.7s,MS4.2,baz=59,slow=35
PDAR Pinedale Array 121.22 21 PKP PKPdf 14 58 06.1 -0.6
comp=Z,0.5nm,0.4s,baz=186,slow=1.5,SNR=6.0
ECSD EROS,Sioux Fal 123.74 10 *e*PKPdf PKPdf 14 58 10.6 -0.9
ECSD *ep*PKPdf pPKPdf 14 58 18.4 -1.3
MSU Marysvale 123.87 26 *e*PKIKP PKPdf 14 58 13.2 +1.4
BDFB Brasilia 143.95 260 PKP PKPdf 14 58 49.0 -0.2
comp=Z,7.3nm,0.8s,baz=137,slow=4.5,SNR=5.7
BDFB Brasilia 143.95 260 PKIKP PKPdf 14 58 49.0 -0.2
BDFB pmax pmax
comp=Z,7.0nm,0.8s
CPD Cerro la Pandu 144.92 327 *e*PKIKP PKPdf 14 58 50.8 -0.1
CPD *e* 14 58 57.9
TRQA Tornquist 146.75 214 *e*PKPbc PKPbc 14 58 56.3 +0.6
PLCA Paso Flores 148.50 201 PKPbc PKPbc 14 59 01.9 +1.4
comp=Z,5.2nm,1.1s,baz=175,slow=6.2,SNR=5.4
PLCA Paso Flores 148.50 201 PKP2 PKPbc 14 59 01.9 +1.4
PLCA pmax pmax
comp=Z,5.0nm,1.1s
CPUP Villa Florida 150.24 237 PKPbc PKPbc 14 59 05.6 +0.7
comp=Z,11nm,1.0s,baz=76,slow=2.0,SNR=11
CPUP Villa Florida 150.24 237 *e*PKPbc PKPbc 14 59 04.8 0.0
LPAZ La Paz 163.09 253 PKP PKPdf 14 59 18.1 +2.0
comp=Z,1.4nm,1.0s,baz=111,slow=4.0,SNR=4.2
LPAZ La Paz 163.09 253 PKIKP PKPdf 14 59 18.1 +2.0
LPAZ pmax pmax
comp=Z,1.0nm,1.0s

---

*IDC **28** 14:59:30.1±1.2,372S×12760E,h0km,mb4.0/3,mb1 4.1/5, mb1mx3.9/17,mbtmp3.9/5,ML3.4/2,Error ellipse: s-maj=120.5km s-min=21.7km az=72.0*
*ISCJB **28** 14:59:33.5±0.6,365S±008×1278E±01,h33km,mb4.3/7, Error ellipse: s-maj=20.4km s-min=9.4km az=130.4*
*NEIC **28** 14:59:35.3±2.4,384S×12773E,h38km±24km,mb4.5/6, Error ellipse: s-maj=23.6km s-min=11.8km az=50.0*
ISC 28 14:59:33.0±9.9,37S±01×1278E±02,h14km±65km,n18, σ1§30/16,mb4.3/7,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**14.49**	**188**	Pn	**Pn**	**15 02 54.9**	**-2.7**
	0.1nm,0.3s,baz=34,slow=15,SNR=3.5						
WRAB	**Tennant Creek**	**17.39**	**159**	*e*Pn	**Pn**	**15 03 35.6**	**+0.4**
	8.1nm,0.7s						
WRA	**Warramunga Arr**	**17.40**	**159**	P	**Pn**	**15 03 33.7**	**-1.5**
	0.1nm,0.3s,baz=339,slow=12,SNR=7.8						
WB2	**Warramunga Arr**	**17.40**	**159**	*e*P	**Pn**	**15 03 31.8**	**-3.5**
KSM	**Kuching**	**18.17**	**286**	*e*Pn	**Pn**	**15 03 45.9**	**+1.1**
AS31	**Alice Springs**	**20.74**	**164**	*e*P	**P**	**15 04 14.8**	**+1.6**
ASAR	**Alice Springs**	**20.75**	**164**	P	**P**	**15 04 14.5**	**+1.4**
	9.5nm,0.7s,baz=345,slow=11,SNR=86						
ASAR				PcP	PcP	15 08 22.1	-0.2
	0.5nm,0.5s,baz=344,slow=2.0,SNR=6.6						
ASPA	**Alice Springs**	**20.75**	**164**	*e*P	**P**	**15 04 15.2**	**+2.1**
HNR	**Honiara**	**32.48**	**102**	*e*P	**P**	**15 06 03.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**52.12**	**13**	P	**P**	**15 08 41.7**	**-0.9**
	7.3nm,0.8s,mb4.7						
SONM	**Songino Array**	**54.61**	**342**	P	**P**	**15 09 00.5**	**-0.5**
	1.1nm,0.9s,mb3.9,baz=162,slow=7.1,SNR=7.7						
MKAR	**Makanchi Array**	**64.23**	**327**	P	**P**	**15 10 07.2**	**-0.3**
	0.5nm,0.5s,mb3.9,baz=116,slow=8.2,SNR=5.9						
YAK	**Yakutsk**	**65.54**	**1**	*e*P	**P**	**15 10 16.4**	**+0.4**

10nm,0.8s,mb4.9
BRVK Borovoye 74.15 328 P P 15 11 09.1 +0.2
1.1nm,0.6s,mb4.0
ARU Arti 81.72 328 P P 15 11 45.7 -5.3
3.8nm,0.5s,mb4.6
QSPA South Pole Qui 86.28 180 P P 15 12 12.7 -1.6
2.3nm,1.0s,mb4.4
TORD Torodi Ar. Bea 125.92 284 PKP PKPdf 15 18 34.6 +0.2
0.9nm,0.9s,baz=94,slow=1.6,SNR=4.1
CPUP Villa Florida 149.77 171 PKPbc PKPbc 15 19 20.9 -1.5
1.0nm,0.6s,baz=118,slow=4.5,SNR=4.0

*IDC **28** 15:11:34.2±0.9, 641N×11809E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=130.7km s-min=18.0km az=62.0*
*NEIC **28** 15:11:35.4±0.8, 604N×11740E, h10km, mb4.5/1, Error ellipse: s-maj=18.2km s-min=13.5km az=45.0*
*ISCJB **28** 15:11:40.7±1.6, 59N±0.1×1172E±0.1, h68km±14km, mb3.7/7, Error ellipse: s-maj=30.5km s-min=12.0km az=100.6*
ISC 28 15:11:40.8±2.1, 60N±01×1173E±01, h49km±20km, n12, σ1°05/13, mb3.8/7, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**1.08 274**		P		**Pn**	**15 11 59.1**	**-0.5**
KKM	**Kota Kinabalu**	**1.08 274**		*e*Pn		**Pn**	**15 11 57.3**	**-2.3**
KKM				*e*Sn		**Sn**	**15 12 14.0**	**+0.6**
TSM	**Tawau**	**1.76 161**		P		**Pn**	**15 12 09.5**	**+0.6**
KSM	**Kuching**	**8.28 238**		*e*Pn		**Pn**	**15 13 38.1**	**-0.2**
WRA	**Warramunga Arr**	**30.73 147**		P		**P**	**15 17 50.6**	**-0.5**
0.6nm,0.7s,mb3.6,baz=334,slow=9.6,SNR=9.3								
ASAR	**Alice Springs**	**33.62 152**		P		**P**	**15 18 18.1**	**+1.6**
0.7nm,0.7s,mb3.7,baz=322,slow=8.1,SNR=8.3								
ASAR				PcP		PcP	15 20 55.7	-0.1
0.3nm,0.7s,baz=348,slow=2.9,SNR=4.1								
SONM	**Songino Array**	**42.74 349**		P		**P**	**15 19 31.8**	**-1.5**
0.4nm,0.7s,mb3.3,baz=151,slow=6.3,SNR=3.9								
STKA	**Stephens Creek**	**44.19 150**		P		**P**	**15 19 44.4**	**-0.6**
1.7nm,0.8s,mb3.9,baz=318,slow=12,SNR=3.4								
MKAR	**Makanchi Array**	**50.59 329**		P		**P**	**15 20 35.0**	**+0.3**
0.4nm,0.5s,mb3.6,baz=128,slow=9.3,SNR=3.2								
AKTK	**Aktyubinsk**	**66.15 323**		P		**P**	**15 22 24.3**	**+1.1**
AKTO	**Aktyubinsk**	**66.15 323**		P		**P**	**15 22 24.3**	**+1.1**
0.6nm,0.3s,mb4.2,baz=98,slow=7.1,SNR=3.7								
CASY	**Casey**	**72.23 183**		*e*P		**P**	**15 22 59.2**	**-1.6**
6.2nm,1.5s,mb4.3								

*IDC **28** 15:13:32.5±1.3, 1172N×9481E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=61.5km s-min=23.7km az=56.0*
*ISCJB **28** 15:13:35.5±1.1, 105N±0.3×937E±0.4, h33km, mb3.9/5, Error ellipse: s-maj=73.6km s-min=10.9km az=111.6*
ISC 28 15:13:38.3±1.1, 106N±03×938E±04, h35km, n12, σ0°98/11, mb3.9/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**1.50 315**		*e*P		x	15 14 00.0	
PBA				*e*S		x	15 14 29.9	
PBA				*e*x		x	15 14 50.6	
	comp=E,610nm,0.9s							
PBA				*e*x		x	15 14 50.7	
	comp=N,619nm,0.8s							
PKI	**Pulchoki**	**18.66 336**		*e*P		**Pn**	**15 17 54.6**	**+0.9**
GUN	**Gumba**	**18.79 338**		*e*P		**Pn**	**15 17 55.8**	**+0.6**
DMN	**Daman**	**18.82 335**		*e*P		**Pn**	**15 17 56.6**	**+1.0**
KKN	**Kakani**	**18.91 336**		*e*P		**Pn**	**15 17 57.1**	**+0.4**
GKN	**Gorkha**	**19.36 335**		*e*P		**Pn**	**15 18 00.2**	**-1.9**
KOLN	**Koldanda**	**19.61 332**		*e*P		**Pn**	**15 18 03.5**	**-1.6**
	comp=N,14nm,0.7s							
SONM	**Songino Array**	**38.61 14**		P		**P**	**15 20 46.1**	**-12**
comp=N,0.6nm,0.8s,mb3.4,baz=189,slow=8.0,SNR=4.3								
WRA	**Warramunga Arr**	**50.11 127**		P		**P**	**15 22 29.0**	**-0.9**
comp=N,2.3nm,0.8s,mb4.2,baz=307,slow=8.4,SNR=16								
WRA				PcP		PcP	15 23 49.2	+0.1
comp=N,0.5nm,0.7s,baz=318,slow=3.4,SNR=5.1								
ASAR	**Alice Springs**	**51.91 131**		P		**P**	**15 22 43.6**	**+0.2**
comp=N,1.2nm,0.7s,mb4.0,baz=311,slow=6.6,SNR=24								
BRTR	**Keskin Array B**	**60.45 310**		P		**P**	**15 23 44.6**	**+0.2**
comp=N,0.6nm,0.6s,mb3.8,baz=101,slow=7.6,SNR=3.7								
STKA	**Stephens Creek**	**62.21 135**		P		**P**	**15 23 57.0**	**+0.7**
comp=N,1.8nm,0.9s,mb4.2,baz=317,slow=5.5,SNR=5.8								

*ISCJB **28** 15:27:55.0±2.1, 468N±0.3×1526E±0.4, h33km, mb3.9/4, Error ellipse: s-maj=50.9km s-min=8.1km az=88.7*
*IDC **28** 15:27:56.2±5.8, 4757N×15225E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=128.3km s-min=35.7km az=128.0*
ISC 28 15:27:57.7±1.9, 470N±02×1525E±03, h35km, n20, σ1°22/27, mb3.9/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.98 235**		P		**Pn**	**15 29 22.2**	**-1.5**
NEM2				*e*S		**Sn**	**15 30 31.1**	**+0.2**
JRA	**Rausu**	**6.01 242**		P		**Pn**	**15 29 26.9**	**+2.9**
JNK	**Nakash**	**6.44 241**		P		**Pn**	**15 29 30.0**	**0.0**
JNK				*e*S		**Sn**	**15 30 47.6**	**+5.3**
JAK	**Akkeshi**	**6.81 237**		P		**Pn**	**15 29 33.7**	**-1.3**
JAK				*e*S		**Sn**	**15 30 51.2**	**-0.1**
JAR	**Ashorobuto**	**7.18 242**		P		**Pn**	**15 29 42.3**	**+2.2**
JAR				*e*S		**Sn**	**15 31 06.7**	**+6.3**
ASAJ	**Asahikawa**	**7.51 251**		Pn		**Pn**	**15 29 49.0**	**+4.4**
0.6nm,0.3s,baz=76,slow=8.1,SNR=5.9								
JKK2	**Kamakawa 2**	**7.52 249**		P		**Pn**	**15 29 48.9**	**+4.1**
JCH	**Churui**	**7.82 239**		P		**Pn**	**15 29 48.7**	**-0.2**
JCH				*e*S		**Sn**	**15 31 17.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**8.38 239**		P		**Pn**	**15 29 55.4**	**-1.2**
JNBK				*e*S		**Sn**	**15 31 29.0**	**-0.9**
JNB	**Noboribetsu**	**9.31 245**		P		**Pn**	**15 30 10.9**	**+1.5**
JKB	**Kayabe**	**9.64 242**		P		**Pn**	**15 30 13.5**	**-0.4**
JKB				*e*S		**Sn**	**15 31 58.9**	**-2.0**
JYM2	**Yakumo 2**	**9.92 245**		P		**Pn**	**15 30 18.3**	**+0.6**
JANG	**Nango**	**10.32 234**		*e*S		**Sn**	**15 32 10.0**	**-7.7**
JOSM	**Okushiri--Mats**	**10.50 247**		P		**Pn**	**15 30 26.8**	**+1.2**
MJAR	**Matsushiro Arr**	**14.88 231**		Pn		**Pn**	**15 31 29.9**	**+4.4**
0.3nm,0.3s,baz=44,slow=11,SNR=4.5								
MKAR	**Makanchi Array**	**46.46 297**		P		**P**	**15 36 22.1**	**+1.0**
0.5nm,0.4s,mb3.8,baz=59,slow=7.2,SNR=4.0								
BVAR	**Borovoye Array**	**50.39 309**		P		**P**	**15 36 49.5**	**-1.9**
0.4nm,0.4s,mb3.8,baz=43,slow=5.9,SNR=3.0								
FINES	**FINESS Array B**	**63.66 334**		P		**P**	**15 38 25.1**	**-0.2**
2.0nm,0.9s,mb4.1,baz=34,slow=6.1,SNR=8.1								
NB2	**NORSAR Subarra**	**67.88 341**		P		**P**	**15 38 52.4**	**-0.1**
comp=Z,0.7nm,0.6s,mb3.9,baz=26,slow=6.2								
NOA	**NORSAR Array B**	**67.88 341**		P		**P**	**15 38 52.2**	**-0.3**
comp=Z,1.0nm,0.7s,mb4.0,baz=27,slow=6.3,SNR=4.7								

IDC 28 15:29:32.5±1.9, 450S×12881E, h0km, mb3.5/1, mb1 3.3/3, mb1mx3.2/15, mbtmp3.1/3, ML2.9/2, 1D, Error ellipse: s-maj=131.2km s-min=29.6km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**14.57 347**		*e*P		Pn	15 32 55.8	-4.1
WRA	**Warramunga Arr**	**16.27 161**		Pn		Pn	15 33 23.1	+0.8
0.0nm,0.3s,baz=340,slow=12,SNR=5.1								
ASAR	**Alice Springs**	**19.68 166**		P		Pn	15 34 03.1	-1.3
0.1nm,0.3s,baz=347,slow=10,SNR=9.4								
SONM	**Songino Array**	**55.71 342**		P		P	15 39 10.9	+0.2
0.2nm,0.3s,baz=160,slow=8.8,SNR=4.3								

*IDC **28** 15:55:02.6±0.9, 1163N×9530E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, Error ellipse: s-maj=50.0km s-min=15.6km az=55.0*
*ISCJB **28** 15:55:05.0±0.5, 115N±0.1×951E±0.2, h33km, mb4.0/14, Error ellipse: s-maj=26.8km s-min=7.2km az=106.7*
*NEIC **28** 15:55:07.9±0.6, 1179N×9560E, h30km, mb4.2/4, Error ellipse: s-maj=28.1km s-min=9.6km az=53.0*
ISC 28 15:55:02.6±4.9, 116N±01×952E±02, h1km±31km, n32, σ1°18/31, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PBA	**Port Blair**	**2.37 272**		*e*P		x	15 55 27.6	
PBA				*e*S		x	15 56 02.5	
PBA				*e*x		x	15 56 11.7	
	comp=E,669nm,0.6s							
PBA				*e*x		x	15 56 12.3	
	comp=N,472nm,0.7s							
PBA	**Port Blair**	**2.37 272**		*e*P		x	15 55 27.7	
PBA				*e*S		x	15 55 45.4	
PBA				*e*x		x	15 55 57.2	
	comp=N,324nm,0.9s							
PBA				*e*x		x	15 55 59.5	
	comp=E,545nm,1.0s							
KULM	**Kulim**	**8.27 138**		*e*P		**Pn**	**15 57 04.5**	**+0.9**
KULM				*e*Sn		**Sn**	**15 58 34.2**	**-3.5**
HYB	**Hyderabad**	**17.09 292**		*i* P		**Pn**	**15 59 11.0**	**+8.2**
HYB	**Hyderabad**	**17.09 292**		*e*P		**Pn**	**15 59 11.0**	**+8.2**
PKI	**Pulchoki**	**18.37 332**		*e*P		**Pn**	**15 59 19.4**	**+0.8**
LSA	**Lhasa**	**18.43 349**		*e*P		**Pn**	**15 59 22.5**	**+3.2**
comp=E,4.9nm,0.6s								
GUN	**Gumba**	**18.44 333**		*e*P		**Pn**	**15 59 17.7**	**-1.8**
DMN	**Daman**	**18.54 331**		*e*P		**Pn**	**15 59 21.5**	**+0.8**
KKN	**Kakani**	**18.61 332**		*e*P		**Pn**	**15 59 21.2**	**-0.4**
GKN	**Gorkha**	**19.10 330**		*e*P		**Pn**	**15 59 25.1**	**-2.3**
comp=E,12nm,0.6s								
KOLN	**Koldanda**	**19.43 328**		*e*P		**Pn**	**15 59 29.8**	**-1.6**
comp=E,21nm,0.7s								
POO	**Poona**	**21.70 291**		*e*P		**P**	**15 59 54.0**	**-0.9**
AAK	**Ala-Archa**	**35.80 334**		P		**P**	**16 02 02.7**	**-0.7**
comp=E,1.5nm,0.7s,mb3.9								
MKAR	**Makanchi Array**	**36.76 345**		P		**P**	**16 02 12.3**	**+0.7**
comp=E,0.8nm,0.6s,mb3.6,baz=153,slow=8.2,SNR=7.8								
SONM	**Songino Array**	**37.37 12**		P		**P**	**16 02 15.0**	**-1.8**
comp=E,0.5nm,0.9s,mb3.2,baz=177,slow=8.5,SNR=3.5								
TLY	**Talaya**	**40.60 8**		*e*P		**P**	**16 02 49.7**	**+5.9**
ZAL	**Zalesovo**	**43.06 351**		P		**P**	**16 03 03.2**	**-0.8**
comp=E,0.6nm,0.3s,mb3.7,baz=1.4,slow=4.6,SNR=3.2								
BVAR	**Borovoye Array**	**45.88 339**		P		**P**	**16 03 27.7**	**+1.2**
comp=E,0.7nm,0.7s,mb3.8,baz=150,slow=12,SNR=3.6								
ZRNK	**Zerenda**	**46.31 338**		*e*P		**P**	**16 03 30.2**	**+0.3**
comp=E,3.0nm,0.8s,mb4.4								
AKTK	**Aktyubinsk**	**49.26 329**		P		**P**	**16 03 54.4**	**+1.6**
AKTO	**Aktyubinsk**	**49.26 329**		P		**P**	**16 03 54.4**	**+1.6**
comp=E,0.4nm,0.4s,mb3.9,baz=170,slow=7.6,SNR=3.7								
WRA	**Warramunga Arr**	**49.68 129**		*e*P		**P**	**16 03 56.1**	**+0.1**
comp=E,3.2nm,0.8s,mb4.3,baz=306,slow=8.6,SNR=26								
WRAB	**Tennant Creek**	**49.68 129**		*e*P		**P**	**16 03 55.9**	**-0.1**
comp=E,13nm,1.2s,mb4.7								
WB2	**Warramunga Arr**	**49.69 129**		*e*P		**P**	**16 03 56.2**	**+0.1**
ASAR	**Alice Springs**	**51.59 133**		P		**P**	**16 04 11.1**	**+0.7**
comp=E,2.2nm,0.8s,mb4.1,baz=314,slow=6.9,SNR=34								
BRTR	**Keskin Array B**	**60.84 309**		P		**P**	**16 05 16.2**	**-0.4**
comp=E,1.2nm,0.8s,mb4.1,baz=134,slow=7.1,SNR=4.8								
STKA	**Stephens Creek**	**61.97 136**		*e*P		**P**	**16 05 25.1**	**+0.9**
comp=E,2.4nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**61.97 136**		P		**P**	**16 05 24.1**	**-0.1**
comp=E,1.8nm,0.9s,mb4.3,baz=314,slow=12,SNR=5.8								
STKA	**Stephens Creek**	**61.97 136**		*e*P		**P**	**16 05 24.6**	**+0.4**
FINES	**FINESS Array B**	**69.95 331**		P		**P**	**16 06 16.1**	**+0.5**
comp=E,1.1nm,0.7s,mb4.1,baz=82,slow=14,SNR=3.9								
GERES	**GERESS Array B**	**75.78 318**		P		**P**	**16 06 50.4**	**+0.3**
comp=E,1.5nm,0.7s,mb4.2,baz=103,slow=5.8,SNR=3.6								

*ISCJB **28** 16:27:42.5±0.6, 164N±0.1×466W±0.1, h10km, mb4.1/12, MS3.6/11, Error ellipse: s-maj=17.3km s-min=13.7km az=118.1*
*IDC **28** 16:27:42.8±0.8, 1647N×4666W, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/25, mbtmp3.9/10, MS3.6/11, Ms1 3.6/11, ms1mx3.4/26, Error ellipse: s-maj=24.1km s-min=19.0km az=143.0*
*NEIC **28** 16:27:44.1±0.7, 1643N×4663W, h10km, mb4.3/5, Error ellipse: s-maj=18.2km s-min=16.0km az=160.0*
ISC 28 16:27:44.7±0.6, 164N±01×466W±01, h10km, n24, σ0°96/19, mb4.1/12, MS3.6/11, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDV	**Santo Domingo**	**24.56 255**		P		**P**	**16 33 05.7**	**+1.1**
4.0nm,0.8s,mb4.0,baz=101,slow=3.9,SNR=6.3								
SDV					LR	LR	16 41 52.8	
comp=Z,89nm,21.4s,MS3.2,baz=22,slow=35								
SDV	**Santo Domingo**	**24.56 255**		*e*P		**P**	**16 33 05.8**	**+1.2**
4.8nm,0.9s,mb4.0								
SAML	**Samuel**	**30.07 214**		*e*P		**P**	**16 33 54.3**	**+0.2**
2.6nm,1.0s,mb3.9								
BDFB	**Brasilia**	**31.90 182**		LR		LR	16 46 36.8	
comp=Z,84nm,19.6s,MS3.4,baz=203,slow=36								
CBN	**Corbin**	**34.61 315**		P		**P**	**16 34 40.2**	**+6.3**
81nm,0.3s								
SIV	**San Ignacio**	**35.22 205**		P		**P**	**16 34 38.3**	**-0.9**
0.3nm,0.3s,mb3.7,baz=34,slow=7.3,SNR=3.7								
JTS	**JuntasAbangare**	**37.72 266**		*e*P		**P**	**16 35 01.3**	**+0.8**
24nm,1.2s,mb4.8								
LPAZ	**La Paz**	**38.81 214**		P		**P**	**16 35 10.1**	**+0.4**
2.5nm,0.3s,mb4.4,baz=19,slow=5.3,SNR=8.3								
LPAZ	**La Paz**	**38.81 214**		*e*P		**P**	**16 35 10.1**	**+0.4**
1.3nm,0.7s,mb3.8								
SCHQ	**Schefferville**	**41.37 342**		LR		LR	16 48 33.6	
comp=Z,70nm,19.7s,MS3.5,baz=85,slow=30								
DBIC	**Dimbokro**	**42.00 98**		P		**P**	**16 35 37.3**	**+1.3**
6.0nm,1.0s,mb4.2,baz=223,slow=7.6,SNR=3.3								
DBIC					LR	LR	16 50 35.7	
comp=Z,73nm,20.5s,MS3.5,baz=181,slow=33								
CPUP	**Villa Florida**	**43.76 194**		P		**P**	**16 35 50.4**	**0.0**
4.3nm,0.8s,mb4.2,baz=10.0,slow=5.9,SNR=8.1								
CPUP					LR	LR	16 55 24.6	
comp=Z,60nm,18.8s,MS3.5,baz=196,slow=38								
CPUP	**Villa Florida**	**43.76 194**		*e*P		**P**	**16 35 50.1**	**-0.2**
47nm,1.2s,mb5.1								
LVC	**Limon Verde**	**44.51 210**		P		**P**	**16 35 53.8**	**-2.5**
TOA0	**Torodi Ar. Sit**	**46.77 87**		P		**P**	**16 36 21.0**	**+6.8**
TORD	**Torodi Ar. Bea**	**46.77 87**		P		**P**	**16 36 13.3**	**-0.9**
1.2nm,1.0s,mb3.8,baz=285,slow=7.4,SNR=5.2								
TORD					LR	LR	16 53 16.0	
comp=Z,91nm,19.4s,MS3.7,baz=285,slow=33								
TORD	**Torodi Ar. Bea**	**46.77 87**		P		**P**	**16 36 13.3**	**-0.9**
TORD					LR	LR	16 53 16.0	
ULM	**Lac du Bonnet**	**51.84 322**		P		**P**	**16 36 51.6**	**-1.3**
2.9nm,0.9s,mb4.2,baz=135,slow=4.6,SNR=3.7								
ULM					LR	LR	16 54 02.9	
comp=Z,50nm,20.1s,MS3.5,baz=347,slow=30								
PDAR	**Pinedale Array**	**59.20 310**		P		**P**	**16 37 45.9**	**0.0**
0.9nm,1.0s,mb3.8,baz=86,slow=8.0,SNR=5.4								
PDAR					LR	LR	17 00 50.1	
comp=Z,57nm,18.1s,MS3.7,baz=284,slow=34								
PLCA	**Paso Flores**	**61.06 201**		P		**P**	**16 37 59.2**	**+0.6**
1.1nm,0.7s,mb4.1,baz=26,slow=8.9,SNR=3.7								
YKA	**Yellowknife Ar**	**65.40 332**		LR		LR	17 05 05.2	
comp=Z,61nm,18.3s,MS3.8,baz=95,slow=34								
ARCES	**ARCESS Array B**	**68.49 21**		LR		LR	17 01 20.9	
comp=Z,44nm,18.3s,MS3.7,baz=15,slow=30								
BRTR	**Keskin Array B**	**72.31 53**		P		**P**	**16 39 10.8**	**+0.4**
0.5nm,0.7s,mb3.5,baz=268,slow=6.2,SNR=3.0								
AKTO	**Aktyubinsk**	**86.51 38**		LR		LR	17 18 58.0	
comp=Z,41nm,18.2s,MS3.9,baz=238,slow=36								

CASC 28 17:04:17.9±2.8, 1348N×9116W, h27km±44km, MD3.6, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUG	**Fuego 3**	**1.01 18**		*e*P		Pn	17 04 37.2	+0.9
PCG	**Pacaya**	**1.06 31**		*e*P		Pn	17 04 37.3	+0.4
TP2	**Tecpan 2**	**1.31 6**		*i* P		Pn	17 04 39.6	-0.7
TP2				*e*S		Sn	17 04 56.9	+0.1
RTR	**El Retiro**	**1.53 74**		*e*P		x	17 04 43.1	
RTR				*e*S		x	17 05 05.0	
SBLS	**San Blas**	**1.54 76**		*e*P		x	17 04 43.6	
SBLS				*e*S		x	17 05 05.3	
SNJE	**San Jose**	**1.56 75**		*e*P		x	17 04 43.5	
SNJE				*e*S		x	17 05 05.6	
RBDL	**Robledal**	**1.57 66**		*i* P		x	17 04 42.4	
LFRS	**El Faro**	**2.05 86**		*e*P		x	17 04 52.3	
LFRS				*e*S		x	17 05 15.4	

IGQ 28 17:06:04.9, 103S×7827W, h9km±2km, Mb4.0, Ms3.8, 2C-8D, Error ellipse: s-maj=2.0km s-min=0.7km az=4.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PISA	**Pisayambo**	**0.12 256**		P		Pg	17 06 08.6	+0.9
TAMB	**Tambo**	**0.35 344**		P		Pg	17 06 12.5	+0.7
VC1	**Cotopaxi 1**	**0.41 341**		P		Pg	17 06 13.5	+0.7
RUN5	**Runtun**	**0.41 202**		P		Pg	17 06 13.4	+0.4
RUN5					S	Sg	17 06 18.6	+0.2

CAMI	**Rancho Maria**	**0.42 326**		P		Pg	17 06 14.0	+0.8
JUIV	**Juive**	**0.44 206**		P		Pg	17 06 13.8	+0.3
JUIV				S		Sg	17 06 19.5	+0.3
ULBA	**Ulba**	**0.44 198**		P		Pg	17 06 13.8	+0.3
NAS1	**Nasa**	**0.45 332**		P		Pg	17 06 14.5	+0.9
NAS1				S		Sg	17 06 20.9	+1.4
RETU	**Refugio**	**0.45 203**		P		Pg	17 06 14.3	+0.6
RETU				S		Sg	17 06 20.2	+0.4
BILB	**Tungurahua vol**	**0.47 209**		P		Pg	17 06 14.5	+0.5
BILB				S		Sg	17 06 20.3	+0.2
PATA	**Patacocha**	**0.50 199**		P		Pg	17 06 14.7	+0.1
ARRY	**Arrayan**	**0.51 201**		P		Pg	17 06 14.8	0.0
ARRY				S		Sg	17 06 22.3	+0.8
ANTI	**Antisana**	**0.59 11**		P		Pg	17 06 16.7	+0.5
IGUA	**Igualata**	**0.59 219**		P		Pg	17 06 17.0	+0.8
IGUA				S		Sg	17 06 24.2	+0.2
JUA2	**San Juan 2**	**0.88 338**		P		Pg	17 06 24.4	+2.6
GGP	**Refugio Guagua**	**0.91 339**		P		Pg	17 06 22.7	+0.3
TERV	**Terraza Guagua**	**0.91 339**		P		Pg	17 06 23.2	+0.7
TERV				S		Sg	17 06 36.8	+2.4
PINO	**Pino**	**0.93 339**		P		Pg	17 06 23.4	+0.6
CAYR	**Refugio Cayamb**	**1.07 14**		P		Pg	17 06 26.2	+0.8
CAYA	**Cayambe**	**1.13 14**		P		Pg	17 06 27.1	+0.5
CONE	**Cono NE Rev Vo**	**1.14 33**		P		Pb	17 06 27.4	+0.6
CONE				S		Sg	17 06 42.8	+1.2

*IDC **28** 17:15:14.8±20.0, 3738N×13357E, h324km±160km, mb2.9/2, mb1 3.1/3, mb1mx2.7/21, mbtmp3.5/3, Error ellipse: s-maj=384.1km s-min=91.3km az=105.0*
*ISCJB **28** 17:15:18.9±1.3, 374N±02×1349E±02, h389km±8km, mb2.9/2, Error ellipse: s-maj=37.0km s-min=12.3km az=95.6*
*JMA **28** 17:15:19.4±0.2, 3734N×13489E, h390km±2km, M3.0*
ISC 28 17:15:20.2±1.3, 374N±02×1349E±02, h381km±8km, n16, σ0°38/19, mb2.9/2, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKY	**Yasaka**	**1.74 174**		P		**Pn**	**17 16 12.7**	**0.0**
JKY				S		**S**	**17 16 54.7**	**-0.3**
JSZ	**Suzu**	**1.98 87**		P		**Pn**	**17 16 14.6**	**+0.4**
JWT	**Wachi**	**2.12 168**		P		**Pn**	**17 16 15.3**	**+0.2**
JWT				S		**S**	**17 16 59.0**	**-0.4**
JNG	**Nsakai**	**2.75 109**		P		**Pn**	**17 16 20.6**	**+0.8**
JHS	**Saijyo**	**2.76 212**		P		**Pn**	**17 16 19.8**	**-0.1**
MAT	**Matsushiro**	**2.79 106**		P		**Pn**	**17 16 20.1**	**0.0**
MAT				S		**S**	**17 17 08.6**	**+0.2**
MAT	**Matsushiro**	**2.79 106**		P		**Pn**	**17 16 20.2**	**+0.1**
MJAR	**Matsushiro Arr**	**2.79 106**		P		**Pn**	**17 16 20.7**	**+0.6**
1.4nm,0.3s,baz=288,slow=10,SNR=34								
JHK	**Hiroka**	**3.30 91**		P		**Pn**	**17 16 24.6**	**+0.1**
JFT	**Otama**	**4.34 86**		P		**Pn**	**17 16 34.2**	**-0.2**
JMM	**Marumori**	**4.72 82**		P		**Pn**	**17 16 38.3**	**0.0**
JFK	**Kawauchi**	**4.77 88**		P		**Pn**	**17 16 37.9**	**-0.9**
JRG	**Rokugo**	**4.96 64**		P		**Pn**	**17 16 40.5**	**-0.2**
JMK	**Ichinoseki**	**5.24 70**		P		**Pn**	**17 16 43.5**	**-0.3**
WRA	**Warramunga Arr**	**57.00 181**		P		**P**	**17 24 27.5**	**-0.1**
0.7nm,0.5s,mb3.2,baz=356,slow=7.8,SNR=16								
WRA				PcP		PcP	17 25 18.1	+0.4
0.2nm,0.5s,baz=354,slow=4.4,SNR=4.9								
ASAR	**Alice Springs**	**60.71 181**		P		**P**	**17 24 53.0**	**+0.1**
0.1nm,0.4s,mb2.6,baz=360,slow=6.1,SNR=6.1								

IDC 28 17:15:52.0±2.8, 2391S×6741W, h212km±27km, mb1 3.4/3, mb1mx3.0/17, mbtmp3.8/3, Error ellipse: s-maj=47.3km s-min=22.0km az=71.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**7.61 355**		P		Pn	17 17 41.1	+1.0
1.5nm,0.3s,baz=172,slow=11,SNR=39								
LPAZ				S		S	17 19 07.7	+1.2
0.1nm,0.3s,baz=198,slow=20,SNR=3.0								
CPUP	**Villa Florida**	**9.45 107**		P		Pn	17 18 03.6	-0.

	1.1nm,0.8s,baz=345,slow=2.4,SNR=6.8							
ASAR				S	S	18 19 04.4	+3.1	
	2.0nm,1.0s,baz=350,slow=19,SNR=12							
ASPA	**Alice Springs**	**29.06**	**163**	*e*P	**P**	**18 14 39.1**	**+0.2**	
MJAR	**Matsushiro Arr**	**34.52**	**19**	P	**P**	**18 15 25.7**	**-0.3**	
	2.4nm,0.7s,mb3.6,baz=193,slow=9.0,SNR=8.3							
FORT	**Forrest**	**34.89**	**175**	⇑*i*P	**P**	**18 15 29.4**	**+0.3**	
	11nm,0.6s,mb4.4							
KLBR	**Kellerberrin**	**36.17**	**190**	*e*P	**P**	**18 15 39.3**	**-0.6**	
	30nm,1.5s,mb4.4							
MUN	**Mundaring**	**36.85**	**192**	*e*P	**P**	**18 15 45.3**	**-0.2**	
NWAO	**Narrogin (SRO)**	**37.57**	**190**	P	**P**	**18 15 51.5**	**0.0**	
STKA	**Stephens Creek**	**39.26**	**157**	⇓*i*P	**P**	**18 16 06.9**	**+1.5**	
	4.1nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**39.26**	**157**	P	**P**	**18 16 07.0**	**+1.6**	
	6.9nm,0.6s,mb4.2,baz=329,slow=7.7,SNR=24							
LSA	**Lhasa**	**40.68**	**312**	*e*P	**P**	**18 16 17.9**	**+0.9**	
	4.6nm,0.6s,mb4.0							
GTA	**Gaotai**	**41.73**	**331**	*e*P	**P**	**18 16 26.3**	**+0.9**	
GTA				AMB	AMB			
	comp=Z,2.0nm,0.6s,mb3.6							
SONM	**Songino Array**	**46.28**	**343**	P	**P**	**18 17 01.4**	**+0.4**	
	comp=Z,1.5nm,0.8s,mb3.4,baz=159,slow=8.2,SNR=12							
SONM				PcP	PcP	18 18 27.8	-1.2	
	comp=Z,0.8nm,0.7s,baz=150,slow=3.2,SNR=4.8							
MKAR	**Makanchi Array**	**56.09**	**326**	P	**P**	**18 18 12.9**	**0.0**	
	comp=Z,2.9nm,0.6s,mb3.8,baz=119,slow=8.1,SNR=29							
MKAR				PcP	PcP	18 19 05.9	+0.2	
	comp=Z,1.2nm,0.7s,baz=107,slow=4.1,SNR=4.8							
MKAR				ScP	ScP	18 22 32.0	+5.4	
	comp=Z,0.6nm,0.7s,baz=108,slow=4.7,SNR=3.6							
ZAL	**Zalesovo**	**59.32**	**334**	P	**P**	**18 18 33.5**	**-1.7**	
	comp=Z,0.7nm,0.3s,mb3.4,baz=62,slow=13,SNR=2.8							
ZRNK	**Zerenda**	**66.61**	**327**	*e*P	**P**	**18 19 22.0**	**-0.5**	
	comp=Z,2.4nm,0.5s,mb4.1							
IMA2	**Indian Mountai**	**82.79**	**24**	*e*P	**P**	**18 20 56.1**	**+1.8**	
MAW	**Mawson**	**83.48**	**200**	P	**P**	**18 20 58.5**	**+0.8**	
	comp=Z,1.2nm,0.6s,mb3.8,baz=284,slow=12,SNR=3.3							
VNDA	**Vanda**	**84.11**	**172**	P	**P**	**18 21 01.6**	**+0.7**	
	comp=Z,0.7nm,0.6s,mb3.6,baz=315,slow=6.3,SNR=8.5							
BRTR	**Keskin Array B**	**88.23**	**310**	P	**P**	**18 21 20.1**	**-0.6**	
	comp=Z,0.3nm,0.4s,mb3.3,baz=145,slow=4.5,SNR=3.5							
ARCES	**ARCESS Array B**	**89.36**	**340**	P	**P**	**18 21 24.0**	**-2.0**	
	comp=Z,1.6nm,0.7s,mb3.8,baz=64,slow=6.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**120.91**	**288**	PKP	PKPdf	18 27 21.0	+1.7	
	comp=Z,1.5nm,0.7s,baz=57,slow=1.8,SNR=9.4							
CPUP	**Villa Florida**	**157.87**	**175**	PKP	PKPdf	18 28 26.5	+3.2	
	comp=Z,0.4nm,0.3s,baz=188,slow=4.0,SNR=3.0							
CPUP	**Villa Florida**	**157.87**	**175**	PKP	PKPdf	18 28 26.5	+3.2	

NEIC ***28*** *18:22:07.5±0.4,944N×93.13E,h30km,mb4.1/2,Error ellipse: s-maj=17.1km s-min=7.1km az=55.0*
IDC ***28*** *18:22:13.7±3.5,955N×93.14E,h81km±32km,mb3.6/12, mb1 3.7/13,mb1mx3.5/26,mbtmp3.9/13,Error ellipse: s-maj=27.2km s-min=12.3km az=54.0*
ISCJB ***28*** *18:22:14.4±2.2,95N±01×932E±02,h111km±21km, mb3.9/13,Error ellipse: s-maj=30.1km s-min=8.7km az=112.5*

ISC 28 18:22:15.0±1.7,96N±01×932E±02,h95km±16km,n29, σ0§68/29,mb3.9/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PBA	**Port Blair**	**2.13**	**347**	*e*P		x	18 22 33.6	
PBA				*e*S		x	18 23 03.1	
PBA				*ex*		x	18 23 11.7	
	comp=E,486nm,0.4s							
PBA				*ex*		x	18 23 12.6	
	comp=N,519nm,0.5s							
PSI	**Prapat**	**8.79**	**139**	P		**Pn**	**18 24 19.5**	**+0.4**
	comp=N,1.0nm,0.3s,baz=318,slow=18,SNR=4.9							
PSI				S		**Sn**	**18 26 04.1**	**+7.7**
	comp=N,0.2nm,0.3s,baz=271,slow=20,SNR=4.6							
PSI	**Prapat**	**8.79**	**139**	P		**Pn**	**18 24 19.5**	**+0.4**
PSI				S		**Sn**	**18 26 04.1**	**+7.7**
PKI	**Pulchoki**	**19.37**	**339**	*e*P		**Pn**	**18 26 34.4**	**-0.7**
DMN	**Daman**	**19.52**	**338**	*e*P		**Pn**	**18 26 35.8**	**-1.0**
GUN	**Gumba**	**19.52**	**340**	*e*P		**Pn**	**18 26 36.4**	**-0.5**
KKN	**Kakani**	**19.62**	**339**	*e*P		**Pn**	**18 26 36.9**	**-1.1**
GKN	**Gorkha**	**20.05**	**337**	*e*P		**P**	**18 26 41.5**	**+1.1**
LSA	**Lhasa**	**20.13**	**355**	*e*P		**P**	**18 26 41.7**	**+0.4**
	comp=N,4.7nm,0.5s							
KOLN	**Koldanda**	**20.25**	**335**	*e*P		**P**	**18 26 44.0**	**+1.3**
AAK	**Ala-Archa**	**36.80**	**337**	*e*P		**P**	**18 29 14.2**	**+0.7**
	comp=N,2.9nm,0.8s,mb4.3							
MKAR	**Makanchi Array**	**38.25**	**348**	P		**P**	**18 29 25.7**	**-0.1**
	comp=N,1.2nm,0.7s,mb3.9,baz=168,slow=6.2,SNR=9.2							
SONM	**Songino Array**	**39.74**	**14**	P		**P**	**18 29 39.1**	**+0.9**
	comp=N,0.7nm,0.3s,mb3.9,baz=198,slow=7.3,SNR=12							
SONM				PcP	PcP	18 31 44.5	+1.6	
	comp=N,0.4nm,0.4s,baz=191,slow=5.9,SNR=4.1							
FITZ	**Fitzroy Crossi**	**42.19**	**131**	P		**P**	**18 29 58.6**	**+0.3**
	comp=N,1.4nm,0.9s,mb3.7,baz=288,slow=6.4,SNR=2.6							
BVAR	**Borovoye Array**	**47.11**	**341**	P		**P**	**18 30 37.3**	**-0.1**
	comp=N,0.5nm,0.4s,mb3.6,baz=139,slow=9.8,SNR=4.6							
ZRNK	**Zerenda**	**47.49**	**340**	*e*P		**P**	**18 30 39.5**	**-0.9**
WRA	**Warramunga Arr**	**49.98**	**126**	P		**P**	**18 30 59.4**	**0.0**
	comp=N,1.6nm,0.5s,mb4.2,baz=303,slow=8.8,SNR=30							
WRA				PcP	PcP	18 32 20.0	+1.9	
	comp=N,0.4nm,0.5s,baz=318,slow=2.9,SNR=8.9							
WRAB	**Tennant Creek**	**49.98**	**126**	*e*P		**P**	**18 30 59.6**	**+0.2**
WB2	**Warramunga Arr**	**49.99**	**126**	*e*P		**P**	**18 30 58.7**	**-0.8**
AKTK	**Aktyubinsk**	**50.04**	**331**	P		**P**	**18 31 00.2**	**+0.4**
AKTO	**Aktyubinsk**	**50.04**	**331**	P		**P**	**18 31 00.2**	**+0.4**
	comp=N,0.5nm,0.4s,mb3.8,baz=124,slow=8.5,SNR=3.7							
ASAR	**Alice Springs**	**51.69**	**130**	P		**P**	**18 31 11.4**	**-0.8**
	comp=N,1.0nm,0.5s,mb4.1,baz=304,slow=7.6,SNR=31							
ASAR				PcP	PcP	18 32 26.4	+1.9	
	comp=N,0.6nm,0.5s,baz=307,slow=3.4,SNR=9.5							
KMBO	**Kilima Mbogo**	**56.73**	**262**	P		**P**	**18 31 49.0**	**+0.3**
	comp=N,0.6nm,0.2s,mb4.2,baz=31,slow=18,SNR=3.1							
BRTR	**Keskin Array B**	**60.65**	**310**	P		**P**	**18 32 15.5**	**-0.4**
	comp=N,0.3nm,0.4s,mb3.6,baz=118,slow=9.0,SNR=3.6							
STKA	**Stephens Creek**	**61.92**	**134**	P		**P**	**18 32 24.6**	**0.0**
FINES	**FINESS Array B**	**70.80**	**332**	P		**P**	**18 33 21.0**	**-0.2**
	comp=N,2.1nm,1.0s,mb3.9,baz=152,slow=6.3,SNR=3.8							
GERES	**GERESS Array B**	**75.97**	**318**	P		**P**	**18 33 52.4**	**+0.9**
	comp=N,0.9nm,0.8s,mb3.6,baz=84,slow=4.8,SNR=6.4							
HFS	**Hagfors**		**76.55**	**330**	P	**P**	**18 33 53.8**	**-0.9**
	comp=N,3.5nm,1.0s,mb4.0,baz=132,slow=2.2,SNR=6.3							
PLCA	**Paso Flores**	**145.78**	**202**	PKPbc	PKPbc	18 41 44.8	+1.7	
	comp=N,0.7nm,0.6s,baz=138,slow=8.3,SNR=3.6							

ISCJB ***28*** *18:22:41.9±0.4,3693N×003×2801E±003,h14km±3km, Error ellipse: s-maj=4.4km s-min=4.0km az=57.5*
CSEM ***28*** *18:22:41.7±0.1,3697N×2804E,h15km,MD2.9,Error ellipse: s-maj=2.7km s-min=2.1km az=159.0*
ISK ***28*** *18:22:41.3,3695N×2802E,h18km,MD2.9*
NEIC ***28*** *18:22:42.7,3695N×2792E,h26km,MD3.0(ATH),After ATH.*
ATH ***28*** *18:22:42.4,3694N×2794E,h26km±2km,MD3.0/4*

ISC 28 18:22:42.2±0.4,3694N±003×2800E±003,h18km±3km,n18, σ1§06/32,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	**Yerkesik**	**0.29**	**49**	*i* PG		**Pg**	**18 22 48.1**	**-0.6**
YER				*i* SG		**Sg**	**18 22 52.4**	**-0.6**
MLSB	**Milas**	**0.40**	**333**	PG		**Pg**	**18 22 49.7**	**-0.7**
MLSB				SG		**Sg**	**18 22 56.0**	**+0.1**
DAT	**Datca**	**0.40**	**238**	PG		**Pg**	**18 22 49.7**	**-0.8**
DAT				SG		**Sg**	**18 22 57.1**	**+1.0**
BDRM	**Kayabasi**	**0.46**	**285**	*i* P		**Pg**	**18 22 51.1**	**-0.6**
BDRM				*i* S		**Sg**	**18 22 58.4**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.54**	**109**	PG		**Pg**	**18 22 52.2**	**-0.8**
BODT	**Bodrum**	**0.57**	**282**	PG		**Pg**	**18 22 53.5**	**0.0**
BODT				SG		**Sg**	**18 23 02.1**	**+1.0**
AYDN	**Tasoluk**	**0.72**	**352**	*i* P		**Pb**	**18 22 55.9**	**-0.4**
AYDN				*i* S		**Sb**	**18 23 06.1**	**+0.3**
ARG	**Arkhangelos**	**0.73**	**172**	*e*PN		**Pn**	**18 22 57.0**	**-0.7**
ARG				*e*SN		**Sn**	**18 23 08.5**	**+0.1**
ARG	**Arkhangelos**	**0.73**	**172**	*e*Pn		**Pn**	**18 22 57.0**	**-0.7**
ARG				*e*Sn		**Sn**	**18 23 09.5**	**+1.1**
NISR	**Nisiros**	**0.78**	**245**	*e*PN		**Pn**	**18 22 56.5**	**-1.8**
NISR				*e*SN		**Sn**	**18 23 07.5**	**-2.0**
DENT	**Denizli**	**1.15**	**45**	PN		**Pn**	**18 23 03.2**	**-0.3**
SMG	**Samos**	**1.20**	**310**	*e*PN		**Pn**	**18 23 04.5**	**+0.3**
SMG				*e*SN		**Sn**	**18 23 21.5**	**+1.5**
AKAS	**Kas**	**1.47**	**118**	*i* P		**Pg**	**18 23 11.0**	**+0.5**
AKAS				*i* S		**Sg**	**18 23 32.5**	**+2.7**
ELL	**Elmali**	**1.54**	**97**	*e*PN		**Pn**	**18 23 08.0**	**-0.8**
KARP	**Karpathos**	**1.55**	**206**	*e*PB		**Pb**	**18 23 09.5**	**-0.9**
KARP				*e*SN		**Sn**	**18 23 30.5**	**+1.9**
KDAG	**Bornova**	**1.57**	**338**	*i* P		**Pn**	**18 23 09.7**	**+0.5**
KDAG				*i* S		**Sn**	**18 23 32.8**	**+3.7**
BLCB	**Balcova**	**1.63**	**332**	*e*PN		**Pn**	**18 23 08.9**	**-1.1**
TKTP	**Tekketepe**	**2.14**	**59**	*i* P		**Pg**	**18 23 25.6**	**+2.2**
TKTP				*i* S		**Sg**	**18 23 59.0**	**+7.7**

ISCJB ***28*** *18:48:50.9±0.2,141N±003×97.16E±003,h33km,mb5.0/96, MS4.8/54, Error ellipse: s-maj=5.0km s-min=4.2km az=46.3*
BJI ***28*** *18:48:52.5,139N×9725E,h52km,mB5.4,mb5.2,Ms5.2, Msz5.1*
MOS ***28*** *18:48:52.8±1.0,148N×9721E,h47km,mb5.1/43, MS4.8/14,Error ellipse: s-maj=9.8km s-min=5.4km az=110.1*
SZGRF ***28*** *18:48:54.8,073N×9576E,h33km,mb4.7,Off west coast of northern Sumatera, Indonesia*
IDC ***28*** *18:48:54.1±2.3,133N×97.19E,h53km±18km,mb4.1/18, mb1 4.2/19,mb1mx4.2/22,mbtmp4.4/19,ML3.6/1,MS4.5/27, Ms1 4.5/27,ms1mx4.4/41,Error ellipse: s-maj=16.4km s-min=9.4km az=29.0*
NEIC ***28*** *18:48:55.4±1.4,152N×9728E,h56km±12km,mb4.8/35, MS4.4/2,Error ellipse: s-maj=11.1km s-min=5.2km az=49.0*

ISC 28 18:48:53.2±0.2,140N±003×9717E±003,h35km, h35km±3.0km:pP-P,n255,σ0§99/263,mb5.0/96,MS4.8/54, 24C-11D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**2.24**	**52**	P		**Pn**	**18 49 27.6**	**-0.1**
	20nm,0.3s,baz=232,slow=7.9,SNR=112							
PSI				S		**Sn**	**18 49 55.2**	**+1.1**
	89nm,0.3s,baz=151,slow=7.9,SNR=8.2							
PSI				LR	LR		18 50 07.5	
	comp=Z,7μm,19.6s,baz=280,slow=33							
PSI	**Prapat**	**2.24**	**52**	P		**Pn**	**18 49 27.6**	**-0.2**
PSI				S		**Sn**	**18 49 55.3**	**+1.1**
PSI				pmax	pmax			
	comp=Z,20nm,0.3s							
PSI				smax				
	comp=N,89nm,0.3s							
PSI				MLR	MLR			
	comp=Z,7μm,19.6s							
PPI	**Padang Panjang**	**3.72**	**120**	P		**Pn**	**18 49 49.0**	**+0.9**
	comp=Z,0.0nm,0.0s							
BSI	**Banda Aceh**	**4.48**	**335**	P		**Pn**	**18 50 03.9**	**+5.4**
	comp=Z,0.0nm,0.0s							
IPM	**Ipoh**	**4.92**	**51**	P		**Pn**	**18 50 05.9**	**+1.3**
KULM	**Kulim**	**5.20**	**42**	*e*P		**Pn**	**18 50 08.2**	**-0.3**
KGM	**Kluang**	**6.18**	**84**	P		**Pn**	**18 50 23.8**	**+1.9**
NNT	**Nongplab**	**11.41**	**13**	P		**Pn**	**18 51 33.5**	**0.0**
KSM	**Kuching**	**13.14**	**90**	*e*P		**Pn**	**18 52 04.2**	**+7.0**
KKTK	**Khon Kaen**	**15.86**	**20**	P		**Pn**	**18 52 37.0**	**+3.4**
CHG	**Chiang Mai**	**17.39**	**6**	⇑P		**Pn**	**18 52 51.2**	**-1.9**
	comp=Z,24nm,1.1s							
CHTO	**Chiang Mai**	**17.39**	**6**	⇓P		**Pn**	**18 52 51.6**	**-1.4**
	SNR=9.6							
CHTO	**Chiang Mai**	**17.39**	**6**	*e*P		**Pn**	**18 52 50.9**	**-2.2**
CHTO				pmax	pmax			
	comp=Z,41nm,1.4s							
CHTO	**Chiang Mai**	**17.39**	**6**	*e*P		**Pn**	**18 52 50.9**	**-2.2**
	comp=Z,41nm,1.4s							
KKM	**Kota Kinabalu**	**19.55**	**76**	P		**Pn**	**18 53 19.9**	**+0.6**
KKM	**Kota Kinabalu**	**19.55**	**76**	*e*P		**Pn**	**18 53 19.3**	**0.0**
MDRS	**Chennai**	**20.38**	**305**	*ex*		x	18 53 49.4	
MDRS				*ex*		**S**	**18 57 16.4**	**+3.2**
TSM	**Tawau**	**20.88**	**82**	P		**P**	**18 53 32.8**	**+0.6**
VIS	**Vishakhapatnam**	**21.17**	**321**	*e*P		**P**	**18 53 34.9**	**-0.4**
VIS				AMb	AMB		18 53 43.5	
	comp=Z,108nm,2.3s,mb4.8							
VIS				*e*S		**S**	**18 57 24.0**	**-4.8**
TRD	**Trivandrum**	**21.32**	**290**	⇓*e*P		**P**	**18 53 36.1**	**-0.9**
TRD				*ex*		x	18 57 41.1	
QIZ	**Qiongzhong**	**21.48**	**35**	P		**P**	**18 53 37.5**	**-1.2**
QIZ				AP			18 53 47.3	
QIZ				XP		sP	18 53 56.8	+4.6
QIZ				S		**S**	**18 57 33.0**	**-1.9**
QIZ				XS		sS	18 57 49.5	-0.1
QIZ				AMB	AMB			
	comp=Z,47nm,1.9s,mb4.5							
QIZ				LR	LR			
	comp=E,2μm,14.3s,MS4.9							
QIZ				LR	LR			
	comp=N,3μm,14.7s,MS4.9							
QIZ				LR	LR			
	comp=Z,2μm,15.7s,MS4.7							
CAL	**Calcutta**	**22.70**	**338**	*ex*		x	18 53 17.1	
CAL				*i* x		x	18 57 46.9	
PCI	**Palu**	**22.78**	**96**	P		**P**	**18 53 52.2**	**-0.3**
	comp=Z,77nm,1.5s,mb4.9							
AGT	**Agartala**	**23.07**	**346**	*e*P		**P**	**18 53 57.0**	**+1.4**
KMI	**Kunming**	**24.19**	**12**	P		**P**	**18 54 07.0**	**+0.7**
KMI				AP			18 54 13.5	
KMI				PP			18 54 42.3	
KMI				PPP			18 54 55.0	
KMI				S		**S**	**18 58 23.8**	**+1.5**
KMI				XS		sS	18 58 34.0	-4.5
KMI				SSS			18 59 33.8	
KMI				AMB	AMB			
	comp=Z,168nm,1.4s,mb5.3							
KMI				AMB	AMB			
	comp=Z,917nm,4.1s							
KMI				LR	LR			
	comp=N,7μm,15.8s,MS5.3							
KMI				LR	LR			
	comp=E,4μm,14.2s,MS5.3							
KMI				LR	LR			
	comp=Z,8μm,15.3s,MS5.3							
KMI	**Kunming**	**24.19**	**12**	P		**P**	**18 54 07.0**	**+0.7**
KMI				pP			18 54 13.5	
KMI				sP		sP	18 54 15.7	-4.7
KMI				PP			18 54 42.2	
KMI				PPP			18 54 54.9	
KMI				S		**S**	**18 58 23.7**	**+1.4**
KMI				sS		sS	18 58 34.1	-4.4
KMI				SSS			18 59 33.8	
HYB	**Hyderabad**	**24.26**	**312**	*i* P		**P**	**18 54 09.0**	**+2.1**
HYB				*es*P		sP	18 54 30.0	+9.1
HYB				*e*			18 54 38.0	
HYB				*e*S		**S**	**18 58 24.0**	**+0.7**
HYB	**Hyderabad**	**24.26**	**312**	*e*P		**P**	**18 54 09.0**	**+2.1**
HYB				*e*S		**S**	**18 58 36.0**	**+13**
SHL	**Shillong**	**24.56**	**348**	⇑*i*P		**P**	**18 54 09.0**	**-0.7**
SHL				*i* S		**S**	**18 58 29.0**	**+0.8**
MNGI	**Mangalore**	**24.93**	**298**	*e*P		**P**	**18 54 12.8**	**-0.2**
MNGI				*i* x		x	18 58 26.7	
NGP	**Nagpur**	**26.41**	**319**	*e*P		**P**	**18 54 25.7**	**-0.8**
NGP				AMb	AMB		18 54 52.0	
	comp=Z,47nm,0.8s,mb5.1							
GYA	**Guiyang**	**26.54**	**19**	⇑*i*P		**P**	**18 54 27.3**	**-0.3**
GYA				AMB	AMB			
	comp=Z,80nm,1.1s,mb5.2							
GYA				AMB	AMB			
	comp=Z,230nm,4.9s							
GYA				LR	LR			
	comp=N,1μm,14.6s,MS4.8							
GYA				LR	LR			
	comp=E,2μm,15.0s,MS4.8							
GYA				LR	LR			
	comp=Z,2μm,15.2s,MS4.7							
GZH	**Guangzhou**	**26.67**	**35**	P		**P**	**18 54 33.0**	**+4.2**
GZH				LR	LR			
	comp=N,2μm,14.6s,MS5.1							
GZH				LR	LR			
	comp=E,3μm,12.8s,MS5.1							
GZH				LR	LR			
	comp=Z,5μm,13.4s,MS5.3							
AKL	**Akola**	**27.48**	**316**	*ex*		sP	18 54 57.7	+7.5
AKL				AMb	AMB		18 55 03.9	
	comp=Z,46nm,1.2s,mb4.9							
KAD	**Karad**	**27.58**	**306**	*ex*		**P**	**18 54 32.6**	**-4.3**
KAD				AMb	AMB		18 54 39.2	
	comp=Z,16nm,1.0s,mb4.6							
PKI	**Pulchoki**	**28.36**	**338**	*e*P		**P**	**18 54 44.5**	**+0.6**
	comp=Z,144nm,1.2s,mb5.5							
GUN	**Gumba**	**28.49**	**339**	*e*P		**P**	**18 54 46.0**	**+0.9**
	comp=Z,237nm,1.0s,mb5.8							
DMN	**Daman**	**28.51**	**337**	*e*P		**P**	**18 54 45.9**	**+0.7**
	comp=Z,225nm,1.3s,mb5.7							
KKN	**Kakani**	**28.61**	**338**	*e*P		**P**	**18 54 46.9**	**+0.8**
	comp=Z,287nm,1.2s,mb5.9							
LSA	**Lhasa**	**28.72**	**349**	P		**P**	**18 54 46.8**	**-0.3**
BHPL	**Bhopal**	**28.96**	**320**	*e*P		**P**	**18 54 47.0**	**-2.2**
BHPL				AMb	AMB		18 54 58.0	
	comp=Z,15nm,1.0s,mb4.7							
GKN	**Gorkha**	**29.05**	**337**	*e*P		**P**	**18 54 50.8**	**+0.8**
	comp=Z,233nm,1.2s,mb5.8							
KOLN	**Koldanda**	**29.27**	**335**	*e*P		**P**	**18 54 52.9**	**+1.0**
	comp=Z,242nm,1.3s,mb5.8							
CD2	**Chengdu**	**30.01**	**11**	⇑*i*P		**P**	**18 54 58.5**	**0.0**
CD2				PP		PP	18 55 57.3	-9.2
CD2				PCP		PcP	18 57 59.3	-0.8
CD2				S		**S**	**18 59 55.5**	**+1.3**
CD2				SS		SS	19 01 34.0	-29
CD2				SCS		ScS	19 05 33.5	-1.5
CD2				AMB	AMB			
	comp=Z,30nm,1.2s,mb4.9							
CD2				AMB	AMB			
	comp=Z,160nm,9.6s							
CD2				LR	LR			
	comp=E,3μm,15.6s							
CD2				LR	LR			
	comp=Z,2μm,16.8s,MS4.9							
AJM	**Ajmer**	**33.03**	**321**	*i* P		**P**	**18 55 25.0**	**-0.1**
AJM				*e*P			18 55 25.0	
AJM				AMb	AMB		18 55 36.2	
	comp=Z,35nm,1.1s,mb5.2							
WHN	**Wuhan**	**33.25**	**28**	⇑P		**P**	**18 55 26.8**	**-0.2**
WHN				LR	LR			
	comp=Z,7μm,14.3s,MS5.5							
FITZ	**Fitzroy Crossi**	**34.07**	**126**	P		**P**	**18 55 33.5**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=326,slow=11							
FITZ				LR	LR		19 10 17.8	
	comp=Z,712nm,19.9s,MS4.4,baz=309,slow=38							
XAN	**Xi'an**	**34.28**	**17**	P		**P**	**18 55 34.8**	**-1.2**
XAN				PP		PP	18 56 47.8	-6.2
XAN				S		**S**	**19 01 05.8**	**+5.0**
XAN				SS		SS	19 03 09.3	-21
XAN				AMB	AMB			
	comp=Z,107nm,1.3s,mb5.6							
XAN				AMB	AMB			
	comp=Z,176nm,6.8s							
XAN				LR	LR			
	comp=N,2μm,14.8s,MS5.1							
XAN				LR	LR			
	comp=E,1μm,14.8s,MS5.1							
XAN				LR	LR			
	comp=Z,5μm,15.2s,MS5.3							
LZH	**Lanzhou**	**35.06**	**9**	⇑P		**P**	**18 55 43.0**	**+0.2**
LZH				PP		PP	18 57 03.0	+0.4
LZH				S		**S**	**19 01 13.0**	**+0.2**
LZH				XS		sS	19 01 30.0	+0.6
LZH				AMB	AMB			
	comp=Z,180nm,1.2s,mb5.9							
LZH				AMB	AMB			
	comp=Z,750nm,4.0s							
LZH				LR	LR			
	comp=Z,8μm,15.6s,MS5.6							
LZH	**Lanzhou**	**35.06**	**9**	⇑P		**P**	**18 55 42.9**	**+0.1**
LZH				pP		pP	18 55 49.9	-2.9
LZH				sP		sP	18 55 55.9	-1.1
LZH				PP		PP	18 57 03.0	+0.4
LZH				S		**S**	**19 01 13.0**	**+0.2**
LZH				sS		sS	19 01 30.0	+0.6
LZH				SS		SS	19 03 33.0	-13
SMLA	**Simla**	**35.11**	**329**	*e*P		**P**	**18 55 43.5**	**+0.3**
SMLA				AMb	AMB		18 55 46.6	
	comp=Z,69nm,1.8s,mb5.3							
SDNR	**Sundarnagar**	**35.51**	**329**	*e*P		**P**	**18 55 47.4**	**+0.8**
NJ2	**Nanjing**	**36.71**	**32**	*e*P		**P**	**18 55 57.5**	**+0.6**
NJ2				AP		pP	18 56 09.8	+2.9
NJ2				XP		sP	18 56 15.0	+3.9
NJ2				PP		PP	18 57 22.0	+1.2
NJ2				S		**S**	**19 01 39.0**	**+0.9**
NJ2				XS		sS	19 01 55.0	+0.3
NJ2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.2							
NJ2				AMB	AMB			
	comp=Z,170nm,10.4s							
NJ2				LR	LR			
	comp=N,4μm,24.3s							
NJ2				LR	LR			
	comp=Z,5μm,24.7s,MS5.2							
THN	**Thein Dam**	**36.89**	**329**	*ex*		pP	18 56 02.7	-5.8
SSE	**Sheshan**	**37.27**	**35**	*e*P		**P**	**18 56 00.0**	**-1.6**
SSE				PP		PP	18 57 24.3	-2.6
SSE				PCP		PcP	18 58 21.8	+1.2
SSE				S		**S**	**19 01 44.8**	**-1.7**
SSE				AMB	AMB			
	comp=Z,37nm,0.7s,mb5.3							
SSE				AMB	AMB			
	comp=Z,48nm,3.5s							
SSE				LR	LR			
	comp=N,2μm,17.2s,MS4.9							
SSE				LR	LR			
	comp=E,845nm,17.1s,MS4.9							
SSE				LR	LR			
	comp=

BJI AMB AMB
comp=Z,46nm,1.3s,mb5.0
BJI AMB AMB
comp=Z,590nm,3.9s
BJI LR LR
comp=N,1μm,15.3s,MS5.0
BJI LR LR
comp=E,938nm,16.0s,MS5.0
BJI LR LR
comp=Z,792nm,17.2s,MS4.7
BJI Beijing 42.17 22 *e*P **P 18 56 42.7 +0.4**
BJI *SP sP 18 56 51.5 -5.2
BJI *S* **S 19 03 00.3 +0.4**
BJI Beijing 42.17 22 *e*P **P 18 56 42.7 +0.4**
BJI sP sP 18 56 51.5 -5.2
BJI S* **S 19 03 00.3 +0.4**
BJI sS sS 19 03 13.8 -2.9
BJI SS SS 19 06 27.4 +19
WRAB Tennant Creek 42.17 122 *e*P **P 18 56 42.2 -0.2**
WRAB pmax pmax
comp=Z,12nm,0.8s,mb4.6
WRAB Tennant Creek 42.17 122 *e*P **P 18 56 42.2 -0.1**
comp=Z,12nm,0.8s,mb4.6
WB2 Warramunga Arr 42.18 122 *e*P **P 18 56 41.1 -1.3**
KSH Kashi 42.58 336 *e*P **P 18 56 45.0 -0.7**
KSH *e*PP PP 18 58 26.3 +1.6
KSH *e*PCP PcP 18 58 38.0 +0.4
KSH *e*PPP 18 58 59.0
KSH *e*SCP ScP 19 02 27.0 +1.3
KSH *e*S* **S 19 03 04.8 -1.2**
KSH *e*SS SS 19 06 06.3 -10
KSH *e*SCS ScS 19 06 43.5 -0.8
KSH AMB AMB
comp=Z,404nm,3.6s
KSH LR LR
comp=N,575nm,8.0s
KSH LR LR
comp=E,653nm,6.6s
KSH LR LR
comp=Z,822nm,13.6s,MS4.8
WMQ Urumqi 43.07 350⇑ *i*P **P 18 56 50.3 +0.6**
WMQ AP pP 18 57 02.5 +2.6
WMQ XP sP 18 57 08.0 +4.0
WMQ PCP PcP 18 58 39.5 +0.3
WMQ PPP 18 59 08.0
WMQ S **S 19 03 11.5 -1.7**
WMQ XS sS 19 03 34.0 +3.9
WMQ SCS ScS 19 06 45.0 -2.4
WMQ AMB AMB
comp=Z,54nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,376nm,4.5s
WMQ LR LR
comp=N,777nm,14.6s,MS4.9
WMQ LR LR
comp=E,1μm,18.2s,MS4.9
WMQ LR LR
comp=Z,687nm,16.7s,MS4.6
FORT Forrest 43.45 140 *e*P **P 18 56 54.8 +2.1**
comp=Z,15nm,0.7s,mb4.8
DL2 Dalian 43.52 28⇑ *i*P **P 18 56 53.5 +0.2**
DL2 AP pP 18 57 01.0 -2.5
DL2 *e*S* **S 19 03 22.0 +2.3**
DL2 XS sS 19 03 37.0 +0.4
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.9
DL2 AMB AMB
comp=Z,170nm,3.6s
DL2 LR LR
comp=N,540nm,19.0s,MS4.6
DL2 LR LR
comp=E,550nm,17.7s,MS4.6
DL2 LR LR
comp=Z,710nm,15.0s,MS4.7
ASPA Alice Springs 43.54 127 *e*P **P 18 56 54.1 +0.7**
AS31 Alice Springs 43.54 127 *e*P **P 18 56 54.1 +0.7**
ASAR Alice Springs 43.54 127 P **P 18 56 53.2 -0.2**
comp=Z,4.8nm,1.0s,mb4.2,baz=299,slow=7.9,SNR=61
ASAR ScP ScP 19 02 31.4 +1.8
comp=Z,2.4nm,1.4s,baz=303,slow=4.9,SNR=5.2
ASAR S* **S 19 03 18.9 -1.2**
comp=Z,2.1nm,1.2s,baz=300,slow=14,SNR=8.0
ASAR LR LR 19 17 41.8
comp=Z,789nm,18.4s,MS4.7,baz=297,slow=40
ASAR Alice Springs 43.54 127 P **P 18 56 53.2 -0.2**
ASAR S **S 19 03 18.9 -1.2**
ASAR pmax pmax
comp=Z,5.0nm,1.0s
ASAR pmax pmax
comp=N,2.0nm,1.4s
ASAR smax
comp=N,2.0nm,1.2s
ASAR MLR MLR
comp=Z,789nm,18.4s
INCN Inchon 45.00 34⇑P **P 18 57 05.3 +0.2**
SNR=5.8
INCN Inchon 45.00 34 *e*P **P 18 57 04.5 -0.6**
comp=Z,31nm,1.1s,mb5.0
UCH Uchtor 45.46 336 P **P 18 57 10.6 +1.8**
SNR=15
TKM2 Tokmak 2 45.62 338 P **P 18 57 11.0 +0.9**
SNR=13
KBK Karagaybulak 45.65 337 P **P 18 57 12.2 +2.0**
SNR=14
AAK Ala-Archa 45.80 337⇓P **P 18 57 12.3 +0.8**
SNR=17
AAK Ala-Archa 45.80 337⇑ *e*P **P 18 57 11.5 0.0**
AAK pmax pmax
comp=Z,29nm,1.8s,mb4.9
AAK Ala-Archa 45.80 337 *e*P **P 18 57 11.7 +0.2**
comp=Z,37nm,1.3s,mb5.2
FRU Bishkek 45.93 337 *e*P **P 18 57 13.4 +0.9**
FRU *e* 18 57 28.0
FRU pmax pmax
comp=Z,210nm,2.6s,mb5.6
EKS2 Erkin-Say 46.12 336 P **P 18 57 15.6 +1.7**
SNR=9.9
USP Ospenovka 46.34 337 P **P 18 57 16.5 +0.8**
SNR=11
SNY Shenyang 46.74 27⇑P **P 18 57 18.0 -0.9**
SNY PP PP 18 59 08.3 -0.7
SNY XS sS 19 04 28.3 +5.0
SNY AMB AMB
comp=Z,32nm,1.8s,mb5.0
SNY AMB AMB
comp=Z,441nm,6.7s
SNY LR LR
comp=N,1μm,15.6s,MS5.2
SNY LR LR
comp=E,2μm,15.6s,MS5.2
SNY LR LR
comp=Z,2μm,15.3s,MS5.2
SONM Songino Array 46.94 9 P **P 18 57 20.7 +0.3**
comp=Z,32nm,0.9s,mb5.2,baz=191,slow=8.4,SNR=136
SONM LR LR 19 19 41.5
comp=Z,3μm,18.1s,MS5.3,baz=189,slow=39
SONM Songino Array 46.94 9 P **P 18 57 20.7 +0.3**
SONM pmax pmax
comp=Z,32nm,0.9s
SONM MLR MLR
comp=Z,3μm,18.1s
MKAR Makanchi Array 47.04 346 P **P 18 57 21.2 0.0**
comp=Z,25nm,1.0s,mb5.1,baz=157,slow=6.6,SNR=111
MKAR Makanchi Array 47.04 346 P **P 18 57 21.2 0.0**
MKAR pmax pmax
comp=Z,25nm,1.0s
MKAR Makanchi Array 47.04 346 P **P 18 57 21.2 0.0**
GUMO Guam 48.71 73 LR LR 19 19 03.1
comp=Z,212nm,19.5s,MS4.1,baz=98,slow=37
ZAK Zakamensk 49.08 5 *e*P **P 18 57 36.5 -0.5**
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
CN2 Changchun 49.14 27 *e*P **P 18 57 37.0 -0.4**
CN2 *e*S* **S 19 04 41.0 +0.6**
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,400nm,3.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.2
CN2 LR LR
comp=E,2μm,15.0s,MS5.2
CN2 LR LR
comp=Z,2μm,15.0s,MS5.1
MOY Mondy 50.19 3 *e*P **P 18 57 45.6 +0.2**
MOY pmax pmax
comp=Z,46nm,3.4s
TLY Talaya 50.40 5⇓P **P 18 57 48.0 +1.0**
SNR=12
TLY Talaya 50.40 5 *e*P **P 18 57 47.6 +0.6**
TLY *e* 18 59 46.4
TLY *e*S* **S 19 05 03.6 +5.7**
TLY pmax pmax
comp=Z,23nm,1.4s,mb5.0
TLY MLR MLR
comp=Z,2μm,16.0s,MS5.2
TLY Talaya 50.40 5 *e*P **P 18 57 47.5 +0.5**
comp=Z,8.8nm,0.8s,mb4.8
IRK Irkutsk 51.02 6 *e*P **P 18 57 51.5 -0.1**
IRK pmax pmax
comp=Z,68nm,1.8s,mb5.3
HIA Hailar 51.46 19 *e*P **P 18 57 54.3 -0.7**
HIA pmax pmax
comp=Z,41nm,1.1s
HIA Hailar 51.46 19 *e*P **P 18 57 54.3 -0.7**
comp=Z,41nm,1.1s,mb5.3
MAJO Matsushiro 51.56 42 *e*P **P 18 57 52.3 -3.5**
MAJO pmax pmax
comp=Z,41nm,1.6s,mb5.1
MAJO Matsushiro 51.56 42 *e*P **P 18 57 52.3 -3.5**
comp=Z,41nm,1.6s,mb5.1
MJAR Matsushiro Arr 51.57 42 P **P 18 57 54.9 -0.9**
comp=Z,4.2nm,0.9s,mb4.4,baz=226,slow=7.1,SNR=12
MJAR LR LR 19 20 10.5
comp=Z,568nm,21.4s,MS4.6,baz=245,slow=36
MJAR Matsushiro Arr 51.57 42 P **P 18 57 54.9 -0.9**
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR MLR MLR
comp=Z,568nm,21.4s
MDJ Mudanjiang 51.71 29 *e*P **P 18 57 56.9 0.0**
comp=Z,60nm,1.3s,mb5.4
CIT Chita 52.28 13 *e*P **P 18 58 01.7 +0.6**
CIT *e* 18 59 53.9
CIT pmax pmax
comp=Z,150nm,1.4s,mb5.7
CTA Charters Tower 52.62 117 *e*P **P 18 58 04.8 +1.2**
comp=Z,8.9nm,1.3s,mb4.5
CTA Charters Tower 52.62 117 LR LR 19 24 43.8
comp=Z,782nm,18.4s,MS4.8,baz=33,slow=41
CTA Charters Tower 52.62 117 *e*P **P 18 58 04.8 +1.2**
CTA pmax pmax
comp=Z,9.0nm,1.3s
CTAO Charters Tower 52.62 117 *e*P **P 18 58 04.8 +1.2**
CTAO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CTAO Charters Tower 52.62 117 *e*P **P 18 58 04.8 +1.2**
comp=Z,7.9nm,1.0s,mb4.6
ZAL Zalesovo 53.35 351 P **P 18 58 08.3 -0.7**
comp=Z,8.4nm,0.6s,mb4.9,baz=313,slow=5.3,SNR=36
ZAL Zalesovo 53.35 351 P **P 18 58 08.3 -0.7**
ZAL pmax pmax
comp=Z,8.0nm,0.6s
STKA Stephens Creek 53.51 132 P **P 18 58 07.7 -2.5**
comp=Z,5.2nm,0.9s,mb4.5,baz=311,slow=8.1,SNR=3.7
STKA LR LR 19 23 20.0
comp=Z,896nm,20.6s,MS4.8,baz=300,slow=39
STKA Stephens Creek 53.51 132 *e*P **P 18 58 11.7 +1.5**
comp=Z,8.5nm,1.4s,mb4.5
STKA LR LR 19 23 20.0
NVS Novosibirsk 54.48 350⇑ *i*P **P 18 58 15.6 -1.6**
NVS *i* S **S 19 05 50.9 -2.8**
NVS pmax pmax
comp=N,42nm,1.9s
NVS pmax pmax
comp=E,19nm,1.9s
NVS pmax pmax
comp=Z,48nm,1.9s,mb5.1
NVS smax
comp=N,19nm,1.6s
NVS smax
comp=E,26nm,1.6s
KRAR Krasnoyarsk 54.55 357*c i*P **P 18 58 17.6 -0.2**
KRAR pmax pmax
comp=Z,54nm,1.3s,mb5.4
ATD Arta Tunnel 54.81 283 LR LR 19 19 36.7
comp=Z,330nm,18.1s,MS4.5,baz=98,slow=34
BVAR Borovoye Array 56.05 341 LR LR 19 26 00.6
comp=Z,480nm,21.2s,MS4.6,baz=319,slow=40
KLR Kul'dur 56.09 27⇓ *i*P **P 18 58 26.1 -2.7**
KLR *e*S* **S 19 06 29.0 +14**
KLR pmax pmax
comp=E,52nm,1.4s
KLR pmax pmax
comp=Z,120nm,1.4s,mb5.7
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.5
BRVK Borovoye 56.12 341 *e*P **P 18 58 27.9 -1.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
BRVK Borovoye 56.12 341 *e*P **P 18 58 27.9 -1.1**
comp=Z,7.4nm,0.9s,mb4.7
ZRNK Zerenda 56.45 340 *e*P **P 18 58 30.4 -1.0**
ZRNK pmax pmax
comp=Z,17nm,1.1s,mb5.0
ZRNK Zerenda 56.45 340 *e*P **P 18 58 30.4 -1.0**
comp=Z,17nm,1.1s,mb5.0
BOD Bodaibo 57.82 11⇓ *i*P **P 18 58 40.5 -0.6**
BOD pmax pmax
comp=Z,33nm,1.4s,mb5.2
CLNS Chul'man 59.56 17 *e*P **P 18 58 53.0 -0.2**
CLNS pmax pmax
comp=Z,27nm,1.1s,mb5.2
CLNS pmax pmax
comp=N,20nm,1.4s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS MLR MLR
comp=Z,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=N,600nm,15.0s,MS5.4
CLNS MLR MLR
comp=E,2μm,16.0s,MS5.4
KMBO Kilima Mbogo 59.96 268 LR LR 19 24 07.4
comp=E,408nm,18.0s,MS4.6,baz=94,slow=35
KMBO Kilima Mbogo 59.96 268 *i* P **P 18 58 47.5 -8.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
YSS Yuzh-Sakhalins 60.20 34⇑ *e*P **P 18 58 58.4 +0.8**
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 60.20 34 *e*P **P 18 58 58.2 +0.6**
comp=Z,42nm,1.0s,mb5.4
GNI Garni 61.13 316 LR LR 19 29 52.6
comp=Z,196nm,19.3s,MS4.3,baz=294,slow=40
GNI Garni 61.13 316 *e*P **P 18 59 02.4 -1.5**
GNI pmax pmax
comp=Z,9.0nm,1.0s
SVE Sverdlovsk 62.49 338⇑ *e*P **P 18 59 11.2 -1.9**
SVE *e* **S 19 07 39.0 +1.0**
SVE *e*S 19 09 04.0
SVE pmax pmax
comp=Z,80nm,1.8s,mb5.5
SVE MLR MLR
comp=N,400nm,16.0s,MS4.7
SVE MLR MLR
comp=E,100nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.8
ZEI Tsey 62.83 318 *e*P **P 18 59 15.4 +0.1**
ZEI *e**PP pP 18 59 23.8 -2.1
ZEI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ARU Arti 62.99 337⇑ *e*P **P 18 59 15.7 -0.7**
ARU pmax pmax
comp=Z,32nm,1.4s,mb5.3
ARU Arti 62.99 337 *e*P **P 18 59 15.0 -1.4**
comp=Z,30nm,1.3s,mb5.3
KIV Kislovodsk 64.14 319*c i*P **P 18 59 23.8 -0.2**
KIV *e*S* **S 19 07 54.8 -3.7**
KIV *e*SS SS 19 12 06.2 -1.7
KIV pmax pmax
comp=Z,21nm,1.1s,mb5.1
KIV Kislovodsk 64.14 319 *e*P **P 18 59 23.1 -0.9**
comp=Z,24nm,1.0s,mb5.2
GOF Gofitskoye 64.39 320 *e*P **P 18 59 27.0 +1.4**
MALT Malatya 64.97 312⇑ *i*P **P 18 59 30.7 +1.3**
MALT Malatya 64.97 312 *e*P **P 18 59 29.8 +0.4**
MALT pmax pmax
comp=Z,14nm,1.2s,mb4.9
MALT Malatya 64.97 312 *e*P **P 18 59 29.8 +0.3**
comp=Z,14nm,1.2s,mb4.8
YAK Yakutsk 65.24 16⇑ *e*P **P 18 59 30.1 -1.1**
YAK pmax pmax
comp=Z,144nm,1.2s,mb5.9
YAK Yakutsk 65.24 16 *e*P **P 18 59 29.9 -1.3**
comp=Z,160nm,1.1s,mb6.0
CASY Casey 68.20 174 *e*P **P 18 59 50.9 +0.9**
comp=Z,20nm,1.6s,mb4.9
BR131 Keskin Array S 68.95 312 *e*P **P 18 59 53.2 -1.5**
comp=Z,3.7nm,0.8s,mb4.4
BRTR Keskin Array B 68.95 312 P **P 18 59 53.2 -1.5**
comp=Z,1.8nm,0.8s,mb4.0,baz=137,slow=6.4,SNR=12
BRTR LR LR 19 34 00.6
comp=Z,115nm,19.9s,MS4.1,baz=253,slow=39
BRTR Keskin Array B 68.95 312 P **P 18 59 53.3 -1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,115nm,19.9s
VRSR Storozhevoye 69.38 325 *e*P **P 18 59 56.1 -1.2**
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MA2 Magadan 71.17 26 *e*P **P 19 00 08.3 0.0**
MA2 *e* 19 00 33.0
MA2 *e* 19 02 48.2
MA2 *e*S S 19 09 23.3 +0.5
MA2 pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
MA2 MLR MLR
comp=Z,1μm,17.2s,MS5.2
PET Petropavlovsk 72.08 34 *e*P **P 19 00 13.8 0.0**
PET pmax pmax
comp=Z,43nm,1.2s,mb5.2
PET pmax pmax
comp=Z,200nm,17.5s
PET MLR MLR
comp=Z,500nm,17.0s,MS4.8
MOS Moscow 72.15 329 *e*P **P 19 00 11.6 -2.6**
MOS *e* 19 00 34.2
MOS pmax pmax
comp=Z,61nm,1.1s,mb5.4
OBN Obninsk 72.43 328*de*P **P 19 00 15.2 -0.7**
OBN *e* 19 03 01.6
OBN *i* S S 19 09 38.6 +1.2
OBN pmax pmax
comp=Z,61nm,2.1s,mb5.2
MAW Mawson 72.90 193 LR LR 19 25 47.9
comp=Z,380nm,21.3s,MS4.6,baz=57,slow=30
TIXI Tiksi 73.00 10 *e*P **P 19 00 16.7 -2.6**
TIXI *e*S S 19 09 44.6 +0.8
TIXI *e*SS SS 19 14 25.3 +0.5
TIXI pmax pmax
comp=Z,20nm,1.3s,mb4.9
SEY Seymchan 73.59 23⇑ *e*P **P 19 00 21.6 -1.2**
BOSA Boshof 74.85 240 P **P 19 00 28.2 -1.9**
comp=Z,3.7nm,1.2s,mb4.2,baz=97,slow=2.9,SNR=2.4
BOSA LR LR 19 28 18.9
comp=Z,358nm,20.7s,MS4.7,baz=65,slow=32
BOSA Boshof 74.85 240 P **P 19 00 28.3 -1.8**
BOSA pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BOSA MLR MLR
comp=Z,358nm,20.7s,MS4.7
AKASG Malin Array Be 75.08 322 P **P 19 00 29.8 -1.6**
comp=Z,2.4nm,0.7s,mb4.2,baz=90,slow=4.5,SNR=23
AKASG Malin Array Be 75.08 322 *i* P **P 19 00 30.6 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 75.08 322 *e*P **P 19 00 30.1 -1.3**
VRI Vrincioaia 75.45 317⇑ *i*P **P 19 00 34.4 +0.8**
PLOR Plostina 75.50 317⇓ *i*P **P 19 00 35.8 +2.0**
TMCR Tamitsa 75.73 337 *e*P **P 19 00 33.8 -1.3**
TMCR pmax pmax
comp=Z,38nm,1.5s,mb5.1
MLR Muntele Rosu 75.90 317 LR LR 19 41 18.1
comp=Z,248nm,18.6s,MS4.5,baz=254,slow=41
MLR Muntele Rosu 75.90 317⇑ *i*P **P 19 00 36.8 +0.7**
BURAR Bucovina Array 76.86 319⇑ *i*P **P 19 00 42.5 +1.0**
JOF Joensuu 77.95 335 *ep* **P 19 00 46.8 -0.9**
LVV L'vov 78.09 321 *e*P **P 19 00 47.5 -1.0**
DRGR ⇓ *i*P **P 19 00 50.5 +0.5**
KWP Kalwaria 78.90 320 *e*P **P 19 00 52.6 -0.3**
APA Apatity 78.93 339⇓ *e*P **P 19 00 54.0 +0.9**
APA MLR MLR
comp=Z,800nm,18.0s,MS5.1
UZH Uzhgorod 78.98 319 *e*P pP 19 01 02.0 -2.2
KOLS Kolonicke sedl 79.05 320 *e*P **P 19 00 54.3 +0.6**
KOLS *e* 19 01 01.1
SUW Suwalki 79.50 325 *e*P **P 19 00 55.3 -0.9**
CRVS Cervenica-Dubn 79.57 319 *e*P **P 19 00 57.0 +0.4**
STHS Stebnicka Huta 79.80 320 *e*P **P 19 00 58.8 +1.0**
STHS *e* 19 01 21.4
STHS pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
STHS Stebnicka Huta 79.80 320 *e*P **P 19 00 58.8 +1.0**
comp=Z,6.9nm,1.1s,mb4.5
STHS *e* 19 01 21.4
FINES FINESS Array B 79.81 332 P **P 19 00 57.4 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=106,slow=5.8,SNR=12
FINES LR LR 19 39 32.7
comp=Z,183nm,19.4s,MS4.4,baz=292,slow=38
FINES FINESS Array B 79.81 332 *i* P **P 19 00 57.7 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 79.89 333 *ep* **P 19 00 57.2 -1.1**
comp=Z,2.8nm,0.4s,mb4.5,baz=102,slow=5.0
KAF Kangasniemi 79.89 333 *e*P **P 19 00 57.2 -1.1**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KECS Kecovo 80.14 319 *e*P **P 19 00 59.9 +0.3**
KECS pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
KECS Kecovo 80.14 319 *e*P **P 19 00 59.9 +0.3**
comp=Z,6.5nm,1.6s,mb4.3
PSZ Piszkesteto 80.44 318⇑ *e*P **P 19 01 00.9 -0.4**
PSZ Piszkesteto 80.44 318 *e*P **P 19 01 00.7 -0.6**
PSZ pmax pmax
comp=Z,22nm,1.4s,mb4.9
PSZ Piszkesteto 80.44 318 *e*P **P 19 01 00.7 -0.6**
comp=Z,22nm,1.4s,mb4.9
TSUM Tsumeb 80.63 250 *e*P **P 19 01 05.2 +3.0**
comp=Z,4.0nm,1.0s,mb4.3
BILL Bilibino 80.99 21 *e*P **P 19 01 05.2 +1.0**
BILL pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
PKSM Moragy 81.05 316⇓ *e*P **P 19 01 04.7 +0.2**
VYHS Vyhne 81.22 319 *e*P **P 19 01 05.3 -0.1**
VYHS pmax pmax
comp=Z,13nm,2.0s,mb4.5
VYHS Vyhne 81.22 319 *e*P **P 19 01 05.3 -0.1**
comp=Z,13nm,2.0s,mb4.5
VYHS *e* 19 01 12.2
OKC Ostrava-Krasne 81.85 320 *e*P **P 19 01 09.1 +0.3**
OKC *e*PCP PcP 19 01 15.7 +1.3
MORC Moravsky Berou 82.23 320 *e*P **P 19 01 11.1 +0.3**
MORC pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MORC Moravsky Berou 82.23 320 *e*P **P 19 01 11.1 +0.3**
comp=Z,2.2nm,0.8s,mb4.1
ZST Bratislava 82.33 318 *e*P **P 19 01 11.9 +0.6**
ZST pmax pmax
comp=Z,17nm,1.4s,mb4.8
ZST MLR MLR
comp=Z,100nm,19.6s,MS4.2
ZST Bratislava 82.33 318 *e*P **P 19 01 11.9 +0.6**
comp=Z,17nm,1.4s,mb4.8
ZST LR LR
comp=Z,100nm,19.6s,MS4.2
ARCES ARCESS Array B 82.34 340 P **P 19 01 11.1 -0.2**
comp=Z,2.3nm,0.4s,mb4.4,baz=99,slow=4.8,SNR=30
ARCES LR LR 19 42 03.1
comp=Z,490nm,21.3s,MS4.8,baz=214,slow=39
ARCES ARCESS Array B 82.34 340 P **P 19 01 11.1 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.4s
ARCES MLR MLR
comp=Z,490nm,21.3s
DPC Dobruska-Polom 83.08 320 *e*P **P 19 01 15.3 +0.1**
UPC Upice 83.29 321 *e*P **P 19 01 16.9 +0.6**
PERS Pernice 83.52 317 *e*P **P 19 01 18.4 +1.0**

VISS	**Visnje**	**83.65**	**316**	*i* P	pP	19 01 28.8	-0.3
PRU	**Pruhonice**	**84.18**	**320**	*e*P	**P**	**19 01 21.8**	**+1.0**
PRU				*e*pP	pP	19 01 35.8	+4.0
BRG	**Berggiesshubel**	**84.64**	**321**	*e*P	**P**	**19 01 23.5**	**+0.3**
	comp=Z,12nm,1.6s,mb4.8						
BRG				*e*		19 01 30.0	
	comp=Z,9.0nm,1.6s						
BRG				*e*		19 01 48.6	
	comp=Z,5.5nm,1.3s						
GEC2	**GERESS Array S**	**84.64**	**319**	*e*P	**P**	**19 01 23.4**	**+0.2**
GERES	**GERESS Array B**	**84.64**	**319**	P	**P**	**19 01 22.8**	**-0.4**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KHC	**Kasperske Hory**	**84.75**	**319**	*e*P	**P**	**19 01 23.6**	**-0.1**
CLL	**Collm**	**85.26**	**321**	*e*P	**P**	**19 01 25.0**	**-1.2**
CLL				*ex*	x	19 01 34.0	
HFS	**Hagfors**	**85.53**	**330**	LR	LR	19 48 04.2	
	comp=Z,241nm,19.8s,MS4.6,baz=91,slow=42						
VNDA	**Vanda**	**86.02**	**169**	P	**P**	**19 01 29.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=340,slow=3.4,SNR=2.6						
VNDA				LR	LR	19 37 40.6	
	comp=Z,359nm,18.1s,MS4.8,baz=310,slow=34						
MOX	**Moxa**	**86.10**	**320**	*e*P	**P**	**19 01 31.1**	**+0.7**
MOX				*e*S	S	19 12 04.0	+1.6
MOX				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
GRA1	**Grafenberg Arr**	**86.31**	**320**	*e*P	**P**	**19 01 31.9**	**+0.4**
	comp=Z,10.0nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**86.31**	**320**	*e*P	**P**	**19 01 31.9**	**+0.4**
	comp=Z,10.0nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**86.31**	**320**	*e*P	**P**	**19 01 31.9**	**+0.4**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
GRF	**Grafenberg Arr**	**86.31**	**320**	*e*P	**P**	**19 01 31.9**	**+0.4**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**19 01 33.6**	**-0.4**
	comp=Z,14nm,1.4s,mb5.0,baz=94,slow=4.8						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**19 01 33.6**	**-0.4**
NB2				pmax	pmax		
	comp=Z,14nm,1.4s,mb5.0						
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**19 01 33.0**	**-1.0**
	comp=Z,2.3nm,0.9s,mb4.4,baz=92,slow=5.0,SNR=5.6						
NOA				LR	LR	19 47 54.9	
	comp=Z,191nm,19.4s,MS4.5,baz=95,slow=41						
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**19 01 33.0**	**-1.0**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,191nm,19.5s						
KEST	**Kesra**	**87.42**	**306**	P	**P**	**19 01 37.8**	**+0.9**
	comp=Z,1.1nm,0.9s,mb4.1,baz=100,slow=6.1,SNR=3.1						
KEST				LR	LR	19 41 11.2	
	comp=Z,119nm,19.3s,MS4.3,baz=302,slow=36						
CDF	**Champ du Feu**	**88.89**	**318**	*e*P	**P**	**19 01 43.8**	**-0.1**
HINF	**Hinteralfeld**	**89.19**	**318**	*e*P	**P**	**19 01 45.5**	**+0.3**
LPG	**La Plagne**	**89.31**	**315**	*e*P	**P**	**19 01 46.1**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9						
LPG	**La Plagne**	**89.31**	**315**	*e*P	**P**	**19 01 46.1**	**+0.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
LPG	**La Plagne**	**89.31**	**315**	*e*P	**P**	**19 01 46.1**	**+0.3**
	comp=Z,6.2nm,1.0s,mb4.9						
LPL	**La Plagne**	**89.32**	**315**	*e*P	**P**	**19 01 46.1**	**+0.2**
	comp=Z,18nm,1.1s,mb5.0						
LPL	**La Plagne**	**89.32**	**315**	*e*P	**P**	**19 01 46.1**	**+0.2**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
LPL	**La Plagne**	**89.32**	**315**	*e*P	**P**	**19 01 46.1**	**+0.2**
	comp=Z,8.9nm,1.1s,mb5.0						
HAU	**Haudompre**	**89.52**	**318**	*e*P	**P**	**19 01 46.4**	**-0.4**
CABF	**La Chapelle**	**89.74**	**316**	*e*P	**P**	**19 01 48.0**	**+0.2**
BAIF	**Baives**	**90.84**	**320**	*e*P	**P**	**19 01 53.2**	**+0.2**
	comp=Z,38nm,1.4s,mb5.2						
BAIF	**Baives**	**90.84**	**320**	*e*P	**P**	**19 01 53.2**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.2						
BAIF	**Baives**	**90.84**	**320**	*e*P	**P**	**19 01 53.2**	**+0.2**
	comp=Z,19nm,1.4s,mb5.2						
SMF	**Signal de Mont**	**91.28**	**317**	*e*P	**P**	**19 01 54.9**	**-0.1**
BGF	**Bois d'Agland**	**91.97**	**316**	*e*P	**P**	**19 01 58.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**95.02**	**283**	P	**P**	**19 02 13.8**	**+1.6**
	comp=Z,0.7nm,1.2s,mb4.0,baz=128,slow=5.4,SNR=2.4						
TORD				LR	LR	19 44 07.3	
	comp=Z,338nm,19.3s,MS4.8,baz=95,slow=35						
IMA2	**Indian Mountai**	**96.41**	**23**	*e*P	**P**	**19 02 18.2**	**-0.3**
MDT	**Midelt**	**99.14**	**303**	LR	LR	19 48 30.9	
	comp=Z,210nm,19.2s,MS4.7,baz=345,slow=36						
KDAK	**Kodiak Island**	**99.49**	**31**	LR	LR	19 54 52.4	
	comp=Z,286nm,18.8s,MS4.8,baz=128,slow=40						
TBI	**Tubuai**	**111.96**	**115**	*e*LR	LR	19 40 51.8	
	comp=Z,406nm,23.8s						
PPT	**Papeete**	**112.57**	**108**	*e*LR	LR	19 41 08.7	
	comp=Z,264nm,24.0s						
RKT	**Rikitea**	**125.05**	**117**	*e*LR	LR	19 46 55.6	
	comp=Z,327nm,25.5s						
NVAR	**Mina Array Bea**	**128.64**	**36**	PKP	PKPdf	19 07 55.8	-0.8
	comp=Z,0.7nm,0.9s,baz=277,slow=3.7,SNR=4.5						
PDAR	**Pinedale Array**	**129.88**	**26**	PKP	PKPdf	19 07 58.3	-0.6
	comp=Z,0.3nm,0.7s,baz=48,slow=2.2,SNR=4.9						
PDAR				PP	PP	19 10 11.4	+0.8
	comp=Z,1.3nm,1.0s,baz=321,slow=3.8,SNR=6.4						
JCT	**Junction City**	**144.41**	**26**	*e*PKIKP	PKPdf	19 08 25.1	-0.6
CPUP	**Villa Florida**	**145.13**	**223**	PKPbc	PKPbc	19 08 25.4	-1.0
	comp=Z,0.6nm,0.4s,baz=115,slow=2.3,SNR=4.7						
CPUP	**Villa Florida**	**145.13**	**223**	PKP2	PKPab	19 08 25.4	-1.1
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**145.13**	**223**	*e*PKPdf	PKPdf	19 08 27.5	+0.6

*ISCJB **28** 19:12:34.4±0.4, 548N±007×9465E±006, h49km, mb4.5/35, Error ellipse: s-maj=12.1km s-min=5.1km az=66.8*
*BJI **28** 19:12:34.0, 540N×9450E, h50km, mb4.5*
*IDC **28** 19:12:36.1±0.6, 541N×9450E, h49km±4km, mb4.1/18, mb1 4.2/19, mb1mx4.0/28, mbtmp4.3/19, MS3.5/1, Ms1 3.5/1, ms1mx3.1/33, Error ellipse: s-maj=23.9km s-min=10.0km az=50.0*
*NEIC **28** 19:12:36.0±0.3, 540N×9451E, mb4.5/10, Error ellipse: s-maj=11.6km s-min=5.1km az=38.0*

ISC 28 19:12:36.6±0.3, 550N±007×9462E±006, h51km, h51km±1.7km:pP-P,n74,σ0§78/72, mb4.5/35, 2C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**19 13 52.6**	**+2.7**
	6.3nm,0.3s,baz=306,slow=9.7,SNR=16						
PSI				S	**Sn**	**19 14 46.2**	**-0.9**
	2.1nm,0.3s,baz=105,slow=20,SNR=2.6						
PSI				LR	LR	19 16 08.3	
	comp=Z,447nm,20.1s,baz=27,slow=41						
PSI	**Prapat**	**5.07**	**122**	P	**Pn**	**19 13 52.6**	**+2.7**
PSI				S	**Sn**	**19 14 46.2**	**-0.9**
PSI				LR	LR	19 16 08.3	
KULM	**Kulim**	**6.01**	**92**	*e*P	**Pn**	**19 14 03.6**	**+0.7**
KULM				*e*S	**Sn**	**19 15 09.8**	**-0.6**
KMI	**Kunming**	**21.01**	**21**	P	**P**	**19 17 20.8**	**+5.1**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.0						
PKI	**Pulchoki**	**23.63**	**339**	*e*P	**P**	**19 17 42.1**	**-0.9**
	comp=Z,6.9nm,0.3s,mb4.5						
DMN	**Daman**	**23.77**	**339**	*e*P	**P**	**19 17 44.0**	**-0.3**
	comp=Z,16nm,0.6s,mb4.6						
GUN	**Gumba**	**23.78**	**341**	*e*P	**P**	**19 17 43.4**	**-1.0**
	comp=Z,34nm,0.6s,mb5.0						
KKN	**Kakani**	**23.88**	**339**	*e*P	**P**	**19 17 44.6**	**-0.7**
	comp=Z,11nm,0.5s,mb4.6						
LSA	**Lhasa**	**24.29**	**353**	*e*P	**P**	**19 17 51.4**	**+2.4**
	comp=Z,9.2nm,0.5s,mb4.5						
GKN	**Gorkha**	**24.30**	**338**	*e*P	**P**	**19 17 47.9**	**-1.3**
	comp=Z,15nm,0.3s,mb4.8						
KOLN	**Koldanda**	**24.50**	**336**	*e*P	**P**	**19 17 50.5**	**-0.4**
	comp=Z,30nm,0.6s,mb4.9						
XAN	**Xi'an**	**31.34**	**23**	P	**P**	**19 18 51.3**	**-0.8**
XAN				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.9						
GTA	**Gaotai**	**34.08**	**7**	⇑P	**P**	**19 19 16.5**	**+0.4**
GTA				AP	pP	19 19 25.3	-3.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
JOW	**Kunigami**	**38.45**	**53**	P	**P**	**19 19 54.9**	**+1.5**
	comp=Z,3.3nm,0.4s,mb4.5,baz=125,slow=28,SNR=4.7						

FITZ	**Fitzroy Crossi**	**38.56**	**128**	*e*P	**P**	**19 19 52.8**	**-1.5**
	comp=Z,3.3nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**38.56**	**128**	P	**P**	**19 19 53.3**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=260,slow=5.2,SNR=12						
FITZ				PcP	PcP	19 22 06.4	+0.4
	comp=Z,2.3nm,1.1s,baz=153,slow=19,SNR=5.1						
MKAR	**Makanchi Array**	**42.49**	**347**	P	**P**	**19 20 27.2**	**+0.5**
	comp=Z,10nm,0.6s,mb4.6,baz=170,slow=8.3,SNR=120						
SONM	**Songino Array**	**43.37**	**12**	P	**P**	**19 20 34.2**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.2,baz=189,slow=8.2,SNR=31						
SONM				pP	pP	19 20 47.1	-0.2
	comp=Z,1.2nm,0.7s,baz=188,slow=9.8,SNR=3.7						
SONM				PcP	PcP	19 22 22.2	+0.6
	comp=Z,0.9nm,0.4s,baz=196,slow=3.9,SNR=9.6						
WRA	**Warramunga Arr**	**46.53**	**124**	P	**P**	**19 20 59.1**	**+0.2**
	comp=Z,5.8nm,0.6s,mb4.7,baz=304,slow=9.3,SNR=71						
WRA				pP	pP	19 21 12.9	+0.4
	comp=Z,2.6nm,0.6s,baz=303,slow=9.4,SNR=3.5						
WB2	**Warramunga Ar**	**46.54**	**124**	*e*P	**P**	**19 20 58.9**	**-0.1**
ASPA	**Alice Springs**	**48.05**	**129**	*e*P	**P**	**19 21 10.9**	**+0.1**
ASAR	**Alice Springs**	**48.06**	**129**	P	**P**	**19 21 10.8**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.3,baz=298,slow=7.9,SNR=37						
ASAR				pP	pP	19 21 24.6	+0.1
	comp=Z,1.7nm,0.7s,baz=303,slow=7.8,SNR=6.1						
ASAR				PcP	PcP	19 22 38.5	+0.5
	comp=Z,0.9nm,0.7s,baz=297,slow=3.7,SNR=4.1						
AS31	**Alice Springs**	**48.06**	**129**	*e*P	**P**	**19 21 10.9**	**+0.1**
HIA	**Hailar**	**48.52**	**22**	*e*P	**P**	**19 21 14.1**	**-0.3**
ZAL	**Zalesovo**	**48.94**	**352**	P	**P**	**19 21 17.9**	**+0.3**
	comp=Z,5.4nm,0.5s,mb4.9,baz=303,slow=6.4,SNR=23						
ZAL				pP	pP	19 21 31.4	+0.1
	comp=Z,2.8nm,0.5s,baz=299,slow=3.4,SNR=4.1						
BVAR	**Borovoye Array**	**51.37**	**342**	P	**P**	**19 21 36.0**	**0.0**
	comp=Z,1.8nm,0.4s,mb4.4,baz=143,slow=8.9,SNR=23						
BVAR				pP	pP	19 21 49.5	-0.3
	comp=Z,3.8nm,0.8s,baz=138,slow=7.8,SNR=8.4						
AKTK	**Aktyubinsk**	**54.24**	**332**	P	**P**	**19 21 58.2**	**+1.0**
AKTO	**Aktyubinsk**	**54.24**	**332**	P	**P**	**19 21 58.2**	**+1.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=123,slow=4.8,SNR=4.7						
STKA	**Stephens Creek**	**58.15**	**133**	*e*P	**P**	**19 22 25.0**	**0.0**
	comp=Z,2.2nm,1.7s,mb3.9						
STKA	**Stephens Creek**	**58.15**	**133**	P	**P**	**19 22 24.6**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=314,slow=18,SNR=2.9						
BR131	**Keskin Array S**	**64.33**	**312**	*e*P	**P**	**19 23 06.0**	**-0.9**
BRTR	**Keskin Array B**	**64.33**	**312**	P	**P**	**19 23 06.2**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=130,slow=7.8,SNR=12						
AKASG	**Malin Array Be**	**70.30**	**322**	P	**P**	**19 23 43.1**	**-1.5**
	comp=Z,1.2nm,0.4s,mb4.2,baz=92,slow=5.2,SNR=13						
AKASG				pP	pP	19 23 57.4	-1.6
	comp=Z,0.6nm,0.5s,baz=88,slow=5.3,SNR=3.0						
AKASG	**Malin Array Be**	**70.30**	**322**	P	**P**	**19 23 43.1**	**-1.5**
AKASG				pP	pP	19 23 57.4	-1.6
VRI	**Vrincioaia**	**70.73**	**317**	⇓*i*P	**P**	**19 23 47.8**	**+0.6**
PLOR	**Plostina**	**70.78**	**317**	⇓*i*P	**P**	**19 23 48.1**	**+0.5**
MLR	**Muntele Rosu**	**71.19**	**316**	P	**P**	**19 23 50.3**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=178,slow=4.5,SNR=5.1						
MLR	**Muntele Rosu**	**71.19**	**316**	⇓*i*P	**P**	**19 23 50.4**	**+0.4**
BURAR	**Bucovina Array**	**72.11**	**318**	⇓*i*P	**P**	**19 23 56.1**	**+0.5**
JOF	**Joensuu**	**73.18**	**335**	*ep*	**P**	**19 23 54.4**	**-7.5**
DRGR		**73.64**	**317**	⇑*i*P	**P**	**19 24 05.1**	**+0.5**
FINES	**FINESS Array B**	**75.02**	**332**	P	**P**	**19 24 11.8**	**-0.9**
	comp=Z,1.7nm,0.5s,mb4.2,baz=67,slow=5.0,SNR=16						
FINES				pP	pP	19 24 26.7	-0.4
	comp=Z,0.9nm,0.5s,baz=99,slow=5.8,SNR=2.0						
KAF	**Kangasniemi**	**75.10**	**333**	*ep*	**P**	**19 24 11.1**	**-2.0**
OJC	**Ojcow**	**76.08**	**320**	*e*P	**P**	**19 24 19.0**	**+0.3**
ARCES	**ARCESS Array B**	**77.64**	**340**	P	**P**	**19 24 27.9**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=98,slow=6.2,SNR=16						
ARCES				pP	pP	19 24 41.6	-0.4
	comp=Z,4.5nm,0.9s,baz=89,slow=5.9,SNR=2.8						
GERES	**GERESS Array B**	**79.90**	**319**	P	**P**	**19 24 40.5**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=99,slow=5.4,SNR=35						
GERES				pP	pP	19 24 54.8	+0.3
	comp=Z,0.8nm,0.7s,baz=98,slow=5.8,SNR=4.2						
HFS	**Hagfors**	**80.73**	**330**	P	**P**	**19 24 43.1**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=123,slow=5.5,SNR=5.5						
KEST	**Kesra**	**82.98**	**305**	P	**P**	**19 24 55.9**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=58,slow=12,SNR=4.2						
CDF	**Champ du Feu**	**84.16**	**318**	*e*P	**P**	**19 25 02.5**	**+0.3**
SBF	**Sospel**	**84.19**	**313**	*e*P	**P**	**19 25 02.5**	**+0.1**
	comp=Z,22nm,0.9s,mb5.0						
SBF	**Sospel**	**84.19**	**313**	*e*P	**P**	**19 25 02.5**	**+0.1**
	comp=Z,11nm,0.9s,mb5.0						
LPG	**La Plagne**	**84.62**	**315**	*e*P	**P**	**19 25 05.1**	**+0.6**
	comp=Z,5.5nm,0.7s,mb4.5						
LPG	**La Plagne**	**84.62**	**315**	*e*P	**P**	**19 25 05.1**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.5						
LPL	**La Plagne**	**84.63**	**315**	*e*P	**P**	**19 25 05.0**	**+0.4**
	comp=Z,10nm,0.8s,mb4.7						
LPL	**La Plagne**	**84.63**	**315**	*e*P	**P**	**19 25 05.0**	**+0.4**
	comp=Z,5.1nm,0.8s,mb4.7						
MBDF	**Montbardon**	**84.63**	**314**	*e*P	**P**	**19 25 04.9**	**+0.3**
FRF	**La Foret Royal**	**84.78**	**313**	*e*P	**P**	**19 25 05.5**	**+0.2**
	comp=Z,10nm,0.8s,mb4.7						
FRF	**La Foret Royal**	**84.78**	**313**	*e*P	**P**	**19 25 05.5**	**+0.2**
	comp=Z,5.1nm,0.8s,mb4.7						
HAU	**Haudompre**	**84.79**	**318**	*e*P	**P**	**19 25 05.0**	**-0.4**
	comp=Z,7.7nm,0.8s,mb4.6						
HAU	**Haudompre**	**84.79**	**318**	*e*P	**P**	**19 25 05.0**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.6						
LMR	**La Mourre**	**84.89**	**313**	*e*P	**P**	**19 25 05.6**	**-0.3**
CABF	**La Chapelle**	**85.03**	**316**	*e*P	**P**	**19 25 06.8**	**+0.2**
ORIF	**Oris-en-Rattie**	**85.26**	**315**	*e*P	**P**	**19 25 08.2**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.3						
ORIF	**Oris-en-Rattie**	**85.26**	**315**	*e*P	**P**	**19 25 08.2**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.4						
VIVF	**Saint-Julien-l**	**86.12**	**315**	*e*P	**P**	**19 25 12.2**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.3						
VIVF	**Saint-Julien-l**	**86.12**	**315**	*e*P	**P**	**19 25 12.2**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.3						
SMF	**Signal de Mont**	**86.57**	**316**	*e*P	**P**	**19 25 14.2**	**-0.1**
AVF	**Avril sur Loir**	**86.90**	**317**	*e*P	**P**	**19 25 15.5**	**-0.3**
BGF	**Bois d'Agland**	**87.26**	**316**	*e*P	**P**	**19 25 18.1**	**+0.5**
NVAR	**Mina Array Bea**	**126.68**	**32**	PKP	PKPdf	19 31 36.3	+2.1
	comp=Z,0.5nm,0.5s,baz=317,slow=0.9,SNR=6.5						
PDAR	**Pinedale Array**	**127.18**	**22**	PKP	PKPdf	19 31 35.9	+0.7
	comp=Z,0.8nm,0.6s,baz=109,slow=1.5,SNR=7.2						
JCT	**Junction City**	**141.65**	**20**	*e*PKPdf	PKPdf	19 32 02.8	+0.6
CPUP	**Villa Florida**	**146.14**	**229**	PKPbc	PKPbc	19 32 11.2	+0.2
	comp=Z,0.5nm,0.4s,baz=41,slow=5.3,SNR=3.1						
LPAZ	**La Paz**	**159.97**	**236**	PKPab	PKPab	19 33 11.3	+1.7
	comp=Z,0.3nm,0.4s,baz=92,slow=2.8,SNR=4.5						

*NEIC **28** 19:24:27.2, 1606N×9924W, h16km, MD4.1(MEX), After MEX.*

MEX 28 19:24:27.1±0.8, 1606N×9925W, h19km±22km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.12**	**73**	*i* P	Pn	19 24 44.2	-3.6
PNIG				*i* S	Sb	19 24 57.2	-4.9
CAIG	**El Cayaco**	**1.38**	**315**	*i* P	Pn	19 24 48.5	-2.9
CAIG				*i* S	Sn	19 25 04.0	-5.2
MEIG	**Mezcala**	**1.89**	**349**	*i* P	Pn	19 24 56.0	-2.3
MEIG				*i* S	Sn	19 25 17.5	-4.0
UTMO	**Huajuapan**	**2.23**	**38**	*i* P	Pn	19 25 00.2	-2.8
UTMO				*i* S	Sn	19 25 26.7	-3.4
PLIG	**Platanillo**	**2.33**	**354**	*e*P	Pn	19 25 01.8	-2.6
PLIG				*i* S	Sn	19 25 29.4	-3.1
VHO	**Vista Hermosa**	**2.61**	**67**	*i* P	Pn	19 25 06.3	-1.9
VHO				*i* S	Sn	19 25 36.7	-2.8
OXX	**Oaxaca**	**2.62**	**67**	*e*P	Pn	19 25 07.0	-1.4
OXX				*i* S	Sn	19 25 37.0	-2.7
YAIG	**Yautepec**	**2.79**	**3**	*i* P	Pn	19 25 08.7	-2.0
YAIG				*i* S	Sn	19 25 40.9	-2.9
TPIG	**Tehuac#an**	**2.95**	**37**	*e*P	Pn	19 25 10.1	-2.9
TPIG				*i* S	Sn	19 25 45.0	-2.9
HUIG	**Huatulco**	**3.03**	**95**	*i* P	Pn	19 25 11.7	-2.4
HUIG				*i* S	Sn	19 25 45.2	-4.6
PPM	**Popocatepetl**	**3.04**	**11**	*e*P	Pn	19 25 13.5	-0.7
PPM				*e*P		19 25 13.5	
PPM				*i* S	Sn	19 25 47.1	-3.0
PPM	**Popocatepetl**	**3.04**	**11**	*e*P	Pn	19 25 18.0	+3.8
PPM				*i* S	Sn	19 25 52.5	+2.3
UNM	**Universidad Na**	**3.25**	**1**	*e*P	Pn	19 25 18.5	+1.5
IIO	**Organos**	**3.54**	**8**	*i* P	Pn	19 25 22.2	+1.1
MOIG	**Morelia**	**4.04**	**333**	*i* S	Sn	19 26 11.9	-2.9
MRX	**Morelia**	**4.07**	**333**	*e*P	Pn	19 25 40.0	+12
CMIG	**Matias Romero**	**4.31**	**76**	*i* P	Pn	19 25 28.8	-2.8
CMIG				*i* S	Sn	19 26 19.3	-2.0

*ISCJB **28** 19:38:46.9±0.5, 5140N±003×16.13E±003, h0km, Error ellipse: s-maj=3.8km s-min=2.3km az=35.0*
*NEIC **28** 19:38:47.6±0.5, 5149N×1625E, h5km, ML2.9(SZGRF), Error ellipse: s-maj=5.5km s-min=5.2km az=223.0*
*IPEC **28** 19:38:48.2±0.3, 5147N×1624E, h0km, ML2.5/4, Error ellipse: s-maj=3.9km s-min=1.9km az=85.0*
*IDC **28** 19:38:48.8±0.7, 5134N×1630E, h0km, mb1 3.3/5, mb1mx3.2/21, mbtmp3.2/5, ML2.8/5, Error ellipse: s-maj=13.6km s-min=6.8km az=115.0*
*PRU **28** 19:38:49.9, 5140N×1609E, h0km, Felt In Harrachov*
*WAR **28** 19:38:49, 5144N×1613E, ML2.7, Mining Induced*
*CSEM **28** 19:38:49.2±0.1, 5141N×1613E, h1km, ML3.4/11, Error ellipse: s-maj=1.9km s-min=1.2km az=15.0*
*VIE **28** 19:38:50.2±0.4, 5126N×1612E, h0km, mb2.3/4, ML2.9/4, Error ellipse: s-maj=2.8km s-min=2.6km az=173.0 65 km WNW of Breslau Suspected Mining induced.*

ISC 28 19:38:47.3±0.4, 5147N±002×1616E±003, h0km, n42, σ1§14/85, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**172**	*i* Pgd	**Pg**	**19 39 00.5**	**+1.0**
KSP				*e*Sg	**Sg**	**19 39 07.9**	**+0.2**
KSP	**Ksiaz**	**0.63**	**172**	*e*Pg	**Pg**	**19 39 00.5**	**+1.0**
KSP				*e*Sg	**Sg**	**19 39 07.7**	**0.0**
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*PG	**Pg**	**19 39 09.3**	**+0.4**
DPC				*e*SG	**Sg**	**19 39 23.7**	**+0.2**
	63nm,0.3s						
DPC	**Dobruska-Polom**	**1.13**	**175**	*e*Pg	**Pg**	**19 39 09.3**	**+0.4**
DPC				*e*Sg	**Sg**	**19 39 23.2**	**-0.3**
PVCC	**Panska Ves**	**1.38**	**227**	*e*PG	**Pg**	**19 39 14.1**	**+0.4**
PVCC				*e*SG	**Sg**	**19 39 32.6**	**+1.0**
	246nm,0.6s						
BRG	**Berggiesshubel**	**1.52**	**248**	PN	**Pn**	**19 39 16.2**	**+0.5**
BRG				PG	**Pg**	**19 39 16.9**	**+0.5**
BRG				SG	**Sg**	**19 39 36.9**	**+0.8**
	29nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**248**	Pg	**Pg**	**19 39 16.9**	**+0.5**
PRU	**Pruhonice**	**1.81**	**215**	*e*PN	**Pn**	**19 39 19.8**	**+0.2**
PRU				*e*PG	**Pg**	**19 39 21.4**	**-0.5**
PRU				*e*SG	**Sg**	**19 39 44.3**	**-1.0**
	39nm,0.7s						
MORC	**Moravsky Berou**	**1.91**	**152**	*e*P	**Pn**	**19 39 21.0**	**-0.1**
MORC				*e*S	**Sn**	**19 39 47.9**	**+2.1**
MORC	**Moravsky Berou**	**1.91**	**152**	*e*Pn	**Pn**	**19 39 21.3**	**+0.2**
MORC				*e*Sg	**Sg**	**19 39 47.5**	**-1.2**
	17nm,0.2s						
CLL	**Collm**	**1.98**	**267**	*i* Pn	**Pn**	**19 39 22.0**	**-0.1**
CLL				*i* Pg	**Pg**	**19 39 25.0**	**-0.3**
CLL				*i* x	x	19 39 29.4	
CLL				*i* Sg	**Sg**	**19 39 52.1**	**+1.0**
	comp=Z,22nm,0.4s						
CLL				*i* x	x	19 40 26.4	
CLL	**Collm**	**1.98**	**267**	*i* Pn	**Pn**	**19 39 22.0**	**-0.1**
CLL				*i* Pg	**Pg**	**19 39 25.0**	**-0.3**
CLL				*i* Sg	**Sg**	**19 39 52.1**	**+1.0**
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*PG	**Pg**	**19 39 25.9**	**-1.0**
OKC				*e*SG	**Sg**	**19 39 53.1**	**-0.6**
	comp=Z,34nm,0.5s						
VRAC	**Vranov**	**2.18**	**

	1.6nm,0.4s,mb4.1							
GKN	**Gorkha**	**29.08**	**336**	*eP*	**P**	**19 45 12.5**	**+0.7**
KOLN	**Koldanda**	**29.30**	**335**	*eP*	**P**	**19 45 14.6**	**+0.8**
	10nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**19 47 03.7**	**+0.8**
	0.6nm,0.6s,mb3.4,baz=301,slow=9.1,SNR=9.8							
WRAB	**Tennant Creek**	**42.07**	**122**	*eP*	**P**	**19 47 02.1**	**-0.9**
	26nm,1.7s,mb4.6							
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**19 47 14.7**	**+0.5**
	0.5nm,0.8s,mb3.3,baz=292,slow=6.6,SNR=5.4							
SONM	**Songino Array**	**46.90**	**8**	P	**P**	**19 47 42.1**	**+0.6**
	1.2nm,0.5s,mb4.1,baz=192,slow=9.9,SNR=12							
SONM				LR	LR	20 10 12.3		
	comp=Z,190nm,18.1s,baz=240,slow=40							
MKAR	**Makanchi Array**	**47.05**	**346**	P	**P**	**19 47 43.3**	**+0.6**
	0.7nm,0.4s,mb3.9,baz=152,slow=8.0,SNR=12							
ZAL	**Zalesovo**	**53.35**	**351**	P	**P**	**19 48 29.1**	**-1.1**
	1.9nm,0.5s,mb4.3,baz=334,slow=5.0,SNR=7.7							
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**19 48 31.0**	**+0.2**
	2.3nm,0.9s,mb4.1,baz=137,slow=18,SNR=2.9							
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**19 48 31.0**	**+0.2**
BVAR	**Borovoye Array**	**56.08**	**341**	P	**P**	**19 48 49.5**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=132,slow=9.5,SNR=7.9							
ZRNK	**Zerenda**	**56.48**	**340**	*eP*	**P**	**19 48 51.8**	**-1.1**
	1.2nm,0.8s,mb4.0							
AKTK	**Aktyubinsk**	**59.08**	**332**	P	**P**	**19 49 09.5**	**-1.6**
AKTO	**Aktyubinsk**	**59.08**	**332**	P	**P**	**19 49 09.5**	**-1.6**
	1.0nm,0.5s,mb4.1,baz=126,slow=8.8,SNR=4.2							
BRTR	**Keskin Array B**	**69.04**	**312**	P	**P**	**19 50 17.5**	**+1.1**
	0.2nm,0.4s,mb3.4,baz=138,slow=7.0,SNR=2.6							
FINES	**FINESS Array B**	**79.85**	**332**	P	**P**	**19 51 18.1**	**-1.0**
	1.4nm,0.8s,mb3.9,baz=93,slow=6.5,SNR=5.1							
ARCES	**ARCESS Array B**	**82.36**	**340**	P	**P**	**19 51 32.5**	**0.0**
	0.6nm,0.4s,mb3.8,baz=90,slow=4.9,SNR=9.4							

*IDC **28** 20:37:27.2±0.8, 1939S×6947W, h0km, mb4.1/8, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, ML4.1/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/32, Error ellipse: s-maj=23.8km s-min=17.9km az=80.0*

*ISCJB **28** 20:37:33.3±0.9, 1946S±005×6921W±0.10, h64km±10km, mb4.1/8, Error ellipse: s-maj=15.1km s-min=8.6km az=171.5*

*NEIC **28** 20:37:34.0±1.1, 1952S×6924W, h46km±11km, mb4.3/2, Error ellipse: s-maj=15.4km s-min=9.8km az=82.0*

NEIC Felt [III] at Alto Hospicio and Iquique; [II] at Arica.

ISC 28 20:37:34.2±1.0, 1952S±006×693W±01, h54km±10km, n27, σ1°31/23, mb4.1/8, MS3.6/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.10**	**173**	Pn	**Pn**	**20 38 20.9**	**+0.3**
	101nm,0.3s,baz=4.1,slow=10,SNR=350						
LVC				Sn	**Sn**	**20 39 01.2**	**+4.9**
	1µm,0.3s,baz=180,slow=14,SNR=61						
LVC				LR	LR	20 39 50.8	
	comp=Z,460nm,18.7s,baz=337,slow=44						
LPAZ	**La Paz**	**3.40**	**19**	Pn	**Pn**	**20 38 22.6**	**-2.1**
	0.1nm,0.3s,baz=209,slow=9.8,SNR=2.5						
ARE	**Arequipa**	**3.69**	**325**	*eP*	**Pn**	**20 38 31.0**	**+2.3**
ARE				*eS*	**Sn**	**20 39 20.0**	**+9.1**
SIV	**San Ignacio**	**8.59**	**67**	Pn	**Pn**	**20 39 35.9**	**+0.1**
	0.7nm,0.3s,baz=263,slow=11,SNR=10						
SAML	**Samuel**	**12.06**	**30**	*eP*	**Pn**	**20 40 23.8**	**+0.5**
	4.9nm,0.9s						
CFAA	**Coronel Fontan**	**12.07**	**176**	LR	LR	20 45 26.5	
	comp=Z,299nm,20.4s,baz=338,slow=39						
CPUP	**Villa Florida**	**12.94**	**124**	Pn	**Pn**	**20 40 34.6**	**-0.6**
	0.3nm,0.3s,baz=282,slow=11,SNR=8.9						
TRQA	**Tornquist**	**19.54**	**162**	*eP*	**Pn**	**20 41 56.2**	**-2.7**
	16nm,0.8s						
BDFB	**Brasilia**	**20.65**	**83**	P	**P**	**20 42 09.6**	**+0.3**
	1.2nm,0.3s,baz=263,slow=8.1,SNR=1.9						
BDFB				LR	LR	20 51 12.2	
	comp=Z,225nm,20.2s,MS3.5,baz=259,slow=40						
PLCA	**Paso Flores**	**21.17**	**183**	P	**P**	**20 42 14.4**	**-0.5**
	5.5nm,0.8s,mb3.9,baz=4.9,slow=13,SNR=9.7						
PLCA				LR	LR	20 50 51.7	
	comp=Z,225nm,18.9s,MS3.6,baz=102,slow=38						
SDV	**Santo Domingo**	**28.26**	**357**	P	**P**	**20 43 21.6**	**-0.6**
	1.9nm,0.5s,mb4.0,baz=356,slow=13,SNR=2.8						
VNA3	**Neumayer Olymp**	**62.06**	**162**	*e*	**P**	**20 47 52.5**	**+3.4**
VNA3				*e*		20 47 59.9	
VNA3				*e*	pP	20 48 03.8	-0.2
VNA1	**Neumayer--Stat**	**62.26**	**161**	*e*	**P**	**20 47 51.3**	**+0.8**
VNA1				*e*		20 47 58.3	
VNA1				*e*	pP	20 48 02.4	-2.9
VNA1				*e*	pP	20 48 06.3	+1.0
SNAA	**Sanae**	**64.26**	**161**	*e*	**P**	**20 48 04.7**	**+1.0**
SNAA				*e*		20 48 08.4	
SNAA				*e*		20 48 12.8	
SNAA	**Sanae**	**64.26**	**161**	*eP*	**P**	**20 48 03.9**	**+0.2**
	3.0nm,0.9s,mb4.3						
DBIC	**Dimbokro**	**68.54**	**74**	P	**P**	**20 48 32.4**	**+1.4**
	3.1nm,0.6s,mb4.4,baz=225,slow=9.5,SNR=8.8						
DBIC	**Dimbokro**	**68.54**	**74**	P	**P**	**20 48 32.4**	**+1.4**
ULM	**Lac du Bonnet**	**73.33**	**343**	LR	LR	21 20 16.6	
	comp=Z,48nm,19.6s,MS3.8,baz=27,slow=35						
NVAR	**Mina Array Bea**	**73.72**	**322**	P	**P**	**20 49 02.5**	**+0.2**
	0.3nm,0.7s,mb3.4,baz=165,slow=7.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.05**	**71**	P	**P**	**20 49 22.8**	**+1.3**
	2.0nm,0.6s,mb4.2,baz=248,slow=5.3,SNR=12						
YBH	**Yreka Blue Hor**	**78.43**	**322**	P	**P**	**20 49 27.1**	**-2.0**
	1.0nm,0.5s,mb4.0,baz=69,slow=14,SNR=2.9						
YKA	**Yellowknife Ar**	**89.21**	**341**	P	**P**	**20 50 22.2**	**-1.9**
	1.0nm,0.6s,mb4.3,baz=136,slow=5.5,SNR=4.7						
YKA	**Yellowknife Ar**	**89.21**	**341**	P	**P**	**20 50 22.2**	**-1.9**
ASAR	**Alice Springs**	**131.47**	**209**	PKP	PKPdf	20 56 43.1	+2.5
	0.2nm,0.7s,baz=105,slow=1.4,SNR=3.0						
WRA	**Warramunga Arr**	**134.45**	**212**	PKP	PKPdf	20 56 49.8	+3.6
	0.7nm,1.0s,baz=153,slow=1.7,SNR=4.6						
MKAR	**Makanchi Array**	**144.23**	**34**	PKP	PKPdf	20 57 06.5	+2.5
	0.2nm,0.7s,baz=293,slow=4.1,SNR=3.5						
SONM	**Songino Array**	**151.54**	**6**	PKPbc	PKPbc	20 57 24.7	+2.5
	0.7nm,0.5s,baz=279,slow=1.5,SNR=9.7						
SONM				PKPab	PKPab	20 57 31.5	+0.7
	0.9nm,0.5s,baz=16,slow=4.4,SNR=13						

*IDC **28** 20:47:12.4±0.8, 3319N×7547E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.8/24, mbtmp3.9/13, ML3.3/1, Error ellipse: s-maj=20.5km s-min=18.4km az=65.0*

*NEIC **28** 20:47:13.9±0.5, 3323N×7549E, h10km, mb4.0/2, Error ellipse: s-maj=12.2km s-min=9.4km az=94.0*

*MOS **28** 20:47:15.8±1.0, 3332N×7549E, h33km, mb4.2/3, Error ellipse: s-maj=23.7km s-min=10.0km az=95.5*

*NDI **28** 20:47:18.7±3.7, 3332N×7545E, h10km, ML4.0, mb4.0(NEIC)*

*ISCJB **28** 20:47:19.7±0.4, 3325N±003×7552E±005, h82km±5km, mb3.7/12, Error ellipse: s-maj=7.8km s-min=4.0km az=131.3*

*NNC **28** 20:47:25.5±3.9, 3384N×7512E, h45km±31km, mb3.5, Error ellipse: s-maj=31.5km s-min=31.1km az=138.0*

ISC 28 20:47:20.2±0.4, 3334N±003×7551E±005, h60km±6km, n57, σ1°30/76, mb3.8/12, 8C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**0.80**	**220**	*eP*	**Pn**	**20 47 35.5**	**-0.3**
JMU				*ex*	**Sn**	**20 47 55.0**	**+7.8**
THN	**Thein Dam**	**0.92**	**169**	*ex*	**Pn**	**20 47 32.4**	**-4.8**
THN				*eS*	**Sn**	**20 47 50.0**	**+0.2**
SRNI	**Srinagar**	**0.94**	**324**	*eP*	**Pn**	**20 47 37.5**	**+0.1**
SRNI				*ex*	**Sn**	**20 47 55.5**	**+5.4**
CHCP	**Chirah Chowk**	**1.90**	**280**	⇑P	**Pn**	**20 47 53.4**	**+3.1**
BHK	**Bhakra**	**2.06**	**158**	*eP*	**Pn**	**20 47 55.6**	**+3.1**
BHK				*ex*	**Sn**	**20 48 25.6**	**+8.4**
SDNR	**Sundarnagar**	**2.21**	**146**	*eP*	**Pn**	**20 47 55.5**	**+1.0**
SDNR				*eS*	**Sn**	**20 48 25.0**	**+4.2**
SMLA	**Simla**	**2.61**	**147**	*eP*	**Pn**	**20 48 01.1**	**+1.1**
SMLA				*eS*	**Sn**	**20 48 34.4**	**+3.8**
SMLA				AML	AML	20 48 38.1	
	comp=N,4µm,0.3s						
SMLA				AML	AML	20 48 39.7	
	comp=E,3µm,0.2s						
SARP	**Sargodha**	**2.78**	**240**	P	**Pn**	**20 48 04.4**	**+2.1**
KLP	**Kalpa**	**2.94**	**127**	*eP*	**Pn**	**20 48 07.1**	**+2.6**
KLP				*eS*	**Sn**	**20 48 41.0**	**+2.5**
KLP				AML	AML	20 48 46.9	
	comp=N,1µm,0.5s						
KLP				AML	AML	20 49 00.4	
	comp=E,831nm,0.4s						
CEP	**Cherat**	**3.04**	**280**	⇑P	**Pn**	**20 48 07.8**	**+1.9**
THW	**Thamme Wali**	**3.21**	**261**	P	**Pn**	**20 48 10.1**	**+2.0**
KKR	**Kurukshetra**	**3.55**	**161**	*eP*	**Pn**	**20 48 13.5**	**+0.7**
KKR				*eS*	**Sn**	**20 48 54.0**	**+0.5**
DDI	**Dehra Dun**	**3.71**	**144**	*eP*	**Pn**	**20 48 14.8**	**-0.2**
DDI				*ex*	**Sn**	**20 48 53.5**	**-3.9**
SBDP	**Sheikh Budin**	**4.09**	**257**	P	**Pn**	**20 48 22.3**	**+2.1**
SBDP				S	**Sn**	**20 49 05.0**	**-1.8**
NDI	**New Delhi**	**4.87**	**162**	*ex*	**Pn**	**20 48 24.0**	**-6.9**
NDI				*ex*	x	20 49 44.0	
AYAN	**Aya Nagar**	**5.04**	**164**	*eP*	**Pn**	**20 48 33.1**	**-0.1**
AYAN				*eS*	**Sn**	**20 49 29.2**	**-0.9**
KUDL	**Kundal**	**5.25**	**170**	*eP*	**Pn**	**20 48 35.7**	**-0.4**
KUDL				*eS*	**Sn**	**20 49 33.3**	**-1.9**
SONA	**Sohna**	**5.25**	**165**	*eP*	**Pn**	**20 48 36.1**	**0.0**
SONA				*eS*	**Sn**	**20 49 34.0**	**-1.3**
SONA				*eS*	**Sn**	**20 49 34.3**	**-1.0**
SONA				AML	AML	20 49 35.9	
	comp=E,132nm,0.2s						
SONA				AML	AML	20 50 06.3	
	comp=N,134nm,0.7s						
KHET	**Khetri**	**5.25**	**177**	*ex*	**Pn**	**20 48 34.8**	**-1.4**
KHET				*eS*	**Sn**	**20 49 34.6**	**-0.8**
PTH	**Pithoragarh**	**5.52**	**132**	*ex*	**Sn**	**20 49 33.0**	**-8.8**
PTH				*ex*	x	20 50 10.2	
LGTI	**Lohaghat**	**5.61**	**132**	*eP*	**Pn**	**20 48 42.5**	**+1.5**
LGTI				*ex*	x	20 50 10.5	
AGRA	**Agra**	**6.44**	**160**	*ex*	x	20 50 34.8	
AJM	**Ajmer**	**6.88**	**186**	*eP*	**Pn**	**20 48 57.9**	**-0.5**
AJM				*eS*	**Sn**	**20 50 13.1**	**-2.1**
AJM				AML	AML	20 50 58.4	
	comp=N,88nm,0.4s						
AJM				AML	AML	20 50 59.9	
	comp=E,99nm,0.4s						
AAK	**Ala-Archa**	**9.31**	**355**	*eP*	**Pn**	**20 49 29.7**	**-2.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AAK	**Ala-Archa**	**9.31**	**355**	*eP*	**Pn**	**20 49 29.7**	**-2.0**
	comp=Z,8.9nm,0.9s						
FRU	**Bishkek**	**9.50**	**356**	P	**Pn**	**20 49 41.0**	**+6.7**
TKM2	**Tokmak 2**	**9.57**	**0**	⇑P	**Pn**	**20 49 34.8**	**-0.4**
	comp=Z,0.3nm,0.5s						
TKM2				⇑S	**Sn**	**20 51 16.9**	**-4.2**
	comp=Z,0.5nm,0.8s						
BHPL	**Bhopal**	**10.20**	**170**	*eP*	**Pn**	**20 49 43.0**	**-0.9**
BHPL				*eS*	**Sn**	**20 51 30.5**	**-6.1**
KK31	**Karatay Array**	**10.51**	**340**	⇓P	**Pn**	**20 49 45.7**	**-2.3**
	comp=Z,1.6nm,0.3s,baz=160,slow=12,SNR=63						
KK31				⇑S	**Sn**	**20 51 34.9**	**-9.2**
	comp=Z,6.9nm,0.5s,baz=158,slow=22						
AKL	**Akola**	**12.66**	**174**	*ex*	**Pn**	**20 50 14.1**	**-3.2**
AKL				*eS*	**Sn**	**20 52 27.4**	**-9.2**
AKL				AML	AML	20 52 54.4	
	comp=E,15nm,0.3s						
AKL				AML	AML	20 52 56.9	
	comp=N,27nm,0.3s						
MK02	**Makanchi Array**	**14.38**	**19**	⇓P	**Pn**	**20 50 39.3**	**-1.2**
	comp=N,1.2nm,0.7s						
MKAR	**Makanchi Array**	**14.40**	**19**	Pn	**Pn**	**20 50 38.7**	**-2.0**
	comp=N,0.1nm,0.3s,baz=191,slow=15,SNR=6.9						
VOSK	**Vostochnaya**	**19.65**	**352**	⇑P	**Pn**	**20 51 43.8**	**-2.1**
	comp=N,3.8nm,1.1s						
AB31	**Akbulak array**	**19.68**	**329**	⇓P	**Pn**	**20 51 44.7**	**-1.5**
	comp=N,1.3nm,0.4s,baz=139,slow=12,SNR=32						
BVA0	**Borovoye Array**	**20.02**	**351**	P	**P**	**20 51 48.0**	**0.0**
	comp=N,1.0nm,0.6s,baz=164,slow=10,SNR=23						
BVAR	**Borovoye Array**	**20.02**	**351**	P	**P**	**20 51 48.4**	**+0.4**
	comp=N,5.8nm,0.4s,baz=161,slow=11,SNR=31						
BRVK	**Borovoye**	**20.06**	**351**	*eP*	**P**	**20 51 48.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BRVK	**Borovoye**	**20.06**	**351**	*eP*	**P**	**20 51 48.4**	**-0.1**
	comp=Z,5.1nm,0.8s						
ZRNK	**Zerenda**	**20.15**	**349**	⇑P	**P**	**20 51 49.6**	**+0.2**
	comp=Z,5.1nm,0.8s						
ZRNK	**Zerenda**	**20.15**	**349**	*eP*	**P**	**20 51 48.5**	**-0.9**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ZRNK	**Zerenda**	**20.15**	**349**	*eP*	**P**	**20 51 48.5**	**-0.9**
	comp=Z,4.9nm,0.6s						
AKTK	**Aktyubinsk**	**21.39**	**328**	P	**P**	**20 52 03.3**	**+0.5**
AKTO	**Aktyubinsk**	**21.39**	**328**	⇑P	**P**	**20 52 03.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb2.9						
AKTO	**Aktyubinsk**	**21.39**	**328**	P	**P**	**20 52 03.3**	**+0.5**
	comp=Z,26nm,0.7s,mb4.7,baz=128,slow=10,SNR=53						
ZAL	**Zalesovo**	**21.62**	**15**	P	**P**	**20 52 04.2**	**-1.0**
	comp=Z,2.4nm,0.4s,mb4.0,baz=267,slow=4.3,SNR=10						
SONM	**Songino Array**	**27.35**	**49**	P	**P**	**20 53 00.1**	**+0.7**
	comp=Z,0.2nm,0.8s,mb2.8,baz=268,slow=10,SNR=2.8						
BRTR	**Keskin Array B**	**34.01**	**293**	P	**P**	**20 53 58.9**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.8,baz=88,slow=8.8,SNR=6.2						
JOF	**Joensuu**	**40.44**	**331**	*ep*	**P**	**20 54 53.7**	**+1.0**
	comp=Z,2.3nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**42.16**	**327**	P	**P**	**20 55 07.3**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=126,slow=12,SNR=11						
ARCES	**ARCESS Array B**	**45.47**	**338**	P	**P**	**20 55 34.5**	**+1.2**
	comp=Z,2.3nm,0.8s,mb4.1,baz=112,slow=8.7,SNR=12						
KMBO	**Kilima Mbogo**	**49.72**	**234**	P	**P**	**20 56 05.1**	**-1.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=40,slow=19,SNR=3.6						
KMBO	**Kilima Mbogo**	**49.72**	**234**	P	**P**	**20 56 05.1**	**-1.1**
TORD	**Torodi Ar. Bea**	**69.45**	**272**	P	**P**	**20 58 22.1**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=49,slow=6.0,SNR=8.4						
WRA	**Warramunga Arr**	**77.17**	**124**	P	**P**	**20 59 07.7**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=314,slow=6.0,SNR=7.3						
ASAR	**Alice Springs**	**79.40**	**127**	P	**P**	**20 59 21.4**	**+1.6**
	comp=Z,0.4nm,0.9s,mb3.4,baz=321,slow=5.4,SNR=3.2						
YKA	**Yellowknife Ar**	**84.16**	**5**	P	**P**	**20 59 45.3**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.2,baz=344,slow=5.3,SNR=6.1						
YKA	**Yellowknife Ar**	**84.16**	**5**	P	**P**	**20 59 45.3**	**+0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						

IDC 28 21:00:07.8±17.0, 2011S×17828W, h606km±171km, mb2.6/4, mb1 2.8/4, mb1mx2.7/13, mbtmp3.7/4, Error ellipse: s-maj=119.4km s-min=97.6km az=99.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.72**	**244**	P	P	21 06 33.9	+0.4
	1.2nm,0.8s,baz=95,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**44.35**	**256**	P	P	21 07 26.0	+0.3
	0.3nm,0.3s,baz=84,slow=8.9,SNR=7.6						
ASAR				PcP	PcP	21 08 56.5	+0.4
	0.3nm,0.5s,baz=96,slow=3.8,SNR=5.7						
WRA	**Warramunga Arr**	**44.40**	**262**	P	P	21 07 26.1	0.0
	0.3nm,0.3s,baz=97,slow=7.6,SNR=22						
FITZ	**Fitzroy Crossi**	**52.82**	**262**	P	P	21 08 28.4	+0.3
	0.7nm,0.8s,baz=108,slow=3.2,SNR=4.9						
AKASG	**Malin Array Be**	**142.55**	**331**	PKP	PKPdf	21 18 29.6	-3.1
	0.9nm,0.4s,baz=44,slow=4.6,SNR=8.5						
BRTR	**Keskin Array B**	**146.38**	**313**	PKPbc	PKPbc	21 18 42.8	+0.9
	0.6nm,0.5s,baz=137,slow=5.7,SNR=3.7						
GERES	**GERESS Array B**	**149.75**	**344**	PKPbc	PKPbc	21 18 50.7	+0.4
	0.3nm,0.5s,baz=79,slow=0.5,SNR=4.2						

*ISCJB **28** 21:21:32.2±1.5, 1017S±0.10×1611E±0.1, h105km±12km, mb3.7/9, Error ellipse: s-maj=21.1km s-min=16.1km az=156.5*

*IDC **28** 21:21:33.4±1.3, 1019S×16109E, h100km±8km, mb3.6/8, mb1 3.8/9, mb1mx3.7/14, mbtmp4.0/9, MS2.9/1, Ms1 2.9/1, ms1mx2.6/17, Error ellipse: s-maj=26.4km s-min=16.8km az=89.0*

*NEIC **28** 21:21:33.1±0.7, 1014S×161.18E, mb4.0/2, Error ellipse: s-maj=15.6km s-min=12.4km az=73.0*

ISC 28 21:21:32.8±1.5, 1014S±010×1612E±01, h95km±12km, h103km±4.0km; pP-P, n14, σ0°92/14, mb3.7/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.42**	**300**	P	**Pn**	**21 21 57.7**	**-0.1**
	843nm,0.3s,baz=127,slow=1.5,SNR=171						
DZM	**Mont Dzumac**	**12.89**	**158**	P	**Pn**	**21 24 31.8**	**-0.5**
	0.7nm,0.3s,baz=19,slow=21,SNR=13						
DZM				LR	LR	21 29 02.3	
	comp=Z,54nm,18.2s,baz=184,slow=35						
CTAO	**Charters Tower**	**17.48**	**234**	*eP*	**Pn**	**21 25 31.9**	**+1.5**
	11nm,1.2s						
WRAB	**Tennant Creek**	**27.66**	**246**	*eP*	**P**	**21 27 11.3**	**-0.3**
	3.7nm,0.9s,mb3.9						
WB2	**Warramunga Arr**	**27.66**	**246**	*eP*	**P**	**21 27 11.3**	**-0.3**
WRA	**Warramunga Arr**	**27.67**	**246**	P	**P**	**21 27 10.9**	**-0.8**
	0.8nm,0.7s,mb3.4,baz=74,slow=9.3,SNR=12						
WRA				pP	pP	21 27 32.6	-0.4
	2.2nm,0.7s,baz=76,slow=9.4,SNR=5.1						
STKA	**Stephens Creek**	**28.23**	**217**	P	**P**	**21 27 18.0**	**+1.3**
	1.2nm,0.8s,mb3.5,baz=49,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**29.30**	**239**	P	**P**	**21 27 26.1**	**-0.1**
	0.2nm,0.4s,mb3.1,baz=62,slow=10,SNR=5.2						
ASAR				pP		21 27 47.3	-0.3
	1.0nm,0.7s,baz=69,slow=9.8,SNR=9.6						
MJAR	**Matsushiro Arr**	**51.23**	**336**	P	**P**	**21 30 26.0**	**-0.6**
	1.6nm,0.6s,mb4.2,baz=165,slow=8.6,SNR=6.6						
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**21 32 16.7**	**-1.1**
	0.4nm,0.7s,mb3.3,baz=350,slow=5.6,SNR=7.4						
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**21 32 16.7**	**-1.1**
SONM	**Songino Array**	**75.34**	**325**	P	**P**	**21 33 06.4**	**+0.6**
	2.4nm,0.6s,mb4.1,baz=141,slow=5.5,SNR=24						
NVAR	**Mina Array Bea**	**88.89**	**51**	P	**P**	**21 34 18.3**	**+1.9**
	0.5nm,0.7s,mb3.6,baz=224,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**89.83**	**318**	P	**P**	**21 34 19.9**	**-1.0**
	0.3nm,0.4s,mb3.6,baz=86,slow=6.8,SNR=17						
MKAR				pP	pP	21 34 48.6	+2.6
	0.5nm,0.7s,baz=80,slow=6.8,SNR=3.5						

IDC 28 21:28:53.6±5.6, 1630S×17121W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML0.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/19, Error ellipse: s-maj=120.5km s-min=27.5km az=100.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.44**	**347**	Pn	Pn	21 29 34.0	-0.8
	0.9nm,0.3s,baz=60,slow=8.1,SNR=2.2						
AFI				Sn	Sn	21 30 08.4	+3.1
	16nm,0.3s,baz=171,slow=20,SNR=6.8						
RAR	**Rarotonga**	**11.88**	**116**	LR	LR	21 35 18.5	
	comp=Z,75nm,18.9s,baz=161,slow=32						
STKA	**Stephens Creek**	**45.44**	**241**	P	P	21 37 14.2	0.0
	2.2nm,0.8s,baz=73,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**51.70**	**257**	P	P	21 38 03.9	+1.4
	0.7nm,0.8s,baz=93,slow=6.8,SNR=6.0						
ASAR	**Alice Springs**	**51.85**	**253**	P	P	21 38 03.5	-0.1
	2.8nm,0.8s,baz=84,slow=8.5,SNR=29						

*ISCJB **28** 21:34:49.5±3.9, 5S×02×1528E±0.1, h55km±31km, mb4.0/8, MS3.8/9, Error ellipse: s-maj=26.7km s-min=21.0km az=14.6*

*IDC **28** 21:34:51.3±5.9, 544S×15278E, h54km±47km, mb3.7/6, mb1 4.0/7, mb1mx3.7/15, mbtmp4.0/7, ML3.0/1, MS3.7/9, Ms1 3.7/9, ms1mx3.6/17, Error ellipse: s-maj=37.5km s-min=26.5km az=31.0*

*NEIC **28** 21:34:52.2±2.6, 5455S×15275E, h68km±20km, mb4.4/3, Error ellipse: s-maj=19.6km s-min=14.7km az=211.0*

ISC 28 21:34:52.1±3.3, 54S±02×1528E±01, h65km±26km, n24, σ0°48/16, mb4.0/8, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**234**	P	**Pn**	**21 36 29.7**	**+0.2**
	1.8nm,0.3s,baz=221,slow=20,SNR=4.0						
PMG				S	**Sn**	**21 37 46.0**	**+0.2**
	2.5nm,0.3s,baz=60,slow=8.1,SNR=3.3						
GUMO	**Guam**	**20.46**	**337**	LR	LR	21 46 11.3	
	comp=Z,155nm,21.1s,baz=257,slow=33						
DZM	**Mont Dzumac**	**21.18**	**143**	P	**P**	**21 39 31.7**	**-0.3**
	4.7nm,0.8s,mb3.9,baz=308,slow=19,SNR=3.9						
KAKA	**Kakadu**	**21.34**	**249**	*eP*	**P**	**21 39 33.2**	**-0.5**
	16nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**23.00**	**230**	*eP*	**P**	**21 39 51.1**	**-0.2**
	20nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**23.01**	**230**	⇑*iP*	**P**	**21 39 51.4**	**0.0**
WB2	**Warramunga Arr**	**23.01**	**230**	*eP*	**P**	**21 39 50.8**	**-0.5**
WRA	**Warramunga Arr**	**23.02**	**230**	P	**P**	**21 39 51.5**	**0.0**
	6.1nm,0.8s,mb4.0,baz=54,slow=9.7,SNR=31						
**AS

KZIT	**Kziot**	**6.21 131**	Pn	**Pn**	**21 54 58.6 +1.1**
KZIT			Sn	**Sn**	**21 56 04.2 -3.0**
RTMI	**Retamim**	**6.30 129**	Pn	**Pn**	**21 54 59.7 +1.0**
SVTA	**Shivta**	**6.34 130**	Pn	**Pn**	**21 55 00.1 +1.0**
SVTA			Sn	**Sn**	**21 56 06.8 -3.4**
YTIR	**Yattir**	**6.38 124**	Pn	**Pn**	**21 55 01.5 +1.7**
MASH	**Mash'abbe Sade**	**6.40 128**	Pn	**Pn**	**21 55 01.0 +1.0**
DSI	**Dead Sea**	**6.44 122**	Pn	**Pn**	**21 55 02.1 +1.5**
SWA1		**6.46 206**	P	**Pn**	**21 55 01.4 +0.5**
SWA1			S	**Sn**	**21 56 03.8 -10**
SWA2		**6.58 208**	P	**Pn**	**21 55 02.9 +0.4**
MZDA	**Masada**	**6.58 124**	Pn	**Pn**	**21 55 03.8 +1.3**
MZDA			Sn	**Sn**	**21 56 14.2 -2.1**
ZNM		**6.63 149**	P	**Pn**	**21 55 03.8 +0.7**
HNKL	**Nakhl**	**6.70 139** ⇑P		**Pn**	**21 55 05.3 +1.2**
AWBH		**6.79 180**	P	**Pn**	**21 55 04.8 -0.6**
ZFRI	**Zfri**	**6.94 129**	Pn	**Pn**	**21 55 08.3 +0.8**
ZFRI	**Zfri**	**6.94 129**	Pn	**Pn**	**21 55 08.5 +1.0**
PRNI	**Paran**	**6.97 131**	Pn	**Pn**	**21 55 08.6 +0.7**
PRNI			Sn	**Sn**	**21 56 24.3 -1.7**
KMTI	**Karmit**	**6.98 134**	Pn	**Pn**	**21 55 09.0 +0.9**
KMTI			Sn	**Sn**	**21 56 23.8 -2.4**
HRFI	**Mount Harif**	**7.22 133**	Pn	**Pn**	**21 55 12.4 +1.1**
HRFI			Sn	**Sn**	**21 56 30.1 -1.9**
MBH	**Mount Berech**	**7.32 135**	Pn	**Pn**	**21 55 13.8 +1.0**
MBH			Sn	**Sn**	**21 56 33.3 -1.3**
EIL	**Elat**	**7.44 135**	Pn	**Pn**	**21 55 14.9 +0.7**
EIL			Sn	**Sn**	**21 56 35.0 -2.4**
EIL	**Elat**	**7.44 135** *eP*		**Pn**	**21 55 14.7 +0.4**
	95nm,0.6s				
EIL	**Elat**	**7.44 135**	Pn	**Pn**	**21 55 14.9 +0.6**
EIL			Sn	**Sn**	**21 56 34.9 -2.5**
TR2		**7.85 148**	P	**Pn**	**21 55 21.1 +1.2**
HKAT	**Jabal Katrina**	**7.86 146**	P	**Pn**	**21 55 21.8 +1.7**
KEST	**Kesra**	**16.00 278**	Pn	**Pn**	**21 57 13.3 +2.7**
	0.1nm,0.3s,baz=98,slow=7.1,SNR=7.4				
TORD	**Torodi Ar. Bea**	**32.94 235**	P	**P**	**21 59 59.8 +0.3**
	0.5nm,0.6s,mb3.6,baz=38,slow=8.8,SNR=8.6				

CSEM ***28*** *22:02:10.1, 67.19N×2064E, h0km, ML2.9, Mining explosion. After UPP*

UPP ***28*** *22:02:10.1, 67.19N×2064E, h0km, ML2.9, Mining explosion.*

HEL 28 22:02:10.9±0.1, 6718N×2062E, h0km, ML2.9(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.06**	**198**	*i* P	Pg	22 02 11.7	-0.4
DUNU	**Dundret**	**0.06**	**198**	P	Pg	22 02 11.6	-0.5
MASU	**Masugnsbyn**	**0.60**	**62**	*i* P	Pg	22 02 21.3	-1.2
KUA	**Kurravaara**	**0.79**	**352**	*i* P	Pg	22 02 24.7	-1.3
SALU	**Saltoluokta**	**0.84**	**285**	*i* P	Pg	22 02 26.2	-0.9
SALU	**Saltoluokta** baz=113	**0.84**	**285**	P	Pg	22 02 26.2	-0.9
ERTU	**Ertsjaerv**	**0.88**	**135**	*i* P	Pg	22 02 27.2	-0.6
NIKU	**Nikkaluokta**	**0.92**	**319**	*e*P	Pg	22 02 27.5	-1.1
PAJU	**Pajala**	**0.99**	**98**	*e*P	Pg	22 02 28.2	-1.7
LANU	**Lannavaara**	**1.02**	**30**	*e*P	Pg	22 02 28.7	-1.8
HARU	**Harads**	**1.03**	**172**	P	Pg	22 02 29.2	-1.4
KALU	**Kalix**	**1.72**	**139**	P	Pn	22 02 41.6	-0.5
SJUU	**Sjulsmark**	**1.73**	**166**	*e*P	Pn	22 02 41.3	-0.9
KIF	**Kilpisjarvi**	**1.84**	**2**	*e*P	Pn	22 02 44.3	+0.7
KIF				*e*S	Sn	22 03 08.8	+1.2
LILU	**Lilltraesk**	**1.93**	**190**	*e*P	Pn	22 02 44.8	-0.2
SGF	**Sodankyl**	**2.31**	**81**	*e*P	Pn	22 02 50.6	+0.4
SGF				*e*S	Sn	22 03 19.7	+0.5

IDC 28 22:24:19.0±2.2, 804S×13097E, h0km, mb3.5/1,**mb1 3.4**/4, **mb1mx3.3**/13,**mbtmp3.3**/4,**ML2.8**/2,**Error ellipse: s-maj=78.5km s-min=29.3km az=79.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.27**	**207**	Pn	Pn	22 27 01.9	+0.7
WRA	**Warramunga Arr**	**12.28**	**165**	Pn	Pn	22 27 15.0	0.0
	0.1nm,0.3s,baz=347,slow=13,SNR=7.6						
WRA				Sn	Sn	22 29 23.5	-9.1
	0.1nm,0.3s,baz=345,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**15.79**	**170**	Pn	Pn	22 28 02.6	-0.1
	0.0nm,0.3s,baz=356,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**69.61**	**327**	P	P	22 35 30.1	+0.2
	0.2nm,0.4s,baz=144,slow=6.1,SNR=5.3						

IDC ***28*** *22:42:00.1±4.0, 382S×130.10E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=87.5km s-min=39.7km az=85.0*

ISCJB ***28*** *22:42:02.9±1.3, 39S±0.1×1300E±0.2, h33km, mb3.8/2, Error ellipse: s-maj=34.0km s-min=17.0km az=147.3*

NEIC ***28*** *22:42:05.2±1.0, 389S×13001E, h35km, mb3.8/2, Error ellipse: s-maj=26.0km s-min=14.3km az=74.0*

ISC 28 22:42:04.6±1.2, 38S±01×1300E±02, h35km, n11, σ0§90/13, **mb3.8**/2,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.85**	**196**	Pn	**Pn**	**22 45 31.1**	**-0.9**
	0.1nm,0.3s,baz=27,slow=14,SNR=4.5						
WRAB	**Tennant Creek**	**16.61**	**165**	*e*Pn	**Pn**	**22 45 55.2**	**+0.5**
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**16.61**	**166**	Pn	**Pn**	**22 45 53.5**	**-1.3**
	0.5nm,0.3s,baz=348,slow=9.7,SNR=33						
WRA				Sn	**Sn**	**22 48 59.6**	**+1.5**
	0.0nm,0.3s,baz=341,slow=20,SNR=2.9						
WB2	**Warramunga Arr**	**16.62**	**165**	*e*P	**Pn**	**22 45 53.7**	**-1.1**
AS31	**Alice Springs**	**20.13**	**170**	*e*P	**P**	**22 46 35.7**	**+0.2**
ASAR	**Alice Springs**	**20.13**	**170**	P	**P**	**22 46 35.1**	**-0.4**
	4.0nm,0.6s,baz=348,slow=11,SNR=51						
ASAR				S	**S**	**22 50 23.1**	**+3.5**
	0.7nm,0.8s,baz=348,slow=22,SNR=3.2						
ASPA	**Alice Springs**	**20.13**	**170**	*e*P	**P**	**22 46 35.7**	**+0.2**
CTAO	**Charters Tower**	**22.68**	**137**	P	**P**	**22 47 01.9**	**-0.9**
STKA	**Stephens Creek**	**30.00**	**160**	P	**P**	**22 48 10.0**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=326,slow=15,SNR=2.6						
TAU	**Tasmania Unive**	**41.90**	**161**	P	**P**	**22 49 52.3**	**+0.7**
BRVK	**Borovoye**	**75.43**	**327**	*e*P	**P**	**22 53 45.9**	**+1.1**
	0.5nm,0.4s,mb3.8						

IDC 28 22:54:06.5±5.3, 4724N×15239E, h0km, mb3.9/5, **mb1 3.9**/7,**mb1mx3.7**/22,**mbtmp3.9**/7,**ML3.3**/2,**Error ellipse: s-maj=117.2km s-min=33.2km az=134.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.54**	**249**	Pn	Pn	22 55 58.0	+0.3
	0.5nm,0.3s,baz=174,slow=9.0,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.01**	**230**	Pn	Pn	22 57 39.6	-0.2
	0.2nm,0.3s,baz=43,slow=8.9,SNR=5.2						
SONM	**Songino Array**	**30.71**	**288**	P	P	23 00 22.4	-0.7
	0.6nm,1.0s,baz=103,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**46.28**	**297**	P	P	23 02 34.1	+0.3
	1.2nm,0.8s,baz=60,slow=7.3,SNR=8.9						
FINES	**FINESS Array B**	**63.38**	**334**	P	P	23 04 37.4	-0.3
	1.3nm,0.6s,baz=52,slow=7.5,SNR=8.9						
NB2	**NORSAR Subarra**	**67.60**	**341**	P	P	23 05 04.5	-0.5
	comp=Z,0.9nm,0.6s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.60**	**341**	P	P	23 05 04.7	-0.3
	comp=Z,1.1nm,0.7s,baz=28,slow=6.3,SNR=5.7						
AKASG	**Malin Array Be**	**70.86**	**326**	P	P	23 05 24.4	-0.8
	comp=Z,1.0nm,0.5s,baz=33,slow=5.9,SNR=7.5						

ISCJB ***28*** *22:55:50.0±0.3, 845N±004×7708W±002, h33km, mb3.8/13, MS3.4/3, Error ellipse: s-maj=5.9km s-min=3.5km az=18.1*

CASC ***28*** *22:55:49.8±1.1, 819N×77.18W, h21km±6km, MW4.0, mb4.2(NEIC)*

NEIC ***28*** *22:55:51.0±2.5, 852N×7696W, h25km±19km, mb4.2/7, Error ellipse: s-maj=13.1km s-min=8.2km az=203.0*

BJI ***28*** *22:55:50.9, 850N×7700W, h24km, mB5.1, Ms4.8, Msz4.4*

IDC ***28*** *22:55:51.9±2.2, 839N×7708W, h42km±21km, mb3.6/9, mb1 4.0/13, mb1mx3.8/24, mbtmp4.0/13, ML4.3/4, MS3.4/5, Ms1 3.4/5, ms1mx3.0/30, Error ellipse: s-maj=21.5km s-min=17.4km az=53.0*

ISC 28 22:55:52.2±0.3, 851N±003×7711W±003, h35km, n63, σ1§37/59, mb3.8/13,**MS3.4**/3,**4C-2D, Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD1	**Univ de Panama**	**0.90**	**272**	*e*S	**Sn**	**22 56 19.0**	**-1.0**
UPA	**Univ. de Panam**	**2.44**	**281**	*e*P	**Pn**	**22 56 29.4**	**-0.1**
UPA				*e*S	**Sn**	**22 56 58.8**	**+0.6**
ACLA	**Agua Clara, Si**	**2.71**	**288**⇑	*e*P	**Pn**	**22 56 32.8**	**-0.3**
ZANG	**Zanguenga, Cho**	**2.76**	**279**	*e*P	**Pn**	**22 56 32.6**	**-1.4**
ACH	**Altos**	**2.79**	**273**	*e*P	**Pn**	**22 56 32.4**	**-2.0**
ACH				*e*S	**Sn**	**22 57 06.5**	**-0.4**
PINA	**Piqa, Costa Ab**	**3.01**	**284**	*e*P	**Pn**	**22 56 36.3**	**-1.0**
AZU	**Azuero**	**3.22**	**257**	*e*P	**Pn**	**22 56 38.2**	**-1.9**
AZU				*e*S	**Sn**	**22 57 14.1**	**-3.2**
ROSC	**El Rosal**	**4.56**	**143**	P	**Pn**	**22 56 59.1**	**+0.5**
	5.6nm,0.3s,baz=95,slow=21,SNR=8.4						
ROSC				S	**Sn**	**22 57 50.9**	**+0.5**
	14nm,0.3s,baz=38,slow=18,SNR=6.1						
ROSC				LR	LR	22 58 53.6	
	comp=Z,576nm,19.4s,baz=345,slow=41						
ROSC	**El Rosal**	**4.56**	**143**	*e*Pn	**Pn**	**22 56 59.6**	**+1.0**
SDV	**Santo Domingo**	**6.41**	**86**	P	**Pn**	**22 57 24.7**	**+0.6**
	12nm,0.3s,baz=274,slow=7.6,SNR=113						
SDV				S	**Sn**	**22 58 33.8**	**-2.2**
	47nm,0.3s,baz=75,slow=20,SNR=15						
SDV	**Santo Domingo**	**6.41**	**86**⇓	*e*Pn	**Pn**	**22 57 24.4**	**+0.3**
	110nm,0.7s						
SDV				*e*Sn	**Sn**	**22 58 35.1**	**-0.9**
JTS	**JuntasAbangare**	**7.94**	**283**	P	**Pn**	**22 57 44.8**	**-0.3**
	3.2nm,0.3s,baz=345,slow=23,SNR=10						
JTS	**JuntasAbangare**	**7.94**	**283**	*e*Pn	**Pn**	**22 57 44.5**	**-0.5**
	16nm,0.6s						
JTS				*e*Sn	Sx	22 59 29.6	
STH	**Stony Hill**	**9.51**	**2**⇑	*e*P	**Pn**	**22 58 10.0**	**+3.3**
STH				*e*S	**Sn**	**22 59 49.9**	**-2.3**
CMJ	**Castle Mountai**	**9.59**	**4**⇓	*i*P	**Pn**	**22 58 11.7**	**+4.0**
CMJ				*e*S	**Sn**	**22 59 52.3**	**-2.0**
BBJ	**Bamboo Saint A**	**9.81**	**359**⇑	*e*P	**Pn**	**22 58 14.3**	**+3.6**
BBJ				*e*S	**Sn**	**22 59 57.9**	**-1.8**
TGUH	**Tegucigalpa,Un**	**11.39**	**300**	*e*Pn	**Pn**	**22 58 34.4**	**+2.1**
PCRV	**Puerto La Cruz**	**12.42**	**81**	P	**Pn**	**22 58 44.8**	**-1.5**
	2.5nm,0.3s,baz=291,slow=8.0,SNR=6.3						
PCRV				S	**Sn**	**23 00 52.8**	**-11**
	0.9nm,0.3s,baz=321,slow=17,SNR=2.2						
SJG	**San Juan**	**14.30**	**47**	P	**Pn**	**22 59 08.3**	**-3.8**
	9.0nm,0.3s,baz=218,slow=11,SNR=12						
MTP	**Monte Pirata**	**14.73**	**49**	*e*Pn	**Pn**	**22 59 14.3**	**-3.6**
MTP				*e*Sn	**Sn**	**23 02 00.6**	**+0.8**
ATAH	**Atahualpa**	**15.46**	**185**	P	**Pn**	**22 59 29.1**	**+1.6**
	0.4nm,0.3s,baz=156,slow=23,SNR=3.2						
CMIG	**Matias Romero**	**19.30**	**298**	LR	LR	23 09 11.3	
	comp=Z,90nm,20.4s,baz=295,slow=41						
DWPF	**Disney**	**19.92**	**349**	P	**Pn**	**23 00 23.2**	**+0.6**
NNA	**Nana**	**20.36**	**179**	P	sP	23 00 38.6	-0.7
SAML	**Samuel**	**22.21**	**141**	*e*P	**P**	**23 00 43.3**	**-2.1**
	7.4nm,0.8s,mb4.2						
LPAZ	**La Paz**	**26.19**	**160**	P	**P**	**23 01 22.2**	**-1.2**
	1.3nm,0.9s,mb3.5,baz=258,slow=13,SNR=3.4						
LPAZ	**La Paz**	**26.19**	**160**	*e*P	pP	23 01 32.3	-1.1
	4.8nm,0.8s						
OXF	**Oxford**	**28.24**	**338**	P	**P**	**23 01 43.7**	**+1.9**
SIV	**San Ignacio**	**29.06**	**147**	P	**P**	**23 01 45.7**	**-3.5**
	0.6nm,0.5s,mb3.6,baz=318,slow=10,SNR=4.4						
MIAR	**Mount Ida**	**30.00**	**332**	P	**P**	**23 01 59.8**	**+2.3**
LVC	**Limon Verde**	**31.96**	**166**	*e*P	pP	23 02 23.7	-1.0
	8.5nm,0.8s						
ACSO	**Alum Creek Sta**	**32.02**	**352**	*e*P	**P**	**23 02 15.4**	**+0.2**
BRNJ	**Basking Ridge**	**32.12**	**4**	P	**P**	**23 02 15.8**	**-0.2**
WMOK	**Wichita Mounta**	**32.82**	**326**	P	**P**	**23 02 23.9**	**+1.7**
ALLY	**Alegheny Colle**	**33.11**	**356**	P	**P**	**23 02 24.8**	**0.0**
KSU1	**Kansas State U**	**35.13**	**333**	P	**P**	**23 02 44.4**	**+2.1**
BDFB	**Brasilia**	**37.50**	**130**	LR	LR	23 19 28.4	
	comp=Z,181nm,19.9s,MS3.9,baz=139,slow=38						
ANMO	**Albuquerque**	**37.62**	**319**	*e*P	**P**	**23 03 04.6**	**+1.1**
	3.7nm,1.0s,mb4.1						
SDCO	**Great Sand Dun**	**38.79**	**323**	*e*P	**P**	**23 03 15.5**	**+2.1**
	1.7nm,0.7s,mb3.9						
SDCO				*e*PP	PP	23 04 45.3	+2.7
CFAA	**Coronel Fontan**	**40.78**	**168**	LR	LR	23 22 35.8	
	comp=Z,11nm,19.9s,MS2.7,baz=82,slow=40						
PDAR	**Pinedale Array**	**44.43**	**326**	P	**P**	**23 04 00.0**	**+0.5**
	0.8nm,0.7s,mb3.5,baz=120,slow=8.2,SNR=7.4						
ULM	**Lac du Bonnet**	**44.44**	**343**	LR	LR	23 22 16.6	
	comp=Z,60nm,18.4s,MS3.5,baz=13,slow=36						
CMB	**Columbia Colle**	**48.79**	**314**	P	**P**	**23 04 36.0**	**+2.3**
PLCA	**Paso Flores**	**49.37**	**173**	*e*P	pP	23 04 46.9	-1.7
	3.3nm,0.9s						
WALA	**Waterton Lakes**	**50.82**	**329**	P	**P**	**23 04 50.7**	**+1.5**
NEW	**Newport**	**52.01**	**327**	*e*P	**P**	**23 04 58.8**	**+0.8**
	1.1nm,0.3s,mb4.3						
YKA	**Yellowknife Ar**	**60.36**	**341**	P	**P**	**23 05 56.4**	**-1.2**
	0.7nm,0.5s,mb3.9,baz=133,slow=7.1,SNR=7.8						
SUMG	**Summit**	**68.10**	**12**	P	**P**	**23 06 49.0**	**+0.6**
ESDC	**Sonseca Array**	**71.65**	**51**	P	**P**	**23 07 09.9**	**-0.2**
	1.4nm,0.8s,mb3.9,baz=284,slow=6.0,SNR=5.0						
ESLA	**Sonseca Array**	**71.65**	**51**	*e*P	**P**	**23 07 10.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.27**	**78**	P	**P**	**23 07 42.4**	**-0.4**
	0.4nm,0.7s,mb3.4,baz=277,slow=5.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**77.27**	**78**	P	**P**	**23 07 42.4**	**-0.4**
BCLA	**Clavier**	**78.66**	**40**	⇑P	pP	23 08 00.7	-0.9
NOA	**NORSAR Array B**	**81.81**	**29**	P	**P**	**23 08 07.7**	**+0.2**
	0.7nm,0.7s,mb3.7,baz=274,slow=5.3,SNR=3.3						
NOA	**NORSAR Array B**	**81.81**	**29**	P	**P**	**23 08 07.7**	**+0.2**
GERES	**GERESS Array B**	**84.19**	**42**	P	**P**	**23 08 20.4**	**+0.5**
	0.3nm,0.6s,mb3.6,baz=263,slow=3.5,SNR=5.3						
ARCES	**ARCESS Array B**	**86.46**	**20**	P	**P**	**23 08 30.4**	**-0.8**
	1.7nm,0.7s,mb4.4,baz=298,slow=5.2,SNR=7.6						
LBTB	**Lobatse**	**105.02**	**114**	*e*Pdif	Pdif	23 09 59.6	+3.7
WMQ	**Urumqi**	**126.12**	**14**	*e*PKP	PKPdf	23 14 53.0	+2.3
HHC	**Hu-ho-hao-te**	**130.24**	**351**	*e*PKP	PKPdf	23 15 01.5	+2.9
LZH	**Lanzhou**	**135.63**	**359**	*e*PKP	PKPdf	23 15 12.0	+3.3
ASAR	**Alice Springs**	**146.72**	**239**	PKPbc	PKPbc	23 15 28.9	-1.4
	0.7nm,0.7s,baz=119,slow=3.7,SNR=8.4						
WRA	**Warramunga Arr**	**147.54**	**246**	PKPbc	PKPbc	23 15 33.0	+0.4
	0.6nm,0.8s,baz=102,slow=2.8,SNR=9.4						

CSEM ***28*** *23:21:28.6, 6783N×2020E, h0km, ML2.7, Mining explosion. After UPP*

UPP ***28*** *23:21:28.6, 6783N×2020E, h0km, ML2.7, Mining explosion.*

HEL 28 23:21:29.3±0.1, 6783N×2020E, h0km, ML2.7(UPP), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**23**	*i* P	Pg	23 21 31.5	-0.4
KUA				*i* S	Sg	23 21 33.6	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	23 21 37.1	-0.7
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	23 21 42.0	-0.9
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	23 21 42.2	-1.0
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	23 21 43.4	-0.9
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	23 21 43.5	-0.9
SALU	**Saltoluokta** baz=46	**0.79**	**236**	P	Pg	23 21 43.5	-1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 21 51.8	-0.5
KIF				*e*S	Sg	23 22 07.3	-0.6
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pg	23 21 53.9	-2.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 21 56.8	-0.7
HARU	**Harads** baz=333	**1.70**	**169**	P	Pn	23 21 59.2	-1.0
KALU	**Kalix**	**2.34**	**146**	P	Pn	23 22 09.3	+0.3
SJUU	**Sjulsmark**	**2.40**	**166**	*e*P	Pn	23 22 10.1	+0.3
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	23 22 10.1	-0.4
SGF				*e*S	Sn	23 22 39.7	-1.5

ISCJB ***28*** *23:48:19.2±1.6, 335N±0.1×692E±0.2, h10km, Error ellipse: s-maj=23.4km s-min=7.1km az=108.9*

NNC ***28*** *23:48:22.5±2.0, 3373N×6839E, h0km, mb3.4, Error ellipse: s-maj=32.2km s-min=20.0km az=107.0*

ISC 28 23:48:19.5±1.7, 334N±01×690E±02, h10km, n11, σ0§91/14, **3C-2D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.74**	**98**	*e*P	**Pn**	**23 49 47.5**	**+2.8**
THN				*e*S	**Sn**	**23 50 50.2**	**-0.4**
KK31	**Karatay Array**	**9.77**	**7**	⇑P	**Pn**	**23 50 40.2**	**+0.2**
	1.9nm,0.5s,baz=189,slow=13,SNR=30						
KK31				⇑S	**Sn**	**23 52 29.8**	**0.0**
	1.6nm,0.5s,baz=191,slow=31						
KOLN	**Koldanda**	**13.77**	**110**	*e*P	**Pn**	**23 51 39.1**	**+4.3**
GKN	**Gorkha**	**14.49**	**108**	*e*P	**Pn**	**23 51 45.3**	**+0.8**
	10nm,0.4s						
GKN				*e*S	**Sn**	**23 54 15.9**	**-9.4**
DMN	**Daman**	**15.04**	**108**	*e*P	**Pn**	**23 51 52.6**	**+0.6**
KKN	**Kakani**	**15.10**	**107**	*e*P	**Pn**	**23 51 52.6**	**-0.2**
	16nm,0.6s						
PKI	**Pulchoki**	**15.29**	**108**	*e*P	**Pn**	**23 51 54.9**	**-0.5**
	10nm,0.5s						
GUN	**Gumba**	**15.53**	**106**	*e*P	**Pn**	**23 51 56.5**	**-1.9**
	19nm,0.7s						
VOSK	**Vostochnaya**	**19.38**	**4**	⇑P	**Pn**	**23 52 46.7**	**+0.3**
	4.8nm,1.9s						
ZRNK	**Zerenda**	**19.55**	**0**	⇓P	**Pn**	**23 52 47.8**	**-0.7**
	4.0nm,2.2s						
BVA0	**Borovoye Array**	**19.65**	**3**	⇓P	**Pn**	**23 52 49.7**	**0.0**
	0.8nm,1.8s,baz=179,slow=11,SNR=7.0						

IDC 28 23:51:53.0±2.6, 1651S×17228W, h0km, mb4.0/3, **mb1 4.2**/3,**mb1mx3.9**/14,**mbtmp4.0**/3,**MS3.6**/2,**Ms1 3.6**/2, **ms1mx3.2**/24,**Error ellipse: s-maj=193.7km s-min=27.3km az=147.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**21.73**	**96**	*e*LR	LR	00 01 35.9	
	147nm,26.0s						
TBI	**Tubuai**	**22.49**	**111**	*e*LR	LR	00 01 54.7	
	244nm,29.8s						
HNR	**Honiara**	**27.94**	**281**	LR	LR	00 07 40.9	
	comp=Z,72nm,19.0s,baz=180,slow=34						
STKA	**Stephens Creek**	**44.44**	**241**	P	P	00 00 06.1	+0.5
	0.8nm,0.3s,baz=63,slow=14,SNR=3.4						
WRA	**Warramunga Arr**	**50.65**	**258**	P	P	00 00 54.3	+0.4
	1.0nm,1.0s,baz=96,slow=7.5,SNR=7.9						
ASAR	**Alice Springs**	**50.80**	**253**	P	P	00 00 55.3	+0.2
	5.1nm,0.9s,baz=88,slow=7.9,SNR=33						
FITZ	**Fitzroy Crossi**	**59.04**	**259**	LR	LR	00 25 22.7	
	comp=Z,97nm,19.1s,baz=355,slow=34						
NVAR	**Mina Array Bea**	**74.43**	**41**	P	P	00 03 33.4	+0.5
	0.8nm,0.8s,baz=225,slow=8.9,SNR=6.7						

NIED ***28*** *23:54:00, 4660N×15350E, h14km, Mw4.2 Best double couple: M0 2.09000×10^15 NP1:φs 49.00000°, δ55.00000°, λ115.00000°. NP2:φs 190.00000°, δ42.00000°, λ59.00000°.*

IDC ***28*** *23:54:27.9±0.7, 4640N×15324E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.2/25, mbtmp4.1/20, MS4.2/1, Ms1 4.2/1, ms1mx3.1/30, Error ellipse: s-maj=21.2km s-min=18.0km az=109.0*

ISCJB ***28*** *23:54:29.4±0.6, 4658N±009×1532E±0.1, h10km, mb4.3/36, MS4.2/1, Error ellipse: s-maj=15.7km s-min=6.5km az=104.7*

NEIC ***28*** *23:54:29.6±0.4, 4639N×153.19E, h10km, mb4.4/9, Error ellipse: s-maj=11.0km s-min=8.5km az=139.0*

BJI ***28*** *23:54:29.6, 4674N×153.35E, h16km, mB4.8, mb4.4, Ms3.9, Msz3.7*

MOS ***28*** *23:54:32.4±1.2, 4645N×153.12E, h37km, mb4.6/8, Error ellipse: s-maj=12.1km s-min=9.8km az=104.0*

SZGRF ***28*** *23:54:35.8, 4619N×15193E, h33km, mb4.5, Kuril Islands, Russia*

ISC 28 23:54:32.1±4.3, 4666N±010×1532E±01, h16km±26km, n86, σ1§17/82, mb4.3/36,**MS4.2**/1,**5C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**251**⇑	*i*PN	**Pn**	**23 55 30.0**	**-2.3**
KUR				*i* S	**Sn**	**23 56 17.0**	**-1.5**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				pmax	pmax		
	comp=E,80nm,6.0s						
KUR				smax			
	comp=E,240nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.16**	**276**	*e*PN	**Pn**	**23 56 21.9**	**+5.8**
YSS	**Yuzh-Sakhalins**	**7.16**	**276**	*e*Pn	**Pn**	**23 56 22.4**	**+6.3**
ASAJ	**Asahikawa**	**7.87**	**255**	Pn	**Pn**	**23 56 28.1**	**+2.2**
	comp=E,1.5nm,0.3s,baz=106,slow=18,SNR=5.6						
ASAJ	**Asahikawa**	**7.87**	**255**	PN	**Pn**	**23 56 28.1**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ERM	**Erimo**	**8.55**	**241**	*e*PN	**Pn**	**23 56 35.6**	**+0.4**
ERM				pmax	pmax		
	comp=Z,

AAK					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
AAK	**Ala-Archa**	**53.92**	**296**	*e*P	**P**		**00 03 53.8**	**-0.9**	
	comp=Z,3.2nm,0.8s,mb4.3								
AAK				*e*			00 04 20.0		
GUN	**Gumba**	**55.05**	**275**	*e*P	**P**		**00 04 06.7**	**+3.7**	
KKN	**Kakani**	**55.54**	**275**	*e*P	**P**		**00 04 07.0**	**+0.5**	
	comp=Z,22nm,0.9s,mb5.2								
PKI	**Pulchoki**	**55.59**	**275**	*e*P	**P**		**00 04 07.0**	**+0.1**	
DMN	**Daman**	**55.77**	**275**	*e*P	**P**		**00 04 08.7**	**+0.5**	
	comp=Z,14nm,0.6s,mb5.2								
GKN	**Gorkha**	**55.85**	**276**	*e*P	**P**		**00 04 09.9**	**+1.2**	
	comp=Z,15nm,0.5s,mb5.2								
PMG	**Port Moresby**	**56.07**	**187**	LR	LR		00 24 59.4		
	comp=Z,204nm,18.5s,MS4.2,baz=322,slow=33								
KOLN	**Koldanda**	**56.70**	**277**	*e*P	**P**		**00 04 12.9**	**-1.9**	
	comp=Z,21nm,0.8s,mb5.2								
ARCES	**ARCESS Array B**	**57.96**	**341**	P	**P**		**00 04 22.1**	**-1.6**	
	comp=Z,4.1nm,1.0s,mb4.4,baz=31,slow=7.3,SNR=4.1								
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**		**00 05 05.2**	**-0.5**	
	comp=Z,5.4nm,0.7s,mb4.7,baz=37,slow=7.8,SNR=32								
PDAR	**Pinedale Array**	**64.77**	**54**	P	**P**		**00 05 09.2**	**-0.6**	
	comp=Z,0.8nm,0.9s,mb3.8,baz=321,slow=1.9,SNR=4.5								
NB2	**NORSAR Subarra**	**68.33**	**341**	P	**P**		**00 05 32.0**	**-0.6**	
	comp=Z,3.7nm,0.7s,mb4.5,baz=28,slow=6.5								
NB2	**NORSAR Subarra**	**68.33**	**341**	P	**P**		**00 05 32.0**	**-0.6**	
NB2					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
NOA	**NORSAR Array B**	**68.33**	**341**	P	**P**		**00 05 32.1**	**-0.4**	
	comp=Z,2.6nm,0.6s,mb4.5,baz=28,slow=6.4,SNR=15								
WB2	**Warramunga Arr**	**68.44**	**199**	P	**P**		**00 05 35.8**	**+2.6**	
WRA	**Warramunga Ar**	**68.44**	**199**	P	**P**		**00 05 30.8**	**-2.4**	
	comp=Z,0.5nm,0.8s,mb3.6,baz=22,slow=7.8,SNR=3.0								
HFS	**Hagfors**	**68.56**	**340**	P	**P**		**00 05 33.8**	**-0.1**	
	comp=Z,4.0nm,0.4s,mb4.7,baz=57,slow=5.5,SNR=43								
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**		**00 05 52.2**	**-0.7**	
	comp=Z,6.5nm,0.7s,mb4.7,baz=34,slow=6.2,SNR=26								
AKASG	**Malin Array Be**	**71.65**	**326**	P	**P**		**00 05 52.2**	**-0.7**	
AKBB	**Malin Array Si**	**71.65**	**326**	*e*P	**P**		**00 05 52.2**	**-0.7**	
ASAR	**Alice Springs**	**72.13**	**199**	P	**P**		**00 05 52.5**	**-3.3**	
	comp=Z,0.5nm,0.8s,mb3.5,baz=12,slow=5.4,SNR=4.5								
SCHQ	**Schefferville**	**73.38**	**23**	P	**P**		**00 06 00.8**	**-2.4**	
	comp=Z,3.1nm,0.9s,mb4.2,baz=255,slow=3.0,SNR=3.7								
BURAR	**Bucovina Array**	**75.69**	**327**	⇑*i*P	**P**		**00 06 16.7**	**0.0**	
UPC	**Upice**	**76.39**	**333**	*e*P	**P**		**00 06 21.7**	**+1.1**	
DPC	**Dobruska-Polom**	**76.43**	**333**	*e*P	**P**		**00 06 20.6**	**-0.3**	
EKA	**Eskdalemuir Ar**	**76.44**	**346**	P	**P**		**00 06 21.7**	**+0.8**	
	comp=Z,0.7nm,0.6s,mb3.8,baz=26,slow=5.0,SNR=3.9								
MORC	**Moravsky Berou**	**76.54**	**332**	⇑*i*P	**P**		**00 06 22.0**	**+0.5**	
CLL	**Collm**	**76.57**	**336**	*i* P	**P**		**00 06 21.4**	**-0.3**	
	comp=Z,9.0nm,1.2s,mb4.6								
CLL	**Collm**	**76.57**	**336**	*i* P	**P**		**00 06 21.4**	**-0.3**	
CLL					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6								
MLR	**Muntele Rosu**	**77.17**	**325**	P	**P**		**00 06 25.2**	**+0.1**	
	comp=Z,4.3nm,0.6s,mb4.5,baz=210,slow=8.1,SNR=8.8								
MLR	**Muntele Rosu**	**77.17**	**325**	⇓*i*P	**P**		**00 06 26.0**	**+1.0**	
MALT	**Malatya**	**77.25**	**313**	⇓*i*P	**P**		**00 06 27.3**	**+1.8**	
VRAC	**Vranov**	**77.25**	**333**	P	**P**		**00 06 25.7**	**+0.2**	
	comp=Z,2.8nm,0.9s,mb4.2,baz=33,slow=5.4,SNR=5.8								
VRAC	**Vranov**	**77.25**	**333**	*i* P	**P**		**00 06 26.1**	**+0.6**	
PRU	**Pruhonice**	**77.29**	**334**	*e*P	**P**		**00 06 25.9**	**+0.2**	
DRGR		**77.32**	**328**	⇓*i*P	**P**		**00 06 26.0**	**+0.1**	
MOX	**Moxa**	**77.56**	**336**	*e*P	**P**		**00 06 28.0**	**+0.8**	
VOIR		**77.56**	**325**	⇓*i*P	**P**		**00 06 28.1**	**+0.8**	
KHC	**Kasperske Hory**	**78.34**	**334**	*e*P	**P**		**00 06 31.8**	**+0.2**	
GZR	**Gura Zlata**	**78.47**	**327**	⇑*i*P	**P**		**00 06 33.4**	**+1.1**	
BRTR	**Keskin Array B**	**78.49**	**317**	P	**P**		**00 06 33.1**	**+0.8**	
	comp=Z,1.1nm,0.9s,mb3.8,baz=79,slow=2.9,SNR=4.2								
GRA1	**Grafenberg Arr**	**78.52**	**336**	*e*P	**P**		**00 06 32.6**	**0.0**	
	comp=Z,5.0nm,1.0s,mb4.4								
GRF	**Grafenberg Arr**	**78.52**	**336**	*e*P	**P**		**00 06 32.6**	**0.0**	
GRF					pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4								
GERES	**GERESS Array B**	**78.56**	**334**	P	**P**		**00 06 32.5**	**-0.3**	
	comp=Z,1.2nm,0.7s,mb3.9,baz=32,slow=5.5,SNR=9.2								
BZS	**Buzias**	**78.72**	**328**	⇑*i*P	**P**		**00 06 33.9**	**+0.3**	
VTS	**Vitosha**	**80.67**	**325**	⇓*i*P	**P**		**00 06 44.4**	**+0.1**	
RKT	**Rikitea**	**94.90**	**119**	*e*LR	LR		00 07 57.1		
	comp=Z,102nm,28.5s								
CPUP	**Villa Florida**	**148.47**	**61**	PKPbc	PKPbc		00 14 15.9	-2.0	
	comp=Z,1.1nm,0.6s,baz=345,slow=3.5,SNR=4.0								
SNAA	**Sanae**	**152.47**	**196**	PKPbc	PKPbc		00 14 23.0	-4.6	
	comp=Z,0.2nm,0.7s,baz=282,slow=8.9,SNR=6.0								

NIED ***28*** *23:56:00, 46.20N×15.370E, h17km, Mw4.7 Best double couple: M0 1.29000×10^16 NP1:φs228.00000°, δ76.00000°, λ146.00000°. NP2:φs328.00000°, δ57.00000°, λ17.00000°.*

IDC ***28*** *23:56:28.8±0.4, 46.24N×15.317E, h0km, mb4.8/31, mb1 4.8/33, mb1mx4.8/35, mbtmp4.8/33, ML3.8/2, MS4.2/7, Ms1 4.2/7, ms1mx3.7/31, Error ellipse: s-maj=13.5km s-min=11.4km az=127.0*

JMA ***28*** *23:56:29.4±0.8, 46.20N×15.373E, h30km, M5.3*

BJI ***28*** *23:56:29.4, 46.45N×15.321E, h9km, mB5.1, mb5.2, Ms4.5, Msz4.4*

SKHL ***28*** *23:56:30.7±2.2, 46.20N×15.350E, h50km±19km, mb5.4/9, mbh5.1/4, mbv5.3/5, ms4.6/5, msh5.3/3*

GCMT ***28*** *23:56:30.8±0.4, 46.38N×15.353E, h15km±1km, MW4.9/62, Moment Tensor Solution. s23,c32; s62,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.31±.15; Mθθ-0.96±.09; Mφφ-1.34±.10; Mrθ0.07±.19; Mrφ-1.22±.06; Mθφ0.64±.19; Best double couple: M0 2.43600×10^16 NP1:φs229.00000°, δ39.00000°, λ104.00000°. NP2: φs32.00000°, δ52.00000°, λ79.00000°. Principal axes: T 2.4270, Plg79.0000°, Azm256.0000°; N 0.0260, Plg9.0000°, Azm39.0000°; P -2.4460, Plg6.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***28*** *23:56:30.8±0.2, 46.26N×15.320E, h10km, mb5.2/115, MS4.5/7 Error ellipse: s-maj=4.8km s-min=3.1km az=167.0*

ISCJB ***28*** *23:56:32.9±0.2, 46.20N±0.003×15.323E±0.003, h35km, mb5.1/213, MS4.4/32, Error ellipse: s-maj=5.1km s-min=2.4km az=129.0*

MOS ***28*** *23:56:33.5±1.0, 46.42N×15.316E, h33km, mb5.4/92, MS4.4/19, Error ellipse: s-maj=7.0km s-min=3.8km az=106.2*

SZGRF ***28*** *23:56:47.6, 48.60N×15.189E, h33km, mb5.3, Kuril Islands, Russia*

ISC 28 23:56:35.1±0.2, 46.32N±0.003×15.320E±0.003, h37km, h37km±.9km:pP-P,n747,σ1%01/747, mb5.1/213, MS4.4/32, 99C-32D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.88**	**256**	*i* P		**Pn**	**23 57 30.5**	**-1.7**
KUR				*i* P			23 57 30.5	
KUR					AMB	AMB	23 57 31.0	
	8μm,1.0s							
KUR					AMB	AMB	23 57 31.5	
	600nm,0.7s							
KUR					AMB	AMB	23 57 31.5	
	520nm,0.7s							
KUR					AMB	AMB	23 57 31.5	
	3μm,0.7s							
KUR				*i* S		**Sn**	**23 58 17.0**	**+0.4**
KUR					A		23 58 30.8	
	2μm,0.9s							
KUR					A		23 58 30.8	
	4μm,0.9s							
KUR					AMS	AMS	23 59 26.0	
	6μm,16.0s							
KUR	**Kuril'sk**	**3.88**	**256**	⇓*i*PN		**Pn**	**23 57 30.5**	**-1.7**
KUR				*i* S		**Sn**	**23 58 17.0**	**+0.4**
KUR					pmax	pmax		
	comp=Z,8μm,1.0s							
KUR					pmax	pmax		
	comp=N,600nm,0.7s							
KUR					pmax	pmax		
	comp=E,520nm,0.7s							
KUR					pmax	pmax		
	comp=Z,3μm,0.7s							
KUR					smax			
	comp=N,2μm,0.9s							
KUR					smax			
	comp=E,4μm,0.9s							
KUR					MLR	MLR		
	comp=Z,6μm,16.0s							
SKR	**Severo-Kuril's**	**4.78**	**23**	*e*P		**Pn**	**23 57 39.5**	**-5.0**
SKR				*e*S		**Sn**	**23 58 29.5**	**-9.1**
SKR					A		23 58 46.0	
	comp=Z,3μm,8.0s							
SKR					A		23 58 46.0	
	comp=Z,5μm,8.0s							
SKR					A		23 58 46.0	
	comp=Z,3μm,8.0s							
SKR					A		23 58 46.0	
	comp=Z,5μm,8.0s							
SKR					A		23 58 52.5	
	comp=Z,50nm,1.0s							
SKR					A		23 58 52.5	
	comp=Z,480nm,0.6s							
SKR					A		23 58 52.5	
	comp=Z,240nm,0.6s							
SKR					A		23 58 52.5	
	comp=Z,410nm,0.6s							
SKR					AMS	AMS	23 59 32.0	
	comp=Z,5μm,14.0s							
SKR					AMS	AMS	23 59 32.0	
	comp=Z,3μm,14.0s							
SKR					AMS	AMS	23 59 32.0	
	comp=Z,3μm,14.0s							
SKR					AMS	AMS	23 59 32.0	
	comp=Z,5μm,14.0s							
SKR					AMS	AMS	23 59 32.0	
	comp=Z,4μm,14.0s							
SKR	**Severo-Kuril's**	**4.78**	**23**	*e*P		**Pn**	**23 57 40.0**	**-4.5**
YUK	**Yuzh-Kuril'sk**	**5.67**	**249**	*e*P		**Pn**	**23 57 57.0**	**+0.3**
YUK					AMB	AMB	23 57 57.5	
	comp=Z,230nm,0.6s							
YUK					AMB	AMB	23 57 58.0	
	comp=Z,2μm,1.0s							
YUK					A		23 58 55.0	
	comp=Z,7μm,4.0s							
YUK					A		23 58 55.0	
	comp=Z,3μm,4.0s							
NEM2	**Nemuro 2**	**6.07**	**244**	P		**Pn**	**23 58 00.1**	**-2.1**
NEM2				*e*S		**Sn**	**23 59 06.9**	**-3.5**
JRA	**Rausu**	**6.19**	**250**	P		**Pn**	**23 58 04.8**	**+0.9**
JNK	**Nakash**	**6.61**	**249**	P		**Pn**	**23 58 10.0**	**+0.4**
JNK				*e*S		**Sn**	**23 59 22.9**	**-0.8**
JAK	**Akkeshi**	**6.91**	**244**	*e*S		**Sn**	**23 59 27.0**	**-4.2**
JTKR	**Abashiri--Toko**	**6.98**	**254**	P		**Pn**	**23 58 15.7**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.22**	**279**	⇓*i*PN		**Pn**	**23 58 22.9**	**+4.9**
YSS				*e*S		**Sn**	**23 59 48.6**	**+10**
YSS					pmax	pmax		
	comp=E,190nm,1.0s							
YSS					pmax	pmax		
	comp=Z,220nm,1.0s							
YSS					smax			
	comp=N,120nm,1.0s							
YSS					smax			
	comp=E,90nm,1.0s							
YSS					MLR	MLR		
	comp=E,1μm,15.0s							
YSS					MLR	MLR		
	comp=Z,2μm,15.0s							
YSS					MLR	MLR		
	comp=N,900nm,14.0s							
YSS	**Yuzh-Sakhalins**	**7.22**	**279**	*e*Pn		**Pn**	**23 58 21.5**	**+3.5**
YSS				*e*Sn		Sn	23 59 17.8	-21
JMP	**Maruseppu**	**7.33**	**255**	P		**Pn**	**23 58 20.9**	**+1.4**
JAR	**Ashorobuto**	**7.35**	**249**	P		**Pn**	**23 58 20.0**	**+0.1**
JOB	**Onbets**	**7.50**	**246**	P		**Pn**	**23 58 21.0**	**-0.9**
JOB				*e*S		**Sn**	**23 59 42.5**	**-3.2**
PET	**Petropavlovsk**	**7.58**	**26**	*e*PN		**Pn**	**23 58 22.5**	**-0.5**
PET					pmax	pmax		
	comp=Z,107nm,0.9s							
PET	**Petropavlovsk**	**7.58**	**26**	⇑*e*P		**Pn**	**23 58 21.9**	**-1.1**
JKK2	**Kamakawa 2**	**7.79**	**255**	P		**Pn**	**23 58 27.4**	**+1.6**
ASAJ	**Asahikawa**	**7.80**	**257**	Pn		**Pn**	**23 58 27.9**	**+1.9**
	comp=Z,4.6nm,0.3s,baz=95,slow=16,SNR=27							
ASAJ					LR	LR	00 01 12.5	
	comp=Z,622nm,21.3s,baz=192,slow=36							
ASAJ	**Asahikawa**	**7.80**	**257**	P		**Pn**	**23 58 28.1**	**+2.1**
JCH	**Churui**	**7.95**	**246**	P		**Pn**	**23 58 26.5**	**-1.5**
JCH				*e*S		**Sn**	**23 59 52.8**	**-3.9**
JWK2	**Keihoku**	**7.96**	**267**	P		**Pn**	**23 58 33.2**	**+5.0**
UGL	**Uglegorsk**	**8.00**	**294**	*e*P		**Pn**	**23 58 33.0**	**+4.2**
UGL					AMB	AMB	23 58 34.5	
	comp=Z,260nm,0.7s							
UGL					AMB	AMB	23 58 35.0	
	comp=Z,750nm,1.0s							
UGL	**Uglegorsk**	**8.00**	**294**	*e*PN		**Pn**	**23 58 33.0**	**+4.2**
UGL				S		**Sn**	**00 00 06.8**	**+8.8**
UGL					pmax	pmax		
	comp=Z,260nm,0.7s							
UGL					pmax	pmax		
	comp=Z,750nm,1.0s							
UGL					smax			
	comp=N,110nm,0.7s							
UGL					smax			
	comp=E,120nm,0.7s							
UGL					MLR	MLR		
	comp=N,600nm,16.0s							
UGL					MLR	MLR		
	comp=E,3μm,16.0s							
UGL					MLR	MLR		
	comp=Z,2μm,16.0s							
JFR	**Furan**	**8.18**	**251**	P		**Pn**	**23 58 33.5**	**+2.3**
JAB	**Ashibetsu**	**8.28**	**254**	P		**Pn**	**23 58 34.5**	**+1.9**
TYV	**Tymovskoe**	**8.33**	**307**	AMS		AMS	23 02 14.0	
	comp=Z,500nm,16.0s							
TYV					AMS	AMS	23 02 14.0	
	comp=Z,2μm,16.0s							
TYV					AMS	AMS	23 02 14.0	
	comp=Z,3μm,16.0s							
TYV				*e*P			23 58 37.0	
TYV					AMB	AMB	23 58 46.0	
	comp=Z,500nm,10.0s							
TYV					AMB	AMB	23 58 46.0	
	comp=Z,500nm,10.0s							
TYV					AMB	AMB	23 58 48.0	
	comp=Z,66nm,0.8s							
TYV					AMB	AMB	23 58 48.0	
	comp=Z,166nm,0.8s							
JEM	**Erimo**	**8.40**	**243**	*e*S		**Sn**	**00 00 01.6**	**-6.2**
ERM	**Erimo**	**8.40**	**243**	*e*PN		**Pn**	**23 58 33.6**	**-0.6**
ERM					pmax	pmax		
	comp=Z,6.0nm,1.8s							
ERM	**Erimo**	**8.40**	**243**	*e*Pn		**Pn**	**23 58 33.6**	**-0.6**
	comp=Z,6.2nm,1.8s							
JBT2	**Biratori 2**	**8.51**	**249**	P		**Pn**	**23 58 34.4**	**-1.3**
JNBK	**Urakawa-nobuka**	**8.51**	**245**	*e*S		**Sn**	**00 00 05.0**	**-5.4**
JHR	**Hokuryu**	**8.53**	**257**	P		**Pn**	**23 58 38.3**	**+2.4**
JNB	**Noboribetsu**	**9.52**	**251**	P		**Pn**	**23 58 49.1**	**-0.4**
JKB	**Kayabe**	**9.81**	**248**	P		**Pn**	**23 58 51.7**	**-1.8**
JSH	**Shimam**	**10.09**	**253**	P		**Pn**	**23 58 57.8**	**+0.4**
JYM2	**Yakumo 2**	**10.12**	**250**	P		**Pn**	**23 58 56.8**	**-1.0**
JANG	**Nango**	**10.37**	**239**	*e*S		**Sn**	**00 00 43.4**	**-13**
JSR	**Shiriuchi**	**10.38**	**247**	*e*S		**Sn**	**00 00 50.7**	**-5.8**
JTM	**Tenmabayashi**	**10.39**	**242**	P		**Pn**	**23 58 58.7**	**-2.8**
JTM				*e*S		**Sn**	**00 00 47.8**	**-8.9**
JTH	**Tanohata**	**10.45**	**236**	P		**Pn**	**23 58 57.8**	**-4.5**
JTH				*e*S		**Sn**	**00 00 46.1**	**-12**
NKL	**Nikolayevsk**	**10.59**	**315**	*e*P		**Pn**	**23 59 04.0**	**-0.2**
NKL					AMB	AMB	23 59 06.0	
	comp=Z,30nm,0.8s							
NKL					AMB	AMB	23 59 06.0	
	comp=Z,50nm,0.8s							
NKL					AMB	AMB	23 59 09.0	
	comp=Z,300nm,6.0s							
NKL					AMB	AMB	23 59 09.0	
	comp=Z,500nm,6.0s							
NKL					AMB	AMB	23 59 09.0	
	comp=Z,500nm,6.0s							
JOSM	**Okushiri--Mats**	**10.72**	**252**	P		**Pn**	**23 59 04.9**	**-1.1**
OFUJ	**Ofunato**	**11.14**	**234**	P		**Pn**	**23 59 07.5**	**-4.3**
OFUJ				*e*S		**Sn**	**00 01 03.9**	**-11**
JRG	**Rokugo**	**11.52**	**238**	P		**Pn**	**23 59 13.1**	**-3.8**
JRG				*e*S		**Sn**	**00 01 14.1**	**-10**
TEY	**Ternei**	**11.68**	**270**	*e*P		**Pn**	**23 59 20.0**	**+0.8**
TEY					AMB	AMB	23 59 28.0	
	comp=Z,800nm,9.0s							
JIO	**Ouri**	**11.76**	**232**	P		**Pn**	**23 59 15.5**	**-4.7**
JIO				*e*S		**Sn**	**00 01 17.6**	**-13**
GRNR	**Gornyy**	**11.97**	**298**	*e*P		**Pn**	**23 59 22.0**	**-1.1**
GRNR					AMB	AMB	23 59 23.2	
	comp=Z,70nm,1.2s							
JYA	**Atsumi**	**12.59**	**237**	P		**Pn**	**23 59 28.9**	**-2.6**
MA2	**Magadan**	**13.36**	**355**	*c* iPN		**Pn**	**23 59 42.3**	**+0.2**
MA2					pmax	pmax		
	comp=Z,20nm,0.6s							
MA2	**Magadan**	**13.36**	**355**	*e*Pn		**Pn**	**23 59 42.8**	**+0.7**
JFY	**Yanaizu**	**13.42**	**233**	P		**Pn**	**23 59 39.4**	**-3.4**
KLR	**Kul'dur**	**14.71**	**289**	*e*P		**Pn**	**00 00 00.0**	**-0.4**
KLR					AMB	AMB	00 00 05.8	
	comp=Z,120nm,1.0s							
KLR					AMB	AMB	00 00 05.8	
	comp=Z,92nm,1.0s							
KLR					AMB	AMB	00 00 11.0	
	comp=Z,600nm,9.0s							
KLR					AMB	AMB	00 00 11.0	
	comp=Z,800nm,9.0s							
KLR					AMS	AMS	00 06 14.5	
	comp=Z,2μm,16.0s							
EKMR	**Ekimchan**	**14.71**	**305**	*e*P		**Pn**	**00 00 00.5**	**0.0**
EKMR					AMB	AMB	00 00 05.6	
	comp=Z,8.0nm,0.6s							
EKMR					AMB	AMB	00 00 05.6	
	comp=Z,12nm,0.6s							
EKMR					AMB	AMB	00 00 05.6	
	comp=Z,27nm,0.6s							
MJAR	**Matsushiro Arr**	**14.87**	**234**	Pn		**Pn**	**23 59 58.9**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=28,slow=13,SNR=19							
MAJO	**Matsushiro**	**14.87**	**234**	*e*P		**Pn**	**23 59 59.0**	**-3.6**
MAT	**Matsushiro**	**14.87**	**234**	P		**Pn**	**23 59 58.7**	**-3.9**
VLA	**Vladivostok**	**15.47**	**266**	*e*P		**Pn**	**00 00 09.5**	**-1.0**
MDJ	**Mudanjiang**	**16.64**	**273**	P		**Pn**	**00 00 24.8**	**-0.6**
MDJ				S		**S**	**00 03 32.3**	**-7.0**
MDJ				PCS		PcS	00 08 50.5	+0.8
MDJ					AMB	AMB		
	comp=Z,132nm,1.0s							
MDJ					AMB	AMB		
	comp=Z,216nm,7.7s							
MDJ					LR	LR		
	comp=N,585nm,16.5s							
MDJ					LR	LR		
	comp=E,185nm,20.6s							
MDJ					LR	LR		
	comp=Z,810nm,16.9s							
MDJ	**Mudanjiang**	**16.64**	**273**	*e*Pn		**Pn**	**00 00 25.1**	**-0.3**
	comp=Z,125nm,0.9s							
SEY	**Seymchan**	**16.66**	**359**	*i* P		**Pn**	**00 00 22.5**	**-3.1**
SEY	**Seymchan**	**16.66**	**359**	*i* P		**Pn**	**00 00 22.6**	**-3.0**
JHJ	**Hachijo jima 2**	**16.71**	**223**	Pn		**Pn**	**00 00 24.7**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=69,slow=17,SNR=2.0							
BMKR	**Bomnak**	**17.55**	**307**	*i* P		**Pn**	**00 00 34.5**	**-2.2**
BMKR					AMB	AMB	00 00 37.0	
	comp=Z,36nm,0.6s							
YASR	**Yasnyy**	**17.65**	**302**	*e*P		**Pn**	**00 00 35.2**	**-2.7**
YASR					AMB	AMB	00 00 37.9	
	comp=Z,3.0nm,0.7s							
YASR					AMB	AMB	00 00 37.9	
	comp=Z,20nm,0.7s							
YASR					AMB	AMB	00 00 37.9	
	comp=Z,50nm,0.7s							
ZEA	**Zeya**	**18.18**	**304**	*e*P		**Pn**	**00 00 41.0**	**-3.4**
ZEA					AMB	AMB	00 00 48.0	
	comp=Z,600nm,10.0s							
ZEA					AMB	AMB	00 00 48.0	
	comp=Z,600nm,10.0s							
KROS	**Kirovskiy**	**18.51**	**306**	*e*P		**Pn**	**00 00 44.6**	**-3.9**
KROS					AMB	AMB	00 00 48.2	
	comp=Z,8.0nm,0.6s							
KROS					AMB	AMB	00 00 48.2	
	comp=Z,22nm,0.6s							
CN2	**Changchun**	**19.73**	**273**	*e*P		**Pn**	**00 00 59.0**	**-4.1**
CN2					AMB	AMB		
	comp=Z,10.0nm,0.7s							
CLNS	**Chul'man**	**20.35**	**311**	*e*P		**P**	**00 01 09.3**	**+1.1**
CLNS					pmax	pmax		
	comp=N,22nm,1.0s							
CLNS					pmax	pmax		
	comp=Z,41nm,1.0s							
CLNS					pmax	pmax		
	comp=E,28nm,1.1s							
CLNS					MLR	MLR		
	comp=Z,2μm,16.0s,MS4.4							
CLNS					MLR	MLR		
	comp=N,700nm,15.0s,MS4.4							
CLNS					MLR	MLR		
	comp=E,1μm,15.0s,MS4.4							
YAK	**Yakutsk**	**20.72**	**328**	*e*P		**P**	**00 01 12.1**	**-0.1**
YAK				*e*			00 01 35.3	
YAK				*e*PPP			00 01 48.4	
YAK				*e*S		**S**	**00 05 16.1**	**+15**
YAK				*e*SS			00 05 46.4	
YAK					pmax	pmax		
	comp=Z,64nm,0.7s							
YAK					pmax	pmax		
	comp=N,22nm,1.4s							
YAK					pmax	pmax		
	comp=E,22nm,1.5s							
YAK					pmax	pmax		
	comp=Z,24nm,0.8s							
YAK					pmax	pmax		
	comp=N,22nm,0.9s							
YAK					pmax	pmax		
	comp=E,25nm,0.9s							
YAK					MLR	MLR		
	comp=Z,489nm,14.0s,MS4.0							
YAK					MLR	MLR		
	comp=N,360nm,19.0s,MS4.0							
YAK					MLR	MLR		
	comp=E,374nm,16.0s,MS4.0							
YAK	**Yakutsk**	**20.72**	**328**	*e*P		**P**	**00 01 04.5**	**-7.7**
	comp=E,96nm,0.8s							
INCN	**Inchon**	**21.57**	**255**	P		**P**	**00 01 23.0**	**+1.6**
	SNR=8.3							
INCN	**Inchon**	**21.57**	**255**	*e*P		**P**	**00 01 22.6**	**+1.3**
	comp=E,68nm,0.8s,mb5.1							
SNY	**Shenyang**	**21.68**	**269**	⇑P		**P**	**00 01 21.8**	**-0.8**
SNY					AP		00 01 24.3	
SNY					PP		00 01 47.0	
SNY					S	**S**	**00 05 20.8**	**+0.4**
SNY					XS	sS	00 05 32.3	-3.6
SNY					AMB	AMB		
	comp=Z,41nm,0.7s,mb5.0							
SNY					AMB	AMB		
	comp=Z,346nm,6.7s							
SNY					LR	LR		
	comp=E,643nm,15.7s							
SNY					LR	LR		
	comp=Z,846nm,14.4s,MS4.3							
HIA	**

TIXI **Tiksi** 27.90 344 eP P 00 02 15.8 -5.6
TIXI eS S 00 07 02.9 +0.4
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TIXI Tiksi 27.90 344 eP **P** **00 02 17.7 -3.8**
SSE Sheshan 29.00 250 P **P** **00 02 30.0 -1.3**
SSE S **S** **00 07 20.5 +0.7**
SSE XS sS 00 07 33.5 -3.7
SSE AMB AMB
comp=Z,25nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,140nm,7.6s
SSE LR LR
comp=N,135nm,20.3s,MS3.6
SSE LR LR
comp=E,93nm,20.3s,MS3.6
SSE LR LR
comp=Z,161nm,19.1s,MS3.6
SSE Sheshan 29.00 250 P **P** **00 02 29.9 -1.4**
SSE S **S** **00 07 20.5 +0.7**
SSE sS sS 00 07 33.4 -3.8
NJ2 Nanjing 29.93 254 eP **P** **00 02 42.5 +3.0**
NJ2 AP pP 00 02 52.0 +2.1
NJ2 PP PP 00 03 41.0 -6.4
NJ2 S **S** **00 07 38.0 +3.6**
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,200nm,6.9s
NJ2 LR LR
comp=N,1µm,29.1s,MS4.4
NJ2 LR LR
comp=E,450nm,24.9s,MS4.4
NJ2 LR LR
comp=Z,2µm,15.5s
HHC Hu-ho-hao-te 30.39 275 eP **P** **00 02 44.8 +1.3**
HHC AP pP 00 02 54.5 +0.5
HHC XP sP 00 02 58.3 -0.1
HHC PP PP 00 03 44.5 -7.9
HHC PCP PcP 00 05 45.0 +2.3
HHC S **S** **00 07 41.0 -0.6**
HHC XS sS 00 07 57.3 -1.6
HHC SS SS 00 09 21.0 -31
HHC SCP ScP 00 09 23.0 +0.8
HHC PCS PcS 00 09 26.8 +0.5
HHC AMB AMB
comp=Z,114nm,0.7s,mb5.7
HHC AMB AMB
comp=Z,152nm,5.0s
HHC LR LR
comp=N,484nm,16.3s,MS4.5
HHC LR LR
comp=E,629nm,14.7s,MS4.5
HHC LR LR
comp=Z,673nm,15.1s,MS4.4
SONM Songino Array 31.53 290 P **P** **00 02 53.1 -0.5**
comp=Z,7.8nm,0.8s,mb4.6,baz=70,slow=8.3,SNR=47
SONM PcP PcP 00 05 45.4 -0.4
comp=Z,4.0nm,0.9s,baz=101,slow=1.7,SNR=6.6
SONM LR LR 00 16 31.1
comp=Z,502nm,18.5s,MS4.2,baz=76,slow=38
SONM Songino Array 31.53 290 P **P** **00 02 53.1 -0.5**
SONM 00 05 45.4
BTO Baotou 31.55 275 eP **P** **00 02 54.0 +0.2**
IRK Irkutsk 31.95 299 eP **P** **00 02 55.2 -2.1**
IRK pmax pmax
comp=Z,24nm,0.9s,mb5.0
TLY Talaya 32.43 298 P **P** **00 03 00.5 -1.0**
comp=Z,176nm,0.8s,mb5.9,SNR=15
TLY Talaya 32.43 298 P **P** **00 03 01.0 -0.5**
SNR=12
TLY Talaya 32.43 298 eP **P** **00 02 59.6 -1.9**
TLY e 00 04 21.7
TLY eSS SS 00 10 27.7 -6.0
TLY pmax pmax
comp=Z,27nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,935nm,17.0s,MS4.5
TLY Talaya 32.43 298 eP **P** **00 02 59.8 -1.7**
TTA Tatalina 32.71 41 eP **P** **00 03 02.8 -1.1**
ZAK Zakamensk 32.91 296⇑ iP **P** **00 03 05.1 -0.6**
ZAK e 00 05 49.7
ZAK pmax pmax
comp=Z,17nm,1.0s,mb4.9
WHN Wuhan 33.88 256 ⇓P **P** **00 03 14.5 +0.3**
IMA2 Indian Mountai 34.12 36 eP **P** **00 03 15.1 -1.1**
KDAK Kodiak Island 34.33 50 P **P** **00 03 16.4 -1.6**
comp=Z,14nm,1.1s,mb4.8,baz=300,slow=6.9,SNR=3.8
XAN Xi'an 35.54 266 P **P** **00 03 29.3 +0.8**
XAN AP pP 00 03 36.5 -2.5
XAN AMB AMB
comp=Z,30nm,0.8s,mb5.3
MCK McKinley 35.94 40 eP **P** **00 03 30.5 -1.4**
MCK pmax pmax
comp=Z,13nm,1.2s,mb4.7
MCK McKinley 35.94 40 eP **P** **00 03 30.5 -1.4**
comp=Z,13nm,1.2s,mb4.7
COLA College 36.44 38 eP **P** **00 03 33.7 -2.5**
LZH Lanzhou 37.96 272⇑ P **P** **00 03 50.8 +1.7**
LZH PP PP 00 05 20.3 +4.1
LZH S **S** **00 09 40.3 +1.8**
LZH XS sS 00 09 56.0 -0.1
LZH eSS SS 00 12 18.0 -8.1
LZH AMB AMB
comp=Z,70nm,1.1s,mb5.3
LZH AMB AMB
comp=Z,280nm,4.1s
LZH LR LR
comp=N,2µm,13.3s
LZH LR LR
comp=Z,2µm,15.9s,MS5.0
LZH Lanzhou 37.96 272⇑ P **P** **00 03 50.7 +1.6**
LZH pP pP 00 04 02.0 +2.3
LZH sP sP 00 04 07.8 +3.6
LZH PP PP 00 05 20.2 +4.0
LZH S **S** **00 09 40.3 +1.8**
LZH sS sS 00 09 56.0 -0.1
LZH eSS SS 00 12 18.0 -8.1
GTA Gaotai 39.10 280⇑ iP **P** **00 04 00.0 +1.4**
GTA AP pP 00 04 10.5 +1.2
GTA PP PP 00 05 35.3 +6.7
GTA PCP PcP 00 06 09.0 +1.1
GTA S **S** **00 09 59.0 +3.4**
GTA SS SS 00 12 45.0 -3.9
GTA AMB AMB
comp=Z,33nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,87nm,5.4s
GTA LR LR
comp=N,166nm,15.3s,MS4.1
GTA LR LR
comp=E,132nm,14.9s,MS4.1
GTA LR LR
comp=Z,201nm,14.9s,MS4.1
EGAK Eagle 39.30 38 eP **P** **00 03 59.1 -1.3**
EGAK ePP PP 00 05 30.9 0.0
DAWY Dawson 40.14 39 eP **P** **00 04 06.6 -0.7**
CD2 Chengdu 40.90 266 P **P** **00 04 14.5 +0.9**
CD2 AMB AMB
comp=Z,50nm,1.0s,mb5.1
CD2 LR LR
comp=N,160nm,13.8s
CD2 LR LR
comp=Z,190nm,14.4s,MS4.1
GYA Guiyang 41.68 258⇓ iP **P** **00 04 20.5 +0.5**
GYA AP pP 00 04 30.5 -0.2
GYA PP PP 00 06 01.3 +4.6
GYA PCP PcP 00 06 20.0 +3.8
GYA SCP ScP 00 10 05.8 +2.3
GYA S **S** **00 10 34.3 +0.1**
GYA AMB AMB
comp=Z,100nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,160nm,4.8s
GYA LR LR
comp=N,430nm,16.8s,MS4.6
GYA LR LR
comp=E,460nm,17.2s,MS4.6
GYA LR LR
comp=Z,410nm,17.0s,MS4.4
INK Inuvik 41.98 32 P **P** **00 04 22.3 -0.2**
comp=Z,17nm,0.8s,mb4.7,baz=294,slow=7.1,SNR=19
INK Inuvik 41.98 32 eP **P** **00 04 22.3 -0.2**
ZAL Zalesovo 42.93 306 P **P** **00 04 28.2 -2.0**
comp=Z,6.5nm,0.5s,mb4.7,baz=47,slow=8.5,SNR=30
ZAL PcP PcP 00 06 20.0 -0.4
comp=Z,5.7nm,0.9s,baz=120,slow=1.0,SNR=7.5
ZAL LR LR 00 24 13.7
comp=Z,1µm,18.8s,MS4.8,baz=40,slow=39
ZAL Zalesovo 42.93 306 P **P** **00 04 28.2 -1.9**
ZAL 00 06 20.0
ZAL Zalesovo 42.93 306 P **P** **00 04 28.2 -2.0**
ZAL PcP PcP 00 06 20.0 -0.4
ZAL LR LR 00 24 13.7
NVS Novosibirsk 43.50 308 iP **P** **00 04 33.2 -1.6**
NVS i 00 06 17.0
NVS pmax pmax
comp=Z,36nm,1.8s,mb4.8
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=E,30nm,2.1s
WMQ Urumqi 45.14 292⇓ iP **P** **00 04 48.8 +0.9**
WMQ AP pP 00 04 59.0 +0.3
WMQ XP sP 00 05 02.5 -0.6
WMQ PCP PcP 00 06 29.0 +1.1
WMQ PPP 00 07 16.0
WMQ PCS PcS 00 10 18.0 -3.7
WMQ AMB AMB
comp=Z,29nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,199nm,5.9s
WMQ LR LR
comp=N,1µm,15.7s,MS5.1
WMQ LR LR
comp=E,1µm,17.2s,MS5.1
WMQ LR LR
comp=Z,1µm,20.4s,MS4.9
KMI Kunming 45.22 260 P **P** **00 04 49.5 +1.0**
KMI AP pP 00 04 59.5 +0.2
KMI PP PP 00 06 33.3 -1.4
KMI S **S** **00 11 20.3 -5.7**
KMI AMB AMB
comp=Z,40nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,181nm,5.8s
KMI LR LR
comp=N,200nm,17.3s,MS4.4
KMI LR LR
comp=E,309nm,17.3s,MS4.4
KMI LR LR
comp=Z,322nm,14.5s,MS4.4
KMI Kunming 45.22 260 P **P** **00 04 49.5 +1.0**
KMI *PP pP 00 04 59.5 +0.2
KMI *SP sP 00 05 05.1 +1.4
KMI 00 06 33.2
KMI PPP 00 07 11.0
KMI S **S** **00 11 20.3 -5.7**
KMI SS sS 00 11 38.6 -5.2
KMI Kunming 45.22 260 P **P** **00 04 49.5 +1.0**
KMI pP pP 00 04 59.5 +0.2
KMI sP sP 00 05 05.1 +1.4
KMI PP PP 00 06 33.2 -1.5
KMI PPP 00 07 11.0
KMI S **S** **00 11 20.3 -5.7**
KMI sS sS 00 11 38.6 -5.2
KMI SS SS 00 14 31.5 -18
DLBC Dease Lake 45.85 46 P **P** **00 04 54.1 +0.6**
comp=Z,3.8nm,0.8s,mb4.4,baz=282,slow=11,SNR=5.3
MKAR Makanchi Array 47.19 298 P **P** **00 05 03.2 -0.8**
comp=Z,38nm,0.8s,mb5.4,baz=62,slow=8.4,SNR=103
MKAR PcP PcP 00 06 34.7 -0.4
comp=Z,6.1nm,0.7s,baz=43,slow=4.3,SNR=4.0
MKAR Makanchi Array 47.19 298 P **P** **00 05 03.2 -0.8**
MKAR PcP PcP 00 06 34.7 -0.4
KURK Kurchatov 47.65 304 P **P** **00 05 06.0 -1.6**
comp=Z,415nm,0.8s,SNR=32
LSA Lhasa 50.36 274 P **P** **00 05 31.0 +2.7**
LSA Lhasa 50.36 274 eP **P** **00 05 30.8 +2.5**
LSA pmax pmax
comp=Z,31nm,0.6s,mb5.5
LSA Lhasa 50.36 274 eP **P** **00 05 30.8 +2.5**
comp=Z,31nm,0.6s,mb5.5
BVAR Borovoye Array 51.18 310 P **P** **00 05 33.6 -0.9**
comp=Z,10nm,0.5s,mb5.0,baz=60,slow=8.8,SNR=46
BVAR PcP PcP 00 06 49.7 +0.1
comp=Z,7.7nm,0.8s,baz=83,slow=2.1,SNR=7.1
BVAR LR LR 00 29 08.5
comp=Z,410nm,18.1s,MS4.5,baz=319,slow=38
BVAR Borovoye Array 51.18 310 P **P** **00 05 33.6 -0.9**
BVAR 00 06 49.7
BVAR Borovoye Array 51.18 310 P **P** **00 05 33.6 -0.9**
BVAR PcP PcP 00 06 49.7 +0.1
BVAR LR LR 00 29 08.5
YKW3 Yellowknife Ar 51.20 36 eP **P** **00 05 34.5 -0.2**
BRVK Borovoye 51.22 310 P **P** **00 05 33.6 -1.2**
comp=Z,212nm,0.6s,mb6.2,SNR=18
BRVK Borovoye 51.22 310 eP **P** **00 05 33.7 -1.1**
BRVK pmax pmax
comp=Z,16nm,0.8s,mb5.0
BRVK Borovoye 51.22 310 eP **P** **00 05 33.7 -1.1**
comp=Z,16nm,0.8s,mb5.0
RES Resolute Bay 51.23 18 eP **P** **00 05 33.9 -1.0**
RES e pP 00 05 44.9 -0.9
RES pmax pmax
comp=Z,11nm,0.8s,mb4.8
RES Resolute Bay 51.23 18 eP **P** **00 05 33.9 -1.0**
comp=Z,11nm,0.8s,mb4.8
RES e pP 00 05 44.9 -0.9
YKA Yellowknife Ar 51.24 37 P **P** **00 05 34.2 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=298,slow=7.5,SNR=18
YKA Yellowknife Ar 51.24 37 P **P** **00 05 34.2 -0.7**
ZRNK Zerenda 51.95 310 eP **P** **00 05 38.9 -1.4**
ZRNK e pP 00 05 50.6 -0.6
ZRNK e 00 06 52.1
ZRNK pmax pmax
comp=Z,15nm,0.6s,mb5.1
ZRNK Zerenda 51.95 310 eP **P** **00 05 38.9 -1.4**
comp=Z,15nm,0.6s,mb5.1
ZRNK e pP 00 05 50.6 -0.6
ZRNK ePcP PcP 00 06 52.1 -0.3
CHTO Chiang Mai 52.08 257 P **P** **00 05 42.9 +1.7**
SNR=6.1
KBS Kingsbay 52.93 351 eP **P** **00 05 46.4 -1.1**
KBS pmax pmax
comp=Z,25nm,0.8s,mb5.2
KBS Kingsbay 52.93 351 eP **P** **00 05 46.4 -1.1**
comp=Z,24nm,0.8s,mb5.2
ULHL Ulaho 53.20 295 P **P** **00 05 50.2 +0.7**
SNR=14
TKM2 Tokmak 2 53.24 296 P **P** **00 05 50.2 +0.4**
SNR=21
TKM2 Tokmak 2 53.24 296 iP **P** **00 05 49.1 -0.7**
CHMS Chumysh 53.72 297 P **P** **00 05 53.4 0.0**
SNR=9.9
USP Ospenovka 53.73 297 P **P** **00 05 53.8 +0.3**
SNR=50
KBK Karagaybulak 53.79 296 P **P** **00 05 54.4 +0.6**
SNR=25
FRU Bishkek 53.90 297 eP **P** **00 05 55.0 +0.4**
FRU e 00 06 01.0
KZA Kyzart 53.91 296 P **P** **00 05 56.7 +2.0**
SNR=6.3
AAK Ala-Archa 54.08 297 P **P** **00 05 56.2 +0.3**
SNR=25
AAK Ala-Archa 54.08 297 P **P** **00 05 55.0 -1.0**
comp=Z,238nm,0.8s,mb6.2,SNR=18
AAK Ala-Archa 54.08 297 P **P** **00 05 55.6 -0.3**
SNR=9.8
AAK Ala-Archa 54.08 297⇑ eP **P** **00 05 54.9 -1.1**
AAK pmax pmax
comp=Z,21nm,0.8s,mb5.1
AAK MLR MLR
comp=Z,500nm,19.0s,MS4.6
AAK Ala-Archa 54.08 297 eP **P** **00 05 55.2 -0.8**
UCH Uchtor 54.29 296 P **P** **00 05 58.7 +1.2**
SNR=6.8
EKS2 Erkin-Say 54.51 297 P **P** **00 05 59.6 +0.6**
SNR=46
AML Almayashu 54.85 297 P **P** **00 06 03.0 +1.5**
SNR=8.6
KSH Kashi 54.87 293 eP **P** **00 06 03.0 +1.3**
KSH eAP pP 00 06 13.3 +0.6
KSH eXP sP 00 06 17.3 +0.2
KSH ePCP PcP 00 07 05.0 +1.5
KSH ePP PP 00 08 07.3 +2.5
KSH ePPP 00 09 19.3
KSH eSCP ScP 00 10 59.0 -0.1
KSH ePCS PcS 00 11 03.0 -0.3
KSH eS S **00 13 38.3 -2.1**
KSH eXS sS 00 13 56.0 -2.6
KSH eSCS ScS 00 15 46.0 -2.0
KSH eSS SS 00 17 22.0 -2.0
KSH AMB AMB
comp=Z,174nm,2.4s,mb5.7
KSH LR LR
comp=N,502nm,8.4s
KSH LR LR
comp=E,604nm,6.8s
KSH LR LR
comp=Z,1µm,18.1s,MS5.0
JIRN Jiri 55.04 275 eP **P** **00 06 04.9 +2.0**
GUN Gumba 55.10 275 eP **P** **00 06 04.7 +1.4**
comp=Z,119nm,0.9s,mb5.9
ARU Arti 55.37 318⇑ eP **P** **00 06 03.7 -1.6**
KKN Kakani 55.59 276 eP **P** **00 06 08.6 +1.7**
comp=Z,174nm,0.9s,mb6.1
PKI Pulchoki 55.63 275 eP **P** **00 06 08.7 +1.5**
comp=Z,84nm,0.9s,mb5.8
DMN Daman 55.82 276 eP **P** **00 06 10.4 +1.9**
comp=Z,186nm,0.9s,mb6.1
GKN Gorkha 55.90 276 eP **P** **00 06 10.7 +1.6**
comp=Z,222nm,0.8s,mb6.2
KK31 Karatay Array 56.26 299 i P **P** **00 06 11.3 -0.4**
EDM Edmonton 56.57 46 eP **P** **00 06 13.3 -0.6**
EDM e*PP pP 00 06 24.1 -0.8
KOLN Koldanda 56.76 277 eP **P** **00 06 16.0 +0.8**
comp=Z,171nm,0.9s,mb6.1
DAG Danmarks Havn 57.08 358⇑ iP **P** **00 06 16.2 -1.3**
comp=Z,13nm,0.8s,mb5.0
DAG Danmarks Havn 57.08 358⇑ iP **P** **00 06 16.2 -1.3**
DAG pmax pmax
comp=Z,13nm,0.8s,mb5.0
NEW Newport 57.39 52 P **P** **00 06 20.6 +1.0**
comp=Z,0.8nm,0.3s,mb4.2,baz=296,slow=3.6,SNR=3.2
NEW Newport 57.39 52 P **P** **00 06 23.0 +3.3**
NEW pmax pmax
comp=Z,13nm,1.2s
BOK Bokaro 57.72 272 eP **P** **00 06 22.2 +0.2**
BOK AMb AMB 00 06 25.1
comp=Z,48nm,0.8s,mb5.6
KEV Kevo 57.77 341 ep **P** **00 06 20.6 -1.8**
comp=Z,4.4nm,0.6s,mb4.7
KEV Kevo 57.77 341 eP **P** **00 06 20.6 -1.8**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
YBH Yreka Blue Hor 57.90 62 P **P** **00 06 24.2 +0.9**
comp=Z,2.5nm,0.9s,mb4.2,baz=299,slow=5.8,SNR=2.7
ARCES ARCESS Array B 58.28 341 P **P** **00 06 24.2 -1.7**
comp=Z,9.4nm,0.8s,mb4.9,baz=37,slow=6.2,SNR=14
WALA Waterton Lakes 58.67 50 eP **P** **00 06 28.9 +0.2**
comp=Z,16nm,1.2s,mb4.9
WALA epP pP 00 06 39.2 -0.6
AB31 Akbulak array 58.75 310⇑ eP **P** **00 06 27.6 -1.6**
BSMT Bassoo Peak 58.91 52 eP **P** **00 06 30.5 +0.2**
BSMT epP pP 00 06 41.7 +0.3
SDNR Sundarnagar 58.95 284 eP **P** **00 06 31.2 +0.6**
SMLA Simla 59.05 284 eP **P** **00 06 32.2 +0.9**
AKTO Aktyubinsk 59.06 312 P **P** **00 06 29.6 -1.7**
comp=Z,14nm,1.0s,mb4.9,baz=67,slow=6.9,SNR=20
AKTO PcP PcP 00 07 19.1 -0.8
comp=Z,8.8nm,0.9s,baz=326,slow=1.9,SNR=5.3
AKTO Aktyubinsk 59.06 312 iP **P** **00 06 29.9 -1.4**
AKTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KTK1 Kautokeino 59.20 341 eP **P** **00 06 31.5 -0.8**
KTK1 AMb AMB 00 06 38.4
comp=Z,40nm,2.0s,mb5.1
KTK1 Kautokeino 59.20 341 eP **P** **00 06 31.5 -0.8**
comp=Z,40nm,2.0s,mb5.1
THN Thein Dam 59.22 286 eP **P** **00 06 32.5 +0.1**
MOD Modoc 59.25 60 epP pP 00 06 39.6 -4.2
BMO Blue Mountains 59.27 56 eP **P** **00 06 33.1 +0.3**
BHK Bhakra 59.38 285 ex x 00 06 37.2
TRO Tromso 59.61 343 eP **P** **00 06 33.0 -2.2**
WVOR Wild Horse Val 59.93 59 eP **P** **00 06 38.3 +0.9**
WVOR e pP 00 06 48.6 +0.1
WVOR e 00 08 49.6
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WVOR Wild Horse Val 59.93 59 eP **P** **00 06 38.3 +1.0**
comp=Z,10nm,1.0s,mb4.8
WVOR e pP 00 06 48.6 +0.1
WVOR ePP PP 00 08 49.6 -0.2
MSO Missoula 59.98 52 eP **P** **00 06 36.8 -0.9**
comp=Z,13nm,1.1s,mb4.9
MSO epP pP 00 06 48.2 -0.6
NIL Nilore 60.10 289 P **P** **00 06 40.2 +1.7**
comp=Z,224nm,0.8s,mb6.2,SNR=9.6
CHMT Chamberlain Mo 60.30 52 eP **P** **00 06 40.2 +0.2**
FFC Flin Flon 61.03 40 P **P** **00 06 44.3 -0.6**
comp=Z,140nm,0.8s,mb6.1,SNR=7.0
FFC Flin Flon 61.03 40 eP **P** **00 06 43.8 -1.1**
SUMG Summit 61.13 4 eP **P** **00 06 45.3 -0.2**
PAHR Pah Rah Range 61.13 62 eP **P** **00 06 47.2 +1.6**
comp=Z,17nm,1.2s,mb5.0
LRM Limekiln Ridge 61.41 53 eP **P** **00 06 47.9 +0.4**
LRM epP pP 00 06 58.1 -0.5
EGMT Eagleton 61.50 49 epP pP 00 06 59.4 +0.2
CMB Columbia Colle 61.54 64 eP **P** **00 06 49.7 +1.4**
CMB e*PP pP 00 06 59.4 -0.1
DLMT Dillon 61.62 53 eP **P** **00 06 49.1 +0.3**
comp=Z,29nm,1.6s,mb5.2
DLMT epP pP 00 07 00.1 +0.1
HLID Hailey 61.70 56 eP **P** **00 06 48.1 -1.3**
HLID epP pP 00 07 00.9 +0.4
JOF Joensuu 61.75 334 ep **P** **00 06 47.7 -2.0**
comp=Z,11nm,0.7s,mb5.1
WAKR Walker 61.84 63 eP **P** **00 06 52.3 +2.0**
WAKR epP pP 00 07 02.5 +1.0
BOZ Bozeman (W) 61.97 52 eP **P** **00 06 51.2 0.0**
BOZ pmax pmax
comp=Z,29nm,1.3s,mb5.2
BOZ Bozeman (W) 61.97 52 eP **P** **00 06 51.2 0.0**
comp=Z,29nm,1.3s,mb5.2
BMN Battle Mountai 61.99 60 eP **P** **00 06 52.4 +1.0**
QLMT Earthquake Lak 62.59 53 eP **P** **00 06 55.8 +0.4**
QLMT epP pP 00 07 06.2 -0.4
YNR Norris Junctio 63.08 53 epP pP 00 07 10.7 +0.9
MOR8 Moi Rana 63.45 343 eP **P** **00 06 58.6 -2.5**
MOR8 AMb AMB 00 07 00.5
comp=Z,73nm,0.9s,mb5.8
MOR8 epP pP 00 07 02.2 -10
MOR8 Moi Rana 63.45 343 eP **P** **00 06 58.6 -2.5**
comp=Z,73nm,0.9s,mb5.8
IMW Indian Meadow 63.46 54 eP **P** **00 07 02.3 +1.2**
comp=Z,22nm,1.4s,mb5.1
VIS Vishakhapatnam 63.55 268 eP **P** **00 07 02.5 +0.8**
RLMT Red Lodge 63.59 52 eP **P** **00 07 02.4 +0.4**
RLMT e pP 00 07 12.4 -0.8
RRI2 Red Ridge 63.59 54 epP pP 00 07 08.3 -4.9
MOOW Moose Ponds 63.66 54 eP **P** **00 07 03.6 +1.2**
comp=Z,18nm,1.4s,mb4.9
AJM Ajmer 63.71 282 eP **P** **00 07 03.6 +0.9**
AJM i P 00 07 04.0
TPAW Teton Pass 63.71 54 eP **P** **00 07 04.0 +1.3**
HVU Hansel Valley 63.76 56 epP pP 00 07 14.4 +0.1
LOHW Long Hollow 63.82 54 eP **P** **00 07 04.6 +1.1**
comp=Z,27nm,1.3s,mb5.1
REDW Red Top Meadow 63.85 54 eP **P** **00 07 03.5 -0.1**
KAF Kangasniemi 63.86 335 ep **P** **00 07 01.6 -2.2**
comp=Z,34nm,0.8s,mb5.4,baz=37,slow=6.2
KAF Kangasniemi 63.86 335 eP **P** **00 07 01.6 -2.2**
KAF pmax pmax
comp=Z,34nm,0.8s,mb5.4
BHPL Bhopal 63.93 277 eP **P** **00 07 05.3 +1.1**
PSI Prapat 63.95 244 P **P** **00 07 03.1 -1.2**
comp=Z,7.0nm,0.9s,mb4.7,baz=8.3,slow=3.7,SNR=5.3
NGP Nagpur 64.20 274 eP **P** **00 07 04.8 -1.2**
LAO LASA Array 64.20 49 eP **P** **00 07 06.6 +0.6**
comp=Z,24nm,1.1s,mb5.2
ISA Isabella 64.22 65 eP pP 00 07 16.7 -0.7
ISA Isabella 64.22 65 epP pP 00 07 16.7 -0.6
SPUT South Promonto 64.25 57 epP pP 00 07 15.9 -1.7
DAC Darwin (Calif) 64.38 64 eP **P** **00 07 08.3 +1.1**
DAC e*PP pP 00 07 17.6 -0.8
FIA1 FINESS Array S 64.45 335 eP **P** **00 07 06.7 -0.9**
FIA1 epP pP 00 07 18.3 -0.6
FINES FINESS Array B 64.46 335 P **P** **00 07 06.6 -1.1**
comp=Z,33nm,0.8s,mb5.4,baz=36,slow=7.9,SNR=68
FINES LR LR 00 38 22.3
comp=Z,230nm,19.6s,MS4.4,baz=167,slow=39
FINES FINESS Array B 64.46 335 iP **P** **00 07 06.5 -1.2**

FINES pmax pmax
comp=Z,33nm,0.8s
HWUT Hardware Ranch 64.57 56 *e*P **P 00 07 09.1 +0.6**
DUG Dugway 64.76 58 *e*P **P 00 07 10.1 +0.5**
DUG pmax pmax
comp=Z,25nm,1.3s,mb5.1
DUG Dugway 64.76 58 *e*P **P 00 07 10.1 +0.4**
comp=Z,25nm,1.3s,mb5.1
NOQ North Oquirrh 64.86 57 P **P 00 07 11.2 +0.9**
BW06 Boulder Array 64.95 54 *e*P **P 00 07 10.4 -0.5**
comp=Z,17nm,1.2s,mb5.0
PDAR Pinedale Array 64.95 54 P **P 00 07 10.4 -0.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=286,slow=2.0,SNR=18
NSS Namsos 65.40 343 *e*P **P 00 07 12.0 -1.8**
GSC Goldstone 65.50 64 *e*P **P 00 07 16.7 +2.3**
OBN Obninsk 65.70 326⇓ *e*P **P 00 07 14.6 -1.1**
OBN *e*S sS 00 16 15.7 -2.0
OBN pmax pmax
comp=Z,65nm,2.0s,mb5.3
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
OBN Obninsk 65.70 326⇑ *e*P **P 00 07 14.6 -1.1**
OBN LR LR
comp=Z,300nm,19.0s,MS4.5
SHPR Sheep Range 65.73 62 *e*P **P 00 07 16.4 +0.4**
AKL Akola 65.90 275 *e*P **P 00 07 18.3 +1.2**
CCUT Cedar City 66.14 60 *e*P **P 00 07 18.6 0.0**
CCUT *e* pP 00 07 30.0 +0.1
MSU Marysvale 66.22 59 *e*P **P 00 07 19.5 +0.4**
VSU Vasula 66.62 333 *c i*P **P 00 07 20.7 -1.0**
VSU Vasula 66.62 333⇑ *i*P **P 00 07 20.8 -0.9**
SRU San Rafael 66.80 57 *e*P **P 00 07 23.1 +0.3**
ULM Lac du Bonnet 66.81 41 P **P 00 07 20.9 -1.9**
comp=Z,4.1nm,0.8s,mb4.5,baz=296,slow=7.5,SNR=6.0
ULM LR LR 00 39 46.7
comp=Z,86nm,18.2s,MS4.0,baz=322,slow=39
ABKT Ailbek 66.88 301 P **P 00 07 24.9 +1.6**
comp=Z,216nm,0.7s,SNR=14
ABKT Ailbek 66.88 301 P **P 00 07 24.2 +1.0**
RSSD Black Hills 67.06 50 *e*P **P 00 07 23.8 -0.6**
RSSD pmax pmax
comp=Z,18nm,1.0s,mb5.1
RSSD Black Hills 67.06 50 *e*P **P 00 07 23.8 -0.7**
comp=Z,18nm,1.0s,mb5.1
HYB Hyderabad 67.07 271 *e*P **P 00 07 25.0 +0.5**
VRSR Storozhevoye 67.48 322 *e*P **P 00 07 26.7 -0.4**
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=E,10.0nm,1.0s
WRAB Tennant Creek 68.11 199 *e*P **P 00 07 30.3 -0.8**
WRAB pmax pmax
comp=Z,12nm,1.0s,mb4.9
WRAB Tennant Creek 68.11 199 *e*P **P 00 07 31.1 0.0**
comp=Z,12nm,0.9s,mb4.9
WB2 Warramunga Arr 68.12 199 *e*P **P 00 07 29.8 -1.4**
WRA Warramunga Arr 68.12 199 P **P 00 07 29.7 -1.5**
comp=Z,2.6nm,0.7s,mb4.4,baz=18,slow=6.7,SNR=16
WRA Warramunga Arr 68.12 199 *i* P **P 00 07 29.3 -1.9**
WRA pmax pmax
comp=Z,3.0nm,0.7s
PV10 Paradox Valley 68.16 57 *e*P **P 00 07 31.4 +0.1**
PV10 *e* pP 00 07 41.8 -0.9
GLA Glamis 68.21 65 *e*P **P 00 07 31.1 -0.6**
PV01 Paradox Valley 68.59 57 P **P 00 07 34.5 +0.4**
NB2 NORSAR Subarra 68.66 341 P **P 00 07 33.7 -0.8**
comp=Z,24nm,0.7s,mb5.2,baz=28,slow=6.5
NB2 NORSAR Subarra 68.66 341 P **P 00 07 33.7 -0.8**
NB2 pmax pmax
comp=Z,24nm,0.7s,mb5.2
NOA NORSAR Array B 68.66 341 P **P 00 07 33.7 -0.8**
comp=Z,20nm,0.7s,mb5.2,baz=27,slow=6.3,SNR=80
NOA NORSAR Array B 68.66 341 P **P 00 07 33.7 -0.8**
WUAZ Wupatki 68.69 61 *e*P **P 00 07 35.8 +1.1**
WUAZ epP pP 00 07 45.0 -1.0
FITZ Fitzroy Crossi 68.79 208 *e*P **P 00 07 34.1 -1.2**
comp=Z,8.2nm,0.9s,mb4.7
FITZ Fitzroy Crossi 68.79 208 P **P 00 07 33.8 -1.6**
comp=Z,4.6nm,0.9s,mb4.4,baz=43,slow=7.5,SNR=7.6
SMCO Snowmass 68.80 55 *e*P **P 00 07 35.1 -0.3**
HFS Hagfors 68.88 340 P **P 00 07 35.2 -0.7**
comp=Z,21nm,0.7s,mb5.2,baz=56,slow=5.6,SNR=38
ISCO Idaho Springs 69.15 54 *e*P **P 00 07 38.2 +0.7**
ISCO pmax pmax
comp=Z,16nm,1.2s,mb4.8
ISCO Idaho Springs 69.15 54 *e*P **P 00 07 38.2 +0.6**
comp=Z,16nm,1.2s,mb4.8
MVCO Mesa Verde 69.26 58 *e*P **P 00 07 37.4 -0.8**
MVCO *e* pP 00 07 49.7 +0.2
MNK Minsk 69.42 329 *e*P **P 00 07 34.0 -5.2**
MNK pmax pmax
comp=Z,140nm,1.0s,mb5.8
POO Poona 69.56 276⇑ *i*P **P 00 07 39.0 -1.1**
comp=Z,40nm,1.0s,mb5.3
KAD Karad 70.17 274 *e*P **P 00 07 44.3 +0.5**
KAD *i* P 00 07 44.6
KONO Kongsberg 70.26 341 *e*P **P 00 07 44.2 -0.2**
KONO Kongsberg 70.26 341⇑ *e*P **P 00 07 44.7 +0.3**
ASK Askoy 70.42 344 *e*P **P 00 07 45.4 0.0**
RUND Rundenannen 70.45 344 *e*P **P 00 07 46.0 +0.4**
RUND AMb AMB 00 07 47.7
comp=Z,156nm,1.0s,mb5.9
RUND Rundenannen 70.45 344 *e*P **P 00 07 46.0 +0.4**
comp=Z,156nm,1.0s,mb5.9
EYMN Ely 70.46 40 *e*P **P 00 07 44.0 -1.6**
comp=Z,0.6nm,0.9s
EYMN epP pP 00 07 56.5 -0.5
BER Bergen 70.48 344 *e*P **P 00 07 46.8 +1.0**
BER AMb AMB 00 07 48.5
comp=Z,122nm,1.6s,mb5.6
BER Bergen 70.48 344 *e*P **P 00 07 46.8 +1.0**
comp=Z,122nm,1.5s,mb5.6
EGD Espegrend 70.61 344 *e*P **P 00 07 47.6 +1.1**
SDCO Great Sand Dun 70.62 55 *e*P **P 00 07 47.0 +0.4**
comp=Z,25nm,1.6s,mb4.9
BLS5 Blasjo 71.14 343 *e*P **P 00 07 51.2 +1.4**
BLS5 AMb AMB 00 07 55.2
comp=Z,41nm,1.0s,mb5.3
BLS5 Blasjo 71.14 343 *e*P **P 00 07 51.2 +1.4**
comp=Z,41nm,1.0s,mb5.3
ECSD EROS,Sioux Fal 71.14 46 *e*P **P 00 07 48.4 -1.4**
ECSD *e* pP 00 07 59.8 -1.3
KIV Kislovodsk 71.14 314 P **P 00 07 50.0 +0.2**
comp=Z,262nm,0.8s,mb6.2,SNR=9.3
KIV Kislovodsk 71.14 314 P **P 00 07 51.5 +1.7**
SNR=9.3
KIV Kislovodsk 71.14 314 *c i*P **P 00 07 49.5 -0.3**
KIV pmax pmax
comp=Z,43nm,1.0s,mb5.3
KIV Kislovodsk 71.14 314 *e*P **P 00 07 50.7 +0.9**
ZEI Tsey 71.39 313 *e*P **P 00 07 51.3 0.0**
ZEI *e* 00 10 30.2
ZEI pmax pmax
comp=Z,31nm,1.0s,mb5.2
SUW Suwalki 71.40 332 *e*P **P 00 07 50.5 -0.9**
DUS Dusheti 71.47 312 P **P 00 07 55.6 +3.9**
MTA Mtatsminda 71.71 312 P **P 00 07 54.5 +1.3**
TBLG Delisi 71.71 312 P **P 00 07 54.1 +0.9**
ONI Oni 71.76 313 P **P 00 07 55.3 +1.8**
AS31 Alice Springs 71.82 199 *e*P **P 00 07 53.1 -0.8**
ASAR Alice Springs 71.82 199 P **P 00 07 53.4 -0.5**
comp=Z,2.5nm,0.7s,mb4.2,baz=12,slow=5.6,SNR=16
ASPA Alice Springs 71.82 199 *e*P **P 00 07 53.3 -0.5**
AKASG Malin Array Be 71.94 326 P **P 00 07 53.8 -0.8**
comp=Z,49nm,0.7s,mb5.5,baz=34,slow=6.1,SNR=141
AKASG Malin Array Be 71.94 326 *i* P **P 00 07 53.7 -0.9**
AKASG pmax pmax
comp=Z,49nm,0.7s
AKBB Malin Array Si 71.94 326 *e*P **P 00 07 53.7 -0.9**
AKBB *e* pP 00 08 05.3 -0.6
ANMO Albuquerque 72.01 58 *e*P **P 00 07 50.7 -4.3**
KZR Kazreti 72.13 312 P **P 00 07 57.2 +1.5**
GNI Garni 72.86 310 P **P 00 08 02.0 +1.9**
comp=Z,27nm,0.8s,mb5.2,baz=0.2,slow=1.7,SNR=21
GNI Garni 72.86 310⇑ *e*P **P 00 08 00.3 +0.3**
GNI pmax pmax
comp=Z,50nm,1.2s
GNI Garni 72.86 310 *e*P **P 00 08 02.5 +2.5**
BSD Bornholm Skovb 72.98 336 *i* P **P 00 08 00.3 -0.4**
comp=Z,25nm,0.8s,mb5.2
BSD Bornholm Skovb 72.98 336 *i* P **P 00 08 00.3 -0.4**
BSD pmax pmax
comp=Z,25nm,0.8s,mb5.2

ANN Anapa 73.04 318 *e*P **P 00 07 59.6 -1.5**
ANN *e*S S 00 17 24.8 -0.8
ANN pmax pmax
comp=Z,85nm,1.7s,mb5.4
COP Copenhagen 73.14 338 *i* P **P 00 08 00.7 -1.0**
comp=Z,22nm,0.8s,mb5.1
COP Copenhagen 73.14 338 *i* P **P 00 08 00.7 -1.0**
COP pmax pmax
comp=Z,22nm,0.8s,mb5.1
MUD Monsted U'grnd 73.25 340 *i* P **P 00 08 02.5 +0.1**
comp=Z,19nm,0.7s,mb5.1
MUD Monsted U'grnd 73.25 340 *i* P **P 00 08 02.5 +0.1**
MUD pmax pmax
comp=Z,19nm,0.7s,mb5.1
SCHQ Schefferville 73.69 23 LR LR 00 43 16.9
comp=Z,82nm,20.0s,MS4.0,baz=266,slow=38
SCIA State Center 74.18 45 *e*P **P 00 08 06.5 -1.4**
TRD Trivandrum 74.39 266 *e*P **P 00 08 10.7 +1.7**
TRD AMb AMB 00 08 15.3
comp=Z,43nm,1.7s,mb5.1
SIM Simferopol' 74.44 320 *c i*P **P 00 08 11.0 +1.7**
SIM MLR MLR
comp=Z,260nm,17.9s,MS4.6
LVV L'vov 74.59 329 *i* P **P 00 08 10.3 +0.1**
LVV *e* 00 10 58.5
MNTX Cornudas Mount 74.93 60 *e*P **P 00 08 12.6 +0.4**
comp=Z,26nm,1.5s,mb4.9
GDL2 Guadalupe Moun 75.18 59 *e*P **P 00 08 13.9 +0.3**
BSEG Bad Segeberg 75.25 338 *e*P **P 00 08 13.6 -0.4**
comp=Z,23nm,0.9s,mb5.1
BSEG Bad Segeberg 75.25 338 *e*P **P 00 08 13.6 -0.4**
IAS Iasi 75.42 325 P **P 00 08 15.3 +0.3**
RUE Ruedersdorf 75.62 336 *e*P **P 00 08 15.6 -0.5**
comp=Z,47nm,1.0s,mb5.4
RUE Ruedersdorf 75.62 336 *e*P **P 00 08 15.6 -0.5**
comp=Z,36nm,0.8s,mb5.4
OJC Ojcow 75.73 331 *i* Pc **P 00 08 16.6 -0.1**
BURAR Bucovina Array 75.98 327⇓ *i*P **P 00 08 18.4 +0.2**
BURAR Bucovina Array 75.98 327⇑ P **P 00 08 18.4 +0.2**
UZH Uzhgorod 76.21 329 *e*P **P 00 08 19.0 -0.5**
UZH *e*S S 00 17 55.0 -6.1
UZH MLR MLR
comp=Z,260nm,18.0s,MS4.6
NIE Niedzica 76.24 330 *i* Pc **P 00 08 20.1 +0.4**
KSP Ksiaz 76.31 334 *e*P **P 00 08 19.9 -0.2**
WMOK Wichita Mounta 76.57 54 *e*P **P 00 08 21.1 -0.4**
MSL Mosul 76.57 309 *ex* x 00 08 31.0
OKC Ostrava-Krasne 76.60 332 *e*P **P 00 08 21.5 -0.2**
NRDL Niedersach Rie 76.61 338 *e*P **P 00 08 21.2 -0.6**
comp=Z,17nm,0.9s,mb5.0
UPC Upice 76.69 334 *e*P **P 00 08 22.2 0.0**
DPC Dobruska-Polom 76.74 333 *e*P **P 00 08 22.3 -0.2**
DPC AMS AMS 00 46 30.0
comp=Z,300nm,19.5s
EKA Eskdalemuir Ar 76.77 346 P **P 00 08 21.7 -1.0**
comp=Z,7.3nm,0.8s,mb4.6,baz=20,slow=5.3,SNR=16
VRI Vrincioaia 76.83 325⇓ *i*P **P 00 08 23.3 +0.3**
VRI Vrincioaia 76.83 325 ⇓P **P 00 08 23.3 +0.3**
MORC Moravsky Berou 76.85 332⇓ *i*P **P 00 08 23.6 +0.5**
MORC Moravsky Berou 76.85 332 P **P 00 08 23.2 +0.1**
PLOR Plostina 76.88 325⇓ *i*P **P 00 08 23.8 +0.5**
CLL Collm 76.88 336 *e*P **P 00 08 22.7 -0.6**
comp=Z,52nm,0.8s,mb5.5
CLL Collm 76.88 336⇑ *i*P **P 00 08 22.8 -0.5**
comp=Z,52nm,0.8s,mb5.5
CLL *e*PcP PcP 00 08 34.0 -0.3
CLL LmV 00 44 00.0
comp=Z,200nm,18.4s
BRG Berggiesshubel 77.00 335 *e*P **P 00 08 23.2 -0.7**
comp=Z,14nm,0.9s,mb4.9
BRG Berggiesshubel 77.00 335 *i* P **P 00 08 23.4 -0.6**
comp=Z,8.1nm,0.9s,mb4.6
BRG *e* pP 00 08 32.4 -3.0
comp=Z,4.0nm,0.9s
BRG
comp=N,129nm,19.1s
BRG
comp=E,132nm,17.6s
BRG
comp=Z,180nm,15.5s
BRG Berggiesshubel 77.00 335 *i* P **P 00 08 23.4 -0.5**
BRG *e* pP 00 08 32.4 -3.0
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG MLR MLR
comp=Z,180nm,15.5s,MS4.5
BRG Berggiesshubel 77.00 335 *i* P **P 00 08 23.4 -0.6**
comp=Z,8.1nm,0.9s,mb4.7
BRG *e* pP 00 08 32.4 -3.0
BRG LR LR
comp=Z,180nm,15.5s,MS4.5
PVCC Panska Ves 77.12 334 *e*P **P 00 08 24.4 -0.2**
PVCC AMS AMS 00 46 20.0
comp=Z,300nm,18.6s
FBE Freiberg 77.13 335 *e*P **P 00 08 24.2 -0.5**
comp=Z,25nm,0.8s,mb5.2
CLZ Clausthal 77.13 337 *e*P **P 00 08 24.7 0.0**
comp=Z,39nm,0.8s,mb5.4
CLZ Clausthal 77.13 337 *e*P **P 00 08 24.7 0.0**
CLZ pmax pmax
comp=Z,39nm,0.8s,mb5.4
CLZ Clausthal 77.13 337 *e*P **P 00 08 24.7 0.0**
comp=Z,39nm,0.8s,mb5.4
WIT Witteveen 77.18 340 *e*P **P 00 08 25.1 +0.2**
HOQ Hoqain 77.20 291 P **P 00 08 26.1 +1.0**
SNR=7.5
TIRR Tirgusor 77.29 323⇓ *i*P **P 00 08 26.2 +0.6**
TIRR Tirgusor 77.29 323 ⇓P **P 00 08 26.2 +0.6**
IBBN Ibnbaren 77.38 339 *e*P **P 00 08 25.7 -0.4**
comp=Z,33nm,1.1s,mb5.2
MLR Muntele Rosu 77.45 325 P **P 00 08 27.1 +0.6**
comp=Z,33nm,0.7s,mb5.4,baz=158,slow=8.9,SNR=53
MLR Muntele Rosu 77.45 325⇓ *i*P **P 00 08 27.3 +0.8**
MLR Muntele Rosu 77.45 325 P **P 00 08 27.1 +0.6**
MLR pmax pmax
comp=Z,33nm,0.7s
MLR Muntele Rosu 77.45 325 P **P 00 08 27.6 +1.2**
MALT Malatya 77.49 313⇑ *i*P **P 00 08 28.7 +2.0**
MALT Malatya 77.49 313 *e*P **P 00 08 28.3 +1.6**
VRAC Vranov 77.56 333 P **P 00 08 27.5 +0.4**
comp=Z,22nm,0.9s,mb5.1,baz=29,slow=6.0,SNR=27
VRAC Vranov 77.56 333⇑ *i*P **P 00 08 27.1 0.0**
VRAC Vranov 77.56 333⇑ P **P 00 08 27.2 +0.1**
PRU Pruhonice 77.60 334 *e*P **P 00 08 27.1 -0.2**
PRU AMS AMS 00 46 30.0
comp=Z,300nm,14.6s
DRGR 77.61 328⇓ *i*P **P 00 08 28.0 +0.6**
DRGR 77.61 328 P **P 00 08 27.7 +0.3**
PSZ Piszkesteto 77.66 330⇑ *i*P **P 00 08 27.5 -0.2**
PSZ Piszkesteto 77.66 330 *e*P **P 00 08 28.1 +0.4**
PSZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
PSZ Piszkesteto 77.66 330 *e*P **P 00 08 28.1 +0.4**
comp=Z,22nm,0.9s,mb5.1
TANN Tannenbergstha 77.83 336 *e*P **P 00 08 28.3 -0.3**
comp=Z,8.0nm,0.9s,mb4.7
VOIR 77.85 326⇓ *i*P **P 00 08 29.9 +1.2**
VOIR 77.85 326 ⇓P **P 00 08 29.9 +1.2**
WERD Werda 77.85 336 *e*P **P 00 08 28.5 -0.2**
comp=Z,14nm,1.0s,mb4.8
BSY Bisya 77.86 290 P **P 00 08 30.6 +1.8**
SNR=7.9
MOX Moxa 77.87 336 *e*P **P 00 08 28.5 -0.3**
comp=Z,23nm,0.9s,mb5.1
MOX Moxa 77.87 336 *e*P **P 00 08 28.5 -0.3**
comp=Z,25nm,1.1s,mb5.1
MOX
comp=Z,100nm,17.0s
MOX Moxa 77.87 336 *e*P **P 00 08 28.5 -0.3**
MOX pmax pmax
comp=Z,25nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,100nm,17.0s,MS4.2
GUNZ Gunzen 77.92 336 *e*P **P 00 08 28.9 -0.2**
comp=Z,19nm,0.9s,mb5.0
TREC Trest 77.92 333 *e*P **P 00 08 28.7 -0.4**
TREC AMS AMS 00 49 30.0
comp=Z,300nm,16.3s
WTSB Winterswijk 77.93 340 *e*P **P 00 08 28.6 -0.5**
comp=Z,50nm,0.9s,mb5.4
WERN Wernitzgruen 77.97 336 *e*P **P 00 08 29.2 -0.2**
comp=Z,24nm,0.8s,mb5.2
NKC Novy Kostel 78.00 335 *e*P **P 00 08 29.7 +0.1**
MTUR Matau 78.02 325⇑ *i*P **P 00 08 30.0 +0.3**
MTUR Matau 78.02 325⇑ P **P 00 08 30.0 +0.3**

BHD Baghdad 78.09 306 *ex* x 00 08 26.0
UBBA Unterbreizbach 78.16 337 *e*P **P 00 08 29.6 -0.8**
comp=Z,8.0nm,0.8s,mb4.7
BUG Bochum--Univer 78.29 339 *e*P **P 00 08 30.8 -0.4**
comp=Z,26nm,1.0s,mb5.1
MANZ Manzenberg 78.32 336 *e*P **P 00 08 31.2 -0.1**
comp=Z,21nm,1.0s,mb5.0
BUD Budapest 78.34 330⇑ *e*P **P 00 08 32.0 +0.6**
ROTZ Rotzenmuhle 78.49 335 *e*P **P 00 08 32.4 +0.1**
comp=Z,22nm,1.0s,mb5.0
STKA Stephens Creek 78.53 190 P **P 00 08 32.5 0.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=57,slow=3.3,SNR=4.2
STKA Stephens Creek 78.53 190 P **P 00 08 32.5 0.0**
PKSG 78.64 331⇓ *e*P **P 00 08 33.6 +0.5**
KHC Kasperske Hory 78.65 334 *e*P **P 00 08 33.1 -0.1**
KHC AMS AMS 00 47 20.0
comp=Z,400nm,18.0s
PKS7 Kunszentmiklos 78.67 330 *e*P **P 00 08 34.2 +1.0**
BRTR Keskin Array B 78.75 317 P **P 00 08 34.4 +0.7**
comp=Z,12nm,0.8s,mb4.9,baz=69,slow=5.0,SNR=30
GZR Gura Zlata 78.76 327⇑ *i*P **P 00 08 33.7 -0.1**
GZR Gura Zlata 78.76 327 P **P 00 08 34.2 +0.4**
GRA1 Grafenberg Arr 78.84 336 *e*P **P 00 08 34.4 +0.2**
comp=Z,54nm,1.3s,mb5.3
GRF Grafenberg Arr 78.84 336 *e*P **P 00 08 34.4 +0.2**
comp=Z,54nm,1.3s,mb5.3
GRF Grafenberg Arr 78.84 336 *e*P **P 00 08 34.4 +0.2**
GRF pmax pmax
comp=Z,54nm,1.3s,mb5.3
GRFO Grafenberg 78.84 336 *e*P **P 00 08 34.5 +0.3**
comp=Z,44nm,0.9s,mb5.4
GRFO Grafenberg 78.84 336 *e*P **P 00 08 34.5 +0.3**
comp=Z,375nm,0.9s
WET Wettzell 78.85 335 *e*P **P 00 08 34.4 +0.2**
comp=Z,27nm,0.9s,mb5.2
WET Wettzell 78.85 335 *e*P **P 00 08 34.4 +0.2**
WET pmax pmax
comp=Z,27nm,0.9s,mb5.2
WET Wettzell 78.85 335 *e*P **P 00 08 34.4 +0.2**
comp=Z,27nm,0.9s,mb5.2
GEC2 GERESS Array S 78.87 334 *e*P **P 00 08 34.1 -0.2**
GEC2 GERESS Array S 78.87 334 *e*P **P 00 08 34.1 -0.2**
GERES GERESS Array B 78.87 334 P **P 00 08 34.1 -0.3**
comp=Z,8.4nm,0.7s,mb4.8,baz=35,slow=4.1,SNR=45
MIB Mutribah 78.94 302 *e*P **P 00 08 35.8 +1.0**
MIB AMb AMB 00 08 37.9
comp=Z,159nm,0.8s,mb6.0
SOP Sopron 78.99 332⇑ *e*P **P 00 08 35.7 +0.7**
CONA Conrad Observa 79.00 332⇑ *i*P **P 00 08 35.6 +0.5**
comp=Z,18nm,0.8s,mb5.0,SNR=21
BZS Buzias 79.01 328⇓ *i*P **P 00 08 34.8 -0.3**
BZS Buzias 79.01 328 ⇓P **P 00 08 34.9 -0.2**
BZS Buzias 79.01 328 P **P 00 08 35.0 -0.1**
ANTO Ankara 79.03 317⇓ *i*P **P 00 08 36.3 +1.1**
ANTO Ankara 79.03 317 P **P 00 08 36.7 +1.5**
ANTO *e* pP 00 08 44.8 -1.9
ANTO pmax pmax
comp=Z,12nm,0.7s,mb4.9
ANTO Ankara 79.03 317 ⇓P **P 00 08 36.2 +1.0**
TNS Taunus Mts 79.11 338 *e*P **P 00 08 35.6 -0.1**
comp=Z,26nm,0.7s,mb5.3
TNS Taunus Mts 79.11 338 *e*P **P 00 08 35.6 -0.1**
TNS pmax pmax
comp=Z,26nm,0.7s,mb5.3
TNS Taunus Mts 79.11 338 *e*P **P 00 08 35.6 -0.1**
comp=Z,26nm,0.7s,mb5.3
JCT Junction City 79.11 57 *e*P **P 00 08 35.5 -0.2**
JCT pmax pmax
comp=Z,29nm,1.1s,mb5.1
JCT Junction City 79.11 57 *e*P **P 00 08 35.5 -0.2**
comp=Z,29nm,1.1s,mb5.1
ZIMR 79.20 324⇑ *i*P **P 00 08 36.1 -0.1**
ZIMR 79.20 324 P **P 00 08 36.5 +0.3**
HGN Heimansgroeve 79.25 340 *e*P **P 00 08 36.0 -0.4**
comp=Z,31nm,1.1s,mb5.1
DLF Lyons Farm 79.26 348⇑ *i*P **P 00 08 35.0 -1.5**
BEBN Eben Emael 79.28 340 ⇓P **P 00 08 36.8 +0.2**
SZH Strazhica 79.29 324 *i* P **P 00 08 36.5 -0.2**
DCN Croghan 79.33 348 *e*P **P 00 08 36.1 -0.7**
QRN Al-Qurain 79.37 300 *e*P **P 00 08 37.6 +0.5**
QRN AMb AMB 00 08 40.5
comp=Z,96nm,0.9s,mb5.7
MEM Membach 79.37 339⇑ P **P 00 08 36.9 -0.2**
comp=Z,14nm,0.9s,mb4.9
NAY Al-Naaiem 79.40 301 *e*P **P 00 08 37.9 +0.6**
NAY AMb AMB 00 08 39.6
comp=Z,44nm,1.0s,mb5.3
RDF Al-Radifah 79.46 301 *e*P **P 00 08 38.4 +0.9**
RDF AMb AMB 00 08 41.0
comp=Z,129nm,0.8s,mb5.9
MIAR Mount Ida 79.56 50 *e*P **P 00 08 37.5 -0.6**
PKSM Moragy 79.57 330⇑ *i*P **P 00 08 38.0 -0.2**
PKSM Moragy 79.57 330 P **P 00 08 38.1 -0.1**
MOA Molln 79.58 333 *i* P **P 00 08 38.5 +0.2**
comp=Z,13nm,1.0s,mb4.8,SNR=7.8
TOD Tromm 79.58 337 *e*P **P 00 08 38.0 -0.2**
UCC Uccle 79.59 340 ⇓P **P 00 08 36.7 -1.5**
ABH Alteburg 79.66 338 *e*P **P 00 08 38.7 +0.1**
JMB Yambol 79.69 323 *e*P **P 00 08 39.2 +0.4**
JMB Yambol 79.69 323 *i* P **P 00 08 39.5 +0.7**
ARSA Arzberg 79.71 332⇑ *i*P **P 00 08 39.1 -0.2**
comp=Z,17nm,1.4s,mb4.8,SNR=13
BCLA Clavier 79.72 340 ⇓P **P 00 08 39.0 0.0**
comp=Z,9.3nm,1.0s,mb4.7
BCLA AP pP 00 08 50.2 -0.2
BCLA XP sP 00 09 01.1 +6.4
SNF Seneffe 79.88 340 ⇓P **P 00 08 41.9 +2.0**
comp=Z,6.6nm,0.8s,mb4.6
USIN University of 79.93 45 *e*P **P 00 08 39.8 -0.3**
comp=Z,19nm,0.6s,mb5.2
FORT Forrest 80.04 202 *e*P **P 00 08 40.4 -0.3**
comp=Z,11nm,0.7s,mb4.9
GIVF Givet 80.13 340 *e*P **P 00 08 40.6 -0.6**
comp=Z,39nm,1.0s,mb5.0
GIVF Givet 80.13 340 *e*P **P 00 08 40.6 -0.6**
GIVF pmax pmax
comp=Z,20nm,1.0s,mb5.0
GIVF Givet 80.13 340 *e*P **P 00 08 40.6 -0.6**
comp=Z,20nm,1.0s,mb5.0
DOU Dourbes 80.19 340 ⇓P **P 00 08 41.5 0.0**
comp=Z,8nm,1.0s,mb4.5
FUR Furstenfeldbru 80.20 335 *e*P **P 00 08 41.8 +0.2**
comp=Z,35nm,0.8s,mb5.3
FUR Furstenfeldbru 80.20 335 *e*P **P 00 08 41.8 +0.2**
FUR pmax pmax
comp=Z,35nm,0.8s,mb5.3
FUR Furstenfeldbru 80.20 335 *e*P **P 00 08 41.8 +0.2**
comp=Z,35nm,0.8s,mb5.3
WLF Walferdange 80.21 339 ⇓P **P 00 08 40.8 -0.8**
comp=Z,4.0nm,0.7s,mb4.5
STU Stuttgart 80.23 337 *e*P **P 00 08 42.7 +0.9**
comp=Z,32nm,0.9s,mb5.2
STU Stuttgart 80.23 337 *e*P **P 00 08 42.4 +0.6**
ACSO Alum Creek Sta 80.30 40 *e*P **P 00 08 41.1 -1.0**
comp=Z,18nm,1.1s,mb4.9
BAIF Baives 80.31 340⇑ *i*P **P 00 08 41.7 -0.5**
comp=Z,29nm,1.0s,mb4.9
BAIF Baives 80.31 340⇑ *i*P **P 00 08 41.7 -0.5**
BAIF pmax pmax
comp=Z,14nm,1.0s,mb4.8
BAIF Baives 80.31 340⇑ *i*P **P 00 08 41.7 -0.5**
comp=Z,14nm,1.0s,mb4.9
WCI Wyandotte Cave 80.38 43 *e*P **P 00 08 41.7 -0.9**
WCI pmax pmax
comp=Z,23nm,0.9s,mb5.1
WCI Wyandotte Cave 80.38 43 *e*P **P 00 08 41.7 -0.8**
comp=Z,23nm,0.9s,mb5.1
PERS Pernice 80.38 332 *i* P **P 00 08 42.5 -0.1**
LANF Langenberg 80.42 338 *e*P **P 00 08 42.5 -0.3**
LANF Langenberg 80.42 338 *e*P **P 00 08 42.5 -0.3**
KBA Koelnbreinsper 80.55 333 *i* P **P 00 08 43.8 +0.3**
comp=Z,56nm,0.9s,mb5.5,SNR=55
KBA Koelnbreinsper 80.55 333 *i* P **P 00 08 43.8 +0.3**
KBA pmax pmax
comp=Z,56nm,0.9s,mb5.5
PGB Panagyurishte 80.61 324 *i* P **P 00 08 44.1 +0.3**
OBKA Obir 80.68 332⇑ *i*P **P 00 08 44.1 0.0**
comp=Z,8.6nm,0.8s,mb4.7,SNR=7.7
PLD Plovdiv 80.76 324 *i* P **P 00 08 46.1 +1.5**
GOLS Golise 80.77 332 *e*P **P 00 08 44.6 -0.1**
KDZ Kurdzhali 80.85 323 *i* P **P 00 08 47.4 +2.3**
WATA Walderalm 80.86 335⇓ *i*P **P 00 08 45.5 +0.4**
comp=Z,28nm,0.9s,mb5.2,SNR=22
WATA Walderalm 80.86 335⇓ *i*P **P 00 08 45.5 +0.4**
WATA pmax pmax

comp=Z,28nm,0.9s,mb5.2
BFO Black Forest 80.87 337 P **P** **00 08 44.3 -0.9**
comp=Z,142nm,0.9s,mb5.9,SNR=11
BFO Black Forest 80.87 337 *eP* **P** **00 08 44.9 -0.3**
comp=Z,25nm,0.9s,mb5.1
BFO Black Forest 80.87 337 *eP* **P** **00 08 44.9 -0.3**
BFO pmax pmax
comp=Z,25nm,0.9s,mb5.1
BFO Black Forest 80.87 337 *eP* **P** **00 08 44.9 -0.3**
comp=Z,25nm,0.9s,mb5.1
GCIS Gornji Cirnik 80.89 331 *eP* **P** **00 08 45.4 0.0**
WTTA Wattenberg 80.91 335⇑*iP* **P** **00 08 45.9 +0.6**
comp=Z,45nm,1.0s,mb5.4,SNR=22
WTTA Wattenberg 80.91 335⇑*iP* **P** **00 08 45.9 +0.5**
WTTA pmax pmax
comp=Z,45nm,1.0s,mb5.3
DIVS Divcibare 80.91 328 *eP* **P** **00 08 44.4 -1.0**
PDKS Podkum 80.93 332 *eP* **P** **00 08 45.4 -0.1**
VTS Vitosha 80.96 325 *eP* **P** **00 08 45.5 -0.2**
VTS Vitosha 80.96 325⇑*iP* **P** **00 08 45.7 +0.1**
VTS Vitosha 80.96 325 *i P* **P** **00 08 45.8 +0.2**
CRES Cresnjev 80.99 332 *eP* **P** **00 08 45.4 -0.5**
MOTA Moosalm 80.99 335⇑*iP* **P** **00 08 46.0 +0.2**
comp=Z,29nm,1.0s,mb5.2,SNR=22
MOTA Moosalm 80.99 335⇑*iP* **P** **00 08 46.0 +0.2**
MOTA pmax pmax
comp=Z,29nm,1.0s,mb5.2
WLS Welschbruch 81.06 338 *eP* **P** **00 08 46.0 -0.2**
WLS Welschbruch 81.06 338 *eP* **P** **00 08 46.0 -0.2**
SQTA Sankt Quirin 81.07 335⇓*iP* **P** **00 08 46.7 +0.5**
comp=Z,17nm,0.9s,mb5.0,SNR=21
SQTA Sankt Quirin 81.07 335⇓*iP* **P** **00 08 46.7 +0.5**
SQTA pmax pmax
comp=Z,17nm,0.9s,mb5.0
CDF Champ du Feu 81.08 338⇑*iP* **P** **00 08 46.0 -0.3**
comp=Z,70nm,1.0s,mb5.2
CDF Champ du Feu 81.08 338⇑*iP* **P** **00 08 46.0 -0.3**
CDF pmax pmax
comp=Z,35nm,1.0s,mb5.2
CDF Champ du Feu 81.08 338⇑*iP* **P** **00 08 46.0 -0.3**
comp=Z,35nm,1.0s,mb5.2
PTCC Patocco-Chiusa 81.15 333 P **P** **00 08 46.0 -0.7**
comp=Z,14nm,0.6s,mb5.1
FVI Forni Avoltri 81.16 334 P **P** **00 08 46.7 0.0**
FVI pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FVI Forni Avoltri 81.16 334 P **P** **00 08 46.7 0.0**
comp=Z,6.2nm,0.5s,mb4.8
ALN Alexandroupoli 81.21 322 *eP* **P** **00 08 47.3 +0.3**
LIBD Limburg 81.23 337 *eP* **P** **00 08 47.1 0.0**
ECH Echery 81.29 338 *eP* **P** **00 08 46.9 -0.5**
ECH Echery 81.29 338 *eP* **P** **00 08 46.9 -0.5**
WVT Waverly 81.29 46 *eP* **P** **00 08 46.5 -0.9**
WVT *e* pP 00 08 58.1 -0.8
WVT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WVT Waverly 81.29 46 *eP* **P** **00 08 46.5 -0.9**
comp=Z,7.4nm,0.8s,mb4.7
WVT *e* pP 00 08 58.1 -0.8
GMNA Gemona 81.30 333 P **P** **00 08 46.9 -0.6**
comp=Z,84nm,0.8s,mb5.7
BOJS Bojanci 81.34 332 *eP* **P** **00 08 47.1 -0.6**
FELD Feldberg im Sc 81.38 337 *eP* **P** **00 08 47.5 -0.4**
DAVA Damueis 81.39 336⇑*iP* **P** **00 08 48.4 +0.4**
comp=Z,50nm,1.9s,mb5.1,SNR=21
CEY Cerknica 81.40 332 *eP* **P** **00 08 46.7 -1.3**
MEZF Maizieres J'vi 81.56 339⇑*iP* **P** **00 08 48.8 0.0**
comp=Z,48nm,0.8s,mb5.2
MEZF Maizieres J'vi 81.56 339⇑*iP* **P** **00 08 48.8 0.0**
comp=Z,48nm,0.8s,mb5.5
THEF They Montfort 81.58 339 *eP* **P** **00 08 48.8 -0.2**
THEF They Montfort 81.58 339 *eP* **P** **00 08 48.8 -0.2**
MMB Musomiste 81.59 324 *eP* **P** **00 08 49.3 +0.3**
MMB Musomiste 81.59 324 *i P* **P** **00 08 49.3 +0.3**
KKB Krupnik 81.62 325 *i P* **P** **00 08 51.3 +2.1**
MOF Molkenrain 81.63 338 *eP* **P** **00 08 48.8 -0.4**
MOF Molkenrain 81.63 338 *eP* **P** **00 08 48.8 -0.4**
HAU Haudompre 81.69 338⇑*iP* **P** **00 08 49.1 -0.4**
comp=Z,30nm,0.9s,mb4.9
HAU *eR*
comp=Z,193nm,18.5s
HAU Haudompre 81.69 338⇑*iP* **P** **00 08 49.1 -0.4**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,190nm,18.5s,MS4.5
HAU Haudompre 81.69 338⇑*iP* **P** **00 08 49.1 -0.4**
comp=Z,15nm,0.9s,mb4.9
HAU LR LR
comp=Z,190nm,18.5s,MS4.5
ISP Isparta 81.72 318 P **P** **00 08 52.6 +2.9**
ISP pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ISP Isparta 81.72 318 P **P** **00 08 52.6 +2.9**
comp=Z,8.8nm,0.7s,mb4.8
APPI Appiano 81.73 335 P **P** **00 08 49.6 -0.2**
HINF Hinteralfeld 81.74 338 *eP* **P** **00 08 49.2 -0.6**
comp=Z,17nm,0.8s,mb4.7
HINF Hinteralfeld 81.74 338 *eP* **P** **00 08 49.2 -0.6**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HINF Hinteralfeld 81.74 338 *eP* **P** **00 08 49.2 -0.6**
comp=Z,8.6nm,0.8s,mb4.7
PLE Pljevlja 81.79 328⇑*iP* **P** **00 08 48.8 -1.2**
PPT Papeete 81.86 126 *e*LR LR 00 33 43.3
comp=Z,265nm,25.8s
BBS Basel-Blauen 81.89 337 *eP* **P** **00 08 50.1 -0.5**
BRMO Bormio 81.99 335 P **P** **00 08 52.3 +1.2**
comp=Z,17nm,0.8s,mb5.0
CTI Castel Tesino 82.00 334 P **P** **00 08 50.4 -0.7**
CTI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CTI Castel Tesino 82.00 334 P **P** **00 08 50.4 -0.7**
comp=Z,8.8nm,0.6s,mb4.9
IVA Berane 82.00 327⇑*iP* **P** **00 08 51.3 +0.2**
SRS Serrai 82.05 324 *eP* **P** **00 08 50.8 -0.6**
PLAL Pickwick Lake 82.08 47 *eP* **P** **00 08 50.1 -1.4**
PLAL *epP* pP 00 09 02.2 -0.9
UPM Unac-Piva 82.08 328⇑*iP* **P** **00 08 51.6 0.0**
STIP Stip 82.12 325 *eP* **P** **00 08 50.9 -0.9**
STIP Stip 82.12 325 *eP* **P** **00 08 51.2 -0.6**
LOMF Lomont 82.17 338 *eP* **P** **00 08 52.1 0.0**
LOMF Lomont 82.17 338 *eP* **P** **00 08 52.1 0.0**
SKO Skopje 82.18 326 *eP* **P** **00 08 52.3 +0.2**
PVY Plav 82.21 327⇑*iP* **P** **00 08 51.2 -1.1**
VAY Valandovo 82.28 325 *eP* **P** **00 08 52.6 -0.1**
VAY Valandovo 82.28 325 *eP* **P** **00 08 52.5 -0.2**
NKY Niksic 82.38 328⇑*iP* **P** **00 08 53.0 -0.1**
LOS Limnos 82.42 322 *eP* **P** **00 08 53.6 +0.3**
BRY Bratogost 82.47 328 *eP* **P** **00 08 52.2 -1.4**
TTG Podgorica 82.62 327⇑*iP* **P** **00 08 53.6 -0.8**
LDF La Druitiere 82.65 343 *eP* **P** **00 08 53.9 -0.7**
comp=Z,32nm,0.9s,mb5.0
LDF La Druitiere 82.65 343 *eP* **P** **00 08 53.9 -0.7**
LDF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LDF La Druitiere 82.65 343 *eP* **P** **00 08 53.9 -0.7**
comp=Z,16nm,0.9s,mb5.0
CSS Prodhromos 82.66 314 *eP* **P** **00 08 53.3 -1.3**
comp=Z,12nm,0.9s,mb4.9
GRG Griva 82.66 325 *eP* **P** **00 08 56.0 +1.4**
PLG Polygyros 82.73 324 *eP* **P** **00 08 56.2 +1.2**
BUM Brajici-Budva 82.86 328⇑*iP* **P** **00 08 55.1 -0.6**
HCY Herceg Novi 82.88 328⇑*iP* **P** **00 08 55.4 -0.3**
GRR Gorron 83.00 343⇑*iP* **P** **00 08 56.1 -0.2**
comp=Z,53nm,1.0s,mb5.2
GRR Gorron 83.00 343⇑*iP* **P** **00 08 56.1 -0.2**
GRR pmax pmax
comp=Z,27nm,1.0s,mb5.2
GRR Gorron 83.00 343⇑*iP* **P** **00 08 56.1 -0.2**
comp=Z,27nm,1.0s,mb5.2
LOR Lormes 83.00 340⇑*iP* **P** **00 08 56.1 -0.3**
comp=Z,64nm,1.0s,mb5.3
LOR *eR*
comp=Z,193nm,21.5s
LOR Lormes 83.00 340⇑*iP* **P** **00 08 56.1 -0.3**
LOR pmax pmax
comp=Z,32nm,1.0s,mb5.3
LOR MLR MLR
comp=Z,190nm,21.5s,MS4.4
LOR Lormes 83.00 340⇑*iP* **P** **00 08 56.1 -0.3**
comp=Z,32nm,1.0s,mb5.3
LOR LR LR
comp=Z,190nm,21.5s,MS4.4
ASF Jabal al Asfar 83.02 310 P **P** **00 08 57.6 +1.1**
comp=Z,10nm,1.1s,mb4.8,baz=158,slow=1.6,SNR=9.6
ULC Ulcinj 83.02 327⇑*iP* **P** **00 08 56.4 -0.1**
TZTN Tazewell 83.03 43 *eP* **P** **00 08 56.4 -0.1**
TZTN *e* pP 00 09 07.5 -0.5
BIA Bitola 83.04 325 *eP* **P** **00 08 57.1 +0.5**
CABF La Chapelle 83.05 338 *eP* **P** **00 08 56.5 -0.1**
comp=Z,21nm,0.8s,mb4.9
CABF La Chapelle 83.05 338 *eP* **P** **00 08 56.5 -0.1**
CABF pmax pmax
comp=Z,11nm,0.8s,mb4.9
CABF La Chapelle 83.05 338 *eP* **P** **00 08 56.5 -0.1**
comp=Z,10nm,0.8s,mb4.9
OHR Ohrid 83.16 326 *eP* **P** **00 08 58.1 +0.9**
SSF Saint Saulge 83.28 340⇑*iP* **P** **00 08 57.6 -0.2**
comp=Z,34nm,0.9s,mb5.1
SSF Saint Saulge 83.28 340⇑*iP* **P** **00 08 57.6 -0.2**
SSF pmax pmax
comp=Z,17nm,0.9s,mb5.1
SSF Saint Saulge 83.28 340⇑*iP* **P** **00 08 57.6 -0.2**
comp=Z,17nm,0.9s,mb5.1
HYF Humbligny 83.29 340 *eP* **P** **00 08 58.0 +0.1**
SGMF Saint Gilles 83.46 344 *eP* **P** **00 08 58.4 -0.3**
comp=Z,44nm,0.9s,mb5.2
SGMF Saint Gilles 83.46 344 *eP* **P** **00 08 58.4 -0.3**
SGMF pmax pmax
comp=Z,22nm,0.9s,mb5.2
SGMF Saint Gilles 83.46 344 *eP* **P** **00 08 58.4 -0.3**
comp=Z,22nm,0.9s,mb5.2
ROSF Rostrenen 83.52 344 *eP* **P** **00 08 58.7 -0.3**
comp=Z,74nm,1.1s,mb5.4
ROSF Rostrenen 83.52 344 *eP* **P** **00 08 58.7 -0.3**
ROSF pmax pmax
comp=Z,37nm,1.1s,mb5.4
ROSF Rostrenen 83.52 344 *eP* **P** **00 08 58.7 -0.3**
comp=Z,37nm,1.1s,mb5.4
AVF Avril sur Loir 83.57 340⇑*iP* **P** **00 08 59.2 -0.1**
comp=Z,57nm,0.9s,mb5.4
AVF Avril sur Loir 83.57 340⇑*iP* **P** **00 08 59.2 -0.1**
AVF pmax pmax
comp=Z,29nm,0.9s,mb5.4
AVF Avril sur Loir 83.57 340⇑*iP* **P** **00 08 59.2 -0.1**
comp=Z,29nm,0.9s,mb5.4
SMF Signal de Mont 83.59 339⇑*iP* **P** **00 08 59.3 -0.1**
comp=Z,129nm,1.1s,mb5.7
SMF Signal de Mont 83.59 339⇑*iP* **P** **00 08 59.3 -0.1**
SMF pmax pmax
comp=Z,65nm,1.1s,mb5.7
SMF Signal de Mont 83.59 339⇑*iP* **P** **00 08 59.3 -0.1**
comp=Z,65nm,1.1s,mb5.7
RSM Repubblica di 83.65 333 P **P** **00 09 01.0 +1.3**
RSM pmax pmax
comp=Z,41nm,0.9s,mb5.6
RSM Repubblica di 83.65 333 P **P** **00 09 01.0 +1.3**
comp=Z,41nm,0.9s,mb5.6
FSSB Fossombrone 83.76 332 P **P** **00 09 00.5 +0.2**
GSCL Gusciola 83.85 334 P **P** **00 09 02.0 +1.3**
comp=Z,19nm,0.9s,mb5.2
SFI Santa Sofia 83.86 333 P **P** **00 09 02.0 +1.2**
SFI pmax pmax
comp=Z,30nm,1.0s,mb5.4
SFI Santa Sofia 83.86 333 P **P** **00 09 02.0 +1.2**
comp=Z,30nm,1.0s,mb5.4
SEI Scarperia 83.88 333 P **P** **00 09 03.0 +2.1**
comp=Z,104nm,0.6s,mb6.1
LPL La Plagne 83.89 337⇑*iP* **P** **00 09 01.7 +0.7**
comp=Z,42nm,1.0s,mb5.2
LPL La Plagne 83.89 337⇑*iP* **P** **00 09 01.7 +0.7**
LPL pmax pmax
comp=Z,21nm,1.0s,mb5.2
LPL La Plagne 83.89 337⇑*iP* **P** **00 09 01.7 +0.7**
comp=Z,21nm,1.0s,mb5.2
QUIF Quistinic 83.90 344 *eP* **P** **00 09 00.5 -0.5**
LPG La Plagne 83.90 337⇑*iP* **P** **00 09 01.9 +0.9**
comp=Z,36nm,0.8s,mb5.2
LPG La Plagne 83.90 337⇑*iP* **P** **00 09 01.9 +0.9**
LPG pmax pmax
comp=Z,18nm,0.8s,mb5.2
LPG La Plagne 83.90 337⇑*iP* **P** **00 09 01.9 +0.9**
comp=Z,18nm,0.8s,mb5.2
BGF Bois d'Agland 83.91 340⇑*iP* **P** **00 09 00.9 -0.1**
comp=Z,18nm,0.8s,mb5.0
BGF Bois d'Agland 83.91 340⇑*iP* **P** **00 09 00.9 -0.1**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
BGF Bois d'Agland 83.91 340⇑*iP* **P** **00 09 00.9 -0.1**
comp=Z,9.0nm,0.8s,mb5.0
BLA Blacksburg 83.92 40 *eP* **P** **00 09 00.6 -0.5**
comp=Z,1.1nm,0.9s
BLA *e* pP 00 09 11.5 -1.1
VLC Villacollemand 84.08 334 *eP* **P** **00 09 02.9 +1.0**
SNTG Esanatoglia 84.10 332 P **P** **00 09 02.5 +0.5**
comp=Z,12nm,0.7s,mb5.2
PLDF La Plantade 84.27 339 *eP* **P** **00 09 03.6 +0.7**
PLDF La Plantade 84.27 339 *eP* **P** **00 09 03.6 +0.7**
TCF Toulx Ste Croi 84.31 340 *eP* **P** **00 09 03.1 0.0**
comp=Z,34nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.31 340 *eP* **P** **00 09 03.1 0.0**
TCF pmax pmax
comp=Z,17nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.31 340 *eP* **P** **00 09 03.1 0.0**
comp=Z,17nm,0.9s,mb5.2
AGO Saint Agoulin 84.32 340 *eP* **P** **00 09 03.9 +0.8**
AGO Saint Agoulin 84.32 340 *eP* **P** **00 09 03.9 +0.8**
BNI Bardonecchia 84.33 337 *eP* **P** **00 09 03.9 +0.7**
CSNT Castellina Chi 84.43 333 P **P** **00 09 03.7 0.0**
comp=Z,20nm,0.8s,mb5.3
TERO Teramo 84.44 331 P **P** **00 09 04.0 +0.2**
MFF Saint Martin d 84.55 342 *eP* **P** **00 09 04.1 -0.2**
comp=Z,48nm,1.0s,mb5.3
MFF Saint Martin d 84.55 342 *eP* **P** **00 09 04.1 -0.2**
MFF pmax pmax
comp=Z,24nm,1.0s,mb5.3
MFF Saint Martin d 84.55 342 *eP* **P** **00 09 04.1 -0.2**
comp=Z,24nm,1.0s,mb5.3
MBDF Montbardon 84.61 337⇑*iP* **P** **00 09 04.6 0.0**
comp=Z,20nm,0.7s,mb5.0
MBDF Montbardon 84.61 337⇑*iP* **P** **00 09 04.6 0.0**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MBDF Montbardon 84.61 337⇑*iP* **P** **00 09 04.6 0.0**
comp=Z,9.9nm,0.7s,mb5.0
PYM Petit Puy Mans 84.63 340 *eP* **P** **00 09 05.1 +0.4**
PYM Petit Puy Mans 84.63 340 *eP* **P** **00 09 05.1 +0.4**
ORIF Oris-en-Rattie 84.67 337⇑*iP* **P** **00 09 05.6 +0.7**
comp=Z,27nm,0.8s,mb5.1
ORIF *eR*
comp=Z,179nm,22.2s
ORIF Oris-en-Rattie 84.67 337⇑*iP* **P** **00 09 05.6 +0.7**
ORIF pmax pmax
comp=Z,14nm,0.8s,mb5.1
ORIF Oris-en-Rattie 84.67 337⇑*iP* **P** **00 09 05.6 +0.7**
comp=Z,14nm,0.8s,mb5.1
FIN Finale Ligure 84.68 336 P **P** **00 09 04.6 -0.4**
FIN pmax pmax
comp=Z,19nm,1.0s,mb5.2
FIN Finale Ligure 84.68 336 P **P** **00 09 04.6 -0.4**
comp=Z,18nm,1.0s,mb5.2
IGT Igoumenitsa 84.70 325 *eP* **P** **00 09 04.3 -0.7**
AQU L'Aquila 84.75 331⇓*iP* **P** **00 09 05.4 +0.1**
AQU L'Aquila 84.75 331 *eP* **P** **00 09 06.5 +1.2**
FIAM Fiamignano 84.92 331 P **P** **00 09 06.8 +0.6**
VIVF Saint-Julien-l 85.05 338 *eP* **P** **00 09 07.3 +0.5**
comp=Z,32nm,0.8s,mb5.2
VIVF Saint-Julien-l 85.05 338 *eP* **P** **00 09 07.3 +0.5**
VIVF pmax pmax
comp=Z,16nm,0.8s,mb5.2
VIVF Saint-Julien-l 85.05 338 *eP* **P** **00 09 07.3 +0.5**
comp=Z,16nm,0.8s,mb5.2
AUTN L'Aution 85.10 336 *eP* **P** **00 09 07.6 +0.5**
AUTN L'Aution 85.10 336 *eP* **P** **00 09 07.6 +0.5**
VVLD Villa Vallelon 85.11 331 P **P** **00 09 06.5 -0.6**
FG4 Candela 85.11 329 P **P** **00 09 07.5 +0.4**
FG4 pmax pmax
comp=Z,40nm,0.7s,mb5.7
FG4 Candela 85.11 329 P **P** **00 09 07.5 +0.4**
comp=Z,40nm,0.7s,mb5.7
TOUF Mont Tournerai 85.14 336 *eP* **P** **00 09 07.6 +0.4**
TOUF Mont Tournerai 85.14 336 *eP* **P** **00 09 07.6 +0.4**
LUCF Luceram 85.22 336 *eP* **P** **00 09 07.9 +0.2**
SBF Sospel 85.22 336 *eP* **P** **00 09 07.3 -0.4**
comp=Z,64nm,0.9s,mb5.4
SBF Sospel 85.22 336 *eP* **P** **00 09 07.3 -0.4**
SBF pmax pmax
comp=Z,32nm,0.9s,mb5.5
SBF Sospel 85.22 336 *eP* **P** **00 09 07.3 -0.4**
comp=Z,32nm,0.9s,mb5.5
RJF Les Rejaudoux 85.40 340⇑*iP* **P** **00 09 07.9 -0.7**
comp=Z,29nm,1.0s,mb5.1
RJF *eR*
comp=Z,183nm,22.0s
RJF Les Rejaudoux 85.40 340⇑*iP* **P** **00 09 07.9 -0.7**
RJF pmax pmax
comp=Z,14nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,180nm,22.0s,MS4.4
RJF Les Rejaudoux 85.40 340⇑*iP* **P** **00 09 07.9 -0.7**
comp=Z,14nm,1.0s,mb5.1
RJF LR LR
comp=Z,180nm,22.0s,MS4.4
SMRF Simiane la Rot 85.63 337 *eP* **P** **00 09 10.5 +0.8**
comp=Z,37nm,1.3s,mb5.2
SMRF Simiane la Rot 85.63 337 *eP* **P** **00 09 10.5 +0.8**
comp=Z,37nm,1.3s,mb5.5
CAF Calviac 85.63 340 *eP* **P** **00 09 09.4 -0.3**
comp=Z,35nm,0.9s,mb5.3
CAF Calviac 85.63 340 *eP* **P** **00 09 09.4 -0.3**
CAF pmax pmax
comp=Z,17nm,0.9s,mb5.3
CAF Calviac 85.63 340 *eP* **P** **00 09 09.4 -0.3**
comp=Z,18nm,0.9s,mb5.3
VILF Villemus 85.71 337 *eP* **P** **00 09 11.1 +1.0**
VILF Villemus 85.71 337 *eP* **P** **00 09 11.1 +1.0**
FRF La Foret Royal 85.72 336 *eP* **P** **00 09 10.0 -0.2**
comp=Z,63nm,1.6s,mb5.3
FRF La Foret Royal 85.72 336 *eP* **P** **00 09 10.0 -0.2**
FRF pmax pmax
comp=Z,32nm,1.6s,mb5.3
FRF La Foret Royal 85.72 336 *eP* **P** **00 09 10.0 -0.2**
comp=Z,32nm,1.6s,mb5.3
TAVF Tavernes 85.83 337 *eP* **P** **00 09 11.8 +1.1**
TAVF Tavernes 85.83 337 *eP* **P** **00 09 11.8 +1.1**
PRAF Pradon 85.90 337 *eP* **P** **00 09 12.4 +1.4**
PRAF Pradon 85.90 337 *eP* **P** **00 09 12.4 +1.4**
LMR La Mourre 85.97 336 *eP* **P** **00 09 11.4 0.0**
comp=Z,63nm,1.1s,mb5.5
LMR La Mourre 85.97 336 *eP* **P** **00 09 11.4 0.0**
LMR pmax pmax
comp=Z,32nm,1.1s,mb5.5
LMR La Mourre 85.97 336 *eP* **P** **00 09 11.4 0.0**
comp=Z,32nm,1.1s,mb5.5
PGF Pioggiola 85.97 334 *eP* **P** **00 09 11.0 -0.4**
comp=Z,18nm,0.8s,mb5.0
PGF Pioggiola 85.97 334 *eP* **P** **00 09 11.0 -0.4**
PGF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
PGF Pioggiola 85.97 334 *eP* **P** **00 09 11.0 -0.4**
comp=Z,8.9nm,0.8s,mb5.0
LASF Ste Croix 85.99 338 *eP* **P** **00 09 11.3 -0.2**
comp=Z,26nm,1.0s,mb5.1
PUYF Puyloubier 86.01 337 *eP* **P** **00 09 12.6 +1.0**
PUYF Puyloubier 86.01 337 *eP* **P** **00 09 12.6 +1.0**
TREF Trevaresse 86.01 337 *eP* **P** **00 09 13.1 +1.5**
TREF Trevaresse 86.01 337 *eP* **P** **00 09 13.1 +1.5**
EIL Elat 86.01 310 *eP* **P** **00 09 12.5 +0.9**
GELF Grande-Etoile 86.22 337 *eP* **P** **00 09 13.7 +1.1**
GELF Grande-Etoile 86.22 337 *eP* **P** **00 09 13.7 +1.1**
TBI Tubuai 86.58 129 *e*LR LR 00 35 53.9
comp=Z,291nm,36.8s
GRI Girifalco 86.82 328 P **P** **00 09 17.6 +2.1**
GRI pmax pmax
comp=Z,11nm,0.6s,mb5.3
GRI Girifalco 86.82 328 P **P** **00 09 17.6 +2.1**
comp=Z,11nm,0.6s,mb5.3
MTLF Montolieu 87.09 339 *eP* **P** **00 09 16.3 -0.6**
comp=Z,22nm,0.9s,mb5.1
MTLF Montolieu 87.09 339 *eP* **P** **00 09 16.3 -0.6**
MTLF pmax pmax
comp=Z,11nm,0.9s,mb5.1
MTLF Montolieu 87.09 339 *eP* **P** **00 09 16.3 -0.6**
comp=Z,11nm,0.9s,mb5.1
MLS Moulis 87.72 340 *eP* **P** **00 09 23.0 +3.1**
MLS Moulis 87.72 340 *eP* **P** **00 09 23.0 +3.1**
FILF Fillols 87.74 339 *eP* **P** **00 09 23.5 +3.5**
FILF Fillols 87.74 339 *eP* **P** **00 09 23.5 +3.5**
EPF Esparros 87.83 340 *eP* **P** **00 09 20.0 -0.4**
comp=Z,14nm,1.0s,mb4.9
EPF Esparros 87.83 340 *eP* **P** **00 09 20.0 -0.4**
EPF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
EPF Esparros 87.83 340 *eP* **P** **00 09 20.0 -0.4**
comp=Z,7.2nm,1.0s,mb4.9
RESF Ens 88.04 340 *eP* **P** **00 09 22.3 +0.9**
RESF Ens 88.04 340 *eP* **P** **00 09 22.3 +0.9**
SJPF Ste Jean 88.10 342 *eP* **P** **00 09 22.1 +0.4**
comp=Z,14nm,1.1s,mb4.8
SJPF Ste Jean 88.10 342 *eP* **P** **00 09 22.1 +0.4**
SJPF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
SJPF Ste Jean 88.10 342 *eP* **P** **00 09 22.1 +0.4**
comp=Z,6.9nm,1.1s,mb4.8
ETSF Etsaut 88.16 341 *eP* **P** **00 09 21.4 -0.6**
comp=Z,7.9nm,0.7s,mb4.8
ETSF Etsaut 88.16 341 *eP* **P** **00 09 21.4 -0.6**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
ETSF Etsaut 88.16 341 *eP* **P** **00 09 21.4 -0.6**
comp=Z,4.0nm,0.7s,mb4.8
VSL Villasalto 88.64 333 *eP* **P** **00 09 27.1 +2.8**
ESDC Sonseca Array 91.98 343 P **P** **00 09 38.6 -1.3**
comp=Z,1.6nm,0.9s,mb4.3,baz=27,slow=3.2,SNR=6.5
KEST Kesra 92.08 331 P **P** **00 09 40.4 +0.1**
comp=Z,5.1nm,0.8s,mb4.9,baz=247,slow=2.2,SNR=20
RKT Rikitea 94.73 119 *e*LR LR 00 39 42.2
comp=Z,221nm,30.5s
TORD Torodi Ar. Bea 115.49 329 PKP PKPdf 00 15 11.7 -1.3
comp=Z,0.5nm,0.7s,baz=8.3,slow=3.3,SNR=5.9
DBIC Dimbokro 123.74 333 PKP PKPdf 00 15 27.9 -0.9
comp=Z,3.6nm,1.0s,baz=102,slow=14,SNR=3.6
LSZ Lusaka 124.92 285 PKP PKPdf 00 15 31.6 +0.5
comp=Z,1.4nm,0.8s,baz=56,slow=1.0,SNR=8.0
MAW Mawson 131.86 211 PKP PKPdf 00 15 43.0 -1.2
comp=Z,0.6nm,0.4s,baz=295,slow=3.5,SNR=5.3
LPAZ La Paz 134.49 63 PKP PKPdf 00 15 50.3 +1.1
comp=Z,0.6nm,0.6s,baz=316,slow=6.8,SNR=4.2
BOSA Boshof 135.90 275 PKP PKPdf 00 15 50.6 -1.2
comp=Z,2.5nm,0.9s,baz=24,slow=8.1,SNR=3.9
QSPA South Pole Qui 136.05 180 *e*PKPdf PKPdf 00 15 50.6 -1.6
QSPA *e* 00 16 01.7
SIV San Ignacio 138.44 55 PKP PKPdf 00 15 55.8 -0.7
comp=Z,1.7nm,0.9s,baz=320,slow=0.4,SNR=6.0
BDFB Brasilia 144.65 37 PKP PKPdf 00 16 05.7 -1.9
comp=Z,6.5nm,0.8s,baz=320,slow=2.5,SNR=9.0
CFAA Coronel Fontan 145.01 80 PKPbc PKPbc 00 16 05.8 -1.9
comp=Z,0.8nm,0.6s,baz=280,slow=4.0,SNR=13
PLCA Paso Flores 148.11 96 PKPbc PKPbc 00 16 14.6 -2.2
comp=Z,5.3nm,0.7s,baz=254,slow=1.8,SNR=22
CPUP Villa Florida 148.63 61 PKPbc PKPbc 00 16 16.9 -1.1
comp=Z,4.3nm,0.6s,baz=315,slow=3.0,SNR=14
CPUP Villa Florida 148.63 61 PKPbc PKPbc 00 16 16.9 -1.2
SNAA Sanae 152.16 196 PKPbc PKPbc 00 16 23.7 -2.8
comp=Z,2.1nm,0.9s,baz=186,slow=1.9,SNR=24
SNAA Sanae 152.16 196 *e* PKPdf 00 16 23.3 +3.5
SNAA *e* 00 16 26.8
SNAA *e* 00 16 30.1
SNAA *e* 00 16 32.6
SNAA *e* 00 16 33.6
SNAA *e* 00 16 37.1
SNAA *e* 00 16 43.4
SNAA *e* 00 16 46.6
SNAA *e* 00 19 43.2
SNAA *e* 00 19 49.1
VNA3 Neumayer Olymp 153.69 192 *e* PKPdf 00 16 26.9 +4.8
VNA3 *e* 00 16 31.4
VNA3 *e* 00 16 35.9
VNA3 *e* 00 16 40.1
VNA3 *e* 00 16 41.6
VNA3 *e* 00 16 43.6
VNA3 *e* 00 16 44.8
VNA3 *e* 00 16 51.3
VNA3 *e* 00 16 53.2
VNA3 *e* 00 16 59.7
VNA3 *e* 00 17 05.7
VNA3 *e* 00 19 50.3
VNA3 *e* 00 19 55.9
VNA1 Neumayer--Stat 153.98 194 *e* PKPdf 00 16 28.3 +5.8
VNA1 *e* 00 16 32.2
VNA1 *e* 00 16 36.3
VNA1 *e* 00 16 40.1
VNA1 *e* 00 16 41.5
VNA1 *e* 00 16 43.6
VNA1 *e* 00 16 52.3

VNA1 *e* 00 16 56.7

*IDC **29** 00:00:58.0±1.3,3518N×2874E,h0km,mb4.0/6, mb1 3.9/10,mb1mx3.7/23,mbtmp3.8/10,ML3.4/4,MS2.6/1, Ms1 2.6/1,ms1mx2.2/36,Error ellipse: s-maj=27.6km s-min=21.1km az=125.0*

*ISCJB **29** 00:01:00.6±0.2,3519N±002×2891E±002,h72km±5km, mb3.8/8,Error ellipse: s-maj=3.5km s-min=2.4km az=76.2*

*CSEM **29** 00:01:00.4±0.1,3518N×2887E,h60km,Mw3.2, Error ellipse: s-maj=1.7km s-min=1.0km az=33.0*

*NEIC **29** 00:01:02.7,3536N×2874E,h33km,mb3.5/3,MD3.7(ATH), ML3.4(NIC),After ATH.*

*ATH **29** 00:01:02.9,3507N×2875E,h36km±5km,MD3.7/12*

*NIC **29** 00:01:03.6±0.2,3535N×2903E,h35km,ML3.4,MW3.2*

*GII **29** 00:01:06.9±0.3,3490N×2915E,h25km±30km,ML3.1/7, Mw3.7/2*

*HLW **29** 00:01:07.8,3470N×2893E,h33km,Mb4.0*

ISC 29 00:01:02.1±0.2,**3522N**±002×**2890E**±002,**h62**km±6km, **n138**,σ1§09/171,**mb3.8**/8,**5C-7D**,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**1.08**	**31**	*e*PN	**Pn**	**00 01 22.5**	**+1.2**
AKAS	**Kas**	**1.16**	**29**	*i* P	**Pn**	**00 01 22.4**	**0.0**
AKAS				*i* S	**Sn**	**00 01 36.9**	**-0.5**
ARG	**Arkhangelos**	**1.18**	**328**	*e*PN	**Pn**	**00 01 21.6**	**-0.9**
ARG				*e*SN	**Sn**	**00 01 35.5**	**-2.2**
KARP	**Karpathos**	**1.46**	**283**	⇓*i*PN	**Pn**	**00 01 26.7**	**+0.5**
KARP				*e*SN	**Sn**	**00 01 44.3**	**-0.1**
DALT	**Dalyan (Mudla)**	**1.56**	**352**	*e*PN	**Pn**	**00 01 26.8**	**-0.8**
ELL	**Elmali**	**1.73**	**28**	*e*PN	**Pn**	**00 01 30.3**	**+0.3**
DAT	**Datca**	**1.85**	**325**	*e*PN	**Pn**	**00 01 30.9**	**-0.6**
YER	**Yerkesik**	**1.97**	**346**	*e*PN	**Pn**	**00 01 32.3**	**-0.9**
NISR	**Nisiros**	**2.00**	**315**	*e*PB	**Pn**	**00 01 34.0**	**+0.5**
ANTB	**Antalya**	**2.20**	**40**	*e*PN	**Pn**	**00 01 35.5**	**-0.8**
BODT	**Bodrum**	**2.24**	**326**	*e*PN	**Pn**	**00 01 36.1**	**-0.8**
MLSB	**Milas**	**2.26**	**337**	*e*PN	**Pn**	**00 01 37.0**	**-0.1**
DENT	**Denizli**	**2.53**	**2**	*e*PN	**Pn**	**00 01 39.6**	**-1.2**
AYDN	**Tasoluk**	**2.57**	**342**	*i* P	**Pn**	**00 01 42.5**	**+1.2**
AYDN				*i* S	**Sn**	**00 02 10.4**	**-1.0**
AYDN	**Tasoluk**	**2.57**	**342**	*i* P	**Pn**	**00 01 42.5**	**+1.2**
AYDN				*i* S	**Sn**	**00 02 10.4**	**-1.0**
XRY	**Khrisi**	**2.65**	**263**	*e*PN	**Pn**	**00 01 43.0**	**+0.6**
NPS	**Neapolis**	**2.69**	**272**	⇓*i*PN	**Pn**	**00 01 44.4**	**+1.4**
NPS				*e*SB	**Sn**	**00 02 14.6**	**+0.3**
PPCY	**Paphos**	**2.85**	**96**	⇑*i*P	**Pn**	**00 01 45.8**	**+0.7**
ISP	**Isparta**	**2.92**	**26**	*e*PN	**Pn**	**00 01 46.2**	**0.0**
SMG	**Samos**	**2.99**	**327**	*e*PN	**Pn**	**00 01 46.6**	**-0.4**
ALFC	**Alevga**	**3.03**	**90**	⇑*e*P	**Pn**	**00 01 48.3**	**+0.6**
	9.2nm,0.2s						
ALFC				S	**Sn**	**00 02 22.9**	**+0.1**
TKTP	**Tekketepe**	**3.04**	**22**	*i* P	**Pn**	**00 01 43.9**	**-3.9**
TKTP				*i* S	**Sn**	**00 02 23.1**	**+0.2**
TKTP	**Tekketepe**	**3.04**	**22**	*i* P	**Pn**	**00 01 43.9**	**-3.8**
TKTP				*i* S	**Sn**	**00 02 23.0**	**+0.1**
APE	**Apeiranthos**	**3.29**	**305**	*e*PN	**Pn**	**00 01 51.0**	**-0.2**
SZAC	**Souni-Zanaja**	**3.31**	**97**	P	**Pn**	**00 01 52.3**	**+0.9**
HDMB	**Hadim**	**3.39**	**58**	*e*PN	**Pn**	**00 01 53.4**	**+0.9**
IZM	**Izmir**	**3.43**	**338**	*e*PN	**Pn**	**00 01 53.1**	**0.0**
BLCB	**Balcova**	**3.49**	**335**	*e*PN	**Pn**	**00 01 52.7**	**-1.2**
MAMC	**Mammari**	**3.54**	**90**	P	**Pn**	**00 01 55.3**	**+0.7**
ERMK	**Ermenek**	**3.55**	**65**	*i* P	**Pn**	**00 01 57.5**	**+2.7**
ERMK				*i* S	**Sn**	**00 02 39.0**	**+3.5**
CSS	**Prodhromos**	**3.64**	**93**	P	**Pn**	**00 01 56.4**	**+0.4**
	1.6nm,0.2s						
CSS				S	**Sn**	**00 02 38.5**	**+0.7**
CSS	**Prodhromos**	**3.64**	**93**	*e*Pn	**Pn**	**00 01 56.1**	**+0.1**
CSS	**Prodhromos**	**3.64**	**93**	P	**Pn**	**00 01 56.4**	**+0.4**
	1.6nm,0.2s						
CSS				S	**Sn**	**00 02 38.5**	**+0.7**
VAM	**Vamos**	**3.85**	**274**	*e*PN	**Pn**	**00 01 59.8**	**+1.0**
KONT	**Konya--Tatoy**	**3.89**	**45**	*e*PN	**Pn**	**00 01 59.8**	**+0.4**
ALT	**Altintas**	**3.95**	**14**	PN	**Pn**	**00 02 00.1**	**-0.1**
GVD	**Gavdhos**	**3.96**	**266**	*e*PN	**Pn**	**00 02 01.0**	**+0.6**
IKL	**Isikli**	**4.03**	**74**	*e*PN	**Pn**	**00 02 02.4**	**+1.1**
KDHN	**Kadinhani**	**4.18**	**37**	*i* P	**Pn**	**00 01 59.9**	**-3.5**
KDHN				*i* S	**Sn**	**00 02 49.0**	**-2.0**
DABA	**Dabaa**	**4.23**	**187**	P	**Pn**	**00 02 03.3**	**-0.7**
HMAT	**Matruh**	**4.38**	**201**	P	**Pn**	**00 02 05.6**	**-0.5**
HMAT				S	**Sn**	**00 02 47.9**	**-8.0**
PRK	**Paraskevi**	**4.53**	**333**	*e*PN	**Pn**	**00 02 09.1**	**+0.9**
HBRG	**Burj al 'Arab**	**4.70**	**170**	⇑P	**Pn**	**00 02 09.3**	**-1.2**
MERS	**Mersin**	**4.84**	**69**	*e*PN	**Pn**	**00 02 12.8**	**+0.3**
KYTH	**Kithira**	**4.88**	**284**	*e*PN	**Pn**	**00 02 13.5**	**+0.5**
VLI	**Veliai**	**5.06**	**289**	⇓*i*PN	**Pn**	**00 02 15.4**	**0.0**
KARA	**Karaisali**	**5.38**	**66**	*e*PN	**Pn**	**00 02 19.9**	**+0.2**
HNTI	**Hanita**	**5.62**	**110**	Pn	**Pn**	**00 02 23.8**	**+0.7**
HNTI				Sn	**Sn**	**00 03 23.8**	**-2.5**
HMYD	**Mayadein**	**5.64**	**163**	P	**Pn**	**00 02 22.6**	**-0.8**
OFRI	**'Ofer**	**5.69**	**115**	Pn	**Pn**	**00 02 24.4**	**+0.4**
BHL	**Bhannes**	**5.73**	**101**	*e*Pn	**Pn**	**00 02 26.1**	**+1.5**
HNAT	**Natroun**	**5.76**	**165**	P	**Pn**	**00 02 24.3**	**-0.7**
FYM	**Al Fayyum**	**5.80**	**161**	P	**Pn**	**00 02 25.1**	**-0.4**
AYT	**Al 'Ayyat**	**5.82**	**160**	⇓P	**Pn**	**00 02 25.2**	**-0.6**
MMA0	**Mount Meron ar**	**5.83**	**110**	Pn	**Pn**	**00 02 26.0**	**+0.1**
MMA0				Sn	**Sn**	**00 03 29.6**	**-1.7**
KOT	**Kottamia**	**5.83**	**154**	⇑P	**Pn**	**00 02 25.7**	**-0.2**
LKR	**Lokris**	**5.83**	**308**	*e*PN	**Pn**	**00 02 28.9**	**+2.9**
BRTR	**Keskin Array B**	**5.87**	**39**	Pn	**Pn**	**00 02 27.4**	**+1.0**
	0.2nm,0.3s,baz=311,slow=14,SNR=12						
BRTR				Sn	**Sn**	**00 03 33.5**	**+1.2**
	0.3nm,0.3s,baz=200,slow=25,SNR=4.1						
HWQ	**Hawqa**	**5.88**	**97**	*e*Pn	**Pn**	**00 02 27.1**	**+0.5**
HHAG	**Hagoal**	**5.91**	**152**	P	**Pn**	**00 02 27.2**	**+0.3**
SLTI	**Sal'it**	**5.92**	**118**	Pn	**Pn**	**00 02 27.4**	**+0.3**
SLTI				Sn	**Sn**	**00 03 31.1**	**-2.5**
KSDI	**Kefar Szold**	**5.96**	**108**	Pn	**Pn**	**00 02 27.9**	**+0.3**
KSDI				Sn	**Sn**	**00 03 32.2**	**-2.3**
KSDI	**Kefar Szold**	**5.96**	**108**	Pn	**Pn**	**00 02 27.9**	**+0.2**
KSDI				Sn	**Sn**	**00 03 32.2**	**-2.3**
HTY	**Hatay**	**5.96**	**79**	*e*PN	**Pn**	**00 02 27.3**	**-0.5**
RCY	**Rachaya**	**5.98**	**105**	*e*Pn	**Pn**	**00 02 28.3**	**+0.3**
HSAF	**As Saff**	**6.02**	**157**	⇓P	**Pn**	**00 02 28.2**	**-0.4**
KOZT	**Kozan**	**6.03**	**66**	*e*PN	**Pn**	**00 02 28.1**	**-0.6**
MMLI	**Mount Malkishu**	**6.10**	**115**	Pn	**Pn**	**00 02 30.3**	**+0.7**
MMLI				Sn	**Sn**	**00 03 36.0**	**-2.0**
GLL	**Jalalah**	**6.11**	**156**	P	**Pn**	**00 02 29.6**	**-0.2**
GLL	**Jalalah**	**6.11**	**156**	P	**Pn**	**00 02 29.5**	**-0.2**
KSHT	**Keshet**	**6.15**	**109**	Pn	**Pn**	**00 02 31.4**	**+1.1**
AMAZ	**Amatzia**	**6.23**	**124**	Pn	**Pn**	**00 02 32.1**	**+0.7**
AMAZ				Sn	**Sn**	**00 03 38.8**	**-2.5**
HMDT	**Nahal Hemdat**	**6.26**	**116**	Pn	**Pn**	**00 02 32.5**	**+0.7**
KZIT	**Kziot**	**6.31**	**131**	Pn	**Pn**	**00 02 33.1**	**+0.6**
KZIT				Sn	**Sn**	**00 03 39.8**	**-3.4**
SUZ		**6.31**	**147**	P	**Pn**	**00 02 32.5**	**0.0**
RTMI	**Retamim**	**6.39**	**129**	Pn	**Pn**	**00 02 34.0**	**+0.4**
RTMI				Sn	**Sn**	**00 03 42.4**	**-2.8**
SVTA	**Shivta**	**6.43**	**130**	Pn	**Pn**	**00 02 34.7**	**+0.6**
SVTA				Sn	**Sn**	**00 03 42.5**	**-3.6**
YTIR	**Yattir**	**6.47**	**125**	Pn	**Pn**	**00 02 35.9**	**+1.2**
MASH	**Mash'abbe Sade**	**6.49**	**129**	Pn	**Pn**	**00 02 35.4**	**+0.4**
DRGI	**Dragot**	**6.52**	**122**	Pn	**Pn**	**00 02 35.9**	**+0.5**
SWA1		**6.52**	**205**	P	**Pn**	**00 02 35.5**	**0.0**
SWA1				S	**Sn**	**00 03 39.7**	**-8.7**
DSI	**Dead Sea**	**6.53**	**122**	Pn	**Pn**	**00 02 36.4**	**+0.9**
RLS	**Riolos of Patr**	**6.61**	**298**	*e*PN	**Pn**	**00 02 39.3**	**+2.7**
SWA2		**6.63**	**207**	P	**Pn**	**00 02 37.2**	**+0.2**
MZDA	**Masada**	**6.67**	**124**	Pn	**Pn**	**00 02 38.4**	**+0.9**
MZDA				Sn	**Sn**	**00 03 49.8**	**-2.3**
ZAF		**6.68**	**151**	⇓P	**Pn**	**00 02 37.5**	**-0.1**
ZNM		**6.73**	**149**	P	**Pn**	**00 02 38.8**	**+0.5**
HNKL	**Nakhl**	**6.80**	**139**	P	**Pn**	**00 02 39.5**	**+0.3**
AWBH		**6.88**	**180**	P	**Pn**	**00 02 39.6**	**-0.7**
ZFRI	**Zfri**	**7.04**	**130**	Pn	**Pn**	**00 02 42.8**	**+0.3**
ZFRI	**Zfri**	**7.04**	**130**	Pn	**Pn**	**00 02 42.7**	**+0.2**
PRNI	**Paran**	**7.07**	**132**	Pn	**Pn**	**00 02 43.2**	**+0.3**
PRNI				Sn	**Sn**	**00 03 59.1**	**-2.7**
KMTI	**Karmit**	**7.08**	**134**	Pn	**Pn**	**00 02 43.0**	**0.0**
HRFI	**Mount Harif**	**7.32**	**133**	Pn	**Pn**	**00 02 46.6**	**+0.3**
HRFI				Sn	**Sn**	**00 04 04.2**	**-3.6**
ASF	**Jabal al Asfar**	**7.33**	**112**	Pn	**Pn**	**00 02 47.6**	**+1.2**
	0.3nm,0.3s,baz=126,slow=17,SNR=6.5						
ASF				Sn	**Sn**	**00 04 06.9**	**-1.2**
	0.2nm,0.3s,baz=66,slow=20,SNR=1.8						
ASF				LR	LR	00 06 45.9	
	comp=Z,40nm,18.5s,baz=294,slow=47						
MBH	**Mount Berech**	**7.42**	**135**	Pn	**Pn**	**00 02 48.2**	**+0.4**
EIL	**Elat**	**7.54**	**136**	Pn	**Pn**	**00 02 49.6**	**+0.4**
EIL	**Elat**	**7.54**	**136**	Pn	**Pn**	**00 02 49.9**	**+0.6**
EIL				Sn	**Sn**	**00 04 10.0**	**-3.2**
EIL	**Elat**	**7.54**	**136**	Pn	**Pn**	**00 02 49.9**	**+0.6**
EIL				Sn	**Sn**	**00 04 10.0**	**-3.2**
AQBJ	**Aqaba**	**7.55**	**135**	Pn	**Pn**	**00 02 50.3**	**+0.8**
GRB	**Gharib**	**7.68**	**153**	P	**Pn**	**00 02 51.3**	**+0.1**
TR2		**7.95**	**148**	P	**Pn**	**00 02 55.7**	**+0.7**
HKAT	**Jabal Katrina**	**7.96**	**146**	P	**Pn**	**00 02 56.0**	**+0.9**
HFRF	**Wahat Farafira**	**8.06**	**184**	P	**Pn**	**00 02 56.2**	**-0.2**
HFRF	**Wahat Farafira**	**8.06**	**184**	P	**Pn**	**00 02 56.2**	**-0.3**
HDHB	**Dhahab**	**8.10**	**142**	⇑P	**Pn**	**00 02 57.9**	**+0.9**
ASUT		**8.12**	**163**	P	**Pn**	**00 02 57.8**	**+0.4**
TR1		**8.38**	**148**	P	**Pn**	**00 03 01.4**	**+0.5**
HHRG	**Al Ghardaqah**	**8.92**	**152**	P	**Pn**	**00 03 08.6**	**+0.3**
HSFG		**9.64**	**152**	⇓P	**Pn**	**00 03 19.0**	**+0.9**
SOI	**Samo**	**10.70**	**289**	Pn	**Pn**	**00 03 31.6**	**-1.0**
CUC	**Castrocucco**	**11.41**	**299**	Pn	**Pn**	**00 03 41.2**	**-1.1**
	48nm,1.2s						
SLCN	**Sala Consilina**	**11.69**	**300**	Pn	**Pn**	**00 03 44.8**	**-1.2**
	28nm,0.3s						
VAE	**Valguarnera**	**11.90**	**285**	Pn	**Pn**	**00 03 48.0**	**-0.9**
	0.8nm,0.3s,baz=101,slow=16,SNR=4.6						
VAE				Sn	**Sn**	**00 05 47.4**	**-13**
	1.1nm,0.3s,baz=16,slow=15,SNR=4.5						
KEST	**Kesra**	**15.94**	**278**	Pn	**Pn**	**00 04 39.3**	**-3.1**
	0.0nm,0.3s,baz=70,slow=18,SNR=2.4						
GERES	**GERESS Array B**	**17.64**	**325**	P	**Pn**	**00 05 04.7**	**+1.1**
	0.1nm,0.3s,baz=134,slow=15,SNR=5.7						
MBDF	**Montbardon**	**19.38**	**306**	*e*P	**Pn**	**00 05 25.5**	**+0.9**
	3.3nm,0.7s						
MBDF	**Montbardon**	**19.38**	**306**	*e*P	**Pn**	**00 05 25.5**	**+0.9**
	1.6nm,0.7s						
LPG	**La Plagne**	**19.69**	**308**	*e*P	**Pn**	**00 05 27.4**	**-0.8**
	2.0nm,0.5s						
LPG	**La Plagne**	**19.69**	**308**	*e*P	**Pn**	**00 05 27.4**	**-0.8**
	1.0nm,0.5s						
LPL	**La Plagne**	**19.71**	**308**	*e*P	**Pn**	**00 05 27.4**	**-1.0**
	1.8nm,0.3s						
CABF	**La Chapelle**	**20.58**	**311**	*e*P	**P**	**00 05 33.7**	**-2.1**
HINF	**Hinteralfeld**	**20.67**	**314**	*e*P	**P**	**00 05 32.2**	**-4.6**
HAU	**Haudompre**	**21.06**	**314**	*e*P	**P**	**00 05 35.1**	**-5.9**
SSF	**Saint Saulge**	**22.38**	**310**	*e*P	**P**	**00 05 51.4**	**-3.7**
MFF	**Saint Martin d**	**24.58**	**306**	*e*P	**P**	**00 06 10.7**	**-5.6**
	2.9nm,0.5s,mb3.8						
LDF	**La Druliere**	**25.22**	**311**	*e*P	**P**	**00 06 20.2**	**-1.9**
GRR	**Gorron**	**25.61**	**310**	*e*P	**P**	**00 06 23.6**	**-2.0**
	5.1nm,0.5s,mb4.0						
GRR	**Gorron**	**25.61**	**310**	*e*P	**P**	**00 06 23.6**	**-2.0**
	2.5nm,0.5s,mb4.0						
AKTK	**Aktyubinsk**	**26.00**	**45**	P	**P**	**00 06 29.6**	**+0.5**
AKTK				PcP		00 07 19.1	
AKTK	**Aktyubinsk**	**26.00**	**45**	P	**P**	**00 06 29.6**	**+0.5**
FINES	**FINESS Array B**	**26.30**	**357**	P	**P**	**00 06 36.1**	**+4.2**
	3.5nm,1.0s,mb3.9,baz=162,slow=14,SNR=4.2						
ESDC	**Sonseca Array**	**26.38**	**290**	P	**P**	**00 06 34.8**	**+2.2**
	0.7nm,0.5s,mb3.5,baz=83,slow=9.7,SNR=7.4						
HFS	**Hagfors**	**26.81**	**343**	P	**P**	**00 06 40.8**	**+4.4**
	0.8nm,0.5s,mb3.5,baz=160,slow=18,SNR=2.4						
TORD	**Torodi Ar. Bea**	**32.95**	**235**	P	**P**	**00 07 34.1**	**+3.3**
	0.8nm,0.6s,mb3.9,baz=40,slow=8.7,SNR=22						
DBIC	**Dimbokro**	**42.06**	**235**	P	**P**	**00 08 50.4**	**+2.7**
	2.7nm,1.0s,mb3.9,baz=45,slow=5.7,SNR=4.8						
SCHQ	**Schefferville**	**65.10**	**321**	P	**P**	**00 11 38.2**	**+2.0**
	2.7nm,0.6s,mb4.5,baz=53,slow=5.1,SNR=5.4						
SCHQ	**Schefferville**	**65.10**	**321**	P	**P**	**00 11 38.2**	**+1.9**

*ISCJB **29** 00:05:57.8±0.6,963N×003×12601E±004,h82km±5km, mb4.6/51,Error ellipse: s-maj=7.5km s-min=4.8km az=152.4*

*IDC **29** 00:05:58.2±3.5,966N×12596E,h72km±30km,mb4.3/22, mb1 4.4/22,mb1mx4.4/23,mbtmp4.5/22,MS3.6/3, Ms1 3.6/3,ms1mx3.2/37,Error ellipse: s-maj=31.6km s-min=9.5km az=72.0*

*MAN **29** 00:05:59.0,960N×12593E,h26km,mb3.8,ML4.9,MS2.1*

MAN F SURIGAO CITY - INTENSITY I.

*BJI **29** 00:06:00.0,969N×126.14E,h102km,mB5.0,mb4.8*

*NEIC **29** 00:06:01.7±1.5,963N×12597E,h104km±13km,mb4.8/23, Error ellipse: s-maj=9.6km s-min=5.1km az=78.0*

ISC 29 00:05:59.1±0.6,**964N**±003×**12599E**±005,**h78**km±5km, **h88**km±3.9km**:pP-P**,**n109**,σ0§91/111,**mb4.6**/51,**3C-7D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.51**	**286**	⇓*e*P	**Pn**	**00 06 10.6**	**-2.1**
SCPH				*e*S	**Sn**	**00 06 18.4**	**-4.3**
CGP	**Cagayan de Oro**	**1.74**	**228**	⇑*i*P	**Pn**	**00 06 26.0**	**-1.3**
CGP				*i* S	**Sn**	**00 06 47.8**	**-1.1**
PLP	**Palo**	**1.81**	**327**	*e*P	**Pn**	**00 06 27.8**	**-0.7**
PLP				*e*S	**Sn**	**00 06 52.0**	**+1.3**
TBP	**Tagbilaran**	**2.10**	**272**	*e*P	**Pn**	**00 06 32.3**	**+0.1**
TBP				*e*S	**Sn**	**00 06 56.9**	**-0.5**
LLP	**Lapu-Lapu**	**2.10**	**289**	⇓*i*P	**Pn**	**00 06 32.7**	**+0.4**
LLP				*i* S	**Sn**	**00 06 58.4**	**+0.8**
DAV	**Davao City (W)**	**2.58**	**189**	⇑*e*P	**Pn**	**00 06 40.0**	**+1.3**
SNPH	**Sibulan**	**2.73**	**264**	⇓*e*P	**Pn**	**00 06 41.1**	**+0.4**
SNPH				*e*S	**Sn**	**00 07 10.0**	**-2.7**
KCP	**Kidapawan**	**2.76**	**199**	⇓*i*P	**Pn**	**00 06 42.2**	**+1.1**
KCP				*i* S	**Sn**	**00 07 16.7**	**+3.3**
DCPH	**Dipolog City**	**2.81**	**248**	⇓*i*P	**Pn**	**00 06 41.6**	**-0.1**
DCPH				*i* S	**Sn**	**00 07 14.6**	**+0.1**
RCP	**Roxas**	**3.72**	**301**	⇑*e*P	**Pn**	**00 06 55.2**	**+1.1**
YHNB	**Yeheng**	**15.58**	**344**	*e*Pn	**Pn**	**00 09 37.4**	**+3.3**
TATO	**Taipei**	**15.85**	**345**	*e*Pn	**Pn**	**00 09 36.8**	**-0.6**
JOW	**Kunigami**	**17.24**	**7**	P	**Pn**	**00 09 58.6**	**+3.9**
	3.2nm,0.3s,baz=182,slow=9.9,SNR=7.6						
JOW				LR	LR	00 16 22.7	
	comp=Z,138nm,19.1s,baz=177,slow=36						
QIZ	**Qiongzhong**	**18.20**	**303**	P	**Pn**	**00 10 07.9**	**+1.5**
GUMO	**Guam**	**18.90**	**76**	*e*P	**Pn**	**00 10 14.9**	**+0.1**
	27nm,0.3s						
KAKA	**Kakadu**	**23.11**	**164**	*e*P	**P**	**00 10 58.0**	**-0.3**
	23nm,0.6s,mb4.7						
JHJ	**Hachijo jima 2**	**26.61**	**27**	LR	LR	00 19 52.2	
	comp=Z,99nm,19.1s,baz=24,slow=31						
KMI	**Kunming**	**26.94**	**308**	P	**P**	**00 11 37.0**	**+4.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
KMI	**Kunming**	**26.94**	**308**	P	**P**	**00 11 36.9**	**+3.9**
FITZ	**Fitzroy Crossi**	**27.56**	**181**	*e*P	**P**	**00 11 39.7**	**+1.1**
	comp=Z,4.7nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**27.56**	**181**	P	**P**	**00 11 39.3**	**+0.7**
	comp=Z,2.1nm,0.8s,mb3.7,baz=359,slow=7.9,SNR=9.2						
INCN	**Inchon**	**27.73**	**1**	*e*P	**P**	**00 11 40.0**	**-0.1**
	comp=Z,15nm,0.3s,mb5.0						
PSI	**Prapat**	**27.73**	**258**	LR	LR	00 23 48.7	
	comp=Z,203nm,20.3s,baz=215,slow=39						
PMG	**Port Moresby**	**28.32**	**131**	*e*P	**P**	**00 11 46.0**	**+0.7**
	comp=Z,4.4nm,0.4s,mb4.3						
MJAR	**Matsushiro Arr**	**28.99**	**21**	P	**P**	**00 11 50.6**	**-0.7**
	comp=Z,4.5nm,0.7s,mb4.2,baz=193,slow=8.9,SNR=13						
MAJO	**Matsushiro**	**28.99**	**21**	*e*P	**P**	**00 11 50.4**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.2						
CD2	**Chengdu**	**29.60**	**319**	*e*P	**P**	**00 12 01.5**	**+4.8**
CD2				AP	pP	00 12 20.0	+5.2
CD2				XP	sP	00 12 32.0	+8.1
CD2				PP	PP	00 13 00.5	-4.2
CD2				S	**S**	**00 16 50.5**	**+4.3**
CD2				XS	sS	00 17 25.0	+7.5
CD2				SS	SS	00 18 31.5	-23
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,80nm,14.2s						
CD2				LR	LR		
	comp=Z,90nm,18.2s						
WRAB	**Tennant Creek**	**30.51**	**164**	*e*P	**P**	**00 12 03.7**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**30.52**	**164**	P	**P**	**00 12 04.0**	**-0.8**
	comp=Z,3.0nm,0.6s,mb4.2,baz=344,slow=9.4,SNR=30						
WRA				PcP	PcP	00 15 02.9	+0.8
	comp=Z,1.8nm,0.6s,baz=340,slow=3.0,SNR=8.7						
WRA				S	**S**	**00 16 56.7**	**-4.1**
	comp=Z,0.7nm,0.8s,baz=350,slow=16,SNR=3.9						
WB2	**Warramunga Arr**	**30.52**	**164**	*e*P	**P**	**00 12 04.0**	**-0.9**
BJT	**Baijiatuau**	**31.49**	**345**	*e*P	**P**	**00 12 12.8**	**-0.6**
BJI	**Beijing**	**31.51**	**346**	*e*P	**P**	**00 12 13.3**	**-0.3**
BJI				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.9						
BJI				LR	LR		
	comp=N,251nm,13.3s						
BJI				LR	LR		
	comp=E,456nm,14.6s						
BJI				LR	LR		
	comp=Z,243nm,17.4s						
BJI	**Beijing**	**31.51**	**346**	*e*P	**P**	**00 12 13.2**	**-0.4**
LZH	**Lanzhou**	**33.14**	**326**	*e*P	**P**	**00 12 31.0**	**+3.2**
LZH				PP	PP	00 13 42.8	-1.3
LZH				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.8						
LZH	**Lanzhou**	**33.14**	**326**	*e*P	**P**	**00 12 31.1**	**+3.3**
LZH				pP	pP	00 12 40.7	-5.4
LZH				sP	sP	00 12 44.6	-11
LZH				PP	PP	00 13 42.8	-1.3
HHC	**Hu-ho-hao-te**	**33.61**	**340**	*e*P	**P**	**00 12 35.0**	**+3.1**
HHC				AP	pP	00 12 57.0	+6.8
HHC				XP	sP	00 13 08.8	+10
HHC				PP	PP	00 13 50.0	+0.7
HHC				PCP	PcP	00 15 13.0	+2.5
HHC				S	**S**	**00 17 50.0**	**+1.2**
HHC				XS	sS	00 18 28.0	+7.7
HHC				SS	SS	00 20 00.3	-16
HHC				SCS	ScS	00 22 47.0	-2.6
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,60nm,4.6s						
HHC				LR	LR		
	comp=N,214nm,7.3s						
HHC				LR	LR		
	comp=E,226nm,13.9s						
HHC				LR	LR		
	comp=Z,265nm,15.5s						
AS31	**Alice Springs**	**33.99**	**167**	⇓*i*P	**P**	**00 12 35.1**	**-0.1**
ASAR	**Alice Springs**	**33.99**	**167**	P	**P**	**00 12 35.2**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.4,baz=353,slow=7.1,SNR=46						
ASAR				PcP	PcP	00 15 12.3	+0.7
	comp=Z,2.7nm,0.6s,baz=342,slow=2.4,SNR=12						
ASAR				S	**S**	**00 17 55.2**	**+0.5**
	comp=E,0.5nm,0.7s,baz=355,slow=18,SNR=5.0						
ASPA	**Alice Springs**	**33.99**	**167**	⇓*i*P	**P**	**00 12 35.1**	**-0.1**
CN2	**Changchun**	**34.04**	**359**	*e*P	**P**	**00 12 35.8**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**34.99**	**4**	P	**P**	**00 12 44.0**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,211nm,6.5s						
MDJ	**Mudanjiang**	**34.99**	**4**	*e*P	**P**	**00 12 45.1**	**+1.3**
	comp=Z,15nm,0.8s,mb4.9						
GTA	**Gaotai**	**37.74**	**326**	*e*P	**P**	**00 13 07.5**	**+0.2**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.1						
YSS	**Yuzh-Sakhalins**	**39.83**	**18**	P	**P**	**00 13 24.4**	**-0.3**
FORT	**Forrest**	**40.23**	**177**	*e*P	**P**

comp=Z,3.8nm,0.8s,mb4.8,baz=302,slow=4.6,SNR=11
VRAC Vranov 95.08 322 P **P** **00 19 13.0 -0.4**
comp=Z,2.8nm,0.9s,mb4.7,baz=186,slow=3.3,SNR=4.5
GERES GERESS Array B 97.02 322 P **P** **00 19 22.1 0.0**
comp=Z,0.9nm,0.7s,mb4.3,baz=67,slow=4.5,SNR=9.1
QSPA South Pole Qui 99.50 180 *e*Pdif Pdif 00 19 35.6 +2.3
HLID Hailey 103.88 41 *e*Pdif Pdif 00 19 54.4 +1.7
RSSD Black Hills 109.93 36 *e*PKiKP PKiKP 00 24 20.7 -0.7
WMOK Wichita Mounta 118.83 41 *e*PKPdf PKPdf 00 24 39.1 +0.7
TORD Torodi Ar. Bea 120.24 291 PKP PKPdf 00 24 41.6 +0.5
comp=Z,2.3nm,0.8s,baz=40,slow=2.2,SNR=14
PLCA Paso Flores 145.74 157 PKPbc PKPbc 00 25 30.7 +1.6
comp=Z,5.9nm,0.7s,baz=236,slow=2.5,SNR=22
PLCA Paso Flores 145.74 157 PKPbc PKPbc 00 25 30.7 +1.6
LVC Limon Verde 160.75 134 *e*PKPdf PKPdf 00 25 49.0 -1.0
SIV San Ignacio 170.66 133 PKP PKPdf 00 25 60.0 +1.9
comp=Z,1.3nm,0.8s,baz=76,slow=1.5,SNR=6.7

ISC 29 00:29:44.6±3.7,454N±02×181E±01,h3km±28km,n10, σ0°71/13,2C-2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PKSM	**Moragy**	**0.91**	**24**	⇓*i*P		**Pg**	**00 30 01.8**	**-0.2**
PKSM				S		**Sg**	**00 30 13.9**	**+0.1**
KOGS	**Kog**	**1.69**	**310**	*e*Pn		**Pn**	**00 30 14.5**	**-0.4**
KOGS				*i*Sn		**Sn**	**00 30 39.8**	**+2.7**
DIVS	**Divcibare**	**1.85**	**133**	*i*Pn		**Pn**	**00 30 22.2**	**+5.0**
DIVS				Sn		**Sn**	**00 30 41.7**	**+0.6**
GOLS	**Golise**	**1.86**	**291**	*e*Pn		**Pn**	**00 30 17.4**	**+0.1**
LEGS	**Legarje**	**2.04**	**287**	*e*Pn		**Pn**	**00 30 19.8**	**-0.1**
BZS	**Buzias**	**2.47**	**83**	⇑*i*P		**Pn**	**00 30 25.1**	**-0.6**
BZS	**Buzias**	**2.47**	**83**	S		**Sn**	**00 31 02.6**	**+6.2**
PSZ	**Piszkesteto**	**2.82**	**25**	⇑*i*P		**Pg**	**00 30 38.9**	**+0.3**
DRGR		**3.49**	**65**	⇓*i*P		**Pn**	**00 30 35.7**	**-4.1**
DRGR		**3.49**	**65**	S		**Sn**	**00 31 15.3**	**-6.4**

*ISCJB **29** 00:40:26.5±1.2,1396S±006×76.15W±007,h35km±12km, mb4.0/11,MS3.3/2,Error ellipse: s-maj=12.3km s-min=7.8km az=109.2*
*NEIC **29** 00:40:28.2±0.4,1394S×7620W,mb4.3/4,ML4.3(LIM), Error ellipse: s-maj=11.7km s-min=7.1km az=61.0*
NEIC Felt [III] at Pisco.
*IDC **29** 00:40:28.4±0.9,1399S×76.19W,h36km±6km,mb3.7/8, mb1 3.8/13,mb1mx3.7/22,mbtmp3.9/13,ML3.4/4,MS3.1/5, Ms1 3.1/5,ms1mx2.9/30,Error ellipse: s-maj=30.4km s-min=13.2km az=59.0*
*BJI **29** 00:40:30.2,1390S×7620W,h35km,mB5.1*
ISC 29 00:40:28.1±2.5,1397S±005×7622W±007,h33km±18km, h38km±.6km:pP-P,n35,σ0°89/36,mb4.0/11,MS3.3/2,2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.06**	**343**	Pn		**Pn**	**00 40 59.7**	**-0.7**
	14nm,0.3s,baz=168,slow=13,SNR=21							
NNA				Sn		**Sn**	**00 41 24.6**	**-0.3**
	117nm,0.3s,baz=236,slow=16,SNR=14							
NNA				LR		LR	00 41 33.4	
	comp=Z,552nm,21.2s,baz=137,slow=31							
NNA	**Nana**	**2.06**	**343**	*e*Pn		**Pn**	**00 40 59.7**	**-0.7**
NNA				*e*Sn		**Sn**	**00 41 25.2**	**+0.3**
ARE	**Arequipa**	**5.19**	**119**	*e*P		**Pn**	**00 41 46.0**	**+2.6**
ARE				*e*S		**Sn**	**00 42 49.0**	**+6.9**
ATAH	**Atahualpa**	**7.25**	**343**	Pn		**Pn**	**00 42 11.6**	**0.0**
	0.6nm,0.3s,baz=348,slow=20,SNR=2.6							
ATAH				Sn		**Sn**	**00 43 45.4**	**+13**
	1.8nm,0.3s,baz=328,slow=19,SNR=2.9							
LPAZ	**La Paz**	**8.14**	**107**	Pn		**Pn**	**00 42 27.1**	**+3.2**
	0.8nm,0.3s,baz=298,slow=9.7,SNR=20							
LPAZ				LR		LR	00 46 13.1	
	comp=Z,61nm,20.3s,baz=109,slow=42							
LPAZ	**La Paz**	**8.14**	**107**	*e*Pn		**Pn**	**00 42 29.2**	**+5.3**
	6.1nm,0.7s							
LVC	**Limon Verde**	**11.04**	**142**	Pn		**Pn**	**00 43 04.0**	**+0.3**
	2.3nm,0.3s,baz=314,slow=11,SNR=27							
LVC				Sn		**Sn**	**00 45 00.6**	**-5.3**
	0.6nm,0.3s,baz=75,slow=20,SNR=4.6							
LVC				LR		LR	00 47 21.8	
	comp=Z,53nm,18.3s,baz=116,slow=38							
LVC	**Limon Verde**	**11.04**	**142**	*e*Pn		**Pn**	**00 43 04.3**	**+0.6**
	7.9nm,0.6s							
LVC				*e*Sn		**Sn**	**00 45 00.6**	**-5.4**
SAML	**Samuel**	**13.71**	**70**	*e*Pn		**Pn**	**00 43 38.6**	**-1.5**
	5.4nm,0.8s							
SAML				*e*Sn		**Sn**	**00 46 10.7**	**-0.5**
SIV	**San Ignacio**	**14.77**	**100**	Pn		**Pn**	**00 43 54.6**	**+0.1**
	0.2nm,0.3s,baz=275,slow=16,SNR=6.8							
CFAA	**Coronel Fontan**	**19.02**	**159**	P		**Pn**	**00 44 47.6**	**-0.4**
	0.1nm,0.3s,baz=340,slow=13,SNR=16							
CPUP	**Villa Florida**	**21.54**	**128**	P		**P**	**00 45 13.8**	**-0.7**
	3.0nm,0.8s,mb3.8,baz=299,slow=15,SNR=5.9							
CPUP	**Villa Florida**	**21.54**	**128**	*e*P		**P**	**00 45 13.7**	**-0.8**
SDV	**Santo Domingo**	**23.37**	**14**	P		**P**	**00 45 35.0**	**+1.2**
	1.0nm,0.4s,mb3.6,baz=207,slow=9.0,SNR=2.5							
SDV	**Santo Domingo**	**23.37**	**14**	*e*P		**P**	**00 45 35.0**	**+1.1**
	3.9nm,0.6s,mb4.0							
SDV				*e*pP			00 45 42.9	
PCRV	**Puerto La Cruz**	**26.60**	**26**	LR		LR	00 56 59.8	
	comp=Z,72nm,19.7s,MS3.2,baz=98,slow=37							
PLCA	**Paso Flores**	**27.12**	**171**	P		**P**	**00 46 07.0**	**-0.9**
	1.7nm,0.7s,mb3.7,baz=355,slow=14,SNR=5.4							
BDFB	**Brasilia**	**27.31**	**97**	LR		LR	00 57 07.0	
	comp=Z,92nm,20.1s,MS3.3,baz=295,slow=37							
PDAR	**Pinedale Array**	**64.22**	**333**	P		**P**	**00 50 59.9**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=119,slow=7.3,SNR=2.0							
NVAR	**Mina Array Bea**	**65.33**	**325**	P		**P**	**00 51 08.2**	**+1.2**
	0.1nm,0.3s,mb3.3,baz=127,slow=5.7,SNR=2.6							
NVAR				pP		pP	00 51 19.3	+2.2
	0.7nm,0.8s,baz=124,slow=8.4,SNR=4.1							
ULM	**Lac du Bonnet**	**66.23**	**346**	P		**P**	**00 51 11.8**	**-1.0**
	1.1nm,0.6s,mb4.1,baz=167,slow=12,SNR=3.3							
ULM				pP		pP	00 51 23.1	+0.1
	3.5nm,0.8s,baz=136,slow=9.1,SNR=4.4							
VNA3	**Neumayer Olymp**	**69.39**	**162**	⇑*i*		**P**	**00 51 31.5**	**-1.1**
VNA3				*e*			00 51 34.8	
SNAA	**Sanae**	**71.61**	**161**	⇑*i*		**P**	**00 51 45.1**	**-1.1**
SNAA				*e*			00 51 47.7	
SNAA	**Sanae**	**71.61**	**161**	*e*P		**P**	**00 51 45.6**	**-0.6**
	2.2nm,0.6s,mb4.3							
DBIC	**Dimbokro**	**73.71**	**79**	P		**P**	**00 51 58.9**	**+0.2**
	4.9nm,1.0s,mb4.4,baz=291,slow=5.7,SNR=4.7							
QSPA	**South Pole Qui**	**76.18**	**180**	*e*P		**P**	**00 52 12.8**	**0.0**
	2.6nm,0.4s,mb4.5							
TORD	**Torodi Ar. Bea**	**81.73**	**74**	P		**P**	**00 52 43.9**	**+0.6**
	2.8nm,0.8s,mb4.2,baz=263,slow=4.1,SNR=22							
TORD				pP		pP	00 52 55.4	+1.7
	2.2nm,0.8s,baz=252,slow=3.7,SNR=6.8							
TORD	**Torodi Ar. Bea**	**81.73**	**74**	P		**P**	**00 52 43.9**	**+0.6**
TORD				pP		pP	00 52 55.4	+1.7
VNDA	**Vanda**	**82.97**	**191**	P		**P**	**00 52 50.0**	**+0.2**
TSUM	**Tsumeb**	**88.99**	**109**	*e*P		**P**	**00 53 19.9**	**+0.4**
	0.7nm,0.5s,mb4.2							
LBTB	**Lobatse**	**94.56**	**117**	P		**P**	**00 53 46.2**	**+0.9**
SONM	**Songino Array**	**146.17**	**357**	PKPbc		PKPbc	01 00 04.8	-0.1
	2.5nm,0.8s,baz=358,slow=2.0,SNR=7.6							
WMQ	**Urumqi**	**147.21**	**22**	*e*PKP		PKPbc	01 00 12.0	+4.1
HHC	**Hu-ho-hao-te**	**152.37**	**347**	*e*PKP		PKPdf	01 00 15.8	+2.0
LZH	**Lanzhou**	**157.97**	**360**	*e*PKP		PKPdf	01 00 20.3	-1.1

*SZGRF **29** 00:43:00.0,1826S×17600W,h33km,Fiji Islands region*
*MOS **29** 00:43:42.6±0.9,1603S×17624W,h345km,mb5.1/38, Error ellipse: s-maj=8.3km s-min=7.4km az=52.7*
*IDC **29** 00:43:42.8±1.1,1624S×176.14W,h342km±9km,mb4.7/18, mb1 4.8/20,mb1mx4.7/22,mbtmp5.4/20,Error ellipse: s-maj=11.9km s-min=9.1km az=126.0*
*ISCJB **29** 00:43:43.2±0.1,1624S±004×17625W±003,h359km, mb5.0/108,Error ellipse: s-maj=5.3km s-min=3.6km az=111.8*
*BJI **29** 00:43:43.3,1575S×17601W,h351km,mb5.4,mB5.1*
*GCMT **29** 00:43:44.7±0.3,1617S×17607W,h380km±1km,MW5.6/79, Moment Tensor Solution. s79,c135; Duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr0.90±.04; Mθθ0.32±.07; Mφφ-1.22±.07; Mrθ1.15±.06; Mθφ2.09±.06; Mφr1.01±.06; Best double couple: M0 2.80500×10^17^ NP1:ϑ≈107.00000°, δ62.00000°,λ26.00000° NP2:ϑ≈4.00000°,δ67.00000°, λ150.00000°. Principal axes: T 2.9220, Plg37.0000°, Azm324.0000°; N -0.2380, Plg53.0000°, Azm150.0000°;*
P -2.6870, Plg3.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s.
*NEIC **29** 00:43:44.7±0.1,1616S×17624W,mb4.9/70 Error ellipse: s-maj=6.6km s-min=3.8km az=151.0*
*BGS **29** 00:43:45.0±1.7,1616S×17624W,h361km,mb4.9(NEIC)*
ISC 29 00:43:44.8±0.1,1620S±004×17623W±003,h360km±1.4km:pP-P,n780,σ0°91/287,mb5.0/108, 119C-40D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.87**	**63**	P		**Pn**	**00 45 00.2**	**-3.2**
	335nm,0.3s,baz=228,slow=3.5,SNR=285							
AFI				S		**S**	**00 45 59.6**	**-7.4**
	baz=323,slow=20,SNR=1.3							
AFI	**Afiamalu**	**4.87**	**63**	P		**Pn**	**00 45 00.2**	**-3.2**
AFI				S		**S**	**00 45 59.6**	**-7.5**
AFI				pmax	pmax			
	comp=Z,335nm,0.3s							
AFI	**Afiamalu**	**4.87**	**63**	⇓*i*Pn		**Pn**	**00 45 01.0**	**-2.4**
FUNA	**Funafuti**	**8.84**	**329**	*e*P		**Pn**	**00 45 49.8**	**+0.8**
RAO	**Raoul Island**	**13.09**	**187**	S		**S**	**00 48 55.8**	**-5.4**
	comp=Z,162nm,0.3s,baz=68,slow=23,SNR=6.3							
RAR	**Rarotonga**	**16.36**	**110**	P		**P**	**00 47 14.9**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=263,slow=5.7,SNR=8.6							
RAR	**Rarotonga**	**16.36**	**110**	P		**P**	**00 47 14.9**	**+1.2**
RAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
DZM	**Mont Dzumac**	**17.38**	**248**	*e*P		**P**	**00 47 21.9**	**-2.6**
DZM				*e*S		**S**	**00 50 28.2**	**+1.6**
DZM	**Mont Dzumac**	**17.38**	**248**	P		**P**	**00 47 24.7**	**+0.2**
	comp=Z,7.1nm,0.3s,baz=75,slow=15,SNR=97							
DZM				S		**S**	**00 50 28.3**	**+1.7**
	baz=114,slow=20,SNR=3.2							
PUZ	**Puketiti**	**22.33**	**192**	*e*PN		**P**	**00 48 13.1**	**-0.1**
URZ	**Urewera**	**22.75**	**194**	P		**P**	**00 48 14.4**	**-2.5**
	comp=Z,42nm,0.6s,mb4.8,baz=12,slow=5.1,SNR=38							
URZ				S		**S**	**00 51 50.3**	**-8.2**
	comp=Z,6.3nm,0.6s,baz=58,slow=19,SNR=2.5							
URZ	**Urewera**	**22.75**	**194**	*e*PN		**P**	**00 48 15.0**	**-2.0**
HNR	**Honiara**	**24.17**	**283**	*e*P		**P**	**00 48 30.0**	**+0.2**
HNR				*e*			00 51 59.2	
HNR				pmax	pmax			
	comp=Z,165nm,1.0s,mb5.2							
HNR	**Honiara**	**24.17**	**283**	*e*P		**P**	**00 48 30.0**	**+0.2**
	comp=Z,165nm,1.0s,mb5.2							
HNR				*e*PcP	PcP	PcP	00 51 59.2	-0.1
TVO	**Taravao**	**25.84**	**97**	*e*P		**P**	**00 48 44.5**	**-0.2**
	comp=Z,223nm,0.9s,mb5.4							
TVO	**Taravao**	**25.84**	**97**	*e*P		**P**	**00 48 44.5**	**-0.2**
TVO				pmax	pmax			
	comp=Z,223nm,0.9s,mb5.4							
TBI	**Tubuai**	**26.15**	**110**	*e*S		**S**	**00 52 52.4**	**+0.3**
	comp=Z,506nm,25.2s							
QRZ	**Quartz Range**	**26.41**	**199**	*e*PN		**P**	**00 48 49.1**	**-0.6**
THZ	**Tophouse**	**27.14**	**198**	*e*PN		**P**	**00 48 54.5**	**-1.8**
PMOR	**Pomariorio Ree**	**27.31**	**91**	*e*P		**P**	**00 48 57.5**	**-0.3**
	comp=Z,202nm,0.9s,mb5.4							
VAH	**Vaihoa**	**27.54**	**92**	*e*P		**P**	**00 48 59.2**	**-0.6**
	comp=Z,128nm,0.8s,mb5.2							
LTZ	**Lake Taylor**	**28.27**	**198**	*e*PN		**P**	**00 49 03.9**	**-2.3**
RPZ	**Rata Peaks**	**29.48**	**199**	P		**P**	**00 49 15.5**	**-1.4**
	comp=Z,4.6nm,0.3s,mb4.2,baz=32,slow=0.3,SNR=4.3							
ARMA	**Armidale**	**32.60**	**239**	*e*P		**P**	**00 49 45.0**	**+1.0**
CTA	**Charters Tower**	**35.81**	**258**	*e*P		**P**	**00 50 11.4**	**+0.1**
	comp=Z,24nm,0.6s,mb4.6							
CTA	**Charters Tower**	**35.81**	**258**	P		**P**	**00 50 10.9**	**-0.4**
	comp=Z,25nm,0.6s,mb4.6,baz=91,slow=9.9,SNR=38							
CTA	**Charters Tower**	**35.81**	**258**	P		**P**	**00 50 10.9**	**-0.4**
CTA				pmax	pmax			
	comp=Z,25nm,0.6s							
CTAO	**Charters Tower**	**35.81**	**258**	*e*P		**P**	**00 50 11.9**	**+0.6**
CTAO				*e**PP	pP		00 51 22.2	+2.2
CTAO				*e*			00 52 30.9	
CTAO				pmax	pmax			
	comp=Z,26nm,0.6s,mb4.6							
CTAO	**Charters Tower**	**35.81**	**258**	*e*P		**P**	**00 50 11.9**	**+0.6**
	comp=Z,26nm,0.6s,mb4.6							
CTAO				*e*pP	pP		00 51 22.2	+2.2
CTAO				*e*PcP	PcP		00 52 30.9	+1.1
CNB	**Canberra Magne**	**36.12**	**232**	*e*P		**P**	**00 50 15.0**	**+1.2**
	comp=Z,203nm,1.5s,mb5.1							
PMG	**Port Moresby**	**36.29**	**276**	P		**P**	**00 50 17.1**	**+1.8**
	comp=Z,168nm,1.0s,mb5.2,baz=92,slow=13,SNR=15							
PMG	**Port Moresby**	**36.29**	**276**	P		**P**	**00 50 17.1**	**+1.8**
PMG				pmax	pmax			
	comp=Z,168nm,1.0s							
RKT	**Rikitea**	**39.36**	**107**	*e*S		**S**	**00 56 15.1**	**+0.6**
	comp=Z,141nm,25.0s							
TOO	**Toolangi**	**39.86**	**230**	⇓*i*P		**P**	**00 50 45.3**	**+0.5**
	comp=Z,79nm,1.2s,mb4.8							
TOO				*e*			00 52 29.9	
TOO				*e*S		**S**	**00 56 21.6**	**-0.3**
TOO	**Toolangi**	**39.86**	**230**	⇓*i*P		**P**	**00 50 45.3**	**+0.5**
TOO				*e*			00 52 29.9	
TOO				*e*S		**S**	**00 56 21.6**	**-0.3**
TOO				pmax	pmax			
	comp=Z,79nm,1.2s,mb4.8							
STKA	**Stephens Creek**	**41.28**	**240**	⇓*i*P		**P**	**00 50 56.6**	**+0.3**
	comp=Z,28nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**41.28**	**240**	P		**P**	**00 50 56.8**	**+0.5**
	comp=Z,41nm,0.6s,mb4.8,baz=93,slow=9.3,SNR=27							
WB2	**Warramunga Arr**	**47.00**	**258**	⇓*i*P		**P**	**00 51 40.8**	**-0.3**
WB2				*e*PCP	PcP	PcP	00 53 07.9	+1.1
WB2				*e*S		**S**	**00 58 02.8**	**-1.9**
WB2				*e*SCS	ScS	ScS	01 00 58.2	+2.5
WRAB	**Tennant Creek**	**47.00**	**258**	*e*P		**P**	**00 51 41.4**	**+0.2**
WRAB				pmax	pmax			
	comp=Z,60nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**47.00**	**258**	*e*P		**P**	**00 51 41.4**	**+0.2**
	comp=Z,60nm,0.8s,mb4.9							
WRA	**Warramunga Arr**	**47.01**	**258**	P		**P**	**00 51 41.0**	**-0.2**
	comp=Z,26nm,0.7s,mb4.6,baz=91,slow=6.8,SNR=172							
WRA				PcP	PcP	PcP	00 53 07.6	+0.8
	comp=Z,16nm,0.8s,baz=86,slow=4.0,SNR=9.1							
WRA				S		**S**	**00 58 02.8**	**-2.1**
	comp=Z,4.7nm,0.9s,baz=92,slow=13,SNR=9.5							
WRA	**Warramunga Arr**	**47.01**	**258**	P		**P**	**00 51 41.0**	**-0.2**
WRA							00 53 07.6	
WRA				S		**S**	**00 58 02.8**	**-2.0**
WRA				pmax	pmax			
	comp=Z,26nm,0.7s							
WRA				pmax	pmax			
	comp=Z,16nm,0.8s							
WRA				smax				
	comp=N,5.0nm,0.9s							
AS31	**Alice Springs**	**47.27**	**253**	*e*P		**P**	**00 51 43.0**	**-0.2**
AS31				*e*S		**S**	**00 58 05.5**	**-3.0**
ASAR	**Alice Springs**	**47.27**	**253**	P		**P**	**00 51 43.1**	**-0.1**
	comp=N,109nm,0.8s,mb5.1,baz=88,slow=8.0,SNR=804							
ASAR				PcP	PcP	PcP	00 53 08.6	+0.8
	comp=N,13nm,0.8s,baz=93,slow=4.5,SNR=7.2							
ASAR				S		**S**	**00 58 06.5**	**-2.1**
	comp=N,18nm,1.1s,baz=83,slow=15,SNR=20							
ASAR	**Alice Springs**	**47.27**	**253**	P		**P**	**00 51 43.1**	**-0.1**
ASAR							00 53 08.6	
ASAR				S		**S**	**00 58 06.5**	**-2.0**
ASAR				pmax	pmax			
	comp=Z,109nm,0.8s							
ASAR				pmax	pmax			
	comp=Z,13nm,0.8s							
ASAR				smax				
	comp=N,18nm,1.1s							
ASPA	**Alice Springs**	**47.28**	**253**	*e*P		**P**	**00 51 43.0**	**-0.3**
ASPA				*e*S		**S**	**00 58 05.5**	**-3.1**
GUMO	**Guam**	**48.52**	**305**	P		**P**	**00 51 54.4**	**+1.7**
	comp=N,414nm,1.1s,mb5.6,baz=168,slow=8.0,SNR=8.5							
GUMO	**Guam**	**48.52**	**305**	P		**P**	**00 51 54.4**	**+1.7**
GUMO				pmax	pmax			
	comp=Z,414nm,1.1s,mb5.6							
KAKA	**Kakadu**	**49.73**	**267**	*e*P		**P**	**00 52 01.9**	**+0.2**
	comp=Z,32nm,0.6s,mb4.7							
KAKA				*e*			00 52 06.7	
KAKA				*e*S		**S**	**00 58 43.7**	**+1.2**
FORT	**Forrest**	**52.63**	**243**	*e*P		**P**	**00 52 22.0**	**-1.0**
	comp=Z,99nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**55.38**	**259**	*e*P		**P**	**00 52 43.2**	**+0.5**
	comp=Z,12nm,0.4s,mb4.6							
FITZ				*e*			00 52 48.6	
FITZ	**Fitzroy Crossi**	**55.38**	**259**	S		**S**	**01 00 00.3**	**+1.7**
	comp=Z,5.1nm,1.1s,baz=281,slow=19,SNR=11							
KLBR	**Kellerberrin**	**61.46**	**243**	*e*P		**P**	**00 53 24.1**	**-0.2**
	comp=Z,28nm,0.6s,mb4.9							
SBA	**Scott Base**	**62.25**	**184**	*e*P		**P**	**00 53 31.0**	**+1.5**
SBA				*e*			00 54 05.8	
SBA				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.4							
SBA	**Scott Base**	**62.25**	**184**	*e*P		**P**	**00 53 30.9**	**+1.4**
	comp=Z,12nm,0.9s,mb4.4							
SBA				*e*PcP	PcP	PcP	00 54 05.8	+0.2
VNDA	**Vanda**	**62.32**	**185**	P		**P**	**00 53 30.8**	**+0.8**
	comp=Z,2.5nm,0.8s,baz=10.0,slow=5.1,SNR=14							
VNDA	**Vanda**	**62.32**	**185**	*e*P		**P**	**00 53 31.3**	**+1.4**
VNDA				*e*		pP	00 54 50.1	+2.5
MUN	**Mundaring**	**62.76**	**242**	*e*P		**P**	**00 53 33.9**	**+1.1**
JHJ	**Hachijo jima 2**	**64.57**	**320**	P		**P**	**00 53 43.9**	**-0.7**
	comp=Z,509nm,0.9s,baz=180,slow=7.5,SNR=13							
MJAR	**Matsushiro Arr**	**67.83**	**322**	P		**P**	**00 54 04.3**	**-0.7**
	comp=Z,50nm,0.9s,mb5.2,baz=156,slow=5.8,SNR=97							
MJAR	**Matsushiro Arr**	**67.83**	**322**	P		**P**	**00 54 04.3**	**-0.7**
MJAR				pmax	pmax			
	comp=Z,50nm,0.9s							
MAJO	**Matsushiro**	**67.83**	**322**	*e*P		**P**	**00 54 04.8**	**-0.3**
MAJO				pmax	pmax			
	comp=Z,79nm,0.9s,mb5.4							
MAJO	**Matsushiro**	**67.83**	**322**	*e*P		**P**	**00 54 04.8**	**-0.3**
	comp=Z,79nm,0.9s,mb5.4							
MAT	**Matsushiro**	**67.83**	**322**	P		**P**	**00 54 04.0**	**-1.1**
MAT				S		S	01 02 32.0	-1.5
CASY	**Casey**	**68.55**	**205**	*e*P		**P**	**00 54 09.4**	**-0.1**
JOW	**Kunigami**	**68.78**	**308**	P		**P**	**00 54 12.1**	**+1.1**
	comp=Z,48nm,0.9s,mb5.2,baz=137,slow=4.1,SNR=11							
ERM	**Erimo**	**68.98**	**329**	*e*P		**P**	**00 54 12.0**	**-0.1**
ERM				*e*			00 54 32.0	
ERM				pmax	pmax			
	comp=Z,34nm,0.8s,mb5.1							
ERM	**Erimo**	**68.98**	**329**	*e*P		**P**	**00 54 12.0**	**-0.1**
	comp=Z,34nm,0.8s,mb5.1							
ERM				*e*PcP	PcP	PcP	00 54 32.0	-1.7
SMY	**Shemya**	**69.15**	**354**	*e*P		**P**	**00 54 11.7**	**-1.4**
SMY				pmax	pmax			
	comp=Z,423nm,1.2s,mb6.0							
SMY	**Shemya**	**69.15**	**354**	*e*P		**P**	**00 54 11.7**	**-1.4**
	comp=Z,423nm,1.2s,mb6.0							
ASAJ	**Asahikawa**	**70.82**	**330**	P		**P**	**00 54 24.0**	**+0.8**
	comp=Z,94nm,0.8s,mb5.6,baz=210,slow=5.6,SNR=36							
ASAJ	**Asahikawa**	**70.82**	**330**	P		**P**	**00 54 24.0**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,94nm,0.8s							
PET	**Petropavlovsk**	**72.27**	**344**	α*i*P		**P**	**00 54 30.5**	**-1.3**
PET				*e**PP	pP		00 55 51.2	-0.8
PET				*e*S		S	01 03 23.8	-0.8
PET				pmax	pmax			
	comp=Z,90nm,0.8s,mb5.5							
PET				pmax	pmax			
	comp=Z,500nm,4.1s							
PET				pmax	pmax			
	comp=Z,300nm,14.4s							
PET				pmax	pmax			
	comp=Z,200nm,9.3s							
PET				smax				
	comp=N,300nm,16.2s							
PET				MLR	MLR			
	comp=Z,100nm,17.0s							
PET	**Petropavlovsk**	**72.27**	**344**	⇑*i*P		**P**	**00 54 30.4**	**-1.4**
SDPT	**Sand Point**	**72.51**	**9**	*e*P		**P**	**00 54 31.3**	**-1.9**
	comp=Z,245nm,0.9s,mb5.9							
NACB	**Ninganchiao**	**72.74**	**302**	*e*P		**P**	**00 54 34.3**	**-0.2**
NACB				*e*PP	PP	PP	00 57 23.2	+1.3
YSS	**Yuzh-Sakhalins**	**72.86**	**332**	⇑*e*P		**P**	**00 54 35.5**	**+0.3**
YSS				pmax	pmax			
	comp=Z,237nm,1.0s,mb5.9							
YSS	**Yuzh-Sakhalins**	**72.86**	**332**	*e*P		**P**	**00 54 35.6**	**+0.4**
YHNB	**Yeheng**	**73.14**	**303**	*e*P		**P**	**00 54 37.0**	**+0.1**
SAC	**San Andreas**	**73.60**	**42**	*e*P		**P**	**00 54 38.9**	**-0.6**
SAO	**San Andreas Ge**	**73.76**	**43**	*e*P		**P**	**00 54 41.1**	**+0.7**
SAO				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.8							
SAO	**San Andreas Ge**	**73.76**	**43**	*e*P		**P**	**00 54 41.1**	**+0.7**
	comp=Z,20nm,0.9s,mb4.8							
CHGN	**Chignik**	**73.76**	**10**	*e*P		**P**	**00 54 38.9**	**-1.5**
QSPA	**South Pole Qui**	**73.85**	**180**	*e*P		**P**	**00 54 41.1**	**+0.2**
	comp=Z,17nm,1.0s,mb4.7							
HOPS	**Hopland**	**74.03**	**40**	*e*P		**P**	**00 54 42.5**	**+0.5**
	comp=Z,23nm,0.8

NJ2 AMB AMB
comp=Z,120nm,1.2s,mb5.5
TRCR Troy Canyon 78.52 44 *e*P **P 00 55 06.6 -0.4**
BMN Battle Mountai 78.55 42 *e*P **P 00 55 07.5 +0.4**
BMN *e* 00 55 14.5
BMN *e**PP pP 00 56 30.5 +1.6
BMN *e* 00 58 10.3
BMN pmax pmax
comp=Z,26nm,0.8s,mb5.0
BMN Battle Mountai 78.55 42 *e*P **P 00 55 07.5 +0.3**
comp=Z,26nm,0.8s,mb5.0
BMN *e*PcP PcP 00 55 14.5 -0.3
BMN *e*pP pP 00 56 30.5 +1.6
BMN *e*PP PP 00 58 10.3 -0.2
HOOD Mount Hood Mea 78.67 36 *e*P **P 00 55 08.0 +0.2**
WVOR Wild Horse Val 78.77 40 P **P 00 55 08.4 +0.1**
SVW2 Sparrevohn 78.79 10 *e*P **P 00 55 06.5 -1.9**
SVW2 *e*pP pP 00 56 22.1 -8.2
OOW Octopus West 78.79 33 P **P 00 55 09.0 +0.5**
TUC Tucson 79.01 52 *e*P **P 00 55 10.7 +1.1**
TUC *e* 00 55 17.9
TUC *e**PP pP 00 56 32.0 +0.5
TUC pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TUC Tucson 79.01 52 *e*P **P 00 55 10.7 +1.0**
comp=Z,4.8nm,0.8s,mb4.3
TUC *e*PcP PcP 00 55 17.9 +1.2
TUC *e*pP pP 00 56 32.0 +0.5
OSD Olympics--Snow 79.10 33 P **P 00 55 10.5 +0.4**
GZH Guangzhou 79.14 298 P **P 00 55 11.0 +0.7**
SLKM Skilak Lake 79.26 13 *e*P **P 00 55 09.7 -1.3**
HDW Hoodsport 79.33 33 P **P 00 55 11.7 +0.3**
GNW Green Mountain 79.40 34 *e*P **P 00 55 11.6 -0.1**
LON Longmire 79.45 35 *e*P **P 00 55 11.6 -0.4**
SQM Sequim 79.60 33 P **P 00 55 13.3 +0.6**
CCUT Cedar City 79.63 46 *e*P **P 00 55 13.7 +0.7**
CCUT *e*pP pP 00 56 33.1 -1.8
VGZ Gonzales 79.67 33 P **P 00 55 12.6 -0.6**
ARUT Antelope Range 79.69 46 *e*P **P 00 55 13.6 +0.3**
KLR Kul'dur 79.73 326⇓ *i*P **P 00 55 10.2 -3.3**
KLR *e* 00 58 15.0
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,72nm,1.4s,mb5.2
PGC Sidney 79.75 32 *e*P **P 00 55 13.4 -0.2**
comp=Z,114nm,0.8s,mb5.7
DL2 Dalian 79.81 316⇑ *i*P **P 00 55 14.3 +0.4**
DL2 AP pP 00 56 34.0 -1.9
DL2 S S 01 04 48.5 +2.3
DL2 AMB AMB
comp=Z,50nm,0.9s,mb5.2
DL2 AMB AMB
comp=Z,140nm,6.5s
CN2 Changchun 79.97 321 *e*P **P 00 55 15.0 +0.2**
CN2 *e*AP pP 00 56 35.5 -1.3
CN2 *e*S S 01 04 48.5 +0.6
CN2 AMB AMB
comp=Z,90nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,200nm,6.0s
WUAZ Wupatki 80.06 49 *e*P **P 00 55 16.1 +1.0**
comp=Z,7.6nm,0.8s,mb4.5
MA2 Magadan 80.13 344*c i*P **P 00 55 14.0 -1.6**
MA2 *i* S S 01 04 46.4 -3.1
MA2 *e*PS 01 05 43.7
MA2 pmax pmax
comp=Z,15nm,1.0s,mb4.7
MA2 Magadan 80.13 344⇑ *i*P **P 00 55 14.1 -1.5**
EBG Ellensburg 80.23 35 P **P 00 55 16.0 -0.1**
TTA Tatalina 80.45 9 *e*P **P 00 55 16.7 -0.6**
TTA *e**PP pP 00 56 38.8 -0.6
TTA pmax pmax
comp=Z,165nm,1.1s,mb5.7
TTA Tatalina 80.45 9 *e*P **P 00 55 16.6 -0.6**
comp=Z,165nm,1.1s,mb5.7
TTA *e*pP pP 00 56 38.8 -0.6
PMR Palmer 80.47 13 *e*P **P 00 55 15.8 -1.6**
PMR pmax pmax
comp=Z,68nm,0.9s,mb5.4
PMR Palmer 80.47 13 *e*P **P 00 55 15.8 -1.6**
comp=Z,68nm,0.9s,mb5.4
HAWA Hanford 80.50 36 *e*P **P 00 55 17.4 -0.1**
comp=Z,3.5nm,0.8s,mb4.1
HAWA *e*pP pP 00 56 39.4 -0.3
QIZ Qiongzhong 80.69 293 P **P 00 55 20.0 +1.5**
QIZ XP sP 00 57 17.5 -1.1
QIZ S S 01 04 58.5 +3.2
QIZ XS sS 01 07 18.8 -2.3
QIZ AMB AMB
comp=Z,192nm,6.1s
BMO Blue Mountains 80.92 38 *e*P **P 00 55 19.4 -0.4**
comp=Z,21nm,0.9s,mb4.9
BMO *e*pP pP 00 56 43.0 +1.0
MSU Marysvale 80.92 46 *e*P **P 00 55 20.8 +1.1**
WTV Waterville 81.03 35 P **P 00 55 19.8 -0.6**
WHN Wuhan 81.30 305 P **P 00 55 23.0 +1.2**
DUG Dugway 81.31 44 *e*P **P 00 55 22.0 +0.2**
DUG *e**PP pP 00 56 46.1 +2.0
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
DUG Dugway 81.31 44 *e*P **P 00 55 22.0 +0.2**
comp=Z,6.7nm,0.8s,mb4.4
DUG *e*pP pP 00 56 46.1 +1.9
BGU Big Grassy Mou 81.53 43 *e*P **P 00 55 23.2 +0.3**
BGU *e*pP pP 00 56 43.9 -1.4
BGU *e*sP sP 00 57 17.8 -5.3
TMUT Trail Mountain 81.95 45 *e*P **P 00 55 26.4 +1.3**
TMUT *e*pP pP 00 56 50.5 +2.8
HLID Hailey 81.98 40 *e*P **P 00 55 25.6 +0.3**
comp=Z,27nm,0.9s,mb5.1
HLID *e*pP pP 00 56 50.1 +2.3
SPUT South Promonto 82.10 43 *e*P **P 00 55 24.9 -1.0**
HVU Hansel Valley 82.12 42 *e*P **P 00 55 26.3 +0.3**
CTU Camp Tracy 82.26 44 *e*P **P 00 55 27.1 +0.4**
comp=Z,10nm,0.6s,mb4.8
CTU *e*pP pP 00 56 49.7 +0.4
SRU San Rafael 82.34 46 *e*P **P 00 55 27.6 +0.5**
SKAG Skagway 82.39 20 *e*P **P 00 55 27.2 -0.1**
comp=Z,52nm,1.0s,mb5.3
MCK McKinley 82.44 12 *e*P **P 00 55 25.8 -1.8**
MCK pmax pmax
comp=Z,52nm,0.9s,mb5.4
MCK McKinley 82.44 12 *e*P **P 00 55 25.8 -1.8**
comp=Z,52nm,0.9s,mb5.4
DAU Daniels Canyon 82.45 44 *e*P **P 00 55 28.6 +0.9**
SEY Seymchan 82.61 346⇑ *e*P **P 00 55 27.2 -1.3**
LAZ Ladron 82.67 51 *e*P **P 00 55 29.7 +0.9**
LAZ *e*pP pP 00 56 55.9 +4.4
TCUT Toone Canyon 82.69 44 *e*P **P 00 55 29.5 +0.6**
LENM Lemitar 82.69 51 *e*P **P 00 55 29.8 +0.9**
HWUT Hardware Ranch 82.82 43 *e*P **P 00 55 29.3 -0.3**
comp=Z,18nm,0.7s,mb5.0
MENT Mentasta 82.87 14 *e*P **P 00 55 28.6 -1.2**
MVCO Mesa Verde 82.89 48 *e*P **P 00 55 29.4 -0.5**
MNTX Cornudas Mount 82.89 54 *e*P **P 00 55 30.7 +0.8**
comp=Z,12nm,0.6s,mb4.9
NEW Newport 82.91 35 *e*P **P 00 55 29.0 -1.0**
NEW pmax pmax
comp=Z,13nm,0.8s
NEW Newport 82.91 35 *e*P **P 00 55 29.0 -1.0**
comp=Z,13nm,0.8s,mb4.8
LPM Los Pinos Moun 83.01 51 *e*P **P 00 55 31.6 +1.0**
PV10 Paradox Valley 83.03 47 *e*P **P 00 55 30.5 -0.2**
PV10 *e*pP pP 00 56 52.4 -1.0
PV10 *e*sP sP 00 57 32.9 +1.8
PV01 Paradox Valley 83.25 47 *e*P **P 00 55 31.9 +0.2**
PV01 *e*pP pP 00 56 56.2 +1.7
ANMO Albuquerque 83.41 51 *e*P **P 00 55 33.3 +0.8**
ANMO *e**PP pP 00 56 54.9 -0.5
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 83.41 51 *e*P **P 00 55 33.3 +0.7**
comp=Z,8.5nm,0.9s,mb4.6
ANMO *e*pP pP 00 56 54.9 -0.5
MCMT McKenzie Canyo 83.59 40 P **P 00 55 33.9 +0.5**
COLA College 83.67 12⇑ *i*P **P 00 55 31.9 -2.0**
IMA2 Indian Mountai 83.75 9 *e*P **P 00 55 33.2 -1.0**
RRI2 Red Ridge 83.82 42 *e*P **P 00 55 39.7 +5.1**
comp=Z,13nm,0.6s,mb5.0
RRI2 *e*pP pP 00 56 55.5 -2.0
RRI2 *e*sP sP 00 57 38.8 +3.6
MSO Missoula 83.96 38 *e*P **P 00 55 34.4 -0.9**
comp=Z,8.7nm,0.9s,mb4.6
MSO *e*pP pP 00 57 04.0 +5.7
DLMT Dillon 84.02 39 *e*P **P 00 55 35.8 +0.2**
comp=Z,45nm,1.0s,mb5.2
DLMT *e*pP pP 00 57 01.1 +2.6
BJI Beijing 84.06 314 *e*P **P 00 55 36.3 +0.5**
BJI XP sP 00 57 35.8 -0.6
BJI S S 01 05 35.0 +5.8
BJI AMB AMB
comp=Z,73nm,1.1s,mb5.4
BJI AMB AMB
comp=Z,579nm,4.1s
BJI Beijing 84.06 314 *e*P **P 00 55 36.3 +0.5**
BJI sP sP 00 57 35.7 -0.7
BJI S S 01 05 35.0 +5.8
BJI sS sS 01 08 32.2 +36
TPAW Teton Pass 84.13 42 *e*P **P 00 55 36.3 +0.1**
comp=Z,7.4nm,0.6s,mb4.7
TPAW *e*pP pP 00 56 58.1 -1.0
REDW Red Top Meadow 84.13 42 *e*P **P 00 55 36.3 +0.2**
comp=Z,57nm,1.5s,mb5.2
REDW *e*pP pP 00 56 57.7 -1.4
SNOW Snow King Moun 84.24 42 *e*P **P 00 55 37.0 +0.3**
comp=Z,16nm,0.8s,mb4.9
IMW Indian Meadow 84.33 41 *e*P **P 00 55 37.5 +0.4**
comp=Z,21nm,0.7s,mb5.1
IMW *e*PcP PcP 00 55 40.0 -0.1
IMW *e*pP pP 00 57 02.3 +2.1
MOOW Moose Ponds 84.38 41 *e*P **P 00 55 37.3 -0.1**
comp=Z,6.4nm,0.8s,mb4.5
LOHW Long Hollow 84.41 42 *e*P **P 00 55 37.4 -0.1**
comp=Z,11nm,1.0s,mb4.6
LOHW *e*pP pP 00 57 00.5 -0.1
CHMT Chamberlain Mo 84.41 38 *e*P **P 00 55 36.9 -0.6**
CHMT *e*pP pP 00 57 00.8 +0.2
QLMT Earthquake Lak 84.47 40 *e*P **P 00 55 38.8 +0.9**
PMSA Palmer Station 84.55 157 P **P 00 55 38.2 0.0**
comp=Z,7.2nm,0.8s,mb4.5,baz=204,slow=7.6,SNR=4.1
FLWY Flagg Ranch 84.57 41 *e*P **P 00 55 38.8 +0.4**
comp=Z,18nm,0.8s,mb5.0
FLWY *e*PcP PcP 00 55 41.7 +0.6
FLWY *e*pP pP 00 57 02.0 +0.5
YFT Old Faithful 84.66 41 *e*P **P 00 55 40.6 +1.8**
YFT *e*pP pP 00 57 01.5 -0.4
PDAR Pinedale Array 84.69 43 P **P 00 55 38.5 -0.4**
comp=Z,9.7nm,0.6s,mb4.8,baz=218,slow=3.1,SNR=70
PDAR PKKP PKKPbc 01 13 46.8 +1.0
comp=Z,0.7nm,0.8s,baz=68,slow=4.0,SNR=5.7
BOZ Bozeman (W) 84.75 40 *e*P **P 00 55 39.2 0.0**
BOZ *e**PP pP 00 57 02.7 +0.4
BOZ pmax pmax
comp=Z,21nm,0.9s,mb5.0
BOZ Bozeman (W) 84.75 40 *e*P **P 00 55 39.2 0.0**
comp=Z,21nm,0.9s,mb5.0
BOZ *e*pP pP 00 57 02.6 +0.3
SMCO Snowmass 84.83 47 *e*P **P 00 55 39.9 +0.2**
comp=Z,12nm,0.9s,mb4.7
SMCO *e*pP pP 00 57 05.7 +2.9
DAWY Dawson 84.89 15 *e*P **P 00 55 39.1 -0.8**
DAWY *e*pP pP 00 57 00.4 -2.7
YNR Norris Junctio 84.89 41 *e*P **P 00 55 41.2 +1.3**
BILL Bilibino 84.96 353*c i*P **P 00 55 39.0 -1.3**
BILL *e* 00 59 01.3
BILL pmax pmax
comp=Z,258nm,1.0s,mb6.0
BILL Bilibino 84.96 353⇑ *i*P **P 00 55 39.1 -1.2**
EGAK Eagle 85.04 14 *e*P **P 00 55 39.5 -1.2**
WALA Waterton Lakes 85.14 36 *e*P **P 00 55 40.7 -0.4**
comp=Z,18nm,0.9s,mb4.9
SDCO Great Sand Dun 85.27 49 *e*P **P 00 55 41.5 -0.3**
comp=Z,6.1nm,0.9s,mb4.4
SDCO *e*pP pP 00 57 06.8 +1.8
PSI Prapat 85.83 274 P **P 00 55 44.8 +0.3**
comp=Z,21nm,1.0s,mb4.9,baz=177,slow=4.9,SNR=16
PSI Prapat 85.83 274 P **P 00 55 44.8 +0.3**
PSI pmax pmax
comp=Z,21nm,1.0s,mb4.9
RLMT Red Lodge 85.96 41 *e*P **P 00 55 45.4 +0.2**
ISCO Idaho Springs 86.05 47 *e*P **P 00 55 45.7 +0.1**
ISCO *e**PP pP 00 57 10.2 +1.2
ISCO pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
ISCO Idaho Springs 86.05 47 *e*P **P 00 55 45.7 +0.1**
comp=Z,2.4nm,0.7s,mb4.1
ISCO *e*pP pP 00 57 10.2 +1.2
MAW Mawson 86.16 199 *e*P **P 00 55 46.3 +0.2**
comp=Z,8.7nm,0.9s,mb4.6
MAW Mawson 86.16 199 P **P 00 55 45.7 -0.4**
comp=Z,11nm,0.9s,mb4.7,baz=124,slow=6.2,SNR=25
MAW Mawson 86.16 199 P **P 00 55 45.7 -0.4**
MAW pmax pmax
comp=Z,11nm,0.9s
MAW Mawson 86.16 199 *e*P **P 00 55 46.2 +0.1**
HIA Hailar 86.21 324⇑ *i*P **P 00 55 45.9 -0.4**
JCT Junction City 86.86 57 *e*P **P 00 55 49.6 +0.1**
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
JCT Junction City 86.86 57 *e*P **P 00 55 49.6 +0.1**
comp=Z,4.6nm,0.6s,mb4.5
XAN Xi'an 86.90 307 P **P 00 55 50.5 +0.8**
XAN AMB AMB
comp=Z,102nm,1.2s,mb5.5
HHC Hu-ho-hao-te 87.59 314 *e*P **P 00 55 53.3 +0.4**
HHC AP pP 00 57 15.8 -0.8
HHC XP sP 00 57 51.0 -3.1
HHC PP PP 00 59 26.5 +2.7
HHC AMB AMB
comp=Z,49nm,0.8s,mb5.4
HHC AMB AMB
comp=Z,204nm,4.9s
HHC LR LR
comp=N,88nm,5.5s
HHC LR LR
comp=E,109nm,4.3s
HHC LR LR
comp=Z,89nm,6.7s
EDM Edmonton 87.60 32 *e*P **P 00 55 52.1 -0.9**
CLNS Chul'man 87.63 332 *e*P **P 00 55 52.9 -0.2**
CLNS pmax pmax
comp=Z,59nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,55nm,0.9s
CLNS pmax pmax
comp=E,32nm,0.9s
LAO LASA Array 88.56 40 *e*P **P 00 55 58.0 +0.5**
comp=E,38nm,0.8s,mb5.3
LAO *e*pP pP 00 57 20.8 -0.6
BTO Baotou 88.57 313 *e*P **P 00 55 57.3 -0.2**
BTO AMB AMB
comp=Z,14nm,1.7s,mb4.5
YAK Yakutsk 88.78 338⇑ *e*P **P 00 55 56.3 -2.2**
YAK pmax pmax
comp=Z,103nm,0.9s,mb5.7
YAK Yakutsk 88.78 338⇑ *e*P **P 00 55 56.4 -2.1**
RSSD Black Hills 88.89 43 *e*P **P 00 55 58.6 -0.4**
RSSD pmax pmax
comp=Z,14nm,0.8s,mb4.8
RSSD Black Hills 88.89 43 *e*P **P 00 55 58.5 -0.5**
comp=Z,14nm,0.8s,mb4.8
RSSD *e*pP pP 00 57 24.7 +1.6
KMI Kunming 88.93 296 P **P 00 56 01.3 +2.1**
KMI AP pP 00 57 24.3 +1.1
KMI XP sP 00 58 03.8 +3.2
KMI PP PP 00 59 36.3 +1.8
KMI PPP 01 01 42.0
KMI S S 01 06 13.3 -2.3
KMI XS sS 01 08 46.3 +1.7
KMI SS SS 01 12 20.8 +3.1
KMI SSS 01 15 55.1
KMI AMB AMB
comp=Z,50nm,1.2s,mb5.2
KMI AMB AMB
comp=Z,289nm,4.7s
KMI LR LR
comp=N,186nm,18.2s
KMI LR LR
comp=E,114nm,26.1s
KMI LR LR
comp=Z,125nm,33.2s
KMI Kunming 88.93 296 P **P 00 56 01.3 +2.1**
KMI *e**PP pP 00 57 24.2 +1.0
KMI 00 59 36.3
KMI PPP 01 01 42.0
KMI S S 01 06 13.2 -2.4
KMI SS SS 01 12 20.8 +3.1
KMI SSS 01 15 55.1
KMI Kunming 88.93 296 P **P 00 56 01.0 +2.1**
KMI pP pP 00 57 24.2 +1.0
KMI sP sP 00 58 03.8 +3.2
KMI PP PP 00 59 36.3 +1.8
KMI PPP 01 01 42.0
KMI S S 01 06 13.2 -2.4
KMI sS sS 01 08 46.3 +1.7
KMI SS SS 01 12 20.8 +3.1
KMI SSS 01 15 55.1
INK Inuvik 89.71 15 *e*P **P 00 56 01.0 -1.8**
INK pmax pmax
comp=Z,25nm,1.2s
INK Inuvik 89.71 15 *e*P **P 00 56 00.9 -1.9**
comp=Z,25nm,1.2s,mb5.0
INK *e*pP pP 00 57 28.1 +1.3
CD2 Chengdu 89.91 302 P **P 00 56 05.5 +1.7**
CD2 AP pP 00 57 28.3 +0.4
CD2 XP sP 00 58 02.3 -2.9
CD2 S S 01 06 29.3 +4.7
CD2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,80nm,4.6s
CHTO Chiang Mai 90.39 289 P **P 00 56 08.1 +2.1**
SNR=7.0
CHTO Chiang Mai 90.39 289 *e*P **P 00 56 07.6 +1.6**
CHTO pmax pmax
comp=Z,23nm,0.8s,mb5.2
CHTO Chiang Mai 90.39 289 *e*P **P 00 56 07.5 +1.6**
comp=Z,23nm,0.8s,mb5.2
DGMT Dagmar 90.56 39 *e*P **P 00 56 07.0 +0.3**
comp=Z,61nm,0.9s,mb5.5
CIT Chita 90.98 324 *e*P **P 00 56 09.0 +0.3**
CIT pmax pmax
comp=Z,149nm,1.3s,mb5.8
PLCA Paso Flores 90.98 133 PKKPbc PKKPbc 01 13 30.9 +0.2
comp=Z,2.0nm,0.8s,baz=135,slow=1.4,SNR=5.4
SYO Syowa Base 91.27 192⇓ *e*P **P 00 56 08.6 -1.4**
LZH Lanzhou 91.52 307⇑ P **P 00 56 12.3 +1.1**
LZH AP pP 00 57 33.0 -2.4
LZH XP sP 00 58 07.5 -5.2
LZH AMB AMB
comp=Z,84nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,170nm,4.2s
LZH Lanzhou 91.52 307⇑ P **P 00 56 12.2 +1.0**
LZH *PP pP 00 57 33.0 -2.4
LZH *SP sP 00 58 07.5 -5.2
LZH 01 00 02.0
LZH *e* 01 06 09.5
LZH *e*S S 01 06 39.0 0.0
LZH *e*SS SS 01 13 01.5 +6.6
LZH Lanzhou 91.52 307⇑ P **P 00 56 12.2 +1.0**
LZH pP pP 00 57 33.0 -2.4
LZH sP sP 00 58 07.5 -5.2
LZH PP PP 01 00 02.0 +7.2
LZH *e*SKS 01 06 09.5
LZH *e*S S 01 06 39.0 0.0
LZH sS sS 01 09 04.6 -4.4
LZH *e*SS SS 01 13 01.5 +6.6
YKA Yellowknife Ar 91.92 24 P **P 00 56 11.6 -1.4**
comp=Z,6.2nm,0.8s,mb4.6,baz=237,slow=4.7,SNR=23
YKA Yellowknife Ar 91.92 24 P **P 00 56 11.6 -1.4**
YKA pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 92.23 178 *e*P **P 00 56 13.6 -0.9**
SNAA *e* 00 56 14.2
SNAA *e* 00 56 28.6
SNAA *e* 00 56 32.0
SNAA *e* pP 00 57 38.7 0.0
SNAA *e* pP 00 57 41.5 +2.8
SNAA *e* 00 57 44.4
SNAA Sanae 92.23 178 *e*P **P 00 56 13.6 -0.9**
SNAA pmax pmax
comp=Z,4.0nm,1.0s
SNAA Sanae 92.23 178 *e*P **P 00 56 13.6 -0.9**
comp=Z,3.9nm,1.0s,mb4.3
KSU1 Kansas State U 92.26 50 *e*P **P 00 56 14.9 +0.3**
VNA3 Neumayer Olymp 92.29 176 *e*P **P 00 56 14.3 -0.5**
VNA3 *e* 00 56 30.0
VNA3 *e* pP 00 57 40.3 +1.3
VNA3 *e* pP 00 57 43.5 +4.5
VNA1 Neumayer--Stat 92.97 176 *e*P **P 00 56 18.6 +0.7**
VNA1 *e* 00 56 19.0
VNA1 *e* pP 00 57 43.0 +0.9
VNA1 *e* pP 00 57 47.5 +5.4
MIAR Mount Ida 93.16 55 *e*P **P 00 56 18.9 +0.2**
MIAR pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MIAR Mount Ida 93.16 55 *e*P **P 00 56 18.9 +0.2**
comp=Z,5.9nm,0.9s,mb4.6
BOD Bodaibo 93.23 330⇓ *i*P **P 00 56 17.2 -1.9**
BOD pmax pmax
comp=Z,15nm,1.0s,mb5.0
SONM Songino Array 93.63 319 P **P 00 56 20.7 -0.2**
comp=Z,7.5nm,0.8s,mb4.8,baz=134,slow=5.2,SNR=38
SONM Songino Array 93.63 319 P **P 00 56 20.7 -0.2**
SONM pmax pmax
comp=Z,8.0nm,0.8s
ECSD EROS,Sioux Fal 93.75 46 *e*P **P 00 56 20.5 -1.0**
TIXI Tiksi 95.05 345⇑ *e*P **P 00 56 25.1 -2.3**
GTA Gaotai 95.56 309⇑ P **P 00 56 30.0 +0.3**
GTA AP pP 00 57 51.3 -2.8
GTA XP sP 00 58 26.8 -4.6
GTA PP PP 01 00 26.3 +0.1
GTA SKS 01 06 30.3
GTA S S 01 07 11.0 -3.3
GTA PS PS 01 09 20.0 -1.5
GTA XS sS 01 09 38.0 -7.4
GTA SS SS 01 13 50.0 -2.3
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,69nm,5.7s
GTA LR LR
comp=N,72nm,21.0s
GTA LR LR
comp=E,77nm,18.7s
GTA LR LR
comp=Z,50nm,14.1s
SCIA State Center 95.58 48 *e*P **P 00 56 29.6 -0.2**
TLY Talaya 96.57 322 *e*P **P 00 56 32.8 -1.4**
TLY pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
TLY Talaya 96.57 322 *e*P **P 00 56 32.9 -1.3**
ZAL Zalesovo 108.19 322 PKiKP PKiKP 01 01 28.7 -1.7
comp=Z,1.6nm,0.4s,baz=262,slow=1.9,SNR=7.2
ZAL PP PP 01 01 54.8 -5.4
comp=Z,1.7nm,0.4s,baz=24,slow=3.1,SNR=8.1
MKAR Makanchi Array 109.44 314 Pdiff Pdif 00 57 30.6 -1.0
comp=Z,1.9nm,0.7s,baz=71,slow=5.3,SNR=12
MKAR PKiKP PKiKP 01 01 31.5 -1.2
comp=Z,5.8nm,0.7s,baz=35,slow=3.0,SNR=28
MKAR PKKPbc PKKPbc 01 12 39.5 +1.0
comp=Z,0.4nm,0.7s,baz=279,slow=4.6,SNR=4.2
TKM2 Tokmak 2 114.09 310 P PKiKP 01 01 40.9 -0.7
SNR=6.5
KBK Karagaybulak 114.57 310 P PKiKP 01 01 42.1 -0.4
SNR=5.3
USP Ospenovka 114.89 311 P PKiKP 01 01 42.4 -0.7
SNR=8.4
UCH Uchtor 114.90 309 P PKiKP 01 01 43.8 +0.6
SNR=6.3
AAK Ala-Archa 114.91 310⇑ *e*PKiKP PKPdf 01 01 42.3 -0.9
EKS2 Erkin-Say 115.44 310 P PKPdf 01 01 44.1 -0.1
SNR=6.2
BVAR Borovoye Array 116.83 322 PKP PKPdf 01 01 45.6 -1.3
comp=Z,16nm,0.7s,baz=101,slow=0.9,SNR=72
BVAR PP PP 01 02 54.1 -7.1
comp=Z,1.9nm,0.8s,baz=79,slow=9.0,SNR=2.8
BVAR Borovoye Array 116.83 322 PKiKP PKPdf 01 01 45.6 -1.2
BVAR pmax pmax
comp=Z,16nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 116.88 322⇑ *e*PKiKP PKPdf 01 01 46.0 -1.0
ZRNK Zerenda 117.66 322 *e*PKiKP PKPdf 01 01 47.0 -1.5
SVE Sverdlovsk 121.35 327⇑ *e*PKiKP PKPdf 01 01 54.9 -0.7
SVE *e* 01 03 52.0
ARU Arti 122.56 327 *i* PKiKP PKPdf 01 01 56.3 -1.6
ARU *e* 01 08 20.9
ARU Arti 122.56 327⇑ *e*PKP PKPdf 01 01 57.3 -0.6

KEV Kevo 124.56 350 ep PKPdf 01 01 55.3 -6.4
AKTK Aktyubinsk 124.90 321 PKP PKPdf 01 02 01.9 -0.5
AKTO Aktyubinsk 124.90 321 PKP PKPdf 01 02 01.9 -0.5
comp=Z,8.9nm,0.9s,baz=58,slow=2.1,SNR=14
AKTO Aktyubinsk 124.90 321 PKIKP PKPdf 01 02 01.9 -0.5
AKTO pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 124.99 351 PKP PKPdf 01 02 00.9 -1.6
comp=Z,22nm,0.6s,baz=218,slow=0.5,SNR=43
ARCES ARCESS Array B 124.99 351 PKIKP PKPdf 01 02 00.9 -1.6
ARCES pmax pmax
comp=Z,22nm,0.6s
JOF Joensuu 129.53 344 ep PKPdf 01 02 07.7 -3.5
BOSA Boshof 130.84 205 PKP PKPdf 01 02 14.9 +1.3
comp=Z,4.3nm,0.8s,baz=315,slow=1.2,SNR=11
BOSA SKPbc SKPbc 01 05 05.3 +1.9
comp=Z,2.1nm,0.7s,baz=149,slow=3.9,SNR=5.4
BOSA Boshof 130.84 205 PKIKP PKPdf 01 02 14.9 +1.2
BOSA pmax pmax
comp=Z,4.0nm,0.8s
BOSA pmax pmax
comp=N,2.0nm,0.7s
BOSA Boshof 130.84 205 PKP PKPdf 01 02 14.9 +1.3
BOSA SKPbc SKPbc 01 05 05.3 +1.9
KAF Kangasniemi 131.45 346 ep PKPdf 01 02 12.8 -2.0
FIA1 FINESS Array S 132.09 346 ePKPdf PKPdf 01 02 15.1 -1.0
FINES FINESS Array B 132.09 346 PKHKP 01 02 05.7
comp=N,2.4nm,0.6s,baz=38,slow=2.0,SNR=16
FINES PKP PKPdf 01 02 15.7 -0.3
comp=N,7.0nm,0.6s,baz=105,slow=1.7,SNR=32
FINES SKPbc SKPbc 01 05 08.4 +0.5
comp=N,7.3nm,0.7s,baz=66,slow=4.8,SNR=11
FINES FINESS Array B 132.09 346 PKHKP 01 02 05.7
FINES 01 02 15.7
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES pmax pmax
comp=N,7.0nm,0.7s
OBN Obninsk 133.70 334 ⇓ PKIKP PKPdf 01 02 17.8 -1.3
OBN i 01 04 48.8
OBN pmax pmax
comp=Z,26nm,0.9s
OBN Obninsk 133.70 334 ⇑ ePKP PKPdf 01 02 17.8 -1.3
NOA NORSAR Array B 134.90 355 PKHKP 01 02 07.1
comp=Z,2.0nm,0.6s,baz=14,slow=4.1,SNR=9.7
NOA PKP PKPdf 01 02 20.6 -0.7
comp=Z,5.6nm,0.7s,baz=14,slow=4.0,SNR=14
NOA PP PP 01 04 55.0 -5.3
comp=Z,3.4nm,1.0s,baz=10.0,slow=6.5,SNR=4.3
NOA SKPbc SKPbc 01 05 17.9 +0.8
comp=Z,7.0nm,0.9s,baz=4.1,slow=2.3,SNR=10
NOA NORSAR Array B 134.90 355 PKHKP 01 02 07.1
NOA 01 02 20.6
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA pmax pmax
comp=Z,3.0nm,1.0s
NOA pmax pmax
comp=N,7.0nm,0.9s
VRSR Storozhevoye 135.07 329 ePKIKP PKPdf 01 02 21.6 0.0
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,20nm,1.0s
HFS Hagfors 135.54 353 PKHKP 01 02 07.0
comp=Z,5.1nm,0.8s,baz=3.8,slow=2.2,SNR=11
HFS PKP PKPdf 01 02 22.2 -0.2
comp=Z,5.3nm,0.6s,baz=79,slow=3.2,SNR=11
HFS SKPbc SKPbc 01 05 19.8 +0.7
comp=Z,4.0nm,0.8s,baz=40,slow=7.5,SNR=4.5
HFS Hagfors 135.54 353 PKHKP 01 02 07.0
HFS 01 02 22.2
HFS pmax pmax
comp=Z,5.0nm,0.8s
HFS pmax pmax
comp=Z,5.0nm,0.6s
HFS pmax pmax
comp=N,4.0nm,0.8s
KONO Kongsberg 136.41 356 ⇑ ePKIKP PKPdf 01 02 22.1 -2.0
ZEI Tsey 136.76 316 ePKIKP PKPdf 01 02 26.8 +2.0
KIV Kislovodsk 137.03 318 ⇑ ePKIKP PKPdf 01 02 24.2 -1.0
GNI Garni 137.23 312 ⇑ ePKIKP PKPdf 01 02 25.0 -0.6
SUW Suwalki 139.34 342 ePHKKP 01 02 21.8
SUW e 01 02 30.4
MUD Monsted U'grnd 139.61 355 i P PKPdf 01 02 23.4 -6.6
comp=N,9.9nm,0.9s
MUD Monsted U'grnd 139.61 355 eP PKPdf 01 02 23.4 -6.6
AKASG Malin Array Be 139.96 335 PKHKP 01 02 20.0
comp=N,2.3nm,0.5s,baz=39,slow=3.9,SNR=20
AKASG PKP PKPdf 01 02 31.0 +0.4
comp=N,9.5nm,0.7s,baz=36,slow=3.5,SNR=15
AKASG PP PP 01 05 25.8 -5.7
comp=N,2.9nm,0.9s,baz=35,slow=5.7,SNR=8.1
AKASG SKPbc SKPbc 01 05 32.5 +0.8
comp=N,2.0nm,0.7s,baz=34,slow=3.8,SNR=5.6
AKASG Malin Array Be 139.96 335 PKHKP 01 02 20.0
AKASG 01 02 31.0
AKASG 01 05 32.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG pmax pmax
comp=N,2.0nm,0.7s
AKASG Malin Array Be 139.96 335 PKP 01 02 20.0
AKASG PKP PKPdf 01 02 31.0 +0.4
AKASG PP PP 01 05 25.8 -5.7
AKASG SKPbc SKPbc 01 05 32.5 +0.8
AKBB Malin Array Si 139.96 335 ePKHKP 01 02 20.7
BSD Bornholm Skovb 140.22 350 i P 01 02 23.5
BSD i 01 09 17.5
LSZ Lusaka 140.51 219 ePKHKP 01 02 25.8
LSZ e 01 02 33.9
EKA Eskdalemuir Ar 140.58 6 PKhKP 01 02 22.8
comp=N,2.8nm,0.6s,baz=343,slow=2.8,SNR=7.7
EKA Eskdalemuir Ar 140.58 6 PKHKP 01 02 22.8
EKA pmax pmax
comp=Z,3.0nm,0.6s
DCN Croghan 141.93 11 ⇑ iP PKPdf 01 02 27.8 -6.4
ELZG Elazig 141.98 313 i P PKPdf 01 02 31.6 -2.6
DLF Lyons Farm 142.11 10 ⇑ iP PKPdf 01 02 29.9 -5.6
TSUM Tsumeb 142.29 202 ePKPdf PKPdf 01 02 32.5 -2.3
TSUM eSKP 01 05 40.0
MALT Malatya 142.46 313 ⇑ iP PKPdf 01 02 32.3 -2.8
MALT Malatya 142.46 313 P PKPdf 01 02 33.1 -2.0
LVV L'vov 142.66 338 ePKHKP 01 02 30.9
KMBO Kilima Mbogo 142.73 246 PKP PKPdf 01 02 34.6 -0.9
comp=Z,22nm,0.9s,baz=67,slow=5.8,SNR=53
KMBO Kilima Mbogo 142.73 246 ePKPdf PKPdf 01 02 34.5 -1.0
KMBO PKP PKPdf 01 02 34.6 -0.9
ATAB Bozova 142.92 312 i P PKPdf 01 02 33.7 -2.2
RUE Ruedersdorf 142.94 350 ePKPbc PKPdf 01 02 31.7 -4.2
BOYT Boyabat 143.25 319 i P PKPdf 01 02 35.3 -1.2
KWP Kalwaria 143.28 339 ePKIKP PKPdf 01 02 33.9 -2.6
HLM1 Long Mynd 143.38 7 ⇑ eP PKPdf 01 02 33.3 -3.5
HLM1 Long Mynd 143.38 7 ⇑ eP PKPdf 01 02 33.3 -3.5
WIT Witteveen 143.40 357 ePKP PKPdf 01 02 34.9 -1.8
NRDL Niedersach Rie 143.44 353 ePKPbc PKPdf 01 02 33.2 -3.6
GZT Gaziantep 143.49 312 i P PKPdf 01 02 35.9 -1.0
OJC Ojcow 143.68 343 i PKPc 01 02 34.3
CTKT Corum 143.76 318 i P PKPdf 01 02 36.3 -1.1
HTR Trewern Hill 143.77 7 ⇑ eP PKPdf 01 02 35.4 -2.0
HTR Trewern Hill 143.77 7 ⇑ eP PKPdf 01 02 35.4 -2.0
IBBN Ibbenburen 143.84 356 ePKPbc PKPdf 01 02 35.2 -2.3
MCH1 Michaelchurch 143.88 7 ⇑ eP PKPdf 01 02 35.1 -2.5
MCH1 Michaelchurch 143.88 7 ⇑ eP PKPdf 01 02 35.1 -2.5
STHS Stebnicka Huta 143.95 341 i PKP PKPdf 01 02 36.3 -1.4
STHS eSKP 01 05 45.0
HSA Swansea 143.98 8 eP PKPdf 01 02 35.4 -2.3
HSA Swansea 143.98 8 eP PKPdf 01 02 35.4 -2.3
KSP Ksiaz 144.00 346 ⇑ ePKIKP PKPdf 01 02 36.3 -1.5
BURAR Bucovina Array 144.02 335 ⇓ iP PKPdf 01 02 36.8 -1.0
BURAR Bucovina Array 144.02 335 ⇓ P PKPdf 01 02 36.8 -1.0
KOLS Kolonicke sedl 144.02 339 ePKP PKPdf 01 02 36.3 -1.5
KOLS eSKP 01 05 40.0
KOLS Kolonicke sedl 144.02 339 ePKP PKPdf 01 02 36.3 -1.5
KOLS ePP PP 01 05 40.0 -16
SSW Stow on the Wo 144.04 6 eP PKPdf 01 02 36.0 -1.8
SSW Stow on the Wo 144.04 6 eP PKPdf 01 02 36.0 -1.8
CLZ Clausthal 144.05 353 ePKPbc PKPdf 01 02 36.0 -1.9
BALT Daday 144.12 321 i P PKPdf 01 02 37.8 -0.2
CLL Collm 144.20 350 ePKPbc PKPdf 01 02 36.3 -1.8
comp=Z,156nm,0.8s
CLL eSKPbc SKPbc 01 05 44.6 +2.3
CLL Collm 144.20 350 ⇑ iPKPdf PKPdf 01 02 36.4 -1.7
comp=Z,154nm,0.8s
CLL eSKPbc SKPbc 01 05 45.0 +2.7
CLL Collm 144.20 350 ⇑ iPKP PKPdf 01 02 36.4 -1.7
CLL eSKP 01 05 45.0
WTSB Winterswijk 144.24 357 ePKP PKPdf 01 02 36.4 -1.8
comp=Z,166nm,0.8s
NIE Niedzica 144.24 341 ePKP PKPdf 01 02 37.0 -1.2
RAC Raciborz 144.24 344 ePKIKP PKPdf 01 02 37.0 -1.2
HGH Gray Hill 144.26 7 ⇑ eP PKPdf 01 02 35.7 -2.5
HGH Gray Hill 144.26 7 ⇑ eP PKPdf 01 02 35.7 -2.5
UZH Uzhgorod 144.28 339 ⇓ iPKIKP PKPdf 01 02 36.8 -1.5
CRVS Cervenica-Dubn 144.32 340 i PKP PKPdf 01 02 37.3 -1.1
CRVS ePP PP 01 05 57.2 -0.5
SKP1 Kophill 144.37 5 ⇑ eP PKPdf 01 02 36.5 -2.0
SKP1 Kophill 144.37 5 ⇑ eP PKPdf 01 02 36.5 -2.0
TCR Colchester 144.38 3 eP PKPdf 01 02 36.6 -1.8
TCR Colchester 144.38 3 eP PKPdf 01 02 36.6 -1.8
UPC Upice 144.38 347 ePKP PKPdf 01 02 37.4 -1.1
BRG Berggiesshubel 144.46 349 ePKPbc PKPdf 01 02 37.2 -1.4
BRG Berggiesshubel 144.46 349 ⇑ iPKP PKPdf 01 02 37.3 -1.3
comp=Z,59nm,1.0s
BRG i 01 02 42.4
BRG comp=Z,14nm,0.7s i SKP 01 05 45.4
comp=Z,6.7nm,1.0s
DPC Dobruska-Polom 144.46 346 ePKP PKPdf 01 02 37.6 -1.0
OKC Ostrava-Krasne 144.48 344 ePKP PKPdf 01 02 37.8 -0.8
SWN1 Swindon 144.49 6 ⇑ eP PKPdf 01 02 37.2 -1.4
SWN1 Swindon 144.49 6 ⇑ eP PKPdf 01 02 37.2 -1.4
FBE Freiberg 144.52 350 ePKPbc PKPdf 01 02 37.2 -1.3
CDUG Cicekdag 144.57 317 i P PKPdf 01 02 37.6 -1.2
HTL Hartland 144.66 9 ⇑ eP PKPdf 01 02 37.6 -1.3
HTL Hartland 144.66 9 ⇑ eP PKPdf 01 02 37.6 -1.3
PVCC Panska Ves 144.67 348 ePKP PKPdf 01 02 38.2 -0.7
HEX Exmoor 144.69 8 ⇑ eP PKPdf 01 02 37.7 -1.3
HEX Exmoor 144.69 8 ⇑ eP PKPdf 01 02 37.7 -1.3
AVNT Avonos 144.69 316 i P PKPdf 01 02 39.0 0.0
MORC Moravsky Berou 144.69 345 ⇑ iP PKPdf 01 02 38.0 -1.0
MORC Moravsky Berou 144.69 345 P PKPdf 01 02 38.8 -0.2
ELDT Eldivan 144.70 319 i P PKPdf 01 02 39.4 +0.4
BUG Bochum--Univer 144.73 356 ePKPbc PKPdf 01 02 37.6 -1.5
VRI Vrincioaia 144.74 332 ⇑ iP PKPdf 01 02 38.3 -0.8
VRI Vrincioaia 144.74 332 P PKPdf 01 02 39.0 -0.1
PLOR Plostina 144.78 332 ⇓ iP PKPdf 01 02 39.2 +0.1
SWK Warminster 144.80 7 ⇑ eP PKPdf 01 02 38.1 -1.0
SWK Warminster 144.80 7 ⇑ eP PKPdf 01 02 38.1 -1.0
DESE Dese 144.82 266 i P PKPdf 01 02 42.3 +3.1
TSA1 Sevenoaks 144.92 4 ⇑ eP PKPdf 01 02 39.0 -0.4
TSA1 Sevenoaks 144.92 4 ⇑ eP PKPdf 01 02 39.0 -0.4
TIRR Tirgusor 144.97 329 ⇓ iP PKPdf 01 02 39.5 0.0
TIRR Tirgusor 144.97 329 P PKPdf 01 02 40.1 +0.6
BR131 Keskin Array S 144.99 318 ePKPdf PKPdf 01 02 39.8 +0.3
BR131 eSKPbc SKPbc 01 05 45.9 +1.8
BR131 ePP PP 01 06 02.0 +0.4
BRTR Keskin Array B 144.99 318 PKPbc PKPdf 01 02 40.3 +0.8
comp=Z,7.0nm,0.5s,baz=201,slow=20,SNR=5.9
BRTR Keskin Array B 144.99 318 PKIKP PKPdf 01 02 40.3 +0.8
BRTR pmax pmax
comp=Z,7.0nm,0.5s
KECS Kecovo 145.01 341 i PKP PKPdf 01 02 39.7 +0.2
MOX Moxa 145.06 351 ePKPbc PKPdf 01 02 39.0 -0.9
MOX Moxa 145.06 351 eP PKPdf 01 02 38.8 -0.8
comp=Z,206nm,1.1s
TFO1 Folkestone 145.11 3 eP PKPdf 01 02 39.0 -0.6
TFO1 Folkestone 145.11 3 eP PKPdf 01 02 39.0 -0.6
PRA Prague 145.13 348 PKP PKPdf 01 02 40.0 +0.3
WERD Werda 145.15 350 ePKPbc PKPbc 01 02 39.4 -0.8
TANN Tannenbergstha 145.16 350 ePKPbc PKPbc 01 02 39.5 -0.7
PRU Pruhonice 145.19 348 ePKP PKPdf 01 02 39.6 -0.2
CSA1 St Austell 145.22 10 ⇑ eP PKPdf 01 02 39.5 -0.4
CSA1 St Austell 145.22 10 ⇑ eP PKPdf 01 02 39.5 -0.4
GUNZ Gunzen 145.23 350 ePKPbc PKPbc 01 02 39.8 -0.6
DYA Yadsworthy 145.29 9 ⇑ eP PKPdf 01 02 39.4 -0.7
DYA Yadsworthy 145.29 9 ⇑ eP PKPdf 01 02 39.4 -0.7
CCA1 Carnmenellis 145.33 10 ⇑ eP PKPdf 01 02 39.7 -0.4
CCA1 Carnmenellis 145.33 10 ⇑ eP PKPdf 01 02 39.7 -0.4
NKC Novy Kostel 145.33 350 ePKP PKPdf 01 02 40.2 +0.1
CRQ2 Rosemanowes 2 145.35 10 ⇑ eP PKPdf 01 02 39.7 -0.4
CRQ2 Rosemanowes 2 145.35 10 ⇑ eP PKPdf 01 02 39.7 -0.4
VRAC Vranov 145.36 345 PKPbc PKPbc 01 02 40.7 -0.2
comp=Z,25nm,0.6s,baz=38,slow=1.9,SNR=57
VRAC Vranov 145.36 345 ⇓ iP PKPdf 01 02 40.2 +0.1
VRAC Vranov 145.36 345 P PKPdf 01 02 40.6 +0.5
SIW Isle of Wight 145.37 6 ⇑ eP PKPdf 01 02 40.1 -0.1
SIW Isle of Wight 145.37 6 ⇑ eP PKPdf 01 02 40.1 -0.1
MLR Muntele Rosu 145.38 332 PKPbc PKPbc 01 02 40.4 -0.5
comp=Z,72nm,0.8s,baz=349,slow=0.6,SNR=88
MLR Muntele Rosu 145.38 332 ⇓ iP PKPdf 01 02 39.7 -0.5
MLR Muntele Rosu 145.38 332 PKIKP PKPdf 01 02 40.4 +0.2
MLR pmax pmax
comp=Z,72nm,0.8s
MLR Muntele Rosu 145.38 332 P PKPdf 01 02 40.7 +0.5
CMA1 Manaccan 145.44 10 ⇑ eP PKPdf 01 02 40.2 -0.1
CMA1 Manaccan 145.44 10 ⇑ eP PKPdf 01 02 40.2 -0.1
ANTO Ankara 145.45 319 ⇑ iP PKPdf 01 02 41.0 +0.7
ANTO Ankara 145.45 319 P PKPdf 01 02 41.1 +0.8
SNR=16
ANTO Ankara 145.45 319 P PKPdf 01 02 42.2 +1.9
BEBN Eben Emael 145.45 358 PKP PKPdf 01 02 40.4 +0.1
HGN Heimansgroeve 145.48 358 ePKP PKPdf 01 02 40.5 +0.2
comp=Z,142nm,1.5s
UCC Uccle 145.48 359 PKP PKPdf 01 02 40.6 +0.2
SGKT Sivrigoynuk 145.50 320 i P PKPdf 01 02 40.2 -0.1
VYHS Vyhne 145.50 342 ePKP PKPdf 01 02 40.3 -0.1
MEM Membach 145.63 357 PKP PKPdf 01 02 41.0 +0.4
TREC Trest 145.64 346 ePKP PKPdf 01 02 40.4 -0.2
PSN Preselentsi 145.64 328 i P PKPdf 01 02 42.0 +1.4
DRGR 145.68 337 ⇑ iP PKPdf 01 02 41.2 +0.5
DRGR 145.68 337 P PKPdf 01 02 41.7 +1.0
PSZ Piszkesteto 145.69 341 ⇑ ePKP/F PKPdf 01 02 41.6 +0.9
PSZ Piszkesteto 145.69 341 ⇑ iP PKPdf 01 02 40.8 +0.1
PSZ Piszkesteto 145.69 341 ePKPdf PKPdf 01 02 41.7 +1.0
MENF Mencas 145.70 2 PKP PKPdf 01 02 41.1 +0.4
SNF Seneffe 145.77 359 PKP PKPdf 01 02 41.6 +0.8
VOIR 145.82 333 ⇓ iP PKPdf 01 02 41.1 +0.2
VOIR 145.82 333 ⇓ P PKPdf 01 02 41.1 +0.2
ROTZ Rotzenmuhle 145.82 350 ePKPbc PKPbc 01 02 41.6 -0.6
BCLA Clavier 145.84 358 PKP PKPdf 01 02 41.2 +0.3
SMOL Smolenice 145.88 344 ePKP PKPdf 01 02 42.8 +1.8
MTUR Matau 145.97 333 ⇓ iP PKPdf 01 02 42.2 +1.0
MTUR Matau 145.97 333 ⇓ P PKPdf 01 02 42.1 +1.0
ASF Jabal al Asfar 146.03 304 PKPbc PKPbc 01 02 43.7 +0.9
comp=Z,24nm,0.8s,baz=325,slow=1.7,SNR=64
ASF Jabal al Asfar 146.03 304 PKP2 PKPab 01 02 43.7 -0.4
ASF pmax pmax
comp=Z,24nm,0.8s
GRA1 Grafenberg Arr 146.05 351 ePKPdf PKPdf 01 02 41.5 +0.2
GRA1 ePKPbc PKPbc 01 02 42.6 -0.3
GRF Grafenberg Arr 146.05 351 ePKPdf PKPdf 01 02 41.5 +0.2
GRF ePKPbc PKPbc 01 02 42.6 -0.3
GRFO Grafenberg 146.05 351 ePKPbc PKPbc 01 02 42.4 -0.5
DOU Dourbes 146.18 359 PKP PKPdf 01 02 42.8 +1.2
KHC Kasperske Hory 146.19 348 ePKP PKPdf 01 02 41.4 -0.1
ZST Bratislava 146.26 344 ePKP2 PKPab 01 02 43.6 -1.5
ZST MLR MLR
comp=Z,100nm,19.2s
ABH Alteburg 146.26 356 PKP PKPdf 01 02 43.0 +1.3
MEST Erdemli 146.27 313 i P PKPdf 01 02 43.5 +1.8
WET Wettzell 146.31 349 ePKPdf PKPdf 01 02 41.3 -0.4
BUD Budapest 146.35 341 ⇑ ePKP/F PKPdf 01 02 43.4 +1.6
BHL Bhannes 146.35 308 eP PKPdf 01 02 44.2 +2.4
PRD Provadia 146.39 328 i P PKPdf 01 02 44.2 +2.3
RCY Rachaya 146.39 307 eP PKPdf 01 02 44.7 +2.8
CMLA Cha da Macela 146.42 45 ePKPdf PKPdf 01 02 42.3 +0.4
CMLA Cha da Macela 146.42 45 ePKPab PKPab 01 02 44.8 -0.9
TOD Tromm 146.43 354 PKP2 PKPab 01 02 43.4 -2.3
GEC2 GERESS Array S 146.44 348 ePKIKP PKPdf 01 02 41.4 -0.6
GERES GERESS Array B 146.44 348 PKP PKPdf 01 02 41.7 -0.3
comp=Z,30nm,0.8s,baz=27,slow=2.4,SNR=180
GERES PKPbc PKPbc 01 02 43.5 -0.5
comp=Z,30nm,0.8s,baz=27,slow=3.5,SNR=176
GERES GERESS Array B 146.44 348 PKIKP PKPdf 01 02 41.7 -0.3
GERES 01 02 43.5
GERES pmax pmax
comp=Z,30nm,0.8s
GERES pmax pmax
comp=Z,30nm,0.8s
RUP Ruppelstein 146.48 356 PKP2 PKPab 01 02 43.8 -2.1
WLF Walferdange 146.56 357 ePKPbc PKPbc 01 02 44.5 +0.2
WLF Walferdange 146.56 357 PKP PKPdf 01 02 44.6 +2.4
WLF Walferdange 146.56 357 ePKP PKPdf 01 02 44.5 +2.3
PKSN Nyarlorinc 146.60 340 ⇑ eP PKPdf 01 02 44.3 +2.1
PKSG 146.62 342 ⇑ eP PKPdf 01 02 43.9 +1.6
KDHN Kadinhani 146.64 317 i P PKPdf 01 02 44.1 +1.8
JVM Valle D.L. Mar 146.71 7 ⇑ eP PKPdf 01 02 43.7 +1.3
JVM Valle D.L. Mar 146.71 7 ⇑ eP PKPdf 01 02 43.7 +1.3
JSA Saint Aubin 146.74 7 ⇑ eP PKPdf 01 02 44.0 +1.5
JSA Saint Aubin 146.74 7 ⇑ eP PKPdf 01 02 44.0 +1.5
JRS Jersey 146.75 7 ⇑ eP PKPdf 01 02 43.7 +1.2
JRS Jersey 146.75 7 ⇑ eP PKPdf 01 02 43.7 +1.2
KTD Kalmit 146.78 355 PKP2 PKPab 01 02 44.5 -2.6
GZR Gura Zlata 146.81 335 ⇑ iP PKPdf 01 02 44.4 +1.8
GZR Gura Zlata 146.81 335 P PKPdf 01 02 42.5 -0.1
CONA Conrad Observa 146.83 345 ⇓ iPKPdf PKPdf 01 02 42.2 -0.4
comp=Z,107nm,2.4s,SNR=60
CONA ⇓ iPKPab PKPab 01 02 45.0 -2.3
comp=Z,107nm,2.4s
ESKT Eskisehir 146.87 320 i P PKPdf 01 02 45.0 +2.3
SOP Sopron 146.88 344 ⇓ ePKP/B PKPdf 01 02 45.2 +2.5
SOP Sopron 146.88 344 ⇑ eP PKPdf 01 02 45.2 +2.5
ZIMR 147.05 331 ⇑ iP PKPdf 01 02 45.4 +2.4
ZIMR 147.05 331 P PKPdf 01 02 45.8 +2.8
SZH Strazhica 147.07 330 i P PKPdf 01 02 45.5 +2.5
BZS Buzias 147.07 337 ⇓ iP PKPdf 01 02 43.0 0.0
BZS Buzias 147.07 337 P PKPdf 01 02 42.4 -0.7
ERMK Ermenek 147.11 314 i P PKPbc 01 02 46.1 +0.3
LANF Langenberg 147.14 355 PKP PKPdf 01 02 45.6 +2.5
STU Stuttgart 147.21 353 ePKPdf PKPdf 01 02 43.1 -0.1
STU Stuttgart 147.21 353 ePKPbc PKPbc 01 02 45.6 -0.5
CRAR CRAIOVA 147.24 333 PKP2 PKPab 01 02 46.3 -2.7
MOA Molln 147.27 347 ⇑ i PKPdf 01 02 45.9 +2.5
comp=Z,189nm,1.4s
MOA Molln 147.27 347 ⇑ iPKPdf PKPdf 01 02 42.6 -0.7
comp=Z,110nm,3.7s,SNR=46
MOA ⇑ iPKPbc PKPbc 01 02 45.9 -0.4
comp=Z,189nm,1.4s
MOA Molln 147.27 347 ⇑ iP PKPdf 01 02 42.6 -0.7
MOA i 01 02 45.9
JMB Yambol 147.33 328 eP PKPbc 01 02 46.3 -0.1
JMB Yambol 147.33 328 i P PKPbc 01 02 46.4 0.0
PVL Pavlikeni 147.40 330 i P PKPbc 01 02 47.1 +0.5
ULDT Uludag 147.52 322 i P PKPbc 01 02 47.2 +0.3
FUR Furstenfeldbru 147.53 351 ePKPbc PKPbc 01 02 46.7 -0.2
LDF La Druitiere 147.54 5 ePKIKP PKPdf 01 02 42.9 -0.9
comp=Z,13nm,0.8s
STR Strasbourg 147.54 355 PKP PKPbc 01 02 47.1 +0.1
ARSA Arzberg 147.54 345 ⇑ i PKPdf 01 02 46.2 +2.4
comp=Z,211nm,2.5s
ARSA Arzberg 147.54 345 ⇑ iPKPdf PKPdf 01 02 43.0 -0.8
comp=Z,98nm,3.5s,SNR=16
ARSA ⇑ iPKPbc PKPbc 01 02 46.2 -0.8
comp=Z,211nm,2.5s
PKSM Moragy 147.60 341 ⇓ iP PKPdf 01 02 43.6 -0.3
PKSM Moragy 147.60 341 P PKPdf 01 02 43.5 -0.4
PKSM ⇑ eP 01 02 46.6
MAMC Mammari 147.61 311 P PKPbc 01 02 47.3 +0.2
CSS Prodhromos 147.63 311 P PKPbc 01 02 47.3 +0.1
comp=Z,0.9nm,0.6s
CSS Prodhromos 147.63 311 eP PKPbc 01 02 47.0 -0.1
GRR Gorron 147.67 6 ePKIKP PKPdf 01 02 43.3 -0.7
comp=Z,200nm,0.8s
BFO Black Forest 147.74 354 ePKPdf PKPdf 01 02 43.7 -0.4
WLS Welschbruch 147.74 356 PKP PKPbc 01 02 47.3 -0.2
SPAK Spaichingen-Ko 147.92 354 PKP PKPbc 01 02 47.5 -0.4
ECH Echery 147.95 356 PKP PKPdf 01 02 47.3 +2.8
GDZ Gediz 147.97 320 i P PKPbc 01 02 48.0 0.0
LIBD Limburg 147.98 355 PKP2 PKPbc 01 02 47.7 -0.4
THEF They Montfort 148.01 357 PKP PKPdf 01 02 47.5 +2.9
SZAC Souni-Zanaja 148.05 311 P PKPbc 01 02 48.3 0.0
ALFC Alevga 148.06 312 P PKPbc 01 02 47.9 -0.4
comp=Z,3.1nm,0.5s
ISP Isparta 148.07 318 eP PKPbc 01 02 47.6 -0.7
TKTP Tekketepe 148.08 318 i P PKPbc 01 02 48.2 -0.1
KOGS Kog 148.09 344 i PKPdf PKPdf 01 02 43.4 -1.3
KOGS i PKPbc PKPbc 01 02 47.5 -0.9
KOGS i PKPab PKPab 01 02 51.7 -0.7
DIM Dimitrovgrad 148.17 328 i P PKPbc 01 02 48.6 0.0
KBA Koelnbreinsper 148.20 348 ⇑ i PKPdf 01 02 47.8 +2.9
comp=Z,63nm,1.1s
KBA Koelnbreinsper 148.20 348 ⇑ iPKPdf PKPdf 01 02 43.8 -1.1
comp=Z,81nm,3.2s,SNR=30
KBA ⇑ iPKPbc PKPbc 01 02 47.8 -0.9
comp=Z,63nm,1.1s
PERS Pernice 148.22 345 ePKPbc PKPbc 01 02 47.8 -0.9
PERS i PKPab PKPab 01 02 52.4 -0.5
FELD Feldberg im Sc 148.22 355 ⇑ eP PKPbc 01 02 48.3 -0.4
GROS Grobnik 148.28 344 i PKPbc PKPbc 01 02 47.9 -1.0
WATA Walderalm 148.29 350 ⇑ i PKPbc PKPbc 01 02 48.4 -0.5
comp=Z,43nm,1.0s
WATA Walderalm 148.29 350 ⇓ iPKPdf PKPdf 01 02 44.4 -0.6
comp=Z,12nm,1.5s,SNR=34
WATA ⇑ iPKPbc PKPbc 01 02 48.4 -0.5
comp=Z,43nm,1.0s
MOF Molkenrain 148.31 356 PKP PKPbc 01 02 48.2 -0.8
WTTA Wattenberg 148.34 350 ⇓ i PKPbc 01 02 48.9 -0.2
comp=Z,117nm,1.1s
WTTA Wattenberg 148.34 350 ⇓ iPKPdf PKPdf 01 02 44.6 -0.5
comp=Z,74nm,2.3s,SNR=56
WTTA ⇓ iPKPbc PKPbc 01 02 48.9 -0.2
comp=Z,117nm,1.1s
MOTA Moosalm 148.35 350 ⇑ i PKPbc 01 02 48.6 -0.4
comp=Z,69nm,1.1s
MOTA Moosalm 148.35 350 ⇑ i PKPab 01 02 52.5 -0.9
comp=Z,38nm,0.9s
MOTA Moosalm 148.35 350 ⇓ iPKPdf PKPdf 01 02 44.5 -0.6
comp=Z,11nm,1.3s,SNR=44
MOTA ⇑ iPKPbc PKPbc 01 02 48.6 -0.4
comp=Z,69nm,1.1s
MOTA ⇑ iPKPab PKPab 01 02 52.5 -0.9
comp=Z,38nm,0.9s
PPCY Paphos 148.38 311 P PKPdf 01 02 48.0 +2.8
BTOK Tokmak 148.41 323 i P PKPbc 01 02 48.9 -0.3
EIL Elat 148.42 301 ePKPdf PKPdf 01 02 49.2 -0.2
EIL ePKPbc PKPbc 01 02 48.9 +0.6
EIL ePKPab PKPab 01 02 54.6 +0.9
SQTA Sankt Quirin 148.46 350 ⇑ i PKPbc 01 02 49.1 -0.2
comp=Z,58nm,1.1s
SQTA Sankt Quirin 148.46 350 ⇑ iPKPdf PKPdf 01 02 44.9 -0.4
comp=Z,9.2nm,1.2s,SNR=18
SQTA ⇑ iPKPbc PKPbc 01 02 49.1 -0.2
comp=Z,58nm,1.1s
PGB Panagyurishte 148.46 331 i P PKPbc 01 02 49.3 0.0
OBKA Obir 148.47 346 ⇑ i PKPbc 01 02 48.5 +3.1
comp=Z,66nm,0.7s
OBKA Obir 148.47 346 ⇑ iPKPdf PKPdf 01 02 45.7 +0.4
comp=Z,1.6nm,0.8s,SNR=26
OBKA ⇑ iPKPbc PKPbc 01 02 48.5 -0.9
comp=Z,66nm,0.7s
KDZ Kurdzhali 148.52 328 i P PKPbc 01 02 49.2 -0.3
PLD Plovdiv 148.54 329 i P PKPbc 01 02 48.9 -0.6
DOBS Dobrina 148.58 344 ePKPbc PKPbc 01 02 48.9 -0.8
DAVA Damuels 148.59 352 ⇑ i PKPbc 01 02 49.5 -0.2
comp=Z,124nm,0.9s
DAVA Damuels 148.59 352 ⇑ iPKPdf PKPdf 01 02 46.5 +1.0
comp=Z,8.6nm,1.2s,SNR=45
DAVA ⇑ iPKPbc PKPbc 01 02 49.5 -0.2
comp=Z,124nm,0.9s
GOLS Golise 148.67 344 ePKPbc PKPbc 01 02 49.4 -0.4
BBS Basel-Blauen 148.67 355 PKP2 PKPbc 01 02 49.2 -0.7
ALN Alexandroupoli 148.74 326 eP PKPbc 01 02 49.1 -0.9
PDKS Podkum 148.78 345 i PKPbc PKPbc 01 02 49.5 -0.6
GORS Gorjuse 148.78 346 i PKPbc PKPbc 01 02 48.5 -1.7
RDO Rodhopi 148.83 327 eP PKPbc 01 02 49.8 -0.5
LOMF Lomont 148.83 356 PKP PKPbc 01 02 50.1 -0.2
RZN Rozhen 148.84 329 i P PKPbc 01 02 50.2 -0.1
VTS Vitosha 148.87 332 eP PKPbc 01 02 50.3 0.0
VTS Vitosha 148.87 332 ⇑ iP PKPdf 01 02 46.2 +0.2
VTS Vitosha 148.87 332 i P PKPbc 01 02 50.4 0.0
VTS Vitosha 148.87 332 ⇑ P PKPdf 01 02 46.2 +0.3
VTS P 01 02 50.3
VTS P 01 02 50.5
CRES Cresnjev 148.88 344 i PKPbc PKPbc 01 02 49.9 -0.5
LJU Ljubljana 148.91 345 ePKPdf PKPdf 01 02 45.4 -0.6
LJU ePKPbc PKPbc 01 02 49.9 -0.6
LJU i PKPab PKPab 01 02 54.9 -0.8

CADS	Cadrg	148.92	347	*i* PKPbc	PKPbc	01 02 49.2	-1.3
SISC	Sisak	148.96	343	iP	PKPbc	01 02 50.1	-0.4
DIVS	Divcibare	148.97	337	*e*P	PKPbc	01 02 50.5	-0.1
LOR	Lormes	149.02	360	*e*PKIKP	PKPdf	01 02 45.9	-0.3
VOY	Vojsko	149.07	346	*e*PKPdf	PKPdf	01 02 45.7	-0.6
VOY				*e*PKPbc	PKPbc	01 02 49.8	-1.1
VOJS	Vojsko	149.08	346	*i* PKPbc	PKPbc	01 02 50.0	-0.9
JAVS	Javornik	149.16	346	*i* PKPbc	PKPbc	01 02 50.4	-0.7
SSF	Saint Saulge	149.23	0	*e*PKIKP	PKPdf	01 02 46.3	-0.2
BOJS	Bojanci	149.23	344	*e*PKPdf	PKPdf	01 02 46.1	-0.4
BOJS				*i* PKPbc	PKPbc	01 02 51.1	-0.1
BRMO	Bormio	149.31	351	*i* PKP	PKPbc	01 02 51.5	+0.1
MMB	Musomiste	149.41	330	*e*P	PKPbc	01 02 51.2	-0.5
MMB	Musomiste	149.41	330	*i* P	PKPbc	01 02 51.4	-0.3
KNDS	Knezji Dol	149.43	345	*i* PKPbc	PKPbc	01 02 51.1	-0.6
KNDS				*i* PKPab	PKPab	01 02 57.1	-0.8
TUE	Stuetta	149.46	352	PKP	PKPbc	01 02 51.3	-0.5
AYVA	Ayvalik	149.48	323	*i* P	PKPbc	01 02 51.5	-0.4
KKB	Krupnik	149.50	331	*i* P	PKPbc	01 02 51.8	-0.1
MFF	Saint Martin d comp=Z,14nm,0.9s	149.51	5	*e*PKIKP	PKPdf	01 02 46.4	-0.6
NVR	Nevrokopi	149.52	329 ⇑	*i* P	PKPbc	01 02 51.5	-0.4
AKAS	Kas	149.58	316	*i* P	PKPbc	01 02 51.7	-0.4
BGF	Bois d'Agland	149.72	1	*e*PKIKP	PKPdf	01 02 46.7	-0.6
PRK	Paraskevi	149.76	324	*e*P	PKPbc	01 02 51.8	-0.7
SRS	Serrai	149.83	329	*e*P	PKPbc	01 02 51.4	-1.3
AYDN	Tasoluk	149.85	320	*i* P	PKPbc	01 02 53.0	+0.3
PLE	Pljevlja	149.86	337 ⇓	*i* PKP	PKPbc	01 02 52.8	+0.1
BLCB	Balcova	149.89	322	*e*P	PKPbc	01 02 51.6	-1.2
LOS	Limnos	149.94	326	*e*P	PKPbc	01 02 52.4	-0.5
TCF	Toulx Ste Croi	149.97	2	*e*PKIKP	PKPdf	01 02 47.3	-0.4
STIP	Stip	150.05	332	*e*P	PKPbc	01 02 52.4	-0.8
STIP	Stip	150.05	332	*e*P	PKPbc	01 02 52.3	-0.9
IVA	Berane	150.05	336 ⇓	*i* PKP	PKPbc	01 02 52.9	-0.3
UPM	Unac-Piva	150.15	337 ⇓	*i* PKP	PKPbc	01 02 52.8	-0.6
SKO	Skopje	150.16	333	*e*P	PKPbc	01 02 53.6	+0.1
SKO	Skopje	150.16	333	*e*P	PKPbc	01 02 53.7	+0.2
VAY	Valandovo	150.16	331	*e*P	PKPbc	01 02 52.1	-1.4
VAY	Valandovo	150.16	331	*e*P	PKPbc	01 02 52.0	-1.5
SOH	Sokhos	150.17	329	*e*P	PKPbc	01 02 52.1	-1.4
URLA	Izmir	150.17	322	*i* P	PKPbc	01 02 53.0	-0.5
NVLJ	Novalja	150.21	344 ⇑	*i* P	PKPbc	01 02 52.9	-0.7
OUR	Ouranopolis	150.22	328	*e*P	PKPbc	01 02 52.7	-0.9
AGO	Saint Agoulin	150.23	1	PKP	PKPbc	01 02 53.4	-0.2
PVY	Plav	150.26	335 ⇓	*i* PKP	PKPbc	01 02 53.1	-0.5
PLDF	La Plantade	150.32	0	PKP	PKPbc	01 02 53.7	-0.1
NKY	Niksic	150.45	337 ⇓	*i* PKP	PKPbc	01 02 53.9	-0.3
SMG	Samos	150.45	321	*e*P	PKPbc	01 02 53.6	-0.6
PLG	Polygyros	150.47	329	*e*P	PKPbc	01 02 52.9	-1.3
PLG	Polygyros	150.47	329 ⇑	*i* P	PKPbc	01 02 52.9	-1.3
HORT	Hortiatis	150.47	329	*e*P	PKPbc	01 02 53.0	-1.2
BDRM	Kayabasi	150.49	319	*i* P	PKPbc	01 02 53.3	-1.0
THE	Thessaloniki	150.51	329	*e*P	PKPbc	01 02 52.8	-1.5
GRG	Griva	150.53	331	*e*P	PKPbc	01 02 53.2	-1.1
PYM	Petit Puy Mans	150.53	1	PKP	PKPbc	01 02 54.4	+0.1
BRY	Bratogost	150.54	338 ⇓	*i* PKP	PKPbc	01 02 53.4	-0.9
LPL	La Plagne	150.67	356	*e*PKIKP	PKPdf	01 02 49.0	+0.2
TTG	Podgorica	150.68	336 ⇓	*i* PKP	PKPbc	01 02 54.1	-0.5
LPG	La Plagne	150.68	356	*e*PKIKP	PKPdf	01 02 49.3	+0.5
RJF	Les Rejaudoux comp=Z,20nm,1.0s	150.92	3	*e*PKIKP	PKPdf	01 02 48.9	-0.3
BUM	Brajici-Budva	150.93	337 ⇓	*i* PKP	PKPbc	01 02 54.6	-0.6
HCY	Herceg Novi	150.95	337 ⇓	*i* PKP	PKPbc	01 02 54.1	-1.2
BIA	Bitola	150.98	326	*e*P	PKPbc	01 02 53.9	-1.5
BIA	Bitola	150.98	332	*e*P	PKPbc	01 02 53.8	-1.6
GRN	Grenoble	151.00	357	PKP	PKPbc	01 02 55.7	+0.3
GDM	Grand'Maison	151.02	357	PKP	PKPbc	01 02 55.9	+0.4
LBL	Lubilhac	151.05	1	PKP	PKPbc	01 02 56.0	+0.5
ULC	Ulcinj	151.08	336 ⇓	*i* PKP	PKPbc	01 02 54.9	-0.7
BNI	Bardonecchia	151.13	356	*e*PKPdf	PKPdf	01 02 50.0	+0.5
BNI				*e*PKPbc	PKPbc	01 02 56.0	+0.3
BNI				*e*PKPab	PKPab	01 03 05.7	+0.7
AOS	Alonnisos	151.13	326	*e*P	PKPbc	01 02 55.0	-0.7
OHR	Ohrid	151.14	333	*e*P	PKPbc	01 02 54.7	-1.0
OHR	Ohrid	151.14	333	*e*P	PKPbc	01 02 54.6	-1.1
LIT	Litokhoron	151.15	329	*e*P	PKPbc	01 02 54.7	-1.1
EMAZ	Mazaricos	151.20	20	PKP	PKPbc	01 02 54.9	-0.9
LFF	La Frestale	151.24	4	*e*PKIKP	PKPdf	01 02 49.3	-0.3
ORIF	Oris-en-Rattie comp=Z,9.6nm,0.9s	151.31	357	*e*PKIKP	PKPdf	01 02 49.8	0.0
CAF	Calviac comp=Z,17nm,1.1s	151.33	3	*e*PKIKP	PKPdf	01 02 49.7	-0.1
KZN	Kozani	151.33	330	*e*P	PKPbc	01 02 55.2	-1.0
TIR	Tirane	151.34	334	*e*P	PKPbc	01 02 55.6	-0.6
XOR	Xorichti	151.35	327	*e*P	PKPbc	01 02 54.9	-1.3
NEO	Neokhori	151.38	327	*e*P	PKPbc	01 02 55.0	-1.2
STS	Santiago	151.39	19	PKIKP	PKPbc	01 02 54.9	-1.4
EPON	Pontenova	151.40	17	PKP	PKPbc	01 02 55.3	-1.0
VIVF	Saint-Julien-l	151.42	359	*e*PKIKP	PKPdf	01 02 50.1	+0.2
MBDF	Montbardon	151.45	356	*e*PKIKP	PKPdf	01 02 50.7	+0.7
VLC	Villacollemand	151.57	350	*e*PKPbc	PKPbc	01 02 55.4	-1.3
VLC				*e*PKPab	PKPab	01 03 05.7	-1.1
KARP	Karpathos	151.59	317	*e*P	PKPbc	01 02 56.8	0.0
BDI	Bagni Di Lucca	151.63	350	*i* PKIKP	PKPbc	01 02 55.0	-1.8
DOI	San Damiano	151.68	355	*i* PKIKP	PKPbc	01 02 55.1	-1.8
APE	Apeiranthos	151.65	326	*e*P	PKPbc	01 02 55.8	-1.1
APE	Apeiranthos	151.66	321	*e*P	PKPbc	01 02 55.6	-1.4
APE	Apeiranthos	151.66	321 ⇑	*i* P	PKPbc	01 02 55.3	-1.6
SURF	Saint Ours	151.69	355	PKP	PKPbc	01 02 57.6	+0.6
THL	Klokotos Trika	151.79	329	*e*P	PKPbc	01 02 55.7	-1.5
EARI	Arriondas	151.92	14	PKP	PKPbc	01 02 56.0	-1.5
PTL	Penteli	151.95	325	*e*P	PKPbc	01 02 56.5	-1.1
PII	Pisa	151.97	350	*i* PKIKP	PKPbc	01 02 55.7	-1.9
LKR	Lokris	151.98	327 ⇑	*i* P	PKPbc	01 02 56.5	-1.1
MEV	Metsovon	152.00	330	*e*P	PKPbc	01 02 58.1	+0.4
AGG	Agios Georgios	152.05	328	*e*P	PKPbc	01 02 56.6	-1.2
CSNT	Castellina Chi	152.07	348	*i* PKP	PKPbc	01 02 55.9	-1.9
TOUF	Mont Tournerai	152.12	355	PKP	PKPbc	01 02 57.9	0.0
AUTN	L'Aution	152.12	354	PKP	PKPbc	01 02 57.9	0.0
KVR	Kavouri	152.16	325	*e*P	PKPbc	01 02 56.0	-2.0
LASF	Ste Croix comp=Z,12nm,0.9s	152.21	360	*e*PKIKP	PKPdf	01 02 51.2	+0.1
LUCF	Luceram	152.23	354	PKP	PKPbc	01 02 57.7	-0.5
STOF	St-Etienne Org	152.23	357	PKP	PKPbc	01 02 58.4	+0.2
MVIF	Mont Vial	152.24	355	PKP	PKPbc	01 02 57.7	-0.5
SBF	Sospel	152.25	354	*e*PKIKP	PKPdf	01 02 50.5	-0.7
ERUA	La Rua	152.27	18	PKIKP	PKPbc	01 02 57.2	-1.1
SMRF	Simiane la Rot	152.27	357	*e*PKIKP	PKPdf	01 02 51.6	+0.4
JAN	Janina	152.28	331	*e*P	PKPbc	01 02 58.3	0.0
ELAN	Lanestosa	152.36	11	PKP	PKPbc	01 02 57.8	-0.7
REVF	Revere	152.38	354	PKP	PKPbc	01 02 58.2	-0.3
EVR	Evrytania	152.39	329	*e*P	PKPbc	01 02 58.3	-0.2
PRAF	Pradon	152.46	358	PKP	PKPbc	01 02 59.3	+0.6
TAVF	Tavernes	152.60	356	PKP	PKPbc	01 02 58.8	-0.2
FRF	La Foret Royal	152.62	355	*e*PKIKP	PKPdf	01 02 51.6	-0.1
PCAB	Cabril	152.62	19	*e*PKPbc	PKPbc	01 02 58.9	-0.1
PCAB	Cabril	152.62	19	*e*PKPab	PKPab	01 03 11.4	+0.2
IGT	Igoumenitsa	152.62	331	*e*P	PKPbc	01 02 58.2	-0.8
AQU	L'Aquila	152.65	344 ⇑	*i* P	PKPbc	01 02 58.6	-0.6
AQU	L'Aquila	152.65	344	*e*PKPdf	PKPdf	01 02 51.6	-0.2
AQU				*e*PKPbc	PKPbc	01 02 58.5	-0.6
OSSF	Osses	152.69	8	PKP	PKPbc	01 02 58.4	-0.8
EALK	Alkurruntz	152.69	8	PKP	PKPbc	01 02 58.1	-1.1
KEK	Kerkira	152.72	332	*e*P	PKPbc	01 02 58.8	-0.5
ELIZ	Elizondo	152.75	8	PKIKP	PKPbc	01 02 57.9	-1.4
NPS	Neapolis	152.77	318	*e*P	PKPbc	01 02 59.2	-0.1
ECAL	Calabor	152.80	17	PKP	PKPdf	01 02 56.0	+4.0
SJPF	Ste Jean comp=Z,10nm,1.0s	152.84	8	*e*PKIKP	PKPdf	01 02 52.2	+0.2
LMR	La Mourre	152.85	356	*e*PKIKP	PKPdf	01 02 51.5	-0.5
GELF	Grande-Etoile	152.87	357	PKP	PKPbc	01 02 59.5	-0.1
MTLF	Montolieu comp=Z,20nm,1.1s	152.91	2	*e*PKIKP	PKPdf	01 02 52.0	-0.1
LAST	Lasithi	152.92	318	*e*P	PKPbc	01 02 59.9	+0.2
PBRG	Braganca	152.92	17	*e*PKPdf	PKPdf	01 02 51.9	-0.2
PBRG	Braganca	152.92	17	*e*PKPbc	PKPbc	01 02 59.2	-0.5
PBRG	Braganca	152.92	17	*e*PKPab	PKPab	01 03 12.1	-0.4
LARF	Larrau	152.94	8	PKP	PKPbc	01 03 00.1	+0.3
XRY	Khrisi	152.95	318	*e*P	PKPbc	01 02 59.5	-0.3
EPF	Esparros comp=Z,12nm,0.8s	153.10	6	*e*PKIKP	PKPdf	01 02 52.5	+0.1
PVRL	Vila Real	153.11	19	*e*PKPdf	PKPdf	01 02 52.5	+0.1
PVRL	Vila Real	153.11	19	*e*PKPbc	PKPbc	01 03 00.1	0.0
ETSF	Etsaut comp=Z,14nm,0.8s	153.13	7	*e*PKIKP	PKPdf	01 02 52.7	+0.3
RLS	Riolos of Patr	153.22	328	*e*P	PKPbc	01 03 00.5	+0.1
MLS	Moulis	153.23	4	PKP	PKPbc	01 03 00.1	-0.3
RESF	Ens	153.32	6	PKP	PKPbc	01 03 00.8	+0.2
LRDF	Laroque-de-Fa	153.33	2	PKP	PKPbc	01 03 00.7	+0.1
PGF	Pioggiola	153.36	351	*e*PKIKP	PKPdf	01 02 52.4	-0.4
	comp=Z,32nm,1.0s						
EBIE	Bielsa	153.42	6	PKP	PKPbc	01 02 59.8	-1.0
PVIS	Viseu	153.56	20	*e*PKPdf	PKPdf	01 02 53.0	0.0
PVIS	Viseu	153.56	20	*e*PKPbc	PKPbc	01 03 00.8	-0.3
PVIS	Viseu	153.56	20	*e*PKPab	PKPab	01 03 15.0	-0.2
VAM	Vamos	153.56	320	*e*P	PKPbc	01 03 01.7	+0.6
FILF	Fillols	153.71	2	PKP	PKPbc	01 03 01.0	-0.4
EJON	La Jonquera	153.83	1	PKP	PKPbc	01 02 59.9	-1.8
MTE	Manteigas	153.96	20	*e*PKPdf	PKPdf	01 02 54.1	+0.5
MTE	Manteigas	153.96	20	*e*PKPbc	PKPbc	01 03 02.2	+0.3
MTE	Manteigas	153.96	20	*e*PKPab	PKPab	01 03 16.7	-0.2
MTE	Manteigas	153.96	20	*e*PKPdf	PKPdf	01 02 54.1	+0.5
MTE				*e*PKPbc	PKPbc	01 03 01.8	-0.1
ESAC	San Caprasio	154.30	7	PKP	PKPdf	01 02 54.5	+0.4
PTOM	Tomar	154.36	22	*e*PKPdf	PKPdf	01 02 54.4	+0.2
PTOM	Tomar	154.36	22	*e*PKPbc	PKPbc	01 03 02.5	-0.3
PTOM	Tomar	154.36	22	*e*PKPab	PKPab	01 03 18.3	-0.3
PCBR	Castelo Branco	154.48	20	*e*PKPdf	PKPdf	01 02 54.5	+0.2
PCBR	Castelo Branco	154.48	20	*e*PKPbc	PKPbc	01 03 02.5	-0.5
PCBR	Castelo Branco	154.48	20	*e*PKPab	PKPab	01 03 18.1	-1.1
PMAFR	Mafra	154.60	24	*e*PKPab	PKPab	01 03 19.7	0.0
GUD	Guadarrama	154.69	14	PKIKP	PKPdf	01 02 55.1	+0.5
EPOB	Poblet	154.83	5	PKP	PKPbc	01 03 01.3	-2.4
ETOR	Torete	154.95	10	PKIKP	PKPdf	01 02 55.2	+0.2
ERTA	Horta de San J	155.15	6	PKP	PKPdf	01 02 59.5	+4.3
PESTR	Estremoz	155.32	22	*e*PKPab	PKPab	01 03 21.9	-0.9
EVO	Evora comp=Z,37nm,1.3s	155.46	23	*e*PKIKP	PKPdf	01 02 55.5	-0.2
EMOS	Mosqueruela	155.64	8	PKP	PKPdf	01 02 57.5	+1.6
ESDC	Sonseca Array comp=Z,2.2nm,0.7s,baz=333,slow=1.3,SNR=11	155.66	15	PKP	PKPdf	01 02 56.4	+0.4
ESDC				PKPab	PKPab	01 03 24.0	-0.2
	comp=Z,3.0nm,0.6s,baz=335,slow=4.2,SNR=15						
ESDC	Sonseca Array	155.66	15	PKP	PKPdf	01 02 56.0	0.0
ESLA	Sonseca Array	155.66	15	*e*PKPdf	PKPdf	01 02 56.3	+0.3
ESLA				*e*PKPab	PKPab	01 03 23.4	-0.8
PBEJ	Beja	155.96	23	*e*PKPdf	PKPdf	01 02 56.1	-0.2
PBEJ	Beja	155.96	23	*e*PKPab	PKPab	01 03 25.8	+0.3
PTEO	Sao Teotonio	156.04	25	*e*PKPdf	PKPdf	01 02 56.5	+0.1
PTEO	Sao Teotonio	156.04	25	*e*PKPab	PKPab	01 03 25.8	-0.1
ETOS	Mallorca	156.50	2	PKP	PKPdf	01 03 00.2	+3.2
EGRO	El Granado	156.54	23	PKP	PKPdf	01 03 02.8	+5.7
EMIN	Mina Concepcio	156.62	21	PKP	PKPdf	01 02 56.9	-0.3
EADA	Adamuz	156.91	17	PKP	PKPdf	01 02 57.2	-0.3
EVIA	Vianos	156.98	13	PKIKP	PKPdf	01 02 56.5	-1.1
EBAN	Banos Encina	157.13	15	PKIKP	PKPdf	01 02 57.0	-0.8
EIBI	Ibiza	157.16	5	PKP	PKPdf	01 02 57.8	-0.1
EQES	Quesada	157.65	14	PKP	PKPdf	01 02 57.9	-0.6
ESPR	Espera	157.71	21	PKP	PKPdf	01 02 59.5	+1.0
EHUE	Huescar	157.75	13	PKIKP	PKPdf	01 02 58.0	-0.6
ECOG	Cogollos-Vega	158.02	16	PKIKP	PKPdf	01 02 57.3	-1.6
ERON	Agron	158.20	17	PKP	PKPdf	01 02 57.3	-1.8
EJIF	Jimena Fronter	158.22	20	PKIKP	PKPdf	01 02 56.0	-3.2
EMIJ	Mijas	158.34	19	PKP	PKPdf	01 03 01.3	+2.0
KEST	Kesra comp=Z,0.9nm,0.9s,baz=261,slow=4.7,SNR=3.9	159.92	347	PKP	PKPdf	01 03 01.6	+0.5
KEST				PKPab	PKPab	01 03 42.6	-0.1
	comp=Z,7.4nm,0.8s,baz=328,slow=1.0,SNR=18						
DBIC	Dimbokro	167.31	137	PKP	PKPdf	01 03 06.3	-1.6
	comp=Z,7.3nm,1.0s,baz=47,slow=3.7,SNR=5.9						
DBIC	Dimbokro	167.31	137	PKIKP	PKPdf	01 03 06.4	-1.5
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TOA0	Torodi Ar. Sit	176.36	146	*e*PKPdf	PKPdf	01 03 11.9	-0.2
TORD	Torodi Ar. Bea	176.36	146	PKP	PKPdf	01 03 11.4	-0.7
	comp=Z,6.7nm,0.8s,baz=334,slow=1.1,SNR=41						
TORD				PKPab	PKPab	01 04 55.5	0.0
	comp=Z,1.8nm,0.9s,baz=270,slow=3.0,SNR=6.2						

*IDC **29** 00:57:51.4±0.7, 1682S×172.13W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/18, mbtmp4.1/10, MS3.7/2, Ms1 3.7/2, ms1mx3.2/23, Error ellipse: s-maj=31.4km s-min=17.8km az=144.0*

*ISCJB **29** 00:57:54.4±0.5, 1656S±007×1723W±0.1, h33km, mb4.2/12, MS3.5/2, Error ellipse: s-maj=15.9km s-min=7.6km az=50.8*

*NEIC **29** 00:57:57.0±0.4, 1682S×17221W, h35km, mb4.5/4, Error ellipse: s-maj=15.5km s-min=9.8km az=142.0*

ISC 29 00:57:56.0±0.6, 1658S±007×1721W±01, h35km, n39, σ1§21/23, mb4.2/12, MS3.5/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	2.67	7	Pn	Pn	00 58 35.7	-0.9
	7.1nm,0.3s,baz=149,slow=20,SNR=5.6						
AFI				Sn	Sn	00 59 06.2	-1.5
	41nm,0.3s,baz=15,slow=23,SNR=15						
DZM	Mont Dzumac	20.95	252	P	P	01 02 34.2	-1.7
	4.9nm,0.7s,baz=31,slow=12,SNR=3.5						
DZM				LR	LR	01 09 09.0	
	comp=Z,172nm,20.1s,MS3.4,baz=61,slow=32						
PPT	Papeete	21.57	96	*e*LR	LR	01 07 23.3	
	168nm,27.2s						
TBI	Tubuai	22.32	111	*e*LR	LR	01 07 42.1	
	208nm,27.2s						
URZ	Urewera	23.59	202	P	P	01 03 01.5	-2.1
	3.7nm,0.4s,mb4.1,baz=65,slow=3.2,SNR=4.5						
HNR	Honiara	28.11	281	LR	LR	01 13 01.2	
	comp=Z,192nm,21.0s,MS3.7,baz=179,slow=32						
HNR	Honiara	28.11	281	P	P	01 03 44.0	-0.5
RKT	Rikitea	35.46	107	*e*LR	LR	01 13 48.1	
	100nm,29.5s						
STKA	Stephens Creek	44.54	241	P	P	01 06 04.5	+0.2
	4.5nm,0.8s,mb4.3,baz=100,slow=7.9,SNR=7.0						
WB2	Warramunga Arr	50.78	258	*e*P	P	01 06 53.2	+0.5
WRAB	Tennant Creek	50.78	258	*e*P	P	01 06 53.0	+0.2
	2.4nm,0.4s,mb4.5						
WRA	Warrunga Arr	50.79	258	P	P	01 06 53.0	+0.2
	1.1nm,0.3s,mb4.2,baz=96,slow=7.2,SNR=22						
AS31	Alice Springs	50.93	253	*e*P	P	01 06 54.7	+0.8
ASAR	Alice Springs	50.94	253	P	P	01 06 54.5	+0.6
	9.7nm,0.6s,mb4.9,baz=88,slow=8.5,SNR=96						
ASPA	Alice Springs	50.94	253	*e*P	P	01 06 54.7	+0.8
FITZ	Fitzroy Crossi	50.19	259	P	P	01 07 54.3	+0.8
	0.7nm,0.7s,mb3.8,baz=129,slow=13,SNR=2.9						
SBA	Scott Base	62.19	185	P	P	01 08 11.9	-1.9
VNDA	Vanda	62.34	186	P	P	01 08 14.7	-0.3
	0.7nm,0.8s,mb3.8,baz=12,slow=4.9,SNR=5.2						
VNDA	Vanda	62.34	186	*e*P	P	01 08 14.4	-0.5
	0.7nm,0.8s,mb3.8						
NWAO	Narrogin (SRO)	65.13	241	P	P	01 08 34.9	+1.6
QSPA	South Pole Qui	73.47	180	*e*P	P	01 09 24.4	-0.5
	1.6nm,0.4s,mb4.3						
NVAR	Mina Array Bea	74.38	41	P	P	01 09 33.1	+2.9
	1.6nm,0.8s,mb4.0,baz=231,slow=11,SNR=13						
MSU	Marysvale	78.40	44	*e*P	P	01 09 56.4	+3.4
PDAR	Pinedale Array	82.32	41	P	P	01 10 15.7	+1.6
	0.2nm,0.5s,mb3.4,baz=270,slow=5.1,SNR=2.8						
BOZ	Bozeman (W)	82.57	38	P	P	01 10 15.8	+0.5
	11nm,1.8s,mb4.6						
MAW	Mawson	87.07	198	P	P	01 10 36.6	-1.4
	1.8nm,0.6s,mb4.5,baz=92,slow=1.9,SNR=4.9						
ZRNK	Zerenda	120.40	322	PKPdf	PKPdf	01 16 44.4	+0.8
MALT	Malatya	145.57	315	*e*PKP	PKPdf	01 17 33.6	+3.2
KOLS	Kolonicke sedl	145.66	343	*e*PKP	pPKPdf	01 17 43.4	+1.3
MOX	Moxa	145.88	356	*e*P	PKPdf	01 17 33.7	+2.7
VYHS	Vyhne	146.93	347	*e*PKP	PKPdf	01 17 36.2	+3.4
GERES	GERESS Array B	147.47	353	PKPbc	PKPbc	01 17 38.5	+2.2
	0.8nm,0.8s,baz=48,slow=2.0,SNR=7.4						
BR131	Keskin Array S	147.85	321	*e*PKPdf	PKPdf	01 17 36.9	+2.5
BRTR	Keskin Array B	147.85	321	PKPbc	PKPbc	01 17 38.9	+1.6
	1.8nm,0.9s,baz=98,slow=2.3,SNR=8.7						
LOR	Lormes	149.22	5	*e*PKIKP	PKPdf	01 17 33.6	-2.9
	5.3nm,0.8s						
SSF	Saint Saulge	149.39	6	*e*PKIKP	PKPdf	01 17 34.1	-2.7
	6.0nm,0.9s						
LPG	La Plagne	151.15	2	*e*PKIKP	PKPdf	01 17 37.2	-2.4
LMR	La Mourre	153.31	2	*e*PKIKP	PKPdf	01 17 40.0	-2.8
TORD	Torodi Ar. Bea	173.11	119	PKPab	PKPab	01 19 29.2	+0.3
	1.6nm,0.9s,baz=253,slow=4.6,SNR=7.2						

*IDC **29** 01:07:38.0±1.0, 140N×11823E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, MS4.7/1, Ms1 4.7/1, ms1mx3.2/28, Error ellipse: s-maj=59.6km s-min=15.3km az=68.0*

*ISCJB **29** 01:07:42.6±1.9, 14N±0.1×1182E±0.2, h51km±20km, mb4.1/10, Error ellipse: s-maj=37.9km s-min=9.2km az=130.3*

*NEIC **29** 01:07:44.8±1.4, 138N×11821E, h52km±14km, mb4.1/3,*

Error ellipse: s-maj=23.7km s-min=6.2km az=65.0

ISC 29 01:07:44.5±1.6, 14N±01×1183E±02, h47km±17km, n21, σ0§84/22, mb4.1/10, Borneo

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	Kota Kinabalu	5.06	336	*e*Pn	Pn	01 08 58.6	+0.8
KKM				*e*Sn	Sn	01 09 55.3	+0.4
QIZ	Qiongzhong	19.38	335	P	Pn	01 12 05.1	-2.7
KAKA	Kakadu	19.85	135	*e*P	Pn	01 12 12.0	-1.4
	5.4nm,0.6s						
FITZ	Fitzroy Crossi	20.68	160	P	P	01 12 20.2	-0.3
	1.9nm,0.8s,baz=292,slow=5.8,SNR=12						
WRAB	Tennant Creek	26.42	144	*e*P	P	01 13 16.8	+0.1
	19nm,1.0s,mb4.6						
WRA	Warramunga Arr	26.42	144	P	P	01 13 16.6	-0.1
	9.3nm,1.1s,mb4.2,baz=325,slow=8.8,SNR=21						
WB2	Warramunga Arr	26.42	144	*e*P	P	01 13 16.5	-0.2
AS31	Alice Springs	29.18	150	P	P	01 13 42.7	+1.4
ASAR	Alice Springs	29.18	150	P	P	01 13 41.9	+0.5
	1.3nm,0.7s,mb3.8,baz=330,slow=8.4,SNR=13						
ASAR				PcP	PcP	01 16 48.1	+0.3
	0.4nm,0.5s,baz=338,slow=2.2,SNR=4.9						
NWAO	Narrogin (SRO)	34.14	182	P	P	01 14 24.5	-0.4
MJAR	Matsushiro Arr	39.55	26	P	P	01 15 10.8	-0.1
	1.7nm,0.7s,mb3.9,baz=197,slow=8.2,SNR=6.8						
MJAR	Matsushiro Arr	39.55	26	P	P	01 15 10.8	-0.1
STKA	Stephens Creek	39.79	148	P	P	01 15 13.3	+0.4
	3.4nm,0.6s,mb4.2,baz=310,slow=9.3,SNR=3.3						
STKA	Stephens Creek	39.79	148	P	P	01 15 13.3	+0.4
SONM	Songino Array	47.40	349	P	P	01 16 14.9	+0.8
	1.1nm,0.6s,mb4.0,baz=170,slow=8.3,SNR=7.4						
MKAR	Makanchi Array	55.02

comp=Z,650nm,15.6s
LZH Lanzhou 61.65 316 *e*P **P** **01 33 39.9 +0.3**
LZH pP pP 01 33 44.4 -17
LZH sP sP 01 33 49.0 -21
LZH PP PP 01 35 59.0 +2.9
LZH *e*S **S** **01 41 52.5 -3.0**
LZH sS sS 01 42 34.6 +2.8
LZH *e*SS SS 01 45 57.2 -0.9
GTA Gaotai 66.08 317 *e*P **P** **01 34 09.3 +0.5**
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb3.9
SONM Songino Array 66.83 328 P **P** **01 34 13.4 -0.1**
comp=Z,1.4nm,0.5s,mb4.0,baz=141,slow=4.8,SNR=9.4
SONM LR LR 02 01 32.8
comp=Z,205nm,21.4s,baz=295,slow=34
CASY Casey 67.38 197 P **P** **01 34 17.6 +0.6**
RKT Rikitea 71.61 112 *e*LR LR 01 56 49.8
comp=Z,196nm,27.8s
VNDA Vanda 72.19 178 P **P** **01 34 47.0 +0.4**
comp=Z,2.0nm,0.7s,mb4.1,baz=336,slow=7.0,SNR=19
VNDA LR LR 02 04 26.7
comp=Z,102nm,19.3s,baz=334,slow=34
VNDA Vanda 72.19 178 P **P** **01 34 47.0 +0.4**
VNDA LR LR 02 04 26.7
GUN Gumba 72.40 301 *e*P **P** **01 34 48.1 +0.3**
comp=Z,29nm,0.8s,mb5.2
PKI Pulchoki 72.70 301 *e*P **P** **01 34 50.3 +0.7**
SBA Scott Base 72.74 177 *e*P **P** **01 34 50.0 +0.2**
comp=Z,2.0nm,0.5s,mb4.2
KKN Kakani 72.88 301 *e*P **P** **01 34 51.0 +0.4**
DMN Daman 72.97 301 *e*P **P** **01 34 52.2 +1.0**
comp=Z,37nm,1.0s,mb5.2
GKN Gorkha 73.48 301 *e*P **P** **01 34 54.8 +0.6**
comp=Z,25nm,0.9s,mb5.1
BILL Bilibino 73.94 5 *e*P **P** **01 34 55.9 -0.9**
comp=Z,28nm,0.8s,mb5.0
KOLN Koldanda 74.31 301 *e*P **P** **01 34 59.5 +0.5**
comp=Z,16nm,0.9s,mb4.8
WMQ Urumqi 76.17 317 *e*P **P** **01 35 10.5 +0.8**
WMQ XP sP 01 35 35.0 -5.9
WMQ *e*S S 01 44 44.0 -3.0
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,153nm,5.7s
WMQ LR LR
comp=N,280nm,22.0s
WMQ LR LR
comp=E,366nm,21.2s
WMQ LR LR
comp=Z,225nm,23.0s
TTA Tatalina 78.39 21 *e*P **P** **01 35 21.2 -0.8**
PMR Palmer 80.30 24 *e*P **P** **01 35 33.7 +1.3**
MKAR Makanchi Array 80.77 319 P **P** **01 35 34.5 -0.4**
comp=Z,1.4nm,0.5s,mb4.0,baz=98,slow=7.5,SNR=8.5
MCK McKinley 81.48 23 *e*P **P** **01 35 37.4 -1.3**
comp=Z,7.9nm,1.1s,mb4.5
ZAL Zalesovo 81.66 326 P **P** **01 35 37.8 -1.9**
comp=Z,1.7nm,0.5s,mb4.1,baz=356,slow=5.1,SNR=12
ZAL LR LR 02 11 40.5
comp=Z,174nm,19.8s,baz=351,slow=36
COLA College 82.47 22 *e*P **P** **01 35 43.2 -0.8**
comp=Z,3.0nm,0.6s,mb4.3
QSPA South Pole Qui 84.52 180 *e*P **P** **01 35 54.6 +0.2**
comp=Z,5.1nm,0.6s,mb4.6
MAW Mawson 84.95 203 P **P** **01 35 56.4 -0.2**
comp=Z,1.2nm,0.6s,mb4.0,baz=44,slow=7.5,SNR=3.8
MAW LR LR 02 09 29.5
comp=Z,160nm,19.0s,baz=314,slow=32
MAW Mawson 84.95 203 *e*P **P** **01 35 57.0 +0.4**
comp=Z,1.2nm,0.5s,mb4.1
AAK Ala-Archa 85.06 314 *e*P **P** **01 35 56.9 -0.2**
comp=Z,5.3nm,0.9s,mb4.5
BBB Bella Bella 87.65 37 LR LR 02 11 22.1
comp=Z,107nm,18.1s,baz=249,slow=33
DLBC Dease Lake 87.97 31 LR LR 02 11 47.3
comp=Z,407nm,18.3s,baz=127,slow=33
INK Inuvik 89.08 21 LR LR 02 19 00.4
comp=Z,222nm,18.9s,baz=42,slow=38
YBH Yreka Blue Hor 89.53 48 LR LR 02 09 01.8
comp=Z,304nm,20.4s,baz=196,slow=31
BVAR Borovoye Array 89.72 323 P **P** **01 36 18.3 -1.3**
comp=Z,2.5nm,0.6s,mb4.5,baz=100,slow=5.5,SNR=8.6
ZRNK Zerenda 90.53 323 *e*P **P** **01 36 22.3 -1.1**
comp=Z,4.7nm,0.9s,mb4.6
NVAR Mina Array Bea 92.53 52 P **P** **01 36 34.0 +1.3**
comp=Z,0.6nm,0.6s,mb4.1,baz=251,slow=3.0,SNR=7.0
YKA Yellowknife Ar 96.03 28 LR LR 02 15 47.4
comp=Z,196nm,20.2s,baz=240,slow=33
LPIG La Paz 98.54 67 LR LR 02 17 12.1
comp=Z,95nm,18.4s,baz=174,slow=33
PDAR Pinedale Array 99.33 48 P **P** **01 37 06.0 +2.5**
comp=Z,0.2nm,0.3s,mb4.1,baz=197,slow=2.8,SNR=3.1
PDAR LR LR 02 19 49.8
comp=Z,208nm,18.7s,baz=75,slow=34
FINES FINESS Array B 111.61 336 Pdiff Pdif 01 38 01.1 +3.0
comp=Z,0.9nm,0.5s,baz=46,slow=4.0,SNR=9.8
LBTB Lobatse 120.38 237 *e*PKPdf PKPdf 01 42 15.5 +3.3
GERES GERESS Array B 124.57 328 PKP PKPdf 01 42 20.8 +0.5
comp=Z,0.5nm,0.5s,baz=52,slow=2.2,SNR=5.8
LPAZ La Paz 134.17 119 PKP PKPdf 01 42 40.9 +2.3
comp=Z,1.2nm,0.6s,baz=262,slow=4.0,SNR=10
SDV Santo Domingo 136.85 83 *e*PKPdf PKPdf 01 42 46.9 +3.4
CPUP Villa Florida 137.03 139 PKP PKPdf 01 42 46.3 +2.5
comp=Z,0.6nm,0.5s,baz=191,slow=13,SNR=3.0
TORD Torodi Ar. Bea 150.44 287 PKPbc PKPbc 01 43 13.4 +0.9
comp=Z,3.6nm,0.7s,baz=73,slow=2.1,SNR=22
BDFB Brasilia 150.66 136 PKPbc PKPbc 01 43 16.0 +3.0
comp=Z,4.5nm,0.7s,baz=169,slow=4.0,SNR=6.3
BDFB PKPab PKPab 01 43 22.8 +2.7
comp=Z,12nm,0.9s,baz=254,slow=1.3,SNR=8.9

IDC ***29*** *01:53:58.2±1.8, 4.06S×13351E, h0km, mb3.8/2, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, ML3.8/3, Error ellipse: s-maj=68.6km s-min=26.7km az=71.0*
ISCJB ***29*** *01:54:00.9±0.9, 4.19S±0.08×133.4E±0.1, h33km, mb3.8/2, Error ellipse: s-maj=18.4km s-min=10.7km az=172.7*
NEIC ***29*** *01:54:02.8±0.9, 4.12S×133.45E, h35km, mb3.9/2, Error ellipse: s-maj=24.6km s-min=11.1km az=70.0*
ISC 29 01:54:04.0±1.8, 4.23S±0.07×133.4E±0.1, h42km±17km, n11, σ0.9 97/17, mb3.8/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**15.64**	**177**	*e*	Pn	**Pn**		**01 57 41.7**	**+0.3**
	8.2nm,0.9s								
WRAB				*e*	Sn	**Sn**		**02 00 27.4**	**-6.2**
WRA	**Warramunga Arr**	**15.65**	**177**		Pn	**Pn**		**01 57 41.5**	**0.0**
	0.3nm,0.3s,baz=355,slow=13,SNR=7.7								
WRA					Sn	**Sn**		**02 00 28.4**	**-5.4**
	0.3nm,0.3s,baz=359,slow=23,SNR=7.5								
WB2	**Warramunga Arr**	**15.65**	**177**	*e*	Pn	**Pn**		**01 57 39.8**	**-1.7**
WB2				*e*	Sn	**Sn**		**02 00 29.1**	**-4.7**
FITZ	**Fitzroy Crossi**	**15.72**	**208**		Pn	**Pn**		**01 57 43.3**	**+0.9**
	0.5nm,0.3s,baz=41,slow=12,SNR=8.2								
FITZ					Sn	**Sn**		**02 00 34.6**	**-0.8**
	0.6nm,0.3s,baz=198,slow=15,SNR=7.0								
AS31	**Alice Springs**	**19.33**	**178**	*e*	P	**Pn**		**01 58 29.9**	**+2.9**
AS31				*e*	S	**S**		**02 02 02.6**	**+0.4**
ASAR	**Alice Springs**	**19.33**	**178**		P	**Pn**		**01 58 27.9**	**+0.8**
	0.3nm,0.3s,baz=5.3,slow=11,SNR=24								
ASAR					S	**S**		**02 02 01.9**	**-0.3**
	0.1nm,0.3s,baz=356,slow=26,SNR=5.7								
CTA	**Charters Tower**	**20.16**	**142**		P	**P**		**01 58 34.5**	**-0.3**
	3.9nm,0.8s,baz=325,slow=16,SNR=3.7								
CTA	**Charters Tower**	**20.16**	**142**		P	**P**		**01 58 34.5**	**-0.3**
KULM	**Kulim**	**34.00**	**286**		P	**P**		**02 00 44.2**	**+0.5**
MKAR	**Makanchi Array**	**67.82**	**325**		P	**P**		**02 04 58.0**	**+0.3**
	0.8nm,0.7s,mb3.9,baz=114,slow=8.6,SNR=5.1								
ZRNK	**Zerenda**	**78.29**	**326**	*e*	P	**P**		**02 05 58.1**	**-1.4**
	0.4nm,0.3s,mb3.8								

IDC 29 02:02:10.0±3.5, 4238N×12678W, h0km, mb3.7/1, mb1 3.7/5, mb1mx3.5/25, mbtmp3.3/5, ML3.4/4, MS3.5/2, Ms1 3.5/2, ms1mx2.7/37, Error ellipse: s-maj=44.9km s-min=20.2km az=55.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**3.10**	**101**		Pn	Pn		02 03 01.3	+1.2
	0.5nm,0.3s,baz=273,slow=11,SNR=20								
YBH					Sn	Sn		02 03 38.9	+1.1
	0.7nm,0.3s,baz=171,slow=19,SNR=8.9								
YBH					LR	LR		02 04 25.6	
	comp=Z,504nm,20.5s,baz=251,slow=44								
NVAR	**Mina Array Bea**	**7.57**	**119**		Pn	Pn		02 04 02.5	+0.9
	0.1nm,0.3s,baz=298,slow=15,SNR=4.3								
NEW	**Newport**	**8.99**	**46**		Pn	Pn		02 04 22.8	+1.7
	0.1nm,0.3s,baz=207,slow=14,SNR=2.5								
PDAR	**Pinedale Array**	**12.71**	**82**		Pn	Pn		02 05 16.0	+4.1
	0.1nm,0.3s,baz=274,slow=13,SNR=2.6								
ANMO	**Albuquerque**	**17.49**	**108**		LR	LR		02 13 44.4	
	comp=Z,222nm,18.3s,baz=8.3,slow=40								
YKA	**Yellowknife Ar**	**21.40**	**16**		P	P		02 06 59.9	+0.7
	3.1nm,0.8s,baz=206,slow=10,SNR=7.1								

PRE 29 02:09:12.6±1.2, 2096S×3315E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**3.22**	**244**	*e*	P	Pn		02 10 05.1	+1.3
MSNA				*e*	S	Sn		02 10 42.3	-0.2
MSNA					AML	AML		02 11 01.9	
	comp=Z,55nm,0.6s								
POGA	**Pongola**	**6.53**	**192**	*e*	P	Pn		02 10 49.6	+0.3
POGA				*e*	S	Sn		02 12 00.3	-3.8
POGA					AML	AML		02 12 45.3	
	comp=Z,10nm,0.5s								
LBTB	**Lobatse**	**8.04**	**238**	*e*	P	Pn		02 11 11.8	+1.7
LBTB				*e*	S	Sn		02 12 38.3	-3.1
LBTB					AML	AML		02 13 37.0	
	comp=Z,7.1nm,0.6s								
SWZ	**Schweizer**	**9.45**	**228**	*e*	P	Pn		02 11 30.8	+1.4
SWZ				*e*	S	Sn		02 13 12.0	-4.0
BOSA	**Boshof**	**10.46**	**222**	*e*	P	Pn		02 11 44.5	+1.3
BOSA				*e*	S	Sn		02 13 36.1	-4.6
BOSA					AML	AML		02 14 49.8	
	comp=Z,2.6nm,0.7s								

NIED ***29*** *02:26:00, 3790N×140.60E, h119km, Mw3.8 Best double couple: M0 5.02000×10^14 NP1:ϕs188.00000°, δ66.00000°, λ-89.00000°. NP2:ϕs5.00000°, δ24.00000°, λ-93.00000°.*
ISCJB ***29*** *02:26:08.1±0.4, 3787N±004×14059E±006, h131km±3km, mb3.7/8, Error ellipse: s-maj=8.3km s-min=5.2km az=72.3*
JMA ***29*** *02:26:09.3, 3787N×14059E, h124km±1km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs12.00000°, δ25.00000°, λ-80.00000°. NP2:ϕs180.00000°, δ66.00000°, λ-95.00000°. Principal axes: T Plg21.0000°, Azm274.0000°; N Plg4.0000°, Azm182.0000°; P Plg69.0000°, Azm81.0000°;*
JMA Felt I J1.
IDC ***29*** *02:26:10.1±1.9, 3777N×140.54E, h137km±17km, mb3.5/7, mb1 3.7/9, mb1mx3.4/21, mbtmp3.9/9 Error ellipse: s-maj=21.9km s-min=14.4km az=65.0*
NEIC ***29*** *02:26:10.1±1.4, 3782N×140.47E, h136km±13km, mb3.9/1, Error ellipse: s-maj=20.3km s-min=15.9km az=62.0*
ISC 29 02:26:09.0±0.4, 3786N±004×14060E±006, h126km±3km, n27, σ0.9 58/42, mb3.8/8, 2C-9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.16**	**89**	⇓	P	**Pn**		**02 26 26.4**	**+0.2**
JMM					S	**Sn**		**02 26 39.3**	**+0.1**
JFT	**Otama**	**0.40**	**211**	⇓	P	**Pn**		**02 26 27.3**	**+0.2**
JFT					S	**Sn**		**02 26 41.0**	**+0.3**
JOU	**Okura**	**0.50**	**6**	⇓	P	**Pn**		**02 26 28.0**	**+0.4**
JOU				*e*	S	**Sn**		**02 26 42.2**	**+0.5**
JFK	**Kawauchi**	**0.54**	**156**		P	**Pn**		**02 26 28.1**	**+0.2**
JFK					S	**Sn**		**02 26 41.8**	**-0.3**
JYS	**Shirataka**	**0.55**	**311**	⇓	P	**Pn**		**02 26 28.1**	**+0.2**
JIO	**Ouri**	**0.84**	**45**	⇑	P	**Pn**		**02 26 30.2**	**+0.1**
JIO					S	**Sn**		**02 26 45.3**	**-0.7**
JFY	**Yanaizu**	**0.84**	**237**	⇓	P	**Pn**		**02 26 30.3**	**+0.2**
JFY					S	**Sn**		**02 26 46.2**	**+0.1**
JYA	**Atsumi**	**1.00**	**317**	⇓	P	**Pn**		**02 26 31.6**	**0.0**
JYA				*e*	S	**Sn**		**02 26 48.8**	**+0.1**
JNS	**Sasagawa**	**1.01**	**268**	⇓	P	**Pn**		**02 26 31.6**	**-0.1**
JNS				*e*	S	**Sn**		**02 26 48.6**	**-0.2**
JYK	**Kaneyama**	**1.07**	**350**	⇓	P	**Pn**		**02 26 32.3**	**+0.1**
JYK				*e*	S	**Sn**		**02 26 49.6**	**-0.2**
JMK	**Ichinoseki**	**1.19**	**24**		P	**Pn**		**02 26 33.7**	**+0.2**
JMK					S	**Sn**		**02 26 51.6**	**-0.4**
JAW	**Awa shima**	**1.22**	**300**	⇓	P	**Pn**		**02 26 33.6**	**-0.1**
JAW					S	**Sn**		**02 26 51.8**	**-0.6**
JOM	**Ohasama**	**1.70**	**19**	⇑	P	**Pn**		**02 26 39.3**	**+0.2**
JOM					S	**Sn**		**02 27 01.7**	**-0.4**
MJAR	**Matsushiro Arr**	**2.32**	**236**		P	**Pn**		**02 26 47.1**	**+0.4**
	3.5nm,0.3s,baz=39,slow=11,SNR=18								
MJAR					S	**Sn**		**02 27 16.4**	**+0.8**
	2.8nm,0.3s,baz=42,slow=15,SNR=12								
MJAR	**Matsushiro Arr**	**2.32**	**236**		P	**Pn**		**02 26 47.1**	**+0.4**
MJAR					S	**Sn**		**02 27 16.4**	**+0.8**
MAJO	**Matsushiro**	**2.32**	**236**	*e*	Pn	**Pn**		**02 26 46.7**	**0.0**
MAT	**Matsushiro**	**2.32**	**236**		P	**Pn**		**02 26 46.8**	**+0.1**
MAT					S	**Sn**		**02 27 15.7**	**+0.1**
JHJ	**Hachijo jima 2**	**4.78**	**188**		P	**Pn**		**02 27 19.2**	**+0.1**
	8.9nm,0.3s,baz=72,slow=20,SNR=6.6								
JHJ					S	**Sn**		**02 28 10.6**	**-2.9**
	25nm,0.3s,baz=269,slow=23,SNR=6.7								
SONM	**Songino Array**	**26.79**	**303**		P	**P**		**02 31 36.2**	**-0.9**
	0.9nm,0.4s,mb3.6,baz=109,slow=9.0,SNR=8.0								
MKAR	**Makanchi Array**	**43.13**	**301**		P	**P**		**02 33 56.5**	**-0.3**
	2.2nm,0.6s,mb4.1,baz=82,slow=9.9,SNR=16								
ZRNK	**Zerenda**	**50.37**	**312**	*e*	P	**P**		**02 34 53.2**	**0.0**
	1.4nm,0.6s,mb4.1								
WRA	**Warramunga Arr**	**57.80**	**187**		P	**P**		**02 35 46.5**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=2.8,slow=7.3,SNR=16								
ASAR	**Alice Springs**	**61.52**	**187**		P	**P**		**02 36 12.4**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=353,slow=5.8,SNR=6.7								
NVAR	**Mina Array Bea**	**75.01**	**53**		P	**P**		**02 37 38.6**	**+2.0**
	0.6nm,0.6s,mb3.5,baz=284,slow=7.6,SNR=5.6								
PDAR	**Pinedale Array**	**77.55**	**45**		P	**P**		**02 37 51.8**	**+0.9**
	0.7nm,0.6s,mb3.6,baz=294,slow=1.5,SNR=8.0								
ULM	**Lac du Bonnet**	**79.17**	**33**		P	**P**		**02 37 58.9**	**-1.0**
	1.2nm,0.7s,mb3.9,baz=299,slow=10,SNR=2.8								
LPAZ	**La Paz**	**146.82**	**57**		PKPbc	PKPbc		02 45 37.0	+0.7
	0.8nm,0.8s,baz=328,slow=4.3,SNR=5.1								

IDC 29 02:32:17.3±6.7, 648S×14754E, h104km±61km, mb3.1/2, mb1 3.3/4, mb1mx3.1/13, mbtmp3.5/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/13, Error ellipse: s-maj=78.1km s-min=51.3km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.93**	**187**		P	Pn		02 33 00.5	-1.7
	16nm,0.3s,baz=50,slow=7.0,SNR=22								
PMG					S	Sn		02 33 38.3	+1.5
	2.9nm,0.3s,baz=229,slow=20,SNR=3.6								
CTA	**Charters Tower**	**13.59**	**185**		LR	LR		02 40 35.7	
	comp=Z,121nm,18.2s,baz=234,slow=37								
WRA	**Warramunga Arr**	**18.53**	**223**		P	P		02 36 26.0	+0.4
	0.2nm,0.3s,baz=52,slow=11,SNR=11								
ASAR	**Alice Springs**	**21.54**	**216**		P	P		02 36 58.1	+0.1
	0.4nm,0.4s,baz=52,slow=8.5,SNR=8.8								
FITZ	**Fitzroy Crossi**	**24.28**	**240**		P	P		02 37 23.8	-1.0
	1.7nm,1.0s,baz=66,slow=14,SNR=4.9								
TORD	**Torodi Ar. Bea**	**145.72**	**284**		PKPbc	PKPbc		02 51 45.4	+1.3
	0.6nm,0.6s,baz=69,slow=4.0,SNR=17								

NIED ***29*** *03:08:00, 4660N×153.40E, h32km, Mw3.9 Best double couple: M0 8.93000×10^14 NP1:ϕs75.00000°, δ76.00000°, λ-115.00000°. NP2:ϕs317.00000°, δ29.00000°, λ-31.00000°.*
ISCJB ***29*** *03:09:01.9±1.6, 4.63N±002×152.9E±003, h33km, mb4.0/11, Error ellipse: s-maj=37.4km s-min=5.7km az=98.2*
IDC ***29*** *03:09:03.9±4.7, 4723N×152.50E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, ML3.7/2, Error ellipse: s-maj=108.9km s-min=31.1km az=135.0*
NEIC ***29*** *03:09:05.6±2.0, 47.19N×152.41E, h10km, mb4.1/2, Error ellipse: s-maj=47.3km s-min=14.0km az=121.0*
ISC 29 03:09:03.5±1.6, 464N±002×153.0E±003, h35km, n24, σ1.9 27/31, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.96**	**243**		P	**Pn**		**03 10 28.4**	**-0.9**
NEM2				*e*	S	**Sn**		**03 11 35.1**	**-1.3**
JRA	**Rausu**	**6.08**	**249**		P	**Pn**		**03 10 33.2**	**+2.4**
JNK	**Nakash**	**6.50**	**248**		P	**Pn**		**03 10 37.6**	**+1.0**
JNK				*e*	S	**Sn**		**03 11 50.7**	**+1.2**
JAK	**Akkeshi**	**6.81**	**243**		P	**Pn**		**03 10 39.8**	**-1.1**
JAK				*e*	S	**Sn**		**03 11 54.8**	**-2.3**
JTKR	**Abashiri--Toko**	**6.86**	**253**		P	**Pn**		**03 10 43.7**	**+2.1**
JAR	**Ashorobuto**	**7.24**	**248**		P	**Pn**		**03 10 48.0**	**+1.1**
JAR				*e*	S	**Sn**		**03 12 09.4**	**+1.5**
JOB	**Onbets**	**7.40**	**246**		P	**Pn**		**03 10 48.5**	**-0.5**
JOB				*e*	S	**Sn**		**03 12 11.4**	**-0.2**
JKK2	**Kamakawa 2**	**7.67**	**255**		P	**Pn**		**03 10 55.3**	**+2.6**
ASAJ	**Asahikawa**	**7.68**	**257**		Pn	**Pn**		**03 10 56.2**	**+3.3**
	1.4nm,0.3s,baz=66,slow=20,SNR=5.1								
JCH	**Churui**	**7.84**	**245**		P	**Pn**		**03 10 54.7**	**-0.4**
JCH				*e*	S	**Sn**		**03 12 21.3**	**-1.3**
JEM	**Erimo**	**8.30**	**242**		P	**Pn**		**03 11 02.2**	**+0.9**
JEM				*e*	S	**Sn**		**03 12 31.8**	**-2.0**
SONM	**Songino Array**	**31.40**	**290**		P	**P**		**03 15 21.3**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=101,slow=9.3,SNR=4.5								
LZH	**Lanzhou**	**37.83**	**272**	*e*	P	**P**		**03 16 17.6**	**+0.9**
LZH				p	P	pP		03 16 24.0	-2.9
LZH				s	P	sP		03 16 27.3	-3.8
MKAR	**Makanchi Array**	**47.06**	**298**		P	**P**		**03 17 31.1**	**-0.6**
	2.1nm,0.7s,mb4.2,baz=55,slow=9.1,SNR=11								
ZRNK	**Zerenda**	**51.83**	**310**	*e*	P	**P**		**03 18 07.2**	**-0.9**
	1.3nm,0.6s,mb4.0								
AAK	**Ala-Archa**	**53.95**	**297**	*e*	P	**P**		**03 18 23.3**	**-0.4**
	1.7nm,0.7s,mb4.1								
ARCES	**ARCESS Array B**	**58.21**	**341**		P	**P**		**03 18 53.3**	**-0.8**
	2.3nm,0.9s,mb4.2,baz=37,slow=9.1,SNR=4.2								
FINES	**FINESS Array B**	**64.37**	**335**		P	**P**		**03 19 34.8**	**-1.1**
	1.5nm,0.5s,mb4.3,baz=39,slow=7.0,SNR=16								
NB2	**NORSAR Subarra**	**68.58**	**341**		P	**P**		**03 20 01.8**	**-1.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.58**	**341**		P	**P**		**03 20 01.6**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=28,slow=6.4,SNR=7.2								
AKASG	**Malin Array Be**	**71.84**	**326**		P	**P**		**03 20 21.7**	**-1.0**
	comp=Z,1.5nm,0.4s,mb4.3,baz=35,slow=6.5,SNR=12								
CLL	**Collm**	**76.80**	**336**	*e*	P	**P**		**03 20 51.0**	**-0.6**
	comp=Z,4.0nm,0.6s,mb4.5								
BRTR	**Keskin Array B**	**78.63**	**317**		P	**P**		**03 21 03.4**	**+1.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=43,slow=5.7,SNR=4.8								
GERES	**GERESS Array B**	**78.78**	**334**		P	**P**		**03 21 03.8**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=44,slow=4.2,SNR=5.3								

ISCJB ***29*** *03:33:34.6±2.6, 390N±002×732E±002, h192km±27km, Error ellipse: s-maj=38.9km s-min=17.9km az=56.3*
NNC ***29*** *03:33:35.4±9.3, 3906N×7315E, h199km±107km, mb2.0, mpv2.9, Error ellipse: s-maj=113.1km s-min=44.4km az=9.0*
ISC 29 03:33:33.7±3.2, 388N±003×732E±002, h165km±37km, n10, σ0.5 54/13, 5C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.32**	**7**		P	**Pn**		**03 34 25.5**	**0.0**
	SNR=23								
UCH	**Uchtor**	**3.54**	**17**		P	**Pn**		**03 34 28.6**	**+0.2**
	SNR=31								
EKS2	**Erkin-Say**	**3.85**	**7**		P	**Pn**		**03 34 32.9**	**+0.5**
	SNR=36								
AAK	**Ala-Archa**	**3.93**	**15**		P	**Pn**		**03 34 34.2**	**+0.8**
	SNR=13								
ULHL	**Ulahol**	**4.14**	**34**		P	**Pn**		**03 34 35.5**	**-0.6**
	SNR=6.2								
TKM2	**Tokmak 2**	**4.48**	**24**		P	**Sn**		**03 35 50.1**	**+17**
	SNR=7.2								
TKM2	**Tokmak 2**	**4.48**	**24**	⇑	P	**Pn**		**03 34 39.4**	**-1.1**
	0.3nm,0.8s								
TKM2				⇑	S	**Sn**		**03 35 33.3**	**+0.6**
KK31	**Karatay Array**	**4.71**	**336**	⇑	P	**Pn**		**03 34 43.6**	**+0.1**
	8.9nm,0.6s,baz=134,slow=11,SNR=49								
KK31				⇑	S	**Sn**		**03 35 37.6**	**-0.5**
	7.6nm,0.7s,baz=136,slow=32,SNR=5.8								
AB31	**Akbulak array**	**14.08**	**322**	⇓	P	**Pn**		**03 36 46.2**	**+0.3**
	0.6nm,0.3s,baz=129,slow=14,SNR=22								
AB31				⇑	S	**Sn**		**03 39 14.3**	**-7.9**
	0.5nm,0.4s								
AKTO	**Aktyubinsk**	**15.79**	**322**	⇓	P	**Pn**		**03 37 06.9**	**-0.2**
	0.4nm,2.0s								

IDC 29 03:47:22.3±3.0, 3004S×17730W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=63.1km s-min=26.8km az=75.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**325**		Pn	Pn		03 47 43.5	+0.6
	268nm,0.3s,baz=241,slow=23,SNR=16								
RAO					Sn	Sn		03 47 56.9	-0.3
	612nm,0.3s,baz=42,slow=23,SNR=11								
ASAR	**Alice Springs**	**43.74**	**266**		P	P		03 55 29.4	+0.1
	0.2nm,0.3s,baz=106,slow=7.3,SNR=4.8								
WB2	**Warramunga Arr**	**44.69**	**271**	*e*	P	P		03 55 37.4	+0.5
WRA	**Warramunga Arr**	**44.70**	**271**		P	P		03 55 37.2	+0.2
	0.2nm,0.4s,baz=110,slow=8.1,SNR=29								
FINES	**FINESS Array B**	**145.01**	**341**		PKP	PKPdf		04 06 59.8	-1.7
	0.5nm,0.3s,baz=50,slow=3.2,SNR=7.1								

ISCJB ***29*** *04:10:25.9±1.5, 7.1S±0.1×155.52E±0.06, h116km±15km, mb4.2/16, Error ellipse: s-maj=16.6km s-min=10.5km az=166.0*
IDC ***29*** *04:10:26.8±2.9, 7.08S×155.50E, h110km±26km, mb3.9/7, mb1 4.0/9, mb1mx3.9/13, mbtmp4.3/9, MS3.6/8, Ms1 3.6/8, ms1mx3.4/27, Error ellipse: s-maj=20.4km s-min=19.3km az=142.0*
BJI ***29*** *04:10:26.0, 6.86S×155.76E, h116km, mB4.9, mb4.7*
NEIC

comp=Z,88nm,4.8s
LZH Lanzhou 64.77 315 *e*P P **04 20 56.0 +2.6**
LZH AP pP 04 21 23.5 +1.0
LZH XP sP 04 21 35.8 +0.3
LZH PP PP 04 23 22.0 +4.8
LZH AMB AMB
comp=Z,19nm,1.3s,mb4.8
SONM Songino Array 69.72 327 P P **04 21 25.0 +0.3**
comp=Z,3.1nm,0.8s,mb4.2,baz=133,slow=6.3,SNR=17
VNDA Vanda 70.46 179 P P **04 21 29.0 -0.2**
comp=Z,1.0nm,0.8s,mb3.7,baz=344,slow=5.2,SNR=7.5
VNDA Vanda 70.46 179 *e*P P **04 21 28.4 -0.8**
comp=Z,1.2nm,0.8s,mb3.8
CAL Calcutta 72.02 296 *ex* x 04 21 29.6
CAL *ex* x 04 29 59.5
WMQ Urumqi 79.27 317 *e*P P **04 22 21.0 +1.1**
MCK McKinley 81.96 22 *e*P P **04 22 32.2 -2.0**
comp=Z,2.6nm,0.8s,mb4.1
QSPA South Pole Qui 82.87 180 *e*P P **04 22 38.7 -0.2**
comp=Z,2.6nm,0.6s,mb4.2
COLA College 82.99 21 *e*P P **04 22 37.3 -2.3**
comp=Z,2.7nm,0.8s,mb4.1
MKAR Makanchi Array 83.84 319 P P **04 22 44.0 +0.1**
comp=Z,3.9nm,0.8s,mb4.3,baz=94,slow=6.2,SNR=16
MAW Mawson 84.50 203 P P **04 22 47.5 +0.3**
comp=Z,4.4nm,1.0s,mb4.3,baz=88,slow=6.2,SNR=8.3
MAW Mawson 84.50 203 *e*P P **04 22 46.8 -0.5**
comp=Z,5.3nm,0.9s,mb4.4
YKA Yellowknife Ar 96.19 28 P P **04 23 40.9 -1.3**
comp=Z,0.9nm,0.8s,mb4.2,baz=267,slow=4.1,SNR=4.1
NOA NORSAR Array B 119.98 341 PKP PKPdf 04 29 03.8 -0.4
comp=Z,0.7nm,0.7s,baz=79,slow=2.2,SNR=3.3
BRG Berggiesshubel 126.00 331 *e*P PKPdf 04 29 16.6 +0.9
comp=Z,6.0nm,1.4s
GERES GERESS Array B 127.42 329 PKP PKPdf 04 29 19.5 +1.1
comp=Z,1.1nm,0.8s,baz=48,slow=2.0,SNR=8.9
LPAZ La Paz 130.94 119 PKP PKPdf 04 29 26.2 +1.1
comp=Z,0.6nm,0.3s,baz=90,slow=2.0,SNR=17
CPUP Villa Florida 133.34 137 PKP PKPdf 04 29 31.5 +0.7
comp=Z,1.4nm,0.9s,baz=90,slow=2.0,SNR=3.7
BDFB Brasilia 147.53 134 PKPbc PKPbc 04 29 58.3 +0.5
comp=Z,9.8nm,0.8s,baz=119,slow=2.2,SNR=15
TORD Torodi Ar. Bea 153.56 285 PKP PKPdf 04 30 05.5 +1.1
comp=Z,1.6nm,1.3s,baz=202,slow=3.1,SNR=3.1
TORD PKPbc PKPbc 04 30 13.2 +0.9
comp=Z,0.9nm,0.8s,baz=71,slow=1.8,SNR=5.1
TORD PKPab PKPab 04 30 26.1 +0.9
comp=Z,1.2nm,0.9s,baz=85,slow=2.5,SNR=5.0

MAN 29 04:16:10.5, 1759N×12018E, h7km, mb2.6, ML4.1, MS0.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
ABRA	**Dolores**	**0.51**	**84**	*e*P		Pg	04 16 20.8	+0.5
PIP	**Pasuquin**	**0.84**	**30**	⇓*i*P		Pg	04 16 26.5	-0.1
PIP				*e*S		Sg	04 16 39.0	+1.5
BOLP	**Bolinao**	**1.23**	**192**	*e*P		Pb	04 16 33.0	-1.0
CVP	**Callao Caves**	**1.57**	**86**	⇑*i*P		Pn	04 16 31.8	-6.9
CVP				*i* S		Sn	04 16 59.0	-0.3
CAUP	**Cauayan**	**1.70**	**112**	*e*P		Pn	04 16 40.6	+0.1
BALP	**Baler**	**2.28**	**144**	*e*P		Pn	04 16 49.1	+0.6

ISCJB ***29*** *04:16:27.3±0.7, 1597S×007×17622W±006, h366km±6km, mb4.4/52, Error ellipse: s-maj=12.7km s-min=6.2km az=110.7*
IDC ***29*** *04:16:27.9±1.2, 1578S×17623W, h362km±13km, mb3.7/9, mb1 4.0/10, mb1mx3.8/15, mbtmp4.5/10, Error ellipse: s-maj=23.9km s-min=10.9km az=147.0*
BJI ***29*** *04:16:28.7, 1604S×176.16W, h383km, mB4.8, mb4.7*
NEIC ***29*** *04:16:29.3±0.7, 1588S×17628W, h376km±6km, mb4.4/42, Error ellipse: s-maj=9.4km s-min=4.2km az=146.0*
ISC 29 04:16:28.2±0.7, 1601S×007×17615W±006, h362km±6km, n204, s0?74/120, mb4.4/52, 8C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
AFI	**Afiamalu**	**4.71**	**64**	P		**Pn**	**04 17 45.2**	**0.0**
	35nm,0.3s,baz=246,slow=12,SNR=20							
AFI				S		**S**	**04 18 47.0**	**-0.6**
	15nm,0.3s,baz=343,slow=19,SNR=3.1							
AFI	**Afiamalu**	**4.71**	**64**	*e*Pn		**Pn**	**04 17 45.3**	**0.0**
AFI				*e*S		**S**	**04 18 47.3**	**-0.2**
FUNA	**Funafuti**	**8.71**	**328**	*e*Pn		**Pn**	**04 18 31.3**	**+0.5**
DZM	**Mont Dzumac**	**17.52**	**247**	P		**P**	**04 20 12.6**	**+3.2**
	0.4nm,0.3s,baz=77,slow=18,SNR=5.6							
URZ	**Urewera**	**22.95**	**194**	P		**P**	**04 21 00.1**	**-2.0**
	5.9nm,0.5s,mb4.1,baz=312,slow=6.6,SNR=7.7							
CTA	**Charters Tower**	**35.92**	**258**	*e*P		**P**	**04 22 56.6**	**+1.1**
	2.3nm,0.5s,mb3.7							
CTA	**Charters Tower**	**35.92**	**258**	P		**P**	**04 22 55.5**	**+0.1**
	2.1nm,0.4s,mb3.7,baz=80,slow=9.5,SNR=5.3							
CTAO	**Charters Tower**	**35.92**	**258**	*e*P		**P**	**04 22 55.4**	**-0.1**
	2.9nm,0.6s,mb3.7							
STKA	**Stephens Creek**	**41.44**	**240**	*e*P		**P**	**04 23 41.1**	**+0.3**
	2.3nm,0.3s,mb3.9							
STKA	**Stephens Creek**	**41.44**	**240**	P		**P**	**04 23 41.1**	**+0.3**
	2.9nm,0.3s,mb3.9,baz=88,slow=9.1,SNR=10.0							
WB2	**Warramunga Arr**	**47.11**	**257**	⇓*i*P		**P**	**04 24 25.0**	**-0.3**
WRAB	**Tennant Creek**	**47.12**	**258**	*e*P		**P**	**04 24 24.8**	**-0.5**
	22nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**47.12**	**257**	P		**P**	**04 24 25.0**	**-0.4**
	5.4nm,0.8s,mb3.8,baz=95,slow=7.8,SNR=94							
WRA				PcP		PcP	04 25 50.4	0.0
	2.5nm,0.7s,baz=88,slow=3.7,SNR=8.0							
AS31	**Alice Springs**	**47.40**	**252**	⇓*i*P		**P**	**04 24 27.6**	**+0.2**
ASAR	**Alice Springs**	**47.40**	**252**	P		**P**	**04 24 27.6**	**+0.2**
	64nm,0.5s,mb5.1,baz=86,slow=8.0,SNR=626							
ASAR				PcP		PcP	04 25 51.5	0.0
	1.9nm,0.6s,baz=101,slow=4.8,SNR=4.3							
ASPA	**Alice Springs**	**47.41**	**252**	⇓*i*P		**P**	**04 24 27.6**	**+0.1**
KAKA	**Kakadu**	**49.81**	**267**	*e*P		**P**	**04 24 45.4**	**-0.2**
	12nm,0.5s,mb4.4							
FORT	**Forrest**	**52.78**	**243**	⇓*i*P		**P**	**04 25 06.8**	**-0.6**
	56nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**55.49**	**259**	*e*P		**P**	**04 25 26.7**	**-0.1**
	3.9nm,0.8s,mb3.8							
FITZ	**Fitzroy Crossi**	**55.49**	**259**	P		**P**	**04 25 26.9**	**+0.1**
	0.6nm,0.3s,mb3.4,baz=70,slow=7.1,SNR=9.9							
SBA	**Scott Base**	**62.45**	**184**	*e*P		**P**	**04 26 15.6**	**+1.6**
	8.6nm,0.8s,mb4.3							
VNDA	**Vanda**	**62.52**	**185**	P		**P**	**04 26 15.5**	**+1.0**
	2.6nm,0.8s,mb3.8,baz=20,slow=4.8,SNR=17							
VNDA	**Vanda**	**62.52**	**185**	*e*P		**P**	**04 26 15.4**	**+0.9**
	3.6nm,0.9s,mb3.9							
CASY	**Casey**	**68.76**	**205**	*e*P		**P**	**04 26 53.6**	**-0.4**
	6.5nm,1.0s,mb4.3							
SAO	**San Andreas Ge**	**73.57**	**43**	*e*P		**P**	**04 27 23.0**	**+0.5**
	11nm,0.9s,mb4.6							
HOPS	**Hopland**	**73.83**	**40**	*e*P		**P**	**04 27 24.4**	**+0.4**
	8.8nm,0.9s,mb4.5							
QSPA	**South Pole Qui**	**74.04**	**180**	*e*P		**P**	**04 27 25.7**	**+0.5**
	15nm,0.9s,mb4.7							
KHMM	**Horse Mountain**	**74.57**	**39**	*e*P		**P**	**04 27 28.4**	**+0.1**
ISA	**Isabella**	**74.95**	**45**	*e*P		**P**	**04 27 30.4**	**-0.1**
CMB	**Columbia Colle**	**74.98**	**43**	*e*P		**P**	**04 27 30.3**	**-0.3**
	8.3nm,0.9s,mb4.5							
WDC	**Whiskeytown Da**	**75.11**	**39**	*e*P		**P**	**04 27 31.6**	**+0.3**
	6.5nm,0.8s,mb4.4							
YBH	**Yreka Blue Hor**	**75.70**	**38**	*e*P		**P**	**04 27 35.0**	**+0.3**
	9.2nm,0.6s,mb4.7							
MTUM	**Tungsten Hills**	**75.81**	**44**	*e*P		**P**	**04 27 35.2**	**0.0**
WAKR	**Walker**	**75.86**	**43**	*e*P		**P**	**04 27 35.8**	**+0.2**
DAC	**Darwin (Calif)**	**75.88**	**45**	*e*P		**P**	**04 27 35.6**	**-0.1**
GSC	**Goldstone**	**75.91**	**47**	*e*P		**P**	**04 27 35.8**	**-0.1**
GLA	**Glamis**	**76.18**	**49**	*e*P		**P**	**04 27 38.3**	**+0.9**
NVAR	**Mina Array Bea**	**76.57**	**43**	P		**P**	**04 27 39.6**	**+0.1**
	6.3nm,0.7s,mb4.5,baz=229,slow=10,SNR=64							
PAHR	**Pah Rah Range**	**76.57**	**42**	*e*P		**P**	**04 27 39.2**	**-0.3**
	8.6nm,0.8s,mb4.5							
MOD	**Modoc**	**77.25**	**39**	*e*P		**P**	**04 27 43.2**	**0.0**
	4.8nm,0.6s,mb4.4							
SHPR	**Sheep Range**	**77.68**	**46**	*e*P		**P**	**04 27 46.2**	**+0.6**
MDJ	**Mudanjiang**	**77.91**	**324**	P		**P**	**04 27 47.0**	**+0.1**
MDJ				AMB		AMB		
	comp=Z,5.0nm,2.1s,mb3.9							
MDJ				AMB		AMB		
	comp=Z,103nm,4.6s							
BMN	**Battle Mountai**	**78.36**	**42**	*e*P		**P**	**04 27 49.4**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8							
NJ2	**Nanjing**	**78.43**	**308**	*e*P		**P**	**04 27 51.8**	**+2.1**
NJ2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.0							

HOOD	**Mount Hood Mea**	**78.47**	**36**	*e*P		**P**	**04 27 50.2**	**+0.3**
WVOR	**Wild Horse Val**	**78.57**	**40**	*e*P		**P**	**04 27 50.3**	**-0.2**
	comp=Z,12nm,1.0s,mb4.6							
TUC	**Tucson**	**78.83**	**52**	*e*P		**P**	**04 27 52.4**	**+0.5**
	comp=Z,8.5nm,1.4s,mb4.3							
HDW	**Hoodsport**	**79.13**	**33**	P		**P**	**04 27 53.5**	**0.0**
GNW	**Green Mountain**	**79.20**	**34**	*e*P		**P**	**04 27 53.8**	**-0.1**
CCUT	**Cedar City**	**79.44**	**46**	*e*P		**P**	**04 27 55.2**	**+0.1**
CN2	**Changchun**	**79.87**	**321**	*e*P		**P**	**04 27 57.0**	**-0.5**
WUAZ	**Wupatki**	**79.87**	**49**	*e*P		**P**	**04 27 58.5**	**+1.0**
	comp=Z,7.5nm,1.0s,mb4.4							
RSW	**Rattlesnake Hi**	**80.27**	**36**	P		**P**	**04 27 59.5**	**0.0**
HAWA	**Hanford**	**80.30**	**36**	*e*P		**P**	**04 27 59.6**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.5							
MDW	**Midway**	**80.30**	**36**	P		**P**	**04 27 59.6**	**-0.1**
H2OWA	**Water**	**80.37**	**36**	P		**P**	**04 27 60.0**	**-0.1**
BMO	**Blue Mountains**	**80.72**	**38**	*e*P		**P**	**04 28 00.8**	**-1.1**
	comp=Z,5.2nm,0.9s,mb4.3							
MSU	**Marysvale**	**80.73**	**46**	*e*P		**P**	**04 28 02.8**	**+0.8**
EPH	**Ephrata**	**80.83**	**35**	P		**P**	**04 28 02.0**	**-0.5**
WTV	**Waterville**	**80.83**	**35**	P		**P**	**04 28 01.8**	**-0.7**
DUG	**Dugway**	**81.12**	**44**	*e*P		**P**	**04 28 04.1**	**+0.1**
TMUT	**Trail Mountain**	**81.77**	**45**	*e*P		**P**	**04 28 08.6**	**+1.2**
HLID	**Hailey**	**81.79**	**40**	*e*P		**P**	**04 28 07.8**	**+0.3**
	comp=Z,8.2nm,0.8s,mb4.6							
MPU	**Maple Canyon**	**81.82**	**44**	*e*P		**P**	**04 28 07.6**	**-0.1**
	comp=Z,6.5nm,0.9s,mb4.5							
HVU	**Hansel Valley**	**81.93**	**42**	*e*P		**P**	**04 28 08.5**	**+0.3**
CTU	**Camp Tracy**	**82.07**	**44**	*e*P		**P**	**04 28 09.6**	**+0.7**
SRU	**San Rafael**	**82.15**	**46**	*e*P		**P**	**04 28 09.8**	**+0.5**
MCK	**McKinley**	**82.23**	**12**	*e*P		**P**	**04 28 07.5**	**-2.3**
	comp=Z,2.9nm,0.9s,mb4.1							
LAZ	**Ladron**	**82.49**	**51**	*e*P		**P**	**04 28 12.0**	**+0.9**
TCUT	**Toone Canyon**	**82.50**	**44**	*e*P		**P**	**04 28 11.8**	**+0.6**
HWUT	**Hardware Ranch**	**82.63**	**43**	*e*P		**P**	**04 28 11.5**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.5							
NEW	**Newport**	**82.72**	**35**	*e*P		**P**	**04 28 10.9**	**-1.4**
MNTX	**Cornudas Mount**	**82.72**	**54**	*e*P		**P**	**04 28 12.9**	**+0.6**
	comp=Z,9.1nm,0.8s,mb4.7							
LPM	**Los Pinos Moun**	**82.83**	**51**	*e*P		**P**	**04 28 13.7**	**+0.9**
PV10	**Paradox Valley**	**82.84**	**47**	*e*P		**P**	**04 28 12.8**	**-0.1**
PV01	**Paradox Valley**	**83.07**	**47**	*e*P		**P**	**04 28 13.8**	**-0.2**
ANMO	**Albuquerque**	**83.23**	**51**	*e*P		**P**	**04 28 15.1**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.3							
MCMT	**McKenzie Canyo**	**83.40**	**40**	*e*P		**P**	**04 28 15.8**	**0.0**
COLA	**College**	**83.47**	**12**	*e*P		**P**	**04 28 13.8**	**-2.3**
	comp=Z,7.8nm,0.7s,mb4.7							
RRI2	**Red Ridge**	**83.63**	**42**	*e*P		**P**	**04 28 22.4**	**+5.5**
GDL2	**Guadalupe Moun**	**83.71**	**54**	*e*P		**P**	**04 28 18.1**	**+0.8**
MSO	**Missoula**	**83.76**	**38**	*e*P		**P**	**04 28 17.4**	**-0.2**
BSMT	**Bassoo Peak**	**83.81**	**36**	*e*P		**P**	**04 28 17.2**	**-0.6**
DLMT	**Dillon**	**83.82**	**39**	*e*P		**P**	**04 28 17.8**	**0.0**
DLMT				*ep*P		pP	04 29 00.7	-40
TPAW	**Teton Pass**	**83.94**	**42**	*e*P		**P**	**04 28 18.9**	**+0.5**
	comp=Z,12nm,1.1s,mb4.6							
REDW	**Red Top Meadow**	**83.94**	**42**	*e*P		**P**	**04 28 18.3**	**-0.1**
SNOW	**Snow King Moun**	**84.05**	**42**	*e*P		**P**	**04 28 19.5**	**+0.5**
	comp=Z,5.3nm,0.6s,mb4.5							
IMW	**Indian Meadow**	**84.14**	**41**	*e*P		**P**	**04 28 19.7**	**+0.3**
	comp=Z,11nm,1.0s,mb4.6							
LRM	**Limekiln Ridge**	**84.14**	**39**	*e*P		**P**	**04 28 19.5**	**+0.1**
LRM				*ep*P		pP	04 28 57.7	-45
MOOW	**Moose Ponds**	**84.19**	**41**	*e*P		**P**	**04 28 19.9**	**+0.3**
	comp=Z,7.4nm,1.3s,mb4.4							
CHMT	**Chamberlain Mo**	**84.21**	**38**	*e*P		**P**	**04 28 18.5**	**-1.3**
LOHW	**Long Hollow**	**84.22**	**42**	*e*P		**P**	**04 28 19.9**	**+0.1**
	comp=Z,8.2nm,1.1s,mb4.5							
QLMT	**Earthquake Lak**	**84.28**	**40**	*e*P		**P**	**04 28 21.0**	**+0.9**
FLWY	**Flagg Ranch**	**84.38**	**41**	*e*P		**P**	**04 28 21.3**	**+0.7**
	comp=Z,15nm,1.2s,mb4.7							
BW06	**Boulder Array**	**84.50**	**43**	*e*P		**P**	**04 28 20.9**	**-0.3**
PDAR	**Pinedale Array**	**84.50**	**43**	P		**P**	**04 28 20.5**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.2,baz=224,slow=3.0,SNR=24							
BOZ	**Bozeman (W)**	**84.56**	**40**	*e*P		**P**	**04 28 21.5**	**0.0**
BOZ				*ep*P		pP	04 28 55.3	-50
SMCO	**Snowmass**	**84.65**	**47**	*e*P		**P**	**04 28 22.1**	**+0.2**
	comp=Z,3.8nm,0.5s,mb4.5							
DAWY	**Dawson**	**84.68**	**15**	*e*P		**P**	**04 28 21.0**	**-1.2**
SDCO	**Great Sand Dun**	**85.09**	**49**	*e*P		**P**	**04 28 24.2**	**0.0**
MAW	**Mawson**	**86.36**	**199**	P		**P**	**04 28 30.5**	**+0.2**
	comp=Z,8.9nm,0.9s,mb4.6,baz=125,slow=6.4,SNR=15							
MAW	**Mawson**	**86.36**	**199**	*e*P		**P**	**04 28 30.2**	**-0.1**
	comp=Z,13nm,1.0s,mb4.7							
EDM	**Edmonton**	**87.40**	**32**	*e*P		**P**	**04 28 33.9**	**-1.3**
HHC	**Hu-ho-hao-te**	**87.51**	**314**	*e*P		**P**	**04 28 36.0**	**+0.2**
HHC				AP		pP	04 30 00.8	+1.1
HHC				XP		sP	04 30 38.5	+1.2
HHC				PP		PP	04 32 09.0	+2.5
HHC				SKS			04 38 26.0	
HHC				S		S	04 38 44.3	-1.2
HHC				PS		PS	04 40 40.0	+3.0
HHC				SS		SS	04 44 41.8	+1.4
HHC				AMB		AMB		
	comp=Z,7.0nm,0.4s,mb4.8							
HHC				AMB		AMB		
	comp=Z,72nm,4.6s							
HHC				LR		LR		
	comp=N,71nm,4.5s							
HHC				LR		LR		
	comp=E,61nm,4.3s							
HHC				LR		LR		
	comp=Z,86nm,6.1s							
LAO	**LASA Array**	**88.37**	**40**	*e*P		**P**	**04 28 40.2**	**+0.4**
RSSD	**Black Hills**	**88.71**	**43**	*e*P		**P**	**04 28 40.6**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.4							
KMI	**Kunming**	**88.91**	**296**	P		**P**	**04 28 43.0**	**+0.7**
KMI				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.7							
WMOK	**Wichita Mounta**	**88.98**	**53**	*e*P		**P**	**04 28 42.1**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.8							
CD2	**Chengdu**	**89.88**	**302**	*e*P		**P**	**04 28 44.0**	**-2.8**
DGMT	**Dagmar**	**90.36**	**39**	*e*P		**P**	**04 28 49.2**	**+0.1**
LZH	**Lanzhou**	**91.46**	**307**	*e*P		**P**	**04 28 55.5**	**+1.4**
LZH				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
SYO	**Syowa Base**	**91.47**	**192**	*e*P		**P**	**04 28 52.7**	**-1.5**
YKA	**Yellowknife Ar**	**91.72**	**24**	P		**P**	**04 28 53.5**	**-1.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=234,slow=4.6,SNR=5.2							
YKA	**Yellowknife Ar**	**91.72**	**24**	P		**P**	**04 28 53.5**	**-1.8**
SNAA	**Sanae**	**92.42**	**178**	*e*P		**P**	**04 28 57.6**	**-1.0**
SNAA				*e*		pP	04 30 26.4	+3.4
SNAA	**Sanae**	**92.42**	**178**	*e*P		**P**	**04 28 57.8**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.2							
VNA3	**Neumayer Olymp**	**92.48**	**176**	*e*P		**P**	**04 28 58.2**	**-0.6**
VNA3				*e*			04 28 59.8	
VNA3				*e*		pP	04 30 26.2	+2.9
VNA3				*e*			04 31 01.0	
VNA1	**Neumayer--Stat**	**93.16**	**176**	*e*P		**P**	**04 29 02.6**	**+0.6**
VNA1				*e*			04 29 03.2	
BVAR	**Borovoye Array**	**116.72**	**322**	PKP		PKPdf	04 34 28.1	-1.7
	comp=Z,1.1nm,0.4s,baz=70,slow=1.7,SNR=7.6							
ZRNK	**Zerenda**	**117.56**	**322**	*e*PKPdf		PKPdf	04 34 29.5	-2.0
ARCES	**ARCESS Array B**	**124.81**	**351**	PKP		PKPdf	04 34 43.4	-2.0
	comp=Z,3.1nm,0.5s,baz=10,slow=1.5,SNR=31							
ARCES	**ARCESS Array B**	**124.81**	**351**	PKP		PKPdf	04 34 43.4	-2.0
JOF	**Joensuu**	**129.36**	**344**	*e*pkp		PKPdf	04 34 51.7	-2.4
BOSA	**Boshof**	**131.05**	**205**	PKP		PKPdf	04 34 58.6	+1.4
	comp=Z,0.7nm,0.7s,baz=113,slow=2.6,SNR=3.7							
KAF	**Kangasniemi**	**131.28**	**346**	*e*pkp		PKPdf	04 34 55.4	-2.3
FINES	**FINESS Array B**	**131.92**	**346**	PKP		PKPdf	04 34 58.0	-0.9
	comp=Z,1.1nm,0.5s,baz=18,slow=3.9,SNR=14							
NOA	**NORSAR Array B**	**134.72**	**355**	PKP		PKPdf	04 35 03.4	-0.8
	comp=Z,0.8nm,0.7s,baz=13,slow=4.0,SNR=3.8							
AKASG	**Malin Array Be**	**139.82**	**335**	PKP		PKPdf	04 35 10.2	-3.4
	comp=Z,0.6nm,0.5s,baz=42,slow=2.0,SNR=4.9							
KMBO	**Kilima Mbogo**	**142.88**	**246**	PKP		PKPdf	04 35 17.9	-1.1
	comp=Z,4.6nm,0.8s,baz=75,slow=4.8,SNR=12							
STHS	**Stebnicka Huta**	**143.79**	**341**	*e*PKP		PKPdf	04 35 18.4	-2.2
KSP	**Ksiaz**	**143.84**	**347**	*e*PKP		PKPdf	04 35 18.2	-2.5
CLL	**Collm**	**144.03**	**350**	*e*PKPdf		PKPdf	04 35 18.0	-3.1
CLL				*e*(PKiKP)			04 35 21.0	
CLL	**Collm**	**144.03**	**350**	*e*PKP		PKPdf	04 35 18.0	-3.1
CLL				*e*			04 35 21.0	
UPC	**Upice**	**144.21**	**347**	*e*PKP		PKPdf	04 35 19.6	-1.8
BRG	**Berggiesshubel**	**144.28**	**349**	*i* PKP		PKPdf	04 35 19.4	-2.1
	comp=Z,2.5nm,0.7s							
BRG				*e*			04 35 24.4	
	comp=Z,1.3nm,0.6s							
BRG				*e*			04 36 19.8	
	comp=Z,1.3nm,0.5s							
DPC	**Dobruska-Polom**	**144.29**	**346**	*e*PKP		PKPdf	04 35 20.2	-1.3
OKC	**Ostrava-Krasne**	**144.32**	**344**	*e*PKP		PKPdf	04 35 20.0	-1.6
PVCC	**Panska Ves**	**144.50**	**348**	*e*PKP		PKPdf	04 35 20.4	-1.5
MORC	**Moravsky Berou**	**144.53**	**345**	⇑*i*P		PKPdf	04 35 20.6	-1.3

MORC	**Moravsky Berou**	**144.53**	**345**	*e*PKPdf		PKPdf	04 35 20.5	-1.4
VRI	**Vrincioaia**	**144.60**	**332**	⇑*i*P		PKPdf	04 35 21.3	-0.8
PLOR	**Plostina**	**144.65**	**332**	⇓*i*P		PKPdf	04 35 21.5	-0.6
KECS	**Kecovo**	**144.85**	**341**	*e*PKP		PKPdf	04 35 21.9	-0.6
MOX	**Moxa**	**144.89**	**351**	*e*P		PKPdf	04 35 21.4	-1.1
BR131	**Keskin Array S**	**144.90**	**318**	*e*PKPdf		PKPdf	04 35 21.7	-0.8
BRTR	**Keskin Array B**	**144.90**	**318**	PKP		PKPdf	04 35 22.1	-0.4
	comp=Z,5.3nm,0.8s,baz=126,slow=3.3,SNR=27							
PRU	**Pruhonice**	**145.01**	**348**	*e*PKP		PKPdf	04 35 22.1	-0.7
NKC	**Novy Kostel**	**145.16**	**350**	*e*PKP		PKPdf	04 35 22.6	-0.4
MLR	**Muntele Rosu**	**145.24**	**332**	⇑*i*P		PKPdf	04 35 23.3	+0.1
VYHS	**Vyhne**	**145.34**	**342**	*e*PKP		PKPdf	04 35 22.8	-0.5
TREC	**Trest**	**145.47**	**347**	*e*PKP		PKPdf	04 35 23.3	-0.2
DRGR		**145.53**	**337**	⇑*i*P		PKPdf	04 35 23.6	0.0
PSZ	**Piszkesteto**	**145.54**	**341**	*e*PKPbc		PKPdf	04 35 22.9	-0.8
GRA1	**Grafenberg Arr**	**145.87**	**351**	*e*PKP		PKPdf	04 35 25.0	+0.8
GRF	**Grafenberg Arr**	**145.87**	**351**	*e*PKP		PKPdf	04 35 25.0	+0.8
GIVF	**Givet**	**145.98**	**359**	*e*PKP1		PKPdf	04 35 24.6	+0.2
KHC	**Kasperske Hory**	**146.02**	**349**	*e*PKP		PKPdf	04 35 25.2	+0.7
BAIF	**Baives**	**146.03**	**360**	*e*PKP1		PKPdf	04 35 24.8	+0.3
	comp=Z,10nm,0.7s							
GERES	**GERESS Array B**	**146.27**	**348**	PKPbc		PKPbc	04 35 25.8	-0.9
	comp=Z,2.8nm,0.7s,baz=30,slow=2.8,SNR=21							
WLF	**Walferdange**	**146.38**	**357**	*e*PKPbc		PKPbc	04 35 26.6	-0.5
CONA	**Conrad Observa**	**146.66**	**345**	⇓*i*PKPab		PKPdf	04 35 27.3	+1.7
	comp=Z,3.4nm,0.6s							
GZR	**Gura Zlata**	**146.66**	**335**	⇓*i*P		PKPdf	04 35 27.2	+1.6
BZS	**Buzias**	**146.93**	**337**	⇑*i*P		PKPdf	04 35 27.6	+1.6
ROSF	**Rostrenen**	**147.23**	**9**	*e*PKP1		PKPbc	04 35 27.6	-1.8
	comp=Z,33nm,1.1s							
LDF	**La Druitiere**	**147.34**	**5**	*e*PKP1		PKPbc	04 35 28.0	-1.7
	comp=Z,14nm,0.7s							
SGMF	**Saint Gilles**	**147.41**	**8**	*e*PKP1		PKPbc	04 35 28.2	-1.6
	comp=Z,33nm,0.8s							
PKSM	**Moragy**	**147.45**	**341**	⇑*i*P		PKPbc	04 35 29.0	-0.9
GRR	**Gorron**	**147.48**	**6**	*e*PKP1		PKPbc	04 35 28.7	-1.3
	comp=Z,23nm,0.6s							
CDF	**Champ du Feu**	**147.56**	**356**	*e*PKP1		PKPbc	04 35 29.1	-1.1
	comp=Z,13nm,0.7s							
QUIF	**Quistinic**	**147.66**	**9**	*e*PKP1		PKPbc	04 35 28.8	-1.7
HAU	**Haudompre**

0.1nm,0.3s,baz=98,slow=13,SNR=4.5
WRA Lg 04 33 17.6
ASAR Alice Springs 13.16 261 Pn Pn 04 29 29.4 -0.7
0.1nm,0.3s,baz=91,slow=14,SNR=4.3
ASAR Sn Sn 04 31 52.0 -5.2
0.1nm,0.3s,baz=82,slow=22,SNR=6.5
ASAR Lg 04 33 20.6
0.1nm,0.3s,baz=92,slow=30,SNR=6.7
FITZ Fitzroy Crossi 21.50 277 P P 04 31 13.3 +1.0
1.6nm,0.9s,baz=95,slow=8.8,SNR=3.1
SONM Songino Array 79.22 333 P P 04 38 29.4 +0.4
1.1nm,1.0s,baz=135,slow=4.6,SNR=6.3
TORD Torodi Ar. Bea 146.81 260 PKPbc PKPbc 04 46 06.3 +0.2
1.5nm,0.8s,baz=113,slow=3.2,SNR=13

---

*IDC **29** 04:31:28.4±3.8, 1649S×17473W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, MS4.3/1, Ms1 4.3/1, ms1mx3.0/29, Error ellipse: s-maj=154.8km s-min=78.2km az=156.0*
*ISCJB **29** 04:31:34.1±5.9, 165S±08×175.1W±07, h33km, mb4.3/7, Error ellipse: s-maj=137.5km s-min=35.4km az=76.7*
*NEIC **29** 04:31:37.5±4.5, 1660S×17525W, h35km, mb4.3/5, Error ellipse: s-maj=107.0km s-min=27.3km az=219.0*
ISC 29 04:31:38.0±5.9, 168S±08×1752W±07, h35km, n12, σ0$50/12, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.85**	**241**	*e*P			**P**	**04 39 25.4**	**+0.8**
	1.5nm,0.6s,mb3.8								
STKA	**Stephens Creek**	**41.85**	**241**	P			**P**	**04 39 25.3**	**+0.7**
	1.8nm,0.5s,mb4.0,baz=102,slow=11,SNR=6.4								
WB2	**Warramunga Arr**	**47.83**	**258**	*e*P			**P**	**04 40 12.0**	**-0.1**
WRAB	**Tennant Creek**	**47.83**	**258**	*e*P			**P**	**04 40 12.0**	**-0.1**
	2.7nm,0.5s,mb4.5								
WRA	**Warramunga Arr**	**47.84**	**258**	P			**P**	**04 40 12.2**	**0.0**
	1.7nm,0.4s,mb4.5,baz=96,slow=6.8,SNR=81								
WRA				PcP			PcP	04 41 38.9	-1.8
	0.2nm,0.3s,baz=91,slow=3.6,SNR=4.6								
AS31	**Alice Springs**	**48.03**	**253**	*e*P			**P**	**04 40 13.3**	**-0.5**
ASAR	**Alice Springs**	**48.03**	**253**	P			**P**	**04 40 13.4**	**-0.3**
	3.4nm,0.4s,mb4.7,baz=92,slow=7.7,SNR=44								
ASAR				PcP			PcP	04 41 39.8	-1.6
	0.4nm,0.5s,baz=109,slow=3.8,SNR=4.5								
ASPA	**Alice Springs**	**48.03**	**253**	*e*P			**P**	**04 40 13.4**	**-0.4**
KAKA	**Kakadu**	**50.66**	**267**	*e*P			**P**	**04 40 34.9**	**+1.1**
	2.2nm,0.3s,mb4.6								
FITZ	**Fitzroy Crossi**	**56.22**	**259**	*e*P			**P**	**04 41 14.3**	**-0.3**
	3.1nm,0.9s,mb4.3								
FITZ	**Fitzroy Crossi**	**56.22**	**259**	P			**P**	**04 41 14.1**	**-0.6**
	2.0nm,0.9s,mb4.2,baz=103,slow=7.5,SNR=9.6								
VNDA	**Vanda**	**61.87**	**186**	*e*P			**P**	**04 41 53.8**	**0.0**
	0.5nm,0.5s,mb3.9								

---

*IGIL **29** 04:41:22.8, 3650N×760W, h32km, ML2.0*
*INMG **29** 04:41:23.1±1.2, 3662N×757W, h18km±4km, ML2.2, Error ellipse: s-maj=5.0km s-min=3.1km az=44.0*
MDD 29 04:41:23.1±1.3, 3659N×755W, h24km±15km, mbLg2.5/19, 1C, Error ellipse: s-maj=13.6km s-min=4.8km az=23.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.94**	**3**	P			Pb	04 41 40.0	-0.7
	2.0nm,0.1s,SNR=40								
EGRO				S			Sb	04 41 52.2	-0.5
	33nm,0.1s,SNR=18								
MORF	**Marmelete**	**1.13**	**309**	*e*P			Pn	04 41 41.9	-1.5
MORF				*e*S			Sn	04 41 55.3	-2.8
MORF				*e*S			Sn	04 41 55.4	-2.8
MORF				AML			AML	04 41 57.0	
	comp=E,22nm,0.1s								
MORF	**Marmelete**	**1.13**	**309**	*e*P			Pn	04 41 41.9	-1.5
MORF				*e*S			Sn	04 41 55.4	-2.8
PTEO	**Sao Teotonio**	**1.33**	**316**	*e*P			Pn	04 41 45.2	-1.0
PTEO				*e*S			Sn	04 42 01.6	-1.6
PTEO									
	comp=E,6.7nm,0.1s								
EMIN	**Mina Concepcio**	**1.36**	**31**	P			Pn	04 41 45.6	-1.1
	comp=E,0.4nm,0.1s,SNR=17								
EMIN				S			Sn	04 42 01.7	-2.2
	comp=E,9.1nm,0.2s,SNR=15								
ESPR	**Espera**	**1.39**	**78**	P			Pn	04 41 46.3	-0.6
	comp=E,3.8nm,0.2s,SNR=16								
ESPR				S			Sn	04 42 03.4	-1.1
	comp=E,21nm,0.2s,SNR=7.4								
PBEJ	**Beja**	**1.45**	**350**	*e*P			Pn	04 41 47.0	-0.8
PBEJ				*e*S			Sn	04 42 04.3	-1.8
PBEJ									
	comp=E,10nm,0.1s								
EJIF	**Jimena Fronter**	**1.68**	**94**	P			Pn	04 41 50.4	-0.6
	comp=E,0.3nm,0.1s,SNR=7.9								
EJIF				S			Sn	04 42 10.9	-0.9
	comp=E,1.5nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**2.20**	**11**	P			Pn	04 41 57.1	-1.0
	comp=E,0.6nm,0.1s,SNR=10.0								
EBAD				S			Sn	04 42 22.9	-1.6
	comp=E,4.2nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**2.27**	**359**	*e*Pn			Pn	04 41 58.1	-0.9
PESTR				*e*Sn			Sn	04 42 23.7	-2.5
PESTR									
	comp=E,3.8nm,0.1s								
PLOU	**Loures**	**2.62**	**331**	*e*Sn			Sn	04 42 33.7	-1.1
PLOU									
	comp=E,8.2nm,0.1s								
PLOU	**Loures**	**2.62**	**331**	S			Sn	04 42 33.7	-1.1
	comp=E,4.1nm,0.1s								
PMAFR	**Mafra**	**2.73**	**330**	*e*Sn			Sn	04 42 34.6	-2.9
EADA	**Adamuz**	**2.84**	**56**	P			Pn	04 42 06.4	-0.5
	comp=E,1.3nm,0.2s,SNR=12								
EADA				S			Sn	04 42 37.0	-3.3
	comp=E,4.7nm,0.1s,SNR=5.0								
PTOM	**Tomar**	**3.09**	**348**	*e*Pn			Pn	04 42 09.9	-0.5
PTOM				*e*Sn			Sn	04 42 43.6	-3.0
PTOM									
	comp=E,6.7nm,0.1s								
PCBR	**Castelo Branco**	**3.24**	**1**	*e*Pn			Pn	04 42 11.6	-0.8
PCBR				*e*Sn			Sn	04 42 47.7	-2.5
PCBR									
	comp=E,5.2nm,0.1s								
EQUE	**Quentar**	**3.35**	**78**	P			Pn	04 42 13.0	-0.9
	comp=E,0.2nm,0.1s,SNR=7.9								
EQUE				S			Sn	04 42 50.6	-2.3
	comp=E,0.8nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**3.38**	**61**	⇑P			Pn	04 42 12.8	-1.6
	comp=E,2.8nm,0.1s,SNR=18								
EBAN				S			Sn	04 42 48.8	-4.9
	comp=E,3.6nm,0.2s,SNR=7.9								
EQES	**Quesada**	**3.77**	**70**	P			Pn	04 42 18.7	-1.0
	comp=E,0.3nm,0.1s,SNR=7.9								
EQES				S			Sn	04 43 00.4	-3.0
	comp=E,0.7nm,0.1s,SNR=7.9								
MTE	**Manteigas**	**3.80**	**0**	*e*Pn			Pn	04 42 19.0	-1.1
MTE				*e*Sn			Sn	04 43 00.8	-3.2
MTE									
	comp=E,6.2nm,0.2s								
PVIS	**Viseu**	**4.12**	**356**	*e*Pn			Pn	04 42 23.6	-0.9
PVIS				*e*Sn			Sn	04 43 08.3	-3.7
PVIS									
	comp=E,4.3nm,0.1s								
EHUE	**Huescar**	**4.14**	**71**	P			Pn	04 42 23.3	-1.5
	comp=E,0.2nm,0.1s,SNR=7.9								
EHUE				S			Sn	04 43 08.3	-4.1
	comp=E,0.6nm,0.2s,SNR=7.9								
ESDC	**Sonseca Array**	**4.18**	**42**	P			Pn	04 42 24.7	-0.6
	comp=E,1.4nm,0.1s,baz=224,slow=13,SNR=4.1								
ESDC				S			Sn	04 43 08.8	-4.6
	comp=E,3.6nm,0.3s,baz=226,slow=23,SNR=7.9								
EVIA	**Vianos**	**4.50**	**61**	P			Pn	04 42 27.3	-2.4
	comp=E,0.9nm,0.1s,SNR=7.9								
EVIA				S			Sn	04 43 16.1	-5.1
	comp=E,5.0nm,0.2s,SNR=7.9								
PVRL	**Vila Real**	**4.68**	**358**	*e*Sn			Sn	04 43 21.5	-4.1
PCAB	**Cabril**	**5.12**	**356**	*e*Pn			Pn	04 42 37.3	-1.0
PCAB				*e*Sn			Sn	04 43 32.9	-3.7
PCAB									
	comp=E,3.0nm,0.2s								
ETOB	**Tobarra**	**5.19**	**65**	P			Pn	04 42 37.6	-1.5
	comp=E,0.7nm,0.1s,SNR=6.2								
ETOB				S			Sn	04 43 33.4	-4.8
	comp=E,2.2nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**5.24**	**7**	*e*Pn			Pn	04 42 38.8	-1.1
PBRG				*e*Sn			Sn	04 43 35.1	-4.4
PBRG									
	comp=E,2.6nm,0.1s								
ECAL	**Calabor**	**5.38**	**6**	P			Pn	04 42 41.1	-0.6
	comp=E,0.5nm,0.1s,SNR=7.9								
ECAL				S			Sn	04 43 38.9	-4.0
	comp=E,2.7nm,0.2s,SNR=7.9								
ETOR	**Torete**	**6.02**	**44**	P			Pn	04 42 50.2	-0.4
	comp=E,2.5nm,0.2s,SNR=7.9								
ETOR				S			Sn	04 43 53.6	-5.1
	comp=E,5.5nm,0.2s,SNR=7.9								

---

*PRU **29** 05:01:34.7, 4365N×1991E, h0km*
*NEIC **29** 05:01:41.7, 4416N×1969E, h10km, MD3.4(PDG), ML3.6(BUC), After PDG.*
*PDG **29** 05:01:41.7±1.0, 4416N×1969E, h10km±2km*
*LDG **29** 05:01:41.5±0.1, 4421N×1970E, h10km, Ml3.5/6, Error ellipse: s-maj=3.3km s-min=2.6km az=82.0*
*ISCJB **29** 05:01:41.2±0.3, 4422N±001×1962E±002, h6km±3km, Error ellipse: s-maj=3.0km s-min=2.0km az=179.6*
*CSEM **29** 05:01:41.6±0.1, 4414N×1967E, h12km, ML3.6, Error ellipse: s-maj=1.2km s-min=1.1km az=175.0*
*BEO **29** 05:01:44.7±1.0, 4416N×1975E, h10km±1km*
ISC 29 05:01:42.9±0.3, 4419N±001×1965E±002, h11km±2km, n106, σ1$21/151, 25C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DIVS	**Divcibare**	**0.26**	**110**	*i* Pg			**Pg**	**05 01 46.8**	**-1.5**
DIVS					Sg		**Sg**	**05 01 50.4**	**-1.5**
DIVS	**Divcibare**	**0.26**	**110**	Pg			**Pg**	**05 01 46.8**	**-1.4**
DIVS					Sg		**Sg**	**05 01 50.3**	**-1.5**
GRUS	**Gruza**	**0.82**	**111**	*i* Pg			**Pg**	**05 01 58.8**	**0.0**
GRUS					Sg		**Sg**	**05 02 10.1**	**+0.6**
BEO	**Belgrade**	**0.85**	**42**	*i* Pg			**Pg**	**05 01 58.7**	**-0.6**
BEO					Sg		**Sg**	**05 02 12.5**	**+2.0**
PLE	**Pljevlja**	**0.88**	**192**	⇓*i* Pg			**Pg**	**05 01 57.5**	**-2.3**
PLE					*e*Sg		**Sg**	**05 02 10.7**	**-0.6**
SJES	**Sjenica**	**0.94**	**167**	Sg			**Sg**	**05 02 14.7**	**+1.4**
FGSL	**Fruska Gora**	**0.97**	**7**	Pg			**Pg**	**05 02 01.9**	**+0.2**
FGSL				Sg			**Sg**	**05 02 16.8**	**+2.4**
UPM	**Unac-Piva**	**1.12**	**209**	⇓*i* Pg			**Pg**	**05 02 02.1**	**-2.4**
UPM				*e*Sg			**Sg**	**05 02 19.3**	**+0.2**
SVIS	**Svilajnac**	**1.13**	**84**	*i* Pg			**Pg**	**05 02 03.4**	**-1.2**
SVIS				Sg			**Sg**	**05 02 19.9**	**+0.5**
IVA	**Berane**	**1.33**	**172**	⇓*i* Pg			**Pn**	**05 02 05.4**	**-1.9**
IVA				*e*Sg			**Sg**	**05 02 25.4**	**-0.3**
NKY	**Niksic**	**1.46**	**199**	⇓*i* Pg			**Pn**	**05 02 07.3**	**-1.8**
NKY				*e*Sg			**Sg**	**05 02 29.7**	**0.0**
BRY	**Bratogost**	**1.52**	**212**	⇑*i* Pg			**Pn**	**05 02 08.9**	**-1.0**
BRY				*e*Sg			**Sg**	**05 02 33.8**	**+0.5**
BRY	**Bratogost**	**1.52**	**212**	⇑*i* Pg			**Pn**	**05 02 08.9**	**-1.0**
PVY	**Plav**	**1.61**	**172**	⇑*i* Pn			**Pn**	**05 02 10.7**	**-0.5**
PVY				*e*Sn			**Sn**	**05 02 33.0**	**+1.1**
PVY	**Plav**	**1.61**	**172**	⇑*i* Pn			**Pn**	**05 02 10.6**	**-0.6**
TREB	**Trebinje**	**1.75**	**213**	P			**Pn**	**05 02 13.1**	**0.0**
TTG	**Podgorica**	**1.78**	**189**	⇑*i* Pn			**Pn**	**05 02 12.7**	**-0.9**
TTG				*e*Sn			**Sn**	**05 02 38.1**	**+1.9**
BLY	**Banja Luka**	**1.85**	**288**	P			**Pn**	**05 02 15.8**	**+1.3**
HCY	**Herceg Novi**	**1.93**	**206**	⇑*i* Pn			**Pn**	**05 02 16.2**	**+0.6**
HCY				*e*Sn			**Sn**	**05 02 41.7**	**+1.8**
BUM	**Brajici-Budva**	**1.97**	**197**	⇑*i* Pn			**Pn**	**05 02 16.8**	**+0.8**
BUM				*e*Sn			**Sb**	**05 02 42.9**	**-0.2**
RHK3	**Tenkes**	**1.97**	**330**	⇑*i* P			**Pn**	**05 02 16.0**	**-0.1**
RHK3				*e*S			**Sg**	**05 02 45.4**	**-0.8**
BZS	**Buzias**	**2.00**	**44**	⇓*i* P			**Pn**	**05 02 15.9**	**-0.6**
BZS	**Buzias**	**2.00**	**44**	P			**Pn**	**05 02 16.1**	**-0.4**
BZS				S			**Sn**	**05 02 40.8**	**-0.7**
PKSM	**Moragy**	**2.15**	**341**	⇑*i* P			**Pn**	**05 02 18.3**	**-0.3**
PKSM	**Moragy**	**2.15**	**341**	P			**Pn**	**05 02 18.4**	**-0.1**
PKSM	**Moragy**	**2.15**	**341**	⇑*e*Pn			**Pn**	**05 02 18.3**	**-0.3**
PKSM				S			**Sb**	**05 02 48.0**	**-0.3**
ULC	**Ulcinj**	**2.24**	**188**	⇑*i* Pn			**Pn**	**05 02 20.5**	**+0.6**
ULC				*e*Sn			**Sn**	**05 02 49.3**	**+1.8**
GZR	**Gura Zlata**	**2.53**	**60**	⇑*i* P			**Pn**	**05 02 23.5**	**-0.3**
GZR	**Gura Zlata**	**2.53**	**60**	P			**Pn**	**05 02 23.7**	**-0.1**
GZR	**Gura Zlata**	**2.53**	**60**	P			**Pn**	**05 02 23.7**	**-0.1**
GZR				S			**Sn**	**05 02 52.0**	**-2.6**
SKO	**Skopje**	**2.57**	**149**	*e*Pn			**Pb**	**05 02 29.1**	**+0.1**
VTS	**Vitosha**	**3.04**	**120**	⇑*i* P			**Pn**	**05 02 30.6**	**-0.3**
VTS	**Vitosha**	**3.04**	**120**	P			**Pn**	**05 02 30.6**	**-0.3**
STIP	**Stip**	**3.11**	**142**	*e*Pn			**Pn**	**05 02 30.9**	**-0.9**
OHR	**Ohrid**	**3.19**	**164**	*e*Pn			**Pg**	**05 02 46.7**	**+2.8**
KOGS	**Kog**	**3.30**	**314**	*e*Pn			**Pn**	**05 02 34.0**	**-0.4**
GCIS	**Gornji Cirnik**	**3.31**	**302**	*e*Pn			**Pn**	**05 02 34.8**	**+0.2**
PKSG		**3.32**	**345**	⇓*i* P			**Pn**	**05 02 35.1**	**+0.4**
BUD	**Budapest**	**3.33**	**353**	⇓*e*Pn			**Pn**	**05 02 35.1**	**+0.3**
BUD				*e*SB			**Sg**	**05 03 30.0**	**+0.3**
BUD	**Budapest**	**3.33**	**353**	⇓*e*Pn			**Pn**	**05 02 35.1**	**+0.3**
BUD				*e*Sn			**Sg**	**05 03 30.3**	**+0.6**
DRGR		**3.38**	**38**	⇓*i* P			**Pn**	**05 02 35.9**	**+0.4**
DRGR		**3.38**	**38**	P			**Pn**	**05 02 35.8**	**+0.3**
DRGR		**3.38**	**38**	P			**Pn**	**05 02 35.8**	**+0.3**
GOLS	**Golise**	**3.38**	**304**	*e*Pn			**Pn**	**05 02 35.8**	**+0.2**
BOJS	**Bojanci**	**3.40**	**294**	*i* Pn			**Pn**	**05 02 36.9**	**+1.2**
CRES	**Cresnjev**	**3.40**	**300**	*e*Pn			**Pn**	**05 02 36.1**	**+0.4**
BIA	**Bitola**	**3.40**	**158**	*e*Pn			**Pb**	**05 02 41.9**	**-1.2**
NVLJ	**Novalja**	**3.45**	**278**	*i* Pn			**Pn**	**05 02 37.3**	**+0.8**
NVLJ				*i* Sn			**Sn**	**05 03 18.0**	**+0.7**
NVLJ	**Novalja**	**3.45**	**278**	*i* Pn			**Pn**	**05 02 37.2**	**+0.7**
VAY	**Valandovo**	**3.58**	**142**	*e*Pn			**Pn**	**05 02 37.4**	**-0.9**
PENC	**Penc**	**3.61**	**356**	*e*Pn			**Pn**	**05 02 38.0**	**-0.7**
PENC				*e*Sn			**Sg**	**05 03 40.6**	**+1.7**
FGMS	**Monte Sant'Ang**	**3.68**	**229**	Pn			**Pg**	**05 02 52.0**	**-1.3**
GRGS	**Grobnik**	**3.71**	**309**	*i* Pn			**Pn**	**05 02 40.0**	**0.0**
GROS				*i* Sn			**Sn**	**05 03 21.2**	**-2.4**
PSZ	**Piszkesteto**	**3.73**	**2**	⇑*e*Pn			**Pn**	**05 02 40.4**	**0.0**
PSZ				*e*SB			**Sg**	**05 03 42.7**	**-0.1**
PSZ	**Piszkesteto**	**3.73**	**2**	⇑*i* P			**Pn**	**05 02 40.5**	**+0.1**
PSZ	**Piszkesteto**	**3.73**	**2**	P			**Pn**	**05 02 40.4**	**0.0**
PDKS	**Podkum**	**3.79**	**301**	*i* Pn			**Pn**	**05 02 41.6**	**+0.5**
RGNG	**Rignano Grg**	**3.90**	**231**	Pn			**Pn**	**05 02 43.2**	**+0.5**
KNDS	**Knezji Dol**	**3.98**	**291**	*i* Pn			**Pn**	**05 02 45.0**	**+1.2**
SOP	**Sopron**	**4.11**	**329**	⇓*e*Pn			**Pn**	**05 02 45.9**	**+0.4**
SOP				*e*Sn			**Sn**	**05 03 37.2**	**+3.6**
ARSA	**Arzberg**	**4.21**	**318**	⇓*i* Sn			**Sn**	**05 03 36.3**	**+0.2**
ARSA	**Arzberg**	**4.21**	**318**	*i* Pn			**Pn**	**05 02 47.4**	**+0.4**
	SNR=30								
ARSA					⇓*i* Sn		**Sn**	**05 03 36.3**	**+0.2**
ARSA	**Arzberg**	**4.21**	**318**	Pn			**Pn**	**05 02 47.4**	**+0.4**
	30nm,1.0s								
OBKA	**Obir**	**4.28**	**305**	⇑*i* Pn			**Pn**	**05 02 48.3**	**+0.4**
OBKA				⇑*i* Sn			**Sn**	**05 03 37.2**	**-0.7**
KECS	**Kecovo**	**4.33**	**7**	*e*PN			**Pn**	**05 02 49.6**	**+0.9**
KECS				*e*SN			**Sn**	**05 03 37.5**	**-1.6**
KECS	**Kecovo**	**4.33**	**7**	*e*Pn			**Pn**	**05 02 49.6**	**+0.9**
KECS				*e*Sn			**Sn**	**05 03 37.6**	**-1.5**
VYHS	**Vyhne**	**4.34**	**353**	*e*PN			**Pn**	**05 02 48.8**	**0.0**
VYHS				*e*SN			**Sn**	**05 03 40.6**	**+1.2**
ZST	**Bratislava**	**4.38**	**337**	*e*PN			**Pn**	**05 02 48.7**	**-0.6**
ZST				*e*SN			**Sn**	**05 03 38.8**	**-1.5**
VOY	**Vojsko**	**4.47**	**296**	*e*Pn			**Pn**	**05 02 51.2**	**+0.6**
VOY				*e*				05 02 52.4	
VOY				*e*				05 03 41.4	
CONA	**Conrad Observa**	**4.58**	**326**	*i* Pn			**Pn**	**05 02 52.1**	**+0.1**
	SNR=14								
CONA					⇓*i* Sn		**Sn**	**05 03 44.6**	**-0.5**
SMOL	**Smolenice**	**4.59**	**341**	*e*SN			**Sn**	**05 03 43.6**	**-1.9**
MLR	**Muntele Rosu**	**4.66**	**72**	⇑*i* P			**Pn**	**05 02 54.1**	**+1.0**
MLR	**Muntele Rosu**	**4.66**	**72**	⇑P			**Pn**	**05 02 54.1**	**+1.0**
INTR	**Introdacqua**	**4.74**	**245**	Pn			**Pn**	**05 02 57.1**	**+2.9**
SGG	**Gregorio Mates**	**4.79**	**236**	Pn			**Pn**	**05 02 57.3**	**+2.5**
CRVS	**Cervenica-Dubn**	**4.88**	**14**	*e*PN			**Pn**	**05 02 56.4**	**+0.3**
CRVS				*e*SN			**Sn**	**05 03 50.7**	**-1.8**
AQU	**L'Aquila**	**4.92**	**250**	⇓*i* P			**Pn**	**05 03 00.9**	**+4.2**
SNTG	**Esanatoglia**	**4.95**	**261**	Pn			**Pg**	**05 03 17.6**	**-0.1**
PTCC	**Patocco-Chiusa**	**4.97**	**299**	Pn			**Pn**	**05 02 58.1**	**+0.8**
VVLD	**Villa Vallelon**	**4.99**	**244**	Pn			**Pn**	**05 02 58.6**	**+0.9**
BURAR	**Bucovina Array**	**5.18**	**47**	⇓*i* P			**Pn**	**05 03 02.1**	**+1.9**
BURAR	**Bucovina Array**	**5.18**	**47**	⇓P			**Pn**	**05 03 02.1**	**+1.9**
MOA	**Molln**	**5.24**	**316**	⇑*i* Pn			**Pn**	**05 03 01.3**	**+0.2**
MOA				⇑*i* Sn			**Sn**	**05 04 00.8**	**-0.7**
NIE	**Niedzica**	**5.25**	**5**	*e*Pn			**Pn**	**05 03 03.5**	**+2.2**
KBA	**Koelnbreinsper**	**5.28**	**305**	⇑*i* Pn			**Pn**	**05 03 02.0**	**+0.3**
KBA				⇑*i* Sn			**Sn**	**05 04 01.9**	**-0.6**
STHS	**Stebnicka Huta**	**5.34**	**11**	*e*PN			**Pn**	**05 03 04.1**	**+1.6**
CRE	**Caprese Michel**	**5.59**	**267**	Pn			**Pn**	**05 03 07.4**	**+1.4**
	5.8nm,0.4s								
SFI	**Santa Sofia**	**5.63**	**270**	Pn			**Pn**	**05 03 08.8**	**+2.3**
	3.7nm,0.3s								
MORC	**Moravsky Berou**	**5.77**	**346**	⇑*i* P			**Pn**	**05 03 09.7**	**+1.3**
MORC					S		**Sn**	**05 04 14.7**	**+0.1**
MORC	**Moravsky Berou**	**5.77**	**346**	⇑P			**Pn**	**05 03 09.7**	**+1.2**
MORC					S		**Sn**	**05 04 14.7**	**+0.1**
GEC2	**GERESS Array S**	**6.21**	**321**	*e*Pn			**Pn**	**05 03 14.7**	**+0.3**
KHC	**Kasperske Hory**	**6.47**	**322**	*e*PN			**Pn**	**05 03 18.5**	**+0.5**
KHC				*e*SN			**Sn**	**05 04 44.1**	**+12**
MABI	**Malga Bissina**	**6.73**	**289**	Pn			**Pn**	**05 03 22.8**	**+1.2**
PGF	**Pioggiola**	**7.93**	**262**	*e*Pn			**Pn**	**05 03 34.8**	**-3.3**
FIN	**Finale Ligure**	**8.22**	**274**	Pn			**Pn**	**05 03 41.0**	**-1.1**
	1.9nm,0.3s								
CLL	**Collm**	**8.41**	**330**	*e*Sg			Sx	05 06 25.0	
SBF	**Sospel**	**8.81**	**272**	*e*Pn			**Pn**	**05 03 47.0**	**-3.1**
SBF				*e*Sn			**Sn**	**05 05 21.0**	**-8.4**
	1.9nm,0.2s								
MBDF	**Montbardon**	**9.23**	**278**	*e*Pn			**Pn**	**05 03 52.6**	**-3.3**
MBDF				*e*Sn			**Sn**	**05 05 30.3**	**-9.4**
	3.0nm,0.6s								
LPG	**La Plagne**	**9.26**	**283**	*e*Pn			**Pn**	**05 03 54.3**	**-2.0**
LPG				*e*Sn			**Sn**	**05 05 31.7**	**-8.7**
	3.7nm,0.5s								
LPL	**La Plagne**	**9.28**	**283**	*e*Pn			**Pn**	**05 03 54.4**	**-2.1**
LPL				*e*Sn			**Sn**	**05 05 32.1**	**-8.7**
	6.1nm,0.5s								
FRF	**La Foret Royal**	**9.42**	**271**	*e*Pn			**Pn**	**05 03 55.7**	**-2.7**
HINF	**Hinteralfeld**	**9.62**	**297**	*e*Pn			**Pn**	**05 03 57.7**	**-3.5**
HINF				*e*Sn			**Sn**	**05 05 40.1**	**-9.1**
	2.9nm,0.5s								
CABF	**La Chapelle**	**9.85**	**289**	*e*Pn			**Pn**	**05 04 00.0**	**-4.3**
ORIF	**Oris-en-Rattie**	**9.86**	**279**	*e*Pn			**Pn**	**05 04 01.1**	**-3.4**
HAU	**Haudompre**	**10.00**	**297**	*e*Pn			**Pn**	**05 04 02.8**	**-3.6**
HAU				*e*Sn			**Sn**	**05 05 49.3**	**-9.2**
	3.8nm,0.5s								
SMRF	**Simiane la Rot**	**10.14**	**274**	*e*Pn			**Pn**	**05 04 04.8**	**-3.5**

---

*ISCJB **29** 05:05:42.4±0.6, 4155N±004×14204E±005, h69km±7km, mb3.3/2, Error ellipse: s-maj=7.8km s-min=4.8km az=82.2*
*JMA **29** 05:05:42.5±0.1, 4156N×14207E, h66km±2km, M3.3*
JMA Felt I J1.
*IDC **29** 05:05:46.0±1.5, 4234N×14072E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=34.8km s-min=25.1km az=128.0*
ISC 29 05:05:43.1±0.6, 4154N±004×14205E±005, h64km±8km, n19, σ0$54/28, mb3.3/2, 2C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.77**	**259**	⇓P			**Pn**	**05 05 58.3**	**0.0**
JOT					S		**Sn**	**05 06 10.4**	**+0.8**
JKB	**Kayabe**	**0.84**	**295**	⇓P			**Pn**	**05 05 58.6**	**-0.6**
JKB					*e*S		**Sn**	**05 06 11.4**	**+0.3**
JNBK	**Urakawa-nobuka**	**0.91**

comp=Z,2.8nm,0.3s,mb4.7,baz=284,slow=7.4,SNR=39
INK Inuvik 46.73 30 P **P** **05 21 19.5 +0.5**
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 46.73 30 *eP* **P** **05 21 19.0 0.0**
comp=Z,4.0nm,0.3s,mb4.8
YKA Yellowknife Ar 56.14 34 P **P** **05 22 29.1 -0.2**
comp=Z,1.9nm,0.7s,mb4.2,baz=298,slow=6.7,SNR=9.8
YKA pP pP 05 22 41.5 -0.2
comp=Z,1.2nm,0.7s,baz=299,slow=7.2,SNR=4.9
YKA Yellowknife Ar 56.14 34 P **P** **05 22 29.1 -0.2**
YKA *PP pP 05 22 41.5 -0.2
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 56.14 34 P **P** **05 22 29.1 -0.2**
YKA pP pP 05 22 41.5 -0.2
ARCES ARCESS Array B 59.43 340 P **P** **05 22 52.0 -0.4**
comp=Z,0.9nm,0.5s,mb4.1,baz=57,slow=6.2,SNR=8.6
JOF Joensuu 62.23 332 *ep* **P** **05 23 09.2 -2.3**
comp=Z,1.9nm,0.4s,mb4.6
WRA Warramunga Arr 64.15 193 P **P** **05 23 23.6 -0.6**
comp=Z,0.4nm,0.8s,mb3.5,baz=9.0,slow=6.8,SNR=5.9
WRA pP pP 05 23 36.0 -0.8
comp=Z,0.8nm,0.8s,baz=12,slow=6.8,SNR=4.6
FINES FINESS Array B 65.02 333 P **P** **05 23 28.7 -1.2**
comp=Z,1.8nm,0.6s,mb4.3,baz=52,slow=7.5,SNR=7.3
FINES FINESS Array B 65.02 333 P **P** **05 23 28.6 -1.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 65.02 333 P **P** **05 23 28.7 -1.2**
BOZ Bozeman (W) 67.24 48 *eP* **P** **05 23 44.7 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BOZ Bozeman (W) 67.24 48 *eP* **P** **05 23 44.7 +0.6**
comp=Z,1.7nm,0.7s,mb4.2
NVAR Mina Array Bea 67.89 58 P **P** **05 23 49.4 +1.2**
comp=Z,0.6nm,0.6s,mb3.8,baz=298,slow=6.1,SNR=6.2
NVAR pP pP 05 24 02.0 +1.1
comp=Z,1.0nm,0.7s,baz=287,slow=8.3,SNR=6.4
NB2 NORSAR Subarra 69.78 339 P **P** **05 23 59.0 -1.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=32,slow=6.5
NB2 NORSAR Subarra 69.78 339 P **P** **05 23 59.0 -1.0**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
NOA NORSAR Array B 69.78 339 P **P** **05 23 59.3 -0.7**
comp=Z,3.1nm,0.7s,mb4.3,baz=33,slow=6.1,SNR=12
PDAR Pinedale Array 70.23 50 P **P** **05 24 02.6 -0.1**
comp=Z,0.4nm,0.9s,mb3.4,baz=324,slow=4.5,SNR=3.5
PDAR pP pP 05 24 15.3 -0.2
comp=Z,0.9nm,0.6s,baz=298,slow=2.3,SNR=7.3
AKASG Malin Array Be 71.68 324 P **P** **05 24 10.1 -1.4**
comp=Z,2.7nm,0.7s,mb4.3,baz=40,slow=6.2,SNR=5.6
AKASG Malin Array Be 71.68 324 P **P** **05 24 11.2 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 71.68 324 P **P** **05 24 10.1 -1.4**

IDC 29 05:13:11.8±13.0, 1669S×17171W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML1.3/1, MS4.5/1, Ms1 4.5/1, ms1mx2.9/34, Error ellipse: s-maj=328.6km s-min=33.8km az=112.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.76**	**359**	Pn	Pn	05 13 57.4	+0.1
	2.8nm,0.3s,baz=246,slow=19,SNR=3.8						
AFI				Sn	Sn	05 14 25.7	-5.7
	7.4nm,0.3s,baz=201,slow=22,SNR=5.0						
STKA	**Stephens Creek**	**44.82**	**241**	P	P	05 21 28.1	+0.5
	3.2nm,0.9s,baz=95,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**51.14**	**258**	P	P	05 22 16.7	+0.2
	0.3nm,0.4s,baz=97,slow=7.1,SNR=18						
ASAR	**Alice Springs**	**51.27**	**253**	P	P	05 22 17.8	+0.4
	1.8nm,0.5s,baz=88,slow=8.7,SNR=33						

*ISCJB **29** 05:23:45.2±1.4, 672S±008×1270E±02, h404km±17km, mb3.4/5, Error ellipse: s-maj=25.1km s-min=10.1km az=146.6*
*NEIC **29** 05:23:47.7±1.5, 672S×12709E, h416km±20km, mb3.9/2, Error ellipse: s-maj=26.0km s-min=12.7km az=80.0*
*IDC **29** 05:23:48.5±2.6, 678S×12709E, h427km±31km, mb3.1/5, mb1 3.2/8, mb1mx3.2/13, mbtmp3.9/8, Error ellipse: s-maj=43.2km s-min=11.2km az=74.0*

ISC 29 05:23:48.7±1.2, 684S±008×1270E±02, h429km±16km, n15, σ0§70/19, mb3.4/5, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**7.90**	**138**	‖ *i*P	**P**	**05 25 42.6**	**-0.1**
	9.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.27**	**187**	*e*P	**P**	**05 26 20.4**	**+0.6**
	2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.27**	**187**	P	**P**	**05 26 20.4**	**+0.7**
	0.2nm,0.3s,baz=356,slow=11,SNR=8.0						
FITZ				S	**S**	**05 28 23.1**	**-1.3**
	0.1nm,0.3s,baz=93,slow=18,SNR=2.8						
WRAB	**Tennant Creek**	**14.83**	**152**	*e*P	**P**	**05 26 58.7**	**+0.3**
	2.5nm,0.5s						
WRAB				*e*S	**S**	**05 29 34.8**	**-0.5**
WRA	**Warramunga Arr**	**14.83**	**152**	P	**P**	**05 26 57.8**	**-0.6**
	0.7nm,0.3s,baz=331,slow=10,SNR=45						
WRA				S	**S**	**05 29 34.4**	**-0.9**
	0.4nm,0.3s,baz=326,slow=19,SNR=9.5						
WB2	**Warramunga Arr**	**14.84**	**152**	‖ P	**P**	**05 26 58.7**	**+0.2**
AS31	**Alice Springs**	**17.99**	**159**	*e*P	**P**	**05 27 32.3**	**+0.4**
ASAR	**Alice Springs**	**17.99**	**159**	P	**P**	**05 27 32.6**	**+0.7**
	1.1nm,0.3s,baz=338,slow=8.3,SNR=34						
ASAR				S	**S**	**05 30 36.3**	**+0.1**
	0.2nm,0.3s,baz=340,slow=19,SNR=6.4						
ASPA	**Alice Springs**	**17.99**	**159**	*e*P	**P**	**05 27 32.7**	**+0.8**
STKA	**Stephens Creek**	**28.38**	**153**	P	**P**	**05 29 07.5**	**+1.4**
	2.3nm,0.5s,mb3.8,baz=318,slow=8.9,SNR=9.4						
STKA	**Stephens Creek**	**28.38**	**153**	*e*P	**P**	**05 29 07.2**	**+1.0**
MJAR	**Matsushiro Arr**	**44.41**	**13**	P	**P**	**05 31 18.1**	**-1.3**
	3.2nm,0.9s,mb3.6,baz=185,slow=8.8,SNR=5.3						
SONM	**Songino Array**	**57.41**	**344**	P	**P**	**05 32 54.5**	**-0.1**
	0.4nm,0.4s,mb3.1,baz=166,slow=5.7,SNR=4.7						
MKAR	**Makanchi Array**	**66.50**	**328**	P	**P**	**05 33 54.2**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=146,slow=6.2,SNR=3.7						
VNDA	**Vanda**	**72.97**	**173**	P	**P**	**05 34 33.6**	**+0.5**
	0.2nm,0.5s,mb2.9,baz=304,slow=7.6,SNR=3.6						

*ISCJB **29** 05:50:39.9±0.3, 5902S±005×256W±0.1, h10km, mb4.8/29, MS4.2/18, Error ellipse: s-maj=10.1km s-min=6.7km az=112.1*
*MOS **29** 05:50:43.9±1.1, 5904S×2562W, h33km, mb5.0/20, Error ellipse: s-maj=28.9km s-min=11.4km az=102.6*
*IDC **29** 05:50:46.9±1.9, 5904S×2581W, h48km±17km, mb4.5/16, mb1 4.5/17, mb1mx4.4/21, mbtmp4.8/17, ML5.2/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/25, Error ellipse: s-maj=15.1km s-min=13.1km az=59.0*
*NEIC **29** 05:50:49.4±1.7, 5900S×2576W, h70km±14km, mb4.8/23, Error ellipse: s-maj=7.2km s-min=6.3km az=220.0*
*BJI **29** 05:50:49.4, 5900S×2580W, h70km, mB5.0, Ms4.8, Msz4.7*

ISC 29 05:50:41.4±0.3, 5906S±005×257W±01, h10km, n179, σ0§99/66, mb4.8/29, MS4.2/18, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.71**	**155**	*e*	**Pn**	**05 53 55.2**	**-0.7**
VNA1				*e*		05 53 55.7	
VNA1				*e*		05 53 55.9	
VNA1				*e*		05 53 57.3	
VNA1				*e*		05 54 00.0	
VNA1				*e*		05 54 10.8	
VNA1				*e*		05 54 17.0	
VNA1				*e*		05 54 20.8	
VNA1				*e*		05 54 26.6	
VNA1				*e*		05 54 35.0	
VNA1				*e*		05 54 49.9	
VNA1				*e*		05 56 15.0	
VNA1				*e*		05 56 16.7	
VNA1				*e*		05 56 19.0	
VNA1				*e*		05 56 21.9	
VNA1				*e*		05 56 30.6	
VNA3	**Neumayer Olymp**	**13.89**	**158**	*e*	**Pn**	**05 53 57.2**	**-1.1**
VNA3				*e*		05 53 57.9	
VNA3				*e*		05 53 58.4	
VNA3				*e*		05 53 59.4	
VNA3				*e*		05 54 01.7	
VNA3				*e*		05 54 02.5	
VNA3				*e*		05 54 11.7	
VNA3				*e*		05 54 15.8	
VNA3				*e*		05 56 17.4	
VNA3				*e*		05 56 18.6	
VNA3				*e*		05 56 21.3	
VNA3				*e*		05 56 25.2	
SNAA	**Sanae**	**15.68**	**153**	P	**Pn**	**05 54 21.7**	**-0.7**
	5.1nm,0.3s,baz=316,slow=14,SNR=480						
SNAA				S	**Sn**	**05 56 59.8**	**-16**
	0.5nm,0.3s,baz=18,slow=20,SNR=5.9						
SNAA				LR	LR	05 59 02.8	
	comp=Z,238nm,21.8s,baz=128,slow=32						
SNAA	**Sanae**	**15.68**	**153**	*e*	**Pn**	**05 54 20.8**	**-1.6**
SNAA				*e*		05 54 21.6	
SNAA				*e*		05 54 22.6	
SNAA				*e*		05 54 24.0	
SNAA				*e*		05 54 27.9	
SNAA				*e*		05 54 32.1	
SNAA				*e*		05 54 45.3	
SNAA				*e*		05 54 49.4	
SNAA				*e*		05 56 59.0	
SNAA				*e*		05 57 03.1	
SNAA				*e*		05 57 05.8	
SNAA				*e*		05 57 07.6	
SNAA				*e*		05 57 09.8	
SNAA				*e*		05 57 15.7	
SNAA	**Sanae**	**15.68**	**153**	*e*Pn	**Pn**	**05 54 21.3**	**-1.1**
	68nm,0.6s						
SNAA				*e*Sn	**Sn**	**05 56 58.6**	**-18**
PMSA	**Palmer Station**	**18.70**	**236**	P	**Pn**	**05 55 01.3**	**+1.1**
	0.7nm,0.3s,baz=83,slow=10,SNR=9.9						
PMSA				LR	LR	06 01 17.3	
	comp=Z,568nm,19.5s,baz=69,slow=34						
PMSA	**Palmer Station**	**18.70**	**236**	*e*P	**Pn**	**05 55 03.1**	**+3.0**
	21nm,0.8s						
MAIT	**Maitri**	**19.32**	**142**	*e*P	**Pn**	**05 55 07.0**	**-0.7**
MAIT				*e*S	**Sn**	**05 58 26.8**	**-18**
NVL	**N'lazarevskaya**	**19.35**	**142**	*e*P	**Pn**	**05 55 07.8**	**-0.2**
NVL				*i* S	**Sn**	**05 58 47.1**	**+2.1**
NVL				pmax	pmax		
	comp=Z,18nm,1.1s						
NVL				MLR	MLR		
	comp=Z,426nm,21.9s						
USHA	**Ushuaia**	**23.37**	**262**	P	**P**	**05 55 51.5**	**+1.3**
	comp=Z,24nm,0.6s,mb4.8,baz=98,slow=11,SNR=16						
USHA				LR	LR	06 02 50.1	
	comp=Z,794nm,21.9s,MS4.1,baz=66,slow=31						
QSPA	**South Pole Qui**	**31.19**	**180**	*e*P	**P**	**05 57 02.0**	**+1.4**
	comp=Z,36nm,0.6s,mb5.4						
TRQA	**Tornquist**	**31.30**	**296**	*e*P	**P**	**05 57 02.3**	**+0.6**
	comp=Z,26nm,0.7s,mb5.2						
PLCA	**Paso Flores**	**33.39**	**283**	P	**P**	**05 57 20.1**	**+0.2**
	comp=Z,6.0nm,0.5s,mb4.8,baz=147,slow=7.9,SNR=18						
PLCA				LR	LR	06 11 31.6	
	comp=Z,258nm,19.0s,MS4.0,baz=143,slow=37						
PLCA	**Paso Flores**	**33.39**	**283**	*e*P	**P**	**05 57 20.6**	**+0.6**
PLCA				pmax	pmax		
	comp=Z,13nm,0.9s						
PLCA	**Paso Flores**	**33.39**	**283**	*e*P	**P**	**05 57 20.6**	**+0.6**
	comp=Z,13nm,0.9s,mb4.9						
MAW	**Mawson**	**37.28**	**141**	*e*P	**P**	**05 57 53.0**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.3						
MAW	**Mawson**	**37.28**	**141**	P	**P**	**05 57 52.9**	**-0.6**
	comp=Z,5.1nm,0.7s,mb4.5,baz=225,slow=11,SNR=15						
MAW				PcP	PcP	06 00 12.5	-0.3
	comp=Z,4.4nm,0.6s,baz=222,slow=3.4,SNR=6.2						
MAW				LR	LR	06 11 12.7	
	comp=Z,265nm,20.5s,MS4.0,baz=249,slow=33						
MAW	**Mawson**	**37.28**	**141**	P	**P**	**05 57 52.9**	**-0.6**
MAW						06 00 12.5	
MAW				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAW				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CPUP	**Villa Florida**	**39.41**	**312**	P	**P**	**05 58 10.4**	**-1.0**
	comp=Z,1.1nm,0.5s,mb3.8,baz=160,slow=6.6,SNR=7.2						
CPUP				PcP	PcP	06 00 19.6	+0.2
	comp=Z,0.8nm,0.4s,baz=155,slow=1.9,SNR=3.3						
CPUP	**Villa Florida**	**39.41**	**312**	P	**P**	**05 58 10.4**	**-1.0**
CPUP						06 00 19.7	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CPUP	**Villa Florida**	**39.41**	**312**	*e*P	**P**	**05 58 10.1**	**-1.3**
	comp=Z,9.0nm,0.5s,mb4.8						
SUR	**Sutherland**	**40.79**	**70**	P	**P**	**05 58 25.2**	**+2.4**
	comp=Z,3.6nm,0.8s,mb4.1,baz=48,slow=5.3,SNR=3.7						
SUR	**Sutherland**	**40.79**	**70**	*e*P	**P**	**05 58 25.2**	**+2.4**
	comp=Z,11nm,1.0s,mb4.5						
SBA	**Scott Base**	**43.13**	**184**	*e*P	**P**	**05 58 43.4**	**+1.5**
SBA				*e*		06 00 31.9	
SBA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
SBA	**Scott Base**	**43.13**	**184**	*e*P	**P**	**05 58 43.4**	**+1.4**
	comp=Z,11nm,0.6s,mb4.8						
SBA				*e*PcP	PcP	06 00 31.9	+0.4
VNDA	**Vanda**	**43.60**	**182**	P	**P**	**05 58 47.1**	**+1.3**
	comp=Z,23nm,0.6s,mb5.1,baz=187,slow=6.7,SNR=259						
VNDA				LR	LR	06 15 16.1	
	comp=Z,117nm,20.3s,MS3.8,baz=182,slow=34						
VNDA	**Vanda**	**43.60**	**182**	*e*P	**P**	**05 58 47.0**	**+1.3**
VNDA				*e*		06 00 32.9	
VNDA				pmax	pmax		
	comp=Z,24nm,0.7s						
VNDA	**Vanda**	**43.60**	**182**	*e*P	**P**	**05 58 47.0**	**+1.2**
	comp=Z,24nm,0.7s,mb5.0						
VNDA				*e*PcP	PcP	06 00 32.9	-0.2
BOSA	**Boshof**	**46.05**	**72**	P	**P**	**05 59 06.9**	**+1.6**
	comp=Z,2.0nm,0.6s,mb4.2,baz=212,slow=8.9,SNR=5.7						
BOSA				LR	LR	06 13 40.2	
	comp=Z,179nm,20.9s,MS4.0,baz=207,slow=30						
BOSA	**Boshof**	**46.05**	**72**	*e*P	**P**	**05 59 07.7**	**+2.4**
BOSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
BOSA	**Boshof**	**46.05**	**72**	*e*P	**P**	**05 59 07.7**	**+2.5**
	comp=Z,12nm,0.7s,mb4.9						
BDFB	**Brasilia**	**46.37**	**330**	P	**P**	**05 59 08.0**	**+0.2**
	comp=Z,3.6nm,0.5s,mb4.6,baz=161,slow=7.9,SNR=15						
BDFB				LR	LR	06 15 45.2	
	comp=Z,156nm,18.7s,MS4.0,baz=192,slow=32						
MIR	**Mirnyy**	**46.75**	**151**	‖ *i*P	**P**	**05 59 11.0**	**+0.2**
MIR				*i*		05 59 22.0	
MIR				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.9						
LVC	**Limon Verde**	**47.52**	**301**	*e*P	**P**	**05 59 17.1**	**+0.3**
	comp=Z,11nm,0.8s,mb5.0						
LBTB	**Lobatse**	**49.23**	**69**	*e*P	**P**	**05 59 30.1**	**+0.2**
LBTB				*e**PP	pP	05 59 43.8	+11
LBTB				*e*		06 00 53.3	
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
LBTB	**Lobatse**	**49.23**	**69**	*e*P	**P**	**05 59 30.1**	**+0.2**
	comp=Z,9.7nm,0.8s,mb4.9						
LBTB				*e*pP	pP	05 59 43.8	+11
LBTB				*e*PcP	PcP	06 00 53.3	+0.3
TSUM	**Tsumeb**	**50.55**	**57**	*e*P	**P**	**05 59 40.5**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.4						
CASY	**Casey**	**50.81**	**159**	*e*P	**P**	**05 59 42.0**	**0.0**
	comp=Z,12nm,0.7s,mb4.9						
LPAZ	**La Paz**	**52.77**	**306**	P	**P**	**05 59 57.2**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=159,slow=7.2,SNR=17						
LPAZ	**La Paz**	**52.77**	**306**	P	**P**	**05 59 57.2**	**+0.6**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
LPAZ	**La Paz**	**52.77**	**306**	*e*P	**P**	**05 59 56.9**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.4						
SAML	**Samuel**	**57.49**	**315**	*e*P	**P**	**06 00 29.1**	**-1.6**
	comp=Z,4.5nm,0.8s,mb4.5						
LSZ	**Lusaka**	**58.80**	**66**	*e*P	**P**	**06 00 39.4**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
LSZ	**Lusaka**	**58.80**	**66**	*e*P	**P**	**06 00 39.4**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.8						
DBIC	**Dimbokro**	**67.61**	**22**	P	**P**	**06 01 38.4**	**+0.1**
	comp=Z,8.4nm,0.7s,mb4.9,baz=165,slow=5.6,SNR=14						
DBIC				LR	LR	06 23 48.1	
	comp=Z,78nm,21.9s,MS3.9,baz=141,slow=29						
DBIC	**Dimbokro**	**67.61**	**22**	*e*P	**P**	**06 01 38.3**	**0.0**
DBIC				*e**PP	pP	06 01 56.2	+15
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
DBIC	**Dimbokro**	**67.61**	**22**	*e*P	**P**	**06 01 38.3**	**0.0**
	comp=Z,6.8nm,0.6s,mb4.8						
DBIC				*e*pP	pP	06 01 56.1	+15
ROSC	**El Rosal**	**74.43**	**309**	LR	LR	06 34 52.9	
	comp=Z,137nm,20.1s,MS4.2,baz=21,slow=36						
TOA0	**Torodi Ar. Sit**	**75.32**	**28**	*e*P	**P**	**06 02 25.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.32**	**28**	P	**P**	**06 02 25.3**	**+0.5**
	comp=Z,34nm,0.6s,mb5.5,baz=198,slow=6.4,SNR=231						
TORD				LR	LR	06 27 35.6	
	comp=Z,120nm,21.1s,MS4.2,baz=185,slow=29						
KMBO	**Kilima Mbogo**	**75.43**	**67**	LR	LR	06 32 46.5	
	comp=Z,272nm,18.7s,MS4.6,baz=153,slow=33						
RPZ	**Rata Peaks**	**76.66**	**192**	P	**P**	**06 02 31.9**	**-0.6**
	comp=Z,16nm,1.0s,mb4.9,baz=171,slow=4.6,SNR=6.3						
RPZ				LR	LR	06 32 09.1	
	comp=Z,112nm,20.4s,MS4.2,baz=344,slow=32						
SDV	**Santo Domingo**	**76.69**	**314**	*e*P	**P**	**06 02 32.0**	**-0.7**
	comp=Z,2.3nm,0.4s,mb4.5						
RKT	**Rikitea**	**79.79**	**242**	*e*LR	LR	06 27 47.6	
	comp=Z,282nm,27.0s,baz=147						
URZ	**Urewera**	**81.20**	**198**	P	**P**	**06 02 57.7**	**+0.3**
	comp=Z,8.2nm,0.7s,mb4.8,baz=210,slow=2.8,SNR=8.3						
MTP	**Monte Pirata**	**83.51**	**322**	*e*P	**P**	**06 03 09.0**	**-0.4**
JTS	**JuntasAbangare**	**83.79**	**302**	*e*P	**P**	**06 03 09.7**	**-1.2**
JTS				pmax	pmax		
	comp=Z,3.0nm,0.7s						
JTS	**JuntasAbangare**	**83.79**	**302**	*e*P	**P**	**06 03 09.7**	**-1.2**
	comp=Z,2.8nm,0.7s,mb4.5						
FORT	**Forrest**	**87.88**	**158**	*e*P	**P**	**06 03 30.6**	**-0.6**
	comp=Z,28nm,0.5s,mb5.8						
STKA	**Stephens Creek**	**88.80**	**169**	*e*P	**P**	**06 03 35.2**	**-0.3**
	comp=Z,8.5nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**88.80**	**169**	P	**P**	**06 03 35.5**	**+0.1**
	comp=Z,10nm,0.7s,mb5.3,baz=166,slow=6.5,SNR=16						
STKA				LR	LR	06 41 46.7	
	comp=Z,261nm,19.4s,MS4.7,baz=207,slow=34						
PPT	**Papeete**	**91.02**	**232**	*e*LR	LR	06 33 00.1	
	comp=Z,110nm,22.0s						
PPT	**Papeete**	**91.02**	**232**	LR	LR	06 34 57.1	
	comp=Z,120nm,19.4s,MS4.3,baz=37,slow=29						
ASPA	**Alice Springs**	**95.88**	**161**	*e*P	**P**	**06 04 07.2**	**-1.0**
ASAR	**Alice Springs**	**95.88**	**161**	P	**P**	**06 04 07.2**	**-1.0**
	comp=Z,5.8nm,0.6s,mb5.2,baz=184,slow=4.1,SNR=36						
ASAR				PKiKP	PKiKP	06 08 46.3	-1.1
	comp=Z,0.5nm,0.8s,baz=170,slow=1.3,SNR=4.8						
ASAR				PKKPbc	PKKPbc	06 20 55.5	-1.3
	comp=Z,1.8nm,0.6s,baz=14,slow=2.4,SNR=22						
ASAR				LR	LR	06 43 38.5	
	comp=Z,216nm,21.6s,MS4.6,baz=157,slow=33						
AS31	**Alice Springs**	**95.88**	**161**	*e*P	**P**	**06 04 07.2**	**-1.1**
KEST	**Kesra**	**98.83**	**28**	LR	LR	06 41 18.6	
	comp=Z,40nm,21.1s,MS3.9,baz=271,slow=31						
WRA	**Warramunga Arr**	**99.60**	**161**	P	**P**	**06 04 23.4**	**-1.6**
	comp=Z,0.9nm,0.8s,mb4.3,baz=196,slow=4.3,SNR=6.8						
WRA				PKiKP	PKiKP	06 08 53.0	-1.0
	comp=Z,0.3nm,0.5s,baz=215,slow=1.5,SNR=5.2						
WRA				PKKPbc	PKKPbc	06 20 45.7	-0.9
	comp=Z,1.6nm,0.7s,baz=354,slow=2.8,SNR=19						
FITZ	**Fitzroy Crossi**	**99.61**	**152**	LR	LR	06 47 49.7	
	comp=Z,106nm,18.8s,MS4.4,baz=246,slow=34						
WVT	**Waverly**	**107.87**	**311**	*e*PKP	PKiKP	06 09 06.9	-2.2
WCI	**Wyandotte Cave**	**109.13**	**313**	*e*PKP	PKiKP	06 09 09.8	-1.7
PMG	**Port Moresby**	**111.53**	**172**	PKiKP	PKiKP	06 09 15.8	-0.2
	comp=Z,21nm,0.8s,baz=188,slow=3.9,SNR=3.8						
PMG	**Port Moresby**	**111.53**	**172**	*i* PKiKP	PKiKP	06 09 15.8	-0.2
PMG				pmax	pmax		
	comp=Z,21nm,0.8s						
PMG	**Port Moresby**	**111.53**	**172**	*e*PKP	PKiKP	06 09 15.6	-0.4
CLL	**Collm**	**114.42**	**26**	PKiKP	PKiKP	06 09 22.0	+0.5
TUC	**Tucson**	**114.70**	**292**	*e*PKiKP	PKiKP	06 09 21.0	-1.0
EKA	**Eskdalemuir Ar**	**115.46**	**14**	PKKPbc	PKKPbc	06 19 55.2	-1.6
	comp=Z,0.4nm,0.5s,baz=0.0,slow=2.8,SNR=3.6						
SDCO	**Great Sand Dun**	**116.70**	**299**	*e*PKPdf	PKPdf	06 09 25.0	-0.9
ECSD	**EROS,Sioux Fal**	**117.85**	**309**	*e*PKPdf	PKPdf	06 09 25.8	-2.3
AKASG	**Malin Array Be**	**118.16**	**36**	PKP	PKPdf	06 09 25.9	-2.8
	comp=Z,1.4nm,0.4s,baz=236,slow=1.5,SNR=6.6						
AKASG				PKKPbc	PKKPbc	06 19 37.5	-10
	comp=Z,0.3nm,0.3s,baz=50,slow=1.6,SNR=9.0						
SCHQ	**Schefferville**	**118.23**	**334**	PKP	PKPdf	06 09 26.8	-2.0
	comp=Z,3.5nm,0.6s,baz=200,slow=3.1,SNR=6.2						
SMCO	**Snowmass**	**118.53**	**299**	*e*PKPdf	PKPdf	06 09 29.0	-0.4
PV10	**Paradox Valley**	**118.82**	**297**	*e*PKPdf	PKPdf	06 09 29.1	-0.8
CCUT	**Cedar City**	**120.18**	**293**	*e*PKPdf	PKPdf	06 09 32.3	-0.2
MSU	**Marysvale**	**120.39**	**295**	*e*PKiKP	PKPdf	06 09 32.7	-0.3
RSSD	**Black Hills**	**121.24**	**304**	*e*PKiKP	PKPdf	06 09 32.9	-1.7
DUG	**Dugway**	**122.03**	**296**	*e*PKiKP	PKPdf	06 09 35.3	-0.8
TCUT	**Toone Canyon**	**122.11**	**297**	*e*PKPdf	PKPdf	06 09 36.1	-0.2
HWUT	**Hardware Ranch**	**122.57**	**297**	*e*PKPdf	PKPdf	06 09 36.0	-1.1
BW06	**Boulder Array**	**122.58**	**300**	*e*PKPdf	PKPdf	06 09 34.9	-2.2
PDAR	**Pinedale Array**	**122.58**	**300**	PKP	PKPdf	06 09 35.5	-1.7
	comp=Z,1.0nm,0.4s,baz=123,slow=5.5,SNR=17						
BGU	**Big Grassy Mou**	**122.71**	**296**	*e*PKPdf	PKPdf	06 09 36.6	-0.9
HFS	**Hagfors**	**122.78**	**22**	PKP	PKPdf	06 09 34.4	-3.1
	comp=Z,1.6nm,0.4s,baz=146,slow=2.9,SNR=11						
HFS	**Hagfors**	**122.78**	**22**	PKiKP	PKPdf	06 09 34.4	-3.2
HFS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ULM	**Lac du

SUMG	Summit	131.64	355	*e*PKPdf	PKPdf	06 09 53.9	-0.6		
EDM	Edmonton	132.16	306	*e*PKIKP	PKPdf	06 09 52.8	-2.7		
PGC	Sidney	133.39	295	*e*P	Pdif	06 06 52.8	-2.4		
ARCES	ARCESS Array B	133.44	22	PKhKP		06 09 42.2			
	comp=Z,3.6nm,0.9s,baz=218,slow=1.4,SNR=7.4								
ARCES				PKP	PKPdf	06 09 54.7	-3.1		
	comp=Z,5.4nm,0.5s,baz=220,slow=0.9,SNR=5.1								
ARCES	ARCESS Array B	133.44	22	PKHKP		06 09 42.2			
ARCES						06 09 54.7			
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ARCES				pmax	pmax				
	comp=Z,5.0nm,0.5s								
ARCES	ARCESS Array B	133.44	22	PKP		06 09 42.2			
ARCES				PKP	PKPdf	06 09 54.7	-3.1		
ARE0	ARCESS Array S	133.44	22	*e*PKPdf	PKPdf	06 09 55.2	-2.6		
ZRNK	Zerenda	135.02	59	*e*PKIKP	PKPdf	06 10 00.0	-0.8		
BVAR	Borovoye Array	135.68	59	PKP	PKPdf	06 10 00.5	-1.6		
	comp=Z,3.2nm,0.6s,baz=215,slow=1.8,SNR=16								
BVAR				SKPbc	SKPbc	06 13 27.9	-5.6		
	comp=Z,1.1nm,0.9s,baz=225,slow=0.2,SNR=4.2								
BVAR	Borovoye Array	135.68	59	PKIKP	PKPdf	06 10 00.5	-1.6		
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BVAR				pmax	pmax				
	comp=N,1.0nm,0.9s								
BVAR	Borovoye Array	135.68	59	PKP	PKPdf	06 10 00.5	-1.6		
BVAR				SKPbc	SKPbc	06 13 27.9	-5.6		
MKAR	Makanchi Array	137.04	73	PKhKP		06 09 51.1			
	comp=N,0.9nm,0.7s,baz=227,slow=3.7,SNR=4.8								
MKAR				PKP	PKPdf	06 10 01.8	-2.8		
	comp=N,1.6nm,0.7s,baz=260,slow=1.7,SNR=7.3								
MKAR				SKPbc	SKPbc	06 13 31.5	-6.1		
	comp=N,1.4nm,1.0s,baz=339,slow=3.1,SNR=4.8								
MKAR	Makanchi Array	137.04	73	PKHKP		06 09 51.2			
MKAR						06 10 01.8			
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR				pmax	pmax				
	comp=N,1.0nm,1.0s								
MKAR	Makanchi Array	137.04	73	PKP		06 09 51.1			
MKAR				PKP	PKPdf	06 10 01.8	-2.8		
MKAR				SKPbc	SKPbc	06 13 31.5	-6.1		
WMQ	Urumqi	137.67	81	*e*PKP	PKPdf	06 10 05.0	-0.8		
WMQ				PP	PP				
	comp=Z,58nm,6.4s								
WMQ				LR	LR				
	comp=N,110nm,22.8s,MS4.7								
WMQ				LR	LR				
	comp=E,104nm,24.2s,MS4.7								
WMQ				LR	LR				
	comp=Z,88nm,21.6s,MS4.5								
YKA	Yellowknife Ar	138.90	315	PKhKP		06 09 57.6			
	comp=Z,0.5nm,0.4s,baz=123,slow=3.3,SNR=14								
YKA				PKP	PKPdf	06 10 06.2	-1.8		
	comp=Z,18nm,0.6s,baz=127,slow=2.4,SNR=112								
LZH	Lanzhou	140.23	103	*e*PKP	PKPdf	06 10 14.8	+4.4		
GTA	Gaotai	140.71	95	*e*PKP	PKPdf	06 10 08.3	-3.0		
RES	Resolute Bay	140.94	337	*e*PKIKP	PKPdf	06 10 10.5	-1.2		
NJ2	Nanjing	144.06	123	*e*PKP	PKPdf	06 10 21.3	+4.0		
CBIJ	Chichi jima	146.96	160	PKPbc	PKPbc	06 10 22.4	-1.8		
	comp=Z,53nm,0.6s,baz=244,slow=2.6,SNR=7.0								
HHC	Hu-ho-hao-te	147.76	105	*e*PKP	PKPdf	06 10 23.0	-0.5		
HHC				PKP2	PKPab	06 10 31.0	+2.3		
HHC				APKP		06 10 40.3			
HHC				XPKP		06 10 47.5			
HHC				PKS		06 13 56.5			
HHC				PP	PP	06 13 58.3	+5.1		
HHC				SKS	SKSdf	06 17 23.5	-8.6		
HHC				SKKS	SKKSac	06 20 38.5	-6.6		
HHC				SS	SS	06 32 54.3	-3.4		
HHC				PP	PP				
	comp=Z,31nm,3.9s								
HHC				LR	LR				
	comp=Z,52nm,5.3s								
INK	Inuvik	148.60	317	PKPbc	PKPbc	06 10 26.0	-2.6		
	comp=Z,28nm,0.7s,baz=85,slow=2.1,SNR=72								
INK	Inuvik	148.60	317	PKP2	PKPbc	06 10 26.0	-2.6		
INK				pmax	pmax				
	comp=Z,28nm,0.7s								
INK	Inuvik	148.60	317	*e*PKPbc	PKPbc	06 10 25.8	-2.8		
DAWY	Dawson	149.34	308	*e*PKPbc	PKPbc	06 10 27.8	-2.7		
BJI	Beijing	149.40	111	*e*PKP	PKPbc	06 10 29.5	-1.1		
MOY	Mondy	149.56	80	*e*PKP2	PKPbc	06 10 29.8	-1.2		
ZAK	Zakamensk	149.98	84	*e*PKIKP	PKPdf	06 10 25.0	-2.1		
ZAK			*e*			06 10 30.1			
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.3s								
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.3s								
SONM	Songino Array	150.01	91	PKP	PKPdf	06 10 25.3	-1.9		
	comp=Z,0.7nm,0.6s,baz=204,slow=2.1,SNR=4.9								
SONM				PKPbc	PKPbc	06 10 30.5	-1.6		
	comp=Z,7.1nm,0.6s,baz=183,slow=0.5,SNR=32								
SONM	Songino Array	150.01	91	PKHKP	PKPbc	06 10 25.3	-6.8		
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SONM				pmax	pmax				
	comp=Z,7.0nm,0.6s								
EGAK	Eagle	150.31	309	*e*PKPbc	PKPbc	06 10 30.8	-2.0		
TLY	Talaya	150.92	82	*e*PKIKP	PKPbc	06 10 33.0	-1.3		
TLY			*e*			06 10 49.2			
TLY				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KDAK	Kodiak Island	152.75	291	PKPbc	PKPbc	06 10 36.9	-1.6		
	comp=Z,7.6nm,0.5s,baz=110,slow=15,SNR=12								
COLA	College	153.07	307	*e*PKIKP	PKPbc	06 10 36.9	-2.3		
COLA			*e*			06 10 48.4			
MCK	McKinley	153.21	304	*e*PKIKP	PKPbc	06 10 37.4	-2.1		
MJAR	Matsushiro Arr	155.15	148	PKPbc	PKPdf	06 10 42.6	+7.9		
	comp=Z,1.0nm,0.4s,baz=210,slow=1.4,SNR=4.5								
MJAR				PKPab	PKPab	06 10 58.3	-1.1		
	comp=Z,2.5nm,0.5s,baz=193,slow=4.5,SNR=4.7								
MJAR	Matsushiro Arr	155.15	148	PKIKP	PKPdf	06 10 42.6	+7.8		
MJAR						06 10 58.3			
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
MJAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
IMA2	Indian Mountai	155.69	309	*e*PKPdif	PKPdf	06 10 43.0	+7.6		
IMA2				*e*PKPab	PKPab	06 11 00.1	-1.7		
BOD	Bodaibo	159.10	76	*e*PKIKP	PKPdf	06 10 34.4	-5.4		
BOD			*e*			06 11 13.3			
BOD				pmax	pmax				
	comp=Z,2.0nm,1.0s								
BOD				pmax	pmax				
	comp=Z,5.0nm,1.2s								
MDJ	Mudanjiang	159.16	123	PKP	PKPdf	06 10 36.5	-3.3		

ISCJB ***29*** *05:52:21.0±0.5,3140S±004×17964W±008,h201km±5km, mb4.7/23, Error ellipse: s-maj=12.3km s-min=4.8km az=40.3*

BJI ***29*** *05:52:20.5,3150S×17940W,h216km,mB5.1,mb5.1*

NEIC ***29*** *05:52:22.5±1.1,3148S×17937W,h217km±10km,mb4.7/10, Error ellipse: s-maj=16.2km s-min=10.9km az=106.0*

IDC ***29*** *05:52:23.3±0.8,3126S×17936W,h216km±7km, mb4.2/10, mb1 4.3/13,mb1mx4.2/17,mbtmp4.7/13, Error ellipse: s-maj=12.6km s-min=9.8km az=117.0*

MOS ***29*** *05:52:23.1±1.4,3127S×17951W,h223km, mb5.0/6, Error ellipse: s-maj=18.8km s-min=15.9km az=8.6*

ISC 29 05:52:22.0±0.5,3145S±004×17955W±008,h199km±5km, n171,σ1§42/133,mb4.7/23,7C-5D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	2.61	33	P	Pn	05 53 07.9	+0.9
	65nm,0.3s,baz=87,slow=22,SNR=3.0						
RAO				S	Sn	05 53 40.9	-1.3
	177nm,0.3s,baz=78,slow=22,SNR=4.7						
RAO	Raoul Island	2.61	33	P	Pn	05 53 07.9	+0.9
RAO				S	Sn	05 53 40.9	-1.2
RAO				pmax	pmax		
	comp=Z,65nm,0.3s						
RAO				smax			
	comp=N,177nm,0.3s						
MXZ	Matakaoa Point	6.35	196	P	Pn	05 53 55.9	+2.2
MXZ	Matakaoa Point	6.35	196	PN	Pn	05 53 55.7	+2.0
MXZ				SN	Sn	05 55 10.9	+4.6
PUZ	Puketiti	6.85	195	P	Pn	05 54 01.9	+1.8
PUZ	Puketiti	6.85	195	*e*PN	Pn	05 54 01.7	+1.6
PUZ				*e*SN	Sn	05 55 20.5	+2.5
MWZ	Matawai	7.27	198	P	Pn	05 54 07.4	+1.7
MWZ	Matawai	7.27	198	*e*PN	Pn	05 54 07.2	+1.5
MWZ				*e*SN	Sn	05 55 30.3	+2.2
URZ	Urewera	7.33	201	P	Pn	05 54 09.4	+3.0
	comp=N,3.3nm,0.3s,baz=53,slow=3.0,SNR=20						
URZ				S	Sn	05 55 34.2	+4.9
	comp=N,28nm,0.3s,baz=147,slow=16,SNR=12						
URZ	Urewera	7.33	201	P	Pn	05 54 07.9	+1.5
URZ	Urewera	7.33	201	*e*PN	Pn	05 54 07.9	+1.6
URZ				*e*SN	Sn	05 55 32.5	+3.2
KNZ	Kokohu	7.89	196	*e*P	Pn	05 54 13.8	+0.1
KNZ	Kokohu	7.89	196	*e*PN	Pn	05 54 13.8	+0.2
BKZ	Black Stump Fm	8.35	202	*e*P	Pn	05 54 19.9	+0.2
BKZ	Black Stump Fm	8.35	202	*e*PN	Pn	05 54 19.8	+0.1
BKZ				SN	Sn	05 55 56.2	+2.7
TUVZ	Tukino	8.73	205	P	Pn	05 54 30.0	+5.4
WNVZ	Wahianoa	8.80	205	P	Pn	05 54 27.4	+1.9
WNVZ	Wahianoa	8.80	205	*e*PN	Pn	05 54 27.4	+1.8
PXZ	Pawanui	9.04	198	*e*PN	Pn	05 54 27.9	-0.8
RAEZ	Rainy Point	9.25	211	P	Pn	05 54 35.7	+4.3
TSZ	Takapari Road	9.33	202	P	Pn	05 54 34.7	+2.2
TSZ	Takapari Road	9.33	202	*e*PN	Pn	05 54 34.4	+2.0
PKE	Pukeiti	9.35	213	P	Pn	05 54 40.1	+7.3
NEZ	North Egmont	9.37	212	P	Pn	05 54 40.6	+7.7
WAZ	Wanganui	9.40	207	P	Pn	05 54 37.0	+3.6
WAZ	Wanganui	9.40	207	*e*PN	Pn	05 54 34.6	+1.2
DFE	Dawson Falls	9.41	212	P	Pn	05 54 37.8	+4.3
NRZ	Ngariki Road	9.49	212	P	Pn	05 54 37.2	+2.6
BFZ	Birch Farm	9.82	199	*e*P	Pn	05 54 37.2	-1.6
BFZ	Birch Farm	9.82	199	PN	Pn	05 54 37.1	-1.7
BFZ				*e*SN	Sn	05 56 26.2	-2.3
MRZ	Mangatainoka R	10.00	202	*e*P	Pn	05 54 39.5	-1.6
MRZ	Mangatainoka R	10.00	202	*e*PN	Pn	05 54 39.0	-2.1
MRZ				*e*SN	Sn	05 56 26.9	-5.9
KIW	Kapiti Island	10.40	204	P	Pn	05 54 44.5	-1.8
KIW	Kapiti Island	10.40	204	PN	Pn	05 54 44.3	-2.1
MTW	Mount Morrison	10.47	201	P	Pn	05 54 47.1	-0.2
MTW				S	Sn	05 56 42.4	-1.8
PAWZ	Paruwai Farm	10.70	201	P	Pn	05 54 49.1	-1.1
MSWZ	Moikau Station	10.79	201	P	Pn	05 54 50.9	-0.4
MRW	Makara Radio	10.80	204	P	Pn	05 54 50.7	-0.8
SNZO	South Karori	10.87	204	P	Pn	05 54 51.3	-1.0
SNZO	South Karori	10.87	204	*e*PN	Pn	05 54 51.0	-1.4
SNZO				*e*SN	Sn	05 56 50.3	-3.2
BHW	Baring Head	10.90	203	P	Pn	05 54 52.1	-0.7
TCW	Tory Channel	10.94	205	P	Pn	05 54 51.2	-2.0
NNZ	Nelson	11.29	208	P	Pn	05 54 57.9	+0.2
NNZ				S	Sn	05 57 01.3	-2.2
NNZ	Nelson	11.29	208	*e*PN	Pn	05 54 56.4	-1.3
NNZ				*e*SN	Sn	05 57 01.3	-2.2
QRZ	Quartz Range	11.33	212	*e*P	Pn	05 54 59.0	+0.7
QRZ	Quartz Range	11.33	212	*e*PN	Pn	05 54 58.9	+0.6
BSWZ	Blackbirch Sta	11.52	205	P	Pn	05 54 59.1	-1.6
THZ	Tophouse	11.94	208	*e*P	Pn	05 55 04.3	-1.7
THZ	Tophouse	11.94	208	*e*PN	Pn	05 55 04.1	-1.9
KHZ	Kahutara	12.26	205	*e*P	Pn	05 55 07.7	-2.3
KHZ	Kahutara	12.26	205	*e*PN	Pn	05 55 07.5	-2.5
KHZ				SN	Sn	05 57 21.5	-5.1
DSZ	Denniston Nort	12.39	212	*e*P	Pn	05 55 12.5	+0.7
DSZ	Denniston Nort	12.39	212	*e*PN	Pn	05 55 12.1	+0.3
LTZ	Lake Taylor	13.05	208	*e*P	Pn	05 55 18.0	-2.0
MQZ	McQueen's Vall	13.70	205	*e*P	Pn	05 55 26.7	-1.4
MQZ	McQueen's Vall	13.70	205	*e*PN	Pn	05 55 27.6	-0.5
MQZ				SN	Sn	05 57 50.9	-10
RPZ	Rata Peaks	14.32	209	P	Pn	05 55 35.6	-0.2
	comp=N,1.4nm,0.3s,baz=223,slow=19,SNR=8.4						
RPZ				S	S	05 58 08.7	-6.3
	comp=N,2.3nm,0.3s,baz=66,slow=21,SNR=7.9						
FOZ	Fox Glacier	14.79	212	*e*P	Pn	05 55 40.9	-0.6
FOZ	Fox Glacier	14.79	212	*e*PN	Pn	05 55 39.8	-1.7
LBZ	Lake Benmore	15.22	209	*e*P	Pn	05 55 47.5	+0.6
LBZ	Lake Benmore	15.22	209	*e*PN	Pn	05 55 47.5	+0.7
ODZ	Otahua Downs	15.59	207	*e*P	Pn	05 55 51.4	+0.2
ODZ	Otahua Downs	15.59	207	*e*PN	Pn	05 55 50.8	-0.5
DZM	Mont Dzumac	15.60	303	P	Pn	05 55 54.0	+2.6
	comp=N,1.7nm,0.3s,baz=67,slow=20,SNR=17						
JCZ	Jackson Bay	15.61	213	*e*P	Pn	05 55 51.6	+0.1
JCZ	Jackson Bay	15.61	213	*e*PN	Pn	05 55 50.6	-0.9
WKZ	Wanaka	16.08	211	*e*P	P	05 55 58.1	+1.4
AFI	Afiamalu	18.86	24	S	S	05 59 57.6	+6.8
	comp=N,10nm,0.3s,baz=129,slow=8.7,SNR=9.6						
TOO	Toolangi	29.33	248	*e*P	P	05 58 09.4	+3.4
	comp=N,6.6nm,0.5s,mb4.5						
TOO	Toolangi	29.33	248	*e*P	P	05 58 09.4	+3.4
TOO				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
CTA	Charters Tower	32.68	282	⇑ *i*P	P	05 58 37.1	+1.8
	comp=Z,19nm,0.6s,mb4.8						
CTA	Charters Tower	32.68	282	P	P	05 58 37.2	+1.9
	comp=Z,24nm,0.6s,mb4.9,baz=102,slow=10,SNR=32						
CTA	Charters Tower	32.68	282	P	P	05 58 37.2	+1.9
CTA				pmax	pmax		
	comp=Z,24nm,0.6s						
CTAO	Charters Tower	32.68	282	*e*P	P	05 58 36.5	+1.2
CTAO				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.8						
CTAO	Charters Tower	32.68	282	*e*P	P	05 58 36.5	+1.2
	comp=Z,17nm,0.6s,mb4.8						
STKA	Stephens Creek	32.95	259	⇓ *i*P	P	05 58 40.3	+2.6
	comp=Z,38nm,0.8s,mb5.0						
STKA	Stephens Creek	32.95	259	P	P	05 58 40.8	+3.1
	comp=Z,56nm,0.9s,mb5.1,baz=96,slow=9.6,SNR=81						
AS31	Alice Springs	41.73	269	*e*P	P	05 59 51.8	+0.4
ASAR	Alice Springs	41.73	269	P	P	05 59 52.5	+1.1
	comp=Z,39nm,0.7s,mb5.0,baz=104,slow=7.5,SNR=360						
ASAR	Alice Springs	41.73	269	P	P	05 59 52.6	+1.2
ASAR				pmax	pmax		
	comp=Z,39nm,0.7s						
ASPA	Alice Springs	41.74	269	*e*P	P	05 59 51.8	+0.4
WB2	Warramunga Arr	42.81	274	⇓ *i*P	P	05 59 59.9	-0.2
WRAB	Tennant Creek	42.82	274	*d i*P	P	05 59 59.2	-0.9
WRAB	Tennant Creek	42.82	274	*e*P	P	06 00 00.0	-0.1
	comp=Z,49nm,0.7s,mb5.0						
WRA	Warramunga Arr	42.82	274	P	P	06 00 00.6	+0.4
	comp=Z,75nm,0.7s,mb5.2,baz=112,slow=8.0,SNR=443						
WRA	Warramunga Arr	42.82	274	P	P	06 00 00.6	+0.4
WRA				pmax	pmax		
	comp=Z,75nm,0.7s						
VNDA	Vanda	46.92	185	P	P	06 00 33.5	+1.1
	comp=Z,3.5nm,0.8s,mb3.7,baz=290,slow=4.8,SNR=3.3						
VNDA	Vanda	46.92	185	P	P	06 00 33.5	+1.0
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KAKA	Kakadu	47.82	282	*e*P	P	06 00 38.6	-0.8
	comp=Z,9.0nm,0.6s,mb4.3						
FITZ	Fitzroy Crossi	51.04	272	*e*P	P	06 01 03.8	+0.1
	comp=Z,9.4nm,1.0s,mb4.2						
QSPA	South Pole Qui	58.66	180	*e*P	P	06 02 01.3	+3.0
	comp=Z,34nm,0.8s,mb5.0						
PMSA	Palmer Station	71.86	156	P	P	06 03 22.3	-0.7
	comp=Z,4.7nm,0.7s,mb4.3,baz=127,slow=5.1,SNR=4.3						
SYO	Syowa Base	75.79	194	⇑ *e*P	P	06 03 45.6	-0.3
SNAA	Sanae	77.14	179	P	P	06 03 54.1	+0.7
	comp=Z,3.3nm,0.8s,mb4.0,baz=202,slow=4.3,SNR=25						
SNAA	Sanae	77.14	179	*e*P	P	06 03 54.6	+1.2
SNAA				*e*		06 03 55.7	
SNAA				*e*		06 04 03.3	
SNAA				*e*		06 04 50.1	
SNAA	Sanae	77.14	179	*d*P	P	06 03 50.0	-3.4
SNAA				*j* *PP	pP	06 04 45.5	+4.3
SNAA	Sanae	77.14	179	*e*P	P	06 03 54.0	+0.5
	comp=Z,18nm,1.2s,mb4.6						
VNA3	Neumayer Olymp	77.34	177	*e*P	P	06 03 55.6	+1.0
VNA3				*e*		06 03 57.4	
VNA3				*e*		06 04 06.4	
VNA3				*e*		06 04 32.1	
VNA3				*e*	pP	06 04 43.4	+1.0
VNA3				*e*		06 04 49.3	
VNA3				*e*		06 04 52.4	
VNA3				*e*		06 05 02.4	
MAIT	Maitri	77.74	184	*e*P	P	06 03 57.2	+0.4
VNA1	Neumayer--Stat	78.00	177	*e*P	P	06 04 00.1	+1.9
VNA1				*e*		06 04 08.9	
MJAR	Matsushiro Arr	78.36	326	P	P	06 03 58.6	-1.6
	comp=Z,1.4nm,0.7s,mb3.7,baz=188,slow=3.4,SNR=4.2						
MJAR	Matsushiro Arr	78.36	326	P	P	06 03 58.6	-1.6
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PLCA	Paso Flores	82.76	134	P	P	06 04 24.7	+1.2
	comp=Z,2.5nm,0.8s,mb4.0,baz=184,slow=6.5,SNR=3.6						
PLCA	Paso Flores	82.76	134	P	P	06 04 24.7	+1.1
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YSS	Yuzh-Sakhalins	85.12	335	⇑ *i*P	P	06 04 32.5	-3.0
YSS				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.8						
NJ2	Nanjing	85.92	312	*e*P	P	06 04 35.5	-3.9
NJ2				AP	pP	06 05 30.0	+1.8
NJ2				XP	sP	06 05 52.3	+3.2
NJ2				PP	PP	06 08 00.0	-2.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,290nm,4.7s						
NJ2				LR	LR		
	comp=N,560nm,33.4s						
NJ2				LR	LR		
	comp=E,960nm,29.6s						
NJ2				LR	LR		
	comp=Z,330nm,27.2s						
PET	Petropavlovsk	86.24	347	⇓ *i*P	P	06 04 35.3	-5.7
PET				pmax	pmax		
	comp=Z,76nm,1.6s,mb5.2						
NVAR	Mina Array Bea	89.92	44	P	P	06 04 58.4	0.0
	comp=Z,1.0nm,0.9s,mb3.6,baz=222,slow=9.4,SNR=6.6						
KDAK	Kodiak Island	91.74	14	P	P	06 05 06.2	-0.7
	comp=Z,10nm,1.1s,mb4.7,baz=153,slow=6.8,SNR=3.6						
KMI	Kunming	93.11	298	P	P	06 05 13.0	-0.2
KMI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
KMI	Kunming	93.11	298	P	P	06 05 13.1	-0.1
CD2	Chengdu	95.52	303	*e*P	P	06 05 23.3	-0.9
CD2				PP	PP	06 09 18.8	+1.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,120nm,19.2s						
CD2				LR	LR		
	comp=Z,110nm,18.2s						
CD2	Chengdu	95.52	303	*e*PKP	PKiKP	06 10 02.3	-0.9
HHC	Hu-ho-hao-te	96.01	315	*e*P	P	06 05 25.3	-1.1
HHC				PP	PP	06 09 22.0	+0.5
HHC				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,67nm,4.8s						
HHC				LR	LR		
	comp=N,99nm,5.8s						
HHC				LR	LR		
	comp=E,186nm,5.2s						
HHC				LR	LR		
	comp=Z,79nm,4.9s						
SEY	Seymchan	96.70	347	⇑ *e*P	P	06 05 22.7	-6.8
LZH	Lanzhou	98.28	307	*e*P	P	06 05 36.0	-0.6
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb5.3						
LZH	Lanzhou	98.28	307	*e*P	P	06 05 36.0	-0.6
LZH				pP	pP	06 05 56.8	-29
LZH				sP	sP	06 06 05.1	-42
WMQ	Urumqi	112.83	308	*e*PKP	PKiKP	06 10 30.0	-4.9
WMQ				*e*PP	PP	06 11 25.0	-0.9
WMQ				PKS		06 14 05.0	
WMQ				PP	PP		
	comp=Z,68nm,5.2s						
WMQ				LR	LR		
	comp=N,188nm,22.6s						
WMQ				LR	LR		
	comp=E,169nm,21.8s						
WMQ				LR	LR		
	comp=Z,225nm,23.0s						
MKAR	Makanchi Array	117.42	310	PKP	PKPdf	06 10 41.3	-2.4
	comp=Z,1.2nm,0.6s,baz=90,slow=2.9,SNR=4.9						
MKAR	Makanchi Array	117.42	310	PKIKP	PKPdf	06 10 41.3	-2.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	Borovoye Array	126.22	315	PKP	PKPdf	06 10 58.4	-2.3
	comp=Z,5.1nm,0.8s,baz=114,slow=1.8,SNR=7.9						
BVAR	Borovoye Array	126.22	315	PKIKP	PKPdf	06 10 58.4	-2.2
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSZ	Lusaka	126.45	214	*e*PKIKP	PKPdf	06 11 01.6	+0.5
ZRNK	Zerenda	127.04	315	*e*PKIKP	PKPdf	06 10 59.4	-2.8
KMBO	Kilima Mbogo	132.38	234	PKP	PKPdf	06 11 13.8	+1.4
	comp=Z,1.2nm,0.6s,baz=243,slow=2.2,SNR=3.3						
KMBO	Kilima Mbogo	132.38	234	PKIKP	PKPdf	06 11 13.8	+1.5
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKTK	Aktyubinsk	133.81	312	PKP	PKPdf	06 11 14.7	-0.3
AKTO	Aktyubinsk	133.81	312	PKP	PKPdf	06 11 14.7	-0.3
	comp=Z,2.0nm,0.5s,baz=106,slow=4.2						
AKTO	Aktyubinsk	133.81	312	PKIKP	PKPdf	06 11 14.7	-0.3
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	ARCESS Array B	139.32	347	PKhKP		06 11 16.1	
	comp=Z,2.1nm,0.6s,baz=50,slow

	comp=Z,1.7nm,0.5s,baz=131,slow=3.1,SNR=7.2								
DBIC				PKPab	PKPab	06 12 14.1	-1.5		
	comp=Z,4.2nm,0.9s,baz=312,slow=2.7,SNR=2.6								
DBIC	**Dimbokro**	**154.85**	**168**	PKIKP	PKPdf	06 11 50.7	0.0		
DBIC						06 12 14.1			
DBIC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
DBIC				pmax	pmax				
	comp=Z,2.0nm,0.5s								
DBIC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
DBIC	**Dimbokro**	**154.85**	**168**	PKP	PKPdf	06 11 50.7	0.0		
DBIC				PKPbc	PKPbc	06 12 00.9	+1.4		
DBIC				PKPab	PKPab	06 12 14.1	-1.5		
EKA	**Eskdalemuir Ar**	**155.99**	**5**	PKPab	PKPab	06 12 16.6	-3.8		
	comp=Z,1.2nm,0.8s,baz=351,slow=3.3,SNR=3.0								
EKA	**Eskdalemuir Ar**	**155.99**	**5**	PKP2	PKPab	06 12 16.7	-3.8		
EKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
CLL	**Collm**	**158.10**	**339**	*i* PKPab	PKPab	06 12 27.5	-2.1		
	comp=Z,11nm,0.8s								
CLL	**Collm**	**158.10**	**339**	*i* PKP2	PKPab	06 12 27.5	-2.1		
CLL				pmax	pmax				
	comp=Z,11nm,0.8s								
BRG	**Berggiesshubel**	**158.16**	**337**	*i* P	PKPab	06 12 28.1	-1.8		
	comp=Z,3.9nm,0.9s								
BRG	**Berggiesshubel**	**158.16**	**337**	*i* PKP2	PKPab	06 12 28.1	-1.8		
BRG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
GERES	**GERESS Array B**	**159.94**	**334**	PKPab	PKPab	06 12 35.9	-1.6		
	comp=Z,1.6nm,0.7s,baz=32,slow=3.8,SNR=11								
GERES	**GERESS Array B**	**159.94**	**334**	PKP2	PKPab	06 12 35.9	-1.7		
GERES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
GRF	**Grafenberg Arr**	**160.06**	**339**	*e*P	PKPab	06 12 36.3	-1.8		
	comp=Z,6.0nm,0.9s								
GRF	**Grafenberg Arr**	**160.06**	**339**	*e*PKP2	PKPab	06 12 36.3	-1.8		
GRF				pmax	pmax				
	comp=Z,6.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**161.75**	**184**	PKP	PKPdf	06 11 59.5	+0.5		
	comp=Z,2.6nm,0.8s,baz=271,slow=1.3,SNR=12								
TORD				PKPab	PKPab	06 12 46.1	+0.7		
	comp=Z,3.8nm,0.8s,baz=176,slow=4.0,SNR=16								
ESDC	**Sonseca Array**	**171.04**	**22**	PKPab	PKPab	06 13 25.1	-1.4		
	comp=Z,0.3nm,0.3s,baz=336,slow=5.9,SNR=5.2								

NEIC ***29*** *05:56:48.2±2.5, 7987N×343E, h10km, Error ellipse: s-maj=51.0km s-min=10.5km az=189.0*
IDC ***29*** *05:56:51.5±2.3, 7941N×247E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/21, mbtmp3.7/7, ML3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/32, Error ellipse: s-maj=38.0km s-min=33.6km az=78.0*
ISCJB ***29*** *05:56:54.7±1.2, 7910N±009×50E±04, h10km, mb3.6/5, MS3.1/2, Error ellipse: s-maj=13.2km s-min=9.5km az=167.0*
NAO ***29*** *05:56:56.6±6.1, 8007N×923E, h9km±22km, ML2.8*
BER ***29*** *05:56:57.2±4.6, 7983N×715E, h0km±30km, MD2.8, ML2.8, ML2.8(NAO)*

ISC 29 05:56:54.9±1.2,7932N±010×52E±04,h10km,n20, σ1§07/25,mb3.6/5,MS3.1/2,2C-2D,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.35**	**104**	Pg	**Pg**	**05 57 19.1**	**-1.6**
KBS				Lg		05 57 37.6	
KBS	**Kingsbay**	**1.35**	**104**	⇑*i*P	**Pn**	**05 57 18.9**	**-0.8**
KBS				*e*S	**Sb**	**05 57 37.8**	**+0.3**
KBS				AML	AML	05 57 42.3	
	comp=Z,240nm,0.3s						
KBS	**Kingsbay**	**1.35**	**104**	⇑*i*P	**Pn**	**05 57 18.9**	**-0.8**
KBS				*e*S	**Sb**	**05 57 37.8**	**+0.3**
SPB4	**Spitsbergen Ar**	**2.47**	**112**	*e*Pn	**Pn**	**05 57 35.3**	**+0.1**
SPB4				*e*Sn	**Sn**	**05 58 10.2**	**+4.7**
SPA0	**Spitsbergen Ar**	**2.48**	**112**	Pn	**Pn**	**05 57 35.6**	**+0.3**
	baz=315,slow=11						
SPA0				Lg		05 58 09.9	
	baz=331,slow=37						
HOPEN	**Hopen**	**5.01**	**114**	*e*P	**Pn**	**05 58 10.8**	**+0.7**
HOPEN				*e*S	**Sn**	**05 59 07.4**	**-0.6**
DAG	**Danmarks Havn**	**5.53**	**255**	⇓*i*P	**Pn**	**05 58 07.9**	**-9.4**
	comp=Z,7.0nm,0.5s						
DAG				*i*		05 59 03.1	
DAG	**Danmarks Havn**	**5.53**	**255**	⇓*e*P	**Pn**	**05 58 07.9**	**-9.4**
	comp=Z,7.0nm,0.5s						
DAG				*i*		05 59 03.1	
ARA0	**ARCESS Array S**	**11.13**	**141**	Pn	**Pn**	**05 59 34.0**	**0.0**
	baz=356,slow=12						
ARA0				Sn	**Sn**	**06 01 36.8**	**-1.8**
	baz=357,slow=18						
ARCES	**ARCESS Array B**	**11.13**	**141**	Pn	**Pn**	**05 59 34.8**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=343,slow=12,SNR=23						
ARCES				Sn	**Sn**	**06 01 40.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=355,slow=19,SNR=3.5						
ARE0	**ARCESS Array S**	**11.13**	**141**	*e*Pn	**Pn**	**05 59 35.3**	**+1.2**
SUMG	**Summit**	**12.18**	**260**	*e*Pn	**Pn**	**05 59 39.2**	**-9.2**
	comp=Z,14nm,0.6s						
HFS	**Hagfors**	**19.46**	**167**	P	**Pn**	**06 01 21.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=16,slow=17,SNR=2.6						
HFS				LR	LR	06 07 55.0	
	comp=Z,43nm,18.7s,baz=134,slow=34						
AKASG	**Malin Array Be**	**29.94**	**149**	P	**P**	**06 03 03.5**	**+0.4**
	comp=Z,0.5nm,0.3s,mb3.7,baz=0.0,slow=9.3,SNR=6.8						
BVAR	**Borovoye Array**	**33.88**	**100**	P	**P**	**06 03 41.2**	**+3.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=337,slow=6.9,SNR=3.7						
BVAR				LR	LR	06 19 23.3	
	comp=Z,49nm,18.1s,MS3.3,baz=315,slow=39						
BVAR	**Borovoye Array**	**33.88**	**100**	P	**P**	**06 03 41.2**	**+3.5**
BVAR				LR	LR	06 19 23.3	
AKTO	**Aktyubinsk**	**34.17**	**115**	LR	LR	06 20 04.1	
	comp=Z,24nm,18.1s,MS3.0,baz=90,slow=40						
BRTR	**Keskin Array B**	**41.25**	**146**	P	**P**	**06 04 41.2**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=10,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**42.07**	**91**	P	**P**	**06 04 47.3**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.5,baz=335,slow=8.0,SNR=6.5						
TORD	**Torodi Ar. Bea**	**66.21**	**184**	P	**P**	**06 07 41.0**	**-1.8**
	comp=Z,1.0nm,1.0s,mb3.8,baz=0.7,slow=5.5,SNR=3.6						

ISCJB ***29*** *06:18:56.6±0.3, 1935S±006×169.17E±006, h149km, mb4.5/25, Error ellipse: s-maj=10.0km s-min=6.3km az=114.7*
NEIC ***29*** *06:18:57.6±0.2, 1930S×16920E, mb4.7/16, Error ellipse: s-maj=8.9km s-min=5.5km az=155.0*
IDC ***29*** *06:18:58.0±0.8, 1934S×16920E, h149km±6km, mb4.3/14, mb1 4.4/16, mb1mx4.3/20, mbtmp4.7/16, MS3.1/2, Ms1 3.1/2, ms1mx2.7/24, Error ellipse: s-maj=15.1km s-min=10.5km az=150.0*

ISC 29 06:18:58.4±0.3,1940S±005×16921E±005,h151km, h151km±1.6km:pP-P,n58,σ0§93/54,mb4.5/25,6D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.71**	**224**	*e*P	**Pn**	**06 19 54.2**	**-0.7**
DZM				*e*S	**Sn**	**06 20 36.2**	**-2.6**
DZM	**Mont Dzumac**	**3.71**	**224**	P	**Pn**	**06 19 55.2**	**+0.3**
	26nm,0.3s,baz=66,slow=18,SNR=350						
DZM				S	**Sn**	**06 20 39.3**	**+0.5**
	112nm,0.3s,baz=332,slow=20,SNR=27						
DZM				LR	LR	06 21 17.6	
	comp=Z,423nm,19.9s,baz=199,slow=37						
HNR	**Honiara**	**13.36**	**317**	P	**Pn**	**06 22 05.5**	**+3.4**
	19nm,0.3s,baz=270,slow=2.7,SNR=4.9						
HNR				S	**Sn**	**06 24 30.5**	**+0.6**
	9.7nm,0.3s,baz=274,slow=19,SNR=3.0						
HNR				LR	LR	06 25 50.4	
	comp=Z,41nm,19.7s,baz=178,slow=31						
AFI	**Afiamalu**	**19.01**	**76**	P	**P**	**06 23 09.0**	**+0.6**
	2.0nm,0.3s,baz=78,slow=12,SNR=3.3						
ARMA	**Armidale**	**19.33**	**232**	*e*P	**P**	**06 23 13.8**	**+1.8**
URZ	**Urewera**	**20.01**	**162**	P	**P**	**06 23 20.3**	**+1.0**
	24nm,0.5s,baz=335,slow=5.8,SNR=42						
CTA	**Charters Tower**	**21.62**	**264**	*e*P	**P**	**06 23 38.0**	**+1.6**
	5.8nm,0.4s,mb4.4						
CTA	**Charters Tower**	**21.62**	**264**	P	**P**	**06 23 37.7**	**+1.3**
	7.7nm,0.4s,mb4.5,baz=89,slow=13,SNR=10						
CTAO	**Charters Tower**	**21.62**	**264**	*e*P	**P**	**06 23 36.9**	**+0.5**
	6.6nm,0.3s,mb4.5						
DSZ	**Denniston Nort**	**22.39**	**175**	*e*PN	**P**	**06 23 46.8**	**+2.5**
THZ	**Tophouse**	**22.52**	**173**	*e*PN	**P**	**06 23 45.9**	**+0.4**
PMG	**Port Moresby**	**23.53**	**292**	P	**P**	**06 23 55.4**	**+0.7**
	36nm,0.8s,mb5.0,baz=61,slow=13,SNR=6.3						

CNB	**Canberra Magne**	**23.64**	**224**	⇓*i*P	**P**	**06 23 57.0**	**+1.2**		
	26nm,0.6s,mb4.9								
RPZ	**Rata Peaks**	**24.30**	**177**	P	**P**	**06 24 01.1**	**-0.6**		
	3.1nm,0.3s,mb4.3,baz=229,slow=9.3,SNR=2.9								
RPZ	**Rata Peaks**	**24.30**	**177**	P	**P**	**06 24 01.1**	**-0.6**		
STKA	**Stephens Creek**	**27.74**	**238**	⇓*i*P	**P**	**06 24 33.3**	**+0.6**		
	11nm,0.5s,mb4.8								
STKA	**Stephens Creek**	**27.74**	**238**	P	**P**	**06 24 33.5**	**+0.8**		
	14nm,0.6s,mb4.9,baz=72,slow=9.3,SNR=64								
STKA				pP	pP	06 25 05.1	+0.7		
	4.9nm,0.8s,baz=70,slow=8.8,SNR=2.7								
RAR	**Rarotonga**	**29.12**	**99**	P	**P**	**06 24 45.6**	**+0.7**		
	15nm,0.8s,mb4.8,baz=151,slow=10,SNR=3.1								
WB2	**Warramunga Arr**	**32.80**	**263**	⇓*i*P	**P**	**06 25 16.3**	**-0.9**		
WB2	**Warramunga Arr**	**32.80**	**263**	*e*P	**P**	**06 25 16.4**	**-0.9**		
WB2				*e*pP	pP	06 25 50.2	+0.9		
WRAB	**Tennant Creek**	**32.80**	**263**	*e*P	**P**	**06 25 16.4**	**-0.9**		
	12nm,0.8s,mb4.7								
WRA	**Warramunga Arr**	**32.81**	**263**	P	**P**	**06 25 16.5**	**-0.8**		
	4.8nm,0.5s,mb4.5,baz=88,slow=8.2,SNR=49								
WRA				ScP	ScP	06 31 29.5	+0.9		
	0.8nm,0.7s,baz=84,slow=3.5,SNR=6.5								
AS31	**Alice Springs**	**33.06**	**256**	⇓*i*P	**P**	**06 25 19.5**	**0.0**		
AS31				*e*pP	pP	06 25 51.8	+0.1		
ASAR	**Alice Springs**	**33.06**	**256**	P	**P**	**06 25 19.4**	**-0.1**		
	29nm,0.5s,mb5.3,baz=84,slow=8.9,SNR=586								
ASAR				pP	pP	06 25 51.4	-0.3		
	6.8nm,0.8s,baz=84,slow=9.0,SNR=2.4								
ASAR				ScP	ScP	06 31 30.0	+0.5		
	0.9nm,0.7s,baz=93,slow=4.0,SNR=8.3								
ASPA	**Alice Springs**	**33.07**	**256**	⇓*i*P	**P**	**06 25 19.5**	**-0.1**		
KAKA	**Kakadu**	**35.90**	**275**	*e*P	**P**	**06 25 43.5**	**-0.5**		
	14nm,1.1s,mb4.5								
FORT	**Forrest**	**38.76**	**245**	*e*P	**P**	**06 26 07.9**	**-0.1**		
	18nm,0.5s,mb5.0								
FITZ	**Fitzroy Crossi**	**41.20**	**264**	⇓*i*P	**P**	**06 26 28.8**	**+0.7**		
	44nm,0.6s,mb5.3								
FITZ	**Fitzroy Crossi**	**41.20**	**264**	P	**P**	**06 26 28.8**	**+0.7**		
	24nm,0.6s,mb5.0,baz=113,slow=7.4,SNR=151								
KLBR	**Kellerberrin**	**47.62**	**245**	*e*P	**P**	**06 27 18.6**	**-0.5**		
	12nm,0.7s,mb4.7								
SBA	**Scott Base**	**58.51**	**181**	*e*P	**P**	**06 28 39.1**	**+0.4**		
	10nm,1.0s,mb4.6								
SBA				*e*pP	pP	06 29 13.9	-0.2		
QSPA	**South Pole Qui**	**70.66**	**180**	*e*P	**P**	**06 29 57.0**	**-0.5**		
	7.0nm,0.7s,mb4.5								
QSPA				*e*pP	pP	06 30 31.6	-2.5		
PSI	**Prapat**	**72.42**	**279**	P	**P**	**06 30 07.5**	**-0.6**		
	2.4nm,0.5s,mb4.2,baz=237,slow=7.2,SNR=3.6								
PSI	**Prapat**	**72.42**	**279**	P	**P**	**06 30 07.5**	**-0.6**		
NIKO	**Nikolski**	**74.54**	**14**	*e*P	**P**	**06 30 18.7**	**-1.8**		
MAW	**Mawson**	**78.28**	**202**	P	**P**	**06 30 41.9**	**+0.4**		
	2.6nm,0.9s,mb3.9,baz=104,slow=4.3,SNR=5.2								
KIPM	**Iron Peak**	**85.99**	**45**	*e*P	**P**	**06 31 22.1**	**+0.4**		
OHCM	**Honcut**	**87.12**	**47**	*e*P	**P**	**06 31 26.7**	**-0.5**		
CMB	**Columbia Colle**	**87.28**	**48**	*e*P	**P**	**06 31 27.6**	**-0.4**		
	6.1nm,1.0s,mb4.4								
SONM	**Songino Array**	**87.33**	**323**	P	**P**	**06 31 27.7**	**-0.5**		
	1.2nm,0.8s,mb3.8,baz=131,slow=4.4,SNR=7.6								
SONM				pP	pP	06 32 04.8	-1.4		
	1.5nm,0.8s,baz=145,slow=4.9,SNR=4.5								
MTUM	**Tungsten Hills**	**88.27**	**49**	*e*P	**P**	**06 31 33.1**	**+0.4**		
PAHR	**Pah Rah Range**	**88.73**	**47**	*e*P	**P**	**06 31 34.7**	**-0.1**		
	16nm,1.5s,mb4.7								
NVAR	**Mina Array Bea**	**88.92**	**49**	P	**P**	**06 31 35.8**	**+0.1**		
	1.1nm,0.5s,mb4.0,baz=233,slow=8.9,SNR=19								
SNAA	**Sanae**	**89.00**	**183**	*e*	**P**	**06 31 33.4**	**-2.7**		
SNAA				*e*		06 31 36.2			
SNAA				*e*	pP	06 32 12.5	-1.7		
SNAA	**Sanae**	**89.00**	**183**	*e*P	**P**	**06 31 34.0**	**-2.0**		
	2.4nm,0.6s,mb4.3								
SNAA				*e*	pP	06 32 11.9	-2.3		
MOD	**Modoc**	**89.10**	**45**	*e*P	**P**	**06 31 36.4**	**-0.2**		
	9.5nm,1.3s,mb4.6								
VNA3	**Neumayer Olymp**	**89.59**	**180**	*e*	**P**	**06 31 37.0**	**-1.8**		
VNA3				*e*		06 31 39.3			
VNA3				*e*	pP	06 32 15.5	-1.5		
VNA1	**Neumayer--Stat**	**90.18**	**181**	*e*	**P**	**06 31 40.1**	**-1.4**		
VNA1				*e*		06 31 42.3			
WVOR	**Wild Horse Val**	**90.44**	**45**	*e*P	**P**	**06 31 42.8**	**0.0**		
	16nm,1.3s,mb4.8								
ARUT	**Antelope Range**	**92.16**	**51**	*e*P	**P**	**06 31 51.0**	**+0.2**		
PDAR	**Pinedale Array**	**96.74**	**47**	P	**P**	**06 32 12.4**	**+0.8**		
	0.4nm,0.6s,mb3.9,baz=251,slow=2.8,SNR=3.6								
YKA	**Yellowknife Ar**	**100.82**	**27**	P	Pdif	06 32 29.3	-0.6		
	0.7nm,0.4s,baz=256,slow=4.9,SNR=12								
YKA	**Yellowknife Ar**	**100.82**	**27**	P	Pdif	06 32 29.3	-0.6		
ARCES	**ARCESS Array B**	**125.21**	**345**	PKP	PKPdf	06 37 38.9	-2.1		
	1.2nm,0.4s,baz=53,slow=2.5,SNR=25								
AKASG	**Malin Array Be**	**135.60**	**324**	PKP	PKPdf	06 37 58.5	-2.2		
	0.7nm,0.4s,baz=35,slow=2.0,SNR=4.3								
GERES	**GERESS Array B**	**144.62**	**332**	PKP	PKPdf	06 38 15.4	-1.5		
	1.4nm,0.5s,baz=35,slow=3.6,SNR=12								
GERES				pPKP	pPKPdf	06 38 56.1	-0.9		
	1.0nm,0.8s,baz=51,slow=2.6,SNR=1.8								
GRA1	**Grafenberg Arr**	**145.02**	**335**	*e*PKP	PKPdf	06 38 16.9	-0.7		
GRA1				*e*pPKP	pPKPdf	06 38 54.8	-2.9		
BNI	**Bardonecchia**	**150.59**	**334**	*e*PKPbc	PKPbc	06 38 32.0	-0.4		

IDC 29 06:26:07.3±2.2,501N×12498E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.5/16,mbtmp3.4/3,Error ellipse: s-maj=199.8km s-min=26.9km az=64.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.45**	**160**	P	P	06 31 46.9	+1.1
	0.4nm,0.3s,baz=339,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**29.80**	**163**	P	P	06 32 15.3	-0.5
	0.3nm,0.3s,baz=341,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**55.52**	**326**	P	P	06 35 44.2	+0.1
	0.4nm,0.5s,baz=112,slow=7.8,SNR=5.4						

IDC 29 06:55:58.8±4.5,2002N×14335E,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.5/17,mbtmp3.9/3,Error ellipse: s-maj=319.9km s-min=33.4km az=89.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.68**	**193**	P	P	07 03 40.9	0.0
	0.3nm,0.4s,baz=12,slow=8.4,SNR=7.2						
FINES	**FINESS Array B**	**84.75**	**335**	P	P	07 08 35.0	+0.2
	0.9nm,0.4s,baz=49,slow=8.0,SNR=9.9						
NOA	**NORSAR Array B**	**90.56**	**339**	P	P	07 09 02.4	-0.4
	0.7nm,0.6s,baz=29,slow=6.5,SNR=3.7						

NEIC ***29*** *07:08:21.0, 3667S×17808E, h159km, MG4.1(WEL), After WEL.*

WEL 29 07:08:23.8±0.4,3660S×17797E,h113km±8km,ML4.0/6, Error ellipse: s-maj=9.1km s-min=5.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.00**	**165**	P	Pn	07 08 45.5	+0.3
MXZ	**Matakaoa Point**	**1.00**	**165**	PN	Pn	07 08 45.3	+0.2
MXZ				SN	Sn	07 09 00.9	-0.5
MXZ				SN	Sn	07 09 01.7	+0.4
PUZ	**Puketiti**	**1.49**	**171**	P	Pn	07 08 50.4	-0.2
PUZ				S	Sn	07 09 11.0	+0.1
PUZ	**Puketiti**	**1.49**	**171**	PN	Pn	07 08 50.4	-0.2
PUZ				SN	Sn	07 09 10.2	-0.7
PUZ				SN	Sn	07 09 10.6	-0.3
MWZ	**Matawai**	**1.77**	**191**	P	Pn	07 08 54.3	+0.3
MWZ	**Matawai**	**1.77**	**191**	PN	Pn	07 08 54.0	+0.1
MWZ				SN	Sn	07 09 17.7	+0.8
URZ	**Urewera**	**1.79**	**202**	P	Pn	07 08 54.1	-0.2
URZ	**Urewera**	**1.79**	**202**	PN	Pn	07 08 53.6	-0.7
URZ				SN	Sn	07 09 18.5	+1.0
KNZ	**Kokohu**	**2.43**	**185**	P	Pn	07 09 00.9	-1.4
KNZ	**Kokohu**	**2.43**	**185**	PN	Pn	07 09 00.8	-1.5
KNZ				SN	Sn	07 09 31.0	-0.9
BKZ	**Black Stump Fm**	**2.82**	**204**	P	Pn	07 09 06.6	-0.8
BKZ				S	Sn	07 09 40.5	-0.5
BKZ	**Black Stump Fm**	**2.82**	**204**	*e*PN	Pn	07 09 06.2	-1.2
BKZ				*e*SN	Sn	07 09 40.5	-0.5
PXZ	**Pawanui**	**3.53**	**194**	PN	Pn	07 09 12.2	-4.7
BFZ	**Birch Farm**	**4.29**	**198**	*e*P	Pn	07 09 24.0	-3.1
BFZ	**Birch Farm**	**4.29**	**198**	PN	Pn	07 09 24.0	-3.1
BFZ				SN	Sn	07 10 11.8	-4.4
MRZ	**Mangatainoka R**	**4.47**	**204**	*e*P	Pn	07 09 26.1	-3.3
MRZ				S	Sn	07 10 15.4	-5.0
MRZ	**Mangatainoka R**	**4.47**	**204**	*e*PN	Pn	07 09 25.4	-4.0
MRZ				SN	Sn	07 10 15.2	-5.2
KIW	**Kapiti Island**	**4.88**	**208**	PN	Pn	07 09 31.4	-3.6
TCW	**Tory Channel**	**5.43**	**211**	*e*SN	Sn	07 10 37.5	-6.2
KHZ	**Kahutara**	**6.74**	**209**	*e*PN	Pn	07 09 55.3	-4.9
MQZ	**McQueen's Vall**	**8.18**	**208**	*e*SN	Sn	07 11 38.2	-12

ISCJB ***29*** *07:17:32.6±0.6, 6295N±004×1965E±008, h0km, Error ellipse: s-maj=5.8km s-min=5.0km az=112.2*
NAO ***29*** *07:17:35.6±0.7, 6276N×1993E, ML2.2*
HEL ***29*** *07:17:35.5±0.1, 6281N×1970E, h0km, ML2.2, ML2.2(NAO), Explosion*
BER ***29*** *07:17:36.2±4.0, 6281N×1990E, h0km±17km, ML2.2(NAO)*
IDC ***29*** *07:17:39.8±0.8, 6293N×2059E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.0/4, ML2.9/4, Error ellipse: s-maj=9.4km s-min=7.1km az=175.0*

ISC 29 07:17:34.1±0.6,6288N±004×1969E±007,h0km,n16, σ1§32/31,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAF	**Ylistaro**	**1.37**	**82**	*e*P	**Pn**	**07 18 00.3**	**-0.3**
VAF				*e*S	**Sg**	**07 18 17.9**	**-0.4**
RAF	**Rauma**	**2.10**	**151**	*e*P	**Pn**	**07 18 10.8**	**+0.2**
RAF				*e*S	**Sn**	**07 18 36.3**	**-1.2**
RAF				MSG		07 18 39.7	
	comp=Z,13nm,0.2s						
KEF	**Keuruu**	**2.51**	**104**	*e*P	**Pn**	**07 18 17.9**	**+1.8**
KEF				*e*S	**Sn**	**07 18 47.1**	**-0.3**
KEF				MSG		07 18 52.3	
	comp=Z,24nm,0.3s						
SUF	**Sumiainen**	**2.97**	**90**	*e*P	**Pn**	**07 18 24.5**	**+2.0**
SUF				*e*S	**Sn**	**07 18 59.4**	**+0.5**
SUF				MSG		07 19 09.3	
	comp=Z,8.3nm,0.2s						
FIA0	**FINESS Array S**	**3.33**	**113**	*e*P	**Pn**	**07 18 28.0**	**+0.6**
FIA0				MSG		07 19 23.2	
	comp=Z,2.9nm,0.3s						
FIA0	**FINESS Array S**	**3.33**	**113**	Pn	**Pn**	**07 18 28.0**	**+0.6**
	baz=308,slow=12						
FIA0				Pg	**Pg**	**07 18 30.9**	**-7.0**
	baz=307,slow=14						
FIA0				Lg		07 19 15.3	
	baz=306,slow=28						
FINES	**FINESS Array B**	**3.33**	**113**	Pn	**Pn**	**07 18 28.5**	**+1.1**
	comp=Z,1.4nm,0.3s,baz=301,slow=11,SNR=42						
FINES				Sn	**Sn**	**07 19 06.1**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=306,slow=24,SNR=3.4						
FINES				Lg		07 19 14.6	
	comp=Z,1.6nm,0.3s,baz=298,slow=31,SNR=8.0						
HFS	**Hagfors**	**3.98**	**229**	*e*P	**Pn**	**07 18 37.7**	**+1.4**
HFS				*e*PG	**Pg**	**07 18 46.2**	**-4.1**
HFS				*e*S	**Sn**	**07 19 23.9**	**+0.2**
HFS				*e*SG		07 19 39.8	
HFS	**Hagfors**	**3.98**	**229**	Pn	**Pg**	**07 18 45.9**	**-4.4**
	comp=Z,2.2nm,0.3s,baz=46,slow=19,SNR=37						
HFS				Sn	**Sg**	**07 19 37.7**	**-4.2**
	comp=Z,5.0nm,0.3s,baz=50,slow=29,SNR=17						
HFS	**Hagfors**	**3.98**	**229**	Pn	**Pn**	**07 18 37.7**	**+1.4**
	baz=49,slow=14						
HFS				Pg	**Pg**	**07 18 46.2**	**-4.1**
	baz=51,slow=12						
HFS				Sn	**Sn**	**07 19 23.9**	**+0.2**
	baz=56,slow=22						
HFS				Lg		07 19 39.8	
	baz=44,slow=28						
NB2	**NORSAR Subarra**	**4.40**	**249**	*e*P	**Pn**	**07 18 43.2**	**+1.0**
NB2				*e*SG		07 19 52.2	
NB2	**NORSAR Subarra**	**4.40**	**249**	Pn	**Pn**	**07 18 43.2**	**+1.0**
	baz=66,slow=14						
NB2				Lg		07 19 52.2	
	baz=64,slow=37						
NOA	**NORSAR Array B**	**4.40**	**249**	Pn	**Pg**	**07 18 51.5**	**-7.0**
	comp=Z,0.8nm,0.3s,baz=62,slow=15,SNR=6.1						
NOA				Sn	**Sg**	**07 19 48.5**	**-7.1**
	comp=Z,1.3nm,0.3s,baz=60,slow=16,SNR=7.7						
ARA0	**ARCESS Array S**	**7.08**	**17**	Pn	**Pn**	**07 19 19.8**	**+0.8**
	baz=190

FIA0	**FINESS Array S**	**3.33**	**113**	*eP*	**Pn**	**07 37 33.4**	**-0.3**
FINES	**FINESS Array B**	**3.33**	**113**	Pn	**Pn**	**07 37 34.6**	**+0.9**
	1.4nm,0.3s,baz=307,slow=15,SNR=40						
FINES				*eS*	**Sn**	**07 38 13.2**	**-0.9**
	0.8nm,0.3s,baz=305,slow=22,SNR=4.1						
MEF	**Metsahovi**	**3.51**	**138**	*eP*	**Pn**	**07 37 36.0**	**-0.1**
HFS	**Hagfors**	**3.98**	**229**	*eP*	**Pn**	**07 37 43.3**	**+0.6**
HFS				*eS*	**Sn**	**07 38 28.0**	**-2.0**
HFS				*eSG*		07 38 43.7	
HFS	**Hagfors**	**3.98**	**229**	Pn	**Pg**	**07 37 51.7**	**-5.0**
	3.1nm,0.3s,baz=59,slow=15,SNR=48						
HFS				Sn	**Sg**	**07 38 44.3**	**-4.0**
	1.4nm,0.3s,baz=50,slow=27,SNR=7.5						
HFS	**Hagfors**	**3.98**	**229**	Pn	**Pn**	**07 37 43.3**	**+0.6**
	baz=42,slow=16						
HFS				Sn	**Sn**	**07 38 28.0**	**-2.0**
HFS				Lg		07 38 43.7	
	baz=37,slow=37						
HFS	**Hagfors**	**3.98**	**229**	Pn	**Pn**	**07 37 43.3**	**+0.7**
	SNR=1.5						
HFS				Sn	**Sn**	**07 38 28.0**	**-2.0**
NRAU	**Nora**	**4.01**	**216**	*eP*	**Pn**	**07 37 42.9**	**-0.2**
NB2	**NORSAR Subarra**	**4.40**	**249**	*eP*	**Pn**	**07 37 48.8**	**+0.4**
NB2				*eSG*		07 38 58.8	
NB2	**NORSAR Subarra**	**4.40**	**249**	Pn	**Pn**	**07 37 48.8**	**+0.4**
	baz=61,slow=12						
NB2				Lg		07 38 58.8	
	baz=67,slow=37						
NOA	**NORSAR Array B**	**4.40**	**249**	Pn	**Pg**	**07 37 58.0**	**-6.7**
	0.9nm,0.3s,baz=57,slow=16,SNR=5.6						
NOA				Sn	**Sg**	**07 38 55.6**	**-6.2**
	1.4nm,0.3s,baz=136,slow=25,SNR=7.7						
ARA0	**ARCESS Array S**	**7.07**	**17**	Pn	**Pn**	**07 38 23.7**	**-1.4**
	baz=198,slow=16						
ARA0				Sn	**Sn**	**07 39 42.0**	**-4.3**
	baz=197,slow=28						
ARA0				Lg		07 40 17.9	
	baz=191,slow=37						
ARA0	**ARCESS Array S**	**7.07**	**17**	*eP*	**Pn**	**07 38 23.7**	**-1.4**
ARA0				*eS*	**Sn**	**07 39 42.0**	**-4.3**
ARA0				*eSG*		07 40 17.9	
ARCES	**ARCESS Array B**	**7.07**	**17**	Pn	**Pn**	**07 38 24.1**	**-1.0**
	0.2nm,0.3s,baz=197,slow=14,SNR=15						
ARCES				Sn	**Sn**	**07 39 41.4**	**-4.9**
	0.1nm,0.3s,baz=205,slow=23,SNR=2.7						

HEL ***29*** *07:36:55.9±0.5, 6281N×1988E, h0km, ML2.1, Explosion*
ISCJB ***29*** *07:36:58.6±0.9, 6276N±007×2035E±009, h0km, Error ellipse: s-maj=11.0km s-min=5.2km az=146.9*
IDC ***29*** *07:36:58.4±0.9, 6300N×2057E, h0km, mb1 3.2/4, mb1mx3.1/21, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=13.7km s-min=9.6km az=164.0*

ISC 29 07:36:59.6±0.8, 6275N±008×2035E±010, h0km, n10, σ1§07/17, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**1.10**	**74**	*eP*	**Pg**	**07 37 18.8**	**-1.9**
VAF				*eS*	**Sg**	**07 37 36.2**	**+1.1**
RAF	**Rauma**	**1.86**	**158**	*eP*	**Pn**	**07 37 30.5**	**-2.2**
RAF				*eS*	**Sn**	**07 37 56.4**	**-0.4**
RAF				MSG		07 37 59.3	
	comp=Z,10nm,0.1s						
KEF	**Keuruu**	**2.18**	**104**	*eP*	**Pn**	**07 37 37.1**	**0.0**
KEF				*eS*	**Sn**	**07 38 05.7**	**+0.9**
KEF				MSG		07 38 10.7	
	comp=Z,7.3nm,0.1s						
SUF	**Sumiainen**	**2.67**	**88**	*eP*	**Pn**	**07 37 43.0**	**-0.8**
SUF				*eS*	**Sn**	**07 38 17.0**	**+0.1**
SUF				MSG		07 38 24.1	
	comp=Z,5.9nm,0.2s						
KAF	**Kangasniemi**	**2.84**	**100**	*eP*	**Pn**	**07 37 45.8**	**-0.4**
KAF				*eS*	**Sn**	**07 38 22.2**	**+1.1**
KAF				MSG		07 38 39.6	
	comp=Z,3.9nm,0.2s						
FIA0	**FINESS Array S**	**3.00**	**113**	*eP*	**Pn**	**07 37 48.1**	**-0.2**
FIA0				MSG		07 38 39.5	
	comp=Z,4.0nm,0.3s						
FINES	**FINESS Array B**	**3.00**	**113**	Pn	**Pn**	**07 37 48.7**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=302,slow=14,SNR=16						
FINES				Sn	**Sn**	**07 38 24.9**	**0.0**
	comp=Z,1.3nm,0.3s,baz=302,slow=29,SNR=7.6						
HFS	**Hagfors**	**4.13**	**234**	Pn	**Pn**	**07 38 04.9**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=59,slow=14,SNR=18						
HFS				Sn	**Sn**	**07 38 57.0**	**+4.0**
	comp=Z,1.1nm,0.3s,baz=45,slow=20,SNR=4.4						
NOA	**NORSAR Array B**	**4.65**	**252**	Pn	**Pn**	**07 38 10.9**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=64,slow=16,SNR=4.7						
ARCES	**ARCESS Array B**	**7.13**	**15**	Pn	**Pn**	**07 38 37.9**	**-7.2**
	comp=Z,0.3nm,0.3s,baz=201,slow=13,SNR=8.1						

ISCJB ***29*** *07:42:24.2±0.5, 6281N±003×1958E±008, h0km, Error ellipse: s-maj=5.4km s-min=4.8km az=120.4*
NAO ***29*** *07:42:25.7±0.8, 6286N×1975E, ML2.1*
CSEM ***29*** *07:42:26.8±0.1, 6299N×1940E, h2km, ML2.6, Error ellipse: s-maj=4.6km s-min=3.5km az=114.0, Mining explosion.*
HEL ***29*** *07:42:26.5±0.2, 6288N×1981E, h0km, ML2.1, ML2.6(UPP), ML2.1(NAO), Explosion*
BER ***29*** *07:42:27.3±3.8, 6296N×1962E, h0km±25km, ML2.1(NAO)*
UPP ***29*** *07:42:29.5, 6311N×1997E, h0km, ML2.6, Mining explosion.*
IDC ***29*** *07:42:30.7±0.8, 6303N×2065E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=11.1km s-min=8.0km az=148.0*

ISC 29 07:42:25.3±0.5, 6285N±003×1966E±008, h0km, n25, σ0§91/34, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BREU	**Bredtraesk**	**1.15**	**335**	*eS*	**Sg**	**07 43 02.8**	**+0.3**
VAF	**Ylistaro**	**1.39**	**81**	*eP*	**Pn**	**07 42 50.5**	**-1.5**
SVAU	**Svanoeiden**	**1.65**	**359**	*eP*	**Pn**	**07 42 55.4**	**-0.2**
BURU	**Burvik**	**1.90**	**23**	*eP*	**Pn**	**07 42 59.1**	**+0.1**
RAF	**Rauma**	**2.08**	**151**	*eP*	**Pn**	**07 43 02.4**	**+0.9**
RAF				*eS*	**Sn**	**07 43 28.1**	**-0.1**
RAF				MSG		07 43 32.6	
	comp=Z,8.9nm,0.1s						
LILU	**Lilltraesk**	**2.45**	**2**	*eP*	**Pn**	**07 43 07.1**	**+0.6**
KEF	**Keuruu**	**2.51**	**104**	*eP*	**Pn**	**07 43 08.4**	**+1.0**
KEF				*eS*	**Sn**	**07 43 37.4**	**-1.3**
KEF				MSG		07 43 41.1	
	comp=Z,6.6nm,0.2s						
SJUU	**Sjulsmark**	**2.80**	**17**	*eP*	**Pn**	**07 43 11.8**	**+0.5**
SUF	**Sumiainen**	**2.98**	**90**	*eP*	**Pn**	**07 43 15.2**	**+1.3**
KAF	**Kangasniemi**	**3.17**	**101**	*eP*	**Pn**	**07 43 16.5**	**0.0**
FIA0	**FINESS Array S**	**3.33**	**112**	Pn	**Pn**	**07 43 19.9**	**+1.2**
	baz=311,slow=14						
FIA0				Sn	**Sn**	**07 43 58.0**	**-0.8**
	baz=319,slow=28						
FIA0	**FINESS Array S**	**3.33**	**112**	*eP*	**Pn**	**07 43 19.6**	**+1.0**
FINES	**FINESS Array B**	**3.33**	**112**	Pn	**Pn**	**07 43 20.1**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=303,slow=14,SNR=52						
FINES				Sn	**Sn**	**07 43 58.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=299,slow=20,SNR=4.0						
HARU	**Harads**	**3.38**	**9**	P	**Pn**	**07 43 19.7**	**+0.4**
KALU	**Kalix**	**3.42**	**26**	P	**Pn**	**07 43 20.3**	**+0.4**
HFS	**Hagfors**	**3.95**	**229**	*eP*	**Pn**	**07 43 28.0**	**+0.8**
HFS				*eSG*		07 44 30.3	
HFS	**Hagfors**	**3.95**	**229**	Pn	**Pg**	**07 43 37.2**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=55,slow=13,SNR=16						
HFS				Sn	**Sg**	**07 44 31.5**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=74,slow=32,SNR=8.1						
HFS	**Hagfors**	**3.95**	**229**	Pn	**Pn**	**07 43 28.0**	**+0.8**
	baz=41,slow=14						
HFS				Lg		07 44 30.3	
	baz=54,slow=28						
NB2	**NORSAR Subarra**	**4.38**	**249**	*eP*	**Pn**	**07 43 33.0**	**-0.1**
NB2				*eSG*		07 44 43.5	
NB2	**NORSAR Subarra**	**4.38**	**249**	Pn	**Pn**	**07 43 33.0**	**-0.1**
	baz=64,slow=14						
NB2				Lg		07 44 43.5	
	baz=66,slow=28						
NB2	**NORSAR Subarra**	**4.38**	**249**	Pn	**Pn**	**07 43 33.0**	**-0.1**
	SNR=7.4						
NOA	**NORSAR Array B**	**4.38**	**249**	Pn	**Pg**	**07 43 43.2**	**-6.1**
	comp=Z,0.6nm,0.3s,baz=62,slow=16,SNR=3.7						
NOA				Sn	**Sg**	**07 44 40.7**	**-5.5**
	comp=Z,1.1nm,0.3s,baz=44,slow=27,SNR=5.3						
ARA0	**ARCESS Array S**	**7.12**	**17**	Pn	**Pn**	**07 44 09.0**	**-1.7**
	baz=198,slow=14						
ARA0				Sn	**Sn**	**07 45 26.7**	**-5.5**
	baz=202,slow=22						
ARA0				Lg		07 46 02.9	
	baz=194,slow=28						
ARA0	**ARCESS Array S**	**7.12**	**17**	*eP*	**Pn**	**07 44 09.0**	**-1.7**
ARA0				*eS*	**Sn**	**07 45 26.7**	**-5.5**
ARA0				*eSG*		07 46 02.9	
ARCES	**ARCESS Array B**	**7.12**	**17**	Pn	**Pn**	**07 44 09.4**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=198,slow=15,SNR=35						
ARCES				Sn	**Sn**	**07 45 27.2**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=199,slow=22,SNR=3.8						

HEL ***29*** *07:42:42.5±0.5, 6284N×1982E, h0km, Explosion*
IDC ***29*** *07:42:45.5±0.9, 6296N×2081E, h0km, mb1 3.1/4, mb1mx3.0/21, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=14.2km s-min=8.9km az=168.0*
ISCJB ***29*** *07:42:46.1±0.8, 6276N±008×2044E±008, h0km, Error ellipse: s-maj=11.6km s-min=4.8km az=149.9*

ISC 29 07:42:47.2±0.8, 6274N±008×2062E±009, h0km, n10, σ1§19/16, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.99**	**71**	*eP*	**Pg**	**07 43 06.0**	**-0.1**
VAF				*eS*	**Sg**	**07 43 22.9**	**+4.0**
RAF	**Rauma**	**1.80**	**162**	*eP*	**Pn**	**07 43 17.9**	**-1.6**
RAF				*eS*	**Sn**	**07 43 43.7**	**+0.6**
KEF	**Keuruu**	**2.06**	**104**	*eP*	**Pn**	**07 43 23.9**	**+0.9**
SUF	**Sumiainen**	**2.54**	**88**	*eP*	**Pn**	**07 43 29.9**	**+0.2**
KAF	**Kangasniemi**	**2.72**	**101**	*eP*	**Pn**	**07 43 32.0**	**-0.1**
KAF				*eS*	**Sn**	**07 44 09.6**	**+4.0**
FIA0	**FINESS Array S**	**2.87**	**114**	*eP*	**Pn**	**07 43 35.1**	**+0.8**
FINES	**FINESS Array B**	**2.87**	**114**	Pn	**Pn**	**07 43 35.1**	**+0.8**
	1.5nm,0.3s,baz=304,slow=14,SNR=18						
FINES				Sn	**Sn**	**07 44 07.6**	**-1.9**
	1.2nm,0.3s,baz=297,slow=24,SNR=5.6						
HFS	**Hagfors**	**4.23**	**235**	Pn	**Pn**	**07 43 52.5**	**-0.4**
	1.9nm,0.3s,baz=62,slow=14,SNR=15						
HFS				Sn	**Sn**	**07 44 45.0**	**+2.0**
	1.6nm,0.3s,baz=59,slow=28,SNR=5.6						
NOA	**NORSAR Array B**	**4.77**	**253**	Pn	**Pn**	**07 43 58.8**	**-1.5**
	0.7nm,0.3s,baz=63,slow=16,SNR=4.0						
NOA				Sn	**Sn**	**07 44 56.2**	**0.0**
	1.3nm,0.3s,baz=42,slow=24,SNR=5.8						
ARCES	**ARCESS Array B**	**7.11**	**14**	Pn	**Pn**	**07 44 25.2**	**-7.3**
	0.3nm,0.3s,baz=198,slow=14,SNR=7.3						

IDC 29 07:42:59.8±0.9, 6297N×2071E, h0km, mb1 3.2/4, mb1mx3.1/21, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=11.9km s-min=9.4km az=154.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**2.95**	**119**	Pn	**Pn**	**07 43 49.1**	**+1.3**
	1.5nm,0.3s,baz=307,slow=14,SNR=11						
FINES				Sn		07 44 25.2	+1.3
	1.1nm,0.3s,baz=288,slow=24,SNR=4.1						
HFS	**Hagfors**	**4.40**	**233**	Pn	**Pn**	**07 44 06.8**	**-1.0**
	2.4nm,0.3s,baz=57,slow=14,SNR=11						
NOA	**NORSAR Array B**	**4.88**	**251**	Pn	**Pn**	**07 44 12.6**	**-1.8**
	0.8nm,0.3s,baz=63,slow=16,SNR=4.6						
NOA				Sn		07 45 09.9	-1.6
	1.5nm,0.3s,baz=52,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**6.87**	**14**	Pn	**Pn**	**07 44 39.0**	**-2.7**
	0.3nm,0.3s,baz=196,slow=14,SNR=6.2						
ARCES				Sn	**Sn**	**07 45 56.6**	**-4.0**
	0.2nm,0.3s,baz=196,slow=25,SNR=2.3						

IDC 29 08:00:15.2±3.0, 5283N×3471E, h0km, mb1 3.5/4, mb1mx3.2/20, mbtmp3.5/4, ML3.1/4, Error ellipse: s-maj=37.0km s-min=13.5km az=104.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.02**	**240**	Pn	**Pn**	**08 01 17.1**	**-0.9**
	1.7nm,0.3s,baz=58,slow=16,SNR=6.2						
AKASG				Lg		08 02 21.3	
	2.4nm,0.3s,baz=61,slow=28,SNR=4.3						
FINES	**FINESS Array B**	**9.82**	**335**	Pn	**Pn**	**08 02 31.9**	**-5.7**
	0.1nm,0.3s,baz=148,slow=11,SNR=4.8						
FINES				Sn	**Sn**	**08 04 19.0**	**-10**
	0.1nm,0.3s,baz=153,slow=28,SNR=2.8						
FINES				Lg		08 05 24.1	
	baz=144,slow=31,SNR=2.2						
HFS	**Hagfors**	**13.68**	**311**	Pn	**Pn**	**08 03 22.4**	**-8.0**
	0.3nm,0.3s,baz=120,slow=14,SNR=3.1						
ARCES	**ARCESS Array B**	**17.31**	**349**	Pn	**Pn**	**08 04 12.2**	**-5.9**
	0.3nm,0.3s,baz=168,slow=10,SNR=10						

IDC 29 08:23:14.4±62.0, 1681S×17134W, h0km, mb4.4/3, mb1 4.6/3, mb1mx4.0/15, mbtmp4.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/29, Error ellipse: s-maj=1216.0km s-min=179.5km az=81.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.08**	**242**	*eP*	**P**	**08 31 31.9**	**-0.2**
	1.4nm,0.3s						
STKA	**Stephens Creek**	**45.08**	**242**	P	**P**	**08 31 32.1**	**0.0**
	3.1nm,0.5s,baz=85,slow=9.6,SNR=16						
WB2	**Warramunga Arr**	**51.45**	**258**	*eP*	**P**	**08 32 21.1**	**-0.2**
WRA	**Warramunga Arr**	**51.46**	**258**	P	**P**	**08 32 21.6**	**+0.2**
	1.6nm,0.6s,baz=96,slow=6.8,SNR=43						
ASAR	**Alice Springs**	**51.57**	**253**	P	**P**	**08 32 23.0**	**+0.8**
	5.3nm,0.5s,baz=89,slow=8.5,SNR=121						
ASPA	**Alice Springs**	**51.58**	**253**	*eP*	**P**	**08 32 22.5**	**+0.3**
KAKA	**Kakadu**	**54.37**	**266**	*eP*	**P**	**08 32 45.4**	**+2.5**
	3.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**59.86**	**259**	*eP*	**P**	**08 33 25.1**	**+3.3**
	5.9nm,1.8s						
JOW	**Kunigami**	**72.91**	**306**	LR	**LR**	**09 03 50.9**	
	comp=Z,42nm,18.0s,baz=137,slow=33						

IDC ***29*** *08:27:22.2±0.8, 3102S×6721W, h0km, mb3.9/4, mb1 3.9/7, mb1mx3.7/18, mbtmp3.8/7, ML4.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=24.6km s-min=10.1km az=143.0*
ISCJB ***29*** *08:27:23.0±0.4, 3102S±004×6703W±004, h10km, mb3.8/5, Error ellipse: s-maj=5.6km s-min=4.4km az=132.4*
NEIC ***29*** *08:27:26.9, 3101S×6727W, h14km, mb4.5/1, ML4.0(GUC), After GUC.*
GUC ***29*** *08:27:26.9±0.7, 3101S×6727W, h14km±14km, ML4.0*

ISC 29 08:27:25.2±0.4, 3100S±003×6707W±004, h10km, n29, σ1§10/40, mb3.8/5, 4C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.16**	**239**	Pg	**Pn**	**08 27 43.3**	**-4.2**
	3.9nm,0.3s,baz=52,slow=17,SNR=348						
CFAA				Lg		08 27 56.2	
	40nm,0.3s,baz=147,slow=14,SNR=106						
ZON	**Zonda**	**1.48**	**248**	↓*iP*	**Pn**	**08 27 48.7**	**-3.1**
ZON				*i* S	**Sn**	**08 28 05.7**	**-5.5**
ZON				AML	AML	08 28 11.0	
	comp=N,2μm,0.3s						
MDZ	**Mendoza**	**2.41**	**218**	*eP*	**Pg**	**08 28 10.2**	**-1.1**
MDZ				*e*		08 28 17.9	
MDZ				S	**Sg**	**08 28 48.2**	**+5.7**
TLL	**Tololo Astrono**	**3.32**	**284**	*eP*	**Pn**	**08 28 17.7**	**+0.5**
TLL				*i* S	**Sn**	**08 28 56.4**	**-0.4**
TLL				AML	AML	08 29 13.0	
	comp=N,782nm,0.5s						
TLL	**Tololo Astrono**	**3.32**	**284**	*eP*	**Pn**	**08 28 17.7**	**+0.5**
TLL				*i* S	**Sn**	**08 28 56.4**	**-0.4**
FCH	**Farellones**	**3.58**	**229**	↓*eP*	**Pn**	**08 28 22.0**	**+1.3**
FCH				*i* S	**Sn**	**08 29 04.6**	**+1.5**
FCH				AML	AML	08 29 20.4	
	comp=N,120nm,0.4s						
LCO	**Las Campanas**	**3.72**	**301**	*eP*	**Pn**	**08 28 23.4**	**+0.8**
LCO				*i* S	**Sn**	**08 29 06.6**	**+0.1**
LCO				AML	AML	08 29 24.1	
	comp=E,267nm,0.6s						
LCO	**Las Campanas**	**3.72**	**301**	*eP*	**Pn**	**08 28 23.4**	**+0.8**
LCO				*i* S	**Sn**	**08 29 06.6**	**+0.1**
PEL	**Peldehue**	**3.73**	**234**	↑*eP*	**Pn**	**08 28 23.2**	**+0.4**
PEL				*i* S	**Sn**	**08 29 06.2**	**-0.6**
CLCH	**Cerro Calan**	**3.78**	**230**	↑*iP*	**Pn**	**08 28 24.3**	**+0.8**
CLCH				*i* S	**Sn**	**08 29 07.5**	**-0.6**
CLCH				AML	AML	08 29 15.5	
	comp=E,330nm,0.5s						
LMEL	**Las Melosas**	**3.88**	**222**	*eP*	**Pn**	**08 28 25.6**	**+0.8**
TACH	**Talagante**	**4.20**	**230**	*eP*	**Pn**	**08 28 29.2**	**-0.1**
CHCH	**Chadas Angostu**	**4.21**	**225**	*eP*	**Pn**	**08 28 30.0**	**+0.6**
CACH	**El Canelo**	**4.30**	**223**	↑*eP*	**Pn**	**08 28 31.6**	**+0.9**
CICH	**Cipreses**	**4.35**	**220**	↓*eP*	**Pn**	**08 28 32.4**	**+1.1**
TRQA	**Tornquist**	**8.19**	**151**	*ePn*	**Pn**	**08 29 24.5**	**+0.4**
	comp=E,8.6nm,0.8s						
TRQA				*eSn*	**Sn**	**08 30 55.9**	**-0.9**
LVC	**Limon Verde**	**8.52**	**348**	Pn	**Pn**	**08 29 28.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=20,slow=15,SNR=2.9						
LVC				Sn	**Sn**	**08 31 03.2**	**-1.5**
	comp=E,0.5nm,0.3s,baz=335,slow=9.4,SNR=3.3						
LVC				LR	LR	08 33 08.4	
	comp=E,107nm,19.5s,baz=43,slow=41						
CPUP	**Villa Florida**	**9.74**	**64**	Pn	**Pn**	**08 29 46.8**	**+1.5**
	comp=E,2.0nm,0.3s,baz=230,slow=11,SNR=25						
CPUP				Sn	**Sn**	**08 31 37.0**	**+2.2**
	comp=E,1.5nm,0.3s,baz=186,slow=19,SNR=2.2						
PLCA	**Paso Flores**	**10.11**	**195**	Pn	**Pn**	**08 29 50.1**	**-0.2**
	comp=E,0.3nm,0.3s,baz=356,slow=13,SNR=4.2						
PLCA				Lg		08 32 39.7	
	comp=E,0.2nm,0.3s,baz=112,slow=6.8,SNR=3.5						
PLCA	**Paso Flores**	**10.11**	**195**	Pn	**Pn**	**08 29 50.1**	**-0.2**
PLCA				Lg		08 32 39.7	
LPAZ	**La Paz**	**14.68**	**356**	Pn	**Pn**	**08 31 01.4**	**+8.5**
	comp=E,0.5nm,0.3s,baz=162,slow=6.5,SNR=22						
BDFB	**Brasilia**	**23.18**	**53**	P	**P**	**08 32 30.4**	**-1.7**
	comp=E,1.3nm,0.5s,mb3.7,baz=332,slow=4.9,SNR=3.1						
SNAA	**Sanae**	**52.82**	**159**	P	**P**	**08 36 39.1**	**-1.6**
	comp=E,0.4nm,0.7s,mb3.5,baz=294,slow=8.2,SNR=11						
QSPA	**South Pole Qui**	**59.23**	**180**	*eP*	**P**	**08 37 25.0**	**-1.6**
	comp=E,2.0nm,0.6s,mb4.3						
MAW	**Mawson**	**74.80**	**162**	P	**P**	**08 39 04.2**	**-1.4**
	comp=E,0.4nm,0.4s,mb3.7,baz=219,slow=6.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**79.22**	**68**	P	**P**	**08 39 30.6**	**+0.1**
	comp=E,1.2nm,0.7s,mb3.9,baz=274,slow=6.2,SNR=7.9						
WRA	**Warramunga Arr**	**125.33**	**205**	PKP	PKPdf	08 46 24.2	-2.0
	comp=E,0.5nm,0.6s,baz=162,slow=1.6,SNR=11						
MKAR	**Makanchi Array**	**151.65**	**47**	PKPbc	PKPbc	08 47 18.6	-1.2
	comp=E,1.1nm,0.6s,baz=289,slow=2.2,SNR=10						

NEIC ***29*** *08:48:31.5, 3612S×7181W, h107km, MG3.5(GUC), After GUC.*

GUC 29 08:48:31.5±0.6, 3612S×7181W, h107km±6km, MD3.8, ML3.5, 7C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCO	**Chanco**	**0.70**	**303**	*eP*	**Pn**	**08 48 49.7**	**+0.1**
CNCO				*i* S	**Sn**	**08 49 03.6**	**+0.4**
CNCO				AML	AML	08 49 05.0	
	comp=N,800nm,0.1s						
CNCO	**Chanco**	**0.70**	**303**	*eP*	**Pn**	**08 48 49.7**	**+0.1**
CNCO				*i* S	**Sn**	**08 49 03.6**	**+0.4**
TALC	**Talca**	**0.74**	**111**	↑*iP*	**Pn**	**08 48 46.1**	**-3.8**
TALC				*i* S	**Sn**	**08 48 59.6**	**-4.2**
TALC				AML	AML	08 48 60.0	
	comp=E,5μm,0.0s						
TALC	**Talca**	**0.74**	**111**	↑*iP*	**Pn**	**08 48 46.1**	**-3.8**
TALC				*i* S	**Sn**	**08 48 59.6**	**-4.2**
NICH	**Los Niches**	**1.22**	**23**	*eP*	**Pn**	**08 48 55.0**	**+0.2**
NICH				*i* S	**Sn**	**08 49 13.1**	**+0.7**
SFDO	**San Fernando**	**1.64**	**24**	↑*iP*	**Pn**	**08 49 00.2**	**+0.4**
SFDO				*i* S	**Sn**	**08 49 22.0**	**+0.6**
LNV	**Longovilo**	**2.19**	**9**	*eP*	**Pn**	**08 49 07.9**	**+1.1**
CACH	**El Canelo**	**2.23**	**27**	*eP*	**Pn**	**08 49 08.1**	**+0.8**
CACH				*i* S	**Sn**	**08 49 35.8**	**+1.0**
CHCH	**Chadas Angostu**	**2.38**	**24**	*i* P	**Pn**	**08 49 09.9**	**+0.6**
CHCH				*i* S	**Sn**	**08 49 38.6**	**+0.4**
TACH	**Talagante**	**2.57**	**17**	↑*iP*	**Pn**	**08 49 12.1**	**+0.5**
TACH				*i* S	**Sn**	**08 49 42.8**	**+0.3**
LMEL	**Las Melosas**	**2.63**	**311**	*eP*	**Pn**	**08 49 14.2**	**+1.8**
RCDM	**Rinconada Maip**	**2.76**	**181**	*eP*	**Pn**	**08 49 14.5**	**+0.3**
RCDM				*i* S	**Sn**	**08 49 47.4**	**+0.4**
RCDM				AML	AML	08 49 50.5	
	comp=E,278nm,0.1s						
RCDM	**Rinconada Maip**	**2.76**	**181**	*eP*	**Pn**	**08 49 14.5**	**+0.3**
RCDM				*i* S	**Sn**	**08 49 47.4**	**+0.4**
CLCH	**Cerro Calan**	**2.92**	**211**	↓*eP*	**Pn**	**08 49 17.0**	**+0.7**
CLCH				*i* S	**Sn**	**08 49 51.5**	**+0.7**
CLCH				AML	AML	08 49 57.2	
	comp=E,95nm,0.5s						
FCH	**Farellones**	**3.06**	**25**	*eP*	**Pn**	**08 49 19.3**	**+1.1**
FCH				*i* S	**Sn**	**08 49 55.0**	**+0.8**

IDC 29 08:49:33.6±1.4, 424N×12652E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, MS3.5/1, Ms1 3.6/1, ms1mx2.9/29, Error ellipse: s-maj=101.4km s-min=18.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**

KONT	**Konya--Tatoy**	**1.17**	**1**	*i* PN	**Pn**	**09 30 42.4**	**-0.6**
KONT				*i* SN	**Sn**	**09 30 58.1**	**-0.7**
KONT	**Konya--Tatoy**	**1.17**	**1**	Pn	**Pn**	**09 30 42.4**	**-0.6**
IKL	**Isikli**	**1.21**	**116**	*i* PN	**Pn**	**09 30 42.2**	**-1.5**
IKL	**Isikli**	**1.21**	**116**	Pn	**Pn**	**09 30 42.3**	**-1.4**
IKL	**Isikli**	**1.21**	**116**	Pn	**Pn**	**09 30 42.3**	**-1.4**
ANTB	**Antalya**	**1.36**	**276**	PN	**Pn**	**09 30 45.8**	**+0.1**
MEST	**Erdemli**	**1.47**	**97**	*i* P	**Pn**	**09 30 46.5**	**-0.6**
MEST				*i* S	**Sn**	**09 31 06.0**	**-0.2**
ALFC	**Alevga**	**1.63**	**172**	P	**Pn**	**09 30 47.7**	**-1.7**
	27nm,0.3s						
ALFC				S	**Sn**	**09 31 10.6**	**+0.3**
KDHN	**Kadinhani**	**1.75**	**354**	*i* P	**Pn**	**09 30 50.6**	**-0.4**
KDHN				*i* S	**Sg**	**09 31 16.6**	**-0.7**
MAMC	**Mammari**	**1.75**	**156**	P	**Pn**	**09 30 50.1**	**-1.0**
MERS	**Mersin**	**1.75**	**86**	PN	**Pn**	**09 30 51.1**	**0.0**
ISP	**Isparta**	**1.81**	**307**	PN	**Pn**	**09 30 51.4**	**-0.4**
ISP	**Isparta**	**1.81**	**307**	*e*Pn	**Pn**	**09 30 51.8**	**-0.1**
ISP				*e*Sn	**Sg**	**09 31 18.9**	**-0.2**
PPCY	**Paphos**	**1.89**	**180**	P	**Pn**	**09 30 52.4**	**-0.6**
ELL	**Elmali**	**1.95**	**270**	PN	**Pn**	**09 30 54.5**	**+0.7**
ELL	**Elmali**	**1.95**	**270**	Pn	**Pn**	**09 30 54.5**	**+0.7**
CSS	**Prodhromos**	**1.98**	**156**	P	**Pn**	**09 30 52.8**	**-1.5**
	8.0nm,0.5s						
CSS				S	**Sn**	**09 31 19.0**	**0.0**
TKTP	**Tekketepe**	**2.04**	**309**	*i* P	**Pn**	**09 30 55.8**	**+0.7**
TKTP				*i* S	**Sb**	**09 31 24.2**	**+0.9**
SZAC	**Souni-Zanaja**	**2.06**	**167**	⇑P	**Pb**	**09 30 58.3**	**-0.1**
	19nm,0.6s						
SZAC				S	**Sg**	**09 31 28.6**	**+1.2**
KARA	**Karaisali**	**2.23**	**77**	PN	**Pn**	**09 30 58.2**	**+0.6**
PHNC	**Paralimni**	**2.24**	**142**	P	**Pn**	**09 30 57.3**	**-0.5**
	8.0nm,0.5s						
PHNC				S	**Sb**	**09 31 30.2**	**+1.2**
AKAS	**Kas**	**2.27**	**257**	*i* P	**Pn**	**09 30 58.4**	**+0.2**
AKAS				*i* S	**Sb**	**09 31 30.4**	**+0.6**
KRTS	**Karatas**	**2.45**	**94**	*e*PN	**Pn**	**09 31 01.6**	**+0.9**
CEYT	**Ceyhan**	**2.74**	**84**	*e*PN	**Pn**	**09 31 03.9**	**-0.8**
CEYT	**Ceyhan**	**2.74**	**84**	Pn	**Pn**	**09 31 04.0**	**-0.8**
CEYT	**Ceyhan**	**2.74**	**84**	Pn	**Pn**	**09 31 04.0**	**-0.7**
KAMT	**Kaman**	**2.81**	**22**	*e*PN	**Pn**	**09 31 05.3**	**-0.3**
DENT	**Denizli**	**2.81**	**291**	*e*PN	**Pn**	**09 31 05.6**	**-0.1**
AVNT	**Avonos**	**2.82**	**44**	*i* P	**Pn**	**09 31 06.1**	**+0.2**
AVNT				*i* S	**Sn**	**09 31 41.9**	**+2.2**
KOZT	**Kozan**	**2.88**	**75**	*e*PN	**Pn**	**09 31 07.4**	**+0.9**
ALT	**Altintas**	**2.88**	**323**	*e*PN	**Pn**	**09 31 06.7**	**+0.1**
DALT	**Dalyan (Mudla)**	**2.97**	**271**	*e*PN	**Pn**	**09 31 09.3**	**+1.4**
ESKT	**Eskisehir**	**2.98**	**337**	*i* P	**Pn**	**09 31 07.6**	**-0.4**
ESKT				*i* S	**Sn**	**09 31 42.3**	**-1.2**
ESKT	**Eskisehir**	**2.98**	**337**	*e*Pn	**Pn**	**09 31 07.5**	**-0.5**
SEYT	**Eskypehyr**	**2.98**	**337**	*i* P	**Pn**	**09 31 07.6**	**-0.4**
SEYT				*i* S	**Sn**	**09 31 42.3**	**-1.2**
ANTO	**Ankara**	**3.11**	**6**	*e*PN	**Pn**	**09 31 09.5**	**-0.2**
ANTO	**Ankara**	**3.11**	**6**	*e*Pn	**Pn**	**09 31 10.1**	**+0.4**
BR131	**Keskin Array S**	**3.12**	**19**	*e*Pn	**Pn**	**09 31 09.5**	**-0.3**
BR131	**Keskin Array S**	**3.12**	**19**	*e*Pn	**Pn**	**09 31 09.5**	**-0.3**
BRTR	**Keskin Array B**	**3.12**	**19**	Pn	**Pn**	**09 31 09.6**	**-0.2**
	3.0nm,0.3s,baz=187,slow=15,SNR=47						
BRTR				Sn	**Sn**	**09 31 46.9**	**0.0**
	3.5nm,0.3s,baz=183,slow=20,SNR=4.5						
HTY	**Hatay**	**3.13**	**101**	*e*PN	**Pn**	**09 31 11.2**	**+1.1**
COBT	**Iskenderun**	**3.16**	**94**	*i* P	**Pn**	**09 31 12.1**	**+1.6**
COBT				*i* S	**Sn**	**09 31 52.0**	**+4.0**
GDZ	**Gediz**	**3.23**	**316**	*i* P	**Pn**	**09 31 11.3**	**-0.1**
GDZ				*i* S	**Sn**	**09 31 49.8**	**+0.1**
CDAG	**Cicekdag**	**3.26**	**29**	*i* P	**Pn**	**09 31 12.3**	**+0.5**
CDAG				*i* S	**Sg**	**09 32 04.3**	**-1.5**
YER	**Yerkesik**	**3.27**	**277**	*e*PN	**Pn**	**09 31 13.0**	**+1.1**
BNN	**Bunyan**	**3.46**	**52**	*e*PN	**Pn**	**09 31 15.7**	**+1.1**
AYDN	**Tasoluk**	**3.67**	**285**	*i* P	**Pn**	**09 31 18.4**	**+1.0**
AYDN				*i* S	**Sn**	**09 32 00.9**	**+0.4**
YOZ	**Yozgat**	**3.70**	**39**	*e*PN	**Pn**	**09 31 18.0**	**+0.1**
KMRS	**Kahramanmaras**	**3.72**	**77**	*e*PN	**Pn**	**09 31 17.8**	**-0.3**
SGKT	**Sivrigoynuk**	**3.80**	**357**	*i* P	**Pn**	**09 31 19.3**	**+0.1**
ELDT	**Eldivan**	**3.80**	**13**	*i* P	**Pn**	**09 31 13.8**	**+5.5**
DAT	**Datca**	**3.82**	**271**	*e*PN	**Pn**	**09 31 20.8**	**+1.2**
CORM	**Corum**	**3.84**	**27**	*e*PN	**Pn**	**09 31 20.0**	**+0.2**
HWQ	**Hawqa**	**3.86**	**129**	*e*Pn	**Pn**	**09 31 21.1**	**+1.1**
GAZ	**Gaziantep**	**3.92**	**83**	*e*PN	**Pn**	**09 31 21.4**	**+0.5**
BDRM	**Kayabasi**	**3.93**	**276**	*i* P	**Pn**	**09 31 22.3**	**+1.2**
BDRM				*i* S	**Sn**	**09 32 07.0**	**-0.1**
BDRM	**Kayabasi**	**3.93**	**276**	*i* S	**Sn**	**09 32 07.0**	**-0.1**
BHL	**Bhannes**	**3.94**	**136**	*e*Pn	**Pn**	**09 31 20.8**	**-0.5**
BODT	**Bodrum**	**4.04**	**276**	*e*PN	**Pn**	**09 31 23.8**	**+1.3**
AKHS	**Akhisar**	**4.15**	**302**	*i* P	**Pn**	**09 31 24.2**	**+0.1**
AKHS				*i* S	**Sn**	**09 32 09.1**	**-3.4**
ADVT	**Abdulvahap**	**4.18**	**332**	*e*PN	**Pn**	**09 31 25.2**	**+0.7**
ULDT	**Uludag**	**4.20**	**324**	*i* P	**Pn**	**09 31 24.9**	**+0.2**
ULDT				*i* S	**Sn**	**09 32 12.9**	**-0.7**
IZM	**Izmir**	**4.34**	**293**	*e*PN	**Pn**	**09 31 27.2**	**+0.5**
RCY	**Rachaya**	**4.35**	**138**	*e*Pn	**Pn**	**09 31 27.9**	**+1.1**
GEMT	**Gemlik**	**4.41**	**327**	*e*PN	**Pn**	**09 31 28.5**	**+0.9**
YLV	**Yalova**	**4.44**	**329**	*e*PN	**Pn**	**09 31 29.1**	**+1.1**
TOS	**Tosya**	**4.45**	**17**	*e*PN	**Pn**	**09 31 28.3**	**+0.1**
SVSK	**Karacayir**	**4.82**	**48**	*e*PN	**Pn**	**09 31 33.6**	**+0.3**
URLA	**Izmir**	**4.83**	**291**	*i* P	**Pn**	**09 31 35.4**	**+2.1**
BOYT	**Boyabat**	**5.05**	**22**	*i* P	**Pg**	**09 31 53.9**	**-3.8**
MALT	**Malatya**	**5.08**	**71**	*e*Pn	**Pn**	**09 31 38.7**	**+2.0**
	31nm,0.8s						
MALT	**Malatya**	**5.08**	**71**	*e*Pn	**Pn**	**09 31 38.7**	**+1.9**
	31nm,0.8s						
URFA	**Urfa**	**5.22**	**81**	*e*PN	**Pn**	**09 31 39.9**	**+1.1**
ELZG	**Elazig**	**5.55**	**70**	*i* P	**Pn**	**09 31 44.6**	**+1.3**
ASF	**Jabal al Asfar**	**5.94**	**139**	Pn	**Pn**	**09 31 49.0**	**+0.3**
	0.4nm,0.3s,baz=192,slow=5.6,SNR=3.7						
ASF				Sn	**Sn**	**09 32 55.8**	**-0.8**
	0.6nm,0.3s,baz=10,slow=22,SNR=2.0						
HBRG	**Burj al 'Arab**	**6.53**	**199**	P	**Pn**	**09 31 55.6**	**-1.2**
HHAG	**Hagoal**	**6.81**	**182**	P	**Pn**	**09 31 59.9**	**-0.7**
HMAT	**Matruh**	**7.15**	**219**	⇑P	**Pn**	**09 32 03.7**	**-1.6**
HMAT				S	**Sn**	**09 33 21.1**	**-5.3**
EIL	**Elat**	**7.42**	**162**	*e*Pn	**Pn**	**09 32 09.3**	**+0.3**
	151nm,0.6s						
EIL				*e*Sn	**Sn**	**09 33 33.3**	**+0.3**
EIL	**Elat**	**7.42**	**162**	*e*Pn	**Pn**	**09 32 09.3**	**+0.3**
	151nm,0.6s						
HDHB	**Dhahab**	**8.26**	**166**	⇑P	**Pn**	**09 32 20.5**	**0.0**
TR2		**8.45**	**172**	P	**Pn**	**09 32 23.1**	**0.0**
AWBH		**8.92**	**200**	P	**Pn**	**09 32 29.0**	**-0.5**
SWA1		**9.33**	**218**	P	**Pn**	**09 32 34.0**	**-1.2**
SWA1				S	**Sn**	**09 34 13.7**	**-6.3**
SWA2		**9.47**	**220**	P	**Pn**	**09 32 36.1**	**-1.1**
HFRF	**Wahat Farafira**	**10.19**	**201**	P	**Pn**	**09 32 46.2**	**-0.7**
LPG	**La Plagne**	**21.08**	**302**	*e*P	**P**	**09 34 58.7**	**-6.3**
	3.5nm,0.5s,mb3.7						
LPL	**La Plagne**	**21.10**	**302**	*e*P	**P**	**09 34 58.9**	**-6.3**
	1.8nm,0.2s,mb3.7						
AKTK	**Aktyubinsk**	**22.92**	**45**	P	**P**	**09 35 22.8**	**-1.9**
AKTO	**Aktyubinsk**	**22.92**	**45**	P	**P**	**09 35 22.8**	**-1.9**
	0.5nm,0.5s,mb3.2,baz=70,slow=12,SNR=2.1						
AVF	**Avril sur Loir**	**23.70**	**304**	*e*P	**P**	**09 35 24.5**	**-8.1**
FINES	**FINESS Array B**	**25.00**	**353**	P	**P**	**09 35 42.6**	**-1.9**
	1.3nm,0.5s,mb3.7,baz=153,slow=12,SNR=13						
ARCES	**ARCESS Array B**	**33.03**	**356**	P	**P**	**09 36 54.9**	**-1.1**
	3.0nm,0.9s,mb4.2,baz=169,slow=8.4,SNR=13						
TORD	**Torodi Ar. Bea**	**36.13**	**237**	P	**P**	**09 37 22.2**	**-0.7**
	7.5nm,0.8s,mb4.7,baz=28,slow=9.2,SNR=48						
TORD	**Torodi Ar. Bea**	**36.13**	**237**	P	**P**	**09 37 22.2**	**-0.7**
MKAR	**Makanchi Array**	**37.99**	**59**	P	**P**	**09 37 37.9**	**-0.8**
	0.8nm,0.7s,mb3.5,baz=284,slow=6.1,SNR=6.4						
DBIC	**Dimbokro**	**45.24**	**238**	P	**P**	**09 38 36.8**	**-1.3**
	4.0nm,0.5s,mb4.5,baz=27,slow=6.8,SNR=9.9						
LIC	**Lamto**	**45.68**	**237**	*e*P	**P**	**09 38 39.9**	**-1.6**
	8.9nm,0.5s,mb4.7						

*HLW **29** 09:42:02.4, 37.11N×3287E, h33km, Mb4.0*
*IDC **29** 09:42:07.0±0.9, 3686N×3217E, h0km, mb4.1/9, mb1 4.0/14, mb1mx3.9/23, mbtmp3.9/14, ML3.4/4, MS4.1/1, Ms1 4.0/1, ms1mx2.6/33, Error ellipse: s-maj=18.1km s-min=13.9km az=107.0*
*ISCJB **29** 09:42:08.0±0.5, 3678N±001×3228E±002, h12km±3km, mb4.2/15, MS4.2/1, Error ellipse: s-maj=3.0km s-min=1.9km az=110.1*
*CSEM **29** 09:42:08.2±0.0, 3682N×3232E, h15km, Mw3.3, Error ellipse: s-maj=1.4km s-min=0.9km az=58.0*
*NIC **29** 09:42:08.6±0.4, 3693N×3226E, h25km, mb4.2, ML3.9, MW3.5*
*ISK **29** 09:42:09.2, 3688N×3231E, h16km, ML4.0*
*NEIC **29** 09:42:09.0, 3685N×3232E, h16km, mb4.2/1, ML3.9(NIC),*

2006 SEP

ML4.0(ISK), After ISK.
*GII **29** 09:42:11.2±0.5, 3661N×3230E, h0km, ML3.6/6, Mw3.7/5*
*NSSC **29** 09:42:13.9, 3674N×3276E, h6km±17km*
ISC 29 09:42:09.2±0.5, 3680N±001×3228E±002, h9km±3km, n181, s108/240, mb4.2/15, MS4.2/1, 3C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDMB	**Hadim**	**0.23**	**46**	*i* PG	**Pg**	**09 42 13.7**	**-0.1**
HDMB				*i* SG	**Sg**	**09 42 17.2**	**+0.2**
HDMB	**Hadim**	**0.23**	**46**	Pg	**Pg**	**09 42 13.8**	**-0.1**
HDMB	**Hadim**	**0.23**	**46**	Pg	**Pg**	**09 42 13.8**	**0.0**
HDMB				*i* Sg	**Sg**	**09 42 17.2**	**+0.2**
KONT	**Konya--Tatoy**	**1.14**	**3**	*i* PG	**Pg**	**09 42 29.9**	**-1.2**
KONT				*i* SG	**Sg**	**09 42 45.6**	**-0.3**
KONT	**Konya--Tatoy**	**1.14**	**3**	Pn	**Pn**	**09 42 30.6**	**-0.8**
KONT	**Konya--Tatoy**	**1.14**	**3**	Pn	**Pn**	**09 42 30.5**	**-0.9**
KONT				*i* Sg	**Sg**	**09 42 45.6**	**-0.3**
IKL	**Isikli**	**1.27**	**116**	Pn	**Pn**	**09 42 30.7**	**-2.3**
IKL	**Isikli**	**1.27**	**116**	Pn	**Pn**	**09 42 30.7**	**-2.4**
ANTB	**Antalya**	**1.31**	**275**	PN	**Pn**	**09 42 33.9**	**+0.2**
MEST	**Erdemli**	**1.51**	**98**	*i* P	**Pn**	**09 42 35.0**	**-1.5**
MEST				*i* S	**Sn**	**09 42 54.1**	**-2.2**
ALFC	**Alevga**	**1.66**	**171**	P	**Pn**	**09 42 36.1**	**-2.5**
	36nm,0.3s						
ALFC				S	**Sn**	**09 42 58.2**	**-1.8**
KDHN	**Kadinhani**	**1.72**	**356**	*i* P	**Pn**	**09 42 39.8**	**+0.4**
KDHN				*i* S	**Sg**	**09 43 05.0**	**+0.6**
ISP	**Isparta**	**1.75**	**307**	PN	**Pn**	**09 42 39.4**	**-0.4**
ISP	**Isparta**	**1.75**	**307**	Pn	**Pn**	**09 42 40.1**	**+0.3**
ISP				*e*Sn	**Sn**	**09 43 02.5**	**+0.3**
MAMC	**Mammari**	**1.80**	**155**	P	**Pn**	**09 42 38.8**	**-1.6**
MERS	**Mersin**	**1.80**	**87**	PN	**Pn**	**09 42 39.6**	**-0.8**
ELL	**Elmali**	**1.91**	**269**	PN	**Pn**	**09 42 41.9**	**0.0**
ELL	**Elmali**	**1.91**	**269**	Pn	**Pn**	**09 42 42.0**	**+0.1**
PPCY	**Paphos**	**1.92**	**178**	P	**Pn**	**09 42 40.2**	**-1.8**
TKTP	**Tekketepe**	**1.99**	**309**	*i* P	**Pn**	**09 42 44.3**	**+1.3**
TKTP				*i* S	**Sg**	**09 43 12.5**	**-0.6**
CSS	**Prodhromos**	**2.03**	**155**	⇑P	**Pn**	**09 42 41.0**	**-2.5**
	9.8nm,0.7s						
CSS				S	**Sn**	**09 43 07.1**	**-1.9**
SZAC	**Souni-Zanaja**	**2.10**	**166**	⇑P	**Pn**	**09 42 46.8**	**+2.2**
SZAC				S	**Sg**	**09 43 17.1**	**+0.4**
SZAC	**Souni-Zanaja**	**2.10**	**166**	*i*P	**Pn**	**09 42 46.8**	**+2.2**
SZAC				S	**Sg**	**09 43 17.1**	**+0.4**
AKAS	**Kas**	**2.23**	**256**	*i* P	**Pn**	**09 42 47.0**	**+0.6**
AKAS				*i* S	**Sg**	**09 43 18.6**	**-2.2**
KARA	**Karaisali**	**2.27**	**78**	PN	**Pn**	**09 42 47.0**	**+0.2**
KRTS	**Karatas**	**2.50**	**94**	PN	**Pn**	**09 42 49.8**	**-0.2**
DENT	**Denizli**	**2.76**	**291**	PN	**Pn**	**09 42 54.6**	**+1.0**
CEYT	**Ceyhan**	**2.79**	**85**	PN	**Pn**	**09 42 54.7**	**+0.7**
KAMT	**Kaman**	**2.80**	**23**	PN	**Pn**	**09 42 53.6**	**-0.6**
KAMT	**Kaman**	**2.80**	**23**	Pn	**Pn**	**09 42 53.6**	**-0.6**
ALT	**Altintas**	**2.83**	**323**	PN	**Pn**	**09 42 54.2**	**-0.4**
AVNT	**Avonos**	**2.84**	**45**	*i* P	**Pn**	**09 42 54.4**	**-0.3**
AVNT				*i* S	**Sg**	**09 43 36.1**	**-4.2**
KOZT	**Kozan**	**2.91**	**76**	PN	**Pn**	**09 42 56.3**	**+0.6**
DALT	**Dalyan (Mudla)**	**2.92**	**270**	PN	**Pn**	**09 42 57.4**	**+1.5**
ESKT	**Eskisehir**	**2.94**	**338**	PN	**Pn**	**09 42 55.4**	**-0.7**
ESKT	**Eskisehir**	**2.94**	**338**	*i* P	**Pn**	**09 42 56.8**	**+0.7**
ESKT				*i* S	**Sn**	**09 43 30.9**	**-0.6**
SEYT	**Eskypehyr**	**2.94**	**338**	*i* P	**Pn**	**09 42 56.8**	**+0.7**
SEYT				*i* S	**Sn**	**09 43 30.9**	**-0.6**
ANTO	**Ankara**	**3.09**	**7**	PN	**Pn**	**09 42 57.9**	**-0.2**
ANTO	**Ankara**	**3.09**	**7**	*e*Pn	**Pn**	**09 42 58.7**	**+0.6**
BRTR	**Keskin Array B**	**3.11**	**20**	Pn	**Pn**	**09 42 58.0**	**-0.4**
	5.6nm,0.3s,baz=189,slow=15,SNR=64						
BRTR				Sn	**Sn**	**09 43 34.9**	**-0.7**
	6.0nm,0.3s,baz=213,slow=28,SNR=5.0						
BR131	**Keskin Array S**	**3.11**	**20**	*e*Pn	**Pn**	**09 42 57.9**	**-0.5**
BR131	**Keskin Array S**	**3.11**	**20**	*e*Pn	**Pn**	**09 42 57.9**	**-0.5**
GDZ	**Gediz**	**3.18**	**317**	*i* P	**Pn**	**09 42 59.6**	**+0.3**
GDZ				*i* S	**Sn**	**09 43 39.3**	**+1.8**
HTY	**Hatay**	**3.18**	**101**	PN	**Pn**	**09 43 00.0**	**+0.5**
COBT	**Iskenderun**	**3.21**	**94**	*i* P	**Pn**	**09 43 00.7**	**+0.8**
COBT				*i* S	**Sn**	**09 43 40.1**	**+1.9**
COBT	**Iskenderun**	**3.21**	**94**	*i* P	**Pn**	**09 43 00.6**	**+0.8**
COBT				*i* S	**Sn**	**09 43 40.1**	**+1.9**
YER	**Yerkesik**	**3.22**	**277**	PN	**Pn**	**09 43 01.4**	**+1.5**
CDAG	**Cicekdag**	**3.26**	**30**	*i* P	**Pn**	**09 43 00.7**	**+0.2**
CDAG				*i* S	**Sg**	**09 43 52.9**	**-1.1**
SLNF	**Slenfeh**	**3.41**	**110**	⇑P	**Pn**	**09 43 02.5**	**0.0**
SLNF				⇑S	**Sn**	**09 43 37.6**	**-5.5**
SLNF	**Slenfeh**	**3.41**	**110**	⇑*i*P	**Pn**	**09 43 02.5**	**-0.1**
SLNF				⇑*i*S	**Sn**	**09 43 37.6**	**-5.5**
BTCH	**Batrach**	**3.46**	**102**	⇑P	**Pn**	**09 43 03.5**	**+0.3**
BTCH				⇑S	**Sn**	**09 43 37.7**	**-6.5**
BTCH	**Batrach**	**3.46**	**102**	⇑*i*P	**Pn**	**09 43 03.5**	**+0.3**
BNN	**Bunyan**	**3.49**	**53**	PN	**Pn**	**09 43 04.2**	**+0.6**
WRDH	**Warideh**	**3.58**	**110**	⇑P	**Pn**	**09 43 04.7**	**-0.3**
WRDH				⇑S	**Sn**	**09 43 42.0**	**-5.5**
WRDH	**Warideh**	**3.58**	**110**	⇑*i*P	**Pn**	**09 43 04.7**	**-0.3**
WRDH				⇑*i*S	**Sn**	**09 43 42.0**	**-5.4**
MLSB	**Milas**	**3.64**	**279**	*e*PN	**Pn**	**09 43 07.0**	**+1.3**
YOZ	**Yozgat**	**3.71**	**39**	PN	**Pn**	**09 43 06.4**	**-0.3**
BIDA	**Albida**	**3.73**	**117**	⇓P	**Pn**	**09 43 06.7**	**-0.3**
BIDA				⇓S	**Sn**	**09 43 45.6**	**-5.6**
BIDA	**Albida**	**3.73**	**117**	⇓*i*P	**Pn**	**09 43 06.7**	**-0.3**
BIDA				⇓*i*S	**Sn**	**09 43 45.6**	**-5.6**
KMRS	**Kahramanmaras**	**3.76**	**78**	*e*PN	**Pn**	**09 43 07.1**	**-0.2**
SGKT	**Sivrigoynuk**	**3.77**	**357**	*i* P	**Pn**	**09 43 07.7**	**+0.2**
DAT	**Datca**	**3.78**	**270**	*e*PN	**Pn**	**09 43 08.3**	**+0.7**
ELDT	**Eldivan**	**3.79**	**13**	*i* P	**Pn**	**09 43 07.1**	**-0.7**
CORM	**Corum**	**3.84**	**28**	*e*PN	**Pn**	**09 43 07.7**	**-0.8**
BDRM	**Kayabasi**	**3.88**	**275**	*i* P	**Pn**	**09 43 10.2**	**+1.1**
BDRM				*i* S	**Sn**	**09 43 55.5**	**+0.7**
HWQ	**Hawqa**	**3.91**	**129**	*e*Pn	**Pn**	**09 43 09.4**	**-0.1**
CANT	**Cankiri**	**3.94**	**15**	*e*PN	**Pn**	**09 43 09.5**	**-0.3**
GAZ	**Gaziantep**	**3.96**	**83**	*e*PN	**Pn**	**09 43 10.2**	**0.0**
BODT	**Bodrum**	**3.99**	**275**	*e*PN	**Pn**	**09 43 11.8**	**+1.3**
BHL	**Bhannes**	**4.00**	**135**	*e*Pn	**Pn**	**09 43 11.0**	**+0.4**
AKHS	**Akhisar**	**4.10**	**302**	*i* P	**Pn**	**09 43 12.7**	**+0.7**
AKHS				*i* S	**Sn**	**09 44 02.9**	**+2.8**
ADVT	**Abdulvahap**	**4.13**	**332**	*e*PN	**Pn**	**09 43 12.5**	**0.0**
ULDT	**Uludag**	**4.15**	**324**	*i* P	**Pn**	**09 43 13.2**	**+0.5**
ULDT				*i* S	**Sn**	**09 44 02.0**	**+0.7**
ULDT	**Uludag**	**4.15**	**324**	*i* P	**Pn**	**09 43 13.2**	**+0.5**
ULDT				*i* S	**Sn**	**09 44 02.0**	**+0.7**
HENT	**Hendek**	**4.16**	**345**	*i* P	**Pn**	**09 43 13.1**	**+0.3**
GZT	**Gaziantep**	**4.26**	**81**	*i* P	**Pn**	**09 43 14.8**	**+0.6**
CTKT	**Corum**	**4.29**	**26**	*i* P	**Pn**	**09 43 17.7**	**+3.1**
IZM	**Izmir**	**4.29**	**293**	*e*PN	**Pn**	**09 43 15.1**	**+0.4**
GEMT	**Gemlik**	**4.36**	**327**	*e*PN	**Pn**	**09 43 15.7**	**+0.1**
YLV	**Yalova**	**4.39**	**330**	*e*PN	**Pn**	**09 43 16.5**	**+0.4**
RCY	**Rachaya**	**4.40**	**138**	*e*Pn	**Pn**	**09 43 16.2**	**+0.1**
RCY	**Rachaya**	**4.40**	**138**	*e*Pn	**Pn**	**09 43 16.2**	**0.0**
HNTI	**Hanita**	**4.41**	**147**	P	**Pn**	**09 43 17.0**	**+0.7**
HNTI				S	**Sn**	**09 44 08.5**	**+0.7**
TOS	**Tosya**	**4.44**	**17**	*e*PN	**Pn**	**09 43 16.5**	**-0.2**
BLCB	**Balcova**	**4.45**	**292**	*e*PN	**Pn**	**09 43 17.8**	**+0.9**
BTOK	**Tokmak**	**4.46**	**313**	*i* P	**Pn**	**09 43 19.3**	**+2.3**
HRT	**Hereke**	**4.50**	**334**	*e*PN	**Pn**	**09 43 17.5**	**-0.1**
HRI	**Mount Hermon**	**4.53**	**140**	P	**Pn**	**09 43 19.0**	**+1.1**
BRBR	**Barbar**	**4.53**	**137**	⇓P	**Pn**	**09 43 19.8**	**+1.8**
BRBR				⇓S	**Sn**	**09 44 06.0**	**-4.8**
BRBR	**Barbar**	**4.53**	**137**	⇓*i*P	**Pn**	**09 43 19.8**	**+1.9**
BRBR				⇓*i*S	**Sn**	**09 44 06.0**	**-4.7**
KSDI	**Kefar Szold**	**4.55**	**141**	P	**Pn**	**09 43 19.0**	**+0.8**
KSDI				S	**Sn**	**09 44 11.6**	**+0.4**
KSDI	**Kefar Szold**	**4.55**	**141**	P	**Pn**	**09 43 19.0**	**+0.8**
KSDI				S	**Sn**	**09 44 11.5**	**+0.3**
MMA1	**Mount Meron ar**	**4.57**	**145**	P	**Pn**	**09 43 18.5**	**+0.1**
MMA1				S	**Sn**	**09 44 13.2**	**+1.5**
SLMH	**Al Salmeh**	**4.59**	**96**	⇑*i*P	**Pn**	**09 43 18.8**	**0.0**
OFRI	**'Ofer**	**4.73**	**151**	P	**Pn**	**09 43 20.9**	**+0.2**
OFRI				S	**Sn**	**09 44 16.2**	**+0.6**
OFRI	**'Ofer**	**4.73**	**151**	P	**Pn**	**09 43 20.9**	**+0.2**
OFRI				S	**Sn**	**09 44 16.2**	**+0.5**
KSHT	**Keshet**	**4.79**	**142**	P	**Pn**	**09 43 23.1**	**+1.5**
BALT	**Daday**	**4.80**	**10**	*i* P	**Pn**	**09 43 23.2**	**+1.5**
TOTH	**TOTAH**	**4.83**	**134**	⇑P	**Pn**	**09 43 22.5**	**+0.4**
TOTH				⇑S	**Sn**	**09 44 14.0**	**-4.2**
TOTH	**TOTAH**	**4.83**	**134**	⇑*i*P	**Pn**	**09 43 22.5**	**+0.4**
TOTH				⇑*i*S	**Sn**	**09 44 14.0**	**-4.2**
SVSK	**Karacayir**	**4.84**	**49**	*e*PN	**Pn**	**09 43 21.8**	**-0.4**
BOYT	**Boyabat**	**5.04**	**23**	*i* P	**Pn**	**09 43 26.5**	**+1.5**
MMLI	**Mount Malkishu**	**5.07**	**148**	P	**Pn**	**09 43 25.9**	**+0.5**
MMLI				S	**Sn**	**09 44 24.8**	**+0.8**
SLTI	**Sal'it**	**5.09**	**153**	P	**Pn**	**09 43 26.1**	**+0.4**
SLTI				S	**Sn**	**09 44 24.8**	**+0.2**
JHLN	**Al Jahlan**	**5.11**	**101**	⇑P	**Pn**	**09 43 25.1**	**-0.8**
JHLN	**Al Jahlan**	**5.11**	**101**	⇑*i*P	**Pn**	**09 43 25.1**	**-0.8**
KLYT	**Kilyos**	**5.11**	**331**	*e*PN	**Pn**	**09 43 26.0**	**+0.1**
MALT	**Malatya**	**5.11**	**71**	*e*Pn	**Pn**	**09 43 27.3**	**+1.4**
	45nm,0.8s						
MALT	**Malatya**	**5.11**	**71**	*e*Pn	**Pn**	**09 43 27.3**	**+1.3**
	45nm,0.8s						
MYA	**Malataya**	**5.11**	**71**	*e*PN	**Pn**	**09 43 26.7**	**+0.7**
KVT	**Kavak**	**5.18**	**33**	*e*PN	**Pn**	**09 43 27.1**	**+0.2**
URFA	**Urfa**	**5.27**	**81**	*e*PN	**Pn**	**09 43 29.4**	**+1.3**
HMDT	**Nahal Hemdat**	**5.27**	**149**	P	**Pn**	**09 43 29.4**	**+1.2**
SALA	**Sala**	**5.49**	**137**	⇑P	**Pn**	**09 43 31.9**	**+0.8**
SALA				⇑S	**Sn**	**09 44 30.1**	**-4.2**
SALA	**Sala**	**5.49**	**137**	⇑*i*P	**Pn**	**09 43 31.9**	**+0.8**
ELZG	**Elazig**	**5.58**	**70**	*i* P	**Pn**	**09 43 31.5**	**-0.9**
DRGI	**Dragot**	**5.80**	**153**	P	**Pn**	**09 43 36.5**	**+1.1**
DSI	**Dead Sea**	**5.

RUS	**Russkaya**	**3.41**	**75**	*e*P		**P**	**10 21 44.6**	**-0.6**
RUS				*i* S		**S**	**10 22 36.2**	**-3.9**
GNL	**Ganaly**	**3.57**	**53**	*e*P		**P**	**10 21 46.2**	**-0.4**
PET	**Petropavlovsk**	**3.65**	**66**	*e*PN		**P**	**10 21 43.5**	**-3.9**
PET				*e*S		**S**	**10 22 42.3**	**-1.7**
PET					pmax	pmax		
	comp=Z,15nm,0.8s							
PET					smax			
	comp=N,18nm,0.6s							
PET					smax			
	comp=E,17nm,0.5s							
PET	**Petropavlovsk**	**3.65**	**66**	*e*P		**P**	**10 21 47.2**	**-0.2**
PET				*i* S		**S**	**10 22 41.8**	**-2.2**
AVH	**Avacha**	**3.79**	**62**	*e*P		**P**	**10 21 48.8**	**+0.2**
SPN	**Mys Shipunski**	**4.46**	**68**	*e*P		**P**	**10 21 53.7**	**-1.2**
SPN				*i* S		**S**	**10 22 52.0**	**-5.7**
KII	**Karymskiy**	**4.51**	**56**	*e*P		**P**	**10 21 56.5**	**+1.1**
KII				*e*S		**S**	**10 22 58.0**	**-0.6**
TUMR	**Tumrok**	**5.55**	**46**	*i* P		**P**	**10 22 07.5**	**+1.6**
KMNR	**Kamenistaya**	**5.89**	**43**	*e*P		**P**	**10 22 10.5**	**+1.0**
MKZ	**Mys Kozlova**	**5.94**	**57**	*e*P		**P**	**10 22 08.4**	**-1.6**
MKZ				*i* S		**S**	**10 23 17.4**	**-8.0**
KOZ	**Kozyrevsk**	**5.95**	**39**	P		**P**	**10 22 11.2**	**+1.1**
KOZR	**Kozyr**	**5.96**	**39**	PN		**P**	**10 22 11.2**	**+0.9**
SRDR	**Sredinnyy**	**6.08**	**37**	*e*P		**P**	**10 22 12.9**	**+1.4**
ZLN	**Zelenaya**	**6.30**	**43**	*e*P		**P**	**10 22 15.1**	**+1.2**
ZLN				*i* S		**S**	**10 23 30.3**	**-2.3**
KRSR	**Krestovskiy**	**6.34**	**41**	*e*P		**P**	**10 22 16.4**	**+2.1**
KLY	**Klyuchi**	**6.44**	**41**	*e*P		**P**	**10 22 18.0**	**+2.6**
BDR	**Baidarnaya**	**6.84**	**41**	*e*P		**P**	**10 22 21.1**	**+1.3**
SRKR	**Sorokina**	**6.88**	**40**	*e*P		**P**	**10 22 21.5**	**+1.2**
SRKR				*i* S		**S**	**10 23 40.2**	**-4.0**
SMKR	**Semkarok**	**6.96**	**41**	*e*P		**P**	**10 22 22.0**	**+0.9**
SMKR				*i* S		**S**	**10 23 41.9**	**-3.8**
KBTR	**Krutoberegovo**	**7.31**	**48**	*e*P		**P**	**10 22 23.5**	**-1.5**
KBTR				*i* S		**S**	**10 23 44.4**	**-8.6**
ASAJ	**Asahikawa**	**10.33**	**227**	P		**P**	**10 22 59.2**	**+0.7**
	comp=E,1.6nm,0.3s,baz=61,slow=11,SNR=19							
ASAJ	**Asahikawa**	**10.33**	**227**	PN		**P**	**10 22 59.2**	**+0.7**
ASAJ					pmax	pmax		
	comp=Z,2.0nm,0.3s							
INK	**Inuvik**	**37.58**	**36**	P		**P**	**10 27 14.2**	**-0.5**
	comp=Z,1.1nm,0.3s,mb3.6,baz=309,slow=5.4,SNR=16							
INK	**Inuvik**	**37.58**	**36**	P		**P**	**10 27 14.2**	**-0.5**
INK					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**44.87**	**293**	P		**P**	**10 28 11.0**	**-2.1**
	comp=Z,0.7nm,0.3s,mb3.4,baz=62,slow=6.8,SNR=8.9							
MKAR	**Makanchi Array**	**44.87**	**293**	P		**P**	**10 28 11.0**	**-2.0**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
YKA	**Yellowknife Ar**	**47.05**	**39**	P		**P**	**10 28 29.2**	**-0.6**
	comp=Z,1.0nm,0.4s,mb3.5,baz=303,slow=7.0,SNR=8.0							
YKA	**Yellowknife Ar**	**47.05**	**39**	P		**P**	**10 28 29.2**	**-0.6**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.4s							
KKN	**Kakani**	**55.19**	**272**	*e*P		**P**	**10 29 28.8**	**-0.7**
PKI	**Pulchoki**	**55.27**	**272**	*e*P		**P**	**10 29 29.5**	**-0.5**
DMN	**Daman**	**55.43**	**272**	*e*P		**P**	**10 29 30.9**	**-0.2**
KOLN	**Koldanda**	**56.25**	**273**	*e*P		**P**	**10 29 35.6**	**-1.3**
NVAR	**Mina Array Bea**	**60.23**	**65**	P		**P**	**10 30 05.1**	**+1.0**
	comp=Z,0.3nm,0.6s,mb2.9,baz=282,slow=7.5,SNR=4.1							
PDAR	**Pinedale Array**	**61.91**	**56**	P		**P**	**10 30 15.8**	**+0.7**
	comp=Z,0.7nm,0.5s,mb3.4,baz=350,slow=2.7,SNR=7.2							
WRA	**Warramunga Arr**	**73.16**	**198**	P		**P**	**10 31 24.3**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.2,baz=13,slow=6.0,SNR=8.0							
ASAR	**Alice Springs**	**76.87**	**198**	P		**P**	**10 31 46.0**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.6,baz=8.1,slow=4.9,SNR=19							
ASAR	**Alice Springs**	**76.87**	**198**	P		**P**	**10 31 46.1**	**+0.6**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.5s							

*NEIC **29** 11:11:19.6, 17.17N×100.65W, h26km, MD4.2(MEX), After MEX.*

MEX 29 11:11:18.6±1.0, 17.16N×100.72W, h21km±30km, MD4.2, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.44**	**104**	⇑*i* P	Pb	11 11 25.9	-1.8
CAIG				*i* S	Sb	11 11 31.4	-2.5
ACX	**Acapulco**	**0.82**	**110**	*i* P	Pb	11 11 32.5	-1.6
ACX				*i* S	Sb	11 11 42.0	-2.7
ZIIG	**Zihuatanejo**	**0.84**	**302**	*i* P	Pb	11 11 31.4	-3.2
ZIIG				*i* S	Sb	11 11 42.8	-2.6
MEIG	**Mezcala**	**1.30**	**54**	*i* P	Pn	11 11 39.2	-2.3
MEIG				*i* S	Sn	11 11 54.8	-3.4
PLIG	**Platanillo**	**1.69**	**43**	*i* P	Pn	11 11 44.7	-2.2
PLIG				*i* S	Sn	11 12 03.1	-4.8
YAIG	**Yautepec**	**2.31**	**43**	*i* P	Pn	11 11 52.9	-2.6
YAIG				*i* S	Sn	11 12 19.8	-3.5
SZVM	**Salazar**	**2.50**	**30**	*e*P	Pn	11 11 56.6	-1.5
SZVM				*i* S	Sn	11 12 25.4	-2.5
MOIG	**Morelia**	**2.55**	**350**	*e*P	Pn	11 11 56.5	-2.2
MOIG				*i* S	Sn	11 12 26.3	-2.8
MRX	**Morelia**	**2.57**	**350**	*e*P	Pn	11 12 00.0	+0.9
MRX	**Morelia**	**2.57**	**350**	*e*P	Pn	11 12 02.0	+2.9
PNIG	**Pinotepa**	**2.60**	**107**	*e*P	Pn	11 11 56.5	-2.9
PNIG				*i* S	Sn	11 12 26.2	-4.1
PNIG	**Pinotepa**	**2.60**	**107**	*i* P	Pn	11 12 01.6	+2.2
PNIG				*i* S	Sn	11 12 26.2	-4.1
PPM	**Popocatepetl**	**2.75**	**46**	*i* P	Pn	11 11 59.5	-2.0
PPM				*e*P		11 12 00.0	
PPM				*i* S	Sn	11 12 32.1	-2.0
UTMO	**Huajuapan**	**2.86**	**76**	*e*P	Pn	11 12 01.6	-1.5
UTMO				*i* S	Sn	11 12 32.9	-3.9
IIO	**Organos**	**3.08**	**38**	*i* P	Pn	11 12 06.7	+0.7
IIO				*i* S	Sn	11 12 38.0	-4.1
TPIG	**Tehuac#an**	**3.44**	**68**	*e*P	Pn	11 12 09.2	-1.7
TPIG				*i* S	Sn	11 12 46.5	-4.5
VHO	**Vista Hermosa**	**3.81**	**91**	*e*P	Pn	11 12 14.7	-1.4
VHO				*i* S	Sn	11 12 55.3	-5.0
OXX	**Oaxaca**	**3.82**	**91**	*i* P	Pn	11 12 16.5	+0.3
OXX	**Oaxaca**	**3.82**	**91**	*i* P	Pn	11 12 22.0	+5.8
SFJM	**Santa Fe**	**3.98**	**327**	*e*P	Pn	11 12 09.0	-9.3
CMIG	**Matias Romero**	**5.58**	**90**	*e*P	Pn	11 12 39.6	-0.8
CMIG				*i* S	Sn	11 13 39.7	-4.1
LNIG	**Linares**	**7.79**	**8**	*i* P	Pn	11 13 06.3	-4.4

*NNC **29** 11:16:48.7±1.2, 41.43N×76.85E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=7.6km s-min=6.1km az=167.0*
*KNET **29** 11:16:49.7±0.7, 41.49N×76.72E, h0km, ml3.1, Error ellipse: s-maj=4.4km s-min=3.5km az=84.0*
*ISCJB **29** 11:16:50.8±0.9, 41.56N±004×77.09E±008, h10km, Error ellipse: s-maj=8.3km s-min=6.0km az=151.0*
*BJI **29** 11:16:52.7, 41.43N×77.11E, h19km, ML2.8*

ISC 29 11:16:52.3±0.8, 41.55N±004×76.99E±008, h10km, n14, σ1§37/25, 12C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.90**	**322**	P	**Pg**	**11 17 05.7**	**-3.8**
	106nm,0.3s,SNR=461						
ULHL				⇓S	**Sg**	**11 17 18.8**	**-2.4**
	110nm,0.1s						
KZA	**Kyzart**	**1.41**	**293**	⇓P	**Pn**	**11 17 12.9**	**-5.0**
	38nm,0.1s,SNR=7.5						
KZA				⇑S	**Sn**	**11 17 32.8**	**-3.7**
	190nm,0.3s						
KNDC	**Almaty**	**1.67**	**359**	⇓P	**Pn**	**11 17 20.4**	**-1.2**
	51nm,0.3s						
KNDC				⇑S	**Sn**	**11 17 45.2**	**+2.1**
	114nm,0.4s						
TKM2	**Tokmak 2**	**1.72**	**323**	⇓P	**Pn**	**11 17 20.7**	**-1.5**
	27nm,0.2s,SNR=29						
TKM2				⇓S	**Sn**	**11 17 45.7**	**+1.4**
	55nm,0.1s						
TKM2	**Tokmak 2**	**1.72**	**323**	⇓P	**Pn**	**11 17 20.6**	**-1.7**
	0.4nm,0.3s						
TKM2				⇑S	**Sn**	**11 17 44.3**	**0.0**
	2.4nm,0.4s						
KBK	**Karagaybulak**	**1.88**	**307**	⇓P	**Pn**	**11 17 23.2**	**-1.3**
	34nm,0.1s,SNR=16						
KBK				⇑S	**Sn**	**11 17 49.3**	**+1.0**
	143nm,0.2s						
UCH	**Uchtor**	**1.97**	**291**	⇓P	**Pn**	**11 17 23.7**	**-2.0**
	29nm,0.3s,SNR=39						
UCH				⇑S	**Sn**	**11 17 50.2**	**-0.3**
	91nm,0.2s						
AAK	**Ala-Archa**	**2.15**	**301**	⇓P	**Pn**	**11 17 27.7**	**-0.5**
	29nm,0.2s,SNR=26						
AAK				⇑S	**Sn**	**11 17 56.8**	**+1.8**
	218nm,0.4s						
KSH	**Kashi**	**2.17**	**201**	*e*P	**Pn**	**11 17 28.5**	**+0.1**
KSH				S	**Sn**	**11 17 56.0**	**+0.7**
KSH				Smax			
	comp=N,126nm,0.2s						
KSH				Smax			
	comp=E,166nm,0.3s						
CHMS	**Chumysh**	**2.21**	**312**	⇑P	**Pn**	**11 17 28.8**	**-0.2**
	comp=E,29nm,0.3s,SNR=14						
CHMS				⇑S	**Sn**	**11 17 59.0**	**+2.7**
	comp=E,121nm,0.5s						
USP	**Ospenovka**	**2.52**	**314**	⇑P	**Pn**	**11 17 34.5**	**+1.2**
	comp=E,37nm,0.3s,SNR=19						
AML	**Almayashu**	**2.53**	**284**	⇑P	**Pn**	**11 17 33.3**	**-0.1**
	comp=E,32nm,0.2s,SNR=58						
AML				⇑S	**Sn**	**11 18 07.5**	**+3.2**
	comp=E,191nm,0.4s						
KK31	**Karatay Array**	**5.05**	**290**	Pg	**Pb**	**11 18 20.7**	**0.0**
	comp=E,0.7nm,0.3s,baz=112,slow=14,SNR=8.8						
KK31				⇑Lg		11 19 24.3	
	comp=E,5.4nm,0.6s,baz=111,slow=26,SNR=7.8						
MK09	**Makanchi Array**	**6.46**	**34**	⇓Pn	**Pn**	**11 18 28.0**	**+0.6**
	comp=E,0.9nm,0.7s						
MK09				⇓Lg		11 20 15.4	
	comp=E,1.6nm,0.5s						

IDC 29 11:34:49.3±1.7, 2378S×6466W, h0km, mb3.6/1, mb1 3.7/6, mb1mx3.6/19, mbtmp3.6/6, ML3.9/5, MS3.2/2, Ms1 3.1/2, ms1mx2.5/27, Error ellipse: s-maj=30.3km s-min=18.6km az=19.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.08**	**286**	Pn	Pn	11 35 55.1	+2.2
	0.3nm,0.3s,baz=97,slow=14,SNR=9.1						
LVC				Pg	Pg	11 36 04.1	-3.4
	0.5nm,0.3s,baz=101,slow=20,SNR=5.7						
CPUP	**Villa Florida**	**7.11**	**112**	Pn	Pn	11 36 35.5	+1.0
	1.0nm,0.3s,baz=283,slow=14,SNR=18						
CPUP				Pg	Pg	11 37 07.7	+2.1
	3.8nm,0.3s,baz=287,slow=14,SNR=5.9						
CPUP				Lg		11 38 36.9	
	6.4nm,0.3s,baz=198,slow=20,SNR=3.1						
CPUP				LR	LR	11 39 43.3	
	comp=Z,127nm,18.5s,baz=252,slow=41						
LPAZ	**La Paz**	**8.13**	**336**	Pn	Pn	11 36 48.2	-0.3
	0.1nm,0.3s,baz=108,slow=7.0,SNR=3.4						
CFAA	**Coronel Fontan**	**8.42**	**201**	Lg		11 39 18.3	
	0.1nm,0.3s,baz=94,slow=21,SNR=3.4						
SIV	**San Ignacio**	**8.45**	**24**	Pn	Pn	11 36 53.4	+0.5
	0.8nm,0.3s,baz=220,slow=13,SNR=14						
SIV				Sn	Sn	11 38 24.3	-4.6
	1.6nm,0.3s,baz=219,slow=21,SNR=3.2						
SIV				Lg		11 39 20.3	
	1.0nm,0.3s,baz=99,slow=21,SNR=2.3						
BDFB	**Brasilia**	**17.62**	**66**	P	Pn	11 38 58.0	+1.8
	0.5nm,0.3s,baz=237,slow=7.4,SNR=2.6						
BDFB				LR	LR	11 47 01.4	
	comp=Z,89nm,18.5s,baz=35,slow=42						
TORD	**Torodi Ar. Bea**	**74.49**	**68**	P	P	11 46 29.1	-0.5
	0.5nm,0.8s,baz=252,slow=5.1,SNR=2.7						

WEL 29 12:06:49.0±0.2, 3499S×17826E, h215km±5km, ML3.6/7, Error ellipse: s-maj=8.6km s-min=4.0km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.57**	**179**	PN	Pn	12 07 34.8	+0.2
MXZ				SN	S	12 08 10.1	-0.2
PUZ	**Puketiti**	**3.08**	**180**	PN	Pn	12 07 40.2	-0.1
PUZ				SN	S	12 08 20.3	-0.3
MWZ	**Matawai**	**3.39**	**190**	PN	Pn	12 07 44.4	+0.4
MWZ				*e*SN	S	12 08 27.1	-0.1
URZ	**Urewera**	**3.40**	**196**	PN	Pn	12 07 44.5	+0.6
KNZ	**Kokohu**	**4.05**	**187**	PN	Pn	12 07 52.1	+0.1
BKZ	**Black Stump Fm**	**4.41**	**198**	PN	Pn	12 07 56.8	+0.5
PXZ	**Pawanui**	**5.16**	**192**	PN	Pn	12 08 04.2	-1.5
PXZ				*e*SN	S	12 09 04.0	-2.5
BFZ	**Birch Farm**	**5.90**	**195**	*e*PN	Pn	12 08 13.3	-1.8
BFZ				*e*SN	S	12 09 21.0	-2.6
MRZ	**Mangatainoka R**	**6.05**	**200**	PN	Pn	12 08 14.7	-2.4
MRZ				SN	S	12 09 23.7	-3.4
TCW	**Tory Channel**	**6.96**	**206**	*e*SN	S	12 09 44.4	-4.0
THZ	**Tophouse**	**7.97**	**210**	*e*PN	Pn	12 08 39.3	-2.5

*NEIC **29** 12:13:02.8±1.6, 23.67N×94.45E, h62km±15km, mb4.5/1, Error ellipse: s-maj=21.0km s-min=7.8km az=60.0*
*ISCJB **29** 12:13:03.3±0.9, 23.47N±008×94.09E±005, h90km±8km, mb4.0/15, Error ellipse: s-maj=13.3km s-min=6.4km az=41.9*
*IDC **29** 12:13:12.5±15.0, 23.80N×94.60E, h152km±143km, mb3.6/11, mb1 3.8/11, mb1mx3.6/21, mbtmp4.1/11, Error ellipse: s-maj=55.0km s-min=13.7km az=51.0*
*NNC **29** 12:18:28.7±10.0, 49.19N×75.53E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=239.0km s-min=93.9km az=50.0*

ISC 29 12:13:06.3±0.8, 2365N±008×9420E±005, h93km±7km, n31, σ1§19/40, mb4.0/15, 6C-2D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.15**	**348**	*i* P	**Pn**	**12 13 28.0**	**+0.1**
IMP				*i* S	**Sn**	**12 13 44.5**	**+0.3**
AGT	**Agartala**	**2.71**	**275**	*ex*	**Sn**	**12 14 14.0**	**-6.0**
AGT				*ex*	x	12 15 07.0	
SHL	**Shillong**	**2.84**	**313**	*ex*	**Pn**	**12 13 50.8**	**+1.1**
SHL				*ex*	**Sn**	**12 14 21.8**	**-1.3**
CHTO	**Chiang Mai**	**6.54**	**137**	*e*P	**Pn**	**12 14 34.4**	**-5.4**
	6.0nm,0.7s						
KMI	**Kunming**	**7.92**	**78**	P	**Pn**	**12 14 58.0**	**-0.6**
JIRN	**Jiri**	**8.25**	**301**	*e*Pn	**Pn**	**12 15 05.1**	**+2.0**
JIRN				*e*Sn	**Sn**	**12 16 32.9**	**-1.8**
	134nm,0.3s						
GUN	**Gumba**	**8.61**	**301**	*e*Pn	**Pn**	**12 15 06.5**	**-1.5**
GUN				*e*Sn	**Sn**	**12 16 37.8**	**-5.6**
	177nm,0.5s						
PKI	**Pulchoki**	**8.84**	**298**	*e*Pn	**Pn**	**12 15 13.0**	**+1.9**
PKI				*e*Sn	**Sn**	**12 16 48.2**	**-0.7**
	55nm,0.4s						
KKN	**Kakani**	**9.03**	**299**	*e*Pn	**Pn**	**12 15 15.5**	**+1.7**
KKN				*e*Sn	**Sn**	**12 16 53.4**	**-0.3**
	41nm,0.2s						
DMN	**Daman**	**9.10**	**298**	*e*Pn	**Pn**	**12 15 16.5**	**+1.8**
DMN				*e*Sn	**Sn**	**12 16 55.3**	**0.0**
	58nm,0.4s						
GKN	**Gorkha**	**9.64**	**299**	*e*Pn	**Pn**	**12 15 22.6**	**+0.6**
GKN				*e*Sn	**Sn**	**12 17 04.5**	**-4.0**
	169nm,0.3s						
KOLN	**Koldanda**	**10.40**	**295**	*e*Pn	**Pn**	**12 15 31.4**	**-0.9**
KOLN				*e*Sn	**Sn**	**12 17 24.0**	**-2.9**
	54nm,0.4s						
MKAR	**Makanchi Array**	**25.00**	**340**	P	**P**	**12 18 22.4**	**+1.1**
	5.9nm,0.5s,mb4.3,baz=151,slow=9.3,SNR=61						
SONM	**Songino Array**	**26.02**	**19**	P	**P**	**12 18 29.2**	**-1.3**
	0.4nm,0.4s,mb3.2,baz=195,slow=9.5,SNR=4.5						
VOSK	**Vostochnaya**	**33.98**	**335**	⇑Pn	**P**	**12 19 41.3**	**+0.4**
	1.9nm,0.5s,mb4.2						
VOSK				⇑Lg		12 20 54.6	
	1.4nm,0.6s						
BVA0	**Borovoye Array**	**34.44**	**334**	⇑Pn	**P**	**12 19 46.8**	**+1.9**
	0.3nm,1.0s,mb3.1,baz=131,slow=12,SNR=4.3						
BVA0				⇓Lg		12 21 09.3	
	0.5nm,0.5s,baz=136,slow=26,SNR=7.6						
BVAR	**Borovoye Array**	**34.44**	**334**	P	**P**	**12 19 45.2**	**+0.4**
	0.7nm,0.3s,mb3.9,baz=139,slow=12,SNR=4.0						
ZRNK	**Zerenda**	**34.95**	**333**	⇓Pn	**P**	**12 19 48.0**	**-1.2**
	1.3nm,0.6s,mb3.9						
ZRNK				⇑Lg		12 21 22.9	
	2.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.62**	**141**	⇑*i* P	**P**	**12 22 02.7**	**-0.5**
	7.8nm,1.6s,mb4.5						
WRA	**Warramunga Arr**	**58.38**	**135**	P	**P**	**12 22 50.9**	**-1.0**
	4.9nm,0.6s,mb4.7,baz=323,slow=7.5,SNR=76						
WB2	**Warramunga Arr**	**58.39**	**135**	⇑*i* P	**P**	**12 22 50.9**	**-1.0**
FINES	**FINESS Array B**	**59.07**	**329**	P	**P**	**12 22 56.8**	**+0.2**
	0.5nm,0.6s,mb3.8,baz=318,slow=2.6,SNR=3.7						
ARCES	**ARCESS Array B**	**60.62**	**338**	P	**P**	**12 23 07.3**	**+0.1**
	3.1nm,0.9s,mb4.3,baz=99,slow=6.8,SNR=6.4						
ASPA	**Alice Springs**	**60.81**	**138**	*e*P	**P**	**12 23 08.0**	**-0.6**
AS31	**Alice Springs**	**60.82**	**138**	*e*P	**P**	**12 23 08.0**	**-0.6**
ASAR	**Alice Springs**	**60.82**	**138**	P	**P**	**12 23 08.1**	**-0.5**
	3.2nm,0.5s,mb4.6,baz=320,slow=6.9,SNR=84						
NOA	**NORSAR Array B**	**66.23**	**328**	P	**P**	**12 23 43.8**	**-0.5**
	0.5nm,0.6s,mb3.5,baz=102,slow=7.3,SNR=2.5						
GERES	**GERESS Array B**	**66.45**	**315**	P	**P**	**12 23 45.9**	**+0.2**
	0.4nm,0.4s,mb3.6,baz=69,slow=7.3,SNR=4.4						
BOSA	**Boshof**	**84.28**	**236**	P	**P**	**12 25 29.7**	**+2.0**
	1.2nm,0.4s,mb4.1,baz=84,slow=3.3,SNR=5.0						
BOSA	**Boshof**	**84.28**	**236**	P	**P**	**12 25 29.7**	**+2.0**
TORD	**Torodi Ar. Bea**	**87.07**	**283**	P	**P**	**12 25 43.9**	**+2.4**
	0.3nm,0.5s,mb3.5,baz=73,slow=4.0,SNR=5.0						

*ISCJB **29** 12:21:40.9±1.8, 21.80N±009×143.1E±02, h218km±16km, mb3.5/11, Error ellipse: s-maj=36.2km s-min=15.2km az=177.3*
*IDC **29** 12:21:41.2±2.2, 21.83N×143.24E, h206km±19km, mb3.4/9, mb1 3.5/11, mb1mx3.4/21, mbtmp3.9/11, Error ellipse: s-maj=28.8km s-min=13.1km az=91.0*
*NEIC **29** 12:21:45.3±3.6, 21.82N×143.17E, h250km±35km, mb3.8/2, Error ellipse: s-maj=26.1km s-min=10.8km az=87.0*

ISC 29 12:21:41.9±1.7, 2184N±009×1432E±02, h213km±15km, n14, σ0§95/15, mb3.5/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.31**	**350**	P	**Pn**	**12 23 00.9**	**+0.4**
	2.7nm,0.3s,baz=277,slow=23,SNR=2.9						
CBIJ				S	**S**	**12 24 00.8**	**-1.9**
	5.1nm,0.3s,baz=303,slow=23,SNR=6.9						
MJAR	**Matsushiro Arr**	**15.28**	**345**	P	**Pn**	**12 25 08.2**	**+1.3**
	0.8nm,0.3s,baz=166,slow=9.0,SNR=7.1						
MAT	**Matsushiro**	**15.28**	**345**	P	**Pn**	**12 25 08.4**	**+1.6**
ASAJ	**Asahikawa**	**22.22**	**359**	P	**P**	**12 26 22.2**	**+1.3**
	1.6nm,0.4s,mb3.9,baz=201,slow=13,SNR=4.4						
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**12 28 49.9**	**+0.3**
	0.8nm,0.4s,mb3.6,baz=130,slow=7.4,SNR=11						
WRAB	**Tennant Creek**	**42.41**	**192**	*e*P	**P**	**12 29 15.4**	**-0.1**
	2.0nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**42.42**	**192**	P	**P**	**12 29 15.7**	**+0.2**
	0.4nm,0.3s,mb3.4,baz=15,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**46.13**	**192**	P	**P**	**12 29 44.8**	**-0.1**
	0.1nm,0.3s,mb2.6,baz=12,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**12 30 48.7**	**+0.3**
	0.5nm,0.5s,mb3.3,baz=92,slow=9.3,SNR=5.7						
ZRNK	**Zerenda**	**63.41**	**319**	P	**P**	**12 31 47.2**	**-1.5**
	2.7nm,1.0s,mb3.8						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**12 33 07.3**	**0.0**
	0.9nm,0.4s,mb3.8,baz=292,slow=5.9,SNR=12						
ARCES	**ARCESS Array B**	**78.79**	**341**	P	**P**	**12 33 20.8**	**-0.2**
	2.2nm,0.6s,mb4.0,baz=74,slow=10,SNR=7.5						
NVAR	**Mina Array Bea**	**83.04**	**51**	P	**P**	**12 33 42.9**	**-0.5**
	0.1nm,0.5s,mb2.9,baz=274,slow=7.3,SNR=3.9						
FINES	**FINESS Array B**	**83.06**	**334**	P	**P**	**12 33 42.2**	**-1.3**
	1.5nm,0.5s,mb4.0,baz=73,slow=4.2,SNR=16						

MAN 29 12:33:38.7, 683N×12366E, h16km, mb2.8, ML4.2, MS4.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**1.05**	**345**	*e*P	Pb	12 33 57.4	-1.0
PAGZ				*e*S	Sb	12 34 11.3	-0.7
IPIL	**Ipil**	**1.44**	**312**	*e*P	Pb	12 34 03.6	-0.5
IPIL				*e*S	Sn	12 34 23.3	+0.7
DCPH	**Dipolog City**	**1.77**	**350**	*e*P	Pn	12 34 08.9	+0.3
DCPH				*e*S	Sn	12 34 31.6	+0.8
CGP	**Cagayan de Oro**	**1.92**	**32**	⇓*i* P	Pn	12 34 10.1	-0.5
CGP				*i* S	Sn	12 34 30.3	-4.1
SNPH	**Sibulan**	**2.53**	**351**	*e*P	Pn	12 34 21.0	+1.9

*IPEC **29** 12:37:10.4±0.2, 50.30N×1892E, h4km±1km, ML2.3/4, Error ellipse: s-maj=2.3km s-min=0.8km az=170.0*
*PRU **29** 12:37:10.8, 50.32N×1889E, h0km*
*CSEM **29** 12:37:11.1±0.2, 50.30N×1893E, h1km±1km, ML3.0/4, Error ellipse: s-maj=6.1km s-min=2.7km az=13.0*

WAR 29 12:37:11.0, 5025N×1896E, ML2.8, 1C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.52**	**252**	*e*Pg	Pg	12 37 21.3	+0.4
RAC				*e*Sg	Sg	12 37 29.2	+1.6
OJC	**Ojcow**	**0.54**	**92**	*e*Pg	Pg

MOS ***29*** *12:45:35.7±0.9, 5321N×11500E, h16km, mb4.4/1, Error ellipse: s-maj=13.9km s-min=9.4km az=94.4*

BYKL 29 12:45:37.8±0.2, 5319N×11494E, h27km±11km, 11C-9D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIT	**Chita**	**1.45**	**216**	⇑*i*Pg	Pn	12 46 04.4	+2.2
	414nm,0.3s						
CIT				⇑*i*Pg	Pn	12 46 04.4	+2.2
	589nm,0.3s						
CIT				⇓*i*Pg	Pn	12 46 04.4	+2.2
	476nm,0.3s						
CIT				*e*Pb	Pb	12 46 04.9	+0.9
CIT				max		12 46 05.2	
	746nm,0.3s						
CIT				*e*Sg	Sn	12 46 23.7	+3.5
CIT				Smax		12 46 25.1	
	3μm,0.2s						
CIT	**Chita**	**1.45**	**216**	*e*PN	Pn	12 46 04.2	+2.0
CIT				*e*		12 46 23.8	
CIT				pmax	pmax		
	comp=Z,747nm,0.2s						
CIT				smax			
	comp=N,3μm,0.2s						
UKT	**Uakit**	**2.43**	**342**	⇑*i*Pn	Pn	12 46 16.3	+0.6
UKT				⇑*i*Pg	Pn	12 46 20.7	+5.0
UKT				*e*		12 46 22.6	
UKT				max		12 46 22.9	
	comp=N,269nm,0.6s						
UKT				*e*Sn	Sn	12 46 47.3	+2.8
UKT				*e*Sg	Sn	12 46 51.8	+7.3
UKT				Smax		12 46 52.3	
	comp=N,659nm,0.8s						
UKT	**Uakit**	**2.43**	**342**	*e*PN	Pn	12 46 16.3	+0.6
UKT				*e*		12 46 20.5	
UKT				*e*S	Sn	12 46 46.8	+2.3
UKT				*e*		12 46 51.8	
UKT				pmax	pmax		
	comp=Z,209nm,0.4s						
UKT				smax			
	comp=E,664nm,0.6s						
YLYR	**Ulyunkhan**	**2.80**	**309**	⇑*i*PN	Pn	12 46 21.6	+0.9
YLYR				*e*Pg	Pn	12 46 26.4	+5.7
YLYR				*e*PgPg		12 46 30.7	
YLYR				max		12 46 30.9	
	comp=E,131nm,0.4s						
YLYR				*e*Sn	Sn	12 46 56.8	+3.2
YLYR				*e*Sg	Sn	12 47 03.3	+10
YLYR				Smax		12 47 06.8	
	comp=E,1μm,1.0s						
YLYR	**Ulyunkhan**	**2.80**	**309**	⇑*i*PN	Pn	12 46 21.7	+1.0
YLYR				*e*		12 46 26.5	
YLYR				*e*S	Sn	12 46 55.4	+1.8
YLYR				*e*		12 47 02.8	
YLYR				pmax	pmax		
	comp=Z,134nm,0.2s						
YLYR				smax			
	comp=N,971nm,0.5s						
SYVR	**Suvo**	**2.99**	**281**	*e*Pn	Pn	12 46 25.0	+1.5
SYVR				*e*Pg	Pn	12 46 30.3	+6.8
SYVR				Pmax		12 46 37.1	
	comp=N,65nm,0.6s						
SYVR				*e*Sn	Sn	12 47 00.3	+1.9
SYVR				*e*Sg	Sn	12 47 09.9	+11
SYVR				Smax		12 47 17.4	
	comp=N,969nm,0.8s						
SYVR	**Suvo**	**2.99**	**281**	*e*PN	Pn	12 46 24.9	+1.4
SYVR				*e*		12 46 30.0	
SYVR				*e*		12 47 09.9	
SYVR				pmax	pmax		
	comp=Z,63nm,0.3s						
SYVR				smax			
	comp=E,897nm,0.4s						
SVKR	**Severomuysk**	**3.04**	**345**	*e*Pg	Pn	12 46 33.6	+9.5
SVKR				Pmax		12 46 46.6	
	comp=E,223nm,0.4s						
SVKR				*e*Sg	Sn	12 47 14.4	+15
SVKR				Smax		12 47 30.2	
	comp=E,1μm,0.5s						
TUP	**Tupik**	**3.22**	**65**	*e*Pn	Pn	12 46 27.3	+0.7
TUP				*e*		12 46 33.5	
TUP				⇑*i*Pg	Pn	12 46 35.8	+9.2
TUP				Pmax		12 46 36.5	
	comp=E,172nm,0.4s						
TUP				*e*Sg	Sn	12 47 16.1	+12
TUP				Smax		12 47 22.2	
	comp=E,630nm,1.0s						
TUP	**Tupik**	**3.22**	**65**	*e*PN	Pn	12 46 27.0	+0.4
TUP				*e*		12 46 33.6	
TUP				*e*S	Sn	12 47 05.0	+1.0
TUP				*e*		12 47 15.2	
TUP				pmax	pmax		
	comp=Z,172nm,0.4s						
TUP				smax			
	comp=N,606nm,0.9s						
NLYR	**Nelyaty**	**3.34**	**7**	⇑*i*Pn	Pn	12 46 28.5	+0.3
NLYR				*e*Pg	Pn	12 46 37.5	+9.3
NLYR				*e*		12 47 06.2	
NLYR				*e*Sg	Sn	12 47 20.8	+14
NLYR	**Nelyaty**	**3.34**	**7**	*e*PN	Pn	12 46 28.3	+0.1
NLYR				*e*		12 46 36.6	
NLYR				*e*		12 47 20.2	
NLYR				pmax	pmax		
	comp=Z,12nm,0.4s						
NLYR				smax			
	comp=E,216nm,1.0s						
KMO	**Kumora**	**3.47**	**323**	⇑*i*Pn	Pn	12 46 30.7	+0.7
KMO				*e*Pg	Pn	12 46 40.8	+11
KMO				Pmax		12 46 42.0	
	comp=E,126nm,0.4s						
KMO				*e*Sg	Sn	12 47 25.8	+16
KMO				Smax		12 47 31.5	
	comp=E,762nm,1.3s						
KMO	**Kumora**	**3.47**	**323**	*e*PN	Pn	12 46 30.7	+0.7
KMO				*e*		12 46 38.9	
KMO				*e*S	Sn	12 47 12.3	+2.1
KMO				*e*		12 47 24.3	
KMO				pmax	pmax		
	comp=Z,126nm,0.3s						
KMO				smax			
	comp=N,762nm,1.2s						
YOA	**Uoyan**	**3.49**	**329**	*e*Pg	Pn	12 46 41.8	+12
YOA				Pmax		12 46 43.4	
	comp=N,611nm,0.3s						
YOA				*e*Sg	Sn	12 47 26.5	+16
YOA				Smax		12 47 34.5	
	comp=N,2μm,0.7s						
MXMB	**Maximikha**	**3.72**	**274**	*e*Pn	Pn	12 46 34.8	+1.3
MXMB				*e*Pg	Pn	12 46 42.8	+9.3
MXMB				*e*		12 46 45.3	
MXMB				max		12 46 45.7	
	comp=N,61nm,0.4s						
MXMB				*e*Sn	Sn	12 47 17.9	+1.4
MXMB				*e*Sg	Sn	12 47 32.6	+16
MXMB				Smax		12 47 38.8	
	comp=N,3μm,1.3s						
KPC	**Khapcheranga**	**3.84**	**206**	*e*Pn	Pn	12 46 36.2	+1.1
KPC				*e*		12 46 37.4	
KPC				*e*Pg	Pn	12 46 45.8	+11
KPC				Pmax		12 46 51.7	
	comp=N,30nm,0.2s						
KPC				*e*Sn	Sn	12 47 21.3	+2.0
KPC				*e*Sg	Sn	12 47 35.7	+16
KPC				Smax		12 47 39.7	
	comp=N,569nm,0.7s						
KPC	**Khapcheranga**	**3.84**	**206**	*e*PN	Pn	12 46 36.2	+1.1
KPC				*e*		12 46 47.1	
KPC				*e*		12 47 36.4	
KPC				pmax	pmax		
	comp=Z,29nm,0.3s						
KPC				smax			
	comp=N,569nm,0.6s						
NIZ	**Nizh Angarsk**	**4.08**	**312**	⇓*i*Pn	Pn	12 46 39.5	+1.2
NIZ				*e*Pg	Pn	12 46 50.2	+12
NIZ				Pmax		12 46 51.5	
	comp=N,47nm,0.7s						
NIZ				*e*Sn	Sn	12 47 26.1	+0.9
NIZ				*e*Sg	Sn	12 47 43.6	+18
NIZ				Smax		12 47 48.5	
	comp=N,454nm,1.0s						
NIZ	**Nizh Angarsk**	**4.08**	**312**	*e*PN	Pn	12 46 39.6	+1.3
NIZ				*e*		12 46 50.3	
NIZ				*e*S	Sn	12 47 25.6	+0.4
NIZ				*e*		12 47 44.7	
NIZ				pmax	pmax		
	comp=Z,47nm,0.4s						
NIZ				smax			
	comp=E,449nm,0.9s						
CRS	**Chara**	**4.18**	**26**	*e*Pn	Pn	12 46 40.2	+0.4
CRS				⇓*i*Pg	Pn	12 46 53.1	+13
CRS				Pmax		12 46 53.3	
	comp=E,31nm,0.8s						
CRS				*e*Sg	Sn	12 47 47.9	+20
CRS				Smax		12 47 52.7	
	comp=E,775nm,1.2s						
CRS	**Chara**	**4.18**	**26**	*e*PN	Pn	12 46 40.2	+0.4
CRS				*e*		12 46 52.3	
OGRR	**Ongureny**	**4.42**	**279**	⇓*i*Pn	Pn	12 46 43.7	+0.7
OGRR				⇓*i*Pg	Pn	12 46 57.5	+14
OGRR				Pmax		12 47 05.0	
	comp=E,16nm,0.4s						
OGRR				*e*Sn	Sn	12 47 32.5	-1.1
OGRR				*e*Sg	Sn	12 47 54.8	+21
OGRR				Smax		12 47 57.0	
	comp=E,448nm,1.4s						
OGRR	**Ongureny**	**4.42**	**279**	*e*PN	Pn	12 46 44.4	+1.4
OGRR				*e*		12 46 56.8	
OGRR				*e*		12 47 55.1	
OGRR				pmax	pmax		
	comp=Z,15nm,0.4s						
OGRR				smax			
	comp=N,448nm,1.6s						
TRTB	**Turuntaevo**	**4.55**	**261**	⇓*i*Pn	Pn	12 46 45.8	+1.0
TRTB				⇓*i*Pg	Pn	12 46 58.9	+14
TRTB				Pmax		12 47 01.2	
	comp=N,32nm,0.4s						
TRTB				*e*Sn	Sn	12 47 39.0	+2.2
TRTB				*e*Sg	Sn	12 47 58.0	+21
TRTB				Smax		12 48 06.4	
	comp=N,465nm,1.1s						
BOD	**Bodaibo**	**4.67**	**354**	*e*Pn	Pn	12 46 45.9	-0.6
BOD				⇑*i*Pg	Pn	12 47 01.1	+15
BOD				Pmax		12 47 03.4	
	comp=N,49nm,0.4s						
BOD				*e*Sn	Sn	12 47 40.9	+1.1
BOD				*e*Sg	Sn	12 48 01.4	+22
BOD				Smax		12 48 09.3	
	comp=N,282nm,0.8s						
BOD	**Bodaibo**	**4.67**	**354**	*e*PN	Pn	12 47 00.4	+14
BOD				*e*S	Sn	12 47 40.7	+0.9
BOD				*e*		12 48 00.9	
BOD				pmax	pmax		
	comp=Z,49nm,0.3s						
BOD				smax			
	comp=E,339nm,1.0s						
KHNR	**Khani**	**4.73**	**36**	*e*Pn	Pn	12 46 48.4	+1.1
KHNR				*e*Pg	Pn	12 47 02.8	+15
KHNR				*e*Sn	Sn	12 47 44.8	+3.5
KHNR				*e*Sg	Sn	12 48 04.5	+23
ZRHB	**Zarechye**	**4.76**	**265**	*e*Pn	Pn	12 46 49.1	+1.3
ZRHB				*e*Pg	Pn	12 47 03.4	+16
ZRHB				Pmax		12 47 16.6	
	comp=E,67nm,0.7s						
ZRHB				*e*Sg	Sn	12 48 05.4	+23
ZRHB				Smax		12 48 26.7	
	comp=E,1μm,1.4s						
HIA	**Hailar**	**4.95**	**141**	*e*Pn	Pn	12 46 50.7	+0.3
HIA				*e*Pg	Pn	12 47 06.9	+17
HIA				*e*Sn	Sn	12 47 48.0	+1.2
HIA				*e*Sg	Sn	12 48 12.0	+25
HIA	**Hailar**	**4.95**	**141**	*e*PN	Pn	12 46 50.5	+0.1
HIA				*e*		12 47 06.0	
HIA				*e*S	Sn	12 47 45.4	-1.4
HIA				*e*		12 48 09.0	
HRMR	**Khuramsha**	**5.13**	**255**	⇓*i*Pn	Pn	12 46 54.2	+1.3
HRMR				⇓*i*Pg	Pn	12 47 10.1	+17
HRMR				Pmax		12 47 13.5	
	comp=E,56nm,0.4s						
HRMR				*e*Sn	Sn	12 47 52.7	+1.5
HRMR				*e*Sg	Sn	12 48 16.6	+25
HRMR				Smax		12 48 30.5	
	comp=E,1μm,0.6s						
KAB	**Kabansk**	**5.18**	**261**	*e*Sg	Sn	12 48 19.6	+27
KAB				Smax		12 48 43.8	
	comp=E,1μm,1.0s						
KAB	**Kabansk**	**5.18**	**261**	*e*PN	Pn	12 47 10.4	+17
KAB				*e*		12 48 19.6	
KAB				pmax	pmax		
	comp=Z,109nm,0.5s						
KAB				smax			
	comp=E,834nm,0.8s						
TRG	**Tyrgan**	**5.21**	**269**	*i*Pn	Pn	12 46 54.3	+0.4
TRG				max		12 47 21.0	
	comp=E,14nm,0.4s						
TRG				*e*Sn	Sn	12 47 54.6	+1.5
TRG				*e*Sg	Sn	12 48 19.5	+26
TRG				Smax		12 48 23.7	
	comp=E,143nm,0.6s						
TRG	**Tyrgan**	**5.21**	**269**	*e*PN	Pn	12 46 54.3	+0.4
TRG				*e*		12 47 10.0	
TRG				*e*S	Sn	12 47 54.4	+1.3
TRG				*e*		12 48 17.7	
TRG				pmax	pmax		
	comp=Z,14nm,0.4s						
TRG				smax			
	comp=N,141nm,0.4s						
TNDR	**Tynda**	**6.07**	**67**	*e*Pn	Pn	12 47 06.6	+0.9
TNDR				*e*Pg	Pn	12 47 27.0	+21
TNDR				*e*Sg	Sn	12 48 47.0	+33
LSTR	**Listvyanka**	**6.31**	**262**	*e*Pn	Pn	12 47 09.5	+0.5
LSTR				⇑*i*Pg	Pn	12 47 31.8	+23
LSTR				Pmax		12 47 32.7	
	comp=N,19nm,0.6s						
LSTR				*e*Sn	Sn	12 48 21.6	+1.4
LSTR				*e*Sg	Sn	12 48 52.7	+32
LSTR				Smax		12 48 57.2	
	comp=N,145nm,1.1s						
IENR	**Iengra**	**6.51**	**58**	*e*Pn	Pn	12 47 11.8	+0.1
IENR				*e*Pg	Pn	12 47 33.8	+22
IENR				*e*Sg	Sn	12 48 58.9	+34
IRK	**Irkutsk**	**6.55**	**266**	*e*Sg	Sn	12 49 01.2	+35
IRK				Smax		12 49 10.8	
	comp=N,311nm,0.9s						
IRK	**Irkutsk**	**6.55**	**266**	*e*PG	Pn	12 47 36.9	+25
IRK				*e*		12 48 59.0	
IRK				pmax	pmax		
	comp=Z,86nm,0.1s						
IRK				smax			
	comp=E,311nm,1.0s						
NRGR	**Nerungri**	**6.62**	**54**	*e*PG	Pn	12 47 36.2	+23
NRGR				S	Sn	12 48 57.1	+29
NRGR				smax			
	comp=E,19nm,0.2s						
TLY	**Talaya**	**7.07**	**262**	*e*Pn	Pn	12 47 21.0	+1.5
TLY				*e*Pg	Pn	12 47 45.3	+26
TLY				Pmax		12 47 46.1	
	comp=E,2.0nm,0.2s						
TLY				*e*Sg	Sn	12 49 16.4	+37
TLY				Smax		12 49 22.1	
	comp=E,29nm,0.4s						
TLY	**Talaya**	**7.07**	**262**	*e*PG	Pn	12 47 45.2	+26
TLY				*e*		12 49 16.6	
TLY				pmax	pmax		
	comp=Z,2.0nm,0.2s						
TLY				smax			
	comp=E,29nm,0.4s						
ARS	**Arshan**	**7.74**	**266**	*e*Sg	Sn	12 49 36.1	+41
ARS				Smax		12 49 52.3	
	comp=E,177nm,1.0s						
ZAK	**Zakamensk**	**7.76**	**253**	*e*Pn	Pn	12 47 30.8	+1.9
ZAK				*e*Pg	Pn	12 47 56.8	+28
ZAK				Pmax		12 48 00.7	
	comp=E,4.0nm,0.4s						
ZAK				*e*Sg	Sn	12 49 37.0	+41
ZAK				Smax		12 49 48.0	
	comp=E,291nm,1.9s						
ZAK	**Zakamensk**	**7.76**	**253**	*e*PN	Pn	12 47 29.8	+0.9
ZAK				*e*		12 47 55.6	
ZAK				*e*		12 49 42.3	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZAK				smax			
	comp=N,293nm,1.8s						
MOY	**Mondy**	**8.66**	**265**	*e*	Pn	12 47 52.4	+11
MOY				*e*Pg	Pn	12 48 14.3	+33
MOY				Pmax		12 48 23.2	
	comp=N,4.0nm,0.6s						
MOY				*e*Sg	Sn	12 50 05.5	+47
MOY	**Mondy**	**8.66**	**265**	*e*PG	Pn	12 48 11.5	+30
MOY				*e*S	Sn	12 49 15.7	-2.3
MOY				*e*		12 50 03.6	
MOY				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MOY				smax			
	comp=N,93nm,1.9s						
ORL	**Orlik**	**9.18**	**272**	*e*Pn	Pn	12 47 48.9	+0.5
ORL				max		12 47 49.9	
	comp=N,2.0nm,0.6s						
ORL				*e*Sn	Sn	12 49 29.2	-1.6
ORL				*e*Sg	Sn	12 50 23.0	+52
ORL				Smax		12 50 40.2	
	comp=N,70nm,1.8s						

ATH ***29*** *12:47:18.5, 40.13N×1956E, h21km±2km, MD3.7/6*
NEIC ***29*** *12:47:21.0, 40.14N×1977E, h2km, MD3.1(PDG), MD3.7(ATH), After THE.*
THE ***29*** *12:47:21.0, 40.14N×1977E, h2km, ML3.3*
ISCJB ***29*** *12:47:21.1±0.3, 4009N±002×1977E±003, h10km, Error ellipse: s-maj=3.2km s-min=2.1km az=117.4*
CSEM ***29*** *12:47:22.2±0.1, 3999N×1983E, h2km, MD3.7, Error ellipse: s-maj=2.5km s-min=1.3km az=61.0*
PDG ***29*** *12:47:23.4±0.5, 4022N×1997E, h15km±1km*

ISC 29 12:47:21.8±0.3, 4007N±002×1977E±003, h10km, n56, σ1s26/90, 5C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.27**	**137**	*i*Pg	**Pg**	**12 47 25.6**	**-1.6**
SRN				*i*Sg	**Sg**	**12 47 31.0**	**+0.2**
TPE	**Tepelena**	**0.29**	**40**	*i*Pg	**Pg**	**12 47 24.3**	**-3.3**
TPE				*i*Sg	**Sg**	**12 47 28.3**	**-3.3**
KEK	**Kerkira**	**0.36**	**176**	*e*PB	**Pg**	**12 47 27.6**	**-1.4**
KEK				*e*SB	**Sg**	**12 47 34.9**	**+1.1**
LSK	**Leskovik**	**0.64**	**83**	*i*Pg	**Pg**	**12 47 32.4**	**-1.9**
LSK				*i*Sg	**Sg**	**12 47 42.4**	**-0.3**
IGT	**Igoumenitsa**	**0.69**	**141**	*e*Pg	**Pg**	**12 47 33.6**	**-1.7**
IGT				*e*Sg	**Sg**	**12 47 46.0**	**+1.7**
JAN	**Janina**	**0.93**	**116**	*e*PN	**Pg**	**12 47 39.0**	**-0.8**
JAN				*e*SN	**Sg**	**12 47 54.5**	**+2.5**
MEV	**Metsovon**	**1.16**	**104**	*e*Pg	**Pg**	**12 47 42.9**	**-1.3**
MEV	**Metsovon**	**1.16**	**104**	*e*Pg	**Pg**	**12 47 42.8**	**-1.3**
TIR	**Tirane**	**1.27**	**3**	*e*Pg	**Pg**	**12 47 44.2**	**-2.1**
TIR				*e*Sg	**Sg**	**12 48 01.8**	**-1.1**
LCI	**Lecce**	**1.29**	**282**	Pn	**Pn**	**12 47 43.9**	**-2.0**
OHR	**Ohrid**	**1.30**	**37**	*e*Pn	**Pn**	**12 47 44.6**	**-1.4**
OHR				*i*Sn	**Sn**	**12 48 04.1**	**+0.6**
OHR				*i*Sn	**Sn**	**12 48 05.8**	**+2.3**
OHR	**Ohrid**	**1.30**	**37**	*e*Pg	**Pn**	**12 47 43.4**	**-2.6**
OHR	**Ohrid**	**1.30**	**37**	*e*Pn	**Pn**	**12 47 44.5**	**-1.5**
OHR				*i*Sn	**Sn**	**12 48 04.0**	**+0.5**
FNA	**Florina**	**1.42**	**60**	*e*Pg	**Pn**	**12 47 46.0**	**-1.6**
FNA				*e*Sg	**Sg**	**12 48 07.3**	**-0.2**
FNA	**Florina**	**1.42**	**60**	*e*Pg	**Pn**	**12 47 46.0**	**-1.7**
FNA				*e*Sg	**Sg**	**12 48 07.3**	**-0.2**
BIA	**Bitola**	**1.52**	**51**	*e*Pg	**Pn**	**12 47 47.3**	**-1.7**
BIA				*e*Sg	**Sg**	**12 48 07.5**	**-3.2**
BIA	**Bitola**	**1.52**	**51**	*e*Pn	**Pn**	**12 47 47.0**	**-2.0**
BIA				*e*Sg	**Sg**	**12 48 11.8**	**+1.2**
BIA	**Bitola**	**1.52**	**51**	*e*Pn	**Pn**	**12 47 47.0**	**-2.0**
BIA	**Bitola**	**1.52**	**51**	*e*Pn	**Pn**	**12 47 47.3**	**-1.7**
BIA				*e*Sg	**Sg**	**12 48 07.5**	**-3.1**
KZN	**Kozani**	**1.55**	**81**	*e*PN	**Pn**	**12 47 49.3**	**-0.2**
KZN				*e*SN	**Sn**	**12 48 12.0**	**+2.3**
THL	**Klokotos Trika**	**1.81**	**106**	*e*PN	**Pn**	**12 47 53.2**	**+0.2**
THL				*e*SN	**Sn**	**12 48 17.6**	**+1.7**
ULC	**Ulcinj**	**1.93**	**348**	⇓*i*Pn	**Pn**	**12 47 55.6**	**+1.0**
ULC				*e*Sn	**Sn**	**12 48 20.3**	**+1.3**
PE1	**Pezze di Greco**	**1.93**	**293**	*e*Pn	**Pn**	**12 47 55.5**	**+0.8**
EVR	**Evrytania**	**1.96**	**126**	*e*PN	**Pn**	**12 47 55.8**	**+0.7**
VLS	**Valsamata**	**2.00**	**161**	*e*PB	**Pn**	**12 47 54.6**	**-1.1**
LIT	**Litokhoron**	**2.09**	**88**	*e*Pn	**Pn**	**12 47 56.7**	**-0.2**
LIT				*e*Sn	**Sn**	**12 48 25.1**	**+2.2**
GRG	**Griva**	**2.19**	**65**	*e*Pn	**Pn**	**12 47 58.2**	**-0.2**
AGG	**Agios Georgios**	**2.24**	**117**	*e*Pn	**Pn**	**12 47 59.8**	**+0.8**
AGG				*e*Sn	**Sn**	**12 48 28.7**	**+2.0**
SKO	**Skopje**	**2.28**	**33**	*e*Pn	**Pn**	**12 47 59.2**	**-0.3**
SKO				*e*Sn	**Sn**	**12 48 26.8**	**-0.9**
SKO	**Skopje**	**2.28**	**33**	*e*Pn	**Pn**	**12 48 03.0**	**+3.5**
SKO	**Skopje**	**2.28**	**33**	*e*Pn	**Pn**	**12 48 03.0**	**+3.5**
SKO				*e*Sn	**Sn**	**12 48 26.8**	**-0.8**
BUM	**Brajici-Budva**	**2.32**	**344**	⇑*i*Pn	**Pn**	**12 48 01.2**	**+1.1**
BUM				*e*Sn	**Sn**	**12 48 30.5**	**+1.9**
TTG	**Podgorica**	**2.38**	**351**	⇓*i*Pn	**Pn**	**12 48 01.7**	**+0.7**
TTG				*e*Sn	**Sn**	**12 48 30.3**	**+0.1**
RLS	**Riolos of Patr**	**2.41**	**146**	*e*PN	**Pn**	**12 48 00.9**	**-0.4**
VAY	**Valandovo**	**2.47**	**59**	*e*Pn	**Pn**	**12 48 01.2**	**-0.9**
SG1	**Sgolgore (BA)**	**2.48**	**289**	*e*Pn	**Pn**	**12 48 05.6**	**+3.4**
PVY	**Plav**	**2.52**	**3**	⇑*i*Pn	**Pn**	**12 48 02.4**	**-0.4**
PVY				*e*Sn	**Sn**	**12 48 34.0**	**+0.4**
HCY	**Herceg Novi**	**2.56**	**338**	⇓*i*Pn	**Pn**	**12 48 04.8**	**+1.5**
HCY				*e*Sn	**Sn**	**12 48 36.4**	**+1.9**
HORT	**Hortiatis**	**2.60**	**77**	*e*Pn	**Pn**	**12 48 03.1**	**-0.8**
HORT				*e*Sn	**Sn**	**12 48 35.3**	**-0.3**
NEO	**Neokhori**	**2.78**	**105**	*e*PN	**Pn**	**12 48 06.3**	**0.0**
NKY	**Niksic**	**2.80**	**346**	⇓*i*Pn	**Pn**	**12 48 07.3**	**+0.7**
NKY				*e*Sn	**Sn**	**12 48 40.8**	**+0.4**
IVA	**Berane**	**2.80**	**2**	⇑*i*Pn	**Pn**	**12 48 06.4**	**-0.2**
IVA				*e*Sn	**Sn**	**12 48 40.3**	**-0.1**
PLG	**Polygyros**	**2.83**	**83**	*e*Pn	**Pn**	**12 48 07.3**	**+0.2**
PLG				*e*Sn	**Sn**	**12 48 42.2**	**+0.9**
LKR	**Lokris**	**2.88**	**119**	*e*PN	**Pn**	**12 48 08.6**	**+0.8**
BRY	**Bratogost**	**2.97**	**342**	⇑*i*Pn	**Pn**	**12 48 10.0**	**+1.0**
BRY				*e*Sn	**Sn**	**12 48 46.2**	**+1.6**
UPM	**Unac-Piva**	**3.19**	**349**	⇓*i*Pn	**Pn**	**12 48 12.7**	**+0.7**
UPM				*e*Sn	**Sn**	**12 48 50.3**	**+0.1**
OUR	**Ouranopolis**	**3.24**	**84**	*e*Pn	**Pn**	**12 48 11.5**	**-1.2**
PLE	**Pljevlja**	**3.27**	**355**	⇑*i*Pn	**Pn**	**12 48 13.6**	**+0.5**
PLE				*e*Sn	**Sn**	**12 48 51.1**	**-0.8**
MMB	**Musomiste**	**3.37**	**62**	*e*Pn	**Pn**	**12 48 14.6**	**+0.1**
MMB				*e*Sn	**Sn**	**12 48 54.6**	**+0.2**
CEL	**Celeste**	**3.51**	**240**	Pn	**Pn**	**12 48 14.7**	**-1.8**
SOI	**Samo**	**3.51**	**236**	Pn	**Pn**	**12 48 14.4**	**-2.1**
VTS	**Vitosha**	**3.61**	**45**	*e*Pn	**Pn**	**12 48 17.2**	**-0.6**
DIVS	**Divcibare**	**4.02**	**2**	*e*Pn	**Pn**	**12 48 21.2**	**-2.4**
VLI	**Veliai**	**4.17**	**142**	*e*PN	**Pn**	**12 48 27.4**	**+1.8**
SGG	**Gregorio Mates**	**4.30**	**289**	Pn	**Pn**	**12 48 28.0**	**+0.7**
VVLD	**Villa Vallelon**	**4.99**	**293**	Pn	**Pn**	**12 48 35.7**	**-1.0**

ISCJB ***29*** *12:49:41.8±2.8, 4477S±005×14522E±008, h1km±18km, mb4.8/17, MS3.5/6, Error ellipse: s-maj=10.0km s-min=8.3km az=21.2*
IDC ***29*** *12:49:43.5±0.6, 4480S×14518E, h0km, mb4.5/9, mb1 4.6/11, mb1mx4.5/15, mbtmp4.5/11, ML4.6/2, MS3.5/8, Ms1 3.5/8, ms1mx3.4/28, Error ellipse: s-maj=22.9km s-min=15.9km az=65.0*
BJI ***29*** *12:49:46.9, 4390S×14461E, h5km, mB5.5, mb5.2*
NEIC ***29*** *12:49:47.0, 4436S×14501E, h9km, mb4.9/5, ML4.4(AUST), After AUST.*
AUST ***29*** *12:49:47.1, 4436S×14501E, h8km, ML4.4*
MOS ***29*** *12:49:48.0±1.5, 4427S×14493E, h10km, mb4.7/13, Error ellipse: s-maj=23.4km s-min=11.3km az=93.4*

**ISC 29 12:49:45.6±3.1, 4479S±005×14524E±008, h17km±19km, h16km±4.3km: pP-P, n130, σ0s80/71, mb

comp=Z,39nm,0.3s
MILA Mila 8.28 22 *e*P P **12 51 44.9 +0.1**
comp=Z,39nm,0.3s
MILA *e*S S **12 53 12.5 -5.4**
ARPS Mount Arapiles 8.42 341 *e*P P **12 51 45.3 -1.5**
ARPS *e*S S **12 53 14.1 -7.3**
comp=Z,446nm,0.9s
ARPS Mount Arapiles 8.42 341 *e*P P **12 51 45.3 -1.5**
ARPS *e*S S **12 53 14.1 -7.3**
YNG Young 10.76 14 *e*P P **12 52 18.7 -0.2**
MGCD Mangrove Creek 12.43 23 *e*P P **12 52 43.4 +1.7**
STKA Stephens Creek 13.21 346⇓*i*P P **12 52 52.5 +0.2**
STKA *e*S S **12 55 10.1 -8.6**
comp=Z,8.2nm,0.5s
STKA Stephens Creek 13.21 346 Pn P **12 52 52.0 -0.4**
comp=Z,2.0nm,0.3s,baz=147,slow=12,SNR=36
STKA LR LR 12 58 01.7
comp=Z,150nm,19.3s,baz=185,slow=38
STKA Stephens Creek 13.21 346⇓*i*P P **12 52 52.5 +0.2**
comp=Z,8.2nm,0.5s
STKA *e*S S **12 55 10.1 -8.6**
CMSA Cobar Meteorol 13.24 2 *e*P P **12 52 52.7 0.0**
CMSA *e*S S **12 55 10.7 -8.8**
comp=Z,5.7nm,0.8s
CMSA Cobar Meteorol 13.24 2 *e*P P **12 52 52.7 0.0**
comp=Z,5.7nm,0.8s
CMSA *e*S S **12 55 10.7 -8.8**
BBOO Buckleboo 13.93 326 *e*P P **12 53 02.3 +0.1**
QLP Quilpie 18.19 357 *e*P P **12 53 59.1 +1.8**
RPZ Rata Peaks 18.50 96 P P **12 54 02.0 +0.9**
comp=Z,1.5nm,0.3s,baz=244,slow=4.5,SNR=12
RPZ LR LR 12 59 01.6
comp=Z,225nm,21.7s,baz=254,slow=30
FORT Forrest 19.44 310 *e*P P **12 54 11.9 -0.5**
comp=Z,66nm,0.6s
EIDS Eidsvold 19.95 16 *e*P P **12 54 18.5 0.0**
ASAR Alice Springs 23.02 333 P P **12 54 49.5 -0.2**
comp=Z,14nm,0.7s,mb4.5,baz=166,slow=8.1,SNR=142
ASAR PcP PcP 12 58 38.8 -0.2
comp=Z,1.8nm,0.7s,baz=140,slow=2.1,SNR=8.6
ASAR LR LR 13 02 40.1
comp=Z,191nm,21.1s,MS3.5,baz=172,slow=34
ASAR Alice Springs 23.02 333 P P **12 54 49.5 -0.2**
ASAR 12 58 38.8
ASAR pmax pmax
comp=Z,14nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR MLR MLR
comp=Z,191nm,21.1s
AS31 Alice Springs 23.02 333 *e*P P **12 54 49.6 -0.1**
ASPA Alice Springs 23.02 333 *e*P P **12 54 49.6 -0.1**
URZ Urewera 24.63 86 P P **12 55 05.0 -0.1**
comp=Z,3.1nm,0.5s,mb4.1,baz=255,slow=8.2,SNR=6.9
URZ LR LR 13 02 48.7
comp=Z,95nm,19.3s,MS3.3,baz=328,slow=32
CTA Charters Tower 24.65 2⇓*i*P P **12 55 07.1 +1.8**
CTA Charters Tower 24.65 2 P P **12 55 06.4 +1.1**
comp=Z,18nm,0.8s,mb4.7,baz=198,slow=10,SNR=13
CTA Charters Tower 24.65 2 P P **12 55 06.4 +1.1**
CTA pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 24.65 2 *e*P P **12 55 05.9 +0.6**
CTAO pmax pmax
comp=Z,20nm,0.9s,mb4.7
CTAO Charters Tower 24.65 2 *e*P P **12 55 05.9 +0.6**
comp=Z,20nm,0.9s,mb4.7
NWAO Narrogin (SRO) 24.69 289 P P **12 55 04.5 -1.1**
comp=Z,6.4nm,0.7s,mb4.2,baz=134,slow=7.5,SNR=4.3
NWAO Narrogin (SRO) 24.69 289 P P **12 55 04.6 -1.0**
NWAO pmax pmax
comp=Z,6.0nm,0.7s
WB2 Warramunga Arr 26.38 336 *e*P P **12 55 20.6 -0.4**
WRA Warramunga Arr 26.38 336 P P **12 55 20.8 -0.2**
comp=Z,11nm,0.7s,mb4.5,baz=164,slow=7.6,SNR=165
WRA PcP PcP 12 58 46.5 +0.2
comp=Z,1.2nm,0.6s,baz=186,slow=2.2,SNR=4.9
WRA LR LR 13 05 11.0
comp=Z,179nm,20.4s,MS3.6,baz=250,slow=35
WRA Warramunga Arr 26.38 336 P P **12 55 20.8 -0.2**
WRA 12 58 46.5
WRA pmax pmax
comp=Z,11nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA MLR MLR
comp=Z,179nm,20.4s
WRAB Tennant Creek 26.39 336 *e*P P **12 55 20.7 -0.3**
WRAB pmax pmax
comp=Z,23nm,0.6s,mb4.9
WRAB Tennant Creek 26.39 336 *e*P P **12 55 20.6 -0.4**
comp=Z,24nm,0.6s,mb4.9
FITZ Fitzroy Crossi 31.26 322 *e*P P **12 56 04.8 +0.4**
FITZ Fitzroy Crossi 31.26 322 P P **12 56 04.9 +0.5**
comp=Z,5.1nm,0.8s,mb4.4,baz=175,slow=8.7,SNR=15
FITZ PcP PcP 12 58 58.9 +0.3
comp=Z,2.0nm,0.6s,baz=183,slow=5.1,SNR=3.6
FITZ LR LR 13 10 14.3
comp=Z,93nm,20.0s,MS3.5,baz=121,slow=39
VNDA Vanda 33.51 174 P P **12 56 23.7 -0.5**
comp=Z,1.0nm,0.9s,mb3.7,baz=333,slow=9.9,SNR=6.7
VNDA LR LR 13 08 06.5
comp=Z,85nm,20.7s,MS3.4,baz=346,slow=33
VNDA Vanda 33.51 174 P P **12 56 23.7 -0.5**
VNDA LR LR 13 08 06.5
QSPA South Pole Qui 45.33 180 *e*P P **12 58 02.8 +0.2**
comp=Z,9.8nm,0.9s,mb4.6
MAW Mawson 46.78 211 P P **12 58 13.5 -0.6**
comp=Z,5.2nm,0.6s,mb4.6,baz=109,slow=10,SNR=17
MAW Mawson 46.78 211 P P **12 58 13.5 -0.6**
MAW pmax pmax
comp=Z,5.0nm,0.6s
AFI Afiamalu 47.66 64 LR LR 13 12 55.3
comp=Z,46nm,19.3s,MS3.5,baz=223,slow=29
SNAA Sanae 61.65 191⇑*i* P **13 00 01.3 -1.1**
SNAA *e* pP 13 00 04.5 -3.5
SNAA *e* 13 00 08.5
SNAA *e* 13 00 18.6
SNAA Sanae 61.65 191 *e*P P **12 59 58.8 -3.6**
SNAA pmax pmax
comp=Z,8.0nm,1.1s
SNAA Sanae 61.65 191 *e*P P **12 59 58.8 -3.6**
comp=Z,7.6nm,1.1s,mb4.7
VNA3 Neumayer Olymp 62.88 189⇑*i* P **13 00 09.5 -1.2**
VNA3 *e* 13 00 12.3
VNA3 *e* 13 00 17.3
VNA3 *e* 13 00 25.9
VNA1 Neumayer--Stat 63.28 190⇑*i* P **13 00 13.0 -0.3**
VNA1 *e* 13 00 14.9
VNA1 *e* pP 13 00 16.3 -2.6
VNA1 *e* 13 00 29.2
PLCA Paso Flores 89.00 154 P P **13 02 39.8 +0.3**
comp=Z,2.3nm,0.9s,mb4.5,baz=227,slow=5.8,SNR=4.6
PLCA Paso Flores 89.00 154 P P **13 02 39.8 +0.3**
PLCA pmax pmax
comp=Z,2.0nm,0.9s
CN2 Changchun 89.95 346 *e*P P **13 02 45.0 +1.1**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.5
PKI Pulchoki 90.32 310 *e*P P **13 02 46.1 +0.5**
GUN Gumba 90.33 310 *e*P P **13 02 46.9 +1.2**
DMN Daman 90.52 310 *e*P P **13 02 46.8 +0.3**
comp=Z,21nm,0.9s,mb5.5
KKN Kakani 90.56 310 *e*P P **13 02 47.3 +0.5**
comp=Z,24nm,1.0s,mb5.5
KOLN Koldanda 91.47 309 *e*P P **13 02 50.8 -0.2**
comp=Z,14nm,1.0s,mb5.3
GTA Gaotai 93.26 326 *e*P P **13 03 00.5 +1.3**
GTA AP pP 13 03 08.3 +3.3
GTA XP sP 13 03 11.0 +3.9
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb5.0
ZAK Zakamensk 101.56 334 *e*P Pdif 13 03 34.9 -1.8
ZAK pmax pmax
comp=Z,2.0nm,2.0s
NVS Novosibirsk 112.30 326⇑*i*P Pdif 13 04 18.4 -6.0
NVS pmax pmax
comp=Z,16nm,1.7s
NVS pmax pmax
comp=N,13nm,1.5s
NVAR Mina Array Bea 119.84 64 PKP PKPdf 13 08 36.5 +1.6
comp=N,0.8nm,0.6s,baz=170,slow=2.7,SNR=6.2
BRTR Keskin Array B 130.47 289 PKP PKPdf 13 08 55.3 +0.1
comp=N,1.1nm,0.8s,baz=156,slow=6.1,SNR=4.5
BRTR Keskin Array B 130.47 289 PKIKP PKPdf 13 08 55.3 +0.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 135.77 236 PKP PKPdf 13 09 05.2 +0.1
comp=Z,1.8nm,0.8s,baz=89,slow=2.3,SNR=5.4
AKASG Malin Array Be 137.77 302 PKP PKPdf 13 09 09.5 +0.6
comp=Z,0.5nm,0.4s,baz=96,slow=1.9,SNR=3.5
AKASG Malin Array Be 137.77 302 PKIKP PKPdf 13 09 09.5 +0.6
AKASG pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 141.40 331 PKhKP 13 09 08.1
comp=Z,2.8nm,0.8s,baz=107,slow=2.8,SNR=8.3
ARCES ARCESS Array B 141.40 331 PKHKP 13 09 08.1
ARCES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 141.49 318 PKhKP 13 09 08.4
comp=Z,2.1nm,0.8s,baz=87,slow=4.2,SNR=7.6
FINES FINESS Array B 141.49 318 PKHKP 13 09 08.4
FINES pmax pmax
comp=Z,2.0nm,0.9s
BOJS Bojanci 145.18 289 *i* P PKPbc 13 09 21.2 -0.6
GROS Grobnik 145.29 291 *i* P PKPbc 13 09 21.8 -0.3
ARSA Arzberg 145.48 292⇑*i*P PKPdf 13 09 22.3 -0.4
comp=Z,16nm,0.7s
KEST Kesra 145.51 270 PKPbc PKPbc 13 09 24.0 +1.2
comp=Z,7.5nm,0.6s,baz=215,slow=0.5,SNR=36
VISS Visnje 145.54 290 *e*P PKPdf 13 09 22.4 -0.4
PERS Pernice 145.59 291 *e*P PKPdf 13 09 23.0 +0.2
DPC Dobruska-Polom 145.66 298 *e*PKP PKPdf 13 09 23.4 +0.4
DPC *ep*PKP pPKPdf 13 09 31.6 +2.7
LJU Ljubljana 145.82 290 *i* P PKPdf 13 09 23.8 +0.5
UPC Upice 145.88 298 *e*PKP PKPdf 13 09 22.9 -0.5
TREC Trest 145.98 296 *e*PKP PKPdf 13 09 23.8 +0.3
SNTG Esanatoglia 146.05 285 P PKPdf 13 09 23.9 +0.2
JAVS Javornik 146.09 290 *i* P PKPdf 13 09 24.1 +0.4
FSSB Fossombrone 146.30 285 P PKPdf 13 09 25.7 +1.6
MOA Molln 146.45 293⇑*i*P PKPdf 13 09 24.8 +0.5
comp=Z,5.6nm,0.9s
PRU Pruhonice 146.72 297 *e*PKP PKPdf 13 09 25.9 +1.1
PVCC Panska Ves 146.79 298 *e*PKP PKPdf 13 09 25.0 +0.1
SFI Santa Sofia 147.01 285 PKIKP PKPbc 13 09 28.0 +0.7
GEC2 GERESS Array S 147.04 295 *e*PKIKP PKPdf 13 09 26.9 +1.6
GERES GERESS Array B 147.04 295 PKPbc PKPbc 13 09 27.0 -0.4
comp=Z,8.2nm,0.7s,baz=122,slow=2.0,SNR=51
GERES GERESS Array B 147.04 295 PKIKP PKPdf 13 09 27.0 +1.7
GERES pmax pmax
comp=Z,8.0nm,0.7s
KHC Kasperske Hory 147.17 295 *e*PKP PKPdf 13 09 26.8 +1.3
BRG Berggiesshubel 147.24 298 *i* P PKPdf 13 09 27.5 +1.9
comp=Z,5.3nm,1.1s
BRG
comp=N,164nm,20.5s
BRG
comp=E,107nm,22.4s
BRG
comp=Z,183nm,15.6s
HFS Hagfors 147.59 316 PKPbc PKPbc 13 09 29.3 +0.4
comp=Z,7.5nm,0.6s,baz=86,slow=6.1,SNR=18
HFS Hagfors 147.59 316 PKIKP PKPbc 13 09 29.3 +0.4
HFS pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 147.89 299 *i* PKPbc PKPbc 13 09 29.1 -0.6
comp=Z,11nm,0.9s
WTTA Wattenberg 148.06 291⇑*i*P PKPbc 13 09 29.9 -0.3
comp=Z,16nm,0.6s
WATA Walderalm 148.11 291⇑*i*P PKPbc 13 09 29.7 -0.7
comp=Z,21nm,1.2s
SQTA Sankt Quirin 148.33 291⇑*i*P PKPbc 13 09 30.5 -0.3
comp=Z,10nm,0.9s
MOTA Moosalm 148.43 291⇑*i*P PKPbc 13 09 30.5 -0.6
comp=Z,11nm,1.0s
PGF Pioggiola 148.55 282 *e*PKP1 PKPbc 13 09 31.2 -0.3
comp=Z,9.2nm,0.6s
MOX Moxa 148.67 298 *e*PKIKP PKPbc 13 09 30.0 -1.8
NB2 NORSAR Subarra 148.67 318 PKPa PKPbc 13 09 30.5 -1.3
comp=Z,8.9nm,1.0s,baz=77,slow=4.1
NOA NORSAR Array B 148.67 318 PKPbc PKPbc 13 09 30.3 -1.5
comp=Z,4.9nm,0.9s,baz=256,slow=2.9,SNR=13
NOA NORSAR Array B 148.67 318 PKIKP PKPbc 13 09 30.3 -1.5
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA NORSAR Array B 148.67 318 PKPbc PKPbc 13 09 30.3 -1.5
GRA1 Grafenberg Arr 148.79 296 *e*PKP PKPbc 13 09 31.8 -0.3
GRF Grafenberg Arr 148.79 296 *e*PKIKP PKPbc 13 09 31.8 -0.3
DAVA Damuels 149.23 291⇑*i*P PKPbc 13 09 33.1 -0.1
comp=Z,14nm,0.7s
SBF Sospel 150.04 283 *e*PKP1 PKPbc 13 09 35.1 -0.1
comp=Z,29nm,0.7s
FRF La Foret Royal 150.50 282 *e*PKP1 PKPbc 13 09 36.3 0.0
comp=Z,24nm,0.7s
LMR La Mourre 150.53 282 *e*PKP1 PKPbc 13 09 35.4 -0.9
MBDF Montbardon 150.74 285 *e*PKP1 PKPbc 13 09 37.4 +0.6
comp=Z,12nm,0.9s
LPG La Plagne 150.94 286 *e*PKP1 PKPbc 13 09 37.3 0.0
comp=Z,22nm,1.0s
LPL La Plagne 150.96 286 *e*PKP1 PKPbc 13 09 37.4 0.0
comp=Z,21nm,1.0s
CDF Champ du Feu 151.16 292 *e*PKP1 PKPbc 13 09 36.8 -1.0
HINF Hinteralfeld 151.34 291 *e*PKP1 PKPbc 13 09 37.2 -1.1
comp=Z,10nm,0.6s
SMRF Simiane la Rot 151.36 283 *e*PKP1 PKPbc 13 09 38.7 +0.4
comp=Z,18nm,0.7s
ORIF Oris-en-Rattie 151.40 285 *e*PKP1 PKPbc 13 09 38.2 -0.2
comp=Z,14nm,0.8s
CABF La Chapelle 151.63 288 *e*PKP1 PKPbc 13 09 38.9 0.0
comp=Z,18nm,0.6s
HAU Haudompre 151.71 291 *e*PKP1 PKPbc 13 09 38.4 -0.7
VIVF Saint-Julien-l 152.22 284 *e*PKP1 PKPbc 13 09 39.9 -0.3
LASF Ste Croix 152.58 282 *e*PKP1 PKPbc 13 09 41.0 -0.1
comp=Z,9.5nm,0.8s
GIVF Givet 152.94 296 *e*PKP1 PKPbc 13 09 41.7 -0.2
LOR Lormes 153.25 289 *e*PKP1 PKPbc 13 09 41.9 -0.7
BAIF Baives 153.34 295 *e*PKP1 PKPbc 13 09 42.7 0.0
MTLF Montolieu 153.53 280 *e*PKP1 PKPbc 13 09 42.9 -0.3
EKA Eskdalemuir Ar 157.33 309 PKPab PKPab 13 10 11.8 0.0
comp=Z,2.3nm,0.8s,baz=90,slow=5.0,SNR=4.9
EKA Eskdalemuir Ar 157.33 309 PKP2 PKPab 13 10 11.8 0.0
EKA pmax pmax
comp=Z,2.0nm,0.8s

IDC 29 12:52:58.7±69.0**, 149**7**S**×**17424W, h0**km**, mb4.3**/3, **mb1 4.5**/3**, mb1mx4.0**/13**, mbtmp4.3**/3**, MS3.2**/1**, Ms1 3.2**/1, **ms1mx2.8**/35**, Error ellipse: s-maj=1324.0km s-min=180.4km az=78.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.08**	**116**	LR	LR	13 00 55.4	
	comp=Z,102nm,20.9s,baz=248,slow=32						
CNB	**Canberra Magne**	**38.37**	**231**	*e*P	P	13 00 21.7	+0.2
	50nm,1.8s						
STKA	**Stephens Creek**	**43.55**	**239**	P	P	13 01 04.4	+0.2
	1.0nm,0.3s,baz=90,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**49.15**	**256**	P	P	13 01 48.6	+0.4
	1.3nm,0.6s,baz=92,slow=7.2,SNR=9.8						
ASAR	**Alice Springs**	**49.47**	**252**	P	P	13 01 51.1	+0.4
	4.2nm,0.4s,baz=89,slow=7.5,SNR=27						
ASPA	**Alice Springs**	**49.48**	**252**	*e*P	P	13 01 51.0	+0.3

*ISCJB **29** 12:54:12.4±1.7, 528S±009×1467E±02, h136km±18km, mb4.4/9, Error ellipse: s-maj=29.2km s-min=11.5km az=41.8*
*NEIC **29** 12:54:15.1±1.4, 530S×14671E, h145km±13km, mb4.5/2, Error ellipse: s-maj=20.1km s-min=10.8km az=105.0*
*IDC **29** 12:54:16.1±1.7, 543S×14658E, h153km±16km, mb4.0/7, mb1 4.2/9, mb1mx4.1/13, mbtmp4.5/9, MS3.4/1, Ms1 3.4/1, ms1mx2.7/25, Error ellipse: s-maj=23.6km s-min=10.1km az=107.0*

ISC 29 12:54:16.9±1.4**, 546S**±009×**1467E**±02**, h159**km±15km**, n22, σ0**87**/26, mb4.4/9, 2D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.95**	**174**	P	**Pn**	**12 55 16.5**	**-0.2**
	10nm,0.3s,baz=14,slow=3.6,SNR=34						
PMG				S	**Sn**	**12 56 02.0**	**-1.2**
	39nm,0.3s,baz=164,slow=20,SNR=5.0						
CTA	**Charters Tower**	**14.55**	**182**	P	**Pn**	**12 57 40.5**	**+5.1**
	0.6nm,0.3s,baz=16,slow=12,SNR=3.7						
WRAB	**Tennant Creek**	**18.76**	**219**	*e*P	**P**	**12 58 24.4**	**+0.5**
WB2	**Warramunga Arr**	**18.77**	**219**	*e*P	**P**	**12 58 24.6**	**+0.7**
WB2				*e*S	**S**	**13 01 48.1**	**-0.9**
WRA	**Warramunga Arr**	**18.78**	**219**	P	**P**	**12 58 24.6**	**+0.7**
	3.3nm,0.3s,baz=38,slow=12,SNR=61						
WRA				S	**S**	**13 01 47.7**	**-1.5**
	0.3nm,0.3s,baz=40,slow=20,SNR=7.7						
AS31	**Alice Springs**	**21.92**	**213**⇓*i*P		**P**	**12 58 58.3**	**+0.8**
ASAR	**Alice Springs**	**21.92**	**213** P		**P**	**12 58 58.4**	**+0.8**
	6.1nm,0.4s,mb4.4,baz=46,slow=8.3,SNR=55						
ASAR				S	**S**	**13 02 48.2**	**-0.3**
	2.9nm,0.9s,baz=34,slow=22,SNR=11						
ASAR	**Alice Springs**	**21.92**	**213** P		**P**	**12 58 58.4**	**+0.8**
ASAR				S	**S**	**13 02 48.2**	**-0.3**
ASPA	**Alice Springs**	**21.92**	**213**⇓*i*P		**P**	**12 58 58.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.13**	**237** *e*P		**P**	**12 59 17.8**	**-0.3**
	43nm,0.4s,mb5.3						
FITZ	**Fitzroy Crossi**	**24.13**	**237** P		**P**	**12 59 17.7**	**-0.4**
	23nm,0.4s,mb5.0,baz=60,slow=7.9,SNR=57						
FITZ				S	**S**	**13 03 24.1**	**-0.2**
	1.1nm,0.9s,baz=181,slow=21,SNR=3.7						
STKA	**Stephens Creek**	**26.72**	**190** *e*P		**P**	**12 59 42.3**	**+0.8**
	2.7nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**26.72**	**190** P		**P**	**12 59 41.9**	**+0.4**
	4.7nm,0.5s,mb4.4,baz=0.8,slow=8.2,SNR=9.5						
FORT	**Forrest**	**30.70**	**213** *e*P		**P**	**13 00 17.5**	**+0.8**
	31nm,0.6s,mb5.2						
KLBR	**Kellerberrin**	**37.58**	**223** *e*P		**P**	**13 01 15.6**	**-0.4**
	8.9nm,0.6s,mb4.6						
MUN	**Mundaring**	**38.87**	**223** *e*P		**P**	**13 01 28.0**	**+1.3**
MJAR	**Matsushiro Arr**	**42.53**	**350** P		**P**	**13 01 54.6**	**-2.1**
	0.7nm,0.5s,mb3.6,baz=182,slow=4.5,SNR=4.0						
SONM	**Songino Array**	**63.80**	**331** P		**P**	**13 04 31.6**	**-0.4**
	1.6nm,0.6s,mb4.0,baz=151,slow=5.1,SNR=12						
VNDA	**Vanda**	**72.47**	**177** P		**P**	**13 05 26.4**	**+0.4**
	2.5nm,0.5s,mb4.2,baz=332,slow=6.8,SNR=36						
MAW	**Mawson**	**82.64**	**203** P		**P**	**13 06 22.0**	**-0.5**
	3.2nm,0.6s,mb4.3,baz=107,slow=7.6,SNR=18						
PLCA	**Paso Flores**	**122.72**	**147** PKP		PKPdf	13 12 54.0	+0.2
	1.6nm,0.8s,baz=273,slow=0.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**144.69**	**285** PKP		PKPdf	13 13 32.6	-2.1
	1.3nm,0.8s,baz=67,slow=2.8,SNR=5.9						

*ISCJB **29** 12:57:29.0±0.3, 7581N±004×80E±02, h10km, mb4.2/22, MS4.0/5, Error ellipse: s-maj=6.4km s-min=4.2km az=93.8*
*IDC **29** 12:57:29.8±0.7, 7584N×754E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, ML3.4/2, MS4.0/11, Ms1 4.0/11, ms1mx3.8/38, Error ellipse: s-maj=18.8km s-min=13.2km az=48.0*
*NEIC **29** 12:57:31.0±0.3, 7586N×749E, h10km, mb4.4/8, Error ellipse: s-maj=8.9km s-min=5.9km az=52.0*
*BJI **29** 12:57:31.0, 7590N×750E, h10km, mB5.0, mb4.5, Ms4.7, Msz4.5*
*CSEM **29** 12:57:31.0, 7586N×749E, h10km, mb4.2/3, After NEIC*
*BER **29** 12:57:34.0±2.9, 7600N×821E, h10km, MD3.0, ML3.1*
*HEL **29** 12:57:35.3±0.8, 7590N×928E, h10km, ML3.8, mb4.4(NEIC), ML3.1(BER)*

ISC 29 12:57:30.6±0.3**, 7584N**±004×**80E**±02**, h10**km**, n101, σ1**37**/103, mb4.2**/22**, MS4.0**/5**, 2D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPB4	**Spitsbergen Ar**	**3.01**	**35**	*e*P	**Pn**	**12 58 17.6**	**-0.8**
SPB4	**Spitsbergen Ar**	**3.01**	**35**	*e*P	**Pn**	**12 58 17.6**	**-0.8**
BJO1	**Bjornoya**	**3.13**	**110**	*e*P	**Pn**	**12 58 20.3**	**+0.3**
BJO1				*e*S	**Sn**	**12 58 55.9**	**-1.6**
BJO1				AML	AML	12 59 00.0	
	comp=Z,78nm,0.4s						
BJO1	**Bjornoya**	**3.13**	**110**	*e*P	**Pn**	**12 58 20.3**	**+0.3**
BJO1				*e*S	**Sn**	**12 58 50.8**	**-6.7**
BJO1	**Bjornoya**	**3.13**	**110**	*e*P	**Pn**	**12 58 20.3**	**+0.3**
BJO1				*e*S	**Sn**	**12 58 50.8**	**-6.7**
BJO	**Bjornoya**	**3.17**	**110**	*e*P	**Pn**	**12 58 20.3**	**-0.3**
BJO				*e*S	**Sn**	**12 58 55.9**	**-2.7**
BJO				AML	AML	12 59 00.0	
	comp=Z,78nm,0.4s						
KBS	**Kingsbay**	**3.22**	**14**	*e*P	**Pn**	**12 58 18.9**	**-2.3**
KBS				*e*S	**Sn**	**12 58 55.3**	**-4.3**
HOPEN	**Hopen**	**4.13**	**72**	*e*P	**Pn**	**12 58 33.8**	**0.0**
HOPEN				*e*S	**Sn**	**12 59 19.8**	**-2.3**
HOPEN				AML	AML	12 59 22.9	
	comp=E,491nm,0.3s						
HOPEN				*e*		13 01 17.2	
DAG	**Danmarks Havn**	**6.36**	**291**	*i* P	**Pn**	**12 59 01.0**	**-3.4**
DAG				*i*		13 00 02.1	
DAG	**Danmarks Havn**	**6.36**	**291**	*e*P	**Pn**	**12 59 01.0**	**-3.4**
DAG				*i*		13 00 02.1	
JMIC	**Jan Mayen**	**6.76**	**232**	Pn	**Pn**	**12 59 05.2**	**-4.7**
	comp=E,14nm,0.3s,baz=225,slow=1.5,SNR=14						
TRO	**Tromso**	**7.02**	**147**	*e*P	**Pn**	**12 59 14.6**	**+1.2**
KIF	**Kilpisjarvi**	**7.86**	**144**	*e*P	**Pn**	**12 59 25.2**	**+0.2**
KIF				MPN		12 59 28.5	
	comp=Z,12nm,0.3s						
KIF				*e*S	**Sn**	**13 00 49.6**	**-4.4**
LOF	**Lofoten**	**7.93**	**165**	*e*P	**Pn**	**12 59 28.5**	**+2.5**
LOF				*e*		13 06 49.9	
ARCES	**ARCESS Array B**	**8.16**	**132**	Pn	**Pn**	**12 59 27.8**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=333,slow=13,SNR=66						
ARCES				Sn	**Sn**	**13 00 52.3**	**-9.1**
	comp=Z,3.8nm,0.3s,baz=330,slow=22,SNR=8.7						
ARCES				LR	LR	13 02 34.0	
	comp=Z,668nm,21.8s,baz=332,slow=37						
ARCES	**ARCESS Array B**	**8.16**	**132**	Pn	**Pn**	**12 59 27.8**	**-1.3**
ARCES				Sn	**Sn**	**13 00 52.3**	**-9.1**
ARE0	**ARCESS Array S**	**8.16**	**132**	*e*P	**Pn**	**12 59 28.6**	**-0.5**
ARE0	**ARCESS Array S**	**8.16**	**132**	*e*P	**Pn**	**12 59 28.6**	**-0.5**
KTK1	**Kautokeino**	**8.23**	**139**	*e*P	**Pn**	**12 59 32.0**	**+2.0**
KTK1				*e*S	**Sn**	**13 01 01.1**	**-2.0**
KTK1				AML	AML	13 01 05.2	
	comp=Z,8.6nm,0.3s						
KTK1	**Kautokeino**	**8.23**	**139**	*e*P	**Pn**	**12 59 26.5**	**-3.5**
KTK1				*e*S	**Sn**	**13 01 01.1**	**-2.0**
KTK1	**Kautokeino**	**8.23**	**139**	*e*P	**Pn**	**12 59 26.5**	**-3.5**
KTK1				*e*S	**Sn**	**13 01 01.0**	**-2.1**
KEV	**Kevo**	**8.26**	**128**	*e*P	**Pn**	**12 59 29.7**	**-0.8**
KEV				MPN		12 59 39.1	
	comp=Z,4.4nm,0.3s						
KEV				*e*S	**Sn**	**13 00 58.1**	**-5.8**
SCO	**Scoresbysund**	**10.09**	**253**	*i* P	**Pn**	**12 59 52.1**	**-3.4**
SGF	**Sodankyl**	**10.19**	**136**	*e*P	**Pn**	**12 59 56.5**	**-0.4**
SGF				*e*S	**Sn**	**13 01 44.1**	**-7.1**
KU4	**Liikasenvaara**	**11.69**	**133**	*e*P	**Pn**	**13 00 16.3**	**-1.2**
KU4				MPN		13 00 19.1	
	comp=Z,6.6nm,0.4s						
KU4				*e*S	**Sn**	**13 02 18.1**	**-10**
MSF	**Maaselka**	**12.01**	**135**	*e*P	**Pn**	**13 00 21.0**	**-0.8**
MSF				MPN		13 00 23.3	
	comp=Z,2.9nm,0.3s						
MSF				*e*S	**Sn**	**13 02 24.4**	**-11**
OUL	**Oulu**	**12.26**	**142**	*e*P	**Pn**	**13 00 24.1**	**-1.1**
OUL				MPN		13 00 30.4	
	comp=Z,2.4nm,0.3s						
SUMG	**Summit**	**12.76**	**279**	*e*P	**Pn**	**13 00 28.2**	**-3.9**
	comp=Z,31nm,1.3s						
KJN	**Kajaani**	**13.48**	**140**	*e*P	**Pn**	**13 00 40.4**	**-1.4**
VAF	**Ylistaro**	**13.78**	**151**	*e*P	**Pn**	**13 00 46.8**	**+0.9**
VAF				MPN		13 00 51.2	
	comp=Z,2.2nm,0.4s						
SUF	**Sumiainen**	**14.54**	**145**	*e*P	**Pn**	**13 00 54.8**	**-1.5**
SUF				MPN		13 01 00.3	
	comp=Z,2.1nm,0.3s						
BORG	**Borgarnes**	**14.63**	**236**	LR	LR	13 04 37.3	
	comp=Z,397nm,20.0s,baz=213,slow=29						
KEF	**Keuruu**	**14.90**	**148**	*e*P	**Pn**	**13 01 00.1**	**-1.1**
KEF				MPN		13 01 04.1	
	comp=Z,1.3nm,0.3s						
NOA	**NORSAR Array B**	**14.92**	**174**	Pn	**Pn**	**13 01 01.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=136,slow=20,SNR=2.3						
NOA				LR	LR	13 06 17.2	
	comp=Z,313nm,18.4s,baz=350,slow=35						
NOA	**NORSAR Array B**	**14.92**	**174**	Pn	**Pn**	**13 01 01.0**	**-0.5**
NOA				LR	LR	13 06 17.2	
KAF	**Kangasniemi**	**15.14**	**146**	*e*p	**Pn**	**13 01 04.4**	**-0.1**
	comp=Z,11nm,0.7s						
JOF	**Joensuu**	**15.16**	**136**	*e*p	**Pn**	**13 01 00.2**	**-4.5**
	comp=Z,3.4nm,0.4s						
JOF	**Joensuu**	**15.16**	**136**	*e*P	**Pn**	**13 01 00.6**

comp=Z,471nm,19.3s,baz=351,slow=35
KONO Kongsberg 16.28 177 P **Pn** **13 01 22.9 +3.6**
comp=Z,13nm,1.2s
SFJD Kangerlussuaq 19.67 275 LR LR 13 08 39.9
comp=Z,558nm,19.7s,baz=15,slow=34
EKA Eskdalemuir Ar 21.03 198 P **P** **13 02 14.6 +0.2**
comp=Z,1.2nm,0.9s,mb3.2,baz=201,slow=22,SNR=2.8
CLL Collm 24.71 172 e(P) **P** **13 02 55.0 +3.1**
MOX Moxa 25.34 175 *e*P **P** **13 02 59.8 +2.2**
comp=Z,11nm,1.1s,mb4.3
MOX
comp=Z,200nm,19.0s
AKASG Malin Array Be 26.63 149 P **P** **13 03 09.0 -0.3**
comp=Z,0.2nm,0.3s,baz=345,slow=9.1,SNR=4.5
FRB Frobisher Bay 26.67 286 LR LR 13 13 20.2
comp=Z,857nm,21.0s,MS4.3,baz=217,slow=36
VRAC Vranov 26.86 167 LR LR 13 13 49.8
comp=Z,211nm,18.6s,MS3.7,baz=350,slow=36
GERES GERESS Array B 27.20 172 P **P** **13 03 16.0 +1.6**
comp=Z,0.3nm,0.2s,mb3.4,baz=358,slow=6.7,SNR=5.9
MLR Muntele Rosu 31.39 155 LR LR 13 16 55.0
comp=Z,207nm,19.0s,MS3.8,baz=164,slow=37
AKTK Aktyubinsk 32.19 113 P **P** **13 04 00.5 +1.8**
AKTK LR LR 13 17 41.3
AKTK Aktyubinsk 32.19 113 P **P** **13 04 00.5 +1.8**
AKTK LR LR 13 17 41.3
AKTO Aktyubinsk 32.19 113 P **P** **13 04 00.5 +1.8**
comp=Z,4.8nm,1.0s,mb4.3,baz=333,slow=9.6,SNR=10.0
AKTO LR LR 13 17 41.3
comp=Z,415nm,19.8s,MS4.1,baz=351,slow=38
BVAR Borovoye Array 32.72 98 P **P** **13 04 05.6 +2.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=336,slow=7.0,SNR=6.5
BVAR LR LR 13 20 17.0
comp=Z,398nm,19.3s,MS4.1,baz=318,slow=42
ESDC Sonseca Array 36.66 196 P **P** **13 04 37.3 -0.1**
comp=Z,0.3nm,0.4s,mb3.5,baz=5.6,slow=7.9,SNR=3.2
YKA Yellowknife Ar 37.17 320 P **P** **13 04 38.2 -3.5**
comp=Z,2.2nm,1.1s,mb3.9,baz=19,slow=8.9,SNR=5.5
YKA Yellowknife Ar 37.17 320 P **P** **13 04 38.2 -3.5**
EGAK Eagle 38.26 339 *e*P **P** **13 04 49.8 -1.2**
EGAK Eagle 38.26 339 *e*P **P** **13 04 49.8 -1.1**
MKAR Makanchi Array 41.41 90 P **P** **13 05 17.5 +0.3**
comp=Z,4.4nm,1.0s,mb4.0,baz=350,slow=6.3,SNR=17
TLY Talaya 41.98 68 *e*P **P** **13 05 22.7 +0.9**
comp=Z,6.8nm,1.3s,mb4.1
TLY Talaya 41.98 68 *e*P **P** **13 05 22.7 +0.9**
comp=Z,6.8nm,1.3s,mb4.1
AAK Ala-Archa 43.41 100 *e*P **P** **13 05 34.3 +0.9**
comp=Z,0.6nm,0.4s,mb3.7
AAK Ala-Archa 43.41 100 *e*P **P** **13 05 34.3 +0.9**
comp=Z,0.6nm,0.4s,mb3.7
WMQ Urumqi 45.53 86 *e*P **P** **13 05 53.8 +3.5**
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,116nm,3.9s
KDAK Kodiak Island 46.05 346 P **P** **13 05 54.5 +0.1**
comp=Z,17nm,0.9s,mb5.0,baz=273,slow=3.0,SNR=4.4
SONM Songino Array 46.21 67 P **P** **13 05 57.3 +1.5**
comp=Z,2.2nm,1.0s,mb4.0,baz=333,slow=7.4,SNR=13
HIA Hailar 47.73 55 *e*P **P** **13 06 10.3 +2.7**
CHMT Chamberlain Mo 51.82 312 *e*P **P** **13 06 38.1 -0.7**
MSO Missoula 52.03 312 *e*P **P** **13 06 39.3 -1.0**
comp=Z,7.6nm,1.1s,mb4.5
RLMT Red Lodge 52.79 308 *e*P **P** **13 06 43.6 -2.3**
MCMT McKenzie Canyo 53.76 311 *e*P **P** **13 06 53.1 +0.1**
CN2 Changchun 54.10 52 *e*P **P** **13 06 57.0 +1.4**
IMW Indian Meadow 54.30 309 *e*P **P** **13 06 56.3 -0.7**
comp=Z,7.7nm,1.0s,mb4.6
PDAR Pinedale Array 55.12 307 P **P** **13 07 01.6 -1.3**
comp=Z,2.8nm,1.1s,mb4.2,baz=28,slow=6.7,SNR=14
HLID Hailey 55.27 312 *e*P **P** **13 07 03.2 -0.9**
comp=Z,4.4nm,1.2s,mb4.4
SMCO Snowmass 58.06 304 *e*P **P** **13 07 25.0 +1.1**
PV01 Paradox Valley 59.39 305 *e*P **P** **13 07 32.7 -0.4**
MSU Marysvale 59.74 308 *e*P **P** **13 07 36.2 +0.7**
KOLN Koldanda 59.77 97 *e*P **P** **13 07 36.6 +0.8**
comp=Z,13nm,0.9s,mb5.0
GKN Gorkha 59.80 96 *e*P **P** **13 07 37.5 +1.5**
KKN Kakani 60.17 95 *e*P **P** **13 07 40.6 +2.1**
comp=Z,53nm,1.2s
GUN Gumba 60.20 94 *e*P **P** **13 07 41.1 +2.4**
comp=Z,92nm,1.6s
MVCO Mesa Verde 60.27 305 *e*P **P** **13 07 39.7 +0.6**
DMN Daman 60.30 95 *e*P **P** **13 07 40.7 +1.3**
comp=Z,45nm,1.4s,mb5.3
PKI Pulchoki 60.41 95 *e*P **P** **13 07 42.1 +2.0**
NVAR Mina Array Bea 60.95 314 P **P** **13 07 42.9 -0.9**
comp=Z,0.2nm,0.4s,mb3.6,baz=45,slow=8.2,SNR=4.6
NVAR Mina Array Bea 60.95 314 P **P** **13 07 42.9 -0.9**
TORD Torodi Ar. Bea 62.78 187 P **P** **13 07 56.0 -0.1**
comp=Z,1.5nm,1.0s,mb4.1,baz=356,slow=4.8,SNR=6.6
GYA Guiyang 66.66 75 P **P** **13 08 23.0 +1.5**
GYA AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
ASAR Alice Springs 121.28 60 PKP PKPdf 13 16 23.4 -0.5
comp=Z,0.4nm,0.5s,baz=6.9,slow=1.8,SNR=16
SYO Syowa Base 145.95 160|| *e*P PKPdf 13 17 10.0 +0.3
SYO Syowa Base 145.95 160|| *e*P PKiKP 13 17 14.6 +0.7
VNA1 Neumayer--Stat 146.62 190 *e* PKPdf 13 17 11.7 +0.9
VNA1 *e* 13 17 16.3
VNA1 *e* 13 17 22.2
MAW Mawson 147.24 145 PKPbc PKPbc 13 17 14.5 +0.3
comp=Z,2.1nm,0.7s,baz=322,slow=6.3,SNR=5.5
VNA3 Neumayer Olymp 147.27 190 *e* PKPdf 13 17 12.9 +1.0
VNA3 *e* 13 17 17.1
VNA3 *e* 13 17 22.5
VNA3 *e* 13 17 27.8
SNAA Sanae 147.45 186 PKPbc PKPbc 13 17 14.4 -0.4
comp=Z,1.2nm,0.9s,baz=132,slow=0.8,SNR=10
SNAA Sanae 147.45 186 *e* PKPdf 13 17 13.5 +1.3
SNAA *e* 13 17 17.0

*NEIC **29** 13:00:54.4, 1500N×9623W, h15km, MD4.1(MEX), After MEX.*

MEX 29 13:00:54.8±1.3, 1505N×9619W, h16km±32km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.72**	**6**	*i* P	Pg	13 01 05.5	-3.3
HUIG				*i* S	Sg	13 01 15.0	-3.4
VHO	**Vista Hermosa**	**2.08**	**346**	*i* P	Pn	13 01 27.4	-1.6
VHO				*i* S	Sn	13 01 51.6	-2.9
OXX	**Oaxaca**	**2.08**	**346**	*i* P	Pn	13 01 27.5	-1.6
OXX				*i* S	Sn	13 01 50.0	-4.7
PNIG	**Pinotepa**	**2.29**	**306**	*i* P	Pn	13 01 29.1	-2.8
PNIG				*i* S	Sn	13 01 54.2	-5.6
CMIG	**Matias Romero**	**2.39**	**32**	*i* P	Pn	13 01 29.5	-3.7
CMIG				*i* S	Sn	13 01 58.1	-4.0
UTMO	**Huajuapan**	**3.17**	**331**	*e*P	Pn	13 01 42.1	-1.9
UTMO				*i* S	Sn	13 02 19.4	-2.0
TPIG	**Tehuac#an**	**3.54**	**342**	*i* S	Sn	13 02 26.3	-4.1
ACX	**Acapulco**	**4.01**	**297**	*e*P	Pn	13 02 00.0	+4.4
CCIG	**Comitan**	**4.09**	**72**	*e*P	Pn	13 01 53.6	-3.0
CCIG				*i* S	Sn	13 02 41.6	-2.6
PPM	**Popocatepetl**	**4.62**	**330**	*e*P	Pn	13 02 03.0	-1.0
PPM				*i* P		13 02 03.5	
PPM				*i* S	Sn	13 02 55.2	-2.2
PPM	**Popocatepetl**	**4.62**	**330**	*i* P	Pn	13 02 03.5	-0.5
PPM				*i* S	Sn	13 02 55.2	-2.2
IIO	**Organos**	**5.12**	**332**	*i* P	Pn	13 02 12.4	+1.6

MAN 29 13:03:34.3, 1019N×12657E, h93km, mb2.8, ML4.2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.14**	**249**||	*e*P	Pn	13 03 54.7	-1.0
SCPH				*e*S	Sn	13 04 09.3	-2.6
BUTP	**Butuan**	**1.53**	**218**	*e*P	Pn	13 04 01.4	+0.9
MSLP	**Maasin**	**1.68**	**268**	*e*P	Pn	13 04 03.8	+1.4
PLP	**Palo**	**1.84**	**302**	*e*P	Pn	13 04 05.0	+0.5
PLP				*e*S	Sn	13 04 28.0	+0.6
OCLP	**Ormoc**	**2.11**	**294**	*e*P	Pn	13 04 12.2	+4.2
PVCP	**Virac**	**4.13**	**325**	*e*P	Pn	13 04 36.4	+1.4

*NIED **29** 13:06:00, 46.50N×153.50E, h8km, Mw4.7 Best double couple: M0 1.47000×10^16 NP1:φ=58.00000°, δ=57.00000°, λ=132.00000°. NP2:φ=179.00000°, δ=52.00000°, λ=44.00000°.*
*SKHL **29** 13:06:05.2±0.2, 46.15N×153.80E, h51km±10km, mb5.5/7, mbh5.4/4, Ms4.8/8, msh5.4/4*
*ISCJB **29** 13:06:05.1±1.0, 4628N±004×15331E±003, h2km±6km, mb5.0/134, MS4.5/20, Error ellipse: s-maj=6.5km s-min=3.1km az=125.1*
*BJI **29** 13:06:06.1, 4643N×15327E, h8km, mB5.1, mb4.9, Ms4.7, Ms4.4*
*IDC **29** 13:06:06.3±0.6, 4628N×15324E, h0km, mb4.6/21, mb1 4.8/22, mb1mx4.8/28, mbtmp4.6/22, ML3.7/1, MS4.7/3, Ms1 4.7/3, ms1mx3.8/32, Error ellipse: s-maj=17.0km s-min=15.2km az=122.0*
*JMA **29** 13:06:07.8±0.8, 4649N×15349E, h30km, M4.9*
*NEIC **29** 13:06:08.3±0.2, 4637N×15331E, h10km, mb5.1/76, Error ellipse: s-maj=6.6km s-min=3.8km az=169.0*
*GCMT **29** 13:06:08.3±0.4, 4641N×15355E, h17km±1km, MW5.0/51, Moment Tensor Solution. s18,c23; s51,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.15±.30; Mθθ-2.41±.20; Mφφ-1.74±. 18; Mrθ0.37±.49; Mθφ-1.76±.10; Mφr0.34±.51; Best double couple: M0 4.04000×10^16 NP1:φ=231.00000°, δ=41.00000°, λ=91.00000°. NP2: φ=50.00000°, δ=49.00000°, λ=89.00000°. Principal axes: T 4.1820, Plg86.0000°, Azm314.0000°; N -0.2840, Plg0.0000°, Azm50.0000°; P -3.8980, Plg4.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SZGRF **29** 13:06:10.9, 4603N×15374E, h33km, mb5.2, Kuril Islands, Russia*
*MOS **29** 13:06:11.6±1.3, 4631N×15323E, h48km, mb5.2/56, MS4.3/15, Error ellipse: s-maj=7.6km s-min=5.0km az=111.4*

ISC 29 13:06:09.3±1.0, 4639N±003×15328E±003, h16km±6km, h33km±2.3km:pP-P, n386, σ1°02/419, mb5.0/134, MS4.5/20, 38C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.96**	**255**||	*i*P	**Pn**	**13 07 08.4**	**-0.9**
KUR				*i* P		13 07 08.4	
KUR				AMB	AMB	13 07 08.8	
	300nm,0.5s						
KUR				AMB	AMB	13 07 08.8	
	150nm,0.5s						
KUR				AMB	AMB	13 07 08.8	
	1μm,0.5s						
KUR				AMB	AMB	13 07 10.0	
	5μm,1.0s						
KUR				sP		13 07 30.0	
KUR				*e*S	**Sn**	**13 07 56.0**	**+0.6**
KUR				A		13 07 59.0	
	9μm,2.0s						
KUR				A		13 07 59.0	
	5μm,2.0s						
KUR				A		13 08 08.5	
	510nm,0.5s						
KUR				A		13 08 08.5	
	850nm,0.5s						
KUR				AMS	AMS	13 09 10.0	
	6μm,16.0s						
KUR				AMS	AMS	13 09 10.0	
	8μm,16.0s						
KUR	**Kuril'sk**	**3.96**	**255**||	*i*PN	**Pn**	**13 07 08.5**	**-0.8**
KUR				*e*S	**Sn**	**13 07 56.5**	**+1.1**
KUR				pmax	pmax		
	comp=Z,1μm,0.7s						
SKR	**Severo-Kuril's**	**4.70**	**23**	*e*P	**Pn**	**13 07 14.6**	**-4.9**
SKR				AMB	AMB	13 07 17.7	
	comp=Z,90nm,0.5s						
SKR				AMB	AMB	13 07 17.7	
	comp=Z,150nm,0.5s						
SKR				*e*S	**Sn**	**13 08 06.5**	**-7.1**
SKR				A		13 08 08.0	
	comp=Z,3μm,9.0s						
SKR				A		13 08 08.0	
	comp=Z,5μm,9.0s						
SKR				A		13 08 08.0	
	comp=Z,3μm,9.0s						
SKR				A		13 08 08.0	
	comp=Z,5μm,9.0s						
SKR				A		13 08 15.6	
	comp=Z,350nm,0.8s						
SKR				A		13 08 15.6	
	comp=Z,1μm,0.8s						
SKR				A		13 08 15.6	
	comp=Z,670nm,0.8s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,3μm,10.0s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,8μm,10.0s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,6μm,10.0s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,3μm,10.0s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,8μm,10.0s						
SKR				AMS	AMS	13 10 18.0	
	comp=Z,5μm,10.0s						
PAU	**Pauzhetka**	**5.59**	**23**	*e*P	**Pn**	**13 07 33.3**	**+1.5**
PAU				*e*S	**Sn**	**13 08 35.4**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**5.74**	**248**	*e*P	**Pn**	**13 07 35.0**	**+1.1**
YUK				AMB	AMB	13 07 35.8	
	comp=Z,180nm,0.4s						
YUK				*i* S	**Sn**	**13 08 40.0**	**+0.6**
YUK				A		13 08 43.5	
	comp=Z,380nm,0.5s						
YUK				A		13 08 43.5	
	comp=Z,460nm,0.5s						
YUK				A		13 08 54.1	
	comp=Z,4μm,2.0s						
YUK				A		13 08 54.1	
	comp=Z,2μm,2.0s						
YUK	**Yuzh-Kuril'sk**	**5.74**	**248**	*e*PN	**Pn**	**13 07 35.0**	**+1.1**
YUK				*i* S	**Sn**	**13 08 40.0**	**+0.6**
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,460nm,0.5s						
YUK				smax			
	comp=N,4μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
NEM2	**Nemuro 2**	**6.15**	**243**	P	**Pn**	**13 07 37.9**	**-1.5**
NEM2				*e*S	**Sn**	**13 08 44.8**	**-4.6**
JRA	**Rausu**	**6.26**	**250**	P	**Pn**	**13 07 42.5**	**+1.5**
JNK	**Nakash**	**6.68**	**248**	P	**Pn**	**13 07 47.3**	**+0.5**
JNK				*e*S	**Sn**	**13 09 00.8**	**-1.8**
JAK	**Akkeshi**	**6.99**	**244**	P	**Pn**	**13 07 49.4**	**-1.6**
JAK				*e*S	**Sn**	**13 09 05.2**	**-5.0**
JTKR	**Abashiri--Toko**	**7.05**	**253**	P	**Pn**	**13 07 53.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*P	**Pn**	**13 08 00.0**	**+5.3**
YSS				AMB	AMB	13 08 01.6	
	comp=E,110nm,1.0s						
YSS				AMB	AMB	13 08 01.6	
	comp=E,90nm,1.0s						
YSS				*es*P		13 08 18.9	
YSS				*e*S	**Sn**	**13 09 24.2**	**+7.3**
YSS				A		13 09 26.3	
	comp=E,30nm,0.9s						
YSS				AMS	AMS	13 10 39.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	13 10 39.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	13 10 39.0	
	comp=E,2μm,16.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	PN	**Pn**	**13 08 00.0**	**+5.3**
YSS				*e*S	**Sn**	**13 09 24.2**	**+7.3**
YSS				pmax	pmax		
	comp=E,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				smax			
	comp=E,30nm,0.9s						
YSS				smax			
	comp=E,30nm,1.0s						
YSS				MLR	MLR		
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*P	**Pn**	**13 07 58.1**	**+3.4**
	comp=N,86nm,0.9s						
JMP	**Maruseppu**	**7.40**	**255**	P	**Pn**	**13 07 57.9**	**+1.3**
JAR	**Ashorobuto**	**7.43**	**249**	P	**Pn**	**13 07 57.3**	**+0.3**
JAR				*e*S	**Sn**	**13 09 21.3**	**+0.3**
PET	**Petropavlovsk**	**7.50**	**26**	*e*P	**Pn**	**13 07 56.8**	**-1.2**
PET				AMB	AMB	13 08 10.6	
	comp=N,130nm,1.0s						
PET				*e*S	**Sn**	**13 09 16.7**	**-6.0**
PET				A		13 09 47.3	
	comp=N,340nm,0.9s						
PET				A		13 09 48.6	
	comp=N,390nm,1.2s						
PET				AMS	AMS	13 12 06.6	
	comp=N,2μm,13.0s						
PET	**Petropavlovsk**	**7.50**	**26**	*e*P	**Pn**	**13 07 58.2**	**+0.2**
	comp=N,259nm,1.4s						
JOB	**Onbets**	**7.58**	**246**	P	**Pn**	**13 07 58.7**	**-0.4**
JOB				*e*S	**Sn**	**13 09 20.7**	**-4.0**
JSE	**Soyaes**	**7.63**	**263**	P	**Pn**	**13 08 03.5**	**+3.8**
JKK2	**Kamakawa 2**	**7.86**	**255**	P	**Pn**	**13 08 04.9**	**+2.0**
ASAJ	**Asahikawa**	**7.87**	**257**	Pn	**Pn**	**13 08 04.6**	**+1.5**
	comp=N,2.9nm,0.3s,baz=78,slow=15,SNR=31						
ASAJ	**Asahikawa**	**7.87**	**257**	P	**Pn**	**13 08 05.4**	**+2.3**
ASAJ	**Asahikawa**	**7.87**	**257**	PN	**Pn**	**13 08 04.6**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
UGL	**Uglegorsk**	**8.02**	**294**	*e*PN	**Pn**	**13 08 10.0**	**+4.8**
UGL				*e*		13 09 44.1	
UGL				pmax	pmax		
	comp=Z,1μm,4.0s						
UGL				pmax	pmax		
	comp=Z,71nm,0.6s						
UGL				MLR	MLR		
	comp=E,3μm,16.0s						
UGL				MLR	MLR		
	comp=Z,3μm,16.0s						
JCH	**Churui**	**8.03**	**246**	P	**Pn**	**13 08 04.3**	**-0.9**
JCH				*e*S	**Sn**	**13 09 30.2**	**-5.5**
JFR	**Furan**	**8.26**	**251**	P	**Pn**	**13 08 09.2**	**+0.9**
TYV	**Tymovskoe**	**8.34**	**306**	*e*P	**Pn**	**13 08 14.0**	**+4.5**
TYV				AMB	AMB	13 08 23.0	
	comp=Z,500nm,9.0s						
TYV				AMB	AMB	13 08 23.0	
	comp=Z,5μm,9.0s						
TYV				AMB	AMB	13 08 23.0	
	comp=Z,900nm,9.0s						
TYV				AMB	AMB	13 08 26.8	
	comp=Z,48nm,1.0s						
TYV				AMB	AMB	13 08 26.8	
	comp=Z,115nm,1.0s						
TYV				AMS	AMS	13 11 34.0	
	comp=Z,600nm,17.0s						
TYV				AMS	AMS	13 11 34.0	
	comp=Z,4μm,17.0s						
TYV				AMS	AMS	13 11 34.0	
	comp=Z,4μm,17.0s						
JAB	**Ashibetsu**	**8.35**	**254**	P	**Pn**	**13 08 12.1**	**+2.4**
JEM	**Erimo**	**8.48**	**243**	P	**Pn**	**13 08 11.1**	**-0.3**
ERM	**Erimo**	**8.48**	**243**	*e*PN	**Pn**	**13 08 10.8**	**-0.6**
ERM				pmax	pmax		
	comp=Z,130nm,1.0s						
ERM	**Erimo**	**8.48**	**243**	*e*P	**Pn**	**13 08 10.8**	**-0.7**
	comp=Z,130nm,1.0s						
JBT2	**Biratori 2**	**8.58**	**249**	P	**Pn**	**13 08 12.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**8.59**	**245**	P	**Pn**	**13 08 11.4**	**-1.5**
JNBK				*e*S	**Sn**	**13 09 43.5**	**-5.9**
JEW	**Eniwo**	**9.15**	**251**	P	**Pn**	**13 08 21.7**	**+1.1**
JNB	**Noboribetsu**	**9.59**	**250**	P	**Pn**	**13 08 26.2**	**-0.5**
JNB				*e*S	**Sn**	**13 10 09.2**	**-4.9**
OKH	**Okha**	**9.78**	**321**	*e*P	**Pn**	**13 08 28.6**	**-0.7**
OKH				AMB	AMB	13 08 34.2	
	comp=Z,1μm,6.2s						
OKH				AMS	AMS	13 12 24.0	
	comp=Z,3μm,15.0s						
OKH				AMS	AMS	13 12 24.0	
	comp=Z,4μm,15.0s						
OKH				AMS	AMS	13 12 24.0	
	comp=Z,2μm,15.0s						
JKB	**Kayabe**	**9.88**	**247**	P	**Pn**	**13 08 29.1**	**-1.6**
JKB				*e*S	**Sn**	**13 10 13.4**	**-7.9**
JSH	**Shimam**	**10.16**	**253**	P	**Pn**	**13 08 34.8**	**+0.3**
JYM2	**Yakumo 2**	**10.19**	**250**	P	**Pn**	**13 08 34.0**	**-0.9**
JANG	**Nango**	**10.46**	**239**	P	**Pn**	**13 08 34.9**	**-3.6**
JANG				*e*S	**Sn**	**13 10 24.1**	**-11**
JTM	**Tenmabayashi**	**10.47**	**242**	P	**Pn**	**13 08 36.2**	**-2.5**
JTM				*e*S	**Sn**	**13 10 24.7**	**-11**
JTH	**Tanohata**	**10.53**	**236**	*e*S	**Sn**	**13 10 23.4**	**-14**
NKL	**Nikolayevsk**	**10.58**	**314**	*e*P	**Pn**	**13 08 41.0**	**+0.7**
NKL				AMB	AMB	13 08 46.0	
	comp=Z,400nm,6.0s						
NKL				AMB	AMB	13 08 46.0	
	comp=Z,700nm,6.0s						
NKL				AMB	AMB	13 08 46.0	
	comp=Z,550nm,6.0s						
NKL				AMB	AMB	13 08 53.5	
	comp=Z,120nm,1.2s						
NKL				AMB	AMB	13 08 53.5	
	comp=Z,370nm,1.8s						
NKL				AMS	AMS	13 13 18.0	
	comp=Z,3μm,16.0s						
NKL				AMS	AMS	13 13 18.0	
	comp=Z,3μm,16.0s						
NKL				AMS	AMS	13 13 18.0	
	comp=Z,4μm,16.0s						
JOSM	**Okushiri--Mats**	**10.80**	**251**	P	**Pn**	**13 08 42.6**	**-0.6**
OFUJ	**Ofunato**	**11.22**	**234**	*e*S	**Sn**	**13 10 42.8**	**-11**
JRG	**Rokugo**	**11.60**	**237**	P	**Pn**	**13 08 51.1**	**-3.1**
JRG				*e*S	**Sn**	**13 10 52.0**	**-11**
TEY	**Ternei**	**11.74**	**269**	*e*P	**Pn**	**13 09 01.0**	**+4.9**
TEY				AMB	AMB	13 09 02.0	
	comp=Z,40nm,1.0s						
TEY				AMB	AMB	13 09 11.0	
	comp=Z,700nm,10.0s						
TEY				AMS	AMS	13 13 50.0	
	comp=Z,2μm,15.0s						
TEY				AMS	AMS	13 13 50.0	
	comp=Z,1μm,15.0s						
JIO	**Ouri**	**11.84**	**232**	*e*S	**Sn**	**13 10 56.6**	**-13**
GRNR	**Gornyy**	**11.99**	**298**	*e*P	**Pn**	**13 09 02.0**	**+2.5**
GRNR				AMB	AMB	13 09 03.1	
	comp=Z,340nm,2.0s						
JYA	**Atsumi**	**12.67**	**237**	P	**Pn**	**13 09 06.7**	**-2.1**
MA2	**Magadan**	**13.30**	**354**	*e*PN	**Pn**	**13 09 17.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2				MLR	MLR		
	comp=Z,2μm,13.8s						
JFY	**Yanaizu**	**13.50**	**233**	P	**Pn**	**13 09 17.4**	**-2.7**
EKMR	**Ekimchan**	**14.72**	**304**	*e*P	**Pn**	**13 09 37.5**	**+0.7**
EKMR				AMB	AMB	13 09 58.3	
	comp=Z,12nm,0.8s						
KLR	**Kul'dur**	**14.73**	**289**	*e*P	**Pn**	**13 09 36.8**	**-0.2**
KLR				*e*P		13 09 37.0	
KLR				AMB	AMB	13 09 43.2	
	comp=Z,100nm,1.4s						
KLR				AMB	AMB	13 09 43.2	
	comp=Z,72nm,1.4s						
KLR				AMB	AMB	13 09 48.0	
	comp=Z,700nm,10.0s						
KLR				AMB	AMB	13 09 48.0	
	comp=Z,900nm,10.0s						
KLR				*e*rx	rx	13 15 51.0	
KLR	**Kul'dur**	**14.73**	**289**	*e*P	**Pn**	**13 09 36.8**	**-0.2**
KLR				pmax	pmax		
	comp=E,100nm,1.4s						
KLR				pmax	pmax		
	comp=Z,72nm,1.4s						
KLR				pmax	pmax		
	comp=E,700nm,10.0s						
KLR				pmax	pmax		
	comp=Z,900nm,10.0s						
KLR				MLR	MLR		
	comp=E,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s						
MJAR	**Matsushiro Arr**	**14.95**	**234**	Pn	**Pn**	**13 09 36.9**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=28,slow=12,SNR=24						
MAJO	**Matsushiro**	**14.96**	**234**	*e*P	**Pn**	**13 09 36.7**	**-3.3**
MAJO				pmax	pmax		
	comp=Z,52nm,1.0s						
MAJO	**Matsushiro**	**14.96**	**234**	*e*P	**Pn**	**13 09 36.7**	**-3.3**
	comp=Z,52nm,1.0s						
MAT	**Matsushiro**	**14.96**	**234**	P	**Pn**	**13 09 36.5**	**-3.5**
MAT				S	Sn	13 13 00.0	+35
VLA	**Vladivostok**	**15.53**	**266**||	*e*P	**Pn**	**13 09 47.9**	**+0.3**
VLA				pmax	pmax		

comp=Z,37nm,1.3s
MDJ Mudanjiang 16.69 273 P **Pn** **13 10 02.8 +0.4**
MDJ AP pP 13 10 08.3 -0.8
MDJ XP sP 13 10 11.8 +0.6
MDJ S **Sn** **13 13 00.5 -6.9**
MDJ AMB AMB
comp=Z,60nm,1.1s
MDJ AMB AMB
comp=Z,160nm,6.1s
MDJ LR LR
comp=N,839nm,16.3s
MDJ LR LR
comp=E,398nm,17.4s
MDJ LR LR
comp=Z,1μm,16.6s
MDJ Mudanjiang 16.69 273 *e*P **Pn** **13 10 02.8 +0.4**
comp=Z,83nm,1.0s
BMKR Bomnak 17.55 307 *e*P **Pn** **13 10 11.5 -1.7**
BMKR AMB AMB 13 10 12.7
comp=Z,10.0nm,0.5s
BMKR sP sP 13 10 31.0 +10
YASR Yasnyy 17.66 302 *e*P **Pn** **13 10 12.6 -2.0**
YASR AMB AMB 13 10 15.4
comp=Z,9.0nm,0.6s
ZEA Zeya 18.18 303 *e*P **Pn** **13 10 16.0 -5.0**
ZEA AMB AMB 13 10 24.0
comp=Z,200nm,7.0s
ZEA AMB AMB 13 10 24.0
comp=Z,500nm,7.0s
ZEA AMB AMB 13 10 24.0
comp=Z,600nm,7.0s
ZEA *e*S **Sn** **13 13 52.0 +8.3**
ZEA A 13 14 03.0
comp=Z,200nm,8.0s
KROS Kirovskiy 18.51 305 *e*P **Pn** **13 10 20.9 -4.2**
KROS AMB AMB 13 10 26.2
comp=Z,86nm,1.4s
CN2 Changchun 19.78 273 *e*P **Pn** **13 10 36.3 -4.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CLNS Chul'man 20.34 311 *e*P **P** **13 10 46.2 +1.3**
CLNS *e* 13 11 00.2
CLNS *e*S **S** **13 14 21.3 -11**
CLNS *e* 13 15 04.1
CLNS pmax pmax
comp=Z,36nm,1.0s
CLNS pmax pmax
comp=N,47nm,1.4s
CLNS pmax pmax
comp=E,31nm,1.2s
CLNS smax
comp=N,11nm,1.0s
CLNS smax
comp=E,7.0nm,1.0s
CLNS smax
comp=Z,6.0nm,0.7s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS4.6
CLNS MLR MLR
comp=N,900nm,15.0s,MS4.6
CLNS MLR MLR
comp=E,2μm,15.0s,MS4.6
YAK Yakutsk 20.69 328 *e*P **P** **13 10 49.4 +0.8**
YAK *e* 13 11 07.7
YAK *e*S **S** **13 14 37.3 -1.9**
YAK *e* 13 14 59.6
YAK *e*SSS 13 15 08.8
YAK *e* 13 22 16.1
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=Z,45nm,1.1s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,22nm,1.5s
YAK smax
comp=E,45nm,1.7s
YAK smax
comp=N,99nm,3.2s
YAK MLR MLR
comp=Z,818nm,13.0s,MS4.3
YAK MLR MLR
comp=N,591nm,17.0s,MS4.1
YAK MLR MLR
comp=E,380nm,14.0s,MS4.1
YAK Yakutsk 20.69 328 *e*P **P** **13 10 48.5 -0.1**
comp=E,53nm,1.0s
INCN Inchon 21.64 255 *e*P **P** **13 10 58.4 -0.5**
comp=E,78nm,1.2s,mb5.0
SNY Shenyang 21.74 269 ⇑P **P** **13 11 00.5 +0.6**
SNY AP 13 11 09.3
SNY XP sP 13 11 12.5 +6.1
SNY PP 13 11 27.5
SNY S **S** **13 14 58.8 -1.1**
SNY SS 13 15 29.3
SNY AMB AMB
comp=Z,48nm,1.0s,mb4.9
SNY AMB AMB
comp=Z,292nm,8.8s
SNY LR LR
comp=N,730nm,19.6s
SNY LR LR
comp=Z,1μm,16.0s,MS4.3
HIA Hailar 22.59 290 *e*P **P** **13 11 07.0 -2.0**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 22.59 290 *e*P **P** **13 11 07.0 -2.0**
comp=Z,11nm,0.8s,mb4.3
BILL Bilibino 22.72 13⇓*e*P **P** **13 11 12.0 +1.6**
BILL pmax pmax
comp=Z,46nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,900nm,14.0s,MS4.4
BILL Bilibino 22.72 13 P **P** **13 11 09.3 -1.1**
comp=Z,14nm,0.4s,mb4.7
DL2 Dalian 24.33 264⇑*i*P **P** **13 11 26.3 +0.1**
DL2 S **S** **13 15 46.5 +1.6**
DL2 XS sS 13 15 53.3 +0.6
DL2 AMB AMB
comp=Z,30nm,1.2s,mb4.6
DL2 AMB AMB
comp=Z,180nm,4.9s
DL2 LR LR
comp=N,230nm,16.2s,MS3.8
DL2 LR LR
comp=E,150nm,15.4s,MS3.8
DL2 LR LR
comp=Z,140nm,13.9s,MS3.6
BOD Bodaibo 26.31 310 *e*P **P** **13 11 41.9 -2.3**
BOD pmax pmax
comp=Z,17nm,1.3s,mb4.4
BJI Beijing 27.59 270 *e*P **P** **13 11 58.3 +2.6**
BJI XP sP 13 12 09.8 +7.4
BJI AMB AMB
comp=Z,36nm,1.0s,mb5.0
BJI AMB AMB
comp=Z,328nm,5.0s
BJI LR LR
comp=N,507nm,16.0s,MS4.4
BJI LR LR
comp=E,713nm,16.7s,MS4.4
BJI LR LR
comp=Z,603nm,16.2s,MS4.3
BJT Baijiatuan 27.60 270 *e*P **P** **13 11 58.7 +2.9**
BJT pmax pmax
comp=Z,34nm,0.8s
BJT Baijiatuan 27.60 270 *e*P **P** **13 11 58.7 +2.9**
comp=Z,34nm,0.8s,mb5.0
TIXI Tiksi 27.85 344 *e*P **P** **13 11 54.7 -3.3**
TIXI *e*S **S** **13 16 38.2 -2.4**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
TIXI MLR MLR
comp=Z,1μm,16.0s,MS4.6
TIA Tai'an 28.78 262 *e*P **P** **13 12 07.0 +0.7**
SSE Sheshan 29.08 250 P **P** **13 12 05.5 -3.5**
SSE S **S** **13 16 58.8 -1.1**
SSE XS sS 13 17 11.8 +4.0
SSE AMB AMB
comp=Z,17nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,64nm,4.1s
SSE LR LR
comp=N,192nm,20.2s,MS3.8
SSE LR LR
comp=E,121nm,20.6s,MS3.8
SSE LR LR
comp=Z,402nm,19.6s,MS4.0
NJ2 Nanjing 30.00 254 *e*P **P** **13 12 16.8 -0.4**
NJ2 AP pP 13 12 26.3 +4.4
NJ2 XP sP 13 12 30.3 +6.4
NJ2 S **S** **13 17 09.0 -5.5**
NJ2 XS sS 13 17 25.0 +2.6
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,340nm,6.3s
NJ2 LR LR
comp=N,1μm,16.2s,MS4.8
NJ2 LR LR
comp=E,2μm,15.7s,MS4.8
NJ2 LR LR
comp=Z,2μm,18.4s,MS4.8
HHC Hu-ho-hao-te 30.43 275 *e*P **P** **13 12 21.5 +0.5**
HHC AP pP 13 12 31.0 +5.2
HHC XP sP 13 12 35.0 +7.3
HHC PP PP 13 13 21.0 -8.7
HHC PCP PcP 13 15 21.8 +1.5
HHC S **S** **13 17 18.0 -3.3**
HHC XS sS 13 17 33.8 +4.6
HHC SS SS 13 18 57.5 -34
HHC SCP ScP 13 19 00.0 -2.1
HHC PCS PcS 13 19 04.0 0.0
HHC SCS ScS 13 22 54.5 -3.7
HHC AMB AMB
comp=Z,65nm,0.5s,mb5.6
HHC AMB AMB
comp=Z,188nm,4.6s
HHC LR LR
comp=N,703nm,16.1s,MS4.6
HHC LR LR
comp=E,717nm,15.1s,MS4.6
HHC LR LR
comp=Z,764nm,17.1s,MS4.4
SONM Songino Array 31.56 290 P **P** **13 12 29.5 -1.5**
comp=Z,4.2nm,1.0s,mb4.2,baz=67,slow=9.2,SNR=20
SONM PcP PcP 13 15 22.7 -0.6
comp=Z,2.3nm,1.0s,baz=102,slow=3.2,SNR=5.7
SONM LR LR 13 26 08.5
comp=Z,722nm,18.2s,MS4.4,baz=64,slow=38
SONM Songino Array 31.56 290 P **P** **13 12 29.5 -1.4**
SONM 13 15 22.7
IRK Irkutsk 31.97 299 *e*P **P** **13 12 32.5 -2.0**
IRK pmax pmax
comp=Z,17nm,1.3s,mb4.7
TLY Talaya 32.45 298 ⇑P **P** **13 12 38.6 -0.1**
SNR=7.4
TLY Talaya 32.45 298 *e*P **P** **13 12 37.5 -1.2**
TLY *e*S **S** **13 17 53.9 +1.2**
TLY pmax pmax
comp=Z,20nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,1μm,17.0s,MS4.6
TLY Talaya 32.45 298 *e*P **P** **13 12 38.0 -0.7**
comp=Z,16nm,1.1s,mb4.8
TTA Tatalina 32.62 41 *e*P **P** **13 12 39.6 -0.6**
TTA pmax pmax
comp=Z,21nm,1.1s,mb5.0
TTA Tatalina 32.62 41 *e*P **P** **13 12 39.6 -0.6**
comp=Z,21nm,1.1s,mb5.0
ZAK Zakamensk 32.94 296⇑*i*P **P** **13 12 42.3 -0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WHN Wuhan 33.95 256 *e*P **P** **13 12 51.5 -0.3**
IMA2 Indian Mountai 34.03 36 *e*P **P** **13 12 51.8 -0.7**
XAN Xi'an 35.60 266 P **P** **13 13 06.5 +0.4**
XAN AP pP 13 13 15.8 +4.9
XAN AMB AMB
comp=Z,16nm,1.7s,mb4.7
COLA College 36.35 38 *e*P **P** **13 13 12.0 -0.5**
COLA pmax pmax
comp=Z,24nm,1.1s,mb5.0
COLA College 36.35 38 *e*P **P** **13 13 12.0 -0.5**
comp=Z,24nm,1.1s,mb5.0
KRAR Krasnoyarsk 37.90 307⇓*e*P **P** **13 13 24.9 -0.7**
KRAR pmax pmax
comp=Z,26nm,0.5s,mb5.2
KRAR MLR MLR
comp=Z,1μm,17.0s,MS4.7
LZH Lanzhou 38.02 272 ⇑P **P** **13 13 28.0 +1.4**
LZH AMB AMB
comp=Z,130nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,410nm,5.0s
GTA Gaotai 39.14 280 P **P** **13 13 37.0 +0.9**
GTA AP pP 13 13 47.0 +6.1
GTA AMB AMB
comp=Z,39nm,1.4s,mb4.9
EGAK Eagle 39.22 38 *e*P **P** **13 13 35.5 -1.3**
DAWY Dawson 40.05 39 *e*P **P** **13 13 43.2 -0.5**
CD2 Chengdu 40.96 266 P **P** **13 13 52.5 +1.3**
CD2 AMB AMB
comp=Z,30nm,1.1s,mb4.8
GYA Guiyang 41.75 258⇑*i*P **P** **13 13 58.3 +0.6**
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.1
GYA AMB AMB
comp=Z,160nm,4.8s
INK Inuvik 41.90 32 P **P** **13 13 58.4 -0.5**
comp=Z,9.3nm,0.8s,mb4.5,baz=257,slow=11,SNR=9.2
NVS Novosibirsk 43.50 308 *i*P **P** **13 14 08.8 -3.1**
NVS *e* 13 15 54.0
NVS pmax pmax
comp=Z,33nm,2.1s,mb4.7
NVS pmax pmax
comp=N,21nm,2.0s
NVS pmax pmax
comp=E,27nm,1.8s
WMQ Urumqi 45.16 292 *e*P **P** **13 14 25.5 +0.3**
WMQ AP pP 13 14 35.0 +4.9
WMQ XP sP 13 14 39.0 +6.9
WMQ PCP PcP 13 16 07.0 +1.6
WMQ PPP 13 16 53.0
WMQ SCP ScP 13 19 55.0 -2.4
WMQ S **S** **13 21 02.0 -2.2**
WMQ XS sS 13 21 18.0 +5.7
WMQ SCS ScS 13 24 18.0 -3.7
WMQ AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,156nm,5.0s
WMQ LR LR
comp=N,1μm,16.0s,MS4.9
WMQ LR LR
comp=E,693nm,17.4s,MS4.9
WMQ LR LR
comp=Z,966nm,16.2s,MS4.8
KMI Kunming 45.29 260 P **P** **13 14 27.0 +0.8**
KMI AP pP 13 14 37.3 +6.2
KMI PP PP 13 16 15.0 +2.8
KMI PPP 13 16 59.5
KMI S **S** **13 21 10.8 +4.8**
KMI AMB AMB
comp=Z,29nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,194nm,4.1s
KMI LR LR
comp=N,356nm,18.6s,MS4.5
KMI LR LR
comp=E,276nm,16.4s,MS4.5
KMI LR LR
comp=Z,337nm,11.5s,MS4.5
KMI Kunming 45.29 260 P **P** **13 14 27.1 +0.9**
KMI pP pP 13 14 37.2 +6.1
KMI sP sP 13 14 41.9 +8.9
KMI PP PP 13 16 15.1 +2.9
KMI PPP 13 16 59.4
KMI S **S** **13 21 10.7 +4.7**
KMI sS sS 13 21 27.0 +13
KMI SS SS 13 24 30.9 +1.6
KMI SSS 13 25 35.9
MKAR Makanchi Array 47.21 298 P **P** **13 14 40.5 -0.9**
comp=Z,21nm,0.9s,mb5.0,baz=64,slow=8.5,SNR=80
MKAR PcP PcP 13 16 12.4 -0.2
comp=Z,2.8nm,0.8s,baz=49,slow=5.0,SNR=3.6
ALE Alert 50.09 6 P **P** **13 15 03.0 -0.5**
comp=Z,101nm,1.1s,mb5.8,SNR=5.6
LSA Lhasa 50.41 274 P **P** **13 15 05.8 -0.1**
LSA Lhasa 50.41 274 *e*P **P** **13 15 08.3 +2.4**
LSA pmax pmax
comp=Z,13nm,0.8s,mb5.0
LSA Lhasa 50.41 274 *e*P **P** **13 15 08.3 +2.4**
comp=Z,13nm,0.8s,mb5.0
YKA Yellowknife Ar 51.15 37 P **P** **13 15 10.6 -0.9**
comp=Z,10nm,0.9s,mb4.7,baz=298,slow=7.4,SNR=23
BVAR Borovoye Array 51.18 310 P **P** **13 15 10.4 -1.3**
comp=Z,3.5nm,0.4s,mb4.7,baz=60,slow=8.8,SNR=24
BVAR PcP PcP 13 16 26.9 -0.1
comp=Z,3.4nm,0.8s,baz=56,slow=5.4,SNR=5.3
BRVK Borovoye 51.22 310 *e*P **P** **13 15 09.6 -2.4**
BRVK pmax pmax
comp=Z,16nm,1.3s,mb4.8
BRVK Borovoye 51.22 310 *e*P **P** **13 15 09.6 -2.3**
comp=Z,16nm,1.3s,mb4.8
ZRNK Zerenda 51.95 310 *e*P **P** **13 15 16.1 -1.3**
ZRNK *e* 13 16 27.8
ZRNK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZRNK Zerenda 51.95 310 *e*P **P** **13 15 16.1 -1.4**
comp=Z,9.1nm,0.8s,mb4.8
ZRNK *e*PcP PcP 13 16 27.8 -2.0
CHTO Chiang Mai 52.15 257 ⇓P **P** **13 15 20.5 +1.6**
SNR=6.0
CHTO Chiang Mai 52.15 257 *e*P **P** **13 15 19.7 +0.8**
CHTO pmax pmax
comp=Z,33nm,1.4s,mb5.1
CHTO Chiang Mai 52.15 257 *e*P **P** **13 15 19.7 +0.8**
comp=Z,33nm,1.4s,mb5.1
KBS Kingsbay 52.88 351⇓*e*P **P** **13 15 23.8 -0.5**
TKM2 Tokmak 2 53.26 296 P **P** **13 15 27.6 +0.4**
SNR=8.6
CHMS Chumysh 53.74 297 P **P** **13 15 30.1 -0.6**
SNR=5.5
USP Ospenovka 53.75 297 P **P** **13 15 31.0 +0.2**
SNR=22
KBK Karagaybulak 53.81 296 P **P** **13 15 31.9 +0.8**
SNR=9.2
AAK Ala-Archa 54.10 297 P **P** **13 15 34.0 +0.7**
SNR=12
AAK Ala-Archa 54.10 297 ⇓P **P** **13 15 32.9 -0.4**
SNR=6.8
AAK Ala-Archa 54.10 297*c i*P **P** **13 15 32.2 -1.1**
AAK pmax pmax
comp=Z,22nm,1.3s,mb4.9
AAK Ala-Archa 54.10 297 *e*P **P** **13 15 32.5 -0.8**
comp=Z,14nm,0.9s,mb4.9
EKS2 Erkin-Say 54.53 297 P **P** **13 15 36.9 +0.4**
SNR=16
JIRN Jiri 55.09 275 *e*P **P** **13 15 42.1 +1.6**
comp=Z,10nm,0.2s,mb5.5
GUN Gumba 55.15 275 *e*P **P** **13 15 41.8 +0.9**
comp=Z,18nm,0.4s,mb5.4
ARU Arti 55.36 318⇓*i*P **P** **13 15 40.7 -1.7**
ARU *e* 13 17 44.2
ARU *e*PPP 13 18 55.9
ARU *e*S **S** **13 23 24.5 -1.6**
ARU pmax pmax
comp=Z,22nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,300nm,17.0s,MS4.4
ARU MLR MLR
comp=N,300nm,18.5s,MS4.5
ARU MLR MLR
comp=E,200nm,16.0s,MS4.5
KKN Kakani 55.63 276 *e*P **P** **13 15 45.3 +0.9**
comp=E,94nm,1.1s,mb5.8
PKI Pulchoki 55.68 275 *e*P **P** **13 15 45.8 +1.0**
comp=E,63nm,1.1s,mb5.5
DMN Daman 55.87 276 *e*P **P** **13 15 47.6 +1.5**
comp=E,122nm,1.1s,mb5.9
GKN Gorkha 55.95 276 *e*P **P** **13 15 47.8 +1.2**
comp=E,122nm,0.9s,mb5.9
KK31 Karatay Array 56.28 299 *i* P **P** **13 15 48.6 -0.4**
KK31 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EDM Edmonton 56.49 46 *e*P **P** **13 15 49.6 -0.9**
KOLN Koldanda 56.80 277 *e*P **P** **13 15 54.2 +1.4**
comp=Z,94nm,0.9s,mb5.8
LVZ Lovozero 57.15 337 P **P** **13 15 47.5 -7.7**
comp=Z,428nm,1.0s,SNR=18
NEW Newport 57.31 53 *e*P **P** **13 15 54.6 -1.7**
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 57.31 53 *e*P **P** **13 15 54.6 -1.7**
comp=Z,8.6nm,1.2s,mb4.7
BOK Bokaro 57.77 272 *e*P **P** **13 16 00.0 +0.4**
BOK AMb AMB 13 16 14.1
comp=Z,49nm,1.0s,mb5.5
ARCES ARCESS Array B 58.23 341 P **P** **13 16 02.3 -0.6**
comp=Z,2.9nm,0.7s,mb4.4,baz=32,slow=7.2,SNR=11
SDNR Sundarnagar 58.99 284 *e*P **P** **13 16 08.4 +0.3**
AKTK Aktyubinsk 59.05 312 P **P** **13 16 08.3 -0.2**
AKTK PcP PcP 13 16 57.3 0.0
AKTO Aktyubinsk 59.05 312 P **P** **13 16 08.3 -0.2**
comp=Z,8.5nm,1.0s,mb4.7,baz=36,slow=5.6,SNR=13
AKTO PcP PcP 13 16 57.3 0.0
comp=Z,4.5nm,0.9s,baz=24,slow=3.9,SNR=4.0
SMLA Simla 59.09 284 *e*P **P** **13 16 09.4 +0.6**
KTK1 Kautokeino 59.15 341 *e*P **P** **13 16 09.9 +0.6**
KTK1 AMb AMB 13 16 15.7
comp=Z,46nm,1.6s,mb5.2
KTK1 Kautokeino 59.15 341 *e*P **P** **13 16 09.9 +0.6**
comp=Z,46nm,1.6s,mb5.2
BMO Blue Mountains 59.19 56 *e*P **P** **13 16 10.2 +0.7**
comp=Z,3.9nm,0.9s,mb4.4
TRO Tromso 59.56 343 *e*P **P** **13 16 10.3 -1.8**
WVOR Wild Horse Val 59.85 59 *e*P **P** **13 16 14.5 +0.5**
WVOR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
WVOR Wild Horse Val 59.85 59 *e*P **P** **13 16 14.5 +0.4**
comp=Z,7.6nm,1.0s,mb4.7
MSO Missoula 59.89 52 *e*P **P** **13 16 14.7 +0.4**
comp=Z,9.0nm,1.1s,mb4.7
OHCM Honcut 59.99 63 *e*P **P** **13 16 15.4 +0.4**
NIL Nilore 60.13 289 P **P** **13 16 17.0 +1.0**
comp=Z,92nm,1.0s,mb5.8,SNR=8.5
CHMT Chamberlain Mo 60.22 52 *e*P **P** **13 16 16.7 +0.1**
NDI New Delhi 60.59 282 *e*P **P** **13 16 19.0 -0.1**
PAHR Pah Rah Range 61.05 62 *e*P **P** **13 16 23.0 +0.7**
comp=Z,20nm,1.5s,mb5.0
SUMG Summit 61.06 4 *e*P **P** **13 16 22.1 -0.2**
comp=Z,53nm,0.9s,mb5.7
EGMT Eagleton 61.41 49 *e*P **P** **13 16 24.1 -0.6**
comp=Z,12nm,1.1s,mb5.0
CMB Columbia Colle 61.46 64 *e*P **P** **13 16 25.4 +0.4**
CMB pmax pmax
comp=Z,15nm,1.4s,mb4.9
CMB Columbia Colle 61.46 64 *e*P **P** **13 16 25.4 +0.3**
comp=Z,15nm,1.4s,mb4.9
HLID Hailey 61.62 56 *e*P **P** **13 16 26.0 -0.1**
comp=Z,12nm,1.4s,mb4.8
MCMT McKenzie Canyo 61.72 54 *e*P **P** **13 16 26.7 -0.1**
BOZ Bozeman (W) 61.89 52 *e*P **P** **13 16 27.3 -0.6**
BOZ pmax pmax
comp=Z,23nm,1.4s,mb5.1
BOZ Bozeman (W) 61.89 52 *e*P **P** **13 16 27.2 -0.6**
comp=Z,23nm,1.4s,mb5.1
LOF Lofoten 61.89 344 *e*P **P** **13 16 28.8 +0.9**
LOF AMb AMB 13 16 35.1
comp=Z,88nm,1.9s,mb5.6
LOF Lofoten 61.89 344 *e*P **P** **13 16 28.9 +1.0**
comp=Z,88nm,1.8s,mb5.6
BMN Battle Mountai 61.91 60 P **P** **13 16 28.7 +0.6**
BMN pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BMN Battle Mountai 61.91 60 P **P** **13 16 28.7 +0.6**
comp=Z,8.6nm,1.0s,mb4.8
NVAR Mina Array Bea 62.50 62 P **P** **13 16 32.4 +0.3**
comp=Z,2.4nm,0.9s,mb4.3,baz=283,slow=8.5,SNR=16
QLMT Earthquake Lak 62.51 53 *e*P **P** **13 16 32.8 +0.8**
GCMT Greycliff 62.86 51 P **P** **13 16 34.1 -0.4**
IMW Indian Meadow 63.37 54 *e*P **P** **13 16 38.8 +1.0**
comp=Z,14nm,1.3s,mb4.9
FLWY Flagg Ranch 63.39 53 P **P** **13 16 38.9 +1.0**
comp=Z,12nm,1.3s,mb4.9
MOR8 Moi Rana 63.40 343 *e*P **P** **13 16 36.1 -2.0**
MOR8 AMb AMB 13 16 37.9
comp=Z,74nm,1.6s,mb5.6
MOR8 Moi Rana 63.40 343 *e*P **P** **13 16 36.1 -2.0**
comp=Z,74nm,1.6s,mb5.6
RLMT Red Lodge 63.51 52 *e*P **P** **13 16 38.1 -0.6**
RRI2 Red Ridge 63.51 54 *e*P **P** **13 16 44.5 +5.8**

comp=Z,11nm,0.8s,mb5.0
MOOW Moose Ponds 63.57 54 *e*P **P 13 16 40.0 +0.9**
comp=Z,8.9nm,1.3s,mb4.6
VIS Vishakhapatnam 63.61 268 *e*P **P 13 16 39.7 +0.3**
VIS AMb AMB 13 16 43.2
comp=Z,36nm,1.4s,mb5.2
TPAW Teton Pass 63.62 54 *e*P **P 13 16 39.7 +0.2**
comp=Z,22nm,1.2s,mb5.1
LOHW Long Hollow 63.74 54 *e*P **P 13 16 38.6 -1.7**
comp=Z,34nm,1.6s,mb5.1
REDW Red Top Meadow 63.76 54 *e*P **P 13 16 40.4 0.0**
comp=Z,78nm,1.8s,mb5.4
NGP Nagpur 64.25 274 *e*P **P 13 16 42.4 -1.2**
NGP AMb AMB 13 16 44.3
comp=Z,58nm,2.0s,mb5.3
DAC Darwin (Calif) 64.30 64 *e*P **P 13 16 44.2 +0.3**
DAC pmax pmax
comp=Z,18nm,1.8s,mb4.8
DAC Darwin (Calif) 64.30 64 *e*P **P 13 16 44.2 +0.3**
comp=Z,18nm,1.8s,mb4.8
FIA1 FINESS Array S 64.42 335 *e*P **P 13 16 43.6 -1.1**
FINES FINESS Array B 64.42 335 P **P 13 16 43.9 -0.8**
comp=Z,9.5nm,0.6s,mb5.0,baz=36,slow=8.2,SNR=52
HWUT Hardware Ranch 64.49 56 *e*P **P 13 16 44.4 -0.8**
comp=Z,6.1nm,0.9s,mb4.6
DUG Dugway 64.67 58 *e*P **P 13 16 46.2 -0.2**
DUG pmax pmax
comp=Z,15nm,1.2s,mb4.9
DUG Dugway 64.67 58 *e*P **P 13 16 46.2 -0.2**
comp=Z,15nm,1.2s,mb4.9
BW06 Boulder Array 64.87 54 *e*P **P 13 16 46.7 -1.0**
comp=Z,191nm,1.2s,mb6.0
PDAR Pinedale Array 64.87 54 P **P 13 16 47.8 +0.1**
comp=Z,3.6nm,1.0s,mb4.4,baz=311,slow=3.2,SNR=27
NLU North Lily Min 65.26 58 *e*P **P 13 16 50.8 +0.6**
DAU Daniels Canyon 65.44 57 *e*P **P 13 16 52.3 +1.0**
OBN Obninsk 65.67 326⇑*i*P **P 13 16 51.9 -1.0**
OBN *i* 13 17 09.3
OBN *e* 13 17 23.0
OBN *e* 13 19 15.5
OBN pmax pmax
comp=Z,44nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,400nm,16.0s,MS4.7
ARUT Antelope Range 65.86 60 P **P 13 16 54.5 +0.4**
AKL Akola 65.95 275 *e*P **P 13 16 54.9 +0.2**
AKL AMb AMB 13 16 56.5
comp=Z,53nm,1.8s,mb5.3
CCUT Cedar City 66.06 60 *e*P **P 13 16 55.2 -0.2**
MVU Marysvale 66.13 59 *e*P **P 13 16 49.4 -6.4**
comp=Z,78nm,0.9s,mb5.7
MSU Marysvale 66.14 59 *e*P **P 13 16 56.7 +0.8**
SRU San Rafael 66.72 57 *e*P **P 13 16 59.4 -0.2**
SRU pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SRU San Rafael 66.72 57 *e*P **P 13 16 59.4 -0.1**
comp=Z,5.7nm,0.8s,mb4.7
RSSD Black Hills 66.97 50 P **P 13 17 00.7 -0.5**
RSSD pmax pmax
comp=Z,98nm,1.0s,mb5.8
HYB Hyderabad 67.12 272 *i* P **P 13 17 02.0 -0.1**
WRAB Tennant Creek 68.19 199⇑*e*P **P 13 17 08.9 0.0**
WB2 Warramunga Arr 68.20 199 *e*P **P 13 17 09.2 +0.3**
WRA Warramunga Arr 68.20 199 P **P 13 17 07.4 -1.5**
comp=Z,2.2nm,1.0s,mb4.2,baz=18,slow=6.4,SNR=8.6
PV01 Paradox Valley 68.51 57 *e*P **P 13 17 14.2 +3.3**
NB2 NORSAR Subarra 68.61 341 P **P 13 17 10.8 -0.7**
comp=Z,190nm,2.0s,mb5.7,baz=27,slow=6.5
NB2 NORSAR Subarra 68.61 341 P **P 13 17 10.8 -0.7**
NB2 pmax pmax
comp=Z,190nm,2.0s,mb5.7
NOA NORSAR Array B 68.61 341 P **P 13 17 10.9 -0.6**
comp=Z,11nm,0.8s,mb4.8,baz=28,slow=6.4,SNR=36
NOA LR LR 13 52 19.2
comp=Z,288nm,18.9s,MS4.5,baz=260,slow=40
HFS Hagfors 68.84 340 P **P 13 17 12.0 -0.9**
baz=64,slow=6.6
HFS LR LR 13 47 10.5
comp=Z,1μm,21.5s,MS5.1,baz=257,slow=36
NAO01 NORSAR Array S 68.86 341 P **P 13 17 12.9 -0.2**
comp=Z,18nm,1.1s,mb4.9
FITZ Fitzroy Crossi 68.88 208 P **P 13 17 12.3 -0.9**
comp=Z,1.3nm,0.8s,baz=20,slow=1.0,SNR=3.9
BORG Borgarnes 69.13 358 P **P 13 17 14.0 -0.7**
comp=Z,37nm,0.9s,mb5.3,baz=52,slow=6.3,SNR=4.6
BORG Borgarnes 69.13 358 P **P 13 17 14.0 -0.7**
MVCO Mesa Verde 69.18 58 *e*P **P 13 17 11.1 -3.9**
POO Poona 69.61 276⇑*i*P **P 13 17 17.0 -0.7**
comp=Z,50nm,1.0s,mb5.4
POO *ex* x 13 18 15.7
KAD Karad 70.22 275 *i* P **P 13 17 21.9 +0.5**
KAD *eP* 13 17 22.3
KAD AMb AMB 13 17 24.7
comp=Z,35nm,1.5s,mb5.1
KONO Kongsberg 70.22 341 *e*P **P 13 17 21.5 +0.1**
KONO pmax pmax
comp=Z,18nm,0.8s,mb5.0
KONO Kongsberg 70.22 341 *e*P **P 13 17 21.5 0.0**
comp=Z,18nm,0.8s,mb5.1
KIV Kislovodsk 71.14 314⇑P **P 13 17 28.7 +1.7**
SNR=6.8
KIV Kislovodsk 71.14 314*c* *i*P **P 13 17 27.5 +0.5**
KIV *i* 13 17 44.7
KIV *e* 13 20 05.0
KIV pmax pmax
comp=Z,53nm,1.6s,mb5.2
KIV MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIV Kislovodsk 71.14 314 *e*P **P 13 17 28.0 +0.9**
comp=Z,22nm,0.9s,mb5.1
ZEI Tsey 71.39 313 *e*P **P 13 17 28.1 -0.5**
ZEI *e**PP pP 13 17 38.5 +4.8
ZEI *e* 13 20 08.4
ZEI pmax pmax
comp=Z,11nm,0.8s,mb4.8
AS31 Alice Springs 71.90 199 *e*P **P 13 17 31.9 +0.3**
ASAR Alice Springs 71.90 199 P **P 13 17 30.2 -1.4**
comp=Z,3.7nm,1.1s,mb4.2,baz=0.8,slow=5.3,SNR=15
ASPA Alice Springs 71.90 199 *e*P **P 13 17 31.9 +0.3**
AKASG Malin Array Be 71.91 326 P **P 13 17 30.9 -0.8**
comp=Z,3.8nm,0.3s,mb4.8,baz=34,slow=6.1,SNR=72
AKASG Malin Array Be 71.91 326 *i* P **P 13 17 30.8 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 71.91 326 P **P 13 17 30.9 -0.8**
AKBB Malin Array Si 71.91 326 *e*P **P 13 17 30.6 -1.1**
GNI Garni 72.85 310 P **P 13 17 39.7 +2.4**
SNR=9.7
GNI Garni 72.85 310*c* *i*P **P 13 17 39.1 +1.8**
GNI pmax pmax
comp=Z,41nm,1.3s
GNI Garni 72.85 310 *e*P **P 13 17 38.9 +1.5**
comp=Z,47nm,1.1s,mb5.3
ANN Anapa 73.03 318 *e*P **P 13 17 36.6 -1.8**
ANN *e*S S 13 27 03.3 -1.6
ANN pmax pmax
comp=Z,62nm,1.4s,mb5.3
TRD Trivandrum 74.45 266 *e*P **P 13 17 47.3 +0.6**
TRD AMb AMB 13 18 00.1
comp=Z,32nm,1.3s,mb5.1
KWP Kalwaria 75.19 329 *e*P **P 13 17 51.0 0.0**
KWP pmax pmax
comp=Z,60nm,1.1s,mb5.4
KWP Kalwaria 75.19 329 *e*P **P 13 17 51.0 -0.1**
comp=Z,60nm,1.1s,mb5.4
OJC Ojcow 75.69 331 *e*P **P 13 17 53.6 -0.3**
STHS Stebnicka Huta 75.89 330 *e*P **P 13 17 55.4 +0.4**
STHS pmax pmax
comp=Z,13nm,1.0s,mb4.8
STHS Stebnicka Huta 75.89 330 *e*P **P 13 17 55.4 +0.4**
comp=Z,13nm,1.0s,mb4.8
KOLS Kolonicke sedl 75.94 329 *e*P **P 13 17 55.2 -0.1**
BURAR Bucovina Array 75.96 327⇑*i*P **P 13 17 55.4 0.0**
BURAR Bucovina Array 75.96 327 ⇑P **P 13 17 55.4 0.0**
UZH Uzhgorod 76.18 329 *i* **P 13 17 56.2 -0.5**
NIE Niedzica 76.21 331 *e*P **P 13 17 57.5 +0.7**
CRVS Cervenica-Dubn 76.25 330 *e*P **P 13 17 56.9 -0.2**
MSL Mosul 76.57 309 *ex* x 13 18 08.5
EKA Eskdalemuir Ar 76.72 346 P **P 13 17 59.8 0.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=25,slow=4.6,SNR=8.0
VRI Vrincioaia 76.81 325⇑*i*P **P 13 18 01.9 +1.7**
VRI Vrincioaia 76.81 325 ⇑P **P 13 18 01.9 +1.6**
MORC Moravsky Berou 76.81 332⇓*i*P **P 13 18 00.7 +0.4**
MORC Moravsky Berou 76.81 332 ⇓P **P 13 18 00.7 +0.5**
CLL Collm 76.84 336 *i* P **P 13 18 00.2 -0.2**
comp=Z,25nm,0.9s,mb5.1
CLL Collm 76.84 336 *i* P **P 13 18 00.2 -0.2**
CLL pmax pmax
comp=Z,25nm,0.9s,mb5.1
PLOR Plostina 76.85 325⇓*i*P **P 13 18 01.2 +0.7**
KECS Kecovo 76.95 330 *e*P **P 13 18 00.9 -0.1**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KECS Kecovo 76.95 330 *e*P **P 13 18 00.9 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 76.96 335 *e*P **P 13 18 00.6 -0.5**
comp=Z,7.6nm,1.4s,mb4.4
BRG *e* pP 13 18 06.9 +0.7
comp=Z,6.0nm,1.2s
BRG Berggiesshubel 76.96 335 *e*P **P 13 18 00.6 -0.5**
BRG *e* pP 13 18 06.9 +0.7
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
HOQ Hoqain 77.23 291⇓*i*P **P 13 18 04.2 +1.6**
SNR=5.1
TIRR Tirgusor 77.27 323⇓*i*P **P 13 18 03.0 +0.2**
TIRR Tirgusor 77.27 323 ⇓P **P 13 18 03.0 +0.2**
MLR Muntele Rosu 77.43 325 P **P 13 18 04.7 +1.0**
comp=Z,12nm,0.8s,mb4.9,baz=165,slow=6.4,SNR=19
MLR Muntele Rosu 77.43 325⇓*i*P **P 13 18 05.1 +1.4**
MLR Muntele Rosu 77.43 325 P **P 13 18 04.7 +1.0**
MLR pmax pmax
comp=Z,13nm,0.8s
MLR Muntele Rosu 77.43 325 P **P 13 18 05.2 +1.5**
MALT Malatya 77.48 313⇓*i*P **P 13 18 05.7 +1.7**
MALT Malatya 77.48 313 ⇓P **P 13 18 06.0 +1.9**
VYHS Vyhne 77.50 331 *e*P **P 13 18 04.2 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VYHS Vyhne 77.50 331 *e*P **P 13 18 04.2 +0.1**
comp=Z,7.1nm,0.9s,mb4.6
VRAC Vranov 77.53 333 P **P 13 18 04.8 +0.6**
comp=Z,17nm,0.9s,mb5.0,baz=40,slow=5.0,SNR=11
VRAC Vranov 77.53 333⇑*i*P **P 13 18 05.7 +1.4**
VRAC Vranov 77.53 333 P **P 13 18 04.8 +0.5**
VRAC pmax pmax
comp=Z,17nm,1.0s
VRAC Vranov 77.53 333 P **P 13 18 05.0 +0.7**
JMDO Jabal Madar 77.57 289⇑P **P 13 18 06.1 +1.6**
SNR=6.5
DRGR 77.58 328⇑*i*P **P 13 18 05.3 +0.7**
DRGR 77.58 328 ⇑P **P 13 18 05.3 +0.7**
PSZ Piszkesteto 77.63 330⇑*i*P **P 13 18 05.5 +0.6**
PSZ Piszkesteto 77.63 330 P **P 13 18 06.1 +1.2**
VOIR 77.83 326⇑*i*P **P 13 18 06.5 +0.6**
VOIR 77.83 326 ⇑P **P 13 18 06.5 +0.5**
MOX Moxa 77.83 336 *e*P **P 13 18 06.0 +0.1**
comp=Z,16nm,1.1s,mb4.9
MOX *e* 13 18 58.7
MOX
comp=Z,300nm,20.0s
ARQ Araqi 77.91 291⇑P **P 13 18 08.0 +1.6**
SNR=6.9
BHD Baghdad 78.10 306 *ex* x 13 18 04.0
BHD *ex* x 13 25 58.0
BHD *ex* x 13 26 12.0
ZST Bratislava 78.33 332 *e*P **P 13 18 09.9 +1.2**
ZST pmax pmax
comp=Z,17nm,1.0s,mb4.9
ZST Bratislava 78.33 332 *e*P **P 13 18 09.9 +1.2**
comp=Z,17nm,1.0s,mb4.9
KHC Kasperske Hory 78.62 334*c* *i*P **P 13 18 10.3 0.0**
BR131 Keskin Array S 78.73 317 *e*P **P 13 18 11.7 +0.8**
comp=Z,6.3nm,1.0s,mb4.5
BRTR Keskin Array B 78.73 317 P **P 13 18 12.0 +1.1**
comp=Z,4.7nm,1.0s,mb4.4,baz=62,slow=2.9,SNR=21
GZR Gura Zlata 78.74 327⇓*i*P **P 13 18 11.7 +0.7**
GZR Gura Zlata 78.74 327 ⇓P **P 13 18 11.7 +0.8**
GRA1 Grafenberg Arr 78.80 336 *e*P **P 13 18 11.4 +0.1**
comp=Z,26nm,1.0s,mb5.1
GRF Grafenberg Arr 78.80 336 *e*P **P 13 18 11.4 +0.1**
comp=Z,26nm,1.0s,mb5.1
GRF Grafenberg Arr 78.80 336 *e*P **P 13 18 11.4 +0.1**
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.1
GEC2 GERESS Array S 78.83 334 *e*P **P 13 18 11.0 -0.5**
GERES GERESS Array B 78.83 334 P **P 13 18 11.1 -0.4**
comp=Z,4.2nm,0.8s,mb4.5,baz=36,slow=5.0,SNR=27
CONA Conrad Observa 78.97 332⇑*i*P **P 13 18 12.9 +0.7**
SNR=7.2
BZS Buzias 78.98 328⇓*i*P **P 13 18 11.7 -0.6**
BZS Buzias 78.98 328 P **P 13 18 12.4 +0.1**
PKSM Moragy 79.54 330⇓*i*P **P 13 18 14.5 -0.9**
PKSM Moragy 79.54 330 P **P 13 18 15.0 -0.4**
MOA Molln 79.55 333⇓*i*P **P 13 18 16.0 +0.6**
comp=Z,11nm,1.1s,mb4.7
GIVF Givet 80.08 340 *e*P **P 13 18 17.9 -0.4**
KBA Koelnbreinsper 80.52 334⇑*i*P **P 13 18 21.2 +0.6**
SNR=20
GCIS Gornji Cirnik 80.86 332 *e*P **P 13 18 22.4 -0.1**
WTTA Wattenberg 80.87 335⇑*i*P **P 13 18 23.1 +0.6**
comp=Z,44nm,1.0s,mb5.3,SNR=12
WTTA Wattenberg 80.87 335⇑*i*P **P 13 18 23.1 +0.6**
WTTA pmax pmax
comp=Z,44nm,1.0s,mb5.3
VTS Vitosha 80.94 325⇓*i*P **P 13 18 23.7 +0.8**
VTS Vitosha 80.94 325 ⇓P **P 13 18 23.7 +0.8**
MOTA Moosalm 80.95 335⇑*i*P **P 13 18 23.2 +0.3**
comp=Z,33nm,1.2s,mb5.1,SNR=11
MOTA Moosalm 80.95 335⇑*i*P **P 13 18 23.2 +0.2**
MOTA pmax pmax
comp=Z,33nm,1.2s,mb5.1
CRES Cresnjev 80.95 332 *e*P **P 13 18 22.9 -0.1**
CDF Champ du Feu 81.04 338 *e*P **P 13 18 23.2 -0.2**
comp=Z,65nm,1.1s,mb5.2
CDF Champ du Feu 81.04 338 *e*P **P 13 18 23.2 -0.2**
CDF pmax pmax
comp=Z,32nm,1.1s,mb5.2
CDF Champ du Feu 81.04 338 *e*P **P 13 18 23.2 -0.2**
comp=Z,32nm,1.1s,mb5.2
BOJS Bojanci 81.31 332 *e*P **P 13 18 24.6 -0.3**
MEZF Maizieres J'vi 81.52 339 *e*P **P 13 18 26.0 0.0**
HAU Haudompre 81.65 338 *e*P **P 13 18 26.3 -0.4**
comp=Z,34nm,1.0s,mb4.9
HAU Haudompre 81.65 338 *e*P **P 13 18 26.3 -0.4**
HAU pmax pmax
comp=Z,17nm,1.0s,mb4.9
HAU Haudompre 81.65 338 *e*P **P 13 18 26.3 -0.4**
comp=Z,17nm,1.0s,mb4.9
HINF Hinteralfeld 81.70 338 *e*P **P 13 18 26.4 -0.5**
FLN La Foliniere 82.52 343 *e*P **P 13 18 30.8 -0.4**
GRR Gorron 82.95 343 *e*P **P 13 18 33.2 -0.3**
comp=Z,45nm,1.0s,mb5.2
GRR Gorron 82.95 343 *e*P **P 13 18 33.2 -0.3**
GRR pmax pmax
comp=Z,23nm,1.0s,mb5.2
GRR Gorron 82.95 343 *e*P **P 13 18 33.2 -0.3**
comp=Z,23nm,1.0s,mb5.2
LOR Lormes 82.96 340 *e*P **P 13 18 33.2 -0.3**
comp=Z,39nm,1.0s,mb5.1
LOR Lormes 82.96 340 *e*P **P 13 18 33.2 -0.3**
LOR pmax pmax
comp=Z,20nm,1.0s,mb5.1
LOR Lormes 82.96 340 *e*P **P 13 18 33.2 -0.3**
comp=Z,20nm,1.0s,mb5.1
CABF La Chapelle 83.01 338 *e*P **P 13 18 33.9 +0.1**
comp=Z,17nm,1.0s,mb4.8
CABF La Chapelle 83.01 338 *e*P **P 13 18 33.9 +0.1**
comp=Z,8.6nm,1.0s,mb4.7
SGMF Saint Gilles 83.41 344 *e*P **P 13 18 35.6 -0.3**
AVF Avril sur Loir 83.53 340⇑*i*P **P 13 18 36.4 -0.1**
comp=Z,75nm,1.2s,mb5.4
AVF Avril sur Loir 83.53 340⇑*i*P **P 13 18 36.4 -0.1**
AVF pmax pmax
comp=Z,38nm,1.2s,mb5.4
AVF Avril sur Loir 83.53 340⇑*i*P **P 13 18 36.4 -0.1**
comp=Z,38nm,1.2s,mb5.4
SMF Signal de Mont 83.55 339⇑*i*P **P 13 18 36.5 0.0**
comp=Z,119nm,1.1s,mb5.6
SMF Signal de Mont 83.55 339⇑*i*P **P 13 18 36.5 0.0**
SMF pmax pmax
comp=Z,60nm,1.1s,mb5.6
SMF Signal de Mont 83.55 339⇑*i*P **P 13 18 36.5 0.0**
comp=Z,60nm,1.1s,mb5.6
LPL La Plagne 83.85 337 *e*P **P 13 18 38.9 +0.8**
LPG La Plagne 83.86 337 *e*P **P 13 18 39.1 +0.9**
LPG pmax pmax
comp=Z,25nm,1.2s,mb5.2
LPG La Plagne 83.86 337 *e*P **P 13 18 39.1 +0.9**
comp=Z,25nm,1.2s,mb5.2
BGF Bois d'Agland 83.87 340 *e*P **P 13 18 38.2 0.0**
TCF Toulx Ste Croi 84.27 340 *e*P **P 13 18 40.2 0.0**
comp=Z,22nm,1.0s,mb5.0
TCF Toulx Ste Croi 84.27 340 *e*P **P 13 18 40.2 0.0**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.9
TCF Toulx Ste Croi 84.27 340 *e*P **P 13 18 40.2 0.0**
comp=Z,11nm,1.0s,mb5.0
BNI Bardonecchia 84.30 337 *e*P **P 13 18 41.2 +0.8**
comp=Z,608nm,1.5s
MFF Saint Martin d 84.50 342 *e*P **P 13 18 41.2 -0.2**
comp=Z,32nm,1.1s,mb5.1
MFF Saint Martin d 84.50 342 *e*P **P 13 18 41.2 -0.2**
MFF pmax pmax
comp=Z,16nm,1.0s,mb5.1
MFF Saint Martin d 84.50 342 *e*P **P 13 18 41.2 -0.2**
comp=Z,16nm,1.0s,mb5.1
MBDF Montbardon 84.57 337 *e*P **P 13 18 42.0 +0.2**
ORIF Oris-en-Rattie 84.63 337 *e*P **P 13 18 42.7 +0.6**
comp=Z,27nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.63 337 *e*P **P 13 18 42.7 +0.6**
ORIF pmax pmax
comp=Z,13nm,0.9s,mb5.1
ORIF Oris-en-Rattie 84.63 337 *e*P **P 13 18 42.7 +0.6**
comp=Z,13nm,0.9s,mb5.1
VIVF Saint-Julien-l 85.01 338 *e*P **P 13 18 44.4 +0.4**
comp=Z,42nm,1.2s,mb5.2
VIVF Saint-Julien-l 85.01 338 *e*P **P 13 18 44.4 +0.4**
VIVF pmax pmax
comp=Z,21nm,1.2s,mb5.1
VIVF Saint-Julien-l 85.01 338 *e*P **P 13 18 44.4 +0.4**
comp=Z,21nm,1.2s,mb5.1
SBF Sospel 85.18 336 *e*P **P 13 18 45.9 +1.1**
comp=Z,53nm,1.0s,mb5.3
SBF Sospel 85.18 336 *e*P **P 13 18 45.9 +1.1**
SBF pmax pmax
comp=Z,27nm,1.0s,mb5.3
SBF Sospel 85.18 336 *e*P **P 13 18 45.9 +1.1**
comp=Z,27nm,1.0s,mb5.3
SMRF Simiane la Rot 85.59 337 *e*P **P 13 18 47.6 +0.7**
comp=Z,41nm,1.5s,mb5.1
SMRF Simiane la Rot 85.59 337 *e*P **P 13 18 47.6 +0.7**
comp=Z,41nm,1.5s,mb5.4
FRF La Foret Royal 85.68 336 *e*P **P 13 18 48.5 +1.2**
LMR La Mourre 85.93 336 *e*P **P 13 18 48.6 0.0**
comp=Z,83nm,1.2s,mb5.5
LMR La Mourre 85.93 336 *e*P **P 13 18 48.6 0.0**
LMR pmax pmax
comp=Z,42nm,1.2s,mb5.5
LMR La Mourre 85.93 336 *e*P **P 13 18 48.6 0.0**
comp=Z,42nm,1.2s,mb5.5
PGF Pioggiola 85.93 334 *e*P **P 13 18 49.8 +1.2**
comp=Z,14nm,0.9s,mb4.9
PGF Pioggiola 85.93 334 *e*P **P 13 18 49.8 +1.2**
PGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
PGF Pioggiola 85.93 334 *e*P **P 13 18 49.8 +1.2**
comp=Z,7.2nm,0.9s,mb4.9
EIL Elat 86.01 310 *e*P **P 13 18 50.3 +1.3**
comp=Z,556nm,1.0s
EJON La Jonquera 87.72 339 P **P 13 18 55.8 -1.5**
comp=Z,88nm,1.2s,mb5.9
VSL Villasalto 88.60 333 P **P 13 19 00.0 -1.5**
comp=Z,11nm,1.0s,mb5.1
PLCA Paso Flores 148.06 96 PKPbc PKPbc 13 25 52.7 -1.4
comp=Z,3.4nm,0.8s,baz=256,slow=9.7,SNR=3.2

BGS ***29*** *13:08:23.6±1.5,1088N×6176W,h33km,mb5.6,MS5.2*
LDG ***29*** *13:08:23.8,1086N×6191W,h55km*
BJI ***29*** *13:08:24.1,1090N×6180W,h53km,mB5.9,Ms5.9,Msz5.7*
MOS ***29*** *13:08:24.7±0.8,1094N×6180W,h54km,mb6.2/103, MS5.4/65,Error ellipse: s-maj=4.6km s-min=3.4km az=59.8*
ISCJB ***29*** *13:08:24.3±0.1,1085N±002×6177W±001,h53km, mb5.9/301,MS5.4/197,Error ellipse: s-maj=2.3km s-min=1.8km az=160.6*
FUNV ***29*** *13:08:24.8,1080N×6130W,h54km,MW6.1*
IDC ***29*** *13:08:25.7±0.3,1094N×6170W,h52km±2km,mb5.6/38, mb1 5.7/41,mb1mx5.7/42,mbtmp5.9/41,MS5.3/31, Ms1 5.3/31,ms1mx5.3/35,Error ellipse: s-maj=6.9km s-min=5.0km az=109.0*
TRN ***29*** *13:08:25.4,1072N×6141W,h52km,MD5.8*
TRN Felt strongly throughout Trinidad (IV-VI).Also felt in Tobago, Grenada and Guyana.
IGIL ***29*** *13:08:26.0,1091N×6165W,h53km,MS5.1*
CRAAG ***29*** *13:08:26.0,1080N×6183W,Mb6.1*
GCMT ***29*** *13:08:26.2±0.1,1073N×6139W,h28km,MW6.1/108, Moment Tensor Solution. s104,c226; s108,c355; Duration: 2⁸6 Moment tensor: Scale 10¹⁸Nm; Mrr-0.49±.01; Mθθ0.44±.01; Mφφ0.04±.01; Mrθ1.31±.03; Mθφ0.77±.01; Mφr0.14±.02; Best double couple: M₀1.58500×10¹⁸ NP1:φs14.00000°,δ28.00000°, λ-156.00000°. NP2:φs263.00000°,δ79.00000°, λ-64.00000°. Principal axes: T 1.6760, Plg29.0000°, Azm332.0000°; N -0.1820, Plg25.0000°, Azm78.0000°; P -1.4930, Plg49.0000°, Azm201.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***29*** *13:08:26.2±0.1,1088N×6176W,h53km,mb5.9/216, ME6.3,MS5.4/147,MW6.0,MW6.1(CAR) Error ellipse: s-maj=2.5km s-min=1.8km az=170.0,Moment Tensor Solution. s51 Moment tensor: Scale 10¹⁸Nm; Mrr0.08; Mθθ0.01; Mφφ-0.09; Mrθ0.34; Mθφ1.02; Mφr0.09; Best double couple: M₀1.10000×10¹⁸ NP1:φs92.00000°, δ84.00000°,λ18.00000°. NP2:φs0.00000°,δ72.00000°, λ174.00000°. Principal axes: T 1.0800, Plg17.0000°, Azm318.0000°; N 0.0100, Plg71.0000°, Azm110.0000°; P -1.0900, Plg8.0000°, Azm225.0000°; Broadband fault plane solution: P waves. NP1:φs92.00000°,δ85.00000°, λ20.00000°. NP2:φs0.00000°,δ70.00000°,λ175.00000°. Principal axes: T Plg17.0000°, Azm318.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm224.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Three people injured in the Port-of-Spain area. One building destroyed and one damaged at California. Several buildings damaged on Tobago and in parts of northern Trinidad, including minor damage to buildings at Port-of-Spain. Felt [VI] at Arima, Arouca, Chaguanas, Couva, Mucurapo, Princes Town, Saint Joseph, San Juan, Tacarigua and Tunapuna; [V] at Point Fortin, Port-of-Spain and San Fernando. Felt [IV] at Ciudad Guayana, Venezuela; [III] at Georgetown, Guyana and Kingstown, Saint Vincent and the Grenadines. Felt throughout Trinidad and Tobago and in parts of northern Venezuela, including Caracas. Also felt in Grenada, St. Lucia and Saint Vincent and the Grenadines. Also felt at Georgetown, Guyana. Power outages occurred in northern and eastern Trinidad and parts of Tobago.
SZGRF ***29*** *13:08:27.7,1085N×6128W,h54km,mb6.0,Trinidad*
ISC 29 13:08:26.7±0.1,1087N±002×6175W±001,h55km,
h55km±.4km:pP-P,n1481,σ0:98/1313**,mb5.9/**300**,**
MS5.4/197**,342C-97D,Trinidad**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.17**	**183**	⇑*i*P			**Pn**	**13 08 35.5**	**+0.1**
TRN	**Trinidad (W)**	**0.40**	**123**	⇓*i*P			**Pn**	**13 08 33.3**	**-3.9**
TRN				*e*S			**Sn**	**13 08 38.3**	**-6.5**
GUIV	**Guiria**	**0.52**	**245**	⇓*e*P			**Pn**	**13 08 41.2**	**+2.7**
GUIV				*e*S			**Sn**	**13 08 52.5**	**+5.5**
GUIV	**Guiria**	**0.52**	**245**	*e*P			**Pn**	**13 08 41.0**	**+2.6**
GUIV				*e*S			**Sn**	**13 08 52.6**	**+5.6**
TPP	**Pointe-a-Pierr**	**0.62**	**152**	⇑*i*P			**Pn**	**13 08 37.2**	**-2.5**
ALNG	**Atlantic LNG**	**0.68**	**175**	*e*P			**Pn**	**13 08 41.1**	**+0.7**
BUAY	**Buenos Aires**	**0.76**	**176**	⇑*e*P			**Pn**	**13 08 42.0**	**+0.6**
TBH	**Brigand Hill**	**0.77**	**120**	⇑*i*P			**Pn**	**13 08 36.6**	**-4.8**
TPR	**Prospect**	**1.00**	**71**	⇓*i*P			**Pn**	**13 08 40.1**	**-4.4**
BOT	**Bacolet**	**1.05**	**73**	⇓*i*P			**Pn**	**13 08 40.7**	**-4.5**
GRW	**Mount Saint Ca**	**1.29**	**4**	⇑*i*P			**Pn**	**13 08 49.6**	**+1.2**
GUNV	**Guanoco**	**1.37**	**239**	⇓*e*P			**Pn**	**13 08 53.0**	**+3.5**
GUNV				*e*S			**Sn**	**13 09 12.9**	**+6.3**
GUNV	**Guanoco**	**1.37**	**239**	*e*P			**Pn**	**13 08 52.8**	**+3.3**

GUNV eS Sn 13 09 12.6 +6.0
ITEV Isla Los Testi 1.45 290⇑ eP Pn 13 08 52.9 +2.4
ITEV eS Sn 13 09 15.4 +7.1
ITEV Isla Los Testi 1.45 290 eP Pn 13 08 53.0 +2.5
ITEV eS Sn 13 09 15.8 +7.4
CRUV Carupano 1.48 263 eP Pn 13 08 53.4 +2.5
CRUV eS Sn 13 09 15.2 +6.0
FCV Fort Charlotte 2.33 12⇑ iP Pn 13 09 04.0 +1.5
ORIV Oritupano 2.42 223⇓ eP Pn 13 09 05.8 +2.0
ORIV eS Sn 13 09 34.7 +2.4
ORIV Oritupano 2.42 223 eP Pn 13 09 04.8 +1.0
SVB Belmont 2.44 11⇓ iP Pn 13 09 05.6 +1.5
SSV Crater Summit 2.50 12⇑ iP Pn 13 09 06.7 +1.7
PCRV Puerto La Cruz 2.92 257 P Pn 13 09 13.5 +2.8
2µm,0.3s,baz=60,slow=6.1,SNR=1473
PCRV S Sn 13 09 48.8 +4.3
836nm,0.3s,baz=164,slow=20,SNR=9.1
PCRV LR LR 13 10 39.6
comp=Z,26µm,18.6s,baz=258,slow=46
PCRV Puerto La Cruz 2.92 257⇓ eP Pn 13 09 13.5 +2.8
PCRV Puerto La Cruz 2.92 257 eP Pn 13 09 13.4 +2.7
IBAV Isla La Blanqu 2.94 289 eP Pn 13 09 13.7 +2.9
SLB Belfond 3.02 13⇓ eP Pn 13 09 13.7 +1.7
BBGH Gun Hill 3.11 43 ePn Pn 13 09 12.1 -1.2
BBSP Saint Philip 3.16 45 eP Pn 13 09 13.4 -0.5
GURV El Guri 3.36 203⇓ eP Pn 13 09 13.9 -0.7
GURV eS Sn 13 09 53.0 -2.2
GURV El Guri 3.36 203 eP Pn 13 09 15.9 -0.7
GURV eS Sn 13 09 52.3 -2.9
PRGV PARIAGUAN 3.54 234⇓ eP Pn 13 09 20.6 +1.5
PRGV eS Sn 13 10 02.3 +2.5
PRGV PARIAGUAN 3.54 234 eP Pn 13 09 20.7 +1.5
MVM Montagne Vaucl 3.76 13 eP Pn 13 09 21.9 -0.2
FDF Fort de France 3.89 9⇑ iP Pn 13 09 23.9 +0.1
CUPV Cœpira 4.06 259⇓ eP Pn 13 09 29.2 +3.1
CUPV eS Sn 13 10 16.5 +4.1
CUPV Cœpira 4.06 259 eP Pn 13 09 29.2 +3.0
ORCV Isla La Orchil 4.46 283 eP Pn 13 09 34.1 +2.4
BIRV Birongo 4.46 265⇓ eP Pn 13 09 35.7 +3.9
BIRV Birongo 4.46 265 eP Pn 13 09 35.1 +3.4
BBL Barber's Block 4.64 3 eP Pn 13 09 34.6 +0.4
DWS Wesley 4.69 5⇓ iP Pn 13 09 36.4 +1.5
DWS eS Sn 13 10 23.1 -5.0
MERV Las Mercedes 4.76 251⇓ eP Pn 13 09 37.5 +1.7
MERV eS Sn 13 10 31.9 +2.2
MERV Las Mercedes 4.76 251 eP Pn 13 09 37.5 +1.6
TBG Guadaloupe-3 4.96 1⇑ eP Pn 13 09 39.1 +0.6
FUNV FUNVISIS 4.99 266⇓ eP Pn 13 09 42.3 +3.3
FUNV FUNVISIS 4.99 266 eP Pn 13 09 42.1 +3.1
LLAV El Llanito 4.99 266 eP Pn 13 09 42.1 +3.1
LUEV Luepa 5.00 177 eP Pn 13 09 35.1 -4.0
MGG Marie-Galante 5.04 5⇑ eP Pn 13 09 40.6 +0.9
PHG Guadaloupe-2 5.12 1 eP Pn 13 09 42.7 +2.0
SCG Saint Claude 5.13 1⇑ eP Pn 13 09 42.6 +1.7
BCG Bois Riant Cap 5.19 1⇓ eP Pn 13 09 43.3 +1.6
LZG Guadaloupe-1 5.24 360 eP Pn 13 09 44.1 +1.6
SFG Saint Francois 5.38 6 eP Pn 13 09 44.8 +0.5
DEG La Desirade 5.46 7 eP Pn 13 09 45.0 -0.3
CAOV Caicara del Or 5.73 232⇓ eP Pn 13 09 48.0 -1.0
CAOV eS Sn 13 10 51.9 -1.5
CAOV Caicara del Or 5.73 232 eP Pn 13 09 48.0 -1.1
TURV Turiamo 6.00 267 eP Pn 13 09 54.7 +1.8
BPA Boggy Peak 6.14 359⇓ iP Pn 13 09 56.7 +1.9
NVBH Bath Hotel, Ne 6.27 352 eP Pn 13 09 60.0 +3.4
NVRH Round Hill, Ne 6.33 353 eP Pn 13 09 59.9 +2.5
NVRH eS Sn 13 11 22.2 +14
SKTB Turtle Beach 6.36 352 eP Pn 13 10 00.1 +2.4
SKTB eS Sn 13 11 22.2 +13
BAUV El Baul 6.49 253⇓ eP Pn 13 10 00.3 +0.8
BAUV El Baul 6.49 253 eP Pn 13 10 00.4 +0.9
SKI Saint Kitts 6.50 352 eP Pn 13 10 02.4 +2.8
SKI eS Sn 13 11 21.9 +9.4
BSK Brimstone Hill 6.53 351 eP Pn 13 10 04.0 +4.0
STAT Sint Eustatius 6.70 350 eP Pn 13 10 06.0 +3.6
STAT eS Sn 13 11 20.2 +2.9
CPB Codrington 6.73 359 eP Pn 13 10 04.7 +1.8
SABT Saba 6.87 348 eP Pn 13 10 07.6 +2.9
SABT Saba 6.87 348 eP Pn 13 10 08.3 +3.5
JACV Jacura 6.96 272⇓ eP Pn 13 10 08.9 +2.9
JACV Jacura 6.96 272 eP Pn 13 10 08.9 +2.9
STMA St. Maarten, A 7.26 350 eP Pn 13 10 12.4 +2.4
STMA eS Sn 13 11 43.3 +12
TEPV Terepaima 7.38 264 eP Pn 13 10 12.9 +1.2
SANV Sanarito 7.79 261⇓ eP Pn 13 10 18.2 +0.9
SANV Sanarito 7.79 261 eP Pn 13 10 18.9 +1.6
SIQV Siquisique 7.93 269⇓ eP Pn 13 10 20.9 +1.7
SIQV Siquisique 7.93 269 eP Pn 13 10 20.6 +1.5
PAYV Puerto Ayacuch 7.97 228⇓ eP Pn 13 10 19.2 -0.6
PAYV Puerto Ayacuch 7.97 228 eP Pn 13 10 19.6 -0.2
MTP Monte Pirata 8.08 333 ePn Pn 13 10 21.8 +0.6
MTP eSn Sn 13 11 49.0 -2.1
MTP eTT 13 17 01.2
CURV Curarigua 8.13 265⇓ eP Pn 13 10 23.1 +1.2
CURV Curarigua 8.13 265 eP Pn 13 10 23.1 +1.2
MONV Montecano 8.14 278 eP Pn 13 10 24.1 +2.1
CPD Cerro la Pandu 8.19 331 ePn Pn 13 10 22.9 0.0
CPD eSn Sn 13 11 52.6 -1.4
HUMP Col San Antoni 8.25 332 ePn Pn 13 10 23.7 +0.1
CBYP Canovanas 8.37 332 ePn Pn 13 10 26.1 +0.9
SJG San Juan 8.37 330 P Pn 13 10 25.8 +0.5
38nm,0.3s,baz=151,slow=11,SNR=64
SJG S Sn 13 11 56.3 -2.0
57nm,0.3s,baz=230,slow=7.5,SNR=3.4
SJG San Juan 8.37 330 P Pn 13 10 25.8 +0.5
SJG S Sn 13 11 56.3 -2.0
SJG pmax pmax
comp=Z,38nm,0.3s
SJG smax
comp=N,57nm,0.3s
SJG San Juan 8.37 330 ePn Pn 13 10 25.4 +0.1
ELOV Elorza 8.55 244⇓ eP Pn 13 10 28.0 +0.2
ELOV Elorza 8.55 244 eP Pn 13 10 28.4 +0.6
QARV Quebrada Arrib 8.66 266 eP Pn 13 10 30.7 +1.5
DABV Dabajuro 8.73 271 eP Pn 13 10 31.7 +1.5
SDV Santo Domingo 8.97 258 P Pn 13 10 33.8 +0.2
comp=N,100nm,0.3s,baz=88,slow=8.6,SNR=250
SDV S Sn 13 12 11.9 -1.3
comp=N,277nm,0.3s,baz=326,slow=21,SNR=8.8
SDV Santo Domingo 8.97 258 ePn Pn 13 10 33.6 +0.1
SDV eSn Sn 13 12 12.9 -0.2
MPR Mayaguez 8.98 325 ePn Pn 13 10 35.9 +2.3
IMOV Isla Los Monje 9.09 280⇑ eP Pn 13 10 36.9 +1.7
SOCV Socops 9.34 255⇓ eP Pn 13 10 38.6 0.0
VIGV El Vigia 9.69 259⇓ eP Pn 13 10 44.0 +0.6
VIGV El Vigia 9.69 259 eP Pn 13 10 44.1 +0.7
VIRV Villa del Rosa 10.48 269⇓ eP Pn 13 10 54.4 +0.2
VIRV Villa del Rosa 10.48 269 eP Pn 13 10 54.3 +0.1
CAPV Capacho 10.85 255⇓ eP Pn 13 10 59.1 0.0
CAPV Capacho 10.85 255 eP Pn 13 10 59.2 +0.1
ROSC El Rosal 13.82 245 P Pn 13 11 39.8 +0.1
comp=N,54nm,0.3s,baz=94,slow=12,SNR=114
ROSC S Sn 13 14 18.3 +6.9
comp=N,19nm,0.3s,baz=78,slow=21,SNR=4.1
ROSC LR LR 13 17 42.2
comp=N,6µm,20.2s,baz=38,slow=40
ROSC El Rosal 13.82 245⇓ eP Pn 13 11 39.7 0.0
MASC Masc 15.17 309 eP Pn 13 11 59.5 +2.1
MASC eS S 13 14 57.1 -1.5
comp=N,44nm,9.1s
MASC e
comp=E,51nm,9.1s
CMJ Castle Mountai 15.89 299⇑ iP Pn 13 12 12.3 +5.7
MOAC Moa 16.01 309 eP Pn 13 12 09.9 +1.8
MOAC eS S 13 15 04.9 -11
comp=N,309nm,5.6s
MOAC e
comp=E,399nm,8.0s
HOJ Hope 16.16 298⇑ eP Pn 13 12 15.1 +5.0
GWJ Greenwich 16.17 298⇑ eP Pn 13 12 15.4 +5.1
RCC Rio Carpintero 16.21 306 iP Pn 13 12 12.6 +1.9
RCC iS S 13 15 08.7 -11
comp=N,12µm,17.3s
RCC e
comp=E,8µm,25.2s
STH Stony Hill 16.25 298⇑ eP Pn 13 12 16.2 +5.1
PCJ Portland Cotta 16.42 296⇑ eP Pn 13 12 18.0 +4.7
BNJ Bonny Gate 16.47 298⇑ eP Pn 13 12 18.8 +4.9
BBJ Bamboo Saint A 16.77 298⇑ eP Pn 13 12 21.1 +3.4
MCJ Malvern 16.95 296⇑ eP Pn 13 12 24.0 +4.1
LMGC Las Mercedes 17.30 304 iP Pn 13 12 27.4 +3.1
CCCC Cccc 18.49 306 eP Pn 13 12 37.4 -1.4

SAML Samuel 19.74 184 eP Pn 13 12 50.6 -3.0
comp=E,1µm,0.9s
BBSR BB Station 21.57 353 eP P 13 13 10.2 -1.4
BBSR LR LR
comp=Z,16µm,22.0s,MS5.4
JTS JuntasAbangare 22.82 271 P P 13 13 24.2 -0.6
comp=Z,28nm,0.8s,baz=76,slow=6.8,SNR=12
JTS S S 13 17 32.0 +2.0
comp=Z,23nm,1.0s,baz=57,slow=20,SNR=2.1
JTS JuntasAbangare 22.82 271 P P 13 13 24.2 -0.6
JTS S S 13 17 32.0 +2.0
JTS pmax pmax
comp=Z,28nm,0.8s
JTS smax
comp=N,23nm,1.0s
JTS JuntasAbangare 22.82 271 eP P 13 13 24.0 -0.8
JTS LR LR
comp=Z,869nm,19.0s
SOR Soroa 23.52 303 eP P 13 13 32.4 +0.7
SOR eS S 13 17 23.2 -18
comp=N,11nm,4.2s
SOR e
comp=E,15nm,4.0s
ATAH Atahualpa 24.28 224 P P 13 13 42.3 +3.6
comp=E,2µm,1.0s,mb6.4,baz=49,slow=5.9,SNR=615
ATAH S S 13 18 03.4 +10
comp=E,17nm,0.7s,baz=79,slow=13,SNR=5.2
ATAH LR LR 13 24 44.6
comp=E,17µm,18.9s,MS5.6,baz=169,slow=40
TGUH Tegucigalpa,Un 25.12 280 eP P 13 13 48.4 +2.0
comp=E,436nm,1.2s,mb5.9
DWPF Disney 25.21 316 eP P 13 13 46.7 -0.4
comp=E,968nm,0.9s,mb6.3
DWPF LR LR
comp=Z,8µm,20.0s,MS5.2
SIV San Ignacio 26.69 179 P P 13 14 00.5 0.0
comp=Z,276nm,0.9s,mb5.8,baz=16,slow=9.9,SNR=462
SIV S S 13 18 36.7 +4.7
comp=Z,121nm,0.9s,baz=55,slow=24,SNR=2.0
NNA Nana 27.21 214 P P 13 14 05.5 +0.3
comp=Z,6µm,0.9s,SNR=29
NNA Nana 27.21 214 P P 13 14 05.4 +0.3
comp=Z,703nm,0.8s,mb6.2,baz=16,slow=8.5,SNR=142
NNA S S 13 18 43.1 +3.0
comp=Z,19nm,0.7s,baz=33,slow=11,SNR=1.6
NNA LR LR 13 25 59.4
comp=Z,22µm,18.8s,MS5.7,baz=359,slow=39
NNA Nana 27.21 214⇓ iP P 13 14 05.2 0.0
NNA LR LR
comp=Z,5µm,22.0s,MS5.0
LPAZ La Paz 27.71 193 P P 13 14 11.1 +1.4
comp=Z,222nm,0.9s,mb5.8,baz=11,slow=11,SNR=507
LPAZ S S 13 19 09.3 +21
comp=Z,25nm,0.8s,baz=46,slow=20,SNR=1.6
LPAZ LR LR 13 26 03.7
comp=Z,31µm,21.3s,MS5.8,baz=9.5,slow=38
LPAZ La Paz 27.71 193 eP P 13 14 11.1 +1.5
LPAZ pmax pmax
comp=Z,1µm,1.5s
LPAZ La Paz 27.71 193⇓ iP P 13 14 11.2 +1.5
comp=Z,1µm,1.5s,mb6.3
LPAZ LR LR
comp=Z,34µm,21.0s,MS5.9
ARE Arequipa 28.81 200 eP P 13 14 19.0 -0.5
BDFB Brasilia 29.64 152 P P 13 14 26.5 -0.3
comp=Z,174nm,0.9s,mb5.8,baz=328,slow=10,SNR=120
BDFB S S 13 19 18.9 +0.6
comp=Z,78nm,0.9s,baz=156,slow=15,SNR=1.7
BDFB LR LR 13 26 39.4
comp=Z,29µm,21.9s,MS5.9,baz=332,slow=37
BDFB Brasilia 29.64 152 P P 13 14 26.5 -0.3
BDFB S S 13 19 18.9 +0.6
BDFB pmax pmax
comp=Z,174nm,0.9s
BDFB smax
comp=N,78nm,0.9s
BDFB MLR MLR
comp=Z,29µm,21.9s
BDFB Brasilia 29.64 152⇓ eP P 13 14 26.2 -0.6
BDFB LR LR
comp=Z,42µm,20.0s,MS6.1
CCIG Comitan 30.01 284 iP P 13 14 30.8 +0.8
PAYG Puerto Ayora 30.61 250 eP P 13 14 29.7 -5.6
PAYG LR LR
comp=Z,4µm,21.0s,MS5.1
RCBR Riachuelo 30.61 122⇓ eP P 13 14 33.5 -1.9
comp=Z,201nm,1.3s,mb5.8
RCBR LR LR
comp=Z,7µm,21.0s,MS5.3
CBN Corbin 30.61 335 eP P 13 14 34.1 -1.3
comp=Z,316nm,1.1s,mb6.1
CBN LR LR
comp=Z,11µm,19.0s,MS5.5
BLA Blacksburg 31.16 330 P P 13 14 40.9 +0.7
BLA pmax pmax
comp=Z,29nm,1.2s,mb5.0
BLA Blacksburg 31.16 330 eP P 13 14 40.0 -0.2
comp=Z,394nm,1.2s,mb6.1
BLA LR LR
comp=Z,13µm,22.0s,MS5.5
ELN Prospectdale 31.33 330 eP P 13 14 42.4 +0.6
MYNC Murphy 31.55 323⇑ eP P 13 14 44.1 +0.4
MYNC eSP sP 13 15 02.8 -1.4
MYNC pmax pmax
comp=Z,505nm,0.8s,mb6.4
MYNC MLR MLR
comp=Z,5µm,22.0s,MS5.2
MYNC Murphy 31.55 323⇑ eP P 13 14 44.1 +0.4
comp=Z,450nm,0.8s,mb6.3
MYNC eSP sP 13 15 02.8 -1.4
MYNC eScP ScP 13 21 12.8 -0.8
MYNC LR LR
comp=Z,5µm,22.0s,MS5.1
FWV Forest Hill 31.64 330 eP P 13 14 44.8 +0.3
CPNY Central Park 31.70 342 eP P 13 14 44.7 -0.2
CPNY epP pP 13 15 05.1 +6.2
MVL Millersville 31.78 338 eP P 13 14 44.4 -1.2
MVL epP pP 13 15 06.2 +6.6
BRNJ Basking Ridge 31.79 341 eP P 13 14 45.5 -0.2
BRNJ epP pP 13 15 06.4 +6.7
PAL Palisades 31.88 342 eP P 13 14 46.2 -0.3
PAL e*PP pP 13 15 06.7 +6.2
TZTN Tazewell 32.27 326 eP P 13 14 50.0 +0.1
TZTN epP pP 13 15 08.2 +4.2
WES Weston 32.50 347 eP P 13 14 51.7 -0.2
WES pmax pmax
comp=Z,416nm,0.9s,mb6.3
WES MLR MLR
comp=Z,6µm,22.0s,MS5.3
WES Weston 32.50 347 eP P 13 14 51.7 -0.2
comp=Z,442nm,0.9s,mb6.3
WES LR LR
comp=Z,6µm,22.0s,MS5.3
QUA2 Belchertown 32.64 345 eP P 13 14 52.6 -0.6
comp=Z,439nm,0.9s,mb6.4
HRV Harvard--Oak R 32.66 346 eP P 13 14 53.5 +0.1
HRV pmax pmax
comp=Z,189nm,0.9s,mb6.0
HRV MLR MLR
comp=Z,7µm,21.0s,MS5.3
HRV Harvard--Oak R 32.66 346 eP P 13 14 53.5 0.0
comp=Z,189nm,0.9s,mb6.0
HRV LR LR
comp=Z,7µm,21.0s,MS5.3
CMIG Matias Romero 32.72 285 LR LR 13 28 55.2
comp=Z,1µm,21.6s,MS4.5,baz=352,slow=38
MCWV Mont Chateau 32.88 334 eP P 13 14 55.5 +0.3
comp=Z,311nm,1.1s,mb6.2
MCWV LR LR
comp=Z,11µm,20.0s,MS5.5
SSPA Standing Stone 32.90 337 eP P 13 14 55.5 0.0
SSPA LR LR
comp=Z,10µm,22.0s,MS5.5
FFD Franklin Falls 33.60 347 eP P 13 15 01.8 +0.2
comp=Z,2µm,0.9s
BINY Binghamton 33.61 341 eP P 13 15 01.6 -0.1
comp=Z,412nm,1.2s,mb6.2
BINY LR LR
comp=Z,13µm,20.0s,MS5.7
PLAL Pickwick Lake 33.92 319 eP P 13 15 04.3 -0.1
comp=Z,226nm,0.8s,mb6.2
PLAL epP pP 13 15 25.4 +7.0
PLAL LR LR
comp=Z,5µm,20.0s,MS5.2
HNH Hanover 33.97 346 eP P 13 15 05.5 +0.8
LVC Limon Verde 34.00 192 P P 13 15 04.7 -0.4
comp=Z,556nm,1.0s,mb6.4,baz=17,slow=6.9,SNR=400
LVC S S 13 20 28.8 +2.5
comp=Z,42nm,0.3s,baz=75,slow=4.9,SNR=6.1
LVC ScP ScP 13 21 25.5 +3.5
comp=Z,47nm,1.0s,baz=352,slow=2.9,SNR=12
LVC LR LR 13 30 17.8
comp=Z,27µm,20.2s,MS6.0,baz=349,slow=38
LVC Limon Verde 34.00 192 eP P 13 15 04.8 -0.3
LVC LR LR
comp=Z,26µm,21.0s,MS5.9
ACCN Adirondack Com 34.01 344 eP P 13 15 05.2 +0.1
EMMW East Machias 34.08 353 eP P 13 15 06.3 +0.6
WVL Waterville 34.26 350 eP P 13 15 08.3 +1.0
comp=Z,346nm,1.0s,mb6.2
LBNH Lisbon 34.40 347 eP P 13 15 09.2 +0.7
LBNH MLR MLR
comp=Z,13µm,22.0s,MS5.6
OXX Oaxaca 34.46 284 eP P 13 15 08.0 -1.0
VHO Vista Hermosa 34.47 284 iP P 13 15 07.1 -2.0
WVT Waverly 34.49 321 P P 13 15 08.8 -0.5
WVT pmax pmax
comp=Z,470nm,0.9s,mb6.4
WVT Waverly 34.49 321 eP P 13 15 08.7 -0.6
comp=Z,470nm,0.9s,mb6.4
WVT LR LR
comp=Z,6µm,22.0s,MS5.3
OXF Oxford 34.51 317 eP P 13 15 09.4 0.0
OXF MLR MLR
comp=Z,5µm,21.0s,MS5.2
MIV Mineville/With 34.62 345 eP P 13 15 11.3 +0.9
ALLY Alegheny Colle 34.66 335 eP P 13 15 10.9 +0.2
NCB Newcomb 34.71 344 eP P 13 15 12.0 +0.8
comp=Z,464nm,1.1s,mb6.3
NCB LR LR
comp=Z,9µm,22.0s,MS5.5
ACSO Alum Creek Sta 34.77 331 eP P 13 15 11.9 +0.2
comp=Z,275nm,1.1s,mb6.1
ACSO eScP ScP 13 21 23.1 -1.7
ACSO LR LR
comp=Z,10µm,20.0s,MS5.5
WCI Wyandotte Cave 35.00 325 eP P 13 15 13.6 -0.1
WCI e*PP pP 13 15 34.8 +7.0
WCI pmax pmax
comp=Z,463nm,1.1s,mb6.3
WCI MLR MLR
comp=Z,5µm,21.0s,MS5.2
WCI Wyandotte Cave 35.00 325 eP P 13 15 13.6 -0.1
comp=Z,462nm,1.1s,mb6.3
WCI epP pP 13 15 34.8 +7.0
WCI LR LR
comp=Z,5µm,21.0s,MS5.2
CEN1 Los Morros 35.03 194⇑ iP P 13 15 14.8 +0.8
UTMT University of 35.27 320 eP P 13 15 16.3 +0.3
FRNY Flat Rock 35.35 345 eP P 13 15 16.5 -0.1
LONY Lake Ozonia 35.41 344 eP P 13 15 16.7 -0.4
USIN University of 35.61 324 eP P 13 15 18.7 -0.2
BLO Bloomington 35.80 326 eP P 13 15 20.5 0.0
BLO e*PP pP 13 15 41.6 +7.0
BLO pmax pmax
comp=Z,428nm,0.9s,mb6.4
BLO Bloomington 35.80 326 eP P 13 15 20.5 0.0
comp=Z,432nm,0.9s,mb6.4
BLO epP pP 13 15 41.6 +7.0
BLO eScP ScP 13 21 26.8 -1.7
MSNY Massena 35.83 344 eP P 13 15 21.4 +0.6
HBAR Harrisburg 35.95 318 eP P 13 15 21.3 -0.5
HBAR epP pP 13 15 42.5 +6.6
SIUC Southern Illin 36.36 322 eP P 13 15 25.9 +0.5
PPM Popocatepetl 36.49 287 iP P 13 15 27.7 +1.2
PPM eP 13 15 28.0
VAO Valinhos 36.64 157⇓ iP P 13 15 27.6 -0.1
VAO i pP 13 15 45.1 +3.3
VAO i 13 16 09.1
VAO i 13 17 03.4
VAO i 13 18 37.1
VAO i 13 21 08.3
UALR University of 36.64 315 eP P 13 15 26.8 -0.9
IIO Organos 36.65 288 iP P 13 15 28.1 +0.3
AAM Ann Arbor 36.71 332 eP P 13 15 27.8 -0.5
AAM e*PP pP 13 15 47.6 +5.2
AAM pmax pmax
comp=Z,248nm,0.9s,mb6.0
AAM MLR MLR
comp=Z,10µm,20.0s,MS5.6
AAM Ann Arbor 36.71 332 eP P 13 15 27.8 -0.5
comp=Z,248nm,0.9s,mb6.0
AAM epP pP 13 15 47.6 +5.1
AAM LR LR
comp=Z,10µm,20.0s,MS5.6
NATX Nacogdoches 36.82 309 eP P 13 15 29.5 +0.3
comp=Z,435nm,1.0s,mb6.2
NATX LR LR
comp=Z,5µm,19.0s,MS5.3
YAIG Yautepec 36.88 287 iP P 13 15 29.1 -0.6
HKT Hockley 36.96 306 eP P 13 15 28.9 -1.5
HKT pmax pmax
comp=Z,212nm,1.0s,mb5.9
HKT MLR MLR
comp=Z,6µm,20.0s,MS5.4
HKT Hockley 36.96 306 eP P 13 15 28.9 -1.5
comp=Z,212nm,1.0s,mb5.9
HKT LR LR
comp=Z,6µm,20.0s,MS5.4
CPUP Villa Florida 37.22 173 P P 13 15 31.3 -1.3
CPUP Villa Florida 37.22 173 P P 13 15 31.4 -1.3
comp=Z,324nm,0.9s,mb6.2,baz=340,slow=7.8,SNR=403
CPUP PcP PcP 13 17 51.8 +0.3
comp=Z,33nm,0.7s,baz=354,slow=6.0,SNR=3.3
CPUP LR LR 13 31 34.5
comp=Z,13µm,21.1s,MS5.7,baz=338,slow=37
CPUP Villa Florida 37.22 173 P P 13 15 31.4 -1.2
CPUP 13 17 51.8
PLIG Platanillo 37.23 286 iP P 13 15 32.7 -0.1
MIAR Mount Ida 37.38 314 eP P 13 15 33.1 -0.9
MIAR MLR MLR
comp=Z,6µm,20.0s,MS5.4
ACX Acapulco 37.49 284 eP P 13 15 35.0 +0.1
SLM Saint Louis 37.57 322 eP P 13 15 35.2 -0.4
SLM pmax pmax
comp=Z,321nm,0.9s,mb6.0
SLM Saint Louis 37.57 322 eP P 13 15 35.2 -0.4
comp=Z,320nm,0.9s,mb6.0
CAM3 Guarapari 37.70 146⇓ iP P 13 15 35.1 -1.6
CAM3 i 13 15 41.9
CAM3 i 13 16 04.8
CAM3 i 13 16 49.7
CAM3 i 13 16 57.8
KVTX Kingsville 37.77 301⇑ eP P 13 15 38.0 +0.6
comp=Z,262nm,0.8s,mb6.0
KVTX e 13 15 57.7
CAM4 Nova Friburgo 38.00 150⇓ iP P 13 15 38.3 -0.9
CAM4 i 13 15 39.2
CAM4 i 13 16 07.9
CAM4 i 13 16 18.3
CAM4 i 13 16 47.2
CAM4 Nova Friburgo 38.00 150⇓ iP P 13 15 38.3 -0.9
CAM4 i 13 15 39.2
CAM4 i pP 13 15 53.1 -0.3
CAM4 i 13 16 07.9
CAM4 i 13 16 18.3
CAM4 i 13 16 47.2
JCT Junction City 40.34 305 eP P 13 15 58.0 -0.7
JCT MLR MLR
comp=Z,2µm,21.0s,MS5.0
JFWS Jewell Farm 40.42 327 eP P 13 15 58.8 -0.7
JFWS MLR MLR
comp=Z,9µm,21.0s,MS5.6
PCND Candelaria 40.48 42 eP pP 13 16 14.2 0.0
comp=Z,165nm,1.2s
PBOI Pico dos Bois 40.52 42 eP pP 13 16 14.3 -0.2
comp=Z,171nm,1.5s
PICO Pico 40.52 42 eP pP 13 16 15.3 +0.7
PTEI Pico do Teixo 40.56 42 eP pP 13 16 14.5 -0.4
comp=Z,121nm,0.9s
LCO Las Campanas 40.58 192⇓ iP P 13 15 59.9 -0.8
ZAIG Zacatecas 40.70 292 iP P 13 16 03.0 +1.3
PAMA Santo Amaro 40.78 41 eP pP 13 16 19.1 +2.4
comp=Z,168nm,1.1s
SFJM Santa Fe 40.79 289 iP P 13 16 03.0 +0.5
SRBC Serra Branca 41.07 41 eP P 13 16 14.7 +10
PVIA Vitoria 41.08 41 eP pP 13 16 20.4 +1.2
comp=Z,385nm,1.3s
STGR Santa Cruz 41.12 41 eP pP 13 16 20.4 +0.9
comp=Z,482nm,1.3s

WMOK Wichita Mounta 41.23 311 *e*P **P** **13 16 04.0 -2.1**
WMOK MLR MLR
comp=Z,6µm,20.0s,MS5.5
ASBA Santa Barbara 41.36 42 *e*P pP 13 16 23.0 +1.5
comp=Z,294nm,1.2s
PPAD Pico dos Padre 41.38 42 *e*P pP 13 16 23.0 +1.4
comp=Z,341nm,1.3s
ADH Angra Heroismo 41.39 42 *i* LR LR 13 27 47.5
SCIA State Center 41.41 324 *e*P **P** **13 16 06.8 -0.7**
comp=Z,982nm,0.8s,mb6.5
PBIS Biscoitos 41.43 42 *e*P pP 13 16 23.0 +0.9
comp=Z,296nm,1.3s
RIB2 Ribeirinha 41.44 42 *e*P pP 13 16 22.9 +0.8
comp=Z,218nm,1.6s
PVNV Vila Nova 41.49 42 *e*P pP 13 16 23.2 +0.6
comp=Z,232nm,1.1s
PFAV Pico das Favas 41.52 42 *e*P pP 13 16 23.4 +0.6
comp=Z,259nm,1.2s
TLL Tololo Astrono 41.72 192⇓ *i*P **P** **13 16 08.7 -1.4**
KSU1 Kansas State U 41.86 318 *e*P **P** **13 16 09.4 -1.8**
comp=Z,325nm,0.8s,mb6.0
PSET Sete Cidades 41.97 44 *e*P **P** **13 16 12.4 +0.3**
comp=Z,583nm,1.6s,mb6.0
PDA Ponta Delgada 41.97 44 *e*P **P** **13 16 15.8 +3.7**
PDA Ponta Delgada 41.97 44 *i* LR LR 13 28 17.0
PSMN Pico do Norte, 42.02 46 *e-* pP 13 16 25.7 -1.2
CML Cha da Macela 42.06 44 *e*P **P** **13 16 14.4 +1.5**
CMLA Cha da Macela 42.07 44 *e*P **P** **13 16 12.8 -0.2**
comp=Z,497nm,1.1s,mb6.1
CMLA Cha da Macela 42.07 44 *e*P **P** **13 16 14.0 +1.0**
comp=Z,497nm,1.1s,mb6.1
CMLA *ep*P pP 13 16 27.6 +0.2
CMLA *ep*P pP 13 16 28.4 +1.0
CMLA *e*S **S** **13 22 30.1 +1.8**
CMLA *e*LQ 13 25 58.8
CMLA *e*LR LR 13 28 15.2
comp=Z,1µm,24.0s
CMLA Cha da Macela 42.07 44 *e*P **P** **13 16 14.0 +1.0**
comp=Z,611nm,1.1s,mb6.1
CMLA *e*LQ 13 25 51.9
CMLA *e*LR LR 13 28 07.3
PRCH Ribeira Ch 42.09 44 *e*P **P** **13 16 14.6 +1.5**
comp=Z,154nm,1.1s,mb5.5
PVER Pico Vermelho 42.10 44 *e-* pP 13 16 28.5 +1.0
LFA Lagoa do Fogo 42.11 44 *e*P **P** **13 16 14.2 +0.9**
VIF Vila Franca 42.12 44 *e*P **P** **13 16 15.1 +1.7**
comp=Z,185nm,1.3s,mb5.5
PMAT Coroa da Mata 42.14 44 *e*P **P** **13 16 14.8 +1.3**
comp=Z,248nm,1.5s,mb5.6
MESC Monte Escuro 42.14 44 *e*P **P** **13 16 14.5 +1.0**
COWI Conover 42.15 332 *e*P **P** **13 16 12.9 -0.7**
comp=Z,252nm,1.1s,mb5.8
PCNG Congro 42.16 44 *e*P **P** **13 16 15.3 +1.6**
comp=Z,172nm,1.4s,mb5.5
FRA1 Furnas 42.18 44 *e*P **P** **13 16 15.2 +1.4**
PFAD Fenais da Ajud 42.25 44 *e*P **P** **13 16 14.9 +0.5**
MIRA Miradouro 42.25 44 *e*P **P** **13 16 15.8 +1.4**
CFAA Coronel Fontan 42.68 188 P **P** **13 16 17.2 -0.7**
comp=Z,116nm,1.0s,mb5.6,baz=1.3,slow=7.9,SNR=650
CFAA ScP ScP 13 21 57.0 +1.9
comp=Z,5.7nm,1.1s,baz=357,slow=3.6,SNR=7.8
CFAA LR LR 13 37 13.0
comp=Z,2µm,18.6s,MS4.9,baz=6.7,slow=40
CFAA Coronel Fontan 42.68 188 P **P** **13 16 17.2 -0.7**
CFAA ScP ScP 13 21 57.0 +1.9
CFAA LR LR 13 37 13.0
ZON Zonda 42.69 189⇓ *i*P **P** **13 16 17.6 -0.4**
CBKS Cedar Bluff 43.80 316 *e*P **P** **13 16 25.6 -1.4**
CBKS pmax pmax
comp=Z,240nm,1.0s,mb5.9
CBKS Cedar Bluff 43.80 316 *e*P **P** **13 16 25.1 -1.8**
comp=Z,241nm,0.9s,mb5.9
CBKS LR LR
comp=Z,6µm,21.0s,MS5.5
MDZ Mendoza 44.03 189 *e*P **P** **13 16 28.4 -0.4**
MDZ *e* 13 22 56.8
MDZ Mendoza 44.03 189 *e*P **P** **13 16 28.4 -0.4**
MDZ *e* 13 22 56.8
MDZ *e* 13 23 41.8
MDZ LR LR 13 32 51.1
SCHQ Schefferville 44.04 356 P **P** **13 16 28.8 -0.1**
comp=Z,1µm,0.9s,mb6.6,baz=172,slow=6.6,SNR=652
SCHQ ScP ScP 13 22 00.2 -0.4
comp=Z,35nm,1.0s,baz=157,slow=5.5,SNR=4.1
SCHQ S **S** **13 22 56.6 -0.5**
comp=Z,7.4nm,1.0s,baz=311,slow=15,SNR=2.1
SCHQ LR LR 13 33 25.9
comp=Z,6µm,21.9s,MS5.5,baz=86,slow=34
SCHQ Schefferville 44.04 356 *e*P **P** **13 16 28.6 -0.3**
comp=Z,2µm,0.9s,mb6.8
SCHQ LR LR
comp=Z,9µm,22.0s,MS5.6
CHIE El Hierro 44.33 61 P **P** **13 16 30.3 -0.9**
comp=Z,51nm,0.7s,mb5.4
ECSD EROS,Sioux Fal 44.50 324 *e*P **P** **13 16 30.9 -1.7**
comp=Z,0.7nm,0.3s
ECSD *ep*P pP 13 16 50.8 +3.8
PEL Peldehue 44.59 191⇑ *i*P **P** **13 16 32.5 -0.7**
GDL2 Guadalupe Moun 44.59 305 *e*P **P** **13 16 32.9 -0.4**
EYMN Ely 44.60 332 *e*P **P** **13 16 31.1 -2.3**
EYMN LR LR
comp=Z,10µm,20.0s,MS5.7
FCH Farellones 44.69 190⇓ *i*P **P** **13 16 34.2 +0.1**
CLCH Cerro Calan 44.80 190⇓ *i*P **P** **13 16 34.8 -0.2**
EGOM La Gomera 45.08 61 P **P** **13 16 36.3 -0.8**
comp=Z,42nm,0.8s,mb5.3
LMEL Las Melosas 45.19 190⇓ *i*P **P** **13 16 37.9 -0.1**
MNTX Cornudas Mount 45.26 304 *e*P **P** **13 16 38.0 -0.6**
comp=Z,281nm,1.0s,mb6.0
MNTX LR LR
comp=Z,3µm,19.0s,MS5.2
CCAN Las Canadas 45.61 61 P **P** **13 16 41.6 +0.3**
comp=Z,16nm,0.7s,mb5.0
LPA La Plata 45.67 176 *de*P **P** **13 16 42.0 +0.2**
LPA *ep*P pP 13 16 56.0 -0.3
LPA *e*PCP PcP 13 18 22.0 +2.9
EBAJ Bajamar 45.91 61 P **P** **13 16 44.5 +0.8**
comp=Z,64nm,0.8s,mb5.6
EOSO Osorio 46.48 62 P **P** **13 16 49.2 +1.0**
comp=Z,43nm,0.9s,mb5.4
PMAR Madeira 46.53 55 *e*P **P** **13 16 49.1 +0.5**
PMAR *ep*P pP 13 17 02.6 -0.5
BNM Barren Site 47.01 307 *e*P **P** **13 16 53.1 +0.8**
LPM Los Pinos Moun 47.06 307 *e*P **P** **13 16 52.9 +0.1**
PMPS Porto Santo 47.09 55 *e*P **P** **13 16 53.4 +0.4**
comp=Z,179nm,1.2s,mb5.9
PMPS *ep*P pP 13 17 06.9 -0.7
ANMO Albuquerque 47.14 308 *e*P **P** **13 16 53.7 +0.4**
ANMO pmax pmax
comp=Z,250nm,1.0s
ANMO Albuquerque 47.14 308 *e*P **P** **13 16 53.3 0.0**
comp=Z,253nm,1.0s,mb6.1
ANMO LR LR
comp=Z,5µm,21.0s,MS5.5
LENM Lemitar 47.29 307 *e*P **P** **13 16 54.5 +0.1**
SDCO Great Sand Dun 47.42 312 *e*P **P** **13 16 54.6 -0.9**
SDCO LR LR
comp=Z,7µm,20.0s,MS5.7
LAZ Ladron 47.49 307 *e*P **P** **13 16 56.6 +0.5**
LAZ *ep*P pP 13 17 16.4 +5.8
CFTV Fuerteventura 47.82 61 P **P** **13 16 58.3 -0.4**
comp=Z,22nm,0.7s,mb5.3
LPIG La Paz 47.92 293 LR LR 13 39 25.8
comp=Z,2µm,21.1s,MS5.0,slow=39
LPIG La Paz 47.92 293 *i* P **P** **13 16 59.6 +0.2**
ULM Lac du Bonnet 48.27 331 P **P** **13 16 59.4 -2.8**
comp=Z,305nm,0.9s,mb6.3,baz=132,slow=7.5,SNR=180
ULM ScP ScP 13 22 16.5 -1.7
comp=Z,23nm,0.8s,baz=117,slow=3.4,SNR=4.2
ULM S **S** **13 23 49.4 -8.4**
comp=Z,8.7nm,0.9s,baz=69,slow=22,SNR=3.8
ULM LR LR 13 37 26.7
comp=Z,9µm,19.7s,MS5.7,baz=127,slow=36
ULM Lac du Bonnet 48.27 331 *e*P **P** **13 16 59.3 -2.8**
comp=Z,371nm,0.9s,mb6.4
ISCO Idaho Springs 48.32 314 *e*P **P** **13 17 01.4 -1.1**
ISCO pmax pmax
comp=Z,116nm,0.9s,mb5.9
ISCO MLR MLR
comp=Z,7µm,21.0s,MS5.6
ISCO Idaho Springs 48.32 314 *e*P **P** **13 17 01.4 -1.1**
comp=Z,107nm,0.9s,mb5.9
ISCO LR LR
comp=Z,5µm,21.0s,MS5.5
EFAM Famara 48.44 61 P **P** **13 17 03.7 +0.3**
comp=Z,143nm,1.0s,mb6.0
TRQA Tornquist 48.66 180 *e*P **P** **13 17 03.6 -1.6**
comp=Z,412nm,1.3s,mb6.3
TRQA LR LR
comp=Z,12µm,22.0s,MS5.8
PHWY Pilot Hill 48.84 316 *e*P **P** **13 17 05.0 -1.5**
SMCO Snowmass 49.04 313 *e*P **P** **13 17 07.7 -0.3**
RSSD Black Hills 49.21 320 *e*P **P** **13 17 08.0 -1.3**
RSSD pmax pmax
comp=Z,98nm,0.9s,mb5.8
RSSD MLR MLR
comp=Z,5µm,21.0s,MS5.5
RSSD Black Hills 49.21 320 *e*P **P** **13 17 08.0 -1.3**
comp=Z,88nm,0.9s,mb5.8
RSSD LR LR
comp=Z,5µm,21.0s,MS5.5
TUC Tucson 49.84 303 *e*P **P** **13 17 14.0 -0.1**
TUC *e**PP pP 13 17 32.3 +3.5
TUC MLR MLR
comp=Z,3µm,20.0s,MS5.3
RWWY Rawlins 50.20 316 *e*P **P** **13 17 15.6 -1.2**
comp=Z,142nm,1.2s,mb5.9
WUAZ Wupatki 51.14 307 *e*P **P** **13 17 24.2 +0.3**
WUAZ LR LR
comp=Z,4µm,21.0s,MS5.4
DGMT Dagmar 51.53 325 *e*P **P** **13 17 26.6 -0.2**
DGMT LR LR
comp=Z,6µm,21.0s,MS5.6
SRU San Rafael 51.59 312 *e*P **P** **13 17 27.0 -0.3**
SRU pmax pmax
comp=Z,173nm,0.8s,mb6.0
SRU San Rafael 51.59 312 *e*P **P** **13 17 27.0 -0.2**
comp=Z,173nm,0.8s,mb6.0
LAO LASA Array 51.80 322 *e*P **P** **13 17 28.0 -0.9**
LAO LR LR
comp=Z,3µm,20.0s,MS5.3
PLCA Paso Flores 51.98 188 P **P** **13 17 29.8 -0.4**
comp=Z,326nm,1.0s,mb6.2,baz=6.3,slow=7.9,SNR=350
PLCA LR LR 13 43 19.0
comp=Z,5µm,19.1s,MS5.6,baz=8.5,slow=40
PLCA Paso Flores 51.98 188 *e*P **P** **13 17 29.7 -0.5**
PLCA LR LR
comp=Z,5µm,21.0s,MS5.5
TMUT Trail Mountain 52.15 312 *e*P **P** **13 17 31.6 +0.1**
BW06 Boulder Array 52.23 316 PFAKE 13 17 40.0 +8.0
BW06 LR LR
comp=Z,4µm,21.0s,MS5.4
PDAR Pinedale Array 52.23 316 P **P** **13 17 31.1 -1.0**
comp=Z,171nm,0.8s,mb6.0,baz=118,slow=8.6,SNR=350
PDAR PcP PcP 13 18 42.5 -0.4
comp=Z,69nm,1.0s,baz=116,slow=6.8,SNR=6.0
PDAR ScP ScP 13 22 33.0 -2.2
comp=Z,19nm,0.8s,baz=114,slow=6.2,SNR=8.0
PDAR S **S** **13 24 49.2 -3.6**
comp=Z,2.4nm,1.0s,baz=112,slow=11,SNR=2.4
PDAR LR LR 13 40 40.0
comp=Z,3µm,21.0s,MS5.4,baz=123,slow=37
PDAR P4KPbc 13 54 58.7
comp=Z,3.8nm,0.9s,baz=109,slow=5.1,SNR=26
PDAR Pinedale Array 52.23 316 P **P** **13 17 31.1 -1.0**
PDAR PcP PcP 13 18 42.5 -0.4
PDAR ScP ScP 13 22 33.0 -2.2
PDAR S **S** **13 24 49.2 -3.6**
PDAR LR LR 13 40 40.0
DAU Daniels Canyon 52.56 313 *e*P **P** **13 17 34.5 0.0**
MSU Marysvale 52.62 310 *e*P **P** **13 17 35.2 +0.2**
MVU Marysvale 52.65 310 PFAKE 13 17 50.0 +15
MVU LR LR
comp=Z,7µm,22.0s,MS5.7
MPU Maple Canyon 52.70 312 *e*P **P** **13 17 35.5 0.0**
MPU LR LR
comp=Z,5µm,21.0s,MS5.5
TCUT Toone Canyon 52.91 314⇑ *e*P **P** **13 17 36.1 -0.9**
TCUT *e*ScP ScP 13 22 37.9 -0.2
RLMT Red Lodge 52.99 319⇑ *e*P **P** **13 17 36.7 -1.0**
comp=Z,101nm,1.1s,mb5.7
NLU North Lily Min 53.00 312 *e*P **P** **13 17 37.6 -0.1**
CTU Camp Tracy 53.01 313 *e*P **P** **13 17 37.5 -0.3**
FRB Frobisher Bay 53.02 356 P **P** **13 17 37.2 -0.7**
comp=Z,826nm,0.8s,mb6.7,baz=172,slow=7.5,SNR=206
FRB S **S** **13 25 02.3 -1.3**
comp=Z,16nm,1.0s,baz=48,slow=16,SNR=3.0
FRB Frobisher Bay 53.02 356 P **P** **13 17 37.2 -0.7**
FRB S **S** **13 25 02.3 -1.3**
HWUT Hardware Ranch 53.19 314 *e*P **P** **13 17 38.1 -1.0**
comp=Z,192nm,0.9s,mb6.0
HWUT LR LR
comp=Z,2µm,20.0s,MS5.3
CCUT Cedar City 53.24 309⇑ *e*P **P** **13 17 39.4 -0.1**
CCUT *e*ScP ScP 13 22 40.2 +0.6
NOQ North Oquirrh 53.26 313 *e*P **P** **13 17 39.3 -0.3**
LOHW Long Hollow 53.26 317 *e*P **P** **13 17 38.9 -0.7**
comp=Z,157nm,1.0s,mb5.9
AHID Auburn Hatcher 53.28 316 *e*P **P** **13 17 39.0 -0.8**
comp=Z,165nm,0.8s,mb6.0
AHID LR LR
comp=Z,3µm,20.0s,MS5.4
SNOW Snow King Moun 53.31 317 *e*P **P** **13 17 39.8 -0.2**
comp=Z,357nm,1.3s,mb6.1
SNOW *e*ScP ScP 13 22 39.9 0.0
GLA Glamis 53.33 303 *e*P **P** **13 17 40.4 +0.3**
REDW Red Top Meadow 53.33 317 *e*P **P** **13 17 38.7 -1.5**
REDW *e*ScP ScP 13 22 39.5 -0.5
ARUT Antelope Range 53.37 309 *e*P **P** **13 17 40.5 0.0**
ARUT *e*ScP ScP 13 22 41.0 +0.9
MOOW Moose Ponds 53.41 317 *e*P **P** **13 17 39.4 -1.4**
comp=Z,44nm,1.1s,mb5.3
LKWY Lake 53.50 318 *e*P **P** **13 17 41.9 +0.5**
LKWY *e*ScP ScP 13 22 41.6 +0.9
LKWY LR LR
comp=Z,6µm,20.0s,MS5.6
FLWY Flagg Ranch 53.51 317 *e*P **P** **13 17 40.8 -0.7**
comp=Z,155nm,1.2s,mb5.8
GCMT Greycliff 53.53 320 *e*P **P** **13 17 41.1 -0.5**
IMW Indian Meadow 53.60 317 *e*P **P** **13 17 41.3 -0.8**
comp=Z,93nm,0.8s,mb5.8
DUG Dugway 53.61 312 *e*P **P** **13 17 42.1 -0.1**
DUG pmax pmax
comp=Z,194nm,0.9s,mb6.0
DUG MLR MLR
comp=Z,3µm,20.0s,MS5.3
DUG Dugway 53.61 312 *e*P **P** **13 17 42.1 -0.1**
comp=Z,194nm,0.9s,mb6.0
DUG LR LR
comp=Z,3µm,20.0s,MS5.3
RRI2 Red Ridge 53.65 316 *e*P **P** **13 17 45.8 +3.3**
DCID1 Drake Creek 53.65 317 *e*P **P** **13 17 42.0 -0.5**
FCC Fort Churchill 53.67 340 *e*P **P** **13 17 40.8 -1.9**
SPUT South Promonto 53.71 314 *e*P **P** **13 17 40.9 -2.0**
YFT Old Faithful 53.74 318 *e*P **P** **13 17 43.7 +0.5**
YFT *e*ScP ScP 13 22 41.7 0.0
YNR Norris Junctio 53.74 318 *e*P **P** **13 17 42.6 -0.6**
YNR *e*ScP ScP 13 22 41.9 +0.1
YMR Madison River 53.91 318⇑ *e*P **P** **13 17 43.9 -0.5**
comp=Z,122nm,0.8s,mb5.9
YMR *e*ScP ScP 13 22 43.0 +0.5
YMR LR LR
comp=Z,5µm,20.0s,MS5.6
BGU Big Grassy Mou 54.00 313⇑ *e*P **P** **13 17 44.1 -0.9**
BGU *e*ScP ScP 13 22 42.4 -0.5
FFC Flin Flon 54.01 332 P **P** **13 17 42.7 -2.5**
comp=Z,1µm,1.0s,mb6.8,SNR=34
HVU Hansel Valley 54.10 314 *e*P **P** **13 17 44.8 -1.0**
QLMT Earthquake Lak 54.28 318 *e*P **P** **13 17 47.5 +0.4**
QLMT *e*ScP ScP 13 22 43.3 -0.8
LIS Lisbon 54.31 50 *e*P **P** **13 17 46.1 -1.2**
LIS *e*S **S** **13 25 20.6 -0.4**
LIS *e*S **S** **13 25 20.9 -0.1**
LIS AMS AMS 13 38 09.9
comp=Z,2µm,29.4s,MS5.0
LIS Lisbon 54.31 50 *e*P **P** **13 17 46.1 -1.2**
LIS *e*S **S** **13 25 20.6 -0.4**
MORF Marmelete 54.31 52 *e*P **P** **13 17 46.6 -0.8**
MORF *e*S **S** **13 25 20.3 -0.8**
MORF *e*S **S** **13 25 20.6 -0.5**
MORF AMS AMS 13 38 23.3
comp=Z,2µm,17.9s,MS5.1
MORF Marmelete 54.31 52 *e*P **P** **13 17 46.6 -0.7**
MORF *e*S **S** **13 25 20.3 -0.8**
PTEO Sao Teotonio 54.32 51 *e*P **P** **13 17 48.0 +0.6**
comp=Z,103nm,1.5s,mb5.5
PTEO *ep*P pP 13 18 01.9 -0.3
PLOU Loures 54.35 50 *e*P **P** **13 17 47.6 0.0**
PLOU *ep*P pP 13 18 01.8 -0.7
SHPR Sheep Range 54.36 307 *e*P **P** **13 17 48.0 +0.3**
PLML Palmela 54.45 50 *ep*P pP 13 18 03.0 -0.2
EGMT Eagleton 54.55 322 *e*P **P** **13 17 48.5 -0.6**
EGMT LR LR
comp=Z,4µm,22.0s,MS5.5
BOZ Bozeman (W) 54.73 319 *e*P **P** **13 17 49.6 -0.7**
BOZ pmax pmax
comp=Z,579nm,1.5s,mb6.4
BOZ MLR MLR
comp=Z,4µm,22.0s,MS5.4
BOZ Bozeman (W) 54.73 319 *e*P **P** **13 17 49.6 -0.8**
comp=Z,579nm,1.5s,mb6.4
BOZ LR LR
comp=Z,4µm,22.0s,MS5.4
PFO Pinyon Flat Ob 54.77 304 P **P** **13 17 51.0 +0.3**
comp=Z,281nm,1.0s,mb6.2,SNR=11
PFO Pinyon Flat Ob 54.77 304 *e*P **P** **13 17 50.2 -0.4**
PFO LR LR
comp=Z,474nm,20.0s,MS4.6
BAR Barrett 54.78 302 *e*P **P** **13 17 50.7 0.0**
PBEJ Beja 55.10 51 *e*P **P** **13 17 53.7 +0.7**
comp=Z,92nm,1.6s,mb5.6
PBEJ *ep*P pP 13 18 07.4 -0.5
PTOM Tomar 55.11 49 *e*P **P** **13 17 53.1 0.0**
comp=Z,180nm,1.6s,mb5.8
PTOM *ep*P pP 13 18 07.4 -0.6
EVO Evora 55.11 50⇑ *i*P **P** **13 17 52.5 -0.6**
comp=Z,251nm,1.7s,mb5.7
EVO *ep*P pP 13 18 06.9 -1.1
EVO *e*R
comp=Z,3µm,21.8s
TRCR Troy Canyon 55.15 309⇑ *i*P **P** **13 17 53.3 -0.1**
MCMT McKenzie Canyo 55.21 318 *e*P **P** **13 17 53.2 -0.6**
DLMT Dillon 55.25 318 *e*P **P** **13 17 53.3 -0.8**
comp=Z,399nm,1.5s,mb6.2
EGRO El Granado 55.27 52 P **P** **13 17 55.0 +0.7**
comp=Z,24nm,0.8s,mb5.3
HRY Holter Researc 55.28 320 *e*P **P** **13 17 51.9 -2.4**
LRM Limekiln Ridge 55.33 319 *e*P **P** **13 17 54.3 -0.4**
GSC Goldstone 55.40 305 *e*P **P** **13 17 55.5 +0.3**
PTO Porto 55.41 47 *e*P **P** **13 17 55.5 +0.3**
PTO *ep*P pP 13 18 09.7 -0.4
PESTR Estremoz 55.52 50 *e*P **P** **13 17 55.3 -0.8**
comp=Z,198nm,1.5s,mb5.9
PESTR Estremoz 55.52 50 *e*P **P** **13 17 56.4 +0.3**
comp=Z,198nm,1.5s,mb5.9
PESTR *ep*P pP 13 18 10.8 -0.1
PESTR *ep*P pP 13 18 11.8 +0.8
PESTR *e*S **S** **13 25 37.7 +0.4**
PESTR *e*LQ 13 31 51.5
PESTR *e*LR LR 13 34 13.0
ELK Elko 55.54 312 *e*P **P** **13 17 56.0 -0.2**
ELK MLR MLR
comp=Z,6µm,22.0s
EMAZ Mazaricos 55.70 45 P **P** **13 17 59.6 +2.3**
comp=Z,13nm,0.9s,mb5.0
HLID Hailey 55.83 316 *e*P **P** **13 17 57.5 -0.8**
comp=Z,185nm,1.0s,mb6.1
HLID LR LR
comp=Z,3µm,20.0s,MS5.4
EBAD Badajoz 55.93 50 P **P** **13 17 59.4 +0.4**
comp=Z,392nm,1.6s,mb6.2
EMIN Mina Concepcio 55.95 52 P **P** **13 17 59.3 +0.2**
comp=Z,21nm,1.0s,mb5.1
MTE Manteigas 55.96 48 *e*P **P** **13 17 59.2 0.0**
comp=Z,178nm,1.5s,mb5.9
MTE Manteigas 55.96 48 *e*P **P** **13 17 59.3 +0.1**
comp=Z,178nm,1.5s,mb5.9
MTE *ep*P pP 13 18 13.1 -1.0
MTE *ep*P pP 13 18 13.7 -0.4
MTE *e*S **S** **13 25 44.6 +1.4**
MTE *e*LR LR 13 33 47.0
comp=Z,2µm,24.0s
MTE Manteigas 55.96 48 *e*P **P** **13 17 59.8 +0.6**
STS Santiago 55.98 45 P **P** **13 17 59.3 0.0**
STS pmax pmax
comp=Z,12nm,0.7s,mb5.0
STS Santiago 55.98 45 P **P** **13 17 59.3 0.0**
comp=Z,12nm,0.7s,mb5.0
SFS San Fernando 56.02 53 *e*P **P** **13 17 59.0 -0.6**
MWC Mount Wilson 56.20 304 *e*P **P** **13 18 01.0 +0.1**
DAC Darwin (Calif) 56.22 306 *e*P **P** **13 18 01.2 +0.1**
DAC *e**PP pP 13 18 21.9 +5.9
DAC pmax pmax
comp=Z,140nm,1.1s,mb5.9
DAC MLR MLR
comp=Z,3µm,21.0s,MS5.4
DAC Darwin (Calif) 56.22 306 *e*P **P** **13 18 01.2 +0.1**
comp=Z,140nm,1.1s,mb5.9
DAC *ep*P pP 13 18 21.9 +5.8
DAC LR LR
comp=Z,3µm,21.0s,MS5.4
CHMT Chamberlain Mo 56.26 320 *e*P **P** **13 18 00.5 -0.8**
DBIC Dimbokro 56.31 89 P **P** **13 17 59.9 -1.8**
comp=Z,52nm,0.4s,mb5.9,baz=262,slow=9.1,SNR=119
DBIC S **S** **13 25 45.6 -2.2**
comp=Z,5.2nm,1.1s,baz=287,slow=16,SNR=1.6
DBIC LR LR 13 40 02.3
comp=Z,1µm,19.1s,MS4.9,baz=256,slow=34
DBIC Dimbokro 56.31 89 P **P** **13 17 59.9 -1.8**
DBIC S **S** **13 25 45.7 -2.1**
DBIC pmax pmax
comp=Z,52nm,0.4s
DBIC smax
comp=N,5.0nm,1.1s
DBIC Dimbokro 56.31 89 *e*P **P** **13 18 00.2 -1.6**
comp=N,86nm,0.7s,mb5.9
DBIC LR LR
comp=Z,1µm,19.0s,MS5.0
TPH Tonopah 56.33 309 *e*P **P** **13 18 01.4 -0.5**
TPH *e**PP pP 13 18 17.5 +0.7
TPH pmax pmax
comp=Z,127nm,1.0s,mb5.9
TPH MLR MLR
comp=Z,3µm,22.0s,MS5.3
TPH Tonopah 56.33 309 *e*P **P** **13 18 01.4 -0.5**
comp=Z,127nm,1.0s,mb5.9
TPH *ep*P pP 13 18 17.5 +0.8
TPH LR LR
comp=Z,3µm,22.0s,MS5.3
ESPR Espera 56.38 53 P **P** **13 18 02.9 +0.6**
comp=Z,32nm,0.8s,mb5.4
SFJD Kangerlussuaq 56.56 5 P **P** **13 18 03.6 +0.1**
comp=Z,271nm,0.9s,mb6.3,baz=174,slow=7.2,SNR=79
SFJD Kangerlussuaq 56.56 5 *i* P **P** **13 18 03.1 -0.4**
comp=Z,389nm,0.9s,mb6.4
SFJD *i* S **S** **13 25 53.6 +2.5**
SFJD
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 56.56 5 *i* P **P** **13 18 03.1 -0.4**
SFJD *i* S **S** **13 25 53.6 +2.5**
SFJD pmax pmax
comp=Z,389nm,0.9s,mb6.4
SFJD MLR MLR
comp=Z,2µm,19.0s,MS5.3
EJIF Jimena Fronter 56.60 53 P **P** **13 18 04.7 +1.0**
EJIF pmax pmax
comp=Z,34nm,0.9s,mb5.4
EJIF Jimena Fronter 56.60 53 P **P** **13 18 04.7 +1.0**
comp=Z,34nm,0.9s,mb5.4
MDT Midelt 56.64 58 LR LR 13 40 45.7
comp=Z,2µm,18.2s,MS5.2,baz=136,slow=34
MSO Missoula 56.66 320 *e*P **P** **13 18 02.9 -1.3**
MSO LR LR
comp=Z,2µm,20.0s,MS5.3
ISA Isabella 56.80 306 *e*P **P** **13 18 05.7 +0.5**
ISA pmax pmax
comp=Z,1.0nm,1.8s
ISA MLR MLR
comp=Z,614nm,21.0s
ISA Isabella 56.80 306 *e*P **P** **13 18 05.7 +0.5**
comp=Z,250nm,1.8s,mb5.9
ISA LR LR
comp=Z,3µm,21.0s,MS5.3
ERUA La Rua 56.82 46 P **P** **13 18 05.4 +0.1**
ERUA pmax pmax
comp=Z,40nm,0.9s,mb5.5
ERUA La Rua 56.82 46 P **P** **13 18 05.4 +0.1**
comp=Z,40nm,0.9s,mb5.4
BMN Battle Mountai 56.91 311 *e*P **P** **13 18 05.7 -0.3**
BMN pmax pmax
comp=Z,314nm,1.4s,mb6.2
BMN MLR MLR
comp=Z,3µm,20.0s,MS5.4
BMN Battle Mountai 56.91 311 *e*P **P** **13 18 05.7 -0.3**
comp=Z,314nm,1.4s,mb6.2
BMN LR LR

comp=Z,3µm,20.0s,MS5.4
ECAL Calabor 56.98 47 P **P** 13 18 07.2 +0.8
comp=Z,18nm,0.8s,mb5.2
EPON Pontenova 57.09 45 P **P** 13 18 07.2 0.0
comp=Z,42nm,1.1s,mb5.4
EMIJ Mijas 57.17 53 P **P** 13 18 08.2 +0.4
comp=Z,13nm,1.0s,mb4.9
MTUM Tungsten Hills 57.21 308 *e*P **P** 13 18 08.3 +0.3
NVAR Mina Array Bea 57.24 309 P **P** 13 18 08.1 -0.2
comp=Z,30nm,0.7s,mb5.4,baz=121,slow=4.0,SNR=133
NVAR pP pP 13 18 23.1 -0.2
comp=Z,26nm,0.9s,baz=94,slow=2.8,SNR=6.1
NVAR ScP ScP 13 22 57.9 +0.7
comp=Z,9.9nm,0.8s,baz=164,slow=5.3,SNR=4.7
NVAR P4KPbc 13 55 21.4
comp=Z,2.0nm,0.8s,baz=153,slow=4.1,SNR=20
NVAR Mina Array Bea 57.24 309 P **P** 13 18 08.1 -0.2
NVAR pP pP 13 18 23.1 -0.2
NVAR ScP ScP 13 22 57.9 +0.7
SNCC San Nicolas Is 57.24 303 *e*P **P** 13 18 08.4 +0.1
comp=Z,136nm,1.0s,mb5.9
SNCC LR LR
comp=Z,1µm,19.0s,MS5.1
WALA Waterton Lakes 57.49 322 *e*P **P** 13 18 09.1 -1.0
comp=Z,170nm,1.2s,mb6.0
BSMT Bassoo Peak 57.57 320 *e*P **P** 13 18 10.1 -0.6
EADA Adamuz 57.65 52 P **P** 13 18 09.8 -1.4
comp=Z,14nm,0.9s,mb5.0
ELOJ Sierra Loja 57.77 53 P **P** 13 18 12.7 +0.7
ELOJ pmax pmax
comp=Z,13nm,0.8s,mb5.0
ELOJ Sierra Loja 57.77 53 P **P** 13 18 12.7 +0.7
comp=Z,13nm,0.8s,mb5.0
ERON Agron 58.02 53 P **P** 13 18 16.3 +2.6
comp=Z,22nm,0.9s,mb5.2
WAKR Walker 58.13 309 *e*P **P** 13 18 14.9 +0.4
PTRM Twissleman Ran 58.19 305 *e*P **P** 13 18 14.9 0.0
BMO Blue Mountains 58.21 316 *e*P **P** 13 18 13.2 -1.9
BMO pmax pmax
comp=Z,287nm,1.5s,mb6.1
BMO MLR MLR
comp=Z,6µm,22.0s,MS5.6
BMO Blue Mountains 58.21 316 *e*P **P** 13 18 13.2 -1.9
comp=Z,288nm,1.5s,mb6.1
BMO LR LR
comp=Z,6µm,22.0s,MS5.6
ECOG Cogollos-Vega 58.26 53 P **P** 13 18 16.3 +0.9
ECOG pmax pmax
comp=Z,34nm,0.8s,mb5.4
ECOG Cogollos-Vega 58.26 53 P **P** 13 18 16.3 +0.9
comp=Z,34nm,0.8s,mb5.4
VAL Valentia 58.29 35⇓ *i*P **P** 13 18 14.4 -1.2
VAL Valentia 58.29 35⇓ *i*P **P** 13 18 14.5 -1.1
PAHR Pah Rah Range 58.35 310 *e*P **P** 13 18 13.6 -2.5
comp=Z,136nm,1.4s,mb5.8
EALB Alboran 58.44 54 P **P** 13 18 14.7 -2.0
comp=Z,54nm,0.9s,mb5.6
EARI Arriondas 58.44 46 P **P** 13 18 17.4 +0.7
comp=Z,154nm,1.3s,mb5.9
ESDC Sonseca Array 58.45 50 P **P** 13 18 17.1 +0.3
comp=Z,26nm,0.8s,mb5.3,baz=258,slow=7.0,SNR=76
ESDC pP pP 13 18 30.4 -1.4
comp=Z,229nm,0.9s,baz=263,slow=6.8,SNR=39
ESDC S **S** **13 26 16.9 +1.1**
comp=Z,0.4nm,0.4s,baz=258,slow=19,SNR=2.2
ESDC PKPPKP 13 47 58.2
comp=Z,0.2nm,0.3s,baz=124,slow=8.8,SNR=2.2
ESDC Sonseca Array 58.45 50 P **P** 13 18 17.4 +0.6
comp=Z,117nm,0.9s,mb5.9
ESLA Sonseca Array 58.45 50 *e*P **P** 13 18 17.4 +0.7
ESLA LR LR
comp=Z,10µm,20.0s,MS5.9
WVOR Wild Horse Val 58.46 313 *e*P **P** 13 18 15.6 -1.2
WVOR MLR MLR
comp=Z,5µm,20.0s,MS5.6
GUD Guadarrama 58.52 49 P **P** 13 18 17.6 +0.3
GUD pmax pmax
comp=Z,26nm,0.8s,mb5.3
GUD Guadarrama 58.52 49 P **P** 13 18 17.6 +0.3
comp=Z,26nm,0.8s,mb5.3
EBER Berja 58.72 53 P **P** 13 18 20.2 +1.6
comp=Z,56nm,0.8s,mb5.7
CMB Columbia Colle 58.76 308 *e*P **P** 13 18 20.5 +1.6
CMB MLR MLR
comp=Z,2µm,19.0s,MS5.3
EDM Edmonton 58.90 327 *e*P **P** 13 18 18.3 -1.6
LRV Little Rabbit 58.97 306 *e*P **P** 13 18 20.6 +0.3
EHUE Huescar 59.12 52 P **P** 13 18 21.8 +0.4
EHUE pmax pmax
comp=Z,117nm,1.4s,mb5.7
EHUE Huescar 59.12 52 P **P** 13 18 21.8 +0.4
comp=Z,117nm,1.4s,mb5.7
NEW Newport 59.19 320 LR LR 13 45 39.3
comp=Z,3µm,18.9s,MS5.5,baz=106,slow=38
NEW Newport 59.19 320 *e*P **P** 13 18 20.1 -1.8
NEW MLR MLR
comp=Z,5µm,22.0s
ENIJ Nijar 59.27 53 P **P** 13 18 23.9 +1.4
ENIJ pmax pmax
comp=Z,35nm,1.0s,mb5.3
ENIJ Nijar 59.27 53 P **P** 13 18 23.9 +1.4
comp=Z,34nm,1.0s,mb5.3
EVIA Vianos 59.34 51 P **P** 13 18 23.3 +0.3
EVIA pmax pmax
comp=Z,74nm,1.3s,mb5.6
EVIA Vianos 59.34 51 P **P** 13 18 23.3 +0.3
comp=Z,74nm,1.3s,mb5.6
SAO San Andreas Ge 59.36 306 *e*P **P** 13 18 23.0 -0.1
SAO pmax pmax
comp=Z,141nm,1.3s,mb5.8
SAO MLR MLR
comp=Z,2µm,21.0s,MS5.3
SAO San Andreas Ge 59.36 306 *e*P **P** 13 18 23.0 -0.1
comp=Z,142nm,1.3s,mb5.8
SAO LR LR
comp=Z,2µm,21.0s,MS5.3
MOD Modoc 59.53 312 *e*P **P** 13 18 22.5 -1.7
MOD LR LR
comp=Z,4µm,20.0s,MS5.5
OLHC Oulhaca 59.63 56 P pP 13 18 39.0 -1.0
RPN Rapa Nui 59.63 230 P **P** 13 18 25.9 +0.9
comp=Z,200nm,1.0s,mb6.1,baz=269,slow=1.2,SNR=6.5
RPN LR LR 13 40 08.5
comp=Z,1µm,21.4s,MS5.1,baz=52,slow=32
RPN Rapa Nui 59.63 230 *e*P **P** 13 18 26.4 +1.5
ELAN Lanestosa 59.67 46 P **P** 13 18 25.6 +0.3
comp=Z,5.5nm,0.9s
ODZI Dziouia 59.79 55 P pP 13 18 41.0 -0.1
OHCM Honcut 59.86 309 *e*P **P** 13 18 26.1 -0.4
ETOB Tobarra 60.08 52 P **P** 13 18 29.5 +1.5
comp=Z,34nm,0.9s,mb5.4
ETOR Torete 60.12 49 P **P** 13 18 29.7 +1.4
ETOR pmax pmax
comp=Z,34nm,0.6s,mb5.5
ETOR Torete 60.12 49 P **P** 13 18 29.7 +1.4
comp=Z,34nm,0.6s,mb5.6
HAWA Hanford 60.16 318 *e*P **P** 13 18 26.9 -1.6
HAWA LR LR
comp=Z,3µm,20.0s,MS5.5
EMUR La Murta 60.18 53 P **P** 13 18 29.7 +1.0
comp=Z,50nm,0.9s,mb5.5
SNIWA Snively Ranch 60.26 318 P **P** 13 18 28.4 -0.9
SAC San Andreas 60.27 307 *e*P **P** 13 18 29.5 +0.2
LASM Arnica Sink 60.39 312 P **P** 13 18 29.6 -0.6
EPH Ephrata 60.48 319 P **P** 13 18 29.5 -1.2
DCN Croghan 60.52 34⇑ *i*P **P** 13 18 31.2 +0.2
CGH1 Goonhilly 60.53 38 *e*P **P** 13 18 31.1 0.0
CGH1 Goonhilly 60.53 38 *e*P **P** 13 18 31.1 0.0
CCA1 Carnmenellis 60.54 38⇑ *e*P **P** 13 18 31.2 +0.1
CCA1 Carnmenellis 60.54 38⇑ *e*P **P** 13 18 31.2 +0.1
CMA1 Manaccan 60.56 38⇑ *e*P **P** 13 18 31.6 +0.3
CMA1 Manaccan 60.56 38⇑ *e*P **P** 13 18 31.6 +0.3
CRQ2 Rosemanowes 2 60.57 38⇑ *e*P **P** 13 18 31.8 +0.4
CRQ2 Rosemanowes 2 60.57 38⇑ *e*P **P** 13 18 31.8 +0.4
BORG Borgarnes 60.66 19 P **P** 13 18 29.7 -2.3
comp=Z,163nm,1.1s,mb6.1,baz=195,slow=4.7,SNR=9.6
BORG pP pP 13 18 44.0 -3.0
comp=Z,118nm,1.0s,baz=240,slow=3.8,SNR=6.5
BORG Borgarnes 60.66 19 *e*P **P** 13 18 29.8 -2.2
comp=Z,351nm,1.3s,mb6.3
BORG *e*pP pP 13 18 44.8 -2.2
BORG LR LR
comp=Z,2µm,22.0s,MS5.2
ODJA Bouhanifia 60.67 56 P pP 13 18 49.0 +1.9
MXC Moxie City 60.71 318 P **P** 13 18 32.1 -0.3
MCCM Marconi Confer 60.72 308 *e*P **P** 13 18 32.3 -0.1
comp=Z,84nm,0.8s,mb5.9
WDC Whiskeytown Da 60.90 310 *e*P **P** 13 18 31.0 -2.6
WDC MLR MLR
comp=Z,3µm,22.0s,MS5.4
DLF Lyons Farm 60.91 34⇑ *i*P **P** 13 18 33.7 0.0
DSB Dublin 60.98 34 *e*P **P** 13 18 33.8 -0.3
comp=Z,272nm,1.3s,mb6.2
ELIZ Elizondo 61.01 47 P **P** 13 18 34.2 -0.1
ELIZ pmax pmax
comp=Z,15nm,0.8s,mb5.2
ELIZ Elizondo 61.01 47 P **P** 13 18 34.2 -0.1
comp=Z,15nm,0.8s,mb5.2
HOPS Hopland 61.01 309 *e*P **P** 13 18 34.6 +0.2
comp=Z,193nm,1.2s,mb6.1
HOPS LR LR
comp=Z,4µm,22.0s,MS5.5
EALK Alkurruntz 61.04 46 P **P** 13 18 35.4 +0.9
comp=Z,92nm,1.3s,mb5.8
TBM Table Mountain 61.08 318 P **P** 13 18 34.6 -0.2
BKCOR Black Crater 61.08 315 P **P** 13 18 35.1 +0.3
EBEN Beniarda 61.11 52 P **P** 13 18 35.6 +0.6
comp=Z,94nm,0.9s,mb5.9
QUIF Quistinic 61.12 41⇑ *i*P **P** 13 18 35.2 +0.1
comp=Z,611nm,1.4s,mb6.2
QUIF *e*pP pP 13 18 50.1 -0.1
QUIF Quistinic 61.12 41⇑ *i*P **P** 13 18 35.2 +0.1
QUIF *e**PP pP 13 18 50.1 -0.1
QUIF pmax pmax
comp=Z,305nm,1.4s,mb6.2
QUIF Quistinic 61.12 41⇑ *i*P **P** 13 18 35.2 +0.1
comp=Z,305nm,1.4s,mb6.2
QUIF *e*pP pP 13 18 50.1 -0.1
ROSF Rostrenen 61.17 40⇑ *i*P **P** 13 18 35.7 +0.3
comp=Z,585nm,1.4s,mb6.2
ROSF Rostrenen 61.17 40⇑ *i*P **P** 13 18 35.7 +0.3
ROSF pmax pmax
comp=Z,292nm,1.4s,mb6.2
EMOS Mosqueruela 61.21 50 P **P** 13 18 37.3 +1.6
comp=Z,28nm,0.8s,mb5.5
SJPF Ste Jean 61.21 47⇑ *i*P **P** 13 18 36.4 +0.7
comp=Z,477nm,1.4s,mb6.1
SJPF *e*pP pP 13 18 51.3 +0.5
SJPF Ste Jean 61.21 47⇑ *i*P **P** 13 18 36.4 +0.7
SJPF *e**PP pP 13 18 51.3 +0.5
SJPF pmax pmax
comp=Z,239nm,1.4s,mb6.1
SJPF Ste Jean 61.21 47⇑ *i*P **P** 13 18 36.4 +0.7
comp=Z,239nm,1.4s,mb6.1
SJPF *e*pP pP 13 18 51.3 +0.5
OSSF Osses 61.22 47 *e*P **P** 13 18 36.1 +0.3
YBH Yreka Blue Hor 61.25 312 *e*P **P** 13 18 34.3 -1.7
YBH pmax pmax
comp=Z,73nm,0.8s
YBH MLR MLR
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 61.25 312 *e*P **P** 13 18 34.3 -1.7
comp=Z,74nm,0.8s,mb5.9
YBH LR LR
comp=Z,3µm,22.0s,MS5.4
TWW Teanaway 61.25 318 P **P** 13 18 35.8 -0.2
HTL Hartland 61.26 37 P **P** 13 18 36.4 +0.3
HTL AMb AMB 13 18 37.9
comp=Z,133nm,1.4s,mb5.9
HTL Hartland 61.26 37⇑ *e*P **P** 13 18 36.4 +0.3
HTL AMb AMB 13 18 37.9
comp=Z,133nm,1.4s,mb5.9
HTL AMS AMS 13 39 22.1
comp=Z,1µm,23.6s,MS5.0
HTL Hartland 61.26 37⇑ *e*P **P** 13 18 36.4 +0.3
HTL AMb AMB 13 18 37.9
comp=Z,133nm,1.4s,mb5.9
HTL AMS AMS 13 39 22.1
comp=Z,1µm,23.6s,MS5.0
HOOD Mount Hood Mea 61.30 316 *e*P **P** 13 18 36.0 -0.3
LARF Larrau 61.37 47 *e*P **P** 13 18 37.7 +0.9
DYA Yadsworthy 61.41 38⇑ *e*P **P** 13 18 36.4 -0.6
DYA Yadsworthy 61.41 38⇑ *e*P **P** 13 18 36.4 -0.6
OJGS Djebel Guires 61.42 56 P pP 13 18 54.0 +1.8
KIPM Iron Peak 61.46 309 *e*P **P** 13 18 36.7 -0.7
ESAC San Caprasio 61.47 48 P **P** 13 18 39.0 +1.5
comp=Z,66nm,0.8s,mb5.8
ATE Arette 61.58 47 *e*P **P** 13 18 38.8 +0.6
GMM Mts of Mourne 61.59 34⇑ *i*P **P** 13 18 38.1 -0.1
GMM Mts of Mourne 61.59 34⇑ *i*P **P** 13 18 38.1 -0.1
SGMF Saint Gilles 61.60 41⇑ *i*P **P** 13 18 38.7 +0.3
comp=Z,760nm,1.4s,mb6.3
ETSF Etsaut 61.65 47⇑ *i*P **P** 13 18 39.4 +0.8
comp=Z,291nm,1.5s,mb5.9
ETSF Etsaut 61.65 47⇑ *i*P **P** 13 18 39.4 +0.8
ETSF pmax pmax
comp=Z,146nm,1.5s,mb5.9
ETSF Etsaut 61.65 47⇑ *i*P **P** 13 18 39.4 +0.8
comp=Z,146nm,1.5s,mb5.9
HEX Exmoor 61.69 37⇑ *e*P **P** 13 18 38.2 -0.7
HEX Exmoor 61.69 37⇑ *e*P **P** 13 18 38.2 -0.7
HSA Swansea 61.70 37⇑ *e*P **P** 13 18 38.6 -0.4
HSA Swansea 61.70 37⇑ *e*P **P** 13 18 38.6 -0.4
EANR 'Ain N'Sour 61.76 55 P **P** 13 18 41.0 +1.6
LON Longmire 61.77 317 *e*P **P** 13 18 38.5 -1.0
REYF Montagne du Re 61.80 47 *e*P **P** 13 18 40.7 +1.0
GCL Cushendall 61.82 33⇑ *i*P **P** 13 18 39.9 +0.1
GCL Cushendall 61.82 33⇑ *i*P **P** 13 18 39.9 +0.1
KHMM Horse Mountain 61.84 311 *e*P **P** 13 18 39.3 -0.6
ETRT Tiaret 61.85 56 P **P** 13 18 42.5 +2.5
ERTA Horta de San J 61.92 49 P **P** 13 18 41.1 +0.6
comp=Z,44nm,1.1s,mb5.5
TOA0 Torodi Ar. Sit 61.95 81 *e*P **P** 13 18 39.0 -1.7
TOA0 *e*pP pP 13 18 52.6 -3.3
TORD Torodi Ar. Bea 61.95 81 P **P** 13 18 39.1 -1.6
comp=Z,40nm,0.7s,mb5.7,baz=290,slow=6.7,SNR=336
TORD pP pP 13 18 52.3 -3.5
comp=Z,59nm,0.7s,baz=281,slow=5.7,SNR=21
TORD S **S** **13 26 54.7 -6.0**
comp=Z,1.2nm,0.7s,baz=263,slow=5.4,SNR=2.2
TORD PKKP 13 39 31.9
comp=Z,0.6nm,0.7s,baz=182,slow=3.7,SNR=6.5
TORD LR LR 13 43 38.3
comp=Z,2µm,21.8s,MS5.3,baz=270,slow=34
TORD PKPPKP 13 47 51.0
comp=Z,4.5nm,1.1s,baz=94,slow=2.7,SNR=6.2
TORD Torodi Ar. Bea 61.95 81 P **P** 13 18 39.1 -1.6
TORD pP pP 13 18 52.3 -3.5
TORD S **S** **13 26 54.7 -6.0**
TORD PKKP 13 39 31.9
TORD LR LR 13 43 38.3
TORD P'P' 13 47 51.0
YRE Yr Eifl 61.97 35⇑ *e*P **P** 13 18 40.6 -0.3
YRE Yr Eifl 61.97 35⇑ *e*P **P** 13 18 40.6 -0.3
YRC Rhoscolyn 61.98 35⇑ *e*P **P** 13 18 40.6 -0.4
YRC Rhoscolyn 61.98 35⇑ *e*P **P** 13 18 40.6 -0.4
ECHA Ech Chlef 61.99 55 P **P** 13 18 42.0 +1.0
WCB1 Church Bay 62.05 35⇑ *e*P **P** 13 18 41.2 -0.2
WCB1 Church Bay 62.05 35⇑ *e*P **P** 13 18 41.2 -0.2
VIEF Viey 62.06 47 *e*P **P** 13 18 42.4 +1.0
KRMB Red Mountain 62.09 311 *e*P **P** 13 18 41.2 -0.4
WLF1 Llynfaes 62.10 35⇑ *e*P **P** 13 18 41.6 0.0
WLF1 Llynfaes 62.10 35⇑ *e*P **P** 13 18 41.6 0.0
EBIE Bielsa 62.11 47 P **P** 13 18 42.8 +1.0
comp=Z,35nm,0.6s,mb5.7
EBNR Beni Rached 62.14 55 P **P** 13 18 45.0 +3.0
YLL Llanberis 62.17 35⇑ *e*P **P** 13 18 42.3 +0.1
YLL Llanberis 62.17 35⇑ *e*P **P** 13 18 42.3 +0.1
GMK Mull of Kintyr 62.21 32⇑ *i*P **P** 13 18 42.3 -0.1
GMK Mull of Kintyr 62.21 32⇑ *i*P **P** 13 18 42.3 -0.1
WIM Isle of Man 62.25 34⇑ *i*P **P** 13 18 42.9 +0.2
WIM Isle of Man 62.25 34⇑ *i*P **P** 13 18 42.9 +0.2
COR Corvallis 62.27 315 P **P** 13 18 42.3 -0.5
COR S **S** **13 27 05.9 +1.2**
COR Corvallis 62.27 315 *e*P **P** 13 18 42.2 -0.6
COR *e**SP sP 13 19 01.1 -3.1
COR pmax pmax
comp=Z,424nm,1.4s,mb6.4
COR MLR MLR
comp=Z,2µm,19.0s,MS5.3
COR Corvallis 62.27 315 *e*P **P** 13 18 42.2 -0.7
comp=Z,424nm,1.4s,mb6.4
COR *e*sP sP 13 19 01.1 -3.1
COR LR LR
comp=Z,2µm,19.0s,MS5.3
RESF Ens 62.27 47 *e*P **P** 13 18 44.2 +1.3
EPF Esparros 62.32 47⇑ *i*P **P** 13 18 43.0 -0.2
comp=Z,588nm,1.4s,mb6.2
EPF Esparros 62.32 47⇑ *i*P **P** 13 18 43.0 -0.2
EPF pmax pmax
comp=Z,294nm,1.4s,mb6.2
EPF Esparros 62.32 47⇑ *i*P **P** 13 18 43.0 -0.2
comp=Z,294nm,1.4s,mb6.2
HTR Trewern Hill 62.33 36⇑ *e*P **P** 13 18 43.0 -0.3
HTR Trewern Hill 62.33 36⇑ *e*P **P** 13 18 43.0 -0.3
EFI East Falkland 62.36 177 P **P** 13 18 43.8 +0.3
comp=Z,1µm,1.1s,SNR=6.1
EFI East Falkland 62.36 177 *e*P **P** 13 18 43.6 +0.1
EFI LR LR
comp=Z,2µm,22.0s,MS5.3
WPM1 Penmaenmawr 62.36 35⇑ *i*P **P** 13 18 43.5 0.0
WPM1 Penmaenmawr 62.36 35⇑ *i*P **P** 13 18 43.5 0.0
EIBI Ibiza 62.37 52 P **P** 13 18 44.2 +0.7
comp=Z,34nm,0.7s,mb5.6
GIM North Isle of 62.42 34⇑ *i*P **P** 13 18 43.7 -0.1
GIM North Isle of 62.42 34⇑ *i*P **P** 13 18 43.7 -0.1
KBO Bosley Butte 62.45 312 *e*P **P** 13 18 44.6 +0.6
KBO *e*pP pP 13 19 01.4 +2.2
HGH Gray Hill 62.46 37⇑ *e*P **P** 13 18 43.5 -0.6
HGH Gray Hill 62.46 37⇑ *e*P **P** 13 18 43.5 -0.6
MCH1 Michaelchurch 62.46 37 P **P** 13 18 43.9 -0.3
MCH1 AMb AMB 13 18 46.0
comp=Z,128nm,1.5s,mb5.8
MCH1 Michaelchurch 62.46 37⇑ *e*P **P** 13 18 43.9 -0.3
MCH1 ⇑ *e*P 13 18 43.9
MCH1 AMb AMB 13 18 46.0
comp=Z,128nm,1.5s,mb5.8
MCH1 AMS AMS 13 39 58.8
comp=Z,1µm,24.5s,MS5.0
MCH1 Michaelchurch 62.46 37⇑ *e*P **P** 13 18 43.9 -0.3
MCH1 ⇑ *e*P 13 18 43.9
MCH1 AMb AMB 13 18 46.0
comp=Z,128nm,1.5s,mb5.8
MCH1 AMS AMS 13 39 58.8
comp=Z,1µm,24.5s,MS5.0
GAL1 Galloway 62.49 33 P **P** 13 18 44.1 -0.2
GAL1 AMb AMB 13 18 46.2
comp=Z,364nm,1.5s,mb6.3
GAL1 Galloway 62.49 33⇑ *e*P **P** 13 18 44.1 -0.2
GAL1 ⇑ *i*P 13 18 44.1
GAL1 AMb AMB 13 18 46.2
comp=Z,364nm,1.5s,mb6.3
GAL1 AMS AMS 13 45 50.7
comp=Z,4µm,18.7s,MS5.6
GAL1 Galloway 62.49 33⇑ *e*P **P** 13 18 44.1 -0.2
GAL1 ⇑ *i*P 13 18 44.1
GAL1 AMb AMB 13 18 46.2
comp=Z,364nm,1.5s,mb6.3
GAL1 AMS AMS 13 45 50.7
comp=Z,4µm,18.7s,MS5.6
KSK Scoval 62.50 30⇑ *e*P **P** 13 18 43.8 -0.6
KSK Scoval 62.50 30⇑ *e*P **P** 13 18 43.8 -0.6
EPOB Poblet 62.55 49 P **P** 13 18 45.4 +0.7
comp=Z,36nm,1.3s,mb5.3
MELF Melles 62.59 47 *e*P **P** 13 18 46.6 +1.6
SBD1 Bryn Du 62.61 36⇑ *i*P **P** 13 18 45.0 -0.2
SBD1 Bryn Du 62.61 36⇑ *i*P **P** 13 18 45.0 -0.2
GNW Green Mountain 62.64 318 *e*P **P** 13 18 43.2 -2.2
SWK Warminster 62.64 38⇑ *e*P **P** 13 18 45.6 +0.3
SWK Warminster 62.64 38⇑ *e*P **P** 13 18 45.6 +0.3
KEBM Edson Butte 62.65 313 *e*P **P** 13 18 45.5 +0.1
RRH Rhenigidale 62.70 29⇑ *e*P **P** 13 18 45.2 -0.5
RRH Rhenigidale 62.70 29⇑ *e*P **P** 13 18 45.2 -0.5
HLM1 Long Mynd 62.70 36⇑ *e*P **P** 13 18 44.8 -0.9
HLM1 Long Mynd 62.70 36⇑ *e*P **P** 13 18 44.8 -0.9
KAR1 Arisaig 62.71 31⇑ *e*P **P** 13 18 44.8 -0.9
KAR1 Arisaig 62.71 31⇑ *e*P **P** 13 18 44.8 -0.9
GRR Gorron 62.73 41⇑ *i*P **P** 13 18 45.9 0.0
comp=Z,660nm,1.3s,mb6.3
GRR *e*pP pP 13 19 00.8 -0.3
GRR Gorron 62.73 41⇑ *i*P **P** 13 18 45.9 0.0
GRR *e**PP pP 13 19 00.8 -0.3
GRR pmax pmax
comp=Z,330nm,1.3s,mb6.3
GRR Gorron 62.73 41⇑ *i*P **P** 13 18 45.9 0.0
comp=Z,330nm,1.3s,mb6.3
GRR *e*pP pP 13 19 00.8 -0.3
MFF Saint Martin d 62.76 43 *i*P **P** 13 18 46.3 +0.2
comp=Z,477nm,1.4s,mb6.1
PMSU Muirshiel 62.84 32⇑ *e*P **P** 13 18 45.6 -1.1
PMSU Muirshiel 62.84 32⇑ *e*P **P** 13 18 45.6 -1.1
GCD Castle Douglas 62.91 33⇑ *i*P **P** 13 18 46.8 -0.3
GCD Castle Douglas 62.91 33⇑ *i*P **P** 13 18 46.8 -0.3
KPL Plockton 62.97 30 P **P** 13 18 46.6 -0.9
KPL AMb AMB 13 18 49.9
comp=Z,165nm,1.7s,mb5.9
KPL Plockton 62.97 30⇑ *e*P **P** 13 18 46.6 -0.9
KPL AMb AMB 13 18 49.9
comp=Z,165nm,1.7s,mb5.9
KPL AMS AMS 13 40 43.7
comp=Z,1µm,23.3s,MS5.0
KPL Plockton 62.97 30⇑ *e*P **P** 13 18 46.6 -0.9
KPL AMb AMB 13 18 49.9
comp=Z,165nm,1.7s,mb5.9
KPL AMS AMS 13 40 43.7
comp=Z,1µm,23.3s,MS5.0
PGBU Glenifferbraes 62.97 32 P **P** 13 18 47.1 -0.4
PGBU AMb AMB 13 18 48.7
comp=Z,175nm,1.4s,mb6.0
PGBU Glenifferbraes 62.97 32⇑ *e*P **P** 13 18 47.1 -0.4
PGBU AMb AMB 13 18 48.7
comp=Z,175nm,1.4s,mb6.0
PGBU AMS AMS 13 45 54.5
comp=Z,868nm,19.0s,MS5.0
PGBU Glenifferbraes 62.97 32⇑ *e*P **P** 13 18 47.1 -0.4
PGBU AMb AMB 13 18 48.7
comp=Z,175nm,1.4s,mb6.0
PGBU AMS AMS 13 45 54.5
comp=Z,868nm,19.0s,MS5.0
LFF La Frestale 62.99 45 *i*P **P** 13 18 47.7 +0.1
comp=Z,517nm,1.3s,mb6.2
LFF La Frestale 62.99 45 *i*P **P** 13 18 47.7 +0.1
LFF pmax pmax
comp=Z,258nm,1.3s,mb6.2
LFF La Frestale 62.99 45 *i*P **P** 13 18 47.7 +0.1
comp=Z,258nm,1.3s,mb6.2
SWN1 Swindon 63.02 37⇑ *e*P **P** 13 18 47.6 -0.2
SWN1 Swindon 63.02 37⇑ *e*P **P** 13 18 47.6 -0.2
XDE Dent Fell 63.03 34⇑ *e*P **P** 13 18 47.2 -0.7
XDE Dent Fell 63.03 34⇑ *e*P **P** 13 18 47.2 -0.7
KSB Sheil Bridge 63.03 31⇑ *e*P **P** 13 18 46.9 -1.0
KSB Sheil Bridge 63.03 31⇑ *e*P **P** 13 18 46.9 -1.0
FLN La Foliniere 63.07 41⇑ *i*P **P** 13 18 48.2 0.0
comp=Z,677nm,1.1s,mb6.4
FLN *e*R
comp=Z,3µm,22.2s
FLN La Foliniere 63.07 41⇑ *i*P **P** 13 18 48.2 0.0
FLN pmax pmax
comp=Z,339nm,1.1s,mb6.4
FLN MLR MLR
comp=Z,3µm,22.3s,MS5.4
FLN La Foliniere 63.07 41⇑ *i*P **P** 13 18 48.2 0.0
comp=Z,339nm,1.1s,mb6.4
FLN LR LR
comp=Z,3µm,22.3s,MS5.4
RRR Rubha Reidh 63.10 30⇑ *e*P **P** 13 18 47.2 -1.2
RRR Rubha Reidh 63.10 30⇑ *e*P **P** 13 18 47.2 -1.2
RTO Tolsta 63.12 29⇑ *e*P **P** 13 18 47.9 -0.6
RTO Tolsta 63.12 29⇑ *e*P **P** 13 18 47.9 -0.6
SSW Stow on the Wo 63.13 37⇑ *e*P **P** 13 18 48.7 +0.1
SSW Stow on the Wo 63.13 37⇑ *e*P **P** 13 18 48.7 +0.1
BWH Wardlaw 63.17 33⇑ *i*P **P** 13 18 48.8 -0.1
BWH Wardlaw 63.17 33⇑ *i*P **P** 13 18 48.8 -0.1
VGZ Gonzales 63.18 319 P **P** 13 18 47.0 -2.0
EAB Aberfoyle 63.18 32⇑ *i*P **P** 13 18 48.2 -0.7
EAB Aberfoyle 63.18 32⇑ *i*P **P** 13 18 48.2 -0.7
KAC Achnashellach 63.21 30⇑ *e*P **P** 13 18 47.8 -1.3
KAC Achnashellach 63.21 30⇑ *e*P **P** 13 18 47.8 -1.3
SUMG Summit 63.23 8 *e*P **P** 13 18 49.5 +0.3
BBO1 Bothel 63.24 34⇑ *i*P **P** 13 18 49.0 -0.3
BBO1 Bothel 63.24 34⇑ *i*P **P** 13 18 49.0 -0.3
CKE Keswick 63.27 34⇑ *e*P **P** 13 18 49.2 -0.2
CKE Keswick 63.27 34⇑ *e*P **P** 13 18 49.2 -0.2
EMHD Djebel Mahouad 63.27 55 P **P** 13 18 51.0 +1.5
PGC Sidney 63.32 319 *e*P **P** 13 18 48.2 -1.6
BHH Howats Hill 63.38 33⇑ *e*P **P** 13 18 49.5 -0.7
BHH Howats Hill 63.38 33⇑ *e*P **P** 13 18 49.5 -0.7
ABA Alger-Bouzarea 63.41 54 P **P** 13 18 59.0 +8.6
VALF Valcebollere 63.42 48 *e*P **P** 13 18 51.6 +1.1
KWE Weaver Farm 63.46 36⇑ *e*P **P** 13 18 50.2 -0.5
KWE Weaver Farm 63.46 36⇑ *e*P **P** 13 18 50.2 -0.5
ECK Cauldkaine Hil 63.46 33⇑ *e*P **P** 13 18 49.6 -1.1
ECK Cauldkaine Hil 63.46 33⇑ *e*P **P** 13 18 49.6 -1.1

REB **Eisghbrachaidh** 63.46 30⇑ *eP* P **13 18 49.4 -1.3**
REB **Eisghbrachaidh** 63.46 30⇑ *eP* P **13 18 49.4 -1.3**
ESK **Eskdalemuir** 63.47 33 P P **13 18 50.3 -0.5**
comp=Z,346nm,0.8s,mb6.5,SNR=7.8
ESK **Eskdalemuir** 63.47 33⇑ *eP* P **13 18 50.1 -0.7**
ESK AMb AMB 13 18 52.5
comp=Z,166nm,1.8s,mb5.9
ESK **Eskdalemuir** 63.47 33⇑ *eP* P **13 18 50.1 -0.7**
ESK AMb AMB 13 18 52.5
comp=Z,166nm,1.8s,mb5.9
ESK **Eskdalemuir** 63.47 33 *eP* P **13 18 50.5 -0.3**
ESK LR LR
comp=Z,1μm,19.0s,MS5.0
EKA **Eskdalemuir Ar** 63.50 33 P P **13 18 49.9 -1.1**
comp=Z,20nm,0.7s,mb5.4,baz=253,slow=5.7,SNR=58
EKA pP pP 13 19 04.7 -1.5
comp=Z,30nm,0.7s,baz=246,slow=4.8,SNR=13
EAU **Auchinoon** 63.52 32⇑ *eP* P **13 18 50.0 -1.2**
EAU **Auchinoon** 63.52 32⇑ *eP* P **13 18 50.0 -1.2**
CARF **Carcanieres** 63.53 48 *eP* P **13 18 52.2 +1.0**
RJF **Les Rejaudoux** 63.60 45⇑ *iP* P **13 18 51.6 -0.1**
comp=Z,438nm,1.4s,mb6.0
RJF *epP* pP 13 19 06.5 -0.4
RJF *eR*
comp=Z,2μm,22.5s
RJF **Les Rejaudoux** 63.60 45⇑ *iP* P **13 18 51.6 -0.1**
RJF *e**PP pP 13 19 06.5 -0.4
RJF pmax pmax
comp=Z,219nm,1.4s,mb6.0
RJF MLR MLR
comp=Z,2μm,22.5s,MS5.3
RJF **Les Rejaudoux** 63.60 45⇑ *iP* P **13 18 51.6 -0.1**
comp=Z,219nm,1.4s,mb6.0
RJF *epP* pP 13 19 06.5 -0.4
RJF LR LR
comp=Z,2μm,22.5s,MS5.3
ETOS **Mallorca** 63.60 51 P P **13 18 52.5 +0.8**
comp=Z,63nm,1.1s,mb5.6
RSC **Scourie** 63.61 29⇑ *eP* P **13 18 50.7 -1.0**
RSC **Scourie** 63.61 29⇑ *eP* P **13 18 50.7 -1.0**
SKP1 **Kophill** 63.67 37⇑ *eP* P **13 18 51.7 -0.5**
SKP1 **Kophill** 63.67 37⇑ *eP* P **13 18 51.7 -0.5**
EDI **Edinburgh** 63.69 32 P P **13 18 52.5 +0.3**
EDI AMb AMB 13 18 53.9
comp=Z,154nm,1.6s,mb5.8
EDI **Edinburgh** 63.69 32⇑ *eP* P **13 18 52.5 +0.3**
EDI AMb AMB 13 18 53.9
comp=Z,154nm,1.6s,mb5.8
EDI AMS AMS 13 46 27.6
comp=Z,3μm,18.6s,MS5.5
EDI **Edinburgh** 63.69 32⇑ *eP* P **13 18 52.5 +0.3**
EDI AMb AMB 13 18 53.9
comp=Z,154nm,1.6s,mb5.8
EDI AMS AMS 13 46 27.6
comp=Z,3μm,18.6s,MS5.5
EBL **Broad Law** 63.71 33⇑ *iP* P **13 18 51.8 -0.6**
EBL **Broad Law** 63.71 33⇑ *iP* P **13 18 51.8 -0.6**
KBI1 **Birley Grange** 63.71 36⇑ *eP* P **13 18 51.2 -1.2**
KBI1 **Birley Grange** 63.71 36⇑ *eP* P **13 18 51.2 -1.2**
MTLF **Montolieu** 63.73 47⇑ *iP* P **13 18 52.4 -0.1**
comp=Z,387nm,1.4s,mb6.0
MTLF *epP* pP 13 19 07.4 -0.3
MTLF **Montolieu** 63.73 47⇑ *iP* P **13 18 52.4 -0.1**
MTLF *e**PP pP 13 19 07.4 -0.3
MTLF pmax pmax
comp=Z,194nm,1.4s,mb5.9
MTLF **Montolieu** 63.73 47⇑ *iP* P **13 18 52.4 -0.1**
comp=Z,194nm,1.4s,mb5.9
MTLF *epP* pP 13 19 07.4 -0.3
YKA **Yellowknife Ar** 63.82 336 P P **13 18 50.7 -2.3**
comp=Z,146nm,0.8s,mb6.0,baz=110,slow=7.3,SNR=321
YKA pP pP 13 19 05.8 -2.4
comp=Z,36nm,0.8s,baz=106,slow=7.2,SNR=4.7
YKA LR LR 13 46 18.1
comp=Z,6μm,19.2s,MS5.8,baz=145,slow=36
YKA PKP2bc 13 47 57.6
comp=Z,0.8nm,0.7s,baz=296,slow=4.0,SNR=3.4
YKA **Yellowknife Ar** 63.82 336 P P **13 18 50.7 -2.4**
YKA *PP pP 13 19 05.8 -2.5
YKA **Yellowknife Ar** 63.82 336 P P **13 18 50.7 -2.4**
YKA pP pP 13 19 05.8 -2.4
YKA LR LR 13 46 18.1
YKA ⇑*e* 13 47 57.6
FILF **Fillols** 63.84 48 *eP* P **13 18 53.6 +0.4**
LRDF **Laroque-de-Fa** 63.89 47 *eP* P **13 18 53.6 0.0**
CAF **Calviac** 63.91 45⇑ *iP* P **13 18 53.6 -0.1**
comp=Z,431nm,1.3s,mb6.0
CAF **Calviac** 63.91 45⇑ *iP* P **13 18 53.6 -0.1**
CAF pmax pmax
comp=Z,216nm,1.3s,mb6.0
CAF **Calviac** 63.91 45⇑ *iP* P **13 18 53.6 -0.1**
comp=Z,216nm,1.3s,mb6.0
ESY **Stoneypath** 63.99 33⇑ *iP* P **13 18 53.6 -0.6**
ESY **Stoneypath** 63.99 33⇑ *iP* P **13 18 53.6 -0.6**
XSO **Sourhope Farm** 64.04 33⇑ *eP* P **13 18 53.8 -0.7**
XSO **Sourhope Farm** 64.04 33⇑ *eP* P **13 18 53.8 -0.7**
MCD **Coleburn Disti** 64.26 31⇑ *eP* P **13 18 55.2 -0.8**
MCD **Coleburn Disti** 64.26 31⇑ *eP* P **13 18 55.2 -0.8**
TCF **Toulx Ste Croi** 64.28 44⇑ *iP* P **13 18 55.8 -0.3**
comp=Z,280nm,1.2s,mb5.8
TCF *epP* pP 13 19 11.0 -0.3
TCF **Toulx Ste Croi** 64.28 44⇑ *iP* P **13 18 55.8 -0.3**
TCF *e**PP pP 13 19 11.0 -0.3
TCF pmax pmax
comp=Z,140nm,1.2s,mb5.9
TCF **Toulx Ste Croi** 64.28 44⇑ *iP* P **13 18 55.8 -0.3**
comp=Z,140nm,1.2s,mb5.9
TCF *epP* pP 13 19 11.0 -0.3
MME1 **Meikle Cairn** 64.31 31⇑ *eP* P **13 18 55.1 -1.2**
MME1 **Meikle Cairn** 64.31 31⇑ *eP* P **13 18 55.1 -1.2**
ORE **Reay** 64.37 30⇑ *iP* P **13 18 56.1 -0.6**
ORE **Reay** 64.37 30⇑ *iP* P **13 18 56.1 -0.6**
SCO **Scoresbysund** 64.53 14 *iP* P **13 18 58.6 +0.8**
comp=Z,31nm,0.9s,mb5.3
SCO *i* S S **13 27 38.5 +5.6**
SCO **Scoresbysund** 64.53 14 *i* P P **13 18 58.6 +0.8**
SCO *i* S S **13 27 38.5 +5.6**
SCO pmax pmax
comp=Z,31nm,0.9s,mb5.3
OBR **Brabster** 64.69 30⇑ *eP* P **13 18 58.0 -0.8**
OBR **Brabster** 64.69 30⇑ *eP* P **13 18 58.0 -0.8**
PYM **Petit Puy Mans** 64.72 44 *eP* P **13 18 59.7 +0.7**
BGF **Bois d'Agland** 64.76 44⇑ *iP* P **13 18 59.1 -0.2**
comp=Z,585nm,1.4s,mb6.1
BGF **Bois d'Agland** 64.76 44⇑ *iP* P **13 18 59.1 -0.2**
BGF pmax pmax
comp=Z,292nm,1.4s,mb6.1
BGF **Bois d'Agland** 64.76 44⇑ *iP* P **13 18 59.1 -0.2**
comp=Z,292nm,1.4s,mb6.1
HYF **Humbligny** 64.76 43 *eP* P **13 18 59.3 0.0**
LBL **Lubilhac** 64.79 45 *eP* P **13 19 00.2 +0.7**
AGO **Saint Agoulin** 64.86 44 *eP* P **13 19 00.4 +0.5**
LASF **Ste Croix** 65.02 46⇑ *iP* P **13 19 01.5 +0.5**
comp=Z,329nm,1.4s,mb5.9
AEU **East Anglia Un** 65.13 37 *eP* P **13 19 00.8 -0.9**
AEU **East Anglia Un** 65.13 37 *eP* P **13 19 00.8 -0.9**
AVF **Avril sur Loir** 65.15 43⇑ *iP* P **13 19 01.4 -0.4**
comp=Z,348nm,1.4s,mb5.9
AVF *epP* pP 13 19 16.4 -0.6
AVF **Avril sur Loir** 65.15 43⇑ *iP* P **13 19 01.4 -0.4**
AVF *e**PP pP 13 19 16.4 -0.6
AVF pmax pmax
comp=Z,174nm,1.4s,mb5.9
AVF **Avril sur Loir** 65.15 43⇑ *iP* P **13 19 01.4 -0.4**
comp=Z,174nm,1.4s,mb5.9
AVF *epP* pP 13 19 16.4 -0.6
ABA1 **Baconsthorpe** 65.15 36⇑ *eP* P **13 19 01.1 -0.8**
ABA1 **Baconsthorpe** 65.15 36⇑ *eP* P **13 19 01.1 -0.8**
PLDF **La Plantade** 65.18 44 *eP* P **13 19 02.7 +0.7**
SET **Setif** 65.25 55 P P **13 19 04.0 +1.6**
CKHR **Kef el Ahmar** 65.32 55 P pP 13 19 10.9 +0.9
SMF **Signal de Mont** 65.45 44⇑ *iP* P **13 19 03.5 -0.2**
comp=Z,679nm,1.4s,mb6.2
SMF **Signal de Mont** 65.45 44⇑ *iP* P **13 19 03.5 -0.2**
SMF pmax pmax
comp=Z,340nm,1.4s,mb6.2
SMF **Signal de Mont** 65.45 44⇑ *iP* P **13 19 03.5 -0.2**
comp=Z,340nm,1.4s,mb6.2
LOR **Lormes** 65.58 43⇑ *iP* P **13 19 04.1 -0.5**
comp=Z,395nm,1.4s,mb6.0
LOR *epP* pP 13 19 19.1 -0.7
LOR *eR*
comp=Z,2μm,20.5s
LOR **Lormes** 65.58 43⇑ *iP* P **13 19 04.1 -0.5**
LOR *e**PP pP 13 19 19.1 -0.7
LOR pmax pmax
comp=Z,198nm,1.4s,mb6.0
LOR MLR MLR
comp=Z,2μm,20.5s,MS5.3
LOR **Lormes** 65.58 43⇑ *iP* P **13 19 04.1 -0.5**
comp=Z,198nm,1.4s,mb6.0
LOR *epP* pP 13 19 19.1 -0.7
LOR LR LR
comp=Z,2μm,20.5s,MS5.3
CMER **Merouana** 65.61 56 P P **13 19 07.0 +2.2**
DFRA **Djebel Bou Aff** 65.66 55 P pP 13 19 21.0 +0.7
USHA **Ushuaia** 65.69 184 P P **13 19 05.1 -0.2**
comp=Z,57nm,0.9s,mb5.6,baz=354,slow=3.4,SNR=12
USHA PcP PcP 13 19 35.8 -0.5
comp=Z,45nm,1.0s,baz=18,slow=6.6,SNR=3.7
VIVF **Saint-Julien-l** 65.72 46⇑ *iP* P **13 19 06.2 +0.7**
comp=Z,406nm,1.6s,mb5.9
VIVF **Saint-Julien-l** 65.72 46⇑ *iP* P **13 19 06.2 +0.7**
VIVF pmax pmax
comp=Z,203nm,1.6s,mb5.9
VIVF **Saint-Julien-l** 65.72 46⇑ *iP* P **13 19 06.2 +0.7**
comp=Z,203nm,1.6s,mb5.9
PRAF **Pradon** 65.92 47 *eP* P **13 19 08.3 +1.6**
WAL1 **Walls** 66.03 28⇑ *eP* P **13 19 06.6 -0.9**
WAL1 **Walls** 66.03 28⇑ *eP* P **13 19 06.6 -0.9**
GELF **Grande-Etoile** 66.04 47 *eP* P **13 19 08.3 +0.7**
CTEI **Djebel Teioual** 66.05 55 P pP 13 19 24.0 +1.2
CASM **Ain Smara** 66.13 55 P pP 13 19 24.5 +1.1
LRW **Lerwick** 66.19 28 P P **13 19 07.9 -0.6**
LRW AMb AMB 13 19 10.0
comp=Z,68nm,1.4s,mb5.5
LRW **Lerwick** 66.19 28 *eP* P **13 19 07.9 -0.6**
LRW AMb AMB 13 19 10.0
comp=Z,68nm,1.4s,mb5.5
LRW AMS AMS 13 48 16.4
comp=Z,950nm,17.8s,MS5.0
LRW **Lerwick** 66.19 28 *eP* P **13 19 07.9 -0.6**
LRW AMb AMB 13 19 10.0
comp=Z,68nm,1.4s,mb5.5
LRW AMS AMS 13 48 16.4
comp=Z,950nm,17.8s,MS5.0
BERF **Bertagne** 66.22 47 *eP* P **13 19 10.0 +1.3**
SMRF **Simiane la Rot** 66.23 47⇑ *iP* P **13 19 09.5 +0.7**
comp=Z,208nm,1.4s,mb5.7
SMRF *epP* pP 13 19 24.6 +0.6
SMRF **Simiane la Rot** 66.23 47⇑ *iP* P **13 19 09.5 +0.7**
comp=Z,208nm,1.4s,mb6.0
SMRF *epP* pP 13 19 24.6 +0.6
PUYF **Puyloubier** 66.26 47 *eP* P **13 19 10.0 +1.0**
VILF **Villemus** 66.31 47 *eP* P **13 19 10.7 +1.4**
CKFL **Kef-Lekhel** 66.32 55 P pP 13 19 25.0 +0.4
CAEH `Ain El Ouahch 66.45 55 P pP 13 19 26.0 +0.5
STOF **St-Etienne Org** 66.47 47 *eP* P **13 19 11.1 +0.8**
SNF **Seneffe** 66.49 40 P P **13 19 10.0 -0.4**
SNF AP pP 13 19 24.6 -1.0
TRIS **Tristan da Cun** 66.51 139 PFAKE 13 19 20.0 +9.5
TRIS LR LR
comp=Z,8μm,22.0s,MS5.9
TAVF **Tavernes** 66.53 47 *eP* P **13 19 11.3 +0.6**
ORIF **Oris-en-Rattie** 66.58 46⇑ *iP* P **13 19 11.8 +0.8**
comp=Z,212nm,1.4s,mb5.7
ORIF *eR*
comp=Z,3μm,23.0s
ORIF **Oris-en-Rattie** 66.58 46⇑ *iP* P **13 19 11.8 +0.8**
ORIF pmax pmax
comp=Z,106nm,1.4s,mb5.7
ORIF **Oris-en-Rattie** 66.58 46⇑ *iP* P **13 19 11.8 +0.8**
comp=Z,106nm,1.4s,mb5.7
MEZF **Maizieres J'vi** 66.59 42⇑ *iP* P **13 19 10.7 -0.4**
comp=Z,572nm,1.2s,mb6.2
MEZF **Maizieres J'vi** 66.59 42⇑ *iP* P **13 19 10.7 -0.4**
comp=Z,572nm,1.2s,mb6.5
UCC **Uccle** 66.59 39 P P **13 19 10.2 -0.9**
UCC AP pP 13 19 25.5 -0.8
DOU **Dourbes** 66.60 40 P P **13 19 10.5 -0.6**
DOU AP pP 13 19 25.8 -0.6
GIVF **Givet** 66.75 40⇑ *iP* P **13 19 11.6 -0.4**
comp=Z,437nm,1.2s,mb6.1
GIVF *epP* pP 13 19 26.6 -0.7
GIVF **Givet** 66.75 40⇑ *iP* P **13 19 11.6 -0.4**
GIVF *e**PP pP 13 19 26.6 -0.7
GIVF pmax pmax
comp=Z,219nm,1.2s,mb6.1
GIVF **Givet** 66.75 40⇑ *iP* P **13 19 11.6 -0.4**
comp=Z,218nm,1.2s,mb6.1
GIVF *epP* pP 13 19 26.6 -0.7
LMR **La Mourre** 66.82 47⇑ *iP* P **13 19 12.4 -0.1**
comp=Z,226nm,1.4s,mb5.7
LMR **La Mourre** 66.82 47⇑ *iP* P **13 19 12.4 -0.1**
LMR pmax pmax
comp=Z,113nm,1.4s,mb5.7
LMR **La Mourre** 66.82 47⇑ *iP* P **13 19 12.4 -0.1**
comp=Z,113nm,1.4s,mb5.7
CMAH **Djebel Manchou** 66.90 55 P pP 13 19 27.0 -1.3
ABSA **Djebel Ababsia** 66.93 55 P pP 13 19 30.5 +2.0
FRF **La Foret Royal** 66.95 47⇑ *iP* P **13 19 13.1 -0.2**
comp=Z,255nm,1.3s,mb5.8
FRF **La Foret Royal** 66.95 47⇑ *iP* P **13 19 13.1 -0.2**
FRF pmax pmax
comp=Z,127nm,1.3s,mb5.8
FRF **La Foret Royal** 66.95 47⇑ *iP* P **13 19 13.1 -0.2**
comp=Z,127nm,1.3s,mb5.8
CABF **La Chapelle** 66.97 44⇑ *iP* P **13 19 13.4 -0.1**
comp=Z,470nm,1.4s,mb6.0
CABF **La Chapelle** 66.97 44⇑ *iP* P **13 19 13.4 -0.1**
CABF pmax pmax
comp=Z,235nm,1.4s,mb6.0
CABF **La Chapelle** 66.97 44⇑ *iP* P **13 19 13.4 -0.1**
comp=Z,235nm,1.4s,mb6.0
BCLA **Clavier** 67.11 40 P P **13 19 14.0 -0.3**
BCLA AP pP 13 19 29.1 -0.5
THEF **They Montfort** 67.16 42 *eP* P **13 19 15.0 +0.3**
MBDF **Montbardon** 67.18 46⇑ *iP* P **13 19 15.4 +0.6**
comp=Z,259nm,1.4s,mb5.8
MBDF *epP* pP 13 19 30.5 +0.4
MBDF **Montbardon** 67.18 46⇑ *iP* P **13 19 15.4 +0.6**
MBDF *e**PP pP 13 19 30.5 +0.4
MBDF pmax pmax
comp=Z,129nm,1.4s,mb5.8
MBDF **Montbardon** 67.18 46⇑ *iP* P **13 19 15.4 +0.6**
comp=Z,129nm,1.4s,mb5.8
MBDF *epP* pP 13 19 30.5 +0.4
LPL **La Plagne** 67.26 45⇑ *iP* P **13 19 16.1 +0.8**
comp=Z,275nm,1.3s,mb5.8
LPL **La Plagne** 67.26 45⇑ *iP* P **13 19 16.1 +0.8**
LPL pmax pmax
comp=Z,138nm,1.3s,mb5.8
LPL **La Plagne** 67.26 45⇑ *iP* P **13 19 16.1 +0.8**
comp=Z,138nm,1.3s,mb5.8
LPG **La Plagne** 67.27 45⇑ *iP* P **13 19 16.3 +0.9**
comp=Z,421nm,1.3s,mb6.0
LPG **La Plagne** 67.27 45⇑ *iP* P **13 19 16.3 +0.9**
LPG pmax pmax
comp=Z,211nm,1.3s,mb6.0
LPG **La Plagne** 67.27 45⇑ *iP* P **13 19 16.3 +0.9**
comp=Z,211nm,1.3s,mb6.0
MVIF **Mont Vial** 67.35 47 *eP* P **13 19 17.3 +1.4**
HAU **Haudompre** 67.36 42⇑ *iP* P **13 19 15.3 -0.7**
comp=Z,297nm,1.3s,mb5.8
HAU *eR*
comp=Z,1μm,21.0s
HAU **Haudompre** 67.36 42⇑ *iP* P **13 19 15.3 -0.7**
HAU pmax pmax
comp=Z,148nm,1.3s,mb5.9
HAU MLR MLR
comp=Z,1μm,21.0s,MS5.2
HAU **Haudompre** 67.36 42⇑ *iP* P **13 19 15.3 -0.7**
comp=Z,148nm,1.3s,mb5.9
HAU LR LR
comp=Z,1μm,21.0s,MS5.2
BEBN **Eben Emael** 67.41 39 P P **13 19 15.5 -0.8**
BEBN AP pP 13 19 31.2 -0.4
TOUF **Mont Tournerai** 67.43 47 *eP* P **13 19 17.7 +1.3**
REVF **Revere** 67.49 47 *eP* P **13 19 17.7 +0.9**
LUCF **Luceram** 67.49 47 *eP* P **13 19 18.0 +1.2**
WLF **Walferdange** 67.51 41 *eP* P **13 19 16.7 -0.2**
comp=Z,219nm,1.2s,mb6.1
WLF *eS* S 13 28 07.9 -1.2
WLF **Walferdange** 67.51 41 P P **13 19 17.2 +0.3**
WLF AP pP 13 19 31.5 -0.7
WLF **Walferdange** 67.51 41 *eP* P **13 19 17.0 +0.1**
WLF *e**PP pP 13 19 31.7 -0.5
WLF pmax pmax
comp=Z,418nm,1.0s,mb6.4
WLF **Walferdange** 67.51 41 *eP* P **13 19 17.0 +0.1**
comp=Z,418nm,1.0s,mb6.4
WLF *epP* pP 13 19 31.7 -0.5
SBF **Sospel** 67.55 47⇑ *iP* P **13 19 17.1 -0.1**
comp=Z,288nm,1.4s,mb5.8
SBF **Sospel** 67.55 47⇑ *iP* P **13 19 17.1 -0.1**
SBF pmax pmax
comp=Z,144nm,1.4s,mb5.8
SBF **Sospel** 67.55 47⇑ *iP* P **13 19 17.1 -0.1**
comp=Z,144nm,1.4s,mb5.8
AUTN **L'Aution** 67.56 47 *eP* P **13 19 18.2 +1.0**
HGN **Heimansgroeve** 67.57 39⇑ *eP* P **13 19 16.4 -0.8**
comp=Z,171nm,1.2s,mb5.9
HGN *epP* pP 13 19 32.1 -0.4
HGN *eS* S 13 28 09.5 -0.3
LOMF **Lomont** 67.58 43 *eP* P **13 19 18.2 +0.8**
MEM **Membach** 67.58 40 P P **13 19 17.6 +0.2**
MEM AP pP 13 19 32.1 -0.6
HINF **Hinteralfeld** 67.67 43⇑ *iP* P **13 19 17.0 -0.9**
comp=Z,238nm,1.3s,mb5.8
HINF **Hinteralfeld** 67.67 43⇑ *iP* P **13 19 17.0 -0.9**
HINF pmax pmax
comp=Z,119nm,1.3s,mb5.8
HINF **Hinteralfeld** 67.67 43⇑ *iP* P **13 19 17.0 -0.9**
comp=Z,119nm,1.3s,mb5.8
MOF **Molkenrain** 67.86 43 *eP* P **13 19 19.1 0.0**
ECH **Echery** 67.93 42 *eP* P **13 19 19.5 0.0**
ECH **Echery** 67.93 42 *eP* P **13 19 19.8 +0.3**
ECH **Echery** 67.93 42 *eP* P **13 19 19.8 +0.3**
CDF **Champ du Feu** 68.04 42⇑ *iP* P **13 19 19.7 -0.5**
comp=Z,510nm,1.4s,mb6.1
CDF *epP* pP 13 19 34.8 -0.7
CDF **Champ du Feu** 68.04 42⇑ *iP* P **13 19 19.7 -0.5**
CDF *e**PP pP 13 19 34.8 -0.7
CDF pmax pmax
comp=Z,255nm,1.4s,mb6.1
CDF **Champ du Feu** 68.04 42⇑ *iP* P **13 19 19.7 -0.5**
comp=Z,255nm,1.4s,mb6.1
CDF *epP* pP 13 19 34.8 -0.7
BBS **Basel-Blauen** 68.06 43 *eP* P **13 19 20.8 +0.5**
WLS **Welschbruch** 68.09 42 *eP* P **13 19 21.1 +0.6**
RUP **Ruppelstein** 68.10 41 *eP* P **13 19 21.3 +0.7**
LIBD **Limburg** 68.22 42 *eP* P **13 19 21.9 +0.6**
JMIC **Jan Mayen** 68.31 16 *eP* P **13 19 20.9 -1.0**
JMIC *eS* S 13 28 19.1 +0.5
JMIC AMS AMS 13 42 22.6
comp=Z,1μm,25.3s,MS5.0
JMIC **Jan Mayen** 68.31 16 *eP* P **13 19 20.9 -1.0**
JMIC *i* 13 28 26.0
JMIC LR LR
comp=Z,1μm,25.3s,MS5.0
WTSB **Winterswijk** 68.32 38⇑ *eP* P **13 19 21.6 -0.4**
comp=Z,218nm,1.2s,mb6.1
WTSB *epP* pP 13 19 36.9 -0.4
comp=Z,560nm,1.3s
WIT **Witteveen** 68.39 37 *eP* P **13 19 22.7 +0.3**
WIT *epP* pP 13 19 37.9 +0.1
KEST **Kesra** 68.42 56 P P **13 19 20.1 -2.4**
comp=Z,20nm,1.0s,mb5.1,baz=218,slow=1.9,SNR=27
KEST pP pP 13 19 35.6 -2.3
comp=Z,204nm,0.9s,baz=225,slow=3.6,SNR=45
KEST S S 13 28 18.4 -1.5
comp=Z,0.9nm,0.8s,baz=341,slow=1.6,SNR=1.7
KEST PKPPKP 13 47 39.0
comp=Z,1.5nm,0.8s,baz=32,slow=1.4,SNR=5.6
ABH **Alteburg** 68.44 41 *eP* P **13 19 23.7 +1.0**
FELD **Feldberg im Sc** 68.44 43 *eP* P **13 19 22.0 -0.8**
LANF **Langenberg** 68.47 42 *eP* P **13 19 23.4 +0.5**
BUG **Bochum-Univer** 68.52 39 *eP* P **13 19 22.2 -1.0**
comp=Z,289nm,1.4s,mb6.0
PGF **Pioggiola** 68.56 49⇑ *iP* P **13 19 23.3 -0.2**
comp=Z,165nm,1.3s,mb5.5
PGF *epP* pP 13 19 38.1 -0.7
PGF **Pioggiola** 68.56 49⇑ *iP* P **13 19 23.3 -0.2**
PGF *e**PP pP 13 19 38.1 -0.7
PGF pmax pmax
comp=Z,82nm,1.3s,mb5.5
PGF **Pioggiola** 68.56 49⇑ *iP* P **13 19 23.3 -0.2**
comp=Z,82nm,1.3s,mb5.5
PGF *epP* pP 13 19 38.1 -0.7
VSL **Villasalto** 68.62 52 *eP* P **13 19 24.4 +0.5**
VSL *e* pP 13 19 38.6 -0.6
KTD **Kalmit** 68.70 41 *eP* P **13 19 24.7 +0.4**
BFO **Black Forest** 68.72 42 P P **13 19 23.9 -0.6**
comp=Z,675nm,1.3s,mb6.4,SNR=6.5
BFO **Black Forest** 68.72 42 *eP* P **13 19 23.4 -1.1**
comp=Z,75nm,1.4s,mb5.4
BFO *eS* S 13 28 23.3 -0.3
BFO **Black Forest** 68.72 42 *eP* P **13 19 23.4 -1.1**
BFO *eS* S 13 28 23.3 -0.3
BFO pmax pmax
comp=Z,75nm,1.4s,mb5.4
IBBN **Ibbenburen** 68.96 38 *eP* P **13 19 25.3 -0.7**
comp=Z,370nm,1.2s,mb6.2
SPAK **Spaichingen-Ko** 69.00 43 *eP* P **13 19 26.7 +0.5**
KMY **Karmoy** 69.02 30 *eP* P **13 19 25.7 -0.6**
KMY AMb AMB 13 19 27.5
comp=Z,154nm,1.5s,mb5.7
KMY **Karmoy** 69.02 30 *eP* P **13 19 25.7 -0.6**
comp=Z,154nm,1.5s,mb5.7
TNS **Taunus Mts** 69.06 40 *eP* P **13 19 26.0 -0.6**
comp=Z,251nm,1.4s,mb6.0
TNS **Taunus Mts** 69.06 40 *eP* P **13 19 26.0 -0.6**
TNS pmax pmax
comp=Z,251nm,1.4s,mb6.0
TOD **Tromm** 69.20 41 *eP* P **13 19 27.5 0.0**
EGD **Espegrend** 69.27 29 *eP* P **13 19 28.0 +0.1**
STU **Stuttgart** 69.35 42 *eP* P **13 19 28.1 -0.3**
STU *e**PP pP 13 19 42.3 -1.4
BER **Bergen** 69.36 29 *eP* P **13 19 28.1 -0.3**
BER *eP* 13 19 28.2
BER *eS* S 13 28 30.2 -0.9
BER **Bergen** 69.36 29 *eP* P **13 19 28.2 -0.2**
DLBC **Dease Lake** 69.48 329 P P **13 19 28.7 -0.5**
comp=Z,78nm,0.9s,mb5.6,baz=100,slow=5.1,SNR=60
DLBC PcP PcP 13 19 48.3 -3.9
comp=Z,24nm,0.8s,baz=100,slow=5.6,SNR=5.5
FOO **Floro** 69.54 28⇑ *iP* P **13 19 28.3 -1.2**
FOO AMb AMB 13 19 30.5
comp=Z,132nm,1.7s,mb5.6
FOO **Floro** 69.54 28⇑ *iP* P **13 19 28.3 -1.2**
comp=Z,132nm,1.7s,mb5.6
DAVA **Damuels** 69.64 44⇓ *i* pP 13 19 45.6 +0.1
comp=Z,2μm,1.5s
DAVA **Damuels** 69.64 44⇑ *iP* P **13 19 30.3 +0.2**
comp=Z,355nm,1.5s,mb6.1,SNR=20
DAVA ⇓*i*pP pP 13 19 45.6 +0.1
comp=Z,2μm,1.5s
BLS5 **Blasjo** 69.67 30 *eP* P **13 19 31.5 +1.1**
BLS5 AMb AMB 13 19 33.6
comp=Z,167nm,1.6s,mb5.7
BLS5 **Blasjo** 69.67 30 *eP* P **13 19 31.5 +1.1**
comp=Z,167nm,1.6s,mb5.7
DAG **Danmarks Havn** 69.67 10⇓ *iP* P **13 19 29.7 -0.6**
comp=Z,1μm,1.8s,mb6.5
DAG **Danmarks Havn** 69.67 10⇓ *iP* P **13 19 29.7 -0.6**
DAG pmax pmax
comp=Z,1μm,1.8s,mb6.5
VLC **Villacollemand** 69.70 47 *eP* P **13 19 29.2 -1.4**
comp=Z,895nm,1.5s,mb6.5
VLC *epP* pP 13 19 43.8 -2.1
ERBM **Eremo** 69.74 47 P P **13 19 31.0 +0.2**
ODD1 **Odda** 69.87 30 *eP* P **13 19 30.7 -0.8**
ODD1 AMb AMB 13 19 33.0
comp=Z,210nm,1.3s,mb5.9
ODD1 **Odda** 69.87 30 *eP* P **13 19 30.7 -0.8**
comp=Z,210nm,1.3s,mb5.9
BRMO **Bormio** 69.89 44 P P **13 19 31.8 +0.1**
HYA **Hoyanger** 69.96 29⇑ *iP* P **13 19 32.8 +0.6**
HYA AMb AMB 13 19 34.7
comp=Z,193nm,1.9s,mb5.7
HYA **Hoyanger** 69.96 29⇑ *iP* P **13 19 32.8 +0.6**
comp=Z,193nm,1.9s,mb5.7
GRFL **Gerfalco** 70.05 48 P P **13 19 33.0 +0.3**
comp=Z,348nm,1.2s,mb6.2
UBBA **Unterbreizbach** 70.12 40 *eP* P **13 19 33.0 -0.1**
comp=Z,104nm,1.6s,mb5.5
GTTG **Gvttingen** 70.20 39 *eP* P **13 19 33.5 -0.1**
comp=Z,177nm,1.4s,mb5.8
WRAK **Wrangell Islan** 70.31 326 *eP* P **13 19 32.0 -2.2**
comp=Z,35nm,1.1s,mb5.2
NRDL **Niedersach Rie** 70.41 38 *eP* P **13 19 34.8 -0.1**
comp=Z,193nm,1.2s,mb5.9
MOTA **Moosalm** 70.47 44⇓ *i* pP 13 19 50.0 -0.6
comp=Z,555nm,1.2s

MOTA Moosalm 70.47 44⇓*i*P P 13 19 35.1 -0.2
comp=Z,162nm,1.4s,mb5.8,SNR=8.7
MOTA ⇓*i*pP pP 13 19 50.0 -0.6
comp=Z,555nm,1.2s
MOTA Moosalm 70.47 44⇓*i*P P 13 19 35.1 -0.2
MOTA *i* pP 13 19 50.0 -0.6
MOTA pmax pmax
comp=Z,162nm,1.4s,mb5.8
APPI Appiano 70.48 45 P P 13 19 37.0 +1.7
MUD Monsted U'grnd 70.48 34⇑*i*P P 13 19 35.2 -0.1
comp=Z,156nm,1.3s,mb5.8
MUD *i* pP 13 19 50.5 -0.2
MUD *i* S S 13 28 44.5 +0.2
MUD
comp=Z,1μm,18.0s
MUD Monsted U'grnd 70.48 34⇑*i*P P 13 19 35.2 -0.1
comp=Z,156nm,1.3s,mb5.8
MUD *i* pP 13 19 50.5 -0.2
MUD *i* S S 13 28 44.5 +0.2
CLZ Clausthal 70.49 39 *e*P P 13 19 35.1 -0.3
comp=Z,179nm,1.3s,mb5.8
CLZ *e*S S 13 28 43.9 -0.4
CLZ Clausthal 70.49 39 *e*P P 13 19 35.1 -0.3
CLZ *e*S S 13 28 43.9 -0.4
CLZ pmax pmax
comp=Z,179nm,1.3s,mb5.8
SQTA Sankt Quirin 70.53 44⇑*i* pP 13 19 50.5 -0.5
comp=Z,561nm,1.1s
SQTA Sankt Quirin 70.53 44⇑*i*P P 13 19 35.4 -0.2
comp=Z,147nm,1.2s,mb5.8,SNR=27
SQTA ⇑*i*pP pP 13 19 50.5 -0.5
comp=Z,561nm,1.1s
SQTA Sankt Quirin 70.53 44⇑*i*P P 13 19 35.4 -0.2
SQTA *i* pP 13 19 50.5 -0.5
SQTA pmax pmax
comp=Z,147nm,1.2s,mb5.8
FUR Furstenfeldbru 70.66 43 *e*P P 13 19 35.7 -0.7
comp=Z,296nm,1.6s,mb6.0
FUR Furstenfeldbru 70.66 43 *e*P P 13 19 35.7 -0.7
FUR pmax pmax
comp=Z,296nm,1.6s,mb6.0
BSEG Bad Segeberg 70.73 37 *e*P P 13 19 36.3 -0.6
comp=Z,214nm,1.2s,mb6.0
GRFO Grafenberg 70.77 41 *e*pP pP 13 19 51.8 -0.7
GRA1 Grafenberg Arr 70.77 41 *e*P P 13 19 36.6 -0.5
comp=Z,224nm,1.5s,mb5.9
GRA1 *e*pP pP 13 19 51.7 -0.8
GRA1 *e*S S 13 28 47.2 -0.4
GRA1 *e*P'P' 13 47 33.1
GRF Grafenberg Arr 70.77 41 *e*P P 13 19 36.6 -0.5
comp=Z,224nm,1.5s,mb5.9
GRF *e*pP pP 13 19 51.7 -0.8
GRF *e*S S 13 28 47.2 -0.4
GRF *e*PKPPKP 13 47 33.1
GRF Grafenberg Arr 70.77 41 *e*P P 13 19 36.6 -0.5
GRF *e**PP pP 13 19 51.7 -0.8
GRF *e*S S 13 28 47.2 -0.4
GRF pmax pmax
comp=Z,224nm,1.5s,mb5.9
GRF Grafenberg Arr 70.77 41 *e*P P 13 19 36.6 -0.5
comp=Z,224nm,1.5s,mb5.9
GRF *e*pP pP 13 19 51.7 -0.8
GRF *e*S S 13 28 47.2 -0.4
WATA Walderalm 70.79 44⇑*i* pP 13 19 51.6 -1.0
comp=Z,512nm,1.3s
WATA Walderalm 70.79 44⇓*i*P P 13 19 36.8 -0.4
comp=Z,100nm,1.4s,mb5.6,SNR=8.6
WATA ⇑*i*pP pP 13 19 51.6 -1.0
comp=Z,512nm,1.3s
WATA Walderalm 70.79 44⇓*i*P P 13 19 36.8 -0.4
WATA *i* pP 13 19 51.6 -1.0
WATA pmax pmax
comp=Z,100nm,1.4s,mb5.5
WTTA Wattenberg 70.82 44⇑*i* pP 13 19 52.6 -0.2
comp=Z,1μm,1.7s
WTTA Wattenberg 70.82 44⇑*i*P P 13 19 37.0 -0.4
comp=Z,301nm,1.7s,mb6.0,SNR=26
WTTA ⇑*i*pP pP 13 19 52.6 -0.2
comp=Z,1μm,1.7s
WTTA Wattenberg 70.82 44⇑*i*P P 13 19 37.0 -0.4
WTTA *i* pP 13 19 52.6 -0.2
WTTA pmax pmax
comp=Z,301nm,1.7s,mb6.0
MOX Moxa 71.12 40 *e*P P 13 19 38.4 -0.8
comp=Z,45nm,1.4s,mb5.2
MOX Moxa 71.12 40 *e*P P 13 19 38.7 -0.5
MOX *e**PP pP 13 19 53.6 -1.0
MOX *e*S S 13 28 52.0 +0.3
MOX pmax pmax
comp=Z,16nm,1.1s,mb4.9
MOX Moxa 71.12 40 *e*P P 13 19 38.7 -0.5
comp=Z,16nm,1.1s,mb4.9
MOX *e*pP pP 13 19 53.6 -1.0
MOX *e*S S 13 28 52.0 +0.3
MOX *e*LR LR 13 41 47.0
SEST Monte Rota 71.18 44 P P 13 19 38.6 -1.0
KONO Kongsberg 71.28 31⇑*i*P P 13 19 39.5 -0.7
KONO *e*S S 13 28 52.4 -1.1
KONO Kongsberg 71.28 31 *e*P P 13 19 39.6 -0.6
KONO LR LR
comp=Z,1μm,21.0s,MS5.2
MANZ Manzenberg 71.38 41 *e*P P 13 19 40.0 -0.7
comp=Z,217nm,1.5s,mb5.9
ROTZ Rotzenmuhle 71.42 41 *e*P P 13 19 40.3 -0.7
comp=Z,101nm,1.4s,mb5.6
ROTZ *e*S S 13 28 52.7 -2.4
WERD Werda 71.54 40 *e*P P 13 19 41.1 -0.7
comp=Z,94nm,1.4s,mb5.5
WERD *e*pP pP 13 19 56.5 -0.7
GUNZ Gunzen 71.55 40 *e*P P 13 19 41.2 -0.6
comp=Z,79nm,1.5s,mb5.4
GUNZ *e*pP pP 13 19 56.5 -0.7
FVI Forni Avoltri 71.56 44 P P 13 19 41.0 -0.8
WERN Wernitzgruen 71.57 41 *e*P P 13 19 41.9 0.0
comp=Z,95nm,1.3s,mb5.6
WERN *e*pP pP 13 19 56.7 -0.7
NKC Novy Kostel 71.61 41 *e*P P 13 19 42.0 -0.2
NKC *e*pP pP 13 19 56.9 -0.7
NKC AMS AMS 13 42 30.0
comp=Z,6μm,38.2s
NKC Novy Kostel 71.61 41 *e*P P 13 19 42.0 -0.2
NKC *e* pP 13 19 56.9 -0.7
NKC Novy Kostel 71.61 41 *e*P P 13 19 42.0 -0.2
NKC *e* pP 13 19 56.9 -0.7
TANN Tannenbergstha 71.64 40 *e*P P 13 19 41.9 -0.4
comp=Z,121nm,1.4s,mb5.6
TANN *e*pP pP 13 19 57.0 -0.8
TANN *e*S S 13 28 56.4 -1.2
ALE Alert 71.66 360 P P 13 19 41.0 -1.4
comp=Z,7μm,1.6s
AQU L'Aquila 71.80 49⇑*i*P P 13 19 43.3 0.0
AQU L'Aquila 71.80 49 *e*P P 13 19 43.0 -0.3
AQU *e**PP pP 13 19 58.1 -0.6
AQU pmax pmax
comp=Z,271nm,0.9s,mb6.2
AQU L'Aquila 71.80 49 *e*P P 13 19 43.0 -0.3
comp=Z,271nm,0.9s,mb6.2
AQU *e*pP pP 13 19 58.1 -0.6
WET Wettzell 71.80 42 *e*P P 13 19 42.5 -0.8
comp=Z,119nm,1.3s,mb5.7
WET *e*pP pP 13 19 57.9 -0.8
WET *e*S S 13 28 56.3 -3.2
WET Wettzell 71.80 42 *e*P P 13 19 42.5 -0.8
WET *e**PP pP 13 19 57.9 -0.8
WET *e*S S 13 28 56.3 -3.2
WET pmax pmax
comp=Z,119nm,1.3s,mb5.7
KBA Koelnbreinsper 71.97 44⇑*i* pP 13 19 59.4 -0.4
comp=Z,1μm,1.6s
KBA Koelnbreinsper 71.97 44⇑*i*P P 13 19 43.7 -0.6
comp=Z,287nm,1.5s,mb6.0,SNR=21
KBA ⇑*i*pP pP 13 19 59.4 -0.4
comp=Z,1μm,1.6s
KBA Koelnbreinsper 71.97 44⇑*i*P P 13 19 43.7 -0.6
KBA *i* pP 13 19 59.4 -0.4
KBA pmax pmax
comp=Z,287nm,1.5s,mb6.0
SIT Sitka 72.03 327 *e*P P 13 19 44.2 -0.5
SIT MLR MLR
comp=Z,9μm,22.0s,MS6.0
ROBS Robic 72.04 45 *e*P P 13 19 44.1 -0.7
CLL Collm 72.06 40 *e*P P 13 19 44.2 -0.7
comp=Z,147nm,1.4s,mb5.7
CLL *e*pP pP 13 19 59.9 -0.4
CLL *e*PP PP 13 22 24.0 -1.4
CLL *e*pPP 13 22 38.6
CLL *e*S S 13 29 01.6 -0.9
CLL *e*SPS 13 29 53.5
CLL *e*SS SS 13 33 39.6 -0.7
CLL *e*LR LR 13 41 45.5
CLL *e*L 13 48 13.4
comp=Z,2μm,22.0s
CLL Collm 72.06 40⇑*i*P P 13 19 44.5 -0.4
comp=Z,146nm,1.4s,mb5.7
CLL *e*Plp 13 19 45.0
CLL *e*pP pP 13 20 00.0 -0.3
CLL *e**PP PP 13 22 24.0 -1.4
CLL *e*pPP 13 22 37.0
CLL *e*S S 13 29 02.0 -0.5
comp=N,1μm,13.4s
CLL *e*PS 13 29 47.0
CLL *e*SS SS 13 33 46.0 +5.7
CLL L 13 48 00.0
comp=Z,2μm,18.5s
CLL Collm 72.06 40⇑*i*P P 13 19 44.5 -0.4
CLL *e**PP pP 13 20 00.0 -0.3
CLL *e*S S 13 29 02.0 -0.5
CLL pmax pmax
comp=Z,146nm,1.4s,mb5.7
CLL MLR MLR
comp=Z,2μm,18.5s,MS5.3
CLL Collm 72.06 40⇑*i*P P 13 19 44.5 -0.4
comp=Z,146nm,1.4s,mb5.7
CLL *e*pP pP 13 20 00.0 -0.3
CLL *e*S S 13 29 02.0 -0.5
CLL LR LR
comp=Z,2μm,18.5s,MS5.3
NAO01 NORSAR Array S 72.13 29 *e*P P 13 19 45.3 +0.1
comp=Z,184nm,1.1s,mb5.9
CADS Cadrg 72.20 45 *e*P P 13 19 44.9 -0.8
CADS *e*pP pP 13 20 00.4 -0.7
CADS *e*S S 13 29 04.5 +0.5
CADS *e* 13 29 28.8
FBE Freiberg 72.25 40 *e*P P 13 19 45.5 -0.5
comp=Z,172nm,1.4s,mb5.8
FBE *e*pP pP 13 20 00.4 -1.0
KHC Kasperske Hory 72.26 42 *e*P P 13 19 45.3 -0.8
KHC *e*pP pP 13 20 00.4 -1.1
KHC *e*S S 13 29 01.1 -3.7
KHC AMS AMS 13 42 40.0
comp=Z,4μm,41.0s
KHC Kasperske Hory 72.26 42 *e*P P 13 19 45.3 -0.8
KHC *e* pP 13 20 00.4 -1.1
KHC *e*S S 13 29 01.1 -3.7
KHC LR LR
comp=Z,4μm,41.0s,MS5.3
VOY Vojsko 72.30 45 *e*P P 13 19 45.8 -0.5
VOY *e* pP 13 20 00.9 -0.8
NB2 NORSAR Subarra 72.32 29 P P 13 19 46.9 +0.5
comp=Z,242nm,1.2s,mb6.0,baz=260,slow=6.2
NB2 NORSAR Subarra 72.32 29 P P 13 19 46.9 +0.5
NB2 pmax pmax
comp=Z,243nm,1.2s,mb6.0
NB2 NORSAR Subarra 72.32 29 P P 13 19 46.9 +0.5
comp=Z,242nm,1.2s,mb6.0
NOA NORSAR Array B 72.32 29 P P 13 19 46.7 +0.3
comp=Z,62nm,0.9s,mb5.5,baz=262,slow=6.1,SNR=104
NOA pP pP 13 20 00.9 -0.9
comp=Z,54nm,0.9s,baz=261,slow=6.1,SNR=8.1
NOA S S 13 29 05.2 -0.2
comp=Z,0.7nm,0.8s,baz=129,slow=24,SNR=2.1
NOA PKPPKP 13 47 36.0
comp=Z,2.3nm,1.0s,baz=258,slow=3.3,SNR=3.6
NOA LR LR 13 49 18.8
comp=Z,392nm,18.9s,MS4.7,baz=250,slow=34
NOA NORSAR Array B 72.32 29 P P 13 19 46.7 +0.3
NOA *PP pP 13 20 01.0 -0.8
NOA S S 13 29 05.2 -0.2
NOA NORSAR Array B 72.32 29 P P 13 19 46.7 +0.3
NOA pP pP 13 20 00.9 -0.9
NOA S S 13 29 05.2 -0.2
NOA P'P' 13 47 36.0
NOA LR LR 13 49 18.8
GEC2 GERESS Array S 72.32 42 *e*P P 13 19 45.6 -0.8
comp=Z,192nm,1.3s,mb5.9
GEC2 *e*pP pP 13 20 00.6 -1.3
GEC2 *e*S S 13 29 03.9 -1.6
GEC2 GERESS Array S 72.32 42 *e*P P 13 19 45.6 -0.8
GEC2 *e**PP pP 13 20 00.6 -1.3
GEC2 *e*S S 13 29 03.9 -1.6
GEC2 pmax pmax
comp=Z,192nm,1.3s,mb5.9
GERES GERESS Array B 72.32 42 P P 13 19 46.3 -0.1
comp=Z,67nm,1.1s,mb5.5,baz=253,slow=4.1,SNR=93
GERES pP pP 13 20 00.1 -1.7
comp=Z,218nm,0.9s,baz=249,slow=3.7,SNR=34
GERES S S 13 29 04.2 -1.3
comp=Z,0.2nm,0.2s,baz=336,slow=3.6,SNR=2.1
GERES PKPPKP 13 47 28.3
comp=Z,0.5nm,0.6s,baz=134,slow=5.8,SNR=4.5
GERES LR LR 13 47 49.5
comp=Z,1μm,21.8s,MS5.1,baz=265,slow=33
GERES GERESS Array B 72.32 42 P P 13 19 46.3 -0.1
GERES *PP pP 13 20 00.1 -1.8
GERES S S 13 29 04.2 -1.3
SKAG Skagway 72.37 329 *e*P P 13 19 46.5 -0.2
comp=Z,212nm,1.8s,mb5.8
RGN Rugen 72.56 36 *e*P P 13 19 47.8 0.0
comp=Z,855nm,1.6s,mb6.4
RGN *e*pP pP 13 20 03.1 -0.2
KNDS Knezji Dol 72.61 46 *i*P P 13 19 48.0 -0.2
KNDS *i* pP pP 13 20 03.1 -0.5
BRG Berggiesshubel 72.62 40 *e*P P 13 19 47.9 -0.3
comp=Z,132nm,1.3s,mb5.7
BRG *e*pP pP 13 20 02.7 -0.9
BRG *e*S S 13 29 05.6 -3.2
BRG Berggiesshubel 72.62 40⇓*i*P P 13 19 48.2 0.0
comp=Z,79nm,1.3s,mb5.5
BRG *i* 13 19 52.9
comp=Z,64nm,0.9s
BRG *i* pP 13 20 03.2 -0.4
comp=Z,235nm,1.1s
BRG *i* 13 20 11.1
comp=Z,92nm,1.0s
BRG S S 13 29 09.0 +0.2
BRG SS SS 13 33 40.0 -8.8
BRG PKKP PKKPbc 13 39 07.0 -23
comp=Z,2.1nm,0.8s
BRG
comp=N,807nm,25.1s
BRG
comp=E,4μm,37.5s
BRG
comp=Z,4μm,34.1s
BRG Berggiesshubel 72.62 40⇓*i*P P 13 19 48.2 0.0
BRG *i* pP 13 20 03.2 -0.4
BRG *i* 13 20 11.1
BRG S S 13 29 09.0 +0.2
BRG pmax pmax
comp=Z,79nm,1.3s,mb5.5
BRG MLR MLR
comp=Z,4μm,34.1s,MS5.5
BRG Berggiesshubel 72.62 40⇓*i*P P 13 19 48.2 0.0
comp=Z,79nm,1.3s,mb5.5
BRG *i* 13 19 52.9
BRG *i* pP 13 20 03.2 -0.4
BRG *i* 13 20 11.1
BRG S S 13 29 09.0 +0.2
BRG SS SS 13 33 40.0 -8.8
BRG PKKP PKKPbc 13 39 07.0 -23
BRG LR LR
comp=Z,4μm,34.1s,MS5.5
MOA Molln 72.64 43⇓*i* pP 13 20 02.9 -0.8
comp=Z,1μm,1.6s
MOA Molln 72.64 43⇓*i*P P 13 19 47.7 -0.6
comp=Z,283nm,1.6s,mb6.0,SNR=24
MOA ⇓*i*pP pP 13 20 02.9 -0.8
comp=Z,1μm,1.6s
RUE Ruedersdorf 72.64 38 *e*P P 13 19 47.7 -0.6
comp=Z,137nm,1.2s,mb5.8
RUE *e*pP pP 13 20 02.9 -0.9
RUE *e*S S 13 29 07.2 -1.9
LJU Ljubljana 72.74 45 *e*P P 13 19 48.9 0.0
LJU *e*S S 13 29 09.2 -1.1
OBKA Obir 72.77 45⇑*i* pP 13 20 04.2 -0.4
comp=Z,2μm,2.2s
OBKA Obir 72.77 45⇑*i*P P 13 19 48.7 -0.4
comp=Z,319nm,2.0s,mb5.9,SNR=7.1
OBKA ⇑*i*pP pP 13 20 04.2 -0.4
comp=Z,2μm,2.2s
PRA Prague 72.88 41 ⇑P P 13 19 49.0 -0.7
PRA pP pP 13 20 05.0 -0.2
NVLJ Novalja 72.93 47 *i*P P 13 19 49.2 -0.9
PRU Pruhonice 72.94 41 *e*P P 13 19 49.9 -0.2
PRU *e*pP pP 13 20 05.2 -0.4
PRU *e*S S 13 29 12.4 -0.1
PRU AMS AMS 13 42 50.0
comp=Z,5μm,39.8s
PVCC Panska Ves 72.99 40 *e*P P 13 19 50.2 -0.2
PVCC *e*pP pP 13 20 05.4 -0.5
PVCC *e*S S 13 29 09.6 -3.5
PVCC AMS AMS 13 43 10.0
comp=Z,6μm,32.7s
BOJS Bojanci 73.23 46 *e*P P 13 19 51.3 -0.5
BOJS *e*pP pP 13 20 06.8 -0.4
BOJS *e*S S 13 29 15.2 -0.5
BOJS *e* 13 29 40.0
INK Inuvik 73.26 338 P P 13 19 49.8 -2.2
comp=Z,178nm,0.9s,mb6.0,baz=99,slow=7.1,SNR=116
INK LR LR 13 51 11.7
comp=Z,6μm,21.6s,MS5.8,baz=100,slow=35
NSS Namsos 73.26 26 *e*P P 13 19 50.3 -1.7
NSS AMb AMB 13 19 55.2
comp=Z,194nm,3.1s
NSS *e*S S 13 29 16.0 -0.1
NSS Namsos 73.26 26 *e*P P 13 19 50.3 -1.7
comp=Z,194nm,3.1s
NSS *i* 13 29 15.8
CRES Cresnjev 73.38 45 *e*P P 13 19 52.1 -0.6
CRES *e*pP pP 13 20 07.7 -0.5
ARSA Arzberg 73.47 44⇑*i* pP 13 20 08.1 -0.6
comp=Z,1μm,1.9s
ARSA Arzberg 73.47 44⇑*i*P P 13 19 52.1 -1.1
comp=Z,241nm,1.9s,mb5.8,SNR=18
ARSA ⇑*i*pP pP 13 20 08.1 -0.6
comp=Z,1μm,1.9s
GCIS Gornji Cirnik 73.50 45 *e*P P 13 19 53.2 -0.2
TREC Trest 73.52 42 *e*P P 13 19 52.9 -0.6
TREC *e*pP pP 13 20 08.3 -0.7
TREC *e*S S 13 29 16.8 -2.3
BSD Bornholm Skovb 73.53 36⇑*i*P P 13 19 52.8 -0.8
comp=Z,54nm,1.1s,mb5.4
BSD *i* pP 13 20 08.3 -0.7
BSD *i* S S 13 29 19.6 +0.4
BSD Bornholm Skovb 73.53 36⇑*i*P P 13 19 52.8 -0.8
BSD *i* pP 13 20 08.3 -0.7
BSD *i* S S 13 29 19.6 +0.4
BSD pmax pmax
comp=Z,54nm,1.1s,mb5.4
CONA Conrad Observa 73.72 43⇑*i*P P 13 19 54.2 -0.5
comp=Z,82nm,1.7s,mb5.4,SNR=11
CONA ⇑*i*PcP PcP 13 20 09.5 -0.7
comp=Z,423nm,1.6s
UPC Upice 73.91 40 *e*P P 13 19 56.0 +0.2
UPC *e*pP pP 13 20 10.7 -0.6
KOGS Kog 73.94 45 *e*P P 13 19 55.4 -0.6
KOGS *e*pP pP 13 20 10.9 -0.6
KOGS *e*S S 13 29 23.3 -0.6
SISC Sisak 74.01 46 iP P 13 19 56.5 +0.1
DPC Dobruska-Polom 74.10 41 *e*P P 13 19 56.7 -0.2
DPC *e*pP pP 13 20 12.2 -0.2
DPC *e*S S 13 29 22.2 -3.4
DPC AMS AMS 13 43 20.0
comp=Z,6μm,42.9s
KSP Ksiaz 74.10 40 *e*P P 13 19 56.9 0.0
KSP *e*pP pP 13 20 12.1 -0.3
KSP *e*S S 13 29 25.1 -0.5
KSP *e*sS sS 13 29 49.4 -2.3
KSP L 13 44 05.3
comp=Z,10nm,35.2s
KSP Ksiaz 74.10 40⇑*e*P P 13 19 56.7 -0.2
KSP *e*pP pP 13 20 11.7 -0.7
KSP *e**PP PP 13 22 50.0 +7.2
KSP *e*S S 13 29 24.0 -1.6
KSP *e*SS SS 13 34 12.0 +0.5
KSP LR LR
comp=Z,12μm,34.1s,MS5.9
SOP Sopron 74.18 43⇑*e*pP pP 13 20 12.4 -0.5
VRAC Vranov 74.24 42 P P 13 19 57.6 -0.1
comp=Z,52nm,1.0s,mb5.4,baz=271,slow=7.0,SNR=37
VRAC pP pP 13 20 11.2 -2.0
comp=Z,269nm,0.9s,baz=269,slow=7.2,SNR=27
VRAC Vranov 74.24 42⇑*i*P P 13 19 57.6 -0.1
VRAC Vranov 74.24 42 ⇑P P 13 19 57.6 -0.2
LOF Lofoten 74.51 22⇑*i*P P 13 20 00.8 +1.5
LOF AMb AMB 13 20 07.3
comp=Z,236nm,1.4s,mb5.9
LOF Lofoten 74.51 22⇑*i*P P 13 20 00.8 +1.5
comp=Z,236nm,1.4s,mb5.9
MOR8 Moi Rana 74.55 24⇑*i*P P 13 20 00.2 +0.7
MOR8 AMb AMB 13 20 02.5
comp=Z,109nm,2.0s,mb5.4
MOR8 Moi Rana 74.55 24⇑*i*P P 13 20 00.2 +0.7
comp=Z,109nm,2.0s,mb5.4
ZST Bratislava 74.56 43 *e*P P 13 19 58.8 -0.7
ZST *e*pP pP 13 20 14.2 -0.9
ZST Bratislava 74.56 43 *e*P P 13 19 58.8 -0.7
ZST *e* pP 13 20 14.2 -0.9
ZST pmax pmax
comp=Z,680nm,1.2s,mb6.5
ZST MLR MLR
comp=Z,900nm,18.7s,MS5.1
ZST Bratislava 74.56 43 *e*P P 13 19 58.8 -0.7
comp=Z,680nm,1.2s,mb6.5
ZST *e* pP 13 20 14.2 -0.9
ZST LR LR
comp=Z,900nm,18.7s,MS5.1
SMOL Smolenice 74.78 43 *e*P P 13 20 01.4 +0.6
SMOL *e*pP pP 13 20 16.6 +0.3
GKP Gorka Klasztor 74.78 38 *e*P P 13 20 00.7 -0.2
GKP *e*PcP PcP 13 20 12.7 -2.0
GKP *e*pP pP 13 20 16.2 -0.2
GKP *e*S S 13 29 33.1 -0.1
GKP L 13 46 09.0
comp=Z,3.8nm,27.9s
MORC Moravsky Berou 74.87 41⇑*i*P P 13 20 00.9 -0.5
MORC Moravsky Berou 74.87 41 *e*P P 13 20 01.1 -0.3
MORC *e**PP pP 13 20 16.4 -0.5
MORC pmax pmax
comp=Z,419nm,1.4s,mb6.2
MORC Moravsky Berou 74.87 41 *e*P P 13 20 01.1 -0.3
comp=Z,419nm,1.4s,mb6.2
MORC *e*pP pP 13 20 16.4 -0.5
OKC Ostrava-Krasne 75.27 41 *e*P P 13 20 03.4 -0.2
OKC *e*pP pP 13 20 19.0 -0.2
OKC *e*S S 13 29 37.4 -1.2
OKC AMS AMS 13 43 50.0
comp=Z,1μm,29.7s
OKC Ostrava-Krasne 75.27 41 *e*P P 13 20 03.4 -0.2
OKC *e* pP 13 20 19.0 -0.2
OKC *e*S S 13 29 37.4 -1.2
RAC Raciborz 75.30 41 *e*P P 13 20 04.3 +0.5
RAC MLR MLR
comp=Z,3μm,34.2s,MS5.3
PKS9 Tamasi 75.35 45 *e*P P 13 20 04.7 +0.6
PKSG 75.42 44 *e*P P 13 20 04.3 -0.2
PMSA Palmer Station 75.44 181 P P 13 20 05.1 +0.5
comp=Z,115nm,0.9s,mb5.8,baz=15,slow=5.2,SNR=23
PMSA pP pP 13 20 19.4 -0.8
comp=Z,104nm,0.9s,baz=26,slow=5.6,SNR=9.6
PMSA Palmer Station 75.44 181 *e*P P 13 20 04.9 +0.3
comp=Z,487nm,1.5s,mb6.2
PMSA *e*pP pP 13 20 19.3 -0.9
PMSA LR LR
comp=Z,6μm,22.0s,MS5.9
HCY Herceg Novi 75.57 49⇓*i*P P 13 20 05.8 +0.4
BRY Bratogost 75.59 48⇓*i*P P 13 20 05.2 -0.3
PKSM Moragy 75.60 45⇓*i*P P 13 20 05.5 -0.1
PKSM Moragy 75.60 45 ⇓P P 13 20 05.5 -0.1
VYHS Vyhne 75.71 43 *e*P P 13 20 05.6 -0.6
VYHS *e* pP 13 20 21.2 -0.6
VYHS *e*S S 13 29 41.7 -1.9
VYHS pmax pmax
comp=Z,229nm,1.3s,mb6.0
VYHS Vyhne 75.71 43 *e*P P 13 20 05.6 -0.6
comp=Z,229nm,1.3s,mb6.0
VYHS *e* pP 13 20 21.2 -0.6
VYHS *e*S S 13 29 41.7 -1.9
EGAK Eagle 75.73 334 *e*P P 13 20 04.6 -1.7
comp=Z,274nm,0.9s,mb6.2
BUD Budapest 75.85 44⇑*e*P P 13 20 06.4 -0.6
UPM Unac-Piva 75.85 48⇓*i*P P 13 20 07.9 +0.9
BUM Brajici-Budva 75.87 49⇓*i*P P 13 20 07.9 +0.8

NKY	**Niksic**	**75.93**	**48**	⇓	*i*	P	**P**	13 20 08.2	**+0.8**
PENC	**Penc**	**76.02**	**43**	⇓	*e*	P	**P**	13 20 08.2	**+0.3**
TTG	**Podgorica**	**76.14**	**49**	⇓	*i*	P	**P**	13 20 09.5	**+0.9**
ULC	**Ulcinj**	**76.15**	**49**	⇓	*i*	P	**P**	13 20 09.6	**+0.9**
PLE	**Pljevlja**	**76.20**	**48**	⇓	*i*	P	**P**	13 20 09.7	**+0.7**
KBS	**Kingsbay**	**76.28**	**11**	⇑	*i*	P	**P**	13 20 09.9	**+0.5**
KBS					AMb	AMB	AMB	13 20 15.5	
	comp=Z,252nm,2.2s,mb5.8								
KBS					*e*S	S	S	13 29 50.0	+0.2
KBS					AMS	AMS	AMS	13 45 53.8	
	comp=Z,439nm,23.2s,MS4.7								
KBS	**Kingsbay**	**76.28**	**11**		*e*P	P	**P**	13 20 10.0	**+0.5**
KBS					LR	LR			
	comp=Z,1μm,22.0s,MS5.2								
OJC	**Ojcow**	**76.33**	**41**		*e*Pc	P	**P**	13 20 09.9	**+0.2**
OJC					*e*pP	pP		13 20 25.8	+0.5
OJC					*e*PP	PP		13 23 00.9	-0.8
OJC					*e*S	S		13 29 50.6	+0.3
OJC					*e*SS	SS		13 34 46.9	+1.6
OJC					L			13 52 26.4	
	comp=Z,6.3nm,19.9s								
PSZ	**Piszkesteto**	**76.43**	**43**	⇑	*e*P	P	**P**	13 20 10.2	**-0.1**
PSZ	**Piszkesteto**	**76.43**	**43**	⇑	*i*P	P	**P**	13 20 10.4	**+0.1**
PSZ	**Piszkesteto**	**76.43**	**43**		*e*P	P	**P**	13 20 10.5	**+0.2**
PSZ					*e**PP	pP		13 20 25.2	-0.6
PSZ					pmax	pmax			
	comp=Z,922nm,1.8s,mb6.4								
PSZ	**Piszkesteto**	**76.43**	**43**		*e*P	P	**P**	13 20 10.5	**+0.3**
	comp=Z,922nm,1.8s,mb6.4								
PSZ					*e*pP	pP		13 20 25.2	-0.7
IVA	**Berane**	**76.59**	**48**	⇓	*i*P	P	**P**	13 20 11.7	**+0.5**
DIVS	**Divcibare**	**76.61**	**47**		*e*P	P	**P**	13 20 11.4	**+0.1**
TIR	**Tirane**	**76.63**	**50**		*e*P	P	**P**	13 20 12.2	**+0.8**
TRO	**Tromso**	**76.63**	**21**		*e*P	P	**P**	13 20 09.9	**-1.5**
TRO					AMb	AMB	AMB	13 20 14.8	
	comp=Z,279nm,1.2s,mb6.1								
TRO					*e*S	S	S	13 29 53.7	+0.1
TRO					AMS	AMS	AMS	13 46 28.8	
	comp=Z,818nm,24.3s,MS5.0								
TRO	**Tromso**	**76.63**	**21**		*e*P	P	**P**	13 20 09.9	**-1.5**
TRO					*i*			13 29 53.7	
TRO					pmax	pmax			
	comp=Z,279nm,1.2s,mb6.1								
TRO					MLR	MLR			
	comp=Z,820nm,24.3s,MS5.0								
TRO	**Tromso**	**76.63**	**21**		*e*P	P	**P**	13 20 09.9	**-1.5**
	comp=Z,279nm,1.2s,mb6.1								
TRO					*i*			13 29 53.7	
TRO					LR	LR			
	comp=Z,820nm,24.3s,MS5.0								
PVY	**Plav**	**76.66**	**49**	⇓	*i*P	P	**P**	13 20 11.8	**+0.2**
KEK	**Kerkira**	**76.67**	**52**		*e*P	P	**P**	13 20 13.1	**+1.5**
NIE	**Niedzica**	**76.67**	**42**		*e*P	P	**P**	13 20 12.5	**+0.8**
NIE					*e*pP	pP		13 20 27.8	+0.6
NIE					*e*PP	PP		13 23 02.8	-1.8
MENT	**Mentasta**	**76.75**	**332**		*e*P	P	**P**	13 20 11.2	**-0.9**
KECS	**Kecovo**	**76.81**	**43**		*e*P	P	**P**	13 20 12.6	**+0.2**
KECS					*e*	pP		13 20 27.6	-0.4
KECS					pmax	pmax			
	comp=Z,113nm,1.1s,mb5.7								
KECS	**Kecovo**	**76.81**	**43**		*e*P	P	**P**	13 20 12.6	**+0.2**
	comp=Z,112nm,1.1s,mb5.7								
KECS					*e*	pP		13 20 27.6	-0.4
SPB4	**Spitsbergen Ar**	**76.99**	**12**		*e*P	P	**P**	13 20 13.8	**+0.3**
WAR	**Warsaw**	**77.07**	**39**		*e*P	P	**P**	13 20 15.0	**+1.1**
WAR					*e*pP	pP		13 20 29.9	+0.4
WAR					L			13 45 48.5	
	comp=Z,4.8nm,34.8s								
IGT	**Igoumenitsa**	**77.09**	**52**		*e*P	P	**P**	13 20 14.7	**+0.7**
BJO	**Bjornoya**	**77.17**	**16**		*e*S	S		13 30 03.3	+3.7
STHS	**Stebnicka Huta**	**77.28**	**42**		*e*P	P	**P**	13 20 15.9	**+0.8**
STHS					*e*	pP		13 20 32.0	+1.3
STHS					pmax	pmax			
	comp=Z,113nm,1.1s,mb5.7								
STHS	**Stebnicka Huta**	**77.28**	**42**		*e*P	P	**P**	13 20 15.9	**+0.8**
	comp=Z,112nm,1.1s,mb5.7								
STHS					*e*	pP		13 20 32.0	+1.3
OHR	**Ohrid**	**77.35**	**50**		*e*P	P	**P**	13 20 15.4	**0.0**
OHR	**Ohrid**	**77.35**	**50**		*i* P	P	**P**	13 20 15.3	**-0.2**
OHR					*i*	pP		13 20 31.0	-0.1
VLS	**Valsamata**	**77.38**	**53**		*e*P	pP		13 20 27.5	-3.7
CRVS	**Cervenica-Dubn**	**77.44**	**42**		*e*P	P	**P**	13 20 16.9	**+0.9**
CRVS					*e*pP	pP		13 20 31.8	+0.2
CRVS					*e*S	S		13 30 01.9	-0.6
JAN	**Janina**	**77.48**	**52**		*e*P	P	**P**	13 20 18.0	**+1.8**
EYAK	**Cordova Ski Ar**	**77.67**	**330**		*e*P	P	**P**	13 20 16.9	**-0.4**
	comp=Z,206nm,1.4s,mb5.9								
EYAK					*e*PcP	PcP		13 20 25.2	-2.0
DIV	**Divide**	**77.68**	**330**		*e*P	P	**P**	13 20 16.2	**-1.1**
	comp=Z,51nm,1.0s,mb5.4								
DIV					LR	LR			
	comp=Z,18μm,20.0s,MS6.4								
BZS	**Buzias**	**77.69**	**46**	⇓	*i*P	P	**P**	13 20 17.3	**-0.1**
BIA	**Bitola**	**77.75**	**50**		*e*P	P	**P**	13 20 18.0	**+0.3**
BIA	**Bitola**	**77.75**	**50**		*i* P	P	**P**	13 20 17.6	**-0.1**
BIA					*i*	pP		13 20 32.8	-0.5
MEV	**Metsovon**	**77.76**	**51**		*e*P	P	**P**	13 20 19.5	**+1.7**
SKO	**Skopje**	**77.78**	**49**		*e*P	P	**P**	13 20 18.1	**+0.3**
SKO	**Skopje**	**77.78**	**49**		*i* P	P	**P**	13 20 17.8	**0.0**
SKO					*i*	pP		13 20 33.6	+0.1
FNA	**Florina**	**77.81**	**50**		*e*P	P	**P**	13 20 18.1	**+0.1**
KOLS	**Kolonicke sedl**	**77.98**	**42**		*e*P	P	**P**	13 20 19.1	**+0.1**
KOLS					*e*pP	pP		13 20 34.8	+0.2
KOLS					*e*S	S		13 30 08.4	+0.2
KOLS					*e*			13 50 46.1	
KOLS	**Kolonicke sedl**	**77.98**	**42**		*e*P	P	**P**	13 20 19.1	**+0.1**
KOLS					*e*	pP		13 20 34.8	+0.2
KOLS					*e*S	S		13 30 08.4	+0.2
UZH	**Uzhgorod**	**78.00**	**42**	⇑	*i*P	P	**P**	13 20 19.3	**+0.2**
UZH					*i*	pP		13 20 33.9	-0.8
UZH					*i* S	S		13 30 02.3	-6.2
UZH					*i*			13 30 36.0	
UZH					*e*			13 31 03.0	
UZH					pmax	pmax			
	comp=Z,1μm,1.5s,mb6.5								
UZH					MLR	MLR			
	comp=Z,850nm,18.0s,MS5.1								
KTK1	**Kautokeino**	**78.13**	**22**	⇑	*i*P	P	**P**	13 20 20.9	**+1.1**
KTK1					AMb	AMB	AMB	13 20 24.7	
	comp=Z,358nm,1.7s,mb6.0								
KTK1	**Kautokeino**	**78.13**	**22**	⇑	*i*P	P	**P**	13 20 20.9	**+1.1**
	comp=Z,358nm,1.7s,mb6.0								
KZN	**Kozani**	**78.14**	**51**		*e*P	P	**P**	13 20 20.6	**+0.7**
KWP	**Kalwaria**	**78.23**	**41**		*e*P	P	**P**	13 20 21.0	**+0.7**
KWP					*e*pP	pP		13 20 36.6	+0.7
KWP					*e*S	S		13 30 12.6	+1.7
KWP					L			13 46 24.0	
	comp=Z,3.6nm,34.9s								
KWP	**Kalwaria**	**78.23**	**41**		*e*P	P	**P**	13 20 21.0	**+0.7**
KWP					*e*pP	pP		13 20 36.6	+0.7
KWP					*e*S	S		13 30 12.6	+1.7
EVR	**Evrytania**	**78.28**	**52**		*e*P	P	**P**	13 20 22.1	**+1.5**
SUW	**Suwalki**	**78.32**	**37**		*e*P	P	**P**	13 20 21.0	**+0.2**
SUW					*e*pP	pP		13 20 35.9	-0.6
SUW					*e*S	S		13 30 12.4	+0.5
SUW					*e*SKS			13 30 29.7	
SUW					L			13 47 46.0	
	comp=Z,6.3nm,29.5s								
SUW	**Suwalki**	**78.32**	**37**		*e*P	P	**P**	13 20 21.0	**+0.2**
SUW					*e*pP	pP		13 20 35.9	-0.6
SUW					*e*S	S		13 30 12.4	+0.5
SUW					*e*SKS			13 30 29.7	
STIP	**Stip**	**78.35**	**49**		*e*P	P	**P**	13 20 21.5	**+0.5**
STIP	**Stip**	**78.35**	**49**		*i* P	P	**P**	13 20 21.2	**+0.2**
STIP					*i*	pP		13 20 36.1	-0.6
DRGR		**78.39**	**44**	⇑	*i*P	P	**P**	13 20 21.1	**-0.1**
GZR	**Gura Zlata**	**78.52**	**46**	⇑	*i*P	P	**P**	13 20 22.2	**+0.2**
GZR	**Gura Zlata**	**78.52**	**46**	⇑	P	P	**P**	13 20 22.2	**+0.2**
GRG	**Griva**	**78.57**	**50**		*e*P	P	**P**	13 20 23.1	**+0.9**
COLA	**College**	**78.59**	**334**		*e*P	P	**P**	13 20 20.6	**-1.7**
COLA					*e*			13 20 30.6	
COLA					pmax	pmax			
	comp=Z,142nm,1.3s,mb5.7								
COLA					MLR	MLR			
	comp=Z,7μm,22.0s,MS5.9								
COLA	**College**	**78.59**	**334**		*e*P	P	**P**	13 20 20.6	**-1.8**
	comp=Z,142nm,1.3s,mb5.7								
COLA					*e*PcP	PcP		13 20 30.6	-0.6
COLA					LR	LR			
	comp=Z,7μm,22.0s,MS5.9								
VAY	**Valandovo**	**78.67**	**50**		*e*P	P	**P**	13 20 21.7	**-1.0**
VAY	**Valandovo**	**78.67**	**50**		*i* P	P	**P**	13 20 22.0	**-0.7**
VAY					*i*	pP		13 20 37.6	-0.8
AGG	**Agios Georgios**	**78.67**	**52**		*e*P	P	**P**	13 20 23.7	**+0.9**
LIT	**Litokhoron**	**78.71**	**51**		*e*P	P	**P**	13 20 22.1	**-0.8**
ARCES	**ARCESS Array B**	**78.94**	**21**		P	P	**P**	13 20 23.3	**-1.0**
	comp=Z,117nm,0.8s,mb5.9,baz=270,slow=4.9,SNR=84								
ARCES					S	S		13 30 18.3	-0.2
	comp=Z,1.3nm,0.8s,baz=162,slow=35,SNR=2.9								
ARCES					LR	LR		13 51 31.2	
	comp=Z,542nm,19.2s,MS4.9,baz=267,slow=33								
ARCES	**ARCESS Array B**	**78.94**	**21**		P	P	**P**	13 20 23.3	**-0.9**
ARCES					S	S		13 30 18.3	-0.2
ARCES	**ARCESS Array B**	**78.94**	**21**		P	P	**P**	13 20 23.3	**-1.0**
ARCES					S	S		13 30 18.3	-0.2
ARCES					LR	LR		13 51 31.2	
ARE0	**ARCESS Array S**	**78.94**	**21**		*e*P	P	**P**	13 20 23.5	**-0.7**
ARE0					*e*pP	pP		13 20 39.8	0.0
KKB	**Krupnik**	**79.01**	**49**		P	P	**P**	13 20 25.4	**+0.8**
THE	**Thessaloniki**	**79.02**	**51**		*e*P	P	**P**	13 20 25.7	**+1.0**
VTS	**Vitosha**	**79.04**	**49**		*e*P	P	**P**	13 20 25.9	**+1.1**
VTS	**Vitosha**	**79.04**	**49**	⇑	*i*P	P	**P**	13 20 25.3	**+0.5**
VTS	**Vitosha**	**79.04**	**49**		P	P	**P**	13 20 25.4	**+0.6**
LVV	**L'vov**	**79.07**	**41**		*e*P	P	**P**	13 20 25.1	**+0.1**
LVV					*i* S	S		13 30 20.0	+0.1
MCK	**McKinley**	**79.10**	**333**		*e*P	P	**P**	13 20 23.6	**-1.5**
MCK					pmax	pmax			
	comp=Z,64nm,1.1s,mb5.5								
MCK					MLR	MLR			
	comp=Z,4μm,22.0s,MS5.7								
MCK	**McKinley**	**79.10**	**333**		*e*P	P	**P**	13 20 23.6	**-1.5**
	comp=Z,130nm,1.1s,mb5.8								
MCK					LR	LR			
	comp=Z,4μm,22.0s,MS5.7								
HORT	**Hortiatis**	**79.13**	**51**		*e*P	P	**P**	13 20 25.4	**+0.1**
RKT	**Rikitea**	**79.17**	**244**		*e*PP	PP		13 23 30.0	+4.5
	comp=Z,129nm,29.5s								
RKT	**Rikitea**	**79.17**	**244**		*e*S	S		13 30 24.5	+3.5
	comp=Z,1μm,27.2s								
RKT					*e*SS	SS		13 35 23.2	-4.9
	comp=Z,999nm,28.0s								
RKT					*e*LR	LR		13 45 05.9	
	comp=Z,3μm,26.0s,baz=71								
RKT	**Rikitea**	**79.17**	**244**		*e*P	P	**P**	13 20 27.7	**+2.2**
RKT					*e*			13 23 30.0	
RKT					*e*S	S		13 30 24.5	+3.5
RKT					*e*SS	SS		13 35 23.2	-4.9
RKT					pmax	pmax			
	comp=Z,168nm,1.1s,mb5.9								
RKT	**Rikitea**	**79.17**	**244**		*e*P	P	**P**	13 20 27.7	**+2.2**
	comp=Z,168nm,1.1s,mb5.9								
RKT					*e*PP	PP		13 23 30.0	+4.5
RKT					*e*S	S		13 30 24.5	+3.5
RKT					*e*SS	SS		13 35 23.2	-4.9
PMR	**Palmer**	**79.29**	**331**		*e*P	P	**P**	13 20 25.3	**-0.8**
PMR					pmax	pmax			
	comp=Z,235nm,1.8s,mb5.8								
PMR					MLR	MLR			
	comp=Z,7μm,22.0s,MS5.9								
PMR	**Palmer**	**79.29**	**331**		*e*P	P	**P**	13 20 25.3	**-0.8**
	comp=Z,235nm,1.8s,mb5.8								
PMR					LR	LR			
	comp=Z,7μm,22.0s,MS5.9								
SOH	**Sokhos**	**79.30**	**50**		*e*P	P	**P**	13 20 26.7	**+0.4**
NEO	**Neokhori**	**79.34**	**52**		*e*P	pP		13 20 42.5	+0.4
VLI	**Veliai**	**79.36**	**54**		*e*P	P	**P**	13 20 28.1	**+1.6**
PLG	**Polygyros**	**79.41**	**51**		*e*P	P	**P**	13 20 26.9	**+0.1**
PLG	**Polygyros**	**79.41**	**51**		*e*P	P	**P**	13 20 28.0	**+1.2**
KEV	**Kevo**	**79.45**	**21**		*e*P	P	**P**	13 20 25.9	**-1.2**
KEV					pmax	pmax			
	comp=Z,76nm,1.0s,mb5.6								
KEV					MLR	MLR			
	comp=Z,974nm,21.0s,MS5.1								
KEV	**Kevo**	**79.45**	**21**		*e*P	P	**P**	13 20 25.9	**-1.2**
	comp=Z,76nm,1.0s,mb5.6								
KEV					LR	LR			
	comp=Z,974nm,21.0s,MS5.1								
KYTH	**Kithira**	**79.48**	**55**		*e*P	pP		13 20 40.0	-2.9
FINES	**FINESS Array B**	**79.50**	**29**		P	P	**P**	13 20 26.6	**-0.8**
	comp=Z,28nm,0.7s,mb5.3,baz=263,slow=3.1,SNR=77								
FINES					pP	pP		13 20 41.4	-1.6
	comp=Z,40nm,0.9s,baz=318,slow=2.6,SNR=8.4								
FINES					S	S		13 30 22.5	-2.0
	comp=Z,0.5nm,0.6s,baz=156,slow=30,SNR=2.5								
FINES					PKKPbc	PKKPbc		13 39 15.3	-0.1
	comp=Z,3.9nm,0.7s,baz=72,slow=6.2,SNR=5.2								
FINES					PKPPKP			13 47 22.7	
	comp=Z,2.6nm,0.8s,baz=50,slow=4.3,SNR=5.1								
FINES					LR	LR		13 50 39.5	
	comp=Z,1μm,21.3s,MS5.2,baz=271,slow=32								
FINES	**FINESS Array B**	**79.50**	**29**		P	P	**P**	13 20 26.6	**-0.7**
FINES					*e*PP	pP		13 20 41.4	-1.6
FINES					S	S		13 30 22.5	-2.0
FINES	**FINESS Array B**	**79.50**	**29**		P	P	**P**	13 20 26.6	**-0.7**
FINES					pP	pP		13 20 41.4	-1.6
FINES					S	S		13 30 22.5	-2.0
FINES					PKKPbc	PKKPbc		13 39 15.3	-0.1
FINES					P'P'			13 47 22.7	
FINES					LR	LR		13 50 39.5	
FIA1	**FINESS Array S**	**79.50**	**29**		*e*P	P	**P**	13 20 26.8	**-0.5**
FIA1					*e*	pP		13 20 42.1	-0.9
MMB	**Musomiste**	**79.51**	**50**		*e*P	P	**P**	13 20 28.4	**+1.1**
MMB	**Musomiste**	**79.51**	**50**		P	P	**P**	13 20 27.8	**+0.4**
KAF	**Kangasniemi**	**79.57**	**29**		*e*p		**P**	13 20 26.5	**-1.2**
	comp=Z,42nm,0.8s,mb5.4,baz=273,slow=5.1								
KAF	**Kangasniemi**	**79.57**	**29**		*e*P	P	**P**	13 20 26.5	**-1.2**
KAF					pmax	pmax			
	comp=Z,42nm,0.8s,mb5.4								
PGB	**Panagyurishte**	**79.75**	**49**		P	P	**P**	13 20 29.3	**+0.6**
OUR	**Ouranopolis**	**79.82**	**51**		*e*P	P	**P**	13 20 30.1	**+1.0**
ATH	**Athens Observa**	**79.85**	**53**		*e*P	PcP		13 20 37.0	+0.3
SLKM	**Skilak Lake**	**79.88**	**330**		*e*P	P	**P**	13 20 28.6	**-0.8**
PTL	**Penteli**	**79.96**	**53**		*e*P	P	**P**	13 20 30.6	**+0.8**
BURAR	**Bucovina Array**	**80.03**	**43**	⇑	*i*P	P	**P**	13 20 30.7	**+0.5**
BURAR	**Bucovina Array**	**80.03**	**43**	⇑	P	P	**P**	13 20 30.7	**+0.5**
VSU	**Vasula**	**80.04**	**32**	*c*	*i*P	P	**P**	13 20 29.4	**-0.8**
VSU	**Vasula**	**80.04**	**32**	⇑	*i*P	P	**P**	13 20 29.5	**-0.7**
VOIR		**80.11**	**46**	⇓	*i*P	P	**P**	13 20 30.6	**0.0**
VOIR		**80.11**	**46**	⇓	P	P	**P**	13 20 30.6	**0.0**
RZN	**Rozhen**	**80.24**	**49**		P	P	**P**	13 20 32.2	**+0.9**
KARN	**Karanos**	**80.29**	**56**		*e*P	pP		13 20 47.0	-0.2
TAOE	**Nuku Hiva Isla**	**80.42**	**259**		eLR	LR		13 45 38.2	
	comp=Z,8μm,34.9s								
GVD	**Gavdhos**	**80.49**	**56**		*e*P	P	**P**	13 20 33.0	**+0.3**
VAM	**Vamos**	**80.52**	**56**		*e*P	pP		13 20 47.0	-1.5
ZIMR		**80.52**	**47**	⇑	*i*P	P	**P**	13 20 34.0	**+1.2**
PVL	**Pavlikeni**	**80.54**	**48**		P	P	**P**	13 20 32.7	**-0.2**
MLR	**Muntele Rosu**	**80.74**	**45**		P	P	**P**	13 20 34.1	**+0.1**
	comp=Z,42nm,1.0s,mb5.3,baz=307,slow=3.3,SNR=30								
MLR					pP	pP		13 20 48.8	-0.9
	comp=Z,283nm,1.0s,baz=300,slow=19,SNR=24								
MLR	**Muntele Rosu**	**80.74**	**45**	⇑	*i*P	P	**P**	13 20 34.2	**+0.2**
MLR	**Muntele Rosu**	**80.74**	**45**		P	P	**P**	13 20 34.1	**+0.1**
MLR					*P	pP		13 20 48.8	-0.9
MLR					pmax	pmax			
	comp=Z,42nm,1.0s								
MLR					pmax	pmax			
	comp=Z,283nm,1.0s								
MLR	**Muntele Rosu**	**80.74**	**45**	⇑	P	P	**P**	13 20 34.1	**+0.2**
KDZ	**Kurdzhali**	**80.77**	**49**		P	P	**P**	13 20 34.0	**-0.1**
RDO	**Rodhopi**	**80.91**	**50**		*e*P	P	**P**	13 20 35.0	**+0.1**
IMA2	**Indian Mountai**	**80.94**	**336**		*e*P	P	**P**	13 20 34.1	**-1.0**
MNK	**Minsk**	**81.00**	**36**		*e*P	P	**P**	13 20 30.0	**-5.4**
MNK					*e*	pP		13 20 44.0	-7.1
MNK					pmax	pmax			
	comp=Z,390nm,1.0s,mb6.3								
MNK					pmax	pmax			
	comp=E,410nm,1.1s								
PLOR	**Plostina**	**81.19**	**45**	⇑	*i*P	P	**P**	13 20 37.4	**+1.0**
VRI	**Vrincioaia**	**81.24**	**45**	⇓	*i*P	P	**P**	13 20 36.0	**-0.7**
VRI	**Vrincioaia**	**81.24**	**45**	⇓	P	P	**P**	13 20 36.0	**-0.6**
ALN	**Alexandroupoli**	**81.32**	**50**		*e*P	P	**P**	13 20 37.5	**+0.4**
KDAK	**Kodiak Island**	**81.35**	**327**		P	P	**P**	13 20 37.0	**-0.2**
	comp=E,731nm,0.9s,mb6.6,SNR=12								
KDAK	**Kodiak Island**	**81.35**	**327**		P	P	**P**	13 20 36.5	**-0.7**
	comp=E,78nm,0.8s,mb5.7,baz=93,slow=4.2,SNR=29								
KDAK	**Kodiak Island**	**81.35**	**327**		*e*P	P	**P**	13 20 35.8	**-1.4**
KDAK					LR	LR			
	comp=Z,1μm,20.0s,MS5.2								
APE	**Apeiranthos**	**81.39**	**54**		*e*P	P	**P**	13 20 38.4	**+0.9**
APE	**Apeiranthos**	**81.39**	**54**		*e*P	pP		13 20 47.0	-6.1
APE	**Apeiranthos**	**81.39**	**54**	⇓	*i*P	P	**P**	13 20 37.9	**+0.5**
SANT	**Santorini**	**81.42**	**55**		*e*P	PcP		13 20 45.6	+2.0
BOZC	**Bozcaada**	**81.46**	**51**		*i* P	pP		13 20 50.2	-3.3
BOZC	**Bozcaada**	**81.46**	**51**		*i* P	pP		13 20 52.7	-0.8
JMB	**Yambol**	**81.54**	**48**		*e*P	P	**P**	13 20 37.8	**-0.4**
JMB	**Yambol**	**81.54**	**48**		*e*P	P	**P**	13 20 38.5	**+0.3**
LAST	**Lasithi**	**81.58**	**56**		*e*P	P	**P**	13 20 39.7	**+1.2**
EZN	**Ezine**	**81.67**	**51**		*e*P	P	**P**	13 20 41.6	**+2.7**
NPS	**Neapolis**	**81.68**	**56**		*e*P	P	**P**	13 20 40.0	**+1.0**
PRK	**Paraskevi**	**81.70**	**52**		*e*P	P	**P**	13 20 43.5	**+4.4**
EDRB	**Edirne**	**81.73**	**49**		*e*P	P	**P**	13 20 39.5	**+0.3**
PUL	**Pulkovo**	**81.74**	**31**		P	P	**P**	13 20 31.0	**-8.3**
PUL					S	S		13 30 39.6	-8.3
PUL	**Pulkovo**	**81.74**	**31**	⇓	*e*P	P	**P**	13 20 39.4	**+0.1**
XRY	**Khrisi**	**81.80**	**56**		*e*P	PcP		13 20 49.5	+4.3
JOF	**Joensuu**	**81.81**	**28**		*e*p	P	**P**	13 20 37.8	**-1.8**
	comp=Z,69nm,0.9s,mb5.6								
APA	**Apatity**	**82.00**	**23**	⇓	*i*P	P	**P**	13 20 40.0	**-0.7**
APA					*i*	pP		13 20 56.4	0.0
APA					*i*			13 21 03.2	
APA					*i* S	S		13 30 49.0	-1.6
APA					*i* SP			13 31 49.0	
APA					*e*SS	SS		13 36 10.0	-0.3
APA					pmax	pmax			
	comp=Z,81nm,1.1s,mb5.6								
APA					MLR	MLR			
	comp=Z,1μm,16.0s,MS5.3								
AYVA	**Ayvalik**	**82.01**	**52**		*i* P	pP		13 20 52.8	-3.6
PRD	**Provadia**	**82.04**	**48**		P	P	**P**	13 20 40.6	**-0.3**
URLA	**Izmir**	**82.06**	**53**		*i* P	P	**P**	13 20 40.7	**-0.3**
RKY	**Sarkoy-Tekirda**	**82.20**	**50**		*e*P	P	**P**	13 20 40.3	**-1.4**
CANB	**Canakkale**	**82.20**	**51**		*e*P	P	**P**	13 20 41.8	**+0.1**
SART	**Tekirdag**	**82.20**	**50**		*i* P	P	**P**	13 20 41.2	**-0.6**
MFT	**Murefte**	**82.27**	**50**		*e*P	P	**P**	13 20 40.8	**-1.2**
AKASG	**Malin Array Be**	**82.30**	**40**		P	P	**P**	13 20 41.5	**-0.8**
	comp=Z,17nm,1.0s,mb4.9,baz=265,slow=5.1,SNR=41								
AKASG					pP	pP		13 20 55.9	-2.1
	comp=Z,58nm,0.9s,baz=280,slow=4.2,SNR=16								
AKASG					S	S		13 30 58.6	+5.0
	comp=Z,0.3nm,0.4s,baz=268,slow=7.6,SNR=2.7								
AKASG					PKKPbc	PKKPbc		13 39 07.7	-1.4
	comp=Z,1.8nm,0.6s,baz=84,slow=2.8,SNR=5.2								
AKASG					PKPPKP			13 47 15.0	
	comp=Z,0.3nm,0.3s,baz=77,slow=2.5,SNR=8.6								
AKASG					LR	LR		13 53 33.7	
	comp=Z,684nm,20.2s,MS5.0,baz=275,slow=33								
AKASG	**Malin Array Be**	**82.30**	**40**		P	P	**P**	13 20 41.5	**-0.7**
AKASG					*PP	pP		13 20 55.9	-2.1
AKASG					S	S		13 30 58.6	+5.0
AKASG	**Malin Array Be**	**82.30**	**40**		P	P	**P**	13 20 41.5	**-0.8**
AKASG					pP	pP		13 20 55.9	-2.1
AKASG					S	S		13 30 58.6	+5.0
AKASG					PKKPbc	PKKPbc		13 39 07.7	-1.4
AKASG					P'P'			13 47 15.0	
AKASG

TNA Tin City 86.76 336 *e*P **P 13 21 04.7 0.0**
comp=Z,680nm,1.4s,mb6.7
TNA LR LR
comp=Z,2μm,22.0s,MS5.6
HDMB Hadim 86.90 53 *e*P **P 13 21 04.3 -1.2**
ELDT Eldivan 86.93 50 *i* P **P 13 21 06.2 +0.6**
CANT Cankiri 87.05 49 *e*P **P 13 21 06.5 +0.4**
BZK Bozkurt 87.06 48 *e*P pP 13 21 17.5 -4.5
BR131 Keskin Array S 87.24 50 *e*P **P 13 21 07.4 +0.3**
comp=Z,142nm,1.4s,mb6.0
BR131 LR LR
comp=Z,441nm,20.0s,MS4.9
BRTR Keskin Array B 87.24 50 P **P 13 21 07.0 -0.1**
comp=Z,12nm,0.8s,mb5.2,baz=250,slow=3.7,SNR=31
BRTR pP pP 13 21 22.4 -0.6
comp=Z,34nm,1.0s,baz=261,slow=4.6,SNR=8.8
BRTR S SKSac 13 31 26.7 -3.1
comp=Z,0.2nm,0.3s,baz=313,slow=34,SNR=2.4
TOS Tosya 87.26 49 *e*P **P 13 21 07.0 -0.2**
ERMK Ermenek 87.30 53 *i* P **P 13 21 07.6 +0.2**
KAMT Kaman 87.37 51 *e*P **P 13 21 07.2 -0.5**
BYBT Boyabat 87.72 48 *e*P **P 13 21 04.1 -5.3**
CDAG Cicekdag 87.81 50 *i* P **P 13 21 09.6 -0.2**
BOYT Boyabat 87.83 48 *i* P **P 13 21 10.6 +0.7**
CORM Corum 87.89 50 *e*P **P 13 21 09.2 -1.0**
CTKT Corum 87.92 49 *i* P **P 13 21 10.9 +0.6**
IKL Isikli 87.99 54 *e*P **P 13 21 09.7 -1.0**
DIKM Dikmen 88.04 48 *e*P **P 13 21 10.5 -0.4**
VOR Voronezh 88.24 38 *e*P **P 13 21 11.5 -0.4**
VOR *e**PP pP 13 21 26.5 -1.2
VOR *e* 13 31 33.0
VOR pmax pmax
comp=Z,170nm,1.7s,mb6.0
AVNT Avonos 88.36 51 *i* P **P 13 21 12.4 0.0**
VRSR Storozhevoye 88.37 38 *e*P **P 13 21 11.8 -0.7**
VRSR *e**PP pP 13 21 27.4 -1.0
VRSR *e*S SKSac 13 31 33.0 -3.7
VRSR pmax pmax
comp=Z,60nm,1.4s,mb5.6
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,40nm,1.0s
VRSR smax
comp=N,120nm,0.9s
VRSR smax
comp=E,100nm,0.9s
VRSR smax
comp=Z,10.0nm,0.9s
MERS Mersin 88.52 53 *e*P **P 13 21 13.3 +0.1**
KVT Kavak 88.74 49 *e*P **P 13 21 10.6 -3.6**
KARA Karaisali 88.85 52 *e*P **P 13 21 10.1 -4.6**
ANN Anapa 88.86 45 *e*P **P 13 21 13.2 -1.6**
ANN *i* *PP pP 13 21 29.1 -1.5
ANN *e* 13 24 38.6
ANN *e* 13 31 36.8
ANN pmax pmax
comp=Z,51nm,1.1s,mb5.8
VNA1 Neumayer--Stat 88.95 164⇓ *i*P **P 13 21 15.2 0.0**
VNA1 *e* 13 21 16.3
VNA1 *e* pP 13 21 26.4 -4.7
VNA1 *e* pP 13 21 31.1 0.0
VNA1 *e* 13 21 38.7
VNA3 Neumayer Olymp 88.96 165⇓ *i*P **P 13 21 14.6 -0.7**
VNA3 *e* 13 21 15.8
VNA3 *e* pP 13 21 25.7 -5.5
VNA3 *e* pP 13 21 30.4 -0.8
VNA3 *e* 13 21 38.3
BNN Bunyan 89.10 51 *e*P **P 13 21 17.0 +1.1**
PMOR Pomariorio Ree 89.11 255 *e*P **P 13 21 17.3 +1.4**
comp=Z,75nm,0.8s,mb6.1
AKUT Akutan 89.35 325 *e*P **P 13 21 16.4 -0.7**
comp=Z,280nm,0.9s,mb6.6
KOZT Kozan 89.40 52 *e*P **P 13 21 16.6 -0.7**
CEYT Ceyhan 89.44 53 *e*P **P 13 21 16.6 -0.9**
SUR Sutherland 89.55 123 *e*P **P 13 21 18.1 0.0**
comp=Z,126nm,1.0s,mb6.2
SUR *e*pP pP 13 21 33.3 -0.6
SUR LR LR
comp=Z,481nm,22.0s,MS4.9
SVSK Karacayir 89.72 49 *e*P **P 13 21 18.1 -0.8**
UNV Unalaska Valle 89.85 325 PFAKE 13 21 30.0 +11
UNV LR LR
comp=Z,11μm,21.0s,MS6.3
POHA Pohakuloa 89.89 290 PFAKE 13 21 30.0 +10
POHA LR LR
comp=Z,1μm,19.0s,MS5.4
KMRS Kahramanmaras 90.22 52 *e*P **P 13 21 20.8 -0.3**
GRSN GIRESUNGRSN 90.41 48 *i* P **P 13 21 22.4 +0.4**
EIL Elat 90.43 60 *e*P **P 13 21 23.3 +1.2**
comp=Z,1μm,1.8s,mb6.9
GAZ Gaziantep 90.54 52 *e*P **P 13 21 24.1 +1.4**
GZT Gaziantep 90.77 52 *i* P **P 13 21 25.4 +1.7**
SNAA Sanae 90.98 164 P **P 13 21 23.4 -1.3**
comp=Z,37nm,1.0s,mb5.7,baz=326,slow=5.1,SNR=243
SNAA S S 13 31 50.1 -28
comp=Z,1.0nm,1.0s,baz=173,slow=20,SNR=6.3
SNAA Sanae 90.98 164⇓ *i*P **P 13 21 23.8 -0.9**
SNAA *e* 13 21 24.9
SNAA *e* pP 13 21 41.0 +0.4
SNAA *e* 13 21 47.7
SNAA Sanae 90.98 164 P **P 13 21 23.4 -1.3**
SNAA S SKSac 13 31 50.1 -1.8
SNAA pmax pmax
comp=Z,37nm,1.0s
SNAA smax
comp=N,1.0nm,1.0s
SNAA Sanae 90.98 164 *e*P **P 13 21 23.5 -1.2**
comp=N,168nm,1.1s,mb6.3
PPT Papeete 91.19 252 *e*pP pP 13 21 40.7 -0.8
comp=N,176nm,1.5s
PPT Papeete 91.19 252 *e*PP PP 13 25 02.0 -1.0
comp=N,165nm,30.5s
PPT Papeete 91.19 252 *e*S S 13 32 21.7 +2.2
comp=N,2μm,29.0s
PPT *e*SS SS 13 38 20.9 -3.9
comp=N,2μm,27.5s
PPT *e*LR LR 13 50 39.4
comp=N,2μm,22.5s,baz=65
PPT Papeete 91.19 252 LR LR 13 56 27.9
comp=N,1μm,20.4s,MS5.4,baz=80,slow=32
MYA Malataya 91.19 51 *e*P **P 13 21 27.0 +1.4**
MALT Malatya 91.19 51⇑ *i*P **P 13 21 26.6 +0.9**
MALT Malatya 91.19 51 *e*P **P 13 21 26.3 +0.6**
MALT pmax pmax
comp=Z,71nm,1.1s,mb5.9
MALT Malatya 91.19 51 *e*P **P 13 21 26.2 +0.6**
comp=Z,71nm,1.1s,mb5.9
PAE Paea 91.21 252 *e*P **P 13 21 27.2 +1.5**
PAE *e*pP pP 13 21 41.5 -0.1
comp=Z,382nm,1.4s
ATAB Bozova 91.31 52 *i* P pP 13 21 42.2 +0.1
KELT Kelkit 91.34 49 *i* P **P 13 21 26.7 +0.3**
NIKO Nikolski 91.47 325 *e*P **P 13 21 25.5 -1.4**
comp=Z,196nm,1.4s,mb6.2
KTUT Trabzon 91.49 48 *e*P pP 13 21 36.9 -6.1
URFA Urfa 91.72 52 *e*P **P 13 21 25.8 -2.3**
PTK Pertek 91.77 50 *e*P **P 13 21 29.1 +0.8**
EZC Erzincan 91.86 49 *e*P **P 13 21 28.1 -0.6**
LBTB Lobatse 92.14 115 P **P 13 21 30.7 +0.6**
LBTB sP pP 13 21 44.9 -1.1
LBTB Lobatse 92.14 115 *e*P **P 13 21 29.9 -0.2**
LBTB *e**PP pP 13 21 43.3 -2.7
LBTB pmax pmax
comp=Z,176nm,1.4s,mb6.2
LBTB MLR MLR
comp=Z,2μm,22.0s,MS5.5
LBTB Lobatse 92.14 115 *e*P **P 13 21 29.9 -0.1**
comp=Z,176nm,1.4s,mb6.2
LBTB *e*pP pP 13 21 43.3 -2.7
LBTB LR LR
comp=Z,2μm,22.0s,MS5.5
TBI Tubuai 92.17 247 *e*PP PP 13 25 13.7 +2.9
comp=Z,142nm,30.2s
TBI Tubuai 92.17 247 *e*S S 13 32 28.7 +0.3
comp=Z,1μm,33.0s
TBI *e*SS SS 13 38 34.3 -4.6
comp=Z,1μm,29.0s
TBI *e*LR LR 13 51 05.2
comp=Z,2μm,36.2s
BOSA Boshof 92.53 118 P **P 13 21 31.6 -0.2**
BOSA pP pP 13 21 44.8 -3.0
BOSA Boshof 92.53 118 P **P 13 21 31.6 -0.2**
comp=Z,49nm,0.7s,mb6.0,baz=281,slow=4.8,SNR=114
BOSA LR LR 13 58 54.5
comp=Z,1μm,21.6s,MS5.3,baz=286,slow=33
BOSA Boshof 92.53 118 *e*P **P 13 21 31.5 -0.3**
BOSA *e**PP pP 13 21 45.7 -2.0
BOSA pmax pmax
comp=Z,113nm,1.0s,mb6.2
BOSA MLR MLR
comp=Z,2μm,21.0s,MS5.5
BOSA Boshof 92.53 118⇓ *e*P **P 13 21 31.5 -0.4**
comp=Z,113nm,1.0s,mb6.2
BOSA *e*pP pP 13 21 45.7 -2.1
BOSA LR LR
comp=Z,2μm,21.0s,MS5.5
BCA Borcka 92.71 47 *e*P **P 13 21 31.4 -1.2**
KIV Kislovodsk 92.71 44⇑ *i*P **P 13 21 33.2 +0.5**
KIV MLR MLR
comp=Z,223nm,21.0s,MS4.6
LSZ Lusaka 92.75 105⇓ *e*P **P 13 21 33.6 +0.8**
LSZ *e**PP pP 13 21 47.7 -1.1
LSZ pmax pmax
comp=Z,209nm,1.4s,mb6.4
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.4
LSZ Lusaka 92.75 105⇓ *e*P **P 13 21 33.6 +0.8**
comp=Z,209nm,1.4s,mb6.4
LSZ *e*pP pP 13 21 47.7 -1.0
LSZ LR LR
comp=Z,2μm,21.0s,MS5.4
EZM Erzurum 92.96 49 *e*P **P 13 21 35.9 +2.1**
ERZM Erzurum 92.97 49 *i* P **P 13 21 36.3 +2.4**
BNGL BINGOL 93.08 50 *i* P **P 13 21 35.6 +1.3**
MARD Mardin 93.25 51 *i* P **P 13 21 36.4 +1.2**
ZEI Tsey 93.92 45 *e*P **P 13 21 38.5 +0.3**
ZEI *e**PP pP 13 21 54.8 +0.6
ZEI *e* 13 25 33.1
AKH Akhalkalaki 94.06 47 P pP 13 21 54.8 0.0
BILL Bilibino 94.22 344 *e*P **P 13 21 38.1 -1.5**
BILL pmax pmax
comp=Z,151nm,1.4s,mb6.2
BILL MLR MLR
comp=Z,3μm,21.0s,MS5.8
BILL Bilibino 94.22 344 *e*P **P 13 21 38.1 -1.6**
comp=Z,151nm,1.4s,mb6.2
BILL LR LR
comp=Z,3μm,21.0s,MS5.8
SIRT Sirnak 94.47 51 *e*P **P 13 21 37.6 -3.2**
MAIT Maitri 94.83 161 *e*P **P 13 21 41.2 -1.2**
VANB Van 94.85 49 *e*P **P 13 21 37.8 -4.7**
MTA Mtatsminda 94.89 46 P pP 13 21 58.1 -0.5
CLDR Caldiran 95.08 49 *e*P **P 13 21 44.6 +1.1**
MSL Mosul 95.33 52 *ex* x 13 21 54.0
MSL *ex* x 13 22 09.0
GNI Garni 95.36 48 *e*P **P 13 21 45.0 +0.2**
GNI Garni 95.36 48 P **P 13 21 46.8 +1.9**
SNR=20
GNI Garni 95.36 48 *e*P **P 13 21 45.3 +0.5**
GNI *e* pP 13 22 01.1 +0.3
GNI pmax pmax
comp=Z,279nm,1.7s
GNI MLR MLR
comp=Z,593nm,19.0s
GNI Garni 95.36 48 *e*P **P 13 21 45.3 +0.5**
comp=Z,280nm,1.7s,mb6.4
GNI *e* pP 13 22 01.1 +0.3
GNI LR LR
comp=Z,593nm,19.0s,MS5.1
DGRG David-gareji 95.39 46 P pP 13 22 01.0 +0.1
CUKT Cukurca 95.43 51 *e*P pP 13 21 59.1 -2.0
SEMD Semdilli 96.09 50 *e*P **P 13 21 48.5 +0.3**
MAK Makhachkala 96.35 44 *e*P **P 13 21 53.9 +4.6**
MAK *i* S SKSac 13 32 23.5 +2.3
ARU Arti 96.87 29 *e*P **P 13 21 51.6 -0.1**
ARU *e* pP 13 22 05.8 -1.9
ARU *e* 13 25 48.3
ARU *e*PPP 13 27 51.2
ARU *e*S SKSac 13 32 23.2 -0.8
ARU *e*SP SP 13 34 28.6 -1.8
ARU *e*PS PS 13 34 38.9 +1.6
ARU Arti 96.87 29 *e*P **P 13 21 51.1 -0.6**
comp=Z,20nm,1.2s,mb5.4
ARU *e* pP 13 22 06.8 -0.9
ARU LR LR
comp=Z,326nm,22.0s,MS4.8
BHD Baghdad 97.26 54 *ex* x 13 21 46.0
BHD *ex* x 13 22 04.0
TIXI Tiksi 97.36 357 *e*P **P 13 21 51.5 -2.4**
TIXI *e* 13 25 48.7
TIXI *e* 13 32 19.4
TIXI pmax pmax
comp=N,17nm,1.2s
TIXI pmax pmax
comp=Z,68nm,1.2s,mb6.0
TIXI pmax pmax
comp=E,9.0nm,1.3s
TIXI pmax pmax
comp=Z,135nm,1.4s,mb6.2
TIXI MLR MLR
comp=Z,2μm,20.0s,MS5.7
TIXI Tiksi 97.36 357⇓ *i*P **P 13 21 53.2 -0.7**
SVE Sverdlovsk 97.63 28 *e*P **P 13 21 55.8 +0.7**
SVE *e* pP 13 22 10.0 -1.1
SVE *e* 13 25 55.0
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.6
KMBO Kilima Mbogo 99.05 89 P **P 13 22 03.6 +2.1**
comp=Z,1.7nm,0.8s,baz=339,slow=4.8,SNR=4.9
KMBO LR LR 14 06 51.2
comp=Z,748nm,19.1s,MS5.2,baz=276,slow=35
AKTK Aktyubinsk 99.66 34 P Pdif 13 22 04.6 +0.4
AKTO Aktyubinsk 99.66 34 P Pdif 13 22 04.6 +0.4
comp=Z,4.9nm,1.0s,baz=303,slow=6.9,SNR=8.8
SMY Shemya 100.76 329 PFAKE 13 22 20.0 +11
SMY LR LR
comp=Z,2μm,20.0s,MS5.6
QSPA South Pole Qui 100.86 180 *e*P Pdif 13 22 09.9 +0.4
comp=Z,63nm,1.6s
QSPA LR LR
comp=Z,3μm,21.0s,MS5.8
RAR Rarotonga 101.27 250 PFAKE 13 22 20.0 +8.6
RAR LR LR
comp=Z,2.0nm,22.0s
ZRNK Zerenda 103.82 28 *e*P Pdif 13 22 22.7 0.0
ZRNK pmax pmax
comp=Z,17nm,1.4s
ZRNK Zerenda 103.82 28 *e*P Pdif 13 22 22.7 0.0
comp=Z,17nm,1.4s
SYO Syowa Base 104.14 159⇑ *e*P Pdif 13 22 22.0 -2.1
SYO Syowa Base 104.14 159⇑ *e*PP PP 13 26 38.8 -3.6
BRVK Borovoye 104.34 28 PFAKE 13 22 30.0 +5.0
BRVK LR LR
comp=Z,310nm,22.0s,MS4.8
BVAR Borovoye Array 104.41 28 Pdiff Pdif 13 22 25.4 +0.1
comp=Z,1.1nm,0.7s,baz=319,slow=4.3,SNR=4.4
BVAR PKKPbc PKKPbc 13 38 11.1 -0.3
comp=Z,4.5nm,0.6s,baz=151,slow=3.9,SNR=11
MA2 Magadan 105.09 344 PFAKE 13 26 50.0 +7.3
MA2 LR LR
comp=Z,2μm,21.0s,MS5.6
MIDW Midway 106.67 304 PFAKE 13 27 00.0 +14
MIDW LR LR
comp=Z,214μm,20.0s
YAK Yakutsk 106.78 354 PFAKE 13 27 00.0 +14
YAK LR LR
comp=Z,3μm,22.0s,MS5.8
PET Petropavlovsk 107.62 336 PFAKE 13 27 00.0 +13
PET LR LR
comp=Z,3μm,21.0s,MS5.8
SBA Scott Base 108.72 190 PFAKE 13 27 00.0 +11
SBA LR LR
comp=Z,3μm,21.0s,MS5.9
VNDA Vanda 109.73 189 Pdiff Pdif 13 22 50.2 +1.3
comp=Z,1.2nm,1.0s,baz=111,slow=2.9,SNR=3.7
VNDA PKKPbc PKKPbc 13 37 53.7 -1.1
comp=Z,2.0nm,1.1s,baz=324,slow=3.5,SNR=4.9
VNDA Vanda 109.73 189 Pdif Pdif 13 22 50.2 +1.2
VNDA PKKPbc PKKPbc 13 37 53.7 -1.1
VNDA LR LR
comp=Z,4μm,22.0s,MS6.0
BOD Bodaibo 111.47 2 *e*P Pdif 13 22 53.2 -3.5
BOD *e* 13 33 27.3
BOD pmax pmax
comp=Z,5.0nm,1.3s
MAW Mawson 112.76 160 PKKPbc PKKPbc 13 37 44.3 -0.6
comp=Z,3.5nm,0.8s,baz=338,slow=2.8,SNR=6.4
MAW Mawson 112.76 160 PFAKE 13 27 10.0 +13
MAW LR LR
comp=Z,5μm,22.0s,MS6.1
AAK Ala-Archa 113.40 34⇓ *e*PKIKP PKiKP 13 26 58.3 0.0
AAK MLR MLR
comp=Z,252nm,20.0s,MS4.8
MKAR Makanchi Array 114.22 26 PKP PKiKP 13 26 58.1 -1.7
comp=Z,1.3nm,0.6s,baz=300,slow=2.4,SNR=9.3
MKAR PKKPbc PKKPbc 13 37 39.4 -0.6
comp=Z,5.9nm,0.7s,baz=123,slow=4.8,SNR=23
IRK Irkutsk 116.00 10 *e*PKIKP pPKPdf 13 27 17.2 -2.5
IRK *e* 13 33 49.9
IRK pmax pmax
comp=Z,32nm,1.5s
TLY Talaya 116.44 10 *i* PKIKP PKPdf 13 27 02.3 -1.8
TLY *e* 13 28 07.9
TLY *e*PS PS 13 37 47.5 -6.4
TLY pmax pmax
comp=Z,12nm,1.5s
TLY MLR MLR
comp=Z,2μm,25.0s,MS5.7
TLY Talaya 116.44 10 PKiKP PKiKP 13 27 02.2 -2.0
TLY LR LR
comp=Z,257nm,22.0s,MS4.8
MSEY Mahe Island 117.58 90 PFAKE 13 27 20.0 +14
MSEY LR LR
comp=Z,330nm,21.0s,MS4.9
ZAK Zakamensk 117.62 11 *e*PKIKP PKPdf 13 27 05.1 -1.3
ZAK *e* 13 28 16.4
ZAK pmax pmax
comp=Z,7.0nm,1.6s
ZAK pmax pmax
comp=Z,12nm,1.6s
YSS Yuzh-Sakhalins 118.42 341 PFAKE 13 27 20.0 +12
YSS LR LR
comp=Z,2μm,21.0s,MS5.7
WMQ Urumqi 118.88 25 *e*PKP PKPdf 13 27 09.5 +0.7
WMQ XPKP 13 27 31.0
WMQ PP PP 13 28 33.0 +4.9
WMQ PKS 13 30 45.0
WMQ PPP 13 31 05.0
WMQ SKS SKSdf 13 34 14.0 -2.1
WMQ SKKS SKKSac 13 35 19.0 -4.6
WMQ SS SS 13 44 45.0 +1.6
WMQ PP PP
comp=Z,372nm,4.7s
WMQ LR LR
comp=N,3μm,18.5s,MS6.0
WMQ LR LR
comp=E,2μm,16.4s,MS6.0
WMQ LR LR
comp=Z,3μm,22.6s
KLR Kul'dur 119.00 350 *e*PKIKP PKPdf 13 27 02.8 -6.2
KLR MLR MLR
comp=N,900nm,22.0s,MS5.6
KLR MLR MLR
comp=E,1μm,22.0s,MS5.6
HIA Hailar 120.11 359 PFAKE 13 27 20.0 +8.8
HIA LR LR
comp=Z,3μm,22.0s,MS5.8
SONM Songino Array 120.62 9 PKP PKPdf 13 27 12.2 +0.1
comp=Z,5.5nm,0.4s,baz=282,slow=1.0,SNR=53
SONM pPKP pPKPdf 13 27 27.7 -0.9
comp=Z,6.8nm,0.8s,baz=273,slow=0.8,SNR=6.4
SONM PP PP 13 28 38.1 -2.0
comp=Z,18nm,1.1s,baz=327,slow=5.3,SNR=9.6
SONM PKKPbc PKKPbc 13 37 17.0 -0.1
comp=Z,9.0nm,0.7s,baz=170,slow=3.5,SNR=20
SONM SKKPbc 13 40 55.4
comp=Z,1.9nm,1.0s,baz=153,slow=5.1,SNR=3.7
SONM Songino Array 120.62 9 PKIKP PKPdf 13 27 12.2 +0.1
SONM 13 27 27.7
SONM 13 28 38.1
URZ Urewera 121.03 232 PKP PKPdf 13 27 13.5 +0.6
comp=Z,4.2nm,0.4s,baz=358,slow=1.3,SNR=5.2
URZ pPKP pPKPdf 13 27 27.6 -1.9
comp=Z,29nm,1.0s,baz=358,slow=6.3,SNR=5.0
SNZO South Karori 122.15 228 PFAKE 13 27 30.0 +15
SNZO LR LR
comp=Z,1μm,21.0s,MS5.5
DRV Dumont d'Urvil 122.36 190 PP PP 13 28 52.0 +0.1
DRV Dumont d'Urvil 122.36 190 SS SS 13 45 25.0 -2.9
SMLA Simla 122.58 42 *e*P PKPdf 13 27 15.2 -0.8
SMLA AMb AMB 13 27 33.9
comp=Z,56nm,1.1s
SMLA *i* x x 13 34 03.9
ERM Erimo 122.62 338 PFAKE 13 27 30.0 +14
ERM LR LR
comp=Z,496nm,21.0s,MS5.1
MDJ Mudanjiang 123.83 350 PKP PKPdf 13 27 17.5 -0.8
MDJ XPKP 13 27 38.5
MDJ SKS SKSdf 13 34 21.0 -4.5
MDJ PP PP
comp=Z,534nm,11.9s
MDJ LR LR
comp=N,276nm,49.2s
MDJ LR LR
comp=E,1μm,42.1s
MDJ LR LR
comp=Z,1μm,37.5s
MDJ Mudanjiang 123.83 350 PFAKE 13 27 30.0 +12
MDJ LR LR
comp=Z,2μm,22.0s,MS5.8
RPZ Rata Peaks 124.03 224 PKP PKPdf 13 27 19.0 +0.3
comp=Z,14nm,0.5s,baz=247,slow=3.8,SNR=10
RPZ pPKP pPKPdf 13 27 33.4 -1.8
comp=Z,36nm,0.9s,baz=26,slow=4.4,SNR=7.8
NDI New Delhi 124.17 44 *e*P PKPdf 13 27 20.0 +1.0
NDI *ex* x 13 29 02.0
CASY Casey 124.41 176 *e*PKPdf PKPdf 13 27 18.8 -0.7
CASY LR LR
comp=Z,3μm,21.0s,MS5.9
CN2 Changchun 125.20 354 *e*PKP PKPdf 13 27 20.3 -0.6
CN2 PP PP 13 29 14.3 +3.3
CN2 PP PP
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.8
CN2 LR LR
comp=E,800nm,18.0s,MS5.8
CN2 LR LR
comp=Z,1μm,19.0s,MS5.7
GTA Gaotai 127.12 18 *e*PKP PKPdf 13 27 25.5 +0.9
GTA XPKP 13 27 48.8
GTA PP PP 13 29 26.8 +3.1
GTA PKS 13 31 01.5
GTA SKS SKSdf 13 34 26.5 -5.1
GTA SKKS SKKSac 13 36 07.5 -9.1
GTA PP PP
comp=Z,570nm,7.2s
GTA LR LR
comp=N,1μm,26.6s,MS5.5
GTA LR LR
comp=E,853nm,24.3s,MS5.5
GTA LR LR
comp=Z,2μm,32.7s
POO Poona 127.35 57⇑ *i*P PKPdf 13 27 24.0 -1.0
comp=Z,50nm,1.0s
BHPL Bhopal 127.60 49 *e*P PKPdf 13 27 24.5 -1.0
HHC Hu-ho-hao-te 128.18 6 *e*PKP PKPdf 13 27 28.0 +1.4
HHC PP PP 13 29 35.5 +4.8
HHC PKS 13 31 03.3
HHC SKS SKSdf 13 34 32.3 -1.3
HHC SKKS SKKSac 13 36 21.0 -2.3
HHC SS SS 13 46 40.8 -0.2
HHC PP PP
comp=Z,189nm,5.1s
HHC LR LR
comp=N,1μm,21.6s,MS5.6
HHC LR LR
comp=E,881nm,22.1s,MS5.6
HHC LR LR
comp=Z,2μm,27.2s
BTO Baotou 128.23 8 *e*PKP PKPdf 13 27 26.8 +0.1
KAD Karad 128.23 58 *e*P PKPdf 13 27 27.3 +0.6
AKL Akola 128.74 52 *e*P PKPdf 13 27 26.1 -1.5
KOLN Koldanda 128.99 40 *e*P PKPdf 13 27 29.7 +1.5
comp=Z,128nm,1.2s
MAJO Matsushiro 129.24 339 *e*PKIKP PKPdf 13 27 28.0 -0.6
MAJO MLR MLR
comp=Z,921nm,22.0s,MS5.4
MAT Matsushiro 129.24 339 PKP PKPdf 13 27 27.4 -1.2
MJAR Matsushiro Arr 129.24 339 PKP PKPdf 13 27 27.7 -0.9
comp=Z,20nm,0.9s,baz=39,slow=1.5,SNR=47
MJAR pPKP pPKPdf 13 27 44.0 -1.1
comp=Z,14nm,0.8s,baz=28,slow=1.1,SNR=7.6

MJAR					PP	PP	13 29 34.3	-3.3	
	comp=Z,16nm,1.1s,baz=5.7,slow=6.4,SNR=7.9								
MJAR					SKPbc		13 30 44.4		
	comp=Z,28nm,1.1s,baz=11,slow=3.7,SNR=8.2								
MJAR	**Matsushiro Arr**	**129.24**	**339**		PKIKP	PKPdf	13 27 27.7	-0.9	
MJAR							13 27 44.0		
MJAR							13 29 34.3		
BJI	**Beijing**	**129.32**	**2**		PKP	PKPdf	13 27 29.3	+0.5	
BJI					PP	PP	13 29 41.5	+3.3	
BJI					SS	SS	13 46 54.5	-0.6	
BJI					PP	PP			
	comp=Z,688nm,10.0s								
BJI					LR	LR			
	comp=N,2μm,28.1s,MS5.8								
BJI					LR	LR			
	comp=E,1μm,24.2s,MS5.8								
BJI					LR	LR			
	comp=Z,3μm,28.2s,MS5.9								
BJI	**Beijing**	**129.32**	**2**		PKIKP	PKPdf	13 27 29.2	+0.4	
BJI							13 29 41.6		
BJI					SS	SS	13 46 54.5	-0.6	
BJI	**Beijing**	**129.32**	**2**		PKP	PKPdf	13 27 29.2	+0.4	
BJI					PP	PP	13 29 41.6	+3.4	
BJI					SS	SS	13 46 54.5	-0.6	
BJI					LR	LR			
	comp=Z,3μm,28.2s,MS5.9								
BJT	**Baijiatuan**	**129.34**	**2**	*e*	PKIKP	PKPdf	13 27 29.4	+0.6	
BJT					MLR	MLR			
	comp=Z,2μm,21.0s								
GKN	**Gorkha**	**129.48**	**39**	*e*	P	PKPdf	13 27 30.2	+1.1	
	comp=Z,324nm,1.1s								
KKN	**Kakani**	**130.03**	**39**	*e*	P	PKPdf	13 27 31.4	+1.2	
	comp=Z,148nm,1.1s								
NGP	**Nagpur**	**130.04**	**50**	*e*	P	PKPdf	13 27 29.5	-0.7	
NGP				*i*	x	x	13 30 47.9		
DMN	**Daman**	**130.05**	**39**	*e*	P	PKPdf	13 27 31.3	+1.1	
	comp=Z,67nm,0.9s								
PKI	**Pulchoki**	**130.27**	**39**	*e*	P	PKPdf	13 27 32.1	+1.5	
	comp=Z,142nm,1.2s								
GUN	**Gumba**	**130.31**	**38**	*e*	P	PKPdf	13 27 33.2	+2.5	
	comp=Z,353nm,1.5s								
DL2	**Dalian**	**130.39**	**357**		PKP	PKPdf	13 27 31.3	+0.5	
DL2					XPKP		13 27 48.5		
DL2					PP	PP	13 29 43.0	-2.1	
DL2					PPP		13 32 46.0		
DL2					SKS	SKSdf	13 34 36.0	-1.6	
DL2					SKKS	SKKSac	13 36 33.5	-3.5	
DL2					SS	SS	13 47 06.0	-2.2	
DL2					PP	PP			
	comp=Z,190nm,7.4s								
DL2					LR	LR			
	comp=N,640nm,23.5s,MS5.4								
DL2					LR	LR			
	comp=E,560nm,23.7s,MS5.4								
DL2					LR	LR			
	comp=Z,1μm,23.7s,MS5.4								
MNGI	**Mangalore**	**130.83**	**62**	*i*	x	x	13 30 53.1		
INCN	**Inchon**	**131.27**	**351**		PFAKE		13 27 40.0	+7.5	
INCN					LR	LR			
	comp=Z,2μm,21.0s,MS5.7								
LZH	**Lanzhou**	**131.36**	**16**		PKP	PKPdf	13 27 34.3	+1.6	
LZH					SKKS	SKKSac	13 36 41.3	-1.7	
LZH					SS	SS	13 47 24.3	+4.2	
LZH					PP	PP			
	comp=Z,950nm,5.6s								
LZH					LR	LR			
	comp=N,3μm,20.0s								
LZH					LR	LR			
	comp=Z,5μm,21.0s,MS6.2								
LZH	**Lanzhou**	**131.36**	**16**		PKP	PKPdf	13 27 34.3	+1.6	
LZH					pPKP	pPKPdf	13 27 49.9	+0.7	
LZH					sPKP		13 28 03.0		
LZH					PP	PP	13 29 52.1	+0.7	
LZH				*i*			13 30 53.9		
LZH					SKKS	SKKSac	13 36 41.3	-1.7	
LZH					SS	SS	13 47 24.3	+4.2	
LZH					LR	LR			
	comp=Z,5μm,21.0s,MS6.2								
HYB	**Hyderabad**	**131.75**	**55**	*i*	PKP	PKPdf	13 27 35.5	+2.1	
HYB					*e*		13 27 49.5		
HYB					*e*SKP		13 30 56.0		
HYB					*e*		13 31 21.0		
HYB	**Hyderabad**	**131.75**	**55**	*e*	P	PKPdf	13 27 34.0	+0.6	
LSA	**Lhasa**	**131.95**	**32**	*e*	PKIKP	PKPdf	13 27 35.8	+2.0	
LSA					MLR	MLR			
	comp=Z,755nm,22.0s,MS5.4								
DZM	**Mont Dzumac**	**132.64**	**250**		PKP	PKPdf	13 27 36.8	+1.7	
	comp=Z,17nm,0.8s,baz=97,slow=7.9,SNR=9.4								
DZM					SKPbc	SKPbc	13 30 58.2	+0.7	
	comp=Z,54nm,1.2s,baz=82,slow=8.4,SNR=12								
TIA	**Tai'an**	**133.17**	**1**		PKP	PKPdf	13 27 37.0	+0.9	
BOK	**Bokaro**	**133.22**	**42**	*e*	P	PKPdf	13 27 35.9	-0.3	
BOK				*i*	PP	SKPdf	13 31 02.9	-3.7	
XAN	**Xi'an**	**134.47**	**11**		PKP	PKPdf	13 27 39.0	+0.5	
DGAR	**Diego Garcia**	**134.68**	**90**		PFAKE		13 27 50.0	+11	
DGAR					LR	LR			
	comp=Z,490nm,19.0s,MS5.2								
VIS	**Vishakhapatnam**	**135.31**	**51**	*e*	P	PKPdf	13 27 40.0	-0.1	
CD2	**Chengdu**	**136.19**	**18**		PKP	PKPdf	13 27 42.5	+0.8	
CD2					PP	PP	13 30 25.5	+3.3	
CD2					PKS		13 31 17.0		
CD2					PPP		13 33 28.0		
CD2					SKS	SKSdf	13 34 48.0	+0.1	
CD2					SKKS	SKKSac	13 37 11.5	-0.8	
CD2					LR	LR			
	comp=N,590nm,22.8s								
CD2					LR	LR			
	comp=Z,920nm,33.6s								
NJ2	**Nanjing**	**137.32**	**359**	*e*	PKP	PKPdf	13 27 44.5	+0.7	
NJ2					XPKP		13 27 58.5		
NJ2					SKKS	SKKSac	13 37 20.0	+0.9	
NJ2					PP	PP			
	comp=Z,660nm,10.0s								
NJ2					LR	LR			
	comp=N,1μm,16.2s,MS6.0								
NJ2					LR	LR			
	comp=E,2μm,15.7s,MS6.0								
NJ2					LR	LR			
	comp=Z,2μm,18.4s,MS5.9								
IMP	**Imphal**	**137.35**	**34**	*e*	P	PKPdf	13 27 45.0	+1.1	
IMP				*ex*		x	13 30 44.0		
SSE	**Sheshan**	**138.19**	**356**		PKP	PKPdf	13 27 46.0	+0.6	
SSE					PP	PP	13 30 36.5	+1.9	
SSE					PP	PP			
	comp=Z,375nm,8.5s								
SSE					LR	LR			
	comp=N,670nm,30.5s,MS5.5								
SSE					LR	LR			
	comp=E,1μm,31.0s,MS5.5								
SSE					LR	LR			
	comp=Z,2μm,27.9s,MS5.7								
SSE	**Sheshan**	**138.19**	**356**		PKP	PKPdf	13 27 45.9	+0.5	
SSE					PP	PP	13 30 36.6	+2.0	
SSE					SS	SS	13 48 46.0	+3.9	
SSE					LR	LR			
	comp=Z,2μm,27.9s,MS5.7								
PALK	**Pallekele**	**138.51**	**66**		PFAKE		13 28 00.0	+14	
PALK					LR	LR			
	comp=Z,245nm,20.0s,MS4.9								
HNR	**Honiara**	**138.96**	**268**		SKPbc	SKPbc	13 31 17.8	+0.8	
	comp=Z,22nm,0.6s,baz=264,slow=3.9,SNR=6.1								
HNR	**Honiara**	**138.96**	**268**		PFAKE		13 28 00.0	+13	
HNR					LR	LR			
	comp=Z,758nm,20.0s,MS5.4								
TAU	**Tasmania Unive**	**139.28**	**213**		PFAKE		13 28 00.0	+13	
TAU					LR	LR			
	comp=Z,449nm,20.0s,MS5.2								
KMI	**Kunming**	**141.16**	**23**		PKP	PKPdf	13 27 48.0	-2.8	
KMI					XPKP		13 28 12.5		
KMI					PP	PP	13 30 50.5	-2.4	
KMI					PKS		13 31 22.8		
KMI					PPP		13 33 57.3		
KMI					SKKS	SKKSac	13 37 35.0	-6.6	
KMI					SS	SS	13 49 10.0	-7.1	
KMI					SSS		13 54 24.0		
KMI					PP	PP			
	comp=Z,276nm,7.5s								
KMI					LR	LR			
	comp=N,1μm,24.9s,MS5.6								
KMI					LR	LR			
	comp=E,772nm,22.6s,MS5.6								
KMI					LR	LR			
	comp=Z,2μm,20.3s,MS5.8								
KMI	**Kunming**	**141.16**	**23**		PKP	PKPdf	13 27 48.1	-2.7	
KMI					pPKP	pPKPdf	13 28 05.4	-1.9	
KMI					sPKP		13 28 12.4		
KMI					PP	PP	13 30 50.5	-2.4	
KMI					PKS		13 31 22.7		
KMI					PPP		13 33 57.2		
KMI					SKKS	SKKSac	13 37 35.1	-6.5	
KMI					SS	SS	13 49 10.0	-7.1	
KMI					SSS		13 54 23.9		
KMI					LR	LR			
	comp=Z,2μm,20.3s,MS5.8								
GYA	**Guiyang**	**141.23**	**17**	⇑*i*	PKP	PKPdf	13 27 46.0	-5.0	
GYA					PP	PP	13 30 58.8	+5.5	
GYA					PKS		13 31 19.8		
GYA					SKKS	SKKSac	13 37 39.5	-2.5	
GYA					PP	PP			
	comp=Z,310nm,6.0s								
GYA					LR	LR			
	comp=N,1μm,25.1s,MS5.7								
GYA					LR	LR			
	comp=E,570nm,23.4s,MS5.7								
GYA					LR	LR			
	comp=Z,2μm,22.8s,MS5.7								
JOW	**Kunigami**	**141.28**	**346**		PKP	PKPdf	13 27 52.6	+1.6	
	comp=Z,28nm,0.8s,baz=323,slow=2.3,SNR=4.3								
JOW					SKPbc	SKPbc	13 31 23.2	0.0	
	comp=Z,98nm,1.0s,baz=23,slow=3.0,SNR=10								
CNB	**Canberra Magne**	**142.71**	**224**	*e*	P	PKPdf	13 27 47.1	-6.5	
	comp=Z,24nm,0.8s								
CNB				*e*			13 31 28.2		
ARMA	**Armidale**	**143.41**	**233**	*e*	P	PKPdf	13 27 53.3	-1.5	
ARMA				*e*			13 28 15.8		
TOO	**Toolangi**	**143.87**	**218**	*e*	P	PKPdf	13 27 54.6	-1.0	
	comp=Z,97nm,0.8s								
TOO				*e*			13 31 31.1		
GUMO	**Guam**	**144.12**	**312**		PKP	PKPdf	13 27 56.9	+0.9	
	comp=Z,128nm,1.0s,baz=42,slow=2.4,SNR=4.8								
GUMO	**Guam**	**144.12**	**312**		PKP	PKPdf	13 27 56.9	+0.9	
GUMO					LR	LR			
	comp=Z,2μm,19.0s,MS5.9								
TATO	**Taipei**	**144.24**	**355**		PFAKE		13 28 10.0	+14	
TATO					LR	LR			
	comp=Z,1μm,21.0s,MS5.7								
QZH	**Quanzhou**	**144.41**	**359**	⇓*i*	PKP	PKPdf	13 27 55.3	-1.3	
QZH					APKP		13 28 13.0		
QZH					PP	PP	13 31 14.5	+2.0	
QZH					LR	LR			
	comp=N,4μm,17.4s,MS6.3								
QZH					LR	LR			
	comp=E,2μm,16.3s,MS6.3								
QZH					LR	LR			
	comp=Z,5μm,47.5s								
YHNB	**Yeheng**	**144.55**	**355**	*e*	PKPdf	PKPdf	13 27 54.8	-2.0	
CHTO	**Chiang Mai**	**144.89**	**33**		P	PKPdf	13 27 57.5	+0.1	
SNR=91									
CHTO	**Chiang Mai**	**144.89**	**33**	*e*	PKP	PKPdf	13 27 57.1	-0.3	
CHTO				*ep*	PKPdf	pPKPdf	13 28 12.6	-1.3	
CHTO					LR	LR			
	comp=Z,1μm,22.0s,MS5.6								
NACB	**Ninganchiao**	**145.02**	**355**	*e*	PKPdf	PKPdf	13 27 56.5	-1.1	
CM31	**Chiang Mai Arr**	**145.19**	**33**	*e*	PKPdf	PKPdf	13 27 58.7	+0.7	
CM31				*ep*	PKPdf	pPKPdf	13 28 13.8	-0.7	
CM31					LR	LR			
	comp=Z,967nm,22.0s,MS5.5								
NANT	**Nan**	**145.81**	**31**	⇑	P	PKPdf	13 27 57.3	-1.7	
	comp=Z,750nm,1.1s								
GZH	**Guangzhou**	**145.92**	**8**		PKP	PKPdf	13 27 59.3	+0.1	
PBA	**Port Blair**	**146.19**	**49**	*ex*		x	13 27 47.9		
PBA				*ex*		x	13 28 04.6		
NST	**Nakhon Sawan**	**148.11**	**35**		P	PKPdf	13 28 07.0	+4.2	
	comp=Z,283nm,1.0s								
QIZ	**Qiongzhong**	**149.16**	**16**		PKP	PKPdf	13 28 06.8	+2.3	
QIZ					XPKP		13 28 21.5		
QIZ					PP	PP	13 31 45.0	+4.5	
QIZ					SS	SS	13 50 50.0	+1.7	
QIZ					LR	LR			
	comp=N,1μm,22.7s								
QIZ					LR	LR			
	comp=Z,1μm,21.8s,MS5.7								
QIZ	**Qiongzhong**	**149.16**	**16**		PFAKE		13 28 20.0	+15	
QIZ					LR	LR			
	comp=Z,2μm,21.0s,MS5.8								
STKA	**Stephens Creek**	**149.97**	**222**	*e*	P	PKPdf	13 28 07.5	+1.7	
	comp=Z,35nm,0.9s								
STKA				*e*			13 28 12.3		
STKA	**Stephens Creek**	**149.97**	**222**		PKP	PKPdf	13 28 07.3	+1.4	
	comp=Z,128nm,0.8s,baz=83,slow=1.8,SNR=53								
STKA					PKPbc	PKPbc	13 28 11.2	+0.4	
	comp=Z,120nm,0.8s,baz=95,slow=3.5,SNR=57								
NNT	**Nongplab**	**150.31**	**39**		P	PKPdf	13 28 10.0	+3.6	
PMG	**Port Moresby**	**151.51**	**270**		PKPbc	PKPbc	13 28 15.8	+1.4	
	comp=Z,63nm,0.9s,baz=50,slow=4.7,SNR=8.4								
PMG	**Port Moresby**	**151.51**	**270**		PKIKP	PKPbc	13 28 15.8	+1.4	
PMG					pmax	pmax			
	comp=Z,63nm,1.0s								
PMG	**Port Moresby**	**151.51**	**270**		PFAKE		13 28 20.0	+12	
PMG					LR	LR			
	comp=Z,2μm,21.0s,MS5.8								
CTA	**Charters Tower**	**151.54**	**248**	*e*	P	PKPdf	13 28 10.3	+2.0	
	comp=Z,107nm,1.5s								
CTAO	**Charters Tower**	**151.54**	**248**	*e*	PKIKP	PKPdf	13 28 09.5	+1.2	
CTAO					MLR	MLR			
	comp=Z,2μm,21.0s,MS5.8								
KULM	**Kulim**	**156.24**	**48**	*e*	PKPdf	PKPdf	13 28 16.4	+1.5	
IPM	**Ipoh**	**157.05**	**49**		P	PKPdf	13 28 17.7	+1.7	
NWAO	**Narrogin (SRO)**	**158.02**	**178**		PKP	PKPdf	13 28 17.3	+0.1	
	comp=Z,14nm,0.9s,baz=192,slow=5.1,SNR=5.7								
NWAO					PKPab	PKPab	13 28 51.0	+0.2	
	comp=Z,105nm,1.1s,baz=179,slow=4.5,SNR=14								
NWAO	**Narrogin (SRO)**	**158.02**	**178**		PKP	PKPdf	13 28 17.3	+0.2	
NWAO					PKPab	PKPab	13 28 51.0	+0.2	
NWAO					LR	LR			
	comp=Z,2μm,21.0s,MS5.8								
FORT	**Forrest**	**158.19**	**203**	*e*	P	PKPdf	13 28 18.0	+0.6	
	comp=Z,60nm,0.8s								
FORT	**Forrest**	**158.19**	**203**	*e*	P	PKPab	13 28 52.4	+0.9	
	comp=Z,124nm,0.7s								
MUN	**Mundaring**	**158.91**	**175**	*e*	P	PKPab	13 28 56.0	+1.4	
KLBR	**Kellerberrin**	**159.37**	**179**	*e*	P	PKPdf	13 28 19.0	+0.2	
	comp=Z,175nm,1.6s								
KLBR	**Kellerberrin**	**159.37**	**179**	*e*	P	PKPab	13 28 56.9	+0.3	
	comp=Z,96nm,0.9s								
BUKP	**Musuan**	**160.18**	**340**	*e*	P	PKPab	13 29 00.4	+0.2	
KGM	**Kluang**	**160.39**	**50**		P	pPKPdf	13 28 35.0	-1.4	
AS31	**Alice Springs**	**160.40**	**227**	*e*	P	PKPdf	13 28 21.1	+1.2	
AS31				*e*			13 28 35.9		
ASAR	**Alice Springs**	**160.40**	**227**		PKP	PKPdf	13 28 21.1	+1.2	
	comp=Z,19nm,0.9s,baz=123,slow=1.3,SNR=70								
ASAR					pPKP	pPKPdf	13 28 35.6	-0.8	
	comp=Z,29nm,0.8s,baz=99,slow=1.3,SNR=18								
ASPA	**Alice Springs**	**160.40**	**227**	*e*	P	PKPdf	13 28 21.1	+1.2	
ASPA				*e*			13 28 35.9		
WB2	**Warramunga Arr**	**162.06**	**238**	⇓*i*	P	PKPdf	13 28 22.1	+0.4	
WRAB	**Tennant Creek**	**162.07**	**238**	*e*	PKIKP	PKPdf	13 28 22.5	+0.8	
WRAB					MLR	MLR			
	comp=Z,667nm,21.0s								
WRA	**Warramunga Arr**	**162.07**	**238**		PKP	PKPdf	13 28 22.7	+1.0	
	comp=Z,45nm,1.1s,baz=88,slow=0.7,SNR=40								
WRA					pPKP	pPKPdf	13 28 38.4	+0.1	
	comp=Z,74nm,1.1s,baz=101,slow=0.7,SNR=11								
WRA					PKPab	PKPab	13 29 09.0	+0.6	
	comp=Z,22nm,1.0s,baz=109,slow=4.0,SNR=9.5								
KKM	**Kota Kinabalu**	**163.08**	**7**		P	PKPab	13 29 08.8	-4.0	
KKM	**Kota Kinabalu**	**163.08**	**7**		PKPdf	PKPdf	13 28 23.6	+0.9	
TSM	**Tawau**	**164.94**	**1**		P	PKPab	13 29 21.4	+0.4	
KSM	**Kuching**	**165.41**	**33**	*e*	PKPdf	PKPdf	13 28 26.0	+1.2	
KAKA	**Kakadu**	**165.99**	**261**	*e*	P	PKPdf	13 28 27.2	+1.9	
	comp=Z,25nm,1.2s								
KAKA				*e*			13 28 41.6		
FITZ	**Fitzroy Crossi**	**169.86**	**224**	*e*	P	PKPdf	13 28 28.8	+0.9	
	comp=Z,32nm,1.0s								
FITZ				*e*			13 28 44.1		
FITZ	**Fitzroy Crossi**	**169.86**	**224**	*e*	P	PKPab	13 29 43.9	+1.2	
	comp=Z,93nm,0.8s								
FITZ				*e*			13 29 59.5		
FITZ	**Fitzroy Crossi**	**169.86**	**224**		PKP	PKPdf	13 28 28.9	+1.0	
	comp=Z,13nm,0.8s,baz=245,slow=1.1,SNR=20								
FITZ					pPKP	pPKPdf	13 28 43.8	-0.7	
	comp=Z,34nm,1.0s,baz=298,slow=0.6,SNR=11								

*ISCJB **29** 13:18:33.4±3.3,3048S×008×1769W×04,h10km,mb4.6/6, MS3.6/1,Error ellipse: s-maj=55.4km s-min=10.6km az=9.6*
*NEIC **29** 13:18:36.9±1.0,3028S×17708W,h10km,mb4.8/2,Error ellipse: s-maj=22.6km s-min=18.3km az=105.0*
*IDC **29** 13:18:37.2×1.2,3005S×17737W,h0km,mb4.5/4, mb1 4.7/4,mb1mx4.4/12,mbtmp4.5/4,MS3.6/2,Ms1 3.6/2, ms1mx3.1/23,Error ellipse: s-maj=28.7km s-min=22.9km az=78.0*

ISC 29 13:18:34.9±3.3,3043S±009×1768W±04,h10km,n23, σ0§92/16,mb4.6/6,MS3.6/1,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.55**	**319**	Pn	**Pn**	**13 18 58.3**	**-4.2**
	2μm,0.3s,baz=90,slow=6.1,SNR=56						
RAO				Sn	**Sn**	**13 19 10.7**	**-12**
	4μm,0.3s,baz=106,slow=23,SNR=33						
RAO	**Raoul Island**	**1.55**	**319**	Pn	**Pn**	**13 18 58.3**	**-4.2**
RAO				Sn	**Sn**	**13 19 10.7**	**-12**
URZ	**Urewera**	**9.31**	**211**	Pn	**Pn**	**13 20 49.6**	**+0.5**
	0.7nm,0.3s,baz=284,slow=15,SNR=9.0						
URZ				Sn	**Sn**	**13 22 33.5**	**-0.5**
	9.1nm,0.3s,baz=87,slow=22,SNR=14						
DZM	**Mont Dzumac**	**17.21**	**295**	Pn	**Pn**	**13 22 36.1**	**+0.8**
	0.1nm,0.3s,baz=126,slow=19,SNR=1.7						
RAR	**Rarotonga**	**17.81**	**63**	LR	LR	13 27 43.6	
	comp=Z,151nm,19.5s,baz=144,slow=30						
HNR	**Honiara**	**30.15**	**309**	LR	LR	13 35 01.0	
	comp=Z,143nm,18.7s,MS3.6,baz=0.0,slow=33						
CTAO	**Charters Tower**	**34.87**	**278**	*e*	**P**	**13 25 26.7**	**+0.4**
	4.9nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**35.52**	**257**	P	**P**	**13 25 33.6**	**+1.7**
	3.5nm,0.5s,mb4.5,baz=88,slow=9.1,SNR=20						
AS31	**Alice Springs**	**44.18**	**266**	*e*	**P**	**13 26 44.1**	**+0.2**
ASAR	**Alice Springs**	**44.19**	**266**	P	**P**	**13 26 43.4**	**-0.6**
	1.8nm,0.3s,mb4.2,baz=106,slow=7.3,SNR=108						
ASPA	**Alice Springs**	**44.19**	**266**	*e*	**P**	**13 26 44.1**	**+0.2**
WB2	**Warramunga Arr**	**45.17**	**272**	⇓*i*	**P**	**13 26 51.0**	**-0.7**
WRAB	**Tennant Creek**	**45.17**	**272**	*e*	**P**	**13 26 50.8**	**-1.0**
	13nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**45.18**	**272**	P	**P**	**13 26 50.8**	**-1.0**
	8.2nm,0.4s,mb4.9,baz=111,slow=8.0,SNR=188						
FITZ	**Fitzroy Crossi**	**53.44**	**269**	P	**P**	**13 27 55.7**	**+0.7**
	2.3nm,0.7s,mb4.2,baz=116,slow=7.2,SNR=7.9						
KAF	**Kangasniemi**	**144.93**	**341**	*ep*	PKPdf	13 38 07.6	-4.6
FINES	**FINESS Array B**	**145.53**	**341**	PKPbc	PKPbc	13 38 14.7	+1.3
	7.5nm,0.6s,baz=65,slow=3.9,SNR=51						
NOA	**NORSAR Array B**	**148.93**	**352**	PKPbc	PKPbc	13 38 25.3	+2.4
	1.4nm,0.6s,baz=15,slow=4.2,SNR=3.8						
NOA	**NORSAR Array B**	**148.93**	**352**	PKPbc	PKPbc	13 38 25.3	+2.3
HFS	**Hagfors**	**149.47**	**350**	PKPbc	PKPbc	13 38 25.9	+1.6
	1.5nm,0.5s,baz=29,slow=3.4,SNR=4.2						
AKASG	**Malin Array Be**	**151.97**	**324**	PKP	PKPdf	13 38 25.9	+2.2
	0.5nm,0.3s,baz=49,slow=53,SNR=7.4						
AKASG				PKPbc	PKPbc	13 38 31.6	+1.4
	0.9nm,0.3s,baz=46,slow=2.8,SNR=6.9						
BRTR	**Keskin Array B**	**153.56**	**299**	PKPbc	PKPbc	13 38 35.6	+1.9
	0.6nm,0.7s,baz=143,slow=2.5,SNR=3.8						
CLL	**Collm**	**157.91**	**344**	*e*	PKPab	PKPab	13 39 06.0	+1.2
	comp=Z,6.0nm,0.8s						

*IDC **29** 13:26:57.2±3.1,3299S×17756W,h0km,mb4.0/2, mb1 4.2/3,mb1mx4.0/12,mbtmp3.9/3,ML3.6/1,Error ellipse: s-maj=76.7km s-min=36.3km az=123.0*
*ISCJB **29** 13:26:59.4±2.6,336S±02×1767W±03,h78km±22km, mb3.9/2,Error ellipse: s-maj=42.5km s-min=19.1km az=63.9*

ISC 29 13:26:59.7±2.4,336S±02×1766W±03,h73km±20km,n13, σ1§21/17,mb3.9/2,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.16**	**222**	PN	**Pn**	**13 28 29.0**	**+0.9**
PUZ				*e*SN	**Sn**	**13 29 40.8**	**+3.6**
MWZ	**Matawai**	**6.76**	**223**	*e*PN	**Pn**	**13 28 36.6**	**+0.3**
MWZ				*e*SN	**Sn**	**13 29 54.2**	**+2.5**
URZ	**Urewera**	**6.95**	**226**	Pn	**Pn**	**13 28 37.9**	**-1.0**
	1.3nm,0.3s,baz=187,slow=8.1,SNR=14						
URZ				Sn	**Sn**	**13 29 56.7**	**+0.3**
	4.4nm,0.3s,baz=177,slow=23,SNR=29						
URZ	**Urewera**	**6.95**	**226**	*e*PN	**Pn**	**13 28 37.9**	**-1.0**
URZ				*e*SN	**Sn**	**13 29 56.4**	**-0.1**
BKZ	**Black Stump Fm**	**7.92**	**223**	*e*PN	**Pn**	**13 28 52.2**	**+0.1**
BFZ	**Birch Farm**	**9.13**	**217**	*e*SN	**Sn**	**13 30 50.0**	**+0.2**
MRZ	**Mangatainoka R**	**9.46**	**219**	*e*SN	**Sn**	**13 30 55.2**	**-2.7**
THZ	**Tophouse**	**11.69**	**222**	*e*PN	**Pn**	**13 29 42.8**	**-0.7**
THZ				*e*SN	**Sn**	**13 31 45.2**	**-6.9**
MQZ	**McQueen's Vall**	**13.17**	**217**	*e*SN	**Sn**	**13 32 20.2**	**-8.0**
ASAR	**Alice Springs**	**44.23**	**270**	P	**P**	**13 35 03.2**	**+1.5**
	1.6nm,0.8s,mb3.8,baz=112,slow=7.9,SNR=3.5						
WRA	**Warramunga Arr**	**45.50**	**274**	P	**P**	**13 35 10.3**	**-1.5**
	1.0nm,0.4s,mb3.9,baz=112,slow=8.1,SNR=13						
SYO	**Syowa Base**	**74.32**	**193**	⇑*e*	**P**	**13 38 29.6**	**+0.3**
FINES	**FINESS Array B**	**148.52**	**339**	PKPbc	PKPbc	13 46 42.2	+4.0
	1.3nm,0.7s,baz=36,slow=2.6,SNR=6.7						

*ISCJB **29** 13:34:08.1±1.3

OHR				*i* Sg	Sg	13 48 53.5	+2.6	SKR			A		14 46 21.5		
	comp=N,323nm,0.3s								comp=Z,80nm,0.5s						
OHR				*i* Sg	Sg	13 48 53.8	+2.8	**YUK**	**Yuzh-Kuril'sk**	**5.93**	**248**	*e*PN	**Pn**	**14 45 33.5**	**+2.8**
	comp=E,325nm,0.5s							YUK				*i* S	**Sn**	**14 46 44.9**	**+6.4**
OHR	**Ohrid**	**0.39**	**117**	*i* Pg	Pg	13 48 45.9	0.0	YUK				pmax	pmax		
OHR				*i* Sg	Sg	13 48 53.5	+2.5		comp=Z,170nm,5.0s						
	comp=E,323nm,0.3s							YUK				pmax	pmax		
BIA	**Bitola**	**0.79**	**110**	*e*Pg	Pg	13 48 53.3	-0.2		comp=N,150nm,0.5s						
BIA				*e*Sg	Sg	13 49 05.8	+2.0	YUK				smax			
BIA	**Bitola**	**0.79**	**110**	*i* Pg	Pg	13 48 53.1	-0.4		comp=N,460nm,0.6s						
BIA				*i* Sg	Sg	13 49 06.0	+2.2	YUK				smax			
BIA				*i* Sg	Sg	13 49 06.3	+2.5		comp=E,190nm,0.5s						
BIA	**Bitola**	**0.79**	**110**	*i* Pg	Pg	13 48 53.1	-0.5	YUK				smax			
BIA				*i* Sg	Sg	13 49 06.0	+2.2		comp=N,2μm,3.0s						
FNA	**Florina**	**0.93**	**122**	*e*Pg	Pg	13 48 55.7	-0.5	YUK				smax			
FNA				*e*Sg	Sg	13 49 10.1	+1.7		comp=E,2μm,3.0s						
ULC	**Ulcinj**	**1.06**	**310**⇑	*i* Pg	Pg	13 48 57.8	-0.9	**NEM2**	**Nemuro 2**	**6.34**	**243**	P	**Pn**	**14 45 34.8**	**-1.6**
ULC				*e*Sg	Sg	13 49 15.1	+2.6	NEM2				*e*S	**Sn**	**14 46 43.7**	**-4.9**
SKO	**Skopje**	**1.07**	**50**	*i* Pg	Pg	13 49 03.0	+4.1	**JRA**	**Rausu**	**6.45**	**249**	P	**Pn**	**14 45 39.0**	**+1.1**
SKO				*i* Sg	Sg	13 49 18.6	+5.8	**JNK**	**Nakash**	**6.87**	**248**	P	**Pn**	**14 45 44.5**	**+0.8**
SKO	**Skopje**	**1.07**	**50**	*i* Pg	Pg	13 49 03.0	+4.1	JNK				*e*S	**Sn**	**14 47 00.7**	**-0.9**
SKO				*i* Sg	Sg	13 49 18.5	+5.7	**JAK**	**Akkeshi**	**7.18**	**244**	P	**Pn**	**14 45 46.4**	**-1.5**
PVY	**Plav**	**1.33**	**348**⇓	*i* Pg	Pg	13 49 04.5	+0.5	**JTKR**	**Abashiri--Toko**	**7.23**	**253**	P	**Pn**	**14 45 50.1**	**+1.6**
PVY				*e*Sg	Sg	13 49 26.7	+5.4	**PET**	**Petropavlovsk**	**7.31**	**25**	*e*rx	rx	14 45 50.0	
TTG	**Podgorica**	**1.40**	**325**⇑	*i* Pg	Pg	13 49 04.9	-0.3	PET				*e*S	**Sn**	**14 47 09.8**	**-2.7**
TTG				*e*Sg	Sg	13 49 27.7	+4.4	PET				A		14 47 34.2	
STIP	**Stip**	**1.45**	**73**	*e*Pn	Pn	13 49 06.8	+1.6		comp=E,80nm,1.1s						
STIP	**Stip**	**1.45**	**73**	*e*Pn	Pn	13 49 06.7	+1.5	PET				AMS	AMS	14 49 16.6	
BUM	**Brajici-Budva**	**1.48**	**314**⇓	*i* Pg	Pg	13 49 06.4	-0.3		comp=E,420nm,11.0s						
BUM				*e*Sg	Sg	13 49 29.7	+3.8	**PET**	**Petropavlovsk**	**7.31**	**25**	*e*Pn	**Pn**	**14 45 49.5**	**-0.2**
GRG	**Griva**	**1.59**	**101**	*e*Pg	Pg	13 49 07.2	-1.7	PET				*e*Sn	**Sn**	**14 47 03.9**	**-8.6**
IVA	**Berane**	**1.62**	**348**⇑	*i* Pn	Pn	13 49 10.5	+2.9	**YSS**	**Yuzh-Sakhalins**	**7.39**	**277**	*e*P	**Pn**	**14 45 55.0**	**+4.3**
IVA				*e*Sn	Sn	13 49 36.2	+7.4	YSS				AMB	AMB	14 45 57.4	
MEV	**Metsovon**	**1.65**	**155**	*e*Pb	Pb	13 49 09.2	0.0		comp=E,30nm,1.0s						
VAY	**Valandovo**	**1.68**	**88**	*e*Pn	Pn	13 49 10.8	+2.4	YSS				*e*S	**Sn**	**14 47 21.8**	**+7.5**
IGT	**Igoumenitsa**	**1.75**	**180**	*e*Pb	Pb	13 49 09.1	-2.0	YSS				A		14 47 24.3	
IGT				*e*Sb	Sb	13 49 35.1	+1.8		comp=E,20nm,0.6s						
HCY	**Herceg Novi**	**1.80**	**311**⇑	*i* Pn	Pn	13 49 11.8	+1.7	YSS				A		14 47 24.3	
HCY				*e*Sn	Sn	13 49 38.6	+5.3		comp=E,50nm,0.6s						
NKY	**Niksic**	**1.82**	**327**⇑	*i* Pn	Pn	13 49 12.8	+2.4	**YSS**	**Yuzh-Sakhalins**	**7.39**	**277**	PN	**Pn**	**14 45 51.3**	**+0.6**
NKY				*e*Sn	Sn	13 49 40.1	+6.3	YSS				pmax	pmax		
BRY	**Bratogost**	**2.09**	**321**⇓	*i* Pn	Pn	13 49 16.6	+2.5		comp=Z,21nm,0.7s						
BRY				*e*Sn	Sn	13 49 45.3	+4.8	**YSS**	**Yuzh-Sakhalins**	**7.39**	**277**	Pn	**Pn**	**14 45 51.3**	**+0.5**
PLE	**Pljevlja**	**2.16**	**341**⇑	*i* Pn	Pn	13 49 18.1	+3.1	YSS				*e*Sn	**Sn**	**14 47 18.1**	**+3.8**
PLE				*e*Sn	Sn	13 49 48.6	+6.5		comp=Z,21nm,0.7s						
UPM	**Unac-Piva**	**2.19**	**331**⇑	*i* Pn	Pn	13 49 18.8	+3.3	**JMP**	**Maruseppu**	**7.58**	**254**	P	**Pn**	**14 45 54.4**	**+1.1**
UPM				*e*Sn	Sn	13 49 49.4	+6.6	**JAR**	**Ashorobuto**	**7.62**	**248**	P	**Pn**	**14 45 53.4**	**-0.5**
								JAR				*e*S	**Sn**	**14 47 18.1**	**-1.9**
								JKK2	**Kamakawa 2**	**8.04**	**255**	P	**Pn**	**14 46 01.6**	**+2.0**
								ASAJ	**Asahikawa**	**8.04**	**256**	P	**Pn**	**14 46 02.4**	**+2.6**
									comp=Z,1.5nm,0.3s,baz=94,slow=16,SNR=19						
								ASAJ				S	**Sn**	**14 47 31.9**	**+1.4**
									comp=Z,0.7nm,0.3s,baz=252,slow=19,SNR=1.5						
								ASAJ	**Asahikawa**	**8.04**	**256**	P	**Pn**	**14 46 02.1**	**+2.3**
								JCH	**Churui**	**8.22**	**245**	P	**Pn**	**14 46 01.0**	**-1.1**
								JCH				*e*S	**Sn**	**14 47 28.8**	**-6.0**
								TYV	**Tymovskoe**	**8.37**	**305**	*e*P	**Pn**	**14 46 09.0**	**+4.7**
								TYV				AMB	AMB	14 46 20.0	
									comp=Z,20nm,0.8s						
								TYV				AMB	AMB	14 46 20.0	
									comp=Z,36nm,0.8s						
								JFR	**Furan**	**8.44**	**250**	P	**Pn**	**14 46 06.1**	**+0.9**
								JAB	**Ashibetsu**	**8.53**	**253**	P	**Pn**	**14 46 08.4**	**+1.9**
								ERM	**Erimo**	**8.67**	**242**	*e*PN	**Pn**	**14 46 08.3**	**-0.1**
								ERM				pmax	pmax		
									comp=Z,41nm,0.6s						
								ERM	**Erimo**	**8.67**	**242**	*e*Pn	**Pn**	**14 46 08.3**	**-0.1**
									comp=Z,41nm,0.6s						
								JBT2	**Biratori 2**	**8.77**	**249**	P	**Pn**	**14 46 09.4**	**-0.3**
								JNBK	**Urakawa-nobuka**	**8.78**	**245**	P	**Pn**	**14 46 08.4**	**-1.4**
								JNB	**Noboribetsu**	**9.78**	**250**	P	**Pn**	**14 46 23.1**	**-0.4**
								JKB	**Kayabe**	**10.07**	**247**	P	**Pn**	**14 46 25.7**	**-1.8**
								JKB				*e*S	**Sn**	**14 48 11.7**	**-8.6**
								JYM2	**Yakumo 2**	**10.38**	**250**	P	**Pn**	**14 46 31.0**	**-0.8**
								JANG	**Nango**	**10.65**	**239**	P	**Pn**	**14 46 31.2**	**-4.3**
								JANG				*e*S	**Sn**	**14 48 22.3**	**-12**
								JTM	**Tenmabayashi**	**10.67**	**242**	P	**Pn**	**14 46 33.3**	**-2.4**
								JTM				*e*S	**Sn**	**14 48 25.3**	**-10**
								JTH	**Tanohata**	**10.73**	**236**	*e*S	**Sn**	**14 48 23.9**	**-13**
								EKMR	**Ekimchan**	**14.76**	**304**	*e*P	**Pn**	**14 47 37.3**	**+5.7**
								EKMR				AMB	AMB	14 47 48.4	
									comp=Z,6.0nm,0.6s						
								KLR	**Kul'dur**	**14.83**	**288**	*e*rx	rx	14 47 34.5	
								MAJO	**Matsushiro**	**15.15**	**234**	*e*P	**Pn**	**14 47 32.3**	**-4.6**
								MAJO				pmax	pmax		
									comp=Z,10.0nm,0.8s						
								MAJO	**Matsushiro**	**15.15**	**234**	*e*Pn	**Pn**	**14 47 32.3**	**-4.6**
									comp=Z,9.6nm,0.8s						
								MJAR	**Matsushiro Arr**	**15.15**	**234**	P	**Pn**	**14 47 33.3**	**-3.6**
									comp=Z,0.2nm,0.3s,baz=34,slow=14,SNR=6.1						
								MDJ	**Mudanjiang**	**16.83**	**272**	P	**Pn**	**14 47 58.0**	**-0.5**
								MDJ				XP	sP	14 48 04.5	-1.7
								MDJ				AMB	AMB		
									comp=Z,12nm,0.9s						
								MDJ				AMB	AMB		
									comp=Z,193nm,15.8s						
								MDJ	**Mudanjiang**	**16.83**	**272**	P	**Pn**	**14 47 57.6**	**-0.9**
								BMKR	**Bomnak**	**17.58**	**307**	*e*P	**Pn**	**14 48 05.5**	**-2.4**
								BMKR				AMB	AMB	14 48 09.5	
									comp=Z,6.0nm,0.7s						
								YASR	**Yasnyy**	**17.70**	**302**	*e*P	**Pn**	**14 48 09.5**	**0.0**
								YASR				AMB	AMB	14 48 11.8	
									comp=Z,5.0nm,0.5s						
								CN2	**Changchun**	**19.92**	**272**	*e*P	**Pn**	**14 48 35.8**	**-0.4**
								CN2				*e*AP	pP	14 48 39.5	+1.1
								CN2				*e*S	**Sn**	**14 52 12.8**	**-7.1**
								CN2				AMB	AMB		
									comp=Z,10.0nm,0.9s						
								CN2				AMB	AMB		
									comp=Z,200nm,3.0s						
								YAK	**Yakutsk**	**20.65**	**327**	*e*P	**P**	**14 48 43.4**	**+0.9**
								YAK				pmax	pmax		
									comp=Z,11nm,0.9s						
								YAK				pmax	pmax		
									comp=N,9.0nm,1.5s						
								YAK				pmax	pmax		
									comp=E,6.0nm,1.3s						
								YAK	**Yakutsk**	**20.65**	**327**	*e*P	**P**	**14 48 41.6**	**-0.9**
									comp=E,14nm,0.7s						
								INCN	**Inchon**	**21.82**	**255**	P	**P**	**14 48 54.3**	**-0.8**
									comp=E,15nm,0.6s,mb4.6						
								BILL	**Bilibino**	**22.55**	**13**⇑	*e*P	**P**	**14 49 10.2**	**+7.3**
								BILL				pmax	pmax		
									comp=Z,8.0nm,1.2s,mb4.0						
								BOD	**Bodaibo**	**26.33**	**310**	*e*P	**P**	**14 49 33.5**	**-5.2**
								BJT	**Baijiatuau**	**27.75**	**270**	P	**P**	**14 49 54.0**	**+2.5**
								BJT				pmax	pmax		
									comp=Z,7.0nm,0.8s						
								BJT	**Baijiatuau**	**27.75**	**270**	P	**P**	**14 49 54.0**	**+2.5**
									comp=Z,7.2nm,0.8s,mb4.3						
								NJ2	**Nanjing**	**30.18**	**254**	*e*P	**P**	**14 50 12.0**	**-1.1**
								NJ2				AMB	AMB		
									comp=Z,40nm,1.2s,mb5.0						
								HHC	**Hu-ho-hao-te**	**30.57**	**275**	*e*P	**P**	**14 50 17.0**	**+0.5**
								HHC				AP	pP	14 50 21.5	+0.8
								HHC				XP	sP	14 50 24.3	+1.9
								HHC				PP	PP	14 51 17.5	-8.0
								HHC				PCP	PcP	14 53 16.3	+1.3
								HHC				S	**S**	**14 55 17.0**	**-0.9**
								HHC				SS	SS	14 56 57.5	-31
								HHC				PCS	PcS	14 56 59.3	+0.5
								HHC				SCS	ScS	15 00 51.3	-2.1
								HHC				AMB	AMB		
									comp=Z,12nm,0.4s,mb5.1						
								HHC				AMB	AMB		
									comp=Z,297nm,4.4s						
								HHC				LR	LR		
									comp=N,170nm,6.9s						
								HHC				LR	LR		
									comp=E,157nm,4.7s						
								HHC				LR	LR		
									comp=Z,183nm,4.9s						
								SONM	**Songino Array**	**31.65**	**290**	P	**P**	**14 50 25.4**	**-0.6**
									comp=Z,1.5nm,0.7s,mb4.0,baz=78,slow=8.0,SNR=7.8						
								SONM				PcP	PcP	14 53 17.8	-0.1
									comp=Z,0.6nm,0.8s,baz=90,slow=3.4,SNR=3.6						
								LZH	**Lanzhou**	**38.15**	**272**	*e*P	**P**	**14 51 23.5**	**+1.3**
								LZH				AMB	AMB		
									comp=Z,30nm,1.0s,mb5.0						
								LZH				AMB	AMB		
									comp=Z,128nm,4.1s						
								GTA	**Gaotai**	**39.26**	**280**	*e*P	**P**	**14 51 32.5**	**+1.0**
								GTA				AP	pP	14 51 38.8	+3.1
								GTA				XP	sP	14 51 42.0	+4.6

GTA					AMB	AMB									
	comp=Z,4.0nm,1.0s,mb4.1														
INK	**Inuvik**	**41.70**	**32**	P	**P**	**14 51 56.4**	**+4.8**								
	comp=Z,1.3nm,0.5s,mb3.8,baz=20,slow=4.2,SNR=7.6														
INK	**Inuvik**	**41.70**	**32**	*e*P	**P**	**14 51 56.3**	**+4.6**								
	comp=Z,8.0nm,1.1s,mb4.3														
GYA	**Guiyang**	**41.92**	**258**⇓	*i* P	**P**	**14 51 54.3**	**+0.9**								
GYA				AP	pP	14 51 58.5	+0.8								
GYA				XP	sP	14 52 01.5	+2.1								
GYA				PP	PP	14 53 34.3	+3.9								
GYA				SCP	ScP	14 57 40.3	+1.5								
GYA				S	**S**	**14 58 09.5**	**-1.8**								
GYA				SCS	ScS	15 01 54.8	-1.2								
GYA				AMB	AMB										
	comp=Z,10.0nm,1.2s,mb4.3														
GYA				AMB	AMB										
	comp=Z,100nm,7.0s														
GYA				LR	LR										
	comp=N,370nm,10.1s														
GYA				LR	LR										
	comp=E,260nm,9.8s														
GYA				LR	LR										
	comp=Z,320nm,10.8s,MS4.5														
WMQ	**Urumqi**	**45.25**	**292**	*e*P	**P**	**14 52 21.0**	**+0.8**								
WMQ				XP	sP	14 52 28.0	+1.8								
WMQ				PCP	PcP	14 54 03.0	+2.9								
WMQ				*e*S	**S**	**14 59 00.0**	**0.0**								
WMQ				XS	sS	14 59 08.0	+1.0								
WMQ				AMB	AMB										
	comp=Z,6.0nm,0.6s,mb4.6														
WMQ				AMB	AMB										
	comp=Z,114nm,5.8s														
WMQ				LR	LR										
	comp=N,378nm,22.0s,MS4.5														
WMQ				LR	LR										
	comp=E,418nm,20.7s,MS4.5														
WMQ				LR	LR										
	comp=Z,463nm,20.0s,MS4.4														
KMI	**Kunming**	**45.46**	**260**	P	**P**	**14 52 22.8**	**+0.9**								
KMI				AMB	AMB										
	comp=Z,7.0nm,1.0s,mb4.5														
KMI	**Kunming**	**45.46**	**260**	P	**P**	**14 52 22.7**	**+0.8**								
KMI				pP	pP	14 52 38.4	+12								
DLBC	**Dease Lake**	**45.56**	**46**	P	**P**	**14 52 26.8**	**+4.0**								
	comp=Z,1.5nm,0.4s,mb4.3,baz=312,slow=19,SNR=4.8														
DLBC	**Dease Lake**	**45.56**	**46**	P	**P**	**14 52 26.8**	**+4.0**								
MKAR	**Makanchi Array**	**47.27**	**298**	P	**P**	**14 52 35.1**	**-1.1**								
	comp=Z,4.3nm,0.6s,mb4.5,baz=67,slow=7.3,SNR=31														
MKAR				PcP	PcP	14 54 06.2	-0.9								
	comp=Z,0.8nm,0.6s,baz=57,slow=4.5,SNR=4.2														
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**14 53 03.0**	**+1.7**								
LSA				pmax	pmax										
	comp=Z,12nm,0.6s,mb5.0														
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**14 53 03.0**	**+1.7**								
	comp=Z,12nm,0.6s,mb5.0														
BVAR	**Borovoye Array**	**51.20**	**310**	P	**P**	**14 53 05.0**	**-1.2**								
	comp=Z,2.1nm,0.4s,mb4.4,baz=54,slow=8.1,SNR=19														
BRVK	**Borovoye**	**51.24**	**310**	*e*P	**P**	**14 53 05.1**	**-1.4**								
BRVK				pmax	pmax										
	comp=Z,3.0nm,0.8s,mb4.3														
BRVK	**Borovoye**	**51.24**	**310**	*e*P	**P**	**14 53 05.1**	**-1.4**								
	comp=Z,3.2nm,0.8s,mb4.3														
ZRNK	**Zerenda**	**51.97**	**310**	*i* P	**P**	**14 53 10.7**	**-1.3**								
ZRNK				pmax	pmax										
	comp=Z,2.0nm,0.5s,mb4.3														
ZRNK	**Zerenda**	**51.97**	**310**	*e*P	**P**	**14 53 10.6**	**-1.4**								
	comp=Z,4.7nm,0.7s,mb4.5														
CHTO	**Chiang Mai**	**52.32**	**257**	*e*P	**P**	**14 53 15.5**	**+0.9**								
CHTO				pmax	pmax										
	comp=Z,7.0nm,0.8s,mb4.6														
CHTO	**Chiang Mai**	**52.32**	**257**	*e*P	**P**	**14 53 15.5**	**+0.9**								
	comp=Z,7.0nm,0.8s,mb4.6														
CM31	**Chiang Mai Arr**	**52.57**	**257**	*e*P	**P**	**14 53 18.0**	**+1.6**								
	comp=Z,4.7nm,0.6s,mb4.6														
AAK	**Ala-Archa**	**54.16**	**297**	*d* iP	**P**	**14 53 27.3**	**-0.9**								
AAK				pmax	pmax										
	comp=Z,5.0nm,1.0s,mb4.4														
AAK	**Ala-Archa**	**54.16**	**297**	*e*P	**P**	**14 53 26.9**	**-1.2**								
	comp=Z,3.7nm,0.9s,mb4.3														
JIRN	**Jiri**	**55.22**	**275**	*e*P	**P**	**14 53 37.7**	**+1.9**								
GUN	**Gumba**	**55.28**	**275**	*e*P	**P**	**14 53 37.3**	**+1.1**								
KKN	**Kakani**	**55.76**	**276**	*e*P	**P**	**14 53 41.4**	**+1.7**								
	comp=Z,32nm,0.6s,mb5.5														
PKI	**Pulchoki**	**55.81**	**275**	*e*P	**P**	**14 53 41.2**	**+1.1**								
DMN	**Daman**	**56.00**	**276**	*e*P	**P**	**14 53 42.7**	**+1.3**								
	comp=Z,20nm,0.6s,mb5.3														
GKN	**Gorkha**	**56.07**	**276**	*e*P	**P**	**14 53 43.2**	**+1.3**								
	comp=Z,25nm,0.6s,mb5.4														
KK31	**Karatay Array**	**56.33**	**299**	*i* P	**P**	**14 53 43.1**	**-0.7**								
KOLN	**Koldanda**	**56.93**	**277**	*e*P	**P**	**14 53 49.5**	**+1.5**								
	comp=Z,20nm,0.8s,mb5.2														
ARCES	**ARCESS Array B**	**58.15**	**341**	P	**P**	**14 53 55.4**	**-1.2**								
	comp=Z,4.0nm,0.8s,mb4.5,baz=26,slow=9.0,SNR=5.0														
ARCES	**ARCESS Array B**	**58.15**	**341**	P	**P**	**14 53 55.4**	**-1.2**								
ARCES				pmax	pmax										
	comp=Z,4.0nm,0.8s														
SUMG	**Summit**	**60.90**	**4**	*e*P	**P**	**14 54 15.8**	**+0.2**								
	comp=Z,13nm,0.8s,mb5.1														
JOF	**Joensuu**	**61.65**	**334**	*e*p	**P**	**14 54 19.7**	**-1.0**								
	comp=Z,3.3nm,0.4s,mb4.8														
KAF	**Kangasniemi**	**63.75**	**335**	*e*p	**P**	**14 54 33.7**	**-1.0**								
	baz=37,slow=6.2														
FIA1	**FINESS Array S**	**64.35**	**335**	*e*P	**P**	**14 54 37.6**	**-1.0**								
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**14 54 37.9**	**-0.7**								
	comp=Z,4.8nm,0.4s,mb4.8,baz=39,slow=7.5,SNR=69														
OBN	**Obninsk**	**65.64**	**326**⇓	*e*P	**P**	**14 54 46.4**	**-0.6**								
OBN				pmax	pmax										
	comp=Z,6.0nm,0.6s,mb4.8														
OBN				MLR	MLR										
	comp=Z,200nm,24.0s,MS4.2														
WRAB	**Tennant Creek**	**68.38**	**199**	*e*P	**P**	**14 55 02.8**	**-1.6**								
WRAB				pmax	pmax										
	comp=Z,7.0nm,1.0s,mb4.7														
WRAB	**Tennant Creek**	**68.38**	**199**	*e*P	**P**	**14 55 02.8**	**-1.6**								
	comp=Z,6.8nm,1.0s,mb4.6														
WRA	**Warramunga Arr**	**68.39**	**199**	P	**P**	**14 55 03.1**	**-1.4**								
	comp=Z,0.9nm,0.9s,mb3.8,baz=15,slow=6.6,SNR=9.8														
NB2	**NORSAR Subarra**	**68.52**	**341**	P	**P**	**14 55 04.7**	**-0.6**								
	comp=Z,6.7nm,0.6s,mb4.8,baz=27,slow=6.5														
NB2	**NORSAR Subarra**	**68.52**	**341**	P	**P**	**14 55 04.7**	**-0.6**								
NB2				pmax	pmax										
	comp=Z,7.0nm,0.6s,mb4.8														
NOA	**NORSAR Array B**	**68.52**	**341**	P	**P**	**14 55 05.0**	**-0.3**								
	comp=Z,6.3nm,0.6s,mb4.7,baz=27,slow=6.3,SNR=37														
KIV	**Kislovodsk**	**71.14**	**314**	*i* P	**P**	**14 55 19.9**	**-1.5**								
SUW	**Suwalki**	**71.31**	**332**	*e*P	**P**	**14 55 21.2**	**-1.3**								
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**14 55 25.1**	**-0.8**								
	comp=Z,7.0nm,0.6s,mb4.8,baz=34,slow=6.2,SNR=32														
AKBB	**Malin Array Si**	**71.87**	**326**	*e*P	**P**	**14 55 25.1**	**-0.8**								
AS31	**Alice Springs**	**72.08**	**199**	*e*P	**P**	**14 55 26.6**	**-0.5**								
ASAR	**Alice Springs**	**72.08**	**199**	P	**P**	**14 55 27.0**	**-0.1**								
	comp=Z,1.8nm,0.7s,mb4.1,baz=9.9,slow=5.2,SNR=30														
UPC	**Upice**	**76.59**	**334**	*e*P	**P**	**14 55 53.8**	**+0.4**								
DPC	**Dobruska-Polom**	**76.64**	**333**	*e*P	**P**	**14 55 54.0**	**+0.3**								
MORC	**Moravsky Berou**	**76.75**	**332**	*e*P	**P**	**14 55 53.5**	**-0.8**								
MORC				pmax	pmax										
	comp=Z,4.0nm,0.8s,mb4.4														
MORC	**Moravsky Berou**	**76.75**	**332**	*e*P	**P**	**14 55 53.5**	**-0.8**								
	comp=Z,3.9nm,0.8s,mb4.4														
CLL	**Collm**	**76.77**	**336**	*i* P	**P**	**14 55 54.0**	**-0.4**								
	comp=Z,10.0nm,0.6s,mb4.9														
CLL	**Collm**	**76.77**	**336**	*i* P	**P**	**14 55 54.0**	**-0.4**								
CLL				pmax	pmax										
	comp=Z,10.0nm,0.6s,mb4.9														
VYHS	**Vyhne**	**77.44**	**331**	*e*P	**P**	**14 55 58.5**	**+0.3**								
VYHS				pmax	pmax										
	comp=Z,2.0nm,0.9s,mb4.0														
VYHS	**Vyhne**	**77.44**	**331**	*e*P	**P**	**14 55 58.5**	**+0.3**								
	comp=Z,2.4nm,0.9s,mb4.1														
MALT	**Malatya**	**77.49**	**313**	*e*P	**P**	**14 55 59.9**	**+1.4**								
MALT				pmax	pmax										
	comp=Z,2.0nm,0.6s,mb4.2														
**

GRF	**Grafenberg Arr**	**78.73**	**336**	*e*P	**P**	**14 56 05.5**	**+0.2**
GRF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**78.73**	**317**	P	**P**	**14 56 05.8**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=72,slow=4.0,SNR=8.4						
GERES	**GERESS Array B**	**78.77**	**334**	P	**P**	**14 56 05.4**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=38,slow=5.0,SNR=14						
MIB	**Mutribah**	**79.00**	**302**	*e*P	**P**	**14 56 08.1**	**+1.3**
MIB				AMb	AMB	14 56 09.4	
	comp=Z,30nm,0.7s,mb5.3						
RST	**Umm Al-Ruwaisa**	**79.42**	**302**	*e*P	**P**	**14 56 10.2**	**+1.0**
RST				AMb	AMB	14 56 11.5	
	comp=Z,22nm,0.6s,mb5.3						
QRN	**Al-Qurain**	**79.43**	**301**	*e*P	**P**	**14 56 11.2**	**+2.0**
QRN				AMb	AMB	14 56 12.1	
	comp=Z,33nm,1.0s,mb5.2						
NAY	**Al-Naaiem**	**79.46**	**301**	*e*P	**P**	**14 56 10.5**	**+1.2**
NAY				AMb	AMB	14 56 11.3	
	comp=Z,10.0nm,0.8s,mb4.8						
CDF	**Champ du Feu**	**80.96**	**338**	*e*P	**P**	**14 56 18.7**	**+1.3**
	comp=Z,11nm,0.9s,mb4.5						
HINF	**Hinteralfeld**	**81.62**	**338**	*e*P	**P**	**14 56 21.8**	**+0.9**
	comp=Z,7.3nm,0.8s,mb4.3						
FLN	**La Foliniere**	**82.42**	**343**	*e*P	**P**	**14 56 26.0**	**+0.9**
LOR	**Lormes**	**82.88**	**340**	*e*P	**P**	**14 56 27.1**	**-0.4**
	comp=Z,6.0nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**83.44**	**340**	*e*P	**P**	**14 56 30.4**	**0.0**
SMF	**Signal de Mont**	**83.46**	**339**	*e*P	**P**	**14 56 30.6**	**+0.1**
	comp=Z,22nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**83.46**	**339**	*e*P	**P**	**14 56 30.6**	**+0.1**
SMF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**83.46**	**339**	*e*P	**P**	**14 56 30.6**	**+0.1**
	comp=Z,11nm,1.0s,mb4.8						
LPL	**La Plagne**	**83.78**	**337**	*e*P	**P**	**14 56 32.9**	**+0.8**
BGF	**Bois d'Agland**	**83.78**	**340**	*e*P	**P**	**14 56 32.1**	**-0.1**
LPG	**La Plagne**	**83.79**	**337**	*e*P	**P**	**14 56 32.3**	**+0.1**
TCF	**Toulx Ste Croi**	**84.18**	**340**	*e*P	**P**	**14 56 34.2**	**0.0**
ORIF	**Oris-en-Rattie**	**84.56**	**338**	*e*P	**P**	**14 56 36.7**	**+0.6**
SBF	**Sospel**	**85.11**	**336**	*e*P	**P**	**14 56 38.6**	**-0.3**
SMRF	**Simiane la Rot**	**85.51**	**337**	*e*P	**P**	**14 56 41.7**	**+0.8**
FRF	**La Foret Royal**	**85.61**	**336**	*e*P	**P**	**14 56 41.0**	**-0.4**
LMR	**La Mourre**	**85.86**	**337**	*e*P	**P**	**14 56 42.7**	**+0.1**
	comp=Z,8.5nm,0.8s,mb4.7						
LMR	**La Mourre**	**85.86**	**337**	*e*P	**P**	**14 56 42.7**	**+0.1**
LMR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
LMR	**La Mourre**	**85.86**	**337**	*e*P	**P**	**14 56 42.7**	**+0.1**
	comp=Z,4.3nm,0.8s,mb4.7						
MTLF	**Montolieu**	**86.96**	**339**	*e*P	**P**	**14 56 47.8**	**-0.2**
SNAA	**Sanae**	**152.41**	**196**	*e*PKPdf	PKPdf	15 03 47.0	-5.1
SNAA				*e*		15 03 53.0	
VNA3	**Neumayer Olymp**	**153.93**	**192**	*e*PKPdf	PKPdf	15 03 51.6	-2.7
VNA3				*e*		15 03 57.0	
VNA3				*e*		15 04 09.9	

IDC 29 15:06:26.2±1.9,**3043N**×**8358E**,**h0**km,**mb3.4**/4,**mb1 3.6**/5,
mb1mx3.4/23,**mbtmp3.5**/5,**ML3.5**/1,**MS4.1**/1,**Ms1 4.1**/1,
ms1mx3.2/29,**Error ellipse: s-maj=67.0km**
s-min=24.7km az=69.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.37**	**357**	Pn	Pn	15 10 14.7	-2.8
	0.2nm,0.3s,baz=160,slow=13,SNR=2.9						
BVAR	**Borovoye Array**	**24.55**	**341**	P		15 11 47.7	+0.1
	0.2nm,0.3s,baz=143,slow=11,SNR=3.3						
SONM	**Songino Array**	**24.66**	**39**	P	P	15 11 48.7	+0.1
	0.3nm,0.7s,baz=230,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**69.93**	**129**	P	P	15 17 39.9	+0.7
	1.2nm,0.8s,baz=315,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**72.27**	**132**	P	P	15 17 53.2	-0.1
	0.4nm,0.7s,baz=317,slow=5.5,SNR=4.8						

*ISCJB **29** 15:16:43.8±1.1,1071N±006×6147W±004,h61km±9km,*
Error ellipse: s-maj=11.1km s-min=6.8km az=147.1
*FUNV **29** 15:16:43.1,1069N×6137W,h27km,MW2.4*
*TRN **29** 15:16:46.6,1088N×6141W,h27km,MD2.5*

ISC 29 15:16:44.1±0.9,**1068N**±005×**6147W**±004,**h60**km±8km,**n10**,
σ0**88**/18,**1C**,**Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.07**	**119**	*i*P	**Pn**	**15 16 52.7**	**-0.3**
TRN				*i* S	**Sn**	**15 16 57.8**	**-1.7**
TCE	**Chacachacare**	**0.28**	**273**	*e*P	**Pn**	**15 16 54.9**	**+0.9**
TCE				*e*S	**Sn**	**15 17 01.2**	**0.0**
TBH	**Brigand Hill**	**0.44**	**117**	*e*P	**Pn**	**15 16 57.0**	**+1.7**
TBH				*e*S	**Sn**	**15 17 05.3**	**+1.7**
GUIV	**Guiria**	**0.75**	**267**	*e*P	**Pn**	**15 16 58.9**	**+0.1**
GUIV				*e*S	**Sn**	**15 17 10.0**	**+0.3**
TPR	**Prospect**	**0.84**	**53**	*e*P	**Pn**	**15 16 59.8**	**-0.2**
TPR				*e*S	**Sn**	**15 17 10.7**	**-1.1**
GRW	**Mount Saint Ca**	**1.48**	**353**	*e*P	**Pn**	**15 17 08.3**	**-0.2**
GRW				*e*S	**Sn**	**15 17 26.7**	**-0.2**
GUNV	**Guanoco**	**1.54**	**251**	*e*P	**Pn**	**15 17 09.6**	**+0.3**
CRUV	**Carupano**	**1.74**	**270**	*e*P	**Pn**	**15 17 11.6**	**-0.4**
CRUV				*e*S	**Sn**	**15 17 33.3**	**+0.2**
ITEV	**Isla Los Testi**	**1.77**	**292**	*e*P	**Pn**	**15 17 12.7**	**+0.4**
ITEV				*e*S	**Sn**	**15 17 34.2**	**+0.4**
GURV	**El Guri**	**3.31**	**209**	*e*S	**Sn**	**15 18 09.8**	**-1.8**

*IDC **29** 15:18:30.5±1.1,3019N×5157E,h0km,mb4.0/15,*
mb1 4.0/17,mb1mx3.9/27,mbtmp4.0/17,ML3.7/2,MS3.4/2,
Ms1 3.4/2,ms1mx2.9/34,Error ellipse: s-maj=26.2km
s-min=16.8km az=117.0
*BJI **29** 15:18:30.0,3000N×5150E,h12km,mB4.9,mb4.5,Ms4.5,*
Msz4.2
*CSEM **29** 15:18:30.5±0.1,3006N×5156E,h9km,mb4.2/6,Error*
ellipse: s-maj=2.0km s-min=1.7km az=2.0
*THR **29** 15:18:31.5±0.5,3006N×5165E,h15km±9km,ML4.2*
*TEH **29** 15:18:32.8,3005N×5159E,h9km,Mn4.0*
*NEIC **29** 15:18:32.0,3000N×5150E,h12km,mb4.3/6,ML4.2(THR),*
MN4.0(TEH),After TEH.
*ISCJB **29** 15:18:33.1±0.6,3014N±003×5162E±003,h28km±5km,*
mb4.1/23,MS3.8/2,Error ellipse: s-maj=4.4km
s-min=4.1km az=137.2
*MOS **29** 15:18:33.1±1.4,3007N×5151E,h33km,mb4.2/7,Error*
ellipse: s-maj=13.3km s-min=8.1km az=103.4

ISC 29 15:18:33.8±0.7,**3014N**±002×**5162E**±003,**h17**km±4km,
h13km±1.7km:**pP-P**,**n126**,σ1**17**/137,**mb4.1**/23,**MS3.8**/2,
2C-6D,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroon**	**0.40**	**152**	*e*Pg	**Pg**	**15 18 39.2**	**-2.9**
IKAZ				*e*Sg	**Sg**	**15 18 46.2**	**-1.5**
ISRV	**Sarvestan**	**1.50**	**120**	*e*Pn	**Pn**	**15 18 58.6**	**-1.3**
IGAR	**Garneh**	**2.16**	**13**	*e*Pn	**Pb**	**15 19 12.2**	**-0.2**
IGAR				*e*Sn	**Sg**	**15 19 41.2**	**-2.0**
GHIR	**Ghir-Karzin**	**2.20**	**147**	*e*PG	**Pn**	**15 19 10.0**	**+0.5**
GHIR				AML	AML	15 19 58.6	
	comp=N,2μm,0.2s						
ISAD	**Sadrabad**	**2.50**	**45**	*e*Pn	**Pn**	**15 19 15.8**	**+2.1**
IPIR	**Pirpir**	**2.61**	**346**	*e*Pn	**Pn**	**15 19 15.6**	**+0.4**
IZEF	**Zefreh**	**2.81**	**12**	*e*Pn	**Pn**	**15 19 18.9**	**+0.9**
NASN	**Na'in**	**2.84**	**21**	*e*PN	**Pn**	**15 19 19.5**	**+1.2**
NASN	**Na'in**	**2.84**	**21**	Pn	**Pn**	**15 19 19.0**	**+0.7**
IMEH	**Mehriz**	**2.86**	**63**	*e*Pn	**Pn**	**15 19 19.9**	**+1.3**
IMEH				*e*Sn	**Sn**	**15 19 53.5**	**+0.9**
IMEH	**Mehriz**	**2.86**	**63**	Pn	**Pn**	**15 19 19.8**	**+1.2**
SHGR	**Shooshtar-Gavs**	**3.12**	**310**	*e*PN	**Pn**	**15 19 23.1**	**+1.1**
SHGR	**Shooshtar-Gavs**	**3.12**	**310**	Pn	**Pn**	**15 19 23.0**	**+0.9**
IKLH	**Kalahroud**	**3.17**	**359**	*e*Pn	**Pn**	**15 19 23.7**	**+0.8**
IKLH				*e*Sn	**Sn**	**15 20 01.9**	**+1.6**
IKLH	**Kalahroud**	**3.17**	**359**	Pn	**Pn**	**15 19 23.6**	**+0.7**
ICHK	**Chekchek**	**3.18**	**48**	*e*Pn	**Pn**	**15 19 24.3**	**+1.3**
UMR	**Umm Al-Rimmam**	**3.44**	**261**	*e*P	**Pn**	**15 19 27.0**	**+0.4**
UMR				AML	AML	15 20 13.0	
	comp=Z,376nm,0.5s						
QRN	**Al-Qurain**	**3.52**	**248**	*e*P	**Pn**	**15 19 28.5**	**+0.9**
QRN				AML	AML	15 20 14.1	
	comp=Z,439nm,0.3s						
KBD	**Kabd**	**3.55**	**255**	*e*P	**Pn**	**15 19 29.4**	**+1.3**
KBD				AML	AML	15 20 14.3	
	comp=Z,534nm,0.3s						
IBAF	**Bafgh**	**3.69**	**66**	*e*Pn	**Pn**	**15 19 31.0**	**+1.0**
IBAF	**Bafgh**	**3.69**	**66**	Pn	**Pn**	**15 19 30.9**	**+0.9**
MIB	**Mutribah**	**3.73**	**266**	*e*P	**Pn**	**15 19 31.8**	**+1.3**
MIB				AML	AML	15 20 20.8	
	comp=Z,274nm,0.6s						
RDF	**Al-Radifah**	**3.75**	**252**	*e*P	**Pn**	**15 19 32.2**	**+1.5**
RDF				AML	AML	15 20 20.6	
	comp=Z,332nm,0.5s						
NAY	**Al-Naaiem**	**3.91**	**258**	*e*P	**Pn**	**15 19 34.5**	**+1.5**
NAY				AML	AML	15 20 24.5	
	comp=Z,209nm,0.6s						
RST	**Umm Al-Ruwaisa**	**4.07**	**262**	*e*P	**Pn**	**15 19 36.2**	**+1.1**
RST				AML	AML	15 20 25.3	
	comp=Z,196nm,0.6s						
ISFB	**Sefidab**	**4.24**	**7**	*e*Pn	**Pn**	**15 19 37.3**	**-0.2**
KRBR	**Kerman**	**4.46**	**91**	*e*PN	**Pn**	**15 19 40.8**	**+0.3**
KRBR				AML	AML	15 21 06.7	
	comp=E,220nm,0.9s						
KRBR	**Kerman**	**4.46**	**91**	Pn	**Pn**	**15 19 40.0**	**-0.6**
BNDS	**Bandar-Abbas**	**4.84**	**123**	*e*Pn	**Pn**	**15 19 45.0**	**-0.7**
BNDS				AML	AML	15 20 45.4	
	comp=N,231nm,0.5s						
BNDS				AML	AML	15 20 50.1	
	comp=E,315nm,0.4s						
IVRN	**Varamin**	**4.85**	**1**	*e*Pn	**Pn**	**15 19 46.5**	**+0.6**
IKOM	**Komasi**	**5.32**	**320**	*e*Pn	**Pn**	**15 19 52.7**	**+0.3**
IKOM	**Komasi**	**5.32**	**320**	Pn	**Pn**	**15 19 52.6**	**+0.2**
ILAS	**Lasjerd**	**5.35**	**12**	*e*Pn	**Pn**	**15 19 53.8**	**+1.0**
ILAS				*e*Sn	**Sn**	**15 20 53.3**	**-0.7**
IDMV	**Damavand**	**5.43**	**4**	*e*Pn	**Pn**	**15 19 54.3**	**+0.3**
IDMV				*e*Sn	**Sn**	**15 20 54.9**	**-1.2**
IRAZ	**Razeghan**	**5.44**	**345**	*e*Pn	**Pn**	**15 19 55.1**	**+1.0**
IRAZ	**Razeghan**	**5.44**	**345**	Pn	**Pn**	**15 19 55.0**	**+0.9**
IFIR	**Firoozkooh**	**5.57**	**10**	*e*Pn	**Pn**	**15 19 56.4**	**+0.6**
IFIR				*e*Lg		15 21 28.8	
TEH	**Tehran**	**5.59**	**358**	*e*Pn	**Pn**	**15 19 44.9**	**-11**
IMHD	**Mahdasht**	**5.59**	**352**	*e*Pn	**Pn**	**15 19 56.2**	**+0.1**
IMHD	**Mahdasht**	**5.59**	**352**	Pn	**Pn**	**15 19 56.1**	**0.0**
IANJ	**Anjiloo**	**5.65**	**19**	*e*Pn	**Pn**	**15 19 57.0**	**0.0**
IAFJ	**Afjeh**	**5.70**	**1**	*e*Pn	**Pn**	**15 19 57.7**	**0.0**
ISHM	**Shahmirzad**	**5.83**	**14**	*e*Pn	**Pn**	**15 19 59.5**	**+0.2**
IVIS	**Veys**	**5.95**	**319**	*e*Pn	**Pn**	**15 19 59.7**	**-1.4**
IGHG	**Ghaleghazi**	**5.98**	**316**	*e*Pn	**Pn**	**15 20 01.1**	**-0.4**
IGHG				*e*Sn	**Sn**	**15 21 06.9**	**-2.7**
IPRN	**Paran-Amol**	**6.11**	**5**	*e*Pn	**Pn**	**15 20 04.2**	**+0.9**
IPRN	**Paran-Amol**	**6.11**	**5**	Pn	**Pn**	**15 20 04.1**	**+0.8**
SNGE	**Sanandaj**	**6.12**	**325**	*e*PN	**Pn**	**15 20 04.7**	**+1.3**
SNGE				AML	AML	15 21 17.7	
	comp=N,70nm,0.5s						
SNGE				AML	AML	15 21 24.9	
	comp=E,41nm,0.2s						
SNGE	**Sanandaj**	**6.12**	**325**	Pn	**Pn**	**15 20 04.0**	**+0.7**
ILIN	**Laeen**	**6.18**	**322**	*e*Pn	**Pn**	**15 20 04.3**	**+0.1**
ILIN				*e*Sn	**Sn**	**15 21 12.2**	**-2.2**
ILIN	**Laeen**	**6.18**	**322**	Pn	**Pn**	**15 20 04.2**	**0.0**
IKIA	**Kiasar**	**6.29**	**15**	*e*Pn	**Pn**	**15 20 06.5**	**+0.7**
IKIA				*e*Lg		15 21 52.0	
IGZV	**Gazvin**	**6.34**	**350**	*e*Pn	**Pn**	**15 20 06.9**	**+0.5**
IGZV				*e*Sn	**Sn**	**15 21 17.0**	**-1.4**
IGZV	**Gazvin**	**6.34**	**350**	Pn	**Pn**	**15 20 06.8**	**+0.4**
IDHR	**Dehrash**	**6.34**	**317**	*e*Pn	**Pn**	**15 20 06.8**	**+0.3**
IKOO		**6.72**	**68**	*e*Pn	**Pn**	**15 20 12.2**	**+0.6**
BHD	**Baghdad**	**6.91**	**299**	*ex*	x	15 20 10.0	
BHD				*ex*	x	15 21 23.5	
IMON		**7.50**	**64**	*e*Pn	**Pn**	**15 20 22.9**	**+0.5**
IPAY	**Payeh**	**8.81**	**42**	*e*Pn	**Pn**	**15 20 39.8**	**-0.6**
ISHV	**Shirvan**	**8.94**	**33**	*e*Pn	**Pn**	**15 20 43.4**	**+1.3**
MSL	**Mosul**	**9.41**	**313**	*ex*	x	15 20 57.0	
ASF	**Jabal al Asfar**	**12.77**	**283**	Pn	**Pn**	**15 21 31.8**	**-2.8**
	comp=E,0.8nm,0.3s,baz=284,slow=3.6,SNR=6.6						
ASF				Sn	**Sn**	**15 23 51.1**	**-5.2**
	comp=E,0.5nm,0.3s,baz=156,slow=19,SNR=3.6						
ASF				LR	LR	15 27 02.5	
	comp=E,69nm,20.5s,baz=148,slow=40						
ASF	**Jabal al Asfar**	**12.77**	**283**	P	**Pn**	**15 21 31.8**	**-2.8**
ASF						15 23 51.1	
MALT	**Malatya**	**13.62**	**310**	*e*P	**Pn**	**15 21 40.4**	**-5.7**
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MALT	**Malatya**	**13.62**	**310**	*e*Pn	**Pn**	**15 21 40.4**	**-5.7**
	comp=Z,7.1nm,1.0s						
ZEI	**Tsey**	**14.04**	**336**	*e*P	**Pn**	**15 21 55.2**	**+3.3**
EIL	**Elat**	**14.47**	**272**	*e*Pn	**Pn**	**15 21 58.5**	**+0.8**
	comp=Z,142nm,0.8s						
EIL	**Elat**	**14.47**	**272**	*e*Pn	**Pn**	**15 21 58.5**	**+0.8**
	comp=Z,142nm,0.8s						
KIV	**Kislovodsk**	**15.51**	**335**	*d i*P	**Pn**	**15 22 14.1**	**+2.5**
KIV				pmax	pmax		
	comp=Z,17nm,1.3s						
KIV	**Kislovodsk**	**15.51**	**335**	*e*Pn	**Pn**	**15 22 14.5**	**+2.8**
	comp=Z,19nm,0.9s						
KIV	**Kislovodsk**	**15.51**	**335**	*i* P	**Pn**	**15 22 14.1**	**+2.5**
	comp=Z,17nm,1.3s						
CSS	**Prodhromos**	**16.15**	**292**	*e*Pn	**Pn**	**15 22 19.2**	**-0.8**
	comp=Z,40nm,1.2s						
CSS	**Prodhromos**	**16.15**	**292**	*e*Pn	**Pn**	**15 22 19.2**	**-0.7**
	comp=Z,40nm,1.2s						
BRTR	**Keskin Array B**	**17.55**	**308**	P	**Pn**	**15 22 37.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=132,slow=14,SNR=9.9						
ATD	**Arta Tunnel**	**20.23**	**206**	P	**P**	**15 23 07.5**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=264,slow=22,SNR=3.7						
ATD				LR	LR	15 31 50.3	
	comp=Z,236nm,19.4s,MS3.5,baz=101,slow=40						
AKTK	**Aktyubinsk**	**20.84**	**12**	P	**P**	**15 23 13.2**	**-1.3**
AKTO	**Aktyubinsk**	**20.84**	**12**	P	**P**	**15 23 13.2**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=205,slow=13,SNR=11						
AAK	**Ala-Archa**	**22.16**	**50**	*e*P	**P**	**15 23 29.3**	**+0.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.8						
AAK	**Ala-Archa**	**22.16**	**50**	*e*P	**P**	**15 23 30.0**	**+1.3**
	comp=Z,15nm,1.5s,mb4.2						
AAK	**Ala-Archa**	**22.16**	**50**	*e*P	**P**	**15 23 29.3**	**+0.6**
	comp=Z,6.0nm,1.5s,mb3.8						
SANT	**Santorini**	**22.71**	**293**	P	**P**	**15 23 35.8**	**+1.2**
	comp=Z,36nm,1.0s,mb4.8						
SANT	**Santorini**	**22.71**	**293**	P	**P**	**15 23 35.8**	**+1.2**
	comp=Z,36nm,1.0s,mb4.8						
TIRR	**Tirgusor**	**23.24**	**314**	*i*P	**P**	**15 23 41.1**	**+0.9**
MLR	**Muntele Rosu**	**25.28**	**314**	P	**P**	**15 24 01.5**	**+2.4**
	comp=Z,11nm,0.6s,mb4.6,baz=140,slow=3.7,SNR=17						
MLR	**Muntele Rosu**	**25.28**	**314**	*i*P	**P**	**15 24 03.0**	**+3.9**
VOIR		**25.81**	**314**	*i*P	**P**	**15 24 06.9**	**+3.0**
VTS	**Vitosha**	**25.91**	**306**	*i*P	**P**	**15 24 08.0**	**+3.2**
ZRNK	**Zerenda**	**26.11**	**24**	*e*P	**P**	**15 24 06.3**	**-0.4**
ZRNK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**26.11**	**24**	*e*P	**P**	**15 24 06.3**	**-0.3**
	comp=Z,3.2nm,0.8s,mb3.9						
ZRNK	**Zerenda**	**26.11**	**24**	*e*P	**P**	**15 24 06.3**	**-0.4**
	comp=Z,3.0nm,0.8s,mb3.9						
AKASG	**Malin Array Be**	**26.51**	**327**	P	**P**	**15 24 08.3**	**-2.0**
	comp=Z,0.5nm,0.3s,mb3.5,baz=133,slow=8.6,SNR=7.3						
AKASG	**Malin Array Be**	**26.51**	**327**	*i* P	**P**	**15 24 07.3**	**-3.0**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**26.51**	**327**	P	**P**	**15 24 08.3**	**-2.0**
BRVK	**Borovoye**	**26.66**	**25**	*e*P	**P**	**15 24 10.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
BRVK	**Borovoye**	**26.66**	**25**	*e*P	**P**	**15 24 10.8**	**-0.9**
	comp=Z,1.9nm,0.9s,mb3.6						
BRVK	**Borovoye**	**26.66**	**25**	*e*P	**P**	**15 24 10.8**	**-0.9**
	comp=Z,2.0nm,0.9s,mb3.6						
BVAR	**Borovoye Array**	**26.67**	**26**	P	**P**	**15 24 11.5**	**-0.3**
	comp=Z,2.9nm,0.8s,mb3.9,baz=225,slow=8.2,SNR=14						
ARU	**Arti**	**26.73**	**9**	*i* P	**P**	**15 24 11.6**	**-0.7**
BURAR	**Bucovina Array**	**26.77**	**318**	*i*P	**P**	**15 24 13.2**	**+0.6**
OBN	**Obninsk**	**27.19**	**341**	*i*P	**P**	**15 24 15.2**	**-1.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
OBN	**Obninsk**	**27.19**	**341**	*e*P	**P**	**15 24 15.2**	**-1.2**
	comp=Z,4.0nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**28.96**	**46**	P	**P**	**15 24 31.4**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.6,baz=243,slow=3.7,SNR=3.6						
MKAR	**Makanchi Array**	**28.96**	**46**	*i* P	**P**	**15 24 33.0**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**31.63**	**54**	*e*P	**P**	**15 24 56.8**	**+1.0**
WMQ				AP	pP	15 25 01.0	-0.1
WMQ				XP	sP	15 25 03.5	+0.2
WMQ				PP	PP	15 26 02.0	-5.2
WMQ				*e*S	**S**	**15 30 05.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,93nm,4.8s						
WMQ				LR	LR		
	comp=N,403nm,10.3s						
WMQ				LR	LR		
	comp=E,261nm,9.7s						
WMQ				LR	LR		
	comp=Z,396nm,18.6s						
GERES	**GERESS Array B**	**34.26**	**314**	P	**P**	**15 25 18.3**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=121,slow=7.0,SNR=3.9						
KHC	**Kasperske Hory**	**34.43**	**314**	*e*P	**P**	**15 25 20.1**	**-0.2**
JOF	**Joensuu**	**35.31**	**344**	*e*p	**P**	**15 25 25.9**	**-2.0**
FINES	**FINESS Array B**	**35.54**	**339**	P	**P**	**15 25 27.7**	**-2.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=151,slow=12,SNR=6.1						
HFS	**Hagfors**	**39.24**	**331**	P	**P**	**15 25 59.0**	**-2.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=134,slow=8.5,SNR=8.5						
NOA	**NORSAR Array B**	**40.76**	**331**	P	**P**	**15 26 12.4**	**-1.5**
	comp=Z,0.4nm,0.7s,mb3.2,baz=123,slow=8.4,SNR=2.5						
ARCES	**ARCESS Array B**	**42.16**	**347**	P	**P**	**15 26 23.9**	**-1.5**
	comp=Z,2.0nm,0.8s,mb3.8,baz=116,slow=7.1,SNR=5.0						
KMI	**Kunming**	**45.26**	**83**	P	**P**	**15 26 50.8**	**+0.5**
KMI				AP	pP	15 26 53.5	-2.3
KMI				XP	sP	15 26 55.0	-2.9
KMI				PP	PP	15 28 39.0	+2.8
KMI				S	**S**	**15 33 27.5**	**-2.2**
KMI				SS	SS	15 36 43.8	-9.1
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,180nm,8.9s						
KMI				LR	LR		
	comp=N,144nm,18.1s,MS4.1						
KMI				LR	LR		
	comp=E,138nm,17.5s,MS4.1						
KMI				LR	LR		
	comp=Z,137nm,20.1s,MS3.9						
EKA	**Eskdalemuir Ar**	**45.94**	**319**	P	**P**	**15 26 54.4**	**-1.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=106,slow=8.7,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**48.99**	**261**	*e*P	**P**	**15 27 18.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**48.99**	**261**	P	**P**	**15 27 18.9**	**-0.4**
	comp=Z,3.0nm,0.5s,mb4.6,baz=56,slow=8.7,SNR=28						
HHC	**Hu-ho-hao-te**	**49.11**	**60**	*e*P	**P**	**15 27 21.0**	**+0.7**
HHC				AP	pP	15 27 25.5	-0.3
HHC				XP	sP	15 27 28.0	+0.1
HHC				PCP	PcP	15 28 44.8	+1.1
HHC				PP	PP	15 29 15.0	+1.1
HHC				SCP	ScP	15 32 38.0	0.0
HHC				PCS	PcS	15 32 39.8	-0.2
HHC				S	**S**	**15 34 24.5**	**0.0**
HHC				XS	sS	15 34 32.3	-1.3
HHC				SCS	ScS	15 37 09.5	-2.1
HHC				SS	SS	15 37 51.3	-4.4
HHC				AMB	AMB		
	comp=Z,127nm,5.5s						
HHC				LR	LR		
	comp=N,82nm,5.5s						
HHC				LR	LR		
	comp=E,74nm,4.3s						
HHC				LR	LR		
	comp=Z,69nm,6.1s						
BOD	**Bodaibo**	**50.44**	**38**	*e*P	**P**	**15 27 29.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BOD	**Bodaibo**	**50.44**	**38**	*e*P	**P**	**15 27 29.6**	**-0.8**
	comp=Z,5.0nm,1.1s,mb4.5						
NJ2	**Nanjing**	**56.74**	**69**	*e*P	**P**	**15 28 17.3**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
DBIC	**Dimbokro**	**57.80**	**258**	P	**P**	**15 28 24.2**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.5,baz=318,slow=8.4,SNR=4.5						
DBIC	**Dimbokro**	**57.80**	**258**	P	**P**	**15 28 24.2**	**+0.1**
CN2	**Changchun**	**58.72

NEM2 **Nemuro 2** 0.39 76 ⇓P Pn 15 37 55.6 -0.2
NEM2 eS Sn 15 38 04.2 -0.7
JAK Akkeshi 0.48 235 ⇓P Pn 15 37 56.7 +0.2
JAK eS Sn 15 38 06.3 +0.1
JNK Nakash 0.49 310 ⇑P Pn 15 37 56.3 -0.3
JNK eS Sn 15 38 05.6 -0.7
JRA Rausu 0.67 353 ⇑P Pn 15 37 58.7 +0.4
JRA eS Sn 15 38 10.1 +0.6
YUK Yuzh-Kuril'sk 0.89 31 eP Pn 15 38 00.5 -0.3
YUK AMB AMB 15 38 01.4
840nm,0.3s
YUK AMB AMB 15 38 01.4
8µm,0.3s
YUK AMB AMB 15 38 01.4
8µm,0.3s
YUK eS Sn 15 38 14.1 +0.3
YUK A 15 38 14.5
90µm,0.2s
YUK A 15 38 14.5
88µm,1.0s
YUK Yuzh-Kuril'sk 0.89 31 PN Pn 15 38 00.5 -0.3
YUK *i* S Sn 15 38 14.4 +0.6
JAR Ashorobuto 1.07 272 ⇑P Pn 15 38 03.5 +0.6
JAR eS Sn 15 38 18.2 +0.6
JOB Onbets 1.08 251 ⇑P Pn 15 38 03.8 +0.6
JOB eS Sn 15 38 18.5 +0.5
JTKR Abashiri--Toko 1.19 307 ⇑P Pn 15 38 05.2 +0.8
JCH Churui 1.52 245 ⇑P Pn 15 38 08.9 +0.2
JCH eS Sn 15 38 28.0 +0.1
JMP Maruseppu 1.54 299 ⇑P Pn 15 38 10.0 +1.0
JMP eS Sn 15 38 29.5 +1.1
ERM Erimo 1.98 231 *d i* PN Pn 15 38 16.1 +1.3
ERM Erimo 1.98 231 ePn Pn 15 38 15.4 +0.7
ASAJ Asahikawa 2.09 295 P Pn 15 38 18.1 +1.9
436nm,0.3s,baz=110,slow=11,SNR=5634
ASAJ S Sn 15 38 42.0 +0.6
126nm,0.3s,baz=97,slow=32,SNR=8.0
ASAJ LR LR 15 38 58.8
comp=Z,1µm,20.5s,baz=38,slow=37
ASAJ Asahikawa 2.09 295 PN Pn 15 38 18.2 +2.0
ASAJ S Sn 15 38 42.0 +0.6
ASAJ pmax pmax
comp=Z,436nm,0.3s
ASAJ smax
comp=N,126nm,0.3s
ASAJ MLR MLR
comp=Z,1µm,20.5s
KUR Kuril'sk 2.73 43 *i* P Pn 15 38 23.0 -1.9
KUR AMB AMB 15 38 32.5
comp=Z,2µm,1.0s
KUR AMB AMB 15 38 32.5
comp=Z,190nm,0.6s
KUR AMB AMB 15 38 32.5
comp=Z,170nm,0.6s
KUR AMB AMB 15 38 32.5
comp=Z,500nm,0.6s
KUR A 15 39 02.0
comp=Z,9µm,2.0s
KUR A 15 39 02.0
comp=Z,8µm,2.0s
KUR Kuril'sk 2.73 43 ⇑ *i* PN Pn 15 38 23.0 -1.9
KUR eS Sn 15 38 56.0 -0.8
YSS Yuzh-Sakhalins 4.08 335 ⇑ eP Pn 15 38 44.2 +1.0
YSS AMB AMB 15 38 45.0
comp=Z,150nm,0.8s
YSS AMB AMB 15 38 45.0
comp=Z,100nm,0.8s
YSS AMB AMB 15 38 45.0
comp=Z,170nm,0.8s
YSS eS Sn 15 39 30.5 +0.8
YSS A 15 39 33.8
comp=Z,170nm,0.9s
YSS A 15 39 33.8
comp=Z,220nm,0.9s
YSS AMS AMS 15 40 46.0
comp=Z,500nm,11.0s
YSS Yuzh-Sakhalins 4.08 335 ePN Pn 15 38 44.2 +1.0
YSS eS Sn 15 39 30.5 +0.8
YSS pmax pmax
comp=Z,170nm,0.8s
YSS Yuzh-Sakhalins 4.08 335 ePn Pn 15 38 43.9 +0.7
UGL Uglegorsk 6.21 340 ⇓ *i* P Pn 15 39 14.4 +2.1
UGL *i* P 15 39 14.4
UGL AMB AMB 15 39 16.0
comp=Z,600nm,2.0s
UGL AMB AMB 15 39 16.0
comp=Z,140nm,0.7s
UGL Uglegorsk 6.21 340 ⇓ *i* PN Pn 15 39 14.4 +2.1
UGL *e* 15 40 28.0
UGL pmax pmax
comp=Z,140nm,0.7s
UGL pmax pmax
comp=Z,600nm,2.0s
TYV Tymovskoe 7.79 348 eP Pn 15 39 35.2 +1.3
TYV AMB AMB 15 39 44.0
comp=Z,19nm,0.7s
TYV AMB AMB 15 39 44.0
comp=Z,34nm,0.7s
MAJO Matsushiro 8.62 221 ePN Pn 15 39 44.6 -0.5
MAJO pmax pmax
comp=Z,37nm,0.5s
MAJO Matsushiro 8.62 221 ePn Pn 15 39 44.6 -0.5
comp=Z,36nm,0.5s
MAT Matsushiro 8.62 221 P Pn 15 39 44.5 -0.6
MAT eS Sn 15 41 25.1 +4.4
MJAR Matsushiro Arr 8.62 221 P Pn 15 39 44.7 -0.4
comp=Z,7.2nm,0.3s,baz=28,slow=14,SNR=96
MJAR LR LR 15 43 41.6
comp=Z,136nm,19.4s,baz=25,slow=42
MJAR Matsushiro Arr 8.62 221 P Pn 15 39 44.7 -0.4
MJAR LR LR 15 43 41.6
VLA Vladivostok 9.74 274 *i* PN Pn 15 40 03.7 +3.2
SKR Severo-Kuril's 10.49 41 erx Pn 15 40 06.4 -4.4
SKR erx Sn 15 42 06.0 -0.6
JHJ Hachijo jima 2 11.00 205 P Pn 15 40 15.1 -2.6
comp=Z,21nm,0.3s,baz=241,slow=23,SNR=6.9
JHJ S Sn 15 42 10.0 -8.9
comp=Z,53nm,0.3s,baz=234,slow=23,SNR=12
JHJ LR LR 15 44 28.7
comp=Z,176nm,21.5s,baz=126,slow=37
MDJ Mudanjiang 11.36 282 P Pn 15 40 23.3 +0.8
MDJ PP 15 40 35.8
MDJ XP 15 40 44.0
MDJ S Sn 15 42 25.8 -1.8
MDJ SS 15 42 50.3
MDJ AMB AMB
comp=Z,21nm,1.0s
MDJ AMB AMB
comp=Z,33nm,4.8s
MDJ LR LR
comp=N,96nm,25.9s
MDJ LR LR
comp=E,155nm,27.2s
MDJ LR LR
comp=Z,229nm,27.2s
MDJ Mudanjiang 11.36 282 ePn Pn 15 40 23.9 +1.4
comp=Z,22nm,0.9s
EKMR Ekimchan 12.76 324 eP Pn 15 40 39.2 -2.4
EKMR AMB AMB 15 40 43.9
comp=Z,16nm,0.5s
PET Petropavlovsk 13.23 38 ePN Pn 15 40 48.0 +0.2
CN2 Changchun 14.36 279 eP Pn 15 41 02.5 -0.2
CN2 eAP 15 41 14.0
CN2 eS Sn 15 43 38.8 -1.8
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
YASR Yasnyy 15.20 317 eP Pn 15 41 11.3 -2.3
YASR AMB AMB 15 41 12.3
comp=Z,5.0nm,0.9s
YASR AMB AMB 15 41 12.3
comp=Z,10.0nm,0.9s
YASR AMB AMB 15 41 12.3
comp=Z,16nm,0.9s
BMKR Bomnak 15.66 323 eP Pn 15 41 16.7 -2.7
BMKR AMB AMB 15 41 17.5
comp=Z,23nm,0.9s
SNY Shenyang 16.02 272 ⇓P Pn 15 41 24.5 +0.6
SNY AMB AMB
comp=Z,11nm,0.9s
CBIJ Chichi jima 16.33 190 P Pn 15 41 25.1 -2.7
comp=Z,7.2nm,0.3s,baz=109,slow=23,SNR=8.8
CBIJ S S 15 44 14.6 -22
comp=Z,16nm,0.3s,baz=95,slow=23,SNR=6.7

KROS Kirovskiy 16.35 319 eP Pn 15 41 26.8 -1.2
KROS AMB AMB 15 41 27.5
comp=Z,3.0nm,0.6s
DL2 Dalian 18.30 264 P Pn 15 41 52.0 +0.1
DL2 AMB AMB
comp=Z,10.0nm,0.7s
HIA Hailar 18.56 298 eP Pn 15 41 50.8 -4.3
HIA pmax pmax
comp=Z,10.0nm,0.7s
HIA Hailar 18.56 298 eP Pn 15 41 50.8 -4.3
comp=Z,10.0nm,0.7s
YAK Yakutsk 20.92 339 eP P 15 42 17.1 -2.4
YAK eS S 15 46 03.2 -5.2
YAK e 15 46 23.2
YAK e 15 53 34.3
YAK pmax pmax
comp=Z,27nm,1.1s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,12nm,1.2s
YAK smax
comp=N,61nm,1.7s
YAK smax
comp=E,17nm,1.0s
YAK Yakutsk 20.92 339 eP P 15 42 19.1 -0.5
comp=E,27nm,0.8s
JOW Kunigami 21.42 226 P P 15 42 26.0 +1.1
comp=E,18nm,0.8s,mb4.4,baz=79,slow=9.6,SNR=5.4
BJI Beijing 21.90 271 eP P 15 42 29.3 -0.7
BJI AMB AMB
comp=Z,27nm,0.8s,mb4.6
BJT Baijiatuan 21.91 271 eP P 15 42 29.1 -1.0
BJT pmax pmax
comp=Z,23nm,0.8s
BJT Baijiatuan 21.91 271 eP P 15 42 29.1 -1.0
comp=Z,23nm,0.8s,mb4.5
TIA Tai'an 22.66 261 P P 15 42 37.0 -1.1
NJ2 Nanjing 23.60 250 eP P 15 42 44.8 -2.3
NJ2 AP 15 43 05.8
NJ2 XP sP 15 43 17.8 +4.5
NJ2 PP 15 43 22.0
NJ2 S S 15 46 48.0 -7.7
NJ2 XS sS 15 47 23.0 -3.0
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,320nm,4.9s
NJ2 LR LR
comp=N,360nm,19.4s
NJ2 LR LR
comp=E,300nm,17.9s
NJ2 LR LR
comp=Z,270nm,10.7s
BOD Bodaibo 24.32 318 eP P 15 42 49.0 -4.7
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb3.6
HHC Hu-ho-hao-te 25.02 276 eP P 15 43 00.0 0.0
HHC AP pP 15 43 17.0 -0.7
HHC XP sP 15 43 26.5 -0.2
HHC PP 15 43 40.3
HHC PCP PcP 15 46 35.3 +2.2
HHC S S 15 47 15.5 -3.0
HHC XS sS 15 47 45.3 -3.7
HHC SS 15 48 18.5
HHC SCP ScP 15 50 06.5 +1.2
HHC PCS PcS 15 50 14.0 +0.6
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.5
HHC AMB AMB
comp=Z,97nm,3.9s
HHC LR LR
comp=N,125nm,4.5s
HHC LR LR
comp=E,142nm,4.7s
HHC LR LR
comp=Z,131nm,5.3s
BTO Baotou 26.21 276 eP P 15 43 10.8 0.0
BILL Bilibino 27.22 17 eP P 15 43 20.3 +0.4
BILL pmax pmax
comp=Z,11nm,1.3s,mb4.2
SONM Songino Array 27.37 293 P P 15 43 21.5 +0.2
comp=Z,17nm,0.9s,mb4.6,baz=90,slow=8.0,SNR=35
SONM pP pP 15 43 40.4 +1.3
comp=Z,12nm,0.6s,baz=90,slow=10,SNR=6.7
SONM LR LR 15 54 46.9
comp=Z,150nm,19.2s,baz=178,slow=37
SONM Songino Array 27.37 293 P P 15 43 21.5 +0.2
SONM *PP pP 15 43 40.4 +1.4
WHN Wuhan 27.60 253 P P 15 43 24.5 +1.2
ZAK Zakamensk 29.25 299 ⇓ *i* P P 15 43 38.0 0.0
ZAK *e* pP 15 43 54.4 -1.5
ZAK *e* 15 44 49.0
ZAK *e* 15 46 42.1
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
GUMO Guam 29.58 181 LR LR 15 53 03.8
comp=Z,54nm,19.7s,baz=10,slow=31
XAN Xi'an 29.62 264 P P 15 43 41.5 +0.3
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.6
LZH Lanzhou 32.39 271 eP P 15 44 06.5 +0.9
LZH AP pP 15 44 25.0 +1.4
LZH XP sP 15 44 35.5 +3.0
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.8
LZH Lanzhou 32.39 271 eP P 15 44 06.5 +0.9
LZH pP pP 15 44 25.0 +1.4
LZH sP sP 15 44 35.5 +3.0
GTA Gaotai 33.99 279 eP P 15 44 20.3 +0.7
GTA AMB AMB
comp=Z,6.0nm,1.2s,mb4.3
CD2 Chengdu 34.96 263 P P 15 44 28.5 +0.5
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
GYA Guiyang 35.45 254 P P 15 44 32.3 +0.2
GYA AP pP 15 44 50.3 0.0
GYA XP sP 15 44 59.5 +0.4
GYA S S 15 49 58.5 -3.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,110nm,6.9s
GYA LR LR
comp=N,310nm,9.6s
GYA LR LR
comp=E,390nm,9.1s
GYA LR LR
comp=Z,430nm,9.0s
SVW2 Sparrevohn 38.85 42 eP P 15 45 02.1 +1.1
KMI Kunming 39.05 256 P P 15 45 01.3 -1.3
KMI AMB AMB
comp=Z,12nm,1.0s,mb4.7
IMA2 Indian Mountai 39.86 34 eP P 15 45 09.4 +0.1
IMA2 epP pP 15 45 28.5 +0.8
KDAK Kodiak Island 40.60 47 P P 15 45 15.6 +0.1
comp=Z,6.4nm,0.5s,mb4.7,baz=280,slow=6.0,SNR=12
WMQ Urumqi 40.97 291 ⇓ *i* P P 15 45 19.0 +0.5
WMQ AP pP 15 45 39.0 +2.0
WMQ XP sP 15 45 47.0 +1.3
WMQ PP PP 15 46 57.0 +2.7
WMQ PPP 15 47 25.5
WMQ PCS PcS 15 51 07.0 -1.4
WMQ S S 15 51 24.5 -0.4
WMQ XS sS 15 51 57.0 +0.5
WMQ AMB AMB
comp=Z,25nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,109nm,4.4s
MCK McKinley 41.87 37 eP P 15 45 25.0 -0.8
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MCK McKinley 41.87 37 eP P 15 45 25.0 -0.8
comp=Z,3.0nm,0.7s,mb4.1
PMR Palmer 41.93 41 P P 15 45 25.9 -0.5
PMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PMR Palmer 41.93 41 P P 15 45 25.9 -0.5
comp=Z,8.7nm,0.9s,mb4.5

COLA College 42.28 36 eP P 15 45 29.7 +0.5
COLA pmax pmax
comp=Z,27nm,1.0s,mb4.9
COLA College 42.28 36 eP P 15 45 29.7 +0.5
comp=Z,27nm,1.0s,mb4.9
MKAR Makanchi Array 43.57 297 P P 15 45 39.5 -0.1
comp=Z,8.8nm,0.8s,mb4.5,baz=74,slow=8.9,SNR=37
LSA Lhasa 44.80 271 eP P 15 45 50.8 +1.3
LSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
LSA Lhasa 44.80 271 eP P 15 45 50.8 +1.3
comp=Z,2.2nm,0.4s,mb4.2
EGAK Eagle 45.14 35 eP P 15 45 52.0 -0.2
DAWY Dawson 46.01 36 eP P 15 45 59.1 +0.1
INK Inuvik 47.52 30 P P 15 46 11.1 +0.3
comp=Z,7.5nm,0.7s,mb4.7,baz=290,slow=5.2,SNR=6.5
INK Inuvik 47.52 30 eP P 15 46 10.8 0.0
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 47.52 30 eP P 15 46 10.8 0.0
comp=Z,15nm,1.1s,mb4.7
BVAR Borovoye Array 48.72 309 P P 15 46 19.6 -0.4
comp=Z,2.6nm,0.3s,mb4.6,baz=86,slow=10,SNR=26
BRVK Borovoye 48.77 309 eP P 15 46 20.0 -0.4
BRVK e*PP pP 15 46 38.9 -0.5
BRVK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRVK Borovoye 48.77 309 eP P 15 46 20.0 -0.4
comp=Z,8.4nm,1.0s,mb4.6
BRVK epP pP 15 46 38.9 -0.5
TKM2 Tokmak 2 49.45 295 P P 15 46 26.4 +0.8
SNR=22
ZRNK Zerenda 49.53 309 *i* P P 15 46 25.7 -0.5
ZRNK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZRNK Zerenda 49.53 309 eP P 15 46 25.6 -0.7
comp=Z,9.3nm,0.8s,mb4.8
JIRN Jiri 49.56 272 eP P 15 46 26.7 +0.3
GUN Gumba 49.64 272 eP P 15 46 27.2 +0.1
comp=Z,76nm,0.9s,mb5.6
KBK Karagaybulak 49.99 295 P P 15 46 30.2 +0.5
SNR=18
USP Ospenovka 50.02 296 P P 15 46 30.2 +0.3
SNR=9.6
KKN Kakani 50.15 273 eP P 15 46 31.2 +0.3
comp=Z,38nm,0.9s,mb5.3
PKI Pulchoki 50.18 272 eP P 15 46 31.4 +0.3
AAK Ala-Archa 50.30 295 *d i* P P 15 46 31.1 -1.0
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
AAK Ala-Archa 50.30 295 eP P 15 46 30.8 -1.2
comp=Z,5.6nm,0.9s,mb4.5
DMN Daman 50.38 273 eP P 15 46 32.8 +0.2
comp=Z,28nm,0.9s,mb5.2
GKN Gorkha 50.50 273 eP P 15 46 33.5 0.0
EKS2 Erkin-Say 50.76 295 P P 15 46 35.9 +0.4
SNR=5.5
AML Almayashu 51.06 295 P P 15 46 38.9 +1.2
SNR=7.0
KOLN Koldanda 51.38 274 eP P 15 46 40.9 +0.7
comp=Z,56nm,0.8s,mb5.6
SVE Sverdlovsk 52.53 316 eP P 15 46 48.7 0.0
SVE *e* pP 15 47 07.0 -0.8
KK31 Karatay Array 52.70 297 *i* P P 15 46 49.5 -0.4
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.9
ARU Arti 53.74 317 ⇓ eP P 15 46 56.6 -1.0
ARU pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KULM Kulim 54.51 239 eP P 15 47 04.2 +1.1
RES Resolute Bay 55.82 16 eP P 15 47 09.3 -3.3
RES pmax pmax
comp=Z,23nm,0.9s,mb5.2
RES Resolute Bay 55.82 16 eP P 15 47 09.3 -3.3
comp=Z,23nm,0.9s,mb5.2
AKTK Aktyubinsk 56.78 310 P P 15 47 18.9 -0.6
AKTO Aktyubinsk 56.78 310 P P 15 47 18.9 -0.6
comp=Z,3.7nm,0.8s,mb4.5,baz=58,slow=7.1,SNR=12
YKA Yellowknife Ar 56.97 33 P P 15 47 21.0 +0.2
comp=Z,4.0nm,0.9s,mb4.4,baz=305,slow=7.2,SNR=8.3
ARCES ARCESS Array B 59.20 339 P P 15 47 35.0 -1.4
comp=Z,2.8nm,0.8s,mb4.3,baz=72,slow=7.6,SNR=7.7
JOF Joensuu 61.85 332 ep P 15 47 53.3 -1.1
comp=Z,2.7nm,0.4s,mb4.6
FITZ Fitzroy Crossi 63.67 201 P P 15 48 06.1 -0.3
comp=Z,1.5nm,0.8s,mb3.9,baz=167,slow=7.9,SNR=5.5
WRAB Tennant Creek 63.68 191 eP P 15 48 06.3 -0.2
WRAB pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
WRAB Tennant Creek 63.68 191 eP P 15 48 06.3 -0.2
comp=Z,10.0nm,1.0s,mb4.6
WB2 Warramunga Arr 63.69 191 eP P 15 48 05.6 -1.0
WRA Warramunga Arr 63.69 191 P P 15 48 06.2 -0.4
comp=Z,3.5nm,0.7s,mb4.3,baz=8.3,slow=7.0,SNR=30
WRA Warramunga Arr 63.69 191 *i* P P 15 48 06.1 -0.5
WRA pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 64.11 333 ep P 15 48 07.6 -1.7
comp=Z,3.7nm,0.6s,mb4.4,baz=44,slow=6.3
KAF Kangasniemi 64.11 333 eP P 15 48 07.6 -1.7
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SUMG Summit 64.43 1 eP P 15 48 11.2 -0.3
comp=Z,14nm,0.8s,mb4.8
FIA1 FINESS Array S 64.66 332 eP P 15 48 11.4 -1.5
FINES FINESS Array B 64.66 332 P P 15 48 12.0 -0.9
comp=Z,4.3nm,0.5s,mb4.6,baz=50,slow=7.5,SNR=54
OBN Obninsk 64.86 323 ⇑ *i* P P 15 48 13.6 -0.7
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
KIPM Iron Peak 64.98 58 eP P 15 48 16.5 +1.4
VRSR Storozhevoye 66.17 319 eP P 15 48 22.5 -0.2
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
AS31 Alice Springs 67.41 191 eP P 15 48 31.1 +0.5
ASAR Alice Springs 67.42 191 P P 15 48 31.4 +0.7
comp=Z,5.9nm,0.7s,mb4.5,baz=10,slow=5.9,SNR=103
ASPA Alice Springs 67.42 191 eP P 15 48 31.1 +0.5
DLMT Dillon 67.93 48 eP P 15 48 34.9 +1.1
comp=Z,6.8nm,1.0s,mb4.4
DLMT epP pP 15 48 54.8 +1.0
BOZ Bozeman (W) 68.27 47 eP P 15 48 36.8 +0.8
BOZ e*PP pP 15 48 55.0 -0.9
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
BOZ Bozeman (W) 68.27 47 eP P 15 48 36.8 +0.8
comp=Z,6.8nm,0.7s,mb4.6
BOZ epP pP 15 48 55.0 -0.9
NVAR Mina Array Bea 69.01 57 P P 15 48 41.9 +1.3
comp=Z,4.2nm,0.7s,mb4.4,baz=281,slow=7.6,SNR=36
NVAR pP pP 15 49 02.3 +1.7
comp=Z,1.6nm,0.7s,baz=292,slow=8.1,SNR=4.2
KIV Kislovodsk 69.03 311 eP P 15 48 42.0 +1.3
KIV e*PP pP 15 49 01.0 +0.3
KIV pmax pmax
comp=Z,23nm,0.8s,mb5.1
KIV Kislovodsk 69.03 311 eP P 15 48 42.0 +1.3
comp=Z,23nm,0.8s,mb5.1
KIV epP pP 15 49 01.0 +0.3
ZEI Tsey 69.12 309 eP P 15 48 40.5 -0.8
ZEI e*PP pP 15 49 00.2 -1.1
ZEI pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 69.53 338 P P 15 48 42.7 -1.1
comp=Z,10nm,0.8s,mb4.7,baz=33,slow=6.5
NB2 NORSAR Subarra 69.53 338 P P 15 48 42.7 -1.1
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
NORSAR Array B 69.53 338 P P 15 48 43.0 -0.8
comp=Z,10.0nm,0.8s,mb4.7,baz=34,slow=6.1,SNR=44
IMW Indian Meadow 69.78 48 eP P 15 48 47.2 +1.9
comp=Z,4.4nm,0.9s,mb4.3
IMW epP pP 15 49 09.4 +4.1
RRI2 Red Ridge 69.93 49 eP P 15 48 52.7 +6.5
comp=Z,6.8nm,0.9s,mb4.5
MOOW Moose Ponds 69.98 48 eP P 15 48 48.0 +1.4
comp=Z,5.1nm,1.1s,mb4.3
GNI Garni 70.32 307 *d* eP P 15 48 49.9 +1.3
GNI pmax pmax
comp=Z,12nm,1.7s
AKASG Malin Array Be 71.13 323 P P 15 48 52.7 -0.8
comp=Z,3.2nm,0.5s,mb4.4,baz=40,slow=6.1,SNR=34

AKASG pP pP 15 49 12.5 -1.1
comp=Z,1.6nm,0.4s,baz=41,slow=6.2,SNR=4.5
AKASG Malin Array Be 71.13 323 P **P** **15 48 52.7 -0.8**
AKASG pP pP 15 49 12.5 -1.1
AKBB Malin Array Si 71.13 323 *eP* **P** **15 48 52.6 -0.9**
SUW Suwalki 71.18 328 *eP* **P** **15 48 53.2 -0.7**
PDAR Pinedale Array 71.28 49 P **P** **15 48 55.2 +0.7**
comp=Z,2.1nm,0.6s,mb4.1,baz=290,slow=2.6,SNR=23
PDAR pP pP 15 49 15.2 +0.7
comp=Z,1.6nm,0.5s,baz=282,slow=1.0,SNR=5.9
SRU San Rafael 73.19 52 *eP* **P** **15 49 06.8 +1.0**
SRU e*PP pP 15 49 26.7 +0.7
SRU pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
SRU San Rafael 73.19 52 *eP* **P** **15 49 06.8 +1.0**
comp=Z,2.0nm,0.7s,mb4.1
SRU epP pP 15 49 26.7 +0.7
LVV L'vov 74.02 325 *eP* **P** **15 49 10.5 -0.2**
STKA Stephens Creek 74.86 183 P **P** **15 49 16.0 +0.5**
comp=Z,1.9nm,0.6s,mb4.0,baz=320,slow=3.4,SNR=8.4
STKA LR LR 16 20 14.3
comp=Z,134nm,21.6s,baz=206,slow=34
STKA Stephens Creek 74.86 183 *eP* **P** **15 49 16.0 +0.4**
BURAR Bucovina Array 75.18 323⇓ *iP* **P** **15 49 17.4 0.0**
MALT Malatya 75.19 309⇑ *iP* **P** **15 49 18.8 +1.3**
MALT Malatya 75.19 309 *eP* **P** **15 49 18.0 +0.5**
MALT e*PP pP 15 49 38.7 +1.0
MALT pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
MALT Malatya 75.19 309 *eP* **P** **15 49 17.9 +0.5**
comp=Z,9.2nm,1.3s,mb4.3
MALT epP pP 15 49 38.7 +0.9
OJC Ojcow 75.44 327 *eP* **P** **15 49 19.3 +0.4**
KOLS Kolonicke sedl 75.44 325 *eP* **P** **15 49 19.3 +0.4**
STHS Stebnicka Huta 75.49 326 *eP* **P** **15 49 20.1 +0.9**
STHS pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
STHS Stebnicka Huta 75.49 326 *eP* **P** **15 49 20.1 +0.9**
comp=Z,9.7nm,1.3s,mb4.4
CRVS Cervenica-Dubn 75.80 326 *eP* **P** **15 49 21.1 +0.1**
TIRR Tirgusor 76.07 319⇓ *iP* **P** **15 49 20.7 -1.8**
KSP Ksiaz 76.28 329 *eP* **P** **15 49 24.3 +0.6**
OKC Ostrava-Krasne 76.39 328 *eP* **P** **15 49 24.9 +0.6**
MLR Muntele Rosu 76.46 321⇑ *iP* **P** **15 49 25.2 +0.5**
KECS Kecovo 76.53 326 *eP* **P** **15 49 23.8 -1.3**
KECS pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
KECS Kecovo 76.53 326 *eP* **P** **15 49 23.8 -1.3**
comp=Z,3.3nm,1.1s,mb4.0
UPC Upice 76.66 329 *eP* **P** **15 49 25.9 +0.1**
DPC Dobruska-Polom 76.67 329 *eP* **P** **15 49 25.9 0.0**
DPC epP pP 15 49 43.5 -2.7
MORC Moravsky Berou 76.67 328 *eP* **P** **15 49 25.8 -0.1**
MORC pmax pmax
comp=Z,20nm,1.3s,mb4.7
MORC Moravsky Berou 76.67 328 *eP* **P** **15 49 25.8 -0.2**
comp=Z,20nm,1.3s,mb4.7
BRTR Keskin Array B 76.85 313 P **P** **15 49 27.2 +0.3**
comp=Z,1.2nm,0.7s,mb3.8,baz=42,slow=3.5,SNR=8.5
BRTR pP pP 15 49 47.4 +0.2
comp=Z,1.4nm,0.6s,baz=80,slow=3.8,SNR=4.4
VOIR 76.91 321⇑ *iP* **P** **15 49 28.0 +0.8**
CLL Collm 77.08 332⇓ *iP* **P** **15 49 27.8 -0.4**
comp=Z,16nm,0.9s,mb4.8
CLL epP pP 15 49 47.0 -1.5
CLL Collm 77.08 332⇓ *iP* **P** **15 49 27.8 -0.4**
CLL pmax pmax
comp=Z,16nm,0.9s,mb4.8
BRG Berggiesshubel 77.11 331 *i* P **P** **15 49 28.4 0.0**
comp=Z,6.4nm,1.4s,mb4.2
BRG Berggiesshubel 77.11 331 *i* P **P** **15 49 28.4 0.0**
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.1
PVCC Panska Ves 77.17 330 *eP* **P** **15 49 29.0 +0.3**
VYHS Vyhne 77.19 327 *eP* **P** **15 49 29.2 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
VYHS Vyhne 77.19 327 *eP* **P** **15 49 29.2 +0.4**
comp=Z,7.3nm,1.3s,mb4.2
PSZ Piszkesteto 77.22 326 *eP* **P** **15 49 29.5 +0.5**
PSZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
PSZ Piszkesteto 77.22 326 *eP* **P** **15 49 29.5 +0.5**
comp=Z,9.4nm,0.9s,mb4.5
ECSD EROS,Sioux Fal 77.25 41 P **P** **15 49 28.5 -0.7**
VRAC Vranov 77.41 328⇑ *iP* **P** **15 49 30.7 +0.6**
PRU Pruhonice 77.63 330 *eP* **P** **15 49 31.2 -0.1**
TREC Trest 77.84 329 *eP* **P** **15 49 33.0 +0.5**
MOX Moxa 78.12 332 *eP* **P** **15 49 34.0 0.0**
NKC Novy Kostel 78.17 331 *eP* **P** **15 49 33.8 -0.5**
BZS Buzias 78.30 323⇑ *iP* **P** **15 49 34.6 -0.4**
KHC Kasperske Hory 78.69 330 *eP* **P** **15 49 37.3 +0.2**
KHC epP pP 15 49 56.8 -0.7
KHC Kasperske Hory 78.69 330 *eP* **P** **15 49 37.3 +0.2**
KHC epP pP 15 49 56.8 -0.7
GERES GERESS Array B 78.88 330 P **P** **15 49 37.8 -0.3**
comp=Z,1.3nm,0.6s,mb3.9,baz=39,slow=5.1,SNR=15
GERES pP pP 15 49 58.1 -0.5
comp=Z,0.7nm,0.5s,baz=36,slow=5.2,SNR=3.7
GERES LR LR 16 27 28.0
comp=Z,84nm,20.4s,baz=207,slow=38
GERES GERESS Array B 78.88 330 P **P** **15 49 37.8 -0.4**
GERES *PP pP 15 49 58.1 -0.5
GRA1 Grafenberg Arr 79.06 332 *eP* **P** **15 49 39.2 +0.1**
comp=Z,16nm,1.4s,mb4.7
GRF Grafenberg Arr 79.06 332 *eP* **P** **15 49 39.2 +0.1**
comp=Z,16nm,1.4s,mb4.7
GRF Grafenberg Arr 79.06 332 *eP* **P** **15 49 39.2 +0.1**
GRF pmax pmax
comp=Z,16nm,1.4s,mb4.7
VTS Vitosha 79.95 321⇑ *iP* **P** **15 49 44.3 +0.3**
NWAO Narrogin (SRO) 80.04 204 P **P** **15 49 45.0 +0.5**
comp=Z,10.0nm,0.8s,mb4.7,baz=112,slow=5.6,SNR=3.7
NWAO Narrogin (SRO) 80.04 204 P **P** **15 49 45.0 +0.5**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 80.04 204 P **P** **15 49 44.8 +0.3**
comp=Z,18nm,1.0s,mb4.9
GROS Grobnik 80.17 327 *i* P **P** **15 49 45.0 -0.1**
GROS *e* pP 15 50 05.2 -0.4
KBA Koelnbreinsper 80.48 329⇑ *iP* **P** **15 49 47.7 +0.9**
comp=Z,8.2nm,0.7s,mb4.7
KBA Koelnbreinsper 80.48 329⇑ *iP* **P** **15 49 47.8 +0.9**
KBA pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
GCIS Gornji Cirnik 80.60 327 *eP* **P** **15 49 47.5 0.0**
GCIS *e* pP 15 50 07.6 -0.3
PDKS Podkum 80.69 327 *eP* **P** **15 49 48.1 +0.1**
CDF Champ du Feu 81.49 333 *eP* **P** **15 49 51.6 -0.6**
comp=Z,19nm,1.1s,mb4.5
CDF Champ du Feu 81.49 333 *eP* **P** **15 49 51.6 -0.6**
CDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CDF Champ du Feu 81.49 333 *eP* **P** **15 49 51.6 -0.6**
comp=Z,9.6nm,1.1s,mb4.5
EIL Elat 83.33 305 *eP* **P** **15 50 02.6 +0.8**
comp=Z,173nm,1.2s,mb5.8
CABF La Chapelle 83.46 333 *eP* **P** **15 50 02.2 -0.2**
comp=Z,25nm,1.4s,mb4.6
CABF La Chapelle 83.46 333 *eP* **P** **15 50 02.2 -0.2**
CABF pmax pmax
comp=Z,12nm,1.4s,mb4.5
CABF La Chapelle 83.46 333 *eP* **P** **15 50 02.2 -0.2**
comp=Z,12nm,1.4s,mb4.5
LDF La Druitiere 83.58 338 *eP* **P** **15 50 02.5 -0.6**
comp=Z,34nm,1.2s,mb4.7
LDF La Druitiere 83.58 338 *eP* **P** **15 50 02.5 -0.6**
LDF pmax pmax
comp=Z,17nm,1.2s,mb4.8
LDF La Druitiere 83.58 338 *eP* **P** **15 50 02.5 -0.6**
comp=Z,17nm,1.2s,mb4.8
LOR Lormes 83.60 335 *eP* **P** **15 50 02.5 -0.7**
comp=Z,21nm,1.1s,mb4.6
LOR Lormes 83.60 335 *eP* **P** **15 50 02.5 -0.7**
LOR pmax pmax
comp=Z,11nm,1.1s,mb4.6
LOR Lormes 83.60 335 *eP* **P** **15 50 02.5 -0.7**
comp=Z,11nm,1.1s,mb4.6
GRR Gorron 83.97 338 *eP* **P** **15 50 04.5 -0.6**
comp=Z,101nm,1.4s,mb5.2
GRR Gorron 83.97 338 *eP* **P** **15 50 04.5 -0.6**
GRR pmax pmax
comp=Z,51nm,1.4s,mb5.2
GRR Gorron 83.97 338 *eP* **P** **15 50 04.5 -0.6**
comp=Z,51nm,1.4s,mb5.2

SMF Signal de Mont 84.16 334 *eP* **P** **15 50 05.5 -0.5**
comp=Z,14nm,0.8s,mb4.5
SMF Signal de Mont 84.16 334 *eP* **P** **15 50 05.5 -0.5**
SMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SMF Signal de Mont 84.16 334 *eP* **P** **15 50 05.5 -0.5**
comp=Z,7.3nm,0.8s,mb4.6
PMOR Pomariorio Ree 84.17 117 *eT* 17 22 29.2
comp=Z,43nm,0.2s
AVF Avril sur Loir 84.18 335 *eP* **P** **15 50 05.7 -0.4**
comp=Z,22nm,1.2s,mb4.6
AVF Avril sur Loir 84.18 335 *eP* **P** **15 50 05.7 -0.4**
AVF pmax pmax
comp=Z,11nm,1.2s,mb4.6
AVF Avril sur Loir 84.18 335 *eP* **P** **15 50 05.7 -0.4**
comp=Z,11nm,1.2s,mb4.6
LPL La Plagne 84.20 332 *eP* **P** **15 50 06.4 +0.2**
comp=Z,5.8nm,0.7s,mb4.2
LPL La Plagne 84.20 332 *eP* **P** **15 50 06.4 +0.2**
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
LPL La Plagne 84.20 332 *eP* **P** **15 50 06.4 +0.2**
comp=Z,2.9nm,0.7s,mb4.2
LPG La Plagne 84.21 332 *eP* **P** **15 50 06.5 +0.2**
comp=Z,17nm,1.2s,mb4.5
LPG La Plagne 84.21 332 *eP* **P** **15 50 06.5 +0.2**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
LPG La Plagne 84.21 332 *eP* **P** **15 50 06.5 +0.2**
comp=Z,8.6nm,1.2s,mb4.5
SGMF Saint Gilles 84.55 339 *eP* **P** **15 50 07.9 -0.1**
comp=Z,113nm,1.5s,mb5.3
SGMF Saint Gilles 84.55 339 *eP* **P** **15 50 07.9 -0.1**
SGMF pmax pmax
comp=Z,57nm,1.5s,mb5.3
SGMF Saint Gilles 84.55 339 *eP* **P** **15 50 07.9 -0.1**
comp=Z,56nm,1.5s,mb5.3
MBDF Montbardon 84.88 332 *eP* **P** **15 50 09.2 -0.4**
TCF Toulx Ste Croi 84.98 335 *eP* **P** **15 50 09.9 -0.3**
PPT Papeete 84.98 120 *e*LR LR 16 16 42.6
comp=Z,196nm,32.0s
PPT Papeete 84.98 120 LR LR 16 21 31.1
comp=Z,95nm,20.6s,baz=244,slow=31
MFF Saint Martin d 85.40 337 *eP* **P** **15 50 12.2 0.0**
comp=Z,8.2nm,0.7s,mb4.5
MFF Saint Martin d 85.40 337 *eP* **P** **15 50 12.2 0.0**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MFF Saint Martin d 85.40 337 *eP* **P** **15 50 12.2 0.0**
comp=Z,4.1nm,0.7s,mb4.5
VIVF Saint-Julien-l 85.47 333 *eP* **P** **15 50 12.4 -0.2**
FRF La Foret Royal 85.94 331 *eP* **P** **15 50 15.0 +0.1**
SMRF Simiane la Rot 85.95 332 *eP* **P** **15 50 15.2 +0.2**
RJF Les Rejaudoux 86.08 335 *eP* **P** **15 50 15.6 0.0**
LMR La Mourre 86.19 331 *eP* **P** **15 50 15.6 -0.5**
comp=Z,28nm,1.0s,mb4.8
LMR La Mourre 86.19 331 *eP* **P** **15 50 15.6 -0.5**
LMR pmax pmax
comp=Z,14nm,1.0s,mb4.8
LMR La Mourre 86.19 331 *eP* **P** **15 50 15.6 -0.5**
comp=Z,14nm,1.0s,mb4.8
CAF Calviac 86.25 335 *eP* **P** **15 50 17.0 +0.5**
comp=Z,17nm,1.0s,mb4.6
CAF Calviac 86.25 335 *eP* **P** **15 50 17.0 +0.5**
CAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CAF Calviac 86.25 335 *eP* **P** **15 50 17.0 +0.5**
comp=Z,8.6nm,1.0s,mb4.6
LASF Ste Croix 86.44 333 *eP* **P** **15 50 17.7 +0.3**
LFF La Frestale 86.64 336 *eP* **P** **15 50 18.5 +0.1**
MTLF Montolieu 87.62 334 *eP* **P** **15 50 23.6 +0.5**
comp=Z,13nm,1.2s,mb4.5
MTLF Montolieu 87.62 334 *eP* **P** **15 50 23.6 +0.5**
MTLF pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
MTLF Montolieu 87.62 334 *eP* **P** **15 50 23.6 +0.5**
comp=Z,6.3nm,1.2s,mb4.5
ETSF Etsaut 88.89 336 *eP* **P** **15 50 29.5 +0.4**
comp=Z,8.2nm,0.9s,mb4.5
ETSF Etsaut 88.89 336 *eP* **P** **15 50 29.5 +0.4**
ETSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ETSF Etsaut 88.89 336 *eP* **P** **15 50 29.5 +0.4**
comp=Z,4.1nm,0.9s,mb4.5
TBI Tubuai 89.36 123 *eT* 17 28 54.5
comp=Z,15nm,0.3s
SIV San Ignacio 144.76 48 PKP PKPdf 15 57 11.1 -0.1
comp=Z,5.0nm,0.6s,baz=310,slow=3.3,SNR=20
SNAA Sanae 147.57 198 PKPbc PKPbc 15 57 18.1 -0.6
comp=Z,1.1nm,0.5s,baz=189,slow=3.7,SNR=39
SNAA Sanae 147.57 198 *e*PKPdf PKPdf 15 57 17.2 +1.2
SNAA *e* 15 57 18.3
SNAA *e* 15 57 21.2
SNAA *e* 15 57 25.3
SNAA *e* 15 57 38.0
SNAA *e* 15 57 40.2
SNAA *e* 15 57 43.3
SNAA *e* 15 57 46.2
SNAA *e* 15 57 48.2
SNAA Sanae 147.57 198⇑ *i*PKP2 PKPab 15 57 16.1 -4.9
SNAA Sanae 147.57 198 *e*PKPbc PKPbc 15 57 17.4 -1.3
VNA3 Neumayer Olymp 149.34 196 *e*PKPdf PKPdf 15 57 22.5 +3.6
VNA3 *e* 15 57 25.6
VNA3 *e* 15 57 42.6
VNA3 *e* 15 57 46.4
VNA3 *e* 15 57 47.2
VNA3 *e* 15 57 51.1
VNA3 *e* 15 57 52.6
VNA3 *e* 15 57 55.3
VNA1 Neumayer--Stat 149.52 197 *e*PKPdf PKPdf 15 57 21.5 +2.3
VNA1 *e* 15 57 26.3
VNA1 *e* 15 57 43.7
VNA1 *e* 15 57 46.9
VNA1 *e* 15 57 47.7
VNA1 *e* 15 57 51.3
VNA1 *e* 15 57 52.2
VNA1 *e* 15 57 56.1
BDFB Brasilia 150.23 26 PKPbc PKPbc 15 57 26.7 +1.2
comp=Z,4.9nm,0.9s,baz=302,slow=4.9,SNR=3.8
BDFB Brasilia 150.23 26 PKIKP PKPbc 15 57 26.7 +1.2
BDFB pmax pmax
comp=Z,5.0nm,0.9s
PMSA Palmer Station 152.89 153 PKPbc PKPbc 15 57 31.4 -0.2
comp=Z,6.0nm,0.8s,baz=207,slow=9.0,SNR=3.2
PLCA Paso Flores 153.41 97 PKPbc PKPbc 15 57 33.2 +0.5
comp=Z,1.0nm,0.6s,baz=37,slow=6.7,SNR=4.2
PLCA Paso Flores 153.41 97 PKIKP PKPbc 15 57 33.2 +0.5
PLCA pmax pmax
comp=Z,1.0nm,0.6s

IDC ***29*** *15:42:54.4±0.8, 1500S×17355W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.1/16, mbtmp4.0/9, MS3.5/3, Ms1 3.5/3, ms1mx3.1/23, Error ellipse: s-maj=35.6km s-min=16.6km az=141.0*
NEIC ***29*** *15:42:55.7±0.4, 1505S×17355W, h10km, mb4.3/6, Error ellipse: s-maj=18.3km s-min=8.8km az=141.0*
ISCJB ***29*** *15:42:57.7±0.5, 150S±0.1×1736W±0.1, h33km, mb4.1/13, MS3.4/2, Error ellipse: s-maj=21.3km s-min=10.3km az=107.1*

ISC 29 15:42:60.0±0.5,**151S**±01×**1736W**±01,**h35**km,**n28,**
σ0**$70**/24,**mb4.1**/13,**MS3.4**/2,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.10**	**55**	Pn	**Pn**	**15 43 28.8**	**-3.8**
	36nm,0.3s,baz=356,slow=1.1,SNR=64						
AFI				Sn	**Sn**	**15 43 48.7**	**-8.9**
	211nm,0.3s,baz=70,slow=22,SNR=28						
RAO	**Raoul Island**	**14.62**	**195**	LR	LR	15 51 04.3	
	comp=Z,126nm,20.6s,baz=116,slow=33						
DZM	**Mont Dzumac**	**20.17**	**247**	LR	LR	15 52 28.7	
	comp=Z,29nm,20.4s,MS2.6,baz=321,slow=28						
URZ	**Urewera**	**24.47**	**198**	P	**P**	**15 48 15.7**	**+0.1**
	3.4nm,0.4s,mb4.1,baz=19,slow=1.8,SNR=10						
PMG	**Port Moresby**	**38.77**	**274**	LR	LR	16 02 53.2	
	comp=Z,352nm,19.3s,MS4.2,baz=23,slow=31						
STKA	**Stephens Creek**	**44.05**	**240**	*eP*	**P**	**15 51 04.2**	**-0.1**
	1.9nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**15 51 04.3**	**+0.1**
	2.8nm,0.8s,mb4.1,baz=103,slow=10,SNR=4.8						
STKA	**Stephens Creek**	**44.05**	**240**	*eP*	**P**	**15 51 04.0**	**-0.3**
WB2	**Warramunga Arr**	**49.75**	**257**	*eP*	**P**	**15 51 48.6**	**-0.2**
WRAB	**Tennant Creek**	**49.75**	**257**	*eP*	**P**	**15 51 48.7**	**-0.2**
	3.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**49.76**	**257**	P	**P**	**15 51 48.8**	**-0.1**
	1.2nm,0.4s,mb4.2,baz=91,slow=6.9,SNR=46						
AS31	**Alice Springs**	**50.05**	**252**	*eP*	**P**	**15 51 50.8**	**-0.3**
ASAR	**Alice Springs**	**50.05**	**252**	P	**P**	**15 51 51.0**	**-0.1**
	2.3nm,0.3s,mb4.6,baz=89,slow=7.7,SNR=55						
ASPA	**Alice Springs**	**50.06**	**252**	*eP*	**P**	**15 51 50.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**58.12**	**258**	P	**P**	**15 52 50.9**	**+0.9**
	0.6nm,0.8s,mb3.7,baz=122,slow=4.0,SNR=3.1						
SBA	**Scott Base**	**63.51**	**185**	*eP*	**P**	**15 53 27.6**	**+1.0**
	1.9nm,1.0s,mb4.1						
VNDA	**Vanda**	**63.63**	**186**	P	**P**	**15 53 28.4**	**+1.0**
	0.8nm,0.9s,mb3.7,baz=12,slow=5.7,SNR=4.7						
VNDA	**Vanda**	**63.63**	**186**	*eP*	**P**	**15 53 26.9**	**-0.5**
	1.2nm,1.0s,mb3.9						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**15 54 33.7**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=233,slow=10,SNR=7.1						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	**P**	**15 54 33.7**	**+0.4**
QSPA	**South Pole Qui**	**74.91**	**180**	*eP*	**P**	**15 54 36.5**	**-0.7**
	4.0nm,0.9s,mb4.3						
WVOR	**Wild Horse Val**	**76.31**	**39**	*eP*	**P**	**15 54 45.8**	**+0.5**
	4.3nm,1.2s,mb4.2						
HLID	**Hailey**	**79.51**	**39**	*eP*	**P**	**15 55 03.4**	**+0.3**
	3.1nm,1.0s,mb4.2						
MCMT	**McKenzie Canyo**	**81.14**	**39**	*eP*	**P**	**15 55 12.4**	**+0.7**
PDAR	**Pinedale Array**	**82.16**	**42**	P	**P**	**15 55 16.7**	**-0.5**
	1.2nm,0.8s,mb3.9,baz=211,slow=1.7,SNR=9.3						
MAW	**Mawson**	**88.00**	**199**	P	**P**	**15 55 45.8**	**-0.6**
GERES	**GERESS Array B**	**145.85**	**351**	PKPbc	PKPbc	16 02 33.2	-2.3
	0.9nm,0.7s,baz=13,slow=1.8,SNR=6.9						
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc	PKPbc	16 02 36.9	+1.4
	1.5nm,0.8s,baz=103,slow=2.3,SNR=9.8						

NEIC ***29*** *16:08:38.9±6.2, 860N×12602E, h130km±57km, mb4.0/1, Error ellipse: s-maj=56.2km s-min=11.2km az=71.0*
IDC ***29*** *16:08:39.5±7.7, 862N×126.15E, h136km±70km, mb3.4/9, mb1 3.5/9, mb1mx3.5/19, mbtmp3.8/9, Error ellipse: s-maj=72.9km s-min=14.2km az=72.0*
ISCJB ***29*** *16:08:42.9±0.9, 854N±008×1260E±02, h185km±7km, mb3.6/10, Error ellipse: s-maj=34.1km s-min=12.2km az=166.0*
MAN ***29*** *16:08:45.4, 862N×12606E, h157km, mb2.8, ML4.2, MS1.6*

ISC 29 16:08:44.0±0.9,**857N**±008×**1260E**±02,**h179**km±7km,**n17,**
σ0**$48**/17,**mb3.6**/10,**1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.56**	**314**	*eP*	**Pn**	**16 09 08.9**	**0.0**
BUKP	**Musuan**	**1.18**	**234**	*eP*	**Pn**	**16 09 13.3**	**+0.4**
BUKP				*eS*	**Sn**	**16 09 35.0**	**-0.3**
SCPH	**Surigao**	**1.31**	**336**‖	*eP*	**Pn**	**16 09 14.1**	**0.0**
MSLP	**Maasin**	**1.93**	**323**	*eP*	**Pn**	**16 09 20.3**	**0.0**
FITZ	**Fitzroy Crossi**	**26.51**	**181**	P	**P**	**16 14 04.7**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=5.7,slow=17,SNR=6.9						
WRA	**Warramunga Arr**	**29.49**	**164**	P	**P**	**16 14 30.8**	**-0.4**
	0.2nm,0.5s,mb3.1,baz=338,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**32.95**	**167**	P	**P**	**16 15 00.6**	**-0.9**
	0.2nm,0.4s,mb3.2,baz=347,slow=7.0,SNR=7.2						
ASAR				PcP	PcP	16 17 42.5	+1.2
	0.4nm,0.7s,baz=354,slow=2.5,SNR=6.7						
NWAO	**Narrogin (SRO)**	**42.11**	**191**	P	**P**	**16 16 19.1**	**+0.7**
	2.7nm,0.3s,mb4.3,baz=24,slow=7.4,SNR=6.0						
NWAO	**Narrogin (SRO)**	**42.11**	**191**	P	**P**	**16 16 18.7**	**+0.3**
SONM	**Songino Array**	**42.52**	**340**	P	**P**	**16 16 21.9**	**+0.2**
	0.5nm,0.9s,mb3.1,baz=156,slow=7.9,SNR=3.0						
STKA	**Stephens Creek**	**42.89**	**160**	P	**P**	**16 16 25.5**	**+0.9**
	0.8nm,0.5s,mb3.6,baz=346,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**53.23**	**324**	P	**P**	**16 17 44.5**	**+0.6**
	2.2nm,0.6s,mb4.1,baz=125,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**53.23**	**324**	P	**P**	**16 17 44.5**	**+0.6**
ZRNK	**Zerenda**	**63.67**	**326**	*eP*	**P**	**16 18 55.6**	**-0.5**
	1.1nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**87.26**	**332**	P	**P**	**16 21 09.5**	**-0.7**
	1.3nm,1.0s,mb3.7,baz=84,slow=4.3,SNR=4.2						
VNDA	**Vanda**	**88.29**	**173**	P	**P**	**16 21 15.4**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=330,slow=5.4,SNR=5.4						
PLCA	**Paso Flores**	**144.74**	**158**	PKP	PKPdf	16 28 00.6	+1.3
	2.0nm,0.8s,baz=217,slow=1.2,SNR=5.2						

CSEM ***29*** *16:24:53.8±0.3, 3639N×454W, h66km±3km, mb2.8/9, Error ellipse: s-maj=7.0km s-min=3.6km az=173.0*
ISCJB ***29*** *16:24:54.1±0.7, 3645N±005×460W±003, h88km±5km, Error ellipse: s-maj=7.8km s-min=3.4km az=164.2*
SFS ***29*** *16:24:55.0, 3631N×454W, h0km, ML2.4*
NEIC ***29*** *16:24:55.3, 3630N×454W, h65km, MG2.8(MDD), After MDD.*
MDD ***29*** *16:24:55.5±0.7, 3632N×453W, h64km±5km, mb2.8/9, Error ellipse: s-maj=7.5km s-min=3.9km az=173.0, PRXIMO*
IGIL ***29*** *16:24:55.5, 3651N×473W, h1km, ML2.2*
INMG ***29*** *16:24:56.2±1.0, 3642N×458W, h31km±11km, ML2.3, Error ellipse: s-maj=5.4km s-min=4.2km az=173.0*

ISC 29 16:24:55.1±0.7,**3644N**±004×**458W**±003,**h78**km±6km,**n45,**
σ1**$18**/87,**1D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.20**	**310**	P	**Pn**	**16 25 05.6**	**-1.1**
	6.3nm,0.1s,SNR=20						
EMIJ				S	**Sn**	**16 25 13.6**	**-1.6**
	28nm,0.1s,SNR=19						
MAL	**Malaga**	**0.32**	**25**	*eP*	**Pn**	**16 25 06.8**	**-0.5**
REAL	**Reales**	**0.51**	**276**	P	**Pn**	**16 25 09.5**	**+0.7**
REAL				S	**Sn**	**16 25 20.1**	**+1.4**
REAL	**Reales**	**0.51**	**276**	*eP*	**Pn**	**16 25 09.5**	**+0.8**
REAL				*eS*	**Sn**	**16 25 20.1**	**+1.3**
EJIF	**Jimena Fronter**	**0.71**	**271**	P	**Pn**	**16 25 10.9**	**+0.2**
	1.4nm,0.1s,SNR=8.2						
EJIF				S	**Sn**	**16 25 21.4**	**-1.0**
	9.3nm,0.4s,SNR=8.4						
ELOJ	**Sierra Loja**	**0.79**	**26**	P	**Pn**	**16 25 13.2**	**+1.6**
	3.5nm,0.2s,SNR=4.7						
ELOJ				S	**Sn**	**16 25 23.5**	**-0.3**
	6.3nm,0.4s,SNR=7.7						
LIJA	**Lijar**	**0.81**	**306**	P	**Pn**	**16 25 14.0**	**+2.2**
LIJA				S	**Sn**	**16 25 27.0**	**+2.8**
LIJA	**Lijar**	**0.81**	**306**	*eP*	**Pn**	**16 25 14.0**	**+2.2**
LIJA				*eS*	**Sn**	**16 25 27.0**	**+2.8**
ERON	**Agron**	**0.85**	**47**	P	**Pn**	**16 25 11.6**	**-0.7**
	8.3nm,0.2s,SNR=5.5						
ERON				S	**Sn**	**16 25 24.5**	**-0.6**
	5.7nm,0.3s,SNR=7.2						
EGUA	**Guajares**	**0.91**	**64**	P	**Pn**	**16 25 10.6**	**-2.4**
	0.2nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**16 25 22.6**	**-3.6**
	0.6nm,0.1s,SNR=7.9						
ESPR	**Espera**	**1.11**	**293**	P	**Pn**	**16 25 15.8**	**+0.4**
	0.1nm,0.0s,SNR=7.9						
ESPR				S	**Sn**	**16 25 31.2**	**+0.6**
	4.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.11**	**293**	P	**Pn**	**16 25 15.8**	**+0.4**
	0.1nm,0.0s,SNR=7.9						
ESPR				S	**Sn**	**16 25 31.2**	**+0.6**
	4.0nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.15**	**13**	P	**Pn**	**16 25 17.3**	**+1.4**
	0.3nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**16 25 32.1**	**+0.7**
	5.7nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.17**	**44**	P	**Pn**	**16 25 17.4**	**+1.3**
	1.4nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**16 25 33.5**	**+1.6**
	1.1nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.20**	**50**	P	**Pn**	**16 25 17.7**	**+1.3**
	0.6nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 25 34.1**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.20**	**50**	P	**Pn**	**16 25 17.7**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
EQUE				S	**Sn**	**16 25 34.1**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.35**	**111**	P	**Pn

EBER					S		Sn	16 25 36.7	-1.3
	SNR=7.9								
EADA	**Adamuz**	**1.73**	**0**		P		**Pn**	**16 25 24.4**	**+1.1**
	0.0nm,0.0s,SNR=12								
EADA					S		**Sn**	**16 25 45.8**	**+1.0**
	1.6nm,0.2s,SNR=6.8								
EADA	**Adamuz**	**1.73**	**0**		P		**Pn**	**16 25 24.4**	**+1.1**
	SNR=12								
EADA					S		**Sn**	**16 25 45.8**	**+1.1**
	1.6nm,0.2s,SNR=6.8								
EQES	**Quesada**	**1.82**	**41**		P		**Pn**	**16 25 25.7**	**+1.1**
	0.3nm,0.1s								
EQES					S		**Sn**	**16 25 47.5**	**+0.5**
	8.8nm,0.6s,SNR=4.6								
EQES	**Quesada**	**1.82**	**41**		P		**Pn**	**16 25 25.7**	**+1.1**
	0.3nm,0.1s								
EQES					S		**Sn**	**16 25 47.5**	**+0.5**
	8.8nm,0.6s,SNR=4.6								
EBAN	**Banos Encina**	**1.84**	**20**		P		**Pn**	**16 25 24.7**	**-0.1**
	0.3nm,0.1s,SNR=7.9								
EBAN					S		**Sn**	**16 25 46.3**	**-1.1**
	2.5nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**2.13**	**309**	⇓	P		**Pn**	**16 25 29.1**	**+0.3**
	0.1nm,0.0s,SNR=18								
EMIN					S		**Sn**	**16 25 53.5**	**-0.9**
	3.7nm,0.3s,SNR=16								
EMIN	**Mina Concepcio**	**2.13**	**309**		P		**Pn**	**16 25 29.1**	**+0.4**
	0.1nm,0.0s,SNR=18								
EMIN					S		**Sn**	**16 25 53.5**	**-0.9**
	3.7nm,0.3s,SNR=16								
EGRO	**El Granado**	**2.57**	**296**		P		**Pn**	**16 25 35.1**	**+0.5**
	16nm,0.1s,SNR=7.9								
EGRO					S		**Sn**	**16 26 04.1**	**-0.7**
	3.8nm,0.3s,SNR=4.8								
EGRO	**El Granado**	**2.57**	**296**		P		**Pn**	**16 25 35.1**	**+0.5**
	SNR=7.9								
EGRO					S		**Sn**	**16 26 04.1**	**-0.7**
	3.8nm,0.3s,SNR=4.8								
EVIA	**Vianos**	**2.75**	**36**		P		**Pn**	**16 25 37.1**	**+0.1**
	0.2nm,0.1s,SNR=7.9								
EVIA					S		**Sn**	**16 26 07.2**	**-2.1**
	2.1nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.01**	**321**		P		**Pn**	**16 25 41.6**	**+1.0**
	0.0nm,0.0s,SNR=12								
EBAD					S		**Sn**	**16 26 15.3**	**-0.3**
	2.2nm,0.3s,SNR=11								
EBAD	**Badajoz**	**3.01**	**321**		P		**Pn**	**16 25 41.6**	**+1.0**
	SNR=12								
EBAD					S		**Sn**	**16 26 15.3**	**-0.4**
	2.2nm,0.3s,SNR=11								
PBEJ	**Beja**	**3.06**	**302**		*e*Pn		**Pn**	**16 25 41.8**	**+0.5**
PBEJ					*e*Sn		**Sn**	**16 26 15.9**	**-0.9**
PBEJ									
	8.5nm,0.1s								
PBEJ	**Beja**	**3.06**	**302**		*e*Pn		**Pn**	**16 25 41.8**	**+0.5**
PBEJ					*e*Sn		**Sn**	**16 26 15.9**	**-0.9**
	8.5nm,0.1s								
ETOB	**Tobarra**	**3.27**	**47**		P		**Pn**	**16 25 44.7**	**+0.6**
	1.2nm,0.2s,SNR=7.9								
ETOB					S		**Sn**	**16 26 21.2**	**-0.6**
	1.9nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**3.27**	**47**		P		**Pn**	**16 25 44.7**	**+0.6**
	1.2nm,0.2s,SNR=7.9								
ETOB					S		**Sn**	**16 26 21.2**	**-0.6**
	1.9nm,0.3s,SNR=7.9								
MORF	**Marmelete**	**3.38**	**286**		*e*P		**Pn**	**16 25 45.7**	**+0.2**
MORF					*e*S		**Sn**	**16 26 22.3**	**-2.1**
MORF					*e*S		**Sn**	**16 26 22.4**	**-2.1**
MORF					AML		AML	16 26 25.2	
	comp=E,8.0nm,0.1s								
MORF	**Marmelete**	**3.38**	**286**		*e*P		**Pn**	**16 25 45.7**	**+0.2**
MORF					*e*S		**Sn**	**16 26 22.4**	**-2.0**
PESTR	**Estremoz**	**3.40**	**316**		*e*Pn		**Pn**	**16 25 47.0**	**+1.1**
PESTR					*e*Sn		**Sn**	**16 26 24.3**	**-0.8**
PTEO	**Sao Teotonio**	**3.50**	**290**		*e*Pn		**Pn**	**16 25 48.2**	**+1.1**
PTEO					*e*Sn		**Sn**	**16 26 26.0**	**-1.4**
PTEO									
	comp=E,2.9nm,0.2s								
PTEO	**Sao Teotonio**	**3.50**	**290**		*e*Pn		**Pn**	**16 25 48.2**	**+1.1**
PTEO					*e*Sn		**Sn**	**16 26 26.0**	**-1.4**
	comp=E,2.9nm,0.2s								
MOE	**Montemor**	**3.65**	**306**		*e*Sn		**Sn**	**16 26 30.2**	**-0.9**
PLOU	**Loures**	**4.37**	**305**		*e*Pn		**Pn**	**16 26 00.3**	**+1.2**
PLOU					*e*Sn		**Sn**	**16 26 48.0**	**-0.7**
ETOR	**Torete**	**4.80**	**24**		P		**Pn**	**16 26 05.8**	**+0.9**
	comp=E,7.6nm,0.1s,SNR=7.9								
ETOR					S		**Sn**	**16 26 57.2**	**-2.1**
	comp=E,7.1nm,0.1s,SNR=7.9								
PVRL	**Vila Real**	**5.42**	**334**		*e*Sn		**Sn**	**16 27 13.5**	**-0.7**

MAN 29 16:36:11.3, 1545N×12167E, h11km, mb1.8, ML3.6, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.30**	**343**		*e*P		Pg	16 36 17.8	+0.4
PCPH	**Palayan**	**0.56**	**281**	⇓	*e*P		Pg	16 36 24.1	+1.9
PCPH					*i* S		Sg	16 36 34.5	+4.9
POLP	**Polilio Island**	**0.77**	**160**		*e*P		Pg	16 36 25.7	-0.5
CAUP	**Cauayan**	**1.49**	**6**		*e*P		Pn	16 36 37.0	-1.1
PALP	**Palanan**	**1.76**	**24**		*e*P		Sn	16 37 04.8	+0.7
BOAC	**Boac**	**1.99**	**175**		*e*P		Pn	16 36 38.4	-6.5

GUC 29 16:40:38.6±0.6, 2835S×7028W, h91km±6km, ML4.1, 3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.48**	**242**	⇑	*i*P		Pn	16 40 58.3	+5.0
VACH					*i* S		Sn	16 41 09.7	+5.5
VACH					AML		AML	16 41 11.3	
	comp=N,13μm,0.1s								
CPCH	**Copiapo**	**0.99**	**356**	⇑	*i*P		Pn	16 40 58.4	+0.1
CPCH					*i* S		Sn	16 41 13.7	+0.7
CPCH					AML		AML	16 41 16.9	
	comp=E,7μm,0.1s								
CDCH	**Caldera**	**1.36**	**339**	⇑	*i*P		Pn	16 41 03.2	+0.5
CDCH					*i* S		Sn	16 41 21.0	+0.2
LSCH	**La Serena**	**1.77**	**208**		*i* S		Sn	16 41 30.6	+0.5
TLL	**Tololo Astrono**	**1.87**	**194**		*e*P		Pn	16 41 10.1	+1.0
TLL					*i* S		Sn	16 41 34.0	+1.6

*IDC **29** 16:51:39.1±0.9, 1655S×17241W, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.2/17, mbtmp4.2/8, ML1.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/30, Error ellipse: s-maj=34.1km s-min=18.4km az=123.0*

*ISCJB **29** 16:51:41.2±0.7, 1638S±007×1724W±0.1, h33km, mb4.2/10, MS3.5/2, Error ellipse: s-maj=21.1km s-min=8.0km az=41.5*

*NEIC **29** 16:51:44.5±0.4, 1661S×1724W, h35km, mb4.3/4, Error ellipse: s-maj=15.3km s-min=11.2km az=121.0*

ISC 29 16:51:42.7±0.8, 1640S±007×1722W±02, h35km, n30, σ0 977/18, mb4.3/10, MS3.5/2, 2C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.51**	**9**		Pn		**Pn**	**16 52 21.9**	**+0.9**
	13nm,0.3s,baz=86,slow=15,SNR=5.6								
AFI					Sn		**Sn**	**16 52 49.9**	**-0.5**
	40nm,0.3s,baz=96,slow=20,SNR=9.8								
AFI	**Afiamalu**	**2.51**	**9**		*e*Pn		**Pn**	**16 52 19.5**	**-1.5**
AFI					Sn		**Sn**	**16 52 49.9**	**-0.5**
RAR	**Rarotonga**	**12.69**	**114**		LR		LR	16 57 59.8	
	comp=Z,214nm,21.3s,baz=295,slow=30								
DZM	**Mont Dzumac**	**20.93**	**251**		LR		LR	17 02 54.0	
	comp=Z,136nm,21.3s,MS3.3,baz=68,slow=33								
PPT	**Papeete**	**21.66**	**96**		*e*LR		LR	17 01 12.0	
	190nm,27.8s								
TBI	**Tubuai**	**22.45**	**112**		*e*LR		LR	17 01 40.5	
	236nm,30.0s,baz=297								
URZ	**Urewera**	**23.72**	**201**		P		**P**	**16 56 50.9**	**-0.6**
	3.5nm,0.5s,mb4.0,baz=8.1,slow=7.1,SNR=4.9								
HNR	**Honiara**	**28.00**	**281**		LR		LR	17 06 54.7	
	comp=Z,217nm,21.9s,MS3.7,baz=179,slow=33								
RKT	**Rikitea**	**35.59**	**107**		*e*LR		LR	17 07 45.7	
	114nm,27.8s								
STKA	**Stephens Creek**	**44.56**	**241**		*e*P		**P**	**16 59 51.1**	**0.0**
	5.0nm,1.0s,mb4.3								
STKA	**Stephens Creek**	**44.56**	**241**		P		**P**	**16 59 51.1**	**+0.1**
	1.6nm,0.4s,mb4.2,baz=86,slow=5.5,SNR=7.6								
WB2	**Warramunga Arr**	**50.74**	**257**		*e*P		**P**	**17 00 38.7**	**-0.4**
WRAB	**Tennant Creek**	**50.74**	**257**		*e*P		**P**	**17 00 38.9**	**-0.2**
	6.7nm,0.9s,mb4.6								
WRA	**Warramunga Arr**	**50.75**	**257**		P		**P**	**17 00 38.9**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=95,slow=7.2,SNR=37								
AS31	**Alice Springs**	**50.91**	**253**	⇑	*i*P		**P**	**17 00 40.5**	**+0.1**
ASAR	**Alice Springs**	**50.91**	**253**		P		**P**	**17 00 40.4**	**0.0**
	17nm,0.6s,mb5.2,baz=87,slow=8.6,SNR=340								
ASPA	**Alice Springs**	**50.92**	**253**	⇑	*i*P		**P**	**17 00 40.5**	**+0.1**
SBA	**Scott Base**	**62.35**	**185**		*e*P		**P**	**17 02 02.6**	**+0.9**
	2.6nm,0.9s,mb4.4								
VNDA	**Vanda**	**62.51**	**186**		P		**P**	**17 02 02.4**	**-0.3**
	1.0nm,1.0s,mb3.9,baz=359,slow=4.3,SNR=6.2								
MJAR	**Matsushiro Arr**	**70.45**	**319**		P		**P**	**17 02 55.1**	**+1.6**
	1.2nm,0.7s,mb3.9,baz=160,slow=5.0,SNR=4.0								
QSPA	**South Pole Qui**	**73.65**	**180**		*e*P		**P**	**17 03 11.9**	**-0.7**
	2.4nm,0.7s,mb4.2								
NVAR	**Mina Array Bea**	**74.30**	**41**		P		**P**	**17 03 20.1**	**+3.6**
	2.0nm,0.8s,mb4.1,baz=230,slow=11,SNR=16								
ARCES	**ARCESS Array B**	**125.75**	**352**		PKP		PKPdf	17 10 42.4	+1.8
	2.5nm,0.9s,baz=57,slow=3.3,SNR=4.1								
CLL	**Collm**	**144.93**	**354**		*i* PKPdf		PKPdf	17 11 17.7	+1.7
MALT	**Malatya**	**145.39**	**315**		*e*PKPdf		PKPdf	17 11 20.2	+3.4
MORC	**Moravsky Berou**	**145.79**	**349**		*e*PKPdf		PKPdf	17 11 18.9	+1.4
GRA1	**Grafenberg Arr**	**146.68**	**356**		*e*PKP		PKPdf	17 11 22.7	+3.7
VYHS	**Vyhne**	**146.74**	**347**		*e*PKP		PKPdf	17 11 24.3	+5.2
GERES	**GERESS Array B**	**147.29**	**353**		PKPbc		PKPbc	17 11 25.1	+2.7
	1.1nm,0.8s,baz=3.8,slow=2.0,SNR=9.8								
BRTR	**Keskin Array B**	**147.66**	**321**		PKPbc		PKPbc	17 11 26.8	+3.4
	1.5nm,0.8s,baz=147,slow=2.9,SNR=9.8								

*MOS **29** 17:28:51.6±1.2, 5213N×10632E, h17km, mb4.2/1, Error ellipse: s-maj=15.8km s-min=10.3km az=57.7*

BYKL 29 17:28:52.7±0.2, 5211N×10638E, h22km±3km, 11C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAB	**Kabansk**	**0.18**	**109**	⇑	*i*Pg		Pb	17 28 57.6	-0.2
KAB					*e*Sg		Sb	17 29 01.3	+0.1
KAB					Pmax				
	1μm,0.1s								
KAB					Smax				
	56μm,0.6s								
KAB	**Kabansk**	**0.18**	**109**		*e*PG		Pb	17 28 57.6	-0.2
KAB					*e*			17 29 01.4	
KAB					pmax		pmax		
	comp=Z,2μm,0.1s								
KAB					smax				
	comp=N,61μm,0.6s								
BTMB	**Babushkin**	**0.53**	**220**	⇓	*i*Pg		Pb	17 29 02.6	-0.8
BTMB					*e*Sg		Sb	17 29 10.2	-0.4
BTMB					Pmax				
	comp=N,115nm,0.5s								
BTMB					Smax				
	comp=N,2μm,0.8s								
HRMR	**Khuramsha**	**0.60**	**143**	⇓	*i*Pg		Pb	17 29 04.0	-0.5
	comp=N,2μm,0.5s								
HRMR				⇑	*i*Pg		Pb	17 29 04.0	-0.5
	comp=N,750nm,0.5s								
HRMR				⇑	*i*Pg		Pb	17 29 04.0	-0.5
	comp=N,3μm,0.5s								
HRMR					*e*Sg		Sb	17 29 12.2	-0.3
HRMR					Pmax				
	comp=N,700nm,0.1s								
HRMR					Smax				
	comp=N,12μm,0.5s								
ZRHB	**Zarechye**	**0.65**	**47**	⇑	*i*Pg		Pb	17 29 05.1	-0.3
ZRHB					*e*Pb		Pb	17 29 06.9	+1.5
ZRHB					*e*Sg		Sb	17 29 14.4	+0.4
ZRHB					*e*Sb		Sb	17 29 16.5	+2.5
ZRHB					max				
	comp=N,162nm,0.1s								
ZRHB					max				
	comp=N,4μm,0.6s								
TRG	**Tyrgan**	**0.65**	**358**	⇑	*i*Pg		Pb	17 29 05.0	-0.4
TRG					*e*Pb		Pb	17 29 06.6	+1.2
TRG					*e*Sg		Sb	17 29 14.3	+0.3
TRG					Pmax				
	comp=N,110nm,0.1s								
TRG					Smax				
	comp=N,2μm,0.3s								
TRG	**Tyrgan**	**0.65**	**358**		*e*PG		Pb	17 29 05.0	-0.4
TRG					*e*			17 29 14.3	
TRG					pmax		pmax		
	comp=Z,112nm,0.1s								
TRG					smax				
	comp=N,2μm,0.2s								
TRTB	**Turuntaevo**	**0.78**	**81**	⇑	*i*Pg		Pb	17 29 07.2	-0.4
TRTB					*e*Sg		Sb	17 29 17.7	0.0
TRTB					Pmax				
	comp=N,207nm,0.1s								
TRTB					Smax				
	comp=N,3μm,0.4s								
LSTR	**Listvyanka**	**0.99**	**256**	⇓	*i*Pg		Pb	17 29 10.9	-0.2
	comp=N,81nm,0.6s								
LSTR				⇓	*i*Pg		Pb	17 29 10.9	-0.2
	comp=N,162nm,0.6s								
LSTR				⇑	*i*Pg		Pb	17 29 10.9	-0.2
	comp=N,140nm,0.6s								
LSTR					*i* Pg		Pb	17 29 11.5	+0.4
LSTR					*e*Sg		Sb	17 29 24.1	+0.4
LSTR					max				
	comp=N,226nm,0.6s								
LSTR					Smax				
	comp=N,1μm,1.0s								
LSTR	**Listvyanka**	**0.99**	**256**		*e*PG		Pb	17 29 10.9	-0.2
LSTR					*e*			17 29 24.0	
LSTR					pmax		pmax		
	comp=Z,212nm,0.4s								
LSTR					smax				
	comp=N,404nm,0.4s								
KELR	**Kotokel**	**1.23**	**57**		*e*Pg		Pn	17 29 14.6	+0.1
KELR					*e*Pb		Pb	17 29 15.5	+0.3
KELR					*e*Sg		Sn	17 29 31.0	+0.6
KELR					max				
	comp=N,248nm,0.1s								
KELR					Smax				
	comp=N,2μm,0.2s								
IRK	**Irkutsk**	**1.30**	**277**	⇑	*i*Pg		Pn	17 29 16.6	+1.0
IRK					*e*Sg		Sn	17 29 33.7	+1.4
IRK					Pmax				
	comp=N,919nm,0.6s								
IRK					Smax				
	comp=N,3μm,0.7s								
IRK	**Irkutsk**	**1.30**	**277**		*e*PG		Pn	17 29 15.6	0.0
IRK					*e*			17 29 31.4	
IRK					pmax		pmax		
	comp=Z,761nm,0.5s								
IRK					smax				
	comp=N,3μm,0.5s								
OGRR	**Ongureny**	**1.70**	**25**	⇓	*i*Pg		Pn	17 29 21.7	+0.6
OGRR					*e*Sg		Sn	17 29 43.7	+1.5
OGRR					Pmax				
	comp=N,26nm,0.3s								
OGRR					Smax				
	comp=N,333nm,0.5s								
OGRR	**Ongureny**	**1.70**	**25**		*e*PN		Pn	17 29 21.4	+0.3
OGRR					*e*			17 29 43.6	
OGRR					pmax		pmax		
	comp=Z,16nm,0.5s								
OGRR					smax				
	comp=E,334nm,0.5s								
TLY	**Talaya**	**1.75**	**257**		*e*Pg		Pn	17 29 23.6	+1.9
TLY					*e*Sg		Sn	17 29 46.5	+3.2
TLY					Pmax				
	comp=E,15nm,0.2s								
TLY					Smax				
	comp=E,94nm,0.3s								
TLY	**Talaya**	**1.75**	**257**		*e*PN		Pn	17 29 22.5	+0.8
TLY					*e*			17 29 44.7	
TLY					pmax		pmax		
	comp=Z,20nm,0.2s								
TLY					smax				
	comp=E,276nm,0.6s								
MXMB	**Maximikha**	**1.85**	**50**		*e*Pn		Pn	17 29 25.4	+2.4
MXMB					*e*Pg		Pn	17 29 26.7	+3.7
MXMB					*e*			17 29 33.4	
MXMB					*e*Sn		Sn	17 29 47.1	+1.4
MXMB					*e*Sg		Sn	17 29 51.6	+5.9
MXMB					Pmax				
	comp=E,115nm,0.6s								
MXMB					Smax				
	comp=E,1μm,0.5s								
ARS	**Arshan**	**2.45**	**267**	⇓	*i*Pg		Pn	17 29 35.9	+4.5
ARS					*e*			17 29 37.9	
ARS					*e*Sg		Sn	17 30 06.9	+6.2
ARS					max				
	comp=E,122nm,0.8s								
ARS					Smax				
	comp=E,591nm,0.8s								
ARS	**Arshan**	**2.45**	**267**		*e*PN		Pn	17 29 35.8	+4.4
ARS					*e*			17 30 06.8	
ARS					pmax		pmax		
	comp=Z,117nm,0.3s								
ARS					smax				
	comp=E,421nm,0.4s								
ZAK	**Zakamensk**	**2.60**	**230**		*e*Pn		Pn	17 29 35.2	+1.7
ZAK					*e*Pg		Pn	17 29 39.7	+6.2
ZAK					*e*Sg		Sn	17 30 13.6	+9.2
ZAK					Pmax				
	comp=E,15nm,0.6s								
ZAK					Smax				
	comp=E,205nm,1.7s								
SYVR	**Suvo**	**2.69**	**53**	⇓	*i*Pn		Pn	17 29 34.9	+0.3
SYVR					*e*Pg		Pn	17 29 40.0	+5.4
SYVR					*e*Sn		Sn	17 30 04.8	-1.6
SYVR					*e*Sg		Sn	17 30 16.1	+10
SYVR					Pmax				
	comp=E,34nm,0.6s								
SYVR					Smax				
	comp=E,186nm,0.8s								
SYVR	**Suvo**	**2.69**	**53**		*e*PN		Pn	17 29 35.3	+0.7
SYVR					*e*			17 29 39.9	
SYVR					*e*			17 30 15.8	
SYVR					pmax		pmax		
	comp=Z,28nm,0.3s								
SYVR					smax				
	comp=N,166nm,0.4s								
MOY	**Mondy**	**3.37**	**265**		*e*Pn		Pn	17 29 46.9	+3.0
MOY					*e*Pg		Pn	17 29 53.8	+10
MOY					*e*Sg		Sn	17 30 36.4	+13
MOY					Pmax				
	comp=N,39nm,0.9s								
MOY					Smax				
	comp=N,159nm,0.8s								
YLYR	**Ulyunkhan**	**3.98**	**44**	⇓	*i*Pn		Pn	17 29 52.9	+0.5
YLYR					*e*Pg		Pn	17 30 05.2	+13
YLYR					*e*Sg		Sn	17 30 56.8	+18
YLYR					Pmax				
	comp=N,9.0nm,0.7s								
YLYR					Smax				
	comp=N,70nm,1.8s								
YLYR	**Ulyunkhan**	**3.98**	**44**		*e*PN		Pn	17 29 53.0	+0.6
YLYR					*e*			17 30 02.9	
YLYR					*e*			17 30 53.5	
YLYR					pmax		pmax		
	comp=Z,7.0nm,0.3s								
YLYR					smax				
	comp=N,69nm,0.9s								
ORL	**Orlik**	**4.05**	**279**		*e*Pn		Pn	17 29 55.4	+2.0
ORL					*e*Pg		Pn	17 30 05.6	+12
ORL					*e*			17 30 43.0	
ORL					*e*Sg		Sn	17 30 58.3	+18
ORL					Pmax				
	comp=N,26nm,1.0s								
ORL					Smax				
	comp=N,209nm,0.9s								
ORL	**Orlik**	**4.05**	**279**		*e*PN		Pn	17 30 03.0	+10
ORL					*e*			17 30 57.9	
ORL					pmax		pmax		
	comp=Z,26nm,0.8s								
ORL					smax				
	comp=N,205nm,0.9s								
NIZ	**Nizh Angarsk**	**4.12**	**26**	⇑	*i*Pn		Pn	17 29 54.9	+0.6
NIZ					*e*Pg		Pn	17 30 06.1	+12
NIZ					*e*Sn		Sn	17 30 42.9	+1.1
NIZ					*e*Sg		Sn	17 30 59.5	+18
NIZ					Pmax				
	comp=N,11nm,0.9s								
NIZ					Smax				
	comp=N,119nm,1.5s								
NIZ	**Nizh Angarsk**	**4.12**	**26**		*e*PN		Pn	17 29 54.8	+0.5
NIZ					*e*			17 30 05.2	
NIZ					*e*S		Sn	17 30 42.9	+1.1
NIZ					*e*			17 30 59.5	
NIZ					pmax		pmax		
	comp=Z,10.0nm,0.4s								
NIZ					smax				
	comp=N,114nm,1.0s								
CIT	**Chita**	**4.43**	**88**		*e*Pn		Pn	17 29 58.4	-0.1
CIT					*e*Pg		Pn	17 30 10.9	+12
CIT					*e*Sg		Sn	17 31 08.9	+20
CIT					Pmax				
	comp=N,33nm,1.3s								
CIT					Smax				
	comp=N,275nm,1.1s								
CIT	**Chita**	**4.43**	**88**		*e*PN		Pn	17 30 13.9	+15
CIT					*e*			17 31 11.3	
CIT					pmax		pmax		
	comp=Z,33nm,0.9s								
CIT					smax				
	comp=N,271nm,1.3s								
KPC	**Khapcheranga**	**4.50**	**120**	⇑	*i*Pn		Pn	17 29 59.0	-0.5
KPC					*e*Pg		Pn	17 30 13.1	+14
KPC					*e*			17 30 19.9	
KPC					*e*Sg		Sn	17 31 12.1	+21
KPC					max				
	comp=N,29nm,0.9s								
KPC					Smax				
	comp=N,111nm,1.7s								
KPC	**Khapcheranga**	**4.50**	**120**		*e*PN		Pn	17 30 13.2	+14
KPC					*e*			17 31 13.6	
KPC					pmax		pmax		
	comp=Z,29nm,0.6s								
KPC					smax				
	comp=N,116nm,1.6s								
KMO	**Kumora**	**4.73**	**35**		*e*Pn		Pn	17 30 03.5	+0.8
KMO					*e*Pg		Pn	17 30 16.5	+14
KMO					*e*Sg		Sn	17 31 19.4	+22
KMO					Pmax				
	comp=N,9.0nm,0.6s								
KMO					Smax				
	comp=N,90nm,1.3s								
KMO	**Kumora**	**4.73**	**35**		*e*PN		Pn	17 30 05.4	+2.7
KMO					*e*			17 30 19.0	
UKT	**Uakit**	**5.47**	**49**	⇑	*i*Pn		Pn	17 30 13.6	+0.8
UKT					*e*			17 30 21.8	
UKT					*e*Pg		Pn	17 30 32.3	+19
UKT					*e*Sg		Sn	17 31 43.3	+28
UKT					Pmax				
	comp=N,5.0nm,1.2s								
UKT					Smax				
	comp=N,47nm,1.0s								
UKT	**Uakit**	**5.47**	**49**		*e*PN		Pn	17 30 30.9	+18
UKT					*e*			17 31 42.7	
UKT					pmax		pmax		
	comp=Z,4.0nm,0.7s								
UKT					smax				
	comp=N,48nm,0.9s								
TDJR	**Todzha**	**6.32**	**277**		*e*Pg		Pn	17 30 46.8	+22
TDJR					*e*Sg		Sn	17 32 09.4

ISC 29 18:01:36.1±1.2, 1020N±004×12159E±004, h13km±9km, n22, σ0ᵍ97/25, mb4.0/3, 2C-2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUYO	**Cuyo Island**	**0.86**	**319**	*eP*	**Pg**	**18 01 52.8**	**+0.1**
CUYO				*eS*	**Sg**	**18 02 04.3**	**+0.3**
GUIM	**Jordan**	**1.07**	**66**	*eP*	**Pb**	**18 01 55.3**	**-1.1**
KALP	**Kalibo**	**1.64**	**26**⇓	*eP*	**Pn**	**18 02 06.5**	**+1.8**
KALP				*eS*	**Sn**	**18 02 26.5**	**+0.8**
RCP	**Roxas**	**1.77**	**40**⇑	*eP*	**Pn**	**18 02 06.7**	**+0.4**
SNPH	**Sibulan**	**1.83**	**118**	*eP*	**Pn**	**18 02 08.0**	**+0.8**
SNPH				*eS*	**Sn**	**18 02 32.0**	**+1.7**
OTRP	**Odiongan**	**2.19**	**11**	*eP*	**Pn**	**18 02 11.7**	**-0.6**
BUSP	**Coron**	**2.25**	**323**	*eP*	**Pn**	**18 02 12.5**	**-0.6**
LLP	**Lapu-Lapu**	**2.34**	**87**⇓	*eP*	**Pn**	**18 02 13.7**	**-0.5**
LLP				*eS*	**Sn**	**18 02 39.4**	**-3.4**
ENPP	**El Nido**	**2.35**	**295**	*eP*	**Pn**	**18 02 14.0**	**-0.4**
IPIL	**Ipil**	**2.58**	**158**	*eP*	**Pn**	**18 02 16.6**	**-1.0**
PPR	**Puerto Princes**	**2.85**	**262**⇑	*eP*	**Pn**	**18 02 21.9**	**+0.6**
PPR				*eS*	**Sn**	**18 02 55.8**	**+0.4**
PAGZ	**Pagadian**	**2.93**	**143**	*eP*	**Pn**	**18 02 22.5**	**+0.1**
MSLP	**Maasin**	**3.22**	**91**	*eP*	**Pn**	**18 02 26.8**	**+0.5**
BOAC	**Boac**	**3.25**	**4**	*eP*	**Pn**	**18 02 25.9**	**-0.9**
LUBP	**Lubang**	**3.75**	**340**	*eP*	**Pn**	**18 02 33.0**	**-0.7**
BATP	**Bataraza**	**3.99**	**250**	*eP*	**Pn**	**18 02 38.1**	**+1.2**
BUKP	**Musuan**	**4.13**	**124**	*eP*	**Pn**	**18 02 40.2**	**+1.4**
WRA	**Warramunga Arr** 1.6nm,0.7s,mb3.9,baz=332,slow=11,SNR=15	**32.47**	**157**	P	**P**	**18 08 05.0**	**-1.2**
ASAR	**Alice Springs** 0.8nm,0.6s,mb3.8,baz=344,slow=7.3,SNR=19	**35.74**	**160**	P	**P**	**18 08 32.8**	**-1.8**
SONM	**Songino Array** 0.3nm,0.6s,baz=167,slow=7.8,SNR=3.2	**39.64**	**344**	P	pP	18 09 16.3	+4.8
STKA	**Stephens Creek** 2.3nm,0.9s,mb4.1,baz=355,slow=7.1,SNR=4.6	**46.01**	**156**	P	**P**	**18 09 59.0**	**-0.2**
MKAR	**Makanchi Array** 0.7nm,1.0s,baz=140,slow=7.7,SNR=4.2	**49.37**	**325**	P	pP	18 10 31.3	+2.1

*IDC **29** 18:02:32.5±1.0, 831N×8308W, h0km, mb4.0/5, mb1 4.3/11, mb1mx4.0/26, mbtmp4.2/11, ML3.9/4, MS3.5/5, Ms1 3.5/5, ms1mx3.2/29, Error ellipse: s-maj=27.4km s-min=15.9km az=43.0*

*ISCJB **29** 18:02:33.1±1.0, 844N±005×8292W±003, h15km±6km, mb4.1/7, MS3.4/2, Error ellipse: s-maj=9.8km s-min=4.3km az=43.2*

*NEIC **29** 18:02:33.2, 851N×8289W, h14km, mb4.4/3, MD4.2(HDC), MD4.4(CASC), After CASC.*

NEIC Felt at Aserri and Neily, Costa Rica.

*CASC **29** 18:02:34.5±2.8, 854N×8288W, h14km, MD4.8, mb4.4(NEIC)*

ISC 29 18:02:34.4±0.7, 856N±005×8289W±003, h14km±4km, n60, σ1ᵍ32/64, mb4.1/7, MS3.4/2, 15C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.29**	**288**	*eP*	**Pg**	**18 02 40.9**	**+0.3**
ACR				*eS*	**Sg**	**18 02 46.1**	**+1.3**
CTCR	**Cotoan**	**0.35**	**20**⇓	*iP*	**Pg**	**18 02 41.9**	**+0.3**
BRU	**Baru**	**0.40**	**53**⇑	*eP*	**Pg**	**18 02 42.6**	**0.0**
BRU	**Baru**	**0.40**	**53**⇑	*eP*	**Pg**	**18 02 42.7**	**+0.1**
DVD	**David**	**0.45**	**106**⇑	*iP*	**Pg**	**18 02 42.3**	**-1.1**
DVD	**David**	**0.45**	**106**	*eP*	**Pg**	**18 02 41.7**	**-1.6**
CNI	**Changuinola**	**0.92**	**23**⇓	*iP*	**Pb**	**18 02 51.1**	**-1.1**
CNI	**Changuinola**	**0.92**	**23**⇓	*iP*	**Pb**	**18 02 51.1**	**-1.1**
BUS	**Buena Vista**	**1.31**	**319**⇑	*iP*	**Pn**	**18 02 57.0**	**-1.3**
QCR	**Quepos**	**1.53**	**304**⇓	*eP*	**Pn**	**18 02 59.5**	**-1.7**
LCR2	**La Lucha 2**	**1.61**	**317**⇑	*eP*	**Pn**	**18 03 01.1**	**-1.3**
VTU	**Volcan Turrial**	**1.69**	**329**⇑	*iP*	**Pn**	**18 03 03.8**	**+0.3**
OCM	**Ochomogo**	**1.70**	**321**⇑	*iP*	**Pn**	**18 03 02.6**	**-0.9**
IRZ2	**Volcan Irazu 2**	**1.72**	**325**⇑	*eP*	**Pn**	**18 03 03.6**	**-0.3**
LAJ	**Bijagual**	**1.78**	**317**	*eP*	**Pn**	**18 03 08.1**	**+3.4**
LAJ	**Bijagual**	**1.78**	**317**	*eP*	**Pn**	**18 03 08.2**	**+3.5**
SJS	**Escuela Geolog**	**1.79**	**320**⇑	*eP*	**Pn**	**18 03 04.9**	**+0.1**
PRS1	**Puriscal**	**1.99**	**315**⇓	*eP*	**Pn**	**18 03 06.5**	**-1.2**
POA2	**Poas 2**	**2.10**	**320**⇑	*eP*	**Pn**	**18 03 08.7**	**-0.3**
VPS2	**Volcan Poas 2**	**2.10**	**321**	*eP*	**Pn**	**18 03 06.4**	**-2.6**
CGA2	**Cerro Gallo 2**	**2.13**	**313**	*eP*	**Pn**	**18 03 09.3**	**-0.2**
EPA	**Esparza**	**2.21**	**310**	*eP*	**Pn**	**18 03 10.7**	**+0.1**
CAO	**Cobano**	**2.47**	**297**⇓	*eP*	**Pn**	**18 03 13.7**	**-0.4**
JCR	**Jicaral**	**2.54**	**300**⇑	*eP*	**Pn**	**18 03 17.0**	**+1.8**
JCR	**Jicaral**	**2.54**	**300**⇑	*eP*	**Pn**	**18 03 14.0**	**-1.2**
VACR	**Volcan Arenal**	**2.59**	**317**	*eP*	**Pn**	**18 03 18.4**	**+2.5**
JTS	**JuntasAbangare** 23nm,0.3s,baz=89,slow=19,SNR=53	**2.67**	**310**	Pn	**Pn**	**18 03 16.3**	**-0.6**
JTS	45nm,0.3s,baz=332,slow=21,SNR=4.4			Sn	**Sn**	**18 03 51.7**	**+2.7**
AZU	**Azuero**	**2.69**	**106**	*eP*	**Pn**	**18 03 16.5**	**-0.8**
AZU	**Azuero**	**2.69**	**106**	*eP*	**Pn**	**18 03 15.9**	**-1.4**
PINA	**Piqa, Costa Ab**	**2.87**	**76**	*eP*	**Pn**	**18 03 20.1**	**+0.4**
ACJ	**Altos**	**2.92**	**88**	*eP*	**Pn**	**18 03 20.4**	**0.0**
ACH				*eS*	**Sn**	**18 03 58.0**	**+2.6**
ACH	**Altos**	**2.92**	**88**	*eP*	**Pn**	**18 03 20.4**	**0.0**
ACH				*eS*	**Sn**	**18 03 55.4**	**+0.1**
ZANG	**Zanguenga, Cho**	**3.01**	**82**⇑	*eP*	**Pn**	**18 03 20.5**	**-1.1**
VCR	**Vista de Mar**	**3.12**	**300**	*eP*	**Pn**	**18 03 24.5**	**+1.3**
VCR	**Vista de Mar**	**3.12**	**300**	*eP*	**Pn**	**18 03 24.5**	**+1.3**
ACLA	**Agua Clara, Si**	**3.24**	**76**⇑	*eP*	**Pn**	**18 03 24.0**	**-0.8**
UPA	**Univ. de Panam**	**3.34**	**83**	*eP*	**Pn**	**18 03 26.8**	**+0.6**
UPA				*eS*	**Sn**	**18 04 08.4**	**+2.9**
UPA	**Univ. de Panam**	**3.34**	**83**	*eP*	**Pn**	**18 03 32.4**	**+6.2**
UPA				*eS*	**Sn**	**18 04 13.5**	**+7.9**
CRZC	**La Cruz**	**3.58**	**312**	*eP*	**Pn**	**18 03 32.6**	**+3.2**
CRZC	**La Cruz**	**3.58**	**312**⇑	*eP*	**Pn**	**18 03 32.6**	**+3.2**
TGUH	**Tegucigalpa,Un**	**6.95**	**322**	P	**Pn**	**18 04 11.4**	**-4.4**
TGUH				S		18 06 10.9	
ROSC	**El Rosal** 1.3nm,0.3s,baz=110,slow=22,SNR=3.3	**9.26**	**113**	Pn	**Pn**	**18 04 49.7**	**+2.2**
SDV	**Santo Domingo** 0.7nm,0.3s,baz=282,slow=9.3,SNR=9.7	**12.12**	**88**	Pn	**Pn**	**18 05 30.1**	**+3.5**
SDV	0.6nm,0.3s,baz=72,slow=21,SNR=3.0			Sn	**Sn**	**18 07 51.7**	**+10**
CMIG	**Matias Romero** 0.4nm,0.3s,baz=136,slow=8.6,SNR=4.2	**14.44**	**307**	Pn	**Pn**	**18 05 58.5**	**+0.2**
CMIG	comp=Z,177nm,21.2s,baz=190,slow=39			LR	LR	18 11 55.2	
ATAH	**Atahualpa** baz=45,slow=16,SNR=3.2	**16.09**	**164**	Pn	**Pn**	**18 06 23.2**	**+3.0**
ATAH	comp=Z,146nm,21.0s,baz=160,slow=35			LR	LR	18 11 47.4	
PCRV	**Puerto La Cruz** 0.5nm,0.3s,baz=214,slow=6.3,SNR=3.5	**18.08**	**83**	P	**Pn**	**18 06 49.7**	**+4.7**
SJG	**San Juan** 2.9nm,0.3s,baz=333,slow=17,SNR=3.2	**18.83**	**58**	P	**Pn**	**18 06 56.4**	**+2.1**
SJG	comp=Z,161nm,18.3s,baz=180,slow=35			LR	LR	18 13 43.9	
NNA	**Nana** 17nm,0.9s,mb4.4,baz=345,slow=8.6,SNR=4.5	**21.28**	**164**	P	**P**	**18 07 19.3**	**-1.0**
SAML	**Samuel** 9.3nm,0.9s,mb4.3	**26.23**	**131**	*eP*	**P**	**18 08 05.6**	**-3.2**
TKL	**Tuckaleechee C** comp=Z,88nm,20.4s,MS3.3,baz=181,slow=35	**26.98**	**358**	LR	LR	18 18 15.9	
MIAR	**Mount Ida**	**27.66**	**341**	*eP*	**P**	**18 08 21.4**	**-0.3**
LPAZ	**La Paz** 0.4nm,0.3s,mb3.6,baz=345,slow=12,SNR=4.6	**28.69**	**149**	P	**P**	**18 08 31.4**	**+0.6**
LPAZ	comp=Z,139nm,21.7s,MS3.5,baz=232,slow=37			LR	LR	18 20 06.7	
LPAZ	**La Paz**	**28.69**	**149**	P	**P**	**18 08 31.4**	**+0.6**
LPAZ				LR	LR	18 20 06.7	
BDFB	**Brasilia** 1.2nm,0.3s,mb4.0,baz=315,slow=2.9,SNR=3.0	**42.09**	**125**	P	**P**	**18 10 25.3**	**-0.5**
NVAR	**Mina Array Bea** 0.7nm,0.7s,mb3.5,baz=160,slow=6.9,SNR=6.0	**43.57**	**319**	P	**P**	**18 10 39.6**	**+1.8**
BOZ	**Bozeman (W)** 6.9nm,1.3s,mb4.2	**44.47**	**331**	*eP*	**P**	**18 10 43.8**	**-1.2**
PLCA	**Paso Flores** 3.0nm,0.8s,mb4.4,baz=319,slow=5.4,SNR=8.9	**50.35**	**168**	P	**P**	**18 11 29.7**	**-1.1**
PLCA	**Paso Flores** 6.1nm,1.0s,mb4.6	**50.35**	**168**	*eP*	**P**	**18 11 29.5**	**-1.3**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=115,slow=3.8,SNR=5.1	**141.74**	**242**	PKhKP		18 22 00.3	
ASAR	0.3nm,0.6s,baz=113,slow=3.1,SNR=6.5			PKP	PKPdf	18 22 06.4	+1.0
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=106,slow=2.6,SNR=3.0	**142.28**	**248**	PKhKP		18 22 02.8	
WRA	0.6nm,0.7s,baz=96,slow=2.6,SNR=11			PKP	PKPdf	18 22 08.8	+2.4

IDC 29 18:21:10.4±9.0, 105N×12410E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/16, mbtmp4.0/3, MS4.5/1, Ms1 4.4/1,

ms1mx3.1/24, Error ellipse: s-maj=181.6km s-min=138.8km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 3.0nm,0.6s,baz=333,slow=11,SNR=43	**23.16**	**155**	P	P	18 26 18.8	+0.4
WB2	**Warramunga Arr**	**23.16**	**155**	*eP*	P	18 26 18.8	+0.4
ASAR	**Alice Springs** 1.5nm,0.5s,baz=343,slow=7.4,SNR=44	**26.36**	**159**	P	P	18 26 48.9	+0.8
STKA	**Stephens Creek** 1.0nm,0.5s,baz=342,slow=6.4,SNR=3.9	**36.71**	**155**	P	P	18 28 18.6	-0.5

*SZGRF **29** 18:23:02.3, 1022N×6177W, h52km, mb5.2, Trinidad*

*ISCJB **29** 18:23:03.7±0.1, 1078N±002×6176W±002, h51km, mb5.2/198, MS4.8/167, Error ellipse: s-maj=2.5km s-min=2.4km az=93.2*

*FUNV **29** 18:23:03.4, 1078N×6132W, h26km, MW5.5*

*BGS **29** 18:23:03.1±1.6, 1081N×6176W, h33km, mb5.0*

*LDG **29** 18:23:04.1, 1083N×6182W, h55km*

*GCMT **29** 18:23:05.9±0.1, 1072N×6141W, h32km, MW5.5/97, Moment Tensor Solution. s85,c155; s97,c192; Duration: 1ᵍ4 Moment tensor: Scale 10¹⁷Nm; Mrr-0.61±.04; Mθθ 1.28±.03; Mϕϕ-0.67±.04; Mrθ 1.43±.06; Mθϕ 1.94±.03; Mϕr 0.32±.07; Best double couple: M₀2.54900×10¹⁷ NP1:ϕs11.00000°, δ57.00000°, λ-178.00000° NP2:ϕs280.00000°, δ88.00000°, λ-33.00000°. Principal axes: T 3.0110, Plg21.0000°, Azm331.0000°; N -0.9270, Plg57.0000°, Azm97.0000°; P -2.0860, Plg24.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*TRN **29** 18:23:05.6, 1071N×6144W, h49km, MD5.3*

TRN Felt throughout Trinidad (III-V).

*NEIC **29** 18:23:05.9±0.1, 1081N×6176W, mb5.3/142, MS4.8/128, MW5.5, MW5.4(CAR), Error ellipse: s-maj=3.7km s-min=2.8km az=175.0, Moment Tensor Solution. s17 Moment tensor: Scale 10¹⁷Nm; Mrr 0.18; Mθθ-0.41; Mϕϕ 0.23; Mrθ 0.49; Mθϕ 1.99; Mϕr 0.40; Best double couple: M₀2.10000×10¹⁷ NP1:ϕs87.00000°, δ80.00000°, λ15.00000°. NP2:ϕs354.00000°, δ76.00000°, λ169.00000°. Principal axes: T 2.1300, Plg18.0000°, Azm311.0000°; N -0.0100, Plg72.0000°, Azm121.0000°; P -2.1100, Plg3.0000°, Azm220.0000°;*

NEIC One person killed at Gasparillo. Felt [VI] at San Juan and [V] at Arouca, Chaguanes, Port-of-Spain, San Fernando and Tunapuna. Felt [III] at Cuidad Guayana, Venezuela. Felt in Grenada and Saint Vincent and the Grenadines.

*MOS **29** 18:23:05.6±1.2, 1090N×6186W, h59km, mb5.5/47, MS4.7/24 Error ellipse: s-maj=7.5km s-min=5.6km az=94.0*

*BJI **29** 18:23:05.9, 1080N×6180W, h52km, mB5.5, Ms5.3, Msz5.0*

*IDC **29** 18:23:06.1±0.5, 1087N×6174W, h54km±4km, mb4.8/22, mb1 5.0/25, mb1mx5.0/27, mbtmp5.1/25, MS4.7/23, Ms1 4.7/23, ms1mx4.6/26, Error ellipse: s-maj=10.4km s-min=9.0km az=106.0*

*CRAAG **29** 18:23:09.1, 1078N×6186W, Mw5.5*

ISC 29 18:23:06.2±0.1, 1079N±002×6175W±002, h53km, h53km±.7km:pP-P, n919, σ1ᵍ11/736, mb5.2/198, MS4.8/167, 68C-26D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.10**	**185**⇑	*iP*	**Pn**	**18 23 15.4**	**+1.1**
TCE				*eS*	**Sn**	**18 23 20.3**	**+0.2**
TRN	**Trinidad (W)**	**0.37**	**113**⇑	*iP*	**Pn**	**18 23 13.3**	**-2.9**
TRN				*eS*	**Sn**	**18 23 18.5**	**-4.9**
GUIV	**Guiria**	**0.49**	**253**	*eP*	**Pn**	**18 23 19.5**	**+2.0**
GUIV				*eS*	**Sn**	**18 23 32.4**	**+6.8**
TPP	**Pointe-a-Pierr**	**0.56**	**149**⇑	*iP*	**Pn**	**18 23 17.2**	**-1.1**
ALNG	**Atlantic LNG**	**0.61**	**175**	*eP*	**Pn**	**18 23 21.9**	**+2.9**
BUAY	**Buenos Aires**	**0.69**	**175**	*eP*	**Pn**	**18 23 21.8**	**+2.0**
TBH	**Brigand Hill**	**0.73**	**115**⇑	*iP*	**Pn**	**18 23 16.9**	**-3.5**
TPR	**Prospect**	**1.03**	**68**⇓	*iP*	**Pn**	**18 23 20.8**	**-3.6**
BOT	**Bacolet**	**1.07**	**70**	*eP*	**Pn**	**18 23 21.1**	**-3.9**
GUNV	**Guanoco**	**1.33**	**242**	*eP*	**Pn**	**18 23 31.4**	**+3.0**
GUNV				*eS*	**Sn**	**18 23 51.6**	**+6.5**
GRW	**Mount Saint Ca**	**1.36**	**3**⇑	*eP*	**Pn**	**18 23 29.1**	**+0.3**
CRUV	**Carupano**	**1.47**	**266**	*eP*	**Pn**	**18 23 32.6**	**+2.3**
CRUV				*eS*	**Sn**	**18 23 54.6**	**+6.2**
ITEV	**Isla Los Testi**	**1.47**	**292**	*eP*	**Pn**	**18 23 32.4**	**+2.1**
ITEV				*eS*	**Sn**	**18 23 55.4**	**+7.0**
ORIV	**Orítupano**	**2.37**	**224**	*eS*	**Sn**	**18 24 13.7**	**+3.2**
PCRV	**Puerto La Cruz** 955nm,0.3s,baz=69,slow=4.8,SNR=1098	**2.91**	**258**	P	**Pn**	**18 23 53.6**	**+3.6**
PCRV	comp=Z,5μm,19.4s,baz=56,slow=43			LR	LR	18 25 10.9	
PCRV	**Puerto La Cruz**	**2.91**	**258**	*eP*	**Pn**	**18 23 52.8**	**+2.8**
IBAV	**Isla La Blanqu**	**2.96**	**290**	*eP*	**Pn**	**18 23 53.4**	**+2.7**
IBAV				*eS*	**Sn**	**18 24 30.4**	**+5.5**
BBGH	**Gun Hill**	**3.17**	**42**	*ePn*	**Pn**	**18 23 52.1**	**-1.4**
BBSP	**Saint Philip**	**3.21**	**44**	*eP*	**Pn**	**18 23 57.9**	**+3.8**
BBSP				*eS*	**Sn**	**18 24 15.3**	**-16**
GURV	**El Guri**	**3.29**	**204**	*eP*	**Pn**	**18 23 55.2**	**0.0**
GURV				*eS*	**Sn**	**18 24 32.8**	**-0.3**
MVM	**Montagne Vaucl**	**3.83**	**12**	*eP*	**Pn**	**18 24 02.3**	**-0.2**
FDF	**Fort de France**	**3.96**	**8**⇓	*eP*	**Pn**	**18 24 04.2**	**-0.2**
FDF				*eS*	**Sn**	**18 24 45.6**	**-3.9**
CUPV	**Cœpira**	**4.04**	**260**	*eP*	**Pn**	**18 24 07.9**	**+2.3**
CUPV				*eS*	**Sn**	**18 24 56.3**	**+4.7**
DSHT	**Scott's Head**	**4.41**	**5**	*eP*	**Pn**	**18 24 11.6**	**+1.1**
DSHT				*eS*	**Sn**	**18 25 00.7**	**+0.2**
BIRV	**Birongo**	**4.46**	**266**	*eP*	**Pn**	**18 24 13.4**	**+2.2**
DBCT	**Belle View Cho**	**4.47**	**5**	*eP*	**Pn**	**18 24 12.6**	**+1.2**
DBCT				*eS*	**Sn**	**18 25 02.3**	**+0.3**
MDN	**Morne-Daniel**	**4.51**	**4**	*eP*	**Pn**	**18 24 12.7**	**+0.8**
MDN				*eS*	**Sn**	**18 25 07.2**	**+4.2**
BBL	**Barber's Block**	**4.71**	**3**	*eP*	**Pn**	**18 24 14.8**	**+0.1**
BBL				*eS*	**Sn**	**18 25 07.3**	**-0.7**
MERV	**Las Mercedes**	**4.74**	**252**	*eP*	**Pn**	**18 24 17.0**	**+2.0**
MERV				*eS*	**Sn**	**18 25 10.9**	**+2.2**
DWS	**Wesley**	**4.76**	**5**	*eP*	**Pn**	**18 24 17.1**	**+1.7**
DWS				*eS*	**Sn**	**18 25 09.6**	**+0.3**
TBG	**Guadaloupe-3**	**5.03**	**1**	*eP*	**Pn**	**18 24 19.5**	**+0.5**
MGG	**Marie-Galante**	**5.11**	**5**	*eP*	**Pn**	**18 24 20.9**	**+0.7**
PHG	**Guadaloupe-2**	**5.19**	**1**⇑	*iP*	**Pn**	**18 24 23.0**	**+1.8**
SCG	**Saint Claude**	**5.20**	**1**	*eP*	**Pn**	**18 24 22.6**	**+1.2**
BCG	**Bois Riant Cap**	**5.26**	**1**⇑	*eP*	**Pn**	**18 24 23.2**	**+1.0**
LZG	**Guadaloupe-1**	**5.32**	**360**	*eP*	**Pn**	**18 24 24.0**	**+1.0**
SFG	**Saint Francois**	**5.45**	**6**	*eP*	**Pn**	**18 24 25.3**	**+0.5**
DEG	**La Desirade**	**5.53**	**7**	*eP*	**Pn**	**18 24 25.4**	**-0.5**
DEG				*eS*	**Sn**	**18 25 27.0**	**-1.0**
BPA	**Boggy Peak**	**6.22**	**359**	*eP*	**Pn**	**18 24 38.2**	**+2.9**
BPA				*eS*	**Sn**	**18 25 46.8**	**+1.9**
NVRH	**Round Hill, Ne**	**6.41**	**353**	*eP*	**Pn**	**18 24 40.9**	**+3.0**
NVRH				*eS*	**Sn**	**18 25 53.4**	**+3.8**
SKTB	**Turtle Beach**	**6.43**	**353**	*eP*	**Pn**	**18 24 40.4**	**+2.1**
SKTB				*eS*	**Sn**	**18 25 53.3**	**+3.0**
SKI	**Saint Kitts**	**6.57**	**352**	*eP*	**Pn**	**18 24 42.7**	**+2.5**
SKI				*eS*	**Sn**	**18 25 57.0**	**+3.3**
BSK	**Brimstone Hill**	**6.60**	**351**	*eP*	**Pn**	**18 24 44.6**	**+4.0**
CPB	**Codrington**	**6.81**	**359**	*eP*	**Pn**	**18 24 46.3**	**+2.9**
CPB				*eS*	**Sn**	**18 25 57.4**	**-2.1**
STMA	**St. Maarten, A**	**7.33**	**350**	*eP*	**Pn**	**18 24 52.9**	**+2.4**
STMA				*eS*	**Sn**	**18 26 12.9**	**+0.7**
MTP	**Monte Pirata**	**8.14**	**334**	*ePn*	**Pn**	**18 25 03.0**	**+1.4**
MTP				*eSn*	**Sn**	**18 26 28.9**	**-3.4**
MTP				*eTT*		18 31 40.1	
CPD	**Cerro la Pandu**	**8.26**	**331**	*ePn*	**Pn**	**18 25 04.0**	**+0.8**
CPD				*eSn*	**Sn**	**18 26 32.1**	**-2.9**
HUMP	**Col San Antoni**	**8.31**	**332**	*ePn*	**Pn**	**18 25 05.3**	**+1.2**
CBYP	**Canovanas**	**8.43**	**332**	*ePn*	**Pn**	**18 25 07.0**	**+1.4**
SJG	**San Juan** 35nm,0.3s,baz=136,slow=8.3,SNR=57	**8.43**	**330**	P	**Pn**	**18 25 06.7**	**+1.0**
SJG	48nm,0.3s,baz=238,slow=19,SNR=3.7			S	**Sn**	**18 26 37.7**	**-1.7**
SJG	comp=Z,7μm,21.5s,baz=90,slow=39			LR	LR	18 28 30.1	
SJG	**San Juan**	**8.43**	**330**	*eP*	**Pn**	**18 25 06.7**	**+1.0**
SJG	**San Juan**	**8.43**	**330**	*ePn*	**Pn**	**18 25 06.2**	**+0.6**
SJG				*eSn*	**Sn**	**18 26 37.0**	**-2.4**
SDV	**Santo Domingo** 88nm,0.3s,baz=96,slow=8.4,SNR=99	**8.96**	**259**	P	**Pn**	**18 25 13.5**	**+0.6**
SDV				S	**Sn**	**18 26 52.3**	**0.0**
SDV	**Santo Domingo** 147nm,0.3s,baz=285,slow=19,SNR=8.2	**8.96**	**259**	*ePn*	**Pn**	**18 25 13.8**	**+0.9**
SDV				*eSn*	**Sn**	**18 26 52.3**	**-0.1**
MPR	**Mayaguez**	**9.04**	**325**	*ePn*	**Pn**	**18 25 17.6**	**+3.7**
ROSC	**El Rosal** 27nm,0.3s,baz=96,slow=17,SNR=39	**13.79**	**246**	P	**Pn**	**18 26 19.5**	**+0.7**
ROSC	comp=Z,5μm,19.8s,baz=32,slow=40			LR	LR	18 32 12.6	
ROSC	**El Rosal**	**13.79**	**246**	*eP*	**Pn**	**18 26 19.6**	**+0.8**
MASC	**Masc**	**15.21**	**309**	*ePG*	**Pn**	**18 26 42.2**	**+4.6**
MASC	comp=N,9.0nm,3.6s			*eSG*	**Sn**	**18 29 36.9**	**+12**
MASC	comp=E,3.3nm,3.6s			*e*			
CMJ	**Castle Mountai**	**15.93**	**299**⇑	*eP*	**Pn**	**18 26 51.9**	**+5.2**
GWJ	**Greenwich**	**16.21**	**298**⇑	*eP*	**Pn**	**18 26 55.1**	**+4.8**
RCC	**Rio Carpintero**	**16.25**	**306**	*eP*	**Pn**	**18 26 52.1**	**+1.2**
RCC	comp=N,3μm,17.2s			*eS*	**S**	**18 29 47.7**	**-13**
RCC	comp=E,529nm,15.7s			*e*			
STH	**Stony Hill**	**16.28**	**298**⇑	*iP*	**Pn**	**18 26 57.3**	**+6.1**
PCJ	**Portland Cotta**	**16.45**	**297**⇑	*iP*	**Pn**	**18 26 59.5**	**+6.2**
HLGC	**Holguin**	**17.03**	**308**	*eP*	**Pn**	**18 27 06.2**	**+5.7**
CCCC	**Cccc**	**18.54**	**306**	*eP*	**Pn**	**18 27 16.1**	**-2.9**
SAML	**Samuel** comp=E,113nm,0.7s	**19.66**	**184**⇓	*eP*	**Pn**	**18 27 30.7**	**-1.8**
BBSR	**BB Station** comp=E,131nm,0.6s,mb5.5	**21.64**	**353**	*eP*	**P**	**18 27 51.4**	**-0.6**
BBSR	comp=Z,2μm,19.0s,MS4.6			LR	LR		
JTS	**JuntasAbangare** comp=Z,6.0nm,0.6s,mb4.2,baz=197,slow=2.7,SNR=4.5	**22.82**	**271**	P	**P**	**18 28 04.9**	**+0.4**
JTS	comp=Z,4.3nm,0.7s,baz=300,slow=19,SNR=3.3			S	**S**	**18 32 20.0**	**+10**
JTS	**JuntasAbangare** comp=Z,206nm,1.3s,mb5.4	**22.82**	**271**	*eP*	**P**	**18 28 03.6**	**-1.0**
JTS	comp=Z,240nm,19.0s,MS3.7			LR	LR		
SOR	**Soroa**	**23.55**	**303**	*eP*	**P**	**18 28 12.4**	**+0.6**
SOR	comp=N,2.2nm,4.0s			*eS*	**S**	**18 32 14.6**	**-7.3**
SOR	comp=E,3.6nm,2.2s			*e*			
ATAH	**Atahualpa** comp=E,326nm,1.1s,mb5.7,baz=25,slow=5.5,SNR=162	**24.23**	**224**	P	**P**	**18 28 22.5**	**+4.5**
ATAH	comp=E,2μm,20.9s,MS4.6,baz=254,slow=39			LR	LR	18 39 03.5	
TGUH	**Tegucigalpa,Un**	**25.13**	**280**	*eP*	**P**	**18 28 25.1**	**-1.1**
DWPF	**Disney** comp=E,352nm,1.2s,mb5.8	**25.26**	**316**	*eP*	**P**	**18 28 27.7**	**+0.4**
DWPF	comp=Z,2μm,20.0s,MS4.5			LR	LR		
SIV	**San Ignacio** comp=Z,320nm,0.8s,mb4.9,baz=12,slow=9.8,SNR=157	**26.62**	**179**	P	**P**	**18 28 39.9**	**+0.3**
NNA	**Nana** comp=Z,876nm,1.0s,mb6.2,SNR=12	**27.15**	**214**	P	**P**	**18 28 45.8**	**+1.4**
NNA	**Nana** comp=Z,117nm,0.9s,mb5.4,baz=15,slow=8.2,SNR=38	**27.15**	**214**	P	**P**	**18 28 44.7**	**+0.4**
NNA	comp=Z,3μm,18.4s,MS4.9,baz=240,slow=39			LR	LR	18 40 38.6	
NNA	**Nana** comp=Z,225nm,0.9s,mb5.7	**27.15**	**214**⇓	*eP*	**P**	**18 28 44.8**	**+0.4**
NNA	comp=Z,1μm,20.0s,MS4.4			LR	LR		
LPAZ	**La Paz** comp=Z,25nm,0.9s,mb4.9,baz=11,slow=11,SNR=96	**27.64**	**193**	P	**P**	**18 28 50.7**	**+1.9**
LPAZ	comp=Z,5μm,19.8s,MS5.1,baz=189,slow=38			LR	LR	18 40 53.3	
LPAZ	**La Paz**	**27.64**	**193**	P	**P**	**18 28 50.7**	**+1.9**
LPAZ	comp=Z,25nm,0.9s			pmax	pmax		
LPAZ	comp=Z,5μm,19.8s			MLR	MLR		
LPAZ	**La Paz** comp=Z,38nm,0.9s,mb5.0	**27.64**	**193**⇓	*eP*	**P**	**18 28 50.8**	**+2.0**
LPAZ	comp=Z,6μm,20.0s,MS5.1			LR	LR		
ARE	**Arequipa**	**28.75**	**200**	*eP*	**P**	**18 28 57.0**	**

OXF Oxford 34.56 317 *e*P **P** **18 29 49.6 0.0**
OXF LR LR
comp=Z,853nm,19.0s,MS4.5
ALLY Alegheny Colle 34.72 335 *e*P **P** **18 29 51.1 +0.1**
ALLY *e*pP pP 18 30 10.5 +5.9
NCB Newcomb 34.77 344 *e*P **P** **18 29 51.9 +0.4**
comp=Z,141nm,1.2s,mb5.8
NCB LR LR
comp=Z,2µm,21.0s,MS4.8
ACSO Alum Creek Sta 34.83 331 *e*P **P** **18 29 52.3 +0.3**
comp=Z,52nm,1.1s,mb5.4
ACSO *e*pP pP 18 30 13.8 +8.2
ACSO LR LR
comp=Z,1µm,19.0s,MS4.6
WCI Wyandotte Cave 35.06 325 *e*P **P** **18 29 54.5 +0.5**
comp=Z,120nm,1.1s,mb5.7
WCI LR LR
comp=Z,536nm,20.0s,MS4.3
FRNY Flat Rock 35.42 345 *e*P **P** **18 29 57.3 +0.3**
LONY Lake Ozonia 35.47 344 *e*P **P** **18 29 58.2 +0.6**
USIN University of 35.66 324 *e*P **P** **18 29 59.4 +0.2**
BLO Bloomington 35.85 326 *e*P **P** **18 30 01.3 +0.5**
BLO *e**PP pP 18 30 22.7 +8.3
BLO pmax pmax
comp=Z,75nm,0.8s,mb5.7
BLO Bloomington 35.85 326 *e*P **P** **18 30 01.3 +0.5**
comp=Z,75nm,0.8s,mb5.7
BLO *e*pP pP 18 30 22.7 +8.3
MSNY Massena 35.90 344 *e*P **P** **18 30 01.6 +0.5**
SIUC Southern Illin 36.42 322 *e*P **P** **18 30 05.3 -0.3**
AAM Ann Arbor 36.77 332 *e*P **P** **18 30 08.8 +0.2**
AAM *e**PP pP 18 30 31.0 +8.8
AAM Ann Arbor 36.77 332 *e*P **P** **18 30 08.8 +0.2**
AAM *e*pP pP 18 30 31.0 +8.7
AAM LR LR
comp=Z,2µm,21.0s,MS4.9
NATX Nacogdoches 36.86 310 *e*P **P** **18 30 09.8 +0.4**
NATX LR LR
comp=Z,1µm,19.0s,MS4.6
HKT Hockley 37.00 306 *e*P **P** **18 30 09.0 -1.5**
comp=Z,96nm,1.4s,mb5.4
HKT LR LR
comp=Z,1µm,20.0s,MS4.7
CPUP Villa Florida 37.15 173 P **P** **18 30 10.8 -1.1**
comp=Z,41nm,0.8s,mb5.3,baz=339,slow=7.9,SNR=80
CPUP LR LR 18 46 12.9
comp=Z,2µm,19.7s,MS5.0,baz=339,slow=37
CPUP Villa Florida 37.15 173 P **P** **18 30 09.9 -1.9**
CPUP Villa Florida 37.15 173 *e*P **P** **18 30 10.8 -1.1**
comp=Z,171nm,0.9s,mb5.9
CPUP *e* pP 18 30 19.6 -5.9
CPUP LR LR
comp=Z,477nm,19.0s,MS4.3
MIAR Mount Ida 37.43 314 PFAKE 18 30 30.0 +16
MIAR LR LR
comp=Z,997nm,20.0s,MS4.6
CAM3 Guarapari 37.64 146 *e*P **P** **18 30 09.3 -6.6**
CAM3 *i* 18 30 13.8
CAM3 *i* 18 30 28.4
CCM Cathedral Cave 37.88 321 *e*P **P** **18 30 16.2 -1.8**
comp=Z,131nm,1.1s,mb5.6
CCM LR LR
comp=Z,948nm,21.0s,MS4.6
CAM4 Nova Friburgo 37.94 150 *e*P **P** **18 30 17.5 -1.0**
CAM4 *i* 18 30 25.4
CAM4 *i* pP 18 30 35.7 +3.6
JCT Junction City 40.38 305 P **P** **18 30 38.0 -0.8**
JCT pmax pmax
comp=Z,72nm,0.8s,mb5.5
JCT Junction City 40.38 305 *e*P **P** **18 30 37.9 -0.9**
comp=Z,72nm,0.8s,mb5.5
JCT LR LR
comp=Z,471nm,20.0s,MS4.3
JFWS Jewell Farm 40.48 327 *e*P **P** **18 30 39.0 -0.7**
JFWS LR LR
comp=Z,2µm,21.0s,MS4.9
WMOK Wichita Mounta 41.28 311 *e*P **P** **18 30 43.7 -2.5**
WMOK LR LR
comp=Z,1µm,21.0s,MS4.8
SCIA State Center 41.47 324 *e*P **P** **18 30 46.8 -1.0**
TLL Tololo Astrono 41.65 192 ⇓*i*P **P** **18 30 49.6 +0.3**
COWI Conover 42.21 332 *e*P **P** **18 30 53.3 -0.6**
CBKS Cedar Bluff 43.85 316 *e*P **P** **18 31 03.9 -3.2**
CBKS LR LR
comp=Z,954nm,20.0s,MS4.7
MDZ Mendoza 43.96 189 *e*P **P** **18 31 08.1 +0.1**
SCHQ Schefferville 44.11 356 P **P** **18 31 08.4 -0.8**
comp=Z,333nm,1.0s,mb6.0,baz=173,slow=6.8,SNR=223
SCHQ ScP ScP 18 36 39.4 -1.6
comp=Z,5.7nm,0.6s,baz=160,slow=4.2,SNR=6.7
SCHQ LR LR 18 48 05.8
comp=Z,931nm,21.3s,MS4.7,baz=174,slow=34
SCHQ Schefferville 44.11 356 *e*P **P** **18 31 08.9 -0.3**
comp=Z,428nm,1.1s,mb6.1
SCHQ LR LR
comp=Z,1µm,21.0s,MS4.9
CHIE El Hierro 44.36 61 P **P** **18 31 10.3 -0.9**
comp=Z,67nm,1.2s,mb5.2
ECSD EROS,Sioux Fal 44.56 324 *e*P **P** **18 31 11.5 -1.3**
FCH Farellones 44.62 190 ⇓*i*P **P** **18 31 13.8 +0.5**
GDL2 Guadalupe Moun 44.63 305 *e*P **P** **18 31 13.3 0.0**
EYMN Ely 44.66 332 *e*P **P** **18 31 12.5 -1.1**
EYMN *e*pP pP 18 31 29.6 +2.1
EYMN LR LR
comp=Z,156nm,19.0s,MS4.0
EGOM La Gomera 45.11 61 P **P** **18 31 16.2 -0.9**
comp=Z,45nm,0.9s,mb5.3
MNTX Cornudas Mount 45.30 304 *e*P **P** **18 31 18.6 -0.1**
MNTX LR LR
comp=Z,665nm,20.0s,MS4.6
CCAN Las Canadas 45.64 61 P **P** **18 31 19.0 -2.4**
comp=Z,15nm,0.7s,mb5.0
EBAJ Bajamar 45.94 61 P **P** **18 31 24.7 +0.9**
comp=Z,24nm,0.8s,mb5.2
EOSO Osorio 46.52 62 P **P** **18 31 29.1 +0.8**
comp=Z,52nm,1.0s,mb5.4
PMAR Madeira 46.57 55 *e*P **P** **18 31 28.8 +0.1**
PMAR *e*pP pP 18 31 45.3 +2.6
BNM Barren Site 47.05 307 *e*P **P** **18 31 33.4 +0.9**
LPM Los Pinos Moun 47.11 307 *e*P **P** **18 31 33.1 +0.3**
PMPS Porto Santo 47.14 55 *e*pP pP 18 31 47.8 +0.7
ANMO Albuquerque 47.18 308 *e*P **P** **18 31 33.7 +0.2**
comp=Z,78nm,1.2s,mb5.5
ANMO pP pP 18 31 46.2 -1.3
ANMO *es*P sP 18 31 54.9 +1.3
ANMO LR LR
comp=Z,1µm,22.0s,MS4.8
LENM Lemitar 47.33 307 *e*P **P** **18 31 35.1 +0.5**
SDCO Great Sand Dun 47.47 312 *e*P **P** **18 31 34.9 -0.8**
SDCO LR LR
comp=Z,2µm,20.0s,MS5.0
LAZ Ladron 47.53 307 *e*P **P** **18 31 36.8 +0.6**
CFTV Fuerteventura 47.86 61 P **P** **18 31 38.8 +0.1**
comp=Z,53nm,1.0s,mb5.5
ULM Lac du Bonnet 48.33 331 P **P** **18 31 39.8 -2.6**
comp=Z,41nm,0.6s,mb5.7,baz=132,slow=7.6,SNR=56
ULM LR LR 18 52 06.3
comp=Z,2µm,19.6s,MS5.0,baz=304,slow=36
ULM Lac du Bonnet 48.33 331 *e*P **P** **18 31 39.0 -3.3**
comp=Z,152nm,1.1s,mb5.9
ULM LR LR
comp=Z,3µm,21.0s,MS5.2
ISCO Idaho Springs 48.37 314 *e*P **P** **18 31 42.0 -0.6**
ISCO LR LR
comp=Z,1µm,21.0s,MS4.9
EFAM Famara 48.48 61 P **P** **18 31 43.7 +0.2**
TRQA Tornquist 48.59 180 *e*P **P** **18 31 43.8 -0.6**
comp=Z,51nm,1.2s,mb5.4
TRQA LR LR
comp=Z,3µm,20.0s,MS5.2
PHWY Pilot Hill 48.90 316 *e*P **P** **18 31 44.5 -2.2**
PHWY *e*pP pP 18 32 07.9 +7.1
SMCO Snowmass 49.09 313 *e*P **P** **18 31 48.0 -0.2**
RSSD Black Hills 49.27 320 *e*P **P** **18 31 48.3 -1.2**
RSSD *e**PP pP 18 32 10.2 +6.6
RSSD Black Hills 49.27 320 *e*P **P** **18 31 48.3 -1.2**
RSSD *e*pP pP 18 32 10.2 +6.6
RSSD LR LR
comp=Z,1µm,20.0s,MS4.9
MVCO Mesa Verde 49.50 310 *e*P **P** **18 31 51.1 -0.2**
PV01 Paradox Valley 49.87 311 *e*P **P** **18 31 54.3 +0.2**
TUC Tucson 49.88 303 *e*P **P** **18 31 54.6 +0.4**
comp=Z,44nm,1.1s,mb5.4
TUC LR LR
comp=Z,576nm,20.0s,MS4.6

RWWY Rawlins 50.25 316 *e*P **P** **18 31 56.4 -0.6**
comp=Z,44nm,1.2s,mb5.4
PV10 Paradox Valley 50.30 311 *e*P **P** **18 31 55.1 -2.2**
WUAZ Wupatki 51.19 307 *e*P **P** **18 32 04.2 +0.2**
comp=Z,96nm,1.1s,mb5.6
WUAZ LR LR
comp=Z,903nm,20.0s,MS4.8
DGMT Dagmar 51.59 325 *e*P **P** **18 32 06.6 -0.4**
DGMT LR LR
comp=Z,797nm,20.0s,MS4.7
SRU San Rafael 51.64 312 *e*P **P** **18 32 07.0 -0.4**
LAO LASA Array 51.86 322 *e*P **P** **18 32 08.2 -0.8**
LAO LR LR
comp=Z,903nm,21.0s,MS4.8
PLCA Paso Flores 51.91 188 P **P** **18 32 09.6 +0.1**
comp=Z,57nm,1.0s,mb5.5,baz=7.7,slow=8.7,SNR=83
PLCA LR LR 18 57 58.6
comp=Z,1µm,19.8s,MS4.9,baz=9.3,slow=40
PLCA Paso Flores 51.91 188 P **P** **18 32 09.6 +0.2**
PLCA pmax pmax
comp=Z,57nm,1.0s
PLCA MLR MLR
comp=Z,1µm,19.8s
PLCA Paso Flores 51.91 188 *e*P **P** **18 32 09.5 +0.1**
comp=Z,72nm,1.0s,mb5.6
PLCA LR LR
comp=Z,1µm,20.0s,MS4.9
TMUT Trail Mountain 52.20 312 *e*P **P** **18 32 11.8 +0.2**
BW06 Boulder Array 52.28 316 *e*P **P** **18 32 11.1 -1.2**
comp=Z,38nm,1.0s,mb5.3
BW06 LR LR
comp=Z,698nm,19.0s,MS4.7
PDAR Pinedale Array 52.28 316 P **P** **18 32 10.8 -1.5**
comp=Z,25nm,0.9s,mb5.2,baz=117,slow=8.5,SNR=130
PDAR ScP ScP 18 37 13.8 -1.7
comp=Z,3.6nm,0.6s,baz=110,slow=6.2,SNR=5.4
PDAR LR LR 18 57 26.7
comp=Z,567nm,20.8s,MS4.6,baz=124,slow=40
DAU Daniels Canyon 52.61 313 *e*P **P** **18 32 14.5 -0.1**
MSU Marysvale 52.67 310 *e*P **P** **18 32 15.3 +0.2**
MVU Marysvale 52.70 310 PFAKE 18 32 30.0 +15
MVU LR LR
comp=Z,1µm,20.0s,MS5.0
MPU Maple Canyon 52.75 312 *e*P **P** **18 32 15.4 -0.2**
comp=Z,8.9nm,0.6s,mb4.9
MPU *e*pP pP 18 32 36.8 +6.9
MPU LR LR
comp=Z,695nm,19.0s,MS4.7
TCUT Toone Canyon 52.96 314 *e*P **P** **18 32 16.7 -0.5**
RLMT Red Lodge 53.05 319 *e*P **P** **18 32 17.1 -0.7**
NLU North Lily Min 53.05 312 *e*P **P** **18 32 17.8 0.0**
CTU Camp Tracy 53.06 313 *e*P **P** **18 32 17.7 -0.2**
HWUT Hardware Ranch 53.24 314 *e*P **P** **18 32 19.3 0.0**
comp=Z,36nm,0.9s,mb5.3
HWUT LR LR
comp=Z,576nm,20.0s,MS4.6
CCUT Cedar City 53.29 309 *e*P **P** **18 32 19.5 -0.1**
LOHW Long Hollow 53.31 317 *e*P **P** **18 32 22.2 +2.4**
comp=Z,42nm,1.1s,mb5.3
AHID Auburn Hatcher 53.33 316 *e*P **P** **18 32 19.1 -0.9**
comp=Z,44nm,0.9s,mb5.4
AHID LR LR
comp=Z,805nm,19.0s,MS4.8
SNOW Snow King Moun 53.36 317 *e*P **P** **18 32 20.5 +0.3**
comp=Z,66nm,1.1s,mb5.5
GLA Glamis 53.37 303 *e*P **P** **18 32 20.7 +0.5**
REDW Red Top Meadow 53.39 317 *e*P **P** **18 32 19.7 -0.6**
comp=Z,108nm,1.3s,mb5.6
MOOW Moose Ponds 53.46 317 *e*P **P** **18 32 19.9 -1.0**
TPAW Teton Pass 53.50 317 *e*P **P** **18 32 20.5 -0.7**
comp=Z,58nm,1.3s,mb5.3
LKWY Lake 53.55 318 *e*P **P** **18 32 23.7 +2.1**
LKWY LR LR
comp=Z,1µm,19.0s,MS5.0
FLWY Flagg Ranch 53.56 317 *e*P **P** **18 32 21.0 -0.6**
GCMT Greycliff 53.58 320 *e*P **P** **18 32 19.9 -1.9**
IMW Indian Meadow 53.65 317 *e*P **P** **18 32 21.3 -1.0**
DUG Dugway 53.66 312 *e*P **P** **18 32 21.8 -0.5**
comp=Z,49nm,1.1s,mb5.3
DUG LR LR
comp=Z,612nm,20.0s,MS4.7
RRI2 Red Ridge 53.70 316 *e*P **P** **18 32 26.9 +4.2**
FCC Fort Churchill 53.74 340 *e*P **P** **18 32 21.1 -1.8**
SPUT South Promonto 53.76 314 *e*P **P** **18 32 21.0 -2.1**
YFT Old Faithful 53.80 318 *e*P **P** **18 32 24.9 +1.5**
YNR Norris Junctio 53.80 318 *e*P **P** **18 32 23.7 +0.4**
YMR Madison River 53.97 318 *e*P **P** **18 32 24.2 -0.4**
comp=Z,34nm,0.9s,mb5.3
BGU Big Grassy Mou 54.05 313 *e*P **P** **18 32 23.9 -1.4**
FFC Flin Flon 54.08 332 P **P** **18 32 23.0 -2.4**
comp=Z,295nm,0.8s,SNR=10
HVU Hansel Valley 54.15 314 *e*P **P** **18 32 25.1 -0.8**
QLMT Earthquake Lak 54.33 318 *e*P **P** **18 32 27.4 +0.1**
PTEO Sao Teotonio 54.36 51 *e*pP pP 18 32 41.6 -0.2
PLOU Loures 54.40 50 *e*pP pP 18 32 41.7 -0.3
EGMT Eagleton 54.61 322 *e*P **P** **18 32 30.0 +0.7**
comp=Z,88nm,1.0s,mb5.7
EGMT LR LR
comp=Z,568nm,22.0s,MS4.6
BOZ Bozeman (W) 54.78 319 *e*P **P** **18 32 29.8 -0.7**
comp=Z,123nm,1.5s,mb5.7
BOZ LR LR
comp=Z,778nm,22.0s,MS4.7
PFO Pinyon Flat Ob 54.81 304 *e*P **P** **18 32 31.4 +0.7**
PFO LR LR
comp=Z,125nm,19.0s,MS4.0
PBEJ Beja 55.14 51 *e*P **P** **18 32 33.2 +0.1**
comp=Z,24nm,1.1s,mb5.1
PBEJ *e*pP pP 18 32 47.1 -0.3
PTOM Tomar 55.16 49 *e*P **P** **18 32 33.3 +0.1**
comp=Z,23nm,1.3s,mb5.0
PTOM *e*pP pP 18 32 47.1 -0.4
EVO Evora 55.16 50 *e*P **P** **18 32 32.6 -0.6**
EVO *e*pP pP 18 32 46.9 -0.7
EVO *e*R
comp=Z,689nm,21.5s
TRCR Troy Canyon 55.19 309 *e*P **P** **18 32 33.5 0.0**
MCMT McKenzie Canyo 55.27 318 *e*P **P** **18 32 33.6 -0.4**
DLMT Dillon 55.30 318 *e*P **P** **18 32 33.7 -0.5**
comp=Z,63nm,1.3s,mb5.5
EGRO El Granado 55.31 52 P **P** **18 32 35.2 +0.8**
comp=Z,9.7nm,0.9s,mb4.8
HRY Holter Researc 55.33 320 *e*P **P** **18 32 32.5 -2.0**
LRM Limekiln Ridge 55.38 319 *e*P **P** **18 32 34.2 -0.6**
GSC Goldstone 55.44 305 *e*P **P** **18 32 35.5 +0.3**
PTO Porto 55.45 47 *e*pP pP 18 32 49.0 -0.7
PESTR Estremoz 55.57 50 *e*P **P** **18 32 36.5 +0.3**
comp=Z,30nm,1.1s,mb5.2
PESTR *e*pP pP 18 32 50.5 0.0
ELK Elko 55.59 312 *e*P **P** **18 32 36.2 -0.2**
ELK LR LR
comp=Z,850nm,19.0s,MS4.8
EMAZ Mazaricos 55.75 45 P **P** **18 32 42.4 +4.9**
comp=Z,41nm,0.8s,mb5.5
PVIS Viseu 55.84 48 *e*pP pP 18 32 52.1 -0.4
HLID Hailey 55.88 316 *e*P **P** **18 32 38.0 -0.4**
HLID LR LR
comp=Z,904nm,21.0s,MS4.8
PCBR Castelo Branco 55.91 49 *e*P **P** **18 32 38.8 +0.2**
comp=Z,39nm,1.2s,mb5.3
PCBR *e*pP pP 18 32 52.6 -0.4
EBAD Badajoz 55.97 50 P **P** **18 32 40.9 +1.9**
comp=Z,39nm,1.4s,mb5.2
EMIN Mina Concepcio 55.99 52 P **P** **18 32 39.6 +0.4**
comp=Z,11nm,1.0s,mb4.9
MTE Manteigas 56.01 48 P **P** **18 32 38.3 -1.1**
comp=Z,171nm,1.1s,mb6.0
MTE *e*pP pP 18 32 53.5 -0.2
STS Santiago 56.03 45 P **P** **18 32 44.0 +4.6**
comp=Z,38nm,0.7s,mb5.5
PCAB Cabril 56.04 47 *e*pP pP 18 32 53.4 -0.5
PVRL Vila Real 56.13 47 *e*P **P** **18 32 40.3 +0.1**
PVRL *e*pP pP 18 32 54.3 -0.3
DAC Darwin (Calif) 56.27 306 PFAKE 18 32 50.0 +8.8
DAC LR LR
comp=Z,684nm,22.0s,MS4.7
DBIC Dimbokro 56.32 89 P **P** **18 32 39.9 -1.6**
comp=Z,16nm,0.7s,mb5.1,baz=266,slow=7.6,SNR=34
DBIC Dimbokro 56.32 89 P **P** **18 32 39.9 -1.6**
DBIC pmax pmax
comp=Z,16nm,0.7s
DBIC Dimbokro 56.32 89 PFAKE 18 32 50.0 +8.5
DBIC LR LR
comp=Z,345nm,20.0s,MS4.4
TPH Tonopah 56.38 309 PFAKE 18 32 50.0 +8.0

TPH LR LR
comp=Z,795nm,19.0s,MS4.8
ESPR Espera 56.42 53 P **P** **18 32 44.3 +2.0**
comp=Z,12nm,1.0s,mb4.9
SFJD Kangerlussuaq 56.63 5⇑*i*P **P** **18 32 43.1 -0.7**
comp=Z,86nm,0.9s,mb5.8
SFJD *i* S **S** **18 40 35.1 +3.1**
SFJD
comp=Z,450nm,19.0s
SFJD Kangerlussuaq 56.63 5⇑*i*P **P** **18 32 43.1 -0.7**
SFJD *i* S **S** **18 40 35.1 +3.1**
SFJD pmax pmax
comp=Z,86nm,0.9s,mb5.8
SFJD MLR MLR
comp=Z,450nm,19.0s,MS4.6
EJIF Jimena Fronter 56.64 53 P **P** **18 32 44.2 +0.3**
comp=Z,5.8nm,0.7s,mb4.7
MSO Missoula 56.72 320 *e*P **P** **18 32 43.8 -0.6**
MSO LR LR
comp=Z,555nm,19.0s,MS4.7
ISA Isabella 56.84 306 PFAKE 18 33 00.0 +15
ISA LR LR
comp=Z,134nm,20.0s,MS4.0
BMN Battle Mountai 56.96 311 PFAKE 18 33 00.0 +14
BMN LR LR
comp=Z,676nm,19.0s,MS4.8
PBRG Braganca 56.98 47 *e*pP pP 18 33 00.3 -0.4
ECAL Calabor 57.02 47 P **P** **18 32 51.4 +4.9**
comp=Z,62nm,0.9s,mb5.6
EPON Pontenova 57.14 45 P **P** **18 32 52.1 +4.7**
comp=Z,66nm,0.9s,mb5.7
EMIJ Mijas 57.21 53 P **P** **18 32 48.9 +1.0**
comp=Z,29nm,0.8s,mb5.4
SNCC San Nicolas Is 57.28 303 PFAKE 18 33 00.0 +12
SNCC LR LR
comp=Z,485nm,19.0s,MS4.6
NVAR Mina Array Bea 57.29 309 P **P** **18 32 48.0 -0.4**
comp=Z,3.2nm,0.3s,mb4.8,baz=100,slow=9.2,SNR=17
NVAR PKP2bc 19 02 51.0
comp=Z,0.2nm,0.6s,baz=269,slow=4.2,SNR=3.1
NVAR PKP2ab 19 03 02.2
comp=Z,1.2nm,1.0s,baz=265,slow=5.5,SNR=4.3
NVAR Mina Array Bea 57.29 309 P **P** **18 32 48.0 -0.4**
NVAR ⇑*e* 19 02 51.0
NVAR P'P'ab 19 03 02.2
EADA Adamuz 57.70 52 P **P** **18 32 53.7 +2.4**
comp=Z,22nm,1.0s,mb5.1
ELOJ Sierra Loja 57.82 53 P **P** **18 32 52.0 -0.1**
comp=Z,7.3nm,0.6s,mb4.9
ERON Agron 58.06 53 P **P** **18 32 54.5 +0.7**
comp=Z,6.0nm,0.7s,mb4.7
BMO Blue Mountains 58.26 316 PFAKE 18 33 10.0 +15
BMO LR LR
comp=Z,1µm,21.0s,MS4.9
ECOG Cogollos-Vega 58.30 53 P **P** **18 32 56.2 +0.7**
comp=Z,4.3nm,0.7s,mb4.6
EBAN Banos Encina 58.31 52 P **P** **18 32 54.9 -0.7**
comp=Z,7.1nm,0.7s,mb4.8
EALB Alboran 58.48 54 P **P** **18 32 59.5 +2.8**
comp=Z,141nm,1.0s,mb6.0
ESDC Sonseca Array 58.49 50 P **P** **18 32 56.9 0.0**
comp=Z,9.8nm,0.8s,mb4.9,baz=259,slow=7.3,SNR=32
ESDC pP pP 18 33 11.8 +0.5
comp=Z,80nm,0.9s,baz=263,slow=6.8,SNR=30
ESDC LR LR 18 54 42.5
comp=Z,234nm,19.3s,MS4.3,baz=255,slow=32
ESDC PKP2bc 19 02 48.9
comp=Z,0.2nm,0.3s,baz=54,slow=1.9,SNR=5.5
ESDC Sonseca Array 58.49 50 P **P** **18 32 57.1 +0.3**
comp=Z,6.0nm,0.7s,mb4.7
ESLA Sonseca Array 58.49 50 PFAKE 18 33 10.0 +13
ESLA LR LR
comp=Z,3µm,21.0s,MS5.3
WVOR Wild Horse Val 58.51 313 P **P** **18 32 56.3 -0.7**
WVOR pmax pmax
comp=Z,57nm,1.2s,mb5.5
WVOR Wild Horse Val 58.51 313 *e*P **P** **18 32 55.9 -1.1**
comp=Z,57nm,1.3s,mb5.4
WVOR LR LR
comp=Z,978nm,19.0s,MS5.0
GUD Guadarrama 58.57 49 P **P** **18 32 57.3 -0.1**
comp=Z,11nm,1.0s,mb4.8
EBER Berja 58.76 53 P **P** **18 32 58.4 -0.3**
comp=Z,44nm,1.0s,mb5.5
EQES Quesada 58.79 52 P **P** **18 33 00.3 +1.4**
comp=Z,16nm,1.0s,mb5.0
CMB Columbia Colle 58.81 308 PFAKE 18 33 10.0 +11
CMB LR LR
comp=Z,475nm,19.0s,MS4.6
LRV Little Rabbit 59.01 306 *e*P **P** **18 33 00.9 +0.5**
LNOR Lincton Mounta 59.23 317 P **P** **18 33 00.7 -1.2**
NEW Newport 59.24 320 PFAKE 18 33 10.0 +8.0
NEW LR LR
comp=Z,1µm,20.0s,MS5.0
ENIJ Nijar 59.31 53 P **P** **18 33 00.6 -1.9**
comp=Z,3.4nm,0.5s,mb4.6
EVIA Vianos 59.39 51 P **P** **18 33 03.3 +0.2**
comp=Z,140nm,1.4s,mb5.8
SAO San Andreas Ge 59.41 306 PFAKE 18 33 20.0 +17
SAO LR LR
comp=Z,595nm,22.0s,MS4.7
MOD Modoc 59.58 312 PFAKE 18 33 20.0 +16
MOD LR LR
comp=Z,444nm,21.0s,MS4.6
ELAN Lanestosa 59.72 46 P **P** **18 33 10.0 +4.6**
comp=Z,11nm,0.7s,mb5.0
OD2 Odessa Site #2 59.97 319 P **P** **18 33 06.1 -1.0**
ETOB Tobarra 60.12 52 P **P** **18 33 08.0 -0.1**
comp=Z,16nm,0.8s,mb5.1
ETOR Torete 60.17 49 P **P** **18 33 09.3 +0.9**
comp=Z,9.7nm,0.7s,mb4.9
HAWA Hanford 60.21 318 *e*P **P** **18 33 07.0 -1.7**
HAWA LR LR
comp=Z,60nm,20.0s,MS3.7
MDW Midway 60.42 318 P **P** **18 33 09.1 -1.0**
DCN Croghan 60.58 34⇑*i*P **P** **18 33 10.7 -0.5**
BORG Borgarnes 60.73 19 P **P** **18 33 09.8 -2.4**
MXC Moxie City 60.77 318 P **P** **18 32 13.3 -0.2**
WTV Waterville 60.87 319 P **P** **18 33 11.7 -1.5**
WDC Whiskeytown Da 60.94 310 PFAKE 18 33 30.0 +16
WDC LR LR
comp=Z,647nm,19.0s,MS4.8
DLF Lyons Farm 60.97 34⇑*i*P **P** **18 33 13.1 -0.8**
DSB Dublin 61.03 34 *e*P **P** **18 33 14.6 +0.3**
comp=Z,39nm,0.9s,mb5.5
HOPS Hopland 61.05 309 PFAKE 18 33 30.0 +16
HOPS LR LR
comp=Z,913nm,19.0s,MS5.0
BUOR Burton Butte 61.07 312 P **P** **18 33 14.2 -0.4**
BKCOR Black Crater 61.13 315 P **P** **18 33 15.3 +0.4**
TBM Table Mountain 61.13 318 P **P** **18 33 14.3 -0.7**
PNT Penticton 61.14 321 P **P** **18 33 13.8 -1.2**
EBEN Beniarda 61.15 52 P **P** **18 33 14.0 -1.1**
comp=Z,31nm,0.9s,mb5.4
QUIF Quistinic 61.17 41 *e*P **P** **18 33 15.1 -0.1**
comp=Z,71nm,1.2s,mb5.4
QUIF *e*pP pP 18 33 30.0 +0.2
QUIF Quistinic 61.17 41 *e*P **P** **18 33 15.1 -0.1**
comp=Z,36nm,1.2s,mb5.4
QUIF *e*pP pP 18 33 30.0 +0.2
ROSF Rostrenen 61.22 40 *e*P **P** **18 33 15.5 -0.1**
VFP Flag Point 61.22 316 P **P** **18 33 15.3 -0.3**
EMOS Mosqueruela 61.26 50 P **P** **18 33 18.3 +2.4**
comp=Z,17nm,0.7s,mb5.3
SJPF Ste Jean 61.26 47 *e*P **P** **18 33 16.3 +0.4**
comp=Z,46nm,0.8s,mb5.3
SJPF *e*pP pP 18 33 31.1 +0.7
SJPF Ste Jean 61.26 47 *e*P **P** **18 33 16.3 +0.4**
comp=Z,23nm,0.8s,mb5.4
SJPF *e*pP pP 18 33 31.1 +0.7
YBH Yreka Blue Hor 61.29 312 *e*P **P** **18 33 14.1 -2.0**
comp=Z,30nm,1.2s,mb5.3
YBH LR LR
comp=Z,704nm,22.0s,MS4.8
KIPM Iron Peak 61.51 309 *e*P **P** **18 33 17.1 -0.4**
BBOR Butler Butte 61.51 313 P **P** **18 33 16.0 -1.5**
ESAC San Caprasio 61.52 48 P **P** **18 33 21.8 +4.2**
comp=Z,38nm,0.9s,mb5.5
ASR Mount Adams--S 61.52 317 P **P** **18 33 17.5 -0.1**
WPW White Pass 61.63 317 P **P** **18 33 17.9 -0.5**
SGMF Saint Gilles 61.66 41 *e*P **P** **18 33 18.5 0.0**
comp=Z,106nm,1.2s,mb5.5
SGMF Saint Gilles 61.66 41 *e*P **P** **18 33 18.5 0.0**
comp=Z,53nm,1.2s,mb5.5
ETSF Etsaut 61.69 47 *e*P **P** **18 33 19.2 +0.4**
comp=Z,12nm,0.8s,mb4.8

ETSF Etsaut 61.69 47 *eP* **P 18 33 19.2 +0.4**
comp=Z,5.8nm,0.8s,mb4.8
HEX Exmoor 61.74 37 *eP* **P 18 33 18.6 -0.5**
HEX Exmoor 61.74 37 *eP* **P 18 33 18.6 -0.5**
HSA Swansea 61.76 37 *eP* **P 18 33 19.4 +0.2**
HSA Swansea 61.76 37 *eP* **P 18 33 19.4 +0.2**
EANR 'Ain N'Sour 61.80 55 P **P 18 33 27.0 +7.5**
KTRM Thompson Ridge 61.82 312 P **P 18 33 18.7 -0.9**
GCL Cushendall 61.88 33 *eP* **P 18 33 19.7 -0.3**
GCL Cushendall 61.88 33 *eP* **P 18 33 19.7 -0.3**
ETRT Tiaret 61.89 56 P pP 18 33 38.0 +3.4
TOA0 Torodi Ar. Sit 61.97 81 *eP* **P 18 33 18.8 -1.8**
TOA0 *epP* pP 18 33 32.4 -2.7
TORD Torodi Ar. Bea 61.97 81 P **P 18 33 19.1 -1.5**
comp=Z,7.5nm,0.7s,mb4.9,baz=290,slow=6.6,SNR=97
TORD LR LR 18 54 56.3
comp=Z,346nm,21.6s,MS4.5,baz=270,slow=31
TORD PKPPKP 19 02 28.9
comp=Z,0.8nm,1.0s,baz=48,slow=2.5,SNR=3.6
TORD PKP2bc 19 02 37.7
comp=Z,2.5nm,1.1s,baz=107,slow=1.5,SNR=5.2
TORD PKP2ab 19 02 45.6
comp=Z,4.0nm,1.1s,baz=85,slow=2.5,SNR=6.2
TORD Torodi Ar. Bea 61.97 81 P **P 18 33 19.1 -1.5**
TORD LR LR 18 54 56.3
TORD P'P' 19 02 28.9
TORD ⇑*e* 19 02 37.7
TORD P'P'ab 19 02 45.6
ERTA Horta de San J 61.97 49 P **P 18 33 23.7 +3.1**
comp=Z,8.0nm,0.8s,mb4.9
ECHA Ech Chlef 62.04 55 P **P 18 33 26.0 +4.9**
KRMB Red Mountain 62.13 311 *eP* **P 18 33 21.1 -0.6**
EBIE Bielsa 62.16 47 P **P 18 33 26.0 +4.2**
comp=Z,17nm,0.6s,mb5.4
EBNR Beni Rached 62.18 55 P **P 18 33 25.0 +2.9**
EFI East Falkland 62.29 177 PFAKE 18 33 30.0 +7.2
EFI LR LR
comp=Z,642nm,22.0s,MS4.7
WIM Isle of Man 62.31 34 *eP* **P 18 33 22.7 -0.2**
WIM Isle of Man 62.31 34 *eP* **P 18 33 22.7 -0.2**
COR Corvallis 62.32 315 PFAKE 18 33 40.0 +17
COR LR LR
comp=Z,744nm,20.0s,MS4.8
EPF Esparros 62.37 47 *eP* **P 18 33 23.8 +0.5**
comp=Z,35nm,0.7s,mb5.3
EPF Esparros 62.37 47 *eP* **P 18 33 23.8 +0.5**
comp=Z,17nm,0.7s,mb5.3
EIBI Ibiza 62.41 52 P **P 18 33 25.7 +2.1**
comp=Z,55nm,0.9s,mb5.7
WPM1 Penmaenmawr 62.42 35 *eP* **P 18 33 23.5 -0.2**
WPM1 Penmaenmawr 62.42 35 *eP* **P 18 33 23.5 -0.2**
MCH1 Michaelchurch 62.52 37 *eP* **P 18 33 23.1 -1.2**
MCH1 AMb AMB 18 33 27.1
comp=Z,27nm,1.5s,mb5.2
MCH1 Michaelchurch 62.52 37 *eP* **P 18 33 23.1 -1.2**
MCH1 AMb AMB 18 33 27.1
comp=Z,27nm,1.5s,mb5.2
GAL1 Galloway 62.55 33 P **P 18 33 24.0 -0.6**
GAL1 AMb AMB 18 33 26.2
comp=Z,69nm,1.6s,mb5.5
GAL1 Galloway 62.55 33 *eP* **P 18 33 23.9 -0.6**
GAL1 *eP* 18 33 24.0
GAL1 AMb AMB 18 33 26.2
comp=Z,69nm,1.6s,mb5.5
GAL1 Galloway 62.55 33 *eP* **P 18 33 23.9 -0.6**
GAL1 *eP* 18 33 24.0
GAL1 AMb AMB 18 33 26.2
comp=Z,69nm,1.6s,mb5.5
EPOB Poblet 62.59 49 P **P 18 33 26.2 +1.4**
comp=Z,38nm,1.0s,mb5.5
SWK Warminster 62.70 38 *eP* **P 18 33 25.8 +0.3**
SWK Warminster 62.70 38 *eP* **P 18 33 25.8 +0.3**
KAR1 Arisaig 62.77 31 *eP* **P 18 33 25.3 -0.6**
KAR1 Arisaig 62.77 31 *eP* **P 18 33 25.3 -0.6**
GRR Gorron 62.78 41 *eP* **P 18 33 25.7 -0.4**
comp=Z,98nm,1.1s,mb5.5
GRR *epP* pP 18 33 40.7 +0.1
GRR Gorron 62.78 41 *eP* **P 18 33 25.7 -0.4**
comp=Z,49nm,1.1s,mb5.5
GRR *epP* pP 18 33 40.7 +0.1
MFF Saint Martin d 62.81 43 *eP* **P 18 33 26.1 -0.1**
comp=Z,61nm,1.1s,mb5.3
MFF Saint Martin d 62.81 43 *eP* **P 18 33 26.1 -0.1**
comp=Z,30nm,1.1s,mb5.3
GCD Castle Douglas 62.97 33 *eP* **P 18 33 26.7 -0.6**
GCD Castle Douglas 62.97 33 *eP* **P 18 33 26.7 -0.6**
KPL Plockton 63.03 30 *eP* **P 18 33 26.5 -1.1**
KPL AMb AMB 18 33 37.9
comp=Z,37nm,1.3s,mb5.4
KPL Plockton 63.03 30 *eP* **P 18 33 26.5 -1.1**
KPL AMb AMB 18 33 37.9
comp=Z,37nm,1.3s,mb5.4
PGBU Glenifferbraes 63.03 32 *eP* **P 18 33 26.5 -1.2**
PGBU AMb AMB 18 33 37.7
comp=Z,31nm,1.0s,mb5.4
PGBU Glenifferbraes 63.03 32 *eP* **P 18 33 26.5 -1.2**
PGBU AMb AMB 18 33 37.7
comp=Z,31nm,1.0s,mb5.4
LFF La Frestale 63.04 45 *eP* **P 18 33 27.7 -0.1**
comp=Z,42nm,0.9s,mb5.3
LFF La Frestale 63.04 45 *eP* **P 18 33 27.7 -0.1**
comp=Z,21nm,0.9s,mb5.3
XDE Dent Fell 63.09 34 *eP* **P 18 33 27.9 -0.2**
XDE Dent Fell 63.09 34 *eP* **P 18 33 27.9 -0.2**
KSB Sheil Bridge 63.09 31 *eP* **P 18 33 26.6 -1.5**
KSB Sheil Bridge 63.09 31 *eP* **P 18 33 26.6 -1.5**
FLN La Foliniere 63.12 41 *eP* **P 18 33 28.0 -0.3**
comp=Z,128nm,1.1s,mb5.7
FLN *eR*
comp=Z,531nm,22.2s
FLN La Foliniere 63.12 41 *eP* **P 18 33 28.0 -0.3**
comp=Z,64nm,1.1s,mb5.7
FLN LR LR
comp=Z,530nm,22.3s,MS4.7
SSW Stow on the Wo 63.19 37 *eP* **P 18 33 28.4 -0.4**
SSW Stow on the Wo 63.19 37 *eP* **P 18 33 28.4 -0.4**
BWH Wardlaw 63.23 33 *eP* **P 18 33 28.0 -1.0**
BWH Wardlaw 63.23 33 *eP* **P 18 33 28.0 -1.0**
VGZ Gonzales 63.24 319 P **P 18 33 26.9 -2.1**
EAB Aberfoyle 63.24 32 *eP* **P 18 33 27.7 -1.4**
EAB Aberfoyle 63.24 32 *eP* **P 18 33 27.7 -1.4**
KAC Achnashellach 63.27 30 *eP* **P 18 33 28.5 -0.8**
KAC Achnashellach 63.27 30 *eP* **P 18 33 28.5 -0.8**
LDF La Druitiere 63.31 41 *eP* **P 18 33 29.4 -0.2**
comp=Z,33nm,0.8s,mb5.2
LDF La Druitiere 63.31 41 *eP* **P 18 33 29.4 -0.2**
comp=Z,16nm,0.8s,mb5.2
EMHD Djebel Mahouad 63.32 55 P **P 18 33 32.0 +2.4**
CKE Keswick 63.33 34 *eP* **P 18 33 29.1 -0.5**
CKE Keswick 63.33 34 *eP* **P 18 33 29.1 -0.5**
OSD Olympics--Snow 63.34 318 P **P 18 33 29.4 -0.3**
BHH Howats Hill 63.44 33 *eP* **P 18 33 30.3 -0.1**
BHH Howats Hill 63.44 33 *eP* **P 18 33 30.3 -0.1**
KWE Weaver Farm 63.52 36 *eP* **P 18 33 29.8 -1.1**
KWE Weaver Farm 63.52 36 *eP* **P 18 33 29.8 -1.1**
ECK Cauldkaine Hil 63.52 33 *eP* **P 18 33 29.4 -1.5**
ECK Cauldkaine Hil 63.52 33 *eP* **P 18 33 29.4 -1.5**
ESK Eskdalemuir 63.53 33 *eP* **P 18 33 29.9 -1.1**
ESK AMb AMB 18 33 32.2
comp=Z,50nm,1.6s,mb5.3
ESK Eskdalemuir 63.53 33 *eP* **P 18 33 29.9 -1.1**
ESK AMb AMB 18 33 32.2
comp=Z,50nm,1.6s,mb5.3
ESK Eskdalemuir 63.53 33 PFAKE 18 33 40.0 +9.0
ESK LR LR
comp=Z,261nm,19.0s,MS4.4
ETOS Mallorca 63.65 51 P **P 18 33 32.8 +1.0**
comp=Z,17nm,0.8s,mb5.1
RJF Les Rejaudoux 63.65 45 *eP* **P 18 33 31.5 -0.3**
comp=Z,43nm,1.1s,mb5.1
RJF *epP* pP 18 33 46.3 -0.1
RJF *eR*
comp=Z,597nm,21.2s
RJF Les Rejaudoux 63.65 45 *eP* **P 18 33 31.5 -0.3**
comp=Z,22nm,1.1s,mb5.1
RJF *epP* pP 18 33 46.3 -0.1
RJF LR LR
comp=Z,600nm,21.3s,MS4.7
SKP1 Kophill 63.73 37 *eP* **P 18 33 31.6 -0.8**
SKP1 Kophill 63.73 37 *eP* **P 18 33 31.6 -0.8**
EDI Edinburgh 63.75 32 *eP* **P 18 33 31.5 -1.0**
EDI AMb AMB 18 33 33.1
comp=Z,32nm,1.8s,mb5.0
EDI Edinburgh 63.75 32 *eP* **P 18 33 31.5 -1.0**
EDI AMb AMB 18 33 33.1
comp=Z,32nm,1.8s,mb5.0
KBI1 Birley Grange 63.77 36 *eP* **P 18 33 31.8 -0.8**
KBI1 Birley Grange 63.77 36 *eP* **P 18 33 31.8 -0.8**
EBL Broad Law 63.77 33 *eP* **P 18 33 31.7 -0.9**
EBL Broad Law 63.77 33 *eP* **P 18 33 31.7 -0.9**
MTLF Montolieu 63.77 47 *eP* **P 18 33 32.3 -0.3**
comp=Z,42nm,1.0s,mb5.1
MTLF *epP* pP 18 33 47.1 -0.1
MTLF Montolieu 63.77 47 *eP* **P 18 33 32.3 -0.3**
comp=Z,21nm,1.0s,mb5.1
MTLF *epP* pP 18 33 47.1 -0.1
YKA Yellowknife Ar 63.88 336 P **P 18 33 30.6 -2.7**
comp=Z,14nm,0.6s,mb5.2,baz=111,slow=7.2,SNR=46
YKA LR LR 19 00 19.8
comp=Z,1μm,19.4s,MS5.1,baz=135,slow=35
YKA Yellowknife Ar 63.88 336 P **P 18 33 30.6 -2.7**
YKA pmax pmax
comp=Z,14nm,0.6s
YKA MLR MLR
comp=Z,1μm,19.4s
XAL Allendale 63.91 34 *eP* **P 18 33 32.5 -1.0**
XAL Allendale 63.91 34 *eP* **P 18 33 32.5 -1.0**
CAF Calviac 63.96 45 *eP* **P 18 33 33.6 -0.2**
comp=Z,26nm,0.7s,mb5.0
CAF Calviac 63.96 45 *eP* **P 18 33 33.6 -0.2**
comp=Z,13nm,0.7s,mb5.1
ESY Stoneypath 64.05 33 *eP* **P 18 33 33.9 -0.6**
ESY Stoneypath 64.05 33 *eP* **P 18 33 33.9 -0.6**
XSO Sourhope Farm 64.10 33 *eP* **P 18 33 33.8 -1.0**
XSO Sourhope Farm 64.10 33 *eP* **P 18 33 33.8 -1.0**
EJON La Jonquera 64.11 48 P **P 18 33 39.8 +5.0**
comp=Z,16nm,0.9s,mb5.0
MCD Coleburn Disti 64.32 31 *eP* **P 18 33 35.1 -1.1**
MCD Coleburn Disti 64.32 31 *eP* **P 18 33 35.1 -1.1**
TCF Toulx Ste Croi 64.33 44 *eP* **P 18 33 35.9 -0.3**
comp=Z,68nm,1.4s,mb5.2
TCF *epP* pP 18 33 50.8 -0.1
TCF Toulx Ste Croi 64.33 44 *eP* **P 18 33 35.9 -0.3**
comp=Z,34nm,1.4s,mb5.2
TCF *epP* pP 18 33 50.8 -0.1
ORE Reay 64.43 30 *eP* **P 18 33 36.4 -0.6**
ORE Reay 64.43 30 *eP* **P 18 33 36.4 -0.6**
OBR Brabster 64.75 30 *eP* **P 18 33 37.6 -1.4**
OBR Brabster 64.75 30 *eP* **P 18 33 37.6 -1.4**
PYM Petit Puy Mans 64.75 44 *eP* pP 18 33 54.1 +0.3
BGF Bois d'Agland 64.81 44 *eP* **P 18 33 39.0 -0.4**
comp=Z,71nm,1.0s,mb5.4
BGF Bois d'Agland 64.81 44 *eP* **P 18 33 39.0 -0.4**
comp=Z,36nm,1.0s,mb5.3
LBL Lubilhac 64.84 45 *eP* pP 18 33 54.6 +0.4
AGO Saint Agoulin 64.91 44 *eP* pP 18 33 54.8 +0.1
LASF Ste Croix 65.07 46 *eP* **P 18 33 41.3 +0.2**
comp=Z,80nm,1.4s,mb5.3
AVF Avril sur Loir 65.20 43 *eP* **P 18 33 41.3 -0.6**
comp=Z,24nm,1.0s,mb4.8
AVF *epP* pP 18 33 56.2 -0.4
AVF Avril sur Loir 65.20 43 *eP* **P 18 33 41.3 -0.6**
comp=Z,12nm,1.0s,mb4.9
AVF *epP* pP 18 33 56.2 -0.4
PLDF La Plantade 65.23 44 *eP* pP 18 33 56.7 -0.1
SET Setif 65.29 55 P **P 18 33 45.0 +2.5**
SMF Signal de Mont 65.50 44 *eP* **P 18 33 43.4 -0.5**
comp=Z,108nm,1.3s,mb5.4
SMF Signal de Mont 65.50 44 *eP* **P 18 33 43.4 -0.5**
comp=Z,54nm,1.3s,mb5.4
LOR Lormes 65.63 43 *eP* **P 18 33 43.8 -0.9**
LOR *epP* pP 18 33 58.9 -0.5
LOR *eR*
comp=Z,352nm,22.8s
LOR Lormes 65.63 43 *eP* **P 18 33 43.8 -0.9**
LOR *epP* pP 18 33 58.9 -0.5
LOR LR LR
comp=Z,350nm,22.8s,MS4.5
CMER Merouana 65.65 56 P **P 18 33 47.0 +2.2**
DFRA Djebel Bou Aff 65.70 55 P **P 18 33 47.0 +1.9**
VIVF Saint-Julien-l 65.77 46 *eP* **P 18 33 46.2 +0.6**
PRAF Pradon 65.97 47 *eP* pP 18 34 02.1 +0.6
CTEI Djebel Teioual 66.09 55 P **P 18 33 49.0 +1.3**
WAL1 Walls 66.09 28 *eP* **P 18 33 46.6 -1.1**
WAL1 Walls 66.09 28 *eP* **P 18 33 46.6 -1.1**
GELF Grande-Etoile 66.09 47 *eP* pP 18 34 01.9 -0.5
CASM Ain Smara 66.17 55 P **P 18 33 48.0 -0.2**
LRW Lerwick 66.25 28 *eP* **P 18 33 47.4 -1.3**
LRW AMb AMB 18 33 54.6
comp=Z,54nm,1.9s,mb5.3
LRW Lerwick 66.25 28 *eP* **P 18 33 47.4 -1.3**
LRW AMb AMB 18 33 54.6
comp=Z,54nm,1.9s,mb5.3
SMRF Simiane la Rot 66.28 47 *eP* **P 18 33 49.4 +0.5**
comp=Z,20nm,0.9s,mb4.8
SMRF *epP* pP 18 34 04.3 +0.7
SMRF Simiane la Rot 66.28 47 *eP* **P 18 33 49.4 +0.5**
comp=Z,20nm,0.9s,mb5.2
SMRF *epP* pP 18 34 04.3 +0.7
CKFL Kef-Lekhel 66.36 55 P **P 18 33 51.0 +1.6**
BAIF Baives 66.40 40 *eP* **P 18 33 49.2 -0.5**
CAEH 'Ain El Ouahch 66.50 55 P **P 18 33 51.0 +0.7**
STOF St-Etienne Org 66.52 47 *eP* pP 18 34 05.1 0.0
SNF Seneffe 66.54 39 AP pP 18 34 04.7 -0.5
TAVF Tavernes 66.58 47 *eP* pP 18 34 05.3 -0.2
ORIF Oris-en-Rattie 66.63 46 *eP* **P 18 33 51.7 +0.6**
comp=Z,25nm,1.0s,mb4.9
ORIF *eR*
comp=Z,639nm,22.5s
ORIF Oris-en-Rattie 66.63 46 *eP* **P 18 33 51.7 +0.6**
comp=Z,13nm,1.0s,mb4.9
MEZF Maizieres J'vi 66.65 42 *eP* **P 18 33 50.6 -0.6**
comp=Z,83nm,0.7s,mb5.5
MEZF Maizieres J'vi 66.65 42 *eP* **P 18 33 50.6 -0.6**
comp=Z,83nm,0.7s,mb5.9
UCC Uccle 66.65 39 P **P 18 33 50.7 -0.5**
UCC AP pP 18 34 04.8 -1.2
DOU Dourbes 66.65 40 P **P 18 33 51.4 +0.1**
DOU AP pP 18 34 05.1 -0.9
GIVF Givet 66.80 40 *eP* **P 18 33 51.5 -0.7**
comp=Z,41nm,0.8s,mb5.2
GIVF *epP* pP 18 34 06.4 -0.5
GIVF Givet 66.80 40 *eP* **P 18 33 51.5 -0.7**
comp=Z,21nm,0.8s,mb5.2
GIVF *epP* pP 18 34 06.4 -0.5
LMR La Mourre 66.87 47 *eP* **P 18 33 52.2 -0.4**
comp=Z,39nm,1.0s,mb5.1
LMR La Mourre 66.87 47 *eP* **P 18 33 52.2 -0.4**
comp=Z,20nm,1.0s,mb5.1
CGMA Guelma 66.92 55 P **P 18 33 52.5 -0.5**
CMAH Djebel Manchou 66.94 55 P **P 18 33 54.0 +0.9**
ABSA Djebel Ababsia 66.97 55 P **P 18 33 55.0 +1.7**
FRF La Foret Royal 67.00 47 *eP* **P 18 33 53.1 -0.3**
comp=Z,27nm,0.8s,mb5.0
FRF La Foret Royal 67.00 47 *eP* **P 18 33 53.1 -0.3**
comp=Z,14nm,0.8s,mb5.0
CABF La Chapelle 67.02 44 *eP* **P 18 33 53.3 -0.3**
comp=Z,38nm,1.1s,mb5.1
CABF La Chapelle 67.02 44 *eP* **P 18 33 53.3 -0.3**
comp=Z,19nm,1.0s,mb5.1
BCLA Clavier 67.16 40 P **P 18 33 54.2 -0.3**
BCLA AP pP 18 34 08.5 -0.7
THEF They Montfort 67.21 42 *eP* pP 18 34 08.7 -0.8
MBDF Montbardon 67.23 46 *eP* **P 18 33 55.3 +0.4**
MBDF *epP* pP 18 34 10.2 +0.6
LPL La Plagne 67.31 45 *eP* **P 18 33 56.1 +0.7**
comp=Z,61nm,0.9s,mb5.3
LPL La Plagne 67.31 45 *eP* **P 18 33 56.1 +0.7**
comp=Z,31nm,0.9s,mb5.3
LPG La Plagne 67.32 45 *eP* **P 18 33 56.4 +0.9**
comp=Z,80nm,1.2s,mb5.3
LPG La Plagne 67.32 45 *eP* **P 18 33 56.4 +0.9**
comp=Z,40nm,1.2s,mb5.3
MVIF Mont Vial 67.40 47 *eP* pP 18 34 10.5 -0.2
HAU Haudompre 67.42 42 *eP* **P 18 33 55.1 -1.0**
HAU *eR*
comp=Z,379nm,23.0s
HAU Haudompre 67.42 42 *eP* **P 18 33 55.1 -1.0**
HAU LR LR
comp=Z,380nm,23.0s,MS4.5
BEBN Eben Emael 67.47 39 P **P 18 33 55.9 -0.6**
BEBN AP pP 18 34 10.7 -0.5
TOUF Mont Tournerai 67.48 47 *eP* pP 18 34 11.2 0.0
REVF Revere 67.54 47 *eP* pP 18 34 11.3 -0.3
LUCF Luceram 67.54 47 *eP* pP 18 34 11.2 -0.4
WLF Walferdange 67.56 41 *eP* **P 18 33 56.4 -0.6**
comp=Z,26nm,1.0s,mb5.2
WLF *epP* pP 18 34 11.2 -0.6
WLF Walferdange 67.56 41 P **P 18 33 57.0 0.0**
WLF AP pP 18 34 11.4 -0.3
SBF Sospel 67.60 47 *eP* **P 18 33 57.0 -0.3**
comp=Z,52nm,0.9s,mb5.2
SBF Sospel 67.60 47 *eP* **P 18 33 57.0 -0.3**
comp=Z,26nm,0.9s,mb5.3
HGN Heimansgroeve 67.62 39⇑*eP* **P 18 33 56.7 -0.7**
comp=Z,22nm,0.9s,mb5.2
HGN *epP* pP 18 34 11.6 -0.5
comp=Z,142nm,0.9s
HGN *eS* S 18 42 52.4 +1.9
LOMF Lomont 67.64 43 *eP* **P 18 34 11.5 -0.7**
MEM Membach 67.64 40 P **P 18 33 58.0 +0.5**
MEM AP pP 18 34 11.8 -0.5
HINF Hinteralfeld 67.72 43 *eP* **P 18 33 56.9 -1.1**
comp=Z,21nm,0.8s,mb4.9
HINF Hinteralfeld 67.72 43 *eP* **P 18 33 56.9 -1.1**
comp=Z,10nm,0.8s,mb4.9
MOF Molkenrain 67.91 43 *eP* pP 18 34 12.8 -1.2
ECH Echery 67.98 42 *eP* pP 18 34 13.5 -0.9
CDF Champ du Feu 68.09 42 *eP* **P 18 33 59.5 -0.9**
comp=Z,56nm,1.1s,mb5.2
CDF *epP* pP 18 34 14.6 -0.5
CDF Champ du Feu 68.09 42 *eP* **P 18 33 59.5 -0.9**
comp=Z,28nm,1.1s,mb5.2
CDF *epP* pP 18 34 14.6 -0.5
BBS Basel-Blauen 68.11 43 *eP* pP 18 34 14.1 -1.1
WLS Welschbruch 68.14 42 *eP* pP 18 34 14.6 -0.8
LIBD Limburg 68.27 42 *eP* pP 18 34 15.4 -0.8
JMIC Jan Mayen 68.37 16 *eS* S 18 42 59.7 +0.2
JMIC AMS AMS 18 56 59.6
comp=Z,212nm,23.0s,MS4.3
WTSB Winterswijk 68.37 38 *eP* **P 18 34 01.7 -0.4**
comp=Z,28nm,1.0s,mb5.3
WTSB *epP* pP 18 34 16.3 -0.6
STR Strasbourg 68.44 42 *eP* pP 18 34 17.2 -0.1
WIT Witteveen 68.45 37 *eP* **P 18 34 02.7 +0.1**
WIT *epP* pP 18 34 17.1 -0.3
KEST Kesra 68.45 56 P **P 18 34 03.7 +1.1**
comp=Z,8.4nm,1.0s,mb4.7,baz=209,slow=2.3,SNR=16
KEST pP pP 18 34 18.7 +1.3
comp=Z,87nm,0.9s,baz=238,slow=3.3,SNR=48
LANF Langenberg 68.52 42 *eP* pP 18 34 17.2 -0.6
BUG Bochum--Univer 68.57 39 *eP* **P 18 34 02.9 -0.5**
comp=Z,20nm,1.1s,mb5.0
BUG *epP* pP 18 34 17.1 -1.0
PGF Pioggiola 68.60 49 *eP* **P 18 34 03.2 -0.4**
comp=Z,21nm,0.8s,mb4.8
PGF *epP* pP 18 34 18.0 -0.3
PGF Pioggiola 68.60 49 *eP* **P 18 34 03.2 -0.4**
comp=Z,11nm,0.8s,mb4.8
PGF *epP* pP 18 34 18.0 -0.3
VSL Villasalto 68.66 52 *eP* **P 18 34 05.5 +1.5**
KTD Kalmit 68.75 41 *eP* pP 18 34 18.5 -0.7
BFO Black Forest 68.78 42 *epP* pP 18 34 18.4 -1.0
IBBN Ibbenburen 69.02 38 *eP* **P 18 34 05.8 -0.3**
comp=Z,49nm,1.1s,mb5.3
IBBN *epP* pP 18 34 20.4 -0.5
KMY Karmoy 69.08 30 *epP* pP 18 34 21.3 0.0
TNS Taunus Mts 69.12 40 *eP* **P 18 34 06.5 -0.2**
comp=Z,29nm,1.0s,mb5.2
TNS *epP* pP 18 34 20.9 -0.6
TNS Taunus Mts 69.12 40 *eP* **P 18 34 06.5 -0.2**
TNS *e*PP pP 18 34 20.9 -0.6
TNS pmax pmax
comp=Z,29nm,1.0s,mb5.2
STAV Stavanger 69.24 31 *i* pP 18 34 22.6 +0.4
TOD Tromm 69.26 41 *eP* pP 18 34 21.3 -1.1
STU Stuttgart 69.40 42 *eP* **P 18 34 16.5 +8.0**
STU pmax pmax
comp=Z,170nm,1.0s,mb5.9
STU Stuttgart 69.40 42 *eP* **P 18 34 08.7 +0.2**
STU *epP* pP 18 34 22.4 -0.8
BER Bergen 69.42 29 *eS* S 18 43 12.2 +0.4
DAVA Damuels 69.69 44⇑*i* pP 18 34 25.3 +0.3
comp=Z,249nm,1.1s
DAVA Damuels 69.69 44⇑*iP* **P 18 34 10.3 0.0**
comp=Z,23nm,1.1s,mb5.0,SNR=11
DAVA ⇑*ipP* pP 18 34 25.3 +0.3
comp=Z,249nm,1.1s
BLS5 Blasjo 69.73 30 *eP* **P 18 34 11.0 +0.5**
BLS5 *epP* pP 18 34 25.7 +0.4
ODD1 Odda 69.93 30 *epP* pP 18 34 26.2 -0.4
MABI Malga Bissina 70.00 45 P pP 18 34 25.5 -1.5
UBBA Unterbreizbach 70.18 40 *epP* pP 18 34 27.1 -1.0
ZCCA Zocca 70.19 47 P pP 18 34 25.1 -3.0
GTTG Gvttingen 70.25 39 *eP* **P 18 34 13.8 +0.1**
comp=Z,20nm,1.2s,mb4.9
GTTG *epP* pP 18 34 28.7 +0.2
NRDL Niedersach Rie 70.47 38 *eP* **P 18 34 14.7 -0.3**
comp=Z,19nm,1.0s,mb5.0
NRDL *epP* pP 18 34 29.2 -0.6
MOTA Moosalm 70.52 44⇑*i* pP 18 34 29.5 -0.6
comp=Z,119nm,1.1s
MOTA Moosalm 70.52 44⇑*iP* **P 18 34 15.9 +0.5**
comp=Z,26nm,1.2s,mb5.0,SNR=6.7
MOTA ⇑*ipP* pP 18 34 29.5 -0.6
comp=Z,119nm,1.1s
APPI Appiano 70.53 44 P pP 18 34 28.7 -1.5
CLZ Clausthal 70.54 39 *eP* **P 18 34 14.7 -0.8**
comp=Z,14nm,1.1s,mb4.8
CLZ *epP* pP 18 34 29.7 -0.6
CLZ Clausthal 70.54 39 *eP* **P 18 34 14.7 -0.8**
CLZ *e*PP pP 18 34 29.7 -0.6
CLZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
MUD Monsted U'grnd 70.54 34 *i* P **P 18 34 15.8 +0.3**
MUD *i* pP 18 34 30.0 -0.3
MUD *i* S S 18 43 26.5 +1.5
MUD MLR MLR
comp=Z,280nm,19.0s
MUD Monsted U'grnd 70.54 34 *eP* **P 18 34 15.8 +0.3**
MUD *i* pP 18 34 30.0 -0.3
MUD *i* S S 18 43 26.5 +1.5
MUD
comp=Z,280nm,19.0s,MS4.5
MUD Monsted U'grnd 70.54 34 *eP* **P 18 34 15.8 +0.3**
MUD *i* pP 18 34 30.0 -0.3
MUD *i* S S 18 43 26.5 +1.5
SQTA Sankt Quirin 70.58 44⇓*i* pP 18 34 30.2 -0.3
comp=Z,172nm,1.1s
SQTA Sankt Quirin 70.58 44⇑*iP* **P 18 34 15.3 -0.4**
comp=Z,22nm,1.1s,mb5.0,SNR=13
SQTA ⇓*ipP* pP 18 34 30.2 -0.3
comp=Z,172nm,1.1s
FUR Furstenfeldbru 70.71 43 *epP* pP 18 34 30.5 -0.8
BSEG Bad Segeberg 70.79 37 *eP* **P 18 34 16.5 -0.5**
comp=Z,49nm,1.3s,mb5.3
BSEG *epP* pP 18 34 31.2 -0.6
BSEG Bad Segeberg 70.79 37 *eP* **P 18 34 16.5 -0.5**
BSEG *e*PP pP 18 34 31.2 -0.6
BSEG pmax pmax
comp=Z,49nm,1.3s,mb5.3
GRFO Grafenberg 70.83 41 *epP* pP 18 34 31.4 -0.6
GRA1 Grafenberg Arr 70.83 41 *eP* **P 18 34 16.3 -0.9**
comp=Z,13nm,0.9s,mb4.9
GRA1 *epP* pP 18 34 31.2 -0.9
GRF Grafenberg Arr 70.83 41 *eP* **P 18 34 16.3 -0.9**
comp=Z,13nm,0.9s,mb4.9
GRF *epP* pP 18 34 31.2 -0.9
GRF Grafenberg Arr 70.83 41 *eP* **P 18 34 16.3 -0.9**
GRF *e*PP pP 18 34 31.2 -0.9
GRF pmax pmax
comp=Z,13nm,0.9s,mb4.9
WATA Walderalm 70.84 44⇓*i* pP 18 34 31.4 -0.7
comp=Z,135nm,1.3s
WATA Walderalm 70.84 44⇑*iP* **P 18 34 17.9 +0.6**
comp=Z,12nm,1.3s,mb4.7,SNR=9.0
WATA ⇓*ipP* pP 18 34 31.4 -0.7
comp=Z,135nm,1.3s
WTTA Wattenberg 70.88 44⇑*i* pP 18 34 31.9 -0.4
comp=Z,194nm,1.5s
WTTA Wattenberg 70.88 44⇑*iP* **P 18 34 17.0 -0.5**
comp=Z,32nm,1.2s,mb5.1,SNR=9.3
WTTA ⇑*ipP* pP 18 34 31.9 -0.4
comp=Z,194nm,1.5s
MOX Moxa 71.18 40 *eP* **P 18 34 18.9 -0.5**
comp=Z,36nm,2.2s,mb4.9
MOX Moxa 71.18 40 *eP* pP 18 34 32.8 -1.4
comp=Z,34nm,1.3s
MOX
comp=Z,200nm,20.0s
KONO Kongsberg 71.34 31 *eS* S 18 43 29.2 -5.1
KONO Kongsberg 71.34 31⇓*iP* **P 18 34 18.8 -1.6**

KONO e*PP pP 18 34 37.9 +2.7
KONO Kongsberg 71.34 31⇓ iP P 18 34 18.9 -1.5
KONO LR LR
comp=Z,480nm,21.0s,MS4.7
MANZ Manzenberg 71.43 41 *eP* **P 18 34 20.7 -0.2**
comp=Z,16nm,1.1s,mb4.9
MANZ epP pP 18 34 35.6 -0.1
ROTZ Rotzenmuhle 71.47 41 *ep*P pP 18 34 35.1 -0.9
WERD Werda 71.60 40 *eP* **P 18 34 21.5 -0.4**
comp=Z,14nm,1.2s,mb4.8
WERD epP pP 18 34 35.8 -0.9
GUNZ Gunzen 71.61 40 *ep*P pP 18 34 36.0 -0.8
FVI Forni Avoltri 71.61 44 P pP 18 34 36.0 -0.8
WERN Wernitzgruen 71.63 41 *eP* **P 18 34 21.8 -0.3**
comp=Z,10.0nm,1.0s,mb4.7
WERN epP pP 18 34 36.1 -0.8
NKC Novy Kostel 71.67 41 *eP* **P 18 34 22.1 -0.2**
NKC epP pP 18 34 36.0 -1.2
TANN Tannenbergstha 71.69 40 *ep*P pP 18 34 36.6 -0.7
ALE Alert 71.73 360 P **P 18 34 21.2 -1.5**
comp=Z,1μm,1.4s,SNR=65
CING Cingoli 71.73 48 P pP 18 34 36.1 -1.4
AQU L'Aquila 71.84 49⇑ *iP* pP 18 34 38.4 +0.2
AQU L'Aquila 71.84 49 *eP* **P 18 34 25.4 +2.0**
comp=Z,88nm,1.0s,mb5.6
AQU ⇑P pP 18 34 38.4 +0.2
WET Wettzell 71.86 42 *eP* **P 18 34 22.5 -0.9**
comp=Z,13nm,1.0s,mb4.8
WET epP pP 18 34 37.2 -1.1
WET Wettzell 71.86 42 *eP* **P 18 34 22.5 -0.9**
WET e*PP pP 18 34 37.2 -1.1
WET pmax pmax
comp=Z,13nm,1.0s,mb4.8
KBA Koelnbreinsper 72.02 44⇑ *i* pP 18 34 38.6 -0.6
comp=Z,276nm,1.2s
KBA Koelnbreinsper 72.02 44⇑ *iP* **P 18 34 23.9 -0.6**
comp=Z,58nm,1.2s,mb5.4,SNR=18
KBA ⇑ *ip*P pP 18 34 38.6 -0.6
comp=Z,276nm,1.2s
AOI Ancona 72.03 48 P pP 18 34 38.0 -1.4
SIT Sitka 72.09 327 PFAKE pP 18 34 40.0 +0.3
SIT LR LR
comp=Z,2μm,21.0s,MS5.3
CLL Collm 72.12 40 *eP* **P 18 34 24.3 -0.7**
comp=Z,16nm,1.0s,mb4.9
CLL epP pP 18 34 38.9 -0.9
CLL Collm 72.12 40 *eP* **P 18 34 24.0 -1.0**
comp=Z,13nm,1.3s,mb4.7
CLL epP pP 18 34 39.0 -0.8
CLL esP sP 18 34 47.0 +1.2
CLL eS S 18 43 39.0 -4.1
CLL eSP 18 44 12.0
CLL Collm 72.12 40 *eP* **P 18 34 24.0 -1.0**
CLL e*PP pP 18 34 39.0 -0.8
CLL eS S 18 43 39.0 -4.1
CLL pmax pmax
comp=Z,13nm,1.3s,mb4.7
CLL Collm 72.12 40 *eP* **P 18 34 24.0 -1.0**
comp=Z,13nm,1.3s,mb4.7
CLL epP pP 18 34 39.0 -0.8
CLL eS S 18 43 39.0 -4.1
FBE Freiberg 72.30 40 *ep*P pP 18 34 40.0 -1.0
KHC Kasperske Hory 72.31 42 *eP* **P 18 34 26.1 -0.1**
KHC epP pP 18 34 38.4 -2.6
KHC eS S 18 43 42.4 -3.0
KHC AMS AMS 18 57 30.0
comp=Z,400nm,23.7s
VOJS Vojsko 72.34 45 *eP* **P 18 34 31.6 +5.3**
VOY Vojsko 72.35 45 *e* pP 18 34 40.7 -0.5
GEC2 GERESS Array S 72.38 42 *eP* **P 18 34 25.8 -0.7**
comp=Z,17nm,1.1s,mb4.9
GEC2 epP pP 18 34 40.9 -0.5
GEC2 GERESS Array S 72.38 42 *eP* **P 18 34 25.8 -0.7**
GEC2 e*PP pP 18 34 40.9 -0.5
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb4.9
GERES GERESS Array B 72.38 42 P **P 18 34 26.1 -0.4**
comp=Z,6.0nm,0.8s,mb4.6,baz=255,slow=4.0,SNR=34
GERES pP pP 18 34 40.9 -0.5
comp=Z,84nm,1.1s,baz=262,slow=5.4,SNR=31
GERES LR LR 19 03 03.3
comp=Z,172nm,20.5s,MS4.3,baz=265,slow=33
GERES GERESS Array B 72.38 42 P **P 18 34 26.1 -0.4**
GERES *PP pP 18 34 40.9 -0.5
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES pmax pmax
comp=Z,84nm,1.1s
GERES MLR MLR
comp=Z,172nm,20.5s
NB2 NORSAR Subarra 72.38 29 P **P 18 34 26.5 -0.1**
comp=Z,78nm,1.1s,mb5.5,baz=260,slow=6.5
NOA NORSAR Array B 72.38 29 P **P 18 34 26.5 -0.1**
comp=Z,11nm,0.9s,mb4.8,baz=261,slow=5.9,SNR=23
NOA LR LR 18 59 18.5
comp=Z,155nm,19.9s,MS4.3,baz=260,slow=30
NOA NORSAR Array B 72.38 29 P **P 18 34 26.5 -0.1**
NOA pmax pmax
comp=Z,11nm,0.9s
NOA MLR MLR
comp=Z,155nm,19.9s
RAFF Raffo Rosso 72.52 54 P pP 18 34 42.8 +0.5
KNDS Knezji Dol 72.67 46 *i* pP pP 18 34 42.9 -0.2
BRG Berggiesshubel 72.67 40 *eP* **P 18 34 28.0 -0.3**
comp=Z,12nm,1.0s,mb4.8
BRG epP pP 18 34 42.5 -0.7
BRG Berggiesshubel 72.67 40 *eP* **P 18 34 27.9 -0.4**
comp=Z,5.0nm,1.1s,mb4.4
BRG Berggiesshubel 72.67 40 *i* P pP 18 34 42.7 -0.5
comp=Z,66nm,1.1s
BRG S S 18 43 50.0 +0.5
BRG
comp=N,189nm,33.0s
BRG
comp=E,410nm,32.8s
BRG
comp=Z,594nm,37.3s
MOA Molln 72.69 43⇑ *i* pP 18 34 42.6 -0.7
comp=Z,207nm,1.3s
MOA Molln 72.69 43⇑ *iP* **P 18 34 27.8 -0.6**
comp=Z,24nm,1.3s,mb5.0,SNR=9.4
MOA ⇑ *ip*P pP 18 34 42.6 -0.7
comp=Z,207nm,1.3s
RUE Ruedersdorf 72.70 38 P **P 18 34 29.1 +0.6**
comp=Z,34nm,0.7s,mb5.4
CEY Cerknica 72.70 45 *eP* pP 18 34 42.8 -0.6
MNO Monte Soro 72.78 54 P pP 18 34 44.4 +0.6
PSB1 Pescosannita 72.87 50 P pP 18 34 44.2 -0.2
PRA Prague 72.93 41 P **P 18 34 30.0 +0.2**
PRA pP pP 18 34 44.0 -0.7
CIGN Sant'Elia a Pi 72.95 50 P pP 18 34 44.1 -0.7
NVLJ Novalja 72.98 47 *iP* **P 18 34 35.1 +4.9**
PRU Pruhonice 73.00 41 *eP* **P 18 34 30.2 0.0**
PRU epP pP 18 34 44.5 -0.6
PRU eS S 18 43 51.9 -1.3
PRU AMS AMS 18 57 50.0
comp=Z,400nm,26.0s
PVCC Panska Ves 73.05 40 *eP* **P 18 34 30.4 -0.1**
PVCC epP pP 18 34 44.7 -0.7
HAVL Avola 73.13 55 P pP 18 34 45.4 -0.5
AGST Augusta-Monte 73.21 54 P pP 18 34 47.0 +0.6
PERS Pernice 73.22 44 *eP* **P 18 34 31.7 +0.1**
PERS epP pP 18 34 45.5 -0.9
FG5 Orsara di Pugl 73.22 50 P pP 18 34 45.7 -0.7
BOJS Bojanci 73.28 46 *eP* **P 18 34 32.1 +0.2**
BOJS epP pP 18 34 46.4 -0.3
NSS Namsos 73.33 26 *eP* **P 18 34 35.6 +3.5**
RGNG Rignano Grg 73.46 50 P pP 18 34 46.2 -1.7
GCIS Gornji Cirnik 73.55 45 *eP* pP 18 34 47.6 -0.8
MTTG Motta San Giov 73.57 54 P pP 18 34 47.6 -0.9
TREC Trest 73.57 42 *eP* **P 18 34 33.2 -0.4**
TREC epP pP 18 34 47.4 -1.1
BSD Bornholm Skovb 73.59 36⇑ *iP* pP 18 34 47.8 -0.8
comp=Z,27nm,1.1s
BSD *i* S S 18 43 58.7 -1.2
BSD
comp=Z,400nm,20.0s
BSD Bornholm Skovb 73.59 36⇑ *iP* pP 18 34 47.8 -0.8
BSD *i* S S 18 43 58.7 -1.2
BSD pmax pmax
comp=Z,27nm,1.1s,mb5.1
BSD MLR MLR
comp=Z,410nm,20.0s,MS4.7
CONA Conrad Observa 73.77 43⇑ *iP* **P 18 34 35.1 +0.4**
comp=Z,6.1nm,1.2s,mb4.4,SNR=13
CONA ⇑ *ip*P pP 18 34 49.1 -0.6
comp=Z,115nm,1.9s
UPC Upice 73.96 40 *eP* **P 18 34 35.8 -0.1**
UPC epP pP 18 34 50.2 -0.6
KOGS Kog 74.00 45 *eP* **P 18 34 36.3 +0.2**
KOGS epP pP 18 34 50.6 -0.4
SISC Sisak 74.06 46 iP pP 18 34 51.6 +0.2
DPC Dobruska-Polom 74.16 41 *eP* **P 18 34 37.2 +0.2**
DPC eS S 18 44 01.6 -4.7
DPC AMS AMS 18 58 10.0
comp=Z,700nm,33.6s
KSP Ksiaz 74.16 40 *eP* **P 18 34 41.1 +4.1**
KSP ePcP PcP 18 34 51.3 -0.6
KSP L 18 58 44.4
comp=Z,1.3nm,31.9s
KSP Ksiaz 74.16 40 *eP* **P 18 34 42.2 +5.2**
KSP epP pP 18 34 50.8 -1.1
KSP eS S 18 44 05.5 -0.8
SOP Sopron 74.23 43⇑ *ep*P pP 18 34 51.9 -0.5
VRAC Vranov 74.30 42⇑ *iP* **P 18 34 38.0 +0.1**
VRAC Vranov 74.30 42 ⇑P **P 18 34 38.0 +0.1**
ZST Bratislava 74.61 43 *eP* **P 18 34 40.0 +0.3**
ZST epP pP 18 34 53.6 -1.0
ZST Bratislava 74.61 43 *eP* **P 18 34 40.0 +0.3**
ZST e pP 18 34 53.6 -1.0
ZST pmax pmax
comp=Z,163nm,1.1s,mb5.9
ZST MLR MLR
comp=Z,200nm,17.3s,MS4.5
ZST Bratislava 74.61 43 *eP* **P 18 34 40.0 +0.3**
comp=Z,162nm,1.1s,mb5.9
ZST e pP 18 34 53.6 -1.0
ZST LR LR
comp=Z,200nm,17.3s,MS4.5
MOR8 Moi Rana 74.61 24 *eP* **P 18 34 40.5 +0.8**
SMOL Smolenice 74.83 43 *e* pP 18 34 55.6 -0.3
GKP Gorka Klasztor 74.84 38 *eP* **P 18 34 43.1 +2.1**
GKP ePcP PcP 18 34 55.3 +0.5
GKP L 19 00 46.5
comp=Z,0.7nm,28.1s
GKP Gorka Klasztor 74.84 38 *eP* **P 18 34 43.1 +2.1**
GKP e pP 18 34 55.3 -0.6
MORC Moravsky Berou 74.93 41⇓ *iP* **P 18 34 42.1 +0.6**
OKC Ostrava-Krasne 75.32 41 *eP* **P 18 34 43.9 +0.1**
OKC epP pP 18 34 58.1 -0.6
OKC eS S 18 44 18.4 -0.8
PMSA Palmer Station 75.37 181 P **P 18 34 42.6 -1.4**
comp=Z,83nm,1.3s,mb5.5
PMSA LR LR
comp=Z,2μm,20.0s,MS5.4
PKSM Moragy 75.65 45⇑ *iP* **P 18 34 46.5 +0.8**
PKSM Moragy 75.65 45 P **P 18 34 46.6 +1.0**
VYHS Vyhne 75.77 43 *eP* **P 18 34 46.0 -0.3**
VYHS e pP 18 35 00.7 -0.6
VYHS pmax pmax
comp=Z,64nm,1.4s,mb5.4
VYHS Vyhne 75.77 43 *eP* **P 18 34 46.0 -0.3**
comp=Z,64nm,1.4s,mb5.4
VYHS e pP 18 35 00.7 -0.6
EGAK Eagle 75.79 334 *eP* **P 18 34 44.9 +1.9**
EGAK epP pP 18 35 02.7 +1.3
EGAK esP sP 18 35 09.4 +2.2
BUD Budapest 75.90 44⇑ *ep*P pP 18 35 01.7 -0.3
KBS Kingsbay 76.35 11 *eP* **P 18 34 49.9 +0.3**
KBS eS S 18 44 30.2 -0.4
KBS AMS AMS 19 00 60.0
comp=Z,79nm,27.9s,MS3.9
KBS Kingsbay 76.35 11 *c iP* **P 18 34 50.2 +0.5**
OJC Ojcow 76.38 41 *eP* **P 18 34 50.5 +0.7**
OJC e pP 18 35 04.2 -0.6
OJC epP pP 18 35 12.7 +7.9
OJC eS S 18 44 28.7 -2.3
OJC L 19 07 06.4
comp=Z,1.2nm,21.1s
OJC Ojcow 76.38 41 *eP* **P 18 34 50.5 +0.7**
OJC e pP 18 35 04.2 -0.6
OJC epP pP 18 35 12.7 +7.9
OJC eS S 18 44 28.7 -2.3
OJC LR LR
comp=Z,1μm,21.1s,MS5.2
PSZ Piszkesteto 76.48 43⇓ *ep*P pP 18 35 04.6 -0.7
DIVS Divcibare 76.66 47 *eP* **P 18 34 51.3 -0.1**
TRO Tromso 76.70 21 *eP* **P 18 34 50.8 -0.8**
TRO eS S 18 44 34.0 -0.4
TRO AMS AMS 19 01 05.4
comp=Z,128nm,25.3s,MS4.1
MENT Mentasta 76.81 332 *eP* **P 18 34 51.5 -0.7**
KECS Kecovo 76.86 43 *eP* **P 18 34 54.8 +2.3**
KECS e pP 18 35 07.3 -0.2
KECS pmax pmax
comp=Z,32nm,1.2s,mb5.1
KECS Kecovo 76.86 43 *eP* **P 18 34 54.8 +2.3**
comp=Z,32nm,1.2s,mb5.1
KECS e pP 18 35 07.3 -0.2
IGT Igoumenitsa 77.13 52 *eP* **P 18 34 55.5 +1.4**
STHS Stebnicka Huta 77.34 42 *eP* **P 18 34 59.0 +3.8**
STHS e pP 18 35 10.7 +0.5
STHS pmax pmax
comp=Z,33nm,1.3s,mb5.1
STHS Stebnicka Huta 77.34 42 *eP* **P 18 34 59.0 +3.8**
comp=Z,33nm,1.3s,mb5.1
STHS e pP 18 35 10.7 +0.5
OHR Ohrid 77.40 50 *eP* pP 18 35 10.2 -0.4
VLS Valsamata 77.42 53 *eP* **P 18 35 01.6 +5.9**
CRVS Cervenica-Dubn 77.50 42 *eP* **P 18 34 57.2 +1.1**
CRVS epP pP 18 35 11.4 +0.3
JAN Janina 77.53 52 *eP* **P 18 35 02.0 +5.8**
DIV Divide 77.74 330 PFAKE 18 35 10.0 +13
DIV LR LR
comp=Z,4μm,19.0s,MS5.8
BZS Buzias 77.75 46⇓ *iP* **P 18 35 00.1 +2.6**
BZS Buzias 77.75 46 P **P 18 34 58.9 +1.4**
BIA Bitola 77.80 50 *eP* **P 18 35 03.4 +5.6**
BIA Bitola 77.80 50 *eP* **P 18 35 03.1 +5.3**
MEV Metsovon 77.81 51 *eP* **P 18 35 04.8 +7.0**
SKO Skopje 77.82 49 *eP* pP 18 35 12.4 -0.6
SKO Skopje 77.82 49 *eP* **P 18 35 00.8 +2.9**
FNA Florina 77.85 50 *eP* **P 18 35 01.0 +2.9**
KOLS Kolonicke sedl 78.03 42 *e* **P 18 35 01.9 +2.8**
KOLS e pP 18 35 13.6 -0.5
UZH Uzhgorod 78.06 42 *eP* **P 18 34 59.3 +0.1**
UZH pmax pmax
comp=Z,245nm,1.5s,mb5.9
KZN Kozani 78.19 51 *eP* **P 18 35 01.0 +1.1**
KTK1 Kautokeino 78.20 22 *eP* **P 18 35 00.2 +0.3**
KTK1 epP pP 18 35 15.5 +0.5
KWP Kalwaria 78.28 41 *eP* **P 18 35 01.4 +1.0**
KWP ePcP PcP 18 35 15.1 +5.4
KWP L 19 00 44.4
comp=Z,0.6nm,39.4s
KWP Kalwaria 78.28 41 *eP* **P 18 35 01.4 +1.0**
KWP ePcP PcP 18 35 15.1 +5.4
EVR Evrytania 78.32 52 *eP* **P 18 35 05.0 +4.3**
SUW Suwalki 78.38 37 *eP* **P 18 35 03.9 +2.9**
SUW epP pP 18 35 15.0 -1.0
SUW L 19 02 08.9
comp=Z,1.0nm,32.4s
SUW Suwalki 78.38 37 *eP* **P 18 35 03.9 +2.9**
SUW e*PP pP 18 35 15.0 -1.0
STIP Stip 78.40 49 *eP* **P 18 35 04.4 +3.3**
STIP Stip 78.40 49 *eP* **P 18 35 07.2 +6.2**
DRGR 78.44 44 *iP* **P 18 35 04.5 +3.2**
DRGR 78.44 44 P **P 18 35 04.1 +2.8**
GZR Gura Zlata 78.57 46⇑ *iP* **P 18 35 08.4 +6.3**
GRG Griva 78.62 50 *eP* **P 18 35 02.4 +0.1**
COLA College 78.65 334 *c iP* **P 18 35 00.6 -1.9**
COLA *i* *PP pP 18 35 25.6 +8.1
COLA College 78.65 334 *eP* **P 18 34 59.8 -2.7**
comp=Z,53nm,1.4s,mb5.3
COLA LR LR
comp=Z,1μm,22.0s,MS5.2
VAY Valandovo 78.72 50 *eP* **P 18 35 06.8 +4.0**
VAY Valandovo 78.72 50 *eP* **P 18 35 04.8 +1.9**
AGG Agios Georgios 78.72 52 *eP* **P 18 35 05.8 +3.0**
LIT Litokhoron 78.75 51 *eP* **P 18 35 08.3 +5.3**
KNT Kendrikon 78.97 50 *eP* pP 18 35 21.6 +2.4
ARCES ARCESS Array B 79.00 21 P **P 18 35 04.4 0.0**
comp=Z,33nm,1.0s,mb5.2,baz=285,slow=4.6,SNR=25
ARCES LR LR 19 06 21.5
comp=Z,163nm,18.4s,MS4.4,baz=271,slow=33
ARCES ARCESS Array B 79.00 21 P **P 18 35 04.4 0.0**
ARCES pmax pmax
comp=Z,33nm,1.0s
ARCES MLR MLR
comp=Z,163nm,18.4s
KKB Krupnik 79.06 49 *eP* **P 18 35 09.1 +4.4**
VTS Vitosha 79.09 49 *eP* **P 18 35 05.9 +1.0**
VTS Vitosha 79.09 49⇑ *iP* **P 18 35 05.6 +0.7**
VTS Vitosha 79.09 49 *eP* **P 18 35 06.6 +1.7**
VTS Vitosha 79.09 49 P **P 18 35 06.8 +1.9**
LVV L'vov 79.13 41 *eP* **P 18 35 11.7 +6.6**
LVV *i* 18 35 19.7
LVV *e* 18 38 03.9
LVV eS S 18 45 02.1 +1.5
LVV ePS 18 45 50.3
LVV eSS SS 18 50 15.1 +7.7
LVV MLR MLR
comp=N,300nm,17.0s,MS4.8
LVV MLR MLR
comp=Z,300nm,17.0s,MS4.7
LVV MLR MLR
comp=E,200nm,19.0s,MS4.8
RKT Rikitea 79.14 244 *e*LR LR 19 00 34.2
comp=E,467nm,28.5s
MCK McKinley 79.16 333 PFAKE 18 35 20.0 +15
MCK LR LR
comp=Z,613nm,19.0s,MS5.0
HORT Hortiatis 79.17 51 *eP* **P 18 35 08.8 +3.4**
SOH Sokhos 79.35 50 *eP* **P 18 35 13.1 +6.8**
PMR Palmer 79.35 331 PFAKE 18 35 20.0 +14
PMR LR LR
comp=Z,1μm,22.0s,MS5.2
XOR Xorichti 79.35 52 *eP* **P 18 35 06.5 +0.2**
VLI Veliai 79.40 54 *eP* **P 18 35 11.5 +4.9**
PLG Polygyros 79.46 51 *eP* **P 18 35 10.0 +3.1**
PLG Polygyros 79.46 51 *eP* **P 18 35 10.0 +3.1**
SRS Serrai 79.50 50 *eP* **P 18 35 10.1 +2.9**
KEV Kevo 79.52 21 *eP* **P 18 35 04.0 -3.2**
KEV LR LR
comp=Z,384nm,20.0s,MS4.7
KYTH Kithira 79.52 55 *eP* pP 18 35 20.0 -2.3
MMB Musomiste 79.56 49 *eP* **P 18 35 09.3 +1.9**
MMB Musomiste 79.56 49 *eP* **P 18 35 09.0 +1.6**
FINES FINESS Array B 79.56 29 P **P 18 35 07.4 -0.1**
comp=Z,7.0nm,0.7s,mb4.7,baz=266,slow=3.6,SNR=25
FINES LR LR 19 05 19.2
comp=Z,191nm,20.6s,MS4.4,baz=31,slow=32
FINES FINESS Array B 79.56 29 P **P 18 35 07.4 -0.1**
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES MLR MLR
comp=Z,191nm,20.6s
FIA1 FINESS Array S 79.57 29 *eP* **P 18 35 06.5 -1.0**
KAF Kangasniemi 79.63 29 *ep* **P 18 35 07.2 -0.7**
comp=Z,2.3nm,0.4s,mb4.5
KAF Kangasniemi 79.63 29 *eP* **P 18 35 07.2 -0.7**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
OUR Ouranopolis 79.87 51 *eP* **P 18 35 12.4 +3.3**
SLKM Skilak Lake 79.94 330 P **P 18 35 09.2 -0.3**
SLKM Skilak Lake 79.94 330 *eP* **P 18 35 08.7 -0.9**
PTL Penteli 80.00 53 *eP* **P 18 35 13.3 +3.4**
BURAR Bucovina Array 80.08 43⇓ *iP* **P 18 35 11.7 +1.4**
BURAR Bucovina Array 80.08 43⇓ P **P 18 35 11.7 +1.4**
VSU Vasula 80.10 32 *d iP* **P 18 35 09.8 -0.6**
VSU Vasula 80.10 32 *i* Pr **P 18 35 09.9 -0.5**
VOIR 80.17 46⇓ *iP* **P 18 35 18.8 +8.1**
VOIR 80.17 46⇓ P **P 18 35 18.8 +8.0**
RZN Rozhen 80.29 49 *eP* **P 18 35 17.5 +6.1**
VAM Vamos 80.56 56 *eP* **P 18 35 17.5 +4.7**
ZIMR 80.56 47 P pP 18 35 28.9 +0.9
PVL Pavlikeni 80.59 48 *eP* **P 18 35 17.0 +4.0**
LOS Limnos 80.75 51 *eP* **P 18 35 06.3 -7.6**
MLR Muntele Rosu 80.79 45⇑ *iP* **P 18 35 14.6 +0.5**
MLR Muntele Rosu 80.79 45 P **P 18 35 15.6 +1.5**
RDO Rodhopi 80.96 50 *eP* **P 18 35 20.0 +5.0**
MNK Minsk 81.06 36 *eP* **P 18 35 12.0 -3.5**
PLOR Plostina 81.24 45⇑ *iP* **P 18 35 24.3 +7.8**
VRI Vrincioaia 81.29 45⇑ *iP* **P 18 35 21.6 +4.9**
VRI Vrincioaia 81.29 45 ⇑P **P 18 35 21.6 +4.8**
VRI P pP 18 35 31.8 0.0
ALN Alexandroupoli 81.37 50 *eP* **P 18 35 20.1 +2.9**
KDAK Kodiak Island 81.41 327 PFAKE 18 35 30.0 +13
KDAK LR LR
comp=Z,197nm,21.0s,MS4.4
APE Apeiranthos 81.43 54⇑ *iP* pP 18 35 30.1 -2.5
JMB Yambol 81.58 48 *eP* **P 18 35 24.6 +6.3**
NPS Neapolis 81.72 56 *eP* **P 18 35 26.0 +7.0**
PRK Paraskevi 81.74 52 *eP* **P 18 35 09.5 -10**
PUL Pulkovo 81.80 31 P **P 18 35 15.0 -4.4**
PUL S S 18 45 20.3 -8.3
PUL MLR MLR
comp=Z,287nm,22.0s,MS4.6
JOF Joensuu 81.87 27 *ep* **P 18 35 18.4 -1.4**
comp=Z,18nm,0.8s,mb5.0
JOF Joensuu 81.87 27 *eP* **P 18 35 18.4 -1.4**
JOF pmax pmax
comp=Z,18nm,0.8s,mb5.0
APA Apatity 82.07 23⇑ *iP* **P 18 35 21.0 +0.2**
APA *i* pP 18 35 35.0 -0.9
APA pmax pmax
comp=Z,58nm,1.2s,mb5.4
SART Tekirdag 82.25 50 *i* P pP 18 35 34.2 -2.7
AKASG Malin Array Be 82.36 40 P **P 18 35 22.6 +0.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=269,slow=4.4,SNR=8.1
AKASG pP pP 18 35 35.8 -1.6
comp=Z,7.3nm,0.8s,baz=271,slow=4.5,SNR=8.0
AKASG PKKPbc PKKPbc 18 53 49.8 +1.0
comp=Z,1.5nm,0.7s,baz=74,slow=2.9,SNR=8.4
AKASG LR LR 19 09 08.1
comp=Z,131nm,20.7s,MS4.3,baz=265,slow=34
AKASG Malin Array Be 82.36 40 P **P 18 35 22.7 +0.4**
AKASG *PP pP 18 35 35.8 -1.6
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=Z,7.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG MLR MLR
comp=Z,131nm,20.7s
AKBB Malin Array Si 82.36 40 P **P 18 35 26.9 +4.6**
AKBB Malin Array Si 82.36 40 P **P 18 35 20.7 -1.6**
AKBB epP pP 18 35 35.2 -2.2
SVW2 Sparrevohn 82.49 331 *eP* **P 18 35 21.9 -1.1**
TIRR Tirgusor 82.65 46⇓ *iP* **P 18 35 30.1 +6.2**
TIRR Tirgusor 82.65 46 P **P 18 35 22.7 -1.2**
TIRR epP pP 18 35 39.0 0.0
TIRR P pP 18 35 39.3 +0.3
AKHS Akhisar 82.98 52 *i* P **P 18 35 32.0 +6.4**
TSUM Tsumeb 83.62 111 PFAKE 18 35 40.0 +11
TSUM LR LR
comp=Z,262nm,19.0s,MS4.6
GDZ Gediz 84.23 51 *i* P **P 18 35 36.2 +4.2**
TMCR Tamitsa 84.60 26 *eP* **P 18 35 35.9 +2.0**
TMCR pmax pmax
comp=Z,53nm,1.1s,mb5.6
CHGN Chignik 84.79 326 *eP* **P 18 35 34.3 -0.5**
TKTP Tekketepe 85.05 52 *i* P **P 18 35 38.5 +2.4**
ESKT Eskisehir 85.21 51 *i* P **P 18 35 36.2 -0.7**
SGKT Sivrigoynuk 85.93 50 *i* P **P 18 35 38.8 -1.7**
OBN Obninsk 85.95 35 *de*P **P 18 35 40.9 +0.3**
OBN e*PP pP 18 35 56.0 +0.2
OBN eS S 18 46 01.2 -9.0
OBN pmax pmax
comp=Z,132nm,1.4s,mb6.0
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.7
OBN Obninsk 85.95 35 PFAKE 18 35 50.0 +9.4
OBN LR LR
comp=Z,98nm,21.0s,MS4.2
KDHN Kadinhani 86.36 52 *i* P **P 18 35 45.1 +2.5**
MOS Moscow 86.39 34 *eP* **P 18 35 47.2 +4.4**
MOS *e* 18 46 01.1
MOS pmax pmax
comp=Z,100nm,1.4s,mb5.8
MOS pmax pmax
comp=Z,71nm,1.4s,mb5.7
SIM Simferopol' 86.57 45 P **P 18 35 50.1 +6.4**
SIM eS S 18 46 19.0 +2.7
SIM pmax pmax
comp=Z,22nm,1.1s,mb5.3
SIM MLR MLR
comp=Z,300nm,24.0s,MS4.6

ANTO Ankara 86.62 50⇑ iP P 18 35 52.2 +8.3
ANTO Ankara 86.62 50 PFAKE 18 36 00.0 +16
ANTO LR LR
comp=Z,156nm,21.0s,MS4.4
TNA Tin City 86.83 336 PFAKE 18 36 00.0 +15
TNA LR LR
comp=Z,478nm,22.0s,MS4.9
ELDT Eldivan 86.97 50 i P P 18 35 49.8 +4.1
BR131 Keskin Array S 87.29 50 PFAKE 18 36 00.0 +13
BR131 LR LR
comp=Z,241nm,19.0s,MS4.6
BRTR Keskin Array B 87.29 50 P P 18 35 46.8 -0.3
comp=Z,2.8nm,0.8s,mb4.5,baz=262,slow=3.6,SNR=12
BRTR PKKPbc PKKPbc 18 53 38.5 +1.3
comp=Z,0.9nm,0.9s,baz=134,slow=5.3,SNR=4.2
BRTR Keskin Array B 87.29 50 P P 18 35 46.8 -0.3
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
CDAG Cicekdag 87.86 50 i P P 18 35 49.4 -0.5
VRSR Storozhevoye 88.43 38 eP P 18 35 52.8 +0.2
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
VNA1 Neumayer--Stat 88.89 164 eP P 18 35 55.1 +0.4
VNA1 e 18 35 56.0
VNA1 e 18 36 03.2
VNA1 e pP 18 36 09.3 -0.7
VNA3 Neumayer Olymp 88.89 165 eP P 18 35 53.8 -1.0
VNA3 e 18 35 55.7
VNA3 e pP 18 36 05.7 -4.3
VNA3 e pP 18 36 08.8 -1.2
VNA3 e 18 36 17.9
VNA3 e 18 36 27.0
VNA3 e 18 36 32.2
VNA3 e 18 36 54.6
ANN Anapa 88.91 45 eP P 18 35 55.0 +0.2
ANN e pP 18 36 10.5 +0.4
ANN e*PP pP 18 36 21.4 +11
ANN e 18 46 15.7
ANN pmax pmax
comp=Z,47nm,1.9s,mb5.5
SUR Sutherland 89.51 123 eP P 18 35 58.0 +0.4
SUR LR LR
comp=Z,174nm,19.0s,MS4.5
UNV Unalaska Valle 89.91 325 PFAKE 18 36 10.0 +10
UNV LR LR
comp=Z,2μm,20.0s,MS5.6
VRHR Novokhopersk 89.93 38 eP P 18 35 58.7 -0.9
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.6s
GZT Gaziantep 90.82 52 i P P 18 36 07.3 +3.6
SNAA Sanae 90.92 164 eP P 18 36 03.2 -1.0
SNAA e 18 36 04.8
SNAA e pP 18 36 17.2 -2.3
SNAA e 18 36 26.9
SNAA e 18 36 35.0
SNAA Sanae 90.92 164 d iP P 18 36 03.4 -0.8
PPT Papeete 91.17 252 eS SP 18 47 50.5 -17
comp=E,110nm,24.0s
PPT eLR LR 19 06 07.0
comp=E,436nm,22.5s
PPT Papeete 91.17 252 LR LR 19 11 09.2
comp=E,338nm,18.8s,MS4.8,baz=93,slow=32
MALT Malatya 91.24 51⇑ iP P 18 36 06.9 +1.2
LBTB Lobatse 92.11 115 PFAKE 18 36 20.0 +10
LBTB LR LR
comp=Z,509nm,20.0s,MS5.0
TBI Tubuai 92.14 247 eLR LR 19 06 34.1
comp=Z,217nm,28.0s
BOSA Boshof 92.49 118 P P 18 36 11.4 -0.1
comp=Z,10.0nm,0.8s,mb5.2,baz=279,slow=2.9,SNR=20
BOSA pP pP 18 36 28.8 +2.0
comp=Z,37nm,0.9s,baz=268,slow=3.3,SNR=17
BOSA LR LR 19 14 55.1
comp=Z,209nm,19.9s,MS4.6,baz=282,slow=34
BOSA Boshof 92.49 118 P P 18 36 11.4 -0.1
BOSA *PP pP 18 36 28.8 +2.0
BOSA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
BOSA pmax pmax
comp=Z,37nm,0.9s,mb5.7
BOSA MLR MLR
comp=Z,209nm,19.9s,MS4.6
BOSA Boshof 92.49 118 eP P 18 36 11.9 +0.4
LSZ Lusaka 92.73 105 PFAKE 18 36 20.0 +7.4
LSZ LR LR
comp=Z,396nm,20.0s,MS4.9
KIV Kislovodsk 92.76 44⇑ eP P 18 36 13.9 +1.2
KIV e 18 47 15.5
KIV pmax pmax
comp=Z,5.0nm,1.2s,mb4.8
KIV Kislovodsk 92.76 44⇑ eP P 18 36 13.0 +0.3
KIV LR LR
comp=Z,29nm,20.0s,MS3.7
ZEI Tsey 93.97 45 eP P 18 36 20.5 +2.2
ZEI e*PP pP 18 36 40.8 +7.2
ZEI e 18 40 10.7
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
BILL Bilibino 94.29 344 d iP P 18 36 18.9 -0.9
BILL pmax pmax
comp=Z,39nm,1.6s,mb5.6
BILL MLR MLR
comp=Z,900nm,23.0s,MS5.2
BILL Bilibino 94.29 344 i Pr P 18 36 18.0 -1.8
BILL LR LR
comp=Z,883nm,22.0s,MS5.2
MAIT Maitri 94.76 161 eP P 18 36 21.2 -0.7
NVL N'lazarevskaya 94.79 161 eP P 18 36 31.0 +8.9
NVL pmax pmax
comp=Z,15nm,0.8s,mb5.5
NVL MLR MLR
comp=Z,871nm,21.0s,MS5.2
GNI Garni 95.41 48⇑ eP P 18 36 24.2 -0.7
GNI pmax pmax
comp=Z,12nm,1.6s
GNI Garni 95.41 48⇑ eP P 18 36 24.3 -0.6
GNI LR LR
comp=Z,116nm,20.0s,MS4.3
ARU Arti 96.94 29⇑ iP P 18 36 30.0 -1.8
ARU e 18 40 27.6
ARU ePPP 18 42 29.9
ARU eS SKSac 18 46 58.6 -5.8
ARU eSP SP 18 49 07.6 -3.5
ARU ePS PS 18 49 17.7 0.0
ARU eSS SS 18 54 25.4 -1.4
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
ARU MLR MLR
comp=Z,500nm,24.0s,MS4.9
ARU MLR MLR
comp=N,300nm,22.0s,MS4.8
ARU MLR MLR
comp=E,200nm,22.0s,MS4.8
ARU Arti 96.94 29 i Pr P 18 36 30.3 -1.5
ARU LR LR
comp=Z,102nm,22.0s,MS4.3
TIXI Tiksi 97.44 357 eP P 18 36 31.0 -3.1
TIXI pmax pmax
comp=Z,22nm,1.4s,mb5.4
TIXI Tiksi 97.44 357⇑ iP P 18 36 33.9 -0.2
SVE Sverdlovsk 97.69 28 eP P 18 36 39.0 +3.8
KMBO Kilima Mbogo 99.05 89 LR LR 19 20 21.7
comp=Z,173nm,20.6s,MS4.5,baz=97,slow=35
KMBO Kilima Mbogo 99.05 89 PFAKE 18 36 50.0 +8.7
KMBO LR LR
comp=Z,277nm,22.0s,MS4.7
QSPA South Pole Qui 100.79 180 eP Pdif 18 36 50.9 +1.8
comp=Z,5.1nm,1.1s
QSPA LR LR
comp=Z,638nm,21.0s,MS5.1
SMY Shemya 100.82 329 PFAKE 18 37 00.0 +11
SMY LR LR
comp=Z,2μm,22.0s,MS5.5
BRVK Borovoye 104.40 28 PFAKE 18 37 20.0 +15
BRVK LR LR
comp=Z,42nm,21.0s,MS4.0
MA2 Magadan 105.16 344 PFAKE 18 41 30.0 +7.4
MA2 LR LR
comp=Z,450nm,21.0s,MS5.0
YAK Yakutsk 106.86 354 PFAKE 18 41 40.0 +14
YAK LR LR
comp=Z,446nm,22.0s,MS5.0
PET Petropavlovsk 107.68 336 PFAKE 18 41 40.0 +13
PET LR LR
comp=Z,653nm,20.0s,MS5.2
SBA Scott Base 108.65 190 PFAKE 18 41 40.0 +11
SBA LR LR
comp=Z,631nm,21.0s,MS5.2
VNDA Vanda 109.66 189 PKKPbc PKKPbc 18 52 38.0 +3.1
comp=Z,1.5nm,1.1s,baz=322,slow=5.3,SNR=3.6
VNDA Vanda 109.66 189 PFAKE 18 41 40.0 +9.0
VNDA LR LR
comp=Z,912nm,21.0s,MS5.3
BOD Bodaibo 111.54 2 ePKIKP PKiKP 18 41 42.8 +8.2
BOD e 18 48 07.7
BOD pmax pmax
comp=Z,13nm,1.5s
MAW Mawson 112.69 160 PFAKE 18 41 50.0 +13
MAW LR LR
comp=Z,978nm,20.0s,MS5.4
AAK Ala-Archa 113.46 34⇑ iPKIKP PKiKP 18 41 38.6 +0.4
AAK Ala-Archa 113.46 34⇑ ePKP PKiKP 18 41 38.7 +0.5
AAK LR LR
comp=Z,58nm,22.0s,MS4.1
MKAR Makanchi Array 114.28 26 PKP PKiKP 18 41 40.2 +0.4
comp=Z,0.6nm,0.8s,baz=2.6,slow=3.4,SNR=4.4
MKAR PKKPbc PKKPbc 18 52 20.0 +0.4
comp=Z,1.5nm,0.7s,baz=122,slow=4.6,SNR=12
MKAR SKKPbc 18 56 00.1
comp=Z,0.5nm,0.7s,baz=105,slow=5.1,SNR=3.6
MKAR Makanchi Array 114.28 26 PKIKP PKiKP 18 41 40.2 +0.4
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.7s
MKAR Makanchi Array 114.28 26 PKP PKiKP 18 41 40.2 +0.4
MKAR PKKPbc PKKPbc 18 52 20.0 +0.4
MKAR SKKPbc 18 56 00.1
TLY Talaya 116.51 10 PFAKE 18 42 00.0 +16
TLY LR LR
comp=Z,53nm,20.0s,MS4.2
ZAK Zakamensk 117.69 11 ePKIKP PKPdf 18 41 51.1 +4.7
ZAK pmax pmax
comp=Z,2.0nm,1.4s
RAO Raoul Island 117.98 243 PFAKE 18 42 00.0 +13
RAO LR LR
comp=Z,894nm,22.0s,MS5.3
YSS Yuzh-Sakhalins 118.48 341 i PKIKP PKPdf 18 41 46.9 -1.0
YSS Yuzh-Sakhalins 118.48 341 PFAKE 18 42 00.0 +12
YSS LR LR
comp=Z,410nm,22.0s,MS5.0
WMQ Urumqi 118.95 25 ePKP PKPdf 18 41 48.3 -0.5
WMQ PP PP 18 43 14.0 +5.6
WMQ PKS 18 45 24.0
WMQ PPP 18 45 46.0
WMQ SKS SKSdf 18 48 50.0 -6.4
WMQ SS SS 18 59 22.0 -2.2
WMQ PP PP
comp=Z,158nm,4.6s
WMQ LR LR
comp=N,578nm,26.4s,MS5.2
WMQ LR LR
comp=E,644nm,28.2s,MS5.2
WMQ LR LR
comp=Z,616nm,23.8s,MS5.2
KLR Kul'dur 119.06 350 ePKIKP PKPdf 18 41 46.7 -2.3
FUNA Funafuti 119.96 266 PFAKE 18 42 00.0 +9.3
FUNA LR LR
comp=Z,4μm,19.0s
HIA Hailar 120.19 359 PFAKE 18 42 00.0 +8.8
HIA LR LR
comp=Z,439nm,21.0s,MS5.1
SONM Songino Array 120.69 9 PKP PKPdf 18 41 52.6 +0.4
comp=Z,2.0nm,0.6s,baz=316,slow=1.3,SNR=24
SONM PP PP 18 43 16.9 -3.4
comp=Z,10nm,1.2s,baz=332,slow=4.5,SNR=7.6
SONM PKKPbc PKKPbc 18 51 56.1 -0.6
comp=Z,3.5nm,0.9s,baz=170,slow=3.4,SNR=15
SONM Songino Array 120.69 9 PKIKP PKPdf 18 41 52.6 +0.5
SONM 18 43 16.9
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM pmax pmax
comp=Z,11nm,1.2s
SONM pmax pmax
comp=Z,4.0nm,0.9s
URZ Urewera 120.98 232 PKP PKPdf 18 41 53.0 +0.3
comp=Z,6.2nm,0.7s,baz=20,slow=2.9,SNR=4.5
ERM Erimo 122.69 338 PFAKE 18 42 10.0 +14
ERM LR LR
comp=Z,158nm,22.0s,MS4.6
MDJ Mudanjiang 123.90 350 PKP PKPdf 18 41 56.8 -1.5
MDJ SKS SKSdf 18 49 01.5 -4.2
MDJ PS PS 18 53 39.0 -1.3
MDJ SS SS 19 00 25.0 -2.5
MDJ PP PP
comp=Z,118nm,7.9s
MDJ LR LR
comp=N,161nm,42.0s,MS4.6
MDJ LR LR
comp=E,272nm,44.2s,MS4.6
MDJ LR LR
comp=Z,145nm,35.4s
MDJ Mudanjiang 123.90 350 PFAKE 18 42 10.0 +12
MDJ LR LR
comp=Z,338nm,20.0s,MS5.0
RPZ Rata Peaks 123.98 224 PKP PKPdf 18 41 59.6 +1.1
comp=Z,19nm,0.9s,baz=41,slow=17,SNR=7.0
CASY Casey 124.34 176 eP PKPdf 18 41 57.1 -2.0
CASY LR LR
comp=Z,673nm,20.0s,MS5.3
CN2 Changchun 125.27 354 ePKP PKPdf 18 41 59.0 -1.9
CN2 PP PP 18 43 53.0 +1.7
CN2 PP PP
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,290nm,21.0s,MS5.0
CN2 LR LR
comp=E,220nm,21.0s,MS5.0
CN2 LR LR
comp=Z,350nm,22.0s,MS5.0
GTA Gaotai 127.19 18 ePKP PKPdf 18 42 05.5 +0.9
GTA PP PP 18 44 06.5 +2.5
GTA PKS 18 45 42.0
GTA SKS SKSdf 18 49 06.0 -5.9
GTA PP PP
comp=Z,126nm,4.9s
GTA LR LR
comp=N,203nm,28.9s
GTA LR LR
comp=E,202nm,22.8s
GTA LR LR
comp=Z,387nm,28.9s,MS4.9
HHC Hu-ho-hao-te 128.25 6 ePKP PKPdf 18 42 04.0 -2.6
HHC PP PP 18 44 12.5 +1.5
HHC PKS 18 45 39.3
HHC LR LR
comp=N,258nm,5.1s
HHC LR LR
comp=E,240nm,5.1s
HHC LR LR
comp=Z,336nm,27.0s,MS4.9
MAJO Matsushiro 129.31 339 ePKPdf PKPdf 18 42 08.4 -0.2
MAJO e 18 42 18.5
MAJO LR LR
comp=Z,387nm,22.0s,MS5.0
MAT Matsushiro 129.31 339 PKP PKPdf 18 42 08.4 -0.2
MJAR Matsushiro Arr 129.31 339 PKP PKPdf 18 42 09.3 +0.7
comp=Z,3.7nm,0.8s,baz=359,slow=1.7,SNR=14
MJAR PP PP 18 44 13.9 -4.0
comp=Z,3.8nm,1.0s,baz=9.6,slow=7.2,SNR=5.2
MJAR SKPbc 18 45 25.0
comp=Z,2.5nm,0.9s,baz=17,slow=3.6,SNR=4.1
MJAR Matsushiro Arr 129.31 339 PKIKP PKPdf 18 42 09.3 +0.7
MJAR 18 44 13.9
MJAR pmax pmax
comp=Z,4.0nm,0.8s
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MJAR pmax pmax
comp=N,3.0nm,0.9s
BJI Beijing 129.39 2 PKP PKPdf 18 42 09.8 +1.0
BJI PP PP 18 44 21.5 +3.1
BJI SS SS 19 01 37.5 +1.5
BJI PP PP
comp=Z,174nm,3.8s
BJI LR LR
comp=N,421nm,27.0s,MS5.1
BJI LR LR
comp=E,254nm,24.1s,MS5.1
BJI LR LR
comp=Z,549nm,27.6s,MS5.1
BJI Beijing 129.39 2 PKP PKPdf 18 42 09.7 +0.9
BJI PP PP 18 44 21.5 +3.1
BJI SS SS 19 01 37.6 +1.6
BJT Baijiatuau 129.41 2 eP PKPdf 18 42 09.3 +0.4
BJT LR LR
comp=Z,394nm,20.0s,MS5.1
INCN Inchon 131.34 351 PFAKE 18 42 20.0 +7.5
INCN LR LR
comp=Z,325nm,22.0s,MS5.0
LZH Lanzhou 131.43 16 ePKP PKPdf 18 42 14.8 +2.2
LZH PP PP 18 44 36.0 +4.3
LZH SKKS SKKSac 18 51 17.0 -6.5
LZH PP PP
comp=Z,280nm,5.4s
LZH LR LR
comp=N,810nm,19.7s
LZH LR LR
comp=Z,2μm,20.5s,MS5.7
LZH Lanzhou 131.43 16 ePKP PKPdf 18 42 14.7 +2.1
LZH pPKP pPKPdf 18 42 30.9 +2.4
LZH sPKP 18 42 45.7
LZH PP PP 18 44 36.0 +4.3
LZH *i* 18 45 33.1
LZH SKKS SKKSac 18 51 17.1 -6.4
LZH eSS SS 19 01 55.0 -6.0
LSA Lhasa 132.01 32 PKP PKPdf 18 42 16.0 +2.3
LSA Lhasa 132.01 32 ePKPdf PKPdf 18 42 15.9 +2.2
LSA LR LR
comp=Z,195nm,19.0s,MS4.8
TIA Tai'an 133.24 1 ePKP PKPdf 18 42 17.3 +1.3
XAN Xi'an 134.54 11 PKP PKPdf 18 42 18.8 +0.3
CD2 Chengdu 136.26 18 ePKP PKPdf 18 42 18.0 -3.7
CD2 PP PP 18 45 02.8 +0.4
CD2 PKS 18 45 52.8
CD2 PP PP
comp=Z,120nm,10.4s
CD2 LR LR
comp=E,80nm,24.8s
CD2 LR LR
comp=Z,120nm,26.2s,MS4.5
NJ2 Nanjing 137.40 359 ePKP PKPdf 18 42 29.0 +5.2
NJ2 XPKP 18 42 43.3
NJ2 PP PP 18 45 18.0 +8.5
NJ2 PP PP
comp=Z,460nm,11.0s
NJ2 LR LR
comp=N,450nm,26.2s,MS5.5
NJ2 LR LR
comp=E,1μm,25.7s,MS5.5
NJ2 LR LR
comp=Z,1μm,28.4s,MS5.5
ENH Enshi 138.31 11 PFAKE 18 42 40.0 +15
ENH LR LR
comp=Z,39nm,20.0s,MS4.1
HNR Honiara 138.96 268 PFAKE 18 42 40.0 +13
HNR LR LR
comp=Z,452nm,22.0s,MS5.2
KMI Kunming 141.23 23 PKP PKPdf 18 42 31.0 +0.2
KMI PP PP 18 45 33.0 -0.1
KMI PKS 18 46 01.0
KMI LR LR
comp=N,242nm,21.6s,MS5.1
KMI LR LR
comp=E,275nm,25.9s,MS5.1
KMI LR LR
comp=Z,429nm,21.1s,MS5.2
KMI Kunming 141.23 23 PKP PKPdf 18 42 31.1 +0.3
KMI pPKP pPKPdf 18 42 51.3 +4.7
KMI sPKP 18 43 04.9
KMI PP PP 18 45 33.1 0.0
KMI PKS 18 46 00.9
KMI PPP 18 48 38.0
KMI SS SS 19 03 47.1 -11
GYA Guiyang 141.29 17 PKP PKPdf 18 42 27.5 -3.4
GYA PP PP 18 45 36.3 +2.8
GYA PKS 18 46 02.0
GYA PP PP
comp=Z,120nm,4.8s
GYA LR LR
comp=N,870nm,20.8s,MS5.6
GYA LR LR
comp=E,760nm,21.4s,MS5.6
GYA LR LR
comp=Z,940nm,21.0s,MS5.5
CNB Canberra Magne 142.66 224 ePKP PKPdf 18 42 31.5 -1.9
comp=Z,21nm,0.8s
TOO Toolangi 143.81 218 i PKP PKPdf 18 42 34.5 -0.9
comp=Z,36nm,0.8s
CHTO Chiang Mai 144.95 33 ePKPdf PKPdf 18 42 37.0 -0.4
CHTO LR LR
comp=Z,291nm,21.0s,MS5.0
CM31 Chiang Mai Arr 145.24 33 ePKPdf PKPdf 18 42 36.7 -1.2
NANT Nan 145.88 31 ⇓P PKPdf 18 42 37.9 -1.0
comp=Z,151nm,1.1s
PBA Port Blair 146.24 49 eP x 18 42 21.7
PBA eS x 18 42 44.5
PBA ex x 18 42 56.3
comp=N,110nm,0.8s
PBA ex x 18 42 56.6
comp=E,111nm,0.7s
NST Nakhon Sawan 148.16 35 P PKPbc 18 42 47.0 +0.9
comp=E,108nm,0.8s
KKTK Khon Kaen 149.02 30 P PKPab 18 42 54.5 +2.0
QIZ Qiongzhong 149.23 16 PKP PKPdf 18 42 40.8 -3.7
QIZ PP PP 18 46 25.5 +4.8
QIZ SS SS 19 05 30.3 +1.2
QIZ Qiongzhong 149.23 16 PKPdf PKPdf 18 42 44.4 -0.1
QIZ LR LR
comp=Z,477nm,20.0s,MS5.3
STKA Stephens Creek 149.92 222 ePKP PKPdf 18 42 46.9 +1.3
comp=Z,20nm,0.8s
STKA Stephens Creek 149.92 222 i PKP PKPbc 18 42 52.0 +1.5
STKA Stephens Creek 149.92 222 PKP PKPdf 18 42 46.9 +1.3
comp=Z,42nm,0.8s,baz=92,slow=1.8,SNR=47
STKA PKPbc PKPbc 18 42 52.0 +1.5
comp=Z,67nm,0.8s,baz=114,slow=2.8,SNR=44
NNT Nongplab 150.37 39 P PKPbc 18 42 54.0 +2.4
CTA Charters Tower 151.51 248 eP PKPdf 18 42 49.9 +1.8
comp=Z,8.2nm,0.9s
CTA Charters Tower 151.51 248 i PKP PKPbc 18 42 55.9 +1.6
CTA Charters Tower 151.51 248 PKP PKPdf 18 42 50.1 +2.0
comp=Z,14nm,1.1s,baz=13,slow=2.1,SNR=6.7
CTA PKPbc PKPbc 18 42 56.0 +1.8
comp=Z,66nm,0.9s,baz=109,slow=1.5,SNR=33
CTA Charters Tower 151.51 248 PKIKP PKPdf 18 42 50.1 +2.0
CTA pmax pmax
comp=Z,14nm,1.1s
CTA pmax pmax
comp=Z,66nm,1.0s
CTAO Charters Tower 151.51 248 ePKPdf PKPdf 18 42 49.9 +1.8
CTAO ePKPbc PKPbc 18 42 55.7 +1.5
CTAO LR LR
comp=Z,339nm,20.0s,MS5.2
PMG Port Moresby 151.51 270 ⇓iPKIKP PKPdf 18 42 41.3 -6.8
FORT Forrest 158.13 203 ePKP PKPdf 18 42 57.9 +0.8
comp=Z,32nm,0.8s
AS31 Alice Springs 160.35 227 i PKP PKPdf 18 43 00.7 +1.0
ASAR Alice Springs 160.35 227 PKP PKPdf 18 43 00.9 +1.2
comp=Z,9.7nm,0.9s,baz=126,slow=1.2,SNR=71
ASAR pPKP pPKPdf 18 43 15.8 +0.1
comp=Z,12nm,1.0s,baz=111,slow=1.5,SNR=9.4
ASAR PKPab PKPab 18 43 41.8 +1.1
comp=Z,3.7nm,0.7s,baz=143,slow=3.5,SNR=9.6
ASAR Alice Springs 160.35 227 PKIKP PKPdf 18 43 00.9 +1.2
ASAR 18 43 15.8
ASAR 18 43 41.8
ASAR pmax pmax
comp=Z,10.0nm,0.9s
ASAR pmax pmax
comp=Z,12nm,1.0s
ASAR pmax pmax
comp=Z,4.0nm,0.7s

ASPA	**Alice Springs**	**160.35**	**227**	*i* PKP	PKPdf	18 43 00.7	+1.0
WB2	**Warramunga Arr**	**162.03**	**238**	*e*PKP	PKPdf	18 43 02.4	+0.9
WRAB	**Tennant Creek**	**162.03**	**238**	*e*PKPdf	PKPdf	18 43 02.6	+1.1
WRAB				LR	LR		
	comp=Z,223nm,22.0s						
WRA	**Warramunga Arr**	**162.03**	**238**	PKP	PKPdf	18 43 02.7	+1.2
	comp=Z,15nm,1.0s,baz=99,slow=0.7,SNR=78						
WRA				pPKP	pPKPdf	18 43 18.1	+0.6
	comp=Z,11nm,0.9s,baz=98,slow=0.8,SNR=7.5						
WRA				PKPab	PKPab	18 43 48.5	+0.5
	comp=Z,15nm,1.0s,baz=105,slow=2.9,SNR=4.8						
WRA	**Warramunga Arr**	**162.03**	**238**	PKIKP	PKPdf	18 43 02.7	+1.2
WRA						18 43 18.1	
WRA						18 43 48.5	
WRA				pmax	pmax		
	comp=Z,15nm,1.0s						
WRA				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA				pmax	pmax		
	comp=Z,15nm,1.0s						
FITZ	**Fitzroy Crossi**	**169.81**	**224**	*e*PKP	PKPdf	18 43 08.5	+0.8
	comp=Z,22nm,0.9s						
FITZ	**Fitzroy Crossi**	**169.81**	**224**	PKP	PKPdf	18 43 08.9	+1.1
	comp=Z,17nm,1.0s,baz=259,slow=1.6,SNR=21						
FITZ				PKPab	PKPab	18 44 23.7	+1.4
	comp=Z,16nm,0.7s,baz=172,slow=6.9,SNR=22						

IDC ***29*** *18:45:27.4±14.0, 529S×12934E, h212km±150km, mb3.0/1, mb1 3.4/4, mb1mx3.1/14, mbtmp3.9/4, Error ellipse: s-maj=126.8km s-min=42.5km az=52.0*

ISCJB ***29*** *18:45:28.3±3.2, 54S±0.1×1295E±0.2, h238km±33km, mb3.2/1, Error ellipse: s-maj=32.0km s-min=21.9km az=46.5*

NEIC ***29*** *18:45:29.6±2.8, 534S×12943E, h240km±28km, mb4.0/2, Error ellipse: s-maj=38.8km s-min=20.3km az=61.0*

ISC 29 18:45:31.3±2.5, 56S±01×1293E±02, h228km±27km, n9, σ1§16/12, mb3.2/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.72**	**156**	*e*P		**Pn**		**18 47 21.6**	**+0.7**
	10nm,0.8s								
KAKA				*e*S		**S**		**18 48 46.2**	**-2.6**
FITZ	**Fitzroy Crossi**	**12.93**	**196**	P		**Pn**		**18 48 28.4**	**+1.5**
	0.1nm,0.3s,baz=44,slow=12,SNR=10								
FITZ				S		**S**		**18 50 49.8**	**-0.9**
	0.1nm,0.3s,baz=142,slow=20,SNR=4.2								
WRAB	**Tennant Creek**	**15.08**	**161**	*e*P		**Pn**		**18 48 52.9**	**-0.3**
	4.5nm,0.6s								
WRA	**Warramunga Arr**	**15.08**	**161**	P		**Pn**		**18 48 53.2**	**0.0**
	0.8nm,0.3s,baz=335,slow=13,SNR=60								
WRA				S		**S**		**18 51 40.1**	**0.0**
	0.2nm,0.3s,baz=338,slow=22,SNR=5.1								
WB2	**Warramunga Arr**	**15.09**	**161**	*e*P		**Pn**		**18 48 52.5**	**-0.8**
AS31	**Alice Springs**	**18.51**	**167**	*e*P		**P**		**18 49 31.4**	**+0.7**
ASAR	**Alice Springs**	**18.51**	**167**	P		**P**		**18 49 31.5**	**+0.8**
	0.9nm,0.3s,baz=351,slow=12,SNR=69								
ASPA	**Alice Springs**	**18.51**	**167**	*e*P		**P**		**18 49 31.5**	**+0.8**
MKAR	**Makanchi Array**	**66.67**	**327**	P		**P**		**18 55 53.9**	**-3.7**
	0.4nm,0.7s,mb3.2,baz=114,slow=9.1,SNR=4.6								

NEIC ***29*** *19:03:36.5, 2851S×7038W, h100km, MG3.7(GUC), After GUC.*

GUC 29 19:03:36.5±0.8, 2851S×7038W, h100km±4km, ML3.7, 10C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.34**	**258**	↑*i*	P		Pn	19 03 56.0	+4.8
VACH				*i*	S		Sn	19 04 07.0	+4.8
VACH					AML		AML	19 04 08.0	
	comp=N,14μm,0.4s								
VACH	**Vallenar**	**0.34**	**258**	↑*i*	P		Pn	19 03 56.0	+4.8
VACH				*i*	S		Sn	19 04 07.0	+4.8
LCO	**Las Campanas**	**0.58**	**209**	↑*i*	P		Pn	19 03 53.8	+1.0
LCO				*i*	S		Sn	19 04 06.7	+1.7
CPCH	**Copiapo**	**1.14**	**1**	↑*i*	P		Pn	19 03 59.1	+0.6
CPCH				*i*	S		Sn	19 04 15.5	+0.5
CDCH	**Caldera**	**1.48**	**344**	↓*i*	P		Pn	19 04 03.0	+0.6
CDCH				*i*	S		Sn	19 04 22.2	0.0
CDCH					AML		AML	19 04 23.6	
	comp=E,878nm,0.2s								
CDCH	**Caldera**	**1.48**	**344**	↓*i*	P		Pn	19 04 03.0	+0.6
CDCH				*i*	S		Sn	19 04 22.2	0.0
LSCH	**La Serena**	**1.59**	**208**	*i*	P		Pn	19 04 03.7	-0.1
LSCH				*i*	S		Sn	19 04 25.3	+0.8
TLL	**Tololo Astrono**	**1.70**	**192**	↑*i*	P		Pn	19 04 06.4	+1.2
TLL				*i*	S		Sn	19 04 28.7	+1.8
TLL					AML		AML	19 04 31.4	
	comp=E,604nm,0.3s								
TLL	**Tololo Astrono**	**1.70**	**192**	↑*i*	P		Pn	19 04 06.4	+1.2
TLL				*i*	S		Sn	19 04 28.7	+1.8
OVCH	**Ovalle**	**2.21**	**199**	↑*i*	P		Pn	19 04 12.3	+0.5
OVCH				*i*	S		Sn	19 04 39.1	+0.3
OVCH					AML		AML	19 04 40.2	
	comp=E,353nm,0.3s								
OVCH	**Ovalle**	**2.21**	**199**	↑*i*	P		Pn	19 04 12.3	+0.5
OVCH				*i*	S		Sn	19 04 39.1	+0.3
CMCH	**Combarbala**	**2.71**	**191**	↑*i*	P		Pn	19 04 18.3	0.0
CMCH				*i*	S		Sn	19 04 50.6	+0.1
CMCH					AML		AML	19 05 17.9	
	comp=E,482nm,0.7s								
CMCH	**Combarbala**	**2.71**	**191**	↑*i*	P		Pn	19 04 18.3	0.0
CMCH				*i*	S		Sn	19 04 50.6	+0.1
CHNG	**Los Chungos**	**3.50**	**196**	*i*	S		Sn	19 05 09.4	-0.1
CHNG					AML		AML	19 05 10.7	
	comp=N,58nm,0.5s								
FCH	**Farellones**	**4.81**	**179**	*e*P			Pn	19 04 47.9	+1.3
FCH				*i*	S		Sn	19 05 42.2	+1.2

MOS 29 19:14:29.9±0.2, 4380N×4513E, h15km, mb4.1/1, 2C-5D, Error ellipse: s-maj=29.2km s-min=10.4km az=51.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.29**	**256**	↓*i*	PG		Pg	19 14 37.4	+1.3
TRKR				*i*	S		Sg	19 14 44.0	+3.7
KMSR	**Komsomolskaya**	**0.74**	**235**	↓*i*	PG		Pg	19 14 44.8	+0.5
KMSR				*i*	S		Sg	19 14 56.8	+2.7
VLKR	**Vladikavkaz**	**0.82**	**204**	*e*	PG		Pg	19 14 45.7	-0.1
VLKR				*e*	S		Sg	19 14 58.4	+1.8
ARNR	**Ardon**	**0.87**	**226**	↓*i*	PG		Pg	19 14 46.8	+0.1
ARNR				*i*	S		Sb	19 15 00.3	+2.3
KORR	**Kora**	**1.05**	**228**	↑*i*	PG		Pg	19 14 49.8	-0.4
KORR				*i*	S		Sb	19 15 05.6	+2.3
LACR	**Lac**	**1.15**	**212**	↓*i*	PG		Pg	19 14 51.2	-0.8
LACR				*i*	S		Sb	19 15 07.4	+1.3
ZEI	**Tsey**	**1.36**	**222**	↓*i*	PG		Pg	19 14 54.2	-1.9
ZEI				*i*	S		Sn	19 15 12.5	+0.3
DIGR	**Digorskoe uzhe**	**1.44**	**232**	↑*i*	PG		Pg	19 14 55.5	-2.1
DIGR				*i*	S		Sn	19 15 15.0	+0.9
KIV	**Kislovodsk**	**1.77**	**276**	*e*	PN		Pn	19 15 00.9	+0.9
KIV					pmax	pmax			
	comp=Z,5.0nm,0.9s								

IDC ***29*** *19:14:41.8±1.3, 1644S×17231W, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/16, mbtmp4.1/6, ML1.7/1, MS3.4/4, Ms1 3.4/4, ms1mx3.2/19, Error ellipse: s-maj=41.8km s-min=23.7km az=109.0*

ISCJB ***29*** *19:14:44.9±3.3, 162S±0.1×1723W±0.3, h43km±38km, mb4.1/5, MS3.4/3, Error ellipse: s-maj=41.0km s-min=23.8km az=25.6*

NEIC ***29*** *19:14:46.5±0.8, 1630S×17237W, h35km, Error ellipse: s-maj=29.9km s-min=13.6km az=119.0*

ISC 29 19:14:46.8±3.9, 162S±02×1720W±04, h58km±57km, n19, σ0§34/11, mb4.1/5, MS3.4/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.32**	**5**	Pn		**Pn**		**19 15 22.9**	**+0.3**
	9.6nm,0.3s,baz=205,slow=5.6,SNR=6.2								
AFI				Sn		**Sn**		**19 15 49.6**	**-0.3**
	78nm,0.3s,baz=24,slow=20,SNR=13								
RAR	**Rarotonga**	**12.60**	**115**	LR		LR		19 20 29.5	
	comp=Z,47nm,20.8s,baz=150,slow=27								
DZM	**Mont Dzumac**	**21.16**	**251**	LR		LR		19 24 17.8	
	comp=Z,84nm,21.0s,MS3.1,baz=183,slow=28								
PPT	**Papeete**	**21.50**	**97**	*e*LR		LR		19 24 23.6	
	368nm,27.0s,baz=275								
PPT	**Papeete**	**21.50**	**97**	LR		LR		19 25 45.5	
	comp=Z,92nm,19.4s,MS3.2,baz=326,slow=30								
TBI	**Tubuai**	**22.34**	**112**	*e*LR		LR		19 24 38.9	
	314nm,27.8s,baz=300								
URZ	**Urewera**	**23.94**	**201**	P		**P**		**19 19 55.3**	**-0.3**
	2.6nm,0.5s,mb3.9,baz=40,slow=18,SNR=3.6								
HNR	**Honiara**	**28.15**	**280**	LR		LR		19 29 59.0	
	comp=Z,346nm,21.6s,MS3.9,baz=180,slow=33								
RKT	**Rikitea**	**35.46**	**107**	*e*LR		LR		19 30 54.5	
	196nm,25.0s								
STKA	**Stephens Creek**	**44.80**	**241**	P		**P**		**19 22 54.4**	**-0.4**
	6.6nm,1.1s,mb4.4,baz=16,slow=6.2,SNR=4.2								
STKA	**Stephens Creek**	**44.80**	**241**	P		**P**		**19 22 54.4**	**-0.4**
WRA	**Warramunga Arr**	**50.97**	**257**	P		**P**		**19 23 43.2**	**+0.7**
	0.4nm,0.4s,mb3.7,baz=96,slow=7.2,SNR=20								
AS31	**Alice Springs**	**51.13**	**253**	*e*P		**P**		**19 23 43.6**	**-0.1**
ASAR	**Alice Springs**	**51.14**	**253**	P		**P**		**19 23 43.8**	**0.0**
	4.7nm,0.8s,mb4.5,baz=86,slow=8.6,SNR=47								
VNDA	**Vanda**	**62.69**	**186**	P		**P**		**19 25 05.7**	**+0.2**
	1.0nm,1.0s,mb3.9,baz=6.9,slow=5.4,SNR=8.6								
VNDA	**Vanda**	**62.69**	**186**	P		**P**		**19 25 05.7**	**+0.1**
MSU	**Marysvale**	**78.08**	**44**	*e*P		**P**		**19 26 45.7**	**+6.3**
GERES	**GERESS Array B**	**147.14**	**353**	PKPbc		PKPbc		19 34 27.9	+4.5
	1.0nm,1.1s,baz=64,slow=3.1,SNR=5.1								
BRTR	**Keskin Array B**	**147.64**	**321**	PKPbc		PKPbc		19 34 29.0	+4.3
	0.6nm,0.6s,baz=55,slow=1.5,SNR=5.6								

IDC 29 20:01:48.0±2.4, 1050S×11970E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/14, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=172.2km s-min=24.8km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.50**	**143**	*e*P		Pn		20 04 05.0	-1.0
	4.5nm,0.6s								
FITZ	**Fitzroy Crossi**	**9.50**	**143**	Pn		Pn		20 04 05.2	-0.8
	0.4nm,0.3s,baz=330,slow=13,SNR=15								
FITZ				Sn		Sn		20 05 46.2	-7.2
	0.3nm,0.3s,baz=184,slow=18,SNR=4.3								
WRA	**Warramunga Arr**	**16.95**	**125**	Pn		Pn		20 05 46.0	-0.4
	0.1nm,0.3s,baz=302,slow=11,SNR=6.9								
WRA				Sn		Sn		20 08 55.6	+0.2
	0.1nm,0.3s,baz=294,slow=23,SNR=3.1								
ASAR	**Alice Springs**	**18.84**	**136**	P		Pn		20 06 10.9	+1.2
	0.1nm,0.3s,baz=304,slow=10,SNR=11								
MKAR	**Makanchi Array**	**66.10**	**333**	P		P		20 12 36.9	0.0
	0.3nm,0.5s,baz=153,slow=6.7,SNR=4.3								

IDC 29 20:15:47.5±7.5, 1597S×17296W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/16, mbtmp4.0/3, ML2.6/1, Error ellipse: s-maj=303.8km s-min=27.7km az=136.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.35**	**29**	Pn		Pn		20 16 26.2	-1.1
	77nm,0.3s,baz=74,slow=1.1,SNR=56								
AFI				Sn		Sn		20 16 46.7	-10
	72nm,0.3s,baz=351,slow=23,SNR=5.2								
WRA	**Warramunga Arr**	**50.13**	**257**	P		P		20 24 44.3	-0.2
	0.3nm,0.3s,baz=96,slow=8.1,SNR=30								
ASAR	**Alice Springs**	**50.34**	**252**	P		P		20 24 46.4	+0.4
	1.6nm,0.6s,baz=89,slow=7.5,SNR=38								
BRTR	**Keskin Array B**	**146.86**	**321**	PKPbc		PKPbc		20 35 33.0	+1.3
	0.9nm,0.8s,baz=61,slow=4.5,SNR=5.2								

IDC 29 20:50:24.5±11.0, 2030S×17512W, h268km±98km, mb3.6/4, mb1 3.7/6, mb1mx3.4/18, mbtmp4.3/6, Error ellipse: s-maj=83.5km s-min=32.6km az=40.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.29**	**261**	*e*P		P		20 54 09.4	+1.2
DZM	**Mont Dzumac**	**17.29**	**261**	P		P		20 54 09.4	+1.1
	1.2nm,0.3s,baz=66,slow=16,SNR=15								
URZ	**Urewera**	**19.12**	**199**	P		P		20 54 27.8	-0.2
	0.7nm,0.3s,baz=2.2,slow=2.0,SNR=6.1								
CTA	**Charters Tower**	**36.20**	**263**	*e*P		P		20 57 01.3	-0.6
	5.5nm,0.6s								
CTA	**Charters Tower**	**36.20**	**263**	P		P		20 57 01.4	-0.5
	5.7nm,0.3s,baz=90,slow=12,SNR=13								
ASAR	**Alice Springs**	**47.19**	**256**	P		P		20 58 31.5	+0.9
	2.8nm,0.6s,baz=94,slow=8.3,SNR=21								
WRA	**Warramunga Arr**	**47.30**	**261**	P		P		20 58 30.6	-0.8
	2.0nm,0.8s,baz=95,slow=6.8,SNR=13								
FITZ	**Fitzroy Crossi**	**55.73**	**262**	P		P		20 59 35.3	+1.7
	1.7nm,1.0s,baz=90,slow=5.1,SNR=5.5								
BRTR	**Keskin Array B**	**148.67**	**314**	PKPbc		PKPbc		21 09 40.0	+0.1
	0.7nm,0.5s,baz=147,slow=3.4,SNR=5.2								

IDC ***29*** *21:14:08.9±1.4, 162N×9674E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, ML2.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/29, Error ellipse: s-maj=44.6km s-min=20.2km az=49.0*

ISCJB ***29*** *21:14:10.8±1.0, 16N±0.1×967E±0.1, h30km, mb3.8/8, Error ellipse: s-maj=25.6km s-min=14.3km az=87.7*

NEIC ***29*** *21:14:13.4±0.8, 165N×9685E, h30km, mb4.0/1, Error ellipse: s-maj=23.4km s-min=14.2km az=47.0*

ISC 29 21:14:13.3±1.0, 17N±01×968E±01, h30km, n11, σ1§00/10, mb3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**62**	Pn		**Pn**		**21 14 49.9**	**-0.5**
	1.1nm,0.3s,baz=215,slow=2.8,SNR=2.8								
PSI				LR		LR		21 15 41.5	
	comp=Z,228nm,19.6s,baz=11,slow=38								
WRA	**Warramunga Arr**	**42.61**	**122**	P		**P**		**21 22 07.0**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=301,slow=9.1,SNR=5.4								
WRAB	**Tennant Creek**	**42.61**	**122**	P		**P**		**21 22 05.5**	**-1.2**
	2.3nm,0.7s,mb4.0								
ASAR	**Alice Springs**	**43.98**	**127**	P		**P**		**21 22 18.6**	**+0.9**
	0.3nm,0.6s,mb3.2,baz=304,slow=7.9,SNR=6.0								
MKAR	**Makanchi Array**	**46.69**	**346**	P		**P**		**21 22 40.1**	**+0.8**
	1.6nm,0.7s,mb4.0,baz=166,slow=7.7,SNR=16								
SONM	**Songino Array**	**46.73**	**9**	P		**P**		**21 22 40.3**	**+0.8**
	0.7nm,0.7s,mb3.7,baz=188,slow=8.0,SNR=7.1								
BVAR	**Borovoye Array**	**55.68**	**341**	P		**P**		**21 23 47.0**	**+0.3**
	1.1nm,0.8s,mb4.0,baz=134,slow=6.4,SNR=7.9								
AKTK	**Aktyubinsk**	**58.64**	**332**	P		**P**		**21 24 06.1**	**-1.5**
AKTO	**Aktyubinsk**	**58.64**	**332**	P		**P**		**21 24 06.1**	**-1.5**
	0.4nm,0.3s,mb3.9,baz=175,slow=11,SNR=3.8								
ARCES	**ARCESS Array B**	**81.97**	**340**	P		**P**		**21 26 31.5**	**+1.4**
	1.9nm,0.9s,mb4.0,baz=96,slow=5.5,SNR=3.0								
PLCA	**Paso Flores**	**139.47**	**195**	PKP		PKPdf		21 33 39.5	+1.8
	1.1nm,0.7s,baz=162,slow=3.2,SNR=2.8								

IDC ***29*** *21:43:54.1±1.2, 538S×15298E, h0km, mb4.0/8, mb1 4.2/10, mb1mx4.1/14, mbtmp4.0/10, ML3.2/2, MS3.9/3, Ms1 3.9/3, ms1mx3.3/24, Error ellipse: s-maj=40.3km s-min=18.1km az=101.0*

ISCJB ***29*** *21:43:59.0±3.9, 54S±0.1×1528E±0.2, h41km±31km, mb4.0/13, MS4.0/3, Error ellipse: s-maj=27.8km s-min=17.9km az=8.8*

NEIC ***29*** *21:44:01.5±3.2, 540S×15278E, h50km±25km, mb4.4/6, Error ellipse: s-maj=29.1km s-min=13.9km az=89.0*

ISC 29 21:44:01.1±3.5, 54S±01×1529E±02, h46km±27km, n25, σ0§92/21, mb4.0/13, MS4.0/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.90**	**235**	Pn		**Pn**		**21 45 40.2**	**+0.6**
	1.6nm,0.3s,baz=2.6,slow=3.0,SNR=9.2								
PMG				Sn		**Sn**		**21 46 56.4**	**-0.4**
	3.6nm,0.3s,baz=20,slow=19,SNR=13								
CTA	**Charters Tower**	**15.94**	**203**	Pn		**Pn**		**21 47 42.5**	**+0.5**
	0.1nm,0.3s,baz=50,slow=16,SNR=2.2								
KAKA	**Kakadu**	**21.41**	**249**	*e*P		**P**		**21 48 45.3**	**+0.3**
	15nm,0.6s,mb4.5								
WRAB	**Tennant Creek**	**23.07**	**230**	*e*P		**P**		**21 49 02.9**	**+0.2**
	10.0nm,0.8s,mb4.3								
WB2	**Warramunga Arr**	**23.08**	**230**	*e*P		**P**		**21 49 02.7**	**0.0**
WB2	**Warramunga Arr**	**23.08**	**230**	*e*P		**P**		**21 49 00.8**	**-1.9**
WRA	**Warramunga Arr**	**23.09**	**230**	P		**P**		**21 49 02.7**	**-0.1**
	3.4nm,0.7s,mb3.9,baz=54,slow=9.7,SNR=33								
AS31	**Alice Springs**	**25.74**	**223**	*e*P		**P**		**21 49 26.9**	**-0.3**
ASAR	**Alice Springs**	**25.74**	**223**	P		**P**		**21 49 26.9**	**-0.3**
	2.0nm,0.8s,mb3.7,baz=57,slow=9.1,SNR=15								
STKA	**Stephens Creek**	**28.36**	**200**	P		**P**		**21 49 49.6**	**-1.2**
	1.6nm,0.6s,mb3.8,baz=22,slow=13,SNR=7.0								
FITZ	**Fitzroy Crossi**	**29.42**	**242**	*e*P		**P**		**21 50 00.2**	**0.0**
	6.2nm,1.0s,mb4.3								
FITZ	**Fitzroy Crossi**	**29.42**	**242**	P		**P**		**21 50 00.6**	**+0.5**
	4.9nm,1.0s,mb4.2,baz=90,slow=5.9,SNR=7.9								
MJAR	**Matsushiro Arr**	**43.93**	**343**	P		**P**		**21 52 01.4**	**-2.0**
	1.2nm,0.8s,mb3.7,baz=166,slow=7.3,SNR=4.8								
RAR	**Rarotonga**	**48.48**	**114**	LR		LR		22 09 02.4	
	comp=Z,78nm,19.3s,MS3.7,baz=102,slow=31								
SONM	**Songino Array**	**66.87**	**328**	P		**P**		**21 54 49.0**	**+0.6**
	1.0nm,0.7s,mb4.0,baz=150,slow=6.0,SNR=8.1								
CASY	**Casey**	**67.45**	**197**	*e*P		**P**		**21 54 53.4**	**+1.4**
	9.4nm,1.0s,mb4.8								
LSA	**Lhasa**	**68.63**	**305**	*e*P		**P**		**21 55 01.3**	**+1.9**
	2.8nm,0.7s,mb4.3								
VNDA	**Vanda**	**72.22**	**178**	P		**P**		**21 55 21.2**	**-0.1**
	0.5nm,0.9s,mb3.4,baz=339,slow=7.3,SNR=3.4								
VNDA				LR		LR		22 24 36.0	
	comp=Z,57nm,19.8s,MS3.8,baz=256,slow=34								
VNDA	**Vanda**	**72.22**	**178**	P		**P**		**21 55 21.2**	**-0.1**
VNDA				LR		LR		22 24 36.0	
MKAR	**Makanchi Array**	**80.82**	**319**	P		**P**		**21 56 10.6**	**+0.7**
	0.9nm,0.8s,mb3.8,baz=97,slow=5.0,SNR=8.0								
ZRNK	**Zerenda**	**90.58**	**323**	*e*P		**P**		**21 56 57.2**	**-1.2**
	1.6nm,0.8s,mb4.3								
PDAR	**Pinedale Array**	**99.22**	**48**	LR		LR		22 41 14.3	
	comp=Z,102nm,18.3s,MS4.4,baz=299,slow=35								
GERES	**GERESS Array B**	**124.60**	**328**	PKP		PKPdf		22 02 56.4	+1.0
	0.5nm,0.7s,baz=100,slow=1.6,SNR=4.9								
TORD	**Torodi Ar. Bea**	**150.54**	**287**	PKPbc		PKPbc		22 03 48.7	+1.0
	2.6nm,0.8s,baz=62,slow=2.1,SNR=11								
TORD	**Torodi Ar. Bea**	**150.54**	**287**	PKPbc		PKPbc		22 03 48.7	+0.9

NEIC 29 21:54:09.5, 3745N×11884W, h9km, ML3.8(NCEDC), After NCEDC., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTUM	**Tungsten Hills**	**0.24**	**113**	*e*P		Pg		21 54 14.2	-0.1
CMB	**Columbia Colle**	**1.36**	**296**	*e*P		Pn		21 54 33.8	-0.8
CMB				*e*S		Sb		21 54 51.2	-1.3
TPH	**Tonopah**	**1.43**	**64**	*e*P		Pn		21 54 35.4	-0.1
DAC	**Darwin (Calif)**	**1.54**	**139**	*e*P		Pn		21 54 37.1	0.0
DAC				*e*S		Sn		21 54 57.7	+0.5
LRV	**Little Rabbit**	**2.02**	**240**	*e*P		Pn		21 54 44.6	+0.9
PTRM	**Twissleman Ran**	**2.10**	**212**	*e*P		Pn		21 54 45.2	+0.4
SAO	**San Andreas Ge**	**2.19**	**253**	*e*Pn		Pn		21 54 47.4	+1.4
OHCM	**Honcut**	**2.80**	**313**	*e*Pn		Pn		21 54 55.3	+0.8
SAC	**San Andreas**	**2.85**	**274**	*e*Pn		Pn		21 54 55.8	+0.8
SAC				*e*Sn		Sn		21 55 35.8	+6.3
MCCM	**Marconi Confer**	**3.27**	**283**	*e*Pn		Pn		21 55 01.7	+0.7
ARUT	**Antelope Range**	**4.30**	**84**	*e*Pn		Pn		21 55 16.5	+1.5
ARUT				*e*Sn		Sn		21 56 24.9	+20
ELK	**Elko**	**4.32**	**39**	*e*Pn		Pn		21 55 18.2	+2.8
CCUT	**Cedar City**	**4.36**	**87**	*e*Pn		Pn		21 55 15.6	-0.2
CCUT				*e*Pg		Pg		21 55 30.5	-2.5
CCUT				*e*S		Sn		21 56 21.6	+15
WVOR	**Wild Horse Val**	**4.98**	**2**	Pn		Pn		21 55 24.6	+0.2
MSU	**Marysvale**	**5.37**	**77**	Pn		Pn		21 55 28.2	-1.6
MSU				*e*Pg		Pg		21 55 48.5	-3.8
DUG	**Dugway**	**5.45**	**58**	Pn		Pn		21 55 34.3	+3.5
	20nm,1.0s								
DUG				*e*Pg		Pg		21 55 51.0	-2.8
BGU	**Big Grassy Mou**	**5.70**	**51**	*e*Pn		Pn		21 55 36.3	+2.1
SPUT	**South Promonto**	**6.27**	**50**	Pn		Pn		21 55 39.8	-2.4
SPUT				*e*Pg		Pg		21 56 04.3	-5.3
SPUT				*e*S		Sn		21 57 23.3	+29
WUAZ	**Wupatki**	**6.32**	**106**	Pg		Pg		21 56 05.3	-5.1
	7.5nm,0.8s								
HVU	**Hansel Valley**	**6.37**	**45**	*e*Pn		Pn		21 55 44.8	+1.3
HVU				*e*Pg		Pg		21 56 07.4	-4.2
SRU	**San Rafael**	**6.75**	**73**	*e*Pn		Pn		21 55 48.0	-0.7
	6.3nm,0.8s								
HLID	**Hailey**	**6.98**	**28**	*e*Pg		Pg		21 56 15.4	-7.6
	5.2nm,0.9s

WRA	**Warramunga Arr**	**44.47**	**272**	P		**P**	**22 06 03.9**	**+0.2**
	3.4nm,0.4s,mb4.4,baz=111,slow=8.1,SNR=58							
VNDA	**Vanda**	**48.02**	**186**	LR	LR		22 23 45.9	
	comp=Z,52nm,18.2s,MS3.5,baz=258,slow=32							
FINES	**FINESS Array B**	**145.38**	**340**	PKPbc	PKPbc		22 17 29.9	-0.5
	2.5nm,0.7s,baz=81,slow=2.5,SNR=14							
NB2	**NORSAR Subarra1**	**48.92**	**352**	PKPa	PKPbc		22 17 40.0	-0.4
	comp=Z,1.0nm,0.8s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.92**	**352**	PKPbc	PKPbc		22 17 40.7	+0.4
	comp=Z,0.7nm,0.7s,baz=14,slow=4.2,SNR=3.2							
NOA	**NORSAR Array B**	**148.92**	**352**	PKPbc	PKPbc		22 17 40.7	+0.4
AKASG	**Malin Array Be**	**151.61**	**323**	PKPbc	PKPbc		22 17 47.0	+0.2
	comp=Z,0.9nm,0.4s,baz=50,slow=3.0,SNR=6.3							

ISC 29 22:05:55.2±0.8, 4112N±004×3449E±007, h10km, n5, σ0§61/10, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BYBT	**Boyabat**	**0.41**	**31**	PG		**Pg**	**22 06 02.8**	**-0.5**
BYBT				SG		**Sg**	**22 06 08.6**	**-0.2**
BOYT	**Boyabat**	**0.44**	**46**	*i* P		**Pg**	**22 06 03.6**	**-0.1**
BOYT				*i* S		**Sg**	**22 06 10.5**	**+0.9**
CTKT	**Corum**	**0.54**	**155**	*i* P		**Pg**	**22 06 05.2**	**-0.5**
CTKT				*i* S		**Sg**	**22 06 12.9**	**0.0**
CORM	**Corum**	**0.94**	**173**	*e*PG		**Pg**	**22 06 12.2**	**-1.1**
CORM				*e*SG		**Sg**	**22 06 26.6**	**+1.0**
ELDT	**Eldivan**	**1.02**	**233**	*i* P		**Pg**	**22 06 15.1**	**+0.3**
ELDT				*i* S		**Sg**	**22 06 28.2**	**+0.2**

*NEIC **29** 22:12:13.4, 1357N×9324W, h30km, mb4.4/20, MD4.7(MEX), After MEX.*
*MEX **29** 22:12:13.2±0.7, 1358N×9323W, h16km±59km, MD4.7*
*ISCJB **29** 22:12:16.8±0.4, 1390N±004×9324W±004, h33km, mb4.2/34, MS3.8/12, Error ellipse: s-maj=6.8km s-min=4.2km az=87.9*
*IDC **29** 22:12:16.1±0.7, 1455N×9257W, h0km, mb4.2/20, mb1 4.4/22, mb1mx4.3/28, mbtmp4.2/22, ML3.6/2, MS3.7/14, Ms1 3.8/14, ms1mx3.5/31, Error ellipse: s-maj=31.9km s-min=11.3km az=53.0*
*BJI **29** 22:12:16.4, 1360N×9320W, h30km, mB5.3, Ms4.8, Msz4.6*

ISC 29 22:12:19.5±0.4, 1400N±005×9311W±005, h35km, n114, σ1§49/102, mb4.2/34, MS3.8/12, 2C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TP2	**Tecpan 2**	**2.17**	**69**	*e*P		**Pn**	**22 12 52.0**	**-1.1**
CCIG	**Comitan**	**2.46**	**22**	*e*P		**Pn**	**22 12 56.4**	**-0.7**
CCIG				*i* S		**Sn**	**22 13 28.6**	**+2.7**
SCX	**San Cristobal**	**2.76**	**9**	*i* P		**Pn**	**22 13 00.8**	**-0.5**
SCX				*i* S		**Sn**	**22 13 38.2**	**+4.8**
RBDL	**Robledal**	**3.32**	**88**	*e*P		x	22 13 11.1	
RTR	**El Retiro**	**3.36**	**91**	*e*P		x	22 13 11.2	
SBLS	**San Blas**	**3.38**	**92**	*e*P		x	22 13 11.7	
HUIG	**Huatulco**	**3.40**	**302**	*i* P		**Pn**	**22 13 05.7**	**-4.3**
HUIG				*i* S		**Sn**	**22 13 45.8**	**-3.3**
SNJE	**San Jose**	**3.40**	**92**	*e*P		x	22 13 11.3	
CMIG	**Matias Romero**	**3.52**	**331**	Pn		**Pn**	**22 13 08.7**	**-3.0**
	7.2nm,0.3s,baz=136,slow=10,SNR=23							
CMIG				Sn		**Sn**	**22 13 52.8**	**+0.6**
	16nm,0.3s,baz=10.0,slow=7.8,SNR=7.2							
CMIG				LR		LR	22 14 04.3	
	comp=Z,197nm,21.5s,baz=153,slow=32							
CMIG	**Matias Romero**	**3.52**	**331**	*i* P		**Pn**	**22 13 08.7**	**-3.0**
CMIG				*i* S		**Sn**	**22 13 52.8**	**+0.6**
BOQS	**Boqueron**	**3.72**	**94**	*e*P		x	22 13 16.4	
LFRS	**El Faro**	**3.95**	**95**	*e*P		x	22 13 19.4	
LCBS	**La Ceiba**	**4.02**	**94**	*e*P		x	22 13 20.6	
TUIG	**Tuzandepetl**	**4.21**	**343**	*i* P		**Pn**	**22 13 21.4**	**+0.2**
TUIG				*i* S		**Sn**	**22 14 12.1**	**+3.0**
OXX	**Oaxaca**	**4.64**	**312**	*e*P		**Pn**	**22 13 23.0**	**-4.1**
OXX	**Oaxaca**	**4.64**	**312**	*e*P		**Pn**	**22 13 28.0**	**+0.9**
VHO	**Vista Hermosa**	**4.65**	**312**	*e*P		**Pn**	**22 13 23.3**	**-3.8**
VHO				*i* S		**Sn**	**22 14 17.8**	**-2.0**
SCIG	**Sabancuy, Camp**	**5.28**	**20**	*i* P		**Pn**	**22 13 34.6**	**-1.2**
SCIG				*i* S		**Sn**	**22 14 40.5**	**+5.1**
TPIG	**Tehuac#an**	**6.00**	**318**	*i* P		**Pn**	**22 13 41.2**	**-4.6**
TPIG				*i* S		**Sn**	**22 14 52.9**	**-0.5**
PPM	**Popocatepetl**	**7.31**	**314**	*i* P		**Pn**	**22 14 00.4**	**-3.4**
PPM				*i* S		**Sn**	**22 15 22.7**	**-2.8**
PPM	**Popocatepetl**	**7.31**	**314**	*i* P		**Pn**	**22 14 00.4**	**-3.4**
PPM				*i* S		**Sn**	**22 15 34.0**	**+8.5**
MEIG	**Mezcala**	**7.38**	**303**	*e*P		**Pn**	**22 14 02.1**	**-2.6**
IIO	**Organos**	**7.74**	**317**	*i* P		**Pn**	**22 14 11.3**	**+1.7**
JTS	**JuntasAbangare**	**8.78**	**114**	Pn		**Pn**	**22 14 21.8**	**-2.1**
	0.7nm,0.3s,baz=294,slow=20,SNR=3.8							
HKT	**Hockley**	**16.08**	**351**	*e*Pn		**Pn**	**22 16 03.4**	**+0.6**
	65nm,1.9s							
JCT	**Junction City**	**17.53**	**340**	*e*Pn		**Pn**	**22 16 25.3**	**+4.2**
	8.1nm,0.7s							
LPIG	**La Paz**	**19.10**	**304**	LR	LR	LR	22 24 40.0	
	comp=Z,335nm,18.8s,baz=360,slow=39							
MIAR	**Mount Ida**	**20.46**	**359**	*e*P		**P**	**22 16 52.2**	**-1.8**
	23nm,1.1s							
ROSC	**El Rosal**	**20.61**	**114**	P		**P**	**22 16 59.2**	**+3.6**
	10nm,0.5s,baz=95,slow=19,SNR=10							
ROSC	**El Rosal**	**20.61**	**114**	P		**P**	**22 16 59.2**	**+3.6**
ROSC				*e*Pn		**P**	**22 17 00.1**	**+4.5**
UALR	**University of**	**20.70**	**2**	*e*P		**P**	**22 16 54.8**	**-1.8**
	22nm,0.9s							
GDL2	**Guadalupe Moun**	**20.84**	**332**	*e*P		**P**	**22 16 59.1**	**+1.0**
MNTX	**Cornudas Mount**	**20.91**	**329**	*e*P		**P**	**22 16 58.8**	**0.0**
WMOK	**Wichita Mounta**	**21.28**	**347**	*e*P		**P**	**22 17 02.8**	**0.0**
PLAL	**Pickwick Lake**	**21.38**	**11**	*e*Pn		**P**	**22 17 07.0**	**+3.1**
WVT	**Waverly**	**22.54**	**11**	*e*P		**P**	**22 17 12.8**	**-3.5**
	9.6nm,1.0s,mb4.2							
SDV	**Santo Domingo**	**22.60**	**101**	P		**P**	**22 17 16.3**	**-0.5**
	23nm,0.8s,mb4.6,baz=310,slow=3.9,SNR=25							
SDV	**Santo Domingo**	**22.60**	**101**	*e*P		**P**	**22 17 18.5**	**+1.6**
TKL	**Tuckaleechee C**	**23.15**	**20**	LR	LR	LR	22 27 41.3	
	comp=Z,258nm,19.5s,MS3.7,baz=276,slow=41							
LPM	**Los Pinos Moun**	**23.65**	**331**	*e*P		**P**	**22 17 28.6**	**+1.0**
LAZ	**Ladron**	**23.96**	**330**	*e*P		**P**	**22 17 31.4**	**+0.9**
CCM	**Cathedral Cave**	**24.02**	**4**	*e*P		**P**	**22 17 27.6**	**-3.5**
	10nm,0.8s,mb4.3							
ANMO	**Albuquerque**	**24.10**	**332**	P		**P**	**22 17 31.1**	**-0.6**
	3.7nm,1.0s,mb3.8,baz=151,slow=10,SNR=5.8							
ANMO	**Albuquerque**	**24.10**	**332**	*e*P		**P**	**22 17 33.2**	**+1.5**
TUC	**Tucson**	**24.36**	**321**	*e*P		**P**	**22 17 36.0**	**+1.9**
WCI	**Wyandotte Cave**	**24.88**	**13**	*e*P		**P**	**22 17 34.9**	**-4.0**
	9.8nm,0.8s,mb4.4							
KSU1	**Kansas State U**	**25.20**	**354**	*e*P		**P**	**22 17 40.0**	**-1.7**
CBKS	**Cedar Bluff**	**25.41**	**348**	*e*P		**P**	**22 17 42.4**	**-1.2**
ATAH	**Atahualpa**	**25.46**	**144**	LR	LR	LR	22 25 27.5	
	comp=Z,118nm,22.0s,MS3.4,baz=196,slow=31							
FWV	**Forest Hill**	**25.91**	**23**	*e*P		**P**	**22 17 45.2**	**-3.0**
SDCO	**Great Sand Dun**	**26.10**	**337**	*e*P		**P**	**22 17 51.5**	**+1.6**
	13nm,1.2s,mb4.3							
WUAZ	**Wupatki**	**27.01**	**326**	*e*P		**P**	**22 18 00.1**	**+1.9**
	12nm,1.2s,mb4.3							
PV01	**Paradox Valley**	**27.68**	**333**	*e*P		**P**	**22 18 05.0**	**+0.8**
SMCO	**Snowmass**	**27.91**	**337**	*e*P		**P**	**22 18 08.7**	**+2.5**
	12nm,1.3s,mb4.3							
ECSD	**EROS,Sioux Fal**	**29.79**	**355**	*e*P		**P**	**22 18 20.6**	**-2.3**
TCUT	**Toone Canyon**	**31.38**	**333**	*e*P		**P**	**22 18 38.1**	**+1.2**
PDAR	**Pinedale Array**	**31.99**	**337**	P		**P**	**22 18 41.2**	**-1.1**
	1.3nm,0.9s,mb3.8,baz=147,slow=8.3,SNR=8.3							
REDW	**Red Top Meadow**	**33.00**	**336**	*e*P		**P**	**22 18 52.1**	**+0.9**
NVAR	**Mina Array Bea**	**33.01**	**322**	P		**P**	**22 18 53.0**	**+1.7**
	3.0nm,0.8s,mb4.3,baz=135,slow=9.0,SNR=24							
SNOW	**Snow King Moun**	**33.05**	**336**	*e*P		**P**	**22 18 52.8**	**+1.3**
LOHW	**Long Hollow**	**33.11**	**336**	*e*P		**P**	**22 18 52.5**	**+0.4**
	5.8nm,0.8s,mb4.6							
TPAW	**Teton Pass**	**33.15**	**336**	*e*P		**P**	**22 18 53.5**	**+1.1**
RRI2	**Red Ridge**	**33.17**	**335**	*e*P		**P**	**22 18 59.4**	**+6.8**
MOOW	**Moose Ponds**	**33.28**	**336**	*e*P		**P**	**22 18 53.6**	**0.0**
	4.6nm,0.9s,mb4.4							
IMW	**Indian Meadow**	**33.48**	**336**	*e*P		**P**	**22 18 56.0**	**+0.7**
	4.1nm,0.8s,mb4.4							
FLWY	**Flagg Ranch**	**33.55**	**337**	*e*P		**P**	**22 18 53.9**	**-2.0**
	4.1nm,0.7s,mb4.5							
BMN	**Battle Mountai**	**33.74**	**326**	*e*P		**P**	**22 18 59.1**	**+1.5**
	5.5nm,1.0s,mb4.4							
HLID	**Hailey**	**34.67**	**332**	*e*P		**P**	**22 19 06.6**	**+0.9**
	4.2nm,1.0s,mb4.3							
MCMT	**McKenzie Canyo**	**35.02**	**335**	*e*P		**P**	**22 19 09.8**	**+1.1**
BOZ	**Bozeman (W)**	**35.22**	**337**	*e*P		**P**	**22 19 10.8**	**+0.4**
DLMT	**Dillon**	**35.36**	**336**	*e*P		**P**	**22 19 12.8**	**+1.3**
LRM	**Limekiln Ridge**	**35.68**	**337**	*e*P		**P**	**22 19 15.3**	**+0.9**
ULM	**Lac du Bonnet**	**36.23**	**357**	P		**P**	**22 19 15.2**	**-3.8**
	2.3nm,0.6s,mb4.3,baz=182,slow=8.5,SNR=4.7							
ULM				LR		LR	22 37 19.6	
	comp=Z,88nm,18.2s,MS3.6,baz=249,slow=42							
CHMT	**Chamberlain Mo**	**36.90**	**337**	*e*P		**P**	**22 19 24.8**	**0.0**
MSO	**Missoula**	**37.10**	**336**	*e*P		**P**	**22 19 26.7**	**+0.3**
	4.8nm,1.0s,mb4.3							
SAML	**Samuel**	**37.43**	**126**	*e*P		**P**	**22 19 28.2**	**-1.1**
	3.5nm,1.0s,mb4.1							
SAML				*e*pP		pP	22 19 35.9	-3.5
YBH	**Yreka Blue Hor**	**37.72**	**323**	P		**P**	**22 19 31.2**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=126,slow=9.4,SNR=3.2							
LPAZ	**La Paz**	**38.91**	**140**	P		**P**	**22 19 43.8**	**+2.0**
	0.5nm,0.7s,mb3.4,baz=345,slow=4.9,SNR=3.0							
EDM	**Edmonton**	**42.30**	**342**	*e*P		**P**	**22 20 09.2**	**-0.5**
SIV	**San Ignacio**	**43.48**	**132**	P		**P**	**22 20 19.6**	**+0.4**
	1.4nm,0.6s,mb3.8,baz=306,slow=14,SNR=11							
SCHQ	**Schefferville**	**45.60**	**21**	LR	LR		22 41 30.9	
	comp=Z,266nm,19.4s,MS4.2,baz=216,slow=39							
YKA	**Yellowknife Ar**	**50.79**	**347**	P		**P**	**22 21 14.3**	**-1.9**
	9.7nm,0.7s,mb4.8,baz=152,slow=7.4,SNR=26							
YKA				PcP		PcP	22 22 32.1	-0.7
	1.5nm,0.8s,baz=149,slow=3.3,SNR=4.0							
YKW3	**Yellowknife Ar**	**50.85**	**347**	*e*P		**P**	**22 21 15.6**	**-1.1**
CFAA	**Coronel Fontan**	**51.23**	**153**	P		**P**	**22 21 24.2**	**+4.6**
	0.5nm,0.8s,mb3.5,baz=337,slow=4.5,SNR=6.3							
CFAA				LR		LR	22 38 43.5	
	comp=Z,13nm,18.2s,MS3.0,baz=117,slow=31							
CFAA	**Coronel Fontan**	**51.23**	**153**	P		**P**	**22 21 24.2**	**+4.6**
CFAA				LR		LR	22 38 43.5	
DLBC	**Dease Lake**	**52.23**	**336**	P		**P**	**22 21 28.0**	**+1.0**
	3.8nm,0.7s,mb4.4,baz=146,slow=5.7,SNR=6.1							
DLBC	**Dease Lake**	**52.23**	**336**	P		**P**	**22 21 28.0**	**+1.0**
BDFB	**Brasilia**	**53.43**	**122**	P		**P**	**22 21 36.9**	**+1.0**
	3.8nm,0.8s,mb4.4,baz=269,slow=14,SNR=3.2							
PLCA	**Paso Flores**	**58.33**	**160**	P		**P**	**22 22 14.6**	**+3.6**
	2.6nm,0.9s,mb4.3,baz=346,slow=4.4,SNR=4.6							
PLCA				LR		LR	22 42 30.4	
	comp=Z,114nm,18.4s,MS4.0,baz=184,slow=31							
PLCA	**Paso Flores**	**58.33**	**160**	P		**P**	**22 22 14.6**	**+3.6**
PLCA				LR		LR	22 42 30.4	
RCBR	**Riachuelo**	**60.08**	**105**	*e*P		**P**	**22 22 24.3**	**+1.2**
INK	**Inuvik**	**60.14**	**344**	P		**P**	**22 22 22.0**	**-1.5**
	9.0nm,1.0s,mb4.8,baz=170,slow=11,SNR=6.3							
INK	**Inuvik**	**60.14**	**344**	*e*P		**P**	**22 22 21.9**	**-1.6**
	11nm,1.0s,mb4.8							
PPT	**Papeete**	**63.94**	**242**	LR	LR		22 45 11.0	
	comp=Z,63nm,18.6s,MS3.8,baz=144,slow=30							
RAR	**Rarotonga**	**74.20**	**243**	LR	LR		22 49 08.5	
	comp=Z,73nm,19.4s,MS4.0,baz=137,slow=30							
ESDC	**Sonseca Array**	**80.56**	**51**	P		**P**	**22 24 26.1**	**-2.1**
	1.6nm,0.8s,mb4.0,baz=283,slow=6.0,SNR=7.2							
NB2	**NORSAR Subarra**	**84.66**	**28**	P		**P**	**22 24 50.1**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.1,baz=293,slow=4.8							
NOA	**NORSAR Array B**	**84.66**	**28**	P		**P**	**22 24 49.2**	**-0.3**
	comp=Z,2.6nm,0.9s,mb4.4,baz=292,slow=4.7,SNR=8.4							
NOA				LR		LR	23 00 34.1	
	comp=Z,84nm,19.3s,MS4.1,baz=300,slow=34							
NOA	**NORSAR Array B**	**84.66**	**28**	P		**P**	**22 24 49.2**	**-0.3**
NOA				LR		LR	23 00 34.1	
ARCES	**ARCESS Array B**	**86.48**	**18**	P		**P**	**22 24 59.0**	**+0.5**
	comp=Z,2.4nm,0.8s,mb4.5,baz=270,slow=4.5,SNR=2.5							
ARCES				LR		LR	23 01 35.0	
	comp=Z,84nm,21.9s,MS4.1,baz=127,slow=34							
GERES	**GERESS Array B**	**90.29**	**39**	P		**P**	**22 25 14.1**	**-2.6**
	comp=Z,1.0nm,0.9s,mb4.1,baz=268,slow=3.9,SNR=6.2							
GERES				LR		LR	23 07 27.7	
	comp=Z,55nm,18.3s,MS4.0,baz=105,slow=37							
FINES	**FINESS Array B**	**90.96**	**25**	P		**P**	**22 25 17.6**	**-2.1**
	comp=Z,2.8nm,1.0s,mb4.6,baz=318,slow=1.9,SNR=3.7							
FINES				LR		LR	23 09 04.2	
	comp=Z,51nm,18.6s,MS4.0,baz=173,slow=38							
TORD	**Torodi Ar. Bea**	**91.42**	**76**	P		**P**	**22 25 20.9**	**-1.1**
	comp=Z,0.7nm,1.1s,mb3.9,baz=255,slow=4.2,SNR=4.3							
CN2	**Changchun**	**112.58**	**331**	*e*PKP		PKiKP	22 30 48.0	-4.1
SONM	**Songino Array**	**116.03**	**346**	PKP		PKPdf	22 31 02.8	+4.1
	comp=Z,0.5nm,0.8s,baz=175,slow=0.7,SNR=3.5							
MKAR	**Makanchi Array**	**119.35**	**4**	PKP		PKPdf	22 31 07.1	+2.0
	comp=Z,0.5nm,0.8s,baz=29,slow=2.8,SNR=3.9							
HHC	**Hu-ho-hao-te**	**120.84**	**338**	*e*PKP		PKPdf	22 31 10.0	+2.1
HHC				PP		PP	22 32 39.8	+3.2
HHC				PKS			22 34 45.5	
HHC				SKS		SKSdf	22 38 17.3	+0.1
HHC				SKKS		SKKSac	22 39 28.5	-5.1
HHC				PP		PP		
	comp=Z,85nm,4.5s							
HHC				LR		LR		
	comp=N,71nm,3.3s							
HHC				LR		LR		
	comp=E,126nm,4.7s							
HHC				LR		LR		
	comp=Z,114nm,4.9s							
BOSA	**Boshof**	**121.33**	**115**	PKP		PKPdf	22 31 13.6	+4.7
	comp=Z,3.4nm,0.8s,baz=304,slow=2.6,SNR=7.8							
LBTB	**Lobatse**	**121.60**	**111**	PKP		PKPdf	22 31 13.9	+4.6
	comp=Z,1.9nm,0.9s,baz=343,slow=3.2,SNR=3.7							
WMQ	**Urumqi**	**122.46**	**359**	*e*PKP		PKPdf	22 31 14.0	+3.0
NJ2	**Nanjing**	**124.92**	**327**	*e*PKP		PKPdf	22 31 19.8	+4.0
LZH	**Lanzhou**	**127.68**	**343**	*e*PKP		PKPdf	22 31 25.0	+4.0
HYB	**Hyderabad**	**147.72**	**15**	*i* PKP		PKPdf	22 31 59.0	+1.4
HYB	**Hyderabad**	**147.72**	**15**	*e*P		PKPdf	22 31 59.0	+1.4

*IDC **29** 22:12:42.0±18.0, 4664N×15330E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.9/5, MS3.9/1, Ms1 3.9/1, ms1mx2.8/27, Error ellipse: s-maj=431.5km s-min=68.5km az=156.0*
*ISCJB **29** 22:12:44.6±3.0, 466N±04×1534E±04, h33km, mb3.9/5, Error ellipse: s-maj=73.3km s-min=11.9km az=113.3*
*MOS **29** 22:12:44.9±0.8, 4655N×15324E, h38km, mb4.2/4, Error ellipse: s-maj=45.2km s-min=37.0km az=129.2*

ISC 29 22:12:47.4±3.2, 467N±04×1533E±05, h35km, n16, σ0§84/16, mb3.9/5, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.07**	**251**	*i* PN		**Pn**	**22 13 45.0**	**-2.2**
KUR				*i* S		**Sn**	**22 14 34.0**	**+0.4**
KUR				pmax	pmax			
	comp=Z,70nm,0.4s							
KUR				smax				
	comp=N,190nm,0.7s							
KUR				smax				
	comp=E,190nm,0.7s							
MKAR	**Makanchi Array**	**47.09**	**297**	P		**P**	**22 21 15.5**	**-0.3**
	comp=E,1.0nm,0.8s,mb3.8,baz=68,slow=8.2,SNR=9.4							
MKAR	**Makanchi Array**	**47.09**	**297**	P		**P**	**22 21 15.5**	**-0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**51.00**	**310**	P		**P**	**22 21 45.5**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=43,slow=8.5,SNR=4.0							
KKN	**Kakani**	**55.63**	**275**	*e*P		**P**	**22 22 20.9**	**+1.1**
DMN	**Daman**	**55.87**	**275**	*e*P		**P**	**22 22 21.1**	**-0.4**
GKN	**Gorkha**	**55.94**	**276**	*e*P		**P**	**22 22 23.2**	**+1.2**
KOLN	**Koldanda**	**56.79**	**277**	*e*P		**P**	**22 22 28.7**	**+0.6**
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**22 23 18.0**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.1,baz=50,slow=6.1,SNR=11							
FINES	**FINESS Array B**	**64.15**	**335**	P		**P**	**22 23 18.0**	**-0.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
NB2	**NORSAR Subarra**	**68.33**	**341**	P		**P**	**22 23 44.6**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**22 23 45.1**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=28,slow=6.4,SNR=7.3							
NOA	**NORSAR Array B**	**68.33**	**341**	P		**P**	**22 23 45.1**	**+0.1**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**71.67**	**326**	P		**P**	**22 24 05.3**	**-0.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=34,slow=6.1,SNR=5.7							
AKASG	**Malin Array Be**	**71.67**	**326**	P		**P**	**22 24 05.3**	**-0.3**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GERES	**GERESS Array B**	**78.57**	**334**	LR	LR		23 02 33.0	
	comp=Z,60nm,18.9s,baz=106,slow=38							

*ISCJB **29** 22:18:52.3±5.3, 559S±02×279W±04, h117km±51km, mb3.9/5, Error ellipse: s-maj=42.2km s-min=26.6km az=139.3*
*NEIC **29** 22:18:55.3±5.6, 5587S×2791W, h136km±51km, mb3.9/2, Error ellipse: s-maj=30.2km s-min=18.8km az=60.0*
*IDC **29** 22:18:56.3±7.5, 5591S×2796W, h141km±68km, mb3.5/4, mb1 3.7/5, mb1mx3.4/17, mbtmp4.0/5, MS4.0/1, Ms1 4.0/1, ms1mx2.9/15, Error ellipse: s-maj=35.0km s-min=22.6km az=68.0*

ISC 29 22:18:54.2±5.3, 559S±02×279W±04, h121km±51km, n15, σ0§26/10, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.05**	**158**	*e*		**Pn**	**22 22 45.3**	**+0.2**
VNA1				*e*			22 22 49.0	
VNA1				*e*			22 22 52.1	
VNA3	**Neumayer Olymp**	**17.23**	**160**	*e*		**Pn**	**22 22 47.4**	**+0.1**
VNA3				*e*			22 22 50.3	
VNA3				*e*			22 22 54.1	
SNAA	**Sanae**	**19.00**	**156**	P		**P**	**22 23 06.3**	**-0.2**
	1.3nm,0.3s,baz=300,slow=12,SNR=347							
SNAA	**Sanae**	**19.00**	**156**	*e*		**P**	**22 23 06.0**	**-0.4**
SNAA				*e*			22 23 08.7	
SNAA				*e*			22 23 10.0	
QSPA	**South Pole Qui**	**34.31**	**180**	*e*P		**P**	**22 25 29.3**	**+0.3**
	2.8nm,0.7s,mb4.2							
MAW	**Mawson**	**40.47**	**144**	P		**P**	**22 26 20.5**	**-0.4**
	1.5nm,0.8s,mb3.9,baz=198,slow=9.0,SNR=4.5							
VNDA	**Vanda**	**46.67**	**183**	P		**P**	**22 27 10.7**	**+0.1**
	1.4nm,0.6s,mb3.9,baz=194,slow=6.5,SNR=16							
LPAZ	**La Paz**	**49.99**	**306**	P		**P**	**22 27 35.9**	**-0.1**
	1.2nm,0.8s,mb3.9,baz=188,slow=9.7,SNR=5.4							
LPAZ	**La Paz**	**49.99**	**306**	*e*P		**P**	**22 27 35.7**	**-0.3**
	1.0nm,0.7s,mb3.9							
ROSC	**El Rosal**	**71.53**	**310**	LR	LR		23 05 32.0	
	comp=Z,87nm,18.2s,baz=16,slow=39							
TORD	**Torodi Ar. Bea**	**73.15**	**30**	P		**P**	**22 30 11.8**	**+0.3**
	0.6nm,0.4s,mb3.7,baz=200,slow=6.3,SNR=27							
TORD				pP		pP	22 30 44.6	+2.9
	0.2nm,0.4s,baz=200,slow=6.7,SNR=4.6							
FINES	**FINESS Array B**	**124.46**	**28**	PKP		PKPdf	22 37 36.2	-2.8
	0.3nm,0.4s,baz=261,slow=3.7,SNR=4.5							
FINES	**FINESS Array B**	**124.46**	**28**	PKP		PKPdf	22 37 36.2	-2.8
ARCES	**ARCESS Array B**	**130.98**	**22**	PKP		PKPdf	22 37 48.3	-3.1
	1.9nm,0.8s,baz=219,slow=3.1,SNR=6.7							
SONM	**Songino Array**	**151.11**	**87**	PKPbc		PKPbc	22 38 31.3	-1.7
	2.1nm,0.5s,baz=220,slow=3.7,SNR=30							

*IDC **29** 22:27:47.8±22.0, 1544S×17915W, h406km±255km, mb3.4/6, mb1 3.5/6, mb1mx3.3/14, mbtmp4.1/6, Error ellipse: s-maj=87.8km s-min=28.3km az=19.0*
*ISCJB **29** 22:27:51.2±2.1, 1565S±02×17934W±02, h457km±27km, mb3.7/7, Error ellipse: s-maj=34.6km s-min=24.5km az=80.7*
*NEIC **29** 22:27:52.4±1.4, 1555S×17921W, h462km±18km, mb3.7/2, Error ellipse: s-maj=21.9km s-min=15.4km az=134.0*

ISC 29 22:27:52.3±2.1, 1565S±02×1792W±02, h456km±28km, n10, σ0§33/10, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FUNA	**Funafuti**	**7.19**	**347**	P		**P**	**22 29 39.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.64**	**56**	PG	**Pn**	**23 36 16.9**	**0.0**
DAT				SG	**Sn**	**23 36 30.4**	**-1.0**
BODT	**Bodrum**	**0.76**	**24**	PG	**Pn**	**23 36 17.5**	**-0.3**
BODT				SG	**Sn**	**23 36 31.9**	**-1.1**
KARP	**Karpathos**	**0.85**	**167**	*e*P	**Pn**	**23 36 19.3**	**+0.7**
ARG	**Arkhangelos**	**0.99**	**99**	*e*P	**Pn**	**23 36 20.7**	**+0.8**
MLSB	**Milas**	**1.15**	**36**	PN	**Pn**	**23 36 21.8**	**+0.3**
APE	**Apeiranthos**	**1.31**	**302**	*e*P	**Pn**	**23 36 23.9**	**+0.7**
SMG	**Samos**	**1.33**	**357**	⇑*i*P	**Pn**	**23 36 23.3**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.44**	**74**	*e*PN	**Pn**	**23 36 25.4**	**+0.8**
NPS	**Neapolis**	**1.54**	**224**	*e*P	**Pn**	**23 36 26.4**	**+0.7**
VAM	**Vamos**	**2.41**	**247**	*e*P	**Pn**	**23 36 37.1**	**+0.7**
ELL	**Elmali**	**2.44**	**80**	*e*PN	**Pn**	**23 36 37.5**	**+0.7**
PRK	**Paraskevi**	**2.91**	**350**	*e*P	**Pn**	**23 36 42.6**	**-0.3**
VLI	**Veliai**	**3.23**	**277**	*e*P	**Pn**	**23 36 47.0**	**0.0**
HMAT	**Matruh**	**5.27**	**178**	⇓P	**Pn**	**23 37 14.3**	**+0.1**
HMAT				S	**Sn**	**23 38 03.8**	**-10**
VLS	**Valsamata**	**5.36**	**292**	*e*P	**Pn**	**23 37 14.8**	**-0.7**
SWA1		**7.16**	**189**	P	**Pn**	**23 37 39.0**	**-0.8**
SWA1				S	**Sn**	**23 38 45.0**	**-15**
SWA1		**7.16**	**189**	P	**Pn**	**23 37 39.0**	**-0.8**
SWA2		**7.21**	**190**	⇓P	**Pn**	**23 37 39.4**	**-1.1**
AKASG	**Malin Array Be**	**14.42**	**6**	Pn	**Pn**	**23 39 17.6**	**+1.7**
	0.5nm,0.3s,baz=196,slow=12,SNR=5.2						
AKASG	**Malin Array Be**	**14.42**	**6**	Pn	**Pn**	**23 39 17.6**	**+1.7**
GNI	**Garni**	**14.50**	**70**	LR	LR	23 44 27.3	
	comp=Z,29nm,18.0s,baz=330,slow=37						
TORD	**Torodi Ar. Bea**	**32.36**	**231**	P	**P**	**23 42 15.0**	**-0.3**
	0.2nm,0.3s,mb3.4,baz=33,slow=8.7,SNR=8.1						
MKAR	**Makanchi Array**	**41.92**	**58**	P	**P**	**23 43 34.6**	**-1.4**
	0.7nm,0.3s,mb3.8,baz=274,slow=7.9,SNR=26						
ULM	**Lac du Bonnet**	**80.09**	**327**	LR	LR	00 21 54.2	
	comp=Z,48nm,20.3s,baz=17,slow=34						

CSEM 29 23:38:41.4±1.6, 4554N×2680E, h140km, MD3.1/3, 1C-2D, Error ellipse: s-maj=57.8km s-min=15.6km az=322.0, After BUC, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.33**	**341**	S	Sn	23 39 15.5	0.0
PLOR	**Plostina**	**0.33**	**341**	⇓*i*P	Pn	23 39 01.0	+0.2
PLOR				*i* S	Sn	23 39 15.5	0.0
VRI	**Vrincioaia**	**0.33**	**351**	S	Sn	23 39 15.2	-0.3
VRI	**Vrincioaia**	**0.33**	**351**	⇑*i*P	Pn	23 39 01.3	+0.5
VRI				*i* S	Sn	23 39 15.2	-0.3
MLR	**Muntele Rosu**	**0.60**	**266**	S	Sn	23 39 17.9	0.0
MLR	**Muntele Rosu**	**0.60**	**266**	⇓*i*P	Pn	23 39 02.5	+0.3
MLR				*i* S	Sn	23 39 17.9	0.0

CASC 30 00:13:00.7±3.8, 1450N×8921W, h2km±20km, MD3.9, 4C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.73**	**215**	⇓*e*P	x	00 13 23.4	
RTR				*e*S	x	00 13 34.8	
SNJE	**San Jose**	**0.74**	**211**	⇓*e*P	x	00 13 23.6	
SNJE				*e*S	x	00 13 37.1	
BOQS	**Boqueron**	**0.77**	**185**	⇑*e*P	x	00 13 25.3	
BOQS				*e*S	x	00 13 39.4	
SBLS	**San Blas**	**0.77**	**211**	⇓*e*P	x	00 13 22.9	
SBLS				*e*S	x	00 13 35.4	
LBRS	**Las Brisas**	**0.78**	**168**	⇑*e*P	x	00 13 27.7	
LBRS				*e*S	x	00 13 40.3	
LCBS	**La Ceiba**	**0.87**	**165**	⇑*e*P	x	00 13 27.7	
LCBS				*e*S	x	00 13 41.0	
LFRS	**El Faro**	**0.89**	**170**	*e*P	x	00 13 26.3	
LFRS				*e*S	x	00 13 40.9	
SNVI	**San Vicente**	**0.96**	**158**	⇑*e*P	x	00 13 29.3	
SNVI				*e*S	x	00 13 42.4	
VSM	**San Miguel**	**1.40**	**139**	*e*P	x	00 13 36.3	
VSM				*e*S	x	00 13 55.7	
TP2	**Tecpan 2**	**1.77**	**279**	*e*P	Pn	00 13 32.1	-0.3
TP2				*e*S	Sn	00 13 58.9	+3.3
CNCH	**Conchagua**	**1.81**	**132**	⇓*e*P	x	00 13 43.1	
CNCH				*e*S	x	00 14 08.6	

*BER **30** 00:16:14.8±2.2, 7577N×767E, h15km±34km, MD2.3, ML2.3(NAO)*
*NAO **30** 00:16:17.2±5.2, 7582N×943E, h3km±110km, ML2.3*
*IDC **30** 00:16:18.6±4.4, 7610N×111E, h0km, mb1 3.5/3, mb1mx3.2/21, mbtmp3.4/3, ML3.0/3, Error ellipse: s-maj=57.4km s-min=33.8km az=31.0*
*ISCJB **30** 00:16:20.5±0.9, 7583N±003×125E±03, h10km, Error ellipse: s-maj=9.7km s-min=4.8km az=7.6*
*HEL **30** 00:16:20.1±0.4, 7598N×1063E, h10km, ML3.0, MD2.3(BER), ML2.3(NAO)*
ISC 30 00:16:21.0±0.9, 7592N±003×120E±03, h10km, n15, σ1§16/28, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.48**	**21**	Pn	**Pn**	**00 17 01.8**	**+0.4**
	baz=217,slow=12						
SPA0				Sn	**Sb**	**00 17 36.1**	**0.0**
	baz=233,slow=28						
SPA0	**Spitsbergen Ar**	**2.48**	**21**	*e*P	**Pn**	**00 17 01.8**	**+0.4**
SPA0				*e*SB	**Sb**	**00 17 36.1**	**0.0**
KBS	**Kingsbay**	**3.03**	**360**	*e*P	**Pn**	**00 17 03.6**	**-5.3**
KBS				*e*S	**Sn**	**00 17 41.6**	**-3.6**
HOPEN	**Hopen**	**3.17**	**73**	*e*P	**Pb**	**00 17 17.8**	**+0.4**
HOPEN				*e*S	**Sg**	**00 18 02.6**	**-0.4**
KIF	**Kilpisjarvi**	**7.43**	**155**	*e*P	**Pn**	**00 18 09.7**	**+0.2**
KIF				MPN		00 18 11.9	
	comp=Z,1.4nm,0.2s						
KIF				*e*S	**Sn**	**00 19 32.7**	**-1.1**
ARA0	**ARCESS Array S**	**7.55**	**141**	Pn	**Pn**	**00 18 11.3**	**+0.3**
	baz=331,slow=14						
ARA0				Sn	**Sn**	**00 19 37.8**	**+1.2**
	baz=330,slow=18						
ARA0	**ARCESS Array S**	**7.55**	**141**	*e*P	**Pn**	**00 18 11.3**	**+0.3**
ARA0				*e*S	**Sn**	**00 19 37.8**	**+1.2**
ARCES	**ARCESS Array B**	**7.55**	**141**	Pn	**Pn**	**00 18 12.1**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=333,slow=13,SNR=12						
ARCES				Sn	**Sn**	**00 19 37.8**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=330,slow=19,SNR=15						
KEV	**Kevo**	**7.59**	**137**	*e*P	**Pn**	**00 18 12.8**	**+1.2**
KEV				MPN		00 18 17.5	
	comp=Z,0.4nm,0.2s						
KEV				*e*S	**Sn**	**00 19 38.7**	**+1.1**
SGF	**Sodankyl**	**9.62**	**145**	*e*P	**Pn**	**00 18 39.7**	**+0.2**
SGF				*e*S	**Sn**	**00 20 26.3**	**-1.4**
KU4	**Liikasenvaara**	**11.08**	**141**	*e*P	**Pn**	**00 19 00.3**	**+0.8**
KU4				MPN		00 19 02.3	
	comp=Z,0.5nm,0.3s						
KU4				*e*S	**Sn**	**00 21 00.6**	**-2.8**
MSF	**Maaselka**	**11.42**	**143**	*e*P	**Pn**	**00 19 05.1**	**+1.0**
MSF				*e*S	**Sn**	**00 21 09.0**	**-2.7**
OUL	**Oulu**	**11.78**	**150**	*e*P	**Pn**	**00 19 08.9**	**-0.1**
NOA	**NORSAR Array B**	**14.95**	**181**	Pn	**Pn**	**00 19 52.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=350,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**15.33**	**154**	Pn	**Pn**	**00 19 56.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=353,slow=14,SNR=4.7						
FINES				Sn	**Sn**	**00 22 44.9**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=354,slow=22,SNR=2.4						

IDC 30 00:30:53.9±1.9, 781S×12527E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=227.8km s-min=31.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.92**	**145**	Pn	Pn	00 34 27.6	+1.5
	0.1nm,0.3s,baz=320,slow=13,SNR=3.0						
WRA				Sn	Sn	00 37 02.8	-9.2
	0.3nm,0.3s,baz=311,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.81**	**153**	P	Pn	00 35 02.6	-0.5
	0.1nm,0.3s,baz=325,slow=12,SNR=9.5						
ASAR				S	Sn	00 38 07.6	-15
	0.1nm,0.3s,baz=311,slow=21,SNR=4.2						
MKAR	**Makanchi Array**	**66.42**	**329**	P	P	00 41 45.0	+0.2
	0.3nm,0.5s,baz=145,slow=7.9,SNR=5.3						

*NIED **30** 00:41:00, 4660N×15350E, h5km, Mw3.9 Best double couple: M₀7.71000×10¹⁴ NP1:φs70.00000°, δ81.00000°, λ-131.00000°. NP2:φs331.00000°, δ42.00000°, λ-13.00000°.*
*IDC **30** 00:41:32.1±0.8, 4655N×15345E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/24, mbtmp4.1/17, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=22.6km s-min=16.6km az=171.0*
*ISCJB **30** 00:41:32.9±1.9, 4646N±009×15342E±0.10, h15km±13km, mb4.4/40, MS3.5/2, Error ellipse: s-maj=17.1km s-min=6.8km az=110.5*
*NEIC **30** 00:41:33.6±0.4, 4646N×15348E, h10km, mb4.5/17, Error ellipse: s-maj=11.6km s-min=7.8km az=138.0*
*JMA **30** 00:41:35.5±0.8, 4657N×15352E, h30km, M4.4*
*MOS **30** 00:41:38.8±1.3, 4666N×15300E, h46km, mb4.7/21, Error ellipse: s-maj=11.6km s-min=8.0km az=94.0*
ISC 30 00:41:36.2±1.9, 4647N±008×15348E±009, h26km±13km, n118, σ1§13/124, mb4.4/40, MS3.5/2, 6C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.11**	**255**	⇓*i*PN	**Pn**	**00 42 36.5**	**-0.8**
KUR				*i* S	**Sn**	**00 43 24.0**	**-0.5**
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,230nm,0.5s						
KUR				smax			
	comp=E,190nm,0.5s						
SKR	**Severo-Kuril's**	**4.57**	**22**	*e*PN	**Pn**	**00 42 38.0**	**-5.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.90**	**248**	PN	**Pn**	**00 43 02.8**	**+0.9**
YUK				*e*S	**Sn**	**00 44 10.0**	**+1.3**
YUK				smax			
	comp=N,240nm,0.5s						
YUK				smax			
	comp=E,140nm,0.6s						
NEM2	**Nemuro 2**	**6.31**	**243**	P	**Pn**	**00 43 06.2**	**-1.3**
NEM2				*e*S	**Sn**	**00 44 13.7**	**-5.0**
JNK	**Nakash**	**6.84**	**248**	P	**Pn**	**00 43 15.8**	**+1.0**
JAK	**Akkeshi**	**7.15**	**244**	P	**Pn**	**00 43 17.8**	**-1.3**
JAK				*e*S	**Sn**	**00 44 33.7**	**-5.8**
PET	**Petropavlovsk**	**7.37**	**25**	⇓*e*PN	**Pn**	**00 43 13.5**	**-8.5**
YSS	**Yuzh-Sakhalins**	**7.39**	**278**	⇓*e*PN	**Pn**	**00 43 22.5**	**+0.2**
YSS				pmax	pmax		
	comp=Z,15nm,1.3s						
JMP	**Maruseppu**	**7.55**	**255**	P	**Pn**	**00 43 27.0**	**+2.4**
JAR	**Ashorobuto**	**7.59**	**249**	P	**Pn**	**00 43 26.3**	**+1.2**
JAR				*e*S	**Sn**	**00 44 49.0**	**-1.2**
JOB	**Onbets**	**7.74**	**246**	P	**Pn**	**00 43 27.2**	**+0.1**
JOB				*e*S	**Sn**	**00 44 50.8**	**-3.1**
JKK2	**Kamakawa 2**	**8.01**	**255**	P	**Pn**	**00 43 33.1**	**+2.2**
ASAJ	**Asahikawa**	**8.03**	**257**	Pn	**Pn**	**00 43 33.7**	**+2.7**
	comp=Z,1.6nm,0.3s,baz=106,slow=21,SNR=4.3						
ASAJ	**Asahikawa**	**8.03**	**257**	P	**Pn**	**00 43 34.2**	**+3.2**
ASAJ	**Asahikawa**	**8.03**	**257**	PN	**Pn**	**00 43 33.7**	**+2.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JCH	**Churui**	**8.19**	**246**	P	**Pn**	**00 43 32.4**	**-0.9**
JCH				*e*S	**Sn**	**00 44 59.8**	**-5.1**
JNB	**Noboribetsu**	**9.75**	**250**	P	**Pn**	**00 43 52.2**	**-2.5**
JKB	**Kayabe**	**10.04**	**247**	P	**Pn**	**00 43 57.6**	**-1.1**
JKB				*e*S	**Sn**	**00 45 44.2**	**-6.3**
JANG	**Nango**	**10.62**	**239**	P	**Pn**	**00 44 03.1**	**-3.5**
JANG				*e*S	**Sn**	**00 45 53.9**	**-11**
JTM	**Tenmabayashi**	**10.63**	**242**	*e*S	**Sn**	**00 45 55.0**	**-10**
OFUJ	**Ofunato**	**11.39**	**234**	*e*S	**Sn**	**00 46 12.9**	**-11**
MA2	**Magadan**	**13.23**	**354**	*e*PN	**Pn**	**00 44 43.3**	**+1.0**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MA2	**Magadan**	**13.23**	**354**	*e*P	**Pn**	**00 44 43.2**	**+1.0**
	comp=Z,6.3nm,0.4s						
MJAR	**Matsushiro Arr**	**15.12**	**234**	Pn	**Pn**	**00 45 07.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=36,slow=9.0,SNR=2.8						
MAJO	**Matsushiro**	**15.12**	**234**	*e*P	**Pn**	**00 45 08.3**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MAJO	**Matsushiro**	**15.12**	**234**	*e*Pn	**Pn**	**00 45 08.3**	**+0.4**
	comp=Z,4.2nm,0.6s						
BILL	**Bilibino**	**22.61**	**13**	⇑*e*P	**P**	**00 46 34.8**	**0.0**
BILL				*e*S	**S**	**00 50 22.9**	**-19**
BILL				*e*SS		00 50 43.6	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.4						
SONM	**Songino Array**	**31.66**	**290**	P	**P**	**00 47 58.4**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.6,baz=86,slow=5.5,SNR=4.1						
SONM				LR	LR	01 01 52.4	
	comp=Z,70nm,18.6s,MS3.4,baz=132,slow=39						
KDAK	**Kodiak Island**	**34.09**	**51**	P	**P**	**00 48 16.6**	**-1.9**
	comp=Z,9.6nm,1.0s,mb4.7,baz=299,slow=13,SNR=2.3						
INK	**Inuvik**	**41.76**	**32**	P	**P**	**00 49 22.9**	**-0.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=286,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**47.29**	**298**	P	**P**	**00 50 06.6**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.2,baz=68,slow=7.8,SNR=27						
MKAR	**Makanchi Array**	**47.29**	**298**	*i* P	**P**	**00 50 06.5**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**00 50 30.0**	**-2.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**50.54**	**274**	*e*P	**P**	**00 50 30.0**	**-2.3**
	comp=Z,5.9nm,0.8s,mb4.6						
YKA	**Yellowknife Ar**	**51.00**	**37**	P	**P**	**00 50 35.2**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=296,slow=7.0,SNR=8.3						
YKA	**Yellowknife Ar**	**51.00**	**37**	*i* P	**P**	**00 50 35.7**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**51.00**	**37**	P	**P**	**00 50 35.2**	**-0.6**
BVAR	**Borovoye Array**	**51.23**	**310**	P	**P**	**00 50 35.8**	**-1.7**
	comp=Z,1.5nm,0.3s,mb4.3,baz=58,slow=7.1,SNR=16						
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**00 50 41.7**	**-1.5**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**00 50 41.7**	**-1.5**
	comp=Z,1.6nm,0.3s,mb4.4						
JIRN	**Jiri**	**55.22**	**275**	*e*P	**P**	**00 51 08.6**	**+1.8**
	comp=Z,4.8nm,0.2s,mb5.1						
GUN	**Gumba**	**55.28**	**275**	*e*P	**P**	**00 51 09.1**	**+1.9**
	comp=Z,8.8nm,0.4s,mb5.1						
KKN	**Kakani**	**55.77**	**276**	*e*P	**P**	**00 51 12.0**	**+1.3**
	comp=Z,15nm,0.6s,mb5.2						
PKI	**Pulchoki**	**55.81**	**275**	*e*P	**P**	**00 51 12.7**	**+1.6**
	comp=Z,8.0nm,0.5s,mb5.0						
DMN	**Daman**	**56.00**	**276**	*e*P	**P**	**00 51 14.3**	**+1.9**
	comp=Z,9.9nm,0.5s,mb5.1						
GKN	**Gorkha**	**56.07**	**276**	*e*P	**P**	**00 51 14.6**	**+1.6**
	comp=Z,14nm,0.5s,mb5.3						
ARCES	**ARCESS Array B**	**58.20**	**341**	P	**P**	**00 51 26.2**	**-1.8**
	comp=Z,1.7nm,0.8s,mb4.1,baz=41,slow=8.1,SNR=4.9						
AKTK	**Aktyubinsk**	**59.10**	**312**	P	**P**	**00 51 33.6**	**-0.7**
AKTO	**Aktyubinsk**	**59.10**	**312**	P	**P**	**00 51 33.6**	**-0.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=40,slow=6.4,SNR=4.8						
JOF	**Joensuu**	**61.70**	**334**	*ep*	**P**	**00 51 49.9**	**-2.1**
	comp=Z,3.6nm,0.6s,mb4.7						
NVAR	**Mina Array Bea**	**62.34**	**62**	P	**P**	**00 51 57.0**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.9,baz=289,slow=9.0,SNR=4.7						
KAF	**Kangasniemi**	**63.80**	**335**	*ep*	**P**	**00 52 04.9**	**-1.1**
	comp=Z,1.6nm,0.4s,mb4.4,baz=38,slow=6.2						
KAF	**Kangasniemi**	**63.80**	**335**	*e*P	**P**	**00 52 04.9**	**-1.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**64.40**	**335**	P	**P**	**00 52 09.0**	**-1.0**
	comp=Z,4.1nm,0.4s,mb4.8,baz=41,slow=6.9,SNR=104						
PDAR	**Pinedale Array**	**64.71**	**54**	P	**P**	**00 52 11.9**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.8,baz=308,slow=3.6,SNR=6.7						
NB2	**NORSAR Subarra**	**68.58**	**341**	P	**P**	**00 52 35.8**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.4,baz=128,slow=6.5						
NB2	**NORSAR Subarra**	**68.58**	**341**	P	**P**	**00 52 35.8**	**-0.8**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
NOA	**NORSAR Array B**	**68.58**	**341**	P	**P**	**00 52 36.2**	**-0.5**
	comp=Z,3.5nm,0.6s,mb4.5,baz=28,slow=6.4,SNR=21						
NOA	**NORSAR Array B**	**68.58**	**341**	P	**P**	**00 52 36.2**	**-0.5**
KIV	**Kislovodsk**	**71.18**	**314**	⇓*e*P	**P**	**00 52 50.9**	**-1.7**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**71.92**	**326**	P	**P**	**00 52 56.3**	**-0.8**
	comp=Z,4.3nm,0.5s,mb4.6,baz=33,slow=6.1,SNR=14						
AKASG	**Malin Array Be**	**71.92**	**326**	*i* P	**P**	**00 52 56.2**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ASAR	**Alice Springs**	**72.02**	**199**	P	**P**	**00 52 58.1**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=10,slow=5.2,SNR=13						
ASAR	**Alice Springs**	**72.02**	**199**	P	**P**	**00 52 58.1**	**+0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STHS	**Stebnicka Huta**	**75.89**	**330**	*e*P	**P**	**00 53 20.8**	**+0.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
STHS	**Stebnicka Huta**	**75.89**	**330**	*e*P	**P**	**00 53 20.8**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1						
BURAR	**Bucovina Array**	**75.96**	**327**	⇓*i*P	**P**	**00 53 21.0**	**+0.2**
DPC	**Dobruska-Polom**	**76.69**	**333**	*e*P	**P**	**00 53 25.3**	**+0.4**
MORC	**Moravsky Berou**	**76.81**	**332**	⇑*i*P	**P**	**00 53 26.3**	**+0.8**
CLL	**Collm**	**76.83**	**336**	*e*P	**P**	**00 53 26.0**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.8						
CLL	**Collm**	**76.83**	**336**	*e*P	**P**	**00 53 26.0**	**+0.3**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KECS	**Kecovo**	**76.94**	**330**	*e*P	**P**	**00 53 25.2**	**-1.1**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.9						
KECS	**Kecovo**	**76.94**	**330**	*e*P	**P**	**00 53 25.2**	**-1.1**
	comp=Z,2.3nm,1.2s,mb4.0						
MLR	**Muntele Rosu**	**77.44**	**325**	⇑*i*P	**P**	**00 53 30.5**	**+1.4**
VYHS	**Vyhne**	**77.50**	**331**	*e*P	**P**	**00 53 29.4**	**0.0**
VRAC	**Vranov**	**77.52**	**333**	⇑*i*P	**P**	**00 53 30.1**	**+0.6**
PRU	**Pruhonice**	**77.55**	**334**	*e*P	**P**	**00 53 30.3**	**+0.6**
DRGR		**77.59**	**328**	⇓*i*P	**P**	**00 53 29.9**	**0.0**
VOIR		**77.84**	**326**	⇑*i*P	**P**	**00 53 32.4**	**+1.1**
KHC	**Kasperske Hory**	**78.60**	**334**	*e*P	**P**	**00 53 35.6**	**0.0**
BRTR	**Keskin Array B**	**78.77**	**317**	P	**P**	**00 53 36.4**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=77,slow=3.4,SNR=4.6						
GERES	**GERESS Array B**	**78.82**	**334**	P	**P**	**00 53 35.9**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=32,slow=5.2,SNR=9.7						
GERES				LR	LR	01 32 28.2	
	comp=Z,32nm,20.4s,MS3.6,baz=108,slow=39						
VTS	**Vitosha**	**80.94**	**325**	⇓*i*P	**P**	**00 53 43.8**	**-4.5**
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 53 48.7**	**+0.1**
	comp=Z,5.7nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 53 48.7**	**+0.1**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CDF	**Champ du Feu**	**81.01**	**338**	*e*P	**P**	**00 53 48.7**	**+0.1**
	comp=Z,2.8nm,0.9s,mb4.2						
HINF	**Hinteralfeld**	**81.67**	**338**	*e*P	**P**	**00 53 51.7**	**-0.4**
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 53 58.6**	**-0.1**
	comp=Z,2.8nm,0.5s,mb4.2						
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 53 58.6**	**-0.1**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
LOR	**Lormes**	**82.93**	**340**	*e*P	**P**	**00 53 58.6**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 54 01.7**	**+0.1**
	comp=Z,27nm,1.2s,mb4.9						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 54 01.7**	**+0.1**
AVF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P	**P**	**00 54 01.7**	**+0.1**
	comp=Z,13nm,1.2s,mb4.8						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 54 01.9**	**+0.2**
	comp=Z,13nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 54 01.9**	**+0.2**
SMF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**83.52**	**339**	*e*P	**P**	**00 54 01.9**	**+0.2**
	comp=Z,6.4nm,1.0s,mb4.7						
LPL	**La Plagne**	**83.83**	**337**	*e*P	**P**	**00 54 04.2**	**+0.9**
	comp=Z,2.7nm,0.6s,mb4.2						
LPL	**La Plagne**	**83.83**	**337**	*e*P	**P**	**00 54 04.2**	**+0.9**
LPL				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
LPL	**La Plagne**	**83.83**	**337**	*e*P	**P**	**00 54 04.2**	**+0.9**
	comp=Z,1.4nm,0.6s,mb4.3						
LPG	**La Plagne**	**83.84**	**337**	*e*P	**P**	**00 54 04.5**	**+1.1**
MBDF	**Montbardon**	**84.55**	**337**	*e*P	**P**	**00 54 07.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**84.61**	**338**	*e*P	**P**	**00 54 08.2**	**+0.9**
	comp=Z,13nm,1.1s,mb4.7						
ORIF	**Oris-en-Rattie**	**84.61**	**338**	*e*P	**P**	**00 54 08.2**	**+0.9**
ORIF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
ORIF	**

coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**1.01**	**76**	*i* P	Pg	01 43 18.5	-3.3
PNIG				*i* S	Sg	01 43 32.3	-2.6
PNIG	**Pinotepa**	**1.01**	**76**	*i* P	Pg	01 43 22.3	+0.5
PNIG				*i* S	Sg	01 43 32.3	-2.6
ACX	**Acapulco**	**1.03**	**314**	*i* P	Pg	01 43 19.5	-2.7
ACX				*i* S	Sg	01 43 32.2	-3.3
CAIG	**El Cayaco**	**1.40**	**310**	*i* P	Pn	01 43 24.2	-4.0
CAIG				*i* S	Sb	01 43 41.8	-4.9
CAIG	**El Cayaco**	**1.40**	**310**	*i* P	Pn	01 43 27.0	-1.2
CAIG				*i* S	Sb	01 43 41.8	-4.9
MEIG	**Mezcala**	**1.83**	**346**	*i* P	Pn	01 43 30.6	-3.5
MEIG				*i* S	Sn	01 43 52.9	-4.5
UTMO	**Huajuapan**	**2.11**	**37**	*i* P	Pn	01 43 35.9	-2.0
UTMO				*i* S	Sn	01 44 00.3	-4.1
PLIG	**Platanillo**	**2.26**	**351**	*i* P	Pn	01 43 37.1	-2.9
PLIG				*i* S	Sn	01 44 03.6	-4.5
PLIG	**Platanillo**	**2.26**	**351**	*i* P	Pn	01 43 39.8	-0.2
PLIG				*i* S	Sn	01 44 03.6	-4.5
VHO	**Vista Hermosa**	**2.49**	**68**	*i* P	Pn	01 43 41.3	-1.9
VHO				*i* S	Sn	01 44 09.3	-4.5
OXX	**Oaxaca**	**2.50**	**68**	*e*P	Pn	01 43 40.0	-3.4
PPM	**Popocatepetl**	**2.95**	**10**	*i* S	Sn	01 44 22.3	-2.7
IIO	**Organos**	**3.45**	**7**	*i* P	Pn	01 43 57.6	+1.2

*ISCJB **30** 01:43:50.1±0.4, 5048N±002×724E±004, h13km±3km, Error ellipse: s-maj=4.0km s-min=3.1km az=168.8*
*BGR **30** 01:43:51.7±0.5, 5051N×727E, h5km, ML1.6/3, Error ellipse: s-maj=6.7km s-min=5.6km az=131.0*
*BNS **30** 01:43:51.7±1.1, 5053N×723E, h3km±10km, ML1.3*
*LDG **30** 01:43:51.8±0.1, 5051N×723E, h3km, Md2.5/1, Ml2.3/11, Error ellipse: s-maj=1.3km s-min=0.7km az=83.0*

ISC 30 01:43:50.8±0.4, 5050N±002×723E±004, h15km±3km, n24, σ0°78/43, 2C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STB	**Steinbach**	**0.27**	**291**	*e*Pg	**Pg**	**01 43 57.0**	**+0.4**
STB				*e*Sg	**Sg**	**01 44 00.2**	**-0.3**
	53nm,0.2s						
BGG	**Burgeitz**	**0.30**	**167**	*e*Pg	**Pg**	**01 43 58.3**	**+1.2**
BGG				*e*Sg	**Sg**	**01 44 02.3**	**+0.9**
	19nm,0.2s						
HILG	**Hillesheim**	**0.41**	**240**	*e*Pg	**Pg**	**01 44 00.0**	**+0.9**
BNS	**Bensberg**	**0.47**	**356**	*e*Pg	**Pg**	**01 44 00.4**	**+0.2**
BNS				*e*Sg	**Sg**	**01 44 06.2**	**-0.3**
	75nm,0.2s						
HOBG	**Hohbusch**	**0.49**	**8**	*e*Pg	**Pg**	**01 44 00.7**	**+0.1**
HOBG				*e*Sg	**Sg**	**01 44 06.4**	**-0.8**
	30nm,0.3s						
KLL	**Kalltalsperre**	**0.61**	**285**	*e*Pg	**Pg**	**01 44 02.9**	**+0.1**
KLL				*e*Sg	**Sg**	**01 44 11.3**	**+0.5**
	14nm,0.2s						
DREG	**Dreilaegerbach**	**0.66**	**285**	*e*Pg	**Pg**	**01 44 04.0**	**+0.2**
DREG				*e*Sg	**Sg**	**01 44 13.3**	**+0.9**
	16nm,0.3s						
MEM	**Membach**	**0.79**	**279**	⇑P	**Pg**	**01 44 06.2**	**+0.1**
MEM				S	**Sg**	**01 44 15.7**	**-0.9**
	comp=E,8.0nm,0.3s						
TNS	**Taunus Mts**	**0.83**	**109**	*e*Pg	**Pg**	**01 44 07.7**	**+0.8**
	SNR=4.1						
TNS				*e*Sg	**Sg**	**01 44 16.9**	**-0.8**
	SNR=3.6						
LAUG	**Laupendahl**	**0.87**	**348**	*e*Pg	**Pg**	**01 44 08.0**	**+0.2**
LAUG				*e*Sg	**Sg**	**01 44 19.1**	**-0.2**
BUG	**Bochum--Univer**	**0.94**	**1**	*e*Sg	**Sg**	**01 44 21.6**	**+0.1**
	SNR=5.4						
WLF	**Walferdange**	**1.09**	**220**	*e*Pg	**Pg**	**01 44 11.8**	**0.0**
	SNR=1.9						
WLF				*e*Sg	**Sg**	**01 44 27.5**	**+1.5**
	SNR=7.8						
WLF	**Walferdange**	**1.09**	**220**	⇓P	**Pb**	**01 44 11.8**	**+0.5**
BCLA	**Clavier**	**1.24**	**267**	⇑P	**Pn**	**01 44 14.2**	**+0.6**
BCLA				S	**Sb**	**01 44 28.3**	**-1.3**
	comp=E,5.4nm,0.2s						
GIVF	**Givet**	**1.59**	**257**	*e*Pg	**Pg**	**01 44 21.3**	**-0.2**
GIVF				*e*Sn	**Sn**	**01 44 39.1**	**+0.3**
	comp=E,9.4nm,0.2s						
BAIF	**Baives**	**1.99**	**258**	*e*Pg	**Pg**	**01 44 28.5**	**-0.5**
BAIF				*e*Sn	**Sn**	**01 44 48.7**	**+0.1**
	comp=E,6.4nm,0.3s						
CDF	**Champ du Feu**	**2.09**	**179**	*e*Pn	**Pn**	**01 44 26.5**	**+1.2**
CDF				*e*Sn	**Sn**	**01 44 51.1**	**+0.1**
	comp=E,1.7nm,0.3s						
RFYF	**Reffroy**	**2.19**	**212**	*e*Pn	**Pn**	**01 44 27.5**	**+0.8**
RFYF				*e*Sg	**Sg**	**01 45 01.7**	**+0.3**
	comp=E,6.7nm,0.2s						
CLZ	**Clausthal**	**2.39**	**55**	*e*Pg	**Pg**	**01 44 34.9**	**-1.7**
	SNR=1.6						
MEZF	**Maizieres J'vi**	**2.45**	**216**	*e*Pg	**Pg**	**01 44 37.4**	**-0.5**
MEZF				*e*Sg	**Sg**	**01 45 09.2**	**-0.5**
	comp=E,2.0nm,0.3s						
HAU	**Haudompre**	**2.56**	**193**	*e*Pn	**Pn**	**01 44 32.7**	**+0.9**
HAU				*e*Sg	**Sg**	**01 45 12.1**	**-1.1**
	comp=E,1.7nm,0.2s						
HINF	**Hinteralfeld**	**2.70**	**185**	*e*Sg	**Sg**	**01 45 16.2**	**-1.3**
	comp=E,1.4nm,0.2s						
SFTF	**Sexfontaines**	**2.71**	**213**	*e*Sg	**Sg**	**01 45 17.2**	**-0.6**
	comp=E,1.3nm,0.2s						
LOR	**Lormes**	**3.92**	**216**	*e*Pn	**Pn**	**01 44 51.0**	**+0.5**
LOR				*e*Sn	**Sn**	**01 45 35.0**	**-1.3**
LOR				*e*Sg	**Sg**	**01 45 55.0**	**-1.9**
	comp=E,0.8nm,0.3s						

*IDC **30** 01:53:10.7±2.2, 5435×13176E, h0km, mb4.3/2, mb1 4.3/4, mb1mx3.9/11, mbtmp4.2/4, ML4.2/2, Error ellipse: s-maj=176.9km s-min=23.8km az=69.0*
*NEIC **30** 01:53:16.0±1.6, 5635×13135E, h35km, mb4.3/2, Error ellipse: s-maj=102.0km s-min=11.4km az=71.0*
*ISCJB **30** 01:53:21.1±3.1, 6.1S±02×1305E±08, h92km±36km, mb4.1/4, Error ellipse: s-maj=132.8km s-min=13.4km az=149.9*

ISC 30 01:53:24.3±3.9, 67S±02×1295E±07, h92km±43km, n8, σ0°94/12, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.98**	**161**	Pn	**Pn**	**01 56 38.4**	**+0.2**
	1.0nm,0.3s,baz=353,slow=12,SNR=23						
WRA				Sn	**Sn**	**01 59 07.6**	**-4.3**
	1.9nm,0.3s,baz=348,slow=23,SNR=11						
WB2	**Warramunga Arr**	**13.98**	**161**	*e*Pn	**Pn**	**01 56 38.7**	**+0.4**
WB2				*e*Sn	**Sn**	**01 59 10.3**	**-1.7**
AS31	**Alice Springs**	**17.39**	**166**	*e*Pn	**Pn**	**01 57 25.0**	**+4.0**
AS31				*e*Sn	**Sn**	**02 00 35.4**	**+1.0**
ASAR	**Alice Springs**	**17.39**	**166**	P	**Pn**	**01 57 25.1**	**+4.0**
	0.8nm,0.3s,baz=348,slow=10,SNR=53						
ASAR				S	**S**	**02 00 34.8**	**-0.4**
	0.5nm,0.3s,baz=350,slow=27,SNR=7.6						
STKA	**Stephens Creek**	**27.48**	**157**	P	**P**	**01 59 02.6**	**+0.9**
	1.3nm,0.4s,mb3.9,baz=353,slow=8.1,SNR=8.4						
CASY	**Casey**	**60.92**	**189**	*e*P	**P**	**02 03 35.1**	**+7.7**
	2.5nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**02 04 11.2**	**-0.6**
	1.8nm,0.4s,mb4.2,baz=122,slow=7.7,SNR=37						
AAK	**Ala-Archa**	**69.99**	**320**	*e*P	**P**	**02 04 25.6**	**-0.2**
	1.1nm,0.4s,mb4.0						

*ISCJB **30** 02:06:24.2±0.6, 1072N±003×6151W±004, h69km±6km, Error ellipse: s-maj=7.0km s-min=4.1km az=78.5*
*FUNV **30** 02:06:25.8, 1081N×6155W, h79km, MW3.5*
*TRN **30** 02:06:26.9, 1081N×6142W, h37km, MD3.6*

ISC 30 02:06:25.5±0.6, 1072N±003×6152W±003, h60km±7km, n29, σ1°§11/51, 3C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.14**	**123**	⇓*i*P	**Pn**	**02 06 33.5**	**-1.1**
TRN				*e*S	**Sn**	**02 06 38.1**	**-3.0**
TCE	**Chacachacare**	**0.23**	**264**	⇓*i*P	**Pn**	**02 06 36.3**	**+1.2**
TCE				*i* S	**Sn**	**02 06 42.5**	**+0.5**
TPP	**Pointe-a-Pierr**	**0.41**	**171**	⇑*i*P	**Pn**	**02 06 37.5**	**+1.1**
TPP				*e*S	**Sn**	**02 06 45.7**	**+1.2**
TBH	**Brigand Hill**	**0.50**	**118**	⇑*i*P	**Pn**	**02 06 37.0**	**-0.4**
TBH				*e*S	**Sn**	**02 06 45.3**	**-0.8**
ALNG	**Atlantic LNG**	**0.56**	**197**	*e*P	**Pn**	**02 06 40.2**	**+2.1**
ALNG				*e*S	**Sn**	**02 06 46.1**	**-1.2**
BUAY	**Buenos Aires**	**0.63**	**195**	*e*P	**Pn**	**02 06 40.9**	**+2.0**
BUAY				*e*S	**Sn**	**02 06 47.7**	**-1.0**
GUIV	**Guiria**	**0.70**	**264**	*e*P	**Pn**	**02 06 40.7**	**+1.1**
GUIV				*e*S	**Sn**	**02 06 51.8**	**+1.8**
TPR	**Prospect**	**0.86**	**58**	*e*P	**Pn**	**02 06 41.0**	**-0.7**
TPR				*e*S	**Sn**	**02 06 52.0**	**-1.7**
BOT	**Bacolet**	**0.90**	**61**	*e*P	**Pn**	**02 06 41.5**	**-0.7**
GRW	**Mount Saint Ca**	**1.44**	**354**	‖*e*P	**Pn**	**02 06 50.3**	**+1.0**
GRW				*e*S	**Sn**	**02 07 06.0**	**-1.2**
GRHS	**Sauteurs**	**1.50**	**355**	*e*P	**Pn**	**02 06 49.6**	**-0.5**
GRHS	**Sauteurs**	**1.50**	**355**	*e*P	**Pn**	**02 06 50.3**	**+0.2**
GRHS				*e*S	**Sn**	**02 07 08.8**	**+0.2**
GUNV	**Guanoco**	**1.51**	**248**	*e*P	**Pn**	**02 06 51.1**	**+0.9**
GUNV				*e*S	**Sn**	**02 07 09.3**	**+0.4**
GRIC	**Isle de Caille**	**1.56**	**358**	*e*P	**Pn**	**02 06 50.5**	**-0.3**
GRSS	**Sisters**	**1.57**	**357**	*e*P	**Pn**	**02 06 51.2**	**+0.2**
GRSS				*e*S	**Sn**	**02 07 06.2**	**-4.1**
GRSS				*e*S	**Sn**	**02 07 11.5**	**+1.2**
CRUV	**Carupano**	**1.69**	**269**	*e*P	**Pn**	**02 06 52.2**	**-0.5**
CRUV				*e*S	**Sn**	**02 07 12.3**	**-0.9**
ITEV	**Isla Los Testi**	**1.70**	**292**	*e*P	**Pn**	**02 06 52.6**	**-0.2**
ITEV				*e*S	**Sn**	**02 07 12.2**	**-1.4**
GRCU	**Cariacou**	**1.74**	**2**	*e*P	**Pn**	**02 06 52.9**	**-0.5**
GRCU				*e*S	**Sn**	**02 07 13.9**	**-0.6**
ORIV	**Oritupano**	**2.48**	**229**	*e*P	**Pn**	**02 07 03.9**	**+0.4**
ORIV				*e*S	**Sn**	**02 07 32.2**	**-0.4**
IBAV	**Isla La Blanqu**	**3.19**	**290**	*e*P	**Pn**	**02 07 12.1**	**-1.0**
IBAV				*e*S	**Sn**	**02 07 46.2**	**-3.8**
FDF	**Fort de France**	**4.00**	**5**	*e*P	**Pn**	**02 07 24.3**	**0.0**
FDF				*e*S	**Sn**	**02 08 10.1**	**+0.2**
CUPV	**Cœpira**	**4.25**	**261**	*e*P	**Pn**	**02 07 26.7**	**-0.9**
CUPV				*e*S	**Sn**	**02 08 11.3**	**-4.7**
BIRV	**Birongo**	**4.68**	**267**	*e*S	**Sn**	**02 08 21.2**	**-5.2**
MERV	**Las Mercedes**	**4.93**	**253**	*e*P	**Pn**	**02 07 36.3**	**-0.7**
MERV				*e*S	**Sn**	**02 08 28.8**	**-3.8**
TBG	**Guadaloupe-3**	**5.10**	**359**	*e*P	**Pn**	**02 07 41.4**	**+2.2**
MGG	**Marie-Galante**	**5.17**	**2**	*e*P	**Pn**	**02 07 41.9**	**+1.7**
PHG	**Guadaloupe-2**	**5.26**	**359**	*e*P	**Pn**	**02 07 42.5**	**+1.0**
LZG	**Guadaloupe-1**	**5.39**	**357**	*e*P	**Pn**	**02 07 44.1**	**+0.8**
CAOV	**Caicara del Or**	**5.82**	**235**	*e*P	**Pn**	**02 07 48.0**	**-1.1**
CAOV				*e*S	**Sn**	**02 08 48.9**	**-5.6**

*CSEM **30** 02:52:37.7, 3670N×2129E, h22km, MD3.5/6, After ATH*
*NEIC **30** 02:52:37.7, 3670N×2129E, h22km, MD3.4(ATH), After ATH.*

ATH 30 02:52:37.7, 3670N×2129E, h22km±4km, MD3.4/6, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**1.32**	**89**	*e*Pn	Pn	02 53 02.8	+2.0
VLI				*e*Sn	Sn	02 53 21.3	+3.5
RLS	**Riolos of Patr**	**1.36**	**6**	*e*PN	Pn	02 53 04.1	+2.7
KYTH	**Kithira**	**1.47**	**106**	*e*PN	Pn	02 53 05.0	+2.2
VLS	**Valsamata**	**1.58**	**340**	*e*PN	Pn	02 53 06.4	+2.1
EVR	**Evrytania**	**2.25**	**10**	*e*PN	Pn	02 53 16.0	+2.4
LKR	**Lokris**	**2.37**	**34**	*e*PN	Pn	02 53 16.8	+1.5
THL	**Klokotos Trika**	**2.92**	**11**	*e*PN	Pn	02 53 25.3	+2.5

*ISCJB **30** 03:00:30.9±0.8, 4313N±005×043W±003, h13km±5km, Error ellipse: s-maj=8.7km s-min=4.1km az=177.7*
*STR **30** 03:00:31.9±0.1, 4303N×046W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **30** 03:00:32.3±0.4, 4309N×045W, h8km±4km, mbLg1.2/3, Error ellipse: s-maj=4.0km s-min=1.9km az=5.0, PRXIMO*
*LDG **30** 03:00:32.1±0.1, 4308N×045W, h7km, Md2.1/2, Ml1.4/1, Error ellipse: s-maj=1.9km s-min=0.7km az=174.0*

ISC 30 03:00:31.7±0.8, 4311N±006×044W±003, h11km±8km, n17, σ0°43/27, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.05**	**139**	Pg	**Pg**	**03 00 34.0**	**+0.2**
REYF				Sg	**Sg**	**03 00 35.3**	**-0.1**
REYF	**Montagne du Re**	**0.05**	**139**	P	**Pg**	**03 00 34.0**	**+0.1**
REYF				S	**Sg**	**03 00 35.3**	**-0.1**
ATE	**Arette**	**0.19**	**263**	Pg	**Pg**	**03 00 36.0**	**+0.2**
ATE	**Arette**	**0.19**	**263**	P	**Pg**	**03 00 35.8**	**-0.1**
ATE				S	**Sg**	**03 00 38.8**	**+0.2**
ETSF	**Etsaut**	**0.23**	**202**	*e*Pg	**Pg**	**03 00 36.3**	**-0.2**
ETSF				*e*Sg	**Sg**	**03 00 39.0**	**-0.7**
	16nm,0.3s						
ETSF	**Etsaut**	**0.23**	**202**	Pg	**Pg**	**03 00 36.3**	**-0.2**
ETSF				Lg		03 00 39.0	
	8.2nm,0.3s						
LABF	**Labassere**	**0.38**	**99**	Pg	**Pg**	**03 00 39.6**	**+0.3**
LABF				Sg	**Sg**	**03 00 45.1**	**+0.7**
LABF	**Labassere**	**0.38**	**99**	P	**Pg**	**03 00 39.4**	**+0.1**
LABF				S	**Sg**	**03 00 44.8**	**+0.4**
VIEF	**Viey**	**0.41**	**124**	P	**Pg**	**03 00 39.6**	**-0.2**
VIEF				S	**Sg**	**03 00 45.1**	**-0.1**
SJPF	**Ste Jean**	**0.57**	**270**	*e*Pg	**Pg**	**03 00 42.9**	**0.0**
SJPF				*e*Sg	**Sg**	**03 00 50.5**	**+0.1**
	1.5nm,0.3s						
SJPF	**Ste Jean**	**0.57**	**270**	Pg	**Pg**	**03 00 42.9**	**0.0**
SJPF				Lg		03 00 50.5	
	0.8nm,0.3s						
EPF	**Esparros**	**0.58**	**98**	*e*Pg	**Pg**	**03 00 43.0**	**0.0**
EPF				*e*Sg	**Sg**	**03 00 51.3**	**+0.7**
	1.6nm,0.2s						
EPF	**Esparros**	**0.58**	**98**	Pg	**Pg**	**03 00 43.0**	**0.0**
EPF				Lg		03 00 51.3	
	0.8nm,0.2s						
EBIE	**Bielsa**	**0.60**	**135**	Pg	**Pg**	**03 00 43.2**	**-0.2**
	0.5nm,0.1s,SNR=9.7						
EBIE				Lg		03 00 51.3	
	1.8nm,0.0s,SNR=15						
ESAC	**San Caprasio**	**1.39**	**181**	Pg	**Pg**	**03 00 59.2**	**+0.8**
	0.8nm,0.1s,SNR=7.9						
ESAC				Lg		03 01 17.4	
	1.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**1.96**	**82**	*e*Pg	**Pg**	**03 01 08.8**	**-0.4**
MTLF				*e*Sg	**Sg**	**03 01 33.7**	**-0.9**
	0.3nm,0.2s						
MTLF	**Montolieu**	**1.96**	**82**	Pg	**Pg**	**03 01 08.8**	**-0.4**
MTLF				Lg		03 01 33.7	
	0.2nm,0.2s						

IDC 30 03:26:20.6±2.2, 1584S×17305W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.1/3, ML1.3/1, Error ellipse: s-maj=80.6km s-min=22.2km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.28**	**33**	Pn	Pn	03 26 58.6	-1.0
	4.3nm,0.3s,baz=210,slow=19,SNR=4.5						
AFI				Sn	Sn	03 27 28.8	+0.5
	30nm,0.3s,baz=219,slow=23,SNR=13						
STKA	**Stephens Creek**	**44.11**	**240**	P	P	03 34 30.3	-0.4
	4.6nm,1.1s,baz=71,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**50.07**	**257**	P	P	03 35 17.0	-0.2
	0.5nm,0.5s,baz=97,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**50.30**	**252**	P	P	03 35 19.6	+0.7
	3.0nm,0.5s,baz=88,slow=8.6,SNR=71						
BRTR	**Keskin Array B**	**146.71**	**321**	PKPbc	PKPbc	03 46 05.8	+1.4
	0.6nm,1.0s,baz=66,slow=6.0,SNR=3.7						

IDC 30 03:30:17.2±2.9, 5866S×2651W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=90.8km s-min=38.3km az=80.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.25**	**155**	*e*	Pn	03 33 45.5	+5.2
VNA1				*e*		03 33 46.9	
VNA1				*e*		03 33 49.5	
VNA3	**Neumayer Olymp**	**14.42**	**158**	*e*	Pn	03 33 47.4	+4.9
VNA3				*e*		03 33 48.7	
VNA3				*e*		03 33 51.2	
SNAA	**Sanae**	**16.23**	**153**	*e*	Pn	03 34 10.9	+4.4
SNAA				*e*		03 34 12.2	
SNAA				*e*		03 34 13.9	
MAW	**Mawson**	**37.85**	**141**	P	P	03 37 35.7	0.0
	1.5nm,0.7s,baz=270,slow=10,SNR=4.1						
BOSA	**Boshof**	**46.33**	**73**	P	P	03 38 44.2	-0.6
	1.2nm,0.7s,baz=207,slow=9.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**75.16**	**28**	P	P	03 42 01.8	+0.4
	0.7nm,0.5s,baz=198,slow=6.2,SNR=30						
TORD				pP		03 42 24.2	
	0.5nm,0.5s,baz=198,slow=6.4,SNR=3.8						
SONM	**Songino Array**	**150.43**	**91**	PKPbc	PKPbc	03 50 08.1	-2.6
	0.6nm,0.6s,baz=204,slow=3.2,SNR=4.8						
SONM				pPKPbc		03 50 30.8	
	0.4nm,0.5s,baz=216,slow=3.2,SNR=3.7						

*IDC **30** 03:48:47.0±4.5, 5109N×17830W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.6/23, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=99.6km s-min=32.6km az=8.0*
*NEIC **30** 03:48:51.6, 5074N×17827W, h31km, ML3.1(AEIC), After AEIC.*
*ISCJB **30** 03:48:56.7±5.5, 516N±05×1780W±04, h63km±32km, mb3.7/6, Error ellipse: s-maj=89.3km s-min=39.6km az=27.8*

ISC 30 03:48:57.4±5.8, 516N±05×1780W±05, h56km±34km, n10, σ0°84/10, mb3.7/6, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**2.43**	**75**	P	**Pn**	**03 49 35.2**	**+0.6**
KDAK	**Kodiak Island**	**15.87**	**57**	Pn	**Pn**	**03 52 35.5**	**-1.6**
	1.1nm,0.3s,baz=114,slow=19,SNR=10						
INK	**Inuvik**	**26.97**	**35**	P	**P**	**03 54 35.3**	**+1.6**
	0.6nm,0.3s,mb3.5,baz=253,slow=12,SNR=4.8						
YKA	**Yellowknife Ar**	**34.70**	**47**	P	**P**	**03 55 42.2**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=282,slow=7.4,SNR=3.3						
PDAR	**Pinedale Array**	**45.76**	**73**	P	**P**	**03 57 13.0**	**-0.3**
	0.2nm,0.6s,mb3.2,baz=329,slow=3.9,SNR=3.7						
PDAR	**Pinedale Array**	**45.76**	**73**	P	**P**	**03 57 13.0**	**-0.3**
ARCES	**ARCESS Array B**	**57.93**	**350**	P	**P**	**03 58 43.4**	**-0.5**
	2.4nm,0.8s,mb4.3,baz=27,slow=8.2,SNR=5.3						
FINES	**FINESS Array B**	**65.65**	**348**	P	**P**	**03 59 35.8**	**0.0**
	1.8nm,1.0s,mb4.1,baz=15,slow=5.8,SNR=3.1						
FINES	**FINESS Array B**	**65.65**	**348**	P	**P**	**03 59 35.8**	**0.0**
NOA	**NORSAR Array B**	**67.44**	**355**	P	**P**	**03 59 47.1**	**-0.1**
	0.7nm,0.9s,mb3.7,baz=3.8,slow=6.0,SNR=3.3						

*IDC **30** 03:49:14.4±1.1, 6.18S×14787E, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/13, mbtmp3.9/9, ML3.6/2, MS3.5/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=40.7km s-min=16.5km az=94.0*
*ISCJB **30** 03:49:19.3±2.7, 62S±01×1478E±02, h49km±23km, mb3.9/8, MS3.4/1, Error ellipse: s-maj=30.4km s-min=17.5km az=8.8*
*NEIC **30** 03:49:19.8±2.0, 623S×14784E, h36km±17km, mb4.2/3, Error ellipse: s-maj=18.5km s-min=12.2km az=91.0*

ISC 30 03:49:20.3±2.8, 62S±01×1478E±02, h39km±24km, n19, σ0°88/18, mb3.9/8, MS3.4/1, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**192**	Pn	**Pn**	**03 50 08.6**	**+0.1**
	9.0nm,0.3s,baz=64,slow=6.1,SNR=23						
PMG				Sn	**Sn**	**03 50 49.4**	**+3.6**
	21nm,0.3s,baz=78,slow=21,SNR=7.6						
PMG	**Port Moresby**	**3.24**	**192**	*e*Pn	**Pn**	**03 50 07.9**	**-0.6**
KAKA	**Kakadu**	**16.48**	**246**	*e*P	**Pn**	**03 53 09.4**	**+0.9**
	19nm,1.1s						
WB2	**Warramunga Arr**	**18.91**	**223**	*e*P	**Pn**	**03 53 37.3**	**-1.1**
WRA	**Warramunga Arr**	**18.92**	**223**	P	**Pn**	**03 53 36.8**	**-1.6**
	0.5nm,0.3s,baz=47,slow=11,SNR=18						
AS31	**Alice Springs**	**21.91**	**216**	*e*P	**P**	**03 54 10.4**	**+0.4**
ASAR	**Alice Springs**	**21.92**	**216**	P	**P**	**03 54 10.2**	**+0.2**
	4.8nm,0.5s,mb4.2,baz=48,slow=9.1,SNR=94						
ASPA	**Alice Springs**	**21.92**	**216**	*e*P	**P**	**03 54 10.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.66**	**239**	*e*P	**P**	**03 54 37.8**	**+0.6**
	16nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.66**	**239**	P	**P**	**03 54 37.9**	**+0.7**
	10nm,0.6s,mb4.6,baz=56,slow=9.3,SNR=55						
STKA	**Stephens Creek**	**26.18**	**192**	*e*P	**P**	**03 54 50.4**	**-0.6**
	3.2nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**26.18**	**192**	P	**P**	**03 54 50.0**	**-1.0**
	3.8nm,0.5s,mb4.2,baz=347,slow=8.6,SNR=18						
STKA				LR	LR	04 05 33.0	
	comp=Z,108nm,21.4s,MS3.4,baz=220,slow=37						
KLBR	**Kellerberrin**	**37.78**	**224**	*e*P	**P**	**03 56 32.3**	**-0.3**
	39nm,1.4s,mb5.0						
MJAR	**Matsushiro Arr**	**43.48**	**349**	P	**P**	**03 57 19.4**	**-0.2**
	0.3nm,0.3s,mb3.5,baz=176,slow=10,SNR=3.1						
SONM	**Songino Array**	**64.99**	**331**	P	**P**	**03 59 57.3**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=149,slow=6.7,SNR=3.6						
VNDA	**Vanda**	**71.65**	**177**	P	**P**	**04 00 38.4**	**+0.6**
	0.4nm,0.8s,mb3.4,baz=337,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**78.19**	**320**	P	**P**	**04 01 14.7**	**-0.9**
	0.2nm,0.6s,mb3.2,baz=76,slow=6.1,SNR=1.9						
TORD	**Torodi Ar. Bea**	**145.94**	**284**	PKPbc	PKPbc	04 08 56.9	+1.4
	0.6nm,0.6s,baz=64,slow=2.8,SNR=12						
BDFB	**Brasilia**	**153.21**	**144**	PKPbc	PKPbc	04 09 14.7	+1.0
	0.9nm,0.5s,baz=209,slow=7.9

PKI	Pulchoki	38.16	333	eP		P		04 16 58.9	-0.2	
GUN	Gumba	38.25	334	eP		P		04 17 00.2	+0.3	
	50nm,0.5s,mb5.5									
DMN	Daman	38.33	333	eP		P		04 17 00.6	0.0	
KKN	Kakani	38.41	333	eP		P		04 17 01.3	+0.1	
	35nm,0.5s,mb5.4									
GKN	Gorkha	38.88	332	eP		P		04 17 05.3	+0.1	
	28nm,0.4s,mb5.3									
KOLN	Koldanda	39.18	331	eP		P		04 17 07.9	+0.3	
	28nm,0.6s,mb5.2									
LZH	Lanzhou	42.23	360	eP		P		04 17 33.5	+0.7	
LZH					AP	pP		04 17 47.5	-0.2	
LZH					XP	sP		04 17 51.5	-2.9	
LZH					AMB	AMB				
	comp=Z,22nm,1.4s,mb4.6									
LZH	Lanzhou	42.23	360	eP		P		04 17 33.6	+0.8	
LZH					pP	pP		04 17 47.5	-0.2	
LZH					sP	sP		04 17 51.6	-2.8	
STKA	Stephens Creek	43.40	131	eP		P		04 17 42.3	0.0	
	comp=Z,7.0nm,0.6s,mb4.6									
STKA	Stephens Creek	43.40	131	P		P		04 17 42.5	+0.3	
	comp=Z,4.3nm,0.5s,mb4.4,baz=297,slow=6.4,SNR=16									
GTA	Gaotai	45.70	356	eP		P		04 18 00.5	-0.1	
GTA					AP	pP		04 18 14.3	-1.3	
GTA					XP	sP		04 18 18.8	-3.5	
GTA					AMB	AMB				
	comp=Z,8.0nm,1.4s,mb4.5									
HHC	Hu-ho-hao-te	47.52	8	eP		P		04 18 16.5	+1.7	
HHC					PCP	PcP		04 19 45.5	+1.4	
HHC					PP	PP		04 20 09.0	+2.4	
HHC					SCP	ScP		04 23 32.0	-1.3	
HHC					PCS	PcS		04 23 39.5	-0.1	
HHC					S	S		04 25 05.5	0.0	
HHC					SCS	ScS		04 27 59.8	-3.5	
HHC					SS	SS		04 28 28.5	-5.5	
HHC					AMB	AMB				
	comp=Z,15nm,0.4s,mb5.4									
HHC					AMB	AMB				
	comp=Z,181nm,4.4s									
WMQ	Urumqi	52.05	345	eP		P		04 18 50.5	+1.3	
WMQ					AMB	AMB				
	comp=Z,8.0nm,1.0s,mb4.6									
WMQ					AMB	AMB				
	comp=Z,92nm,3.9s									
CN2	Changchun	53.63	19	eP		P		04 19 00.8	0.0	
SONM	Songino Array	54.02	2	P		P		04 19 03.9	+0.1	
	comp=Z,1.5nm,0.5s,mb4.2,baz=183,slow=7.9,SNR=20									
AAK	Ala-Archa	55.60	334	eP		P		04 19 14.2	-1.0	
	comp=Z,2.6nm,0.6s,mb4.4									
MKAR	Makanchi Array	56.29	342	P		P		04 19 19.4	-0.7	
	comp=Z,3.0nm,0.5s,mb4.6,baz=148,slow=8.2,SNR=47									
BRVK	Borovoye	65.67	339	eP		P		04 20 22.8	-0.9	
	comp=Z,3.6nm,0.5s,mb4.7									
ZRNK	Zerenda	66.06	338	eP		P		04 20 25.4	-0.8	
	comp=Z,4.6nm,0.6s,mb4.7									
KMBO	Kilima Mbogo	66.61	272	LR		LR		04 42 49.1		
	comp=Z,93nm,18.7s,MS4.0,baz=92,slow=30									
MAW	Mawson	67.08	196	P		P		04 20 32.2	-0.5	
	comp=Z,1.6nm,0.7s,mb4.2,baz=44,slow=5.5,SNR=7.8									
MAW					LR	LR		04 45 18.9		
	comp=Z,158nm,19.1s,MS4.2,baz=68,slow=32									
RPZ	Rata Peaks	69.20	134	LR		LR		04 48 56.2		
	comp=Z,206nm,18.4s,MS4.4,baz=213,slow=34									
LSZ	Lusaka	74.55	256	eP		P		04 21 18.8	+0.8	
	comp=Z,1.3nm,0.5s,mb4.1									
VNDA	Vanda	77.16	169	P		P		04 21 32.0	-0.9	
	comp=Z,1.7nm,1.1s,mb3.9,baz=291,slow=6.2,SNR=5.1									
VNDA	Vanda	77.16	169	eP		P		04 21 31.4	-1.5	
	comp=Z,4.2nm,1.5s,mb4.2									
JOF	Joensuu	87.79	334	epkp		P		04 22 28.9	+0.7	
SNAA	Sanae	89.18	198	eP		P		04 22 35.5	+0.7	
	comp=Z,5.8nm,1.3s,mb4.8									
FINES	FINESS Array B	89.74	332	P		P		04 22 37.6	+0.2	
	comp=Z,1.2nm,0.5s,mb4.5,baz=109,slow=6.1,SNR=17									
KAF	Kangasniemi	89.80	333	epkp		P		04 22 38.1	+0.4	
ARCES	ARCESS Array B	91.87	340	P		P		04 22 46.6	-0.6	
	comp=Z,3.0nm,0.9s,mb4.6,baz=125,slow=4.5,SNR=4.7									
WMOK	Wichita Mounta	144.89	33	ePKPdf		PKPdf		04 29 15.4	-0.5	
JCT	Junction City	147.31	40	ePKPbc		PKPbc		04 29 23.5	+1.1	
WVT	Waverly	148.51	18	ePKPbc		PKPbc		04 29 25.7	+0.1	

BJI ***30*** *04:31:38.3, 1404S×16724E, h198km, mB5.1, mb4.9*
ISCJB ***30*** *04:31:38.1±0.2, 1431S±004×16724E±004, h204km, mb4.7/68, Error ellipse: s-maj=5.8km s-min=4.5km az=86.9*
GCMT ***30*** *04:31:39.4±0.2, 1424S×167.14E, h197km±1km, MW5.2/91, Moment Tensor Solution. s61,c77; s91,c143; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr6.47±.13; Mθθ 0.14±.16; Mφφ -6.61±.15; Mrθ -1.16±.16; Mrφ 1.76±.20; Mθφ 1.93±.15; Best double couple: M0 7.12500×10¹⁶ NP1: φs 172.00000°, δ 36.00000°, λ 100.00000°. NP2: φs 340.00000°, δ 54.00000°, λ 83.00000°. Principal axes: T 6.8730, Plg 79.0000°, Azm 222.0000°; N 0.5040, Plg 6.0000°, Azm 345.0000°; P -7.3770, Plg 9.0000°, Azm 75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *04:31:39.4±0.1, 1432S×16733E, mb4.7/40 Error ellipse: s-maj=6.8km s-min=4.6km az=142.0*
LDG ***30*** *04:31:39.3±0.3, 1434S×16698E, h200km, Mb5.0/4, Error ellipse: s-maj=43.9km s-min=11.8km az=87.0*
MOS ***30*** *04:31:40.6±1.3, 1425S×16722E, h216km, mb4.8/32, Error ellipse: s-maj=8.6km s-min=8.1km az=86.7*
IDC ***30*** *04:31:40.6±1.4, 1429S×16724E, h215km±12km, mb4.6/15, mb1 4.7/17, mb1mx4.7/18, mbtmp5.1/17, Error ellipse: s-maj=10.3km s-min=7.2km az=175.0*
ISC 30 04:31:39.7±0.2, 1434S±003×16730E±003, h206km, h206km±1.3km; pP-P, n394, σ0 93/182, mb4.7/68, 21C-9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
DZM	Mont Dzumac	7.73	186	eP		Pn	04	33	30.8	+1.3
DZM				eS		Sn	04	34	56.6	-0.3
DZM	Mont Dzumac	7.73	186	P		Pn	04	33	30.7	+1.3
	3.0nm,0.3s,baz=45,slow=18,SNR=28									
DZM				S		Sn	04	34	56.1	-0.8
	baz=120,slow=22,SNR=11									
HNR	Honiara	8.70	303	P		Pn	04	33	40.7	-1.2
	9.4nm,0.3s,baz=276,slow=0.7,SNR=6.1									
HNR				S		Sn	04	35	19.8	+0.1
	18nm,0.3s,baz=116,slow=2.9,SNR=1.9									
HNR	Honiara	8.70	303	P		Pn	04	33	40.7	-1.3
HNR				S		Sn	04	35	19.8	+0.1
HNR				pmax		pmax				
	comp=Z,9.0nm,0.3s									
HNR				smax						
	comp=N,18nm,0.3s									
HNR	Honiara	8.70	303	ePn		Pn	04	33	41.7	-0.3
	comp=N,280nm,1.0s									
AFI	Afiamalu	20.29	91	P		P	04	36	02.0	+2.4
	comp=N,152nm,0.9s,baz=296,slow=2.8,SNR=11									
AFI				S		S	04	39	39.3	+3.8
	comp=N,9.9nm,0.3s,baz=128,slow=22,SNR=2.3									
AFI	Afiamalu	20.29	91	P		P	04	36	02.0	+2.3
AFI				S		S	04	39	39.3	+3.7
AFI				pmax		pmax				
	comp=Z,152nm,0.9s									
AFI				smax						
	comp=N,10.0nm,0.3s									
AFI	Afiamalu	20.29	91	eP		P	04	35	59.9	+0.2
	comp=N,214nm,1.0s									
PMG	Port Moresby	20.31	282	P		P	04	36	00.8	+0.9
	comp=N,65nm,0.7s,baz=79,slow=7.3,SNR=17									
PMG				S		S	04	39	36.1	+0.2
	comp=N,5.5nm,0.7s,baz=198,slow=20,SNR=2.0									
PMG	Port Moresby	20.31	282	P		P	04	36	00.8	+0.9
PMG				S		S	04	39	36.1	+0.2
PMG				pmax		pmax				
	comp=Z,65nm,0.7s									
PMG				smax						
	comp=N,6.0nm,0.7s									
PMG	Port Moresby	20.31	282	eP		P	04	36	01.1	+1.3
	comp=N,55nm,0.7s									
CTA	Charters Tower	20.90	251	eP		P	04	36	07.4	+1.3
	comp=N,33nm,0.8s									
CTA	Charters Tower	20.90	251	P		P	04	36	07.0	+0.9
	comp=N,41nm,0.7s,baz=80,slow=12,SNR=34									
CTA				S		S	04	39	47.2	+0.3
	comp=N,2.2nm,0.6s,baz=7.7,slow=12,SNR=2.0									
CTA	Charters Tower	20.90	251	P		P	04	36	07.0	+0.9
CTA				S		S	04	39	47.3	+0.4
CTA				pmax		pmax				
	comp=Z,41nm,0.7s									
CTA				smax						
	comp=N,2.0nm,0.6s									
CTAO	Charters Tower	20.90	251	eP		P	04	36	07.4	+1.3
CTAO				pmax		pmax				
	comp=Z,48nm,0.8s									
CTAO	Charters Tower	20.90	251	eP		P	04	36	07.4	+1.3
	comp=Z,48nm,0.8s									
ARMA	Armidale	21.55	219	eP		P	04	36	14.2	+1.2
RIV	Riverview	24.30	214	eP		P	04	36	39.6	+1.3
CNB	Canberra Magne	26.40	215	i P		P	04	36	58.1	+1.0
	comp=Z,45nm,0.6s,mb5.3									
STKA	Stephens Creek	29.27	229	eP		P	04	37	23.7	+1.1
	comp=Z,175nm,0.4s									
STKA	Stephens Creek	29.27	229	P		P	04	37	23.8	+1.2
	comp=Z,187nm,0.5s,baz=47,slow=7.6,SNR=667									
STKA				PcP		PcP	04	40	24.4	+0.4
	comp=Z,15nm,0.7s,baz=86,slow=4.6,SNR=5.7									
STKA				S		S	04	42	01.3	+1.2
	comp=Z,2.1nm,0.7s,baz=152,slow=19,SNR=2.4									
RPZ	Rata Peaks	29.45	174	P		P	04	37	24.7	+0.4
	comp=Z,23nm,0.8s,mb4.9,baz=211,slow=7.9,SNR=8.5									
TOO	Toolangi	30.18	216	eP		P	04	37	31.7	+1.0
	comp=Z,40nm,0.8s,mb5.1									
TOO	Toolangi	30.18	216	eP		P	04	37	31.7	+1.0
TOO				pmax		pmax				
	comp=Z,40nm,0.8s,mb5.1									
WB2	Warramunga Arr	31.94	255	i P		P	04	37	45.0	-1.1
WB2				eS		S	04	42	38.8	-3.0
WRA	Warramunga Arr	31.95	255	P		P	04	37	45.2	-1.0
	comp=Z,54nm,0.6s,mb5.3,baz=85,slow=9.0,SNR=193									
WRA				PcP		PcP	04	40	31.1	0.0
	comp=Z,5.6nm,0.7s,baz=82,slow=3.3,SNR=7.3									
WRA				S		S	04	42	38.6	-3.3
	comp=Z,3.6nm,1.0s,baz=82,slow=14,SNR=8.1									
WRA	Warramunga Arr	31.95	255	P		P	04	37	45.2	-1.0
WRA							04	40	31.1	
WRA				S		S	04	42	38.6	-3.4
WRA				pmax		pmax				
	comp=Z,54nm,0.6s									
WRA				pmax		pmax				
	comp=Z,6.0nm,0.7s									
WRA				smax						
	comp=N,4.0nm,1.0s									
AS31	Alice Springs	32.84	249	i P		P	04	37	53.0	-0.9
AS31				eS		S	04	42	53.4	-2.3
ASAR	Alice Springs	32.84	249	P		P	04	37	53.1	-0.8
	comp=N,58nm,0.5s,mb5.4,baz=77,slow=9.3,SNR=622									
ASAR				PcP		PcP	04	40	32.9	-0.7
	comp=N,4.7nm,0.6s,baz=78,slow=2.2,SNR=6.8									
ASAR				S		S	04	42	53.1	-2.6
	comp=N,3.0nm,0.9s,baz=76,slow=16,SNR=9.2									
ASAR	Alice Springs	32.84	249	P		P	04	37	53.1	-0.8
ASAR							04	40	32.9	
ASAR				S		S	04	42	53.1	-2.6
ASAR				pmax		pmax				
	comp=Z,58nm,0.5s									
ASAR				pmax		pmax				
	comp=Z,5.0nm,0.6s									
ASAR				smax						
	comp=N,3.0nm,0.9s									
ASPA	Alice Springs	32.85	249	i P		P	04	37	53.0	-0.9
ASPA				eS		S	04	42	53.4	-2.4
KAKA	Kakadu	33.92	268	i P		P	04	38	03.1	-0.1
	comp=N,51nm,0.7s,mb5.2									
FORT	Forrest	39.53	239	i P		P	04	38	50.4	-0.1
	comp=N,219nm,0.6s,mb5.8									
FITZ	Fitzroy Crossi	40.12	259	eP		P	04	38	55.2	-0.2
	comp=N,90nm,0.6s,mb5.4									
FITZ	Fitzroy Crossi	40.12	259	P		P	04	38	55.5	+0.2
	comp=N,51nm,0.7s,mb5.1									
PPT	Papeete	41.52	100	eS		S	04	45	07.6	+1.0
	comp=N,157nm,25.8s									
KLBR	Kellerberrin	48.32	240	i P		P	04	39	59.4	-0.9
	comp=N,46nm,0.8s,mb4.9									
NWAO	Narrogin (SRO)	48.98	239	eP		P	04	40	05.1	-0.2
NWAO				pmax		pmax				
	comp=Z,73nm,0.9s									
NWAO	Narrogin (SRO)	48.98	239	eP		P	04	40	05.1	-0.2
	comp=Z,72nm,0.9s,mb5.0									
MUN	Mundaring	49.69	240	eP		P	04	40	11.4	+0.8
KKM	Kota Kinabalu	54.57	288	eP		P	04	40	47.3	+0.7
RKT	Rikitea	55.07	108	eS		S	04	48	14.3	-2.0
	comp=Z,286nm,28.2s									
MJAR	Matsushiro Arr	57.58	332	P		P	04	41	06.9	-1.0
	comp=Z,12nm,0.5s,mb4.7,baz=170,slow=8.2,SNR=45									
MJAR	Matsushiro Arr	57.58	332	P		P	04	41	06.9	-1.0
MJAR				pmax		pmax				
	comp=Z,12nm,0.5s									
MAJO	Matsushiro	57.58	332	eP		P	04	41	07.0	-0.9
MAJO				pmax		pmax				
	comp=Z,19nm,0.5s,mb5.0									
MAJO	Matsushiro	57.58	332	eP		P	04	41	07.0	-0.9
	comp=Z,19nm,0.5s,mb5.0									
MAT	Matsushiro	57.58	332	P		P	04	41	07.3	-0.6
KSM	Kuching	58.57	281	eP		P	04	41	14.9	+0.2
YHNB	Yeheng	59.26	310	eP		P	04	41	19.8	+0.3
VNDA	Vanda	63.25	181	P		P	04	41	45.8	-0.4
	comp=Z,5.5nm,0.7s,mb4.3,baz=357,slow=7.0,SNR=43									
VNDA	Vanda	63.25	181	P		P	04	41	45.8	-0.4
VNDA				pmax		pmax				
	comp=Z,6.0nm,0.7s									
VNDA	Vanda	63.25	181	eP		P	04	41	45.7	-0.5
KS15	Wonju Array Si	63.45	326	eP		P	04	41	48.5	+1.0
SBA	Scott Base	63.52	180	eP		P	04	41	47.8	-0.2
CASY	Casey	63.90	202	eP		P	04	41	49.9	-0.6
YSS	Yuzh-Sakhalins	64.87	342	i eP		P	04	41	57.0	+0.2
YSS				pmax		pmax				
	comp=Z,59nm,1.3s,mb5.1									
YSS	Yuzh-Sakhalins	64.87	342	eP		P	04	41	57.3	+0.5
	comp=Z,43nm,0.9s,mb5.1									
NJ2	Nanjing	65.42	316	eP		P	04	42	01.5	+1.2
NJ2				AMB		AMB				
	comp=Z,50nm,0.9s,mb5.1									
VLA	Vladivostok	65.74	332	i eP		P	04	42	03.0	+0.6
VLA				pmax		pmax				
	comp=Z,39nm,1.7s,mb4.8									
WHN	Wuhan	67.71	312	i P		P	04	42	14.5	-0.3
MDJ	Mudanjiang	67.95	332	P		P	04	42	16.8	+0.5
MDJ				AP		pP	04	43	04.0	-0.5
MDJ				XP		sP	04	43	25.0	-1.7
MDJ				S		S	04	50	59.8	+1.5
MDJ				XS		sS	04	52	22.5	+0.2
MDJ				SS		SS	04	55	24.5	+0.1
MDJ				AMB		AMB				
	comp=Z,39nm,1.0s,mb5.0									
MDJ				AMB		AMB				
	comp=Z,91nm,5.9s									
MDJ				LR		LR				
	comp=N,61nm,28.8s									
MDJ				LR		LR				
	comp=E,53nm,27.2s									
MDJ				LR		LR				
	comp=Z,50nm,22.4s									
DL2	Dalian	68.01	323	P		P	04	42	17.5	+0.9
DL2				AMB		AMB				
	comp=Z,20nm,0.6s,mb4.9									
KULM	Kulim	68.90	281	eP		P	04	42	22.4	+0.2
CN2	Changchun	69.33	329	eP		P	04	42	25.0	+0.2
CN2				eAP		pP	04	43	13.5	+0.3
CN2				eS		S	04	51	17.3	+2.8
CN2				AMB		AMB				
	comp=Z,30nm,0.7s,mb5.0									
CN2				AMB		AMB				
	comp=Z,200nm,3.0s									
KLR	Kul'dur	70.67	336	eP		P	04	42	30.2	-2.7
KLR				pmax		pmax				
	comp=E,40nm,1.8s									
KLR				pmax		pmax				
	comp=Z,70nm,1.8s,mb5.0									
MIR	Mirnyy	70.70	204	i P		P	04	42	35.0	+1.9
MIR				i			04	42	54.0	
MIR				pmax		pmax				
	comp=Z,500nm,1.5s									
GYA	Guiyang	71.52	305	i P		P	04	42	38.8	+0.7
GYA				AMB		AMB				
	comp=Z,20nm,0.8s,mb4.8									
BJT	Baijiatuan	71.97	321	eP		P	04	42	40.9	+0.1
BJT				pmax		pmax				
	comp=Z,7.0nm,0.6s									
BJT	Baijiatuan	71.97	321	eP		P	04	42	40.9	+0.1
	comp=Z,6.9nm,0.6s,mb4.5									
BJI	Beijing	71.98	321	eP		P	04	42	41.0	+0.2
BJI				AMB		AMB				
	comp=Z,18nm,0.8s,mb4.8									
KMI	Kunming	74.13	302	P		P	04	42	55.0	+1.6
KMI				AMB		AMB				
	comp=Z,25nm,1.0s,mb4.8									
CM31	Chiang Mai Arr	74.82	294	eP		P	04	42	58.7	+1.4
	comp=Z,6.6nm,0.5s,mb4.5									
MA2	Magadan	74.87	351	i eP		P	04	42	57.3	-0.3
MA2				pmax		pmax				
	comp=Z,39nm,1.3s,mb4.9									
MA2	Magadan	74.87	351	eP		P	04	42	56.9	-0.7
	comp=Z,17nm,0.7s,mb4.8									
CHTO	Chiang Mai	74.95	294	eP		P	04	42	58.9	+0.8
CHTO				pmax		pmax				
	comp=Z,21nm,0.9s,mb4.8									
CHTO	Chiang Mai	74.95	294	eP		P	04	42	58.9	+0.8
	comp=Z,21nm,0.9s,mb4.8									
HHC	Hu-ho-hao-te	75.31	320	eP		P	04	43	01.8	+1.6
HHC				PCP		PcP	04	43	14.3	+1.8
HHC				AP		pP	04	43	50.8	+1.5
HHC				XP		sP	04	44	12.3	+1.1
HHC				PP		PP	04	45	56.0	+4.3
HHC				S		S	04	52	23.3	+1.0
HHC				SKS			04	52	46.8	
HHC				SCS		ScS	04	52	52.0	-1.7
HHC				PS			04	53	30.8	
HHC				XS		sS	04	53	49.0	+0.9
HHC				AMB		AMB				
	comp=Z,13nm,0.4s,mb4.9									
HHC				AMB		AMB				
	comp=Z,166nm,5.5s									
HHC				LR		LR				
	comp=N,99nm,4.3s									
HHC				LR		LR				
	comp=E,129nm,4.5s									
HHC				LR		LR				
	comp=Z,141nm,5.7s									
QSPA	South Pole Qui	75.69	180	eP		P	04	43	01.6	-0.7
	comp=Z,28nm,1.0s,mb4.8									
CD2	Chengdu	75.80	307	eP		P	04	43	04.0	+1.1
CD2				AMB		AMB				
	comp=Z,10.0nm,0.8s,mb4.5									
SEY	Seymchan	77.90	353	deP		P	04	43	14.6	-0.1
LZH	Lanzhou	78.08	312	eP		P	04	43	17.0	+1.3
LZH				AP		pP	04	44	05.0	-0.1
LZH				XP		sP	04	44	25.0	-2.0
LZH				PP		PP	04	46	18.5	+3.6
LZH				eS		S	04	52	47.3	-5.1
LZH				XS		sS	04	54	18.0	-0.7
LZH				SS		SS	04	57	57.0	-1.5
LZH				AMB		AMB				
	comp=Z,14nm,1.0s,mb4.5									
LZH				AMB		AMB				
	comp=Z,87nm,4.3s									
LZH	Lanzhou	78.08	312	eP		P	04	43	17.0	+1.3
LZH				*PP		pP	04	44	05.0	-0.1
LZH							04	46	18.5	
LZH				eS		S	04	52	47.2	-5.2
LZH				SS		SS	04	57	57.1	-1.4
LZH	Lanzhou	78.08	312	eP		P	04	43	17.0	+1.3
LZH				pP		pP	04	44	05.0	-0.1
LZH				sP		sP	04	44	25.0	-2.0
LZH				PP		PP	04	46	18.5	+3.6
LZH				eS		S	04	52	47.2	-5.2
LZH				sS		sS	04	54	18.1	-0.6
LZH				SS		SS	04	57	57.1	-1.4
CIT	Chita	80.75	330	eP		P	04	43	30.2	+0.1
YAK	Yakutsk	81.67	343	eP		P	04	43	34.3	-0.6
YAK				pmax		pmax				
	comp=Z,44nm,1.1s,mb5.0									
YAK	Yakutsk	81.67	343	eP		P	04	43	34.1	-0.8
	comp=Z,89nm,0.8s,mb5.5									
SLKM	Skilak Lake	81.96	20	eP		P	04	43	35.1	-1.3
BILL	Bilibino	82.15	360	eP		P	04	43	36.8	-0.6
BILL				e*PP		pP	04	44	30.2	+2.8
BILL				pmax		pmax				
	comp=Z,36nm,1.6s,mb4.8									
SONM	Songino Array	82.20	324	P		P	04	43	37.7	0.0
	comp=Z,7.3nm,0.6s,mb4.5,baz=143,slow=6.6,SNR=49									
SONM	Songino Array	82.20	324	P		P	04	43	37.7	0.0
SONM				pmax		pmax				
	comp=Z,7.0nm,0.6s									
MAW	Mawson	82.26	202	eP		P	04	43	37.7	-0.2
	comp=Z,21nm,0.6s,mb4.9									
MAW	Mawson	82.26	202	P		P	04	43	37.8	-0.2
	comp=Z,28nm,0.6s,mb5.1,baz=114,slow=6.6,SNR=83									
MAW	Mawson	82.26	202	P		P	04	43	37.8	-0.1
MAW				pmax		pmax				
	comp=Z,28nm,0.6s									
GTA	Gaotai	82.42	314	P		P	04	43	39.8	+1.0
GTA				S		S	04	53	36.8	-0.7
GTA				AMB		AMB				
	comp=Z,21nm,1.2s,mb4.6									
GTA				AMB		AMB				
	comp=Z,155nm,6.5s									
GTA				LR		LR				
	comp=N,69nm,12.2s									
GTA				LR		LR				
	comp=E,86nm,9.5s									
GTA				LR		LR				
	comp=Z,94nm,9.5s									
KIPM	Iron Peak	83.80	46	eP		P	04	43	45.4	-0.4
KIPM				epP		pP	04	44	36.2	+0.2
SAO	San Andreas Ge	84.06	50	eP		P	04

NVAR	**Mina Array Bea**	**86.99**	**49**	P	**P**		**04 44 01.0**	**-0.6**
NVAR				pP	pP		04 44 51.1	-1.0
NVAR				PKKPbc	PKKPbc		05 01 54.7	+1.8
GNW	**Green Mountain**	**87.43**	**40**	*e*P	**P**		**04 44 03.9**	**+0.2**
GLA	**Glamis**	**87.85**	**55**	*e*P	**P**		**04 44 05.9**	**+0.2**
GLA				*e**PP	pP		04 44 55.5	-0.8
EGAK	**Eagle**	**87.94**	**20**	*e*P	**P**		**04 44 04.6**	**-1.5**
WVOR	**Wild Horse Val**	**88.19**	**45**	*e*P	**P**		**04 44 07.2**	**-0.1**
WVOR				*e**PP	pP		04 44 57.3	-0.6
WVOR				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.3							
WVOR	**Wild Horse Val**	**88.19**	**45**	*e*P	**P**		**04 44 07.2**	**-0.1**
	comp=Z,7.3nm,1.3s,mb4.3							
WVOR				*e*pP	pP		04 44 57.3	-0.6
SHPR	**Sheep Range**	**88.69**	**52**	*e*P	**P**		**04 44 10.9**	**+1.3**
HAWA	**Hanford**	**89.04**	**41**	*e*P	**P**		**04 44 11.3**	**0.0**
	comp=Z,0.4nm,0.7s							
SYO	**Syowa Base**	**89.09**	**197**⇓	*e*P	**P**		**04 44 10.0**	**-1.5**
GUN	**Gumba**	**89.24**	**299**	*e*P	**P**		**04 44 12.5**	**+0.3**
	comp=Z,50nm,1.0s,mb5.3							
PKI	**Pulchoki**	**89.54**	**298**	*e*P	**P**		**04 44 13.8**	**+0.2**
	comp=Z,48nm,1.1s,mb5.3							
KKN	**Kakani**	**89.71**	**299**	*e*P	**P**		**04 44 14.5**	**+0.1**
	comp=Z,60nm,1.1s,mb5.3							
DMN	**Daman**	**89.81**	**298**	*e*P	**P**		**04 44 15.2**	**+0.3**
	comp=Z,68nm,1.0s,mb5.4							
BMO	**Blue Mountains**	**89.95**	**43**	*e*P	**P**		**04 44 15.0**	**-0.5**
BMO				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.4							
BMO	**Blue Mountains**	**89.95**	**43**	*e*P	**P**		**04 44 14.9**	**-0.6**
	comp=Z,4.4nm,0.7s,mb4.4							
GKN	**Gorkha**	**90.32**	**299**	*e*P	**P**		**04 44 16.7**	**-0.5**
TUC	**Tucson**	**90.88**	**57**	*e*P	**P**		**04 44 20.4**	**+0.6**
TUC				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
TUC	**Tucson**	**90.88**	**57**	*e*P	**P**		**04 44 20.4**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.2							
KOLN	**Koldanda**	**91.14**	**298**	*e*P	**P**		**04 44 19.5**	**-1.5**
	comp=Z,20nm,1.1s,mb5.0							
NEW	**Newport**	**91.25**	**40**	*e*P	**P**		**04 44 19.8**	**-1.7**
NEW				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NEW	**Newport**	**91.25**	**40**	*e*P	**P**		**04 44 19.8**	**-1.7**
	comp=Z,2.8nm,0.7s,mb4.3							
HLID	**Hailey**	**91.48**	**45**	*e*P	**P**		**04 44 23.5**	**+0.9**
	comp=Z,1.1nm,0.7s,mb3.9							
MSU	**Marysvale**	**91.57**	**51**	*e*P	**P**		**04 44 24.5**	**+1.5**
DUG	**Dugway**	**91.59**	**49**	*e*P	**P**		**04 44 23.1**	**0.0**
DUG				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
DUG	**Dugway**	**91.59**	**49**	*e*P	**P**		**04 44 23.1**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0							
WMQ	**Urumqi**	**92.48**	**315**	P	**P**		**04 44 28.3**	**+1.1**
WMQ				AP	pP		04 45 18.0	-0.1
WMQ				PP	PP		04 48 15.0	+3.8
WMQ				SKS			04 54 40.0	
WMQ				*e*S	S		04 55 15.0	+1.9
WMQ				AMB	AMB			
	comp=Z,14nm,1.1s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,107nm,4.3s							
DAU	**Daniels Canyon**	**92.79**	**49**	*e*P	**P**		**04 44 29.5**	**+0.8**
HWUT	**Hardware Ranch**	**92.91**	**48**	*e*P	**P**		**04 44 28.9**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.3							
SNAA	**Sanae**	**93.94**	**183**	*e*P	**P**		**04 44 32.5**	**-1.4**
SNAA				*e*			04 44 33.1	
SNAA				*e*			04 44 34.3	
SNAA	**Sanae**	**93.94**	**183**	*e*P	**P**		**04 44 32.4**	**-1.5**
SNAA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SNAA	**Sanae**	**93.94**	**183**	*e*P	**P**		**04 44 32.4**	**-1.6**
	comp=Z,9.6nm,0.8s,mb4.9							
BOZ	**Bozeman (W)**	**94.00**	**44**	*e*P	**P**		**04 44 35.1**	**+0.9**
BOZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
BOZ	**Bozeman (W)**	**94.00**	**44**	*e*P	**P**		**04 44 35.1**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1							
LOHW	**Long Hollow**	**94.14**	**46**	*e*P	**P**		**04 44 34.9**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.8							
VNA3	**Neumayer Olymp**	**94.60**	**181**	*e*P	**P**		**04 44 35.4**	**-1.6**
VNA3				*e*			04 44 36.0	
VNA3				*e*			04 44 37.3	
PDAR	**Pinedale Array**	**94.66**	**47**	P	**P**		**04 44 36.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.9,baz=224,slow=4.1,SNR=4.5							
PDAR				PKKPbc	PKKPbc		05 01 33.9	+0.2
	comp=Z,0.7nm,0.7s,baz=80,slow=4.4,SNR=6.6							
ANMO	**Albuquerque**	**95.05**	**55**	*e*P	**P**		**04 44 39.5**	**+0.5**
ANMO				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ANMO	**Albuquerque**	**95.05**	**55**	*e*P	**P**		**04 44 39.5**	**+0.4**
	comp=Z,0.7nm,0.6s,mb4.0							
VNA1	**Neumayer--Stat**	**95.17**	**181**	*e*P	**P**		**04 44 38.9**	**-0.7**
VNA1				*e*			04 44 39.4	
VNA1				*e*			04 44 41.2	
SMCO	**Snowmass**	**95.66**	**51**	*e*P	**P**		**04 44 42.1**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.2							
SDCO	**Great Sand Dun**	**96.45**	**53**	*e*P	**P**		**04 44 45.4**	**0.0**
MKAR	**Makanchi Array**	**96.94**	**316**	P	**P**		**04 44 47.8**	**+0.2**
	comp=Z,13nm,0.6s,mb5.3,baz=94,slow=6.2,SNR=64							
MKAR				PKKPbc	PKKPbc		05 01 26.5	-1.1
	comp=Z,0.5nm,0.6s,baz=275,slow=4.4,SNR=4.6							
MKAR	**Makanchi Array**	**96.94**	**316**	P	**P**		**04 44 47.8**	**+0.2**
MKAR				pmax	pmax			
	comp=Z,13nm,0.6s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**97.19**	**27**	P	**P**		**04 44 46.9**	**-1.7**
	comp=Z,1.7nm,0.7s,mb4.4,baz=259,slow=4.1,SNR=7.6							
YKA	**Yellowknife Ar**	**97.19**	**27**	P	**P**		**04 44 46.9**	**-1.8**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
YKA	**Yellowknife Ar**	**97.19**	**27**	P	**P**		**04 44 46.9**	**-1.8**
ZRNK	**Zerenda**	**106.30**	**321**	*e*PKP	PKiKP		04 49 39.2	-0.4
ARU	**Arti**	**112.19**	**325**	*i* PKIKP	PKiKP		04 49 49.6	-1.0
ARU				*e*			04 56 13.0	
ARU	**Arti**	**112.19**	**325**	*e*PKP	PKiKP		04 49 49.8	-0.8
LPAZ	**La Paz**	**117.36**	**117**	PKP	PKPdf		04 50 01.5	+0.9
	comp=Z,0.6nm,0.5s,baz=148,slow=1.5,SNR=6.0							
LPAZ				PKKPbc	PKKPbc		05 00 24.9	+0.7
	comp=Z,1.7nm,0.8s,baz=60,slow=1.5,SNR=13							
LPAZ	**La Paz**	**117.36**	**117**	PKIKP	PKPdf		04 50 01.5	+1.0
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
LPAZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KEV	**Kevo**	**119.36**	**345**	*e*pkp	PKPdf		04 50 02.9	-1.5
ARCES	**ARCESS Array B**	**119.88**	**345**	PKP	PKPdf		04 50 04.3	-1.1
	comp=Z,19nm,0.6s,baz=77,slow=2.3,SNR=185							
ARCES				PKKPbc	PKKPbc		05 00 13.7	-1.3
	comp=Z,2.1nm,0.9s,baz=171,slow=2.3,SNR=4.9							
ARCES	**ARCESS Array B**	**119.88**	**345**	PKIKP	PKPdf		04 50 04.3	-1.1
ARCES				pmax	pmax			
	comp=Z,19nm,0.6s							
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**119.88**	**345**	PKP	PKPdf		04 50 04.3	-1.1
ARCES				PKKPbc	PKKPbc		05 00 13.7	-1.3
ARE0	**ARCESS Array S**	**119.89**	**345**	*e*PKPdf	PKPdf		04 50 04.3	-1.1
CPUP	**Villa Florida**	**120.69**	**133**	PKP	PKPdf		04 50 05.5	-1.4
	comp=Z,0.7nm,0.5s,baz=28,slow=2.8,SNR=6.1							
CPUP	**Villa Florida**	**120.69**	**133**	PKIKP	PKPdf		04 50 05.6	-1.4
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SCHQ	**Schefferville**	**121.95**	**34**	PKKPbc	PKKPbc		05 00 07.5	+0.1
	comp=Z,1.9nm,0.5s,baz=231,slow=14,SNR=8.1							
JOF	**Joensuu**	**122.54**	**338**	*e*pkp	PKPdf		04 50 09.5	-1.0
SDV	**Santo Domingo**	**123.11**	**89**	*e*PKPdf	PKPdf		04 50 12.3	+0.7
BOSA	**Boshof**	**123.69**	**221**	PKP	PKPdf		04 50 13.5	+0.8
	comp=Z,3.6nm,0.9s,baz=165,slow=5.1,SNR=5.3							
BOSA	**Boshof**	**123.69**	**221**	PKIKP	PKPdf		04 50 13.5	+0.8
BOSA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BOSA	**Boshof**	**123.69**	**221**	*e*PKPdf	PKPdf		04 50 13.7	+1.0
GNI	**Garni**	**123.91**	**309**	*d* PKIKP	PKPdf		04 50 14.8	+1.7
GNI	**Garni**	**123.91**	**309**	*e*PKPdf	PKPdf		04 50 14.3	+1.2
ZEI	**Tsey**	**124.02**	**312**	*e*PKIKP	PKPdf		04 50 14.5	+1.2
OBN	**Obninsk**	**124.39**	**328**⇓	*i* PKIKP	PKPdf		04 50 13.7	-0.4
OBN				pmax	pmax			
	comp=Z,21nm,0.7s							
KIV	**Kislovodsk**	**124.60**	**314**⇑	*i* PKIKP	PKPdf		04 50 15.9	+1.4
KIV				pmax	pmax			
	comp=Z,19nm,1.6s							
SAML	**Samuel**	**124.84**	**112**	*e*PKPdf	PKPdf		04 50 14.5	-0.4
KAF	**Kangasniemi**	**124.84**	**339**	*e*pkp	PKPdf		04 50 14.0	-0.9
FINES	**FINESS Array B**	**125.38**	**338**	PKP	PKPdf		04 50 15.2	-0.8
	comp=Z,3.9nm,0.4s,baz=41,slow=3.1,SNR=56							
FINES	**FINESS Array B**	**125.38**	**338**	PKIKP	PKPdf		04 50 15.2	-0.7
FINES				pmax	pmax			
	comp=Z,4.0nm,0.4s							
LBTB	**Lobatse**	**125.92**	**224**	*e*PKIKP	PKPdf		04 50 17.8	+0.8
KMBO	**Kilima Mbogo**	**128.23**	**257**	PKP	PKPdf		04 50 22.1	+0.7
	comp=Z,1.8nm,0.6s,baz=205,slow=4.4,SNR=4.0							
KMBO	**Kilima Mbogo**	**128.23**	**257**	PKIKP	PKPdf		04 50 22.1	+0.7
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.6s							
LSZ	**Lusaka**	**130.00**	**236**	*e*PKIKP	PKPdf		04 50 26.5	+1.7
NB2	**NORSAR Subarra**	**130.26**	**345**	PKPd	PKPdf		04 50 25.4	+0.2
	comp=Z,4.1nm,0.7s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**130.26**	**345**	PKP	PKPdf		04 50 24.8	-0.4
	comp=Z,4.6nm,0.6s,baz=36,slow=2.1,SNR=37							
NOA				SKPbc	SKPbc		04 53 31.4	+2.5
	comp=Z,2.3nm,0.6s,baz=31,slow=3.0,SNR=11							
NOA	**NORSAR Array B**	**130.26**	**345**	PKIKP	PKPdf		04 50 24.8	-0.4
NOA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
NOA				pmax	pmax			
	comp=N,2.0nm,0.6s							
AKASG	**Malin Array Be**	**130.43**	**326**	PKP	PKPdf		04 50 25.1	-0.5
	comp=N,4.2nm,0.6s,baz=54,slow=1.6,SNR=26							
AKASG				SKPbc	SKPbc		04 53 31.1	+1.6
	comp=N,2.8nm,0.7s,baz=46,slow=3.9,SNR=13							
AKASG	**Malin Array Be**	**130.43**	**326**	PKIKP	PKPdf		04 50 25.1	-0.5
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.6s							
AKASG				pmax	pmax			
	comp=N,3.0nm,0.7s							
AKBB	**Malin Array Si**	**130.43**	**326**	*e*PKIKP	PKPdf		04 50 25.6	0.0
NAO01	**NORSAR Array S**	**130.51**	**345**	*e*PKPdf	PKPdf		04 50 26.5	+0.8
BRTR	**Keskin Array B**	**132.28**	**311**	PKP	PKPdf		04 50 28.9	-0.1
	comp=N,3.8nm,0.7s,baz=127,slow=3.0,SNR=18							
BRTR				SKP			04 53 41.8	
	comp=N,0.9nm,0.7s,baz=102,slow=5.4,SNR=3.7							
BRTR	**Keskin Array B**	**132.28**	**311**	PKIKP	PKPdf		04 50 28.9	-0.2
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRTR				pmax	pmax			
	comp=N,1.0nm,0.7s							
BRTR	**Keskin Array B**	**132.28**	**311**	PKP	PKPdf		04 50 28.9	-0.1
BRTR				SKP			04 53 41.8	
ANTO	**Ankara**	**132.85**	**312**⇑	*i* P	PKPdf		04 50 31.4	+1.3
ANTO	**Ankara**	**132.85**	**312**	*e*PKPdf	PKPdf		04 50 30.8	+0.7
BDFB	**Brasilia**	**134.11**	**129**	PKP	PKPdf		04 50 32.5	0.0
	comp=N,1.8nm,0.6s,baz=240,slow=1.2,SNR=5.6							
BDFB	**Brasilia**	**134.11**	**129**	PKIKP	PKPdf		04 50 32.5	0.0
BDFB				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BURAR	**Bucovina Array**	**134.31**	**324**⇑	*i* P	PKPdf		04 50 34.4	+1.5
MLR	**Muntele Rosu**	**135.03**	**322**⇑	*i* P	PKPdf		04 50 34.9	+0.7
KOLS	**Kolonicke sedl**	**135.13**	**328**	*e*PKP	PKPdf		04 50 35.8	+1.4
UZH	**Uzhgorod**	**135.31**	**327**	*e*PKIKP	PKPdf		04 50 37.0	+2.2
UZH				pmax	pmax			
	comp=Z,24nm,1.0s							
OJC	**Ojcow**	**135.54**	**330**	*e*PKP	PKPdf		04 50 36.0	+0.8
CRVS	**Cervenica-Dubn**	**135.57**	**328**	*e*PKP	PKPdf		04 50 36.5	+1.3
NIE	**Niedzica**	**135.82**	**329**	*e*PKP	PKPdf		04 50 37.4	+1.7
DRGR		**136.19**	**325**⇓	*i* P	PKPdf		04 50 38.0	+1.6
RUE	**Ruedersdorf**	**136.50**	**337**	*e*PKPdf	PKPdf		04 50 39.2	+2.2
BSEG	**Bad Segeberg**	**136.55**	**340**	*e*PKPdf	PKPdf		04 50 39.5	+2.4
KSP	**Ksiaz**	**136.71**	**333**	*e*PKIKP	PKPdf		04 50 38.5	+1.2
MORC	**Moravsky Berou**	**136.91**	**331**⇓	*i* P	PKPdf		04 50 38.9	+1.2
GZR	**Gura Zlata**	**136.96**	**323**⇑	*i* P	PKPdf		04 50 39.6	+1.8
DPC	**Dobroska-Polom**	**137.05**	**333**	*e*PKP	PKPdf		04 50 39.6	+1.6
UPC	**Upice**	**137.07**	**333**	*e*PKP	PKPdf		04 50 39.3	+1.3
VYHS	**Vyhne**	**137.16**	**329**	*e*PKP	PKPdf		04 50 39.1	+0.9
BRG	**Berggiesshubel**	**137.67**	**335**	*e*PKPdf	PKPdf		04 50 40.0	+0.9
BRG	**Berggiesshubel**	**137.67**	**335**	*i* PKP	PKPdf		04 50 40.3	+1.2
BRG				*i*			04 50 41.9	
PVCC	**Panska Ves**	**137.68**	**334**	*e*PKP	PKPdf		04 50 40.7	+1.6
CLL	**Collm**	**137.71**	**336**	*e*PKPdf	PKPdf		04 50 40.0	+0.8
	comp=Z,14nm,0.6s							
NRDL	**Niedersach Rie**	**137.82**	**339**	*e*PKPdf	PKPdf		04 50 41.3	+1.9
FBE	**Freiberg**	**137.88**	**336**	*e*PKPdf	PKPdf		04 50 41.6	+2.1
PRU	**Pruhonice**	**138.09**	**334**	*e*PKP	PKPdf		04 50 40.9	+1.0
TREC	**Trest**	**138.19**	**332**	*e*PKP	PKPdf		04 50 40.1	0.0
CLZ	**Clausthal**	**138.27**	**339**	*e*PKPdf	PKPdf		04 50 42.4	+2.2
TANN	**Tannenbergstha**	**138.63**	**336**	*e*PKPdf	PKPdf		04 50 42.8	+1.9
WERD	**Werdau**	**138.66**	**336**	*e*PKPdf	PKPdf		04 50 43.1	+2.2
GUNZ	**Gunzen**	**138.72**	**336**	*e*PKPdf	PKPdf		04 50 43.6	+2.5
WERN	**Wernitzgruen**	**138.76**	**336**	*e*PKPdf	PKPdf		04 50 43.2	+2.1
MOX	**Moxa**	**138.78**	**337**	*e*PKPdf	PKPdf		04 50 43.4	+2.2
MOX	**Moxa**	**138.78**	**337**	*e*PKP	PKPdf		04 50 42.3	+1.1
KHC	**Kasperske Hory**	**139.15**	**334**	*e*PKP	PKPdf		04 50 42.9	+1.1
KHC	**Kasperske Hory**	**139.15**	**334**⇑	*i* PKIKP	PKPdf		04 50 43.2	+1.4
UBBA	**Unterbreizbach**	**139.24**	**338**	*e*PKPdf	PKPdf		04 50 43.8	+1.8
GEC2	**GERESS Array S**	**139.31**	**333**	*e*PKPdf	PKPdf		04 50 43.5	+1.4
GERES	**GERESS Array B**	**139.31**	**333**	PKhKP			04 50 34.3	
	comp=Z,1.2nm,0.6s,baz=48,slow=2.0,SNR=13							
GERES				PKP	PKPdf		04 50 43.6	+1.5
	comp=Z,0.9nm,0.5s,baz=120,slow=1.9,SNR=3.5							
GERES				SKPbc	SKPbc		04 54 00.8	+3.0
	comp=Z,0.9nm,0.5s,baz=27,slow=2.8,SNR=8.4							
WET	**Wettzell**	**139.44**	**334**	*e*PKPdf	PKPdf		04 50 43.5	+1.1
BUG	**Bochum--Univer**	**139.65**	**341**	*e*PKPdf	PKPdf		04 50 43.5	+0.7
GRA1	**Grafenberg Arr**	**139.69**	**336**	*e*PKPdf	PKPdf		04 50 43.6	+0.8
GRF	**Grafenberg Arr**	**139.69**	**336**	*e*PKPdf	PKPdf		04 50 43.5	+0.7
GRF	**Grafenberg Arr**	**139.69**	**336**	*e*PKIKP	PKPdf		04 50 43.6	+0.8
TNS	**Taunus Mts**	**140.29**	**339**	*e*PKPdf	PKPdf		04 50 45.3	+1.4
LEGS	**Legarje**	**140.65**	**329**	*i*	PKPdf		04 50 45.5	+0.9
TOD	**Tromm**	**140.68**	**338**	PKP	PKPdf		04 50 38.2	-6.4
MEM	**Membach**	**140.77**	**341**	PKP	PKPdf		04 50 47.6	+2.8
KBA	**Koelnbreinsper**	**140.79**	**332**⇑	*i* P	PKPdf		04 50 39.8	-5.0
	comp=Z,8.8nm,0.8s							
ABH	**Alteburg**	**140.89**	**339**	PKP	PKPdf		04 50 40.0	-5.0
LJU	**Ljubljana**	**140.98**	**330**	*i*	PKPdf		04 50 46.1	+1.0
BOJS	**Bojanci**	**141.00**	**328**	*e*PKP	PKPdf		04 50 40.1	-5.1
BOJS				*e*			04 50 45.5	
BOJS				*i*			04 50 48.9	
BCLA	**Clavier**	**141.16**	**342**	PKP	PKPdf		04 50 49.9	+4.4
PTCC	**Patocco-Chiusa**	**141.28**	**331**	PKP	PKPdf		04 50 45.2	-0.5
JAVS	**Javornik**	**141.31**	**330**	*e*PKP	PKPdf		04 50 40.8	-4.9
SNF	**Seneffe**	**141.38**	**343**	PKP	PKPdf		04 50 46.6	+0.8
WTTA	**Wattenberg**	**141.42**	**333**⇓	*i* P	PKPdf		04 50 42.9	-3.0
	comp=Z,13nm,0.5s							
WLF	**Walferdange**	**141.54**	**340**	*e*PKPdf	PKPdf		04 50 46.8	+0.6
WLF	**Walferdange**	**141.54**	**340**	PKP	PKPdf		04 50 41.4	-4.7
GIVF	**Givet**	**141.58**	**342**	*e*PKP1	PKPdf		04 50 42.1	-4.1
MOTA	**Moosalm**	**141.58**	**334**⇑	*i* P	PKPdf		04 50 42.7	-3.5
	comp=Z,12nm,1.0s							
DOU	**Dourbes**	**141.65**	**342**	PKP	PKPdf		04 50 47.7	+1.3
BAIF	**Baives**	**141.80**	**342**	*e*PKP1	PKPdf		04 50 41.8	-4.8
BFO	**Black Forest**	**141.91**	**337**	*e*PKPdf	PKPdf		04 50 47.5	+0.7
CDF	**Champ du Feu**	**142.23**	**338**	*e*PKP1	PKPdf		04 50 42.7	-4.7
	comp=Z,19nm,0.8s							
CTI	**Castel Tesino**	**142.34**	**332**	PKIKP	PKPdf		04 50 47.8	+0.2
BRMO	**Bormio**	**142.57**	**334**	PKP	PKPdf		04 50 45.7	-2.3
HINF	**Hinteralfeld**	**142.88**	**338**	*e*PKP1	PKPdf		04 50 44.6	-3.9
	comp=Z,16nm,0.6s							
HAU	**Haudompre**	**142.90**	**339**	*e*PKP1	PKPdf		04 50 45.0	-3.6
	comp=Z,29nm,0.9s							
MEZF	**Maizieres J'vi**	**142.91**	**340**	*e*PKP1	PKPdf		04 50 46.3	-2.3
	comp=Z,29nm,0.6s							
BBS	**Basel-Blauen**	**142.94**	**337**	PKIKP	PKPdf		04 50 47.1	-1.5
TUE	**Stuetta**	**143.01**	**334**	PKP	PKPdf		04 50 47.3	-1.5
FGMS	**Monte Sant'Ang**	**143.13**	**323**	PKP	PKPdf		04 50 46.4	-2.6
CING	**Cingoli**	**143.53**	**328**	PKP	PKPdf		04 50 49.0	-0.7
FG4	**Candela**	**143.75**	**323**	PKIKP	PKPdf		04 50 49.0	-1.1
ORI	**Oriolo Calabro**	**143.85**	**321**	PKIKP	PKPdf		04 50 49.9	-0.3
FNVD	**Fontana Vidola**	**144.00**	**330**	PKP	PKPdf		04 50 50.1	-0.4
AQU	**L'Aquila**	**144.13**	**326**⇑	*i* P	PKPdf		04 50 49.5	-1.2
AQU	**L'Aquila**	**144.13**	**326**	*e*PKPdf	PKPdf		04 50 50.1	-0.6
MIDA	**Miranda**	**144.14**	**325**	PKP	PKPdf		04 50 50.0	-0.8
CABF	**La Chapelle**	**144.18**	**338**	*e*PKP1	PKPdf		04 50 50.4	-0.4
	comp=Z,68nm,0.8s							
FLN	**La Foliniere**	**144.23**	**346**	*e*PKP1	PKPdf		04 50 49.8	-1.1
	comp=Z,41nm,0.8s							
CUC	**Castrocucco**	**144.28**	**321**	PKP	PKPdf		04 50 49.0	-2.0
LDF	**La Druitiere**	**144.30**	**346**	*e*PKP1	PKPdf		04 50 50.0	-1.0
	comp=Z,40nm,0.7s							
BOB	**Bobbio (Coli)**	**144.31**	**333**	PKIKP	PKPdf		04 50 50.4	-0.7
VLC	**Villacollemand**	**144.35**	**331**	PKP	PKPdf		04 50 49.3	-1.8
LOR	**Lormes**	**144.38**	**341**	*e*PKP1	PKPdf		04 50 50.5	-0.7
	comp=Z,75nm,1.0s							
CSNT	**Castellina Chi**	**144.43**	**329**	PKP	PKPdf		04 50 49.5	-1.8
RFI	**Roccamonfina**	**144.52**	**324**	PKP	PKPdf		04 50 51.1	-0.3
CERT	**Cerreto**	**144.64**	**326**	PKP	PKPdf		04 50 50.6	-1.0
GRR	**Gorron**	**144.66**	**346**	*e*PKP1	PKPdf		04 50 51.1	-0.6
	comp=Z,149nm,0.7s							
HYF	**Humbligny**	**144.76**	**342**	*e*PKP1	PKPdf		04 50 52.0	+0.2
LPL	**La Plagne**	**144.85**	**336**	*e*PKP1	PKPdf		04 50 52.7	+0.7
	comp=Z,134nm,0.7s							
LPG	**La Plagne**	**144.86**	**336**	*e*PKP1	PKPdf		04 50 52.8	+0.8
	comp=Z,164nm,0.7s							
SMF	**Signal de Mont**	**144.94**	**340**	*e*PKP1	PKPdf		04 50 52.2	+0.1
	comp=Z,229nm,1.0s							
AVF	**Avril sur Loir**	**144.97**	**341**	*e*PKP1	PKPdf		04 50 52.2	0.0
	comp=Z,158nm,1.0s							
TOLF	**Tolfa**	**145.08**	**327**	PKP	PKPdf		04 50 52.2	-0.2
SGMF	**Saint Gilles**	**145.16**	**348**	*e*PKP1	PKPbc		04 50 52.6	+0.1
	comp=Z,111nm,0.6s							
ROSF	**Rostrenen**	**145.22**	**349**	*e*PKP1	PKPbc		04 50 52.8	+0.1
	comp=Z,126nm,1.0s							
BNI	**Bardonecchia**	**145.26**	**336**	*e*PKP2	PKPab		04 50 53.4	+0.2
CEL	**Celeste**	**145.26**	**319**	PKP	PKPdf		04 50 52.2	-0.5
MAON	**Monte Argentar**	**145.27**	**328**	PKP	PKPdf		04 50 52.9	+0.2
FIN	**Finale Ligure**	**145.30**	**333**	PKIKP	PKPdf		04 50 52.5	-0.3
BGF	**Bois d'Agland**	**145.34**	**341**	*e*PKP1	PKPbc		04 50 53.6	+0.5
	comp=Z,86nm,0.6s							
GDM	**Grand'Maison**	**145.35**	**336**	PKP	PKPdf		04 50 54.3	+1.5
GRN	**Grenoble**	**145.46**	**337**	PKP	PKPdf		04 50 54.5	+1.5
DOI	**San Damiano**	**145.47**	**334**	PKIKP	PKPdf		04 50 52.3	-0.8
MBDF	**Montbardon**	**145.49**	**335**	*e*PKP1	PKPbc		04 50 54.1	+0.5
	comp=Z,98nm,0.8s							
QUIF

ML2.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.13**	**57**	⇓*iP*	Pn	04 37 38.9	-0.3
LSCH				*i* S	Sn	04 37 44.1	+0.3
TLL	**Tololo Astrono**	**0.53**	**111**	⇓*iP*	Pn	04 37 44.5	+0.9
TLL				*i* S	Sn	04 37 52.9	+1.6
TLL				AML	AML	04 37 57.7	
	comp=E,566nm,0.4s						
TLL	**Tololo Astrono**	**0.53**	**111**	⇓*iP*	Pn	04 37 44.5	+0.9
TLL				*i* S	Sn	04 37 52.9	+1.6
CMCH	**Combarbala**	**1.23**	**165**	⇑*iP*	Pn	04 37 53.9	+0.7
CMCH				*i* S	Sn	04 38 11.1	+2.5
CMCH				AML	AML	04 38 17.3	
	comp=N,314nm,0.8s						
CMCH	**Combarbala**	**1.23**	**165**	⇑*iP*	Pn	04 37 53.9	+0.7
CMCH				*i* S	Sn	04 38 11.1	+2.5
VACH	**Vallenar**	**1.50**	**21**	*eP*	Pn	04 37 58.7	+1.8
VACH				*i* S	Sn	04 38 17.2	+2.0
VACH				AML	AML	04 38 21.6	
	comp=E,697nm,0.1s						
VACH	**Vallenar**	**1.50**	**21**	*eP*	Pn	04 37 58.7	+1.8
VACH				*i* S	Sn	04 38 17.2	+2.0
PTCH	**Petorca**	**2.31**	**171**	*i* S	Sn	04 38 38.9	+3.8

HEL 30 05:15:01.3±1.5, 7607N×1068E, h10km, ML3.0, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.88**	**5**	*eP*	Pn	05 15 45.7	-1.6
KBS				*eS*	Sn	05 16 23.1	+1.1
HOPEN	**Hopen**	**3.44**	**76**	*eP*	Pn	05 15 60.0	+5.1
HOPEN				*eS*	Sn	05 16 45.4	+10
KIF	**Kilpisjarvi**	**7.71**	**152**	*eP*	Pn	05 16 52.0	-1.6
KIF				MPN		05 16 54.3	
	comp=Z,0.9nm,0.3s						
KIF				*eS*	Sn	05 18 15.2	-5.8
KEV	**Kevo**	**7.92**	**135**	*eP*	Pn	05 16 54.1	-2.4
KEV				MPN		05 17 01.0	
	comp=Z,0.6nm,0.3s						
KEV				*eS*	Sn	05 18 21.1	-5.0
SGF	**Sodankyl**	**9.94**	**142**	*eP*	Pn	05 17 23.0	-1.1
SGF				*eS*	Sn	05 19 09.1	-6.5
KJN	**Kajaani**	**13.27**	**146**	*eP*	Pn	05 18 08.0	-1.7
KJN				*eS*	Sn	05 20 25.5	-12

*IDC **30** 05:17:17.1±3.5, 1321S×16694E, h211km±27km, mb3.5/8, mb1 3.5/9, mb1mx3.4/16, mbtmp4.0/9, Error ellipse: s-maj=29.0km s-min=18.2km az=31.0*
*NEIC **30** 05:17:20.4±2.5, 1331S×16688E, h243km±20km, mb3.9/2, Error ellipse: s-maj=22.2km s-min=11.1km az=204.0*
*ISCJB **30** 05:17:21.1±4.1, 134S±02×1668E±02, h261km±32km, mb3.7/8, Error ellipse: s-maj=40.4km s-min=20.4km az=72.7*

ISC 30 05:17:21.9±4.3, 135S±02×1669E±02, h251km±33km, n18, σ0°38/16, mb3.8/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.59**	**183**	P	**Pn**	**05 19 23.0**	**+0.5**
	0.5nm,0.3s,baz=192,slow=23,SNR=6.0						
DZM				S	**S**	**05 20 59.4**	**-0.5**
	0.0nm,0.3s,baz=7.5,slow=12,SNR=2.1						
CTA	**Charters Tower**	**20.79**	**249**	P	**P**	**05 21 44.5**	**+0.4**
	1.3nm,0.3s,baz=76,slow=14,SNR=2.8						
CTAO	**Charters Tower**	**20.79**	**249**	*eP*	**P**	**05 21 44.2**	**+0.1**
	4.7nm,0.8s						
URZ	**Urewera**	**26.34**	**162**	P	**P**	**05 22 34.8**	**-0.1**
	2.9nm,0.4s,mb4.3,baz=44,slow=9.9,SNR=8.6						
STKA	**Stephens Creek**	**29.54**	**227**	P	**P**	**05 23 03.7**	**+0.4**
	0.8nm,0.3s,mb3.8,baz=12,slow=12,SNR=4.8						
STKA	**Stephens Creek**	**29.54**	**227**	P	**P**	**05 23 03.7**	**+0.4**
WRA	**Warramunga Arr**	**31.77**	**254**	P	**P**	**05 23 22.5**	**-0.4**
	0.5nm,0.7s,mb3.1,baz=84,slow=9.4,SNR=6.2						
AS31	**Alice Springs**	**32.77**	**247**	*eP*	**P**	**05 23 31.2**	**-0.4**
ASAR	**Alice Springs**	**32.78**	**247**	P	**P**	**05 23 31.6**	**0.0**
	1.4nm,0.6s,mb3.7,baz=74,slow=9.4,SNR=34						
ASAR				ScP	ScP	05 29 36.5	+6.3
	0.8nm,0.9s,baz=76,slow=3.9,SNR=5.3						
ASAR	**Alice Springs**	**32.78**	**247**	P	**P**	**05 23 31.6**	**0.0**
ASAR				ScP	ScP	05 29 36.5	+6.3
FITZ	**Fitzroy Crossi**	**39.88**	**258**	P	**P**	**05 24 31.7**	**+0.3**
	0.7nm,0.6s,mb3.3,baz=119,slow=21,SNR=3.1						
VNDA	**Vanda**	**64.13**	**181**	P	**P**	**05 27 30.0**	**+0.5**
	0.8nm,0.6s,mb3.5,baz=360,slow=6.6,SNR=10						
VNDA	**Vanda**	**64.13**	**181**	*eP*	**P**	**05 27 29.8**	**+0.2**
	1.0nm,0.6s,mb3.6						
QSPA	**South Pole Qui**	**76.57**	**180**	*eP*	**P**	**05 28 44.8**	**+0.1**
	9.8nm,0.7s,mb4.5						
MKAR	**Makanchi Array**	**96.00**	**317**	P	**P**	**05 30 19.9**	**-0.6**
	0.4nm,0.6s,mb3.8,baz=94,slow=5.8,SNR=4.0						
ARCES	**ARCESS Array B**	**118.92**	**345**	PKP	PKPdf	05 35 38.8	-1.7
	1.6nm,0.6s,baz=75,slow=2.4,SNR=21						
NOA	**NORSAR Array B**	**129.29**	**345**	PKP	PKPdf	05 35 59.4	-0.9
	0.9nm,0.9s,baz=32,slow=3.0,SNR=4.1						
KEST	**Kesra**	**149.97**	**322**	PKPbc	PKPbc	05 36 43.0	+0.4
	0.7nm,0.6s,baz=353,slow=4.6,SNR=4.5						

*STR **30** 05:17:21.5±0.1, 4300N×021W, h2km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 05:17:21.7±0.1, 4303N×020W, h2km, Md1.7/2, Error ellipse: s-maj=2.7km s-min=0.7km az=177.0*

MDD 30 05:17:22.1±0.3, 4304N×020W, h0km, mbLg1.0/3, Error ellipse: s-maj=3.6km s-min=1.8km az=10.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.14**	**282**	Pg	Pg	05 17 24.7	-0.1
REYF				Sg	Sg	05 17 27.0	+0.3
REYF	**Montagne du Re**	**0.14**	**282**	P	Pg	05 17 24.7	-0.1
REYF				S	Sg	05 17 27.0	+0.3
LABF	**Labassere**	**0.20**	**88**	Pg	Pg	05 17 25.8	-0.2
LABF				Sg	Sg	05 17 28.8	+0.2
LABF	**Labassere**	**0.20**	**88**	P	Pg	05 17 25.8	-0.2
LABF				S	Sg	05 17 29.0	+0.5
VIEF	**Viey**	**0.23**	**133**	P	Pg	05 17 26.2	-0.3
VIEF				S	Sg	05 17 29.8	+0.3
ETSF	**Etsaut**	**0.30**	**242**	*e*Pg	Pg	05 17 27.5	-0.3
ETSF				*e*Sg	Sg	05 17 31.6	-0.1
	3.0nm,0.2s						
ETSF	**Etsaut**	**0.30**	**242**	Pg	Pg	05 17 27.5	-0.3
ETSF				Lg		05 17 31.6	
	1.5nm,0.2s						
EPF	**Esparros**	**0.40**	**91**	*e*Pg	Pg	05 17 29.5	-0.2
EPF				*e*Sg	Sg	05 17 34.4	-0.4
	1.6nm,0.2s						
EPF	**Esparros**	**0.40**	**91**	Pg	Pg	05 17 29.5	-0.2
EPF				Lg		05 17 34.4	
	0.8nm,0.2s						
EBIE	**Bielsa**	**0.43**	**144**	Pg	Pg	05 17 29.8	-0.6
	0.2nm,0.2s,SNR=7.9						
EBIE				Lg		05 17 36.2	
	1.5nm,0.1s,SNR=13						
SJPF	**Ste Jean**	**0.75**	**276**	*e*Sg	Sg	05 17 45.8	-0.5
	1.0nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**276**	Lg		05 17 45.8	
	0.5nm,0.2s						
ESAC	**San Caprasio**	**1.33**	**189**	Lg		05 18 05.5	
	2.3nm,0.1s,SNR=7.9						

*IDC **30** 05:37:14.6±0.7, 676N×7296W, h157km±7km, mb3.8/14, mb1 3.9/18, mb1mx3.8/26, mbtmp4.3/18, Error ellipse: s-maj=11.3km s-min=7.6km az=129.0*
*ISCJB **30** 05:37:15.0±0.5, 680N±004×7291W±004, h176km±5km, mb4.3/58, Error ellipse: s-maj=7.1km s-min=6.5km az=62.9*
*NEIC **30** 05:37:15.1±0.4, 679N×7294W, h161km±4km, mb4.4/47, Error ellipse: s-maj=4.9km s-min=4.6km az=192.0*
*BJI **30** 05:37:20.1, 680N×7290W, h161km, mB5.1*

ISC 30 05:37:15.9±0.5, 679N±004×7294W±004, h165km±4km, n117, σ0°78/118, mb4.3/58, 5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.37**	**216**	P	**Pn**	**05 37 56.0**	**-0.1**
	393nm,0.3s,baz=259,slow=19,SNR=1511						
ROSC				S	**Sn**	**05 38 25.2**	**-2.0**
	298nm,0.3s,baz=84,slow=19,SNR=7.5						
ROSC	**El Rosal**	**2.37**	**216**	*e*Pn	**Pn**	**05 37 55.9**	**-0.2**
ROSC				*e*Sn	**Sn**	**05 38 27.8**	**+0.5**
SDV	**Santo Domingo**	**3.09**	**47**	P	**Pn**	**05 38 05.7**	**+0.8**
	546nm,0.3s,baz=236,slow=5.9,SNR=1802						
SDV				S	**Sn**	**05 38 42.3**	**-0.7**
	159nm,0.3s,baz=302,slow=22,SNR=8.6						
SDV	**Santo Domingo**	**3.09**	**47**	*e*Pn	**Pn**	**05 38 05.8**	**+0.8**
SDV				*e*Sn	**Sn**	**05 38 43.1**	**+0.1**
PCRV	**Puerto La Cruz**	**8.87**	**67**	P	**Pn**	**05 39 20.0**	**-0.7**
	9.0nm,0.3s,baz=284,slow=1.7,SNR=27						
PCJ	**Portland Cotta**	**11.64**	**340**	⇓*eP*	**Pn**	**05 39 57.5**	**+0.6**
PCJ				*eS*	**Sn**	**05 41 53.8**	**-12**
CMJ	**Castle Mountai**	**11.77**	**344**	⇓*eP*	**Pn**	**05 39 59.4**	**+0.8**
STH	**Stony Hill**	**11.84**	**342**	⇓*eP*	**Pn**	**05 39 60.0**	**+0.4**
STH				*eS*	**Sn**	**05 41 58.6**	**-12**
MCJ	**Malvern**	**12.00**	**338**	⇓*eP*	**Pn**	**05 40 02.4**	**+0.8**
BBJ	**Bamboo Saint A**	**12.27**	**340**	⇓*eP*	**Pn**	**05 40 06.8**	**+1.7**
JTS	**JuntasAbangare**	**12.38**	**287**	P	**Pn**	**05 40 05.4**	**-1.2**
	0.3nm,0.3s,baz=344,slow=20,SNR=2.6						
JTS				S	**Sn**	**05 42 22.7**	**-1.0**
	0.1nm,0.3s,baz=168,slow=22,SNR=2.2						
JTS	**JuntasAbangare**	**12.38**	**287**	P	**Pn**	**05 40 05.4**	**-1.2**
JTS				S	**Sn**	**05 42 22.7**	**-1.0**
MPR	**Mayaguez**	**12.68**	**26**	*e*Pn	**Pn**	**05 40 08.3**	**-2.1**
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**05 40 11.3**	**-3.9**
	4.8nm,0.3s,baz=223,slow=12,SNR=7.4						
SJG	**San Juan**	**13.05**	**30**	*e*Pn	**Pn**	**05 40 14.0**	**-1.2**
HUMP	**Col San Antoni**	**13.23**	**31**	*e*Pn	**Pn**	**05 40 16.7**	**-0.7**
RCC	**Rio Carpintero**	**13.40**	**349**	*e*PG	**Pn**	**05 40 22.7**	**+3.2**
	baz=169						
RCC				*e*SG	**Sn**	**05 42 41.8**	**-6.3**
	comp=N,132nm,17.3s						
RCC				*e*			
	comp=E,193nm,22.0s						
LMGC	**Las Mercedes**	**13.77**	**344**	*e*P	**Pn**	**05 40 26.1**	**+1.9**
HLGC	**Holguin**	**14.34**	**348**	*e*P	**Pn**	**05 40 35.3**	**+4.0**
ATAH	**Atahualpa**	**14.74**	**202**	P	**Pn**	**05 40 38.4**	**+2.1**
	comp=E,0.6nm,0.3s,baz=5.3,slow=12,SNR=2.6						
SAML	**Samuel**	**18.41**	**148**	*e*pP	pP	05 41 47.0	+0.5
PAYG	**Puerto Ayora**	**18.83**	**247**	*e*P	**P**	**05 41 22.5**	**-0.5**
	comp=E,21nm,0.9s						
LPAZ	**La Paz**	**23.42**	**168**	P	**P**	**05 42 09.9**	**0.0**
	comp=E,0.8nm,0.3s,mb3.6,baz=2.2,slow=15,SNR=8.9						
LPAZ				pP		05 42 42.5	
	comp=E,5.7nm,0.7s,baz=346,slow=16,SNR=10						
SIV	**San Ignacio**	**25.50**	**153**	P	**P**	**05 42 28.4**	**-0.5**
	comp=E,0.8nm,0.7s,mb3.5,baz=306,slow=9.6,SNR=6.4						
SIV				pP	pP	05 43 02.6	-0.2
	comp=E,4.5nm,0.9s,baz=329,slow=9.8,SNR=9.2						
TKL	**Tuckaleechee C**	**30.41**	**342**	P	**P**	**05 43 12.8**	**+0.4**
	comp=E,3.7nm,0.9s,mb4.1,baz=139,slow=7.2,SNR=3.7						
TKL	**Tuckaleechee C**	**30.41**	**342**	P	**P**	**05 43 12.8**	**+0.4**
PLAL	**Pickwick Lake**	**31.33**	**336**	*e*P	**P**	**05 43 21.2**	**+0.6**
	comp=E,19nm,0.9s,mb4.8						
OXF	**Oxford**	**31.50**	**333**	*e*P	**P**	**05 43 20.5**	**-1.5**
	comp=E,6.5nm,0.5s,mb4.6						
NATX	**Nacogdoches**	**32.07**	**324**	*e*P	**P**	**05 43 27.1**	**0.0**
	comp=E,16nm,0.8s,mb4.8						
WVT	**Waverly**	**32.23**	**337**	*e*P	**P**	**05 43 27.9**	**-0.6**
	comp=E,9.2nm,0.4s,mb4.9						
BDFB	**Brasilia**	**33.26**	**132**	P	**P**	**05 43 38.7**	**+1.3**
	comp=E,1.4nm,0.5s,mb3.9,baz=314,slow=17,SNR=3.9						
MIAR	**Mount Ida**	**33.55**	**328**	*e*P	**P**	**05 43 39.0**	**-0.9**
	comp=E,4.3nm,0.9s,mb4.2						
WCI	**Wyandotte Cave**	**33.56**	**341**	*e*P	**P**	**05 43 40.7**	**+0.7**
	comp=E,12nm,0.6s,mb4.8						
USIN	**University of**	**33.79**	**339**	*e*P	**P**	**05 43 41.1**	**-0.9**
	comp=E,20nm,0.6s,mb5.0						
SIUC	**Southern Illin**	**34.16**	**337**	*e*P	**P**	**05 43 44.6**	**-0.5**
	comp=E,23nm,0.5s,mb5.2						
BLO	**Bloomington**	**34.49**	**341**	*e*P	**P**	**05 43 48.1**	**+0.1**
	comp=E,24nm,0.5s,mb5.2						
ACSO	**Alum Creek Sta**	**34.49**	**346**	*e*P	**P**	**05 43 49.5**	**+1.4**
	comp=E,5.5nm,0.7s,mb4.4						
CCM	**Cathedral Cave**	**35.28**	**335**	*e*P	**P**	**05 43 53.5**	**-1.2**
	comp=E,27nm,0.5s,mb5.1						
WMOK	**Wichita Mounta**	**36.61**	**323**	*e*P	**P**	**05 44 04.4**	**-1.7**
	comp=E,5.7nm,0.7s,mb4.3						
KSU1	**Kansas State U**	**38.60**	**330**	*e*P	**P**	**05 44 21.6**	**-1.3**
JFWS	**Jewell Farm**	**39.09**	**340**	*e*P	**P**	**05 44 26.2**	**-0.6**
MNTX	**Cowdas Mount**	**39.12**	**314**	*e*P	**P**	**05 44 26.6**	**-0.6**
	comp=E,9.0nm,0.7s,mb4.5						
SCIA	**State Center**	**39.33**	**336**	*e*P	**P**	**05 44 28.2**	**-0.6**
ANMO	**Albuquerque**	**41.66**	**317**	*e*P	**P**	**05 44 47.7**	**-0.3**
	comp=E,1.8nm,0.7s,mb3.8						
LAZ	**Ladron**	**41.83**	**316**	*e*P	**P**	**05 44 49.7**	**+0.3**
SDCO	**Great Sand Dun**	**42.69**	**321**	*e*P	**P**	**05 44 57.1**	**+0.8**
	comp=E,7.5nm,0.8s,mb4.4						
TUC	**Tucson**	**43.41**	**311**	*e*P	**P**	**05 45 01.5**	**-0.6**
	comp=E,2.4nm,0.6s,mb4.0						
EYMN	**Ely**	**43.96**	**342**	*e*P	**P**	**05 45 05.8**	**-0.6**
ISCO	**Idaho Springs**	**44.04**	**323**	*e*P	**P**	**05 45 07.7**	**+0.6**
	comp=E,8.4nm,0.9s,mb4.4						
MVCO	**Mesa Verde**	**44.30**	**318**	*e*P	**P**	**05 45 09.4**	**+0.2**
MVCO				*e*PP	PP	05 46 50.6	-5.2
SMCO	**Snowmass**	**44.48**	**322**	*e*P	**P**	**05 45 11.3**	**+0.7**
	comp=E,2.1nm,0.6s,mb3.9						
PV01	**Paradox Valley**	**44.87**	**319**	*e*P	**P**	**05 45 13.6**	**-0.1**
PHWY	**Pilot Hill**	**44.92**	**325**	*e*P	**P**	**05 45 14.6**	**+0.5**
WUAZ	**Wupatki**	**45.37**	**315**	*e*P	**P**	**05 45 17.8**	**+0.1**
	comp=E,18nm,0.9s,mb4.7						
RSSD	**Black Hills**	**46.06**	**329**	*e*P	**P**	**05 45 23.2**	**+0.1**
	comp=E,10nm,0.7s,mb4.0						
SRU	**San Rafael**	**46.68**	**319**	*e*P	**P**	**05 45 27.9**	**0.0**
	comp=E,6.2nm,0.8s,mb4.3						
GLA	**Glamis**	**46.79**	**310**	*e*P	**P**	**05 45 29.4**	**+0.7**
TMUT	**Trail Mountain**	**47.23**	**319**	*e*P	**P**	**05 45 32.8**	**+0.7**
ULM	**Lac du Bonnet**	**47.38**	**340**	P	**P**	**05 45 32.1**	**-1.1**
	comp=E,13nm,0.5s,mb4.9,baz=145,slow=7.2,SNR=55						
ULM	**Lac du Bonnet**	**47.38**	**340**	*e*P	**P**	**05 45 31.8**	**-1.5**
	comp=E,17nm,0.6s,mb4.8						
MSU	**Marysvale**	**47.45**	**318**	*e*P	**P**	**05 45 34.4**	**+0.5**
DAU	**Daniels Canyon**	**47.88**	**320**	*e*P	**P**	**05 45 37.2**	**+0.1**
ARUT	**Antelope Range**	**47.94**	**316**	*e*P	**P**	**05 45 37.9**	**+0.3**
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**05 45 39.5**	**+0.2**
	comp=E,9.4nm,0.8s,mb4.5,baz=192,slow=6.9,SNR=12						
SCHQ	**Schefferville**	**48.16**	**5**	*e*P	**P**	**05 45 39.5**	**+0.3**
	comp=E,8.9nm,0.7s,mb4.5						
PDAR	**Pinedale Array**	**48.21**	**324**	P	**P**	**05 45 39.4**	**-0.3**
	comp=E,2.7nm,0.5s,mb4.1,baz=124,slow=8.8,SNR=30						
BW06	**Boulder Array**	**48.21**	**324**	*e*P	**P**	**05 45 39.7**	**+0.1**
	comp=E,6.0nm,1.0s,mb4.2						
TCUT	**Toone Canyon**	**48.37**	**321**	*e*P	**P**	**05 45 41.2**	**+0.3**
SHPR	**Sheep Range**	**48.54**	**314**	*e*P	**P**	**05 45 43.2**	**+1.0**
HWUT	**Hardware Ranch**	**48.74**	**321**	*e*P	**P**	**05 45 43.4**	**-0.3**
	comp=E,4.5nm,0.6s,mb4.3						
DUG	**Dugway**	**48.76**	**319**	*e*P	**P**	**05 45 44.3**	**+0.5**
	comp=E,3.5nm,0.7s,mb4.1						
LAO	**LASA Array**	**48.95**	**330**	*e*P	**P**	**05 45 44.8**	**-0.5**
	comp=E,4.4nm,0.5s,mb4.3						
AHID	**Auburn Hatcher**	**49.12**	**323**	*e*P	**P**	**05 45 46.6**	**0.0**
	comp=E,6.1nm,0.8s,mb4.3						
GSC	**Goldstone**	**49.22**	**312**	*e*P	**P**	**05 45 48.0**	**+0.7**
DGMT	**Dagmar**	**49.26**	**333**	*e*P	**P**	**05 45 48.1**	**+0.4**
	comp=E,31nm,0.5s,mb5.2						
BGU	**Big Grassy Mou**	**49.28**	**320**	*e*P	**P**	**05 45 47.8**	**-0.1**
REDW	**Red Top Meadow**	**49.33**	**324**	*e*P	**P**	**05 45 48.0**	**-0.2**
	comp=E,7.0nm,0.5s,mb4.5						
SNOW	**Snow King Moun**	**49.33**	**324**	*e*P	**P**	**05 45 48.4**	**+0.2**
	comp=E,6.6nm,0.5s,mb4.5						
LOHW	**Long Hollow**	**49.33**	**324**	*e*P	**P**	**05 45 48.5**	**+0.3**
	comp=E,6.2nm,0.6s,mb4.4						
TPAW	**Teton Pass**	**49.46**	**324**	*e*P	**P**	**05 45 49.3**	**+0.1**
	comp=E,6.1nm,0.6s,mb4.4						
MOOW	**Moose Ponds**	**49.49**	**324**	*e*P	**P**	**05 45 49.4**	**-0.1**
	comp=E,4.1nm,0.8s,mb4.1						
RLMT	**Red Lodge**	**49.51**	**327**	*e*P	**P**	**05 45 49.2**	**-0.3**
RLMT				*e*PcP	PcP	05 47 15.8	+6.8
RRI2	**Red Ridge**	**49.59**	**323**	*e*P	**P**	**05 45 55.0**	**+4.8**
	comp=E,10nm,0.5s,mb4.7						
IMW	**Indian Meadow**	**49.70**	**324**	*e*P	**P**	**05 45 50.9**	**-0.1**
	comp=E,2.7nm,0.5s,mb4.1						
GCMT	**Greycliff**	**50.15**	**327**	*e*P	**P**	**05 45 54.8**	**+0.4**
QLMT	**Earthquake Lak**	**50.54**	**325**	*e*P	**P**	**05 45 58.3**	**+1.0**
BOZ	**Bozeman (W)**	**51.14**	**326**	*e*P	**P**	**05 46 01.9**	**+0.1**
	comp=E,3.8nm,0.6s,mb4.2						
MCMT	**McKenzie Canyo**	**51.35**	**324**	*e*P	**P**	**05 46 04.0**	**+0.6**
DLMT	**Dillon**	**51.52**	**325**	*e*P	**P**	**05 46 04.9**	**+0.3**
	comp=E,12nm,1.3s,mb4.4						
DLMT				*e*pP	pP	05 46 19.9	-22
HLID	**Hailey**	**51.57**	**322**	*e*P	**P**	**05 46 05.1**	**+0.1**
	comp=E,3.6nm,0.8s,mb4.0						
NVAR	**Mina Array Bea**	**51.63**	**315**	P	**P**	**05 46 05.7**	**+0.2**
	comp=E,1.5nm,0.7s,mb3.8,baz=112,slow=9.2,SNR=16						
NVAR				PcP	PcP	05 47 17.9	+1.0
	comp=E,0.5nm,0.5s,baz=140,slow=4.5,SNR=4.6						
NVAR	**Mina Array Bea**	**51.63**	**315**	P	**P**	**05 46 05.7**	**+0.2**
NVAR				PcP	PcP	05 47 17.9	+1.0
LRM	**Limekiln Ridge**	**51.71**	**325**	*e*P	**P**	**05 46 06.2**	**+0.2**
BMN	**Battle Mountai**	**51.79**	**317**	*e*P	**P**	**05 46 06.9**	**+0.3**
	comp=E,4.5nm,0.9s,mb4.1						
WVOR	**Wild Horse Val**	**53.67**	**319**	*e*P	**P**	**05 46 20.2**	**-0.2**
	comp=E,7.4nm,0.9s,mb4.4						
WVOR				*e*pP	pP	05 46 37.5	-21
BMO	**Blue Mountains**	**54.02**	**322**	*e*P	**P**	**05 46 23.2**	**+0.2**
OHCM	**Honcut**	**54.27**	**314**	*e*P	**P**	**05 46 25.2**	**+0.5**
WALA	**Waterton Lakes**	**54.43**	**328**	*e*P	**P**	**05 46 25.9**	**-0.1**
	comp=E,2.3nm,0.8s,mb4.0						
NEW	**Newport**	**55.72**	**326**	*e*P	**P**	**05 46 34.4**	**-0.8**
	comp=E,1.7nm,0.5s,mb4.1						
YBH	**Yreka Blue Hor**	**56.09**	**316**	*e*P	**P**	**05 46 36.5**	**-1.3**
	comp=E,2.2nm,0.5s,mb4.2						
EDM	**Edmonton**	**56.74**	**332**	*e*P	**P**	**05 46 41.4**	**-1.0**
YKA	**Yellowknife Ar**	**63.36**	**340**	P	**P**	**05 47 26.6**	**-0.8**
	comp=E,9.0nm,0.5s,mb4.8,baz=132,slow=6.6,SNR=137						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	**P**	**05 47 26.6**	**-0.8**
DBIC	**Dimbokro**	**67.56**	**86**	P	**P**	**05 47 54.1**	**-0.2**
	comp=E,1.5nm,0.7s,mb3.9,baz=259,slow=6.4,SNR=4.6						
INK	**Inuvik**	**73.12**	**340**	*e*P	**P**	**05 48 27.5**	**-0.6**
	comp=E,3.3nm,0.5s,mb4.3						
TORD	**Torodi Ar. Bea**	**73.57**	**78**	P	**P**	**05 48 30.4**	**-0.3**
	comp=E,0.3nm,0.3s,mb3.5,baz=284,slow=6.5,SNR=12						
MCK	**McKinley**	**77.75**	**334**	*e*P	**P**	**05 48 58.0**	**+3.5**
	comp=E,2.3nm,1.0s,mb3.8						
NOA	**NORSAR Array B**	**81.27**	**29**	P	**P**	**05 49 14.3**	**+0.8**
	comp=E,0.5nm,0.5s,mb3.5,baz=267,slow=5.4,SNR=3.8						
GERES	**GERESS Array B**	**82.73**	**42**	P	**P**	**05 49 21.4**	**+0.3**
	comp=E,0.4nm,0.7s,mb3.3,baz=290,slow=4.0,SNR=2.7						
ARCES	**ARCESS Array B**	**86.64**	**20**	P	**P**	**05 49 40.3**	**-0.4**
	comp=E,1.8nm,0.8s,mb4.0,baz=279,slow=4.0,SNR=10						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	PKPdf	05 55 50.9	-0.3
	comp=E,0.5nm,0.4s,baz=315,slow=2.1,SNR=7.2						
MDJ	**Mudanjiang**	**124.95**	**340**	PKP	PKPdf	05 56 03.8	+7.6
MDJ				PP	PP		
	comp=Z,123nm,5.0s						
WMQ	**Urumqi**	**126.66**	**17**	*e*PKP	PKPdf	05 56 04.5	+5.0
CN2	**Changchun**	**126.97**	**343**	*e*PKP	PKPdf	05 56 04.0	+3.9
HHC	**Hu-ho-hao-te**	**132.42**	**355**	*e*PKP	PKPdf	05 56 18.5	+8.1
HHC				PP	PP	05 58 42.3	+6.8
HHC				PP	PP		
	comp=Z,91nm,5.3s						
HHC				LR	LR		
	comp=N,128nm,4.7s						
HHC				LR	LR		
	comp=E,157nm,5.1s						
HHC				LR	LR		
	comp=Z,125nm,5.1s						
CD2	**Chengdu**	**142.38**	**5**	*e*PKP	PKPdf	05 56 34.0	+5.2
KMI	**Kunming**	**148.00**	**7**	PKP	PKPdf	05 56 47.5	+9.1

IDC 30 05:42:38.3±12.0, 256N×9591E, h57km±90km, mb3.4/3, mb1 3.4/4, mb1mx3.1/20, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=149.1km s-min=27.1km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.02**	**85**	P	Pn	05 43 23.8	+0.1
	1.9nm,0.3s,baz=278,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**43.85**	**122**	P	P	05 50 39.2	+0.4
	0.2nm,0.6s,baz=301,slow=9.2,SNR=3.5		

BSI **Banda Aceh** 18.94 326 P Pn 05 54 46.5 +1.2
490nm,1.3s
KKM **Kota Kinabalu** 19.37 33 P Pn 05 54 51.5 +1.1
KKM **Kota Kinabalu** 19.37 33 eP Pn 05 54 50.6 +0.2
MEEK **Meekatharra** 20.18 145 eP P 05 54 58.6 +0.4
MEEK eS S 05 58 26.6 -17
110nm,0.7s
MEEK **Meekatharra** 20.18 145 eP P 05 54 58.6 +0.4
110nm,0.7s
MEEK eS S 05 58 26.6 -17
FITZ **Fitzroy Crossi** 20.69 114 eP P 05 55 04.4 +0.6
FITZ epP 05 55 07.9
FITZ **Fitzroy Crossi** 20.69 114 P P 05 55 04.4 +0.7
230nm,0.9s,baz=287,slow=7.9,SNR=157
FITZ S S 05 58 41.6 -13
16nm,0.7s,baz=194,slow=21,SNR=5.1
FITZ LR LR 06 02 21.1
comp=Z,2µm,19.9s,MS4.5,baz=303,slow=35
MORW **Morawa** 20.90 154 eP P 05 55 06.1 +0.1
MORW eS S 05 58 46.8 -11
61nm,0.7s
MORW **Morawa** 20.90 154 eP P 05 55 06.1 +0.1
61nm,0.7s
MORW eS S 05 58 46.8 -11
BLDU **Ballidu** 22.53 155 eP P 05 55 28.1 +4.7
KNA **Kununurra** 23.00 106 eP P 05 55 27.6 -0.8
KNA epP 05 55 33.3
AAI **Ambon** 23.21 75 P P 05 55 36.3 +5.6
220nm,1.1s,mb5.5
MUN **Mundaring** 23.53 157 eP P 05 55 36.1 +2.1
MUN eS S 05 59 48.4 +1.7
KLBR **Kellerberrin** 23.82 154 eP P 05 55 36.6 0.0
KLBR eS S 05 59 52.7 +1.4
124nm,1.6s
KLBR **Kellerberrin** 23.82 154 eP P 05 55 36.6 0.0
124nm,1.6s,mb5.1
KLBR eS S 05 59 52.7 +1.4
NWAO **Narrogin (SRO)** 24.77 157 eP P 05 55 44.3 -1.0
NWAO eS S 06 00 13.3 +6.6
83nm,0.6s
NWAO **Narrogin (SRO)** 24.77 157 P P 05 55 44.0 -1.2
8.7nm,0.5s,mb4.5,baz=7.4,slow=6.9,SNR=13
NWAO S S 06 00 08.2 +1.5
21nm,1.0s,baz=54,slow=20,SNR=2.2
NWAO LR LR 06 04 26.5
comp=Z,4µm,18.6s,MS5.0,baz=329,slow=34
NWAO **Narrogin (SRO)** 24.77 157 eP P 05 55 44.0 -1.3
NWAO S S 06 00 08.2 +1.5
NWAO pmax pmax
comp=Z,9.0nm,0.5s
NWAO smax
comp=N,21nm,1.0s
NWAO MLR MLR
comp=Z,4µm,18.6s
NWAO **Narrogin (SRO)** 24.77 157 eP P 05 55 44.3 -1.0
comp=Z,83nm,0.6s,mb5.4
NWAO eS S 06 00 13.3 +6.6
KMBL **Kambalda** 25.64 147 eP P 05 55 52.1 -1.1
KMBL eS S 06 00 33.4 +13
comp=Z,196nm,1.2s
KMBL **Kambalda** 25.64 147 eP P 05 55 52.1 -1.1
comp=Z,196nm,1.2s,mb5.5
KMBL eS S 06 00 33.4 +13
KAKA **Kakadu** 26.21 98 eP P 05 55 58.5 +0.1
WRA **Warramunga Arr** 29.10 112 P P 05 56 24.0 -0.3
comp=Z,21nm,0.8s,mb4.9,baz=286,slow=10,SNR=54
WRA LR LR 06 06 41.8
comp=Z,815nm,20.3s,MS4.3,baz=290,slow=34
WRA **Warramunga Arr** 29.10 112 P P 05 56 24.0 -0.2
WRA pmax pmax
comp=Z,21nm,0.8s
WRA MLR MLR
comp=Z,815nm,20.3s
WRAB **Tennant Creek** 29.11 112 P P 05 56 24.3 0.0
comp=Z,152nm,0.5s,mb6.0,SNR=20
WRAB **Tennant Creek** 29.11 112 P P 05 56 24.3 0.0
WB2 **Warramunga Arr** 29.11 112 eP P 05 56 23.9 -0.4
WB2 epP pP 05 56 28.6 -1.3
QIZ **Qiongzhong** 29.52 8 P P 05 56 26.3 -1.7
QIZ S S 06 01 24.3 +2.5
QIZ AMB AMB
comp=Z,72nm,2.0s,mb5.1
QIZ LR LR
comp=E,3µm,21.9s
QIZ LR LR
comp=Z,2µm,21.3s,MS4.7
CHTO **Chiang Mai** 29.81 347 eP P 05 56 30.8 +0.3
CHTO pmax pmax
comp=Z,58nm,1.1s,mb5.2
CHTO **Chiang Mai** 29.81 347 eP P 05 56 30.8 +0.3
comp=Z,58nm,1.1s,mb5.2
ASPA **Alice Springs** 29.87 120 eP P 05 56 30.6 -0.4
ASPA epP pP 05 56 35.4 -1.2
ASAR **Alice Springs** 29.87 120 P P 05 56 30.6 -0.5
comp=Z,8.8nm,0.8s,mb4.5,baz=302,slow=8.0,SNR=104
ASAR PcP PcP 05 59 34.1 +0.3
comp=Z,5.1nm,1.0s,baz=246,slow=1.2,SNR=4.4
ASAR LR LR 06 08 12.2
comp=Z,1µm,19.4s,MS4.6,baz=288,slow=36
ASAR **Alice Springs** 29.87 120 P P 05 56 30.6 -0.4
ASAR 05 59 34.1
ASAR pmax pmax
comp=Z,9.0nm,0.8s
ASAR pmax pmax
comp=Z,5.0nm,1.0s
ASAR MLR MLR
comp=Z,1µm,19.4s
AS31 **Alice Springs** 29.87 120 eP P 05 56 30.6 -0.4
AS31 epP pP 05 56 35.4 -1.3
QIS **Mount Isa** 34.05 111 eP P 05 57 05.1 -2.7
KMI **Kunming** 35.44 355 P P 05 57 22.8 +3.0
KMI AP pP 05 57 28.0 +2.6
KMI XP sP 05 57 30.8 +3.1
KMI S S 06 02 58.3 +4.5
KMI XS sS 06 03 07.8 +4.6
KMI SS SS 06 05 18.8 -9.3
KMI AMB AMB
comp=Z,17nm,1.6s,mb4.7
KMI AMB AMB
comp=Z,384nm,4.1s
KMI LR LR
comp=N,2µm,19.6s,MS5.1
KMI LR LR
comp=E,3µm,20.9s,MS5.1
KMI LR LR
comp=Z,2µm,19.4s,MS4.9
KMI **Kunming** 35.44 355 P P 05 57 22.7 +2.9
KMI *SP sP 05 57 30.7 +3.0
KMI PPP 05 58 56.0
KMI S S 06 02 58.2 +4.4
KMI **Kunming** 35.44 355 P P 05 57 22.7 +2.9
KMI pP pP 05 57 27.9 +2.5
KMI sP sP 05 57 30.7 +3.0
KMI PP PP 05 58 47.8 +7.5
KMI PPP 05 58 56.0
KMI S S 06 02 58.2 +4.4
KMI sS sS 06 03 07.7 +4.5
KMI SS SS 06 05 18.7 -9.4
GYA **Guiyang** 36.66 1⇑ iP P 05 57 32.0 +1.8
GYA AP pP 05 57 36.8 +1.0
GYA XP sP 05 57 39.5 +1.4
GYA PP PP 05 58 58.3 +4.6
GYA S S 06 03 18.0 +5.6
GYA SCP ScP 06 03 38.5 -0.1
GYA AMB AMB
comp=Z,60nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,380nm,5.7s
GYA LR LR
comp=N,540nm,17.8s,MS4.6
GYA LR LR
comp=E,630nm,17.4s,MS4.6
GYA LR LR
comp=Z,580nm,17.0s,MS4.4
COEN **Coen** 36.69 99 eP P 05 57 31.2 +0.7
IMP **Imphal** 36.84 342 ex x 05 57 38.0
MTSU **Mount Surprise** 38.06 106 eP P 05 57 43.6 +1.5
MTSU epP pP 05 57 47.7 -0.1
SHL **Shillong** 38.24 339 eP P 05 57 44.0 +0.5
SHL ex x 06 04 06.5
HYB **Hyderabad** 38.58 316 i P P 05 57 47.0 +0.5
HYB eS S 06 03 42.0 +0.4
HYB **Hyderabad** 38.58 316 eP P 05 57 47.0 +0.5
STKA **Stephens Creek** 39.37 128 eP P 05 57 53.0 -0.1
STKA **Stephens Creek** 39.37 128 P P 05 57 53.0 -0.1
comp=Z,9.3nm,0.6s,mb4.7,baz=297,slow=8.3,SNR=20
STKA LR LR 06 13 25.1
comp=Z,2µm,21.7s,MS4.9,baz=283,slow=35
CTA **Charters Tower** 40.12 109 P P 05 57 60.0 +0.7
comp=Z,10nm,0.7s,mb4.7,baz=282,slow=9.1,SNR=9.4
CTA LR LR 06 14 04.3
comp=Z,2µm,19.8s,MS4.9,baz=280,slow=36
CTA **Charters Tower** 40.12 109 P P 05 58 00.0 +0.7
CTA pmax pmax
comp=Z,10.0nm,0.7s
CTA MLR MLR
comp=Z,2µm,19.8s
CTAO **Charters Tower** 40.12 109 eP P 05 58 00.2 +0.9
CTAO pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CTAO **Charters Tower** 40.12 109 eP P 05 58 00.2 +0.9
comp=Z,10nm,0.6s,mb4.7
PMG **Port Moresby** 40.75 92 P P 05 58 06.0 +1.5
comp=Z,20nm,0.9s,mb4.8,baz=243,slow=2.2,SNR=4.0
PMG LR LR 06 16 05.4
comp=Z,617nm,19.5s,MS4.5,baz=46,slow=38
PMG **Port Moresby** 40.75 92 P P 05 58 06.0 +1.5
PMG pmax pmax
comp=Z,20nm,0.9s
PMG MLR MLR
comp=Z,617nm,19.5s
NGP **Nagpur** 40.91 320 eP P 05 58 04.9 -0.9
NGP AMb AMB 05 58 12.8
comp=Z,66nm,1.5s,mb5.0
CD2 **Chengdu** 41.13 357 P P 05 58 11.8 +4.2
CD2 AP pP 05 58 16.3 +3.0
CD2 XP sP 05 58 18.8 +3.2
CD2 PP PP 05 59 51.0 +8.4
CD2 S S 06 04 26.0 +6.2
CD2 XS sS 06 04 33.5 +4.3
CD2 SS SS 06 07 25.0 +2.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,680nm,16.8s
CD2 LR LR
comp=Z,1µm,20.4s,MS4.8
KAD **Karad** 41.64 311 i x x 05 58 34.8
AKL **Akola** 41.91 318 eP P 05 58 15.3 +1.3
LSA **Lhasa** 42.30 341 eP P 05 58 18.8 +1.6
LSA pmax pmax
comp=Z,19nm,0.6s,mb4.9
LSA **Lhasa** 42.30 341 eP P 05 58 18.8 +1.6
comp=Z,19nm,0.6s,mb4.9
CMSA **Cobar Meteorol** 42.46 126 eP P 05 58 19.0 +0.5
PKI **Pulchoki** 42.61 333 eP P 05 58 20.5 +0.8
POO **Poona** 42.66 312 eP P 05 58 19.0 -1.1
GUN **Gumba** 42.69 334 eP P 05 58 21.7 +1.3
comp=Z,530nm,1.3s,mb6.1
DMN **Daman** 42.78 333 eP P 05 58 22.0 +0.9
comp=Z,123nm,1.0s,mb5.6
KKN **Kakani** 42.85 333 eP P 05 58 22.6 +0.9
comp=Z,221nm,1.2s,mb5.8
GKN **Gorkha** 43.33 332 eP P 05 58 26.3 +0.8
comp=Z,106nm,1.2s,mb5.5
BHPL **Bhopal** 43.46 321 eP P 05 58 26.4 -0.2
BHPL AMb AMB 05 58 47.3
comp=Z,36nm,1.1s,mb5.0
KOLN **Koldanda** 43.62 331 eP P 05 58 28.6 +0.7
SSE **Sheshan** 43.84 19 P P 05 58 30.5 +0.9
SSE S S 06 05 05.0 +5.3
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,179nm,4.1s
SSE LR LR
comp=N,334nm,25.3s,MS4.2
SSE LR LR
comp=E,208nm,25.8s,MS4.2
SSE LR LR
comp=Z,413nm,26.3s,MS4.2
NJ2 **Nanjing** 44.03 16 eP P 05 58 31.0 -0.2
NJ2 AP pP 05 58 37.0 0.0
NJ2 XP sP 05 58 40.0 +0.7
NJ2 PP PP 06 00 15.0 +1.1
NJ2 S S 06 05 02.0 -0.6
NJ2 XS sS 06 05 12.0 0.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,770nm,5.0s
NJ2 LR LR
comp=N,1µm,23.2s,MS5.0
NJ2 LR LR
comp=E,2µm,23.4s,MS5.0
NJ2 LR LR
comp=Z,2µm,24.9s,MS4.8
XAN **Xi'an** 44.30 4 P P 05 58 33.5 +0.1
XAN AP pP 05 58 39.0 -0.1
XAN AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
XAN LR LR
comp=E,1µm,24.4s
XAN LR LR
comp=Z,1µm,19.2s
EIDS **Eidsvold** 45.37 115 eP P 05 58 47.2 +5.3
YNG **Young** 45.57 128 eP P 05 58 44.6 +1.1
AGRA **Agra** 46.14 325 eP P 05 58 47.6 -0.4
AGRA AMb AMB 05 58 55.5
comp=Z,84nm,0.6s,mb5.8
LZH **Lanzhou** 46.28 358 eP P 05 58 51.5 +2.4
LZH XP sP 05 58 57.0 -0.1
LZH PP PP 06 00 39.5 +1.8
LZH eS S 06 05 38.3 +3.2
LZH XS sS 06 05 44.3 -0.3
LZH SS SS 06 08 59.0 -1.5
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,93nm,4.8s
LZH LR LR
comp=N,1µm,14.4s
LZH LR LR
comp=Z,2µm,15.2s,MS5.1
LZH **Lanzhou** 46.28 358 eP P 05 58 51.5 +2.4
LZH *SP sP 05 58 57.0 -0.1
LZH 06 00 39.5
LZH eS S 06 05 38.3 +3.2
LZH *SS sS 06 05 44.2 -0.4
LZH **Lanzhou** 46.28 358 eP P 05 58 51.5 +2.4
LZH pP pP 05 58 54.9 0.0
LZH sP sP 05 58 57.0 -0.1
LZH PP PP 06 00 39.5 +1.8
LZH eS S 06 05 38.3 +3.2
LZH sS sS 06 05 44.2 -0.4
LZH SS SS 06 08 59.0 -1.5
SONA **Sohna** 47.41 325 eP P 05 58 57.4 -0.5
SONA AMb AMB 05 59 05.3
comp=Z,64nm,1.1s,mb5.5
AYAN **Aya Nagar** 47.56 325 eP P 05 58 58.7 -0.4
AYAN AMb AMB 05 59 08.3
comp=Z,54nm,1.4s,mb5.4
NDI **New Delhi** 47.67 325 eP P 05 58 57.5 -2.4
NDI ex x 06 00 08.0
BHGR **Bahadurgarh** 47.83 325 eP P 05 59 00.5 -0.7
BHGR AMb AMB 05 59 04.0
comp=Z,237nm,0.2s
KHET **Khetri** 48.01 324 eP P 05 59 00.9 -1.7
KHET AMb AMB 05 59 21.6
comp=Z,56nm,2.1s,mb5.2
KKR **Kurukshetra** 48.87 326 eP P 05 59 08.7 -0.5
KLP **Kalpa** 49.35 329 eP P 05 59 11.6 -1.3
KLP AMb AMB 05 59 24.0
comp=Z,46nm,1.0s,mb5.5
SMLA **Simla** 49.59 327 eP P 05 59 13.5 -1.2
SMLA AMb AMB 05 59 34.4
comp=Z,118nm,2.6s,mb5.5
GTA **Gaotai** 49.87 354 P P 05 59 18.3 +1.4
GTA AP pP 05 59 22.5 -0.2
GTA XP sP 05 59 25.8 +0.9
GTA PCP PcP 06 00 39.0 +1.8
GTA PP PP 06 01 17.3 +5.7
GTA AMB AMB
comp=Z,25nm,0.2s,mb5.9
GTA AMB AMB
comp=Z,128nm,4.2s
GTA LR LR
comp=N,964nm,20.5s,MS5.0
GTA LR LR
comp=E,1µm,19.4s,MS5.0
GTA LR LR
comp=Z,1µm,21.7s,MS4.9
JASL **Jaisalmer** 50.23 318 eP P 05 59 20.0 +0.4
BTO **Baotou** 50.91 4 eP P 05 59 25.0 +0.3
BJT **Baijiatuau** 51.09 10 eP P 05 59 26.2 +0.2
BJT pmax pmax
comp=Z,28nm,1.1s
BJT **Baijiatuau** 51.09 10 eP P 05 59 26.2 +0.2
comp=Z,28nm,1.1s,mb5.1
BJI **Beijing** 51.11 10 eP P 05 59 26.3 +0.1
BJI PP PP 06 01 28.5 +5.6
BJI AMB AMB
comp=Z,12nm,1.2s,mb4.7
BJI AMB AMB
comp=Z,403nm,4.7s
BJI LR LR
comp=N,414nm,19.3s,MS4.8
BJI LR LR
comp=E,863nm,19.9s,MS4.8
BJI LR LR
comp=Z,521nm,21.1s,MS4.5
HHC **Hu-ho-hao-te** 51.28 6 eP P 05 59 28.5 +1.0
HHC AP pP 05 59 33.0 -0.3
HHC XP sP 05 59 35.5 -0.1
HHC PCP PcP 06 00 42.5 +0.1
HHC PP PP 06 01 26.5 +2.1
HHC SCP ScP 06 04 37.0 -0.9
HHC PCS PcS 06 04 38.8 -1.3
HHC S S 06 06 47.8 +2.4
HHC XS sS 06 06 54.8 -0.2
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,295nm,3.3s
HHC LR LR
comp=N,884nm,16.1s,MS5.0
HHC LR LR
comp=E,882nm,19.2s,MS5.0
HHC LR LR
comp=Z,773nm,17.1s,MS4.8
THN **Thein Dam** 51.38 327 ex x 05 59 32.4
MAJO **Matsushiro** 55.78 31 eP P 05 59 57.6 -2.9
MAJO pmax pmax
comp=Z,36nm,1.3s,mb5.2
MAJO **Matsushiro** 55.78 31 eP P 05 59 57.6 -3.0
comp=Z,36nm,1.3s,mb5.2
MAT **Matsushiro** 55.78 31 P P 05 59 58.3 -2.2
MAT eS S 06 07 41.6 -5.0
MJAR **Matsushiro Arr** 55.78 31 P P 05 59 58.9 -1.7
comp=Z,10nm,1.1s,mb4.8,baz=213,slow=7.9,SNR=21
MJAR LR LR 06 24 40.6
comp=Z,282nm,20.6s,MS4.3,baz=230,slow=37
MJAR **Matsushiro Arr** 55.78 31 P P 05 59 58.9 -1.6
MJAR pmax pmax
comp=Z,10.0nm,1.1s
MJAR MLR MLR
comp=Z,282nm,20.6s
CASY **Casey** 55.89 178 eP P 05 59 59.6 -1.6
comp=Z,16nm,1.0s,mb5.0
WMQ **Urumqi** 56.43 344⇑ iP P 06 00 06.3 +1.2
WMQ AP pP 06 00 10.5 -0.5
WMQ PCP PcP 06 01 02.5 +0.5
WMQ PP PP 06 02 13.5 +2.8
WMQ S S 06 07 56.0 +0.9
WMQ PS 06 08 09.0
WMQ SCS ScS 06 09 53.0 -0.5
WMQ SS SS 06 11 43.0 +0.8
WMQ AMB AMB
comp=Z,62nm,1.1s,mb5.5
WMQ AMB AMB
comp=Z,156nm,4.0s
WMQ LR LR
comp=N,2µm,22.7s,MS5.3
WMQ LR LR
comp=E,2µm,21.9s,MS5.3
WMQ LR LR
comp=Z,1µm,25.0s,MS5.0
MIR **Mirnyy** 56.74 186⇑ iP P 06 00 07.0 -0.3
MIR i pP 06 00 14.0 +0.8
MIR pmax pmax
comp=Z,300nm,1.5s,mb6.1
CN2 **Changchun** 56.84 17 eP P 06 00 07.5 -0.6
CN2 eS S 06 07 59.8 -0.8
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.5
CN2 LR LR
comp=E,220nm,21.0s,MS4.5
CN2 LR LR
comp=Z,330nm,22.0s,MS4.4
KSH **Kashi** 56.87 333 eP P 06 00 14.0 +5.7
KSH eAP pP 06 00 18.5 +4.3
KSH eXP sP 06 00 21.5 +5.1
KSH ePCP PcP 06 01 07.0 +3.3
KSH ePP PP 06 02 23.0 +8.3
KSH ePPP 06 03 44.0
KSH eSCP ScP 06 05 05.0 +2.6
KSH ePCS PcS 06 05 06.3 +1.8
KSH eS S 06 08 09.0 +8.0
KSH eXS sS 06 08 17.3 +6.6
KSH ePS 06 08 24.0
KSH eSCS ScS 06 09 59.0 +2.3
KSH LR LR
comp=N,476nm,7.0s
KSH LR LR
comp=E,844nm,9.4s
KSH LR LR
comp=Z,278nm,6.3s
OPO **Ambohidratompo** 57.11 255 P P 06 00 09.6 -0.3
comp=Z,7.9nm,1.1s,mb4.7,baz=98,slow=11,SNR=5.0
SONM **Songino Array** 57.99 0 P P 06 00 17.2 +1.1
comp=Z,12nm,1.1s,mb4.8,baz=183,slow=7.8,SNR=45
SONM LR LR 06 27 14.8
comp=Z,958nm,19.9s,MS4.9,baz=171,slow=38
SONM **Songino Array** 57.99 0 P P 06 00 17.2 +1.1
SONM pmax pmax
comp=Z,12nm,1.1s
SONM MLR MLR
comp=Z,958nm,19.9s
VLA **Vladivostok** 58.36 22 eP P 06 00 17.6 -1.2
VLA pmax pmax
comp=Z,27nm,0.8s,mb5.3
VLA MLR MLR
comp=Z,400nm,17.6s,MS4.6
MDJ **Mudanjiang** 58.86 20 P P 06 00 21.3 -0.9
MDJ PP PP 06 02 31.3 -1.1
MDJ S S 06 08 28.0 +1.0
MDJ SS SS 06 12 22.3 +1.8
MDJ AMB AMB
comp=Z,9.0nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,209nm,5.2s
MDJ LR LR
comp=N,432nm,25.6s
MDJ LR LR
comp=E,161nm,32.0s
MDJ LR LR
comp=Z,289nm,25.6s,MS4.3
ULHL **Ulahol** 58.99 335 P pP 06 00 29.3 +0.3
SNR=8.5
UCH **Uchtor** 59.71 333 P pP 06 00 35.0 +0.9
SNR=7.6
TKM2 **Tokmak 2** 59.81 335 P P 06 00 28.6 -0.2
SNR=9.9
KBK **Karagaybulak** 59.87 334 P pP 06 00 36.0 +0.9
SNR=5.7
AML **Almayashu** 60.00 333 P pP 06 00 36.9 +0.8
SNR=7.7
AAK **Ala-Archa** 60.05 334 P pP 06 00 36.1 -0.3
SNR=6.7
AAK **Ala-Archa** 60.05 334 i P P 06 00 29.5 -1.0
AAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
AAK MLR MLR
comp=Z,500nm,19.0s,MS4.7
AAK **Ala-Archa** 60.05 334 eP P 06 00 29.9 -0.6
comp=Z,19nm,1.2s,mb5.0
FRU **Bishkek** 60.16 334 eP P 06 00 30.0 -1.2
FRU e pP 06 00 37.0 -0.1

FRU					pmax	pmax			
	comp=Z,80nm,1.8s,mb5.5								
EKS2	**Erkin-Say**	**60.39**	**333**		P	**P**	**06 00 33.2**	**+0.5**	
	SNR=5.6								
USP	**Ospenovka**	**60.56**	**334**		P	pP	06 00 40.0	+0.1	
	SNR=7.5								
ZAK	**Zakamensk**	**60.57**	**358**		*e*P	**P**	**06 00 34.7**	**+0.7**	
ZAK						pmax	pmax		
	comp=Z,11nm,1.5s,mb4.8								
ZAK						pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5								
HIA	**Hailar**	**60.68**	**10**	*i*	P	**P**	**06 00 34.2**	**-0.5**	
MKAR	**Makanchi Array**	**60.70**	**342**		P	**P**	**06 00 34.7**	**-0.2**	
	comp=Z,2.9nm,0.7s,mb4.5,baz=140,slow=7.9,SNR=21								
MKAR	**Makanchi Array**	**60.70**	**342**		P	**P**	**06 00 34.7**	**-0.2**	
MKAR						pmax	pmax		
	comp=Z,3.0nm,0.7s								
DRV	**Dumont d'Urvil**	**60.75**	**165**		P	**P**	**06 00 35.0**	**-0.2**	
DRV					S	**S**	**06 08 53.0**	**+1.7**	
DRV					SS	SS	06 12 53.0	+2.9	
DRV					R		06 20 00.0		
TLY	**Talaya**	**61.86**	**358**		*e*P	**P**	**06 00 43.8**	**+1.0**	
TLY					*e*		06 03 01.6		
TLY					*e*S	**S**	**06 09 07.2**	**+1.7**	
TLY					*e*PS		06 09 29.4		
TLY					pmax	pmax			
	comp=Z,27nm,1.6s,mb5.1								
TLY					MLR	MLR			
	comp=Z,708nm,20.0s,MS4.8								
MOY	**Mondy**	**61.96**	**357**		*e*P	pP	06 00 50.9	+1.5	
MOY					pmax	pmax			
	comp=Z,95nm,2.5s,mb5.5								
KK31	**Karatay Array**	**62.22**	**331**	*i*	P	**P**	**06 00 49.7**	**+4.5**	
KK31					pmax	pmax			
	comp=Z,23nm,1.1s,mb5.2								
IRK	**Irkutsk**	**62.41**	**359**		*e*P	**P**	**06 00 52.1**	**+5.6**	
IRK					pmax	pmax			
	comp=Z,59nm,1.7s,mb5.4								
CIT	**Chita**	**62.54**	**5**		*e*P	**P**	**06 00 48.4**	**+1.1**	
CIT					*e*		06 01 00.1		
KLR	**Kul'dur**	**63.63**	**19**		*e*P	**P**	**06 00 50.8**	**-3.7**	
MAW	**Mawson**	**63.77**	**197**	⇑	*i*P	**P**	**06 00 54.2**	**-1.3**	
	comp=Z,0.2nm,0.4s								
MAW	**Mawson**	**63.77**	**197**		*e*P	**P**	**06 00 54.3**	**-1.2**	
MAW	**Mawson**	**63.77**	**197**		P	**P**	**06 00 54.5**	**-1.0**	
	comp=Z,9.6nm,0.8s,mb4.9,baz=46,slow=7.3,SNR=22								
MAW					LR	LR	06 23 11.6		
	comp=Z,250nm,19.3s,MS4.4,baz=46,slow=31								
KURK	**Kurchatov**	**65.30**	**341**		P	**P**	**06 01 05.0**	**-0.5**	
	comp=Z,478nm,0.9s,SNR=14								
YSS	**Yuzh-Sakhalins**	**65.94**	**27**	⇑	*e*P	**P**	**06 01 09.1**	**-0.5**	
YSS					*e*		06 01 22.0		
YSS					*e*		06 01 39.0		
YSS					*e*S	S	06 09 54.0	-2.2	
YSS					*e*		06 11 05.0		
YSS					pmax	pmax			
	comp=Z,60nm,1.0s,mb5.6								
YSS					MLR	MLR			
	comp=Z,400nm,22.0s,MS4.6								
YSS	**Yuzh-Sakhalins**	**65.94**	**27**		*e*P	**P**	**06 01 09.9**	**+0.2**	
	comp=Z,44nm,0.9s,mb5.5								
NVS	**Novosibirsk**	**67.72**	**346**		*e*P	**P**	**06 01 18.4**	**-2.6**	
NVS					pmax	pmax			
	comp=Z,66nm,2.3s,mb5.3								
NVS					pmax	pmax			
	comp=N,39nm,1.6s								
NVS					pmax	pmax			
	comp=E,33nm,1.7s								
BOD	**Bodaibo**	**68.32**	**5**		*e*P	**P**	**06 01 24.0**	**-0.7**	
BOD					pmax	pmax			
	comp=Z,17nm,2.0s,mb4.7								
KMBO	**Kilima Mbogo**	**68.69**	**273**		P	**P**	**06 01 28.2**	**+1.2**	
	comp=Z,5.2nm,0.8s,mb4.5,baz=94,slow=5.2,SNR=10								
KMBO					LR	LR	06 25 14.8		
	comp=Z,520nm,20.0s,MS4.8,baz=98,slow=30								
URZ	**Urewera**	**68.98**	**127**		P	**P**	**06 01 27.8**	**-1.0**	
	comp=Z,3.3nm,0.6s,mb4.5,baz=247,slow=5.2,SNR=4.8								
BVAR	**Borovoye Array**	**70.04**	**338**		LR	LR	06 32 37.6		
	comp=Z,236nm,21.1s,MS4.4,baz=155,slow=36								
BRVK	**Borovoye**	**70.11**	**338**		P	**P**	**06 01 35.5**	**-0.3**	
	comp=Z,120nm,1.0s,mb5.8,SNR=5.7								
BRVK	**Borovoye**	**70.11**	**338**		*e*P	**P**	**06 01 35.2**	**-0.6**	
BRVK						pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8								
BRVK	**Borovoye**	**70.11**	**338**		*e*P	**P**	**06 01 35.2**	**-0.6**	
	comp=Z,14nm,1.0s,mb4.8								
ZRNK	**Zerenda**	**70.50**	**337**		*e*P	**P**	**06 01 37.8**	**-0.4**	
ZRNK						pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1								
ZRNK	**Zerenda**	**70.50**	**337**		*e*P	**P**	**06 01 37.8**	**-0.4**	
	comp=Z,25nm,1.0s,mb5.1								
SYO	**Syowa Base**	**71.91**	**200**	⇓	*e*P	**P**	**06 01 44.8**	**-1.9**	
SYO	**Syowa Base**	**71.91**	**200**	⇑	*e*sP	sP	06 01 52.0	-2.9	
VNDA	**Vanda**	**72.86**	**169**		P	**P**	**06 01 51.1**	**-1.3**	
	comp=Z,18nm,1.2s,mb4.9,baz=301,slow=6.2,SNR=35								
VNDA					LR	LR	06 29 28.8		
	comp=Z,781nm,19.6s,MS5.0,baz=310,slow=32								
VNDA	**Vanda**	**72.86**	**169**		*e*P	**P**	**06 01 51.1**	**-1.3**	
	comp=Z,31nm,1.3s,mb5.1								
SBA	**Scott Base**	**73.94**	**169**		*e*P	**P**	**06 01 58.3**	**-0.5**	
SBA						pmax	pmax		
	comp=Z,44nm,1.5s,mb5.2								
SBA	**Scott Base**	**73.94**	**169**		*e*P	**P**	**06 01 58.3**	**-0.5**	
	comp=Z,44nm,1.5s,mb5.2								
YAK	**Yakutsk**	**74.59**	**11**	⇑	*e*P	**P**	**06 02 01.7**	**-0.9**	
YAK						pmax	pmax		
	comp=Z,99nm,1.2s,mb5.6								
YAK						MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4								
YAK	**Yakutsk**	**74.59**	**11**		*e*P	**P**	**06 02 01.8**	**-0.7**	
	comp=Z,70nm,0.9s,mb5.6								
LSZ	**Lusaka**	**75.47**	**257**		P	**P**	**06 02 08.7**	**+1.1**	
	comp=Z,24nm,1.1s,mb5.0,baz=98,slow=4.7,SNR=30								
LSZ	**Lusaka**	**75.47**	**257**		P	**P**	**06 02 08.7**	**+1.1**	
LSZ						pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0								
LSZ	**Lusaka**	**75.47**	**257**		*e*P	**P**	**06 02 08.6**	**+1.0**	
GNI	**Garni**	**75.53**	**316**		*i*P	**P**	**06 02 06.3**	**-1.7**	
SVE	**Sverdlovsk**	**76.61**	**336**		*e*P	**P**	**06 02 14.0**	**-0.2**	
SVE					*e*	pP	06 02 20.0	-0.2	
SVE					pmax	pmax			
	comp=Z,120nm,2.1s,mb5.5								
BOSA	**Boshof**	**76.83**	**243**		P	**P**	**06 02 15.8**	**+0.4**	
	comp=Z,9.4nm,0.9s,mb4.7,baz=93,slow=7.4,SNR=12								
BOSA					LR	LR	06 30 55.3		
	comp=Z,505nm,18.1s,MS4.9,baz=93,slow=32								
LBTB	**Lobatse**	**76.84**	**247**		P	**P**	**06 02 16.3**	**+0.8**	
	comp=Z,10.0nm,0.9s,mb4.7,baz=122,slow=5.3,SNR=12								
LBTB	**Lobatse**	**76.84**	**247**		P	**P**	**06 02 16.3**	**+0.9**	
LBTB						pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8								
LBTB	**Lobatse**	**76.84**	**247**		*e*P	**P**	**06 02 16.2**	**+0.8**	
	comp=Z,50nm,1.4s,mb5.2								
ARU	**Arti**	**77.18**	**335**	⇓	*i*P	**P**	**06 02 17.6**	**+0.3**	
ARU					*e*		06 02 27.7		
ARU					*e*		06 05 12.7		
ARU					*e*S	S	06 12 07.8	+2.0	
ARU					*e*SS	SS	06 17 05.9	+2.4	
ARU					pmax	pmax			
	comp=Z,37nm,1.2s,mb5.2								
ARU					MLR	MLR			
	comp=Z,400nm,23.0s,MS4.7								
ARU					MLR	MLR			
	comp=N,90nm,22.0s,MS4.7								
ARU					MLR	MLR			
	comp=E,400nm,22.0s,MS4.7								
ARU	**Arti**	**77.18**	**335**		*e*P	**P**	**06 02 17.5**	**+0.2**	
	comp=E,58nm,1.3s,mb5.3								
ZEI	**Tsey**	**77.30**	**318**		*e*P	**P**	**06 02 16.8**	**-1.2**	
ZEI					*e**PP	pP	06 02 26.1	+2.0	
KIV	**Kislovodsk**	**78.62**	**319**	⇑	*e*P	**P**	**06 02 31.8**	**+6.5**	
KIV					*e*		06 12 54.3		
KIV					*e*SS	SS	06 17 32.0	+6.8	
KIV					pmax	pmax			
	comp=Z,20nm,1.2s,mb4.9								
KIV					MLR	MLR			
	comp=Z,200nm,19.0s,MS4.5								
QSPA	**South Pole Qui**	**79.60**	**180**		*e*P	**P**	**06 02 29.5**	**-1.2**	
	comp=Z,75nm,1.2s,mb5.5								
SEY	**Seymchan**	**81.40**	**20**	⇑	*i*P	**P**	**06 02 40.4**	**0.0**	
NVL	**N'lazarevskaya**	**81.55**	**200**	*c*	*i*P	**P**	**06 02 40.6**	**-0.6**	
NVL					*i* *PP	pP	06 02 49.1	+1.8	
NVL					*i* *SP	sP	06 02 54.1	+4.6	
NVL					pmax	pmax			
	comp=Z,63nm,1.6s,mb5.3								
MAIT	**Maitri**	**81.58**	**200**		*e*P	**P**	**06 02 41.4**	**+0.1**	
BRTR	**Keskin Array B**	**83.20**	**312**		P	**P**	**06 02 49.5**	**-0.3**	
	comp=Z,3.5nm,0.9s,mb4.4,baz=137,slow=6.2,SNR=15								
BRTR	**Keskin Array B**	**83.20**	**312**		P	**P**	**06 02 49.5**	**-0.3**	
BRTR						pmax	pmax		
	comp=Z,4.0nm,0.9s								
TSUM	**Tsumeb**	**84.96**	**251**		P	**P**	**06 02 59.9**	**+1.2**	
	comp=Z,18nm,1.1s,mb5.1,baz=96,slow=5.4,SNR=20								
TSUM	**Tsumeb**	**84.96**	**251**		*e*P	**P**	**06 02 59.8**	**+1.0**	
	comp=Z,44nm,1.4s,mb5.4								
SNAA	**Sanae**	**85.93**	**197**	⇑	*i*P	**P**	**06 03 03.0**	**-0.6**	
SNAA					*e*		06 03 05.6		
SNAA					*e*		06 03 06.4		
SNAA					*e*		06 03 11.7		
MOS	**Moscow**	**86.62**	**328**		*e*P	**P**	**06 03 09.7**	**+2.7**	
MOS					*e*		06 06 36.2		
MOS					pmax	pmax			
	comp=Z,34nm,0.7s,mb5.7								
OBN	**Obninsk**	**86.92**	**327**	⇓	*e*P	**P**	**06 03 08.6**	**+0.1**	
OBN					*i*	pP	06 03 14.6	0.0	
OBN					*e*		06 03 24.7		
OBN					*e*		06 06 31.1		
OBN					*e*		06 19 35.1		
OBN					pmax	pmax			
	comp=Z,41nm,1.8s,mb5.4								
OBN					MLR	MLR			
	comp=Z,200nm,19.0s,MS4.5								
VNA1	**Neumayer--Stat**	**87.96**	**198**	⇑	*i*P	**P**	**06 03 13.7**	**+0.2**	
VNA1					*e*		06 03 15.5		
VNA1					*e*		06 03 16.8		
VNA1					*e*	pP	06 03 18.3	-1.3	
VNA1					*e*		06 03 23.9		
VNA1					*e*		06 03 34.2		
VNA1					*e*		06 03 41.2		
VNA3	**Neumayer Olymp**	**88.10**	**197**	⇑	*i*P	**P**	**06 03 13.8**	**-0.3**	
VNA3					*e*		06 03 15.8		
VNA3					*e*		06 03 17.1		
VNA3					*e*	pP	06 03 18.4	-1.9	
VNA3					*e*		06 03 24.3		
VNA3					*e*		06 03 36.5		
VNA3					*e*		06 03 44.2		
BILL	**Bilibino**	**89.09**	**19**		*e*P	**P**	**06 03 24.2**	**+5.4**	
BILL					*e*		06 03 31.8		
BILL					*e*		06 06 47.3		
BILL					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb5.0								
BILL					MLR	MLR			
	comp=Z,300nm,21.0s,MS4.7								
AKASG	**Malin Array Be**	**89.61**	**322**		P	**P**	**06 03 20.7**	**-0.5**	
	comp=Z,0.7nm,0.5s,mb4.2,baz=88,slow=4.2,SNR=8.6								
AKASG					LR	LR	06 49 29.5		
	comp=Z,171nm,21.3s,MS4.4,baz=270,slow=40								
AKASG	**Malin Array Be**	**89.61**	**322**		P	**P**	**06 03 20.7**	**-0.5**	
AKASG					LR	LR	06 49 29.5		
VRI	**Vrincioaia**	**89.88**	**317**	⇓	*i*P	**P**	**06 03 24.5**	**+2.0**	
PLOR	**Plostina**	**89.93**	**317**	⇓	*i*P	**P**	**06 03 24.9**	**+2.2**	
MLR	**Muntele Rosu**	**90.32**	**316**	⇓	*i*P	**P**	**06 03 25.2**	**+0.7**	
BURAR	**Bucovina Array**	**91.32**	**318**	⇑	*i*P	**P**	**06 03 31.0**	**+1.8**	
DRGR		**92.80**	**317**	⇓	*i*P	**P**	**06 03 42.7**	**+6.6**	
APA	**Apatity**	**92.95**	**339**	⇑	*e*P	**P**	**06 03 32.8**	**-3.9**	
FINES	**FINESS Array B**	**94.18**	**332**		P	**P**	**06 03 41.7**	**-0.7**	
	comp=Z,1.1nm,0.6s,mb4.5,baz=162,slow=31,SNR=3.1								
FINES					LR	LR	06 50 10.5		
	comp=Z,230nm,20.5s,MS4.6,baz=111,slow=38								
ARCES	**ARCESS Array B**	**96.29**	**340**		LR	LR	06 50 49.0		
	comp=Z,374nm,21.0s,MS4.8,baz=98,slow=38								
TBI	**Tubuai**	**99.18**	**116**		*e*LR	LR	06 36 15.4		
	comp=Z,585nm,36.2s								
PPT	**Papeete**	**100.56**	**110**		*e*PP	PP	06 08 16.9	-1.2	
	comp=Z,57nm,30.0s								
PPT	**Papeete**	**100.56**	**110**		*e*SP	SP	06 17 12.3	-4.2	
	comp=Z,232nm,27.2s								
PPT					*e*SS	SS	06 22 46.1	+2.8	
	comp=Z,326nm,25.2s								
PPT					*e*LR	LR	06 36 56.3		
	comp=Z,619nm,23.8s								
TAOE	**Nuku Hiva Isla**	**111.66**	**104**		*e*LR	LR	06 42 05.2		
	comp=Z,1μm,26.2s								
RKT	**Rikitea**	**111.86**	**120**		*e*PP	PP	06 09 32.4	-9.0	
	comp=Z,59nm,27.5s								
RKT	**Rikitea**	**111.86**	**120**		*e*SP	SP	06 19 14.0	+2.2	
	comp=Z,173nm,30.2s								
RKT					*e*SS	SS	06 25 21.1	+4.0	
	comp=Z,499nm,29.2s								
RKT					*e*LR	LR	06 42 17.4		
	comp=Z,310nm,21.5s								
YKA	**Yellowknife Ar**	**120.46**	**20**		PKP	PKPdf	06 09 12.2	-2.8	
	comp=Z,2.7nm,1.0s,baz=311,slow=2.6,SNR=6.0								
YKA	**Yellowknife Ar**	**120.46**	**20**		PKIKP	PKPdf	06 09 12.2	-2.8	
YKA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KHMM	**Horse Mountain**	**126.97**	**46**		*e*PKPdf	PKPdf	06 09 29.4	+1.9	
EDM	**Edmonton**	**127.03**	**28**		*e*PKIKP	PKPdf	06 09 27.8	+0.2	
HAWA	**Hanford**	**127.47**	**38**		*e*PKPdf	PKPdf	06 09 29.8	+1.4	
KIPM	**Iron Peak**	**127.52**	**47**		*e*PKPdf	PKPdf	06 09 29.9	+1.4	
NEW	**Newport**	**127.95**	**35**		*e*PKIKP	PKPdf	06 09 30.1	+0.7	
MOD	**Modoc**	**128.96**	**44**		*e*PKPdf	PKPdf	06 09 33.2	+1.9	
PLCA	**Paso Flores**	**129.00**	**184**		PKP	PKPdf	06 09 31.1	-0.3	
	comp=Z,8.7nm,1.3s,baz=156,slow=3.9,SNR=4.6								
PLCA	**Paso Flores**	**129.00**	**184**		PKIKP	PKPdf	06 09 31.1	-0.2	
PLCA					pmax	pmax			
	comp=Z,9.0nm,1.3s								
BSMT	**Bassoo Peak**	**129.50**	**35**		*e*PKPdf	PKPdf	06 09 33.0	+0.7	
BMO	**Blue Mountains**	**129.58**	**39**		*e*PKIKP	PKPdf	06 09 32.7	+0.2	
CMB	**Columbia Colle**	**130.40**	**48**		*e*PKIKP	PKPdf	06 09 35.2	+1.2	
PAHR	**Pah Rah Range**	**130.49**	**46**		*e*PKPdf	PKPdf	06 09 36.3	+2.1	
CHMT	**Chamberlain Mo**	**130.89**	**35**		*e*PKPdf	PKPdf	06 09 35.9	+0.9	
WAKR	**Walker**	**130.92**	**47**		*e*PKPdf	PKPdf	06 09 36.5	+1.5	
NVAR	**Mina Array Bea**	**131.77**	**47**		PKP	PKPdf	06 09 37.9	+1.3	
	comp=Z,1.7nm,0.9s,baz=253,slow=4.9,SNR=14								
HLID	**Hailey**	**132.03**	**39**		*e*PKPdf	PKPdf	06 09 38.8	+1.7	
EGMT	**Eagleton**	**132.10**	**32**		*e*PKPdf	PKPdf	06 09 38.3	+1.1	
DAC	**Darwin (Calif)**	**133.12**	**49**		*e*PKIKP	PKPdf	06 09 41.1	+2.0	
QLMT	**Earthquake Lak**	**133.13**	**36**		*e*PKPdf	PKPdf	06 09 39.8	+0.7	
GCMT	**Greycliff**	**133.55**	**34**		*e*PKPdf	PKPdf	06 09 41.0	+1.1	
GSC	**Goldstone**	**134.08**	**50**		*e*PKIKP	PKPdf	06 09 44.6	+3.6	
MOOW	**Moose Ponds**	**134.15**	**37**		*e*PKPdf	PKPdf	06 09 41.6	+0.5	
TPAW	**Teton Pass**	**134.18**	**37**		*e*PKPdf	PKPdf	06 09 45.1	+3.9	
REDW	**Red Top Meadow**	**134.31**	**37**		*e*PKPdf	PKPdf	06 09 40.5	-0.9	
SNOW	**Snow King Moun**	**134.31**	**37**		*e*PKPdf	PKPdf	06 09 42.8	+1.4	
LOHW	**Long Hollow**	**134.32**	**37**		*e*PKPdf	PKPdf	06 09 42.8	+1.4	
DUG	**Dugway**	**134.78**	**42**		*e*PKIKP	PKPdf	06 09 44.1	+1.8	
LAO	**LASA Array**	**134.79**	**31**		*e*PKPdf	PKPdf	06 09 43.7	+1.4	
SHPR	**Sheep Range**	**134.83**	**48**		*e*PKPdf	PKPdf	06 09 44.9	+2.6	
HWUT	**Hardware Ranch**	**134.85**	**40**		*e*PKPdf	PKPdf	06 09 43.2	+0.8	
NLU	**North Lily Min**	**135.39**	**42**		*e*PKPdf	PKPdf	06 09 45.6	+2.2	
PDAR	**Pinedale Array**	**135.43**	**37**		PKP	PKPdf	06 09 43.8	+0.3	
	comp=Z,1.5nm,1.1s,baz=338,slow=1.6,SNR=6.7								
MPU	**Maple Canyon**	**135.65**	**42**		*e*PKPdf	PKPdf	06 09 45.5	+1.6	
MSU	**Marysvale**	**136.04**	**44**		*e*PKIKP	PKPdf	06 09 47.2	+2.6	
TMUT	**Trail Mountain**	**136.30**	**43**		*e*PKPdf	PKPdf	06 09 46.4	+1.3	
SRU	**San Rafael**	**136.85**	**42**		*e*PKIKP	PKPdf	06 09 47.4	+1.3	
RSSD	**Black Hills**	**137.67**	**32**		*e*PKIKP	PKPdf	06 09 48.2	+0.6	
WUAZ	**Wupatki**	**138.03**	**47**		*e*PKPdf	PKPdf	06 09 51.0	+2.8	
PV10	**Paradox Valley**	**138.22**	**42**		*e*PKPpre		06 09 45.8		
PV10					*e*PKPdf	PKPdf	06 09 50.6	+1.9	
PV01	**Paradox Valley**	**138.66**	**42**		*e*PKPdf	PKPdf	06 09 50.4	+0.9	
SMCO	**Snowmass**	**139.11**	**40**		*e*PKPdf	PKPdf	06 09 51.3	+1.0	
TUC	**Tucson**	**139.87**	**52**		*e*PKIKP	PKPdf	06 09 54.1	+2.5	
SDCO	**Great Sand Dun**	**140.89**	**41**		*e*PKPdf	PKPdf	06 09 54.8	+1.3	
ECSD	**EROS,Sioux Fal**	**141.53**	**26**		*e*PKPdf	PKPdf	06 09 54.2	-0.5	
ANMO	**Albuquerque**	**141.80**	**45**		*e*PKIKP	PKPdf	06 09 57.6	+2.5	
BDFB	**Brasilia**	**143.35**	**225**		PKhKP		06 09 54.7		
	comp=Z,8.3nm,1.1s,baz=60,slow=5.4,SNR=6.9								
CBKS	**Cedar Bluff**	**143.67**	**35**		*e*PKIKP	PKPdf	06 09 56.9	-1.5	
MNTX	**Cornudas Mount**	**144.23**	**49**		*e*PKPdf	PKPdf	06 09 59.5	+0.1	
SCIA	**State Center**	**144.47**	**25**		*e*PKPdf	PKPdf	06 09 58.9	-0.9	
JFWS	**Jewell Farm**	**144.73**	**21**		*e*PKIKP	PKPdf	06 09 58.8	-1.5	
KSU1	**Kansas State U**	**145.14**	**31**		*e*PKPdf	PKPdf	06 10 00.7	-0.3	
EMMW	**East Machias**	**145.33**	**352**		*e*PKPdf	PKPdf	06 10 02.0	+0.7	
MSNY	**Massena**	**145.53**	**1**		*e*PKPdf	PKPdf	06 10 01.9	+0.2	
LONY	**Lake Ozonia**	**145.91**	**0**		*e*PKPdf	PKPdf	06 10 02.5	+0.1	
NCB	**Newcomb**	**146.56**	**0**		*e*PKPdf	PKPdf	06 10 05.2	+1.8	
LVC	**Limon Verde**	**146.77**	**189**		*e*PKPbc	PKPbc	06 10 06.8	+1.3	
WMOK	**Wichita Mounta**	**147.00**	**39**		*e*PKPdf	PKPdf	06 10 05.2	+1.1	
WMOK					*e*PKPbc	PKPbc	06 10 07.1	+1.0	
BINY	**Binghamton**	**148.30**	**3**		*e*PKPbc	PKPbc	06 10 10.2	+0.5	
SLM	**Saint Louis**	**148.45**	**24**		*e*PKP2	PKPab	06 10 10.2	-3.2	
CCM	**Cathedral Cave**	**148.51**	**26**		*e*PKIKP	PKPdf	06 10 05.4	-1.3	
CCM					*e*		06 10 09.6		
JCT	**Junction City**	**148.94**	**46**		*e*PKIKP	PKPdf	06 10 08.3	+0.9	
JCT					*e*		06 10 12.5		
JCT					*e*		06 10 17.1		
ACSO	**Alum Creek Sta**	**149.30**	**13**		*e*PKPdf	PKPdf	06 10 07.8	-0.1	
ACSO					*e*PKPbc	PKPbc	06 10 12.3	0.0	
BLO	**Bloomington**	**149.32**	**19**		*e*PKPdf	PKPdf	06 10 08.6	+0.6	
BLO					*e*PKPbc	PKPbc	06 10 12.9	+0.6	
BLO					*e*PKPab	PKPab	06 10 17.5	+0.5	
PAL	**Palisades**	**149.53**	**360**		*e*PKP2	PKPab	06 10 14.0	-3.8	
SIUC	**Southern Illin**	**149.65**	**24**		*e*PKPdf	PKPdf	06 10 09.0	+0.5	
SIUC					*e*PKPbc	PKPbc	06 10 13.8	+0.7	
SIUC					*e*PKPab	PKPab	06 10 19.2	+0.9	
SSPA	**Standing Stone**	**149.72**	**6**		*e*PKPbc	PKPbc	06 10 13.7	+0.4	
USIN	**University of**	**150.02**	**22**		*e*PKPdf	PKPdf	06 10 09.0	-0.1	
USIN					*e*PKPbc	PKPbc	06 10 14.7	+0.6	
USIN					*e*PKPab	PKPab	06 10 21.2	+1.4	
MIAR	**Mount Ida**	**150.17**	**33**		*e*PKPdf	PKPdf	06 10 10.7	+1.3	
MIAR					*e*PKPbc	PKPbc	06 10 14.8	+0.4	
WCI	**Wyandotte Cave**	**150.26**	**19**		*e*PKIKP	PKPdf	06 10 10.0	+0.5	
WCI					*e*		06 10 15.0		
WCI					*e*		06 10 21.5		
PARMO	**Parma**	**150.32**	**26**		*e*PKPdf	PKPdf	06 10 10.5	+0.9	
PARMO					*e*PKPbc	PKPbc	06 10 15.3	+0.5	
MCWV	**Mont Chateau**	**150.44**	**9**		*e*PKPdf	PKPdf	06 10 15.9	+6.2	
MVL	**Millersville**	**150.47**	**3**		*e*PKPdf	PKPdf	06 10 10.2	+0.4	
MVL					*e*PKPbc	PKPbc	06 10 15.7	+0.6	
MVL					*e*PKPab	PKPab	06 10 22.7	+1.0	
UALR	**University of**	**150.64**	**31**		*e*PKPdf	PKPdf	06 10 10.7	+0.6	
UALR					*e*PKPbc	PKPbc	06 10 16.3	+0.8	
UALR					*e*PKPab	PKPab	06 10 23.2	+0.8	
NATX	**Nacogdoches**	**151.55**	**39**		*e*PKPbc	PKPbc	06 10 19.2	+1.5	
NATX					*e*PKPab	PKPab	06 10 28.2	+2.0	
WVT	**Waverly**	**151.57**	**24**		*e*PKIKP	PKPdf	06 10 11.8	+0.3	
WVT					*e*		06 10 18.0		
WVT					*e*		06 10 26.6		
HKT	**Hockley**	**152.00**	**43**		*e*PKIKP	PKPbc	06 10 20.7	+2.0	
HKT					*e*		06 10 28.9		
OXF	**Oxford**	**152.28**	**28**		*e*PKIKP	PKPdf	06 10 12.8	+0.3	
OXF					*e*		06 10 19.3		
OXF					*e*		06 10 30.1		
PLAL	**Pickwick Lake**	**152.47**	**25**		*e*PKPdf	PKPdf	06 10 13.2	+0.4	
PLAL					*e*PKPbc	PKPbc	06 10 19.4	-0.3	
PLAL					*e*PKPab	PKPab	06 10 30.4	+0.5	
TZTN	**Tazewell**	**152.65**	**17**		*e*PKPbc	PKPbc	06 10 20.2	+0.1	
ELN	**Prospectdale**	**152.66

	21nm,0.1s,SNR=25							
ELOJ	**Sierra Loja**	**0.61**	**30**	P		**Pn**	**06 15 20.1**	**+1.1**
	1.3nm,0.2s,SNR=5.0							
ELOJ				S		**Sn**	**06 15 29.9**	**+0.6**
	2.1nm,0.2s							
ERON	**Agron**	**0.71**	**56**	P		**Pn**	**06 15 20.3**	**+0.2**
	1.1nm,0.1s,SNR=4.0							
ERON				S		**Sn**	**06 15 32.7**	**+1.5**
	3.5nm,0.2s,SNR=4.0							
EGUA	**Guajares**	**0.81**	**74**	P		**Pn**	**06 15 20.7**	**-0.5**
	0.3nm,0.1s,SNR=7.9							
EGUA				S		**Sn**	**06 15 32.5**	**-0.8**
	1.3nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.96**	**13**	P		**Pn**	**06 15 22.9**	**-0.2**
	1.2nm,0.1s,SNR=7.9							
ELUQ				S		**Sn**	**06 15 37.3**	**+0.7**
	6.3nm,0.1s,SNR=7.9							
ECOG	**Cogollos-Vega**	**1.02**	**50**	S		**Sn**	**06 15 37.4**	**-0.3**
	2.8nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**1.06**	**56**	P		**Pn**	**06 15 26.1**	**+1.8**
	0.1nm,0.1s,SNR=7.9							
EQUE				S		**Sn**	**06 15 40.3**	**+1.7**
	0.9nm,0.1s,SNR=7.9							
EBER	**Berja**	**1.35**	**78**	P		**Pn**	**06 15 26.7**	**-1.4**
	0.2nm,0.1s,SNR=7.9							
EBER				S		**Sn**	**06 15 45.8**	**+0.4**
	1.2nm,0.2s,SNR=7.9							
EBER	**Berja**	**1.35**	**78**	P		**Pn**	**06 15 26.7**	**-1.4**
	0.2nm,0.1s,SNR=7.9							
EBER				S		**Sn**	**06 15 45.8**	**+0.4**
	1.2nm,0.2s,SNR=7.9							
EALB	**Alboran**	**1.39**	**119**	S		**Sn**	**06 15 44.5**	**-1.8**
	1.2nm,0.2s,SNR=4.0							
EALB	**Alboran**	**1.39**	**119**	S		**Sn**	**06 15 44.5**	**-1.8**
	1.2nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**1.54**	**359**	P		**Pn**	**06 15 32.0**	**+1.3**
	0.4nm,0.2s,SNR=6.5							
EADA				S		**Sn**	**06 15 49.9**	**0.0**
	1.3nm,0.1s,SNR=6.7							
EADA	**Adamuz**	**1.54**	**359**	P		**Pn**	**06 15 32.0**	**+1.4**
	0.4nm,0.2s,SNR=6.5							
EADA				S		**Sn**	**06 15 49.9**	**0.0**
	1.3nm,0.1s,SNR=6.7							
EBAN	**Banos Encina**	**1.65**	**21**	P		**Pn**	**06 15 31.5**	**-0.5**
	1.0nm,0.2s,SNR=7.9							
EBAN				S		**Sn**	**06 15 51.3**	**-1.2**
	2.7nm,0.1s,SNR=7.9							
EQES	**Quesada**	**1.66**	**44**	P		**Pn**	**06 15 33.5**	**+1.3**
	0.4nm,0.1s,SNR=6.7							
EQES				S		**Sn**	**06 15 52.7**	**0.0**
	3.9nm,0.1s,SNR=6.9							
EQES	**Quesada**	**1.66**	**44**	P		**Pn**	**06 15 33.5**	**+1.3**
	0.4nm,0.1s,SNR=6.7							
EQES				S		**Sn**	**06 15 52.7**	**0.0**
	3.9nm,0.1s,SNR=6.9							
EMIN	**Mina Concepcio**	**2.05**	**305**	P		**Pn**	**06 15 38.1**	**+0.7**
	0.2nm,0.1s,SNR=8.6							
EMIN				S		**Sn**	**06 16 01.1**	**-1.0**
	1.1nm,0.1s							
EMIN	**Mina Concepcio**	**2.05**	**305**	P		**Pn**	**06 15 38.1**	**+0.7**
	0.2nm,0.1s,SNR=8.6							
EMIN				S		**Sn**	**06 16 01.1**	**-1.0**
	1.1nm,0.1s							
EGRO	**El Granado**	**2.53**	**292**	P		**Pn**	**06 15 44.6**	**+0.8**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**06 16 12.6**	**-0.9**
	1.0nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**2.53**	**292**	P		**Pn**	**06 15 44.6**	**+0.8**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**06 16 12.6**	**-0.9**
	1.0nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**2.58**	**38**	P		**Pn**	**06 15 44.7**	**+0.2**
	0.7nm,0.1s,SNR=7.9							
EVIA				S		**Sn**	**06 16 12.3**	**-2.6**
	1.1nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.90**	**318**	P		**Pn**	**06 15 50.3**	**+1.4**
	0.9nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**06 16 21.5**	**-1.1**
	2.6nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.90**	**318**	P		**Pn**	**06 15 50.3**	**+1.4**
	0.9nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**06 16 21.5**	**-1.1**
	2.6nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**3.08**	**8**	P		**Pn**	**06 15 51.5**	**+0.1**
	0.5nm,0.1s,baz=193,slow=14,SNR=7.9							
ESDC				S		**Sn**	**06 16 27.0**	**0.0**
	3.9nm,0.2s,baz=188,slow=22,SNR=7.9							
ESDC	**Sonseca Array**	**3.08**	**8**	P		**Pn**	**06 15 51.5**	**+0.1**
	0.5nm,0.1s,slow=14,SNR=7.9							
ESDC				S		**Sn**	**06 16 27.0**	**-0.1**
	3.9nm,0.2s,baz=188,slow=22,SNR=7.9							
ESBB	**Sonseca Array**	**3.08**	**8**	S		**Sn**	**06 16 27.2**	**+0.1**
	0.8nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.12**	**49**	P		**Pn**	**06 15 52.8**	**+1.0**
	0.3nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**06 16 25.9**	**-2.0**
	0.9nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**3.12**	**49**	P		**Pn**	**06 15 52.8**	**+1.0**
	0.3nm,0.1s,SNR=7.9							
ETOR	**Torete**	**4.62**	**24**	P		**Pn**	**06 16 13.7**	**+1.3**
	4.0nm,0.1s,SNR=6.8							
ETOR				S		**Sn**	**06 17 02.9**	**-1.8**
	7.4nm,0.2s							
ETOR	**Torete**	**4.62**	**24**	P		**Pn**	**06 16 13.6**	**+1.3**
	4.0nm,0.1s,SNR=6.8							

*NEIC **30** 06:38:31.7, 5833N×13324W, h5km, ML2.9(AEIC), After AEIC.*

PGC 30 06:38:30.8, 5825N×13353W, h1km, ML3.1/3, 52km southeast of Juneau, Ak Near Mt. Ogden, British Columbia - Alaska border., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKAG	**Skagway**	**1.53**	**323**	P	Pn	06 38 57.9	-1.4
SKAG				S	Sn	06 39 17.5	-2.3
SIT	**Sitka**	**1.54**	**220**	P	Pn	06 38 59.8	+0.4
SIT				S	Sn	06 39 21.4	+1.4
DLBC	**Dease Lake**	**1.86**	**83**	Pn	Pn	06 39 02.4	-1.3
DLBC				Pg	Pg	06 39 04.5	-1.9
DLBC				Sn	Sn	06 39 27.4	-0.4
DLBC				Sg	Sg	06 39 29.4	-1.1
DLBC				Trac		06 39 30.2	
	comp=Z,102nm,0.5s						
PLBC	**Pleasant Camp**	**1.91**	**311**	Pg	Pg	06 39 05.0	-2.4
PLBC				Sn	Sn	06 39 29.3	+0.2
PLBC				Sg	Sg	06 39 30.5	-1.6
WRAK	**Wrangell Islan**	**1.95**	**160**	P	Pn	06 39 04.9	-0.1
WRAK				S	Sn	06 39 27.7	-2.4
WHY	**Whitehorse**	**2.51**	**345**	Pn	Pn	06 39 11.6	-1.2
WHY				Sn	Sn	06 39 43.2	-0.8
WHY				Sg	Sg	06 39 45.7	-5.9
WHY				Trac		06 39 54.8	
	comp=Z,55nm,0.6s						
WHY	**Whitehorse**	**2.51**	**345**	P	Pn	06 39 11.4	-1.4
WHY				S	Sn	06 39 42.5	-1.6
HYT	**Haines Junctio**	**3.28**	**324**	Pn	Pn	06 39 23.1	-0.2
HYT				Pg	Pg	06 39 29.8	-3.9
HYT				Sg	Sg	06 40 12.5	-3.8
HYT				Trac		06 40 17.5	
	comp=Z,33nm,0.7s						
PNL	**Peninsula**	**3.35**	**298**	P	Pn	06 39 24.8	+0.5
RUBB	**Prince Rupert**	**4.34**	**154**	Trac		06 40 58.8	
	comp=Z,32nm,0.7s						
RUBB	**Prince Rupert**	**4.34**	**154**	Sg	Sg	06 40 48.8	-1.4
FNBB	**Fort Nelson**	**5.54**	**79**	Trac		06 41 37.6	
	comp=Z,13nm,0.9s						
FNBB	**Fort Nelson**	**5.54**	**79**	Sg	Sg	06 41 25.0	-3.9
DAWY	**Dawson**	**6.49**	**337**	Trac		06 41 55.9	
	comp=Z,22nm,0.8s						
DAWY	**Dawson**	**6.49**	**337**	Sg	Sg	06 41 51.6	-7.5
INK	**Inuvik**	**10.10**	**0**	P	Pn	06 40 55.8	-1.1

*NIED **30** 06:49:00, 2460N×12250E, h77km, Mw4.1 Best double couple: M₀1.85000×10¹⁵ NP1:φ₀313.00000°, δ62.00000°, λ-100.00000°. NP2:φ₀153.00000°, δ30.00000°, λ-72.00000°.*
*ISCJB **30** 06:49:26.8±0.3, 2456N±004×12245E±002, h94km±3km, mb4.2/18, Error ellipse: s-maj=6.8km s-min=3.7km az=2.8*
*BJI **30** 06:49:27.2, 2455N×12241E, h91km, mB4.6, mb4.3*
*IDC **30** 06:49:28.4±2.5, 2462N×12258E, h95km±23km, mb3.9/12, mb1 4.0/14, mb1mx3.9/23, mbtmp4.2/14, MS3.1/2, Ms1 3.1/2, ms1mx2.8/31, Error ellipse: s-maj=19.1km s-min=11.4km az=76.0*
*NEIC **30** 06:49:28.7±0.5, 2452N×12239E, mb4.4/5, Error ellipse: s-maj=12.0km s-min=9.1km az=79.0*
NEIC Recorded [2 TAP] in Hua-lien and I-lan; [1 TAP] in T'ai-chung, T'ai-pei and T'ao-yuan Counties.
*JMA **30** 06:49:28.9±0.2, 2464N×12250E, h80km±1km, M4.0*

ISC 30 06:49:27.8±0.3, 2463N±004×12244E±002, h87km±3km, n49, σ1$09/67, mb4.2/18, 2C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**108**	P	**Pn**	**06 49 42.7**	**+0.1**
YOJ				S	**Sn**	**06 49 53.0**	**-0.6**
NACB	**Ninganchiao**	**0.90**	**240**	*e*Pg	**Pn**	**06 49 45.2**	**-0.9**
NACB				*e*Sg	**Sn**	**06 49 57.6**	**+0.9**
TATO	**Taipei**	**0.94**	**292**	*e*Pg	**Pn**	**06 49 47.3**	**+0.8**
TATO				*e*Sg	**Sn**	**06 50 00.7**	**+3.2**
YHNB	**Yeheng**	**0.97**	**273**	*e*Pg	**Pn**	**06 49 47.9**	**+1.0**
YHNB				*e*Sg	**Sn**	**06 50 02.0**	**+3.5**
IRIF	**Iriomote-Funau**	**1.21**	**104**	P	**Pn**	**06 49 49.8**	**+0.1**
IRIF				S	**Sn**	**06 50 05.5**	**+1.3**
HATJ	**Hateruma jima**	**1.37**	**114**	P	**Pn**	**06 49 52.4**	**+0.7**
HATJ				S	**Sn**	**06 50 09.8**	**+1.7**
JKRS	**Kuro-shima**	**1.48**	**105**	P	**Pn**	**06 49 53.7**	**+0.6**
JKRS				S	**Sn**	**06 50 12.0**	**+1.2**
JIJ	**Ishigaki jima**	**1.57**	**99**	P	**Pn**	**06 49 54.6**	**+0.3**
JIJ				S	**Sn**	**06 50 13.3**	**+0.2**
JTJ	**Tarama**	**2.06**	**89**	P	**Pn**	**06 50 01.8**	**+1.2**
JTJ				S	**Sn**	**06 50 27.1**	**+2.2**
JMJ	**Miyako jima 2**	**2.60**	**85**	S	**Sn**	**06 50 40.0**	**+1.8**
JOGS	**Gusukube**	**2.70**	**87**	S	**Sn**	**06 50 42.0**	**+1.4**
QZH	**Quanzhou**	**3.52**	**276**	P	**Pn**	**06 50 20.3**	**+0.1**
QZH				S	**Sn**	**06 50 58.0**	**-2.6**
QZH				Smax			
	comp=N,1μm,0.4s						
QZH				Smax			
	comp=E,570nm,0.8s						
JKE	**Kume jima 2**	**4.27**	**66**	P	**Pn**	**06 50 32.0**	**+1.6**
JKE				*e*S	**Sn**	**06 51 20.2**	**+1.1**
JAGN	**Aguni-jima**	**4.75**	**65**	P	**Pn**	**06 50 38.5**	**+1.5**
JAGN				S	**Sn**	**06 51 29.7**	**-1.0**
JIH	**Iheya**	**5.52**	**63**	P	**Pn**	**06 50 48.3**	**+0.8**
JIH				S	**Sn**	**06 51 48.2**	**-1.4**
JOW	**Kunigami**	**5.70**	**66**	P	**Pn**	**06 50 49.9**	**0.0**
	comp=E,61nm,0.3s,baz=200,slow=9.2,SNR=153						
JOW				S	**Sn**	**06 51 52.0**	**-1.8**
	comp=E,9.5nm,0.3s,baz=119,slow=25,SNR=2.2						
JOW				LR	LR	06 53 20.2	
	comp=E,116nm,18.9s,baz=299,slow=41						
JOW	**Kunigami**	**5.70**	**66**	P	**Pn**	**06 50 49.8**	**0.0**
JOW				S	**Sn**	**06 51 52.3**	**-1.5**
JTK	**Tokunoshima**	**6.64**	**60**	P	**Pn**	**06 51 02.2**	**-0.4**
JTK				S	**Sn**	**06 52 14.6**	**-2.1**
JAM	**Amami Oshima**	**7.44**	**58**	P	**Pn**	**06 51 13.0**	**-0.6**
JAM				S	**Sn**	**06 52 33.6**	**-2.7**
INCN	**Inchon**	**13.30**	**15**	*e*Pn	**Pn**	**06 52 37.7**	**+4.7**
	comp=E,12nm,0.4s						
KMI	**Kunming**	**17.89**	**276**	P	**Pn**	**06 53 30.5**	**-0.3**
MJAR	**Matsushiro Art**	**18.00**	**45**	P	**Pn**	**06 53 31.3**	**-0.9**
	comp=E,0.7nm,0.3s,baz=231,slow=9.1,SNR=7.6						
MJAR				LR	LR	07 00 34.9	
	comp=E,93nm,21.6s,baz=235,slow=37						
HHC	**Hu-ho-hao-te**	**18.56**	**333**	*e*P	**Pn**	**06 53 41.5**	**+2.7**
HHC				AP	pP	06 53 58.0	+3.5
HHC				PP		06 54 01.0	
HHC				XP	sP	06 54 11.3	+5.8
HHC				S	**S**	**06 57 02.3**	**-2.3**
HHC				XS	sS	06 57 27.0	-5.3
HHC				SS		06 57 30.5	
HHC				PCP	PcP	06 58 06.5	+3.0
HHC				SCP	ScP	07 01 32.0	+0.9
HHC				PCS	PcS	07 01 42.3	+2.0
HHC				AMB	AMB		
	comp=Z,19nm,0.4s						
HHC				AMB	AMB		
	comp=Z,166nm,5.3s						
HHC				LR	LR		
	comp=N,178nm,5.5s						
HHC				LR	LR		
	comp=E,159nm,5.4s						
HHC				LR	LR		
	comp=Z,119nm,5.5s						
CN2	**Changchun**	**19.28**	**7**	*e*P	**Pn**	**06 53 47.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**25.46**	**35**	P	**P**	**06 54 46.4**	**-1.2**
	comp=Z,5.9nm,0.3s,mb4.4,baz=227,slow=11,SNR=8.6						
SONM	**Songino Array**	**26.43**	**335**	P	**P**	**06 54 57.1**	**+0.9**
	comp=Z,5.4nm,0.7s,mb4.1,baz=149,slow=9.4,SNR=28						
TLY	**Talaya**	**30.61**	**337**	*e*P	**P**	**06 55 34.0**	**+0.6**
	comp=Z,2.8nm,0.5s,mb4.2						
TLY				*e*pP	pP	06 55 56.1	+2.7
WMQ	**Urumqi**	**34.19**	**313**	*e*P	**P**	**06 56 07.3**	**+2.6**
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,135nm,3.9s						
MKAR	**Makanchi Array**	**38.83**	**315**	P	**P**	**06 56 45.6**	**+1.5**
	comp=Z,1.3nm,0.5s,mb4.0,baz=99,slow=11,SNR=9.4						
FITZ	**Fitzroy Crossi**	**42.59**	**176**	*e*P	**P**	**06 57 13.6**	**-1.5**
	comp=Z,7.7nm,1.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**42.59**	**176**	P	**P**	**06 57 14.0**	**-1.0**
	comp=Z,3.3nm,1.0s,mb4.0,baz=22,slow=5.8,SNR=11						
FITZ				PcP	PcP	06 59 04.7	-1.2
	comp=Z,0.7nm,0.4s,baz=0.0,slow=6.1,SNR=3.9						
MBWA	**Marble Bar**	**45.59**	**184**	*e*P	**P**	**06 57 37.6**	**-1.5**
	comp=Z,4.4nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**45.79**	**164**	P	**P**	**06 57 40.6**	**-0.1**
	comp=Z,31nm,0.6s,mb5.2,baz=346,slow=8.5,SNR=145						
WB2	**Warramunga Arr**	**45.79**	**164**	⇓*i*P	**P**	**06 57 40.5**	**-0.2**
BVAR	**Borovoye Array**	**48.06**	**320**	P	**P**	**06 57 58.4**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.6,baz=240,slow=39,SNR=3.0						
BVAR				PcP	PcP	06 59 24.8	-0.1
	comp=Z,0.8nm,0.5s,baz=157,slow=1.9,SNR=3.7						
BVAR				ScP	ScP	07 03 09.9	-1.6
	comp=Z,0.6nm,0.5s,baz=110,slow=3.5,SNR=4.6						
ZRNK	**Zerenda**	**48.85**	**320**	*e*P	**P**	**06 58 04.7**	**+0.3**
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK				*e*pP	pP	06 58 28.8	+3.2
AS31	**Alice Springs**	**49.28**	**166**	⇑*i*P	**P**	**06 58 08.2**	**+0.5**
ASAR	**Alice Springs**	**49.28**	**166**	P	**P**	**06 58 07.8**	**+0.2**
	comp=Z,11nm,0.6s,mb5.0,baz=344,slow=9.1,SNR=148						
ASPA	**Alice Springs**	**49.28**	**166**	⇑*i*P	**P**	**06 58 08.2**	**+0.5**
NWAO	**Narrogin (SRO)**	**57.45**	**185**	*e*P	**P**	**06 59 06.5**	**-1.0**
	comp=Z,21nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**59.09**	**161**	P	**P**	**06 59 18.9**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=335,slow=17,SNR=5.2						
STKA				PcP	PcP	07 00 05.7	-1.1
	comp=Z,0.9nm,0.4s,baz=342,slow=6.4,SNR=2.9						
STKA	**Stephens Creek**	**59.09**	**161**	*e*P	**P**	**06 59 19.0**	**0.0**
ARCES	**ARCESS Array B**	**69.56**	**338**	P	**P**	**07 00 26.8**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.8,baz=62,slow=6.5,SNR=10						
FINES	**FINESS Array B**	**71.64**	**330**	P	**P**	**07 00 39.7**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.0,baz=74,slow=8.0,SNR=9.6						
NB2	**NORSAR Subarra**	**78.37**	**332**	P	**P**	**07 01 17.3**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.6,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**78.37**	**332**	P	**P**	**07 01 17.7**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.7,baz=53,slow=5.7,SNR=6.9						
YKA	**Yellowknife Ar**	**82.11**	**23**	P	**P**	**07 01 38.4**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=56,slow=9.4,SNR=11						
OPO	**Ambohidratompo**	**84.92**	**247**	P	**P**	**07 01 53.9**	**+0.8**
	baz=84,slow=7.6						
NVAR	**Mina Array Bea**	**95.32**	**43**	P	**P**	**07 02 43.5**	**+1.4**
	comp=Z,0.7nm,0.7s,mb4.2,baz=289,slow=6.2,SNR=8.7						

*IDC **30** 06:58:01.0±0.9, 1180N×9522E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, Error ellipse: s-maj=46.9km s-min=17.3km az=54.0*
*ISCJB **30** 06:58:04.6±0.7, 1179N±010×955E±0.1, h33km, mb4.0/10, Error ellipse: s-maj=18.8km s-min=11.3km az=110.7*
*NEIC **30** 06:58:05.8±0.6, 1191N×9539E, h30km, mb4.2/2, Error ellipse: s-maj=18.0km s-min=13.4km az=47.0*

ISC 30 06:58:07.2±0.7, 1181N±010×954E±01, h35km, n16, σ1$44/16, mb4.0/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.20**	**254**	*e*P	**Pn**	**07 01 39.3**	**+0.1**
	21nm,1.3s						
PKI	**Pulchoki**	**18.28**	**331**	*e*P	**Pn**	**07 02 21.0**	**+3.1**
GUN	**Gumba**	**18.34**	**332**	*e*P	**Pn**	**07 02 20.5**	**+1.8**
	84nm,1.3s						
DMN	**Daman**	**18.46**	**330**	*e*P	**Pn**	**07 02 22.9**	**+2.8**
KKN	**Kakani**	**18.52**	**331**	*e*P	**Pn**	**07 02 22.2**	**+1.3**
KOLN	**Koldanda**	**19.36**	**327**	*e*P	**Pn**	**07 02 28.0**	**-3.0**
	18nm,0.7s						
MKAR	**Makanchi Array**	**36.59**	**345**	P	**P**	**07 05 07.4**	**-2.4**
	0.9nm,0.8s,mb3.6,baz=160,slow=7.3,SNR=2.8						
SONM	**Songino Array**	**37.07**	**12**	P	**P**	**07 05 13.7**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=195,slow=11,SNR=4.4						
BVAR	**Borovoye Array**	**45.74**	**339**	P	**P**	**07 06 24.8**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=107,slow=9.5,SNR=2.5						
ZRNK	**Zerenda**	**46.17**	**338**	P	**P**	**07 06 27.1**	**-1.3**
	2.1nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**49.63**	**129**	P	**P**	**07 06 55.6**	**+0.5**
	2.4nm,0.8s,mb4.2,baz=306,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**51.56**	**133**	P	**P**	**07 07 10.2**	**+0.4**
	1.6nm,0.8s,mb4.0,baz=312,slow=6.7,SNR=23						
BRTR	**Keskin Array B**	**60.89**	**309**	P	**P**	**07 08 15.1**	**-1.2**
	1.3nm,0.6s,mb4.2,baz=120,slow=4.7,SNR=4.1						
STKA	**Stephens Creek**	**61.97**	**136**	P	**P**	**07 08 23.8**	**+0.3**
	4.0nm,1.0s,mb4.5,baz=334,slow=8.6,SNR=3.1						
GERES	**GERESS Array B**	**75.77**	**318**	P	**P**	**07 09 46.3**	**-3.1**
	0.2nm,0.3s,mb3.5,baz=48,slow=2.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**90.92**	**284**	P	**P**	**07 11 07.7**	**+0.4**
	0.7nm,0.9s,mb4.0,baz=56,slow=2.7,SNR=3.6						

*NEIC **30** 07:18:35.9, 2950S×7148W, h28km, ML3.2(GUC), After GUC.*

GUC 30 07:18:35.9±1.2, 2950S×7148W, h28km±25km, MD3.8, ML3.2, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.45**	**153**	*e*P	Pb	07 18 45.5	0.0
LSCH				*i* S	Sb	07 18 51.9	0.0
TLL	**Tololo Astrono**	**0.88**	**139**	*e*P	Pn	07 18 53.0	+0.5
TLL				*i* S	Sb	07 19 05.2	+1.1
TLL				AML	AML	07 19 08.9	
	comp=N,965nm,0.7s						
TLL	**Tololo Astrono**	**0.88**	**139**	*e*P	Pn	07 18 53.0	+0.5
TLL				*i* S	Sb	07 19 05.2	+1.1
VACH	**Vallenar**	**1.12**	**34**	⇑*i*P	Pn	07 19 00.1	+4.5
VACH				*i* S	Sn	07 19 14.7	+4.5
VACH				AML	AML	07 19 16.7	
	comp=N,1μm,0.1s						
VACH	**Vallenar**	**1.12**	**34**	⇑*i*P	Pn	07 19 00.1	+4.5
VACH				*i* S	Sn	07 19 14.7	+4.5
CMCH	**Combarbala**	**1.72**	**166**	⇓*i*P	Pn	07 19 04.7	+0.8
CMCH				*i* S	Sn	07 19 27.5	+2.6
CMCH				AML	AML	07 19 31.4	
	comp=E,555nm,0.8s						
CMCH	**Combarbala**	**1.72**	**166**	⇓*i*P	Pn	07 19 04.7	+0.8
CMCH				*i* S	Sn	07 19 27.5	+2.6

CASC 30 07:22:06.9±3.9, 1475N×8944W, h0km±19km, MD3.6, 3C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.87**	**193**	*e*P	x	07 22 33.5	
RTR				*e*S	x	07 22 48.8	
SNJE	**San Jose**	**0.89**	**190**	*e*P	x	07 22 33.1	
SNJE				*e*S	x	07 22 48.2	
SBLS	**San Blas**	**0.92**	**191**	⇑*i*P	x	07 22 33.0	
SBLS				*e*S	x	07 22 47.9	
BOQS	**Boqueron**	**1.02**	**171**	⇓*e*P	x	07 22 36.2	
BOQS				*e*S	x	07 22 52.3	
LCBS	**La Ceiba**	**1.18**	**157**	⇑*e*P	x	07 22 39.4	
LCBS				*e*S	x	07 22 56.9	
LFRS	**El Faro**	**1.18**	**162**	*e*P	x	07 22 37.7	
LFRS				*e*S	x	07 22 56.5	
TP2	**Tecpan 2**	**1.53**	**272**	⇑*i*P	Pn	07 22 37.4	+2.0
TP2				*e*S	Sb	07 22 58.6	+2.6

*IDC **30** 07:26:38.6±14.0, 2318S×17839W, h486km±71km, mb3.7/5, mb1 3.7/7, mb1mx3.4/16, mbtmp4.5/7, Error ellipse: s-maj=202.8km s-min=45.6km az=56.0*
*ISCJB **30** 07:26:48.4±1.6, 2379S±010×1794W±02, h535km±36km, mb4.2/5, Error ellipse: s-maj=27.2km s-min=15.2km az=2.7*
*NEIC **30** 07:26:48.3±0.9, 2387S×17938W, h517km±20km, mb4.4/2, Error ellipse: s-maj=21.0km s-min=14.6km az=125.0*

ISC 30 07:26:48.3±1.3, 2396S±010×1793W±02, h514km±28km, n14, σ0$41/15, mb4.2/5, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.29**	**37**	*e*P	**P**	**07 29 29.6**	**-0.1**
DZM	**Mont Dzumac**	**13.23**	**275**	P	**P**	**07 29 39.4**	**-0.2**
	0.2nm,0.3s,baz=233,slow=22,SNR=2.7						
URZ	**Urewera**	**14.57**	**191**	P	**P**	**07 29 54.4**	**+0.7**
	1.9nm,0.3s,baz=321,slow=2.0,SNR=16						
URZ				S	**S**	**07 32 26.1**	**-0.5**
	0.3nm,0.3s,baz=194,slow=19,SNR=5.1						
CTA	**Charters Tower**	**32.08**	**270**	⇓*i*P	**P**	**07 32 32.9**	**+0.4**
	9.7nm,0.4s,mb4.7						

*JMA **30** 07:45:43.1±0.2, 4356N×14769E, h22km, M4.5*
*IDC **30** 07:45:45.1±3.3, 4368N×14770E, h91km±30km, mb3.7/8, mb1 3.8/9, mb1mx3.6/22, mbtmp4.0/9, Error ellipse: s-maj=27.3km s-min=22.1km az=117.0*

ISC 30 07:45:43.9±1.1, 4368N±006×1478E±01, h82km±10km, n41, σ1§10/56, mb3.9/11, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.42**	**285**	*e*PN	**Pn**	**07 46 06.8**	**-1.3**
YUK				*e*S	**Sn**	**07 46 24.6**	**-1.9**
YUK				pmax	pmax		
	comp=N,100nm,0.3s						
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,200nm,0.3s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,3μm,0.8s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
NEM2	**Nemuro 2**	**1.50**	**259**	P	**Pn**	**07 46 08.4**	**-0.8**
NEM2				*e*S	**Sn**	**07 46 26.7**	**-1.6**
KUR	**Kuril'sk**	**1.56**	**3⇓**	*i*PN	**Pn**	**07 46 05.0**	**-5.0**
KUR				*i* S	**Sn**	**07 46 21.5**	**-8.2**
KUR				pmax	pmax		
	comp=N,90nm,0.4s						
KUR				pmax	pmax		
	comp=E,90nm,0.4s						
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
KUR				smax			
	comp=N,2μm,0.4s						
KUR				smax			
	comp=E,900nm,0.4s						
KUR				smax			
	comp=N,4μm,2.0s						
KUR				smax			
	comp=E,4μm,2.0s						
JRA	**Rausu**	**1.92**	**279**	P	**Pn**	**07 46 14.9**	**+0.1**
JRA				*e*S	**Sn**	**07 46 38.8**	**+0.5**
JNK	**Nakash**	**2.21**	**269**	P	**Pn**	**07 46 18.3**	**-0.2**
JNK				*e*S	**Sn**	**07 46 44.1**	**-0.9**
JAK	**Akkeshi**	**2.33**	**254**	P	**Pn**	**07 46 19.9**	**-0.3**
JAK				*e*S	**Sn**	**07 46 46.7**	**-1.4**
JTKR	**Abashiri--Toko**	**2.80**	**277**	P	**Pn**	**07 46 27.3**	**+0.8**
JTKR				*e*S	**Sn**	**07 47 01.5**	**+2.2**
JAR	**Ashorobuto**	**2.92**	**264**	P	**Pn**	**07 46 28.4**	**+0.2**
JAR				*e*S	**Sn**	**07 47 03.2**	**+0.9**
JOB	**Onbets**	**2.96**	**256**	P	**Pn**	**07 46 28.9**	**+0.2**
JOB				*e*S	**Sn**	**07 47 03.4**	**+0.1**
JMP	**Maruseppu**	**3.20**	**277**	P	**Pn**	**07 46 33.0**	**+1.1**
JCH	**Churui**	**3.38**	**253**	P	**Pn**	**07 46 34.3**	**-0.1**
JCH				*e*S	**Sn**	**07 47 12.5**	**-1.0**
JKK2	**Kamakawa 2**	**3.63**	**275**	P	**Pn**	**07 46 39.3**	**+1.5**
ASAJ	**Asahikawa**	**3.75**	**278**	P	**Pn**	**07 46 40.9**	**+1.5**
	comp=E,0.8nm,0.3s,baz=95,slow=24,SNR=3.0						
ASAJ				S	**Sn**	**07 47 30.3**	**+7.8**
	comp=E,2.0nm,0.3s,baz=214,slow=33,SNR=3.9						
ASAJ	**Asahikawa**	**3.75**	**278**	PN	**Pn**	**07 46 40.9**	**+1.5**
ASAJ				S	**Sn**	**07 47 30.3**	**+7.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
JFR	**Furan**	**3.79**	**264**	P	**Pn**	**07 46 41.0**	**+1.0**
JFR				*e*S	**Sn**	**07 47 25.0**	**+1.5**
JSE	**Soyaes**	**3.92**	**291**	P	**Pn**	**07 46 42.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.93**	**251**	P	**Pn**	**07 46 42.0**	**+0.2**
JNBK				*e*S	**Sn**	**07 47 25.7**	**-1.0**
JWK2	**Keihoku**	**4.50**	**293**	P	**Pn**	**07 46 51.9**	**+2.3**
YSS	**Yuzh-Sakhalins**	**4.81**	**315**	PN	**Pn**	**07 46 55.1**	**+1.3**
YSS				*e*S	**Sn**	**07 47 46.1**	**-2.2**
YSS				smax			
	comp=E,50nm,0.8s						
MJAR	**Matsushiro Arr**	**10.21**	**229**	P	**Pn**	**07 48 06.5**	**-0.9**
	comp=E,0.9nm,0.3s,baz=21,slow=14,SNR=4.2						
BOD	**Bodaibo**	**25.29**	**316**	*e*P	**P**	**07 50 56.5**	**-6.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
SONM	**Songino Array**	**28.90**	**293**	P	**P**	**07 51 36.1**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.4,baz=71,slow=8.2,SNR=4.7						
IMA2	**Indian Mountai**	**38.49**	**34**	*e*P	**P**	**07 52 58.4**	**+0.4**
IMA2				*e*pP	pP	07 53 18.0	+0.6
MKAR	**Makanchi Array**	**45.01**	**298**	P	**P**	**07 53 51.4**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.7,baz=74,slow=9.4,SNR=8.3						
MKAR	**Makanchi Array**	**45.01**	**298**	*i* P	**P**	**07 53 51.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**46.24**	**30**	P	**P**	**07 54 01.4**	**+0.6**
	comp=Z,3.9nm,0.5s,mb4.4,baz=287,slow=6.8,SNR=21						
INK	**Inuvik**	**46.24**	**30**	P	**P**	**07 54 01.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
INK	**Inuvik**	**46.24**	**30**	*e*P	**P**	**07 54 00.9**	**0.0**
	comp=Z,4.1nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**55.62**	**34**	P	**P**	**07 55 10.8**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=306,slow=7.1,SNR=5.6						
YKA	**Yellowknife Ar**	**55.62**	**34**	P	**P**	**07 55 10.8**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**59.47**	**340**	P	**P**	**07 55 37.6**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.2,baz=44,slow=7.8,SNR=8.1						
JOF	**Joensuu**	**62.36**	**332**	*e*P	**P**	**07 55 56.5**	**-1.3**
	comp=Z,0.9nm,0.4s,mb4.2						
WRA	**Warramunga Ar**	**64.49**	**194**	P	**P**	**07 56 12.4**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.6,baz=2.0,slow=6.5,SNR=5.4						
WRA	**Warramunga Arr**	**64.49**	**194**	*i* P	**P**	**07 56 13.1**	**+1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KAF	**Kangasniemi**	**64.57**	**334**	*e*P	**P**	**07 56 11.7**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**64.57**	**334**	*e*P	**P**	**07 56 11.7**	**-0.7**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**65.14**	**333**	P	**P**	**07 56 14.8**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.1,baz=45,slow=5.7,SNR=17						
FINES	**FINESS Array B**	**65.14**	**333**	*i* P	**P**	**07 56 15.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**69.83**	**339**	P	**P**	**07 56 45.2**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.0,baz=31,slow=6.3,SNR=9.2						
NOA	**NORSAR Array B**	**69.83**	**339**	P	**P**	**07 56 45.2**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MDV	**Middlebury**	**85.37**	**28**	*e*P	**P**	**07 58 08.6**	**-3.5**

*NEIC **30** 07:49:48.7, 40.19N×1952E, h14km, MD3.4(ATH), After ATH.*
*ATH **30** 07:49:48.7, 40.19N×1952E, h14km±4km, MD3.4/4*
*ISCJB **30** 07:49:49.4±1.0, 4002N±003×1945E±007, h2km, Error ellipse: s-maj=8.0km s-min=4.2km az=161.7*
*CSEM **30** 07:49:51.0±0.2, 4004N×1949E, h2km, MD3.4, Error ellipse: s-maj=4.6km s-min=2.6km az=75.0*
*THE **30** 07:49:51.3, 3999N×1949E, h4km, ML3.1*

ISC 30 07:49:50.1±1.2, 4006N±004×1946E±008, h1km±6km, n21, σ1§21/38, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.44**	**143**	*e*PB	**Pg**	**07 49 59.0**	**+0.6**
KEK				*e*SB	**Sg**	**07 50 06.4**	**+2.3**
TPE	**Tepelena**	**0.48**	**61**	*i* Pg	**Pg**	**07 49 56.5**	**-2.8**
IGT	**Igoumenitsa**	**0.86**	**128**	*e*Pg	**Pg**	**07 50 06.0**	**-0.5**
IGT				*e*Sg	**Sg**	**07 50 18.0**	**+0.4**
IGT	**Igoumenitsa**	**0.86**	**128**	*e*Pg	**Pg**	**07 50 06.0**	**-0.5**
IGT				*e*Sg	**Sg**	**07 50 18.0**	**+0.4**
JAN	**Janina**	**1.15**	**110**	*e*PG	**Pg**	**07 50 09.9**	**-2.2**
JAN				*e*SB	**Sb**	**07 50 26.1**	**-1.9**
TIR	**Tirane**	**1.32**	**13**	*e*Pg	**Pg**	**07 50 16.4**	**+1.0**
TIR				*e*Sg	**Sg**	**07 50 36.2**	**+3.7**
MEV	**Metsovon**	**1.39**	**101**	*e*Pg	**Pg**	**07 50 16.2**	**-0.5**
MEV				*e*Sg	**Sg**	**07 50 35.2**	**+0.4**
OHR	**Ohrid**	**1.46**	**44**	*e*Pn	**Pn**	**07 50 15.3**	**-2.2**
OHR				*e*Sn	**Sn**	**07 50 37.7**	**+0.3**
OHR	**Ohrid**	**1.46**	**44**	*e*Pn	**Pn**	**07 50 15.3**	**-2.3**
OHR				*e*Sn	**Sn**	**07 50 37.7**	**+0.3**
FNA	**Florina**	**1.63**	**63**	*e*Pb	**Pb**	**07 50 17.7**	**-3.3**
FNA				*e*Sb	**Sb**	**07 50 43.5**	**+1.5**
BIA	**Bitola**	**1.71**	**55**	*e*Pb	**Pb**	**07 50 21.2**	**-1.1**
BIA				*e*Sb	**Sb**	**07 50 44.9**	**+0.5**
BIA	**Bitola**	**1.71**	**55**	*e*Pn	**Pn**	**07 50 21.1**	**0.0**
BIA				*e*Sn	**Sn**	**07 50 42.8**	**-0.8**
BIA	**Bitola**	**1.71**	**55**	*e*Pn	**Pn**	**07 50 21.0**	**0.0**
BIA				*e*Sn	**Sn**	**07 50 42.8**	**-0.8**
THL	**Klokotos Trika**	**2.03**	**103**	*e*PN	**Pn**	**07 50 24.7**	**-0.7**
VLS	**Valsamata**	**2.08**	**155**	*e*PN	**Pn**	**07 50 26.5**	**+0.5**
EVR	**Evrytania**	**2.15**	**121**	*e*PN	**Pn**	**07 50 27.5**	**+0.5**
LIT	**Litokhoron**	**2.33**	**88**	*e*Pn	**Pn**	**07 50 30.2**	**+0.8**
LIT				*e*Sn	**Sn**	**07 50 59.2**	**+0.6**
LIT	**Litokhoron**	**2.33**	**88**	*e*Pn	**Pn**	**07 50 30.2**	**+0.7**
LIT				*e*Sn	**Sn**	**07 50 59.2**	**+0.5**
GRG	**Griva**	**2.42**	**67**	*e*Pn	**Pn**	**07 50 30.8**	**+0.1**
GRG				*e*Sn	**Sn**	**07 51 01.5**	**+0.6**
VAY	**Valandovo**	**2.68**	**61**	*i* Pn	**Pn**	**07 50 38.2**	**+3.9**
VAY				*i* Sn	**Sn**	**07 51 11.7**	**+4.3**
VAY	**Valandovo**	**2.68**	**61**	*i* Pn	**Pn**	**07 50 38.1**	**+3.8**
VAY				*i* Sn	**Sn**	**07 51 11.7**	**+4.3**

*ISCJB **30** 08:20:44.7±0.6, 1068N±003×6145W±004, h60km±6km, Error ellipse: s-maj=6.5km s-min=4.0km az=73.3*
*FUNV **30** 08:20:45.1, 1077N×6136W, h50km, MW3.4*
*TRN **30** 08:20:46.6, 1074N×6143W, h38km, MD3.3*

ISC 30 08:20:45.6±0.6, 1069N±003×6146W±003, h53km±6km, n25, σ1§03/47, 1C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.06**	**126**	*i*⇓P	**Pn**	**08 20 53.0**	**-0.7**
TRN				*i* S	**Sn**	**08 20 57.8**	**-1.6**
TCE	**Chacachacare**	**0.29**	**272**	*e*P	**Pn**	**08 20 55.2**	**+0.2**
TCE				*e*S	**Sn**	**08 21 01.2**	**-0.4**
TPP	**Pointe-a-Pierr**	**0.37**	**179**	*e*P	**Pn**	**08 20 56.5**	**+0.8**
TPP				*e*S	**Sn**	**08 21 05.4**	**+2.6**
TBH	**Brigand Hill**	**0.43**	**118**	*i*⇑P	**Pn**	**08 20 56.5**	**+0.2**
TBH				*i* S	**Sn**	**08 21 04.7**	**+0.7**
GUIV	**Guiria**	**0.76**	**267**	*e*P	**Pn**	**08 21 00.6**	**+0.4**
GUIV				*e*S	**Sn**	**08 21 11.7**	**+0.9**
TPR	**Prospect**	**0.83**	**53**	*i*⇓*e*P	**Pn**	**08 21 00.7**	**-0.5**
TPR				*e*S	**Sn**	**08 21 11.4**	**-1.1**
BOT	**Bacolet**	**0.87**	**57**	*e*P	**Pn**	**08 21 01.1**	**-0.6**
BOT				*e*S	**Sn**	**08 21 13.6**	**+0.2**
GRW	**Mount Saint Ca**	**1.48**	**352**	*e*P	**Pn**	**08 21 09.4**	**-0.4**
GRW				*e*S	**Sn**	**08 21 28.1**	**0.0**
GRHS	**Sauteurs**	**1.54**	**353**	*e*P	**Pn**	**08 21 07.2**	**-3.5**
GRHS	**Sauteurs**	**1.54**	**353**	*e*P	**Pn**	**08 21 07.2**	**-3.5**
GRHS	**Sauteurs**	**1.54**	**353**	*e*P	**Pn**	**08 21 15.4**	**+4.8**
GRHS				*e*S	**Sn**	**08 21 29.2**	**-0.3**
GRHS				*e*S	**Sn**	**08 21 29.3**	**-0.3**
GUNV	**Guanoco**	**1.55**	**251**	*e*P	**Pn**	**08 21 11.7**	**+0.8**
GRIC	**Isle de Caille**	**1.59**	**355**	*e*P	**Pn**	**08 21 08.4**	**-3.0**
GRIC				*e*S	**Sn**	**08 21 34.0**	**+3.1**
GRIC				*e*S	**Sn**	**08 21 34.2**	**+3.3**
GRSS	**Sisters**	**1.61**	**355**	*e*P	**Pn**	**08 21 11.3**	**-0.3**
GRSS				*e*S	**Sn**	**08 21 33.2**	**+1.9**
CRUV	**Carupano**	**1.75**	**270**	*e*P	**Pn**	**08 21 13.2**	**-0.4**
CRUV				*e*S	**Sn**	**08 21 34.0**	**-0.7**
GRCU	**Cariacou**	**1.77**	**0**	*e*P	**Pn**	**08 21 14.2**	**+0.4**
GRCU	**Cariacou**	**1.77**	**0**	*e*P	**Pn**	**08 21 14.3**	**+0.4**
GRCU				*e*S	**Sn**	**08 21 35.0**	**-0.3**
GRCU				*e*S	**Sn**	**08 21 36.4**	**+1.1**
ITEV	**Isla Los Testi**	**1.77**	**292**	*e*P	**Pn**	**08 21 12.9**	**-1.0**
ITEV				*e*S	**Sn**	**08 21 35.1**	**-0.2**
FCV	**Fort Charlotte**	**2.46**	**5**	*e*P	**Pn**	**08 21 22.0**	**-1.3**
FCV				*e*S	**Sn**	**08 21 49.1**	**-3.1**
ORIV	**Oritupano**	**2.51**	**230**	*e*P	**Pn**	**08 21 24.3**	**+0.4**
ORIV				*e*S	**Sn**	**08 21 53.0**	**-0.3**
SVB	**Belmont**	**2.58**	**4**	*e*P	**Pn**	**08 21 25.9**	**+1.0**
SVB	**Belmont**	**2.58**	**4**	*e*P	**Pn**	**08 21 26.0**	**+1.1**
SVB				*e*S	**Sn**	**08 21 55.1**	**+0.1**
SSV	**Crater Summit**	**2.64**	**6**	*e*P	**Pn**	**08 21 27.2**	**+1.6**
SSV	**Crater Summit**	**2.64**	**6**	*e*P	**Pn**	**08 21 27.5**	**+1.8**
SSV				*e*S	**Sn**	**08 21 57.0**	**+0.6**
GURV	**El Guri**	**3.32**	**209**	*e*P	**Pn**	**08 21 35.4**	**+0.3**
GURV				*e*S	**Sn**	**08 22 12.1**	**-1.2**

IDC 30 08:22:36.9±16.0, 018S×13896E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=246.7km s-min=82.0km az=1.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.16**	**193**	P	P	08 27 12.9	+0.2
	1.0nm,0.4s,baz=11,slow=13,SNR=17						
FITZ	**Fitzroy Crossi**	**22.11**	**216**	P	P	08 27 33.5	-0.2
	0.5nm,0.3s,baz=50,slow=12,SNR=13						
ASAR	**Alice Springs**	**23.86**	**192**	P	P	08 27 53.4	+1.5
	1.9nm,0.6s,baz=16,slow=11,SNR=33						
STKA	**Stephens Creek**	**31.62**	**176**	P	P	08 29 00.8	-0.7
	1.0nm,0.6s,baz=350,slow=12,SNR=3.8						

*NIED **30** 08:25:00, 3230N×13750E, h440km, Mw4.5 Best double couple: M07.22000×1015 NP1:φ178.00000°, δ70.00000°, λ68.00000°. NP2:φ48.00000°, δ29.00000°, λ136.00000°.*
*JMA **30** 08:25:58.0±0.4, 3231N×13751E, h422km±4km, M4.0 Broadband fault plane solution: P waves. NP1: φ±50.00000°, δ43.00000°, λ150.00000°. NP2: φ±162.00000°, δ70.00000°, λ51.00000°. Principal axes: T Plg49.0000°, Azm29.0000°; N Plg37.0000°, Azm178.0000°; P Plg16.0000°, Azm280.0000°;*
*IDC **30** 08:25:59.6±0.6, 3238N×13730E, h401km±6km, mb3.6/16, mb1 3.7/20, mb1mx3.6/28, mbtmp4.4/20 Error ellipse: s-maj=12.6km s-min=8.6km az=95.0*
*ISCJB **30** 08:26:00.7±0.3, 3255N±005×13723E±004, h414km±2km, mb4.2/66, Error ellipse: s-maj=8.9km s-min=4.4km az=146.3*
*NEIC **30** 08:26:01.6±0.7, 3258N×137.11E, h414km±7km, mb4.3/37, Error ellipse: s-maj=11.2km s-min=7.0km az=158.0*
*BJI **30** 08:26:01.2, 3246N×13700E, h416km, mB4.6, mb4.7*
*MOS **30** 08:26:02.8±0.8, 3290N×137.14E, h421km, mb4.2/26, Error ellipse: s-maj=12.1km s-min=7.7km az=76.8*

ISC 30 08:26:01.2±0.3, 3252N±005×13728E±004, h408km±2km, h446km±9.4km: pP-P, n184, σ0§94/198, mb4.2/66, 3C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**1.27**	**12**	S	**S**	**08 27 37.9**	**+0.9**
TK02	**Tokai 2**	**1.48**	**16**	P	**Pn**	**08 26 55.2**	**+0.1**
TK02				S	**S**	**08 27 40.2**	**+1.5**
JWZ	**Kozaga**	**1.66**	**308**	⇑P	**Pn**	**08 26 55.5**	**-0.5**
JWZ				S	**S**	**08 27 39.8**	**-0.5**
TK03	**Tokai 3**	**1.74**	**19**	S	**S**	**08 27 42.5**	**+1.4**
JIE	**Ise**	**1.93**	**346**	⇑P	**Pn**	**08 26 57.7**	**+0.2**
JIE				S	**S**	**08 27 43.2**	**+0.1**
JHJ	**Hachijo jima 2**	**2.19**	**73**	P	**Pn**	**08 26 57.7**	**-1.5**
	147nm,0.3s,baz=123,slow=1.7,SNR=49						
JHJ				S	**S**	**08 27 44.2**	**-1.9**
	158nm,0.3s,baz=52,slow=22,SNR=15						
JWY	**Kouya**	**2.20**	**321**	⇑P	**Pn**	**08 26 59.8**	**+0.6**
JWY				S	**S**	**08 27 46.6**	**+0.4**
JHJ2	**Mitsune**	**2.22**	**74**	P	**Pn**	**08 26 57.8**	**-1.5**
JAI	**Aioi**	**2.69**	**299**	P	**Pn**	**08 27 03.1**	**+0.4**
JAI				S	**S**	**08 27 52.8**	**+0.4**
JMN	**Monobe**	**3.10**	**294**	P	**Pn**	**08 27 06.6**	**+0.8**
JMN				S	**S**	**08 27 59.3**	**+1.1**
JOD2	**Odawara 2**	**3.12**	**28**	⇓P	**Pn**	**08 27 05.2**	**-0.9**
JOD2				S	**S**	**08 27 58.0**	**-0.6**
JYN	**Shimob**	**3.15**	**19**	P	**Pn**	**08 27 06.1**	**-0.2**
JRY	**Ryogami san**	**3.74**	**21**	⇓P	**Pn**	**08 27 11.0**	**-0.4**
BSO1	**Boso 1**	**3.75**	**54**	P	**Pn**	**08 27 07.3**	**-4.2**
JTO	**Tosashimizu**	**3.79**	**276**	P	**Pn**	**08 27 12.3**	**+0.4**
JTO				S	**S**	**08 28 10.4**	**+1.2**
MAJO	**Matsushiro**	**4.09**	**11**	*e*P	**Pn**	**08 27 14.3**	**-0.3**
MAJO				*e*S	**S**	**08 28 11.8**	**-2.4**
MAT	**Matsushiro**	**4.09**	**11**	P	**Pn**	**08 27 14.2**	**-0.4**
MAT				S	**S**	**08 28 14.4**	**+0.2**
MJAR	**Matsushiro Arr**	**4.09**	**11**	P	**Pn**	**08 27 14.1**	**-0.5**
	11nm,0.3s,baz=180,slow=9.2,SNR=229						
MJAR				S	**S**	**08 28 12.8**	**-1.5**
	2.9nm,0.3s,baz=191,slow=13,SNR=12						
JHS	**Saijyo**	**4.26**	**307**	P	**Pn**	**08 27 17.2**	**+0.9**
JHS				S	**S**	**08 28 19.4**	**+2.2**
JSJ	**Shimokoshiki**	**6.47**	**265**	P	**Pn**	**08 27 39.6**	**+0.3**
JTU	**Tsushima**	**6.88**	**289**	P	**Pn**	**08 27 44.4**	**+0.7**
CBIJ	**Chichi jima**	**6.88**	**140**	P	**Pn**	**08 27 36.2**	**-7.6**
	36nm,0.3s,baz=318,slow=19,SNR=22						
CBIJ				S	**S**	**08 28 54.3**	**-13**
	54nm,0.3s,baz=286,slow=22,SNR=19						
CBIJ	**Chichi jima**	**6.88**	**140**	P	**Pn**	**08 27 37.3**	**-6.5**
CBIJ				S	**S**	**08 28 54.8**	**-13**
JMK	**Ichinoseki**	**7.17**	**25**	P	**P**	**08 27 45.5**	**-1.6**
KS15	**Wonju Array Si**	**9.14**	**305**	*e*P	**P**	**08 28 10.0**	**+1.0**
JOW	**Kunigami**	**9.66**	**236**	P	**P**	**08 28 14.6**	**-0.2**
	1.9nm,0.3s,baz=48,slow=9.5,SNR=4.4						
INCN	**Inchon**	**10.04**	**303**	*e*P	**P**	**08 28 18.7**	**-0.2**
ASAJ	**Asahikawa**	**12.30**	**18**	P	**P**	**08 28 44.5**	**+0.6**
	1.9nm,0.3s,baz=206,slow=15,SNR=10.0						
ASAJ				S	**S**	**08 30 57.2**	**-1.2**
	1.1nm,0.3s,baz=39,slow=25,SNR=9.2						
ASAJ	**Asahikawa**	**12.30**	**18**	P	**P**	**08 28 44.6**	**+0.7**
ASAJ				S	**S**	**08 30 57.2**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
DL2	**Dalian**	**14.21**	**301**	P	**P**	**08 29 05.5**	**+0.7**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s						
CN2	**Changchun**	**14.59**	**324**	*e*P	**P**	**08 29 09.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**15.01**	**15**	*e*P	**P**	**08 29 13.9**	**+0.5**
NJ2	**Nanjing**	**15.59**	**273**	*e*P	**P**	**08 29 18.5**	**-1.2**
NJ2				XP		08 31 02.5	
NJ2				S	**S**	**08 32 03.0**	**-0.9**
NJ2				SCP	ScP	08 36 44.0	-5.2
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s						
BJT	**Baijiatuau**	**18.57**	**300**	*e*P	**P**	**08 29 49.4**	**-1.8**
BJT				pmax	pmax		
	comp=Z,31nm,0.8s						
BJT	**Baijiatuau**	**18.57**	**300**	*e*P	**P**	**08 29 49.4**	**-1.8**
	comp=Z,31nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.18**	**299**	*e*P	**P**	**08 30 24.3**	**-0.5**
HHC				XP	sP	08 32 27.0	+7.1
HHC				S	**S**	**08 33 51.3**	**-7.7**
HHC				PCP	PcP	08 34 09.3	+3.1
HHC				SCP	ScP	08 37 03.3	-0.8
HHC				PCS	PcS	08 37 46.5	+1.4
HHC				AMB	AMB		
	comp=Z,28nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,174nm,3.6s						
BTO	**Baotou**	**23.27**	**298**	*e*P	**P**	**08 30 34.5**	**-0.2**
XAN	**Xi'an**	**23.73**	**281**	P	**P**	**08 30 38.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,111nm,0.7s						
PET	**Petropavlovsk**	**25.63**	**31**	*e*P	**P**	**08 30 54.8**	**-1.0**
PET				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.4						
PET	**Petropavlovsk**	**25.63**	**31**	*e*P	**P**	**08 30 54.8**	**-1.0**
	comp=Z,13nm,0.9s,mb4.4						
LZH	**Lanzhou**	**27.77**	**287**	*e*P	**P**	**08 31 14.5**	**-0.2**
LZH				PCP	PcP	08 34 17.8	-1.1
LZH				*e*S	**S**	**08 35 19.0**	**-8.1**
LZH				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,91nm,4.5s						
LZH	**Lanzhou**	**27.77**	**287**	*e*P	**P**	**08 31 14.5**	**-0.2**
LZH				sP	sP	08 33 24.5	+8.7
LZH				PcP	PcP	08 34 17.7	-1.2
LZH				*e*S	**S**	**08 35 19.0**	**-8.1**
SONM	**Songino Array**	**27.89**	**312**	P	**P**	**08 31 16.3**	**+0.6**
	comp=Z,2.5nm,0.6s,mb3.8,baz=110,slow=7.2,SNR=22						
MA2	**Magadan**	**28.52**	**14**	*e*P	**P**	**08 31 20.1**	**-1.2**
MA2				pmax	pmax		
	comp=Z,35nm,0.6s,mb4.9						
MA2	**Magadan**	**28.52**	**14**	*e*P	**P**	**08 31 20.1**	**-1.2**
	comp=Z,35nm,0.6s,mb4.9						
ZAK	**Zakamensk**	**30.75**	**316**	*e*P	**P**	**08 31 41.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
GTA	**Gaotai**	**30.93**	**294**	*e*P	**P**	**08 31 42.0**	**-0.3**
GTA				AP	pP	08 33 02.3	+5.7
GTA				S	**S**	**08 36 10.5**	**-5.7**
GTA				SCP	ScP	08 37 29.3	-1.0
GTA				XS	sS	08 38 31.3	-1.8
GTA				SS	SS	08 38 40.5	-10
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,72nm,4.2s						
KMI	**Kunming**	**31.05**	**265**	P	**P**	**08 31 45.5**	**+2.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.0						
TLY	**Talaya**	**31.06**	**318**	*e*P	**P**	**08 31 41.2**	**-2.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
TLY	**Talaya**	**31.06**	**318**	*e*P	**P**	**08 31 41.2**	**-2.3**
	comp=Z,2.0nm,0.7s,mb3.6						
BILL	**Bilibino**	**39.31**

INK	**Inuvik**	**59.93**	**25**	*e*P	**P**	**08 35 25.0**	**-1.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
INK	**Inuvik**	**59.93**	**25**	*e*P	**P**	**08 35 25.0**	**-1.1**
	comp=Z,5.9nm,0.4s,mb4.4						
INK				*e*pP	pP	08 37 01.9	+10
STKA	**Stephens Creek**	**64.18**	**176**	P	**P**	**08 35 51.6**	**-2.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=170,slow=22,SNR=3.4						
KEV	**Kevo**	**66.44**	**339**	*e*P	**P**	**08 36 07.9**	**-0.4**
ARCES	**ARCESS Array B**	**67.01**	**339**	P	**P**	**08 36 11.3**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.1,baz=65,slow=8.7,SNR=24						
ARCES	**ARCESS Array B**	**67.01**	**339**	P	**P**	**08 36 11.3**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ARE0	**ARCESS Array S**	**67.01**	**339**	*e*P	**P**	**08 36 07.6**	**-4.2**
NWAO	**Narrogin (SRO)**	**67.78**	**198**	*e*P	**P**	**08 36 23.6**	**+7.0**
NWAO				pmax	pmax		
	comp=Z,45nm,1.5s						
NWAO	**Narrogin (SRO)**	**67.78**	**198**	*e*P	**P**	**08 36 23.6**	**+7.0**
	comp=Z,45nm,1.5s,mb4.9						
RES	**Resolute Bay**	**67.78**	**13**	*e*P	**P**	**08 36 13.0**	**-3.6**
RES				pmax	pmax		
	comp=Z,42nm,1.5s,mb4.8						
RES	**Resolute Bay**	**67.78**	**13**	*e*P	**P**	**08 36 13.0**	**-3.6**
	comp=Z,42nm,1.5s,mb4.8						
JOF	**Joensuu**	**68.33**	**332**	*e*p	**P**	**08 36 19.5**	**-0.4**
	comp=Z,3.1nm,0.4s,mb4.3						
JOF	**Joensuu**	**68.33**	**332**	*e*P	**P**	**08 36 19.5**	**-0.4**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.3						
YKW3	**Yellowknife Ar**	**69.36**	**28**	*e*P	**P**	**08 36 24.8**	**-1.4**
YKA	**Yellowknife Ar**	**69.40**	**28**	P	**P**	**08 36 25.9**	**-0.6**
	comp=Z,1.7nm,0.5s,mb3.9,baz=297,slow=6.1,SNR=22						
YKA	**Yellowknife Ar**	**69.40**	**28**	P	**P**	**08 36 25.9**	**-0.6**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KAF	**Kangasniemi**	**70.73**	**332**	*e*p	**P**	**08 36 33.9**	**-0.6**
	comp=Z,2.4nm,0.4s,mb4.1,baz=54,slow=5.5						
KAF	**Kangasniemi**	**70.73**	**332**	*e*P	**P**	**08 36 33.9**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
FIA1	**FINESS Array S**	**71.19**	**332**	*e*P	**P**	**08 36 35.4**	**-1.8**
FINES	**FINESS Array B**	**71.19**	**332**	P	**P**	**08 36 36.2**	**-0.9**
	comp=Z,2.7nm,0.4s,mb4.1,baz=68,slow=5.6,SNR=67						
FINES	**FINESS Array B**	**71.19**	**332**	P	**P**	**08 36 36.3**	**-0.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HOOD	**Mount Hood Mea**	**74.65**	**46**	*e*P	**P**	**08 36 57.9**	**+0.6**
EDM	**Edmonton**	**74.99**	**36**	*e*P	**P**	**08 36 59.0**	**-0.1**
HAWA	**Hanford**	**75.36**	**44**	*e*P	**P**	**08 37 01.4**	**+0.2**
AKASG	**Malin Array Be**	**75.73**	**321**	P	**P**	**08 37 02.8**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.6,baz=52,slow=5.9,SNR=4.7						
AKASG	**Malin Array Be**	**75.73**	**321**	P	**P**	**08 37 02.8**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NEW	**Newport**	**75.75**	**42**	*e*P	**P**	**08 37 03.4**	**0.0**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NEW	**Newport**	**75.75**	**42**	*e*P	**P**	**08 37 03.4**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.2						
YBH	**Yreka Blue Hor**	**75.83**	**49**	*e*P	**P**	**08 37 04.8**	**+1.0**
YBH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YBH	**Yreka Blue Hor**	**75.83**	**49**	*e*P	**P**	**08 37 04.8**	**+1.0**
	comp=Z,4.4nm,0.8s,mb4.1						
KIPM	**Iron Peak**	**76.31**	**51**	*e*P	**P**	**08 37 07.2**	**+0.7**
NB2	**NORSAR Subarra**	**76.98**	**336**	P	**P**	**08 37 09.4**	**-0.8**
	comp=Z,2.1nm,0.8s,mb3.8,baz=44,slow=5.3						
NOA	**NORSAR Array B**	**76.98**	**336**	P	**P**	**08 37 09.5**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.0,baz=45,slow=5.5,SNR=11						
NOA	**NORSAR Array B**	**76.98**	**336**	P	**P**	**08 37 09.5**	**-0.7**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WALA	**Waterton Lakes**	**77.07**	**40**	*e*P	**P**	**08 37 11.1**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.3						
MOD	**Modoc**	**77.27**	**48**	*e*P	**P**	**08 37 12.4**	**+0.6**
BSMT	**Bassoo Peak**	**77.28**	**41**	*e*P	**P**	**08 37 12.3**	**+0.5**
BMO	**Blue Mountains**	**77.51**	**45**	*e*P	**P**	**08 37 13.5**	**+0.4**
WVOR	**Wild Horse Val**	**78.03**	**47**	*e*P	**P**	**08 37 16.5**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
WVOR	**Wild Horse Val**	**78.03**	**47**	*e*P	**P**	**08 37 16.5**	**+0.6**
	comp=Z,4.6nm,0.9s,mb4.1						
CHMT	**Chamberlain Mo**	**78.67**	**41**	*e*P	**P**	**08 37 19.4**	**-0.1**
PAHR	**Pah Rah Range**	**79.04**	**50**	*e*P	**P**	**08 37 21.8**	**+0.4**
	comp=Z,5.4nm,0.8s,mb4.2						
CMB	**Columbia Colle**	**79.30**	**52**	*e*P	**P**	**08 37 22.8**	**0.0**
CMB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
CMB	**Columbia Colle**	**79.30**	**52**	*e*P	**P**	**08 37 22.8**	**0.0**
	comp=Z,3.0nm,0.5s,mb4.2						
FCC	**Fort Churchill**	**79.53**	**24**	*e*P	**P**	**08 37 23.2**	**-0.8**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
FCC	**Fort Churchill**	**79.53**	**24**	*e*P	**P**	**08 37 23.2**	**-0.9**
	comp=Z,1.2nm,0.5s,mb3.8						
WAKR	**Walker**	**79.67**	**51**	*e*P	**P**	**08 37 25.4**	**+0.7**
LRM	**Limekiln Ridge**	**79.76**	**42**	*e*P	**P**	**08 37 26.1**	**+0.8**
EGMT	**Eagleton**	**79.91**	**39**	*e*P	**P**	**08 37 26.4**	**+0.3**
	comp=Z,8.5nm,1.0s,mb4.3						
DLMT	**Dillon**	**79.95**	**42**	*e*P	**P**	**08 37 26.3**	**0.0**
	comp=Z,8.9nm,0.7s,mb4.5						
HLID	**Hailey**	**79.95**	**44**	*e*P	**P**	**08 37 27.1**	**+0.8**
BMN	**Battle Mountai**	**80.02**	**48**	*e*P	**P**	**08 37 27.4**	**+0.8**
BMN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
BMN	**Battle Mountai**	**80.02**	**48**	*e*P	**P**	**08 37 27.4**	**+0.8**
	comp=Z,7.1nm,1.0s,mb4.2						
BOZ	**Bozeman (W)**	**80.33**	**42**	*e*P	**P**	**08 37 29.1**	**+0.9**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
BOZ	**Bozeman (W)**	**80.33**	**42**	*e*P	**P**	**08 37 29.1**	**+0.9**
	comp=Z,5.4nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**80.45**	**50**	P	**P**	**08 37 29.4**	**+0.6**
	comp=Z,2.8nm,0.7s,mb4.0,baz=285,slow=6.6,SNR=24						
GCMT	**Greycliff**	**81.33**	**41**	*e*P	**P**	**08 37 33.8**	**+0.4**
TPH	**Tonopah**	**81.35**	**50**	*e*P	**P**	**08 37 34.4**	**+0.8**
TPH				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
TPH	**Tonopah**	**81.35**	**50**	*e*P	**P**	**08 37 34.4**	**+0.8**
	comp=Z,4.2nm,0.6s,mb4.3						
LKWY	**Lake**	**81.68**	**42**	*e*P	**P**	**08 37 36.3**	**+1.0**
IMW	**Indian Meadow**	**81.78**	**43**	*e*P	**P**	**08 37 36.8**	**+1.0**
FLWY	**Flagg Ranch**	**81.80**	**42**	*e*P	**P**	**08 37 36.9**	**+0.9**
ISA	**Isabella**	**81.88**	**53**	*e*P	**P**	**08 37 36.3**	**0.0**
ISA				*e*PcP	PcP	08 37 40.9	+0.2
RRI2	**Red Ridge**	**81.89**	**43**	*e*P	**P**	**08 37 41.4**	**+5.0**
HVU	**Hansel Valley**	**81.98**	**45**	*e*P	**P**	**08 37 37.6**	**+0.8**
HVU				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
HVU	**Hansel Valley**	**81.98**	**45**	*e*P	**P**	**08 37 37.6**	**+0.8**
	comp=Z,3.6nm,0.5s,mb4.4						
MOOW	**Moose Ponds**	**81.98**	**43**	*e*P	**P**	**08 37 37.8**	**+1.0**
	comp=Z,11nm,1.4s,mb4.4						
TPAW	**Teton Pass**	**82.02**	**43**	*e*P	**P**	**08 37 38.0**	**+0.9**
	comp=Z,5.7nm,0.7s,mb4.4						
DAC	**Darwin (Calif)**	**82.13**	**52**	*e*P	**P**	**08 37 37.6**	**0.0**
SNOW	**Snow King Moun**	**82.15**	**43**	*e*P	**P**	**08 37 39.1**	**+1.4**
	comp=Z,5.3nm,0.8s,mb4.3						
REDW	**Red Top Meadow**	**82.16**	**43**	*e*P	**P**	**08 37 38.6**	**+0.9**
LAO	**LASA Array**	**82.61**	**38**	*e*P	**P**	**08 37 40.6**	**+0.5**
	comp=Z,7.0nm,0.9s,mb4.4						
HWUT	**Hardware Ranch**	**82.81**	**45**	*e*P	**P**	**08 37 41.5**	**+0.5**
	comp=Z,9.6nm,1.1s,mb4.4						
DUG	**Dugway**	**82.90**	**47**	*e*P	**P**	**08 37 42.4**	**+0.9**
GSC	**Goldstone**	**83.21**	**52**	*e*P	**P**	**08 37 43.6**	**+0.5**
BW06	**Boulder Array**	**83.27**	**43**	*e*P	**P**	**08 37 43.7**	**+0.3**
PDAR	**Pinedale Array**	**83.27**	**43**	P	**P**	**08 37 43.4**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.2,baz=301,slow=2.8,SNR=33						
NLU	**North Lily Min**	**83.50**	**46**	*e*P	**P**	**08 37 45.0**	**+0.5**
SHPR	**Sheep Range**	**83.60**	**51**	*e*P	**P**	**08 37 46.0**	**+0.9**
MPU	**Maple Canyon**	**83.73**	**46**	*e*P	**P**	**08 37 46.2**	**+0.5**
	comp=Z,7.8nm,0.9s,mb4.4						
MPU				*e*pP	pP	08 39 24.1	+5.8
MSU	**Marysvale**	**84.31**	**48**	*e*P	**P**	**08 37 50.1**	**+1.5**
PFO	**Pinyon Flat Ob**	**84.42**	**54**	*e*P	**P**	**08 37 49.1**	**0.0**
PFO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
PFO	**Pinyon Flat Ob**	**84.42**	**54**	*e*P	**P**	**08 37 49.1**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.2						
SRU	**San Rafael**	**84.96**	**46**	*e*P	**P**	**08 37 52.6**	**+0.8**
ULM	**Lac du Bonnet**	**85.13**	**31**	P	**P**	**08 37 51.5**	**-1.1**
	comp=Z,1.5nm,0.4s,mb4.1,baz=311,slow=5.4,SNR=4.0						
RWWY	**Rawlins**	**85.30**	**43**	*e*P	**P**	**08 37 54.1**	**+0.6**
RSSD	**Black Hills**	**85.47**	**39**	*e*P	**P**	**08 37 54.1**	**-0.2**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
RSSD	**Black Hills**	**85.47**	**39**	*e*P	**P**	**08 37 54.1**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.2						
GLA	**Glamis**	**85.85**	**53**	*e*P	**P**	**08 37 56.8**	**+0.7**
PV10	**Paradox Valley**	**86.33**	**46**	*e*P	**P**	**08 37 59.6**	**+1.1**
PV10				*e*		08 39 50.1	
PV01	**Paradox Valley**	**86.77**	**46**	*e*P	**P**	**08 38 01.1**	**+0.6**
SMCO	**Snowmass**	**87.06**	**45**	*e*P	**P**	**08 38 03.3**	**+1.4**
ISCO	**Idaho Springs**	**87.45**	**43**	*e*P	**P**	**08 38 04.6**	**+0.9**
	comp=Z,0.2nm,0.6s						
SDCO	**Great Sand Dun**	**88.87**	**45**	*e*P	**P**	**08 38 11.2**	**+0.8**
	comp=Z,2.2nm,0.7s,mb4.0						
ANMO	**Albuquerque**	**90.11**	**47**	*e*P	**P**	**08 38 17.1**	**+0.9**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ANMO	**Albuquerque**	**90.11**	**47**	*e*P	**P**	**08 38 17.1**	**+1.0**
	comp=Z,1.5nm,0.7s,mb3.9						
ANMO				*e*		08 40 04.4	
SCHQ	**Schefferville**	**90.56**	**14**	*e*P	**P**	**08 38 15.9**	**-2.3**
	comp=Z,64nm,1.9s,mb5.1						
SCHQ				*e*		08 40 02.0	
WMOK	**Wichita Mounta**	**94.88**	**43**	*e*P	**P**	**08 38 36.4**	**-1.6**
MCWV	**Mont Chateau**	**100.37**	**28**	*e*Pdif	Pdif	08 39 01.7	-1.0
DWPF	**Disney**	**109.37**	**36**	*e*PKP	PKiKP	08 43 45.2	+1.5
TORD	**Torodi Ar. Bea**	**117.83**	**310**	PKP	PKPdf	08 43 58.6	-1.2
	comp=Z,0.1nm,0.4s,baz=141,slow=1.1,SNR=9.1						
TSUM	**Tsumeb**	**124.78**	**268**	*e*Pdif	Pdif	08 40 52.9	+1.7
TSUM				*e*PKPdf	PKPdf	08 44 10.8	-2.5
SJG	**San Juan**	**124.89**	**27**	*e*PKIKP	PKPdf	08 44 15.9	+2.5
LPAZ	**La Paz**	**151.89**	**61**	PKPbc	PKPbc	08 45 09.2	+0.6
	comp=Z,0.9nm,0.4s,baz=353,slow=4.8,SNR=14						
LPAZ	**La Paz**	**151.89**	**61**	*e*PKPdf	PKPdf	08 45 03.0	+1.3
LPAZ				*e*PKPbc	PKPbc	08 45 10.0	+1.5
LVC	**Limon Verde**	**154.83**	**74**	*e*PKPab	PKPab	08 45 34.0	+1.9

CASC 30 08:36:08.5±2.5, 1146N×8569W, h8km±6km, MD3.8, ML3.5, 6C-4D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.12**	**33**	⇓*i*P	Pg	08 36 11.0	-0.3
MADN	**Villa Maderas**	**0.17**	**109**	⇓*e*P	Pg	08 36 12.8	+0.8
SSNN	**San Juan del S**	**0.23**	**221**	⇓*e*P	Pg	08 36 14.2	+1.0
SSNN				*e*S	Sg	08 36 19.7	+3.4
TICN	**Ticuantepe**	**0.78**	**317**	*e*P	Pg	08 36 23.1	-0.3
TICN				*e*S	Sg	08 36 34.4	+0.9
MGAN	**Managua**	**0.87**	**322**	*e*P	Pg	08 36 24.7	-0.5
MGAN				*e*S	Sg	08 36 37.1	+0.6
MGAN				*i*		08 36 38.3	
	comp=N,1μm,0.6s						
LIM1	**Limonal**	**0.87**	**150**	*e*P	Pg	08 36 25.0	-0.3
LIM1				*i* S	Sg	08 36 37.0	+0.4
TISN	**Laguna Tiscapa**	**0.88**	**320**	⇑*e*P	Pg	08 36 24.9	-0.5
TISN				*e*S	Sg	08 36 38.0	+1.1
XAVN	**Gruta Xavier**	**0.92**	**318**	⇓*e*P	Pg	08 36 25.6	-0.6
XAVN				*e*S	Sg	08 36 40.2	+2.1
COPN	**Copaltepe**	**1.13**	**309**	*e*P	Pg	08 36 28.9	-1.3
COPN				*e*S	Sg	08 36 44.1	-0.8
MOMJ	**Momotombo**	**1.25**	**319**	⇑*e*P	Pn	08 36 30.3	-2.0
MOMJ				*e*S	Sb	08 36 47.4	-1.2
MIRN	**Miramar**	**1.39**	**314**	⇑*e*P	Pn	08 36 32.9	-1.3
MIRN				*e*S	Sb	08 36 52.7	+0.1
CNGN	**Cerro Negro**	**1.43**	**316**	*e*P	Pn	08 36 32.5	-2.1
CNGN				⇓*e*P		08 36 34.5	
LEON	**Leon**	**1.51**	**309**	*e*P	Pn	08 36 34.8	-0.9
TELN	**Telica**	**1.59**	**316**	⇑*e*P	Pn	08 36 37.2	+0.3
JCR	**Jicaral**	**1.70**	**160**	*e*P	Pn	08 36 38.1	-0.3
JCR				*e*S	Sn	08 37 01.2	+0.8
EPA	**Esparza**	**1.82**	**144**	*e*P	Pn	08 36 39.4	-0.7
EPA				*e*S	Sn	08 37 05.1	+1.8
CAO	**Cobano**	**1.84**	**162**	*e*P	Pn	08 36 39.6	-0.7
CGA2	**Cerro Gallo 2**	**1.88**	**140**	*e*P	Pn	08 36 41.1	+0.2
CGA2				*e*S	Sn	08 37 07.2	+2.5
PRS1	**Puriscal**	**2.00**	**137**	⇑*e*P	Pn	08 36 44.2	+1.6
PRS1				*e*S	Sn	08 37 12.4	+4.7
LAJ	**Bijagual**	**2.22**	**136**	*e*P	Pn	08 36 43.0	-2.5
LCR2	**La Lucha 2**	**2.38**	**136**	*e*P	Pn	08 36 49.0	+1.2
LCR2				*e*S	Sn	08 37 20.6	+3.4
BUS	**Buena Vista**	**2.69**	**135**	*e*P	Pn	08 36 53.9	+2.0

CASC 30 08:41:45.9±2.0, 1149N×8565W, h10km±4km, MD3.7, ML3.2, 2C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.08**	**17**	⇓*e*P	Pg	08 41 48.8	+0.6
CONN				*e*S	Sg	08 41 49.6	-0.3
MADN	**Villa Maderas**	**0.14**	**126**	⇑*i*P	Pg	08 41 50.4	+1.4
SSNN	**San Juan del S**	**0.28**	**224**	⇓*e*P	Pg	08 41 51.8	+0.3
SSNN				*e*S	Sg	08 41 56.2	+0.8
TICN	**Ticuantepe**	**0.79**	**313**	*e*P	Pg	08 42 01.0	-0.1
LIM1	**Limonal**	**0.88**	**154**	*e*P	Pg	08 42 02.0	-0.8
LIM1				*e*S	Sg	08 42 14.6	+0.4
MGAN	**Managua**	**0.88**	**318**	*e*P	Pg	08 42 02.2	-0.6
MGAN				*e*S	Sg	08 42 14.6	+0.4
TISN	**Laguna Tiscapa**	**0.89**	**317**	*e*P	Pg	08 42 03.4	+0.4
XAVN	**Gruta Xavier**	**0.93**	**315**	*e*P	Pg	08 42 03.2	-0.7
BOAA	**Boaco**	**0.99**	**356**	*e*P	Pg	08 42 02.1	-2.8
COPN	**Copaltepe**	**1.15**	**307**	*e*P	Pb	08 42 06.6	-1.3
MOMJ	**Momotombo**	**1.26**	**316**	*e*P	Pn	08 42 08.1	-1.5
MIRN	**Miramar**	**1.41**	**312**	⇑*i*P	Pn	08 42 11.7	+0.2
MIRN				*e*S	Sn	08 42 29.9	-0.1
CNGN	**Cerro Negro**	**1.44**	**314**	*e*P	Pn	08 42 12.2	+0.3
LEON	**Leon**	**1.53**	**307**	*e*P	Pn	08 42 12.9	-0.3
JCR	**Jicaral**	**1.71**	**162**	*e*P	Pn	08 42 14.8	-1.0
PRS1	**Puriscal**	**1.99**	**139**	*e*P	Pn	08 42 21.5	+1.9
LCR2	**La Lucha 2**	**2.37**	**137**	*e*P	Pn	08 42 25.5	+0.6
BUS	**Buena Vista**	**2.67**	**136**	*e*P	Pn	08 42 30.4	+1.4

IDC 30 08:52:12.4±1.1, 2394N×14302E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.3/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/31, Error ellipse: s-maj=56.1km s-min=19.5km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.23**	**347**	Pn	Pn	08 53 06.3	+2.0
	4.5nm,0.3s,baz=127,slow=20,SNR=3.7						
CBIJ				LR	LR	08 53 41.5	
	comp=Z,192nm,21.0s,baz=317,slow=28						
CBIJ				Sn	Sn	08 53 45.0	+1.5
	11nm,0.3s,baz=288,slow=23,SNR=6.1						
MJAR	**Matsushiro Arr**	**13.22**	**343**	Pn	Pn	08 55 20.2	-1.1
	0.2nm,0.3s,baz=168,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**44.43**	**192**	P	P	09 00 24.8	-0.2
	0.6nm,0.3s,baz=8.6,slow=7.9,SNR=29						
ASAR	**Alice Springs**	**48.15**	**191**	P	P	09 00 55.1	+1.0
	0.5nm,0.9s,baz=16,slow=6.1,SNR=5.8						
FINES	**FINESS Array B**	**81.10**	**334**	P	P	09 04 29.0	-0.5
	1.0nm,0.8s,baz=76,slow=5.9,SNR=7.2						
NVAR	**Mina Array Bea**	**81.88**	**52**	P	P	09 04 33.9	+0.3
	0.6nm,0.8s,baz=255,slow=6.7,SNR=5.4						
BRTR	**Keskin Array B**	**88.69**	**313**	LR	LR	09 48 07.0	
	comp=Z,40nm,18.5s,baz=155,slow=38						

*IDC **30** 09:00:14.8±0.9, 2902N×13065E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.8/23, mbtmp3.8/10, ML3.5/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=36.9km s-min=18.2km az=72.0*

*ISCJB **30** 09:00:19.2±0.8, 2899N±004×13063E±009, h45km±7km, mb3.8/9, Error ellipse: s-maj=13.4km s-min=3.9km az=45.2*

*JMA **30** 09:00:19.2±0.1, 2900N×13063E, h62km±3km, M3.4*

ISC 30 09:00:19.8±2.0, 2900N±003×13061E±007, h32km±15km, n23, σ0°63/33, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.88**	**220**	P	**Pn**	**09 00 36.0**	**+0.1**
JZK				*e*S	**Sn**	**09 00 48.3**	**+0.7**
JAM	**Amami Oshima**	**1.05**	**237**	P	**Pn**	**09 00 38.2**	**-0.1**
JAM				*e*S	**Sn**	**09 00 52.3**	**+0.4**
JNN	**Nakanoshima**	**1.06**	**323**	P	**Pn**	**09 00 38.4**	**0.0**
JNN				*e*S	**Sn**	**09 00 52.6**	**+0.6**
JKC	**Kuchinoerabu**	**1.50**	**346**	P	**Pn**	**09 00 44.7**	**+0.2**
JKC				*e*S	**Sn**	**09 01 02.9**	**-0.1**
JTN	**Tanegashima 3**	**1.68**	**11**	P	**Pn**	**09 00 46.8**	**-0.2**
JTN				*e*S	**Sn**	**09 01 07.0**	**-0.5**
JTK	**Tokunoshima**	**1.89**	**231**	P	**Pn**	**09 00 50.4**	**+0.5**
JTK				*e*S	**Sn**	**09 01 13.2**	**+0.6**
JTSR	**Tashiro 2**	**2.18**	**7**	P	**Pn**	**09 00 54.0**	**+0.2**
JTSR				*e*S	**Sn**	**09 01 19.7**	**0.0**
JSU	**Suzuyama**	**2.50**	**357**	P	**Pn**	**09 00 58.1**	**-0.2**
JSU				*e*S	**Sn**	**09 01 27.4**	**-0.3**
JNAR	**Kushima--Naru**	**2.59**	**13**	P	**Pn**	**09 01 00.0**	**+0.6**
JNAR				*e*S	**Sn**	**09 01 29.5**	**-0.2**
JOW	**Kunigami**	**2.98**	**224**	Pn	**Pn**	**09 01 04.3**	**-0.5**
	11nm,0.3s,baz=99,slow=21,SNR=32						
JOW				Sn	**Sn**	**09 01 38.2**	**-1.3**
	11nm,0.3s,baz=142,slow=27,SNR=10						
JOW	**Kunigami**	**2.98**	**224**	P	**Pn**	**09 01 04.4**	**-0.5**
JOW				*e*S	**Sn**	**09 01 39.2**	**-0.3**
JIH	**Iheya**	**3.04**	**231**	P	**Pn**	**09 01 05.3**	**-0.4**
JIH				*e*S	**Sn**	**09 01 39.9**	**-1.1**
JHJ	**Hachijo jima 2**	**8.88**	**60**	LR	LR	09 05 24.9	
	comp=Z,152nm,18.1s,baz=173,slow=35						
CBIJ	**Chichi jima**	**10.40**	**98**	LR	LR	09 06 40.4	
	comp=Z,62nm,18.7s,baz=70,slow=37						
MKAR	**Makanchi Array**	**41.35**	**309**	P	**P**	**09 08 02.9**	**+0.3**
	0.3nm,0.4s,mb3.3,baz=90,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**48.78**	**175**	P	**P**	**09 09 00.9**	**-0.8**
	1.0nm,0.7s,mb3.9,baz=351,slow=8.1,SNR=8.9						
BVAR	**Borovoye Array**	**49.67**	**317**	P	**P**	**09 09 08.0**	**-0.5**
	0.9nm,0.5s,mb4.1,baz=91,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**52.45**	**176**	P	**P**	**09 09 30.4**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=10,slow=14,SNR=9.9						
STKA	**Stephens Creek**	**61.43**	**169**	P	**P**	**09 10 32.6**	**-0.4**
	1.1nm,0.7s,mb4.1,baz=335,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**71.50**	**331**	P	**P**	**09 11 36.5**	**-0.9**
	1.8nm,0.8s,mb4.0,baz=132,slow=5.7,SNR=5.0						
AKASG	**Malin Array Be**	**74.80**	**320**	P	**P**	**09 11 55.9**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=57,slow=7.3,SNR=4.3						
BRTR	**Keskin Array B**	**77.00**	**308**	P	**P**	**09 12 10.9**	**+1.5**
	0.8nm,0.6s,mb3.8,baz=148,slow=7.3,SNR=3.8						
NVAR	**Mina Array Bea**	**87.08**	**47**	P	**P**	**09 13 03.5**	**+1.2**
	0.4nm,0.7s,mb3.8,baz=293,slow=6.6,SNR=5.0						

CASC 30 09:05:31.5±3.8, 1335N×8983W, h36km±551km, MD3.6, 3C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.53**	**22**	⇓*i*P	x	09 05 51.4	
SBLS				*e*S	x	09 06 02.1	
SNJE	**San Jose**	**0.56**	**23**	⇓*e*P	x	09 05 51.8	
SNJE				*e*S	x	09 06 00.5	
BOQS	**Boqueron**	**0.66**	**54**	⇑*e*P	x	09 05 53.4	
BOQS				*e*S	x	09 06 05.1	
SNET	**Serv Nac Est T**	**0.67**	**60**	*e*P	x	09 05 50.5	
SNET				*e*S	x	09 06 00.9	
RBDL	**Robledal**	**0.77**	**10**	⇓*e*P	x	09 05 54.6	
RBDL				*e*S	x	09 06 03.5	
LFRS	**El Faro**	**0.80**	**70**	*e*P	x	09 05 54.8	
LFRS				*e*S	x	09 06 07.1	
LFU	**

CAF					*e*Sg		Sg	09 33 59.3	-1.0	
	5.3nm,0.2s									
CAF	**Calvic**	**1.61**	**110**		Pn		Pn	09 33 35.3	-1.3	
CAF					Pg		Pg	09 33 39.0	-0.3	
CAF					Sn		Sn	09 33 54.5	-2.8	
CAF					Lg			09 33 59.3		
	2.7nm,0.2s									
CAF	**Calvic**	**1.61**	**110**		*e*Pn		Pn	09 33 35.3	-1.3	
CAF					*e*Pg		Pg	09 33 39.0	-0.3	
CAF					*e*Sn		Sn	09 33 54.5	-2.8	
CAF					*e*Sg		Sg	09 33 59.3	-1.0	
CAF	**Calvic**	**1.61**	**110**		*e*Pg		Pg	09 33 39.0	-0.3	
CAF					*e*Sn		Sn	09 33 54.5	-2.8	
CAF					*e*Sg		Sg	09 33 59.3	-1.0	
	2.7nm,0.2s									
TCF	**Toulx Ste Croi**	**1.79**	**63**		*e*Pg		Pg	09 33 41.6	-1.0	
TCF					*e*Sg		Sg	09 34 04.1	-1.7	
	6.1nm,0.2s									
TCF	**Toulx Ste Croi**	**1.79**	**63**		Pn		Pn	09 33 37.8	-1.1	
TCF					Pg		Pg	09 33 41.6	-1.0	
TCF					Lg			09 34 04.1		
	3.0nm,0.2s									
TCF	**Toulx Ste Croi**	**1.79**	**63**		*e*Pn		Pn	09 33 37.8	-1.1	
TCF					*e*Pg		Pg	09 33 41.6	-1.0	
TCF					*e*Sg		Sg	09 34 04.1	-1.7	
TCF	**Toulx Ste Croi**	**1.79**	**63**		*e*Pg		Pg	09 33 41.6	-1.0	
TCF					*e*Sg		Sg	09 34 04.1	-1.7	
	3.0nm,0.2s									
PYM	**Petit Puy Mans**	**2.18**	**82**		Pg		Pg	09 33 50.1	0.0	
BGF	**Bois d'Agland**	**2.30**	**61**		*e*Pg		Pg	09 33 50.9	-1.5	
BGF					*e*Sg		Sg	09 34 20.9	-1.3	
	24nm,0.4s									
BGF	**Bois d'Agland**	**2.30**	**61**		Pn		Pn	09 33 44.3	-1.7	
BGF					Pg		Pg	09 33 50.9	-1.5	
BGF					Lg			09 34 20.9		
	12nm,0.4s									
BGF	**Bois d'Agland**	**2.30**	**61**		*e*Pn		Pn	09 33 44.3	-1.7	
BGF					*e*Pg		Pg	09 33 50.9	-1.5	
BGF					*e*Sg		Sg	09 34 20.9	-1.3	
BGF	**Bois d'Agland**	**2.30**	**61**		*e*Pg		Pg	09 33 50.9	-1.5	
BGF					*e*Sg		Sg	09 34 20.9	-1.3	
	12nm,0.4s									
AGO	**Saint Agoulin**	**2.31**	**75**		Pg		Pg	09 33 53.1	+0.4	
EPF	**Esparros**	**2.48**	**173**		*e*Pg		Pg	09 33 54.9	-0.8	
EPF					*e*Sn		Sn	09 34 14.7	-3.9	
EPF					*e*Sg		Sg	09 34 26.3	-1.5	
	4.8nm,0.3s									
EPF	**Esparros**	**2.48**	**173**		Pn		Pn	09 33 46.5	-1.9	
EPF					Pg		Pg	09 33 54.9	-0.8	
EPF					Sn		Sn	09 34 14.7	-3.9	
EPF					Lg			09 34 26.3		
	2.4nm,0.3s									
EPF	**Esparros**	**2.48**	**173**		*e*Pn		Pn	09 33 46.5	-1.9	
EPF					*e*Pg		Pg	09 33 54.9	-0.8	
EPF					*e*Sn		Sn	09 34 14.7	-3.9	
EPF					*e*Sg		Sg	09 34 26.3	-1.5	
EPF	**Esparros**	**2.48**	**173**		*e*Pg		Pg	09 33 54.9	-0.8	
EPF					*e*Sg		Sg	09 34 26.3	-1.5	
	2.4nm,0.3s									
SJPF	**Ste Jean**	**2.51**	**200**		*e*Pn		Pn	09 33 47.3	-1.6	
SJPF					*e*Sg		Sg	09 34 26.7	-2.4	
	1.4nm,0.3s									
SJPF	**Ste Jean**	**2.51**	**200**		*e*Pn		Pn	09 33 47.3	-1.6	
SJPF					*e*Sg		Sg	09 34 26.7	-2.4	
	0.7nm,0.3s									
ETSF	**Etsaut**	**2.61**	**188**		*e*Pg		Pg	09 33 57.2	-1.2	
ETSF					*e*Sn		Sn	09 34 18.0	-3.9	
ETSF					*e*Sg		Sg	09 34 30.6	-1.6	
	1.1nm,0.2s									
ETSF	**Etsaut**	**2.61**	**188**		Pn		Pn	09 33 48.8	-1.5	
ETSF					Pg		Pg	09 33 57.2	-1.2	
ETSF					Sn		Sn	09 34 18.0	-3.9	
ETSF					Lg			09 34 30.6		
	0.6nm,0.2s									
ETSF	**Etsaut**	**2.61**	**188**		*e*Pn		Pn	09 33 48.8	-1.5	
ETSF					*e*Pg		Pg	09 33 57.2	-1.2	
ETSF					*e*Sn		Sn	09 34 18.0	-3.9	
ETSF					*e*Sg		Sg	09 34 30.6	-1.6	
ETSF	**Etsaut**	**2.61**	**188**		*e*Pg		Pg	09 33 57.2	-1.2	
ETSF					*e*Sg		Sg	09 34 30.6	-1.6	
	0.6nm,0.2s									
MTLF	**Montolieu**	**2.70**	**142**		*e*Pg		Pg	09 33 58.8	-1.3	
MTLF					*e*Sn		Sn	09 34 19.8	-4.4	
MTLF					*e*Sg		Sg	09 34 33.3	-1.9	
	1.3nm,0.2s									
MTLF	**Montolieu**	**2.70**	**142**		Pn		Pn	09 33 49.8	-1.8	
MTLF					Pg		Pg	09 33 58.8	-1.3	
MTLF					Sn		Sn	09 34 19.8	-4.4	
MTLF					Lg			09 34 33.3		
	0.6nm,0.2s									
MTLF	**Montolieu**	**2.70**	**142**		*e*Pn		Pn	09 33 49.8	-1.8	
MTLF					*e*Pg		Pg	09 33 58.8	-1.3	
MTLF					*e*Sn		Sn	09 34 19.8	-4.4	
MTLF					*e*Sg		Sg	09 34 33.3	-1.9	
MTLF	**Montolieu**	**2.70**	**142**		*e*Pg		Pg	09 33 58.8	-1.3	
MTLF					*e*Sn		Sn	09 34 19.8	-4.4	
MTLF					*e*Sg		Sg	09 34 33.3	-1.9	
	0.6nm,0.2s									
AVF	**Avril sur Loir**	**2.72**	**60**		*e*Pg		Pg	09 33 58.4	-2.0	
AVF					*e*Sn		Sn	09 34 20.6	-3.9	
AVF					*e*Sg		Sg	09 34 33.5	-2.1	
	1.7nm,0.2s									
AVF	**Avril sur Loir**	**2.72**	**60**		Pn		Pn	09 33 49.7	-2.0	
AVF					Pg		Pg	09 33 58.4	-2.0	
AVF					Sn		Sn	09 34 20.6	-3.9	
AVF					Lg			09 34 33.5		
	0.9nm,0.2s									
AVF	**Avril sur Loir**	**2.72**	**60**		*e*Pn		Pn	09 33 49.7	-2.0	
AVF					*e*Pg		Pg	09 33 58.4	-2.0	
AVF					*e*Sn		Sn	09 34 20.6	-3.9	
AVF					*e*Sg		Sg	09 34 33.5	-2.1	
AVF	**Avril sur Loir**	**2.72**	**60**		*e*Pg		Pg	09 33 58.4	-2.0	
AVF					*e*Sn		Sn	09 34 20.6	-3.9	
AVF					*e*Sg		Sg	09 34 33.5	-2.1	
	0.9nm,0.2s									
EBIE	**Bielsa**	**2.81**	**177**		Sn		Sn	09 34 23.0	-3.7	
	0.1nm,0.1s,SNR=7.9									
GRR	**Gorron**	**2.95**	**350**		*e*Pg		Pg	09 34 03.3	-1.5	
GRR					*e*Sn		Sn	09 34 26.3	-4.0	
GRR					*e*Sg		Sg	09 34 41.2	-1.9	
	3.3nm,0.2s									
GRR	**Gorron**	**2.95**	**350**		*e*Pg		Pg	09 34 03.3	-1.5	
GRR					*e*Sn		Sn	09 34 26.3	-4.0	
GRR					*e*Sg		Sg	09 34 41.2	-1.9	
	1.6nm,0.2s									
SMF	**Signal de Mont**	**2.96**	**66**		*e*Pg		Pg	09 34 03.0	-2.1	
SMF					*e*Sg		Sg	09 34 41.0	-2.5	
	2.0nm,0.3s									
SMF	**Signal de Mont**	**2.96**	**66**		Pn		Pn	09 33 53.2	-1.9	
SMF					Pg		Pg	09 34 03.0	-2.1	
SMF					Lg			09 34 41.0		
	1.0nm,0.3s									
SMF	**Signal de Mont**	**2.96**	**66**		*e*Pn		Pn	09 33 53.2	-1.9	
SMF					*e*Pg		Pg	09 34 03.0	-2.1	
SMF					*e*Sg		Sg	09 34 41.0	-2.5	
SMF	**Signal de Mont**	**2.96**	**66**		*e*Pg		Pg	09 34 03.0	-2.1	
SMF					*e*Sg		Sg	09 34 41.0	-2.5	
	1.0nm,0.3s									
LDF	**La Druitiere**	**3.11**	**359**		*e*Pg		Pg	09 34 05.6	-2.2	
LDF					*e*Sn		Sn	09 34 30.1	-4.1	
LDF					*e*Sg		Sg	09 34 46.0	-2.1	
	2.3nm,0.2s									
LDF	**La Druitiere**	**3.11**	**359**		*e*Pg		Pg	09 34 05.6	-2.2	
LDF					*e*Sn		Sn	09 34 30.1	-4.1	
LDF					*e*Sg		Sg	09 34 46.0	-2.1	
	1.1nm,0.2s									
LASF	**Ste Croix**	**3.14**	**115**		*e*Pg		Pg	09 34 06.6	-1.8	
LASF					*e*Sn		Sn	09 34 30.5	-4.4	
LASF					*e*Sg		Sg	09 34 46.8	-2.3	
	0.9nm,0.2s									
LASF	**Ste Croix**	**3.14**	**115**		*e*Pg		Pg	09 34 06.6	-1.8	
LASF					*e*Sn		Sn	09 34 30.5	-4.4	
LASF					*e*Sg		Sg	09 34 46.8	-2.3	
	0.4nm,0.2s									
QUIF	**Quistinic**	**3.23**	**320**		*e*Pg		Pg	09 34 08.0	-2.1	
LOR	**Lormes**	**3.25**	**55**		*e*Pg		Pg	09 34 08.8	-1.9	
LOR					*e*Sg		Sg	09 34 49.2	-3.6	
	2.2nm,0.4s									
LOR	**Lormes**	**3.25**	**55**		Pn		Pn	09 33 57.4	-1.7	
LOR					Pg		Pg	09 34 08.8	-1.9	
LOR					Lg			09 34 49.2		
	1.1nm,0.4s									
LOR	**Lormes**	**3.25**	**55**		*e*Pn		Pn	09 33 57.4	-1.7	
LOR					*e*Pg		Pg	09 34 08.8	-1.9	
LOR					*e*Sg		Sg	09 34 49.2	-3.6	
LOR	**Lormes**	**3.25**	**55**		*e*Pg		Pg	09 34 08.8	-1.9	
LOR					*e*Sg		Sg	09 34 49.2	-3.6	
	1.1nm,0.4s									
FLN	**La Foliniere**	**3.29**	**355**		*e*Pg		Pg	09 34 08.8	-2.5	
VIVF	**Saint-Julien-l**	**3.42**	**99**		*e*Sn		Sn	09 34 37.3	-4.5	
VIVF					*e*Sg		Sg	09 34 55.9	-2.2	
	3.2nm,0.3s									
VIVF	**Saint-Julien-l**	**3.42**	**99**		*e*Sn		Sn	09 34 37.3	-4.5	
VIVF					*e*Sg		Sg	09 34 55.9	-2.2	
	1.6nm,0.3s									
EARI	**Arriondas**	**4.28**	**241**		Sn		Sn	09 34 56.8	-6.3	
	0.1nm,0.2s,SNR=7.9									
CABF	**La Chapelle**	**4.44**	**73**		*e*Pn		Pn	09 34 13.6	-1.8	

*NEIC **30** 10:07:45.4, 3105S×7043W, h112km, MG3.6(GUC), After GUC.*

GUC 30 10:07:45.4±0.9, 3105S×7043W, h112km±4km, MD3.5, ML3.6, 14C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
CMCH	**Combarbala**	**0.51**	**255**	⇑*i*P		Pn	10 08 02.9	+0.4
CMCH				*i* S		Sn	10 08 16.2	+0.8
CMCH				AML	AML		10 08 16.8	
	comp=N,4μm,0.7s							
CMCH	**Combarbala**	**0.51**	**255**	⇑*i*P		Pn	10 08 02.9	+0.4
CMCH				*i* S		Sn	10 08 16.2	+0.8
OVCH	**Ovalle**	**0.80**	**303**	⇑*i*P		Pn	10 08 05.3	+0.5
OVCH				*i* S		Sn	10 08 19.9	+0.5
OVCH				AML	AML		10 08 20.8	
	comp=E,3μm,0.3s							
OVCH	**Ovalle**	**0.80**	**303**	⇑*i*P		Pn	10 08 05.3	+0.5
OVCH				*i* S		Sn	10 08 19.9	+0.5
TLL	**Tololo Astrono**	**0.93**	**340**	⇑*i*P		Pn	10 08 07.2	+1.1
TLL				*i* S		Sn	10 08 23.2	+1.5
TLL				AML	AML		10 08 25.2	
	comp=E,971nm,0.4s							
TLL	**Tololo Astrono**	**0.93**	**340**	⇑*i*P		Pn	10 08 07.2	+1.1
TLL				*i* S		Sn	10 08 23.2	+1.5
CHNG	**Los Chungos**	**1.24**	**227**	⇓*i*P		Pn	10 08 09.6	+0.3
CHNG				*i* S		Sn	10 08 27.7	+0.2
CHNG				AML	AML		10 08 34.0	
	comp=E,149nm,0.4s							
PTCH	**Petorca**	**1.29**	**199**	⇑*i*P		Pn	10 08 10.0	+0.2
PTCH				*i* S		Sn	10 08 28.8	+0.3
PTCH				AML	AML		10 08 30.4	
	comp=E,2μm,0.3s							
PTCH	**Petorca**	**1.29**	**199**	⇑*i*P		Pn	10 08 10.0	+0.2
PTCH				*i* S		Sn	10 08 28.8	+0.3
LSCH	**La Serena**	**1.33**	**328**	*e*P		Pn	10 08 10.9	+0.5
LSCH				*i* S		Sn	10 08 29.9	+0.5
ZON	**Zonda**	**1.58**	**109**	*e*P		Pn	10 08 13.8	+0.6
JACH	**Jahuel**	**1.64**	**185**	*e*P		Pn	10 08 14.9	+0.9
JACH				*i* S		Sn	10 08 37.1	+1.4
PACH	**Papudo**	**1.72**	**210**	⇓*i*P		Pn	10 08 15.4	+0.5
PACH				*i* S		Sn	10 08 37.9	+0.4
ROCH	**El Roble**	**1.98**	**194**	⇑*i*P		Pn	10 08 18.5	+0.2
LCO	**Las Campanas**	**2.04**	**353**	⇑*i*P		Pn	10 08 19.6	+0.6
LCO				AML	AML		10 08 47.8	
	comp=E,285nm,0.3s							
MDZ	**Mendoza**	**2.27**	**144**	*e*P		Pn	10 08 22.6	+0.7
MDZ				*e*			10 09 10.5	
FCH	**Farellones**	**2.28**	**177**	⇑*i*P		Pn	10 08 23.9	+1.9
FCH				*i* S		Sn	10 08 52.7	+2.6
FCH				AML	AML		10 08 54.1	
	comp=E,420nm,0.2s							
CLCH	**Cerro Calan**	**2.35**	**182**	*e*P		Pn	10 08 23.9	+1.0
CLCH				*i* S		Sn	10 08 52.8	+1.2
CLCH				AML	AML		10 09 00.6	
	comp=E,262nm,0.6s							
RCDM	**Rinconada Maip**	**2.46**	**187**	⇑*i*P		Pn	10 08 24.6	+0.2
RCDM				*i* S		Sn	10 08 54.9	+0.7
RCDM				AML	AML		10 08 55.7	
	comp=E,557nm,0.1s							
RCDM	**Rinconada Maip**	**2.46**	**187**	⇑*i*P		Pn	10 08 24.6	+0.2
RCDM				*i* S		Sn	10 08 54.9	+0.7
VACH	**Vallenar**	**2.48**	**353**	*i* P		Pn	10 08 28.9	+4.3
VACH				*i* S		Sn	10 08 58.4	+3.7
VACH				AML	AML		10 09 02.5	
	comp=E,1μm,0.1s							
VACH	**Vallenar**	**2.48**	**353**	*i* P		Pn	10 08 28.9	+4.3
VACH				*i* S		Sn	10 08 58.4	+3.7
PCH	**Pirque**	**2.57**	**182**	*e*P		Pn	10 08 26.8	+1.0
TACH	**Talagante**	**2.64**	**189**	⇓*i*P		Pn	10 08 26.5	-0.2
TACH				*i* S		Sn	10 08 58.7	+0.3
LMEL	**Las Melosas**	**2.80**	**176**	*e*P		Pn	10 08 30.1	+1.3
LMEL				AML	AML		10 09 07.4	
	comp=N,252nm,0.2s							
CHCH	**Chadas Angostu**	**2.89**	**184**	⇑*i*P		Pn	10 08 30.3	+0.4
CHCH				*i* S		Sn	10 09 04.7	+0.5
CACH	**El Canelo**	**3.07**	**183**	*i* P		Pn	10 08 33.6	+1.3
CACH				*i* S		Sn	10 09 10.0	+1.5
CICH	**Cipreses**	**3.27**	**180**	*i* P		Pn	10 08 36.2	+1.3
CICH				*i* S		Sn	10 09 14.2	+1.0

NEIC 30 10:15:16.2, 5147N×17892E, h58km, ML3.4(AEIC)**, After AEIC., Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
AMKA	**Amchitka**	**0.26**	**110**		P	Pn	10 15 25.0	-0.8
AMKA					S	Sn	10 15 32.6	-0.1
SMY	**Shemya**	**3.23**	**295**		P	Pn	10 16 04.0	-0.4
ATKA	**Atka Island**	**4.34**	**78**		P	Pn	10 16 19.0	-0.6
RLMT	**Red Lodge**	**46.44**	**68**		*e*P	P	10 23 32.3	-4.9

*IDC **30** 10:27:45.9±1.3, 352S×134.02E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/11, mbtmp4.2/4, Error ellipse: s-maj=109.1km s-min=27.2km az=72.0*

*NEIC **30** 10:27:50.2±9.3, 356S×133.94E, h28km±65km, mb4.1/2, Error ellipse: s-maj=38.4km s-min=23.6km az=46.0*

*ISCJB **30** 10:27:53.0±2.9, 386S±10.0×1336E±0.1, h63km±27km, mb4.0/3, Error ellipse: s-maj=24.6km s-min=15.2km az=27.4*

ISC 30 10:27:54.0±2.1, 381S±009×1337E±02, h57km±18km, n16, σ1s20/20, mb4.0/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
KAKA	**Kakadu**	**8.94**	**188**	*e*P		**Pn**	**10 30 01.3**	**+1.0**
	26nm,0.6s							
KAKA				*e*S		**Sn**	**10 31 40.6**	**+1.1**
WRA	**Warramunga Arr**	**16.05**	**178**	Pn		**Pn**	**10 31 33.0**	**-2.9**
	0.4nm,0.3s,baz=0.3,slow=13,SNR=19							
WB2	**Warramunga Arr**	**16.05**	**178**	*e*P		**Pn**	**10 31 33.3**	**-2.6**
WB2				*e*S		**S**	**10 34 27.6**	**-16**
WB2	**Warramunga Arr**	**16.05**	**178**	*e*P		**Pn**	**10 31 33.3**	**-2.6**
WB2				*e*Pn		**Pn**	**10 31 35.7**	**-0.2**
WB2				*e*pPn			10 31 40.7	
WB2				*e*Sn		**Sn**	**10 34 30.0**	**-2.9**
FITZ	**Fitzroy Crossi**	**16.26**	**208**	*e*P		**Pn**	**10 31 37.7**	**-0.8**
	7.8nm,0.3s							
FITZ				*e*S		**S**	**10 34 33.2**	**-15**
AS31	**Alice Springs**	**19.75**	**179**	*e*P		**Pn**	**10 32 21.8**	**+0.9**
AS31				*e*P			10 32 22.0	
AS31				*e*			10 32 29.9	
AS31				S		**S**	**10 35 58.6**	**+0.2**
ASAR	**Alice Springs**	**19.75**	**179**	P		**Pn**	**10 32 21.9**	**+0.9**
	12nm,0.7s,baz=6.8,slow=12,SNR=148							
ASPA	**Alice Springs**	**19.75**	**179**	*e*P		**Pn**	**10 32 22.0**	**+1.0**
CTA	**Charters Tower**	**20.28**	**144**	*e*P		**P**	**10 32 24.9**	**0.0**
	5.0nm,0.6s							
CTAO	**Charters Tower**	**20.28**	**144**	*e*P		**P**	**10 32 24.8**	**-0.1**
	6.5nm,0.7s							
CTAO				*e*pPn			10 32 30.7	
STKA	**Stephens Creek**	**28.89**	**166**	P		**P**	**10 33 48.1**	**+0.8**
	0.8nm,0.4s,mb3.8,baz=331,slow=10,SNR=4.1							
MKAR	**Makanchi Array**	**67.69**	**325**	P		**P**	**10 38 44.8**	**-0.4**
	1.1nm,0.5s,mb4.2,baz=114,slow=8.1,SNR=5.9							
VNDA	**Vanda**	**75.18**	**174**	P		**P**	**10 39 30.0**	**-0.3**
	1.3nm,0.8s,mb3.9,baz=320,slow=5.8,SNR=3.9							
VNDA	**Vanda**	**75.18**	**174**	P		**P**	**10 39 30.0**	**-0.3**
CPUP	**Villa Florida**	**148.19**	**161**	PKPbc	PKPbc		10 47 35.0	+1.5
	1.2nm,0.5s,baz=239,slow=1.8,SNR=7.7							
LPAZ	**La Paz**	**150.59**	**133**	PKPbc	PKPbc		10 47 41.7	+2.3
	0.9nm,0.5s,baz=339,slow=3.0,SNR=4.7							

*IDC **30** 10:49:22.9±0.6, 5149N×17768W, h0km, mb4.0/13, mb1 4.2/14, mb1mx4.0/27, mbtmp4.0/14, ML4.6/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/28, Error ellipse: s-maj=22.8km s-min=14.5km az=161.0*

*ISCJB **30** 10:49:24.9±0.3, 5162N±009×17751W±0.04, h14km, mb4.3/42, MS3.3/2, Error ellipse: s-maj=13.0km s-min=3.7km az=164.6*

*NEIC **30** 10:49:26.1±0.5, 5143N×17753W, mb4.3/26, ML4.5(AEIC), Error ellipse: s-maj=11.1km s-min=8.1km az=180.0*

*BJI **30** 10:49:26.4, 51.17N×177.57W, h15km, mB4.8, mb4.6, Ms4.7, Msz4.4*

ISC 30 10:49:26.6±0.3, 5165N±009×17753W±005, h15km, h15km±1.6km:pP-P, n88, σ1s02/87, mb4.3/42, MS3.3/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
AMKA	**Amchitka**	**2.00**	**263**	*e*Pn		**Pn**	**10 50 00.9**	**+1.0**
AMKA				*e*Pg		**Pg**	**10 50 07.0**	**+2.1**
AMKA				*e*Sn		**Sn**	**10 50 24.7**	**+0.1**
AMKA				*e*Sg		**Sg**	**10 50 32.2**	**+1.3**
ATKA	**Atka Island**	**2.14**	**74**	P		**Pn**	**10 50 02.9**	**+1.1**
ATKA				S		**Sn**	**10 50 30.9**	**+2.9**
SPIA	**Saint Paul Isl**	**6.98**	**35**	P		**Pn**	**10 51 12.3**	**+4.1**
AKLV	**Akutan Long Va**	**7.44**	**66**	P		**Pn**	**10 51 16.1**	**+1.5**
KDAK	**Kodiak Island**	**15.61**	**57**	Pn		**Pn**	**10 53 04.0**	**-2.0**
	2.1nm,0.3s,baz=257,slow=6.9,SNR=32							
KDAK	**Kodiak Island**	**15.61**	**57**	*e*Pn		**Pn**	**10 53 05.7**	**-0.3**
	26nm,0.4s							
KDAK				*e*pPn			10 53 09.1	
TTA	**Tatalina**	**16.11**	**37**	*e*Pn		**Pn**	**10 53 16.4**	**+3.9**
	10.0nm,1.2s							
IMA2	**Indian Mountai**	**18.80**	**31**	*e*P		**Pn**	**10 53 48.0**	**+2.0**
MCK	**McKinley**	**19.28**	**40**	*e*P		**Pn**	**10 53 50.7**	**-1.1**
	3.5nm,0.6s							
MCK				*e*			10 53 55.6	
COLA	**College**	**20.21**	**38**	*e*P	P		**10 54 02.0**	**+1.1**
	3.2nm,0.9s							
DAWY	**Dawson**	**23.36**	**43**	*e*P	P		**10 54 34.3**	**-0.3**
INK	**Inuvik**	**26.78**	**35**	P	P		**10 55 05.5**	**-0.4**
	1.3nm,0.3s,mb3.9,baz=236,slow=15,SNR=14							
INK				PcP	PcP		10 58 26.6	-2.1
	1.3nm,0.5s,baz=85,slow=13,SNR=8.8							
INK				LR	LR		11 06 50.2	
	comp=Z,72nm,20.4s,MS3.2,baz=182,slow=39							
INK	**Inuvik**	**26.78**	**35**	*e*P	P		**10 55 05.5**	**-0.4**
	1.2nm,0.4s,mb3.8							
ASAJ	**Asahikawa**	**27.50**	**270**	P	P		**10 55 10.1**	**-2.3**
	2.0nm,0.8s,mb3.8,baz=62,slow=15,SNR=3.4							
ASAJ				PcP	PcP		10 58 26.9	-3.5
	2.7nm,0.7s,baz=229,slow=18,SNR=4.1							
DLBC	**Dease Lake**	**27.55**	**57**	LR	LR		11 04 41.7	
	comp=Z,108nm,21.3s,MS3.4,baz=344,slow=33							
YKA	**Yellowknife Ar**	**34.47**	**47**	P	P		**10 56 12.6**	**-1.2**
	1.8nm,0.6s,mb4.2,baz=280,slow=8.5,SNR=19							
YKA				PcP	PcP		10 58 47.4	-1.4
	0.7nm,0.5s,baz=291,slow=3.4,SNR=8.5							
YKA	**Yellowknife Ar**	**34.47**	**47**	P	P		**10 56 12.6**	**-1.2**
YKA				PcP	PcP		10 58 47.4	-1.4
GNW	**Green Mountain**	**34.98**	**75**	*e*P	P		**10 56 18.9**	**+0.6**
MDJ	**Mudanjiang**	**35.31**	**280**	P	P		**10 56 23.8**	**+2.8**
MDJ				AMB	AMB			
	comp=Z,3.0nm,0.7s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,62nm,4.7s							
LON	**Longmire**	**35.98**	**75**	*e*P	P		**10 56 27.8**	**+1.0**
WTV	**Waterville**	**36.64**	**73**	P	P		**10 56 32.7**	**+0.3**
VFP	**Flag Point**	**36.90**	**77**	P	P		**10 56 35.5**	**+0.8**
MDW	**Midway**	**37.28**	**74**	P	P		**10 56 38.6**	**+0.8**
OD2	**Odessa Site #2**	**37.52**	**73**	P	P		**10 56 40.0**	**0.0**
EDM	**Edmonton**	**37.98**	**62**	*e*P	P		**10 56 43.0**	**-0.8**
YBH	**Yreka Blue Hor**	**38.06**	**83**	P	P		**10 56 45.0**	**+0.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=342,slow=5.6,SNR=7.1							
MOD	**Modoc**	**39.45**	**81**	*e*P	P		**10 56 56.3**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.0							
WALA	**Waterton Lakes**	**39.53**	**68**	*e*P	P		**10 56 56.8**	**-0.1**
	comp=Z,8.0nm,0.9s,mb4.5							
BSMT	**Bassoo Peak**	**39.61**	**70**	P	P		**10 56 57.8**	**+0.3**
BMO	**Blue Mountains**	**39.66**	**75**	*e*P	P		**10 56 57.9**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.0							
WVOR	**Wild Horse Val**	**40.17**	**79**	*e*P	P		**10 57 02.5**	**+0.4**
	comp=Z,8.2nm

ARCES	**ARCESS Array B**	**57.95**	**351**	P		**P**		**10 59 18.0**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.3,baz=22,slow=7.0,SNR=14								
WMQ	**Urumqi**	**59.86**	**303**	*e*P		**P**		**10 59 38.5**	**+6.9**
WMQ				AMB		AMB			
	comp=Z,6.0nm,0.8s,mb4.7								
MIAR	**Mount Ida**	**60.28**	**71**	*e*P		**P**		**10 59 33.0**	**-1.5**
	comp=Z,2.7nm,0.5s,mb4.5								
MIAR				*e*				10 59 40.3	
BVAR	**Borovoye Array**	**61.19**	**320**	P		**P**		**10 59 40.0**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.2,baz=50,slow=6.2,SNR=4.9								
BVAR				PcP		PcP		11 00 21.8	-1.5
	comp=Z,0.8nm,0.5s,baz=354,slow=3.0,SNR=4.1								
KMI	**Kunming**	**64.47**	**279**	P		**P**		**11 00 05.5**	**+3.0**
KMI				AMB		AMB			
	comp=Z,5.0nm,1.6s,mb4.3								
FINES	**FINESS Array B**	**65.69**	**348**	P		**P**		**11 00 09.2**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.7,baz=27,slow=9.4,SNR=3.7								
NOA	**NORSAR Array B**	**67.44**	**355**	P		**P**		**11 00 20.4**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=7.4,slow=6.7,SNR=2.6								
GUN	**Gumba**	**72.49**	**293**	*e*P		**P**		**11 00 52.9**	**+0.3**
	comp=Z,28nm,0.4s,mb5.6								
JIRN	**Jiri**	**72.50**	**292**	*e*P		**P**		**11 00 52.8**	**+0.1**
	comp=Z,4.3nm,0.2s,mb5.0								
KKN	**Kakani**	**72.92**	**293**	*e*P		**P**		**11 00 54.8**	**-0.4**
	comp=Z,4.9nm,0.4s,mb4.8								
PKI	**Pulchoki**	**73.02**	**293**	*e*P		**P**		**11 00 55.4**	**-0.4**
GKN	**Gorkha**	**73.13**	**294**	*e*P		**P**		**11 00 56.4**	**0.0**
	comp=Z,3.9nm,0.3s,mb4.8								
DMN	**Daman**	**73.16**	**293**	*e*P		**P**		**11 00 55.7**	**-0.9**
WRA	**Warramunga Arr**	**82.76**	**225**	P		**P**		**11 01 47.0**	**-3.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=32,slow=5.7,SNR=7.9								
ASAR	**Alice Springs**	**86.23**	**224**	P		**P**		**11 02 05.0**	**-2.6**
	comp=Z,0.4nm,0.5s,mb3.9,baz=24,slow=5.6,SNR=14								
TORD	**Torodi Ar. Bea**	**115.47**	**1**	PKP		PKPdf		11 08 06.0	-1.9
	comp=Z,0.4nm,0.3s,baz=350,slow=2.2,SNR=12								
TSUM	**Tsumeb**	**145.50**	**334**	PKPbc		PKPbc		11 09 03.3	-0.9
	comp=Z,2.1nm,0.6s,baz=4.1,slow=7.4,SNR=9.7								
MAW	**Mawson**	**147.19**	**218**	PKPbc		PKPbc		11 09 05.7	-3.4
	comp=Z,1.9nm,0.5s,baz=201,slow=0.1,SNR=8.9								
LBTB	**Lobatse**	**148.08**	**318**	PKPbc		PKPbc		11 09 10.6	-1.1
	comp=Z,7.6nm,0.6s,baz=45,slow=1.0,SNR=24								
BOSA	**Boshof**	**151.36**	**315**	PKPbc		PKPbc		11 09 18.0	-1.7
	comp=Z,3.2nm,0.4s,baz=24,slow=1.7,SNR=18								

IDC 30 11:15:08.9±19.0, 2317S×17923E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/12, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=364.4km s-min=60.9km az=64.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
URZ	**Urewera**	**15.15**	**186**	P		Pn	11	18 44.9	+0.7
	0.6nm,0.3s,baz=76,slow=18,SNR=5.8								
STKA	**Stephens Creek**	**34.35**	**247**	P		P	11	21 55.8	-1.5
	1.2nm,0.7s,baz=94,slow=12,SNR=3.3								
ASAR	**Alice Springs**	**41.46**	**260**	P		P	11	22 57.5	+0.2
	0.9nm,0.4s,baz=88,slow=7.2,SNR=29								
WRA	**Warramunga Arr**	**41.75**	**266**	P		P	11	23 01.0	+1.3
	1.4nm,0.3s,baz=101,slow=8.1,SNR=110								

KRSC 30 11:31:52, 5549N×16046E, h196km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
TUMR	**Tumrok**	**0.27**	**221**	*i* P		Pn	11	32 20.8	+2.9
TUMR				*i* S		Sn	11	32 40.7	+2.7
KMNR	**Kamenistaya**	**0.29**	**335**	*e*P		Pn	11	32 20.1	+2.1
KMNR				*i* S		Sn	11	32 40.4	+2.3
KPT	**Kopyto**	**0.50**	**344**	*i* P		Pn	11	32 20.2	+1.6
ZLN	**Zelenaya**	**0.56**	**20**	*i* P		Pn	11	32 21.5	+2.6
CIRR	**Tsirk**	**0.65**	**14**	*i* P		Pn	11	32 21.7	+2.5
KOZ	**Kozyrevsk**	**0.66**	**330**	*i* P		Pn	11	32 20.7	+1.4
KOZ				*i* S		Sn	11	32 41.0	+0.6
KRSR	**Krestovskiy**	**0.73**	**5**	*e*P		Pn	11	32 21.2	+1.5
KRSR				*i* S		Sn	11	32 42.5	+1.4
KLY	**Klyuchi**	**0.83**	**7**	*i* P		Pn	11	32 22.2	+2.0
KLY				*i* S		Sn	11	32 43.7	+1.6
SRDR	**Sredinnyy**	**0.93**	**334**	*e*P		Pn	11	32 22.0	+1.2
SRDR				*i* S		Sn	11	32 43.2	0.0
BDR	**Baidarnaya**	**1.16**	**21**	*e*P		Pn	11	32 24.9	+2.4
BDR				*i* S		Sn	11	32 47.8	+1.7
MKZ	**Mys Kozlova**	**1.19**	**141**	*e*P		Pn	11	32 25.0	+2.3
MKZ				*i* S		Sn	11	32 48.6	+2.1
SMKR	**Semkarok**	**1.23**	**27**	*e*P		Pn	11	32 25.0	+2.0
SMKR				*i* S		Sn	11	32 48.7	+1.6
SRKR	**Sorokina**	**1.23**	**18**	*e*P		Pn	11	32 25.1	+2.1
SRKR				*i* S		Sn	11	32 48.9	+1.8
KBTR	**Krutoberegovo**	**1.51**	**61**	*e*P		Pn	11	32 27.7	+2.3
KBTR				*i* S		Sn	11	32 52.3	+0.9
KII	**Karymskiy**	**1.57**	**202**	*e*P		Pn	11	32 29.2	+3.2
GNL	**Ganaly**	**2.32**	**220**	*e*P		Pn	11	32 37.1	+3.5
SPN	**Mys Shipunski**	**2.41**	**186**	*e*P		Pn	11	32 36.3	+1.7
SPN				*i* S		Sn	11	33 07.8	0.0
NLC	**Nalytchevo**	**2.41**	**196**	*e*P		Pn	11	32 37.2	+2.6
NLC				*i* S		Sn	11	33 09.3	+1.4
AVH	**Avacha**	**2.45**	**205**	*e*P		Pn	11	32 37.6	+2.6
AVH				*i* S		Sn	11	33 10.1	+1.6
PET	**Petropavlovsk**	**2.69**	**204**	*e*P		Pn	11	32 40.9	+3.1
PET				*i* S		Sn	11	33 15.4	+1.9
RUS	**Russkaya**	**3.27**	**201**	*e*P		Pn	11	32 46.9	+2.3
RUS				*i* S		Sn	11	33 25.9	+0.1

*IDC **30** 11:36:09.5±0.8, 1986S×17455W, h0km, mb4.0/7, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML3.2/3, MS2.9/3, Ms1 2.9/3, ms1mx2.7/27, Error ellipse: s-maj=30.5km s-min=18.1km az=124.0*

*ISCJB **30** 11:36:11.7±0.7, 1995S±01×1745W±01, h33km, mb4.0/8, Error ellipse: s-maj=20.8km s-min=12.3km az=62.6*

*NEIC **30** 11:36:12.7±0.7, 1987S×17451W, h25km, mb4.5/1, Error ellipse: s-maj=21.5km s-min=12.6km az=121.0*

ISC 30 11:36:14.0±0.7, 1995±01×1745W±01, h35km, n20, σ1§32/13, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
AFI	**Afiamalu**	**6.50**	**24**	Pn		**Pn**	**11**	**37 45.5**	**-1.7**
	3.1nm,0.3s,baz=164,slow=18,SNR=3.1								
AFI				Sn		**Sn**	**11**	**38 51.6**	**-8.5**
	9.5nm,0.3s,baz=71,slow=19,SNR=4.2								
AFI				LR		LR	11	39 45.7	
	comp=Z,62nm,19.8s,baz=268,slow=33								
RAR	**Rarotonga**	**13.83**	**98**	LR		LR	11	43 12.8	
	comp=Z,55nm,20.8s,baz=322,slow=30								
DZM	**Mont Dzumac**	**17.95**	**260**	P		**Pn**	**11**	**40 19.7**	**-1.1**
	0.1nm,0.3s,baz=84,slow=19,SNR=3.1								
DZM				LR		LR	11	45 52.3	
	comp=Z,81nm,19.9s,baz=42,slow=33								
URZ	**Urewera**	**19.69**	**200**	P		**Pn**	**11**	**40 39.4**	**-2.3**
	0.5nm,0.3s,baz=215,slow=4.0,SNR=4.8								
PPT	**Papeete**	**23.68**	**88**	*e*LR		LR	11	46 43.6	
	89nm,24.5s								
RPZ	**Rata Peaks**	**26.65**	**204**	P		**P**	**11**	**41 51.7**	**+2.3**
	7.3nm,0.6s,mb4.4,baz=301,slow=5.7,SNR=6.8								
RPZ	**Rata Peaks**	**26.65**	**204**	P		**P**	**11**	**41 51.7**	**+2.3**
RKT	**Rikitea**	**36.81**	**102**	*e*LR		LR	11	52 47.7	
	44nm,23.0s								
STKA	**Stephens Creek**	**41.03**	**244**	P		**P**	**11**	**43 53.9**	**+0.1**
	0.9nm,0.4s,mb3.7,baz=98,slow=12,SNR=4.6								
ASAR	**Alice Springs**	**47.88**	**256**	P		**P**	**11**	**44 48.3**	**-0.2**
	0.8nm,0.4s,mb4.1,baz=91,slow=8.0,SNR=21								
ASAR				PcP		PcP	11	46 18.6	+1.8
	1.0nm,0.7s,baz=103,slow=3.9,SNR=8.1								
WRA	**Warramunga Arr**	**47.97**	**261**	P		**P**	**11**	**44 49.8**	**+0.6**
	0.9nm,0.4s,mb4.2,baz=98,slow=7.6,SNR=39								
VNDA	**Vanda**	**58.81**	**186**	P		**P**	**11**	**46 09.1**	**+0.3**
	0.7nm,0.8s,mb3.8,baz=11,slow=5.8,SNR=6.0								
QSPA	**South Pole Qui**	**70.16**	**180**	*e*P		**P**	**11**	**47 21.7**	**-1.3**
	3.4nm,0.8s,mb4.3								
MJAR	**Matsushiro Arr**	**71.76**	**321**	P		**P**	**11**	**47 34.0**	**+1.3**
	1.1nm,0.8s,mb3.9,baz=150,slow=5.9,SNR=6.1								
NVAR	**Mina Array Bea**	**78.35**	**42**	P		**P**	**11**	**48 12.3**	**+1.6**
	0.9nm,0.8s,mb3.8,baz=230,slow=11,SNR=7.9								
ARCES	**ARCESS Array B**	**128.90**	**351**	PKP		PKPdf	11	55 17.1	-0.7
	3.0nm,0.8s,baz=9.1,slow=1.4,SNR=14								
FINES	**FINESS Array B**	**136.08**	**346**	PKP		PKPdf	11	55 32.1	+0.7
	0.7nm,0.5s,baz=33,slow=3.0,SNR=5.8								
AKASG	**Malin Array Be**	**144.02**	**334**	PKP		PKPdf	11	55 44.0	-1.8
	1.5nm,0.6s,baz=43,slow=5.7,SNR=5.9								
CLL	**Collm**	**148.12**	**351**	*e*PKPbc		PKPbc	11	55 58.0	+2.0
	comp=Z,7.0nm,1.1s								
GERES	**GERESS Array B**	**150.39**	**349**	PKPbc		PKPbc	11	56 03.3	+1.6
	comp=Z,1.4nm,0.7s,baz=48,slow=2.0,SNR=10								

*NEIC **30** 11:44:34.7, 3296S×7226W, h26km, ML3.1(GUC), After GUC.*

GUC 30 11:44:34.7±0.8, 3296S×7226W, h26km±7km, MD3.8, ML3.1, 8C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
IHA	**Instituto Hidr**	**0.53**	**97**	↓*i* P		Pb	11	44 45.0	-0.4
IHA				*i* S		Sb	11	44 52.5	-0.2
LCCH	**Las Cruces**	**0.77**	**131**	↑*i* P		Pb	11	44 49.0	-0.5
LCCH				*i* S		Sb	11	44 59.5	-0.1
PACH	**Papudo**	**0.82**	**59**	*e*P		Pb	11	44 49.9	-0.3
PACH				*i* S		Sb	11	45 00.9	0.0
ROCH	**El Roble**	**1.05**	**91**	↑*i* P		Pn	11	44 53.7	-0.1
ROCH				*i* S		Sb	11	45 07.6	0.0
LNV	**Longovilo**	**1.22**	**144**	↑*i* P		Pn	11	44 55.8	-0.3
LNV				*i* S		Sn	11	45 12.2	+0.5
CHNG	**Los Chungos**	**1.26**	**31**	↑*i* P		Pn	11	44 56.5	-0.1
CHNG				*i* S		Sn	11	45 12.9	+0.2
TACH	**Talagante**	**1.31**	**122**	↓*i* P		Pn	11	44 57.5	+0.2
TACH				*i* S		Sn	11	45 14.2	+0.4
PTCH	**Petorca**	**1.32**	**59**	↓*i* P		Pn	11	44 57.7	+0.2
PTCH				*i* S		Sn	11	45 15.7	+1.3
PTCH					AML	AML	11	45 17.7	
	comp=N,1μm,0.3s								
PTCH	**Petorca**	**1.32**	**59**	↓*i* P		Pn	11	44 57.7	+0.2
PTCH				*i* S		Sn	11	45 15.7	+1.3
RCDM	**Rinconada Maip**	**1.33**	**114**	*e*P		Pn	11	44 57.7	+0.1
RCDM				*i* S		Sn	11	45 14.6	+0.2
RCDM					AML	AML	11	45 18.9	
	comp=N,308nm,0.2s								
RCDM	**Rinconada Maip**	**1.33**	**114**	*e*P		Pn	11	44 57.7	+0.1
RCDM				*i* S		Sn	11	45 14.6	+0.2
PEL	**Peldehue**	**1.34**	**98**	*e*P		Pn	11	44 58.2	+0.5
PEL				*i* S		Sn	11	45 16.2	+1.5
SAN	**Santiago**	**1.43**	**110**	*i* S		Sn	11	45 18.5	+1.6
SAN					AML	AML	11	45 24.9	
	comp=N,490nm,0.4s								
JACH	**Jahuel**	**1.44**	**79**	*e*P		Pn	11	44 59.5	+0.4
JACH				*i* S		Sn	11	45 18.1	+1.1
ANTU	**Antumapu**	**1.49**	**114**	*i* P		Pn	11	45 00.7	+0.9
ANTU				*i* S		Sn	11	45 19.9	+1.4
ANTU					AML	AML	11	45 25.5	
	comp=E,320nm,1.5s								
ANTU	**Antumapu**	**1.49**	**114**	*i* P		Pn	11	45 00.7	+0.9
ANTU				*i* S		Sn	11	45 19.9	+1.4
CLCH	**Cerro Calan**	**1.51**	**107**	↓*i* P		Pn	11	45 01.0	+0.9
CLCH				*i* S		Sn	11	45 20.4	+1.5
CLCH					AML	AML	11	45 26.4	
	comp=N,650nm,0.4s								
CLCH					AML	AML	11	45 27.1	
	comp=N,718nm,0.6s								
PCH	**Pirque**	**1.61**	**115**	↑*i* P		Pn	11	45 02.6	+1.3
CHCH	**Chadas Angostu**	**1.66**	**126**	*e*P		Pn	11	45 02.9	+0.8
CHCH				*i* S		Sn	11	45 24.8	+2.2
FCH	**Farellones**	**1.69**	**103**	↑*i* P		Pn	11	45 04.0	+1.4
FCH				*i* S		Sn	11	45 26.5	+3.0
FCH					AML	AML	11	45 33.0	
	comp=N,290nm,0.6s								
CACH	**El Canelo**	**1.80**	**130**	↑*i* P		Pn	11	45 05.5	+1.4
CACH				*i* S		Sn	11	45 30.6	+4.4
LMEL	**Las Melosas**	**1.94**	**118**	*e*P		Pn	11	45 07.8	+1.9
LMEL					AML	AML	11	45 39.1	
	comp=N,416nm,0.3s								
CICH	**Cipreses**	**2.05**	**132**	↑*i* P		Pn	11	45 08.7	+1.3

IDC 30 11:58:02.2±2.6, 2237S×6887W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=80.3km s-min=52.4km az=57.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
LPAZ	**La Paz**	**6.09**	**7**	Pn		Pn	11	59 34.4	+1.0
	1.1nm,0.3s,baz=182,slow=5.7,SNR=24								
TORD	**Torodi Ar. Bea**	**77.61**	**70**	P		P	12	10 00.4	+0.2
	1.7nm,0.5s,baz=248,slow=4.9,SNR=9.0								
YKA	**Yellowknife Ar**	**92.01**	**341**	P		P	12	11 11.5	-1.4
	0.5nm,0.7s,baz=134,slow=4.8,SNR=5.1								
MKAR	**Makanchi Array**	**146.31**	**37**	PKPbc		PKPbc	12	17 45.3	+0.6
	0.5nm,0.4s,baz=324,slow=2.9,SNR=8.5								

*ISCJB **30** 12:36:32.3±3.4, 222S±02×1794W±02, h540km±42km, mb3.6/12, Error ellipse: s-maj=24.5km s-min=20.9km az=66.5*

*NEIC **30** 12:36:35.3±3.7, 2215S×17947W, h571km±42km, mb4.1/5, Error ellipse: s-maj=22.0km s-min=20.8km az=59.0*

*IDC **30** 12:36:40.3±5.4, 2209S×17972W, h622km±62km, mb2.9/7, mb1 3.1/7, mb1mx3.1/12, mbtmp3.9/7, Error ellipse: s-maj=30.6km s-min=25.4km az=68.0*

ISC 30 12:36:31.5±3.4, 222S±01×1793W±02, h519km±41km, n28, σ0§86/21, mb3.6/12, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
URZ	**Urewera**	**16.34**	**190**	P		**P**	**12**	**39 54.6**	**-0.7**
	3.2nm,0.3s,baz=298,slow=2.5,SNR=22								
URZ				S		**S**	**12**	**42 32.1**	**-10**
	0.5nm,0.3s,baz=90,slow=20,SNR=6.0								
BKZ	**Black Stump Fm**	**17.33**	**191**	PN		**P**	**12**	**40 03.9**	**-0.8**
QRZ	**Quartz Range**	**19.85**	**198**	PN		**P**	**12**	**40 29.0**	**+1.3**
NNZ	**Nelson**	**19.98**	**196**	PN		**P**	**12**	**40 29.1**	**+0.2**
THZ	**Tophouse**	**20.62**	**197**	PN		**P**	**12**	**40 34.5**	**-0.1**
KHZ	**Kahutara**	**21.07**	**195**	PN		**P**	**12**	**40 38.5**	**-0.3**
LTZ	**Lake Taylor**	**21.74**	**197**	PN		**P**	**12**	**40 44.8**	**0.0**
CTAO	**Charters Tower**	**32.13**	**267**	*e*P		**P**	**12**	**42 16.6**	**+0.7**
	4.8nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**35.97**	**246**	P		**P**	**12**	**42 48.3**	**+0.1**
	1.5nm,0.6s,mb3.7,baz=81,slow=5.2,SNR=3.1								
STKA	**Stephens Creek**	**35.97**	**246**	P		**P**	**12**	**42 48.7**	**+0.5**
ASAR	**Alice Springs**	**42.96**	**259**	P		**P**	**12**	**43 44.5**	**+0.1**
	1.3nm,0.5s,mb3.8,baz=94,slow=8.0,SNR=16								
ASAR				PcP		PcP	12	45 22.1	-1.1
	0.1nm,0.3s,baz=108,slow=3.8,SNR=4.4								
WRA	**Warramunga Arr**	**43.17**	**264**	P		**P**	**12**	**43 45.5**	**-0.6**
	1.0nm,0.3s,mb3.8,baz=96,slow=7.7,SNR=86								
VNDA	**Vanda**	**56.16**	**185**	P		**P**	**12**	**45 22.6**	**+0.9**
	0.2nm,0.4s,mb2.7,baz=357,slow=9.7,SNR=3.8								
QSPA	**South Pole Qui**	**67.92**	**180**	*e*P		**P**	**12**	**46 38.2**	**0.0**
	1.9nm,0.5s,mb3.9								
MAW	**Mawson**	**79.60**	**200**	P		**P**	**12**	**47 43.4**	**-1.1**
	2.2nm,0.6s,mb3.4,baz=131,slow=11,SNR=3.2								
CMB	**Columbia Colle**	**81.51**	**43**	*e*P		**P**	**12**	**47 55.1**	**+0.7**
	1.7nm,0.9s,mb3.5								
NVAR	**Mina Array Bea**	**83.07**	**44**	P		**P**	**12**	**48 03.6**	**+1.2**
	0.4nm,0.6s,mb3.1,baz=232,slow=9.2,SNR=4.8								
PMR	**Palmer**	**86.91**	**14**	*e*P		**P**	**12**	**48 20.0**	**-1.0**
	4.4nm,0.8s,mb4.1								
PDAR	**Pinedale Array**	**91.01**	**44**	P		**P**	**12**	**48 40.9**	**+0.8**
	0.3nm,0.9s,mb3.2,baz=217,slow=4.3,SNR=2.5								
WALA	**Waterton Lakes**	**91.64**	**37**	P		**P**	**12**	**48 40.5**	**-2.5**
	2.7nm,0.8s,mb4.3								
BVAR	**Borovoye Array**	**119.53**	**319**	PKP		PKPdf	12	54 19.6	-2.4
	0.7nm,0.3s,baz=118,slow=2.8,SNR=4.2								
ARCES	**ARCESS Array B**	**130.31**	**349**	PKP		PKPdf	12	54 39.8	-2.8
	3.4nm,1.1s,baz=52,slow=1.6,SNR=6.8								
FINES	**FINESS Array B**	**136.99**	**342**	PKP		PKPdf	12	54 52.9	-2.2
	1.3nm,0.9s,baz=57,slow=5.1,SNR=3.7								
FINES	**FINESS Array B**	**136.99**	**342**	PKP		PKPdf	12	54 52.9	-2.2
AKASG	**Malin Array Be**	**143.82**	**329**	PKP		PKPdf	12	55 04.0	-3.4
	0.7nm,0.4s,baz=48,slow=4.5,SNR=4.7								
CLL	**Collm**	**149.35**	**345**	↓*i* PKPbc		PKPbc	12	55 20.6	-1.1
	comp=Z,6.0nm,0.7s								
CLL	**Collm**	**149.35**	**345**	*e*P		PKPdf	12	55 20.0	+3.4
GERES	**GERESS Array B**	**151.41**	**342**	PKPbc		PKPbc	12	55 24.7	-1.7
	comp=Z,0.4nm,0.4s,baz=325,slow=1.6,SNR=4.1								

NEIC 30 12:40:00.1±0.5, 3706N×10497W, h5km, MN2.8, Error ellipse: s-maj=7.8km s-min=6.4km az=98.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
SDCO	**Great Sand Dun**	**0.80**	**328**	*e*Pg		Pg	12	40 12.9	-2.6
SDCO				*e*Sg		Sg	12	40 23.8	-2.1
ANMO	**Albuquerque**	**2.43**	**210**	*e*Pn		Pn	12	40 39.3	-1.1
ANMO				*e*Sn		Sn	12	41 10.8	+0.3
SMCO	**Snowmass**	**2.64**	**324**	*e*Pn		Pn	12	40 43.6	+0.3
SMCO				*e*Sn		Sn	12	41 20.2	+4.5
ISCO	**Idaho Springs**	**2.78**	**350**	*e*Pn		Pn	12	40 46.2	+0.9
ISCO				*e*Sn		Sn	12	41 22.7	+3.4
MVCO	**Mesa Verde**	**2.82**	**274**	*e*Pn		Pn	12	40 46.8	+1.0
MVCO				*e*Sn		Sn	12	41 21.0	+0.7
MVCO				*e*Sg		Sg	12	41 27.9	-2.9
PV01	**Paradox Valley**	**3.05**	**292**	*e*Pn		Pn	12	40 49.7	+0.7
PV01				*e*Sg		Sg	12	41 35.2	-3.0
LPM	**Los Pinos Moun**	**3.06**	**207**	*e*Pn		Pn	12	40 49.2	+0.1
LPM				*e*Sn		Sn	12	41 29.8	+3.7
LAZ	**Ladron**	**3.19**	**214**	*e*Pn		Pn	12	40 49.0	-1.9
LAZ				*e*Sn		Sn	12	41 33.9	+4.7
BNM	**Barren Site**	**3.20**	**205**	*e*Pn		Pn	12	40 52.4	+1.3
BNM				*e*Sn		Sn	12	41 35.0	+5.3
LENM	**Lemitar**	**3.32**	**210**	*e*Pn		Pn	12	40 53.5	+0.8
PV10	**Paradox Valley**	**3.48**	**293**	*e*Pn		Pn	12	40 56.9	+2.0
PV10				*e*Sg		Sg	12	41 46.9	-5.1
PHWY	**Pilot Hill**	**4.25**	**355**	*e*Pn		Pn	12	41 05.4	-0.1
CBKS	**Cedar Bluff**	**4.49**	**65**	*e*Pn		Pn	12	41 08.7	-0.1
CBKS				*e*Pg		Pg	12	41 19.1	-7.0
CBKS				*e*Sg		Sg	12	42 13.9	-11
SRU	**San Rafael**	**4.83**	**297**	*e*Pn		Pn	12	41 14.5	+1.0
SRU				*e*Pg		Pg	12	41 27.6	-5.1
SRU				*e*Sg		Sg	12	42 28.8	-6.6
RWWY	**Rawlins**	**4.94**	**340**	Pn		Pn	12	41 16.3	+1.4
RWWY				*e*Sg		Sg	12	42 34.3	-4.4
MNTX	**Cornudas Mount**	**5.36**	**184**	*e*Pn		Pn	12	41 21.5	+0.8
MNTX				*e*Pg		Pg	12	41 33.4	-9.4
MNTX				*e*Sg		Sg	12	42 40.0	-12
TMUT	**Trail Mountain**	**5.40**	**296**	Pn		Pn	12	41 25.6	+4.4
TMUT				*e*Sg		Sg	12	42 46.4	-7.0
WUAZ	**Wupatki**	**5.40**	**255**	*e*Pn		Pn	12	41 21.7	+0.5
	2.9nm,0.6s								
WUAZ				*e*Pg		Pg	12	41 35.9	-7.6
WUAZ				*e*Sg		Sg	12	42 43.9	-10
WMOK	**Wichita Mounta**	**5.53**	**113**	*e*Pn		Pn	12	41 22.5	-0.7
	9.5nm,0.8s								
WMOK				*e*Sn		Sn	12	42 25.3	-1.8
WMOK				*e*Sg		Sg	12	42 51.2	-6.6
MSU	**Marysvale**	**5.89**	**286**	*e*Pn		Pn	12	41 30.1	+2.1
MSU				*e*Pg		Pg	12	41 47.5	-5.4
MSU				*e*Sg		Sg	12	43 03.3	-5.9
CCUT	**Cedar City**	**6.71**	**277**	*e*Pg		Pg	12	42 01.4	-7.2
CCUT				*e*Sg		Sg	12	43 27.0	-8.5
TUC	**Tucson**	**6.74**	**227**	*e*Pg		Pg	12	42 03.7	-5.4
ARUT	**Antelope Range**	**6.78**	**279**	*e*Pg		Pg	12	42 07.5	-2.5
KSU1	**Kansas State U**	**6.90**	**70**	*e*Pg		Pg	12	42 02.6	-10
RSSD	**Black Hills**

*IGIL **30** 12:47:24.8, 730N×3460W, h33km, mb5.4*
*CRAAG **30** 12:47:25.1, 733N×3459W, Mb5.6*
ISC 30 12:47:23.4±0.1,**733N**±003×**3465W**±002,**h10**km, (**h22**km±2.1km;**pP-P**),**n1014**,σ0**994**/993,**mb5.5**/328, **MS5.0**/106,**63C-67D**,**Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**13.13**	**185**	*e*Pn	**Pn**	**12 50 28.7**	**-1.2**
RCBR				*e*Sn	**Sn**	**12 52 45.1**	**-11**
BDFB	**Brasilia**	**26.39**	**210**	P	**P**	**12 52 59.8**	**-0.1**
	88nm,1.1s,mb5.2,baz=36,slow=11,SNR=20						
BDFB				LR	LR	13 02 41.7	
	comp=Z,12μm,18.3s,MS5.5,baz=17,slow=35						
BDFB	**Brasilia**	**26.39**	**210**⇑	*e*P	**P**	**12 52 59.7**	**-0.2**
BDFB				pmax	pmax		
	comp=Z,216nm,1.2s						
BDFB				MLR	MLR		
	comp=Z,15μm,20.0s						
BDFB	**Brasilia**	**26.39**	**210**⇑	*e*P	**P**	**12 52 59.7**	**-0.2**
	comp=Z,216nm,1.2s,mb5.6						
BDFB				LR	LR		
	comp=Z,15μm,20.0s,MS5.5						
EGOM	**La Gomera**	**26.48**	**36**	P	**P**	**12 52 59.2**	**-1.6**
	comp=Z,141nm,1.7s,mb5.2						
CCAN	**Las Canadas**	**26.89**	**37**	P	**P**	**12 53 03.8**	**-0.6**
	comp=Z,48nm,1.5s,mb4.8						
EBAJ	**Bajamar**	**27.28**	**37**	P	**P**	**12 53 07.2**	**-0.7**
	comp=Z,101nm,1.8s,mb5.0						
EOSO	**Osorio**	**27.42**	**39**	P	**P**	**12 53 07.5**	**-1.7**
	comp=Z,147nm,1.8s,mb5.2						
CFTV	**Fuerteventura**	**28.59**	**40**	P	**P**	**12 53 17.0**	**-2.7**
	comp=Z,6.1nm,0.8s						
EFAM	**Famara**	**29.43**	**40**	P	**P**	**12 53 26.2**	**-0.9**
	comp=Z,283nm,1.6s,mb5.8						
DBIC	**Dimbokro**	**29.58**	**89**	P	**P**	**12 53 28.0**	**-0.4**
	comp=Z,17nm,0.6s,mb4.9,baz=256,slow=10,SNR=30						
DBIC				LR	LR	13 02 53.1	
	comp=Z,6μm,18.5s,MS5.2,baz=252,slow=32						
DBIC	**Dimbokro**	**29.58**	**89**⇓	*e*P	**P**	**12 53 27.0**	**-1.4**
DBIC				*e*		12 53 35.1	
DBIC				pmax	pmax		
	comp=Z,77nm,0.8s						
DBIC				MLR	MLR		
	comp=Z,6μm,19.0s						
DBIC	**Dimbokro**	**29.58**	**89**⇓	*e*P	**P**	**12 53 27.0**	**-1.4**
	comp=Z,77nm,0.8s,mb5.5						
DBIC				*e*		12 53 35.1	
DBIC				LR	LR		
	comp=Z,6μm,19.0s,MS5.2						
PCRV	**Puerto La Cruz**	**29.76**	**278**	P	**P**	**12 53 28.8**	**-1.3**
	comp=Z,10nm,0.9s,mb4.6,baz=120,slow=14,SNR=4.6						
PCRV				LR	LR	13 05 23.5	
	comp=Z,4μm,20.0s,MS5.0,baz=292,slow=36						
PDA	**Ponta Delgada**	**31.36**	**14**	*i* LR	LR	13 02 00.0	
CMLA	**Cha da Macela**	**31.41**	**14**	*i* LQ		13 00 25.5	
CMLA				eLR	LR	13 01 47.8	
MTP	**Monte Pirata**	**31.93**	**293**⇑	*e*P	**P**	**12 53 48.6**	**-0.6**
MTP				*e*		12 53 56.8	
CPD	**Cerro la Pandu**	**32.25**	**292**⇑	*i*P	**P**	**12 53 51.4**	**-0.6**
CPD				*e*		12 53 59.8	
CPD	**Cerro la Pandu**	**32.25**	**292**⇑	*i*P	**P**	**12 53 51.4**	**-0.6**
CPD				*e*		12 53 59.8	
CPD				*e*		12 54 05.6	
SJG	**San Juan**	**32.48**	**292**⇑	*i*P	**P**	**12 53 53.4**	**-0.6**
SJG				*e*		12 54 01.7	
SJG				pmax	pmax		
	comp=Z,139nm,0.9s						
SJG				MLR	MLR		
	comp=Z,4μm,20.0s						
SJG	**San Juan**	**32.48**	**292**⇑	*i*P	**P**	**12 53 53.4**	**-0.6**
	comp=Z,138nm,0.9s,mb5.8						
SJG				*e*		12 54 01.7	
SJG				*e*		12 54 07.6	
SJG				LR	LR		
	comp=Z,4μm,20.0s,MS5.1						
SAML	**Samuel**	**32.71**	**241**⇑	*i*P	**P**	**12 53 55.9**	**-0.1**
	comp=Z,95nm,1.4s,mb5.5						
SAML				LR	LR		
	comp=Z,6μm,19.0s,MS5.3						
SDV	**Santo Domingo**	**35.65**	**275**⇑	*i*P	**P**	**12 54 21.1**	**-0.4**
	comp=Z,45nm,1.0s,mb5.4						
SDV				LR	LR		
	comp=Z,956nm,20.0s,MS4.6						
TOA0	**Torodi Ar. Sit**	**36.20**	**78**⇓	*e*P	**P**	**12 54 25.1**	**-1.1**
TOA0				*e*		12 54 33.3	
TORD	**Torodi Ar. Bea**	**36.20**	**78**	P	**P**	**12 54 25.5**	**-0.8**
	comp=Z,70nm,0.9s,mb5.6,baz=272,slow=9.4,SNR=158						
TORD				LR	LR	13 07 35.6	
	comp=Z,9μm,20.0s,MS5.6,baz=260,slow=34						
BBSR	**BB Station**	**37.42**	**316**	PFAKE		12 54 50.0	+13
BBSR				LR	LR		
	comp=Z,994nm,19.0s,MS4.6						
MORF	**Marmelete**	**38.06**	**35**	*e*P	**P**	**12 54 40.0**	**-2.0**
MORF				AMb	AMB	12 54 46.8	
	comp=Z,137nm,1.5s,mb5.5						
MORF				*e*S	**S**	**13 00 31.6**	**-3.0**
MORF				*e*S	**S**	**13 00 31.8**	**-2.8**
MORF	**Marmelete**	**38.06**	**35**	*e*P	**P**	**12 54 40.0**	**-2.0**
	comp=Z,137nm,1.5s,mb5.5						
MORF				*e*S	**S**	**13 00 31.8**	**-2.8**
PTEO	**Sao Teotonio**	**38.19**	**34**	*e*P	**P**	**12 54 43.6**	**+0.5**
	comp=Z,125nm,1.8s,mb5.3						
LIS	**Lisbon**	**38.80**	**33**	*e*P	**P**	**12 54 46.1**	**-2.2**
LIS				AMb	AMB	12 55 08.1	
	comp=Z,137nm,1.4s,mb5.5						
LIS				*e*S	**S**	**13 00 43.5**	**-2.2**
LIS				*e*S	**S**	**13 00 43.7**	**-2.1**
LIS	**Lisbon**	**38.80**	**33**	*e*P	**P**	**12 54 46.1**	**-2.2**
LIS				*e*S	**S**	**13 00 43.7**	**-2.1**
EGRO	**El Granado**	**38.88**	**35**	P	**P**	**12 54 47.5**	**-1.4**
	comp=Z,162nm,1.7s,mb5.5						
PBEJ	**Beja**	**39.01**	**34**	*e*P	**P**	**12 54 51.1**	**+1.1**
	comp=Z,88nm,1.8s,mb5.2						
EVO	**Evora**	**39.28**	**34**	*e*P	**P**	**12 54 50.7**	**-1.6**
	comp=Z,250nm,1.6s,mb5.4						
EVO				*e*R			
	comp=Z,4μm,21.5s						
EJIF	**Jimena Fronter**	**39.35**	**38**	P	**P**	**12 54 53.6**	**+0.7**
EJIF				pmax	pmax		
	comp=Z,149nm,1.5s,mb5.5						
EJIF	**Jimena Fronter**	**39.35**	**38**	P	**P**	**12 54 53.6**	**+0.7**
	comp=Z,149nm,1.5s,mb5.5						
ESPR	**Espera**	**39.39**	**37**	P	**P**	**12 54 53.0**	**-0.2**
	comp=Z,157nm,1.8s,mb5.4						
EMIN	**Mina Concepcio**	**39.51**	**36**	P	**P**	**12 54 53.0**	**-1.3**
	comp=Z,100nm,1.7s,mb5.3						
ROSC	**El Rosal**	**39.52**	**269**	P	**P**	**12 54 54.1**	**-0.2**
	comp=Z,57nm,0.7s,mb5.4,baz=270,slow=23,SNR=27						
ROSC				LR	LR	13 10 27.7	
	comp=Z,3μm,18.3s,MS5.2,baz=282,slow=35						
ROSC	**El Rosal**	**39.52**	**269**⇑	*e*P	**P**	**12 54 54.9**	**+0.6**
PESTR	**Estremoz**	**39.75**	**34**	*e*P	**P**	**12 54 57.2**	**+1.0**
	comp=Z,98nm,1.8s,mb5.2						
PESTR				*e*S	**S**	**13 01 03.8**	**+3.7**
PESTR				eLQ		13 04 01.0	
PESTR				eLR	LR	13 05 43.0	
PTOM	**Tomar**	**39.85**	**32**	*e*P	**P**	**12 54 57.8**	**+0.8**
	comp=Z,127nm,1.5s,mb5.4						
EMIJ	**Mijas**	**39.86**	**39**	P	**P**	**12 54 56.6**	**-0.5**
	comp=Z,178nm,1.6s,mb5.5						
EBAD	**Badajoz**	**39.99**	**34**	P	**P**	**12 54 57.7**	**-0.6**
	comp=Z,140nm,1.6s,mb5.4						
CPUP	**Villa Florida**	**40.05**	**213**	P	**P**	**12 54 59.0**	**+0.3**
CPUP	**Villa Florida**	**40.05**	**213**	P	**P**	**12 54 59.5**	**+0.8**
	comp=Z,22nm,1.0s,mb4.8,baz=16,slow=8.4,SNR=23						
CPUP				PcP	PcP	12 57 03.6	+0.1
	comp=Z,6.1nm,0.9s,baz=307,slow=7.6,SNR=3.2						
CPUP				LR	LR	13 11 06.7	
	comp=Z,4μm,18.9s,MS5.3,baz=11,slow=36						
CPUP	**Villa Florida**	**40.05**	**213**	*e*P	**P**	**12 54 59.0**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,192nm,1.4s						
CPUP				MLR	MLR		
	comp=Z,650nm,22.0s						
CPUP	**Villa Florida**	**40.05**	**213**	*e*P	**P**	**12 54 59.0**	**+0.2**
	comp=Z,192nm,1.4s,mb5.6						
CPUP				*e*		12 55 11.9	
CPUP				LR	LR		
	comp=Z,650nm,22.0s,MS4.4						
MASC	**Masc**	**40.39**	**293**	*e*P	**P**	**12 55 02.5**	**+1.0**
PCBR	**Castelo Branco**	**40.51**	**33**	*e*P	**P**	**12 55 02.7**	**+0.2**
	comp=Z,73nm,1.8s,mb5.0						
EALB	**Alboran**	**40.58**	**41**	P	**P**	**12 55 03.4**	**+0.4**
	comp=Z,167nm,1.6s,mb5.4						
LPAZ	**La Paz**	**40.60**	**234**	P	**P**	**12 55 04.2**	**+1.0**
	comp=Z,24nm,0.9s,mb4.8,baz=51,slow=8.9,SNR=52						
LPAZ				LR	LR	13 11 24.6	
	comp=Z,4μm,20.0s,MS5.3,baz=60,slow=36						
LPAZ	**La Paz**	**40.60**	**234**⇑	*i*P	**P**	**12 55 04.0**	**+0.7**
LPAZ				*e*		12 55 13.2	
LPAZ				pmax	pmax		
	comp=Z,99nm,1.3s						
LPAZ				MLR	MLR		
	comp=Z,5μm,20.0s						
LPAZ	**La Paz**	**40.60**	**234**⇑	*i*P	**P**	**12 55 04.0**	**+0.7**
	comp=Z,99nm,1.3s,mb5.3						
LPAZ				*e*		12 55 13.2	
LPAZ				LR	LR		
	comp=Z,5μm,20.0s,MS5.3						
ELOJ	**Sierra Loja**	**40.61**	**39**	P	**P**	**12 55 03.6**	**+0.2**
ELOJ				pmax	pmax		
	comp=Z,105nm,1.5s,mb5.2						
ELOJ	**Sierra Loja**	**40.61**	**39**	P	**P**	**12 55 03.6**	**+0.2**
	comp=Z,105nm,1.5s,mb5.2						
ERON	**Agron**	**40.74**	**39**	P	**P**	**12 55 04.4**	**0.0**
	comp=Z,7.1nm,0.6s,mb4.5						
ELUQ	**Luque**	**40.80**	**38**	P	**P**	**12 55 04.8**	**-0.1**
ELUQ				pmax	pmax		
	comp=Z,79nm,1.4s,mb5.2						
ELUQ	**Luque**	**40.80**	**38**	P	**P**	**12 55 04.8**	**-0.2**
	comp=Z,78nm,1.4s,mb5.2						
MTE	**Manteigas**	**40.87**	**32**	*e*P	**P**	**12 55 06.3**	**+0.8**
	comp=Z,152nm,1.7s,mb5.3						
MTE				*e*S	**S**	**13 01 19.6**	**+2.8**
MTE				eLQ		13 04 14.8	
MTE				eLR	LR	13 06 01.5	
	comp=Z,3μm,19.7s						
PVIS	**Viseu**	**40.92**	**31**	*e*P	**P**	**12 55 06.3**	**+0.4**
	comp=Z,103nm,1.7s,mb5.2						
EADA	**Adamuz**	**41.01**	**37**	P	**P**	**12 55 06.3**	**-0.3**
	comp=Z,60nm,1.8s,mb4.9						
ECOG	**Cogollos-Vega**	**41.06**	**39**	P	**P**	**12 55 07.1**	**+0.1**
ECOG				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.0						
ECOG	**Cogollos-Vega**	**41.06**	**39**	P	**P**	**12 55 07.1**	**0.0**
	comp=Z,45nm,1.2s,mb5.0						
OLHC	**Oulhaca**	**41.24**	**43**	P	**P**	**12 55 10.5**	**+1.9**
EBER	**Berja**	**41.25**	**40**	P	**P**	**12 55 07.9**	**-0.7**
	comp=Z,101nm,1.7s,mb5.2						
ODZI	**Dziouia**	**41.39**	**43**	P	**P**	**12 55 12.0**	**+2.2**
EBAN	**Banos Encina**	**41.48**	**38**	P	**P**	**12 55 10.0**	**-0.5**
EBAN				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.1						
EBAN	**Banos Encina**	**41.48**	**38**	P	**P**	**12 55 10.0**	**-0.5**
	comp=Z,69nm,1.3s,mb5.1						
EQES	**Quesada**	**41.69**	**39**	P	**P**	**12 55 11.1**	**-1.2**
	comp=Z,204nm,1.8s,mb5.5						
RCC	**Rio Carpintero**	**41.70**	**292**	*e*P	**P**	**12 55 12.4**	**+0.1**
	baz=101						
RCC				*e*S	**S**	**13 01 19.6**	**-9.5**
	comp=N,699nm,23.6s						
RCC				*e*			
	comp=E,428nm,20.2s						
ENIJ	**Nijar**	**41.73**	**40**	P	**P**	**12 55 12.3**	**-0.2**
ENIJ				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.5						
ENIJ	**Nijar**	**41.73**	**40**	P	**P**	**12 55 12.3**	**-0.3**
	comp=Z,150nm,1.2s,mb5.5						
EHUE	**Huescar**	**42.00**	**39**	P	**P**	**12 55 14.3**	**-0.4**
EHUE				pmax	pmax		
	comp=Z,118nm,1.6s,mb5.3						
EHUE	**Huescar**	**42.00**	**39**	P	**P**	**12 55 14.3**	**-0.4**
	comp=Z,118nm,1.6s,mb5.3						
USTO	**Oran**	**42.10**	**43**	P	**P**	**12 55 26.0**	**+10**
ODJA	**Bouhanifia**	**42.15**	**44**	P	**P**	**12 55 19.0**	**+3.0**
HLGC	**Holguin**	**42.22**	**293**	*e*P	**P**	**12 55 18.5**	**+2.0**
PBRG	**Braganca**	**42.31**	**31**	*e*P	**P**	**12 55 16.8**	**-0.5**
	comp=Z,130nm,1.6s,mb5.3						
ESDC	**Sonseca Array**	**42.36**	**36**	P	**P**	**12 55 17.6**	**0.0**
	comp=Z,7.7nm,1.1s,baz=233,slow=7.2,SNR=28						
ESDC				PcP	PcP	12 57 10.7	-0.4
	comp=Z,3.8nm,1.1s,baz=235,slow=5.2,SNR=4.4						
ESDC				LR	LR	13 09 46.3	
	comp=Z,2μm,19.8s,MS5.0,baz=235,slow=32						
ESDC	**Sonseca Array**	**42.36**	**36**	P	**P**	**12 55 16.4**	**-1.3**
	comp=Z,50nm,1.7s,mb4.9						
ESLA	**Sonseca Array**	**42.36**	**36**⇑	*e*P	**P**	**12 55 18.4**	**+0.8**
	comp=Z,33nm,1.6s,mb4.7						
ESLA				*e*		12 55 24.6	
ESLA				*e*PcP	PcP	12 57 12.3	+1.3
ESLA				LR	LR		
	comp=Z,14μm,19.0s,MS5.9						
ERUA	**La Rua**	**42.53**	**30**	P	**P**	**12 55 18.8**	**-0.3**
ERUA				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.1						
ERUA	**La Rua**	**42.53**	**30**	P	**P**	**12 55 18.8**	**-0.3**
	comp=Z,55nm,1.4s,mb5.1						
EVIA	**Vianos**	**42.56**	**38**	P	**P**	**12 55 19.5**	**+0.1**
EVIA				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.3						
EVIA	**Vianos**	**42.56**	**38**	P	**P**	**12 55 19.5**	**+0.1**
	comp=Z,46nm,0.8s,mb5.3						
OJGS	**Djebel Guires**	**42.86**	**44**	P	**P**	**12 55 25.0**	**+3.2**
EMUR	**La Murta**	**42.86**	**40**	P	**P**	**12 55 20.2**	**-1.6**
	comp=Z,97nm,2.1s,mb5.2						
LMGC	**Las Mercedes**	**42.92**	**292**	*e*P	**P**	**12 55 22.6**	**+0.4**
OKGL	**Djebel Kef Gue**	**43.08**	**43**	P	**P**	**12 55 27.0**	**+3.5**
ETOB	**Tobarra**	**43.15**	**39**	P	**P**	**12 55 23.3**	**-0.8**
	comp=Z,117nm,1.8s,mb5.3						
ETRT	**Tiaret**	**43.18**	**45**	P	**P**	**12 55 26.0**	**+1.6**
EANR	**'Ain N'Sour**	**43.34**	**44**	P	**P**	**12 55 27.0**	**+1.3**
ARE	**Arequipa**	**43.45**	**237**	*e*P	**P**	**12 55 24.0**	**-2.5**
ECHA	**Ech Chlef**	**43.63**	**44**	P	**P**	**12 55 30.0**	**+2.0**
EBNR	**Beni Rached**	**43.82**	**44**	P	**P**	**12 55 32.0**	**+2.5**
EBEN	**Beniarda**	**44.02**	**40**	P	**P**	**12 55 29.9**	**-1.3**
	comp=Z,173nm,1.9s,mb5.5						
EARI	**Arriondas**	**44.17**	**31**	P	**P**	**12 55 32.0**	**-0.4**
	comp=Z,187nm,1.7s,mb5.5						
ETOR	**Torete**	**44.21**	**36**	P	**P**	**12 55 33.6**	**+0.9**
ETOR				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.7						
ETOR	**Torete**	**44.21**	**36**	P	**P**	**12 55 33.6**	**+1.0**
	comp=Z,28nm,1.7s,mb4.7						
EMHD	**Djebel Mahouad**	**44.75**	**45**	P	**P**	**12 55 39.0**	**+2.0**
LVC	**Limon Verde**	**44.84**	**228**	*e*P	**P**	**12 55 36.1**	**-1.5**
	comp=Z,57nm,1.3s,mb5.2						
LVC				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
EMOS	**Mosqueruela**	**44.86**	**37**	P	**P**	**12 55 38.4**	**+0.6**
	comp=Z,145nm,2.1s,mb5.4						
ELAN	**Lanestosa**	**45.05**	**32**	P	**P**	**12 55 39.8**	**+0.4**
	comp=Z,134nm,1.6s,mb5.5						
ABA	**Alger-Bouzarea**	**45.12**	**44**	P	**P**	**12 55 48.0**	**+8.1**
EIBI	**Ibiza**	**45.20**	**40**	P	**P**	**12 55 40.5**	**-0.1**
	comp=Z,139nm,1.3s,mb5.6						
ESAC	**San Caprasio**	**45.71**	**36**	P	**P**	**12 55 45.2**	**+0.6**
	comp=Z,226nm,1.4s,mb5.9						
ERTA	**Horta de San J**	**45.71**	**37**	P	**P**	**12 55 45.0**	**+0.4**
	comp=Z,172nm,1.5s,mb5.8						
NNA	**Nana**	**46.13**	**246**	P	**P**	**12 55 42.1**	**-5.9**
	comp=Z,51nm,1.3s,mb5.3						
NNA				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
SJPF	**Ste Jean**	**46.17**	**34**	*e*P	**P**	**12 55 47.4**	**-0.8**
	comp=Z,225nm,1.6s,mb5.6						
SJPF	**Ste Jean**	**46.17**	**34**	*e*P	**P**	**12 55 47.4**	**-0.8**
SJPF				pmax	pmax		
	comp=Z,113nm,1.6s,mb5.5						
SJPF	**Ste Jean**	**46.17**	**34**	*e*P	**P**	**12 55 47.4**	**-0.8**
	comp=Z,113nm,1.6s,mb5.5						
EPOB	**Poblet**	**46.40**	**37**	P	**P**	**12 55 49.3**	**-0.7**
	comp=Z,85nm,1.5s,mb5.5						
ETSF	**Etsaut**	**46.40**	**35**	*e*P	**P**	**12 55 49.4**	**-0.6**
	comp=Z,341nm,1.7s,mb5.7						
ETSF	**Etsaut**	**46.40**	**35**	*e*P	**P**	**12 55 49.4**	**-0.6**
ETSF				pmax	pmax		
	comp=Z,171nm,1.7s,mb5.7						
ETSF	**Etsaut**	**46.40**	**35**	*e*P	**P**	**12 55 49.4**	**-0.6**
	comp=Z,171nm,1.7s,mb5.7						
ATE	**Arette**	**46.44**	**34**	*e*P	**P**	**12 55 51.8**	**+1.4**
ETOS	**Mallorca**	**46.56**	**40**	P	**P**	**12 55 51.7**	**+0.4**
	comp=Z,277nm,1.6s,mb5.9						
CMER	**Merouana**	**46.56**	**47**	P	**P**	**12 55 54.0**	**+2.7**
REYF	**Montagne du Re**	**46.60**	**35**	*e*P	**P**	**12 55 53.2**	**+1.6**
EBIE	**Bielsa**	**46.66**	**35**	P	**P**	**12 55 52.8**	**+0.7**
	comp=Z,136nm,1.6s,mb5.6						
VIEF	**Viey**	**46.72**	**35**	*e*P	**P**	**12 55 53.8**	**+1.2**
LABF	**Labassere**	**46.85**	**35**	*e*P	**P**	**12 55 55.3**	**+1.7**
RESF	**Ens**	**46.85**	**35**	*e*P	**P**	**12 55 55.1**	**+1.5**
DFRA	**Djebel Bou Aff**	**46.98**	**46**	P	**P**	**12 55 56.5**	**+2.0**
EPF	**Esparros**	**46.99**	**35**	*e*P	**P**	**12 55 55.7**	**+1.0**
EPF				pmax	pmax		
	comp=Z,272nm,1.6s,mb5.9						
EPF	**Esparros**	**46.99**	**35**	*e*P	**P**	**12 55 55.7**	**+1.0**
	comp=Z,272nm,1.6s,mb5.9						
MELF	**Melles**	**47.14**	**36**	*e*P	**P**	**12 55 57.4**	**+1.6**
CASM	**Ain Smara**	**47.28**	**46**	P	**P**	**12 56 00.0**	**+3.1**
SALF	**Salau**	**47.32**	**36**	*e*P	**P**	**12 55 58.9**	**+1.7**
CKFL	**Kef-Lekhel**	**47.51**	**46**	P	**P**	**12 56 01.0**	**+2.3**
VALF	**Valcebollere**	**47.59**	**37**	*e*P	**P**	**12 56 00.7**	**+1.4**
HRV	**Harvard--Oak R**	**47.79**	**323**⇑	*i*P	**P**	**12 56 01.3**	**+0.4**
HRV				pmax	pmax		
	comp=Z,136nm,1.1s,mb5.9						
HRV	**Harvard--Oak R**	**47.79**	**323**⇑	*i*P	**P**	**12 56 01.2**	**+0.4**
	comp=Z,136nm,1.1s,mb5.9						
HRV				*e*		12 56 14.9	
CARF	**Carcanieres**	**47.83**	**37**	*e*P	**P**	**12 56 02.4**	**+1.2**
ABSA	**Djebel Ababsia**	**48.00**	**47**	P	**P**	**12 56 03.5**	**+1.0**
FILF	**Fillols**	**48.00**	**37**	*e*P	**P**	**12 56 02.8**	**+0.3**
CGMA	**Guelma**	**48.03**	**47**	P	**P**	**12 56 03.0**	**+0.3**
CMAH	**Djebel Manchou**	**48.11**	**46**	P	**P**	**12 56 04.4**	**+1.0**
QUA2	**Belchertown**	**48.13**	**322**⇑	*e*P	**P**	**12 56 03.6**	**+0.1**
	comp=Z,318nm,1.8s,mb6.0						
QUA2				*e*		12 56 17.4	
EJON	**La Jonquera**	**48.13**	**37**	P	**P**	**12 56 02.7**	**-0.8**
	comp=Z,136nm,1.6s,mb5.7						
LRDF	**Laroque-de-Fa**	**48.21**	**37**	*e*P	**P**	**12 56 05.1**	**+0.9**
MTLF	**Montolieu**	**48.27**	**36**	*e*P	**P**	**12 56 04.4**	**-0.2**
	comp=Z,369nm,1.6s,mb5.9						
MTLF	**Montolieu**	**48.27**	**36**	*e*P	**P**	**12 56 04.4**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,185nm,1.6s,mb5.9						
MTLF	**Montolieu**	**48.27**	**36**	*e*P	**P**	**12 56 04.4**	**-0.2**
	comp=Z,184nm,1.6s,mb5.9						
CPNY	**Central Park**	**48.30**	**320**	*e*P	**P**	**12 56 05.1**	**+0.3**
CPNY				*e*		12 56 18.8	
PAL	**Palisades**	**48.38**	**320**⇑	*e*P	**P**	**12 56 05.1**	**-0.4**
PAL				pmax	pmax		
	comp=Z,90nm,1.1s,mb5.7						
PAL	**Palisades**	**48.38**	**320**⇑	*e*P	**P**	**12 56 05.1**	**-0.3**
	comp=Z,90nm,1.1s,mb5.7						
PAL				*e*		12 56 19.4	
LFF	**La Frestale**	**48.43**	**33**	*e*P	**P**	**12 56 05.9**	**+0.1**
	comp=Z,442nm,1.6s,mb5.9						
LFF	**La Frestale**	**48.43**	**33**	*e*P	**P**	**12 56 05.9**	**+0.1**
LFF				pmax	pmax		
	comp=Z,221nm,1.6s,mb5.9						
LFF	**La Frestale**	**48.43**	**33**	*e*P	**P**	**12 56 05.9**	**+0.1**
	comp=Z,221nm,1.6s,mb5.9						
QUIF	**Quistinic**	**48.48**	**28**	*e*P	**P**	**12 56 06.0**	**-0.3**
ROSF	**Rostrenen**	**48.74**	**28**	*e*P	**P**	**12 56 07.7**	**-0.5**
	comp=Z,280nm,1.8s,mb5.7						
ROSF	**Rostrenen**	**48.74**	**28**	*e*P	**P**	**12 56 07.7**	**-0.5**
ROSF				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.7						
ROSF	**Rostrenen**	**48.74**	**28**	*e*P	**P**	**12 56 07.7**	**-0.5**
	comp=Z,140nm,1.8s,mb5.7						
DWPF	**Disney**	**48.74**	**301**	*e*P	**P**	**12 56 08.3**	**+0.1**
	comp=Z,240nm,1.7s,mb6.0						
DWPF				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
TRIS	**Tristan da Cun**	**48.87**	**156**	*e*P	**P**	**12 56 09.5**	**+0.3**
HNH	**Hanover**	**48.93**	**324**	*e*P	**P**	**12 56 10.2**	**+0.5**
	comp=Z,31nm,1.9s,mb5.0						
HNH				*e*		12 56 22.7	
LBNH	**Lisbon**	**49.05**	**325**	*e*P	**P**	**12 56 08.5**	**-2.1**
	comp=Z,192nm,1.7s,mb5.8						
MFF	**Saint Martin d**	**49.05**	**31**	*e*P	**P**	**12 56 10.0**	**-0.6**
	comp=Z,355nm,1.8s,mb5.8						
MFF	**Saint Martin d**	**49.05**	**31**	*e*P	**P**	**12 56 10.0**	**-0.6**
MFF				pmax	pmax		
	comp=Z,177nm,1.8s,mb5.8						
MFF	**Saint Martin d**	**49.05**	**31**	*e*P	**P**	**12 56 10.0**	**-0.6**
	comp=Z,177nm,1.8s,mb5.8						
RJF	**Les Rejaudoux**	**49.09**	**33**	*e*P	**P**	**12 56 10.3**	**-0.6**
	comp=Z,228nm,1.6s,mb5.7						
RJF				*e*R			
	comp=Z,4μm,19.2s						
RJF	**Les Rejaudoux**	**49.09**	**33**	*e*P	**P**	**12 56 10.3**	**-0.6**
RJF				pmax	pmax		
	comp=Z,114nm,1.6s,mb5.7						
RJF				MLR	MLR		
	comp=Z,4μm,19.3s,MS5.4						
RJF	**Les Rejaudoux**	**49.09**	**33**	*e*P	**P**	**12 56 10.3**	**-0.6**
	comp=Z,114nm,1.6s,mb5.7						
RJF				LR	LR		
	comp=Z,4μm,19.3s,MS5.4						
KEST	**K

comp=Z,386nm,1.3s,mb5.9
VIVF Saint-Julien-l 50.59 36 *e*P **P 12 56 22.8 +0.5**
VIVF pmax pmax
comp=Z,193nm,1.3s,mb5.9
VIVF Saint-Julien-l 50.59 36 *e*P **P 12 56 22.8 +0.5**
comp=Z,193nm,1.3s,mb5.9
BGF Bois d'Agland 50.59 33 *e*P **P 12 56 22.4 +0.1**
comp=Z,223nm,1.3s,mb5.6
BGF Bois d'Agland 50.59 33 *e*P **P 12 56 22.4 +0.1**
BGF pmax pmax
comp=Z,111nm,1.3s,mb5.6
BGF Bois d'Agland 50.59 33 *e*P **P 12 56 22.4 +0.1**
comp=Z,111nm,1.3s,mb5.6
SMRF Simiane la Rot 50.62 37 *e*P **P 12 56 23.2 +0.7**
comp=Z,200nm,1.4s,mb5.6
SMRF Simiane la Rot 50.62 37 *e*P **P 12 56 23.2 +0.7**
comp=Z,200nm,1.4s,mb5.9
SSPA Standing Stone 50.79 318 *e*P **P 12 56 24.1 +0.3**
comp=Z,186nm,1.7s,mb5.7
SSPA *e* 12 56 37.8
VSL Villasalto 50.79 44 *e*P **P 12 56 24.5 +0.7**
comp=Z,157nm,1.1s,mb5.8
VSL *e* 12 56 31.7
STOF St-Etienne Org 50.83 37 *e*P **P 12 56 24.8 +0.7**
LMR La Mourre 50.83 38 *e*P **P 12 56 23.7 -0.4**
comp=Z,195nm,1.6s,mb5.5
LMR La Mourre 50.83 38 *e*P **P 12 56 23.7 -0.4**
LMR pmax pmax
comp=Z,97nm,1.6s,mb5.5
LMR La Mourre 50.83 38 *e*P **P 12 56 23.7 -0.4**
comp=Z,97nm,1.6s,mb5.5
TLL Tololo Astrono 50.93 221 *e*P **P 12 56 22.5 -2.4**
AVF Avril sur Loir 51.01 33 *e*P **P 12 56 25.2 -0.3**
comp=Z,280nm,1.8s,mb5.6
AVF Avril sur Loir 51.01 33 *e*P **P 12 56 25.2 -0.3**
AVF pmax pmax
comp=Z,140nm,1.8s,mb5.6
AVF Avril sur Loir 51.01 33 *e*P **P 12 56 25.2 -0.3**
comp=Z,140nm,1.8s,mb5.6
FRF La Foret Royal 51.04 38 *e*P **P 12 56 25.3 -0.4**
comp=Z,229nm,1.6s,mb5.6
FRF La Foret Royal 51.04 38 *e*P **P 12 56 25.3 -0.4**
FRF pmax pmax
comp=Z,115nm,1.6s,mb5.6
FRF La Foret Royal 51.04 38 *e*P **P 12 56 25.3 -0.4**
comp=Z,115nm,1.6s,mb5.6
BLA Blacksburg 51.04 313 *e*P **P 12 56 26.4 +0.7**
BLA pmax pmax
comp=Z,18nm,1.5s,mb4.8
BLA Blacksburg 51.04 313 *e*P **P 12 56 26.4 +0.7**
comp=Z,18nm,1.5s,mb4.8
BLA *e* 12 56 39.7
OG25 Le Caire 51.14 37 *e*P **P 12 56 27.7 +1.3**
MSNY Massena 51.19 324 *e*P **P 12 56 27.4 +0.6**
MSNY *e* 12 56 41.1
SMF Signal de Mont 51.19 33 *e*P **P 12 56 26.9 +0.1**
comp=Z,204nm,1.7s,mb5.5
SMF Signal de Mont 51.19 33 *e*P **P 12 56 26.9 +0.1**
SMF pmax pmax
comp=Z,102nm,1.7s,mb5.5
SMF Signal de Mont 51.19 33 *e*P **P 12 56 26.9 +0.1**
comp=Z,102nm,1.7s,mb5.5
ELN Prospectdale 51.29 313 *e*P **P 12 56 27.6 0.0**
ORIF Oris-en-Rattie 51.33 36 *e*P **P 12 56 28.3 +0.4**
comp=Z,168nm,1.6s,mb5.4
ORIF *e*R
comp=Z,2µm,22.0s
ORIF Oris-en-Rattie 51.33 36 *e*P **P 12 56 28.3 +0.4**
ORIF pmax pmax
comp=Z,84nm,1.6s,mb5.4
ORIF Oris-en-Rattie 51.33 36 *e*P **P 12 56 28.3 +0.4**
comp=Z,84nm,1.6s,mb5.4
FWV Forest Hill 51.48 313 *e*P **P 12 56 29.2 +0.2**
MVIF Mont Vial 51.53 38 *e*P **P 12 56 30.3 +0.9**
PTS Pantelleria 51.53 48 P **P 12 56 31.6 +2.2**
PTS pmax pmax
comp=Z,378nm,1.5s,mb6.1
PTS Pantelleria 51.53 48 P **P 12 56 31.6 +2.2**
comp=Z,378nm,1.5s,mb6.1
MDZ Mendoza 51.55 217 *e*P **P 12 56 30.7 +1.2**
REVF Revere 51.58 38 *e*P **P 12 56 30.0 +0.3**
LOR Lormes 51.58 33 *e*P **P 12 56 29.4 -0.3**
comp=Z,226nm,1.7s,mb5.5
LOR *e*R
comp=Z,3µm,21.2s
LOR Lormes 51.58 33 *e*P **P 12 56 29.4 -0.3**
LOR pmax pmax
comp=Z,113nm,1.7s,mb5.5
LOR MLR MLR
comp=Z,3µm,21.3s,MS5.3
LOR Lormes 51.58 33 *e*P **P 12 56 29.4 -0.3**
comp=Z,113nm,1.7s,mb5.5
LOR LR LR
comp=Z,3µm,21.3s,MS5.3
LUCF Luceram 51.65 38 *e*P **P 12 56 31.0 +0.8**
TOUF Mont Tournerai 51.65 38 *e*P **P 12 56 31.3 +1.0**
MCWV Mont Chateau 51.67 316 *e*P **P 12 56 30.8 +0.4**
comp=Z,144nm,1.7s,mb5.6
OG05 Jujurieux 51.73 35 *e*P **P 12 56 32.0 +1.1**
AUTN L'Aution 51.75 38 *e*P **P 12 56 32.1 +1.1**
MBDF Montbardon 51.75 37 *e*P **P 12 56 31.6 +0.6**
comp=Z,236nm,1.6s,mb5.6
MBDF Montbardon 51.75 37 *e*P **P 12 56 31.6 +0.6**
MBDF pmax pmax
comp=Z,118nm,1.5s,mb5.6
MBDF Montbardon 51.75 37 *e*P **P 12 56 31.6 +0.6**
comp=Z,118nm,1.5s,mb5.6
SAOF Saorge 51.82 38 *e*P **P 12 56 32.1 +0.5**
TRQA Tornquist 51.84 207 *e*P **P 12 56 31.8 +0.1**
comp=Z,55nm,1.3s,mb5.3
TRQA LR LR
comp=Z,5µm,21.0s,MS5.5
BNI Bardonecchia 51.87 37 *e*P **P 12 56 32.9 +1.0**
BNI pmax pmax
comp=Z,177nm,1.4s,mb5.8
BNI Bardonecchia 51.87 37 *e*P **P 12 56 32.9 +0.9**
comp=Z,177nm,1.4s,mb5.8
DOI San Damiano 51.91 37 P **P 12 56 33.5 +1.3**
LPG La Plagne 52.16 36 *e*P **P 12 56 34.8 +0.7**
comp=Z,240nm,1.4s,mb5.6
LPG La Plagne 52.16 36 *e*P **P 12 56 34.8 +0.7**
LPG pmax pmax
comp=Z,120nm,1.4s,mb5.6
LPG La Plagne 52.16 36 *e*P **P 12 56 34.8 +0.7**
comp=Z,120nm,1.4s,mb5.6
LPL La Plagne 52.16 36 *e*P **P 12 56 34.7 +0.6**
comp=Z,168nm,1.4s,mb5.5
LPL La Plagne 52.16 36 *e*P **P 12 56 34.7 +0.6**
LPL pmax pmax
comp=Z,84nm,1.4s,mb5.5
LPL La Plagne 52.16 36 *e*P **P 12 56 34.7 +0.6**
comp=Z,84nm,1.4s,mb5.5
RSL Roselend 52.20 36 *e*P **P 12 56 35.1 +0.8**
CABF La Chapelle 52.41 35 *e*P **P 12 56 36.1 +0.1**
comp=Z,257nm,1.7s,mb5.6
CABF La Chapelle 52.41 35 *e*P **P 12 56 36.1 +0.1**
CABF pmax pmax
comp=Z,129nm,1.7s,mb5.6
CABF La Chapelle 52.41 35 *e*P **P 12 56 36.1 +0.1**
comp=Z,128nm,1.7s,mb5.6
EMV Vieux Emosson 52.56 36ǁ*i*P **P 12 56 32.7 -4.4**
comp=Z,150nm,1.9s,mb5.6
SALAN Lac Salanfe 52.65 36ǁ*i*P **P 12 56 37.5 -0.2**
comp=Z,69nm,1.4s,mb5.4
CLTB Caltabellotta 52.72 48 P **P 12 56 40.1 +1.8**
comp=Z,189nm,1.5s,mb5.8
FCH Farellones 52.73 218 *e*P **P 12 56 38.5 +0.2**
AIGLE Aigle 52.75 35ǁ*i*P **P 12 56 37.9 -0.6**
comp=Z,120nm,1.7s,mb5.5
ALLY Alegheny Colle 52.77 318 *e*P **P 12 56 38.6 0.0**
ALLY *e* 12 56 51.8
GRYON Gryon 52.79 35ǁ*i*P **P 12 56 38.5 -0.3**
comp=Z,108nm,1.6s,mb5.5
MENF Mencas 52.83 29 *e*P **P 12 56 38.6 -0.4**
DIX Grande Dixence 52.87 36ǁ*i*P **P 12 56 38.8 -0.5**
comp=Z,141nm,1.7s,mb5.6
ORO Oropa 52.96 37 P **P 12 56 39.7 -0.3**
ORO pmax pmax
comp=Z,87nm,1.2s,mb5.6
ORO Oropa 52.96 37 P **P 12 56 39.7 -0.3**
comp=Z,87nm,1.2s,mb5.6
SENIN Lac Senin 52.96 35ǁ*i*P **P 12 56 40.8 +0.8**
comp=Z,150nm,1.7s,mb5.6
MEZF Maizieres J'vi 52.97 32 *e*P **P 12 56 39.7 -0.4**
comp=Z,328nm,1.6s,mb5.7
MEZF Maizieres J'vi 52.97 32 *e*P **P 12 56 39.7 -0.4**
comp=Z,328nm,1.6s,mb6.0
TORNY Torny 53.00 35ǁ*i*P **P 12 56 40.5 +0.2**
comp=Z,152nm,1.7s,mb5.7
TZTN Tazewell 53.11 311 *e*P **P 12 56 40.9 -0.2**
LKBD Leukerbad 53.16 36ǁ*i*P **P 12 56 40.6 -0.9**
comp=Z,160nm,1.7s,mb5.7
LOMF Lomont 53.25 34 *e*P **P 12 56 42.5 +0.3**
THEF They Montfort 53.30 33 *e*P **P 12 56 42.8 +0.3**
WIMIS Wimmis 53.32 35ǁ*i*P **P 12 56 41.7 -0.9**
comp=Z,140nm,1.7s,mb5.6
MAON Monte Argentar 53.32 41 P **P 12 56 42.5 -0.1**
HAU Haudompre 53.37 33 *e*P **P 12 56 42.6 -0.4**
comp=Z,304nm,1.7s,mb5.7
HAU *e*R
comp=Z,3µm,23.0s
HAU Haudompre 53.37 33 *e*P **P 12 56 42.6 -0.4**
HAU pmax pmax
comp=Z,152nm,1.7s,mb5.7
HAU MLR MLR
comp=Z,2µm,23.0s,MS5.2
HAU Haudompre 53.37 33 *e*P **P 12 56 42.6 -0.4**
comp=Z,152nm,1.7s,mb5.7
HAU LR LR
comp=Z,2µm,23.0s,MS5.2
BOB Bobbio (Coli) 53.39 38 P **P 12 56 43.8 +0.6**
CSLB Castelbuono 53.48 48 P **P 12 56 45.2 +1.4**
comp=Z,76nm,1.1s,mb5.5
BOURR Bourrignon 53.50 34ǁ*i*P **P 12 56 42.9 -1.1**
comp=Z,174nm,1.9s,mb5.7
BAIF Baives 53.50 30 *e*P **P 12 56 43.3 -0.7**
comp=Z,389nm,1.7s,mb5.8
BAIF Baives 53.50 30 *e*P **P 12 56 43.3 -0.7**
BAIF pmax pmax
comp=Z,195nm,1.7s,mb5.8
BAIF Baives 53.50 30 *e*P **P 12 56 43.3 -0.7**
comp=Z,194nm,1.7s,mb5.8
HINF Hinteralfeld 53.54 34 *e*P **P 12 56 43.8 -0.4**
comp=Z,308nm,1.7s,mb5.7
HINF Hinteralfeld 53.54 34 *e*P **P 12 56 43.8 -0.4**
HINF pmax pmax
comp=Z,154nm,1.7s,mb5.7
HINF Hinteralfeld 53.54 34 *e*P **P 12 56 43.8 -0.4**
comp=Z,154nm,1.7s,mb5.7
HMDC Modica 53.66 49 P **P 12 56 46.5 +1.4**
VLC Villacollemand 53.66 39 *e*P **P 12 56 45.0 -0.2**
comp=Z,106nm,1.4s,mb5.6
HASLI Hasliberg 53.67 35ǁ*i*P **P 12 56 43.7 -1.5**
comp=Z,198nm,1.5s,mb5.8
BBS Basel-Blauen 53.70 34 *e*P **P 12 56 45.6 +0.2**
MOF Molkenrain 53.71 34 *e*P **P 12 56 45.4 -0.1**
DOU Dourbes 53.72 30 P **P 12 56 45.3 -0.3**
DOU XP sP 12 56 50.2 +0.2
TOLF Tolfa 53.73 42 P **P 12 56 45.5 -0.1**
BALST Balsthal 53.73 35ǁ*i*P **P 12 56 44.4 -1.3**
comp=Z,240nm,1.6s,mb5.9
MUGIO Muggio 53.74 37ǁ*i*P **P 12 56 44.1 -1.7**
comp=Z,142nm,1.3s,mb5.7
SNF Seneffe 53.83 30 P **P 12 56 46.0 -0.4**
GIVF Givet 53.84 30 *e*P **P 12 56 45.8 -0.7**
comp=Z,255nm,1.4s,mb5.7
GIVF Givet 53.84 30 *e*P **P 12 56 45.8 -0.7**
GIVF pmax pmax
comp=Z,128nm,1.4s,mb5.7
GIVF Givet 53.84 30 *e*P **P 12 56 45.8 -0.7**
comp=Z,128nm,1.4s,mb5.7
BNALP Bannalp 53.89 35ǁ*i*P **P 12 56 45.4 -1.4**
comp=Z,166nm,1.5s,mb5.7
SCHQ Schefferville 53.91 338 P **P 12 56 46.8 -0.1**
comp=Z,18nm,0.7s,mb5.1,baz=133,slow=6.3,SNR=23
SCHQ LR LR 13 16 09.4
comp=Z,350nm,20.5s,MS4.4,baz=112,slow=32
SCHQ Schefferville 53.91 338 *e*P **P 12 56 46.4 -0.6**
comp=Z,27nm,0.8s,mb5.2
SCHQ *e*PcP PcP 12 57 51.7 -0.7
SCHQ LR LR
comp=Z,581nm,20.0s,MS4.6
CSNT Castellina Chi 53.91 40 P **P 12 56 47.6 +0.6**
ECH Echery 53.93 33 *e*P **P 12 56 46.9 -0.3**
ESK Eskdalemuir 54.00 22 P **P 12 56 47.6 -0.1**
ESK pmax pmax
comp=Z,110nm,1.7s,mb5.5
ESK Eskdalemuir 54.00 22 *e*P **P 12 56 47.1 -0.6**
comp=Z,112nm,1.8s,mb5.5
ESK LR LR
comp=Z,582nm,22.0s,MS4.6
MUO Muotathal 54.06 35ǁ*i*P **P 12 56 45.5 -2.6**
comp=Z,288nm,1.5s,mb6.0
SULZ Sulz-Cheisache 54.08 35ǁ*i*P **P 12 56 46.9 -1.3**
comp=Z,217nm,1.8s,mb5.8
ACSO Alum Creek Sta 54.10 315 *e*P **P 12 56 48.0 -0.3**
comp=Z,83nm,1.1s,mb5.6
ACSO *e* 12 57 01.8
ACSO LR LR
comp=Z,491nm,19.0s,MS4.6
CDF Champ du Feu 54.11 33 *e*P **P 12 56 48.0 -0.4**
comp=Z,263nm,1.8s,mb5.6
CDF Champ du Feu 54.11 33 *e*P **P 12 56 48.0 -0.4**
CDF pmax pmax
comp=Z,131nm,1.8s,mb5.6
CDF Champ du Feu 54.11 33 *e*P **P 12 56 48.0 -0.4**
comp=Z,131nm,1.8s,mb5.6
FNVD Fontana Vidola 54.13 40 P **P 12 56 49.1 +0.5**
WLS Welschbruch 54.15 33 *e*P **P 12 56 48.6 -0.2**
FELD Feldberg im Sc 54.21 34 *e*P **P 12 56 49.0 -0.2**
LLS Linth-Limmern 54.22 36ǁ*i*P **P 12 56 48.1 -1.1**
comp=Z,98nm,1.5s,mb5.5
WLF Walferdange 54.25 32 *e*P **P 12 56 48.1 -1.4**
comp=Z,167nm,2.1s,mb5.6
WLF Walferdange 54.25 32 P **P 12 56 48.8 -0.6**
ZUR Zurich 54.25 35ǁ*i*P **P 12 56 48.7 -0.8**
comp=Z,208nm,1.6s,mb5.8
BCLA Clavier 54.28 30 P **P 12 56 49.0 -0.7**
BCLA E 12 56 56.3
CERT Cerreto 54.33 43 P **P 12 56 49.7 -0.4**
SLE Schleitheim 54.42 35ǁ*i*P **P 12 56 49.0 -1.7**
comp=Z,82nm,2.1s,mb5.3
WILA Wila 54.46 35ǁ*i*P **P 12 56 49.5 -1.5**
comp=Z,183nm,1.6s,mb5.8
STR Strasbourg 54.48 33 *e*P **P 12 56 52.3 +1.2**
PLONS Plons 54.54 36ǁ*i*P **P 12 56 50.3 -1.3**
comp=Z,143nm,1.7s,mb5.7
BERNI Berninapass 54.58 37ǁ*i*P **P 12 56 50.9 -1.0**
comp=Z,151nm,1.5s,mb5.8
STEIN Stein am Rhein 54.58 35ǁ*i*P **P 12 56 51.5 -0.4**
comp=Z,184nm,1.6s,mb5.9
MURB Monte Urbino 54.61 41 P **P 12 56 51.8 -0.3**
BFO Black Forest 54.64 34 P **P 12 56 52.3 0.0**
comp=Z,196nm,1.3s,mb6.0,SNR=12
BFO Black Forest 54.64 34 *e*P **P 12 56 51.4 -0.9**
comp=Z,110nm,1.5s,mb5.7
BFO *e*PcP PcP 12 57 55.8 +0.6
BFO Black Forest 54.64 34 *e*P **P 12 56 51.4 -0.9**
BFO *e* 12 57 55.8
BFO pmax pmax
comp=Z,110nm,1.5s,mb5.7
DAVOX Davos 54.69 36ǁ*i*P **P 12 56 51.3 -1.3**
comp=Z,96nm,1.5s,mb5.6
BEBN Eben Emael 54.70 30 P **P 12 56 53.1 +0.4**
BEBN XP sP 12 56 57.2 0.0
LANF Langenberg 54.72 33 *e*P **P 12 56 52.7 -0.2**
LIENZ Alp Oberkamor 54.73 35ǁ*i*P **P 12 56 51.6 -1.4**
comp=Z,207nm,1.6s,mb5.9
RFI Roccamonfina 54.74 44 P **P 12 56 54.2 +1.1**
comp=Z,77nm,1.5s,mb5.5
RUP Ruppelstein 54.75 32 *e*P **P 12 56 53.1 0.0**
MEM Membach 54.75 31 P **P 12 56 53.2 +0.1**
AQU L'Aquila 54.79 42ǁ*i*P **P 12 56 54.0 +0.6**
AQU L'Aquila 54.79 42 P **P 12 56 54.2 +0.8**
AQU pmax pmax
comp=Z,150nm,1.2s,mb5.9
AQU L'Aquila 54.79 42 *e*P **P 12 56 53.7 +0.3**
comp=Z,150nm,1.2s,mb5.9
HGN Heimansgroeve 54.81 30 *e*P **P 12 56 53.5 0.0**
comp=Z,60nm,1.8s,mb5.3
HGN *e*S **S 13 04 35.4 +1.1**
FUORN Ofenpass 54.83 37ǁ*i*P **P 12 56 52.2 -1.5**
comp=Z,147nm,1.7s,mb5.7
CEL Celeste 54.94 48 P **P 12 56 54.3 -0.2**
DAVA Damuels 54.95 36ǁ*i*P **P 12 56 54.4 -0.2**
comp=Z,202nm,1.9s,mb5.8,SNR=26
RNI2 Rionero Sannit 55.02 43 P **P 12 56 55.6 +0.5**
CING Cingoli 55.10 41 P **P 12 56 58.3 +2.7**
ABH Alteburg 55.11 32 *e*P **P 12 56 55.1 -0.6**
CTI Castel Tesino 55.37 38 P **P 12 56 57.3 -0.3**
CTI pmax pmax
comp=Z,82nm,1.3s,mb5.6
CTI Castel Tesino 55.37 38 P **P 12 56 57.3 -0.3**
comp=Z,82nm,1.3s,mb5.6
AAM Ann Arbor 55.41 317 *e*P **P 12 56 56.5 -1.4**
AAM pmax pmax
comp=Z,167nm,1.1s,mb6.0
AAM Ann Arbor 55.41 317 *e*P **P 12 56 56.5 -1.3**
comp=Z,167nm,1.1s,mb6.0
AAM *e* 12 57 11.9
CUC Castrocucco 55.51 46 P **P 12 56 57.9 -0.7**
TOD Tromm 55.62 33 *e*P **P 12 56 58.8 -0.6**
SQTA Sankt Quirin 55.69 36 *i* P **P 12 56 59.5 -0.4**
comp=Z,79nm,1.3s,mb5.6,SNR=15
SQTA Sankt Quirin 55.69 36 *i* P **P 12 56 59.5 -0.4**
SQTA pmax pmax
comp=Z,79nm,1.3s,mb5.6
MOTA Moosalm 55.70 36ǁ*i*P **P 12 56 59.3 -0.6**
comp=Z,65nm,1.4s,mb5.5,SNR=12
MOTA Moosalm 55.70 36ǁ*i*P **P 12 56 59.3 -0.6**
MOTA pmax pmax
comp=Z,65nm,1.4s,mb5.5
WCI Wyandotte Cave 55.74 312 *e*P **P 12 56 59.7 -0.6**
WCI pmax pmax
comp=Z,48nm,0.8s,mb5.6
WCI Wyandotte Cave 55.74 312 *e*P **P 12 56 59.7 -0.6**
comp=Z,48nm,0.8s,mb5.6
WCI *e* 12 57 13.9
TNS Taunus Mts 55.78 32 *e*P **P 12 56 59.6 -0.9**
comp=Z,90nm,1.7s,mb5.5
TNS Taunus Mts 55.78 32 *e*P **P 12 56 59.6 -0.9**
TNS pmax pmax
comp=Z,90nm,1.7s,mb5.5
BUG Bochum-Univer 55.89 30 *e*P **P 12 57 00.2 -1.1**
comp=Z,74nm,1.4s,mb5.5
WTTA Wattenberg 55.97 36ǁ*i*P **P 12 57 01.0 -0.8**
comp=Z,218nm,2.1s,mb5.8,SNR=20
WTTA Wattenberg 55.97 36ǁ*i*P **P 12 57 01.0 -0.9**
WTTA pmax pmax
comp=Z,218nm,2.1s,mb5.8
WTTA Wattenberg 55.97 36ǁ*i*P **P 12 57 01.0 -0.8**
comp=Z,218nm,2.1s,mb5.8
WTSB Winterswijk 55.97 30 *e*P **P 12 57 02.0 +0.1**
comp=Z,105nm,1.4s,mb5.7
RGNG Rignano Grg 55.99 44 P **P 12 57 00.6 -1.5**
PAYG Puerto Ayora 56.05 264 PFAKE 12 57 10.0 +7.5
PAYG LR LR
comp=Z,2µm,21.0s,MS5.2
PLAL Pickwick Lake 56.10 307 *e*P **P 12 57 02.0 -0.8**
comp=Z,107nm,1.4s,mb5.7
PLAL *e* 12 57 15.8
FUR Furstenfeldbru 56.22 35 *e*P **P 12 57 02.5 -1.1**
comp=Z,136nm,1.3s,mb5.8
FUR Furstenfeldbru 56.22 35 *e*P **P 12 57 02.5 -1.1**
FUR pmax pmax
comp=Z,136nm,1.3s,mb5.8
BLO Bloomington 56.23 313 *e*P **P 12 57 03.1 -0.7**
BLO pmax pmax
comp=Z,80nm,1.2s,mb5.6
BLO Bloomington 56.23 313 *e*P **P 12 57 03.0 -0.7**
comp=Z,80nm,1.2s,mb5.6
WVT Waverly 56.24 309 *e*P **P 12 57 02.8 -1.0**
WVT pmax pmax
comp=Z,45nm,0.9s,mb5.5
WVT MLR MLR
comp=Z,660nm,20.0s,MS4.7
WVT Waverly 56.24 309 *e*P **P 12 57 02.8 -1.1**
comp=Z,45nm,0.9s,mb5.5
WVT *e* 12 57 17.3
WVT LR LR
comp=Z,660nm,20.0s,MS4.7
WIT Witteveen 56.43 29 *e*P **P 12 57 05.3 +0.2**
PTCC Patocco-Chiusa 56.58 38 P **P 12 57 06.1 -0.2**
comp=Z,124nm,1.4s,mb5.8
IBBN Ibbenburen 56.65 30 *e*P **P 12 57 05.6 -1.1**
comp=Z,131nm,1.5s,mb5.7
USIN University of 56.68 311 *e*P **P 12 57 07.5 +0.6**
comp=Z,146nm,1.4s,mb5.8
USIN *e* 12 57 20.8
VOY Vojsko 56.74 39 *e*P **P 12 57 07.5 +0.1**
VOY *e* 12 57 21.2
KNDS Knezji Dol 56.82 39 *e*P **P 12 57 07.9 0.0**
KBA Koelnbreinsper 56.89 37ǁ*i*P **P 12 57 07.6 -0.9**
comp=Z,153nm,1.9s,mb5.7,SNR=14
KBA Koelnbreinsper 56.89 37ǁ*i*P **P 12 57 07.6 -0.9**
KBA pmax pmax
comp=Z,153nm,1.9s,mb5.7
UBBA Unterbreizbach 56.93 32 *e*P **P 12 57 07.8 -1.0**
comp=Z,88nm,1.8s,mb5.5
GRA1 Grafenberg Arr 56.98 34 *e*P **P 12 57 07.9 -1.2**
comp=Z,147nm,1.5s,mb5.8
GRA1 *e* 12 57 16.2
GRA1 *e*S **S 13 04 59.9 -3.4**
GRA1 LR LR
comp=Z,2µm,31.7s,MS5.0
GRF Grafenberg Arr 56.98 34 *e*P **P 12 57 07.9 -1.2**
comp=Z,147nm,1.5s,mb5.8
GRF *e* 12 57 16.2
GRF *e*S **S 13 04 59.9 -3.4**
GRF *e*L 13 14 47.0
comp=Z,2µm,31.7s
GRF Grafenberg Arr 56.98 34 *e*P **P 12 57 07.9 -1.2**
GRF *e* 12 57 16.2
GRF *e*S **S 13 04 59.9 -3.4**
GRF pmax pmax
comp=Z,147nm,1.5s,mb5.8
GRF MLR MLR
comp=Z,2µm,31.7s,MS5.0
GRF Grafenberg Arr 56.98 34 *e*P **P 12 57 07.9 -1.2**
GRF *e* 12 57 16.2
GRF *e*S **S 13 04 59.9 -3.4**
OXF Oxford 57.03 306ǁ*e*P **P 12 57 08.2 -1.3**
OXF pmax pmax
comp=Z,111nm,1.1s,mb5.8
OXF MLR MLR
comp=Z,988nm,19.0s,MS4.9
OXF Oxford 57.03 306ǁ*e*P **P 12 57 08.2 -1.3**
comp=Z,110nm,1.1s,mb5.8
OXF *e* 12 57 21.7
OXF LR LR
comp=Z,988nm,19.0s,MS4.9
LJU Ljubljana 57.14 39 *e*P **P 12 57 10.3 +0.1**
LJU *e* 12 57 17.6
LJU *e*S **S 13 05 09.7 +4.3**
GTTG Gvttingen 57.32 31 *e*P **P 12 57 11.5 0.0**
comp=Z,101nm,1.4s,mb5.7
BOJS Bojanci 57.36 40 *e*P **P 12 57 11.9 +0.2**
BOJS *e*S **S 13 05 11.1 +2.8**
OBKA Obir 57.36 38ǁ*i*P **P 12 57 11.9 +0.1**
comp=Z,336nm,2.1s,mb6.0,SNR=41
GLAT Glass 57.41 309 *e*P **P 12 57 11.9 -0.2**
ROTZ Rotzenmuhle 57.57 34 *e*P **P 12 57 12.0 -1.2**
comp=Z,119nm,1.9s,mb5.6
MANZ Manzenberg 57.62 34 *e*P **P 12 57 12.7 -0.9**
comp=Z,84nm,1.9s,mb5.5
WET Wettzell 57.63 35 *e*P **P 12 57 12.2 -1.5**
comp=Z,69nm,1.8s,mb5.4
WET Wettzell 57.63 35 *e*P **P 12 57 12.2 -1.5**
WET pmax pmax
comp=Z,69nm,1.8s,mb5.4
CLZ Clausthal 57.70 31 *e*P **P 12 57 13.0 -1.2**
comp=Z,75nm,1.9s,mb5.4
CLZ Clausthal 57.70 31 *e*P **P 12 57 13.0 -1.2**
CLZ pmax pmax
comp=Z,75nm,1.9s,mb5.4
MOX Moxa 57.70 33 *e*P **P 12 57 13.2 -1.0**
comp=Z,90nm,1.8s,mb5.5
MOX Moxa 57.70 33 *e*P **P 12 57 13.9 -0.3**
MOX *e*S **S 13 05 13.0 +0.2**
MOX pmax pmax
comp=Z,95nm,1.9s,mb5.5
MOX MLR MLR
comp=Z,700nm,18.0s,MS4.8
MOX Moxa 57.70 33 *e*P **P 12 57 13.9 -0.3**
comp=Z,95nm,1.9s,mb5.5
MOX *e*S **S 13 05 13.0 +0.2**
MOX LR LR
comp=Z,700nm,18.0s,MS4.8
PERS Pernice 57.77 38 *e*P **P 12 57 14.4 -0.3**
PERS *e* 12 57 21.6
PERS *e*S **S 13 05 13.2 -0.5**
SIUC Southern Illin 57.77 310 *e*P **P 12 57 14.5 -0.2**
SIUC *e* 12 57 28.1
MOA Molln 57.81 37ǁ*i*P **P 12 57 14.0 -1.0**
comp=Z,170nm,1.7s,mb5.8,SNR=32
TSUM Tsumeb 57.81 118 LR LR 13 16 07.8
comp=Z,3µm,21.9s,MS5.4,baz=310,slow=30

TSUM	**Tsumeb**	**57.81**	**118**	*e*P		**P**	**12 57 15.3**	**+0.3**
	comp=Z,144nm,1.6s,mb5.8								
TSUM				LR		LR			
	comp=Z,3μm,22.0s,MS5.4								
WERN	**Wernitzgruen**	**57.93**	**34**	*e*P		**P**	**12 57 14.8**	**-1.0**
	comp=Z,98nm,1.5s,mb5.6								
NRDL	**Niedersach Rie**	**57.93**	**31**	*e*P		**P**	**12 57 15.0**	**-0.8**
	comp=Z,79nm,1.4s,mb5.5								
GUNZ	**Gunzen**	**57.94**	**34**	*e*P		**P**	**12 57 14.9**	**-1.0**
	comp=Z,134nm,1.8s,mb5.7								
GEC2	**GERESS Array S**	**57.95**	**36**	*e*P		**P**	**12 57 14.6**	**-1.3**
	comp=Z,79nm,1.8s,mb5.4								
GEC2	**GERESS Array S**	**57.95**	**36**	*e*P		**P**	**12 57 14.6**	**-1.3**
GEC2				pmax		pmax			
	comp=Z,79nm,1.8s,mb5.4								
GERES	**GERESS Array B**	**57.95**	**36**	P		**P**	**12 57 15.4**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=250,slow=3.8,SNR=26								
GERES				LR		LR	13 18 57.7		
	comp=Z,3μm,21.0s,MS5.3,baz=248,slow=33								
WERD	**Werda**	**57.97**	**33**	*e*P		**P**	**12 57 15.0**	**-1.1**
	comp=Z,123nm,1.8s,mb5.6								
KHC	**Kasperske Hory**	**58.02**	**35**	*e*P		**P**	**12 57 15.8**	**-0.6**
KHC				*ep*P		pP	12 57 23.2	+3.6	
KHC				*e*S		**S**	**13 05 18.2**	**+1.2**
KHC				AMS		AMS	13 17 30.0		
	comp=Z,2μm,24.8s								
KHC	**Kasperske Hory**	**58.02**	**35**	*e*P		**P**	**12 57 15.8**	**-0.6**
KHC				*ep*P		pP	12 57 23.2	+3.6	
TANN	**Tannenbergstha**	**58.04**	**34**	*e*P		**P**	**12 57 15.6**	**-1.0**
	comp=Z,107nm,1.5s,mb5.7								
TANN				*e*PcP		PcP	12 58 09.5	+1.1	
SISC	**Sisak**	**58.05**	**40**	iP		**P**	**12 57 17.6**	**+1.0**
BORG	**Borgarnes**	**58.09**	**7**	PFAKE			12 57 30.0	+13	
BORG				LR		LR			
	comp=Z,547nm,22.0s,MS4.6								
PLCA	**Paso Flores**	**58.12**	**212**	P		**P**	**12 57 17.2**	**+0.2**
	comp=Z,32nm,1.3s,mb5.2,baz=31,slow=8.5,SNR=20								
PLCA				LR		LR	13 22 46.9		
	comp=Z,12μm,18.2s,MS6.0,baz=47,slow=37								
PLCA	**Paso Flores**	**58.12**	**212**	*e*P		**P**	**12 57 17.4**	**+0.3**
PLCA				pmax		pmax			
	comp=Z,79nm,1.4s								
PLCA				MLR		MLR			
	comp=Z,8μm,21.0s								
PLCA	**Paso Flores**	**58.12**	**212**	*e*P		**P**	**12 57 17.4**	**+0.3**
	comp=Z,79nm,1.4s,mb5.5								
PLCA				*e*			12 57 28.2		
PLCA				LR		LR			
	comp=Z,8μm,21.0s,MS5.8								
HBAR	**Harrisburg**	**58.29**	**307**	*e*P		**P**	**12 57 17.8**	**-0.5**
ARSA	**Arzberg**	**58.29**	**38**	⇓*i*P		**P**	**12 57 17.4**	**-0.9**
	comp=Z,191nm,2.3s,mb5.7,SNR=20								
HCY	**Herceg Novi**	**58.30**	**44**	⇑*i*P		**P**	**12 57 18.4**	**0.0**
KOGS	**Kog**	**58.39**	**39**	*e*P		**P**	**12 57 18.7**	**-0.3**
KOGS				*e*S		**S**	**13 05 23.7**	**+1.9**
BRY	**Bratogost**	**58.49**	**44**	⇑*i*P		**P**	**12 57 20.0**	**+0.3**
BUM	**Brajici-Budva**	**58.52**	**44**	⇑*i*P		**P**	**12 57 20.6**	**+0.7**
IGT	**Igoumenitsa**	**58.63**	**48**	*e*P		**P**	**12 57 21.5**	**+0.8**
ULC	**Ulcinj**	**58.65**	**45**	⇑*i*P		**P**	**12 57 21.4**	**+0.6**
NKY	**Niksic**	**58.77**	**44**	*e*P		**P**	**12 57 21.5**	**-0.2**
FBE	**Freiberg**	**58.79**	**33**	*e*P		**P**	**12 57 20.7**	**-1.1**
	comp=Z,113nm,1.8s,mb5.6								
CLL	**Collm**	**58.80**	**33**	*e*P		**P**	**12 57 20.6**	**-1.2**
	comp=Z,39nm,1.6s,mb5.2								
CLL				*e*PcP		PcP	12 58 12.4	+1.0	
CLL	**Collm**	**58.80**	**33**	⇑*i*P		**P**	**12 57 21.9**	**+0.1**
	comp=Z,39nm,1.6s,mb5.2								
CLL				*e*Plp		pP	12 57 23.0	-2.0	
CLL				*e*Plp		pP	12 57 23.0	-2.0	
CLL				*e*Plp		pP	12 57 23.0	-2.0	
CLL				*i* PcP		PcP	12 58 12.6	+1.2	
CLL				*e*PPP			13 00 54.0		
CLL				*e*S		**S**	**13 05 28.0**	**+0.9**
CLL				*e*S		**S**	**13 05 28.0**	**+0.9**
CLL				*e*SSS			13 11 54.0		
CLL				L			13 18 00.0		
	comp=Z,2μm,20.9s								
CLL	**Collm**	**58.80**	**33**	⇑*i*P		**P**	**12 57 21.9**	**+0.1**
CLL				*i*			12 58 12.6		
CLL				*e*S		**S**	**13 05 28.0**	**+0.9**
CLL				pmax		pmax			
	comp=Z,39nm,1.6s,mb5.2								
CLL				MLR		MLR			
	comp=Z,2μm,20.9s,MS5.2								
CLL	**Collm**	**58.80**	**33**	⇑*i*P		**P**	**12 57 21.9**	**+0.1**
	comp=Z,39nm,1.6s,mb5.2								
CLL				*i* PcP		PcP	12 58 12.6	+1.2	
CLL				*e*S		**S**	**13 05 28.0**	**+0.9**
CLL				LR		LR			
	comp=Z,2μm,20.9s,MS5.2								
CONA	**Conrad Observa**	**58.80**	**37**	*i* P		**P**	**12 57 21.2**	**-0.7**
	comp=Z,59nm,1.5s,mb5.4,SNR=39								
SLM	**Saint Louis**	**58.81**	**311**	*e*P		**P**	**12 57 20.9**	**-1.0**
SLM				pmax		pmax			
	comp=Z,89nm,1.3s,mb5.6								
SLM	**Saint Louis**	**58.81**	**311**	*e*P		**P**	**12 57 20.9**	**-1.1**
	comp=Z,89nm,1.3s,mb5.6								
SLM				*e*			12 57 34.6		
TTG	**Podgorica**	**58.82**	**44**	⇑*i*P		**P**	**12 57 22.4**	**+0.4**
UPM	**Unac-Piva**	**58.85**	**43**	⇑*i*P		**P**	**12 57 23.2**	**+1.0**
BSEG	**Bad Segeberg**	**58.86**	**29**	*e*P		**P**	**12 57 20.8**	**-1.5**
	comp=Z,215nm,1.5s,mb6.0								
TIR	**Tirane**	**58.87**	**46**	*e*P		**P**	**12 57 23.2**	**+0.9**
PRA	**Prague**	**58.97**	**35**	P		**P**	**12 57 21.0**	**-2.0**
PRU	**Pruhonice**	**58.99**	**35**	*e*P		**P**	**12 57 22.7**	**-0.5**
PRU				*ep*P		pP	12 57 30.0	+3.6	
PRU				*e*S		**S**	**13 05 30.7**	**+1.1**
PRU				AMS		AMS	13 17 40.0		
	comp=Z,1μm,22.4s								
BRG	**Berggiesshubel**	**59.09**	**34**	*e*P		**P**	**12 57 22.8**	**-1.1**
	comp=Z,74nm,1.6s,mb5.5								
BRG	**Berggiesshubel**	**59.09**	**34**	*i* P		**P**	**12 57 23.7**	**-0.2**
BRG				*i*			12 57 31.0		
BRG				S		**S**	**13 05 33.0**	**+2.1**
BRG				pmax		pmax			
	comp=Z,45nm,1.6s,mb5.2								
BRG				MLR		MLR			
	comp=Z,1μm,30.3s,MS4.8								
BRG	**Berggiesshubel**	**59.09**	**34**	*i* P		**P**	**12 57 23.7**	**-0.2**
	comp=Z,45nm,1.6s,mb5.2								
BRG				*i*			12 57 31.0		
BRG				*e*			12 57 42.1		
BRG				S		**S**	**13 05 33.0**	**+2.1**
BRG				LR		LR			
	comp=Z,1μm,30.3s,MS4.8								
SOP	**Sopron**	**59.11**	**38**	⇓*e*P		**P**	**12 57 23.7**	**-0.3**
SOP	**Sopron**	**59.11**	**38**	⇓*e*P		**P**	**12 57 23.7**	**-0.3**
TREC	**Trest**	**59.20**	**36**	*e*P		**P**	**12 57 24.3**	**-0.3**
TREC				*ep*P		pP	12 57 30.7	+2.8	
TREC				*e*S		**S**	**13 05 29.9**	**-2.4**
TREC				AMS		AMS	13 18 50.0		
	comp=Z,2μm,20.8s								
PLE	**Pljevlja**	**59.23**	**43**	⇑*i*P		**P**	**12 57 27.6**	**+2.8**
PVCC	**Panska Ves**	**59.26**	**34**	*e*P		**P**	**12 57 25.2**	**+0.1**
PVCC				*ep*P		pP	12 57 32.7	+4.4	
PVCC				*e*S		**S**	**13 05 37.0**	**+3.8**
PVCC				AMS		AMS	13 17 20.0		
	comp=Z,1μm,21.0s								
MEV	**Metsovon**	**59.37**	**48**	*e*P		**P**	**12 57 28.0**	**+2.2**
PVY	**Plav**	**59.37**	**44**	⇑*i*P		**P**	**12 57 26.3**	**+0.5**
CCM	**Cathedral Cave**	**59.41**	**310**	*e*P		**P**	**12 57 23.6**	**-2.5**
CCM				pmax		pmax			
	comp=Z,88nm,1.1s,mb5.7								
CCM	**Cathedral Cave**	**59.41**	**310**	P		**P**	**12 57 24.2**	**-1.9**
CCM				pmax		pmax			
	comp=Z,88nm,1.1s,mb5.7								
CCM	**Cathedral Cave**	**59.41**	**310**	*e*P		**P**	**12 57 23.6**	**-2.4**
	comp=Z,88nm,1.1s,mb5.7								
CCM				*e*			12 57 37.9		
IVA	**Berane**	**59.41**	**44**	⇑*i*P		**P**	**12 57 27.3**	**+1.2**
UALR	**University of**	**59.44**	**306**	*e*P		**P**	**12 57 25.4**	**-1.0**
	comp=Z,86nm,1.0s,mb5.7								
UALR				*e*			12 57 39.6		
OHR	**Ohrid**	**59.46**	**46**	*e*P		**P**	**12 57 26.2**	**-0.2**
OHR	**Ohrid**	**59.46**	**46**	*i* P		**P**	**12 57 26.9**	**+0.5**
ZST	**Bratislava**	**59.66**	**38**	*e*P		**P**	**12 57 27.6**	**-0.3**
ZST				*e*			12 57 35.0		
ZST				*e*pS			13 05 45.3		
ZST	**Bratislava**	**59.66**	**38**	*e*P		**P**	**12 57 27.6**	**-0.3**
ZST				*e*			12 57 35.0		
ZST				*e*S		**S**	**13 05 45.3**	**+6.9**
ZST				pmax		pmax			
	comp=Z,148nm,1.4s,mb5.8								
ZST				MLR		MLR			
	comp=Z,1μm,16.9s,MS5.0								
ZST	**Bratislava**	**59.66**	**38**	*e*P		**P**	**12 57 27.6**	**-0.3**
	comp=Z,148nm,1.4s,mb5.8								
ZST				*e*			12 57 35.0		
ZST				*e*S		**S**	**13 05 45.3**	**+6.9**
ZST				LR		LR			
	comp=Z,1μm,16.9s,MS5.0								
PKS9	**Tamasi**	**59.72**	**40**	*e*P		**P**	**12 57 29.0**	**+0.7**
FNA	**Florina**	**59.78**	**47**	*e*P		**P**	**12 57 29.2**	**+0.6**
KYTH	**Kithira**	**59.79**	**52**	*e*P		**P**	**12 57 30.0**	**+1.3**
PKSM	**Moragy**	**59.80**	**40**	⇓*e*P		**P**	**12 57 28.5**	**-0.3**
BIA	**Bitola**	**59.81**	**47**	*e*P		**P**	**12 57 29.1**	**+0.2**
BIA	**Bitola**	**59.81**	**47**	*i* P		**P**	**12 57 28.9**	**0.0**
RUE	**Ruedersdorf**	**59.81**	**32**	*e*P		**P**	**12 57 27.8**	**-1.1**
	comp=Z,109nm,1.3s,mb5.7								
MUD	**Monsted U'grnd**	**59.82**	**26**	⇓*i*P		**P**	**12 57 27.9**	**-1.0**
	comp=Z,59nm,1.2s,mb5.5								
MUD				*i* S		**S**	**13 05 43.0**	**+2.7**
MUD									
	comp=Z,2μm,22.0s								
MUD	**Monsted U'grnd**	**59.82**	**26**	⇓*i*P		**P**	**12 57 27.9**	**-1.0**
	comp=Z,59nm,1.2s,mb5.5								
MUD				*i* S		**S**	**13 05 43.0**	**+2.7**
VLI	**Veliai**	**59.82**	**52**	*e*P		**P**	**12 57 30.0**	**+1.1**
VRAC	**Vranov**	**59.85**	**36**	⇑*i*P		**P**	**12 57 28.3**	**-0.8**
VRAC	**Vranov**	**59.85**	**36**	P		**P**	**12 57 29.0**	**-0.1**
VRAC	**Vranov**	**59.85**	**36**	⇑P		**P**	**12 57 28.3**	**-0.8**
AGG	**Agios Georgios**	**59.97**	**49**	*e*P		**P**	**12 57 30.0**	**+0.1**
SMOL	**Smolenice**	**60.00**	**37**	*e*P		**P**	**12 57 29.7**	**-0.4**
SMOL				*e*			12 57 36.4		
UPC	**Upice**	**60.06**	**35**	*e*P		**P**	**12 57 30.1**	**-0.5**
UPC				*ep*P		pP	12 57 35.8	+2.0	
PKSG		**60.12**	**39**	⇑*e*P		**P**	**12 57 30.9**	**-0.1**
JFWS	**Jewell Farm**	**60.15**	**316**	*e*P		**P**	**12 57 30.3**	**-0.9**
JFWS				pmax		pmax			
	comp=Z,98nm,0.9s,mb5.8								
JFWS	**Jewell Farm**	**60.15**	**316**	*e*P		**P**	**12 57 30.3**	**-0.9**
	comp=Z,98nm,0.9s,mb5.8								
JFWS				*e*			12 57 44.0		
DPC	**Dobruska-Polom**	**60.17**	**35**	*e*P		**P**	**12 57 30.7**	**-0.6**
DPC				*ep*P		pP	12 57 37.8	+3.3	
DPC				*e*S		**S**	**13 05 47.7**	**+2.9**
DPC				AMS		AMS	13 18 00.0		
	comp=Z,1μm,21.9s								
SKO	**Skopje**	**60.19**	**46**	*e*P		**P**	**12 57 32.2**	**+0.7**
SKO	**Skopje**	**60.19**	**46**	*i* P		**P**	**12 57 32.2**	**+0.7**
KSP	**Ksiaz**	**60.38**	**34**	*e*P		**P**	**12 57 32.6**	**-0.1**
KSP				*ep*P		pP	12 57 39.7	+3.7	
KSP				*e*S		**S**	**13 05 56.2**	**+8.7**
KSP				L			13 16 32.1		
	comp=Z,2.6nm,34.3s								
KSP	**Ksiaz**	**60.38**	**34**	⇓*e*P		**P**	**12 57 32.8**	**+0.1**
KSP				*ep*P		pP	12 57 39.9	+3.9	
KSP				*e*S		**S**	**13 05 48.0**	**+0.5**
KSP				*e*SS		SS	13 09 39.0	-6.1	
KSP				LR		LR			
	comp=Z,3μm,34.7s,MS5.2								
MIAR	**Mount Ida**	**60.38**	**306**	P		**P**	**12 57 32.1**	**-0.7**
MIAR				pmax		pmax			
	comp=Z,42nm,1.2s,mb5.3								
MIAR	**Mount Ida**	**60.38**	**306**	*e*P		**P**	**12 57 32.2**	**-0.6**
	comp=Z,42nm,1.2s,mb5.3								
MIAR				LR		LR			
	comp=Z,818nm,21.0s,MS4.8								
LIT	**Litokhoron**	**60.39**	**48**	*e*P		**P**	**12 57 32.1**	**-0.7**
NAIG	**Nisos Aigina**	**60.51**	**51**	*e*P		**P**	**12 57 34.0**	**+0.4**
VAM	**Vamos**	**60.51**	**53**	*e*P		**P**	**12 57 34.5**	**+0.8**
COWI	**Conover**	**60.53**	**319**	*e*P		**P**	**12 57 33.1**	**-0.7**
COWI				*e*			12 57 46.4		
BUD	**Budapest**	**60.55**	**39**	⇑*e*P		**P**	**12 57 34.8**	**+0.9**
SFJD	**Kangerlussuaq**	**60.57**	**353**	P		**P**	**12 57 33.0**	**-1.0**
	comp=Z,11nm,0.7s,mb5.1,baz=171,slow=5.0,SNR=7.4								
SFJD	**Kangerlussuaq**	**60.57**	**353**	*i* P		**P**	**12 57 32.4**	**-1.7**
	comp=Z,15nm,0.7s,mb5.2								
SFJD				*i* S		**S**	**13 05 51.2**	**+1.2**
SFJD									
	comp=Z,440nm,18.0s								
SFJD	**Kangerlussuaq**	**60.57**	**353**	*e*P		**P**	**12 57 32.4**	**-1.7**
SFJD				*i* S		**S**	**13 05 51.2**	**+1.2**
SFJD				pmax		pmax			
	comp=Z,15nm,0.7s,mb5.2								
SFJD				MLR		MLR			
	comp=Z,450nm,18.0s,MS4.7								
SFJD	**Kangerlussuaq**	**60.57**	**353**	*e*P		**P**	**12 57 32.4**	**-1.7**
	comp=Z,15nm,0.7s,mb5.2								
SFJD				*i* S		**S**	**13 05 51.2**	**+1.2**
SFJD				LR		LR			
	comp=Z,450nm,18.0s,MS4.7								
GRG	**Griva**	**60.57**	**47**	*e*P		**P**	**12 57 33.8**	**-0.2**
MORC	**Moravsky Berou**	**60.61**	**36**	⇓*i*P		**P**	**12 57 33.9**	**-0.5**
MORC	**Moravsky Berou**	**60.61**	**36**	P		**P**	**12 57 34.2**	**-0.1**
MORC	**Moravsky Berou**	**60.61**	**36**	⇓P		**P**	**12 57 33.9**	**-0.4**
STIP	**Stip**	**60.63**	**46**	*i* P		**P**	**12 57 34.2**	**-0.3**
XOR	**Xorichti**	**60.70**	**49**	*e*P		**P**	**12 57 35.2**	**+0.2**
NATX	**Nacogdoches**	**60.74**	**302**	*e*P		**P**	**12 57 34.5**	**-0.7**
	comp=Z,224nm,1.1s,mb6.2								
NATX				*e*			12 57 49.0		
VAY	**Valandovo**	**60.80**	**47**	*e*P		**P**	**12 57 35.4**	**-0.3**
VAY	**Valandovo**	**60.80**	**47**	*i* P		**P**	**12 57 35.5**	**-0.2**
BER	**Bergen**	**60.82**	**21**	AMS		AMS	13 18 49.6		
	comp=Z,1μm,22.2s,MS5.0								
VYHS	**Vyhne**	**60.84**	**38**	*e*P		**P**	**12 57 35.1**	**-0.8**
VYHS				*e*			12 57 42.0		
VYHS				*e*S		**S**	**13 05 53.4**	**0.0**
VYHS				pmax		pmax			
	comp=Z,44nm,1.6s,mb5.3								
VYHS	**Vyhne**	**60.84**	**38**	*e*P		**P**	**12 57 35.1**	**-0.8**
	comp=Z,44nm,1.6s,mb5.3								
VYHS				*e*			12 57 42.0		
VYHS				*e*S		**S**	**13 05 53.4**	**0.0**
COP	**Copenhagen**	**60.86**	**28**	*i* P		**P**	**12 57 37.3**	**+1.3**
	comp=Z,39nm,1.1s,mb5.5								
COP				*i*			12 57 44.4		
COP				*i* S		**S**	**13 05 57.6**	**+4.0**
COP	**Copenhagen**	**60.86**	**28**	*e*P		**P**	**12 57 37.3**	**+1.3**
COP				*i*			12 57 44.4		
COP				*i* S		**S**	**13 05 57.6**	**+4.0**
COP				pmax		pmax			
	comp=Z,39nm,1.1s,mb5.5								
COP	**Copenhagen**	**60.86**	**28**	*e*P		**P**	**12 57 37.3**	**+1.3**
	comp=Z,39nm,1.1s,mb5.5								
COP				*i*			12 57 44.4		
COP				*i* S		**S**	**13 05 57.6**	**+4.0**
PTL	**Penteli**	**60.87**	**50**	*e*P		**P**	**12 57 36.0**	**-0.1**
THE	**Thessaloniki**	**60.89**	**47**	*e*P		**P**	**12 57 35.7**	**-0.5**
HORT	**Hortiatis**	**60.97**	**47**	*e*P		**P**	**12 57 36.1**	**-0.7**
OKC	**Ostrava-Krasne**	**60.99**	**36**	*e*P		**P**	**12 57 37.0**	**+0.1**
OKC				*ep*P		pP	12 57 43.6	+3.4	
OKC				*e*S		**S**	**13 05 59.4**	**+4.0**
OKC				AMS		AMS	13 19 30.0		
	comp=Z,1μm,25.2s								
OKC	**Ostrava-Krasne**	**60.99**	**36**	*e*P		**P**	**12 57 37.0**	**+0.1**
OKC				*ep*P		pP	12 57 43.6	+3.4	
OKC				*e*S		**S**	**13 05 59.4**	**+4.0**
RAC	**Raciborz**	**61.12**	**36**	*e*P		**P**	**12 57 37.7**	**-0.1**
RAC				MLR		MLR			
	comp=Z,2μm,23.6s,MS5.2								
PLG	**Polygyros**	**61.16**	**48**	*e*P		**P**	**12 57 38.0**	**-0.2**
PLG	**Polygyros**	**61.16**	**48**	*e*P		**P**	**12 57 38.5**	**+0.4**
AOS	**Alonnisos**	**61.17**	**49**	*e*P		**P**	**12 57 38.3**	**+0.1**
SOH	**Sokhos**	**61.22**	**47**	*e*P		**P**	**12 57 38.6**	**+0.1**
PSZ	**Piszkesteto**	**61.26**	**39**	⇓*e*P		**P**	**12 57 38.9**	**+0.1**
PSZ	**Piszkesteto**	**61.26**	**39**	*e*P		**P**	**12 57 38.7**	**-0.1**
PSZ				pmax		pmax			
	comp=Z,166nm,1.4s,mb6.0								
PSZ	**Piszkesteto**	**61.26**	**39**	*e*P		**P**	**12 57 38.7**	**0.0**
	comp=Z,166nm,1.4s,mb6.0								
KKB	**Krupnik**	**61.33**	**46**	*i* P		**P**	**12 57 39.9**	**+0.7**
HKT	**Hockley**	**61.45**	**300**	*e*P		**P**	**12 57 38.5**	**-1.5**
HKT				pmax		pmax			
	comp=Z,47nm,1.3s,mb5.5								
HKT	**Hockley**	**61.45**	**300**	*e*P		**P**	**12 57 38.5**	**-1.5**
	comp=Z,47nm,1.3s,mb5.5								
HKT				*e*			12 57 53.1		
SRS	**Serrai**	**61.48**	**47**	*e*P		**P**	**12 57 40.2**	**-0.1**
BZS	**Buzias**	**61.52**	**42**	⇓*i*P		**P**	**12 57 40.5**	**0.0**
BZS	**Buzias**	**61.52**	**42**	P		**P**	**12 57 41.3**	**+0.8**
BZS	**Buzias**	**61.52**	**42**	⇑P		**P**	**12 57 39.6**	**-0.9**
OUR	**Ouranopolis**	**61.55**	**48**	*e*P		**P**	**12 57 41.0**	**+0.3**
XRY	**Khrisi**	**61.60**	**54**	*e*P		**P**	**12 57 35.0**	**-6.0**
NPS	**Neapolis**	**61.61**	**54**	*e*P		**P**	**12 57 39.0**	**-2.1**
VTS	**Vitosha**	**61.63**	**45**	*e*P		**P**	**12 57 41.9**	**+0.6**
VTS	**Vitosha**	**61.63**	**45**	⇓*i*P		**P**	**12 57 41.8**	**+0.5**
VTS	**Vitosha**	**61.63**	**45**	*i* P		**P**	**12 57 42.1**	**+0.8**
MMB	**Musomiste**	**61.71**	**47**	*e*P		**P**	**12 57 42.0**	**+0.2**
MMB	**Musomiste**	**61.71**	**47**	*i* P		**P**	**12 57 42.6**	**+0.8**
BSD	**Bornholm Skovb**	**61.75**	**30**	*i* P		**P**	**12 57 40.8**	**-1.2**
	comp=Z,39nm,1.1s,mb5.5								
BSD	**Bornholm Skovb**	**61.75**	**30**	*e*P		**P**	**12 57 40.8**	**-1.2**
BSD				pmax		pmax			
	comp=Z,39nm,1.1s,mb5.5								
BSD	**Bornholm Skovb**	**61.75**	**30**	*e*P		**P**	**12 57 40.8**	**-1.2**
	comp=Z,39nm,1.1s,mb5.5								
KECS	**Kecovo**	**61.84**	**38**	*e*P		**P**	**12 57 43.0**	**+0.3**
KECS				*e*			12 57 49.7		
KECS				pmax		pmax			
	comp=Z,18nm,1.7s,mb4.9								
KECS	**Kecovo**	**61.84**	**38**	*e*P		**P**	**12 57 43.0**	**+0.3**
	comp=Z,18nm,1.7s,mb4.9								
KECS				*e*			12 57 49.7		
SCIA	**State Center**	**61.93**	**314**	*e*P		**P**	**12 57 42.6**	**-0.7**
SCIA				*e*			12 57 56.0		
KONO	**Kongsberg**	**61.96**	**24**	*e*S		**S**	**13 06 07.6**	**-0.1**
KONO	**Kongsberg**	**61.96**	**24**	⇑*e*P		**P**	**12 57 42.0**	**-1.5**
KONO	**Kongsberg**	**61.96**	**24**	⇑*e*P		**P**	**12 57 42.1**	**-1.4**
GKP	**Gorka Klasztor**	**62.03**	**32**	*e*P		**P**	**12 57 43.5**	**-0.4**
GKP				*ep*P		pP	12 57 51.9	+4.8	
GKP				*e*S		**S**	**13 06 10.1**	**+1.6**
GKP				L			13 19 16.4		
	comp=Z,1.7nm,22.9s								
NIE	**Niedzica**	**62.10**	**37**	*e*P		**P**	**12 57 45.4**	**+1.0**
EFI	**East Falkland**	**62.12**	**196**	PFAKE			12 58 00.0	+15	
EFI				LR		LR			
	comp=Z,391nm,20.0s,MS4.6								
OJC	**Ojcow**	**62.12**	**36**	*e*P		**P**	**12 57 44.4**	**-0.1**
OJC				*e*S		**S**	**13 06 13.2**	**+3.5**
OJC				L			13 25 47.6		
	comp=Z,4.8nm,19.2s								
GZR	**Gura Zlata**	**62.21**	**42**	⇓*i*P		**P**	**12 57 45.6**	**+0.4**
GZR	**Gura Zlata**	**62.21**	**42**	P		**P**	**12 57 46.0**	**+0.8**
PGB	**Panagyurishte**	**62.30**	**46**	*i* P		**P**	**12 57 46.3**	**+0.6**
RZN	**Rozhen**	**62.45**	**47**	*i* P		**P**	**12 57 47.4**	**+0.7**
PLD	**Plovdiv**	**62.55**	**46**	*e*P		**P**	**12 57 48.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**62.60**	**38**	*e*P		**P**	**12 57 48.1**	**+0.3**
CRVS				*e*S		**S**	**13 06 18.2**	**+2.5**
DRGR		**62.63**	**41**	⇓*i*P		**P**	**12 57 47.8**	**-0.2**
DRGR		**62.63**	**41**	P		**P**	**12 57 48.1**	**+0.1**
DRGR		**62.63**	**41**	⇓P		**P**	**12 57 47.8**	**-0.2**
STHS	**Stebnicka Huta**	**62.66**	**37**	*e*P		**P**	**12 57 48.9**	**+0.7**
STHS				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.9								
STHS	**Stebnicka Huta**	**62.66**	**37**	*e*P		**P**	**12 57 48.9**	**+0.7**
	comp=Z,14nm,1.4s,mb4.9								
EYMN	**Ely**	**62.70**	**321**	*e*P		**P**	**12 57 47.1**	**-1.4**
	comp=Z,4.6nm,1.2s,mb4.5								
EYMN				LR		LR			
	comp=Z,44nm,20.0s								
KDZ	**Kurdzhali**	**62.94**	**47**	*i* P		**P**	**12 57 49.9**	**-0.2**
KVTX	**Kingsville**	**62.95**	**297**	*e*P		**P**	**12 57 51.4**	**+1.4**
BOZC	**Bozcaada**	**62.96**	**49**	*i* P		**P**	**12 57 50.3**	**+0.1**
UZH	**Uzhgorod**	**63.01**	**39**	⇓*e*P		**P**	**12 57 50.0**	**-0.5**
UZH				*e*			12 57 57.0		
UZH				*e*			12 58 35.0		
UZH				*e*S		**S**	**13 06 16.0**	**-4.9**
UZH				*e*			13 06 29.0		
UZH				pmax		pmax			
	comp=Z,105nm,1.5s,mb5.8								
UZH				MLR		MLR			
	comp=

JMIC e 13 07 02.0
JMIC AMS AMS 13 20 51.5
comp=Z,363nm,19.9s,MS4.6
JMIC Jan Mayen 65.69 9 *e*P **P** **12 58 07.1 -1.0**
JMIC e 13 07 02.0
TIRR Tirgusor 65.78 44⇑ *i*P **P** **12 58 07.6 -1.0**
TIRR Tirgusor 65.78 44 P **P** **12 58 09.4 +0.8**
TIRR Tirgusor 65.78 44 ⇓P **P** **12 58 08.1 -0.5**
ADVT Abdulvahap 65.85 49 *e*P **P** **12 58 07.4 -1.7**
TKTP Tekketepe 65.85 52 *i* P **P** **12 58 09.6 +0.5**
NSS Namsos 65.86 20 *e*P **P** **12 58 07.8 -1.4**
NSS AMb AMB 12 58 11.2
comp=Z,131nm,2.0s,mb5.6
NSS Namsos 65.86 20 *e*P **P** **12 58 07.8 -1.4**
comp=Z,131nm,2.0s,mb5.6
SUR Sutherland 65.90 130 P **P** **12 58 09.0 -0.4**
comp=Z,44nm,1.2s,mb5.4,baz=292,slow=3.9,SNR=7.1
SUR Sutherland 65.90 130 *e*P **P** **12 58 09.4 0.0**
comp=Z,132nm,1.4s,mb5.8
SUR LR LR
comp=Z,513nm,20.0s,MS4.7
CBKS Cedar Bluff 66.07 309 *e*P **P** **12 58 10.0 -0.5**
CBKS pmax pmax
comp=Z,119nm,1.1s,mb5.8
CBKS Cedar Bluff 66.07 309 *e*P **P** **12 58 10.0 -0.6**
comp=Z,119nm,1.1s,mb5.8
CBKS *e* 12 58 23.9
LSZ Lusaka 66.18 110 LR LR 13 21 27.9
comp=Z,1μm,20.3s,MS5.2,baz=311,slow=31
LSZ Lusaka 66.18 110 ⇓P **P** **12 58 12.2 +1.0**
SNR=21
LSZ Lusaka 66.18 110 *e*P **P** **12 58 12.0 +0.8**
LSZ *e* 12 58 19.9
LSZ pmax pmax
comp=Z,142nm,1.6s,mb5.8
LSZ MLR MLR
comp=Z,1μm,20.0s,MS5.2
LSZ Lusaka 66.18 110 *e*P **P** **12 58 12.0 +0.8**
comp=Z,142nm,1.6s,mb5.8
LSZ *e* 12 58 19.9
LSZ LR LR
comp=Z,1μm,20.0s,MS5.2
ULM Lac du Bonnet 66.19 322 P **P** **12 58 09.8 -1.4**
comp=Z,44nm,1.1s,mb5.4,baz=114,slow=6.4,SNR=39
ULM LR LR 13 22 30.9
comp=Z,498nm,21.1s,MS4.7,baz=239,slow=32
ULM Lac du Bonnet 66.19 322 *e*P **P** **12 58 09.5 -1.8**
comp=Z,137nm,1.3s,mb5.8
ULM *e* 12 58 22.8
ESKT Eskisehir 66.52 50 *e*P **P** **12 58 13.1 -0.3**
ESKT Eskisehir 66.52 50 *i* P **P** **12 58 13.3 0.0**
KIS Kishinev 66.69 42*c i*P **P** **12 58 12.0 -2.5**
KIS *e* 13 00 42.0
KIS *e* 13 02 24.0
KIS *e*S S 13 07 04.0 -2.2
KIS pmax pmax
comp=Z,500nm,2.0s,mb6.2
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.3
KIS MLR MLR
comp=E,600nm,19.0s
KIS MLR MLR
comp=E,1μm,20.0s
KIS MLR MLR
comp=Z,2μm,20.0s
LBTB Lobatse 66.84 121 P **P** **12 58 15.6 +0.1**
comp=Z,37nm,1.2s,mb5.3,baz=285,slow=7.6,SNR=21
LBTB Lobatse 66.84 121 *e*P **P** **12 58 15.1 -0.3**
LBTB pmax pmax
comp=Z,99nm,1.5s,mb5.6
LBTB MLR MLR
comp=Z,1μm,22.0s,MS5.1
LBTB Lobatse 66.84 121 *e*P **P** **12 58 15.1 -0.3**
comp=Z,99nm,1.5s,mb5.6
LBTB LR LR
comp=Z,1μm,22.0s,MS5.1
KDHN Kadinhani 67.32 51 *i* P **P** **12 58 18.5 0.0**
HDMB Hadim 67.38 53 *e*P **P** **12 58 18.9 0.0**
KONT Konya--Tatoy 67.42 52 *e*P **P** **12 58 16.2 -2.9**
SGKT Sivrigoynuk 67.61 49 *i* P **P** **12 58 20.1 -0.2**
ERMK Ermenek 67.68 53 *i* P **P** **12 58 21.5 +0.8**
BOSA Boshof 67.86 125 P **P** **12 58 21.9 0.0**
comp=Z,36nm,1.1s,mb5.3,baz=296,slow=6.4,SNR=26
BOSA LR LR 13 22 16.4
comp=Z,1μm,19.5s,MS5.1,baz=292,slow=31
BOSA Boshof 67.86 125 *e*P **P** **12 58 21.2 -0.7**
BOSA *e* 12 58 29.4
BOSA pmax pmax
comp=Z,174nm,1.5s,mb5.9
BOSA MLR MLR
comp=Z,1μm,21.0s,MS5.1
BOSA Boshof 67.86 125 *e*P **P** **12 58 21.2 -0.7**
comp=Z,174nm,1.5s,mb5.9
BOSA *e* 12 58 29.4
BOSA LR LR
comp=Z,1μm,21.0s,MS5.1
MATP Matopo 67.90 115 P **P** **12 58 21.2 -0.9**
comp=Z,32nm,1.3s,mb5.2,baz=297,slow=8.5,SNR=6.2
MATP LR LR 13 22 26.3
comp=Z,1μm,20.7s,MS5.1,baz=288,slow=31
AKASG Malin Array Be 67.94 38 P **P** **12 58 21.2 -1.2**
comp=Z,6.0nm,0.6s,mb4.8,baz=255,slow=6.6,SNR=66
AKASG LR LR 13 26 37.5
comp=Z,452nm,20.0s,MS4.7,baz=255,slow=35
AKASG Malin Array Be 67.94 38 P **P** **12 58 21.2 -1.2**
AKASG LR LR 13 26 37.5
AKBB Malin Array Si 67.94 38 *e*P **P** **12 58 21.4 -1.0**
AKBB *e* 12 58 28.4
ANTO Ankara 68.05 50 *e*P **P** **12 58 22.0 -1.1**
ANTO Ankara 68.05 50⇑ *i*P **P** **12 58 23.2 +0.1**
ANTO Ankara 68.05 50 P **P** **12 58 24.3 +1.2**
SNR=15
ANTO Ankara 68.05 50 *e*P **P** **12 58 23.5 +0.4**
ANTO *e* 12 58 30.9
ANTO pmax pmax
comp=Z,121nm,1.4s,mb5.7
ANTO Ankara 68.05 50 *e*P **P** **12 58 23.5 +0.4**
comp=Z,120nm,1.4s,mb5.7
ANTO *e* 12 58 30.9
SAFT Safranbolu 68.19 49 *e*P **P** **12 58 23.9 -0.1**
FCC Fort Churchill 68.22 331 *e*P **P** **12 58 23.2 -0.9**
FCC pmax pmax
comp=Z,274nm,1.5s,mb6.1
FCC Fort Churchill 68.22 331 *e*P **P** **12 58 23.2 -0.9**
comp=Z,274nm,1.5s,mb6.1
FCC *e* 12 58 36.6
IKL Isikli 68.25 54 *e*P **P** **12 58 23.9 -0.4**
MNK Minsk 68.27 34 *e*P **P** **12 58 20.0 -4.5**
BR131 Keskin Array S 68.67 50 *e*P **P** **12 58 26.9 -0.1**
comp=Z,88nm,1.3s,mb5.5
BR131 *e* 12 58 35.0
BRTR Keskin Array B 68.67 50 P **P** **12 58 27.4 +0.4**
comp=Z,26nm,1.1s,mb5.1,baz=242,slow=5.0,SNR=60
BRTR LR LR 13 30 27.4
comp=Z,941nm,21.4s,MS5.0,baz=333,slow=38
BRTR Keskin Array B 68.67 50 P **P** **12 58 27.4 +0.4**
BRTR pmax pmax
comp=Z,26nm,1.1s
BRTR MLR MLR
comp=Z,941nm,21.4s
KAMT Kaman 68.68 51 *e*P **P** **12 58 27.0 0.0**
BALT Daday 68.76 48 *i* P **P** **12 58 27.0 -0.5**
CANT Cankiri 68.79 49 *e*P **P** **12 58 26.6 -1.1**
MERS Mersin 68.99 53 *e*P **P** **12 58 28.6 -0.4**
TOS Tosya 69.16 49 *e*P **P** **12 58 30.1 +0.1**
CDAG Cicekdag 69.22 50 *i* P **P** **12 58 30.3 -0.1**
KARA Karaisali 69.46 53 *e*P **P** **12 58 31.8 -0.1**
AVNT Avonos 69.48 51 *i* P **P** **12 58 32.1 +0.1**
CORM Corum 69.49 50 *e*P **P** **12 58 31.3 -0.8**
BYBT Boyabat 69.78 49 *e*P **P** **12 58 34.5 +0.7**
MNTX Cornudas Mount 69.80 301 *e*P **P** **12 58 32.9 -1.0**
comp=Z,37nm,1.0s,mb5.3
MNTX *e* 12 58 46.8
SIM Simferopol' **69.86 45***c e*P **P** **12 58 36.0 +1.7**
SIM *e* 13 01 11.0
SIM *e*S S 13 07 50.0 +6.0
SIM *e*PS 13 08 22.0
SIM pmax pmax
comp=Z,21nm,0.9s,mb5.1
SIM MLR MLR
comp=Z,2μm,19.0s,MS5.3
FINES FINESS Array B 69.87 27 P **P** **12 58 33.7 -0.7**
comp=Z,7.1nm,0.8s,mb4.7,baz=225,slow=0.5,SNR=17
FINES LR LR 13 25 32.5
comp=Z,1μm,21.3s,MS5.2,baz=246,slow=33

FINES FINESS Array B 69.87 27 P **P** **12 58 33.7 -0.7**
FINES LR LR 13 25 32.5
FIA1 FINESS Array S 69.87 27 *e*P **P** **12 58 33.6 -0.8**
FIA1 *e* 12 58 41.0
BOYT Boyabat 69.87 49 *i* P **P** **12 58 34.4 0.0**
DAG Danmarks Havn 69.94 4⇓ *i*P **P** **12 58 34.0 -0.9**
comp=Z,77nm,1.4s,mb5.4
DAG Danmarks Havn 69.94 4⇓ *i*P **P** **12 58 34.0 -0.9**
DAG pmax pmax
comp=Z,77nm,1.4s,mb5.4
KOZT Kozan 70.09 53 *e*P **P** **12 58 35.0 -0.8**
RSSD Black Hills 70.16 314 *e*P **P** **12 58 35.8 -0.4**
RSSD pmax pmax
comp=Z,33nm,1.4s,mb5.1
RSSD MLR MLR
comp=Z,1μm,21.0s,MS5.1
RSSD Black Hills 70.16 314 *e*P **P** **12 58 35.8 -0.4**
comp=Z,33nm,1.4s,mb5.1
RSSD LR LR
comp=Z,1μm,21.0s,MS5.1
KAF Kangasniemi 70.23 26 *e*p **P** **12 58 36.4 -0.2**
comp=Z,22nm,0.8s,mb5.1,baz=250,slow=6.0
KAF Kangasniemi 70.23 26 *e*P **P** **12 58 36.4 -0.2**
KAF pmax pmax
comp=Z,22nm,0.8s,mb5.1
BNN Bunyan 70.26 51 *e*P **P** **12 58 36.3 -0.5**
SDCO Great Sand Dun 70.41 307 *e*P **P** **12 58 37.7 -0.1**
comp=Z,36nm,1.0s,mb5.3
SDCO LR LR
comp=Z,843nm,19.0s,MS5.0
KVT Kavak 70.68 49 *e*P **P** **12 58 39.0 -0.3**
ISCO Idaho Springs 70.73 310 *e*P **P** **12 58 40.1 +0.5**
ISCO pmax pmax
comp=Z,94nm,1.4s,mb5.5
ISCO Idaho Springs 70.73 310 *e*P **P** **12 58 40.0 +0.4**
comp=Z,94nm,1.4s,mb5.5
PHWY Pilot Hill 70.79 311 *e*P **P** **12 58 39.5 -0.5**
ANMO Albuquerque 70.93 304 *e*P **P** **12 58 41.1 +0.2**
ANMO pmax pmax
comp=Z,55nm,1.4s
ANMO MLR MLR
comp=Z,991nm,22.0s
ANMO Albuquerque 70.93 304 *e*P **P** **12 58 41.1 +0.2**
comp=Z,55nm,1.4s,mb5.3
ANMO LR LR
comp=Z,991nm,22.0s,MS5.0
KMRS Kahramanmaras 70.94 53 *e*P **P** **12 58 41.0 0.0**
DGMT Dagmar 71.02 319 *e*P **P** **12 58 41.7 +0.3**
comp=Z,212nm,1.1s,mb6.0
DGMT *e* 12 58 55.5
LPM Los Pinos Moun 71.03 304 *e*P **P** **12 58 42.5 +1.0**
LPM *e* 12 58 56.0
TRO Tromso 71.04 17 *e*P **P** **12 58 40.6 -0.9**
TRO AMb AMB 12 58 43.0
comp=Z,79nm,1.3s,mb5.5
TRO *e*S S 13 07 58.3 +0.5
TRO AMS AMS 13 34 27.9
comp=Z,563nm,14.7s,MS5.0
TRO Tromso 71.04 17 *e*P **P** **12 58 40.6 -0.9**
TRO *i* 13 07 58.7
TRO pmax pmax
comp=Z,79nm,1.3s,mb5.5
TRO Tromso 71.04 17 *e*P **P** **12 58 40.6 -0.9**
comp=Z,79nm,1.3s,mb5.5
TRO *i* 13 07 58.7
GAZ Gaziantep 71.16 53 *e*P **P** **12 58 43.7 +1.4**
SVSK Karacayir 71.26 50 *e*P **P** **12 58 42.4 -0.5**
LENM Lemitar 71.30 303 *e*P **P** **12 58 45.5 +2.4**
LENM *e* 12 58 56.8
LAZ Ladron 71.45 304 *e*P **P** **12 58 44.9 +0.9**
LAZ *e* 12 58 52.8
LAZ *e* 12 58 59.0
GZT Gaziantep 71.46 53 *i* P **P** **12 58 45.2 +1.2**
SMCO Snowmass 71.71 309 *e*P **P** **12 58 46.2 +0.7**
comp=Z,111nm,1.4s,mb5.6
SMCO *e* 12 59 00.0
LAO LASA Array 72.07 317 *e*P **P** **12 58 48.3 +0.6**
comp=Z,203nm,1.1s,mb6.0
LAO *e* 12 59 02.1
RWWY Rawlins 72.14 311 *e*P **P** **12 58 48.7 +0.5**
comp=Z,114nm,1.4s,mb5.6
RWWY *e* 12 59 02.5
ANN Anapa 72.17 45 *e*P **P** **12 58 46.6 -1.7**
ANN *e* 12 58 59.3
ANN *e* 13 01 28.3
ANN *e*S S 13 08 10.4 -0.3
ANN *e*SS SS 13 12 50.0 +1.9
ANN pmax pmax
comp=Z,194nm,1.8s,mb5.7
KMBO Kilima Mbogo 72.21 94 P **P** **12 58 50.4 +1.8**
comp=Z,14nm,1.3s,mb4.8,baz=274,slow=6.3,SNR=20
KMBO LR LR 13 28 37.6
comp=Z,2μm,19.4s,MS5.3,baz=97,slow=34
MYA Malataya 72.22 52 *e*P **P** **12 58 49.0 +0.4**
URFA Urfa 72.46 53 *e*P **P** **12 58 50.1 0.0**
JOF Joensuu 72.69 26 *e*p **P** **12 58 49.9 -1.5**
comp=Z,27nm,0.8s,mb5.2
MVCO Mesa Verde 72.74 307 *e*P **P** **12 58 52.6 +0.8**
MVCO *e* 12 59 06.1
PV01 Paradox Valley 72.86 308 *e*P **P** **12 58 53.3 +0.8**
PV01 *e* 12 59 07.2
ARCES ARCESS Array B 73.01 19 P **P** **12 58 51.7 -1.6**
comp=Z,14nm,0.7s,mb5.0,baz=225,slow=3.3,SNR=37
ARCES LR LR 13 26 48.4
comp=Z,625nm,21.4s,MS4.9,baz=232,slow=32
ARE0 ARCESS Array S 73.01 19 *e*P **P** **12 58 52.2 -1.2**
KELT Kelkit 73.01 50 *i* P **P** **12 58 53.8 +0.4**
PTK Pertek 73.02 52 *e*P **P** **12 58 54.0 +0.6**
PV10 Paradox Valley 73.25 308 *e*P **P** **12 58 55.4 +0.6**
DESE Dese 73.27 81 *e*P **P** **12 58 58.3 +3.5**
OBN Obninsk 73.31 35*α i*P **P** **12 58 54.3 -0.8**
OBN *i* 12 59 01.4
OBN *e* 12 59 16.4
OBN *e*S S 13 08 28.4 +4.6
OBN *e* 13 09 12.2
OBN pmax pmax
comp=Z,124nm,2.0s,mb5.5
OBN MLR MLR
comp=Z,900nm,21.0s,MS5.0
OBN Obninsk 73.31 35 *e*P **P** **12 58 54.5 -0.6**
comp=Z,187nm,1.9s,mb5.7
OBN *e* 12 59 02.5
OBN LR LR
comp=Z,286nm,22.0s,MS4.5
EZC Erzincan 73.41 51 *e*P **P** **12 58 55.0 -0.7**
KTUT Trabzon 73.47 50 *e*P **P** **12 58 55.5 -0.6**
KEV Kevo 73.58 19 *e*P **P** **12 58 55.3 -1.4**
KEV *e* 12 59 03.0
KEV pmax pmax
comp=Z,50nm,0.8s,mb5.5
KEV Kevo 73.58 19 *e*P **P** **12 58 55.3 -1.4**
comp=Z,50nm,0.8s,mb5.5
KEV *e* 12 59 03.0
BINT Bingol 73.87 52 *e*P **P** **12 58 59.1 +0.7**
BW06 Boulder Array 73.98 312 *e*P **P** **12 58 58.7 -0.3**
comp=Z,202nm,1.6s,mb5.8
PDAR Pinedale Array 73.98 312 P **P** **12 58 58.9 -0.2**
comp=Z,20nm,0.7s,mb5.2,baz=101,slow=6.2,SNR=126
PDAR LR LR 13 27 29.6
comp=Z,484nm,21.1s,MS4.8,baz=111,slow=33
RLMT Red Lodge 73.99 315 *e*P **P** **12 58 59.6 +0.5**
RLMT *e* 12 59 13.3
MARD Mardin 74.01 53 *i* P **P** **12 58 59.5 +0.3**
MOS Moscow 74.02 34 *e*P **P** **12 58 59.4 +0.1**
MOS *e* 12 59 09.8
MOS *e* 13 01 43.8
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,182nm,1.8s,mb5.7
MOS MLR MLR
comp=Z,2μm,19.4s,MS5.3
VRSR Storozhevoye 74.21 39 *e*P **P** **12 59 00.3 -0.1**
VRSR pmax pmax
comp=Z,40nm,1.2s,mb5.2
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,30nm,1.4s
VORD Divnogorie 74.24 39 *e*P **P** **12 59 00.0 -0.6**
VORD pmax pmax
comp=Z,110nm,1.4s,mb5.6
VORD pmax pmax
comp=N,20nm,1.9s

VORD pmax pmax
comp=E,90nm,1.5s
VOR Voronezh 74.29 38 *e*P **P** **12 59 00.5 -0.4**
VOR pmax pmax
comp=Z,200nm,1.8s,mb5.8
VOR pmax pmax
comp=E,170nm,1.7s
GCMT Greycliff 74.33 315 *e*P **P** **12 59 01.4 +0.3**
GCMT *e* 12 59 15.2
TUC Tucson 74.41 301 *e*P **P** **12 59 01.9 +0.3**
TUC *e* 12 59 10.0
TUC *e* 12 59 16.2
TUC pmax pmax
comp=Z,42nm,1.0s,mb5.3
TUC Tucson 74.41 301 *e*P **P** **12 59 01.9 +0.3**
comp=Z,42nm,1.0s,mb5.3
TUC *e* 12 59 10.0
TUC *e* 12 59 16.2
SRU San Rafael 74.45 308 *e*P **P** **12 59 01.8 0.0**
SRU pmax pmax
comp=Z,161nm,1.6s,mb5.7
SRU San Rafael 74.45 308 *e*P **P** **12 59 01.8 0.0**
comp=Z,161nm,1.6s,mb5.7
EZM Erzurum 74.61 51 *e*P **P** **12 59 04.2 +1.4**
EGMT Eagleton 74.62 318 *e*P **P** **12 59 02.6 -0.2**
comp=Z,61nm,1.2s,mb5.4
EGMT *e* 12 59 16.2
LKWY Lake 74.74 314 *e*P **P** **12 59 04.9 +1.4**
LKWY pmax pmax
comp=Z,246nm,1.8s,mb5.8
LKWY Lake 74.74 314 *e*P **P** **12 59 04.9 +1.4**
comp=Z,246nm,1.8s,mb5.8
LOHW Long Hollow 74.81 313 *e*P **P** **12 59 03.9 0.0**
comp=Z,141nm,1.3s,mb5.7
LOHW *e* 12 59 18.0
BCA Borcka 74.90 49 *e*P **P** **12 59 02.6 -1.8**
SNOW Snow King Moun 74.91 313 *e*P **P** **12 59 05.1 +0.6**
comp=Z,121nm,1.1s,mb5.7
SNOW *e* 12 59 18.6
FLWY Flagg Ranch 74.92 314 *e*P **P** **12 59 05.0 +0.4**
comp=Z,475nm,1.5s,mb6.2
MOOW Moose Ponds 74.92 313 *e*P **P** **12 59 04.3 -0.2**
comp=Z,94nm,1.3s,mb5.6
MOOW *e* 12 59 18.1
YNR Norris Junctio 74.95 314 *e*P **P** **12 59 05.4 +0.7**
APA Apatity 74.97 22⇓ *i*P **P** **12 59 05.0 +0.2**
APA *i* 12 59 12.7
APA *i*S S 13 08 45.0 +2.5
APA pmax pmax
comp=Z,280nm,1.8s,mb5.9
REDW Red Top Meadow 74.97 313 *e*P **P** **12 59 05.0 +0.2**
comp=Z,145nm,1.2s,mb5.8
REDW *e* 12 59 19.0
WUAZ Wupatki 74.98 305 *e*P **P** **12 59 05.9 +1.0**
comp=Z,98nm,1.0s,mb5.7
WUAZ *e* 12 59 20.1
TMUT Trail Mountain 75.00 309 *e*P **P** **12 59 05.9 +0.9**
YFT Old Faithful 75.04 314 *e*P **P** **12 59 07.3 +2.1**
YFT *e* 12 59 20.8
TPAW Teton Pass 75.05 313 *e*P **P** **12 59 05.5 +0.2**
comp=Z,234nm,1.4s,mb5.9
TPAW *e* 12 59 19.9
IMW Indian Meadow 75.08 313 *e*P **P** **12 59 05.8 +0.4**
comp=Z,346nm,1.5s,mb6.1
IMW *e* 12 59 18.9
DAU Daniels Canyon 75.09 310 *e*P **P** **12 59 06.4 +0.9**
AHID Auburn Hatcher 75.11 312 *e*P **P** **12 59 06.2 +0.6**
comp=Z,124nm,1.4s,mb5.7
AHID *e* 12 59 19.5
YMR Madison River 75.15 314 *e*P **P** **12 59 07.1 +1.2**
comp=Z,138nm,0.9s,mb5.9
YMR *e* 12 59 20.8
KBS Kingsbay 75.16 8 *e*P **P** **12 59 09.3 +3.4**
KBS *e*S S 13 08 44.8 +0.2
KBS AMS AMS 13 26 26.9
comp=Z,287nm,19.1s,MS4.6
KBS Kingsbay 75.16 8 *e*P **P** **12 59 09.3 +3.4**
KBS *e* 13 08 54.1
PMSA Palmer Station 75.18 193 *e*P **P** **12 59 04.7 -1.3**
DCID1 Drake Creek 75.23 313 *e*P **P** **12 59 07.0 +0.7**
TCUT Toone Canyon 75.24 310 *e*P **P** **12 59 06.9 +0.5**
RRI2 Red Ridge 75.31 313 *e*P **P** **12 59 11.5 +4.7**
comp=Z,302nm,1.6s,mb6.0
RRI2 *e* 12 59 26.2
SIRT Sirnak 75.34 53 *e*P **P** **12 59 07.7 +0.7**
RES Resolute Bay 75.34 346 *e*P **P** **12 59 06.3 -0.7**
RES *e* 12 59 13.9
RES *e* 12 59 20.4
RES pmax pmax
comp=Z,189nm,1.7s,mb5.8
RES Resolute Bay 75.34 346 *e*P **P** **12 59 06.3 -0.7**
comp=Z,189nm,1.7s,mb5.8
RES *e* 12 59 13.9
RES *e* 12 59 20.4
MPU Maple Canyon 75.36 309 *e*P **P** **12 59 08.1 +1.0**
comp=Z,39nm,1.2s,mb5.2
SPB4 Spitsbergen Ar 75.36 10 *e*P **P** **12 59 08.1 +1.0**
HWUT Hardware Ranch 75.39 311 *e*P **P** **12 59 07.2 0.0**
comp=Z,79nm,0.9s,mb5.6
HWUT LR LR
comp=Z,869nm,19.0s,MS5.1
CTU Camp Tracy 75.48 310 *e*P **P** **12 59 08.0 +0.3**
comp=Z,40nm,1.1s,mb5.3
QLMT Earthquake Lak 75.49 314 *e*P **P** **12 59 09.2 +1.4**
LVZ Lovozero 75.52 21⇑ *e*P **P** **12 59 08.4 +0.4**
LVZ pmax pmax
comp=Z,162nm,2.3s,mb5.5
LVZ MLR MLR
comp=Z,500nm,17.0s,MS4.9
LVZ Lovozero 75.52 21⇑ *e*P **P** **12 59 08.5 +0.5**
BOZ Bozeman (W) 75.69 315 *e*P **P** **12 59 09.0 0.0**
BOZ pmax pmax
comp=Z,29nm,1.1s,mb5.1
BOZ Bozeman (W) 75.69 315 *e*P **P** **12 59 09.0 0.0**
comp=Z,29nm,1.1s,mb5.1
NLU North Lily Min 75.69 309 *e*P **P** **12 59 10.1 +1.1**
VRHR Novokhopersk 75.71 39 *e*P **P** **12 59 08.7 -0.4**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.3s
MSU Marysvale 75.72 308 *e*P **P** **12 59 09.9 +0.8**
MSU *e* 12 59 24.3
NOQ North Oquirrh 75.76 310 *e*P **P** **12 59 10.1 +0.8**
comp=E,265nm,1.6s,mb5.9
MSL Mosul 75.83 55 *ex* x 12 59 20.0
MSL *ex* x 13 09 05.5
KIV Kislovodsk 75.83 47 P **P** **12 59 10.6 +0.8**
comp=E,323nm,1.3s,mb6.1,SNR=11
KIV Kislovodsk 75.83 47 ⇓P **P** **12 59 10.2 +0.4**
SNR=18
KIV Kislovodsk 75.83 47*α i*P **P** **12 59 10.0 +0.2**
KIV *e* pP 12 59 14.5 +1.4
KIV *i* 12 59 17.3
KIV *i* 12 59 23.0
KIV 13 02 01.0
KIV *e*S S 13 08 55.2 +3.2
KIV *e* 13 09 38.5
KIV pmax pmax
comp=Z,144nm,1.7s,mb5.6
KIV MLR MLR
comp=Z,400nm,17.0s,MS4.8
KIV Kislovodsk 75.83 47 *e*P **P** **12 59 10.3 +0.5**
comp=Z,186nm,1.5s,mb5.8
KIV LR LR
comp=Z,188nm,22.0s,MS4.3
SPUT South Promonto 76.04 311 *e*P **P** **12 59 10.1 -0.8**
ALE Alert 76.05 356 P **P** **12 59 09.6 -1.4**
comp=Z,292nm,1.7s,mb5.9,SNR=14
VANB Van 76.12 52 *e*P **P** **12 59 12.1 +0.6**
CUKT Cukurca 76.26 54 *e*P **P** **12 59 12.6 +0.4**
DUG Dugway 76.27 309 *e*P **P** **12 59 13.1 +0.8**
DUG *e* 12 59 27.7
DUG pmax pmax
comp=Z,168nm,1.5s,mb5.8
DUG Dugway 76.27 309 *e*P **P** **12 59 13.1 +0.8**
comp=Z,168nm,1.5s,mb5.8
DUG *e* 12 59 27.6
HVU Hansel Valley 76.30 311 P **P** **12 59 12.0 -0.4**
HVU pmax pmax
comp=Z,83nm,1.5s,mb5.4
HVU Hansel Valley 76.30 311 *e*P **P** **12 59 12.5 +0.1**

comp=Z,83nm,1.5s,mb5.4
ONI Oni 76.32 48 P **P** **12 59 12.5 -0.1**
DLMT Dillon 76.35 315 *e*P **P** **12 59 12.9 +0.1**
comp=Z,258nm,1.5s,mb5.9
BGU Big Grassy Mou 76.46 310 *e*P **P** **12 59 13.8 +0.4**
BGU *e* 12 59 27.7
MCMT McKenzie Canyo 76.50 314 *e*P **P** **12 59 14.3 +0.7**
CLDR Caldiran 76.55 52 *e*P **P** **12 59 14.0 +0.1**
CCUT Cedar City 76.63 307 *e*P **P** **12 59 15.5 +1.2**
CCUT *e* 12 59 23.6
CCUT *e* 12 59 29.7
ZEI Tsey 76.66 48 *e*P **P** **12 59 14.7 +0.2**
ZEI *e**PP pP 12 59 22.6 +4.8
ZEI *e* 13 02 05.5
ZEI pmax pmax
comp=Z,109nm,1.7s,mb5.5
ARUT Antelope Range 76.69 307 *e*P **P** **12 59 16.1 +1.4**
BHD Baghdad 76.86 58 *i* x x 12 59 06.0
BHD *e*x x 12 59 16.0
BHD *e*x x 13 09 04.0
CHMT Chamberlain Mo 76.90 316 *e*P **P** **12 59 16.0 +0.2**
CHMT *e* 12 59 29.3
SEMD Semdilli 76.99 53 *e*P **P** **12 59 16.3 0.0**
GNI Garni 77.21 51 *e*P **P** **12 59 18.4 +0.9**
GNI Garni 77.21 51 ⇓P **P** **12 59 18.6 +1.0**
SNR=18
GNI Garni 77.21 51 *d i*P **P** **12 59 18.1 +0.5**
GNI pmax pmax
comp=Z,158nm,1.7s
GNI MLR MLR
comp=Z,1µm,19.0s
GNI Garni 77.21 51 *e*P **P** **12 59 18.4 +0.8**
comp=Z,203nm,1.6s,mb5.8
GNI LR LR
comp=Z,870nm,22.0s,MS5.0
TBLG Delisi 77.25 49 P **P** **12 59 19.5 +1.7**
MTA Mtatsminda 77.28 49 P **P** **12 59 18.6 +0.6**
MSO Missoula 77.37 316 *e*P **P** **12 59 18.1 -0.3**
comp=Z,34nm,1.4s,mb5.1
MSO *e* 12 59 31.9
WALA Waterton Lakes 77.46 319 *e*P **P** **12 59 18.8 -0.2**
comp=Z,184nm,1.4s,mb5.8
WALA *e* 12 59 32.8
HLID Hailey 77.57 313 *e*P **P** **12 59 20.3 +0.7**
comp=Z,68nm,1.2s,mb5.5
HLID *e* 12 59 33.8
HLID LR LR
comp=Z,811nm,19.0s,MS5.1
DGRG David-gareji 77.72 49 P **P** **12 59 21.1 +0.6**
ELK Elko 78.13 310 *e*P **P** **12 59 21.9 -0.8**
ELK *e* 12 59 37.2
ELK pmax pmax
comp=Z,57nm,1.1s
ELK Elko 78.13 310 *e*P **P** **12 59 21.9 -0.9**
comp=Z,57nm,1.1s,mb5.4
ELK *e* 12 59 37.2
TRCR Troy Canyon 78.39 308 *e*P **P** **12 59 24.7 +0.5**
TRCR *e* 12 59 39.2
YKA Yellowknife Ar 78.89 332 P **P** **12 59 25.3 -1.6**
comp=Z,24nm,0.7s,mb5.2,baz=96,slow=5.5,SNR=113
YKA LR LR 13 31 14.1
comp=Z,653nm,20.2s,MS5.0,baz=150,slow=33
YKA Yellowknife Ar 78.89 332 *i* P **P** **12 59 25.2 -1.7**
YKA pmax pmax
comp=Z,24nm,0.7s
YKA Yellowknife Ar 78.89 332 P **P** **12 59 25.3 -1.6**
YKA LR LR 13 31 14.1
PFO Pinyon Flat Ob 79.17 303 P **P** **12 59 30.4 +1.9**
comp=Z,87nm,1.0s,mb5.6,SNR=5.9
PFO Pinyon Flat Ob 79.17 303 *e*P **P** **12 59 29.7 +1.2**
PFO *e* 12 59 41.9
PFO pmax pmax
comp=Z,89nm,1.9s,mb5.4
PFO Pinyon Flat Ob 79.17 303 P **P** **12 59 30.2 +1.7**
PFO pmax pmax
comp=Z,89nm,1.9s,mb5.4
PFO Pinyon Flat Ob 79.17 303 *e*P **P** **12 59 29.7 +1.3**
comp=Z,89nm,1.9s,mb5.4
PFO *e* 12 59 41.9
MAK Makhachkala 79.31 48 *e*P **P** **12 59 26.2 -3.0**
MAK *i* 13 02 27.2
MAK PPP 13 04 13.6
MAK *e*S S 13 09 24.5 -5.2
MAK *i* 13 09 52.4
MAK *e*SS SS 13 14 38.7 +2.3
MAK pmax pmax
comp=Z,175nm,1.1s,mb5.9
NAY Al-Naaiem 79.41 62 *e*P **P** **12 59 29.8 +0.1**
NAY AMb AMB 12 59 33.2
comp=Z,78nm,1.4s,mb5.4
MIB Mutribah 79.47 61 *e*P **P** **12 59 30.1 0.0**
MIB AMb AMB 12 59 33.5
comp=Z,201nm,1.5s,mb5.8
NEW Newport 79.56 318 *e*P **P** **12 59 29.8 -0.8**
NEW *e* 12 59 43.3
NEW pmax pmax
comp=Z,48nm,1.4s
NEW MLR MLR
comp=Z,673nm,20.0s
NEW Newport 79.56 318 *e*P **P** **12 59 29.8 -0.8**
comp=Z,48nm,1.4s,mb5.2
NEW *e* 12 59 43.3
NEW LR LR
comp=Z,673nm,20.0s,MS5.0
BMN Battle Mountai 79.64 310 *e*P **P** **12 59 31.5 +0.5**
BMN *e* 12 59 45.7
BMN pmax pmax
comp=Z,78nm,1.1s,mb5.5
BMN Battle Mountai 79.64 310 *e*P **P** **12 59 31.5 +0.4**
comp=Z,78nm,1.1s,mb5.5
BMN *e* 12 59 45.7
BMO Blue Mountains 79.67 314 *e*P **P** **12 59 31.2 0.0**
BMO pmax pmax
comp=Z,103nm,1.7s,mb5.5
BMO Blue Mountains 79.67 314 *e*P **P** **12 59 31.2 0.0**
comp=Z,102nm,1.7s,mb5.5
TPH Tonopah 79.69 307 *e*P **P** **12 59 32.3 +1.0**
TPH *e* 12 59 40.1
TPH pmax pmax
comp=Z,110nm,1.1s,mb5.7
TPH MLR MLR
comp=Z,500nm,19.0s,MS4.9
TPH Tonopah 79.69 307 *e*P **P** **12 59 32.3 +1.1**
comp=Z,110nm,1.1s,mb5.7
TPH *e* 12 59 40.1
TPH *e* 12 59 46.1
TPH LR LR
comp=Z,500nm,19.0s,MS4.9
RDF Al-Radifah 79.69 62 *e*P **P** **12 59 31.7 +0.4**
RDF AMb AMB 12 59 35.0
comp=Z,126nm,1.5s,mb5.6
KBD Kabd 79.80 62 *e*P **P** **12 59 32.4 +0.5**
KBD AMb AMB 12 59 35.6
comp=Z,586nm,1.7s,mb6.2
UMR Umm Al-Rimmam 79.81 61 *e*P **P** **12 59 32.4 +0.5**
UMR AMb AMB 12 59 35.6
comp=Z,312nm,1.5s,mb6.0
VNA1 Neumayer--Stat 79.82 171 *e*P **P** **12 59 31.8 -0.2**
VNA1 *e* pP 12 59 34.8 -0.5
VNA1 *e* pP 12 59 36.6 +1.3
VNA1 *e* 12 59 39.2
DAC Darwin (Calif) 80.03 305 *e*P **P** **12 59 34.3 +1.2**
DAC pmax pmax
comp=Z,58nm,1.2s,mb5.4
DAC Darwin (Calif) 80.03 305 *e*P **P** **12 59 34.3 +1.2**
comp=Z,58nm,1.2s,mb5.4
DAC *e* 12 59 48.3
VNA3 Neumayer Olymp 80.16 172 *e*P **P** **12 59 33.2 -0.6**
VNA3 *e* pP 12 59 36.5 -0.6
VNA3 *e* pP 12 59 37.5 +0.4
VNA3 *e* 12 59 40.3
VNA3 *e* 12 59 47.1
NVAR Mina Array Bea 80.53 308 P **P** **12 59 36.8 +1.0**
comp=Z,6.1nm,0.8s,mb4.6,baz=109,slow=3.3,SNR=86
OD2 Odessa Site #2 80.63 317 P **P** **12 59 36.0 -0.4**
WVOR Wild Horse Val 80.67 312 *e*P **P** **12 59 37.4 +0.8**
WVOR pmax pmax
comp=Z,130nm,1.6s,mb5.6
WVOR Wild Horse Val 80.67 312 *e*P **P** **12 59 37.4 +0.9**
comp=Z,130nm,1.6s,mb5.6
WVOR *e* 12 59 51.7
ISA Isabella 80.77 305 *e*P **P** **12 59 38.0 +0.9**
comp=Z,0.1nm,1.1s
ISA *e* 12 59 52.7
ISA LR LR
comp=Z,172nm,20.0s
MTUM Tungsten Hills 80.77 307 *e*P **P** **12 59 38.4 +1.3**
HAWA Hanford 81.21 316 *e*P **P** **12 59 39.5 0.0**
comp=Z,9.8nm,1.8s
HAWA *e* 12 59 53.1
EPH Ephrata 81.23 317 P **P** **12 59 39.5 -0.1**
PAHR Pah Rah Range 81.32 309 *e*P **P** **12 59 40.3 +0.3**
comp=Z,28nm,1.5s,mb5.0
MDW Midway 81.37 316 P **P** **12 59 40.6 +0.3**
SNAA Sanae 81.58 170 P **P** **12 59 40.9 -0.5**
comp=Z,6.9nm,1.1s,mb4.5,baz=332,slow=7.3,SNR=6.2
SNAA Sanae 81.58 170 *e*P **P** **12 59 40.2 -1.2**
SNAA *e* pP 12 59 44.0 -0.7
SNAA *e* 12 59 45.5
SNAA *e* 12 59 46.6
SNAA *e* 12 59 53.6
SNAA Sanae 81.58 170 P **P** **12 59 40.9 -0.5**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
TBM Table Mountain 81.92 317 P **P** **12 59 44.0 +0.7**
MOD Modoc 81.92 311 *e*P **P** **12 59 44.2 +1.0**
comp=Z,68nm,1.4s,mb5.4
MOD *e* 12 59 57.8
CMB Columbia Colle 82.18 307 P **P** **12 59 45.1 +0.5**
CMB pmax pmax
comp=Z,29nm,1.3s,mb5.0
CMB Columbia Colle 82.18 307 *e*P **P** **12 59 45.3 +0.8**
comp=Z,29nm,1.3s,mb5.0
CMB LR LR
comp=Z,403nm,20.0s,MS4.8
RPW Rockport 82.49 318 P **P** **12 59 45.1 -1.0**
VFP Flag Point 82.60 315 P **P** **12 59 47.8 +1.0**
LBCM Butte Creek Ri 82.77 310 P **P** **12 59 48.5 +0.9**
LRV Little Rabbit 82.78 306 *e*P **P** **12 59 49.3 +1.5**
LRV 13 00 02.9
VDB Vedder Mountai 82.85 318 P **P** **12 59 47.2 -0.9**
HOG Hogback Mounta 82.95 312 P **P** **12 59 49.8 +1.2**
OHCM Honcut 82.96 309 *e*P **P** **12 59 48.3 -0.4**
SAO San Andreas Ge 83.11 306 *e*P **P** **12 59 50.1 +0.7**
SAO pmax pmax
comp=Z,33nm,1.3s,mb5.2
SAO San Andreas Ge 83.11 306 *e*P **P** **12 59 50.1 +0.7**
comp=Z,33nm,1.3s,mb5.2
BUOR Burton Butte 83.35 312 P **P** **12 59 51.9 +1.3**
WDC Whiskeytown Da 83.69 310 *e*P **P** **12 59 51.2 -1.2**
WDC pmax pmax
comp=Z,62nm,1.9s,mb5.4
WDC Whiskeytown Da 83.69 310 *e*P **P** **12 59 51.2 -1.2**
comp=Z,62nm,1.9s,mb5.4
YBH Yreka Blue Hor 83.73 311 *e*P **P** **12 59 51.8 -0.8**
YBH pmax pmax
comp=Z,30nm,1.5s
YBH Yreka Blue Hor 83.73 311 *e*P **P** **12 59 51.8 -0.8**
comp=Z,30nm,1.5s,mb5.2
SAC San Andreas 83.82 307 *e*P **P** **12 59 54.0 +1.0**
SAC *e* 13 00 07.6
MAIT Maitri 83.86 166 *e*P **P** **12 59 46.2 -7.0**
NVL N'lazarevskaya 83.87 166 *d i*P **P** **12 59 52.8 -0.5**
NVL *e*S S 13 10 21.0 +4.1
NVL pmax pmax
comp=Z,61nm,1.7s,mb5.5
NVL MLR MLR
comp=Z,452nm,19.2s,MS4.9
COR Corvallis 83.95 314 *e*P **P** **12 59 55.0 +1.3**
COR pmax pmax
comp=Z,209nm,1.8s,mb6.0
COR Corvallis 83.95 314 *e*P **P** **12 59 55.0 +1.3**
comp=Z,209nm,1.8s,mb6.0
COR *e* 13 00 08.5
MCCM Marconi Confer 84.14 308 *e*P **P** **12 59 55.8 +1.1**
MCCM *e* 13 00 09.5
HOPS Hopland 84.22 308 *e*P **P** **12 59 56.6 +1.5**
comp=Z,143nm,1.5s,mb5.9
HOPS *e* 13 00 10.3
KIPM Iron Peak 84.47 309 *e*P **P** **12 59 57.6 +1.3**
KIPM *e* 13 00 10.7
KHMM Horse Mountain 84.56 310 *e*P **P** **12 59 58.3 +1.4**
KHMM *e* 13 00 11.9
OPO Ambohidratompo 84.64 109 P **P** **12 59 59.5 +2.3**
comp=Z,19nm,1.2s,mb5.1,baz=267,slow=4.0,SNR=5.3
KRMB Red Mountain 84.64 311 *e*P **P** **12 59 58.5 +1.2**
KRMB *e* 13 00 11.7
KBO Bosley Butte 84.82 312 *e*P **P** **12 59 59.8 +1.6**
KEBM Edson Butte 84.84 312 *e*P **P** **12 59 59.8 +1.5**
ARU Arti 85.73 34 P **P** **13 00 02.4 -0.3**
comp=Z,207nm,1.6s,mb6.1,SNR=11
ARU Arti 85.73 34 *e*P **P** **13 00 02.7 0.0**
ARU *e* 13 03 23.5
ARU *e*PPP 13 05 19.1
ARU *e*S S 13 10 25.4 -10
ARU *e*SS SS 13 16 12.3 +0.6
ARU *e*SSS 13 19 46.1
ARU MLR MLR
comp=Z,1µm,20.0s,MS5.3
ARU MLR MLR
comp=N,80nm,18.0s,MS5.2
ARU MLR MLR
comp=E,900nm,19.0s,MS5.2
ARU Arti 85.73 34 *e*P **P** **13 00 02.8 +0.1**
comp=E,140nm,1.6s,mb5.9
ARU LR LR
comp=Z,354nm,20.0s,MS4.8
ABTO Aybut 85.90 73 P **P** **13 00 04.7 +1.2**
SNR=16
INK Inuvik 86.51 338 *e*P **P** **13 00 05.7 -0.9**
INK pmax pmax
comp=Z,148nm,1.7s
INK Inuvik 86.51 338 *e*P **P** **13 00 05.7 -0.9**
comp=Z,148nm,1.7s,mb5.9
RBK Rabkut 86.74 73 ⇑P **P** **13 00 09.0 +1.3**
SNR=9.5
SVE Sverdlovsk 86.81 33 ⇓*e*P **P** **13 00 07.7 -0.3**
SVE *e*S S 13 10 52.0 +6.1
SVE *e*PS 13 11 45.0
SVE pmax pmax
comp=Z,140nm,2.0s,mb5.8
SVE MLR MLR
comp=N,200nm,18.0s,MS4.6
SVE MLR MLR
comp=E,100nm,18.0s,MS4.6
SVE MLR MLR
comp=Z,700nm,18.0s,MS5.1
HATD Hatta, Dubai 87.67 65 ⇑P **P** **13 00 12.8 +0.7**
SNR=27
ARQ Araqi 88.21 67 ⇑P **P** **13 00 16.0 +1.2**
SNR=10
BSY Bisya 88.90 67 ⇑P **P** **13 00 19.3 +1.3**
SNR=7.8
SKAG Skagway 89.13 330 *e*P **P** **13 00 19.2 +0.1**
comp=Z,147nm,2.2s,mb5.9
SMDO Samad 89.64 67 ⇑P **P** **13 00 22.8 +1.3**
SNR=6.3
EGAK Eagle 90.36 336 *e*P **P** **13 00 23.0 -1.8**
SYO Syowa Base 91.21 160 ⇑*e*P **P** **13 00 27.8 -1.0**
MENT Mentasta 92.03 334 *e*P **P** **13 00 32.5 -0.1**
ZRNK Zerenda 92.34 36 *e*P **P** **13 00 34.2 +0.2**
ZRNK pmax pmax
comp=Z,52nm,1.5s,mb5.6
ZRNK Zerenda 92.34 36 *e*P **P** **13 00 34.2 +0.2**
comp=Z,52nm,1.5s,mb5.6
COLA College 92.99 337 *e*P **P** **13 00 35.5 -1.5**
COLA pmax pmax
comp=Z,42nm,1.5s,mb5.7
COLA MLR MLR
comp=Z,561nm,21.0s,MS5.0
COLA College 92.99 337 *e*P **P** **13 00 35.5 -1.5**
comp=Z,42nm,1.5s,mb5.6
COLA LR LR
comp=Z,561nm,21.0s,MS5.0
BRVK Borovoye 93.05 36 *e*P **P** **13 00 37.3 0.0**
BRVK pmax pmax
comp=Z,17nm,1.4s,mb5.3
BRVK MLR MLR
comp=Z,189nm,22.0s,MS4.5
BRVK Borovoye 93.05 36 *e*P **P** **13 00 37.3 0.0**
comp=Z,17nm,1.4s,mb5.3
BRVK LR LR
comp=Z,189nm,22.0s,MS4.5
BVAR Borovoye Array 93.12 36 P **P** **13 00 37.3 -0.4**
comp=Z,1.6nm,0.8s,mb4.5,baz=287,slow=6.0,SNR=12
BVAR Borovoye Array 93.12 36 P **P** **13 00 37.3 -0.3**
BVAR pmax pmax
comp=Z,2.0nm,0.8s
MCK McKinley 93.90 336 PFAKE 13 00 50.0 +8.8
MCK LR LR
comp=Z,236nm,22.0s,MS4.6
IMA2 Indian Mountai 94.63 339 *e*P **P** **13 00 43.7 -0.8**
PMR Palmer 94.89 334 PFAKE 13 01 00.0 +14
PMR LR LR
comp=Z,579nm,21.0s,MS5.0
QSPA South Pole Qui 97.36 180 *e*P **P** **13 00 56.0 -0.9**
comp=Z,26nm,1.6s,mb5.4
QSPA LR LR
comp=Z,340nm,22.0s,MS4.8
AAK Ala-Archa 98.89 45 P **P** **13 01 04.9 +1.1**
SNR=11
AAK Ala-Archa 98.89 45 P **P** **13 01 04.3 +0.5**
AAK *e* 13 01 11.7
AAK pmax pmax
comp=Z,48nm,1.9s,mb5.7
AAK Ala-Archa 98.89 45 *e*P **P** **13 01 03.9 0.0**
comp=Z,48nm,1.9s,mb5.7
AAK LR LR
comp=Z,135nm,20.0s,MS4.4
FRU Bishkek 98.91 45 *e*P **P** **13 01 06.0 +2.1**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.8
RKT Rikitea 102.31 248 *e*SKSac SKSac 13 11 57.5 -1.2
comp=Z,181nm,29.8s
RKT *e*SP SP 13 14 31.7 -4.3
comp=Z,532nm,31.8s
RKT *e*SS SS 13 20 06.7 -1.6
comp=Z,409nm,27.2s
RKT *e*LR LR 13 34 45.6
comp=Z,1µm,38.0s
MKAR Makanchi Array 102.52 39 Pdiff Pdif 13 01 21.6 +1.6
comp=Z,0.6nm,0.6s,baz=298,slow=2.6,SNR=9.1
MKAR PKiKP PKiKP 13 05 43.2 +2.0
comp=Z,3.3nm,1.1s,baz=285,slow=4.8,SNR=6.3
MKAR Makanchi Array 102.52 39 P Pdif 13 01 21.6 +1.6
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 103.36 352 *e*P Pdif 13 01 22.8 -0.9
BILL *e* 13 05 35.6
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 103.36 352 PFAKE 13 01 30.0 +6.3
BILL LR LR
comp=Z,358nm,21.0s,MS4.9
TAOE Nuku Hiva Isla 106.34 263 *e*LR LR 13 36 47.4
comp=Z,2µm,26.3s
UNV Unalaska Valle 106.86 333 PFAKE 13 06 00.0 +11
UNV LR LR
comp=Z,772nm,19.0s,MS5.3
SBA Scott Base 108.63 185 PFAKE 13 06 00.0 +7.5
SBA LR LR
comp=Z,403nm,19.0s,MS5.0
VNDA Vanda 109.31 184 PFAKE 13 06 00.0 +6.2
VNDA LR LR
comp=Z,396nm,19.0s,MS5.0
YAK Yakutsk 109.78 8 PFAKE 13 06 10.0 +15
YAK LR LR
comp=Z,450nm,22.0s,MS5.0
TLY Talaya 111.22 26 PFAKE 13 06 10.0 +13
TLY LR LR
comp=Z,239nm,22.0s,MS4.7
ZAK Zakamensk 111.97 28 *e*PKIKP PKiKP 13 05 58.4 -0.4
ZAK pmax pmax
comp=Z,3.0nm,2.1s
SONM Songino Array 115.22 28 PKiKP PKiKP 13 06 05.3 +0.3
comp=Z,1.5nm,1.0s,baz=298,slow=3.2,SNR=7.9
SONM PP PP 13 07 04.3 -0.9
comp=Z,2.6nm,1.2s,baz=325,slow=7.2,SNR=6.3
SONM Songino Array 115.22 28 *i* PKIKP PKiKP 13 06 05.3 +0.3
SONM 13 07 04.3
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM pmax pmax
comp=Z,3.0nm,1.2s
TBI Tubuai 115.63 248 *e*SP SP 13 16 44.0 -3.3
comp=Z,562nm,28.5s
TBI *e*SS SS 13 23 11.2 +3.4
comp=Z,592nm,32.0s
TBI *e*LR LR 13 40 46.8
comp=Z,1µm,29.8s
PPT Papeete 115.90 254 *e*PS PS 13 16 51.3 +0.2
comp=Z,268nm,25.0s
PPT Papeete 115.90 254 *e*SS SS 13 23 14.0 +2.6
comp=Z,779nm,32.0s
PPT *e*LR LR 13 41 01.8
comp=Z,1µm,23.2s
CASY Casey 116.45 165 PFAKE 13 06 20.0 +13
CASY LR LR
comp=Z,469nm,21.0s,MS5.1
GTA Gaotai 117.27 38 *e*PKP PKPdf 13 06 08.3 -0.7
GTA PP PP 13 07 23.3 +3.7
GTA PKS 13 09 44.0
GTA SKS SKSdf 13 13 19.0 -2.1
GTA SKKS SKKSac 13 14 21.0 +0.4
GTA SS SS 13 23 31.0 +1.8
GTA PP PP
comp=Z,112nm,5.3s
GTA LR LR
comp=N,390nm,18.2s,MS5.2
GTA LR LR
comp=E,460nm,21.3s,MS5.2
GTA LR LR
comp=Z,454nm,25.9s,MS5.0
LZH Lanzhou 121.83 39 *e*PKP PKPdf 13 06 18.5 +0.7
LZH XPKP 13 06 26.0
LZH PP PP 13 07 54.0 +3.0
LZH PKS 13 09 56.5
LZH PPP 13 10 33.0
LZH SKS SKSdf 13 13 23.0 -6.8
LZH SKKS SKKSac 13 14 41.0 -10
LZH PP PP
comp=Z,282nm,7.1s
LZH LR LR
comp=N,1µm,19.3s
LZH LR LR
comp=Z,2µm,20.8s,MS5.7
LZH Lanzhou 121.83 39 *e*PKIKP PKPdf 13 06 18.5 +0.7
LZH 13 06 26.0
LZH 13 07 54.0
LZH PPP 13 10 33.1
LZH 13 13 23.0
LZH SS SS 13 24 21.0 -7.0
LZH Lanzhou 121.83 39 *e*PKP PKPdf 13 06 18.5 +0.7
LZH sPKP 13 06 26.0
LZH PP PP 13 07 54.0 +3.0
LZH PKS 13 09 56.6
LZH PPP 13 10 33.1
LZH SKS SKSdf 13 13 23.0 -6.8
LZH SKKS SKKSac 13 14 41.0 -10
LZH SS SS 13 24 21.0 -7.0
KLR Kul'dur 122.43 11 *e*PKIKP PKPdf 13 06 14.7 -4.2
HHC Hu-ho-hao-te 122.88 30 *e*PKP PKPdf 13 06 18.0 -1.8
HHC PP PP 13 08 00.0 +1.9
HHC PKS 13 09 53.0
HHC SKS SKSdf 13 13 26.3 -5.5
HHC SKKS SKKSac 13 14 49.0 -8.4
HHC SS SS 13 24 38.0 -3.3
HHC PP PP
comp=Z,95nm,5.9s
HHC LR LR
comp=N,752nm,17.8s,MS5.5
HHC LR LR
comp=E,508nm,13.9s,MS5.5
HHC LR LR
comp=Z,1µm,24.0s
CD2 Chengdu 124.95 44 *e*PKP PKPdf 13 06 22.3 -1.4
CD2 XPKP 13 06 29.5
CD2 PKS 13 09 57.5
CD2 SKS SKSdf 13 13 31.0 -4.7
CD2 SKKS SKKSac 13 15 04.3 -6.4
CD2 PP PP
comp=Z,120nm,10.6s
CD2 LR LR
comp=E,120nm,25.8s
CD2 LR LR
comp=Z,140nm,24.2s,MS4.5
BJI Beijing 125.71 27 PKP PKPdf 13 06 26.0 +0.8
BJI PP PP 13 08 26.5 +9.4
BJI PP PP
comp=Z,245nm,4.7s
BJI LR LR
comp=N,899nm,21.0s,MS5.5

BJI				LR	LR				
	comp=E,497nm,22.7s,MS5.5								
BJI				LR	LR				
	comp=Z,1μm,21.5s,MS5.5								
CN2	**Changchun**	**126.01**	**18**	*e*PKP	PKPdf	13 06 25.0	-0.8		
CN2				PP	PP	13 08 21.8	+2.7		
CN2				LR	LR				
	comp=N,330nm,18.0s,MS5.2								
CN2				LR	LR				
	comp=E,320nm,18.0s,MS5.2								
CN2				LR	LR				
	comp=Z,510nm,21.0s,MS5.2								
MDJ	**Mudanjiang**	**126.38**	**14**	PKP	PKPdf	13 06 25.5	-1.0		
MDJ				XPKP		13 06 33.5			
MDJ				SKS	SKSdf	13 13 35.0	-3.3		
MDJ				SS	SS	13 25 26.3	+0.9		
MDJ				PP	PP				
	comp=Z,34nm,6.7s								
SNY	**Shenyang**	**127.18**	**20**	PKP	PKPdf	13 06 27.3	-0.7		
SNY				PP	PP	13 08 32.3	+5.5		
SNY				SS	SS	13 25 37.0	+1.6		
SNY				PP	PP				
	comp=Z,196nm,5.4s								
SNY				LR	LR				
	comp=N,336nm,21.1s,MS5.1								
SNY				LR	LR				
	comp=E,262nm,23.5s,MS5.1								
SNY				LR	LR				
	comp=Z,451nm,25.2s,MS5.0								
KMI	**Kunming**	**127.47**	**51**	PKP	PKPdf	13 06 29.0	+0.5		
KMI				PP	PP	13 08 32.5	+3.8		
KMI				PS	PS	13 18 39.0	+4.9		
KMI				SS	SS	13 25 38.0	-1.0		
KMI				SSS		13 30 17.0			
KMI				PP	PP				
	comp=Z,277nm,6.0s								
KMI				LR	LR				
	comp=N,517nm,20.1s,MS5.4								
KMI				LR	LR				
	comp=E,683nm,20.1s,MS5.4								
KMI				LR	LR				
	comp=Z,844nm,17.2s,MS5.5								
KMI	**Kunming**	**127.47**	**51**	PKIKP	PKPdf	13 06 29.0	+0.5		
KMI						13 06 36.8			
KMI						13 08 32.4			
KMI				PS	PS	13 18 39.1	+5.0		
KMI				SS	SS	13 25 37.9	-1.1		
KMI				SSS		13 30 17.1			
KMI	**Kunming**	**127.47**	**51**	PKP	PKPdf	13 06 29.0	+0.5		
KMI				pPKP	pPKPdf	13 06 36.8	+4.8		
KMI				sPKP		13 06 41.1			
KMI				PP	PP	13 08 32.4	+3.7		
KMI				PS	PS	13 18 39.1	+5.0		
KMI				SS	SS	13 25 37.9	-1.1		
KMI				SSS		13 30 17.1			
ASAJ	**Asahikawa**	**128.73**	**3**	PKP	PKPdf	13 06 30.6	-0.4		
	comp=Z,14nm,1.2s,baz=242,slow=8.6,SNR=7.3								
ASAJ	**Asahikawa**	**128.73**	**3**	PKIKP	PKPdf	13 06 30.6	-0.4		
ASAJ				pmax	pmax				
	comp=Z,14nm,1.2s								
GYA	**Guiyang**	**129.64**	**47**	*i*PKP	PKPdf	13 06 34.5	+1.8		
GYA				PP	PP	13 08 45.0	+2.0		
GYA				PKS		13 10 09.5			
GYA				SKKS	SKKSac	13 15 36.8	-3.4		
GYA				PP	PP				
	comp=Z,290nm,5.1s								
GYA				LR	LR				
	comp=N,1μm,20.4s,MS5.7								
GYA				LR	LR				
	comp=E,970nm,20.8s,MS5.7								
GYA				LR	LR				
	comp=Z,1μm,20.3s,MS5.5								
WHN	**Wuhan**	**132.03**	**37**	*e*PKP	PKPdf	13 06 37.3	+0.1		
WHN				LR	LR				
	comp=Z,1μm,22.4s,MS5.6								
PSI	**Prapat**	**132.59**	**79**	PKP	PKPdf	13 06 38.6	+0.4		
	comp=Z,3.1nm,0.7s,baz=235,slow=5.9,SNR=9.7								
PSI	**Prapat**	**132.59**	**79**	PKIKP	PKPdf	13 06 38.7	+0.4		
PSI				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NJ2	**Nanjing**	**133.39**	**31**	*e*PKP	PKPdf	13 06 36.3	-3.5		
NJ2				PP	PP	13 09 08.0	+0.8		
NJ2				SKS	SKSdf	13 13 44.0	-7.1		
NJ2				SS	SS	13 26 49.0	-2.7		
NJ2				PP	PP				
	comp=Z,470nm,6.0s								
NJ2				LR	LR				
	comp=Z,600nm,23.5s,MS5.2								
MAT	**Matsushiro**	**135.85**	**8**	PKP	PKPdf	13 06 42.0	-2.4		
MJAR	**Matsushiro Arr**	**135.85**	**8**	PKP	PKPdf	13 06 43.1	-1.2		
	comp=Z,1.1nm,0.8s,baz=342,slow=2.0,SNR=6.8								
MJAR				PP	PP	13 09 22.1	-0.7		
	comp=Z,1.8nm,1.1s,baz=349,slow=5.2,SNR=6.0								
MJAR	**Matsushiro Arr**	**135.85**	**8**	PKIKP	PKPdf	13 06 43.1	-1.3		
MJAR						13 09 22.1			
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MJAR				pmax	pmax				
	comp=Z,2.0nm,1.1s								
KSM	**Kuching**	**143.96**	**77**	*e*PKPdf	PKPdf	13 06 57.7	-1.4		
KLBR	**Kellerberrin**	**144.71**	**137**	*e*PKP	PKPdf	13 06 58.9	-1.5		
	comp=Z,190nm,1.5s								
KKM	**Kota Kinabalu**	**148.04**	**66**	*e*PKPdf	PKPdf	13 07 06.9	+0.9		
TOO	**Toolangi**	**149.90**	**180**	*e*PKP	PKPbc	13 07 14.4	+0.5		
	comp=Z,23nm,1.4s								
FORT	**Forrest**	**151.60**	**147**	*e*PKP	PKPbc	13 07 18.5	+0.6		
	comp=Z,40nm,1.3s								
MBWA	**Marble Bar**	**151.68**	**122**	*e*PKPbc	PKPbc	13 07 19.1	+1.0		
CNB	**Canberra Magne**	**151.91**	**187**	*e*PKP	PKPbc	13 07 18.4	-0.2		
	comp=Z,45nm,1.3s								
STKA	**Stephens Creek**	**155.33**	**172**	*e*PKP	PKPdf	13 07 16.9	-0.1		
	comp=Z,7.0nm,1.6s								
STKA	**Stephens Creek**	**155.33**	**172**	PKP	PKPdf	13 07 17.0	0.0		
	comp=Z,3.3nm,1.0s,baz=186,slow=5.7,SNR=6.0								
FITZ	**Fitzroy Crossi**	**158.02**	**121**	*e*PKP	PKPdf	13 07 20.8	+0.3		
	comp=Z,16nm,1.5s								
FITZ	**Fitzroy Crossi**	**158.02**	**121**	PKP	PKPdf	13 07 20.8	+0.4		
	comp=Z,6.1nm,1.2s,baz=301,slow=5.8,SNR=6.1								
FITZ				PKPab	PKPab	13 07 55.5	+1.7		
	comp=Z,9.6nm,1.1s,baz=253,slow=3.5,SNR=6.0								
ASAR	**Alice Springs**	**160.39**	**147**	PKP	PKPdf	13 07 22.9	-0.3		
	comp=Z,9.4nm,1.2s,baz=183,slow=0.6,SNR=27								
ASAR				PKPab	PKPab	13 08 03.7	-0.4		
	comp=Z,6.4nm,1.2s,baz=199,slow=3.2,SNR=6.3								
ASAR	**Alice Springs**	**160.39**	**147**	PKIKP	PKPdf	13 07 22.9	-0.3		
ASAR						13 08 03.7			
ASAR				pmax	pmax				
	comp=Z,9.0nm,1.2s								
ASAR				pmax	pmax				
	comp=Z,6.0nm,1.2s								
AS31	**Alice Springs**	**160.39**	**147**	*e*PKPdf	PKPdf	13 07 23.0	-0.2		
WRA	**Warramunga Arr**	**163.53**	**141**	PKP	PKPdf	13 07 25.2	-1.2		
	comp=Z,15nm,1.3s,baz=260,slow=1.0,SNR=22								
WRA				PKPab	PKPab	13 08 17.8	-0.1		
	comp=Z,15nm,1.3s,baz=215,slow=3.1,SNR=12								
WRA				PP	PP	13 11 59.9	-3.1		
	comp=Z,8.0nm,1.5s,baz=216,slow=4.8,SNR=6.7								
WRA	**Warramunga Arr**	**163.53**	**141**	PKIKP	PKPdf	13 07 25.2	-1.3		
WRA						13 08 17.8			
WRA						13 11 59.9			
WRA				pmax	pmax				
	comp=Z,15nm,1.3s								
WRA				pmax	pmax				
	comp=Z,15nm,1.3s								
WRA				pmax	pmax				
	comp=Z,8.0nm,1.5s								
KAKA	**Kakadu**	**166.21**	**114**	*e*PKP	PKPdf	13 07 28.3	-0.5		
	comp=Z,30nm,1.5s								
CTA	**Charters Tower**	**167.29**	**184**	*e*PKP	PKPdf	13 07 29.7	+0.1		
	comp=Z,9.1nm,1.6s								
CTA	**Charters Tower**	**167.29**	**184**	PKP	PKPdf	13 07 30.1	+0.5		
	comp=Z,4.2nm,1.0s,baz=153,slow=2.3,SNR=5.5								
CTA	**Charters Tower**	**167.29**	**184**	PKIKP	PKPdf	13 07 30.1	+0.5		
CTA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
CTAO	**Charters Tower**	**167.29**	**184**	*e*PKIKP	PKPdf	13 07 29.6	0.0		
CTAO				MLR	MLR				
	comp=Z,666nm,21.0s								

MEX 30 13:10:51.7±0.3, 1563N×9567W, h11km±10km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.44**	**288**	*i* P	Pg	13 10 59.9	-0.5
HUIG				*i* S	Sg	13 11 06.3	0.0
CMIG	**Matias Romero**	**1.64**	**27**	*i* P	Pn	13 11 17.0	-3.5
CMIG				*i* S	Sn	13 11 36.8	-4.7
VHO	**Vista Hermosa**	**1.76**	**325**	*e*P	Pn	13 11 18.9	-3.3
VHO				*i* S	Sn	13 11 40.4	-4.2
OXX	**Oaxaca**	**1.76**	**325**	*i* P	Pn	13 11 18.0	-4.2
UTMO	**Huajuapan**	**2.99**	**317**	*e*P	Pn	13 11 37.2	-1.9
UTMO				*i* S	Sn	13 12 11.6	-3.4
TPIG	**Tehuac#an**	**3.21**	**330**	*i* S	Sn	13 12 16.6	-3.7

IDC 30 13:19:03.6±0.6, 264S×13000E, h0km, mb4.1/1, mb1 4.4/2, mb1mx3.7/15, mbtmp4.1/2, ML3.8/1, MS4.9/1, Ms1 4.9/1, ms1mx3.3/23, Error ellipse: s-maj=45.7km s-min=6.5km az=78.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.71**	**166**	P	Pn	13 23 12.2	+0.6
	0.4nm,0.3s,baz=334,slow=13,SNR=25						
WRA				S	Sn	13 26 27.8	-1.8
	0.1nm,0.3s,baz=328,slow=24,SNR=4.4						
ASAR	**Alice Springs**	**21.24**	**170**	P	P	13 23 51.2	+0.1
	7.4nm,0.8s,baz=347,slow=11,SNR=54						
ASAR				S	S	13 27 50.9	+2.8
	2.6nm,0.7s,baz=348,slow=20,SNR=12						
SONM	**Songino Array**	**54.34**	**341**	LR	LR	13 54 46.2	
	comp=Z,1μm,20.1s,baz=321,slow=39						
LPAZ	**La Paz**	**154.03**	**137**	PKPbc	PKPbc	13 39 06.1	+1.0
	0.5nm,0.3s,baz=0.0,slow=4.0,SNR=3.7						

*IDC **30** 13:29:24.0±0.9, 2990S×17708W, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.2/14, mbtmp4.0/9, ML3.6/1, MS3.9/5, Ms1 3.9/5, ms1mx3.6/22, Error ellipse: s-maj=23.6km s-min=17.7km az=58.0*

*ISCJB **30** 13:29:24.8±1.7, 3013S±005×17734W±0.1, h9km±9km, mb4.1/11, MS3.9/4, Error ellipse: s-maj=16.1km s-min=7.9km az=163.4*

*NEIC **30** 13:29:26.4±2.5, 2998S×177.19W, h14km±14km, mb4.6/4, Error ellipse: s-maj=18.9km s-min=11.5km az=97.0*

ISC 30 13:29:26.5±1.8, 3004S±005×1772W±01, h11km±10km, n32, σ0s86/25, mb4.1/11, MS3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.01**	**321**	Pn	**Pn**	**13 29 45.6**	**-1.0**
	2μm,0.3s,baz=88,slow=2.9,SNR=57						
RAO				Sn	**Sn**	**13 30 00.4**	**-0.3**
	4μm,0.3s,baz=120,slow=23,SNR=34						
RAO	**Raoul Island**	**1.01**	**321**	*e*Pg	**Pg**	**13 29 45.2**	**-0.7**
RAO				*e*Sg	**Sg**	**13 30 00.2**	**+1.1**
URZ	**Urewera**	**9.46**	**208**	Pn	**Pn**	**13 31 41.8**	**-0.8**
	0.6nm,0.3s,baz=95,slow=6.5,SNR=6.7						
URZ				Sn	**Sn**	**13 33 29.0**	**+0.1**
	3.7nm,0.3s,baz=133,slow=20,SNR=11						
RPZ	**Rata Peaks**	**16.55**	**211**	Pn	**Pn**	**13 33 17.1**	**-1.4**
	1.8nm,0.3s,baz=304,slow=2.8,SNR=8.0						
RAR	**Rarotonga**	**17.98**	**65**	LR	LR	13 38 39.4	
	comp=Z,224nm,20.2s,baz=270,slow=31						
HNR	**Honiara**	**29.61**	**309**	LR	LR	13 45 39.5	
	comp=Z,99nm,19.0s,MS3.5,baz=179,slow=33						
CTA	**Charters Tower**	**34.44**	**278**	*e*P	**P**	**13 36 15.0**	**+1.1**
	4.0nm,0.9s,mb4.3						
CTA	**Charters Tower**	**34.44**	**278**	P	**P**	**13 36 14.3**	**+0.4**
	3.8nm,0.6s,mb4.5,baz=84,slow=13,SNR=6.1						
CTA				LR	LR	13 48 09.5	
	comp=Z,297nm,21.8s,MS4.0,baz=271,slow=33						
CTAO	**Charters Tower**	**34.44**	**278**	*e*P	**P**	**13 36 15.3**	**+1.4**
	8.0nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**35.24**	**256**	*e*P	**P**	**13 36 23.0**	**+2.1**
	4.5nm,1.4s,mb4.2						
STKA	**Stephens Creek**	**35.24**	**256**	P	**P**	**13 36 22.5**	**+1.6**
	3.2nm,0.8s,mb4.3,baz=100,slow=9.3,SNR=9.2						
STKA				LR	LR	13 49 47.4	
	comp=Z,257nm,19.4s,MS4.0,baz=17,slow=35						
STKA	**Stephens Creek**	**35.24**	**256**	*e*P	**P**	**13 36 22.2**	**+1.3**
PMG	**Port Moresby**	**39.09**	**294**	LR	LR	13 49 53.9	
	comp=Z,220nm,20.3s,MS4.0,baz=3.0,slow=31						
ASAR	**Alice Springs**	**43.83**	**266**	P	**P**	**13 37 32.8**	**+0.3**
	1.3nm,0.6s,mb3.9,baz=102,slow=7.5,SNR=28						
WB2	**Warramunga Arr**	**44.78**	**271**	*e*P	**P**	**13 37 39.2**	**-0.8**
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**13 37 40.0**	**-0.1**
	2.8nm,0.6s,mb4.3,baz=110,slow=8.1,SNR=58						
SBA	**Scott Base**	**48.45**	**184**	*e*P	**P**	**13 38 17.5**	**+8.7**
	1.8nm,0.7s,mb4.2						
VNDA	**Vanda**	**48.52**	**186**	P	**P**	**13 38 10.6**	**+1.2**
	0.4nm,0.6s,mb3.6,baz=14,slow=3.3,SNR=5.0						
CASY	**Casey**	**55.78**	**208**	*e*P	**P**	**13 39 03.4**	**0.0**
	3.8nm,0.6s,mb4.6						
QSPA	**South Pole Qu**	**60.07**	**180**	*e*P	**P**	**13 39 34.7**	**+1.2**
	3.2nm,0.6s,mb4.5						
MAW	**Mawson**	**72.89**	**200**	P	**P**	**13 40 55.1**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=306,slow=19,SNR=3.0						
MJAR	**Matsushiro Arr**	**78.35**	**325**	P	**P**	**13 41 25.7**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=54,slow=0.9,SNR=5.0						
CMB	**Columbia Colle**	**86.03**	**41**	P	**P**	**13 42 06.8**	**-0.2**
NVAR	**Mina Array Bea**	**87.50**	**42**	P	**P**	**13 42 14.6**	**+0.4**
	0.5nm,0.8s,mb3.8,baz=198,slow=5.4,SNR=4.7						
NVAR	**Mina Array Bea**	**87.50**	**42**	P	**P**	**13 42 14.6**	**+0.4**
KAF	**Kangasniemi**	**144.44**	**341**	*ep*	PKPdf	13 48 56.1	-6.7
FINES	**FINESS Array B**	**145.05**	**341**	PKP	PKPdf	13 49 00.7	-3.1
	4.5nm,0.7s,baz=72,slow=3.2,SNR=45						
NB2	**NORSAR Subarra**	**148.50**	**352**	PKPa	PKPbc	13 49 11.2	-2.0
	comp=Z,15nm,2.0s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**148.50**	**352**	PKPbc	PKPbc	13 49 10.4	-2.8
	comp=Z,2.8nm,1.1s,baz=18,slow=4.4,SNR=4.1						
AKASG	**Malin Array Be**	**151.43**	**324**	PKPbc	PKPbc	13 49 18.6	-1.7
	comp=Z,0.9nm,0.5s,baz=46,slow=2.4,SNR=11						
BRTR	**Keskin Array B**	**153.04**	**299**	PKPab	PKPab	13 49 33.1	-2.2
	comp=Z,0.8nm,0.6s,baz=128,slow=2.0,SNR=4.4						
GERES	**GERESS Array B**	**159.46**	**339**	PKPab	PKPab	13 50 01.0	-1.9
	comp=Z,0.3nm,0.6s,baz=229,slow=1.2,SNR=3.7						

*ISCJB **30** 13:46:59.5±0.4, 4160S±006×868W±0.1, h10km, mb4.5/27, MS4.2/7, Error ellipse: s-maj=12.1km s-min=9.2km az=5.6*

*IDC **30** 13:46:59.4±0.8, 4176S×8665W, h0km, mb4.3/10, mb1 4.4/12, mb1mx4.3/19, mbtmp4.3/12, ML3.5/2, MS4.1/10, Ms1 4.1/10, ms1mx3.9/24, Error ellipse: s-maj=25.4km s-min=16.9km az=110.0*

*NEIC **30** 13:47:01.1±0.3, 4155S×8673W, h10km, mb4.6/24, Error ellipse: s-maj=12.4km s-min=9.1km az=101.0*

*GCMT **30** 13:47:01.1±0.5, 4154S×8723W, h15km, MW5.0/54, Moment Tensor Solution. s20,c22; s54,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.19±.14; $M_{\theta\theta}$1.31±.17; $M_{\phi\phi}$-1.12±.15; $M_{r\theta}$-1.52±.45; $M_{r\phi}$-2.38±.09; $M_{\theta\phi}$1.68±.41; Best double couple: $M_0$3.37000×10^{16} NP1:ϕ252.00000°, δ55.00000°, λ173.00000°. NP2: ϕ346.00000°, δ84.00000°, λ35.00000°. Principal axes: T 3.9320, Plg28.0000°, Azm214.0000°; N -1.1210, Plg55.0000°, Azm353.0000°; P -2.8080, Plg20.0000°, Azm113.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 13:47:00.9±0.4, 4158S±006×868W±01, h10km, n59, σ1s06/48, mb4.5/27, MS4.2/7, 1C-1D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**12.30**	**91**	Pn	**Pn**	**13 50 02.3**	**+6.2**
	0.1nm,0.3s,baz=259,slow=13,SNR=17						
PLCA				LR	LR	13 53 39.7	
	comp=Z,518nm,21.1s,baz=261,slow=33						
PLCA	**Paso Flores**	**12.30**	**91**	*e*P	**Pn**	**13 50 03.2**	**+7.2**
	60nm,1.5s						
CFAA	**Coronel Fontan**	**17.91**	**62**	P	**Pn**	**13 51 09.9**	**-0.1**
	0.1nm,0.3s,baz=228,slow=11,SNR=14						
CFAA				LR	LR	13 56 37.9	
	comp=Z,94nm,20.4s,baz=235,slow=32						
USHA	**Ushuaia**	**17.98**	**144**	P	**Pn**	**13 51 06.3**	**-4.6**
	0.2nm,0.3s,baz=325,slow=2.7,SNR=2.8						
USHA				LR	LR	13 56 57.0	
	comp=Z,1μm,18.7s,baz=288,slow=34						
TRQA	**Tornquist**	**19.39**	**88**	*e*P	**Pn**	**13 51 29.3**	**+1.3**
	38nm,1.1s						
LVC	**Limon Verde**	**24.16**	**44**	P	**P**	**13 52 17.7**	**+0.6**
	23nm,0.9s,mb4.6,baz=215,slow=9.4,SNR=33						
LVC				LR	LR	13 59 22.0	
	comp=Z,535nm,19.3s,MS4.0,baz=222,slow=31						
LVC	**Limon Verde**	**24.16**	**44**	*e*P	**P**	**13 52 17.3**	**+0.2**
	32nm,1.0s,mb4.7						
PMSA	**Palmer Station**	**26.64**	**158**	P	**P**	**13 52 35.6**	**-4.1**
	8.1nm,0.9s,mb4.3,baz=125,slow=8.8,SNR=3.0						
PMSA				LR	LR	14 00 44.0	
	comp=Z,209nm,19.5s,MS3.7,baz=280,slow=31						
CPUP	**Villa Florida**	**28.64**	**67**	P	**P**	**13 52 57.4**	**-0.1**
	2.2nm,0.7s,mb4.0,baz=226,slow=8.0,SNR=8.7						
CPUP				LR	LR	14 03 31.8	
	comp=Z,522nm,18.3s,MS4.2,baz=216,slow=35						
CPUP	**Villa Florida**	**28.64**	**67**	*e*P	**P**	**13 52 57.2**	**-0.3**
	14nm,0.8s,mb4.7						
LPAZ	**La Paz**	**29.91**	**38**	P	**P**	**13 53 09.8**	**+0.9**
	1.7nm,0.6s,mb3.9,baz=230,slow=3.7,SNR=8.3						
LPAZ				LR	LR	14 02 24.8	
	comp=Z,531nm,21.1s,MS4.2,baz=22,slow=31						
LPAZ	**La Paz**	**29.91**	**38**	*e*P	**P**	**13 53 10.1**	**+1.2**
	13nm,1.5s,mb4.5						
SAML	**Samuel**	**38.63**	**39**	*e*P	**P**	**13 54 23.0**	**-1.3**
	3.8nm,0.8s,mb4.2						
BDFB	**Brasilia**	**42.24**	**64**	P	**P**	**13 54 54.5**	**+0.3**
	13nm,0.8s,mb4.6,baz=231,slow=6.5,SNR=17						
BDFB				LR	LR	14 12 09.7	
	comp=Z,355nm,18.5s,MS4.3,baz=243,slow=36						
BDFB	**Brasilia**	**42.24**	**64**	*e*P	**P**	**13 54 54.5**	**+0.3**
	28nm,0.9s,mb4.9						
RKT	**Rikitea**	**44.03**	**279**	*e*LR	LR	14 07 07.7	
	339nm,27.2s,baz=124						
ROSC	**El Rosal**	**47.60**	**17**	LR	LR	14 12 52.6	
	comp=Z,434nm,18.9s,MS4.5,baz=17,slow=32						
QSPA	**South Pole Qui**	**48.66**	**180**	*e*P	**P**	**13 55 45.1**	**+0.1**
	2.2nm,0.8s,mb4.2						
SDV	**Santo Domingo**	**52.38**	**20**	*e*P	**P**	**13 56 11.4**	**-1.7**
	14nm,1.1s,mb4.8						
SBA	**Scott Base**	**53.04**	**195**	*e*P	**P**	**13 56 18.3**	**+0.2**
	8.5nm,1.1s,mb4.6						
MAIT	**Maitri**	**54.07**	**156**	*e*P	**P**	**13 56 26.5**	**+0.9**
VNDA	**Vanda**	**54.13**	**194**	P	**P**	**13 56 26.3**	**+0.3**
	3.2nm,1.0s,mb4.2,baz=46,slow=5.5,SNR=9.6						
VNDA	**Vanda**	**54.13**	**194**	*e*P	**P**	**13 56 26.3**	**+0.3**
	3.4nm,0.9s,mb4.3						
TBI	**Tubuai**	**54.72**	**269**	*e*LR	LR	14 12 05.3	
	284nm,27.2s						
PPT	**Papeete**	**58.26**	**274**	*e*S	**S**	**14 04 38.2**	**-19**
	259nm,24.2s						
PPT				*e*LR	LR	14 13 43.2	
	227nm,27.5s						
SJG	**San Juan**	**62.40**	**22**	P	**P**	**13 57 20.7**	**-3.1**
	14nm,0.9s,mb5.1						
SYO	**Syowa Base**	**62.86**	**161**	*e*pP	**P**	**13 57 26.4**	**-0.5**
SYO	**Syowa Base**	**62.86**	**161**	*e*PcP	PcP	13 58 03.0	-2.2
MAW	**Mawson**	**68.75**	**168**	P	**P**	**13 58 03.6**	**-1.3**
	2.6nm,0.7s,mb4.3,baz=182,slow=7.9,SNR=8.1						
MAW	**Mawson**	**68.75**	**168**	*e*P	**P**	**13 58 04.2**	**-0.7**
	4.3nm,0.8s,mb4.4						
CASY	**Casey**	**71.64**	**187**	P	**P**	**13 58 21.3**	**-1.3**
	5.2nm,1.0s,mb4.4						
MIAR	**Mount Ida**	**76.01**	**354**	P	**P**	**13 58 48.7**	**+0.5**
	3.7nm,1.0s,mb4.3						
PLAL	**Pickwick Lake**	**76.20**	**359**	P	**P**	**13 58 48.5**	**-0.8**
	9.0nm,1.1s,mb4.6						
WMOK	**Wichita Mounta**	**76.73**	**350**	*e*P	**P**	**13 58 51.0**	**-1.4**
	6.5nm,1.4s,mb4.4						
WVT	**Waverly**	**77.34**	**359**	P	**P**	**13 58 55.8**	**0.0**
	9.9nm,1.3s,mb4.6						
LAZ	**Ladron**	**77.88**	**343**	P	**P**	**13 58 59.2**	**+0.5**
ANMO	**Albuquerque**	**78.26**	**344**	*e*P	**P**	**13 58 58.9**	**-1.9**
	7.5nm,1.1s,mb4.5						
CCM	**Cathedral Cave**	**79.36**	**356**	*e*P	**P**	**13 59 05.9**	**-1.0**
	5.4nm,0.8s,mb4.5						
SDCO	**Great Sand Dun**	**80.77**	**345**	*e*P	**P**	**13 59 16.4**	**+1.9**
	2.3nm,0.8s,mb4.2						
PV01	**Paradox Valley**	**81.78**	**343**	*e*P	**P**	**13 59 19.9**	**0.0**
PV10	**Paradox Valley**	**82.11**	**343**	*e*P	**P**	**13 59 22.1**	**+0.5**
CCUT	**Cedar City**	**82.40**	**339**	*e*P	**P**	**13 59 22.9**	**-0.3**
BRNJ	**Basking Ridge**	**82.63**	**9**	P	**P**	**13 59 21.7**	**-2.6**
TMUT	**Trail Mountain**	**83.50**	**341**	*e*P	**P**	**13 59 30.6**	**+1.7**
NVAR	**Mina Array Bea**	**84.64**	**336**	P	**P**	**13 59 35.9**	**+1.1**
	0.6nm,0.7s,mb3.8,baz=183,slow=5.8,SNR=5.7						
DUG	**Dugway**	**84.75**	**340**	*e*P	**P**	**13 59 36.0**	**+0.8**
	4.1nm,0.9s,mb4.6						
ECSD	**EROS,Sioux Fal**	**85.38**	**353**	*e*P	**P**	**13 59 38.1**	**-0.3**
BOSA	**Boshof**	**86.16**	**125**	P	**P**	**13 59 41.9**	**-0.4**
	1.9nm,0.6s,mb4.5,baz=146,slow=6.0,SNR=9.1						
PDAR	**Pinedale Array**	**86.43**	**343**	P	**P**	**13 59 45.0**	**+1.4**
	1.0nm,0.8s,mb4.1,baz=162,slow=4.4,SNR=8.0						
HLID	**Hailey**	**88.32**	**340**	P	**P**	**13 59 54.0**	**+1.3**
	2.0nm,0.9s,mb4.3						
DBIC	**Dimbokro**	**88.41**	**80**	P	**P**	**13 59 53.4**	**+0.3**
	7.2nm,1.1s,mb4.8						
**LB

*ISCJB **30** 14:13:03.1±0.4, 6529S×007×1797W±02, h10km, mb4.7/19, MS4.4/10, Error ellipse: s-maj=13.4km s-min=8.9km az=118.2*

*NEIC **30** 14:13:04.0±0.4, 6530S×17959W, h10km, mb4.9/14, Error ellipse: s-maj=15.1km s-min=10.1km az=60.0*

ISC 30 14:13:04.5±0.4, 6534S±006×1797W±02, h10km, n58, σ1§12/39, mb4.7/19, MS4.4/10, 2C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.21**	**193**	*e*Pn		**Pn**	**14 16 10.3**	**-1.7**
	38nm,1.3s							
VNDA	**Vanda**	**13.45**	**197**	Pn		**Pn**	**14 16 14.8**	**-0.6**
	0.2nm,0.3s,baz=44,slow=17,SNR=91							
VNDA				LR		LR	14 20 18.8	
	comp=Z,2μm,20.0s,baz=46,slow=32							
VNDA	**Vanda**	**13.45**	**197**	*e*Pn		**Pn**	**14 16 15.2**	**-0.1**
	168nm,1.5s							
RPZ	**Rata Peaks**	**22.28**	**342**	P		**P**	**14 18 04.7**	**+2.9**
	26nm,1.1s,mb4.6,baz=107,slow=17,SNR=3.7							
RPZ				LR		LR	14 24 41.5	
	comp=Z,1μm,19.1s,MS4.3,baz=162,slow=31							
QSPA	**South Pole Qui**	**24.74**	**180**	*e*P		**P**	**14 18 27.0**	**+1.0**
	70nm,1.4s,mb5.0							
URZ	**Urewera**	**27.19**	**354**	LR		LR	14 27 37.7	
	comp=Z,1μm,19.9s,MS4.5,baz=196,slow=32							
CASY	**Casey**	**27.28**	**236**	*e*P		**P**	**14 18 50.0**	**+1.0**
CASY	**Casey**	**27.28**	**236**	*e*P		**P**	**14 18 49.9**	**+0.9**
	17nm,1.1s,mb4.5							
CNB	**Canberra Magne**	**35.26**	**313**	*e*P		**P**	**14 20 01.1**	**+1.9**
	22nm,1.1s,mb5.0							
MAW	**Mawson**	**40.15**	**212**	P		**P**	**14 20 41.2**	**+0.6**
	6.6nm,1.0s,mb4.3,baz=143,slow=11,SNR=11							
MAW				LR		LR	14 37 10.8	
	comp=Z,1μm,20.4s,MS4.7,baz=127,slow=36							
MAW	**Mawson**	**40.15**	**212**	*e*P		**P**	**14 20 41.5**	**+0.9**
	46nm,1.7s,mb4.9							
STKA	**Stephens Creek**	**40.93**	**306**	*e*P		**P**	**14 20 48.0**	**+0.9**
	7.6nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**40.93**	**306**	P		**P**	**14 20 48.4**	**+1.3**
	9.7nm,1.2s,mb4.3,baz=165,slow=8.7,SNR=7.4							
STKA				LR		LR	14 36 35.2	
	comp=Z,442nm,18.1s,MS4.4,baz=191,slow=34							
STKA	**Stephens Creek**	**40.93**	**306**	*e*P		**P**	**14 20 48.5**	**+1.4**
PMSA	**Palmer Station**	**42.06**	**145**	P		**P**	**14 20 57.6**	**+1.3**
	24nm,1.2s,mb4.7							
SYO	**Syowa Base**	**43.13**	**199**	*e*pP		pP	14 21 05.0	-3.2
SNAA	**Sanae**	**43.23**	**179**	*e*		**P**	**14 21 05.7**	**-0.1**
SNAA				*e*			14 21 15.6	
VNA3	**Neumayer Olymp**	**43.51**	**175**	*e*		**P**	**14 21 08.2**	**+0.2**
VNA3				*e*			14 21 14.0	
VNA3				*e*			14 21 19.2	
MAIT	**Maitri**	**43.92**	**185**	*e*P		**P**	**14 21 12.8**	**+1.4**
TBI	**Tubuai**	**46.30**	**40**	eLR		LR	14 34 15.5	
	1μm,28.8s,baz=200							
CTA	**Charters Tower**	**50.47**	**317**	*e*P		**P**	**14 22 02.0**	**-0.4**
	6.0nm,1.0s,mb4.6							
CTA	**Charters Tower**	**50.47**	**317**	P		**P**	**14 22 02.1**	**-0.3**
	11nm,1.1s,mb4.8,baz=145,slow=6.7,SNR=3.8							
CTAO	**Charters Tower**	**50.47**	**317**	*e*P		**P**	**14 22 01.8**	**-0.7**
	11nm,1.0s,mb4.8							
RKT	**Rikitea**	**51.03**	**56**	eLR		LR	14 36 37.8	
	456nm,28.0s,baz=192							
AS31	**Alice Springs**	**51.14**	**301**	*e*P		**P**	**14 22 06.6**	**-0.9**
ASAR	**Alice Springs**	**51.14**	**301**	P		**P**	**14 22 07.2**	**-0.2**
	5.2nm,0.9s,mb4.5,baz=155,slow=7.4,SNR=30							
PPT	**Papeete**	**51.79**	**38**	*e*S		**S**	**14 29 33.6**	**-0.8**
	129nm,25.2s							
PPT				*e*LR		LR	14 36 58.0	
	894nm,25.5s,baz=193							
PPT	**Papeete**	**51.79**	**38**	LR		LR	14 38 11.6	
	comp=Z,368nm,19.1s,MS4.4,baz=239,slow=29							
WB2	**Warramunga Arr**	**54.41**	**304**	*e*P		**P**	**14 22 30.7**	**-0.9**
WRA	**Warramunga Arr**	**54.41**	**304**	P		**P**	**14 22 30.9**	**-0.8**
	10nm,1.1s,mb4.7,baz=160,slow=5.8,SNR=27							
WRA				LR		LR	14 42 34.8	
	comp=Z,408nm,19.3s,MS4.5,baz=120,slow=32							
FUNA	**Funafuti**	**56.73**	**359**	*e*P		**P**	**14 22 44.1**	**-4.3**
HNR	**Honiara**	**57.60**	**336**	LR		LR	14 43 48.3	
	comp=Z,286nm,19.4s,MS4.4,baz=334,slow=32							
MBWA	**Marble Bar**	**58.80**	**288**	*e*P		**P**	**14 22 60.0**	**-3.0**
	37nm,1.3s,mb5.3							
FITZ	**Fitzroy Crossi**	**59.27**	**295**	*e*P		**P**	**14 23 05.6**	**-0.6**
	18nm,1.1s,mb5.0							
PLCA	**Paso Flores**	**60.95**	**125**	P		**P**	**14 23 17.6**	**-0.1**
	3.4nm,0.9s,mb4.5,baz=182,slow=6.8,SNR=6.1							
PLCA				LR		LR	14 43 47.9	
	comp=Z,155nm,19.7s,MS4.2,baz=200,slow=30							
PLCA	**Paso Flores**	**60.95**	**125**	*e*P		**P**	**14 23 17.4**	**-0.3**
	16nm,1.4s,mb4.9							
TAOE	**Nuku Hiva Isla**	**62.70**	**45**	eLR		LR	14 41 56.7	
	2μm,27.7s							
TRQA	**Tornquist**	**66.21**	**130**	*e*P		**P**	**14 23 52.1**	**-0.3**
	31nm,1.4s,mb5.2							
LVC	**Limon Verde**	**77.90**	**118**	*e*P		**P**	**14 25 03.3**	**+0.8**
	13nm,1.3s,mb4.7							
CPUP	**Villa Florida**	**78.52**	**129**	P		**P**	**14 25 03.0**	**-2.9**
	0.5nm,0.5s,mb3.7,baz=170,slow=3.7,SNR=4.2							
CPUP	**Villa Florida**	**78.52**	**129**	*e*P		**P**	**14 25 03.1**	**-2.8**
	16nm,1.1s,mb4.9							
KSM	**Kuching**	**83.10**	**289**	*e*P		**P**	**14 25 31.1**	**+0.7**
LPAZ	**La Paz**	**83.97**	**116**	P		**P**	**14 25 35.5**	**+0.7**
	2.1nm,1.0s,mb4.2,baz=183,slow=2.7,SNR=8.4							
LPAZ				LR		LR	14 54 12.9	
	comp=Z,97nm,19.5s,MS4.2,baz=24,slow=30							
LPAZ	**La Paz**	**83.97**	**116**	*e*P		**P**	**14 25 35.5**	**+0.6**
	12nm,1.5s,mb4.8							
BOSA	**Boshof**	**84.38**	**202**	P		**P**	**14 25 36.3**	**-0.7**
	3.7nm,1.0s,mb4.5,baz=117,slow=6.8,SNR=3.3							
BOSA				LR		LR	15 01 27.2	
	comp=Z,296nm,18.8s,MS4.7,baz=163,slow=34							
SAML	**Samuel**	**92.56**	**118**	P		**P**	**14 26 15.0**	**-1.0**
	5.5nm,1.3s,mb4.8							
TORD	**Torodi Ar. Bea**	**127.86**	**182**	PKP		PKPdf	14 32 09.5	-0.8
	0.5nm,0.8s,baz=88,slow=0.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**127.86**	**182**	PKP		PKPdf	14 32 09.5	-0.8
MCK	**McKinley**	**130.73**	**17**	*e*PKPdf		PKPdf	14 32 14.2	-1.6
BVAR	**Borovoye Array**	**144.08**	**285**	PKP		PKPdf	14 32 36.1	-4.3
	1.5nm,0.7s,baz=114,slow=3.6,SNR=3.9							
GNI	**Garni**	**144.36**	**247**	PKP		PKPdf	14 32 38.4	-2.5
	2.1nm,0.3s,baz=58,slow=17,SNR=3.3							
ZRNK	**Zerenda**	**144.59**	**283**	*e*PKPdf		PKPdf	14 32 39.1	-2.2
AKTK	**Aktyubinsk**	**147.27**	**271**	PKPbc		PKPbc	14 32 47.5	-0.6
AKTO	**Aktyubinsk**	**147.27**	**271**	PKPbc		PKPbc	14 32 47.5	-0.6
	4.4nm,1.1s,baz=121,slow=6.2,SNR=5.2							
BRTR	**Keskin Array B**	**148.02**	**233**	PKPbc		PKPbc	14 32 48.8	-1.3
	3.2nm,1.1s,baz=166,slow=7.6,SNR=9.5							
KEST	**Kesra**	**149.87**	**195**	PKPbc		PKPbc	14 32 51.6	-3.3
	1.2nm,0.9s,baz=309,slow=2.2,SNR=3.6							
ARU	**Arti**	**151.34**	**280**	*e*PKPbc		PKPbc	14 32 58.1	-0.3
ESDC	**Sonseca Array**	**154.17**	**172**	PKPab		PKPab	14 33 15.2	-3.1
	0.7nm,0.7s,baz=186,slow=2.7,SNR=4.3							

*ISCJB **30** 14:37:55.0±0.6, 3327S×005×179.1W±0.1, h10km, mb4.3/11, MS4.1/5, Error ellipse: s-maj=17.1km s-min=5.9km az=38.0*

*IDC **30** 14:37:55.4±1.2, 3311S×17895W, h0km, mb4.1/3, mb1 4.6/5, mb1mx4.1/14, mbtmp4.3/5, ML4.6/2, MS4.1/5, Ms1 4.1/5, ms1mx3.6/25, Error ellipse: s-maj=37.4km s-min=23.2km az=127.0*

*NEIC **30** 14:37:56.7±0.6, 3310S×17901W, h10km, mb4.6/8, Error ellipse: s-maj=18.6km s-min=11.5km az=114.0*

ISC 30 14:37:56.5±0.6, 3322S±005×1790W±01, h10km, n57, σ1§57/52, mb4.3/11, MS4.1/5, 1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.07**	**14**	Pn		**Pn**	**14 38 58.2**	**-0.6**
	118nm,0.3s,baz=236,slow=22,SNR=3.2							
RAO				Sn		**Sn**	**14 39 45.0**	**-1.5**
	95nm,0.3s,baz=62,slow=22,SNR=3.5							
MXZ	**Matakaoa Point**	**4.85**	**206**	PN		**Pn**	**14 39 11.2**	**+1.6**
MXZ				SN		**Sn**	**14 40 05.3**	**-0.5**
PUZ	**Puketiti**	**5.33**	**204**	PN		**Pn**	**14 39 16.8**	**+0.7**
PUZ				SN		**Sn**	**14 40 18.9**	**+1.4**
KUZ	**Kuaotunu**	**5.57**	**229**	PN		**Pn**	**14 39 25.1**	**+5.7**
MWZ	**Matawai**	**5.83**	**208**	PN		**Pn**	**14 39 23.3**	**+0.3**
MWZ				SN		**Sn**	**14 40 32.4**	**+2.6**
URZ	**Urewera**	**5.93**	**211**	Pn		**Pn**	**14 39 26.7**	**+2.3**
	5.0nm,0.3s,baz=51,slow=4.0,SNR=60							
URZ				Sn		**Sn**	**14 40 33.2**	**+0.8**
	16nm,0.3s,baz=164,slow=20,SNR=9.0							
URZ	**Urewera**	**5.93**	**211**	PN		**Pn**	**14 39 24.6**	**+0.2**
WCZ	**Waipu Caves**	**6.11**	**242**	PN		**Pn**	**14 39 32.8**	**+5.9**
KNZ	**Kokohu**	**6.38**	**204**	PN		**Pn**	**14 39 30.3**	**-0.3**
OUZ	**Omahuta**	**6.43**	**250**	PN		**Pn**	**14 39 36.6**	**+5.3**
HIZ	**Hauiti**	**7.25**	**222**	PN		**Pn**	**14 39 47.1**	**+4.5**
WNVZ	**Wahianoa**	**7.49**	**214**	PN		**Pn**	**14 39 47.8**	**+2.1**
PXZ	**Pawanui**	**7.56**	**205**	PN		**Pn**	**14 39 45.1**	**-1.7**
WAZ	**Wanganui**	**8.11**	**215**	PN		**Pn**	**14 39 55.1**	**+0.7**
BFZ	**Birch Farm**	**8.35**	**206**	PN		**Pn**	**14 39 56.2**	**-1.5**
MRZ	**Mangatainoka R**	**8.59**	**209**	PN		**Pn**	**14 39 59.3**	**-1.7**
KIW	**Kapiti Island**	**9.04**	**211**	PN		**Pn**	**14 40 04.9**	**-2.1**
CAW	**Cannon Point**	**9.18**	**209**	PN		**Pn**	**14 40 07.2**	**-1.8**
SNZO	**South Karori**	**9.49**	**210**	*e*Pn		**Pn**	**14 40 07.2**	**-6.1**
SNZO				*e*Sn		**Sn**	**14 41 54.3**	**-5.8**
TCW	**Tory Channel**	**9.60**	**212**	PN		**Pn**	**14 40 11.9**	**-2.8**
TUWZ	**Tuamarina**	**9.92**	**212**	PN		**Pn**	**14 40 15.4**	**-3.8**
NNZ	**Nelson**	**10.02**	**215**	SN		**Sn**	**14 42 05.6**	**-7.3**
QRZ	**Quartz Range**	**10.16**	**219**	PN		**Pn**	**14 40 19.6**	**-2.8**
THZ	**Tophouse**	**10.67**	**215**	PN		**Pn**	**14 40 25.7**	**-3.7**
THZ				SN		**Sn**	**14 42 21.3**	**-7.5**
KHZ	**Kahutara**	**10.90**	**210**	PN		**Pn**	**14 40 28.6**	**-3.9**
KHZ				SN		**Sn**	**14 42 24.0**	**-11**
LTZ	**Lake Taylor**	**11.75**	**213**	PN		**Pn**	**14 40 40.2**	**-4.1**
LTZ				SN		**Sn**	**14 42 44.6**	**-11**
MQZ	**McQueen's Vall**	**12.33**	**209**	SN		**Sn**	**14 42 58.4**	**-11**
RPZ	**Rata Peaks**	**13.04**	**214**	Pn		**Pn**	**14 40 57.2**	**-4.6**
	1.3nm,0.3s,baz=342,slow=7.6,SNR=10							
ODZ	**Otahua Downs**	**14.26**	**211**	PN		**Pn**	**14 41 12.2**	**-6.3**
TBI	**Tubuai**	**27.75**	**77**	eLR		LR	14 50 45.8	
	430nm,28.2s							
PPT	**Papeete**	**30.69**	**67**	eLR		LR	14 52 07.4	
	416nm,26.8s							
STKA	**Stephens Creek**	**33.09**	**261**	LR		LR	14 56 12.4	
	comp=Z,350nm,20.1s,MS4.1,baz=292,slow=33							
CTAO	**Charters Tower**	**33.51**	**284**	*e*P		**P**	**14 44 38.6**	**+2.4**
	5.8nm,0.7s,mb4.6							
RKT	**Rikitea**	**39.87**	**87**	eLR		LR	14 56 14.4	
	433nm,29.0s							
ASAR	**Alice Springs**	**42.17**	**271**	P		**P**	**14 45 51.0**	**+1.6**
	3.2nm,0.8s,mb4.0,baz=111,slow=7.4,SNR=25							
ASAR				LR		LR	15 02 03.4	
	comp=Z,194nm,20.2s,MS4.0,baz=121,slow=34							
WB2	**Warramunga Arr**	**43.41**	**276**	*e*P		**P**	**14 45 59.6**	**+0.3**
WRA	**Warramunga Arr**	**43.42**	**276**	P		**P**	**14 45 60.0**	**+0.6**
	5.5nm,0.8s,mb4.4,baz=116,slow=7.8,SNR=86							
SBA	**Scott Base**	**45.17**	**184**	P		**P**	**14 46 16.5**	**+3.1**
	3.1nm,1.1s,mb4.0							
VNDA	**Vanda**	**45.21**	**186**	P		**P**	**14 46 20.0**	**+6.2**
	1.1nm,1.0s,mb3.6							
FITZ	**Fitzroy Crossi**	**51.55**	**273**	*e*P		**P**	**14 47 02.7**	**+0.1**
	4.8nm,0.6s,mb4.6							
CASY	**Casey**	**52.25**	**209**	*e*P		**P**	**14 47 07.6**	**-0.2**
	8.7nm,1.0s,mb4.6							
QSPA	**South Pole Qui**	**56.90**	**180**	*e*P		**P**	**14 47 43.5**	**+1.9**
	6.0nm,0.7s,mb4.7							
MAW	**Mawson**	**69.37**	**201**	P		**P**	**14 49 04.5**	**+0.1**
	8.4nm,1.2s,mb4.5							
SYO	**Syowa Base**	**74.18**	**194**	*e*P		**P**	**14 49 36.0**	**+2.6**
PLCA	**Paso Flores**	**81.22**	**133**	LR		LR	15 19 50.8	
	comp=Z,93nm,18.6s,MS4.2,baz=199,slow=31							
TRQA	**Tornquist**	**88.06**	**135**	P		**P**	**14 50 48.0**	**+0.8**
	3.2nm,0.8s,mb4.6							
NVAR	**Mina Array Bea**	**90.89**	**43**	P		**P**	**14 51 00.8**	**+0.4**
	0.2nm,0.5s,mb3.7,baz=241,slow=3.0,SNR=2.8							
NVAR	**Mina Array Bea**	**90.89**	**43**	P		**P**	**14 51 00.8**	**+0.4**
LPAZ	**La Paz**	**97.77**	**115**	LR		LR	15 25 30.3	
	comp=Z,70nm,21.3s,MS4.1,baz=253,slow=29							
CPUP	**Villa Florida**	**98.90**	**129**	LR		LR	15 28 16.0	
	comp=Z,86nm,18.1s,MS4.3,baz=202,slow=30							
ARCES	**ARCESS Array B**	**141.14**	**347**	PKhKP			14 57 21.3	
	2.2nm,0.9s,baz=40,slow=1.7,SNR=6.1							
JOF	**Joensuu**	**144.68**	**336**	*e*pkp		PKPdf	14 57 29.7	-3.8
KAF	**Kangasniemi**	**146.88**	**338**	*e*pkp		PKPdf	14 57 37.2	0.0
FINES	**FINESS Array B**	**147.45**	**338**	PKPbc		PKPbc	14 57 39.3	-1.4
	2.9nm,0.6s,baz=55,slow=3.9,SNR=44							
NB2	**NORSAR Subarra**	**151.38**	**350**	PKPa		PKPbc	14 57 49.3	-1.2
	comp=Z,0.7nm,0.5s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**151.38**	**350**	PKPbc		PKPbc	14 57 49.6	-0.9
	comp=Z,0.9nm,0.6s,baz=16,slow=4.2,SNR=7.5							
TORD	**Torodi Ar. Bea**	**160.01**	**182**	PKPab		PKPab	14 58 36.5	+1.0
	comp=Z,0.7nm,0.8s,baz=180,slow=2.9,SNR=8.7							

*IDC **30** 14:52:15.5±0.9, 1588S×17298W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.2/16, mbtmp4.1/8, MS3.7/3, Ms1 3.7/3, ms1mx3.2/28, Error ellipse: s-maj=34.5km s-min=21.3km az=130.0*

*NEIC **30** 14:52:16.8±0.5, 1584S×17298W, h10km, mb4.6/6, Error ellipse: s-maj=18.9km s-min=12.2km az=128.0*

*ISCJB **30** 14:52:18.7±0.7, 1595±01×1730W±0.1, h33km, mb4.3/13, MS3.6/2, Error ellipse: s-maj=22.4km s-min=14.1km az=67.6*

ISC 30 14:52:20.6±0.7, 1595±01×1729W±01, h35km, n22, σ0§93/18, mb4.3/13, MS3.6/2, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.26**	**30**	Pn		**Pn**	**14 52 48.6**	**-6.8**
	18nm,0.3s,baz=267,slow=23,SNR=35							
AFI				Sn		**Sn**	**14 53 12.3**	**-10**
	86nm,0.3s,baz=52,slow=23,SNR=15							
RAR	**Rarotonga**	**13.55**	**115**	LR		LR	14 59 18.6	
	comp=Z,282nm,20.4s,baz=192,slow=31							
PPT	**Papeete**	**22.43**	**98**	LR		LR	15 03 49.4	
	comp=Z,179nm,19.6s,MS3.5,baz=33,slow=31							
URZ	**Urewera**	**23.96**	**200**	P		**P**	**14 57 31.8**	**+0.2**
	4.6nm,0.4s,mb4.2,baz=200,slow=23,SNR=6.7							
HNR	**Honiara**	**27.21**	**280**	LR		LR	15 06 41.1	
	comp=Z,179nm,21.2s,MS3.6,baz=179,slow=32							
CTAO	**Charters Tower**	**38.98**	**258**	*e*P		**P**	**14 59 43.4**	**0.0**
	19nm,1.4s,mb4.6							
STKA	**Stephens Creek**	**44.19**	**240**	P		**P**	**15 00 25.5**	**-0.6**
	4.7nm,0.6s,mb4.4,baz=192,slow=22,SNR=9.5							
STKA	**Stephens Creek**	**44.19**	**240**	*e*P		**P**	**15 00 25.1**	**-0.9**
WRA	**Warramunga Arr**	**50.17**	**257**	P		**P**	**15 01 12.4**	**-0.3**
	1.5nm,0.4s,mb4.4,baz=92,slow=6.6,SNR=69							
ASAR	**Alice Springs**	**50.39**	**252**	P		**P**	**15 01 13.8**	**-0.6**
	6.7nm,0.8s,mb4.8,baz=91,slow=8.2,SNR=30							
GUMO	**Guam**	**50.97**	**303**	P		**P**	**15 01 17.5**	**-1.2**
	260nm,1.2s							
VNDA	**Vanda**	**62.94**	**186**	P		**P**	**15 02 44.1**	**+0.6**
	1.1nm,1.0s,mb4.0,baz=11,slow=6.3,SNR=3.6							
MBWA	**Marble Bar**	**63.66**	**254**	*e*P		**P**	**15 02 48.7**	**+0.5**
	5.5nm,0.7s,mb4.7							
MJAR	**Matsushiro Arr**	**69.60**	**320**	P		**P**	**15 03 27.3**	**+1.1**
	1.3nm,0.9s,mb3.9,baz=159,slow=7.4,SNR=5.5							
MAJO	**Matsushiro**	**69.60**	**320**	*e*P		**P**	**15 03 27.5**	**+1.4**
	6.9nm,1.1s,mb4.5							
YSS	**Yuzh-Sakhalins**	**74.12**	**330**	*e*P		**P**	**15 03 55.0**	**+1.7**
	11nm,0.8s,mb4.8							
NVAR	**Mina Array Bea**	**74.39**	**42**	P		**P**	**15 03 54.9**	**+0.1**
	0.3nm,0.7s,baz=235,slow=12,SNR=3.6							
MCK	**McKinley**	**81.51**	**11**	P		**P**	**15 04 33.2**	**-1.2**
	3.0nm,0.9s,mb4.2							
PDAR	**Pinedale Array**	**82.32**	**42**	P		**P**	**15 04 38.9**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=204,slow=3.3,SNR=5.8							
COLA	**College**	**82.75**	**11**	*e*P		**P**	**15 04 39.3**	**-1.6**
	2.2nm,0.8s,mb4.2							
COLA				*e*		pP	15 04 51.5	-0.4
BRTR	**Keskin Array B**	**146.81**	**321**	PKPbc		PKPbc	15 12 00.7	+1.7
	2.2nm,0.8s,baz=127,slow=1.9,SNR=8.9							
TORD	**Torodi Ar. Bea**	**174.13**	**117**	PKP		PKPdf	15 12 27.7	+1.3
	0.3nm,0.9s,baz=163,slow=1.5,SNR=2.4							

*JMA **30** 15:09:57.4±0.6, 4628N×15348E, h30km, M4.3*

*ISCJB **30** 15:09:59.7±1.4, 464N±02×1528E±02, h33km, mb4.1/9, MS3.7/2, Error ellipse: s-maj=31.5km s-min=5.5km az=93.8*

*IDC **30** 15:10:03.0±1.4, 4738N×15224E, h0km, mb4.0/7, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, ML3.4/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=39.8km s-min=25.7km az=103.0*

*MOS **30** 15:10:09.4±2.2, 4715N×15154E, h56km, mb4.3/6, Error ellipse: s-maj=21.7km s-min=12.1km az=66.8*

*NEIC **30** 15:10:13.9±1.9, 4712N×15161E, h80km±18km, mb4.3/2, Error ellipse: s-maj=26.9km s-min=12.6km az=130.0*

ISC 30 15:10:02.8±1.5, 462N±02×1529E±02, h61km±12km, n43, σ1§29/51, mb4.1/9, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.68**	**257**	*i*PN		**Pn**	**15 10 56.2**	**-0.9**
KUR				*i* S		**Sn**	**15 11 41.0**	**+1.7**
KUR				pmax	pmax			
	comp=Z,150nm,0.6s							
KUR				smax				
	comp=N,200nm,0.4s							
KUR				smax				
	comp=E,80nm,0.4s							
SKR	**Severo-Kuril's**	**4.97**	**24**	*e*PN		**Pn**	**15 11 07.1**	**-7.7**
SKR				pmax	pmax			
	comp=Z,80nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.45**	**249**	PN		**Pn**	**15 11 21.5**	**+0.1**
YUK				*e*S		**Sn**	**15 12 28.0**	**+5.2**
YUK				pmax	pmax			
	comp=Z,140nm,0.5s							
YUK				smax				
	comp=N,200nm,0.6s							
YUK				smax				
	comp=E,200nm,0.6s							
NEM2	**Nemuro 2**	**5.85**	**244**	P		**Pn**	**15 11 25.8**	**-1.0**
NEM2				*e*S		**Sn**	**15 12 32.1**	**-0.4**
JNK	**Nakash**	**6.39**	**249**	P		**Pn**	**15 11 35.2**	**+0.9**
JNK				*e*S		**Sn**	**15 12 47.8**	**+1.9**
JAK	**Akkeshi**	**6.69**	**244**	P		**Pn**	**15 11 37.3**	**-1.1**
JAK				*e*S		**Sn**	**15 12 50.9**	**-2.4**
YSS	**Yuzh-Sakhalins**	**7.06**	**280**	PN		**Pn**	**15 11 48.0**	**+4.6**
JMP	**Maruseppu**	**7.12**	**256**	P		**Pn**	**15 11 48.2**	**+3.9**
JAR	**Ashorobuto**	**7.14**	**249**	P		**Pn**	**15 11 45.9**	**+1.4**
JAR				*e*S		**Sn**	**15 13 06.5**	**+2.3**
JOB	**Onbets**	**7.29**	**246**	P		**Pn**	**15 11 46.7**	**+0.2**
JOB				*e*S		**Sn**	**15 13 06.9**	**-0.9**
JKK2	**Kamakawa 2**	**7.58**	**256**	P		**Pn**	**15 11 53.2**	**+2.6**
ASAJ	**Asahikawa**	**7.60**	**258**	Pn		**Pn**	**15 11 55.2**	**+4.4**
	comp=E,0.8nm,0.3s,baz=133,slow=20,SNR=9.7							
ASAJ	**Asahikawa**	**7.60**	**258**	PN		**Pn**	**15 11 55.2**	**+4.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JCH	**Churui**	**7.73**	**246**	P		**Pn**	**15 11 52.8**	**+0.2**
JCH				*e*S		**Sn**	**15 13 18.1**	**-0.6**
JFR	**Furan**	**7.97**	**251**	P		**Pn**	**15 11 58.6**	**+2.7**
JNBK	**Urakawa-nobuka**	**8.29**	**246**	P		**Pn**	**15 11 59.7**	**-0.6**
JNBK				*e*S		**Sn**	**15 13 30.3**	**-2.1**
JBT2	**Biratori 2**	**8.29**	**249**	P		**Pn**	**15 12 01.0**	**+0.7**
JKB	**Kayabe**	**9.59**	**248**	P		**Pn**	**15 12 17.3**	**-0.7**
JKB				*e*S		**Sn**	**15 14 00.9**	**-3.3**
JYM2	**Yakumo 2**	**9.91**	**250**	P		**Pn**	**15 12 22.7**	**+0.4**
JANG	**Nango**	**10.15**	**239**	*e*S		**Sn**	**15 14 11.6**	**-6.4**
JTH	**Tanohata**	**10.23**	**236**	*e*S		**Sn**	**15 14 12.5**	**-7.3**
JOSM	**Okushiri--Mats**	**10.51**	**252**	P		**Pn**	**15 12 31.0**	**+0.4**
MA2	**Magadan**	**13.47**	**355**	PN		**Pn**	**15 13 08.3**	**-2.7**
MA2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MA2	**Magadan**	**13.47**	**355**	P		**Pn**	**15 13 08.3**	**-2.6**
	comp=Z,6.5nm,0.6s							
MJAR	**Matsushiro Arr**	**14.65**	**234**	Pn		**Pn**	**15 13 35.3**	**+8.8**
	comp=Z,0.1nm,0.3s,baz=36,slow=8.6,SNR=5.5							
PMR	**Palmer**	**36.09**	**43**	P		**P**	**15 17 06.8**	**+8.3**
COLA	**College**	**36.65**	**38**	P		**P**	**15 17 11.5**	**+8.1**
COLA				pmax	pmax			
	comp=Z,4.

KYTH				*e*SB	**Sb**	**15 19 12.0**	**-1.3**
VLI	**Veliai**	**1.45**	**34**	*e*PG	**Pg**	**15 19 04.3**	**+1.0**
VLI	**Veliai**	**1.45**	**34**	*e*Pn	**Pn**	**15 19 03.2**	**+1.4**
VAM	**Vamos**	**1.86**	**93**	*e*PB	**Pb**	**15 19 11.1**	**+1.4**
GVD	**Gavdhos**	**1.90**	**110**	*e*PG	**Pg**	**15 19 10.6**	**-1.4**
NAIG	**Nisos Aigina**	**2.56**	**29**	*e*PN	**Pb**	**15 19 22.5**	**+0.9**
NAIG	**Nisos Aigina**	**2.56**	**29**	*e*Pg	**Pg**	**15 19 24.0**	**-0.6**
MGER	**Gerania Oros**	**2.68**	**23**	*e*PB	**Pb**	**15 19 23.5**	**-0.1**
KVR	**Kavouri**	**2.74**	**32**	*e*PB	**Pb**	**15 19 24.0**	**-0.6**
ATH	**Athens Observa**	**2.84**	**30**	*e*PB	**Pb**	**15 19 27.0**	**+0.7**
PTL	**Penteli**	**2.96**	**31**	*e*Pn	**Pb**	**15 19 28.1**	**-0.3**
EVR	**Evrytania**	**3.39**	**358**	*e*PN	**Pb**	**15 19 35.0**	**-0.7**
FINES	**FINESS Array B**	**26.07**	**5**	P	**P**	**15 24 08.8**	**-0.4**
	0.8nm,0.8s,mb3.3,baz=160,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**34.12**	**2**	P	**P**	**15 25 19.9**	**-0.6**
	0.9nm,0.5s,mb3.9,baz=184,slow=9.2,SNR=9.7						
MKAR	**Makanchi Array**	**45.78**	**56**	P	**P**	**15 26 57.0**	**-0.4**
	1.2nm,0.5s,mb4.1,baz=274,slow=7.2,SNR=17						

TRN 30 15:20:47.7, 1110N×5977W, h35km, MD3.7, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.94**	**274**	*e*P	Pn	15 21 06.7	+2.3
BOT				*e*S	Sn	15 21 19.0	+2.4
TPR	**Prospect**	**1.00**	**275**	*e*P	Pn	15 21 07.4	+2.2
TPR				*e*S	Sn	15 21 19.6	+1.5
TBH	**Brigand Hill**	**1.42**	**245**	*e*P	Pn	15 21 11.7	+0.8
TBH				*e*S	Sn	15 21 35.7	+7.3
TRN	**Trinidad (W)**	**1.67**	**255**	*e*P	Pn	15 21 15.2	+0.7
TRN				*e*S	Sn	15 21 39.4	+4.8
TPP	**Pointe-a-Pierr**	**1.83**	**245**	*e*P	Pn	15 21 18.5	+1.9
TPP				*e*S	Sn	15 21 44.9	+6.4
TCE	**Chacachacare**	**1.99**	**259**	*e*P	Pn	15 21 20.4	+1.5
TCE				*e*S	Sn	15 21 46.7	+4.1
FDF	**Fort de France**	**3.86**	**340**	*e*P	Pn	15 21 46.0	+1.5
FDF				*e*S	Sn	15 22 32.7	+4.1

*ISCJB **30** 15:27:16.5±0.2, 283N×003×12860E±003, h217km, mb4.9/92, Error ellipse: s-maj=5.0km s-min=3.3km az=138.2*

*NEIC **30** 15:27:17.6±0.2, 285N×12863E, mb4.8/31, Error ellipse: s-maj=6.5km s-min=4.3km az=66.0*

*BJI **30** 15:27:17.6, 267N×12870E, h241km, mB4.8, mb4.7*

*GCMT **30** 15:27:17.6±0.3, 298N×12849E, h219km±2km, MW5.1/69, Moment Tensor Solution. s44,c61; s69,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.50±.16; $M_{\theta\theta}$-1.65±.17; $M_{\phi\phi}$-0.84±.20; $M_{r\theta}$0.36±.13; $M_{\theta\phi}$1.93±.14; $M_{\phi r}$-4.62±.13; Best double couple: M_o5.44000×10^{16} NP1:ϕ285.00000°,δ25.00000°,λ33.00000°. NP2: ϕs165.00000°,δ77.00000°,λ112.00000°. Principal axes: T 5.8310, Plg53.0000°, Azm101.0000°; N -0.7820, Plg21.0000°, Azm340.0000°; P -5.0480, Plg28.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **30** 15:27:18.6±0.9, 285N×12858E, h239km, mb4.9/36 Error ellipse: s-maj=11.7km s-min=6.2km az=113.8*

*IDC **30** 15:27:18.7±0.6, 279N×12853E, h226km±5km, mb4.5/25, mb1 4.5/26, mb1mx4.5/27, mbtmp5.1/26, Error ellipse: s-maj=11.2km s-min=5.9km az=79.0*

ISC 30 15:27:18.3±0.2, 283N×003×12863E±003, h219km, h219km±2.2km:pP-P,n249,σ1s09/247, mb4.9/91, 16C-23D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**4.51**	**144**	P	**Pn**	**15 28 29.4**	**+2.3**
	564nm,1.0s						
DAV	**Davao City (W)**	**5.19**	**324**	*e*P	**Pn**	**15 28 36.0**	**+0.4**
DMPH	**Davao City--Mi**	**5.24**	**324**	⇓*i*P	**Pn**	**15 28 35.8**	**-0.4**
AAI	**Ambon**	**6.49**	**184**	P	**Pn**	**15 28 57.9**	**+5.8**
	120nm,0.8s						
CGP	**Cagayan de Oro**	**6.82**	**325**	⇑*i*P	**Pn**	**15 28 55.6**	**-0.8**
CGP				*i* S	**S**	**15 30 08.2**	**-6.3**
SCPH	**Surigao**	**7.58**	**336**	⇓*e*P	**Pn**	**15 29 05.1**	**-1.0**
BAKI	**Biak**	**8.47**	**118**	P	**Pn**	**15 29 21.3**	**+3.6**
	2μm,0.9s						
PCI	**Palu**	**9.54**	**247**	P	**Pn**	**15 29 29.6**	**-1.8**
	374nm,1.2s						
RCP	**Roxas**	**10.45**	**326**	⇓*e*P	**Pn**	**15 29 43.2**	**+0.2**
TSM	**Tawau**	**10.84**	**278**	P	**Pn**	**15 29 48.8**	**+0.9**
KKM	**Kota Kinabalu**	**12.78**	**285**	P	**Pn**	**15 30 12.9**	**+0.5**
KKM	**Kota Kinabalu**	**12.78**	**285**	*e*Pn	**Pn**	**15 30 11.8**	**-0.7**
JAY	**Jayapura**	**13.19**	**114**	P	**Pn**	**15 30 19.2**	**+1.8**
	698nm,0.9s						
WSI	**Waingapu**	**14.94**	**214**	P	**Pn**	**15 30 44.4**	**+5.5**
	695nm,0.8s						
KAKA	**Kakadu**	**15.90**	**166**	*e*P	**Pn**	**15 30 49.1**	**-1.4**
	132nm,0.6s						
KAKA				*e*S	**S**	**15 33 38.4**	**-7.2**
MMPI	**Merauke**	**16.23**	**134**	P	**P**	**15 30 56.0**	**+2.6**
	911nm,1.0s						
DNP	**Denpasar**	**17.60**	**229**	P	**P**	**15 31 10.4**	**+1.9**
	2μm,0.8s						
KMMI	**Kalianget**	**17.62**	**236**	P	**P**	**15 31 10.0**	**+1.3**
	1μm,1.2s						
NBBI	**Negara**	**17.86**	**231**	P	**P**	**15 31 12.7**	**+1.4**
	742nm,0.9s						
KSM	**Kuching**	**18.36**	**266**	*e*Pn	**P**	**15 31 17.8**	**+1.1**
GUMO	**Guam**	**19.28**	**55**	P	**P**	**15 31 28.3**	**+1.7**
	16nm,0.3s,baz=149,slow=7.7,SNR=7.8						
GUMO	**Guam**	**19.28**	**55**	P	**P**	**15 31 28.3**	**+1.7**
GUMO				pmax	pmax		
	comp=Z,16nm,0.3s						
GUMO	**Guam**	**19.28**	**55**	*e*P	**P**	**15 31 26.4**	**-0.2**
KRKI	**Karangkates**	**19.48**	**236**	P	**P**	**15 31 29.5**	**+0.7**
	comp=Z,2μm,1.3s						
FITZ	**Fitzroy Crossi**	**21.01**	**188**	P	**P**	**15 31 44.2**	**-0.8**
	comp=Z,25nm,0.5s,mb5.0,baz=20,slow=9.0,SNR=145						
FITZ				S	**S**	**15 35 21.9**	**-3.5**
	comp=Z,21nm,0.9s,baz=232,slow=19,SNR=7.1						
FITZ				ScP	ScP	15 38 57.1	-1.1
	comp=Z,8.9nm,0.7s,baz=149,slow=5.9,SNR=5.0						
PMG	**Port Moresby**	**22.11**	**124**	P	**P**	**15 31 55.5**	**-0.2**
	comp=Z,39nm,0.8s,mb5.0,baz=309,slow=9.9,SNR=13						
PMG	**Port Moresby**	**22.11**	**124**	*e*P	**P**	**15 31 56.0**	**+0.3**
PMG				pmax	pmax		
	comp=Z,144nm,0.9s						
PMG	**Port Moresby**	**22.11**	**124**	*e*P	**P**	**15 31 56.0**	**+0.2**
	comp=Z,144nm,0.9s,mb5.5						
PMG				*e*		15 32 07.8	
JCJI	**Jatiwangi**	**22.34**	**245**	P	**P**	**15 31 58.9**	**+1.0**
	comp=Z,1μm,1.3s,mb6.2						
YHNB	**Yeheng**	**22.81**	**343**	*e*P	**P**	**15 32 01.9**	**-0.2**
LEM	**Lembang**	**23.07**	**245**	P	**P**	**15 32 05.6**	**+1.1**
	comp=Z,1μm,0.9s						
WRAB	**Tennant Creek**	**23.31**	**166**	⇑*i*P	**P**	**15 32 06.6**	**-0.1**
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**15 32 06.5**	**-0.3**
	comp=Z,178nm,1.1s,mb5.5,baz=344,slow=10,SNR=247						
WRA				S	**S**	**15 36 00.5**	**-2.2**
	comp=Z,19nm,0.9s,baz=338,slow=16,SNR=4.6						
WRA				ScP	ScP	15 39 03.8	-0.3
	comp=Z,8.9nm,0.7s,baz=342,slow=3.0,SNR=8.2						
WRA	**Warramunga Arr**	**23.32**	**166**	P	**P**	**15 32 06.5**	**-0.3**
WRA				S	**S**	**15 36 00.5**	**-2.2**
WRA				pmax	pmax		
	comp=Z,178nm,1.1s						
WRA				smax			
	comp=N,19nm,1.0s						
WRA				pmax	pmax		
	comp=N,9.0nm,0.7s						
WB2	**Warramunga Arr**	**23.32**	**166**	⇑*e*P	**P**	**15 32 06.3**	**-0.5**
CBJI	**Citeko**	**23.61**	**247**	P	**P**	**15 32 09.9**	**+0.4**
	comp=N,930nm,0.8s						
SBJI	**Serang**	**24.17**	**248**	P	**P**	**15 32 15.4**	**+0.9**
	comp=N,854nm,1.3s,mb6.2						
QIZ	**Qiongzhong**	**24.43**	**313**	P	**P**	**15 32 16.8**	**-0.1**
QIZ				S	**S**	**15 36 23.0**	**+2.6**
QIZ				XS	sS	15 37 31.5	-5.3
QIZ				S	SS	15 37 45.0	
QIZ	**Qiongzhong**	**24.43**	**313**	*e*P	**P**	**15 32 17.8**	**+0.9**
KLI	**Kotabumi**	**24.95**	**252**	P	**P**	**15 32 21.6**	**0.0**
	comp=N,277nm,2.2s,mb5.5						
KGM	**Kluang**	**25.30**	**269**	P	**P**	**15 32 26.2**	**+1.5**
MBWA	**Marble Bar**	**25.39**	**200**	*e*P	**P**	**15 32 24.8**	**-0.7**
	comp=N,34nm,0.6s,mb5.2						
AS31	**Alice Springs**	**26.83**	**169**	⇑*i*P	**P**	**15 32 38.4**	**-0.1**
AS31				*e*S	**S**	**15 36 50.6**	**-7.7**
AS31				*e*ScP	ScP	15 39 13.3	-0.8
ASAR	**Alice Springs**	**26.84**	**169**	P	**P**	**15 32 38.6**	**+0.1**
	comp=N,47nm,0.7s,mb5.2,baz=352,slow=7.4,SNR=550						
ASAR				PcP	PcP	15 35 55.7	+0.7
	comp=N,2.8nm,0.4s,baz=352,slow=2.0,SNR=4.5						
ASAR				S	**S**	**15 36 56.8**	**-1.5**
	comp=N,13nm,0.7s,baz=352,slow=22,SNR=9.6						
ASAR				ScP	ScP	15 39 13.8	-0.4
	comp=N,10nm,0.7s,baz=348,slow=2.6,SNR=11						
ASAR	**Alice Springs**	**26.84**	**169**	P	**P**	**15 32 38.6**	**+0.1**
ASAR						15 35 55.7	
ASAR				S	**S**	**15 36 56.8**	**-1.5**
ASAR				pmax	pmax		
	comp=Z,47nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ASAR				smax			
	comp=N,13nm,0.7s						
ASAR				pmax	pmax		
	comp=N,10.0nm,0.7s						
CBIJ	**Chichi jima**	**27.39**	**27**	P	**P**	**15 32 43.2**	**-0.2**
	comp=N,58nm,0.6s,mb5.4,baz=267,slow=16,SNR=6.5						
IPM	**Ipoh**	**27.60**	**274**	P	**P**	**15 32 45.8**	**+0.6**
KULM	**Kulim**	**28.02**	**276**	*e*P	**P**	**15 32 48.8**	**-0.2**
PPI	**Padang Panjang**	**28.41**	**264**	P	**P**	**15 32 52.6**	**+0.1**
	comp=N,110nm,1.2s,mb5.4						
CTA	**Charters Tower**	**28.60**	**144**	P	**P**	**15 32 55.1**	**+0.9**
	comp=N,9.2nm,0.9s,mb4.4,baz=314,slow=12,SNR=9.4						
CTA	**Charters Tower**	**28.60**	**144**	P	**P**	**15 32 55.1**	**+0.9**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**28.60**	**144**	*e*P	**P**	**15 32 54.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**28.60**	**144**	*e*P	**P**	**15 32 54.5**	**+0.4**
	comp=Z,28nm,1.0s,mb4.8						
PSI	**Prapat**	**29.67**	**271**	P	**P**	**15 33 03.8**	**+0.2**
	comp=Z,122nm,0.9s,mb5.5,baz=95,slow=3.9,SNR=7.1						
PSI				PcP	PcP	15 36 02.3	+0.2
	comp=Z,5.6nm,0.7s,baz=40,slow=7.9,SNR=4.1						
PSI				ScP	ScP	15 39 22.4	-0.6
	comp=Z,16nm,1.1s,baz=107,slow=2.7,SNR=6.0						
PSI	**Prapat**	**29.67**	**271**	P	**P**	**15 33 03.8**	**+0.2**
PSI						15 36 02.3	
PSI				pmax	pmax		
	comp=Z,122nm,0.9s,mb5.5						
PSI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
PSI				pmax	pmax		
	comp=N,16nm,1.1s						
TSI	**Tuntungan**	**30.03**	**272**	P	**P**	**15 33 06.9**	**+0.2**
	comp=N,177nm,0.9s,mb5.7						
NJ2	**Nanjing**	**30.48**	**343**	*e*P	**P**	**15 33 08.5**	**-2.3**
NJ2				PP	PP	15 34 20.5	-3.7
NJ2				S	**S**	**15 37 50.0**	**-5.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,690nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,23.1s						
NJ2				LR	LR		
	comp=E,2μm,21.2s						
NJ2				LR	LR		
	comp=Z,690nm,24.4s						
WHN	**Wuhan**	**30.70**	**335**	⇓P	**P**	**15 33 15.0**	**+2.4**
GYA	**Guiyang**	**31.56**	**320**	⇑*i*P	**P**	**15 33 22.0**	**+1.9**
GYA				AP	pP	15 34 07.5	+3.0
GYA				XP	sP	15 34 33.0	+3.2
GYA				PCP	PcP	15 36 08.5	+1.4
GYA				S	**S**	**15 38 10.8**	**-1.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.5						
GYA				AMB	AMB		
	comp=Z,150nm,6.1s						
CM31	**Chiang Mai Arr**	**32.96**	**300**	⇓*i*P	**P**	**15 33 33.5**	**+1.1**
	comp=Z,64nm,0.9s,mb5.2						
CHTO	**Chiang Mai**	**33.11**	**301**	⇓P	**P**	**15 33 34.8**	**+1.2**
	SNR=10						
CHTO	**Chiang Mai**	**33.11**	**301**	⇓*i*P	**P**	**15 33 34.5**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.0						
CHTO	**Chiang Mai**	**33.11**	**301**	⇓*i*P	**P**	**15 33 34.5**	**+0.9**
	comp=Z,51nm,0.9s,mb5.1						
CHTO				*e*pP	pP	15 34 12.4	-5.7
BSI	**Banda Aceh**	**33.35**	**276**	P	**P**	**15 33 32.6**	**-3.1**
	comp=Z,77nm,1.3s,mb5.1						
KMI	**Kunming**	**33.36**	**314**	P	**P**	**15 33 37.8**	**+2.0**
KMI				AP	pP	15 34 23.8	+3.4
KMI				PCP	PcP	15 36 14.0	+1.9
KMI				S	**S**	**15 38 40.8**	**+0.7**
KMI				SCP	ScP	15 39 37.0	+1.6
KMI				XS	sS	15 40 02.3	+2.7
KMI				SS	SS	15 41 06.0	-3.9
KMI				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,345nm,4.0s						
KMI				LR	LR		
	comp=N,405nm,18.4s						
KMI				LR	LR		
	comp=E,309nm,18.4s						
KMI				LR	LR		
	comp=Z,229nm,19.4s						
KMI	**Kunming**	**33.36**	**314**	P	**P**	**15 33 37.7**	**+1.9**
KMI				*PP	pP	15 34 23.8	+3.4
KMI						15 36 13.9	
KMI				S	**S**	**15 38 40.7**	**+0.6**
KMI				*SS	sS	15 40 02.3	+2.7
KMI				SS	SS	15 41 06.1	-3.8
KMI	**Kunming**	**33.36**	**314**	P	**P**	**15 33 37.7**	**+1.9**
KMI				pP	pP	15 34 23.8	+3.4
KMI				PcP	PcP	15 36 13.9	+1.8
KMI				S	**S**	**15 38 40.7**	**+0.6**
KMI				ScP	ScP	15 39 37.0	+1.6
KMI				sS	sS	15 40 02.3	+2.7
KMI				SS	SS	15 41 06.1	-3.8
HNR	**Honiara**	**33.50**	**112**	P	**P**	**15 33 38.2**	**+1.2**
	comp=Z,90nm,1.0s,mb5.3,baz=265,slow=3.9,SNR=4.6						
HNR	**Honiara**	**33.50**	**112**	P	**P**	**15 33 38.2**	**+1.2**
HNR				pmax	pmax		
	comp=Z,91nm,1.0s,mb5.3						
HNR	**Honiara**	**33.50**	**112**	*e*P	**P**	**15 33 36.8**	**-0.2**
	comp=Z,44nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**34.69**	**14**	*e*P	**P**	**15 33 46.3**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,15nm,0.5s,mb4.8						
MAJO	**Matsushiro**	**34.69**	**14**	*e*P	**P**	**15 33 46.3**	**-0.9**
	comp=Z,15nm,0.5s,mb4.8						
MJAR	**Matsushiro Arr**	**34.69**	**14**	P	**P**	**15 33 46.3**	**-0.9**
	comp=Z,13nm,0.6s,mb4.6,baz=189,slow=8.8,SNR=102						
MJAR				pP	pP	15 34 34.2	+2.2
	comp=Z,3.4nm,0.7s,baz=187,slow=9.0,SNR=1.8						
MJAR				PcP	PcP	15 36 17.1	+1.2
	comp=Z,2.7nm,1.0s,baz=204,slow=6.0,SNR=4.2						
MJAR				S	**S**	**15 38 58.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=178,slow=17,SNR=3.4						
MJAR				ScP	ScP	15 39 40.2	+0.1
	comp=Z,2.5nm,0.9s,baz=188,slow=4.0,SNR=6.8						
MJAR	**Matsushiro Arr**	**34.69**	**14**	P	**P**	**15 33 46.3**	**-0.9**
MJAR				*PP	pP	15 34 34.2	+2.2
MJAR						15 36 17.1	
MJAR				S	**S**	**15 38 58.5**	**-2.0**
MJAR				pmax	pmax		
	comp=Z,13nm,0.6s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MJAR				pmax	pmax		
	comp=N,3.0nm,0.9s						
XAN	**Xi'an**	**36.08**	**332**	P	**P**	**15 33 59.0**	**-0.1**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.5						
DL2	**Dalian**	**36.47**	**351**	P	**P**	**15 34 03.5**	**+1.2**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2	**Chengdu**	**36.49**	**323**	P	**P**	**15 34 05.0**	**+2.4**
CD2				AP	pP	15 34 48.0	+0.3
CD2				PP	PP	15 35 37.0	+6.5
CD2				S	**S**	**15 39 32.0**	**+4.0**
CD2				SS	SS	15 42 13.3	-4.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
STKA	**Stephens Creek**	**36.65**	**161**	P	**P**	**15 34 04.1**	**+0.2**
	comp=Z,59nm,0.6s,mb5.3,baz=337,slow=8.4,SNR=237						
STKA				ScP	ScP	15 39 47.8	+0.4
	comp=Z,4.1nm,0.5s,baz=305,slow=7.3,SNR=7.2						
STKA	**Stephens Creek**	**36.65**	**161**	⇑*i*P	**P**	**15 34 03.9**	**0.0**
STKA				*e*pP	pP	15 34 50.7	+1.6
STKA				*e*PP	PP	15 35 31.7	-0.4
STKA				*e*S	**S**	**15 39 28.0**	**-2.4**
NWAO	**Narrogin (SRO)**	**37.17**	**196**	*e*P	**P**	**15 34 08.3**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,20nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.17**	**196**	*e*P	**P**	**15 34 08.3**	**+0.1**
	comp=Z,20nm,0.6s,mb4.8						
BJT	**Baijiatuao**	**38.70**	**345**	*e*P	**P**	**15 34 21.3**	**+0.3**
BJT				*e*PP	pP	15 35 06.0	-0.7
BJT				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BJT	**Baijiatuao**	**38.70**	**345**	*e*P	**P**	**15 34 21.3**	**+0.3**
	comp=Z,8.5nm,0.5s,mb4.5						
BJT				*e*pP	pP	15 35 06.0	-0.7
BJI	**Beijing**	**38.72**	**345**	*e*P	**P**	**15 34 21.5**	**+0.3**
BJI				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.9						
BJI	**Beijing**	**38.72**	**345**	*e*P	**P**	**15 34 21.5**	**+0.3**
BJI				sP	sP	15 35 33.0	+1.2
BJI				S	**S**	**15 40 11.3**	**+10**
BJI				sS	sS	15 41 23.3	+0.9
BJI				ScS	ScS	15 44 08.1	+1.5
LZH	**Lanzhou**	**40.24**	**328**	*e*P	**P**	**15 34 34.5**	**+0.7**
LZH				AP	pP	15 35 20.5	+0.8
LZH				PP	PP	15 36 15.3	+4.1
LZH				PCP	PcP	15 36 34.8	+1.8
LZH				*e*S	**S**	**15 40 27.3**	**+3.1**
LZH				XS	sS	15 41 48.0	+2.5
LZH				AMB	AMB		
	comp=Z,68nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,186nm,5.1s						
LZH	**Lanzhou**	**40.24**	**328**	*e*P	**P**	**15 34 34.5**	**+0.7**
LZH				*PP	pP	15 35 20.5	+0.8
LZH						15 36 15.3	
LZH						15 36 34.7	
LZH				*e*S	**S**	**15 40 27.2**	**+3.0**
LZH	**Lanzhou**	**40.24**	**328**	*e*P	**P**	**15 34 34.5**	**+0.7**
LZH				pP	pP	15 35 20.5	+0.8
LZH				sP	sP	15 35 41.0	-3.6
LZH				PP	PP	15 36 15.3	+4.1
LZH				PcP	PcP	15 36 34.7	+1.7
LZH				*e*S	**S**	**15 40 27.2**	**+3.0**
LZH				sS	sS	15 41 48.0	+2.5
LZH				SS	SS	15 43 35.0	+3.1
HHC	**Hu-ho-hao-te**	**40.86**	**340**	*e*P	**P**	**15 34 40.0**	**+1.2**
HHC				AP	pP	15 35 27.0	+2.2
HHC				XP	sP	15 35 52.0	+2.3
HHC				PP	PP	15 36 21.3	+3.5
HHC				PCP	PcP	15 36 36.0	+1.0
HHC				SCP	ScP	15 40 03.0	-0.5
HHC				PCS	PcS	15 40 26.5	+0.3
HHC				S	**S**	**15 40 35.0**	**+1.7**
HHC				XS	sS	15 41 58.0	+3.3
HHC				SS	SS	15 43 41.0	-3.0
HHC				SCS	ScS	15 44 17.5	-1.8
HHC				AMB	AMB		
	comp=Z,128nm,5.2s						
HHC				LR	LR		
	comp=N,176nm,4.7s						
HHC				LR	LR		
	comp=E,145nm,4.5s						
HHC				LR	LR		
	comp=Z,112nm,5.4s						
MDJ	**Mudanjiang**	**41.62**	**1**	P	**P**	**15 34 46.0**	**+1.1**
MDJ				PP	PP	15 36 27.0	+1.1
MDJ				PCP	PcP	15 36 38.3	+0.8
MDJ				SCP	ScP	15 40 08.0	+1.4
MDJ				PCS	PcS	15 40 30.0	+0.7
MDJ				S	**S**	**15 40 45.0**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,100nm,6.3s						
MDJ	**Mudanjiang**	**41.62**	**1**	*e*P	**P**	**15 34 45.8**	**+0.8**
	comp=Z,3.7nm,0.6s,mb4.0						
SHL	**Shillong**	**41.93**	**306**	*ex*	x	15 34 29.4	
ASAJ	**Asahikawa**	**42.93**	**15**	P	**P**	**15 34 56.6**	**+1.1**
	comp=Z,9.5nm,0.4s,mb4.5,baz=228,slow=7.7,SNR=57						
ASAJ				ScP	ScP	15 40 12.5	+0.7
	comp=Z,3.7nm,0.8s,baz=194,slow=9.3,SNR=3.8						
ASAJ	**Asahikawa**	**42.93**	**15**	P	**P**	**15 34 56.6**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ASAJ				pmax	pmax		
	comp=N,4.0nm,0.8s						
LSA	**Lhasa**	**44.45**	**311**	*e*P	**P**	**15 35 09.4**	**+1.8**
LSA				*e*S	**S**	**15 41 26.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,49nm,0.9s,mb4.8						
LSA	**Lhasa**	**44.45**	**311**	*e*P	**P**	**15 35 09.4**	**+1.8**
	comp=Z,49nm,0.9s,mb4.8						
LSA				*e*S	**S**	**15 41 26.6**	**+0.9**
DZM	**Mont Dzumac**	**44.47**	**126**	*e*P	**P**	**15 35 09.2**	**+1.4**
GTA	**Gaotai**	**44.85**	**328**	⇓P	**P**	**15 35 11.5**	**+0.8**
GTA				SCP	ScP	15 40 20.5	+0.8
GTA				S	**S**	**15 41 33.3**	**+2.0**
GTA				SCS	ScS	15 44 43.0	-1.2
GTA				SS	SS	15 44 51.0	-5.8
GTA				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,141nm,6.1s						
GTA				LR	LR		
	comp=N,118nm,7.2s						
GTA				LR	LR		
	comp=E,97nm,6.8s						
GTA				LR	LR		
	comp=Z,107nm,13.3s						
YSS	**Yuzh-Sakhalins**	**45.63**	**14**	⇑*e*P	**P**	**15 35 17.1**	**+0.2**
BOK	**Bokaro**	**46.25**	**301**	*e*P	**P**	**15 35 21.3**	**-0.3**
BOK				AMb	AMB	15 35 24.5	
	comp=Z,58nm,0.7s,mb5.0						
KLR	**Kul'dur**	**46.30**	**3**	*e*P	**P**	**15 35 19.3**	**-2.8**
VIS	**Vishakhapatnam**	**46

NGP AMb AMB 15 36 00.6
comp=Z,49nm,1.2s,mb4.8
TRD Trivandrum 51.69 279 *e*P **P** **15 36 02.4 -0.6**
TRD AMb AMB 15 36 04.6
comp=Z,81nm,1.7s,mb4.9
ZAK Zakamensk 52.01 340 *e*P **P** **15 36 04.2 -1.0**
ZAK *e* pP 15 36 52.1 -1.4
ZAK *e* 15 38 04.4
ZAK pmax pmax
comp=Z,2.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 52.98 341 *e*P **P** **15 36 13.2 +0.8**
TLY pmax pmax
comp=Z,2.0nm,0.7s
TLY Talaya 52.98 341 *e*P **P** **15 36 13.2 +0.8**
comp=Z,2.1nm,0.7s
AKL Akola 53.28 294 *e*P **P** **15 36 14.6 0.0**
AKL AMb AMB 15 36 16.2
comp=Z,142nm,0.7s,mb5.5
BHPL Bhopal 53.50 297 *e*P **P** **15 36 15.6 -0.6**
BHPL AMb AMB 15 36 17.7
comp=Z,68nm,0.9s,mb5.1
AGRA Agra 54.14 302 *e*P **P** **15 36 20.1 -0.7**
WMQ Urumqi 54.55 324⇑*i*P **P** **15 36 24.8 +1.1**
WMQ PCP PcP 15 37 26.0 +1.9
WMQ PP PP 15 38 31.0 +2.6
WMQ S **S** **15 43 46.0 +0.4**
WMQ SCS ScS 15 45 48.0 -2.2
WMQ AMB AMB
comp=Z,44nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,167nm,5.3s
WMQ LR LR
comp=N,366nm,24.2s
WMQ LR LR
comp=E,218nm,22.5s
WMQ LR LR
comp=Z,242nm,21.6s
SONA Sohna 55.17 303 *e*P **P** **15 36 27.5 -0.7**
SONA AMb AMB 15 36 29.0
comp=Z,85nm,1.0s,mb5.2
NDI New Delhi 55.20 303 *e*P **P** **15 36 25.4 -3.0**
AYAN Aya Nagar 55.21 303 *e*P **P** **15 36 27.6 -0.8**
AYAN AMb AMB 15 36 29.3
comp=Z,39nm,1.1s,mb4.9
KLP Kalpa 55.29 307 *e*P **P** **15 36 28.2 -0.9**
KLP AMb AMB 15 36 39.9
comp=Z,43nm,1.4s,mb4.8
KAD Karad 55.30 289 *e*P **P** **15 36 28.0 -1.1**
KAD *e*P 15 36 28.1
KAD AMb AMB 15 36 28.9
comp=Z,26nm,0.9s,mb4.8
KUDL Kundal 55.64 302 *e*P **P** **15 36 30.4 -1.2**
POO Poona 55.80 290 *e*P **P** **15 36 30.0 -2.7**
SMLA Simla 56.02 306 *e*P **P** **15 36 34.5 +0.2**
SMLA AMb AMB 15 36 35.2
comp=Z,95nm,1.0s,mb5.3
BOD Bodaibo 56.03 351 *e*P **P** **15 36 34.4 +0.1**
BOD *e* pP 15 37 24.9 +1.6
BOD pmax pmax
comp=Z,9.0nm,1.2s,mb4.2
BOD pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
KHET Khetri 56.20 302 *e*P **P** **15 36 33.4 -2.1**
KHET AMb AMB 15 36 34.5
comp=Z,70nm,0.9s,mb5.2
AJM Ajmer 56.76 300 *e*P **P** **15 36 38.6 -0.8**
AJM AMb AMB 15 36 40.6
comp=Z,34nm,1.1s,mb4.9
THN Thein Dam 57.62 307 *e*P **P** **15 36 44.3 -1.2**
YAK Yakutsk 59.06 1 *e*P **P** **15 36 55.5 +0.1**
YAK pmax pmax
comp=Z,35nm,0.9s,mb5.0
MKAR Makanchi Array 59.37 325 P **P** **15 36 57.6 +0.1**
comp=Z,15nm,0.6s,mb4.8,baz=115,slow=8.1,SNR=132
MKAR pP pP 15 37 47.4 +0.3
comp=Z,8.2nm,0.6s,baz=122,slow=7.4,SNR=5.2
MKAR ScP ScP 15 41 21.6 -0.9
comp=Z,1.7nm,0.6s,baz=97,slow=4.9,SNR=4.9
MKAR Makanchi Array 59.37 325 P **P** **15 36 57.6 +0.1**
MKAR *PP pP 15 37 47.4 +0.3
MKAR pmax pmax
comp=Z,15nm,0.6s
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MKAR pmax pmax
comp=N,2.0nm,0.6s
KSH Kashi 60.02 315 *e*P **P** **15 37 03.0 +1.1**
KSH *e*PCP PcP 15 37 46.3 +0.7
KSH *e*AP pP 15 37 53.3 +1.7
KSH *e*XP sP 15 38 18.0 +2.5
KSH *e*PP PP 15 39 19.0 +2.1
KSH *e*PPP 15 40 48.3
KSH *e*SCP ScP 15 41 24.0 -1.3
KSH *e*PCS PcS 15 41 47.0 -1.1
KSH *e*S **S** **15 44 52.5 -4.4**
KSH *e*SCS ScS 15 46 27.3 -3.0
KSH *e*SS SS 15 48 57.0 -0.4
KSH AMB AMB
comp=Z,217nm,4.2s
KSH LR LR
comp=N,275nm,5.3s
KSH LR LR
comp=E,335nm,6.1s
KSH LR LR
comp=Z,306nm,4.9s
KZA Kyzart 61.55 317 P **P** **15 37 13.6 +1.4**
SNR=5.4
TKM2 Tokmak 2 61.67 318 P **P** **15 37 13.5 +0.5**
SNR=12
KBK Karagaybulak 62.00 318 P **P** **15 37 15.8 +0.6**
SNR=5.8
UCH Uchtor 62.12 317 P **P** **15 37 17.3 +1.3**
SNR=34
ZAL Zalesovo 62.25 332 P **P** **15 37 16.3 -0.6**
comp=Z,6.3nm,0.7s,mb4.3,baz=1.2,slow=5.4,SNR=36
ZAL Zalesovo 62.25 332 P **P** **15 37 16.3 -0.6**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
CHMS Chumysh 62.27 318 P **P** **15 37 16.9 -0.1**
SNR=6.2
AAK Ala-Archa 62.29 318 *e*P **P** **15 37 16.4 -0.8**
AAK *e* 15 37 53.7
AAK pmax pmax
comp=Z,19nm,1.4s,mb4.5
AAK Ala-Archa 62.29 318 *e*P **P** **15 37 16.4 -0.8**
comp=Z,19nm,1.4s,mb4.5
AAK *e*PcP PcP 15 37 53.7 -1.1
SEY Seymchan 62.49 12⇑*e*P **P** **15 37 19.6 +1.1**
USP Ospenovka 62.55 318 P **P** **15 37 19.0 +0.1**
SNR=18
AML Almayashu 62.64 317 P **P** **15 37 20.4 +0.9**
SNR=26
EKS2 Erkin-Say 62.79 317 P **P** **15 37 21.1 +0.6**
SNR=15
NVS Novosibirsk 63.53 333⇓*i*P **P** **15 37 24.0 -1.3**
NVS *e*S **S** **15 45 31.4 -10**
NVS *e*PS 15 46 44.8
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=E,15nm,0.8s
NVS pmax pmax
comp=Z,22nm,0.8s,mb4.8
NVS smax
comp=N,35nm,2.6s
NVS smax
comp=E,11nm,1.8s
KK31 Karatay Array 65.18 317 *i* P **P** **15 37 35.4 -0.6**
KK31 pmax pmax
comp=Z,18nm,0.7s,mb4.8
BRVK Borovoye 69.18 327⇓P **P** **15 38 00.7 -0.4**
SNR=14
BRVK Borovoye 69.18 327⇓*i*P **P** **15 38 00.5 -0.6**
BRVK *e* 15 38 21.9
BRVK pmax pmax
comp=Z,30nm,0.9s,mb4.9
BRVK Borovoye 69.18 327⇓*i*P **P** **15 38 00.5 -0.6**
comp=Z,30nm,0.9s,mb4.9
BRVK *e*PcP PcP 15 38 21.9 -1.5
BRVK *e*pP pP 15 38 49.3 -2.8
ZRNK Zerenda 69.84 326⇓*i*P **P** **15 38 04.3 -0.8**
ZRNK pmax pmax
comp=Z,42nm,0.9s,mb5.1
ZRNK Zerenda 69.84 326⇓*i*P **P** **15 38 04.3 -0.9**
comp=Z,42nm,0.9s,mb5.1
ZRNK *e*pP pP 15 38 49.7 -6.6
BILL Bilibino 69.94 14 *e*P **P** **15 38 05.9 +0.1**
BILL pmax pmax
comp=Z,11nm,1.5s,mb4.3
CASY Casey 70.17 188 *e*P **P** **15 38 07.3 +0.1**
comp=Z,7.2nm,0.8s,mb4.3
BIDO Bidbid 71.01 294⇓P **P** **15 38 12.0 -0.2**
SNR=6.1
ARQ Araqi 72.46 293⇑P **P** **15 38 20.5 -0.3**
SNR=12
WHFO Wadi Hawf 74.73 288⇓P **P** **15 38 33.1 -0.9**
SNR=5.9
AKTK Aktyubinsk 75.54 321 P **P** **15 38 37.9 -0.7**
AKTO Aktyubinsk 75.54 321 P **P** **15 38 37.9 -0.7**
comp=Z,14nm,0.8s,mb4.6,baz=10,slow=7.5,SNR=52
AKTO Aktyubinsk 75.54 321 P **P** **15 38 37.9 -0.7**
AKTO pmax pmax
comp=Z,14nm,0.8s,mb4.6
SVE Sverdlovsk 75.71 328 *e*P **P** **15 38 39.2 -0.4**
SVE *e* pP 15 39 36.0 +4.4
SVE *e* 15 40 02.8
SVE pmax pmax
comp=Z,36nm,1.0s,mb5.0
POHA Pohakuloa 75.72 70 P **P** **15 38 42.5 +2.9**
comp=Z,989nm,0.2s
ARU Arti 76.70 328⇓*i*P **P** **15 38 43.8 -1.4**
ARU *e* 15 41 38.7
ARU *e*PPP 15 43 29.6
ARU *e*S S 15 48 14.1 +0.5
ARU pmax pmax
comp=Z,17nm,0.8s,mb4.7
ARU Arti 76.70 328 *e*P **P** **15 38 43.9 -1.3**
comp=Z,17nm,0.8s,mb4.7
ARU *e*pP pP 15 39 32.4 -4.9
UMR Umm Al-Rimmam 80.71 299 *e*P **P** **15 39 05.9 -1.1**
UMR AMb AMB 15 39 07.1
comp=Z,29nm,0.8s,mb5.0
RDF Al-Radifah 80.83 299 *e*P **P** **15 39 06.6 -1.0**
RDF AMb AMB 15 39 12.3
comp=Z,27nm,1.0s,mb4.8
MIB Mutribah 81.04 300 *e*P **P** **15 39 07.8 -1.0**
MIB AMb AMB 15 39 08.9
comp=Z,44nm,1.0s,mb5.1
NAY Al-Naaiem 81.11 299 *e*P **P** **15 39 08.0 -1.1**
NAY AMb AMB 15 39 10.3
comp=Z,16nm,1.2s,mb4.5
VNDA Vanda 82.31 173 P **P** **15 39 15.1 -0.3**
comp=Z,8.2nm,0.8s,mb4.4,baz=315,slow=6.1,SNR=47
VNDA Vanda 82.31 173 P **P** **15 39 15.1 -0.3**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 82.31 173⇑*e*P **P** **15 39 14.9 -0.4**
comp=Z,16nm,1.2s,mb4.5
IMA2 Indian Mountai 82.43 24 *e*P **P** **15 39 15.3 -0.7**
IMA2 *e*pP pP 15 40 08.2 -0.6
SLKM Skilak Lake 83.18 29 *e*P **P** **15 39 20.0 +0.1**
SLKM *e*pP pP 15 40 07.2 -5.6
SBA Scott Base 83.20 172 *e*P **P** **15 39 20.3 +0.4**
SBA pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
SBA Scott Base 83.20 172 *e*P **P** **15 39 20.3 +0.4**
comp=Z,5.5nm,1.0s,mb4.2
GNI Garni 83.51 310 P **P** **15 39 21.8 +0.3**
comp=Z,2.4nm,0.3s,mb4.3,baz=1.2,slow=12,SNR=3.6
GNI Garni 83.51 310 P **P** **15 39 22.3 +0.8**
GNI pmax pmax
comp=Z,12nm,0.8s
GNI Garni 83.51 310 P **P** **15 39 22.3 +0.8**
comp=Z,12nm,0.8s,mb4.7
MAW Mawson 83.58 201 P **P** **15 39 21.4 -0.5**
comp=Z,6.9nm,0.7s,mb4.5,baz=66,slow=4.9,SNR=20
MAW Mawson 83.58 201 *e*P **P** **15 39 21.6 -0.3**
MAW pmax pmax
comp=Z,32nm,1.6s
MAW Mawson 83.58 201 *e*P **P** **15 39 21.6 -0.3**
comp=Z,32nm,1.6s,mb4.8
BHD Baghdad 83.65 303 *ex* x 15 39 17.0
MCK McKinley 84.12 26⇓*e*P **P** **15 39 24.8 +0.2**
MCK *e**PP pP 15 40 18.2 +0.5
MCK pmax pmax
comp=Z,24nm,1.4s,mb4.7
MCK McKinley 84.12 26⇓*e*P **P** **15 39 24.8 +0.2**
comp=Z,24nm,1.4s,mb4.7
MCK *e*pP pP 15 40 18.2 +0.5
MSL Mosul 84.74 306 *ex* x 15 39 36.5
KIV Kislovodsk 85.13 314 P **P** **15 39 28.0 -1.6**
DAWY Dawson 88.34 26 *e*P **P** **15 39 44.0 -1.2**
ANN Anapa 88.88 315 *e*P **P** **15 39 44.7 -2.9**
OBN Obninsk 88.88 325⇓*ei*P **P** **15 39 46.3 -1.4**
OBN *e**PP pP 15 40 40.2 -1.1
OBN pmax pmax
comp=Z,24nm,0.8s,mb5.1
OBN Obninsk 88.88 325 *e*P **P** **15 39 45.4 -2.3**
comp=Z,18nm,0.8s,mb5.0
ASF Jabal al Asfar 89.98 302 P **P** **15 39 53.2 +0.4**
comp=Z,9.0nm,0.8s,mb4.6,baz=350,slow=3.5,SNR=17
ASF Jabal al Asfar 89.98 302 P **P** **15 39 53.2 +0.4**
ASF pmax pmax
comp=Z,9.0nm,0.8s
JOF Joensuu 90.84 333 *ep* **P** **15 39 55.0 -1.8**
comp=Z,12nm,0.8s,mb4.9
KEV Kevo 91.38 340 *ep* **P** **15 39 57.2 -2.1**
comp=Z,8.3nm,0.9s,mb4.7
KEV Kevo 91.38 340 *e*P **P** **15 39 57.2 -2.1**
KEV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KMBO Kilima Mbogo 91.43 269 P **P** **15 39 58.9 -0.7**
comp=Z,4.0nm,0.9s,mb4.3,baz=71,slow=7.2,SNR=6.0
KMBO Kilima Mbogo 91.43 269 *i* P **P** **15 40 00.5 +1.0**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 91.94 340 P **P** **15 40 00.3 -1.6**
comp=Z,14nm,0.8s,mb5.0,baz=82,slow=6.1,SNR=33
ARCES ARCESS Array B 91.94 340 P **P** **15 40 00.3 -1.6**
ARCES pmax pmax
comp=Z,14nm,0.8s
BRTR Keskin Array B 92.05 310 P **P** **15 40 01.8 -0.6**
comp=Z,2.6nm,0.8s,mb4.2,baz=89,slow=4.5,SNR=13
BRTR Keskin Array B 92.05 310 P **P** **15 40 01.8 -0.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
SYO Syowa Base 92.28 201⇓*e*P **P** **15 40 03.1 -0.3**
SYO Syowa Base 92.28 201⇑*e*X 15 41 16.2
QSPA South Pole Qui 92.75 180 *e*P **P** **15 40 05.9 +0.3**
comp=Z,10nm,0.8s,mb4.9
KAF Kangasniemi 93.26 333 *ep* **P** **15 40 05.7 -2.3**
comp=Z,1.7nm,0.5s,mb4.3,baz=72,slow=4.2
KAF Kangasniemi 93.26 333 *e*P **P** **15 40 05.7 -2.3**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
FINES FINESS Array B 93.51 332 P **P** **15 40 07.6 -1.5**
comp=Z,2.8nm,0.8s,mb4.3,baz=69,slow=5.1,SNR=10.0
FINES FINESS Array B 93.51 332 P **P** **15 40 07.6 -1.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
AKASG Malin Array Be 93.78 321 P **P** **15 40 08.6 -1.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=70,slow=4.2,SNR=16
AKASG Malin Array Be 93.78 321 P **P** **15 40 08.6 -1.7**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
UZH Uzhgorod 98.61 320 *e*P **P** **15 40 33.0 +0.8**
UZH pmax pmax
comp=Z,28nm,0.9s,mb5.6
YKA Yellowknife Ar 99.52 25 P Pdif 15 40 36.1 -0.1
comp=Z,0.5nm,0.5s,baz=298,slow=4.7,SNR=4.2
YKA Yellowknife Ar 99.52 25⇑*e*P Pdif 15 40 38.4 +2.2
NB2 NORSAR Subarra 100.42 334 P Pdif 15 40 38.4 -1.9
comp=Z,1.8nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 100.42 334 P Pdif 15 40 38.4 -1.9
NB2 pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 100.42 334 P Pdif 15 40 38.8 -1.4
comp=Z,3.0nm,0.9s,baz=66,slow=4.5,SNR=9.3
NOA NORSAR Array B 100.42 334 P Pdif 15 40 38.8 -1.5
NOA pmax pmax
comp=Z,3.0nm,0.9s
LSZ Lusaka 100.81 255 *e*P Pdif 15 40 41.6 -0.4
LSZ *e* 15 44 50.2
LSZ pmax pmax
comp=Z,2.0nm,0.7s
LSZ Lusaka 100.81 255 *e*Pdif Pdif 15 40 41.6 -0.4
comp=Z,2.3nm,0.7s
LSZ *e*PP PP 15 44 50.1 -2.3
BOSA Boshof 103.09 241 *e*P Pdif 15 40 52.0 -0.1
GERES GERESS Array B 103.96 322 Pdiff Pdif 15 40 55.5 -0.5
comp=Z,1.1nm,0.9s,baz=54,slow=6.8,SNR=7.3
GERES GERESS Array B 103.96 322 P Pdif 15 40 55.5 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.9s
PDAR Pinedale Array 110.76 42 PKKPab PKKPab 15 56 34.0 -0.6
comp=Z,1.1nm,0.7s,baz=128,slow=5.8,SNR=7.2
ANMO Albuquerque 116.20 49⇑PKIKP PKPdf 15 45 38.7 +3.3
MNTX Cornudas Mount 118.33 52 *e*PKPdf PKPdf 15 45 40.7 +1.3
MNTX *ep*PKPdf pPKPdf 15 46 36.5 +0.6
TOA0 Torodi Ar. Sit 125.00 288 *e*PKPdf PKPdf 15 45 52.4 +0.1
TORD Torodi Ar. Bea 125.00 288 PKP PKPdf 15 45 52.7 +0.4
comp=Z,5.5nm,0.7s,baz=68,slow=1.5,SNR=40
TORD pPKP pPKPdf 15 46 49.2 +0.5
comp=Z,2.2nm,0.8s,baz=54,slow=1.8,SNR=5.2
TORD Torodi Ar. Bea 125.00 288 PKP PKPdf 15 45 52.7 +0.4
TORD pPKP pPKPdf 15 46 49.2 +0.5
DBIC Dimbokro 132.62 282 PKP PKPdf 15 46 08.2 +1.4
comp=Z,4.6nm,1.0s,baz=31,slow=7.5,SNR=5.4
DBIC Dimbokro 132.62 282 PKIKP PKPdf 15 46 08.2 +1.4
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 132.62 282 *e*PKPdf PKPdf 15 46 07.2 +0.4
PLCA Paso Flores 138.49 158 PKP PKPdf 15 46 17.7 0.0
comp=Z,1.7nm,0.6s,baz=177,slow=6.6,SNR=4.5
PLCA Paso Flores 138.49 158 PKIKP PKPdf 15 46 17.7 0.0
PLCA pmax pmax
comp=Z,2.0nm,0.6s
JTS JuntasAbangare 144.11 68 *e*PKIKP PKPdf 15 46 27.0 -0.7
ROSC El Rosal 155.82 72 PKPab PKPab 15 47 16.3 +2.5
comp=Z,7.2nm,0.5s,baz=99,slow=22,SNR=4.6
CPUP Villa Florida 155.95 167 PKP PKPdf 15 46 47.0 +0.9
comp=Z,0.4nm,0.4s,baz=292,slow=2.6,SNR=3.0
CPUP PKPab PKPab 15 47 15.8 +1.5
comp=Z,6.3nm,0.9s,baz=184,slow=3.9,SNR=11
CPUP Villa Florida 155.95 167 *e*PKPdf PKPdf 15 46 46.6 +0.4
CPUP *e*PKPab PKPab 15 47 15.2 +0.8
LPAZ La Paz 158.77 130 PKP PKPdf 15 46 51.0 +1.4
comp=Z,3.3nm,1.1s,baz=29,slow=5.0,SNR=9.7
LPAZ PKPab PKPab 15 47 30.1 +3.5
comp=Z,3.1nm,0.9s,baz=188,slow=1.6,SNR=7.7
LPAZ La Paz 158.77 130 *e*PKPdf PKPdf 15 46 51.8 +2.2
LPAZ *e*PKPab PKPab 15 47 29.9 +3.3

IDC 30 15:49:41.4±8.3, 608S×15008E, h59km±61km, mb3.3/4, mb1 3.6/5, mb1mx3.4/14, mbtmp3.7/5, ML3.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/15, Error ellipse: s-maj=62.8km s-min=52.9km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.40**	**221**	P	Pn		15 50 45.8	+0.3
	6.6nm,0.3s,baz=64,slow=5.9,SNR=16							
PMG				S	Sn		15 51 36.2	+0.7
	8.3nm,0.3s,baz=146,slow=13,SNR=5.7							
PMG				LR	LR		15 52 59.4	
	comp=Z,108nm,18.1s,baz=27,slow=45							
WRA	**Warramunga Arr**	**20.59**	**227**	P	P		15 54 16.2	+0.7
	1.0nm,0.5s,baz=52,slow=10,SNR=17							
ASAR	**Alice Springs**	**23.41**	**220**	P	P		15 54 45.4	+0.3
	0.4nm,0.3s,baz=55,slow=9.1,SNR=28							
FITZ	**Fitzroy Crossi**	**26.68**	**241**	P	P		15 55 15.1	+0.4
	0.6nm,0.4s,baz=93,slow=11,SNR=11							
STKA	**Stephens Creek**	**26.87**	**196**	P	P		15 55 16.6	+0.1
	1.0nm,0.6s,baz=23,slow=13,SNR=2.8							
TORD	**Torodi Ar. Bea**	**148.08**	**285**	PKPbc	PKPbc		16 09 20.6	+0.4
	1.2nm,0.6s,baz=90,slow=2.8,SNR=8.4							

*KRSC **30** 16:02:55, 5088N×157.97E, h15km, ML4.2*

MOS 30 16:02:50.7±0.6, 5064N×15724E, h103km, mb4.2/1, Error ellipse: s-maj=96.1km s-min=14.3km az=71.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.72**	**274**	*e*PN	Pn		16 03 09.9	+1.4
SKR				*e*S	Sn		16 03 22.0	+0.1
SKR				pmax	pmax			
	comp=N,360nm,0.2s							
SKR				pmax	pmax			
	comp=E,360nm,0.2s							
SKR				pmax	pmax			
	comp=Z,360nm,0.2s							
SKR				smax				
	comp=N,4μm,0.2s							
SKR				smax				
	comp=E,2μm,0.2s							
RUS	**Russkaya**	**1.96**	**23**	*e*P	Pn		16 03 23.2	+0.3
RUS				*i* S	Sn		16 03 43.4	-4.1
GRL	**Gorelyy**	**1.98**	**15**	*e*P	Pn		16 03 24.7	+1.5
GRL				*i* S	Sn		16 03 46.2	-1.7
PET	**Petropavlovsk**	**2.54**	**20**	*e*PN	Pn		16 03 31.8	+1.4
PET				*e*S	Sn		16 03 59.1	-1.9
PET				smax				
	comp=E,177nm,0.5s							
PET				smax				
	comp=N,165nm,0.4s							
PET	**Petropavlovsk**	**2.54**	**20**	*e*P	Pn		16 03 31.8	+1.4
PET				*i* S	Sn		16 03 58.8	-2.2
AVH	**Avacha**	**2.79**	**19**	*e*P	Pn		16 03 36.2	+2.5
AVH				*i* S	Sn		16 04 06.6	-0.1
NLC	**Nalytchevo**	**2.85**	**26**	*e*P	Pn		16 03 34.7	+0.2
NLC				*i* S	Sn		16 04 03.7	-4.5
SPN	**Mys Shipunski**	**3.01**	**34**	*e*P	Pn		16 03 38.2	+1.6
SPN				*i* S	Sn		16 04 09.6	-2.3
GNL	**Ganaly**	**3.09**	**8**	*e*P	Pn		16 03 40.0	+2.3
MKZ	**Mys Kozlova**	**4.78**	**33**	*e*P	Pn		16 04 01.6	+1.2
MKZ				*i* S	Sn		16 04 50.4	-4.3
TUMR	**Tumrok**	**4.97**	**20**	*e*P	Pn		16 04 07.9	+4.9
KMNR	**Kamenistaya**	**5.43**	**18**	*e*P	Pn		16 04 14.6	+5.3
ZLN	**Zelenaya**	**5.79**	**20**	*e*P	Pn		16 04 17.9	+3.7
SRKR	**Sorokina**	**6.46**	**20**	P	Pn		16 04 26.0	+2.8
SMKR	**Semkarok**	**6.46**	**21**	*e*P	Pn		16 04 27.5	+4.3
KBTR	**Krutoberegovo**	**6.50**	**29**	*e*P	Pn		16 04 25.1	+1.4

*NEIC **30** 16:03:19.9±0.7, 6.13S×130.37E, h35km, mb4.1/7, Error ellipse: s-maj=23.5km s-min=10.2km az=70.0*

*IDC **30** 16:03:24.6±7.0, 6.29S×130.40E, h74km±63km, mb3.7/5, mb1 4.0/8, mb1mx3.9/13, mbtmp4.2/8, ML4.4/3, Error ellipse: s-maj=101.0km s-min=21.4km az=67.0*

*ISCJB **30** 16:03:25.8±2.2, 6.46S±007×130.14E±0.10, h106km±22km, mb4.2/14, Error ellipse: s-maj=16.7km s-min=9.8km az=141.2*

ISC 30 16:03:24.9±2.5, 649S±009×1301E±01, h76km±24km, n28, σ1℁10/34, mb4.2/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.35**	**200**	P	**Pn**		**16 06 21.0**	**+3.3**
	2.1nm,0.3s,baz=29,slow=10,SNR=66							
FITZ				S	**Sn**		**16 08 30.5**	**-2.8**
	1.9nm,0.3s,baz=99,slow=20,SNR=10.0							
WRA	**Warramunga Arr**	**13.99**	**163**	P	**Pn**		**16 06 39.7**	**+0.2**
	1.6nm,0.3s,baz=334,slow=14,SNR=66							
WRA				S	**Sn**		**16 09 06.9**	**-6.4**
	2.4nm,0.3s,baz=343,slow=22,SNR=9.1							
WB2	**Warramunga Arr**	**13.99**	**163**	*e*Pn	**Pn**		**16 06 39.5**	**0.0**
WB2				*e*Sn	**Sn**		**16 09 04.6**	**-8.7**
AS31	**Alice Springs**	**17.46**	**168**	*e*Pn	**Pn**		**16 07 26.1**	**+2.7**
AS31				*e*Sn	**Sn**		**16 10 29.4**	**-7.9**
ASAR	**Alice Springs**	**17.47**	**168**	P	**Pn**		**16 07 26.6**	**+3.3**
	1.2nm,0.3s,baz=356,slow=9.9,SNR=95							
ASAR				S	**S**		**16 10 33.2**	**-7.9**
	0.4nm,0.3s,baz=347,slow=27,SNR=5.2							
MBWA	**Marble Bar**	**17.72**	**214**	*e*P	**Pn**		**16 07 28.4**	**+1.9**
	6.6nm,0.8s							
MBWA				*e*Sn	**Sn**		**16 10 37.5**	**-5.9**
CTAO	**Charters Tower**	**20.69**	**132**	P	**P**		**16 07 57.1**	**-1.6**
	6.7nm,1.0s							
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**		**16 09 04.1**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=313,slow=14,SNR=4.5							
STKA	**Stephens Creek**	**27.44**	**158**	P	**P**		**16 09 03.0**	**-0.6**
KULM	**Kulim**	**31.66**	**291**	P	**P**		**16 09 39.6**	**-1.2**
GUN	**Gumba**	**54.71**	**311**	*e*P	**P**		**16 12 46.9**	**+0.7**
	18nm,0.6s,mb5.3							
PKI	**Pulchoki**	**54.88**	**310**	*e*P	**P**		**16 12 47.9**	**+0.4**
KKN	**Kakani**	**55.09**	**310**	*e*P	**P**		**16 12 49.6**	**+0.6**
	10nm,0.7s,mb5.0							
DMN	**Daman**	**55.13**	**310**	*e*P	**P**		**16 12 50.0**	**+0.7**

GKN	**Gorkha**	**55.69**	**310**	*e*P	**P**	**16**	**12 53.6 +0.3**
	16nm,0.7s,mb5.2						
KOLN	**Koldanda**	**56.37**	**309**	*e*P	**P**	**16**	**12 58.4 +0.3**
	15nm,0.9s,mb5.0						
SONM	**Songino Array**	**57.99**	**341**	P	**P**	**16**	**13 09.5 -0.1**
	0.4nm,0.5s,mb3.7,baz=153,slow=11,SNR=4.5						
CASY	**Casey**	**61.23**	**189**	*e*P	**P**	**16**	**13 32.4 +0.6**
	4.9nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**16**	**14 15.3 +0.3**
	3.1nm,0.4s,mb4.5,baz=111,slow=8.3,SNR=46						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**16**	**14 15.3 +0.3**
AAK	**Ala-Archa**	**70.22**	**320**	*e*P	**P**	**16**	**14 28.8 -0.9**
	1.4nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**71.18**	**334**	P	**P**	**16**	**14 34.2 -1.2**
	0.9nm,0.5s,mb3.9,baz=320,slow=7.0,SNR=3.0						
ZAL	**Zalesovo**	**71.18**	**334**	P	**P**	**16**	**14 34.2 -1.2**
VNDA	**Vanda**	**72.94**	**173**	P	**P**	**16**	**14 46.4 +0.4**
	0.3nm,0.4s,mb3.5,baz=317,slow=9.1,SNR=5.5						
VNDA	**Vanda**	**72.94**	**173**	P	**P**	**16**	**14 46.4 +0.4**
MAW	**Mawson**	**75.47**	**201**	P	**P**	**16**	**15 01.4 +0.7**
	2.2nm,0.9s,mb3.9						
ZRNK	**Zerenda**	**78.40**	**327**	*e*P	**P**	**16**	**15 15.6 -1.5**
	1.7nm,0.8s,mb3.8						
QSPA	**South Pole Qui**	**83.49**	**180**	*e*P	**P**	**16**	**15 43.9 -0.4**
	1.0nm,0.6s,mb3.8						

NIED ***30*** *16:07:00, 46.70N×153.50E, h8km, Mw3.9 Best double couple: M0 9.08000×10^14 NP1:φ=221.00000°, δ=70.00000°, λ=107.00000°. NP2:φ=360.00000°, δ=25.00000°, λ=51.00000°.*
JMA ***30*** *16:07:36.9±0.8, 46.75N×153.51E, h30km, M4.0*
IDC ***30*** *16:07:37.6±2.3, 46.58N×153.36E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, ML3.3/2, Error ellipse: s-maj=58.1km s-min=28.2km az=159.0*
NEIC ***30*** *16:07:38.6±1.1, 46.45N×153.22E, h10km, mb4.0/5, Error ellipse: s-maj=26.8km s-min=14.3km az=136.0*
BJI ***30*** *16:07:38.6, 46.40N×153.20E, h10km, mB4.6, mb4.3*
MOS ***30*** *16:07:42.8±1.1, 46.26N×153.18E, h68km, mb4.1/5, Error ellipse: s-maj=17.3km s-min=13.3km az=14.5*
ISCJB ***30*** *16:07:44.9±1.2, 46.0N±0.1×153.0E±0.1, h82km±9km, mb4.2/22, Error ellipse: s-maj=21.5km s-min=8.0km az=113.9*

ISC 30 16:07:44.5±1.3, 46.2N±01×153.1E±01, h59km±12km, n54, σ1=43/61, mb4.2/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.83**	**257**	P		**Pn**	**16 09 39.5**	**-1.4**
KUR				*i* S		**Sn**	**16 09 25.5**	**+0.9**
SKR	**Severo-Kuril's**	**4.88**	**23**	*e*Pn		**Pn**	**16 09 02.5**	**+7.1**
YUK	**Yuzh-Kuril'sk**	**5.60**	**250**	*e*Pn		**Pn**	**16 09 05.6**	**+0.5**
YUK				S		**Sn**	**16 10 12.0**	**+3.9**
YUK				pmax	pmax			
	comp=Z,80nm,0.5s							
YUK				smax				
	comp=N,320nm,0.8s							
YUK				smax				
	comp=E,240nm,0.8s							
NEM2	**Nemuro 2**	**5.99**	**244**	P		**Pn**	**16 09 08.7**	**-1.8**
NEM2				*e*S		**Sn**	**16 10 17.4**	**-0.3**
JNK	**Nakash**	**6.54**	**249**	P		**Pn**	**16 09 17.6**	**-0.4**
JNK				*e*S		**Sn**	**16 10 32.3**	**+1.2**
JAK	**Akkeshi**	**6.83**	**245**	P		**Pn**	**16 09 20.1**	**-2.0**
JAK				*e*S		**Sn**	**16 10 37.5**	**-1.0**
JTKR	**Abashiri--Toko**	**6.91**	**254**	P		**Pn**	**16 09 23.9**	**+0.7**
YSS	**Yuzh-Sakhalins**	**7.20**	**280**	*e*PN		**Pn**	**16 09 30.1**	**+3.0**
JAR	**Ashorobuto**	**7.28**	**250**	P		**Pn**	**16 09 28.1**	**-0.1**
JAR				*e*S		**Sn**	**16 10 47.9**	**-1.6**
JKK2	**Kamakawa 2**	**7.73**	**256**	P		**Pn**	**16 09 35.2**	**+0.9**
ASAJ	**Asahikawa**	**7.75**	**258**	Pn		**Pn**	**16 09 36.6**	**+2.0**
	comp=E,0.5nm,0.3s,baz=94,slow=14,SNR=7.5							
ASAJ	**Asahikawa**	**7.75**	**258**	P		**Pn**	**16 09 36.3**	**+1.7**
ASAJ	**Asahikawa**	**7.75**	**258**	PN		**Pn**	**16 09 36.6**	**+2.0**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JCH	**Churui**	**7.87**	**246**	P		**Pn**	**16 09 34.8**	**-1.5**
JCH				*e*S		**Sn**	**16 11 02.5**	**-1.5**
JAB	**Ashibetsu**	**8.22**	**255**	P		**Pn**	**16 09 43.1**	**+2.1**
JANG	**Nango**	**10.29**	**240**	*e*S		**Sn**	**16 11 54.7**	**-8.4**
JTH	**Tanohata**	**10.36**	**237**	*e*S		**Sn**	**16 11 58.3**	**-6.6**
JRG	**Rokugo**	**11.44**	**238**	*e*S		**Sn**	**16 12 26.0**	**-5.1**
KLR	**Kul'dur**	**14.70**	**290**	*e*P		**Pn**	**16 11 07.7**	**-1.4**
MAJO	**Matsushiro**	**14.78**	**234**	*e*P		**Pn**	**16 11 15.8**	**+5.7**
MAJO				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MAJO	**Matsushiro**	**14.78**	**234**	*e*P		**Pn**	**16 11 15.8**	**+5.7**
	comp=Z,5.5nm,0.8s							
MJAR	**Matsushiro Arr**	**14.78**	**234**	Pn		**Pn**	**16 11 10.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=14,SNR=4.2							
MJAR	**Matsushiro Arr**	**14.78**	**234**	Pn		**Pn**	**16 11 10.1**	**0.0**
MDJ	**Mudanjiang**	**16.60**	**273**	P		**Pn**	**16 11 34.8**	**+1.5**
	comp=Z,12nm,1.0s							
NIKO	**Nikolski**	**25.31**	**61**	P		**P**	**16 13 08.0**	**+2.5**
HHC	**Hu-ho-hao-te**	**30.36**	**275**	*e*P		**P**	**16 13 53.8**	**+3.1**
HHC				AMB		AMB		
	comp=Z,12nm,0.3s,mb5.1							
HHC				AMB		AMB		
	comp=Z,174nm,5.0s							
ZAK	**Zakamensk**	**32.92**	**296**	*e*P		**P**	**16 14 12.1**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s,mb3.7							
GTA	**Gaotai**	**39.08**	**280**	*e*P		**P**	**16 15 07.8**	**+2.0**
GTA				AP		pP	16 15 12.0	-8.7
GTA				XP		sP	16 15 15.0	-13
GTA				AMB		AMB		
	comp=Z,3.0nm,1.4s,mb3.8							
WMQ	**Urumqi**	**45.14**	**292**	*e*P		**P**	**16 15 56.5**	**+1.4**
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.6s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,74nm,3.5s							
MKAR	**Makanchi Array**	**47.21**	**298**	P		**P**	**16 16 11.0**	**-0.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=64,slow=8.2,SNR=9.4							
BVAR	**Borovoye Array**	**51.21**	**310**	P		**P**	**16 16 41.2**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=60,slow=8.5,SNR=3.7							
ZRNK	**Zerenda**	**51.98**	**310**	P		**P**	**16 16 46.4**	**-1.3**
ZRNK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
ZRNK	**Zerenda**	**51.98**	**310**	P		**P**	**16 16 46.4**	**-1.3**
	comp=Z,1.3nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**54.09**	**297**	P		**P**	**16 17 02.3**	**-0.9**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**54.09**	**297**	P		**P**	**16 17 02.3**	**-0.9**
	comp=Z,2.1nm,0.9s,mb4.1							
ARU	**Arti**	**55.42**	**318**	P		**P**	**16 17 11.0**	**-1.8**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
ARU	**Arti**	**55.42**	**318**	P		**P**	**16 17 11.0**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.2							
KKN	**Kakani**	**55.56**	**276**	*e*P		**P**	**16 17 15.8**	**+2.0**
	comp=Z,8.4nm,0.7s,mb4.9							
PKI	**Pulchoki**	**55.61**	**275**	*e*P		**P**	**16 17 16.1**	**+1.9**
DMN	**Daman**	**55.79**	**276**	*e*P		**P**	**16 17 17.8**	**+2.3**
	comp=Z,6.7nm,0.5s,mb4.9							
GKN	**Gorkha**	**55.87**	**276**	*e*P		**P**	**16 17 18.5**	**+2.4**
	comp=Z,18nm,0.9s,mb5.1							
KOLN	**Koldanda**	**56.73**	**277**	*e*P		**P**	**16 17 24.5**	**+2.3**
	comp=Z,13nm,0.9s,mb4.9							
AKTK	**Aktyubinsk**	**59.10**	**312**	P		**P**	**16 17 38.0**	**-0.8**
AKTO	**Aktyubinsk**	**59.10**	**312**	P		**P**	**16 17 38.0**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=61,slow=10,SNR=3.6							
KAF	**Kangasniemi**	**63.93**	**335**	*e*p		**P**	**16 18 04.1**	**-7.3**
	comp=Z,0.3nm,0.3s,mb3.8							
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**	**16 18 14.1**	**-1.2**
	comp=Z,2.2nm,0.5s,mb4.4,baz=43,slow=7.6,SNR=28							
PDAR	**Pinedale Array**	**65.04**	**54**	P		**P**	**16 18 17.5**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=90,slow=4.7,SNR=3.5							
NB2	**NORSAR Subarra**	**68.74**	**341**	P		**P**	**16 18 40.5**	**-1.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.74**	**341**	P		**P**	**16 18 40.9**	**-1.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=27,slow=6.3,SNR=17							
AKASG	**Malin Array Be**	**72.00**	**326**	P		**P**	**16 19 00.9**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=32,slow=6.1,SNR=15							
AKBB	**Malin Array Si**	**72.00**	**326**	*e*P		**P**	**16 19 01.0**	**-1.0**
CLL	**Collm**	**76.96**	**336**	*i* P		**P**	**16 19 30.2**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.5							
CLL				*e*PcP		PcP	16 19 42.0	+0.4
MLR	**Muntele Rosu**	**77.51**	**325**	P		**P**	**16 19 35.8**	**+1.9**
	comp=Z,1.9nm,0.6s,mb4.2,baz=72,slow=6.4,SNR=6.4							
GERES	**GERESS Array B**	**78.94**	**334**	P		**P**	**16 19 41.8**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=46,slow=5.8,SNR=5.2							

IDC 30 16:15:10.2±3.0, 3290S×17886W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=69.7km s-min=45.7km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PUZ	**Puketiti**	**5.67**	**204**	PN		Pn	16 16 33.6	-2.2
PUZ				SN		Sn	16 17 30.9	-11
MWZ	**Matawai**	**6.17**	**207**	PN		Pn	16 16 43.0	+0.4
URZ	**Urewera**	**6.28**	**210**	Pn		Pn	16 16 43.3	-0.8
	0.8nm,0.3s,baz=171,slow=18,SNR=6.6							
URZ				Sn		Sn	16 17 48.9	-7.6
	0.9nm,0.3s,baz=234,slow=22,SNR=3.6							
URZ	**Urewera**	**6.28**	**210**	PN		Pn	16 16 43.1	-0.9
ASAR	**Alice Springs**	**42.31**	**270**	P		P	16 23 06.5	+0.9
	0.3nm,0.7s,baz=112,slow=7.0,SNR=5.4							
WRA	**Warramunga Arr**	**43.53**	**275**	P		P	16 23 15.3	-0.2
	0.4nm,0.5s,baz=115,slow=7.9,SNR=12							
FINES	**FINESS Array B**	**147.21**	**338**	PKPbc		PKPbc	16 34 53.9	-1.5
	1.4nm,1.0s,baz=41,slow=6.1,SNR=7.2							

IDC ***30*** *16:16:12.5±2.2, 27.38N×55.75E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/25, mbtmp3.9/11, ML1.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/36, Error ellipse: s-maj=44.4km s-min=21.7km az=166.0*
ISCJB ***30*** *16:16:14.9±0.4, 27.68N±0.003×55.79E±0.004, h10km, mb4.1/22, Error ellipse: s-maj=6.0km s-min=3.9km az=100.7*
MOS ***30*** *16:16:14.9±1.2, 27.28N×55.89E, h33km, mb4.5/4, Error ellipse: s-maj=19.8km s-min=11.2km az=99.3*
NEIC ***30*** *16:16:15.0±1.5, 27.28N×55.85E, h22km±10km, mb4.3/4, ML3.8(THR), Error ellipse: s-maj=17.5km s-min=9.8km az=171.0*
BJI ***30*** *16:16:15.0, 27.59N×55.05E, h41km, mb4.3*
CSEM ***30*** *16:16:17.4±0.2, 27.61N×56.02E, h30km, mb4.2/2, Error ellipse: s-maj=5.4km s-min=3.7km az=48.0*
THR ***30*** *16:16:18.7±0.3, 27.61N×56.21E, h17km±3km, ML3.9*
TEH ***30*** *16:16:24.8, 27.89N×56.04E, h25km, Mn3.9*

ISC 30 16:16:16.3±0.4, 2763N±003×5577E±004, h10km, n61, σ1=32/72, mb4.1/22, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDS	**Bandar-Abbas**	**0.42**	**122**	*e*PG		**Pg**	**16 16 23.8**	**-0.7**
BNDS				AML		AML	16 16 31.5	
	comp=E,24μm,0.1s							
BNDS				AML		AML	16 16 32.2	
	comp=N,16μm,0.3s							
BNDS	**Bandar-Abbas**	**0.42**	**122**	Pg		**Pg**	**16 16 22.0**	**-2.6**
KRBR	**Kerman**	**2.51**	**20**	*e*PN		**Pn**	**16 16 59.8**	**+2.7**
KRBR				*e*SG		**Sg**	**16 17 34.7**	**-2.1**
KRBR				AML		AML	16 17 37.6	
	comp=N,771nm,0.4s							
KRBR				AML		AML	16 17 38.6	
	comp=E,753nm,0.6s							
KRBR	**Kerman**	**2.51**	**20**	Pn		**Pn**	**16 16 59.0**	**+2.0**
KRBR				Sg		**Sg**	**16 17 34.0**	**-2.8**
GHIR	**Ghir-Karzin**	**2.54**	**286**	*e*PN		**Pg**	**16 17 06.7**	**+1.6**
GHIR				AML		AML	16 18 12.8	
	comp=E,157nm,0.9s							
GHIR	**Ghir-Karzin**	**2.54**	**286**	Pn		**Pg**	**16 17 06.0**	**+1.0**
HATD	**Hatta, Dubai**	**2.81**	**173**	⇑P		**Pn**	**16 17 00.7**	**-0.5**
	SNR=53							
ISRV	**Sarvestan**	**2.92**	**307**	*e*Sn		**Sn**	**16 17 44.2**	**+0.1**
ASHO	**Ashiyiah**	**2.94**	**175**	⇓P		**Pn**	**16 17 02.5**	**-0.5**
	SNR=28							
IMEH	**Mehriz**	**3.88**	**345**	*e*Pn		**Pn**	**16 17 18.9**	**+2.9**
IMEH				*e*Sn		**Sn**	**16 18 01.2**	**-0.5**
IBAF	**Bafgh**	**3.96**	**358**	*e*Pn		**Pn**	**16 17 19.7**	**+2.7**
IBAF				*e*Sn		**Sn**	**16 18 01.0**	**-2.4**
ISAD	**Sadrabad**	**4.64**	**338**	*e*Sn		**Sn**	**16 18 20.2**	**-0.1**
ZHSF	**Zahedan**	**4.83**	**65**	Pn		**Pn**	**16 17 28.0**	**-1.0**
IKOO		**5.55**	**30**	*e*Pn		**Pn**	**16 17 40.6**	**+1.8**
IKOO				*e*Sn		**Sn**	**16 18 36.5**	**-6.1**
IGAR	**Garneh**	**5.55**	**327**	*e*Pn		**Pn**	**16 17 43.6**	**+4.7**
ITEG		**5.85**	**25**	*e*Pn		**Pn**	**16 17 44.9**	**+1.9**
ITEG				*e*Sn		**Sn**	**16 18 44.0**	**-6.2**
IZEF	**Zefreh**	**6.04**	**331**	*e*Pn		**Pn**	**16 17 46.6**	**+1.0**
IZEF				*e*Sn		**Sn**	**16 18 54.3**	**-0.4**
IMON		**6.49**	**30**	*e*Pn		**Pn**	**16 17 53.3**	**+1.5**
IMON				*e*Sn		**Sn**	**16 18 59.4**	**-6.5**
IPIR	**Pirpir**	**6.58**	**321**	*e*Pn		**Pn**	**16 17 53.9**	**+0.9**
IPIR				*e*Sn		**Sn**	**16 19 08.4**	**+0.4**
IKLH	**Kalahroud**	**6.73**	**329**	*e*Sn		**Sn**	**16 19 10.6**	**-1.1**
IDMV	**Damavand**	**8.54**	**339**	*e*Pn		**Pn**	**16 18 23.7**	**+3.7**
IDMV				*e*Sn		**Sn**	**16 19 53.4**	**-3.0**
SHAO	**Shalim**	**9.56**	**181**	⇑P		**Pn**	**16 18 33.1**	**-0.8**
	SNR=13							
GNI	**Garni**	**15.47**	**327**	Pn		**Pn**	**16 19 57.0**	**+2.5**
	comp=E,0.4nm,0.3s,baz=8.7,slow=4.1,SNR=5.6							
GNI	**Garni**	**15.47**	**327**	Pn		**Pn**	**16 19 56.8**	**+2.3**
GNI				Pn		**Pn**	**16 19 57.0**	**+2.5**
GNI	**Garni**	**15.47**	**327**	P		**Pn**	**16 19 56.8**	**+2.3**
GNI	**Garni**	**15.47**	**327**	Pn		**Pn**	**16 19 57.0**	**+2.5**
KIV	**Kislovodsk**	**19.40**	**331**	⇑*e*P		**Pn**	**16 20 45.1**	**+1.5**
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
KIV	**Kislovodsk**	**19.40**	**331**	*e*P		**Pn**	**16 20 44.8**	**+1.2**
	comp=Z,11nm,0.9s							
KIV	**Kislovodsk**	**19.40**	**331**	*e*P		**Pn**	**16 20 45.1**	**+1.5**
	comp=Z,13nm,1.0s							
AAK	**Ala-Archa**	**21.35**	**41**	*e*P		**P**	**16 21 01.9**	**-1.7**
AAK				pmax	pmax			
	comp=Z,22nm,1.3s,mb4.3							
AAK	**Ala-Archa**	**21.35**	**41**	*e*P		**P**	**16 21 01.9**	**-1.7**
	comp=Z,22nm,1.3s,mb4.3							
BRTR	**Keskin Array B**	**21.95**	**309**	P		**P**	**16 21 10.1**	**0.0**
	comp=Z,3.5nm,1.0s,mb3.8,baz=130,slow=12,SNR=6.7							
AKTK	**Aktyubinsk**	**22.84**	**4**	P		**P**	**16 21 19.1**	**-0.4**
AKTK				LR		LR	16 30 29.1	
AKTK	**Aktyubinsk**	**22.84**	**4**	P		**P**	**16 21 19.2**	**-0.3**
AKTO	**Aktyubinsk**	**22.84**	**4**	P		**P**	**16 21 19.1**	**-0.4**
	comp=Z,5.3nm,1.0s,mb3.9,baz=190,slow=10,SNR=14							
AKTO				LR		LR	16 30 29.1	
	comp=Z,39nm,21.8s,baz=103,slow=37							
KOLN	**Koldanda**	**24.63**	**83**	*e*P		**P**	**16 21 37.9**	**+1.1**
	comp=Z,16nm,1.0s,mb4.5							
GKN	**Gorkha**	**25.52**	**82**	*e*P		**P**	**16 21 45.3**	**+0.4**
	comp=Z,13nm,0.9s,mb4.5							
DMN	**Daman**	**25.97**	**83**	*e*P		**P**	**16 21 49.9**	**+0.9**
	comp=Z,34nm,1.2s,mb4.8							
KKN	**Kakani**	**26.11**	**83**	*e*P		**P**	**16 21 50.8**	**+0.6**
	comp=Z,20nm,1.0s,mb4.6							
PKI	**Pulchoki**	**26.25**	**83**	*e*P		**P**	**16 21 52.1**	**+0.6**
	comp=Z,19nm,0.8s,mb4.7							
GUN	**Gumba**	**26.62**	**82**	*e*P		**P**	**16 21 55.3**	**+0.5**
	comp=Z,45nm,1.0s,mb5.0							
ZRNK	**Zerenda**	**27.15**	**18**	*e*P		**P**	**16 21 58.3**	**-1.3**
ZRNK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb3.8							
ZRNK	**Zerenda**	**27.15**	**18**	*e*P		**P**	**16 21 58.3**	**-1.3**
	comp=Z,3.3nm,1.0s,mb3.8							
ZRNK	**Zerenda**	**27.15**	**18**	*e*P		**P**	**16 21 58.3**	**-1.3**
	comp=Z,3.0nm,1.0s,mb3.8							
BVAR	**Borovoye Array**	**27.60**	**19**	P		**P**	**16 22 03.1**	**-0.6**
	comp=Z,2.3nm,0.9s,mb3.8,baz=210,slow=12,SNR=7.6							
MKAR	**Makanchi Array**	**28.29**	**40**	P		**P**	**16 22 09.0**	**-0.8**
	comp=Z,0.1nm,0.3s,mb3.0,baz=224,slow=3.3,SNR=3.7							
ZAL	**Zalesovo**	**33.83**	**31**	P		**P**	**16 22 58.4**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=248,slow=9.3,SNR=15							
TREC	**Trest**	**37.65**	**316**	*e*P		**P**	**16 23 33.2**	**+1.8**
GTA	**Gaotai**	**38.21**	**61**	*e*P		**P**	**16 23 36.5**	**+0.3**
GTA				AMB		AMB		
	comp=Z,3.0nm,1.2s,mb3.9							
GERES	**GERESS Array B**	**38.61**	**315**	P		**P**	**16 23 37.5**	**-2.0**
	comp=Z,0.2nm,0.6s,mb3.0,baz=104,slow=8.2,SNR=3.6							
KHC	**Kasperske Hory**	**38.77**	**315**	*e*P		**P**	**16 23 39.2**	**-1.7**
FINES	**FINESS Array B**	**39.21**	**338**	P		**P**	**16 23 43.9**	**-0.6**
	comp=Z,3.5nm,1.1s,mb4.0,baz=118,slow=17,SNR=3.0							
KMI	**Kunming**	**41.97**	**82**	P		**P**	**16 24 10.8**	**+3.5**
KMI				AMB		AMB		
	comp=Z,5.0nm,1.1s,mb4.1							
SONM	**Songino Array**	**43.94**	**49**	P		**P**	**16 24 22.7**	**-0.7**
	comp=Z,1.1nm,1.1s,mb3.5,baz=257,slow=10,SNR=4.0							
ARCES	**ARCESS Array B**	**45.47**	**346**	P		**P**	**16 24 36.2**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=135,slow=9.0,SNR=2.3							
ARCES	**ARCESS Array B**	**45.47**	**346**	P		**P**	**16 24 36.2**	**+0.7**
BOD	**Bodaibo**	**50.24**	**36**	*e*P		**P**	**16 25 06.3**	**-6.2**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.5s,mb4.2							
TOA0	**Torodi Ar. Sit**	**52.31**	**265**	P		**P**	**16 25 26.3**	**-1.7**
TORD	**Torodi Ar. Bea**	**52.31**	**265**	P		**P**	**16 25 26.1**	**-2.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=54,slow=6.7,SNR=5.1							
YSS	**Yuzh-Sakhalins**	**68.41**	**47**	P		**P**	**16 27 22.1**	**+3.9**
YSS				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
YSS	**Yuzh-Sakhalins**	**68.41**	**47**	P		**P**	**16 27 22.1**	**+3.9**
	comp=Z,8.9nm,0.9s,mb4.8							

IDC 30 16:26:14.6±3.8, 2257S×17463W, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=149.8km s-min=56.9km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**36.45**	**266**	P		P	16 33 22.8	+1.7
	5.4nm,0.4s,baz=103,slow=10,SNR=16							
STKA	**Stephens Creek**	**39.79**	**247**	P		P	16 33 48.9	-0.4
	2.2nm,0.9s,baz=80,slow=10,SNR=5.8							
ASAR	**Alice Springs**	**47.13**	**258**	P		P	16 34 48.1	-0.3
	0.3nm,0.3s,baz=91,slow=6.6,SNR=23							
WRA	**Warramunga Arr**	**47.45**	**263**	P		P	16 34 51.0	0.0
	1.4nm,0.3s,baz=97,slow=8.4,SNR=87							
BRTR	**Keskin Array B**	**150.55**	**312**	PKPbc		PKPbc	16 46 08.6	+0.2
	1.5nm,0.8s,baz=223,slow=2.9,SNR=4.6							

MOS ***30*** *16:26:52.4±0.9, 1549S×7334W, h83km, mb5.7/86, MS5.1/18, Error ellipse: s-maj=7.4km s-min=5.0km az=90.0*
ISCJB ***30*** *16:26:54.6±0.1, 1558S±0.003×7329W±0.003, h106km, mb5.6/241, Error ellipse: s-maj=4.8km s-min=2.8km az=109.2*
BJI ***30*** *16:26:54.0, 1560S×7320W, h106km, mB5.6*
NEIC ***30*** *16:26:56.1±0.1, 1559S×7316W, h107km, mb5.6/205, ME5.7, MW6.0, Error ellipse: s-maj=4.0km s-min=2.6km az=56.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^18Nm; Mrr=0.57; Mθθ=0.90; Mφφ 1.47; Mrθ 0.44; Mθφ -0.24; Mφr-0.47; Best double couple: M0 1.40000×10^18 NP1:φ=316.00000°, δ76.00000°, λ-144.00000°. NP2: φ=216.00000°, δ55.00000°, λ-17.00000°. Principal axes: T 1.6200, Plg14.0000°, Azm82.0000°; N -0.4100, Plg51.0000°, Azm334.0000°; P -1.2000, Plg35.0000°, Azm182.0000°; Broadband fault plane solution: P waves. NP1:φ=184.00000°, δ41.00000°, λ-49.00000°. NP2: φ=315.00000°, δ60.00000°, λ-120.00000°. Principal axes: T Plg10.0000°, Azm66.0000°; N Plg0.0000°, Azm0.0000°; P Plg62.0000°, Azm176.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Caraveli and [IV] at Arequipa.
IDC ***30*** *16:26:56.0±0.3, 1556S±0.003×7300W, h106km±2km, mb4.9/31, mb1 5.0/35, mb1mx5.0/36, mbtmp5.3/35, MS5.0/18, Ms1 4.9/18, ms1mx4.7/32 Error ellipse: s-maj=9.7km s-min=6.0km az=60.0*
LDG ***30*** *16:26:56.7±0.7, 1552S×7263W, h105km, Mb5.5/29, Ms4.9/8, Error ellipse: s-maj=42.9km s-min=8.1km az=57.0*
GCMT ***30*** *16:26:56.1±0.1, 1572S×7334W, h120km, MW6.0/103, Moment Tensor Solution. s103, c219; s101, c294; Duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr-0.58±.01; Mθθ-0.52±.01; Mφφ 1.10±.01; Mrθ 0.40±.01; Mθφ-0.21±.01; Mφr-0.10±.01; Best double couple: M0 1.04600×10^18 NP1:φ=208.00000°, δ55.00000°, λ-33.00000°. NP2:φ=319.00000°, δ63.00000°, λ-140.00000°. Principal axes: T 1.1400, Plg5.0000°, Azm82.0000°; N -0.1840, Plg43.0000°, Azm347.0000°; P -0.9520, Plg47.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
SZGRF ***30*** *16:38:04.3, 1506S×7306W, h108km, mb5.8, Southern Peru*

ISC 30 16:26:56.4±0.1, 1561S±003×7317W±003, h108km, h108km±.4km: pP-P, n696, σ0=87/548, mb5.6/239, 39C-143D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARE	**Arequipa**	**1.82**	**118**	⇑*i*P		**Pn**	**16 27 26.2**	**-0.9**
ARE				S		**Sn**	**16 27 49.0**	**-1.4**
LPAZ	**La Paz**	**4.89**	**99**	P

comp=Z,90nm,0.5s
BDFB smax
comp=N,20nm,0.8s
BDFB MLR MLR
comp=Z,7µm,19.5s
BDFB Brasilia 24.22 93⇑ eP P 16 32 01.9 -1.1
comp=Z,514nm,1.1s,mb5.8
TRQA Tornquist 24.45 158⇓ eP P 16 32 03.6 -1.4
comp=Z,768nm,1.4s,mb5.8
SDV Santo Domingo 24.46 6 P P 16 32 05.0 -0.2
comp=Z,28nm,0.5s,mb4.8,baz=222,slow=6.1,SNR=20
SDV S **S 16 36 15.3 -2.2**
comp=Z,1.9nm,0.5s,baz=219,slow=23,SNR=2.7
SDV Santo Domingo 24.46 6⇓ iP P 16 32 05.0 -0.3
comp=Z,147nm,0.9s,mb5.3
PLCA Paso Flores 25.14 175 P P 16 32 11.0 -0.3
comp=Z,715nm,0.9s,mb6.1,baz=348,slow=9.6,SNR=393
PLCA Paso Flores 25.14 175⇓ eP P 16 32 10.9 -0.4
PLCA *e* 16 35 43.7
PLCA pmax pmax
comp=Z,1µm,1.1s
PLCA Paso Flores 25.14 175⇓ eP P 16 32 10.9 -0.4
comp=Z,1µm,1.1s,mb6.3
PLCA *e*PcP PcP 16 35 43.7 +1.1
VAO Valinhos 25.77 111⇑ iP P 16 32 17.4 +0.3
VAO *i* 16 32 20.0
VAO *i* 16 32 23.1
VAO *i* 16 32 32.3
VAO *i* pP 16 32 38.3 -2.3
VAO *i* 16 32 45.5
VAO *i* 16 36 34.5
VAO *i* 16 36 51.5
PCRV Puerto La Cruz 26.97 19 P P 16 32 28.8 +0.9
comp=Z,3.1nm,0.4s,baz=323,slow=20,SNR=4.8
PCRV LR LR 16 44 33.5
comp=Z,6µm,20.0s,baz=195,slow=39
PCRV Puerto La Cruz 26.97 19 P P 16 32 28.8 +0.9
PCRV LR LR 16 44 33.5
JTS JuntasAbangare 28.25 335 P P 16 32 40.6 +1.4
comp=Z,23nm,1.1s,mb4.6,baz=135,slow=2.0,SNR=6.6
JTS JuntasAbangare 28.25 335 eP P 16 32 40.1 +0.8
JTS pmax pmax
comp=Z,79nm,1.5s
JTS JuntasAbangare 28.25 335 eP P 16 32 40.1 +0.8
comp=Z,79nm,1.5s,mb5.0
JTS *es*P sP 16 33 16.2 +0.5
CAM4 Nova Friburgo 29.67 108⇑ iP P 16 32 52.2 +0.4
CAM4 *i* 16 32 53.4
CAM4 *i* 16 32 59.3
CAM4 *i* 16 33 07.4
CAM4 *i* pP 16 33 19.9 +4.1
CAM4 *i* 16 33 45.9
CAM4 *i* 16 33 53.0
CAM4 *i* 16 33 53.0
CAM3 Guarapari 31.40 104⇑ iP P 16 33 06.5 -0.6
CAM3 *i* 16 33 08.5
CAM3 *i* 16 33 15.1
CAM3 *i* pP 16 33 27.3 -3.8
CAM3 *i* 16 34 04.7
CAM3 *i* 16 34 11.4
CAM3 *i* 16 34 17.5
CAM3 *i* 16 34 27.3
CAM3 Guarapari 31.40 104⇑ iP P 16 33 06.5 -0.6
CAM3 *i* 16 33 08.5
CAM3 *i* 16 33 15.1
CAM3 *i* pP 16 33 27.3 -3.8
CAM3 *i* 16 34 04.5
CAM3 *i* 16 34 11.4
CAM3 *i* 16 34 17.5
CAM3 *i* 16 34 27.3
SJG San Juan 34.21 12 P P 16 33 31.6 0.0
comp=Z,19nm,0.7s,mb5.1,baz=308,slow=21,SNR=6.4
SJG San Juan 34.21 12 eP P 16 33 30.3 -1.3
SJG *e**PP pP 16 33 53.8 -2.0
SJG pmax pmax
comp=Z,82nm,1.1s
SJG San Juan 34.21 12 eP P 16 33 30.3 -1.3
comp=Z,82nm,1.1s,mb5.5
SJG *ep*P pP 16 33 53.8 -2.0
MTP Monte Pirata 34.32 13⇓ iP P 16 33 30.4 -2.1
RPN Rapa Nui 35.45 245 P P 16 33 44.4 +2.1
comp=Z,35nm,0.4s,mb5.6,baz=355,slow=2.8,SNR=3.9
RPN LR LR 16 44 46.3
comp=Z,4µm,19.0s,baz=83,slow=30
RPN Rapa Nui 35.45 245 P P 16 33 44.4 +2.1
RPN LR LR 16 44 46.3
RCC Rio Carpintero 35.47 356 eP pP 16 34 06.1 -0.5
MOAC Moa 36.08 357 eP P 16 33 54.0 +6.4
HLGC Holguin 36.38 355 eP pP 16 34 15.4 +0.9
EFI East Falkland 37.95 165 P P 16 34 04.8 +1.3
comp=Z,3µm,1.2s,SNR=14
EFI East Falkland 37.95 165⇓ eP P 16 34 02.7 -0.8
EFI pmax pmax
comp=Z,782nm,1.1s,mb6.5
EFI East Falkland 37.95 165⇓ eP P 16 34 02.7 -0.7
comp=Z,782nm,1.1s,mb6.5
CMIG Matias Romero 38.91 326 P P 16 34 12.1 +0.6
comp=Z,23nm,1.0s,mb5.0,baz=141,slow=7.1,SNR=16
CMIG LR LR 16 49 41.3
comp=Z,1µm,19.5s,baz=140,slow=35
CMIG Matias Romero 38.91 326 P P 16 34 12.1 +0.6
CMIG LR LR 16 49 41.3
USHA Ushuaia 39.31 176 P P 16 34 15.4 +0.6
comp=Z,292nm,1.1s,mb6.0,baz=346,slow=5.1,SNR=87
USHA LR LR 16 49 38.5
comp=Z,2µm,18.1s,baz=339,slow=35
SOR Soroa 39.36 346 *e*S **S 16 40 19.0 +11**
SOR comp=N,2.1nm,5.9s *e*
comp=E,3.0nm,6.1s
IIO Organos 43.07 323 *i* P P **16 34 47.2 +1.7**
IIO *i* S pP 16 35 13.0 +2.5
CJM Chamela 46.90 317 *i* P P **16 35 15.7 -0.2**
ZAIG Zacatecas 47.78 322 *i* P P **16 35 23.6 +1.0**
HOPE Hope Point 47.95 152 P P 16 35 25.1 +1.1
comp=E,3µm,0.8s,SNR=16
HOPE Hope Point 47.95 152 P P 16 35 25.7 +1.7
BBSR BB Station 48.39 10 P P 16 35 26.5 -0.9
comp=E,72nm,1.2s,mb5.4
KVTX Kingsville 49.14 331 eP P 16 35 33.7 +0.5
comp=E,133nm,1.1s,mb5.8
KVTX *ep*P pP 16 35 57.8 -0.9
KVTX *es*P sP 16 36 10.4 -0.4
PMSA Palmer Station 49.51 175 P P 16 35 36.9 +1.0
comp=E,233nm,1.1s,mb6.0,baz=2.4,slow=6.3,SNR=38
PMSA Palmer Station 49.51 175⇓ eP P 16 35 36.5 +0.5
comp=E,491nm,1.4s,mb6.2
HKT Hockley 50.29 334⇓ iP P 16 35 41.7 -0.1
HKT *e**PP pP 16 36 08.9 +1.5
HKT pmax pmax
comp=Z,234nm,1.8s,mb5.8
HKT Hockley 50.29 334⇓ iP P 16 35 41.7 -0.1
comp=Z,234nm,1.8s,mb5.8
HKT *ep*P pP 16 36 08.9 +1.5
HKT *es*P sP 16 36 19.5 -0.1
NATX Nacogdoches 51.41 336⇓ iP P 16 35 50.5 +0.2
comp=Z,240nm,1.6s,mb6.0
NATX *ep*P pP 16 36 15.9 -0.1
NATX *es*P sP 16 36 28.1 +0.1
TKL Tuckaleechee C 51.96 349 pP pP 16 36 19.1 -1.0
TKL LR LR 16 59 17.3
comp=Z,880nm,21.3s,baz=172,slow=37
OXF Oxford 52.18 343⇓ iP P 16 35 53.9 -2.0
OXF *e**PP pP 16 36 19.3 -2.4
OXF pmax pmax
comp=Z,260nm,1.3s,mb6.1
OXF Oxford 52.18 343⇓ iP P 16 35 53.9 -2.0
comp=Z,260nm,1.3s,mb6.1
OXF *ep*P pP 16 36 19.3 -2.4
OXF *es*P sP 16 36 32.6 -1.2
PLAL Pickwick Lake 52.26 345⇓ iP P 16 35 54.5 -2.1
comp=Z,105nm,1.3s,mb5.7
PLAL *ep*P pP 16 36 19.9 -2.4
PLAL *es*P sP 16 36 33.6 -0.8
JCT Junction City 52.51 331⇓ iP P 16 35 57.7 -0.6
JCT *e**PP pP 16 36 23.2 -1.0
JCT pmax pmax
comp=Z,45nm,0.9s,mb5.5
JCT Junction City 52.51 331⇓ iP P 16 35 57.7 -0.6
comp=Z,44nm,0.9s,mb5.5
JCT *ep*P pP 16 36 23.2 -1.0
TZTN Tazewell 52.79 350⇓ iP P 16 35 59.0 -1.4
comp=Z,209nm,1.6s,mb5.9
TZTN *ep*P pP 16 36 25.1 -1.2

BLA Blacksburg 52.98 353 *e*P **P 16 36 01.0 -0.8**
BLA *e**PP pP 16 36 28.9 +1.3
BLA pmax pmax
comp=Z,43nm,2.0s,mb5.1
BLA Blacksburg 52.98 353 *e*P **P 16 36 00.9 -0.8**
comp=Z,594nm,2.0s,mb6.3
BLA *ep*P pP 16 36 28.9 +1.3
ELN Prospectdale 53.03 352 *e*P **P 16 36 02.1 -0.1**
ELN *ep*P pP 16 36 28.9 +0.8
ELN *es*P sP 16 36 41.1 +1.0
WVT Waverly 53.29 345 P **P 16 36 02.2 -1.9**
WVT *ep*P pP 16 36 27.5 -2.4
WVT PP PP 16 38 30.7 +25
WVT Waverly 53.29 345⇓ iP P 16 36 01.9 -2.2
WVT *e**PP pP 16 36 27.6 -2.4
WVT pmax pmax
comp=Z,98nm,1.1s,mb5.8
WVT Waverly 53.29 345⇓ iP P 16 36 01.9 -2.2
comp=Z,98nm,1.1s,mb5.8
WVT *ep*P pP 16 36 27.6 -2.4
WVT *es*P sP 16 36 40.3 -1.7
UALR University of 53.31 340⇓ iP P 16 36 03.3 -0.9
comp=Z,212nm,1.4s,mb6.0
UALR *ep*P pP 16 36 29.2 -0.9
FWV Forest Hill 53.39 352 *e*P **P 16 36 04.4 -0.4**
FWV *ep*P pP 16 36 31.4 +0.7
HBAR Harrisburg 53.51 342 *e*P **P 16 36 05.0 -0.7**
HBAR *ep*P pP 16 36 32.2 +0.6
MIAR Mount Ida 53.52 339⇓ iP P 16 36 05.1 -0.7
MIAR *e**PP pP 16 36 31.0 -0.7
MIAR pmax pmax
comp=Z,92nm,0.9s,mb5.8
MIAR Mount Ida 53.52 339⇓ iP P 16 36 05.1 -0.7
comp=Z,92nm,0.9s,mb5.8
MIAR *ep*P pP 16 36 31.0 -0.6
MIAR *es*P sP 16 36 43.3 -0.4
LPIG La Paz 53.60 317 P **P 16 36 06.0 -0.3**
comp=Z,17nm,0.3s,mb5.6,baz=304,slow=3.7,SNR=7.1
LPIG LR LR 16 53 41.6
comp=Z,169nm,21.4s,baz=131,slow=30
LPIG La Paz 53.60 317 P P 16 36 06.0 -0.3
LPIG LR LR 16 53 41.6
CBN Corbin 53.67 356 *e*P **P 16 36 07.2 +0.4**
comp=Z,44nm,0.5s,mb5.8
GLAT Glass 53.80 344 P P 16 36 05.8 -2.0
PARMO Parma 54.29 344 *e*P **P 16 36 10.7 -0.7**
PARMO *ep*P pP 16 36 36.6 -0.8
SDMD Soldier's Deli 54.84 357 *ep*P **P 16 36 06.9 -8.4**
WCI Wyandotte Cave 54.95 347 P P 16 36 14.7 -1.4
WCI *ep*P pP 16 36 41.0 -1.2
WCI S **S 16 43 46.1 -3.4**
WCI *s*S sS 16 44 31.8 -2.5
WCI Wyandotte Cave 54.95 347⇓ iP P 16 36 14.6 -1.5
WCI *e**PP pP 16 36 40.7 -1.5
WCI pmax pmax
comp=Z,156nm,0.8s,mb6.1
WCI Wyandotte Cave 54.95 347⇓ iP P 16 36 14.6 -1.6
comp=Z,156nm,0.8s,mb6.1
WCI *ep*P pP 16 36 40.7 -1.4
WCI *es*P sP 16 36 53.7 -0.5
USIN University of 55.00 346 *e*P **P 16 36 14.8 -1.7**
comp=Z,144nm,0.8s,mb6.1
USIN *ep*P pP 16 36 40.4 -2.2
USIN *es*P sP 16 36 53.3 -1.2
MCWV Mont Chateau 55.33 354⇓ eP P 16 36 18.4 -0.5
comp=Z,15nm,0.6s,mb5.2
MCWV *ep*P pP 16 36 43.8 -1.1
MCWV *es*P sP 16 36 56.9 0.0
MVL Millersville 55.40 357⇓ iP P 16 36 19.4 +0.1
comp=Z,95nm,1.2s,mb5.7
MVL *ep*P pP 16 36 45.4 0.0
WMOK Wichita Mounta 55.67 334⇓ iP P 16 36 19.9 -1.4
WMOK *e**PP pP 16 36 45.9 -1.5
WMOK pmax pmax
comp=Z,99nm,1.4s,mb5.7
WMOK Wichita Mounta 55.67 334⇓ iP P 16 36 19.9 -1.4
comp=Z,99nm,1.4s,mb5.7
WMOK *ep*P pP 16 36 45.9 -1.5
BLO Bloomington 55.90 347⇓ iP P 16 36 21.2 -1.8
BLO *e**PP pP 16 36 47.5 -1.6
BLO pmax pmax
comp=Z,851nm,1.9s,mb6.5
BLO Bloomington 55.90 347⇓ iP P 16 36 21.2 -1.8
comp=Z,858nm,1.9s,mb6.5
BLO *ep*P pP 16 36 47.5 -1.6
BLO *es*P sP 16 37 00.5 -0.6
CCM Cathedral Cave 56.01 343⇓ eP P 16 36 21.1 -2.6
CCM *e**PP pP 16 36 47.0 -2.9
CCM pmax pmax
comp=Z,517nm,2.1s,mb6.2
CCM Cathedral Cave 56.01 343⇓ eP P 16 36 21.1 -2.6
comp=Z,517nm,2.1s,mb6.2
CCM *ep*P pP 16 36 47.0 -2.9
CCM *es*P sP 16 36 59.5 -2.3
SSPA Standing Stone 56.12 356⇓ iP P 16 36 24.4 -0.1
comp=Z,516nm,2.0s,mb6.2
SSPA *ep*P pP 16 36 50.1 -0.5
SLM Saint Louis 56.28 344 *e*P **P 16 36 24.5 -1.1**
SLM *e**PP pP 16 36 50.5 -1.3
SLM pmax pmax
comp=Z,453nm,1.7s,mb6.2
SLM Saint Louis 56.28 344 *e*P **P 16 36 24.5 -1.1**
comp=Z,450nm,1.7s,mb6.2
SLM *ep*P pP 16 36 50.5 -1.3
MNTX Cornudas Mount 56.28 327⇓ iP P 16 36 24.2 -1.5
comp=Z,89nm,1.2s,mb5.7
MNTX *ep*P pP 16 36 50.4 -1.4
MNTX *es*P sP 16 37 01.1 -2.7
ACSO Alum Creek Sta 56.30 351⇓ iP P 16 36 24.3 -1.4
comp=Z,178nm,1.4s,mb5.9
ACSO *ep*P pP 16 36 50.3 -1.6
ACSO *es*P sP 16 37 03.2 -0.7
ALLY Alegheny Colle 57.33 354 *e*P **P 16 36 32.6 -0.5**
comp=Z,56nm,1.1s,mb5.5
ALLY *ep*P pP 16 36 59.0 -0.2
BINY Binghamton 57.57 358⇓ iP P 16 36 34.7 0.0
comp=Z,615nm,1.6s,mb6.4
BINY *ep*P pP 16 37 01.1 +0.1
BINY *es*P sP 16 37 12.6 -0.3
TRIS Tristan da Cun 57.60 124 *e*P **P 16 36 36.3 +1.4**
comp=Z,307nm,0.9s,mb6.3
HRV Harvard--Oak R 57.84 1 *e*P **P 16 36 36.0 -0.6**
HRV *e**PP pP 16 37 03.6 +0.7
HRV pmax pmax
comp=Z,146nm,1.6s,mb5.8
HRV Harvard--Oak R 57.84 1 *e*P **P 16 36 36.0 -0.7**
comp=Z,146nm,1.6s,mb5.8
HRV *ep*P pP 16 37 03.6 +0.7
HRV *es*P sP 16 37 14.9 +0.1
AAM Ann Arbor 58.42 351 *e*P **P 16 36 39.0 -1.7**
AAM *e**PP pP 16 37 06.5 -0.5
AAM pmax pmax
comp=Z,19nm,0.5s,mb5.4
AAM Ann Arbor 58.42 351 *e*P **P 16 36 39.0 -1.7**
comp=Z,19nm,0.5s,mb5.4
AAM *ep*P pP 16 37 06.5 -0.5
AAM *es*P sP 16 37 17.5 -1.4
RKT Rikitea 58.43 252 *e*S **S 16 44 37.7 +2.3**
comp=Z,4µm,23.0s
RKT *e*LQ 16 51 23.1
comp=Z,2µm,25.5s
RKT *e*LR LR 16 54 06.4
comp=Z,5µm,30.5s
KSU1 Kansas State U 58.67 339 *e*P **P 16 36 41.5 -0.9**
comp=Z,272nm,1.6s,mb6.0
KSU1 *ep*P pP 16 37 08.7 -0.1
LPM Los Pinos Moun 58.98 328 *e*P **P 16 36 44.4 -0.2**
LPM *ep*P pP 16 37 11.9 +1.0
LPM *es*P sP 16 37 23.9 +1.1
HNH Hanover 59.02 1⇑ iP P 16 36 45.6 +0.7
comp=Z,1µm,1.7s,mb6.6
HNH *ep*P pP 16 37 13.1 +1.9
HNH *es*P sP 16 37 23.5 +0.3
LENM Lemitar 59.04 327 *e*P **P 16 36 44.9 0.0**
LENM *ep*P pP 16 37 11.9 +0.6
LENM *es*P sP 16 37 23.1 -0.2
NCB Newcomb 59.29 359 *e*P **P 16 36 46.2 -0.6**
comp=Z,57nm,1.4s,mb5.4
NCB *ep*P pP 16 37 14.0 +0.9
LAZ Ladron 59.31 328 *e*P **P 16 36 47.2 +0.4**
LAZ *ep*P pP 16 37 13.5 +0.3
LAZ *es*P sP 16 37 25.6 +0.5
ANMO Albuquerque 59.39 328 P **P 16 36 47.4 0.0**

ANMO pP pP 16 37 13.2 -0.6
ANMO sP sP 16 37 24.0 -1.7
ANMO Albuquerque 59.39 328 P P 16 36 47.5 +0.1
comp=Z,20nm,1.1s,mb5.1,baz=148,slow=8.5,SNR=61
ANMO pP pP 16 37 13.6 -0.1
comp=Z,21nm,0.8s,baz=150,slow=8.7,SNR=11
ANMO Albuquerque 59.39 328⇓ iP P 16 36 47.1 -0.3
ANMO *e**PP pP 16 37 13.0 -0.8
ANMO pmax pmax
comp=Z,26nm,0.9s
ANMO Albuquerque 59.39 328⇓ iP P 16 36 47.1 -0.3
comp=Z,26nm,0.9s,mb5.2
ANMO *ep*P pP 16 37 13.0 -0.8
ANMO *es*P sP 16 37 23.8 -1.9
CBKS Cedar Bluff 59.58 336⇓ iP P 16 36 48.2 -0.5
CBKS *e**PP pP 16 37 13.7 -1.3
CBKS pmax pmax
comp=Z,58nm,0.8s,mb5.7
CBKS Cedar Bluff 59.58 336⇓ iP P 16 36 48.2 -0.5
comp=Z,136nm,0.8s,mb6.0
CBKS *ep*P pP 16 37 13.7 -1.3
CBKS *es*P sP 16 37 27.2 +0.2
TUC Tucson 59.73 323⇓ iP P 16 36 49.0 -0.7
TUC *e**PP pP 16 37 14.9 -1.2
TUC pmax pmax
comp=Z,47nm,1.6s,mb5.3
TUC Tucson 59.73 323⇓ iP P 16 36 49.0 -0.7
comp=Z,53nm,1.6s,mb5.3
TUC *ep*P pP 16 37 14.9 -1.2
TUC *es*P sP 16 37 26.2 -1.8
LONY Lake Ozonia 59.95 359 *e*P **P 16 36 50.9 -0.4**
comp=Z,115nm,1.6s,mb5.7
LONY *ep*P pP 16 37 17.1 -0.5
SCIA State Center 60.15 343 *e*P **P 16 36 50.9 -1.7**
comp=Z,24nm,0.7s,mb5.3
FRNY Flat Rock 60.15 360⇓ iP P 16 36 52.3 -0.3
comp=Z,82nm,1.1s,mb5.7
FRNY *ep*P pP 16 37 19.9 +0.8
FRNY *es*P sP 16 37 30.2 -0.7
JFWS Jewell Farm 60.31 346 *e*P **P 16 36 51.8 -1.9**
JFWS *e**PP pP 16 37 18.9 -1.2
JFWS *e**SP sP 16 37 30.9 -1.1
JFWS pmax pmax
comp=Z,226nm,1.8s,mb5.9
JFWS Jewell Farm 60.31 346 *e*P **P 16 36 51.8 -1.9**
comp=Z,399nm,1.8s,mb6.2
JFWS *ep*P pP 16 37 18.9 -1.2
JFWS *es*P sP 16 37 30.9 -1.1
SADO Sadowa 60.33 355 P **P 16 36 52.4 -1.4**
comp=Z,35nm,0.9s,mb5.4
SADO pP pP 16 37 19.2 -1.0
comp=Z,19nm,0.8s,baz=184,slow=6.2,SNR=2.6
SDCO Great Sand Dun 61.15 331⇓ iP P 16 36 59.7 +0.3
comp=Z,163nm,1.1s,mb6.0
SDCO *ep*P pP 16 37 25.6 -0.3
SDCO *es*P sP 16 37 38.0 +0.2
MVCO Mesa Verde 62.18 329⇓ iP P 16 37 06.2 -0.1
comp=Z,128nm,1.5s,mb5.7
MVCO *ep*P pP 16 37 33.0 +0.1
MVCO *es*P sP 16 37 43.3 -1.5
WUAZ Wupatki 62.41 325⇓ iP P 16 37 08.2 +0.4
comp=Z,215nm,1.4s,mb6.0
WUAZ *ep*P pP 16 37 34.6 +0.1
WUAZ *es*P sP 16 37 45.3 -1.0
ECSD EROS,Sioux Fal 62.83 341⇓ iP P 16 37 09.5 -1.1
comp=Z,246nm,1.4s,mb5.9
ECSD *ep*P pP 16 37 35.8 -1.5
ECSD *es*P sP 16 37 48.6 -0.5
ISCO Idaho Springs 62.87 332⇓ iP P 16 37 10.9 0.0
ISCO *e**PP pP 16 37 37.3 -0.2
ISCO *e**SP sP 16 37 50.5 +1.2
ISCO pmax pmax
comp=Z,54nm,1.2s,mb5.3
ISCO Idaho Springs 62.87 332⇓ iP P 16 37 10.9 0.0
comp=Z,50nm,1.2s,mb5.3
ISCO *ep*P pP 16 37 37.3 -0.2
ISCO *es*P sP 16 37 50.5 +1.2
PV01 Paradox Valley 62.94 329 *e*P **P 16 37 11.5 +0.2**
PV01 *ep*P pP 16 37 38.1 +0.2
SMCO Snowmass 62.99 331⇓ iP P 16 37 11.8 +0.2
comp=Z,52nm,0.8s,mb5.5
SMCO *ep*P pP 16 37 38.9 +0.6
COWI Conover 63.09 348⇓ iP P 16 37 11.0 -1.4
comp=Z,239nm,2.0s,mb5.8
COWI *ep*P pP 16 37 37.1 -1.9
PV10 Paradox Valley 63.36 329 *e*P **P 16 37 13.9 -0.2**
PV10 *ep*P pP 16 37 40.3 -0.5
PFO Pinyon Flat Ob 64.02 320 P **P 16 37 19.0 +0.6**
comp=Z,125nm,1.9s,mb5.4,SNR=5.3
PFO Pinyon Flat Ob 64.02 320⇓ iP P 16 37 18.8 +0.4
PFO *e**PP pP 16 37 44.6 -0.5
PFO *e**SP sP 16 37 57.0 0.0
PFO pmax pmax
comp=Z,133nm,1.8s,mb5.5
PFO Pinyon Flat Ob 64.02 320⇓ iP P 16 37 18.8 +0.4
comp=Z,131nm,1.8s,mb5.5
PFO *ep*P pP 16 37 44.6 -0.6
PFO *es*P sP 16 37 57.0 0.0
PHWY Pilot Hill 64.03 333⇓ iP P 16 37 18.5 0.0
PHWY *ep*P pP 16 37 44.8 -0.4
PHWY *es*P sP 16 37 56.8 -0.3
SRU San Rafael 64.66 329⇓ iP P 16 37 22.6 0.0
SRU *e**PP pP 16 37 48.9 -0.5
SRU pmax pmax
comp=Z,73nm,1.1s,mb5.4
SRU San Rafael 64.66 329⇓ iP P 16 37 22.6 0.0
comp=Z,73nm,1.1s,mb5.4
SRU *ep*P pP 16 37 48.9 -0.5
CCUT Cedar City 64.99 326⇓ iP P 16 37 25.9 +1.2
CCUT *ep*P pP 16 37 52.6 +1.0
CCUT *es*P sP 16 38 03.4 0.0
MSU Marysvale 65.06 327 *e*P **P 16 37 25.9 +0.7**
MSU *e**PP pP 16 37 52.4 +0.4
MSU Marysvale 65.06 327 *e*P **P 16 37 25.9 +0.7**
MSU *ep*P pP 16 37 52.4 +0.4
MSU *es*P sP 16 38 04.4 +0.5
RWWY Rawlins 65.11 332⇓ iP P 16 37 25.6 +0.1
comp=Z,348nm,1.6s,mb5.9
RWWY *ep*P pP 16 37 52.0 -0.3
RWWY *es*P sP 16 38 03.0 -1.2
TMUT Trail Mountain 65.15 328 *e*P **P 16 37 25.7 -0.1**
TMUT *ep*P pP 16 37 52.8 +0.2
ARUT Antelope Range 65.21 326 *e*P **P 16 37 27.2 +1.0**
ARUT *e**PP pP 16 37 53.9 +1.0
EYMN Ely 65.35 347⇓ iP P 16 37 25.6 -1.5
comp=Z,219nm,1.5s,mb5.8
EYMN *ep*P pP 16 37 52.0 -1.9
RSSD Black Hills 65.78 336⇓ iP P 16 37 29.4 -0.5
RSSD *e**PP pP 16 37 55.9 -0.8
RSSD pmax pmax
comp=Z,248nm,1.8s,mb5.7
RSSD Black Hills 65.78 336⇓ iP P 16 37 29.4 -0.4
comp=Z,223nm,1.8s,mb5.7
RSSD *ep*P pP 16 37 55.9 -0.8
RSSD *es*P sP 16 38 08.8 +0.3
MPU Maple Canyon 65.91 328⇓ iP P 16 37 30.8 +0.2
comp=Z,133nm,1.5s,mb5.5
MPU *ep*P pP 16 37 57.0 -0.5
DAU Daniels Canyon 66.02 329 *e*P **P 16 37 32.0 +0.6**
DAU *e**PP pP 16 37 58.8 +0.6
NLU North Lily Min 66.09 328⇓ iP P 16 37 32.2 +0.4
NLU *ep*P pP 16 37 59.1 +0.4
NLU *es*P sP 16 38 09.5 -1.0
CTU Camp Tracy 66.48 329 *e*P **P 16 37 34.5 +0.2**
comp=Z,37nm,1.0s,mb5.2
CTU *ep*P pP 16 38 00.1 -1.1
DAC Darwin (Calif) 66.51 322⇓ iP P 16 37 34.9 +0.4
DAC *e**PP pP 16 38 01.9 +0.5
DAC pmax pmax
comp=Z,64nm,1.4s,mb5.3
DAC Darwin (Calif) 66.51 322⇓ iP P 16 37 34.9 +0.3
comp=Z,64nm,1.4s,mb5.3
DAC *ep*P pP 16 38 01.9 +0.5
DAC *es*P sP 16 38 11.8 -1.4
ISA Isabella 66.63 321⇓ iP P 16 37 35.6 +0.3
ISA *e**PP pP 16 38 02.9 +0.7
ISA Isabella 66.63 321⇓ iP P 16 37 35.6 +0.3
comp=Z,1.8nm,0.6s
ISA *ep*P pP 16 38 02.9 +0.7
ISA *es*P sP 16 38 12.4 -1.5
TCUT Toone Canyon 66.63 329⇓ iP P 16 37 35.5 +0.2
TCUT *ep*P pP 16 38 02.8 +0.7
TCUT *es*P sP 16 38 13.8 -0.2

NOQ North Oquirrh 66.63 329 *e*P P **16 37 35.0 -0.3**
comp=Z,71nm,1.4s,mb5.3
NOQ epP pP 16 38 02.0 -0.1
DUG Dugway 66.64 328⇓*i*P P **16 37 35.8 +0.4**
DUG *e**PP pP 16 38 02.3 +0.1
DUG pmax pmax
comp=Z,128nm,1.1s,mb5.7
DUG Dugway 66.64 328⇓*i*P P **16 37 35.8 +0.4**
comp=Z,128nm,1.1s,mb5.7
DUG epP pP 16 38 02.2 0.0
TRCR Troy Canyon 66.79 325⇓*i*P P **16 37 37.1 +0.8**
TRCR epP pP 16 38 03.5 +0.3
TRCR *es*P sP 16 38 14.4 -0.6
VNA3 Neumayer Olymp 66.92 162 *e*P P **16 37 36.9 -0.2**
VNA3 *e* 16 37 40.8
VNA3 *e* pP 16 38 03.3 -0.7
VNA3 *e* pP 16 38 04.9 +0.9
VNA3 *e* 16 38 13.3
VNA3 *e* 16 40 00.2
VNA3 *e* 16 40 04.7
PDAR Pinedale Array 67.02 332 P P **16 37 37.3 -0.5**
comp=Z,16nm,1.2s,mb4.8,baz=149,slow=6.6,SNR=70
PDAR pP pP 16 38 04.0 -0.7
comp=Z,17nm,1.1s,baz=132,slow=6.4,SNR=8.7
PDAR PKP2bc 17 06 04.1
comp=Z,1.0nm,1.1s,baz=299,slow=3.1,SNR=5.5
PDAR Pinedale Array 67.02 332 P P **16 37 37.3 -0.5**
PDAR pP pP 16 38 04.0 -0.7
PDAR ⇑*e* 17 06 04.1
HWUT Hardware Ranch 67.08 330⇓*i*P P **16 37 37.8 -0.3**
comp=Z,58nm,1.0s,mb5.4
HWUT epP pP 16 38 04.2 -0.9
HWUT *es*P sP 16 38 15.0 -1.8
VNA1 Neumayer--Stat 67.15 161 *e*P P **16 37 39.3 +0.7**
VNA1 *e* 16 37 42.1
VNA1 *e* pP 16 38 04.2 -1.3
VNA1 *e* pP 16 38 05.6 +0.1
VNA1 *e* 16 38 15.8
VNA1 *e* 16 40 07.4
SPUT South Promonto 67.29 329⇓*i*P P **16 37 38.0 -1.5**
SPUT epP pP 16 38 05.4 -0.9
BGU Big Grassy Mou 67.30 328⇓*i*P P **16 37 39.5 0.0**
BGU epP pP 16 38 06.9 +0.5
BGU *es*P sP 16 38 16.0 -2.2
TPH Tonopah 67.52 324⇓*i*P P **16 37 41.4 +0.5**
TPH *e**PP pP 16 38 07.7 -0.2
TPH pmax pmax
comp=Z,147nm,1.7s,mb5.5
TPH Tonopah 67.52 324⇓*i*P P **16 37 41.4 +0.4**
comp=Z,147nm,1.7s,mb5.5
TPH epP pP 16 38 07.7 -0.1
TPH *es*P sP 16 38 18.4 -1.2
AHID Auburn Hatcher 67.74 331 *e*P P **16 37 42.1 -0.2**
comp=Z,46nm,1.2s,mb5.2
AHID epP pP 16 38 07.4 -1.8
HVU Hansel Valley 67.80 329⇓*i*P P **16 37 42.5 -0.2**
HVU *e**PP pP 16 38 09.7 +0.1
HVU pmax pmax
comp=Z,77nm,1.0s,mb5.5
HVU Hansel Valley 67.80 329⇓*i*P P **16 37 42.5 -0.2**
comp=Z,77nm,1.0s,mb5.5
HVU epP pP 16 38 09.7 +0.1
HVU *es*P sP 16 38 20.1 -1.3
MTUM Tungsten Hills 67.81 322 *e*P P **16 37 43.3 +0.6**
MTUM epP pP 16 38 09.8 +0.1
MTUM *es*P sP 16 38 22.2 +0.8
REDW Red Top Meadow 68.08 331⇓*i*P P **16 37 44.3 -0.1**
comp=Z,144nm,1.4s,mb5.6
REDW *e*pP pP 16 38 10.5 -0.9
REDW *es*P sP 16 38 23.6 +0.4
SNOW Snow King Moun 68.12 331⇓*i*P P **16 37 44.8 +0.1**
comp=Z,724nm,2.6s,mb6.0
SNOW epP pP 16 38 11.1 -0.6
LOHW Long Hollow 68.16 332⇓*i*P P **16 37 44.9 -0.1**
comp=Z,59nm,1.3s,mb5.3
LOHW epP pP 16 38 10.8 -1.2
TPAW Teton Pass 68.23 331⇓*i*P P **16 37 45.5 +0.1**
comp=Z,89nm,1.4s,mb5.4
TPAW epP pP 16 38 11.0 -1.3
TPAW *es*P sP 16 38 22.7 -1.4
RRI2 Red Ridge 68.29 331⇓*i*P P **16 37 51.0 +5.3**
comp=Z,148nm,1.1s,mb5.7
RRI2 epP pP 16 38 17.7 +5.0
RRI2 *es*P sP 16 38 29.7 +5.2
ELK Elko 68.31 327⇓*i*P P **16 37 46.1 +0.3**
ELK *e**PP pP 16 38 13.0 +0.2
ELK pmax pmax
comp=Z,156nm,1.9s
ELK Elko 68.31 327⇓*i*P P **16 37 46.1 +0.2**
comp=Z,156nm,1.9s,mb5.5
ELK epP pP 16 38 13.0 +0.2
ELK *es*P sP 16 38 23.6 -1.0
MOOW Moose Ponds 68.33 332⇓*i*P P **16 37 45.8 -0.2**
comp=Z,89nm,1.5s,mb5.4
MOOW epP pP 16 38 12.1 -0.9
NVAR Mina Array Bea 68.38 323 P P **16 37 47.1 +0.8**
comp=Z,5.5nm,1.0s,baz=167,slow=4.5,SNR=48
NVAR pP pP 16 38 11.7 -1.6
comp=Z,8.6nm,0.8s,baz=160,slow=4.7,SNR=8.7
NVAR PKP2bc 17 06 01.5
comp=Z,1.2nm,0.9s,baz=267,slow=5.6,SNR=11
NVAR Mina Array Bea 68.38 323 P P **16 37 47.1 +0.8**
NVAR pP pP 16 38 11.7 -1.6
NVAR ⇑*e* 17 06 01.5
DCID1 Drake Creek 68.42 331 *e*P P **16 37 46.1 -0.4**
DCID1 epP pP 16 38 14.1 +0.5
IMW Indian Meadow 68.54 332⇓*i*P P **16 37 47.4 +0.1**
comp=Z,174nm,1.5s,mb5.7
IMW *e*pP pP 16 38 14.7 +0.5
IMW *es*P sP 16 38 26.9 +0.8
ULM Lac du Bonnet 68.55 345 P P **16 37 46.3 -1.1**
comp=Z,27nm,0.4s,mb5.4,baz=155,slow=6.4,SNR=91
ULM pP pP 16 38 12.8 -1.6
comp=Z,33nm,0.6s,baz=158,slow=5.7,SNR=6.8
ULM PKP2bc 17 06 01.4
comp=Z,1.0nm,0.4s,baz=352,slow=5.5,SNR=4.7
ULM LR LR 17 12 00.3
comp=Z,494nm,18.3s,baz=157,slow=40
ULM Lac du Bonnet 68.55 345⇓*i*P P **16 37 45.7 -1.6**
comp=Z,103nm,1.0s,mb5.6
ULM *e*pP pP 16 38 12.5 -1.8
ULM *es*P sP 16 38 24.3 -1.8
FLWY Flagg Ranch 68.57 332⇓*i*P P **16 37 47.7 +0.2**
comp=Z,245nm,1.4s,mb5.8
FLWY *e*pP pP 16 38 15.4 +0.9
LRV Little Rabbit 68.69 320 *e*P P **16 37 49.4 +1.2**
LRV *e*pP pP 16 38 16.1 +0.9
LRV *es*P sP 16 38 27.8 +0.8
RLMT Red Lodge 68.75 333⇓*i*P P **16 37 48.7 +0.1**
comp=Z,120nm,1.4s,mb5.5
RLMT *e*pP pP 16 38 14.9 -0.7
RLMT *es*P sP 16 38 28.1 +0.7
LAO LASA Array 68.77 336⇓*i*P P **16 37 48.5 -0.2**
comp=Z,150nm,1.3s,mb5.7
LAO *e*pP pP 16 38 15.0 -0.8
LKWY Lake 68.81 332 *e*P P **16 37 50.2 +1.2**
LKWY *e**PP pP 16 38 18.4 +2.4
LKWY pmax pmax
comp=Z,51nm,1.0s,mb5.3
LKWY Lake 68.81 332 *e*P P **16 37 50.2 +1.2**
comp=Z,38nm,1.0s,mb5.2
LKWY *e*pP pP 16 38 18.4 +2.4
YFT Old Faithful 68.92 332 *e*P P **16 37 51.5 +1.9**
YNR Norris Junctio 69.05 332 *e*P P **16 37 51.6 +1.1**
SNAA Sanae 69.13 161 *e*P P **16 37 50.3 -0.6**
SNAA *e* 16 37 56.5
SNAA *e* pP 16 38 12.9 -5.1
SNAA *e* pP 16 38 17.0 -1.0
SNAA *e* 16 38 29.9
SNAA *e* 16 40 24.1
YMR Madison River 69.15 332 *e*P P **16 37 52.6 +1.5**
comp=Z,356nm,1.9s,mb5.9
YMR *e*pP pP 16 38 19.7 +1.6
BMN Battle Mountai 69.15 325⇓*i*P P **16 37 50.7 -0.4**
BMN *e**PP pP 16 38 17.3 -0.8
BMN pmax pmax
comp=Z,57nm,1.8s,mb5.1
BMN Battle Mountai 69.15 325⇓*i*P P **16 37 50.7 -0.4**
comp=Z,57nm,1.8s,mb5.1
BMN *e*pP pP 16 38 17.3 -0.8
BMN *es*P sP 16 38 28.0 -1.9
SAO San Andreas Ge 69.17 320 *e*P P **16 37 50.2 -1.0**
SAO *e**PP pP 16 38 18.4 +0.2
SAO pmax pmax
comp=Z,90nm,2.0s,mb5.2
SAO San Andreas Ge 69.17 320 *e*P P **16 37 50.2 -1.0**
comp=Z,90nm,2.0s,mb5.3
SAO *e*pP pP 16 38 18.4 +0.1
CMB Columbia Colle 69.34 322 *e*P P **16 37 52.0 -0.3**
CMB *e**PP pP 16 38 19.9 +0.6
CMB pmax pmax
comp=Z,53nm,1.5s,mb5.2
CMB Columbia Colle 69.34 322 *e*P P **16 37 52.0 -0.3**
comp=Z,51nm,1.5s,mb5.1
CMB *e*pP pP 16 38 19.9 +0.6
CMB *es*P sP 16 38 31.4 +0.3
GCMT Greycliff 69.45 334 *e*P P **16 37 52.9 -0.1**
GCMT *e*pP pP 16 38 19.5 -0.5
QLMT Earthquake Lak 69.48 332 *e*P P **16 37 54.0 +0.9**
DGMT Dagmar 69.52 339⇓*i*P P **16 37 53.4 0.0**
comp=Z,347nm,1.4s,mb6.0
DGMT *e*pP pP 16 38 20.2 -0.2
DGMT *es*P sP 16 38 31.5 -0.6
PAHR Pah Rah Range 69.86 324⇓*i*P P **16 37 56.2 +0.8**
comp=Z,82nm,1.0s,mb5.5
PAHR *e*pP pP 16 38 23.8 +1.2
PAHR *es*P sP 16 38 34.0 -0.3
HLID Hailey 69.94 329⇓*i*P P **16 37 56.2 +0.4**
comp=Z,36nm,1.1s,mb5.1
HLID *es*P sP 16 38 22.1 -13
CCAN Las Canadas 69.95 52 P P **16 38 00.6 +4.6**
comp=Z,36nm,1.3s,mb5.0
MCMT McKenzie Canyo 70.13 331 *e*P P **16 37 57.5 +0.4**
MCMT *e*pP pP 16 38 24.9 +0.7
BOZ Bozeman (W) 70.20 332⇓*i*P P **16 37 57.2 -0.3**
BOZ *e**PP pP 16 38 24.1 -0.5
BOZ pmax pmax
comp=Z,134nm,1.7s,mb5.5
BOZ Bozeman (W) 70.20 332⇓*i*P P **16 37 57.2 -0.3**
comp=Z,134nm,1.7s,mb5.5
BOZ *e*pP pP 16 38 24.1 -0.5
SCHQ Schefferville 70.36 4 P P **16 37 58.0 -0.5**
comp=Z,28nm,1.0s,mb5.1,baz=167,slow=3.8,SNR=11
SCHQ pP pP 16 38 24.4 -1.2
comp=Z,36nm,0.9s,baz=172,slow=6.2,SNR=7.6
SCHQ LR LR 17 08 38.9
comp=Z,964nm,21.9s,baz=80,slow=36
SCHQ Schefferville 70.36 4⇓*i*P P **16 37 57.5 -1.0**
comp=Z,73nm,1.4s,mb5.3
SCHQ *e*pP pP 16 38 24.4 -1.2
DLMT Dillon 70.42 332⇓*i*P P **16 37 58.9 +0.1**
comp=Z,119nm,1.5s,mb5.5
DLMT *e*pP pP 16 38 25.4 -0.6
DLMT *es*P sP 16 38 37.2 -0.5
EOSO Osorio 70.68 52 P P **16 38 03.9 +3.5**
comp=Z,91nm,1.9s,mb5.3
OHCM Honcut 70.84 322 *e*P P **16 38 01.7 +0.3**
OHCM *e*pP pP 16 38 28.8 +0.3
DBIC Dimbokro 71.16 77 P P **16 38 03.2 -0.1**
DBIC S S 16 47 08.9 -2.6
DBIC SKSac SKSac 16 47 58.0 +1.8
DBIC Dimbokro 71.16 77 P P **16 38 03.5 +0.2**
comp=Z,22nm,0.8s,mb5.0,baz=222,slow=5.1,SNR=17
DBIC pP pP 16 38 29.9 -0.6
comp=Z,39nm,1.0s,baz=223,slow=6.5,SNR=4.2
DBIC LR LR 17 07 56.9
comp=Z,3μm,19.2s,baz=234,slow=35
DBIC Dimbokro 71.16 77 P P **16 38 03.5 +0.2**
DBIC *PP pP 16 38 29.9 -0.6
DBIC pmax pmax
comp=Z,22nm,0.9s
DBIC pmax pmax
comp=Z,39nm,1.0s
DBIC MLR MLR
comp=Z,3μm,19.2s
DBIC Dimbokro 71.16 77 *e*P P **16 38 02.9 -0.5**
comp=Z,61nm,0.9s,mb5.4
DBIC *e* 16 38 12.8
EGMT Eagleton 71.26 335⇓*e*P P **16 38 03.8 -0.1**
comp=Z,70nm,1.0s,mb5.5
EGMT *e*pP pP 16 38 29.3 -1.9
WVOR Wild Horse Val 71.30 326⇓*i*P P **16 38 03.9 -0.3**
WVOR *e**PP pP 16 38 30.0 -1.4
WVOR pmax pmax
comp=Z,40nm,1.3s,mb5.1
WVOR Wild Horse Val 71.30 326⇓*i*P P **16 38 03.9 -0.3**
comp=Z,37nm,1.3s,mb5.0
WVOR *e*pP pP 16 38 30.0 -1.4
WVOR *es*P sP 16 38 41.4 -1.7
VAH Vaihoa 71.40 259 *e*P P **16 38 05.6 +0.8**
comp=Z,113nm,1.3s,mb5.5
HOPS Hopland 71.57 321⇓*i*P P **16 38 06.4 +0.6**
comp=Z,164nm,2.0s,mb5.5
HOPS *e*pP pP 16 38 33.6 +0.6
HOPS *es*P sP 16 38 43.9 -0.9
TBI Tubuai 71.63 250 *e*S S 16 47 19.2 +2.3
comp=Z,2μm,26.8s
TBI *e*LR LR 17 00 11.9
comp=Z,3μm,35.5s
PMOR Pomariorio Ree 71.69 259 *e*P P **16 38 07.6 +1.1**
comp=Z,176nm,1.5s,mb5.7
MOD Modoc 71.85 325⇑*i*P P **16 38 07.9 +0.4**
comp=Z,66nm,1.1s,mb5.4
MOD *e*pP pP 16 38 36.0 +1.3
CHMT Chamberlain Mo 71.89 332 *e*P P **16 38 08.0 +0.3**
CHMT *e*pP pP 16 38 35.5 +0.5
LTIM Timbered Crate 72.04 324 P P **16 38 09.1 +0.5**
MSO Missoula 72.14 332⇓*i*P P **16 38 09.7 +0.5**
comp=Z,103nm,1.6s,mb5.4
MSO *e*pP pP 16 38 36.1 -0.4
WDC Whiskeytown Da 72.26 323 *e*P P **16 38 08.2 -1.7**
WDC *e* 16 38 26.1
WDC *e**PP pP 16 38 36.5 -0.7
WDC pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
WDC Whiskeytown Da 72.26 323 *e*P P **16 38 08.2 -1.7**
comp=Z,11nm,0.8s,mb4.7
WDC *e*PcP PcP 16 38 26.1 -1.4
WDC *e*pP pP 16 38 36.5 -0.7
BMO Blue Mountains 72.30 329⇓*i*P P **16 38 09.8 -0.3**
comp=Z,36nm,1.1s,mb5.1
BMO *e*pP pP 16 38 36.1 -1.3
KIPM Iron Peak 72.33 322⇓*i*P P **16 38 10.8 +0.4**
KIPM *e*pP pP 16 38 39.7 +2.1
PPT Papeete 72.77 256 *e*PP PP 16 40 57.0 +0.9
comp=Z,358nm,27.2s
PPT Papeete 72.77 256 *e*S S 16 47 31.4 +1.5
comp=Z,3μm,27.0s
PPT *e*LR LR 17 00 36.0
comp=Z,3μm,26.0s
PPT Papeete 72.77 256 LR LR 17 02 02.8
comp=Z,1μm,21.9s,baz=91,slow=29
YBH Yreka Blue Hor 73.10 323 P P **16 38 14.2 -0.7**
comp=Z,9.5nm,1.0s,mb4.6,baz=138,slow=4.4,SNR=21
YBH pP pP 16 38 41.9 -0.3
comp=Z,20nm,0.8s,baz=98,slow=3.9,SNR=14
YBH Yreka Blue Hor 73.10 323⇓*e*P P **16 38 14.0 -0.9**
YBH *e**PP pP 16 38 41.2 -1.0
YBH pmax pmax
comp=Z,22nm,0.9s
YBH Yreka Blue Hor 73.10 323⇓*e*P P **16 38 14.0 -0.9**
comp=Z,22nm,0.9s,mb5.0
YBH *e*pP pP 16 38 41.2 -1.0
KHMM Horse Mountain 73.15 322⇓*e*P P **16 38 16.0 +0.8**
PINOR Pine Mountain 73.44 326 P P **16 38 18.1 +1.2**
KTRM Thompson Ridge 73.60 323 P P **16 38 18.6 +0.8**
KRMB Red Mountain 73.66 323⇓*i*P P **16 38 18.9 +0.8**
KRMB *e*pP pP 16 38 45.4 -0.1
MAIT Maitri 73.70 160 *e*P P **16 38 20.1 +1.7**
NVL N'lazarevskaya 73.73 160 *d*iP P **16 38 18.5 -0.1**
NVL *i* S S 16 47 43.4 +2.6
NVL *i* 16 48 28.1
NVL *e*SS SS 16 52 26.3 -0.1
NVL pmax pmax
comp=Z,588nm,1.6s,mb6.1
NVL MLR MLR
comp=Z,462nm,16.5s
WALA Waterton Lakes 73.81 333⇓*e*P P **16 38 18.9 -0.1**
comp=Z,147nm,1.8s,mb5.4
WALA *e*pP pP 16 38 45.6 -0.8
KBO Bosley Butte 74.28 323⇓*e*P P **16 38 22.4 +0.6**
HAWA Hanford 74.50 329⇓*i*P P **16 38 23.5 +0.4**
comp=Z,125nm,1.4s,mb5.5
HAWA *e*pP pP 16 38 50.2 -0.2
QSPA South Pole Qui 74.55 180 *e*P P **16 38 23.5 +0.2**
comp=Z,290nm,1.0s,mb6.0
NEW Newport 74.66 331 P P **16 38 23.6 -0.3**
comp=Z,8.1nm,1.0s,baz=123,slow=6.4,SNR=19
NEW pP pP 16 38 51.0 -0.4
comp=Z,10nm,1.0s,baz=120,slow=5.9,SNR=4.6
NEW Newport 74.66 331 P P **16 38 23.6 -0.4**
NEW *PP pP 16 38 51.0 -0.4
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 74.66 331 *e*P P **16 38 23.7 -0.3**
comp=Z,131nm,2.0s,mb5.3
NEW *e*pP pP 16 38 50.9 -0.5
KEBM Edson Butte 74.75 324 *e*P P **16 38 25.6 +1.0**
VFP Flag Point 74.76 327 P P **16 38 25.6 +1.0**
OD2 Odessa Site #2 74.79 330 P P **16 38 25.2 +0.5**
COR Corvallis 75.27 325 *e*P P **16 38 27.4 -0.1**
COR pmax pmax
comp=Z,332nm,1.6s,mb5.8
COR Corvallis 75.27 325 *e*P P **16 38 27.4 -0.1**
comp=Z,332nm,1.6s,mb5.8
TWW Teanaway 75.68 329 P P **16 38 31.4 +1.6**
FCC Fort Churchill 76.06 349⇓*i*P P **16 38 31.0 -1.0**
FCC *e**PP pP 16 38 57.3 -2.2
FCC pmax pmax
comp=Z,115nm,1.4s,mb5.4
FCC Fort Churchill 76.06 349⇓*i*P P **16 38 31.0 -1.0**
comp=Z,115nm,1.4s,mb5.4
FCC *e*pP pP 16 38 57.3 -2.2
EDM Edmonton 76.76 337⇓*i*P P **16 38 34.9 -1.0**
EDM *e**PP pP 16 39 01.6 -1.9
EDM Edmonton 76.76 337⇓*i*P P **16 38 34.9 -1.1**
EDM *e*pP pP 16 39 01.6 -1.9
EDM *es*P sP 16 39 13.0 -2.1
HDW Hoodsport 77.13 328 P P **16 38 38.8 +0.8**
MBW Mount Baker 77.30 329 P P **16 38 39.0 0.0**
PGC Sidney 77.98 329⇓*i*P P **16 38 43.6 +0.8**
comp=Z,289nm,1.4s,mb5.8
PGC *e*pP pP 16 39 10.1 -0.3
FRB Frobisher Bay 79.18 2 pP pP 16 39 15.9 -1.1
comp=Z,44nm,0.8s,baz=190,slow=6.5,SNR=7.9
TOA0 Torodi Ar. Sit 79.36 73 *e*P P **16 38 50.3 0.0**
TOA0 *e*pP pP 16 39 18.0 0.0
TORD Torodi Ar. Bea 79.36 73 P P **16 38 50.4 +0.1**
comp=Z,72nm,1.0s,mb5.5,baz=258,slow=3.8,SNR=128
TORD pP pP 16 39 17.6 -0.4
comp=Z,93nm,1.2s,baz=259,slow=5.5,SNR=3.8
TORD S S 16 48 39.1 -3.0
comp=Z,6.0nm,1.3s,baz=257,slow=5.9,SNR=12
TORD LR LR 17 13 04.4
comp=Z,1μm,19.9s,baz=250,slow=35
PTEO Sao Teotonio 80.32 47 *e*P P **16 38 56.7 +1.2**
comp=Z,188nm,1.5s,mb5.7
SBA Scott Base 80.85 191⇓*e*P P **16 38 59.0 +0.7**
SBA pmax pmax
comp=Z,365nm,1.4s,mb6.0
SBA Scott Base 80.85 191⇓*e*P P **16 38 59.0 +0.7**
comp=Z,365nm,1.4s,mb6.0
PBEJ Beja 81.14 47 *e*P P **16 39 00.7 +0.8**
comp=Z,57nm,1.6s,mb5.2
EGRO El Granado 81.19 47 P P **16 39 00.6 +0.5**
comp=Z,59nm,1.4s,mb5.2
PTOM Tomar 81.51 45 *e*P P **16 39 02.8 +1.0**
comp=Z,97nm,1.6s,mb5.4
PESTR Estremoz 81.72 46 *e*P P **16 39 04.7 +1.8**
comp=Z,86nm,1.6s,mb5.3
EMIN Mina Concepcio 81.86 47 P P **16 39 03.9 +0.2**
comp=Z,56nm,1.4s,mb5.2
VNDA Vanda 81.91 190 P P **16 39 04.9 +1.0**
comp=Z,88nm,1.0s,mb5.5,baz=134,slow=4.5,SNR=229
VNDA LR LR 17 11 04.2
comp=Z,715nm,18.1s,baz=124,slow=32
VNDA Vanda 81.91 190 P P **16 39 04.9 +1.0**
VNDA pmax pmax
comp=Z,88nm,1.0s
VNDA MLR MLR
comp=Z,715nm,18.1s
VNDA Vanda 81.91 190⇓*i*P P **16 39 04.2 +0.3**
comp=Z,222nm,1.4s,mb5.8
ESPR Espera 82.05 48 P P **16 39 05.6 +1.0**
comp=Z,87nm,1.8s,mb5.3
EBAD Badajoz 82.07 46 P P **16 39 06.1 +1.4**
comp=Z,58nm,1.6s,mb5.2
EJIF Jimena Fronter 82.14 49 P P **16 39 06.9 +1.8**
EJIF pmax pmax
comp=Z,39nm,1.4s,mb5.0
EJIF Jimena Fronter 82.14 49 P P **16 39 06.9 +1.8**
comp=Z,39nm,1.4s,mb5.0
PCBR Castelo Branco 82.25 45 *e*P P **16 39 05.8 +0.1**
comp=Z,69nm,1.7s,mb5.2
PVIS Viseu 82.38 44 *e*P P **16 39 06.7 +0.4**
comp=Z,152nm,1.6s,mb5.6
MTE Manteigas 82.47 45 *e*P P **16 39 06.8 0.0**
comp=Z,85nm,1.3s,mb5.4
BBB Bella Bella 82.53 329 P P **16 39 08.2 +1.0**
comp=Z,72nm,1.3s,mb5.3,baz=150,slow=8.8,SNR=7.7
BBB pP pP 16 39 35.3 +0.3
comp=Z,35nm,0.8s,baz=118,slow=2.1,SNR=4.3
EMIJ Mijas 82.70 49 P P **16 39 08.4 +0.4**
comp=Z,59nm,1.7s,mb5.1
PCAB Cabril 82.76 43 *e*P P **16 39 08.7 +0.4**
comp=Z,156nm,1.6s,mb5.6
STS Santiago 82.97 42 P P **16 39 09.7 +0.3**
STS pmax pmax
comp=Z,78nm,1.3s,mb5.4
STS Santiago 82.97 42 P P **16 39 09.7 +0.2**
comp=Z,78nm,1.3s,mb5.4
SYO Syowa Base 83.39 160⇑*e*P P **16 39 10.4 -1.2**
SYO Syowa Base 83.39 160⇓*i*PcP PcP 16 39 12.0 -3.7
SYO Syowa Base 83.39 160 *e*SH 16 49 25.0
ELOJ Sierra Loja 83.40 49 P P **16 39 13.1 +1.5**
ELOJ pmax pmax
comp=Z,198nm,1.4s,mb5.8
ELOJ Sierra Loja 83.40 49 P P **16 39 13.1 +1.5**
comp=Z,198nm,1.4s,mb5.8
ELUQ Luque 83.49 48 P P **16 39 12.3 +0.2**
ELUQ pmax pmax
comp=Z,110nm,1.2s,mb5.6
ELUQ Luque 83.49 48 P P **16 39 12.3 +0.3**
comp=Z,110nm,1.2s,mb5.6
EADA Adamuz 83.53 48 P P **16 39 12.2 0.0**
comp=Z,159nm,1.5s,mb5.6
ERON Agron 83.59 49 P P **16 39 13.4 +0.8**
comp=Z,16nm,0.9s,mb4.8
ERUA La Rua 83.66 43 P P **16 39 13.1 +0.2**
ERUA pmax pmax
comp=Z,156nm,1.3s,mb5.7
ERUA La Rua 83.66 43 P P **16 39 13.1 +0.2**
comp=Z,156nm,1.3s,mb5.7
EGUA Guajares 83.69 49 P P **16 39 12.8 -0.3**
EALB Alboran 83.71 50 P P **16 39 12.8 -0.4**
comp=Z,63nm,1.2s,mb5.3
ECAL Calabor 83.72 43 P P **16 39 13.3 0.0**
comp=Z,205nm,1.3s,mb5.8
ECOG Cogollos-Vega 83.88 49 P P **16 39 14.2 +0.1**
ECOG pmax pmax
comp=Z,18nm,0.8s,mb5.0
ECOG Cogollos-Vega 83.88 49 P P **16 39 14.2 +0.2**
comp=Z,18nm,0.8s,mb5.0
SFJD Kangerlussuaq 84.03 9 *i* P pP 16 39 41.9 -0.9
comp=Z,36nm,1.0s
SFJD *i* 16 39 58.1
SFJD *i* S S 16 49 30.4 +0.2
SFJD *i* 16 50 29.8
SFJD
comp=Z,350nm,19.0s
EBAN Banos Encina 84.09 48 P P **16 39 15.4 +0.3**
EBAN pmax pmax
comp=Z,27nm,0.8s,mb5.1
EBAN Banos Encina 84.09 48 P P **16 39 15.4 +0.3**
comp=Z,27nm,0.8s,mb5.1
EBER Berja 84.21 49 P P **16 39 15.9 +0.1**
comp=Z,161nm,1.5s,mb5.6
YKA Yellowknife Ar 84.34 342 P P **16 39 15.3 -1.1**
comp=Z,30nm,0.9s,mb5.1,baz=136,slow=5.1,SNR=89
YKA pP pP 16 39 43.1 -1.3
comp=Z,34nm,0.8s,baz=137,slow=5.3,SNR=9.5
YKA Yellowknife Ar 84.34 342 P P **16 39 15.3 -1.1**
YKA *PP pP 16 39 43.1 -1.3
YKA pmax pmax
comp=Z,30nm,0.9s
YKA pmax pmax
comp=Z,34nm,0.8s
EQES Quesada 84.45 48 P P **16 39 16.6 -0.4**
comp=Z,49nm,1.7s,mb5.1
ESDC Sonseca Array 84.61 46 P P **16 39 18.8 +1.0**
comp=Z,18nm,0.8s,mb5.1,baz=249,slow=5.1,SNR=78
ESDC pP pP 16 39 46.4 +0.7

comp=Z,4.2nm,0.5s,baz=255,slow=5.2,SNR=2.9
ESDC LR LR 17 14 56.2
comp=Z,708nm,20.3s,baz=250,slow=34
ESDC Sonseca Array 84.61 46 P P 16 39 18.3 +0.6
comp=Z,114nm,1.5s,mb5.6
ESLA Sonseca Array 84.61 46 *e*P **P 16 39 18.7 +1.0**
comp=Z,70nm,1.5s,mb5.4
ENIJ Nijar 84.74 49 P **P 16 39 17.9 -0.5**
ENIJ pmax pmax
comp=Z,42nm,0.9s,mb5.4
ENIJ Nijar 84.74 49 P **P 16 39 17.9 -0.5**
comp=Z,42nm,0.9s,mb5.4
EHUE Huescar 84.80 49 P **P 16 39 17.4 -1.3**
EHUE pmax pmax
comp=Z,60nm,1.2s,mb5.4
EHUE Huescar 84.80 49 P **P 16 39 17.4 -1.3**
comp=Z,60nm,1.2s,mb5.4
GUD Guadarrama 84.89 46 P **P 16 39 20.0 +0.9**
GUD pmax pmax
comp=Z,31nm,1.0s,mb5.2
GUD Guadarrama 84.89 46 P **P 16 39 20.0 +0.8**
comp=Z,30nm,1.0s,mb5.2
SUR Sutherland 85.07 122 *e*P **P 16 39 22.2 +2.1**
comp=Z,60nm,1.1s,mb5.4
EVIA Vianos 85.20 48 P **P 16 39 20.4 -0.3**
EVIA pmax pmax
comp=Z,94nm,1.4s,mb5.5
EVIA Vianos 85.20 48 P **P 16 39 20.4 -0.3**
comp=Z,94nm,1.4s,mb5.5
TSUM Tsumeb 85.67 109 *e*P **P 16 39 24.2 +1.1**
comp=Z,71nm,1.0s,mb5.5
TSUM *ep*P pP 16 39 53.7 +2.6
EMUR La Murta 85.80 49 P **P 16 39 22.3 -1.4**
comp=Z,57nm,1.6s,mb5.2
ETOB Tobarra 85.89 48 P **P 16 39 23.9 -0.2**
comp=Z,57nm,1.5s,mb5.3
ETOR Torete 86.41 46 P **P 16 39 27.5 +0.8**
ETOR pmax pmax
comp=Z,25nm,0.7s,mb5.2
ETOR Torete 86.41 46 P **P 16 39 27.5 +0.8**
comp=Z,25nm,0.7s,mb5.3
ELAN Lanestosa 86.47 43 P **P 16 39 26.8 -0.2**
comp=Z,96nm,1.5s,mb5.5
WRAK Wrangell Islan 87.02 331 *e*P **P 16 39 29.4 -0.2**
comp=Z,44nm,1.3s,mb5.2
WRAK *ep*P pP 16 39 56.2 -1.5
DLBC Dease Lake 87.15 334 P **P 16 39 30.5 +0.2**
comp=Z,26nm,1.0s,mb5.1,baz=131,slow=3.5,SNR=24
DLBC pP pP 16 39 58.7 +0.3
comp=Z,50nm,0.8s,baz=129,slow=5.1,SNR=14
DLBC Dease Lake 87.15 334 P **P 16 39 30.5 +0.2**
DLBC pP pP 16 39 58.7 +0.3
EMOS Mosqueruela 87.33 47 P **P 16 39 31.2 0.0**
comp=Z,52nm,1.1s,mb5.4
ESAC San Caprasio 87.86 46 P **P 16 39 34.1 +0.4**
comp=Z,130nm,1.2s,mb5.8
SJPF Ste Jean 87.90 44 *e*P **P 16 39 34.4 +0.5**
comp=Z,135nm,1.5s,mb5.5
SJPF Ste Jean 87.90 44 *e*P **P 16 39 34.4 +0.5**
SJPF pmax pmax
comp=Z,68nm,1.5s,mb5.5
SJPF Ste Jean 87.90 44 *e*P **P 16 39 34.4 +0.5**
comp=Z,68nm,1.5s,mb5.5
ERTA Horta de San J 88.13 47 P **P 16 39 34.5 -0.4**
comp=Z,161nm,1.4s,mb5.9
ETSF Etsaut 88.26 45 *e*P **P 16 39 35.2 -0.4**
comp=Z,38nm,1.1s,mb5.1
ETSF *ep*P pP 16 40 04.2 +0.4
ETSF Etsaut 88.26 45 *e*P **P 16 39 35.2 -0.4**
ETSF *e**PP pP 16 40 04.2 +0.4
ETSF pmax pmax
comp=Z,19nm,1.1s,mb5.0
ETSF Etsaut 88.26 45 *e*P **P 16 39 35.2 -0.4**
comp=Z,19nm,1.1s,mb5.0
ETSF *ep*P pP 16 40 04.2 +0.4
REYF Montagne du Re 88.44 44 *e*P **P 16 39 37.4 +1.0**
QUIF Quistinic 88.63 39 *e*P **P 16 39 37.1 -0.2**
EBIE Bielsa 88.66 45 P **P 16 39 37.4 0.0**
comp=Z,83nm,1.5s,mb5.5
ROSF Rostrenen 88.75 39 *e*P **P 16 39 37.7 -0.1**
EPOB Poblet 88.80 46 P **P 16 39 38.0 -0.1**
comp=Z,44nm,1.2s,mb5.4
RESF Ens 88.84 45 *e*P **P 16 39 39.4 +1.1**
BORG Borgarnes 89.20 20 *e*P **P 16 39 37.7 -2.3**
SALF Salau 89.40 45 *e*P **P 16 39 41.9 +1.0**
ETOS Mallorca 89.45 48 P **P 16 39 40.9 -0.2**
comp=Z,62nm,1.3s,mb5.5
BOSA Boshof 89.81 120 P **P 16 39 42.5 -0.3**
comp=Z,34nm,1.1s,mb5.4,baz=264,slow=4.6,SNR=24
BOSA LR LR 17 15 51.8
comp=Z,508nm,21.6s,baz=254,slow=33
BOSA Boshof 89.81 120 *e*P **P 16 39 43.7 +0.9**
BOSA pmax pmax
comp=Z,58nm,1.2s,mb5.6
BOSA Boshof 89.81 120 *e*P **P 16 39 43.7 +0.8**
comp=Z,58nm,1.2s,mb5.6
VALF Valcebollere 89.83 46 *e*P **P 16 39 44.1 +1.2**
LFF La Frestale 89.92 43 *e*P **P 16 39 43.3 0.0**
comp=Z,95nm,1.0s,mb5.6
LFF La Frestale 89.92 43 *e*P **P 16 39 43.3 0.0**
LFF pmax pmax
comp=Z,47nm,1.0s,mb5.6
LFF La Frestale 89.92 43 *e*P **P 16 39 43.3 0.0**
comp=Z,47nm,1.0s,mb5.6
MFF Saint Martin d 89.98 41 *e*P **P 16 39 43.4 -0.2**
comp=Z,192nm,1.5s,mb5.7
MFF *ep*P pP 16 40 11.1 -0.8
MFF Saint Martin d 89.98 41 *e*P **P 16 39 43.4 -0.2**
MFF *e**PP pP 16 40 11.1 -0.8
MFF pmax pmax
comp=Z,96nm,1.5s,mb5.7
MFF Saint Martin d 89.98 41 *e*P **P 16 39 43.4 -0.2**
comp=Z,96nm,1.5s,mb5.7
MFF *ep*P pP 16 40 11.1 -0.8
SKAG Skagway 90.00 333 *e*P **P 16 39 43.8 +0.1**
comp=Z,332nm,2.2s,mb6.1
SKAG LR LR
comp=Z,500nm,19.0s
CARF Carcanieres 90.01 45 *e*P **P 16 39 44.8 +1.0**
GRR Gorron 90.24 39 *e*P **P 16 39 44.2 -0.6**
comp=Z,63nm,1.1s,mb5.3
GRR Gorron 90.24 39 *e*P **P 16 39 44.2 -0.6**
GRR pmax pmax
comp=Z,32nm,1.1s,mb5.4
GRR Gorron 90.24 39 *e*P **P 16 39 44.2 -0.6**
comp=Z,32nm,1.1s,mb5.4
FILF Fillols 90.27 46 *e*P **P 16 39 45.6 +0.6**
MTLF Montolieu 90.31 45 *e*P **P 16 39 44.6 -0.6**
comp=Z,106nm,1.4s,mb5.5
MTLF *ep*P pP 16 40 12.8 -0.6
MTLF Montolieu 90.31 45 *e*P **P 16 39 44.6 -0.6**
MTLF *e**PP pP 16 40 12.8 -0.6
MTLF pmax pmax
comp=Z,53nm,1.4s,mb5.5
MTLF Montolieu 90.31 45 *e*P **P 16 39 44.6 -0.6**
comp=Z,53nm,1.4s,mb5.5
MTLF *ep*P pP 16 40 12.8 -0.6
RJF Les Rejaudoux 90.56 43 *e*P **P 16 39 46.0 -0.3**
comp=Z,176nm,1.5s,mb5.7
RJF *e*R
comp=Z,920nm,22.0s
RJF Les Rejaudoux 90.56 43 *e*P **P 16 39 46.0 -0.3**
RJF pmax pmax
comp=Z,88nm,1.5s,mb5.7
RJF MLR MLR
comp=Z,920nm,22.0s
RJF Les Rejaudoux 90.56 43 *e*P **P 16 39 46.0 -0.3**
comp=Z,88nm,1.5s,mb5.7
RJF LR LR
comp=Z,920nm,22.0s
FLN La Foliniere 90.61 39 *e*P **P 16 39 46.1 -0.5**
comp=Z,268nm,1.8s,mb5.8
FLN *e*R
comp=Z,1µm,20.8s
FLN La Foliniere 90.61 39 *e*P **P 16 39 46.1 -0.5**
FLN pmax pmax
comp=Z,134nm,1.8s,mb5.8
FLN MLR MLR
comp=Z,1µm,20.8s
FLN La Foliniere 90.61 39 *e*P **P 16 39 46.1 -0.5**
comp=Z,134nm,1.8s,mb5.8
FLN LR LR
comp=Z,1µm,20.8s
LDF La Druitiere 90.77 39 *e*P **P 16 39 46.2 -1.1**
comp=Z,221nm,1.7s,mb5.7
LDF La Druitiere 90.77 39 *e*P **P 16 39 46.2 -1.1**
LDF pmax pmax
comp=Z,111nm,1.7s,mb5.7
LDF La Druitiere 90.77 39 *e*P **P 16 39 46.2 -1.1**
comp=Z,110nm,1.7s,mb5.7
CAF Calviac 90.78 43 *e*P **P 16 39 47.3 -0.1**
comp=Z,81nm,1.3s,mb5.4
CAF Calviac 90.78 43 *e*P **P 16 39 47.3 -0.1**
CAF pmax pmax
comp=Z,41nm,1.3s,mb5.4
CAF Calviac 90.78 43 *e*P **P 16 39 47.3 -0.1**
comp=Z,40nm,1.3s,mb5.4
MAW Mawson 91.08 165 P **P 16 39 48.3 -0.4**
comp=Z,89nm,1.0s,mb5.8,baz=220,slow=5.9,SNR=133
MAW LR LR 17 22 10.9
comp=Z,404nm,18.6s,baz=234,slow=36
MAW Mawson 91.08 165 P **P 16 39 48.7 0.0**
MAW pmax pmax
comp=Z,280nm,1.3s
MAW Mawson 91.08 165⇓ *e*P **P 16 39 48.4 -0.4**
comp=Z,279nm,1.3s,mb6.2
LBTB Lobatse 91.19 116 P **P 16 39 51.0 +1.7**
LBTB Lobatse 91.19 116 P **P 16 39 51.1 +1.8**
LBTB pmax pmax
comp=Z,110nm,1.3s,mb5.8
LBTB Lobatse 91.19 116⇓ *i*P **P 16 39 50.2 +1.0**
comp=Z,108nm,1.4s,mb5.8
TCF Toulx Ste Croi 91.37 42 *e*P **P 16 39 49.8 -0.3**
comp=Z,61nm,1.3s,mb5.3
TCF *ep*P pP 16 40 17.4 -1.0
TCF Toulx Ste Croi 91.37 42 *e*P **P 16 39 49.8 -0.3**
TCF *e**PP pP 16 40 17.4 -1.0
TCF pmax pmax
comp=Z,30nm,1.3s,mb5.3
TCF Toulx Ste Croi 91.37 42 *e*P **P 16 39 49.8 -0.3**
comp=Z,30nm,1.3s,mb5.3
TCF *ep*P pP 16 40 17.4 -1.0
LBL Lubilhac 91.68 43 *e*P **P 16 39 51.6 +0.1**
LASF Ste Croix 91.68 45 *e*P **P 16 39 51.4 -0.1**
comp=Z,111nm,1.5s,mb5.6
PYM Petit Puy Mans 91.70 43 *e*P **P 16 39 51.8 +0.2**
BGF Bois d'Agland 91.88 42 *e*P **P 16 39 52.0 -0.4**
comp=Z,42nm,0.7s,mb5.5
BGF Bois d'Agland 91.88 42 *e*P **P 16 39 52.0 -0.4**
BGF pmax pmax
comp=Z,21nm,0.7s,mb5.5
BGF Bois d'Agland 91.88 42 *e*P **P 16 39 52.0 -0.4**
comp=Z,21nm,0.7s,mb5.5
AGO Saint Agoulin 91.89 43 *e*P **P 16 39 52.0 -0.5**
HYF Humbligny 92.00 41 *e*P **P 16 39 53.1 +0.1**
VIVF Saint-Julien-l 92.50 44 *e*P **P 16 39 55.1 -0.2**
comp=Z,143nm,1.6s,mb5.6
VIVF Saint-Julien-l 92.50 44 *e*P **P 16 39 55.1 -0.2**
VIVF pmax pmax
comp=Z,71nm,1.6s,mb5.7
VIVF Saint-Julien-l 92.50 44 *e*P **P 16 39 55.1 -0.2**
comp=Z,71nm,1.6s,mb5.7
SMF Signal de Mont 92.55 42 *e*P **P 16 39 55.4 -0.1**
comp=Z,174nm,1.5s,mb5.9
SMF *ep*P pP 16 40 23.0 -0.8
SMF Signal de Mont 92.55 42 *e*P **P 16 39 55.4 -0.1**
SMF *e**PP pP 16 40 23.0 -0.8
SMF pmax pmax
comp=Z,87nm,1.5s,mb5.9
SMF Signal de Mont 92.55 42 *e*P **P 16 39 55.4 -0.1**
comp=Z,87nm,1.5s,mb5.9
SMF *ep*P pP 16 40 23.0 -0.8
LOR Lormes 92.78 42 *e*P **P 16 39 56.2 -0.4**
comp=Z,74nm,1.5s,mb5.5
LOR *ep*P pP 16 40 23.9 -1.0
LOR *e*R
comp=Z,697nm,21.0s
LOR Lormes 92.78 42 *e*P **P 16 39 56.2 -0.4**
LOR *e**PP pP 16 40 23.9 -1.0
LOR pmax pmax
comp=Z,37nm,1.5s,mb5.5
LOR MLR MLR
comp=Z,700nm,21.0s
LOR Lormes 92.78 42 *e*P **P 16 39 56.2 -0.4**
comp=Z,37nm,1.5s,mb5.5
LOR *ep*P pP 16 40 23.9 -1.0
LOR LR LR
comp=Z,700nm,21.0s
SMRF Simiane la Rot 92.82 45 *e*P **P 16 39 56.7 -0.1**
comp=Z,138nm,1.7s,mb5.7
SMRF *ep*P pP 16 40 25.3 +0.2
SMRF Simiane la Rot 92.82 45 *e*P **P 16 39 56.7 -0.1**
comp=Z,138nm,1.7s,mb6.0
SMRF *ep*P pP 16 40 25.3 +0.2
KEST Kesra 93.06 54 P **P 16 39 57.9 0.0**
comp=Z,2.4nm,1.1s,mb4.5,baz=184,slow=1.6,SNR=7.1
LMR La Mourre 93.26 46 *e*P **P 16 39 58.5 -0.3**
comp=Z,104nm,1.4s,mb5.7
LMR La Mourre 93.26 46 *e*P **P 16 39 58.5 -0.3**
LMR pmax pmax
comp=Z,52nm,1.4s,mb5.7
LMR La Mourre 93.26 46 *e*P **P 16 39 58.5 -0.3**
comp=Z,52nm,1.4s,mb5.7
ORIF Oris-en-Rattie 93.33 44 *e*P **P 16 39 58.8 -0.3**
comp=Z,48nm,0.9s,mb5.5
ORIF *e*R
comp=Z,1µm,22.8s
ORIF Oris-en-Rattie 93.33 44 *e*P **P 16 39 58.8 -0.3**
ORIF pmax pmax
comp=Z,24nm,0.9s,mb5.5
ORIF Oris-en-Rattie 93.33 44 *e*P **P 16 39 58.8 -0.3**
comp=Z,24nm,0.9s,mb5.5
FRF La Foret Royal 93.42 46 *e*P **P 16 39 59.5 -0.1**
comp=Z,105nm,1.5s,mb5.7
FRF La Foret Royal 93.42 46 *e*P **P 16 39 59.5 -0.1**
FRF pmax pmax
comp=Z,53nm,1.5s,mb5.7
FRF La Foret Royal 93.42 46 *e*P **P 16 39 59.5 -0.1**
comp=Z,53nm,1.5s,mb5.6
MBDF Montbardon 93.87 45 *e*P **P 16 40 01.2 -0.4**
comp=Z,86nm,1.6s,mb5.5
MBDF Montbardon 93.87 45 *e*P **P 16 40 01.2 -0.4**
MBDF pmax pmax
comp=Z,43nm,1.6s,mb5.5
MBDF Montbardon 93.87 45 *e*P **P 16 40 01.2 -0.4**
comp=Z,43nm,1.6s,mb5.5
MVIF Mont Vial 93.88 46 *e*P **P 16 40 01.9 +0.3**
BAIF Baives 93.94 39 *e*P **P 16 40 01.3 -0.6**
comp=Z,38nm,1.3s,mb5.3
BAIF Baives 93.94 39 *e*P **P 16 40 01.3 -0.6**
BAIF pmax pmax
comp=Z,19nm,1.3s,mb5.3
BAIF Baives 93.94 39 *e*P **P 16 40 01.3 -0.6**
comp=Z,19nm,1.3s,mb5.3
MEZF Maizieres J'vi 93.95 41 *e*P **P 16 40 01.7 -0.3**
comp=Z,73nm,1.3s,mb5.5
MEZF Maizieres J'vi 93.95 41 *e*P **P 16 40 01.7 -0.3**
comp=Z,73nm,1.3s,mb5.8
DAWY Dawson 93.97 336 *e*P **P 16 40 00.1 -1.9**
DAWY *ep*P pP 16 40 26.9 -3.5
REVF Revere 93.98 46 *e*P **P 16 40 02.9 +0.8**
TOUF Mont Tournerai 93.98 45 *e*P **P 16 40 03.1 +1.0**
LUCF Luceram 94.01 46 *e*P **P 16 40 02.9 +0.7**
INK Inuvik 94.07 341 P **P 16 40 01.4 -1.2**
comp=Z,31nm,1.2s,mb5.5,baz=121,slow=4.8,SNR=16
INK pP pP 16 40 29.2 -1.6
comp=Z,8.1nm,0.8s,baz=71,slow=4.1,SNR=4.4
INK Inuvik 94.07 341⇓ *e*P **P 16 40 00.9 -1.6**
INK *e**PP pP 16 40 28.4 -2.4
INK pmax pmax
comp=Z,55nm,1.4s
INK Inuvik 94.07 341⇓ *e*P **P 16 40 00.9 -1.7**
comp=Z,2µm,1.4s
INK *ep*P pP 16 40 28.4 -2.4
LPL La Plagne 94.09 44 *e*P **P 16 40 02.5 -0.1**
comp=Z,30nm,0.9s,mb5.3
LPL La Plagne 94.09 44 *e*P **P 16 40 02.5 -0.1**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.3
LPL La Plagne 94.09 44 *e*P **P 16 40 02.5 -0.1**
comp=Z,15nm,0.9s,mb5.3
LPG La Plagne 94.10 44 *e*P **P 16 40 02.8 +0.2**
comp=Z,103nm,1.4s,mb5.7
LPG La Plagne 94.10 44 *e*P **P 16 40 02.8 +0.2**
LPG pmax pmax
comp=Z,51nm,1.4s,mb5.7
LPG La Plagne 94.10 44 *e*P **P 16 40 02.8 +0.2**
comp=Z,51nm,1.4s,mb5.7
SNF Seneffe 94.13 39 P **P 16 40 02.9 0.0**
SAOF Saorge 94.18 46 *e*P **P 16 40 03.5 +0.5**
DOU Dourbes 94.19 39 P **P 16 40 02.9 -0.2**
DOU AP pP 16 40 30.7 -0.6
GIVF Givet 94.33 39 *e*P **P 16 40 03.4 -0.3**
comp=Z,213nm,1.6s,mb5.9
GIVF *ep*P pP 16 40 31.4 -0.6
GIVF Givet 94.33 39 *e*P **P 16 40 03.4 -0.3**
GIVF *e**PP pP 16 40 31.4 -0.6
GIVF pmax pmax
comp=Z,106nm,1.6s,mb5.9
GIVF Givet 94.33 39 *e*P **P 16 40 03.4 -0.3**
comp=Z,106nm,1.6s,mb5.9
GIVF *ep*P pP 16 40 31.4 -0.6
DRV Dumont d'Urvil 94.36 193 P **P 16 40 04.0 +0.1**
DRV Dumont d'Urvil 94.36 193 PP PP 16 43 46.0 -6.3
DRV SP SP 16 52 27.0 +4.9
THEF They Montfort 94.45 41 *e*P **P 16 40 04.6 +0.3**
HAU Haudompre 94.61 41 *e*P **P 16 40 04.7 -0.3**
HAU *e*R
comp=Z,633nm,22.0s
HAU Haudompre 94.61 41 *e*P **P 16 40 04.7 -0.3**
HAU LR LR
comp=Z,630nm,22.0s
LOMF Lomont 94.72 42 *e*P **P 16 40 05.7 +0.2**
HINF Hinteralfeld 94.87 42 *e*P **P 16 40 05.7 -0.5**
comp=Z,69nm,1.7s,mb5.5
HINF Hinteralfeld 94.87 42 *e*P **P 16 40 05.7 -0.5**
HINF pmax pmax
comp=Z,34nm,1.7s,mb5.5
HINF Hinteralfeld 94.87 42 *e*P **P 16 40 05.7 -0.5**
comp=Z,34nm,1.7s,mb5.5
EGAK Eagle 94.98 336 *e*P **P 16 40 05.2 -1.5**
comp=Z,70nm,1.6s,mb5.8
EGAK *ep*P pP 16 40 33.2 -1.8
WLF Walferdange 95.00 40 *e*P **P 16 40 07.4 +0.6**
comp=Z,95nm,1.5s,mb6.0
WLF Walferdange 95.00 40 P **P 16 40 07.6 +0.8**
WLF AP pP 16 40 36.2 +1.1
ECH Echery 95.19 41 *e*P **P 16 40 07.4 -0.3**
MEM Membach 95.21 39 P **P 16 40 08.2 +0.5**
HGN Heimansgroeve 95.21 39 *e*P **P 16 40 08.2 +0.4**
comp=Z,43nm,1.7s,mb5.6
HGN *ex* x 16 40 35.2
HGN Heimansgroeve 95.21 39 *e*SKS SKSac 16 50 38.7 +5.1
HGN *e*S sS 16 52 09.6 +6.6
CDF Champ du Feu 95.32 41 *e*P **P 16 40 08.0 -0.3**
comp=Z,59nm,1.5s,mb5.5
CDF *ep*P pP 16 40 35.9 -0.7
CDF Champ du Feu 95.32 41 *e*P **P 16 40 08.0 -0.3**
CDF *e**PP pP 16 40 35.9 -0.7
CDF pmax pmax
comp=Z,30nm,1.5s,mb5.5
CDF Champ du Feu 95.32 41 *e*P **P 16 40 08.0 -0.3**
comp=Z,30nm,1.5s,mb5.5
CDF *ep*P pP 16 40 35.9 -0.7
WLS Welschbruch 95.37 41 *e*P **P 16 40 08.5 0.0**
FELD Feldberg im Sc 95.63 42 *e*P **P 16 40 09.4 -0.3**
ABH Alteburg 95.93 40 *e*P **P 16 40 11.3 +0.3**
WTSB Winterswijk 96.09 38 *e*P **P 16 40 11.7 0.0**
comp=Z,48nm,1.6s,mb5.7
WTSB *ex* x 16 40 39.6
BUG Bochum--Univer 96.22 38 *e*P **P 16 40 12.1 -0.2**
comp=Z,52nm,1.3s,mb5.8
WIT Witteveen 96.27 37 *e*P **P 16 40 13.9 +1.3**
LSZ Lusaka 96.50 108⇓ P **P 16 40 16.7 +3.2**
SNR=5.4
LSZ Lusaka 96.50 108 *e*P **P 16 40 15.7 +2.1**
LSZ pmax pmax
comp=Z,20nm,1.2s,mb5.4
LSZ Lusaka 96.50 108 *e*P **P 16 40 15.7 +2.1**
comp=Z,20nm,1.2s,mb5.4
TNS Taunus Mts 96.58 40 *e*P **P 16 40 14.1 +0.1**
comp=Z,38nm,1.4s,mb5.6
TNS Taunus Mts 96.58 40 *e*P **P 16 40 14.1 +0.1**
TNS pmax pmax
comp=Z,38nm,1.4s,mb5.6
DAVA Damuels 96.69 43⇑ *i*P **P 16 40 15.3 +0.9**
comp=Z,31nm,1.4s,mb5.6
IBBN Ibbenburen 96.76 38 *e*P **P 16 40 14.9 +0.1**
comp=Z,35nm,1.1s,mb5.7
MIR Mirnyy 97.44 174 *e*P **P 16 40 18.0 +0.2**
MIR *e* pP 16 40 45.0 -1.2
MIR *e* 16 40 52.0
MIR pmax pmax
comp=Z,200nm,1.8s,mb6.2
MOTA Moosalm 97.50 43⇓ *i*P **P 16 40 18.5 +0.3**
comp=Z,47nm,1.4s,mb5.8
MOTA Moosalm 97.50 43⇓ *i*P **P 16 40 18.5 +0.4**
MOTA pmax pmax
comp=Z,47nm,1.4s,mb5.8
SQTA Sankt Quirin 97.54 43⇓ *i*P **P 16 40 18.9 +0.6**
comp=Z,53nm,1.4s,mb5.9
SQTA Sankt Quirin 97.54 43⇓ *i*P **P 16 40 18.9 +0.6**
SQTA pmax pmax
comp=Z,53nm,1.4s,mb5.9
COLA College 97.65 335 *e*P **P 16 40 17.1 -1.7**
COLA *e**PP pP 16 40 45.3 -1.8
COLA pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
COLA College 97.65 335 *e*P **P 16 40 17.1 -1.7**
comp=Z,6.6nm,1.0s,mb5.1
COLA *ep*P pP 16 40 45.3 -1.9
UBBA Unterbreizbach 97.70 39 *e*P **P 16 40 19.1 +0.1**
comp=Z,46nm,1.7s,mb5.7
MCK McKinley 97.70 334 *e*P **P 16 40 17.8 -1.2**
MCK *e**PP pP 16 40 45.1 -2.3
MCK pmax pmax
comp=Z,7.0nm,1.6s,mb4.9
MCK McKinley 97.70 334 *e*P **P 16 40 17.8 -1.3**
comp=Z,15nm,1.6s,mb5.3
MCK *ep*P pP 16 40 45.1 -2.3
FUR Furstenfeldbru 97.83 42 *e*P **P 16 40 20.3 +0.7**
comp=Z,68nm,1.5s,mb6.0
FUR Furstenfeldbru 97.83 42 *e*P **P 16 40 20.3 +0.7**
FUR pmax pmax
comp=Z,68nm,1.5s,mb6.0
WTTA Wattenberg 97.83 43⇑ *i*P **P 16 40 20.6 +1.0**
comp=Z,56nm,1.4s,mb5.9
WTTA Wattenberg 97.83 43⇑ *i*PcP PcP 16 40 20.6 +0.9
comp=Z,56nm,1.4s
WTTA Wattenberg 97.83 43⇑ *i*P **P 16 40 20.6 +1.0**
WTTA pmax pmax
comp=Z,56nm,1.4s,mb5.9
GTTG Gvttingen 97.87 39 *e*P **P 16 40 21.3 +1.5**
comp=Z,32nm,1.2s,mb5.7
GRA1 Grafenberg Arr 98.17 41 *e*P **P 16 40 21.9 +0.8**
comp=Z,49nm,1.6s,mb5.8
GRF Grafenberg Arr 98.17 41 *e*P **P 16 40 21.9 +0.8**
comp=Z,49nm,1.6s,mb5.8
GRF Grafenberg Arr 98.17 41 *e*P **P 16 40 21.9 +0.8**
GRF pmax pmax
comp=Z,49nm,1.6s,mb5.8
CLZ Clausthal 98.19 39 *e*P **P 16 40 21.8 +0.6**
comp=Z,45nm,1.4s,mb5.8
CLZ Clausthal 98.19 39 *e*P **P 16 40 21.8 +0.6**
CLZ pmax pmax
comp=Z,45nm,1.4s,mb5.8
NRDL Niedersach Rie 98.20 38 *e*P **P 16 40 21.8 +0.5**
comp=Z,52nm,1.7s,mb5.8
CASY Casey 98.31 182 *e*P **P 16 40 22.3 +0.5**
comp=Z,29nm,1.0s,mb5.8
MOX Moxa 98.65 40 *e*P **P 16 40 23.5 +0.2**
comp=Z,44nm,1.8s,mb5.7
MOX Moxa 98.65 40 *e*P **P 16 40 24.1 +0.8**
comp=Z,41nm,1.9s,mb5.6
MOX *e* pP 16 40 52.3 +0.6
MOX
comp=Z,600nm,19.0s
MOX Moxa 98.65 40 *e*P **P 16 40 24.1 +0.8**
MOX MLR MLR
comp=Z,600nm,19.0s
MOX Moxa 98.65 40 *e*P **P 16 40 24.1 +0.8**
comp=Z,41nm,1.9s,mb5.6
MOX *ep*P pP 16 40 52.3 +0.6
MOX *e**PP pP 16 40 52.3 +0.6
MOX *e*S SKSac 16 50 59.0 +7.7
MOX *e*SS SS 16 58 36.0 +5.0
MOX pmax pmax
comp=Z,41nm,1.9s,mb5.6
MOX LR LR
comp=Z,600nm,19.0s
BSEG Bad Segeberg 98.68 36 *e*P **P 16 40 23.3 -0.1**
comp=Z,69nm,1.6s,mb5.7
MANZ Manzenberg 98.80 41 *e*P **P 16 40 24.5 +0.6**
comp=Z,35nm,1.3s,mb5.7
ROTZ Rotzenmuhle 98.81 41 *e*P **P 16 40 24.5 +0.5**

comp=Z,36nm,1.4s,mb5.7
KBA Koelnbreinsper 98.92 44⇑ *i*P P 16 40 25.1 +0.6
comp=Z,17nm,1.8s,mb5.3
KBA Koelnbreinsper 98.92 44⇑ *i*P P 16 40 25.1 +0.6
KBA pmax pmax
comp=Z,17nm,1.8s,mb5.3
CADS Cadrg 98.99 45 *i* Pdiff P 16 40 25.0 +0.2
CADS *e* pP 16 40 52.3 -0.9
CADS *e*PP PP 16 44 25.3 -2.6
GUNZ Gunzen 99.03 40 *e*P P 16 40 25.5 +0.5
comp=Z,34nm,1.7s,mb5.6
WERD Werda 99.03 40 *e*P P 16 40 25.5 +0.5
comp=Z,26nm,1.5s,mb5.5
WERN Wernitzgruen 99.04 40 *e*P P 16 40 25.8 +0.8
comp=Z,50nm,2.0s,mb5.7
WET Wettzell 99.09 42 *e*P P 16 40 25.2 -0.1
comp=Z,25nm,1.5s,mb5.5
WET Wettzell 99.09 42 *e*P P 16 40 25.2 -0.1
WET pmax pmax
comp=Z,25nm,1.5s,mb5.5
TANN Tannenbergstha 99.12 40 *e*P P 16 40 26.0 +0.6
comp=Z,30nm,1.4s,mb5.6
LJU Ljubljana 99.49 45 *e*Pdiff Pdif 16 40 27.7 +0.7
LJU *e*PP PP 16 44 29.3 -2.5
LJU *e*SKSac SKSac 16 50 59.0 +3.5
LJU *e* 16 51 52.2
LJU *e* 16 53 21.0
LJU *e* 16 53 23.4
LJU Ljubljana 99.49 45 *e*P Pdif 16 40 27.7 +0.7
LJU *e* 16 44 29.3
LJU *e* 16 50 59.0
LJU *e* 16 51 52.2
LJU *e* 16 53 21.0
KHC Kasperske Hory 99.54 42 *e*PDIF Pdif 16 40 27.3 +0.1
KHC *e*SKS 16 50 58.7
KHC *e*SP SP 16 53 14.6 -3.8
KHC AMS AMS 17 20 50.0
comp=Z,700nm,34.1s
GEC2 GERESS Array S 99.55 42 *e*P Pdif 16 40 27.3 0.0
comp=Z,11nm,1.3s
GEC2 *e*pP pP 16 40 55.5 -0.2
GEC2 GERESS Array S 99.55 42 *e*P Pdif 16 40 27.3 0.0
GEC2 *e**PP pP 16 40 55.5 -0.2
GEC2 pmax pmax
comp=Z,11nm,1.3s,mb5.3
GERES GERESS Array B 99.55 42 P Pdif 16 40 27.8 +0.5
comp=Z,1.8nm,0.8s,baz=246,slow=2.6,SNR=16
GERES PKKPbc PKKPbc 16 56 49.7 +0.9
comp=Z,0.4nm,0.7s,baz=107,slow=3.3,SNR=3.8
CLL Collm 99.66 39 *e*P Pdif 16 40 27.9 +0.1
comp=Z,37nm,1.6s
CLL Collm 99.66 39 *i* Pdif Pdif 16 40 28.2 +0.4
comp=Z,37nm,1.6s
CLL *e*pPdif 16 40 56.0
CLL *e*SKSac SKSac 16 51 01.0 +4.7
CLL *e*Sdif S 16 51 53.0 +1.2
CLL *e*SP SP 16 53 17.0 -2.7
CLL *e*SS SS 16 58 48.0 +2.9
CLL *e*SSS 17 02 36.0
CLL *e*SSS 17 03 18.0
CLL L 17 24 00.0
comp=Z,1μm,21.5s
CLL Collm 99.66 39 *i* P Pdif 16 40 28.2 +0.4
CLL *e* 16 51 01.0
CLL pmax pmax
comp=Z,37nm,1.6s,mb5.8
CLL MLR MLR
comp=Z,1μm,21.5s
CLL Collm 99.66 39 *i* Pdif Pdif 16 40 28.2 +0.4
comp=Z,37nm,1.6s
CLL *e*SKS 16 51 01.0
CLL *e*Sdif S 16 51 53.0 +1.2
CLL LR LR
comp=Z,1μm,21.5s
MOA Molln 99.70 43⇑ *i*P Pdif 16 40 28.7 +0.7
comp=Z,16nm,1.7s
MOA Molln 99.70 43⇑ *i*P Pdif 16 40 28.7 +0.7
comp=Z,16nm,1.7s
FBE Freiberg 99.79 40 *e*P Pdif 16 40 28.7 +0.4
comp=Z,30nm,1.3s
BOJS Bojanci 99.87 46 *i* Pdiff Pdif 16 40 29.9 +1.2
BOJS *e* 16 40 57.4
BOJS *e*SKSac SKSac 16 51 00.6 +3.3
BOJS *e* 16 51 55.4
BRG Berggiesshubel 100.14 40 *e*P Pdif 16 40 30.2 +0.3
comp=Z,23nm,1.3s
BRG Berggiesshubel 100.14 40 *i* P Pdif 16 40 30.8 +0.9
BRG *i* 16 51 04.0
BRG *i* 16 53 26.0
BRG *e* 16 58 56.0
BRG pmax pmax
comp=Z,14nm,1.3s
BRG MLR MLR
comp=Z,490nm,18.1s
BRG Berggiesshubel 100.14 40 *i* P Pdif 16 40 30.8 +0.9
comp=Z,14nm,1.3s
BRG *e* 16 40 58.7
BRG *i* 16 51 04.0
BRG *i* 16 53 26.0
BRG *e* 16 58 56.0
BRG LR LR
comp=Z,490nm,18.1s
PRU Pruhonice 100.33 41 *e*PDIF Pdif 16 40 31.8 +1.0
PRU *e*SKS 16 51 01.3
PRU *e*SP SP 16 53 20.2 -6.7
PRU AMS AMS 17 25 20.0
comp=Z,400nm,15.8s
PRU Pruhonice 100.33 41 *e*P Pdif 16 40 31.8 +1.0
PRU *e*S SKSac 16 51 01.3 +1.7
PRU MLR MLR
comp=Z,400nm,15.8s
RUE Ruedersdorf 100.38 38 *e*P Pdif 16 40 32.0 +1.0
comp=Z,34nm,1.5s
ARSA Arzberg 100.41 44⇑ *i*P Pdif 16 40 31.7 +0.6
comp=Z,10nm,1.9s
PVCC Panska Ves 100.46 40 *e*PDIF Pdif 16 40 32.1 +0.8
PVCC *e*SKS 16 51 02.5
PVCC *e*SP SP 16 53 22.7 -5.6
PVCC Panska Ves 100.46 40 *e*P Pdif 16 40 32.1 +0.8
PVCC *e*S SKSac 16 51 02.5 +2.3
KOGS Kog 100.74 45 *e*Pdiff Pdif 16 40 33.1 +0.6
KOGS *e*SKSac SKSac 16 51 04.8 +3.3
CONA Conrad Observa 100.77 43⇑ *i*Pdiff Pdif 16 40 33.7 +0.9
comp=Z,9.9nm,1.6s
TREC Trest 100.80 42 *e*PDIF Pdif 16 40 33.4 +0.6
TREC *e*SKS 16 51 03.3
TREC *e*SP SP 16 53 30.1 -1.8
NOA NORSAR Array B 100.82 30 P Pdif 16 40 33.0 +0.1
comp=Z,6.1nm,1.2s,baz=256,slow=4.3,SNR=2.8
UPC Upice 101.36 41 *e*PDIF Pdif 16 40 36.3 +1.0
DPC Dobruska-Polom 101.53 41 *e*PDIF Pdif 16 40 37.3 +1.2
DPC *e*SKS 16 51 06.8
DPC *ex* x 16 53 33.8
DPC AMS AMS 17 24 10.0
comp=Z,600nm,24.6s
DPC Dobruska-Polom 101.53 41 *e*P Pdif 16 40 37.3 +1.2
DPC *e*S SKSac 16 51 06.8 +1.5
DPC MLR MLR
comp=Z,600nm,24.6s
KSP Ksiaz 101.60 40 *e*P Pdif 16 40 38.0 +1.6
KSP *e* 16 51 09.0
KSP *e*SP SP 16 53 37.0 -3.4
KSP Ksiaz 101.60 40 *e*Pdif Pdif 16 40 38.0 +1.6
KSP *e* 16 45 09.0
KSP *e*SKS 16 51 09.0
KSP *e*SP SP 16 53 37.0 -3.4
KSP *e*SS SS 16 59 02.0 -10
OKC Ostrava-Krasne 102.60 42 *e*PDIF Pdif 16 40 41.5 +0.7
OKC *e*SKS 16 51 12.8
OKC *e*SP SP 16 53 44.8 -6.2
OKC AMS AMS 17 29 00.0
comp=Z,500nm,17.6s
OKC Ostrava-Krasne 102.60 42 *e*P Pdif 16 40 41.5 +0.7
OKC *e*S SKSac 16 51 12.8 +2.4
OKC Ostrava-Krasne 102.60 42 *e*P Pdif 16 40 41.5 +0.7
OKC *e*S SKSac 16 51 12.8 +2.4
OKC *e* 16 53 44.8
VYHS Vyhne 102.83 43 PDIF Pdif 16 40 42.0 +0.1
VYHS *e* 16 45 11.6
VYHS Vyhne 102.83 43 *e*Pdif Pdif 16 40 42.1 +0.2
VYHS *e*PP PP 16 45 11.7 +15
CRVS Cervenica-Dubn 104.61 43 PDIF Pdif 16 40 50.8 +1.0
CRVS Cervenica-Dubn 104.61 43 *e*Pdif Pdif 16 40 50.8 +1.0

ARCES ARCESS Array B 107.54 21 PKKPbc PKKPbc 16 56 25.7 +0.6
comp=Z,1.8nm,0.6s,baz=89,slow=3.9,SNR=11
FINES FINESS Array B 107.99 30 PKKPbc PKKPbc 16 56 23.7 0.0
comp=Z,0.5nm,0.3s,baz=108,slow=4.5,SNR=16
BRTR Keskin Array B 112.65 53 PKiKP PKiKP 16 45 20.7 +0.6
comp=Z,2.8nm,1.1s,baz=158,slow=1.6,SNR=9.9
BRTR PKKPbc PKKPbc 16 56 10.5 +1.9
comp=Z,0.9nm,0.7s,baz=44,slow=4.4,SNR=3.9
BRTR PKKPab PKKPab 16 56 18.3 +1.1
comp=Z,2.3nm,0.9s,baz=130,slow=4.9,SNR=8.6
OBN Obninsk 113.94 36⇓ *i*PKIKP PKiKP 16 45 23.5 +0.9
OBN *e* 16 45 52.4
OBN *e*PS PS 16 55 53.9 -2.1
OBN *e* 16 56 54.7
OBN *e*SSS 17 06 13.6
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk 113.94 36⇑ *i*PKP PKiKP 16 45 22.9 +0.3
ANN Anapa 115.41 48 *i* PKIKP PKPdf 16 45 23.0 -2.4
ANN *e* 16 51 58.4
ANN *e* 16 56 04.2
ANN pmax pmax
comp=Z,36nm,1.0s
BILL Bilibino 115.60 339 *e*PKIKP PKPdf 16 45 25.2 -0.6
BILL *i* 16 46 26.3
BILL pmax pmax
comp=Z,6.0nm,1.4s
KIV Kislovodsk 119.24 48⇑ *i*PKIKP PKPdf 16 45 33.9 +1.1
KIV 16 52 31.0
KIV *e*PS PS 16 56 48.1 +4.2
KIV *e* 16 58 00.1
KIV SS SS 17 03 11.0 +3.3
KIV *e*SSS 17 07 31.5
KIV pmax pmax
comp=Z,17nm,1.7s
KIV MLR MLR
comp=Z,200nm,19.0s
KIV Kislovodsk 119.24 48⇑ *e*PKP PKPdf 16 45 33.7 +0.9
ZEI Tsey 120.25 49 *e*PKIKP PKPdf 16 45 34.8 +0.1
GNI Garni 121.16 52⇑ *e*PKIKP PKPdf 16 45 37.6 +1.1
BHD Baghdad 121.29 60 *ex* x 16 45 33.0
STKA Stephens Creek 122.21 215 PKP PKPdf 16 45 38.6 +0.1
comp=Z,9.8nm,0.9s,baz=104,slow=4.6,SNR=13
STKA Stephens Creek 122.21 215 *e*PKPdf PKPdf 16 45 38.9 +0.4
MAK Makhachkala 122.85 49 *i* PKIKP PKPdf 16 45 46.4 +6.7
MAK *i* 16 52 40.9
MAK *e*PS PS 16 57 19.4 +3.4
SEY Seymchan 123.12 337⇑ *e*PKIKP PKPdf 16 45 39.2 -1.0
ARU Arti 125.35 31 *i* PKIKP PKPdf 16 45 43.7 -0.8
ARU *e* 16 47 32.3
ARU *e*PPP 16 50 14.7
ARU *e* 16 52 36.9
ARU *e*SP SP 16 57 24.2 -1.4
ARU *e*PS PS 16 57 34.7 -3.4
ARU MLR MLR
comp=N,100nm,21.0s
ARU MLR MLR
comp=E,400nm,21.0s
ARU MLR MLR
comp=Z,500nm,21.0s
ARU Arti 125.35 31 *e*PKPdf PKPdf 16 45 44.6 +0.1
SVE Sverdlovsk 126.16 29 *e*PKIKP PKPdf 16 45 46.3 +0.3
SVE *e* 16 46 15.8
SVE *e* 16 47 38.0
SVE pmax pmax
comp=Z,58nm,2.0s
SVE MLR MLR
comp=N,200nm,16.0s
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,400nm,16.0s
CTA Charters Tower 127.47 229 PKP PKPdf 16 45 49.5 +1.0
comp=Z,23nm,1.1s,baz=207,slow=0.7,SNR=14
CTAO Charters Tower 127.47 229 *e*PKIKP PKPdf 16 45 49.6 +1.0
YAK Yakutsk 130.88 346 *e*PKIKP PKPdf 16 45 54.7 -0.3
YAK *e* 16 46 23.0
YAK Yakutsk 130.88 346 *e*PKPdf PKPdf 16 45 54.7 -0.3
YAK *ep*PKPdf pPKPdf 16 46 23.0 -1.5
YAK *es*PKPdf 16 46 33.7
ASHO Ashiyiah 131.71 71 P PKPdf 16 45 58.2 +1.6
SNR=6.1
ARQ Araqi 132.14 73 ⇓P PKPdf 16 45 59.7 +2.3
SNR=5.5
ZRNK Zerenda 132.33 30 *e*PKIKP PKPdf 16 45 58.2 +0.4
ZRNK *e* 16 46 27.1
ZRNK Zerenda 132.33 30 *e*PKPdf PKPdf 16 45 58.2 +0.5
ZRNK *ep*PKPdf pPKPdf 16 46 27.1 -0.2
ZRNK *e*SKP 16 49 16.6
BSY Bisya 132.76 73 P PKPdf 16 46 00.0 +1.4
SNR=8.4
ASAR Alice Springs 132.84 215 PKP PKPdf 16 45 59.1 +0.4
comp=Z,12nm,0.9s,baz=130,slow=1.8,SNR=38
ASAR PP PP 16 48 21.5 -3.4
comp=Z,5.2nm,1.1s,baz=149,slow=5.5,SNR=5.9
AS31 Alice Springs 132.84 215 *e*PKPdf PKPdf 16 45 59.3 +0.5
AS31 *ep*PKPdf pPKPdf 16 46 26.9 -1.3
BRVK Borovoye 132.88 29 *e*PKIKP PKPdf 16 45 59.8 +1.0
BRVK *e* 16 46 29.2
BVAR Borovoye Array 132.95 29 PKP PKPdf 16 45 59.6 +0.6
comp=Z,11nm,1.1s,baz=252,slow=0.9,SNR=35
BVAR pPKP pPKPdf 16 46 28.6 +0.2
comp=Z,6.0nm,1.1s,baz=318,slow=2.0,SNR=3.2
SMDO Samad 133.54 73 P PKPdf 16 46 01.7 +1.6
SNR=15
WB2 Warramunga Arr 135.50 218 *e*PKPdf PKPdf 16 46 04.7 +1.0
WRA Warramunga Arr 135.51 218 PKP PKPdf 16 46 03.8 +0.1
comp=Z,23nm,0.8s,baz=147,slow=1.6,SNR=80
WRA PP PP 16 48 40.5 -1.3
comp=Z,5.4nm,1.1s,baz=141,slow=5.5,SNR=8.4
NVS Novosibirsk 136.79 20⇓ *i*PKIKP PKPdf 16 46 06.4 +0.3
NVS *i* 16 46 33.9
NVS pmax pmax
comp=Z,125nm,1.8s
NVS pmax pmax
comp=E,50nm,2.3s
YSS Yuzh-Sakhalins 136.83 324⇑ *e*PKIKP PKPdf 16 46 05.0 -1.2
YSS *e* 16 46 34.0
YSS *e*SS SS 17 07 10.0 +24
YSS pmax pmax
comp=Z,170nm,2.0s
YSS MLR MLR
comp=E,200nm,19.0s
YSS Yuzh-Sakhalins 136.83 324 *e*PKPdf PKPdf 16 46 06.8 +0.6
YSS *ep*PKPdf pPKPdf 16 46 34.6 -1.0
BOD Bodaibo 137.52 354 *e*PKHKP 16 45 53.3
BOD pmax pmax
comp=Z,16nm,2.3s
ZAL Zalesovo 138.05 19 PKP PKPdf 16 46 08.1 -0.3
comp=Z,15nm,1.1s,baz=241,slow=3.4,SNR=4.5
KLR Kul'dur 140.78 334 *e*PKHKP 16 46 02.8
KLR *e* 16 46 10.0
KLR *e* 16 49 10.6
KLR pmax pmax
comp=Z,67nm,1.8s
KLR pmax pmax
comp=Z,320nm,2.6s
FRU Bishkek 141.34 39 *e*PKIKP PKPdf 16 46 16.0 +1.6
FRU pmax pmax
comp=Z,100nm,2.0s
AAK Ala-Archa 141.38 39 *e*PKHKP 16 46 09.4
FITZ Fitzroy Crossi 141.72 210 PP PP 16 49 17.5 -2.7
comp=Z,7.8nm,1.2s,baz=138,slow=12,SNR=6.1
MKAR Makanchi Array 142.80 28 PKhKP 16 46 13.3
comp=Z,3.7nm,0.7s,baz=304,slow=3.5,SNR=19
MKAR Makanchi Array 142.80 28 PKP PKPdf 16 46 13.3 -3.7
CIT Chita 143.28 353 *e*PKIKP PKPdf 16 46 15.0 -2.9
CIT *e* 16 46 38.8
CIT *e* 16 49 27.6
CIT pmax pmax
comp=Z,144nm,1.8s
IRK Irkutsk 143.40 3 *e*PKIKP PKPdf 16 46 15.0 -3.1
IRK *e* 16 46 43.7
IRK pmax pmax
comp=Z,137nm,1.7s
MOY Mondy 143.73 6 *e*PKIKP PKPdf 16 46 17.6 -1.1
MOY pmax pmax
comp=Z,155nm,1.6s
TLY Talaya 143.92 3 *e*PKIKP PKPdf 16 46 16.7 -2.3
TLY *i* 16 46 43.5
TLY *e* 16 49 29.8
TLY pmax pmax
comp=Z,131nm,1.5s
TLY Talaya 143.92 3 *e*PKPdf PKPdf 16 46 17.8 -1.2
TLY *ep*PKPdf pPKPdf 16 46 46.0 -2.5
KSH Kashi 144.03 42 *e*PKP PKPdf 16 46 18.5 -0.7
KSH *e*APKP 16 46 45.3
KSH *e*XPKP 16 46 56.0
KSH *e*PKS 16 49 53.3
KSH *e*PPP 16 52 48.3
KSH *e*SKS SKSdf 16 53 17.3 -1.4
KSH *e*SKKS SKKSac 16 56 13.0 -3.5
KSH *e*SS SS 17 08 05.5 -4.1
KSH PP PP
comp=Z,521nm,5.5s
KSH LR LR
comp=N,352nm,5.7s
KSH LR LR
comp=E,439nm,4.6s
KSH LR LR
comp=Z,304nm,5.8s
HIA Hailar 144.81 345 *e*PKIKP PKPdf 16 46 19.5 -1.0
HIA *e* 16 46 47.0
MAJO Matsushiro 145.19 313 PKPbc PKPbc 16 46 20.4 -0.7
MAJO Matsushiro 145.19 313 *e*PKPdf PKPdf 16 46 20.3 -0.9
MAJO *ep*PKPdf pPKPdf 16 46 49.2 -1.6
MJAR Matsushiro Arr 145.19 313 PKPbc PKPbc 16 46 20.5 -0.5
comp=Z,80nm,1.1s,baz=42,slow=1.3,SNR=242
MAT Matsushiro 145.19 313 PKP2 PKPab 16 46 20.0 -1.2
ZAK Zakamensk 145.20 4⇑ *i*PKIKP PKPdf 16 46 21.5 +0.3
ZAK *e* 16 46 49.9
ZAK pmax pmax
comp=Z,100nm,1.5s
ZAK pmax pmax
comp=Z,77nm,1.3s
VLA Vladivostok 145.21 327 *c i*PKIKP PKPdf 16 46 20.4 -0.8
VLA *e* 16 46 46.4
VLA pmax pmax
comp=Z,328nm,1.8s
VLA MLR MLR
comp=Z,400nm,18.4s
MDJ Mudanjiang 145.26 331 PKP PKPdf 16 46 20.5 -0.8
MDJ APKP 16 46 49.5
MDJ XPKP 16 46 57.8
MDJ SKS SKSdf 16 53 16.0 -4.5
MDJ LR LR
comp=N,435nm,34.0s
MDJ LR LR
comp=E,507nm,29.3s
MDJ Mudanjiang 145.26 331 *e*PKPdf PKPdf 16 46 20.3 -1.0
MDJ *ep*PKPdf pPKPdf 16 46 45.6 -5.3
JHJ Hachijo jima 2 145.48 306 PKPbc PKPbc 16 46 21.1 -0.9
comp=E,313nm,1.2s,baz=195,slow=9.2,SNR=5.4
THN Thein Dam 147.18 54 *e*P PKPdf 16 46 24.8 +0.2
WMQ Urumqi 147.50 26 PKP PKPdf 16 46 26.3 +1.2
WMQ APKP 16 46 56.0
WMQ XPKP 16 47 08.0
WMQ PP PP 16 50 00.0 +5.3
WMQ PPP 16 53 19.0
WMQ SKKS SKKSac 16 56 35.0 -1.1
WMQ SS SS 17 08 50.0 +0.9
WMQ PP PP
comp=Z,266nm,5.1s
WMQ LR LR
comp=N,1μm,30.8s
WMQ LR LR
comp=E,1μm,28.5s
WMQ LR LR
comp=Z,733nm,26.2s
CN2 Changchun 147.74 334 *e*PKP PKPdf 16 46 26.3 +0.8
CN2 *e*APKP 16 46 52.8
CN2 *e*XPKP 16 47 03.5
SONM Songino Array 147.86 1 PKPbc PKPbc 16 46 26.7 -2.0
comp=Z,111nm,1.2s,baz=288,slow=0.2,SNR=56
SONM pPKPbc pPKPbc 16 46 56.4 -1.6
comp=Z,73nm,1.2s,baz=337,slow=1.1,SNR=6.1
SONM PP PP 16 49 55.9 -0.9
comp=Z,3.3nm,1.0s,baz=0.0,slow=2.9,SNR=4.1
BHK Bhakra 148.12 55 *ex* x 16 46 33.3
AJM Ajmer 148.16 65 *e*P PKPdf 16 46 25.5 -0.7
POO Poona 148.36 80⇑ *i*P PKPdf 16 46 26.0 -0.5
KAD Karad 148.66 82 *e*P PKPdf 16 46 28.0 +1.0
SMLA Simla 148.82 55 *e*P PKPdf 16 46 29.2 +1.9
MNGI Mangalore 148.88 91 *i*P PKPdf 16 46 28.3 +1.0
NDI New Delhi 149.74 59 *e*P PKPdf 16 46 29.0 +0.3
TRD Trivandrum 149.97 100 *e*P PKPdf 16 46 28.8 -0.3
SNY Shenyang 150.14 334 ⇑PKP PKPdf 16 46 29.0 -0.4
SNY LR LR
comp=N,318nm,23.0s
SNY LR LR
comp=Z,590nm,34.3s
AKL Akola 151.24 75 *e*P PKPdf 16 46 33.2 +2.1
AKL AMb AMB 16 46 40.9
comp=Z,215nm,0.8s
BHPL Bhopal 151.28 70 *e*P PKPdf 16 46 32.3 +1.2
INCN Inchon 152.03 325 *e*PKPdf PKPdf 16 46 32.8 +0.6
INCN *e*PKPbc PKPbc 16 46 38.6 -0.3
INCN *e*PKPab PKPab 16 46 48.4 -0.3
HYB Hyderabad 152.84 82 *i* PKP PKPdf 16 46 34.5 +1.1
HYB *e* 16 46 41.0
HYB *e*PKPAB PKPab 16 46 53.0 +0.9
HYB *ep*PKP pPKPdf 16 47 03.0 0.0
HYB *e* 16 47 11.5
HYB *e* 16 47 22.0
HYB Hyderabad 152.84 82 *e*PKIKP PKPdf 16 46 34.5 +1.1
HYB *e* 16 46 53.0
HYB Hyderabad 152.84 82 *e*P PKPdf 16 46 34.5 +1.1
HYB *e* 16 46 41.0
HYB *e* 16 46 53.0
HYB *e* 16 47 22.0
NGP Nagpur 153.09 74 *e*P PKPdf 16 46 34.0 +0.1
NGP AMb AMB 16 46 35.6
comp=Z,82nm,1.7s
DL2 Dalian 153.40 334 PKPR 16 46 35.0
DL2 PKP2 PKPab 16 46 54.0 -0.5
DL2 APKP 16 47 04.3
DL2 PP PP 16 50 27.5 -1.0
DL2 SS SS 17 09 55.5 +1.1
DL2 PP PP
comp=Z,140nm,9.5s
BJI Beijing 154.33 343 PKP PKPdf 16 46 36.5 +0.9
BJI XPKP 16 47 11.5
BJI LR LR
comp=N,345nm,28.1s
BJI LR LR
comp=E,482nm,29.5s
BJI LR LR
comp=Z,861nm,32.6s
BJI Beijing 154.33 343 PKP PKPdf 16 46 36.6 +1.0
BJI sPKP 16 47 11.6
BJI PP PP 16 50 58.0 +24
BJI SS SS 17 10 42.1 +38
BJI LR LR
comp=Z,860nm,32.6s
HHC Hu-ho-hao-te 154.51 352 *e*PKP PKPdf 16 46 36.3 +0.5
HHC PKP2 PKPab 16 47 01.8 +2.6
HHC APKP 16 47 03.0
HHC XPKP 16 47 13.5
HHC PKS 16 50 09.5
HHC PP PP 16 50 38.0 +3.2
HHC SKS SKSdf 16 53 31.5 -1.1
HHC SKKS SKKSac 16 57 15.5 +1.0
HHC SS SS 17 10 08.5 +1.9
HHC PP PP
comp=Z,230nm,6.1s
HHC LR LR
comp=N,401nm,20.1s
HHC LR LR
comp=E,319nm,19.6s
HHC LR LR
comp=Z,580nm,24.7s
BTO Baotou 154.94 354 *e*PKP PKPdf 16 46 37.0 +0.6
KOLN Koldanda 155.30 57 *e*P PKPdf 16 46 37.4 +0.5
comp=Z,110nm,1.8s
GTA Gaotai 155.50 13 PKP PKPdf 16 46 38.5 +1.3
GTA APKP 16 47 06.3
GTA XPKP 16 47 16.8
GTA PKS 16 50 11.0
GTA PP PP 16 50 44.5 +4.2
GTA SKKS SKKSac 16 57 21.5 +1.7
GTA PP PP
comp=Z,138nm,6.8s
GTA LR LR
comp=N,306nm,27.7s
GTA LR LR

	comp=E,287nm,22.4s								
GTA					LR	LR			
	comp=Z,761nm,39.2s								
GKN	**Gorkha**	**156.03**	**55**	*e*P		PKPdf	16 46 38.3	+0.4	
	comp=Z,173nm,1.7s								
DMN	**Daman**	**156.58**	**56**	*e*P		PKPdf	16 46 39.5	+0.9	
KKN	**Kakani**	**156.64**	**55**	*e*P		PKPdf	16 46 39.5	+0.8	
PKI	**Pulchoki**	**156.84**	**56**	*e*P		PKPdf	16 46 39.2	+0.3	
	comp=Z,101nm,1.7s								
GUN	**Gumba**	**157.05**	**54**	*e*P		PKPdf	16 46 39.9	+0.7	
TIA	**Tai'an**	**157.52**	**338**	*e*PKP		PKPdf	16 46 40.8	+1.0	
BOK	**Bokaro**	**158.68**	**64**	*e*P		PKPdf	16 46 41.0	-0.2	
BOK					AMb	AMB	16 46 44.5		
	comp=Z,64nm,0.9s								
LZH	**Lanzhou**	**159.43**	**7**	*e*PKP		PKPdf	16 46 44.0	+1.9	
LZH					APKP		16 47 11.5		
LZH					PKS		16 50 16.3		
LZH					PP	PP	16 51 07.0	+5.1	
LZH					SKS	SKSdf	16 53 38.0	+0.4	
LZH					SKKS	SKKSac	16 57 40.0	-0.5	
LZH					SS	SS	17 11 02.0	+2.8	
LZH					PP	PP			
	comp=Z,328nm,4.7s								
LZH					LR	LR			
	comp=N,886nm,19.8s								
LZH					LR	LR			
	comp=Z,1μm,20.6s								
LZH	**Lanzhou**	**159.43**	**7**	*e*PKIKP		PKPdf	16 46 44.0	+1.9	
LZH							16 47 11.5		
LZH							16 51 07.0		
LZH							16 53 38.0		
LZH					SS	SS	17 11 02.0	+2.8	
LZH	**Lanzhou**	**159.43**	**7**	*e*PKP		PKPdf	16 46 44.0	+1.9	
LZH					pPKP	pPKPdf	16 47 11.5	-0.2	
LZH					sPKP		16 47 27.0		
LZH					PKS		16 50 16.2		
LZH					PP	PP	16 51 07.0	+5.1	
LZH					SKS	SKSdf	16 53 38.0	+0.4	
LZH					SKKS	SKKSac	16 57 40.0	-0.5	
LZH					SS	SS	17 11 02.0	+2.8	
LZH					LR	LR			
	comp=Z,1μm,20.6s								
SSE	**Sheshan**	**159.75**	**322**		PKP	PKPdf	16 46 43.5	+1.1	
SSE					PP	PP	16 51 08.5	+4.9	
SSE					LR	LR			
	comp=N,470nm,37.5s								
SSE					LR	LR			
	comp=E,240nm,37.6s								
SSE					LR	LR			
	comp=Z,369nm,28.7s								
LSA	**Lhasa**	**159.88**	**43**	*e*PKIKP		PKPdf	16 46 45.2	+2.6	
NJ2	**Nanjing**	**160.31**	**328**	*e*PKP		PKPdf	16 46 44.3	+1.2	
NJ2					PKP2	PKPab	16 47 27.0	+2.8	
NJ2					PP	PP			
	comp=Z,1μm,10.3s								
NJ2					LR	LR			
	comp=N,2μm,24.7s								
NJ2					LR	LR			
	comp=E,1μm,22.5s								
NJ2					LR	LR			
	comp=Z,790nm,29.0s								
XAN	**Xi'an**	**161.55**	**355**		PKP	PKPdf	16 46 45.0	+0.6	
XAN					APKP		16 47 14.0		
WHN	**Wuhan**	**163.61**	**336**	⇑P	PKP	PKPdf	16 46 48.0	+1.6	
WHN					PKP2	PKPab	16 47 37.8	-0.9	
CD2	**Chengdu**	**164.51**	**10**		PKP	PKPdf	16 46 49.5	+2.3	
CD2					APKP		16 47 16.5		
CD2					PP	PP	16 51 24.8	-4.1	
CD2					SKKS	SKKSac	16 58 00.8	-5.8	
CD2					PP	PP			
	comp=Z,300nm,7.8s								
PSI	**Prapat**	**165.08**	**148**		PKP	PKPdf	16 46 48.0	+0.2	
	comp=Z,14nm,1.1s,baz=207,slow=6.1,SNR=14								
PSI					PKPab	PKPab	16 47 46.9	+1.7	
	comp=Z,37nm,1.0s,baz=196,slow=5.8,SNR=11								
QZH	**Quanzhou**	**165.59**	**312**		PKP	PKPdf	16 46 48.3	+0.1	
QZH					PP	PP	16 51 35.0	+0.5	
PBA	**Port Blair**	**165.75**	**104**	*ex*		x	16 46 13.0		
PBA				*ex*		x	16 46 36.8		
KKM	**Kota Kinabalu**	**166.77**	**225**	*e*PKPdf		PKPdf	16 46 50.6	+1.5	
KKM				*e*PKPab		PKPab	16 47 54.4	+1.7	
GYA	**Guiyang**	**169.20**	**1**		PKP	PKPdf	16 46 51.0	+0.2	
GYA					APKP		16 47 18.3		
GYA					PKP2	PKPab	16 48 02.0	-1.4	
GYA					PKS		16 50 22.3		
GYA					PP	PP	16 51 51.5	-1.5	
GYA					SS	SS	17 12 32.5	-6.8	
GYA					PP	PP			
	comp=Z,510nm,8.7s								
GYA					LR	LR			
	comp=N,970nm,21.4s								
GYA					LR	LR			
	comp=E,870nm,25.4s								
GYA					LR	LR			
	comp=Z,930nm,24.6s								
KMI	**Kunming**	**169.79**	**21**		PKP	PKPdf	16 46 51.0	-0.1	
KMI					PKP2	PKPab	16 48 06.0	0.0	
KMI					PP	PP	16 51 56.0	+0.1	
KMI					SKKS	SKKSac	16 58 26.0	-6.8	
KMI					PP	PP			
	comp=Z,636nm,7.2s								
KMI					LR	LR			
	comp=Z,737nm,44.2s								

INMG ***30*** *16:31:15.5±1.0, 3670N×741W, h28km±7km, ML1.7, Error ellipse: s-maj=4.2km s-min=4.0km az=22.0*
IGIL ***30*** *16:31:16.2, 3686N×752W, h2km, ML1.8*

MDD 30 16:31:15.7±1.0, 3674N×742W, h46km±30km, mb4.0/7, 1C, Error ellipse: s-maj=11.5km s-min=5.5km az=12.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**0.80**	**356**	⇑P	Pn	16 31 30.3	-0.3
	4.9nm,0.1s,SNR=18						
EGRO				S	Sn	16 31 40.2	-1.2
	28nm,0.1s,SNR=47						
MORF	**Marmelete**	**1.14**	**300**	*e*P	Pn	16 31 34.3	-0.9
MORF				*e*S	Sn	16 31 47.5	-2.1
MORF				*e*S	Sn	16 31 47.6	-2.1
MORF				AML	AML	16 31 48.7	
	comp=N,18nm,0.1s						
MORF	**Marmelete**	**1.14**	**300**	*e*P	Pn	16 31 34.3	-0.9
MORF				*e*S	Sn	16 31 47.5	-2.1
EMIN	**Mina Concepcio**	**1.19**	**30**	P	Pn	16 31 35.2	-0.7
	comp=N,0.6nm,0.1s,SNR=17						
EMIN				S	Sn	16 31 49.8	-1.1
	comp=N,1.2nm,0.1s,SNR=11						
ESPR	**Espera**	**1.26**	**83**	P	Pn	16 31 36.6	-0.3
	comp=N,10nm,0.2s,SNR=11						
ESPR				S	Sn	16 31 52.1	-0.6
	comp=N,14nm,0.2s,SNR=7.5						
PTEO	**Sao Teotonio**	**1.32**	**308**	*e*P	Pn	16 31 37.2	-0.5
PTEO				*e*S	Sn	16 31 53.0	-1.1
PTEO							
	comp=N,2.9nm,0.1s						
PBEJ	**Beja**	**1.34**	**345**	*e*P	Pn	16 31 37.5	-0.4
PBEJ				*e*S	Sn	16 31 53.5	-1.0
PBEJ							
	comp=N,4.4nm,0.1s						
EBAD	**Badajoz**	**2.04**	**9**	P	Pn	16 31 47.0	-0.5
	comp=N,1.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 32 10.2	-1.7
	comp=N,1.1nm,0.0s,SNR=7.9						
PESTR	**Estremoz**	**2.13**	**356**	*e*Pn	Pn	16 31 48.4	-0.4
PESTR				*e*Sn	Sn	16 32 12.7	-1.3
EMIJ	**Mijas**	**2.14**	**94**	S	Sn	16 32 13.4	-0.8
	comp=N,0.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.65**	**71**	S	Sn	16 32 23.6	-3.3
	comp=N,1.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.68**	**57**	P	Pn	16 31 56.2	-0.1
	comp=N,0.9nm,0.1s,SNR=12						
EADA				S	Sn	16 32 24.3	-3.1
	comp=N,0.1nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**2.98**	**345**	*e*Sn	Sn	16 32 33.7	-1.3
PCBR	**Castelo Branco**	**3.10**	**359**	*e*Pn	Pn	16 32 01.7	-0.4
PCBR				*e*Sn	Sn	16 32 36.0	-1.9
EQUE	**Quentar**	**3.22**	**80**	S	Sn	16 32 37.7	-3.2
	comp=N,0.3nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.23**	**63**	P	Pn	16 32 02.5	-1.3
	comp=N,2.2nm,0.1s,SNR=7.9						
EBAN				S	Sn	16 32 35.9	-5.1
	comp=N,1.3nm,0.1s,SNR=7.9						

EQES	**Quesada**	**3.63**	**72**	S		Sn	16 32 47.9	-3.0	
	comp=N,0.5nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**4.00**	**42**	P		Pn	16 32 14.1	-0.3	
	comp=N,3.9nm,0.1s,baz=226,slow=13,SNR=7.9								
EVIA	**Vianos**	**4.34**	**63**	P		Pn	16 32 17.2	-1.9	
	comp=N,1.0nm,0.1s,SNR=7.9								
EVIA				S		Sn	16 33 03.8	-4.6	
	comp=N,1.1nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**5.03**	**66**	P		Pn	16 32 27.5	-1.1	
	comp=N,0.1nm,0.1s,SNR=7.9								
ETOB				S		Sn	16 33 21.0	-4.5	
	comp=N,0.5nm,0.2s,SNR=7.9								
ETOR	**Torete**	**5.85**	**44**	P		Pn	16 32 39.8	0.0	
	comp=N,2.1nm,0.1s,SNR=7.9								
ETOR				S		Sn	16 33 39.8	-5.7	
	comp=N,0.4nm,0.1s,SNR=7.9								

KRSC 30 16:52:49, 5273N×16026E, h25km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**339**	*e*P	Pb	16 52 57.8	+0.3
SPN				*i* S	Sb	16 53 04.4	+1.1
NLC	**Nalytchevo**	**0.71**	**309**	*e*P	Pb	16 53 02.7	0.0
NLC				*i* S	Sb	16 53 12.9	+0.9
PET	**Petropavlovsk**	**1.02**	**287**	*e*P	Pn	16 53 07.7	0.0
PET				*i* S	Sb	16 53 21.3	+0.4
AVH	**Avacha**	**1.06**	**301**	*e*P	Pn	16 53 08.8	+0.5
RUS	**Russkaya**	**1.11**	**255**	*e*P	Pn	16 53 09.3	+0.4
RUS				*i* S	Sn	16 53 23.9	+0.6
GRL	**Gorelyy**	**1.34**	**263**	*e*P	Pn	16 53 14.2	+2.0
GRL				*i* S	Sn	16 53 31.9	+2.7
KII	**Karymskiy**	**1.40**	**340**	*e*P	Pn	16 53 13.7	+0.8
KII				*i* S	Sn	16 53 31.2	+0.7
GNL	**Ganaly**	**1.70**	**306**	*e*P	Pn	16 53 18.9	+1.9
GNL				*i* S	Sn	16 53 40.2	+2.3
MKZ	**Mys Kozlova**	**2.03**	**25**	*e*P	Pn	16 53 20.9	-0.7
MKZ				*i* S	Sn	16 53 43.8	-2.3
TUMR	**Tumrok**	**2.56**	**359**	*e*P	Pn	16 53 30.3	+1.4
TUMR				*i* S	Sn	16 54 00.5	+1.3
KMNR	**Kamenistaya**	**3.03**	**360**	*e*P	Pn	16 53 39.4	+4.0
ZLN	**Zelenaya**	**3.31**	**5**	*e*P	Pn	16 53 41.5	+2.3
ZLN				*i* S	Sn	16 54 20.7	+3.0
CIRR	**Tsirk**	**3.41**	**5**	*e*P	Pn	16 53 43.7	+3.2
CIRR				*i* S	Sn	16 54 23.3	+3.3
SMKR	**Semkarok**	**3.92**	**10**	P	Pn	16 53 50.1	+2.5
SRKR	**Sorokina**	**3.97**	**7**	*e*P	Pn	16 53 50.8	+2.6

IDC 30 16:56:47.1±2.3, 1078S×11785E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, ML4.4/2, MS3.2/1, Ms1 3.2/1, ms1mx3.1/13, Error ellipse: s-maj=140.6km s-min=21.6km az=53.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.48**	**135**	Pn	Pn	16 59 14.3	-4.3
	4.2nm,0.3s,baz=323,slow=9.5,SNR=104						
FITZ				Sn	Sn	17 01 03.6	-13
	1.8nm,0.3s,baz=163,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**18.31**	**122**	P	Pn	17 01 00.8	-1.7
	1.2nm,0.3s,baz=285,slow=14,SNR=79						
WRA				S	Sn	17 04 12.5	-15
	0.2nm,0.3s,baz=287,slow=24,SNR=3.6						
WRA				LR	LR	17 08 38.6	
	comp=Z,83nm,21.6s,baz=240,slow=39						
ASAR	**Alice Springs**	**19.96**	**132**	P	Pn	17 01 20.3	-2.0
	1.3nm,0.3s,baz=319,slow=14,SNR=39						
ASAR				S	Sn	17 04 53.9	-13
	0.3nm,0.3s,baz=301,slow=20,SNR=5.8						
STKA	**Stephens Creek**	**30.36**	**137**	P	P	17 03 02.4	+1.8
	1.1nm,0.5s,baz=324,slow=8.7,SNR=4.3						
SONM	**Songino Array**	**59.23**	**351**	P	P	17 06 50.9	+0.8
	0.6nm,0.8s,baz=198,slow=7.6,SNR=4.7						
MKAR	**Makanchi Array**	**65.53**	**334**	P	P	17 07 31.7	-0.6
	0.5nm,0.4s,baz=152,slow=7.1,SNR=7.4						

ISCJB ***30*** *17:14:17.8±0.5, 5047N±002×729E±004, h8km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=178.0*
BNS ***30*** *17:14:17.7±1.0, 5048N×734E, h3km±10km, ML1.1*
LDG ***30*** *17:14:19.3±0.1, 5053N×726E, h3km, Md2.3/1, Ml2.1/7, Error ellipse: s-maj=2.6km s-min=1.6km az=84.0*

ISC 30 17:14:18.6±0.5, 5050N±002×728E±004, h14km±4km, n17, σ0s83/31, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STB	**Steinbach**	**0.30**	**289**	*e*Pg	**Pg**	**17 14 24.9**	**+0.1**
STB				*e*Sg	**Sg**	**17 14 29.7**	**+0.8**
HILG	**Hillesheim**	**0.44**	**242**	*e*Sg	**Sg**	**17 14 33.3**	**+0.1**
BNS	**Bensberg**	**0.47**	**352**	*e*Pg	**Pg**	**17 14 27.7**	**-0.3**
BNS				*e*Sg	**Sg**	**17 14 34.0**	**-0.2**
HOBG	**Hohbusch**	**0.49**	**4**	*e*Pg	**Pg**	**17 14 27.0**	**-1.3**
HOBG				*e*Sg	**Sg**	**17 14 34.5**	**-0.3**
KLL	**Kalltalsperre**	**0.64**	**284**	*e*Pg	**Pg**	**17 14 30.3**	**-0.7**
KLL				*e*Sg	**Sg**	**17 14 40.4**	**+1.0**
	9.0nm,0.5s						
DREG	**Dreilaegerbach**	**0.69**	**284**	*e*Pg	**Pg**	**17 14 31.4**	**-0.6**
DREG				*e*Sg	**Sg**	**17 14 41.1**	**+0.1**
	11nm,0.4s						
TNS	**Taunus Mts**	**0.80**	**110**	*e*Pg	**Pg**	**17 14 35.2**	**+1.1**
	SNR=2.8						
TNS				*e*Sg	**Sg**	**17 14 44.7**	**+0.2**
	SNR=1.9						
MEM	**Membach**	**0.82**	**278**	⇓P	**Pg**	**17 14 35.2**	**+0.7**
MEM				S	**Sg**	**17 14 46.5**	**+1.2**
LAUG	**Laupendahl**	**0.88**	**346**	*e*Pg	**Pg**	**17 14 34.6**	**-1.0**
LAUG				*e*Sg	**Sg**	**17 14 47.7**	**+0.5**
WLF	**Walferdange**	**1.11**	**221**	*e*Pg	**Pg**	**17 14 39.7**	**-0.2**
	SNR=1.6						
WLF				*e*Sg	**Sg**	**17 14 55.6**	**+1.2**
	SNR=2.5						
BCLA	**Clavier**	**1.27**	**267**	⇓P	**Pn**	**17 14 42.6**	**+0.7**
BCLA				S	**Sb**	**17 14 59.3**	**+0.9**
	comp=N,4.8nm,0.2s						
GIVF	**Givet**	**1.62**	**257**	*e*Pg	**Pg**	**17 14 49.4**	**-0.4**
GIVF				*e*Sn	**Sn**	**17 15 07.1**	**-0.4**
	comp=N,6.6nm,0.2s						
BAIF	**Baives**	**2.02**	**259**	*e*Pg	**Pg**	**17 14 56.3**	**-1.0**
BAIF				*e*Sn	**Sn**	**17 15 16.3**	**-0.9**
	comp=N,4.9nm,0.3s						
CDF	**Champ du Feu**	**2.09**	**180**	*e*Pn	**Pn**	**17 14 54.4**	**+1.2**
CDF				*e*Sg	**Sg**	**17 15 26.2**	**+0.5**
	comp=N,0.8nm,0.2s						
MEZF	**Maizieres J'vi**	**2.47**	**217**	*e*Sg	**Sg**	**17 15 37.3**	**-0.7**
	comp=N,1.2nm,0.3s						
SFTF	**Sexfontaines**	**2.72**	**213**	*e*Sg	**Sg**	**17 15 45.1**	**-1.0**
	comp=N,0.9nm,0.2s						
LOR	**Lormes**	**3.94**	**216**	*e*Pn	**Pn**	**17 15 19.0**	**+0.4**
LOR				*e*Sg	**Sg**	**17 16 23.0**	**-2.2**
	comp=N,0.6nm,0.4s						

ISCJB ***30*** *17:15:32.4±0.6, 3574N±003×7380E±006, h97km±10km, mb3.8/11, Error ellipse: s-maj=9.0km s-min=5.3km az=142.7*
IDC ***30*** *17:15:33.9±6.3, 3587N×7332E, h64km±55km, mb3.6/9, mb1 3.7/13, mb1mx3.5/24, mbtmp3.9/13, ML3.8/4, Error ellipse: s-maj=34.5km s-min=18.5km az=23.0*
BJI ***30*** *17:15:36.4, 3558N×7401E, h135km*
NNC ***30*** *17:15:39.5±4.6, 3612N×7288E, h103km±44km, mb2.8, mpv3.2, Error ellipse: s-maj=35.5km s-min=32.2km az=151.0*
NEIC ***30*** *17:15:40.9±4.7, 3626N×7339E, h113km±28km, mb3.9/4, Error ellipse: s-maj=44.9km s-min=14.5km az=185.0*

ISC 30 17:15:33.3±0.5, 3577N±003×7365E±007, h82km±9km, n48, σ1s48/57, mb3.8/11, 5C-4D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**2.13**	**189**	P	**Pn**	**17 16 08.5**	**+1.5**
CEP	**Cherat**	**2.42**	**217**	P	**Pn**	**17 16 09.9**	**-0.9**
THW	**Thamme Wali**	**3.37**	**209**	P	**Pn**	**17 16 24.1**	**+0.5**
THN	**Thein Dam**	**3.75**	**152**	*e*P	**Pn**	**17 16 30.7**	**+1.9**
THN				*e*SG	**Sn**	**17 17 27.9**	**+16**
DLH	**Dalhousie**	**3.75**	**149**	*e*P	**Pn**	**17 16 32.0**	**+3.1**
DLH				*ex*	x	17 17 27.0	
SARP	**Sargodha**	**3.93**	**192**	P	**Pn**	**17 16 31.0**	**-0.3**
SARP				S	**Sn**	**17 17 19.0**	**+2.8**
KSH	**Kashi**	**4.17**	**26**	*e*P	**Pn**	**17 16 42.3**	**+7.8**
KSH				S	**Sn**	**17 17 27.5**	**+5.5**
KSH				Smax			
	comp=N,62nm,0.8s						
KSH				Smax			
	comp=E,119nm,0.9s						
SDNR	**Sundarnagar**	**5.08**	**146**	*e*P	**Pn**	**17 16 48.0**	**+1.0**
SDNR				*e*SG	Sn	17 18 10.4	+26
KLP	**Kalpa**	**5.71**	**136**	*e*P	**Pn**	**17 16 56.5**	**+1.0**
KLP				*e*S	**Sn**	**17 17 57.5**	**-2.1**
KLP				AML	AML	17 18 44.5	
	comp=E,141nm,0.8s						
KLP				AML	AML	17 18 48.7	
	comp=N,136nm,0.7s						
AAK	**Ala-Archa**	**6.88**	**5**	*e*Pn	**Pn**	**17 17 13.2**	**+1.7**
	comp=N,5.9nm,0.8s						
TKM2	**Tokmak 2**	**7.29**	**11**	⇑P	**Pn**	**17 17 22.6**	**+5.5**
	comp=N,0.3nm,0.6s						
TKM2				⇑S	**Sn**	**17 18 40.0**	**+1.6**
	comp=N,0.6nm,0.7s						
KK31	**Karatay Array**	**7.71**	**343**	⇓P	**Pn**	**17 17 20.8**	**-2.0**
	comp=N,2.8nm,0.5s,baz=165,slow=12,SNR=39						
KK31				⇓S	**Sn**	**17 18 44.4**	**-4.2**
	comp=N,4.2nm,0.4s						
KUDL	**Kundal**	**7.98**	**162**	*e*P	**Pn**	**17 17 26.4**	**-0.1**
KUDL				*e*S	**Sn**	**17 18 54.7**	**-0.4**
SONA	**Sohna**	**8.05**	**158**	*e*P	**Pn**	**17 17 27.9**	**+0.5**
SONA				*e*S	**Sn**	**17 18 55.0**	**-1.7**
KOLN	**Koldanda**	**11.63**	**131**	*e*P	**Pn**	**17 18 14.9**	**-1.3**
GKN	**Gorkha**	**12.12**	**127**	*e*P	**Pn**	**17 18 21.1**	**-1.9**
GKN				*e*S	**Sn**	**17 20 29.9**	**-6.3**
KKN	**Kakani**	**12.69**	**126**	*e*P	**Pn**	**17 18 27.6**	**-3.0**
DMN	**Daman**	**12.70**	**127**	*e*P	**Pn**	**17 18 28.8**	**-1.9**
MKAR	**Makanchi Array**	**12.77**	**28**	P	**Pn**	**17 18 34.8**	**+3.1**
	comp=N,0.1nm,0.3s,baz=202,slow=11,SNR=4.2						
PKI	**Pulchoki**	**12.92**	**126**	*e*P	**Pn**	**17 18 30.7**	**-2.9**
GUN	**Gumba**	**13.01**	**124**	*e*P	**Pn**	**17 18 31.8**	**-3.1**
JIRN	**Jiri**	**13.38**	**124**	*e*P	**Pn**	**17 18 36.6**	**-3.2**
AB31	**Akbulak array**	**16.80**	**328**	⇑P	**Pn**	**17 19 18.8**	**-4.6**
	comp=N,4.0nm,0.7s,baz=136,slow=11,SNR=28						
VOSK	**Vostochnaya**	**17.05**	**354**	⇓P	**Pn**	**17 19 27.2**	**+0.8**
	comp=N,0.3nm,0.7s						
BVA0	**Borovoye Array**	**17.40**	**353**	⇑P	**Pn**	**17 19 30.6**	**-0.1**
	comp=N,0.5nm,0.9s,baz=266,slow=40,SNR=8.9						
BVAR	**Borovoye Array**	**17.40**	**353**	P	**Pn**	**17 19 29.9**	**-0.8**
	comp=N,0.4nm,0.3s,baz=166,slow=10,SNR=8.6						
BRVK	**Borovoye**	**17.44**	**353**	*e*P	**Pn**	**17 19 29.7**	**-1.5**
	comp=N,2.7nm,0.7s						
ZRNK	**Zerenda**	**17.48**	**351**	⇑P	**Pn**	**17 19 31.2**	**-0.6**
	comp=N,2.3nm,0.6s						
ZRNK	**Zerenda**	**17.48**	**351**	*e*P	**Pn**	**17 19 30.8**	**-1.0**
	comp=N,3.9nm,0.6s						
AKTK	**Aktyubinsk**	**18.52**	**327**	P	**Pn**	**17 19 42.3**	**-1.9**
AKTO	**Aktyubinsk**	**18.52**	**327**	⇓P	**Pn**	**17 19 41.1**	**-3.1**
	comp=N,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**18.52**	**327**	P	**Pn**	**17 19 42.3**	**-1.9**
	comp=N,0.7nm,0.3s,baz=133,slow=9.0,SNR=30						
ZAL	**Zalesovo**	**19.76**	**20**	P	**Pn**	**17 19 58.1**	**-0.8**
	comp=N,1.0nm,0.3s,baz=253,slow=7.5,SNR=11						
ARU	**Arti**	**23.06**	**338**	*e*P	**P**	**17 20 31.1**	**-0.6**
	comp=N,6.9nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.01**	**53**	P	**P**	**17 21 10.2**	**+2.7**
	comp=N,0.4nm,0.4s,mb3.3,baz=259,slow=10.0,SNR=4.1						
AKASG	**Malin Array Be**	**35.07**	**309**	P	**P**	**17 22 18.5**	**+0.2**
	comp=N,1.7nm,0.6s,mb4.1,baz=80,slow=7.1,SNR=9.1						
AKASG	**Malin Array Be**	**35.07**	**309**	P	**P**	**17 22 18.5**	**+0.1**
JOF	**Joensuu**	**37.57**	**330**	*e*p	**P**	**17 22 39.6**	**-0.1**
	comp=N,1.3nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**39.28**	**326**	P	**P**	**17 22 53.9**	**-0.1**
	comp=N,0.9nm,0.6s,mb3.8,baz=125,slow=10.0,SNR=7.7						
FINES	**FINESS Array B**	**39.28**	**326**	P	**P**	**17 22 53.9**	**-0.1**
ARCES	**ARCESS Array B**	**42.64**	**337**	P	**P**	**17 23 22.3**	**+0.7**
	comp=N,1.5nm,0.6s,mb3.9,baz=111,slow=8.3,SNR=14						
ARCES	**ARCESS Array B**	**42.64**	**337**	P	**P**	**17 23 22.3**	**+0.7**
NB2	**NORSAR Subarra**	**46.25**	**323**	P	**P**	**17 23 50.4**	**+0.1**
	comp=Z,2.1nm,0.6s,mb4.0,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**46.25**	**323**	P	**P**	**17 23 50.7**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.1,baz=95,slow=7.6,SNR=13						
TORD	**Torodi Ar. Bea**	**67.86**	**271**	P	**P**	**17 26 23.5**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.6,baz=49,slow=5.6,SNR=9.4						
WRA	**Warramunga Arr**	**79.79**	**124**	P	**P**	**17 27 37.2**	**+4.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=324,slow=4.9,SNR=5.8						
YKA	**Yellowknife Ar**	**81.85**	**4**	P	**P**	**17 27 45.8**	**+2.3**
	comp=Z,1.2nm,0.6s,mb3.8,baz=347,slow=5.6,SNR=8.0						
ASAR	**Alice Springs**	**82.09**	**127**	P	**P**	**17 27 49.4**	**+4.7**
	comp=Z,0.4nm,0.8s,mb3.3,baz=309,slow=5.1,SNR=6.0						

NIED ***30*** *17:50:00, 4630N×15390E, h17km, Mw6.4 Best double couple: M0 4.84000×10^18 NP1:φs142.00000°, δ89.00000°, λ-16.00000°. NP2:φs232.00000°, δ74.00000°, λ-179.00000°.*
SKHL ***30*** *17:50:16.8±1.6, 4600N×15384E, h33km±5km, mb7.3/8, mbh7.2/7, Ms6.9/3, msh7.2/4*
JMA ***30*** *17:50:18.4±0.9, 4631N×15388E, h30km, M6.8*
BJI ***30*** *17:50:20.6, 4653N×15319E, h10km, mB6.9, mb6.1, Ms6.8, Mss6.7*
ISCJB ***30*** *17:50:22.4±0.1, 4619N±002×15318E±002, h19km, mb6.0/366, MS6.5/205, Error ellipse: s-maj=2.9km s-min=1.6km az=120.0*
NEIC ***30*** *17:50:23.1±0

51μm,6.0s
KUR AMB AMB 17 51 26.5
203μm,6.0s
KUR AMB AMB 17 51 26.5
102μm,6.0s
KUR eS Sn 17 52 08.0 +1.0
KUR A 17 52 14.0
381μm,6.0s
KUR A 17 52 14.0
140μm,6.0s
KUR AMS AMS 17 52 52.0
911μm,15.0s
KUR AMS AMS 17 52 52.0
580μm,15.0s
KUR AMS AMS 17 52 52.0
524μm,15.0s
KUR Kuril'sk 3.85 256 *b* iPN Pn 17 51 20.5 -1.9
KUR eS Sn 17 52 08.0 +1.0
KUR pmax pmax
comp=Z,261μm,7.0s
KUR MLR MLR
comp=Z,524μm,15.0s
SKR Severo-Kuril's 4.80 23 *e*P Pn 17 51 31.9 -3.6
SKR AMB AMB 17 51 40.0
comp=Z,34μm,6.0s
SKR AMB AMB 17 51 40.0
comp=Z,30μm,6.0s
SKR AMB AMB 17 51 40.0
comp=Z,34μm,6.0s
SKR AMB AMB 17 51 40.0
comp=Z,38μm,6.0s
SKR AMB AMB 17 51 40.0
comp=Z,30μm,6.0s
SKR AMB AMB 17 51 40.0
comp=Z,36μm,6.0s
SKR AMB AMB 17 51 41.2
comp=Z,2μm,1.0s
SKR AMB AMB 17 51 41.2
comp=Z,6μm,1.0s
SKR AMB AMB 17 51 41.2
comp=Z,11μm,1.0s
SKR sP 17 51 45.5
SKR *i* S Sn 17 52 24.0 -6.4
SKR A 17 52 34.0
comp=Z,654μm,8.0s
SKR A 17 52 34.0
comp=Z,331μm,8.0s
SKR A 17 52 34.0
comp=Z,82μm,10.0s
SKR A 17 52 34.0
comp=Z,605μm,8.0s
SKR A 17 52 34.0
comp=Z,320μm,8.0s
SKR A 17 52 34.0
comp=Z,83μm,10.0s
SKR A 17 52 50.2
comp=Z,20μm,1.0s
SKR A 17 52 50.2
comp=Z,20μm,1.0s
SKR A 17 52 50.2
comp=Z,10μm,1.0s
SKR AMS AMS 17 53 20.0
comp=Z,507μm,15.0s
SKR AMS AMS 17 53 20.0
comp=Z,992μm,15.0s
SKR AMS AMS 17 53 20.0
comp=Z,604μm,15.0s
SKR Severo-Kuril's 4.80 23 *e*P Pn 17 51 32.3 -3.2
YUK Yuzh-Kuril'sk 5.63 249 *i* P Pn 17 51 47.0 +0.1
YUK AMB AMB 17 51 55.8
comp=Z,3μm,0.4s
YUK AMB AMB 17 51 55.8
comp=Z,2μm,0.4s
YUK AMB AMB 17 51 55.8
comp=Z,5μm,0.4s
YUK AMB AMB 17 51 56.0
comp=Z,171μm,9.0s
YUK AMB AMB 17 51 56.0
comp=Z,125μm,9.0s
YUK AMB AMB 17 51 56.0
comp=Z,42μm,5.0s
YUK *e*S Sn 17 52 56.0 +5.0
YUK A 17 53 00.5
comp=Z,250μm,10.0s
YUK A 17 53 00.5
comp=Z,160μm,10.0s
YUK A 17 53 10.0
comp=Z,42μm,0.8s
YUK A 17 53 10.0
comp=Z,34μm,0.8s
YUK Yuzh-Kuril'sk 5.63 249⇑ *i* PN Pn 17 51 47.0 +0.1
YUK *i* S Sn 17 52 56.0 +5.0
YUK pmax pmax
comp=N,3μm,0.4s
YUK pmax pmax
comp=E,2μm,0.4s
YUK pmax pmax
comp=Z,5μm,0.4s
YUK pmax pmax
comp=Z,125μm,10.0s
YUK pmax pmax
comp=N,42μm,5.0s
YUK pmax pmax
comp=E,171μm,9.0s
YUK smax
comp=N,250μm,10.0s
YUK smax
comp=E,160μm,9.0s
YUK smax
comp=N,42μm,0.8s
YUK smax
comp=E,34μm,0.9s
NEM2 Nemuro 2 6.03 243 P Pn 17 51 50.6 -1.8
NEM2 eS Sn 17 52 59.6 -1.3
JRA Rausu 6.15 250 P Pn 17 51 54.7 +0.6
JRA eS Sn 17 53 11.6 +7.8
JNK Nakash 6.57 248 P Pn 17 51 59.8 -0.1
JNK eS Sn 17 53 19.3 +5.1
JAK Akkeshi 6.88 244 P Pn 17 52 02.6 -1.4
JAK eS Sn 17 53 20.2 -1.5
JTKR Abashiri--Toko 6.94 254 P Pn 17 52 06.2 +1.3
YSS Yuzh-Sakhalins 7.18 279 *i* P Pn 17 52 12.1 +3.9
YSS ⇑ *i* P 17 52 12.1
YSS *i* P 17 52 12.1
YSS AMB AMB 17 52 18.2
comp=E,3μm,1.2s
YSS AMB AMB 17 52 18.2
comp=E,2μm,0.9s
YSS AMB AMB 17 52 18.2
comp=E,650nm,1.0s
YSS AMB AMB 17 52 22.0
comp=E,84μm,9.0s
YSS AMB AMB 17 52 22.0
comp=E,102μm,12.0s
YSS AMB AMB 17 52 22.0
comp=E,66μm,7.0s
YSS AMB AMB 17 52 22.0
comp=E,105μm,15.0s
YSS AMB AMB 17 52 22.0
comp=E,77μm,12.0s
YSS sP 17 52 24.0
YSS *e*S Sn 17 53 32.0 +2.8
YSS AMS AMS 17 54 55.0
comp=E,599μm,17.0s
YSS AMS AMS 17 54 55.0
comp=E,258μm,15.0s
YSS AMS AMS 17 54 55.0
comp=E,272μm,16.0s
YSS AMS AMS 17 54 55.0
comp=E,564μm,16.0s
YSS AMS AMS 17 54 55.0
comp=E,799μm,16.0s
YSS AMS AMS 17 54 55.0
comp=E,76μm,16.0s
YSS Yuzh-Sakhalins 7.18 279α *i* PN Pn 17 52 12.1 +3.9
YSS *i* 17 53 43.0
YSS pmax pmax
comp=Z,3μm,1.2s
YSS pmax pmax
comp=N,650nm,1.0s
YSS pmax pmax
comp=E,2μm,0.9s
YSS pmax pmax
comp=Z,66μm,7.0s
YSS pmax pmax
comp=E,102μm,12.0s
YSS MLR MLR
comp=E,564μm,16.0s
YSS MLR MLR
comp=Z,799μm,16.0s
YSS MLR MLR
comp=N,272μm,15.0s
JMP Maruseppu 7.29 255 ⇑P Pn 17 52 11.3 +1.6
JAR Ashorobuto 7.32 249 P Pn 17 52 10.4 +0.3
JAR *e*S Sn 17 53 35.9 +3.4
JOB Onbets 7.47 246 P Pn 17 52 11.9 -0.2
JOB *e*S Sn 17 53 36.3 +0.1
JSE Soyaes 7.53 263 ⇑P Pn 17 52 16.2 +3.2
PET Petropavlovsk 7.61 26⇑ *i*PN Pn 17 52 11.8 -2.2
PET pmax pmax
comp=N,12μm,11.2s
PET pmax pmax
comp=Z,16μm,8.9s
PET pmax pmax
comp=N,17μm,8.7s
PET pmax pmax
comp=Z,12μm,10.4s
PET MLR MLR
comp=Z,322μm,18.0s
PET MLR MLR
comp=Z,286μm,16.0s
PET Petropavlovsk 7.61 26 *e*Pn Pn 17 52 11.3 -2.7
comp=Z,5μm,1.3s
PET *e*Sn Sn 17 53 32.5 -7.1
JKK2 Kamakawa 2 7.75 255 ⇑P Pn 17 52 17.9 +1.9
ASAJ Asahikawa 7.77 257 Pn Pn 17 52 18.7 +2.5
comp=Z,15nm,0.3s,baz=89,slow=14,SNR=292
ASAJ Asahikawa 7.77 257 ⇑P Pn 17 52 18.6 +2.4
ASAJ Asahikawa 7.77 257 PN Pn 17 52 18.7 +2.5
ASAJ pmax pmax
comp=Z,15nm,0.3s
JCH Churui 7.91 246 ⇑P Pn 17 52 17.1 -1.2
JCH *e*S Sn 17 53 45.0 -2.2
JWK2 Keihoku 7.92 267 P Pn 17 52 24.1 +5.7
UGL Uglegorsk 7.97 294 *i* P Pn 17 52 24.6 +5.6
UGL *i* P 17 52 24.6
UGL AMB AMB 17 52 29.5
comp=Z,8μm,1.0s
UGL AMB AMB 17 52 29.5
comp=Z,1μm,0.6s
UGL AMB AMB 17 52 29.5
comp=Z,2μm,0.8s
UGL AMB AMB 17 52 29.5
comp=Z,1μm,1.0s
UGL AMB AMB 17 52 29.5
comp=Z,1μm,1.0s
UGL AMB AMB 17 52 29.5
comp=Z,4μm,1.0s
UGL *e*S Sn 17 53 57.0 +8.4
UGL A 17 54 05.0
comp=Z,3μm,0.6s
UGL A 17 54 05.0
comp=Z,2μm,0.6s
UGL A 17 54 05.0
comp=Z,1μm,0.8s
UGL A 17 54 05.0
comp=Z,1μm,0.6s
UGL A 17 54 05.0
comp=Z,2μm,0.6s
UGL A 17 54 05.0
comp=Z,1μm,0.6s
UGL Uglegorsk 7.97 294⇑ *i* PN Pn 17 52 24.6 +5.6
UGL *e*S Sn 17 53 57.0 +8.4
UGL pmax pmax
comp=N,1μm,1.0s
UGL pmax pmax
comp=E,1μm,1.0s
UGL pmax pmax
comp=Z,4μm,1.0s
UGL smax
comp=E,2μm,0.6s
UGL smax
comp=Z,1μm,0.6s
JFR Furan 8.14 251 P Pn 17 52 21.9 +0.5
JFR *e*S Sn 17 53 58.6 +5.7
JSS Shosan 8.18 261 P Pn 17 52 27.1 +5.2
JAB Ashibetsu 8.24 254 P Pn 17 52 25.0 +2.2
TYV Tymovskoe 8.31 307 *e*P Pn 17 52 28.2 +4.5
TYV AMB AMB 17 52 40.0
comp=Z,991nm,0.8s
JEM Erimo 8.37 243 P Pn 17 52 24.2 -0.3
JEM *e*S Sn 17 53 56.0 -2.3
ERM Erimo 8.37 243 Pn Pn 17 52 25.4 +0.9
comp=Z,11μm,0.8s,SNR=65
ERM Erimo 8.37 243⇓ *e*PN Pn 17 52 23.7 -0.8
ERM pmax pmax
comp=Z,7μm,1.2s
ERM Erimo 8.37 243⇓ *e*Pn Pn 17 52 23.7 -0.8
comp=Z,7μm,1.2s
JBT2 Biratori 2 8.47 249 P Pn 17 52 25.4 -0.5
JBT2 *e*S Sn 17 54 01.8 +0.9
JNBK Urakawa-nobuka 8.47 245 P Pn 17 52 24.2 -1.7
JNBK *e*S Sn 17 54 01.3 +0.4
JHR Hokuryu 8.49 256 P Pn 17 52 29.0 +2.9
JEW Eniwo 9.04 252 P Pn 17 52 34.5 +0.8
JSK Shakotan 9.48 256 P Pn 17 52 42.0 +2.3
JNB Noboribetsu 9.48 250 P Pn 17 52 39.5 -0.3
JNB *e*S Sn 17 54 24.6 -1.1
JKB Kayabe 9.77 247 P Pn 17 52 42.3 -1.4
JKB *e*S Sn 17 54 27.4 -5.4
OKH Okha 9.78 321 *e*P Pn 17 52 45.9 +2.0
OKH *i* P 17 52 45.9
OKH AMB AMB 17 52 51.8
comp=Z,75μm,10.0s
OKH AMB AMB 17 52 51.8
comp=Z,81μm,10.0s
OKH AMB AMB 17 52 51.8
comp=Z,108μm,10.0s
OKH AMB AMB 17 52 53.0
comp=Z,2μm,1.0s
OKH *e*S Sn 17 54 35.0 +2.0
OKH *e*S Sn 17 54 38.8 +5.8
OKH A 17 54 46.0
comp=Z,33μm,8.0s
OKH A 17 54 46.0
comp=Z,63μm,8.0s
OKH Okha 9.78 321 *i* PN Pn 17 52 45.9 +2.0
OKH pmax pmax
comp=Z,108μm,10.0s
JSH Shimam 10.05 253 P Pn 17 52 48.7 +1.1
JYM2 Yakumo 2 10.08 250 ⇓P Pn 17 52 47.2 -0.8
JANG Nango 10.34 239 P Pn 17 52 47.3 -4.2
JANG *e*S Sn 17 54 37.2 -10
JSR Shiriuchi 10.35 247 P Pn 17 52 49.8 -1.9
JSR *e*S Sn 17 54 41.7 -5.3
JTM Tenmabayashi 10.36 242 P Pn 17 52 48.9 -2.9
JTM *e*S Sn 17 54 41.0 -6.2
JTH Tanohata 10.41 236 P Pn 17 52 48.3 -4.3
JTH *e*S Sn 17 54 37.9 -11
NKL Nikolayevsk 10.57 315 *i* P Pn 17 52 54.0 -0.7
NKL AMB AMB 17 52 59.0
comp=Z,5μm,1.8s
NKL AMB AMB 17 53 02.0
comp=Z,47μm,7.5s
NKL AMB AMB 17 53 02.0
comp=Z,86μm,7.5s
NKL sP 17 53 08.0
JOSM Okushiri--Mats 10.69 252 P Pn 17 52 54.9 -1.4
OFUJ Ofunato 11.11 233 P Pn 17 52 57.9 -4.2
OFUJ *e*S Sn 17 54 56.3 -9.3
JRG Rokugo 11.49 237 P Pn 17 53 03.9 -3.3
JRG *e*S Sn 17 55 05.7 -9.2
TEY Ternei 11.65 270 *e*P Pn 17 53 11.0 +1.6
TEY AMB AMB 17 53 16.0
comp=Z,420nm,1.2s
TEY AMB AMB 17 53 16.0
comp=Z,490nm,1.2s
TEY AMB AMB 17 53 16.0
comp=Z,700nm,1.2s
TEY AMB AMB 17 53 20.0
comp=Z,28μm,19.0s
TEY AMB AMB 17 53 20.0
comp=Z,9μm,10.0s
TEY AMB AMB 17 53 20.0
comp=Z,11μm,10.0s
JOG2 Oga 2 11.66 242 P Pn 17 53 08.2 -1.4
JIO Ouri 11.73 232 P Pn 17 53 06.2 -4.3
JIO *e*S Sn 17 55 10.2 -11
GRNR Gornyy 11.94 298⇑ *i*P Pn 17 53 13.0 -0.4
GRNR AMB AMB 17 53 15.4
comp=Z,250nm,1.0s
GRNR AMB AMB 17 53 15.4
comp=Z,650nm,1.0s
GRNR AMB AMB 17 53 18.2
comp=Z,16nm,1.5s
JYA Atsumi 12.55 237 P Pn 17 53 18.7 -3.1
JYA *e*S Sn 17 55 35.3 -5.7
JFK Kawauchi 12.78 230 P Pn 17 53 21.7 -3.2
JFK *e*S Sn 17 55 33.5 -13
JAW Awa shima 12.92 238 P Pn 17 53 24.6 -2.2
JNS Sasagawa 13.31 235 P Pn 17 53 30.7 -1.5
MA2 Magadan 13.36 355 *c* iPN Pn 17 53 32.5 -0.3
MA2 *e*S Sn 17 56 06.6 +5.9
MA2 pmax pmax
comp=Z,1μm,1.6s
MA2 MLR MLR
comp=Z,137μm,14.8s
MA2 Magadan 13.36 355⇑ *e*Pn Pn 17 53 31.7 -1.2
comp=Z,115nm,0.4s
JFY Yanaizu 13.38 233 P Pn 17 53 30.1 -3.1
JFY *e*S Sn 17 55 55.3 -6.0
JHO Hitachi 13.51 229 P Pn 17 53 31.1 -3.8
JIZZ Izumozaki 13.86 236 P Pn 17 53 38.0 -1.6
JHK Hiroka 13.88 234 P Pn 17 53 36.6 -3.3
JKT Katashina 14.10 232 P Pn 17 53 41.6 -1.3
JAG Ashikaga 14.24 231 P Pn 17 53 40.9 -3.9
JJN Nakama 14.47 236 P Pn 17 53 44.9 -3.0
KLR Kul'dur 14.67 289 *e*P Pn 17 53 50.0 -0.7
KLR ⇓ *i*P 17 53 50.5
KLR Kul'dur 14.67 289 *e*P Pn 17 53 50.0 -0.7
KLR *e* 17 56 32.0
EKMR Ekimchan 14.69 305 *e*P Pn 17 53 50.6 -0.3
JSZ Suzu 14.70 239 P Pn 17 53 48.2 -2.9
JHG Hegura jima 14.70 241 ⇑P Pn 17 53 48.8 -2.3
MAJO Matsushiro 14.84 234⇑ *e*P Pn 17 53 49.4 -3.6
MAJO pmax pmax
comp=Z,8μm,3.1s
MAJO Matsushiro 14.84 234⇑ *e*Pn Pn 17 53 49.4 -3.6
comp=Z,8μm,3.1s
MAT Matsushiro 14.84 234 P Pn 17 53 48.9 -4.1
MAT S Sn 17 56 40.3 +3.6
MAT Matsushiro 14.84 234 P Pn 17 53 49.1 -3.9
MJAR Matsushiro Arr 14.84 234 Pn Pn 17 53 51.1 -1.9
comp=Z,1.5nm,0.3s,baz=29,slow=14,SNR=129
JRY Ryogami san 14.84 231 P Pn 17 53 50.2 -2.8
JNG Nsakai 15.00 234 P Pn 17 53 51.2 -3.9
SMY Shemya 15.02 57 *e*P Pn 17 53 52.8 -2.6
SMY pmax pmax
comp=Z,740nm,1.0s
SMY Shemya 15.02 57 *e*P Pn 17 53 53.3 -2.1
comp=Z,104nm,0.5s
JOD2 Odawara 2 15.31 229 P Pn 17 53 56.2 -3.1
JJH Hakui 15.39 238 P Pn 17 53 58.6 -1.7
JYN Shimob 15.42 231 P Pn 17 53 59.1 -1.6
VLA Vladivostok 15.44 266 *d* iP Pn 17 53 58.7 -2.2
VLA *e* 17 57 01.0
VLA pmax pmax
comp=Z,1μm,1.4s
VLA MLR MLR
comp=Z,244μm,18.5s
VLA Vladivostok 15.44 266 *i* Pr Pn 17 54 00.6 -0.3
JIZS Izushimoda 15.84 228 P Pn 17 54 04.5 -1.7
JGF Kuroka 15.99 234 P Pn 17 54 06.2 -1.9
JGM Miyama 16.28 235 P Pn 17 54 10.7 -1.1
JAO Obara 16.29 233 P Pn 17 54 09.6 -2.4
HMMJ Hamamatsu 2 16.34 231 P Pn 17 54 11.1 -1.5
MDJ Mudanjiang 16.60 273 P Pn 17 54 17.0 +1.1
MDJ AP pP 17 54 24.3 +0.3
MDJ XP sP 17 54 28.0 +1.3
MDJ S Sn 17 57 21.3 +1.7
MDJ AMB AMB
comp=Z,974nm,1.4s
MDJ AMB AMB
comp=Z,33μm,11.2s
MDJ LR LR
comp=N,160μm,13.9s
MDJ LR LR
comp=E,189μm,17.0s
MDJ LR LR
comp=Z,268μm,17.0s
SEY Seymchan 16.66 359⇑ *e*P Pn 17 54 15.2 -1.4
SEY Seymchan 16.66 359⇑ *e*P Pn 17 54 15.3 -1.3
JHJ Hachijo jima 2 16.68 223 Pn Pn 17 54 16.4 -0.5
comp=Z,6.3nm,0.3s,baz=266,slow=9.6,SNR=3.0
JHJ Sn Sn 17 57 16.0 -5.5
comp=Z,48nm,0.3s,baz=65,slow=23,SNR=7.2
JFM Mihama 16.82 236 P Pn 17 54 18.4 -0.3
JAA Atsumi 16.83 232 P Pn 17 54 18.0 -0.7
JKY Yasaka 17.27 238 P Pn 17 54 23.7 -0.5
BMKR Bomnak 17.52 308 *e*P Pn 17 54 24.9 -2.5
BMKR AMB AMB 17 54 30.4
comp=Z,250nm,0.5s
YASR Yasnyy 17.62 303 *e*P Pn 17 54 25.9 -2.7
YASR AMB AMB 17 54 30.4
comp=Z,27nm,0.8s
YASR AMB AMB 17 54 30.4
comp=Z,80nm,0.8s
YASR AMB AMB 17 54 30.4
comp=Z,400nm,0.8s
AMKA Amchitka 17.90 64 *e*Pn Pn 17 54 32.8 +0.7
ZEA Zeya 18.15 304 *i* P Pn 17 54 31.5 -3.6
ZEA AMB AMB 17 54 42.0
comp=Z,25μm,9.0s
ZEA AMB AMB 17 54 42.0
comp=Z,120μm,9.0s
JKR Kurayoshi 18.20 240 P Pn 17 54 35.7 -0.1
JAD Aida 18.30 238 P Pn 17 54 36.5 -0.4
KROS Kirovskiy 18.48 306 *e*P Pn 17 54 36.1 -3.1
KROS AMB AMB 17 54 42.1
comp=Z,93nm,0.8s
KROS AMB AMB 17 54 42.1
comp=Z,210nm,0.8s
KROS AMB AMB 17 54 42.1
comp=Z,280nm,0.8s
KROS pP pP 17 54 45.4 +0.6
JJS Sakaide 18.83 237 P Pn 17 54 42.5 -0.9
JHS Saijyo 18.88 240 P Pn 17 54 43.9 -0.2
JAI Aioi 18.95 235 P Pn 17 54 44.5 -0.4
JHT Toyohira 19.53 241 P Pn 17 54 52.4 +0.6
CN2 Changchun 19.69 273 ⇑P Pn 17 54 50.0 -3.7
CN2 *e*XP sP 17 55 00.3 -0.4
CN2 *e*S Sn 17 58 24.3 -10
CN2 LR LR
comp=N,71μm,16.0s
CN2 LR LR
comp=E,62μm,16.0s
CN2 LR LR
comp=Z,84μm,18.0s
CLNS Chul'man 20.32 311 *c* iP P 17 54 59.0 -0.1
CLNS *e* 17 55 11.6
CLNS *e*S S 17 58 38.2 -7.8
CLNS *e* 17 59 06.0
CLNS *e*SS 17 59 08.8
CLNS *e*SSS 17 59 28.6
CLNS *e* 18 06 21.3
CLNS pmax pmax
comp=E,124nm,1.0s
CLNS pmax pmax
comp=Z,289nm,1.0s
CLNS pmax pmax
comp=N,191nm,1.1s
CLNS smax
comp=Z,72nm,1.4s
CLNS smax
comp=N,363nm,1.1s
CLNS smax
comp=E,233nm,1.3s
CLNS MLR MLR
comp=Z,575μm,16.0s,MS7.0
CLNS MLR MLR
comp=N,396μm,15.0s,MS7.0
CLNS MLR MLR
comp=E,377μm,15.0s,MS7.0
NRGR Nerungri 20.35 311 *e*P P 17 55 00.1 +0.6
NRGR S S 17 58 49.5 +2.9
NRGR smax
comp=E,170nm,0.6s
YAK Yakutsk 20.70 328 *i* P P 17 55 00.3 -2.9
YAK *e*PP 17 55 20.0
YAK *e*S S 17 58 56.0 +2.5
YAK *e*SS 17 59 23.0
YAK pmax pmax
comp=Z,832nm,0.9s
CBIJ Chichi jima 21.06 208 P P 17 55 06.8 -0.3
comp=Z,223nm,0.9s,mb5.5,baz=332,slow=6.4,SNR=9.4
CBIJ S S 17 59 01.9 +1.2

comp=Z,75nm,0.4s,baz=278,slow=23,SNR=5.7
CBIJ LR LR 18 03 30.7
comp=Z,40µm,19.2s,MS5.8,baz=4.4,slow=37
INCN Inchon 21.54 255⇑ *e*Pn **P 17 55 12.7 +0.5**
comp=Z,2µm,1.3s,mb6.3
INCN LR LR
comp=Z,108µm,20.0s,MS6.2
SNY Shenyang 21.65 269 ⇑P **P 17 55 13.0 -0.4**
SNY AP 17 55 19.5
SNY XP sP 17 55 23.0 +1.1
SNY PP 17 55 38.5
SNY S **S 17 59 13.3 +1.2**
SNY XS sS 17 59 19.0 -2.5
SNY AMB AMB
comp=Z,971nm,1.4s,mb6.0
SNY AMB AMB
comp=Z,66µm,10.2s
SNY LR LR
comp=N,94µm,17.4s,MS6.5
SNY LR LR
comp=E,156µm,16.5s,MS6.5
SNY LR LR
comp=Z,223µm,16.8s,MS6.6
HIA Hailar 22.53 290⇑ *e*P **P 17 55 18.1 -4.8**
HIA *e*S **S 17 59 26.8 -2.5**
HIA pmax pmax
comp=Z,403nm,1.0s
HIA MLR MLR
comp=Z,156µm,19.0s
HIA Hailar 22.53 290⇑ *e*P **P 17 55 18.1 -4.8**
comp=Z,403nm,1.0s,mb5.8
HIA *e*S **S 17 59 26.8 -2.5**
HIA LR LR
comp=Z,156µm,19.0s,MS6.5
BILL Bilibino 22.81 13*c i*P **P 17 55 24.3 -1.6**
BILL *e* 17 55 40.3
BILL *i* S **S 17 59 34.5 +0.3**
BILL pmax pmax
comp=Z,739nm,1.6s,mb5.9
BILL pmax pmax
comp=Z,25µm,6.3s
BILL MLR MLR
comp=Z,140µm,15.0s,MS6.5
BILL Bilibino 22.81 13⇑ *e*P **P 17 55 21.9 -3.9**
DL2 Dalian 24.23 264⇑ *i*P **P 17 55 39.0 -0.8**
DL2 S **S 17 59 57.8 +0.6**
DL2 AMB AMB
comp=Z,660nm,1.4s,mb5.9
DL2 AMB AMB
comp=Z,31µm,7.1s
DL2 LR LR
comp=N,47µm,16.3s,MS6.1
DL2 LR LR
comp=E,31µm,17.5s,MS6.1
DL2 LR LR
comp=Z,36µm,13.5s,MS6.0
NIKO Nikolski 25.26 61 *e*P **P 17 55 48.1 -1.1**
CIT Chita 26.26 297 *e*P **P 17 55 57.0 -1.2**
CIT *e* 17 56 06.8
CIT *e* 17 56 36.1
CIT *e* 17 56 47.3
CIT *e* 17 59 25.6
CIT *e* 18 06 43.8
CIT pmax pmax
comp=Z,2µm,1.0s,mb6.6
BOD Bodaibo 26.29 310 *e*P **P 17 55 55.9 -2.5**
BOD pmax pmax
comp=Z,310nm,1.7s,mb5.6
UNV Unalaska Valle 26.67 59 PFAKE 17 56 10.0 +8.1
UNV LR LR
comp=Z,184µm,19.0s,MS6.7
BJI Beijing 27.50 270 P **P 17 56 11.0 +1.7**
BJI XP sP 17 56 19.8 +1.7
BJI AMB AMB
comp=Z,561nm,0.9s,mb6.1
BJI AMB AMB
comp=Z,54µm,9.0s
BJI LR LR
comp=N,82µm,17.9s,MS6.8
BJI LR LR
comp=E,202µm,17.5s,MS6.8
BJI LR LR
comp=Z,169µm,18.0s,MS6.7
BJI Beijing 27.50 270 P **P 17 56 10.9 +1.6**
BJI *SP sP 17 56 19.7 +1.6
BJI Beijing 27.50 270 P **P 17 56 10.9 +1.6**
BJI sP sP 17 56 19.7 +1.6
BJI S **S 18 01 00.8 +12**
BJT Baijiatuau 27.51 270 PFAKE 17 56 20.0 +11
BJT LR LR
comp=Z,198µm,19.0s,MS6.7
JOW Kunigami 27.68 234 P **P 17 56 11.8 +0.9**
comp=Z,141nm,0.9s,mb5.6,baz=63,slow=7.8,SNR=13
JOW S **S 18 00 50.4 -1.6**
comp=Z,15nm,0.9s,baz=302,slow=26,SNR=1.8
TNA Tin City 28.38 33⇑ *e*Pn **P 17 56 16.5 -0.7**
comp=Z,153nm,1.1s,mb5.5
TNA LR LR
comp=Z,53µm,19.0s,MS6.2
TIA Tai'an 28.68 262 ⇓P **P 17 56 21.5 +1.7**
TIA PP PP 17 57 17.3 -7.4
TIA PPP 17 57 30.8
TIA S **S 18 01 10.0 +2.4**
TIA AMB AMB
comp=Z,449nm,1.4s,mb6.0
TIA AMB AMB
comp=Z,9µm,7.0s
TIA LR LR
comp=N,43µm,14.0s,MS6.5
TIA LR LR
comp=E,97µm,18.0s,MS6.5
SSE Sheshan 28.96 250 P **P 17 56 23.0 +0.6**
SSE S **S 18 01 20.0 +7.8**
SSE AMB AMB
comp=Z,146nm,1.6s,mb5.5
SSE AMB AMB
comp=Z,21µm,10.6s
SSE LR LR
comp=N,43µm,18.7s,MS6.3
SSE LR LR
comp=E,66µm,18.7s,MS6.3
SSE LR LR
comp=Z,77µm,20.3s,MS6.3
SSE Sheshan 28.96 250 P **P 17 56 23.1 +0.7**
SSE sP sP 17 56 38.3 +7.1
SSE S **S 18 01 19.9 +7.7**
SSE sS sS 18 01 38.8 +16
MIDW Midway 29.37 118 PFAKE 17 56 40.0 +14
MIDW LR LR
comp=Z,82µm,19.0s,MS6.4
HHC Hu-ho-hao-te 30.35 275⇑ *i*P **P 17 56 35.0 +0.3**
HHC AP pP 17 56 43.0 +2.1
HHC XP sP 17 56 46.5 +3.0
HHC PP PP 17 57 34.0 -9.3
HHC PCP PcP 17 59 35.5 +1.1
HHC S **S 18 01 31.5 -2.4**
HHC XS sS 18 01 43.8 -0.4
HHC AMB AMB
comp=Z,105nm,0.4s,mb5.9
HHC AMB AMB
comp=Z,24µm,9.8s
HHC LR LR
comp=N,164µm,16.2s,MS6.8
HHC LR LR
comp=E,135µm,18.1s,MS6.8
HHC LR LR
comp=Z,216µm,17.2s,MS6.9
CHGN Chignik 31.27 53 *e*P **P 17 56 44.5 +1.7**
SONM Songino Array 31.50 290 P **P 17 56 44.0 -0.8**
comp=Z,57nm,0.9s,mb5.4,baz=71,slow=6.8,SNR=152
SONM PcP PcP 17 59 38.6 +1.2
comp=Z,22nm,0.8s,baz=108,slow=2.2,SNR=4.9
SONM S **S 18 02 02.0 +10**
comp=Z,4.9nm,1.0s,baz=71,slow=33,SNR=2.0
SONM LR LR 18 10 23.1
comp=Z,141µm,18.6s,MS6.7,baz=76,slow=38
SONM P3KPbc 18 28 25.2
comp=Z,0.5nm,0.8s,baz=251,slow=2.7,SNR=4.3
SONM Songino Array 31.50 290 P **P 17 56 44.0 -0.8**
SONM 17 59 38.6
SONM Songino Array 31.50 290 P **P 17 56 44.0 -0.8**
SONM PcP PcP 17 59 38.6 +1.2
SONM S **S 18 02 02.0 +10**
SONM LR LR 18 10 23.1
SONM *e* 18 28 25.2

BTO Baotou 31.52 275 *e*P **P 17 56 45.0 0.0**
BTO S **S 18 01 47.8 -4.4**
BTO LR LR
comp=N,53µm,15.7s,MS6.4
BTO LR LR
comp=E,32µm,15.7s,MS6.4
IRK Irkutsk 31.92 299 *e*P **P 17 56 46.5 -2.0**
IRK *e* 17 59 38.9
IRK pmax pmax
comp=Z,267nm,1.7s,mb5.8
TLY Talaya 32.40 298 P **P 17 56 52.8 +0.1**
comp=Z,2µm,0.8s,mb6.9,SNR=31
TLY Talaya 32.40 298*c i*P **P 17 56 51.0 -1.7**
TLY *e* 17 57 56.9
TLY *e*PPP 17 58 11.3
TLY pmax pmax
comp=Z,281nm,1.0s,mb6.0
TLY MLR MLR
comp=Z,300µm,16.0s,MS7.1
TLY Talaya 32.40 298⇑ *e*P **P 17 56 51.2 -1.5**
comp=Z,232nm,0.9s,mb6.0
TLY LR LR
comp=Z,21µm,22.0s,MS5.8
TTA Tatalina 32.73 41 *e*P **P 17 56 54.9 -0.8**
TTA pmax pmax
comp=Z,330nm,1.3s,mb6.1
TTA Tatalina 32.73 41 *e*P **P 17 56 55.0 -0.7**
SVW2 Sparrevohn 32.79 44 *e*P **P 17 56 55.9 -0.2**
ZAK Zakamensk 32.88 296 *e*P **P 17 56 55.8 -1.2**
ZAK *e* 17 59 39.3
ZAK pmax pmax
comp=Z,152nm,1.0s,mb5.9
TATO Taipei 33.06 241⇑ *e*P **P 17 56 59.1 +0.7**
comp=Z,229nm,1.2s,mb6.0
TATO LR LR
comp=Z,77µm,20.0s,MS6.4
YHNB Yeheng 33.35 241⇑ *e*P **P 17 57 00.6 -0.4**
GUMO Guam 33.36 195 PFAKE 17 57 10.0 +8.9
GUMO LR LR
comp=Z,42µm,20.0s,MS6.2
NACB Ninganchiao 33.59 240⇑ *e*P **P 17 57 01.1 -2.0**
WHN Wuhan 33.84 256 P **P 17 57 05.8 +0.5**
WHN S **S 18 02 31.0 +2.6**
WHN LR LR
comp=Z,209µm,16.1s,MS7.0
MOY Mondy 34.02 298 *e*P **P 17 57 06.6 -0.3**
MOY *e* 17 58 15.5
MOY *e* 18 02 33.7
MOY pmax pmax
comp=Z,247nm,1.4s,mb6.0
IMA2 Indian Mountai 34.15 36 *e*P **P 17 57 07.3 -0.7**
KDAK Kodiak Island 34.36 50 P **P 17 57 10.0 +0.2**
comp=Z,968nm,0.8s,mb6.8,SNR=9.9
KDAK Kodiak Island 34.36 50 P **P 17 57 09.9 +0.1**
comp=Z,74nm,0.8s,mb5.7,baz=284,slow=3.9,SNR=19
KDAK S **S 18 02 34.9 -1.5**
comp=Z,7.8nm,0.8s,baz=108,slow=15,SNR=2.8
KDAK LR LR 18 11 01.2
comp=Z,79µm,20.1s,MS6.5,baz=257,slow=36
KDAK PKP2ab 18 32 04.4
comp=Z,9.8nm,1.0s,baz=304,slow=4.5,SNR=4.5
KDAK Kodiak Island 34.36 50 *e*P **P 17 57 09.8 0.0**
comp=Z,120nm,0.8s,mb5.9
KDAK LR LR
comp=Z,20µm,19.0s,MS5.9
QZH Quanzhou 34.86 244⇑ *i*P **P 17 57 14.8 +0.6**
QZH PP PP 17 58 32.5 -0.8
QZH S **S 18 02 42.0 -2.1**
QZH AMB AMB
comp=Z,2µm,1.6s,mb6.8
QZH AMB AMB
comp=Z,31µm,8.7s
QZH LR LR
comp=N,100µm,16.6s,MS6.9
QZH LR LR
comp=E,166µm,21.4s,MS6.9
QZH LR LR
comp=Z,119µm,16.0s
SLKM Skilak Lake 35.41 45 *e*P **P 17 57 18.3 -0.6**
XAN Xi'an 35.50 266 P **P 17 57 19.5 -0.2**
XAN PP PP 17 58 38.8 -1.6
XAN S **S 18 02 58.5 +4.6**
XAN AMB AMB
comp=Z,245nm,1.5s,mb5.9
XAN AMB AMB
comp=Z,19µm,9.8s
XAN LR LR
comp=N,20µm,13.8s,MS6.5
XAN LR LR
comp=E,54µm,15.4s,MS6.5
XAN LR LR
comp=Z,80µm,16.9s,MS6.5
PMR Palmer 35.90 44 P **P 17 57 23.0 -0.1**
PMR pmax pmax
comp=Z,130nm,1.0s,mb5.8
PMR Palmer 35.90 44 *e*P **P 17 57 23.7 +0.6**
comp=Z,101nm,0.9s,mb5.8
MCK McKinley 35.97 40⇑ *e*P **P 17 57 22.9 -0.8**
MCK pmax pmax
comp=Z,221nm,1.3s,mb5.9
MCK MLR MLR
comp=Z,31µm,19.0s,MS6.1
MCK McKinley 35.97 40⇑ *e*P **P 17 57 22.9 -0.7**
comp=Z,221nm,1.3s,mb5.9
MCK LR LR
comp=Z,31µm,19.0s,MS6.1
COLA College 36.47 38⇑ *e*P **P 17 57 27.4 -0.5**
COLA pmax pmax
comp=Z,348nm,1.1s,mb6.2
COLA MLR MLR
comp=Z,45µm,20.0s,MS6.2
COLA College 36.47 38⇑ *e*P **P 17 57 27.4 -0.5**
comp=Z,348nm,1.1s,mb6.2
COLA LR LR
comp=Z,45µm,20.0s,MS6.2
EYAK Cordova Ski Ar 37.61 45 *e*P **P 17 57 37.3 -0.4**
KRAR Krasnoyarsk 37.87 307*c i*P **P 17 57 38.7 -1.1**
KRAR pmax pmax
comp=Z,161nm,0.9s,mb5.8
KRAR MLR MLR
comp=Z,238µm,18.0s,MS7.0
LZH Lanzhou 37.93 272 *e*P **P 17 57 41.5 +1.2**
LZH AP pP 17 57 48.3 +1.6
LZH XP sP 17 57 50.8 +1.6
LZH PP PP 17 59 13.5 +6.4
LZH PCP PcP 17 59 58.0 +1.9
LZH AMB AMB
comp=Z,1µm,1.4s,mb6.4
LZH AMB AMB
comp=Z,6µm,5.7s
LZH LR LR
comp=N,66µm,14.0s
LZH LR LR
comp=Z,98µm,17.4s,MS6.7
LZH Lanzhou 37.93 272 *e*P **P 17 57 41.6 +1.3**
LZH *SP sP 17 57 50.7 +1.5
LZH 17 59 13.6
LZH 17 59 58.0
LZH *e*S **S 18 03 34.0 +3.1**
LZH SS SS 18 06 06.0 -12
LZH Lanzhou 37.93 272 *e*P **P 17 57 41.6 +1.3**
LZH pP pP 17 57 48.3 +1.6
LZH sP sP 17 57 50.7 +1.5
LZH PP PP 17 59 13.6 +6.5
LZH PcP PcP 17 59 58.0 +1.9
LZH *e*S **S 18 03 34.0 +3.1**
LZH sS sS 18 03 44.2 +2.9
LZH SS SS 18 06 06.0 -12
MENT Mentasta 38.35 41 *e*P **P 17 57 44.3 +0.4**
CVP Callao Caves 38.53 233⇑ *e*P **P 17 57 45.0 -0.4**
GTA Gaotai 39.06 280 P **P 17 57 50.5 +0.6**
GTA AP pP 17 57 56.5 +0.3
GTA XP sP 17 57 59.5 +0.7
GTA PCP PcP 18 00 01.5 +1.9
GTA AMB AMB
comp=Z,434nm,1.7s,mb5.9
GTA AMB AMB
comp=Z,23µm,9.9s
GTA LR LR
comp=N,96µm,19.0s,MS6.7
GTA LR LR
comp=E,49µm,17.5s,MS6.7
GTA LR LR
comp=Z,22µm,21.3s,MS6.0
EGAK Eagle 39.33 38 *e*P **P 17 57 50.7 -1.4**

GZH Guangzhou 39.52 248 P **P 17 57 49.5 -4.2**
GZH PP PP 17 59 26.3 +1.8
GZH LR LR
comp=N,96µm,18.7s,MS6.8
GZH LR LR
comp=E,66µm,17.4s,MS6.8
GZH LR LR
comp=Z,135µm,18.0s,MS6.8
BCPH Baguio City Da 40.29 233⇓ *e*P **P 17 57 59.9 -0.2**
CD2 Chengdu 40.87 266 P **P 17 58 05.3 +0.5**
CD2 XP sP 17 58 14.5 +0.7
CD2 PP PP 17 59 42.0 +2.8
CD2 AMB AMB
comp=Z,430nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,19µm,10.2s
CD2 LR LR
comp=N,36µm,18.6s
CD2 LR LR
comp=Z,35µm,15.7s,MS6.3
GYA Guiyang 41.64 258⇑ *i*P **P 17 58 11.5 +0.3**
GYA AP pP 17 58 17.5 -0.1
GYA XP sP 17 58 20.8 +0.6
GYA PP PP 17 59 52.3 +4.7
GYA SCP ScP 18 03 55.5 -1.4
GYA PCS PcS 18 03 57.5 -1.8
GYA AMB AMB
comp=Z,570nm,1.0s,mb6.2
GYA AMB AMB
comp=Z,15µm,13.5s
GYA LR LR
comp=N,47µm,19.5s,MS6.4
GYA LR LR
comp=E,35µm,21.6s,MS6.4
GYA LR LR
comp=Z,43µm,20.7s,MS6.3
INK Inuvik 42.01 32 P **P 17 58 14.1 -0.2**
comp=Z,60nm,0.6s,mb5.4,baz=292,slow=6.8,SNR=64
INK S **S 18 04 34.4 +2.4**
comp=Z,48nm,1.0s,baz=252,slow=7.1,SNR=4.5
INK Inuvik 42.01 32 P **P 17 58 14.1 -0.1**
INK S **S 18 04 34.4 +2.4**
INK pmax pmax
comp=Z,60nm,0.6s
INK smax
comp=N,48nm,1.0s
INK Inuvik 42.01 32⇑ *e*P **P 17 58 13.2 -1.1**
comp=N,501nm,1.4s,mb6.0
PLP Palo 42.41 223 *e*P **P 17 58 18.3 +0.8**
ZAL Zalesovo 42.90 306 P **P 17 58 20.5 -1.0**
comp=N,59nm,0.9s,mb5.3,baz=47,slow=8.4,SNR=135
ZAL LR LR 18 16 24.3
comp=N,161µm,21.4s,MS6.9,baz=40,slow=36
SKAG Skagway 42.95 45 *e*P **P 17 58 22.7 +0.8**
comp=N,330nm,2.0s,mb5.7
RCP Roxas 43.16 226⇑ *e*P **P 17 58 25.1 +1.5**
SCPH Surigao 43.38 222⇓ *e*P **P 17 58 27.2 +1.8**
NVS Novosibirsk 43.47 308 *e*P **P 17 58 24.1 -2.0**
NVS *e* 18 00 12.9
NVS *e* 18 08 21.7
NVS pmax pmax
comp=N,110nm,1.7s
NVS pmax pmax
comp=E,290nm,1.7s
NVS pmax pmax
comp=Z,365nm,1.7s,mb5.8
SIT Sitka 43.64 49 *e*P **P 17 58 30.5 +3.0**
SIT pmax pmax
comp=Z,246nm,1.4s,mb5.7
SIT Sitka 43.64 49 *e*P **P 17 58 30.5 +3.0**
comp=Z,246nm,1.4s,mb5.7
QIZ Qiongzhong 44.70 247 P **P 17 58 38.5 +2.6**
QIZ AP pP 17 58 45.0 +2.6
QIZ S **S 18 05 16.0 +4.6**
QIZ XS sS 18 05 29.3 +7.3
QIZ LR LR
comp=E,52µm,17.1s
QIZ LR LR
comp=Z,63µm,19.3s,MS6.5
QIZ Qiongzhong 44.70 247 PFAKE 17 58 50.0 +14
QIZ LR LR
comp=Z,65µm,20.0s,MS6.5
WMQ Urumqi 45.11 292⇑ *i*P **P 17 58 40.0 +0.8**
WMQ AP pP 17 58 47.5 +1.9
WMQ XP sP 17 58 51.0 +2.9
WMQ PCP PcP 18 00 22.0 +2.4
WMQ PPP 18 01 06.5
WMQ SCP ScP 18 04 11.0 +0.1
WMQ AMB AMB
comp=Z,307nm,0.8s,mb6.2
WMQ AMB AMB
comp=Z,2µm,5.2s
WMQ LR LR
comp=N,187µm,16.8s,MS7.2
WMQ LR LR
comp=E,143µm,15.9s,MS7.2
WMQ LR LR
comp=Z,157µm,17.0s,MS7.0
KMI Kunming 45.19 260 P **P 17 58 40.8 +1.0**
KMI AP pP 17 58 49.0 +2.8
KMI XP sP 17 58 53.8 +5.0
KMI PP PP 18 00 24.5 -1.1
KMI PPP 18 01 04.0
KMI AMB AMB
comp=Z,333nm,1.5s,mb6.0
KMI AMB AMB
comp=Z,19µm,7.3s
KMI LR LR
comp=N,71µm,18.0s,MS6.7
KMI LR LR
comp=E,33µm,17.2s,MS6.7
KMI LR LR
comp=Z,39µm,20.4s,MS6.3
KMI Kunming 45.19 260 P **P 17 58 40.7 +0.9**
KMI pP pP 17 58 49.1 +2.9
KMI sP sP 17 58 53.7 +4.9
KMI PP PP 18 00 24.6 -1.0
KMI PPP 18 01 04.1
KMI S **S 18 05 16.6 -1.8**
KMI sS sS 18 05 33.1 +4.1
KMI SS SS 18 08 32.3 -9.0
KMI SSS 18 09 30.7
CRAG Craig 45.33 50 *e*P **P 17 58 43.5 +2.6**
comp=Z,298nm,1.6s,mb5.9
WRAK Wrangell Islan 45.40 49 *e*P **P 17 58 44.2 +2.7**
DLBC Dease Lake 45.88 46 P **P 17 58 46.8 +1.4**
baz=277,slow=8.1
DLBC S **S 18 05 33.5 +5.0**
comp=Z,13nm,0.9s,baz=286,slow=14,SNR=1.3
DLBC Dease Lake 45.88 46 P **P 17 58 46.8 +1.4**
DLBC S **S 18 05 33.5 +5.0**
KIP Kipapa 46.62 105 *e*P **P 17 58 51.5 +0.3**
KIP pmax pmax
comp=Z,287nm,1.3s,mb6.0
KIP MLR MLR
comp=Z,39µm,22.0s,MS6.3
KIP Kipapa 46.62 105 *e*P **P 17 58 51.5 +0.3**
comp=Z,287nm,1.3s,mb6.0
KIP LR LR
comp=Z,39µm,22.0s,MS6.3
MKAR Makanchi Array 47.16 298 P **P 17 58 54.0 -1.4**
comp=Z,405nm,1.0s,mb6.3,baz=65,slow=5.8,SNR=517
KURK Kurchatov 47.62 304 P **P 17 58 57.5 -1.5**
comp=Z,3µm,0.9s
KKH Kailua Kona 49.19 105 *e*P **P 17 59 11.9 +0.9**
POHA Pohakuloa 49.45 105⇑ *e*P **P 17 59 15.0 +2.0**
POHA LR LR
comp=Z,43µm,22.0s,MS6.4
ALE Alert 50.17 6 P **P 17 59 17.0 -1.5**
comp=Z,1µm,0.9s,mb6.9,SNR=42
LSA Lhasa 50.32 274 PFAKE 17 59 30.0 +10
LSA LR LR
comp=Z,76µm,19.0s,MS6.7
SWI Sorong 50.78 209 P **P 17 59 22.8 -0.3**
BVAR Borovoye Array 51.15 310 LR LR 18 22 52.7
comp=Z,139µm,18.8s,MS7.0,baz=230,slow=38
BRVK Borovoye 51.19 310 P **P 17 59 25.6 -0.6**
comp=Z,2µm,1.0s,mb7.0,SNR=39
BRVK Borovoye 51.19 310⇑ *e*P **P 17 59 24.2 -2.0**
comp=Z,25µm,3.0s
BRVK LR LR
comp=Z,24µm,20.0s,MS6.2
KKM Kota Kinabalu 51.21 230 P **P 17 59 28.9 +2.6**
KKM Kota Kinabalu 51.21 230⇑ *e*P **P 17 59 26.2 -0.1**
RES Resolute Bay 51.24 18⇑ *i*P **P 17 59 26.3 -0.3**

RES pmax pmax
comp=Z,196nm,1.0s,mb6.0
RES Resolute Bay 51.24 18⇑ *i*P **P 17 59 26.3 -0.2**
comp=Z,196nm,1.0s,mb6.0
YKA Yellowknife Ar 51.26 36 P **P 17 59 25.9 -0.8**
comp=Z,40nm,0.9s,mb5.3,baz=298,slow=7.3,SNR=44
YKA LR LR 18 24 56.4
comp=Z,24μm,18.5s,MS6.2,baz=250,slow=40
YKA PKPPKP 18 30 04.3
comp=Z,0.9nm,0.8s,baz=150,slow=2.2,SNR=4.4
YKA Yellowknife Ar 51.26 36 *i*P **P 17 59 25.8 -0.9**
YKA pmax pmax
comp=Z,40nm,0.9s
YKA Yellowknife Ar 51.26 36 P **P 17 59 25.9 -0.8**
YKA LR LR 18 24 56.4
YKA P'P' 18 30 04.3
IMP Imphal 51.47 267 *i*P **P 17 59 29.0 +0.8**
IMP *ex* x 18 05 22.0
TSM Tawau 51.84 227 P **P 17 59 32.5 +1.5**
ZRNK Zerenda 51.92 310 *i*P **P 17 59 29.8 -1.9**
ZRNK pmax pmax
comp=Z,202nm,1.4s,mb5.9
ZRNK Zerenda 51.92 310⇑ *e*P **P 17 59 29.7 -1.9**
comp=Z,231nm,1.0s,mb6.1
CHTO Chiang Mai 52.04 257 P **P 17 59 33.0 +0.5**
CHTO pmax pmax
comp=Z,640nm,1.3s,mb6.4
CHTO Chiang Mai 52.04 257⇑ *e*P **P 17 59 33.2 +0.7**
comp=Z,642nm,1.4s,mb6.4
CHTO LR LR
comp=Z,71μm,19.0s,MS6.7
AAA Alma-Ata 52.19 296 *i*P **P 17 59 34.4 +0.8**
AAA pmax pmax
comp=Z,20μm,12.0s
AAA MLR MLR
comp=Z,175μm,14.3s,MS7.2
CM31 Chiang Mai Arr 52.29 257⇑ *e*P **P 17 59 35.1 +0.8**
CM31 LR LR
comp=Z,48μm,19.0s,MS6.6
SHL Shillong 52.38 269 *e*P **P 17 59 34.4 -0.7**
KBS Kingsbay 52.93 351⇑ *i*P **P 17 59 37.9 -1.3**
KBS *e*S **S 18 07 06.9 -0.3**
KBS AMS AMS 18 22 52.4
comp=Z,22μm,15.7s,MS6.3
KBS Kingsbay 52.93 351 *e*P **P 17 59 37.9 -1.2**
KBS pmax pmax
comp=Z,134nm,0.8s,mb5.9
KBS MLR MLR
comp=Z,38μm,20.0s,MS6.4
KBS Kingsbay 52.93 351 *e*P **P 17 59 37.9 -1.3**
comp=Z,134nm,0.8s,mb5.9
KBS LR LR
comp=Z,38μm,20.0s,MS6.4
SPB4 Spitsbergen Ar 53.05 350 *e*P **P 17 59 38.5 -1.5**
ULHL Ulahol 53.17 295 P **P 17 59 43.3 +2.4**
SNR=23
TKM2 Tokmak 2 53.21 296 P **P 17 59 41.8 +0.6**
SNR=210
GTK Gangtok 53.53 273 *ex* x 17 59 56.0
PGC Sidney 53.68 55 *e*P **P 17 59 43.7 -0.9**
comp=Z,404nm,1.6s,mb6.1
CHMS Chumysh 53.69 297 P **P 17 59 44.9 +0.2**
SNR=150
USP Ospenovka 53.70 297 P **P 17 59 44.6 -0.2**
SNR=297
KBK Karagaybulak 53.76 296 P **P 17 59 45.8 +0.6**
SNR=184
FRU Bishkek 53.87 297 *i*P **P 17 59 47.0 +1.0**
FRU pmax pmax
comp=Z,440nm,2.0s,mb6.0
FRU pmax pmax
comp=Z,14μm,6.0s
KZA Kyzart 53.88 296 P **P 17 59 47.8 +1.7**
SNR=63
AGT Agartala 53.91 268 *i*x x 17 59 51.0
AAK Ala-Archa 54.05 297 P **P 17 59 47.9 +0.5**
SNR=267
AAK Ala-Archa 54.05 297 P **P 17 59 46.2 -1.1**
AAK pmax pmax
comp=Z,260nm,0.9s,mb6.2
AAK Ala-Archa 54.05 297⇑ *e*P **P 17 59 45.6 -1.7**
comp=Z,258nm,0.8s,mb6.2
AAK LR LR
comp=Z,32μm,19.0s,MS6.4
SLGI Shiliguri 54.07 272 *e*P **P 17 59 49.0 +1.5**
SVE Sverdlovsk 54.17 317 *oe*P **P 17 59 48.0 -0.2**
SVE *e*S **S 18 07 27.0 +3.0**
SVE *e* 18 09 36.0
SVE pmax pmax
comp=Z,340nm,2.0s,mb5.9
SVE pmax pmax
comp=N,3μm,10.0s
SVE pmax pmax
comp=E,6μm,10.0s
SVE pmax pmax
comp=Z,12μm,10.0s
UCH Uchtor 54.26 296 P **P 17 59 50.6 +1.8**
SNR=50
AAI Ambon 54.47 211 P **P 17 59 51.6 +1.2**
EKS2 Erkin-Say 54.48 297 P **P 17 59 51.1 +0.7**
SNR=301
AML Almayashu 54.82 297 P **P 17 59 54.2 +1.2**
SNR=189
KSH Kashi 54.84 293⇑ *i*P **P 17 59 53.0 -0.1**
KSH *e*AP pP 17 59 58.0 -1.6
KSH *e*XP sP 18 00 01.3 -0.9
KSH *e*PCP PcP 18 00 56.3 +1.1
KSH *e*PP PP 18 01 57.3 +1.4
KSH *e*PPP 18 03 09.0
KSH *e*PCS PcS 18 04 54.5 -0.5
RPW Rockport 54.88 54 P **P 17 59 54.5 +1.1**
JIRN Jiri 55.00 275 *e*P **P 17 59 56.2 +1.9**
comp=Z,2μm,1.1s,mb7.0
GUN Gumba 55.06 275 *e*P **P 17 59 56.4 +1.7**
comp=Z,1μm,1.0s,mb6.9
ARU Arti 55.35 318 P **P 17 59 54.6 -2.2**
comp=Z,2μm,0.9s,mb7.1,SNR=74
ARU Arti 55.35 318 *e*P **P 17 59 54.9 -1.9**
ARU *e* 18 00 56.3
ARU *e* 18 01 57.2
ARU *e*S **S 18 07 36.8 -3.1**
ARU *e* 18 09 39.0
ARU *e*SS SS 18 11 26.2 +1.8
ARU *e*SSS 18 13 30.0
ARU MLR MLR
comp=N,56μm,18.0s,MS7.0
ARU MLR MLR
comp=E,97μm,18.0s,MS7.0
ARU MLR MLR
comp=Z,119μm,18.0s,MS7.0
ARU Arti 55.35 318⇑ *e*P **P 17 59 54.4 -2.3**
comp=Z,243nm,0.8s,mb6.3
ARU LR LR
comp=Z,28μm,19.0s,MS6.4
PCI Palu 55.40 222 P **P 17 59 55.9 -1.2**
KKN Kakani 55.55 276 *e*P **P 17 59 59.6 +1.4**
comp=Z,1μm,0.9s,mb7.0
PKI Pulchoki 55.60 275 *e*P **P 17 59 59.6 +1.0**
comp=Z,2μm,1.4s,mb7.0
BJO Bjornoya 55.60 346⇑ *i*P **P 17 59 56.7 -1.9**
BJO *e*S **S 18 07 45.2 +1.9**
BJO AMS AMS 18 28 15.6
comp=Z,61μm,14.9s,MS6.8
BJO1 Bjornoya 55.63 346⇑ *i*P **P 17 59 56.7 -2.1**
BJO1 LR LR
comp=Z,61μm,14.9s,MS6.8
PMG Port Moresby 55.72 187 P **P 18 00 00.5 +1.1**
comp=Z,39nm,1.0s,mb5.4,baz=278,slow=4.4,SNR=4.7
PMG S **S 18 07 39.3 -5.6**
comp=Z,15nm,0.9s,baz=324,slow=23,SNR=2.4
PMG LR LR 18 20 57.4
comp=Z,27μm,19.5s,MS6.3,baz=172,slow=33
PMG Port Moresby 55.72 187 *e*P **P 18 00 00.2 +0.7**
PMG pmax pmax
comp=Z,141nm,1.3s
PMG MLR MLR
comp=Z,28μm,20.0s
PMG Port Moresby 55.72 187 *e*P **P 18 00 00.2 +0.8**
comp=Z,141nm,1.3s,mb5.8
PMG LR LR
comp=Z,28μm,20.0s,MS6.3
DMN Daman 55.78 276 *e*P **P 18 00 01.2 +1.3**
HNR Honiara 55.83 172 P **P 18 00 00.6 +0.5**
comp=Z,55nm,0.8s,mb5.6,baz=260,slow=1.6,SNR=5.8
HNR LR LR 18 24 49.9
comp=Z,33μm,18.4s,MS6.5,baz=1.2,slow=37

HNR Honiara 55.83 172⇓ *e*P **P 17 59 58.1 -2.1**
HNR pmax pmax
comp=Z,230nm,1.0s,mb6.2
HNR MLR MLR
comp=Z,33μm,19.0s,MS6.4
HNR Honiara 55.83 172⇓ *e*P **P 17 59 58.1 -2.1**
comp=Z,230nm,1.0s,mb6.2
HNR LR LR
comp=Z,33μm,19.0s,MS6.4
MPOR Mary's Peak 55.85 59 P **P 18 00 03.1 +2.8**
GKN Gorkha 55.86 276 *e*P **P 18 00 01.5 +1.1**
COR Corvallis 55.95 59 *e*P **P 18 00 02.5 +1.4**
COR pmax pmax
comp=Z,454nm,1.4s,mb6.3
COR MLR MLR
comp=Z,8μm,21.0s,MS5.8
COR Corvallis 55.95 59 *e*P **P 18 00 02.5 +1.4**
comp=Z,454nm,1.4s,mb6.3
COR LR LR
comp=Z,8μm,21.0s,MS5.8
KK31 Karatay Array 56.23 299 *i*P **P 18 00 02.8 -0.3**
KEBM Edson Butte 56.29 61 *e*P **P 18 00 03.6 +0.1**
SSOR Sweet Springs 56.30 58 P **P 18 00 06.0 +2.4**
EDM Edmonton 56.60 46 *e*P **P 18 00 04.5 -1.2**
VFP Flag Point 56.63 57 P **P 18 00 07.4 +1.5**
HSO Harness Mounta 56.67 60 P **P 18 00 09.9 +3.6**
KOLN Koldanda 56.72 277 *e*P **P 18 00 07.9 +1.3**
comp=Z,2μm,1.0s,mb7.0
KBO Bosley Butte 56.73 62 *e*P **P 18 00 08.4 +1.8**
CAL Calcutta 56.81 269 *e*P **P 18 00 08.4 +1.2**
CAL *ex* x 18 08 16.5
CAL *ex* x 18 08 48.6
comp=N,14μm,17.1s
DAG Danmarks Havn 57.08 358⇓ *i*P **P 18 00 06.9 -2.2**
comp=N,1μm,2.0s,mb6.6
DAG
comp=Z,42μm,19.0s
DAG Danmarks Havn 57.08 358⇓ *e*P **P 18 00 06.9 -2.2**
DAG pmax pmax
comp=Z,1μm,2.0s,mb6.6
DAG MLR MLR
comp=Z,42μm,19.0s,MS6.6
DAG Danmarks Havn 57.08 358⇓ *e*P **P 18 00 06.9 -2.2**
comp=Z,1μm,2.0s,mb6.6
DAG LR LR
comp=Z,42μm,19.0s,MS6.6
HAWA Hanford 57.13 55 *e*P **P 18 00 09.4 -0.1**
comp=Z,20nm,1.5s
HAWA LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 57.18 337 P **P 18 00 08.4 -1.4**
comp=Z,688nm,0.9s,mb6.7,SNR=7.2
LVZ Lovozero 57.18 337 *e*P **P 18 00 07.4 -2.4**
LVZ S **S 18 07 58.2 -5.9**
LVZ pmax pmax
comp=Z,11μm,7.8s
LVZ pmax pmax
comp=N,3μm,6.8s
LVZ pmax pmax
comp=E,4μm,7.7s
LVZ pmax pmax
comp=Z,102nm,0.9s,mb5.8
LVZ pmax pmax
comp=N,44nm,1.1s
LVZ pmax pmax
comp=E,31nm,1.0s
LVZ smax
comp=Z,3μm,7.7s
LVZ smax
comp=N,7μm,9.6s
LVZ smax
comp=E,4μm,14.4s
LVZ Lovozero 57.18 337⇑ *i*P **P 18 00 08.0 -1.8**
KRMB Red Mountain 57.32 62 *e*P **P 18 00 12.4 +1.6**
NEW Newport 57.42 52 P **P 18 00 11.9 +0.4**
baz=321,slow=7.0
NEW S **S 18 08 03.6 -3.8**
comp=E,1.1nm,0.4s,baz=24,slow=16,SNR=2.2
NEW LR LR 18 22 14.2
comp=E,35μm,21.9s,MS6.4,baz=313,slow=33
NEW Newport 57.42 52 P **P 18 00 11.9 +0.3**
NEW S **S 18 08 03.7 -3.7**
NEW smax
comp=N,1.0nm,0.4s
NEW MLR MLR
comp=Z,35μm,21.9s
NEW Newport 57.42 52 *e*P **P 18 00 10.3 -1.3**
comp=Z,239nm,1.4s,mb6.0
NEW LR LR
comp=Z,44μm,22.0s,MS6.5
KTRM Thompson Ridge 57.42 62 P **P 18 00 13.8 +2.2**
BOK Bokaro 57.68 272 *e*P **P 18 00 14.6 +1.2**
BOK AMb AMB 18 00 19.5
comp=Z,591nm,1.5s,mb6.4
APA Apatity 57.75 337 *α i*P **P 18 00 13.0 -0.8**
APA *i* 18 01 08.4
APA *i*S **S 18 08 10.0 -1.7**
APA *i* 18 10 00.0
APA *i*SS SS 18 12 09.0 +6.8
APA pmax pmax
comp=Z,32nm,0.9s,mb5.3
APA pmax pmax
comp=Z,16μm,10.0s
APA MLR MLR
comp=Z,160μm,17.0s,MS7.2
KEV Kevo 57.76 341 *ep* **P 18 00 11.4 -2.5**
comp=Z,8.3nm,0.3s,mb5.2
KEV Kevo 57.76 341 P **P 18 00 12.7 -1.3**
KHMM Khorse Mountain 57.80 63 *e*P **P 18 00 16.6 +2.4**
PTH Pithoragarh 57.93 281 *e*P **P 18 00 17.2 +2.1**
YBH Yreka Blue Hor 57.93 61 LR LR 18 23 04.8
comp=Z,19μm,19.2s,MS6.2,baz=307,slow=34
YBH Yreka Blue Hor 57.93 61 *e*P **P 18 00 16.6 +1.5**
YBH pmax pmax
comp=Z,160nm,1.2s
YBH MLR MLR
comp=Z,18μm,19.0s
YBH Yreka Blue Hor 57.93 61 *e*P **P 18 00 16.6 +1.5**
comp=Z,160nm,1.2s,mb5.9
YBH LR LR
comp=Z,18μm,19.0s,MS6.2
KSM Kuching 58.23 233⇑ *e*P **P 18 00 17.4 +0.2**
ARCES ARCESS Array B 58.27 341 P **P 18 00 16.1 -1.5**
comp=Z,61nm,0.9s,mb5.6,baz=29,slow=6.4,SNR=58
ARCES PKP2bc 18 30 08.4
comp=Z,4.7nm,0.9s,baz=249,slow=3.4,SNR=5.4
ARCES LR LR 18 31 18.1
comp=Z,79μm,18.1s,MS6.9,baz=29,slow=42
ARCES ARCESS Array B 58.27 341 P **P 18 00 16.1 -1.5**
ARCES ⇑*e* 18 30 08.4
ARCES LR LR 18 31 18.1
ARE0 ARCESS Array S 58.27 341⇑ *e*P **P 18 00 15.0 -2.6**
KIPM Iron Peak 58.58 64 *e*P **P 18 00 20.9 +1.2**
WALA Waterton Lakes 58.70 50 *e*P **P 18 00 21.0 +0.5**
comp=Z,495nm,1.5s,mb6.3
WDC Whiskeytown Da 58.71 62 *e*P **P 18 00 19.8 -0.8**
WDC pmax pmax
comp=Z,116nm,1.2s,mb5.8
WDC MLR MLR
comp=Z,14μm,20.0s,MS6.1
WDC Whiskeytown Da 58.71 62 *e*P **P 18 00 19.8 -0.7**
comp=Z,116nm,1.2s,mb5.8
WDC LR LR
comp=Z,14μm,20.0s,MS6.1
AB31 Akbulak array 58.72 310 *i*P **P 18 00 19.5 -1.2**
SMLA Simla 59.02 284 *e*P **P 18 00 23.6 +0.9**
AKTK Aktyubinsk 59.03 312 *i*P **P 18 00 21.9 -0.9**
AKTO Aktyubinsk 59.03 312 LR LR 18 28 12.8
comp=Z,268μm,18.9s,MS7.4,baz=48,slow=38
AKTO Aktyubinsk 59.03 312 *i*P **P 18 00 21.9 -0.9**
KAPI Kappang 59.07 220 P **P 18 00 23.0 -0.1**
comp=Z,742nm,1.6s,mb6.5,SNR=11
THN Thein Dam 59.18 286 *e*P **P 18 00 23.9 +0.1**
KTK1 Kautokeino 59.19 341 *e*P **P 18 00 23.9 -0.1**
MOD Modoc 59.29 60 *e*P **P 18 00 24.5 -0.1**
comp=Z,127nm,1.3s,mb5.8
MOD LR LR
comp=Z,17μm,19.0s,MS6.2
BMO Blue Mountains 59.30 56 *e*P **P 18 00 25.0 +0.4**
comp=Z,285nm,1.5s,mb6.1
BMO LR LR
comp=Z,15μm,20.0s,MS6.1
HOPS Hopland 59.32 64 *e*P **P 18 00 26.3 +1.5**
comp=Z,268nm,1.6s,mb6.0
HOPS LR LR
comp=Z,26μm,19.0s,MS6.4

BHK Bhakra 59.34 285 *e*P **P 18 00 27.8 +2.9**
FUNA Funafuti 59.35 150 PFAKE 18 00 40.0 +15
FUNA LR LR
comp=Z,42μm,19.0s,MS6.6
TRO Tromso 59.60 343⇑ *i*P **P 18 00 24.1 -2.6**
TRO AMb AMB 18 00 33.2
comp=Z,406nm,0.4s,mb6.8
TRO *e*S **S 18 08 34.9 -0.9**
TRO AMS AMS 18 31 06.4
comp=Z,50μm,24.4s,MS6.6
TRO Tromso 59.60 343⇑ *i*P **P 18 00 24.1 -2.7**
TRO pmax pmax
comp=Z,406nm,0.4s,mb6.8
TRO MLR MLR
comp=Z,50μm,24.4s,MS6.6
TRO Tromso 59.60 343⇑ *i*P **P 18 00 24.1 -2.6**
comp=Z,406nm,0.4s,mb6.8
TRO LR LR
comp=Z,50μm,24.4s,MS6.6
MCCM Marconi Confer 59.95 65 *e*P **P 18 00 29.1 -0.1**
WVOR Wild Horse Val 59.97 59 P **P 18 00 29.0 -0.2**
WVOR pmax pmax
comp=Z,250nm,1.3s,mb6.1
WVOR Wild Horse Val 59.97 59 *e*P **P 18 00 29.6 +0.3**
comp=Z,248nm,1.3s,mb6.1
WVOR LR LR
comp=Z,32μm,20.0s,MS6.5
MSO Missoula 60.01 52 *e*P **P 18 00 29.2 -0.3**
comp=Z,251nm,1.3s,mb6.1
MSO LR LR
comp=Z,16μm,22.0s,MS6.1
BWNR Bhubaneshwar 60.05 269 *e*P **P 18 00 28.0 -1.8**
NIL Nilore 60.06 289 P **P 18 00 31.9 +2.0**
comp=Z,2μm,0.8s,SNR=38
OHCM Honcut 60.10 63 *e*P **P 18 00 30.5 +0.3**
CHMT Chamberlain Mo 60.34 52 *e*P **P 18 00 31.4 -0.4**
SAC San Andreas 60.59 65 *e*P **P 18 00 34.3 +0.8**
KULM Kulim 60.91 245 *e*P **P 18 00 36.9 +1.2**
SUMG Summit 61.13 4 P **P 18 00 36.3 -0.9**
PAHR Pah Rah Range 61.17 62 *e*P **P 18 00 38.4 +1.0**
comp=Z,133nm,1.1s,mb6.0
HRY Holter Researc 61.23 51 P **P 18 00 34.3 -3.6**
IPM Ipoh 61.30 244 P **P 18 00 40.4 +2.0**
PBA Port Blair 61.31 256 *ex* x 18 00 26.8
EGMT Eagleton 61.53 49 *e*P **P 18 00 39.2 -0.6**
comp=Z,232nm,1.1s,mb6.2
EGMT LR LR
comp=Z,32μm,22.0s,MS6.4
CMB Columbia Colle 61.58 64⇓ *e*P **P 18 00 39.3 -0.9**
CMB pmax pmax
comp=Z,193nm,1.3s,mb6.1
CMB MLR MLR
comp=Z,17μm,19.0s,MS6.2
CMB Columbia Colle 61.58 64⇓ *e*P **P 18 00 39.3 -0.9**
comp=Z,193nm,1.3s,mb6.1
CMB LR LR
comp=Z,17μm,19.0s,MS6.2
FCC Fort Churchill 61.62 33 *e*P **P 18 00 39.3 -1.2**
FCC pmax pmax
comp=Z,161nm,1.1s,mb6.1
FCC Fort Churchill 61.62 33 *e*P **P 18 00 39.3 -1.1**
comp=Z,161nm,1.1s,mb6.1
KAKA Kakadu 61.63 203⇓ *i*P **P 18 00 41.7 +1.1**
comp=Z,94nm,0.8s,mb6.0
DLMT Dillon 61.65 53 *e*P **P 18 00 40.1 -0.6**
comp=Z,250nm,1.7s,mb6.1
SAO San Andreas Ge 61.70 65 *e*P **P 18 00 41.6 +0.6**
SAO pmax pmax
comp=Z,58nm,1.0s,mb5.7
SAO MLR MLR
comp=Z,16μm,20.0s,MS6.2
SAO San Andreas Ge 61.70 65 *e*P **P 18 00 41.6 +0.6**
comp=Z,58nm,1.0s,mb5.7
SAO LR LR
comp=Z,16μm,20.0s,MS6.2
JOF Joensuu 61.73 334 *ep* **P 18 00 39.7 -1.6**
comp=Z,70nm,0.6s,mb6.0
HLID Hailey 61.74 56 *e*P **P 18 00 41.2 0.0**
comp=Z,279nm,1.6s,mb6.1
HLID LR LR
comp=Z,26μm,20.0s,MS6.4
PECR Pechory 61.81 323 *de*P **P 18 00 40.4 -1.4**
PECR *e* 18 01 20.0
PECR *e*PPP 18 04 28.0
PECR *i* 18 10 30.5
PECR *e*SS SS 18 13 11.0 +5.1
PECR pmax pmax
comp=Z,2μm,1.6s,mb6.9
PECR pmax pmax
comp=Z,11μm,9.0s
PECR pmax pmax
comp=N,5μm,9.4s
PECR pmax pmax
comp=E,5μm,9.4s
PECR MLR MLR
comp=N,37μm,16.0s,MS6.8
PECR MLR MLR
comp=E,36μm,16.0s,MS6.8
PECR MLR MLR
comp=Z,78μm,16.0s,MS7.0
KGM Kluang 61.83 240 P **P 18 00 43.7 +1.8**
MCMT McKenzie Canyo 61.84 54 *e*P **P 18 00 41.3 -0.7**
LOF Lofoten 61.93 344 *e*P **P 18 00 43.5 +0.9**
LOF AMb AMB 18 00 51.7
comp=Z,812nm,1.2s,mb6.7
LOF Lofoten 61.93 344 *e*P **P 18 00 43.5 +0.9**
comp=Z,812nm,1.2s,mb6.7
BOZ Bozeman (W) 62.00 52 *e*P **P 18 00 43.3 +0.2**
BOZ pmax pmax
comp=Z,620nm,1.6s,mb6.5
BOZ MLR MLR
comp=Z,26μm,19.0s,MS6.4
BOZ Bozeman (W) 62.00 52 *e*P **P 18 00 43.3 +0.2**
comp=Z,620nm,1.6s,mb6.5
BOZ LR LR
comp=Z,26μm,19.0s,MS6.4
BMN Battle Mountai 62.03 60 *e*P **P 18 00 43.2 -0.1**
BMN pmax pmax
comp=Z,721nm,1.8s,mb6.5
BMN MLR MLR
comp=Z,19μm,19.0s,MS6.3
BMN Battle Mountai 62.03 60 *e*P **P 18 00 43.2 0.0**
comp=Z,721nm,1.8s,mb6.5
BMN LR LR
comp=Z,19μm,19.0s,MS6.3
JBP Jabalpur 62.18 275⇑ *e*P **P 18 00 45.1 +0.9**
JBP *ex* x 18 00 49.9
comp=Z,522nm,1.3s
JBP *ex* x 18 09 16.7
LRV Little Rabbit 62.18 65 *e*P **P 18 00 44.7 +0.4**
JNW Jan Mayen West 62.22 353 *e*P **P 18 00 47.0 +2.5**
JMIC Jan Mayen 62.27 353 LR LR 18 25 40.4
comp=Z,22μm,20.9s,MS6.3,baz=191,slow=34
JMIC Jan Mayen 62.27 353⇑ *i*P **P 18 00 44.9 0.0**
JMIC AMb AMB 18 00 54.5
comp=Z,750nm,2.5s,mb6.4
JMIC *e*S **S 18 09 10.8 +1.0**
JMIC Jan Mayen 62.27 353⇑ *i*P **P 18 00 44.9 0.0**
comp=Z,750nm,2.5s,mb6.4
QLMT Earthquake Lak 62.62 53 *e*P **P 18 00 47.6 +0.3**
GCMT Greycliff 62.98 51 *e*P **P 18 00 50.4 +0.8**
YMR Madison River 62.98 53 *e*P **P 18 00 49.6 0.0**
comp=Z,458nm,1.5s,mb6.4
YMR LR LR
comp=Z,30μm,19.0s,MS6.5
ELK Elko 63.01 58 *e*P **P 18 00 51.1 +1.3**
ELK pmax pmax
comp=Z,179nm,1.5s
ELK MLR MLR
comp=Z,22μm,20.0s
ELK Elko 63.01 58 *e*P **P 18 00 51.1 +1.2**
comp=Z,179nm,1.5s,mb6.0
ELK LR LR
comp=Z,22μm,20.0s,MS6.3
YNR Norris Junctio 63.11 53 *e*P **P 18 00 51.2 +0.7**
MTUM Tungsten Hills 63.13 63 *e*P **P 18 00 51.3 +0.7**
PTRM Twissleman Ran 63.17 66 *e*P **P 18 00 51.9 +1.0**
YFT Old Faithful 63.19 53 *e*P **P 18 00 54.4 +3.4**
LKWY Lake 63.36 53 *e*P **P 18 00 53.8 +1.7**
LKWY pmax pmax
comp=Z,144nm,1.1s,mb6.0
LKWY MLR MLR
comp=Z,44μm,20.0s,MS6.6
LKWY Lake 63.36 53 *e*P **P 18 00 53.8 +1.6**
comp=Z,144nm,1.1s,mb6.0
LKWY LR LR

comp=Z,44µm,20.0s,MS6.6
MOR8 Moi Rana 63.45 343 *e*P **P 18 00 50.2 -2.5**
MOR8 AMb AMB 18 00 59.2
comp=Z,644nm,1.4s,mb6.6
MOR8 Moi Rana 63.45 343 *e*P **P 18 00 50.2 -2.5**
comp=Z,644nm,1.4s,mb6.6
SCO Scoresbysund 63.46 358 *i* P **P 18 00 52.2 -0.6**
comp=Z,108nm,0.8s,mb6.0
SCO *i* S **S 18 09 25.3 +0.6**
SCO Scoresbysund 63.46 358 *i* P **P 18 00 52.2 -0.6**
SCO *i* S **S 18 09 25.3 +0.6**
SCO pmax pmax
comp=Z,108nm,0.8s,mb6.0
IMW Indian Meadow 63.49 53 *e*P **P 18 00 53.3 +0.3**
comp=Z,246nm,1.3s,mb6.2
TPH Tonopah 63.50 62 *e*P **P 18 00 53.5 +0.4**
TPH pmax pmax
comp=Z,231nm,1.3s,mb6.0
TPH Tonopah 63.50 62 *e*P **P 18 00 53.5 +0.5**
comp=Z,231nm,1.3s,mb6.0
FLWY Flagg Ranch 63.50 53⇑*e*P **P 18 00 53.9 +0.8**
comp=Z,4µm,1.6s
VIS Vishakhapatnam 63.51 268 *e*P **P 18 00 54.3 +1.2**
DCID1 Drake Creek 63.54 54 *e*P **P 18 00 53.9 +0.6**
STOK Stokkvaagen 63.59 343 *e*P **P 18 00 52.5 -1.2**
STOK AMb AMB 18 00 56.9
comp=Z,362nm,2.1s,mb6.0
STOK Stokkvaagen 63.59 343 *e*P **P 18 00 52.5 -1.2**
comp=Z,362nm,2.1s,mb6.0
TSI Tuntungan 63.60 245 P **P 18 00 54.7 +1.0**
RLMT Red Lodge 63.62 52 *e*P **P 18 00 53.6 -0.2**
RRI2 Red Ridge 63.63 54 *e*P **P 18 00 58.6 +4.7**
comp=Z,184nm,0.8s,mb6.2
AJM Ajmer 63.67 281 *e*P **P 18 00 55.2 +1.0**
MOOW Moose Ponds 63.69 54 *e*P **P 18 00 54.6 +0.2**
comp=Z,298nm,1.5s,mb6.1
TPAW Teton Pass 63.74 54 *e*P **P 18 00 55.5 +0.8**
comp=Z,4µm,1.6s
HVU Hansel Valley 63.80 56 *e*P **P 18 00 54.8 -0.2**
HVU pmax pmax
comp=Z,194nm,1.4s,mb5.9
HVU Hansel Valley 63.80 56 *e*P **P 18 00 54.8 -0.2**
comp=Z,194nm,1.4s,mb5.9
KAF Kangasniemi 63.85 335 *e*p **P 18 00 54.1 -1.3**
comp=Z,126nm,0.9s,mb6.0,baz=37,slow=6.3
KAF Kangasniemi 63.85 335 *e*P **P 18 00 54.1 -1.3**
KAF pmax pmax
comp=Z,126nm,0.9s,mb6.0
LOHW Long Hollow 63.86 54 *e*P **P 18 00 55.5 +0.1**
comp=Z,4µm,1.6s
SNOW Snow King Moun 63.87 54 *e*P **P 18 00 55.4 -0.1**
comp=Z,316nm,1.3s,mb6.2
REDW Red Top Meadow 63.88 54 *e*P **P 18 00 56.1 +0.6**
comp=Z,783nm,1.6s,mb6.5
BHPL Bhopal 63.89 277 *e*P **P 18 00 56.4 +0.8**
PSI Prapat 63.91 244 LR LR 18 30 52.1
comp=Z,33µm,18.7s,MS6.5,baz=331,slow=38
DGMT Dagmar 64.09 46 *e*P **P 18 00 56.6 -0.3**
comp=Z,271nm,1.3s,mb6.1
DGMT LR LR
comp=Z,42µm,21.0s,MS6.6
AHID Auburn Hatcher 64.12 55 *e*P **P 18 00 57.7 +0.5**
comp=Z,325nm,1.5s,mb6.1
AHID LR LR
comp=Z,21µm,21.0s,MS6.3
NGP Nagpur 64.16 274 *e*P **P 18 00 55.7 -1.7**
BGU Big Grassy Mou 64.19 57 *e*P **P 18 00 57.4 -0.2**
LAO LASA Array 64.23 49 *e*P **P 18 00 57.9 +0.1**
comp=Z,430nm,1.4s,mb6.3
LAO LR LR
comp=Z,48µm,20.0s,MS6.7
ISA Isabella 64.26 65 PFAKE 18 01 10.0 +12
ISA LR LR
comp=Z,4µm,19.0s,MS5.6
SPUT South Promonto 64.29 56 *e*P **P 18 00 54.9 -3.3**
TRCR Troy Canyon 64.32 61 *e*P **P 18 00 58.1 -0.4**
DAC Darwin (Calif) 64.42 64 *e*P **P 18 00 58.1 -1.0**
DAC pmax pmax
comp=Z,1µm,1.6s,mb6.7
DAC MLR MLR
comp=Z,16µm,20.0s,MS6.2
DAC Darwin (Calif) 64.42 64 *e*P **P 18 00 58.1 -1.0**
comp=Z,1µm,1.6s,mb6.7
DAC LR LR
comp=Z,16µm,20.0s,MS6.2
PUL Pulkovo 64.44 332 *e*P **P 18 00 56.9 -2.3**
PUL S **S 18 09 34.2 -2.6**
PUL pmax pmax
comp=Z,361nm,0.9s,mb6.4
FIA1 FINESS Array S 64.44 335 *e*P **P 18 00 57.4 -1.9**
FINES FINESS Array B 64.44 335 P **P 18 00 57.5 -1.7**
comp=Z,123nm,0.9s,mb6.0,baz=46,slow=5.8,SNR=186
FINES PKP2bc 18 29 51.0
comp=Z,3.4nm,0.9s,baz=157,slow=5.4,SNR=4.2
FINES LR LR 18 31 56.8
comp=Z,80µm,19.9s,MS6.9,baz=36,slow=39
FINES FINESS Array B 64.44 335 P **P 18 00 57.5 -1.7**
FINES ⇑*e* 18 29 51.0
FINES LR LR 18 31 56.8
HWUT Hardware Ranch 64.60 56 *e*P **P 18 01 00.5 +0.2**
comp=Z,357nm,1.4s,mb6.2
HWUT LR LR
comp=Z,21µm,20.0s,MS6.3
DUG Dugway 64.79 58 *e*P **P 18 01 01.3 -0.2**
DUG pmax pmax
comp=Z,297nm,1.4s,mb6.1
DUG MLR MLR
comp=Z,19µm,20.0s,MS6.3
DUG Dugway 64.79 58 *e*P **P 18 01 01.3 -0.2**
comp=Z,297nm,1.4s,mb6.1
DUG LR LR
comp=Z,19µm,20.0s,MS6.3
MOS Moscow 64.81 326α *i*P **P 18 01 00.6 -1.1**
MOS *e* 18 01 33.5
MOS *e* 18 03 23.8
MOS *e*PPP 18 04 55.0
MOS *e*S **S 18 09 39.5 -2.0**
MOS *e*PS 18 10 02.0
MOS *e* 18 10 50.0
MOS *e*SS SS 18 13 54.7 +1.9
MOS pmax pmax
comp=Z,14µm,8.4s
MOS pmax pmax
comp=N,6µm,7.5s
MOS pmax pmax
comp=E,3µm,7.9s
MOS MLR MLR
comp=Z,82µm,17.6s,MS7.0
MOS MLR MLR
comp=N,88µm,17.5s
NOQ North Oquirrh 64.90 57 *e*P **P 18 01 02.9 +0.7**
comp=N,346nm,1.2s,mb6.3
BW06 Boulder Array 64.99 54 *e*P **P 18 01 01.6 -1.2**
comp=N,488nm,1.7s,mb6.3
BW06 LR LR
comp=Z,18µm,19.0s,MS6.3
PDAR Pinedale Array 64.99 54 P **P 18 01 01.9 -0.9**
comp=Z,39nm,0.8s,mb5.5,baz=277,slow=1.7,SNR=81
PDAR PKP2bc 18 29 45.3
comp=Z,0.7nm,0.9s,baz=132,slow=2.2,SNR=5.6
PDAR LR LR 18 30 45.8
comp=Z,14µm,18.9s,MS6.2,baz=343,slow=37
PDAR Pinedale Array 64.99 54 P **P 18 01 01.9 -0.9**
PDAR ⇑*e* 18 29 45.3
PDAR LR LR 18 30 45.8
TCUT Toone Canyon 65.01 56 *e*P **P 18 01 03.1 +0.1**
CTU Camp Tracy 65.09 57 P **P 18 01 05.0 +1.5**
comp=Z,407nm,1.6s,mb6.2
SNCC San Nicolas Is 65.14 67 PFAKE 18 01 20.0 +16
SNCC LR LR
comp=Z,22µm,21.0s,MS6.3
NLU North Lily Min 65.38 57 *e*P **P 18 01 06.1 +0.8**
NSS Namsos 65.39 343⇑*i*P **P 18 01 02.9 -2.5**
NSS AMb AMB 18 01 12.6
comp=Z,302nm,1.6s,mb6.1
NSS *e*S S 18 09 48.8 +0.2
NSS *e*SS SS 18 14 05.6 +3.7
NSS AMS AMS 18 33 51.5
comp=Z,55µm,16.0s,MS6.8
NSS Namsos 65.39 343⇑*i*P **P 18 01 02.9 -2.5**
comp=Z,302nm,1.6s,mb6.1
NSS LR LR
comp=Z,55µm,16.0s,MS6.8
DAU Daniels Canyon 65.56 57 *e*P **P 18 01 07.2 +0.7**
SFJD Kangerlussuaq 65.58 10⇑*i*P **P 18 01 07.5 +0.9**
comp=Z,147nm,1.1s,mb5.9
SFJD *i* S S 18 09 44.0 -6.8
SFJD *i* S 18 11 06.0
SFJD
comp=Z,49µm,18.0s
SFJD Kangerlussuaq 65.58 10⇑*i*P **P 18 01 07.5 +0.9**
SFJD *i* S S 18 09 44.0 -6.8
SFJD pmax pmax
comp=Z,147nm,1.1s,mb5.9
SFJD MLR MLR
comp=Z,49µm,18.0s,MS6.8
MPU Maple Canyon 65.59 57 *e*P **P 18 01 07.1 +0.3**
comp=Z,219nm,1.3s,mb6.0
OBN Obninsk 65.68 326*j* *i*P **P 18 01 06.2 -1.1**
OBN *e* pP 18 01 13.9 -0.1
OBN *i* PPP 18 05 04.5
OBN *i* S S 18 09 48.1 -4.0
OBN *e* 18 10 21.3
OBN *e* 18 10 29.5
OBN *e* 18 11 00.1
OBN *e*SS SS 18 14 12.4 +6.0
OBN pmax pmax
comp=Z,107nm,1.2s,mb5.8
OBN pmax pmax
comp=Z,8µm,6.2s
OBN MLR MLR
comp=Z,93µm,17.0s,MS7.0
OBN Obninsk 65.68 326⇑*e*P **P 18 01 05.2 -2.1**
comp=Z,144nm,0.7s,mb6.1
OBN LR LR
comp=Z,18µm,21.0s,MS6.2
AKL Akola 65.86 275 *e*P **P 18 01 09.2 +0.7**
AKL *i* x x 18 10 01.5
ARUT Antelope Range 65.98 60 *e*P **P 18 01 09.9 +0.7**
CCUT Cedar City 66.18 60 *e*P **P 18 01 11.1 +0.6**
MVU Marysvale 66.24 59 PFAKE 18 01 20.0 +9.1
MVU LR LR
comp=Z,22µm,20.0s,MS6.4
MSU Marysvale 66.26 59 *e*P **P 18 01 11.6 +0.6**
TMUT Trail Mountain 66.31 57 *e*P **P 18 01 11.2 -0.2**
CTA Charters Tower 66.38 187 *e*P **P 18 01 10.1 -1.7**
comp=Z,36nm,0.9s,mb5.4
CTA *i* S S 18 09 58.5 -2.1
CTA Charters Tower 66.38 187 P **P 18 01 12.6 +0.8**
comp=Z,7.4nm,0.6s,baz=3.7,slow=7.3,SNR=14
CTA LR LR 18 28 07.2
comp=Z,26µm,18.6s,MS6.5,baz=1.4,slow=34
CTAO Charters Tower 66.38 187 *e*P **P 18 01 12.3 +0.5**
CTAO pmax pmax
comp=Z,121nm,1.4s,mb5.7
CTAO MLR MLR
comp=Z,28µm,19.0s,MS6.5
CTAO Charters Tower 66.38 187 *e*P **P 18 01 12.2 +0.5**
comp=Z,121nm,1.4s,mb5.7
CTAO LR LR
comp=Z,28µm,19.0s,MS6.5
VRHR Novokhopersk 66.48 320 *e*P **P 18 01 12.7 +0.3**
VRHR *e*S S 18 09 58.5 -3.3
VRHR *e* 18 10 58.1
VRHR *e*PS 18 14 24.3
VRHR pmax pmax
comp=Z,70nm,0.6s,mb5.9
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,50nm,0.7s
VRHR smax
comp=N,1µm,9.0s
VRHR smax
comp=Z,2µm,10.6s
VRHR smax
comp=E,4µm,15.2s
VRHR MLR MLR
comp=N,34µm,18.0s,MS6.7
VRHR MLR MLR
comp=Z,50µm,18.0s,MS6.8
VRHR MLR MLR
comp=E,37µm,22.0s,MS6.7
ASH Ashkhabad 66.69 301 P **P 18 01 14.0 +0.2**
ASH *e*S S 18 10 11.0 +6.6
SRU San Rafael 66.83 57 *e*P **P 18 01 14.0 -0.7**
SRU pmax pmax
comp=Z,187nm,1.0s,mb6.1
SRU San Rafael 66.83 57 *e*P **P 18 01 14.0 -0.7**
comp=Z,187nm,1.0s,mb6.1
ULM Lac du Bonnet 66.84 41 P **P 18 01 13.3 -1.4**
comp=Z,26nm,0.8s,mb5.3,baz=310,slow=6.7,SNR=11
ULM PKPPKP 18 29 41.6
comp=Z,3.1nm,0.9s,baz=162,slow=8.2,SNR=3.8
ULM LR LR 18 34 02.4
comp=Z,30µm,18.6s,MS6.5,baz=323,slow=39
ULM Lac du Bonnet 66.84 41 *e*P **P 18 01 13.0 -1.7**
comp=Z,58nm,0.9s,mb5.6
ULM LR LR
comp=Z,43µm,19.0s,MS6.7
ABKT Ailbek 66.85 301 P **P 18 01 15.9 +1.1**
comp=Z,1µm,0.8s,mb7.0,SNR=76
ABKT Ailbek 66.85 301 P **P 18 01 15.4 +0.6**
PFO Pinyon Flat Ob 66.85 65 P **P 18 01 15.1 +0.3**
comp=Z,107nm,2.2s,mb5.5,SNR=8.6
PFO Pinyon Flat Ob 66.85 65 *e*P **P 18 01 15.2 +0.4**
PFO pmax pmax
comp=Z,393nm,2.0s,mb6.1
PFO MLR MLR
comp=Z,5µm,21.0s,MS5.7
PFO Pinyon Flat Ob 66.85 65 *e*P **P 18 01 15.2 +0.4**
comp=Z,393nm,2.0s,mb6.1
PFO LR LR
comp=Z,5µm,21.0s,MS5.7
RWWY Rawlins 67.01 53 *e*P **P 18 01 16.2 +0.4**
comp=Z,369nm,1.5s,mb6.2
HYB Hyderabad 67.03 271⇓*i*P **P 18 01 16.5 +0.6**
comp=Z,380nm,1.0s,mb6.4
HYB *e* 18 01 18.0
HYB *e* 18 01 29.5
HYB *e*PcP PcP 18 01 48.0 +3.8
HYB *e*PP PP 18 03 46.0 +2.4
HYB *e*S S 18 10 06.0 -2.5
HYB LR LR 18 35 46.0
comp=Z,26nm,16.0s
HYB Hyderabad 67.03 271⇓*e*P **P 18 01 16.5 +0.6**
HYB *e* 18 03 46.0
HYB pmax pmax
comp=Z,380nm,1.0s,mb6.4
HYB Hyderabad 67.03 271⇓*e*P **P 18 01 16.5 +0.6**
comp=Z,380nm,1.0s,mb6.4
HYB *e* 18 03 46.0
VOR Voronezh 67.08 322 *e*P **P 18 01 16.0 -0.2**
VOR *e* 18 10 14.0
VOR pmax pmax
comp=N,170nm,1.7s
VOR pmax pmax
comp=E,240nm,1.7s
VOR pmax pmax
comp=Z,480nm,1.7s,mb6.2
RSSD Black Hills 67.09 50 P **P 18 01 15.4 -0.9**
RSSD pmax pmax
comp=Z,220nm,1.2s,mb6.1
RSSD Black Hills 67.09 50⇑*e*P **P 18 01 15.6 -0.7**
comp=Z,216nm,1.3s,mb6.0
RSSD LR LR
comp=Z,9µm,22.0s,MS6.0
VRSR Storozhevoye 67.46 322*c* *i*P **P 18 01 17.4 -1.3**
VRSR *e**PP pP 18 01 25.8 +0.5
VRSR *e**SP sP 18 01 29.3 +1.5
VRSR *e*S S 18 10 08.6 -5.0
VRSR *e*SS SS 18 14 30.2 -3.7
VRSR pmax pmax
comp=N,90nm,0.8s
VRSR pmax pmax
comp=E,80nm,0.8s
VRSR pmax pmax
comp=Z,100nm,0.8s,mb5.9
VRSR smax
comp=N,1µm,5.7s
VRSR smax
comp=Z,2µm,8.8s
VRSR smax
comp=E,1µm,8.6s
VORD Divnogorie 67.59 321 *e*P **P 18 01 17.9 -1.6**
VORD pmax pmax
comp=N,140nm,0.9s
VORD pmax pmax
comp=Z,120nm,0.9s,mb5.9
VORD pmax pmax
comp=E,140nm,0.8s
VORD MLR MLR
comp=Z,72µm,19.0s,MS6.9
VORD MLR MLR
comp=N,53µm,16.0s,MS7.0
VORD MLR MLR
comp=E,68µm,18.0s,MS7.0
LATR Latur 67.73 274 *ex* x 18 01 17.2
AFI Afiamalu 67.75 143 P **P 18 01 21.2 +0.7**
comp=E,38nm,0.9s,mb5.4,baz=201,slow=16,SNR=4.2
AFI Afiamalu 67.75 143 P **P 18 01 21.2 +0.7**
AFI LR LR
comp=Z,41µm,19.0s,MS6.7
WRAB Tennant Creek 68.09 199 P **P 18 01 23.2 +0.5**
comp=Z,423nm,1.0s,mb6.4,SNR=14
WRAB Tennant Creek 68.09 199*c* *i*P **P 18 01 22.6 -0.1**
WRAB Tennant Creek 68.09 199 P **P 18 01 23.7 +1.0**
WB2 Warramunga Arr 68.10 199 *e*P **P 18 01 21.2 -1.5**
WRA Warramunga Arr 68.11 199 P **P 18 01 23.8 +1.0**
comp=Z,39nm,0.8s,mb5.5,baz=16,slow=6.5,SNR=54
WRA PKP2bc 18 29 43.9
comp=Z,1.5nm,0.8s,baz=186,slow=3.0,SNR=12
WRA LR LR 18 30 53.9
comp=Z,16µm,20.2s,MS6.2,baz=35,slow=36
WRA Warramunga Arr 68.11 199 P **P 18 01 23.8 +1.0**
WRA ⇑*e* 18 29 43.9
WRA LR LR 18 30 53.9
PV10 Paradox Valley 68.19 57 *e*P **P 18 01 23.4 +0.1**
PHWY Pilot Hill 68.24 53 *e*P **P 18 01 23.4 -0.2**
PV01 Paradox Valley 68.62 57 *e*P **P 18 01 26.2 +0.2**
NB2 NORSAR Subarra 68.65 341 P **P 18 01 25.4 -0.7**
comp=Z,109nm,0.8s,mb5.8,baz=28,slow=6.5
NB2 NORSAR Subarra 68.65 341 P **P 18 01 25.4 -0.7**
NB2 pmax pmax
comp=Z,109nm,0.8s,mb5.8
NOA NORSAR Array B 68.65 341 P **P 18 01 24.7 -1.4**
comp=Z,66nm,0.7s,mb5.7,baz=28,slow=6.4,SNR=162
NOA PKP2bc 18 29 41.5
comp=Z,3.0nm,0.9s,baz=205,slow=3.3,SNR=5.0
NOA LR LR 18 36 18.7
comp=Z,50µm,18.1s,MS6.8,baz=10.0,slow=40
NOA NORSAR Array B 68.65 341 P **P 18 01 24.7 -1.4**
NOA ⇑*e* 18 29 41.5
NOA LR LR 18 36 18.7
WUAZ Wupatki 68.72 61 *e*P **P 18 01 27.2 +0.6**
comp=Z,324nm,1.5s,mb6.0
WUAZ LR LR
comp=Z,20µm,21.0s,MS6.3
FITZ Fitzroy Crossi 68.77 208 *e*P **P 18 01 26.5 -0.4**
comp=Z,108nm,0.8s,mb5.8
FITZ *i* S S 18 10 31.1 +1.8
FITZ Fitzroy Crossi 68.77 208 P **P 18 01 27.8 +1.0**
comp=Z,39nm,0.8s,mb5.4,baz=30,slow=4.3,SNR=27
SMCO Snowmass 68.83 55 *e*P **P 18 01 27.2 -0.1**
comp=Z,119nm,0.9s,mb5.8
MDRS Chennai 68.86 267 *e*P **P 18 01 27.9 +0.4**
HFA0 Hagfors New Ar 68.87 340 P **P 18 01 25.3 -2.2**
NAO01 NORSAR Array S 68.90 341 *e*P **P 18 01 26.4 -1.2**
comp=Z,188nm,0.9s,mb6.0
NAO01 LR LR
comp=Z,56µm,19.0s,MS6.8
DZM Mont Dzumac 69.12 167 *e*P **P 18 01 28.7 -0.3**
DZM Mont Dzumac 69.12 167 P **P 18 01 29.2 +0.2**
comp=Z,45nm,0.9s,mb5.4,baz=49,slow=7.8,SNR=14
ISCO Idaho Springs 69.18 54 *e*P **P 18 01 29.3 -0.1**
ISCO pmax pmax
comp=Z,168nm,1.3s,mb5.8
ISCO MLR MLR
comp=Z,46µm,20.0s,MS6.7
ISCO Idaho Springs 69.18 54 *e*P **P 18 01 29.2 -0.2**
comp=Z,168nm,1.3s,mb5.8
ISCO LR LR
comp=Z,46µm,20.0s,MS6.7
BORG Borgarnes 69.20 357 *e*P **P 18 01 26.6 -2.9**
comp=Z,382nm,1.0s,mb6.3
BORG LR LR
comp=Z,5µm,20.0s,MS5.8
MVCO Mesa Verde 69.29 58 *e*P **P 18 01 29.4 -0.7**
MAK Makhachkala 69.37 311 *e*P **P 18 01 32.1 +1.5**
MAK *e* 18 01 58.9
MAK *e*PPP 18 05 43.1
MAK *i* S S 18 10 38.2 +1.8
MAK *i* 18 11 26.2
MAK pmax pmax
comp=Z,29µm,11.2s
MAK pmax pmax
comp=Z,558nm,1.5s,mb6.3
MAK pmax pmax
comp=N,190nm,0.9s
MAK pmax pmax
comp=E,175nm,1.3s
MAK smax
comp=E,6µm,8.4s
MAK smax
comp=N,6µm,9.4s
MAK MLR MLR
comp=Z,292µm,20.0s,MS7.5
MAK MLR MLR
comp=N,196µm,14.0s
MAK MLR MLR
comp=E,241µm,17.0s
MNK Minsk 69.40 329 *e*P **P 18 01 26.0 -4.8**
MNK *e*SS SS 18 15 00.0 -4.0
MNK *e*SSS 18 18 00.0
MNK pmax pmax
comp=Z,2µm,0.8s,mb7.0
MNK MLR MLR
comp=Z,220µm,18.0s,MS7.4
POO Poona 69.52 276 *ex* x 18 02 30.6
OSL Oslo 69.74 341 *e*P **P 18 01 32.3 -0.6**
OSL AMb AMB 18 01 38.6
comp=Z,407nm,1.2s,mb6.2
OSL Oslo 69.74 341 *e*P **P 18 01 32.3 -0.6**
comp=Z,407nm,1.2s,mb6.2
SUE Sulen 69.96 344 *e* **P 18 01 34.6 +0.4**
SUE *e*P 18 01 34.8
SUE AMb AMB 18 01 40.3
comp=Z,390nm,1.0s,mb6.3
SUE Sulen 69.96 344 *e*P **P 18 01 34.8 +0.5**
comp=Z,390nm,1.0s,mb6.3
BOM Bombay 69.99 277 *e*P **P 18 01 33.8 -0.6**
comp=Z,599nm,1.9s,mb6.2
BOM *i* x x 18 10 24.6
KAD Karad 70.13 274 *e*P **P 18 01 36.0 +0.8**
GOF Gofitskoye 70.15 315 *e*P **P 18 01 29.8 -5.6**
GOF *i* S S 18 10 38.2 -7.4
GOF pmax pmax
comp=Z,210nm,0.6s,mb6.2
GOF smax
comp=E,300nm,2.5s
KONO Kongsberg 70.26 341⇑*i*P **P 18 01 34.2 -1.8**
KONO *e*S S 18 10 46.7 -0.1
KONO *e*SS SS 18 15 17.6 +0.4
KONO Kongsberg 70.26 341 *e*P **P 18 01 34.9 -1.2**
KONO pmax pmax
comp=Z,273nm,0.9s,mb6.2
KONO MLR MLR
comp=Z,62µm,19.0s,MS6.9
KONO Kongsberg 70.26 341 *e*P **P 18 01 34.9 -1.2**
comp=Z,273nm,0.9s,mb6.2
KONO LR LR
comp=Z,62µm,19.0s,MS6.9
ASK Askoy 70.41 344 *e*P **P 18 01 37.5 +0.5**
ASK AMb AMB 18 01 43.4
comp=Z,686nm,1.2s,mb6.5
ASK Askoy 70.41 344 *e*P **P 18 01 37.5 +0.5**
comp=Z,686nm,1.2s,mb6.5
RUND Rundenannen 70.44 344 *e*P **P 18 01 37.6 +0.4**
RUND AMb AMB 18 01 39.9
comp=Z,819nm,1.0s,mb6.6
RUND Rundenannen 70.44 344 *e*P **P 18 01 37.6 +0.4**
comp=Z,819nm,1.0s,mb6.6
BER Bergen 70.47 344 *e*P **P 18 01 37.2 -0.2**
BER AMb AMB 18 01 44.1
comp=Z,683nm,0.9s,mb6.6
BER *e*S S 18 10 50.2 +0.9
BER *e*SS SS 18 15 30.1 +10
BER Bergen 70.47 344 *e*P **P 18 01 37.2 -0.2**
BER pmax pmax
comp=Z,683nm,0.9s,mb6.6
BER Bergen 70.47 344 *e*P **P 18 01 37.2 -0.2**
comp=Z,683nm,0.9s,mb6.6
EYMN Ely 70.49 40 *e*P **P 18 01 34.7 -2.8**
comp=Z,14nm,1.1s
EYMN LR LR
comp=Z,3µm,19.0s
EGD Espegrend 70.60 344 *e*P **P 18 01 38.9 +0.7**
EGD AMb AMB 18 01 44.6

comp=Z,627nm,1.3s,mb6.4
EGD Espegrend 70.60 344 *e*P **P 18 01 38.9 +0.7**
comp=Z,627nm,1.3s,mb6.4
ODD1 Odda 70.65 343 *e*P **P 18 01 37.3 -1.1**
ODD1 AMb AMB 18 01 43.8
comp=Z,548nm,1.1s,mb6.4
ODD1 Odda 70.65 343 *e*P **P 18 01 37.3 -1.1**
comp=Z,548nm,1.1s,mb6.4
SDCO Great Sand Dun 70.66 55 P **P 18 01 38.2 -0.3**
comp=Z,410nm,1.7s,mb6.1
SDCO LR LR
comp=Z,26µm,19.0s,MS6.5
KIV Kislovodsk 71.12 314 P **P 18 01 42.6 +1.3**
comp=Z,3µm,0.8s,SNR=60
KIV Kislovodsk 71.12 314*c* *i*P **P 18 01 41.6 +0.3**
KIV *i* PPP 18 06 04.1
KIV *i* S S 18 11 00.4 +3.5
KIV *i* PS 18 11 27.3
KIV pmax pmax
comp=Z,414nm,1.8s,mb6.1
KIV pmax pmax
comp=Z,6µm,3.6s
KIV Kislovodsk 71.12 314⇑ *e*P **P 18 01 41.5 +0.2**
comp=Z,353nm,0.8s,mb6.3
KIV LR LR
comp=Z,29µm,19.0s,MS6.6
BLS5 Blasjo 71.13 343⇑ *e*P **P 18 01 42.8 +1.4**
BLS5 AMb AMB 18 01 48.5
comp=Z,527nm,1.0s,mb6.4
BLS5 Blasjo 71.13 343⇑ *e*P **P 18 01 42.8 +1.4**
comp=Z,527nm,1.0s,mb6.4
ECSD EROS,Sioux Fal 71.17 46 *e*P **P 18 01 40.0 -1.7**
TUC Tucson 71.26 63 *e*P **P 18 01 41.1 -1.1**
TUC pmax pmax
comp=Z,52nm,1.1s,mb5.4
TUC MLR MLR
comp=Z,16µm,20.0s,MS6.3
TUC Tucson 71.26 63 *e*P **P 18 01 41.1 -1.1**
comp=Z,52nm,1.1s,mb5.4
TUC LR LR
comp=Z,16µm,20.0s,MS6.3
ZEI Tsey 71.37 313 *e*P **P 18 01 43.5 +0.7**
ZEI *e**PP pP 18 01 48.9 -0.7
ZEI *e* 18 04 20.5
ZEI pmax pmax
comp=Z,214nm,0.9s,mb6.1
SUW Suwalki 71.39 331 *e*P **P 18 01 42.0 -1.0**
SUW *e*pP pP 18 01 47.0 -2.7
SUW *e*SKS 18 11 47.7
SUW Suwalki 71.39 331 *e*S S 18 10 58.3 -1.7
SUW *e*SKS 18 11 47.7
SUW Suwalki 71.39 331 *e*S S 18 10 58.3 -1.7
DUS Dusheti 71.45 312 P **P 18 01 46.4 +3.1**
DGRG David-gareji 71.56 311 P **P 18 01 44.3 +0.3**
MTA Mtatsminda 71.69 312 P **P 18 01 45.3 +0.5**
TBLG Delisi 71.69 312 P **P 18 01 46.5 +1.8**
ONI Oni 71.74 313 P **P 18 01 46.2 +1.2**
STAV Stavanger 71.74 343 *e*P **P 18 01 45.9 +0.8**
AS31 Alice Springs 71.80 199 *e*P **P 18 01 44.7 -0.7**
ASAR Alice Springs 71.80 199 P **P 18 01 46.6 +1.2**
comp=Z,31nm,0.9s,mb5.2,baz=13,slow=4.7,SNR=40
ASAR LR LR 18 33 21.2
comp=Z,22µm,19.1s,MS6.4,baz=21,slow=36
WAL1 Walls 71.81 347 *e*P **P 18 01 44.5 -1.0**
WAL1 Walls 71.81 347 *e*P **P 18 01 44.5 -1.0**
LRW Lerwick 71.86 347 P **P 18 01 44.9 -0.9**
LRW AMb AMB 18 01 54.6
comp=Z,133nm,1.6s,mb5.6
LRW S S 18 11 03.8 -1.6
LRW Lerwick 71.86 347 *e*P **P 18 01 44.9 -0.9**
LRW *e*P 18 01 44.9
LRW AMb AMB 18 01 54.6
comp=Z,133nm,1.6s,mb5.6
LRW *e*S S 18 11 03.8 -1.6
LRW AMS AMS 18 35 36.0
comp=Z,9µm,18.5s,MS6.1
LRW Lerwick 71.86 347 *e*P **P 18 01 44.9 -0.9**
LRW *e*P 18 01 44.9
LRW AMb AMB 18 01 54.6
comp=Z,133nm,1.6s,mb5.6
LRW *e*S S 18 11 03.8 -1.6
LRW AMS AMS 18 35 36.0
comp=Z,9µm,18.5s,MS6.1
AKASG Malin Array Be 71.92 326 P **P 18 01 44.7 -1.5**
comp=Z,323nm,0.8s,mb6.3,baz=34,slow=6.1,SNR=384
AKASG PKPPKP 18 29 39.1
comp=Z,0.4nm,0.4s,baz=230,slow=2.3,SNR=4.8
AKASG LR LR 18 35 14.4
comp=Z,58µm,20.4s,MS6.8,baz=25,slow=37
AKASG Malin Array Be 71.92 326 P **P 18 01 44.7 -1.5**
AKASG P'P' 18 29 39.1
AKASG LR LR 18 35 14.4
AKBB Malin Array Si 71.92 326 *e*P **P 18 01 44.7 -1.5**
SNART Snartemo 71.97 342⇑ *i*P **P 18 01 46.3 -0.1**
SNART AMb AMB 18 01 52.8
comp=Z,329nm,0.9s,mb6.3
LAZ Ladron 72.02 59 *e*P **P 18 01 46.5 -0.3**
ANMO Albuquerque 72.04 58 *e*P **P 18 01 46.5 -0.4**
ANMO pmax pmax
comp=Z,143nm,1.5s
ANMO MLR MLR
comp=Z,17µm,19.0s
ANMO Albuquerque 72.04 58 *e*P **P 18 01 46.5 -0.4**
comp=Z,143nm,1.5s,mb5.7
ANMO LR LR
comp=Z,17µm,19.0s,MS6.3
KZR Kazreti 72.11 312 P **P 18 01 49.4 +2.1**
LENM Lemitar 72.28 59 *e*P **P 18 01 47.9 -0.5**
LPM Los Pinos Moun 72.39 59 *e*P **P 18 01 49.5 +0.6**
PALK Pallekele 72.66 262 *e*P **P 18 01 52.2 +1.7**
comp=Z,143nm,1.0s,mb5.8
PALK LR LR
comp=Z,5µm,20.0s,MS5.8
MNGI Mangalore 72.71 271 *e*P **P 18 01 51.0 +0.1**
MNGI AMb AMB 18 01 57.5
comp=Z,294nm,1.5s,mb6.0
GNI Garni 72.83 310 *i* P **P 18 01 52.9 +1.3**
GNI Garni 72.83 310 LR LR 18 39 50.5
comp=Z,78µm,18.6s,MS7.0,baz=8.0,slow=41
GNI Garni 72.83 310*c* *i*P **P 18 01 53.2 +1.6**
GNI pmax pmax
comp=Z,167nm,0.9s
GNI MLR MLR
comp=Z,118µm,19.0s
GNI Garni 72.83 310⇑ *e*P **P 18 01 52.8 +1.2**
comp=Z,8µm,3.1s
GNI LR LR
comp=Z,71µm,19.0s,MS7.0
COWI Conover 72.94 40 *e*P **P 18 01 50.4 -1.8**
BSD Bornholm Skovb 72.97 336 *i* P **P 18 01 51.4 -1.0**
comp=Z,281nm,1.1s,mb6.1
BSD *i* S S 18 11 17.6 -0.5
BSD *i* 18 11 59.5
BSD
comp=Z,56µm,20.0s
BSD Bornholm Skovb 72.97 336 *i* P **P 18 01 51.4 -1.0**
comp=Z,281nm,1.1s,mb6.1
BSD *i* S S 18 11 17.6 -0.5
BSD *i* 18 11 59.5
ANN Anapa 73.02 318 *i* P **P 18 01 49.5 -3.2**
ANN *i* 18 02 06.3
ANN *e* 18 04 31.6
ANN *e*PPP 18 06 14.2
ANN *e*S S 18 11 16.8 -1.8
ANN *e*SS SS 18 16 02.6 +3.2
ANN pmax pmax
comp=Z,16µm,8.8s
ANN pmax pmax
comp=Z,391nm,0.9s,mb6.3
CBKS Cedar Bluff 73.11 51 *e*P **P 18 01 51.5 -1.7**
CBKS pmax pmax
comp=Z,196nm,1.2s,mb5.9
CBKS MLR MLR
comp=Z,29µm,21.0s,MS6.5
CBKS Cedar Bluff 73.11 51 *e*P **P 18 01 51.5 -1.7**
comp=Z,196nm,1.2s,mb5.9
CBKS LR LR
comp=Z,29µm,21.0s,MS6.5
COP Copenhagen 73.13 338 *i* P **P 18 01 53.2 -0.1**
comp=Z,293nm,0.9s,mb6.2
COP *i* 18 06 22.5
COP *i* S S 18 11 25.1 +5.2
COP *i* 18 12 04.2
COP
comp=Z,22µm,20.0s

COP Copenhagen 73.13 338 *i* P **P 18 01 53.2 -0.1**
COP *i* 18 06 22.5
COP *i* S S 18 11 25.1 +5.2
COP *i* 18 12 04.2
COP pmax pmax
comp=Z,293nm,0.9s,mb6.2
COP MLR MLR
comp=Z,22µm,20.0s,MS6.4
MUD Monsted U'grnd 73.24 340 *i* P **P 18 01 53.5 -0.5**
comp=Z,160nm,0.9s,mb6.0
MUD *i* 18 02 09.0
MUD *i* S S 18 11 21.4 +0.2
MUD
comp=Z,47µm,18.0s
MUD Monsted U'grnd 73.24 340 *i* P **P 18 01 53.5 -0.5**
comp=Z,160nm,0.9s,mb6.0
MUD *i* 18 02 09.0
MUD *i* S S 18 11 21.4 +0.2
BCA Borcka 73.49 313 *i* P **P 18 01 55.7 +0.2**
WAR Warsaw 73.59 332 *e*P **P 18 01 57.5 +1.4**
WAR *e*pP pP 18 02 01.9 -0.9
WAR *e*PcP PcP 18 02 11.5 -0.4
WAR *e*SKS 18 12 06.9
WAR Warsaw 73.59 332 *e*S S 18 11 22.3 -2.8
WAR *e*SKS 18 12 06.9
WAR Warsaw 73.59 332 *e*S S 18 11 22.3 -2.8
OBR Brabster 73.62 347 *e*P **P 18 01 55.3 -0.9**
OBR Brabster 73.62 347 *e*P **P 18 01 55.3 -0.9**
MBWA Marble Bar 73.66 212 *e*P **P 18 01 55.1 -1.3**
comp=Z,60nm,1.1s,mb5.4
MBWA LR LR
comp=Z,8µm,19.0s,MS6.0
SCHQ Schefferville 73.70 23 P **P 18 01 54.7 -2.0**
comp=Z,22nm,1.0s,mb5.0,baz=337,slow=5.5,SNR=8.2
SCHQ LR LR 18 37 33.1
comp=Z,20µm,19.4s,MS6.4,baz=345,slow=38
SCHQ Schefferville 73.70 23 *e*P **P 18 01 54.0 -2.7**
comp=Z,238nm,1.6s,mb5.9
SCHQ LR LR
comp=Z,34µm,22.0s,MS6.6
ORE Reay 73.77 348 *e*P **P 18 01 56.3 -0.8**
ORE Reay 73.77 348 *e*P **P 18 01 56.3 -0.8**
GKP Gorka Klasztor 73.90 334 *e*P **P 18 01 57.5 -0.4**
GKP *e*pP pP 18 02 03.3 -1.3
GKP *e*SKS 18 12 08.8
GKP Gorka Klasztor 73.90 334 *e*S S 18 11 27.2 -1.4
GKP *e*SKS 18 12 08.8
GKP Gorka Klasztor 73.90 334 *e*S S 18 11 27.2 -1.4
RGN Rugen 73.90 337⇑ *e*P **P 18 01 57.9 0.0**
comp=Z,424nm,0.9s,mb6.4
MLA1 Latheron 73.95 347 *e*P **P 18 01 57.6 -0.6**
MLA1 Latheron 73.95 347 *e*P **P 18 01 57.6 -0.6**
CLDR Caldiran 74.00 310 *i* P **P 18 01 59.4 +0.9**
AGRT Agri 74.15 311 P **P 18 02 01.6 +2.2**
SCIA State Center 74.21 45 *e*P **P 18 01 58.5 -1.2**
TRD Trivandrum 74.36 266 *e*P **P 18 02 01.6 +1.1**
SIM Simferopol' 74.42 320*c* *e*P **P 18 02 01.9 +1.0**
SIM *e* 18 04 46.0
SIM *e*PPP 18 06 32.0
SIM *e*S S 18 11 25.0 -9.4
SIM pmax pmax
comp=Z,6µm,9.9s
SIM MLR MLR
comp=Z,107µm,17.8s,MS7.2
KSU1 Kansas State U 74.57 49 *e*P **P 18 01 59.5 -2.3**
LVV L'vov 74.58 329 *i* P **P 18 02 02.3 +0.5**
LVV *e* 18 02 17.1
LVV *i* S S 18 11 35.5 -0.7
MCD Coleburn Disti 74.62 347 *e*P **P 18 02 01.0 -1.1**
MCD Coleburn Disti 74.62 347 *e*P **P 18 02 01.0 -1.1**
VANB Van 74.68 310 P **P 18 02 06.6 +4.1**
VANB Van 74.68 310 *i* P **P 18 02 04.9 +2.5**
TVAN Van 74.72 310 *i* P **P 18 02 06.0 +3.4**
ERZM Erzurum 74.77 312 *i* P **P 18 02 05.0 +2.1**
KTUT Trabzon 74.77 314 *i* P **P 18 02 02.7 -0.3**
EZM Erzurum 74.77 312 *i* P **P 18 02 05.3 +2.4**
MACK Trabzon 74.80 314 *i* P **P 18 02 02.6 -0.5**
JFWS Jewell Farm 74.87 43 P **P 18 02 02.3 -1.3**
JFWS pmax pmax
comp=Z,45nm,0.8s,mb5.5
JFWS Jewell Farm 74.87 43 *e*P **P 18 02 01.3 -2.3**
comp=Z,45nm,0.8s,mb5.5
JFWS LR LR
comp=Z,45µm,20.0s,MS6.8
MNTX Cornudas Mount 74.97 60 *e*P **P 18 02 03.2 -0.9**
comp=Z,411nm,1.7s,mb6.1
MNTX LR LR
comp=Z,15µm,19.0s,MS6.3
SEMD Semdilli 74.99 309 *i* P **P 18 02 05.4 +1.2**
KAC Achnashellach 75.01 348 *e*P **P 18 02 03.8 -0.6**
KAC Achnashellach 75.01 348 *e*P **P 18 02 03.8 -0.6**
KIS Kishinev 75.05 324*c* *i*P **P 18 02 02.0 -2.6**
KIS *i* PPP 18 06 38.0
KIS *i* S S 18 11 37.0 -4.5
KIS *i* PS 18 12 20.0
KIS pmax pmax
comp=N,6µm,8.0s
KIS pmax pmax
comp=Z,18µm,8.0s
KIS pmax pmax
comp=E,4µm,7.0s
KIS pmax pmax
comp=Z,14µm,13.0s
KIS MLR MLR
comp=Z,136µm,16.0s,MS7.3
KIS MLR MLR
comp=N,39µm,16.0s,MS7.0
KIS MLR MLR
comp=E,44µm,16.0s,MS7.0
KIS MLR MLR
comp=Z,100µm,16.0s
KWP Kalwaria 75.21 329 *e*P **P 18 02 06.2 +0.7**
KWP *e*pP pP 18 02 09.7 -2.5
KWP *e*SKS 18 12 18.0
KWP Kalwaria 75.21 329 *e*S S 18 11 42.9 -0.4
KPL Plockton 75.21 348 P **P 18 02 04.9 -0.7**
KPL AMb AMB 18 02 14.7
comp=Z,333nm,1.4s,mb6.1
KPL S S 18 11 41.1 -2.2
KPL Plockton 75.21 348 *e*P **P 18 02 04.9 -0.7**
KPL AMb AMB 18 02 14.7
comp=Z,333nm,1.4s,mb6.1
KPL *e*S S 18 11 41.1 -2.2
KPL AMS AMS 18 40 49.8
comp=Z,19µm,17.6s,MS6.5
KPL Plockton 75.21 348 *e*P **P 18 02 04.9 -0.7**
KPL AMb AMB 18 02 14.7
comp=Z,333nm,1.4s,mb6.1
KPL *e*S S 18 11 41.1 -2.2
KPL AMS AMS 18 40 49.8
comp=Z,19µm,17.6s,MS6.5
HKR Hakkari 75.24 309 P **P 18 02 07.3 +1.6**
BSEG Bad Segeberg 75.24 338 *e*P **P 18 02 05.8 +0.1**
comp=Z,242nm,0.9s,mb6.1
KSB Sheil Bridge 75.31 348 *e*P **P 18 02 05.0 -1.0**
KSB Sheil Bridge 75.31 348 *e*P **P 18 02 05.0 -1.0**
IAS Iasi 75.40 325 P **P 18 02 07.7 +1.1**
CUKT Cukurca 75.56 309 *i* P **P 18 02 08.6 +1.1**
GRSN GIRESUNGRSN 75.56 315 *i* P **P 18 02 07.9 +0.4**
RUE Ruedersdorf 75.61 336 *e*P **P 18 02 07.9 +0.1**
comp=Z,402nm,1.0s,mb6.3
KAR1 Arisaig 75.64 348 *e*P **P 18 02 07.3 -0.7**
KAR1 Arisaig 75.64 348 *e*P **P 18 02 07.3 -0.7**
KELT Kelkit 75.66 314 *i* P **P 18 02 08.9 +0.9**
EZC Erzincan 75.67 313 P **P 18 02 11.4 +3.3**
OJC Ojcow 75.71 331 *e*P **P 18 02 08.2 -0.2**
OJC *e*PcP PcP 18 02 21.8 +0.7
OJC *e*S S 18 11 46.6 -2.3
OJC *e*SS SS 18 16 37.4 -3.1
OJC L 18 44 22.4
comp=Z,306nm,17.8s
OJC Ojcow 75.71 331 *e*P **P 18 02 08.2 -0.2**
OJC *e* 18 02 21.8
OJC *e*S S 18 11 46.6 -2.3
OJC *e*SS SS 18 16 37.4 -3.1
STHS Stebnicka Huta 75.90 330 *e*P **P 18 02 10.3 +0.8**
STHS pmax pmax
comp=Z,243nm,0.9s,mb6.1
STHS Stebnicka Huta 75.90 330 *e*P **P 18 02 10.3 +0.8**
comp=Z,243nm,0.9s,mb6.1
STHS *e*PP PP 18 04 53.4 -6.4
KOLS Kolonicke sedl 75.95 329 *e*P **P 18 02 09.3 -0.4**
KOLS *e*S S 18 11 49.7 -1.8

KOLS *e* 18 16 58.1
KOLS Kolonicke sedl 75.95 329 *e*P **P 18 02 09.3 -0.4**
KOLS *e*S S 18 11 49.7 -1.8
BURAR Bucovina Array 75.97 327⇑ *i*P **P 18 02 09.1 -0.7**
BURAR Bucovina Array 75.97 327⇑ P **P 18 02 09.1 -0.7**
BTMT Batman 75.98 311 P **P 18 02 12.2 +2.3**
BINT Bingol 75.99 312 P **P 18 02 11.8 +1.8**
SIRT Sirnak 75.99 310 *i* P **P 18 02 11.0 +1.1**
ESY Stoneypath 76.12 346 *e*P **P 18 02 10.2 -0.5**
ESY Stoneypath 76.12 346 *e*P **P 18 02 10.2 -0.5**
EAB Aberfoyle 76.13 347 *e*P **P 18 02 10.1 -0.6**
EAB Aberfoyle 76.13 347 *e*P **P 18 02 10.1 -0.6**
UZH Uzhgorod 76.20 329 *e*P **P 18 02 11.0 -0.1**
UZH *e* 18 02 25.0
UZH *e* 18 05 03.0
UZH *e*S S 18 11 54.0 -0.2
UZH *e* 18 12 35.0
UZH MLR MLR
comp=Z,54µm,18.5s,MS6.9
EDI Edinburgh 76.21 347 *e*P **P 18 02 11.1 -0.1**
EDI AMb AMB 18 02 27.1
comp=Z,211nm,1.5s,mb5.8
EDI *e*S S 18 11 52.2 -2.1
EDI Edinburgh 76.21 347 *e*P **P 18 02 11.1 -0.1**
EDI AMb AMB 18 02 27.1
comp=Z,211nm,1.5s,mb5.8
EDI *e*S S 18 11 52.2 -2.1
NIE Niedzica 76.22 330 *e*Pc **P 18 02 12.2 +0.9**
CRVS Cervenica-Dubn 76.26 330 *e*P **P 18 02 11.3 -0.2**
CRVS *e*PP PP 18 05 03.6 +0.8
CRVS *e*S S 18 11 54.4 -0.5
CRVS *e*SS SS 18 16 59.1 +10
CRVS Cervenica-Dubn 76.26 330 *e*P **P 18 02 11.4 -0.1**
CRVS *e* 18 05 03.6
CRVS *e*S S 18 11 54.4 -0.5
CRVS Cervenica-Dubn 76.26 330 *e*P **P 18 02 11.4 -0.1**
CRVS *e*PP PP 18 05 03.6 +0.8
CRVS *e*S S 18 11 54.4 -0.5
CRVS *e*SS SS 18 16 59.1 +10
KSP Ksiaz 76.30 333 *e*P **P 18 02 11.4 -0.3**
KSP *e*pP pP 18 02 15.7 -2.8
KSP *e*PcP PcP 18 02 21.3 -2.3
KSP Ksiaz 76.30 333⇑ *e*P **P 18 02 11.1 -0.6**
KSP *e*S S 18 11 51.7 -3.6
KSP MLR MLR
comp=Z,213µm,18.6s,MS7.5
KSP Ksiaz 76.30 333⇑ *e*P **P 18 02 11.1 -0.6**
KSP *e*S S 18 11 51.7 -3.6
KSP *e*SS SS 18 16 42.5 -6.9
KSP *e*SSS 18 20 27.0
KSP LR LR
comp=Z,213µm,18.6s,MS7.5
KSP *e*SKSac SKSac 18 12 20.2 -1.6
KSP Ksiaz 76.30 333 *e*S S 18 11 53.4 -1.9
EAU Auchinoon 76.32 347 *e*P **P 18 02 11.5 -0.4**
EAU Auchinoon 76.32 347 *e*P **P 18 02 11.5 -0.4**
EBL Broad Law 76.33 346 *e*P **P 18 02 11.3 -0.5**
EBL Broad Law 76.33 346 *e*P **P 18 02 11.3 -0.5**
RAC Raciborz 76.36 332 *e*P **P 18 02 12.0 -0.1**
RAC *e*S S 18 11 53.9 -2.1
RAC MLR MLR
comp=Z,100µm,18.5s,MS7.2
ARMA Armidale 76.38 181 *e*P **P 18 02 13.6 +1.4**
ARMA *i* S S 18 11 57.9 +1.7
DIKM Dikmen 76.45 317 *i* P **P 18 02 12.2 -0.4**
XSO Sourhope Farm 76.47 346 *e*P **P 18 02 12.2 -0.4**
XSO Sourhope Farm 76.47 346 *e*P **P 18 02 12.2 -0.4**
KVT Kavak 76.52 316 *i* P **P 18 02 14.5 +1.6**
PGBU Glenifferbraes 76.52 347 P **P 18 02 11.9 -1.1**
PGBU AMb AMB 18 02 21.9
comp=Z,237nm,1.4s,mb5.9
PGBU S S 18 11 55.4 -2.3
PGBU Glenifferbraes 76.52 347 *e*P **P 18 02 11.9 -1.1**
PGBU AMb AMB 18 02 21.9
comp=Z,237nm,1.4s,mb5.9
PGBU *e*S S 18 11 55.4 -2.3
PGBU AMS AMS 18 40 34.6
comp=Z,7µm,19.1s,MS6.0
PGBU Glenifferbraes 76.52 347 *e*P **P 18 02 11.9 -1.1**
PGBU AMb AMB 18 02 21.9
comp=Z,237nm,1.4s,mb5.9
PGBU *e*S S 18 11 55.4 -2.3
PGBU AMS AMS 18 40 34.6
comp=Z,7µm,19.1s,MS6.0
PTK Pertek 76.54 313 *i* P **P 18 02 14.6 +1.6**
MSL Mosul 76.54 309 *ex* x 18 02 22.0
MSL *i* x x 18 02 34.5
MSL *i* x x 18 02 49.0
MSL *ex* x 18 12 06.0
MSL *ex* x 18 12 41.0
OKC Ostrava-Krasne 76.59 332 *e*P **P 18 02 13.1 -0.3**
OKC *e*S S 18 11 57.1 -1.4
OKC AMS AMS 18 40 30.0
comp=Z,76µm,18.4s
OKC Ostrava-Krasne 76.59 332 *e*P **P 18 02 13.1 -0.3**
OKC *e*S S 18 11 57.1 -1.4
WMOK Wichita Mounta 76.60 54 *e*P **P 18 02 12.3 -1.1**
WMOK pmax pmax
comp=Z,129nm,1.2s,mb5.7
WMOK MLR MLR
comp=Z,16µm,20.0s,MS6.3
WMOK Wichita Mounta 76.60 54 *e*P **P 18 02 12.2 -1.2**
comp=Z,129nm,1.2s,mb5.7
WMOK LR LR
comp=Z,16µm,20.0s,MS6.3
NRDL Niedersach Rie 76.60 338 *e*P **P 18 02 13.5 +0.1**
comp=Z,2µm,2.5s,mb6.5
UPC Upice 76.68 333 *e*P **P 18 02 13.8 -0.1**
DPC Dobruska-Polom 76.72 333 *e*P **P 18 02 13.5 -0.6**
DPC *e*S S 18 12 01.0 +1.0
DPC AMS AMS 18 41 20.0
comp=Z,92µm,20.4s
ESK Eskdalemuir 76.79 346 P **P 18 02 15.9 +1.4**
comp=Z,728nm,0.8s,mb6.7,SNR=8.8
ESK Eskdalemuir 76.79 346 *e*P **P 18 02 13.6 -0.9**
ESK AMb AMB 18 02 28.9
comp=Z,229nm,1.3s,mb6.0
ESK *e*S S 18 12 00.4 -0.3
ESK Eskdalemuir 76.79 346 *e*P **P 18 02 13.6 -0.9**
ESK AMb AMB 18 02 28.9
comp=Z,229nm,1.3s,mb6.0
ESK *e*S S 18 12 00.4 -0.3
ESK Eskdalemuir 76.79 346 *e*P **P 18 02 13.9 -0.6**
ESK pmax pmax
comp=Z,160nm,1.4s,mb5.8
ESK MLR MLR
comp=Z,11µm,19.0s,MS6.2
ESK Eskdalemuir 76.79 346 *e*P **P 18 02 13.9 -0.6**
comp=Z,160nm,1.4s,mb5.8
ESK LR LR
comp=Z,11µm,19.0s,MS6.2
BOYT Boyabat 76.80 317 *i* P **P 18 02 16.1 +1.6**
VRI Vrincioaia 76.81 325⇑ *i*P **P 18 02 14.8 +0.2**
VRI Vrincioaia 76.81 325 P **P 18 02 15.8 +1.2**
MORC Moravsky Berou 76.84 332⇑ *i*P **P 18 02 14.2 -0.6**
PLOR Plostina 76.86 325⇓ *i*P **P 18 02 15.3 +0.4**
DIY Diyarbakir 76.86 312 *e*P **P 18 02 16.8 +1.9**
TOKT Tokat 76.86 315 P **P 18 02 16.9 +2.0**
CLL Collm 76.87 336 *e*P **P 18 02 14.2 -0.8**
comp=Z,378nm,0.9s,mb6.3
CLL *e*PP PP 18 05 07.2 -0.8
CLL *e*PPPP 18 08 00.4
CLL *e*S S 18 11 58.9 -2.7
CLL *e*PS 18 12 53.2
CLL *e*SS SS 18 17 07.8 +10
CLL *e*SSS 18 20 33.3
CLL *e*LQ 18 25 54.8
CLL *e*LR LR 18 27 07.5
CLL *e*L 18 39 16.9
comp=Z,54µm,20.0s
CLL Collm 76.87 336 *i* P **P 18 02 14.7 -0.3**
comp=Z,480nm,1.0s,mb6.4
CLL *e*Plp 18 02 15.0
comp=N,4µm,12.3s
CLL *e*Plp 18 02 15.0
comp=E,2µm,10.0s
CLL *e*Plp 18 02 15.0
CLL *e*Pmax 18 02 16.0
CLL *i* pP pP 18 02 18.1 -3.6
CLL *e*S S 18 12 03.0 +1.4
comp=N,4µm,10.4s
CLL *e*S S 18 12 03.0 +1.4
comp=E,11µm,19.3s

CLL eSKSac SKSac 18 12 29.0 +3.0
CLL eSS SS 18 17 00.0 +2.0
CLL eSSS 18 20 24.0
CLL LmV 18 39 00.0
comp=Z,56µm,19.3s
CLL Collm 76.87 336 *i* P **P** **18 02 14.7 -0.3**
CLL eS S 18 11 55.0 -6.6
CLL *e* 18 12 34.0
CLL pmax pmax
comp=Z,480nm,1.0s,mb6.4
CLL Collm 76.87 336 *i* P **P** **18 02 14.7 -0.3**
comp=Z,480nm,1.0s,mb6.4
CLL eS S 18 11 55.0 -6.6
CLL eSKS 18 12 34.0
ECK Cauldkaine Hil 76.91 346 *eP* **P** **18 02 13.9 -1.3**
ECK Cauldkaine Hil 76.91 346 *eP* **P** **18 02 13.9 -1.3**
BRD Bordesti 76.95 324⇓ *i* P **P** **18 02 20.8 +5.4**
BRD Bordesti 76.95 324⇑ P **P** **18 02 21.8 +6.4**
SVSK Karacayir 76.95 315 *i* P **P** **18 02 16.6 +1.2**
KECS Kecovo 76.96 330 *eP* **P** **18 02 15.4 -0.1**
KECS pmax pmax
comp=Z,131nm,0.9s,mb5.9
KECS Kecovo 76.96 330 *eP* **P** **18 02 15.4 -0.1**
comp=Z,131nm,0.9s,mb5.9
BRG Berggiesshubel 76.98 335 *eP* **P** **18 02 15.4 -0.2**
comp=Z,131nm,1.0s,mb5.8
BRG Berggiesshubel 76.98 335⇑ *i* P **P** **18 02 15.4 -0.2**
BRG pmax pmax
comp=Z,88nm,1.1s,mb5.6
BRG Berggiesshubel 76.98 335⇑ *i* P **P** **18 02 15.4 -0.2**
comp=Z,88nm,1.1s,mb5.6
BRG S SKSac 18 12 35.0 +8.2
BRG Berggiesshubel 76.98 335 SKS S 18 12 02.0 -0.8
BWH Wardlaw 77.00 347 *eP* **P** **18 02 15.3 -0.4**
BWH Wardlaw 77.00 347 *eP* **P** **18 02 15.3 -0.4**
BHH Howats Hill 77.01 346 *eP* **P** **18 02 15.5 -0.2**
BHH Howats Hill 77.01 346 *eP* **P** **18 02 15.5 -0.2**
MARD Mardin 77.01 311 *i* P **P** **18 02 16.9 +1.1**
ELZG Elazig 77.04 313 *i* P **P** **18 02 17.9 +2.0**
XAL Allendale 77.06 346 *eP* **P** **18 02 14.8 -1.3**
XAL Allendale 77.06 346 *eP* **P** **18 02 14.8 -1.3**
PVCC Panska Ves 77.10 334 *eP* **P** **18 02 16.0 -0.3**
PVCC eS S 18 12 03.5 -0.6
PVCC AMS AMS 18 39 30.0
comp=Z,90µm,17.3s
FBE Freiberg 77.11 335 *eP* **P** **18 02 16.2 -0.1**
comp=Z,248nm,1.0s,mb6.1
CLZ Clausthal 77.12 337 *eP* **P** **18 02 16.7 +0.3**
comp=Z,368nm,1.0s,mb6.3
CLZ Clausthal 77.12 337 *eP* **P** **18 02 16.7 +0.3**
CLZ pmax pmax
comp=Z,368nm,1.0s,mb6.3
WIT Witteveen 77.17 340 *eP* **P** **18 02 17.2 +0.6**
WIT *eP* 18 08 10.7
WIT *ex* x 18 08 24.5
LPIG La Paz 77.26 69 LR LR 18 27 57.6
comp=Z,10µm,21.7s,MS6.1,baz=93,slow=29
TIRR Tirgusor 77.27 323⇑ *i* P **P** **18 02 17.2 0.0**
TIRR Tirgusor 77.27 323⇑ P **P** **18 02 17.2 0.0**
GCD Castle Douglas 77.35 347 *eP* **P** **18 02 17.0 -0.6**
GCD Castle Douglas 77.35 347 *eP* **P** **18 02 17.0 -0.6**
IBBN Ibbenburen 77.37 339 *eP* **P** **18 02 17.7 -0.1**
comp=Z,225nm,1.0s,mb6.0
IBBN Ibbenburen 77.37 339 P **P** **18 02 16.5 -1.3**
BALT Daday 77.42 318 *i* P **P** **18 02 19.6 +1.5**
MLR Muntele Rosu 77.44 325⇓ *i* P **P** **18 02 17.2 -0.9**
MLR Muntele Rosu 77.44 325⇓ P **P** **18 02 17.2 -0.9**
MYA Malataya 77.46 313 P **P** **18 02 20.6 +2.3**
GAL1 Galloway 77.47 347 P **P** **18 02 17.9 -0.4**
GAL1 AMb AMB 18 02 27.7
comp=Z,275nm,1.2s,mb6.0
GAL1 S S 18 12 03.4 -4.6
GAL1 Galloway 77.47 347 *eP* **P** **18 02 17.9 -0.4**
GAL1 *eP* 18 02 17.9
GAL1 AMb AMB 18 02 27.7
comp=Z,275nm,1.2s,mb6.0
GAL1 eS S 18 12 03.4 -4.6
GAL1 AMS AMS 18 41 12.5
comp=Z,28µm,18.8s,MS6.6
GAL1 Galloway 77.47 347 *eP* **P** **18 02 17.9 -0.4**
GAL1 *eP* 18 02 17.9
GAL1 AMb AMB 18 02 27.7
comp=Z,275nm,1.2s,mb6.0
GAL1 eS S 18 12 03.4 -4.6
GAL1 AMS AMS 18 41 12.5
comp=Z,28µm,18.8s,MS6.6
MALT Malataya 77.47 313 *eP* **P** **18 02 19.3 +1.0**
MALT pmax pmax
comp=Z,296nm,1.0s,mb6.2
MALT Malataya 77.47 313 *eP* **P** **18 02 19.3 +1.0**
comp=Z,296nm,1.0s,mb6.2
CTKT Corum 77.47 317 *i* P **P** **18 02 19.2 +0.9**
GCL Cushendall 77.47 348 *eP* **P** **18 02 18.0 -0.4**
GCL Cushendall 77.47 348 *eP* **P** **18 02 18.0 -0.4**
CKE Keswick 77.48 346 *eP* **P** **18 02 17.9 -0.4**
CKE Keswick 77.48 346 *eP* **P** **18 02 17.9 -0.4**
GTTG Gvttingen 77.50 337 *eP* **P** **18 02 19.3 +0.8**
comp=Z,191nm,1.1s,mb5.9
VYHS Vyhne 77.52 331 *eP* **P** **18 02 18.0 -0.6**
VYHS *e* PP PP 18 05 12.5 -0.9
VYHS eS S 18 12 06.5 -2.1
VYHS eSS SS 18 17 19.6 +12
VYHS Vyhne 77.52 331 *eP* **P** **18 02 18.0 -0.6**
VYHS *e* 18 05 12.5
VYHS eS S 18 12 06.5 -2.1
VYHS pmax pmax
comp=Z,126nm,1.0s,mb5.8
VYHS MLR MLR
comp=Z,42µm,18.8s,MS6.8
VYHS Vyhne 77.52 331 *eP* **P** **18 02 18.0 -0.6**
comp=Z,126nm,1.0s,mb5.8
VYHS *e* PP PP 18 05 12.5 -0.9
VYHS eS S 18 12 06.5 -2.1
VYHS eSS SS 18 17 19.6 +12
VYHS LR LR
comp=Z,42µm,18.8s,MS6.8
VRAC Vranov 77.55 333⇓ *i* P **P** **18 02 18.4 -0.4**
VRAC Vranov 77.55 333⇓ P **P** **18 02 18.4 -0.4**
PRA Prague 77.55 334 P **P** **18 02 19.0 +0.2**
PRA AMS AMS 18 40 30.0
PRU Pruhonice 77.59 334 *eP* **P** **18 02 19.0 0.0**
PRU eS S 18 12 06.6 -2.8
PRU AMS AMS 18 40 10.0
comp=Z,119µm,17.1s
JAVC Velka Javorina 77.59 332 P **P** **18 02 19.2 +0.2**
DRGR 77.59 328⇓ *i* P **P** **18 02 19.7 +0.7**
DRGR 77.59 328⇑ P **P** **18 02 18.2 -0.8**
XDE Dent Fell 77.62 346 *eP* **P** **18 02 18.6 -0.5**
XDE Dent Fell 77.62 346 *eP* **P** **18 02 18.6 -0.5**
PSZ Piszkesteto 77.65 330⇑ *eP* **P** **18 02 21.8 +2.5**
PSZ Piszkesteto 77.65 330 P **P** **18 02 18.8 -0.5**
CDU1 Dunnerdale 77.73 346 *eP* **P** **18 02 18.8 -1.0**
CDU1 Dunnerdale 77.73 346 *eP* **P** **18 02 18.8 -1.0**
TANN Tannenbergstha 77.82 336 *eP* **P** **18 02 20.2 -0.1**
comp=Z,164nm,1.4s,mb5.8
KRUC Moravsky 77.83 333 P **P** **18 02 20.2 -0.1**
VOIR 77.83 325⇓ *i* P **P** **18 02 19.8 -0.5**
WERD Werda 77.84 336 *eP* **P** **18 02 20.3 -0.1**
comp=Z,145nm,1.0s,mb5.9
MOX Moxa 77.86 336 *eP* **P** **18 02 20.6 +0.1**
comp=Z,2µm,2.6s,mb6.5
MOX Moxa 77.86 336 *eP* **P** **18 02 19.4 -1.1**
MOX eS S 18 12 11.0 -1.3
MOX pmax pmax
comp=Z,376nm,1.6s,mb6.1
MOX MLR MLR
comp=Z,37µm,21.0s,MS6.7
MOX Moxa 77.86 336 *eP* **P** **18 02 19.4 -1.1**
comp=Z,376nm,1.6s,mb6.1
MOX eS S 18 12 11.0 -1.3
MOX eSS SS 18 17 50.0 +37
MOX LR LR
comp=Z,37µm,21.0s,MS6.7
GUNZ Gunzen 77.91 336 *eP* **P** **18 02 20.8 0.0**
comp=Z,227nm,1.1s,mb6.0
TREC Trest 77.91 333 *eP* **P** **18 02 20.0 -0.8**
TREC eS S 18 12 12.0 -0.8
TREC AMS AMS 18 41 00.0
comp=Z,84µm,18.1s
WTSB Winterswijk 77.92 339 *eP* **P** **18 02 20.5 -0.3**
comp=Z,247nm,0.9s,mb6.1
WTSB *eP* 18 08 14.0
comp=Z,51nm,0.9s

WTSB *ex* x 18 08 27.6
URFA Urfa 77.93 312 P **P** **18 02 22.6 +1.8**
WERN Wernitzgruen 77.96 335 *eP* **P** **18 02 21.1 0.0**
comp=Z,209nm,1.0s,mb6.0
SMOL Smolenice 77.97 332 *eP* **P** **18 02 21.9 +0.8**
PENC Penc 77.97 330⇓ *eP* **P** **18 02 24.1 +3.0**
YOZ Yozgat 77.98 316 *eP* **P** **18 02 21.7 +0.5**
PSN Preselentsi 78.00 323 *i* P **P** **18 02 21.8 +0.5**
MTUR Matau 78.00 325⇑ *i* P **P** **18 02 22.1 +0.8**
MTUR Matau 78.00 325⇑ P **P** **18 02 22.1 +0.9**
BHD Baghdad 78.07 306 *i* x x 18 02 18.0
BHD *i* x x 18 02 20.0
BHD *i* x x 18 08 08.5
BHD *ex* x 18 12 01.0
BHD *i* x x 18 12 52.0
CCM Cathedral Cave 78.11 47 *eP* **P** **18 02 19.5 -2.4**
CCM pmax pmax
comp=Z,94nm,1.0s,mb5.7
CCM MLR MLR
comp=Z,8µm,21.0s,MS6.0
CCM Cathedral Cave 78.11 47 *eP* **P** **18 02 19.4 -2.5**
comp=Z,94nm,1.0s,mb5.7
CCM LR LR
comp=Z,8µm,21.0s,MS6.0
UBBA Unterbreizbach 78.15 337 *eP* **P** **18 02 21.4 -0.7**
comp=Z,428nm,2.0s,mb6.0
WIM Isle of Man 78.15 347 *eP* **P** **18 02 21.6 -0.5**
WIM Isle of Man 78.15 347 *eP* **P** **18 02 21.6 -0.5**
SLM Saint Louis 78.17 46 *eP* **P** **18 02 21.3 -0.9**
SLM pmax pmax
comp=Z,97nm,0.9s,mb5.7
SLM Saint Louis 78.17 46 *eP* **P** **18 02 21.3 -1.0**
comp=Z,97nm,0.9s,mb5.7
ATAB Bozova 78.18 312 *i* P **P** **18 02 23.2 +0.9**
ELDT Eldivan 78.22 317 *i* P **P** **18 02 23.7 +1.2**
GMM Mts of Mourne 78.26 348 *eP* **P** **18 02 21.9 -0.8**
GMM Mts of Mourne 78.26 348 *eP* **P** **18 02 21.9 -0.8**
BUG Bochum-Univer 78.29 339 *eP* **P** **18 02 22.2 -0.7**
comp=Z,528nm,1.5s,mb6.2
BUG Bochum-Univer 78.29 339 P **P** **18 02 22.0 -0.9**
MANZ Manzenberg 78.31 336 *eP* **P** **18 02 23.0 0.0**
comp=Z,139nm,0.9s,mb5.9
ABA1 Baconsthorpe 78.31 343 *eP* **P** **18 02 23.6 +0.5**
ABA1 Baconsthorpe 78.31 343 *eP* **P** **18 02 23.6 +0.5**
BUD Budapest 78.33 330⇓ *eP* **P** **18 02 23.9 +0.8**
BUD Budapest 78.33 330 P **P** **18 02 22.5 -0.6**
BNN Bunyan 78.34 315 P **P** **18 02 24.5 +1.4**
BUC1 Bucharest 78.34 324⇓ *i* P **P** **18 02 26.7 +3.5**
BUC1 Bucharest 78.34 324 P **P** **18 02 24.9 +1.7**
BUC1 Bucharest 78.34 324⇑ P **P** **18 02 26.2 +3.1**
ZST Bratislava 78.35 332 *eP* **P** **18 02 23.7 +0.5**
ZST *eS* S 18 12 18.7 +1.1
ZST pmax pmax
comp=Z,251nm,0.9s,mb6.2
ZST Bratislava 78.35 332 *eP* **P** **18 02 23.7 +0.5**
comp=Z,251nm,0.9s,mb6.1
ZST *eS* S 18 12 18.7 +1.1
AAM Ann Arbor 78.36 39 *eP* **P** **18 02 23.9 +0.6**
AAM pmax pmax
comp=Z,88nm,1.0s,mb5.6
AAM MLR MLR
comp=Z,37µm,19.0s,MS6.7
AAM Ann Arbor 78.36 39 *eP* **P** **18 02 23.9 +0.6**
comp=Z,88nm,1.0s,mb5.6
AAM LR LR
comp=Z,37µm,19.0s,MS6.7
CDAG Cicekdag 78.45 316 *i* P **P** **18 02 22.9 -0.9**
KBI1 Birley Grange 78.48 345 *eP* **P** **18 02 23.7 -0.2**
KBI1 Birley Grange 78.48 345 *eP* **P** **18 02 23.7 -0.2**
ROTZ Rotzenmuhle 78.48 335 *eP* **P** **18 02 24.3 +0.4**
comp=Z,184nm,1.0s,mb6.0
STKA Stephens Creek 78.52 190 *eP* **P** **18 02 23.0 -1.2**
comp=Z,25nm,0.9s,mb5.2
STKA *i* S S 18 12 19.9 +0.5
STKA eSS SS 18 16 58.9 -24
STKA Stephens Creek 78.52 190 P **P** **18 02 22.9 -1.3**
comp=Z,11nm,0.8s,baz=1.6,slow=4.0,SNR=14
STKA LR LR 18 37 46.3
comp=Z,23µm,18.7s,MS6.5,baz=6.4,slow=36
PKSN Nyarlorinc 78.53 329⇑ *eP* **P** **18 02 26.0 +1.8**
AEU East Anglia Un 78.55 343 *eP* **P** **18 02 24.4 +0.1**
AEU East Anglia Un 78.55 343 *eP* **P** **18 02 24.4 +0.1**
PKSG 78.62 331 *eP* **P** **18 02 25.3 +0.6**
GZT Gaziantep 78.64 313 *i* P **P** **18 02 26.9 +2.1**
KHC Kasperske Hory 78.64 334 *eP* **P** **18 02 24.0 -0.8**
KHC *eS* S 18 12 18.8 -1.9
KHC AMS AMS 18 40 50.0
comp=Z,116µm,17.3s
BR131 Keskin Array S 78.72 317 PFAKE 18 02 40.0 +15
BR131 LR LR
comp=Z,44µm,19.0s,MS6.8
BRTR Keskin Array B 78.72 317 P **P** **18 02 25.9 +0.7**
comp=Z,71nm,0.9s,mb5.6,baz=63,slow=3.0,SNR=86
BRTR LR LR 18 43 28.3
comp=Z,50µm,18.0s,MS6.9,baz=225,slow=40
PRD Provadia 78.72 323 *i* P **P** **18 02 26.4 +1.1**
GZR Gura Zlata 78.75 327⇑ *i* P **P** **18 02 25.5 +0.1**
GZR Gura Zlata 78.75 327⇑ P **P** **18 02 25.4 0.0**
KWE Weaver Farm 78.76 345 *eP* **P** **18 02 25.3 -0.2**
KWE Weaver Farm 78.76 345 *eP* **P** **18 02 25.3 -0.2**
SGKT Sivrigoynuk 78.79 318 *i* P **P** **18 02 27.2 +1.5**
GRA1 Grafenberg Arr 78.83 336 *eP* **P** **18 02 26.2 +0.4**
comp=Z,345nm,1.0s,mb6.2
GRA1 *eS* S 18 12 19.9 -2.8
GRA1 LR LR
comp=Z,52µm,19.7s,MS6.9
GRF Grafenberg Arr 78.83 336 *eP* **P** **18 02 26.2 +0.4**
comp=Z,345nm,1.0s,mb6.2
GRF *eS* S 18 12 19.9 -2.8
GRF *eL* 18 40 44.0
comp=Z,52µm,19.7s
GRF Grafenberg Arr 78.83 336 *eP* **P** **18 02 26.2 +0.4**
GRF *eS* S 18 12 19.9 -2.8
GRF pmax pmax
comp=Z,345nm,1.0s,mb6.2
GRF MLR MLR
comp=Z,52µm,19.7s,MS6.9
GRF Grafenberg Arr 78.83 336 *eP* **P** **18 02 26.2 +0.4**
GRF *eS* S 18 12 19.9 -2.8
WET Wettzell 78.84 335 *eP* **P** **18 02 26.2 +0.3**
comp=Z,237nm,1.0s,mb6.1
WET Wettzell 78.84 335 *eP* **P** **18 02 26.2 +0.3**
WET pmax pmax
comp=Z,237nm,1.0s,mb6.1
GEC2 GERESS Array S 78.86 334 *eP* **P** **18 02 26.5 +0.5**
comp=Z,103nm,1.0s,mb5.7
GEC2 GERESS Array S 78.86 334 *eP* **P** **18 02 26.5 +0.5**
GEC2 pmax pmax
comp=Z,103nm,1.0s,mb5.7
GERES GERESS Array B 78.86 334 P **P** **18 02 25.7 -0.3**
comp=Z,82nm,0.9s,mb5.6,baz=41,slow=4.3,SNR=152
GERES PKP2ab 18 29 12.3
comp=Z,0.3nm,0.7s,baz=60,slow=3.2,SNR=3.4
GERES LR LR 18 41 06.5
comp=Z,109µm,18.5s,MS7.2,baz=256,slow=39
KMRS Kahramanmaras 78.86 313 *i* P **P** **18 02 25.9 -0.1**
UMR Umm Al-Rimmam 78.87 301 *eP* **P** **18 02 26.9 +0.9**
UMR AMb AMB 18 02 30.5
comp=Z,781nm,0.7s,mb6.7
WCB1 Church Bay 78.88 347 *eP* **P** **18 02 25.3 -0.8**
WCB1 Church Bay 78.88 347 *eP* **P** **18 02 25.3 -0.8**
AVNT Avonos 78.88 315 *i* P **P** **18 02 27.0 +0.9**
WPM1 Penmaenmawr 78.89 346 *eP* **P** **18 02 26.0 -0.2**
WPM1 Penmaenmawr 78.89 346 *eP* **P** **18 02 26.0 -0.2**
MIB Mutribah 78.91 302 *eP* **P** **18 02 27.2 +0.9**
MIB AMb AMB 18 02 30.7
comp=Z,1µm,0.8s,mb6.9
GAZ Gaziantep 78.96 313 P **P** **18 02 28.7 +2.1**
SOP Sopron 78.98 332⇓ *eP* **P** **18 02 27.9 +1.2**
SOP Sopron 78.98 332 P **P** **18 02 26.2 -0.5**
CONA Conrad Observa 78.99 332 *i* P **P** **18 02 27.3 +0.6**
comp=Z,231nm,1.8s,mb5.8,SNR=132
BZS Buzias 78.99 328⇓ *i* P **P** **18 02 25.5 -1.3**
BZS Buzias 78.99 328 P **P** **18 02 26.8 0.0**
BZS Buzias 78.99 328⇓ P **P** **18 02 25.5 -1.2**
ANTO Ankara 79.01 317⇑ *i* P **P** **18 02 27.0 +0.2**
ANTO Ankara 79.01 317 *eP* **P** **18 02 27.6 +0.8**
ANTO pmax pmax
comp=Z,226nm,0.9s,mb6.1
ANTO MLR MLR
comp=Z,54µm,19.0s,MS6.9
ANTO Ankara 79.01 317 *eP* **P** **18 02 27.6 +0.8**
comp=Z,226nm,0.9s,mb6.1
ANTO LR LR

comp=Z,54µm,19.0s,MS6.9
TNS Taunus Mts 79.10 338 *eP* **P** **18 02 27.5 +0.2**
comp=Z,228nm,1.0s,mb6.1
TNS Taunus Mts 79.10 338 *eP* **P** **18 02 27.5 +0.2**
TNS pmax pmax
comp=Z,228nm,1.0s,mb6.1
SBD1 Bryn Du 79.12 346 *eP* **P** **18 02 27.3 -0.2**
SBD1 Bryn Du 79.12 346 *eP* **P** **18 02 27.3 -0.2**
HENT Hendek 79.12 319 *i* P **P** **18 02 28.5 +1.1**
JCT Junction City 79.15 57 P **P** **18 02 27.4 -0.2**
JCT pmax pmax
comp=Z,340nm,1.3s,mb6.1
JCT Junction City 79.15 57 *eP* **P** **18 02 26.5 -1.1**
comp=Z,336nm,1.4s,mb6.1
JCT LR LR
comp=Z,22µm,20.0s,MS6.5
ZIMR 79.18 324 P **P** **18 02 28.6 +0.8**
HGN Heimansgroeve 79.24 340⇑ *eP* **P** **18 02 27.3 -0.8**
comp=Z,379nm,1.6s,mb6.1
HGN *eP* PP 18 05 29.4 +1.6
HGN *eP* 18 08 18.8
comp=Z,151nm,1.8s
HGN *ex* x 18 08 35.0
HGN *eS* S 18 12 26.2 -0.8
YRE Yr Eifl 79.24 346 *eP* **P** **18 02 28.5 +0.4**
YRE Yr Eifl 79.24 346 *eP* **P** **18 02 28.5 +0.4**
CRAR CRAIOVA 79.25 326 P **P** **18 02 29.4 +1.2**
DLF Lyons Farm 79.26 348⇑ *i* P **P** **18 02 27.9 -0.3**
BEBN Eben Emael 79.27 340 P **P** **18 02 27.4 -0.8**
SZH Strazhica 79.28 324 *i* P **P** **18 02 29.1 +0.8**
DCN Croghan 79.32 348⇑ *i* P **P** **18 02 28.2 -0.4**
QRN Al-Qurain 79.34 300 *eP* **P** **18 02 29.6 +0.9**
QRN AMb AMB 18 02 33.2
comp=Z,676nm,0.8s,mb6.6
MEM Membach 79.36 339 P **P** **18 02 28.5 -0.2**
NAY Al-Naaiem 79.37 301 *eP* **P** **18 02 29.6 +0.7**
NAY AMb AMB 18 02 35.2
comp=Z,571nm,1.0s,mb6.5
KOZT Kozan 79.42 314 *i* P **P** **18 02 27.3 -1.7**
HLM1 Long Mynd 79.42 345 *eP* **P** **18 02 28.6 -0.5**
HLM1 Long Mynd 79.42 345 *eP* **P** **18 02 28.6 -0.5**
RDF Al-Radifah 79.43 301 *eP* **P** **18 02 30.2 +1.1**
RDF AMb AMB 18 02 35.8
comp=Z,1µm,0.9s,mb6.9
PKSM Moragy 79.56 330 P **P** **18 02 27.8 -2.0**
PVL Pavlikeni 79.56 324 *i* P **P** **18 02 30.6 +0.7**
RAR Rarotonga 79.57 136 PFAKE 18 02 40.0 +10
RAR LR LR
comp=Z,1.0nm,19.0s
MOA Molln 79.57 333 *i* P **P** **18 02 30.2 +0.3**
comp=Z,15µm,8.1s,SNR=152
TOD Tromm 79.57 337 *eP* **P** **18 02 30.7 +0.8**
UCC Uccle 79.58 340 P **P** **18 02 28.7 -1.3**
MIAR Mount Ida 79.59 50 *eP* **P** **18 02 28.4 -1.6**
MIAR pmax pmax
comp=Z,124nm,1.1s,mb5.8
MIAR MLR MLR
comp=Z,32µm,20.0s,MS6.7
MIAR Mount Ida 79.59 50 *eP* **P** **18 02 28.4 -1.6**
comp=Z,124nm,1.1s,mb5.8
MIAR LR LR
comp=Z,32µm,20.0s,MS6.7
SIND Sindeldorf 79.59 337 P **P** **18 02 30.0 0.0**
RAO Raoul Island 79.65 155 PFAKE 18 02 40.0 +10
RAO LR LR
comp=Z,51µm,19.0s,MS6.9
JMB Yambol 79.67 323 *eP* **P** **18 02 30.8 +0.3**
JMB Yambol 79.67 323 *i* P **P** **18 02 31.5 +1.1**
MSNY Massena 79.69 32 *eP* **P** **18 02 29.2 -1.4**
ARSA Arzberg 79.70 332 *i* P **P** **18 02 31.1 +0.5**
comp=Z,12µm,7.9s,SNR=119
BCLA Clavier 79.71 340 P **P** **18 02 29.9 -0.8**
SWS Schriesheim-Wi 79.71 337 P **P** **18 02 31.5 +0.8**
ISK Istanbul-Kandi 79.75 320 *eP* **P** **18 02 30.1 -0.8**
SSW Stow on the Wo 79.77 345 *eP* **P** **18 02 31.1 +0.1**
SSW Stow on the Wo 79.77 345 *eP* **P** **18 02 31.1 +0.1**
SKP1 Kophill 79.81 344 *eP* **P** **18 02 31.0 -0.2**
SKP1 Kophill 79.81 344 *eP* **P** **18 02 31.0 -0.2**
CEYT Ceyhan 79.82 314 *i* P **P** **18 02 32.5 +1.3**
SNF Seneffe 79.87 340 P **P** **18 02 31.5 0.0**
HTR Trewern Hill 79.91 345 *eP* **P** **18 02 31.2 -0.6**
HTR Trewern Hill 79.91 345 *eP* **P** **18 02 31.2 -0.6**
RUP Ruppelstein 79.94 338 *eP* **P** **18 02 33.7 +1.8**
PARMO Parma 79.94 47 *eP* **P** **18 02 29.9 -2.0**
MCH1 Michaelchurch 79.94 345 *eP* **P** **18 02 31.7 -0.2**
MCH1 *eP* 18 02 31.7
MCH1 AMb AMB 18 02 41.1
comp=Z,242nm,1.0s,mb6.1
MCH1 Michaelchurch 79.94 345 *eP* **P** **18 02 31.7 -0.2**
MCH1 *eP* 18 02 31.7
MCH1 AMb AMB 18 02 41.1
comp=Z,242nm,1.0s,mb6.1
USIN University of 79.96 44 *eP* **P** **18 02 31.1 -0.9**
comp=Z,189nm,1.1s,mb5.9
ELBA Catalca 79.96 321 *i* P **P** **18 02 30.6 -1.4**
KARA Karaisali 79.97 314 *i* P **P** **18 02 31.6 -0.5**
TFO1 Folkestone 79.99 343 *eP* **P** **18 02 32.3 +0.1**
TFO1 Folkestone 79.99 343 *eP* **P** **18 02 32.3 +0.1**
FORT Forrest 80.02 202 *eP* **P** **18 02 34.0 +1.6**
comp=Z,149nm,0.8s,mb6.0
FORT *i* S S 18 12 38.6 +3.2
KTD Kalmit 80.02 338 *eP* **P** **18 02 35.4 +3.0**
UALR University of 80.07 49 *eP* **P** **18 02 32.6 0.0**
comp=Z,1µm,2.1s,mb6.4
BEO Belgrade 80.10 328 *eP* **P** **18 02 32.0 -0.8**
BEO Belgrade 80.10 328 P **P** **18 02 32.2 -0.6**
HDH Heidenheim-Cha 80.11 336 P **P** **18 02 33.4 +0.5**
GIVF Givet 80.12 340 *eP* **P** **18 02 32.1 -0.8**
comp=Z,210nm,1.0s,mb5.7
GIVF Givet 80.12 340 *eP* **P** **18 02 32.1 -0.8**
GIVF pmax pmax
comp=Z,105nm,1.0s,mb5.7
GIVF Givet 80.12 340 *eP* **P** **18 02 32.1 -0.8**
comp=Z,105nm,1.0s,mb5.7
LONY Lake Ozonia 80.12 32 *eP* **P** **18 02 30.7 -2.2**
KOGS Kog 80.16 331 *eP* **P** **18 02 32.1 -1.1**
KOGS *ePP* PP 18 05 37.2 +1.7
DOU Dourbes 80.18 340 P **P** **18 02 32.8 -0.4**
FUR Furstenfeldbru 80.19 335 *eP* **P** **18 02 33.5 +0.3**
comp=Z,359nm,1.1s,mb6.2
FUR Furstenfeldbru 80.19 335 *eP* **P** **18 02 33.5 +0.3**
FUR pmax pmax
comp=Z,359nm,1.1s,mb6.2
ESKT Eskisehir 80.19 318 *i* P **P** **18 02 34.0 +0.7**
SWN1 Swindon 80.19 344 *eP* **P** **18 02 33.6 +0.3**
SWN1 Swindon 80.19 344 *eP* **P** **18 02 33.6 +0.3**
WLF Walferdange 80.20 339 *eP* **P** **18 02 34.4 +1.1**
comp=Z,492nm,2.1s,mb6.1
WLF Walferdange 80.20 339 P **P** **18 02 31.9 -1.4**
WLF Walferdange 80.20 339 P **P** **18 02 33.6 +0.3**
STU Stuttgart 80.22 337 *eP* **P** **18 02 33.3 -0.2**
STU pmax pmax
comp=Z,281nm,1.1s,mb6.1
STU Stuttgart 80.22 337 *eP* **P** **18 02 33.3 -0.2**
comp=Z,281nm,1.1s,mb6.1
HGH Gray Hill 80.26 345 *eP* **P** **18 02 32.7 -0.9**
HGH Gray Hill 80.26 345 *eP* **P** **18 02 32.7 -0.9**
SVIS Svilajnac 80.27 327 *i* P **P** **18 02 34.1 +0.4**
SVIS Svilajnac 80.27 327 P **P** **18 02 35.6 +1.9**
MENF Mencas 80.30 342 *eP* **P** **18 02 34.6 +0.7**
FRNY Flat Rock 80.30 32 *eP* **P** **18 02 32.5 -1.4**
BAIF Baives 80.30 340 *eP* **P** **18 02 33.3 -0.6**
comp=Z,370nm,1.0s,mb6.0
BAIF Baives 80.30 340 *eP* **P** **18 02 33.3 -0.6**
BAIF pmax pmax
comp=Z,185nm,1.0s,mb6.0
BAIF Baives 80.30 340 *eP* **P** **18 02 33.3 -0.6**
comp=Z,185nm,1.0s,mb6.0
HTY Hatay 80.32 313 P **P** **18 02 35.4 +1.4**
ACSO Alum Creek Sta 80.33 40 *eP* **P** **18 02 32.4 -1.6**
comp=Z,71nm,1.1s,mb5.5
ACSO LR LR
comp=Z,27µm,19.0s,MS6.6
HBAR Harrisburg 80.34 48 *eP* **P** **18 02 34.8 +0.7**
KDHN Kadinhani 80.40 317 *i* P **P** **18 02 33.8 -0.6**
ALLY Alegheny Colle 80.40 38 *eP* **P** **18 02 33.6 -0.8**
LANF Langenberg 80.41 338 *eP* **P** **18 02 35.6 +1.2**
WCI Wyandotte Cave 80.41 43 *eP* **P** **18 02 33.6 -0.8**
WCI pmax pmax
comp=Z,155nm,1.0s,mb5.9
WCI MLR MLR
comp=Z,9µm,19.0s,MS6.1
WCI Wyandotte Cave 80.41 43 *eP* **P** **18 02 33.6 -0.9**
comp=Z,155nm,1.0s,mb5.9

WCI LR LR
comp=Z,9µm,19.0s,MS6.1
LBG Lerchenberg 80.43 337 P **P** **18 02 34.7 +0.1**
DIM Dimitrovgrad 80.45 323 *i* P **P** **18 02 35.5 +0.8**
ULDT Uludag 80.46 320 *i* P **P** **18 02 35.6 +0.8**
BUCH Bad Urach 80.47 336 P **P** **18 02 35.4 +0.6**
GLAT Glass 80.48 47 *eP* **P** **18 02 35.2 +0.3**
KBA Koelnbreinsper 80.54 333 *i* P **P** **18 02 35.8 +0.7**
comp=Z,13µm,6.5s,SNR=155
PGB Panagyurishte 80.59 324 *i* P **P** **18 02 36.9 +1.5**
SWK Warminster 80.62 345 *eP* **P** **18 02 35.6 0.0**
SWK Warminster 80.62 345 *eP* **P** **18 02 35.6 0.0**
OBKA Obir 80.67 332 *i* P **P** **18 02 36.0 +0.1**
comp=Z,13µm,7.8s,SNR=16
PLD Plovdiv 80.75 324 *i* P **P** **18 02 37.2 +1.0**
TAOE Nuku Hiva Isla 80.76 113 *eS* S 18 12 40.9 -2.2
TAOE *eLR* LR 18 26 46.9
comp=Z,195µm,29.9s
STR Strasbourg 80.78 338 *eP* **P** **18 02 39.5 +3.1**
PMOR Pomariorio Ree 80.80 123 *eP* **P** **18 02 37.0 +0.5**
comp=Z,74nm,1.1s,mb5.5
GRUS Gruza 80.80 327 *i* P **P** **18 02 36.6 0.0**
NCB Newcomb 80.81 33 *eP* **P** **18 02 34.6 -1.9**
comp=Z,39nm,1.0s,mb5.3
NCB LR LR
comp=Z,28µm,19.0s,MS6.6
KDZ Kurdzhali 80.83 323 *i* P **P** **18 02 38.2 +1.5**
WATA Walderalm 80.85 335⇑*i* P **P** **18 02 37.5 +0.7**
comp=Z,292nm,1.0s,mb6.2,SNR=66
WATA Walderalm 80.85 335⇑*i* P **P** **18 02 37.5 +0.7**
WATA pmax pmax
comp=Z,292nm,1.0s,mb6.2
BFO Black Forest 80.86 337 P **P** **18 02 36.8 -0.1**
comp=Z,1µm,1.0s,mb6.8,SNR=30
BFO Black Forest 80.86 337 *eP* **P** **18 02 36.9 0.0**
comp=Z,196nm,0.9s,mb6.0
BFO Black Forest 80.86 337 *eP* **P** **18 02 36.9 0.0**
BFO pmax pmax
comp=Z,196nm,0.9s,mb6.0
SART Tekirdag 80.88 321 *i* P **P** **18 02 37.0 +0.1**
GUT Gutenstein 80.89 336 P **P** **18 02 37.4 +0.4**
DIVS Divcibare 80.89 328 *i* P **P** **18 02 36.7 -0.3**
DIVS Divcibare 80.89 328 *eP* **P** **18 02 35.9 -1.1**
WTTA Wattenberg 80.89 335⇓*i* P **P** **18 02 36.9 -0.2**
comp=Z,4µm,2.7s,mb6.8,SNR=177
WTTA Wattenberg 80.89 335⇓*i* P **P** **18 02 36.9 -0.1**
WTTA pmax pmax
comp=Z,4µm,2.7s,mb6.8
VTS Vitosha 80.94 325⇑*i* P **P** **18 02 36.8 -0.5**
VTS Vitosha 80.94 325 *i* P **P** **18 02 38.8 +1.5**
VTS Vitosha 80.94 325⇑*i* P **P** **18 02 36.8 -0.5**
SPAK Spaichingen-Ko 80.95 337 P **P** **18 02 38.3 +1.0**
UBR Ueberruh 80.96 336 P **P** **18 02 37.9 +0.5**
CRES Cresnjev 80.97 332 P **P** **18 02 37.4 -0.1**
MOTA Moosalm 80.98 335⇑*i* P **P** **18 02 37.9 +0.4**
comp=Z,475nm,1.2s,mb6.3,SNR=160
MOTA Moosalm 80.98 335⇑*i* P **P** **18 02 37.9 +0.4**
MOTA pmax pmax
comp=Z,475nm,1.2s,mb6.3
HEX Exmoor 80.98 346 *eP* **P** **18 02 37.4 -0.1**
HEX Exmoor 80.98 346 *eP* **P** **18 02 37.4 -0.1**
SISC Sisak 80.98 331 eP **P** **18 02 37.5 0.0**
WLS Welschbruch 81.05 338 *eP* **P** **18 02 38.9 +1.0**
SQTA Sankt Quirin 81.06 335 *i* P **P** **18 02 38.7 +0.8**
comp=Z,454nm,1.4s,mb6.2,SNR=170
SQTA Sankt Quirin 81.06 335 *i* P **P** **18 02 38.7 +0.8**
SQTA pmax pmax
comp=Z,454nm,1.4s,mb6.2
CDF Champ du Feu 81.07 338 *eP* **P** **18 02 37.6 -0.4**
comp=Z,416nm,0.9s,mb6.0
CDF Champ du Feu 81.07 338 *eP* **P** **18 02 37.6 -0.4**
CDF pmax pmax
comp=Z,208nm,0.9s,mb6.1
CDF Champ du Feu 81.07 338 *eP* **P** **18 02 37.6 -0.4**
comp=Z,208nm,0.9s,mb6.1
LJU Ljubljana 81.09 332 *eP* **P** **18 02 37.6 -0.5**
LJU *e* 18 02 41.0
LJU *e* pP 18 02 44.2 -0.7
LJU */* S S 18 12 44.4 -2.1
LJU *eSS* SS 18 18 08.7 +7.4
RZN Rozhen 81.09 324 *i* P **P** **18 02 38.8 +0.7**
VAL Valentia 81.09 350 *eP* **P** **18 02 36.3 -1.8**
VAL */* S S 18 12 50.3 +3.8
PTCC Patocco-Chiusa 81.14 333 P **P** **18 02 37.5 -0.8**
FVI Forni Avoltri 81.14 334 P **P** **18 02 37.2 -1.2**
GDZ Gediz 81.16 319 *i* P **P** **18 02 37.5 -1.0**
HTL Hartland 81.17 346 *eP* **P** **18 02 38.6 +0.1**
HTL AMb AMB 18 02 46.3
comp=Z,111nm,2.3s,mb5.4
HTL Hartland 81.17 346 *eP* **P** **18 02 38.6 +0.1**
HTL AMb AMB 18 02 46.3
comp=Z,111nm,2.3s,mb5.4
CADS Cadrg 81.17 333 *eP* **P** **18 02 37.4 -1.1**
RDO Rodhopi 81.20 323 *eP* **P** **18 02 38.5 -0.2**
RDO Rodhopi 81.20 323 P **P** **18 02 37.7 -1.0**
LIBD Limburg 81.22 337 *eP* **P** **18 02 40.0 +1.2**
SISB Singen-Schiene 81.28 336 P **P** **18 02 39.3 +0.2**
ECH Echery 81.28 338 *eP* **P** **18 02 39.3 +0.2**
GMNA Gemona 81.29 333 P **P** **18 02 38.2 -0.9**
VOY Vojsko 81.30 333 *eP* **P** **18 02 37.9 -1.3**
VOY *e* pP 18 02 43.5 -2.5
VOY *e* 18 03 06.0
VOY *e* 18 03 29.7
BBLS Bajina Basta - 81.30 328 *i* P **P** **18 02 39.6 +0.4**
KIZ Kirchzarten 81.32 337 P **P** **18 02 39.2 -0.1**
WVT Waverly 81.32 46 *eP* **P** **18 02 37.7 -1.6**
WVT pmax pmax
comp=Z,109nm,1.1s,mb5.7
WVT MLR MLR
comp=Z,25µm,20.0s,MS6.6
WVT Waverly 81.32 46 *eP* **P** **18 02 37.7 -1.6**
comp=Z,109nm,1.1s,mb5.7
WVT LR LR
comp=Z,25µm,20.0s,MS6.6
BOJS Bojanci 81.33 332 *eP* **P** **18 02 38.4 -0.9**
BOJS *eP* PP 18 05 46.3 +1.2
BOJS *eS* S 18 12 47.2 -1.8
BOJS *eSS* SS 18 18 08.7 +3.9
CNB Canberra Magne 81.33 183 *eP* **P** **18 02 41.3 +2.0**
comp=Z,44nm,1.2s,mb5.3
SLE Schleitheim 81.33 337⇑*i* P **P** **18 02 39.2 -0.2**
comp=Z,410nm,1.6s,mb6.1
SLE Schleitheim 81.33 337⇑P **P** **18 02 39.4 0.0**
FELD Feldberg im Sc 81.37 337*eP* **P** **18 02 39.7 +0.1**
DAVA Damuels 81.39 336 *i* P **P** **18 02 40.1 +0.4**
comp=Z,12µm,6.6s,SNR=43
CEY Cerknica 81.39 332 P **P** **18 02 39.4 -0.3**
LBNH Lisbon 81.41 31 *eP* **P** **18 02 39.3 -0.5**
LBNH pmax pmax
comp=Z,438nm,2.3s,mb6.0
LBNH MLR MLR
comp=Z,37µm,19.0s,MS6.8
LBNH Lisbon 81.41 31 *eP* **P** **18 02 39.2 -0.6**
comp=Z,438nm,2.3s,mb6.0
LBNH LR LR
comp=Z,37µm,19.0s,MS6.8
WEIN Weingarten 81.42 336⇑*i* P **P** **18 02 40.0 +0.2**
comp=Z,496nm,1.3s,mb6.3
LIENZ Alp Oberkamor 81.49 336⇑*i* P **P** **18 02 40.1 -0.1**
comp=Z,605nm,2.6s,mb6.1
ERMK Ermenek 81.51 315 *i* P **P** **18 02 39.4 -0.9**
ACCN Adirondack Com 81.52 33 *eP* **P** **18 02 38.5 -1.9**
WILA Wila 81.54 336⇑*i* P **P** **18 02 40.5 0.0**
comp=Z,562nm,1.7s,mb6.2
WILA Wila 81.54 336⇑P **P** **18 02 40.9 +0.4**
MEZF Maizieres J'vi 81.55 339 *eP* **P** **18 02 40.4 -0.1**
comp=Z,1µm,1.4s,mb6.4
MEZF Maizieres J'vi 81.55 339 *eP* **P** **18 02 40.4 -0.1**
comp=Z,1µm,1.4s,mb6.7
THEF They Montfort 81.57 338 *eP* **P** **18 02 41.5 +0.9**
KNDS Knezji Dol 81.59 332 *eP* **P** **18 02 39.3 -1.4**
KNDS *eS* S 18 12 49.9 -1.8
DYA Yadsworthy 81.61 345 *eP* **P** **18 02 40.3 -0.6**
DYA Yadsworthy 81.61 345 *eP* **P** **18 02 40.3 -0.6**
MOF Molkenrain 81.62 338 *eP* **P** **18 02 41.3 +0.4**
TKTP Tekketepe 81.63 318 *i* P **P** **18 02 41.9 +1.0**
BINY Binghamton 81.64 35 *eP* **P** **18 02 38.1 -2.9**
comp=Z,95nm,1.4s,mb5.5
BINY LR LR
comp=Z,26µm,19.0s,MS6.6
SULZ Sulz-Cheisache 81.66 337⇑*i* P **P** **18 02 40.8 -0.3**
comp=Z,705nm,1.0s,mb6.6
SULZ Sulz-Cheisache 81.66 337⇑P **P** **18 02 41.4 +0.3**
ZUR Zurich 81.67 337⇑*i* P **P** **18 02 41.3 +0.1**
comp=Z,616nm,1.2s,mb6.4
ZUR Zurich 81.67 337⇑P **P** **18 02 41.6 +0.4**
HAU Haudompre 81.69 338 *eP* **P** **18 02 40.7 -0.5**
comp=Z,422nm,1.1s,mb6.0
HAU *eR*
comp=Z,83µm,18.5s
HAU Haudompre 81.69 338 *eP* **P** **18 02 40.7 -0.5**
HAU pmax pmax
comp=Z,211nm,1.1s,mb6.0
HAU MLR MLR
comp=Z,83µm,18.5s,MS7.1
HAU Haudompre 81.69 338 *eP* **P** **18 02 40.7 -0.5**
comp=Z,211nm,1.1s,mb6.0
HAU LR LR
comp=Z,83µm,18.5s,MS7.1
ISP Isparta 81.70 318 P **P** **18 02 41.6 +0.3**
NVR Nevrokopi 81.72 324 *eP* **P** **18 02 41.2 -0.2**
HINF Hinteralfeld 81.73 338 *eP* **P** **18 02 40.8 -0.7**
comp=Z,372nm,1.2s,mb5.9
HINF Hinteralfeld 81.73 338 *eP* **P** **18 02 40.8 -0.7**
HINF pmax pmax
comp=Z,186nm,1.2s,mb5.9
HINF Hinteralfeld 81.73 338 *eP* **P** **18 02 40.8 -0.7**
comp=Z,186nm,1.2s,mb5.9
PLONS Plons 81.74 336⇑*i* P **P** **18 02 41.5 0.0**
comp=Z,352nm,1.3s,mb6.1
PLE Pljevlja 81.77 328⇑*i* P **P** **18 02 42.3 +0.6**
OXF Oxford 81.80 48 *eP* **P** **18 02 40.7 -1.1**
OXF pmax pmax
comp=Z,237nm,1.0s,mb6.1
OXF MLR MLR
comp=Z,34µm,22.0s,MS6.7
OXF Oxford 81.80 48 *eP* **P** **18 02 40.6 -1.2**
comp=Z,236nm,1.0s,mb6.1
OXF LR LR
comp=Z,34µm,22.0s,MS6.7
HKT Hockley 81.82 55 *eP* **P** **18 02 42.4 +0.4**
HKT pmax pmax
comp=Z,121nm,1.6s,mb5.6
HKT MLR MLR
comp=Z,5µm,19.0s,MS5.9
HKT Hockley 81.82 55 *eP* **P** **18 02 42.4 +0.4**
comp=Z,121nm,1.6s,mb5.6
HKT LR LR
comp=Z,5µm,19.0s,MS5.9
DAVOX Davos 81.84 335⇑*i* P **P** **18 02 41.8 -0.3**
comp=Z,262nm,0.9s,mb6.2
CSA1 St Austell 81.86 346 *eP* **P** **18 02 42.0 -0.1**
CSA1 St Austell 81.86 346 *eP* **P** **18 02 42.0 -0.1**
BBS Basel-Blauen 81.88 337 *eP* **P** **18 02 45.4 +3.1**
FUORN Ofenpass 81.88 335⇑*i* P **P** **18 02 42.8 +0.5**
comp=Z,677nm,1.8s,mb6.3
PPT Papeete 81.88 126 *ePP* PP 18 05 40.9 -8.8
comp=Z,2µm,27.2s
PPT Papeete 81.88 126 *eS* S 18 12 54.3 -0.5
comp=Z,56µm,34.8s
PPT *eLR* LR 18 27 20.7
comp=Z,92µm,25.2s,baz=326
PPT Papeete 81.88 126 LR LR 18 36 41.8
comp=Z,29µm,18.2s,MS6.7,baz=274,slow=34
PPT Papeete 81.88 126 *eP* **P** **18 02 42.3 0.0**
PPT *eS* S 18 12 54.3 -0.5
PPT pmax pmax
comp=Z,71nm,1.4s
PPT Papeete 81.88 126 *eP* **P** **18 02 42.3 0.0**
comp=Z,70nm,1.4s,mb5.4
PPT *ePP* PP 18 05 40.9 -8.8
PPT *eS* S 18 12 54.3 -0.5
BALST Balsthal 81.95 337⇑*i* P **P** **18 02 43.5 +0.9**
comp=Z,966nm,1.2s,mb6.6
BRMO Bormio 81.98 335 P **P** **18 02 43.3 +0.5**
IVA Berane 81.98 327⇑*i* P **P** **18 02 42.7 -0.1**
CTI Castel Tesino 81.98 334 P **P** **18 02 42.0 -0.8**
BOURR Bourrignon 82.02 337⇑*i* P **P** **18 02 43.5 +0.5**
comp=Z,374nm,1.0s,mb6.3
MUO Muotathal 82.03 336⇑*i* P **P** **18 02 43.3 +0.3**
comp=Z,396nm,1.0s,mb6.3
MUO Muotathal 82.03 336⇑P **P** **18 02 43.7 +0.7**
LLS Linth-Limmern 82.03 336⇑*i* P **P** **18 02 43.3 +0.2**
comp=Z,219nm,1.0s,mb6.1
LLS Linth-Limmern 82.03 336⇑P **P** **18 02 43.6 +0.5**
BOZC Bozcaada 82.06 322 *i* P **P** **18 02 41.9 -1.3**
UPM Unac-Piva 82.06 328⇑*i* P **P** **18 02 42.9 -0.3**
CCA1 Carnmenellis 82.07 346 *eP* **P** **18 02 42.9 -0.4**
CCA1 Carnmenellis 82.07 346 *eP* **P** **18 02 42.9 -0.4**
CRQ2 Rosemanowes 2 82.08 346 *eP* **P** **18 02 43.6 +0.3**
CRQ2 Rosemanowes 2 82.08 346 *eP* **P** **18 02 43.6 +0.3**
AKHS Akhisar 82.08 320 *i* P **P** **18 02 43.0 -0.3**
PLAL Pickwick Lake 82.11 47 *eP* **P** **18 02 41.7 -1.7**
comp=Z,151nm,1.3s,mb5.8
PLAL LR LR
comp=Z,29µm,20.0s,MS6.6
STIP Stip 82.11 325 *eP* **P** **18 02 43.0 -0.4**
STIP Stip 82.11 325 *i* P **P** **18 02 43.3 -0.1**
SKO Skopje 82.16 326 *eP* **P** **18 02 43.6 -0.1**
SKO Skopje 82.16 326 *i* P **P** **18 02 44.1 +0.3**
LOMF Lomont 82.16 338 *eP* **P** **18 02 45.1 +1.3**
BNALP Bannalp 82.17 336⇑*i* P **P** **18 02 43.5 -0.3**
comp=Z,401nm,1.4s,mb6.2
MCWV Mont Chateau 82.18 38 *eP* **P** **18 02 43.0 -0.8**
comp=Z,206nm,1.3s,mb5.9
MCWV LR LR
comp=Z,43µm,21.0s,MS6.8
FFD Franklin Falls 82.18 31 *eP* **P** **18 02 44.6 +0.7**
comp=Z,126nm,1.1s,mb5.8
PVY Plav 82.19 327⇑*i* P **P** **18 02 43.8 -0.1**
SSPA Standing Stone 82.19 37 *eP* **P** **18 02 42.7 -1.2**
comp=Z,104nm,1.2s,mb5.6
SSPA LR LR
comp=Z,6µm,20.0s,MS5.9
VDL Val di Lei 82.23 336⇑*i* P **P** **18 02 44.3 +0.2**
comp=Z,273nm,0.7s,mb6.3
VDL Val di Lei 82.23 336⇑P **P** **18 02 45.0 +0.9**
VAY Valandovo 82.27 325 *eP* **P** **18 02 43.1 -1.2**
VAY Valandovo 82.27 325 *i* P **P** **18 02 43.5 -0.8**
TUE Stuetta 82.28 336 P **P** **18 02 43.9 -0.5**
NVLJ Novalja 82.28 331⇑*i* P **P** **18 02 43.1 -1.2**
BHL Bhannes 82.29 312 *eP* **P** **18 02 44.3 -0.2**
MABI Malga Bissina 82.32 335 P **P** **18 02 44.0 -0.6**
HASLI Hasliberg 82.35 337⇑*i* P **P** **18 02 44.9 +0.2**
comp=Z,559nm,1.6s,mb6.2
NKY Niksic 82.37 328⇑*i* P **P** **18 02 44.5 -0.3**
SOH Sokhos 82.37 324 *eP* **P** **18 02 43.6 -1.2**
LOS Limnos 82.40 322 *eP* **P** **18 02 51.3 +6.3**
KVTX Kingsville 82.44 58 *eP* **P** **18 02 47.2 +2.0**
BRY Bratogost 82.46 328⇑*i* P **P** **18 02 44.6 -0.7**
PRK Paraskevi 82.46 321 *eP* **P** **18 02 44.6 -0.7**
PRK Paraskevi 82.46 321 *eP* **P** **18 02 45.0 -0.3**
OUR Ouranopolis 82.53 323 *eP* **P** **18 02 45.3 -0.3**
RCY Rachaya 82.54 312 *eP* **P** **18 02 46.4 +0.7**
FLN La Foliniere 82.56 343 *eP* **P** **18 02 45.2 -0.6**
comp=Z,682nm,1.0s,mb6.3
FLN *eR*
comp=Z,59µm,18.5s
FLN La Foliniere 82.56 343 *eP* **P** **18 02 45.2 -0.6**
FLN pmax pmax
comp=Z,341nm,1.0s,mb6.3
FLN MLR MLR
comp=Z,59µm,18.5s,MS7.0
FLN La Foliniere 82.56 343 *eP* **P** **18 02 45.2 -0.6**
comp=Z,341nm,1.0s,mb6.3
FLN LR LR
comp=Z,59µm,18.5s,MS7.0
WIMIS Wimmis 82.58 337⇑*i* P **P** **18 02 45.7 -0.2**
comp=Z,939nm,4.2s
TTG Podgorica 82.60 327⇑*i* P **P** **18 02 45.9 -0.1**
BRANT Les Verrieres 82.64 338⇑*i* P **P** **18 02 46.2 0.0**
comp=Z,931nm,2.7s,mb6.3
LDF La Druitiere 82.64 342 *eP* **P** **18 02 45.5 -0.8**
comp=Z,388nm,1.1s,mb6.0
LDF La Druitiere 82.64 342 *eP* **P** **18 02 45.5 -0.8**
LDF pmax pmax
comp=Z,194nm,1.1s,mb6.0
LDF La Druitiere 82.64 342 *eP* **P** **18 02 45.5 -0.8**
comp=Z,194nm,1.1s,mb6.0
GRG Griva 82.64 325 *eP* **P** **18 02 45.9 -0.3**
SALA Sala 82.66 310⇑P **P** **18 02 50.1 +3.7**
TORNY Torny 82.66 337⇑*i* P **P** **18 02 46.2 -0.2**
comp=Z,853nm,2.6s,mb6.3
HORT Hortiatis 82.67 324 *eP* **P** **18 02 45.0 -1.3**
THE Thessaloniki 82.69 324 *eP* **P** **18 02 45.3 -1.2**
PLG Polygyros 82.71 324 *eP* **P** **18 02 45.1 -1.5**
PLG Polygyros 82.71 324 *eP* **P** **18 02 45.4 -1.2**
KDAG Bornova 82.72 320 *i* P **P** **18 02 46.3 -0.4**
BLCB Balcova 82.83 320 *eP* **P** **18 02 46.1 -1.2**
LKBD Leukerbad 82.84 337⇓P **P** **18 02 45.9 -1.4**
BUM Brajici-Budva 82.85 328⇑*i* P **P** **18 02 48.4 +1.1**
KSDI Kefar Szold 82.85 311 P **P** **18 02 47.8 +0.5**
HCY Herceg Novi 82.87 328⇑*i* P **P** **18 02 46.5 -0.9**
MUGIO Muggio 82.87 336⇑*i* P **P** **18 02 46.7 -0.7**
comp=Z,437nm,1.0s,mb6.4
SENIN Lac Senin 82.95 337⇑*i* P **P** **18 02 46.7 -1.1**
comp=Z,867nm,2.6s,mb6.3
GRR Gorron 82.99 343 *eP* **P** **18 02 47.7 -0.4**
comp=Z,694nm,1.0s,mb6.3
GRR Gorron 82.99 343 *eP* **P** **18 02 47.7 -0.4**
GRR pmax pmax
comp=Z,347nm,1.0s,mb6.3
GRR Gorron 82.99 343 *eP* **P** **18 02 47.7 -0.4**
comp=Z,347nm,1.0s,mb6.3
ASF Jabal al Asfar 82.99 310 LR LR 18 44 20.4
comp=Z,43µm,18.4s,MS6.8,baz=261,slow=39
LOR Lormes 82.99 339 *eP* **P** **18 02 47.7 -0.4**
comp=Z,689nm,1.0s,mb6.3
LOR *eR*
comp=Z,63µm,22.5s
LOR Lormes 82.99 339 *eP* **P** **18 02 47.7 -0.4**
LOR pmax pmax
comp=Z,345nm,1.0s,mb6.3
LOR MLR MLR
comp=Z,63µm,22.5s,MS6.9
LOR Lormes 82.99 339 *eP* **P** **18 02 47.7 -0.4**
comp=Z,344nm,1.0s,mb6.3
LOR LR LR
comp=Z,63µm,22.5s,MS6.9
ULC Ulcinj 83.01 327⇑*i* P **P** **18 02 48.3 +0.1**
BIA Bitola 83.02 325 *eP* **P** **18 02 47.3 -0.9**
BIA Bitola 83.02 325 *i* P **P** **18 02 47.7 -0.5**
MMK Mattmark 83.05 336⇑*i* P **P** **18 02 47.2 -1.2**
comp=Z,660nm,2.5s,mb6.2
MMK Mattmark 83.05 336⇑P **P** **18 02 49.6 +1.2**
URLA Izmir 83.05 320 *i* P **P** **18 02 47.1 -1.3**
AYDN Tasoluk 83.05 319 *i* P **P** **18 02 49.4 +1.0**
HRV Harvard--Oak R 83.05 32 *eP* **P** **18 02 48.2 -0.2**
HRV pmax pmax
comp=Z,66nm,1.1s,mb5.6
HRV MLR MLR
comp=Z,21µm,19.0s,MS6.5
HRV Harvard--Oak R 83.05 32 *eP* **P** **18 02 48.2 -0.2**
comp=Z,66nm,1.1s,mb5.6
HRV LR LR
comp=Z,21µm,19.0s,MS6.5
AIGLE Aigle 83.06 337⇑*i* P **P** **18 02 48.4 0.0**
comp=Z,785nm,2.6s,mb6.3
TZTN Tazewell 83.06 43 *eP* **P** **18 02 47.5 -1.0**
GIMEL Gimel 83.07 338⇑*i* P **P** **18 02 48.7 +0.2**
comp=Z,978nm,4.5s
GRYON Gryon 83.10 337⇑*i* P **P** **18 02 49.9 +1.3**
comp=Z,325nm,1.1s,mb6.3
ZAIG Zacatecas 83.14 64 *i* P **P** **18 02 47.2 -1.6**
OG01 Vacheresse 83.14 337 *eP* **P** **18 02 50.9 +2.0**
OHR Ohrid 83.15 326 *eP* **P** **18 02 47.3 -1.5**
OHR Ohrid 83.15 326 *i* P **P** **18 02 47.4 -1.4**
DIX Grande Dixence 83.18 337⇑*i* P **P** **18 02 49.6 +0.6**
comp=Z,394nm,0.9s,mb6.4
DIX Grande Dixence 83.18 337⇑P **P** **18 02 49.2 +0.2**
FNA Florina 83.20 325 *eP* **P** **18 02 48.7 -0.4**
SALAN Lac Salanfe 83.24 337⇑*i* P **P** **18 02 49.4 +0.1**
comp=Z,568nm,2.0s,mb6.2
WES Weston 83.25 32 PFAKE 18 03 00.0 +11
WES LR LR
comp=Z,12µm,20.0s,MS6.2
HYF Humbligny 83.28 340 *eP* **P** **18 02 49.6 0.0**
TIR Tirane 83.30 327 *eP* **P** **18 02 48.5 -1.2**
EMV Vieux Emosson 83.33 337⇑*i* P **P** **18 02 49.9 +0.1**
comp=Z,396nm,0.9s,mb6.4
EMV Vieux Emosson 83.33 337⇑P **P** **18 02 49.7 -0.1**
LIT Litokhoron 83.33 324 *eP* **P** **18 02 48.1 -1.7**
AKAS Kas 83.42 317 *i* P **P** **18 02 47.2 -3.1**
ORO Oropa 83.44 336 P **P** **18 02 51.5 +1.1**
KZN Kozani 83.45 325 *eP* **P** **18 02 49.5 -0.9**
FWV Forest Hill 83.47 40 *eP* **P** **18 02 49.5 -1.0**
PAL Palisades 83.47 34 *eP* **P** **18 02 49.4 -1.1**
PAL pmax pmax
comp=Z,50nm,1.0s,mb5.5
PAL Palisades 83.47 34 P **P** **18 02 51.0 +0.5**
PAL pmax pmax
comp=Z,50nm,1.0s,mb5.5
PAL Palisades 83.47 34 *eP* **P** **18 02 49.4 -1.1**
comp=Z,50nm,1.0s,mb5.5
SMG Samos 83.48 320 *eP* **P** **18 02 49.0 -1.6**
BRNJ Basking Ridge 83.49 34 P **P** **18 02 50.8 +0.1**
KSL Kastellorizon 83.50 317 *eP* **P** **18 02 51.0 +0.3**
ROSF Rostrenen 83.51 344 *eP* **P** **18 02 50.4 -0.3**
comp=Z,324nm,1.0s,mb6.1
ROSF Rostrenen 83.51 344 *eP* **P** **18 02 50.4 -0.3**
ROSF pmax pmax
comp=Z,162nm,1.0s,mb6.1
ROSF Rostrenen 83.51 344 *eP* **P** **18 02 50.4 -0.3**
comp=Z,162nm,1.0s,mb6.1
AOS Alonnisos 83.55 323 *eP* **P** **18 02 51.0 +0.1**
AVF Avril sur Loir 83.56 340 *eP* **P** **18 02 50.8 -0.2**
comp=Z,1µm,1.1s,mb6.5
AVF Avril sur Loir 83.56 340 *eP* **P** **18 02 50.8 -0.2**
AVF pmax pmax
comp=Z,513nm,1.1s,mb6.6
AVF Avril sur Loir 83.56 340 *eP* **P** **18 02 50.8 -0.2**
comp=Z,513nm,1.1s,mb6.6
MMLI Mount Malkishu 83.56 311 P **P** **18 02 51.9 +0.9**
SMF Signal de Mont 83.58 339 *eP* **P** **18 02 51.0 -0.1**
comp=Z,2µm,1.2s,mb6.8
SMF Signal de Mont 83.58 339 *eP* **P** **18 02 51.0 -0.1**
SMF pmax pmax
comp=Z,936nm,1.2s,mb6.8
SMF Signal de Mont 83.58 339 *eP* **P** **18 02 51.0 -0.1**
comp=Z,936nm,1.2s,mb6.8
AOI Ancona 83.60 332 P **P** **18 02 51.5 +0.3**
CPNY Central Park 83.64 34 *eP* **P** **18 02 49.9 -1.5**
RSM Repubblica di 83.64 333 P **P** **18 02 52.5 +1.1**
HMDT Nahal Hemdat 83.65 311 P **P** **18 02 52.8 +1.3**
XOR Xorichti 83.67 323 *eP* **P** **18 02 51.3 -0.3**
TKL Tuckaleechee C 83.67 43 LR LR 18 39 34.6
comp=Z,40µm,21.3s,MS6.8,baz=335,slow=35
NEO Neokhori 83.70 323 *eP* **P** **18 02 50.4 -1.3**
OG05 Jujurieux 83.73 338 *eP* **P** **18 02 53.5 +1.6**
BDRM Kayabasi 83.74 319 *i* P **P** **18 02 52.1 +0.2**
FSSB Fossombrone 83.75 332 P **P** **18 02 51.6 -0.4**
RSL Roselend 83.75 337 *eP* **P** **18 02 53.0 +1.0**
TOO Toolangi 83.79 186 *eP* **P** **18 02 54.9 +2.7**
TOO */* S S 18 13 15.6 +1.4
TOO pmax pmax
comp=Z,26nm,1.5s,mb5.1
TOO Toolangi 83.79 186 *eP* **P** **18 02 54.9 +2.7**
comp=Z,26nm,1.5s,mb5.1
TOO */* S S 18 13 15.6 +1.4
ERBM Eremo 83.83 334 P **P** **18 02 53.7 +1.3**
GSCL Gusciola 83.84 334 P **P** **18 02 53.6 +1.2**
FNVD Fontana Vidola 83.84 334 P **P** **18 02 53.4 +1.0**
SFI Santa Sofia 83.85 333 P **P** **18 02 53.8 +1.3**
LPL La Plagne 83.88 337 *eP* **P** **18 02 53.3 +0.7**
comp=Z,441nm,1.0s,mb6.2
LPL La Plagne 83.88 337 *eP* **P** **18 02 53.3 +0.7**
LPL pmax pmax
comp=Z,221nm,1.0s,mb6.2
LPL La Plagne 83.88 337 *eP* **P** **18 02 53.3 +0.7**
comp=Z,221nm,1.0s,mb6.2
KLBR Kellerberrin 83.89 210 *eP* **P** **18 02 53.6 +0.9**
comp=Z,136nm,1.0s,mb6.0
CING Cingoli 83.89 332 P **P** **18 02 52.2 -0.5**
LPG La Plagne 83.89 337 *eP* **P** **18 02 53.4 +0.7**
comp=Z,658nm,1.1s,mb6.4
LPG La Plagne 83.89 337 *eP* **P** **18 02 53.4 +0.7**
LPG pmax pmax
comp=Z,329nm,1.1s,mb6.4
LPG La Plagne 83.89 337 *eP* **P** **18 02 53.4 +0.7**
comp=Z,329nm,1.1s,mb6.4
QUIF Quistinic 83.89 344 *eP* **P** **18 02 52.1 -0.6**
comp=Z,266nm,1.1s,mb6.0
QUIF Quistinic 83.89 344 *eP* **P** **18 02 52.1 -0.6**
QUIF pmax pmax
comp=Z,133nm,1.1s,mb6.0
QUIF Quistinic 83.89 344 *eP* **P** **18 02 52.1 -0.6**
comp=Z,133nm,1.1s,mb6.0
VMG Vicchio 83.89 333 P **P** **18 02 54.0 +1.3**
BGF Bois d'Agland 83.90 340 *eP* **P** **18 02 52.5 -0.3**
comp=Z,304nm,1.0s,mb6.1
BGF Bois d'Agland 83.90 340 *eP* **P** **18 02 52.5 -0.3**
BGF pmax pmax
comp=Z,152nm,1.0s,mb6.1
BGF Bois d'Agland 83.90 340 *eP* **P** **18 02 52.5 -0.3**

comp=Z,152nm,1.0s,mb6.1
SLTI Sal'it 83.92 311 P **P** **18 02 54.2 +1.4**
BLA Blacksburg 83.95 40 *e*P **P** **18 02 51.7 -1.3**
comp=Z,8.9nm,1.1s
BLA LR LR
comp=Z,2µm,19.0s,MS5.6
CJM Chamela 83.95 68 *i* P **P** **18 02 52.3 -0.8**
THL Klokotos Trika 83.98 324 *e*P **P** **18 02 49.6 -3.6**
CRE Caprese Michel 84.08 333 P **P** **18 02 53.7 +0.1**
SNTG Esanatoglia 84.08 332 P **P** **18 02 53.5 -0.2**
BDI Bagni Di Lucca 84.10 334 P **P** **18 02 53.2 -0.5**
MEV Metsovon 84.11 325 *e*P **P** **18 02 55.2 +1.4**
OFFI Offida 84.12 331 P **P** **18 02 54.7 +0.8**
ARG Arkhangelos 84.12 318 *e*P **P** **18 02 44.9 -9.0**
CDCA Citt' di Caste 84.13 333 P **P** **18 02 55.3 +1.4**
PLDF La Plantade 84.27 339 *e*P **P** **18 02 55.5 +0.9**
TCF Toulx Ste Croi 84.31 340 *e*P **P** **18 02 54.9 +0.1**
comp=Z,551nm,1.0s,mb6.3
TCF Toulx Ste Croi 84.31 340 *e*P **P** **18 02 54.9 +0.1**
TCF pmax pmax
comp=Z,276nm,1.0s,mb6.3
TCF Toulx Ste Croi 84.31 340 *e*P **P** **18 02 54.9 +0.1**
comp=Z,276nm,1.0s,mb6.3
AGO Saint Agoulin 84.31 340 *e*P **P** **18 02 56.9 +2.1**
AGG Agios Georgios 84.31 324 *e*P **P** **18 02 53.7 -1.1**
ASS Assisi 84.35 332 P **P** **18 02 55.5 +0.5**
JAN Janina 84.37 325 *e*P **P** **18 02 55.5 +0.4**
CSNT Castellina Chi 84.42 333 P **P** **18 02 55.2 -0.2**
PII Pisa 84.43 334 P **P** **18 02 54.7 -0.7**
TERO Teramo 84.43 331 P **P** **18 02 55.5 +0.1**
FGMS Monte Sant'Ang 84.43 329 P **P** **18 02 55.6 +0.2**
CBN Corbin 84.45 38 *e*P **P** **18 02 55.4 -0.1**
comp=Z,264nm,1.4s,mb6.2
CBN LR LR
comp=Z,41µm,21.0s,MS6.8
OG22 Abries 84.46 337 *e*P **P** **18 02 58.2 +2.6**
SGRT San Giovanni R 84.47 329 P **P** **18 02 54.6 -1.0**
MZDA Masada 84.48 310 P **P** **18 02 56.7 +1.0**
PTL Penteli 84.49 322 *e*P **P** **18 02 55.1 -0.7**
MFF Saint Martin d 84.54 342 *e*P **P** **18 02 56.2 +0.2**
comp=Z,291nm,1.0s,mb6.1
MFF Saint Martin d 84.54 342 *e*P **P** **18 02 56.2 +0.2**
MFF pmax pmax
comp=Z,146nm,1.0s,mb6.1
MFF Saint Martin d 84.54 342 *e*P **P** **18 02 56.2 +0.2**
comp=Z,146nm,1.0s,mb6.1
APE Apeiranthos 84.59 320 *e*P **P** **18 02 54.4 -1.9**
RGNG Rignano Grg 84.59 329 P **P** **18 02 55.3 -1.0**
MBDF Montbardon 84.60 337 *e*P **P** **18 02 56.8 +0.5**
comp=Z,469nm,1.1s,mb6.2
MBDF Montbardon 84.60 337 *e*P **P** **18 02 56.8 +0.5**
MBDF pmax pmax
comp=Z,235nm,1.1s,mb6.2
MBDF Montbardon 84.60 337 *e*P **P** **18 02 56.8 +0.5**
comp=Z,235nm,1.1s,mb6.2
EVR Evrytania 84.62 324 *e*P **P** **18 02 54.9 -1.5**
PYM Petit Puy Mans 84.62 340 *e*P **P** **18 02 57.9 +1.5**
ATH Athens Observa 84.62 322 *e*P **P** **18 02 55.0 -1.4**
FG2 Serracapriola 84.62 330 P **P** **18 02 56.3 -0.1**
ORIF Oris-en-Rattie 84.67 337 *e*P **P** **18 02 57.1 +0.5**
comp=Z,477nm,0.8s,mb6.3
ORIF *e*R
comp=Z,44µm,19.0s
ORIF Oris-en-Rattie 84.67 337 *e*P **P** **18 02 57.1 +0.5**
ORIF pmax pmax
comp=Z,239nm,0.8s,mb6.4
ORIF Oris-en-Rattie 84.67 337 *e*P **P** **18 02 57.1 +0.5**
comp=Z,239nm,0.8s,mb6.4
COLF Collangettes 84.67 339 *e*P **P** **18 02 59.5 +2.8**
FIN Finale Ligure 84.67 335 P **P** **18 02 56.5 -0.2**
DOI San Damiano 84.67 336 P **P** **18 02 55.5 -1.2**
IGT Igoumenitsa 84.68 325 *e*P **P** **18 02 56.1 -0.6**
KVR Kavouri 84.72 322 *e*P **P** **18 02 56.5 -0.4**
AQU L'Aquila 84.74 331 ⇑ *i*P **P** **18 02 55.9 -1.1**
AQU L'Aquila 84.74 331 ⇑P **P** **18 02 55.9 -1.1**
KEK Kerkira 84.74 326 *e*P **P** **18 02 55.0 -2.0**
MUN Mundaring 84.78 211 *e*P **P** **18 03 00.3 +3.1**
MUN *i* S S 18 13 26.2 +2.1
MGER Gerania Oros 84.80 322 *e*P **P** **18 02 55.5 -1.8**
GRFL Gerfalco 84.81 333 P **P** **18 02 57.2 -0.1**
LCI Lecce 84.85 327 P **P** **18 02 57.5 0.0**
INTR Introdacqua 84.87 331 P **P** **18 02 57.6 -0.1**
NAIG Nisos Aigina 84.90 322 *e*P **P** **18 02 57.0 -0.8**
FIAM Fiamignano 84.91 331 P **P** **18 02 58.2 +0.3**
LATE Laterza 85.03 332 P **P** **18 02 58.8 +0.4**
MASH Mash'abbe Sade 85.03 311 P **P** **18 03 00.2 +1.7**
VIVF Saint-Julien-I 85.04 338 *e*P **P** **18 02 58.8 +0.3**
comp=Z,581nm,1.0s,mb6.3
VIVF Saint-Julien-I 85.04 338 *e*P **P** **18 02 58.8 +0.3**
VIVF pmax pmax
comp=Z,291nm,1.0s,mb6.4
VIVF Saint-Julien-I 85.04 338 *e*P **P** **18 02 58.8 +0.3**
comp=Z,291nm,1.0s,mb6.4
FG5 Orsara di Pugl 85.05 330 P **P** **18 02 58.9 +0.3**
LBL Lubilhac 85.05 339 *e*P **P** **18 03 00.4 +1.8**
SAOF Saorge 85.06 336 *e*P **P** **18 03 01.6 +3.0**
MIDA Miranda 85.08 330 P **P** **18 02 58.4 -0.3**
AUTN L'Aution 85.09 336 *e*P **P** **18 02 58.3 +3.6**
FG4 Candela 85.09 329 P **P** **18 02 58.3 -0.5**
VVLD Villa Vallelon 85.09 331 P **P** **18 02 58.7 -0.1**
KARP Karpathos 85.12 319 *e*P **P** **18 02 57.9 -1.0**
TOUF Mont Tournerai 85.12 336 *e*P **P** **18 03 02.3 +3.4**
SVTA Shivta 85.17 311 P **P** **18 03 00.5 +1.3**
ZFRI Zfri 85.17 310 P **P** **18 03 00.2 +1.0**
LUCF Luceram 85.21 336 *e*P **P** **18 03 01.8 +2.4**
CERT Cerreto 85.24 331 P **P** **18 02 58.5 -1.0**
MVIF Mont Vial 85.26 336 *e*P **P** **18 03 01.3 +1.7**
PSB1 Pescosannita 85.26 330 P **P** **18 02 59.1 -0.5**
NWAO Narrogin (SRO) 85.28 210 P **P** **18 02 59.4 -0.4**
comp=Z,116nm,1.0s,mb6.0,baz=36,slow=4.4,SNR=13
NWAO LR LR 18 37 12.9
comp=Z,6µm,21.8s,MS6.0,baz=32,slow=33
NWAO Narrogin (SRO) 85.28 210 P **P** **18 02 59.4 -0.3**
NWAO pmax pmax
comp=Z,116nm,1.0s
NWAO MLR MLR
comp=Z,6µm,21.8s
NWAO Narrogin (SRO) 85.28 210 *e*P **P** **18 02 57.7 -2.0**
comp=Z,700nm,1.6s,mb6.5
NWAO LR LR
comp=Z,15µm,20.0s,MS6.4
REVF Revere 85.34 336 *e*P **P** **18 03 02.6 +2.6**
RJF Les Rejaudoux 85.40 340 *e*P **P** **18 02 59.5 -0.8**
comp=Z,304nm,1.0s,mb6.1
RJF *e*R
comp=Z,61µm,22.2s
RJF Les Rejaudoux 85.40 340 *e*P **P** **18 02 59.5 -0.8**
RJF pmax pmax
comp=Z,152nm,1.0s,mb6.1
RJF MLR MLR
comp=Z,61µm,22.3s,MS6.9
RJF Les Rejaudoux 85.40 340 *e*P **P** **18 02 59.5 -0.8**
comp=Z,152nm,1.0s,mb6.1
RJF LR LR
comp=Z,61µm,22.3s,MS6.9
MAON Monte Argentar 85.41 333 P **P** **18 03 00.0 -0.4**
MRLC Muro Lucano 85.44 329 P **P** **18 03 00.7 +0.2**
TOLF Tolfa 85.46 332 P **P** **18 03 00.0 -0.6**
RLS Riolos of Patr 85.49 324 *e*P **P** **18 02 59.6 -1.2**
STOF St-Etienne Org 85.51 337 *e*P **P** **18 03 04.6 +3.7**
SMRF Simiane la Rot 85.62 337 *e*P **P** **18 03 01.9 +0.5**
comp=Z,434nm,1.4s,mb6.2
SMRF Simiane la Rot 85.62 337 *e*P **P** **18 03 01.9 +0.5**
comp=Z,434nm,1.4s,mb6.5
CAF Calviac 85.62 340 *e*P **P** **18 03 01.0 -0.4**
comp=Z,398nm,0.9s,mb6.3
CAF Calviac 85.62 340 *e*P **P** **18 03 01.0 -0.4**
CAF pmax pmax
comp=Z,199nm,0.9s,mb6.3
CAF Calviac 85.62 340 *e*P **P** **18 03 01.0 -0.4**
comp=Z,199nm,0.9s,mb6.3
SGO Sicignano 85.67 329 P **P** **18 03 02.8 +1.1**
ORI Oriolo Calabro 85.70 328 P **P** **18 03 01.0 -0.8**
FRF La Foret Royal 85.71 336 *e*P **P** **18 03 01.6 -0.3**
comp=Z,584nm,1.4s,mb6.3
FRF La Foret Royal 85.71 336 *e*P **P** **18 03 01.6 -0.3**
FRF pmax pmax
comp=Z,292nm,1.4s,mb6.3
FRF La Foret Royal 85.71 336 *e*P **P** **18 03 01.6 -0.3**
comp=Z,292nm,1.4s,mb6.3
VLS Valsamata 85.74 324 *e*P **P** **18 03 00.6 -1.4**
TAVF Tavernes 85.82 337 *e*P **P** **18 03 04.4 +2.0**
PRAF Pradon 85.89 337 *e*P **P** **18 03 05.1 +2.4**
MBH Mount Berech 85.91 310 P **P** **18 03 04.6 +1.8**

LFF La Frestale 85.92 341 *e*P **P** **18 03 02.1 -0.8**
LMR La Mourre 85.96 336 *e*P **P** **18 03 02.9 -0.2**
comp=Z,761nm,1.1s,mb6.5
LMR La Mourre 85.96 336 *e*P **P** **18 03 02.9 -0.2**
LMR pmax pmax
comp=Z,381nm,1.1s,mb6.5
LMR La Mourre 85.96 336 *e*P **P** **18 03 02.9 -0.2**
comp=Z,381nm,1.1s,mb6.5
LASF Ste Croix 85.98 338 *e*P **P** **18 03 02.8 -0.4**
comp=Z,366nm,1.2s,mb6.2
JSC Jenkinsville 85.98 42 *e*P **P** **18 02 59.7 -3.5**
EIL Elat 85.99 310 P **P** **18 03 05.0 +1.8**
PUYF Puyloubier 86.00 337 *e*P **P** **18 03 05.3 +2.0**
VLI Velíai 86.01 322 *e*P **P** **18 03 00.4 -2.9**
NPS Neapolis 86.06 319 *e*P **P** **18 03 02.8 -0.8**
GELF Grande-Etoile 86.21 337 *e*P **P** **18 03 08.1 +3.8**
KYTH Kithira 86.34 322 *e*P **P** **18 03 05.5 +0.5**
XRY Khrisi 86.35 319 *e*P **P** **18 03 04.5 -0.5**
VAM Vamos 86.57 320 *e*P **P** **18 03 04.9 -1.2**
TBI Tubuai 86.61 129 *e*PP PP 18 06 23.2 -5.0
comp=Z,1µm,25.8s
TBI Tubuai 86.61 129 *e*SKSac SKSac 18 13 27.5 -4.3
comp=Z,19µm,27.8s
TBI *e*LR LR 18 29 38.1
comp=Z,64µm,35.2s,baz=324
URZ Urewera 86.90 161 P **P** **18 03 07.9 +0.2**
comp=Z,18nm,0.9s,mb5.3,baz=225,slow=2.8,SNR=6.3
MTLF Montolieu 87.08 339 *e*P **P** **18 03 07.8 -0.8**
comp=Z,182nm,0.9s,mb6.0
MTLF Montolieu 87.08 339 *e*P **P** **18 03 07.8 -0.8**
MTLF pmax pmax
comp=Z,91nm,0.9s,mb6.0
MTLF Montolieu 87.08 339 *e*P **P** **18 03 07.8 -0.8**
comp=Z,91nm,0.9s,mb6.0
GVD Gavdhos 87.10 320 *e*P **P** **18 03 10.0 +1.3**
LRDF Laroque-de-Fa 87.38 339 *e*P **P** **18 03 10.3 +0.3**
SCLL Scilla 87.56 328 P **P** **18 03 11.4 +0.5**
SLNA Salina 87.61 329 P **P** **18 03 12.3 +1.1**
MSI Messina ING 87.66 328 P **P** **18 03 11.8 +0.4**
CARF Carcanieres 87.69 339 *e*P **P** **18 03 11.3 -0.3**
FILF Fillols 87.73 339 *e*P **P** **18 03 11.3 -0.4**
EJON La Jonquera 87.75 338 P **P** **18 03 15.5 +3.7**
comp=Z,126nm,0.9s,mb6.2
MTTG Motta San Giov 87.79 328 P **P** **18 03 12.4 +0.4**
EPF Esparros 87.82 340 *e*P **P** **18 03 12.4 +0.2**
comp=Z,114nm,0.9s,mb5.8
EPF Esparros 87.82 340 *e*P **P** **18 03 12.4 +0.2**
EPF pmax pmax
comp=Z,57nm,0.9s,mb5.8
EPF Esparros 87.82 340 *e*P **P** **18 03 12.4 +0.2**
comp=Z,57nm,0.9s,mb5.8
LABF Labassere 87.87 341 *e*P **P** **18 03 12.0 -0.4**
MELF Melles 87.87 340 *e*P **P** **18 03 14.2 +1.8**
SALF Salau 87.88 340 *e*P **P** **18 03 12.8 +0.4**
REYF Montagne du Re 87.95 341 *e*P **P** **18 03 15.6 +2.8**
VALF Valcebollere 88.01 339 *e*P **P** **18 03 14.0 +0.9**
RESF Ens 88.03 340 *e*P **P** **18 03 13.3 +0.1**
VIEF Viey 88.03 341 *e*P **P** **18 03 13.3 +0.1**
EALK Alkurruntz 88.06 342 P **P** **18 03 13.8 +0.5**
comp=Z,27nm,0.9s,mb5.5
USI Ustica 88.07 330 P **P** **18 03 12.8 -0.5**
SJPF Ste Jean 88.10 342 *e*P **P** **18 03 13.7 +0.2**
comp=Z,86nm,1.0s,mb5.6
SJPF Ste Jean 88.10 342 *e*P **P** **18 03 13.7 +0.2**
SJPF pmax pmax
comp=Z,43nm,1.0s,mb5.6
SJPF Ste Jean 88.10 342 *e*P **P** **18 03 13.7 +0.2**
comp=Z,43nm,1.0s,mb5.6
ELIZ Elizondo 88.11 342 P **P** **18 03 12.1 -1.4**
ELIZ pmax pmax
comp=Z,31nm,0.9s,mb5.5
ELIZ Elizondo 88.11 342 P **P** **18 03 12.1 -1.5**
comp=Z,31nm,0.9s,mb5.5
LARF Larrau 88.12 341 *e*P **P** **18 03 14.2 +0.6**
ETSF Etsaut 88.15 341 *e*P **P** **18 03 12.9 -0.8**
EBIE Bielsa 88.19 340 P **P** **18 03 16.4 +2.4**
comp=Z,72nm,0.9s,mb5.9
GIB Gibilmanna 88.41 329 P **P** **18 03 15.8 +0.8**
CSLB Castelbuono 88.44 329 P **P** **18 03 15.1 0.0**
ELAN Lanestosa 88.45 343 P **P** **18 03 16.4 +1.3**
comp=Z,39nm,1.0s,mb5.6
AGST Augusta-Monte 88.62 328 P **P** **18 03 14.8 -1.2**
VSL Villasalto 88.62 333 P **P** **18 03 16.3 +0.3**
SSY Sortino 88.77 328 P **P** **18 03 16.1 -0.6**
ERC Erice 88.88 330 P **P** **18 03 18.0 +0.9**
HVZN Vizzini 88.88 328 P **P** **18 03 16.8 -0.4**
DGAR Diego Garcia 88.92 258 PFAKE 18 03 30.0 +13
DGAR LR LR
comp=Z,4µm,19.0s,MS5.8
HAVL Avola 88.92 328 P **P** **18 03 17.1 -0.3**
RAFF Raffo Rosso 88.97 328 P **P** **18 03 17.0 -0.6**
TAU Tasmania Unive 88.99 184 *e*P **P** **18 03 21.7 +4.0**
TAU pmax pmax
comp=Z,115nm,1.4s,mb6.0
TAU MLR MLR
comp=Z,7µm,19.0s,MS6.1
TAU Tasmania Unive 88.99 184 *e*P **P** **18 03 21.7 +4.0**
comp=Z,115nm,1.4s,mb6.0
TAU LR LR
comp=Z,7µm,19.0s,MS6.1
EPON Pontenova 89.05 346 P **P** **18 03 17.4 -0.6**
comp=Z,50nm,0.9s,mb5.8
HMDC Modica 89.05 328 P **P** **18 03 18.2 +0.2**
CLTB Caltabellotta 89.07 329 P **P** **18 03 19.6 +1.6**
MUKL Al Mukalla 89.12 290 *e*P **P** **18 03 20.4 +2.1**
EPOB Poblet 89.23 339 P **P** **18 03 19.1 +0.3**
comp=Z,63nm,0.9s,mb5.9
ESAC San Caprasio 89.25 341 P **P** **18 03 21.1 +2.2**
comp=Z,100nm,1.1s,mb6.1
SNZO South Karori 89.33 164 PFAKE 18 03 30.0 +11
SNZO LR LR
comp=Z,37µm,19.0s,MS6.8
STS Santiago 89.71 347 P **P** **18 03 19.3 -1.7**
STS pmax pmax
comp=Z,74nm,1.4s,mb5.8
STS Santiago 89.71 347 P **P** **18 03 19.3 -1.7**
comp=Z,74nm,1.4s,mb5.8
ERTA Horta de San J 89.79 340 P **P** **18 03 22.6 +1.2**
comp=Z,92nm,1.4s,mb5.9
ERUA La Rua 89.95 346 P **P** **18 03 20.9 -1.3**
ERUA pmax pmax
comp=Z,34nm,0.8s,mb5.7
ERUA La Rua 89.95 346 P **P** **18 03 20.9 -1.3**
comp=Z,34nm,0.8s,mb5.7
ETOS Mallorca 90.28 338 P **P** **18 03 27.2 +3.5**
comp=Z,178nm,0.9s,mb6.4
ECAL Calabor 90.32 345 P **P** **18 03 21.8 -2.1**
comp=Z,195nm,1.9s,mb6.1
ETOR Torete 90.47 341 P **P** **18 03 23.7 -0.9**
ETOR pmax pmax
comp=Z,29nm,1.1s,mb5.5
ETOR Torete 90.47 341 P **P** **18 03 23.7 -0.9**
comp=Z,29nm,1.1s,mb5.5
EMOS Mogueruela 90.54 340 P **P** **18 03 26.4 +1.5**
comp=Z,62nm,0.9s,mb5.9
DWPF Disney 90.98 46 PFAKE 18 03 40.0 +13
DWPF LR LR
comp=Z,6µm,20.0s,MS6.0
RPZ Rata Peaks 91.04 167 P **P** **18 03 28.0 +0.7**
comp=Z,11nm,1.1s,mb5.1,baz=39,slow=6.5,SNR=3.2
GUD Guadarrama 91.08 343 P **P** **18 03 27.8 +0.3**
GUD pmax pmax
comp=Z,19nm,1.1s,mb5.3
GUD Guadarrama 91.08 343 P **P** **18 03 27.8 +0.3**
comp=Z,19nm,1.1s,mb5.3
EIBI Ibiza 91.36 338 P **P** **18 03 27.9 -0.9**
comp=Z,89nm,1.0s,mb6.0
PVIS Viseu 91.71 346 *e*P **P** **18 03 30.6 +0.2**
comp=Z,101nm,1.8s,mb5.8
MTE Manteigas 91.96 345 *e*P **P** **18 03 32.1 +0.6**
comp=Z,109nm,1.9s,mb5.9
MTE Manteigas 91.96 345 *e*P **P** **18 03 32.2 +0.7**
comp=Z,109nm,1.9s,mb5.9
MTE Manteigas 91.96 345 *e*SKSac SKSac 18 14 05.5 +2.1
MTE Manteigas 91.96 345 *e*LQ 18 28 31.6
MTE *e*LR LR 18 34 52.2
comp=Z,27µm,22.0s
ESDC Sonseca Array 91.98 343 P **P** **18 03 31.0 -0.6**
comp=Z,11nm,0.9s,mb5.2,baz=6.5,slow=3.9,SNR=25
ESDC LR LR 18 53 45.1
comp=Z,30µm,18.0s,MS6.8,baz=35,slow=41
ESDC Sonseca Array 91.98 343 P **P** **18 03 30.9 -0.7**
comp=Z,15nm,1.0s,mb5.3
ESLA Sonseca Array 91.98 343 *e*P **P** **18 03 30.6 -1.0**
comp=Z,62nm,1.8s,mb5.6

ESLA LR LR
comp=Z,194µm,21.0s,MS7.5
EBEN Beniarda 92.06 339 P **P** **18 03 31.7 -0.3**
comp=Z,140nm,1.9s,mb6.0
KEST Kesra 92.06 331 P **P** **18 03 31.4 -0.6**
comp=Z,50nm,0.9s,mb5.8,baz=322,slow=2.7,SNR=32
KEST LR LR 18 49 47.1
comp=Z,16µm,18.4s,MS6.5,baz=96,slow=39
ETOB Tobarra 92.43 340 P **P** **18 03 35.6 +1.9**
comp=Z,3.3nm,0.6s
PCBR Castelo Branco 92.49 345 *e*P **P** **18 03 34.3 +0.3**
comp=Z,91nm,1.7s,mb5.8
EVIA Vianos 92.65 341 P **P** **18 03 35.7 +1.0**
EVIA pmax pmax
comp=Z,15nm,0.9s,mb5.4
EVIA Vianos 92.65 341 P **P** **18 03 35.7 +1.0**
comp=Z,15nm,0.9s,mb5.4
PTOM Tomar 92.87 346 *e*P **P** **18 03 36.3 +0.6**
comp=Z,70nm,1.6s,mb5.8
SET Setif 92.88 334 P **P** **18 03 37.0 +1.2**
TRBA At Turbah 93.22 293 ⇑ *e*P **P** **18 03 39.7 +2.4**
EBAN Banos Encina 93.39 342 P **P** **18 03 37.4 -0.7**
EBAN pmax pmax
comp=Z,18nm,1.0s,mb5.5
EBAN Banos Encina 93.39 342 P **P** **18 03 37.4 -0.8**
comp=Z,18nm,1.0s,mb5.5
PESTR Estremoz 93.46 345 *e*P **P** **18 03 37.9 -0.5**
comp=Z,61nm,2.0s,mb5.7
PESTR Estremoz 93.46 345 *e*P **P** **18 03 38.0 -0.4**
comp=Z,61nm,2.0s,mb5.7
PESTR Estremoz 93.46 345 *e*SKSac SKSac 18 14 12.9 +1.2
PESTR Estremoz 93.46 345 *e*LQ 18 28 28.4
PESTR *e*LR LR 18 36 10.2
EHUE Huescar 93.46 341 P **P** **18 03 39.9 +1.4**
comp=Z,5.1nm,1.0s
EBAD Badajoz 93.46 345 P **P** **18 03 39.1 +0.6**
comp=Z,8.4nm,0.9s,mb5.2
EADA Adamuz 93.55 343 P **P** **18 03 39.9 +1.0**
comp=Z,9.2nm,0.9s,mb5.2
EQES Quesada 93.58 341 P **P** **18 03 40.7 +1.7**
comp=Z,8.8nm,1.0s,mb5.1
EVO Evora 93.86 345 *e*P **P** **18 03 38.8 -1.5**
comp=Z,94nm,1.4s,mb5.7
EVO *e*R
comp=Z,36µm,17.0s
LIS Lisbon 93.87 346 *e*P **P** **18 03 39.9 -0.4**
LIS *e*S S 18 14 11.5 -38
LIS *e*S S 18 14 11.5 -38
LIS AMS AMS 18 53 33.5
comp=E,34µm,20.8s
ELUQ Luque 94.07 342 P **P** **18 03 40.5 -0.8**
ELUQ pmax pmax
comp=Z,41nm,1.3s,mb5.7
ELUQ Luque 94.07 342 P **P** **18 03 40.5 -0.8**
comp=Z,41nm,1.3s,mb5.7
ENIJ Nijar 94.18 340 P **P** **18 03 43.4 +1.7**
ENIJ pmax pmax
comp=Z,18nm,1.0s,mb5.5
ENIJ Nijar 94.18 340 P **P** **18 03 43.4 +1.7**
comp=Z,18nm,1.0s,mb5.5
ECOG Cogollos-Vega 94.19 342 P **P** **18 03 41.5 -0.3**
ECOG pmax pmax
comp=Z,11nm,0.9s,mb5.3
ECOG Cogollos-Vega 94.19 342 P **P** **18 03 41.5 -0.4**
comp=Z,11nm,0.9s,mb5.3
PBEJ Beja 94.33 345 *e*P **P** **18 03 42.6 +0.2**
comp=Z,65nm,1.6s,mb5.8
EMIN Mina Concepcio 94.36 344 P **P** **18 03 43.7 +1.1**
comp=Z,21nm,1.0s,mb5.5
ELOJ Sierra Loja 94.45 342 P **P** **18 03 43.8 +0.8**
ELOJ pmax pmax
comp=Z,16nm,1.1s,mb5.4
ELOJ Sierra Loja 94.45 342 P **P** **18 03 43.8 +0.8**
comp=Z,16nm,1.1s,mb5.3
ERON Agron 94.50 342 P **P** **18 03 43.1 -0.1**
comp=Z,13nm,0.8s,mb5.4
BBSR BB Station 94.54 31 PFAKE 18 03 50.0 +6.6
BBSR LR LR
comp=Z,16µm,21.0s,MS6.5
EGUA Guajares 94.62 341 P **P** **18 03 42.8 -1.0**
comp=Z,1.6nm,0.8s
EGRO El Granado 94.73 345 P **P** **18 03 45.4 +1.1**
comp=Z,22nm,1.2s,mb5.5
RKT Rikitea 94.76 119 *e*PP PP 18 07 15.7 -17
comp=Z,1µm,26.8s
RKT Rikitea 94.76 119 *e*PS PS 18 16 13.9 -1.3
comp=Z,16µm,29.0s
RKT Rikitea 94.76 119 *e*SKSac SKSac 18 14 14.9 -3.8
comp=Z,11µm,29.0s
RKT *e*SS SS 18 21 20.0 -0.7
comp=Z,11µm,25.0s
RKT *e*LR LR 18 33 15.8
comp=Z,67µm,33.5s,baz=318
PTEO Sao Teotonio 94.94 346 *e*P **P** **18 03 44.5 -0.8**
comp=Z,111nm,1.6s,mb6.0
ESPR Espera 95.07 343 P **P** **18 03 47.4 +1.6**
comp=Z,19nm,1.0s,mb5.5
EMIJ Mijas 95.14 342 P **P** **18 03 46.7 +0.5**
comp=Z,43nm,1.5s,mb5.7
MORF Marmelete 95.17 346 *e*P **P** **18 03 44.5 -1.7**
MORF *e*S SKSac 18 14 17.5 -3.4
MORF *e*S SKSac 18 14 20.5 -0.4
EJIF Jimena Fronter 95.39 343 P **P** **18 03 48.7 +1.4**
EJIF pmax pmax
comp=Z,12nm,0.8s,mb5.4
EJIF Jimena Fronter 95.39 343 P **P** **18 03 48.7 +1.4**
comp=Z,12nm,0.8s,mb5.4
CMLA Cha da Macela 96.29 359 *i* P **P** **18 03 53.2 +1.8**
CMLA Cha da Macela 96.29 359 *e*S SKSac 18 14 30.5 +3.6
DESE Dese 97.66 295 *i* P **P** **18 04 01.2 +3.7**
DESE PKP PP 18 07 59.5 +4.2
MSEY Mahe Island 98.66 272 PFAKE 18 04 10.0 +7.9
MSEY LR LR
comp=Z,5µm,19.0s,MS6.0
PTCN Pitcairn Islan 99.19 117 PFAKE 18 04 20.0 +16
PTCN LR LR
comp=Z,18µm,20.0s,MS6.6
MASC Masc 101.17 45 *e*P SKSac 18 14 57.6 +6.3
SJG San Juan 106.71 39 PFAKE 18 09 00.0 +12
SJG LR LR
comp=Z,15µm,19.0s,MS6.6
PAYG Puerto Ayora 108.57 71 PFAKE 18 09 00.0 +8.4
PAYG LR LR
comp=Z,11µm,19.0s,MS6.5
BPA Boggy Peak 109.46 36 *e* PP 18 09 24.2 +0.8
SDV Santo Domingo 112.58 48 *e*PKPdf PKiKP 18 09 00.1 +0.9
SDV *e*PP PP 18 09 51.1 +5.3
SDV LR LR
comp=Z,6µm,22.0s,MS6.2
DRV Dumont d'Urvil 113.09 186 Pdif Pdif 18 05 08.0 +1.7
DRV Dumont d'Urvil 113.09 186 PP PP 18 09 49.0 -0.5
DRV SKKS SKKSac 18 16 49.0 -1.6
DRV SP SP 18 19 22.0 -0.3
DRV SS SS 18 25 37.0 +4.3
RPN Rapa Nui 114.06 105 PFAKE 18 09 10.0 +8.0
RPN LR LR
comp=Z,3µm,20.0s,MS6.0
TOA0 Torodi Ar. Sit 115.48 329 *e*PKPdf PKPdf 18 09 06.1 +1.3
TORD Torodi Ar. Bea 115.48 329 Pdiff Pdif 18 05 23.1 +6.2
comp=Z,2.6nm,0.9s,baz=9.4,slow=3.7,SNR=10
TORD PKP PKPdf 18 09 03.8 -1.0
comp=Z,3.8nm,0.5s,baz=9.2,slow=1.9,SNR=24
TORD PKKPbc PKKPbc 18 19 42.4 +4.4
comp=Z,3.3nm,1.0s,baz=198,slow=3.2,SNR=6.1
TORD SKKP 18 23 32.3
comp=Z,2.0nm,0.9s,baz=191,slow=4.4,SNR=4.0
CASY Casey 116.92 198 *e*PKP PKPdf 18 09 07.2 -0.3
ATAH Atahualpa 121.01 65 PKP PKPdf 18 09 15.8 +0.4
comp=Z,2.5nm,0.4s,baz=55,slow=16,SNR=3.4
MIR Mirnyy 121.49 204 ⇓ *e*PKIKP PKPdf 18 09 17.0 +0.7
MIR *e* 18 16 16.0
MIR pmax pmax
comp=Z,200nm,1.5s
MIR pmax pmax
comp=Z,2µm,8.0s
MIR MLR MLR
comp=Z,9µm,20.0s,MS6.4
MIR MLR MLR
comp=N,3µm,18.0s,MS6.1
MIR MLR MLR
comp=E,2µm,17.0s,MS6.1
VNDA Vanda 123.68 178 PKP PKPdf 18 09 18.6 -1.9
comp=E,5.2nm,0.8s,baz=316,slow=4.5,SNR=28
VNDA Vanda 123.68 178 *e*PKPdf PKPdf 18 09 17.8 -2.7
VNDA LR LR
comp=Z,12µm,20.0s,MS6.5

DBIC	**Dimbokro**	**123.72**	**333**	PKP	PKPdf	18 09 20.7	+0.1		
	comp=Z,37nm,1.0s,baz=13,slow=2.6,SNR=22								
DBIC	**Dimbokro**	**123.72**	**333**	*e*PKPdf	PKPdf	18 09 20.8	+0.2		
DBIC				LR	LR				
	comp=Z,18μm,22.0s,MS6.7								
SBA	**Scott Base**	**124.18**	**177**	*e*PKIKP	PKPdf	18 09 20.1	-1.4		
SBA				MLR	MLR				
	comp=Z,11μm,21.0s,MS6.5								
LSZ	**Lusaka**	**124.89**	**285**	*e*PKIKP	PKPdf	18 09 23.2	+0.4		
LSZ				*e*		18 11 12.1			
LSZ				MLR	MLR				
	comp=Z,29μm,19.0s,MS7.0								
NNA	**Nana**	**125.79**	**67**	PKP	PKPdf	18 09 24.5	-0.1		
	comp=Z,4.7nm,0.3s,baz=233,slow=5.5,SNR=4.2								
NNA	**Nana**	**125.79**	**67**	PKP	PKPdf	18 09 24.5	-0.1		
NNA				LR	LR				
	comp=Z,4μm,20.0s,MS6.1								
SAML	**Samuel**	**131.54**	**51**	*e*PKPpre		18 09 32.2			
SAML				*e*PKPdf	PKPdf	18 09 36.8	+1.2		
SAML				LR	LR				
	comp=Z,14μm,20.0s,MS6.7								
MAW	**Mawson**	**131.84**	**211**	*e*PKP	PKPdf	18 09 37.0	+0.9		
	comp=Z,11nm,0.9s								
MAW				*e*PP	PP	18 11 57.3	+0.7		
MAW				*e*SDIF	Sdif	18 20 07.0	-0.1		
MAW	**Mawson**	**131.84**	**211**	PKP	PKPdf	18 09 37.1	+1.0		
	comp=Z,10nm,0.8s,baz=259,slow=1.1,SNR=24								
MAW	**Mawson**	**131.84**	**211**	*e*PKIKP	PKPdf	18 09 37.0	+0.9		
MAW				*e*		18 11 57.3			
ARE	**Arequipa**	**132.55**	**66**	*e*PKIKP	PKPdf	18 09 40.0	+2.6		
LBTB	**Lobatse**	**133.34**	**278**	*e*PKHKP		18 09 29.0			
LBTB				*e*		18 09 39.9			
LBTB				MLR	MLR				
	comp=Z,24μm,20.0s,MS6.9								
LBTB	**Lobatse**	**133.34**	**278**	*e*PKPpre		18 09 29.0			
LBTB				*e*PKPdf	PKPdf	18 09 39.9	+1.0		
LBTB				*e*PP	PP	18 12 01.3	-4.9		
LBTB				LR	LR				
	comp=Z,24μm,20.0s,MS6.9								
LPAZ	**La Paz**	**134.52**	**63**	PKhKP		18 09 37.0			
	comp=Z,2.3nm,0.8s,baz=53,slow=4.9,SNR=4.5								
LPAZ				PKP	PKPdf	18 09 43.4	+2.2		
	comp=Z,5.6nm,0.7s,baz=19,slow=4.4,SNR=16								
LPAZ	**La Paz**	**134.52**	**63**	PKP	PKPdf	18 09 37.0	-4.2		
LPAZ				*e*PKPdf	PKPdf	18 09 42.8	+1.7		
LPAZ				LR	LR				
	comp=Z,12μm,20.0s,MS6.6								
TSUM	**Tsumeb**	**134.70**	**291**	PFAKE		18 09 50.0	+8.6		
TSUM				LR	LR				
	comp=Z,18μm,22.0s,MS6.8								
BOSA	**Boshof**	**135.86**	**275**	PKhKP		18 09 36.9			
	comp=Z,2.5nm,0.6s,baz=87,slow=8.4,SNR=5.6								
BOSA				PKP	PKPdf	18 09 44.2	+0.6		
	comp=Z,14nm,0.8s,baz=26,slow=2.7,SNR=18								
BOSA				PP	PP	18 12 18.7	-3.5		
	comp=Z,17nm,1.1s,baz=29,slow=9.0,SNR=3.7								
BOSA	**Boshof**	**135.86**	**275**	PKIKP	PKPdf	18 09 36.9	-6.7		
BOSA				*e*		18 09 43.9			
BOSA				MLR	MLR				
	comp=Z,17μm,20.0s,MS6.8								
BOSA	**Boshof**	**135.86**	**275**	PKP	PKPdf	18 09 36.9	-6.7		
BOSA				*e*PKPdf	PKPdf	18 09 43.9	+0.3		
BOSA				*e*PP	PP	18 12 14.5	-7.7		
BOSA				LR	LR				
	comp=Z,17μm,20.0s,MS6.8								
QSPA	**South Pole Qui**	**136.05**	**180**	*e*P		18 09 31.5			
SIV	**San Ignacio**	**138.47**	**55**	PKhKP		18 09 40.7			
	comp=Z,2.9nm,0.7s,baz=9.7,slow=3.7,SNR=8.5								
LVC	**Limon Verde**	**138.69**	**70**	PKP	PKPdf	18 09 49.9	+1.1		
	comp=Z,6.5nm,0.8s,baz=281,slow=3.3,SNR=5.1								
LVC	**Limon Verde**	**138.69**	**70**	PKP	PKPdf	18 09 49.9	+1.1		
LVC				LR	LR				
	comp=Z,11μm,20.0s,MS6.6								
SYO	**Syowa Base**	**140.55**	**211**⇑	*e*P	PKPdf	18 09 43.0	-9.2		
SYO	**Syowa Base**	**140.55**	**211**⇑	*e*PKPdf	PKPdf	18 09 52.2	0.0		
SUR	**Sutherland**	**141.18**	**274**	*e*PKPpre		18 09 48.8			
SUR				LR	LR				
	comp=Z,6μm,20.0s,MS6.3								
TLL	**Tololo Astrono**	**142.43**	**80**	*e*P	PKPdf	18 09 55.1	-0.5		
CLCH	**Cerro Calan**	**144.51**	**84**⇓	*e*P	PKPdf	18 09 59.2	0.0		
FCH	**Farellones**	**144.64**	**84**	*e*P	PKPdf	18 09 59.3	-0.2		
BDFB	**Brasilia**	**144.68**	**37**	PKP	PKPdf	18 09 57.3	-2.3		
	comp=Z,34nm,0.9s,baz=344,slow=3.4,SNR=22								
BDFB	**Brasilia**	**144.68**	**37**	PKP	PKPdf	18 09 57.3	-2.3		
BDFB				LR	LR				
	comp=Z,25μm,21.0s,MS7.0								
LMEL	**Las Melosas**	**145.00**	**85**	*e*P	PKPdf	18 10 00.2	+0.1		
CFAA	**Coronel Fontan**	**145.05**	**80**	PKP	PKPdf	18 09 58.1	-2.1		
	comp=Z,2.3nm,0.5s,baz=276,slow=3.4,SNR=34								
MDZ	**Mendoza**	**145.38**	**82**	*e*PKIKP	PKPdf	18 10 06.0	+5.2		
MDZ				*e*		18 10 11.9			
PLCA	**Paso Flores**	**148.14**	**96**	PKP	PKPdf	18 10 06.3	+0.9		
	comp=Z,33nm,0.8s,baz=242,slow=2.9,SNR=22								
PLCA	**Paso Flores**	**148.14**	**96**	*e*PKPdf	PKPdf	18 10 03.7	-1.7		
PLCA				LR	LR				
	comp=Z,12μm,19.0s,MS6.7								
CPUP	**Villa Florida**	**148.66**	**61**	PKPdf	PKPdf	18 10 07.6	+1.3		
CPUP	**Villa Florida**	**148.66**	**61**	PKP	PKPdf	18 10 07.6	+1.4		
	comp=Z,30nm,0.8s,baz=286,slow=2.2,SNR=20								
CPUP	**Villa Florida**	**148.66**	**61**	*e*PKPdf	PKPdf	18 10 07.6	+1.3		
CPUP				LR	LR				
	comp=Z,2μm,19.0s,MS5.8								
NVL	**N'lazarevskaya**	**149.25**	**204***c*	*i*PKHKP		18 10 06.1			
NVL				*i*		18 32 57.3			
NVL				pmax	pmax				
	comp=Z,373nm,1.9s								
MAIT	**Maitri**	**149.27**	**204**	*e*PKPdf	PKPdf	18 10 06.7	-0.5		
VAO	**Valinhos**	**151.62**	**42**	*e*P	PKPdf	18 10 16.6	+5.7		
VAO				*i*		18 10 22.7			
VAO				*i*		18 10 33.1			
VAO				*i*		18 10 39.1			
VAO				*i*		18 10 56.7			
VAO				*i*		18 11 01.9			
CAM3	**Guarapari**	**152.14**	**28**	*e*P	PKPdf	18 10 18.7	+7.0		
CAM3				*i*		18 10 21.3			
CAM3				*i*		18 10 27.5			
CAM3				*i*		18 10 33.2			
CAM3				*i*		18 10 44.8			
CAM3				*i*		18 10 51.8			
SNAA	**Sanae**	**152.14**	**196**	PKP	PKPdf	18 10 11.0	-0.7		
	comp=Z,2.4nm,0.8s,baz=33,slow=1.3,SNR=12								
SNAA	**Sanae**	**152.14**	**196**	*e*PKPdf	PKPdf	18 10 10.2	-1.5		
SNAA				*e*		18 10 17.0			
SNAA				*e*		18 10 20.0			
SNAA				*e*		18 10 21.7			
SNAA				*e*		18 10 26.2			
SNAA				*e*		18 10 34.3			
SNAA				*e*		18 10 36.1			
SNAA				*e*		18 10 45.6			
SNAA				*e*		18 14 00.5			
SNAA				*e*		18 14 13.3			
SNAA	**Sanae**	**152.14**	**196**	PKIKP	PKPdf	18 10 11.0	-0.7		
SNAA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SNAA	**Sanae**	**152.14**	**196**	*e*PKPdf	PKPdf	18 10 10.1	-1.6		
PMSA	**Palmer Station**	**152.61**	**146**	PKPbc	PKPbc	18 10 16.2	-3.2		
	baz=30,slow=2.2								
PMSA	**Palmer Station**	**152.61**	**146**	*e*PKPbc	PKPbc	18 10 18.7	-0.7		
PMSA				LR	LR				
	comp=Z,22μm,19.0s,MS7.0								
TRQA	**Tornquist**	**152.88**	**85**	*e*PKPdf	PKPdf	18 10 12.3	-0.5		
TRQA				*e*PKPbc	PKPbc	18 10 17.8	-2.2		
TRQA				LR	LR				
	comp=Z,20μm,19.0s,MS7.0								
CAM4	**Nova Friburgo**	**152.91**	**33**	*e*P	PKPdf	18 10 04.9	-8.0		
CAM4				*i*		18 10 19.5			
CAM4				*i*		18 10 28.8			
CAM4				*i*		18 10 36.1			
CAM4				*i*		18 10 43.1			
VNA3	**Neumayer Olymp**	**153.67**	**192**	*e*PKPdf	PKPdf	18 10 12.6	-1.3		
VNA3				*e*		18 10 20.3			
VNA3				*e*		18 10 22.6			
VNA3				*e*		18 10 28.3			
VNA3				*e*		18 10 31.1			
VNA3				*e*		18 10 33.4			
VNA3				*e*		18 10 39.6			
VNA3				*e*		18 10 41.6			
VNA3				*e*		18 10 44.6			
VNA3				*e*		18 10 52.6			
VNA3				*e*		18 14 09.3			
VNA3				*e*		18 14 21.5			
LPA	**La Plata**	**153.97**	**75***c*	*e*PKP	PKPdf	18 10 14.0	-0.3		
LPA				*e*SKKS	SKKSac	18 20 59.0	-0.2		
LPA									
	comp=Z,19μm,18.0s								
VNA1	**Neumayer--Stat**	**153.97**	**194**	*e*PKPdf	PKPdf	18 10 13.1	-1.2		
VNA1				*e*		18 10 20.7			
VNA1				*e*		18 10 30.8			
VNA1				*e*		18 10 38.7			
VNA1				*e*		18 10 41.6			
EFI	**East Falkland**	**158.93**	**116**	PFAKE		18 10 30.0	+9.2		
EFI				LR	LR				
	comp=Z,6μm,19.0s,MS6.5								
TRIS	**Tristan da Cun**	**165.76**	**305**	PFAKE		18 10 40.0	+12		
TRIS				LR	LR				
	comp=Z,13μm,20.0s								

SKHL ***30*** *17:56:12.5±0.5, 46.20N×153.50E, h40km±8km, mb6.3/5*
BJI ***30*** *17:56:13.8, 46.36N×153.20E, h10km, mB6.4, mb5.6, Ms6.6, Msz6.3*
IDC ***30*** *17:56:14.6±0.4, 46.28N×152.95E, h0km, mb5.0/28, mb1 5.1/29, mb1mx5.1/31, mbtmp5.0/29, ML4.3/1, Error ellipse: s-maj=14.4km s-min=10.8km az=113.0*
ISCJB ***30*** *17:56:15.1±0.1, 46.15N±003×153.16E±003, h14km, mb5.6/220, MS6.4/12, Error ellipse: s-maj=4.4km s-min=2.0km az=122.3*
GCMT ***30*** *17:56:16.1±0.3, 46.18N×153.37E, h19km±1km, MW6.0/86, Moment Tensor Solution. s16,c17; s86,c169; Duration: 2±3 Moment tensor: Scale 10¹⁸Nm; Mrr1.05±.07; Mθθ-0.35±.04; Mφφ-0.70±.04; Mrθ0.16±.09; Mφφ-0.44±.02; Mθr0.40±.07; Best double couple: M₀1.11300×10¹⁸ NP1:ϕ±218.00000°, δ34.00000°, λ97.00000°. NP2: ϕ±29.00000°, δ56.00000°, λ85.00000°. Principal axes: T 1.1410, Plg78.0000°, Azm283.0000°; N -0.0620, Plg4.0000°, Azm32.0000°; P -1.0840, Plg11.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***30*** *17:56:16.1±0.2, 46.19N×153.17E, h10km, mb5.7/139 Error ellipse: s-maj=5.2km s-min=3.6km az=166.0*
MOS ***30*** *17:56:17.9±1.2, 46.22N×153.14E, h31km, mb5.8/90, Error ellipse: s-maj=7.0km s-min=3.8km az=103.1*
JMA ***30*** *17:56:17.5±0.8, 46.31N×153.27E, h30km, mB5.9*
SZGRF ***30*** *17:56:27.0, 47.84N×151.69E, h33km, mb6.1, Kuril Islands, Russia*

ISC 30 17:56:17.1±0.1, 46.28N±003×153.11E±003, h14km, h14km±1.5km: pP-P, n7, 58, σ1.9 18/761, mb5.6/221, MS6.4/12, 50C-24D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.82**	**256**	*i* P		**Pn**		**17 57 14.0**	**-1.4**
KUR				*e*S		**Sn**		**17 58 00.5**	**+0.4**
KUR				A				17 58 06.0	
	10μm,0.9s								
KUR				A				17 58 06.0	
	20μm,0.9s								
KUR	**Kuril'sk**	**3.82**	**256**⇑	*i* PN		**Pn**		**17 57 14.0**	**-1.4**
KUR				*e*S		**Sn**		**17 58 00.5**	**+0.4**
KUR				pmax	pmax				
	comp=Z,6μm,0.6s								
SKR	**Severo-Kuril's**	**4.84**	**23**	*e*P		**Pn**		**17 57 27.5**	**-1.9**
SKR				AMB	AMB			17 57 34.5	
	comp=Z,940nm,0.5s								
SKR				A				17 58 44.0	
	comp=Z,4μm,1.0s								
SKR				A				17 58 44.0	
	comp=Z,460nm,1.0s								
SKR				A				17 58 44.0	
	comp=Z,7μm,1.0s								
YUK	**Yuzh-Kuril'sk**	**5.60**	**249**	*e*P		**Pn**		**17 57 40.0**	**+0.1**
YUK				AMB	AMB			17 57 47.8	
	comp=Z,1μm,0.4s								
YUK				AMB	AMB			17 57 47.8	
	comp=Z,2μm,0.4s								
YUK				AMB	AMB			17 57 47.8	
	comp=Z,2μm,0.4s								
YUK				*i* S		**Sn**		**17 58 45.3**	**+1.3**
YUK				A				17 59 01.6	
	comp=Z,5μm,0.5s								
YUK				A				17 59 01.6	
	comp=Z,11μm,0.8s								
YUK	**Yuzh-Kuril'sk**	**5.60**	**249**	*e*PN		**Pn**		**17 57 40.0**	**+0.1**
YUK				pmax	pmax				
	comp=N,1μm,0.4s								
YUK				pmax	pmax				
	comp=E,2μm,0.4s								
YUK				pmax	pmax				
	comp=Z,2μm,0.4s								
NEM2	**Nemuro 2**	**6.00**	**244**	P		**Pn**		**17 57 45.0**	**-0.4**
NEM2				*e*S		**Sn**		**17 58 50.0**	**-3.8**
JRA	**Rausu**	**6.12**	**250**	P		**Pn**		**17 57 49.3**	**+2.2**
JRA				*e*S		**Sn**		**17 58 57.5**	**+0.6**
JNK	**Nakash**	**6.54**	**249**	P		**Pn**		**17 57 54.0**	**+1.2**
JNK				*e*S		**Sn**		**17 59 05.8**	**-1.4**
JAK	**Akkeshi**	**6.84**	**244**	P		**Pn**		**17 57 56.9**	**-0.1**
JAK				*e*S		**Sn**		**17 59 10.2**	**-4.4**
JTKR	**Abashiri--Toko**	**6.91**	**254**	⇓P		**Pn**		**17 58 00.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**7.17**	**279**	*i* erx		rx		17 58 21.5	
YSS				*e*S		**Sn**		**17 59 25.2**	**+2.6**
YSS				A				17 59 30.1	
	comp=Z,430nm,0.9s								
YSS	**Yuzh-Sakhalins**	**7.17**	**279**	PN		**Pn**		**17 58 02.2**	**+0.8**
YSS	**Yuzh-Sakhalins**	**7.17**	**279**	P		**Pn**		**17 58 02.4**	**+0.9**
JMP	**Maruseppu**	**7.26**	**255**	P		**Pn**		**17 58 05.2**	**+2.5**
JAR	**Ashorobuto**	**7.29**	**249**	P		**Pn**		**17 58 03.0**	**-0.1**
JAR				*e*S		**Sn**		**17 59 25.4**	**-0.2**
JOB	**Onbets**	**7.43**	**246**	P		**Pn**		**17 58 05.6**	**+0.5**
JOB				*e*S		**Sn**		**17 59 26.6**	**-2.6**
JSE	**Soyaes**	**7.50**	**264**	P		**Pn**		**17 58 09.7**	**+3.7**
PET	**Petropavlovsk**	**7.64**	**26**	*e*PN		**Pn**		**17 58 09.2**	**+1.2**
PET				pmax	pmax				
	comp=Z,752nm,1.3s								
PET	**Petropavlovsk**	**7.64**	**26**	*e*Pn		**Pn**		**17 58 09.2**	**+1.2**
	comp=Z,752nm,1.3s								
PET				*e*Sn		**Sn**		**17 59 27.1**	**-7.3**
JKK2	**Kamakawa 2**	**7.72**	**256**	P		**Pn**		**17 58 12.1**	**+3.0**
ASAJ	**Asahikawa**	**7.74**	**258**	Pn		**Pn**		**17 58 10.2**	**+0.9**
	comp=Z,15nm,0.3s,baz=77,slow=10,SNR=8.9								
ASAJ	**Asahikawa**	**7.74**	**258**	P		**Pn**		**17 58 12.7**	**+3.4**
ASAJ	**Asahikawa**	**7.74**	**258**	PN		**Pn**		**17 58 10.2**	**+0.9**
ASAJ				pmax	pmax				
	comp=Z,15nm,0.3s								
JCH	**Churui**	**7.88**	**246**	P		**Pn**		**17 58 11.8**	**+0.6**
JCH				*e*S		**Sn**		**17 59 35.2**	**-5.0**
JWK2	**Keihoku**	**7.90**	**267**	P		**Pn**		**17 58 16.8**	**+5.3**
UGL	**Uglegorsk**	**7.96**	**295**	*e*PN		**Pn**		**17 58 17.0**	**+4.6**
UGL				S		**Sn**		**17 59 51.5**	**+9.3**
UGL				pmax	pmax				
	comp=N,157nm,0.8s								
UGL				pmax	pmax				
	comp=E,121nm,0.8s								
UGL				pmax	pmax				
	comp=Z,636nm,0.8s								
UGL				smax					
	comp=N,898nm,1.0s								
UGL				smax					
	comp=E,516nm,1.0s								
UGL				smax					
	comp=Z,560nm,1.0s								
JFR	**Furan**	**8.11**	**251**	P		**Pn**		**17 58 17.7**	**+3.3**
JAB	**Ashibetsu**	**8.22**	**254**	P		**Pn**		**17 58 18.1**	**+2.3**
TYV	**Tymovskoe**	**8.31**	**307**	*e*P		**Pn**		**17 58 16.0**	**-1.1**
TYV				AMB	AMB			17 58 30.0	
	comp=Z,3μm,1.6s								
JEM	**Erimo**	**8.33**	**243**	P		**Pn**		**17 58 18.3**	**+0.9**
ERM	**Erimo**	**8.33**	**243**	Pn		**Pn**		**17 58 20.8**	**+3.4**
	comp=Z,5μm,1.3s,SNR=6.9								
ERM	**Erimo**	**8.33**	**243**	Pn		**Pn**		**17 58 20.8**	**+3.3**
JBT2	**Biratori 2**	**8.44**	**249**	P		**Pn**		**17 58 19.9**	**+1.0**
JBT2				*e*S		**Sn**		**17 59 52.3**	**-1.6**
JNBK	**Urakawa-nobuka**	**8.44**	**245**	P		**Pn**		**17 58 19.0**	**+0.1**
JNBK				*e*S		**Sn**		**17 59 46.9**	**-7.0**
JHR	**Hokuryu**	**8.46**	**257**	P		**Pn**		**17 58 22.5**	**+3.3**
JEW	**Eniwo**	**9.01**	**252**	P		**Pn**		**17 58 29.2**	**+2.5**
JSK	**Shakotan**	**9.45**	**256**	P		**Pn**		**17 58 34.4**	**+1.7**
JNB	**Noboribetsu**	**9.45**	**251**	P		**Pn**		**17 58 33.2**	**+0.5**
JNB				*e*S		**Sn**		**18 00 15.5**	**-3.2**
JKB	**Kayabe**	**9.74**	**248**	P		**Pn**		**17 58 35.5**	**-1.2**
JKB				*e*S		**Sn**		**18 00 19.1**	**-6.7**
JSH	**Shimam**	**10.03**	**253**	P		**Pn**		**17 58 42.6**	**+2.0**
JYM2	**Yakumo 2**	**10.05**	**250**	P		**Pn**		**17 58 41.6**	**+0.6**
JYM2				*e*S		**Sn**		**18 00 30.8**	**-2.7**
JANG	**Nango**	**10.30**	**239**	*e*S		**Sn**		**18 00 27.6**	**-12**
JSR	**Shiriuchi**	**10.32**	**247**	P		**Pn**		**17 58 44.1**	**-0.5**
JSR				*e*S		**Sn**		**18 00 32.9**	**-7.1**
JTM	**Tenmabayashi**	**10.32**	**242**	P		**Pn**		**17 58 43.0**	**-1.7**
JTM				*e*S		**Sn**		**18 00 30.6**	**-10**
JTH	**Tanohata**	**10.38**	**236**	P		**Pn**		**17 58 43.0**	**-2.5**
JTH				*e*S		**Sn**		**18 00 28.3**	**-13**
NKL	**Nikolayevsk**	**10.58**	**315**	*i* P		**Pn**		**17 58 48.4**	**+0.2**
NKL				AMB	AMB			17 58 54.7	
	comp=Z,6μm,2.5s								
JOSM	**Okushiri--Mats**	**10.65**	**252**	P		**Pn**		**17 58 46.9**	**-2.4**
OFUJ	**Ofunato**	**11.07**	**234**	P		**Pn**		**17 58 52.6**	**-2.4**
OFUJ				*e*S		**Sn**		**18 00 45.8**	**-13**
JRG	**Rokugo**	**11.45**	**238**	*e*S		**Sn**		**18 00 55.4**	**-12**
TEY	**Ternei**	**11.63**	**270**	*e*P		**Pn**		**17 59 03.0**	**+0.5**
JIO	**Ouri**	**11.69**	**232**	P		**Pn**		**17 58 59.9**	**-3.5**
JIO				*e*S		**Sn**		**18 00 58.6**	**-15**
JYA	**Atsumi**	**12.52**	**237**	P		**Pn**		**17 59 13.1**	**-1.7**
JFK	**Kawauchi**	**12.74**	**230**	*e*S		**Sn**		**18 01 24.9**	**-14**
JFY	**Yanaizu**	**13.35**	**233**	P		**Pn**		**17 59 23.2**	**-2.9**
JFY				*e*S		**Sn**		**18 01 45.4**	**-8.8**
MA2	**Magadan**	**13.39**	**355***c*	*i* PN		**Pn**		**17 59 30.3**	**+3.6**
MA2				*e*S		**Sn**		**18 02 03.3**	**+8.0**
MA2				pmax	pmax				
	comp=N,20nm,0.5s								
MA2				pmax	pmax				
	comp=Z,30nm,0.5s								
MJAR	**Matsushiro Arr**	**14.80**	**234**	Pn		**Pn**		**17 59 44.0**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=28,slow=13,SNR=10								
MAJO	**Matsushiro**	**14.80**	**234**	*e*P		**Pn**		**17 59 43.0**	**-2.9**
MAJO				pmax	pmax				
	comp=Z,358nm,1.1s								
MAJO	**Matsushiro**	**14.80**	**234**	*e*Pn		**Pn**		**17 59 43.0**	**-2.9**
	comp=Z,358nm,1.1s								
MAT	**Matsushiro**	**14.80**	**234**	P		**Pn**		**17 59 46.7**	**+0.8**
MAT				*e*S		**Sn**		**18 02 31.2**	**+1.5**
VLA	**Vladivostok**	**15.41**	**266**	*i* P		**Pn**		**17 59 50.4**	**-3.6**
VLA				pmax	pmax				
	comp=Z,339nm,2.1s								
VLA	**Vladivostok**	**15.41**	**266**	*i* P		**Pn**		**17 59 50.5**	**-3.5**
MDJ	**Mudanjiang**	**16.58**	**273**	P		**Pn**		**18 00 10.0**	**+0.9**
MDJ				AP	pP			18 00 15.5	-0.1
MDJ				S		**Sn**		**18 03 16.0**	**+3.1**
MDJ				SCP	ScP			18 08 34.3	+0.9
MDJ				PCS	PcS			18 08 35.5	+0.4
MDJ				AMB	AMB				
	comp=Z,257nm,1.6s								
MDJ				AMB	AMB				
	comp=Z,131μm,18.0s								
MDJ				LR	LR				
	comp=N,55μm,13.7s								
MDJ				LR	LR				
	comp=E,60μm,13.1s								
MDJ				LR	LR				
	comp=Z,86μm,14.8s								
MDJ	**Mudanjiang**	**16.58**	**273**	*e*Pn		**Pn**		**18 00 08.2**	**-0.9**
	comp=Z,254nm,1.1s								
JHJ	**Hachijo jima 2**	**16.64**	**223**	Pn		**Pn**		**18 00 10.6**	**+0.7**
	baz=253,slow=21,SNR=4.7								
JHJ				Sn		**Sn**		**18 03 01.1**	**-13**
	comp=Z,33nm,0.3s,baz=73,slow=24,SNR=6.5								
SEY	**Seymchan**	**16.69**	**359**⇑	*e*P		**Pn**		**18 00 15.0**	**+4.5**
CN2	**Changchun**	**19.67**	**273**	*e*P		**Pn**		**18 00 45.3**	**-1.7**
CN2				*e*XP	sP			18 00 52.3	+0.7
CN2				*e*S		**Sn**		**18 04 18.0**	**-10**
YAK	**Yakutsk**	**20.72**	**328**	*e*P		**P**		**18 00 56.8**	**-0.2**
YAK				pmax	pmax				
	comp=Z,180nm,0.7s								
YAK	**Yakutsk**	**20.72**	**328**	*e*P		**P**		**18 00 56.8**	**-0.2**
	comp=Z,180nm,0.7s								
CBIJ	**Chichi jima**	**21.02**	**208**	P		**P**		**18 01 00.5**	**+0.3**
	comp=Z,173nm,1.0s,mb5.3,baz=256,slow=22,SNR=4.2								
CBIJ				S		**S**		**18 04 40.5**	**-13**
	comp=Z,60nm,0.6s,baz=289,slow=22,SNR=3.2								
INCN	**Inchon**	**21.51**	**255**	*e*Pn		**P**		**18 01 04.0**	**-1.5**
	comp=Z,178nm,1.0s,mb5.5								
SNY	**Shenyang**	**21.62**	**269**	⇓P		**P**		**18 01 05.5**	**-1.2**
SNY				AP				18 01 10.3	
SNY				XP	sP			18 01 12.5	-0.3
SNY				AMB	AMB				
	comp=Z,199nm,1.5s,mb5.3								
BILL	**Bilibino**	**22.85**	**13**	*e*P		**P**		**18 01 19.3**	**-0.5**
BILL				*e*				18 01 50.2	
BILL				pmax	pmax				
	comp=Z,76nm,1.4s,mb4.9								
BILL	**Bilibino**	**22.85**	**13**	*e*P		**P**		**18 01 19.2**	**-0.6**
DL2	**Dalian**	**24.21**	**264**	P		**P**		**18 01 33.0**	**-0.1**
DL2				S		**S**		**18 05 53.3**	**+2.3**
DL2				AMB	AMB				
	comp=Z,150nm,1.2s,mb5.3								
DL2				AMB	AMB				
	comp

comp=N,28µm,12.8s,MS6.7
QZH LR LR
comp=E,99µm,16.1s,MS6.7
QZH LR LR
comp=Z,89µm,18.8s,MS6.5
SLKM Skilak Lake 35.45 45 *eP* **P 18 03 11.1 -1.8**
MCK McKinley 36.01 40 *eP* **P 18 03 17.8 +0.1**
comp=Z,54nm,1.3s,mb5.3
COLA College 36.51 38 *eP* **P 18 03 22.2 +0.3**
COLA College 36.51 38 *eP* **P 18 03 18.8 -3.1**
comp=Z,173nm,1.3s,mb5.7
KRAR Krasnoyarsk 37.87 307 *i P* **P 18 03 31.6 -1.9**
LZH Lanzhou 37.91 272 *eP* **P 18 03 32.8 -1.0**
LZH AP pP 18 03 36.3 -2.0
LZH XP sP 18 03 38.8 -1.2
LZH PCP PcP 18 05 45.5 -4.2
LZH *eS* **S 18 09 23.0 -1.8**
LZH SS SS 18 11 58.0 -13
LZH AMB AMB
comp=Z,127nm,1.1s,mb5.6
LZH AMB AMB
comp=Z,709nm,4.5s
LZH LR LR
comp=E,10µm,14.3s
LZH LR LR
comp=Z,16µm,16.0s,MS5.9
LZH Lanzhou 37.91 272 *eP* **P 18 03 32.8 -1.0**
LZH 18 05 45.4
LZH *eS* **S 18 09 23.0 -1.8**
LZH SS SS 18 11 58.0 -13
LZH Lanzhou 37.91 272 *eP* **P 18 03 32.8 -1.0**
LZH pP pP 18 03 36.2 -2.1
LZH sP sP 18 03 38.7 -1.3
LZH PP PP 18 04 53.5 -6.9
LZH PcP PcP 18 05 45.4 -4.3
LZH *eS* **S 18 09 23.0 -1.8**
LZH sS sS 18 09 26.2 -6.0
LZH SS SS 18 11 58.0 -13
GTA Gaotai 39.05 280 *eP* **P 18 03 44.5 +1.1**
GTA AP pP 18 03 48.5 +0.7
GTA XP sP 18 03 51.8 +2.2
GTA PP PP 18 05 16.3 +3.4
GTA PCP PcP 18 05 57.5 +4.2
GTA S **S 18 09 39.8 -2.3**
GTA PCS PcS 18 09 44.8 +2.0
GTA AMB AMB
comp=Z,157nm,1.5s,mb5.5
GTA AMB AMB
comp=Z,5µm,6.1s
GTA LR LR
comp=N,55µm,16.7s,MS6.7
GTA LR LR
comp=E,78µm,15.6s,MS6.7
GTA LR LR
comp=Z,119µm,16.7s,MS6.8
EGAK Eagle 39.37 38 *eP* **P 18 03 45.4 -0.7**
CD2 Chengdu 40.84 266 *eP* **P 18 03 59.0 +0.7**
CD2 AP pP 18 04 03.5 +0.7
CD2 XP sP 18 04 05.8 +1.2
CD2 PP PP 18 05 36.5 +4.1
CD2 PCP PcP 18 06 00.5 +1.5
CD2 PCS PcS 18 09 50.0 +0.2
CD2 SS SS 18 13 03.5 -6.7
CD2 SCS ScS 18 14 01.8 -1.2
CD2 AMB AMB
comp=Z,150nm,0.8s,mb5.7
CD2 AMB AMB
comp=Z,560nm,4.2s
GYA Guiyang 41.62 258⇑ *iP* **P 18 04 05.3 +0.7**
GYA AP pP 18 04 09.8 +0.7
GYA XP sP 18 04 12.8 +1.9
GYA PP PP 18 05 44.8 +4.0
GYA SCP ScP 18 09 52.3 +1.1
GYA PCS PcS 18 09 54.8 +1.9
GYA S **S 18 10 20.8 +0.4**
GYA XS sS 18 10 27.5 -0.4
GYA SS SS 18 13 16.0 -10
GYA AMB AMB
comp=Z,200nm,1.4s,mb5.5
GYA LR LR
comp=N,16µm,21.0s,MS6.0
GYA LR LR
comp=E,12µm,20.1s,MS6.0
GYA LR LR
comp=Z,16µm,21.2s,MS5.9
INK Inuvik 42.05 32 P **P 18 04 08.8 +0.6**
comp=Z,18nm,0.6s,mb4.9,baz=258,slow=7.2,SNR=12
INK Inuvik 42.05 32 P **P 18 04 08.8 +0.6**
ZAL Zalesovo 42.90 306 P **P 18 04 14.3 -0.9**
comp=Z,9.7nm,0.6s,mb4.7,baz=75,slow=6.2,SNR=6.4
ZAL Zalesovo 42.90 306 P **P 18 04 14.3 -0.9**
NVS Novosibirsk 43.48 308 *eP* **P 18 04 18.0 -1.8**
NVS pmax pmax
comp=N,175nm,2.0s
NVS pmax pmax
comp=Z,250nm,2.0s,mb5.6
NVS pmax pmax
comp=E,141nm,1.9s
WMQ Urumqi 45.10 292 P **P 18 04 32.8 0.0**
WMQ AP pP 18 04 37.0 -0.3
WMQ XP sP 18 04 40.0 +0.9
WMQ PP PP 18 06 17.0 -1.2
WMQ PPP 18 06 59.0
WMQ SCP ScP 18 10 06.0 +0.7
WMQ S **S 18 11 10.0 -1.4**
WMQ XS sS 18 11 18.0 -0.9
WMQ AMB AMB
comp=Z,51nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,1µm,6.0s
WMQ LR LR
comp=N,7µm,13.6s,MS5.9
WMQ LR LR
comp=E,6µm,15.2s,MS5.9
WMQ LR LR
comp=Z,6µm,16.0s,MS5.7
KMI Kunming 45.16 260 P **P 18 04 33.8 +0.6**
KMI AP pP 18 04 42.0 +4.2
KMI XP sP 18 04 46.3 +6.7
KMI PP PP 18 06 17.8 -1.0
KMI PPP 18 07 01.3
KMI S **S 18 11 09.0 -3.3**
KMI AMB AMB
comp=Z,104nm,2.0s,mb5.3
KMI AMB AMB
comp=Z,3µm,5.5s
KMI LR LR
comp=N,55µm,17.6s,MS6.7
KMI LR LR
comp=E,47µm,17.6s,MS6.7
KMI LR LR
comp=Z,52µm,16.7s,MS6.5
KMI Kunming 45.16 260 P **P 18 04 33.7 +0.5**
KMI pP pP 18 04 42.0 +4.2
KMI sP sP 18 04 46.2 +6.6
KMI PP PP 18 06 17.8 -1.0
KMI PPP 18 07 01.2
KMI S **S 18 11 09.0 -3.3**
DLBC Dease Lake 45.92 45 P **P 18 04 40.3 +1.1**
comp=Z,29nm,1.0s,mb5.2,baz=285,slow=8.0,SNR=6.8
MKAR Makanchi Array 47.16 298 P **P 18 04 48.7 -0.3**
comp=Z,32nm,0.7s,mb5.3,baz=65,slow=7.1,SNR=18
MKAR PcP PcP 18 06 20.8 +0.3
comp=Z,5.7nm,0.5s,baz=15,slow=1.2,SNR=5.0
MKAR Makanchi Array 47.16 298 P **P 18 04 48.7 -0.3**
MKAR PcP PcP 18 06 20.8 +0.4
KURK Kurchatov 47.63 304 P **P 18 04 51.9 -0.7**
comp=Z,494nm,0.9s,mb6.5,SNR=5.5
ALE Alert 50.21 6 P **P 18 05 11.9 -0.5**
comp=Z,270nm,1.7s,mb6.0,SNR=7.7
KKM Kota Kinabalu 51.18 230 *eP* **P 18 05 20.0 +0.2**
BRVK Borovoye 51.20 310 P **P 18 05 19.0 -0.9**
comp=Z,492nm,0.7s,mb6.5,SNR=10
BRVK Borovoye 51.20 310 P **P 18 05 19.7 -0.2**
SNR=6.7
BRVK Borovoye 51.20 310 *eP* **P 18 05 18.5 -1.4**
BRVK pmax pmax
comp=Z,94nm,1.2s,mb5.6
BRVK Borovoye 51.20 310 *eP* **P 18 05 18.5 -1.4**
comp=Z,94nm,1.2s,mb5.6
YKA Yellowknife Ar 51.30 36 P **P 18 05 21.5 +0.8**
comp=Z,17nm,0.8s,mb5.0,baz=295,slow=7.0,SNR=9.3
ZRNK Zerenda 51.93 310 *i P* **P 18 05 23.6 -1.8**
ZRNK pmax pmax
comp=Z,100nm,2.0s,mb5.4
ZRNK Zerenda 51.93 310 *eP* **P 18 05 23.8 -1.5**
comp=Z,24nm,0.6s,mb5.3
CHTO Chiang Mai 52.01 257 P **P 18 05 27.6 +1.6**
SNR=15
CHTO Chiang Mai 52.01 257⇑ *iP* **P 18 05 26.8 +0.8**
CHTO pmax pmax
comp=Z,203nm,1.2s,mb5.9
CHTO Chiang Mai 52.01 257⇑ *iP* **P 18 05 26.8 +0.8**
comp=Z,203nm,1.2s,mb5.9
CM31 Chiang Mai Arr 52.26 257 *eP* **P 18 05 29.0 +1.2**
comp=Z,26nm,1.0s,mb5.1
SHL Shillong 52.36 269 *eP* **P 18 05 27.6 -1.0**
KBS Kingsbay 52.96 351⇑ *eP* **P 18 05 33.5 +0.5**
SPB4 Spitsbergen Ar 53.08 350 P **P 18 05 31.0 -2.9**
AAK Ala-Archa 54.05 297 *i P* **P 18 05 39.5 -1.5**
AAK pmax pmax
comp=Z,45nm,1.0s,mb5.3
AAK Ala-Archa 54.05 297 *i P* **P 18 05 39.6 -1.4**
KSH Kashi 54.83 293 *eP* **P 18 05 48.0 +1.3**
KSH *e*AP pP 18 05 52.0 +0.7
KSH *e*XP sP 18 05 55.0 +1.9
KSH *e*PCP PcP 18 06 50.0 +1.1
KSH *e*PP PP 18 07 51.3 +1.8
KSH *e*PPP 18 09 03.0
KSH *e*SCP ScP 18 10 47.0 +0.1
KSH *e*S **S 18 13 26.8 -0.5**
KSH *e*XS sS 18 13 33.5 -1.4
KSH *e*PS 18 13 37.3
KSH *e*SCS ScS 18 15 33.5 -2.0
KSH *e*SS SS 18 17 07.3 -3.2
KSH AMB AMB
comp=Z,2µm,2.6s,mb6.6
ARU Arti 55.36 318 P **P 18 05 49.4 -1.1**
comp=Z,318nm,0.7s,mb6.5,SNR=6.3
ARU Arti 55.36 318⇑ *iP* **P 18 05 48.9 -1.6**
ARU *e* 18 06 45.1
ARU *e*S **S 18 13 33.5 -0.8**
ARU *e*SS SS 18 17 15.3 -3.5
ARU pmax pmax
comp=Z,87nm,1.3s,mb5.6
ARU Arti 55.36 318⇑ *eP* **P 18 05 49.3 -1.2**
PMG Port Moresby 55.69 187 P **P 18 05 54.4 +1.5**
NLW Nelson Butte 55.78 54 P **P 18 05 54.0 +0.5**
KK31 Karatay Array 56.23 299 *i P* **P 18 05 56.9 +0.2**
EDM Edmonton 56.64 46 P **P 18 05 59.7 0.0**
EDM Edmonton 56.64 46 *eP* **P 18 05 58.9 -0.7**
VFP Flag Point 56.66 57 P **P 18 06 00.6 +0.8**
DAG Danmarks Havn 57.12 358⇑ *iP* **P 18 06 02.3 -0.7**
comp=Z,323nm,2.0s,mb6.0
DAG Danmarks Havn 57.12 358⇑ *iP* **P 18 06 02.3 -0.7**
DAG pmax pmax
comp=Z,324nm,2.0s,mb6.0
HAWA Hanford 57.17 55 *eP* **P 18 06 03.6 +0.2**
comp=Z,8.8nm,1.5s,mb4.6
LVZ Lovozero 57.20 337⇑ *eP* **P 18 06 03.5 -0.1**
LVZ pmax pmax
comp=Z,52nm,1.2s,mb5.4
LVZ Lovozero 57.20 337⇑ *eP* **P 18 06 03.6 0.0**
KTRM Thompson Ridge 57.46 62 P **P 18 06 06.4 +0.9**
NEW Newport 57.46 52 P **P 18 06 05.2 -0.3**
comp=Z,31nm,1.2s,mb5.2,baz=312,slow=5.6,SNR=6.8
NEW Newport 57.46 52 *eP* **P 18 06 05.0 -0.5**
NEW pmax pmax
comp=Z,70nm,1.2s
NEW Newport 57.46 52 *eP* **P 18 06 05.0 -0.4**
comp=Z,70nm,1.2s,mb5.6
BOK Bokaro 57.66 272 *eP* **P 18 06 05.2 -1.7**
BOK AMb AMB 18 06 10.5
comp=Z,185nm,1.2s,mb6.0
APA Apatity 57.77 337⇑ *eP* **P 18 06 07.6 0.0**
APA pmax pmax
comp=Z,160nm,1.9s,mb5.7
KEV Kevo 57.79 341 *ep* **P 18 06 06.4 -1.4**
comp=Z,2.9nm,0.4s,mb4.7
KEV Kevo 57.79 341 *eP* **P 18 06 06.4 -1.4**
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
PTH Pithoragarh 57.91 281 *eP* **P 18 06 09.0 +0.3**
YBH Yreka Blue Hor 57.97 61 P **P 18 06 09.7 +0.6**
comp=Z,4.0nm,0.8s,mb4.5,baz=279,slow=6.6,SNR=1.5
YBH Yreka Blue Hor 57.97 61 *eP* **P 18 06 09.8 +0.8**
YBH pmax pmax
comp=Z,77nm,1.5s
YBH Yreka Blue Hor 57.97 61 *eP* **P 18 06 09.8 +0.7**
comp=Z,77nm,1.5s,mb5.5
ARCES ARCESS Array B 58.30 341 P **P 18 06 09.0 -2.3**
comp=Z,5.8nm,0.7s,mb4.7,baz=24,slow=6.9,SNR=11
ARCES ARCESS Array B 58.30 341 P **P 18 06 09.0 -2.3**
AB31 Akbulak array 58.73 310 *i P* **P 18 06 13.3 -1.1**
WALA Waterton Lakes 58.74 50 *eP* **P 18 06 14.3 -0.1**
comp=Z,129nm,1.5s,mb5.7
WDC Whiskeytown Da 58.74 62 *eP* **P 18 06 14.7 +0.2**
WDC pmax pmax
comp=Z,45nm,1.1s,mb5.4
WDC Whiskeytown Da 58.74 62 *eP* **P 18 06 14.7 +0.2**
comp=Z,45nm,1.1s,mb5.4
DLH Dalhousie 58.94 286 *eP* **P 18 06 15.0 -0.8**
SMLA Simla 59.00 284 *eP* **P 18 06 17.3 +1.0**
AKTK Aktyubinsk 59.04 312 *i P* **P 18 06 16.8 +0.3**
AKTO Aktyubinsk 59.04 312 *i P* **P 18 06 16.8 +0.3**
KTK1 Kautokeino 59.22 341 *eP* **P 18 06 17.4 -0.4**
KTK1 AMb AMB 18 06 36.1
comp=Z,149nm,1.8s,mb5.7
KTK1 Kautokeino 59.22 341 *eP* **P 18 06 17.4 -0.4**
comp=Z,149nm,1.8s,mb5.7
MOD Modoc 59.32 60 *eP* **P 18 06 18.3 -0.1**
comp=Z,32nm,1.3s,mb5.2
BHK Bhakra 59.33 285 *ex* x 18 06 22.0
BMO Blue Mountains 59.34 56 *eP* **P 18 06 18.5 0.0**
comp=Z,115nm,1.5s,mb5.7
TRO Tromso 59.63 343 *eP* **P 18 06 18.4 -2.2**
TRO AMb AMB 18 06 36.7
comp=Z,179nm,1.9s,mb5.8
TRO Tromso 59.63 343 *eP* **P 18 06 18.4 -2.2**
comp=Z,179nm,1.9s,mb5.8
WVOR Wild Horse Val 60.00 59 *eP* **P 18 06 22.9 -0.2**
WVOR pmax pmax
comp=Z,78nm,1.0s,mb5.7
WVOR Wild Horse Val 60.00 59 *eP* **P 18 06 22.9 -0.3**
comp=Z,78nm,1.0s,mb5.7
MSO Missoula 60.05 52 *eP* **P 18 06 23.2 -0.2**
comp=Z,100nm,1.4s,mb5.7
CHMT Chamberlain Mo 60.37 52 P **P 18 06 25.7 0.0**
NDI New Delhi 60.50 282 *eP* **P 18 06 26.0 -0.6**
KULM Kulim 60.87 245 *eP* **P 18 06 30.2 +1.1**
PAHR Pah Rah Range 61.20 62 *eP* **P 18 06 31.9 +0.5**
comp=Z,63nm,1.2s,mb5.6
PBA Port Blair 61.28 256 *ex* x 18 06 21.7
EGMT Eagleton 61.57 49 *eP* **P 18 06 33.4 -0.4**
comp=Z,42nm,0.9s,mb5.6
KAKA Kakadu 61.60 203 *eP* **P 18 06 33.2 -0.8**
comp=Z,24nm,0.7s,mb5.4
CMB Columbia Colle 61.61 64 *eP* **P 18 06 33.8 -0.3**
CMB pmax pmax
comp=Z,54nm,1.1s,mb5.6
CMB Columbia Colle 61.61 64 *eP* **P 18 06 33.8 -0.3**
comp=Z,54nm,1.1s,mb5.6
FCC Fort Churchill 61.66 33 *eP* **P 18 06 33.3 -1.1**
FCC pmax pmax
comp=Z,99nm,1.5s,mb5.7
FCC Fort Churchill 61.66 33 *eP* **P 18 06 33.3 -1.1**
comp=Z,99nm,1.5s,mb5.7
DLMT Dillon 61.68 53 *eP* **P 18 06 37.1 +2.5**
comp=Z,151nm,1.8s,mb5.8
SAO San Andreas Ge 61.73 65 *eP* **P 18 06 39.9 +5.0**
SAO pmax pmax
comp=Z,35nm,1.1s,mb5.4
SAO San Andreas Ge 61.73 65 *eP* **P 18 06 39.9 +4.9**
comp=Z,35nm,1.1s,mb5.4
JOF Joensuu 61.76 334 *ep* **P 18 06 33.8 -1.3**
comp=Z,15nm,0.5s,mb5.4
HLID Hailey 61.77 56 *eP* **P 18 06 35.0 -0.2**
comp=Z,58nm,1.2s,mb5.6
LOF Lofoten 61.96 344 *eP* **P 18 06 37.4 +0.9**
LOF AMb AMB 18 06 41.6
comp=Z,195nm,1.3s,mb6.1
LOF Lofoten 61.96 344 *eP* **P 18 06 37.4 +0.9**
comp=Z,195nm,1.3s,mb6.1
BOZ Bozeman (W) 62.04 52⇑ *eP* **P 18 06 36.7 -0.3**
BOZ pmax pmax
comp=Z,235nm,1.5s,mb6.1
BOZ Bozeman (W) 62.04 52⇑ *eP* **P 18 06 36.7 -0.3**
comp=Z,234nm,1.5s,mb6.1
LRV Little Rabbit 62.21 65 *eP* **P 18 06 40.0 +1.8**
YMR Madison River 63.02 53 *eP* **P 18 06 44.3 +0.7**
comp=Z,94nm,1.2s,mb5.8
ELK Elko 63.05 58 *eP* **P 18 06 43.5 -0.2**
YNR Norris Junctio 63.15 53 *eP* **P 18 06 45.9 +1.5**
LKWY Lake 63.40 53 *eP* **P 18 06 47.8 +1.8**
LKWY pmax pmax
comp=Z,34nm,0.8s,mb5.5
LKWY Lake 63.40 53 *eP* **P 18 06 47.8 +1.7**
comp=Z,34nm,0.8s,mb5.5
MOR8 Moi Rana 63.47 343 *eP* **P 18 06 44.6 -1.9**
MOR8 AMb AMB 18 07 02.6
comp=Z,255nm,2.2s,mb6.0
MOR8 Moi Rana 63.47 343 *eP* **P 18 06 44.6 -1.9**
comp=Z,255nm,2.2s,mb6.0
VIS Vishakhapatnam 63.49 268 *eP* **P 18 06 47.1 +0.5**
VIS AMb AMB 18 06 50.3
comp=Z,177nm,1.4s,mb6.0
TPH Tonopah 63.54 62 *eP* **P 18 06 47.3 +0.3**
TPH pmax pmax
comp=Z,65nm,0.9s,mb5.7
TPH Tonopah 63.54 62 *eP* **P 18 06 47.2 +0.3**
comp=Z,65nm,0.9s,mb5.7
FLWY Flagg Ranch 63.54 53 *eP* **P 18 06 47.4 +0.4**
comp=Z,156nm,1.5s,mb5.8
DCID1 Drake Creek 63.58 54 *eP* **P 18 06 48.8 +1.5**
AJM Ajmer 63.66 281 *eP* **P 18 06 48.6 +0.9**
AJM AMb AMB 18 06 53.3
comp=Z,218nm,2.0s,mb5.8
RLMT Red Lodge 63.66 52 *eP* **P 18 06 48.0 +0.2**
MOOW Moose Ponds 63.73 53 *eP* **P 18 06 48.9 +0.7**
comp=Z,25nm,0.8s,mb5.3
TPAW Teton Pass 63.78 54 *eP* **P 18 06 49.5 +0.9**
comp=Z,189nm,1.4s,mb5.9
KAF Kangasniemi 63.87 335 *ep* **P 18 06 48.9 -0.3**
comp=Z,5.9nm,0.4s,mb5.0,baz=37,slow=6.3
KAF Kangasniemi 63.87 335 *eP* **P 18 06 48.9 -0.3**
KAF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
BHPL Bhopal 63.88 277 *eP* **P 18 06 50.1 +0.9**
BHPL AMb AMB 18 06 52.2
comp=Z,298nm,1.4s,mb6.1
LOHW Long Hollow 63.89 54 *eP* **P 18 06 49.5 +0.2**
comp=Z,206nm,1.5s,mb5.9
SNOW Snow King Moun 63.91 54 *eP* **P 18 06 50.6 +1.2**
comp=Z,102nm,1.1s,mb5.8
DGMT Dagmar 64.13 46 *eP* **P 18 06 50.4 -0.5**
comp=Z,182nm,1.5s,mb5.9
NGP Nagpur 64.14 274 *eP* **P 18 06 49.5 -1.4**
NGP AMb AMB 18 06 51.1
comp=Z,213nm,1.4s,mb6.0
AHID Auburn Hatcher 64.16 54 *eP* **P 18 06 51.4 +0.4**
comp=Z,42nm,1.0s,mb5.4
LAO LASA Array 64.27 49 *eP* **P 18 06 51.9 +0.2**
comp=Z,88nm,1.0s,mb5.7
ISA Isabella 64.29 65 *eP* **P 18 06 50.9 -1.0**
SPUT South Promonto 64.32 56 *eP* **P 18 06 51.4 -0.7**
TRCR Troy Canyon 64.36 61 *eP* **P 18 06 52.6 +0.3**
DAC Darwin (Calif) 64.45 64 *eP* **P 18 06 52.7 -0.3**
DAC pmax pmax
comp=Z,28nm,1.0s,mb5.2
DAC Darwin (Calif) 64.45 64 *eP* **P 18 06 52.7 -0.3**
comp=Z,28nm,1.0s,mb5.2
FIA1 FINESS Array S 64.46 335 *eP* **P 18 06 51.7 -1.3**
FINES FINESS Array B 64.47 335 P **P 18 06 52.0 -1.1**
comp=Z,23nm,0.6s,mb5.4,baz=42,slow=6.7,SNR=25
HWUT Hardware Ranch 64.64 56 *eP* **P 18 06 54.2 0.0**
comp=Z,278nm,1.8s,mb6.0
DUG Dugway 64.83 58 *eP* **P 18 06 55.5 +0.1**
DUG pmax pmax
comp=Z,81nm,1.1s,mb5.7
DUG Dugway 64.83 58 *eP* **P 18 06 55.5 +0.1**
comp=Z,81nm,1.1s,mb5.7
BW06 Boulder Array 65.02 54 *eP* **P 18 06 55.9 -0.8**
comp=Z,78nm,1.3s,mb5.6
PDAR Pinedale Array 65.02 54 P **P 18 06 56.8 +0.1**
comp=Z,23nm,1.0s,mb5.2,baz=292,slow=2.2,SNR=14
NSS Namsos 65.42 343 *eP* **P 18 06 58.7 -0.6**
SFJD Kangerlussuaq 65.61 10 *eP* **P 18 07 00.1 -0.4**
OBN Obninsk 65.70 326 *oeP* **P 18 07 00.0 -1.1**
OBN *e* 18 07 13.8
OBN *e* 18 07 36.0
OBN pmax pmax
comp=Z,223nm,2.1s,mb5.8
OBN MLR MLR
comp=Z,27µm,14.0s,MS6.6
OBN Obninsk 65.70 326 *i P* **P 18 07 00.1 -1.0**
AKL Akola 65.85 275 *eP* **P 18 07 03.2 +1.1**
AKL AMb AMB 18 07 04.5
comp=Z,203nm,1.7s,mb5.9
CTA Charters Tower 66.34 187 P **P 18 07 05.0 -0.2**
comp=Z,6.7nm,0.9s,mb4.7,baz=327,slow=6.1,SNR=2.8
CTAO Charters Tower 66.34 187 P **P 18 07 06.2 +1.0**
CTAO pmax pmax
comp=Z,14nm,1.0s,mb5.0
CTAO Charters Tower 66.34 187 P **P 18 07 06.2 +0.9**
comp=Z,14nm,1.0s,mb5.0
ABKT Ailbek 66.84 301 P **P 18 07 09.0 +0.6**
comp=Z,503nm,1.0s,mb6.5,SNR=10
ABKT Ailbek 66.84 301 P **P 18 07 09.6 +1.1**
ULM Lac du Bonnet 66.88 41 P **P 18 07 07.5 -1.1**
comp=Z,8.3nm,0.9s,mb4.8,baz=302,slow=6.6,SNR=4.0
ULM Lac du Bonnet 66.88 41 *eP* **P 18 07 06.8 -1.8**
comp=Z,40nm,1.3s,mb5.3
HYB Hyderabad 67.01 271 *i P* **P 18 07 10.0 +0.5**
HYB *e*PP PP 18 09 39.0 +1.9
HYB Hyderabad 67.01 271 *eP* **P 18 07 10.0 +0.5**
HYB Hyderabad 67.01 271 *eS* PP 18 09 39.0 +1.9
VOR Voronezh 67.09 322 *eP* **P 18 07 09.0 -1.0**
VOR pmax pmax
comp=N,50nm,2.0s
VOR pmax pmax
comp=Z,240nm,2.0s,mb5.9
VOR pmax pmax
comp=E,220nm,1.7s
RSSD Black Hills 67.13 50 *eP* **P 18 07 09.6 -0.6**
RSSD pmax pmax
comp=Z,32nm,0.8s,mb5.4
RSSD Black Hills 67.13 50 *eP* **P 18 07 09.6 -0.6**
comp=Z,32nm,0.8s,mb5.4
WRA Warramunga Arr 68.07 199 P **P 18 07 15.2 -1.0**
comp=Z,20nm,1.1s,mb5.1,baz=16,slow=6.8,SNR=13
WRA PKP2bc 18 35 40.3
comp=Z,0.5nm,0.8s,baz=205,slow=3.3,SNR=5.1
WRA Warramunga Arr 68.07 199 P **P 18 07 15.2 -1.0**
WRA ⇑*e* 18 35 40.3
PHWY Pilot Hill 68.28 53 *eP* **P 18 07 17.4 -0.1**
NB2 NORSAR Subarra 68.67 341 P **P 18 07 19.5 -0.5**
comp=Z,341nm,1.7s,mb6.0,baz=28,slow=6.5
NB2 NORSAR Subarra 68.67 341 P **P 18 07 19.5 -0.5**
NB2 pmax pmax
comp=Z,341nm,1.7s,mb6.0
NOA NORSAR Array B 68.67 341 P **P 18 07 18.6 -1.4**
comp=Z,22nm,0.6s,mb5.3,baz=27,slow=6.3,SNR=25
NOA PKP2bc 18 35 44.9
comp=Z,1.1nm,0.9s,baz=189,slow=6.4,SNR=3.8
NOA NORSAR Array B 68.67 341 P **P 18 07 18.6 -1.4**
NOA ⇑*e* 18 35 44.9
FITZ Fitzroy Crossi 68.73 208 *eP* **P 18 07 20.3 0.0**
comp=Z,46nm,1.6s,mb5.2
FITZ Fitzroy Crossi 68.73 208 P **P 18 07 20.4 0.0**
comp=Z,18nm,1.0s,mb5.0,baz=20,slow=7.0,SNR=6.9
WUAZ Wupatki 68.76 61 *eP* **P 18 07 20.1 -0.4**
comp=Z,45nm,1.0s,mb5.3
MDRS Chennai 68.84 267 *ex* x 18 07 21.4
MDRS *ex* x 18 10 07.4
SMCO Snowmass 68.87 55 *eP* **P 18 07 21.3 +0.1**
comp=Z,39nm,1.0s,mb5.3
HFA0 Hagfors New Ar 68.89 340 P **P 18 07 20.2 -1.1**
NAO01 NORSAR Array S 68.92 341 *eP* **P 18 07 21.3 -0.2**
comp=Z,22nm,0.7s,mb5.2
DZM Mont Dzumac 69.09 167 P **P 18 07 24.2 +1.6**
comp=Z,9.7nm,0.9s,mb4.7,baz=352,slow=13,SNR=2.8
ISCO Idaho Springs 69.22 54 *eP* **P 18 07 23.5 +0.2**
ISCO pmax pmax
comp=Z,24nm,0.9s,mb5.1
ISCO Idaho Springs 69.22 54 *eP* **P 18 07 23.4 +0.1**
comp=Z,24nm,0.9s,mb5.1
BORG Borgarnes 69.23 357 *eP* **P 18 07 22.0 -1.4**
comp=Z,782nm,2.0s,mb6.3
MVCO Mesa Verde 69.33 58 *eP* **P 18 07 24.4 +0.4**
FOO Floro 69.43 344 *eP* **P 18 07 25.6 +0.9**
FOO AMb AMB 18 07 39.8
comp=Z,120nm,2.0s,mb5.5
FOO Floro 69.43 344 *eP* **P 18 07 25.6 +0.9**
comp=Z,120nm,2.0s,mb5.5
POO Poona 69.50 276⇑ *iP* **P 18 07 25.0 -0.1**

comp=Z,100nm,1.0s,mb5.7
POO *i* x x 18 11 00.0
HYA Hoyanger 69.61 344 *e*P **P** **18 07 27.3 +1.5**
HYA AMb AMB 18 07 44.5
comp=Z,244nm,1.6s,mb5.9
HYA Hoyanger 69.61 344 *e*P **P** **18 07 27.3 +1.5**
comp=Z,244nm,1.6s,mb5.9
OSL Oslo 69.77 341 *e*P **P** **18 07 27.7 +0.9**
SUE Sulen 69.99 344 *e*P **P** **18 07 29.4 +1.3**
KAD Karad 70.11 274 *e*P **P** **18 07 29.9 +1.1**
KAD AMb AMB 18 07 34.0
comp=Z,211nm,1.4s,mb5.9
GOF Gofitskoye 70.16 315 *e*P **P** **18 07 23.9 -5.2**
GOF *i* S S 18 16 38.7 -1.3
GOF pmax pmax
comp=Z,300nm,1.3s,mb6.1
GOF smax
comp=N,200nm,2.5s
KONO Kongsberg 70.28 341 *e*P **P** **18 07 29.6 -0.3**
KONO pmax pmax
comp=Z,67nm,1.1s,mb5.5
KONO Kongsberg 70.28 341 *e*P **P** **18 07 29.6 -0.3**
comp=Z,67nm,1.1s,mb5.5
ASK Askoy 70.44 344 *e*P **P** **18 07 32.2 +1.3**
ASK AMb AMB 18 07 49.5
comp=Z,366nm,2.1s,mb6.0
ASK Askoy 70.44 344 *e*P **P** **18 07 32.2 +1.3**
comp=Z,366nm,2.1s,mb5.9
RUND Rundenannen 70.47 344 *e*P **P** **18 07 31.7 +0.7**
RUND AMb AMB 18 07 37.9
comp=Z,258nm,2.2s,mb5.8
RUND Rundenannen 70.47 344 *e*P **P** **18 07 31.7 +0.7**
comp=Z,258nm,2.2s,mb5.8
BER Bergen 70.50 344 *e*P **P** **18 07 31.3 +0.1**
BER AMb AMB 18 07 48.7
comp=Z,238nm,1.2s,mb6.0
BER Bergen 70.50 344 *e*P **P** **18 07 31.3 +0.1**
comp=Z,238nm,1.2s,mb6.0
EYMN Ely 70.53 40 *e*P **P** **18 07 28.3 -3.1**
comp=Z,3.4nm,1.2s
EGD Espegrend 70.62 344 *e*P **P** **18 07 33.2 +1.2**
EGD AMb AMB 18 07 50.9
comp=Z,376nm,2.3s,mb5.9
EGD Espegrend 70.62 344 *e*P **P** **18 07 33.2 +1.2**
comp=Z,376nm,2.3s,mb5.9
ODD1 Odda 70.68 343 *e*P **P** **18 07 32.3 0.0**
ODD1 AMb AMB 18 07 50.1
comp=Z,217nm,2.6s,mb5.6
ODD1 Odda 70.68 343 *e*P **P** **18 07 32.3 0.0**
comp=Z,217nm,2.6s,mb5.6
SDCO Great Sand Dun 70.69 55 *e*P **P** **18 07 32.6 +0.2**
comp=Z,120nm,1.6s,mb5.6
KIV Kislovodsk 71.13 314 P **P** **18 07 36.2 +1.1**
comp=Z,555nm,0.7s,mb6.6,SNR=9.2
KIV Kislovodsk 71.13 314 P **P** **18 07 37.0 +2.0**
SNR=11
KIV Kislovodsk 71.13 314α *i*P **P** **18 07 35.5 +0.4**
KIV *i* 18 07 47.9
KIV *e* 18 08 01.3
KIV *e* 18 10 13.3
KIV pmax pmax
comp=Z,445nm,2.5s,mb6.0
KIV MLR MLR
comp=Z,40µm,15.0s,MS6.8
KIV Kislovodsk 71.13 314 *e*P **P** **18 07 36.3 +1.2**
comp=Z,348nm,1.5s,mb6.1
BLS5 Blasjo 71.16 343 *e*P **P** **18 07 37.2 +1.9**
ECSD EROS,Sioux Fal 71.21 46 *e*P **P** **18 07 33.9 -1.7**
TUC Tucson 71.29 63 *e*P **P** **18 07 35.6 -0.4**
TUC pmax pmax
comp=Z,24nm,1.1s,mb5.0
TUC Tucson 71.29 63 *e*P **P** **18 07 35.6 -0.5**
comp=Z,24nm,1.1s,mb5.0
ZEI Tsey 71.38 313 *e*P **P** **18 07 36.4 -0.2**
ZEI pmax pmax
comp=Z,35nm,0.6s,mb5.5
SUW Suwalki 71.41 331 *e*P **P** **18 07 36.2 -0.6**
SUW *e* 18 07 47.7
SUW L 18 36 30.0
comp=Z,80nm,19.7s
SUW Suwalki 71.41 331 *e*P **P** **18 07 36.2 -0.6**
SUW *e* 18 07 47.7
SUW Suwalki 71.41 331 *e*P **P** **18 07 36.2 -0.6**
SUW *e* 18 07 47.7
KMY Karmoy 71.60 343 *e*P **P** **18 07 37.7 -0.2**
KMY AMb AMB 18 07 56.3
comp=Z,192nm,1.8s,mb5.7
KMY Karmoy 71.60 343 *e*P **P** **18 07 37.7 -0.2**
comp=Z,192nm,1.8s,mb5.7
AS31 Alice Springs 71.76 199 *e*P **P** **18 07 36.4 -2.5**
ASAR Alice Springs 71.76 199 P **P** **18 07 38.6 -0.2**
comp=Z,8.7nm,0.8s,mb4.7,baz=13,slow=5.1,SNR=19
STAV Stavanger 71.76 343 *e*P **P** **18 07 40.0 +1.1**
STAV AMb AMB 18 07 46.0
comp=Z,162nm,1.8s,mb5.7
STAV Stavanger 71.76 343 *e*P **P** **18 07 40.0 +1.1**
comp=Z,162nm,1.8s,mb5.7
AKASG Malin Array Be 71.94 326 P **P** **18 07 38.0 -1.9**
comp=Z,54nm,0.6s,mb5.7,baz=33,slow=6.3,SNR=8.6
AKBB Malin Array Si 71.94 326 *e*P **P** **18 07 38.9 -1.0**
SNART Snartemo 72.00 342 *e*P **P** **18 07 42.0 +1.7**
ANMO Albuquerque 72.08 58 *e*P **P** **18 07 40.5 -0.3**
ANMO pmax pmax
comp=Z,23nm,1.0s
ANMO Albuquerque 72.08 58 *e*P **P** **18 07 40.5 -0.3**
comp=Z,23nm,1.0s,mb5.1
GNI Garni 72.84 310 *e*P **P** **18 07 47.2 +1.9**
GNI pmax pmax
comp=Z,142nm,1.2s
GNI Garni 72.84 310 *e*P **P** **18 07 47.2 +1.9**
comp=Z,142nm,1.2s,mb5.8
COWI Conover 72.98 40 P **P** **18 07 45.0 -1.2**
ANN Anapa 73.03 318⇑ *i*P **P** **18 07 44.5 -1.9**
ANN *e*S S 18 17 09.4 -3.7
ANN pmax pmax
comp=Z,356nm,2.5s,mb5.8
ANN MLR MLR
comp=Z,34µm,14.0s,MS6.8
CBKS Cedar Bluff 73.15 51 *e*P **P** **18 07 46.2 -0.9**
CBKS pmax pmax
comp=Z,71nm,1.2s,mb5.5
CBKS Cedar Bluff 73.15 51 *e*P **P** **18 07 46.2 -0.9**
comp=Z,71nm,1.2s,mb5.5
WAR Warsaw 73.61 332 *e*P **P** **18 07 50.5 +0.7**
WAR L 18 38 17.3
comp=Z,69nm,20.6s
WAR Warsaw 73.61 332 *e*P **P** **18 07 50.5 +0.7**
GKP Gorka Klasztor 73.92 334 *e*P **P** **18 07 51.7 0.0**
GKP *e* 18 08 03.4
GKP L 18 37 57.4
comp=Z,133nm,18.5s
GKP Gorka Klasztor 73.92 334 *e*P **P** **18 07 51.7 0.0**
GKP *e* 18 08 03.4
GKP Gorka Klasztor 73.92 334 *e*P **P** **18 07 51.7 0.0**
GKP *e* 18 08 03.4
SCIA State Center 74.25 45 *e*P **P** **18 07 52.5 -1.1**
TRD Trivandrum 74.33 266 *e*P **P** **18 07 55.1 +1.0**
TRD AMb AMB 18 07 57.2
comp=Z,103nm,1.1s,mb5.7
SIM Simferopol' 74.43 320⇓ *i*P **P** **18 07 56.4 +1.8**
SIM pmax pmax
comp=Z,51nm,1.0s,mb5.4
KSU1 Kansas State U 74.60 49 *e*P **P** **18 07 53.5 -2.2**
MNTX Cornudas Mount 75.00 60 *e*P **P** **18 07 57.2 -0.8**
comp=Z,123nm,1.6s,mb5.6
KWP Kalwaria 75.23 329 *e*P **P** **18 07 59.6 +0.3**
BSEG Bad Segeberg 75.27 338 *e*P **P** **18 07 57.7 -1.8**
comp=Z,453nm,2.3s,mb6.0
BSEG *e* 18 08 11.3
BSEG Bad Segeberg 75.27 338 *e*P **P** **18 07 57.6 -1.9**
BSEG *e* 18 08 11.3
RUE Ruedersdorf 75.63 336 *e*P **P** **18 07 59.5 -2.1**
comp=Z,707nm,2.2s,mb6.2
OJC Ojcow 75.73 331 *e*P **P** **18 08 01.9 -0.3**
STHS Stebnicka Huta 75.92 330 *e*P **P** **18 08 04.0 +0.7**
STHS pmax pmax
comp=Z,62nm,1.0s,mb5.5
STHS Stebnicka Huta 75.92 330 *e*P **P** **18 08 04.0 +0.7**
comp=Z,62nm,1.0s,mb5.5
KOLS Kolonicke sedl 75.97 329 *e*P **P** **18 08 03.9 +0.4**
BURAR Bucovina Array 75.98 327⇑ *i*P **P** **18 08 03.3 -0.3**
BURAR Bucovina Array 75.98 327⇑ P **P** **18 08 04.8 +1.2**
CRVS Cervenica-Dubn 76.28 330 *e*P **P** **18 08 05.0 -0.3**
KSP Ksiaz 76.32 333 *e*P **P** **18 08 05.7 +0.2**
KSP *e* 18 08 17.3
KSP L 18 39 25.2
comp=Z,180nm,18.6s
KSP Ksiaz 76.32 333 *e*P **P** **18 08 02.8 -2.7**
KSP *e*pP pP 18 08 06.3 -4.0
MSL Mosul 76.55 309 *e*x x 18 08 15.5
MSL *e*x x 18 08 28.0
MSL *e*x x 18 08 37.5
MSL *e*x x 18 18 04.0
OKC Ostrava-Krasne 76.61 332 *e*P **P** **18 08 06.6 -0.6**
OKC *e*PCP PcP 18 08 17.7 -0.9
NRDL Niedersach Rie 76.62 338 *e*P **P** **18 08 05.2 -2.0**
comp=Z,424nm,2.3s,mb6.0
WMOK Wichita Mounta 76.64 54 *e*P **P** **18 08 04.8 -2.5**
WMOK pmax pmax
comp=Z,23nm,0.9s,mb5.1
WMOK Wichita Mounta 76.64 54 *e*P **P** **18 08 04.8 -2.5**
comp=Z,23nm,0.9s,mb5.1
UPC Upice 76.70 333 *e*P **P** **18 08 08.1 +0.4**
DPC Dobruska-Polom 76.74 333 *e*P **P** **18 08 08.7 +0.8**
DPC *e*PCP PcP 18 08 20.2 +1.0
ESK Eskdalemuir 76.82 346 P **P** **18 08 10.6 +2.2**
comp=Z,149nm,1.1s,mb5.8,SNR=6.8
ESK Eskdalemuir 76.82 346 *e*P **P** **18 08 07.7 -0.7**
ESK pmax pmax
comp=Z,112nm,1.6s,mb5.5
ESK Eskdalemuir 76.82 346 *e*P **P** **18 08 07.7 -0.6**
comp=Z,112nm,1.6s,mb5.5
VRI Vrincioaia 76.83 325⇑ *i*P **P** **18 08 09.1 +0.7**
VRI Vrincioaia 76.83 325⇓ P **P** **18 08 10.2 +1.8**
MORC Moravsky Berou 76.86 332⇓ *i*P **P** **18 08 03.5 -5.1**
MORC Moravsky Berou 76.86 332⇓ P **P** **18 08 03.5 -5.1**
PLOR Plostina 76.87 325⇑ *i*P **P** **18 08 05.7 -3.0**
CLL Collm 76.89 336 *e*P **P** **18 08 06.2 -2.6**
comp=Z,771nm,2.4s,mb6.2
CLL Collm 76.89 336 *i* P **P** **18 08 08.4 -0.4**
comp=Z,82nm,1.0s,mb5.6
CLL *e*pP pP 18 08 12.0 -1.5
CLL *e*PcP PcP 18 08 21.0 +1.1
CLL Collm 76.89 336 *i* P **P** **18 08 08.4 -0.4**
CLL pmax pmax
comp=Z,82nm,1.0s,mb5.6
CLL Collm 76.89 336 *i* P **P** **18 08 08.4 -0.4**
comp=Z,82nm,1.0s,mb5.6
CLL *e*pP pP 18 08 12.0 -1.5
KECS Kecovo 76.98 330 *e*P **P** **18 08 09.5 +0.2**
KECS pmax pmax
comp=Z,71nm,1.9s,mb5.3
KECS Kecovo 76.98 330 *e*P **P** **18 08 09.5 +0.2**
comp=Z,71nm,1.9s,mb5.3
BRG Berggiesshubel 77.01 335 *e*P **P** **18 08 07.2 -2.2**
comp=Z,216nm,1.9s,mb5.8
BRG Berggiesshubel 77.01 335 *i* P **P** **18 08 08.3 -1.1**
BRG *e* 18 08 22.0
BRG pmax pmax
comp=Z,28nm,1.3s,mb5.0
BRG Berggiesshubel 77.01 335 *i* P **P** **18 08 08.3 -1.1**
comp=Z,28nm,1.3s,mb5.0
BRG *e* 18 08 22.0
BRG *e* 18 08 36.3
HATD Hatta, Dubai 77.05 292 P **P** **18 08 11.3 +1.7**
SNR=16
PVCC Panska Ves 77.12 334 *e*P **P** **18 08 09.6 -0.5**
PVCC *e*PCP PcP 18 08 22.1 +1.2
FBE Freiberg 77.14 335 *e*P **P** **18 08 08.1 -2.0**
comp=Z,620nm,2.3s,mb6.1
CLZ Clausthal 77.14 337 *e*P **P** **18 08 08.6 -1.6**
comp=Z,1µm,2.4s,mb6.3
CLZ *e* 18 08 22.2
CLZ Clausthal 77.14 337 *e*P **P** **18 08 08.6 -1.6**
CLZ *e* 18 08 22.2
CLZ pmax pmax
comp=Z,1µm,2.4s,mb6.3
HOQ Hoqain 77.16 291 P **P** **18 08 11.8 +1.5**
SNR=12
ASHO Ashiyiah 77.19 292 P **P** **18 08 11.7 +1.3**
SNR=18
TIRR Tirgusor 77.29 323⇓ *i*P **P** **18 08 10.7 -0.3**
TIRR Tirgusor 77.29 323 P **P** **18 08 10.9 -0.1**
IBBN Ibbenburen 77.39 339 *e*P **P** **18 08 09.6 -2.0**
comp=Z,197nm,1.3s,mb5.9
MLR Muntele Rosu 77.45 325⇑ *i*P **P** **18 08 08.8 -3.1**
MLR Muntele Rosu 77.45 325⇑ P **P** **18 08 08.8 -3.1**
MALT Malatya 77.47 313 *e*P **P** **18 08 12.9 +0.9**
MALT pmax pmax
comp=Z,135nm,1.3s,mb5.7
MALT Malatya 77.47 313 *e*P **P** **18 08 12.9 +0.8**
comp=Z,135nm,1.3s,mb5.7
JMDO Jabal Madar 77.50 289 P **P** **18 08 13.8 +1.7**
SNR=14
GTTG Gvttingen 77.52 337 *e*P **P** **18 08 11.4 -0.9**
comp=Z,584nm,2.3s,mb6.1
VYHS Vyhne 77.54 331 *e*P **P** **18 08 12.3 -0.1**
VYHS pmax pmax
comp=Z,293nm,2.2s,mb5.8
VYHS Vyhne 77.54 331 *e*P **P** **18 08 12.3 -0.1**
comp=Z,293nm,2.2s,mb5.8
VRAC Vranov 77.57 333⇑ *i*P **P** **18 08 13.1 +0.5**
VRAC Vranov 77.57 333 P **P** **18 08 13.9 +1.3**
PRA Prague 77.57 334 P **P** **18 08 13.0 +0.4**
PRA *e*x x 18 08 36.0
PRU Pruhonice 77.61 334 *e*P **P** **18 08 13.2 +0.4**
PRU *e*PCP PcP 18 08 25.8 +2.8
DRGR 77.61 328⇓ *i*P **P** **18 08 07.3 -5.5**
DRGR 77.61 328⇓ P **P** **18 08 07.3 -5.5**
PSZ Piszkesteto 77.67 330⇑ *e*P **P** **18 08 13.4 +0.3**
TANN Tannenbergstha 77.85 335 *e*P **P** **18 08 12.4 -1.7**
comp=Z,229nm,1.9s,mb5.8
KRUC Moravsky 77.85 333 P **P** **18 08 15.7 +1.6**
VOIR 77.85 325⇓ *i*P **P** **18 08 14.0 -0.1**
VOIR 77.85 325⇓ P **P** **18 08 15.5 +1.4**
WERD Werda 77.86 336 *e*P **P** **18 08 12.3 -1.9**
comp=Z,531nm,2.4s,mb6.0
MOX Moxa 77.88 336 *e*P **P** **18 08 12.4 -1.9**
comp=Z,595nm,2.3s,mb6.1
MOX *e* 18 08 26.1
MOX Moxa 77.88 336 *e*P **P** **18 08 14.5 +0.2**
comp=Z,174nm,1.9s,mb5.7
MOX *e* 18 08 27.7
MOX Moxa 77.88 336 *e*P **P** **18 08 14.5 +0.2**
MOX *e**PP pP 18 08 27.7 +8.6
MOX pmax pmax
comp=Z,174nm,1.9s,mb5.7
GUNZ Gunzen 77.93 336 *e*P **P** **18 08 12.8 -1.8**
comp=Z,613nm,2.4s,mb6.1
TREC Trest 77.93 333 *e*P **P** **18 08 14.9 +0.3**
TREC *e*PCP PcP 18 08 26.6 +2.2
WERN Wernitzgruen 77.98 335 *e*P **P** **18 08 13.1 -1.8**
comp=Z,637nm,2.4s,mb6.1
SMOL Smolenice 77.99 332 *e*P **P** **18 08 16.1 +1.2**
PSN Preselentsi 78.01 323 *i*P **P** **18 08 15.4 +0.4**
BHD Baghdad 78.07 306 *i*x x 18 08 11.0
CCM Cathedral Cave 78.15 47 *e*P **P** **18 08 13.4 -2.4**
CCM pmax pmax
comp=Z,47nm,1.1s,mb5.3
CCM Cathedral Cave 78.15 47 *e*P **P** **18 08 13.4 -2.4**
comp=Z,47nm,1.1s,mb5.3
UBBA Unterbreizbach 78.17 337 *e*P **P** **18 08 13.9 -2.0**
comp=Z,525nm,2.4s,mb6.0
UBBA *e* 18 08 27.4
BUG Bochum--Univer 78.31 339 *e*P **P** **18 08 14.8 -1.9**
comp=Z,98nm,1.0s,mb5.7
BUG *e* 18 08 28.8
BUG Bochum--Univer 78.31 339 P **P** **18 08 16.4 -0.3**
MANZ Manzenberg 78.33 335 *e*P **P** **18 08 15.1 -1.7**
comp=Z,399nm,2.3s,mb5.9
BUD Budapest 78.34 330⇓ *e*P **P** **18 08 18.9 +2.0**
BUD Budapest 78.34 330 P **P** **18 08 16.7 -0.2**
ZST Bratislava 78.37 332 *e*P **P** **18 08 17.7 +0.7**
ZST pmax pmax
comp=Z,550nm,2.4s,mb6.1
ZST Bratislava 78.37 332 *e*P **P** **18 08 17.7 +0.7**
comp=Z,550nm,2.4s,mb6.1
STKA Stephens Creek 78.49 190 *e*P **P** **18 08 15.7 -2.0**
comp=Z,9.2nm,1.5s,mb4.5
STKA Stephens Creek 78.49 190 P **P** **18 08 16.0 -1.7**
comp=Z,7.7nm,1.0s,mb4.6,baz=4.1,slow=8.3,SNR=4.7
ROTZ Rotzenmuhle 78.50 335 *e*P **P** **18 08 16.3 -1.4**
comp=Z,649nm,2.4s,mb6.1
PKSG 78.64 331⇓ *e*P **P** **18 08 19.3 +0.8**
KHC Kasperske Hory 78.66 334 *e*P **P** **18 08 18.6 0.0**
KHC *e*PCP PcP 18 08 31.4 +3.9
BR131 Keskin Array S 78.73 317 P **P** **18 08 19.6 +0.6**
comp=Z,31nm,1.0s,mb5.2
BRTR Keskin Array B 78.73 317 P **P** **18 08 18.5 -0.5**
comp=Z,21nm,1.1s,mb5.0,baz=106,slow=4.5,SNR=7.7
PRD Provadia 78.74 323 *i*P **P** **18 08 19.6 +0.6**
GZR Gura Zlata 78.76 327⇓ *i*P **P** **18 08 19.8 +0.6**
GZR Gura Zlata 78.76 327⇓ P **P** **18 08 19.8 +0.6**
GRA1 Grafenberg Arr 78.85 336 *e*P **P** **18 08 18.3 -1.4**
comp=Z,117nm,1.1s,mb5.7
GRA1 *e* 18 08 31.9
GRF Grafenberg Arr 78.85 336 *e*P **P** **18 08 18.3 -1.4**
comp=Z,117nm,1.1s,mb5.7
GRF *e* 18 08 31.9
GRF Grafenberg Arr 78.85 336 *e*P **P** **18 08 18.3 -1.4**
GRF *e* 18 08 31.9
GRF pmax pmax
comp=Z,117nm,1.1s,mb5.7
GRFO Grafenberg 78.85 336 *e*P **P** **18 08 18.4 -1.3**
comp=Z,110nm,1.1s,mb5.7
WET Wettzell 78.86 335 *e*P **P** **18 08 18.3 -1.4**
comp=Z,81nm,1.1s,mb5.6
WET Wettzell 78.86 335 *e*P **P** **18 08 18.3 -1.4**
WET pmax pmax
comp=Z,81nm,1.1s,mb5.6
UMR Umm Al-Rimmam 78.87 301 *e*P **P** **18 08 22.2 +2.5**
UMR AMb AMB 18 08 23.9
comp=Z,233nm,0.7s,mb6.2
GEC2 GERESS Array S 78.88 334 *e*P **P** **18 08 17.9 -1.9**
comp=Z,322nm,2.3s,mb5.8
GEC2 GERESS Array S 78.88 334 *e*P **P** **18 08 17.9 -1.9**
GEC2 pmax pmax
comp=Z,322nm,2.3s,mb5.8
GERES GERESS Array B 78.88 334 P **P** **18 08 19.4 -0.4**
comp=Z,97nm,0.8s,mb4.8,baz=40,slow=4.0,SNR=20
MIB Mutribah 78.91 302 *e*P **P** **18 08 22.5 +2.5**
MIB AMb AMB 18 08 25.7
comp=Z,208nm,0.7s,mb6.2
SOP Sopron 79.00 332⇑ *e*P **P** **18 08 21.3 +0.8**
BZS Buzias 79.01 328⇓ *i*P **P** **18 08 19.7 -0.8**
BZS Buzias 79.01 328⇑ P **P** **18 08 21.2 +0.7**
CONA Conrad Observa 79.01 332⇑ *i*P **P** **18 08 21.3 +0.7**
comp=Z,30nm,0.8s,mb5.3,SNR=6.4
ANTO Ankara 79.02 317⇑ *i*P **P** **18 08 21.4 +0.8**
ANTO Ankara 79.02 317 P **P** **18 08 22.7 +2.1**
SNR=8.8
ANTO Ankara 79.02 317 *e*P **P** **18 08 21.3 +0.7**
TNS Taunus Mts 79.12 338 *e*P **P** **18 08 19.5 -1.7**
comp=Z,157nm,1.5s,mb5.7
TNS Taunus Mts 79.12 338 *e*P **P** **18 08 19.5 -1.7**
TNS pmax pmax
comp=Z,157nm,1.5s,mb5.7
JCT Junction City 79.18 57 *e*P **P** **18 08 21.2 -0.3**
JCT pmax pmax
comp=Z,102nm,1.4s,mb5.6
JCT Junction City 79.18 57 *e*P **P** **18 08 21.2 -0.3**
comp=Z,102nm,1.4s,mb5.6
DLF Lyons Farm 79.29 348 *e*P **P** **18 08 21.9 -0.2**
SZH Strazhica 79.29 324 *i*P **P** **18 08 20.7 -1.4**
BEBN Eben Emael 79.29 340 P **P** **18 08 21.8 -0.3**
QRN Al-Qurain 79.34 300 *e*P **P** **18 08 25.0 +2.7**
QRN AMb AMB 18 08 26.3
comp=Z,187nm,0.7s,mb6.1
DCN Croghan 79.35 348 *e*P **P** **18 08 22.1 -0.3**
NAY Al-Naaiem 79.37 301 *e*P **P** **18 08 24.9 +2.4**
NAY AMb AMB 18 08 28.3
comp=Z,139nm,1.4s,mb5.7
MEM Membach 79.39 339 P **P** **18 08 22.2 -0.4**
RDF Al-Radifah 79.43 301 *e*P **P** **18 08 25.5 +2.7**
RDF AMb AMB 18 08 26.8
comp=Z,324nm,1.1s,mb6.2
PKSM Moragy 79.57 330 P **P** **18 08 24.9 +1.3**
PVL Pavlikeni 79.58 324 *i*P **P** **18 08 24.1 +0.5**
MOA Molln 79.59 333⇑ *i*P **P** **18 08 25.1 +1.4**
comp=Z,60nm,1.5s,mb5.3
TOD Tromm 79.59 337 *e*P **P** **18 08 25.4 +1.7**
UCC Uccle 79.60 340 P **P** **18 08 25.0 +1.3**
SIND Sindeldorf 79.61 337 P **P** **18 08 24.6 +0.8**
MIAR Mount Ida 79.62 50 *e*P **P** **18 08 22.7 -1.2**
MIAR pmax pmax
comp=Z,41nm,1.2s,mb5.2
MIAR Mount Ida 79.62 50 *e*P **P** **18 08 22.7 -1.2**
comp=Z,42nm,1.2s,mb5.2
JMB Yambol 79.68 323 *e*P **P** **18 08 24.7 +0.5**
JMB Yambol 79.68 323 *i*P **P** **18 08 23.0 -1.2**
ARSA Arzberg 79.72 332⇑ *i*P **P** **18 08 21.9 -2.5**
comp=Z,56nm,1.1s,mb5.4,SNR=9.2
ARSA ⇑ *i*P 18 08 21.9
comp=Z,56nm,1.1s,SNR=9.2
SWS Schriesheim-Wi 79.73 337 P **P** **18 08 26.6 +2.1**
BCLA Clavier 79.73 340 P **P** **18 08 24.2 -0.3**
SNF Seneffe 79.89 340 P **P** **18 08 25.4 +0.1**
FORT Forrest 79.98 202 *e*P **P** **18 08 25.8 0.0**
comp=Z,35nm,0.8s,mb5.3
HDH Heidenheim-Cha 80.14 336 P **P** **18 08 26.1 -0.6**
GIVF Givet 80.14 340 *e*P **P** **18 08 26.0 -0.7**
comp=Z,179nm,1.4s,mb5.5
GIVF Givet 80.14 340 *e*P **P** **18 08 26.0 -0.7**
GIVF pmax pmax
comp=Z,89nm,1.4s,mb5.5
GIVF Givet 80.14 340 *e*P **P** **18 08 26.0 -0.7**
comp=Z,89nm,1.4s,mb5.5
KOGS Kog 80.18 331 *e*P **P** **18 08 26.6 -0.4**
DOU Dourbes 80.20 340 P **P** **18 08 21.4 -5.6**
FUR Furstenfeldbru 80.21 335 *e*P **P** **18 08 25.5 -1.6**
comp=Z,170nm,1.2s,mb5.8
FUR Furstenfeldbru 80.21 335 *e*P **P** **18 08 25.6 -1.5**
FUR pmax pmax
comp=Z,170nm,1.2s,mb5.8
FUR Furstenfeldbru 80.21 335 *e*P **P** **18 08 25.6 -1.5**
comp=Z,170nm,1.2s,mb5.8
WLF Walferdange 80.22 339 *e*P **P** **18 08 25.9 -1.2**
comp=Z,432nm,2.2s,mb6.0
WLF *e* 18 08 39.5
WLF Walferdange 80.22 339 P **P** **18 08 25.6 -1.5**
WLF Walferdange 80.22 339 P **P** **18 08 30.3 +3.2**
STU Stuttgart 80.25 337 *e*P **P** **18 08 27.7 +0.4**
STU pmax pmax
comp=Z,97nm,1.1s,mb5.7
STU Stuttgart 80.25 337 *e*P **P** **18 08 27.6 +0.4**
comp=Z,97nm,1.1s,mb5.7
MENF Mencas 80.32 342 *e*P **P** **18 08 27.7 0.0**
BAIF Baives 80.33 340 *e*P **P** **18 08 27.5 -0.2**
comp=Z,136nm,1.2s,mb5.5
BAIF Baives 80.33 340 *e*P **P** **18 08 27.5 -0.2**
BAIF pmax pmax
comp=Z,68nm,1.2s,mb5.5
BAIF Baives 80.33 340 *e*P **P** **18 08 27.5 -0.2**
comp=Z,68nm,1.2s,mb5.5
ACSO Alum Creek Sta 80.37 40 *e*P **P** **18 08 23.4 -4.5**
comp=Z,49nm,1.2s,mb5.3
LANF Langenberg 80.43 338 *e*P **P** **18 08 30.0 +1.8**
LBG Lerchenberg 80.45 337 P **P** **18 08 30.4 +2.0**
DIM Dimitrovgrad 80.46 323 *i*P **P** **18 08 29.2 +0.8**
BUCH Bad Urach 80.50 336 P **P** **18 08 29.9 +1.3**
KBA Koelnbreinsper 80.56 333⇑ *i*P **P** **18 08 26.7 -2.3**
comp=Z,160nm,1.2s,mb5.8,SNR=12
KBA Koelnbreinsper 80.56 333⇑ *i*P **P** **18 08 26.7 -2.2**
KBA pmax pmax
comp=Z,160nm,1.2s,mb5.8
PGB Panagyurishte 80.61 324 *i*P **P** **18 08 28.6 -0.6**
OBKA Obir 80.69 332 *i*P **P** **18 08 31.5 +1.9**
comp=Z,76nm,1.6s,mb5.4,SNR=8.2
OBKA *i*P 18 08 31.5
comp=Z,76nm,1.6s,SNR=8.2
PLD Plovdiv 80.76 324 *i*P **P** **18 08 29.7 -0.3**
STR Strasbourg 80.80 338 *e*P **P** **18 08 32.4 +2.2**
KDZ Kurdzhali 80.84 323 *i*P **P** **18 08 31.4 +0.9**
WATA Walderalm 80.87 335⇓ *i*P **P** **18 08 26.1 -4.5**
comp=Z,89nm,1.1s,mb5.6,SNR=15
WATA ⇓ *i*P 18 08 26.1
comp=Z,89nm,1.1s,SNR=15
WATA Walderalm 80.87 335⇓ *i*P **P** **18 08 26.1 -4.5**
comp=Z,89nm,1.1s,mb5.6
WATA P pP 18 08 31.6 -3.8
BFO Black Forest 80.89 337 P **P** **18 08 28.1 -2.6**
comp=Z,301nm,1.0s,mb6.2,SNR=5.2
BFO Black Forest 80.89 337 *e*P **P** **18 08 29.0 -1.7**
comp=Z,67nm,1.2s,mb5.5
BFO Black Forest 80.89 337 *e*P **P** **18 08 29.0 -1.7**
BFO pmax pmax
comp=Z,67nm,1.2s,mb5.5
GUT Gutenstein 80.91 336 P **P** **18 08 32.0 +1.2**
DIVS Divcibare 80.91 328 *e*P **P** **18 08 30.4 -0.5**
WTTA Wattenberg 80.91 335⇑ *i*P **P** **18 08 28.6 -2.3**
comp=Z,126nm,1.1s,mb5.8,SNR=13
WTTA ⇑ *i*P 18 08 28.6
comp=Z,126nm,1.1s,SNR=13
WTTA Wattenberg 80.91 335⇑ *i*P **P** **18 08 28.6 -2.3**

WTTA P pP 18 08 31.8 -3.8
comp=Z,126nm,1.1s,mb5.8
VTS Vitosha 80.96 325 *eP* **P 18 08 26.7 -4.4**
VTS Vitosha 80.96 325 ⇑*iP* **P 18 08 31.5 +0.4**
VTS Vitosha 80.96 325 *iP* **P 18 08 29.7 -1.4**
SPAK Spaichingen-Ko 80.97 337 P **P 18 08 32.5 +1.4**
UBR Ueberruh 80.98 336 P **P 18 08 33.2 +2.0**
MOTA Moosalm 81.00 335 ⇓*iP* **P 18 08 29.0 -2.2**
comp=Z,132nm,1.2s,mb5.7,SNR=17
MOTA ⇓*iP* 18 08 29.0
comp=Z,132nm,1.2s,SNR=17
WLS Welschbruch 81.07 338 *eP* **P 18 08 33.9 +2.2**
SQTA Sankt Quirin 81.08 335 ⇑*iP* **P 18 08 29.5 -2.3**
comp=Z,89nm,1.2s,mb5.6,SNR=14
SQTA ⇑*iP* 18 08 29.5
comp=Z,89nm,1.2s,SNR=14
SQTA Sankt Quirin 81.08 335 ⇑*iP* **P 18 08 29.5 -2.3**
comp=Z,89nm,1.2s,mb5.6
SQTA P pP 18 08 32.6 -3.9
CDF Champ du Feu 81.09 338 *eP* **P 18 08 31.6 -0.2**
comp=Z,205nm,1.2s,mb5.7
CDF Champ du Feu 81.09 338 *eP* **P 18 08 31.6 -0.2**
CDF pmax pmax
comp=Z,102nm,1.2s,mb5.6
CDF Champ du Feu 81.09 338 *eP* **P 18 08 31.6 -0.2**
comp=Z,102nm,1.2s,mb5.6
RZN Rozhen 81.10 324 *iP* **P 18 08 32.5 +0.7**
LJU Ljubljana 81.11 332 *eP* **P 18 08 31.2 -0.6**
FVI Forni Avoltri 81.17 334 P **P 18 08 33.7 +1.5**
ALN Alexandroupoli 81.20 322 *eP* **P 18 08 28.4 -4.0**
RDO Rodhopi 81.21 323 *eP* **P 18 08 33.0 +0.6**
LIBD Limburg 81.25 337 *eP* **P 18 08 34.7 +2.1**
SISB Singen-Schiene 81.30 336 P **P 18 08 33.9 +1.0**
ECH Echery 81.30 338 *eP* **P 18 08 34.7 +1.8**
GMNA Gemona 81.31 333 P **P 18 08 33.7 +0.8**
KIZ Kirchzarten 81.34 337 P **P 18 08 34.0 +0.9**
BOJS Bojanci 81.34 331 *eP* **P 18 08 32.4 -0.7**
BOJS *e* 18 09 09.4
WVT Waverly 81.36 46 *eP* **P 18 08 32.8 -0.4**
WVT pmax pmax
comp=Z,45nm,0.9s,mb5.4
WVT Waverly 81.36 46 *eP* **P 18 08 32.8 -0.4**
comp=Z,45nm,0.9s,mb5.4
FELD Feldberg im Sc 81.39 337 *eP* **P 18 08 35.4 +2.0**
DAVA Damuels 81.41 336 ⇑*iP* **P 18 08 33.7 +0.2**
comp=Z,45nm,0.9s,mb5.4,SNR=5.8
CEY Cerknica 81.41 332 P **P 18 08 35.1 +1.6**
MEZF Maizieres J'vi 81.58 339 *eP* **P 18 08 34.4 +0.1**
comp=Z,110nm,0.8s,mb5.5
MEZF Maizieres J'vi 81.58 339 *eP* **P 18 08 34.4 +0.1**
comp=Z,110nm,0.8s,mb5.8
THEF They Montfort 81.60 338 *eP* **P 18 08 36.5 +2.0**
KNDS Knezji Dol 81.61 332 *eP* **P 18 08 33.9 -0.7**
MOF Molkenrain 81.64 338 *eP* **P 18 08 36.5 +1.8**
TRI Trieste 81.65 333 P **P 18 08 33.7 -1.0**
HAU Haudompre 81.71 338 *eP* **P 18 08 34.4 -0.7**
comp=Z,143nm,1.2s,mb5.5
HAU Haudompre 81.71 338 *eP* **P 18 08 34.4 -0.7**
HAU pmax pmax
comp=Z,72nm,1.2s,mb5.5
HAU Haudompre 81.71 338 *eP* **P 18 08 34.4 -0.7**
comp=Z,72nm,1.2s,mb5.5
HINF Hinteralfeld 81.75 338 *eP* **P 18 08 34.8 -0.5**
comp=Z,121nm,1.4s,mb5.3
HINF Hinteralfeld 81.75 338 *eP* **P 18 08 34.8 -0.5**
HINF pmax pmax
comp=Z,60nm,1.4s,mb5.3
HINF Hinteralfeld 81.75 338 *eP* **P 18 08 34.8 -0.5**
comp=Z,60nm,1.4s,mb5.3
OXF Oxford 81.83 48 P **P 18 08 35.2 -0.5**
OXF pmax pmax
comp=Z,69nm,1.0s,mb5.5
OXF Oxford 81.83 48 *eP* **P 18 08 35.2 -0.5**
comp=Z,69nm,1.0s,mb5.5
HKT Hockley 81.86 55 P **P 18 08 35.9 +0.1**
HKT pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HKT Hockley 81.86 55 P **P 18 08 35.9 +0.1**
comp=Z,5.9nm,0.9s,mb4.5
BBS Basel-Blauen 81.90 337 *eP* **P 18 08 38.0 +1.9**
BRMO Bormio 82.00 335 P **P 18 08 37.9 +1.3**
SRS Serrai 82.04 324 *eP* **P 18 08 36.3 -0.5**
STIP Stip 82.12 325 *eP* **P 18 08 36.6 -0.6**
STIP Stip 82.12 325 *iP* **P 18 08 36.5 -0.7**
PLAL Pickwick Lake 82.14 47 P **P 18 08 40.3 +2.9**
comp=Z,29nm,1.2s,mb5.1
SKO Skopje 82.18 326 *eP* **P 18 08 38.8 +1.3**
SKO Skopje 82.18 326 *iP* **P 18 08 38.2 +0.7**
LOMF Lomont 82.19 338 P **P 18 08 39.5 +1.9**
VAY Valandovo 82.28 325 *eP* **P 18 08 38.1 0.0**
VAY Valandovo 82.28 325 *iP* **P 18 08 34.5 -3.6**
MABI Malga Bissina 82.34 335 P **P 18 08 40.1 +1.7**
LOS Limnos 82.41 322 *eP* **P 18 08 44.1 +5.3**
PRK Paraskevi 82.47 321 *eP* **P 18 08 40.0 +0.9**
OUR Ouranopolis 82.54 323 *eP* **P 18 08 39.2 -0.2**
MAGA Magasa 82.56 335 P **P 18 08 41.2 +1.7**
FLN La Foliniere 82.58 343 *eP* **P 18 08 38.9 -0.7**
GRG Griva 82.66 325 *eP* **P 18 08 40.4 +0.3**
LDF La Druitiere 82.67 342 *eP* **P 18 08 39.6 -0.5**
comp=Z,115nm,1.3s,mb5.4
LDF La Druitiere 82.67 342 *eP* **P 18 08 39.6 -0.5**
LDF pmax pmax
comp=Z,58nm,1.3s,mb5.5
LDF La Druitiere 82.67 342 *eP* **P 18 08 39.6 -0.5**
comp=Z,58nm,1.3s,mb5.5
PLG Polygyros 82.73 324 *eP* **P 18 08 40.0 -0.4**
PLG Polygyros 82.73 324 *eP* **P 18 08 39.0 -1.4**
BLCB Balcova 82.84 320 *eP* **P 18 08 41.3 +0.3**
KSDI Kefar Szold 82.86 311 P **P 18 08 41.7 +0.7**
GRR Gorron 83.02 343 *eP* **P 18 08 41.5 -0.4**
LOR Lormes 83.02 339 *eP* **P 18 08 41.6 -0.3**
comp=Z,139nm,0.9s,mb5.7
LOR Lormes 83.02 339 *eP* **P 18 08 41.6 -0.3**
LOR pmax pmax
comp=Z,69nm,0.9s,mb5.7
LOR Lormes 83.02 339 *eP* **P 18 08 41.6 -0.3**
comp=Z,69nm,0.9s,mb5.7
BIA Bitola 83.03 325 *iP* **P 18 08 40.8 -1.2**
OHR Ohrid 83.16 326 *iP* **P 18 08 40.7 -2.0**
OG01 Vacheresse 83.17 337 *eP* **P 18 08 45.1 +2.4**
FNA Florina 83.22 325 *eP* **P 18 08 43.3 +0.4**
HYF Humbligny 83.31 340 *eP* **P 18 08 43.5 +0.1**
TIR Tirane 83.32 326 *eP* **P 18 08 44.6 +1.1**
LIT Litokhoron 83.35 324 P **P 18 08 45.2 +1.6**
ROSF Rostrenen 83.54 344 *eP* **P 18 08 44.1 -0.5**
comp=Z,98nm,0.9s,mb5.6
ROSF Rostrenen 83.54 344 *eP* **P 18 08 44.1 -0.5**
ROSF pmax pmax
comp=Z,49nm,0.9s,mb5.6
ROSF Rostrenen 83.54 344 *eP* **P 18 08 44.1 -0.5**
comp=Z,49nm,0.9s,mb5.6
AOS Alonnisos 83.56 323 *eP* **P 18 08 45.0 +0.3**
AVF Avril sur Loir 83.59 340 *eP* **P 18 08 44.5 -0.3**
comp=Z,132nm,1.1s,mb5.7
AVF Avril sur Loir 83.59 340 *eP* **P 18 08 44.5 -0.3**
AVF pmax pmax
comp=Z,66nm,1.1s,mb5.7
AVF Avril sur Loir 83.59 340 *eP* **P 18 08 44.5 -0.3**
comp=Z,66nm,1.1s,mb5.7
SMF Signal de Mont 83.60 339 *eP* **P 18 08 44.6 -0.3**
comp=Z,353nm,1.2s,mb6.1
SMF Signal de Mont 83.60 339 *eP* **P 18 08 44.6 -0.3**
SMF pmax pmax
comp=Z,176nm,1.2s,mb6.1
SMF Signal de Mont 83.60 339 *eP* **P 18 08 44.6 -0.3**
comp=Z,176nm,1.2s,mb6.1
XOR Xorichti 83.68 323 *eP* **P 18 08 44.2 -1.1**
NEO Neokhori 83.72 323 *eP* **P 18 08 44.0 -1.5**
RSL Roselend 83.78 337 *eP* **P 18 08 48.5 +2.7**
KLBR Kellerberrin 83.85 210 *eP* **P 18 08 45.9 -0.3**
comp=Z,169nm,2.0s,mb5.8
GSCL Gusciola 83.86 334 P **P 18 08 47.5 +1.3**
SEI Scarperia 83.89 333 P **P 18 08 48.2 +1.8**
LPL La Plagne 83.90 337 *eP* **P 18 08 47.2 +0.7**
comp=Z,69nm,0.8s,mb5.5
LPL La Plagne 83.90 337 *eP* **P 18 08 47.2 +0.7**
LPL pmax pmax
comp=Z,35nm,0.8s,mb5.5
LPL La Plagne 83.90 337 *eP* **P 18 08 47.2 +0.7**
comp=Z,35nm,0.8s,mb5.5
LPG La Plagne 83.92 337 *eP* **P 18 08 47.4 +0.9**
comp=Z,102nm,1.0s,mb5.6
LPG La Plagne 83.92 337 *eP* **P 18 08 47.4 +0.9**
LPG pmax pmax
comp=Z,51nm,1.0s,mb5.6
LPG La Plagne 83.92 337 *eP* **P 18 08 47.4 +0.9**
comp=Z,51nm,1.0s,mb5.6
QUIF Quistinic 83.92 344 *eP* **P 18 08 45.8 -0.7**
BGF Bois d'Agland 83.93 340 *eP* **P 18 08 46.4 -0.2**
VLC Villacollemand 84.09 334 P **P 18 08 46.8 -0.6**
RSP Reno Superiore 84.10 336 P **P 18 08 48.2 +0.8**
MEV Metsovon 84.12 325 *eP* **P 18 08 48.4 +0.8**
ARG Arkhangelos 84.14 318 *eP* **P 18 08 48.5 +0.9**
ARG Arkhangelos 84.14 318 P **P 18 08 49.6 +2.0**
MURB Monte Urbino 84.23 332 P **P 18 08 49.2 +1.1**
PLDF La Plantade 84.29 339 *eP* **P 18 08 48.8 +0.4**
TCF Toulx Ste Croi 84.33 340 *eP* **P 18 08 48.6 0.0**
comp=Z,56nm,0.9s,mb5.4
TCF Toulx Ste Croi 84.33 340 *eP* **P 18 08 48.6 0.0**
TCF pmax pmax
comp=Z,28nm,0.9s,mb5.4
TCF Toulx Ste Croi 84.33 340 *eP* **P 18 08 48.6 0.0**
comp=Z,28nm,0.9s,mb5.4
AGO Saint Agoulin 84.33 340 *eP* **P 18 08 49.7 +1.1**
JAN Janina 84.39 325 *eP* **P 18 08 47.0 -1.9**
PII Pisa 84.45 334 P **P 18 08 48.4 -0.8**
TERO Teramo 84.45 331 P **P 18 08 49.5 +0.3**
FGMS Monte Sant'Ang 84.45 329 P **P 18 08 49.3 +0.1**
MSAG Monte S. Angel 84.46 329 P **P 18 08 48.6 -0.7**
PTL Penteli 84.51 322 *eP* **P 18 08 48.0 -1.5**
MFF Saint Martin d 84.56 342 *eP* **P 18 08 49.3 -0.5**
comp=Z,59nm,0.8s,mb5.5
MFF Saint Martin d 84.56 342 *eP* **P 18 08 49.3 -0.5**
MFF pmax pmax
comp=Z,29nm,0.8s,mb5.5
MFF Saint Martin d 84.56 342 *eP* **P 18 08 49.3 -0.5**
comp=Z,29nm,0.8s,mb5.5
RGNG Rignano Grg 84.61 329 P **P 18 08 49.4 -0.6**
MBDF Montbardon 84.62 337 *eP* **P 18 08 50.4 +0.3**
comp=Z,49nm,0.6s,mb5.5
MBDF Montbardon 84.62 337 *eP* **P 18 08 50.4 +0.3**
MBDF pmax pmax
comp=Z,25nm,0.6s,mb5.5
MBDF Montbardon 84.62 337 *eP* **P 18 08 50.4 +0.3**
comp=Z,25nm,0.6s,mb5.5
EVR Evrytania 84.63 324 *eP* **P 18 08 52.0 +1.9**
PYM Petit Puy Mans 84.64 339 *eP* **P 18 08 50.2 0.0**
ORIF Oris-en-Rattie 84.69 337 *eP* **P 18 08 51.0 +0.6**
comp=Z,86nm,0.9s,mb5.6
ORIF Oris-en-Rattie 84.69 337 *eP* **P 18 08 51.0 +0.6**
ORIF pmax pmax
comp=Z,43nm,0.9s,mb5.6
ORIF Oris-en-Rattie 84.69 337 *eP* **P 18 08 51.0 +0.6**
comp=Z,43nm,0.9s,mb5.6
FIN Finale Ligure 84.69 335 P **P 18 08 52.2 +1.7**
DOI San Damiano 84.69 336 P **P 18 08 49.7 -0.8**
IGT Igoumenitsa 84.70 325 *eP* **P 18 08 50.6 +0.1**
KEK Kerkira 84.75 326 P **P 18 08 50.1 -0.7**
AQU L'Aquila 84.76 331 ⇓*iP* **P 18 08 50.6 -0.2**
AQU L'Aquila 84.76 331 ⇓*iP* **P 18 08 52.6 +1.8**
MGER Gerania Oros 84.82 322 *eP* **P 18 08 51.5 +0.4**
GRFL Gerfalco 84.83 333 P **P 18 08 51.6 +0.5**
LCI Lecce 84.86 327 P **P 18 08 51.5 +0.2**
INTR Introdacqua 84.89 331 P **P 18 08 51.6 +0.1**
VIVF Saint-Julien-l 85.06 338 *eP* **P 18 08 52.8 +0.5**
FG5 Orsara di Pugl 85.07 329 P **P 18 08 53.2 +0.9**
RNI2 Rionero Sannit 85.08 330 P **P 18 08 54.0 +1.6**
MIDA Miranda 85.10 330 P **P 18 08 52.9 +0.4**
AUTN L'Aution 85.11 336 *eP* **P 18 08 52.2 -0.4**
FG4 Candela 85.11 329 P **P 18 08 52.7 +0.1**
VVLD Villa Vallelon 85.11 331 P **P 18 08 52.2 -0.4**
KARP Karpathos 85.13 319 *eP* **P 18 08 42.0 -11**
OG25 Le Caire 85.14 337 *eP* **P 18 08 53.0 +0.3**
TOUF Mont Tournerai 85.15 336 *eP* **P 18 08 54.1 +1.4**
LUCF Luceram 85.23 336 *eP* **P 18 08 54.3 +1.1**
NWAO Narrogin (SRO) 85.25 210 P **P 18 08 51.1 -2.2**
comp=Z,20nm,0.8s,mb5.3,baz=333,slow=2.8,SNR=5.7
NWAO Narrogin (SRO) 85.25 210 P **P 18 08 51.1 -2.1**
NWAO pmax pmax
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 85.25 210 *eP* **P 18 08 51.0 -2.2**
comp=Z,134nm,1.4s,mb5.9
CERT Cerreto 85.26 331 P **P 18 08 53.0 -0.3**
MVIF Mont Vial 85.28 336 *eP* **P 18 08 53.3 -0.1**
REVF Revere 85.36 336 *eP* **P 18 08 55.9 +2.1**
RJF Les Rejaudoux 85.42 340 *eP* **P 18 08 53.5 -0.6**
TOLF Tolfa 85.48 332 P **P 18 08 54.1 -0.3**
RFI Roccamonfina 85.50 330 P **P 18 08 55.4 +0.9**
RDP Rocca di Papa 85.52 331 P **P 18 08 56.2 +1.6**
SMRF Simiane la Rot 85.64 337 *eP* **P 18 08 55.9 +0.7**
CAF Calviac 85.65 340 *eP* **P 18 08 54.7 -0.5**
comp=Z,111nm,1.2s,mb5.7
CAF Calviac 85.65 340 *eP* **P 18 08 54.7 -0.5**
CAF pmax pmax
comp=Z,56nm,1.3s,mb5.6
CAF Calviac 85.65 340 *eP* **P 18 08 54.7 -0.5**
comp=Z,56nm,1.3s,mb5.6
SGO Sicignano 85.69 329 P **P 18 08 55.5 0.0**
FRF La Foret Royal 85.73 336 *eP* **P 18 08 55.3 -0.4**
comp=Z,78nm,1.3s,mb5.5
FRF La Foret Royal 85.73 336 *eP* **P 18 08 55.3 -0.4**
FRF pmax pmax
comp=Z,39nm,1.3s,mb5.5
FRF La Foret Royal 85.73 336 *eP* **P 18 08 55.3 -0.4**
comp=Z,39nm,1.3s,mb5.5
VLS Valsamata 85.76 324 *eP* **P 18 08 55.5 -0.3**
TAVF Tavernes 85.84 337 *eP* **P 18 08 58.1 +1.9**
LFF La Frestale 85.94 341 *eP* **P 18 08 56.0 -0.7**
comp=Z,54nm,0.7s,mb5.6
LFF La Frestale 85.94 341 *eP* **P 18 08 56.0 -0.7**
LFF pmax pmax
comp=Z,27nm,0.7s,mb5.6
LFF La Frestale 85.94 341 *eP* **P 18 08 56.0 -0.7**
comp=Z,27nm,0.7s,mb5.6
LMR La Mourre 85.98 336 *eP* **P 18 08 56.9 0.0**
comp=Z,117nm,1.1s,mb5.7
LMR La Mourre 85.98 336 *eP* **P 18 08 56.9 0.0**
LMR pmax pmax
comp=Z,59nm,1.1s,mb5.7
LMR La Mourre 85.98 336 *eP* **P 18 08 56.9 0.0**
comp=Z,59nm,1.1s,mb5.7
LASF Ste Croix 86.00 338 *eP* **P 18 08 56.5 -0.5**
VLI Veliai 86.03 322 *eP* **P 18 08 55.0 -2.1**
NPS Neapolis 86.07 319 *eP* **P 18 08 58.0 +0.7**
KYTH Kithira 86.35 322 *eP* **P 18 08 57.0 -1.7**
XRY Khrisi 86.36 319 *eP* **P 18 08 59.0 +0.3**
IDI Anoyia 86.38 320 P **P 18 08 58.6 -0.2**
VAM Vamos 86.58 320 *eP* **P 18 09 01.0 +1.1**
MTLF Montolieu 87.10 339 *eP* **P 18 09 01.9 -0.5**
comp=Z,22nm,0.7s,mb5.2
MTLF Montolieu 87.10 339 *eP* **P 18 09 01.9 -0.5**
MTLF pmax pmax
comp=Z,11nm,0.6s,mb5.3
MTLF Montolieu 87.10 339 *eP* **P 18 09 01.9 -0.5**
comp=Z,11nm,0.6s,mb5.3
CEL Celeste 87.51 328 P **P 18 09 05.7 +1.3**
SOI Samo 87.61 327 P **P 18 09 04.1 -0.8**
SLNA Salina 87.63 329 P **P 18 09 04.7 -0.2**
EPF Esparros 87.84 340 *eP* **P 18 09 06.1 +0.1**
ETSF Etsaut 88.18 341 *eP* **P 18 09 06.9 -0.6**
comp=Z,20nm,0.6s,mb5.2
ETSF Etsaut 88.18 341 *eP* **P 18 09 06.9 -0.6**
ETSF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
ETSF Etsaut 88.18 341 *eP* **P 18 09 06.9 -0.6**
comp=Z,9.9nm,0.6s,mb5.2
AGST Augusta-Monte 88.64 328 P **P 18 09 09.6 -0.1**
VSL Villasalto 88.64 333 P **P 18 09 08.8 -1.0**
SSY Sortino 88.79 328 P **P 18 09 10.1 -0.3**
HAVL Avola 88.94 328 P **P 18 09 10.5 -0.6**
TAU Tasmania Unive 88.95 184 P **P 18 09 12.1 +0.9**
ESDC Sonseca Array 92.00 342 P **P 18 09 24.6 -0.8**
comp=Z,2.7nm,0.9s,mb4.6,baz=23,slow=4.2,SNR=3.2
KEST Kesra 92.08 331 P **P 18 09 26.3 +0.5**
comp=Z,6.0nm,0.9s,mb4.9,baz=33,slow=4.9,SNR=11
EVO Evora 93.89 345 *eP* **P 18 09 32.4 -1.7**
comp=Z,88nm,1.7s,mb5.6
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 18 14 59.1 +0.6
comp=Z,1.5nm,0.6s,baz=356,slow=1.4,SNR=6.3
TORD PP PP 18 15 52.0 -8.2
comp=Z,3.2nm,1.0s,baz=28,slow=7.2,SNR=3.5
TORD PKKP PKKPbc 18 25 47.4 +16
comp=Z,0.9nm,0.7s,baz=215,slow=3.6,SNR=4.3
TORD Torodi Ar. Bea 115.50 329 PKP PKPdf 18 14 59.1 +0.6
TORD PP PP 18 15 52.0 -8.2
TORD PKKP PKKPbc 18 25 47.4 +16
VNDA Vanda 123.64 178 PKP PKPdf 18 15 11.9 -2.3
comp=Z,1.8nm,0.8s,baz=314,slow=1.9,SNR=5.3
DBIC Dimbokro 123.75 333 PKP PKPdf 18 15 15.1 +0.7
comp=Z,15nm,1.1s,baz=323,slow=1.9,SNR=5.4
DBIC Dimbokro 123.75 333 PKIKP PKPdf 18 15 15.1 +0.7
DBIC pmax pmax
comp=Z,15nm,1.1s
DBIC Dimbokro 123.75 333 *e*PKPdf PKPdf 18 15 13.0 -1.4
SBA Scott Base 124.14 177 *e*PKIKP PKPdf 18 15 13.0 -2.1
LSZ Lusaka 124.88 285 *e*PKIKP PKPdf 18 15 17.5 +1.0
SAML Samuel 131.57 51 *e*PKPdf PKPdf 18 15 30.7 +1.4
LPAZ La Paz 134.56 63 PKP PKPdf 18 15 36.2 +1.3
comp=Z,4.1nm,1.1s,baz=14,slow=9.6,SNR=4.8
LPAZ La Paz 134.56 63 PKIKP PKPdf 18 15 36.2 +1.3
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
LPAZ La Paz 134.56 63 *e*PKPdf PKPdf 18 15 38.2 +3.3
SIV San Ignacio 138.51 55 PKP PKPdf 18 15 42.5 +0.3
comp=Z,3.0nm,0.8s,baz=270,slow=3.0,SNR=3.3
FCH Farellones 144.67 84 *eP* **P** PKPdf 18 15 51.3 -1.9
BDFB Brasilia 144.72 37 PKP PKPdf 18 15 52.2 -1.1
comp=Z,23nm,1.1s,baz=348,slow=5.8,SNR=4.6
CFAA Coronel Fontan 145.08 80 PKPbc PKPbc 18 15 52.2 -1.2
comp=Z,2.8nm,0.6s,baz=275,slow=3.3,SNR=29
MDZ Mendoza 145.41 82 *eP* **P** PKPbc 18 15 53.8 -0.7
MDZ *e* 18 16 16.7
PLCA Paso Flores 148.16 96 PKPbc PKPbc 18 16 01.8 -0.7
comp=Z,10nm,0.7s,baz=270,slow=3.2,SNR=15
PLCA Paso Flores 148.16 96 PKP2 PKPab 18 16 01.8 -3.5
PLCA pmax pmax
comp=Z,10.0nm,0.7s
PLCA Paso Flores 148.16 96 *e*PKPbc PKPbc 18 16 01.6 -0.8
CPUP Villa Florida 148.69 61 PKPdf PKPdf 18 16 02.9 +2.8
CPUP Villa Florida 148.69 61 PKPbc PKPbc 18 16 03.2 -0.6
comp=Z,6.1nm,0.7s,baz=288,slow=3.6,SNR=8.4
CPUP Villa Florida 148.69 61 PKP2 PKPab 18 16 03.2 -4.3
CPUP pmax pmax
comp=Z,6.0nm,0.7s
CPUP Villa Florida 148.69 61 *e*PKPbc PKPbc 18 16 02.9 -0.9
MAIT Maitri 149.23 204 *e*PKPdf PKPdf 18 16 03.0 +2.1
SNAA Sanae 152.10 196 PKPbc PKPbc 18 16 09.2 -2.8
comp=Z,3.5nm,0.7s,baz=195,slow=3.5,SNR=9.5
SNAA Sanae 152.10 196 *e*PKPdf PKPdf 18 16 08.8 +3.4
SNAA *e* 18 16 10.9
SNAA *e* 18 16 15.0
SNAA *e* 18 16 18.4
SNAA *e* 18 16 19.5
SNAA *e* 18 16 26.2
SNAA *e* 18 16 26.9
SNAA *e* 18 16 49.9
SNAA Sanae 152.10 196 PKIKP PKPdf 18 16 09.2 +3.8
SNAA pmax pmax
comp=Z,4.0nm,0.7s
SNAA Sanae 152.10 196 *e*PKPbc PKPbc 18 16 08.8 -3.2
PMSA Palmer Station 152.59 146 PKPbc PKPbc 18 16 11.1 -1.9
comp=Z,11nm,0.7s,baz=201,slow=1.0,SNR=6.7
TRQA Tornquist 152.90 85 *e*PKPbc PKPbc 18 16 11.4 -2.3
VNA3 Neumayer Olymp 153.63 192 *e*PKPdf PKPdf 18 16 08.5 +0.9
VNA3 *e* 18 16 16.8
VNA3 *e* 18 16 28.2
VNA3 *e* 18 16 48.6
VNA1 Neumayer--Stat 153.93 194 *e*PKPdf PKPdf 18 16 12.2 +4.2
VNA1 *e* 18 16 26.6
VNA1 *e* 18 16 35.4
VNA1 *e* 18 16 40.7

NEIC ***30*** *17:57:57.5, 3249S×7146W, h64km, MD3.4(GUC), After GUC.*

GUC 30 17:57:57.5±0.9,**3249S×7146W, h64**km±3km,**MD3.4, ML3.5,15C-11D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
PACH	**Papudo**	**0.05**	**163**	⇓*iP*		Pn 17 58 07.6	+0.7
PACH				*i* S		Sn 17 58 14.8	+1.0
PTCH	**Petorca**	**0.50**	**63**	⇓*iP*		Pn 17 58 10.5	+0.7
PTCH				*i* S		Sn 17 58 19.9	+1.2
PTCH				AML		AML 17 58 21.3	
	comp=E,4μm,0.2s						
PTCH	**Petorca**	**0.50**	**63**	⇓*iP*		Pn 17 58 10.5	+0.7
PTCH				*i* S		Sn 17 58 19.9	+1.2
IHA	**Instituto Hidr**	**0.56**	**196**	⇑*iP*		Pn 17 58 10.5	+0.1
IHA				*i* S		Sn 17 58 20.2	+0.4
CHNG	**Los Chungos**	**0.60**	**356**	⇑*iP*		Pn 17 58 11.0	+0.1
CHNG				*i* S		Sn 17 58 20.9	+0.2
CHNG				AML		AML 17 58 21.4	
	comp=E,2μm,0.2s						
ROCH	**El Roble**	**0.61**	**142**	⇑*iP*		Pn 17 58 11.8	+0.8
ROCH				*i* S		Sn 17 58 22.3	+1.5
JACH	**Jahuel**	**0.75**	**105**	⇑*iP*		Pn 17 58 13.3	+0.7
JACH				*i* S		Sn 17 58 24.8	+1.0
PEL	**Peldehue**	**0.92**	**135**	⇑*iP*		Pn 17 58 15.6	+0.9
PEL				*i* S		Sn 17 58 29.0	+1.6
PEL				AML		AML 17 58 29.6	
	comp=E,4μm,0.3s						
PEL	**Peldehue**	**0.92**	**135**	⇑*iP*		Pn 17 58 15.6	+0.9
PEL				*i* S		Sn 17 58 29.0	+1.6
LCCH	**Las Cruces**	**0.99**	**186**	⇓*iP*		Pn 17 58 15.9	+0.3
LCCH				*i* S		Sn 17 58 29.3	+0.4
RCDM	**Rinconada Maip**	**1.14**	**152**	*eP*		Pn 17 58 17.9	+0.4
RCDM				*i* S		Sn 17 58 33.3	+1.0
RCDM				AML		AML 17 58 34.4	
	comp=E,3μm,0.1s						
RCDM	**Rinconada Maip**	**1.14**	**152**	*eP*		Pn 17 58 17.9	+0.4
RCDM				*i* S		Sn 17 58 33.3	+1.0
STL	**Santa Lucia**	**1.17**	**144**	⇑*iP*		Pn 17 58 18.0	+0.2
STL				*i* S		Sn 17 58 33.6	+0.6
SAN	**Santiago**	**1.17**	**145**	*i* S		Sn 17 58 34.0	+0.9
SAN				AML		AML 17 58 35.9	
	comp=E,679nm,0.4s						
DSCH	**Colegio Aleman**	**1.18**	**141**	⇑*iP*		Pn 17 58 18.1	+0.1
DSCH				*i* S		Sn 17 58 33.9	+0.7
CLCH	**Cerro Calan**	**1.19**	**140**	⇓*iP*		Pn 17 58 19.1	+0.9
CLCH				*i* S		Sn 17 58 34.9	+1.3
CLCH				AML		AML 17 58 36.0	
	comp=N,2μm,0.3s						
CLCH				AML		AML 17 58 36.6	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**1.24**	**160**	*eP*		Pn 17 58 19.7	+0.9
TACH				*i* S		Sn 17 58 35.7	+0.9
FSR	**Penalolen**	**1.26**	**142**	*eP*		Pn 17 58 19.8	+0.7
FSR				*i* S		Sn 17 58 36.5	+1.4
FSR				AML		AML 17 58 37.7	
	comp=N,1μm,0.5s						
FSR	**Penalolen**	**1.26**	**142**	*eP*		Pn 17 58 19.8	+0.7
FSR				*i* S		Sn 17 58 36.5	+1.4
ANTU	**Antumapu**	**1.28**	**148**	⇑*iP*		Pn 17 58 20.0	+0.6
ANTU				*i* S		Sn 17 58 36.6	+1.0
ANTU				AML		AML 17 58 37.9	
	comp=N,2μm,0.2s						
ANTU	**Antumapu**	**1.28**	**148**	⇑*iP*		Pn 17 58 20.0	+0.6
ANTU				*i* S		Sn 17 58 36.6	+1.0
FCH	**Farellones**	**1.29**	**131**	⇓*iP*		Pn 17 58 20.4	+1.0
FCH				*i* S		Sn 17 58 37.6	+1.7
FCH				AML		AML 17 58 38.8	
	comp=N,960nm,0.2s						
CMCH	**Combarbala**	**1.37**	**17**	⇓*iP*		Pn 17 58 20.2	-0.3
CMCH				*i* S		Sn 17 58 37.7	0.0
CMCH				AML		AML 17 58 44.5	
	comp=N,1μm,0.6s						
CMCH	**Combarbala**	**1.37**	**17**	⇓*iP*		Pn 17 58 20.2	-0.3
CMCH				*i* S		Sn 17 58 37.7	0.0
PCH	**Pirque**	**1.38**	**145**	⇓*iP*		Pn 17 58 21.4	+0.8
PCH				*i* S		Sn 17 58 39.4	+1.4
LNV	**Longovilo**	**1.46**	**179**	⇑*iP*		Pn 17 58 21.7	-0.1
SJCH	**San Jose de Ma**	**1.48**	**141**	*eP*		Pn 17 58 22.5	+0.6
SJCH				*i* S		Sn 17 58 41.5	+1.2
SJCH				AML		AML 17 58 43.1	
	comp=E,521nm,0.4s						
SJCH	**San Jose de Ma**	**1.48**	**141**	*eP*		Pn 17 58 22.5	+0.6
SJCH				*i* S		Sn 17 58 41.5	+1.2
CHCH	**Chadas Angostu**	**1.59**	**155**	*eP*		Pn 17 58 24.3	+0.8
CHCH				*i* S		Sn 17 58 44.4	+1.3
LMEL	**Las Melosas**	**1.71**	**143**	⇓*iP*		Pn 17 58 26.6	+1.4
LMEL				*i* S		Sn 17 58 47.8	+1.7
LMEL				AML		AML 17 58 49.8	
	comp=N,1μm,0.2s						
LMEL	**Las Melosas**	**1.71**	**143**	⇓*iP*		Pn 17 58 26.6	+1.4
LMEL				*i* S		Sn 17 58 47.8	+1.7
CACH	**El Canelo**	**1.77**	**156**	⇑*iP*		Pn 17 58 27.5	+1.5
CACH				*i* S		Sn 17 58 50.1	+2.5
CICH	**Cipreses**	**2.02**	**155**	*eP*		Pn 17 58 30.6	+1.3
SFDO	**San Fernando**	**2.15**	**170**	⇑*iP*		Pn 17 58 31.6	+0.6

SFDO				*i* S		Sn	17 58 57.8	+1.1
TLL	**Tololo Astrono**	**2.38**	**14**	⇑*i*P		Pn	17 58 34.9	+0.7
TLL				*i* S		Sn	17 59 03.8	+1.6
TLL				AML		AML	17 59 25.5	
	comp=N,159nm,0.4s							
TLL	**Tololo Astrono**	**2.38**	**14**	⇑*i*P		Pn	17 58 34.9	+0.7
TLL				*i* S		Sn	17 59 03.8	+1.6

IDC 30 18:02:23.4±28.0, 4448N×15236E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=689.7km s-min=263.1km az=142.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FINES	**FINESS Array B**	**65.87**	**335**	P	P	18 13 10.5	-0.4
	1.0nm,0.5s,baz=41,slow=7.5,SNR=8.2						
NOA	**NORSAR Array B**	**70.20**	**341**	P	P	18 13 37.7	-0.4
	1.0nm,0.6s,baz=28,slow=6.3,SNR=4.0						
AKASG	**Malin Array Be**	**73.14**	**326**	P	P	18 13 55.3	-0.4
	0.3nm,0.3s,baz=33,slow=6.0,SNR=5.1						

*IDC **30** 18:03:16.4±12.0, 46.17N×153.37E, h0km, mb4.2/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.2/6, Error ellipse: s-maj=299.3km s-min=70.5km az=160.0*
*MOS **30** 18:03:25.6±0.8, 4705N×152.76E, h36km, mb4.3/6, Error ellipse: s-maj=50.8km s-min=25.1km az=93.8*
ISC 30 18:03:25.9±8.8, 47N±1×153E±1, h35km, n14, σ0≤35/14, mb4.1/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.33**	**27**	*e*PN	**Pn**	**18 04 29.1**	**-0.1**
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**18 11 52.4**	**+0.1**
	2.5nm,0.8s,mb4.2,baz=72,slow=7.8,SNR=4.4						
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**18 11 52.4**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BVAR	**Borovoye Array**	**50.73**	**309**	P	**P**	**18 12 21.8**	**-0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=74,slow=7.7,SNR=3.2						
BVAR	**Borovoye Array**	**50.73**	**309**	P	**P**	**18 12 21.8**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**18 13 55.7**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.3,baz=34,slow=7.9,SNR=9.3						
FINES	**FINESS Array B**	**63.90**	**335**	P	**P**	**18 13 55.7**	**+0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.09**	**341**	P	**P**	**18 14 22.7**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.2,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**18 14 22.4**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=27,slow=6.4,SNR=6.9						
NOA	**NORSAR Array B**	**68.09**	**341**	P	**P**	**18 14 22.4**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**71.41**	**326**	P	**P**	**18 14 42.2**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.3,baz=33,slow=6.3,SNR=7.5						
AKASG	**Malin Array Be**	**71.41**	**326**	P	**P**	**18 14 42.2**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**78.31**	**334**	P	**P**	**18 15 22.1**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=32,slow=9.6,SNR=3.9						
GERES	**GERESS Array B**	**78.31**	**334**	P	**P**	**18 15 22.1**	**-0.3**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						

*ISCJB **30** 18:03:45.2±4.8, 455N±07×1537E±06, h33km, mb4.1/5, Error ellipse: s-maj=115.7km s-min=12.2km az=123.9*
*MOS **30** 18:03:51.3±1.5, 4631N×15262E, h34km, mb4.5/4, Error ellipse: s-maj=44.9km s-min=37.9km az=99.9*
*IDC **30** 18:03:55.7±14.0, 4760N×15234E, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/19, mbtmp4.1/5, Error ellipse: s-maj=352.5km s-min=83.0km az=154.0*
ISC 30 18:03:46.6±4.8, 455N±07×1538E±05, h35km, n10, σ0≤86/11, mb4.1/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**5.82**	**258**	PN	**Pn**	**18 05 09.8**	**-0.6**
YUK				S	**Sn**	**18 06 16.3**	**+0.4**
YUK				smax			
	comp=N,290nm,0.5s						
YUK				smax			
	comp=E,230nm,0.5s						
MKAR	**Makanchi Array**	**47.93**	**299**	P	**P**	**18 12 21.2**	**-0.3**
	comp=E,2.3nm,0.8s,mb4.2,baz=48,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**47.93**	**299**	P	**P**	**18 12 21.3**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**65.36**	**335**	P	**P**	**18 14 24.2**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=40,slow=6.9,SNR=7.1						
FINES	**FINESS Array B**	**65.36**	**335**	P	**P**	**18 14 24.2**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	**NORSAR Array B**	**69.56**	**342**	P	**P**	**18 14 51.7**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=28,slow=6.4,SNR=3.8						
NOA	**NORSAR Array B**	**69.56**	**342**	P	**P**	**18 14 51.7**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**72.84**	**327**	P	**P**	**18 15 11.7**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.5,baz=34,slow=6.3,SNR=7.1						
AKASG	**Malin Array Be**	**72.84**	**327**	P	**P**	**18 15 11.7**	**0.0**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**79.78**	**334**	P	**P**	**18 15 53.0**	**+1.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=26,slow=7.0,SNR=3.5						

*BJI **30** 18:05:46.5, 4639N×15340E, h11km, mb4.8, Ms4.8, Msz4.6*
*IDC **30** 18:05:47.2±0.6, 4636N×15320E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.5/23, mbtmp4.4/19, Error ellipse: s-maj=19.3km s-min=15.7km az=74.0*
*ISCJB **30** 18:05:47.7±0.4, 4637N±006×15322E±007, h10km, mb4.7/65, Error ellipse: s-maj=10.6km s-min=5.3km az=112.7*
*NEIC **30** 18:05:49.3±0.4, 4646N×15338E, h10km, mb4.8/41, Error ellipse: s-maj=10.0km s-min=7.3km az=137.0*
*MOS **30** 18:05:51.5±1.0, 4634N×15306E, h36km, mb4.9/38, Error ellipse: s-maj=11.2km s-min=6.0km az=109.2*
*SZGRF **30** 18:05:56.8, 4680N×15269E, h43km, mb4.9, Kuril Islands, Russia*
ISC 30 18:05:47.7±2.3, 4645N±007×15329E±008, h1km±13km, n187, σ0≤90/183, mb4.8/65, 11C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.98**	**254**	⇑*i*PN	**Pn**	**18 06 48.0**	**-1.8**
KUR				*i* S	**Sn**	**18 07 34.5**	**-2.6**
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=Z,990nm,0.5s						
KUR				smax			
	comp=N,530nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
SKR	**Severo-Kuril's**	**4.63**	**23**	*e*PN	**Pn**	**18 06 58.5**	**-0.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.77**	**248**	PN	**Pn**	**18 07 12.9**	**-1.6**
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*i* PN	**Pn**	**18 07 41.0**	**+6.1**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*Pn	**Pn**	**18 07 39.8**	**+4.9**
PET	**Petropavlovsk**	**7.44**	**26**	*e*PN	**Pn**	**18 07 36.1**	**-1.3**
ASAJ	**Asahikawa**	**7.89**	**257**	Pn	**Pn**	**18 07 45.6**	**+2.0**
	comp=Z,2.8nm,0.3s,baz=109,slow=18,SNR=9.2						
ASAJ	**Asahikawa**	**7.89**	**257**	PN	**Pn**	**18 07 45.6**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MA2	**Magadan**	**13.24**	**354**	*c i*PN	**Pn**	**18 09 00.7**	**+3.9**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2				pmax	pmax		
	comp=N,10.0nm,0.4s						
MA2	**Magadan**	**13.24**	**354**	*e*P	**Pn**	**18 09 00.4**	**+3.6**
	comp=N,14nm,0.6s						
KLR	**Kul'dur**	**14.72**	**289**	*e*P	**Pn**	**18 09 18.0**	**+1.0**
MAJO	**Matsushiro**	**15.00**	**234**	*e*P	**Pn**	**18 09 26.1**	**+5.3**
MAJO				pmax	pmax		
	comp=Z,31nm,0.8s						
MAJO	**Matsushiro**	**15.00**	**234**	*e*P	**Pn**	**18 09 26.1**	**+5.3**
	comp=Z,30nm,0.8s						
MJAR	**Matsushiro Arr**	**15.00**	**234**	Pn	**Pn**	**18 09 16.3**	**-4.5**
	comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=5.6						
MDJ	**Mudanjiang**	**16.70**	**272**	P	**Pn**	**18 09 43.5**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,28nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,72μm,17.2s						
MDJ	**Mudanjiang**	**16.70**	**272**	*e*P	**Pn**	**18 09 43.8**	**+1.0**
	comp=Z,21nm,0.8s						
CN2	**Changchun**	**19.79**	**272**	*e*P	**Pn**	**18 10 20.0**	**-0.8**
CLNS	**Chul'man**	**20.31**	**311**	*e*P	**P**	**18 10 25.4**	**+0.4**
CLNS				pmax	pmax		
	comp=Z,20nm,0.9s						
CLNS				pmax	pmax		
	comp=N,21nm,1.6s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
INCN	**Inchon**	**21.67**	**255**	*e*P	**P**	**18 10 40.3**	**+0.6**
	comp=E,27nm,0.9s,mb4.7						
BILL	**Bilibino**	**22.66**	**13**	*e*P	**P**	**18 10 52.1**	**+1.8**
BILL				*e*		18 11 17.3	
BILL				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5						
BILL	**Bilibino**	**22.66**	**13**	*e*P	**P**	**18 10 52.9**	**+2.6**
	comp=Z,19nm,0.9s,mb4.6						
BJT	**Baijiatuan**	**27.61**	**270**	*e*P	**P**	**18 11 38.3**	**+1.7**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuan**	**27.61**	**270**	*e*P	**P**	**18 11 38.3**	**+1.7**
	comp=Z,14nm,0.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**30.44**	**275**	*e*P	**P**	**18 12 03.0**	**+1.3**
SONM	**Songino Array**	**31.55**	**290**	P	**P**	**18 12 11.3**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=86,slow=10,SNR=5.2						
TLY	**Talaya**	**32.43**	**298**	P	**P**	**18 12 18.1**	**-1.1**
TLY				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
TLY	**Talaya**	**32.43**	**298**	P	**P**	**18 12 18.1**	**-1.1**
	comp=Z,17nm,1.3s,mb4.8						
ZAK	**Zakamensk**	**32.92**	**295**	*e*P	**P**	**18 12 22.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TATO	**Taipei**	**33.21**	**241**	P	**P**	**18 12 29.5**	**+3.4**
	comp=Z,330nm,1.7s,mb6.0						
XAN	**Xi'an**	**35.61**	**266**	P	**P**	**18 12 47.0**	**+0.1**
COLA	**College**	**36.30**	**38**	*e*P	**P**	**18 12 53.3**	**+0.5**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
COLA	**College**	**36.30**	**38**	*e*P	**P**	**18 12 53.3**	**+0.5**
	comp=Z,9.9nm,0.8s,mb4.7						
GTA	**Gaotai**	**39.14**	**279**	*e*P	**P**	**18 13 18.0**	**+1.2**
GTA				AP		18 13 22.3	
GTA				XP	sP	18 13 25.3	+8.0
GTA				AMB	AMB		
	comp=Z,32nm,1.3s,mb4.8						
INK	**Inuvik**	**41.84**	**32**	P	**P**	**18 13 40.0**	**+0.8**
	comp=Z,2.2nm,0.5s,mb4.2,baz=246,slow=6.8,SNR=6.4						
INK	**Inuvik**	**41.84**	**32**	*e*P	**P**	**18 13 39.5**	**+0.3**
INK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
INK	**Inuvik**	**41.84**	**32**	*e*P	**P**	**18 13 39.5**	**+0.4**
	comp=Z,9.8nm,1.1s,mb4.5						
ZAL	**Zalesovo**	**42.90**	**306**	P	**P**	**18 13 46.8**	**-1.0**
	comp=Z,2.1nm,0.5s,mb4.1,baz=53,slow=6.4,SNR=6.0						
WMQ	**Urumqi**	**45.15**	**292**	*e*P	**P**	**18 14 08.5**	**+2.7**
WMQ				XP	sP	18 14 15.0	+8.7
WMQ				*e*S	**S**	**18 20 47.0**	**+0.8**
WMQ				XS	sS	18 20 56.0	+9.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				LR	LR		
	comp=N,449nm,13.6s						
WMQ				LR	LR		
	comp=E,328nm,13.9s						
WMQ				LR	LR		
	comp=Z,492nm,14.8s						
KMI	**Kunming**	**45.31**	**260**	P	**P**	**18 14 05.3**	**-1.8**
KMI				AP		18 14 12.0	
KMI				XP	sP	18 14 15.5	+7.9
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.6						
KMI	**Kunming**	**45.31**	**260**	P	**P**	**18 14 05.3**	**-1.8**
KMI				pP		18 14 11.9	
KMI				sP	sP	18 14 15.4	+7.8
MKAR	**Makanchi Array**	**47.19**	**298**	P	**P**	**18 14 21.0**	**-0.9**
	comp=Z,9.0nm,0.8s,mb5.0,baz=62,slow=8.4,SNR=26						
LSA	**Lhasa**	**50.41**	**274**	*e*P	**P**	**18 14 48.4**	**+1.7**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
LSA	**Lhasa**	**50.41**	**274**	*e*P	**P**	**18 14 48.4**	**+1.7**
	comp=Z,11nm,0.7s,mb4.9						
YKA	**Yellowknife Ar**	**51.09**	**37**	P	**P**	**18 14 51.8**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.3,baz=298,slow=7.1,SNR=5.8						
YKA	**Yellowknife Ar**	**51.09**	**37**	P	**P**	**18 14 51.8**	**0.0**
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**51.15**	**310**	P	**P**	**18 14 51.3**	**-0.9**
	comp=Z,2.8nm,0.4s,mb4.5,baz=55,slow=6.9,SNR=15						
BRVK	**Borovoye**	**51.19**	**310**	P	**P**	**18 14 51.0**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**51.19**	**310**	P	**P**	**18 14 51.0**	**-1.5**
	comp=Z,3.1nm,0.6s,mb4.4						
ZRNK	**Zerenda**	**51.92**	**310**	*e*P	**P**	**18 14 56.7**	**-1.3**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZRNK	**Zerenda**	**51.92**	**310**	*e*P	**P**	**18 14 56.6**	**-1.3**
	comp=Z,4.1nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**54.08**	**297**	*e*P	**P**	**18 15 12.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**54.08**	**297**	*e*P	**P**	**18 15 12.9**	**-1.0**
	comp=Z,5.0nm,0.8s,mb4.6						
JIRN	**Jiri**	**55.09**	**275**	*e*P	**P**	**18 15 21.9**	**+0.6**
GUN	**Gumba**	**55.15**	**275**	*e*P	**P**	**18 15 22.9**	**+1.2**
ARU	**Arti**	**55.32**	**318**	*e*P	**P**	**18 15 21.4**	**-1.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	**Arti**	**55.32**	**318**	*e*P	**P**	**18 15 21.4**	**-1.5**
	comp=Z,7.8nm,0.9s,mb4.7						
KKN	**Kakani**	**55.64**	**276**	*e*P	**P**	**18 15 26.6**	**+1.4**
	comp=Z,36nm,0.8s,mb5.5						
PKI	**Pulchoki**	**55.69**	**275**	*e*P	**P**	**18 15 26.4**	**+0.8**
PMG	**Port Moresby**	**55.87**	**187**	P	**P**	**18 15 26.3**	**-0.6**
PMG				pmax	pmax		
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**55.87**	**187**	P	**P**	**18 15 26.2**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0						
DMN	**Daman**	**55.87**	**276**	*e*P	**P**	**18 15 28.1**	**+1.2**
	comp=Z,46nm,0.8s,mb5.5						
GKN	**Gorkha**	**55.95**	**276**	*e*P	**P**	**18 15 28.2**	**+0.8**
	comp=Z,69nm,0.9s,mb5.7						
KOLN	**Koldanda**	**56.81**	**277**	*e*P	**P**	**18 15 34.7**	**+1.1**
	comp=Z,54nm,0.9s,mb5.6						
KEV	**Kevo**	**57.67**	**341**	*ep*	**P**	**18 15 38.3**	**-1.4**
	comp=Z,1.2nm,0.4s,mb4.3						
KEV	**Kevo**	**57.67**	**341**	*e*P	**P**	**18 15 38.3**	**-1.4**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**58.18**	**341**	P	**P**	**18 15 42.9**	**-0.4**
	comp=Z,3.9nm,0.8s,mb4.5,baz=22,slow=5.9,SNR=10						
ARE0	**ARCESS Array S**	**58.18**	**341**	P	**P**	**18 15 42.6**	**-0.7**
AKTK	**Aktyubinsk**	**59.02**	**312**	P	**P**	**18 15 47.6**	**-1.5**
AKTO	**Aktyubinsk**	**59.02**	**312**	P	**P**	**18 15 47.6**	**-1.5**
	comp=Z,2.2nm,0.6s,mb4.3,baz=70,slow=5.5,SNR=6.7						
EGMT	**Eagleton**	**61.36**	**49**	P	**P**	**18 16 05.8**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.9						
JOF	**Joensuu**	**61.66**	**334**	*ep*	**P**	**18 16 06.1**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**63.77**	**335**	*ep*	**P**	**18 16 20.5**	**-0.7**
	comp=Z,8.4nm,0.7s,mb5.1,baz=36,slow=6.2						
KAF	**Kangasniemi**	**63.77**	**335**	*e*P	**P**	**18 16 20.5**	**-0.7**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
FINES	**FINESS Array B**	**64.37**	**335**	P	**P**	**18 16 24.5**	**-0.7**
	comp=Z,15nm,0.8s,mb5.3,baz=36,slow=7.5,SNR=37						
PDAR	**Pinedale Array**	**64.83**	**54**	P	**P**	**18 16 27.8**	**-0.4**
	comp=Z,1.0nm,0.8s,mb4.1,baz=318,slow=2.0,SNR=4.3						
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**18 16 49.4**	**-0.8**
	comp=Z,2.5nm,0.9s,mb4.5,baz=18,slow=6.9,SNR=9.9						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**18 16 51.5**	**-0.5**
	comp=Z,9.9nm,0.8s,mb5.1,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.56**	**341**	P	**P**	**18 16 51.5**	**-0.5**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
NOA	**NORSAR Array B**	**68.56**	**341**	P	**P**	**18 16 51.6**	**-0.4**
	comp=Z,7.7nm,0.7s,mb5.0,baz=27,slow=6.3,SNR=27						
KIV	**Kislovodsk**	**71.10**	**314**	⇑*i*P	**P**	**18 17 09.7**	**+2.1**
KIV				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
KIV	**Kislovodsk**	**71.10**	**314**	*e*P	**P**	**18 17 07.7**	**0.0**
	comp=Z,15nm,0.8s,mb5.2						
SUW	**Suwalki**	**71.32**	**332**	P	**P**	**18 17 08.0**	**-1.0**
SUW				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.3						
SUW	**Suwalki**	**71.32**	**332**	P	**P**	**18 17 08.0**	**-1.0**
	comp=Z,32nm,1.2s,mb5.3						
ZEI	**Tsey**	**71.35**	**313**	*e*P	**P**	**18 17 09.0**	**-0.2**
AKASG	**Malin Array Be**	**71.87**	**326**	P	**P**	**18 17 11.6**	**-0.7**
	comp=Z,4.7nm,0.3s,mb5.0,baz=34,slow=6.3,SNR=31						
ASAR	**Alice Springs**	**71.96**	**199**	P	**P**	**18 17 11.6**	**-1.2**
	comp=Z,1.2nm,0.8s,mb4.1,baz=12,slow=6.4,SNR=8.6						
GNI	**Garni**	**72.82**	**310**	P	**P**	**18 17 18.0**	**0.0**
	comp=Z,6.9nm,0.6s,mb4.9,baz=5.0,slow=5.7,SNR=5.6						
GNI	**Garni**	**72.82**	**310**	*e*P	**P**	**18 17 18.7**	**+0.7**
GNI				pmax	pmax		
	comp=Z,15nm,0.9s						
GNI	**Garni**	**72.82**	**310**	*e*P	**P**	**18 17 18.7**	**+0.7**
	comp=Z,15nm,0.9s,mb5.1						
STHS	**Stebnicka Huta**	**75.84**	**330**	*e*P	**P**	**18 17 36.3**	**+0.7**
STHS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
STHS	**Stebnicka Huta**	**75.84**	**330**	*e*P	**P**	**18 17 36.3**	**+0.7**
	comp=Z,4.9nm,0.8s,mb4.7						
KOLS	**Kolonicke sedl**	**75.89**	**329**	*e*P	**P**	**18 17 35.8**	**0.0**
BURAR	**Bucovina Array**	**75.91**	**327**	⇑*i*P	**P**	**18 17 36.0**	**0.0**
CRVS	**Cervenica-Dubn**	**76.20**	**330**	*e*P	**P**	**18 17 37.7**	**+0.1**
UPC	**Upice**	**76.61**	**334**	*e*P	**P**	**18 17 40.5**	**+0.6**
DPC	**Dobruska-Polom**	**76.65**	**333**	*e*P	**P**	**18 17 40.5**	**+0.3**
DPC				*e*PCP	PcP	18 17 53.6	+2.0
MORC	**Moravsky Berou**	**76.77**	**332**	⇑*i*P	**P**	**18 17 41.2**	**+0.4**
CLL	**Collm**	**76.79**	**336**	⇑*i*P	**P**	**18 17 41.2**	**+0.2**
	comp=Z,15nm,1.0s,mb5.1						
CLL				*es*P	sP	18 17 47.0	+5.5
CLL	**Collm**	**76.79**	**336**	⇑*i*P	**P**	**18 17 41.2**	**+0.2**
CLL				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
KECS	**Kecovo**	**76.90**	**330**	*e*P	**P**	**18 17 42.3**	**+0.7**
KECS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
KECS	**Kecovo**	**76.90**	**330**	*e*P	**P**	**18 17 42.3**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.5						
BRG	**Berggiesshubel**	**76.91**	**335**	*e*P	**P**	**18 17 42.0**	**+0.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.4						
BRG	**Berggiesshubel**	**76.91**	**335**	*e*P	**P**	**18 17 42.0**	**+0.3**
	comp=Z,4.4nm,1.4s,mb4.4						
PVCC	**Panska Ves**	**77.03**	**334**	*e*P	**P**	**18 17 42.4**	**+0.1**
MLR	**Muntele Rosu**	**77.38**	**325**	⇑*i*P	**P**	**18 17 45.9**	**+1.6**
MALT	**Malatya**	**77.45**	**313**	P	**P**	**18 17 45.1**	**+0.4**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8						
MALT	**Malatya**	**77.45**	**313**	P	**P**	**18 17 45.1**	**+0.5**
	comp=Z,8.7nm,1.2s,mb4.8						
VYHS	**Vyhne**	**77.45**	**331**	*e*P	**P**	**18 17 44.7**	**0.0**
PRU	**Pruhonice**	**77.51**	**344**	*e*P	**P**	**18 17 45.1**	**+0.1**
PRU				*e*PCP	PcP	18 17 58.1	+2.7
DRGR		**77.54**	**328**	⇓*i*P	**P**	**18 17 45.5**	**+0.3**
SNX	**Sinaia**	**77.67**	**325**	⇑*i*P	**P**	**18 17 47.6**	**+1.7**
VOIR		**77.78**	**326**	⇓*i*P	**P**	**18 17 47.7**	**+1.2**
ZST	**Bratislava**	**78.28**	**332**	*e*P	**P**	**18 17 50.2**	**+0.9**
ZST				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
ZST	**Bratislava**	**78.28**	**332**	*e*P	**P**	**18 17 50.2**	**+0.9**
	comp=Z,8.0nm,1.2s,mb4.7						
KHC	**Kasperske Hory**	**78.56**	**334**	*e*P	**P**	**18 17 51.0**	**+0.1**
KHC				*e*PCP	PcP	18 18 03.1	+3.2
STKA	**Stephens Creek**	**78.67**	**190**	P	**P**	**18 17 51.9**	**+0.4**
	comp=Z,3.3nm,1.1s,mb4.3,baz=350,slow=6.1,SNR=3.0						
GZR	**Gura Zlata**	**78.69**	**327**	⇓*i*P	**P**	**18 17 51.0**	**-0.6**
GZR	**Gura Zlata**	**78.69**	**327**	⇓P	**P**	**18 17 51.0**	**-0.6**
BRTR	**Keskin Array B**	**78.69**	**317**	P	**P**	**18 17 52.4**	**+0.8**
	comp=Z,2.6nm,0.8s,mb4.3,baz=55,slow=4.5,SNR=8.0						
GRA1	**Grafenberg Arr**	**78.75**	**336**	*e*P	**P**	**18 17 51.8**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.8						
GRA1				*e*		18 18 03.8	
GRF	**Grafenberg Arr**	**78.75**	**336**	*e*P	**P**	**18 17 51.8**	**-0.1**
	comp=Z,9.0nm,0.9s,mb4.8						
GRF				*e*		18 18 03.8	
GRF	**Grafenberg Arr**	**78.75**	**336**	*e*P	**P**	**18 17 51.8**	**-0.1**
GRF				*e*		18 18 03.8	
GRF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**78.78**	**334**	P	**P**	**18 17 52.0**	**0.0**
	comp=

	comp=Z,2.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**84.58**	**337**	*e*P	**P**	**18 18 22.5**	**-0.2**
	comp=Z,12nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.58**	**337**	*e*P	**P**	**18 18 22.5**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
ORIF	**Oris-en-Rattie**	**84.58**	**337**	*e*P	**P**	**18 18 22.5**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.9						
VIVF	**Saint-Julien-l**	**84.95**	**338**	*e*P	**P**	**18 18 24.8**	**+0.2**
	comp=Z,15nm,0.9s,mb4.9						
VIVF	**Saint-Julien-l**	**84.95**	**338**	*e*P	**P**	**18 18 24.8**	**+0.2**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.9						
VIVF	**Saint-Julien-l**	**84.95**	**338**	*e*P	**P**	**18 18 24.8**	**+0.2**
	comp=Z,7.3nm,0.9s,mb4.9						
RJF	**Les Rejaudoux**	**85.31**	**340**	*e*P	**P**	**18 18 25.8**	**-0.5**
CAF	**Calviac**	**85.53**	**340**	*e*P	**P**	**18 18 27.3**	**-0.2**
	comp=Z,23nm,1.2s,mb4.9						
CAF	**Calviac**	**85.53**	**340**	*e*P	**P**	**18 18 27.3**	**-0.2**
CAF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.9						
CAF	**Calviac**	**85.53**	**340**	*e*P	**P**	**18 18 27.3**	**-0.2**
	comp=Z,11nm,1.2s,mb4.9						
SMRF	**Simiane la Rot**	**85.54**	**337**	*e*P	**P**	**18 18 27.4**	**-0.1**
FRF	**La Foret Royal**	**85.63**	**336**	*e*P	**P**	**18 18 27.6**	**-0.4**
LFF	**La Frestale**	**85.83**	**341**	*e*P	**P**	**18 18 28.5**	**-0.4**
LMR	**La Mourre**	**85.88**	**336**	*e*P	**P**	**18 18 28.7**	**-0.5**
	comp=Z,18nm,1.0s,mb4.9						
LMR	**La Mourre**	**85.88**	**336**	*e*P	**P**	**18 18 28.7**	**-0.5**
LMR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LMR	**La Mourre**	**85.88**	**336**	*e*P	**P**	**18 18 28.7**	**-0.5**
	comp=Z,9.1nm,1.0s,mb4.9						
MTLF	**Montolieu**	**86.99**	**339**	*e*P	**P**	**18 18 34.2**	**-0.5**
EPF	**Esparros**	**87.73**	**341**	*e*P	**P**	**18 18 38.4**	**+0.2**
SJPF	**Ste Jean**	**88.00**	**342**	*e*P	**P**	**18 18 39.0**	**-0.5**
KEST	**Kesra**	**92.00**	**331**	P	**P**	**18 18 59.3**	**+1.1**
	comp=Z,1.3nm,0.8s,mb4.3,baz=324,slow=9.7,SNR=6.0						
BCG	**Bois Riant Cap**	**110.25**	**36**	*e*P	PKiKP	18 24 26.4	+5.0
SCG	**Saint Claude**	**110.28**	**36**	*e*P	PKiKP	18 24 24.7	+3.3
CFAA	**Coronel Fontan**	**144.93**	**80**	PKPbc	PKPdf	18 25 26.2	-0.4
	comp=Z,0.3nm,0.7s,baz=317,slow=4.5,SNR=5.6						
PLCA	**Paso Flores**	**148.06**	**96**	PKPbc	PKPbc	18 25 33.0	-2.0
	comp=Z,2.4nm,0.8s,baz=279,slow=5.0,SNR=5.7						
CPUP	**Villa Florida**	**148.51**	**61**	PKPbc	PKPbc	18 25 34.9	-1.3
	comp=Z,0.5nm,0.4s,baz=321,slow=3.4,SNR=4.7						
SNAA	**Sanae**	**152.30**	**196**	PKPbc	PKPbc	18 25 40.8	-4.5
	comp=Z,0.6nm,0.7s,baz=207,slow=18,SNR=3.9						

IDC 30 18:06:49.5±2.6, 4683N×15304E, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/20, mbtmp4.2/7, ML4.0/1, Error ellipse: s-maj=71.7km s-min=29.2km az=169.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.82**	**253**	Pn	Pn	18 08 44.1	-0.5
	2.4nm,0.3s,baz=52,slow=18,SNR=1.9						
MKAR	**Makanchi Array**	**46.86**	**297**	P	P	18 15 21.9	+0.6
	0.4nm,0.4s,baz=49,slow=9.3,SNR=6.8						
FINES	**FINESS Array B**	**63.94**	**335**	P	P	18 17 23.4	-1.0
	1.4nm,0.4s,baz=46,slow=8.0,SNR=3.7						
PDAR	**Pinedale Array**	**64.74**	**54**	P	P	18 17 29.8	+0.2
	1.0nm,0.7s,baz=299,slow=1.9,SNR=2.4						
NOA	**NORSAR Array B**	**68.13**	**341**	P	P	18 17 51.6	+0.3
	2.0nm,0.8s,baz=28,slow=6.3,SNR=2.3						
AKASG	**Malin Array Be**	**71.45**	**326**	P	P	18 18 10.1	-1.7
	3.4nm,0.6s,baz=34,slow=6.3,SNR=3.8						
GERES	**GERESS Array B**	**78.36**	**334**	P	P	18 18 52.3	+0.5
	0.8nm,0.6s,baz=31,slow=5.4,SNR=4.0						

IDC 30 18:08:18.1±2.4, 674S×12881E, h0km, mb3.8/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.6/3, ML2.7/1, Error ellipse: s-maj=188.6km s-min=31.8km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.18**	**158**	Pn	Pn	18 11 41.4	+1.3
	0.0nm,0.3s,baz=340,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**17.53**	**164**	P	Pn	18 12 23.3	-0.5
	0.2nm,0.3s,baz=349,slow=11,SNR=11						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	18 19 15.2	+0.2
	0.6nm,0.6s,baz=145,slow=7.1,SNR=5.2						

IDC 30 18:08:58.3±19.0, 4666N×15289E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/20, mbtmp4.0/5, Error ellipse: s-maj=443.9km s-min=72.6km az=156.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.84**	**297**	P	P	18 17 29.5	-0.5
	1.5nm,0.9s,baz=62,slow=6.7,SNR=3.3						
BVAR	**Borovoye Array**	**50.80**	**309**	P	P	18 18 00.3	-0.1
	0.4nm,0.4s,baz=46,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**64.06**	**335**	P	P	18 19 33.4	-0.6
	1.9nm,0.8s,baz=41,slow=9.2,SNR=4.3						
NOA	**NORSAR Array B**	**68.27**	**341**	P	P	18 20 00.7	-0.3
	1.1nm,0.6s,baz=27,slow=6.4,SNR=3.4						
AKASG	**Malin Array Be**	**71.54**	**326**	P	P	18 20 20.7	-0.4
	1.5nm,0.5s,baz=32,slow=5.9,SNR=4.6						

IDC 30 18:12:33.7±5.0, 4593N×15300E, h93km±44km, mb3.3/7, mb1 3.4/8, mb1mx3.3/21, mbtmp3.7/8, Error ellipse: s-maj=30.6km s-min=24.1km az=84.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.59**	**260**	P	Pn	18 14 21.8	+0.3
	0.3nm,0.3s,baz=75,slow=15,SNR=3.0						
MKAR	**Makanchi Array**	**47.25**	**298**	P	P	18 20 56.8	-0.6
	1.0nm,0.8s,baz=52,slow=7.9,SNR=5.2						
BVAR	**Borovoye Array**	**51.32**	**310**	P	P	18 21 27.2	-1.1
	0.4nm,0.6s,baz=90,slow=10,SNR=2.7						
FINES	**FINESS Array B**	**64.75**	**335**	P	P	18 23 01.8	-0.3
	1.1nm,0.7s,baz=35,slow=8.2,SNR=8.6						
PDAR	**Pinedale Array**	**65.30**	**53**	P	P	18 23 05.5	-0.1
	0.4nm,0.9s,baz=301,slow=10,SNR=3.5						
NB2	**NORSAR Subarra**	**68.98**	**341**	P	P	18 23 28.8	-0.1
	comp=Z,0.4nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.98**	**341**	P	P	18 23 29.0	+0.1
	comp=Z,0.6nm,0.6s,baz=28,slow=6.5,SNR=3.3						
ASAR	**Alice Springs**	**71.40**	**198**	P	P	18 23 43.8	0.0
	comp=Z,0.2nm,0.4s,baz=344,slow=10.0,SNR=14						
AKASG	**Malin Array Be**	**72.19**	**326**	P	P	18 23 48.8	+0.3
	comp=Z,0.7nm,0.5s,baz=35,slow=6.1,SNR=4.1						

IDC ***30*** *18:14:56.9±1.5, 4777N×15146E, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=41.6km s-min=25.0km az=166.0*

ISCJB ***30*** *18:14:59.4±1.3, 476N±0.2×1514E±0.3, h33km, mb3.9/7, Error ellipse: s-maj=34.4km s-min=14.8km az=81.1*

ISC 30 18:15:03.1±5.3, 475N±0.4×1514E±0.3, h54km±59km, n11, σ0§91/10, mb3.9/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.00**	**244**	Pn	**Pn**	**18 16 43.0**	**0.0**
	0.5nm,0.3s,baz=72,slow=20,SNR=4.1						
MJAR	**Matsushiro Arr**	**14.67**	**226**	Pn	**Pn**	**18 18 27.0**	**-0.4**
	0.1nm,0.3s,baz=36,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**45.51**	**296**	P	**P**	**18 23 19.0**	**+1.9**
	1.1nm,0.8s,mb3.9,baz=63,slow=8.3,SNR=7.0						
BVAR	**Borovoye Array**	**49.43**	**308**	P	**P**	**18 23 48.2**	**+0.6**
	0.3nm,0.3s,mb3.8,baz=61,slow=6.8,SNR=3.2						
FINES	**FINESS Array B**	**62.81**	**334**	P	**P**	**18 25 22.8**	**-0.2**
	0.7nm,0.5s,mb4.1,baz=30,slow=6.2,SNR=6.0						
PDAR	**Pinedale Array**	**65.25**	**53**	P	**P**	**18 25 40.0**	**+1.0**
	1.5nm,0.8s,mb4.0,baz=310,slow=1.6,SNR=11						
NB2	**NORSAR Subarra**	**67.09**	**340**	P	**P**	**18 25 49.9**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**67.09**	**340**	P	**P**	**18 25 49.7**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=28,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**70.22**	**325**	P	**P**	**18 26 09.8**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=34,slow=6.5,SNR=8.6						
GERES	**GERESS Array B**	**77.22**	**333**	P	**P**	**18 26 50.0**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=29,slow=3.0,SNR=3.9						
CPUP	**Villa Florida**	**149.09**	**57**	PKPbc	PKPbc	18 34 45.3	+0.1
	comp=Z,0.3nm,0.3s,baz=256,slow=1.8,SNR=4.8						

IDC 30 18:20:19.0±6.5, 4715N×15251E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.5/21, mbtmp3.7/6, ML3.1/2, Error ellipse: s-maj=153.0km s-min=35.4km az=130.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.58**	**250**	Pn	Pn	18 22 10.2	-0.4
	0.3nm,0.3s,baz=94,slow=14,SNR=4.6						
MJAR	**Matsushiro Arr**	**15.01**	**230**	Pn	Pn	18 23 52.8	+0.6
	0.1nm,0.3s,baz=40,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**46.39**	**297**	P	P	18 28 46.7	-0.4
	0.3nm,0.7s,baz=75,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**63.50**	**334**	P	P	18 30 50.9	0.0
	1.1nm,0.6s,baz=33,slow=8.1,SNR=13						
NB2	**NORSAR Subarra**	**67.72**	**341**	P	P	18 31 16.2	-1.9
	comp=Z,1.8nm,0.8s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**67.72**	**341**	P	P	18 31 17.2	-0.9
	comp=Z,0.8nm,0.6s,baz=28,slow=6.3,SNR=6.1						
AKASG	**Malin Array Be**	**70.98**	**326**	P	P	18 31 37.8	-0.5
	comp=Z,0.5nm,0.4s,baz=33,slow=6.0,SNR=4.4						

IDC 30 18:22:37.5±13.0, 4708N×15257E, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=313.8km s-min=46.7km az=137.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.60**	**251**	Pn	Pn	18 24 29.4	+0.1
	0.4nm,0.3s,baz=63,slow=16,SNR=3.6						
MKAR	**Makanchi Array**	**46.46**	**297**	P	P	18 31 05.7	-0.4
	0.3nm,0.5s,baz=71,slow=7.0,SNR=4.0						
FINES	**FINESS Array B**	**63.59**	**334**	P	P	18 33 09.6	-0.4
	1.6nm,0.9s,baz=32,slow=7.0,SNR=6.8						
AKASG	**Malin Array Be**	**71.07**	**326**	P	P	18 33 56.9	-0.5
	1.1nm,0.6s,baz=34,slow=6.5,SNR=4.9						

IDC 30 18:24:28.2±6.8, 4658N×15320E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.5/22, mbtmp3.7/6, ML3.0/2, Error ellipse: s-maj=150.5km s-min=39.6km az=132.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.86**	**256**	Pn	Pn	18 26 24.4	+0.6
	0.3nm,0.3s,baz=68,slow=16,SNR=2.3						
MJAR	**Matsushiro Arr**	**15.02**	**233**	Pn	Pn	18 28 01.6	-0.2
	0.0nm,0.3s,baz=27,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**47.07**	**298**	P	P	18 33 01.1	-0.6
	0.5nm,0.7s,baz=75,slow=7.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.02**	**310**	P	P	18 33 31.3	-0.6
	0.4nm,0.3s,baz=55,slow=7.3,SNR=3.2						
FINES	**FINESS Array B**	**64.22**	**335**	P	P	18 35 05.1	+0.2
	0.5nm,0.3s,baz=45,slow=5.3,SNR=11						
AKASG	**Malin Array Be**	**71.72**	**326**	P	P	18 35 51.0	-1.1
	0.7nm,0.3s,baz=34,slow=6.1,SNR=5.6						

ISCJB ***30*** *18:25:13.5±1.0, 4636N±0.04×15334E±0.04, h1km±6km, mb5.1/143, Error ellipse: s-maj=7.9km s-min=3.1km az=114.4*

BJI ***30*** *18:25:13.8, 4643N×15341E, h6km, mB5.4, mb4.9, Ms5.9, Msz5.7*

IDC ***30*** *18:25:14.4±0.5, 4630N×15331E, h0km, mb4.6/25, mb1 4.7/26, mb1mx4.7/30, mbtmp4.6/26, ML3.3/1, Error ellipse: s-maj=15.2km s-min=13.2km az=164.0*

NEIC ***30*** *18:25:15.6±2.4, 4631N×15338E, h7km±14km, mb5.1/71, Error ellipse: s-maj=6.7km s-min=4.9km az=156.0*

JMA ***30*** *18:25:16.0±0.7, 4654N×15354E, h30km, mM5.0*

SKHL ***30*** *18:25:17.6±0.1, 4637N×15343E, h55km±13km, mb5.3/7*

MOS ***30*** *18:25:19.1±1.0, 4643N×15334E, h37km, mb5.3/59, Error ellipse: s-maj=8.1km s-min=4.3km az=103.7*

SZGRF ***30*** *18:25:28.4, 4757N×15258E, h33km, mb5.1, Kuril Islands, Russia*

ISC 30 18:25:17.2±1.2, 4645N±004×15337E±005, h13km±7km, h27km±1.6km: pP-P, n439, σ1§01/452, mb5.0/143, 30C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**255**	*i* P	**Pn**	**18 26 17.2**	**-1.4**
KUR				AMB	AMB	18 26 17.6	
	1μm,0.5s						
KUR				*e*S	**Sn**	**18 27 02.0**	**-3.6**
KUR				A		18 27 13.3	
	1μm,0.8s						
KUR				A		18 27 13.3	
	2μm,0.8s						
SKR	**Severo-Kuril's**	**4.62**	**22**	*e*P	**Pn**	**18 26 25.0**	**-1.6**
SKR				AMB	AMB	18 26 29.0	
	120nm,0.5s						
SKR				AMB	AMB	18 26 29.0	
	80nm,0.5s						
SKR				AMB	AMB	18 26 29.0	
	150nm,0.5s						
SKR				*e*S	**Sn**	**18 27 15.5**	**-4.5**
SKR				A		18 27 42.0	
	1μm,0.8s						
SKR				A		18 27 42.0	
	530nm,0.8s						
SKR				A		18 27 42.0	
	340nm,0.8s						
PAU	**Pauzhetka**	**5.51**	**23**	*e*P	**Pn**	**18 26 38.3**	**-0.6**
PAU				*e*S	**Sn**	**18 27 41.3**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**5.83**	**248**↑	*e*P	**Pn**	**18 26 43.1**	**-0.1**
YUK				AMB	AMB	18 26 48.1	
	330nm,0.2s						
YUK				*e*S	**Sn**	**18 27 49.1**	**-0.7**
YUK				A		18 28 04.0	
	970nm,0.5s						
YUK				A		18 28 04.0	
	390nm,0.5s						
NEM2	**Nemuro 2**	**6.23**	**243**	P	**Pn**	**18 26 46.8**	**-2.0**
NEM2				*e*S	**Sn**	**18 27 55.2**	**-4.6**
JRA	**Rausu**	**6.35**	**250**	P	**Pn**	**18 26 51.2**	**+0.9**
JRA				*e*S	**Sn**	**18 28 03.0**	**+0.4**
JNK	**Nakash**	**6.77**	**248**	P	**Pn**	**18 26 56.0**	**-0.1**
JAK	**Akkeshi**	**7.08**	**244**	P	**Pn**	**18 26 58.7**	**-1.6**
JAK				*e*S	**Sn**	**18 28 16.3**	**-4.3**
JTKR	**Abashiri--Toko**	**7.13**	**253**	P	**Pn**	**18 27 02.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**7.32**	**278**⇓	*i* P	**Pn**	**18 27 08.3**	**+4.6**
YSS				AMB	AMB	18 27 10.0	
	50nm,0.8s						
YSS				*e*S	**Sn**	**18 28 28.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.32**	**278**⇓	*i* PN	**Pn**	**18 27 08.3**	**+4.6**
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
PET	**Petropavlovsk**	**7.42**	**26**	*e*P	**Pn**	**18 27 08.3**	**+3.2**
PET				*e*S	**Sn**	**18 28 24.9**	**-4.2**
PET				A		18 28 54.5	
	comp=Z,290nm,1.5s						
PET				A		18 28 54.5	
	comp=Z,250nm,1.5s						
JMP	**Maruseppu**	**7.48**	**255**	P	**Pn**	**18 27 07.4**	**+1.5**
JAR	**Ashorobuto**	**7.51**	**249**	P	**Pn**	**18 27 06.5**	**+0.2**
JAR				*e*S	**Sn**	**18 28 30.4**	**-0.9**
JOB	**Onbets**	**7.66**	**246**	P	**Pn**	**18 27 07.9**	**-0.5**
JOB				*e*S	**Sn**	**18 28 30.6**	**-4.5**
JSE	**Soyaes**	**7.70**	**263**	P	**Pn**	**18 27 11.9**	**+3.0**
JKK2	**Kamakawa 2**	**7.94**	**255**	P	**Pn**	**18 27 14.0**	**+1.8**
ASAJ	**Asahikawa**	**7.95**	**257**	Pn	**Pn**	**18 27 14.8**	**+2.5**
	comp=Z,2.9nm,0.3s,baz=89,slow=17,SNR=31						
ASAJ				Sn	**Sn**	**18 28 45.6**	**+3.6**
	baz=74,slow=15,SNR=1.5						
ASAJ	**Asahikawa**	**7.95**	**257**	P	**Pn**	**18 27 14.6**	**+2.3**
ASAJ	**Asahikawa**	**7.95**	**257**	PN	**Pn**	**18 27 14.8**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
UGL	**Uglegorsk**	**8.06**	**293**	*e*P	**Pn**	**18 27 18.5**	**+4.6**
UGL				AMB	AMB	18 27 20.4	
	comp=Z,97nm,0.7s						
UGL				A		18 28 58.0	
	comp=Z,96nm,0.8s						
UGL				A		18 28 58.0	
	comp=Z,560nm,0.6s						
UGL	**Uglegorsk**	**8.06**	**293**	*e*PN	**Pn**	**18 27 18.5**	**+4.6**
UGL				*e*S	**Sn**	**18 28 53.0**	**+8.2**
UGL				pmax	pmax		
	comp=Z,97nm,0.7s						
UGL				smax			
	comp=E,96nm,0.8s						

JCH	**Churui**	**8.11**	**245**	P	**Pn**	**18 27 13.2**	**-1.4**
JCH				*e*S	**Sn**	**18 28 39.9**	**-6.2**
JFR	**Furan**	**8.34**	**251**	P	**Pn**	**18 27 18.8**	**+1.2**
TYV	**Tymovskoe**	**8.36**	**306**	*e*P	**Pn**	**18 27 22.2**	**+4.3**
TYV				AMB	AMB	18 27 25.0	
	comp=E,44nm,0.8s						
TYV				AMB	AMB	18 27 25.0	
	comp=E,65nm,0.8s						
JSS	**Shosan**	**8.36**	**260**	P	**Pn**	**18 27 24.7**	**+6.8**
JAB	**Ashibetsu**	**8.43**	**254**	P	**Pn**	**18 27 21.0**	**+2.0**
JEM	**Erimo**	**8.56**	**243**	P	**Pn**	**18 27 20.8**	**0.0**
JEM				*e*S	**Sn**	**18 28 51.9**	**-5.3**
ERM	**Erimo**	**8.57**	**243**	Pn	**Pn**	**18 27 21.9**	**+1.1**
	comp=E,490nm,0.8s,SNR=6.4						
ERM	**Erimo**	**8.57**	**243**	*e*PN	**Pn**	**18 27 20.9**	**+0.1**
ERM				pmax	pmax		
	comp=Z,112nm,0.6s						
ERM	**Erimo**	**8.57**	**243**	*e*Pn	**Pn**	**18 27 20.9**	**+0.1**
	comp=Z,112nm,0.6s						
JBT2	**Biratori 2**	**8.66**	**249**	P	**Pn**	**18 27 22.0**	**-0.2**
JBT2				*e*S	**Sn**	**18 29 00.9**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.67**	**245**	P	**Pn**	**18 27 22.1**	**-0.1**
JNBK				*e*S	**Sn**	**18 28 57.2**	**-2.6**
JHR	**Hokuryu**	**8.67**	**256**	P	**Pn**	**18 27 24.3**	**+2.1**
JEW	**Eniwo**	**9.23**	**251**	P	**Pn**	**18 27 30.9**	**+1.0**
JSK	**Shakotan**	**9.66**	**256**	P	**Pn**	**18 27 36.9**	**+1.1**
JNB	**Noboribetsu**	**9.67**	**250**	P	**Pn**	**18 27 35.6**	**-0.4**
JNB				*e*S	**Sn**	**18 29 19.6**	**-4.8**
JKB	**Kayabe**	**9.97**	**247**	P	**Pn**	**18 27 38.1**	**-1.9**
JKB				*e*S	**Sn**	**18 29 23.2**	**-8.4**
JSH	**Shimam**	**10.24**	**253**	P	**Pn**	**18 27 44.6**	**+0.8**
JYM2	**Yakumo 2**	**10.28**	**250**	P	**Pn**	**18 27 43.6**	**-0.6**
JANG	**Nango**	**10.54**	**239**	P	**Pn**	**18 27 43.4**	**-4.5**
JANG				*e*S	**Sn**	**18 29 33.4**	**-12**
JSR	**Shiriuchi**	**10.54**	**247**	P	**Pn**	**18 27 46.6**	**-1.3**
JTM	**Tenmabayashi**	**10.56**	**242**	P	**Pn**	**18 27 45.1**	**-3.0**
JTM				*e*S	**Sn**	**18 29 34.1**	**-12**
NKL	**Nikolayevsk**	**10.59**	**314**	*e*P	**Pn**	**18 27 49.1**	**+0.6**
NKL				AMB	AMB	18 27 54.0	
	comp=Z,170nm,1.8s						
JTH	**Tanohata**	**10.62**	**236**	*e*S	**Sn**	**18 29 33.4**	**-14**
JOSM	**Okushiri--Mats**	**10.88**	**251**	P	**Pn**	**18 27 51.5**	**-1.0**
OFUJ	**Ofunato**	**11.31**	**234**	*e*S	**Sn**	**18 29 50.5**	**-14**
JRG	**Rokugo**	**11.69**	**237**	P	**Pn**	**18 27 59.8**	**-3.8**
JRG				*e*S	**Sn**	**18 30 02.7**	**-11**
TEY	**Ternei**	**11.81**	**269**	*e*P	**Pn**	**18 28 05.0**	**-0.2**
JIO	**Ouri**	**11.93**	**232**	P	**Pn**	**18 28 02.3**	**-4.6**
JIO				*e*S	**Sn**	**18 30 06.5**	**-13**
JYA	**Atsumi**	**12.76**	**237**	P	**Pn**	**18 28 15.1**	**-3.1**
MA2	**Magadan**	**13.25**	**354**	*e*PN	**Pn**	**18 28 27.4**	**+2.5**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**13.25**	**354**	*e*Pn	**Pn**	**18 28 26.9**	**+2.0**
JFY	**Yanaizu**	**13.59**	**233**	P	**Pn**	**18 28 25.2**	**-4.3**
MAJO	**Matsushiro**	**15.04**	**234**	*e*P	**Pn**	**18 28 45.9**	**-3.4**
MAJO				pmax	pmax		
	comp=Z,26nm,0.7s						
MAJO	**Matsushiro**	**15.04**	**234**	*e*Pn	**Pn**	**18 28 45.9**	**-3.4**
	comp=Z,26nm,0.7s						
MAT	**Matsushiro**	**15.04**	**234**	P	**Pn**	**18 28 45.5**	**-3.8**
MJAR	**Matsushiro Arr**	**15.04**	**234**	Pn	**Pn**	**18 28 46.0**	**-3.3**
	comp=Z,0.1nm,0.3s,baz=33,slow=7.8,SNR=4.1						
MJAR				Sn	**Sn**	**18 31 31.8**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=50,slow=23,SNR=2.8						
VLA	**Vladivostok**	**15.60**	**265**	*i* P	**Pn**	**18 28 56.2**	**-0.5**
VLA				pmax	pmax		
	comp=Z,40nm,1.7s						
SEY	**Seymchan**	**16.53**	**358**⇑	*e*P	**Pn**	**18 29 08.4**	**-0.3**
MDJ	**Mudanjiang**	**16.75**	**272**	*e*Pn	**Pn**	**18 29 11.4**	**-0.1**
	comp=Z,58nm,1.0s						
BMKR	**Bomnak**	**17.57**	**307**	*e*P	**Pn**	**18 29 20.4**	**-1.2**
BMKR				AMB	AMB	18 29 23.2	
	comp=Z,15nm,0.6s						
YASR	**Yasnyy**	**17.68**	**302**	*e*P	**Pn**	**18 29 20.9**	**-2.2**
YASR				AMB	AMB	18 29 23.5	
	comp=Z,1.0nm,0.6s						
YASR				AMB	AMB	18 29 23.5	
	comp=Z,7.0nm,0.6s						
YASR				AMB	AMB	18 29 23.5	
	comp=Z,13nm,0.6s						
KROS	**Kirovskiy**	**18.53**	**305**	*e*P	**Pn**	**18 29 30.7**	**-2.8**
KROS				AMB	AMB	18 29 34.4	
	comp=Z,600nm,0.6s						
KROS				AMB	AMB	18 29 34.4	
	comp=Z,13nm,0.6s						
CN2	**Changchun**	**19.84**	**272**	*e*P	**Pn**	**18 29 44.8**	**-4.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
CLNS	**Chul'man**	**20.36**	**311**	*e*P	**P**	**18 29 53.5**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,30nm,0.8s						
CLNS				pmax	pmax		
	comp=N,20nm,1.0s						
CLNS				pmax	pmax		
	comp=E,21nm,1.1s						
YAK	**Yakutsk**	**20.68**	**328**	*e*P	**P**	**18 29 56.9**	**+0.2**
YAK				pmax	p

COLA College 36.27 38 *e*P P 18 32 19.9 -0.1
comp=Z,11nm,0.9s,mb4.8
KRAR Krasnoyarsk 37.91 307 *i* P P 18 32 31.2 -2.8
KRAR pmax pmax
comp=Z,14nm,0.9s,mb4.7
LZH Lanzhou 38.08 272 *e*P P 18 32 37.0 +1.6
LZH AP pP 18 32 44.0 +4.4
LZH XP sP 18 32 47.0 +5.8
LZH AMB AMB
comp=Z,74nm,1.6s,mb5.2
LZH AMB AMB
comp=Z,526nm,5.6s
EGAK Eagle 39.13 38 *e*P P 18 32 43.2 -1.0
GTA Gaotai 39.20 280 P P 18 32 46.0 +1.2
GTA AP pP 18 32 51.8 +2.8
GTA XP sP 18 32 54.8 +4.2
GTA PCP PcP 18 34 54.8 +0.8
GTA AMB AMB
comp=Z,35nm,1.2s,mb5.0
CD2 Chengdu 41.03 266⇑ *i*P P 18 33 00.8 +0.7
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
INK Inuvik 41.81 32 P P 18 33 06.9 +0.5
comp=Z,8.6nm,0.7s,mb4.5,baz=296,slow=5.9,SNR=16
INK Inuvik 41.81 32 *e*P P 18 33 06.6 +0.1
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 41.81 32 *e*P P 18 33 06.6 +0.1
comp=Z,5.1nm,0.7s,mb4.3
GYA Guiyang 41.83 258⇑ *i*P P 18 33 07.0 +0.4
GYA AMB AMB
comp=Z,70nm,0.9s,mb5.3
ZAL Zalesovo 42.95 306 P P 18 33 14.5 -1.2
comp=Z,3.7nm,0.5s,mb4.3,baz=54,slow=7.1,SNR=11
ZAL PcP PcP 18 35 06.5 +0.4
comp=Z,5.0nm,0.8s,baz=27,slow=1.9,SNR=12
WMQ Urumqi 45.20 292 P P 18 33 33.8 0.0
WMQ AP pP 18 33 41.0 +3.0
WMQ XP sP 18 33 45.0 +5.3
WMQ *e*S S 18 40 12.0 -1.3
WMQ XS sS 18 40 24.0 +3.8
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
KMI Kunming 45.36 260 P P 18 33 35.8 +0.7
KMI AP pP 18 33 44.0 +4.7
KMI XP sP 18 33 47.8 +6.9
KMI AMB AMB
comp=Z,23nm,1.1s,mb4.9
KMI Kunming 45.36 260 P P 18 33 35.7 +0.6
KMI pP pP 18 33 44.1 +4.8
KMI sP sP 18 33 47.7 +6.8
DLBC Dease Lake 45.68 46 P P 18 33 38.1 +0.5
comp=Z,5.6nm,0.9s,mb4.5,baz=192,slow=20,SNR=3.1
MKAR Makanchi Array 47.24 298 P P 18 33 48.8 -1.0
comp=Z,22nm,0.8s,mb5.1,baz=62,slow=8.4,SNR=86
MKAR PcP PcP 18 35 20.6 -0.4
comp=Z,5.2nm,0.7s,baz=72,slow=1.7,SNR=6.9
KURK Kurchatov 47.68 304 P P 18 33 51.3 -2.0
comp=Z,221nm,0.7s,SNR=17
LSA Lhasa 50.47 274 *e*P P 18 34 17.1 +2.5
LSA pmax pmax
comp=Z,15nm,0.6s,mb5.2
LSA Lhasa 50.47 274 *e*P P 18 34 17.1 +2.5
comp=Z,15nm,0.6s,mb5.2
YKA Yellowknife Ar 51.06 37 P P 18 34 19.0 0.0
comp=Z,4.3nm,0.6s,mb4.5,baz=295,slow=7.0,SNR=15
YKA Yellowknife Ar 51.06 37 P P 18 34 19.0 -0.1
YKA pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 51.19 310 P P 18 34 19.1 -1.0
comp=Z,9.0nm,0.6s,mb4.9,baz=53,slow=8.0,SNR=38
BVAR PcP PcP 18 35 34.6 -0.7
comp=Z,6.5nm,0.7s,baz=82,slow=3.1,SNR=9.1
BRVK Borovoye 51.23 310 P P 18 34 19.1 -1.2
SNR=5.7
BRVK Borovoye 51.23 310 *e*P P 18 34 19.1 -1.2
BRVK pmax pmax
comp=Z,19nm,1.1s,mb4.9
BRVK Borovoye 51.23 310 *e*P P 18 34 19.1 -1.3
comp=Z,19nm,1.1s,mb4.9
ZRNK Zerenda 51.96 310 *i* P P 18 34 24.3 -1.5
ZRNK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ZRNK Zerenda 51.96 310 *e*P P 18 34 24.7 -1.1
comp=Z,15nm,0.9s,mb4.9
ULHL Ulahol 53.26 295 P P 18 34 36.1 +0.8
SNR=5.9
TKM2 Tokmak 2 53.29 296 P P 18 34 35.9 +0.2
SNR=8.1
CHMS Chumysh 53.77 297 P P 18 34 39.4 +0.2
SNR=5.8
USP Ospenovka 53.78 297 P P 18 34 39.3 +0.1
SNR=18
KBK Karagaybulak 53.84 296 P P 18 34 40.1 +0.4
SNR=10
KZA Kyzart 53.97 296 P P 18 34 42.0 +1.3
SNR=5.1
AAK Ala-Archa 54.13 297 P P 18 34 42.3 +0.5
SNR=15
AAK Ala-Archa 54.13 297⇑ *e*P P 18 34 40.5 -1.3
AAK pmax pmax
comp=Z,19nm,0.9s,mb5.0
AAK Ala-Archa 54.13 297 *e*P P 18 34 40.8 -1.1
comp=Z,17nm,0.8s,mb5.0
EKS2 Erkin-Say 54.56 297 P P 18 34 45.5 +0.6
SNR=18
AML Almayashu 54.90 297 P P 18 34 48.2 +0.8
SNR=7.5
JIRN Jiri 55.15 275 *e*P P 18 34 50.7 +1.5
GUN Gumba 55.21 275 *e*P P 18 34 50.9 +1.3
comp=Z,41nm,0.5s,mb5.7
ARU Arti 55.36 318 P P 18 34 49.3 -1.4
comp=Z,176nm,0.6s,SNR=10
ARU Arti 55.36 318⇓ *i*P P 18 34 47.3 -3.4
ARU *e* 18 36 50.1
ARU *e*S S 18 42 28.4 -6.2
ARU *e*SS SS 18 46 15.8 -3.3
ARU pmax pmax
comp=Z,16nm,0.7s,mb5.2
ARU Arti 55.36 318 *e*P P 18 34 49.1 -1.6
comp=Z,13nm,0.6s,mb5.1
KKN Kakani 55.70 276 *e*P P 18 34 54.0 +0.9
comp=Z,58nm,0.6s,mb5.8
PKI Pulchoki 55.74 275 *e*P P 18 34 54.5 +1.0
comp=Z,34nm,0.7s,mb5.5
DMN Daman 55.93 276 *e*P P 18 34 56.1 +1.3
comp=Z,96nm,0.8s,mb5.9
GKN Gorkha 56.00 276 *e*P P 18 34 56.4 +1.1
comp=Z,102nm,0.6s,mb6.0
EDM Edmonton 56.40 46 *e*P P 18 34 57.9 -0.3
KOLN Koldanda 56.86 277 *e*P P 18 35 02.8 +1.4
comp=Z,89nm,0.8s,mb5.8
DAG Danmarks Havn 56.96 358⇑ *i*P P 18 35 01.7 -0.4
comp=Z,28nm,1.4s,mb5.1
DAG Danmarks Havn 56.96 358⇑ *i*P P 18 35 01.7 -0.4
DAG pmax pmax
comp=Z,28nm,1.4s,mb5.1
LVZ Lovozero 57.12 337 *i* P P 18 35 02.7 -0.6
LVZ pmax pmax
comp=Z,38nm,1.6s,mb5.2
NEW Newport 57.22 53 P P 18 35 04.4 +0.4
comp=Z,1.1nm,0.4s,mb4.3,baz=219,slow=13
KEV Kevo 57.69 341 *e*p P 18 35 05.6 -1.7
comp=Z,1.4nm,0.4s,mb4.3
KEV Kevo 57.69 341 *e*P P 18 35 05.6 -1.7
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
YBH Yreka Blue Hor 57.73 62 P P 18 35 09.4 +1.8
comp=Z,1.0nm,0.6s,mb4.0,baz=4.9,slow=0.8,SNR=3.8
BOK Bokaro 57.84 272 *e*P P 18 35 08.5 +0.1
BOK AMb AMB 18 35 10.5
comp=Z,24nm,1.4s,mb5.0
ARCES ARCESS Array B 58.20 341 P P 18 35 09.9 -1.0
comp=Z,5.9nm,0.7s,mb4.8,baz=32,slow=7.1,SNR=13
ARE0 ARCESS Array S 58.20 341 *e*P P 18 35 09.9 -1.0
AKTK Aktyubinsk 59.06 312 P P 18 35 15.6 -1.3
AKTO Aktyubinsk 59.06 312 P P 18 35 15.6 -1.3
comp=Z,4.6nm,0.6s,mb4.7,baz=65,slow=7.2,SNR=14
KTK1 Kautokeino 59.12 341 *e*P P 18 35 17.3 0.0
SMLA Simla 59.14 284 *e*P P 18 35 17.9 +0.5
SMLA AMb AMB 18 35 18.9
comp=Z,135nm,1.5s,mb5.8
THN Thein Dam 59.30 286 *e*P P 18 35 18.7 +0.2
TRO Tromso 59.53 343 *e*P P 18 35 18.2 -1.9
CHMT Chamberlain Mo 60.13 52 *e*P P 18 35 24.4 +0.1
NIL Nilore 60.17 289 P P 18 35 26.9 +2.4
comp=Z,114nm,0.9s,mb5.9,SNR=5.3
HLID Hailey 61.53 56 P P 18 35 34.1 +0.3
comp=Z,7.7nm,1.2s,mb4.7
MCMT McKenzie Canyo 61.63 54 *e*P P 18 35 36.2 +1.8
JOF Joensuu 61.69 334 *e*p P 18 35 33.9 -0.9
comp=Z,4.2nm,0.6s,mb4.8
LOF Lofoten 61.85 344 *e*P P 18 35 36.6 +0.6
QLMT Earthquake Lak 62.42 53 P P 18 35 41.1 +1.4
MOR8 Moi Rana 63.37 343 *e*P P 18 35 44.2 -1.8
MOR8 AMb AMB 18 35 45.8
comp=Z,78nm,1.6s,mb5.6
MOR8 Moi Rana 63.37 343 *e*P P 18 35 44.2 -1.8
comp=Z,78nm,1.6s,mb5.6
VIS Vishakhapatnam 63.67 268 *e*P P 18 35 49.0 +0.9
VIS AMb AMB 18 35 51.7
comp=Z,44nm,1.4s,mb5.3
KAF Kangasniemi 63.80 335 *e*p P 18 35 48.0 -0.9
comp=Z,15nm,0.6s,mb5.2,baz=37,slow=6.2
KAF Kangasniemi 63.80 335 *e*P P 18 35 48.0 -0.9
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.2
AJM Ajmer 63.80 282 *ex* x 18 35 43.9
AJM AMb AMB 18 35 52.4
comp=Z,30nm,1.3s,mb5.2
BHPL Bhopal 64.03 277⇓ *e*P P 18 35 49.9 -0.6
BHPL AMb AMB 18 35 52.6
comp=Z,48nm,1.0s,mb5.5
NGP Nagpur 64.31 274 *e*P P 18 35 50.9 -1.4
NGP AMb AMB 18 35 51.7
comp=Z,28nm,1.1s,mb5.2
FINES FINESS Array B 64.39 335 P P 18 35 52.1 -0.7
comp=Z,18nm,0.5s,mb5.4,baz=37,slow=7.8,SNR=114
DUG Dugway 64.59 58 P P 18 35 56.1 +2.0
DUG pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
DUG Dugway 64.59 58 P P 18 35 56.1 +2.0
comp=Z,9.3nm,1.2s,mb4.7
PDAR Pinedale Array 64.78 54 P P 18 35 55.5 +0.1
comp=Z,1.6nm,0.7s,mb4.2,baz=293,slow=1.4,SNR=11
OBN Obninsk 65.66 326⇓ *i*P P 18 36 00.3 -0.8
OBN pmax pmax
comp=Z,21nm,0.6s,mb5.3
AKL Akola 66.01 275 *e*P P 18 36 03.9 +0.6
AKL AMb AMB 18 36 05.0
comp=Z,33nm,1.7s,mb5.1
SRU San Rafael 66.63 57 *e*P P 18 36 07.5 +0.2
SRU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SRU San Rafael 66.63 57 *e*P P 18 36 07.5 +0.2
comp=Z,7.0nm,0.9s,mb4.7
VOR Voronezh 67.07 322 P P 18 36 08.0 -2.1
VOR pmax pmax
comp=Z,70nm,2.0s,mb5.3
PV10 Paradox Valley 67.99 57 *e*P P 18 36 17.1 +1.3
WRA Warramunga Arr 68.28 199 P P 18 36 16.3 -1.4
comp=Z,1.8nm,0.7s,mb4.2,baz=21,slow=6.9,SNR=13
NB2 NORSAR Subarra 68.58 341 P P 18 36 18.9 -0.7
comp=Z,23nm,0.7s,mb5.2,baz=28,slow=6.5
NB2 NORSAR Subarra 68.58 341 P P 18 36 18.9 -0.7
NB2 pmax pmax
comp=Z,23nm,0.7s,mb5.2
NOA NORSAR Array B 68.58 341 P P 18 36 19.1 -0.5
comp=Z,19nm,0.6s,mb5.2,baz=28,slow=6.3,SNR=93
NAO01 NORSAR Array S 68.82 341 *e*P P 18 36 19.9 -1.2
comp=Z,7.7nm,0.6s,mb4.8
MDRS Chennai 69.03 267 *e*P P 18 36 22.1 -0.3
KONO Kongsberg 70.18 341⇑ *e*P P 18 36 29.2 -0.3
KAD Karad 70.28 275 *e*P P 18 36 30.7 +0.6
KAD AMb AMB 18 36 33.2
comp=Z,29nm,1.8s,mb4.9
ECSD EROS,Sioux Fal 70.97 46 *e*P P 18 36 32.4 -1.9
BLS5 Blasjo 71.06 343 *e*P P 18 36 35.7 +0.9
KIV Kislovodsk 71.14 314 P P 18 36 36.9 +1.5
SNR=5.5
KIV Kislovodsk 71.14 314⇓ *e*P P 18 36 36.2 +0.8
KIV *e* 18 36 46.4
KIV 18 36 56.0
KIV pmax pmax
comp=Z,22nm,0.9s,mb5.1
KIV Kislovodsk 71.14 314 *e*P P 18 36 35.8 +0.5
comp=Z,12nm,0.7s,mb4.9
SUW Suwalki 71.35 332 *e*P P 18 36 35.5 -1.1
ZEI Tsey 71.40 313 *e*P P 18 36 36.6 -0.3
ZEI pmax pmax
comp=Z,16nm,1.1s,mb4.9
ANMO Albuquerque 71.84 58 P P 18 36 39.4 -0.2
comp=Z,0.7nm,0.5s,baz=355,slow=11,SNR=3.9
AKASG Malin Array Be 71.90 326 P P 18 36 39.1 -0.8
comp=Z,42nm,0.7s,mb5.5,baz=34,slow=6.2,SNR=105
AS31 Alice Springs 71.97 199 *e*P P 18 36 39.3 -1.0
ASAR Alice Springs 71.97 199 P P 18 36 39.9 -0.5
comp=Z,2.0nm,0.8s,mb4.1,baz=13,slow=6.3,SNR=22
GNI Garni 72.87 311 P P 18 36 47.2 +1.5
comp=Z,12nm,0.7s,mb5.0,baz=338,slow=4.2,SNR=10
GNI Garni 72.87 311 P P 18 36 47.9 +2.2
SNR=6.2
GNI Garni 72.87 311 *i* P P 18 36 45.8 +0.1
GNI pmax pmax
comp=Z,27nm,1.0s
GNI Garni 72.87 311 *e*P P 18 36 47.0 +1.3
comp=Z,36nm,1.0s,mb5.3
ANN Anapa 73.03 318 *e*P P 18 36 45.7 -0.9
ANN pmax pmax
comp=Z,60nm,1.4s,mb5.3
SIM Simferopol' 74.42 320⇑ *e*P P 18 36 57.0 +2.2
SIM pmax pmax
comp=Z,27nm,0.8s,mb5.2
TRD Trivandrum 74.52 266 *e*P P 18 36 54.6 -0.9
TRD AMb AMB 18 37 08.6
comp=Z,37nm,1.3s,mb5.2
KWP Kalwaria 75.18 329 *e*P P 18 36 59.7 +0.5
KWP L 18 38 22.4
comp=Z,104nm,18.6s
BSEG Bad Segeberg 75.18 338 *e*P P 18 36 58.8 -0.4
comp=Z,18nm,0.9s,mb5.0
RUE Ruedersdorf 75.55 336 *e*P P 18 37 01.1 -0.3
comp=Z,23nm,0.9s,mb5.1
OJC Ojcow 75.67 331 *e*P P 18 37 02.1 0.0
STHS Stebnicka Huta 75.87 330 *e*P P 18 37 03.6 +0.4
STHS pmax pmax
comp=Z,20nm,0.9s,mb5.0
STHS Stebnicka Huta 75.87 330 *e*P P 18 37 03.6 +0.4
comp=Z,20nm,0.9s,mb5.0
KOLS Kolonicke sedl 75.92 329 *e*P P 18 37 03.3 -0.2
BURAR Bucovina Array 75.94 327⇑ *i*P P 18 37 03.6 0.0
BURAR Bucovina Array 75.94 327⇑ *e*P P 18 37 03.6 0.0
NIE Niedzica 76.19 331 *e*P P 18 37 05.8 +0.8
CRVS Cervenica-Dubn 76.23 330 *e*P P 18 37 05.1 -0.1
KSP Ksiaz 76.26 334 *e*P P 18 37 05.2 -0.2
WMOK Wichita Mounta 76.39 54 *e*P P 18 37 04.7 -1.5
WMOK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
WMOK Wichita Mounta 76.39 54 *e*P P 18 37 04.7 -1.4
comp=Z,4.3nm,1.1s,mb4.3
NRDL Niedersach Rie 76.54 338 *e*P P 18 37 06.3 -0.7
comp=Z,14nm,1.0s,mb4.8
OKC Ostrava-Krasne 76.55 332 *e*P P 18 37 06.0 -1.0
UPC Upice 76.64 334 *e*P P 18 37 07.2 -0.3
DPC Dobruska-Polom 76.68 333 *e*P P 18 37 07.8 0.0
MORC Moravsky Berou 76.79 332⇓ *i*P P 18 37 08.8 +0.4
MORC Moravsky Berou 76.79 332 P P 18 37 08.6 +0.2
VRI Vrincioaia 76.80 325⇑ *i*P P 18 37 09.3 +0.9
CLL Collm 76.82 336 *e*P P 18 37 07.6 -1.0
comp=Z,40nm,0.7s,mb5.5
CLL Collm 76.82 336⇑ *i*P P 18 37 08.0 -0.6
comp=Z,40nm,0.7s,mb5.5
CLL Collm 76.82 336⇑ *i*P P 18 37 08.0 -0.6
CLL pmax pmax
comp=Z,40nm,0.7s,mb5.5
CLL Collm 76.82 336⇑ *i*P P 18 37 08.0 -0.6
comp=Z,40nm,0.7s,mb5.5
PLOR Plostina 76.84 325⇓ *i*P P 18 37 08.6 -0.1
KECS Kecovo 76.93 330 *e*P P 18 37 09.1 -0.1
KECS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KECS Kecovo 76.93 330 *e*P P 18 37 09.1 -0.1
comp=Z,8.1nm,0.8s,mb4.7
BRG Berggiesshubel 76.93 335 *e*P P 18 37 08.6 -0.6
comp=Z,9.0nm,1.0s,mb4.7
BRG Berggiesshubel 76.93 335 *i* P P 18 37 08.6 -0.6
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 76.93 335 *i* P P 18 37 08.7 -0.6
comp=Z,5.0nm,0.9s,mb4.4
PVCC Panska Ves 77.06 334 *e*P P 18 37 09.5 -0.4
CLZ Clausthal 77.06 337 *e*P P 18 37 09.9 0.0
comp=Z,29nm,0.8s,mb5.3
CLZ Clausthal 77.06 337 *e*P P 18 37 09.9 0.0
CLZ pmax pmax
comp=Z,29nm,0.8s,mb5.3
FBE Freiberg 77.06 335 *e*P P 18 37 09.4 -0.5
comp=Z,18nm,0.7s,mb5.1
HATD Hatta, Dubai 77.15 292 P P 18 37 11.8 +1.4
SNR=6.0
TIRR Tirgusor 77.26 323⇑ *i*P P 18 37 11.3 +0.2
HOQ Hoqain 77.27 291 P P 18 37 12.2 +1.1
SNR=8.3
ASHO Ashiyiah 77.30 292 P P 18 37 12.5 +1.3
SNR=5.4
IBBN Ibbenburen 77.30 339 *e*P P 18 37 10.9 -0.4
comp=Z,21nm,0.8s,mb5.1
MLR Muntele Rosu 77.42 325⇓ *i*P P 18 37 12.3 +0.4
MLR Muntele Rosu 77.42 325⇓ P P 18 37 12.3 +0.4
GTTG Gyttingen 77.44 338 *e*P P 18 37 12.6 +0.6
comp=Z,21nm,1.2s,mb4.9
VYHS Vyhne 77.48 331 *i* P P 18 37 12.2 -0.1
VYHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
VYHS Vyhne 77.48 331 *i* P P 18 37 12.2 -0.1
comp=Z,8.2nm,0.8s,mb4.7
VRAC Vranov 77.51 333⇑ *i*P P 18 37 12.9 +0.5
VRAC Vranov 77.51 333 ⇑P P 18 37 12.9 +0.5
PRU Pruhonice 77.54 334 *e*P P 18 37 12.5 -0.1
DRGR 77.57 328⇓ *i*P P 18 37 12.9 +0.1
DRGR 77.57 328⇓ *i*P P 18 37 13.7 +0.9
DRGR 77.57 328 ⇓P P 18 37 13.7 +0.9
DRGR 77.57 328 ⇓P P 18 37 12.9 +0.1
JMDO Jabal Madar 77.61 289 P P 18 37 14.5 +1.5
SNR=6.5
TANN Tannenbergstha 77.77 336 *e*P P 18 37 13.6 -0.3
comp=Z,6.0nm,1.0s,mb4.5
WERD Werda 77.79 336 *e*P P 18 37 13.7 -0.3
comp=Z,12nm,1.2s,mb4.7
MOX Moxa 77.80 336 *e*P P 18 37 13.8 -0.3
comp=Z,16nm,0.9s,mb5.0
MOX Moxa 77.80 336 *e*P P 18 37 13.6 -0.5
comp=Z,21nm,1.1s,mb5.0
MOX Moxa 77.80 336 *e*P P 18 37 13.6 -0.5
MOX pmax pmax
comp=Z,21nm,1.1s,mb5.0
VOIR 77.81 326⇓ *i*P P 18 37 14.7 +0.6
VOIR 77.81 326 ⇓P P 18 37 14.7 +0.6
GUNZ Gunzen 77.85 336 *e*P P 18 37 14.3 -0.1
comp=Z,14nm,0.8s,mb4.9
TREC Trest 77.86 333 *e*P P 18 37 14.1 -0.3
WERN Wernitzgruen 77.91 336 *e*P P 18 37 14.5 -0.2
comp=Z,21nm,0.7s,mb5.2
SMOL Smolenice 77.93 332 *e*P P 18 37 15.5 +0.7
ARQ Araqi 77.95 291 P P 18 37 16.3 +1.3
SNR=6.0
MTUR Matau 77.99 325⇓ *i*P P 18 37 17.1 +2.0
UBBA Unterbreizbach 78.09 337 *e*P P 18 37 14.9 -0.8
comp=Z,7.0nm,0.9s,mb4.6
BUG Bochum--Univer 78.22 339 *e*P P 18 37 16.0 -0.4
comp=Z,29nm,1.2s,mb5.1
MANZ Manzenberg 78.26 336 *e*P P 18 37 16.6 0.0
comp=Z,17nm,1.1s,mb4.9
ZST Bratislava 78.31 332 *e*P P 18 37 17.7 +0.8
ZST pmax pmax
comp=Z,16nm,0.9s,mb5.0
ZST Bratislava 78.31 332 *e*P P 18 37 17.7 +0.8
comp=Z,16nm,0.9s,mb5.0
ROTZ Rotzenmuhle 78.42 335 *e*P P 18 37 17.4 -0.1
comp=Z,12nm,0.9s,mb4.8
KHC Kasperske Hory 78.59 334 *e*P P 18 37 18.7 +0.2
STKA Stephens Creek 78.68 190 P P 18 37 16.9 -2.1
comp=Z,0.8nm,0.7s,baz=251,slow=21,SNR=3.3
STKA Stephens Creek 78.68 190 *e*P P 18 37 17.3 -1.6
GZR Gura Zlata 78.72 327⇑ *i*P P 18 37 19.4 +0.2
GZR Gura Zlata 78.72 327 P P 18 37 19.2 0.0
GZR Gura Zlata 78.72 327 ⇑P P 18 37 19.4 +0.3
BRTR Keskin Array B 78.74 317 P P 18 37 19.9 +0.7
comp=Z,9.0nm,0.9s,mb4.7,baz=63,slow=4.3,SNR=20
BRTR PP PP 18 40 15.8 -1.6
comp=Z,1.2nm,0.9s,baz=46,slow=6.8,SNR=4.0
GRA1 Grafenberg Arr 78.77 336 *e*P P 18 37 19.4 0.0
comp=Z,30nm,0.7s,mb5.3
GRF Grafenberg Arr 78.77 336 *e*P P 18 37 19.4 0.0
comp=Z,30nm,0.7s,mb5.3
GRF Grafenberg Arr 78.77 336 *e*P P 18 37 19.4 0.0
GRF pmax pmax
comp=Z,30nm,0.7s,mb5.3
WET Wettzell 78.79 335 *e*P P 18 37 19.6 +0.1
comp=Z,19nm,0.9s,mb5.0
WET Wettzell 78.79 335 *e*P P 18 37 19.6 +0.1
WET pmax pmax
comp=Z,19nm,0.9s,mb5.0
GEC2 GERESS Array S 78.81 334 *e*P P 18 37 19.4 -0.2
comp=Z,10.0nm,0.8s,mb4.6
GEC2 GERESS Array S 78.81 334 *e*P P 18 37 19.4 -0.2
GEC2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GERES GERESS Array B 78.81 334 P P 18 37 19.4 -0.2
comp=Z,6.2nm,0.7s,mb4.6,baz=39,slow=4.5,SNR=36
UMR Umm Al-Rimmam 78.94 301 *e*P P 18 37 21.4 +1.1
UMR AMb AMB 18 37 23.1
comp=Z,78nm,0.8s,mb5.7
CONA Conrad Observa 78.95 332 *i* P P 18 37 21.1 +0.6
comp=Z,8.4nm,0.8s,mb4.8,SNR=10
BZS Buzias 78.97 328⇑ *i*P P 18 37 20.2 -0.3
BZS Buzias 78.97 328 ⇑P P 18 37 20.2 -0.3
MIB Mutribah 78.98 302 *e*P P 18 37 21.7 +1.2
MIB AMb AMB 18 37 23.4
comp=Z,112nm,0.8s,mb5.8
ANTO Ankara 79.02 318⇑ *i*P P 18 37 22.1 +1.3
TNS Taunus Mts 79.04 338 *e*P P 18 37 20.6 -0.3
comp=Z,13nm,0.8s,mb4.9
TNS Taunus Mts 79.04 338 *e*P P 18 37 20.6 -0.3
TNS pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZIMR 79.17 324 P P 18 37 21.8 +0.2
MEM Membach 79.30 340 P P 18 37 21.1 -1.3
QRN Al-Qurain 79.41 301 *e*P P 18 37 24.1 +1.1
QRN AMb AMB 18 37 25.2
comp=Z,50nm,0.5s,mb5.7
NAY Al-Naaiem 79.44 301 *e*P P 18 37 23.6 +0.5
NAY AMb AMB 18 37 25.1
comp=Z,33nm,0.8s,mb5.3
MOA Molln 79.52 333⇑ *i*P P 18 37 23.7 +0.2
comp=Z,7.8nm,0.8s,mb4.7,SNR=9.6
BCLA Clavier 79.64 340 P P 18 37 23.9 -0.3
ARSA Arzberg 79.66 332⇓ *i*P P 18 37 24.9 +0.6
comp=Z,15nm,1.4s,mb4.7,SNR=7.8
GIVF Givet 80.05 340 *e*P P 18 37 26.1 -0.3
DOU Dourbes 80.11 340 P P 18 37 26.3 -0.5
FUR Furstenfeldbru 80.14 335 *e*P P 18 37 26.8 -0.1
comp=Z,28nm,1.0s,mb5.2
FUR Furstenfeldbru 80.14 335 *e*P P 18 37 26.8 -0.1
FUR pmax pmax
comp=Z,28nm,1.0s,mb5.2
STU Stuttgart 80.17 337 P P 18 37 26.5 -0.5
STU pmax pmax
comp=Z,23nm,0.9s,mb5.1
STU Stuttgart 80.17 337 P P 18 37 26.5 -0.6
comp=Z,23nm,0.9s,mb5.1
BAIF Baives 80.23 340 *e*P P 18 37 27.1 -0.3
PERS Pernice 80.33 332 *e*P P 18 37 27.8 -0.1
KBA Koelnbreinsper 80.49 334 *i* P P 18 37 29.7 +0.8
comp=Z,43nm,0.7s,mb5.5,SNR=55
KBA Koelnbreinsper 80.49 334 *i* P P 18 37 29.7 +0.9
KBA pmax pmax
comp=Z,43nm,0.7s,mb5.5
OBKA Obir 80.62 333⇑ *i*P P 18 37 29.3 -0.2
comp=Z,9.3nm,0.8s,mb4.8,SNR=10.0
BFO Black Forest 80.81 337 P P 18 37 30.5 0.0
comp=Z,91nm,0.8s,mb5.8,SNR=7.3
BFO Black Forest 80.81 337 *e*P P 18 37 30.1 -0.4
comp=Z,18nm,1.1s,mb4.9
BFO Black Forest 80.81 337 *e*P P 18 37 30.1 -0.4
BFO pmax pmax
comp=Z,18nm,1.1s,mb4.9
WTTA Wattenberg 80.84 335 *i* P P 18 37 31.4 +0.7
comp=Z,26nm,0.5s,mb5.4,SNR=12
WTTA Wattenberg 80.84 335 *i* P P 18 37 31.4 +0.7
WTTA pmax pmax
comp=Z,26nm,0.5s,mb5.4
WTTA Wattenberg 80.84 335 *i* P P 18 37 31.4 +0.7
comp=Z,26nm,0.5s,mb5.4
LEGS Legarje 80.87 332 *e*P P 18 37 30.3 -0.5
VTS Vitosha 80.92 325⇑ *i*P P 18 37 31.4 +0.3
VTS Vitosha 80.92 325 ⇑P P 18 37 31.4 +0.3

MOTA	**Moosalm**	**80.93**	**335**	⇓*i*P		**P**	**18 37 31.4**	**+0.3**	
	comp=Z,26nm,1.1s,mb5.1,SNR=17								
MOTA	**Moosalm**	**80.93**	**335**	⇓*i*P		**P**	**18 37 31.4**	**+0.3**	
MOTA					pmax	pmax			
	comp=Z,26nm,1.1s,mb5.1								
CRES	**Cresnjev**	**80.94**	**332**	*e*P		**P**	**18 37 30.6**	**-0.5**	
WLS	**Welschbruch**	**80.99**	**338**	*e*P		**P**	**18 37 32.1**	**+0.7**	
SQTA	**Sankt Quirin**	**81.01**	**335**	⇑*i*P		**P**	**18 37 32.0**	**+0.5**	
	comp=Z,11nm,1.0s,mb4.8,SNR=11								
SQTA	**Sankt Quirin**	**81.01**	**335**	⇑*i*P		**P**	**18 37 32.0**	**+0.4**	
SQTA					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
PTCC	**Patocco-Chiusa**	**81.09**	**333**	P		**P**	**18 37 31.2**	**-0.8**	
FVI	**Forni Avoltri**	**81.10**	**334**	P		**P**	**18 37 31.8**	**-0.2**	
ECH	**Echery**	**81.22**	**338**	*e*P		**P**	**18 37 33.0**	**+0.3**	
BOJS	**Bojanci**	**81.29**	**332**	*e*P		**P**	**18 37 32.5**	**-0.6**	
FELD	**Feldberg im Sc**	**81.31**	**337**	*e*P		**P**	**18 37 33.0**	**-0.2**	
MEZF	**Maizieres J'vi**	**81.49**	**339**	*e*P		**P**	**18 37 34.1**	**0.0**	
	comp=Z,57nm,0.9s,mb5.2								
MEZF	**Maizieres J'vi**	**81.49**	**339**	*e*P		**P**	**18 37 34.1**	**0.0**	
	comp=Z,57nm,0.9s,mb5.5								
THEF	**They Montfort**	**81.51**	**339**	*e*P		**P**	**18 37 33.6**	**-0.6**	
MOF	**Molkenrain**	**81.56**	**338**	*e*P		**P**	**18 37 34.7**	**+0.2**	
HAU	**Haudompre**	**81.62**	**338**	*e*P		**P**	**18 37 34.4**	**-0.4**	
HINF	**Hinteralfeld**	**81.67**	**338**	*e*P		**P**	**18 37 34.6**	**-0.4**	
	comp=Z,10nm,0.7s,mb4.5								
HINF	**Hinteralfeld**	**81.67**	**338**	*e*P		**P**	**18 37 34.6**	**-0.4**	
HINF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
HINF	**Hinteralfeld**	**81.67**	**338**	*e*P		**P**	**18 37 34.6**	**-0.4**	
	comp=Z,5.2nm,0.7s,mb4.6								
BRMO	**Bormio**	**81.93**	**335**	P		**P**	**18 37 38.1**	**+1.7**	
CTI	**Castel Tesino**	**81.94**	**334**	P		**P**	**18 37 35.8**	**-0.7**	
FLN	**La Foliniere**	**82.48**	**343**	*e*P		**P**	**18 37 38.8**	**-0.5**	
	comp=Z,30nm,1.0s,mb4.9								
FLN	**La Foliniere**	**82.48**	**343**	*e*P		**P**	**18 37 38.8**	**-0.5**	
FLN					pmax	pmax			
	comp=Z,15nm,1.0s,mb4.9								
FLN	**La Foliniere**	**82.48**	**343**	*e*P		**P**	**18 37 38.8**	**-0.5**	
	comp=Z,15nm,1.0s,mb4.9								
LDF	**La Druitiere**	**82.57**	**343**	*e*P		**P**	**18 37 39.2**	**-0.6**	
GRR	**Gorron**	**82.91**	**343**	*e*P		**P**	**18 37 41.3**	**-0.3**	
	comp=Z,35nm,0.8s,mb5.1								
GRR	**Gorron**	**82.91**	**343**	*e*P		**P**	**18 37 41.3**	**-0.3**	
GRR					pmax	pmax			
	comp=Z,17nm,0.8s,mb5.1								
GRR	**Gorron**	**82.91**	**343**	*e*P		**P**	**18 37 41.3**	**-0.3**	
	comp=Z,17nm,0.8s,mb5.1								
LOR	**Lormes**	**82.93**	**340**	*e*P		**P**	**18 37 41.4**	**-0.2**	
	comp=Z,40nm,1.0s,mb5.1								
LOR	**Lormes**	**82.93**	**340**	*e*P		**P**	**18 37 41.4**	**-0.2**	
LOR					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.1								
LOR	**Lormes**	**82.93**	**340**	*e*P		**P**	**18 37 41.4**	**-0.2**	
	comp=Z,20nm,1.0s,mb5.1								
ASF	**Jabal al Asfar**	**83.03**	**310**	P		**P**	**18 37 43.5**	**+1.3**	
	comp=Z,8.6nm,1.0s,mb4.7,baz=148,slow=2.5,SNR=7.9								
HYF	**Humbligny**	**83.21**	**340**	*e*P		**P**	**18 37 43.2**	**+0.1**	
ROSF	**Rostrenen**	**83.43**	**345**	*e*P		**P**	**18 37 44.1**	**-0.1**	
	comp=Z,54nm,1.0s,mb5.2								
ROSF	**Rostrenen**	**83.43**	**345**	*e*P		**P**	**18 37 44.1**	**-0.1**	
ROSF					pmax	pmax			
	comp=Z,27nm,1.0s,mb5.2								
ROSF	**Rostrenen**	**83.43**	**345**	*e*P		**P**	**18 37 44.1**	**-0.1**	
	comp=Z,27nm,1.0s,mb5.2								
TKL	**Tuckaleechee C**	**83.47**	**44**	P		**P**	**18 37 43.8**	**-0.7**	
	comp=Z,2.8nm,0.7s,mb4.4,baz=293,slow=15								
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P		**P**	**18 37 44.3**	**-0.3**	
	comp=Z,53nm,1.0s,mb5.2								
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P		**P**	**18 37 44.3**	**-0.3**	
AVF					pmax	pmax			
	comp=Z,27nm,1.0s,mb5.2								
AVF	**Avril sur Loir**	**83.50**	**340**	*e*P		**P**	**18 37 44.3**	**-0.3**	
	comp=Z,27nm,1.0s,mb5.2								
SMF	**Signal de Mont**	**83.51**	**339**	*e*P		**P**	**18 37 44.5**	**-0.2**	
	comp=Z,100nm,1.1s,mb5.6								
SMF	**Signal de Mont**	**83.51**	**339**	*e*P		**P**	**18 37 44.5**	**-0.2**	
SMF					pmax	pmax			
	comp=Z,50nm,1.1s,mb5.6								
SMF	**Signal de Mont**	**83.51**	**339**	*e*P		**P**	**18 37 44.5**	**-0.2**	
	comp=Z,50nm,1.1s,mb5.6								
RSM	**Repubblica di**	**83.59**	**333**	P		**P**	**18 37 46.1**	**+1.0**	
RSL	**Roselend**	**83.69**	**337**	*e*P		**P**	**18 37 46.4**	**+0.8**	
FSSB	**Fossombrone**	**83.70**	**332**	P		**P**	**18 37 46.0**	**+0.4**	
GSCL	**Gusciola**	**83.79**	**334**	P		**P**	**18 37 46.9**	**+0.8**	
	comp=Z,17nm,1.1s,mb5.1								
QUIF	**Quistinic**	**83.81**	**344**	*e*P		**P**	**18 37 45.8**	**-0.4**	
LPL	**La Plagne**	**83.82**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
	comp=Z,32nm,1.0s,mb5.1								
LPL	**La Plagne**	**83.82**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
LPL					pmax	pmax			
	comp=Z,16nm,1.0s,mb5.1								
LPL	**La Plagne**	**83.82**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
	comp=Z,16nm,1.0s,mb5.1								
SEI	**Searperia**	**83.82**	**333**	P		**P**	**18 37 47.7**	**+1.4**	
	comp=Z,73nm,0.7s,mb5.9								
BGF	**Bois d'Agland**	**83.83**	**340**	*e*P		**P**	**18 37 46.1**	**-0.2**	
	comp=Z,13nm,0.8s,mb4.8								
BGF	**Bois d'Agland**	**83.83**	**340**	*e*P		**P**	**18 37 46.1**	**-0.2**	
BGF					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8								
BGF	**Bois d'Agland**	**83.83**	**340**	*e*P		**P**	**18 37 46.1**	**-0.2**	
	comp=Z,6.6nm,0.8s,mb4.8								
LPG	**La Plagne**	**83.84**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
	comp=Z,36nm,1.0s,mb5.1								
LPG	**La Plagne**	**83.84**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
LPG					pmax	pmax			
	comp=Z,18nm,1.0s,mb5.2								
LPG	**La Plagne**	**83.84**	**337**	*e*P		**P**	**18 37 46.2**	**-0.1**	
	comp=Z,18nm,1.0s,mb5.2								
VMG	**Vicchio**	**83.85**	**333**	P		**P**	**18 37 48.1**	**+1.7**	
	comp=Z,36nm,0.8s,mb5.5								
CRE	**Caprese Michel**	**84.03**	**333**	P		**P**	**18 37 49.7**	**+2.4**	
SNTG	**Esanatoglia**	**84.04**	**332**	P		**P**	**18 37 47.8**	**+0.4**	
	comp=Z,9.9nm,0.7s,mb5.0								
TCF	**Toulx Ste Croi**	**84.24**	**340**	*e*P		**P**	**18 37 48.1**	**-0.3**	
	comp=Z,26nm,1.0s,mb5.0								
TCF	**Toulx Ste Croi**	**84.24**	**340**	*e*P		**P**	**18 37 48.1**	**-0.3**	
TCF					pmax	pmax			
	comp=Z,13nm,1.0s,mb5.0								
TCF	**Toulx Ste Croi**	**84.24**	**340**	*e*P		**P**	**18 37 48.1**	**-0.3**	
	comp=Z,13nm,1.0s,mb5.0								
BNI	**Bardonecchia**	**84.27**	**337**	*e*P		**P**	**18 37 49.1**	**+0.6**	
BNI					pmax	pmax			
	comp=Z,20nm,1.3s,mb5.1								
BNI	**Bardonecchia**	**84.27**	**337**	*e*P		**P**	**18 37 49.1**	**+0.5**	
	comp=Z,20nm,1.3s,mb5.1								
CSNT	**Castellina Chi**	**84.37**	**333**	P		**P**	**18 37 49.7**	**+0.7**	
MFF	**Saint Martin d**	**84.47**	**342**	*e*P		**P**	**18 37 49.3**	**-0.2**	
	comp=Z,21nm,0.9s,mb5.0								
MFF	**Saint Martin d**	**84.47**	**342**	*e*P		**P**	**18 37 49.3**	**-0.2**	
MFF					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.0								
MFF	**Saint Martin d**	**84.47**	**342**	*e*P		**P**	**18 37 49.3**	**-0.2**	
	comp=Z,11nm,0.9s,mb5.0								
MBDF	**Montbardon**	**84.54**	**337**	*e*P		**P**	**18 37 49.9**	**0.0**	
	comp=Z,8.3nm,0.7s,mb4.7								
MBDF	**Montbardon**	**84.54**	**337**	*e*P		**P**	**18 37 49.9**	**0.0**	
MBDF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7								
MBDF	**Montbardon**	**84.54**	**337**	*e*P		**P**	**18 37 49.9**	**0.0**	
	comp=Z,4.2nm,0.7s,mb4.7								
RGNG	**Rignano Grg**	**84.56**	**330**	P		**P**	**18 37 49.4**	**-0.6**	
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P		**P**	**18 37 50.0**	**-0.2**	
	comp=Z,31nm,0.8s,mb5.2								
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P		**P**	**18 37 50.0**	**-0.2**	
ORIF					pmax	pmax			
	comp=Z,16nm,0.8s,mb5.2								
ORIF	**Oris-en-Rattie**	**84.61**	**337**	*e*P		**P**	**18 37 50.0**	**-0.2**	
	comp=Z,16nm,0.8s,mb5.2								
AQU	**L'Aquila**	**84.70**	**331**	P		**P**	**18 37 51.7**	**+1.0**	
VIVF	**Saint-Julien-l**	**84.98**	**338**	*e*P		**P**	**18 37 51.8**	**-0.3**	
	comp=Z,23nm,0.9s,mb5.0								
VIVF	**Saint-Julien-l**	**84.98**	**338**	*e*P		**P**	**18 37 51.8**	**-0.3**	
VIVF					pmax	pmax			
	comp=Z,12nm,0.9s,mb5.0								
VIVF	**Saint-Julien-l**	**84.98**	**338**	*e*P		**P**	**18 37 51.8**	**-0.3**	
	comp=Z,12nm,0.9s,mb5.0								
FG5	**Orsara di Pugl**	**85.02**	**330**	P		**P**	**18 37 53.0**	**+0.7**	
FG5					pmax	pmax			
	comp=Z,33nm,0.8s,mb5.5								
FG5	**Orsara di Pugl**	**85.02**	**330**	P		**P**	**18 37 53.0**	**+0.7**	
	comp=Z,33nm,0.8s,mb5.5								
AUTN	**L'Aution**	**85.04**	**336**	*e*P		**P**	**18 37 55.5**	**+3.1**	
MVIF	**Mont Vial**	**85.20**	**336**	*e*P		**P**	**18 37 53.3**	**+0.1**	
REVF	**Revere**	**85.29**	**336**	*e*P		**P**	**18 37 54.2**	**+0.5**	
RJF	**Les Rejaudoux**	**85.33**	**340**	*e*P		**P**	**18 37 53.0**	**-0.9**	
CAF	**Calviac**	**85.56**	**340**	*e*P		**P**	**18 37 54.6**	**-0.4**	
SMRF	**Simiane la Rot**	**85.56**	**337**	*e*P		**P**	**18 37 54.8**	**-0.2**	
FRF	**La Foret Royal**	**85.66**	**336**	*e*P		**P**	**18 37 55.2**	**-0.3**	
LFF	**La Frestale**	**85.85**	**341**	*e*P		**P**	**18 37 55.9**	**-0.6**	
	comp=Z,11nm,0.6s,mb5.0								
LFF	**La Frestale**	**85.85**	**341**	*e*P		**P**	**18 37 55.9**	**-0.6**	
LFF					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.9								
LFF	**La Frestale**	**85.85**	**341**	*e*P		**P**	**18 37 55.9**	**-0.6**	
	comp=Z,5.3nm,0.6s,mb5.0								
LMR	**La Mourre**	**85.90**	**336**	*e*P		**P**	**18 37 56.1**	**-0.6**	
	comp=Z,44nm,1.1s,mb5.3								
LMR	**La Mourre**	**85.90**	**336**	*e*P		**P**	**18 37 56.1**	**-0.6**	
LMR					pmax	pmax			
	comp=Z,22nm,1.1s,mb5.3								
LMR	**La Mourre**	**85.90**	**336**	*e*P		**P**	**18 37 56.1**	**-0.6**	
	comp=Z,22nm,1.1s,mb5.3								
MTLF	**Montolieu**	**87.01**	**339**	*e*P		**P**	**18 38 01.8**	**-0.4**	
SOI	**Samo**	**87.57**	**328**	P		**P**	**18 38 06.1**	**+1.2**	
SOI					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.8								
SOI	**Samo**	**87.57**	**328**	P		**P**	**18 38 06.1**	**+1.2**	
	comp=Z,5.4nm,0.8s,mb4.8								
SJPF	**Ste Jean**	**88.02**	**342**	*e*P		**P**	**18 38 07.5**	**+0.5**	
ETSF	**Etsaut**	**88.08**	**341**	*e*P		**P**	**18 38 06.7**	**-0.6**	
KEST	**Kesra**	**92.02**	**331**	P		**P**	**18 38 26.8**	**+1.1**	
	comp=Z,2.5nm,0.7s,mb4.7,baz=327,slow=3.0,SNR=13								
TORD	**Torodi Ar. Bea**	**115.45**	**329**	PKP		PKPdf	18 43 57.9	-0.7	
	comp=Z,0.4nm,0.5s,baz=30,slow=2.0,SNR=8.3								
TORD	**Torodi Ar. Bea**	**115.45**	**329**	PKP		PKPdf	18 43 57.9	-0.7	
DBIC	**Dimbokro**	**123.68**	**334**	PKP		PKPdf	18 44 12.6	-1.9	
	comp=Z,4.3nm,0.8s,baz=323,slow=3.7,SNR=3.4								
BDFB	**Brasilia**	**144.48**	**37**	PKP		PKPdf	18 44 50.7	-2.4	
	comp=Z,4.2nm,0.8s,baz=259,slow=2.8,SNR=4.3								
CFAA	**Coronel Fontan**	**144.87**	**80**	PKP		PKPdf	18 44 51.7	-2.1	
	comp=Z,0.3nm,0.5s,baz=279,slow=4.6,SNR=7.1								
PLCA	**Paso Flores**	**148.00**	**96**	PKPbc		PKPbc	18 45 00.9	-1.3	
	comp=Z,2.7nm,0.7s,baz=235,slow=3.8,SNR=11								
PLCA	**Paso Flores**	**148.00**	**96**	PKP2		PKPab	18 45 00.9	-4.0	
PLCA					pmax	pmax			
	comp=Z,3.0nm,0.7s								
CPUP	**Villa Florida**	**148.46**	**61**	PKPbc		PKPbc	18 45 01.6	-1.8	
	comp=Z,2.6nm,0.6s,baz=320,slow=4.6,SNR=9.4								
CPUP	**Villa Florida**	**148.46**	**61**	PKP2		PKPab	18 45 01.6	-5.1	
CPUP					pmax	pmax			
	comp=Z,3.0nm,0.6s								
CPUP	**Villa Florida**	**148.46**	**61**	*e*PKPbc		PKPbc	18 45 01.5	-1.9	
SNAA	**Sanae**	**152.31**	**196**	PKPbc		PKPbc	18 45 08.1	-4.6	
	comp=Z,0.4nm,0.7s,baz=187,slow=9.4,SNR=5.1								
SNAA	**Sanae**	**152.31**	**196**	*e*PKPdf		pPKPbc	18 45 18.7	+1.4	
SNAA				*e*			18 45 31.4		
VNA3	**Neumayer Olymp**	**153.83**	**192**	*e*PKPdf		PKPab	18 45 31.5	+2.5	
VNA3				*e*			18 45 34.9		
VNA3				*e*			18 45 36.9		
VNA3				*e*			18 45 47.7		
VNA3				*e*			18 45 59.9		
VNA1	**Neumayer--Stat**	**154.13**	**194**	*e*PKPdf		PKPab	18 45 26.7	-3.6	
VNA1				*e*			18 45 31.4		

BER ***30*** *18:30:15.2±3.5, 75.78N×7.41E, h22km±75km, ML2.7, ML2.3(NAO)*
NAO ***30*** *18:30:17.6±3.9, 75.84N×9.57E, ML2.3*
HEL 30 18:30:17.1±0.7, 76.01N×9.71E, h10km, ML3.1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.64**	**31**	*e*PB		Pb	18 31 02.0	-2.5
	baz=206,slow=14							
SPA0				*e*SB		Sb	18 31 36.4	-0.6
	baz=229,slow=28							
KBS	**Kingsbay**	**2.97**	**8**	*e*P		Pn	18 31 03.4	-0.8
HOPEN	**Hopen**	**3.68**	**75**	*e*P		Pb	18 31 18.4	-3.8
HOPEN				*e*S		Sg	18 32 03.9	-11
HOPEN				AML		AML	18 32 06.2	
	comp=N,32nm,0.6s							
KIF	**Kilpisjarvi**	**7.78**	**149**	*e*P		Pn	18 32 09.9	-0.4
KIF				MPN			18 32 13.5	
	comp=Z,1.1nm,0.3s							
KIF				*e*S		Sn	18 33 33.5	-4.8
ARA0	**ARCESS Array S**	**7.98**	**136**	*e*P		Pn	18 32 12.0	-1.2
	baz=332,slow=12							
ARA0				*e*S		Sn	18 33 38.3	-5.2
	baz=327,slow=18							
KEV	**Kevo**	**8.05**	**132**	*e*p		Pn	18 32 13.4	-0.7
KEV	**Kevo**	**8.05**	**132**	*e*P		Pn	18 32 14.2	+0.1
KEV				*e*S		Sn	18 33 38.6	-6.6
SGF	**Sodankyl**	**10.04**	**140**	*e*P		Pn	18 32 38.0	-3.3
SGF				*e*S		Sn	18 34 25.9	-8.0
KU4	**Liikasenvaara**	**11.52**	**137**	MPN			18 33 07.1	
	comp=Z,0.4nm,0.3s							
KU4				*e*P			18 33 01.2	
KU4				*e*S		Sn	18 35 00.9	-9.3
KU4				*e*			18 35 23.8	

SKHL ***30*** *18:33:35.4±2.8, 46.00N×154.00E, h46km±3km, mb5.6/10*
BJI ***30*** *18:33:36.1, 46.62N×153.28E, h7km, mB6.3, mb5.4, Ms5.8, Msz5.5*
ISCJB ***30*** *18:33:37.1±0.2, 46.24N±0.003×153.30E±0.003, h15km, mb5.4/219, MS5.7/12, Error ellipse: s-maj=4.7km s-min=2.0km az=119.0*
JMA ***30*** *18:33:37.8±0.8, 46.30N×153.60E, h30km, M5.7*
NEIC ***30*** *18:33:38.0±0.1, 46.33N×153.26E, h10km, mb5.4/122, Error ellipse: s-maj=4.2km s-min=2.9km az=163.0*
GCMT ***30*** *18:33:38.0±0.6, 46.27N×153.14E, h19km±1km, MW5.5/49, Moment Tensor Solution. s18,c22; s49,c70; Duration: 1s3 Moment tensor: Scale 10^17^Nm; Mrr1.69±.20; Mθθ-1.05±.12; Mφφ-0.64±.11; Mrθ0.86±.25; Mθφ-0.62±.05; Mφr0.54±.21; Best double couple: M0 1.89300×10^17^ NP1:φs232.00000°, δ29.00000°, λ87.00000°. NP2: φs56.00000°, δ61.00000°, λ92.00000°. Principal axes: T 1.9870, Plg74.0000°, Azm331.0000°; N -0.1910, Plg2.0000°, Azm235.0000°; P -1.7990, Plg16.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***30*** *18:33:40.3±0.9, 46.41N×153.24E, h32km, mb5.7/78 Error ellipse: s-maj=6.9km s-min=3.8km az=103.2*
BGS ***30*** *18:33:40.9±1.6, 46.86N×153.35E, h10km±999km, mb5.2*
IDC ***30*** *18:33:50.1±3.5, 46.41N×153.18E, h108km±30km, mb4.7/33, mb1 4.8/34, mb1mx4.7/36, mbtmp5.1/34, Error ellipse: s-maj=11.1km s-min=9.2km az=141.0*
SZGRF ***30*** *18:33:53.0, 47.76N×151.81E, h33km, mb5.6, Kuril Islands, Russia*
ISC 30 18:33:39.1±0.2, 46.37N±0.003×153.27E±0.003, h16km, h16km±1.5km: pP-P, n752, σ0.95/768, mb5.4/219, MS5.7/12, 148C-23D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.94**	**255**	*i*P		**Pn**	**18 34 38.0**	**-1.0**
KUR				AMB		AMB	18 34 39.0	
	530nm,0.6s							
KUR				AMB		AMB	18 34 39.0	
	680nm,0.6s							
KUR				AMB		AMB	18 34 39.0	
	5μm,0.6s							
KUR				*e*S		**Sn**	**18 35 27.0**	**+2.1**
KUR				A			18 35 50.5	
	4μm,0.9s							
KUR				A			18 35 50.5	
	9μm,0.9s							
KUR	**Kuril'sk**	**3.94**	**255**	⇑*i*PN		**Pn**	**18 34 38.0**	**-1.0**
KUR				*i* S		**Sn**	**18 35 27.0**	**+2.1**
KUR				pmax		pmax		
	comp=N,530nm,0.6s							
KUR				pmax		pmax		
	comp=E,680nm,0.6s							
KUR				pmax		pmax		
	comp=Z,2μm,0.6s							
KUR				smax				
	comp=N,4μm,0.9s							
KUR				smax				
	comp=E,9μm,0.9s							
SKR	**Severo-Kuril's**	**4.71**	**23**	*e*P		**Pn**	**18 34 47.0**	**-2.5**
SKR				AMB		AMB	18 34 52.4	
	comp=E,230nm,1.0s							
SKR				AMB		AMB	18 34 52.4	
	comp=E,1μm,1.0s							
SKR				AMB		AMB	18 34 52.4	
	comp=E,460nm,1.0s							
SKR				sP			18 35 06.0	
SKR				*i* S		**Sn**	**18 35 38.6**	**-5.2**
SKR				A			18 36 05.9	
	comp=E,1μm,0.6s							
SKR				A			18 36 05.9	
	comp=E,490nm,0.6s							
SKR				A			18 36 05.9	
	comp=E,350nm,0.6s							
PAU	**Pauzhetka**	**5.61**	**23**	*e*P		**Pn**	**18 35 01.9**	**0.0**
PAU				*e*S		**Sn**	**18 36 05.6**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**5.73**	**249**	*e*P		**Pn**	**18 35 04.4**	**+0.9**
YUK				AMB		AMB	18 35 08.5	
	comp=E,1μm,0.5s							
YUK				*e*S		**Sn**	**18 36 10.5**	**+1.6**
YUK				A			18 36 23.5	
	comp=E,4μm,0.8s							
YUK				A			18 36 23.5	
	comp=E,3μm,0.8s							
NEM2	**Nemuro 2**	**6.13**	**243**	⇑P		**Pn**	**18 35 08.0**	**-1.0**
NEM2				*e*S		**Sn**	**18 36 15.5**	**-3.3**
JRA	**Rausu**	**6.25**	**250**	⇑P		**Pn**	**18 35 12.2**	**+1.5**
JNK	**Nakash**	**6.67**	**248**	P		**Pn**	**18 35 17.1**	**+0.7**
JNK				*e*S		**Sn**	**18 36 31.2**	**-0.9**
JAK	**Akkeshi**	**6.98**	**244**	P		**Pn**	**18 35 20.0**	**-0.6**
JAK				*e*S		**Sn**	**18 36 35.0**	**-4.6**
JTKR	**Abashiri--Toko**	**7.04**	**253**	⇑P		**Pn**	**18 35 23.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	⇑*e*P		**Pn**	**18 35 28.0**	**+3.5**
YSS				AMB		AMB	18 35 31.2	
	comp=E,270nm,0.8s							
YSS				AMB		AMB	18 35 31.2	
	comp=E,250nm,0.8s							
YSS				*i* S		**Sn**	**18 36 52.0**	**+5.5**
YSS				A			18 36 59.2	
	comp=E,170nm,0.8s							
YSS				A			18 36 59.2	
	comp=E,200nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	⇑*i*PN		**Pn**	**18 35 28.0**	**+3.5**
YSS				pmax		pmax		
	comp=E,270nm,0.8s							
YSS				pmax		pmax		
	comp=Z,250nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.26**	**278**	*e*Pn		**Pn**	**18 35 27.4**	**+2.9**
	comp=Z,304nm,0.8s							
YSS				*e*Sn		**Sn**	**18 36 51.1**	**+4.6**
JMP	**Maruseppu**	**7.39**	**255**	⇑P		**Pn**	**18 35 28.7**	**+2.4**
JAR	**Ashorobuto**	**7.42**	**249**	P		**Pn**	**18 35 27.8**	**+1.1**
JAR				*e*S		**Sn**	**18 36 50.6**	**+0.2**
PET	**Petropavlovsk**	**7.52**	**26**	*e*PN		**Pn**	**18 35 28.7**	**+0.6**
PET				pmax		pmax		
	comp=Z,377nm,1.1s							
PET				pmax		pmax		
	comp=N,419nm,1.1s							
PET				pmax		pmax		
	comp=E,210nm,0.9s							
PET	**Petropavlovsk**	**7.52**	**26**	*e*P		**Pn**	**18 35 26.6**	**-1.5**
JOB	**Onbets**	**7.57**	**246**	P		**Pn**	**18 35 28.7**	**0.0**
JOB				*e*S		**Sn**	**18 36 52.0**	**-2.1**
JSE	**Soyaes**	**7.62**	**263**	⇑P		**Pn**	**18 35 33.4**	**+4.0**
JKK2	**Kamakawa 2**	**7.85**	**255**	P		**Pn**	**18 35 35.2**	**+2.6**
ASAJ	**Asahikawa**	**7.86**	**257**	P		**Pn**	**18 35 36.0**	**+3.2**
	comp=E,14nm,0.3s,baz=92,slow=16,SNR=116							
ASAJ				S		**Sn**	**18 37 13.2**	**+12**
	baz=30,slow=18,SNR=1.9							
ASAJ	**Asahikawa**	**7.86**	**257**	⇑P		**Pn**	**18 35 35.9**	**+3.1**
ASAJ	**Asahikawa**	**7.86**	**257**	PN		**Pn**	**18 35 36.0**	**+3.2**
ASAJ				S		**Sn**	**18 37 13.2**	**+12**
ASAJ				pmax		pmax		
	comp=Z,14nm,0.3s							
JWK2	**Keihoku**	**8.01**	**267**	P		**Pn**	**18 35 40.4**	**+5.6**
JCH	**Churui**	**8.01**	**246**	⇑P		**Pn**	**18 35 34.7**	**-0.1**
JCH				*e*S		**Sn**	**18 37 01.2**	**-3.9**
UGL	**Uglegorsk**	**8.03**	**294**	*i* P		**Pn**	**18 35 40.3**	**+5.3**
UGL				AMB		AMB	18 35 41.4	
	comp=Z,120nm,0.8s							
UGL

JAG Ashikaga 14.34 231 P **Pn** **18 36 58.2 -3.2**
EKMR Ekimchan 14.73 304 *e*P **Pn** **18 37 07.0 +0.3**
EKMR AMB AMB 18 37 12.8
comp=N,45nm,0.6s
KLR Kul'dur 14.73 289 *e*P **Pn** **18 37 08.2 +1.4**
KLR AMB AMB 18 37 09.2
comp=N,140nm,1.6s
MAJO Matsushiro 14.94 234 *e*P **Pn** **18 37 06.9 -2.7**
MAT Matsushiro 14.94 234 P **Pn** **18 37 06.3 -3.3**
MAT *e*S **Sn** **18 40 00.3 +5.6**
MAT Matsushiro 14.94 234 P **Pn** **18 37 06.5 -3.1**
MJAR Matsushiro Arr 14.94 234 P **Pn** **18 37 06.8 -2.8**
comp=N,1.0nm,0.3s,baz=30,slow=12,SNR=38
MJAR S **Sn** **18 39 52.4 -2.3**
comp=N,0.3nm,0.3s,baz=64,slow=21,SNR=2.9
JNG Nsakai 15.10 234 P **Pn** **18 37 09.2 -2.5**
JTT Ttatey 15.39 236 P **Pn** **18 37 13.2 -2.3**
VLA Vladivostok 15.52 266 *e*P **Pn** **18 37 16.8 -0.5**
VLA pmax pmax
comp=Z,138nm,1.4s
VLA Vladivostok 15.52 266 *i* P **Pn** **18 37 15.5 -1.8**
SEY Seymchan 16.61 359⇑ *e*P **Pn** **18 37 30.8 -0.4**
MDJ Mudanjiang 16.68 273 P **Pn** **18 37 32.3 +0.1**
MDJ AP pP 18 37 37.5 -1.5
MDJ XP sP 18 37 39.0 -2.2
MDJ S **Sn** **18 40 39.0 +1.9**
MDJ AMB AMB
comp=Z,193nm,1.1s
MDJ AMB AMB
comp=Z,10µm,11.4s
MDJ LR LR
comp=N,10µm,15.8s
MDJ LR LR
comp=E,11µm,15.3s
MDJ LR LR
comp=Z,16µm,12.8s
MDJ Mudanjiang 16.68 273 *e*P **Pn** **18 37 32.7 +0.6**
comp=Z,156nm,0.9s
JHJ Hachijo jima 2 16.78 223 P **Pn** **18 37 37.5 +4.1**
comp=Z,3.3nm,0.3s,baz=65,slow=8.9,SNR=4.3
CN2 Changchun 19.77 273 *e*P **Pn** **18 38 08.5 -1.5**
CN2 *e*XP sP 18 38 13.5 -1.7
CN2 *e*S **Sn** **18 41 41.3 -10**
CN2 AMB AMB
comp=Z,30nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
CLNS Chul'man 20.35 311 *e*P **P** **18 38 16.1 +1.4**
CLNS *e*PPP 18 38 31.8
CLNS *e*S **S** **18 42 01.6 -0.6**
CLNS *e* 18 42 23.1
CLNS pmax pmax
comp=Z,56nm,1.1s
CLNS pmax pmax
comp=N,42nm,1.3s
CLNS pmax pmax
comp=E,40nm,1.2s
CLNS smax
comp=N,30nm,1.0s
CLNS smax
comp=Z,8.0nm,0.9s
CLNS smax
comp=E,22nm,1.1s
CLNS MLR MLR
comp=E,18µm,13.0s,MS5.6
CLNS MLR MLR
comp=Z,17µm,13.0s,MS5.6
CLNS MLR MLR
comp=N,8µm,16.0s,MS5.6
CLNS Chul'man 20.35 311 *e*P **P** **18 38 16.0 +1.3**
YAK Yakutsk 20.70 328 *e*P **P** **18 38 17.7 -0.8**
YAK pmax pmax
comp=Z,59nm,0.8s
YAK Yakutsk 20.70 328 *e*Pn **P** **18 38 16.9 -1.6**
comp=Z,109nm,0.6s
CBIJ Chichi jima 21.15 208 P **P** **18 38 27.6 +4.2**
comp=Z,133nm,0.9s,mb5.3,baz=78,slow=20,SNR=3.3
INCN Inchon 21.63 255 *e*P **P** **18 38 29.5 +0.9**
comp=Z,84nm,1.8s,mb4.9
HIA Hailar 22.59 290 *e*P **P** **18 38 35.9 -2.9**
HIA pmax pmax
comp=Z,56nm,1.0s
HIA Hailar 22.59 290 *e*P **P** **18 38 35.9 -2.9**
comp=Z,56nm,1.0s,mb5.0
BILL Bilibino 22.74 13 *e*P **P** **18 38 38.3 -2.1**
BILL pmax pmax
comp=Z,67nm,1.5s,mb4.8
BILL Bilibino 22.74 13 *e*Pn **P** **18 38 38.5 -1.9**
comp=Z,40nm,0.6s,mb5.0
DL2 Dalian 24.32 264 ⇑P **P** **18 38 56.8 +0.9**
DL2 S **S** **18 43 16.5 +2.1**
DL2 AMB AMB
comp=Z,90nm,1.0s,mb5.2
DL2 LR LR
comp=N,5µm,12.6s,MS5.3
DL2 LR LR
comp=E,4µm,12.4s,MS5.3
DL2 LR LR
comp=Z,7µm,13.4s,MS5.3
CIT Chita 26.31 297 *e*P **P** **18 39 11.7 -2.3**
CIT pmax pmax
comp=Z,95nm,0.9s,mb5.3
BOD Bodaibo 26.32 310 *e*P **P** **18 39 12.0 -2.0**
BOD pmax pmax
comp=Z,43nm,1.7s,mb4.7
BJI Beijing 27.58 270 *e*P **P** **18 39 26.0 +0.6**
BJI AMB AMB
comp=Z,72nm,0.9s,mb5.3
BJI Beijing 27.58 270 *e*P **P** **18 39 26.1 +0.7**
BJT Baijiatuau 27.60 270 *e*P **P** **18 39 26.0 +0.4**
BJT pmax pmax
comp=Z,100nm,0.8s
BJT Baijiatuau 27.60 270 *e*P **P** **18 39 26.0 +0.4**
comp=Z,100nm,0.8s,mb5.5
JOW Kunigami 27.79 234 P **P** **18 39 27.6 +0.4**
comp=Z,40nm,1.0s,mb5.0,baz=34,slow=11,SNR=4.8
SSE Sheshan 29.06 250 P **P** **18 39 44.5 +5.9**
SSE AMB AMB
comp=Z,30nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,7µm,12.0s
NJ2 Nanjing 29.99 254 *e*P **P** **18 39 46.8 0.0**
NJ2 AP pP 18 39 51.3 -0.5
NJ2 XP sP 18 39 53.8 -0.1
NJ2 PP PP 18 40 44.0 -11
NJ2 S **S** **18 44 41.0 -3.0**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
NJ2 LR LR
comp=N,17µm,13.3s,MS6.0
NJ2 LR LR
comp=E,18µm,12.8s,MS6.0
NJ2 LR LR
comp=Z,17µm,13.0s,MS5.9
HHC Hu-ho-hao-te 30.43 275⇑ *i*P **P** **18 39 51.8 +1.1**
HHC AP pP 18 39 56.3 +0.6
HHC XP sP 18 39 59.0 +1.2
HHC PP PP 18 40 50.8 -8.6
HHC PCP PcP 18 42 52.0 +1.9
HHC S **S** **18 44 50.0 -0.9**
HHC XS sS 18 44 57.3 -1.9
HHC SS SS 18 46 29.8 -31
HHC SCP ScP 18 46 33.5 +1.7
HHC PCS PcS 18 46 35.0 +1.3
HHC SCS ScS 18 50 28.0 +0.2
HHC AMB AMB
comp=Z,187nm,0.7s,mb5.9
HHC AMB AMB
comp=Z,10µm,10.6s
HHC LR LR
comp=N,6µm,14.5s,MS5.8
HHC LR LR
comp=E,12µm,13.1s,MS5.8
HHC LR LR
comp=Z,9µm,15.7s,MS5.5
SONM Songino Array 31.56 290 P **P** **18 40 00.3 -0.4**
comp=Z,11nm,0.8s,mb4.7,baz=70,slow=8.2,SNR=52
SONM PcP PcP 18 42 52.7 -0.3
comp=Z,7.2nm,0.8s,baz=122,slow=3.2,SNR=7.4
BTO Baotou 31.60 275 *e*P **P** **18 40 01.3 +0.3**
IRK Irkutsk 31.97 299 *e*P **P** **18 40 01.8 -2.5**
IRK *e* 18 42 54.2
IRK pmax pmax
comp=Z,52nm,1.5s,mb5.1
TLY Talaya 32.45 298 P **P** **18 40 08.4 -0.1**
comp=Z,267nm,0.9s,mb6.1,SNR=18
TLY Talaya 32.45 298 *e*P **P** **18 40 08.0 -0.5**
TLY pmax pmax
comp=Z,44nm,0.9s,mb5.3
TLY Talaya 32.45 298 *e*P **P** **18 40 07.5 -1.0**
comp=Z,66nm,1.3s,mb5.3
TTA Tatalina 32.64 41 *e*P **P** **18 40 10.7 +0.6**
SVW2 Sparrevohn 32.69 44 *e*P **P** **18 40 10.9 +0.3**
ZAK Zakamensk 32.94 296 *e*P **P** **18 40 12.2 -0.6**
ZAK pmax pmax
comp=Z,26nm,1.2s,mb5.0
WHN Wuhan 33.94 256⇑P **P** **18 40 22.0 +0.5**
IMA2 Indian Mountai 34.05 36 *e*P **P** **18 40 22.5 0.0**
MOY Mondy 34.07 298 *e*P **P** **18 40 20.7 -2.0**
KDAK Kodiak Island 34.26 50 P **P** **18 40 23.9 -0.5**
comp=Z,15nm,0.8s,mb5.0,baz=293,slow=5.7,SNR=7.4
XAN Xi'an 35.59 266 P **P** **18 40 36.8 +1.0**
XAN AP pP 18 40 47.5 +6.7
XAN AMB AMB
comp=Z,37nm,1.0s,mb5.3
PMR Palmer 35.80 44 *e*P **P** **18 40 37.6 0.0**
PMR pmax pmax
comp=Z,22nm,1.0s,mb5.0
PMR Palmer 35.80 44 *e*P **P** **18 40 37.6 0.0**
comp=Z,22nm,1.0s,mb5.0
MCK McKinley 35.87 40 *e*P **P** **18 40 37.8 -0.4**
MCK pmax pmax
comp=Z,14nm,1.0s,mb4.8
MCK McKinley 35.87 40 *e*P **P** **18 40 37.8 -0.4**
comp=Z,14nm,1.0s,mb4.8
COLA College 36.37 38 *e*P **P** **18 40 42.6 +0.1**
COLA pmax pmax
comp=Z,62nm,1.0s,mb5.5
COLA College 36.37 38 *e*P **P** **18 40 42.6 +0.2**
comp=Z,62nm,1.0s,mb5.5
LZH Lanzhou 38.01 272 *e*P **P** **18 40 58.0 +1.6**
LZH AP pP 18 41 02.0 +0.6
LZH XP sP 18 41 04.0 +0.6
LZH PP PP 18 42 24.0 +0.7
LZH PCP PcP 18 43 14.0 +2.3
LZH *e*S **S** **18 46 49.0 +1.1**
LZH XS sS 18 46 58.0 +1.8
LZH AMB AMB
comp=Z,271nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,950nm,5.8s
LZH LR LR
comp=N,3µm,13.3s
LZH LR LR
comp=Z,4µm,14.6s,MS5.3
LZH Lanzhou 38.01 272 *e*P **P** **18 40 58.0 +1.6**
LZH *SP sP 18 41 04.0 +0.6
LZH 18 42 24.0
LZH 18 43 14.1
LZH *e*S **S** **18 46 49.1 +1.2**
LZH SS SS 18 49 18.1 -17
LZH Lanzhou 38.01 272 *e*P **P** **18 40 58.0 +1.6**
LZH pP pP 18 41 02.0 +0.6
LZH sP sP 18 41 04.0 +0.6
LZH PP PP 18 42 24.0 +0.7
LZH PcP PcP 18 43 14.1 +2.4
LZH *e*S **S** **18 46 49.1 +1.2**
LZH sS sS 18 46 58.0 +1.8
LZH SS SS 18 49 18.1 -17
EGAK Eagle 39.23 38 *e*P **P** **18 41 06.0 -0.7**
DAWY Dawson 40.07 39 *e*P **P** **18 41 13.6 0.0**
CD2 Chengdu 40.96 266⇑ *i*P **P** **18 41 20.5 -0.4**
CD2 AP pP 18 41 25.0 -1.0
CD2 XP sP 18 41 27.8 -0.2
CD2 PP PP 18 42 58.0 +2.6
CD2 PCP PcP 18 43 22.0 +0.9
CD2 S **S** **18 47 30.8 -1.4**
CD2 SS SS 18 50 26.8 -7.2
CD2 SCS ScS 18 51 23.0 -2.2
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
GYA Guiyang 41.74 258⇑ *i*P **P** **18 41 28.5 +1.1**
GYA AP pP 18 41 32.8 +0.3
GYA XP sP 18 41 33.5 -1.0
GYA PP PP 18 43 08.0 +4.1
GYA AMB AMB
comp=Z,110nm,1.3s,mb5.3
GYA AMB AMB
comp=Z,1µm,4.6s
GYA LR LR
comp=N,1µm,19.1s,MS5.1
GYA LR LR
comp=E,2µm,19.5s,MS5.1
GYA LR LR
comp=Z,3µm,20.1s,MS5.1
INK Inuvik 41.92 32 P **P** **18 41 29.1 +0.3**
comp=Z,32nm,0.7s,mb5.1,baz=291,slow=6.3,SNR=67
INK Inuvik 41.92 32 *e*P **P** **18 41 29.1 +0.3**
INK pmax pmax
comp=Z,27nm,0.6s
INK Inuvik 41.92 32 *e*P **P** **18 41 29.1 +0.3**
comp=Z,27nm,0.6s,mb5.0
ZAL Zalesovo 42.94 306 P **P** **18 41 36.2 -0.9**
comp=Z,8.8nm,0.5s,mb4.7,baz=49,slow=8.4,SNR=37
ZAL PcP PcP 18 43 28.2 +0.7
comp=Z,11nm,0.9s,baz=34,slow=1.9,SNR=9.9
ZAL Zalesovo 42.94 306 P **P** **18 41 36.2 -0.9**
ZAL PcP PcP 18 43 28.2 +0.7
NVS Novosibirsk 43.51 308 *e*P **P** **18 41 37.5 -4.2**
NVS *e* 18 43 22.6
NVS pmax pmax
comp=Z,89nm,1.9s,mb5.2
NVS pmax pmax
comp=N,35nm,1.8s
NVS pmax pmax
comp=E,65nm,1.8s
WMQ Urumqi 45.17 292⇑ *i*P **P** **18 41 55.5 +0.5**
WMQ AP pP 18 42 00.0 -0.1
WMQ XP sP 18 42 03.0 +0.9
WMQ PP PP 18 43 40.0 -0.6
WMQ PPP 18 44 22.0
WMQ AMB AMB
comp=Z,34nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,928nm,6.7s
WMQ LR LR
comp=N,3µm,16.5s,MS5.5
WMQ LR LR
comp=E,4µm,14.6s,MS5.5
WMQ LR LR
comp=Z,3µm,17.2s,MS5.3
KMI Kunming 45.28 260 P **P** **18 41 57.0 +1.1**
KMI AP pP 18 42 02.8 +1.8
KMI XP sP 18 42 05.5 +2.5
KMI PP PP 18 43 43.0 +1.2
KMI PPP 18 44 23.3
KMI AMB AMB
comp=Z,82nm,1.0s,mb5.5
KMI LR LR
comp=N,5µm,15.7s,MS5.8
KMI LR LR
comp=E,7µm,13.2s,MS5.8
KMI LR LR
comp=Z,6µm,14.0s,MS5.7
KMI Kunming 45.28 260 P **P** **18 41 57.1 +1.2**
KMI pP pP 18 42 02.8 +1.8
KMI sP sP 18 42 05.6 +2.6
KMI PP PP 18 43 43.0 +1.2
KMI PPP 18 44 23.3
KMI S **S** **18 48 34.1 -1.5**
DLBC Dease Lake 45.78 46 P **P** **18 42 01.4 +1.5**
comp=Z,15nm,1.0s,mb4.9,baz=281,slow=8.7,SNR=10
MKAR Makanchi Array 47.21 298 P **P** **18 42 10.3 -0.8**
comp=Z,54nm,0.8s,mb5.5,baz=62,slow=8.4,SNR=315
MKAR PcP PcP 18 43 42.4 0.0
comp=Z,7.6nm,0.6s,baz=66,slow=4.1,SNR=5.5
KURK Kurchatov 47.67 304 P **P** **18 42 13.2 -1.4**
comp=Z,675nm,0.8s,SNR=59
ALE Alert 50.11 6 P **P** **18 42 32.0 -1.4**
comp=Z,233nm,0.7s,mb6.3,SNR=21
LSA Lhasa 50.40 274 *e*P **P** **18 42 38.4 +2.8**
LSA pmax pmax
comp=Z,53nm,0.6s,mb5.8
LSA Lhasa 50.40 274 *e*P **P** **18 42 38.4 +2.8**
comp=Z,53nm,0.6s,mb5.8
RES Resolute Bay 51.16 18 *e*P **P** **18 42 41.2 -0.2**
RES pmax pmax
comp=Z,29nm,0.7s,mb5.3
RES Resolute Bay 51.16 18 *e*P **P** **18 42 41.2 -0.1**
comp=Z,29nm,0.7s,mb5.3
YKA Yellowknife Ar 51.17 37 P **P** **18 42 41.4 0.0**
comp=Z,21nm,0.8s,mb5.1,baz=298,slow=7.4,SNR=39
BVAR Borovoye Array 51.19 310 P **P** **18 42 40.6 -0.9**
comp=Z,19nm,0.5s,mb5.3,baz=47,slow=7.3,SNR=148
BVAR PcP PcP 18 43 56.8 0.0
comp=Z,13nm,0.7s,baz=82,slow=3.6,SNR=7.3
BRVK Borovoye 51.23 310 P **P** **18 42 40.2 -1.6**
comp=Z,414nm,0.6s,SNR=34
BRVK Borovoye 51.23 310 *e*P **P** **18 42 42.0 +0.2**
BRVK Borovoye 51.23 310 *e*P **P** **18 42 40.8 -1.0**
ZRNK Zerenda 51.96 310 *e*P **P** **18 42 46.0 -1.2**
comp=Z,3µm,1.3s
ZRNK *e*PcP PcP 18 43 57.4 -2.3
CM31 Chiang Mai Arr 52.39 257 *e*P **P** **18 42 52.1 +1.6**
comp=Z,12nm,0.5s,mb5.1
SHL Shillong 52.47 269 *e*P **P** **18 42 50.0 -1.1**
SHL *ex* x 18 49 32.0
SPB4 Spitsbergen Ar 53.01 350 *e*P **P** **18 42 52.6 -2.5**
ULHL Ulahol 53.23 295 P **P** **18 42 57.5 +0.8**
SNR=18
TKM2 Tokmak 2 53.26 296 P **P** **18 42 57.6 +0.6**
SNR=27
CHMS Chumysh 53.74 297 P **P** **18 43 00.6 +0.2**
SNR=15
USP Ospenovka 53.76 297 P **P** **18 43 00.9 +0.3**
SNR=84
KBK Karagaybulak 53.81 296 P **P** **18 43 01.6 +0.7**
SNR=9.8
KZA Kyrzart 53.94 296 P **P** **18 43 03.4 +1.5**
SNR=12
AAK Ala-Archa 54.10 297 P **P** **18 43 03.5 +0.4**
SNR=42
AAK Ala-Archa 54.10 297 P **P** **18 43 02.3 -0.8**
comp=Z,357nm,0.9s,mb6.3,SNR=33
AAK Ala-Archa 54.10 297 *e*P **P** **18 43 02.5 -0.6**
AAK pmax pmax
comp=Z,52nm,0.9s,mb5.5
AAK Ala-Archa 54.10 297 *e*P **P** **18 43 02.3 -0.8**
comp=Z,52nm,0.8s,mb5.5
UCH Uchtor 54.31 296 P **P** **18 43 05.9 +1.3**
SNR=6.8
EKS2 Erkin-Say 54.53 297 P **P** **18 43 06.8 +0.6**
SNR=62
AML Almayashu 54.87 297 P **P** **18 43 09.9 +1.2**
SNR=25
KSH Kashi 54.90 293 *e*P **P** **18 43 10.0 +1.1**
KSH *e*AP pP 18 43 14.3 +0.2
KSH *e*XP sP 18 43 17.8 +1.7
KSH *e*PCP PcP 18 44 12.0 +1.2
KSH *e*PP PP 18 45 14.0 +2.2
KSH *e*PPP 18 46 26.0
KSH *e*SCP ScP 18 48 08.0 -0.7
KSH *e*PCS PcS 18 48 10.0 -0.6
KSH *e*S **S** **18 50 48.3 -1.4**
KSH *e*XS sS 18 50 56.3 -1.9
KSH *e*PS 18 51 01.5
KSH *e*SCS ScS 18 52 55.0 -2.5
KSH *e*SS SS 18 54 31.0 -2.1
KSH AMB AMB
comp=Z,15µm,12.3s
KSH LR LR
comp=N,19µm,13.3s,MS6.4
KSH LR LR
comp=E,14µm,13.6s,MS6.4
KSH LR LR
comp=Z,12µm,13.7s,MS6.1
JIRN Jiri 55.09 275 *e*P **P** **18 43 12.2 +2.0**
GUN Gumba 55.14 275 *e*P **P** **18 43 12.2 +1.6**
ARU Arti 55.37 318 P **P** **18 43 10.8 -1.5**
comp=Z,389nm,0.6s,SNR=28
ARU Arti 55.37 318⇓ *i*P **P** **18 43 10.1 -2.2**
ARU *e*S **S** **18 50 52.6 -3.3**
ARU *e*SS SS 18 54 36.4 -4.0
ARU pmax pmax
comp=Z,43nm,0.8s,mb5.5
ARU Arti 55.37 318 *e*P **P** **18 43 10.8 -1.5**
ARU *e*PcP PcP 18 44 16.6 +3.9
KKN Kakani 55.63 276 *e*P **P** **18 43 15.9 +1.7**
comp=Z,268nm,0.8s,mb6.3
PKI Pulchoki 55.68 275 *e*P **P** **18 43 16.2 +1.7**
comp=Z,164nm,0.9s,mb6.0
DMN Daman 55.86 276 *e*P **P** **18 43 17.8 +2.0**
comp=Z,297nm,0.9s,mb6.3
GKN Gorkha 55.94 276 *e*P **P** **18 43 18.1 +1.7**
comp=Z,252nm,0.6s,mb6.4
KK31 Karatay Array 56.28 299 *i* P **P** **18 43 18.3 -0.5**
KK31 pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
KK31 Karatay Array 56.28 299 *i* P **P** **18 43 18.4 -0.4**
EDM Edmonton 56.50 46 *e*P **P** **18 43 20.1 -0.3**
KOLN Koldanda 56.80 277 *e*P **P** **18 43 24.4 +1.9**
comp=Z,237nm,0.8s,mb6.3
DAG Danmarks Havn 57.03 358⇓ *i*P **P** **18 43 23.2 -1.0**
comp=Z,101nm,1.3s,mb5.7
DAG Danmarks Havn 57.03 358⇓ *i*P **P** **18 43 23.2 -1.0**
DAG pmax pmax
comp=Z,102nm,1.3s,mb5.7
HAWA Hanford 57.03 55 *e*P **P** **18 43 24.5 +0.4**
comp=Z,2.7nm,1.4s
LVZ Lovozero 57.16 337 P **P** **18 43 24.9 -0.2**
comp=Z,163nm,0.7s,mb6.2,SNR=5.4
NEW Newport 57.32 53 P **P** **18 43 25.6 -0.6**
comp=Z,5.3nm,0.9s,mb4.6,baz=311,slow=6.2,SNR=7.4
NEW Newport 57.32 53 P **P** **18 43 25.7 -0.5**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 57.32 53 *e*P **P** **18 43 26.4 +0.1**
comp=Z,35nm,1.4s,mb5.2
APA Apatity 57.73 337⇑ *i*P **P** **18 43 28.0 -1.1**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.2
APA MLR MLR
comp=Z,11µm,17.0s,MS6.0
KEV Kevo 57.74 341 *e*p **P** **18 43 28.1 -1.0**
comp=Z,4.4nm,0.4s,mb4.8
KEV Kevo 57.74 341 *e*P **P** **18 43 28.1 -1.0**
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
BOK Bokaro 57.77 272 *e*P **P** **18 43 30.2 +0.9**
BOK AMb AMB 18 43 32.2
comp=Z,103nm,1.7s,mb5.6
YBH Yreka Blue Hor 57.83 62 P **P** **18 43 30.7 +0.9**
comp=Z,4.4nm,0.8s,mb4.5,baz=340,slow=3.7,SNR=12
PTH Pithoragarh 58.00 281 *e*P **P** **18 43 33.0 +2.0**
ARCES ARCESS Array B 58.25 341 P **P** **18 43 31.9 -0.8**
comp=Z,10nm,0.6s,mb5.0,baz=37,slow=7.0,SNR=84
ARE0 ARCESS Array S 58.25 341 *e*P **P** **18 43 31.9 -0.8**
WALA Waterton Lakes 58.60 50 *e*P **P** **18 43 35.4 +0.2**
comp=Z,11nm,0.7s,mb5.0
AB31 Akbulak array 58.75 310⇑ *e*P **P** **18 43 35.5 -0.7**
DLH Dalhousie 59.02 286 *e*P **P** **18 43 37.0 -1.1**
AKTK Aktyubinsk 59.06 312 P **P** **18 43 37.3 -1.1**
AKTO Aktyubinsk 59.06 312 P **P** **18 43 37.3 -1.1**
comp=Z,15nm,0.6s,mb5.2,baz=60,slow=6.9,SNR=36
SMLA Simla 59.09 284 *e*P **P** **18 43 39.6 +1.0**
KTK1 Kautokeino 59.17 341 *e*P **P** **18 43 39.2 +0.1**
KTK1 AMb AMB 18 43 43.3
comp=Z,49nm,1.7s,mb5.2
KTK1 Kautokeino 59.17 341 *e*P **P** **18 43 39.2 +0.1**
comp=Z,49nm,1.7s,mb5.3
BMO Blue Mountains 59.20 56 *e*P **P** **18 43 40.2 +0.8**
comp=Z,28nm,1.4s,mb5.1
THN Thein Dam 59.25 286 *e*P **P** **18 43 39.2 -0.5**
BHK Bhakra 59.41 285 *ex* x 18 43 43.2
TRO Tromso 59.58 343 *e*P **P** **18 43 40.0 -1.9**
WVOR Wild Horse Val 59.86 59 *e*P **P** **18 43 44.4 +0.5**
WVOR pmax pmax
comp=Z,16nm,1.0s,mb5.0
WVOR Wild Horse Val 59.86 59 *e*P **P** **18 43 44.4 +0.4**
comp=Z,16nm,1.0s,mb5.0
WVOR *e*ScP ScP 18 48 35.1 +4.5
NIL Nilore 60.13 289 P **P** **18 43 47.5 +1.8**
comp=Z,336nm,0.7s,SNR=17
CHMT Chamberlain Mo 60.24 52 *e*P **P** **18 43 46.5 0.0**
NDI New Delhi 60.58 282 *e*P **P** **18 43 48.0 -0.9**
CMB Columbia Colle 61.48 64 *e*P **P** **18 43 55.2 +0.3**
CMB pmax pmax
comp=Z,14nm,1.1s,mb5.0
CMB Columbia Colle 61.48 64 *e*P **P** **18 43 55.2 +0.3**
comp=Z,14nm,1.1s,mb5.0
FCC Fort Churchill 61.52 33 *e*P **P** **18 43 54.7 -0.5**
FCC pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
FCC Fort Churchill 61.52 33 *e*P **P** **18 43 54.7 -0.5**
comp=Z,10nm,0.7s,mb5.1

DLMT **Dillon** 61.55 53 *e*P P 18 43 56.2 +0.8
comp=Z,23nm,1.3s,mb5.2
HLID **Hailey** 61.64 56 *e*P P 18 43 56.8 +0.8
comp=Z,12nm,1.0s,mb5.0
KAKA **Kakadu** 61.72 203 *e*P P 18 43 55.9 -0.6
comp=Z,7.1nm,0.7s,mb4.9
JOF **Joensuu** 61.72 334 *e*p P 18 43 55.8 -0.8
comp=Z,16nm,0.6s,mb5.3
LOF **Lofoten** 61.90 344 *e*P P 18 43 58.7 +0.9
LOF AMb AMB 18 44 00.5
comp=Z,161nm,1.3s,mb6.0
LOF **Lofoten** 61.90 344 *e*P P 18 43 58.7 +0.9
comp=Z,161nm,1.3s,mb6.0
JMIC **Jan Mayen** 62.22 353 P P 18 44 00.1 +0.2
comp=Z,32nm,0.5s,mb5.7,baz=109,slow=2.7,SNR=4.4
QLMT **Earthquake Lak** 62.52 53 *e*P P 18 44 03.1 +1.1
GCMT **Greycliff** 62.88 51 *e*P P 18 44 03.9 -0.4
GCMT *e* 18 44 18.0
YMR **Madison River** 62.88 53 *e*P P 18 44 05.3 +0.9
comp=Z,20nm,0.4s,mb5.6
ELK **Elko** 62.91 59 *e*P P 18 44 07.6 +3.1
ELK pmax pmax
comp=Z,13nm,1.2s
ELK **Elko** 62.91 59 *e*P P 18 44 07.6 +3.1
comp=Z,13nm,1.2s,mb4.9
MTUM **Tungsten Hills** 63.03 63 *e*P P 18 44 05.7 +0.4
TPH **Tonopah** 63.40 62 *e*P P 18 44 09.8 +2.0
TPH pmax pmax
comp=Z,18nm,0.8s,mb5.2
TPH **Tonopah** 63.40 62 *e*P P 18 44 09.8 +2.0
comp=Z,18nm,0.8s,mb5.2
MOR8 **Moi Rana** 63.42 343 *e*P P 18 44 05.8 -2.1
MOR8 *e*pP pP 18 44 08.9 -4.3
MOR8 AMb AMB 18 44 09.8
comp=Z,134nm,1.2s,mb6.0
MOR8 **Moi Rana** 63.42 343 *e*P P 18 44 05.8 -2.1
comp=Z,134nm,1.2s,mb6.0
VIS **Vishakhapatnam** 63.60 268 *e*P P 18 44 09.9 +0.8
AJM **Ajmer** 63.75 282 *e*P P 18 44 10.9 +0.9
AJM AMb AMB 18 44 14.0
comp=Z,119nm,1.3s,mb5.8
REDW **Red Top Meadow** 63.78 54 *e*P P 18 44 11.3 +1.1
comp=Z,65nm,1.2s,mb5.5
KAF **Kangasniemi** 63.84 335 *e*p P 18 44 09.9 -0.7
comp=Z,46nm,0.7s,mb5.6,baz=37,slow=6.2
KAF **Kangasniemi** 63.84 335 *e*P P 18 44 09.9 -0.7
KAF pmax pmax
comp=Z,46nm,0.7s,mb5.6
BHPL **Bhopal** 63.97 277 *e*P P 18 44 12.7 +1.2
NGP **Nagpur** 64.24 274 *e*P P 18 44 12.4 -0.9
NGP AMb AMB 18 44 13.3
comp=Z,123nm,1.7s,mb5.7
FIA1 **FINESS Array S** 64.43 335 *e*P P 18 44 13.6 -0.9
FINES **FINESS Array B** 64.43 335 P P 18 44 13.7 -0.9
comp=Z,58nm,0.7s,mb5.7,baz=37,slow=7.7,SNR=547
FINES **FINESS Array B** 64.43 335 *i* P P 18 44 13.6 -1.0
FINES pmax pmax
comp=Z,58nm,0.7s
HWUT **Hardware Ranch** 64.50 56 *e*P P 18 44 15.8 +0.8
comp=Z,13nm,0.8s,mb5.0
HWUT *e* 18 44 32.8
DUG **Dugway** 64.69 58 *e*P P 18 44 16.7 +0.5
DUG pmax pmax
comp=Z,16nm,1.0s,mb5.0
DUG **Dugway** 64.69 58 *e*P P 18 44 16.7 +0.5
comp=Z,16nm,1.0s,mb5.0
MOS **Moscow** 64.82 326 *e*P P 18 44 15.1 -2.0
MOS pmax pmax
comp=Z,61nm,0.6s,mb5.8
BW06 **Boulder Array** 64.89 54 *e*P P 18 44 17.6 +0.1
comp=Z,17nm,1.0s,mb5.0
PDAR **Pinedale Array** 64.89 54 P P 18 44 17.7 +0.2
comp=Z,8.3nm,0.9s,mb4.8,baz=293,slow=2.3,SNR=51
NSS **Namsos** 65.36 343 *e*P P 18 44 18.9 -1.7
FRB **Frobisher Bay** 65.38 19 P P 18 44 19.5 -1.2
comp=Z,9.7nm,0.5s,mb5.1,baz=331,slow=7.5,SNR=6.9
DAU **Daniels Canyon** 65.45 57 *e*P P 18 44 22.0 +0.8
SFJD **Kangerlussuaq** 65.51 10 P P 18 44 20.9 -0.7
comp=Z,16nm,0.8s,mb5.1,baz=321,slow=6.1,SNR=6.8
SFJD **Kangerlussuaq** 65.51 10 *i* P P 18 44 20.5 -1.1
comp=Z,17nm,0.8s,mb5.1
SFJD **Kangerlussuaq** 65.51 10 P P 18 44 20.9 -0.7
SFJD pmax pmax
comp=Z,16nm,0.8s,mb5.1
OBN **Obninsk** 65.69 326⇑ *e*P P 18 44 21.6 -1.1
OBN *e* 18 44 33.2
OBN *e* 18 44 53.1
OBN *e* 18 46 44.6
OBN pmax pmax
comp=Z,99nm,1.5s,mb5.6
OBN MLR MLR
comp=Z,6μm,17.0s,MS5.8
OBN **Obninsk** 65.69 326 *e*P P 18 44 21.6 -1.1
comp=Z,32nm,0.5s,mb5.6
AKL **Akola** 65.95 275 *e*P P 18 44 25.6 +1.2
AKL AMb AMB 18 44 26.9
comp=Z,119nm,1.5s,mb5.7
MSU **Marysvale** 66.16 59 *e*P P 18 44 26.8 +1.1
TMUT **Trail Mountain** 66.21 58 *e*P P 18 44 26.6 +0.5
VRHR **Novokhopersk** 66.49 320 *e*P P 18 44 26.9 -1.0
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRHR pmax pmax
comp=Z,20nm,0.4s,mb5.5
VRHR pmax pmax
comp=N,10.0nm,0.5s
ULM **Lac du Bonnet** 66.74 41 P P 18 44 28.8 -0.7
comp=N,11nm,0.8s,mb4.9,baz=309,slow=8.4,SNR=17
ABKT **Ailbek** 66.89 301 P P 18 44 31.7 +1.3
comp=N,321nm,0.6s,SNR=16
ABKT **Ailbek** 66.89 301 P P 18 44 31.4 +1.0
RSSD **Black Hills** 66.99 50 *e*P P 18 44 31.1 0.0
RSSD pmax pmax
comp=Z,14nm,0.8s,mb5.0
RSSD **Black Hills** 66.99 50 *e*P P 18 44 31.1 0.0
comp=Z,14nm,0.8s,mb5.1
VOR **Voronezh** 67.09 322 *e*P P 18 44 30.5 -1.2
VOR pmax pmax
comp=Z,120nm,1.8s,mb5.6
HYB **Hyderabad** 67.11 272⇑ *i*P P 18 44 32.5 +0.6
comp=Z,70nm,1.0s,mb5.7
HYB **Hyderabad** 67.11 272⇑ *e*P P 18 44 32.5 +0.6
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.7
HYB **Hyderabad** 67.11 272⇑ *e*P P 18 44 32.5 +0.6
comp=Z,70nm,1.0s,mb5.7
VRSR **Storozhevoye** 67.47 322 *e*P P 18 44 33.6 -0.5
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRSR pmax pmax
comp=N,20nm,0.7s
VRSR pmax pmax
comp=E,20nm,0.9s
PV10 **Paradox Valley** 68.09 57 *e*P P 18 44 39.1 +1.1
WRA **Warramunga Arr** 68.19 199 P P 18 44 37.7 -1.0
comp=E,4.6nm,0.8s,mb4.5,baz=16,slow=6.6,SNR=22
PV01 **Paradox Valley** 68.52 57 *e*P P 18 44 41.0 +0.2
PV01 *e* 18 47 33.1
WUAZ **Wupatki** 68.62 61 *e*P P 18 44 42.1 +0.8
comp=E,16nm,1.0s,mb4.9
NB2 **NORSAR Subarra** 68.62 341 P P 18 44 40.9 -0.5
comp=Z,51nm,0.6s,mb5.6,baz=28,slow=6.5
NOA **NORSAR Array B** 68.62 341 P P 18 44 40.9 -0.4
comp=Z,40nm,0.6s,mb5.5,baz=28,slow=6.4,SNR=264
NOA **NORSAR Array B** 68.62 341 P P 18 44 40.9 -0.4
FITZ **Fitzroy Crossi** 68.86 208 *e*P P 18 44 42.5 -0.3
comp=Z,23nm,0.9s,mb5.1
NAO01 **NORSAR Array S** 68.87 341 *e*P P 18 44 42.0 -0.9
comp=Z,30nm,0.8s,mb5.3
MDRS **Chennai** 68.95 267 *e*P P 18 44 44.1 +0.7
MDRS AMb AMB 18 44 47.6
comp=Z,79nm,1.9s,mb5.3
ISCO **Idaho Springs** 69.08 54 *e*P P 18 44 44.6 +0.4
ISCO pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ISCO **Idaho Springs** 69.08 54 *e*P P 18 44 44.6 +0.4
comp=Z,10nm,0.8s,mb4.8
BORG **Borgarnes** 69.15 358 *e*P P 18 44 44.2 -0.4
comp=Z,84nm,0.8s,mb5.7
MVCO **Mesa Verde** 69.19 58 *e*P P 18 44 45.4 +0.5
MNK **Minsk** 69.40 329 *e*P P 18 44 41.0 -5.2
POO **Poona** 69.60 276⇑ *i*P P 18 44 46.0 -1.4
comp=Z,50nm,1.0s,mb5.4
OSL **Oslo** 69.72 341 *e*P P 18 44 48.2 0.0
OSL AMb AMB 18 44 51.7
comp=Z,94nm,1.5s,mb5.5
OSL **Oslo** 69.72 341 *e*P P 18 44 48.2 0.0
comp=Z,94nm,1.5s,mb5.5
SUE **Sulen** 69.93 344 *e*P P 18 44 50.0 +0.5
GOF **Gofitskoye** 70.17 315 *e*P P 18 44 45.8 -5.1
GOF pmax pmax
comp=Z,100nm,0.8s,mb5.8
KAD **Karad** 70.21 275 *e*P P 18 44 51.4 +0.3
KAD *e*P 18 44 52.0
KAD AMb AMB 18 44 53.5
comp=Z,99nm,1.4s,mb5.6
KONO **Kongsberg** 70.23 341 P P 18 44 51.4 +0.1
KONO pmax pmax
comp=Z,70nm,0.9s,mb5.6
KONO **Kongsberg** 70.23 341 *e*P P 18 44 51.0 -0.3
comp=Z,70nm,0.9s,mb5.6
ASK **Askoy** 70.38 344 *e*P P 18 44 51.9 -0.3
ASK AMb AMB 18 44 54.9
comp=Z,137nm,1.1s,mb5.8
ASK **Askoy** 70.38 344 *e*P P 18 44 51.9 -0.3
comp=Z,137nm,1.1s,mb5.8
EYMN **Ely** 70.39 40 *e*P P 18 44 51.1 -1.2
comp=Z,1.1nm,0.9s
RUND **Rundenannen** 70.41 344 *e*P P 18 44 52.3 -0.1
RUND AMb AMB 18 44 54.9
comp=Z,239nm,0.9s,mb6.1
RUND **Rundenannen** 70.41 344 *e*P P 18 44 52.3 -0.1
comp=Z,239nm,0.9s,mb6.1
BER **Bergen** 70.45 344 *e*P P 18 44 52.5 -0.1
BER AMb AMB 18 44 55.8
comp=Z,131nm,1.4s,mb5.7
BER **Bergen** 70.45 344 *e*P P 18 44 52.5 -0.1
comp=Z,131nm,1.4s,mb5.7
SDCO **Great Sand Dun** 70.56 56 *e*P P 18 44 54.3 +1.0
comp=Z,54nm,1.8s,mb5.2
EGD **Espegrend** 70.57 344 *e*P P 18 44 53.9 +0.5
EGD AMb AMB 18 44 56.1
comp=Z,103nm,1.3s,mb5.6
EGD **Espegrend** 70.57 344 *e*P P 18 44 53.9 +0.5
comp=Z,103nm,1.3s,mb5.6
ECSD **EROS,Sioux Fal** 71.07 46 *e*P P 18 44 55.6 -0.8
BLS5 **Blasjo** 71.11 343 *e*P P 18 44 57.4 +0.7
BLS5 AMb AMB 18 45 03.9
comp=Z,74nm,1.0s,mb5.6
BLS5 **Blasjo** 71.11 343 *e*P P 18 44 57.4 +0.7
comp=Z,74nm,1.0s,mb5.6
KIV **Kislovodsk** 71.14 314 P P 18 44 57.3 +0.4
comp=Z,276nm,0.9s,mb6.2,SNR=9.3
KIV **Kislovodsk** 71.14 314⇓ *e*P P 18 44 57.5 +0.6
KIV *e* 18 45 04.6
KIV *e* 18 45 10.8
KIV pmax pmax
comp=Z,107nm,1.5s,mb5.5
KIV MLR MLR
comp=Z,4μm,14.0s,MS5.8
KIV **Kislovodsk** 71.14 314 *e*P P 18 44 58.4 +1.5
comp=Z,38nm,0.8s,mb5.4
SUW **Suwalki** 71.38 332 *e*P P 18 44 57.7 -0.6
ZEI **Tsey** 71.40 313 *e*P P 18 44 58.5 +0.1
ZEI *e**PP pP 18 45 08.4 +4.7
ZEI *e* 18 47 38.2
ZEI pmax pmax
comp=Z,21nm,0.7s,mb5.2
WAL1 **Walls** 71.78 347 *e*P P 18 45 00.3 -0.4
WAL1 **Walls** 71.78 347 *e*P P 18 45 00.3 -0.4
LRW **Lerwick** 71.82 347 *e*P P 18 44 59.9 -1.0
LRW AMb AMB 18 45 00.8
comp=Z,64nm,1.8s,mb5.2
LRW **Lerwick** 71.82 347 *e*P P 18 44 59.9 -1.0
LRW AMb AMB 18 45 00.8
comp=Z,64nm,1.8s,mb5.2
AS31 **Alice Springs** 71.88 199 *e*P P 18 45 01.3 0.0
ASAR **Alice Springs** 71.88 199 P P 18 45 01.5 +0.2
comp=Z,4.8nm,0.6s,mb4.6,baz=12,slow=6.2,SNR=99
LAZ **Ladron** 71.92 59 *e*P P 18 45 02.5 +0.9
AKASG **Malin Array Be** 71.92 326 P P 18 45 00.9 -0.6
comp=Z,73nm,0.5s,mb5.8,baz=34,slow=6.1,SNR=297
AKBB **Malin Array Si** 71.92 326 *e*P P 18 45 00.9 -0.7
ANMO **Albuquerque** 71.94 58 P P 18 45 02.2 +0.6
comp=Z,5.5nm,0.9s,mb4.5,baz=306,slow=7.5,SNR=12
ANMO **Albuquerque** 71.94 58 *e*P P 18 45 02.0 +0.3
ANMO pmax pmax
comp=Z,9.0nm,1.0s
ANMO **Albuquerque** 71.94 58 *e*P P 18 45 02.0 +0.3
comp=Z,8.9nm,1.0s,mb4.7
SNART **Snartemo** 71.94 342 *e*P P 18 45 01.6 0.0
PALK **Pallekele** 72.75 262 *e*P P 18 45 07.5 +1.0
comp=Z,31nm,0.9s,mb5.2
GNI **Garni** 72.86 310⇑ *e*P P 18 45 09.4 +2.2
BSD **Bornholm Skovb** 72.95 336 *i* P P 18 45 07.3 -0.4
comp=Z,56nm,1.0s,mb5.5
BSD **Bornholm Skovb** 72.95 336 *i* P P 18 45 07.3 -0.4
BSD pmax pmax
comp=Z,56nm,1.0s,mb5.5
ANN **Anapa** 73.03 318 *e*P P 18 45 07.4 -0.8
ANN *e*S S 18 54 29.1 -5.6
ANN pmax pmax
comp=Z,138nm,1.5s,mb5.7
COP **Copenhagen** 73.11 338 *i* P P 18 45 08.6 0.0
comp=Z,39nm,0.7s,mb5.4
COP **Copenhagen** 73.11 338 *i* P P 18 45 08.6 0.0
COP pmax pmax
comp=Z,39nm,0.7s,mb5.5
MUD **Monsted U'grnd** 73.22 340 *i* P P 18 45 09.1 -0.2
comp=Z,40nm,0.8s,mb5.4
MUD **Monsted U'grnd** 73.22 340 *i* P P 18 45 09.1 -0.2
MUD pmax pmax
comp=Z,40nm,0.8s,mb5.4
WAR **Warsaw** 73.58 332 *e*P P 18 45 11.9 +0.5
OBR **Brabster** 73.58 347 *e*P P 18 45 10.7 -0.7
OBR **Brabster** 73.58 347 *e*P P 18 45 10.7 -0.7
ORE **Reay** 73.74 348 *e*P P 18 45 11.8 -0.6
ORE **Reay** 73.74 348 *e*P P 18 45 11.8 -0.6
GKP **Gorka Klasztor** 73.89 334 *e*P P 18 45 12.9 -0.3
MLA1 **Latheron** 73.91 347 *e*P P 18 45 12.6 -0.7
MLA1 **Latheron** 73.91 347 *e*P P 18 45 12.6 -0.7
SIM **Simferopol'** 74.43 320 *i* P P 18 45 18.5 +2.1
SIM pmax pmax
comp=Z,58nm,0.6s,mb5.7
TRD **Trivandrum** 74.45 266 *e*P P 18 45 16.8 +0.4
TRD AMb AMB 18 45 18.9
comp=Z,61nm,1.3s,mb5.4
KSU1 **Kansas State U** 74.47 49 *e*P P 18 45 14.8 -1.8
MCD **Coleburn Disti** 74.59 347 *e*P P 18 45 16.4 -0.9
MCD **Coleburn Disti** 74.59 347 *e*P P 18 45 16.4 -0.9
KAC **Achnashellach** 74.97 348 *e*P P 18 45 18.8 -0.7
KAC **Achnashellach** 74.97 348 *e*P P 18 45 18.8 -0.7
KPL **Plockton** 75.18 348 P P 18 45 19.6 -1.1
KPL **Plockton** 75.18 348 AMb AMB 18 45 19.6
comp=Z,56nm,1.7s,mb5.2
KPL *e*P 18 45 19.6
KPL **Plockton** 75.18 348 AMb AMB 18 45 19.6
comp=Z,56nm,1.7s,mb5.2
KPL *e*P 18 45 19.6
KWP **Kalwaria** 75.21 329 *e*P P 18 45 21.6 +0.7
BSEG **Bad Segeberg** 75.22 338 *e*P P 18 45 20.8 -0.2
comp=Z,54nm,1.0s,mb5.4
KSB **Sheil Bridge** 75.27 348 *e*P P 18 45 20.6 -0.7
KSB **Sheil Bridge** 75.27 348 *e*P P 18 45 20.6 -0.7
RUE **Ruedersdorf** 75.59 336 *e*P P 18 45 23.1 0.0
comp=Z,95nm,1.0s,mb5.7
KAR1 **Arisaig** 75.61 348 *e*P P 18 45 22.8 -0.4
KAR1 **Arisaig** 75.61 348 *e*P P 18 45 22.8 -0.4
OJC **Ojcow** 75.71 331 *e*P P 18 45 23.9 +0.2
STHS **Stebnicka Huta** 75.90 330 *i* P P 18 45 25.3 +0.5
STHS pmax pmax
comp=Z,25nm,0.8s,mb5.2
STHS **Stebnicka Huta** 75.90 330 *i* P P 18 45 25.3 +0.5
comp=Z,25nm,0.8s,mb5.2
KOLS **Kolonicke sedl** 75.95 329 *e*P P 18 45 25.0 -0.1
BURAR **Bucovina Array** 75.97 327⇑ *i*P P 18 45 25.7 +0.5
BURAR **Bucovina Array** 75.97 327 P P 18 45 25.6 +0.4
BURAR **Bucovina Array** 75.97 327 ⇑P P 18 45 25.7 +0.4
EAB **Aberfoyle** 76.10 347⇓ *e*P P 18 45 25.1 -0.9
EAB **Aberfoyle** 76.10 347⇓ *e*P P 18 45 25.1 -0.9
UZH **Uzhgorod** 76.20 329 *e*P P 18 45 26.0 -0.5
UZH pmax pmax
comp=Z,70nm,1.5s,mb5.4
NIE **Niedzica** 76.22 331 *e*Pc P 18 45 27.4 +0.7
CRVS **Cervenica-Dubn** 76.26 330 *e*P P 18 45 27.1 +0.2
KSP **Ksiaz** 76.29 334 *e*P P 18 45 27.3 +0.2
KSP **Ksiaz** 76.29 334 *e*P P 18 45 27.0 -0.1
XSO **Sourhope Farm** 76.43 346 *e*P P 18 45 27.6 -0.2
XSO **Sourhope Farm** 76.43 346 *e*P P 18 45 27.6 -0.2
WMOK **Wichita Mounta** 76.50 54 *e*P P 18 45 27.7 -0.5
WMOK pmax pmax
comp=Z,13nm,1.0s,mb4.8
WMOK **Wichita Mounta** 76.50 54 *e*P P 18 45 27.7 -0.6
comp=Z,13nm,1.0s,mb4.8
MSL **Mosul** 76.58 309 *ex* x 18 45 38.0
OKC **Ostrava-Krasne** 76.58 332 *e*P P 18 45 27.8 -0.9
NRDL **Niedersach Rie** 76.58 338 *e*P P 18 45 28.6 -0.1
comp=Z,44nm,0.9s,mb5.4
UPC **Upice** 76.67 334 *e*P P 18 45 29.2 0.0
DPC **Dobruska-Polom** 76.71 333 *e*P P 18 45 29.8 +0.3
BOYT **Boyabat** 76.82 317 *i* P P 18 45 30.9 +0.9
VRI **Vrincioaia** 76.82 325⇑ *i*P P 18 45 30.5 +0.4
VRI **Vrincioaia** 76.82 325 ⇑P P 18 45 30.4 +0.4
MORC **Moravsky Berou** 76.83 332⇑ *i*P P 18 45 30.6 +0.5
MORC **Moravsky Berou** 76.83 332 P P 18 45 30.4 +0.3
CLL **Collm** 76.86 336 *e*P P 18 45 29.8 -0.5
comp=Z,100nm,0.7s,mb5.8
CLL **Collm** 76.86 336⇑ *i*P P 18 45 29.9 -0.4
comp=Z,100nm,0.7s,mb5.8
CLL **Collm** 76.86 336⇑ *i*P P 18 45 29.9 -0.4
CLL pmax pmax
comp=Z,100nm,0.7s,mb5.8
CLL **Collm** 76.86 336⇑ *i*P P 18 45 29.9 -0.4
comp=Z,100nm,0.7s,mb5.8
PLOR **Plostina** 76.86 325⇓ *i*P P 18 45 30.8 +0.5
ECK **Cauldkaine Hil** 76.88 346 *e*P P 18 45 29.4 -1.0
ECK **Cauldkaine Hil** 76.88 346 *e*P P 18 45 29.4 -1.0
KECS **Kecovo** 76.96 330 *i* P P 18 45 31.0 +0.2
KECS pmax pmax
comp=Z,21nm,0.9s,mb5.1
KECS **Kecovo** 76.96 330 *i* P P 18 45 31.0 +0.2
comp=Z,21nm,0.9s,mb5.1
BRG **Berggiesshubel** 76.97 335 *e*P P 18 45 30.4 -0.5
comp=Z,30nm,1.2s,mb5.1
BRG **Berggiesshubel** 76.97 335 *i* P P 18 45 30.7 -0.2
BRG *i* pP 18 45 35.6 -0.7
BHH **Howats Hill** 76.98 346 *e*P P 18 45 31.3 +0.4
BHH **Howats Hill** 76.98 346 *e*P P 18 45 31.3 +0.4
ELZG **Elazig** 77.07 313 *i* P P 18 45 33.2 +1.7
PVCC **Panska Ves** 77.09 334 *e*P P 18 45 31.6 0.0
FBE **Freiberg** 77.10 335 *e*P P 18 45 31.5 -0.1
comp=Z,54nm,0.8s,mb5.5
CLZ **Clausthal** 77.10 337 *e*P P 18 45 31.9 +0.2
comp=Z,78nm,0.9s,mb5.6
CLZ **Clausthal** 77.10 337 *e*P P 18 45 31.9 +0.2
CLZ pmax pmax
comp=Z,78nm,0.9s,mb5.6
WIT **Witteveen** 77.15 340 *e*P P 18 45 32.7 +0.8
TIRR **Tirgusor** 77.28 323⇑ *i*P P 18 45 32.8 +0.1
TIRR **Tirgusor** 77.28 323 ⇑P P 18 45 32.9 +0.2
IBBN **Ibbenburen** 77.35 339 *e*P P 18 45 33.0 0.0
comp=Z,62nm,0.7s,mb5.7
BALT **Daday** 77.44 318 *i* P P 18 45 34.5 +0.9
GCL **Cushendall** 77.44 348 *e*P P 18 45 33.0 -0.5
GCL **Cushendall** 77.44 348 *e*P P 18 45 33.0 -0.5
MLR **Muntele Rosu** 77.44 325⇓ *i*P P 18 45 34.3 +0.8
MLR **Muntele Rosu** 77.44 325 ⇓P P 18 45 34.3 +0.7
CKE **Keswick** 77.44 346 *e*P P 18 45 33.0 -0.5
CKE **Keswick** 77.44 346 *e*P P 18 45 33.0 -0.5
GTTG **Gyttingen** 77.48 338 *e*P P 18 45 34.6 +0.8
comp=Z,31nm,0.8s,mb5.3
CTKT **Corum** 77.49 317 *i* P P 18 45 35.3 +1.4
VYHS **Vyhne** 77.51 331 *i* P P 18 45 34.1 +0.2
VYHS pmax pmax
comp=Z,30nm,1.1s,mb5.1
VYHS **Vyhne** 77.51 331 *i* P P 18 45 34.1 +0.2
comp=Z,30nm,1.1s,mb5.1
PRA **Prague** 77.54 334 P P 18 45 34.0 -0.1
VRAC **Vranov** 77.54 333⇑ *i*P P 18 45 33.9 -0.2
VRAC **Vranov** 77.54 333 ⇑P P 18 45 33.9 -0.2
PRU **Pruhonice** 77.58 334 *e*P P 18 45 34.3 0.0
DRGR 77.59 328⇑ *i*P P 18 45 34.7 +0.3
TANN **Tannenbergstha** 77.81 336 *e*P P 18 45 35.4 -0.2
comp=Z,32nm,1.5s,mb5.0
WERD **Werda** 77.83 336 *e*P P 18 45 35.6 -0.1
comp=Z,33nm,1.2s,mb5.1
VOIR 77.84 326⇑ *i*P P 18 45 36.5 +0.7
VOIR 77.84 326 ⇑P P 18 45 36.5 +0.8
MOX **Moxa** 77.84 336 *e*P P 18 45 35.7 -0.1
comp=Z,67nm,1.2s,mb5.5
MOX **Moxa** 77.84 336 *e*P P 18 45 35.6 -0.2
comp=Z,44nm,1.0s,mb5.3
MOX **Moxa** 77.84 336 *e*P P 18 45 35.6 -0.2
MOX pmax pmax
comp=Z,44nm,1.0s,mb5.3
GUNZ **Gunzen** 77.89 336 *e*P P 18 45 36.3 +0.2
comp=Z,44nm,1.0s,mb5.3
WTSB **Winterswijk** 77.90 340 *e*P P 18 45 35.9 -0.2
comp=Z,84nm,0.6s,mb5.8
TREC **Trest** 77.90 333 *e*P P 18 45 36.1 0.0
GIM **North Isle of** 77.95 347 *e*P P 18 45 36.3 -0.1
GIM **North Isle of** 77.95 347 *e*P P 18 45 36.3 -0.1
WERN **Wernitzgruen** 77.95 336 *e*P P 18 45 36.3 -0.1
comp=Z,50nm,0.8s,mb5.5
SMOL **Smolenice** 77.96 332 *e*P P 18 45 37.2 +0.7
MTUR **Matau** 78.01 325⇓ *i*P P 18 45 37.0 +0.3
MTUR **Matau** 78.01 325 ⇓P P 18 45 37.0 +0.3
CCM **Cathedral Cave** 78.02 47 *e*P P 18 45 34.8 -1.9
CCM pmax pmax
comp=Z,15nm,0.8s,mb5.0
CCM **Cathedral Cave** 78.02 47 *e*P P 18 45 34.8 -1.9
comp=Z,15nm,0.8s,mb5.0
UBBA **Unterbreizbach** 78.13 337 *e*P P 18 45 37.1 -0.3
comp=Z,21nm,1.0s,mb5.0
ELDT **Eldivan** 78.24 317 *i* P P 18 45 39.2 +1.2
BUG **Bochum-Univer** 78.27 339 *e*P P 18 45 38.0 -0.1
comp=Z,59nm,1.0s,mb5.5
MANZ **Manzenberg** 78.30 336 *e*P P 18 45 38.5 +0.2
comp=Z,46nm,1.1s,mb5.3
ZST **Bratislava** 78.35 332 *e*P P 18 45 39.1 +0.5
ZST pmax pmax
comp=Z,39nm,0.9s,mb5.3
ZST **Bratislava** 78.35 332 *e*P P 18 45 39.1 +0.5
comp=Z,39nm,0.9s,mb5.3
BUC1 **Bucharest** 78.35 324 P P 18 45 39.5 +0.9
KBI1 **Birley Grange** 78.45 345 *e*P P 18 45 38.7 -0.4
KBI1 **Birley Grange** 78.45 345 *e*P P 18 45 38.7 -0.4
ROTZ **Rotzenmuhle** 78.46 335 *e*P P 18 45 39.6 +0.4
comp=Z,42nm,1.0s,mb5.3
STKA **Stephens Creek** 78.59 190 *e*P P 18 45 39.1 -0.8
comp=Z,4.8nm,1.1s,mb4.3
STKA **Stephens Creek** 78.59 190 P P 18 45 39.7 -0.2
comp=Z,1.9nm,0.8s,baz=357,slow=4.2,SNR=3.8
KHC **Kasperske Hory** 78.63 334 *e*P P 18 45 40.5 +0.4
GZT **Gaziantep** 78.66 313 *i* P P 18 45 41.9 +1.5
KWE **Weaver Farm** 78.73 345 *e*P P 18 45 40.5 -0.2
KWE **Weaver Farm** 78.73 345 *e*P P 18 45 40.5 -0.2
BRTR **Keskin Array B** 78.74 317 P P 18 45 41.6 +0.8
comp=Z,9.6nm,0.9s,mb4.7,baz=72,slow=4.0,SNR=42
BRTR PP PP 18 48 37.5 -1.5
comp=Z,3.1nm,0.8s,baz=63,slow=5.7,SNR=4.3
BRTR **Keskin Array B** 78.74 317⇑ *i*P P 18 45 41.5 +0.7
BRTR pmax pmax
comp=Z,10.0nm,0.9s
GZR **Gura Zlata** 78.75 327⇓ *i*P P 18 45 41.1 +0.3
GZR **Gura Zlata** 78.75 327 P P 18 45 40.9 +0.1
GZR **Gura Zlata** 78.75 327 ⇓P P 18 45 41.1 +0.3
SGKT **Sivrigoynuk** 78.81 318 *i* P P 18 45 42.4 +1.3
GRA1 **Grafenberg Arr** 78.81 336 *e*P P 18 45 41.7 +0.5
comp=Z,100nm,0.9s,mb5.8
GRF **Grafenberg Arr** 78.81 336 *e*P P 18 45 41.7 +0.5
comp=Z,100nm,0.9s,mb5.8
GRF **Grafenberg Arr** 78.81 336 *e*P P 18 45 41.7 +0.5
GRF pmax pmax
comp=Z,100nm,0.9s,mb5.8
WET **Wettzell** 78.83 335 *e*P P 18 45 41.6 +0.4
comp=Z,54nm,0.9s,mb5.5
WET **Wettzell** 78.83 335 *e*P P 18 45 41.6 +0.4
WET pmax pmax
comp=Z,54nm,0.9s,mb5.5
GEC2 **GERESS Array S** 78.85 334 *e*P P 18 45 41.1 -0.2
comp=Z,22nm,0.9s,mb5.1
GEC2 **GERESS Array S** 78.85 334 *e*P P 18 45 41.1 -0.2
GEC2 pmax pmax
comp=Z,22nm,0.9s,mb5.1
GERES **GERESS Array B** 78.85 334 P P 18 45 41.3 0.0
comp=Z,20nm,0.8s,mb5.1,baz=38,slow=4.8,SNR=94
AVNT **Avonos** 78.90 316 *i* P P 18 45 42.3 +0.7
UMR **Umm Al-Rimmam** 78.92 301 *e*P P 18 45 42.8 +1.0
UMR AMb AMB 18 45 44.1
comp=Z,206nm,0.6s,mb6.2
MIB **Mutribah** 78.95 302 *e*P P 18 45 43.0 +1.0
MIB AMb AMB 18 45 45.1
comp=Z,302nm,0.8s,mb6.3

CONA Conrad Observa 78.98 332 *i* P P 18 45 42.8 +0.7
comp=Z,31nm,0.8s,mb5.3,SNR=53
BZS Buzias 78.99 328 ⇓*i*P P 18 45 42.3 +0.1
BZS Buzias 78.99 328 P P 18 45 42.2 0.0
BZS Buzias 78.99 328 ⇓P P 18 45 42.2 +0.1
ANTO Ankara 79.03 317 ⇓*i*P P 18 45 43.9 +1.6
ANTO Ankara 79.03 317 P P 18 45 43.4 +1.1
ANTO Ankara 79.03 317 ⇓P P 18 45 43.9 +1.6
JCT Junction City 79.05 57 *e*P P 18 45 42.4 0.0
JCT pmax pmax
comp=Z,24nm,1.1s,mb5.0
JCT Junction City 79.05 57 *e*P P 18 45 42.4 0.0
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 79.08 338 *e*P P 18 45 42.8 +0.2
comp=Z,51nm,0.7s,mb5.6
TNS Taunus Mts 79.08 338 *e*P P 18 45 42.8 +0.2
TNS pmax pmax
comp=Z,51nm,0.7s,mb5.6
SBD1 Bryn Du 79.09 346 *e*P P 18 45 42.5 -0.2
SBD1 Bryn Du 79.09 346 *e*P P 18 45 42.5 -0.2
ZIMR 79.19 324⇑*i*P P 18 45 42.8 -0.4
ZIMR 79.19 324 P P 18 45 43.4 +0.2
ZIMR 79.19 324⇑P P 18 45 42.8 -0.4
HGN Heimansgroeve 79.22 340 *e*P P 18 45 43.3 -0.1
comp=Z,81nm,1.2s,mb5.5
DLF Lyons Farm 79.23 348⇑*i*P P 18 45 43.2 -0.2
BEBN Eben Emael 79.25 340 P P 18 45 43.4 -0.1
CRAR CRAIOVA 79.25 326 P P 18 45 44.6 +1.0
DCN Croghan 79.29 348⇑*i*P P 18 45 43.4 -0.4
MEM Membach 79.34 339 P P 18 45 44.1 0.0
RST Umm Al-Ruwaisa 79.38 302 *e*P P 18 45 45.0 +0.7
RST AMb AMB 18 45 46.4
comp=Z,250nm,0.7s,mb6.3
QRN Al-Qurain 79.39 301 *e*P P 18 45 45.4 +1.1
QRN AMb AMB 18 45 46.9
comp=Z,182nm,0.5s,mb6.2
HLM1 Long Mynd 79.39 345 *e*P P 18 45 44.1 -0.2
HLM1 Long Mynd 79.39 345 *e*P P 18 45 44.1 -0.2
NAY Al-Naaiem 79.42 301 *e*P P 18 45 45.4 +0.9
NAY AMb AMB 18 45 47.7
comp=Z,95nm,0.8s,mb5.8
MIAR Mount Ida 79.49 51 *e*P P 18 45 44.1 -0.7
MIAR pmax pmax
comp=Z,15nm,1.0s,mb4.9
MIAR Mount Ida 79.49 51 *e*P P 18 45 44.1 -0.7
comp=Z,15nm,1.0s,mb4.9
TOD Tromm 79.55 337 *e*P P 18 45 45.6 +0.4
MOA Mollin 79.56 333 *i*P P 18 45 45.4 +0.2
comp=Z,30nm,0.9s,mb5.2,SNR=38
JMB Yambol 79.68 323 *e*P P 18 45 46.4 +0.6
BCLA Clavier 79.69 340 P P 18 45 45.9 0.0
ARSA Arzberg 79.69 332 *i*P P 18 45 46.4 +0.4
comp=Z,29nm,1.0s,mb5.1,SNR=35
SSW Stow on the Wo 79.74 345 *e*P P 18 45 46.1 -0.1
SSW Stow on the Wo 79.74 345 *e*P P 18 45 46.1 -0.1
SKP1 Kophill 79.78 344 *e*P P 18 45 46.0 -0.5
SKP1 Kophill 79.78 344 *e*P P 18 45 46.0 -0.5
PARMO Parma 79.84 47 *e*P P 18 45 46.6 -0.2
SNF Seneffe 79.84 340 P P 18 45 45.6 -1.2
HTR Trewern Hill 79.88 346 *e*P P 18 45 46.9 -0.1
HTR Trewern Hill 79.88 346 *e*P P 18 45 46.9 -0.1
MCH1 Michaelchurch 79.91 345 *e*P P 18 45 46.8 -0.4
MCH1 Michaelchurch 79.91 345 *e*P P 18 45 46.8 -0.4
GIVF Givet 80.10 340⇑*i*P P 18 45 47.9 -0.3
DOU Dourbes 80.16 340 P P 18 45 48.4 -0.1
SWN1 Swindon 80.16 344 *e*P P 18 45 47.8 -0.7
SWN1 Swindon 80.16 344 *e*P P 18 45 47.8 -0.7
FUR Furstenfeldbru 80.17 335 *e*P P 18 45 48.9 +0.3
comp=Z,75nm,1.0s,mb5.6
FUR Furstenfeldbru 80.17 335 *e*P P 18 45 48.9 +0.3
FUR pmax pmax
comp=Z,75nm,1.0s,mb5.6
WLF Walferdange 80.18 339 P P 18 45 48.6 0.0
ESKT Eskisehir 80.21 318 *i*P P 18 45 48.8 +0.1
HGH Gray Hill 80.23 345 *e*P P 18 45 48.8 -0.1
HGH Gray Hill 80.23 345 *e*P P 18 45 48.8 -0.1
ACSO Alum Creek Sta 80.23 40 *e*P P 18 45 48.3 -0.6
comp=Z,9.7nm,0.6s,mb4.9
MENF Mencas 80.28 342 *e*P P 18 45 49.6 +0.5
BAIF Baives 80.28 340⇑*i*P P 18 45 49.2 +0.1
comp=Z,47nm,0.9s,mb5.1
BAIF Baives 80.28 340⇑*i*P P 18 45 49.2 +0.1
BAIF pmax pmax
comp=Z,23nm,0.9s,mb5.1
BAIF Baives 80.28 340⇑*i*P P 18 45 49.2 +0.1
comp=Z,23nm,0.9s,mb5.1
PERS Pernice 80.36 332 *i*P P 18 45 49.7 +0.1
LANF Langenberg 80.39 338 *e*P P 18 45 49.7 0.0
ULDT Uludag 80.48 320 *i*P P 18 45 50.7 +0.5
KBA Koelnbreinsper 80.53 334⇑*i*P P 18 45 51.5 +1.0
comp=Z,108nm,0.7s,mb5.9,SNR=88
KBA Koelnbreinsper 80.53 334⇑*i*P P 18 45 51.5 +1.0
KBA pmax pmax
comp=Z,108nm,0.7s,mb5.9
SWK Warminster 80.59 345 *e*P P 18 45 51.0 +0.2
SWK Warminster 80.59 345 *e*P P 18 45 51.0 +0.2
OBKA Obir 80.66 332 *i*P P 18 45 51.2 +0.1
comp=Z,15nm,0.7s,mb5.0,SNR=11
WATA Walderalm 80.83 335⇓*i*P P 18 45 52.6 +0.5
comp=Z,56nm,1.0s,mb5.4,SNR=42
WATA Walderalm 80.83 335⇓*i*P P 18 45 52.6 +0.5
WATA pmax pmax
comp=Z,56nm,1.0s,mb5.5
BFO Black Forest 80.85 337 P P 18 45 52.5 +0.3
comp=Z,233nm,1.1s,mb6.0,SNR=21
BFO Black Forest 80.85 337 *e*P P 18 45 52.2 0.0
comp=Z,49nm,1.0s,mb5.4
BFO Black Forest 80.85 337 *e*P P 18 45 52.2 0.0
BFO pmax pmax
comp=Z,49nm,1.0s,mb5.4
WTTA Wattenberg 80.88 335 *i*P P 18 45 53.2 +0.8
comp=Z,79nm,0.6s,mb5.8,SNR=101
WTTA Wattenberg 80.88 335 *i*P P 18 45 53.2 +0.8
WTTA pmax pmax
comp=Z,79nm,0.6s,mb5.8
DIVS Divcibare 80.89 328 *e*P P 18 45 52.3 -0.1
LEGS Legarje 80.91 332 *i*P P 18 45 52.2 -0.3
VTS Vitosha 80.95 325 *e*P P 18 45 53.1 +0.4
VTS Vitosha 80.95 325⇑*i*P P 18 45 53.3 +0.6
HEX Exmoor 80.95 346 *e*P P 18 45 51.8 -0.9
HEX Exmoor 80.95 346 *e*P P 18 45 51.8 -0.9
MOTA Moosalm 80.97 335⇑*i*P P 18 45 53.3 +0.5
comp=Z,65nm,1.0s,mb5.5,SNR=63
MOTA Moosalm 80.97 335⇑*i*P P 18 45 53.3 +0.5
MOTA pmax pmax
comp=Z,65nm,1.0s,mb5.5
CRES Cresnjev 80.97 342 *e*P P 18 45 52.5 -0.3
WLS Welschbruch 81.03 338 *e*P P 18 45 53.4 +0.2
SQTA Sankt Quirin 81.05 335 *i*P P 18 45 54.0 +0.7
comp=Z,38nm,1.0s,mb5.3,SNR=41
SQTA Sankt Quirin 81.05 335 *i*P P 18 45 54.0 +0.8
SQTA pmax pmax
comp=Z,38nm,1.0s,mb5.3
CDF Champ du Feu 81.05 338⇑*i*P P 18 45 53.3 0.0
comp=Z,115nm,1.0s,mb5.5
CDF Champ du Feu 81.05 338⇑*i*P P 18 45 53.3 0.0
CDF pmax pmax
comp=Z,58nm,1.0s,mb5.5
CDF Champ du Feu 81.05 338⇑*i*P P 18 45 53.3 0.0
comp=Z,58nm,1.0s,mb5.5
LJU Ljubljana 81.08 332 *i*P P 18 45 52.8 -0.6
HTL Hartland 81.14 346 *e*P P 18 45 52.8 -0.9
HTL AMb AMB 18 45 54.3
comp=Z,41nm,2.1s,mb5.0
HTL Hartland 81.14 346 *e*P P 18 45 52.8 -0.9
HTL AMb AMB 18 45 54.3
comp=Z,41nm,2.1s,mb5.0
CADS Cadrg 81.17 333 *e*P P 18 45 52.8 -1.1
ALN Alexandroupoli 81.20 322 *e*P P 18 45 54.2 +0.1
RDO Rodhopi 81.21 323 *e*P P 18 45 54.5 +0.4
ECH Echery 81.26 338 *e*P P 18 45 54.2 -0.2
BOJS Bojanci 81.32 332 *i*P P 18 45 54.4 -0.3
FELD Feldberg im Sc 81.35 337⇑*e*P P 18 45 54.9 0.0
DAVA Damuels 81.37 336⇑*i*P P 18 45 55.4 +0.5
comp=Z,32nm,0.9s,mb5.3,SNR=25
MEZF Maizieres J'vi 81.53 339⇑*i*P P 18 45 56.0 +0.2
comp=Z,124nm,1.0s,mb5.5
MEZF Maizieres J'vi 81.53 339⇑*i*P P 18 45 56.0 +0.2
comp=Z,124nm,1.0s,mb5.8
THEF They Montfort 81.55 339 *e*P P 18 45 55.7 -0.2
MOF Molkenrain 81.61 338 *e*P P 18 45 56.2 0.0
HAU Haudompre 81.67 338⇑*i*P P 18 45 56.4 -0.1
comp=Z,82nm,1.1s,mb5.3
HAU Haudompre 81.67 338⇑*i*P P 18 45 56.4 -0.1
HAU pmax pmax
comp=Z,41nm,1.1s,mb5.3
HAU Haudompre 81.67 338⇑*i*P P 18 45 56.4 -0.1
comp=Z,41nm,1.1s,mb5.3
OXF Oxford 81.70 48 *e*P P 18 45 55.8 -0.9
OXF pmax pmax
comp=Z,44nm,1.1s,mb5.3
OXF Oxford 81.70 48 *e*P P 18 45 55.8 -0.9
comp=Z,44nm,1.1s,mb5.3
HINF Hinteralfeld 81.71 338⇑*i*P P 18 45 56.4 -0.4
comp=Z,58nm,1.1s,mb5.1
HINF Hinteralfeld 81.71 338⇑*i*P P 18 45 56.4 -0.4
HINF pmax pmax
comp=Z,29nm,1.1s,mb5.1
HINF Hinteralfeld 81.71 338⇑*i*P P 18 45 56.4 -0.4
comp=Z,29nm,1.1s,mb5.1
PLE Pljevlja 81.77 328⇓*i*P P 18 45 58.0 +0.9
CSA1 St Austell 81.82 346 *e*P P 18 45 57.7 +0.3
CSA1 St Austell 81.82 346 *e*P P 18 45 57.7 +0.3
IVA Berane 81.98 327⇑*i*P P 18 45 58.4 +0.2
PLAL Pickwick Lake 82.00 47 *e*P P 18 45 57.3 -1.0
comp=Z,7.1nm,0.6s,mb4.8
SRS Serrai 82.03 324 *e*P P 18 45 58.2 -0.2
CRQ2 Rosemanowes 2 82.05 346 *e*P P 18 45 58.4 -0.2
CRQ2 Rosemanowes 2 82.05 346 *e*P P 18 45 58.4 -0.2
UPM Unac-Piva 82.06 328⇑*i*P P 18 45 58.1 -0.5
MANT Manisa 82.08 319 *i*P P 18 45 59.1 +0.4
STIP Stip 82.11 325 *e*P P 18 45 58.2 -0.7
STIP Stip 82.11 325 *i*P P 18 45 58.1 -0.8
LOMF Lomont 82.15 338 *e*P P 18 45 59.4 +0.3
SKO Skopje 82.17 326 *i*P P 18 45 59.7 +0.5
PVY Plav 82.19 327 *e*P P 18 45 58.6 -0.7
VAY Valandovo 82.27 325 *i*P P 18 45 59.4 -0.3
NKY Niksic 82.37 328⇑*i*P P 18 45 59.4 -0.8
LOS Limnos 82.41 322 *e*P P 18 46 06.4 +6.0
JRS Jersey 82.44 344 *e*P P 18 45 59.6 -1.0
JRS Jersey 82.44 344 *e*P P 18 45 59.6 -1.0
BRY Bratogost 82.46 328⇑*i*P P 18 45 59.9 -0.8
FLN La Foliniere 82.53 343⇑*i*P P 18 46 00.6 -0.5
comp=Z,124nm,1.1s,mb5.5
FLN La Foliniere 82.53 343⇑*i*P P 18 46 00.6 -0.5
FLN pmax pmax
comp=Z,62nm,1.1s,mb5.5
FLN La Foliniere 82.53 343⇑*i*P P 18 46 00.6 -0.5
comp=Z,62nm,1.1s,mb5.5
OUR Ouranopolis 82.53 323 *e*P P 18 46 00.7 -0.3
TTG Podgorica 82.60 328⇓*i*P P 18 46 00.4 -1.0
LDF La Druitiere 82.62 343⇑*i*P P 18 46 01.1 -0.4
comp=Z,82nm,1.1s,mb5.4
LDF La Druitiere 82.62 343⇑*i*P P 18 46 01.1 -0.4
LDF pmax pmax
comp=Z,41nm,1.1s,mb5.4
LDF La Druitiere 82.62 343⇑*i*P P 18 46 01.1 -0.4
comp=Z,41nm,1.1s,mb5.4
GRG Griva 82.65 325 *e*P P 18 46 01.4 -0.3
PLG Polygyros 82.72 324 *e*P P 18 46 01.9 -0.1
PLG Polygyros 82.72 324 *e*P P 18 46 00.7 -1.4
BUM Brajici-Budva 82.85 328⇓*i*P P 18 46 02.6 -0.1
HCY Herceg Novi 82.87 328⇓*i*P P 18 46 01.7 -1.1
GRR Gorron 82.96 343⇑*i*P P 18 46 03.3 0.0
comp=Z,138nm,1.0s,mb5.6
GRR Gorron 82.96 343⇑*i*P P 18 46 03.3 0.0
GRR pmax pmax
comp=Z,69nm,1.0s,mb5.6
GRR Gorron 82.96 343⇑*i*P P 18 46 03.3 0.0
comp=Z,69nm,1.0s,mb5.6
LOR Lormes 82.97 340⇑*i*P P 18 46 03.2 -0.2
comp=Z,80nm,0.9s,mb5.5
LOR Lormes 82.97 340⇑*i*P P 18 46 03.2 -0.2
LOR pmax pmax
comp=Z,40nm,0.9s,mb5.5
LOR Lormes 82.97 340⇑*i*P P 18 46 03.2 -0.2
comp=Z,40nm,0.9s,mb5.5
ULC Ulcinj 83.01 327⇓*i*P P 18 46 03.2 -0.3
BIA Bitola 83.02 325 *e*P P 18 46 02.7 -0.9
BIA Bitola 83.02 325 *i*P P 18 46 02.5 -1.1
ASF Jabal al Asfar 83.02 310 P P 18 46 04.2 +0.5
comp=Z,17nm,0.9s,mb5.0,baz=291,slow=2.0,SNR=21
OG01 Vacheresse 83.13 337 *e*P P 18 46 06.0 +1.8
OHR Ohrid 83.15 326 *i*P P 18 46 03.3 -1.0
FNA Florina 83.20 325 *e*P P 18 46 03.7 -0.9
HYF Hunbilligny 83.26 340⇑*i*P P 18 46 03.1 +0.2
ROSF Rostrenen 83.48 344⇑*i*P P 18 46 06.0 0.0
comp=Z,176nm,1.1s,mb5.7
ROSF Rostrenen 83.48 344⇑*i*P P 18 46 06.0 0.0
ROSF pmax pmax
comp=Z,88nm,1.1s,mb5.7
ROSF Rostrenen 83.48 344⇑*i*P P 18 46 06.0 0.0
comp=Z,88nm,1.1s,mb5.7
AVF Avril sur Loir 83.54 340⇑*i*P P 18 46 06.4 +0.1
comp=Z,153nm,1.1s,mb5.7
AVF Avril sur Loir 83.54 340⇑*i*P P 18 46 06.4 +0.1
AVF pmax pmax
comp=Z,76nm,1.1s,mb5.7
AVF Avril sur Loir 83.54 340⇑*i*P P 18 46 06.4 +0.1
comp=Z,76nm,1.1s,mb5.7
AOS Alonnisos 83.55 323 *e*P P 18 46 06.2 -0.1
SMF Signal de Mont 83.56 339⇑*i*P P 18 46 06.6 +0.2
comp=Z,327nm,1.2s,mb6.0
SMF Signal de Mont 83.56 339⇑*i*P P 18 46 06.6 +0.2
SMF pmax pmax
comp=Z,164nm,1.2s,mb6.0
SMF Signal de Mont 83.56 339⇑*i*P P 18 46 06.6 +0.2
comp=Z,164nm,1.2s,mb6.0
TKL Tuckaleechee C 83.57 43 P P 18 46 06.1 -0.3
comp=Z,17nm,0.9s,mb5.2,baz=142,slow=0.8,SNR=15
XOR Xorichti 83.67 323 *e*P P 18 46 06.4 -0.5
ELN Prospectdale 83.69 41 *e*P P 18 46 06.0 -1.0
RSL Roselend 83.74 337 *e*P P 18 46 08.0 +0.7
BLA Blacksburg 83.85 40 *e*P P 18 46 07.2 -0.7
comp=Z,1.4nm,1.0s
BLA *e* 18 46 20.2
LPL La Plagne 83.87 337⇑*i*P P 18 46 08.8 +0.8
comp=Z,48nm,0.9s,mb5.3
LPL La Plagne 83.87 337⇑*i*P P 18 46 08.8 +0.8
LPL pmax pmax
comp=Z,24nm,0.9s,mb5.3
LPL La Plagne 83.87 337⇑*i*P P 18 46 08.8 +0.8
comp=Z,24nm,0.9s,mb5.3
QUIF Quistinic 83.87 344⇑*i*P P 18 46 07.6 -0.4
LPG La Plagne 83.88 337⇑*i*P P 18 46 09.0 +1.0
comp=Z,54nm,0.9s,mb5.4
LPG La Plagne 83.88 337⇑*i*P P 18 46 09.0 +1.0
LPG pmax pmax
comp=Z,27nm,0.9s,mb5.4
LPG La Plagne 83.88 337⇑*i*P P 18 46 09.0 +1.0
comp=Z,27nm,0.9s,mb5.4
BGF Bois d'Agland 83.88 340⇑*i*P P 18 46 07.9 -0.1
comp=Z,43nm,0.8s,mb5.3
BGF Bois d'Agland 83.88 340⇑*i*P P 18 46 07.9 -0.1
BGF pmax pmax
comp=Z,21nm,0.8s,mb5.3
BGF Bois d'Agland 83.88 340⇑*i*P P 18 46 07.9 -0.1
comp=Z,22nm,0.8s,mb5.3
MEV Metsovon 84.12 325 *e*P P 18 46 10.4 +1.2
PLDF La Plantade 84.25 339 *e*P P 18 46 10.9 +1.0
TCF Toulx Ste Croi 84.28 340 *e*P P 18 46 10.4 +0.3
comp=Z,85nm,1.0s,mb5.5
TCF Toulx Ste Croi 84.28 340 *e*P P 18 46 10.4 +0.3
TCF pmax pmax
comp=Z,42nm,1.0s,mb5.5
TCF Toulx Ste Croi 84.28 340 *e*P P 18 46 10.4 +0.3
comp=Z,42nm,1.0s,mb5.5
AGO Saint Agoulin 84.29 340 *e*P P 18 46 11.1 +1.0
MFF Saint Martin d 84.52 342⇑*i*P P 18 46 11.3 0.0
comp=Z,69nm,0.9s,mb5.5
MFF Saint Martin d 84.52 342⇑*i*P P 18 46 11.3 0.0
MFF pmax pmax
comp=Z,35nm,0.9s,mb5.5
MFF Saint Martin d 84.52 342⇑*i*P P 18 46 11.3 0.0
comp=Z,35nm,0.9s,mb5.5
MBDF Montbardon 84.58 337⇑*i*P P 18 46 11.8 +0.2
comp=Z,23nm,0.6s,mb5.2
MBDF Montbardon 84.58 337⇑*i*P P 18 46 11.8 +0.2
MBDF pmax pmax
comp=Z,12nm,0.6s,mb5.2
MBDF Montbardon 84.58 337⇑*i*P P 18 46 11.8 +0.2
comp=Z,12nm,0.6s,mb5.2
PYM Petit Puy Mans 84.60 340 *e*P P 18 46 12.9 +1.2
EVR Evrytania 84.62 324 *e*P P 18 46 11.5 -0.3
ORIF Oris-en-Rattie 84.65 337⇑*i*P P 18 46 12.6 +0.7
comp=Z,105nm,1.1s,mb5.6
ORIF Oris-en-Rattie 84.65 337⇑*i*P P 18 46 12.6 +0.7
ORIF pmax pmax
comp=Z,53nm,1.1s,mb5.6
ORIF Oris-en-Rattie 84.65 337⇑*i*P P 18 46 12.6 +0.7
comp=Z,52nm,1.1s,mb5.6
IGT Igoumenitsa 84.69 325 *e*P P 18 46 11.7 -0.4
AQU L'Aquila 84.73 331⇑*i*P P 18 46 13.9 +1.5
AQU L'Aquila 84.73 331 *e*P P 18 46 12.7 +0.3
AQU pmax pmax
comp=Z,61nm,0.9s,mb5.7
AQU L'Aquila 84.73 331 *e*P P 18 46 12.7 +0.3
comp=Z,61nm,0.9s,mb5.7
VIVF Saint-Julien-l 85.02 338⇑*i*P P 18 46 14.4 +0.6
comp=Z,95nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.02 338⇑*i*P P 18 46 14.4 +0.6
VIVF pmax pmax
comp=Z,47nm,1.1s,mb5.5
VIVF Saint-Julien-l 85.02 338⇑*i*P P 18 46 14.4 +0.6
comp=Z,47nm,1.1s,mb5.5
SAOF Saorge 85.05 336 *e*P P 18 46 13.8 -0.1
AUTN L'Aution 85.08 336 *e*P P 18 46 14.1 0.0
OG25 Le Caire 85.10 337 *e*P P 18 46 15.1 +0.9
TOUF Mont Tournerai 85.11 336 *e*P P 18 46 14.6 +0.3
KARP Karpathos 85.14 319 *e*P P 18 46 09.0 -5.4
LUCF Luceram 85.19 336 *e*P P 18 46 15.6 +0.9
MVIF Mont Vial 85.25 336 *e*P P 18 46 15.2 +0.3
REVF Revere 85.33 336 *e*P P 18 46 15.1 -0.2
NWAO Narrogin (SRO) 85.37 210 *e*P P 18 46 15.5 -0.1
NWAO pmax pmax
comp=Z,17nm,0.8s
NWAO Narrogin (SRO) 85.37 210 *e*P P 18 46 15.5 0.0
comp=Z,17nm,0.8s,mb5.2
RJF Les Rejaudoux 85.37 340⇑*i*P P 18 46 15.1 -0.5
comp=Z,76nm,1.1s,mb5.5
RJF Les Rejaudoux 85.37 340⇑*i*P P 18 46 15.1 -0.5
RJF pmax pmax
comp=Z,38nm,1.1s,mb5.4
RJF Les Rejaudoux 85.37 340⇑*i*P P 18 46 15.1 -0.5
comp=Z,38nm,1.1s,mb5.4
CAF Calviac 85.60 340⇑*i*P P 18 46 16.6 -0.1
comp=Z,65nm,0.9s,mb5.5
CAF Calviac 85.60 340⇑*i*P P 18 46 16.6 -0.1
CAF pmax pmax
comp=Z,33nm,0.9s,mb5.6
CAF Calviac 85.60 340⇑*i*P P 18 46 16.6 -0.1
comp=Z,33nm,0.9s,mb5.6
SMRF Simiane la Rot 85.60 337⇑*i*P P 18 46 16.8 +0.1
comp=Z,132nm,1.4s,mb5.7
SMRF Simiane la Rot 85.60 337⇑*i*P P 18 46 16.8 +0.1
comp=Z,132nm,1.4s,mb6.0
FRF La Foret Royal 85.70 336⇑*i*P P 18 46 17.1 -0.1
comp=Z,134nm,1.5s,mb5.7
FRF La Foret Royal 85.70 336⇑*i*P P 18 46 17.1 -0.1
FRF pmax pmax
comp=Z,67nm,1.5s,mb5.7
FRF La Foret Royal 85.70 336⇑*i*P P 18 46 17.1 -0.1
comp=Z,67nm,1.5s,mb5.7
VLS Valsamata 85.75 324 *e*P P 18 46 17.0 -0.4
TAVF Tavernes 85.81 337 *e*P P 18 46 18.9 +1.2
PRAF Pradon 85.87 337 *e*P P 18 46 19.8 +1.8
JSC Jenkinsville 85.88 43 *e*P P 18 46 12.9 -5.2
LFF La Frestale 85.90 341⇑*i*P P 18 46 17.7 -0.5
comp=Z,116nm,1.2s,mb5.7
LFF La Frestale 85.90 341⇑*i*P P 18 46 17.7 -0.5
LFF pmax pmax
comp=Z,58nm,1.2s,mb5.7
LFF La Frestale 85.90 341⇑*i*P P 18 46 17.7 -0.5
comp=Z,58nm,1.2s,mb5.7
LMR La Mourre 85.94 336⇑*i*P P 18 46 18.6 +0.2
comp=Z,145nm,1.2s,mb5.8
LMR La Mourre 85.94 336⇑*i*P P 18 46 18.6 +0.2
LMR pmax pmax
comp=Z,73nm,1.2s,mb5.8
LMR La Mourre 85.94 336⇑*i*P P 18 46 18.6 +0.2
comp=Z,73nm,1.2s,mb5.8
LASF Ste Croix 85.96 338⇑*i*P P 18 46 18.5 0.0
comp=Z,118nm,1.5s,mb5.6
VLI Veliai 86.02 322 *e*P P 18 46 16.5 -2.3
KYTH Kithira 86.35 322 *e*P P 18 46 19.0 -1.4
MTLF Montolieu 87.06 339⇑*i*P P 18 46 23.7 -0.2
comp=Z,40nm,1.0s,mb5.3
MTLF Montolieu 87.06 339⇑*i*P P 18 46 23.7 -0.2
MTLF pmax pmax
comp=Z,20nm,1.0s,mb5.3
MTLF Montolieu 87.06 339⇑*i*P P 18 46 23.7 -0.2
comp=Z,20nm,1.0s,mb5.3
EPF Esparros 87.80 340⇑*i*P P 18 46 27.2 -0.2
comp=Z,8.9nm,0.7s,mb4.8
EPF Esparros 87.80 340⇑*i*P P 18 46 27.2 -0.2
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
EPF Esparros 87.80 340⇑*i*P P 18 46 27.2 -0.2
comp=Z,4.4nm,0.7s,mb4.8
ETSF Etsaut 88.13 341⇑*i*P P 18 46 28.4 -0.6
comp=Z,20nm,1.1s,mb5.0
ETSF Etsaut 88.13 341⇑*i*P P 18 46 28.4 -0.6
ETSF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
ETSF Etsaut 88.13 341⇑*i*P P 18 46 28.4 -0.6
comp=Z,10.0nm,1.1s,mb5.0
VSL Villasalto 88.62 333 *e*P P 18 46 31.4 +0.1
comp=Z,30nm,1.0s,mb5.6
ESDC Sonseca Array 91.95 343 P P 18 46 45.7 -1.1
comp=Z,4.0nm,0.9s,mb4.7,baz=9.4,slow=4.2,SNR=10
CMIG Matias Romero 92.05 63 P P 18 46 45.4 -1.9
comp=Z,3.8nm,0.8s,mb4.8,baz=308,slow=4.5,SNR=5.0
KEST Kesra 92.06 331 P P 18 46 47.3 -0.1
comp=Z,8.6nm,0.8s,mb5.1,baz=298,slow=2.1,SNR=30
EVO Evora 93.83 345 *e*P P 18 46 55.4 -0.1
comp=Z,33nm,1.3s,mb5.3
TORD Torodi Ar. Bea 115.48 329 PKP PKPdf 18 52 19.7 -0.5
comp=Z,1.7nm,0.7s,baz=23,slow=2.5,SNR=15
DBIC Dimbokro 123.72 334 PKP PKPdf 18 52 35.9 -0.1
comp=Z,12nm,0.9s,baz=24,slow=2.9,SNR=9.5
VNDA Vanda 123.73 178 PKP PKPdf 18 52 33.0 -3.0
comp=Z,1.2nm,0.8s,baz=311,slow=3.0,SNR=6.9
MAW Mawson 131.93 211 PKP PKPdf 18 52 48.8 -2.8
comp=Z,2.6nm,0.8s,baz=294,slow=5.7,SNR=7.2
LPAZ La Paz 134.42 63 PKP PKPdf 18 52 56.6 +0.3
comp=Z,1.5nm,0.7s,baz=338,slow=3.7,SNR=10
LPAZ La Paz 134.42 63 PKIKP PKPdf 18 52 56.7 +0.4
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 134.42 63 *e*PKPdf PKPdf 18 52 57.2 +0.9
BOSA Boshof 135.94 275 PKP PKPdf 18 52 56.5 -2.7
comp=Z,2.5nm,0.7s,baz=140,slow=1.7,SNR=5.4
QSPA South Pole Qui 136.10 180 *e*PKPdf PKPdf 18 52 58.0 -1.5
BDFB Brasilia 144.58 37 PKP PKPdf 18 53 13.3 -1.5
comp=Z,18nm,1.0s,baz=303,slow=3.5,SNR=15
CFAA Coronel Fontan 144.96 80 PKPbc PKPdf 18 53 13.6 -1.8
comp=Z,1.1nm,0.5s,baz=284,slow=3.0,SNR=18
MDZ Mendoza 145.29 82 *e*PKIKP PKPdf 18 53 15.8 -0.2
PLCA Paso Flores 148.06 96 PKPbc PKPbc 18 53 23.0 -0.9
comp=Z,14nm,0.9s,baz=290,slow=3.1,SNR=19
PLCA Paso Flores 148.06 96 PKP2 PKPab 18 53 23.0 -3.6
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 148.06 96 *e*PKPbc PKPbc 18 53 23.1 -0.8
CPUP Villa Florida 148.56 61 PKPbc PKPbc 18 53 24.8 -0.4
comp=Z,15nm,0.6s,baz=306,slow=2.2,SNR=52
CPUP Villa Florida 148.56 61 PKP2 PKPbc 18 53 24.8 -0.4
CPUP pmax pmax
comp=Z,15nm,0.6s
CPUP Villa Florida 148.56 61 *e*PKPbc PKPbc 18 53 24.5 -0.7
SNAA Sanae 152.22 196 PKPbc PKPbc 18 53 31.5 -2.4
comp=Z,2.8nm,0.7s,baz=192,slow=1.8,SNR=20
SNAA Sanae 152.22 196 *e*PKPdf PKPdf 18 53 31.1 +3.9
SNAA *e* 18 53 31.1
SNAA *e* 18 53 35.8
SNAA *e* 18 53 45.8
PMSA Palmer Station 152.60 146 PKPbc PKPbc 18 53 32.4 -2.4
comp=Z,9.1nm,1.0s,baz=315,slow=11,SNR=2.4
PMSA PKPab PKPab 18 53 43.7 -1.7
comp=Z,10nm,0.9s,baz=178,slow=7.5,SNR=3.6
VNA3 Neumayer Olymp 153.74 192 *e*PKPdf PKPdf 18 53 26.3 -3.1
VNA3 *e* 18 53 31.0
VNA3 *e* 18 53 38.8
VNA3 *e* 18 53 47.3
VNA3 *e* 18 53 53.9
VNA3 *e* 18 53 57.7
VNA3 *e* 18 54 00.2
VNA1 Neumayer--Stat 154.04 194 *e*PKPdf PKPdf 18 53 27.5 -2.4
VNA1 *e* 18 53 31.6
VNA1 *e* 18 53 49.7
VNA1 *e* 18 53 59.6

IDC ***30*** *18:37:53.6±0.6, 4622N×153.44E, h0km, mb4.3/17,*

mb1 4.4/19,mb1mx4.4/23,mbtmp4.3/19,ML3.7/2,Error ellipse: s-maj=17.2km s-min=14.6km az=106.0
*BJI **30** 18:37:55.4, 4606N×15309E,h10km, mb4.6*
*SKHL **30** 18:37:55.5±2.2, 4626N×15357E, h50km±50km, mb5.0/3*
*NEIC **30** 18:37:55.1±0.3, 4621N×15355E, h10km, mb4.8/30, Error ellipse: s-maj=8.8km s-min=6.8km az=134.0*
*ISCJB **30** 18:37:57.3±0.5, 46.12N±006×15337E±007, h33km, mb4.6/55, Error ellipse: s-maj=11.1km s-min=4.0km az=105.8*
*MOS **30** 18:38:00.7±0.8, 4658N×15274E, h32km, mb4.9/24, Error ellipse: s-maj=14.1km s-min=7.4km az=111.8*

ISC 30 18:37:59.2±0.5, 4619N±006×15339E±008, h35km, n169, σ1§17/174, mb4.6/55, 21C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**3.98**	**258**	*i* P		**Pn**	**18 38 56.0**	**-1.8**
KUR					AMB	AMB	18 38 56.5	
	460nm,0.5s							
KUR				*e*S		**Sn**	**18 39 43.0**	**-0.2**
KUR				A			18 39 56.0	
	340nm,0.7s							
KUR				A			18 39 56.0	
	170nm,0.7s							
KUR	**Kuril'sk**	**3.98**	**258**	⇑*i* PN		**Pn**	**18 38 56.0**	**-1.8**
KUR				*i* S		**Sn**	**18 39 43.0**	**-0.2**
KUR				pmax	pmax			
	comp=Z,460nm,0.5s							
KUR				smax				
	comp=N,340nm,0.7s							
KUR				smax				
	comp=E,170nm,0.7s							
SKR	**Severo-Kuril's**	**4.85**	**21**	*e*P		**Pn**	**18 39 05.6**	**-4.0**
SKR					AMB	AMB	18 39 08.9	
	comp=E,70nm,0.5s							
SKR					AMB	AMB	18 39 08.9	
	comp=E,100nm,0.5s							
SKR				pP			18 39 20.1	
SKR				*e*S		**Sn**	**18 39 56.5**	**-8.0**
SKR				A			18 40 07.0	
	comp=E,150nm,0.6s							
SKR				A			18 40 07.0	
	comp=E,80nm,0.6s							
SKR				A			18 40 07.0	
	comp=E,100nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.75**	**251**	*e*rx		rx	18 39 31.0	
YUK				*e*S		**Sn**	**18 40 32.0**	**+5.3**
YUK				A			18 40 36.4	
	comp=E,480nm,0.6s							
YUK				A			18 40 36.4	
	comp=E,200nm,0.6s							
NEM2	**Nemuro 2**	**6.13**	**245**	P		**Pn**	**18 39 25.9**	**-1.4**
NEM2				*e*S		**Sn**	**18 40 33.5**	**-2.6**
JRA	**Rausu**	**6.27**	**252**	P		**Pn**	**18 39 30.3**	**+1.1**
JNK	**Nakash**	**6.69**	**250**	P		**Pn**	**18 39 35.2**	**+0.3**
JAK	**Akkeshi**	**6.98**	**246**	P		**Pn**	**18 39 38.3**	**-0.6**
JAK				*e*S		**Sn**	**18 40 53.8**	**-3.2**
JTKR	**Abashiri--Toko**	**7.07**	**255**	P		**Pn**	**18 39 41.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**7.37**	**280**	⇑*i* P		**Pn**	**18 39 47.7**	**+3.4**
YSS					AMB	AMB	18 39 50.9	
	comp=E,40nm,0.9s							
YSS				*e*S		**Sn**	**18 41 02.2**	**-4.4**
YSS				A			18 41 06.8	
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**280**	*i* PN		**Pn**	**18 39 47.7**	**+3.4**
YSS				*e*S		**Sn**	**18 41 02.2**	**-4.4**
YSS				pmax	pmax			
	comp=Z,40nm,0.9s							
YSS				smax				
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.37**	**280**	*e*Pn		**Pn**	**18 39 47.7**	**+3.4**
	comp=E,28nm,0.8s							
JAR	**Ashorobuto**	**7.43**	**251**	P		**Pn**	**18 39 45.8**	**+0.7**
JAR				*e*S		**Sn**	**18 41 08.4**	**+0.2**
JOB	**Onbets**	**7.57**	**248**	*e*S		**Sn**	**18 41 08.1**	**-3.6**
JKK2	**Kamakawa 2**	**7.88**	**257**	P		**Pn**	**18 39 53.1**	**+1.8**
ASAJ	**Asahikawa**	**7.91**	**259**	Pn		**Pn**	**18 39 52.1**	**+0.5**
	comp=E,1.2nm,0.3s,baz=41,slow=20,SNR=5.5							
ASAJ	**Asahikawa**	**7.91**	**259**	PN		**Pn**	**18 39 52.1**	**+0.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
JCH	**Churui**	**8.02**	**247**	P		**Pn**	**18 39 52.7**	**-0.5**
JCH				*e*S		**Sn**	**18 41 18.8**	**-3.8**
UGL	**Uglegorsk**	**8.17**	**295**	*e*P		**Pn**	**18 39 58.0**	**+2.7**
JNB	**Noboribetsu**	**9.60**	**252**	P		**Pn**	**18 40 14.4**	**-0.4**
JKB	**Kayabe**	**9.88**	**249**	P		**Pn**	**18 40 17.3**	**-1.4**
JKB				*e*S		**Sn**	**18 42 01.6**	**-6.7**
JANG	**Nango**	**10.42**	**240**	*e*S		**Sn**	**18 42 11.5**	**-10**
JTM	**Tenmabayashi**	**10.45**	**243**	*e*S		**Sn**	**18 42 14.8**	**-7.5**
JTH	**Tanohata**	**10.49**	**238**	*e*S		**Sn**	**18 42 13.9**	**-9.4**
JRG	**Rokugo**	**11.56**	**239**	*e*S		**Sn**	**18 42 42.7**	**-6.9**
JIO	**Ouri**	**11.79**	**233**	*e*S		**Sn**	**18 42 43.7**	**-11**
MA2	**Magadan**	**13.50**	**354**	*e*PN		**Pn**	**18 41 07.3**	**-0.9**
MA2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
MA2	**Magadan**	**13.50**	**354**	*e*Pn		**Pn**	**18 41 06.5**	**-1.7**
MAJO	**Matsushiro**	**14.90**	**235**	*e*P		**Pn**	**18 41 33.5**	**+6.2**
MAJO				pmax	pmax			
	comp=Z,38nm,1.0s							
MAJO	**Matsushiro**	**14.90**	**235**	*e*Pn		**Pn**	**18 41 33.5**	**+6.2**
	comp=Z,38nm,1.0s							
MJAR	**Matsushiro Arr**	**14.90**	**235**	Pn		**Pn**	**18 41 27.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=33,slow=14,SNR=4.1							
MJAR				Sn		**Sn**	**18 44 10.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=43,slow=8.9,SNR=4.6							
MDJ	**Mudanjiang**	**16.77**	**273**	P		**Pn**	**18 41 52.0**	**+0.6**
MDJ					AMB	AMB		
	comp=Z,19nm,1.1s							
MDJ	**Mudanjiang**	**16.77**	**273**	*e*P		**Pn**	**18 41 51.4**	**+0.1**
	comp=Z,18nm,0.8s							
CN2	**Changchun**	**19.86**	**273**	*e*P		**Pn**	**18 42 25.0**	**-4.0**
INCN	**Inchon**	**21.67**	**256**	*e*P		**P**	**18 42 48.0**	**+1.3**
HIA	**Hailar**	**22.73**	**290**	P		**P**	**18 42 59.1**	**+1.1**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.6s							
HIA	**Hailar**	**22.73**	**290**	P		**P**	**18 42 59.1**	**+1.1**
	comp=Z,5.5nm,0.6s,mb4.2							
BILL	**Bilibino**	**22.90**	**12**	*e*P		**P**	**18 42 50.2**	**-10**
BILL				pmax	pmax			
	comp=Z,14nm,1.3s,mb4.2							
BILL	**Bilibino**	**22.90**	**12**	*e*P		**P**	**18 43 00.9**	**+1.1**
	comp=Z,21nm,0.9s,mb4.6							
BJT	**Baijiatuan**	**27.68**	**271**	*e*P		**P**	**18 43 46.5**	**+2.6**
BJT				pmax	pmax			
	comp=Z,21nm,0.9s							
BJT	**Baijiatuan**	**27.68**	**271**	*e*P		**P**	**18 43 46.5**	**+2.7**
	comp=Z,21nm,0.9s,mb4.8							
SONM	**Songino Array**	**31.70**	**290**	P		**P**	**18 44 18.9**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.9,baz=62,slow=9.9,SNR=3.8							
SONM	**Songino Array**	**31.70**	**290**	P		**P**	**18 44 18.9**	**-0.6**
TLY	**Talaya**	**32.61**	**298**	*e*P		**P**	**18 44 25.8**	**-1.6**
TLY				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
TLY	**Talaya**	**32.61**	**298**	*e*P		**P**	**18 44 25.8**	**-1.7**
	comp=Z,7.1nm,0.8s,mb4.7							
GUMO	**Guam**	**33.28**	**195**	P		**P**	**18 44 32.9**	**-0.4**
	comp=Z,23nm,0.3s,mb5.6,baz=195,slow=17,SNR=8.4							
GUMO	**Guam**	**33.28**	**195**	P		**P**	**18 44 32.9**	**-0.4**
GTA	**Gaotai**	**39.25**	**280**	*e*P		**P**	**18 45 24.5**	**+0.2**
GTA				AP		pP	18 45 28.8	-5.7
GTA				XP		sP	18 45 32.0	-6.7
GTA				AMB	AMB			
	comp=Z,8.0nm,1.1s,mb4.4							
GYA	**Guiyang**	**41.78**	**258**	⇑*i* P		**P**	**18 45 46.3**	**+1.1**
GYA					AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8							
INK	**Inuvik**	**42.02**	**32**	P		**P**	**18 45 45.1**	**-2.0**
	comp=Z,3.9nm,0.6s,mb4.2,baz=289,slow=7.5,SNR=6.3							
INK	**Inuvik**	**42.02**	**32**	P		**P**	**18 45 45.1**	**-2.1**
INK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
INK	**Inuvik**	**42.02**	**32**	*e*P		**P**	**18 45 45.5**	**-1.7**
	comp=Z,4.9nm,0.7s,mb4.2							
ZAL	**Zalesovo**	**43.11**	**306**	P		**P**	**18 45 54.9**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.1,baz=23,slow=7.7,SNR=4.2							
WMQ	**Urumqi**	**45.31**	**292**	*e*P		**P**	**18 46 16.0**	**+2.4**
WMQ					AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.6							
KMI	**Kunming**	**45.33**	**260**	P		**P**	**18 46 14.8**	**+1.0**
KMI				XP		sP	18 46 26.3	-2.0
KMI				AMB	AMB			
	comp=Z,7.0nm,1.4s,mb4.3							
MKAR	**Makanchi Array**	**47.37**	**298**	P		**P**	**18 46 28.9**	**-0.9**
	comp=Z,6.7nm,0.8s,mb4.7,baz=62,slow=8.4,SNR=10							
MKAR				PcP		PcP	18 48 00.6	+0.4
	comp=Z,1.0nm,0.6s,baz=99,slow=2.0,SNR=4.3							
LSA	**Lhasa**	**50.50**	**274**	*e*P		**P**	**18 46 56.2**	**+2.5**
LSA				*e*			18 47 09.4	
LSA				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb5.0							
LSA	**Lhasa**	**50.50**	**274**	*e*P		**P**	**18 46 56.2**	**+2.5**
	comp=Z,8.7nm,0.6s,mb5.0							
LSA				*e*			18 47 09.4	
YKA	**Yellowknife Ar**	**51.26**	**37**	P		**P**	**18 46 58.7**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.0,baz=294,slow=7.1,SNR=4.2							
YKA	**Yellowknife Ar**	**51.26**	**37**	P		**P**	**18 46 58.7**	**-0.8**
BVAR	**Borovoye Array**	**51.36**	**310**	P		**P**	**18 46 59.0**	**-1.3**
	comp=Z,2.0nm,0.4s,mb4.4,baz=52,slow=8.0,SNR=8.5							
BVAR				PcP		PcP	18 48 14.6	-0.1
	comp=Z,1.1nm,0.5s,baz=68,slow=4.0,SNR=3.8							
ZRNK	**Zerenda**	**52.13**	**310**	*e*P		**P**	**18 47 04.1**	**-1.9**
ZRNK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
ZRNK	**Zerenda**	**52.13**	**310**	*e*P		**P**	**18 47 04.0**	**-2.0**
	comp=Z,4.1nm,0.8s,mb4.4							
AAK	**Ala-Archa**	**54.26**	**297**	*e*P		**P**	**18 47 20.7**	**-0.9**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**54.26**	**297**	*e*P		**P**	**18 47 20.7**	**-1.0**
	comp=Z,7.5nm,0.8s,mb4.7							
JIRN	**Jiri**	**55.18**	**275**	*e*P		**P**	**18 47 30.5**	**+2.2**
GUN	**Gumba**	**55.24**	**276**	*e*P		**P**	**18 47 31.2**	**+2.4**
ARU	**Arti**	**55.55**	**318**	*e*P		**P**	**18 47 29.4**	**-1.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7							
ARU	**Arti**	**55.55**	**318**	*e*P		**P**	**18 47 29.4**	**-1.6**
	comp=Z,6.6nm,0.9s,mb4.7							
KKN	**Kakani**	**55.73**	**276**	*e*P		**P**	**18 47 33.9**	**+1.6**
	comp=Z,27nm,0.6s,mb5.4							
PKI	**Pulchoki**	**55.78**	**276**	*e*P		**P**	**18 47 34.0**	**+1.4**
	comp=Z,14nm,0.8s,mb5.1							
DMN	**Daman**	**55.96**	**276**	*e*P		**P**	**18 47 35.8**	**+1.9**
	comp=Z,37nm,0.8s,mb5.5							
GKN	**Gorkha**	**56.04**	**277**	*e*P		**P**	**18 47 36.1**	**+1.6**
	comp=Z,45nm,0.7s,mb5.6							
KOLN	**Koldanda**	**56.90**	**277**	*e*P		**P**	**18 47 42.4**	**+1.8**
	comp=Z,35nm,0.8s,mb5.5							
ARCES	**ARCESS Array B**	**58.44**	**341**	P		**P**	**18 47 51.2**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=27,slow=7.5,SNR=6.8							
AKTK	**Aktyubinsk**	**59.24**	**312**	P		**P**	**18 47 57.1**	**+0.1**
AKTO	**Aktyubinsk**	**59.24**	**312**	P		**P**	**18 47 57.1**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.5,baz=121,slow=7.4,SNR=4.5							
KAF	**Kangasniemi**	**64.03**	**335**	*ep*		**P**	**18 48 27.5**	**-1.8**
	comp=Z,10nm,0.8s,mb4.9,baz=37,slow=6.2							
KAF	**Kangasniemi**	**64.03**	**335**	*e*P		**P**	**18 48 27.5**	**-1.8**
KAF				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.9							
FINES	**FINESS Array B**	**64.63**	**335**	P		**P**	**18 48 32.0**	**-1.2**
	comp=Z,9.1nm,0.6s,mb5.0,baz=32,slow=7.5,SNR=16							
PDAR	**Pinedale Array**	**64.92**	**54**	P		**P**	**18 48 35.0**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=306,slow=2.7,SNR=4.5							
ULM	**Lac du Bonnet**	**66.82**	**41**	P		**P**	**18 48 46.9**	**-0.5**
	comp=Z,1.2nm,0.5s,mb4.2,baz=315,slow=8.6,SNR=3.3							
WRA	**Warramunga Arr**	**68.05**	**199**	P		**P**	**18 48 53.8**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=20,slow=6.9,SNR=5.6							
NB2	**NORSAR Subarra**	**68.82**	**341**	P		**P**	**18 48 58.8**	**-1.1**
	comp=Z,8.4nm,0.7s,mb4.8,baz=27,slow=6.5							
NOA	**NORSAR Array B**	**68.82**	**341**	P		**P**	**18 48 58.9**	**-1.0**
	comp=Z,8.9nm,0.7s,mb4.8,baz=27,slow=6.3,SNR=22							
NAO01	**NORSAR Array S**	**69.07**	**341**	*e*P		**P**	**18 48 59.2**	**-2.3**
	comp=Z,5.7nm,0.7s,mb4.6							
KIV	**Kislovodsk**	**71.33**	**315**	*e*P		**P**	**18 49 15.7**	**+0.4**
KIV				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
KIV	**Kislovodsk**	**71.33**	**315**	*e*P		**P**	**18 49 15.7**	**+0.4**
	comp=Z,11nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**71.74**	**199**	P		**P**	**18 49 17.9**	**+0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=11,slow=6.3,SNR=6.7							
AKASG	**Malin Array Be**	**72.12**	**326**	P		**P**	**18 49 19.0**	**-1.0**
	comp=Z,9.0nm,0.6s,mb4.9,baz=33,slow=6.2,SNR=14							
AKBB	**Malin Array Si**	**72.12**	**326**	*e*P		**P**	**18 49 18.8**	**-1.2**
GNI	**Garni**	**73.04**	**311**	*e*P		**P**	**18 49 27.5**	**+2.0**
GNI				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GNI	**Garni**	**73.04**	**311**	*e*P		**P**	**18 49 27.5**	**+2.0**
	comp=Z,10nm,0.8s,mb4.8							
STHS	**Stebnicka Huta**	**76.09**	**330**	*e*P		**P**	**18 49 43.8**	**+0.6**
STHS				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
STHS	**Stebnicka Huta**	**76.09**	**330**	*e*P		**P**	**18 49 43.8**	**+0.6**
	comp=Z,6.7nm,0.8s,mb4.6							
KOLS	**Kolonicke sedl**	**76.14**	**329**	*e*P		**P**	**18 49 43.0**	**-0.5**
BURAR	**Bucovina Array**	**76.16**	**327**	⇑P		**P**	**18 49 44.1**	**+0.5**
BURAR	**Bucovina Array**	**76.16**	**327**	⇑P		**P**	**18 49 44.1**	**+0.5**
CRVS	**Cervenica-Dubn**	**76.46**	**330**	*e*P		**P**	**18 49 44.6**	**-0.7**
UPC	**Upice**	**76.87**	**334**	*e*P		**P**	**18 49 47.8**	**+0.2**
DPC	**Dobruska-Polom**	**76.91**	**333**	*e*P		**P**	**18 49 49.3**	**+1.4**
MORC	**Moravsky Berou**	**77.02**	**332**	⇑*i*P		**P**	**18 49 48.6**	**+0.1**
MORC	**Moravsky Berou**	**77.02**	**332**	⇑P		**P**	**18 49 48.6**	**+0.1**
CLL	**Collm**	**77.05**	**336**	*i* P		**P**	**18 49 47.9**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.8							
CLL	**Collm**	**77.05**	**336**	*i* P		**P**	**18 49 47.9**	**-0.8**
CLL				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8							
KECS	**Kecovo**	**77.15**	**330**	*e*P		**P**	**18 49 49.5**	**+0.3**
KECS				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.2							
KECS	**Kecovo**	**77.15**	**330**	*e*P		**P**	**18 49 49.5**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.3							
MLR	**Muntele Rosu**	**77.63**	**325**	⇑*i*P		**P**	**18 49 52.5**	**+0.6**
MLR	**Muntele Rosu**	**77.63**	**325**	⇑P		**P**	**18 49 52.5**	**+0.6**
VYHS	**Vyhne**	**77.71**	**331**	*e*P		**P**	**18 49 50.8**	**-1.5**
VRAC	**Vranov**	**77.74**	**333**	⇑*i*P		**P**	**18 49 52.9**	**+0.4**
PRU	**Pruhonice**	**77.77**	**334**	*e*P		**P**	**18 49 52.7**	**0.0**
DRGR		**77.79**	**328**	⇑*i*P		**P**	**18 49 52.1**	**-0.7**
DRGR		**77.79**	**328**	⇑P		**P**	**18 49 52.1**	**-0.7**
SNX	**Sinaia**	**77.92**	**325**	⇑*i*P		**P**	**18 49 54.7**	**+1.2**
SNX	**Sinaia**	**77.92**	**325**	⇑P		**P**	**18 49 54.7**	**+1.2**
VOIR		**78.03**	**326**	⇓*i*P		**P**	**18 49 54.0**	**-0.1**
VOIR		**78.03**	**326**	⇓P		**P**	**18 49 54.0**	**-0.2**
KHC	**Kasperske Hory**	**78.83**	**334**	*e*P		**P**	**18 49 58.4**	**-0.1**
BRTR	**Keskin Array B**	**78.93**	**317**	P		**P**	**18 49 59.3**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=54,slow=3.0,SNR=4.2							
GZR	**Gura Zlata**	**78.94**	**327**	⇑*i*P		**P**	**18 50 00.9**	**+1.7**
GERES	**GERESS Array B**	**79.04**	**334**	P		**P**	**18 49 59.5**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=24,slow=4.5,SNR=6.9							
BZS	**Buzias**	**79.19**	**328**	⇑*i*P		**P**	**18 49 59.9**	**-0.6**
BZS	**Buzias**	**79.19**	**328**	⇑P		**P**	**18 49 59.9**	**-0.6**
KBA	**Koelnbreinsper**	**80.73**	**334**	⇑*i*P		**P**	**18 50 09.9**	**+1.1**
	comp=Z,13nm,0.7s,mb5.0							
KBA	**Koelnbreinsper**	**80.73**	**334**	⇑*i*P		**P**	**18 50 09.9**	**+1.1**
KBA				pmax	pmax			
	comp=Z,13nm,0.7s,mb5.0							
WTTA	**Wattenberg**	**81.08**	**335**	⇑*i*P		**P**	**18 50 11.0**	**+0.4**
	comp=Z,8.1nm,0.6s,mb4.8							
WTTA	**Wattenberg**	**81.08**	**335**	⇑*i*P		**P**	**18 50 11.0**	**+0.3**
WTTA				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
VTS	**Vitosha**	**81.14**	**325**	⇓*i*P		**P**	**18 50 11.4**	**+0.4**
VTS	**Vitosha**	**81.14**	**325**	⇓P		**P**	**18 50 11.4**	**+0.4**
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**18 50 11.4**	**-0.2**
	comp=Z,8.1nm,0.7s,mb4.4							
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**18 50 11.4**	**-0.2**
CDF				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5							
CDF	**Champ du Feu**	**81.25**	**338**	*e*P		**P**	**18 50 11.4**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.5							
MEZF	**Maizieres J'vi**	**81.73**	**339**	*e*P		**P**	**18 50 13.9**	**-0.2**
	comp=Z,16nm,0.9s,mb4.7							
MEZF	**Maizieres J'vi**	**81.73**	**339**	*e*P		**P**	**18 50 13.9**	**-0.2**
	comp=Z,16nm,0.9s,mb5.0							
FLN	**La Foliniere**	**82.72**	**343**	*e*P		**P**	**18 50 18.7**	**-0.6**
LOR	**Lormes**	**83.17**	**340**	*e*P		**P**	**18 50 21.4**	**-0.2**
	comp=Z,11nm,0.8s,mb4.7							
LOR	**Lormes**	**83.17**	**340**	*e*P		**P**	**18 50 21.4**	**-0.2**
LOR				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
LOR	**Lormes**	**83.17**	**340**	*e*P		**P**	**18 50 21.4**	**-0.2**
	comp=Z,5.5nm,0.8s,mb4.6							
AVF	**Avril sur Loir**	**83.74**	**340**	*e*P		**P**	**18 50 24.3**	**-0.3**
	comp=Z,12nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**83.74**	**340**	*e*P		**P**	**18 50 24.3**	**-0.3**
AVF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7							
AVF	**Avril sur Loir**	**83.74**	**340**	*e*P		**P**	**18 50 24.3**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.7							
SMF	**Signal de Mont**	**83.75**	**339**	*e*P		**P**	**18 50 24.5**	**-0.2**
	comp=Z,24nm,1.1s,mb4.9							
SMF	**Signal de Mont**	**83.75**	**339**	*e*P		**P**	**18 50 24.5**	**-0.2**
SMF				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.9							
SMF	**Signal de Mont**	**83.75**	**339**	*e*P		**P**	**18 50 24.5**	**-0.2**
	comp=Z,12nm,1.1s,mb4.9							
LPL	**La Plagne**	**84.06**	**337**	*e*P		**P**	**18 50 26.8**	**+0.6**
	comp=Z,17nm,1.1s,mb4.8							
LPL	**La Plagne**	**84.06**	**337**	*e*P		**P**	**18 50 26.8**	**+0.6**
LPL				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.8							
LPL	**La Plagne**	**84.06**	**337**	*e*P		**P**	**18 50 26.8**	**+0.6**
	comp=Z,8.3nm,1.1s,mb4.8							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**18 50 27.1**	**+0.8**
	comp=Z,7.0nm,0.7s,mb4.6							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**18 50 27.1**	**+0.8**
LPG				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.7							
LPG	**La Plagne**	**84.07**	**337**	*e*P		**P**	**18 50 27.1**	**+0.8**
	comp=Z,3.5nm,0.7s,mb4.6							
BGF	**Bois d'Agland**	**84.08**	**340**	*e*P		**P**	**18 50 26.4**	**+0.1**
	comp=Z,5.0nm,0.6s,mb4.5							
BGF	**Bois d'Agland**	**84.08**	**340**	*e*P		**P**	**18 50 26.4**	**+0.1**
BGF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6							
BGF	**Bois d'Agland**	**84.08**	**340**	*e*P		**P**	**18 50 26.4**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.5							
TCF	**Toulx Ste Croi**	**84.48**	**340**	*e*P		**P**	**18 50 28.4**	**+0.1**
MBDF	**Montbardon**	**84.78**	**337**	*e*P		**P**	**18 50 29.7**	**-0.2**
ORIF	**Oris-en-Rattie**	**84.84**	**337**	*e*P		**P**	**18 50 30.2**	**0.0**
	comp=Z,9.3nm,0.7s,mb4.7							
ORIF	**Oris-en-Rattie**	**84.84**	**337**	*e*P		**P**	**18 50 30.2**	**0.0**
ORIF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
ORIF	**Oris-en-Rattie**	**84.84**	**337**	*e*P		**P**	**18 50 30.2**	**0.0**
	comp=Z,4.7nm,0.7s,mb4.7							
LMR	**La Mourre**	**86.14**	**336**	*e*P		**P**	**18 50 36.5**	**-0.1**
	comp=Z,8.7nm,0.8s,mb4.7							
LMR	**La Mourre**	**86.14**	**336**	*e*P		**P**	**18 50 36.5**	**-0.1**
LMR				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7							
LMR	**La Mourre**	**86.14**	**336**	*e*P		**P**	**18 50 36.5**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.7							
KEST	**Kesra**	**92.25**	**331**	P		**P**	**18 51 08.4**	**+2.9**
	comp=Z,0.9nm,0.8s,mb4.2,baz=101,slow=7.0,SNR=4.2							
CFAA	**Coronel Fontan**	**144.91**	**80**	PKP		PKPdf	18 57 30.8	-1.7
	comp=Z,0.2nm,0.5s,baz=246,slow=3.1,SNR=4.1							
PLCA	**Paso Flores**	**147.96**	**96**	PKPbc		PKPbc	18 57 40.2	-0.5
	comp=Z,1.0nm,0.5s,baz=139,slow=3.9,SNR=3.7							
PLCA	**Paso Flores**	**147.96**	**96**	PKPbc		PKPbc	18 57 40.2	-0.5
CPUP	**Villa Florida**	**148.57**	**62**	PKPbc		PKPbc	18 57 41.2	-1.2
	comp=Z,1.7nm,0.6s,baz=295,slow=8.4,SNR=5.0							
CPUP	**Villa Florida**	**148.57**	**62**	PKPbc		PKPbc	18 57 41.2	-1.2
SNAA	**Sanae**	**152.07**	**196**	PKPbc		PKPbc	18 57 48.3	-

ISC 30 18:53:06.4±0.4,**744N**±008×**3462W**±007,**h10**km,**n34,** σ1$**23**/34,**mb4.3**/22,**2C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**13.24**	**186**	*e*Pn	**Pn**	**18 56 14.4**	**-0.1**
RCBR				*e*Sn	**Sn**	**18 58 28.9**	**-13**
BDFB	**Brasilia**	**26.50**	**210**	P	**P**	**18 58 44.8**	**+0.9**
	5.1nm,0.7s,mb4.2,baz=48,slow=10,SNR=5.9						
DBIC	**Dimbokro**	**29.54**	**90**	P	**P**	**18 59 09.9**	**-1.2**
	4.8nm,0.8s,mb4.3,baz=145,slow=5.6,SNR=4.5						
DBIC	**Dimbokro**	**29.54**	**90**	*e*P	**P**	**18 59 09.7**	**-1.4**
	12nm,1.2s,mb4.5						
SAML	**Samuel**	**32.80**	**241**	P	**P**	**18 59 38.1**	**-1.7**
	18nm,1.8s,mb4.7						
SIV	**San Ignacio**	**35.05**	**228**	P	**P**	**18 59 59.3**	**0.0**
	2.4nm,0.9s,mb4.1,baz=64,slow=12,SNR=6.5						
SDV	**Santo Domingo**	**35.67**	**275**	P	**P**	**19 00 03.4**	**-1.3**
	0.9nm,0.3s,mb4.2,baz=48,slow=15,SNR=2.5						
SDV	**Santo Domingo**	**35.67**	**275**	P	**P**	**19 00 03.9**	**-0.8**
	6.9nm,1.0s,mb4.5						
TOA0	**Torodi Ar. Sit**	**36.14**	**78**	*e*P	**P**	**19 00 07.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**36.14**	**78**	P	**P**	**19 00 08.0**	**-0.8**
	3.1nm,0.7s,mb4.3,baz=269,slow=8.6,SNR=30						
TORD	**Torodi Ar. Bea**	**36.14**	**78**	P	**P**	**19 00 08.0**	**-0.8**
ROSC	**El Rosal**	**39.56**	**269**	P	**P**	**19 00 39.1**	**+1.5**
	4.8nm,0.6s,mb4.4,baz=276,slow=22,SNR=3.8						
LPAZ	**La Paz**	**40.70**	**234**	P	**P**	**19 00 46.2**	**-0.8**
	1.5nm,0.8s,mb3.7,baz=37,slow=8.1,SNR=7.1						
LPAZ	**La Paz**	**40.70**	**234**	*e*P	**P**	**19 00 47.0**	**-0.1**
	13nm,1.7s,mb4.3						
KEST	**Kesra**	**49.03**	**48**	P	**P**	**19 01 54.7**	**+1.2**
	3.0nm,1.1s,mb4.2,baz=287,slow=1.6,SNR=6.5						
SCHQ	**Schefferville**	**53.82**	**338**	*e*P	**P**	**19 02 22.0**	**-7.3**
	64nm,1.6s,mb5.3						
ACSO	**Alum Creek Sta**	**54.04**	**315**	P	**P**	**19 02 32.0**	**+1.0**
	5.9nm,0.8s,mb4.6						
AQU	**L'Aquila**	**54.68**	**42**	*e*P	**P**	**19 02 36.6**	**+1.0**
	12nm,0.9s,mb4.9						
GERES	**GERESS Array B**	**57.84**	**36**	P	**P**	**19 02 58.8**	**+0.6**
	0.2nm,0.5s,mb3.5,baz=206,slow=6.5,SNR=3.3						
MLR	**Muntele Rosu**	**64.26**	**43**	⇑*i*P	**P**	**19 03 43.4**	**+1.7**
ULM	**Lac du Bonnet**	**66.12**	**322**	P	**P**	**19 03 52.8**	**-1.1**
	3.5nm,0.9s,mb4.4,baz=128,slow=7.2,SNR=4.5						
ULM	**Lac du Bonnet**	**66.12**	**322**	*e*P	**P**	**19 03 51.8**	**-2.1**
	9.3nm,1.2s,mb4.7						
AKASG	**Malin Array Be**	**67.83**	**38**	P	**P**	**19 04 05.0**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=252,slow=7.5,SNR=4.1						
PV01	**Paradox Valley**	**72.83**	**308**	*e*P	**P**	**19 04 34.6**	**-0.6**
ARCES	**ARCESS Array B**	**72.89**	**19**	P	**P**	**19 04 33.9**	**-1.7**
	1.8nm,0.8s,mb4.0,baz=305,slow=4.3,SNR=4.4						
PDAR	**Pinedale Array**	**72.93**	**312**	P	**P**	**19 04 41.7**	**-0.1**
	2.5nm,1.0s,mb4.1,baz=84,slow=9.2,SNR=2.6						
WUAZ	**Wupatki**	**74.95**	**305**	*e*P	**P**	**19 04 49.0**	**+1.3**
	9.3nm,1.0s,mb4.7						
MSU	**Marysvale**	**75.68**	**308**	*e*P	**P**	**19 04 53.6**	**+1.7**
HLID	**Hailey**	**77.52**	**313**	*e*P	**P**	**19 05 00.2**	**-2.2**
	4.4nm,1.3s,mb4.2						
YKA	**Yellowknife Ar**	**78.81**	**332**	P	**P**	**19 05 07.7**	**-1.7**
	3.5nm,0.8s,mb4.3,baz=98,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**78.81**	**332**	P	**P**	**19 05 07.7**	**-1.7**
SNAA	**Sanae**	**81.68**	**170**	P	**P**	**19 05 26.8**	**+1.8**
	2.7nm,1.0s,mb4.1						
CMB	**Columbia Colle**	**82.14**	**307**	P	**P**	**19 05 28.5**	**+1.1**
	1.3nm,0.8s,mb3.9						
SYO	**Syowa Base**	**91.31**	**160**⇑	*e*PP	PP	19 09 46.8	-2.6

IDC 30 18:57:45.7±8.1,**622S**×**15096E,h95**km±56km,**mb3.2**/3, **mb1 3.4**/4,**mb1mx3.2**/13,**mbtmp3.6**/4,**ML2.5/1,Error ellipse: s-maj=93.0km s-min=54.1km az=126.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**230**	P	Pn	18 58 57.3	+0.1
	1.3nm,0.3s,baz=86,slow=15,SNR=5.7						
PMG				S	Sn	18 59 53.6	+0.9
	2.8nm,0.3s,baz=274,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**21.13**	**228**	P	P	19 02 23.5	+0.7
	0.7nm,0.5s,baz=54,slow=10,SNR=12						
ASAR	**Alice Springs**	**23.87**	**222**	P	P	19 02 50.3	-0.1
	0.8nm,0.5s,baz=58,slow=8.7,SNR=18						
FITZ	**Fitzroy Crossi**	**27.38**	**242**	P	P	19 03 22.5	+0.5
	0.8nm,0.7s,baz=69,slow=8.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.95**	**285**	PKPbc	PKPbc	19 17 23.2	+0.7
	2.2nm,0.7s,baz=87,slow=2.2,SNR=22						

*ISCJB **30** 19:09:25.1*±*5.6,470N*±*08×1522E*±*09,h33km,mb3.7/4, Error ellipse: s-maj=138.0km s-min=16.0km az=104.5*
*IDC **30** 19:09:28.2*±*8.5,4768N×15130E,h0km,mb3.6/4, mb1 3.6/5,mb1mx3.4/20,mbtmp3.6/5,ML3.0/1,Error ellipse: s-maj=195.7km s-min=40.7km az=133.0*

ISC 30 19:09:28.7±3.9,**472N**±06×**1520E**±06,**h35**km,**n6,** σ0$**67**/6, **mb3.7**/4,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.40**	**36**	*e*PN	**Pn**	**19 10 32.7**	**-0.3**
ASAJ	**Asahikawa**	**7.29**	**248**	Pn	**Pn**	**19 11 12.7**	**0.0**
	0.3nm,0.3s,baz=75,slow=19,SNR=3.6						
MKAR	**Makanchi Array**	**46.07**	**296**	P	**P**	**19 17 48.2**	**-0.9**
	0.2nm,0.7s,mb3.2,baz=80,slow=10,SNR=2.1						
FINES	**FINESS Array B**	**63.31**	**334**	P	**P**	**19 19 54.6**	**+0.6**
	1.5nm,1.1s,mb4.0,baz=46,slow=9.9,SNR=6.1						
NOA	**NORSAR Array B**	**67.56**	**341**	P	**P**	**19 20 21.9**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=28,slow=6.2,SNR=2.7						
AKASG	**Malin Array Be**	**70.75**	**326**	P	**P**	**19 20 41.4**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=31,slow=6.2,SNR=5.0						

*ISCJB **30** 19:09:41.3*±*4.1,472N*±*03×1525E*±*05,h6km*±*32km, mb4.0/5,Error ellipse: s-maj=80.1km s-min=12.5km az=79.6*
*IDC **30** 19:09:41.4*±*5.6,4720N×15281E,h0km,mb3.9/5, mb1 3.9/7,mb1mx3.6/22,mbtmp3.8/7,ML3.5/2,Error ellipse: s-maj=125.5km s-min=35.3km az=132.0*
*MOS **30** 19:09:41.1*±*0.6,4678N×15308E,h33km,mb4.2/4,Error ellipse: s-maj=33.6km s-min=29.5km az=151.9*

ISC 30 19:09:42.7±5.0,**472N**±03×**1527E**±05,**h11**km±39km,**n14,** σ0$**71**/15,**mb4.0**/5,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**5.75**	**240**	PN	**Pn**	**19 11 06.4**	**-1.6**
YUK				S	**Sn**	**19 12 14.0**	**0.0**
YUK				smax			
	comp=N,120nm,0.6s						
YUK				smax			
	comp=E,110nm,0.6s						
ASAJ	**Asahikawa**	**7.73**	**251**	Pn	**Pn**	**19 11 35.9**	**+0.6**
	comp=E,0.8nm,0.3s,baz=94,slow=23,SNR=6.0						
ASAJ	**Asahikawa**	**7.73**	**251**	PN	**Pn**	**19 11 35.9**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.13**	**231**	Pn	**Pn**	**19 13 17.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=39,slow=8.8,SNR=6.3						
MKAR	**Makanchi Array**	**46.53**	**297**	P	**P**	**19 18 10.7**	**+0.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=64,slow=8.4,SNR=7.9						
MKAR	**Makanchi Array**	**46.53**	**297**	P	**P**	**19 18 10.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BVAR	**Borovoye Array**	**50.40**	**309**	P	**P**	**19 18 40.0**	**-0.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=60,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**19 20 13.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=36,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**63.56**	**335**	P	**P**	**19 20 13.5**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**67.76**	**341**	P	**P**	**19 20 40.5**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.0,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**19 20 40.5**	**+0.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=28,slow=6.2,SNR=5.0						
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**19 20 40.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.06**	**326**	P	**P**	**19 21 00.2**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.0,baz=34,slow=5.9,SNR=8.4						
AKASG	**Malin Array Be**	**71.06**	**326**	P	**P**	**19 21 00.2**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

*ISCJB **30** 19:14:52.8*±*0.8,4649N*±*0.10×1532E*±*0.1,h10km,mb4.2/22,*

Error ellipse: s-maj=16.9km s-min=5.8km az=104.4
*NEIC **30** 19:14:55.2*±*0.8,4653N×15288E,h10km,mb4.1/5,Error ellipse: s-maj=20.7km s-min=9.2km az=129.0*
*BJI **30** 19:14:55.2,4650N×15290E,h10km,mb4.3*
*MOS **30** 19:14:56.9*±*1.1,4627N×15320E,h56km,mb4.4/7,Error ellipse: s-maj=12.9km s-min=11.6km az=132.5*
*IDC **30** 19:14:57.3*±*1.1,4721N×15284E,h0km,mb4.0/11, mb1 4.1/12,mb1mx4.0/22,mbtmp4.0/12,ML3.7/1,Error ellipse: s-maj=26.9km s-min=24.5km az=135.0*

ISC 30 19:14:57.0±3.5,**468N**±02×**1529E**±02,**h12**km±21km,**n56,** σ0$**94**/60,**mb4.2**/22,**7C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.85**	**248**	⇑*i*PN	**Pn**	**19 15 53.5**	**-2.4**
KUR				*i* S	**Sn**	**19 16 40.5**	**-0.5**
KUR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR	**Severo-Kuril's**	**4.42**	**28**	*e*PN	**Pn**	**19 16 03.0**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**5.68**	**243**	PN	**Pn**	**19 16 20.2**	**-0.9**
YUK				S	**Sn**	**19 17 25.5**	**-0.7**
YUK				smax			
	comp=N,190nm,0.6s						
YUK				smax			
	comp=E,140nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.96**	**275**	*e*PN	**Pn**	**19 16 45.1**	**+6.5**
YSS				*e*S	**Sn**	**19 18 05.0**	**+7.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
ASAJ	**Asahikawa**	**7.73**	**253**	Pn	**Pn**	**19 16 51.1**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=82,slow=12,SNR=9.7						
ASAJ				Sn	**Sn**	**19 18 10.0**	**-6.7**
	comp=Z,1.2nm,0.3s,baz=101,slow=30,SNR=3.9						
KLR	**Kul'dur**	**14.36**	**287**	*e*P	**Pn**	**19 18 27.2**	**+7.3**
MJAR	**Matsushiro Arr**	**15.00**	**232**	Pn	**Pn**	**19 18 25.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=6.3						
MAJO	**Matsushiro**	**15.01**	**232**	*e*P	**Pn**	**19 18 24.3**	**-4.4**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MAJO	**Matsushiro**	**15.01**	**232**	*e*Pn	**Pn**	**19 18 24.3**	**-4.4**
	comp=Z,7.8nm,0.8s						
MAT	**Matsushiro**	**15.01**	**232**	P	**Pn**	**19 18 24.8**	**-3.9**
MDJ	**Mudanjiang**	**16.42**	**271**	*e*Pn	**Pn**	**19 18 49.1**	**+1.9**
	comp=Z,9.0nm,0.9s						
BOD	**Bodaibo**	**25.84**	**310**	*e*P	**P**	**19 20 27.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.6						
SONM	**Songino Array**	**31.18**	**289**	P	**P**	**19 21 15.9**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.7,baz=82,slow=7.5,SNR=4.3						
GTA	**Gaotai**	**38.82**	**279**	*e*P	**P**	**19 22 23.3**	**+1.7**
GTA				AP	pP	19 22 31.0	+5.5
GTA				XP	sP	19 22 34.5	+7.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
GYA	**Guiyang**	**41.59**	**257**	P	**P**	**19 22 43.5**	**-1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
MKAR	**Makanchi Array**	**46.79**	**297**	P	**P**	**19 23 26.3**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=61,slow=7.7,SNR=21						
MKAR	**Makanchi Array**	**46.79**	**297**	P	**P**	**19 23 26.3**	**+0.1**
BVAR	**Borovoye Array**	**50.71**	**309**	P	**P**	**19 23 56.4**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.9,baz=61,slow=6.7,SNR=6.0						
BRVK	**Borovoye**	**50.75**	**309**	P	**P**	**19 23 55.9**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRVK	**Borovoye**	**50.75**	**309**	P	**P**	**19 23 55.9**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**51.48**	**310**	*e*P	**P**	**19 24 01.0**	**-1.1**
ZRNK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ZRNK	**Zerenda**	**51.48**	**310**	*e*P	**P**	**19 24 01.0**	**-1.2**
	comp=Z,1.1nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**53.68**	**296**	*e*P	**P**	**19 24 18.3**	**-0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**53.68**	**296**	*e*P	**P**	**19 24 18.3**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0						
GUN	**Gumba**	**54.85**	**275**	*e*P	**P**	**19 24 27.6**	**+0.6**
KKN	**Kakani**	**55.34**	**275**	*e*P	**P**	**19 24 31.8**	**+1.3**
	comp=Z,8.8nm,0.5s,mb5.0						
PKI	**Pulchoki**	**55.39**	**275**	*e*P	**P**	**19 24 31.3**	**+0.4**
DMN	**Daman**	**55.57**	**275**	*e*P	**P**	**19 24 33.1**	**+0.9**
	comp=Z,14nm,0.8s,mb5.0						
GKN	**Gorkha**	**55.64**	**276**	*e*P	**P**	**19 24 33.4**	**+0.7**
	comp=Z,18nm,0.8s,mb5.2						
KOLN	**Koldanda**	**56.50**	**276**	*e*P	**P**	**19 24 39.6**	**+0.8**
	comp=Z,15nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**57.75**	**341**	P	**P**	**19 24 48.0**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=26,slow=6.7,SNR=5.2						
AKTK	**Aktyubinsk**	**58.58**	**312**	P	**P**	**19 24 53.3**	**-0.2**
AKTO	**Aktyubinsk**	**58.58**	**312**	P	**P**	**19 24 53.3**	**-0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=329,slow=18,SNR=3.4						
JOF	**Joensuu**	**61.22**	**334**	*e*p	**P**	**19 25 10.8**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.5						
JOF	**Joensuu**	**61.22**	**334**	*e*P	**P**	**19 25 10.8**	**-0.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**63.33**	**335**	*e*p	**P**	**19 25 24.5**	**-1.2**
	baz=37,slow=6.2						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**19 25 29.4**	**-0.3**
	comp=Z,3.6nm,0.6s,mb4.6,baz=39,slow=7.5,SNR=39						
FINES	**FINESS Array B**	**63.92**	**335**	P	**P**	**19 25 29.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
PDAR	**Pinedale Array**	**64.83**	**54**	P	**P**	**19 25 36.1**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.4,baz=337,slow=4.3,SNR=3.0						
NB2	**NORSAR Subarra**	**68.12**	**341**	P	**P**	**19 25 56.1**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.4,baz=27,slow=6.5						
NB2	**NORSAR Subarra**	**68.12**	**341**	P	**P**	**19 25 56.1**	**-0.6**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NOA	**NORSAR Array B**	**68.12**	**341**	P	**P**	**19 25 56.1**	**-0.5**
	comp=Z,2.7nm,0.7s,mb4.4,baz=28,slow=6.2,SNR=20						
WRA	**Warramunga Arr**	**68.53**	**199**	P	**P**	**19 26 04.3**	**+5.1**
	comp=Z,0.6nm,0.9s,mb3.5,baz=19,slow=6.8,SNR=3.6						
AKASG	**Malin Array Be**	**71.42**	**326**	P	**P**	**19 26 16.4**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.4,baz=34,slow=6.1,SNR=18						
BURAR	**Bucovina Array**	**75.46**	**326**	⇑*i*P	**P**	**19 26 40.8**	**0.0**
BURAR	**Bucovina Array**	**75.46**	**326**	⇑P	**P**	**19 26 39.8**	**-1.0**
MORC	**Moravsky Berou**	**76.32**	**332**	⇓*i*P	**P**	**19 26 46.4**	**+0.7**
CLL	**Collm**	**76.35**	**335**	*e*P	**P**	**19 26 45.0**	**-0.8**
MLR	**Muntele Rosu**	**76.93**	**325**	⇓*i*P	**P**	**19 26 49.6**	**+0.5**
MLR	**Muntele Rosu**	**76.93**	**325**	⇑P	**P**	**19 26 47.6**	**-1.5**
DRGR		**77.08**	**327**	⇑*i*P	**P**	**19 26 50.1**	**+0.1**
VOIR		**77.33**	**325**	⇑*i*P	**P**	**19 26 52.5**	**+1.1**
GERES	**GERESS Array B**	**78.34**	**334**	P	**P**	**19 26 57.0**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=35,slow=5.6,SNR=9.1						
BZS	**Buzias**	**78.48**	**327**	⇑*i*P	**P**	**19 26 59.3**	**+1.5**
VTS	**Vitosha**	**80.44**	**325**	⇓*i*P	**P**	**19 27 08.4**	**0.0**
VTS	**Vitosha**	**80.44**	**325**	⇓P	**P**	**19 27 08.4**	**0.0**

*IDC **30** 19:15:56.2*±*0.7,4622N×15345E,h0km,mb4.0/15, mb1 4.2/16,mb1mx4.1/22,mbtmp4.0/16,ML3.6/1,Error ellipse: s-maj=20.2km s-min=19.0km az=162.0*
*NEIC **30** 19:15:58.0*±*0.6,4628N×15347E,h10km,mb4.3/8,Error ellipse: s-maj=13.9km s-min=9.7km az=145.0*
*ISCJB **30** 19:16:00.1*±*0.7,4638N*±*008×1534E*±*01,h33km,mb4.1/23, Error ellipse: s-maj=14.1km s-min=6.8km az=89.5*
*MOS **30** 19:16:00.5*±*2.1,4656N×15340E,h33km,mb4.5/8,Error ellipse: s-maj=13.0km s-min=8.6km az=83.6*

ISC 30 19:16:02.6±0.6,**4637N**±008×**1533E**±01,**h35**km,**n62,** σ1$**54**/60,**mb4.1**/23,**1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.70**	**22**	*e*PN	**Pn**	**19 17 02.5**	**-8.4**
SKR				*e*S	**Sn**	**19 18 04.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,100nm,0.7s						
SKR				smax			
	comp=N,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.31**	**278**	⇑*e*PN	**Pn**	**19 17 50.2**	**+3.4**
YSS	**Yuzh-Sakhalins**	**7.31**	**278**	*e*Pn	**Pn**	**19 17 47.0**	**+0.1**
	comp=N,11nm,0.7s						
PET	**Petropavlovsk**	**7.50**	**25**	*e*PN	**Pn**	**19 17 47.6**	**-1.8**
PET				pmax	pmax		
	comp=Z,74nm,1.1s						
PET	**Petropavlovsk**	**7.50**	**25**	*e*Pn	**Pn**	**19 17 47.6**	**-1.8**
	comp=Z,74nm,1.1s						
ASAJ	**Asahikawa**	**7.91**	**257**	Pn	**Pn**	**19 17 54.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=356,slow=4.9,SNR=2.1						
ASAJ	**Asahikawa**	**7.91**	**257**	PN	**Pn**	**19 17 54.6**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MA2	**Magadan**	**13.32**	**354**	PN	**Pn**	**19 19 10.0**	**+0.9**
MAJO	**Matsushiro**	**14.98**	**234**	*e*P	**Pn**	**19 19 32.7**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,15nm,0.8s						
MAJO	**Matsushiro**	**14.98**	**234**	*e*Pn	**Pn**	**19 19 32.6**	**+1.0**
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**14.98**	**234**	P	**Pn**	**19 19 27.3**	**-4.3**
MJAR	**Matsushiro Arr**	**14.98**	**234**	Pn	**Pn**	**19 19 35.2**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=8.7,SNR=11						
MJAR	**Matsushiro Arr**	**14.98**	**234**	Pn	**Pn**	**19 19 35.2**	**+3.5**
MDJ	**Mudanjiang**	**16.74**	**273**	*e*P	**Pn**	**19 19 52.7**	**-1.5**
	comp=Z,7.4nm,0.8s						
YAK	**Yakutsk**	**20.73**	**328**	P	**P**	**19 20 37.9**	**-2.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s						
YAK	**Yakutsk**	**20.73**	**328**	P	**P**	**19 20 37.9**	**-2.1**
	comp=Z,13nm,0.7s						
BILL	**Bilibino**	**22.73**	**13**	*e*P	**P**	**19 20 56.3**	**-5.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.0						
SONM	**Songino Array**	**31.61**	**290**	P	**P**	**19 22 20.0**	**-2.0**
	comp=Z,0.3nm,0.5s,mb3.4,baz=121,slow=5.6,SNR=2.2						
ZAK	**Zakamensk**	**32.99**	**296**	*e*P	**P**	**19 22 31.8**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
COLA	**College**	**36.34**	**38**	P	**P**	**19 23 01.9**	**-1.2**
COLA				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
COLA	**College**	**36.34**	**38**	P	**P**	**19 23 01.9**	**-1.2**
	comp=Z,11nm,1.2s,mb4.7						
INK	**Inuvik**	**41.89**	**32**	P	**P**	**19 23 46.6**	**-2.8**
	comp=Z,3.1nm,0.8s,mb4.0,baz=281,slow=5.9,SNR=4.8						
INK	**Inuvik**	**41.89**	**32**	P	**P**	**19 23 46.7**	**-2.7**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**41.89**	**32**	*e*P	**P**	**19 23 50.0**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**42.98**	**306**	P	**P**	**19 23 57.4**	**-0.9**
	comp=Z,2.8nm,0.4s,mb3.8,baz=46,slow=5.6,SNR=2.8						
ZAL	**Zalesovo**	**42.98**	**306**	P	**P**	**19 23 57.4**	**-0.9**
NVS	**Novosibirsk**	**43.55**	**308**	*e*P	**P**	**19 24 07.2**	**+4.3**
MKAR	**Makanchi Array**	**47.26**	**298**	P	**P**	**19 24 31.6**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.3,baz=64,slow=7.9,SNR=9.2						
LSA	**Lhasa**	**50.45**	**274**	P	**P**	**19 24 59.0**	**+2.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**50.45**	**274**	P	**P**	**19 24 59.0**	**+2.3**
	comp=Z,3.2nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**51.14**	**37**	P	**P**	**19 25 00.9**	**-1.0**
	comp=Z,2.8nm,1.0s,mb4.1,baz=305,slow=7.7,SNR=4.3						
YKA	**Yellowknife Ar**	**51.14**	**37**	P	**P**	**19 25 00.9**	**-1.0**
BVAR	**Borovoye Array**	**51.23**	**310**	P	**P**	**19 25 02.0**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=49,slow=6.9,SNR=5.3						
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**19 25 07.3**	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZRNK	**Zerenda**	**52.00**	**310**	*e*P	**P**	**19 25 07.2**	**-1.1**
	comp=Z,2.2nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**54.15**	**297**	*e*P	**P**	**19 25 23.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
AAK	**Ala-Archa**	**54.15**	**297**	*e*P	**P**	**19 25 23.3**	**-0.9**
	comp=Z,4.5nm,1.4s,mb4.2						
ARCES	**ARCESS Array B**	**58.27**	**341**	P	**P**	**19 25 53.3**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=20,slow=6.9,SNR=7.8						
**FIN

TRN	**Trinidad (W)**	**0.10**	**110**	⇓*i*	P	**Pn**	**19 24 15.1**	**-0.7**
TRN				*i*	S	**Sn**	**19 24 20.1**	**-1.9**
TCE	**Chacachacare**	**0.25**	**274**	⇑*i*	P	**Pn**	**19 24 17.3**	**+0.8**
TCE				*i*	S	**Sn**	**19 24 23.9**	**+0.5**
TPP	**Pointe-a-Pierr**	**0.36**	**173**	*e*	P	**Pn**	**19 24 18.7**	**+1.2**
TBH	**Brigand Hill**	**0.46**	**115**	⇑*i*	P	**Pn**	**19 24 18.6**	**+0.1**
TBH				*e*	S	**Sn**	**19 24 27.2**	**+0.6**
GUIV	**Guiria**	**0.72**	**267**	*e*	P	**Pn**	**19 24 21.9**	**+0.5**
GUIV				*e*	S	**Sn**	**19 24 33.0**	**+1.2**
TPR	**Prospect**	**0.87**	**54**	*e*	P	**Pn**	**19 24 22.6**	**-0.7**
TPR				*i*	S	**Sn**	**19 24 33.3**	**-1.8**
BOT	**Bacolet**	**0.90**	**58**	*e*	P	**Pn**	**19 24 22.9**	**-0.9**
GRW	**Mount Saint Ca**	**1.48**	**354**	⇓*i*	P	**Pn**	**19 24 31.1**	**-0.3**
GUNV	**Guanoco**	**1.51**	**254**	*e*	P	**Pn**	**19 24 33.2**	**+1.3**
GRHS	**Sauteurs**	**1.54**	**355**	*e*	P	**Pn**	**19 24 28.1**	**-4.2**
GRHS				*e*	S	**Sn**	**19 24 49.5**	**-1.7**
GRIC	**Isle de Caille**	**1.60**	**357**	*e*	P	**Pn**	**19 24 32.7**	**-0.3**
GRIC				*e*	S	**Sn**	**19 24 54.0**	**+1.4**
GRSS	**Sisters**	**1.61**	**356**	*e*	P	**Pn**	**19 24 32.7**	**-0.5**
GRSS				*e*	S	**Sn**	**19 24 53.4**	**+0.5**
CRUV	**Carupano**	**1.71**	**270**	⇑*e*	P	**Pn**	**19 24 34.8**	**+0.2**
CRUV				*e*	S	**Sn**	**19 24 54.9**	**-0.5**
ITEV	**Isla Los Testi**	**1.74**	**293**	*e*	P	**Pn**	**19 24 34.0**	**-1.0**
ITEV				*e*	S	**Sn**	**19 24 55.7**	**-0.4**
GRCU	**Cariacou**	**1.78**	**1**	*e*	P	**Pn**	**19 24 35.1**	**-0.3**
GRCU				*e*	S	**Sn**	**19 24 57.6**	**+0.5**
ORIV	**Oritupano**	**2.47**	**230**	*e*	P	**Pn**	**19 24 46.7**	**+1.8**
ORIV				*e*	S	**Sn**	**19 25 16.4**	**+2.5**
SVB	**Belmont**	**2.59**	**5**	*e*	P	**Pn**	**19 24 47.0**	**+0.5**
SVB				*e*	S	**Sn**	**19 25 18.3**	**+1.6**
SSV	**Crater Summit**	**2.65**	**6**	*e*	P	**Pn**	**19 24 48.1**	**+0.8**
SSV				*e*	S	**Sn**	**19 25 20.7**	**+2.5**
PCRV	**Puerto La Cruz**	**3.13**	**261**	*e*	P	**Pn**	**19 24 54.1**	**+0.2**
PCRV				*e*	S	**Sn**	**19 25 28.9**	**-1.2**
SLB	**Belfond**	**3.16**	**8**	*e*	P	**Pn**	**19 24 54.5**	**+0.1**
SLB				*e*	S	**Sn**	**19 25 31.2**	**+0.4**
IBAV	**Isla La Blanqu**	**3.23**	**291**	*e*	P	**Pn**	**19 24 55.2**	**-0.1**
IBAV				*e*	S	**Sn**	**19 25 30.8**	**-1.7**
GURV	**El Guri**	**3.30**	**209**	⇓*e*	P	**Pn**	**19 24 56.8**	**+0.5**
PRGV	**PARIAGUAN**	**3.65**	**239**	*e*	P	**Pn**	**19 25 01.6**	**+0.6**
CUPV	**Cœpira**	**4.27**	**262**	*e*	P	**Pn**	**19 25 10.1**	**+0.6**
BIRV	**Birongo**	**4.70**	**268**	*e*	P	**Pn**	**19 25 15.3**	**-0.1**
ORCV	**Isla La Orchil**	**4.75**	**284**	*e*	P	**Pn**	**19 25 15.5**	**-0.5**
LUEV	**Luepa**	**4.81**	**180**	*e*	P	**Pn**	**19 25 16.1**	**-0.8**
MERV	**Las Mercedes**	**4.94**	**254**	*e*	P	**Pn**	**19 25 18.9**	**+0.2**
CAOV	**Caicara del Or**	**5.82**	**235**	*e*	P	**Pn**	**19 25 30.4**	**-0.4**
TURV	**Turiamo**	**6.24**	**268**	*e*	P	**Pn**	**19 25 36.2**	**-0.3**
BAUV	**El Baul**	**6.68**	**256**	*e*	P	**Pn**	**19 25 41.7**	**-0.9**
TEPV	**Terepaima**	**7.61**	**265**	*e*	P	**Pn**	**19 25 55.0**	**-0.3**
CURV	**Curarigua**	**8.36**	**266**	⇑*e*	P	**Pn**	**19 26 04.5**	**-1.1**
SOCV	**Socops**	**9.54**	**256**	*e*	P	**Pn**	**19 26 19.9**	**-1.8**

*ISCJB **30** 19:27:51.6±1.6,463N±02×1529E±03,h33km, mb3.7/5, Error ellipse: s-maj=37.2km s-min=7.6km az=95.9*
*IDC **30** 19:27:51.9±5.6,4676N×15256E,h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=126.0km s-min=35.8km az=132.0*
*MOS **30** 19:27:53.6±1.2,4663N×15263E,h33km, mb4.3/2, Error ellipse: s-maj=31.4km s-min=20.5km az=66.9*

ISC 30 19:27:57.5±1.6,449N±02×1532E±02,h35km,n27,
σ1§16/34,mb3.8/5,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.57**	**257**	P		**Pn**	**19 29 17.5**	**-0.3**
NEM2				*e*S		**Sn**	**19 30 20.5**	**0.0**
JRA	**Rausu**	**5.85**	**264**	P		**Pn**	**19 29 21.7**	**0.0**
SKR	**Severo-Kuril's**	**6.13**	**18**	*e*PN		**Pn**	**19 29 03.0**	**-23**
JNK	**Nakash**	**6.22**	**261**	P		**Pn**	**19 29 26.9**	**+0.1**
JNK				*e*S		**Sn**	**19 30 39.7**	**+2.5**
JAK	**Akkeshi**	**6.41**	**256**	P		**Pn**	**19 29 29.0**	**-0.4**
JAK				*e*S		**Sn**	**19 30 41.6**	**+0.3**
JTKR	**Abashiri--Toko**	**6.70**	**265**	P		**Pn**	**19 29 33.0**	**-0.4**
JAR	**Ashorobuto**	**6.96**	**260**	P		**Pn**	**19 29 37.2**	**+0.2**
JAR				*e*S		**Sn**	**19 30 57.4**	**+2.5**
JCH	**Churui**	**7.46**	**256**	P		**Pn**	**19 29 44.4**	**+0.5**
JCH				*e*S		**Sn**	**19 31 07.6**	**+0.3**
JKK2	**Kamakawa 2**	**7.54**	**266**	P		**Pn**	**19 29 44.7**	**-0.3**
ASAJ	**Asahikawa**	**7.61**	**268**	Pn		**Pn**	**19 29 43.5**	**-2.4**
	0.4nm,0.3s,baz=66,slow=17,SNR=5.1							
JFR	**Furan**	**7.82**	**261**	P		**Pn**	**19 29 50.3**	**+1.5**
JEM	**Erimo**	**7.84**	**252**	P		**Pn**	**19 29 51.3**	**+2.3**
JNBK	**Urakawa-nobuka**	**8.01**	**255**	P		**Pn**	**19 29 51.8**	**+0.5**
JNBK				*e*S		**Sn**	**19 31 19.8**	**-0.8**
JBT2	**Biratori 2**	**8.10**	**259**	P		**Pn**	**19 29 53.0**	**+0.4**
JKB	**Kayabe**	**9.34**	**256**	P		**Pn**	**19 30 08.9**	**-0.7**
JKB				*e*S		**Sn**	**19 31 51.1**	**-2.3**
JANG	**Nango**	**9.71**	**246**	*e*S		**Sn**	**19 32 00.4**	**-1.9**
JTH	**Tanohata**	**9.72**	**243**	*e*S		**Sn**	**19 32 02.1**	**-0.5**
JOSM	**Okushiri--Mats**	**10.35**	**259**	P		**Pn**	**19 30 22.3**	**-1.1**
JIO	**Ouri**	**10.93**	**238**	*e*S		**Sn**	**19 32 33.6**	**+1.2**
MJAR	**Matsushiro Arr**	**14.07**	**239**	Pn		**Pn**	**19 31 21.3**	**+7.1**
	0.1nm,0.3s,baz=38,slow=17,SNR=3.6							
MKAR	**Makanchi Array**	**47.87**	**299**	P		**P**	**19 36 20.2**	**-12**
	0.4nm,0.6s,mb3.6,baz=57,slow=8.8,SNR=5.9							
BVAR	**Borovoye Array**	**52.10**	**311**	P		**P**	**19 36 52.6**	**-11**
	0.3nm,0.5s,mb3.5,baz=48,slow=8.7,SNR=3.1							
FINES	**FINESS Array B**	**65.75**	**335**	P		**P**	**19 38 25.9**	**-13**
	0.9nm,0.6s,mb4.0,baz=43,slow=7.2,SNR=8.8							
FINES	**FINESS Array B**	**65.75**	**335**	P		**P**	**19 38 26.0**	**-13**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**70.01**	**341**	P		**P**	**19 38 53.1**	**-12**
	comp=Z,0.4nm,0.6s,mb3.5,baz=28,slow=6.5,SNR=3.3							
AKASG	**Malin Array Be**	**73.13**	**327**	P		**P**	**19 39 12.9**	**-11**
	comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=6.2,SNR=8.1							
AKASG	**Malin Array Be**	**73.13**	**327**	P		**P**	**19 39 12.9**	**-11**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							

IDC 30 19:48:21.8±6.7,4703N×15283E,h0km,mb3.7/4,
mb1 3.6/6,mb1mx3.4/22,mbtmp3.6/6,ML2.9/2,Error ellipse: s-maj=156.4km s-min=36.4km az=131.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.75**	**252**	Pn		Pn	**19 50 16.1**	**+0.3**
	0.3nm,0.3s,baz=75,slow=16,SNR=3.0							
MJAR	**Matsushiro Arr**	**15.10**	**231**	Pn		Pn	**19 51 55.9**	**-0.5**
	0.0nm,0.3s,baz=37,slow=8.8,SNR=4.2							
MKAR	**Makanchi Array**	**46.64**	**297**	P		P	**19 56 51.5**	**-0.4**
	0.5nm,0.9s,baz=72,slow=7.8,SNR=4.0							
FINES	**FINESS Array B**	**63.71**	**335**	P		P	**19 58 54.7**	**-0.4**
	1.0nm,0.7s,baz=31,slow=12,SNR=7.4							
NOA	**NORSAR Array B**	**67.90**	**341**	P		P	**19 59 21.9**	**-0.3**
	0.5nm,0.8s,baz=27,slow=6.5,SNR=3.8							
AKASG	**Malin Array Be**	**71.21**	**326**	P		P	**19 59 42.0**	**-0.6**
	0.3nm,0.3s,baz=31,slow=5.7,SNR=4.1							

*IDC **30** 19:52:56.1±16.0,4650N×15291E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/20,mbtmp3.8/5,Error ellipse: s-maj=379.3km s-min=80.6km az=155.0*
*ISCJB **30** 19:53:25.8±1.3,444N±02×1463E±02,h216km±12km, mb3.5/5,Error ellipse: s-maj=29.9km s-min=18.6km az=86.2*
*JMA **30** 19:53:28.8±0.5,4451N×14639E,h170km±4km,M2.6*

ISC 30 19:53:26.9±1.4,444N±02×1464E±02,h204km±12km,n18,
σ1§09/23,mb3.5/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JRA	**Rausu**	**0.98**	**244**	P		**Pn**	**19 53 56.1**	**-0.9**
NEM2	**Nemuro 2**	**1.10**	**204**	P		**Pn**	**19 53 57.2**	**-0.6**
NEM2				*e*S		**Sn**	**19 54 18.4**	**-3.3**
JNK	**Nakash**	**1.42**	**237**	P		**Pn**	**19 54 00.4**	**+0.2**
JTKR	**Abashiri--Toko**	**1.80**	**258**	P		**Pn**	**19 54 03.5**	**-0.2**
JAK	**Akkeshi**	**1.83**	**221**	P		**Pn**	**19 54 04.6**	**+0.6**
JAK				*e*S		**Sn**	**19 54 31.6**	**-1.2**
JAR	**Ashorobuto**	**2.15**	**241**	P		**Pn**	**19 54 09.0**	**+1.7**
JMP	**Maruseppu**	**2.18**	**261**	P		**Pn**	**19 54 07.7**	**+0.2**
JOB	**Onbets**	**2.34**	**232**	P		**Pn**	**19 54 10.7**	**+1.4**
JOB				*e*S		**Sn**	**19 54 42.6**	**+0.2**
JKK2	**Kamakawa 2**	**2.64**	**260**	P		**Pn**	**19 54 13.5**	**+0.9**
JSE	**Soyaes**	**2.75**	**284**	P		**Pn**	**19 54 13.3**	**-0.5**
JCH	**Churui**	**2.79**	**232**	P		**Pn**	**19 54 15.9**	**+1.6**
JCH				*e*S		**Sn**	**19 54 51.1**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.36**	**233**	P		**Pn**	**19 54 21.9**	**+1.0**
JNBK				*e*S		**Sn**	**19 55 01.7**	**-1.6**
MKAR	**Makanchi Array**	**43.78**	**297**	P		**P**	**20 01 28.2**	**+16**
	0.4nm,0.2s,mb3.3,baz=64,slow=8.2,SNR=5.7							
FINES	**FINESS Array B**	**64.05**	**333**	P		**P**	**20 03 32.2**	**-6.7**
	1.1nm,0.7s,mb3.6,baz=43,slow=7.4,SNR=12							
NB2	**NORSAR Subarra**	**68.81**	**338**	P		**P**	**20 03 59.4**	**-10**
	comp=Z,0.5nm,0.6s,mb3.3,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.81**	**338**	P		**P**	**20 03 59.4**	**-10**
	comp=Z,0.7nm,0.6s,mb3.5,baz=29,slow=6.4,SNR=4.1							
AKASG	**Malin Array Be**	**70.73**	**323**	P		**P**	**20 04 19.2**	**-1.5**
	comp=Z,1.5nm,0.5s,mb3.9,baz=33,slow=6.3,SNR=7.3							
GERES	**GERESS Array B**	**78.33**	**330**	P		**P**	**20 04 59.6**	**-4.8**
	comp=Z,0.3nm,0.6s,mb3.1,baz=33,slow=5.8,SNR=4.2							

*ISCJB **30** 19:57:46.4±1.2,4638N±005×15320E±005,h7km±7km, mb4.8/114,MS5.1/3,Error ellipse: s-maj=9.4km s-min=3.6km az=105.9*
*IDC **30** 19:57:46.4±0.5,4634N×153.17E,h0km,mb4.4/22, mb1 4.5/23,mb1mx4.5/26,mbtmp4.4/23,ML3.5/1,MS4.2/1, Ms1 4.2/1,ms1mx3.4/35,Error ellipse: s-maj=17.1km s-min=14.3km az=175.0*
*BJI **30** 19:57:46.3,4647N×15340E,h14km, mB5.5,mb4.7,Ms4.9, Msz4.9*
*NEIC **30** 19:57:48.2±0.3,4642N×15326E,h10km,mb4.9/50,Error ellipse: s-maj=7.7km s-min=5.5km az=153.0*
*SKHL **30** 19:57:48.5±0.9,4619N×15340E,h50km±19km,mb5.0/7*
*JMA **30** 19:57:49.3±0.8,4644N×15338E,h30km,M4.8*
*MOS **30** 19:57:52.7±1.0,4675N×15291E,h34km,mb5.0/46,Error ellipse: s-maj=9.0km s-min=5.1km az=108.3*
*SZGRF **30** 19:57:59.7,4745N×15126E,h33km, mb4.9,Kuril Islands, Russia*

ISC 30 19:57:50.7±1.2,4644N±005×15321E±006,h24km±8km,
h25km±3.8km:pP-P,n309,σ1§14/320,mb4.8/114,MS5.1/3,
22C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.92**	**254**	⇓*i*	P	**Pn**	**19 58 48.4**	**-1.0**
KUR				AMB		AMB	19 58 49.5	
	1μm,0.6s							
KUR				*e*S		**Sn**	**19 59 34.0**	**-0.6**
KUR				A			19 59 58.0	
	1μm,0.9s							
KUR				A			19 59 58.0	
	990nm,0.9s							
KUR	**Kuril'sk**	**3.92**	**254**	⇓*i*	PN	**Pn**	**19 58 48.4**	**-1.0**
KUR				*e*S		**Sn**	**19 59 34.0**	**-0.6**
KUR				pmax		pmax		
	comp=N,210nm,0.6s							
KUR				pmax		pmax		
	comp=E,170nm,0.6s							
KUR				pmax		pmax		
	comp=Z,1μm,0.6s							
KUR				smax				
	comp=N,1μm,0.9s							
KUR				smax				
	comp=E,1μm,0.9s							
SKR	**Severo-Kuril's**	**4.67**	**23**	*e*PN		**Pn**	**19 58 56.2**	**-3.3**
SKR				pmax		pmax		
	comp=Z,100nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**5.72**	**248**	*e*P		**Pn**	**19 59 14.9**	**+0.9**
YUK				AMB		AMB	19 59 30.6	
	comp=Z,270nm,0.5s							
YUK				*e*S		**Sn**	**20 00 19.8**	**+0.9**
YUK				A			20 00 30.0	
	comp=Z,650nm,0.7s							
NEM2	**Nemuro 2**	**6.13**	**243**	P		**Pn**	**19 59 18.2**	**-1.5**
NEM2				*e*S		**Sn**	**20 00 24.6**	**-4.4**
JRA	**Rausu**	**6.24**	**249**	P		**Pn**	**19 59 22.5**	**+1.3**
JRA				*e*S		**Sn**	**20 00 33.9**	**+2.2**
JNK	**Nakash**	**6.66**	**248**	P		**Pn**	**19 59 27.8**	**+0.8**
JNK				*e*S		**Sn**	**20 00 41.9**	**-0.2**
JAK	**Akkeshi**	**6.97**	**243**	P		**Pn**	**19 59 30.0**	**-1.2**
JAK				*e*S		**Sn**	**20 00 44.5**	**-5.3**
JTKR	**Abashiri--Toko**	**7.02**	**253**	P		**Pn**	**19 59 33.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	⇓*e*PN		**Pn**	**19 59 38.7**	**+4.2**
YSS				pmax		pmax		
	comp=E,50nm,0.9s							
YSS				pmax		pmax		
	comp=Z,50nm,0.9s							
YSS	**Yuzh-Sakhalins**	**7.21**	**278**	*e*Pn		**Pn**	**19 59 38.8**	**+4.3**
	comp=Z,45nm,0.6s							
YSS				*e*Sn		**Sn**	**20 01 01.6**	**+6.0**
JMP	**Maruseppu**	**7.37**	**254**	P		**Pn**	**19 59 38.7**	**+2.0**
JAR	**Ashorobuto**	**7.41**	**248**	P		**Pn**	**19 59 38.1**	**+0.9**
JAR				*e*S		**Sn**	**20 00 59.4**	**-1.0**
PET	**Petropavlovsk**	**7.47**	**26**	*e*rx		rx	19 59 37.8	
PET				*e*S		**Sn**	**20 00 57.7**	**-4.4**
PET				A			20 01 28.1	
	comp=Z,170nm,0.7s							
JOB	**Onbets**	**7.56**	**245**	P		**Pn**	**19 59 39.0**	**-0.3**
JOB				*e*S		**Sn**	**20 01 01.6**	**-2.6**
JSE	**Soyaes**	**7.59**	**263**	P		**Pn**	**19 59 43.5**	**+3.8**
JKK2	**Kamakawa 2**	**7.83**	**255**	P		**Pn**	**19 59 45.4**	**+2.4**
ASAJ	**Asahikawa**	**7.84**	**257**	Pn		**Pn**	**19 59 46.1**	**+3.0**
	comp=Z,3.1nm,0.3s,baz=91,slow=17,SNR=44							
ASAJ				Sn		**Sn**	**20 01 13.6**	**+2.5**
	baz=198,slow=19,SNR=1.2							
ASAJ				LR		LR	20 02 17.4	
	comp=Z,2μm,19.6s,baz=124,slow=35							
ASAJ	**Asahikawa**	**7.84**	**257**	P		**Pn**	**19 59 46.0**	**+2.9**
JWK2	**Keihoku**	**7.98**	**266**	P		**Pn**	**19 59 50.7**	**+5.7**
JCH	**Churui**	**8.01**	**245**	P		**Pn**	**19 59 44.8**	**-0.6**
JCH				*e*S		**Sn**	**20 01 11.2**	**-4.0**
JFR	**Furan**	**8.23**	**250**	P		**Pn**	**19 59 51.2**	**+2.7**
TYV	**Tymovskoe**	**8.27**	**306**	*e*P		**Pn**	**19 59 53.0**	**+3.9**
TYV				AMB		AMB	19 59 55.8	
	comp=Z,15nm,0.8s							
TYV				AMB		AMB	19 59 55.8	
	comp=Z,34nm,0.8s							
JAB	**Ashibetsu**	**8.32**	**253**	P		**Pn**	**19 59 52.4**	**+2.6**
ERM	**Erimo**	**8.46**	**242**	*e*PN		**Pn**	**19 59 52.2**	**+0.5**
ERM				pmax		pmax		
	comp=Z,75nm,0.6s							
ERM	**Erimo**	**8.46**	**242**	*e*Pn		**Pn**	**19 59 52.2**	**+0.5**
	comp=Z,75nm,0.6s							
ERM				*e*Sn		**Sn**	**20 01 20.5**	**-5.9**
JEM	**Erimo**	**8.46**	**242**	P		**Pn**	**19 59 52.2**	**+0.5**
JBT2	**Biratori 2**	**8.56**	**249**	P		**Pn**	**19 59 53.3**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.57**	**245**	P		**Pn**	**19 59 51.9**	**-1.2**
JNBK				*e*S		**Sn**	**20 01 23.3**	**-5.7**
JEW	**Eniwo**	**9.12**	**251**	P		**Pn**	**20 00 03.1**	**+2.4**
JNB	**Noboribetsu**	**9.57**	**250**	P		**Pn**	**20 00 06.7**	**-0.1**
JNB				*e*S		**Sn**	**20 01 50.0**	**-3.5**
JKB	**Kayabe**	**9.86**	**247**	P		**Pn**	**20 00 09.8**	**-1.0**
JKB				*e*S		**Sn**	**20 01 53.3**	**-7.4**
JSH	**Shimam**	**10.14**	**253**	P		**Pn**	**20 00 15.4**	**+0.8**
JYM2	**Yakumo 2**	**10.17**	**249**	P		**Pn**	**20 00 14.6**	**-0.5**
JSR	**Shiriuchi**	**10.44**	**247**	P		**Pn**	**20 00 17.6**	**-1.2**
JSR				*e*S		**Sn**	**20 02 07.7**	**-7.3**
JANG	**Nango**	**10.44**	**239**	P		**Pn**	**20 00 14.5**	**-4.3**
JANG				*e*S		**Sn**	**20 02 02.9**	**-12**
JTM	**Tenmabayashi**	**10.46**	**242**	P		**Pn**	**20 00 16.2**	**-2.8**
NKL	**Nikolayevsk**	**10.52**	**314**	*e*P		**Pn**	**20 00 21.0**	**+1.2**
NKL				AMB		AMB	20 00 25.0	
	comp=Z,30nm,1.0s							
JTH	**Tanohata**	**10.52**	**236**	P		**Pn**	**20 00 15.9**	**-4.0**
JTH				*e*S		**Sn**	**20 02 04.6**	**-12**
JOSM	**Okushiri--Mats**	**10.77**	**251**	P		**Pn**	**20 00 22.8**	**-0.5**
OFUJ	**Ofunato**	**11.22**	**233**	P		**Pn**	**20 00 26.1**	**-3.3**
OFUJ				*e*S		**Sn**	**20 02 22.4**	**-12**
JRG	**Rokugo**	**11.59**	**237**	P		**Pn**	**20 00 31.7**	**-2.8**
JRG				*e*S		**Sn**	**20 02 31.6**	**-12**
TEY	**Ternei**	**11.69**	**269**	*e*rx		rx	20 00 39.0	
JIO	**Ouri**	**11.84**	**232**	*e*S		**Sn**	**20 02 36.0**	**-13**
GRNR	**Gornyy**	**11.93**	**297**	*e*P		**Pn**	**20 00 39.8**	**+0.7**
GRNR				AMB		AMB	20 00 41.6	
	comp=Z,47nm,1.0s							
JYA	**Atsumi**	**12.66**	**237**	P		**Pn**	**20 00 46.8**	**-2.4**
MA2	**Magadan**	**13.24**	**355**	*e*PN		**Pn**	**20 00 56.9**	**-0.2**
JFY	**Yanaizu**	**13.49**	**233**	P		**Pn**	**20 00 57.9**	**-2.6**
EKMR	**Ekimchan**	**14.65**	**304**	*e*P		**Pn**	**20 01 18.5**	**+2.2**
EKMR				AMB		AMB	20 01 29.8	
	comp=Z,8.0nm,0.5s							
KLR	**Kul'dur**	**14.68**	**289**	*e*rx		rx	20 01 15.9	
MAJO	**Matsushiro**	**14.95**	**234**	*e*P		**Pn**	**20 01 16.7**	**-3.6**
MAJO				pmax		pmax		
	comp=Z,28nm,0.8s							
MAJO	**Matsushiro**	**14.95**	**234**	*e*Pn		**Pn**	**20 01 16.7**	**-3.6**
	comp=Z,28nm,0.8s							
MAT	**Matsushiro**	**14.95**	**234**	P		**Pn**	**20 01 16.9**	**-3.4**
MJAR	**Matsushiro Arr**	**14.95**	**234**	Pn		**Pn**	**20 01 16.5**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=22							
VLA	**Vladivostok**	**15.49**	**265**	P		**Pn**	**20 01 30.0**	**+2.6**
VLA				pmax		pmax		
	comp=Z,23nm,1.2s							
SEY	**Seymchan**	**16.54**	**359**	⇑*e*P		**Pn**	**20 01 40.8**	**-0.1**
MDJ	**Mudanjiang**	**16.64**	**272**	P		**Pn**	**20 01 44.5**	**+2.3**
MDJ				AMB		AMB		
	comp=Z,38nm,1.2s							
MDJ				AMB		AMB		
	comp=Z,1μm,10.2s							
MDJ	**Mudanjiang**	**16.64**	**272**	*e*Pn		**Pn**	**20 01 43.1**	**+0.9**
	comp=Z,52nm,1.1s							
BMKR	**Bomnak**	**17.48**	**307**	*e*P		**Pn**	**20 01 51.4**	**-1.3**
BMKR				AMB		AMB	20 01 54.9	
	comp=Z,21nm,0.9s							
YASR	**Yasnyy**	**17.59**	**302**	*e*P		**Pn**	**20 01 52.4**	**-1.7**
YASR				AMB		AMB	20 01 55.1	
	comp=Z,8.0nm,0.6s							
KROS	**Kirovskiy**	**18.45**	**305**	*e*P		**Pn**	**20 02 02.1**	**-2.5**
KROS				AMB		AMB	20 02 02.5	
	comp=Z,11nm,0.9s							
CN2	**Changchun**	**19.73**	**272**	*e*P		**Pn**	**20 02 17.0**	**-3.0**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s							
YAK	**Yakutsk**	**20.62**	**328**	*e*P		**P**	**20 02 28.2**	**+0.1**
YAK				pmax		pmax		
	comp=Z,11nm,0.8s							
YAK	**Yakutsk**	**20.62**	**328**	*e*Pn		**P**	**20 02 27.3**	**-0.9**
	comp=Z,21nm,0.6s							
INCN	**Inchon**	**21.61**	**255**	*e*Pn		**P**	**20 02 39.6**	**+0.7**
	comp=Z,40nm,0.9s,mb4.8							
SNY	**Shenyang**	**21.70**	**268**	⇑P		**P**	**20 02 40.5**	**+0.8**
SNY				AMB		AMB		
	comp=Z,26nm,1.0s,mb4.6							
HIA	**Hailar**	**22.53**	**289**	*e*P		**P**	**20 02 46.5**	**-2.2**
HIA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**22.53**	**289**	*e*Pn		**P**	**20 02 46.5**	**-2.1**
	comp=Z,5.6nm,0.6s,mb4.2							
BILL	**Bilibino**	**22.68**	**13**	*e*P		**P**	**20 02 51.0**	**+0.8**
BILL				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.4							
BILL	**Bilibino**	**22.68**	**13**	P		**P**	**20 02 49.4**	**-0.9**
DL2	**Dalian**	**24.29**	**263**	P		**P**	**20 03 06.8**	**+0.8**
DL2				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.5							
BOD	**Bodaibo**	**26.24**	**310**	*e*P		**P**	**20 03 21.7**	**-2.0**
BOD				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.2							
CIT	**Chita**	**26.25**	**297**	*e*P		**P**	**20 03 23.0**	**-0.8**
BJT	**Baijiatuan**	**27.56**	**270**	*e*P		**P**	**20 03 38.3**	**+2.7**
BJT				pmax		pmax		
	comp=Z,20nm,0.8s							
BJT	**Baijiatuan**	**27.56**	**270**	*e*P		**P**	**20 03 38.3**	**+2.7**
	comp=Z,20nm,0.8s,mb4.8							
NJ2	**Nanjing**	**29.97**	**254**	*e*P		**P**	**20 03 55.8**	**-1.3**
NJ2				AP		pP	20 04 04.5	+0.2
NJ2				XP		sP	20 04 09.0	+1.7
NJ2				PP		PP	20 04 54.0	-11
NJ2				PPP			20 05 06.3	
NJ2				S		**S**	**20 08 49.0**	**-4.4**
NJ2				XS		sS	20 09 04.0	-1.4
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
NJ2				AMB		AMB		
	comp=Z,1μm,8.8s							
NJ2				LR		LR		
	comp=N,3μm,14.9s,MS5.1							
NJ2				LR		LR

ZRNK Zerenda 51.88 310 *e*P **P 20 06 55.9 -1.1**
comp=Z,3.9nm,0.8s,mb4.4
CHTO Chiang Mai 52.11 257 *e*P **P 20 07 00.2 +1.4**
CHTO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CHTO Chiang Mai 52.11 257 *e*P **P 20 07 00.2 +1.4**
comp=Z,16nm,0.9s,mb5.0
CM31 Chiang Mai Arr 52.36 257 *e*P **P 20 07 00.9 +0.3**
comp=Z,4.7nm,0.7s,mb4.5
AAK Ala-Archa 54.03 297⇑*e*P **P 20 07 12.6 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AAK Ala-Archa 54.03 297 *e*P **P 20 07 12.3 -0.6**
comp=Z,11nm,0.8s,mb4.8
SVE Sverdlovsk 54.11 317 *e*P **P 20 07 12.3 -1.2**
JIRN Jiri 55.04 275 *e*P **P 20 07 22.6 +2.4**
comp=Z,5.6nm,0.2s,mb5.2
GUN Gumba 55.10 275 *e*P **P 20 07 22.1 +1.5**
comp=Z,46nm,0.8s,mb5.6
ARU Arti 55.29 318⇑*i*P **P 20 07 19.8 -2.2**
ARU *e* 20 09 22.3
ARU *e*S **S 20 15 02.8 -1.6**
ARU *e* 20 17 09.8
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ARU Arti 55.29 318 *e*P **P 20 07 20.3 -1.7**
comp=Z,10nm,0.9s,mb4.9
KKN Kakani 55.59 276 *e*P **P 20 07 26.0 +1.8**
comp=Z,42nm,0.7s,mb5.6
PKI Pulchoki 55.63 275 *e*P **P 20 07 26.1 +1.6**
comp=Z,27nm,0.7s,mb5.4
DMN Daman 55.82 276 *e*P **P 20 07 27.8 +2.0**
comp=Z,61nm,0.8s,mb5.7
GKN Gorkha 55.89 276 *e*P **P 20 07 27.9 +1.5**
comp=Z,68nm,0.8s,mb5.7
KOLN Koldanda 56.75 277 *e*P **P 20 07 34.3 +1.8**
comp=Z,57nm,0.8s,mb5.6
KEV Kevo 57.66 341 *e*p **P 20 07 37.1 -1.8**
BOK Bokaro 57.73 272 *e*P **P 20 07 39.7 +0.3**
BOK AMb AMB 20 07 43.5
comp=Z,19nm,1.4s,mb4.9
YBH Yreka Blue Hor 57.83 62 P **P 20 07 41.2 +1.1**
comp=Z,2.3nm,1.0s,mb4.2,baz=252,slow=6.4,SNR=3.5
ARCES ARCESS Array B 58.17 341 P **P 20 07 41.9 -0.6**
comp=Z,2.3nm,0.6s,mb4.4,baz=36,slow=6.7,SNR=12
AKTK Aktyubinsk 58.99 312 P **P 20 07 47.5 -0.7**
AKTO Aktyubinsk 58.99 312 P **P 20 07 47.5 -0.7**
comp=Z,3.9nm,0.9s,mb4.4,baz=50,slow=8.1,SNR=7.1
AKTO Aktyubinsk 58.99 312 *i* P **P 20 07 46.4 -1.8**
AKTO pmax pmax
comp=Z,1.0nm,1.3s,mb3.7
THN Thein Dam 59.19 286 *e*P **P 20 07 48.6 -1.0**
JOF Joensuu 61.64 334 *e*p **P 20 08 05.6 -0.8**
comp=Z,1.4nm,0.3s,mb4.6
NVAR Mina Array Bea 62.52 62 P **P 20 08 12.4 +0.2**
comp=Z,1.6nm,0.9s,mb4.2,baz=307,slow=4.3,SNR=7.4
AJM Ajmer 63.69 281 *ex* x 20 08 11.7
AJM AMb AMB 20 08 23.2
comp=Z,24nm,1.3s,mb5.1
KAF Kangasniemi 63.76 335 *e*p **P 20 08 19.6 -0.8**
comp=Z,7.5nm,0.7s,mb4.8,baz=37,slow=6.1
KAF Kangasniemi 63.76 335 *e*P **P 20 08 19.6 -0.8**
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BHPL Bhopal 63.92 277 *e*P **P 20 08 22.1 +0.6**
BHPL AMb AMB 20 08 24.1
comp=Z,27nm,0.8s,mb5.3
FIA1 FINESS Array S 64.35 335 *e*P **P 20 08 23.0 -1.3**
FINES FINESS Array B 64.35 335 P **P 20 08 23.5 -0.8**
comp=Z,12nm,0.7s,mb5.0,baz=38,slow=7.5,SNR=99
FINES FINESS Array B 64.35 335 P **P 20 08 23.5 -0.8**
PDAR Pinedale Array 64.88 54 P **P 20 08 28.5 +0.7**
comp=Z,1.5nm,0.8s,mb4.1,baz=316,slow=2.5,SNR=1.8
OBN Obninsk 65.61 326⇓*e*P **P 20 08 31.7 -0.8**
OBN *e* 20 08 41.2
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.3
ULM Lac du Bonnet 66.71 41 P **P 20 08 37.9 -1.8**
comp=Z,1.3nm,0.5s,mb4.2,baz=335,slow=9.1,SNR=3.2
WRA Warramunga Arr 68.24 199 P **P 20 08 47.6 -1.6**
comp=Z,1.3nm,0.9s,mb4.0,baz=19,slow=7.0,SNR=7.0
NB2 NORSAR Subarra 68.55 341 P **P 20 08 50.6 -0.6**
comp=Z,11nm,0.7s,mb4.9,baz=28,slow=6.5
NB2 NORSAR Subarra 68.55 341 P **P 20 08 50.6 -0.6**
NB2 pmax pmax
comp=Z,11nm,0.7s,mb4.9
NOA NORSAR Array B 68.55 341 P **P 20 08 50.4 -0.7**
comp=Z,7.6nm,0.6s,mb4.8,baz=28,slow=6.4,SNR=56
MDRS Chennai 68.92 267 *e*P **P 20 08 50.2 -3.3**
GOF Gofitskoye 70.09 315 *e*P **P 20 08 55.1 -5.7**
KONO Kongsberg 70.15 341⇑*e*P **P 20 09 02.7 +1.6**
KAD Karad 70.17 274 *e*P **P 20 09 01.2 0.0**
KAD AMb AMB 20 09 04.5
comp=Z,22nm,1.5s,mb4.9
KIV Kislovodsk 71.07 314⇑*e*P **P 20 09 08.8 +2.1**
KIV *e* 20 09 22.9
KIV pmax pmax
comp=Z,15nm,1.6s,mb4.7
KIV MLR MLR
comp=Z,700nm,15.0s,MS5.0
SUW Suwalki 71.30 332 *e*P **P 20 09 07.4 -0.7**
ZEI Tsey 71.32 313 *e*P **P 20 09 08.0 -0.2**
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AKASG Malin Array Be 71.84 326 P **P 20 09 10.6 -0.8**
comp=Z,15nm,0.6s,mb5.1,baz=34,slow=6.2,SNR=80
AKASG Malin Array Be 71.84 326 *i* P **P 20 09 10.8 -0.6**
AKASG pmax pmax
comp=Z,15nm,0.6s
AKASG Malin Array Be 71.84 326 P **P 20 09 10.6 -0.8**
AKBB Malin Array Si 71.84 326 *e*P **P 20 09 10.6 -0.8**
ASAR Alice Springs 71.93 199 P **P 20 09 11.3 -0.6**
comp=Z,1.6nm,0.9s,mb4.0,baz=16,slow=5.3,SNR=11
ANMO Albuquerque 71.94 58⇑*e*P **P 20 09 14.9 +3.0**
GNI Garni 72.78 310 *i* P **P 20 09 15.2 -1.8**
GNI pmax pmax
comp=Z,29nm,1.9s
ANN Anapa 72.96 318 *e*P **P 20 09 14.7 -3.3**
ANN *e*S S 20 18 31.0 -12
ANN pmax pmax
comp=Z,95nm,1.9s,mb5.4
SCHQ Schefferville 73.57 23 P **P 20 09 21.3 -0.4**
comp=Z,2.1nm,0.3s,mb4.6,baz=250,slow=16,SNR=5.8
SCHQ Schefferville 73.57 23 P **P 20 09 21.3 -0.4**
KWP Kalwaria 75.13 329 *e*P **P 20 09 31.4 +0.5**
BSEG Bad Segeberg 75.14 338 *e*P **P 20 09 31.3 +0.5**
comp=Z,9.0nm,0.9s,mb4.7
OJC Ojcow 75.63 331 *e*P **P 20 09 33.6 0.0**
STHS Stebnicka Huta 75.82 330 *e*P **P 20 09 35.6 +0.9**
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
STHS Stebnicka Huta 75.82 330 *e*P **P 20 09 35.6 +0.9**
comp=Z,7.3nm,0.9s,mb4.6
KOLS Kolonicke sedl 75.87 329 *e*P **P 20 09 34.7 -0.2**
BURAR Bucovina Array 75.89 327⇑*i*P **P 20 09 35.2 +0.2**
UZH Uzhgorod 76.12 329 *e*P **P 20 09 37.0 +0.6**
UZH pmax pmax
comp=Z,17nm,1.0s,mb4.9
NIE Niedzica 76.14 330 *e*P **P 20 09 37.1 +0.6**
CRVS Cervenica-Dubn 76.18 330 *e*P **P 20 09 36.9 +0.2**
OKC Ostrava-Krasne 76.50 332 *e*P **P 20 09 38.5 0.0**
NRDL Niedersach Rie 76.50 338 *e*P **P 20 09 38.1 -0.4**
comp=Z,7.0nm,0.9s,mb4.6
UPC Upice 76.59 334 *e*P **P 20 09 39.0 -0.1**
DPC Dobruska-Polom 76.63 333 *e*P **P 20 09 39.5 +0.2**
MORC Moravsky Berou 76.75 332⇑*i*P **P 20 09 40.3 +0.4**
CLL Collm 76.78 336 *e*P **P 20 09 39.2 -0.9**
comp=Z,16nm,0.7s,mb5.1
CLL Collm 76.78 336 *e*P **P 20 09 40.0 -0.1**
comp=Z,16nm,0.7s,mb5.1
CLL Collm 76.78 336 *e*P **P 20 09 40.0 -0.1**
CLL pmax pmax
comp=Z,16nm,0.7s,mb5.1
KECS Kecovo 76.88 330 *e*P **P 20 09 40.8 +0.1**
KECS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KECS Kecovo 76.88 330 *e*P **P 20 09 40.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 76.89 335 *e*P **P 20 09 40.1 -0.7**
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 76.89 335 *i* P **P 20 09 40.8 +0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 76.89 335 *i* P **P 20 09 40.8 +0.1**
comp=Z,2.6nm,0.9s,mb4.2
PVCC Panska Ves 77.01 334 *e*P **P 20 09 41.4 0.0**
FBE Freiberg 77.02 335 *e*P **P 20 09 41.2 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
CLZ Clausthal 77.02 337 *e*P **P 20 09 41.6 +0.1**
comp=Z,118nm,2.7s,mb5.3
CLZ Clausthal 77.02 337 *e*P **P 20 09 41.6 +0.1**
CLZ pmax pmax
comp=Z,118nm,2.7s,mb5.3
IBBN Ibbenburen 77.27 339 *e*P **P 20 09 42.7 -0.2**
comp=Z,18nm,1.1s,mb4.9
MLR Muntele Rosu 77.36 325⇓*i*P **P 20 09 44.5 +1.1**
VYHS Vyhne 77.43 331 *e*P **P 20 09 44.2 +0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VYHS Vyhne 77.43 331 *e*P **P 20 09 44.2 +0.4**
comp=Z,5.7nm,1.1s,mb4.4
VRAC Vranov 77.46 333⇑*i*P **P 20 09 44.5 +0.6**
PRU Pruhonice 77.50 334 *e*P **P 20 09 43.8 -0.3**
DRGR 77.52 328⇑*i*P **P 20 09 44.6 +0.4**
WERD Werda 77.75 336 *e*P **P 20 09 45.3 -0.2**
comp=Z,6.0nm,1.1s,mb4.4
VOIR 77.76 325⇑*i*P **P 20 09 46.7 +1.1**
MOX Moxa 77.76 336 *e*P **P 20 09 45.2 -0.4**
comp=Z,8.0nm,1.1s,mb4.6
MOX Moxa 77.76 336 *e*P **P 20 09 45.4 -0.2**
comp=Z,8.0nm,0.9s,mb4.7
MOX Moxa 77.76 336 *e*P **P 20 09 45.4 -0.2**
MOX pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GUNZ Gunzen 77.81 336 *e*P **P 20 09 45.9 0.0**
comp=Z,7.0nm,1.0s,mb4.5
WTSB Winterswijk 77.82 340 *e*P **P 20 09 45.4 -0.5**
comp=Z,18nm,1.2s,mb4.9
TREC Trest 77.82 333 *e*P **P 20 09 45.5 -0.4**
WERN Wernitzgruen 77.87 336 *e*P **P 20 09 46.1 -0.1**
comp=Z,9.0nm,0.7s,mb4.8
MANZ Manzenberg 78.22 336 *e*P **P 20 09 48.1 0.0**
comp=Z,9.0nm,1.0s,mb4.7
ZST Bratislava 78.27 332 *e*P **P 20 09 47.8 -0.6**
ZST pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZST Bratislava 78.27 332 *e*P **P 20 09 47.8 -0.6**
comp=Z,9.1nm,0.9s,mb4.7
ROTZ Rotzenmuhle 78.38 335 *e*P **P 20 09 49.3 +0.2**
comp=Z,8.0nm,1.0s,mb4.6
KHC Kasperske Hory 78.55 334 *e*P **P 20 09 50.3 +0.3**
KHC Kasperske Hory 78.55 334‖*e*P **P 20 09 50.5 +0.5**
BRTR Keskin Array B 78.66 317 P **P 20 09 51.2 +0.6**
comp=Z,3.4nm,0.8s,mb4.3,baz=65,slow=4.3,SNR=13
BRTR Keskin Array B 78.66 317 *i* P **P 20 09 54.5 +3.9**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
GZR Gura Zlata 78.67 327⇑*i*P **P 20 09 50.6 0.0**
GRA1 Grafenberg Arr 78.73 336 *e*P **P 20 09 51.5 +0.5**
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 78.73 336 *e*P **P 20 09 51.5 +0.5**
comp=Z,17nm,0.9s,mb5.0
GRF Grafenberg Arr 78.73 336 *e*P **P 20 09 51.5 +0.5**
GRF pmax pmax
comp=Z,17nm,0.9s,mb5.0
WET Wettzell 78.75 335 *e*P **P 20 09 51.4 +0.3**
comp=Z,11nm,0.9s,mb4.8
WET Wettzell 78.75 335 *e*P **P 20 09 51.4 +0.3**
WET pmax pmax
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 78.77 334 *e*P **P 20 09 51.0 -0.2**
comp=Z,4.0nm,0.8s,mb4.4
GEC2 GERESS Array S 78.77 334 *e*P **P 20 09 51.0 -0.2**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
GERES GERESS Array B 78.77 334 P **P 20 09 51.2 0.0**
comp=Z,3.3nm,0.7s,mb4.3,baz=20,slow=4.3,SNR=25
UMR Umm Al-Rimmam 78.85 301 *e*P **P 20 09 52.7 +1.1**
UMR AMb AMB 20 09 53.9
comp=Z,34nm,0.7s,mb5.4
MIB Mutribah 78.89 302 *e*P **P 20 09 52.7 +0.9**
MIB AMb AMB 20 09 55.4
comp=Z,52nm,1.0s,mb5.4
CONA Conrad Observa 78.90 332⇑*i*P **P 20 09 52.8 +0.8**
comp=Z,7.7nm,1.3s,mb4.5,SNR=8.4
BZS Buzias 78.91 328⇑*i*P **P 20 09 51.9 -0.1**
ANTO Ankara 78.95 317⇓*i*P **P 20 09 53.5 +1.3**
TNS Taunus Mts 79.00 338 *e*P **P 20 09 52.4 -0.1**
comp=Z,11nm,0.7s,mb4.9
TNS Taunus Mts 79.00 338 *e*P **P 20 09 52.4 -0.1**
TNS pmax pmax
comp=Z,11nm,0.7s,mb4.9
HGN Heimansgroeve 79.14 340 *e*P **P 20 09 52.6 -0.6**
comp=Z,9.6nm,1.2s,mb4.6
MEM Membach 79.26 339 P **P 20 09 54.2 +0.3**
NAY Al-Naaiem 79.35 301 *e*P **P 20 09 55.2 +0.8**
NAY AMb AMB 20 09 58.0
comp=Z,22nm,1.0s,mb5.0
RDF Al-Radifah 79.40 301 *e*P **P 20 09 55.9 +1.3**
RDF AMb AMB 20 09 57.2
comp=Z,48nm,0.9s,mb5.4
MOA Molln 79.48 333 *i* P **P 20 09 55.5 +0.4**
comp=Z,5.6nm,0.9s,mb4.5,SNR=11
BCLA Clavier 79.61 340 P **P 20 09 57.3 +1.5**
ARSA Arzberg 79.61 332⇑*i*P **P 20 09 56.3 +0.5**
comp=Z,6.9nm,1.1s,mb4.5
WLF Walferdange 80.10 339 P **P 20 09 57.8 -0.7**
BAIF Baives 80.20 340 *e*P **P 20 09 58.5 -0.5**
comp=Z,30nm,1.3s,mb4.8
BAIF Baives 80.20 340 *e*P **P 20 09 58.5 -0.5**
BAIF pmax pmax
comp=Z,15nm,1.3s,mb4.8
BAIF Baives 80.20 340 *e*P **P 20 09 58.5 -0.5**
comp=Z,15nm,1.3s,mb4.8
PERS Pernice 80.28 332 *e*P **P 20 09 59.4 0.0**
KBA Koelnbreinsper 80.45 333 *i* P **P 20 10 01.3 +1.0**
comp=Z,28nm,0.9s,mb5.2,SNR=32
KBA Koelnbreinsper 80.45 333 *i* P **P 20 10 01.3 +1.0**
KBA pmax pmax
comp=Z,29nm,0.9s,mb5.2
BFO Black Forest 80.77 337 *e*P **P 20 10 01.6 -0.4**
comp=Z,11nm,1.1s,mb4.7
BFO Black Forest 80.77 337 *e*P **P 20 10 01.6 -0.4**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.7
WTTA Wattenberg 80.80 335⇑*i*P **P 20 10 02.9 +0.7**
comp=Z,24nm,0.9s,mb5.1,SNR=11
WTTA Wattenberg 80.80 335⇑*i*P **P 20 10 02.9 +0.7**
WTTA pmax pmax
comp=Z,25nm,0.9s,mb5.1
VTS Vitosha 80.87 325⇓*i*P **P 20 10 04.3 +1.7**
MOTA Moosalm 80.89 335⇓*i*P **P 20 10 03.1 +0.5**
comp=Z,11nm,1.0s,mb4.8,SNR=12
MOTA Moosalm 80.89 335⇓*i*P **P 20 10 03.1 +0.4**
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
CRES Cresnjev 80.89 332 *e*P **P 20 10 02.4 -0.3**
SQTA Sankt Quirin 80.97 335⇑*i*P **P 20 10 03.6 +0.5**
comp=Z,7.7nm,1.0s,mb4.6,SNR=7.2
SQTA Sankt Quirin 80.97 335⇑*i*P **P 20 10 03.6 +0.5**
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOJS Bojanci 81.24 332 *e*P **P 20 10 04.1 -0.4**
MEZF Maizieres J'vi 81.45 339 *e*P **P 20 10 05.6 -0.1**
comp=Z,45nm,1.1s,mb5.0
MEZF Maizieres J'vi 81.45 339 *e*P **P 20 10 05.6 -0.1**
comp=Z,45nm,1.1s,mb5.3
HAU Haudompre 81.59 338 *e*P **P 20 10 05.9 -0.5**
HINF Hinteralfeld 81.63 338 *e*P **P 20 10 06.0 -0.6**
FLN La Foliniere 82.45 343 *e*P **P 20 10 10.4 -0.5**
GRR Gorron 82.89 343 *e*P **P 20 10 12.9 -0.3**
comp=Z,31nm,0.8s,mb5.1
GRR Gorron 82.89 343 *e*P **P 20 10 12.9 -0.3**
GRR pmax pmax
comp=Z,16nm,0.8s,mb5.1
GRR Gorron 82.89 343 *e*P **P 20 10 12.9 -0.3**
comp=Z,16nm,0.8s,mb5.1
LOR Lormes 82.89 340 *e*P **P 20 10 13.0 -0.2**
comp=Z,49nm,1.3s,mb5.1
LOR Lormes 82.89 340 *e*P **P 20 10 13.0 -0.2**
LOR pmax pmax
comp=Z,24nm,1.3s,mb5.1
LOR Lormes 82.89 340 *e*P **P 20 10 13.0 -0.2**
comp=Z,24nm,1.3s,mb5.1
ASF Jabal al Asfar 82.95 310 P **P 20 10 14.9 +1.4**
comp=Z,2.2nm,0.7s,mb4.3,baz=278,slow=3.5,SNR=4.1
HYF Humbligny 83.18 340 *e*P **P 20 10 14.8 +0.1**
AVF Avril sur Loir 83.46 340 *e*P **P 20 10 16.1 -0.1**
comp=Z,90nm,1.5s,mb5.3
AVF Avril sur Loir 83.46 340 *e*P **P 20 10 16.1 -0.1**
AVF pmax pmax
comp=Z,45nm,1.5s,mb5.3
AVF Avril sur Loir 83.46 340 *e*P **P 20 10 16.1 -0.1**
comp=Z,45nm,1.5s,mb5.3
SMF Signal de Mont 83.48 339 *e*P **P 20 10 16.2 -0.1**
comp=Z,102nm,1.4s,mb5.4
SMF Signal de Mont 83.48 339 *e*P **P 20 10 16.2 -0.1**
SMF pmax pmax
comp=Z,51nm,1.4s,mb5.4
SMF Signal de Mont 83.48 339 *e*P **P 20 10 16.2 -0.1**
comp=Z,51nm,1.4s,mb5.4
LPL La Plagne 83.79 337 *e*P **P 20 10 18.3 +0.5**
comp=Z,5.2nm,0.6s,mb4.5
LPL La Plagne 83.79 337 *e*P **P 20 10 18.3 +0.5**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPL La Plagne 83.79 337 *e*P **P 20 10 18.3 +0.5**
comp=Z,2.6nm,0.6s,mb4.5
LPG La Plagne 83.80 337 *e*P **P 20 10 18.8 +0.9**
BGF Bois d'Agland 83.80 340 *e*P **P 20 10 18.0 +0.1**
TCF Toulx Ste Croi 84.21 340 *e*P **P 20 10 19.8 -0.2**
comp=Z,37nm,1.2s,mb5.1
TCF Toulx Ste Croi 84.21 340 *e*P **P 20 10 19.8 -0.2**
TCF pmax pmax
comp=Z,18nm,1.2s,mb5.1
TCF Toulx Ste Croi 84.21 340 *e*P **P 20 10 19.8 -0.2**
comp=Z,18nm,1.2s,mb5.1
MBDF Montbardon 84.50 337 *e*P **P 20 10 21.5 0.0**
ORIF Oris-en-Rattie 84.57 337 *e*P **P 20 10 21.4 -0.4**
comp=Z,14nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.57 337 *e*P **P 20 10 21.4 -0.4**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.57 337 *e*P **P 20 10 21.4 -0.4**
comp=Z,7.1nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.94 338 *e*P **P 20 10 24.0 +0.3**
comp=Z,32nm,1.2s,mb5.0
VIVF Saint-Julien-l 84.94 338 *e*P **P 20 10 24.0 +0.3**
VIVF pmax pmax
comp=Z,16nm,1.2s,mb5.0
VIVF Saint-Julien-l 84.94 338 *e*P **P 20 10 24.0 +0.3**
comp=Z,16nm,1.2s,mb5.0
SMRF Simiane la Rot 85.52 337 *e*P **P 20 10 27.2 +0.6**
comp=Z,117nm,1.7s,mb5.5
SMRF Simiane la Rot 85.52 337 *e*P **P 20 10 27.2 +0.6**
comp=Z,117nm,1.7s,mb5.8
FRF La Foret Royal 85.62 336 *e*P **P 20 10 26.7 -0.3**
comp=Z,34nm,1.4s,mb5.1
FRF La Foret Royal 85.62 336 *e*P **P 20 10 26.7 -0.3**
FRF pmax pmax
comp=Z,17nm,1.4s,mb5.1
FRF La Foret Royal 85.62 336 *e*P **P 20 10 26.7 -0.3**
comp=Z,17nm,1.4s,mb5.1
LMR La Mourre 85.86 336 *e*P **P 20 10 28.2 -0.1**
comp=Z,28nm,1.1s,mb5.1
LMR La Mourre 85.86 336 *e*P **P 20 10 28.2 -0.1**
LMR pmax pmax
comp=Z,14nm,1.1s,mb5.1
LMR La Mourre 85.86 336 *e*P **P 20 10 28.2 -0.1**
comp=Z,14nm,1.1s,mb5.1
LASF Ste Croix 85.88 338 *e*P **P 20 10 27.9 -0.5**
comp=Z,14nm,1.0s,mb4.8
KEST Kesra 91.98 331 P **P 20 10 58.1 +0.9**
comp=Z,1.6nm,0.8s,mb4.4,baz=320,slow=3.8,SNR=7.9
DBIC Dimbokro 123.64 334 PKP PKPdf 20 16 45.8 -0.3
comp=Z,3.9nm,0.9s,baz=227,slow=1.2,SNR=3.7
LPAZ La Paz 134.42 63 PKP PKPdf 20 17 08.7 +2.2
comp=Z,0.4nm,0.5s,baz=12,slow=5.7,SNR=4.7
BDFB Brasilia 144.55 37 PKP PKPdf 20 17 22.5 -2.5
comp=Z,3.2nm,0.8s,baz=311,slow=5.5,SNR=4.4
CFAA Coronel Fontan 144.98 80 PKPbc PKPdf 20 17 23.3 -2.4
comp=Z,0.2nm,0.5s,baz=343,slow=19,SNR=3.7
CFAA Coronel Fontan 144.98 80 PKPbc PKPdf 20 17 23.3 -2.4
PLCA Paso Flores 148.11 96 PKPbc PKPbc 20 17 32.9 -1.3
comp=Z,1.7nm,0.7s,baz=157,slow=1.0,SNR=5.6
CPUP Villa Florida 148.56 61 PKPbc PKPbc 20 17 34.5 -0.8
comp=Z,5.1nm,0.7s,baz=299,slow=2.6,SNR=16
CPUP Villa Florida 148.56 61 *e*PKPbc PKPbc 20 17 34.1 -1.2
CPUP *e* 20 17 45.4
SNAA Sanae 152.27 196 PKPbc PKPbc 20 17 41.1 -3.1
comp=Z,0.8nm,0.8s,baz=348,slow=23,SNR=4.2

*IDC **30** 20:09:14.8±5.8, 4570N×154.31E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/23, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=128.7km s-min=35.8km az=142.0*
*NEIC **30** 20:09:19.5±3.8, 4555N×154.24E, h35km, mb3.9/1, Error ellipse: s-maj=86.3km s-min=18.1km az=123.0*
ISC 30 20:09:27.8±8.7, **455N**±03×**1535E**±09, **h99**km±58km, **n11, σ0s47/11, mb3.6/6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**7.88**	**263**	Pn	**Pn**	**20 11 19.6**	**0.0**
	0.5nm,0.3s,baz=103,slow=26,SNR=6.3						
MAJO	**Matsushiro**	**14.61**	**237**	*e*Pn	**Pn**	**20 12 49.6**	**+0.1**
	2.5nm,0.4s						
MJAR	**Matsushiro Arr**	**14.61**	**237**	Pn	**Pn**	**20 12 49.3**	**-0.2**
	0.9nm,0.3s,baz=86,slow=9.5,SNR=20						
SONM	**Songino Array**	**32.01**	**291**	P	**P**	**20 15 48.8**	**+4.2**
	0.2nm,0.6s,mb3.0,baz=69,slow=8.0,SNR=2.5						
MKAR	**Makanchi Array**	**47.74**	**299**	P	**P**	**20 17 54.5**	**-0.2**
	1.1nm,0.8s,mb3.7,baz=130,slow=4.9,SNR=4.6						
BVAR	**Borovoye Array**	**51.84**	**310**	P	**P**	**20 18 25.4**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=48,slow=6.5,SNR=3.3						
FINES	**FINESS Array B**	**65.25**	**335**	P	**P**	**20 19 58.6**	**-0.2**
	0.8nm,0.5s,mb3.8,baz=49,slow=6.5,SNR=9.2						
NB2	**NORSAR Subarra**	**69.46**	**341**	P	**P**	**20 20 25.6**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=26,slow=6.2						
NOA	**NORSAR Array B**	**69.46**	**341**	P	**P**	**20 20 25.0**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.6,baz=26,slow=6.4,SNR=5.0						
NOA	**NORSAR Array B**	**69.46**	**341**	P	**P**	**20 20 25.0**	**-0.3**
AKASG	**Malin Array Be**	**72.70**	**327**	P	**P**	**20 20 45.5**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=33,slow=5.6,SNR=4.5						

*IDC **30** 20:12:07.2±2.0, 37.12N×74.88E, h0km, mb3.7/4, mb1 3.8/8, mb1mx3.5/24, mbtmp3.7/8, ML3.3/4, Error ellipse: s-maj=40.0km s-min=25.1km az=152.0*
*ISCJB **30** 20:12:12.8±0.4, 37.30N±003×75.13E±008, h33km, mb3.5/4, Error ellipse: s-maj=9.2km s-min=4.3km az=159.4*
*NEIC **30** 20:12:12.6±2.5, 3722N×7477E, h35km, mb3.5/1, Error ellipse: s-maj=36.4km s-min=20.7km az=180.0*
*BJI **30** 20:12:14.0, 3701N×75.18E, h31km, mb3.9, ML3.5*
ISC 30 20:12:15.3±0.4, **3730N**±003×**7506E**±008, **h35**km, **n30, σ1s24/35, mb3.5/4, 4C-1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.32**	**18**	⇑P	**Pn**	**20 12 52.3**	**+1.3**
KSH				S	**Sn**	**20 13 22.5**	**+4.1**
KSH				Smax			
	comp=E,403nm,0.6s						
KSH				Smax			
	comp=N,313nm,0.4s						
CHCP	**Chirah Chowk**	**3.92**	**202**	P	**Pn**	**20 13 15.5**	**+2.5**
CEP	**Cherat**	**4.32**	**217**	P	**Pn**	**20 13 18.7**	**+0.2**
CEP				S	**Sn**	**20 14 22.0**	**+14**
THN	**Thein Dam**	**4.89**	**173**	*e*P	**Pn**	**20 13 29.2**	**+2.9**
AML	**Almayashu**	**4.94**	**348**	P	**Pn**	**20 13 27.6**	**+0.6**
	SNR=9.2						
UCH	**Uchtor**	**4.94**	**355**	P	**Pn**	**20 13 26.6**	**-0.4**
	SNR=5.8						
THW	**Thamme Wali**	**5.26**	**212**	P	**Pn**	**20 13 31.2**	**-0.2**
THW				S	Sn	20 14 52.0	+21
AAK	**Ala-Archa**	**5.34**	**356**	*e*Pn	**Pn**	**20 13 32.6**	**+0.1**
	comp=N,12nm,0.6s						
AAK				*e*Sn	**Sn**	**20 14 32.0**	**-0.8**
EKS2	**Erkin-Say**	**5.44**	**350**	P	**Pn**	**20 13 34.9**	**+1.0**
	SNR=6.2						
TKM2	**Tokmak 2**	**5.62**	**4**	P	**Pn**	**20 13 36.5**	**+0.1**
	SNR=18						
TKM2	**Tokmak 2**	**5.62**	**4**	⇑P	**Pn**	**20 13 37.1**	**+0.7**
	comp=N,0.5nm,0.4s						
TKM2				⇓S	**Sn**	**20 14 42.2**	**+2.4**
	comp=N,1.4nm,0.7s						
CHMS	**Chumysh**	**5.69**	**358**	P	**Pn**	**20 13 38.5**	**+1.2**
	SNR=5.6						
SARP	**Sargodha**	**5.72**	**201**	P	**Pn**	**20 13 37.5**	**-0.2**
USP	**Ospenovka**	**5.97**	**356**	P	**Pn**	**20 14 00.4**	**+19**
	SNR=6.7						
KK31	**Karatay Array**	**6.76**	**330**	⇑P	**Pn**	**20 13 47.7**	**-4.3**
	comp=N,4.3nm,0.5s,baz=149,slow=12,SNR=25						

KK31 ⇑S Sn 20 15 02.6 -5.1
comp=N,6.8nm,0.5s,baz=160,slow=26
MKAR Makanchi Array 10.89 27 Pn Pn 20 14 48.4 -0.3
comp=N,0.1nm,0.3s,baz=197,slow=15,SNR=3.9
KOLN Koldanda 11.92 140 *e*P Pn 20 15 02.2 -0.5
GKN Gorkha 12.29 136 *e*P Pn 20 15 07.9 +0.2
KKN Kakani 12.81 135 *e*P Pn 20 15 14.5 -0.4
KKN *e*S Sn 20 17 37.1 +0.9
DMN Daman 12.85 136 *e*P Pn 20 15 14.6 -0.9
PKI Pulchoki 13.05 135 *e*P Pn 20 15 17.3 -0.9
BVAR Borovoye Array 16.06 350 Pn Pn 20 15 54.5 -3.9
comp=N,0.1nm,0.3s,baz=156,slow=11,SNR=3.4
AKTK Aktyubinsk 17.92 322 P Pn 20 16 16.7 -5.0
AKTO Aktyubinsk 17.92 322 P Pn 20 16 16.7 -5.0
comp=N,0.2nm,0.3s,baz=125,slow=17,SNR=10
ZAL Zalesovo 17.94 19 P Pn 20 16 21.2 -0.8
comp=N,0.3nm,0.3s,baz=266,slow=11,SNR=12
SONM Songino Array 25.20 55 P P 20 17 36.5 -1.1
comp=N,0.2nm,0.5s,mb2.9,baz=234,slow=1.2,SNR=3.9
PBA Port Blair 30.07 144 *e*P x 20 18 35.9
PBA *e*S x 20 18 47.0
PBA *ex* x 20 18 49.7
comp=N,167nm,0.2s
PBA *ex* x 20 18 49.9
comp=E,225nm,0.1s
FINES FINESS Array B 38.68 325 P P 20 19 33.1 -2.5
comp=E,0.5nm,0.6s,mb3.4,baz=118,slow=15,SNR=4.8
ARCES ARCESS Array B 41.68 336 P P 20 19 57.9 -2.6
comp=E,3.6nm,1.0s,mb3.9,baz=106,slow=8.9,SNR=5.8
TORD Torodi Ar. Bea 68.98 271 P P 20 23 13.8 -3.3
comp=E,0.5nm,0.8s,mb3.5,baz=46,slow=4.3,SNR=7.4

PRE 30 20:35:55.5±1.4, 2188S×3300E, h5km, ML3.6, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSNA	**Messina**	**2.80**	**260**	*e*P		Pn	20 36 41.8	+0.8
MSNA				*e*S		Sn	20 37 15.7	+0.7
MSNA				AML		AML	20 37 34.6	
	comp=Z,96nm,0.3s							
POGA	**Pongola**	**5.61**	**193**	*e*P		Pn	20 37 20.7	+1.1
POGA				*e*S		Sn	20 38 21.4	-3.0
POGA				AML		AML	20 39 13.0	
	comp=Z,18nm,0.5s							
KSR	**Koster**	**6.84**	**234**	*e*P		Pn	20 37 37.0	+0.5
KSR				*e*S		Sn	20 38 52.6	-2.2
KSR				AML		AML	20 39 47.0	
	comp=Z,7.6nm,0.5s							
LBTB	**Lobatse**	**7.48**	**244**	*e*P		Pn	20 37 46.5	+1.3
LBTB				*e*S		Sn	20 39 07.7	-2.7
LBTB				AML		AML	20 40 03.4	
	comp=Z,10nm,0.7s							
SEK	**Senekal**	**8.05**	**216**	*e*P		Pn	20 37 53.4	+0.3
SEK				*e*S		Sn	20 39 21.1	-3.5
SEK				AML		AML	20 40 38.4	
	comp=Z,12nm,0.7s							
SWZ	**Schweizer**	**8.75**	**231**	*e*P		Pn	20 38 04.0	+1.4
SWZ				*e*S		Sn	20 39 37.0	-4.7
SWZ				AML		AML	20 40 54.3	
	comp=Z,5.4nm,0.5s							

*BJI **30** 20:36:02.9, 4634N×153.42E, h24km, mB4.9, mb4.6, Ms4.7, Msz4.5*
*IDC **30** 20:36:02.6±0.7, 4621N×15290E, h0km, mb4.1/16, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, ML3.2/1, MS4.8/1, Ms1 4.8/1, ms1mx3.7/33, Error ellipse: s-maj=19.0km s-min=17.8km az=154.0*
*NEIC **30** 20:36:04.5±0.5, 4620N×153.14E, h10km, mb4.7/35, Error ellipse: s-maj=12.1km s-min=8.7km az=154.0*
*ISCJB **30** 20:36:08.0±0.4, 4606N±005×15292E±006, h49km, mb4.5/66, MS4.7/4, Error ellipse: s-maj=9.2km s-min=3.2km az=109.2*
*SZGRF **30** 20:36:08.5, 4602N×15355E, h33km, mb4.6, Kuril Islands, Russia*
*MOS **30** 20:36:08.2±1.3, 4641N×152.76E, h34km, mb4.8/38, Error ellipse: s-maj=10.6km s-min=6.0km az=113.4*
ISC 30 20:36:09.8±0.4, 4614N±005×15298E±006, h51km, h51km±4.3km; pP-P, n198, σ1§31/207, mb4.5/66, MS4.7/4, 16C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**3.69**	**258**	⇓*i*PN		Pn	20 37 02.3	-2.0
KUR				pmax		pmax		
	comp=N,150nm,0.6s							
KUR				pmax		pmax		
	comp=E,90nm,0.6s							
KUR				pmax		pmax		
	comp=Z,380nm,0.6s							
SKR	**Severo-Kuril's**	**5.01**	**24**	*e*PN		Pn	20 37 16.1	-6.2
SKR				pmax		pmax		
	comp=Z,90nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**5.46**	**250**	*e*PN		Pn	20 37 34.8	+6.3
YUK				*e*S		Sn	20 38 32.5	+2.5
YUK				pmax		pmax		
	comp=N,120nm,0.4s							
YUK				pmax		pmax		
	comp=Z,210nm,0.4s							
YUK				smax				
	comp=E,220nm,0.5s							
YUK				smax				
	comp=N,460nm,0.5s							
YUK				smax				
	comp=N,1μm,1.0s							
YUK				smax				
	comp=E,1μm,1.0s							
NEM2	**Nemuro 2**	**5.85**	**244**	P		Pn	20 37 32.1	-1.8
NEM2				*e*S		Sn	20 38 38.5	-1.1
JRA	**Rausu**	**5.98**	**251**	P		Pn	20 37 36.8	+1.1
JNK	**Nakash**	**6.40**	**249**	P		Pn	20 37 41.2	-0.2
JNK				*e*S		Sn	20 38 53.6	+0.5
JAK	**Akkeshi**	**6.70**	**245**	P		Pn	20 37 43.7	-1.8
JAK				*e*S		Sn	20 38 58.5	-1.9
JTKR	**Abashiri--Toko**	**6.78**	**255**	P		Pn	20 37 47.0	+0.4
YSS	**Yuzh-Sakhalins**	**7.10**	**280**	⇑*i*PN		Pn	20 37 54.9	+3.9
YSS				*e*S		Sn	20 39 11.5	+1.2
YSS				pmax		pmax		
	comp=E,40nm,1.0s							
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**7.10**	**280**	*e*Pn		Pn	20 37 54.5	+3.5
	comp=Z,29nm,0.8s							
JMP	**Maruseppu**	**7.13**	**256**	P		Pn	20 37 52.7	+1.2
JAR	**Ashorobuto**	**7.15**	**250**	P		Pn	20 37 51.7	0.0
JOB	**Onbets**	**7.29**	**247**	P		Pn	20 37 53.9	+0.3
JOB				*e*S		Sn	20 39 14.4	-0.6
JKK2	**Kamakawa 2**	**7.59**	**256**	P		Pn	20 38 21.2	+1.3
ASAJ	**Asahikawa**	**7.61**	**258**	Pn		Pn	20 37 60.0	+1.9
	comp=Z,1.7nm,0.3s,baz=94,slow=10,SNR=23							
ASAJ	**Asahikawa**	**7.61**	**258**	P		Pn	20 37 59.9	+1.8
ASAJ	**Asahikawa**	**7.61**	**258**	PN		Pn	20 38 00.0	+1.9
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
JCH	**Churui**	**7.74**	**246**	P		Pn	20 37 58.2	-1.5
JCH				*e*S		Sn	20 39 23.5	-2.4
JFR	**Furan**	**7.98**	**252**	P		Pn	20 38 04.7	+1.7
JAB	**Ashibetsu**	**8.09**	**255**	P		Pn	20 38 06.2	+1.7
JNBK	**Urakawa-nobuka**	**8.29**	**246**	P		Pn	20 38 05.8	-1.6
JBT2	**Biratori 2**	**8.30**	**250**	P		Pn	20 38 07.5	0.0
JNB	**Noboribetsu**	**9.31**	**251**	P		Pn	20 38 21.2	-0.1
JNB				*e*S		Sn	20 40 03.6	-1.0
JKB	**Kayabe**	**9.60**	**248**	P		Pn	20 38 23.6	-1.6
JKB				*e*S		Sn	20 40 06.3	-5.2
JSH	**Shimam**	**9.89**	**254**	P		Pn	20 38 30.2	+0.9
JYM2	**Yakumo 2**	**9.91**	**251**	P		Pn	20 38 28.7	-0.8
JANG	**Nango**	**10.15**	**239**	P		Pn	20 38 29.1	-3.6
JANG				*e*S		Sn	20 40 14.4	-11
JTM	**Tenmabayashi**	**10.17**	**243**	*e*S		Sn	20 40 18.5	-7.2
JTH	**Tanohata**	**10.22**	**237**	*e*S		Sn	20 40 16.3	-11
JOSM	**Okushiri--Mats**	**10.52**	**252**	P		Pn	20 38 36.7	-1.1
JRG	**Rokugo**	**11.29**	**238**	P		Pn	20 38 46.3	-2.1
JRG				*e*S		Sn	20 40 45.5	-7.6
JIO	**Ouri**	**11.53**	**232**	*e*S		Sn	20 40 50.3	-8.5
MA2	**Magadan**	**13.53**	**355**	*e*PN		Pn	20 39 18.0	-0.9
MA2				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MA2	**Magadan**	**13.53**	**355**	*e*Pn		Pn	20 39 18.0	-0.8
	comp=Z,4.9nm,0.5s							
KLR	**Kul'dur**	**14.62**	**290**	*e*P		Pn	20 39 31.1	-2.5
MJAR	**Matsushiro Arr**	**14.64**	**234**	Pn		Pn	20 39 30.2	-3.6
	comp=Z,0.1nm,0.3s,baz=25,slow=13,SNR=6.8							
MAJO	**Matsushiro**	**14.64**	**234**	*e*P		Pn	20 39 34.5	+0.7
MAJO				pmax		pmax		
	comp=Z,17nm,0.8s							
MAJO	**Matsushiro**	**14.64**	**234**	*e*Pn		Pn	20 39 34.5	+0.7
	comp=Z,17nm,0.8s							
MAT	**Matsushiro**	**14.64**	**234**	P		Pn	20 39 30.2	-3.6
VLA	**Vladivostok**	**15.31**	**266**	*e*P		Pn	20 39 41.7	-0.8
VLA				pmax		pmax		
	comp=Z,11nm,0.8s							
MDJ	**Mudanjiang**	**16.49**	**273**	P		Pn	20 39 58.0	+0.4
MDJ				AMB		AMB		
	comp=Z,30nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,387nm,9.6s							
MDJ	**Mudanjiang**	**16.49**	**273**	*e*Pn		Pn	20 39 57.8	+0.2
	comp=Z,24nm,0.9s							
SEY	**Seymchan**	**16.84**	**359**	*i* P		Pn	20 39 59.1	-2.8
CN2	**Changchun**	**19.58**	**273**	*e*P		Pn	20 40 34.8	-0.4
CN2				AMB		AMB		
	comp=Z,10.0nm,0.9s							
CLNS	**Chul'man**	**20.35**	**312**	*e*P		P	20 40 41.0	-0.9
CLNS				pmax		pmax		
	comp=Z,23nm,0.8s							
CLNS				pmax		pmax		
	comp=N,7.0nm,0.9s							
CLNS				pmax		pmax		
	comp=E,12nm,0.8s							
CLNS				MLR		MLR		
	comp=Z,900nm,12.0s,MS4.3							
CLNS				MLR		MLR		
	comp=N,100nm,18.0s							
CLNS				MLR		MLR		
	comp=E,800nm,13.0s							
YAK	**Yakutsk**	**20.79**	**328**	*e*P		P	20 40 45.4	-1.2
YAK				pmax		pmax		
	comp=Z,14nm,0.6s							
YAK	**Yakutsk**	**20.79**	**328**	*e*P		P	20 40 45.4	-1.2
	comp=Z,14nm,0.6s							
INCN	**Inchon**	**21.38**	**256**	*e*P		P	20 40 57.5	+4.5
	comp=Z,14nm,0.5s,mb4.6							
HIA	**Hailar**	**22.48**	**290**	*e*P		P	20 41 07.0	+2.3
HIA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
HIA	**Hailar**	**22.48**	**290**	*e*P		P	20 41 07.0	+2.3
	comp=Z,6.9nm,0.9s,mb4.1							
BILL	**Bilibino**	**23.01**	**13**	*e*P		P	20 41 04.0	-6.3
BILL				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.2							
CIT	**Chita**	**26.24**	**297**	*e*P		P	20 41 38.9	-1.1
BOD	**Bodaibo**	**26.31**	**311**	*e*P		P	20 41 37.0	-3.6
BOD				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.0							
BJT	**Baijiatuan**	**27.40**	**270**	*e*P		P	20 41 53.0	+2.6
BJT				pmax		pmax		
	comp=Z,13nm,0.9s							
BJT	**Baijiatuan**	**27.40**	**270**	*e*P		P	20 41 53.0	+2.6
	comp=Z,13nm,0.9s,mb4.5							
NJ2	**Nanjing**	**29.73**	**254**	*e*P		P	20 42 10.5	-0.7
NJ2				AP		pP	20 42 19.5	-4.7
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,2μm,10.6s							
NJ2				LR		LR		
	comp=N,1μm,17.6s							
NJ2				LR		LR		
	comp=E,3μm,26.4s							
NJ2				LR		LR		
	comp=Z,2μm,17.0s,MS4.8							
SONM	**Songino Array**	**31.45**	**290**	P		P	20 42 24.3	-2.0
	comp=Z,0.6nm,0.4s,mb3.7,baz=74,slow=9.6,SNR=8.8							
TLY	**Talaya**	**32.38**	**298**	*i* P		P	20 42 33.8	-0.7
ZAK	**Zakamensk**	**32.86**	**296**	*e*P		P	20 42 37.7	-1.0
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.2							
WHN	**Wuhan**	**33.69**	**256**	*e*P		P	20 42 46.8	+0.9
COLA	**College**	**36.68**	**38**	*i* P		P	20 43 11.0	-0.6
LZH	**Lanzhou**	**37.82**	**273**	*e*P		P	20 43 23.5	+2.2
LZH				AP		pP	20 43 29.0	-5.5
LZH				XP		sP	20 43 32.0	-8.4
LZH				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.7							
LZH				AMB		AMB		
	comp=Z,130nm,5.8s							
KRAR	**Krasnoyarsk**	**37.88**	**308**	*i* P		P	20 43 18.9	-2.9
KRAR				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.6							
EGAK	**Eagle**	**39.54**	**38**	*e*P		P	20 43 34.2	-1.5
CD2	**Chengdu**	**40.74**	**266**	P		P	20 43 47.3	+1.7
CD2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
GYA	**Guiyang**	**41.49**	**258**	⇑*i*P		P	20 43 53.8	+2.0
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.7							
INK	**Inuvik**	**42.22**	**32**	P		P	20 43 57.1	-0.7
	comp=Z,3.7nm,0.9s,mb4.0,baz=290,slow=5.6,SNR=7.2							
ZAL	**Zalesovo**	**42.91**	**306**	P		P	20 44 02.4	-1.0
	comp=Z,1.7nm,0.5s,mb4.0,baz=48,slow=9.8,SNR=10.0							
ZAL	**Zalesovo**	**42.91**	**306**	*i* P		P	20 44 03.2	-0.2
ZAL				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KMI	**Kunming**	**45.04**	**260**	P		P	20 44 22.8	+2.4
KMI				AP		pP	20 44 28.8	-5.1
KMI				XP		sP	20 44 31.5	-8.3
KMI				AMB		AMB		
	comp=Z,5.0nm,1.3s,mb4.2							
KMI	**Kunming**	**45.04**	**260**	P		P	20 44 22.8	+2.4
KMI				pP		pP	20 44 28.8	-5.1
KMI				sP		sP	20 44 31.6	-8.2
MKAR	**Makanchi Array**	**47.14**	**298**	P		P	20 44 36.4	-0.6
	comp=Z,11nm,1.0s,mb4.7,baz=61,slow=8.6,SNR=46							
LSA	**Lhasa**	**50.22**	**274**	*e*P		P	20 45 03.4	+2.8
LSA				*e**PP		pP	20 45 19.6	+5.4
LSA				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
LSA	**Lhasa**	**50.22**	**274**	*e*P		P	20 45 03.4	+2.9
	comp=Z,10nm,0.9s,mb4.8							
LSA				*e*pP		pP	20 45 19.6	+5.4
BVAR	**Borovoye Array**	**51.18**	**310**	P		P	20 45 05.9	-1.9
	comp=Z,1.8nm,0.3s,mb4.4,baz=50,slow=7.4,SNR=25							
BRVK	**Borovoye**	**51.22**	**310**	*e*P		P	20 45 06.5	-1.6
BRVK				*e**PP		pP	20 45 20.4	-1.4
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
BRVK	**Borovoye**	**51.22**	**310**	*e*P		P	20 45 06.5	-1.6
	comp=Z,2.8nm,0.8s,mb4.2							
BRVK				*e*pP		pP	20 45 20.4	-1.4
YKA	**Yellowknife Ar**	**51.47**	**36**	P		P	20 45 09.0	-1.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=295,slow=7.2,SNR=6.8							
YKA	**Yellowknife Ar**	**51.47**	**36**	P		P	20 45 09.0	-1.0
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P		P	20 45 12.1	-1.5
ZRNK				*e**PP		pP	20 45 26.0	-1.3
ZRNK				pmax		pmax		
	comp=Z,3.0nm,0.4s,mb4.6							
ZRNK	**Zerenda**	**51.95**	**310**	*e*P		P	20 45 12.1	-1.5
	comp=Z,3.1nm,0.4s,mb4.6							
ZRNK				*e*pP		pP	20 45 26.0	-1.3
AAK	**Ala-Archa**	**54.02**	**297**	⇑*e*P		P	20 45 27.3	-1.6
AAK				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
AAK	**Ala-Archa**	**54.02**	**297**	*e*P		P	20 45 28.2	-0.7
	comp=Z,6.1nm,0.8s,mb4.6							
JIRN	**Jiri**	**54.90**	**275**	*e*P		P	20 45 37.4	+2.2
GUN	**Gumba**	**54.96**	**275**	*e*P		P	20 45 38.4	+2.7
	comp=Z,34nm,0.9s,mb5.3							
ARU	**Arti**	**55.40**	**318**	⇓*i*P		P	20 45 36.8	-2.0
ARU				*e*			20 46 32.7	
ARU				*e*			20 47 40.4	
ARU				*e*PPP			20 48 53.4	
ARU				*e*S		S	20 53 20.6	+0.9
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
ARU	**Arti**	**55.40**	**318**	*e*P		P	20 45 36.5	-2.4
	comp=Z,3.4nm,0.4s,mb4.7							
KKN	**Kakani**	**55.45**	**276**	*e*P		P	20 45 40.9	+1.7
	comp=Z,34nm,1.0s,mb5.3							
PKI	**Pulchoki**	**55.50**	**275**	*e*P		P	20 45 41.6	+2.1
	comp=Z,27nm,1.1s,mb5.2							
HNR	**Honiara**	**55.67**	**172**	LR		LR	21 08 22.0	
	comp=Z,772nm,19.3s,MS4.8,baz=183,slow=35							
DMN	**Daman**	**55.69**	**276**	*e*P		P	20 45 43.0	+2.1
	comp=Z,38nm,0.9s,mb5.4							
GKN	**Gorkha**	**55.76**	**276**	*e*P		P	20 45 43.2	+1.8
	comp=Z,43nm,0.9s,mb5.5							
KOLN	**Koldanda**	**56.63**	**277**	*e*P		P	20 45 49.3	+1.7
	comp=Z,43nm,0.9s,mb5.5							
ARCES	**ARCESS Array B**	**58.40**	**341**	P		P	20 45 58.4	-1.7
	comp=Z,0.5nm,0.4s,mb3.9,baz=15,slow=4.9,SNR=11							
JOF	**Joensuu**	**61.84**	**334**	*e*p		P	20 46 22.7	-0.9
	comp=Z,0.7nm,0.3s,mb4.3							
NVAR	**Mina Array Bea**	**62.80**	**62**	P		P	20 46 28.7	-1.4
	comp=Z,0.8nm,0.6s,mb4.0,baz=283,slow=9.0,SNR=7.1							
NVAR	**Mina Array Bea**	**62.80**	**62**	P		P	20 46 28.7	-1.4
KAF	**Kangasniemi**	**63.96**	**335**	*e*p		P	20 46 36.3	-1.4
LOHW	**Long Hollow**	**64.06**	**53**	*e*P		P	20 46 37.7	-0.6
	comp=Z,4.0nm,0.4s,mb4.8							
FINES	**FINESS Array B**	**64.56**	**335**	P		P	20 46 39.5	-2.1
	comp=Z,4.0nm,0.6s,mb4.6,baz=43,slow=6.3,SNR=40							
FINES	**FINESS Array B**	**64.56**	**335**	*i* P		P	20 46 40.7	-0.9
FINES				pmax		pmax		
	comp=Z,4.0nm,0.6s							
FINES	**FINESS Array B**	**64.56**	**335**	P		P	20 46 39.5	-2.1
PDAR	**Pinedale Array**	**65.19**	**54**	P		P	20 46 46.3	+0.6
	comp=Z,1.3nm,0.8s,mb4.0,baz=305,slow=5.2,SNR=4.4							
OBN	**Obninsk**	**65.76**	**326**	*e*P		P	20 46 50.2	+0.8
OBN				pmax		pmax		
	comp=Z,31nm,2.6s,mb4.9							
SRU	**San Rafael**	**67.03**	**57**	*e*P		P	20 46 55.8	-1.7
SRU				*e**PP		pP	20 47 09.2	-2.5
SRU				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
SRU	**San Rafael**	**67.03**	**57**	*e*P		P	20 46 55.8	-1.7
	comp=Z,2.1nm,0.8s,mb4.2							
SRU				*e*pP		pP	20 47 09.2	-2.5
WRA	**Warramunga Arr**	**67.90**	**199**	P		P	20 47 02.5	-0.5
	comp=Z,0.5nm,0.6s,mb3.7,baz=19,slow=6.7,SNR=5.9							
NB2	**NORSAR Subarra**	**68.78**	**341**	P		P	20 47 07.2	-1.3
	comp=Z,5.9nm,0.8s,mb4.6,baz=30,slow=6.5							
NB2	**NORSAR Subarra**	**68.78**	**341**	P		P	20 47 07.2	-1.3
NB2				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
NOA	**NORSAR Array B**	**68.78**	**341**	P		P	20 47 07.6	-0.9
	comp=Z,2.9nm,0.7s,mb4.3,baz=28,slow=6.4,SNR=15							
KIV	**Kislovodsk**	**71.16**	**314**	⇓*e*P		P	20 47 25.7	+2.6
KIV				*e*			20 47 32.4	
KIV				*e*		pP	20 47 42.6	+5.2
KIV				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8							
KIV				MLR		MLR		
	comp=Z,300nm,14.0s,MS4.7							
KIV	**Kislovodsk**	**71.16**	**314**	*e*P		P	20 47 25.4	+2.3
	comp=Z,12nm,0.9s,mb4.8							
KIV				*e*pP		pP	20 47 40.9	+3.5
ZEI	**Tsey**	**71.41**	**313**	*e*P		P	20 47 23.0	-1.6
ZEI				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
ASAR	**Alice Springs**	**71.60**	**198**	P		P	20 47 26.4	+0.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=12,slow=5.6,SNR=11							
AKASG	**Malin Array Be**	**72.00**	**326**	P		P	20 47 27.1	-1.1
	comp=Z,2.8nm,0.4s,mb4.5,baz=34,slow=6.1,SNR=34							
AKBB	**Malin Array Si**	**72.00**	**326**	*e*P		P	20 47 26.8	-1.4
AKBB				*e**PP		pP	20 47 40.1	-2.4
GNI	**Garni**	**72.86**	**310**	*i* P		P	20 47 33.6	+0.3
GNI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
KWP	**Kalwaria**	**75.30**	**329**	*e*P		P	20 47 48.1	+0.6
STHS	**Stebnicka Huta**	**76.00**	**330**	*e*P		P	20 47 53.1	+1.6
STHS				*e*		pP	20 48 05.1	-0.8
STHS				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
STHS	**Stebnicka Huta**	**76.00**	**330**	*e*P		P	20 47 53.1	+1.6
	comp=Z,6.0nm,1.2s,mb4.4							
STHS				*e*		pP	20 48 05.1	-0.8
BURAR	**Bucovina Array**	**76.05**	**327**	⇑*i*P		P	20 47 51.7	-0.1
NIE	**Niedzica**	**76.32**	**330**	*e*P		P	20 47 55.0	+1.7
UPC	**Upice**	**76.79**	**333**	*e*P		P	20 47 56.0	0.0
DPC	**Dobruska-Polom**	**76.83**	**333**	*e*P		P	20 47 56.7	+0.5
DPC				*e*PCP		PcP	20 48 10.2	+3.0
MORC	**Moravsky Berou**	**76.94**	**332**	⇓*i*P		P	20 47 57.8	+1.0
CLL	**Collm**	**76.98**	**336**	*e*P		P	20 47 57.0	-0.1
	comp=Z,9.0nm,1.0s,mb4.7							
CLL	**Collm**	**76.98**	**336**	*e*P		P	20 47 57.0	-0.1
CLL				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
KECS	**Kecovo**	**77.06**	**330**	*e*P		P	20 47 57.1	-0.4
KECS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
KECS	**Kecovo**	**77.06**	**330**	*e*P		P	20 47 57.1	-0.4
	comp=Z,2.5nm,0.9s,mb4.1							
BRG	**Berggiesshubel**	**77.10**	**335**	*e*P		P	20 47 58.5	+0.8
BRG				pmax		pmax		
	comp=Z,3.0nm,1.3s,mb4.1							
BRG	**Berggiesshubel**	**77.10**	**335**	*e*P		P	20 47 58.5	+0.8
	comp=Z,3.0nm,1.3s,mb4.1							
MLR	**Muntele Rosu**	**77.51**	**325**	⇓*i*P		P	20 48 03.3	+3.3
MLR	**Muntele Rosu**	**77.51**	**325**	⇓P		P	20 48 03.3	+3.2
VYHS	**Vyhne**	**77.62**	**331**	*e*P		P	20 48 00.9	+0.3
VYHS				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb4.1							
VYHS	**Vyhne**	**77.62**	**331**	*e*P		P	20 48 00.9	+0.3
	comp=Z,3.1nm,1.1s,mb4.2							
VRAC	**Vranov**	**77.65**	**332**	⇑*i*P		P	20 48 00.6	-0.2
VRAC	**Vranov**	**77.65**	**332**	⇑P		P	20 48 00.7	-0.2
DRGR		**77.68**	**328**	⇑*i*P		P	20 48 01.7	+0.7
DRGR		**77.68**	**328**	⇑P		P	20 48 01.7	+0.8
PRU	**Pruhonice**	**77.70**	**334**	*e*P		P	20 48 02.0	+0.9
VOIR		**77.91**	**325**	⇓*i*P		P	20 48 04.0	+1.7
VOIR		**77.91**	**325**	⇓P		P	20 48 04.0	+1.7

comp=Z,25nm,1.1s,mb5.0
SMF Signal de Mont 83.70 339 *e*P **P 20 48 33.3 +0.1**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.0
SMF Signal de Mont 83.70 339 *e*P **P 20 48 33.3 +0.1**
comp=Z,13nm,1.1s,mb5.0
LPL La Plagne 84.00 337 *e*P **P 20 48 35.1 +0.4**
comp=Z,9.6nm,0.8s,mb4.7
LPL La Plagne 84.00 337 *e*P **P 20 48 35.1 +0.4**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LPL La Plagne 84.00 337 *e*P **P 20 48 35.1 +0.4**
comp=Z,4.8nm,0.8s,mb4.7
LPG La Plagne 84.01 337 *e*P **P 20 48 35.8 +1.1**
comp=Z,19nm,1.1s,mb4.8
LPG La Plagne 84.01 337 *e*P **P 20 48 35.8 +1.1**
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
LPG La Plagne 84.01 337 *e*P **P 20 48 35.8 +1.1**
comp=Z,9.7nm,1.1s,mb4.8
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 48 37.1 +0.2**
comp=Z,12nm,0.9s,mb4.7
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 48 37.1 +0.2**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 48 37.1 +0.2**
comp=Z,6.0nm,0.9s,mb4.7
MBDF Montbardon 84.72 337 *e*P **P 20 48 38.8 +0.5**
ORIF Oris-en-Rattie 84.78 337 *e*P **P 20 48 38.5 -0.1**
comp=Z,16nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.78 337 *e*P **P 20 48 38.5 -0.1**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 84.78 337 *e*P **P 20 48 38.5 -0.1**
comp=Z,8.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 85.16 338 *e*P **P 20 48 41.0 +0.5**
comp=Z,24nm,1.2s,mb4.9
VIVF Saint-Julien-l 85.16 338 *e*P **P 20 48 41.0 +0.5**
VIVF pmax pmax
comp=Z,12nm,1.2s,mb4.9
VIVF Saint-Julien-l 85.16 338 *e*P **P 20 48 41.0 +0.5**
comp=Z,12nm,1.2s,mb4.9
LMR La Mourre 86.07 336 *e*P **P 20 48 45.2 +0.1**
comp=Z,12nm,1.1s,mb4.8
LMR La Mourre 86.07 336 *e*P **P 20 48 45.2 +0.1**
LMR pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
LMR La Mourre 86.07 336 *e*P **P 20 48 45.2 +0.1**
comp=Z,5.9nm,1.0s,mb4.8
EPF Esparros 87.95 340 *e*P **P 20 48 54.5 +0.3**
comp=Z,34nm,1.4s,mb5.1
EPF Esparros 87.95 340 *e*P **P 20 48 54.5 +0.3**
EPF pmax pmax
comp=Z,17nm,1.4s,mb5.1
EPF Esparros 87.95 340 *e*P **P 20 48 54.5 +0.3**
comp=Z,17nm,1.4s,mb5.1
CASY Casey 116.72 198 *e*PKPdf PKPdf 20 54 51.8 +3.4
PLCA Paso Flores 148.24 96 PKPbc PKPbc 20 55 50.9 +0.7
comp=Z,2.1nm,0.8s,baz=250,slow=6.6,SNR=5.4

*ISCJB **30** 20:38:14.9±0.7,2467S×004×69.1W±0.1,h89km±11km, mb4.0/5, Error ellipse: s-maj=16.5km s-min=6.6km az=16.5*
*NEIC **30** 20:38:16.4±1.0,2464S×6874W, h84km±9km, Error ellipse: s-maj=16.8km s-min=10.2km az=92.0*
*IDC **30** 20:38:18.0±0.8,2446S×6903W, h100km±5km, mb3.9/5, mb1 3.9/6, mb1mx3.6/16, mbtmp4.2/6, Error ellipse: s-maj=23.8km s-min=10.1km az=85.0*
ISC 30 20:38:15.9±0.6,2466S×004×6904W×009, h80km±11km, n22, σ1°§03/21, mb4.0/5, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.58**	**308**	*e*P		**Pn**		**20 38 43.4**	**+1.1**
ANCH				*i* S		**Sn**		**20 39 02.1**	**-0.2**
ANCH				AML		AML		20 39 04.8	
	comp=N,3μm,0.5s								
CEN1	**Los Morros**	**1.65**	**320**	*e*P		**Pn**		**20 38 43.5**	**+0.4**
CEN1				*e*P				20 38 43.5	
CEN1				*i* S		**Sn**		**20 39 03.7**	**-0.1**
CEN1				AML		AML		20 39 08.5	
	comp=N,1μm,0.7s								
LVC	**Limon Verde**	**2.04**	**3**	P		**Pn**		**20 38 50.2**	**+1.9**
	baz=187,slow=10								
LVC				S		**Sn**		**20 39 12.0**	**-1.1**
	comp=N,125nm,0.3s,baz=177,slow=13,SNR=21								
CDCH	**Caldera**	**2.89**	**213**	*e*P		**Pn**		**20 38 58.4**	**-1.4**
CDCH				*i* S		**Sn**		**20 39 31.9**	**-1.6**
CPCH	**Copiapo**	**2.94**	**203**	*e*P		**Pn**		**20 39 01.1**	**+0.7**
CFAA	**Coronel Fontan**	**6.96**	**174**	P		**Pn**		**20 39 56.0**	**+0.9**
	comp=N,0.7nm,0.3s,baz=350,slow=13,SNR=51								
LPAZ	**La Paz**	**8.37**	**6**	P		**Pn**		**20 40 15.1**	**+0.6**
	comp=N,0.7nm,0.3s,baz=184,slow=7.9,SNR=20								
LPAZ	**La Paz**	**8.37**	**6**	*e*Pn		**Pn**		**20 40 14.8**	**+0.3**
	comp=N,2.3nm,0.6s								
CPUP	**Villa Florida**	**10.71**	**101**	*e*Pn		**Pn**		**20 40 41.2**	**-5.1**
	comp=N,11nm,1.6s								
SIV	**San Ignacio**	**11.41**	**42**	P		**Pn**		**20 40 52.7**	**-3.2**
	comp=N,3.6nm,0.3s,baz=232,slow=12,SNR=43								
PLCA	**Paso Flores**	**16.08**	**184**	P		**Pn**		**20 41 58.4**	**+1.3**
	comp=N,0.1nm,0.3s,baz=7.7,slow=14,SNR=4.2								
BDFB	**Brasilia**	**21.66**	**69**	P		**P**		**20 42 59.6**	**-0.3**
	comp=N,5.0nm,0.6s,mb4.0,baz=249,slow=9.6,SNR=7.2								
BDFB				sP		sP		20 43 32.2	+6.2
	comp=N,2.6nm,0.6s,baz=235,slow=9.0,SNR=2.3								
DBIC	**Dimbokro**	**69.78**	**72**	P		**P**		**20 49 17.1**	**-0.5**
	comp=N,3.1nm,0.7s,mb4.2,baz=201,slow=8.4,SNR=5.4								
PDAR	**Pinedale Array**	**76.78**	**331**	P		**P**		**20 49 58.5**	**-0.3**
	comp=N,0.4nm,0.9s,mb3.2,baz=138,slow=8.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**78.54**	**70**	P		**P**		**20 50 08.6**	**0.0**
	comp=N,4.2nm,0.5s,mb4.5,baz=258,slow=5.2,SNR=118								
TORD				pP		pP		20 50 35.3	+5.6
	comp=N,1.5nm,0.7s,baz=260,slow=5.5,SNR=4.5								
BOSA	**Boshof**	**82.08**	**118**	P		**P**		**20 50 27.9**	**+0.3**
	comp=N,1.8nm,0.9s,mb3.9,baz=318,slow=18,SNR=5.4								
BOSA				pP		pP		20 50 54.8	+5.9
	comp=N,1.0nm,0.6s,baz=217,slow=5.1,SNR=1.2								
BOSA	**Boshof**	**82.08**	**118**	P		**P**		**20 50 27.9**	**+0.3**
BOSA				pP		pP		20 50 54.8	+5.9
ASAR	**Alice Springs**	**127.06**	**207**	PKP		PKPdf		20 57 10.5	-0.3
	comp=N,0.5nm,0.6s,baz=111,slow=1.6,SNR=11								
ASAR				pPKP		pPKPdf		20 57 37.0	+3.8
	comp=N,0.2nm,0.7s,baz=116,slow=1.8,SNR=1.7								
WRA	**Warramunga Arr**	**130.17**	**209**	PKP		PKPdf		20 57 16.9	+0.2
	comp=N,0.3nm,0.4s,baz=158,slow=1.8,SNR=17								
WRA				pPKP		pPKPdf		20 57 43.5	+4.4
	comp=N,0.4nm,0.9s,baz=155,slow=1.6,SNR=2.3								
ZAL	**Zalesovo**	**144.83**	**27**	PKP		PKPdf		20 57 43.0	-0.6
	comp=N,3.5nm,0.7s,baz=165,slow=4.1,SNR=16								
ZAL				pPKP		pPKPdf		20 58 09.8	+3.7
	comp=N,1.3nm,0.6s,baz=280,slow=3.1,SNR=2.8								
ZAL	**Zalesovo**	**144.83**	**27**	PKP		PKPdf		20 57 43.0	-0.6
ZAL				pPKP		pPKPdf		20 58 09.8	+3.7
MKAR	**Makanchi Array**	**148.21**	**39**	PKPbc		PKPbc		20 57 51.8	-0.9
	comp=N,1.0nm,0.3s,baz=322,slow=2.9,SNR=15								
MKAR				pPKPbc		pPKPbc		20 58 18.5	+3.5
	comp=N,1.1nm,0.6s,baz=336,slow=2.7,SNR=4.1								

*BJI **30** 21:02:54.8, 4659N×153.70E, h36km, mB4.8, mb4.3*
*IDC **30** 21:02:55.8±1.7, 4690N×153.16E, h0km, mb4.0/11, mb1 4.2/13, mb1mx4.0/23, mbtmp4.0/13, ML3.3/1, Error ellipse: s-maj=47.2km s-min=19.7km az=170.0*
*ISCJB **30** 21:02:56.4±2.0, 4673N±010×153.1E±01, h15km±14km, mb4.2/27, Error ellipse: s-maj=19.2km s-min=7.6km az=115.2*
*NEIC **30** 21:02:57.5±0.6, 4686N×153.17E, h10km, mb4.2/7, Error ellipse: s-maj=17.3km s-min=8.1km az=146.0*
*MOS **30** 21:03:00.3±1.4, 4685N×15288E, h35km, mb4.5/10, Error ellipse: s-maj=10.0km s-min=8.6km az=77.6*
ISC 30 21:03:01.0±2.0, 4682N±009×1531E±01, h33km±14km, n67, σ1°§11/71, mb4.2/27, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.96**	**248**	*i*P	N	**Pn**		**21 03 55.0**	**-4.5**
KUR				*i* S		**Sn**		**21 04 44.0**	**-0.8**
KUR				pmax		pmax			
	comp=Z,190nm,0.7s								
SKR	**Severo-Kuril's**	**4.36**	**26**	*e*PN		**Pn**		**21 04 04.6**	**-0.3**
SKR				*e*				21 05 02.5	
YUK	**Yuzh-Kuril'sk**	**5.79**	**244**	PN		**Pn**		**21 04 27.0**	**+2.4**
YSS	**Yuzh-Sakhalins**	**7.08**	**275**	*e*Pn		**Pn**		**21 04 47.0**	**+4.7**
YSS				*e*				21 06 07.0	
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
YSS	**Yuzh-Sakhalins**	**7.08**	**275**	Pn		**Pn**		**21 04 40.2**	**-2.0**
	comp=Z,6.9nm,0.5s								
ASAJ	**Asahikawa**	**7.85**	**254**	Pn		**Pn**		**21 04 52.9**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=116,slow=6.8,SNR=7.5								
ERM	**Erimo**	**8.57**	**240**	*e*PN		**Pn**		**21 05 00.9**	**-1.8**
ERM				pmax		pmax			
	comp=Z,143nm,1.3s								
ERM	**Erimo**	**8.57**	**240**	*e*Pn		**Pn**		**21 05 00.9**	**-1.9**
	comp=Z,143nm,1.3s								
ERM				Sn		**Sn**		**21 06 32.6**	**-5.7**
KLR	**Kul'dur**	**14.47**	**287**	*e*P		**Pn**		**21 06 25.0**	**+1.6**
MAJO	**Matsushiro**	**15.10**	**233**	*e*P		**Pn**		**21 06 33.4**	**+1.5**
MAJO				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MAJO	**Matsushiro**	**15.10**	**233**	*e*Pn		**Pn**		**21 06 33.4**	**+1.5**
	comp=Z,8.1nm,0.8s								
MAT	**Matsushiro**	**15.10**	**233**	P		**Pn**		**21 06 26.6**	**-5.3**
MJAR	**Matsushiro Arr**	**15.10**	**232**	Pn		**Pn**		**21 06 32.3**	**+0.4**
	baz=34,slow=10,SNR=13								
VLA	**Vladivostok**	**15.44**	**264**	*i* P		**Pn**		**21 06 33.8**	**-2.5**
MDJ	**Mudanjiang**	**16.54**	**271**	*e*Pn		**Pn**		**21 06 51.4**	**+1.0**
	comp=Z,10nm,1.0s								
BILL	**Bilibino**	**22.33**	**13**	*e*P		**P**		**21 07 56.9**	**+1.1**
BILL				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.2								
BOD	**Bodaibo**	**25.93**	**310**	*e*P		**P**		**21 08 29.1**	**-1.0**
BOD				pmax		pmax			
	comp=Z,3.0nm,1.5s,mb3.6								
NJ2	**Nanjing**	**30.00**	**253**	*e*P		**P**		**21 09 05.3**	**-1.2**
NJ2				AP		pP		21 09 14.5	-1.5
NJ2				XP		sP		21 09 19.0	-0.9
NJ2				PP		PP		21 10 03.0	-11
NJ2				PPP				21 10 20.0	
NJ2				S		**S**		**21 13 58.0**	**-4.3**
NJ2				XS		sS		21 14 16.0	-1.9
NJ2				AMB		AMB			
	comp=Z,20nm,0.5s,mb5.1								
NJ2				AMB		AMB			
	comp=Z,740nm,10.0s								
SONM	**Songino Array**	**31.29**	**289**	P		**P**		**21 09 16.4**	**-1.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=69,slow=8.1,SNR=4.2								
TLY	**Talaya**	**32.13**	**297**	*i* P		**P**		**21 09 25.4**	**+0.1**
ZAK	**Zakamensk**	**32.63**	**295**	*e*P		**P**		**21 09 28.0**	**-1.7**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s,mb3.9								
COLA	**College**	**36.10**	**38**	*i* P		**P**		**21 10 01.6**	**+1.9**
KRAR	**Krasnoyarsk**	**37.53**	**307**	*i* P		**P**		**21 10 11.1**	**-0.8**
KRAR				pmax		pmax			
	comp=Z,8.0nm,1.1s,mb4.4								
LZH	**Lanzhou**	**37.87**	**272**	*e*P		**P**		**21 10 16.0**	**+1.3**
LZH				AP		pP		21 10 27.0	+2.7
LZH				XP		sP		21 10 32.0	+3.7
LZH				AMB		AMB			
	comp=Z,19nm,1.0s,mb4.8								
LZH				AMB		AMB			
	comp=Z,95nm,5.5s								
GYA	**Guiyang**	**41.71**	**257**	P		**P**		**21 10 45.5**	**-1.2**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.4								
MKAR	**Makanchi Array**	**46.89**	**297**	P		**P**		**21 11 27.2**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.2,baz=64,slow=8.9,SNR=20								
MKAR	**Makanchi Array**	**46.89**	**297**	*i* P		**P**		**21 11 28.0**	**-0.1**
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
LSA	**Lhasa**	**50.25**	**273**	*e*P		**P**		**21 11 55.0**	**+1.0**
LSA				pmax		pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
LSA	**Lhasa**	**50.25**	**273**	*e*P		**P**		**21 11 55.0**	**+1.0**
	comp=Z,1.8nm,0.5s,mb4.4								
BVAR	**Borovoye Array**	**50.80**	**309**	P		**P**		**21 11 57.3**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=54,slow=7.5,SNR=6.5								
YKA	**Yellowknife Ar**	**50.88**	**37**	P		**P**		**21 11 57.4**	**-1.3**
	comp=Z,1.5nm,0.9s,mb3.9,baz=300,slow=8.1,SNR=4.0								
YKA	**Yellowknife Ar**	**50.88**	**37**	P		**P**		**21 11 57.4**	**-1.3**
AAK	**Ala-Archa**	**53.79**	**296**	*e*P		**P**		**21 12 19.8**	**-0.5**
AAK				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
ARU	**Arti**	**54.95**	**317**	*i*P		**P**		**21 12 28.1**	**-0.6**
ARU				*e*				21 14 28.6	
ARU				*e*S		**S**		**21 20 08.8**	**+0.5**
ARU				*e*SS		SS		21 23 55.1	+3.1
ARU				pmax		pmax			
	comp=Z,4.0nm,1.2s,mb4.3								
GUN	**Gumba**	**54.97**	**275**	*e*P		**P**		**21 12 29.9**	**+1.0**
KKN	**Kakani**	**55.46**	**275**	*e*P		**P**		**21 12 33.2**	**+0.8**
	comp=Z,26nm,1.1s,mb5.2								
PKI	**Pulchoki**	**55.51**	**275**	*e*P		**P**		**21 12 33.5**	**+0.7**
DMN	**Daman**	**55.69**	**275**	*e*P		**P**		**21 12 35.1**	**+1.0**
GKN	**Gorkha**	**55.77**	**276**	*e*P		**P**		**21 12 35.0**	**+0.4**
	comp=Z,24nm,1.0s,mb5.2								
KOLN	**Koldanda**	**56.62**	**276**	*e*P		**P**		**21 12 41.4**	**+0.7**
	comp=Z,16nm,0.9s,mb5.0								
LVZ	**Lovozero**	**56.70**	**337**	*i* P		**P**		**21 12 41.9**	**+0.6**
NVAR	**Mina Array Bea**	**62.42**	**62**	P		**P**		**21 13 18.1**	**-2.6**
	comp=Z,0.3nm,0.4s,mb3.8,baz=282,slow=8.1,SNR=4.0								
FINES	**FINESS Array B**	**63.97**	**335**	P		**P**		**21 13 29.7**	**-1.3**
	comp=Z,3.5nm,0.7s,mb4.5,baz=29,slow=9.1,SNR=14								
FINES	**FINESS Array B**	**63.97**	**335**	*i* P		**P**		**21 13 31.0**	**0.0**
FINES				pmax		pmax			
	comp=Z,4.0nm,0.7s								
PDAR	**Pinedale Array**	**64.72**	**54**	P		**P**		**21 13 36.3**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=280,slow=0.9,SNR=7.4								
NB2	**NORSAR Subarra**	**68.16**	**341**	P		**P**		**21 13 57.7**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.5,baz=27,slow=6.5								
NB2	**NORSAR Subarra**	**68.16**	**341**	P		**P**		**21 13 57.7**	**-0.2**
NB2				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
NOA	**NORSAR Array B**	**68.16**	**341**	P		**P**		**21 13 57.2**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=28,slow=6.3,SNR=16								
NOA	**NORSAR Array B**	**68.16**	**341**	P		**P**		**21 13 57.2**	**-0.7**
KIV	**Kislovodsk**	**70.74**	**314**	P		**P**		**21 14 19.0**	**+5.2**
KIV				*e*				21 14 36.0	
KIV				MLR		MLR			
	comp=Z,300nm,17.0s								
AKASG	**Malin Array Be**	**71.48**	**326**	P		**P**		**21 14 17.4**	**-0.9**
	comp=Z,4.0nm,0.8s,mb4.4,baz=35,slow=6.1,SNR=26								
AKASG	**Malin Array Be**	**71.48**	**326**	*i* P		**P**		**21 14 18.0**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
GNI	**Garni**	**72.47**	**310**	*e*P		**P**		**21 14 26.9**	**+2.7**
GNI				pmax		pmax			
	comp=Z,18nm,1.4s								
MNTX	**Cornudas Mount**	**74.75**	**60**	*e*P		**P**		**21 14 36.6**	**-1.0**
	comp=Z,2.9nm,1.4s,mb4.0								
STHS	**Stebnicka Huta**	**75.45**	**330**	*e*P		**P**		**21 14 40.5**	**-1.1**
STHS				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb4.0								
STHS	**Stebnicka Huta**	**75.45**	**330**	*e*P		**P**		**21 14 40.5**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.1								
KOLS	**Kolonicke sedl**	**75.50**	**329**	*e*P		**P**		**21 14 42.1**	**+0.2**
UPC	**Upice**	**76.21**	**333**	*e*P		**P**		**21 14 46.6**	**+0.6**
DPC	**Dobruska-Polom**	**76.25**	**333**	*e*P		**P**		**21 14 46.8**	**+0.5**
CLL	**Collm**	**76.40**	**336**	*e*P		**P**		**21 14 47.0**	**-0.1**
	comp=Z,7.0nm,1.0s,mb4.5								
CLL	**Collm**	**76.40**	**336**	*e*P		**P**		**21 14 47.0**	**-0.1**
CLL				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
VYHS	**Vyhne**	**77.06**	**331**	*e*P		**P**		**21 14 50.8**	**0.0**
PRU	**Pruhonice**	**77.12**	**334**	*e*P		**P**		**21 14 51.6**	**+0.5**
KHC	**Kasperske Hory**	**78.17**	**334**	*e*P		**P**		**21 14 57.4**	**+0.4**
KHC	**Kasperske Hory**	**78.17**	**334**	*e*P		**P**		**21 14 58.2**	**+1.2**
BRTR	**Keskin Array B**	**78.33**	**317**	P		**P**		**21 14 59.0**	**+1.2**
	comp=Z,1.2nm,0.9s,mb3.8,baz=33,slow=7.3,SNR=4.9								
GERES	**GERESS Array B**	**78.39**	**334**	P		**P**		**21 14 57.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=20,slow=4.3,SNR=5.3								

IDC 30 21:03:38.9±7.8, 3244S×17961E, h450km±99km, mb2.6/2, mb1 2.9/3, mb1mx2.7/12, mbtmp3.6/3, Error ellipse: s-maj=117.6km s-min=38.2km az=7.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.15**	**199**	P		P	P	21 05 15.5	+0.8
	2.4nm,0.3s,baz=342,slow=3.7,SNR=17								
URZ				S		S	S	21 06 32.5	-0.6
	2.4nm,0.3s,baz=54,slow=23,SNR=17								
ASAR	**Alice Springs**	**41.02**	**270**	P		P	P	21 10 42.2	+0.9
	0.3nm,0.5s,baz=109,slow=7.6,SNR=5.4								
WRA	**Warramunga Arr**	**42.20**	**276**	P		P	P	21 10 50.4	-0.3
	0.5nm,0.5s,baz=112,slow=8.4,SNR=12								
FINES	**FINESS Array B**	**146.30**	**337**	PKPbc		PKPbc		21 22 26.5	-1.6
	0.9nm,0.4s,baz=58,slow=4.4,SNR=23								

*IDC **30** 21:04:54.4±1.0, 4625N×15340E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, Error ellipse: s-maj=32.5km s-min=23.7km az=85.0*
*ISCJB **30** 21:04:56.6±8.6, 4624N±01×1534E±03, h27km±59km, mb3.7/8, Error ellipse: s-maj=38.4km s-min=25.0km az=170.9*
*MOS **30** 21:04:57.1±1.8, 4641N×15345E, h31km, mb4.1/4, Error ellipse: s-maj=25.6km s-min=20.1km az=137.3*
ISC 30 21:04:59.9±3.6, 4636N±01×1534E±03, h37km±30km, n16, σ0°§73/16, mb3.7/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.98**	**257**	*i*P	N	**Pn**		**21 05 57.0**	**-1.3**
KUR				pmax		pmax			
	comp=Z,170nm,0.5s								
ASAJ	**Asahikawa**	**7.89**	**258**	Pn		**Pn**		**21 06 53.4**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=66,slow=18,SNR=3.0								
ASAJ	**Asahikawa**	**7.89**	**258**	PN		**Pn**		**21 06 53.4**	**+1.3**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**14.93**	**235**	Pn		**Pn**		**21 08 32.6**	**+4.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=8.9,SNR=5.8								
MKAR	**Makanchi Array**	**47.30**	**298**	P		**P**		**21 13 29.3**	**-0.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=72,slow=8.9,SNR=2.7								
BVAR	**Borovoye Array**	**51.28**	**310**	P		**P**		**21 14 00.7**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=40,slow=8.2,SNR=4.0								
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**		**21 15 32.6**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=7.3,SNR=7.8								
FINES	**FINESS Array B**	**64.53**	**335**	P		**P**		**21 15 32.6**	**-0.4**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.5s								
PDAR	**Pinedale Array**	**64.89**	**54**	P		**P**		**21 15 35.5**	**+0.1**
	comp=Z,0.5nm,0.9s,mb3.5,baz=297,slow=4.0,SNR=3.4								
WRA	**Warramunga Arr**	**68.12**	**199**	P		**P**		**21 15 55.3**	**-0.7**
	comp=Z,0.7nm,0.9s,mb3.7,baz=22,slow=6.9,SNR=6.3								
WRA	**Warramunga Arr**	**68.12**	**199**	P		**P**		**21 15 55.3**	**-0.7**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
NOA	**NORSAR Array B**	**68.72**	**341**	P		**P**		**21 15 59.8**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=28,slow=6.3,SNR=3.9								
NOA	**NORSAR Array B**	**68.72**	**341**	P		**P**		**21 15 59.8**	**0.0**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**71.81**	**199**	P		**P**		**21 16 19.3**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.5,baz=16,slow=6.0,SNR=4.5								
AKASG	**Malin Array Be**	**72.03**	**326**	P		**P**		**21 16 20.1**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=35,slow=6.5,SNR=4.5								
AKASG	**Malin Array Be**	**72.03**	**326**	P		**P**		**21 16 20.1**	**+0.1**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								

*IDC **30** 21:18:49.6±0.8, 4626N×15347E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.6/1, Error ellipse: s-maj=23.3km s-min=20.5km az=121.0*
*ISCJB **30** 21:18:50.8±5.8, 4634N±01×1536E±02, h18km±41km, mb4.0/14, Error ellipse: s-maj=23.4km s-min=18.2km az=105.0*
ISC 30 21:18:52.5±8.1, 4634N±01×1536E±02, h16km±50km, n20, σ0°§94/20, mb4.0/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**8.07**	**258**	Pn		**Pn**		**21 20 48.5**	**-0.5**
	0.9nm,0.3s,baz=159,slow=14,SNR=7.8								
MJAR	**Matsushiro Arr**	**15.10**	**235**	Pn		**Pn**		**21 22 25.4**	**+0.3**
	0.1nm,0.3s,baz=33,slow=14,SNR=3.5								
MAT	**Matsushiro**	**15.10**	**235**	P		**Pn**		**21 22 30.1**	**+5.1**
INK	**Inuvik**	**41.84**	**32**	P		**P**		**21 26 42.6**	**+1.0**
	1.1nm,0.6s,mb3.7,baz=319,slow=5.0,SNR=4.7								
MKAR	**Makanchi Array**	**47.43**	**298**	P		**P**		**21 27 24.0**	**-2.2**
	1.1nm,0.8s,mb3.9,baz=68,slow=7.7,SNR=11								
BVAR	**Borovoye Array**	**51.38**	**310**	P		**P**		**21 27 55.7**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=56,slow=11,SNR=2.8								
KKN	**Kakani**	**55.86**	**276**	*e*P		**P**		**21 28 30.5**	**+1.3**
	8.9nm,0.7s,mb4.9								
PKI	**Pulchoki**	**55.91**	**276**	*e*P		**P**		**21 28 30.6**	**+1.1**
DMN	**Daman**	**56.09**	**276**	*e*P		**P**		**21 28 32.0**	**+1.1**
GKN	**Gorkha**	**56.17**	**277**	*e*P	

*ISCJB **30** 21:23:20.2±1.9, 46°48'N±0.09' × 153°4'E±0.1', h25km±13km, mb4.2/16, Error ellipse: s-maj=18.8km s-min=6.7km az=105.2*

*MOS **30** 21:23:29.1±1.9, 46°40'N × 153°22'E, h110km, mb4.5/2, Error ellipse: s-maj=17.3km s-min=14.0km az=138.5*

ISC 30 21:23:22.9±2.0, **46°49'N**±0.09' × **153°4'E**±0.1', **h32**km±14km, **n42**, σ1°19/50, **mb4.2**/16, **1D**, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.08**	**254**	*e*PN	**Pn**	**21 24 22.0**	**-1.1**
KUR				*i* S	**Sn**	**21 25 08.0**	**-1.8**
KUR	comp=Z,150nm,0.5s			pmax	pmax		
KUR	comp=N,280nm,0.7s			smax			
KUR	comp=E,220nm,0.7s			smax			
SKR	**Severo-Kuril's**	**4.56**	**22**	*e*PN	**Pn**	**21 24 28.4**	**-1.2**
SKR				*e*S	**Sn**	**21 25 36.0**	**+15**
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,460nm,0.3s			smax			
SKR	comp=E,180nm,0.3s			smax			
YUK	**Yuzh-Kuril'sk**	**5.88**	**248**	*e*PN	**Pn**	**21 24 56.0**	**+8.3**
YUK				*e*S	**Sn**	**21 25 54.0**	**0.0**
YUK	comp=Z,220nm,0.3s			pmax	pmax		
YUK	comp=N,310nm,0.5s			smax			
YUK	comp=E,140nm,0.3s			smax			
NEM2	**Nemuro 2**	**6.29**	**243**	P	**Pn**	**21 24 51.8**	**-1.6**
NEM2				*e*S	**Sn**	**21 25 58.5**	**-5.6**
JRA	**Rausu**	**6.40**	**249**	P	**Pn**	**21 24 56.5**	**+1.6**
JNK	**Nakash**	**6.82**	**248**	P	**Pn**	**21 25 00.6**	**-0.1**
JAK	**Akkeshi**	**7.13**	**244**	P	**Pn**	**21 25 03.6**	**-1.3**
JTKR	**Abashiri--Toko**	**7.18**	**253**	P	**Pn**	**21 25 07.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**7.35**	**277**	*e*PN	**Pn**	**21 25 15.5**	**+7.5**
YSS	**Yuzh-Sakhalins** comp=E,6.6nm,0.4s	**7.35**	**277**	*e*Pn	**Pn**	**21 25 08.6**	**+0.6**
JAR	**Ashorobuto**	**7.57**	**249**	P	**Pn**	**21 25 10.8**	**-0.1**
JAR				*e*S	**Sn**	**21 26 34.6**	**-0.9**
JKK2	**Kamakawa 2**	**7.99**	**255**	P	**Pn**	**21 25 18.5**	**+1.8**
ASAJ	**Asahikawa** comp=E,1.2nm,0.3s,baz=70,slow=29,SNR=8.5	**8.00**	**257**	Pn	**Pn**	**21 25 18.4**	**+1.6**
ASAJ	**Asahikawa**	**8.00**	**257**	P	**Pn**	**21 25 18.1**	**+1.3**
ASAJ	**Asahikawa**	**8.00**	**257**	PN	**Pn**	**21 25 18.5**	**+1.7**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
JCH	**Churui**	**8.17**	**245**	P	**Pn**	**21 25 18.4**	**-0.7**
JCH				*e*S	**Sn**	**21 26 44.8**	**-5.5**
JBT2	**Biratori 2**	**8.72**	**249**	P	**Pn**	**21 25 27.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.73**	**245**	P	**Pn**	**21 25 27.5**	**+0.7**
JANG	**Nango**	**10.60**	**239**	P	**Pn**	**21 25 49.4**	**-3.1**
JANG				*e*S	**Sn**	**21 27 39.0**	**-11**
MAJO	**Matsushiro**	**15.10**	**234**	*e*P	**Pn**	**21 26 53.3**	**-0.5**
MAJO				*e*		21 29 39.6	
MAJO	comp=Z,9.0nm,0.9s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,8.6nm,0.9s	**15.10**	**234**	*e*Pn	**Pn**	**21 26 53.3**	**-0.5**
MAJO				*e*Sn	**Sn**	**21 29 39.6**	**-0.4**
MJAR	**Matsushiro Arr** baz=31,slow=14,SNR=3.2	**15.10**	**234**	Pn	**Pn**	**21 26 54.2**	**+0.4**
SONM	**Songino Array** comp=Z,0.2nm,0.4s,mb3.3,baz=72,slow=4.7,SNR=2.2	**31.63**	**290**	P	**P**	**21 29 42.1**	**-0.8**
MKAR	**Makanchi Array** comp=Z,1.3nm,0.8s,mb3.9,baz=63,slow=8.3,SNR=13	**47.26**	**298**	P	**P**	**21 31 52.1**	**-0.9**
LSA	**Lhasa**	**50.51**	**274**	*e*P	**P**	**21 32 20.1**	**+2.2**
LSA	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
LSA	**Lhasa** comp=Z,2.5nm,0.6s,mb4.3	**50.51**	**274**	*e*P	**P**	**21 32 20.1**	**+2.2**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.5s,mb3.9,baz=295,slow=7.0,SNR=5.3	**51.00**	**37**	P	**P**	**21 32 21.5**	**-0.1**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.3s,mb4.0,baz=44,slow=6.6,SNR=4.9	**51.19**	**310**	P	**P**	**21 32 21.8**	**-1.3**
KKN	**Kakani** comp=Z,6.5nm,0.5s,mb4.9	**55.73**	**276**	*e*P	**P**	**21 32 58.4**	**+2.1**
PKI	**Pulchoki**	**55.78**	**275**	*e*P	**P**	**21 32 58.9**	**+2.2**
DMN	**Daman** comp=Z,6.4nm,0.6s,mb4.8	**55.96**	**276**	*e*P	**P**	**21 32 59.4**	**+1.4**
GKN	**Gorkha** comp=Z,7.4nm,0.4s,mb5.1	**56.04**	**276**	*e*P	**P**	**21 32 59.9**	**+1.3**
KOLN	**Koldanda** comp=Z,8.9nm,0.8s,mb4.8	**56.90**	**277**	*e*P	**P**	**21 33 06.6**	**+1.9**
FINES	**FINESS Array B** comp=Z,1.0nm,0.6s,mb4.0,baz=43,slow=6.7,SNR=15	**64.37**	**335**	P	**P**	**21 33 54.8**	**-0.8**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,mb3.6,baz=268,slow=5.2,SNR=5.0	**64.72**	**54**	P	**P**	**21 33 58.0**	**+0.1**
WRA	**Warramunga Arr** comp=Z,1.3nm,0.8s,mb4.0,baz=21,slow=6.9,SNR=6.4	**68.34**	**199**	P	**P**	**21 34 20.0**	**-1.0**
NB2	**NORSAR Subarra** comp=Z,3.0nm,0.9s,mb4.2,baz=31,slow=6.5	**68.55**	**341**	P	**P**	**21 34 22.0**	**-0.3**
NB2	**NORSAR Subarra** comp=Z,3.0nm,0.9s,mb4.2	**68.55**	**341**	P	**P**	**21 34 22.0**	**-0.3**
NB2				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.8nm,0.5s,mb3.9,baz=28,slow=6.4,SNR=6.8	**68.55**	**341**	P	**P**	**21 34 21.5**	**-0.8**
AKASG	**Malin Array Be** comp=Z,1.0nm,0.5s,mb4.0,baz=34,slow=6.0,SNR=8.1	**71.89**	**326**	P	**P**	**21 34 41.5**	**-1.2**
ASAR	**Alice Springs** comp=Z,1.5nm,0.6s,mb4.1,baz=11,slow=5.3,SNR=29	**72.03**	**199**	P	**P**	**21 34 43.6**	**0.0**
GERES	**GERESS Array B** comp=Z,0.4nm,0.8s,mb3.4,baz=28,slow=6.0,SNR=5.3	**78.79**	**334**	P	**P**	**21 35 21.8**	**-0.5**

KRSC 30 21:33:22, 49°09'N × 155°16'E, h10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**3.67**	**23**	*e*P	Pn	21 34 21.1	+2.4
RUS				*i* S	Sn	21 35 03.6	+1.6
GRL	**Gorelyy**	**3.67**	**19**	P	Pn	21 34 21.7	+2.9
AVH	**Avacha**	**4.48**	**20**	P	Pn	21 34 33.8	+3.8
SPN	**Mys Shipunski**	**4.69**	**30**	P	Pn	21 34 36.1	+3.2
SPN				*i* S	Sn	21 35 30.0	+2.6
GNL	**Ganaly**	**4.75**	**13**	*e*P	Pn	21 34 36.6	+3.0

IDC 30 21:45:16.0±8.2, **237N**×**12675E**, **h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/16, **mbtmp3.7**/4, **MS3.8**/1, **Ms1 3.8**/1, **ms1mx2.7**/26, **Error ellipse: s-maj=132.1km s-min=102.2km az=138.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.6nm,0.5s,baz=11,slow=11,SNR=5.1	**20.37**	**183**	P	P	21 49 56.3	+2.2
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=338,slow=10,SNR=25	**23.39**	**162**	P	P	21 50 25.2	-1.3
PMG	**Port Moresby** comp=Z,220nm,20.0s,baz=192,slow=38	**23.46**	**120**	LR	LR	22 00 17.1	
ASAR	**Alice Springs** 0.4nm,0.5s,baz=344,slow=7.7,SNR=11	**26.80**	**165**	P	P	21 50 58.1	+0.4
STKA	**Stephens Creek** 1.4nm,0.6s,baz=323,slow=10,SNR=3.9	**36.86**	**159**	P	P	21 52 26.3	+0.3

*NIED **30** 21:57:00, 46°60'N × 152°90'E, h14km, Mw4.8 Best double couple: M₀1.65000×10¹⁶ NP1:φ₀307.00000°, δ72.00000°, λ-21.00000°. NP2:φ₀44.00000°, δ70.00000°, λ-161.00000°.*

*IDC **30** 21:57:47.6±0.7, 46°28'N × 152°88'E, h0km, mb4.0/17, mb1 4.2/18, mb1mx4.1/24, mbtmp4.0/18, ML3.4/1, MS4.3/12, Ms1 4.3/12, ms1mx3.9/45, Error ellipse: s-maj=19.2km s-min=17.6km az=159.0*

*ISCJB **30** 21:57:51.2±0.3, 46°04'N±0.05' × 152°96'E±0.06', h40km, mb4.4/61, MS4.4/17, Error ellipse: s-maj=8.9km s-min=3.4km az=114.5*

*SKHL **30** 21:57:51.0±3.4, 46°04'N × 153°26'E, h50km±18km, mb4.7/4, Ms4.6/5, msh5.4/2*

*MOS **30** 21:57:52.3±1.3, 46°39'N × 152°96'E, h38km, mb4.8/31, MS4.0/9, Error ellipse: s-maj=10.1km s-min=6.5km az=107.7*

*BJI **30** 21:57:52.4, 46°42'N × 153°03'E, h52km, mB4.9, mb4.4, Ms4.7, Msz4.4*

*NEIC **30** 21:57:53.2±0.4, 46°09'N × 152°78'E, mb4.7/39, MS4.5/1, Error ellipse: s-maj=12.2km s-min=7.7km az=159.0*

*SZGRF **30** 21:57:53.9, 46°39'N × 153°32'E, h33km, mb4.4, Kuril Islands, Russia*

ISC 30 21:57:53.7±0.4, **46°21'N**±0.06' × **152°91'E**±0.06', **h42**km, **h42**km±1.5km: **pP-P, n207**, σ1°21/208, **mb4.4**/61, **MS4.4**/17, **6C-11D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.66**	**256**	*i* P	**Pn**	**21 58 46.0**	**-1.7**
KUR				AMB	AMB	21 58 47.5	
KUR	170nm,0.5s			AMB	AMB	21 58 47.5	
KUR	210nm,0.5s			AMB	AMB	21 58 47.5	
KUR	300nm,0.5s			*e*S	**Sn**	**21 59 31.0**	**+1.3**
KUR				A		21 59 44.0	
KUR	300nm,0.6s			AMS	AMS	22 00 13.0	
KUR	8μm,14.0s			AMS	AMS	22 00 13.0	
KUR	4μm,14.0s			AMS	AMS	22 00 13.0	
KUR	5μm,14.0s			AMS	AMS	22 00 13.0	
SKR	**Severo-Kuril's**	**4.96**	**24**	*e*P	**Pn**	**21 59 02.0**	**-3.6**
SKR	150nm,0.3s			AMB	AMB	21 59 04.2	
SKR	110nm,0.3s			AMB	AMB	21 59 04.2	
SKR	70nm,0.3s			AMB	AMB	21 59 04.2	
SKR				*e*S	**Sn**	**21 59 54.0**	**-7.7**
SKR	540nm,1.0s			A		22 00 06.0	
SKR	450nm,1.0s			A		22 00 06.0	
SKR	270nm,1.0s			A		22 00 08.0	
SKR	3μm,6.0s			A		22 00 08.0	
SKR	5μm,6.0s			A		22 00 08.0	
SKR	2μm,6.0s			AMS	AMS	22 00 58.0	
SKR	3μm,14.0s			AMS	AMS	22 00 58.0	
SKR	3μm,14.0s			AMS	AMS	22 00 58.0	
SKR	3μm,14.0s			AMS	AMS	22 00 58.0	
YUK	**Yuzh-Kuril'sk**	**5.44**	**249**	*e*PN	**Pn**	**21 59 17.1**	**+5.0**
YUK	comp=N,170nm,0.4s			pmax	pmax		
YUK	comp=Z,210nm,0.4s			pmax	pmax		
YUK	comp=E,110nm,0.3s			pmax	pmax		
NEM2	**Nemuro 2**	**5.83**	**243**	P	**Pn**	**21 59 16.1**	**-1.5**
NEM2				*e*S	**Sn**	**22 00 20.0**	**-3.2**
JRA	**Rausu**	**5.96**	**250**	P	**Pn**	**21 59 20.4**	**+1.1**
JNK	**Nakash**	**6.38**	**249**	P	**Pn**	**21 59 25.1**	**+0.1**
JAK	**Akkeshi**	**6.68**	**244**	P	**Pn**	**21 59 27.8**	**-1.4**
JTKR	**Abashiri--Toko**	**6.75**	**254**	P	**Pn**	**21 59 31.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**7.04**	**280**	*e*PN	**Pn**	**21 59 39.0**	**+4.9**
YSS				*e*S	**Sn**	**22 00 58.0**	**+5.2**
YSS	comp=Z,2μm,15.0s			MLR	MLR		
YSS	comp=E,2μm,17.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins** comp=E,9.9nm,0.4s	**7.04**	**280**	*e*Pn	**Pn**	**21 59 38.6**	**+4.6**
JMP	**Maruseppu**	**7.10**	**255**	P	**Pn**	**21 59 36.3**	**+1.3**
JAR	**Ashorobuto**	**7.12**	**249**	P	**Pn**	**21 59 35.7**	**+0.4**
JOB	**Onbets**	**7.27**	**246**	P	**Pn**	**21 59 36.6**	**-0.7**
JKK2	**Kamakawa 2**	**7.56**	**256**	P	**Pn**	**21 59 43.0**	**+1.7**
ASAJ	**Asahikawa** comp=E,2.8nm,0.3s,baz=98,slow=14,SNR=18	**7.58**	**258**	Pn	**Pn**	**21 59 43.0**	**+1.4**
ASAJ	comp=E,1μm,18.5s,baz=263,slow=39			LR	LR	22 02 44.5	
ASAJ	**Asahikawa**	**7.58**	**258**	P	**Pn**	**21 59 43.8**	**+2.3**
ASAJ	**Asahikawa**	**7.58**	**258**	PN	**Pn**	**21 59 43.0**	**+1.5**
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,1μm,18.5s			MLR	MLR		
JCH	**Churui**	**7.72**	**246**	P	**Pn**	**21 59 42.8**	**-0.6**
JCH				*e*S	**Sn**	**22 01 06.7**	**-2.8**
PET	**Petropavlovsk**	**7.78**	**27**	*e*rx	rx	21 59 43.8	
PET				AMB	AMB	21 59 54.9	
PET	comp=Z,60nm,1.5s			*e*S	**Sn**	**22 01 05.0**	**-6.0**
PET				A		22 01 26.1	
PET	comp=Z,1μm,5.1s			A		22 01 31.8	
PET	comp=Z,170nm,1.5s			A		22 01 33.3	
PET	comp=Z,130nm,1.1s			AMS	AMS	22 03 50.5	
JFR	**Furan** comp=Z,1μm,14.0s	**7.95**	**251**	P	**Pn**	**21 59 49.2**	**+2.5**
JEM	**Erimo**	**8.17**	**243**	P	**Pn**	**21 59 50.2**	**+0.6**
TYV	**Tymovskoe**	**8.24**	**308**	*e*P	**Pn**	**21 59 54.2**	**+3.6**
TYV	comp=Z,10.0nm,0.8s			AMB	AMB	21 59 57.0	
JNBK	**Urakawa-nobuka**	**8.28**	**245**	P	**Pn**	**21 59 49.9**	**-1.2**
JBT2	**Biratori 2**	**8.28**	**249**	P	**Pn**	**21 59 51.2**	**+0.1**
JNB	**Noboribetsu**	**9.29**	**251**	P	**Pn**	**22 00 05.3**	**+0.4**
JNB				*e*S	**Sn**	**22 01 47.8**	**-0.3**
JKB	**Kayabe**	**9.57**	**247**	P	**Pn**	**22 00 07.8**	**-1.1**
JKB				*e*S	**Sn**	**22 01 50.3**	**-4.8**
OKH	**Okha** comp=Z,3μm,14.0s	**9.76**	**322**	AMS	AMS	22 04 08.2	
OKH	comp=Z,3μm,14.0s			AMS	AMS	22 04 08.2	
JYM2	**Yakumo 2**	**9.89**	**250**	P	**Pn**	**22 00 12.6**	**-0.6**
JANG	**Nango**	**10.14**	**239**	P	**Pn**	**22 00 12.6**	**-4.0**
JTM	**Tenmabayashi**	**10.16**	**242**	P	**Pn**	**22 00 14.2**	**-2.7**
JOSM	**Okushiri--Mats**	**10.49**	**252**	P	**Pn**	**22 00 20.5**	**-1.0**
NKL	**Nikolayevsk**	**10.53**	**316**	*e*P	**Pn**	**22 00 28.3**	**+6.4**
NKL	comp=Z,2μm,16.0s			AMS	AMS	22 05 14.0	
NKL	comp=Z,2μm,16.0s			AMS	AMS	22 05 14.0	
NKL	comp=Z,4μm,16.0s			AMS	AMS	22 05 14.0	
JRG	**Rokugo**	**11.29**	**237**	P	**Pn**	**22 00 29.6**	**-2.7**
JIO	**Ouri**	**11.53**	**232**	*e*S	**Sn**	**22 02 33.8**	**-9.2**
KLR	**Kul'dur**	**14.55**	**290**	*e*P	**Pn**	**22 01 16.1**	**-0.7**
KLR	comp=Z,2μm,15.0s			MLR	MLR		
MAJO	**Matsushiro**	**14.64**	**234**	*e*P	**Pn**	**22 01 13.7**	**-4.3**
MAJO	comp=Z,7.0nm,0.9s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,6.5nm,0.9s	**14.64**	**234**	*e*Pn	**Pn**	**22 01 13.7**	**-4.3**
MAT	**Matsushiro**	**14.64**	**234**	P	**Pn**	**22 01 15.1**	**-2.9**
MAT				S	**Sn**	**22 04 00.0**	**+1.1**
MJAR	**Matsushiro Arr** comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=8.6	**14.64**	**234**	Pn	**Pn**	**22 01 14.6**	**-3.4**
VLA	**Vladivostok**	**15.26**	**266**	*i* P	**Pn**	**22 01 15.8**	**-10**
MDJ	**Mudanjiang**	**16.44**	**273**	P	**Pn**	**22 01 42.3**	**+1.1**
MDJ	comp=Z,13nm,1.2s			AMB	AMB		
MDJ	comp=Z,170nm,5.5s			AMB	AMB		
MDJ	**Mudanjiang** comp=Z,20nm,1.1s	**16.44**	**273**	*e*Pn	**Pn**	**22 01 40.6**	**-0.6**
SEY	**Seymchan**	**16.77**	**359**	*i* P	**Pn**	**22 01 53.0**	**+7.7**
CN2	**Changchun**	**19.53**	**273**	*e*P	**Pn**	**22 02 18.3**	**-0.7**
CLNS	**Chul'man**	**20.27**	**312**	*e*P	**P**	**22 02 25.2**	**-0.4**
CLNS	comp=N,2.0nm,0.9s			pmax	pmax		
CLNS	comp=Z,13nm,0.9s			pmax	pmax		
CLNS	comp=E,6.0nm,1.1s			pmax	pmax		
CLNS	comp=N,600nm,16.0s			MLR	MLR		
CLNS	comp=Z,2μm,16.0s,MS4.5			MLR	MLR		
BILL	**Bilibino**	**22.95**	**13**	*e*P	**P**	**22 03 00.1**	**+5.8**
BILL				*e*		22 03 25.8	
BILL	comp=Z,10.0nm,1.7s,mb4.0			pmax	pmax		
BILL	comp=Z,700nm,16.0s,MS4.2			MLR	MLR		
BOD	**Bodaibo**	**26.23**	**310**	*e*P	**P**	**22 03 22.3**	**-2.3**
BOD	comp=Z,5.0nm,1.4s,mb3.9			pmax	pmax		
BJI	**Beijing**	**27.33**	**270**	*e*P	**P**	**22 03 35.8**	**+1.3**
BJI				S	**S**	**22 08 06.3**	**-5.1**
BJI	comp=Z,12nm,1.4s,mb4.2			AMB	AMB		
BJI	comp=N,377nm,16.6s,MS4.3			LR	LR		
BJI	comp=E,666nm,17.4s,MS4.3			LR	LR		
BJI	comp=Z,534nm,18.0s,MS4.2			LR	LR		
BJI	**Beijing**	**27.33**	**270**	*e*P	**P**	**22 03 35.7**	**+1.2**
BJI				S	**S**	**22 08 06.2**	**-5.2**
BJT	**Baijiatuau**	**27.35**	**270**	*e*P	**P**	**22 03 31.4**	**-3.3**
BJT	comp=Z,6.0nm,0.4s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,5.7nm,0.4s,mb4.5	**27.35**	**270**	*e*P	**P**	**22 03 31.4**	**-3.2**
SONM	**Songino Array** comp=Z,0.5nm,0.6s,mb3.5,baz=85,slow=8.8,SNR=2.4	**31.38**	**290**	P	**P**	**22 04 10.2**	**-0.2**
SONM	comp=Z,500nm,19.1s,MS4.2,baz=64,slow=38			LR	LR	22 17 44.3	
TLY	**Talaya**	**32.30**	**298**	*i* P	**P**	**22 04 19.3**	**+0.8**
ZAK	**Zakamensk**	**32.78**	**296**	*e*P	**P**	**22 04 21.0**	**-1.7**
ZAK	comp=Z,2.0nm,1.6s,mb3.8			pmax	pmax		
GUMO	**Guam** comp=Z,250nm,18.4s,MS4.0,baz=266,slow=35	**33.21**	**194**	LR	LR	22 17 20.5	
XAN	**Xi'an**	**35.33**	**266**	P	**P**	**22 04 46.0**	**+1.2**
XAN	comp=Z,9.0nm,3.6s			AMB	AMB		
COLA	**College**	**36.65**	**38**	*i* P	pP	22 05 06.4	-1.3
ENH	**Enshi** comp=Z,0.4nm,0.3s,mb3.7	**37.13**	**260**	*e*P	**P**	**22 04 57.8**	**-2.4**
LZH	**Lanzhou**	**37.76**	**272**	*e*P	**P**	**22 05 07.5**	**+1.9**
LZH				AP	pP	22 05 17.5	+0.4
LZH				XP	sP	22 05 25.0	+2.9
LZH	comp=Z,42nm,1.5s,mb5.0			AMB	AMB		
LZH	comp=Z,96nm,4.2s			AMB	AMB		
EGAK	**Eagle**	**39.52**	**38**	*e*P	**P**	**22 05 17.4**	**-2.9**
CD2	**Chengdu**	**40.69**	**266**	P	**P**	**22 05 31.8**	**+1.8**
INK	**Inuvik** comp=Z,3.4nm,0.9s,mb4.0,baz=317,slow=5.2,SNR=7.2	**42.19**	**32**	P	**P**	**22 05 41.4**	**-0.9**
INK	**Inuvik** comp=Z,3.0nm,0.9s	**42.19**	**32**	P	**P**	**22 05 41.4**	**-0.9**
INK				pmax	pmax		
INK	**Inuvik**	**42.19**	**32**	*e*P	**P**	**22 05 41.5**	**-0.8**
ZAL	**Zalesovo** comp=Z,0.8nm,0.4s,mb3.8,baz=64,slow=11,SNR=3.8	**42.83**	**306**	P	**P**	**22 05 46.4**	**-1.1**
ZAL	comp=Z,1μm,18.4s,MS4.9,baz=40,slow=39			LR	LR	22 25 48.0	
KMI	**Kunming**	**45.00**	**260**	P	**P**	**22 06 05.5**	**+0.6**
KMI				AP	pP	22 06 16.3	-0.4
KMI				XP	sP	22 06 20.5	-1.1
KMI				S	**S**	**22 12 44.3**	**+3.8**
KMI	comp=Z,10.0nm,1.7s,mb4.4			AMB	AMB		
KMI	comp=Z,199nm,4.8s			AMB	AMB		
KMI	**Kunming**	**45.00**	**260**	P	**P**	**22 06 05.6**	**+0.7**
KMI				pP	pP	22 06 16.3	-0.4
KMI				sP	sP	22 06 20.5	-1.1
KMI				S	**S**	**22 12 44.2**	**+3.7**
KMI				sS	sS	22 12 57.9	-2.2
MKAR	**Makanchi Array** comp=Z,2.8nm,0.8s,mb4.3,baz=66,slow=7.8,SNR=31	**47.07**	**298**	P	**P**	**22 06 19.7**	**-1.4**
LSA	**Lhasa**	**50.16**	**273**	*e*P	**P**	**22 06 45.0**	**+0.1**
LSA	comp=Z,3.0nm,0.4s,mb4.7			pmax	pmax		
LSA	**Lhasa** comp=Z,3.0nm,0.4s,mb4.7	**50.16**	**273**	*e*P	**P**	**22 06 45.0**	**0.0**
BVAR	**Borovoye Array** comp=Z,1.5nm,0.4s,mb4.2,baz=50,slow=7.6,SNR=13	**51.09**	**310**	P	**P**	**22 06 50.4**	**-1.5**
BVAR	comp=Z,603nm,18.3s,MS4.7,baz=139,slow=38			LR	LR	22 30 24.5	
BRVK	**Borovoye** comp=Z,8.0nm,1.3s,mb4.5	**51.13**	**310**	*e*P	**P**	**22 06 51.0**	**-1.3**
BRVK				pmax	pmax		
BRVK	**Borovoye** comp=Z,7.7nm,1.3s,mb4.5	**51.13**	**310**	*e*P	**P**	**22 06 51.0**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.7s,mb3.7,baz=303,slow=7.3,SNR=3.6	**51.45**	**36**	P	**P**	**22 06 54.2**	**-0.4**
YKA	**Yellowknife Ar**	**51.45**	**36**	P	**P**	**22 06 54.2**	**-0.4**
ZRNK	**Zerenda**	**51.87**	**310**	*e*P	**P**	**22 06 56.6**	**-1.2**
ZRNK				*e**PP	pP	22 07 09.7	0.0
ZRNK	comp=Z,2.0nm,0.5s,mb4.3			pmax	pmax		
ZRNK	**Zerenda** comp=Z,2.1nm,0.5s,mb4.3	**51.87**	**310**	*e*P	**P**	**22 06 56.6**	**-1.2**
ZRNK				*ep*P	pP	22 07 09.7	0.0
AAK	**Ala-Archa**	**53.95**	**297**	*e*P	**P**	**22 07 12.2**	**-0.9**
AAK	comp=Z,4.0nm,0.8s,mb4.4			pmax	pmax		
AAK	**Ala-Archa** comp=Z,3.5nm,0.8s,mb4.3	**53.95**	**297**	*e*P	**P**	**22 07 12.2**	**-0.9**
JIRN	**Jiri**	**54.85**	**275**	*e*P	**P**	**22 07 22.6**	**+3.0**
GUN	**Gumba**	**54.91**	**275**	*e*P	**P**	**22 07 21.9**	**+1.8**
ARU	**Arti**	**55.32**	**318**	*e*P	**P**	**22 07 21.1**	**-1.9**
ARU				*e**PP	pP	22 07 31.7	-3.3
ARU	comp=Z,3.0nm,0.4s,mb4.7			pmax	pmax		
ARU	**Arti** comp=Z,3.0nm,0.4s,mb4.7	**55.32**	**318**	*e*P	**P**	**22 07 21.1**	**-2.0**
ARU				*ep*P	pP	22 07 31.7	-3.4
KKN	**Kakani**	**55.40**	**276**	*e*P	**P**	**22 07 25.3**	**+1.7**
PKI	**Pulchoki**	**55.44**	**275**	*e*P	**P**	**22 07 25.4**	**+1.5**
DMN	**Daman** comp=Z,109nm,1.6s	**55.63**	**275**	*e*P	**P**	**22 07 27.1**	**+1.8**
GKN	**Gorkha**	**55.71**	**276**	*e*P	**P**	**22 07 27.0**	**+1.2**
KOLN	**Koldanda** comp=Z,22nm,1.0s,mb5.2	**56.57**	**277**	*e*P	**P**	**22 07 33.6**	**+1.6**
KEV	**Kevo** comp=Z,0.6nm,0.4s,mb4.0	**57.81**	**341**	*e*p	**P**	**22 07 38.9**	**-1.8**
KEV	**Kevo**	**57.81**	**341**	*e*P	**P**	**22 07 38.9**	**-1.8**
KEV	comp=Z,1.0nm,0.4s,mb4.2			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.6s,mb4.2,baz=22,slow=7.7,SNR=8.0	**58.32**	**341**	P	**P**	**22 07 43.7**	**-0.6**
ARCES	comp=Z,213nm,18.2s,MS4.3,baz=117,slow=42			LR	LR	22 38 51.3	
BMO	**Blue Mountains** comp=Z,9.4nm,1.5s,mb4.6	**59.50**	**56**	*e*P	**P**	**22 07 56.9**	**+4.4**
JOF	**Joensuu** comp=Z,1.0nm,0.3s,mb4.4	**61.76**	**334**	*ep*	**P**	**22 08 07.3**	**-0.6**
BOZ	**Bozeman (W)**	**62.20**	**52**	*e*P	**P**	**22 08 10.0**	**-0.8**
BOZ				*e**PP	pP	22 08 22.4	-0.6
BOZ	comp=Z,12nm,1.2s,mb4.9			pmax	pmax		
BOZ	**Bozeman (W)** comp=Z,12nm,1.2s,mb4.9	**62.20**	**52**	*e*P	**P**	**22 08 10.0**	**-0.9**
BOZ				*ep*P	pP	22 08 22.4	-0.6
NVAR	**Mina Array Bea** comp=Z,2.3nm,0.9s,mb4.3,baz=287,slow=8.0,SNR=6.2	**62.81**	**62**	P	**P**	**22 08 14.3**	**-0.6**
RRI2	**Red Ridge** comp=Z,6.8nm,0.8s,mb4.7	**63.82**	**54**	*e*P	**P**	**22 08 26.8**	**+5.2**
RRI2				*ep*P	pP	22 08 39.0	+5.1
KAF	**Kangasniemi** comp=Z,0.5nm,0.3s,mb4.0	**63.88**	**335**	*ep*	**P**	**22 08 21.0**	**-1.0**
KAF	**Kangasniemi**	**63.88**	**335**	*e*P	**P**	**22 08 21.0**	**-1.0**
KAF	comp=Z,1.0nm,0.3s,mb4.3			pmax	pmax		
TPAW	**Teton Pass** comp=Z,15nm,1.1s,mb4.9	**63.94**	**54**	*e*P	**P**	**22 08 22.0**	**-0.4**
TPAW				*ep*P	pP	22 08 34.8	+0.2
TPAW				*

DUG epP pP 22 08 40.8 -0.7
PDAR Pinedale Array 65.19 54 P **P** **22 08 30.1 -0.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=298,slow=2.1,SNR=6.8
PDAR LR LR 22 37 42.7
comp=Z,68nm,18.6s,MS3.9,baz=169,slow=37
OBN Obninsk 65.68 326 P **P** **22 08 33.0 -0.7**
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.3
MSU Marysvale 66.46 58 *e*P **P** **22 08 40.2 +1.5**
MSU *e**PP pP 22 08 50.4 -0.6
SRU San Rafael 67.03 57 *e*P **P** **22 08 41.8 -0.6**
SRU *e**PP pP 22 08 53.1 -1.6
SRU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SRU San Rafael 67.03 57 *e*P **P** **22 08 41.8 -0.5**
comp=Z,9.3nm,1.0s,mb4.8
SRU *e*pP pP 22 08 53.1 -1.5
RSSD Black Hills 67.29 50 *e*P **P** **22 08 43.0 -1.2**
RSSD *e**PP pP 22 08 55.1 -1.2
RSSD pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
RSSD Black Hills 67.29 50 *e*P **P** **22 08 43.0 -1.0**
comp=Z,10nm,1.3s,mb4.7
RSSD *e*pP pP 22 08 55.1 -1.2
WRA Warramunga Arr 67.95 199 P **P** **22 08 49.2 +1.0**
comp=Z,1.2nm,1.1s,mb3.8,baz=16,slow=6.3,SNR=3.6
NB2 NORSAR Subarra 68.70 341 P **P** **22 08 51.7 -1.1**
comp=Z,14nm,1.2s,mb4.8,baz=28,slow=6.5
NB2 NORSAR Subarra 68.70 341 P **P** **22 08 51.7 -1.1**
NB2 pmax pmax
comp=Z,15nm,1.2s,mb4.8
NOA NORSAR Array B 68.70 341 P **P** **22 08 51.2 -1.7**
comp=Z,1.5nm,0.5s,mb4.2,baz=28,slow=6.4,SNR=10
NOA LR LR 22 43 52.8
comp=Z,191nm,18.5s,MS4.4,baz=335,slow=40
NOA NORSAR Array B 68.70 341 P **P** **22 08 51.2 -1.7**
NOA LR LR 22 43 52.8
ISCO Idaho Springs 69.38 54 *e*P **P** **22 08 56.1 -1.0**
ISCO *e**PP pP 22 09 08.9 -0.5
ISCO pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
ISCO Idaho Springs 69.38 54 *e*P **P** **22 08 56.1 -0.9**
comp=Z,6.4nm,1.2s,mb4.4
ISCO *e*pP pP 22 09 08.9 -0.5
KIV Kislovodsk 71.08 314 P **P** **22 09 08.0 +0.6**
KIV 22 11 41.0
KIV pmax pmax
comp=Z,17nm,1.2s,mb4.8
ASAR Alice Springs 71.65 198 P **P** **22 09 11.4 +0.6**
comp=Z,0.2nm,0.5s,baz=11,slow=5.9,SNR=6.1
AKASG Malin Array Be 71.92 326 P **P** **22 09 11.0 -1.5**
comp=Z,4.2nm,0.5s,mb4.7,baz=33,slow=6.1,SNR=27
AKASG LR LR 22 44 37.4
comp=Z,198nm,18.4s,MS4.4,baz=25,slow=39
AKASG Malin Array Be 71.92 326 *i* P **P** **22 09 11.6 -0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.92 326 P **P** **22 09 11.0 -1.5**
AKASG LR LR 22 44 37.4
AKBB Malin Array Si 71.92 326 *e*P **P** **22 09 10.7 -1.8**
LAZ Ladron 72.22 59 *e*P **P** **22 09 18.0 +3.6**
ANMO Albuquerque 72.24 58 *i* P pP 22 09 25.5 -1.4
GNI Garni 72.77 310 *e*P **P** **22 09 19.6 +2.0**
GNI *e**PP pP 22 09 31.7 +1.7
GNI pmax pmax
comp=Z,27nm,1.4s
GNI Garni 72.77 310 *e*P **P** **22 09 19.6 +2.0**
comp=Z,27nm,1.4s,mb5.0
GNI *e*pP pP 22 09 31.7 +1.6
KIS Kishinev 75.04 324 *e*P **P** **22 09 30.0 -0.9**
KIS MLR MLR
comp=Z,300nm,15.0s,MS4.7
KIS MLR MLR
comp=Z,500nm,16.0s
OJC Ojcow 75.73 331 *e*P **P** **22 09 34.6 -0.2**
STHS Stebnicka Huta 75.91 330 *e*P **P** **22 09 37.3 +1.4**
STHS Stebnicka Huta 75.91 330 *e*P **P** **22 09 37.3 +1.4**
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 75.91 330 *e*P **P** **22 09 37.3 +1.4**
comp=Z,4.0nm,1.1s,mb4.3
KOLS Kolonicke sedl 75.96 329 *e*P **P** **22 09 36.0 -0.1**
BURAR Bucovina Array 75.96 327⇓ *i*P **P** **22 09 36.5 +0.3**
UZH Uzhgorod 76.20 329 *e*P **P** **22 09 39.0 +1.5**
NIE Niedzica 76.23 330 *e*P **P** **22 09 39.6 +1.9**
CRVS Cervenica-Dubn 76.27 329 *e*P **P** **22 09 37.6 -0.3**
DPC Dobruska-Polom 76.75 333 *e*P **P** **22 09 41.7 +1.1**
WMOK Wichita Mounta 76.80 53 *e*P **P** **22 09 44.3 +3.4**
WMOK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
WMOK Wichita Mounta 76.80 53 *e*P **P** **22 09 44.2 +3.4**
comp=Z,3.5nm,1.1s,mb4.2
EKA Eskdalemuir Ar 76.83 346 P **P** **22 09 41.9 +0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=22,slow=5.1,SNR=9.9
MORC Moravsky Berou 76.85 332⇓ *i*P **P** **22 09 41.6 +0.4**
CLL Collm 76.90 335 *e*P **P** **22 09 46.0 +4.5**
comp=Z,40nm,2.1s,mb5.0
CLL Collm 76.90 335 *e*P **P** **22 09 46.0 +4.5**
CLL pmax pmax
comp=Z,40nm,2.1s,mb5.0
KECS Kecovo 76.97 330 *e*P **P** **22 09 43.3 +1.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 76.97 330 *e*P **P** **22 09 43.3 +1.4**
comp=Z,1.9nm,0.8s,mb4.1
MLR Muntele Rosu 77.43 325⇑ *i*P **P** **22 09 45.9 +1.5**
VYHS Vyhne 77.53 331 *e*P **P** **22 09 45.0 0.0**
VYHS pmax pmax
comp=Z,18nm,2.2s,mb4.6
VYHS Vyhne 77.53 331 *e*P **P** **22 09 45.0 0.0**
comp=Z,18nm,2.2s,mb4.6
VRAC Vranov 77.57 332⇓ *i*P **P** **22 09 45.4 +0.2**
DRGR 77.60 327⇓ *i*P **P** **22 09 44.8 -0.6**
PRU Pruhonice 77.61 334 *e*P **P** **22 09 45.1 -0.4**
VOIR 77.83 325⇑ *i*P **P** **22 09 47.0 +0.3**
KHC Kasperske Hory 78.67 334 *e*P **P** **22 09 51.2 -0.1**
KHC Kasperske Hory 78.67 334⇑ *e*P **P** **22 09 51.3 0.0**
BR131 Keskin Array S 78.69 317 *e*P **P** **22 09 51.7 +0.2**
comp=Z,2.9nm,0.9s,mb4.2
BRTR Keskin Array B 78.69 317 P **P** **22 09 52.6 +1.2**
comp=Z,1.1nm,0.9s,mb3.8,baz=15,slow=5.1,SNR=5.3
GZR Gura Zlata 78.75 327⇓ *i*P **P** **22 09 52.5 +0.8**
GRA1 Grafenberg Arr 78.86 336 *e*P **P** **22 09 52.0 -0.3**
comp=Z,5.0nm,1.2s,mb4.3
GRF Grafenberg Arr 78.86 336 *e*P **P** **22 09 52.0 -0.3**
comp=Z,5.0nm,1.2s,mb4.3
GRF Grafenberg Arr 78.86 336 *e*P **P** **22 09 52.0 -0.3**
GRF pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
GERES GERESS Array B 78.88 334 P **P** **22 09 52.3 -0.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=23,slow=4.5,SNR=7.7
BZS Buzias 79.00 328⇑ *i*P **P** **22 09 53.0 -0.1**
BAIF Baives 80.35 340 *e*P **P** **22 10 00.2 -0.2**
KBA Koelnbreinsper 80.56 333⇓ *i*P **P** **22 10 02.2 +0.6**
comp=Z,9.5nm,0.8s,mb4.8
KBA Koelnbreinsper 80.56 333⇓ *i*P **P** **22 10 02.2 +0.6**
KBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WTTA Wattenberg 80.92 334⇓ *i*P **P** **22 10 04.5 +1.0**
comp=Z,9.2nm,0.8s,mb4.8
WTTA Wattenberg 80.92 334⇓ *i*P **P** **22 10 04.5 +1.0**
WTTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VTS Vitosha 80.93 325⇓ *i*P **P** **22 10 04.0 +0.4**
MOTA Moosalm 81.00 335⇑ *i*P **P** **22 10 03.8 -0.1**
comp=Z,11nm,1.2s,mb4.6
MOTA Moosalm 81.00 335⇑ *i*P **P** **22 10 03.8 -0.2**
MOTA pmax pmax
comp=Z,11nm,1.2s,mb4.7
CDF Champ du Feu 81.11 338 *e*P **P** **22 10 04.6 +0.1**
comp=Z,16nm,1.0s,mb4.6
CDF Champ du Feu 81.11 338 *e*P **P** **22 10 04.6 +0.1**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CDF Champ du Feu 81.11 338 *e*P **P** **22 10 04.6 +0.1**
comp=Z,8.0nm,1.0s,mb4.6
MEZF Maizieres J'vi 81.59 339 *e*P **P** **22 10 07.2 +0.1**
PPT Papeete 81.96 126 *e*LR LR 22 34 58.8
comp=Z,222nm,24.2s
PPT Papeete 81.96 126 LR LR 22 42 28.4
comp=Z,196nm,18.8s,MS4.5,baz=322,slow=33
LOR Lormes 83.04 339 *e*P **P** **22 10 14.6 0.0**
comp=Z,10nm,0.7s,mb4.7
LOR *e*R
comp=Z,231nm,21.2s
LOR Lormes 83.04 339 *e*P **P** **22 10 14.6 0.0**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LOR MLR MLR
comp=Z,230nm,21.3s,MS4.5
LOR Lormes 83.04 339 *e*P **P** **22 10 14.6 0.0**
comp=Z,5.1nm,0.7s,mb4.7
LOR LR LR
comp=Z,230nm,21.3s,MS4.5
AVF Avril sur Loir 83.61 339 *e*P **P** **22 10 17.8 +0.3**
comp=Z,28nm,1.2s,mb5.0
AVF Avril sur Loir 83.61 339 *e*P **P** **22 10 17.8 +0.3**
AVF pmax pmax
comp=Z,14nm,1.2s,mb5.0
AVF Avril sur Loir 83.61 339 *e*P **P** **22 10 17.8 +0.3**
comp=Z,14nm,1.2s,mb5.0
SMF Signal de Mont 83.62 339 *e*P **P** **22 10 17.9 +0.3**
comp=Z,44nm,1.1s,mb5.2
SMF Signal de Mont 83.62 339 *e*P **P** **22 10 17.9 +0.3**
SMF pmax pmax
comp=Z,22nm,1.1s,mb5.2
SMF Signal de Mont 83.62 339 *e*P **P** **22 10 17.9 +0.3**
comp=Z,22nm,1.1s,mb5.2
LPL La Plagne 83.92 337 *e*P **P** **22 10 20.1 +1.0**
comp=Z,2.6nm,0.5s,mb4.3
LPL La Plagne 83.92 337 *e*P **P** **22 10 20.1 +1.0**
LPL pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
LPL La Plagne 83.92 337 *e*P **P** **22 10 20.1 +1.0**
comp=Z,1.3nm,0.5s,mb4.3
LPG La Plagne 83.93 337 *e*P **P** **22 10 20.4 +1.2**
ORIF Oris-en-Rattie 84.70 337 *e*P **P** **22 10 24.1 +1.0**
comp=Z,8.9nm,0.9s,mb4.6
ORIF *e*R
comp=Z,214nm,19.2s
ORIF Oris-en-Rattie 84.70 337 *e*P **P** **22 10 24.1 +1.0**
ORIF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 84.70 337 *e*P **P** **22 10 24.1 +1.0**
comp=Z,4.4nm,0.9s,mb4.6
VIVF Saint-Julien-l 85.08 338 *e*P **P** **22 10 26.1 +1.1**
SMRF Simiane la Rot 85.66 337 *e*P **P** **22 10 29.2 +1.3**
comp=Z,17nm,1.0s,mb4.9
SMRF Simiane la Rot 85.66 337 *e*P **P** **22 10 29.2 +1.3**
comp=Z,17nm,1.0s,mb5.2
FRF La Foret Royal 85.74 336 *e*P **P** **22 10 28.3 0.0**
TBI Tubuai 86.67 129 *e*LR LR 22 37 09.5
comp=Z,167nm,29.8s
MTLF Montolieu 87.12 339 *e*P **P** **22 10 35.0 -0.1**
comp=Z,16nm,1.1s,mb4.8
MTLF Montolieu 87.12 339 *e*P **P** **22 10 35.0 -0.1**
MTLF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
MTLF Montolieu 87.12 339 *e*P **P** **22 10 35.0 -0.1**
comp=Z,7.9nm,1.1s,mb4.9
RKT Rikitea 94.85 118 *e*LR LR 22 40 57.4
comp=Z,183nm,30.8s
ATD Arta Tunnel 95.20 292 LR LR 22 59 04.6
comp=Z,139nm,19.4s,MS4.4,baz=150,slow=39
PLCA Paso Flores 148.30 96 PKPbc PKPbc 22 17 34.5 -0.8
comp=Z,1.3nm,0.7s,baz=196,slow=16,SNR=2.9
CPUP Villa Florida 148.86 61 PKPbc PKPbc 22 17 35.4 -1.3
comp=Z,0.3nm,0.3s,baz=11,slow=7.2,SNR=2.9

IDC 30 22:12:21.8±1.8, 148N×12317E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx3.1/32, 1C, Error ellipse: s-maj=211.5km s-min=23.5km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**7.81**	**0**	⇑ *i*P	Pn	22 14 55.5	+39
WRA	**Warramunga Arr**	**23.94**	**153**	P	P	22 17 38.8	+1.2
	1.0nm,0.3s,baz=330,slow=11,SNR=25						
ASAR	**Alice Springs**	**27.09**	**158**	P	P	22 18 07.0	+0.9
	0.6nm,0.5s,baz=349,slow=6.8,SNR=7.8						
STKA	**Stephens Creek**	**37.49**	**154**	P	P	22 19 35.5	-1.6
	1.1nm,0.6s,baz=343,slow=11,SNR=3.0						
ASAJ	**Asahikawa**	**45.83**	**20**	LR	LR	22 40 08.4	
	comp=Z,98nm,21.2s,baz=21,slow=36						
SONM	**Songino Array**	**48.41**	**345**	P	P	22 21 05.6	+0.1
	0.3nm,0.5s,baz=123,slow=7.1,SNR=3.3						

*ISCJB **30** 22:36:36.4±0.6, 630N×005×8272W±004, h10km, mb4.3/13, MS4.0/7, Error ellipse: s-maj=6.9km s-min=4.6km az=45.7*
*IDC **30** 22:36:39.1±1.8, 677N×8260W, h0km, mb4.1/5, mb1 4.4/10, mb1mx4.1/25, mbtmp4.3/10, ML4.0/5, MS3.9/12, Ms1 3.9/12, ms1mx3.6/34, Error ellipse: s-maj=46.1km s-min=22.3km az=28.0*
*CASC **30** 22:36:39.6±12.0, 646N×8245W, h104km±187km, MD4.4, mb4.4(NEIC)*
*NEIC **30** 22:36:40.0±1.2, 670N×8247W, h10km, mb4.4/8, Error ellipse: s-maj=44.2km s-min=12.2km az=212.0*
*GCMT **30** 22:36:40.0±0.4, 6.10N×8254W, h20km±2km, MW4.9/42, Moment Tensor Solution. s11,c11; s42,c54; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.03±.23; Mθθ-0.65±.17; Mφφ0.67±.22; Mrθ-0.03±.33; Mθφ2.56±.15; Mφr0.28±.34; Best double couple: M0 2.65900×10^16 NP1:ϕs353.00000°, δ90.00000°, λ174.00000°. Principal axes: T 2.6760, Plg4.0000°, Azm308.0000°; N -0.0330, Plg84.0000°, Azm172.0000°; P -2.6420, Plg4.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 22:36:38.6±0.6, 635N×005×8269W×004, h10km, n58, σ1§14/61, mb4.3/13, MS4.0/7, 13C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**2.08**	**6**⇑	*e*P	Pn	22 37 12.7	-0.8
DVD				*e*S	Sn	22 37 41.5	+1.9
BRU	**Baru**	**2.44**	**3**⇑	*e*P	Pn	22 37 18.8	+0.2
BRU				*e*S	Sn	22 37 49.9	+1.4
CTCR	**Cotoan**	**2.53**	**358**⇑	*e*P	Pn	22 37 18.8	-0.9
AZU	**Azuero**	**2.79**	**59**⇑	*e*P	Pn	22 37 20.2	-3.1
AZU				*e*S	Sn	22 37 55.5	-1.5
CNI	**Changuinola**	**3.05**	**3**⇑	*e*P	Pn	22 37 27.9	+1.0
BUS	**Buena Vista**	**3.36**	**342**⇓	*e*P	Pn	22 37 30.9	-0.1
ACH	**Altos**	**3.57**	**50**⇑	*e*P	Pn	22 37 33.8	-0.3
ACH				*e*S	Sn	22 38 20.4	+4.1
LCR2	**La Lucha 2**	**3.61**	**339**⇑	*e*P	Pn	22 37 33.8	-0.8
LCR2				*e*S	Sn	22 38 17.6	+0.4
OCM	**Ochomogo**	**3.74**	**340**⇑	*e*P	Pn	22 37 35.6	-0.7
OCM				*e*S	Sn	22 38 20.8	+0.4
LAJ	**Bijagual**	**3.77**	**338**⇑	*e*P	Pn	22 37 36.1	-0.6
VTU	**Volcan Turrial**	**3.80**	**344**	*e*P	Pn	22 37 37.9	+0.8
SJS	**Escuela Geolog**	**3.81**	**339**⇑	*e*P	Pn	22 37 38.3	+0.9
SJS				*e*S	Sn	22 38 21.2	-1.0
PRS1	**Puriscal**	**3.95**	**336**	*e*P	Pn	22 37 37.7	-1.5
CGA2	**Cerro Gallo 2**	**4.04**	**334**	*e*P	Pn	22 37 40.2	-0.3
UPA	**Univ. de Panam**	**4.08**	**50**⇓	*e*P	Pn	22 37 40.5	-0.4
UPA				*e*S	Sn	22 38 31.1	+2.4
EPA	**Esparza**	**4.08**	**333**⇑	*e*P	Pn	22 37 39.9	-1.1
CAO	**Cobano**	**4.10**	**324**⇓	*e*P	Pn	22 37 39.7	-1.5
POA2	**Poas 2**	**4.10**	**338**⇑	*e*P	Pn	22 37 42.4	+1.1
JCR	**Jicaral**	**4.22**	**326**⇓	*e*P	Pn	22 37 41.9	-1.1
JCR				*e*S	Sn	22 38 30.3	-2.1
JTS	**JuntasAbangare**	**4.51**	**330**	Pn	Pn	22 37 45.0	-1.9
	49nm,0.3s,baz=127,slow=7.8,SNR=100						
JTS				Sn	Sn	22 38 39.5	0.0
	154nm,0.3s,baz=315,slow=20,SNR=30						
VACR	**Volcan Arenal**	**4.54**	**334**⇓	*e*P	Pn	22 37 47.7	+0.3
VCR	**Vista de Mar**	**4.75**	**322**	*e*P	Pn	22 37 49.1	-1.1
VCR				*e*S	Sn	22 38 44.0	-1.3
LIM1	**Limonal**	**5.01**	**330**	*e*P	Pn	22 37 54.8	+1.0
LIM1				*i* S	Sn	22 38 54.3	+2.6
RIN3	**Volcan Rincon**	**5.15**	**329**	*e*P	Pn	22 37 56.5	+0.7
CRZC	**La Cruz**	**5.40**	**328**⇑	*e*P	Pn	22 37 59.6	+0.4
ROSC	**El Rosal**	**8.45**	**100**	Pn	Pn	22 38 42.3	+1.2
	1.4nm,0.3s,baz=80,slow=23,SNR=6.1						
ROSC				LR	LR	22 41 46.7	
	comp=Z,184nm,20.1s,baz=154,slow=36						
SDV	**Santo Domingo**	**12.21**	**77**	Pn	Pn	22 39 32.0	-0.5
	0.4nm,0.3s,baz=248,slow=10,SNR=11						
SDV				LR	LR	22 44 14.3	
	comp=Z,309nm,19.6s,baz=105,slow=38						
ATAH	**Atahualpa**	**13.94**	**162**	Pn	Pn	22 40 05.8	+10
	0.6nm,0.3s,baz=6.6,slow=19,SNR=2.6						
ATAH				LR	LR	22 44 38.3	
	comp=Z,888nm,20.8s,baz=118,slow=33						
CMIG	**Matias Romero**	**16.00**	**313**	Pn	Pn	22 40 26.9	+3.1
	0.4nm,0.3s,baz=98,slow=11,SNR=6.3						
CMIG				LR	LR	22 45 58.8	
	comp=Z,372nm,18.9s,baz=106,slow=35						
SJG	**San Juan**	**19.92**	**53**	P	Pn	22 41 11.0	-1.1
	0.8nm,0.3s,baz=268,slow=7.2,SNR=8.9						
SJG				LR	LR	22 48 03.8	
	comp=Z,230nm,20.4s,baz=270,slow=35						
SAML	**Samuel**	**24.68**	**128**	*e*P	P	22 41 53.0	-6.5
	4.5nm,1.0s,mb4.0						
LPAZ	**La Paz**	**26.71**	**148**	LR	LR	22 53 41.6	
	comp=Z,515nm,20.0s,MS4.1,baz=312,slow=38						
MNTX	**Cornudas Mount**	**32.95**	**323**	*e*P	P	22 43 12.7	-0.7
	7.9nm,1.1s,mb4.6						
LAZ	**Ladron**	**35.91**	**324**	*e*P	P	22 43 40.3	+1.4
ANMO	**Albuquerque**	**35.92**	**326**	*e*P	P	22 43 39.8	+0.8
	6.6nm,1.2s,mb4.4						
SDCO	**Great Sand Dun**	**37.51**	**330**	*e*P	P	22 43 53.9	+1.4
	18nm,1.2s,mb4.7						
MVCO	**Mesa Verde**	**38.69**	**326**	*e*P	P	22 44 03.6	+1.1
WUAZ	**Wupatki**	**39.21**	**322**	*e*P	P	22 44 07.9	+1.1
	6.3nm,1.0s,mb4.3						
PV10	**Paradox Valley**	**39.83**	**327**	*e*P	P	22 44 11.7	-0.3
BDFB	**Brasilia**	**40.70**	**123**	LR	LR	23 01 50.7	
	comp=Z,211nm,19.9s,MS4.0,baz=122,slow=37						
CPUP	**Villa Florida**	**40.75**	**144**	LR	LR	23 02 16.9	
	comp=Z,142nm,19.1s,MS3.8,baz=302,slow=38						
SRU	**San Rafael**	**41.16**	**327**	*e*P	P	22 44 23.8	+0.8
	7.0nm,0.9s,mb4.3						
RPN	**Rapa Nui**	**42.10**	**217**	LR	LR	22 57 13.6	
	comp=Z,237nm,21.8s,MS4.0,baz=357,slow=29						
PDAR	**Pinedale Array**	**43.34**	**331**	P	P	22 44 41.0	+0.2
	1.5nm,1.0s,mb3.7,baz=134,slow=8.5,SNR=12						
HWUT	**Hardware Ranch**	**43.50**	**328**	*e*P	P	22 44 42.7	+0.6
	7.1nm,1.1s,mb4.3						
REDW	**Red Top Meadow**	**44.42**	**331**	*e*P	P	22 44 50.0	+0.5
	30nm,1.6s,mb4.8						
REDW				*e*pP	pP	22 44 57.1	+4.5
ULM	**Lac du Bonnet**	**45.13**	**348**	P	P	22 44 52.1	-3.1
	2.9nm,0.7s,mb4.2,baz=167,slow=10,SNR=5.3						
NVAR	**Mina Array Bea**	**45.36**	**320**	P	P	22 44 58.2	+1.2
	1.0nm,0.8s,mb3.7,baz=155,slow=6.9,SNR=9.0						
NVAR	**Mina Array Bea**	**45.36**	**320**	P	P	22 44 58.2	+1.2
	comp=Z,89nm,18.4s,MS3.8,baz=338,slow=39						
SCHQ	**Schefferville**	**50.00**	**12**	LR	LR	23 09 02.0	
	1.4nm,0.7s,mb4.2,baz=137,slow=6.7,SNR=7.5						
YKA	**Yellowknife Ar**	**60.72**	**344**	P	P	22 46 49.5	-0.8
	comp=Z,202nm,19.5s,MS4.3,baz=304,slow=32						
YKA	**Yellowknife Ar**	**60.72**	**344**	P	P	22 46 49.5	-0.8
USHA	**Ushuaia**	**62.11**	**171**	LR	LR	23 10 14.9	
	comp=Z,202nm,19.5s,MS4.3,baz=304,slow=32						
INK	**Inuvik**	**70.40**	**342**	P	P	22 47 52.2	-0.6
	11nm,1.3s,mb4.7,baz=142,slow=4.7,SNR=6.5						
INK	**Inuvik**	**70.40**	**342**	P	P	22 47 52.2	-0.6
KDAK	**Kodiak Island**	**73.99**	**328**	LR	LR	23 26 10.0	
	comp=Z,68nm,19.4s,MS4.0,baz=86,slow=40						
AAK	**Ala-Archa**	**127.01**	**21**	*e*Pdif	Pdif	22 52 24.9	+0.9
MBWA	**Marble Bar**	**153.77**	**234**	*e*PKPdf	PKPdf	22 56 31.2	+1.2

*ISCJB **30** 22:41:11.3±0.2, 6005N±003×5607W±006, h10km, mb4.2/43, MS3.4/3, Error ellipse: s-maj=5.4km s-min=3.4km az=116.6*
*IDC **30** 22:41:13.8±0.5, 6011N×5549W, h0km, mb4.1/22, mb1 4.3/25, mb1mx4.2/34, mbtmp4.2/25, ML3.9/3, MS3.5/5, Ms1 3.5/5, ms1mx3.1/37, Error ellipse: s-maj=18.5km s-min=10.1km az=167.0*
*OTT **30** 22:41:14.6±0.9, 6006N×5566W, h18km, ML4.8/20, Labrador Sea. 460km northeast from Nutak, NI*
*NEIC **30** 22:41:15.1±0.2, 6011N×5551W, h10km, mb4.4/27, Error ellipse: s-maj=8.7km s-min=4.1km az=161.0*

ISC 30 22:41:13.0±0.2, 6011N±003×5608W±005, h10km, n128, σ1§21/160, mb4.2/43, MS3.4/3, 1D, Davis Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUQ	**Kuujjuuaa**	**6.66**	**258**	PN	Pn	22 42 53.2	+2.3
KUQ				SN	Sn	22 44 02.0	-4.8
KUQ				Trac		22 44 07.1	
	comp=Z,66nm,0.3s						
FRB	**Frobisher Bay**	**6.92**	**307**	Pn	Pn	22 42 57.7	+3.3
	5.9nm,0.3s,baz=116,slow=12,SNR=27						
FRB				Sn	Sn	22 44 11.2	-1.9
	26nm,0.3s,baz=221,slow=14,SNR=12						
FRB				LR	LR	22 45 45.6	
	comp=Z,376nm,18.1s,baz=252,slow=38						
FRB	**Frobisher Bay**	**6.92**	**307**	PN	Pn	22 42 57.4	+3.0
FRB				SN	Sn	22 44 10.9	-2.2
FRB				Trac		22 44 15.2	
	comp=Z,63nm,0.3s						
FRB	**Frobisher Bay**	**6.92**	**307**	Pn	Pn	22 42 57.7	+3.3
FRB				Sn	Sn	22 44 11.2	-1.9
FRB				LR	LR	22 45 45.6	
SFJD	**Kangerlussuaq**	**7.32**	**17**	Pn	Pn	22 42 58.1	-1.9
	83nm,0.3s,baz=173,slow=11,SNR=27						
SFJD				Sn	Sn	22 44 13.6	-9.5
	30nm,0.3s,baz=236,slow=19,SNR=3.6						
SFJD	**Kangerlussuaq**	**7.32**	**17**	*i* P	Pn	22 42 58.6	-1.4
SFJD				*i*		22 42 59.7	
SFJD				*i* LG		22 44 14.0	
SFJD	**Kangerlussuaq**	**7.32**	**17**	PN	Pn	22 42 59.2	-0.8
SFJD				SN	Sn	22 44 14.1	-9.1
SFJD				Trac		22 44 19.1	
	comp=Z,204nm,0.6s						
SFJD	**Kangerlussuaq**	**7.32**	**17**	*e*P	Pn	22 42 58.6	-1.4
SFJD				*i*		22 42 59.7	
SFJD				*i* Lg		22 44 14.0	
SCHQ	**Schefferville**	**7.84**	**232**	Pn	Pn	22 43 10.9	+3.8
	9.5nm,0.3s,baz=49,slow=10,SNR=72						
SCHQ				Sn	Sn	22 44 35.4	-0.6
	15nm,0.3s,baz=153,slow=18,SNR=6.9						
SCHQ				LR	LR	22 46 04.6	
	comp=Z,325nm,18.3s,baz=171,slow=36						
SCHQ	**Schefferville**	**7.84**	**232**	PN	Pn	22 43 11.3	+4.2
SCHQ				SN	Sn	22 44 35.4	-0.6
NATG	**Natashquan Que**	**10.56**	**204**	PN	Pn	22 43 45.2	+0.8
NATG				SN	Sn	22 45 35.0	-7.8
NATG				Trac		22 45 37.2	
	comp=Z,19nm,0.4s						
IVKQ	**Ivujivik**	**10.74**	**292**	PN	Pn	22 43 47.4	+0.5
IVKQ				SN	Sn	22 45 42.4	-4.8
IVKQ				Trac		22 45 44.4	
	comp=Z,18nm,0.5s						
DRLN	**Deer Lake**	**10.91**	**185**	PN	Pn	22 43 49.0	-0.2
DRLN				SN	Sn	22 45 42.5	-8.8
DRLN				Trac		22 45 46.4	
	comp=Z,28nm,0.5s						
AKVQ	**Akulik**	**10.93**	**283**	PN	Pn	22 43 51.4	+2.0
AKVQ				SN	Sn	22 45 46.8	-4.9
AKVQ				Trac		22 45 51.7	
	comp=Z,46nm,0.7s						
INUQ	**Inukjuak**	**11.38**	**271**	PN	Pn	22 43 55.9	+0.3
INUQ				SN	Sn	22 45 54.0	-8.8
INUQ				Trac		22 45 59.2	
	comp=Z,26nm,0.6s						
SMQ	**Clarke City**	**11.61**	**216**	PN	Pn	22 43 58.0	-0.7
SMQ				SN	Sn	22 45 59.6	-8.8
SMQ				Trac		22 46 06.0	
	comp=Z,24nm,0.3s						
LG4Q	**La Grande 4**	**11.78**	**244**	PN	Pn	22 44 02.4	+1.4
LG4Q				SN	Sn	22 46 05.5	-7.1
LG4Q				Trac		22 46 09.1	
	comp=Z,88nm,0.4s						
MNQ	**Manicouagan**	**11.99**	**222**	PN	Pn	22

BATG	**Bathurst New B**	**14.13**	**209**	PN	**Pn**	**22 44 32.4**	**-0.7**
BATG				SN	**Sn**	**22 46 59.4**	**-11**
ILON	**Igloolik, Nuna**	**14.25**	**321**	PN	**Pn**	**22 44 33.1**	**-1.6**
ILON				Trac		22 47 06.4	
	comp=Z,108nm,1.2s						
SRLN	**Sarcpa Lake, N**	**14.38**	**317**	PN	**Pn**	**22 44 34.6**	**-2.0**
SRLN				SN	**Sn**	**22 47 02.9**	**-13**
SRLN				Trac		22 47 12.7	
	comp=Z,35nm,0.8s						
QILN	**Qililugaq Expl**	**14.94**	**309**	PN	**Pn**	**22 44 43.2**	**-1.0**
QILN				SN	**Sn**	**22 47 16.4**	**-13**
DAQ	**Lac Daran**	**15.03**	**223**	PN	**Pn**	**22 44 43.9**	**-1.5**
DAQ				SN	**Sn**	**22 47 19.9**	**-12**
DAQ				Trac		22 47 29.5	
	comp=Z,15nm,0.4s						
GBN	**Guysborough**	**15.09**	**195**	PN	**Pn**	**22 44 46.0**	**-0.1**
GBN				SN	**Sn**	**22 47 20.5**	**-13**
LMQ	**La Malbaie**	**15.09**	**220**	PN	**Pn**	**22 44 44.0**	**-2.2**
LMQ				SN	**Sn**	**22 47 22.5**	**-11**
AP3N	**Apex site 3 Nu**	**15.12**	**320**	PN	**Pn**	**22 44 44.1**	**-2.6**
AP3N				SN	**Sn**	**22 47 19.3**	**-15**
AP3N				Trac		22 47 24.6	
	comp=Z,73nm,1.2s						
SILO	**Sutton Inlier**	**16.48**	**263**	PN	**Pn**	**22 45 03.5**	**-0.8**
SILO				SN	**Sn**	**22 47 52.9**	**-14**
BORG	**Borgarnes**	**16.59**	**59**	Pn	**Pn**	**22 45 05.0**	**-0.6**
	0.5nm,0.3s,baz=292,slow=5.4,SNR=2.5						
DPQ	**Saint Jean**	**16.66**	**224**	PN	**Pn**	**22 45 05.8**	**-0.8**
DPQ				SN	**Sn**	**22 48 01.6**	**-10**
DPQ				Trac		22 48 22.4	
	comp=Z,4.7nm,0.3s						
MALO	**McAlpine Lake**	**16.81**	**244**	PN	**Pn**	**22 45 07.4**	**-1.0**
MALO				SN	**Sn**	**22 48 00.9**	**-14**
MALO				SN	**Sn**	**22 48 01.0**	**-14**
SEDN	**First Sedna Si**	**16.82**	**296**	PN	**Pn**	**22 45 10.0**	**+1.4**
SEDN				SN	**Sn**	**22 48 04.0**	**-11**
VIMO	**Victor Mine**	**16.84**	**257**	PN	**Pn**	**22 45 08.6**	**-0.2**
JOSN	**Second Sedna S**	**16.98**	**296**	PN	**Pn**	**22 45 12.8**	**+2.3**
VLDQ	**Val d'Or**	**17.26**	**235**	PN	**Pn**	**22 45 13.5**	**-0.5**
VLDQ				SN	**Sn**	**22 48 14.2**	**-12**
VLDQ				Trac		22 48 20.6	
	comp=Z,56nm,1.1s						
GRQ	**Grand Remous**	**17.85**	**230**	PN	**Pn**	**22 45 20.8**	**-0.6**
GRQ				SN	**Sn**	**22 48 23.5**	**-17**
GRQ				Trac		22 50 03.1	
	comp=Z,6.3nm,0.4s						
KILO	**Kirkland Lake**	**17.92**	**240**	PN	**Pn**	**22 45 20.8**	**-1.6**
KILO				SN	**Sn**	**22 48 28.4**	**-14**
KAPO	**Kapuskasing**	**18.47**	**246**	PN	**Pn**	**22 45 30.2**	**+1.3**
KAPO				SN	**Sn**	**22 48 41.3**	**-14**
LBNH	**Lisbon**	**18.55**	**218**	*eP*	**Pn**	**22 45 33.5**	**+3.5**
	13nm,0.8s						
FRNY	**Flat Rock**	**18.55**	**222**	*eP*	**Pn**	**22 45 32.8**	**+2.8**
TIMO	**Timmins Ontari**	**18.64**	**243**	PN	**Pn**	**22 45 31.4**	**+0.3**
HSMO	**Haileybury Sch**	**18.77**	**238**	PN	**Pn**	**22 45 32.6**	**0.0**
KASO	**Kasabonika Lak**	**18.85**	**264**	PN	**Pn**	**22 45 33.6**	**0.0**
LONY	**Lake Ozonia**	**19.08**	**224**	*eP*	**Pn**	**22 45 37.7**	**+1.2**
EEO	**Eldee**	**19.10**	**235**	PN	**Pn**	**22 45 37.6**	**+1.0**
EEO				SN	**Sn**	**22 48 51.2**	**-19**
EEO				Trac		22 49 19.1	
	comp=Z,3.8nm,0.3s						
FCC	**Fort Churchill**	**19.20**	**283**	PN	**Pn**	**22 45 38.9**	**+1.1**
NCB	**Newcomb**	**19.53**	**222**	*eP*	**Pn**	**22 45 43.9**	**+2.1**
	10.0nm,0.6s						
RES	**Resolute Bay**	**20.26**	**331**	PN	**P**	**22 45 53.8**	**+5.3**
SADO	**Sadowa**	**20.65**	**232**	P	**P**	**22 45 57.2**	**+4.4**
	17nm,1.0s,baz=46,slow=10,SNR=4.9						
SADO	**Sadowa**	**20.65**	**232**	P	**P**	**22 45 57.2**	**+4.4**
BINY	**Binghamton**	**21.70**	**223**	*eP*	**P**	**22 46 08.7**	**+4.7**
	24nm,1.1s,mb4.5						
JMIC	**Jan Mayen**	**21.80**	**41**	LR	LR	22 53 38.1	
	comp=Z,79nm,18.8s,MS3.1,baz=89,slow=34						
SSPA	**Standing Stone**	**23.74**	**225**	*eP*	**P**	**22 46 29.7**	**+4.3**
	6.5nm,0.8s,mb4.1						
EYMN	**Ely**	**23.77**	**255**	*eP*	**P**	**22 46 34.2**	**+8.5**
	2.7nm,1.3s,mb3.5						
ULM	**Lac du Bonnet**	**24.40**	**264**	P	**P**	**22 46 34.8**	**+3.3**
	2.3nm,0.6s,mb3.8,baz=84,slow=11,SNR=4.4						
ULM	**Lac du Bonnet**	**24.40**	**264**	*eP*	**P**	**22 46 35.4**	**+3.9**
	6.2nm,0.6s,mb4.2						
YKA	**Yellowknife Ar**	**27.38**	**301**	P	**P**	**22 47 01.6**	**+3.3**
	0.6nm,0.8s,mb3.2,baz=121,slow=6.7,SNR=3.6						
YKA	**Yellowknife Ar**	**27.38**	**301**	P	**P**	**22 47 01.6**	**+3.3**
EKA	**Eskdalemuir Ar**	**28.01**	**76**	P	**P**	**22 47 02.3**	**-1.8**
	0.7nm,0.7s,mb3.4,baz=193,slow=25,SNR=2.6						
TKL	**Tuckaleechee C**	**30.29**	**229**	LR	LR	22 59 26.3	
	comp=Z,157nm,18.5s,MS3.7,baz=238,slow=36						
NOA	**NORSAR Array B**	**31.77**	**59**	LR	LR	22 57 58.8	
	comp=Z,60nm,21.8s,MS3.2,baz=135,slow=32						
ARCES	**ARCESS Array B**	**33.28**	**39**	P	**P**	**22 47 50.8**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=300,slow=8.0,SNR=3.0						
HFS	**Hagfors**	**33.28**	**59**	P	**P**	**22 47 50.0**	**-0.6**
	4.4nm,1.1s,mb4.3,baz=206,slow=8.8,SNR=3.8						
BAIF	**Baives**	**34.74**	**79**	*eP*	**P**	**22 48 02.8**	**-0.5**
IMW	**Indian Meadow**	**36.25**	**269**	*eP*	**P**	**22 48 22.0**	**+5.8**
	4.6nm,0.8s,mb4.5						
MOOW	**Moose Ponds**	**36.26**	**268**	*eP*	**P**	**22 48 21.1**	**+4.7**
	4.0nm,0.8s,mb4.4						
TCF	**Toulx Ste Croi**	**36.28**	**86**	*eP*	**P**	**22 48 15.7**	**-0.8**
	4.7nm,0.6s,mb4.3						
TCF	**Toulx Ste Croi**	**36.28**	**86**	*eP*	**P**	**22 48 15.7**	**-0.8**
	2.3nm,0.6s,mb4.3						
LOHW	**Long Hollow**	**36.29**	**268**	*eP*	**P**	**22 48 22.7**	**+6.1**
	14nm,1.3s,mb4.7						
NEW	**Newport**	**36.29**	**279**	P	**P**	**22 48 21.5**	**+4.9**
	2.8nm,0.8s,mb4.2,baz=19,slow=10.0,SNR=3.7						
PDAR	**Pinedale Array**	**36.38**	**266**	P	**P**	**22 48 22.2**	**+4.8**
	4.1nm,0.8s,mb4.4,baz=58,slow=7.8,SNR=29						
PDAR				PcP	PcP	22 50 44.4	+2.7
	1.0nm,0.9s,baz=57,slow=5.5,SNR=3.5						
LOR	**Lormes**	**36.42**	**83**	*eP*	**P**	**22 48 17.1**	**-0.6**
	45nm,1.3s,mb4.9						
LOR	**Lormes**	**36.42**	**83**	*eP*	**P**	**22 48 17.1**	**-0.6**
	23nm,1.3s,mb4.9						
AVF	**Avril sur Loir**	**36.50**	**84**	*eP*	**P**	**22 48 17.4**	**-1.0**
	19nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**36.50**	**84**	*eP*	**P**	**22 48 17.4**	**-1.0**
	9.6nm,1.2s,mb4.6						
TPAW	**Teton Pass**	**36.55**	**268**	*eP*	**P**	**22 48 24.3**	**+5.4**
	6.3nm,0.8s,mb4.5						
SMF	**Signal de Mont**	**36.84**	**84**	*eP*	**P**	**22 48 20.3**	**-1.0**
	14nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**36.84**	**84**	*eP*	**P**	**22 48 20.3**	**-1.0**
	6.9nm,0.9s,mb4.5						
ETSF	**Etsaut**	**37.31**	**92**	*eP*	**P**	**22 48 23.9**	**-1.4**
	18nm,1.1s,mb4.5						
ETSF	**Etsaut**	**37.31**	**92**	*eP*	**P**	**22 48 23.9**	**-1.4**
	8.8nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**37.63**	**51**	P	**P**	**22 48 27.9**	**-0.2**
	1.5nm,0.7s,mb3.8,baz=310,slow=8.9,SNR=6.1						
MOX	**Moxa**	**37.96**	**73**	*eP*	pP	22 48 39.0	+5.1
	12nm,1.4s						
ESDC	**Sonseca Array**	**38.03**	**99**	P	**P**	**22 48 30.1**	**-1.2**
	0.3nm,0.6s,mb3.2,baz=322,slow=10,SNR=6.2						
CLL	**Collm**	**38.18**	**72**	*eP*	pP	22 48 41.0	+5.2
	comp=Z,9.0nm,1.1s						
HWUT	**Hardware Ranch**	**38.24**	**267**	*eP*	**P**	**22 48 37.3**	**+4.1**
	comp=Z,4.1nm,0.8s,mb4.2						
BMO	**Blue Mountains**	**38.75**	**275**	*eP*	**P**	**22 48 41.3**	**+3.9**
	comp=Z,2.7nm,0.9s,mb4.0						
ORIF	**Oris-en-Rattie**	**39.07**	**84**	*eP*	**P**	**22 48 39.8**	**-0.3**
	comp=Z,18nm,1.2s,mb4.4						
ORIF	**Oris-en-Rattie**	**39.07**	**84**	*eP*	**P**	**22 48 39.8**	**-0.3**
	comp=Z,9.2nm,1.2s,mb4.4						
PVCC	**Panska Ves**	**39.44**	**71**	*eP*	**P**	**22 48 45.4**	**+2.2**
PVCC				*ex*	x	22 49 31.5	
SRU	**San Rafael**	**39.61**	**263**	*eP*	**P**	**22 48 49.5**	**+4.9**
	comp=Z,3.7nm,0.9s,mb4.1						
PRU	**Pruhonice**	**39.79**	**72**	*eP*	**P**	**22 48 49.2**	**+3.0**
PRU				*ex*	x	22 49 33.1	
KHC	**Kasperske Hory**	**39.91**	**74**	*eP*	**P**	**22 48 48.8**	**+1.6**
KHC				*ex*	x	22 49 28.7	
DUG	**Dugway**	**39.93**	**266**	*eP*	**P**	**22 48 52.0**	**+4.7**
	comp=Z,5.1nm,1.0s,mb4.2						
UPC	**Upice**	**40.14**	**70**	*eP*	pP	22 48 57.7	+5.6
UPC				*ex*	x	22 49 36.2	
GERES	**GERESS Array B**	**40.17**	**74**	P	**P**	**22 48 49.5**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=293,slow=5.0,SNR=3.6						
DPC	**Dobruska-Polom**	**40.39**	**70**	*eP*	**P**	**22 48 46.8**	**-4.3**
DPC				*ex*	x	22 49 33.6	
TREC	**Trest**	**40.72**	**72**	*eP*	**P**	**22 48 44.5**	**-9.3**
MSU	**Marysvale**	**40.90**	**264**	*eP*	**P**	**22 49 00.8**	**+5.5**
MSU				*ePcP*	PcP	22 50 59.2	+3.4
VRAC	**Vranov**	**41.23**	**71**	P	**P**	**22 48 57.8**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.0,baz=335,slow=9.6,SNR=4.2						

MORC	**Moravsky Berou**	**41.36**	**70**	⇓*iP*	**P**	**22 48 53.9**	**-5.2**
MNTX	**Cornudas Mount**	**43.03**	**251**	*eP*	**P**	**22 49 17.1**	**+4.3**
	comp=Z,2.9nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**44.02**	**269**	P	**P**	**22 49 26.0**	**+5.3**
	comp=Z,2.9nm,0.9s,mb4.0,baz=45,slow=3.4,SNR=15						
DAC	**Darwin (Calif)**	**45.34**	**267**	*eP*	**P**	**22 49 36.5**	**+5.3**
	comp=Z,3.1nm,0.9s,mb4.1						
AKBB	**Malin Array Si**	**46.05**	**62**	*eP*	**P**	**22 49 35.6**	**-1.2**
KEST	**Kesra**	**47.73**	**90**	P	**P**	**22 49 50.8**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.5,baz=271,slow=2.6,SNR=7.1						
ARU	**Arti**	**52.87**	**39**	*eP*	**P**	**22 50 29.6**	**+0.7**
	comp=Z,7.6nm,0.7s,mb4.7						
AKTO	**Aktyubinsk**	**57.68**	**44**	P	**P**	**22 51 04.7**	**+1.1**
	comp=Z,3.3nm,0.6s,mb4.6,baz=318,slow=7.3,SNR=14						
ZRNK	**Zerenda**	**59.01**	**35**	*eP*	**P**	**22 51 13.9**	**+1.0**
	comp=Z,8.4nm,1.3s,mb4.6						
BVAR	**Borovoye Array**	**59.34**	**34**	P	**P**	**22 51 16.6**	**+1.4**
	comp=Z,4.6nm,0.7s,mb4.6,baz=318,slow=6.0,SNR=22						
ZAL	**Zalesovo**	**62.08**	**25**	P	**P**	**22 51 34.5**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.1,baz=144,slow=9.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**62.89**	**112**	P	**P**	**22 51 38.7**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.7,baz=329,slow=6.8,SNR=53						
TORD	**Torodi Ar. Bea**	**62.89**	**112**	P	**P**	**22 51 38.7**	**-0.6**
ASF	**Jabal al Asfar**	**64.11**	**70**	P	**P**	**22 51 48.3**	**+0.9**
	comp=Z,3.9nm,0.9s,mb4.4,baz=219,slow=2.6,SNR=3.7						
DBIC	**Dimbokro**	**65.71**	**122**	P	**P**	**22 51 58.2**	**+0.5**
	comp=Z,5.8nm,0.7s,mb4.7,baz=324,slow=7.6,SNR=10.0						
DBIC	**Dimbokro**	**65.71**	**122**	P	**P**	**22 51 58.2**	**+0.4**
LIC	**Lamto**	**66.03**	**122**	*eP*	**P**	**22 52 00.5**	**+0.7**
	comp=Z,35nm,1.0s,mb5.0						
LIC	**Lamto**	**66.03**	**122**	*eP*	**P**	**22 52 00.5**	**+0.7**
	comp=Z,17nm,1.0s,mb5.0						
MKAR	**Makanchi Array**	**68.18**	**29**	P	**P**	**22 52 14.2**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.4,baz=341,slow=6.9,SNR=25						
SONM	**Songino Array**	**71.47**	**12**	P	**P**	**22 52 35.4**	**+1.7**
	comp=Z,1.1nm,0.9s,mb3.8,baz=343,slow=4.6,SNR=6.6						
ASAR	**Alice Springs**	**142.91**	**345**	PKhKP		23 00 44.5	
	comp=Z,0.9nm,0.7s,baz=359,slow=3.2,SNR=9.2						
QSPA	**South Pole Qui**	**150.01**	**180**	*eP*	PKPdf	23 01 04.2	+5.4

SOF ***30*** *22:46:01.7, 3648N-2151E, h10km, MD4.6*
ROM ***30*** *22:46:07.6±0.1, 3676N-2173E, h48km, Ml4.4/13, Error ellipse: s-maj=1.6km s-min=0.6km az=72.0*
ATH ***30*** *22:46:08.6, 3698N-2150E, h23km±1km, MD4.0/15, ML4.2*
NEIC ***30*** *22:46:08.6, 3698N-2150E, h23km, mb4.3/19, MD4.0(ATH), After ATH.*
SZGRF ***30*** *22:46:08.6, 3647N-2101E, h33km, mb3.9, Southern Greece*
THE ***30*** *22:46:08.9, 3699N-2158E, h10km, ML4.3*
CSEM ***30*** *22:46:09.5±0.1, 3679N-2155E, h60km, mb4.5/9, ML4.7/15, Error ellipse: s-maj=1.6km s-min=1.0km az=173.0*
ISCJB ***30*** *22:46:10.4±0.3, 3699N±002-2141E±002, h56km±3km, mb4.3/24, MS3.4/3, Error ellipse: s-maj=3.5km s-min=2.0km az=173.4*
PDG ***30*** *22:46:10.0±1.1, 3703N-2142E, h21km±5km*
MOS ***30*** *22:46:11.0±1.0, 3707N-2145E, h53km, mb4.6/9, Error ellipse: s-maj=5.2km s-min=2.9km az=100.2*
IDC ***30*** *22:46:12.7±2.6, 3712N-2158E, h49km±26km, mb4.0/13, mb1 4.1/18, mb1mx4.0/28, mbtmp4.2/18, ML3.8/5, MS3.4/5, Ms1 3.4/5, ms1mx3.1/33, Error ellipse: s-maj=22.4km s-min=12.9km az=127.0*
HLW ***30*** *22:46:12.5, 3693N-2236E, h33km, Mb4.2*
NAO ***30*** *22:46:40.5, 4046N-2297E, h33km, mb4.0*

ISC 30 22:46:11.7±0.2, 3694N±002-2146E±002, h54km±3km, n317,σ1º10/372, mb4.3/25, MS3.4/3, 25C-27D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**1.11**	**0**	*e*PN	**Pn**	**22 46 29.0**	**-2.0**
RLS				*e*SN	**Sn**	**22 46 44.5**	**-0.8**
VLI	**Veliai**	**1.21**	**100**	*e*PN	**Pn**	**22 46 31.5**	**-0.8**
VLI				*e*SN	**Sn**	**22 46 48.0**	**+0.3**
VLS	**Valsamata**	**1.41**	**331**	*e*PB	**Pn**	**22 46 34.0**	**-1.0**
VLS				*e*SN	**Sn**	**22 46 54.5**	**+2.0**
KYTH	**Kithira**	**1.43**	**117**	*e*PN	**Pn**	**22 46 35.0**	**-0.3**
MGER	**Gerania Oros**	**1.77**	**54**	*e*PN	**Pn**	**22 46 40.0**	**0.0**
NAIG	**Nisos Aigina**	**1.81**	**63**	*e*PN	**Pn**	**22 46 40.0**	**-0.5**
EVR	**Evrytania**	**1.99**	**8**	*e*PB	**Pn**	**22 46 42.0**	**-0.9**
KVR	**Kavouri**	**2.04**	**64**	*e*PB	**Pn**	**22 46 43.0**	**-0.6**
ATH	**Athens Observa**	**2.07**	**60**	*e*PB	**Pn**	**22 46 43.0**	**-1.0**
LKR	**Lokris**	**2.10**	**35**	*e*PN	**Pn**	**22 46 43.9**	**-0.5**
LKR				*e*SN	**Sn**	**22 47 09.6**	**+0.3**
AGG	**Agios Georgios**	**2.19**	**18**	*e*Pn	**Pn**	**22 46 47.0**	**+1.4**
AGG				*e*Sn	**Sn**	**22 47 12.5**	**+1.0**
PTL	**Penteli**	**2.21**	**59**	*e*PN	**Pn**	**22 46 45.0**	**-0.9**
THL	**Klokotos Trika**	**2.65**	**9**	*e*PB	**Pn**	**22 46 52.4**	**+0.4**
VAM	**Vamos**	**2.70**	**124**	*e*PN	**Pn**	**22 46 53.0**	**+0.4**
IGT	**Igoumenitsa**	**2.73**	**341**	*e*Pn	**Pn**	**22 46 53.5**	**+0.4**
IGT				*e*Sn	**Sn**	**22 47 29.2**	**+4.4**
NEO	**Neokhori**	**2.74**	**30**	*e*PN	**Pn**	**22 46 53.0**	**-0.2**
JAN	**Janina**	**2.75**	**350**	*e*PN	**Pn**	**22 46 53.0**	**-0.3**
XOR	**Xorichti**	**2.78**	**29**	*e*Pn	**Pn**	**22 46 53.7**	**0.0**
XOR				*e*Sn	**Sn**	**22 47 27.6**	**+1.6**
MEV	**Metsovon**	**2.84**	**356**	*e*Pn	**Pn**	**22 46 56.8**	**+2.2**
AOS	**Alonnisos**	**2.93**	**40**	*e*Pn	**Pn**	**22 46 55.1**	**-0.7**
LIT	**Litokhoron**	**3.25**	**14**	*e*Pn	**Pn**	**22 47 00.3**	**+0.1**
LIT				*e*Sn	**Sn**	**22 47 39.6**	**+1.9**
APE	**Apeiranthos**	**3.26**	**87**	*e*PN	**Pn**	**22 47 00.0**	**-0.4**
KZN	**Kozani**	**3.37**	**4**	*e*PN	**Pn**	**22 47 02.8**	**+1.0**
NPS	**Neapolis**	**3.76**	**115**	*e*PN	**Pn**	**22 47 08.0**	**+0.8**
PLG	**Polygyros**	**3.76**	**24**	*e*Pn	**Pn**	**22 47 06.7**	**-0.5**
PLG	**Polygyros**	**3.76**	**24**	*e*Pn	**Pn**	**22 47 07.0**	**-0.2**
FNA	**Florina**	**3.83**	**359**	*e*Pn	**Pn**	**22 47 08.5**	**+0.4**
FNA				*e*Sn	**Sn**	**22 47 55.1**	**+3.1**
THE	**Thessaloniki**	**3.87**	**17**	*e*Pn	**Pn**	**22 47 08.1**	**-0.5**
HORT	**Hortiatis**	**3.87**	**19**	*e*Pn	**Pn**	**22 47 08.2**	**-0.5**
HORT				*e*Sn	**Sn**	**22 47 54.0**	**+1.3**
OUR	**Ouranopolis**	**3.92**	**30**	*e*Pn	**Pn**	**22 47 08.8**	**-0.5**
BIA	**Bitola**	**4.07**	**359**	*e*Pn	**Pn**	**22 47 11.3**	**-0.1**
BIA				*e*Sn	**Sn**	**22 48 00.1**	**+2.4**
BIA	**Bitola**	**4.07**	**359**	*i* Pn	**Pn**	**22 47 11.8**	**+0.4**
BIA	**Bitola**	**4.07**	**359**	*i* Pn	**Pn**	**22 47 11.8**	**+0.4**
BIA				*e*Sn	**Sn**	**22 48 00.1**	**+2.3**
GRG	**Griva**	**4.07**	**10**	*e*Pn	**Pn**	**22 47 11.3**	**-0.1**
GRG				*e*Sn	**Sn**	**22 48 00.9**	**+3.1**
SOH	**Sokhos**	**4.15**	**20**	*e*Pn	**Pn**	**22 47 12.7**	**+0.3**
SOH				*e*Sn	**Sn**	**22 48 03.2**	**+3.6**
OHR	**Ohrid**	**4.19**	**353**	*e*Pn	**Pn**	**22 47 13.1**	**+0.1**
OHR	**Ohrid**	**4.19**	**353**	*i* Pn	**Pn**	**22 47 13.1**	**0.0**
PLAC	**Placanica**	**4.25**	**292**	Pg	**Pn**	**22 47 14.1**	**+0.2**
PLAC				Sg	**Sn**	**22 48 02.0**	**-0.3**
	52nm,0.5s						
LCI	**Lecce**	**4.28**	**323**	Pg	**Pn**	**22 47 14.2**	**-0.1**
	134nm,0.2s						
SERS	**Sersale**	**4.31**	**300**	Pg	**Pn**	**22 47 14.1**	**-0.5**
SERS				Sg	**Sn**	**22 48 03.2**	**-0.3**
	93nm,0.6s						
URLA	**Izmir**	**4.32**	**69**	*i* P	**Pn**	**22 47 15.2**	**+0.4**
SOI	**Samo**	**4.44**	**286**	Pg	**Pn**	**22 47 17.0**	**+0.5**
SOI				Sg	**Sn**	**22 48 05.6**	**-1.2**
	150nm,0.5s						
VAY	**Valandovo**	**4.46**	**11**	*e*Pn	**Pn**	**22 47 16.5**	**-0.2**
VAY				*e*Sn	**Sn**	**22 48 09.2**	**+2.0**
VAY	**Valandovo**	**4.46**	**11**	*i* Pn	**Pn**	**22 47 16.7**	**0.0**
SRS	**Serrai**	**4.49**	**21**	*e*Pn	**Pn**	**22 47 16.9**	**-0.2**
TIR	**Tirane**	**4.57**	**345**	Pg	**Pn**	**22 47 18.5**	**+0.3**
	277nm,1.0s						
TIR	**Tirane**	**4.57**	**345**	*e*Pn	**Pn**	**22 47 18.2**	**0.0**
TIR	**Tirane**	**4.57**	**345**	*e*Pn	**Pn**	**22 47 18.2**	**0.0**
TIR	**Tirane**	**4.57**	**345**	Pg	**Pn**	**22 47 18.5**	**+0.3**
	277nm,1.0s						
CEL	**Celeste**	**4.61**	**288**	Pg	**Pn**	**22 47 19.3**	**+0.5**
CEL				Sg	**Sn**	**22 48 10.5**	**-0.5**
	939nm,1.6s						
BOZC	**Bozcaada**	**4.63**	**50**	*i* P	**Pn**	**22 47 18.6**	**-0.4**
BLCB	**Balcova**	**4.66**	**70**	*e*Pn	**Pn**	**22 47 19.0**	**-0.5**
BLCB				*e*Sn	**Sn**	**22 48 14.7**	**+2.5**
MTTG	**Motta San Giov**	**4.70**	**285**	Pg	**Pn**	**22 47 20.8**	**+0.7**
MTTG				Sg	**Sn**	**22 48 13.1**	**-0.2**
	219nm,0.6s						
JOPP	**Joppolo**	**4.71**	**292**	Pg	**Pn**	**22 47 20.5**	**+0.3**
JOPP				Sg	**Sn**	**22 48 12.7**	**-0.9**
	204nm,1.0s						
SCLL	**Scilla**	**4.74**	**288**	Pg	**Pn**	**22 47 20.4**	**-0.2**
SCLL				Sg	**Sn**	**22 48 13.7**	**-0.6**
	47nm,0.6s						
STIP	**Stip**	**4.78**	**7**	*e*Pn	**Pn**	**22 47 21.4**	**+0.3**
STIP	**Stip**	**4.78**	**7**	*i* Pn	**Pn**	**22 47 21.4**	**+0.3**
STIP				⇓*i*Pn	**Pn**	**22 47 21.6**	**+0.5**
STIP	**Stip**	**4.78**	**7**	*i* Pn	**Pn**	**22 47 21.3**	**+0.2**
NVR	**Nevrokopi**	**4.78**	**22**	*e*PN	**Pn**	**22 47 21.0**	**-0.1**
BDRM	**Kayabasi**	**4.79**	**87**	*i* P	**Pn**	**22 47 21.8**	**+0.4**
KDAG	**Bornova**	**4.83**	**71**	*e*P	**Pn**	**22 47 24.9**	**+3.1**
MSI	**Messina ING**	**4.85**	**287**	Pg	**Pn**	**22 47 22.7**	**+0.6**
MSI				Sg	**Sn**	**22 48 17.3**	**+0.3**
	301nm,0.3s						
MSRU	**Castanea**	**4.90**	**287**	Pg	**Pn**	**22 47 23.3**	**+0.5**
MSRU				Sg	**Sn**	**22 48 18.2**	**0.0**
	396nm,0.7s						
PE1	**Pezze di Greco**	**4.98**	**322**	⇑*i*Pn	**Pn**	**22 47 23.6**	**-0.2**
AGST	**Augusta-Monte**	**4.99**	**275**	Pg	**Pn**	**22 47 23.5**	**-0.5**
AGST				Sg	**Sn**	**22 48 20.5**	**+0.2**
	202nm,0.5s						
ORI	**Oriolo Calabro**	**5.01**	**310**	Pg	**Pn**	**22 47 25.4**	**+1.1**
	607nm,0.4s						
SKO	**Skopje**	**5.02**	**360**	*e*Pn	**Pn**	**22 47 24.8**	**+0.3**
MMME	**Mongiuffi-Meli**	**5.03**	**283**	Pg	**Pn**	**22 47 24.9**	**+0.3**
MMME				Sg	**Sn**	**22 48 20.1**	**-1.3**
	305nm,0.6s						
HAGA	**Augusta**	**5.05**	**276**	Pg	**Pn**	**22 47 23.6**	**-1.2**
	186nm,0.6s						
HAVL	**Avola**	**5.07**	**272**	Pg	**Pn**	**22 47 24.9**	**-0.2**
HAVL				Sg	**Sn**	**22 48 22.0**	**-0.3**
	690nm,0.4s						
SSY	**Sortino**	**5.11**	**274**	Pg	**Pn**	**22 47 25.0**	**-0.7**
	561nm,0.4s						
NOCI	**Noci**	**5.14**	**320**	Pg	**Pn**	**22 47 25.9**	**-0.2**
	300nm,0.4s						
CRAC	**Craco**	**5.21**	**313**	Pg	**Pn**	**22 47 28.1**	**+1.1**
CRAC				Sg	**Sn**	**22 48 26.7**	**+1.0**
	299nm,0.3s						
RDO	**Rodhopi**	**5.26**	**36**	*e*PN	**Pn**	**22 47 27.5**	**-0.2**
ULC	**Ulcinj**	**5.29**	**342**	⇓*i*Pn	**Pn**	**22 47 27.2**	**-1.0**
ULC				*e*Sn	**Sn**	**22 48 26.5**	**-1.3**
SCHR	**S. Chirico Rap**	**5.32**	**309**	Pg	**Pn**	**22 47 30.1**	**+1.5**
SCHR				Sg	**Sn**	**22 48 28.6**	**+0.1**
	89nm,0.6s						
ALN	**Alexandroupoli**	**5.33**	**41**	*e*Pn	**Pn**	**22 47 27.3**	**-1.3**
VPL	**Vulcano Piano**	**5.33**	**288**	Pg	**Pn**	**22 47 28.4**	**-0.3**
	315nm,0.4s						
MIGL	**Miglionico**	**5.36**	**315**	Pg	**Pn**	**22 47 29.4**	**+0.4**
	240nm,0.4s						
RZN

VCEL	**Villa Celiera**	**8.01**	**315**		Pg	**Pn**	**22 48 06.5**	**+1.2**
	comp=Z,68nm,0.5s							
DABA	**Dabaa**	**8.19**	**134**	⇓	P	**Pn**	**22 48 02.7**	**-5.2**
AQU	**L'Aquila**	**8.23**	**313**	⇓	*i*P	**Pn**	**22 48 10.7**	**+2.3**
CERT	**Cerreto**	**8.24**	**310**		Pg	**Pn**	**22 48 09.0**	**+0.4**
	comp=Z,25nm,0.5s							
TERO	**Teramo**	**8.29**	**316**		Pg	**Pn**	**22 48 10.6**	**+1.4**
	comp=Z,46nm,0.4s							
SWA2		**8.38**	**155**		P	**Pn**	**22 48 08.4**	**-2.0**
SWA1		**8.45**	**154**		P	**Pn**	**22 48 09.1**	**-2.3**
SWA1					S	**Sn**	**22 49 34.4**	**-11**
GZR	**Gura Zlata**	**8.50**	**6**	⇓	*i*P	**Pn**	**22 48 11.5**	**-0.6**
BZS	**Buzias**	**8.67**	**1**	⇑	*i*P	**Pn**	**22 48 11.9**	**-2.5**
BZS	**Buzias**	**8.67**	**1**	⇑	P	**Pn**	**22 48 11.8**	**-2.5**
MNS	**Montasola**	**8.68**	**311**		Pg	**Pn**	**22 48 15.4**	**+0.9**
	comp=Z,20nm,0.5s							
MNS	**Montasola**	**8.68**	**311**		P	**Pn**	**22 48 15.4**	**+0.9**
MNS					pmax	pmax		
	comp=Z,20nm,0.5s							
VOIR		**8.91**	**17**	⇑	*i*P	**Pn**	**22 48 18.2**	**+0.6**
VOIR		**8.91**	**17**	⇑	P	**Pn**	**22 48 18.2**	**+0.6**
TOLF	**Tolfa**	**8.92**	**308**		Pg	**Pn**	**22 48 18.2**	**+0.4**
	comp=Z,14nm,0.5s							
CING	**Cingoli**	**9.01**	**318**		Pg	**Pn**	**22 48 19.6**	**+0.5**
	comp=Z,29nm,0.4s							
SNTG	**Esanatoglia**	**9.07**	**317**		Pg	**Pn**	**22 48 20.0**	**+0.1**
	comp=Z,31nm,0.9s							
NVLJ	**Novalja**	**9.10**	**329**		*i* Pn	**Pn**	**22 48 19.0**	**-1.3**
NVLJ					*i* Sn	**Sn**	**22 49 57.4**	**-3.9**
MLR	**Muntele Rosu**	**9.18**	**20**		P	**Pn**	**22 48 21.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=181,slow=4.9,SNR=9.6							
MLR					LR	LR		
	comp=Z,235nm,18.2s,baz=313,slow=37							
MLR	**Muntele Rosu**	**9.18**	**20**	⇓	*i*P	**Pn**	**22 48 22.1**	**+0.7**
MLR	**Muntele Rosu**	**9.18**	**20**	⇓	P	**Pn**	**22 48 22.1**	**+0.7**
MLR	**Muntele Rosu**	**9.18**	**20**		P	**Pn**	**22 48 22.2**	**+0.8**
HBRG	**Burj al 'Arab**	**9.43**	**130**		P	**Pn**	**22 48 19.4**	**-5.5**
PLOR	**Plostina**	**9.71**	**22**	⇑	*i*P	**Pn**	**22 48 29.8**	**+1.1**
BOJS	**Bojanci**	**9.74**	**333**		*e*Pn	**Pn**	**22 48 27.6**	**-1.5**
VRI	**Vrincioaia**	**9.75**	**22**	⇓	*i*P	**Pn**	**22 48 28.0**	**-1.2**
VRI	**Vrincioaia**	**9.75**	**22**	⇓	P	**Pn**	**22 48 28.0**	**-1.2**
KEST	**Kesra**	**9.85**	**267**		P	**Pn**	**22 48 34.2**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=19,slow=6.6,SNR=8.3							
KEST					S	**Sn**	**22 50 18.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=47,slow=18,SNR=4.8							
DRGR		**9.88**	**5**	⇑	*i*P	**Pn**	**22 48 30.0**	**-1.0**
DRGR		**9.88**	**5**	⇑	P	**Pn**	**22 48 30.5**	**-0.5**
DRGR		**9.88**	**5**	⇑	P	**Pn**	**22 48 30.1**	**-0.9**
DRGR		**9.88**	**5**	⇑	P	**Pn**	**22 48 30.6**	**-0.5**
BR131	**Keskin Array S**	**9.97**	**70**		*e*Pn	**Pn**	**22 48 36.2**	**+4.0**
	comp=Z,3.2nm,0.8s							
BR131	**Keskin Array S**	**9.97**	**70**		*e*Pn	**Pn**	**22 48 36.2**	**+4.0**
	comp=Z,3.2nm,0.8s							
BRTR	**Keskin Array B**	**9.97**	**70**		P	**Pn**	**22 48 34.8**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=254,slow=14,SNR=13							
VISS	**Visnje**	**10.15**	**333**		*i* Pn	**Pn**	**22 48 33.3**	**-1.4**
HNAT	**Natroun**	**10.57**	**131**		P	**Pn**	**22 48 35.4**	**-5.1**
AWBH		**10.64**	**142**		P	**Pn**	**22 48 38.0**	**-3.4**
VOY	**Vojsko**	**10.70**	**330**		*e*Pn	**Pn**	**22 48 41.0**	**-1.2**
VOY					*e*		22 48 43.6	
VOY					*e*		22 48 49.0	
VOY					*e*		22 48 56.9	
VOY					*e*(Sn)	**Sn**	**22 50 37.6**	**-2.8**
OBKA	**Obir**	**10.86**	**334**	⇓	*i*Pn	**Pn**	**22 48 42.8**	**-1.5**
OBKA				⇓	*i*Sn	**Sn**	**22 50 39.5**	**-4.7**
CADS	**Cadrg**	**10.92**	**331**		*i* Pn	**Pn**	**22 48 44.3**	**-0.9**
BURAR	**Bucovina Array**	**11.02**	**13**	⇑	*i*P	**Pn**	**22 48 47.4**	**+0.9**
KOT	**Kottamia**	**11.13**	**126**	⇓	P	**Pn**	**22 48 42.7**	**-5.4**
ARSA	**Arzberg**	**11.20**	**339**	⇑	*i*Pn	**Pn**	**22 48 46.8**	**-2.1**
ARSA				⇓	*i*Sn	**Sn**	**22 50 48.1**	**-4.5**
GLL	**Jalalah**	**11.29**	**128**	⇓	P	**Pn**	**22 48 45.0**	**-5.3**
HFRF	**Wahat Farafira**	**11.36**	**147**	⇓	P	**Pn**	**22 48 48.2**	**-3.0**
KECS	**Kecovo**	**11.55**	**357**		*e*PN	**Pn**	**22 48 52.9**	**-1.0**
AMAG	**Maghara**	**11.62**	**119**		P	**Pn**	**22 48 48.7**	**-6.0**
UZH	**Uzhgorod**	**11.70**	**3**		*e*P	**Pn**	**22 48 54.0**	**-1.8**
UZH					*e*S	**Sn**	**22 51 00.0**	**-4.8**
UZH					pmax	pmax		
	comp=Z,17nm,1.0s							
UZH					MLR	MLR		
	comp=Z,200nm,10.0s							
VYHS	**Vyhne**	**11.70**	**351**		*e*Pn	**Pn**	**22 48 53.3**	**-2.6**
VYHS					*e*Sn	**Sn**	**22 50 59.8**	**-5.1**
KBA	**Koelnbreinsper**	**11.78**	**332**	⇑	*i*Pn	**Pn**	**22 48 55.2**	**-1.8**
KBA				⇓	*i*Sn	**Sn**	**22 51 03.7**	**-3.1**
MOA	**Molln**	**12.12**	**336**	⇑	*i*Pn	**Pn**	**22 48 59.5**	**-2.1**
MOA				⇑	*i*Sn	**Sn**	**22 51 12.0**	**-3.0**
STHS	**Stebnicka Huta**	**12.47**	**359**		*e*P	**Pn**	**22 49 08.3**	**+2.0**
STHS	**Stebnicka Huta**	**12.47**	**359**		*e*	**Pn**	**22 49 08.3**	**+2.0**
WATA	**Walderalm**	**12.70**	**328**	⇓	*i*Pn	**Pn**	**22 49 08.4**	**-1.1**
	SNR=5.2							
MOTA	**Moosalm**	**12.91**	**327**	⇓	*i*Pn	**Pn**	**22 49 10.6**	**-1.7**
	SNR=6.1							
LMR	**La Mourre**	**13.09**	**304**		*e*P	**Pn**	**22 49 15.0**	**+0.2**
FRF	**La Foret Royal**	**13.09**	**305**		*e*P	**Pn**	**22 49 13.9**	**-0.9**
	comp=Z,22nm,1.0s							
FRF	**La Foret Royal**	**13.09**	**305**		*e*P	**Pn**	**22 49 13.9**	**-0.9**
FRF					pmax	pmax		
	comp=Z,11nm,1.0s							
FRF	**La Foret Royal**	**13.09**	**305**		*e*P	**Pn**	**22 49 13.9**	**-0.9**
	comp=Z,11nm,1.0s							
GERES	**GERESS Array B**	**13.17**	**337**		P	**Pn**	**22 49 15.3**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=12							
TR2		**13.39**	**126**		P	**Pn**	**22 49 13.9**	**-5.0**
HKAT	**Jabal Katrina**	**13.48**	**125**		P	**Pn**	**22 49 14.9**	**-5.1**
MBDF	**Montbardon**	**13.55**	**310**		*e*P	**Pn**	**22 49 20.9**	**-0.2**
	comp=Z,19nm,0.9s							
MBDF	**Montbardon**	**13.55**	**310**		*e*P	**Pn**	**22 49 20.9**	**-0.2**
MBDF					pmax	pmax		
	comp=Z,10.0nm,0.9s							
MBDF	**Montbardon**	**13.55**	**310**		*e*P	**Pn**	**22 49 20.9**	**-0.2**
	comp=Z,9.6nm,0.9s							
WET	**Wettzell**	**13.70**	**336**		*e*P	**Pn**	**22 49 31.5**	**+8.4**
	comp=Z,8.0nm,1.0s							
LPG	**La Plagne**	**13.96**	**312**		*e*P	**Pn**	**22 49 25.6**	**-1.1**
LPL	**La Plagne**	**13.99**	**312**		*e*P	**Pn**	**22 49 25.3**	**-1.7**
ORIF	**Oris-en-Rattie**	**14.20**	**309**		*e*P	**Pn**	**22 49 28.5**	**-1.3**
	comp=Z,21nm,1.1s							
ORIF	**Oris-en-Rattie**	**14.20**	**309**		*e*P	**Pn**	**22 49 28.5**	**-1.3**
ORIF					pmax	pmax		
	comp=Z,11nm,1.1s							
ORIF	**Oris-en-Rattie**	**14.20**	**309**		*e*P	**Pn**	**22 49 28.5**	**-1.3**
	comp=Z,11nm,1.1s							
MANZ	**Manzenberg**	**14.68**	**336**		*e*P	**Pn**	**22 49 42.8**	**+6.7**
	comp=Z,7.0nm,0.8s							
GRA1	**Grafenberg Arr**	**14.74**	**333**		*e*P	**Pn**	**22 49 43.7**	**+6.8**
	comp=Z,24nm,1.2s							
GRF	**Grafenberg Arr**	**14.74**	**333**		*e*P	**Pn**	**22 49 43.7**	**+6.8**
	comp=Z,24nm,1.2s							
GRF	**Grafenberg Arr**	**14.74**	**333**		*e*P	**Pn**	**22 49 43.7**	**+6.8**
GRF					pmax	pmax		
	comp=Z,24nm,1.2s							
AKASG	**Malin Array Be**	**14.84**	**20**		P	**Pn**	**22 49 35.3**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=209,slow=13,SNR=12							
BRG	**Berggiesshubel**	**14.93**	**341**		P	**Pn**	**22 49 44.0**	**+4.6**
	comp=Z,0.4nm,0.4s							
GUNZ	**Gunzen**	**14.93**	**337**		*e*P	**Pn**	**22 49 46.9**	**+7.5**
	comp=Z,8.0nm,1.0s							
FBE	**Freiberg**	**15.13**	**340**		*e*P	**Pn**	**22 49 48.3**	**+6.4**
HINF	**Hinteralfeld**	**15.28**	**320**		*e*P	**Pn**	**22 49 44.2**	**+0.2**
	comp=Z,9.4nm,0.5s							
HINF	**Hinteralfeld**	**15.28**	**320**		*e*P	**Pn**	**22 49 44.2**	**+0.2**
HINF					pmax	pmax		
	comp=Z,5.0nm,0.5s							
HINF	**Hinteralfeld**	**15.28**	**320**		*e*P	**Pn**	**22 49 44.2**	**+0.2**
	comp=Z,4.7nm,0.5s							
MOX	**Moxa**	**15.41**	**336**		*e*P	**Pn**	**22 49 51.2**	**+5.6**
CDF	**Champ du Feu**	**15.46**	**322**		*e*P	**Pn**	**22 49 45.9**	**-0.4**
	comp=Z,14nm,0.6s							
CDF	**Champ du Feu**	**15.46**	**322**		*e*P	**Pn**	**22 49 45.9**	**-0.4**
CDF					pmax	pmax		
	comp=Z,7.0nm,0.6s							
CDF	**Champ du Feu**	**15.46**	**322**		*e*P	**Pn**	**22 49 45.9**	**-0.4**
	comp=Z,6.9nm,0.6s							
CLL	**Collm**	**15.57**	**340**		*e*P	**Pn**	**22 49 52.3**	**+4.6**
	comp=Z,11nm,1.0s							
CLL	**Collm**	**15.57**	**340**		*ep*P	**Pn**	**22 49 49.0**	**+1.3**
CLL					*es*P	pP	22 49 53.0	-10
	comp=Z,11nm,1.0s							
CLL					*e*PP		22 49 57.0	
CLL	**Collm**	**15.57**	**340**		*e*P	**Pn**	**22 49 53.0**	**+5.3**
CLL					pmax	pmax		
	comp=Z,11nm,1.0s							
CLL	**Collm**	**15.57**	**340**		*e*P	**Pn**	**22 49 53.0**	**+5.3**
	comp=Z,11nm,1.0s							

HAU	**Haudompre**	**15.67**	**320**		*e*P	**Pn**	**22 49 49.8**	**+0.9**
	comp=Z,19nm,0.7s								
HAU	**Haudompre**	**15.67**	**320**		*e*P	**Pn**	**22 49 49.8**	**+0.9**
HAU					pmax	pmax			
	comp=Z,9.0nm,0.7s								
HAU	**Haudompre**	**15.67**	**320**		*e*P	**Pn**	**22 49 49.8**	**+0.9**
	comp=Z,9.4nm,0.7s								
SMF	**Signal de Mont**	**16.29**	**312**		*e*P	**Pn**	**22 49 57.7**	**+0.9**
LOR	**Lormes**	**16.60**	**314**		*e*P	**Pn**	**22 50 01.1**	**+0.4**
	comp=Z,14nm,0.8s								
LOR	**Lormes**	**16.60**	**314**		*e*P	**Pn**	**22 50 01.1**	**+0.4**
LOR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
LOR	**Lormes**	**16.60**	**314**		*e*P	**Pn**	**22 50 01.1**	**+0.4**
	comp=Z,7.2nm,0.8s								
MEZF	**Maizieres J'vi**	**16.65**	**319**		*e*P	**Pn**	**22 50 03.5**	**+2.2**
	comp=Z,36nm,0.9s								
MEZF	**Maizieres J'vi**	**16.65**	**319**		*e*P	**Pn**	**22 50 03.5**	**+2.2**
	comp=Z,18nm,0.9s								
AVF	**Avril sur Loir**	**16.66**	**312**		*e*P	**Pn**	**22 50 01.3**	**-0.1**
GIVF	**Givet**	**17.79**	**323**		*e*P	**Pn**	**22 50 17.9**	**+2.5**
ETSF	**Etsaut**	**17.88**	**296**		*e*P	**Pn**	**22 50 16.3**	**-0.2**
BAIF	**Baives**	**18.06**	**322**		*e*P	**Pn**	**22 50 20.4**	**+1.7**
	comp=Z,15nm,0.6s								
BAIF	**Baives**	**18.06**	**322**		*e*P	**Pn**	**22 50 20.4**	**+1.7**
BAIF					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BAIF	**Baives**	**18.06**	**322**		*e*P	**Pn**	**22 50 20.4**	**+1.7**
	comp=Z,7.6nm,0.6s								
ZEI	**Tsey**	**18.16**	**64**		*e*P	**Pn**	**22 50 21.2**	**+1.3**
ETOR	**Torete**	**18.69**	**289**		P	**Pn**	**22 50 28.3**	**+2.0**
ETOR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
ETOR	**Torete**	**18.69**	**289**		P	**Pn**	**22 50 28.3**	**+2.0**
	comp=Z,3.5nm,0.8s								
ETOR	**Torete**	**18.69**	**289**		P	**Pn**	**22 50 28.3**	**+2.0**
	comp=Z,3.5nm,0.8s								
MFF	**Saint Martin d**	**18.73**	**308**		*e*P	**Pn**	**22 50 27.6**	**+0.8**
LDF	**La Druitiere**	**19.59**	**313**		*e*P	**Pn**	**22 50 37.0**	**0.0**
	comp=Z,8.1nm,0.5s								
LDF	**La Druitiere**	**19.59**	**313**		*e*P	**Pn**	**22 50 37.0**	**0.0**
LDF					pmax	pmax			
	comp=Z,4.0nm,0.5s								
LDF	**La Druitiere**	**19.59**	**313**		*e*P	**Pn**	**22 50 37.0**	**0.0**
	comp=Z,4.1nm,0.5s								
FLN	**La Foliniere**	**19.88**	**313**		*e*P	**Pn**	**22 50 39.8**	**-0.6**
GRR	**Gorron**	**19.92**	**312**		*e*P	**Pn**	**22 50 40.2**	**-0.8**
ESDC	**Sonseca Array**	**20.11**	**286**		P	**P**	**22 50 42.3**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=77,slow=12,SNR=6.8								
ESDC	**Sonseca Array**	**20.11**	**286**		P	**P**	**22 50 44.3**	**+3.4**
	comp=Z,0.3nm,0.4s								
ESDC	**Sonseca Array**	**20.11**	**286**		P	**P**	**22 50 44.3**	**+3.3**
	comp=Z,0.3nm,0.4s								
ESLA	**Sonseca Array**	**20.11**	**286**		*e*P	**P**	**22 50 40.4**	**-0.6**
	comp=Z,0.4nm,0.8s								
ESLA	**Sonseca Array**	**20.11**	**286**		*e*P	**P**	**22 50 40.4**	**-0.6**
	comp=Z,0.4nm,0.8s								
GUD	**Guadarrama**	**20.28**	**288**		P	**P**	**22 50 47.1**	**+4.4**
GUD					pmax	pmax			
	comp=Z,13nm,0.3s								
GUD	**Guadarrama**	**20.28**	**288**		P	**P**	**22 50 47.1**	**+4.4**
	comp=Z,12nm,0.3s								
ELUQ	**Luque**	**20.47**	**280**		P	**P**	**22 50 44.2**	**-0.6**
ELUQ					pmax	pmax			
	comp=Z,48nm,2.3s								
ELUQ	**Luque**	**20.47**	**280**		P	**P**	**22 50 44.2**	**-0.6**
	comp=Z,48nm,2.3s								
OBN	**Obninsk**	**20.90**	**25**	к	*e*P	**P**	**22 50 52.1**	**+2.6**
OBN					pmax	pmax			
	comp=Z,14nm,0.5s								
OBN	**Obninsk**	**20.90**	**25**		*e*P	**P**	**22 50 52.1**	**+2.6**
	comp=Z,14nm,0.5s								
EMIJ	**Mijas**	**21.00**	**277**		P	**P**	**22 50 57.7**	**+7.2**
	comp=Z,6.1nm,0.7s,mb4.0								
QUIF	**Quistinic**	**21.13**	**309**		*e*P	**P**	**22 50 53.0**	**+1.0**
	comp=Z,49nm,0.9s,mb4.5								
QUIF	**Quistinic**	**21.13**	**309**		*e*P	**P**	**22 50 53.0**	**+1.0**
QUIF					pmax	pmax			
	comp=Z,25nm,0.9s,mb4.5								
QUIF	**Quistinic**	**21.13**	**309**		*e*P	**P**	**22 50 53.0**	**+1.0**
	comp=Z,25nm,0.9s,mb4.5								
ROSF	**Rostrenen**	**21.36**	**310**		*e*P	**P**	**22 50 55.5**	**+1.1**
	comp=Z,35nm,0.9s,mb4.4								
ROSF	**Rostrenen**	**21.36**	**310**		*e*P	**P**	**22 50 55.5**	**+1.1**
ROSF					pmax	pmax			
	comp=Z,17nm,0.9s,mb4.4								
ROSF	**Rostrenen**	**21.36**	**310**		*e*P	**P**	**22 50 55.5**	**+1.1**
	comp=Z,17nm,0.9s,mb4.4								
RST	**Umm Al-Ruwaisa**	**22.58**	**102**		*e*P	**P**	**22 51 06.1**	**-1.2**
RST					AMb	AMB	22 51 13.4		
	comp=Z,16nm,1.0s,mb4.4								
MIB	**Mutribah**	**22.72**	**101**		*e*P	**P**	**22 51 08.4**	**-0.5**
MIB					AMb	AMB	22 51 12.4		
	comp=Z,18nm,0.5s,mb4.7								
NAY	**Al-Naaiem**	**22.88**	**102**		*e*P	**P**	**22 51 09.4**	**-1.2**
NAY					AMb	AMB	22 51 12.0		
	comp=Z,6.3nm,0.6s,mb4.2								
HFS	**Hagfors**	**23.74**	**350**		P	**P**	**22 51 17.8**	**-1.0**
	comp=Z,8.9nm,0.4s,mb4.6,baz=156,slow=11,SNR=88								
HFS					LR	LR	23 02 00.7		
	comp=Z,98nm,20.7s,MS3.3,baz=182,slow=40								
FINES	**FINESS Array B**	**24.70**	**5**		P	**P**	**22 51 27.1**	**-0.4**
	comp=Z,2.3nm,0.3s,mb4.1,baz=183,slow=12,SNR=46								
FIA1	**FINESS Array S**	**24.70**	**5**		*e*P	**P**	**22 51 27.0**	**-0.6**
FIA1	**FINESS Array S**	**24.70**	**5**		*e*P	**P**	**22 51 27.0**	**-0.6**
NAO01	**NORSAR Array S**	**24.84**	**348**		*e*P	**P**	**22 51 29.1**	**+0.2**
	comp=Z,9.1nm,0.5s,mb4.6								
NAO01	**NORSAR Array S**	**24.84**	**348**		*e*P	**P**	**22 51 29.1**	**+0.2**
	comp=Z,9.1nm,0.5s,mb4.6								
EKA	**Eskdalemuir Ar**	**24.86**	**326**		P	**P**	**22 51 30.4**	**+1.2**
	comp=Z,7.1nm,0.7s,mb4.3,baz=128,slow=9.1,SNR=40								
NB2	**NORSAR Subarra**	**24.97**	**348**		P	**P**	**22 51 29.7**	**-0.4**
	comp=Z,4.2nm,0.5s,mb4.2,baz=155,slow=11								
NB2	**NORSAR Subarra**	**24.97**	**348**		P	**P**	**22 51 29.7**	**-0.4**
NB2					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.2								
NOA	**NORSAR Array B**	**24.97**	**348**		P	**P**	**22 51 30.2**	**+0.1**
	comp=Z,7.2nm,0.6s,mb4.4,baz=157,slow=9.0,SNR=48								
NOA	**NORSAR Array B**	**24.97**	**348**		P	**P**	**22 51 30.2**	**+0.1**
KAF	**Kangasniemi**	**25.38**	**5**		*e*p	**P**	**22 51 33.9**	**+0.1**
	comp=Z,7.8nm,0.4s,mb4.6								
KAF	**Kangasniemi**	**25.38**	**5**		*e*P	**P**	**22 51 33.9**	**+0.1**
KAF					pmax	pmax			
	comp=Z,8.0nm,0.4s,mb4.6								
JOF	**Joensuu**	**26.70**	**10**		*e*p	**P**	**22 51 45.3**	**-0.4**
	comp=Z,2.2nm,0.5s,mb3.9								
TORD	**Torodi Ar. Bea**	**29.57**	**222**		P	**P**	**22 52 14.0**	**+2.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=33,slow=9.1,SNR=24								
ARU	**Arti**	**31.51**	**40**		*e*P	**P**	**22 52 26.8**	**-1.6**
ARU	**Arti**	**31.51**	**40**		*e*P	**P**	**22 52 26.8**	**-1.6**
ARCES	**ARCESS Array B**	**32.72**			P	**P**	**22 52 39.4**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.1,baz=197,slow=9.7,SNR=26								
ARCES					LR	LR	23 07 08.2		
	comp=Z,92nm,20.8s,MS3.5,baz=11,slow=39								
KEV	**Kevo**	**33.01**	**4**		*e*p	**P**	**22 52 42.0**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.4								
KEV	**Kevo**	**33.01**	**4**		*e*P	**P**	**22 52 42.0**	**+0.4**
KEV					pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4								
ZRNK	**Zerenda**	**36.52**	**49**	⇑	*e*P	**P**	**22 53 11.5**	**-0.3**
ZRNK					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5								
ZRNK	**Zerenda**	**36.52**	**49**	⇑	*e*P	**P**	**22 53 11.5**	**-0.3**
	comp=Z,8.8nm,1.0s,mb4.5								
ZRNK					*ep*P	pP	22 53 16.4	-9.3	
ZRNK	**Zerenda**	**36.52**	**49**	⇑	*e*P	**P**	**22 53 11.5**	**-0.3**
	comp=Z,8.8nm,1.0s,mb4.5								
BVAR	**Borovoye Array**	**37.36**	**49**		P	**P**	**22 53 18.6**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=262,slow=6.2,SNR=6.3								
BORG	**Borgarnes**	**37.55**	**331**		LR	LR	23 09 24.2		
	comp=Z,92nm,20.8s,MS3.6,baz=89,slow=37								
DBIC	**Dimbokro**	**38.52**	**225**		P	**P**	**22 53 31.8**	**+3.1**
	comp=Z,3.4nm,0.8s,mb4.1,baz=21,slow=11,SNR=5.4								
NVS	**Novosibirsk**	**44.98**	**46**		*e*P	**P**	**22 54 22.0**	**+0.4**
MKAR	**Makanchi Array**	**45.33**	**58**		P	**P**	**22 54 23.8**	**-0.5**
	comp=Z,2.4nm,0.4s,mb4.4,baz=278,slow=6.8,SNR=12								
ZAL	**Zalesovo**	**45.96**	**47**		P	**P**	**22 54 28.7**	**-0.6**
	comp=Z,2.8nm,0.3s,mb4.6,baz=197,slow=6.8,SNR=10								
SONM	**Songino Array**	**60.67**	**50**		P	**P**	**22 56 17.4**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=289,slow=9.2,SNR=4.1								
BOSA	**Boshof**	**55.31**	**176**		P	**P**	**22 56 52.0**	**+4.0**
	comp=Z,2.4nm,0.9s,mb4.2,baz=322,slow=8.6,SNR=4.3								
MJAR	**Matsushiro Arr**	**86.31**	**46**		P	**P**	**22 58 48.6**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.2,baz=338,slow=2.4,SNR=5.4								
COR	**Corvallis**	**92.80**	**336**		*e*P	**P**	**22 59 16.9**	**-1.4**
COR					pmax	pmax			
	comp=Z,8.0nm,0.6s,mb5.3								

COR	**Corvallis**	**92.80**	**336**		*e*P	**P**	**22 59 16.9**	**-1.4**
	comp=Z,8.0nm,0.6s,mb5.3								

CASC 30 23:02:07.1±2.4, 1036N×8431W, h116km±7km, MD4.0, ML3.1, 8C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VPS2	**Volcan Poas 2**	**0.18**	**157**	⇓	*e*P	Pn	23 02 24.6	+1.5
POA2	**Poas 2**	**0.19**	**163**	⇑	*e*P	Pn	23 02 23.4	+0.3
PRS1	**Puriscal**	**0.37**	**181**	⇑	*e*P	Pn	23 02 24.3	+0.5
PRS1					*e*S	Sn	23 02 39.1	+2.7
CGA2	**Cerro Gallo 2**	**0.37**	**205**	⇑	*e*P	Pn	23 02 23.9	+0.1
CGA2					*e*S	Sn	23 02 36.0	-0.3
FORC	**Fortuna**	**0.37**	**288**	⇑	*i*P	Pn	23 02 24.0	+0.2
FORC					*i* S	Sn	23 02 36.3	-0.1
VACR	**Volcan Arenal**	**0.38**	**287**	⇑	*i*P	Pn	23 02 24.2	+0.4
VACR					*e*S	Sn	23 02 36.3	-0.1
EPA	**Esparza**	**0.47**	**218**	⇓	*e*P	Pn	23 02 24.3	0.0
EPA					*e*S	Sn	23 02 38.7	+1.4
SJS	**Escuela Geolog**	**0.48**	**149**		*e*P	Pn	23 02 24.9	+0.5
SJS					*e*S	Sn	23 02 40.7	+3.3
LAJ	**Bijagual**	**0.52**	**160**	⇓	*e*P	Pn	23 02 26.9	+2.2
OCM	**Ochomogo**	**0.57**	**144**	⇑	*i*P	Pn	23 02 24.8	-0.2
OCM					*e*S	Sn	23 02 40.4	+1.9
LCR2	**La Lucha 2**	**0.68**	**154**	⇑	*i*P	Pn	23 02 26.2	+0.3
JCR	**Jicaral**	**0.94**	**238**	⇓	*e*P	Pn	23 02 28.0	-0.2
JCR					*e*S	Sn	23 02 43.0	-1.0
BUS	**Buena Vista**	**0.96**	**146**	⇑	*i*P	Pn	23 02 29.0	+0.7
BUS					*e*S	Sn	23 02 45.0	+0.6
CAO	**Cobano**	**1.02**	**230**		*e*P	Pn	23 02 28.4	-0.6
CAO					*e*S	Sn	23 02 47.6	+2.1
VCR	**Vista de Mar**	**1.32**	**260**	⇓	*e*P	Pn	23 02 32.3	+0.1
SSNN	**San Juan del S**	**1.78**	**301**		*e*P	Pn	23 02 38.7	+1.2
SSNN					*e*S	Sn	23 03 02.1	+1.3
SSNN					*i*		23 03 05.0	
	comp=Z,182nm,0.1s							
CTCR	**Cotoan**	**2.11**	**133**	⇓	*i*P	Pn	23 02 40.5	-1.1
BOA	**Boaco**	**2.52**	**327**		*e*P	Pn	23 02 46.9	-0.1
BOA					*e*S	Sn	23 03 17.2	-0.5
COPN	**Copaltepe**	**2.88**	**309**		*e*P	Pn	23 02 52.4	+0.7

NIED ***30*** *23:12:00, 4

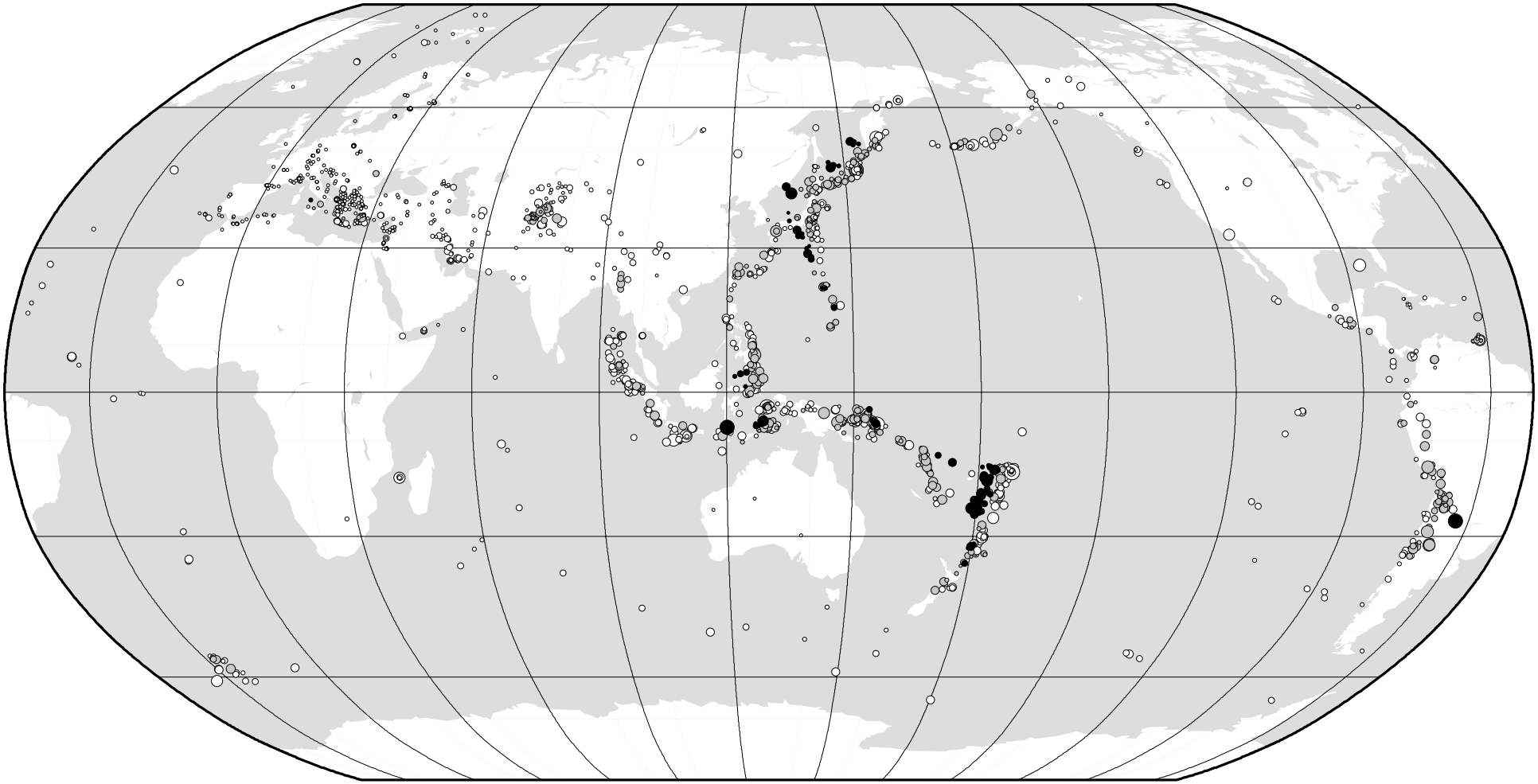
PET	**Petropavlovsk**	**7.46**	**26**	*e*P		**Pn**	**23 14 19.7**	**-2.6**
PET				*e*S		**Sn**	**23 15 40.3**	**-5.3**
PET				A			23 15 43.7	
	comp=N,90nm,0.5s							
PET				A			23 15 43.7	
	comp=N,100nm,0.5s							
PET				AMS	AMS		23 17 00.0	
	comp=N,460nm,13.0s							
PET	**Petropavlovsk**	**7.46**	**26**	*e*PN		**Pn**	**23 14 29.7**	**+7.4**
PET				MLR	MLR			
	comp=Z,500nm,13.0s							
JOB	**Onbets**	**7.61**	**246**	P		**Pn**	**23 14 23.8**	**-0.6**
JOB				*e*S		**Sn**	**23 15 47.5**	**-1.9**
JSE	**Soyaes**	**7.65**	**263**	P		**Pn**	**23 14 28.3**	**+3.4**
JKK2	**Kamakawa 2**	**7.89**	**255**	P		**Pn**	**23 14 29.7**	**+1.5**
ASAJ	**Asahikawa**	**7.90**	**257**	Pn		**Pn**	**23 14 29.6**	**+1.3**
	comp=Z,3.3nm,0.3s,baz=91,slow=16,SNR=21							
ASAJ	**Asahikawa**	**7.90**	**257**	P		**Pn**	**23 14 30.5**	**+2.2**
ASAJ	**Asahikawa**	**7.90**	**257**	PN		**Pn**	**23 14 29.6**	**+1.3**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
UGL	**Uglegorsk**	**8.03**	**293**	*e*P		**Pn**	**23 14 33.5**	**+3.4**
UGL				AMB	AMB		23 14 36.5	
	comp=Z,60nm,0.6s							
UGL				*e*S		**Sn**	**23 16 06.0**	**+6.4**
UGL				A			23 16 12.0	
	comp=Z,70nm,0.7s							
UGL				A			23 16 12.0	
	comp=Z,50nm,0.7s							
UGL				AMS	AMS		23 17 50.0	
	comp=Z,500nm,16.0s							
UGL				AMS	AMS		23 17 50.0	
	comp=Z,950nm,16.0s							
UGL				AMS	AMS		23 17 50.0	
	comp=Z,900nm,16.0s							
UGL	**Uglegorsk**	**8.03**	**293**	*e*PN		**Pn**	**23 14 33.5**	**+3.4**
UGL				S		**Sn**	**23 16 06.0**	**+6.4**
UGL				pmax	pmax			
	comp=Z,55nm,0.6s							
UGL				smax				
	comp=N,74nm,0.7s							
UGL				smax				
	comp=E,51nm,0.7s							
UGL				MLR	MLR			
	comp=Z,900nm,17.0s							
UGL				MLR	MLR			
	comp=N,500nm,15.0s							
UGL				MLR	MLR			
	comp=E,950nm,15.0s							
JCH	**Churui**	**8.06**	**245**	P		**Pn**	**23 14 29.3**	**-1.2**
JCH				*e*S		**Sn**	**23 15 57.0**	**-3.4**
TYV	**Tymovskoe**	**8.34**	**306**	*e*P		**Pn**	**23 14 37.5**	**+3.2**
TYV				AMB	AMB		23 14 44.0	
	comp=E,101nm,1.0s							
JAB	**Ashibetsu**	**8.38**	**254**	P		**Pn**	**23 14 36.7**	**+1.8**
JEM	**Erimo**	**8.51**	**243**	P		**Pn**	**23 14 37.5**	**+0.8**
JEM				*e*S		**Sn**	**23 16 09.1**	**-2.4**
ERM	**Erimo**	**8.52**	**243**	*e*PN		**Pn**	**23 14 37.8**	**+1.1**
ERM				pmax	pmax			
	comp=Z,43nm,0.6s							
ERM	**Erimo**	**8.52**	**243**	*e*Pn		**Pn**	**23 14 37.8**	**+1.0**
	comp=Z,43nm,0.6s							
ERM				*e*Sn		**Sn**	**23 16 07.5**	**-4.0**
JBT2	**Biratori 2**	**8.62**	**249**	P		**Pn**	**23 14 38.6**	**+0.5**
JBT2				*e*S		**Sn**	**23 16 12.2**	**-1.8**
JNBK	**Urakawa-nobuka**	**8.62**	**245**	P		**Pn**	**23 14 38.4**	**+0.2**
JEW	**Eniwo**	**9.18**	**251**	P		**Pn**	**23 14 47.4**	**+1.5**
JKB	**Kayabe**	**9.91**	**247**	P		**Pn**	**23 14 53.9**	**-2.0**
JKB				*e*S		**Sn**	**23 16 38.9**	**-7.0**
JSH	**Shimam**	**10.19**	**253**	P		**Pn**	**23 15 00.0**	**+0.2**
JYM2	**Yakumo 2**	**10.23**	**250**	P		**Pn**	**23 14 58.9**	**-1.3**
JANG	**Nango**	**10.49**	**239**	P		**Pn**	**23 14 59.1**	**-4.7**
JANG				*e*S		**Sn**	**23 16 49.6**	**-10**
JTM	**Tenmabayashi**	**10.51**	**242**	P		**Pn**	**23 15 01.4**	**-2.6**
JTM				*e*S		**Sn**	**23 16 51.5**	**-8.9**
JTH	**Tanohata**	**10.57**	**236**	*e*S		**Sn**	**23 16 49.9**	**-12**
NKL	**Nikolayevsk**	**10.58**	**314**	*e*P		**Pn**	**23 15 06.0**	**+1.0**
NKL				AMB	AMB		23 15 10.0	
	comp=Z,30nm,1.0s							
NKL				AMS	AMS		23 19 49.0	
	comp=Z,600nm,15.0s							
NKL				AMS	AMS		23 19 49.0	
	comp=Z,1µm,15.0s							
JOSM	**Okushiri--Mats**	**10.83**	**251**	P		**Pn**	**23 15 07.5**	**-0.9**
OFUJ	**Ofunato**	**11.26**	**234**	*e*S		**Sn**	**23 17 08.5**	**-10**
JRG	**Rokugo**	**11.64**	**237**	P		**Pn**	**23 15 17.1**	**-2.4**
JRG				*e*S		**Sn**	**23 17 18.7**	**-9.4**
JIO	**Ouri**	**11.88**	**232**	*e*S		**Sn**	**23 17 21.4**	**-13**
MA2	**Magadan**	**13.27**	**354**	*e*PN		**Pn**	**23 15 40.3**	**-1.5**
MA2				pmax	pmax			
	comp=Z,13nm,0.5s							
MA2	**Magadan**	**13.27**	**354**	*e*Pn		**Pn**	**23 15 40.2**	**-1.5**
	comp=Z,13nm,0.5s							
KLR	**Kul'dur**	**14.74**	**289**	*e*P		**Pn**	**23 16 00.0**	**-1.8**
KLR				MLR	MLR			
	comp=Z,900nm,15.0s							
MAJO	**Matsushiro**	**14.99**	**234**	*e*P		**Pn**	**23 16 11.2**	**+6.1**
MAT	**Matsushiro**	**14.99**	**234**	P		**Pn**	**23 16 01.7**	**-3.4**
MAT				*e*S		**Sn**	**23 19 06.4**	**+17**
MJAR	**Matsushiro Arr**	**14.99**	**234**	Pn		**Pn**	**23 16 03.5**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=35,slow=12,SNR=6.3							
SEY	**Seymchan**	**16.56**	**359**	*i* P		**Pn**	**23 16 25.2**	**0.0**
MDJ	**Mudanjiang**	**16.71**	**272**	P		**Pn**	**23 16 27.5**	**+0.4**
MDJ				AP		pP	23 16 38.0	-0.8
MDJ				XP		sP	23 16 42.0	-1.8
MDJ				S		**S**	**23 19 31.0**	**-10**
MDJ				SCP		ScP	23 24 49.5	+3.3
MDJ				PCS		PcS	23 24 53.0	+2.5
MDJ				AMB	AMB			
	comp=Z,19nm,1.1s							
MDJ				AMB	AMB			
	comp=Z,40nm,4.7s							
MDJ				LR	LR			
	comp=N,236nm,16.4s							
MDJ				LR	LR			
	comp=E,181nm,18.2s							
MDJ				LR	LR			
	comp=Z,316nm,19.1s							
MDJ	**Mudanjiang**	**16.71**	**272**	*e*Pn		**Pn**	**23 16 27.6**	**+0.5**
CN2	**Changchun**	**19.80**	**273**	*e*P		**Pn**	**23 17 07.5**	**+2.7**
YAK	**Yakutsk**	**20.67**	**328**	*e*P		**P**	**23 17 11.7**	**-0.8**
YAK				*e*			23 17 30.3	
YAK				pmax	pmax			
	comp=Z,12nm,0.9s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.2s							
YAK				pmax	pmax			
	comp=E,7.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,16nm,0.4s							
YAK				pmax	pmax			
	comp=N,23nm,1.3s							
YAK				pmax	pmax			
	comp=E,10.0nm,0.6s							
YAK				MLR	MLR			
	comp=N,333nm,19.0s,MS3.9							
YAK				MLR	MLR			
	comp=Z,383nm,19.0s,MS3.8							
YAK				MLR	MLR			
	comp=E,249nm,17.0s,MS3.9							
KS15	**Wonju Array Si**	**20.86**	**254**	*e*P		**P**	**23 17 16.6**	**+2.1**
SNY	**Shenyang**	**21.76**	**269**	⇓P		**P**	**23 17 24.5**	**+0.3**
SNY				AP			23 17 30.8	
SNY				XP		sP	23 17 33.0	-6.1
SNY				PP			23 17 47.5	
SNY				S		**S**	**23 21 12.5**	**-10**
SNY				AMB	AMB			
	comp=Z,16nm,0.7s,mb4.6							
SNY				AMB	AMB			
	comp=Z,155nm,4.1s							
SNY				LR	LR			
	comp=N,219nm,15.9s,MS3.9							
SNY				LR	LR			
	comp=E,318nm,14.1s,MS3.9							
SNY				LR	LR			
	comp=Z,326nm,13.2s,MS3.9							
BILL	**Bilibino**	**22.68**	**13**	*e*P		**P**	**23 17 33.5**	**-0.5**
BILL				*e*			23 17 44.4	
BILL				*e*			23 17 58.7	
BILL				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.2							
BILL				MLR	MLR			
	comp=Z,200nm,15.0s,MS3.7							
DL2	**Dalian**	**24.36**	**263**	P		**P**	**23 17 52.5**	**+2.3**
DL2				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.5							
BOD	**Bodaibo**	**26.30**	**310**	*e*P		**P**	**23 18 05.7**	**-2.2**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.4s,mb4.1							
BJI	**Beijing**	**27.61**	**270**	*e*P		**P**	**23 18 23.0**	**+3.4**
BJI				S		**S**	**23 22 59.8**	**+1.2**
BJI				AMB	AMB			
	comp=Z,16nm,0.9s,mb4.7							
BJI				LR	LR			
	comp=N,201nm,14.3s,MS4.0							
BJI				LR	LR			
	comp=E,233nm,14.3s,MS4.0							
BJI				LR	LR			
	comp=Z,167nm,16.7s,MS3.7							
BJI	**Beijing**	**27.61**	**270**	*e*P		**P**	**23 18 22.9**	**+3.3**
BJI				S		**S**	**23 22 59.7**	**+1.1**
BJT	**Baijiatuau**	**27.62**	**270**	*e*P		**P**	**23 18 23.2**	**+3.4**
BJT				pmax	pmax			
	comp=Z,13nm,0.8s							
BJT	**Baijiatuau**	**27.62**	**270**	*e*P		**P**	**23 18 23.2**	**+3.4**
	comp=Z,13nm,0.8s,mb4.6							
HHC	**Hu-ho-hao-te**	**30.45**	**275**	*e*P		**P**	**23 18 46.8**	**+1.9**
HHC				AP		pP	23 18 56.3	+0.6
HHC				XP		sP	23 19 00.3	-0.2
HHC				PP		PP	23 19 46.0	-8.0
HHC				S		**S**	**23 23 43.0**	**-0.2**
HHC				XS		sS	23 23 59.0	-2.3
HHC				SCP		ScP	23 25 25.0	+2.1
HHC				PCS		PcS	23 25 29.0	+1.7
HHC				SCS		ScS	23 29 20.0	+1.0
HHC				AMB	AMB			
	comp=Z,86nm,4.0s							
HHC				LR	LR			
	comp=N,386nm,5.0s							
HHC				LR	LR			
	comp=E,278nm,4.3s							
HHC				LR	LR			
	comp=Z,253nm,11.8s,MS4.1							
SONM	**Songino Array**	**31.57**	**290**	P		**P**	**23 18 53.6**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.0,baz=68,slow=8.5,SNR=12							
SONM				PcP		PcP	23 21 46.7	+0.2
	comp=Z,0.8nm,0.8s,baz=115,slow=2.9,SNR=4.2							
SONM				LR	LR		23 30 19.4	
	comp=Z,109nm,20.2s,MS3.5,baz=278,slow=34							
SONM	**Songino Array**	**31.57**	**290**	P		**P**	**23 18 53.6**	**-1.1**
SONM							23 21 46.7	
TLY	**Talaya**	**32.45**	**298**	*e*P		**P**	**23 19 01.2**	**-1.3**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
TLY				MLR	MLR			
	comp=Z,296nm,16.0s,MS4.1							
TLY	**Talaya**	**32.45**	**298**	*e*P		**P**	**23 19 00.9**	**-1.6**
	comp=Z,4.8nm,1.0s,mb4.3							
ZAK	**Zakamensk**	**32.94**	**296**	*e*P		**P**	**23 19 05.7**	**-1.0**
ZAK				*e*			23 21 50.8	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
WHN	**Wuhan**	**33.98**	**256**	*e*P		**P**	**23 19 19.5**	**+3.7**
IMA2	**Indian Mountai**	**33.99**	**36**	*e*P		**P**	**23 19 15.4**	**-0.5**
KDAK	**Kodiak Island**	**34.21**	**51**	P		**P**	**23 19 18.2**	**+0.4**
	comp=Z,6.6nm,0.8s,mb4.6,baz=275,slow=1.0,SNR=4.0							
KDAK	**Kodiak Island**	**34.21**	**51**	P		**P**	**23 19 18.2**	**+0.4**
XAN	**Xi'an**	**35.62**	**266**	P		**P**	**23 19 30.8**	**+0.8**
XAN				AP		pP	23 19 37.3	-3.6
XAN				AMB	AMB			
	comp=Z,5.0nm,1.7s,mb4.2							
MCK	**McKinley**	**35.82**	**40**	*e*P		**P**	**23 19 30.9**	**-0.7**
MCK				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
MCK	**McKinley**	**35.82**	**40**	*e*P		**P**	**23 19 30.9**	**-0.7**
	comp=Z,6.7nm,1.1s,mb4.5							
COLA	**College**	**36.31**	**38**	*e*P		**P**	**23 19 34.5**	**-1.4**
COLA				pmax	pmax			
	comp=Z,12nm,0.9s,mb4.8							
COLA	**College**	**36.31**	**38**	*e*P		**P**	**23 19 34.5**	**-1.4**
	comp=Z,12nm,0.9s,mb4.8							
LZH	**Lanzhou**	**38.03**	**272**	*e*P		**P**	**23 19 52.0**	**+1.5**
LZH				AP		pP	23 20 02.0	+0.5
LZH				XP		sP	23 20 06.0	-0.2
LZH				AMB	AMB			
	comp=Z,42nm,1.5s,mb5.0							
LZH				AMB	AMB			
	comp=Z,112nm,4.0s							
EGAK	**Eagle**	**39.18**	**38**	*e*P		**P**	**23 19 58.8**	**-1.3**
CD2	**Chengdu**	**40.99**	**266**	P		**P**	**23 20 16.8**	**+1.7**
CD2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.7							
CD2				AMB	AMB			
	comp=Z,40nm,5.8s							
GYA	**Guiyang**	**41.78**	**258**	⇑*i* P		**P**	**23 20 22.8**	**+1.3**
GYA				AP		pP	23 20 32.0	-0.7
GYA				XP		sP	23 20 35.8	-1.5
GYA				PP		PP	23 22 01.5	+2.9
GYA				SCP		ScP	23 26 08.0	+3.7
GYA				PCS		PcS	23 26 12.0	+3.2
GYA				S		**S**	**23 26 36.3**	**+0.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.4							
GYA				AMB	AMB			
	comp=Z,120nm,7.2s							
GYA				LR	LR			
	comp=N,470nm,10.1s							
GYA				LR	LR			
	comp=E,350nm,9.7s							
GYA				LR	LR			
	comp=Z,450nm,10.6s,MS4.6							
INK	**Inuvik**	**41.86**	**32**	P		**P**	**23 20 22.3**	**+0.1**
	comp=Z,4.9nm,0.6s,mb4.3,baz=288,slow=6.9,SNR=8.9							
INK	**Inuvik**	**41.86**	**32**	P		**P**	**23 20 22.3**	**+0.1**
ZAL	**Zalesovo**	**42.93**	**306**	P		**P**	**23 20 29.4**	**-1.5**
	comp=Z,2.8nm,0.5s,mb4.3,baz=43,slow=6.5,SNR=10.0							
ZAL				PcP		PcP	23 22 21.3	+0.2
	comp=Z,2.7nm,0.8s,baz=5.9,slow=0.8,SNR=9.5							
ZAL				LR	LR		23 40 06.4	
	comp=Z,413nm,18.7s,MS4.4,baz=101,slow=39							
ZAL	**Zalesovo**	**42.93**	**306**	P		**P**	**23 20 29.4**	**-1.5**
ZAL							23 22 21.3	
NVS	**Novosibirsk**	**43.50**	**308**	*e*P		**P**	**23 20 33.6**	**-1.9**
WMQ	**Urumqi**	**45.17**	**292**	*e*P		**P**	**23 20 49.5**	**+0.6**
WMQ				AP		pP	23 20 59.0	-1.1
WMQ				XP		sP	23 21 03.5	-1.2
WMQ				PP		PP	23 22 33.0	-1.9
WMQ				PPP			23 23 16.0	
WMQ				SCP		ScP	23 26 21.0	+2.9
WMQ				*e*S		**S**	**23 27 25.0**	**-0.8**
WMQ				XS		sS	23 27 41.5	-2.9
WMQ				SCS		ScS	23 30 41.5	-1.0
WMQ				AMB	AMB			
	comp=Z,7.0nm,0.7s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,89nm,4.4s							
WMQ				LR	LR			
	comp=N,562nm,13.3s,MS4.8							
WMQ				LR	LR			
	comp=E,428nm,14.7s,MS4.8							
WMQ				LR	LR			
	comp=Z,663nm,16.8s,MS4.6							
KMI	**Kunming**	**45.32**	**260**	P		**P**	**23 20 51.5**	**+1.5**
KMI				XP		sP	23 21 00.3	-5.6
KMI				AMB	AMB			
	comp=Z,9.0nm,1.2s,mb4.5							
KMI				LR	LR			
	comp=Z,91nm,17.2s,MS3.8							
KMI	**Kunming**	**45.32**	**260**	P		**P**	**23 20 51.6**	**+1.6**
KMI				sP		sP	23 21 00.2	-5.7
DLBC	**Dease Lake**	**45.73**	**46**	P		**P**	**23 20 54.6**	**+1.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=281,slow=26,SNR=3.9							
MKAR	**Makanchi Array**	**47.21**	**298**	P		**P**	**23 21 04.5**	**-0.4**
	comp=Z,9.6nm,0.8s,mb4.8,baz=61,slow=8.5,SNR=84							
MKAR				PcP		PcP	23 22 36.1	+0.3
	comp=Z,2.3nm,0.6s,baz=55,slow=4.6,SNR=5.2							
LSA	**Lhasa**	**50.43**	**274**	*e*P		**P**	**23 21 32.1**	**+2.5**
YKA	**Yellowknife Ar**	**51.11**	**37**	P		**P**	**23 21 34.2**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=297,slow=7.2,SNR=14							
YKA	**Yellowknife Ar**	**51.11**	**37**	P		**P**	**23 21 34.2**	**-0.5**
BRVK	**Borovoye**	**51.21**	**310**	*e*P		**P**	**23 21 34.9**	**-0.6**
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7							
BRVK	**Borovoye**	**51.21**	**310**	*e*P		**P**	**23 21 34.9**	**-0.6**
	comp=Z,6.0nm,0.6s,mb4.7							
ZRNK	**Zerenda**	**51.94**	**310**	⇑*i*P		**P**	**23 21 39.8**	**-1.2**
ZRNK				*e*			23 22 52.5	
ZRNK				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
ZRNK	**Zerenda**	**51.94**	**310**	⇑*i*P		**P**	**23 21 39.8**	**-1.2**
	comp=Z,8.2nm,0.8s,mb4.7							
ZRNK				*e*PcP		PcP	23 22 52.5	-0.7
AAK	**Ala-Archa**	**54.10**	**297**	⇑*e*P		**P**	**23 21 55.9**	**-1.0**
AAK				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7							
AAK	**Ala-Archa**	**54.10**	**297**	*e*P		**P**	**23 21 55.8**	**-1.1**
KSH	**Kashi**	**54.90**	**293**	*e*P		**P**	**23 22 07.0**	**+4.3**
KSH				*e*AP		pP	23 22 11.0	-3.1
KSH				*e*XP		sP	23 22 14.0	-4.7
KSH				*e*PCP		PcP	23 23 09.0	+4.6
KSH				*e*PP		PP	23 24 10.3	+4.5
KSH				*e*PPP			23 25 22.3	
KSH				*e*SCP		ScP	23 27 06.0	+6.2
KSH				*e*PCS		PcS	23 27 08.3	+4.1
KSH				*e*S		**S**	**23 29 43.5**	**+2.1**
KSH				*e*XS		sS	23 29 52.0	-8.4
KSH				*e*PS			23 29 56.0	
KSH				*e*SCS		ScS	23 31 52.0	+3.3
KSH				*e*SS		SS	23 33 26.3	+1.2
KSH				AMB	AMB			
	comp=Z,144nm,4.3s							
KSH				LR	LR			
	comp=Z,395nm,8.0s							
JIRN	**Jiri**	**55.11**	**275**	*e*P		**P**	**23 22 06.4**	**+2.2**
GUN	**Gumba**	**55.16**	**275**	*e*P		**P**	**23 22 06.5**	**+1.9**
ARU	**Arti**	**55.35**	**318**	⇑*i*P		**P**	**23 22 04.1**	**-1.8**
ARU				*e*			23 23 05.4	
ARU				*e*			23 24 04.9	
ARU				*e*S		**S**	**23 29 48.3**	**+0.9**
ARU				*e*SS		SS	23 33 34.8	+2.7
ARU				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.9							
ARU	**Arti**	**55.35**	**318**	*e*P		**P**	**23 22 04.6**	**-1.3**
KKN	**Kakani**	**55.65**	**276**	*e*P		**P**	**23 22 09.7**	**+1.6**
	comp=Z,39nm,0.7s,mb5.5							
PKI	**Pulchoki**	**55.70**	**275**	*e*P		**P**	**23 22 09.8**	**+1.4**
	comp=Z,39nm,1.0s,mb5.4							
DMN	**Daman**	**55.89**	**276**	*e*P		**P**	**23 22 11.6**	**+1.8**
	comp=Z,44nm,0.6s,mb5.6							
GKN	**Gorkha**	**55.96**	**276**	*e*P		**P**	**23 22 12.1**	**+1.8**
	comp=Z,47nm,0.6s,mb5.7							
EDM	**Edmonton**	**56.45**	**46**	*e*P		**P**	**23 22 13.1**	**-0.7**
KOLN	**Koldanda**	**56.82**	**277**	*e*P		**P**	**23 22 18.3**	**+1.9**
	comp=Z,28nm,0.7s,mb5.4							
KEV	**Kevo**	**57.70**	**341**	*e*p		**P**	**23 22 21.1**	**-1.5**
	comp=Z,3.4nm,0.7s,mb4.5							
KEV	**Kevo**	**57.70**	**341**	*e*P		**P**	**23 22 21.1**	**-1.5**
KEV				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4							
ARCES	**ARCESS Array B**	**58.21**	**341**	P		**P**	**23 22 24.6**	**-1.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=37,slow=7.0,SNR=10							
ARCES				LR	LR		23 50 29.5	
	comp=Z,91nm,18.2s,MS3.9,baz=28,slow=39							
BMO	**Blue Mountains**	**59.15**	**56**	*e*P		**P**	**23 22 32.9**	**+0.2**
	comp=Z,3.9nm,1.1s,mb4.3							
WVOR	**Wild Horse Val**	**59.81**	**59**	*e*P		**P**	**23 22 37.3**	**0.0**
WVOR				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
WVOR	**Wild Horse Val**	**59.81**	**59**	*e*P		**P**	**23 22 37.3**	**0.0**
	comp=Z,3.6nm,1.0s,mb4.4							
MSO	**Missoula**	**59.86**	**52**	*e*P		**P**	**23 22 39.5**	**+1.9**
	comp=Z,5.6nm,1.2s,mb4.5							
SUMG	**Summit**	**61.02**	**4**	*e*P		**P**	**23 22 45.4**	**-0.1**
	comp=Z,31nm,0.8s,mb5.5							
LRM	**Limekiln Ridge**	**61.29**	**53**	*e*P		**P**	**23 22 47.6**	**+0.2**
LRM				*e*pP		pP	23 23 00.8	+1.8
EGMT	**Eagleton**	**61.37**	**49**	*e*P		**P**	**23 22 47.7**	**-0.3**
EGMT				*e*pP		pP	23 22 57.9	-1.7
CMB	**Columbia Colle**	**61.43**	**64**	*e*P		**P**	**23 22 48.7**	**+0.4**
CMB				*e**PP		pP	23 23 01.5	+1.6
CMB				pmax	pmax			
	comp=Z,7.0nm,1.4s,mb4.6							
CMB	**Columbia Colle**	**61.43**	**64**	*e*P		**P**	**23 22 48.7**	**+0.4**
	comp=Z,7.1nm,1.4s,mb4.6							
CMB				*e*pP		pP	23 23 01.5	+1.6
JOF	**Joensuu**	**61.69**	**334**	*e*p		**P**	**23 22 49.2**	**-0.9**
	comp=Z,2.7nm,0.4s,mb4.7							
BOZ	**Bozeman (W)**	**61.85**	**52**	*e*P		**P**	**23 22 51.4**	**+0.3**
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.5							
BOZ	**Bozeman (W)**	**61.85**	**52**	*e*P		**P**	**23 22 51.4**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.5							
NVAR	**Mina Array Bea**	**62.47**	**62**	P		**P**	**23 22 56.0**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=280,slow=7.1,SNR=3.4							
TPAW	**Teton Pass**	**63.59**	**54**	*e*P		**P**	**23 23 03.5**	**+0.8**
	comp=Z,8.2nm,0.9s,mb4.8							
REDW	**Red Top Meadow**	**63.73**	**54**	*e*P		**P**	**23 23 02.2**	**-1.4**
	comp=Z,7.1nm,1.0s,mb4.7							
KAF	**Kangasniemi**	**63.80**	**335**	*e*p		**P**	**23 23 03.3**	**-0.8**
	comp=Z,10nm,0.7s,mb5.0,baz=38,slow=6.2							
KAF	**Kangasniemi**	**63.80**	**335**	*e*P		**P**	**23 23 03.3**	**-0.8**
KAF				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0							
FIA1	**FINESS Array S**	**64.40**	**335**	*e*P		**P**	**23 23 06.9**	**-1.2**
FINES	**FINESS Array B**	**64.40**	**335**	P		**P**	**23 23 06.8**	**-1.3**
	comp=Z,11nm,0.4s,mb5.2,baz=38,slow=7.6,SNR=236							
FINES				LR	LR		23 54 10.6	
	comp=Z,111nm,19.6s,MS4.1,baz=267,slow=39							
FINES	**FINESS Array B**	**64.40**	**335**	*i* P		**P**	**23 23 07.1**	**-0.9**
FINES				pmax	pmax			
	comp=Z,11nm,0.4s							
DUG	**Dugway**	**64.64**	**58**	*e*P		**P**	**23 23 08.7**	**-0.9**
DUG				*e**PP		pP	23 23 21.6	+0.3
DUG				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.6							
DUG	**Dugway**	**64.64**	**58**	*e*P		**P**	**23 23 08.7**	**-0.9**
	comp=Z,8.1nm,1.3s,mb4.6							
DUG				*e*pP		pP	23 23 21.6	+0.3
BW06	**Boulder Array**	**64.83**	**54**	*e*P		**P**	**23 23 11.1**	**+0.2**
BW06				*e*pP		pP	23 23 24.5	+1.9
PDAR

comp=Z,10.0nm,0.9s,mb4.8
ANN Anapa 73.02 318 *e*P **P** **23 24 09.0 +7.3**
ANN pmax pmax
comp=Z,29nm,1.3s,mb5.0
MUD Monsted U'grnd 73.18 340 *i* P **P** **23 24 02.6 -0.1**
comp=Z,16nm,1.0s,mb4.9
MUD Monsted U'grnd 73.18 340 *i* P **P** **23 24 02.6 -0.1**
MUD pmax pmax
comp=Z,16nm,1.0s,mb4.9
GKP Gorka Klasztor 73.86 334 *e*P **P** **23 24 06.6 -0.1**
KWP Kalwaria 75.18 329 *e*P **P** **23 24 14.9 +0.6**
BSEG Bad Segeberg 75.19 338 *e*P **P** **23 24 14.7 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
OJC Ojcow 75.68 331 *e*P **P** **23 24 17.3 +0.1**
STHS Stebnicka Huta 75.87 330 *e*P **P** **23 24 18.9 +0.6**
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
STHS Stebnicka Huta 75.87 330 *e*P **P** **23 24 18.9 +0.6**
comp=Z,7.2nm,0.7s,mb4.7
KOLS Kolonicke sedl 75.92 329 *e*P **P** **23 24 18.6 0.0**
BURAR Bucovina Array 75.94 327⇑*i*P **P** **23 24 18.7 0.0**
BURAR Bucovina Array 75.94 327 ⇑P **P** **23 24 18.7 0.0**
UZH Uzhgorod 76.17 329 *e*P **P** **23 24 23.0 +3.0**
UZH pmax pmax
comp=Z,26nm,1.3s,mb5.0
NIE Niedzica 76.19 331 *e*P **P** **23 24 21.0 +0.9**
CRVS Cervenica-Dubn 76.23 330 *e*P **P** **23 24 20.5 +0.1**
NRDL Niedersach Rie 76.55 338 *e*P **P** **23 24 21.9 -0.2**
comp=Z,5.0nm,0.9s,mb4.4
OKC Ostrava-Krasne 76.55 332 *e*P **P** **23 24 22.0 -0.1**
UPC Upice 76.64 334 *e*P **P** **23 24 22.9 +0.2**
DPC Dobruska-Polom 76.68 333 *e*P **P** **23 24 23.0 +0.1**
VRI Vrincioaia 76.79 325⇑*i*P **P** **23 24 25.1 +1.6**
VRI Vrincioaia 76.79 325 ⇑P **P** **23 24 25.1 +1.6**
MORC Moravsky Berou 76.80 332⇓*i*P **P** **23 24 24.2 +0.7**
MORC Moravsky Berou 76.80 332 ⇓P **P** **23 24 24.2 +0.6**
CLL Collm 76.82 336 *e*P **P** **23 24 23.0 -0.7**
comp=Z,20nm,0.6s,mb5.2
CLL Collm 76.82 336 *i* P **P** **23 24 23.1 -0.6**
comp=Z,20nm,0.6s,mb5.2
CLL *i* pP pP 23 24 26.6 -9.0
CLL Collm 76.82 336 *e*P **P** **23 24 23.0 -0.7**
CLL pmax pmax
comp=Z,20nm,0.6s,mb5.2
PLOR Plostina 76.84 325⇓*i*P **P** **23 24 23.7 -0.1**
KECS Kecovo 76.93 330 *e*P **P** **23 24 24.4 +0.1**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 76.93 330 *e*P **P** **23 24 24.4 +0.1**
comp=Z,4.4nm,0.8s,mb4.4
BRG Berggiesshubel 76.94 335 *e*P **P** **23 24 24.2 -0.1**
comp=Z,89nm,3.2s
BRG Berggiesshubel 76.94 335 *e*P **P** **23 24 24.8 +0.5**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRG Berggiesshubel 76.94 335 *e*P **P** **23 24 24.8 +0.4**
comp=Z,2.2nm,1.0s,mb4.0
PVCC Panska Ves 77.06 334 *e*P **P** **23 24 25.3 +0.3**
CLZ Clausthal 77.07 337 *e*P **P** **23 24 25.3 +0.2**
comp=Z,14nm,0.7s,mb5.0
CLZ Clausthal 77.07 337 *e*P **P** **23 24 25.3 +0.2**
CLZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
FBE Freiberg 77.07 335 *e*P **P** **23 24 24.9 -0.2**
comp=Z,10.0nm,1.0s,mb4.7
TIRR Tirgusor 77.26 323⇓*i*P **P** **23 24 26.6 +0.5**
IBBN Ibbenburen 77.31 339 *e*P **P** **23 24 26.9 +0.5**
comp=Z,11nm,0.7s,mb4.9
MLR Muntele Rosu 77.41 325⇑*i*P **P** **23 24 28.2 +1.2**
MLR Muntele Rosu 77.41 325 ⇑P **P** **23 24 28.2 +1.1**
GTTG Gvttingen 77.44 338 *e*P **P** **23 24 28.1 +0.9**
comp=Z,10.0nm,0.7s,mb4.8
VYHS Vyhne 77.48 331 *i* P **P** **23 24 27.9 +0.5**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 77.48 331 *i* P **P** **23 24 27.9 +0.5**
comp=Z,4.1nm,0.9s,mb4.4
VRAC Vranov 77.51 333⇑*i*P **P** **23 24 28.2 +0.7**
VRAC Vranov 77.51 333 ⇑P **P** **23 24 28.2 +0.7**
PRU Pruhonice 77.55 334 *e*P **P** **23 24 27.8 +0.1**
DRGR 77.57 328⇑*i*P **P** **23 24 28.2 +0.3**
DRGR 77.57 328⇑*i*P **P** **23 24 28.3 +0.4**
DRGR 77.57 328 ⇑P **P** **23 24 28.3 +0.4**
DRGR 77.57 328 ⇑P **P** **23 24 28.2 +0.4**
SNX Sinaia 77.70 325⇓*i*P **P** **23 24 30.4 +1.8**
SNX Sinaia 77.70 325 ⇓P **P** **23 24 30.4 +1.8**
WERD Werda 77.79 336 *e*P **P** **23 24 29.3 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
MOX Moxa 77.81 336 *e*P **P** **23 24 29.3 +0.1**
comp=Z,96nm,2.8s,mb5.2
MOX Moxa 77.81 336 *e*P **P** **23 24 30.0 +0.8**
VOIR 77.81 326⇓*i*P **P** **23 24 30.4 +1.2**
VOIR 77.81 326 ⇓P **P** **23 24 30.4 +1.2**
GUNZ Gunzen 77.86 336 *e*P **P** **23 24 29.7 +0.2**
comp=Z,8.0nm,0.8s,mb4.7
WTSB Winterswijk 77.86 340 *e*P **P** **23 24 29.2 -0.3**
comp=Z,20nm,0.9s,mb5.0
TREC Trest 77.87 333 *e*P **P** **23 24 29.8 +0.3**
WERN Wernitzgruen 77.91 336 *e*P **P** **23 24 30.2 +0.4**
comp=Z,11nm,0.7s,mb4.9
SMOL Smolenice 77.93 332 *e*P **P** **23 24 30.9 +1.0**
UBBA Unterbreizbach 78.09 337 *e*P **P** **23 24 30.5 -0.3**
comp=Z,5.0nm,0.6s,mb4.6
BUG Bochum--Univer 78.23 339 *e*P **P** **23 24 32.0 +0.5**
comp=Z,14nm,1.0s,mb4.8
ZST Bratislava 78.31 332 *e*P **P** **23 24 30.8 -1.2**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZST MLR MLR
comp=Z,100nm,18.4s,MS4.2
ZST Bratislava 78.31 332 *e*P **P** **23 24 30.8 -1.2**
comp=Z,9.1nm,1.0s,mb4.7
ZST LR LR
comp=Z,100nm,18.4s,MS4.2
ROTZ Rotzenmuhle 78.43 335 *e*P **P** **23 24 32.9 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
KHC Kasperske Hory 78.60 334 *e*P **P** **23 24 34.1 +0.5**
KHC Kasperske Hory 78.60 334⇑*e*P **P** **23 24 33.3 -0.3**
GZR Gura Zlata 78.72 327⇓*i*P **P** **23 24 35.2 +0.9**
BR131 Keskin Array S 78.72 317 *e*P **P** **23 24 35.6 +1.3**
BRTR Keskin Array B 78.72 317 P **P** **23 24 34.5 +0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=57,slow=5.3,SNR=13
GRA1 Grafenberg Arr 78.78 336 *e*P **P** **23 24 34.9 +0.3**
comp=Z,17nm,0.7s,mb5.1
GRF Grafenberg Arr 78.78 336 *e*P **P** **23 24 34.9 +0.3**
comp=Z,17nm,0.7s,mb5.1
GRF Grafenberg Arr 78.78 336 *e*P **P** **23 24 34.9 +0.3**
GRF pmax pmax
comp=Z,17nm,0.7s,mb5.1
WET Wettzell 78.79 335 *e*P **P** **23 24 34.7 0.0**
comp=Z,10.0nm,0.9s,mb4.8
WET Wettzell 78.79 335 *e*P **P** **23 24 34.7 0.0**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 78.81 334 *e*P **P** **23 24 34.7 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
GEC2 GERESS Array S 78.81 334 *e*P **P** **23 24 34.7 -0.1**
GEC2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GERES GERESS Array B 78.81 334 P **P** **23 24 34.5 -0.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=36,slow=5.0,SNR=34
GERES LR LR 00 03 20.4
comp=Z,158nm,18.3s,MS4.4,baz=26,slow=39
UMR Umm Al-Rimmam 78.91 301 *e*P **P** **23 24 36.4 +1.1**
UMR AMb AMB 23 24 38.4
comp=Z,49nm,0.7s,mb5.5
CONA Conrad Observa 78.95 332⇑*i*P **P** **23 24 36.2 +0.6**
comp=Z,8.6nm,1.0s,mb4.6,SNR=14
MIB Mutribah 78.95 302 *e*P **P** **23 24 36.6 +1.0**
MIB AMb AMB 23 24 38.6
comp=Z,58nm,0.7s,mb5.6
BZS Buzias 78.97 328⇑*i*P **P** **23 24 35.5 -0.1**
BZS Buzias 78.97 328 ⇑P **P** **23 24 35.5 -0.1**
ANTO Ankara 79.01 318⇓*i*P **P** **23 24 37.0 +1.2**
ANTO Ankara 79.01 318 *e*P **P** **23 24 37.1 +1.3**
ANTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ANTO Ankara 79.01 318 *e*P **P** **23 24 37.1 +1.3**
comp=Z,9.5nm,0.7s,mb4.8
TNS Taunus Mts 79.05 338 *e*P **P** **23 24 36.0 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
TNS Taunus Mts 79.05 338 *e*P **P** **23 24 36.0 -0.1**
TNS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HGN Heimansgroeve 79.18 340 *e*P **P** **23 24 36.7 -0.1**
comp=Z,15nm,1.4s,mb4.7
MEM Membach 79.31 339 P **P** **23 24 37.6 +0.2**
RST Umm Al-Ruwaisa 79.38 302 *e*P **P** **23 24 38.6 +0.7**
RST AMb AMB 23 24 40.7
comp=Z,54nm,0.7s,mb5.6
NAY Al-Naaiem 79.42 301 *e*P **P** **23 24 38.5 +0.4**
NAY AMb AMB 23 24 41.2
comp=Z,19nm,0.8s,mb5.0
MOA Molln 79.53 333⇑*i*P **P** **23 24 38.9 +0.2**
comp=Z,5.4nm,0.8s,mb4.5,SNR=9.5
BCLA Clavier 79.65 340 P **P** **23 24 39.5 +0.2**
ARSA Arzberg 79.66 332⇑*i*P **P** **23 24 39.8 +0.4**
comp=Z,4.7nm,1.4s,mb4.2,SNR=7.2
FUR Furstenfeldbru 80.14 335 *e*P **P** **23 24 42.9 +0.9**
comp=Z,11nm,0.8s,mb4.8
FUR Furstenfeldbru 80.14 335 *e*P **P** **23 24 42.9 +0.9**
FUR pmax pmax
comp=Z,11nm,0.8s,mb4.8
WLF Walferdange 80.14 339 *e*P **P** **23 24 43.7 +1.7**
comp=Z,37nm,1.9s,mb5.0
BAIF Baives 80.24 340 *e*P **P** **23 24 41.3 -1.2**
PERS Pernice 80.33 332 *i* P **P** **23 24 43.2 +0.2**
KBA Koelnbreinsper 80.50 334 *i* P **P** **23 24 44.9 +0.9**
comp=Z,27nm,0.8s,mb5.2,SNR=39
KBA Koelnbreinsper 80.50 334 *i* P **P** **23 24 44.9 +1.0**
KBA pmax pmax
comp=Z,27nm,0.8s,mb5.2
WTTA Wattenberg 80.85 335⇑*i*P **P** **23 24 46.7 +0.9**
comp=Z,14nm,0.5s,mb5.2,SNR=12
WTTA Wattenberg 80.85 335⇑*i*P **P** **23 24 46.7 +0.9**
WTTA pmax pmax
comp=Z,14nm,0.5s,mb5.2
DIVS Divcibare 80.86 328 *i* P **P** **23 24 45.2 -0.7**
VTS Vitosha 80.92 325⇑*i*P **P** **23 24 46.7 +0.5**
VTS Vitosha 80.92 325 ⇑P **P** **23 24 46.6 +0.5**
MOTA Moosalm 80.93 335⇑*i*P **P** **23 24 46.7 +0.4**
comp=Z,7.2nm,0.9s,mb4.6,SNR=8.0
MOTA Moosalm 80.93 335⇑*i*P **P** **23 24 46.7 +0.5**
MOTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CRES Cresnjev 80.94 332 *e*P **P** **23 24 46.1 -0.2**
SQTA Sankt Quirin 81.01 335⇓*i*P **P** **23 24 47.6 +1.0**
comp=Z,5.8nm,1.0s,mb4.5,SNR=7.7
SQTA Sankt Quirin 81.01 335⇓*i*P **P** **23 24 47.6 +0.9**
SQTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CDF Champ du Feu 81.01 338 *e*P **P** **23 24 45.7 -1.0**
comp=Z,20nm,0.9s,mb4.8
CDF Champ du Feu 81.01 338 *e*P **P** **23 24 45.7 -1.0**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 81.01 338 *e*P **P** **23 24 45.7 -1.0**
comp=Z,10nm,0.9s,mb4.8
PTCC Patocco-Chiusa 81.09 333 P **P** **23 24 46.3 -0.8**
comp=Z,4.4nm,0.6s,mb4.6
FVI Forni Avoltri 81.10 334 P **P** **23 24 47.9 +0.8**
FVI pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
FVI Forni Avoltri 81.10 334 P **P** **23 24 47.9 +0.8**
comp=Z,2.0nm,0.4s,mb4.4
BOJS Bojanci 81.29 332 *i* P **P** **23 24 47.8 -0.3**
MEZF Maizieres J'vi 81.49 339 *e*P **P** **23 24 47.6 -1.6**
comp=Z,36nm,1.0s,mb5.0
MEZF Maizieres J'vi 81.49 339 *e*P **P** **23 24 47.6 -1.6**
comp=Z,36nm,1.0s,mb5.2
HAU Haudompre 81.63 338 *e*P **P** **23 24 47.7 -2.2**
comp=Z,18nm,1.0s,mb4.6
HAU *e*R
comp=Z,105nm,22.0s
HAU Haudompre 81.63 338 *e*P **P** **23 24 47.7 -2.2**
HAU pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
HAU MLR MLR
comp=Z,110nm,22.0s,MS4.2
HAU Haudompre 81.63 338 *e*P **P** **23 24 47.7 -2.2**
comp=Z,9.1nm,1.0s,mb4.7
HAU LR LR
comp=Z,110nm,22.0s,MS4.2
HINF Hinteralfeld 81.67 338 *e*P **P** **23 24 48.3 -1.9**
comp=Z,12nm,0.9s,mb4.5
HINF Hinteralfeld 81.67 338 *e*P **P** **23 24 48.3 -1.9**
HINF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HINF Hinteralfeld 81.67 338 *e*P **P** **23 24 48.3 -1.9**
comp=Z,5.8nm,0.9s,mb4.5
PPT Papeete 81.85 126 LR LR 00 00 40.7
comp=Z,99nm,18.2s,MS4.2,baz=328,slow=35
FLN La Foliniere 82.49 343 *e*P **P** **23 24 53.0 -1.4**
LOR Lormes 82.94 340 *e*P **P** **23 24 55.4 -1.4**
comp=Z,15nm,0.8s,mb4.8
LOR *e*R
comp=Z,116nm,22.8s
LOR Lormes 82.94 340 *e*P **P** **23 24 55.4 -1.4**
LOR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
LOR MLR MLR
comp=Z,120nm,22.8s,MS4.2
LOR Lormes 82.94 340 *e*P **P** **23 24 55.4 -1.4**
comp=Z,7.7nm,0.8s,mb4.8
LOR LR LR
comp=Z,120nm,22.8s,MS4.2
ROSF Rostrenen 83.44 345 *e*P **P** **23 24 57.9 -1.5**
AVF Avril sur Loir 83.50 340 *e*P **P** **23 24 58.4 -1.3**
comp=Z,22nm,0.9s,mb5.0
AVF Avril sur Loir 83.50 340 *e*P **P** **23 24 58.4 -1.3**
AVF pmax pmax
comp=Z,11nm,0.9s,mb5.0
AVF Avril sur Loir 83.50 340 *e*P **P** **23 24 58.4 -1.3**
comp=Z,11nm,0.9s,mb5.0
SMF Signal de Mont 83.52 339 *e*P **P** **23 24 58.4 -1.4**
comp=Z,41nm,1.0s,mb5.2
SMF Signal de Mont 83.52 339 *e*P **P** **23 24 58.4 -1.4**
SMF pmax pmax
comp=Z,20nm,1.0s,mb5.2
SMF Signal de Mont 83.52 339 *e*P **P** **23 24 58.4 -1.4**
comp=Z,20nm,1.0s,mb5.2
FSSB Fossombrone 83.70 332 P **P** **23 25 01.2 +0.5**
comp=Z,14nm,0.6s,mb5.3
QUIF Quistinic 83.82 344 *e*P **P** **23 24 59.4 -1.9**
SEI Scarperia 83.83 333 P **P** **23 25 03.2 +1.9**
comp=Z,63nm,0.8s,mb5.8
LPL La Plagne 83.83 337 *e*P **P** **23 25 00.3 -1.1**
comp=Z,9.0nm,0.8s,mb4.6
LPL La Plagne 83.83 337 *e*P **P** **23 25 00.3 -1.1**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LPL La Plagne 83.83 337 *e*P **P** **23 25 00.3 -1.1**
comp=Z,4.5nm,0.8s,mb4.7
LPG La Plagne 83.84 337 *e*P **P** **23 25 00.9 -0.5**
comp=Z,8.9nm,0.7s,mb4.7
LPG La Plagne 83.84 337 *e*P **P** **23 25 00.9 -0.5**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LPG La Plagne 83.84 337 *e*P **P** **23 25 00.9 -0.5**
comp=Z,4.4nm,0.7s,mb4.7
BGF Bois d'Agland 83.84 340 *e*P **P** **23 25 00.2 -1.2**
comp=Z,45nm,1.3s,mb5.1
BGF Bois d'Agland 83.84 340 *e*P **P** **23 25 00.2 -1.2**
BGF pmax pmax
comp=Z,22nm,1.3s,mb5.1
BGF Bois d'Agland 83.84 340 *e*P **P** **23 25 00.2 -1.2**
comp=Z,22nm,1.3s,mb5.1
VMG Vicchio 83.85 333 P **P** **23 25 03.5 +2.0**
SNTG Esanatoglia 84.04 332 P **P** **23 25 02.9 +0.4**
comp=Z,5.4nm,0.8s,mb4.7
TCF Toulx Ste Croi 84.25 340 *e*P **P** **23 25 02.0 -1.5**
CSNT Castellina Chi 84.37 333 P **P** **23 25 04.0 -0.1**
comp=Z,4.1nm,0.5s,mb4.8
MBDF Montbardon 84.55 337 *e*P **P** **23 25 03.9 -1.1**
comp=Z,8.6nm,0.7s,mb4.7
MBDF Montbardon 84.55 337 *e*P **P** **23 25 03.9 -1.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MBDF Montbardon 84.55 337 *e*P **P** **23 25 03.9 -1.1**
comp=Z,4.3nm,0.7s,mb4.7
RGNG Rignano Grg 84.56 330 P **P** **23 25 06.3 +1.2**
ORIF Oris-en-Rattie 84.61 337 *e*P **P** **23 25 03.7 -1.6**
comp=Z,19nm,0.9s,mb4.9
ORIF *e*R
comp=Z,116nm,22.0s
ORIF Oris-en-Rattie 84.61 337 *e*P **P** **23 25 03.7 -1.6**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ORIF Oris-en-Rattie 84.61 337 *e*P **P** **23 25 03.7 -1.6**
comp=Z,9.4nm,0.9s,mb4.9
AQU L'Aquila 84.70 331⇑*i*P **P** **23 25 06.9 +1.1**
AQU L'Aquila 84.70 331 *e*P **P** **23 25 07.2 +1.4**
VIVF Saint-Julien-l 84.98 338 *e*P **P** **23 25 06.0 -1.2**
comp=Z,16nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.98 338 *e*P **P** **23 25 06.0 -1.2**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.98 338 *e*P **P** **23 25 06.0 -1.2**
comp=Z,8.2nm,0.9s,mb4.9
FG5 Orsara di Pugl 85.02 330 P **P** **23 25 08.0 +0.6**
FG5 pmax pmax
comp=Z,17nm,0.9s,mb5.2
FG5 Orsara di Pugl 85.02 330 P **P** **23 25 08.0 +0.6**
comp=Z,17nm,0.9s,mb5.2
FG4 Candela 85.06 329 P **P** **23 25 08.0 +0.4**
FG4 pmax pmax
comp=Z,23nm,0.7s,mb5.4
FG4 Candela 85.06 329 P **P** **23 25 08.0 +0.4**
comp=Z,23nm,0.7s,mb5.4
CAF Calviac 85.56 340 *e*P **P** **23 25 09.0 -1.1**
comp=Z,12nm,0.9s,mb4.8
CAF Calviac 85.56 340 *e*P **P** **23 25 09.0 -1.1**
CAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
CAF Calviac 85.56 340 *e*P **P** **23 25 09.0 -1.1**
comp=Z,6.1nm,0.9s,mb4.8
SMRF Simiane la Rot 85.57 337 *e*P **P** **23 25 08.6 -1.5**
FRF La Foret Royal 85.66 336 *e*P **P** **23 25 09.0 -1.6**
LMR La Mourre 85.91 336 *e*P **P** **23 25 10.2 -1.6**
comp=Z,41nm,1.2s,mb5.2
LMR La Mourre 85.91 336 *e*P **P** **23 25 10.2 -1.6**
LMR pmax pmax
comp=Z,21nm,1.2s,mb5.2
LMR La Mourre 85.91 336 *e*P **P** **23 25 10.2 -1.6**
comp=Z,20nm,1.2s,mb5.2
ESDC Sonseca Array 91.91 343 P **P** **23 25 39.2 -1.0**
comp=Z,0.5nm,0.7s,mb4.0,baz=353,slow=2.4,SNR=4.0
KEST Kesra 92.03 331 P **P** **23 25 41.4 +0.6**
comp=Z,2.0nm,0.8s,mb4.5,baz=356,slow=3.1,SNR=8.7
KEST LR LR 00 12 37.7
comp=Z,45nm,19.3s,MS3.9,baz=281,slow=39
TORD Torodi Ar. Bea 115.45 329 PKP PKPdf 23 31 11.9 -1.7
comp=Z,0.4nm,0.4s,baz=30,slow=2.2,SNR=16
BDFB Brasilia 144.52 37 *e*PKIKP PKPdf 23 32 08.2 +0.1
PLCA Paso Flores 148.04 96 PKPbc PKPbc 23 32 16.5 -0.8
comp=Z,3.2nm,1.0s,baz=328,slow=5.3,SNR=4.9
CPUP Villa Florida 148.51 61 PKPbc PKPbc 23 32 17.3 -1.2
comp=Z,1.0nm,0.4s,baz=350,slow=2.3,SNR=10
CPUP Villa Florida 148.51 61 *e*PKPdf PKPdf 23 32 17.9 +3.1

IDC 30 23:32:38.5±62.0, 1512S×17052W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.9/3, Error ellipse: s-maj=1219.0km s-min=210.8km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.59**	**240**	P	P	23 41 08.3	+0.2
	1.0nm,0.6s,baz=72,slow=6.4,SNR=3.2						
WRA	**Warramunga Arr**	**52.62**	**256**	P	P	23 41 54.7	+0.6
	0.3nm,0.5s,baz=93,slow=6.9,SNR=3.6						
ASAR	**Alice Springs**	**52.84**	**252**	P	P	23 41 56.0	+0.3
	2.8nm,0.5s,baz=89,slow=8.2,SNR=50						

ISC Computed Locations for September 2006



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

1800 Events